

MEETING: REGULAR MEETING OF THE VILLAGE BOARD
DATE & TIME: Monday, December 16, 2024 at 7:00 PM
LOCATION: Germantown Village Hall Board Room
N112 W17001 Mequon Road

Any member of the body and/or citizen may attend the meeting virtually through the WebEx platform, Meeting #:2551 746 8900 Password: RGfHMePh684 which can be accessed by phone at 408-418-9388 or by clicking the link

below: <https://villageofgermantown.my.webex.com/villageofgermantown.my/j.php?MTID=mbac09c1bf900c82b3d4fd86d044402dc>

Citizens not wishing to attend the meeting personally or virtually may submit any public comments by sending an email to comments@germantownwi.gov by 4 p.m. on the day of the meeting so that it can be provided to the members of the body for their consideration. Previously recorded VillageBoard Meeting Videos can be viewed at:

https://www.youtube.com/channel/UCOYp0EgELzTCa9X_iCohyhQ

AGENDA

- I. **CALL TO ORDER:** *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*
- II. **ROLL CALL:**
- III. **PLEDGE OF ALLEGIANCE:**
- IV. **PRESIDENT'S REPORT:**
- V. **ANNOUNCEMENTS OF FORTHCOMING EVENTS OF PUBLIC INTEREST**
COMMITTEE AND DEPARTMENT REPORTS:
- VI. **CITIZEN INPUT:** *(Please be advised per 19.84(2) that information and comment will be received from the public. It is the policy of this municipality that public input be limited to a three (3) minute period per person with a time extension granted at the discretion of the Chairperson. Be advised that there may be limited discussion of the information received but no action will be taken under public comments.)*
- VII. **CONSENT AGENDA:**
 - A. Minutes: December 2, 2024
 - B. Award of a professional services agreement with Foth for an amount not to exceed \$72,000 for construction administration and inspection services related to generator replacements at Wells 2 and 7.
 - C. Approval of a change order to JH Hassinger for an amount not to exceed \$30,000 for cold weather work conditions on Well 12 construction.
 - D. Approval for a blanket PO not to exceed \$100,000.00 with Merton-Franier for the purchase of water meters.
 - E. Award of a professional services agreement with Wachtel Tree Science for an amount not to exceed \$20,000 for Village Forester and tree consulting services.
 - F. Approval to purchase two fabricated fall protection ladders from RARE Specialties at Wells 3 and 11 for an amount not to exceed \$15,840.00.
 - G. Approval of the 2025 Village of Germantown Labor and Equipment Rates.
 - H. Dispatch Bonuses

- I. Purchase of Squad

VIII. UNFINISHED BUSINESS

IX. PUBLIC HEARINGS:

- A. Public Facilities Needs Assessment for parks, library and water impact fees and the amendment to the Village's existing ordinance imposing public facilities impact fees under Section 66.0617 of the Wisconsin Statutes.

X. NEW BUSINESS:

- A. Resolution Honoring Police Chief Mike Snow Upon His Retirement From Village Service
- B. Revisions to 2025-2026 Contract for SAFEbuilt Inspection Services
- C. 2025 Permit Fee Schedule-Inspection Services
- D. Filling Vacancy in the Office of District 4 Trustee
- E. Jeff Osgood, Agent for Kwik Trip, Inc., and Ben Venue Properties, Property Owner, N112W18741 Mequon Road (former PNC Bank). Kwik Trip Convenience Store Relocation from W188N10963 Maple Road. Rezoning from B-3 to B-5 and Conditional Use Permit (CUP) applications.
- F. OneEnergy Development, LLC, Agent for Wayne Lutynski, Property Owner. Certified Survey Map (CSM) to combine existing parcels into one (1) lot. Property located at approximately N132W18100 Rockfield Road.
- G. An Ordinance Repealing and Recreating Section 3.14 of the Municipal Code of Germantown Relating to the Imposition of Impact Fees
- H. 2025 4th of July Activities
- I. Renewal of Vermont Systems Contract
- J. Transplant Contract Renewal with Optum RX
- K. Tyler Munis Contract Renewal
- L. Administrator 2024 Performance Review. The Village Board May Enter into Closed Session per Wis Stat § 19.85(1)(c) Considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility, and then may reconvene into open session to take such action as it deems appropriate.

XI. ADJOURNMENT:

UPON REASONABLE NOTICE, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service, please contact the Village Clerk at (262)250-4745 at least 2 days prior to the meeting.

Notice is given that a majority of the Economic Development Committee, Utility Advisory Committee, Tourism Commission, and/or Senior Advisory Committee may attend this meeting to gather information about an item over which they have decision-making responsibility. This may constitute a meeting of these bodies per State ex rel. Badke v Greendale Village Board, even though these bodies will not take formal action at this meeting.

MEETING:	REGULAR MEETING OF THE VILLAGE BOARD
DATE AND TIME:	Monday, December 2, 2024 7:00 PM
LOCATION:	Germantown Village Hall Board Room N112 W17001 Mequon Road

MINUTES

- I. **CALL TO ORDER:** *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*

Village President Wolter called the Village Board meeting to order at 7:00 PM.

II. **ROLL CALL:**

Present: Trustee David Baum, Trustee Rick Miller, Trustee Robert Warren, Trustee Jan Miller, Trustee Phil Hudson, President Dean Wolter, Trustee Meg Cutts

Excused: Trustee Terri Kaminski, Trustee Jolene Pieper

Also Present: Village Administrator Steve Kreklow, Village Attorney Brian Sajdak, Deputy Clerk Maddy Laufenberg, Associate Planner Jordan Yanke, Community Development Director Jeff Retzlaff

III. **PLEDGE OF ALLEGIANCE:**

IV. **PRESIDENT'S REPORT:**

President Wolter called on Trustee Jan Miller to speak regarding the Windsong subdivision's 31st annual Luminary Night on December 8, 2024.

President Wolter provided information regarding the Germantown Community Band's Holiday Concert on December 14, 2024.

V. **ANNOUNCEMENTS OF FORTHCOMING EVENTS OF PUBLIC INTEREST
COMMITTEE AND DEPARTMENT REPORTS:**

Trustees announced upcoming meeting dates and times.

Trustee Phil Hudson announced his resignation of his Village Board seat effective January 15, 2025.

- VI. **CITIZEN INPUT:** *(Please be advised per 19.84(2) that information and comment will be received from the public. It is the policy of this municipality that public input be*

limited to a three (3) minute period per person with a time extension granted at the discretion of the Chairperson. Be advised that there may be limited discussion of the information received but no action will be taken under public comments.)

Lynne Schauer Bednarz (W156N10121 Pawnee Ct) spoke regarding the budget.

Melanie Smythe (N140W17938 Cedar Ln) spoke regarding contracts, closed sessions, and citizen comments.

Sarah Larson (W159N9737 Butternut Rd) spoke regarding meeting postings and efficiency, the Village Center District, and closed session acquisition discussion.

VII. CONSENT AGENDA:

Motion: Approve as presented

Motioned By: Trustee Baum

Seconded By: Trustee Hudson

Yes: Trustee Baum, Trustee Rick Miller, Trustee Warren, Trustee Jan Miller, Trustee Hudson, President Wolter, Trustee Cutts

No: None

Abstain: None

Motion Carried by Roll Call Vote (Yes 7, No 0, Abstained 0)

- A. Minutes: November 18, 2024
- B. Resolution Approving the 2025 Germantown Municipal Employees Union Local 730 Contract
- C. Civic Plus Contract Renewal
- D. Acceptance of the Liability Insurance Proposal from Municipal Property Insurance Company for Policy Year 2025

VIII. UNFINISHED BUSINESS

- A. Shortening Village Board Meetings

Village Administrator Kreklow and President Wolter led discussion regarding shortening Village Board meetings. The recommendations from the General Government & Finance Committee were as follows:

1. Follow Roberts Rules of Order
2. Be Prepared for Each Meeting
3. Keep the Size of the Village Board the Same

4. Request that Staff Provides the Agenda and Packets for Village Board and Three Standing Committees on the Preceding Thursday instead of Friday

Motion 1: Approve recommendations as presented

Motioned By: Trustee Baum

Seconded By: Trustee Jan Miller

Discussion followed.

Motion 2: Call the Question

Motioned By: Trustee Cutts

Seconded By: Trustee Jan Miller

Motion 2:

Yes: Trustee Rick Miller, Trustee Jan Miller, Trustee Cutts, President Wolter

No: Trustee Baum, Trustee Hudson, Trustee Warren

Abstain: None

Motion 2 Carried by Voice Vote (Yes 4, No 3, Abstained 0)

Motion 1:

Yes: Trustee Jan Miller, Trustee Cutts

No: Trustee Baum, Trustee Rick Miller, Trustee Warren, Trustee Hudson, President Wolter

Abstain: None

Motion 1 Failed by Roll Call Vote (Yes 2, No 5, Abstained 0)

IX. PUBLIC HEARINGS:

X. NEW BUSINESS:

- A. Neumann Developments, Agent for Wrenwood North LLC, Property Owner, property south of Freistadt Road and Pleasant View Drive. Final Subdivision Plat for Wrenwood North Addition No. 1 (Phase 2- 26 single-family lots).

Trustee Cutts recused herself on this item.

Associate Planner Yanke provided information regarding this item.

Motion: Approve as presented

Motioned By: Trustee Baum

Seconded By: Trustee Rick Miller

Yes: Trustee Baum, Trustee Rick Miller, Trustee Warren, Trustee Jan Miller, Trustee Hudson, President Wolter

No: None

Abstain: Trustee Cutts

Motion Carried by Voice Vote (Yes 6, No 0, Abstained 1)

- B. Harter's Lakeside Disposal, Agent for Skyline Development Corp, Property Owner; northeast corner of Fond du Lac Avenue/STH145 @ and Spaten Court. Rezone Application for 12.7 acres from M-1: Limited Industrial to M-2: General Industrial and a Conditional Use Permit (CUP) Application to develop and operate a new "Solid Waste Disposal, Collection and Transportation Operation" business.

Community Development Director Retzlaff provided information regarding this item.

Brian Randall, attorney with Amunsen Davis and representing Harter's Lakeside Disposal, spoke regarding this item.

Motion: Postpone discussion and send back to Plan Commission

Motioned By: Trustee Baum

Seconded By: Trustee Hudson

Citizen Dana Zulic (609 Scenic Rd, Colgate) approached the podium to ask whether the proposed building would be a waste processing facility or a facility that houses trucks that take materials to other processing facilities. Attorney Randall answered that it is the latter.

Yes: Trustee Baum, Trustee Rick Miller, Trustee Warren, Trustee Jan Miller, Trustee Hudson, President Wolter, Trustee Cutts

No: None

Abstain: None

Motion Carried by Voice Vote (Yes 7, No 0, Abstained 0)

- C. Village of Germantown Community Development Department - Proposed Text Amendments to Chapter 17.41 (Accessory Use, Building & Structures), Section 17.43 (Site Plan Approval Requirements), Section 17.45 (Traffic, Parking, Loading & Access), and Section 17.46 (Signs) of the Village of Germantown Municipal Code.

Community Development Director Retzlaff provided information regarding this item.

Motion: Approve as presented

Motioned By: Trustee Baum

Seconded By: Trustee Warren

Yes: Trustee Baum, Trustee Rick Miller, Trustee Warren, Trustee Jan Miller, Trustee Hudson, President Wolter

No: Trustee Cutts

Abstain: None

Motion Carried by Roll Call Vote (Yes 6, No 1, Abstained 0)

- D. Renewal Applications of Secondhand Article and Jewelry Dealer Licenses for 2025

Motion: Approve as presented

Motioned By: Trustee Baum

Seconded By: Trustee Rick Miller

Yes: Trustee Baum, Trustee Rick Miller, Trustee Warren, Trustee Jan Miller, Trustee Hudson, President Wolter, Trustee Cutts

No: None

Abstain: None

Motion Carried by Voice Vote (Yes 7, No 0, Abstained 0)

Motion: Enter into Closed Session with the following in attendance for Items E and F: Village Administrator Kreklow, Village Attorney Sajdak, Community Development Director Retzlaff, Bailey Copeland of Copeland Companies, and Phil Cossun of Ehlers; and with the following in attendance for Item G: Village Administrator Kreklow

Motioned By: Trustee Baum

Seconded By: Trustee Warren

Yes: Trustee Baum, Trustee Rick Miller, Trustee Warren, Trustee Hudson, President Wolter, Trustee Cutts

No: Trustee Jan Miller

Abstain: None

Motion Carried by Roll Call Vote (Yes 6, No 1, Abstained 0)

The Village Board entered into Closed Session at 8:09 PM.

- E. Strategy Concerning Acquisition of Properties in the Village's Village Center District (in the general area of Mequon Road and Pilgrim Road). The Village Board may convene into Closed Session per Wis. Stat. § 19.85(1)(e) for the purpose of deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session, and then may reconvene into open session to take such action as it deems appropriate.
- F. Contract with Copeland Companies with respect to Acquisition of Properties in the Village's Village Center District. The Village Board may convene into Closed Session per Wis. Stat. § 19.85(1)(e) for the purpose of deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session, and then may reconvene into open session to take such action as it deems appropriate.

- G. Administrator Setting 2024 Performance Goals Update. The Village Board May Enter into Closed Session per Wis Stat § 19.85(1)(c) Considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility, and then may reconvene into open session to take such action as it deems appropriate.

Motion: Return to Open Session (9:25 PM)

Motioned By: Trustee Baum

Seconded By: Trustee Warren

Yes: Trustee Baum, Trustee Rick Miller, Trustee Warren, Trustee Jan Miller, Trustee Hudson, President Wolter, Trustee Cutts

No: None

Abstain: None

Motion Carried (Yes 7, No 0, Abstained 0)

Motion: For Item E, direct staff to proceed as discussed in Closed Session

Motioned By: Trustee Hudson

Seconded By: Trustee Rick Miller

Yes: Trustee Rick Miller, Trustee Warren, Trustee Hudson, President Wolter

No: Trustee Jan Miller, Trustee Cutts

Abstain: Trustee Baum

Motion Carried (Yes 4, No 2, Abstained 1)

Motion: For Item F, direct staff to proceed as discussed in Closed Session

Motioned By: Trustee Rick Miller

Seconded By: Trustee Hudson

Yes: Trustee Rick Miller, Trustee Warren, Trustee Hudson, President Wolter

No: Trustee Jan Miller, Trustee Cutts

Abstain: Trustee Baum

Motion Carried (Yes 4, No 2, Abstained 1)

XI. ADJOURNMENT:

Village President Wolter adjourned the Village Board meeting at 9:27 PM.

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Award of a professional services agreement with Foth for an amount not to exceed \$72,000 for construction administration and inspection services related to generator replacements at Wells 2 and 7.

SUBMITTED BY: Matthew Mortwedt, Public Works Director

SUMMARY EXPLANATION:

Foth has worked on the generator replacement projects through several intentions in strategy and now design and bid. Staff feels, based on their extensive history with this project, that they are best situated to continue through construction administration, inspection and close out.

Following the November PWHC, DPW staff and Foth discussed the proposals in attempts to find opportunities for reductions. Areas identified for reduction, included:

- Bid Award/Contracting - This item proceeded under existing authority to ensure the good public bid was awarded in a timely manner and has been removed from the attached proposals.
- Limited coordination and meetings and submittal review time
- Limited inspections and coordination - hours were reduced for conducting site inspections. Utility staff will have to pick up some aspects of site inspection.
- Limited time for close out, documentation, etc.

It is also worth noting that this bid included more than just a one-for-one generator replacement. The work also includes installation of variable frequency drives, electrical improvements, concrete pad and sidewalk replacement and site grading.

The revised scope represents 17.8-18.8% of the contract.

DPW staff will get proposals for future water utility work.

ATTACHMENT:

1. Well 7 Gen CONSTRUCTION PHASE__Foth_Germantown_Eng Addendum 1_Nov 2024
2. Well 2 Gen CONSTRUCTION PHASE__Foth_Germantown_Eng Addendum 1_Nov 2024

STAFF RECOMMENDATION:

Award of a professional services agreement to Foth for an amount not to exceed \$72,000 for construction administration and inspection services related to generator replacements at Wells 2 and 7.

ACTION BY Committee:

Project Title:	<u>Well No. 7 Generator Replacement, and Site Work</u>	FOTH Project Number:	<u>23G018.05</u>
		CLIENT Project Number: (If applicable)	<u>243126</u>

This Addendum (in addition to and subject to the conditions contained in the Agreement for Services dated **March 7, 2024**), (hereinafter "Addendum"), is made and entered into **20th** day of **November, 2024** by and between **FOTH INFRASTRUCTURE & ENVIRONMENT, LLC**, (hereinafter "Consultant") and **Village of Germantown**, (hereinafter "Client"), for the services described under the Scope of Services (the "Services").

CLIENT:	<u>Village of Germantown – Water Utility</u>		
Address:	<u>PO Box 337, N122W17177 Fond du Lac Ave., Germantown, WI 53022</u>		
Phone No:	<u>262-253-8254</u>	Email Address:	<u>phaugen@germantownwi.gov</u>

Scope of Services: Client hereby agrees to retain Consultant to perform the following Services:

Construction Administration & Closeout

- Review of shop drawings/submittals
- DNR correspondence, follow-up, and updates
- Issuing change orders and work change directives
- Review pay applications
- Limited Site Inspection including:
 - Foth/design-partners onsite to spot check & document below grade site work
 - Foth/design-partners onsite for spot checks of above grade & building work
 - Foth/design-partners onsite for electrical spot checks and generator startup/testing
- Project meetings if/when required (virtual meetings will be utilized unless a site visit is already planned)
- RFI's, issue resolution, allowance dollars coordination
- Process final pay request and closeout documentation
- Organize/coordinate O&M manuals on any new equipment:
 - 2 hard copies
 - 1 .pdf copy
- Attend start-up
- Coordinate Owner training (if needed)
- Assist in coordinating follow-up inspection(s) per contract documents
- Prepare comprehensive project summary
 - 1 hard copy
 - 1 .pdf copy

Schedule: Services shall be performed according to the following schedule:

Construction Administration & Closeout: to occur throughout 2024 & 2025, per project schedule in Bid Documents.

Compensation: In consideration of these Services, the Client agrees to pay Consultant compensation as follows:

☐ Lump-Sum in the amount of \$ _____ .00

☐ Unit Cost/Time Charges (Standard Rates) with a total amount not-to-exceed \$ _____ .00

☐ Unit Cost/Time Charges (Standard Rates) for an estimated cost of \$ _____ .00

☒ Other as stated here: Billed hourly per standard year rates, see Exhibit A. Additional estimated Level of Effort for the above scope:

Construction Administration & Closeout: \$34,000 - \$36,000

Notes:

1. This estimated range will not be exceeded without the Client's pre-approval in writing.
2. If additional scope is requested and approved by the Client, these efforts will be billed per standard T&M rates.

Special Conditions (if any):

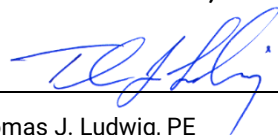
Entire Agreement: This Addendum, along with other approved Addendums, together with and subject to the Agreement for Services referenced above, constitutes the entire understanding between the parties with respect to the subject matter hereof. This Addendum may be modified by subsequent written addenda mutually agreeable by both parties.

IN WITNESS WHEREOF, this Agreement is accepted on the date last written below, subject to the terms and conditions above stated and the provisions set forth herein.

CLIENT

Signed: _____
Name (printed): _____
Title: _____
Date: _____

FOTH INFRASTRUCTURE & ENVIRONMENT, LLC

Signed: 
Name (printed): Thomas J. Ludwig, PE
Title: State Operations Director
Date: November 20, 2024

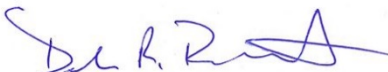
Signed: 
Name (printed): Dale R Broeckert, PE
Title: Senior Project Manager
Date: November 20, 2024

Exhibit A

FOTH INFRASTRUCTURE AND ENVIRONMENT, LLC 2024 HOURLY RATE SCHEDULE

<u>CLASSIFICATION</u>	<u>HOURLY RATE</u>
Principal	\$248 - \$259
Project Manager	\$190 - \$248
Project Engineer	\$159 - \$248
Staff Engineer	\$131 - \$162
Planner	\$131 - \$214
Project Scientist	\$131 - \$173
Technician	\$88 - \$181
Construction Manager	\$137 - \$188
Land Surveyor	\$150 - \$212
Project Administrator	\$85 - \$106
Administrative Assistant	\$64

REIMBURSABLE EXPENSES

1. All equipment, field service vehicles, materials and supplies used in the performance of work on this project will be billed at cost.
2. Auto mileage will be reimbursed per the Internal Revenue Service standard mileage reimbursement rate.
3. Charges for outside services such as soils and materials testing, fiscal, legal and all other direct expenses will be invoiced at cost plus 10%. No charges for outside services will be undergone or charged without the Client's pre-approval in writing.

ADJUSTMENTS TO FEE SCHEDULE

1. Fee schedule effective January 1, 2024. Rates subject to change annually on January 1.

Project Title:	<u>Well No. 2 Generator & VFD Replacement, and Site Work</u>	FOTH Project Number:	<u>23G018.04</u>
		CLIENT Project Number: (If applicable)	<u>243125</u>

This Addendum (in addition to and subject to the conditions contained in the Agreement for Services dated **March 7, 2024**), (hereinafter "Addendum"), is made and entered into **20th** day of **November, 2024** by and between **FOTH INFRASTRUCTURE & ENVIRONMENT, LLC**, (hereinafter "Consultant") and **Village of Germantown**, (hereinafter "Client"), for the services described under the Scope of Services (the "Services").

CLIENT:	<u>Village of Germantown – Water Utility</u>		
Address:	<u>PO Box 337, N122W17177 Fond du Lac Ave., Germantown, WI 53022</u>		
Phone No:	<u>262-253-8254</u>	Email Address:	<u>phaugen@germantownwi.gov</u>

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- Review of shop drawings/submittals
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- Review pay applications
- Limited Site Inspection including:
 - Foth/design-partners onsite to spot check & document below grade site work
 - Foth/design-partners onsite for spot checks of above grade & building work
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- Organize/coordinate O&M manuals on any new equipment:
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- Assist in coordinating follow-up inspection(s) per contract documents
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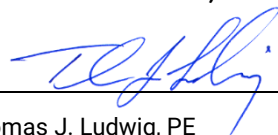
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IN WITNESS WHEREOF, this Agreement is accepted on the date last written below, subject to the terms and conditions above stated and the provisions set forth herein.

CLIENT

Signed: _____
Name (printed): _____
Title: _____
Date: _____

FOTH INFRASTRUCTURE & ENVIRONMENT, LLC

Signed: 
Name (printed): Thomas J. Ludwig, PE
Title: State Operations Director
Date: November 20, 2024

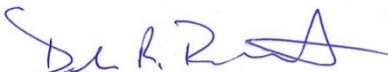
Signed: 
Name (printed): Dale R Broeckert, PE
Title: Senior Project Manager
Date: November 20, 2024

Exhibit A

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2. Auto mileage will be reimbursed per the Internal Revenue Service standard mileage reimbursement rate.
3. Charges for outside services such as soils and materials testing, fiscal, legal and all other direct expenses will be invoiced at cost plus 10%. No charges for outside services will be undergone or charged without the Client's pre-approval in writing.

ADJUSTMENTS TO FEE SCHEDULE

1. Fee schedule effective January 1, 2024. Rates subject to change annually on January 1.

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Approval of a change order to JH Hassinger for an amount not to exceed \$30,000 for cold weather work conditions on Well 12 construction.

SUBMITTED BY: Matthew Mortwedt, Public Works Director

SUMMARY EXPLANATION:

Due to a series of delays in the Well 12 construction project recently including the Operator's Union strike, the liner evaluation and decision-making process, and delays from sharing the site with Tower 4, JH Hassinger is requesting \$30,000 to enclose the Well 12 structure and continue work over the winter.

The change order amount was originally proposed at \$85,000, but staff worked cooperatively to find opportunities to keep the project moving while pushing some scope until spring. Alternatively, Germantown could opt to pause work over the winter but the contractor has outlined that the cost associated with pausing the project will be greater than \$30,000.

The \$30,000 would allow them to enclose and heat the site and continue working on the internal portion of the project.

ATTACHMENT:

1. GTW 12 Winter Cost Letter
2. FW_ Germantown Well 12 - Winter Costs

STAFF RECOMMENDATION:

Approval of a change order to JH Hassinger for an amount not to exceed \$30,000 for cold weather work conditions on Well 12 construction.

ACTION BY Committee:



November 25, 2024

RE: Germantown Well 12
W210 N13180 Gateway Crossing
Germantown, Wisconsin 53022

To whom it may concern,

J.H. Hassinger does not agree they played a role in the delay of the project this spring. There was an 8 week stop work change order issued on April 18th that lasted until June 13th. It is important to note that through email chain included with the CO, Kurt Baird stated that there may be some scheduling conflicts after the 8 week period with subcontractors moving on to other jobs. Once the stop work order was complete, the operator's local union was on strike due to wage negotiations. This strike ended on the 21st of June. After the strike, the next goal on site was to get the tower up so we could begin work on the underground piping up to the building. This work did not begin until early/mid-July and was not complete until the end of July. There was a cost proposal written to add a mobilization for our crews to begin the building before the tower was up, but this would have only given us roughly 3 weeks to work until the site would have been taken over by the tank erectors. I believe that since J.H. Hassinger was able to be on site, we have made every effort to push work as fast and efficiently as possible. We have proposed what we estimate winter costs for this project will be, and hope the village takes all things into consideration. If work is halted for the winter months, labor/material prices and availability cannot be guaranteed for next year. As we have enjoyed working with everyone thus far on the project, we hope to hear back on a decision on how to proceed soon.

This letter is regarding the unseasonably cold weather we've been experiencing. Due to this, we propose protecting our work at the above-mentioned project with either insulation blankets, masonry enclosures, and temporary heat. Please be advised that these procedures can cause non-uniformed coloring and/or shadowing on the finished surface.

Our policy on acceptable outdoor working conditions is:

- 25° and rising
- No precipitation
- Winds less than 15 mph

Proposal Costs – (To not exceed)

\$55,000 – Masonry Enclosure (Setup/Maintain/Breakdown) to complete exterior veneer.

\$30,000 – Enclose "8in regular" masonry shell & heat to continue work inside. This includes finishing laying the parapet wall to install the roof & dry in for the winter.

Price will increase if heaters can not pull power from tower service

N60 W16289 Kohler Lane · Menomonee Falls, WI 53051
Office 262-252-4701 · Fax 262-252-4227
www.jhhassinger.com



*Remobilization of all masonry equipment in spring will be \$4,000 if equipment is pulled off site for the winter.

*Above are estimates for worst case winter costs. J.H. Hassinger will track time & material daily and compile/bill weekly. Depending on winter weather, costs may be less.

Additionally, we strongly discourage the use of deicing salts or calcium chloride on your exposed concrete this winter. Since concrete cures at a slow rate, the surface is very susceptible to scaling and peeling if any deicing salts are used due to the increase in freeze/thaw cycles. Alternate options to consider include sand or CMA (calcium magnesium acetate) ice melt.

If you have any questions or concerns, please do not hesitate to call.

Sincerely,

Connor MacFarlan



Winter Proposal

Germantown Well 12
W210 N13180 Gateway Crossing
Germantown, Wisconsin 53022

We propose the following Time & Materials rates to furnish all labor, materials, and equipment necessary to continue the above-mentioned project within a winter enclosure. Cost slips will be submitted daily and billed weekly. Please review the following rates carefully and sign below to accept these terms.

Personnel Type	Hourly Rate	O/T Premium
General Laborer	\$102	\$36
Laborer Foreman	\$108	\$37
Cement Finisher	\$111	\$37
Cement Foreman	\$119	\$39
Mason	\$118	\$41
Mason Foreman	\$125	\$45
Carpenter	\$119	\$40
Carpenter Foreman	\$126	\$42
Operating Engineer	\$124	\$44
Truck Driver	\$140	\$40

Equipment/Material Type	Cost
Ground Thaw – 3,000 sq/ft	\$800/day, \$3,000/wk, \$8,000/mo
Heater – 700,000 btu	\$396/week or \$1,188/month
Heater – 350,000 btu	\$306/week or \$918/month
Winter Hood Systems	\$5,000/week
Propane Tank – 1,000 lbs	\$1,880 each
Propane Tank – 500 lbs	\$940 each
Propane Tank – 100 lbs	\$250 each
Propane Tank – 20 lbs	\$25 each
Concrete Hot Water	\$10/yard
Mortar Antifreeze (5 gallons)	\$270 each
Reinforced Poly - 40'x100' roll	\$377 each
Reinforced Poly - 20'x100' roll	\$196 each
Wind Clips (100 pieces)	\$200 each
Blankets – 5' x 25'	\$72 each
Lathe (50 pieces)	\$18 each
Tie Wire Roll	\$16 each
Non-chloride Accelerator (1 yard)	\$9/percent
Lumber - 2"x4"x20'	\$8.65 each
Lumber - 2"x4"x16'	\$6.88 each
Lumber - 2"x4"x12'	\$5.16 each

Note: Masonry construction will continue at 10 degrees or above. Colder temperatures or 15-20 mph winds will postpone construction.

Note: Work outside the enclosure will continue with non-chloride accelerator at 25 degrees or above and wind speeds at 10-15 mph or less.

Note: Fuel for all machines will be billed separately at market cost.

Proposal Submitted By: Sign _____ Date _____
Print _____

Proposal Accepted By: Sign _____ Date _____
Print _____

From: [Paul Haugen](#)
To: [Matthew Mortwedt](#)
Cc: [Schnell, Eve](#); [Jeff Downs](#)
Subject: FW: Germantown Well 12 - Winter Costs
Date: Tuesday, November 26, 2024 2:31:14 PM
Attachments: [image001.png](#)

FYI

Paul Haugen-Water Superintendent
Germantown Water Utility
W130N10200 Town 9 PKWY
Germantown, WI 53022
Office - 262-253-8254
phaugen@germantownwi.gov

From: Connor MacFarlan <connor@jhhassinger.com>
Sent: Tuesday, November 26, 2024 2:30 PM
To: Paul Haugen <phaugen@germantownwi.gov>
Cc: Schnell, Eve <Eve.Schnell@foth.com>; Joe Hoefs <joe.hoefs@jhhassinger.com>
Subject: Germantown Well 12 - Winter Costs

CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.

Paul,

To follow up with what you and I had talked about on the phone, I would advise it would make the most sense to proceed with drying in the building and holding off on the veneer work until spring. This would allow us to continue the interior for the 4 months of upcoming cold weather rather than putting the entire project on hold for winter. The \$30,000 cost is to not exceed and will be billed at via time and material. There will be no additional "hidden costs" as I have done my best to figure everything into this number.

With waiting to complete the remaining masonry, J.H. Hassinger would request a time extension to the original contract. Putting the entire project on hold for the winter would also require a contract extension but also have additional costs going into next year. Talking with a few contractors currently involved, going into next year having to re-mobilize equipment and forecasting wage increases (5-10%), there would be a cost greater than \$30,000 once all parties involved are added up. That is not including any materials that will go up within the next 6 months as well.

We see this as the best option to keep the project moving forward with the attempt to avoid and larger future price increases.

Thanks,



PLEASE SEND ALL BID REQUESTS TO

Connor MacFarlan

Project Manager

Office: 262.252.4701

Cell: 262.765.0598

Email: connor@jhhassinger.com

Web: www.jhhassinger.com

N60W16289 Kohler Lane
Menomonee Falls, WI 53051

BIDS@JHHASSINGER.COM

|

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BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Approval for a blanket PO not to exceed \$100,000.00 with Merton-Franier for the purchase of water meters.

SUBMITTED BY: Matthew Mortwedt, Public Works Director

SUMMARY EXPLANATION:

Staff is requesting authorization to have an ongoing PO with Metron-Franier not to exceed \$100,000.00 for the replacement of water meters in our ongoing meter replacement program. Meter sizes and approximate quantities are listed below:

5/8, 3/4, 1" (total of 19)

1-1/2, 2" (total of 196)

3, 4" (total of 22)

6" (total of 2)

As the project becomes better defined, quantities are subject to change. Regardless, the intent is to spend up to our authorized limit to maximize meter change-outs.

ATTACHMENT:

1. 2024 Price Sheet

STAFF RECOMMENDATION:

Staff recommends that the Public Works Committee approve the open PO not to exceed \$100,000.00 with Merton-Franier.

ACTION BY Committee:

2024 Metron-Farnier Meters and T2 Innov8 VN AMI Price Sheet with Lay Lengths and Flows

<i>Meter Model</i>	<i>Meter Size</i>	<i>Flows</i>	<i>Lay Length</i>	<i>Price</i>
Spectrum 30D-VN	5/8", 3/4"	1/16-31gpm	7.5", 9"	\$385
Spectrum 50D-VN	1"	1/8-70 gpm	10.75"	\$600
Spectrum 88D-VN	1.5"	1/5-125 gpm	8"	\$790
Spectrum 88D-VN	1.5"	1/5-125 gpm	13"	\$850
Spectrum 130D-VN	2"	1/4-180 gpm	10"	\$1050
Spectrum 175D-VN	3"	1/2-350 gpm	11.75"	\$1950
Spectrum 500D-VN	3"	1/2-600 gpm	13.75"	\$2550
Spectrum 500D-VN	4"	1/2-600 gpm	13.75"	\$2650
Spectrum 1000D-VN	4"	3/4-1100 gpm	17.75"	\$3750
Spectrum 1000D-VN	6"	3/4-1100 gpm	17.75"	\$4000
Enduro 2800 VN	8"	6-2800 gpm	24"	\$6450
Voyager 80 Hydrant Meter VN	3"	2.2-880 gpm	17.75"	\$1800
Altair rotary piston	5/8"x3/4"	1/30-20gpm	7.5"	\$385
The Innov8-VN Register (price per individual register with bracket)				\$325
External Antenna (price per individual 5' to 20' antenna/mushroom-cap for pit-lid)				\$30-50

No fees at all for the first 10 years starting in year 11 cell fee cannot exceed \$8 per meter per year

Kyle Moore kylem@metronfarnier.com

303-449-8833 Office 303-489-1808 Cell 303-444-0549 FAX

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Award of a professional services agreement with Wachtel Tree Science for an amount not to exceed \$20,000 for Village Forester and tree consulting services.

SUBMITTED BY: Matthew Mortwedt, Public Works Director

SUMMARY EXPLANATION:

Staff is seeking continued arboricultural consulting services with Wachtel Tree Science & Services. Wachtel has provided excellent service over the life of our previous agreements. Wachtel provides many forestry related services, which include but are not limited to the following: acting Village Forester, management of the GIS tree layer, assisting staff with Emerald Ash Borer treatment specifications and contracts, assisting staff with tree removal specifications and contracts, assisting staff with tree planting specifications and contracts, providing staff with direction on difficult forestry related resident concerns, and performing plan review from a forestry perspective. The cost of this service will be billed on a time and material basis in an amount not to exceed \$20,000.00 (\$160/hr Project Manager, \$145/hr Certified Arborist).

ATTACHMENT:

1. Germantown 2025 Forester Contract

STAFF RECOMMENDATION:

Recommend award of a professional services agreement with Wachtel Tree Science for an amount not to exceed \$20,000 for Village Forester services.

ACTION BY Committee:

AGREEMENT BETWEEN THE VILLAGE OF GERMANTOWN
AND WACHTEL TREE SCIENCE & SERVICE

FOR PROFESSIONAL ARBICULTURAL CONSULTING SERVICES - 2025

This contract entered on the last date of execution shown below, between the Village of Germantown (the "Village") a municipal corporation duly existing in the State of Wisconsin, and Wachtel Tree Science and Service, Inc. ("Wachtel"), a Wisconsin corporation.

In consideration of the mutual promises and covenants described herein, and for other good and valuable consideration which is duly acknowledged, Village and Wachtel agree that Wachtel shall provide the following services to the Village of Germantown for the 2025 calendar year, subject to the following terms and conditions:

I. For Administration of EAB Activities

Wachtel will perform the following administrative duties for in-house or contracted ash tree removal, stump removal and site restoration; tree replacement plantings; and ash tree treatments within the funding limitations of the Village's budget for such activities.

1. Utilizing the Village's GIS (Geographic Information System) Street, park/ public property tree inventories, locate and field verify ash that meet the criteria as determined by the Village to be candidates for removal or treatment.
2. Prepare informational letters (if determined to be necessary) explaining the process of the removal, replacement, and treatment programs. The Village would send the letter, approved by Village staff, to residents that are impacted by this program.
3. Prepare bid documents (if required) for tree removal, stump removal, tree treatment, and new tree planting. Village staff will incorporate these specifications into complete bid documents. The Village will advertise and mail documents to prospective bidders from a bidders list provided by the consultant. Consultant to assist Village staff with selection of qualified contractors to perform the work.
4. Select diverse species of trees to be utilized in replanting efforts.
5. Mark trees that are identified for treatment or removal and locate sites where new trees will be planted.
6. Assist Village staff as requested with inspection of work by contractors.

II. Village Forester Related Duties (as directed by Village staff)

1. Respond to and resolve citizen requests on an as needed basis in accordance with Village Codes to include:
 - Site visit including resolution
 - Phone call/letter/email to resident with resolution
 - Create work orders for field crews as needed
 - Follow up to those issues requiring follow up
2. Perform city wide "scout" surveys as necessary to check for the presence of pests and/or diseases that threaten the health of the public urban forest.

3. Coordinate contracts/operations to ensure that village services regarding Forestry are not disrupted, including:
 - Tree Planting/Pruning/Removal/Stump Removal operations with Highway Department and Parks & Recreation
4. Design and implement a tree planting program to include:
 - Identify locations for replacement trees where feasible for removed trees
 - Review Village property for tree planting opportunities
 - Work within a defined budget
5. Review and coordinate with the Superintendent of Highways to keep up to date, as feasible, the Village Street tree pruning cycle
6. In consultation with staff develop a yearly Forestry budget for Village approval
7. Review and comment on landscape plans for commercial and subdivision developments submitted to the Community Development Department for Plan Commission review.
8. Participate in activities related to the Village Tree Board.
9. Assist the Village in any forestry-related grant writing and grant administration.

III. Miscellaneous Provisions

1. Term. The term of this agreement shall be for the calendar year 2025. Either party can terminate this agreement at any time upon thirty (30) days written notice.
2. Payment Terms. The above work shall be at an hourly rate of \$160.00 for Project Manager and \$145.00 for a Staff Certified Arborist with a total estimated cost of \$20,000. The parties recognize and agree that charges to the Village shall not exceed \$20,000 for the term of this agreement without a written change order approved by the Village Board.
3. Nature of Relationship. It is the mutual intent of the parties that this agreement shall create an independent contractor agreement as such is defined under all applicable laws of the State of Wisconsin and shall specifically not be construed as an employer/employee relationship. Wachtel shall retain full right and authority to control the methodology in the implementation of their contractual obligations and shall exercise independent discretion in all matters of their professional expertise. Wachtel shall report to the Highway Superintendent and Parks and Recreation Director or their designee, periodically as reasonably necessary to apprise the Village of the progress of the projects, and as to any matters of concern.
4. Public Records Responsibilities. Village and Wachtel recognize that applying applicable Wisconsin public records laws to records requests can be difficult, considering copyright and other confidentiality protections. To ensure that applicable laws are followed, both regarding private rights, and regarding public records laws, Village and Wachtel agree as follows. When Village receives public records requests for matters that Village believes might be proprietary or confidential information, Village will notify Wachtel of the request. Within three (3) days of such notification (subject to extension of time upon mutual written agreement), Wachtel shall either provide Village with the record that is

requested, for release to the requestor; or Wachtel shall advise Village that Wachtel objects to the release of the requested information, and the basis for the objection. If for any reason Village concludes that Village is obligated to provide a record to a requestor that is in Wachtel's possession, Wachtel shall provide such records to Village immediately upon Village's request. Wachtel shall not charge for work performed under this paragraph, except for the "actual, necessary and direct" charge of responding to the records request, as that is defined and interpreted in Wisconsin law.

In addition to, and not to the exclusion or prejudice of, any provisions of this agreement or documents incorporated herein by reference, Wachtel shall indemnify and save harmless and agrees to accept tender of defense and to defend and pay any and all legal, accounting, consulting, engineering and other expenses relating to the defense of any claim asserted or imposed upon the Village, its officers, agents, employees and independent contractors growing out of (i) Village's denial of a records request, based upon objections made by Wachtel, or (ii) Wachtel's failure to provide records to Village upon Village's request; or (iii) Village's charges made to a records requestor, based upon reimbursement of costs Wachtel charged to Village in responding to a records request; or (iv) Village's lack of timely response to a records request, following Wachtel's failure to timely respond to Village as required herein; or (v) Village's provision of records to a requestor that were provided to Village by Wachtel in response to a records request. Wachtel's claims of proprietary rights, or any other copyright or confidentiality claims, shall be waived such that Village may provide all requested documents, programs, data, and other records to the requestor, upon failure by Wachtel to defend, indemnify or hold harmless the Village as required herein, and/or upon judgment of a court having jurisdiction in the matter requiring release of such records.

5. Our work will be on a time and materials basis at a cost not to exceed \$20,000.00, with an estimate of 125 hours. Our hourly rate is \$160 for the Project Manager and \$145 for a Staff Certified Arborist. We anticipate being able to begin work soon after receiving approval from the Village to proceed.

Dated this ____ day of _____, 20__.

VILLAGE OF GERMANTOWN

Village President

ATTEST:

Village Clerk

Dated this ____ day of _____, 20__.

Wachtel Tree Science & Service, Inc.

By: Nathan Schuettpehlz, Consulting Dept. Manager

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Approval to purchase two fabricated fall protection ladders from RARE Specialties at Wells 3 and 11 for an amount not to exceed \$15,840.00.

SUBMITTED BY: Matthew Mortwedt, Public Works Director

SUMMARY EXPLANATION:

Staff is requesting approval to purchase two fabricated fall protection ladders to assist in installing filter media in our filtration tanks at Well #3 and Well #11. This project was approved as part of the 2025 CIP and budgeted at \$30,000. The order would be placed in early 2025.

Three fabrication firms were contacted for quotes:

1. Germantown Iron & Steel, Germantown WI -- Unresponsive
2. Badger Railing Inc, Milwaukee WI -- \$ \$46,660.00
3. **RARE Specialties LLC., Mequon WI - \$15,840**

ATTACHMENT:

1. Q241125-W11 GTown (1)
2. Q241125-W3 GTown (2)
3. Badger Railing Inc-Route

STAFF RECOMMENDATION:

Staff recommends that the Public Works Committee approve the quote from RARE Specialties for an amount not to exceed \$15,840.00.

ACTION BY Committee:

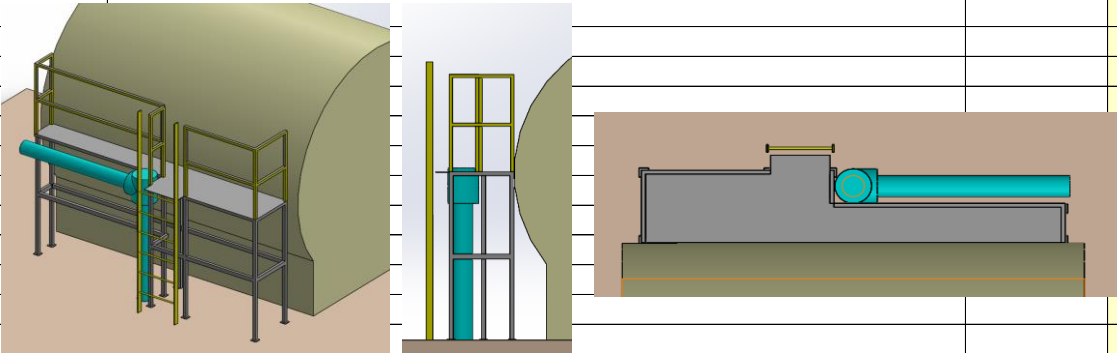
RARE Specialties LLC.
11206 W Highland Rd.
Mequon WI 53097

Quote No. **Q241125-W11**

Quote

Customer			
Name	Village of Germantown		
Address	N112 W17001		
City	Germantown	State	WI ZIP 53022
Phone	--		

Misc.	
Date	11/25/2024
Order No.	
Rep	
FOB	

Qty	Description	Unit Price	TOTAL
	Well #11		
1	Platform and handrails for water tank access (304 Stainless Steel)	\$ 7,420.00	\$ 7,420.00
	* Approval drawings supplied for review & approval before start of fabrication		
	* Platform assembly fabricated from 304 & 8-18 Stainless Steel		
	* Platform height approximately 66"		
	* Approximate platform dims: wide end 2ft x 5ft narrow end 1.25 ft X 6 ft		
	* Support legs cross braced as required for stable use with floor anchors		
	* Hand railing and toe plate included as required		
	* Foot plates on legs fabricated from stainless steel		
	* Fabricated in welded sub-sections, sub-sections bolted together on-site		
	* Welded stainless steel ladder		
	* High-grip stainless steel decking panels		
1	* Wisconsin PE Stamped Drawing Set	\$ 500.00	\$ 500.00
			
	Includes:		
	Trucking/Freight/delivery to Germantown WI Included		
	Does Not Include:		
	On-site Installation (quote available upon request)		
		sub total	\$ 7,920.00
		Shipping	Included
		TOTAL	\$ 7,920.00

Terms	
Payment: Balance due at Delivery	
Delivery: 12-14 weeks	
Shipping: To Gerrmantown WI	

Thank You!

RARE Specialties LLC.
11206 W Highland Rd.
Mequon WI 53097

Quote No. **Q241125-W3**

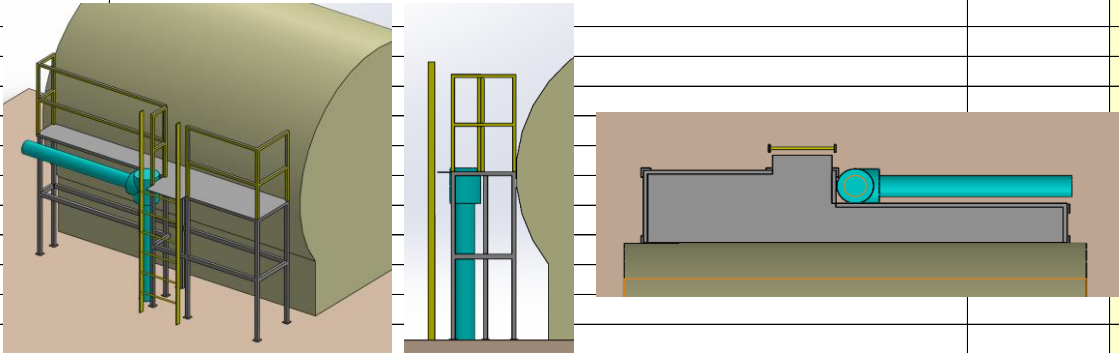
Quote

Customer

Name Village of Germantown
Address N112 W17001
City Germantown State WI ZIP 53022
Phone --

Misc.

Date 11/25/2024
Order No.
Rep
FOB

Qty	Description	Unit Price	TOTAL
	Well #3		
1	Platform and handrails for water tank access (304 Stainless Steel)	\$ 7,420.00	\$ 7,420.00
	* Approval drawings supplied for review & approval before start of fabrication		
	* Platform assembly fabricated from 304 & 8-18 Stainless Steel		
	* Platform height approximately 66"		
	* Approximate platform dims: wide end 2ft x 5ft narrow end 1.25 ft X 6 ft		
	* Support legs cross braced as required for stable use with floor anchors		
	* Hand railing and toe plate included as required		
	* Foot plates on legs fabricated from stainless steel		
	* Fabricated in welded sub-sections, sub-sections bolted together on-site		
	* Welded stainless steel ladder		
	* High-grip stainless steel decking panels		
1	* Wisconsin PE Stamped Drawing Set	\$ 500.00	\$ 500.00
			
	Includes:		
	Trucking/Freight/delivery to Germantown WI Included		
	Does Not Include:		
	On-site Installation (quote available upon request)		
		sub total	\$ 7,920.00
		Shipping	Included
		TOTAL	\$ 7,920.00

Terms

Payment: Balance due at Delivery
Delivery: 12-14 weeks
Shipping: To Germantown WI

Thank You!



Badger Railing Inc.

3880 W. Milwaukee Road
Milwaukee, WI 53208

(414) 672-6090 Ext. 121
FAX 672-8700

PROPOSAL

www.badgerrailing.com
email: greg@badgerrailing.com

TO: Germantown Water Utility
ATTN: Jeff Downs
N112W17001 Mequon Rd
Germantown, WI 53022

PHONE		DATE	11/22/24
FAX		CELL	262-573-4551
EMAIL	jdowns@germantownwi.gov		
JOB	Germantown Water Utility		

Custom fabricate and deliver (2) 5' x 2' x 13' stainless steel platforms, with 42" high two strand stainless steel pipe guardrail, and (1) stainless steel access ladder each. Bead blast finish.

Total price including applicable tax \$43,660.00

***Notes:**

-Stamped engineering calculations for stairs are NOT included. Add \$3,500 if required.

- ▶ Shop drawings will be provided for approval prior to fabrication.
- ▶ Includes standard Certificate of Insurance, call for costs on additional required coverages.
- ▶ Exempt or resale certificates must be included with your order.

WE PROPOSE hereby to furnish material and labor - complete in accordance with the above specifications, for the sum of:

Payment to be made as follows:

Net 30 days.

Finance charges of 1.5% per month will be added to all past due amounts.

Customer will be responsible for all costs of collection including actual attorney's fees.

All material is guaranteed to be as specified. All work to be completed in a professional manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will become an extra charge over and above the estimate. Our workers are fully covered by Workers' Compensation Insurance.

Authorized
Signature

Greg Ballering

Greg Ballering Ext. 121

This proposal may be withdrawn by us
if not accepted within 30 days.

ACCEPTANCE OF PROPOSAL: The above prices, specifications, and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance: _____

Signature _____

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Approval of the 2025 Village of Germantown Labor and Equipment Rates.

SUBMITTED BY: Matthew Mortwedt, Public Works Director

SUMMARY EXPLANATION:

Staff is seeking approval of the 2025 Labor and Equipment rates. Equipment rates reflect a 3% increase from 2024. Labor rates have been adjusted based on salary and anticipated benefits. A 15% administrative charge has been added to base salary and benefits, similar to past years.

Labor and equipment rates will be used whenever the Village performs work that is charged out. Examples of where staff time and equipment may be charged/billed out includes work for developers, insurances companies, and residents.

ATTACHMENT:

1. 2025 Labor and Equipment Rates

STAFF RECOMMENDATION:

Recommend approval of the 2025 Village of Germantown Labor and Equipment Rates.

ACTION BY Committee:

2025 Germantown Labor Rates

	2025 Rate
Director of Public Works	\$99.10
Community Development Director	\$87.72
Village Engineer	\$88.32
Civil Engineer	\$48.93
Highway Superintendent	\$77.38
Water Subperintendent	\$75.89
Wastewater Superintendent	\$76.87
Highway Foreman	\$67.41
Water Foreman	\$62.02
Highway Operator	\$52.90
Utility Operator	\$52.90
Construction Inspection (In-house)	\$53.83
Record Drawing Document Prep (In-house)	\$53.83
Construction Inspection (contracted)	\$120.75
Construction Inspection Manager (contracted)	\$195.50
Land Surveyor (contracted)	\$115.00
DPW Clerical	\$40.33
Planning Clerical	\$35.75
Planning Associate	\$67.63

NOTE: 2025 rates for positions reflect base wage +
benefits/fed/state/pension/ins/ss (from payroll) + 15%
Administration/Overhead.

Contracted rates reflect 2024 prices plus 15%.

2025 Germantown Equipment Rates

EQUIPMENT DESCRIPTION	2025
Liebherr Rubber-tire Excavator	\$83.59
Caterpillar Backhoe & Loader	\$49.35
Case/John Deer Loader	\$63.06
Case/John Deer Loader/Snow Plow	\$106.93
Case/John Deer Loader/Snow Blower	\$145.30
Single Axle Dump Truck (5yd)	\$45.23
Single Axle Dump Truck w/Plow/Aux. Wing/Sander (5	\$72.65
Tandem Axle Dump Truck	\$60.32
Tandem Axle Dump Truck w/Plow/Aux. Wing/Sander	\$89.11
Quad Axle Dump Truck	\$104.55
1-Ton Patrol Truck (2-3 yd)	\$34.28
1-Ton Truck w/Plow	\$42.50
Truck w/Water Jetter w/Aux. Power Unit	\$68.53
Aerial Lift Truck	\$85.00

3500- Truck w/ Utility Box & Crane	\$68.96
Pickup Truck	\$26.73
Pickup Truck w/Plow	\$38.38
Self Propelled Vibrating Roller	\$52.09
Self Propelled Non-Vibratory Roller	\$47.97
185 cfm Air Compressor (Portable)	\$38.38
Street Sweeper 40 Hp w/Front Mounted Broom	\$50.72
Vacuum Sweeper	\$112.40
Sewer line Televising Truck	\$159.02
Combination Sewer Machine (pipe jetter & vac)	\$191.91
Mini Excavator	\$67.19
Skid Steer Loader w/Bucket	\$43.87
Skid Steer Loader w/Snow Blower/Broom	\$47.97
20" Enclosed Trailer	\$17.39
REX Valve Turner	\$96.22
10' Utility Trailer	\$13.91
Tar Kettle	\$46.61
Motorized Mower (24" & Under)	\$18.18
Motorized Mower (25"-47")	\$25.37
Motorized Mower (48" & larger)	\$29.48
Tractor w/Sickle or Flail Mower	\$63.19
Chain Saw	\$16.82
Hydraulic Saw	\$16.82
Hydraulic Pruner	\$16.82
Chipper	\$54.82
Generator (225 Kw)	\$78.13
Generator (Under 10 Kw)	\$34.28
Trailer Mounted Vacuum Excavator & Valve Turner	\$115.15
6 " Pump/Hose	\$42.50
4" Pump/Hose	\$35.64
3" Pump/Hose	\$29.48
Barricades-----DAILY COST	\$4.12
Traffic Control Signs-----DAILY COST	\$2.06

NOTE: 2025 rates reflect a 3% increase of 2024 rates

Bonus Consideration for Communications Officer

It was decided that in 2024 we would start a phased approach to transferring dispatch services to the Washington County Sheriff's Office. Prior to this year, eight communications officers provided twenty-four hour coverage, seven days per week. Even with this staffing level, our communications officers were often burdened with extended shifts or being bumped to a different shift with very little notice. They are now working with six full-time dispatchers and have been tasked with training dispatchers for Washington County. This has been necessary in order to maintain the original timeline, which is critical to our operations.

We propose a bonus for our full-time dispatchers to recognize the substantial burden this has placed on them. They have sacrificed a great deal and have been significantly impacted by this process. The bonus would be an additional \$4 per hour for hours worked between June 1st and September 1st, 2024. For those dispatchers that were training, we would propose \$6 per hour for those hours they trained.

We have discussed this with Washington County. They have agreed to these bonuses and have committed to providing the funds necessary to cover the cost of all bonuses.

The following reflects a bonus of four dollars per hour for regular hours worked between June 1st and September 1st.

Communication Officer	Hours Assigned @\$4/hr	Training @\$6/hr	Bonus
Eric Hanson	520		\$2,080
Carrie Ross	290	230	\$2,540
Kelly Nolan	520		\$2,080
Hannah Weisflog	136		\$544
Justin McCreary	396	125	\$2,334



Ewald Automotive Group

Chrissy Gensch | 262-673-9400 | chrissy.gensch@ewaldauto.com

Germantown Police Department

Prepared For: Captain Patrick Merten

262-253-7780

pmerten@germantownpolicewi.gov

Vehicle: [Fleet] 2025 Ford Police Interceptor Utility (K8A) AWD





Ewald Automotive Group

Chrissy Gensch | 262-673-9400 | chrissy.gensch@ewaldauto.com

Vehicle: [Fleet] 2025 Ford Police Interceptor Utility (K8A) AWD (Complete)

Quote Worksheet

	MSRP
Base Price	\$49,515.00
Dest Charge	\$1,595.00
Total Options	\$2,860.00
Subtotal	\$53,970.00
Subtotal Pre-Tax Adjustments	\$0.00
Less Customer Discount	(\$5,651.00)
Subtotal Discount	(\$5,651.00)
Trade-In	\$0.00
Subtotal Trade-In	\$0.00
Taxable Price	\$48,319.00
Sales Tax	\$0.00
Subtotal Taxes	\$0.00
Subtotal Post-Tax Adjustments	\$0.00
Total Sales Price	\$48,319.00

Comments:

2025 Ford Utility Interceptor to the specifications as detailed. Registration fees are not included. Due to current market, lead time can not be guaranteed.

Dealer Signature / Date

Customer Signature / Date

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Chrissy Gensch | 262-673-9400 | chrissy.gensch@ewaldauto.com

Vehicle: [Fleet] 2025 Ford Police Interceptor Utility (K8A) AWD ( Complete)

Standard Equipment

Mechanical	
	Engine: 3.3L V6 Direct-Injection Hybrid System -inc: (136-MPH top speed) (STD) Late availability.
	Transmission: 10-Speed Automatic (STD)
	3.73 Axle Ratio (STD)
	50-State Emissions System Flexible Fuel Vehicle (FFV) system is standard equipment for vehicles equipped with the 3.3L V6 Direct-Injection engine.
	Transmission w/Driver Selectable Mode and Oil Cooler
	Automatic Full-Time All-Wheel
	Engine Oil Cooler
	92-Amp/Hr 850CCA Maintenance-Free Battery
	Hybrid Electric Motor 220 Amp Alternator
	Class III Towing Equipment -inc: Hitch
	Trailer Wiring Harness
	Police/Fire
	1670# Maximum Payload
	GVWR: 6,840 lbs (3,103 kgs)
	Gas-Pressurized Shock Absorbers
	Front And Rear Anti-Roll Bars
	Electric Power-Assist Steering
	19 Gal. Fuel Tank
	Dual Stainless Steel Exhaust
	Permanent Locking Hubs
	Strut Front Suspension w/Coil Springs
	Multi-Link Rear Suspension w/Coil Springs
	Regenerative 4-Wheel Disc Brakes w/4-Wheel ABS, Front And Rear Vented Discs, Brake Assist and Hill Hold Control
	Lithium Ion (li-Ion) Traction Battery 1.5 kWh Capacity
Exterior	
	Wheels: 18" x 8" 5-Spoke Painted Black Steel -inc: polished stainless steel hub cover and center caps
	Tires: 255/60R18 AS BSW
	Steel Spare Wheel

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Vehicle: [Fleet] 2025 Ford Police Interceptor Utility (K8A) AWD ( Complete)

Exterior

Full-Size Spare Tire Mounted Inside Under Cargo
Clearcoat Paint
Body-Colored Front Bumper w/Black Rub Strip/Fascia Accent and 1 Tow Hook
Body-Colored Rear Bumper w/Black Rub Strip/Fascia Accent
Body-Colored Bodyside Cladding and Black Wheel Well Trim
Black Side Windows Trim and Black Front Windshield Trim
Black Door Handles
Black Power Side Mirrors w/Convex Spotter and Manual Folding
Fixed Rear Window w/Fixed Interval Wiper, Heated Wiper Park and Defroster
Deep Tinted Glass
Speed Sensitive Variable Intermittent Wipers
Galvanized Steel/Aluminum Panels
Lip Spoiler
Black Grille
Liftgate Rear Cargo Access
Tailgate/Rear Door Lock Included w/Power Door Locks
Auto On/Off Projector Beam Led Low/High Beam Headlamps
LED Brakelights

Entertainment

Radio w/Seek-Scan and Speed Compensated Volume Control
Radio: AM/FM/MP3 Capable -inc: 100 watt siren/speaker prep kit, clock, 4 speakers, 1 USB port and 8" color LCD screen center-stack smart display, supports Android Auto and Apple CarPlay and fleet telematics modem Allows data to be provided to support Ford Pro telematics and data services via optional subscription, including but not limited to vehicle location, speed, idle time, fuel, vehicle diagnostics and maintenance alerts. Device enables optional telematics services through Ford or authorized providers via paid subscription. Subscribe at https://fordpro.com/en-us/telematics/ or call 1-833-811-FORD (3673).
SYNC Phoenix Communication & Entertainment System -inc: hands-free voice command support compatible w/most Bluetooth connected mobile devices, 911 Assist, VHR, SYNC Services, AppLink, Bluetooth, steering wheel controls, USB port and auxiliary input jack
Integrated Roof Antenna
1 LCD Monitor In The Front

Interior

8-Way Driver Seat

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Vehicle: [Fleet] 2025 Ford Police Interceptor Utility (K8A) AWD (Complete)

Interior	
	Passenger Seat
	35-30-35 Folding Split-Bench Front Facing Fold Forward Seatback Rear Seat
	Manual Tilt/Telescoping Steering Column
	Gauges -inc: Speedometer, Odometer, Engine Coolant Temp, Tachometer, Engine Hour Meter, Traction Battery Level, Trip Odometer and Trip Computer
	Power Rear Windows and Fixed 3rd Row Windows
	Remote Keyless Entry
	Remote Releases -Inc: Power Cargo Access
	Cruise Control w/Steering Wheel Controls
	Dual Zone Front Automatic Air Conditioning
	Rear HVAC
	HVAC -inc: Underseat Ducts
	Locking Glove Box
	Driver Foot Rest
	Unique HD Cloth Front Bucket Seats w/Vinyl Rear -inc: reduced bolsters, 6-way power track driver seat (fore/aft, up/down, tilt w/manual recline, 2-way manual lumbar), 8-way power track passenger seat w/2-way power recline and 2-way power lumbar and built-in steel intrusion plates in both driver/passenger seatbacks
	Interior Trim -inc: Metal-Look Instrument Panel Insert, Metal-Look Door Panel Insert and Metal-Look Interior Accents
	Full Cloth Headliner
	Urethane Gear Shifter Material
	Day-Night Rearview Mirror
	Driver And Passenger Visor Vanity Mirrors
	Mini Overhead Console w/Storage and 2 12V DC Power Outlets
	Front And Rear Map Lights
	Fade-To-Off Interior Lighting
	Full Vinyl/Rubber Floor Covering
	Carpet Floor Trim
	Cargo Features -inc: Cargo Tray/Organizer
	Cargo Space Lights
	Fleet Telematics Modem Tracker System
	Dashboard Storage, Driver And Passenger Door Bins

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Vehicle: [Fleet] 2025 Ford Police Interceptor Utility (K8A) AWD ( Complete)

Interior

Power 1st Row Windows w/Driver And Passenger 1-Touch Up/Down
Delayed Accessory Power
Power Door Locks
Driver Information Center
Redundant Digital Speedometer
Trip Computer
Digital/Analog Appearance
Seats w/Vinyl Back Material
Manual Adjustable Front Head Restraints and Manual Adjustable Rear Head Restraints
Perimeter Alarm
2 12V DC Power Outlets
Air Filtration

Safety-Mechanical

Electronic Stability Control (ESC) And Roll Stability Control (RSC)
ABS And Driveline Traction Control

Safety-Exterior

Side Impact Beams

Safety-Interior

Dual Stage Driver And Passenger Seat-Mounted Side Airbags
Reverse Sensing System Rear Parking Sensors
BLIS (Blind Spot Information System) Blind Spot
Pre-Collision Assist with Pedestrian Detection
Collision Mitigation-Front
Collision Mitigation-Rear
Tire Specific Low Tire Pressure Warning
Dual Stage Driver And Passenger Front Airbags
Curtain 1st And 2nd Row Airbags
Airbag Occupancy Sensor
Passenger Knee Airbag
Rear Child Safety Locks

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Vehicle: [Fleet] 2025 Ford Police Interceptor Utility (K8A) AWD (Complete)

Safety-Interior
Outboard Front Lap And Shoulder Safety Belts -inc: Rear Center 3 Point, Height Adjusters and Pretensioners
Back-Up Camera w/Washer

WARRANTY
Basic Years: 3
Basic Miles/km: 36,000
Drivetrain Years: 5
Drivetrain Miles/km: 100,000
Corrosion Years: 5
Corrosion Miles/km: Unlimited
Hybrid/Electric Components Years: 8
Hybrid/Electric Components Miles/km: 100,000
Roadside Assistance Years: 5
Roadside Assistance Miles/km: 60,000



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Vehicle: [Fleet] 2025 Ford Police Interceptor Utility (K8A) AWD ( Complete)

Selected Model and Options

MODEL		
CODE	MODEL	MSRP
K8A	2025 Ford Police Interceptor Utility AWD	\$49,515.00
COLORS		
CODE	DESCRIPTION	
UM	Agate Black	
ENGINE		
CODE	DESCRIPTION	MSRP
99C	Engine: 3.0L V6 EcoBoost -inc: (148-MPH top speed), Deletes regenerative braking and lithium-ion battery pack; adds 250-amp alternator and replaces 19-gallon tank w/21.4-gallon tank, 3.31 Axle Ratio	\$950.00
TRANSMISSION		
CODE	DESCRIPTION	MSRP
44U	Transmission: 10-Speed Automatic (44U)	\$0.00
OPTION PACKAGE		
CODE	DESCRIPTION	MSRP
500A	Order Code 500A	\$0.00
AXLE RATIO		
CODE	DESCRIPTION	MSRP
—	3.31 Axle Ratio	Inc.
PRIMARY PAINT		
CODE	DESCRIPTION	MSRP
UM	Agate Black	\$0.00

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Vehicle: [Fleet] 2025 Ford Police Interceptor Utility (K8A) AWD ( Complete)

SEAT TYPE

CODE	DESCRIPTION	MSRP
9W	Charcoal Black, Unique HD Cloth Front Bucket Seats w/Vinyl Rear -inc: reduced bolsters, 6-way power track driver seat (fore/aft, up/down, tilt w/manual recline, 2-way manual lumbar), 8-way power track passenger seat w/2-way power recline and 2-way power lumbar and built-in steel intrusion plates in both driver/passenger seatbacks	\$0.00

ADDITIONAL EQUIPMENT - EXTERIOR

CODE	DESCRIPTION	MSRP
153	Front License Plate Bracket	\$0.00
21L	Front Warning Auxiliary LED Lights -inc: driver side - red/passenger side - blue	\$580.00
51P	Driver Only Spot Lamp Prep Kit -inc: Does not include spot lamp housing and bulb	\$140.00
59E	Keyed Alike - 1435x	\$50.00
66A	Front Headlamp Lighting Solution -inc: LED low beam/high beam headlamp, wig-wag function and (2) red/blue/white LED side warning lights in each headlamp (factory configured: driver's side white/red/passenger side white/blue), Wiring and LED lights included (in headlamps only; grille lights not included), Controller not included, Grille LED Lights, Siren & Speaker Pre-Wiring	\$900.00

ADDITIONAL EQUIPMENT - INTERIOR

CODE	DESCRIPTION	MSRP
18D	Global Lock/Unlock Feature -inc: Door-panel switches will lock/unlock all doors and rear liftgate, Eliminates the 45-second liftgate lock release + paitro timer, Overhead liftgate button and blue liftgate release button on key fob will not have any function when pressed w/this option	\$0.00
60R	Noise Suppression Bonds (Ground Straps)	\$100.00
68G	Rear-Door Controls Inoperable -inc: Locks, handles and windows, Can manually remove window or door disable plate w/special tool, Locks/windows operable from driver's door switches	\$80.00
85R	Rear Console Plate -inc: Contours through 2nd row; channel for wiring	\$60.00
Options Total		\$2,860.00

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Vehicle: [Fleet] 2025 Ford Police Interceptor Utility (K8A) AWD ( Complete)

Price Summary

PRICE SUMMARY		MSRP
	Base Price	\$49,515.00
	Total Options	\$2,860.00
	Vehicle Subtotal	\$52,375.00
	Destination Charge	\$1,595.00
	Grand Total	\$53,970.00

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BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Presentation

ITEM TITLE: Public Facilities Needs Assessment for parks, library and water impact fees and the amendment to the Village's existing ordinance imposing public facilities impact fees under Section 66.0617 of the Wisconsin Statutes.

SUBMITTED BY:

SUMMARY EXPLANATION:

ATTACHMENT:

STAFF RECOMMENDATION:

ACTION BY Committee:

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Resolution Honoring Police Chief Mike Snow Upon His Retirement
From Village Service

SUBMITTED BY:

SUMMARY EXPLANATION:

ATTACHMENT:

1. Resolution of Appreciation of Service to Chief Mike Snow 240116

STAFF RECOMMENDATION:

ACTION BY Committee:

RESOLUTION -2024

APPRECIATION OF SERVICE TO POLICE CHIEF MIKE SNOW

WHEREAS, the Village Board Members, the Police and Fire Commission, the Germantown Police Department, Village Employees, and the Citizens would like to express their appreciation and gratitude to Police Chief Mike Snow for his public service, contributions and dedication while serving on the Village Police Department from June 20, 1994 to January 6, 2025; and,

WHEREAS, Chief Snow served as Chief of Police and Emergency Government Director from January 2020 – January 2025. Prior to serving as Chief of Police, Chief Snow served in various positions within the Germantown Police Department:

Captain	September 2005 – January 2020
Lieutenant	May 2004 – September 2005
Sergeant	April 2001 – May 2004
Patrol Officer	June 1994 – April 2001

WHEREAS, Chief Snow also served as a Field Training Officer from 1998-2001, a member of SWAT from 1999-2005, a Firearms/DAAT Instructor from 2002-2015, graduated from Northwestern University Public Safety Police School of Staff and Command in 2005, graduated from the Quantico FBI Academy in 2009, and received the American Legion Germantown Post #1 Law Enforcement Officer of the Year in 2011; and,

WHEREAS, Chief Snow has actively served the community volunteering for various service organization including the Germantown Kiwanis and serving as a football coach; and,

WHEREAS, during his tenure in the Germantown Police Department Chief Snow has worked to create a departmental culture based on the values of service, humility and integrity;

NOW, THEREFORE, BE IT RESOLVED that the Village Board does HEREBY acknowledge the dedication to the GERMANTOWN COMMUNITY that CHIEF MIKE SNOW has shown during his service and wishes him well.

Introduced by: _____

Adopted: December 16, 2024

Vote: Ayes: _____ Nays: _____

Dean M. Wolter, Village President

ATTEST:

Donna Ott, WCMC/CMC
Village Clerk

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Revisions to 2025-2026 Contract for SAFEbuilt Inspection Services

SUBMITTED BY:

SUMMARY EXPLANATION:

As discussed during the 2025 Budget process, Community Development Staff and representatives for SAFEbuilt of WI, the contracted service that provides plan review and building permit processing and inspection services to the Village, negotiated revisions to the annually-renewing contract for 2025 and 2026. Those revisions include: (1) changing the SAFEbuilt/Village "fee split" percentage from 55/45 to 50/50; and (2) building in an automatic annual fee increase tied to the Consumer Price Index (CPI-U) with a maximum annual increase of 4 percent.

ATTACHMENT:

1. SB-2025-2026-Germantown WI Agreement-REVISED 12-12-24

STAFF RECOMMENDATION:

Community Development Department Staff recommend that the proposed 2025-2026 contract revisions be APPROVED as presented in the attached draft document.

ACTION BY Committee:

**PROFESSIONAL SERVICES AGREEMENT
BETWEEN VILLAGE OF GERMANTOWN, WISCONSIN
AND SAFEbuilt WISCONSIN, LLC**

This Professional Services Agreement (“Agreement”) is made and entered into by and between Village of Germantown, Wisconsin (“Municipality”) and SAFEbuilt Wisconsin, LLC, a wholly owned subsidiary of SAFEbuilt, LLC (“Consultant”). Municipality and Consultant shall be jointly referred to as “Parties”.

RECITALS

WHEREAS, Municipality is seeking a consultant to perform the services listed in Exhibit A – List of Services, (“Services”); and

WHEREAS, Consultant is ready, willing, and able to perform Services.

NOW THEREFORE, for good and valuable consideration, the sufficiency of which is hereby acknowledged, Municipality and Consultant agree as follows:

1. SCOPE OF SERVICES

Consultant will perform Services in accordance with construction codes, amendments and ordinances adopted by the elected body of Municipality, state laws and regulations that are applicable to the Services provided under this Agreement. The qualified professionals employed by Consultant will maintain current certifications, certificates, licenses as required for Services that they provide to Municipality. Consultant is not obligated to perform services beyond what is contemplated by this Agreement.

Unless otherwise provided in Exhibit C, Consultant shall provide the Services using hardware and Consultant’s standard software package. In the event that Municipality requires that Consultant utilize hardware or software specified by or provided by Municipality, Municipality shall provide the information specified in Exhibit C. Consultant shall use reasonable commercial efforts to comply with the requirements of Exhibit C and Municipality, at its sole expense, shall provide such technical support, equipment or other facilities as Consultant may reasonably request to permit Consultant to comply with the requirements of Exhibit C.

2. CHANGES TO SCOPE OF SERVICES

Any changes to Services between Municipality and Consultant shall be made in writing that shall specifically designate changes in Service levels and compensation for Services. Both Parties shall determine a mutually agreed upon solution to alter services levels and a transitional timeframe that is mutually beneficial to both Parties. No changes shall be binding absent a written Agreement or Amendment executed by both Parties.

3. FEE STRUCTURE

In consideration of Consultant providing services, Municipality shall pay Consultant for Services performed in accordance with Exhibit B – Fee Schedule for Services.

4. INVOICE & PAYMENT STRUCTURE

Consultant will invoice Municipality, on a monthly basis and provide all necessary supporting documentation. All payments are due to Consultant within 30 days of Consultant’s invoice date. Payments owed to Consultant but not made within sixty (60) days of invoice date shall bear simple interest at the rate of one and one-half percent (1.5%) per month. If payment is not received within ninety (90) days of invoice date, Services will be discontinued until all invoices and interest are paid in full. Municipality may request, and Consultant shall provide, additional information before approving the invoice. When additional information is requested Municipality will identify specific disputed item(s) and give specific reasons for any request. Undisputed portions of any invoice shall be due within 30 days of Consultants invoice date, if additional information is requested, Municipality will submit payment within thirty (30) days of resolution of the dispute.

5. TERM

This Agreement shall be effective on January 1, 2025. The term of this Agreement shall be twenty-four (24) months from January 1, 2025 through December 31, 2026.

6. TERMINATION

Either Party may terminate this Agreement, or any part of this Agreement upon ninety (90) days written notice, with or without cause and with no penalty or additional cost beyond the rates stated in this Agreement. In case of such termination, Consultant shall be entitled to receive payment for work completed up to and including the date of termination within thirty (30) days of the termination.

All structures that have been permitted, a fee collected, and not yet expired at the time of termination may be completed through final inspection by Consultant if approved by Municipality. Consultant's obligation is met upon completion of final inspection or permit expiration, provided that the time period to reach such completion and finalization does not exceed ninety (90) days. Alternately, Municipality may exercise the option to negotiate a refund for permits where a fee has been collected but inspections have not been completed. The refund will be prorated according to percent of completed construction as determined by Consultant and mutually agreed upon by all Parties. No refund will be given for completed work.

7. FISCAL NON-APPROPRIATION CLAUSE

Financial obligations of Municipality payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available in accordance with the rules, regulations, and resolutions of Municipality, and other applicable law. Upon the failure to appropriate such funds, this Agreement shall be terminated.

8. MUNICIPALITY OBLIGATIONS

Municipality shall timely provide all data information, plans, specifications and other documentation reasonably required by Consultant to perform Services (Materials). Municipality has the right to grant and hereby grants Consultant a fully paid up, non-exclusive, non-transferable license to use the Materials in accordance with the terms of this Agreement.

9. PERFORMANCE STANDARDS

Consultant shall perform the Services using that degree of care, skill, and professionalism ordinarily exercised under similar circumstances by members of the same profession practicing or performing the substantially same or similar services. Consultant represents to Municipality that Consultant retains employees that possess the skills, knowledge, and abilities to competently, timely, and professionally perform Services in accordance with this Agreement.

10. INDEPENDENT CONTRACTOR

Consultant is an independent contractor, and, except as provided otherwise in this section, neither Consultant, nor any employee or agent thereof, shall be deemed for any reason to be an employee or agent of Municipality. Municipality shall have no liability or responsibility for any direct payment of any salaries, wages, payroll taxes, or any and all other forms or types of compensation or benefits to any personnel performing services for Municipality under this Agreement. Consultant shall be solely responsible for all compensation, benefits, insurance and employment-related rights of any person providing Services hereunder during the course of or arising or accruing as a result of any employment, whether past or present, with Consultant.

Consultant and Municipality agree that Consultant will provide similar service to other clients while under contract with Municipality and Municipality acknowledges that Consultant employees may provide similar services to multiple clients. Consultant shall at its sole discretion assign and reassign qualified employees, as determined by Consultant, to perform services for Municipality. Municipality may request that a specific employee be assigned to or reassigned from work under this Agreement and Consultant shall consider that request when determining staffing. Consultant shall determine all conditions of employment for its employees, including hours, wages, working conditions, promotion, discipline, hiring and

discharge. Consultant exclusively controls the manner, means and methods by which services are provided to Municipality, including attendance at meetings, and Consultant's employees are not subject to the direction and control of Municipality. Except where required by Municipality to use Municipality information technology equipment or when requested to perform the services from office space provided by the Municipality, Consultant employees shall perform the services using Consultant information technology equipment and from such locations as Consultant shall specify. No Consultant employee shall be assigned a Municipal email address as their exclusive email address and any business cards or other IDs shall state that the person is an employee of Consultant or providing Services pursuant to a contractual agreement between Municipality and Consultant.

It is the intention of the Parties that, to the greatest extent permitted by applicable law, Consultant shall be entitled to protection under the doctrines of governmental immunity and governmental contractor immunity, including limitations of liability, to the same extent as Municipality would be in the event that the services provided by Consultant were being provided by Municipality. Nothing in this Agreement shall be deemed a waiver of such protections.

11. ASSIGNMENT AND SUBCONTRACT

Neither party shall assign all or part of its rights or obligations under this Agreement to another entity without the written approval of both Parties; consent shall not be unreasonably withheld. Notwithstanding the preceding, Consultant may assign this Agreement in connection with the sale of all or substantially all of its assets or ownership interest, effective upon notice to Municipality, and may assign this Agreement to its parent, subsidiaries or sister companies (Affiliates) without notice to Municipality. Consultant may subcontract any or all of the services to its Affiliates without notice to Municipality. Consultant may subcontract any or all of the services to other third parties provided that Consultant gives Municipality prior written notice of the persons or entities with which Consultant has subcontracted. Consultant remains responsible for any Affiliate's or subcontractor's performance or failure to perform. Affiliates and subcontractors will be subject to the same performance criteria expected of Consultant. Performance clauses will be included in agreements with all subcontractors to assure quality levels and agreed upon schedules are met.

12. INDEMNIFICATION

To the fullest extent permitted by law, Consultant shall defend, indemnify, and hold harmless Municipality, its elected and appointed officials, employees and volunteers and others working on behalf of Municipality, from and against any and all third-party claims, demands, suits, costs (including reasonable legal costs), expenses, and liabilities ("Claims") alleging personal injury, including bodily injury or death, and/or property damage, but only to the extent that any such Claims are caused by the negligence of Consultant or any officer, employee, representative, or agent of Consultant. Consultant shall have no obligations under this Section to the extent that any Claim arises as a result of Consultants compliance with Municipal law, ordinances, rules, regulations, resolution, executive orders or other instructions received from Municipality.

To the fullest extent permitted by law and without waiver of governmental immunity, Municipality shall defend, indemnify, and hold harmless Consultant, its officers, employees, representatives, and agents, from and against any and all Claims alleging personal injury, including bodily injury or death, and/or property damage, but only to the extent that such Claims are caused by (a) the negligence of, or material breach of any obligation under this Agreement by, Municipality or any officer, employee, representative, or agent of Municipality or (b) Consultant's compliance with Municipal law, ordinances, rules, regulations, resolutions, executive orders or other instructions received from Municipality. If either Party becomes aware of any incident likely to give rise to a Claim under the above indemnities, it shall notify the other and both Parties shall cooperate fully in investigating the incident.

13. LIMITS OF LIABILITY

EXCEPT ONLY AS MAY BE EXPRESSLY SET FORTH HEREIN, CONSULTANT EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ERROR-FREE OPERATION, PERFORMANCE, ACCURACY, OR NON-INFRINGEMENT. IN NO EVENT SHALL CONSULTANT OR MUNICIPALITY BE LIABLE TO ONE ANOTHER FOR INDIRECT, INCIDENTAL, CONSEQUENTIAL, RELIANCE, EXEMPLARY, OR SPECIAL DAMAGES INCLUDING WITHOUT LIMITATION, DAMAGES FOR LOST PROFITS, LOST REVENUES, LOST DATA OR OTHER INFORMATION, OR LOST BUSINESS OPPORTUNITY, REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, INDEMNITY, NEGLIGENCE, WARRANTY, STRICT LIABILITY, OR TORT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND NOTWITHSTANDING THE FAILURE OF ESSENTIAL PURPOSE OF ANY REMAINING REMEDY OTHER THAN WITH RESPECT TO PAYMENT OF OBLIGATIONS FOR SERVICES. EXCEPT WITH RESPECT TO PAYMENT OBLIGATIONS, IN NO EVENT SHALL THE LIABILITY OF MUNICIPALITY OR CONSULTANT UNDER THIS AGREEMENT FROM ANY CAUSE OF ACTION WHATSOEVER (REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT OR UNDER ANY OTHER LEGAL THEORY, AND WHETHER ARISING BY NEGLIGENCE, INTENTIONAL CONDUCT, OR OTHERWISE) EXCEED THE GREATER OF THE AMOUNT OF FEES PAID TO CONSULTANT PURSUANT TO THIS AGREEMENT OR THE AVAILABLE LIMITS OF CONSULTANTS INSURANCE REQUIRED PURSUANT TO SECTION 16, BELOW (SUCH LIMITS DEFINE MUNICIPAL MAXIMUM LIABILITY TO THE SAME EXTENT AS IF MUNICIPALITY HAD BEEN OBLIGATED TO PURCHASE THE POLICIES).

14. INSURANCE

- A. Consultant shall procure and maintain and shall cause any subcontractor of Consultant to procure and maintain, the minimum insurance coverages listed below throughout the term of this Agreement. Such coverages shall be procured and maintained with forms and insurers acceptable to Municipality. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.
- B. Worker's compensation insurance to cover obligations imposed by applicable law for any employee engaged in the performance of work under this Agreement, and Employer's Liability insurance with minimum limits of one million dollars (\$1,000,000) bodily injury each accident, one million dollars (\$1,000,000) bodily injury by disease – policy limit, and one million dollars (\$1,000,000) bodily injury by disease – each employee. Worker's compensation coverage in "monopolistic" states is administered by the individual state and coverage is not provided by private insurers. Individual states operate a state administered fund of workers compensation insurance which set coverage limits and rates. Monopolistic states: Ohio, North Dakota, Washington, Wyoming.
- C. Commercial general liability insurance with minimum combined single limits of one million dollars (\$1,000,000) each occurrence and two million dollars (\$2,000,000) general aggregate. The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage, personal injury (including coverage for contractual and employee acts), blanket contractual, independent Consultant's, and products. The policy shall contain a severability of interest provision and shall be endorsed to include Municipality and Municipality's officers, employees, and consultants as additional insureds.
- D. Professional liability insurance with minimum limits of one million dollars (\$1,000,000) each claim and two million dollars (\$2,000,000) general aggregate.
- E. Automobile Liability: If performance of this Agreement requires use of motor vehicles licensed for highway use, Automobile Liability Coverage is required that shall cover all owned, non-owned, and hired automobiles with a limit of not less than \$1,000,000 combined single limit each accident.
- F. Municipality shall be named as an additional insured on Consultant's insurance coverage.
- G. Prior to commencement of Services, Consultant shall submit certificates of insurance acceptable to Municipality.

15. THIRD PARTY RELIANCE

This Agreement is intended for the mutual benefit of Parties hereto and no third-party rights are intended or implied.

16. OWNERSHIP OF DOCUMENTS

Except as expressly provided in this Agreement, Municipality shall retain ownership of all Materials and Consultant shall retain ownership of all pre-existing Consultant intellectual property, including improvements thereto all work product and deliverables created by Consultant pursuant to this Agreement. The Materials, work product and deliverables shall be used by Consultant solely as provided in this Agreement and for no other purposes without the express prior written consent of Municipality. Subject to the preceding, as between Municipality and Consultant, all deliverables from the performance of the Services (Deliverables) shall become the exclusive property of Municipality when Consultant has been compensated for the same as set forth herein, and Municipality shall thereafter retain sole and exclusive rights to receive and use such materials in such manner and for such purposes as determined by it. Notwithstanding any provision of this Agreement to the contrary, Consultant shall have no liability, including under Section 13, with respect to (i) the use by Municipality of unfinished or draft Deliverables or (ii) the use of Deliverables for any project other than that for which they were prepared or (iii) the use of Deliverables after a change in applicable codes or law. Notwithstanding the preceding, Consultant may use the Materials, work product, deliverables, applications, records, documents and other materials provided to perform the Services or resulting from the Services, for purposes of (i) training, (ii) benchmarking of Municipality's and other client's performance relative to that of other groups of customers served by Consultant; and (ii) improvement, development marketing and sales of existing and future Consultant services, tools and products. For the avoidance of doubt, Municipality Data will be provided to third parties, other than hosting providers, development consultants and other third parties providing services for Consultant, only on an anonymized basis and only as part of a larger body of anonymized data. If this Agreement expires or is terminated for any reason, all records, documents, notes, data and other materials maintained or stored in Consultant's secure proprietary software pertaining to Municipality will be exported into a CSV file and become property of Municipality. Notwithstanding the preceding, Consultant shall own all rights and title to any Consultant provided software and any improvements or derivative works thereof.

17. CONSULTANT ACCESS TO RECORDS

Parties acknowledge that Consultant requires access to Records in order for Consultant to perform its obligations under this Agreement. Accordingly, Municipality will either provide to Consultant on a daily basis such data from the Records as Consultant may reasonably request (in an agreed electronic format) or grant Consultant access to its Records and Record management systems so that Consultant may download such data. Data provided to or downloaded by Consultant pursuant to this Section shall be used by Consultant solely in accordance with the terms of this Agreement.

18. CONFIDENTIALITY

Consultant shall not disclose, directly or indirectly, any confidential information or trade secrets of Municipality without the prior written consent of Municipality or pursuant to a lawful court order directing such disclosure.

19. CONSULTANT PERSONNEL

Consultant shall employ a sufficient number of experienced and knowledgeable employees to perform Services in a timely, polite, courteous and prompt manner. Consultant shall determine appropriate staffing levels and shall promptly inform Municipality of any reasonably anticipated or known employment-related actions which may affect the performance of Services. Additional staffing resources shall be made available to Municipality when assigned employee(s) is unavailable.

20. DISCRIMINATION & ADA COMPLIANCE

Consultant will not discriminate against any employee or applicant for employment because of race, color, religion, age, sex, disability, national origin or any other category protected by applicable federal or state law. Such action shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notice to be provided by an agency of the federal government, setting forth the provisions of Equal Opportunity laws. Consultant shall comply with the appropriate

provisions of the Americans with Disabilities Act (the "ADA"), as enacted and as from time to time amended, and any other applicable federal regulations. A signed certificate confirming compliance with the ADA may be requested by Municipality at any time during the term of this Agreement.

21. E-VERIFY/VERIFICATION OF EMPLOYMENT STATUS

Pursuant to FS 448.095, Consultant certifies that it is registered with and uses the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by Consultant during the term of the Agreement. Consultant shall not knowingly employ or contract with an illegal alien to perform work under this Agreement and will verify immigration status to confirm employment eligibility. If Consultant enters into a contract with a subcontractor to perform work or provide services pursuant to the Agreement, Consultant shall likewise require the subcontractor to comply with the requirements of FS 448.095, and the subcontractor shall provide to Consultant an affidavit stating that the subcontractor does not employ, contract with or subcontract with an unauthorized alien. Consultant will maintain a copy of such affidavit for the duration of its contract with owner. Consultant is prohibited from using the E-Verify program procedures to undertake pre-employment screening of job applicants while this Agreement is being performed.

22. SOLICITATION/HIRING OF CONSULTANT'S EMPLOYEES

During the term of this Agreement and for one year thereafter, Municipality shall not solicit, recruit or hire, or attempt to solicit, recruit or hire, any employee or former employee of Consultant who provided services to Municipality pursuant to this Agreement ("Service Providers"), or who interacted with Municipality in connection with the provision of such services (including but not limited to supervisors or managers of Service Providers, customer relations personnel, accounting personnel, and other support personnel of Consultant). Parties agree that this provision is reasonable and necessary in order to preserve and protect Consultant's trade secrets and other confidential information, its investment in the training of its employees, the stability of its workforce, and its ability to provide competitive building department programs in this market. If any provision of this section is found by a court or arbitrator to be overly broad, unreasonable in scope or otherwise unenforceable, Parties agree that such court or arbitrator shall modify such provision to the minimum extent necessary to render this section enforceable. In the event that Municipality hires any such employee during the specified period, Municipality shall pay to Consultant a placement fee equal to 100% of the employee's annual salary including bonus and training certification.

23. NOTICES

Any notice under this Agreement shall be in writing and shall be deemed sufficient when presented in person, or sent, pre-paid, first-class United States Mail, or delivered by electronic mail to the following addresses:

If to Municipality:

Steven Kreklow, Village Administrator
Village of Germantown, Wisconsin
N112 W17001 Mequon Road
Germantown, WI 53022
Email: skreklow@village.germantown.wi.us

If to Consultant:

Joe DeRosa, CRO
SAFEbuilt, LLC
444 North Cleveland, Suite 444
Loveland, CO 80537
Email: jderosa@safebuilt.com

24. FORCE MAJEURE

Any delay or nonperformance of any provision of this Agreement by either Party (with the exception of payment obligations) which is caused by events beyond the reasonable control of such party, shall not

constitute a breach of this Agreement, and the time for performance of such provision, if any, shall be deemed to be extended for a period equal to the duration of the conditions preventing such performance.

25. DISPUTE RESOLUTION

In the event a dispute arises out of or relates to this Agreement, or the breach thereof, and if said dispute cannot be settled through negotiation, Parties agree first to try in good faith to settle the dispute by mediation, before resorting to arbitration, litigation, or some other dispute resolution procedure. The cost thereof shall be borne equally by each Party.

26. ATTORNEY'S FEES

In the event of dispute resolution or litigation to enforce any of the terms herein, each Party shall pay all its own costs and attorney's fees.

27. AUTHORITY TO EXECUTE

The person or persons executing this Agreement represent and warrant that they are fully authorized to sign and so execute this Agreement and to bind their respective entities to the performance of its obligations hereunder.

28. CONFLICT OF INTEREST

Consultant shall refrain from providing services to other persons, firms, or entities that would create a conflict of interest for Consultant with regard to providing the Services pursuant to this Agreement. Consultant shall not offer or provide anything of benefit to any Municipal official or employee that would place the official or employee in a position of violating the public trust as provided under Municipality's charter and code of ordinances, state or federal statute, case law or ethical principles.

29. GOVERNING LAW AND VENUE

The negotiation and interpretation of this Agreement shall be construed under and governed by the laws of the State of Wisconsin, without regards to its choice of laws provisions. Exclusive venue for any action under this Agreement, other than an action solely for equitable relief, shall be in the state and federal courts serving Municipality and each party waives any and all jurisdictional and other objections to such exclusive venue.

30. COUNTERPARTS

This Agreement and any amendments or task orders may be executed in one or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument. For purposes of executing this Agreement, scanned signatures shall be as valid as the original.

31. ELECTRONIC REPRESENTATIONS AND RECORDS

Parties hereby agree to regard electronic representations of original signatures as legally sufficient for executing this Agreement and scanned signatures emailed by PDF or otherwise shall be as valid as the original. Parties agree not to deny the legal effect or enforceability of the Agreement solely because it is in electronic form or because an electronic record was used in its formation. Parties agree not to object to the admissibility of the Agreement in the form of an electronic record, or a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature, on the ground that it is an electronic record or electronic signature or that it is not in its original form or is not an original.

32. WAIVER

Failure to enforce any provision of this Agreement shall not be deemed a waiver of that provision. Waiver of any right or power arising out of this Agreement shall not be deemed waiver of any other right or power.

33. ENTIRE AGREEMENT

This Agreement, along with attached exhibits, constitutes the complete, entire and final agreement of the Parties hereto with respect to the subject matter hereof, and shall supersede any and all previous agreements, communications, representations, whether oral or written, with respect to the subject matter hereof. Invalidity of any of the provisions of this Agreement or any paragraph sentence, clause, phrase, or word

herein or the application thereof in any given circumstance shall not affect the validity of any other provision of this Agreement.

IN WITNESS HEREOF, the undersigned have caused this Agreement to be executed in their respective names on the dates hereinafter enumerated.

SAFEbuilt Wisconsin, LLC	Village of Germantown, Wisconsin
By: _____	By: _____
Name: <u>Gary Amato</u>	Name: _____
Title: <u>Chief Administrative Officer</u>	Title: _____
Date: <u>November 21, 2024</u>	Date: _____

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EXHIBIT A – LIST OF SERVICES

1. LIST OF SERVICES

Building, Electrical, Plumbing, Mechanical Inspection Services

- Consultant utilizes an educational, informative approach to improve the customer's experience
- Perform code compliance inspections to determine that construction complies with approved plans
- Meet or exceed agreed upon performance metrics regarding inspections
- Provide onsite inspection consultations to citizens and contractors while performing inspections
- Return calls and emails from permit holders in reference to code and inspection concerns
- Identify and document any areas of non-compliance
- Leave a copy or provide an electronic version of the inspection results and discuss inspection results with site personnel

Plan Review Services

- Provide plan review services electronically or in the traditional paper format
- Review plans for compliance with adopted building codes, local building amendments or building ordinances
- Be available for pre-submittal meetings by appointment
- Coordinate plan review tracking, reporting, and interaction with applicable departments
- Provide feedback to keep plan review process on schedule
- Communicate plan review findings and recommendations in writing
- Return a set of finalized plans and all supporting documentation
- Provide review of plan revisions and remain available to applicant after the review is complete

2. MUNICIPAL OBLIGATIONS

- Municipality will issue permits and collect all fees
- Municipality will provide Consultant with a list of requested inspections and supporting documents
- Municipality will intake plans and related documents for pick up by Consultant or submit electronically
- Municipality will provide a monthly activity report that will be used for monthly invoicing
- Municipality will provide office space, desk, desk chairs, file cabinets, local phone service, internet, use of copier and fax

3. TIME OF PERFORMANCE

- Consultant will perform Services during normal business hours excluding Municipal holidays
- Services will be performed on an as-requested basis
- Inspectors will be dispatched on an as-requested basis
- Inspectors will be dispatched daily or as-requested
- Consultant representative(s) will be on-site weekly based on activity levels
- Consultant representative(s) will be available by phone and email
- Consultant representative(s) will meet with the public by appointment
- Additional Inspectors will be dispatched on an as-needed basis

Deliverables			
INSPECTION SERVICES	Perform inspections received from the Municipality prior to 4:00 pm next business day		
PRE-SUBMITTAL MEETINGS	Provide pre-submittal meetings to applicants by appointment		
PLAN REVIEW TURNAROUND TIMES	Provide comments within the following timeframes: Day 1 = first full business day after receipt of plans and all supporting documents		
	<u>Project Type:</u> – Single-family within – Multi-family within – Small commercial within (under \$2M in valuation) – Large commercial within	<u>First Comments</u> 10 business days 10 business days 10 business days 20 business days	<u>Second Comments</u> 10 business days or less 10 business days or less 10 business days or less 10 business days or less
EXPEDITED PLAN REVIEW TURNAROUND TIMES	Provide quicker turnaround timeframes on a case-by-case basis. Additional fees may apply.		

EXHIBIT B – FEE SCHEDULE FOR SERVICES

1. FEE SCHEDULE

- On January 1, 2025 and annually thereafter, the hourly and flat rates listed shall be increased based upon the annual increase in the Department of Labor, Bureau of Labor Statistics or successor thereof, Consumer Price Index (United States City Average, All Items (CPI-U), Not Seasonally adjusted, All Urban Consumers, referred to herein as the “CPI”) for the Municipality or, if not reported for the Municipality the CPI for cities of a similar size within the applicable region from the previous calendar year, such increase, however, not to exceed 4% per annum. The increase will become effective upon publication of the applicable CPI data. If the index decreases, the rates listed shall remain unchanged.
- On January 1, 2026 and annually thereafter, Municipality shall increase Building Permit Fees based upon the annual increase in the Department of Labor, Bureau of Labor Statistics or successor thereof, Consumer Price Index (United States City Average, All Items (CPI-U), Not Seasonally adjusted, All Urban Consumers, referred to herein as the “CPI”), however, not to exceed 4% per annum.
- Consultant fees for Services provided pursuant to this Agreement will be as follows:

SERVICE FEE SCHEDULE:	STANDARD HOURLY RATE*
Inspection Services	50% of Municipal Fee as established by ordinance or resolution
Residential Plan Review Services	50% of Municipal Fee as established by ordinance or resolution
Commercial Plan Review Services	90% of Municipal Fee as established by ordinance or resolution
<u>After Hour/Emergency Inspection Services</u>	<u>\$100.00 Per Hour - Two (2) Hour Minimum</u>
Hourly inspection time tracked will start when Consultant checks in at Municipality or first inspection site. Time tracked will end when the inspector completes the last scheduled inspection or leaves Municipal office. Time tracked will include travel time between inspection sites and all administrative work related to inspection support.	
*Services requested beyond normal business hours, Monday through Friday, will be invoiced at one-and-a-half times (1.5x) the standard rate with a two (2) hour minimum.	
Services requested on Saturdays, will be invoiced at one-and-a-half (1.5) times the standard rate with a four (4) hour minimum.	
Services requested on Sunday or US Federal holidays will be invoiced at two (2) times the standard rate with a four (4) hour minimum.	

EXHIBIT C – MUNICIPAL SPECIFIED OR SAFE BUILT PROVIDED SOFTWARE

1. Consultant shall provide Services pursuant to this Agreement using hardware and Consultant's standard software package, unless otherwise provided below. Use of Consultant's software shall be subject to the applicable terms of service, privacy and other policies published by Consultant with respect to that software, as those policies may be amended from time to time. In the event that Municipality requires that Consultant utilize hardware and/or software specified by and provided by Municipality, Consultant shall use reasonable commercial efforts to comply with Municipal requirements.
2. Municipality, at its sole expense, shall provide such technical support, equipment or other facilities as Consultant may reasonably request to permit Consultant to comply with Municipal requirements. Municipality will provide the following information to Consultant.
 - ✓ Municipal technology point of contact information including name, title, email and phone number
 - ✓ List of technology services, devices and software that the Municipality will provide may include:
 - Client network access
 - Internet access
 - Proprietary or commercial software and access
 - Computer workstations/laptops
 - Mobile devices
 - Printers/printing services
 - Data access
 - List of reports and outputs

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BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: 2025 Permit Fee Schedule-Inspection Services

SUBMITTED BY:

SUMMARY EXPLANATION:

If the 2025-2026 contract for plan review and permit processing and inspection services with SAFEbuilt of WI is approved, the 2025 Permit Fee Schedule for Inspection Services is required to adjust based on the latest Consumer Price Index (CPI-U) percentage. The Fee Schedule proposed for 2025 includes an increase to all permit fee items of 2.7 percent based on the CPI-U percentage for the last 12-months ending on November 30, 2024, as determined by the Bureau of Labor Statistics.

ATTACHMENT:

1. 2024 Village Fee Schedule-Revised

STAFF RECOMMENDATION:

ACTION BY Committee:

Village of



Germantown

VILLAGE OF GERMANTOWN

2024 FEE SCHEDULE

FEE DESCRIPTION	FEE AMOUNT
VILLAGE CLERK	
Class A Beer	\$ 100.00
Class A Liquor	\$ 500.00
Class B Beer	\$ 100.00
Class B Liquor	\$ 500.00
Class B (Wine Only) Winery	\$ 500.00
Temporary Class "B" Beer at a Gathering or Picnic	\$ 10.00
Temporary Class "B" & Wine at a Gathering or Picnic	\$ 10.00
Class B Reserve Liquor	\$ 10,000.00
Class C Wine	\$ 100.00
Late Liquor License Application Fee	\$ 100.00
Investigation/Background Check	\$ 7.00
Change of Agent	\$ 10.00
Operators License - New (1 Year)	\$ 50.00
Provisional Operators License	\$ 15.00
Temporary Operators License (1 Per Year, Not Valid For More Than 14 Days)	\$ 7.00
Certified Copy of Operators License	\$ 10.00
License/Permit Replacement Copy Fee	\$ 5.00
Animal Fancier	\$ 25.00
Amusement Arcade License	\$ 100.00
Amusement Device Charge For 1 to 7 Devices	\$ 25.00
Amusement Device Charge For 8 to 15 Devices	\$ 30.00
Amusement Device Charge For 16 to 25 Devices	\$ 35.00
Amusement Device Charge For More Than 25 Devices (also requires a CUP)	\$ 40.00
Block Party Permit	\$ 25.00
Board of Zoning Appeals	\$ 570.00
Boarding Kennel	\$ 50.00
Cigarette	\$ 100.00
Coin Operated Machine, Per Machine up to 7 machines	\$ 25.00
Direct Sellers, Transient Merchants & Solicitors	\$ 60.00

FEE DESCRIPTION	FEE AMOUNT
VILLAGE CLERK	
Fireworks Permit	\$ 100.00
Food Vendor	\$ 25.00
Grooming Establishment	\$ 40.00
Junk Dealer - Initial	\$ 250.00
Junk Dealer - Initial Application Investigation and Inspection Fee	\$ 200.00
Junk Dealer - Renewal	\$ 250.00
Mobile Home Park (For 50 Units or Fraction Thereof)	\$ 100.00
Mobile Home Park Transfer (Per Park)	\$ 10.00
Outside Premises Extension	\$ 25.00
Parade Permit	\$ 15.00
Pawnbroker Bond	\$ 500.00
Pawnbroker License	\$ 210.00
Pet Shop	\$ 40.00
Publication Fee	\$ 20.00
Secondhand Article	\$ 27.50
Secondhand Dealer Mall/Flea Market	\$ 165.00
Secondhand Jewelry	\$ 30.00
License/Permit Application Rush fee (request for completion in less than 10 days)	\$ 10.00
Audio/Video Tape and Computer Media	\$ 15.00

(Actual time and materials if cost is over \$50.00)

Postage charges will apply to any documentation or items needing to be mailed to the requestor

Village of



Germantown

VILLAGE OF GERMANTOWN

2024 FEE SCHEDULE

FEE DESCRIPTION	FEE AMOUNT
COMMUNITY DEVELOPMENT - PLANNING	
Rezoning Petition-General Zoning Map Amendment (Chap 17)	1,085.00
Rezoning Petition-Floodplain Zoning Map Amendment (Chap 23)	2,275.00
Rezoning Petition-Wetland Zoning Map Amendment (Chap 24)	2,275.00
Rezoning Petition-Code Text Amendment (Chap 17, 18, 23, 24)	1,115.00
Land Use Plan Amendment (Map or Text Change)	1,165.00
Sign Permit-Permanent (New)	275.00
Sign Permit-Face Replacement (Existing)	75.00
Sign Permit-Temporary	\$30-\$150
<i>Variable fee depends on length of time</i>	
Conditional Use Permit (CUP)	1,460.00
Planned Development (PDD) <5 acre site	1,240.00
Planned Development (PDD) 5-20 acre site	2,095.00
Planned Development (PDD) >20 acre site	3,460.00
Planned Development (PDD) Amendment	820.00
Subdivision Plat (Preliminary & Final Combined) <10 Lots	4,575.00
Subdivision Plat (Preliminary & Final Combined) 11-25 Lots	5,600.00
Subdivision Plat (Preliminary & Final Combined) 26-50 Lots	6,625.00
Subdivision Plat (Preliminary & Final Combined) >51 Lots	7,650.00
Certified Survey Map (CSM) w/ Public Improvements (road or utility)	2,900.00
Certified Survey Map (CSM)-no Public Improvements	1,960.00
Site & Building Plans "Minor" Addition	700.00
Site & Building Plans <10K SF Building or <5 Acre Site	1,240.00
Site & Building Plans 10-50K Building or 5-20 Acre Site	2,095.00
Site & Building Plans >50K Building or >20 Acre Site	3,460.00
Zoning Code Appeal (Variance, Administrative, Code Interpretation)	560.00
Temporary Use Permit	210.00
Zoning District & Code Compliance Verification Letter	60.00
Floodplain Verification Letter	180.00
Request for Wetland Delineation	\$300 Deposit
<i>Returned when wetland survey is submitted</i>	
Zoning Permit: (new residential/commercial/industrial construction or tenant occupancy)	175.00
Zoning Permit: Residential & Agricultural (accessory buildings, fences, other minor items)	25.00
Zoning Permit: Non-Residential (accessory buildings, fences, other minor items)	50.00
PENALTY for work Started w/o Permit OR Work Started Prior to Permit Issuance	TRIPLE PERMIT FEE

FEE DESCRIPTION	FEE AMOUNT
COMMUNITY DEVELOPMENT - PLANNING	
Topsoil Removal Permit	250.00
Berm Permit	200.00
Request for Historic Designation	75.00
Mining Permit	100.00
Plan Commission Consultation (per meeting)	200.00
Subdivision Plat & CSM Approval Period Extension *	250.00
Application Late Fee + 1 day *	250.00
Application Late Fee + 2 days *	500.00
<i>*All other applicable fees apply</i>	

COMMUNITY DEVELOPMENT - INSPECTION SERVICES

Permit & Inspection Fees & Charges 2024

PERMIT/INSPECTION FEE DESCRIPTION	FEE AMOUNT (\$)
CONSTRUCTION (RESIDENTIAL 1 & 2-FAMILY ONLY)	
Residential Dwelling-New (w/ or w/o attached garage; charge per sqft)	\$.40/sqft
Residential Dwelling-Addition (charge per sqft)	\$.40/sqft
Residential Dwelling-"MAJOR" Remodel (includes basement finish/remodel)	\$.35/sqft or \$7/\$1000
Residential Dwelling-"MINOR" Remodel (includes basement finish/remodel)	\$.25/sqft or \$5/\$1000
<i>NOTE: A fee based on \$1000 per valuation of the total project cost (less plumbing, electrical, HVAC and other construction components permitted separately) is ONLY used when the area (sqft) of the project cannot be calculated, or, at the discretion of the Building Inspector this method of calculating a permit fee is more appropriate given estimated inspection needs & time</i>	
Deck/Porch (attached to dwelling)	\$.25/sqft or \$65 min
Gazebo/Pergola > 100 sqft area (not attached to dwelling; not temporary)	65.00
Detached Garage & Accessory Structure- 192 square feet or less (includes pre-made & resin uni	65.00
Detached Garage & Accessory Structure Over 192 square feet (per sqft)	\$.30/sqft or \$65 min
Swimming Pool (include decking & fencing; excludes any electrical & plumbing charged separat	\$11/\$1000 or \$65 min
Fence	65.00
Reroofing	\$65.00
Siding	\$65.00
Foundation Wall Repair & Egress Window Install	\$75.00
Solar Energy Unit (Roof-Mounted)	\$6/\$1000 valuation w/ \$175 minimum
Solar Energy Unit (Ground-Mounted)	\$6/\$1000 valuation w/ \$175 minimum
Wind Energy Unit	\$6/\$1000 valuation w/ \$175 minimum
Signal Receiving Antenna	\$65.00
Permit to Start Construction Early at Owner's Risk (footings & foundation only)	\$175.00
WI Uniform Building Permit Seal	\$65.00
Occupancy Permit (OC)	\$65.00
<i>Plan Review Fee (PRF):</i>	
New Dwelling (w/ or w/o attached garage)	\$225.00
Residential Dwelling-Addition	\$75.00
Residential Dwelling-Remodel (includes "MAJOR" OR "MINOR" and Basement Finish)	\$55.00
Detached Garages & Accessory Structure Over 192 square feet	\$45.00
Swimming Pool (includes fencing when required)	\$40.00
Deck/Porch	\$40.00
Gazebo/Pergola > 100 sqft area (not attached to dwelling; not temporary)	\$40.00
Fireplace	\$35.00
<i>Property Record Maintenance Fees (PRMF):</i>	
New Residential Dwellings	\$200.00
Structural Addition/Alteration	\$80.00
Accessory Structures (Detached Garage Deck, Gazebo, Shed, Pool, etc.)	\$15.00
<i>Zoning Compliance Fee (ZC):</i>	
Zoning Permit: (new residential dwelling construction)	175.00
Zoning Permit: (new residential accessory buildings, fences, etc.)	25.00
Minimum Construction Permit Fee (unless specified above)	\$65.00

IMPORTANT NOTICE: DEPENDING ON THE TYPE AND EXTENT OF A GIVEN PROJECT, MORE THAN ONE TYPE OF FEE LISTED IN THIS SCHEDULE MAY BE REQUIRED. FOR EXAMPLE, NEW RESIDENTIAL CONSTRUCTION WILL REQUIRE A BASE CONSTRUCTION FEE, A PLAN REVIEW FEE, A PROPERTY RECORD MAINTENANCE FEE, A ZONING COMPLIANCE FEE, AN OCCUPANCY PERMIT FEE, AN EROSION CONTROL FEE, AND A WISCONSIN STATE UNIFORM BUILDING SEAL CHARGE; ADDITIONAL PERMIT FEES WILL ALSO BE CHARGED FOR MECHANICAL & UTILITY SERVICE ITEMS INCLUDING HVAC, ELECTRICAL, AND PLUMBING. CONTACT INSPECTION SERVICES FOR FURTHER DETAILS.

COMMUNITY DEVELOPMENT - INSPECTION SERVICES

Permit & Inspection Fees & Charges 2024

PERMIT/INSPECTION FEE DESCRIPTION	FEE AMOUNT (\$)
CONSTRUCTION (BUSINESS, INDUSTRIAL, INSTITUTIONAL, MULTI-FAMILY RESIDENTIAL & AGRICULTURAL)	
Multi-Family 3-Family & Over (New Const, Addition & Remodel)	\$.40/sqft
Commercial/Business, Institutional, Office (New Const, Addition & Remodel)	\$.40/sqft
Industrial/Manufacturing, Warehouse & Commercial Garage (New Const, Addition & Remodel)	\$.35/sqft
All Multi-Family, Commercial/Business, Institutional, Industrial/Manufacturing, Warehouse	
Remodeling or Alteration Where Area (Sq Ft) Not Calculated:	
"MAJOR" Remodeling or Alteration	\$10/\$1000
"MINOR" Remodeling or Alteration	\$5/\$1000
<i>NOTE: A fee based on \$1000 per valuation of the total project cost (less plumbing, electrical, HVAC and other construction components permitted separately) is ONLY used when the area (sqft) of the project cannot be calculated, or, at the discretion of the Building Inspector this method of calculating a permit fee is more appropriate given estimated inspection needs & time</i>	
Agricultural Building	1% Cost of Building
<i>Plan Review Fee:</i>	
Multi-Family 3-Family & Over (New Const, Addition & Remodel)	\$200 + \$30 per unit
Commercial/Business, Institutional, Office & Agricultural (New Const, Addition & Remodel)	300.00
Manufacturing/Industrial & Warehouse (New Const, Addition & Remodel)	300.00
Agricultural Wind & Solar Energy Conversion Systems (New Const, Addition & Remodel)	300.00
<i>Occupancy Permit:</i>	
Multi-Family 3-Family & Over (New Const, Addition & Remodel)	\$40 per unit
Commercial/Business, Institutional, Office (New Const, Addition & Remodel)	200.00
Manufacturing/Industrial & Warehouse (New Const, Addition & Remodel)	200.00
Solar Energy Unit (Roof-Mounted)	\$6/\$1000 valuation w/ \$250 minimum
Solar Energy Unit (Ground-Mounted)	\$6/\$1000 valuation w/ \$250 minimum
Wind Energy Unit	\$6/\$1000 valuation w/ \$250 minimum
Signal Receiving Antenna	65.00
Siding (\$500 Maximum)	\$10.00/\$1000 - \$65 min
Fencing	\$10.00/\$1000 or \$65 min
Reroofing (\$500 Maximum)	\$10.00/\$1000 - \$65 min
Permit to Start Construction Early at Owner's Risk (footings & foundation only)	350.00
<i>Property Record Maintenance Fees:</i>	
Multi Family/Condominiums	\$400 Base + \$50/Unit
Structural Addition/Alteration	80.00
Accessory Structures (Deck, Gazebo, Shed, Pool, etc.)	30.00
New Commercial/Business, Institutional, Office, Manufacturing/Industrial & Warehouse	400.00
Structural Addition	165.00
Structural Alteration	110.00
Accessory Structures	50.00
Porch, Deck, Gazebo, etc.	30.00
<i>Zoning Compliance:</i>	
Zoning Permit: (new commercial/industrial construction or new tenant occupancy)	175.00
Zoning Permit: (agricultural and commercial/industrial accessory buildings, fences, etc.)	50.00

IMPORTANT NOTICE: DEPENDING ON THE TYPE AND EXTENT OF A GIVEN PROJECT, MORE THAN ONE TYPE OF FEE LISTED IN THIS SCHEDULE MAY BE REQUIRED. FOR EXAMPLE, NEW COMMERCIAL CONSTRUCTION WILL REQUIRE A BASE CONSTRUCTION FEE, A PLAN REVIEW FEE, A PROPERTY RECORD MAINTENANCE FEE, A ZONING COMPLIANCE FEE, AN OCCUPANCY PERMIT FEE, AND AN EROSION CONTROL FEE; ADDITIONAL PERMIT FEES WILL ALSO BE CHARGED FOR MECHANICAL & UTILITY SERVICE ITEMS INCLUDING HVAC, ELECTRICAL, AND PLUMBING. CONTACT INSPECTION SERVICES FOR FURTHER DETAILS.

COMMUNITY DEVELOPMENT - INSPECTION SERVICES**Permit & Inspection Fees & Charges 2024**

PERMIT/INSPECTION FEE DESCRIPTION	FEE AMOUNT (\$)
HVAC - HEATING & COOLING (ALL Residential & non-Residential)	
1 & 2-Family Heating	\$50.00
Commercial - 1st 150,000 BTU	\$50.00
Each Additional 50,000 BTU or Fraction Thereof (\$750.00 Max per unit)	\$15.00
One & Two Family Air Conditioning	\$50.00
Commercial A/C - 1st 5 Tons	\$50.00
Each Additional Ton or Fraction Thereof (\$750.00 Max per unit)	\$15.00
Fireplace/Woodburning Stove	\$50.00 + PRF
Outdoor Heating Devices (also for gas line extensions for such devices)	\$100.00
Commercial/Industrial Exhaust Hoods & Exhaust Systems	\$100.00
Heating & A/C Distribution Systems/Ductwork	\$1.00/100 sqft project area or \$65.00 min
Plan Review Fee (ALL non-Residential)	\$60.00
Minimum HVAC Permit Fee	\$65.00
PLUMBING PERMITS (ALL Residential & non-Residential)	
Plumbing Fixtures - Each	\$10.00
Manholes & Catch Basins	\$30.00
Inside Sewer - First 100 Feet	\$50.00
Outside Sewer & Water - First 100 Feet - Change to Outside Sewer Only	\$50.00
Additional Sewer & Water - Over 100 Feet in/out	\$.45/linear feet
Storm Sewer Connection	\$50.00
Water Service - Separate Line Item	\$50.00
Water Tap or Sewer Connection in Road	\$35.00
Well	\$20.00
Well Abandonment	\$40.00
Pump	\$20.00
Lawn Sprinkler System (Per System Plus .25 per Head)	\$15.00
Re-Inspection Fee	\$50.00
Minimum Plumbing Permit Fee	\$65.00

COMMUNITY DEVELOPMENT - INSPECTION SERVICES

Permit & Inspection Fees & Charges 2024

PERMIT/INSPECTION FEE DESCRIPTION	FEE AMOUNT (\$)
ELECTRICAL PERMITS (ALL Residential & non-Residential)	
Outlets for Fixtures, Lamps, Switches, and Similar Devices	\$0.75
Fixtures, Studded Porcelain Receptacles, etc. - Combined to one line item	\$0.75
Ranges, including outlets or 50 AMP outlets or receptacles	\$10.00
Garbage Disposal	\$10.00
Dishwasher	\$10.00
Water Heater	\$10.00
Clothes Dryer	\$10.00
Automatic Central Heating & Cooling Devices (Furnace) - Residential	\$20.00
Automatic Central Heating & Cooling Devices (Furnace) - Commercial	\$40.00
Air Conditioners – 3 tons or smaller in size	\$9.00
Over 3 tons, \$1.00 per ton in excess (#)Ton in excess	Plus \$9.00
Well Pump - Added Mound System, Lift Pump, or Alarm Wiring	\$20.00
Low Voltage Device	\$1.00
Service Switches: First 200 Amperes	\$50.00
Over 200 Amperes – Additional per 100 amps or fraction	\$10.00/100 amp
Temporary Service - 1st 90 days	\$50.00
Thereafter, each additional 100 Amperes or fraction	\$15.00
Tubular Lamps, such as Fluorescent, Cold Cathode, Lumiline and Mercury Vapor (per tube)	\$0.50
Miscellaneous Heating Devices (per kW)	\$4.00
Power Receptacles	\$7.00
Motors (per H.P. or fraction)	\$1.00
Neon Signs (Transformer), Lighted Signs	\$25.00
Generators, Inverters, Rectifiers & Transformers; Incl Wind & Solar Systems (per kW)	\$1.00
Residential Whirlpool	\$30.00
Wireways, Busways, Underfloor Raceways or Auxiliary Gutters (per foot or fraction)	\$0.50
Stage Pockets, Spotlights, Fluorescent Tubes and like apparatus (per tube)	\$0.40
Exterior Poles, Wall Packs, Bollards	\$20.00
Arc, Mercury, Search and Floodlights	\$3.50
Commercial Exterior Luminaires, Parking Lighting (Per Pole)	\$10.00
Dimmers, Time Clock, Photo Electric Switch	\$3.00
Dimmers, Sensors, GFCI, AFCI, etc.	\$4.00
Fuel Dispensing Pumps or Units	\$10.00
Feeders and Subfeeders No. 6 AWG or larger & Subpanels	\$25.00
Smoke Detectors	\$2.00
Exhaust Fans	\$5.00
GFCI Receptacles	\$4.00
Swimming Pool Wiring: Inground Pools	\$100.00
Above Ground Pools & Hot Tubs	\$50.00
Fire Alarm Panel, Security System	\$75.00
Elevator	\$50.00
Minimum Electrical Permit Fee	\$65.00

COMMUNITY DEVELOPMENT - INSPECTION SERVICES**Permit & Inspection Fees & Charges 2024**

PERMIT/INSPECTION FEE DESCRIPTION	FEE AMOUNT (\$)
EROSION CONTROL PERMITS	
1 & 2-Family- New Construction	\$175 per lot
Subdivision Development (Residential & non-Residential)	\$1,250 + \$25 Per Lot
Multi Family, Commercial, Industrial, Institutional (\$5,000 Maximum)	\$500 + \$10/1,000 sqft disturbed area
Other Filling/Grading Unrelated to Development (\$100 Minimum)	\$5.00/1,000 sqft disturbed Area < 1 acre PLUS \$3/sqft > 1 acre
OTHER MISCELLANEOUS PERMITS & CHARGES	
Grease Interceptor Inspection	\$65.00
Well Abandonment Inspection	\$65.00
Wrecking/Razing Permit (up to \$500 maximum fee)	\$50.00 + \$.06/sqft
Moving Permit (building moved over Public streets & highways)	\$175.00 + \$.06/sqft
Special Inspection or Report (not associated w/ a specific permit)	\$150.00
Propane Tank Installation Permit	\$65.00
Fire Safety Number (address coordinate plate)	\$60.00
House Number Set (plus tax)	\$25.00
Special Request Inspection (\$ charge per hour)	\$150.00
Re-Inspection (for 3rd Inspection or more)	\$65.00
Failure to Call For Inspection	\$65.00
PENALTY for work Started w/o Permit OR Work Started Prior to Permit Issuance	TRIPLE PERMIT FEE
Technology Fee (added to each permit issued)	\$4.00

Village of



VILLAGE OF GERMANTOWN

2024 FEE SCHEDULE

FEE DESCRIPTION	FEE AMOUNT
ENGINEERING	
Stormwater Permit Fee - Base Application Fee	\$300.00
First Time Stormwater Master (SWM) Plan Report Review Fee (Non-Refundable)	\$200.00
Each Additional Detention/Infiltration/Retention Pond or Water Quality Device	\$25.00
Each Channel/Culvert/Storm Sewer Branch	\$10.00
Optional Expedited Review (3 business days)	\$500.00
Additional SWM Plan Report Review Fee (Non-Refundable)	
2nd SWM Plan Review (i.e., review of 1st SWM Plan revision)	\$250.00
Additional SWM Plan Report Review Fee (i.e., review of 2nd, 3rd, 4th, etc. SWM Plan Revision)	\$500.00
Additional Fee for Optional Expedited Review for each Additional SWM Plan Review (3 business days)	\$500.00
Final Yard Grade Adjustment Fee	\$200.00
Driveway Permit Fee:	
Zoning Districts Type 1: Rd-2, Rm-1, Rm-2, Rm-3, EH, MHP, I, PD, B-1, B-2, B-3, B-4, B-5, M-1, M-2, M-3, M-4	\$100.00
Zoning Districts Type 2: A-1, A-2, Rs-1, Rs-2, Rs-3, Rs-4, Rs-5, Rs-6, Rs-7	\$50.00
Paving an existing access	\$0.00
Utility Permit Fee	
WE Energies Permits	\$150.00
All Other Utility Companies	\$200.00
Road Cuts	\$500.00
Engineering Maps:	
Village Map - (36x36) 1" = 1000'	\$10.56
(24x36) varied scale	\$7.92
(18x18) 1" = 2000'	\$5.28
(36x36) Colored	\$31.68
Zoning Map (36x36) 1" = 400'	\$10.00
Set of 9	\$89.76
Aerial Photography	
(18x18) 1" = 800'	\$10.56
Set of 9	\$89.76
Cadastral Map (18x18) 1" = 200'	\$5.28
Complete Set (142 Maps)	\$316.80
Topographic Map (aerial data-varies)	
(18x18) 1" = 200'	\$21.12
(36x36) 1" = 100'	\$26.40
Additional Copies of Same Map	\$5.28

PUBLIC WORKS

Commercial Recycling Center Fee	\$1,000.00
Blasting Permit	\$50.00
Rock Crushing Permit	\$50.00
Mulch	\$5.00/yard (if Village loads)

Village of



Germantown

VILLAGE OF GERMANTOWN

2024 FEE SCHEDULE

FEE DESCRIPTION	FEE AMOUNT
FIRE	
Plan Review	\$125.00
Fire alarm System Test/Acceptance	\$125.00
Sprinkler System Test/Acceptance	\$125.00
Fire Suppression System (Hood or Booth) Test/Acceptance	\$125.00
Standpipe System Test/Acceptance	\$125.00
Private Fire Hydrant Flow Test	\$100.00
Smoke Evacuation System	\$100.00
After Hours Inspection (Per Inspector, Minimum 2 Hours. Per Hours Charge)	\$100.00
Public Recode Request-Fire/EMS Report	\$8.50
Public Recode Request-8.5 x 11", per page per side	\$0.25
Public Record request-11 x 17", per page, per side	\$0.30
CPR Training (Per Student)	\$50.00
AMBULANCE (EMERGENCY MEDICAL SERVICE)	
TRANSPORT FEES	
BLS Base Rate-Resident	\$550.00
BLS Base Rate-Non Resident	\$650.00
Inter-Facility Transfer	\$350.00
ALS 1 Rate-Resident	\$725.00
ALS 1 Rate-Non Resident	\$825.00
ALS 2 Rate-Resident	\$775.00
ALS 2 Rate-Non Resident	\$875.00
Intercept Rate	\$250.00
Return Trip	\$375.00
Milage (per mile transport)	\$18.00
NON TRANSPORT FEE	
No Transport fee	\$200.00
+ Supply and/or procedure costs	
SPECIAL SERVICES	
Extrication	\$500.00
Lucas 3 CPR Device	\$250.00

FEE DESCRIPTION	FEE AMOUNT
AMBULANCE (EMERGENCY MEDICAL SERVICE) Cont	
SUPPLY CHARGES	
Advanced Airway	\$150.00
CPAP	\$125.00
Defibrillator/AED Supply	\$100.00
EKG Supply	\$85.00
IV Start	\$75.00
IO Start	\$250.00
OB/Childbirth Supply	\$50.00
Pneumothorix Kit	\$100.00
Supplies-BLS	\$100.00
Supplies-ALS	\$125.00
Pro-Splints	\$75.00
MEDICATIONS	
Adenosine	\$80.00
Albuterol	\$30.00
Amiodarone (1st/2nd) Dose	\$150/\$200
Aspirin per Dose	\$10.00
Atropine	\$30.00
Atrovent	\$35.00
50% Dextrose	\$25.00
Diphenhydramine	\$25.00
End Tidal CO2 Detector	\$45.00
Epinephrine 1:1000	\$35.00
Fentanyl	\$30.00
Glucagon	\$350.00
Ketamine	\$45.00
Lorazepam	\$30.00
Magnesium Sulfate	\$30.00
Midazolam	\$40.00
Ondansetron	\$40.00
Oral Glucose 15g	\$20.00
Narcan/Nalozone (per dose)	\$100.00
Needle Decompression	\$60.00
Nitroglycerin	\$25.00
Normal Saline Flush	\$75.00
Normal Saline (IV Administration 1000ml)	\$50.00
Nor-epinephrine	\$30.00
Ondansetron	\$40.00
Oxygen	\$70.00
Pericardiocentesis	\$200.00
Saline Flush	\$5.00
Sodium Bicarbonate	\$30.00

Solu-Medrol	\$40.00
Tranexamic Acid (TXA)	\$25.00

Village of



Germantown

VILLAGE OF GERMANTOWN

2024 FEE SCHEDULE

FEE DESCRIPTION	FEE AMOUNT
FINANCE	
Letter of Special Assessment (LOSA) Request - Per Parcel	\$50.00
Pet License Unneutered/Unspayed	\$13.00
Pet License Neutered/Spayed	\$8.00
Pet License Late Fee (after March 31)	\$5.00
Pet License Replacement Tag	\$1.00
Check Return/Insufficient Funds	\$20.00
Photo Copies - per page/per side	
8.5 x 11	\$0.25
8.5 x 14	\$0.30
11 x 17	\$0.50
Interest on Delinquent Receivables	1.5% per month

WATER & WASTEWATER UTILITY RATES

[Refer to Separate Water, Sewer, Fire Quarterly and Volume Rate Schedule](#)

Interest rate on delinquent utilities - per month	1%
Penalty End-of-Year Taxroll Posting of Delinquencies	10%
90-Day Data Logging	\$15.00
Request to have Water Shut Off/On at the Curb - Normal Business Hours	\$45.00
Request to have Water Shut Off/On at the Curb - After Hours	\$60.00
Additional Meter Install Charge	\$35.00
Meter Read outside normal billing cycle	\$15.00
Special Billing outside normal billing cycle	\$15.00
Missed Appointment - Normal Business Hours	\$30.00
Missed Appointment - Emergency Request After Hours	\$50.00

Village of



Germantown

VILLAGE OF GERMANTOWN

2024 FEE SCHEDULE

FEE DESCRIPTION		FEE AMOUNT
POLICE DEPARTMENT		
Parking Citation		\$20.00
Parking Citation paid after 10 days from issuance		\$30.00
Parking Citation Paid after 20 days from issuance		\$45.00
Parking Permit (per month)		\$10.00
Finger Printing (Germantown Residents or Employers only)		\$10.00
Alarm Charges - False Alarms (Monthly)	1st - 3rd Free	
	4th	\$25.00
	5th	\$50.00
	6th	\$75.00
	7th	\$100.00
	8th-10th	\$150.00
	11th and subsequent	\$200.00
Bike License		\$5.00
Photos (each)		\$1.00
Photos (CD/DVD)		\$2.00
Open Records Requests (per page, per side)		\$0.25
Accident Reports		\$2.00
Audio/Video Tape and Computer Media		\$ 15.00
<i>Actual time and materials if cost is over \$50.00</i>		
<i>Postage charges will apply to any documentation or items needing to be mailed to the requestor</i>		
Warrant Fees (per warrant when subject is booked into custody)		\$35.00
Jail Fee (per day for subjects who complete a sentence rather than pay a citation/warrant)		\$20.00

Village of



Germantown

VILLAGE OF GERMANTOWN

2024 FEE SCHEDULE

FEE DESCRIPTION		FEE AMOUNT
RECREATION		
5.6% sales tax is added to all rentals		
Park Shelter Rentals		
Dheinsville Park Shelter		
Amenities includes; 8 picnic tables, electricity, permanent restrooms		
Resident Fee	Holds up to 80 people	\$50.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax
Non-Resident Fee	Holds up to 80 people	\$90.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax
Firemen's Park Shelter		
Amenities includes; 12 picnic tables, electricity, permanent restrooms		
Resident Fee	Holds up to 300 people	\$110.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax
Non-Resident Fee	Holds up to 300 people	\$165.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax
Haupt Strasse Park Shelter		
Amenities includes; 40 picnic tables, electricity, Port-a-Johns		
Resident Fee	Holds up to 300 people	\$50.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax
Non-Resident Fee	Holds up to 300 people	\$90.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax

FEE DESCRIPTION	FEE AMOUNT
RECREATION	

Kinderberg Park Shelter/Multi-Purpose Room

Amenities includes; 10 Picnic Tables (outdoor shelter), 8 Tables (multi purpose room)
40 chairs, electricity, permanent restrooms

Resident Fee	Holds up to 150 people (Summer)/50 people (Winter)	\$125.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax
Non-Resident Fee	Holds up to 150 people (Summer)/50 people (Winter)	\$185.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax

Schoen Laufen Park Shelter

Amenities include; 6 Picnic Tables, Port-a-John, **NO ELECTRICITY**

Resident Fee	Holds up to 50 people	\$50.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax
Non-Resident Fee	Holds up to 50 people	\$65.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax

Spassland Park Shelter

Amenities include; 10 Picnic Tables, Electricity, Permanent Restrooms

Resident Fee	Holds up to 100 people	\$110.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax
Non-Resident Fee	Holds up to 100 people	\$165.00/6 hours - plus tax \$5.00/hour each additional hour - plus tax

For Program Fees please see the Recreation Guide on the Park & Recreation Website Page

Village of



Germantown

VILLAGE OF GERMANTOWN

FEE SCHEDULE

FEE DESCRIPTION		FEE AMOUNT
SENIOR CENTER		
Room Rentals		
Main Room		
5.6% sales tax is added to all rentals, plus a \$100.00 refundable deposit is due at time of booking.		
Amenities Include; 24 Circular 5' Tables, 3 Rectangel 8" Tables, 155 chairs		
Kitchen includes; Sink, Refrigerator, Freezer, Stoves, Counter		
Resident Fee	Holds up to 155 people	\$130.00/5 hours - plus tax \$20/ hour each additional hour - plus tax
Non-Resident Fee	Holds up to 155 people	\$195.00/5 hours - plus tax \$30/ hour each additional hour - plus tax
Multi-Purpose Room		
5.6% sales tax is added to all rentals, plus a \$100.00 refundable deposit is due at time of booking.		
Amenities include; 4 Rectangel 8" Tables, 32 chairs		
Microwave, Stove, Sink, Counter, Coffee Maker, Dart Board, Pool Table		
Resident Fee	Holds up to 32 people	\$65.00/3 hours - plus tax \$20/hour each additiona hour - plus tax
Non-Resident Fee	Holds up to 32 people	\$102.50/3 hours - plus tax \$30/hour each additiona hour - plus tax

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Filling Vacancy in the Office of District 4 Trustee

SUBMITTED BY: Brian Sajdak, Attorney

SUMMARY EXPLANATION:

District 4 Trustee Phil Hudson has announced his resignation from his office effective January 15, 2025. This resignation will create a vacancy in the office of District 4 Trustee under Wis. Stat. § 17.03(2). By statute, “a vacancy in any elective village office may be filled by appointment by a majority of the members of the village board for the residue of the unexpired term or until a special election is held, as ordered by the village board, or an office may remain vacant until an election is held.” Wis. Stat. § 17.24. Thus, the Village Board has four options available to fill the vacancy:

1. The Board can leave the office vacant until the next regular election for the office. In this case, Trustee Hudson’s term expires in April of 2026. This would result in a vacancy for more than one year.
2. The Board can fill the vacancy by appointment for the remainder of the term. The appointed individual would have to run for office in the spring 2026 election cycle.
3. The Board can fill the vacancy by appointment until the office can be filled through a special election.
4. The Board can leave the office vacant until it can be filled through a special election.

Should the Board decide to hold a special election, remember that there is no general election in the fall of 2025. As such, any special election would need to be held in conjunction with the spring election. If not, a special election could be held on any date after the spring election, and this would be the sole item on the ballot — resulting in the Village paying the full cost of the special election. Based upon the required timing specified in Wis. Stat. § 8.50, if the Board desires to hold a special election together with the regular spring election cycle, it must act on December 16. Failure to act on the 16th would result in a special election after April 1, 2025. If the Board desired to take this approach, the following timeline would occur:

Date	Event
December 16, 2024	Village Board Orders the Special Election
December 17, 2024	Candidates can begin circulating nomination signatures
January 14, 2025	Completed nomination papers due to Clerk by 5:00 pm

February 18, 2025	Special Primary Election if needed (if 3 or more submit completed campaign materials). Top two vote-getters move on to the Special Election
April 1, 2025	Special Election
April 15, 2025	Elected Trustee Takes Office
April 20, 2026	Elected Trustee's Term Complete — Trustee would need to run for election on April 7, 2026 to continue to hold office into the next term

If the Board decides to fill the vacancy by appointment (whether to the end of the current term or until a special election), the Board has full authority to dictate what process is used to complete the appointment. Historically, this process involves an application (statement of interest and a resume) followed by interviews with the full Board and then appointment. If the Board desires to utilize this approach, the following schedule could be utilized:

Date	Event
December 17, 2024	Notice of Vacancy Published
January 5, 2025	Complete Application Filed with Clerk by 4:30 P.M.
January 7, 2025 to January 15, 2025	Interview Before Committee of the Whole (to be selected by Board)
January 19, 2025	Appointment of New Trustee (New Trustee would be encouraged to attend and take their seat at the dais upon taking oath)
April 1, 2025 <u>OR</u> April 7, 2026	Next Election for Appointed Trustee (Special Election <u>OR</u> End of Term)

ATTACHMENT:

1. Resolution Ordering Special Election - District 4

STAFF RECOMMENDATION:

Such action as the Board deems appropriate. If a special election is to be called, adoption of the attached Resolution would be appropriate.

ACTION BY Committee:

RESOLUTION NO. _____-2024

A RESOLUTION ORDERING A SPECIAL ELECTION
TO FILL THE VACANCY IN THE OFFICE OF DISTRICT 4 TRUSTEE

WHEREAS, a vacancy was created in the office of District 4 Trustee by the resignation of Trustee Phil Hudson effective January 15, 2025; and

WHEREAS, the Village Board elects, pursuant to Wis. Stat. § 17.24, to fill the vacancy by special election;

NOW, THEREFORE, BE IT RESOLVED by the Village Board of the Village of Germantown, Wisconsin, that it is ordered that the vacancy in the office of District 4 Trustee shall be filled by special election as follows:

1. There exists a vacancy in the office of District 4 Trustee, which was created when the incumbent, Phil Hudson, resigned his office effective January 15, 2025.

2. The District 4 Trustee vacancy shall be filled by a special election to be held on April 1, 2025.

3. The winning candidate shall hold office from April 15, 2025, until 11:59 p.m. on April 20, 2026, which is the end of the residue of the current term of office for the District 4 Trustee seat.

4. The earliest date nomination papers may be circulated is December 17, 2024.

5. Nominations papers are due to the Office of the Germantown Village Clerk not later than 5:00 p.m. on January 14, 2025.

6. Should a primary election be necessary, such primary election shall be held on February 18, 2025.

7. The Village Clerk is authorized and directed to hold such elections and shall prepare and publish all notices required by law.

Adopted: December 16, 2024

Dean M. Wolter, Village President

RESOLUTION NO. ____-2024

Page 2

ATTEST:

Donna Ott, Village Clerk

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Jeff Osgood, Agent for Kwik Trip, Inc., and Ben Venue Properties, Property Owner, N112W18741 Mequon Road (former PNC Bank). Kwik Trip Convenience Store Relocation from W188N10963 Maple Road. Rezoning from B-3 to B-5 and Conditional Use Permit (CUP) applications.

SUBMITTED BY:

SUMMARY EXPLANATION:

Jeff Osgood, Agent for Kwik Trip, Inc., and Ben Venue Properties, Property Owner, is seeking approval of a Rezoning and Conditional Use Permit (CUP) applications to allow for a *Convenience Food Store and Motor Vehicle Filling/Petroleum Service Station with Self-Service Carwash*. The site is located at N112 W18741 Mequon Road in the Lannon-Mequon Road Corridor and is located within a Groundwater Protection Overlay District.

ATTACHMENT:

1. STAFF REPORT_KWIK TRIP
2. APPLICATION
3. PROJECT SUMMARY
4. SITE PLAN
5. SITE DEVELOPMENT PLAN
6. ARCHITECTURAL RENDERINGS
7. SIGN PLAN
8. TRAFFIC IMPACT ANALYSIS
9. STORMWATER MANAGEMENT PLAN
10. WELLHEAD PROTECTION SUBMITTAL ITEMS
11. SPILL RESPONSE PLAN
12. STAFF REVIEW MEMO
13. GTRC MINUTES DRAFT_11.25.24
14. REZONING ORDINANCE_KWIK TRIP_12.16.24
15. CUP ORDINANCE_KWIK TRIP_B-5_12.16.24
16. CUP ORDINANCE_KWIK TRIP_GROUNDWATER_12.16.24

STAFF RECOMMENDATION:

APPROVE the Rezoning of one (1) parcel comprised of 4.37 acres from B-3: General Business District to B-5: Highway Business District, as proposed.

APPROVE the Conditional Use Permit (CUP) for a *Self-Service Carwash* for Kwik Trip, Inc. for property located at N112 W18741 Mequon Road, subject to (8) conditions as listed in the draft CUP ordinance.

ACTION BY Committee:

Plan Commission recommended to **APPROVE** the Rezoning, as proposed.

Plan Commission recommended to **APPROVE** the Conditional Use Permit (CUP) for a *Self-Service Carwash*, subject to (8) conditions as listed in the draft CUP ordinance.

Plan Commission recommended to **APPROVE** the Conditional Use Permit (CUP) for a *Motor Vehicle Filling Station*, subject to (8) conditions as listed in the draft CUP ordinance.

REZONING, CONDITIONAL USE PERMIT (CUP), SITE PLAN, & SIGN PERMIT APPLICATIONS

12/16/24 Village Board Meeting

Jeff Osgood / Kwik Trip, Inc. / Ben Venue Properties

Village Staff Report & Recommendation

Germantown, Wisconsin

SUMMARY

Jeff Osgood, Agent for Kwik Trip, Inc., and Ben Venue Properties, Property Owner, is seeking approval of a Rezone, Conditional Use Permit (CUP), and site development/building/sign plans to allow for a *Convenience Food Store and Motor Vehicle Filling/Petroleum Service Station with Self-Service Carwash*. The site is located at N112 W18741 Mequon Road in the Lannon-Mequon Road Corridor and is located within a Groundwater Protection Overlay District.

Location: N112 W18741 Mequon Road

Applicant/

Property Owner: Kwik Trip, Inc.
1626 Oak St
La Crosse, WI 54602

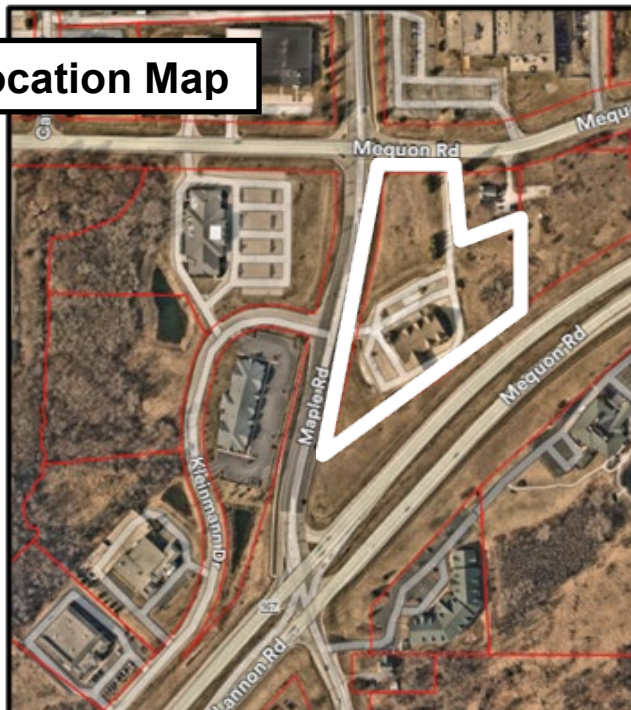
Ben Venue Properties
W240N777 Deerfield Ct
Sussex, WI 53089

Current Zoning: B-3: General Business District

Proposed Zoning: B-5: Highway Business District

Adjacent Land Uses		Zoning
North	Industrial	M-1
South	Highway Business	B-5
East	General Business	B-3
West	Highway Business	B-5

Location Map



Background/Proposal

Jeff Osgood, Agent for Kwik Trip, Inc., and Ben Venue Properties, Property Owner, is seeking approval of a Rezone, Conditional Use Permit (CUP), and site development/building/sign plans to allow for a *Convenience Food Store and Motor Vehicle Filling/Petroleum Service Station with Self-Service Carwash*. The site is located at N112 W18741 Mequon Road in the Lannon-Mequon Road Corridor and is located within a Groundwater Protection Overlay District.

Kwik Trip is proposing to relocate its existing convenience store and fueling station to the former PNC Bank property across Lannon Road. The new site at (4.37 acres) is larger than the existing site at W188 N10963 Maple Road (2.5 acres) and provides an opportunity to develop a new state-of-the-art facility approximately 12,000 square feet in area with improved/enlarged restrooms, increased store space with higher ceilings, more gasoline fueling positions, a 2-bay drive-through carwash, a separate diesel fueling area and canopy, and additional parking.

The existing office building at the prospective site would be removed and replaced with the subject development proposal. Access to the site would remain the same with driveway access to/from both Maple Road on the west and Mequon Road on the north side of the property. If approved, the existing Kwik Trip store would be decommissioned and put up for sale (subject to a deed restriction that prohibits future use as a convenience store and fueling station).

Rezone

The property is in the “Lannon-Mequon Road Corridor” under the Village’s 2050 Comprehensive Plan and the current zoning is B-3: General Business. The applicant has filed a Rezone requesting the parcel be zoned into the B-5: Highway Business District. The B-5 District permits convenience food stores and petroleum service stations, while also allowing a self-service carwash as a conditional use.

Conditional Use Permits (CUPs)

This project includes two (2) Conditional Use Permit (CUP) applications. Each application is described in greater detail on the following pages, please refer to the below that lists each CUP for this case individually:

- Conditional Use in B-5 District
 - Self-Service Carwash
- Conditional Use in Groundwater Protection District (Relocation Clause)
 - Motor Vehicle Filling Station

Site Plan

As indicated in the applications and site/engineering plans, the proposed development includes a newly constructed building with 2-bay attached carwash, gas and diesel fueling positions and canopies, parking lot improvements, dumpster enclosure, stormwater pond, landscaping, and signage. More specifically the new Kwik Trip site will include the following features:

- Building Plans
 - 12,167 sq ft convenience store with attached 2-bay carwash
 - Brick façade with asphalt shingled roof
 - Gasoline and diesel fuel canopies

- Building and canopy fascia to tie in with franchise colors
 - 20.0' building height and 19.5' canopy height
- Parking Lot Improvements
 - 42 parking spaces
 - Two (2) ADA space
 - Designated truck parking area (no overnight parking)
 - Picnic tables
 - Carwash vacuum pad
- Landscape Plan
 - New perimeter lot landscaping with trees, shrubs, and perennials
 - Interior lot landscaping including parking lot and island landscaping
- Sign Plan
 - Two (2) freestanding monument signs
 - Building and canopy signs
 - Directional/wayfinding signs
 - Parking signs
- Storm Water Management
 - New on-site stormwater pond in southern portion of property

Parking, Access, and Traffic Circulation

As stated in the application, the new Kwik Trip facility is proposed to be constructed on the subject 4.37-acre site. The existing/vacant building will be removed and replaced with a convenience food store, twenty (20) regular fueling positions, diesel fueling positions, and a 2-bay car wash. Access to the site will remain at one location to Maple Road, directly across from Kleinmann Drive and one location to Mequon Road, just east of the Maple Road intersection. Both access driveways are unrestricted with full access turning movements to and from the mainline roadways. For reference, a site circulation plan was included in the site development plan and a Traffic Impact Analysis supplementing the application was also submitted and is attached.

Storm Water Management

The proposal is a redevelopment project including a new Kwik Trip convenience food store, gas and diesel fueling, self-service carwash, parking and driving surfaces, and other amenities. Hydrology as proposed will be similar to the existing condition. The total impervious surface area for the site is roughly 60%, and runoff from the majority of the proposed development will be conveyed to a wet detention pond in the southwest corner of the property, which will provide stormwater management for the site. Stormwater management requirements will be achieved utilizing overland flow coupled with a storm sewer conveyance system that routes stormwater runoff to a proposed wet detention pond. The wet detention pond will treat and detain the stormwater runoff prior to discharging it the public storm sewer system in Maple Road.

Utilities

Sanitary and water utilities serve the existing site. While no major changes or upgrades are anticipated by staff as part of this project, there are conditions of approval included requiring the applicant to address recommendations by the Superintendent of Water Utility and Superintendent of Wastewater Utility.

Landscaping and Buffering

New perimeter lot landscaping with trees, shrubs, and perennials is proposed per the landscape plan submitted. The bulk of the proposed landscaping is located in a narrow landscape strip along Lannon Road and in another strip along Maple Road. Interior lot landscaping is also proposed around perimeter parking lot areas and parking islands.

Lighting

A photometric lighting plan was submitted and is included with the site development plan. The site will include the following key lighting components:

- (19) Light poles at a height of sixteen (16) feet providing LED lighting throughout the vehicular circulation areas and exterior parking lot areas
- (44) Recessed LED downlight fixtures around building
- (28) LED mounted fixtures under gas and diesel canopies

Sign Plan

The applicant has proposed a total of (31) signs for the site. A sign plan was submitted illustrating the proposed signage. Please refer to the following list that provides a summary of the signs included in the submittal:

- (2) 24" LED Kwik Trip building sign
- (1) Carwash building directional sign
- (1) 18" LED Kwik Trip and 24" carwash building sign
- (1) Carwash enter sign
- (1) Carwash exit sign
- (2) Carwash informational signs
- (2) 24" LED Kwik Trip canopy signs
- (1) 18" LED diesel enter canopy sign
- (1) 18" LED diesel exit canopy sign
- (2) Driveway directional signs
- (6) 2-Hour parking signs
- (2) Employee parking signs
- (7) No parking signs
- (2) Freestanding monument signs

Staff Comments

Community Development: Planning and Zoning

The project site is in the "Lannon-Mequon Road Corridor" under the Village's 2050 Comprehensive Plan and is currently zoned B-3 General Business District. The applicant requested a rezone of the property to B-5 Highway Business District, as the B-5 District "is intended to provide for the orderly and attractive grouping at appropriate locations along principal highway routes of those businesses and customer service establishments which are logically related to and dependent upon highway traffic or which are specifically designed to serve the needs of such traffic."

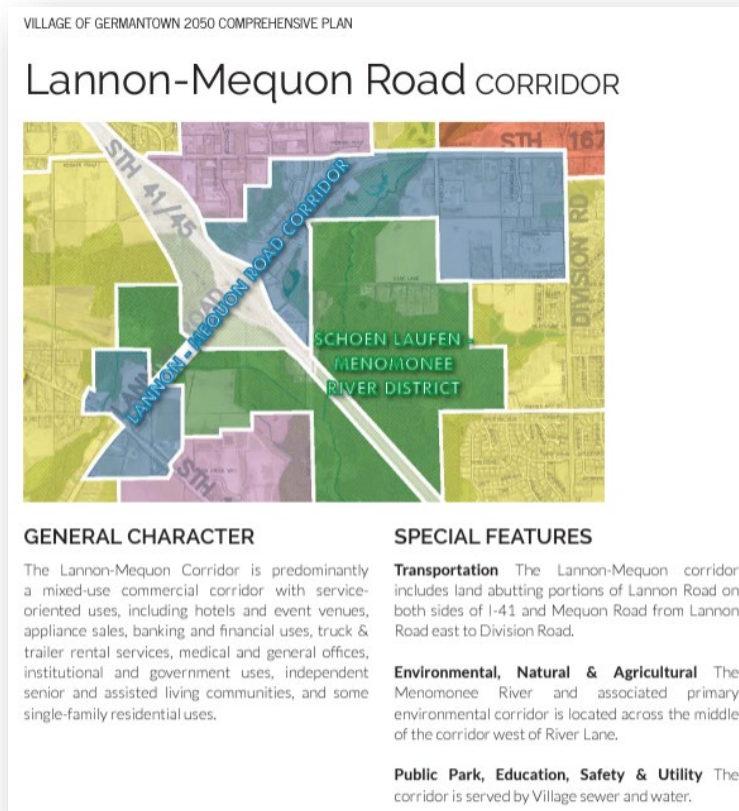
The proposed Kwik Trip facility meets the intent of the requested zone (B-5), and its land use elements are more permissible in the district in comparison to the current zoning designation (B-3). A self-service carwash is a conditional use in both zoning districts, but the B-5 District allows petroleum service stations by right rather than requiring a conditional use permit. Additionally, the intent of the B-3 District is clearly

geared towards revitalizing an established area such as Main Street. According to the zoning code, the B-3 District “is intended to provide for the orderly continuation and revitalization of the older established Main Street (central business district) area of the Village where uses are not exclusively of one type but, rather, mixed and include retail sales shops, wholesale and warehousing outlets, and institutional, recreational, and residential uses.”

The proposed Kwik Trip facility and requested zoning district are in line with the 2050 Comp. Plan designation for the site, which is the “Lannon-Mequon Road Corridor”. As stated above, the current zoning district is intended to support uses and business within a more traditional neighborhood or central business district, such as the Village Center District, whereas the proposed use and zoning designation is best served to be within a highway corridor and off a major thoroughfare that is near an interchange with Interstate 41.

In July 2024, the applicant brought forward the subject development to the Plan Commission for a consultation. The primary points of discussion included site design, traffic circulation, and architectural details of the Kwik Trip building and canopies. One of the points made to the applicant was to amend the standard Kwik Trip architectural appearance of the building and canopies and create a proposal upholding the Village’s “Germanic Theme” through the Mequon Road corridor. The before and after renderings are provided on the following page to show the changes made.

Staff recommends that the brick work on the gas and diesel canopy support poles extend to the base of each canopy roof to provide enhanced aesthetic detail. While this has been added as a condition of approval by staff, the Plan Commission shall decide and recommend on the final architectural details that should be incorporated into the building and canopy structures.





Building Rendering (Before Plan Commission Consultation)



Building Rendering (After Plan Commission Consultation)



Canopy Rendering (Before Plan Commission Consultation)



Canopy Rendering (After Plan Commission Consultation)

Given the nature of this proposal, site circulation and traffic impacts were discussed by the Plan Commission during the consultation. The applicant has since provided a detailed site circulation plan, which is included in the overall site development plan. A Traffic Impact Analysis was also submitted to supplement the application. These documents illustrate truck traffic movement as proposed throughout the site and also show that the driveway entrances will be improved and widened where allowed. The code permits a maximum of 40 feet in width for driveways at the right-of-way line and a maximum of 45 feet in width where they meet the adjoining roadway. The applicant will widen each driveway where permitted, which will improve the turning allowance and spacing for cars/trucks entering/exiting the site.

The Village Engineer reviewed the traffic study and concurred with the recommendation of adding a northbound right turn lane at the site entrance on Maple Road. This will eliminate the potential for stacking or sudden movements by vehicles trying to go around larger trucks that are making a right turn into the facility while going northbound on Maple Road.

As shown on the submitted site plan, a retaining wall is proposed along Lannon Road and is setback from the property line a distance that appears to be equal to or less than the height of the wall (at certain points along the wall where the height is 7 feet to 8 feet). Village code requires retaining walls to be setback a minimum distance equal to the height of the retaining wall from the base of the wall to the property line. Staff has a concern with the proximity of the retaining wall to the property line and has added a condition that the applicant clarify the setback and confirm compliance with code. This code requirement is a minimum standard, so discussion is warranted on if the distance of the wall to the property line should be increased. Staff also recommends that a fence or other barrier structure be added on top of the wall to prevent drivers from inadvertently driving over the edge of the wall.

The landscape screening along Lannon Road should be increased in height in order to buffer the height of the retaining wall. Currently the tree plantings in front of the wall are listed as six (6) foot plantings per plan, whereas the height of the wall is 8 feet in certain points.

On August 19, 2024, the Village Board passed a series of zoning code amendments to the Wellhead Protection ordinance under Section 17.40 of the zoning code. Included with the amendments is a provision allowing the relocation of pre-existing uses or facilities that are prohibited by the Wellhead Protection regulations. The relocation of such uses can be allowed through a Conditional Use Permit (CUP). The prohibited "motor vehicle filling station" is proposed in accordance with the relocation clause, thus requiring a CUP. Note that the owner of the property from which the pre-existing use or facility is relocating from (i.e. existing Kwik Trip property) shall record a deed restriction against the property that prohibits future uses and/or facilities that require a conditional use permit or are listed as a prohibited use per Wellhead Protection requirements.

Community Development: Inspection Services

State agency (DSPS) approved plans and a \$20,000 occupancy bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS to provide all commercial plan review and inspection services through SAFEBuilt of Wisconsin and the Village of Germantown.

Public Works/Village Engineer

The Village Engineer has identified several technical issues and plan revisions that need to be resolved or otherwise addressed by the applicant prior to commencing construction activities. Staff is recommending conditional approval of the submitted applications subject to all outstanding items and issues identified in the following review memo being resolved and reflected in additional information and/or revised plan submitted to staff for further review, comment, and approval prior to commencing any site construction:

- November 26, 2024 – Review Memo from Village Engineer

Village Forester

The Village Forester has reviewed the submitted landscape plan and provided the comments below. A condition of approval has been included requiring the applicant to address the review comments and make the landscape plan contingent upon final approval/acceptance from the Village Forester. Review comments are as follows:

- *Identify if the trees off the southeast edge of the storm pond will be removed. If not, the grade changes to accommodate the pond, and planting a new border of trees under the canopy of the existing trees will negatively impact the health of the existing trees.*
- *Tree species diversity – The Village is trying to limit the planting of maple trees due to the high prevalence of this tree species in urban areas. This plan includes (29) maple trees. Additionally, the evergreen choices of white spruce and black hill spruce are both highly susceptible to needlecast diseases that impact the future health and aesthetics of these trees. Consider the following alternatives for maple trees, white spruce, and black hills spruce.*
 - *Deciduous trees (maple alternatives)*
 - *Kentucky Coffeetree (Gymnocladus dioicus)*
 - *London planetree (Platanus x acerifolia)*
 - *Tuliptree (Liriodendron tulipifera)*
 - *Evergreen Trees (spruce alternatives)*
 - *Norway spruce (Picea abies)*
 - *Serbian spruce (Picea omorika)*
 - *Concolor fir (Abies concolor)*
- *The location/spacing of newly planted trees along Maple Road, on private property, are acceptable in lieu of new development R-O-W street tree planting requirements.*

Fire and Police Departments

No Comments.

Groundwater Technical Review Committee

As previously mentioned, on August 19, 2024, the Village Board passed a series of code amendments to the Wellhead Protection provisions under Section 17.40 of the zoning code. Included with the amendments is a provision allowing the relocation of a pre-existing use or facility prohibited within a Groundwater Protection Overlay District. The relocation of such uses within a Groundwater Protection Overlay District can be allowed through a Conditional Use Permit.

In this instance, Kwik Trip, Inc. has requested a Conditional Use Permit to relocate their existing facility, which is classified as a “motor vehicle filling station” and prohibited under the Village’s Wellhead Protection regulations. The current Kwik Trip facility is located at W188 N10963 Maple Road while the proposed relocation property is located roughly 650 feet north at the subject development site addressed N112 W18741 Mequon Road (former PNC Bank). Both properties are within the same Groundwater Protection Overlay District.

Per Code Section 17.40, the applicant submitted the required documents for review by the Groundwater Technical Review Committee at its meeting on November 25, 2024. Those documents are attached to this memo and the Committee’s recommendation on the case is detailed at the end of this document. For reference, the Groundwater Technical Review Committee’s purpose and responsibilities are to:

- Provide objective and scientific technical review of request for conditional use permits and make recommendations to the Plan Commission and ultimately to the Village Board to grant or deny conditional use permits based upon the facts discovered in that review.
- To make recommendations on any and all conditions placed on a conditional use permit.
- To interpret the provisions of Code Section 17.40 (Wellhead Protection) and to provide guidance to the Village Planner/Zoning Administrator regarding potential amendments to and the administration and enforcement of the provisions under Section 17.40.
- To give advice on matters concerning the protection of Germantown’s groundwater resources.

VILLAGE STAFF RECOMMENDATIONS

APPROVE the Rezone of one (1) parcel comprised of 4.37 acres from B-3: General Business District to B-5: Highway Business District, as proposed.

APPROVE the Conditional Use Permit (CUP) for a *Self-Service Carwash* for Kwik Trip, Inc. for property located at N112 W18741 Mequon Road, subject to the following conditions:

1. The uses and activities allowed on the property shall be limited to those uses and activities specified in the Conditional Use Permit (CUP) application and project narrative dated October 14, 2024, and October 17, 2024, and supporting site plan documents revised dated September 5, 2024. Days and hours of operation shall be in accordance with those specified in the CUP supporting documents submitted to the Village.
2. The Owner/Operator is responsible for reporting any significant changes in the type, intensity, amount, or location of the land use and activities, days and hours of operation, size or location or other operational characteristics of said uses and activities authorized under this CUP to the Village Zoning Administrator.
3. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or, where there is a change in the nature, character, intensity or extent of the activities or uses which causes problems or harmful effects that were not anticipated at the time of approval of this CUP, the Conditional Use Permit (CUP) may be modified or terminated by the Village Board by the amendment to or addition of conditions after public hearing thereon.
4. All temporary and permanent exterior signs require a permit and shall comply with all current sign regulations. Off-premises advertising and directional signage is regulated by the Village and requires a permit if/when allowed.
5. All future site improvements, including all building, parking area, landscaping, storm water management facilities, signage, exterior lighting, and any other improvements made to or on the property that are necessary for the land use and activities authorized under this CUP shall be submitted for review and approval by the Village through the Zoning Permit or Site Plan application process as determined by the Village Zoning Administrator. If required, Site Plan review and approval will include Plan Commission review and approval.
6. Building permits and commercial building code plan approval are required for the planned building and canopy construction. Contact SAFEbuilt staff in Inspection Services at Village Hall prior to any work for more information.
7. No overnight parking of semi-trailer trucks shall be permitted on site.
8. Pursuant to Section 17.47 of the Zoning Code, if the Village observes and/or receives complaints regarding negative impacts associated with and/or created by business-related activities conducted on the property, including but not limited to noise, dust or other airborne materials, the Property Owner/Operator shall work with the Village to identify the source of such impact(s), evaluate

alternative mitigation measures, and implement a mutually-agreeable solution to mitigating the impact(s).

APPROVE the site development and building plans submitted by Kwik Trip, Inc. for a 12,167 square foot convenience food store with 2-bay attached carwash, gas and diesel fuel canopies, parking lot and driveway improvements, and landscaping installation for property is located at N112 W18741 Mequon Road, subject to the following conditions:

1. This approval is for the various plan sheets that comprise the site development plan set as noted below and is subject to compliance with all the conditions and requirements set forth herein and subsequently adopted and/or revised by the Plan Commission. Approval is granted for the following unless superseded by subsequent plan sheets approved by Village Staff pursuant to revisions required herein and/or by the Plan Commission:
 - a. *Civil engineering plans dated October 9, 2024.*
 - b. *Landscaping plans dated October 9, 2024.*
 - c. *Photometric lighting plan dated October 9, 2024.*
 - d. *Architectural rendering set received October 21, 2024 (3 pages).*

If revised plan sheets are necessary, each revised sheet shall contain the date of said revision clearly stamped in the lower right corner.
2. Additional and/or altered landscaping shall be shown in a revised landscape plan review and approved by the Village Forester, including:
 - a. Taller landscape plantings (i.e. trees) shall be installed in front of the retaining wall along Lannon Road to better screen/buffer the view of the wall from drivers on Lannon Road.
 - b. Identify if the trees off the southeast edge of the storm pond will be removed. If not, the grade changes to accommodate the pond, and planting a new border of trees under the canopy of the existing trees will negatively impact the health of the existing trees.
 - c. Consider the following alternatives for maple trees, white spruce, and black hills spruce.
 - i. Deciduous trees (maple alternatives)
 - Kentucky Coffeetree (*Gymnocladus dioica*)
 - London planetree (*Platanus x acerifolia*)
 - Tuliptree (*Liriodendron tulipifera*)
 - ii. Evergreen Trees (spruce alternatives)
 - Norway spruce (*Picea abies*)
 - Serbian spruce (*Picea omorika*)
 - Concolor fir (*Abies concolor*)
3. The technical issues and plan revisions identified in the November 26, 2024, memo from the Village Engineer shall be addressed in revised plan sheets and/or supplemental documents as necessary prior to commencing construction activities (excluding site demolition, early start site preparation, and footing & foundation installation).
4. State agency (DPS) approved plans and a \$20,000 occupancy bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DPS and may be used as an alternative to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.
5. Site plan shall be revised (or clarified) to denote a 40-foot maximum width for the driveway openings at the right-of-way line pursuant to Code Section

- 17.45(4)(c). This applies to the driveway entrances to and from the site at Maple Road and Mequon Road.
6. The Village reserves the right to make future public road alterations and/or improvements in the form of traffic signals, allowed turning movements, and traffic flow patterns as it pertains to the driveway entrances to/from the site and the surrounding roadways of Maple Road and Mequon Road in general. Any proposed alterations/improvements shall be based off the Manual on Uniform Traffic Control Devices (MUTCD) standards and be reviewed and approved by the Village Engineer, Public Works and Highways Committee, and Village Board. **(ADDED BY PLAN COMMISSION)**
 7. Site plan shall be revised (or clarified) to verify the proposed retaining wall meets minimum setback requirements from the base of the wall to the property line at all points. A fence shall be added to the top of the retaining wall to prevent drivers from inadvertently driving over the wall. Final construction plans for the retaining wall, its material, and associated fence shall be stamped by a Professional Engineer (PE) and reviewed/approved by the Village Engineer. **(MODIFIED BY THE PLAN COMMISSION)**
 8. Per the Village's Superintendent of Wastewater Utility, the existing sample manhole shall be reconstructed to current Village requirements and detail.
 9. The canopy structures shall be modified by removing their proposed asphalt shingle roof above the traditional horizontal canopy roofline. **(MODIFIED BY PLAN COMMISSION)**
 10. Applicant/owner/operator shall construct a right turn northbound lane at the driveway entrance approach off Maple Road. An agreement for work within the Village right-of-way shall be signed and executed between the applicant/owner/operator and Village prior to work commencing, subject to Village Attorney review and approval.

APPROVE the Sign Plan for Kwik Trip, Inc. for property located at N112 W18741 Mequon Road, subject to the following conditions:

1. Applicant/owner shall obtain electrical/building permits from Building Inspection Services for sign installation.
2. Prior to permit issuance and sign installation, applicant/owner shall submit a revised sign plan illustrating that the wayfinding/directional signs comply with code and are no higher than four (4) feet from grade (as applicable to each sign).
3. Prior to permit issuance and sign installation, applicant/owner shall submit a revised sign plan modifying the two (2) freestanding ground signs to include the street address coordinates for the property, mounted on the base of each sign (min. 5-inch numbering). **(ADDED BY PLAN COMMISSION)**

GROUNDWATER TECHNICAL REVIEW COMMITTEE RECOMMENDATION

Based discussion and testimony at its November 25, 2024, meeting, the Groundwater Technical Review Committee recommended to **APPROVE** the Conditional Use Permit (CUP) to allow a *Motor Vehicle Filling Station* within a Groundwater Protection Overlay District, subject to the following conditions:

1. Applicant/owner shall provide current copies of all federal, state, and local facility operation approval or certificates and on-going environmental monitoring results to the Village.
2. Applicant/owner shall establish environmental or safety structures/monitoring to include an operation safety plan, material processes and containment, operations monitoring, best management practices, stormwater runoff management, and groundwater monitoring.
3. Replace equipment or expand in a manner that improves the environmental and safety technologies in existence.
4. Prepare, file, and maintain a current contingency plan which details the response to any emergency which occurs at the facility, including notifying municipal, county, and state officials. Provide a current copy to the Village.
5. To the extent feasible, based upon scientific, engineering and economic factors, all site, building and other improvements shall be repaired, rebuilt, expanded, relocated, or substituted using best management practices, designs and technologies which are state of the art, such that they diminish the potential for wellhead contamination.
6. To the extent feasible, based upon scientific, engineering, and economic factors, the replacement, substitution, or augmentation of equipment and machinery and the installation thereof shall utilize state of the art equipment and machinery which diminishes potential for wellhead contamination.
7. The relocation of pre-existing uses or facilities is allowed provided all the following are met:
 - a. The pre-existing use or facility is relocated within the same Groundwater Protection Overlay District.
 - b. The new location meets all applicable separation distance requirements set forth under subsection 17.40.09.
 - c. The use or facility can obtain all applicable Federal, State and Local approvals and permits.
 - d. The owner of the property or current site from which the pre-existing use or facility is relocating from records a deed restriction against the property that prohibits future uses and/or facilities that require a conditional use permit under subsection 17.40.11 or are listed as a prohibited use in subsection 17.40.11. A copy of the recorded deed restriction shall be submitted to the Village.
 - e. The owner of the property or operator of the pre-existing use or facility being relocated causes the property and all structures, equipment, and systems located thereon to be altered and/or restored to a physical

condition that can be reasonably expect to not cause groundwater contamination, including but not limited to the removal of storage tanks, pipes, and systems that previously contained or utilized hazardous, flammable, or other liquids or materials that had the potential to contaminate the Village's groundwater resources. Such alteration and restoration shall meet all applicable Federal, State, and Local agency requirements (e.g. Wisconsin's Cleanup Rules and Laws). Documentation providing proof of meeting this condition shall be submitted to the Village.

8. Applicant/company shall add the Village as an insured party on their Pollution Liability Insurance Policy. Proof of compliance with this condition shall be submitted to and accepted by the Village. **(ADDED BY PLAN COMMISSION)**

**FEES MUST BE PAID AT TIME OF APPLICATION**

\$200 Plan Commission Consultation

\$1,085 Rezoning

\$1,240 PDD < 5 acres

\$2,095 PDD 5-20 acre site

\$3,460 PDD > 20 acre site

Date Paid: 11/13/24 Received by: DR

CHK# 2002347

REZONING & PDD APPLICATION

Pursuant to Section 17.51 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.****1 APPLICANT OR AGENT**KWIK TRIP, INC - JEFF OSBORN1626 ATK STLA CROSSE, WI 54602Phone (608) 793-5547E-Mail**PROPERTY OWNER**STEVEN A. SCHELLINBEN HENNE PROPERTIES - GERMANTOWNPhone (262) 391-8490E-Mail saschellin@gmail.com**2 PROPERTY ADDRESS OR GENERAL LOCATION****TAX KEY NUMBER**N112W10741 MEQUAN RD#4TNU282990**3 REZONING REQUEST**

FROM

B-3

TO

B-5**4 METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY - REQUIRED**

Attach pages as necessary

SEE ATTACHED SURVEY

5

PURPOSE OF REZONING REQUEST

Briefly describe why the applicant is rezoning the property. Include a description of the proposed use, including any new construction and number of employees, if applicable.

WE ARE PROPOSING TO REZONE FROM B-3 GENERAL BUSINESS TO B-5 HIGHWAY BUSINESS DISTRICT. REZONING IS REQUIRED TO ALLOW FOR PROPOSED CONVENIENCE STORE, GASOLINE + DIESEL FUELING STATION, AND CAR WASH USES.

6

SUPPORTING DOCUMENTATION:

- ☒ Plat of Survey (1:100)
- ☒ Site Plan and elevations for new construction (can be conceptual)

7

READ AND INITIAL THE FOLLOWING:

90 I understand that the Village is under no obligation to rezone property and that density and lot coverages provided in the Zoning Code are maximums. Actual build out will depend on myriad factors including topography and other natural conditions, surrounding neighborhood context and the detailed design of a project.

90 I understand that Village Staff, Plan Commission and/or Village Board may request additional information to properly evaluate this request and failure to provide such information may in itself be sufficient cause to deny the petition.

90 I am aware that this rezoning shall go into effect immediately upon the final approval of the Village Board and its execution of the rezoning ordinance

90 I understand that Village Staff is required to post one or more signs along the street frontage of and/or on the property subject of this application that indicate to nearby property owners and the general public that a public hearing of my application will be held before the Village Plan Commission and/or Village Board prior to action taken on this application; I hereby grant Village Staff permission to enter onto the property for the expressed purpose of installing said sign(s) provided Village Staff is responsible for installing, maintaining and removing said signs in a reasonable manner and time frame.

8

SIGNATURES – ALL APPLICATIONS MUST BE SIGNED BY OWNER!

M. W. Bergard 11/13/2024
Applicant Date

Steven A. Schellin 10/20/2024
Owner Date

SCANNED



Village of



Germantown

Willkommen

Fee must accompany application

☒ \$1460

Paid

Date

10/21/24
chk # 2000216

CONDITIONAL USE PERMIT APPLICATION

Pursuant to Section 17.42 of the Municipal Code

Please read and complete this application carefully. All applications must be signed and dated.

1 APPLICANT OR AGENT

Kwik Trip, Inc - JEFF OSGOOD

1626 DAKES

LACROSSE, WI 54602

Phone (608) 793-5547

Fax ()

E-Mail josgood@kwiktrip.com

PROPERTY OWNER

STEVEN A. SCHULLIN

BEN VENUE PROJECTS - GERMANTOWN

Phone (262) 391-8490

ssaschullin@gmail.com

2 TO WHOM SHOULD THE PERMIT BE ISSUED?

APPLICANT

3 PROPERTY ADDRESS

TAX KEY NUMBER

SE CORNER OF STH 167 AND MAPLE RD - N. 112W18741 Mequon Rd #GTNU 282990

4 DESCRIPTION OF EXISTING OPERATION

Briefly describe the use as it exists today, including use, size, number of employees, hours of operation, etc. If this permit involves new construction, describe the current status of the property, e.g. "vacant." Use additional pages as necessary.

CURRENTLY VACANT OFFICE BUILDING

5 DESCRIPTION OF PROPOSED OPERATION

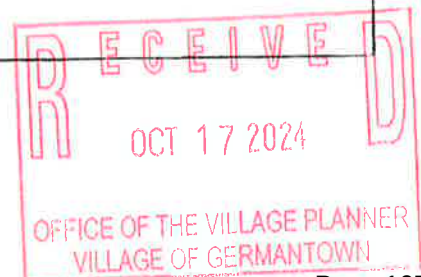
Write the name of the proposed conditional use exactly as it appears in the Municipal Code

WE ARE REQUESTING A CONDITIONAL USE FOR OUR CRAWFISH AND FOR WELLHEAD PROTECTION TEXT AMENDMENTS

Describe the proposed use, including size, number of employees, hours of operation and extent of any new construction/alterations.

PLEASE ATTACHED COVER LETTER CONTAINING THE ADDITIONAL REQUESTED INFO.

WE ARE PROPOSING A NEW RETAIL CONVENIENCE STORE W/ ATTACHED 2-BAY CRAWFISH.



METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY – REQUIRED

Attach pages as necessary

PLEASE SEE ATTACHED ALTA SURVEY

7 SUPPORTING DOCUMENTATION:

- ☒ Site Plan and elevations for new construction (can be conceptual)
- ☒ Photos of existing use and/or proposed use operating elsewhere
- ☐ _____
- ☐ _____

8 READ AND INITIAL THE FOLLOWING:

96 I understand that the Village is under no obligation to issue a Conditional Use Permit and will do so only if the applicant successfully demonstrates that the proposed use is harmonious with the neighborhood and the long range goals of the Village.

96 I will notify the Village if any aspects of the conditional use changes. I understand that failure to do so may result in the revocation of the CUP.

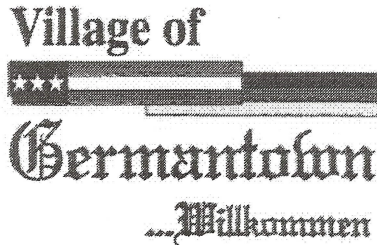
90 I understand that a Conditional Use Permit is valid only if the conditions and restrictions of the permit are met. I understand that failure to comply with any aspect of the permit may result in revocation.

90 I understand that Village Staff is required to post one or more signs along the street frontage of and/or on the property subject of this application that indicate to nearby property owners and the general public that a public hearing of my application will be held before the Village Plan Commission and/or Village Board prior to action being taken on this application; I hereby grant Village Staff permission to enter onto the property for the expressed purpose of installing said sign(s) provided Village Staff is responsible for installing, maintaining and removing said signs in a reasonable manner and timeframe.

9 SIGNATURES – ALL APPLICATIONS MUST BE SIGNED BY OWNER!

[Signature] 10/14/2024
Applicant Date

Steven S. Schellin 10/20/2024
Owner Date



Fee must accompany application

- ☐ \$700 Minor Addition
- ☐ \$1,240 Construction <10,000 SF
- ☐ \$2,095 Construction 10,000 SF to 50,000
- ☐ \$3,460 Industrial Construction >50,000 SF
- ☒ \$3,460 Commercial Construction >50,000
- ☐ \$200 Plan Commission Consultation
- ☐ \$125 Fire Department Plan Review

PAID DR DATE 10/21/2024

CHK# 2000215

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. All applications must be signed and dated.

1 APPLICANT OR AGENT

Jeff Osgood

Kwik Trip, Inc.

Phone (608) 793-5547

E-Mail josgood@kwiktrip.com

PROPERTY OWNER

Steven Schellin

Ben Venue Properties - Germantown

Phone (262) 391-8490

E-Mail saschellin@gmail.com

2 PROPERTY ADDRESS

Southeast corner of Maple Road and Mequon Road

N112W18741 Mequon Road
Germantown, WI 53022

3 NEIGHBORING USES - Specify name and type of use, e.g. Enviro Tech - Industrial, Smith - Residential, etc.

North GKN Sinter Metals - Industrial Fire station	South STH 167	East B-3 Zoned	West GSC, Valley Cabinet, Northwestern Mutual, Milwaukee Laser & Body, Mequon Vein - Business
---	------------------	-------------------	--

4 READ AND INITIAL THE FOLLOWING:

X I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

X I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

X I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 SIGNATURES - ALL APPLICATION MUST BE SIGNED BY OWNER!

Jeff W. Osgood

07/02/2024

Applicant

Date

Steven A. Schellin July 2, 2024

Owner

Date



Store Engineering

FAX 608-793-6237

1626 Oak St., P.O. Box 2107
La Crosse, WI 54602

www.kwiktrip.com

Village of Germantown
Jeff Retzlaff
N112W17001 Mequon Rd
Germantown, WI 53022

October 14th, 2024

CUP Submittal

Mr. Retzlaff,

This letter is intended to accompany our submittal for our application to the Village of Germantown for the requested Conditional Use Permit applications for our proposed project located at the SE Corner of STH 167 and Maple Rd.

Kwik Trip, Inc. is proposing the construction of a 12,167 S.F. convenience store w/ attached 2-Bay attached Carwash and a detached dumpster enclosure and both gas and diesel Fueling Canopies. I have submitted this in digital format as well as one paper copy as requested. I have included a check for \$1460.00 per CUP application fee. If there is anything additional needed, please don't hesitate to reach out to me any time.

The proposed method of operation for this development will be consistent with that for our existing convenience stores within the area. The requested hours of operation will be 24 hours for all uses. The type of products that will be sold will be similar to that of our existing stores: gasoline, in line diesel, E-85, Unleaded 88, groceries, bakery and dairy, hot and cold food and beverages, tobacco products, off-sale alcohol products, lotto, convenience store merchandise, ice, and propane. The outside merchandising of products is being requested next to the store (ice and propane) and miscellaneous merchandising under the gas canopy. The proposed store is projected to have between 28-35 full and part time employees, with 2-8 on staff at any given time.

The proposed architectural plan will consist of a brick facade with asphalt shingled roof. The building and canopy fascia will tie in with franchise colors. We have also adjusted our normal architectural renderings to incorporate the requested German themed buildings. The prototype building is larger than previous years building. We have expanded the retail floor area as well as kitchen and mechanical space all on the main level with no basement. The total estimated project costs are \$2,500,000.

Kwik Trip would be happy to provide any additional information or answer any questions or concerns you may have with our submission. Please feel free to call me with any questions.

Sincerely,

Jeff Osgood – Sr. Development Manager - Store Engineering - Kwik Trip, Inc.
608-793-5547 - jsosgood@kwiktrip.com 1626 Oak St | P.O. Box 2107 | La Crosse, WI 54602

OUR MISSION

To serve our customers and community more effectively than anyone else by treating our customers, co-workers and suppliers as we, personally, would like to be treated, and to make a difference in someone's life.



KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

Site Data		Lat:	Long:
Description	Sq. Feet	Acres	
Lot Area	191,424	4.39	
Parking Data		Spaces	
Vehicular Parking	42		
Truck Parking	3		
Setbacks	B-3: General Business		
Front	20'		
Side	5'		
Rear	25'		
Green Space	Sq. Feet	Acres	
Area	75,883	1.74	
Percentage	40%		

SITE PLAN

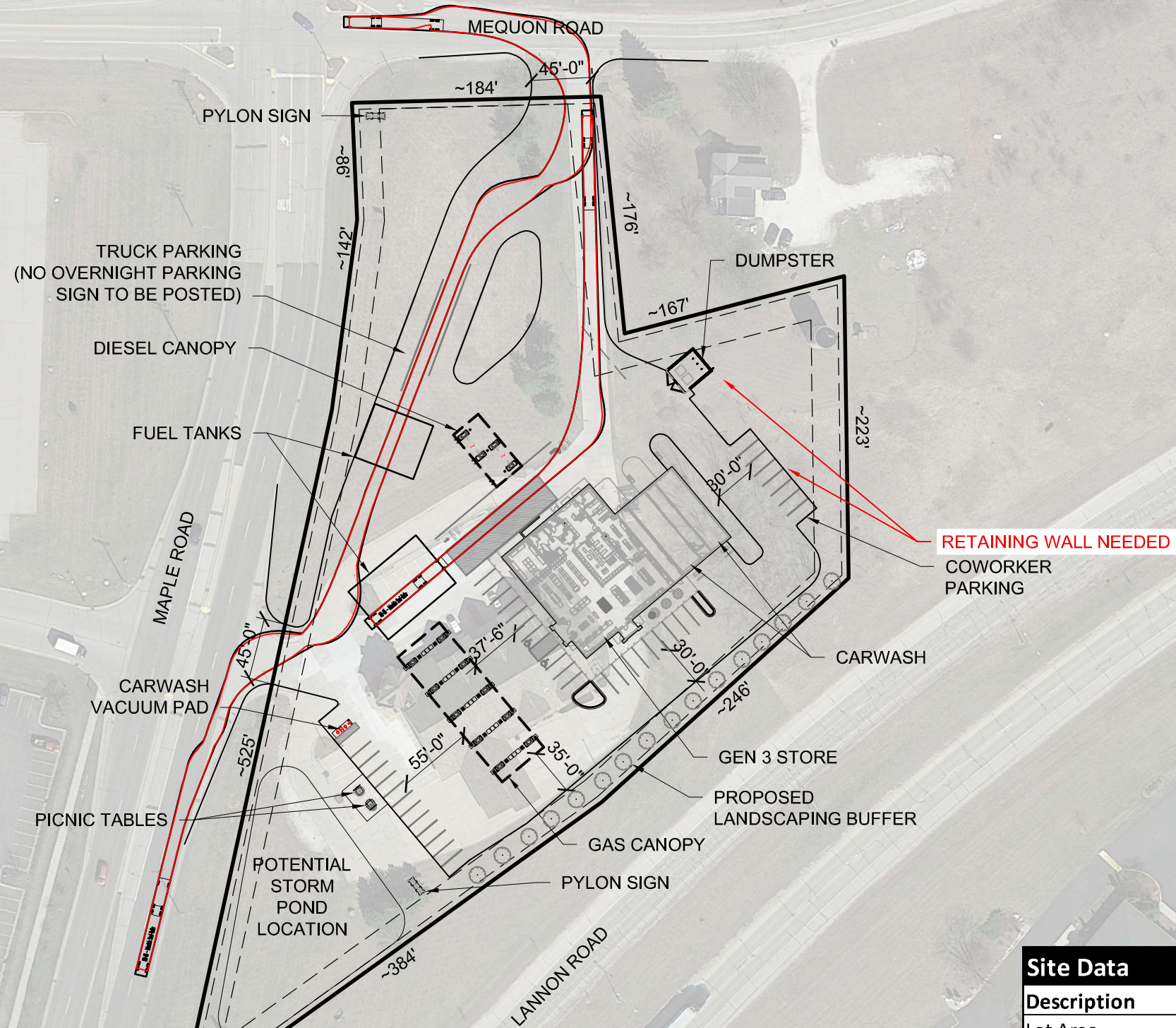
CONVENIENCE STORE #XXX
WITH 2 BAY CARWASH AND
2 LANE SIDE DIESEL
MAPLE ROAD
GEMANTOWN, WI

[illegible]

SP9



KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960



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SITE PLAN

CONVENIENCE STORE #XXX
WITH 2 BAY CARWASH AND
2 LANE SIDE DIESEL
MAPLE ROAD
GEMANTOWN, WI

[illegible]

DRAWN BY	ERR
SCALE	1" = 100'-0"
PROJ. NO.	0001
DATE	2024-8-23
SHEET	SP9 (TM)

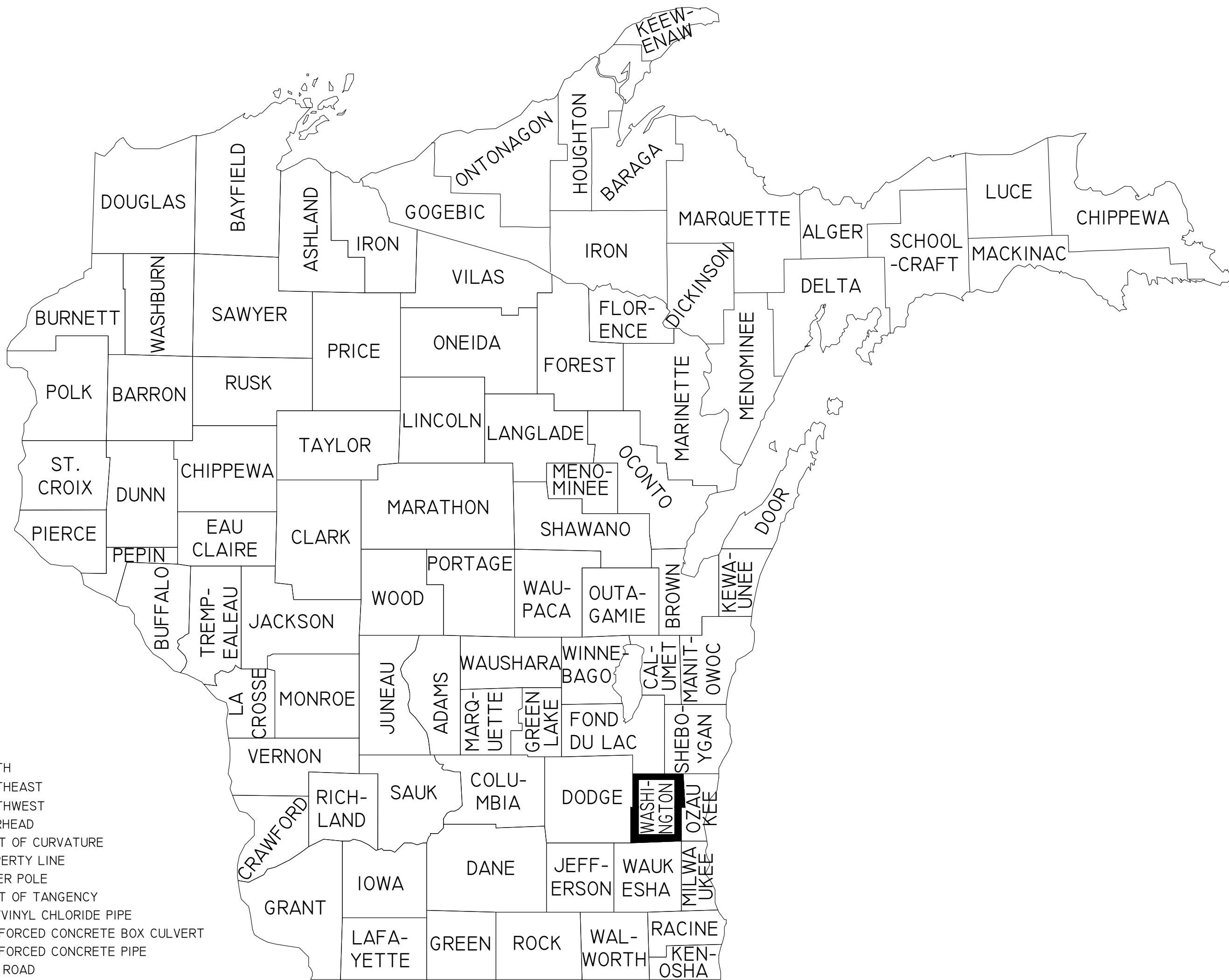
SP9 (TM)

REVIEW PLANS FOR:
KWIK TRIP #631
VILLAGE OF GERMANTOWN,
WASHINGTON COUNTY, WISCONSIN

INDEX OF SHEETS

C001	TITLE SHEET
C010	ALTA
C020	DEMO PLAN
C100	SITE KEYNOTE PLAN
C180	SITE CIRCULATION PLAN
C181	SITE DIMENSION PLAN
C200	GRADING PLAN
C201	GRADING PLAN DETAIL - SOUTH
C201.I	GRADING PLAN DETAIL - NORTH
C202	GRADING PLAN SPOT DETAIL - SOUTH
C202.I	GRADING PLAN SPOT DETAIL - NORTH
C203	CANOPY AND TANK GRADING DETAILS
C204	ACCESSIBILITY PLAN
C300	STORM SEWER PLAN
C400	UTILITY PLAN
C401	UTILITY NOTES
C500	SITE PLAN DETAILS
C501	SITE PLAN DETAILS
C502	SITE PLAN DETAILS
C600	EROSION CONTROL PLAN
C601	EROSION CONTROL NOTES
C602	EROSION CONTROL DETAILS
C603	EROSION CONTROL DETAILS
C700	LANDSCAPE PLAN
C701	LANDSCAPE PLAN
C702	LANDSCAPE PLAN
C703	LANDSCAPE DETAILS
C800	PHOTOMETRIC LIGHTING PLAN

TOTAL SHEETS = 28



LIST OF STANDARD ABBREVIATIONS

AB	AND	(N)	NORTH
ADT	AUGER BORING	(NE)	NORTHEAST
BC	AVERAGE DAILY TRAFFIC	(NW)	NORTHWEST
BM	BOTTOM OF CURB	OH	OVERHEAD
BOC	BENCHMARK	PC	POINT OF CURVATURE
BR	BACK OF CURB	P/L	PROPERTY LINE
BS	BOTTOM OF RAMP	PP	POWER POLE
BW	BOTTOM OF STEPS	PT	POINT OF TANGENCY
CB	BOTTOM OF WALL	PVC	POLYVINYL CHLORIDE PIPE
CMAC	CATCH BASIN	RCB	REINFORCED CONCRETE BOX CULVERT
CMBC	CORRUGATED METAL ARCH CULVERT	RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL BOX CULVERT	RR	RAIL ROAD
CO	CORRUGATED METAL PIPE	R/W	RIGHT OF WAY
CONC.	CLEANOUT	(S)	SOUTH
CPP	CONCRETE	SAN	SANITARY SEWER
DGB	CORRUGATED PLASTIC PIPE	SB	SOIL BORING
DIP	DENSE GRADED BASE	SS	STORM SEWER
D/S	DUCTILE IRON PIPE	STM	STORM
(E)	DOWNSTREAM	(SW)	SOUTHWEST
ELEV.	EAST	TC	TOP OF CURB
EOG	ELEVATION	TBR	TO BE REMOVED
FFE	EDGE OF GRAVEL	TLE	TEMPORARY LIMITED EASEMENT
FG	FINISHED FLOOR ELEVATION	TNH	TOP NUT FIRE HYDRANT
F.O.	FINISH GRADE	TP	TEST PIT
INL	FIBER OPTIC	TR	TOP OF RAMP
HDPE	INLET	TYP.	TYPICAL
HMA	HIGH DENSITY POLYETHYLENE PIPE	TS	TOP OF STEPS
HP	HOT MIX ASPHALT	TW	TOP OF WALL
IE	HIGH POINT	U/S	UPSTREAM
LF	INVERT ELEVATION	VAR.	VARIES
LP	LINEAL FEET	(W)	WEST
MEG	LOW POINT		
MH	MATCH EXISTING GRADE		
	MANHOLE		

LEGEND

	BENCHMARK
	1" IRON BAR
	EXISTING MANHOLE
	EXISTING TELEPHONE MANHOLE
	EXISTING STORM SEWER MANHOLE
	EXISTING SANITARY SEWER MANHOLE
	EXISTING HYDRANT
	EXISTING WATER VALVE
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING WATER SHUTOFF
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	EXISTING GAS VALVE
	EXISTING CURB INLET
	EXISTING WELL
	TEST PIT LOCATION
	SOIL BORING
	EXISTING AIR CONDITIONING UNIT
	EXISTING GAS METER
	EXISTING ELECTRIC METER
	EXISTING UTILITY PEDESTAL
	EXISTING RAILROAD TRACKS
	EXISTING TREE LINE
	EXISTING GUY POLE
	EXISTING CABLE TV
	EXISTING FIBER OPTIC CABLE
	EXISTING UNDERGROUND GAS
	EXISTING UNDERGROUND ELECTRIC
	EXISTING UNDERGROUND TELEPHONE
	EXISTING OVERHEAD UTILITIES
	EXISTING WATER MAIN
	EXISTING STORM SEWER
	EXISTING SANITARY SEWER
	EXISTING PROPERTY LINE
	PROPOSED HANDICAP PARKING
	PROPOSED CURB STOP
	PROPOSED HYDRANT
	PROPOSED WATER VALVE
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
	PROPOSED FORCE MAIN
	PROPOSED SANITARY SEWER LATERAL
	PROPOSED WATER LATERAL
	PROPOSED WATER MAIN
	PROPOSED PUMP STATION
	PROPOSED SANITARY MANHOLE
	PROPOSED STORM MANHOLE
	PROPOSED CURB INLET
	PROPOSED CATCH BASIN
	PROPOSED CLEANOUT
	PROPOSED DRAINAGE FLOW
	PROPOSED SLOPE
	PROPOSED CURB & GUTTER
	PROPOSED REJECT CURB & GUTTER
	PROPOSED MOUNTABLE CURB & GUTTER
	EXISTING GROUND CONTOUR(INTERVAL=1 FT.)
	PROPOSED GROUND CONTOUR(INTERVAL=1 FT.)
	PROPOSED SPOT ELEVATION (TOP OF CURB)
	PROPOSED SPOT ELEVATION (BOTTOM OF CURB)
	PROPOSED SILT FENCE
	PROPOSED INLET PROTECTION
	PROPOSED RIPRAP
	PROPOSED EROSION MAT
	PROPOSED SAWCUT
	PROPOSED DRAINAGE SWALE



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HEARING IMPAIRED: TDD (800)542-2289
EMERGENCY ONLY: (877) 500-9592
WWW.DIGGERSHOTLINE.COM

**KWIK
TRIP**

STORES

The Kwik Star logo, featuring the word "Kwik" in a bold, italicized sans-serif font above the word "Star" in a similar font, with a five-pointed star replacing the letter "a".

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960



**CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING**
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

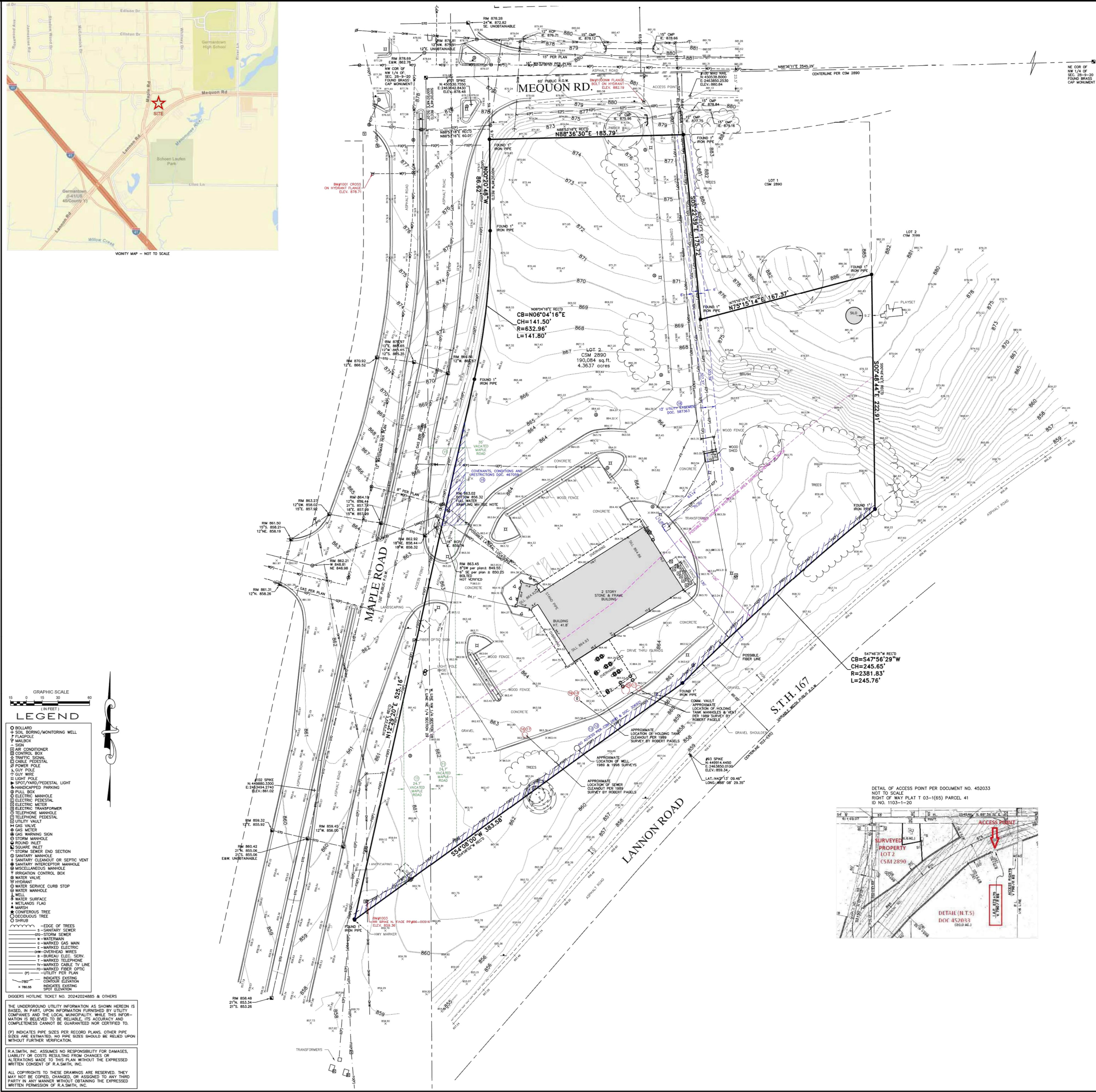
TITLE SHEET

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
1		

DRAWN BY	NAP
SCALE	GRAPHIC
PROJ. NO.	11757
DATE	10/09/24 - REVIEW DOCUMENTS
SHEET	C001



ALTA/NSPS LAND TITLE SURVEY STORE 631 - GERMANTOWN

Known as N112 W18741 Mequon Road and W188N1116, W188N1175S & W188 N11762 Maple Road, in the Village of Germantown, Washington County, Wisconsin.

Lot Two (2) of CERTIFIED SURVEY MAP No. 2890 recorded in the Office of the Register of Deeds for Washington County, Wisconsin on April 29, 1986, in Volume 16, Pages 129-132, as Document No. 490681, said certified survey map being a part of the Northwest 1/4 of the Section 28 and Northeast 1/4 of the Northwest 1/4 of the Section 29, Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

Prepared for: Kwik Trip, Inc.
Survey No. 157610-RMK

A. Basis of Bearings

Bearings are based on the North line of the Northwest 1/4 of Section 28.9.20, which bears North 69°36'57" East, Wisconsin State Plane Coordinate System, South Zone (NAD83/2011).

B. Title Commitment

This survey was prepared based on First American Title Insurance Company National Commercial Services title commitment number NCS-1212460-MAD, commitment date March 15, 2024, which lists the following easements and/or restrictions on schedule D-ii:

1-3, 5, 10. Visible evidence shown, if any.

4, 6-9, 19. Not surveyed related.

11. Rights for entrance to, maintenance, construction, or repair of any utility structures, improvements or services which may be under the surface of the portion of the insured premises lying within vacated Maple Road, pursuant to Section 66.1005(2) of Wisconsin Statutes.

Resolution No. 13-86, resolution regarding discontinued portion of Maple Road as set forth in Quit Claim Deed recorded May 09, 1996 in Volume 889 of Records, Page 589 as Document No. 481363. Lies within or crosses the surveyed property - its location is shown.

12. Easements, dedications, reservations, provisions, relinquishments, reverts, certificates, and any other matters as provided for or delineated on Certified Survey Map No. 2890 recorded April 29, 1986, in Volume 16, Pages 129-132, as Document No. 490681 referenced in the legal description contained herein. Reference is hereby made to said plat for particulars. Lies within or crosses the surveyed property - its location is shown.

13. Covenants, Conditions and Restrictions as set forth in document recorded on April 07, 1969 in Volume 463, Page 617 as Document No. 306921. Lies within or crosses the surveyed property - its location is shown.

14. Covenants, Conditions and Restrictions as set forth in Quit Claim Deed recorded on May 07, 1963 in Volume 790 of Records, Page 86 as Document No. 452033. Does not lie within or cross the surveyed property - its location is shown-see detail. Access point is on the South side of Lannon Road, East of Surveyed property.

15. Covenants, Conditions and Restrictions as set forth in deed recorded on May 14, 1984 in Volume 827, Page 126 as Document No. 467059. Lies within or crosses the surveyed property - its location is shown.

16. Holding Tank Agreement

Dated: September 13, 1986
Parties: Village of Germantown, Washington County, State of Wisconsin and Ron Robbins a/k/a Ronald W. Robbins
Recorded: September 23, 1986 in Volume 910 of Records, Page 119
Instrument No. 498849. Lies within or crosses the surveyed property - it is a blanket easement - location of tank, vent and cleanout shown per 1989 survey by Robert Pagels.

17. Holding Tank Agreement

Dated: September 13, 1991
Parties: Village of Germantown, Washington County, State of Wisconsin and Kilbourn State Bank
Recorded: September 30, 1991 in Volume 144, Page 152
Instrument No. 565808. Lies within or crosses the surveyed property - it is a blanket easement - location of tank, vent and cleanout shown per 1989 survey by Robert Pagels.

18. Utility Easement to Wisconsin Electric Power Company and Wisconsin Bell, Inc., dated October 07, 1991, recorded/filled October 25, 1991 in Volume 1149, Page 649 as Document No. 587363. Lies within or crosses the surveyed property - its location is shown.

C. Flood Note

According to Flood Insurance rate map of the Village of Germantown, community panel number 55131C23577, effective date of 11/20/2013, this site falls in zone X (areas determined to be outside the 0.2% annual chance floodplain).

D. Parking Spaces

There are 33 total parking spaces consisting of 31 regular and 2 handicapped parking spaces marked on this site.

E. Elevations

Elevations refer to NAVD83 Datum. Starting benchmark - Northwest 1/4 corner Section 28.9.20. Brass cap monument elevation 877.87'

F. Municipal Zoning

The zoning information listed below is taken from a Zoning Report prepared by The Village of Germantown, dated May 30, 2024.

Zoning Classification: B-3 General Business; Highway Interchange Over Lay District (HIA)

Setback Requirements, not specified in letter. Listed setbacks per Zoning code provided with Letter as follows:

Front yard

Minimum 50 ft.
None, except that the front yard for newly constructed principal buildings shall be the average of the front yard of adjoining or neighboring properties.
Side yards: None, except as required in Sections 17.07 and 17.50
Rear yards: Minimum 25 ft.
Number of stories: Maximum 2 1/2

Accessory Building

Front yard: Minimum 5 ft.
Side yards: Minimum 5 ft.
Rear yard: Minimum 5 ft.

Building Height

Principal building: Maximum 45 ft.
Accessory building: Maximum 15 ft.

HIA - Highway Interchange Area District (Overlay District)

Setback: Setback from intersecting highway shall be 160' from Centerline or 100' from the right of way line (SHOWN), whichever is greater, or 50 feet from the right-of-way of a frontage road

Parking Requirements 1 space for each 200 square feet of floor area, plus 1 space for each 2 employees.
The subject parcel is located within a wetland protection area, which may impact sign design and placement.

G. Notes

As to Table A Item 11
Surveyor's responsibility to coordinate markings shall be limited to one marking request to 811 (national "call before you dig" number) based on the property address, as provided by the client.
Note to the client, insurer, and lender - With regard to Table A, Item 11, information from the sources checked within will be combined with observed evidence of utilities pursuant to Section 5.6 iv. To develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response.
As of the field date indicated below in certificate (most recent site visit/inspection), it appears some underground utilities were not marked. This affected the surveyor's assessment of the location of the utilities resulting in partial illustration and/or mapping per plan. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

There are proposed changes in street right of way lines. Document 467059 (Exception 15 - blue hatch) indicates area subject to dedication upon request.

There is no visible evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork.

The area computed land area of Lot 2 does not match CSM 2890, and is less than the platted Lot by 1,956 s.f. or 0.045 ac.

Sanitary manhole note - from Timothy Zimmerman at Village (tzimmerman@germantownwi.gov)

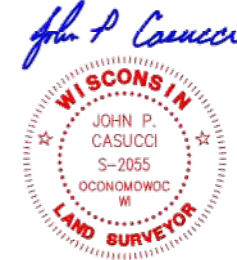
- Misc Manhole near entrance to Maple Road is a Sampling manhole. We find the manhole full of water.

To: Kwik Trip, Inc., a Wisconsin corporation
First American Title Insurance Company National Commercial Services

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS and includes items 1.2, 2.4, 3.4, 5.6(a), 6(b), 7(a), 7(c), 8, 9, 11(a), 11(b), 14, 17, 18, 20(a) and 20(b) of Table A thereof. The fieldwork was completed on May 23, 2024.

Date of Plat or Map: June 12, 2024

I CERTIFY, that this survey was prepared under my supervision and is correct to the best of my professional knowledge and belief and complies with Chapter A-E 7 of the Wisconsin Administrative Code.



John P. Cassoco
Professional Land Surveyor
Registration Number S-2055
john.cassoco@ra-smith.com

raSmith
CREATIVITY BEYOND ENGINEERING

16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rsmith@ra-smith.com

SHEET 1 OF 1

Kwik TRIP

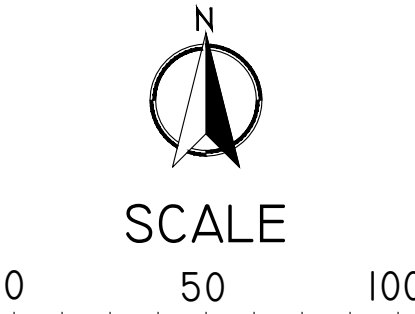
STORES

Kwik STAR

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9786 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

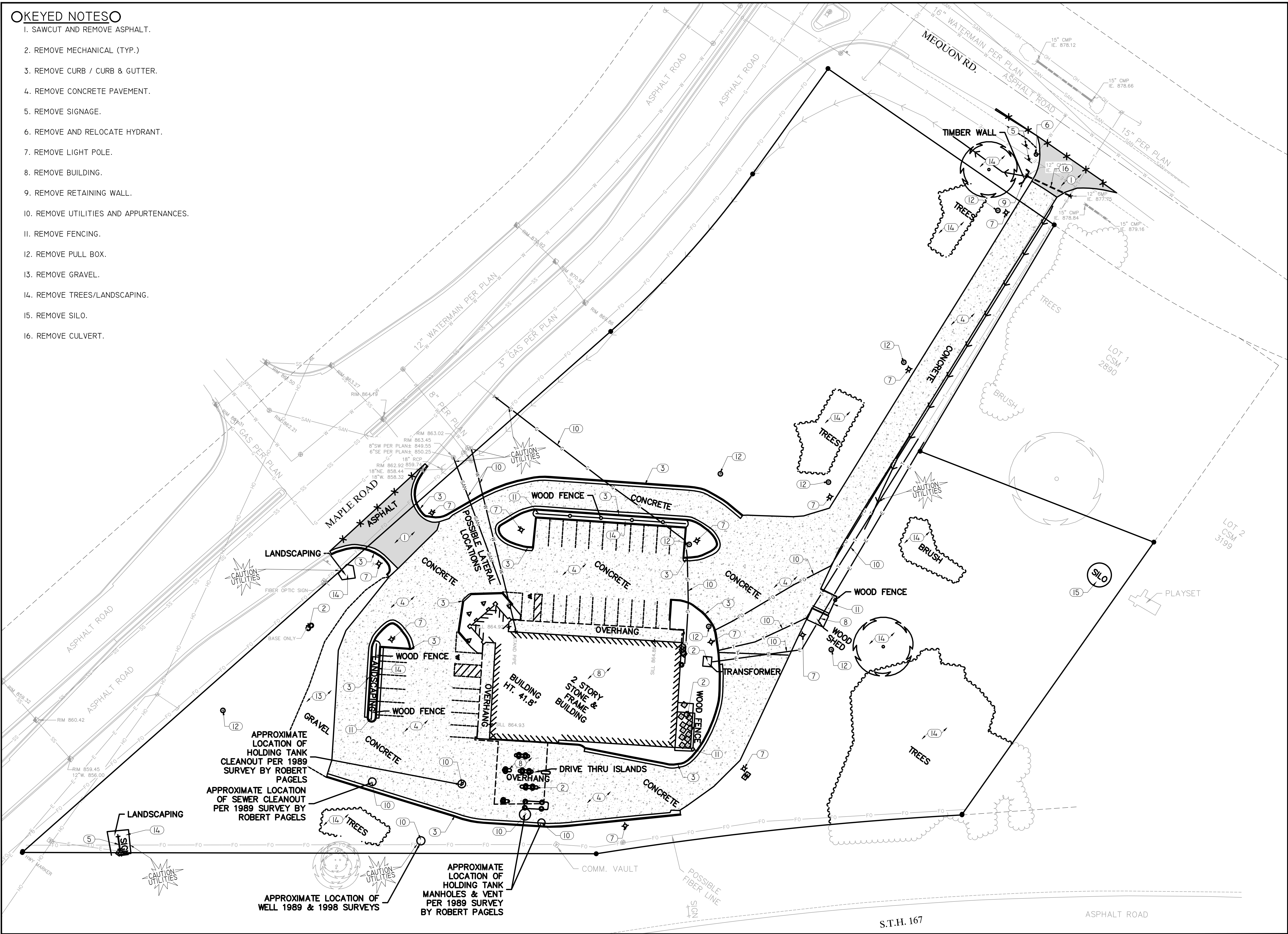


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SCALE: GRAPHIC
PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: C010

OKEYED NOTES

- I. SAWCUT AND REMOVE ASPHALT.
- 2. REMOVE MECHANICAL (TYP.)
- 3. REMOVE CURB / CURB & GUTTER.
- 4. REMOVE CONCRETE PAVEMENT.
- 5. REMOVE SIGNAGE.
- 6. REMOVE AND RELOCATE HYDRANT.
- 7. REMOVE LIGHT POLE.
- 8. REMOVE BUILDING.
- 9. REMOVE RETAINING WALL.
- 10. REMOVE UTILITIES AND APPURTENANCES.
- II. REMOVE FENCING.
- 12. REMOVE PULL BOX.
- 13. REMOVE GRAVEL.
- 14. REMOVE TREES/LANDSCAPING.
- 15. REMOVE SILO.
- 16. REMOVE CULVERT.



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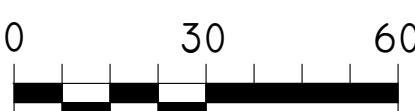
STORES

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P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

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REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



SCALE



DEMO PLAN

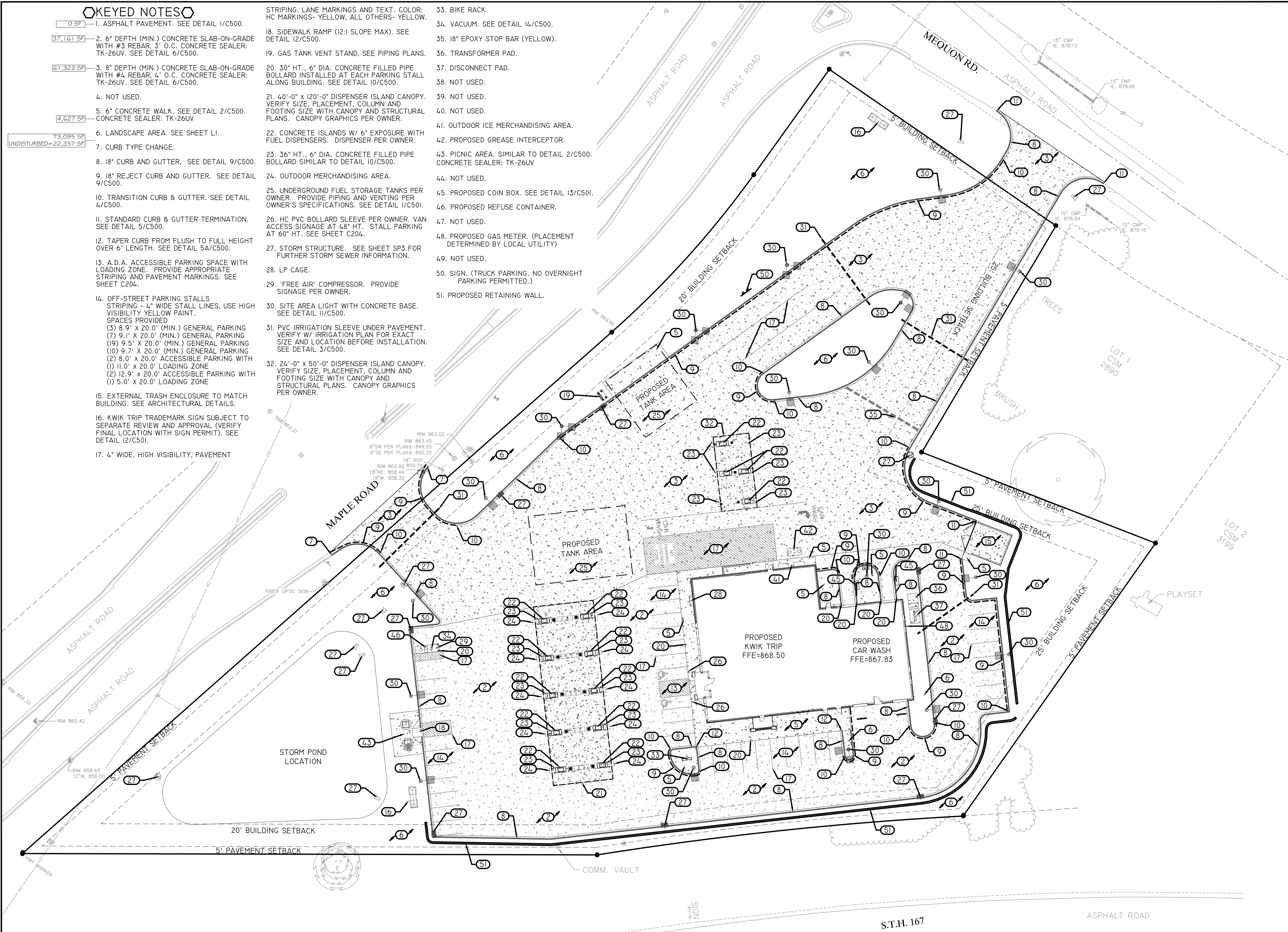
CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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SCALE	GRAPHIC
PROJ. NO.	11757
DATE	10/09/24 - REVIEW DOCUMENTS
SHEET	C020

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PLOTTED: OCT 08, 2024 - 3:30PM PLOTTED BY: TODDW



KEYED NOTES

- 0.5' 1. ASPHALT PAVEMENT. SEE DETAIL 1/C500.
- 37,161 5' 2. 6" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #3 REBAR, 3" O.C. CONCRETE SEALER: TK-26UV. SEE DETAIL 6/C500.
- 61,322 5' 3. 8" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #4 REBAR, 4" O.C. CONCRETE SEALER: TK-26UV. SEE DETAIL 6/C500.
4. NOT USED.
- 4,627 5' 5. 6" CONCRETE WALK. SEE DETAIL 2/C500. CONCRETE SEALER: TK-26UV
- 73,095 5' 6. LANDSCAPE AREA. SEE SHEET LI.
- UNDISTURBED=22,357 5' 7. CURB TYPE CHANGE.
8. 18" CURB AND GUTTER. SEE DETAIL 9/C500.
9. 18" REJECT CURB AND GUTTER. SEE DETAIL 9/C500.
10. TRANSITION CURB & GUTTER. SEE DETAIL 4/C500.
11. STANDARD CURB & GUTTER TERMINATION. SEE DETAIL 5/C500.
12. TAPER CURB FROM FLUSH TO FULL HEIGHT OVER 6' LENGTH. SEE DETAIL 5A/C500.
13. A.D.A. ACCESSIBLE PARKING SPACE WITH LOADING ZONE. PROVIDE APPROPRIATE STRIPING AND PAVEMENT MARKINGS. SEE SHEET C204.
14. OFF-STREET PARKING STALLS. STRIPING - 4" WIDE STALL LINES, USE HIGH VISIBILITY YELLOW PAINT. SPACES PROVIDED
(3) 8.9' x 20.0' (MIN.) GENERAL PARKING
(7) 9.1' x 20.0' (MIN.) GENERAL PARKING
(9) 9.5' x 20.0' (MIN.) GENERAL PARKING
(10) 9.7' x 20.0' (MIN.) GENERAL PARKING
(2) 8.0' x 20.0' ACCESSIBLE PARKING WITH
(1) 11.0' x 20.0' LOADING ZONE
(2) 12.9' x 20.0' ACCESSIBLE PARKING WITH
(1) 5.0' x 20.0' LOADING ZONE
15. EXTERNAL TRASH ENCLOSURE TO MATCH BUILDING. SEE ARCHITECTURAL DETAILS.
16. KWIK TRIP TRADEMARK SIGN SUBJECT TO SEPARATE REVIEW AND APPROVAL (VERIFY FINAL LOCATION WITH SIGN PERMIT). SEE DETAIL 12/C501.
17. 4" WIDE, HIGH VISIBILITY, PAVEMENT

- STRIPING, LANE MARKINGS AND TEXT. COLOR: HC MARKINGS- YELLOW, ALL OTHERS- YELLOW.
18. SIDEWALK RAMP (12:1 SLOPE MAX). SEE DETAIL 12/C500.
19. GAS TANK VENT STAND. SEE PIPING PLANS.
20. 30" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD INSTALLED AT EACH PARKING STALL ALONG BUILDING. SEE DETAIL 10/C500.
21. 40'-0" x 120'-0" DISPENSER ISLAND CANOPY. VERIFY SIZE, PLACEMENT, COLUMN AND FOOTING SIZE WITH CANOPY AND STRUCTURAL PLANS. CANOPY GRAPHICS PER OWNER.
22. CONCRETE ISLANDS W/ 6" EXPOSURE WITH FUEL DISPENSERS. DISPENSER PER OWNER.
23. 36" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD SIMILAR TO DETAIL 10/C500.
24. OUTDOOR MERCHANDISING AREA.
25. UNDERGROUND FUEL STORAGE TANKS PER OWNER. PROVIDE PIPING AND VENTING PER OWNER'S SPECIFICATIONS. SEE DETAIL 1/C501.
26. HC PVC BOLLARD SLEEVE PER OWNER. VAN ACCESS SIGNAGE AT 48" HT. STALL PARKING AT 60" HT. SEE SHEET C204.
27. STORM STRUCTURE. SEE SHEET SP3 FOR FURTHER STORM SEWER INFORMATION.
28. LP CAGE.
29. 'FREE AIR' COMPRESSOR. PROVIDE SIGNAGE PER OWNER.
30. SITE AREA LIGHT WITH CONCRETE BASE. SEE DETAIL 11/C500.
31. PVC IRRIGATION SLEEVE UNDER PAVEMENT. VERIFY W/ IRRIGATION PLAN FOR EXACT SIZE AND LOCATION BEFORE INSTALLATION. SEE DETAIL 3/C500.
32. 24'-0" x 50'-0" DISPENSER ISLAND CANOPY. VERIFY SIZE, PLACEMENT, COLUMN AND FOOTING SIZE WITH CANOPY AND STRUCTURAL PLANS. CANOPY GRAPHICS PER OWNER.
33. BIKE RACK.
34. VACUUM. SEE DETAIL 14/C500.
35. 18" EPOXY STOP BAR (YELLOW).
36. TRANSFORMER PAD.
37. DISCONNECT PAD.
38. NOT USED.
39. NOT USED.
40. NOT USED.
41. OUTDOOR ICE MERCHANDISING AREA.
42. PROPOSED GREASE INTERCEPTOR.
43. PICNIC AREA. SIMILAR TO DETAIL 2/C500. CONCRETE SEALER: TK-26UV
44. NOT USED.
45. PROPOSED COIN BOX. SEE DETAIL 13/C501.
46. PROPOSED REFUSE CONTAINER.
47. NOT USED.
48. PROPOSED GAS METER. (PLACEMENT DETERMINED BY LOCAL UTILITY)
49. NOT USED.
50. SIGN. (TRUCK PARKING. NO OVERNIGHT PARKING PERMITTED.)
51. PROPOSED RETAINING WALL.

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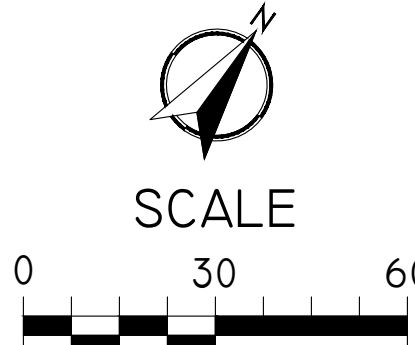
STORES

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STAR

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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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CIVIL & ENVIRONMENTAL
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PHONE: 715.675.9784 FAX: 715.675.4060
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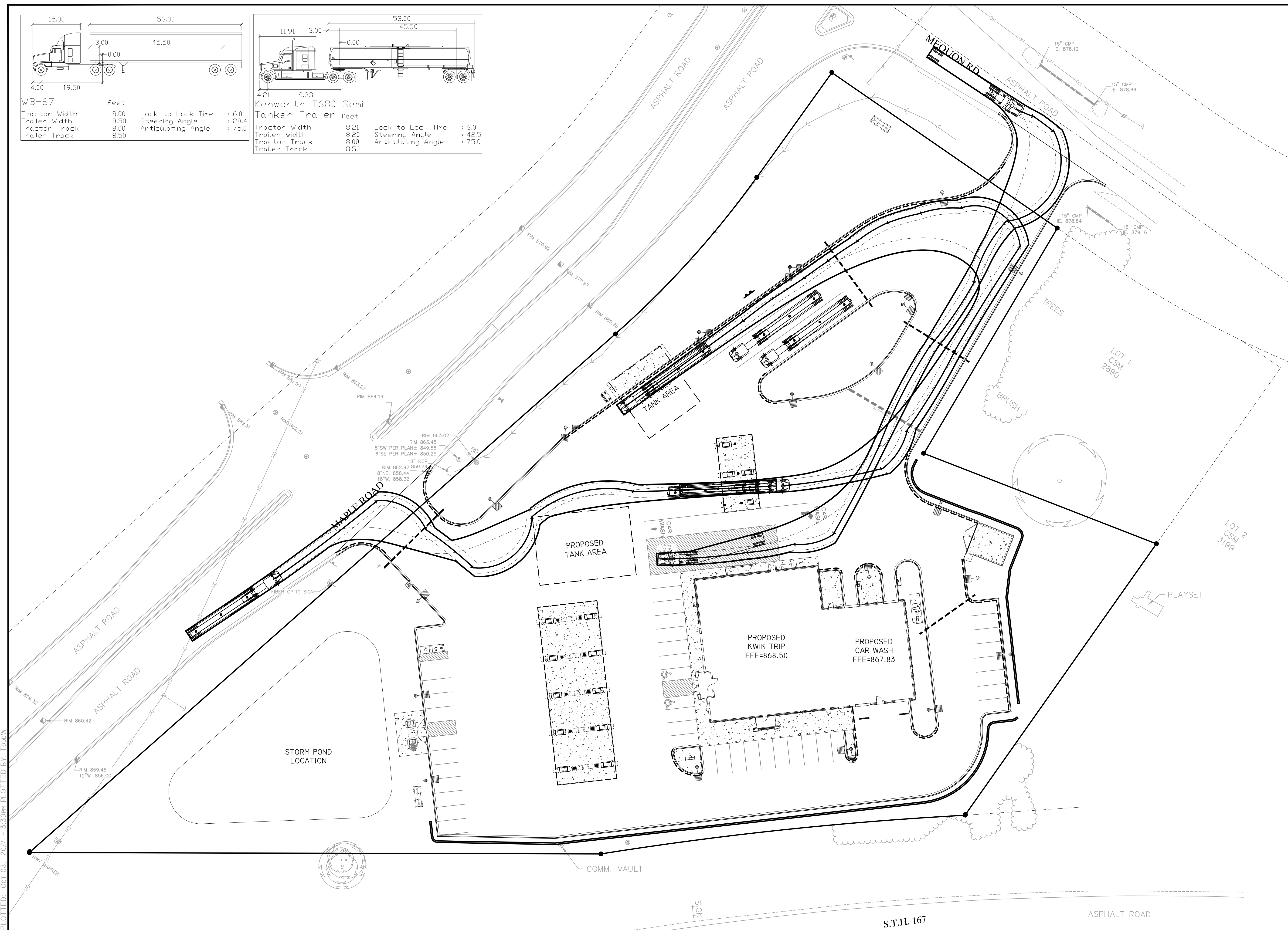
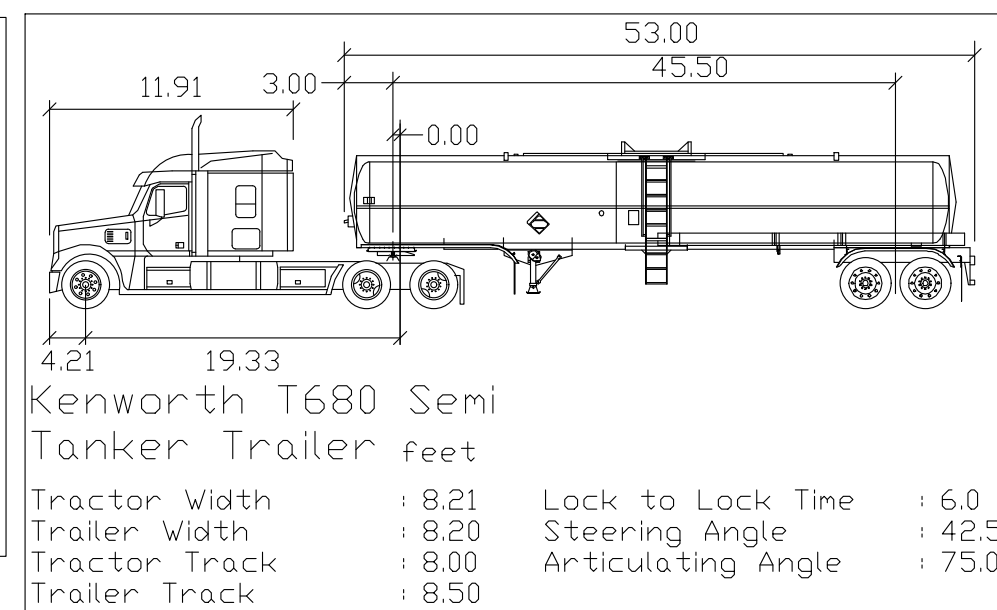
SITE KEYNOTE PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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PROJ. NO.	11757
DATE	10/09/24 - REVIEW DOCUMENTS
SHEET	C100



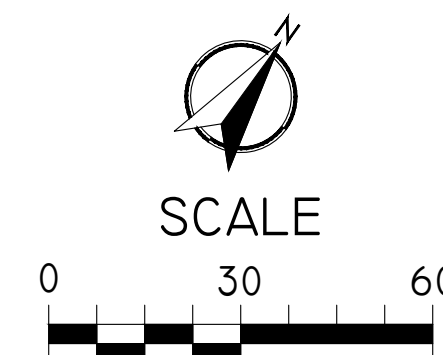
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PLOTTED: Oct 08, 2024 - 3:30PM PLOTTED BY: TODDW

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P.O. BOX 2107
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LA CROSSE, WI 54602-2107
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**CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING**
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4061
EMAIL: MAIL@REIENGINEERING.COM



SITE CIRCULATION PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION

DRAWN BY	NAP
SCALE	GRAPHIC
PROJ. NO.	11757
DATE	10/09/24 - REVIEW DOCUMENTS
SHEET	C186

C180

LAYOUT NOTES:

- PLAN PREPARED FROM AN ALTA/ACSM LAND TITLE SURVEY BY:
R.A. SMITH, INC.
262-781-1000
- CURBS ARE DIMENSIONED TO BACK OF CURB.
- CONVENIENCE STORE, AND ISLAND COMPLEXES ARE LOCATED FROM THE NORTHEASTERN MOST PROPERTY CORNER AND ALIGNED PARALLEL/PERPENDICULAR TO THE REFERENCE LINE LABELED N47°37'24"E, UNLESS OTHERWISE INDICATED ON THIS PLAN.
- UNLESS SHOWN OTHERWISE ON THIS DRAWING, CONTRACTOR SHALL PROVIDE CONTROL JOINTS, CONSTRUCTION JOINTS, AND EXPANSION JOINTS IN SLAB ON GRADE, SIDEWALKS AND DRIVES.
CONTROL JOINT MAXIMUM DISTANCE: WALKS- 8' O.C., ALL OTHERS- 15' O.C. SAW CUT CONTROL JOINTS MINIMUM ONE-QUARTER CONCRETE THICKNESS.
EXPANSION JOINT MAXIMUM DISTANCE: WALKS- 24' O.C., ALL OTHERS- 40' O.C. DOWEL ALL EXPANSION JOINTS- MAXIMUM 24" O.C.
- CONCRETE IN ISLAND COMPLEX SHALL BE SMOOTH FINISHED.
- EXTERIOR CONCRETE SURFACES TO BE SEALED.
CONCRETE SEALER:
APR 15- OCT 31 USE: TK-26UV
NOV 1- DEC 31 USE: TK-290
- EXPANSION JOINTS SHALL BE DECK-O-FOAMED AND CAULKED WITH SLI.
- DIAGONAL STRIPING LINES (HATCHING) IN THE " NO PARKING LOADING ZONE" AREA AND ANY OTHER AREA THAT IS HATCHED SHALL BE SPACED 5' ON CENTER.
- LETTERING FOR ALL WORDING SUCH AS " NO PARKING LOADING ZONE" AND CARWASH SHOULD BE 12" TALL.
- ALL DIAGONAL STRIPING SHALL BE ANGLED AS CLOSE TO DIMENSIONED ANGLE AS POSSIBLE.
- CURBS AROUND THE RAISED FILLS SHALL BE PAINTED YELLOW.

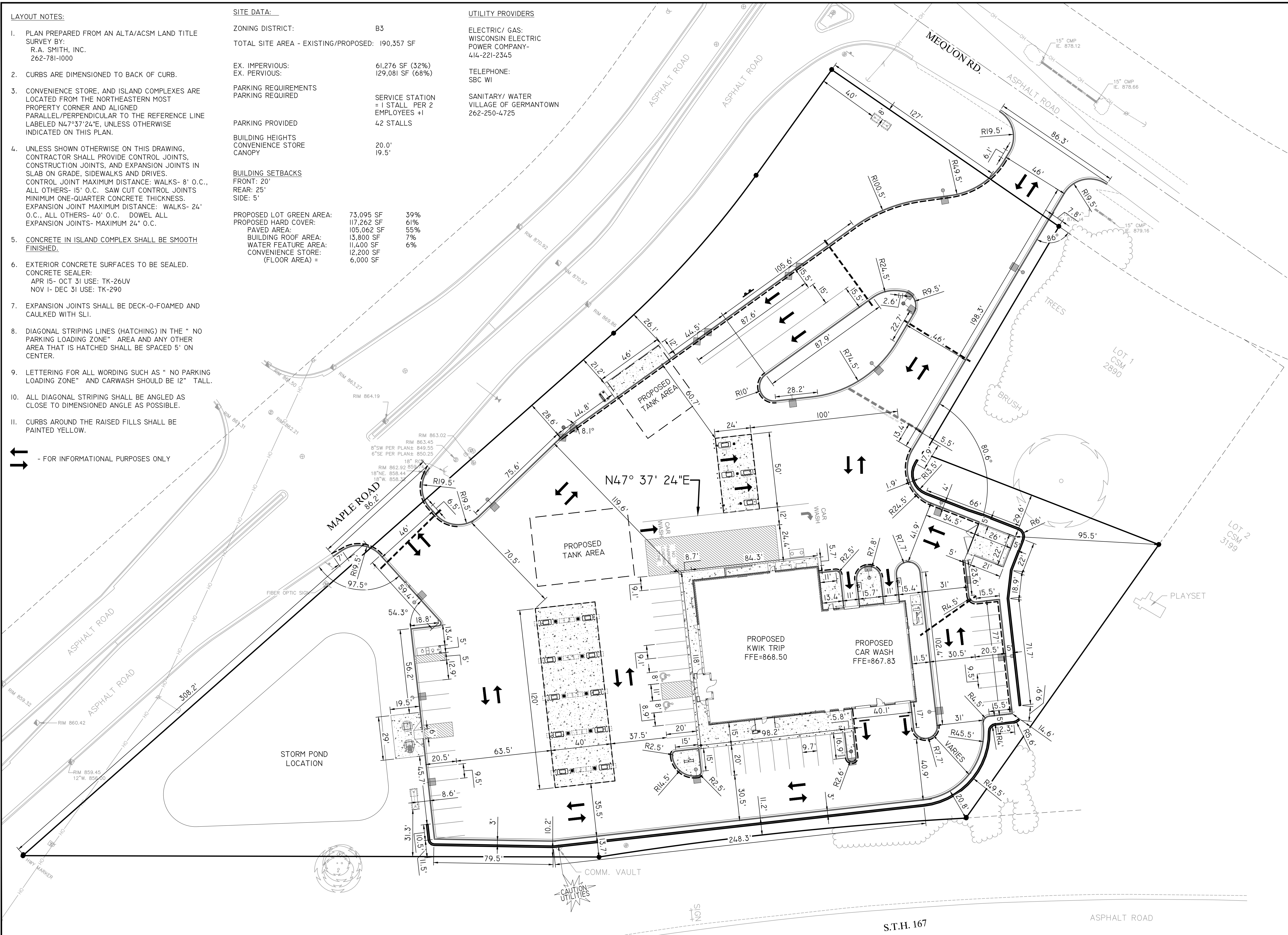
↑↑ - FOR INFORMATIONAL PURPOSES ONLY

SITE DATA:

ZONING DISTRICT: B3
TOTAL SITE AREA - EXISTING/PROPOSED: 190,357 SF
EX. IMPERVIOUS: 61,276 SF (32%)
EX. PERVIOUS: 129,081 SF (68%)
PARKING REQUIREMENTS
PARKING REQUIRED
SERVICE STATION
= 1 STALL PER 2
EMPLOYEES +1
42 STALLS
PARKING PROVIDED
BUILDING HEIGHTS
CONVENIENCE STORE
CANOPY
20.0'
19.5'
BUILDING SETBACKS
FRONT: 20'
REAR: 25'
SIDE: 5'
PROPOSED LOT GREEN AREA: 73,095 SF 39%
PROPOSED HARD COVER: 117,262 SF 61%
PAVED AREA: 105,062 SF 55%
BUILDING ROOF AREA: 13,800 SF 7%
WATER FEATURE AREA: 11,400 SF 6%
CONVENIENCE STORE: 12,200 SF
(FLOOR AREA) = 6,000 SF

UTILITY PROVIDERS

ELECTRIC/ GAS:
WISCONSIN ELECTRIC
POWER COMPANY-
414-221-2345
TELEPHONE:
SBC WI
SANITARY/ WATER
VILLAGE OF GERMANTOWN
262-250-4725



**Kwik
TRIP**

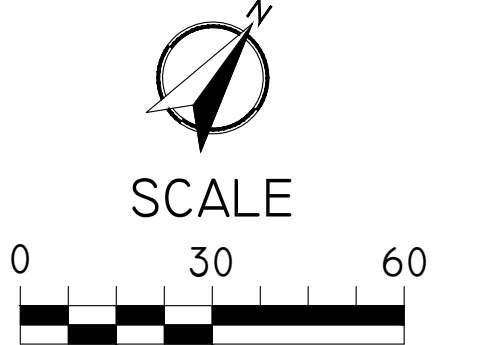
STORES

**Kwik
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P.O. BOX 2107
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EMAIL: MAIL@REIENGINEERING.COM



SITE DIMENSION PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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NOTE: CONTRACTOR TO OBTAIN RIGHT-OF-WAY EXCAVATION PERMIT PRIOR TO BEGINNING SITE WORK.

CALL DIGGERS HOTLINE @ 1-800-242-8511 AT LEAST 3 WORKING DAYS PRIOR TO EXCAVATING.

CONSTRUCTION NOTE:

COORDINATE WITH OWNER FOR POSSIBLE CONSTRUCTION FENCING AND GATE LOCATIONS AND APPROPRIATE SIGNAGE INSTALLATION.

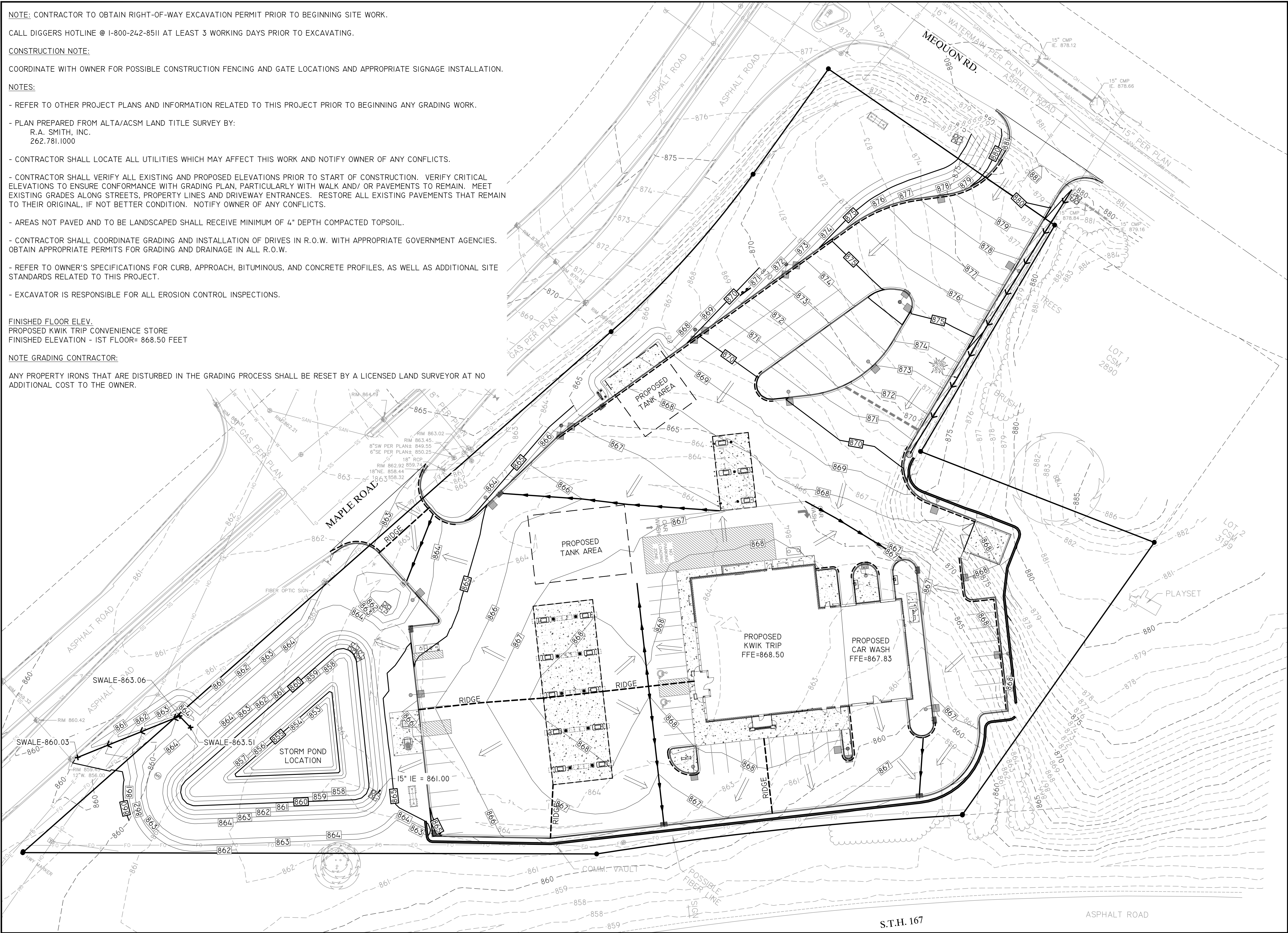
NOTES:

- REFER TO OTHER PROJECT PLANS AND INFORMATION RELATED TO THIS PROJECT PRIOR TO BEGINNING ANY GRADING WORK.
- PLAN PREPARED FROM ALTA/ACSM LAND TITLE SURVEY BY:
R.A. SMITH, INC.
262.781.1000
- CONTRACTOR SHALL LOCATE ALL UTILITIES WHICH MAY AFFECT THIS WORK AND NOTIFY OWNER OF ANY CONFLICTS.
- CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED ELEVATIONS PRIOR TO START OF CONSTRUCTION. VERIFY CRITICAL ELEVATIONS TO ENSURE CONFORMANCE WITH GRADING PLAN, PARTICULARLY WITH WALK AND/ OR PAVEMENTS TO REMAIN. MEET EXISTING GRADES ALONG STREETS, PROPERTY LINES AND DRIVEWAY ENTRANCES. RESTORE ALL EXISTING PAVEMENTS THAT REMAIN TO THEIR ORIGINAL, IF NOT BETTER CONDITION. NOTIFY OWNER OF ANY CONFLICTS.
- AREAS NOT PAVED AND TO BE LANDSCAPED SHALL RECEIVE MINIMUM OF 4" DEPTH COMPACTED TOPSOIL.
- CONTRACTOR SHALL COORDINATE GRADING AND INSTALLATION OF DRIVES IN R.O.W. WITH APPROPRIATE GOVERNMENT AGENCIES. OBTAIN APPROPRIATE PERMITS FOR GRADING AND DRAINAGE IN ALL R.O.W.
- REFER TO OWNER'S SPECIFICATIONS FOR CURB, APPROACH, BITUMINOUS, AND CONCRETE PROFILES, AS WELL AS ADDITIONAL SITE STANDARDS RELATED TO THIS PROJECT.
- EXCAVATOR IS RESPONSIBLE FOR ALL EROSION CONTROL INSPECTIONS.

FINISHED FLOOR ELEV.
PROPOSED KWIK TRIP CONVENIENCE STORE
FINISHED ELEVATION - 1ST FLOOR= 868.50 FEET

NOTE GRADING CONTRACTOR:

ANY PROPERTY IRONS THAT ARE DISTURBED IN THE GRADING PROCESS SHALL BE RESET BY A LICENSED LAND SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.



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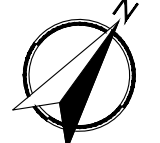
STORES

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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



SCALE



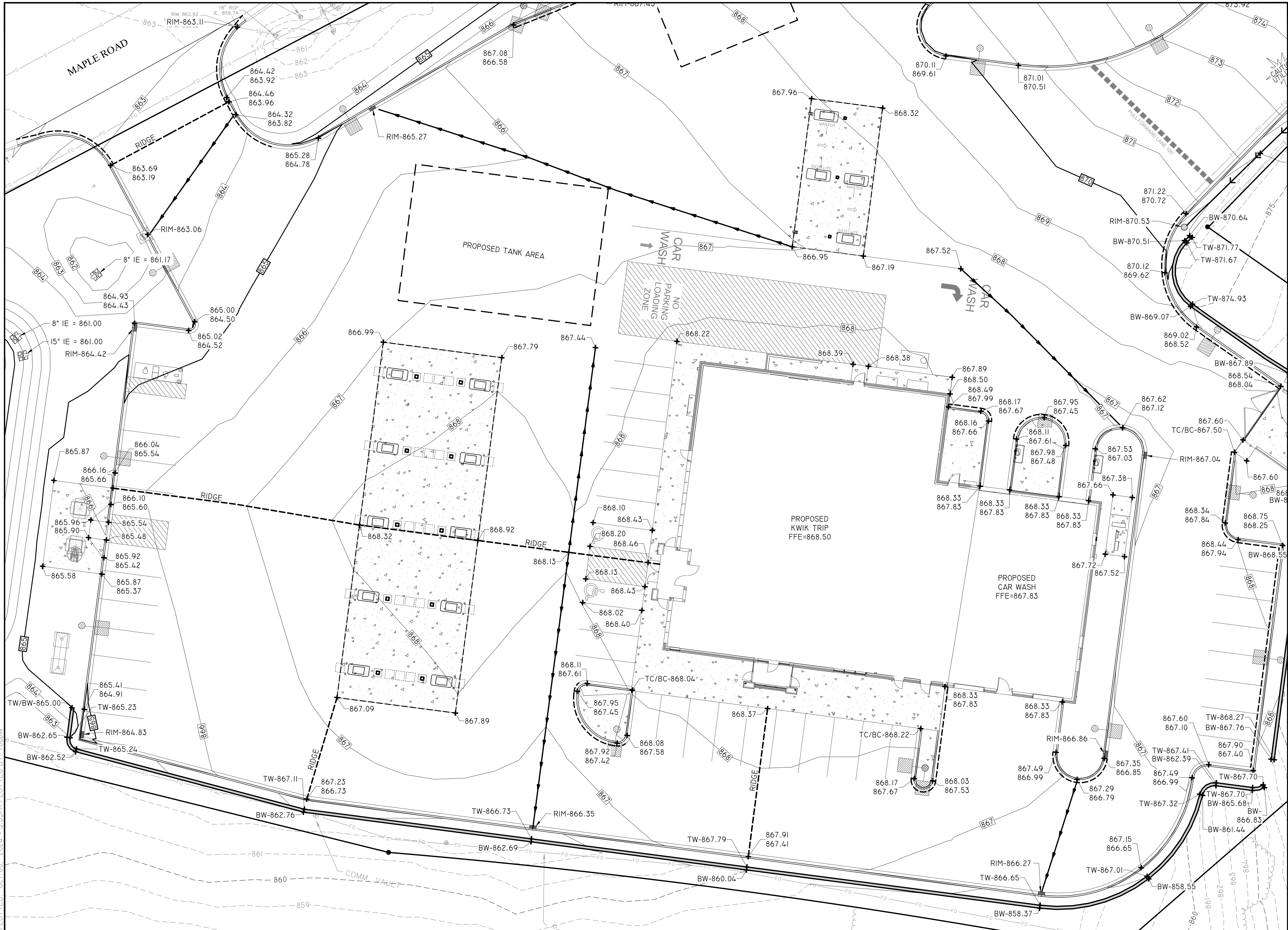
GRADING PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
		
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PH. (608) 781-8988
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CIVIL & ENVIRONMENTAL
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REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



SCALE



GRADING PLAN DETAIL

- SOUTH

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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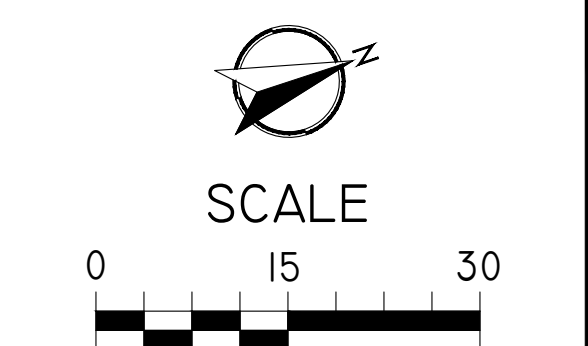


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P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

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CIVIL & ENVIRONMENTAL
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4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
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GRADING PLAN DETAIL		
- NORTH		
CONVENIENCE STORE #631		STH 167 & MAPLE ROAD GERMANTOWN, WI
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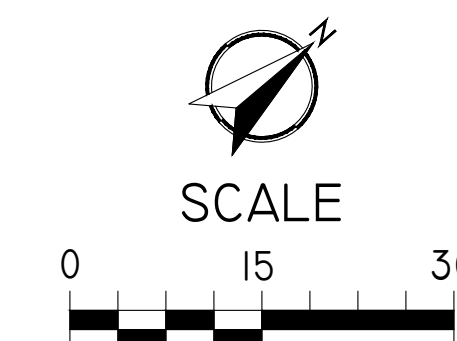
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P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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GRADING PLAN SPOT
DETAIL - SOUTH

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
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PROJ. NO.	11757
DATE	10/09/24 - REVIEW DOCUMENTS
SHEET	C202



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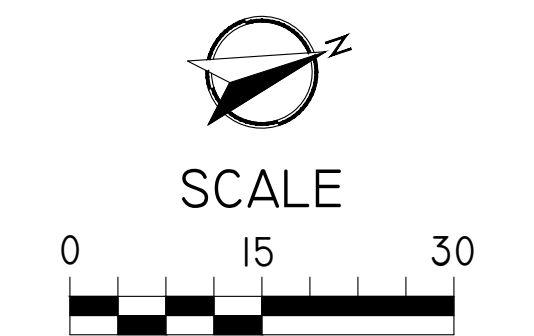


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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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GRADING PLAN SPOT
DETAIL - NORTH

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
		

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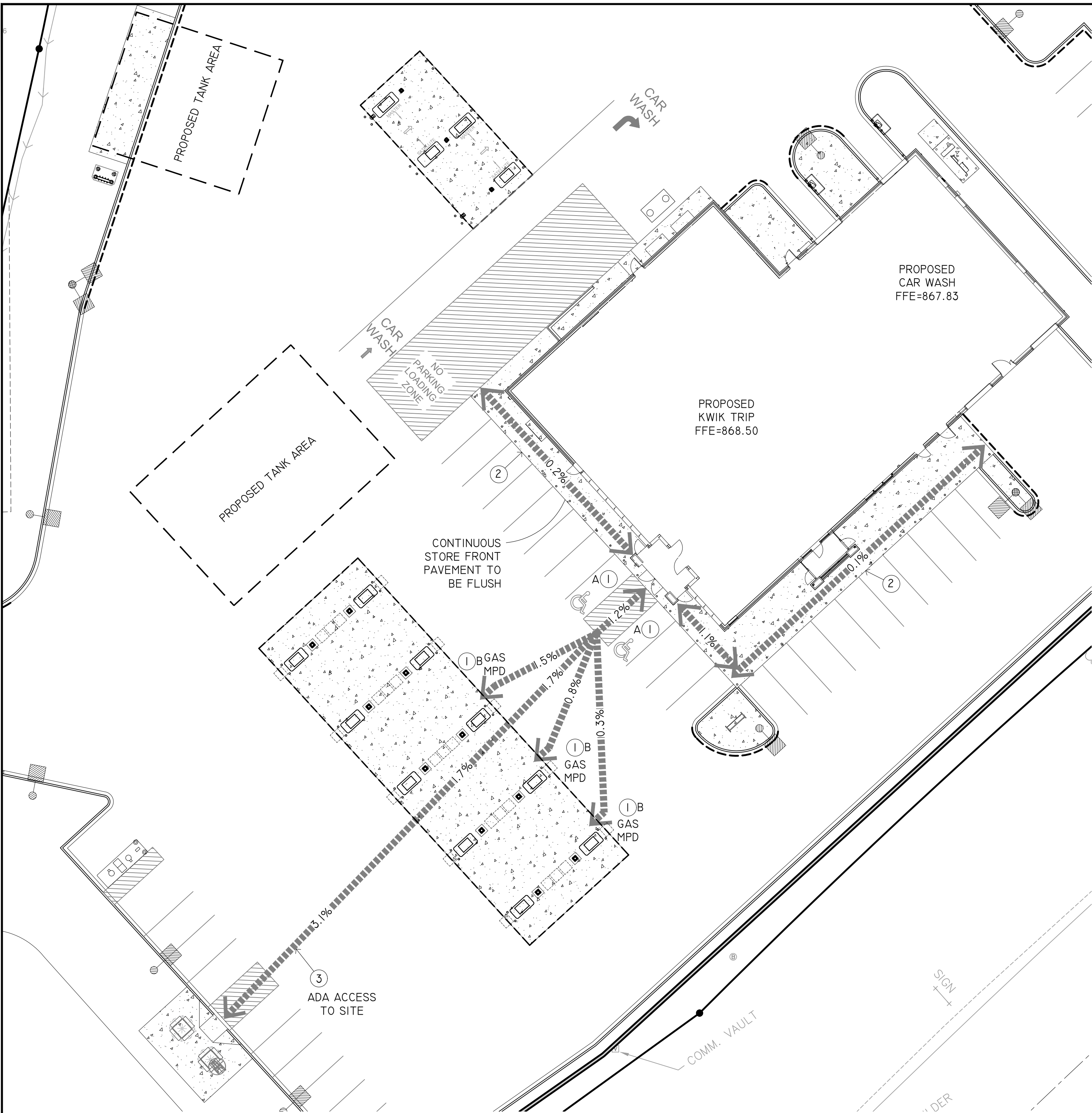
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DRAWING FILE: Q:\11700-11799\11757 - Kwik Trip #631 - GERMANTOWN\DRAWING\PLANS\11757-C204-ACCESSIBILITY PLAN.DWG LAYOUT: C204
PLOTTED: OCT 08, 2024 - 3:37PM PLOTTED BY: TODDW



PLAN KEYNOTES

- ACCESSIBLE STALLS
A. STRIPING - 4" WIDE STALL LINES, USE HIGH VISIBILITY BLUE PAINT.

SPACES PROVIDED
(2) 8'-0"X 20'-0" ACCESSIBLE PARKING WITH
(1) 11'-0"X 20'-0" LOADING ZONE

B. ACCESSIBLE FUELING POINT AND DISPENSER AND VALET. VALET AND KEY PAD ON PUMP SHALL CONFORM TO ADA REACH DIMENSIONS AS SHOWN IN DETAIL. SEE NOTES FOR CONVENIENCE STORE ACCESSIBILITY.
- PAVEMENTS FLUSH FOR ACCESSIBILITY.
- ACCESSIBLE ROUTE TO STORE.



Know what's below.
Call before you dig.

NOTES FOR CONVENIENCE STORE ACCESSIBILITY

AT LEAST 1 MPD (MULTI PRODUCT DISPENSER) COVERING ALL GRADES OF FUEL MUST BE ACCESSIBLE IN A 30'X48" CLEAR LEVEL FLOOR AREA (CLF).

ALL PUMP CONTROLS SHALL BE < 48" (2010 STANDARD). WINDOW WASHER, PAPER TOWEL DISPENSER, LITERATURE, FIRE EXTINGUISHER, EMERGENCY FUEL STOPS, ETC. BE ACCESSIBLE 30'X48" CLF SPACE AND WITHIN A FORWARD OR SIDE APPROACH REACH RANGE.

PROVIDE ISA (INDUSTRY STANDARD ARCHITECTURE) AT EACH ACCESSIBLE FUEL POSITION ON FACE OF PUMP.

PROVIDE ISA AT EACH ACCESSIBLE FUELING POSITION VISIBLE TO APPROACHING VEHICLES.

PROVIDE A SIGN AT EACH ACCESSIBLE FUELING POSITION WITH STORE TELEPHONE NUMBER, ADVISING AVAILABLE FUELING ASSISTANCE.

ANY PAY FUNCTION- I.E. AIR/VACUUM ETC. ARE REQUIRED TO HAVE AN ACCESSIBLE ROUTE TO STORE ENTRANCE. CONTROLS SHALL BE ACCESSIBLE 30'X48" CLF SPACE AND WITHIN A FORWARD OR SIDE APPROACH REACH RANGE.

NOTES:

-REFER TO THE DOCUMENT FROM THE DEPARTMENT OF JUSTICE ON "2010 ADA STANDARDS FOR ACCESSIBLE DESIGN". CONTRACTOR SHALL REFERENCE CURRENT A.D.A. GUIDELINES AND LOCAL REGULATIONS FOR SITE ACCESSIBILITY. IN ALL CASES THE MINIMUM REQUIREMENTS SHALL BE PROVIDED ON SITE TO ENSURE COMPLIANCE TO ALL REGULATIONS.

- KWIK TRIP STANDARD ENTRANCE DOOR IS AUTOMATIC SLIDING DOOR SYSTEM DESIGNED TO COMPLY WITH ALL ACCESS CODES AND LAWS. ENTRANCE DOORS FOR ACCESSIBLE ROUTES WILL HAVE A MINIMUM CLEAR OPENING OF 32"

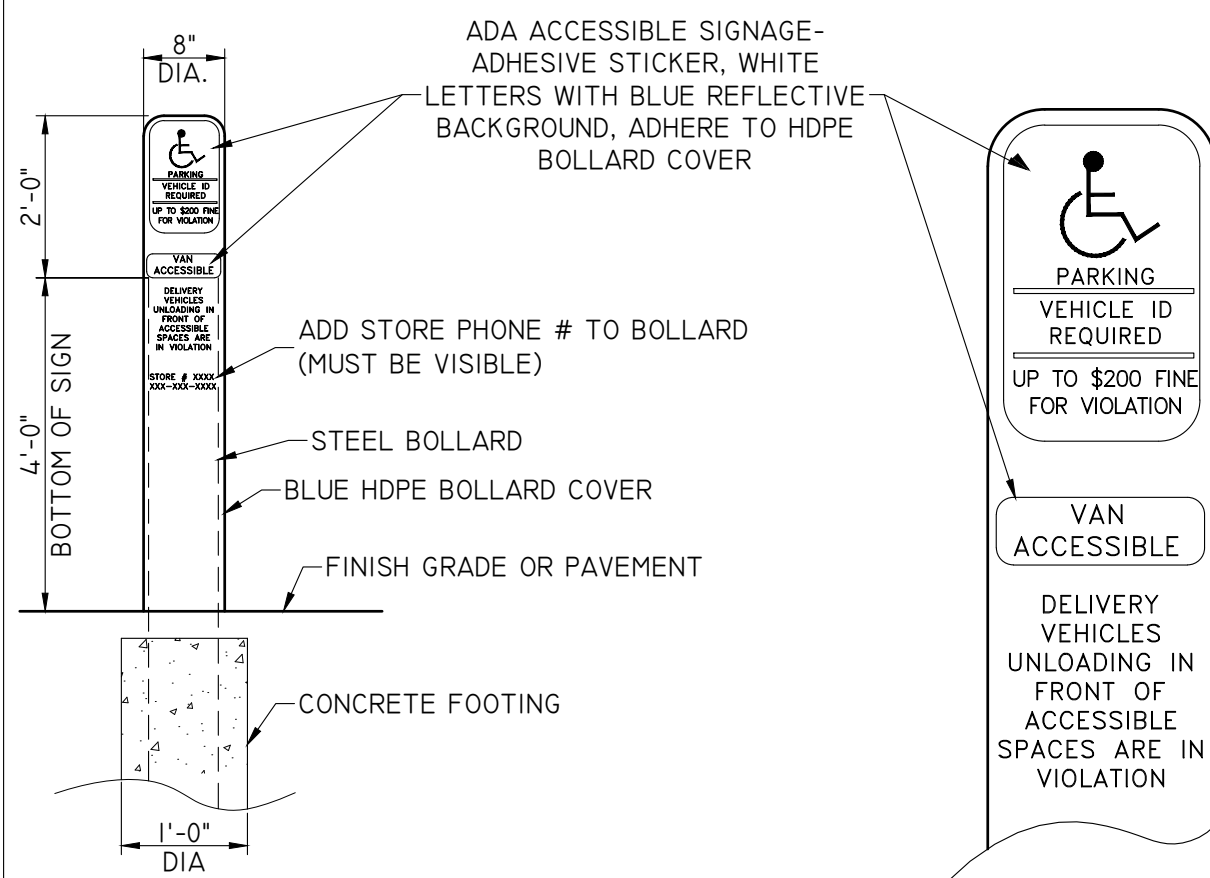
-STORE FRONTS WILL PROVIDE FLUSH PAVEMENTS ALONG ACCESSIBLE ROUTES WITH PROTECTIVE SECURITY BOLLARDS INDICATED AND SPACED BETWEEN PARKING SURFACES AND BUILDING WALK PER PLAN.

-NO OBJECTS OR DISPLAYS SHOULD PROTRUDE INTO THE MINIMUM CLEAR SPACE OF THE ACCESSIBLE ROUTES TO THE STORE ENTRANCE. THIS WILL INCLUDE SEASONAL DISPLAY VENDING AREAS AS WELL AS OTHER OUTDOOR STORAGE UNITS FOR PROPANE AND ICE, ETC.

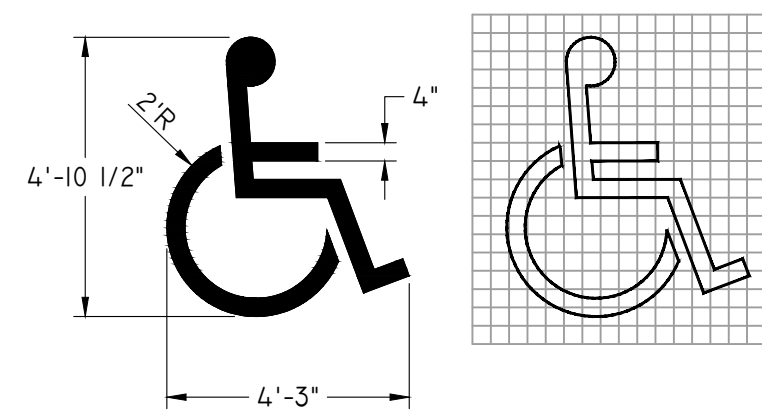
-PER A.D.A GUIDELINES- CLEAR WIDTH OF ACCESSIBLE ROUTES SHALL BE 36" AND PERMITTED TO BE REDUCED TO 32" FOR A LENGTH OF 24".

- ACCESS ISLES SERVING WHEEL CHAIR LIFTS OR CHAIR ACCESS FROM VEHICLES ARE REQUIRED TO BE NEARLY LEVEL IN ALL DIRECTIONS TO PROVIDE SAFE TRANSFER OF WHEELCHAIRS TO AND FROM VEHICLES. THE EXCEPTION WOULD BE FOR DRAINAGE. MAXIMUM SLOPE FOR THE ACCESS ISLE IS 1:48. NO CURB RAMPS SHALL BE A PART OF THE ACCESS ISLE.

-IDENTIFICATION SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY WITH THE DESIGNATION OF 'VAN ACCESSIBLE' IN EVERY 8 ACCESSIBLE SPACES ON SITE.

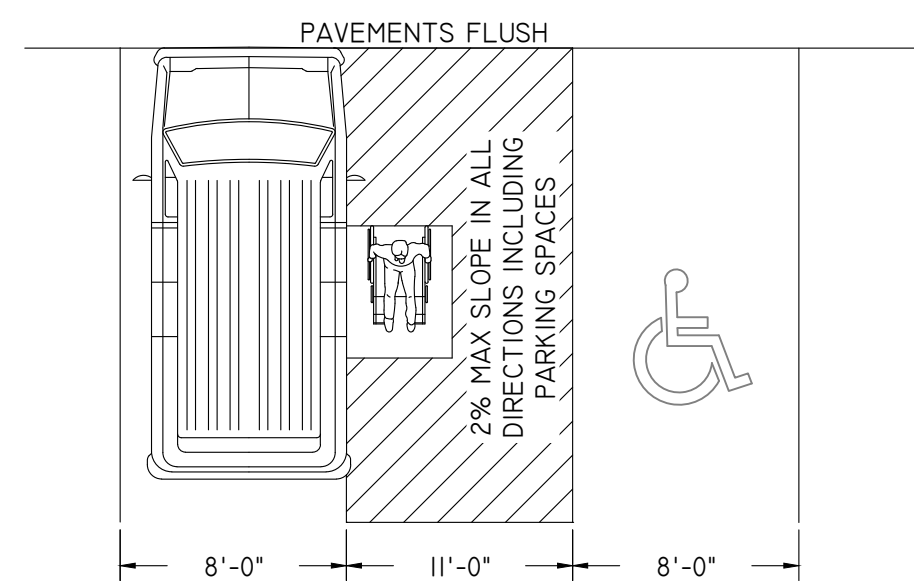


ADA BOLLARD SIGNAGE
NOT TO SCALE

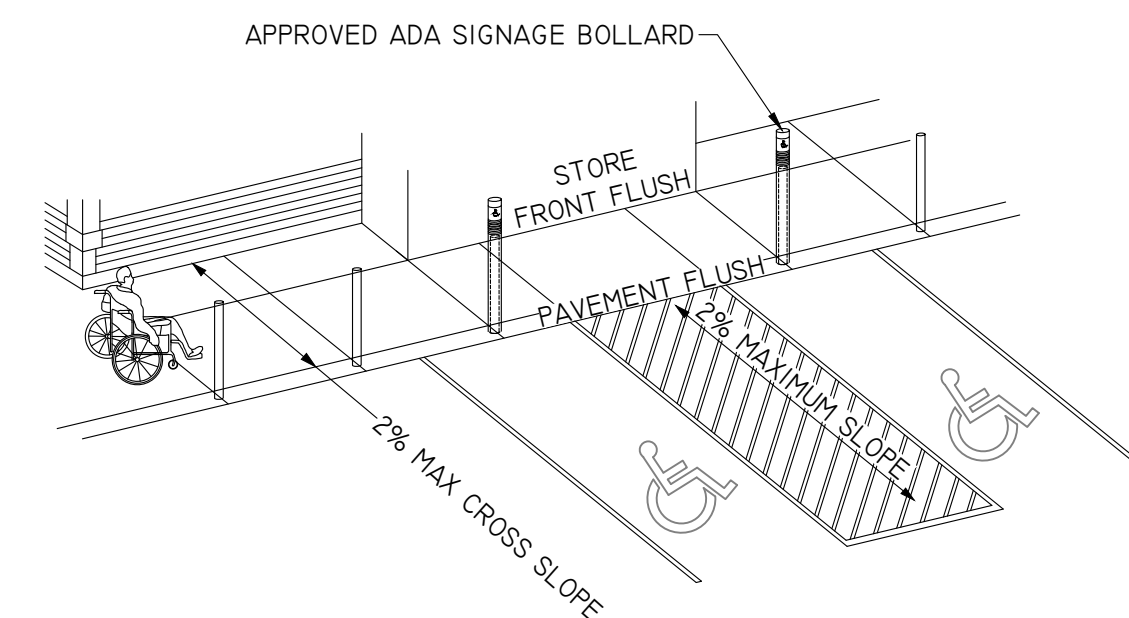


ACCESSIBILITY SYMBOL
PAINTED ON PAVEMENT

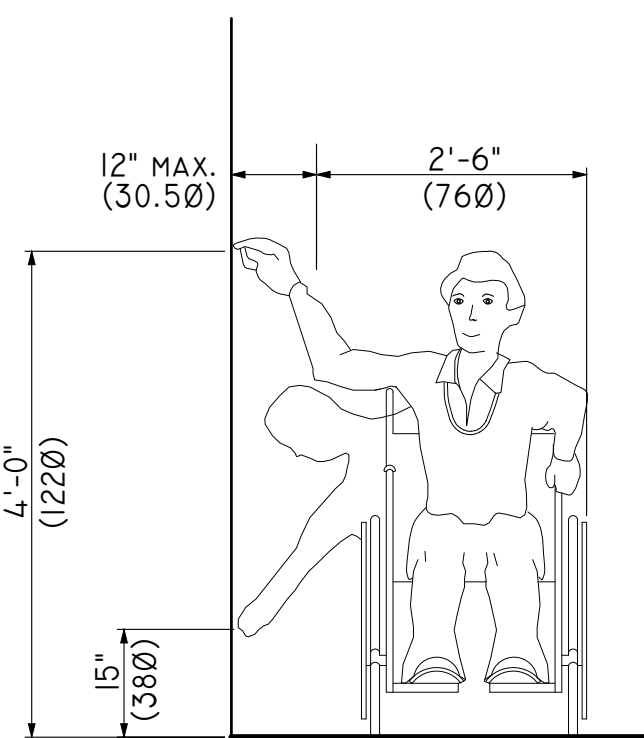
* TO BE YELLOW IN COLOR, UNLESS OTHERWISE SPECIFIED.



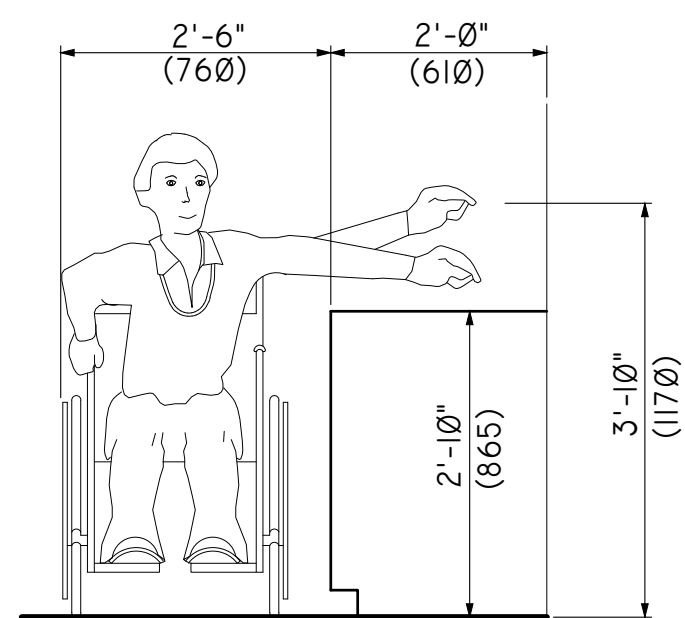
PLAN VIEW



VAN ACCESSIBLE PARKING
NOT TO SCALE



HIGH AND LOW - SIDE REACH LIMITS



MAXIMUM SIDE REACH OVER OBSTRUCTION

ACCESSIBLE REACH DIMENSIONS
NOT TO SCALE

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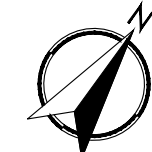
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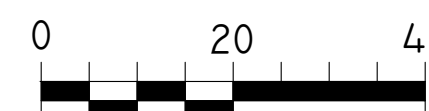
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KWIK TRIP, Inc.
P.O. BOX 2107
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LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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CIVIL & ENVIRONMENTAL
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REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
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SCALE



ACCESSIBILITY PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: C204

I. PRETX UNIT. SEE DETAIL I/C502.

3. INSTALL STORM SEWER INLET WITH NO SUMP. SEE DETAIL 7 & II/C501.

4. CORE AND CONNECT 12" HDPE PIPE TO EXISTING STRUCTURE.

6. ADJUST RIM OF EXISTING STRUCTURE.

8. INSTALL OUTLET CONTROL STRUCTURE.
SEE DETAIL F/C603.

STORES

STORES

STORM SEWER PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

C300

1. DRY UTILITY ROUTING SHOWN IS APPROXIMATE. COORDINATE WITH LOCAL UTILITY.
2. INSTALL INSULATION OVER WATER PIPE AT CROSSING. SEE DETAIL 2/C501.
3. INSTALL 6" SANITARY SERVICE LATERAL @ 1.00% MINIMUM.
- 3A. INSTALL 4" SANITARY SERVICE LATERAL @ 1.00% MINIMUM.
4. INSTALL 4" WATER SERVICE LATERAL.
5. SANITARY SEWER & WATER SERVICE TRENCH. SEE A/C401 FOR SEPARATION REQUIREMENTS.
6. INSTALL SANITARY CLEANOUT. SEE DETAIL 4/C501.
7. CONNECT TO EXISTING UTILITY. FIELD VERIFY LOCATION AND DEPTH.



**CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING**

REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
		
DRAWN BY	NAP	
SCALE	GRAPHIC	
PROJ. NO.	11757	
DATE	10/09/24 - REVIEW DOCUMENTS	
SHEET	C400	

C400

DRAWING FILE: Q:\1700-1179\11757 - Kwik Trip #631 - GERMANTOWN\DRAWING\PLANS\11757-C300-C400-UTILITY PLANS.DWG LAYOUT: C401
PLOTTED: OCT 08, 2024 - 3:39PM PLOTTED BY: TODDW

GENERAL :

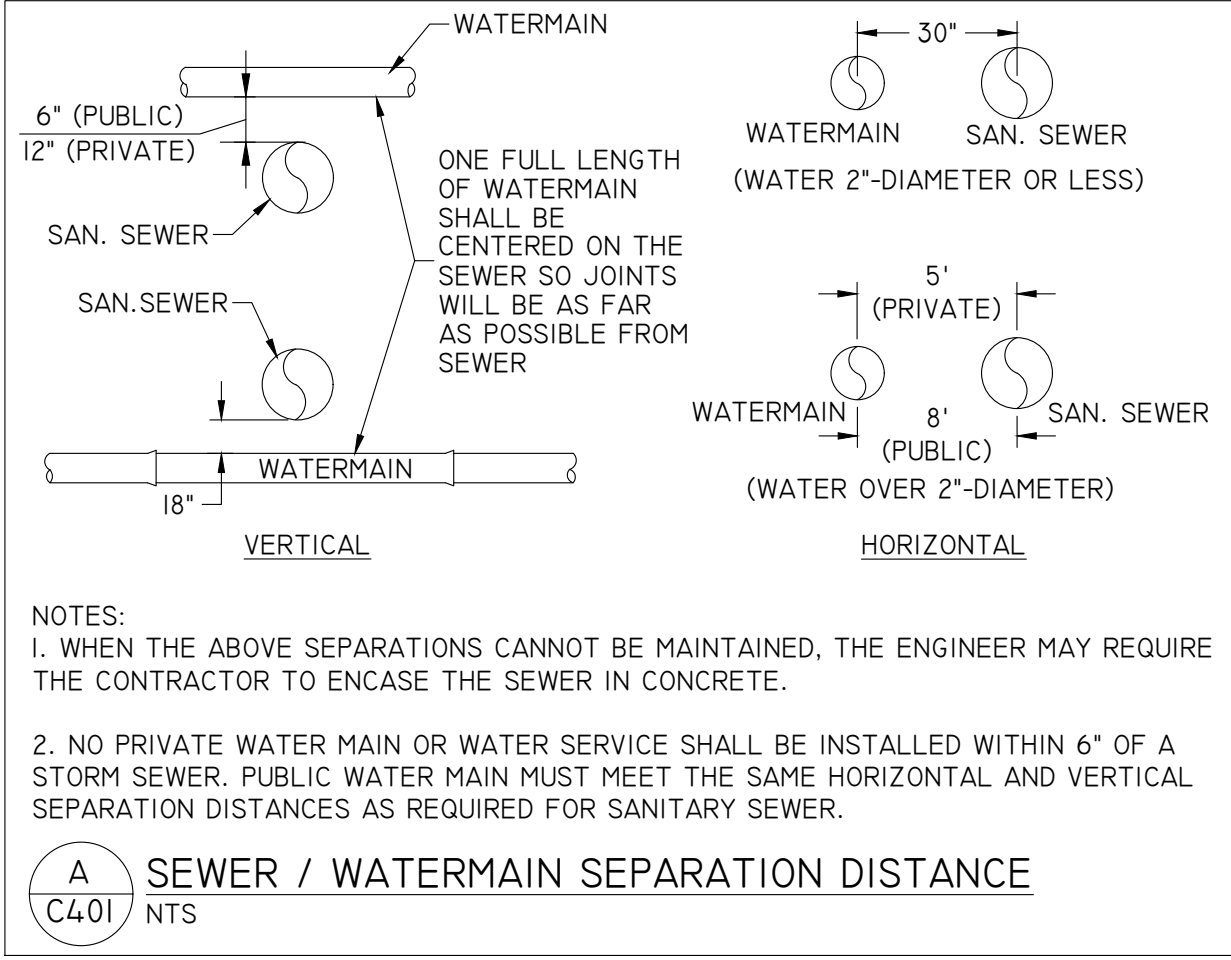
- COMPLY WITH THE WORK SAFETY PRACTICES SPECIFIED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS. OSHA PROHIBITS ENTRY INTO "CONFINED SPACES," SUCH AS MANHOLES AND INLETS (SEE 29 CFR SECTION 1910.146), WITHOUT UNDERTAKING CERTAIN SPECIFIC PRACTICES AND PROCEDURES. CONSTRUCTION SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR, WHO IS ALSO SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCING OF THE CONSTRUCTION OPERATIONS.
- EXISTING BOUNDARY, LOCATION, TOPOGRAPHIC, AND UTILITY INFORMATION SHOWN ON THIS PLAN IS FROM A FIELD SURVEY BY R.A. SMITH, INC. DATED JUNE 12, 2024.
- PERFORM ALL UTILITY WORK IN ACCORDANCE WITH STATE AND CITY REQUIREMENTS.
- CONNECT TO EXISTING SANITARY SEWER MH'S BY CORE DRILLING. CONNECT TO EXISTING STORM SEWER MH'S BY EITHER SAWCUTTING OR CORE DRILLING. USE SAWS OR DRILLS THAT PROVIDE WATER TO THE BLADE. MEET ALL CITY STANDARDS AND SPECIFICATIONS FOR THE THE CONNECTION. RECONSTRUCT INVERTS AFTER INSTALLATION. USE WATER STOP GASKETS IN ORDER TO PROVIDE WATERTIGHT SEALS WHEN PENETRATING A STRUCTURE WALL WITH A PIPE. TAKE MEASUREMENTS BEFORE BEGINNING CONSTRUCTION TO ENSURE THAT SERVICE CONNECTIONS DO NOT CUT INTO MAINTENANCE ACCESS STRUCTURE JOINTS OR PIPE BARREL JOINTS.
- PERFORM TRENCH EXCAVATIONS FOR ALL UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF O.S.H.A. 29 CFR, PART 1926, SUBPART P, "EXCAVATIONS AND TRENCHES." (WWW.OSHA.GOV)
- COORDINATE BUILDING UTILITY CONNECTION LOCATIONS AT 5 FT. OUT FROM THE PROPOSED BUILDING WITH THE WITH THE INTERIOR PLUMBING CONTRACTOR PRIOR TO CONSTRUCTION. VERIFY WATER AND SEWER SERVICE LOCATIONS AND ELEVATIONS WITH THE MECHANICAL ENGINEER PRIOR TO CONSTRUCTION.
- THE SUBSURFACE UTILITY INFORMATION SHOWN ON THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C1/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."
- THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE FROM RECORD INFORMATION. THE ENGINEER DOES NOT GUARANTEE THAT ALL EXISTING UTILITIES ARE SHOWN OR, IF SHOWN, EXIST IN THE LOCATIONS INDICATED ON THE PLAN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE FINAL VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES (INCLUDING WATER AND SEWER LINES AND APPURTENANCES). NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- CONTACT UTILITY COMPANIES FOR LOCATIONS OF ALL PUBLIC AND PRIVATE UTILITIES WITHIN THE WORK AREA PRIOR TO BEGINNING CONSTRUCTION. CONTACT DIGGER'S HOTLINE AT (414) 259-1181 IN THE MILWAUKEE METRO AREA, OR 1-800-242-8511 ELSEWHERE IN WISCONSIN FOR EXACT LOCATIONS OF EXISTING UTILITIES AT LEAST 72 HOURS (NOT INCLUDING WEEKENDS AND HOLIDAYS) BEFORE BEGINNING ANY CONSTRUCTION. OBTAIN TICKET NUMBER AND MEET WITH REPRESENTATIVES OF THE VARIOUS UTILITIES AT THE SITE. PROVIDE THE OWNER WITH THE TICKET NUMBER INFORMATION. DIGGER'S HOTLINE IS A FREE SERVICE THAT LOCATES MUNICIPAL AND UTILITY COMPANY LINES, BUT DOES NOT LOCATE PRIVATE UTILITY LINES. USE AN INDEPENDENT LOCATOR SERVICE OR OTHER MEANS IN ORDER TO OBTAIN LOCATIONS OF PRIVATE UTILITY LINES INCLUDING, BUT NOT LIMITED TO, UNDERGROUND ELECTRIC CABLES, TELEPHONE, TV, AND LAWN SPRINKLER LINES.
- POTHOLE TO VERIFY THE POSITIONS OF EXISTING UNDERGROUND FACILITIES AT A SUFFICIENT NUMBER OF LOCATIONS IN ORDER TO ASSURE THAT NO CONFLICT WITH THE PROPOSED WORK EXISTS AND THAT SUFFICIENT CLEARANCE IS AVAILABLE.
- WHERE EXISTING GAS, ELECTRIC, CABLE, OR TELEPHONE UTILITIES CONFLICT WITH THE WORK, COORDINATE THE ABANDONMENT, RELOCATION, OFFSET, OR SUPPORT OF THE EXISTING UTILITIES WITH THE APPROPRIATE LOCAL UTILITY COMPANIES. COORDINATE NEW GAS METER AND GAS LINE INSTALLATION, ELECTRIC METER AND ELECTRIC SERVICE INSTALLATION, CABLE SERVICE, AND TELEPHONE SERVICE INSTALLATION WITH THE LOCAL UTILITY COMPANIES.
- ARRANGE FOR AND SECURE SUITABLE DISPOSAL AREAS OFF-SITE. DISPOSE OF ALL EXCESS SOIL, WASTE MATERIAL, DEBRIS, AND ALL MATERIALS NOT DESIGNATED FOR SALVAGE. WASTE MATERIAL AND DEBRIS INCLUDES TREES, STUMPS, PIPE, CONCRETE, ASPHALTIC CONCRETE, CANS, OR OTHER WASTE MATERIAL FROM THE CONSTRUCTION OPERATIONS. OBTAIN THE RIGHTS TO ANY WASTE AREA FOR DISPOSAL OF UNSUITABLE OR SURPLUS MATERIAL EITHER SHOWN OR NOT SHOWN ON THE PLANS. ALL WORK IN DISPOSING OF SUCH MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THE WORK. ALL DISPOSAL MUST CONFORM TO APPLICABLE SOLID WASTE DISPOSAL PERMIT REGULATIONS. OBTAIN ALL NECESSARY PERMITS AT NO COST TO THE OWNER.
- STRAIGHT LINE SAW-CUT EXISTING BITUMINOUS OR CONCRETE SURFACING AT THE PERIMETER OF PAVEMENT REMOVAL AREAS. USE SAWS THAT PROVIDE WATER TO THE BLADE. TACK, AND MATCH ALL CONNECTIONS TO EXISTING BITUMINOUS PAVEMENT.
- RELOCATE OVERHEAD POWER, TELEPHONE, AND CABLE LINES AS REQUIRED.
- ALL MATERIALS REQUIRED FOR THIS WORK SHALL BE NEW MATERIAL CONFORMING TO THE REQUIREMENTS FOR CLASS, KIND, GRADE, SIZE, QUALITY, AND OTHER DETAILS SPECIFIED HEREIN OR AS SHOWN ON THE PLANS. DO NOT USE RECYCLED OR SALVAGED AGGREGATE, ASPHALTIC PAVEMENT, CRUSHED CONCRETE, OR SCRAP SHINGLES. UNLESS OTHERWISE INDICATED, THE CONTRACTOR SHALL FURNISH ALL REQUIRED MATERIALS.
- RESTORE THE PUBLIC RIGHT-OF-WAY. REPLACE ANY CONCRETE CURB AND GUTTER, BITUMINOUS PAVEMENT, SIDEWALK, OR VEGETATIVE COVER DAMAGED BY THE CONSTRUCTION ACTIVITY. RESTORE DAMAGED TURF WITH SOD WITHIN THE PUBLIC RIGHT-OF-WAY. THE WORK AREA SHOWN IS GENERAL AND MAY NEED TO BE ADJUSTED IN THE FIELD.
- WHEN SAWING OR DRILLING CONCRETE OR MASONRY, USE SAWS THAT PROVIDE WATER TO THE BLADE. DO NOT ALLOW THE SLURRY PRODUCED BY THIS PROCESS TO BE TRACKED OUTSIDE OF THE IMMEDIATE WORK AREA OR DISCHARGED INTO THE SEWER SYSTEM.
- ADJUST ALL CURB STOPS, VALVE BOXES, MAINTENANCE HOLE CASTINGS, CATCH BASIN CASTINGS, CLEANOUT COVERS, AND SIMILAR ITEMS TO FINISHED GRADE.
- INSTALL ALL PIPE WITH THE ASTM IDENTIFICATION NUMBERS ON THE TOP FOR INSPECTION. COMMENCE PIPE LAYING AT THE LOWEST POINT IN THE PROPOSED SEWER LINE. LAY THE PIPE WITH THE BELL END OR RECEIVING GROOVE END OF THE PIPE POINTING UPGRADE. WHEN CONNECTING TO AN EXISTING PIPE, UNCOVER THE EXISTING PIPE IN ORDER TO ALLOW ANY ADJUSTMENTS IN THE PROPOSED LINE AND GRADE BEFORE LAYING ANY PIPE.
- OBTAIN AND PAY FOR ALL PERMITS, TESTS, INSPECTIONS, ETC. REQUIRED BY AGENCIES THAT HAVE JURISDICTION OVER THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ALL BONDS, LETTERS OF CREDIT, OR CASH SURETIES RELATED TO THE WORK. EXECUTE AND INSPECT WORK IN ACCORDANCE WITH ALL LOCAL AND STATE CODES, RULES, ORDINANCES, OR REGULATIONS PERTAINING TO THE PARTICULAR TYPE OF WORK INVOLVED.
- OBTAIN PERMITS FROM THE CITY FOR WORK IN THE PUBLIC RIGHT-OF-WAY.
- CONSTRUCT SANITARY SEWER, WATERMAIN, AND STORM SEWER UTILITIES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, SIXTH EDITION, OR THE LATEST REVISED EDITION.
- TRACER WIRE: LOCATING REQUIREMENTS - A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH THE PROVISIONS OF THESE CODE SECTIONS AS PER 182.0715(2R) OF THE STATUTES.
- INSTALL ALL PIPE WITH THE ASTM IDENTIFICATION NUMBERS ON THE TOP FOR INSPECTION. COMMENCE PIPE LAYING AT THE LOWEST POINT IN THE PROPOSED SEWER LINE. LAY THE PIPE WITH THE BELL END OR RECEIVING GROOVE END OF THE PIPE POINTING UPGRADE. WHEN CONNECTING TO AN EXISTING PIPE, UNCOVER THE EXISTING PIPE IN ORDER TO ALLOW ANY ADJUSTMENTS IN THE PROPOSED LINE AND GRADE BEFORE LAYING ANY PIPE. DO NOT LAY PIPES IN WATER OR WHEN THE TRENCH CONDITIONS ARE UNSUITABLE FOR SUCH WORK.

WATER DISTRIBUTION SYSTEM :

- BRING ALL SITE UTILITIES TO 5' OUTSIDE OF THE BUILDING LINE WITH THE EXCEPTION OF THE WATER SERVICE. EXTEND WATER SERVICE INTO THE BUILDING AND UP TO THE FLANGE FOR THE WATER METER.
- SEPARATION OF WATER AND SEWER: PROVIDE HORIZONTAL AND VERTICAL SEPARATIONS AS REQUIRED BY CODE. SEE DETAIL A/C401.
- WATERMAIN DEPTH: MAINTAIN 7.5 FEET OF COVER OVER THE TOP OF THE WATER LINES TO THE FINISHED GRADE. VERIFY ELEVATION OF PROPOSED AND EXISTING WATER LINES AT ALL UTILITY CROSSINGS. INSTALL THE WATER LINES AT GREATER DEPTHS IN ORDER TO CLEAR STORM SEWERS, SANITARY SEWERS, OR OTHER UTILITIES AS REQUIRED. INCLUDE COSTS TO LOWER WATER LINES IN THE BASE BID.
- DISINFECTION: DISINFECT ALL COMPLETED WATERMAINS IN ACCORDANCE WITH AWWA STANDARD C651. IF THE TABLET OR CONTINUOUS FEED METHODS ARE USED, DISINFECT USING WITH WATER THAT CONTAINS AT LEAST 50 PPM OF AVAILABLE CHLORINE. DO NOT USE THE TABLET METHOD ON SOLVENT-WELDED PLASTIC OR ON SCREWED-JOINT STEEL PIPE BECAUSE OF THE DANGER OF FIRE OR EXPLOSION FROM THE REACTION OF THE JOINT COMPOUNDS WITH THE CALCIUM HYPOCHLORITE. RETAIN THE TREATED WATER IN THE PIPELINE FOR AT LEAST 24 HOURS. MEASURE THE CHLORINE RESIDUAL AT THE END OF THE 24 HOUR PERIOD. THE FREE CHLORINE RESIDUAL MUST BE AT LEAST 10 MG/L MEASURED AT ANY POINT IN THE LINE. MEASUREMENT OF THE CHLORINE CONCENTRATION AT REGULAR INTERVALS SHALL BE IN ACCORDANCE WITH STANDARD METHODS, AWWA M-12, OR USING APPROPRIATE CHLORINE TEST KITS.
- TESTING: PRESSURE TEST AND PERFORM BACTERIOLOGICAL TESTS ON ALL WATER LINES UNDER THE SUPERVISION OF THE CITY PUBLIC WORKS DEPARTMENT. NOTIFY THE CITY AT LEAST 24 WORKING HOURS PRIOR TO ANY TESTING. PRESSURIZE THE WATERLINE TO 1034-KPA (150-PSI) GAUGE PRESSURE (MEASURED AT THE POINT OF LOWEST ELEVATION) BY MEANS OF A PUMP CONNECTED TO THE PIPE IN A SATISFACTORY MANNER. MAINTAIN THE TEST PRESSURE FOR A MINIMUM OF 2 HOURS. DO NOT ADD WATER TO THE WATERMAIN IN ORDER TO MAINTAIN THE REQUIRED PRESSURE DURING THE WATER MAIN PRESSURE TESTING. THE TEST SECTION OF PIPE IS ACCEPTABLE WITH A PRESSURE DROP OF 14 KPA (2 PSI) OR LESS.
- USE MUELLER H 10300 OR FORD EM 2 7057, OR APPROVED EQUAL, AT ALL CURB STOP LOCATIONS. STATIONARY ROD IS REQUIRED ON ALL CURB STOPS.
- BUILDING WATER SERVICES: WATER SERVICE PIPE SHALL MEET THE FOLLOWING SPECIFICATIONS AND BE APPROVED BY THE LOCAL GOVERNING AGENCY. 2.5 INCH OR LESS: HDPE PER ASTM D2737 SDR 9 OR TYPE K COPPER PER ASTM B - 88, 4 INCH OR GREATER: DIP PER AWWA C151 OR PVC PER AWWA C-900.
- TRACER WIRE: LOCATING REQUIREMENTS - A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH THE PROVISIONS OF THE WISCONSIN STATUTES 182.0175(2R) AND THE WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES SPS 382.30(1)(H).

STORM DRAINAGE :

- UNLESS OTHERWISE INDICATED, USE REINFORCED, PRECAST, CONCRETE MAINTENANCE HOLES AND CATCH BASINS CONFORMING TO ASTM C478, FURNISHED WITH WATER STOP RUBBER GASKETS AND PRECAST BASES. JOINTS FOR ALL PRECAST MAINTENANCE HOLE SECTIONS SHALL HAVE CONFINED, RUBBER "O"-RING GASKETS IN ACCORDANCE WITH ASTM C923. THE INSIDE BARREL DIAMETER SHALL NOT BE LESS THAN 48 INCHES.
- ALL JOINTS AND CONNECTIONS TO CATCH BASINS OR MANHOLES SHALL BE WATERTIGHT OR APPROVED CONNECTION. USE RESILIENT RUBBER SEALS, WATERSTOP GASKETS, OR APPROVED EQUAL. CEMENT MORTAR JOINTS ARE NOT ALLOWED UNLESS OTHERWISE PERMITTED BY LOCAL MUNICIPALITY.
- INSTALL CATCH BASIN CASTINGS WITH SPECIFIED TOP ELEVATION AT THE FLOWLINE OF RIM.
- PVC PIPE: USE SOLID-CORE, SDR-35, ASTM D3034 POLYVINYL CHLORIDE (PVC) PIPE FOR DESIGNATED PVC STORM SEWER SERVICES 4 TO 15-INCHES IN DIAMETER. USE SOLID-CORE, SDR-35, ASTM F679 POLYVINYL CHLORIDE (PVC) PIPE FOR DESIGNATED PVC STORM SEWER SERVICES 18 TO 27-INCHES IN DIAMETER. JOINTS FOR ALL STORM SEWER SHALL HAVE PUSH-ON JOINTS WITH ELASTOMERIC GASKETS. USE OF SOLVENT CEMENT JOINTS IS ALLOWED FOR BUILDING SERVICES. SOLVENT CEMENT JOINTS IN PVC PIPE MUST INCLUDE USE OF A PRIMER WHICH IS OF CONTRASTING COLOR TO THE PIPE AND CEMENT. PIPE WITH SOLVENT CEMENT JOINTS SHALL BE JOINED WITH PVC CEMENT CONFORMING TO ASTM D2564. LAY ALL PVC PIPE ON A CONTINUOUS GRANULAR BED. INSTALLATION MUST COMPLY WITH ASTM D2321.
- TESTING: TEST ALL PORTIONS OF STORM SEWER THAT ARE WITHIN 10 FEET OF BUILDINGS, WITHIN 10 FEET OF BURIED WATER LINES, WITHIN 50 FEET OF WATER WELLS, OR THAT PASS THROUGH SOIL OR WATER IDENTIFIED AS BEING CONTAMINATED. TEST ALL FLEXIBLE STORM SEWER LINES FOR DEFLECTION AFTER THE SEWER LINE HAS BEEN INSTALLED AND BACKFILL HAS BEEN IN PLACE FOR AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. IF THE TEST FAILS, MAKE NECESSARY REPAIRS AND RETEST.
- USE NEENAH R-1550A FRAME WITH 2050D GRATE ON ALL PROPOSED CATCH BASINS.
- INSTALL DETECTABLE UNDERGROUND MARKING TAPE DIRECTLY ABOVE ALL PVC, POLYETHYLENE, AND OTHER NONCONDUCTIVE UNDERGROUND UTILITIES AT A DEPTH OF 457 MM (18 INCHES) BELOW FINISHED GRADE, UNLESS OTHERWISE INDICATED. BRING THE TAPE TO THE SURFACE AT VARIOUS LOCATIONS IN ORDER TO PROVIDE CONNECTION POINTS FOR LOCATING UNDERGROUND UTILITIES. INSTALL BLUE RHINO TRIVIEW FLEX TEST STATIONS, OR APPROVED EQUAL, WITH BLACK CAPS AT EACH SURFACE LOCATION.
- TRACER WIRE: LOCATING REQUIREMENTS - A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH THE PROVISIONS OF THESE CODE SECTIONS AS PER 182.0715(2R) OF THE STATUTES.
- THE MINIMUM DEPTH OF COVER FOR BUILDING AND CANOPY ROOF DRAIN LEADERS WITHOUT INSULATION IS 5 FEET. INSULATE ROOF DRAIN LEADERS AT LOCATIONS WHERE THE DEPTH OF COVER IS LESS THAN 5 FEET. PROVIDE A MINIMUM INSULATION THICKNESS OF 2 INCHES. THE INSULATION MUST BE AT LEAST 4 FEET WIDE AND CENTERED ON THE PIPE. INSTALL THE INSULATION BOARDS 6 INCHES ABOVE THE TOPS OF THE PIPES ON MECHANICALLY COMPACTED AND LEVELED PIPE BEDDING MATERIAL. USE HIGH DENSITY, CLOSED CELL, RIGID BOARD MATERIAL EQUIVALENT TO DOW STYROFOAM HI-40 PLASTIC FOAM INSULATION.
- CLEANOUTS: INSTALL CLEANOUTS ON ALL ROOF DRAINS IN ACCORDANCE WITH S.P.S 382.35 (3)(C)(1.). THE DISTANCE BETWEEN CLEANOUTS IN HORIZONTAL PIPING SHALL NOT EXCEED 100 FEET FOR PIPES 10-INCHES AND UNDER IN SIZE. CLEANOUTS SHALL BE OF THE SAME NOMINAL SIZE AS THE PIPES THEY SERVE OR 6-INCH DIAMETER MINIMUM FOR PIPES 6 INCHES IN DIAMETER OR GREATER. INSTALL A METER BOX FRAME AND SOLID LID (NEENAH R-1914-A, OR APPROVED EQUAL) OVER ALL CLEANOUTS.
- INSTALL ALL PIPE WITH THE ASTM IDENTIFICATION NUMBERS ON THE TOP FOR INSPECTION. COMMENCE PIPE LAYING AT THE LOWEST POINT IN THE PROPOSED SEWER LINE. LAY THE PIPE WITH THE BELL END OR RECEIVING GROOVE END OF THE PIPE POINTING UPGRADE. WHEN CONNECTING TO AN EXISTING PIPE, UNCOVER THE EXISTING PIPE IN ORDER TO ALLOW ANY ADJUSTMENTS IN THE PROPOSED LINE AND GRADE BEFORE LAYING ANY PIPE. DO NOT LAY PIPES IN WATER OR WHEN THE TRENCH CONDITIONS ARE UNSUITABLE FOR SUCH WORK.
- INSTALL STORM SEWER IN ACCORDANCE WITH SECTION 608 OF THE WISDOT STANDARD SPECIFICATIONS.
- INSTALL CATCH BASINS, MANHOLES, AND INLETS IN ACCORDANCE WITH SECTION 611 OF THE WISDOT STANDARD SPECIFICATIONS.



SANITARY SEWER :

- PIPE: USE SOLID-CORE, SDR-35, ASTM D3034 (OR APPROVED EQUAL) POLYVINYL CHLORIDE (PVC) PLASTIC PIPE FOR ALL DESIGNATED PVC SANITARY SEWER SERVICES. JOINTS FOR ALL SANITARY SEWER SHALL HAVE PUSH-ON JOINTS WITH ELASTOMERIC GASKETS. USE OF SOLVENT CEMENT JOINTS IS ALLOWED FOR BUILDING SERVICES. SOLVENT CEMENT JOINTS IN PVC PIPE MUST INCLUDE USE OF A PRIMER WHICH IS OF CONTRASTING COLOR TO THE PIPE AND CEMENT. PIPE WITH SOLVENT CEMENT JOINTS SHALL BE JOINED WITH PVC CEMENT CONFORMING TO ASTM D2564. LAY ALL PVC PIPE ON A CONTINUOUS GRANULAR BED. INSTALLATION MUST COMPLY WITH ASTM D2321.
- CLEANOUTS: INSTALL CLEANOUTS ON ALL SANITARY SEWER SERVICES. THE DISTANCE BETWEEN CLEANOUTS IN HORIZONTAL PIPING SHALL NOT EXCEED 100 FEET FOR PIPES 4-INCH AND OVER IN SIZE. CLEANOUTS SHALL BE OF THE SAME NOMINAL SIZE AS THE PIPES THEY SERVE OR 6-INCH DIAMETER MINIMUM FOR PIPES 6 INCHES IN DIAMETER OR GREATER. INCLUDE FROST SLEEVES AND CONCRETE FRAME AND PIPE SUPPORT. INSTALL A METER BOX FRAME AND SOLID LID (NEENAH R-1914-A, OR APPROVED EQUAL) OVER ALL CLEANOUTS.
- TESTING: PRESSURE TEST ALL SANITARY SEWER LINES. TEST ALL FLEXIBLE SANITARY SEWER LINES FOR DEFLECTION AFTER THE SEWER LINE HAS BEEN INSTALLED AND BACKFILL HAS BEEN IN PLACE FOR AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. IF THE TEST FAILS, MAKE NECESSARY REPAIRS AND RETEST.
- UNLESS OTHERWISE INDICATED, USE REINFORCED, PRECAST, CONCRETE MAINTENANCE HOLES CONFORMING TO ASTM C478, FURNISHED WITH PRECAST BASES. SANITARY SEWER MAINTENANCE HOLES SHALL BE SUPPLIED WITH PRE-FORMED INVERTS AND FLEXIBLE NEOPRENE SLEEVE CONNECTIONS FOR ALL LATERAL LINES 375 MM (15 INCHES) IN DIAMETER OR LESS, UNLESS OTHERWISE INDICATED. JOINTS FOR ALL PRECAST MAINTENANCE HOLE SECTIONS SHALL HAVE CONFINED, RUBBER "O"-RING GASKETS IN ACCORDANCE WITH ASTM C923. THE INSIDE BARREL DIAMETER SHALL NOT BE LESS THAN 48 INCHES.
- INSTALL FLEXIBLE WATERTIGHT OR APPROVED CONNECTION FRAME/CHIMNEY SEALS ON ALL SANITARY SEWER MAINTENANCE HOLES. USE EITHER MANUFACTURED MAINTENANCE HOLE FRAME/CHIMNEY SEALS OR ELASTOMERIC WATERPROOFING FRAME/CHIMNEY SEALS.
- USE NEENAH FOUNDRY CO. R-1642 CASTING WITH SELF-SEALING, SOLID, TYPE B LID, OR APPROVED EQUAL, ON ALL SANITARY SEWER MAINTENANCE HOLES. COVERS SHALL BEAR THE "SANITARY SEWER" LABEL.
- THE MINIMUM DEPTH OF COVER FOR SANITARY SEWER WITHOUT INSULATION IS 5 FEET. INSULATE SANITARY SEWER SERVICES AT LOCATIONS WHERE THE DEPTH OF COVER IS LESS THAN 5 FEET. PROVIDE A MINIMUM INSULATION THICKNESS OF 2 INCHES. THE INSULATION MUST BE AT LEAST 4 FEET WIDE AND CENTERED ON THE PIPE. INSTALL THE INSULATION BOARDS 6 INCHES ABOVE THE TOPS OF THE PIPES ON MECHANICALLY COMPACTED AND LEVELED PIPE BEDDING MATERIAL. USE HIGH DENSITY, CLOSED CELL, RIGID BOARD MATERIAL EQUIVALENT TO DOW STYROFOAM HI-40 PLASTIC FOAM INSULATION.
- TRACER WIRE: LOCATING REQUIREMENTS - A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH THE PROVISIONS OF THE WISCONSIN STATUTES 182.0175(2R) AND THE WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES SPS 82.30(1)(H).

HDPE REQUIREMENTS :

- INSTALL DUAL-WALL, SMOOTH INTERIOR, CORRUGATED HIGH-DENSITY POLYETHYLENE (HDPE) PIPE AT LOCATIONS INDICATED ON THE PLAN.
- DUAL-WALL, SMOOTH INTERIOR, CORRUGATED HIGH-DENSITY POLYETHYLENE (HDPE) PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M252 FOR PIPE SIZES 4-INCH TO 10-INCH DIAMETER.
- DUAL-WALL, SMOOTH INTERIOR, CORRUGATED HIGH-DENSITY POLYETHYLENE (HDPE) PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2306 FOR PIPE SIZES 12-INCH TO 60-INCH DIAMETER.
- ALL FITTINGS MUST COMPLY WITH ASTM STANDARD D3212.
- WATER-TIGHT JOINTS MUST BE USED AT ALL CONNECTIONS INCLUDING STRUCTURES.
- LAY ALL HDPE PIPE ON A CONTINUOUS GRANULAR BED. INSTALLATION MUST COMPLY WITH ASTM D2321. ALL SECTIONS OF THE CORRUGATED HDPE PIPE SHALL BE COUPLED IN ORDER TO PROVIDE WATER TIGHT JOINTS.
- PERFORM DEFLECTION TESTS ON ALL HDPE PIPE AFTER THE SEWER LINES HAVE BEEN INSTALLED AND BACKFILL HAS BEEN IN PLACE FOR AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. IF THE TEST FAILS, MAKE NECESSARY REPAIRS AND PERFORM THE TEST AGAIN UNTIL ACCEPTABLE. SUPPLY THE MANDREL FOR DEFLECTION TESTING. IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID BALL OR MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE BALL OR MANDREL SHALL BE CLEARLY STAMPED WITH THE DIAMETER. PERFORM THE TESTS WITHOUT MECHANICAL PULLING DEVICES.

Kwik Trip
STORES

Kwik Star
STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
**CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING**
REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

NO SCALE

UTILITY NOTES

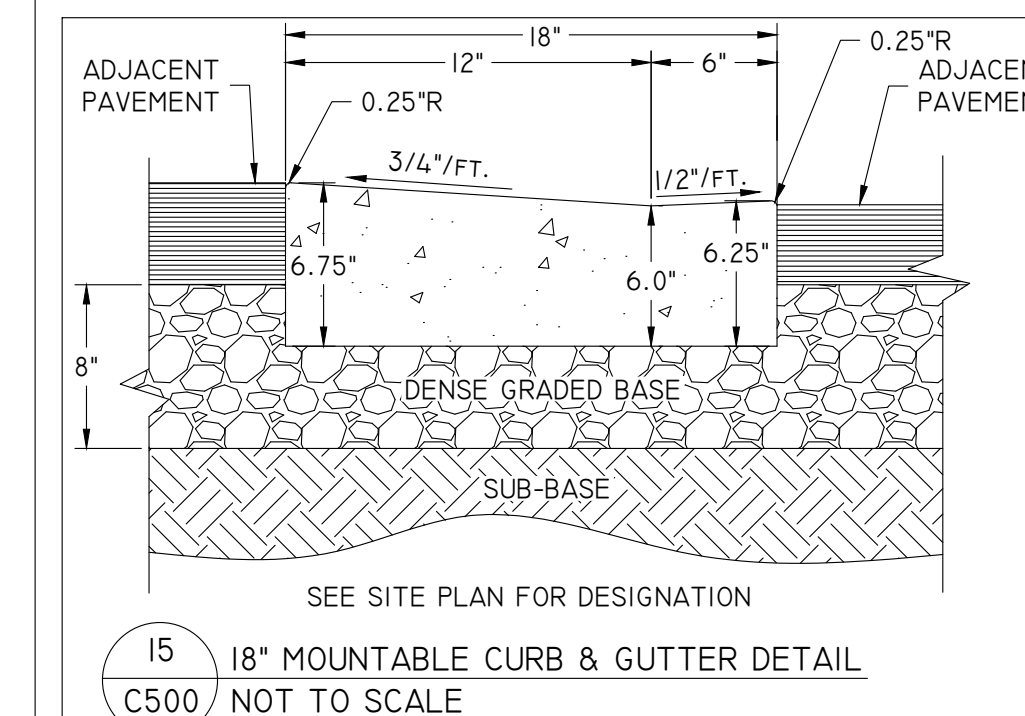
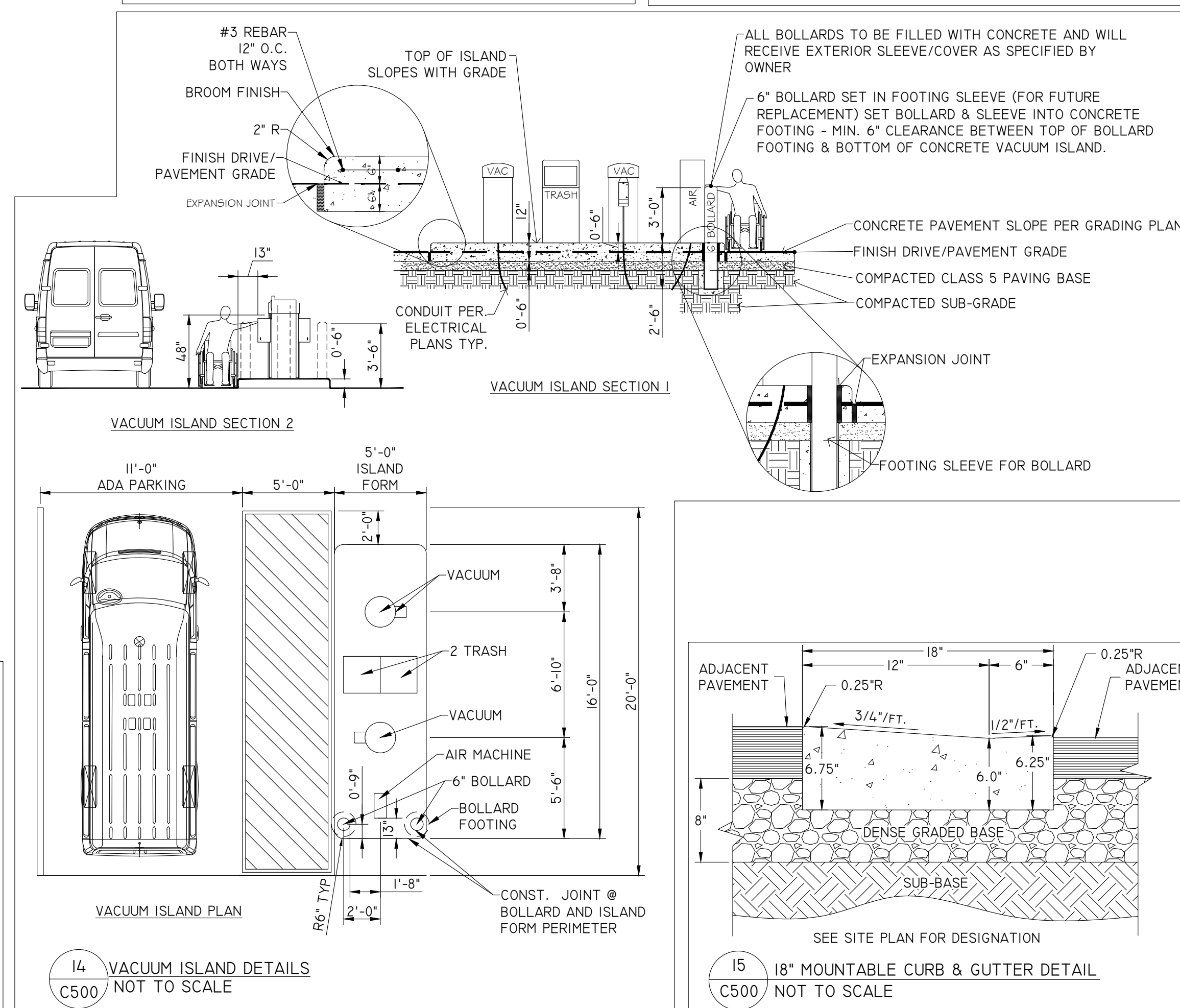
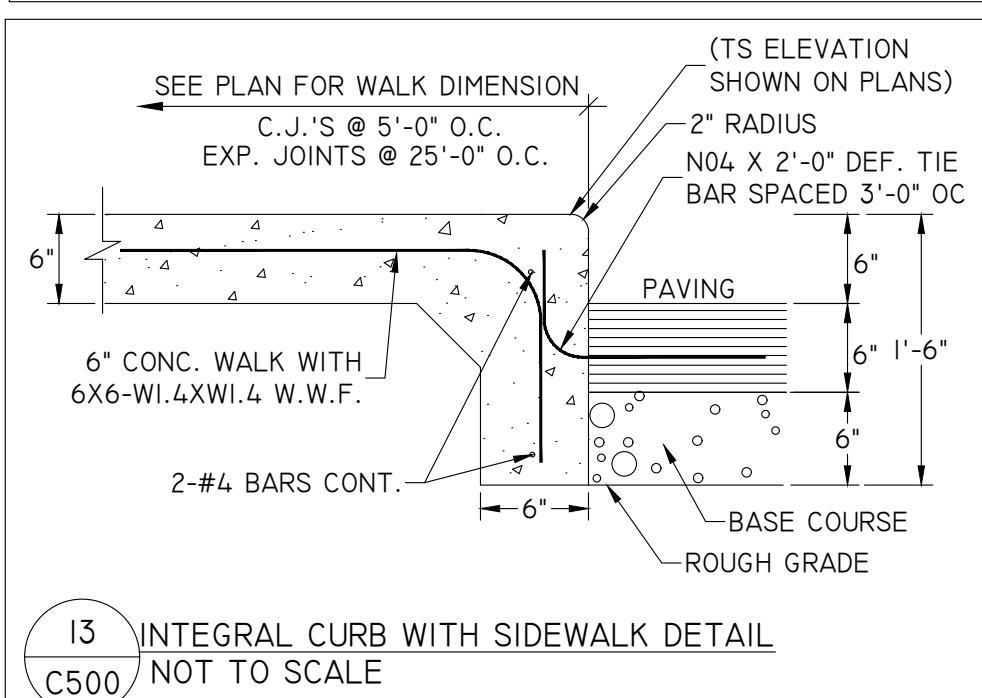
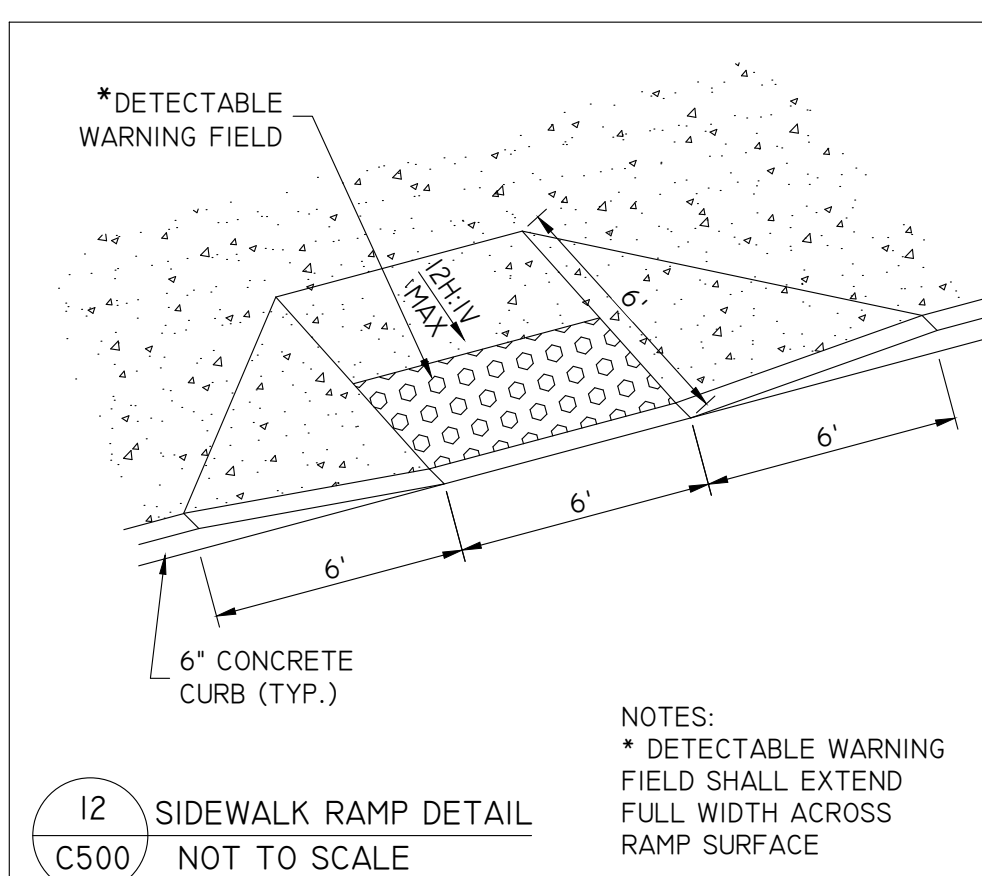
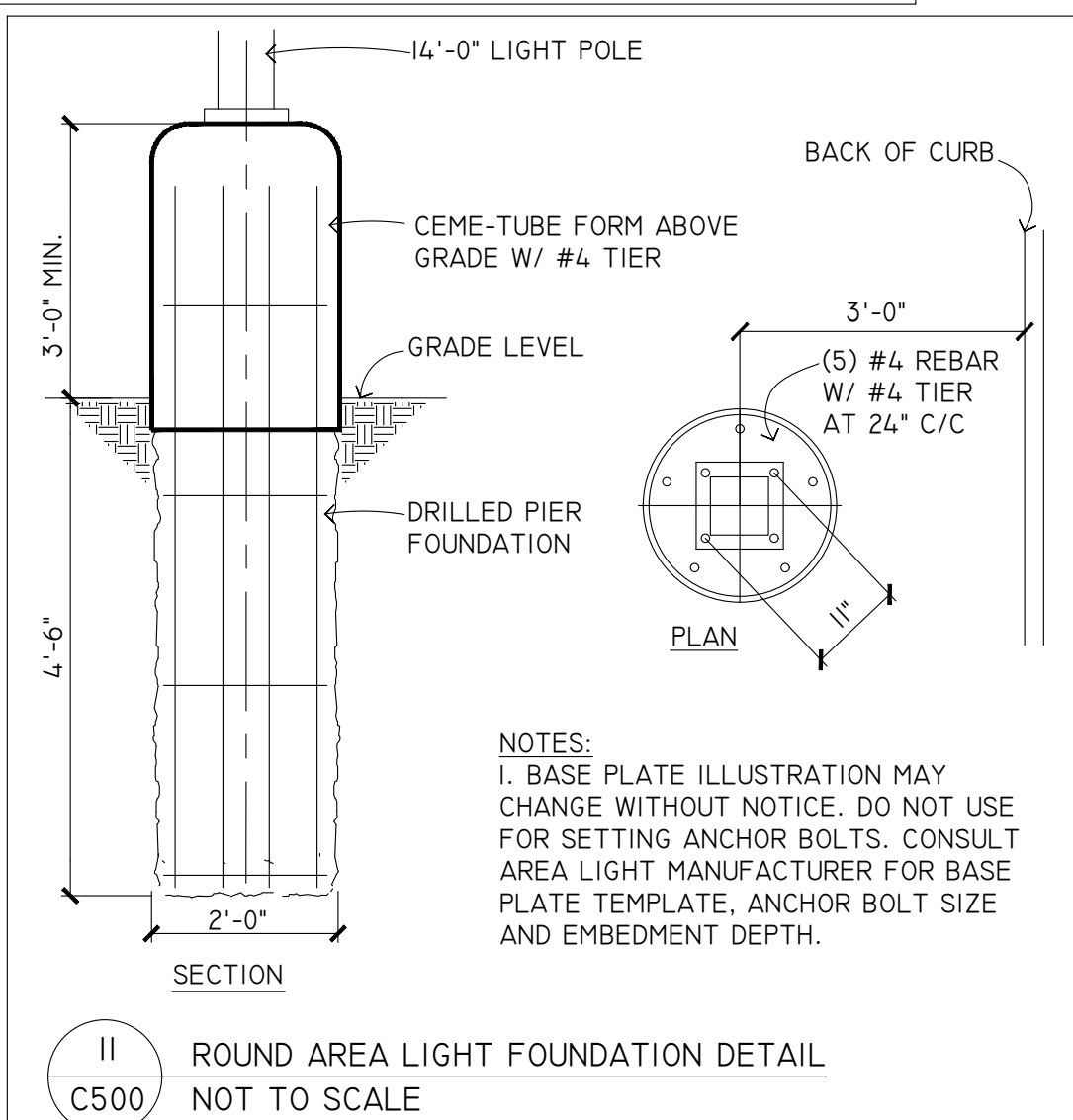
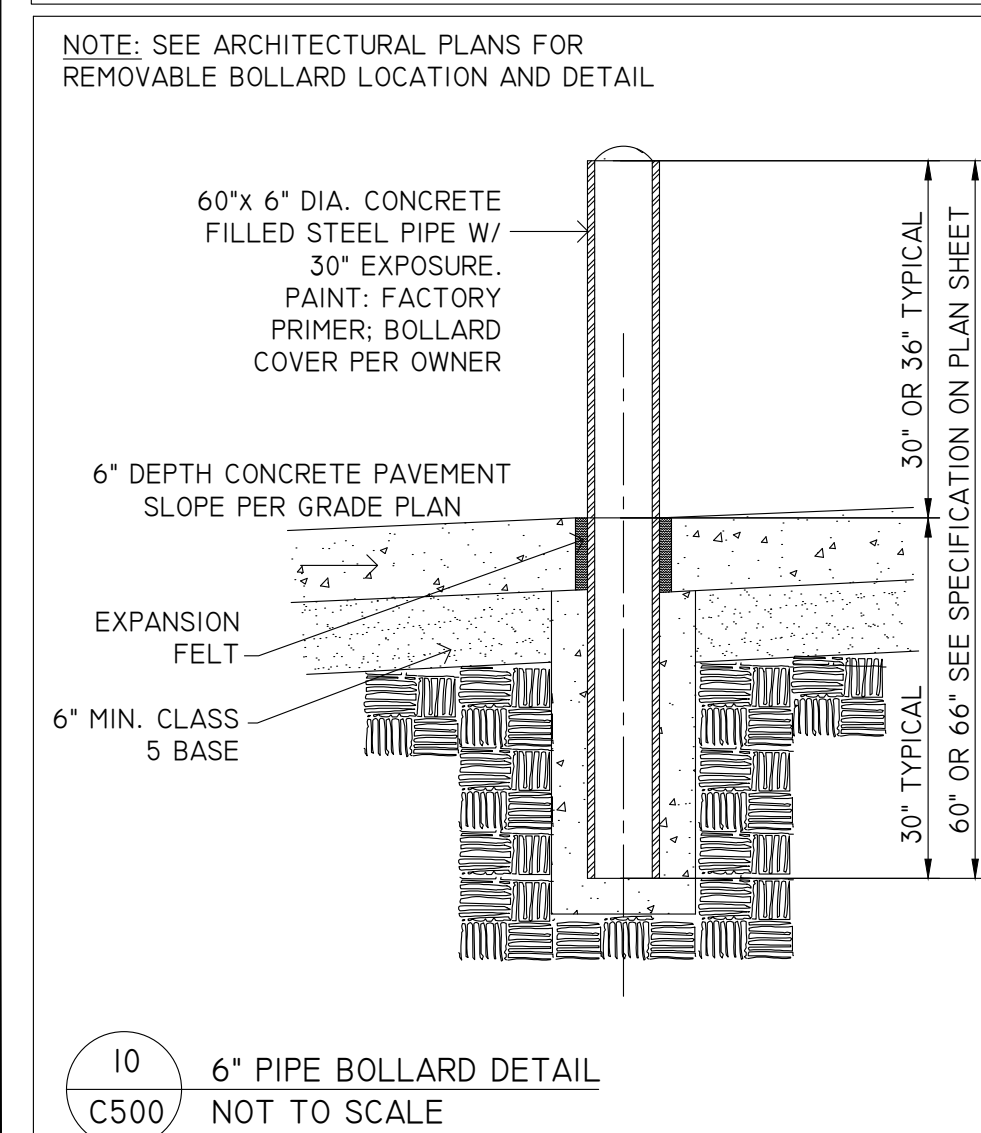
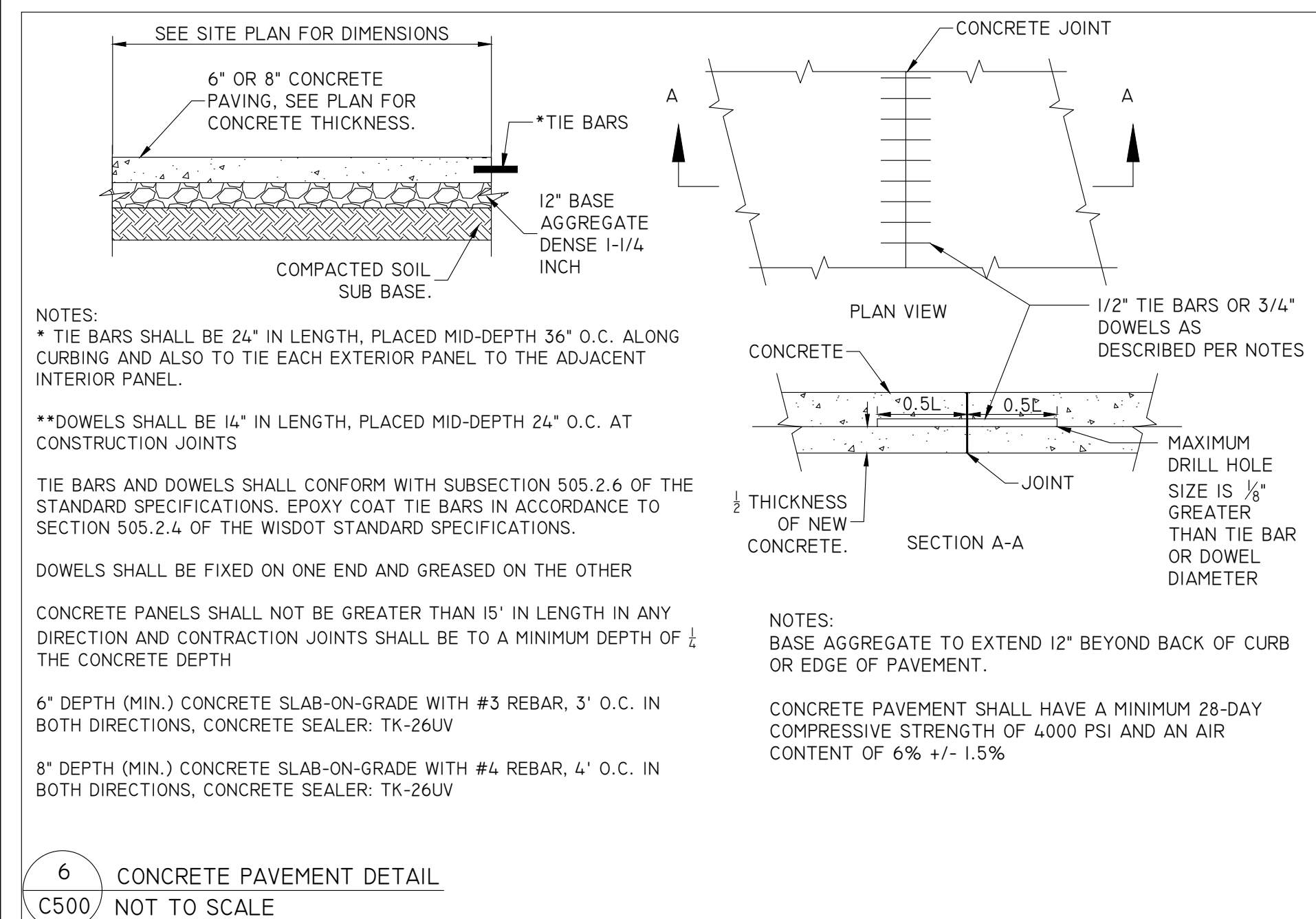
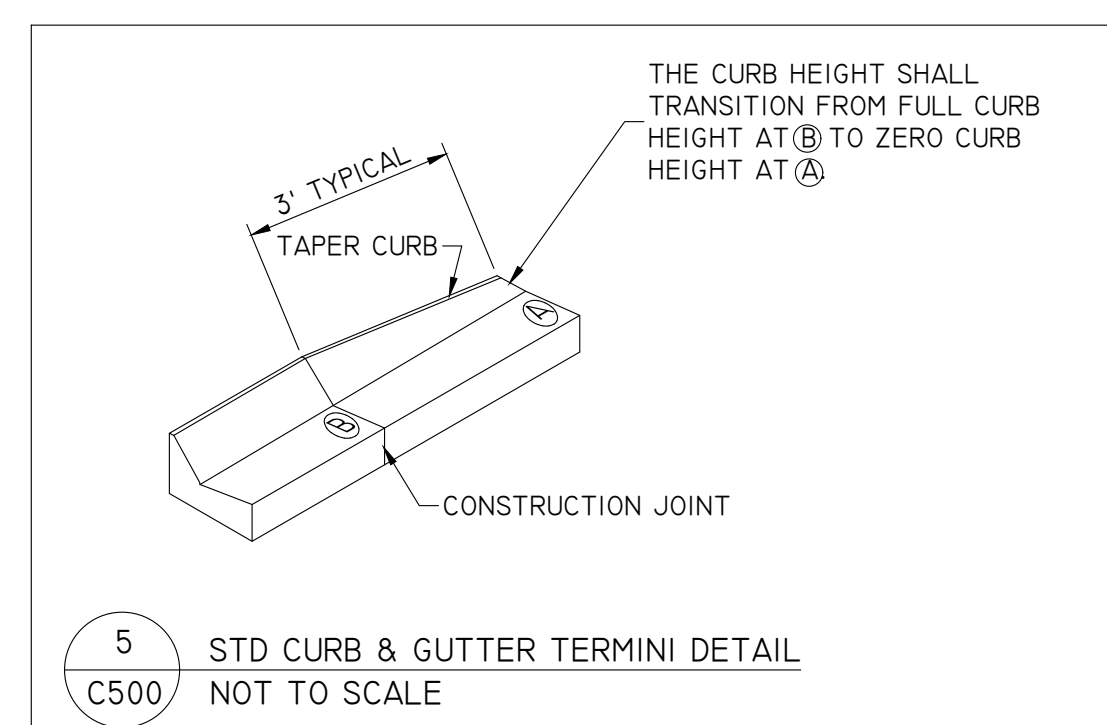
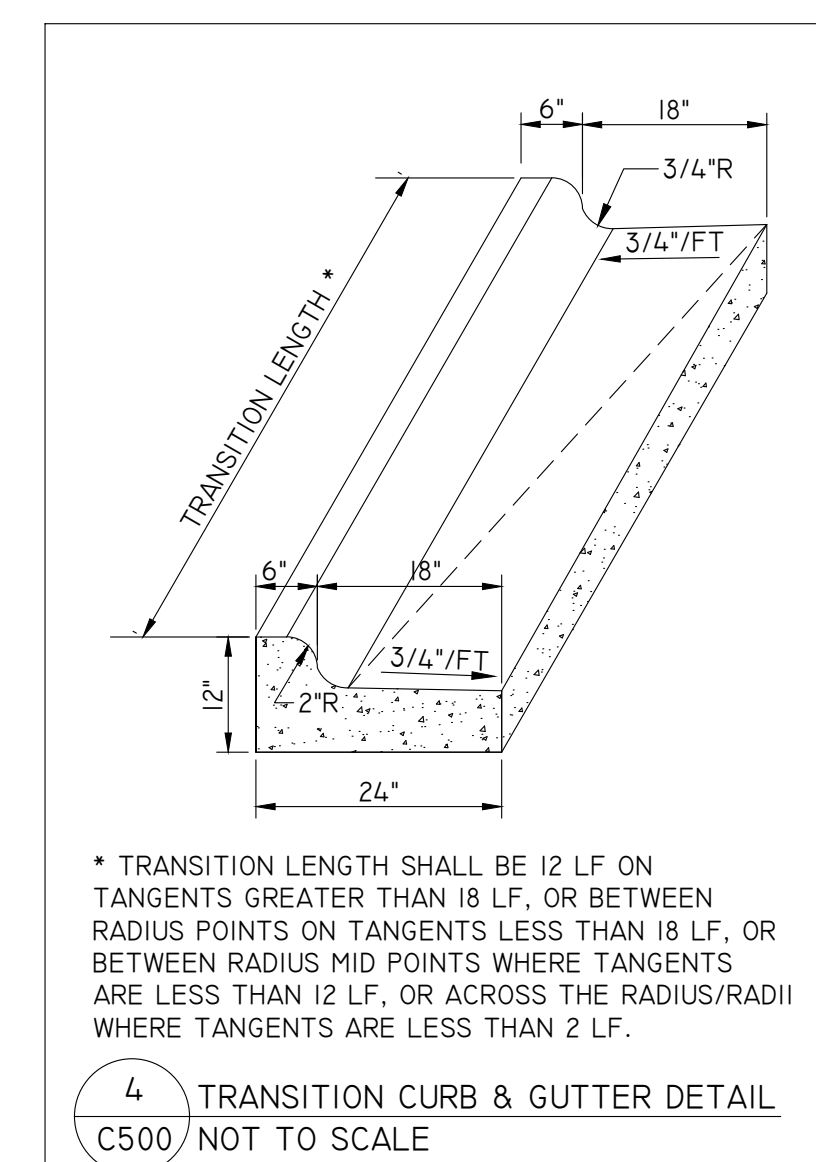
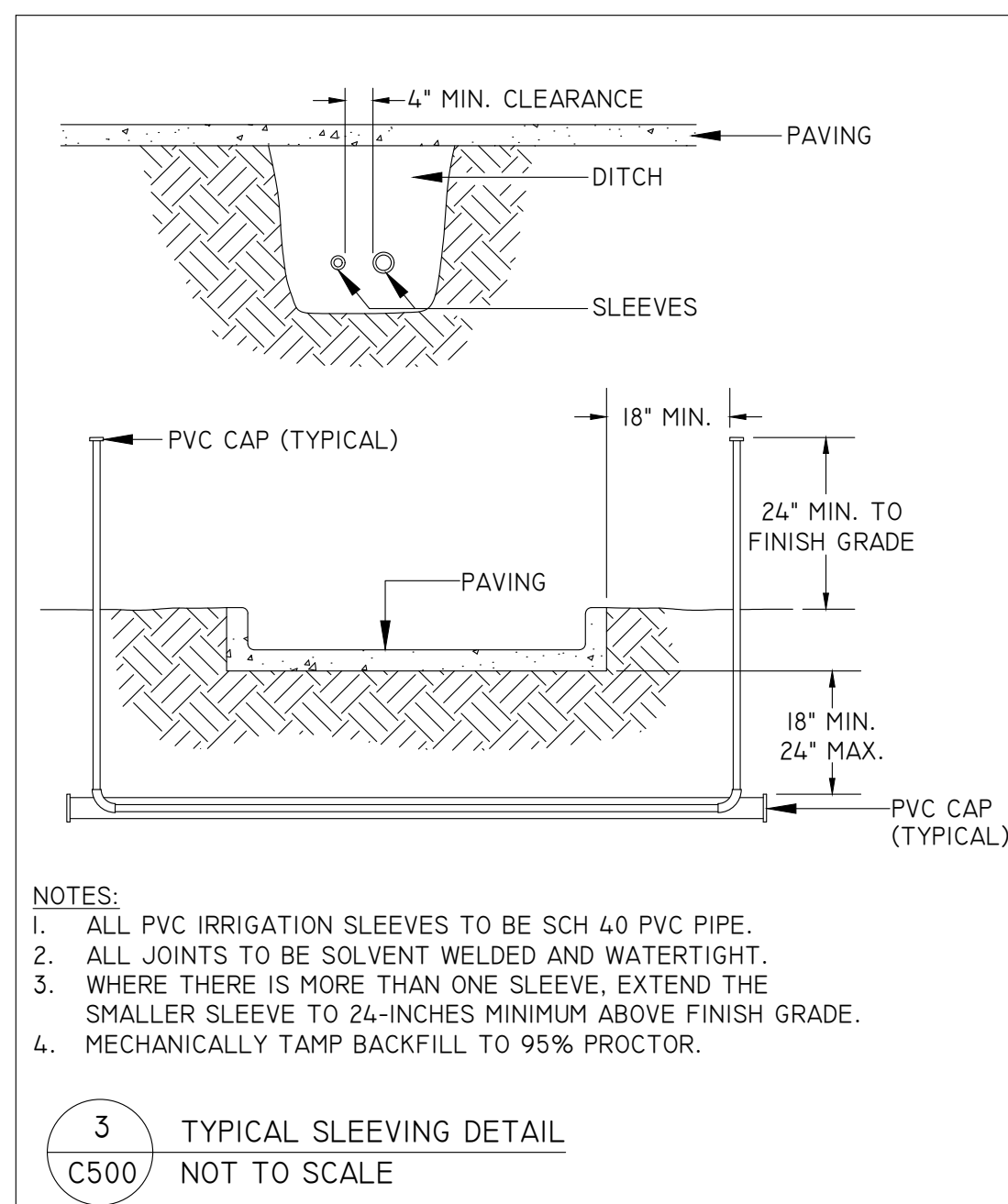
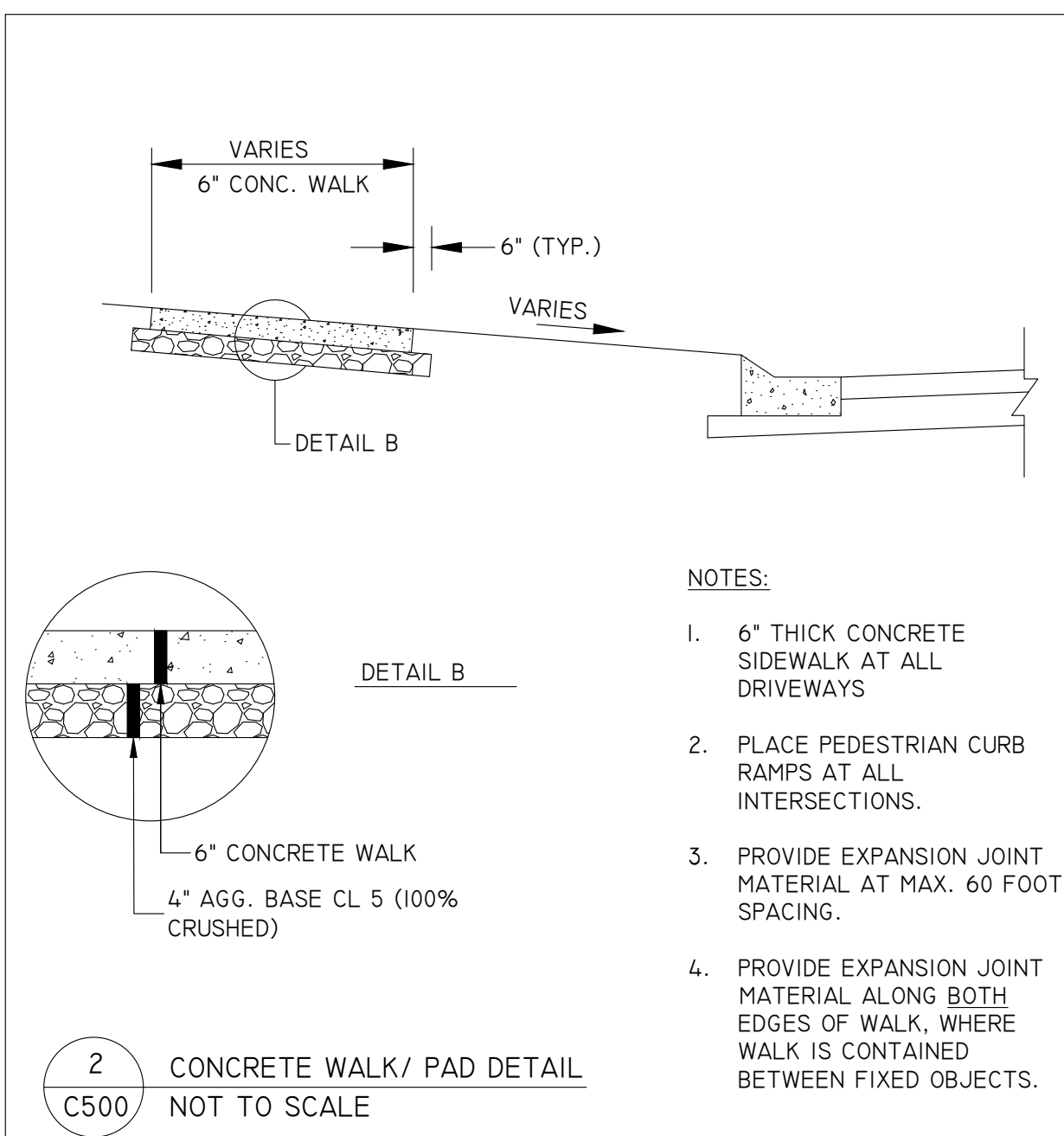
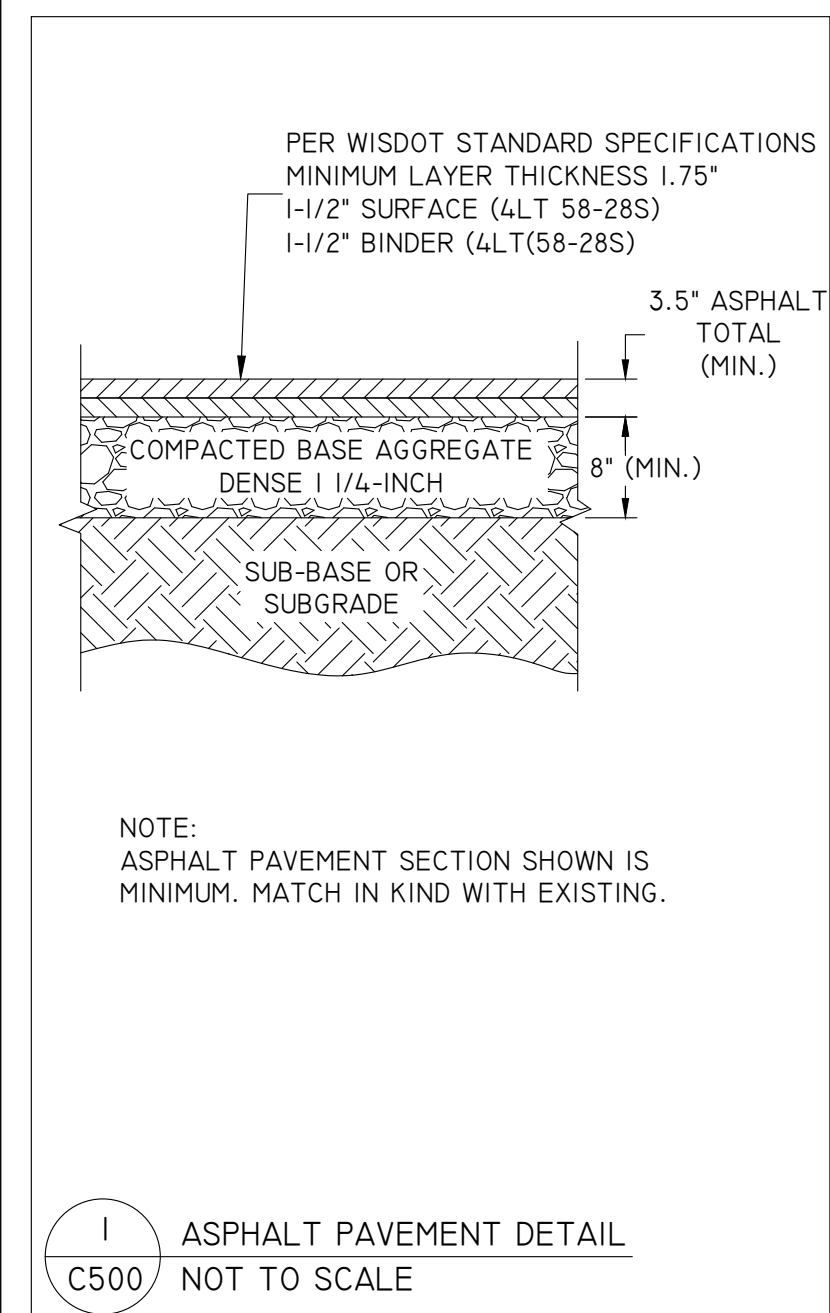
CONVENIENCE STORE #631

**STH 167 & MAPLE ROAD
GERMANTOWN, WI**

#	DATE	DESCRIPTION
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PROJ. NO. 11757
DATE 10/09/24 - REVIEW DOCUMENTS
SHEET

C401



STORES

The Kwik Star logo, featuring the word "Kwik" in a bold, italicized sans-serif font above the word "Star" in a similar font, with a five-pointed star replacing the letter "a".

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

 **REI**
**CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING**
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

NO SCALE

SITE PLAN DETAILS

CONVENIENCE STORE #631

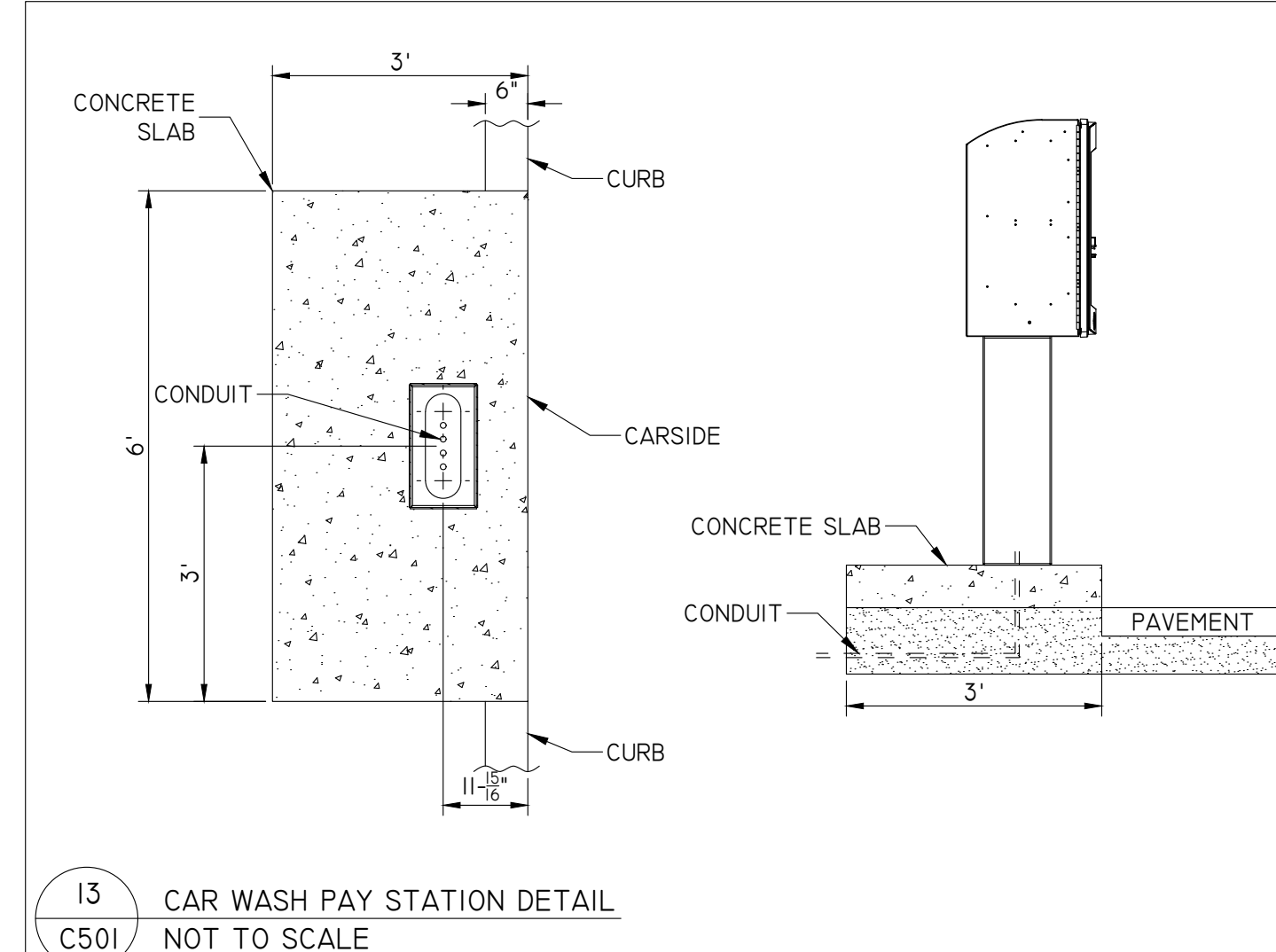
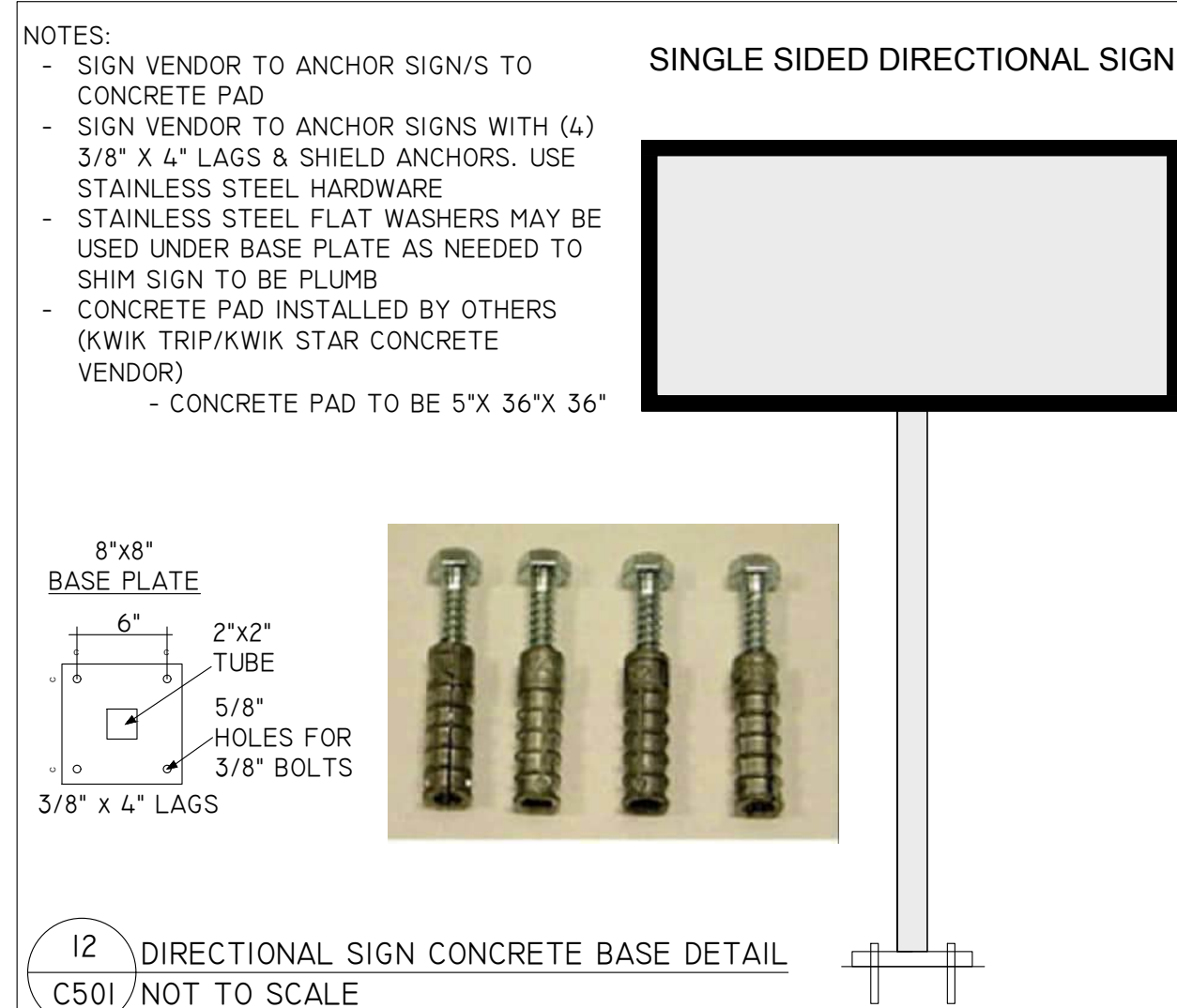
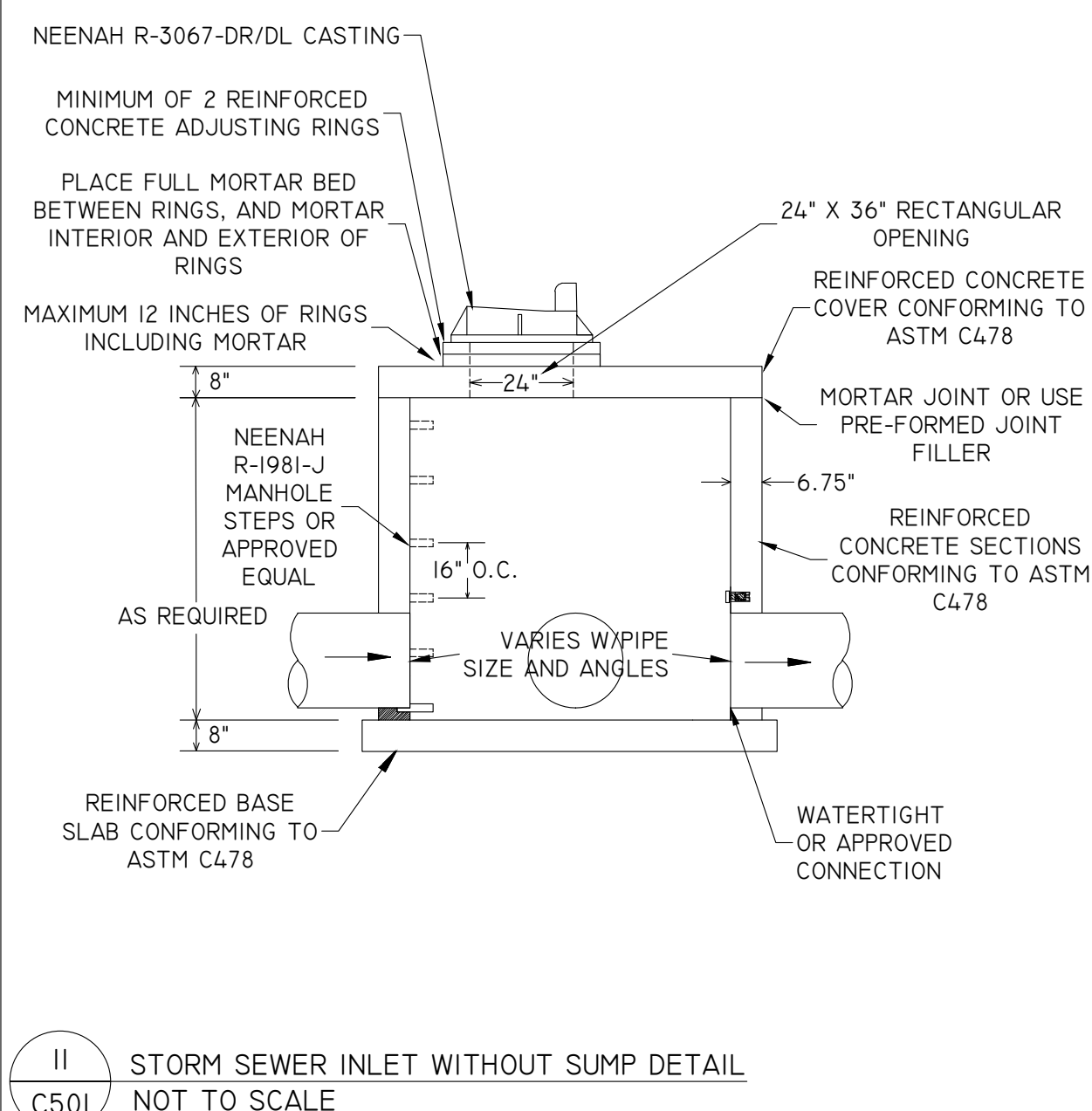
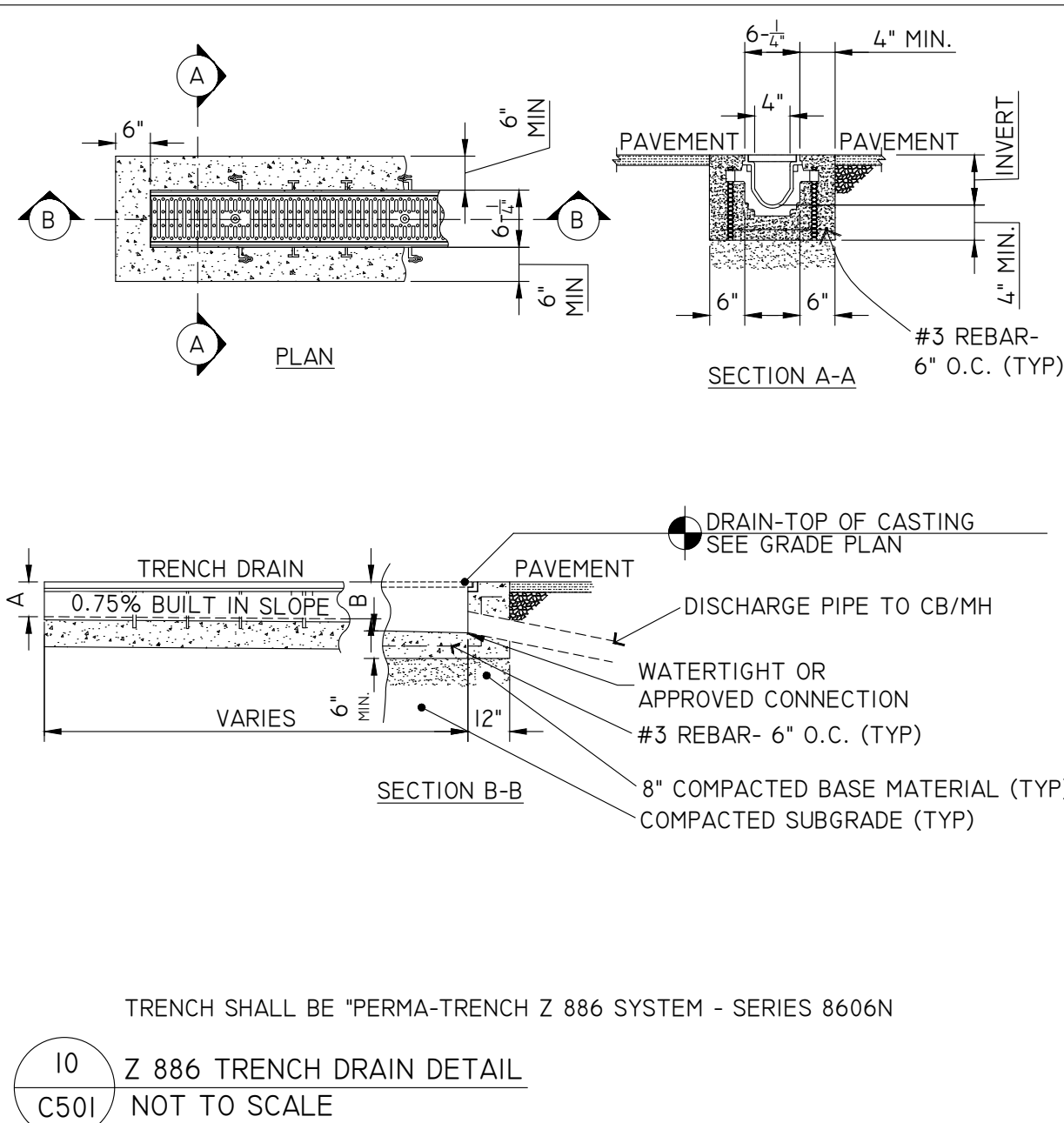
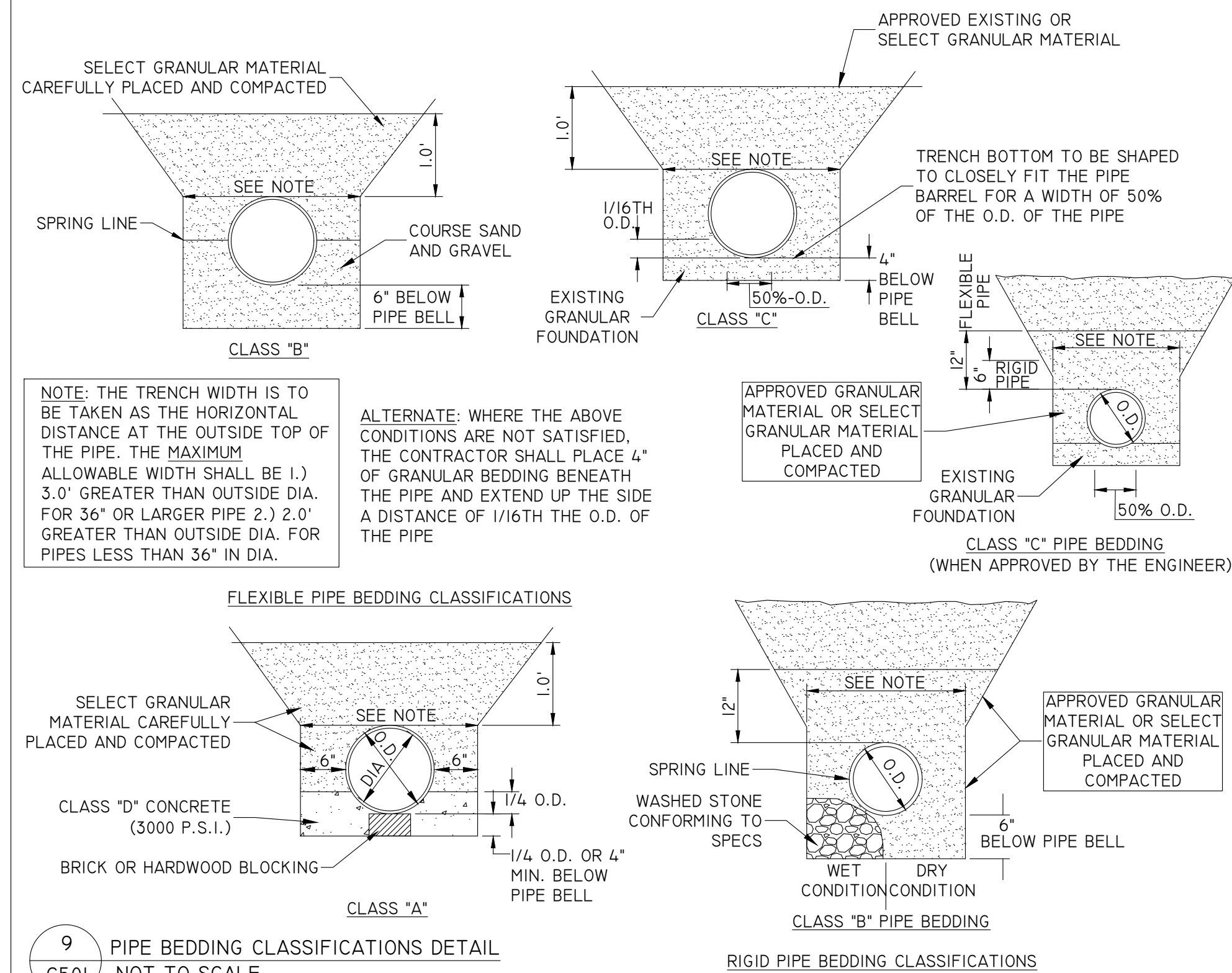
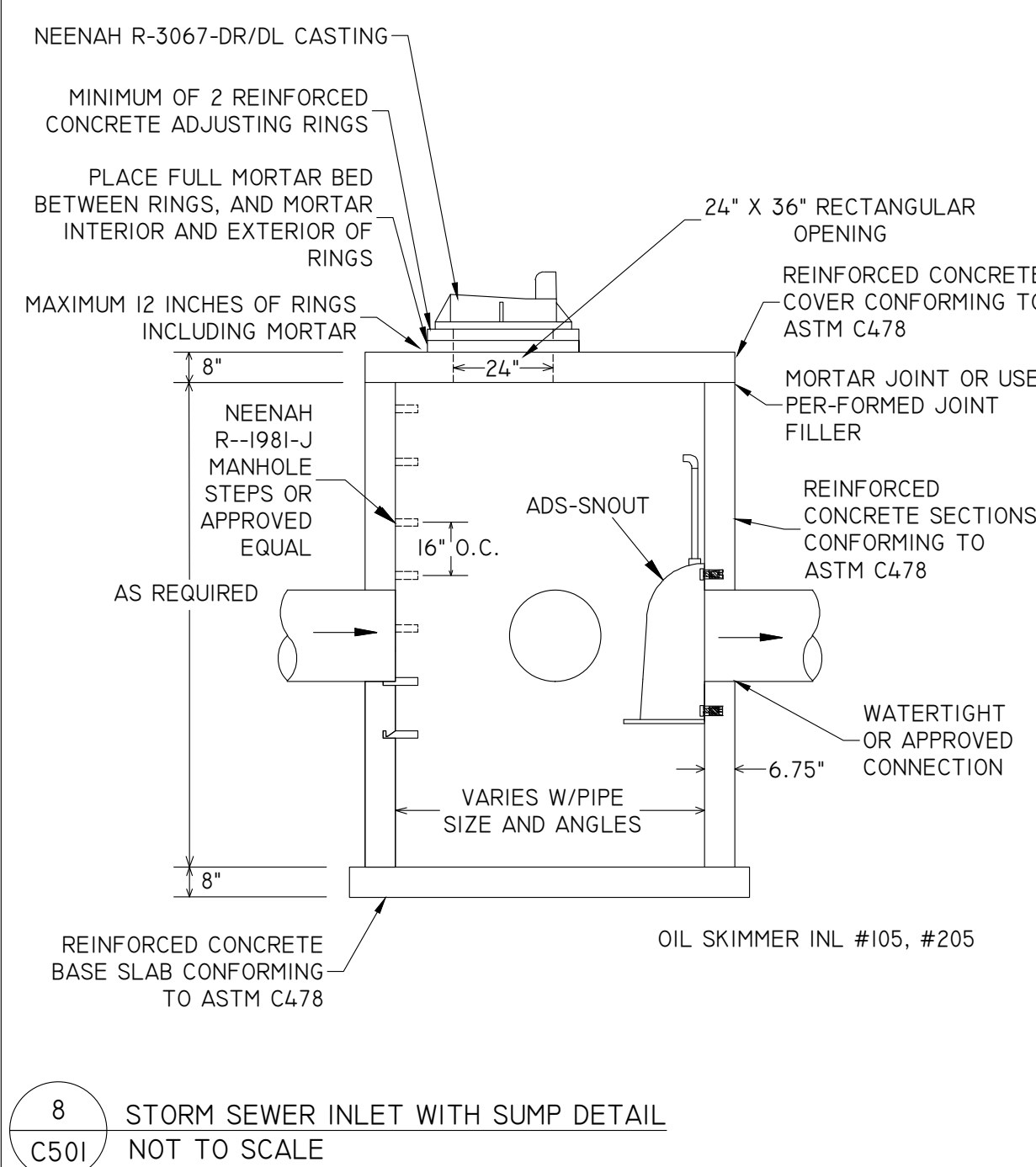
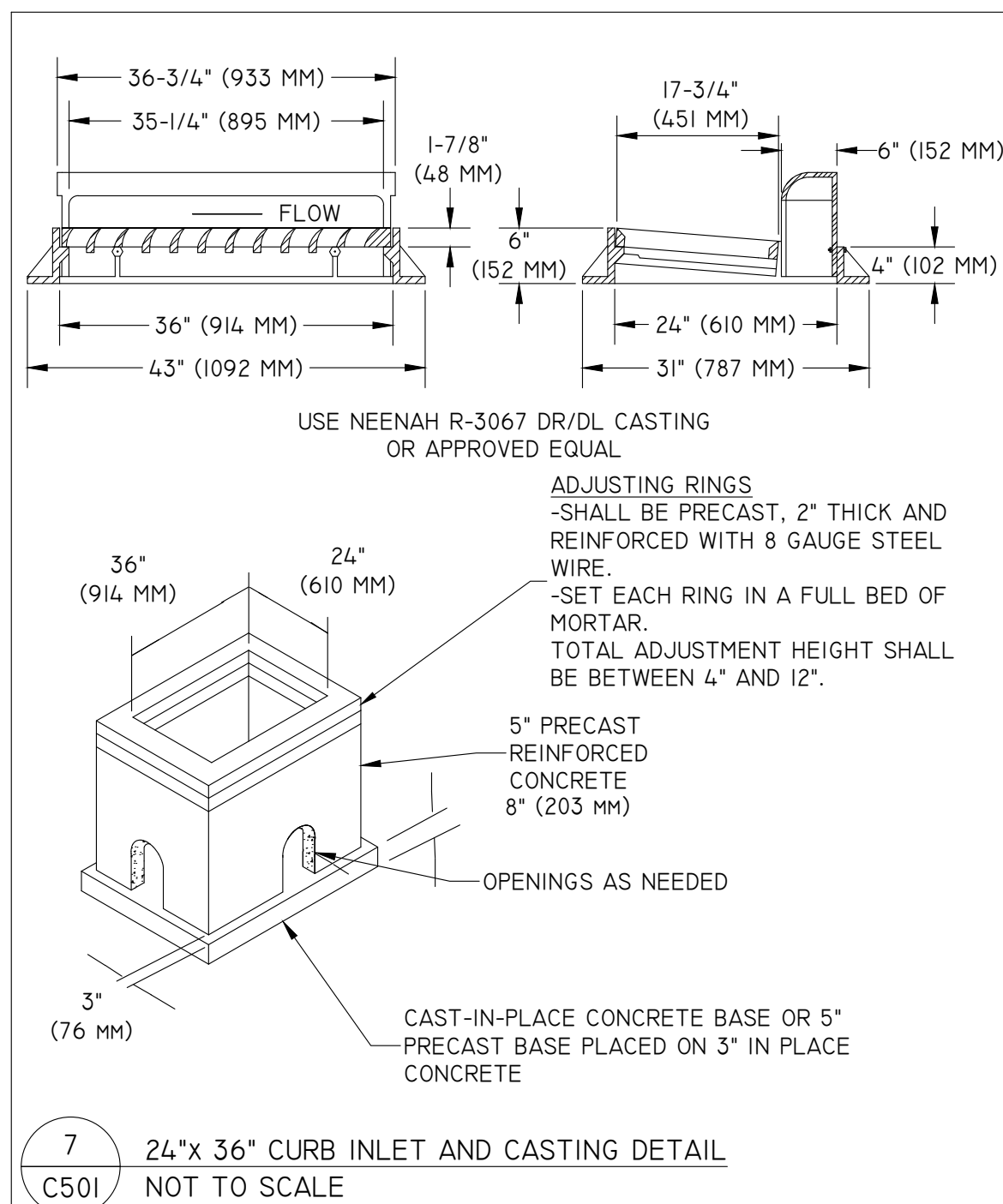
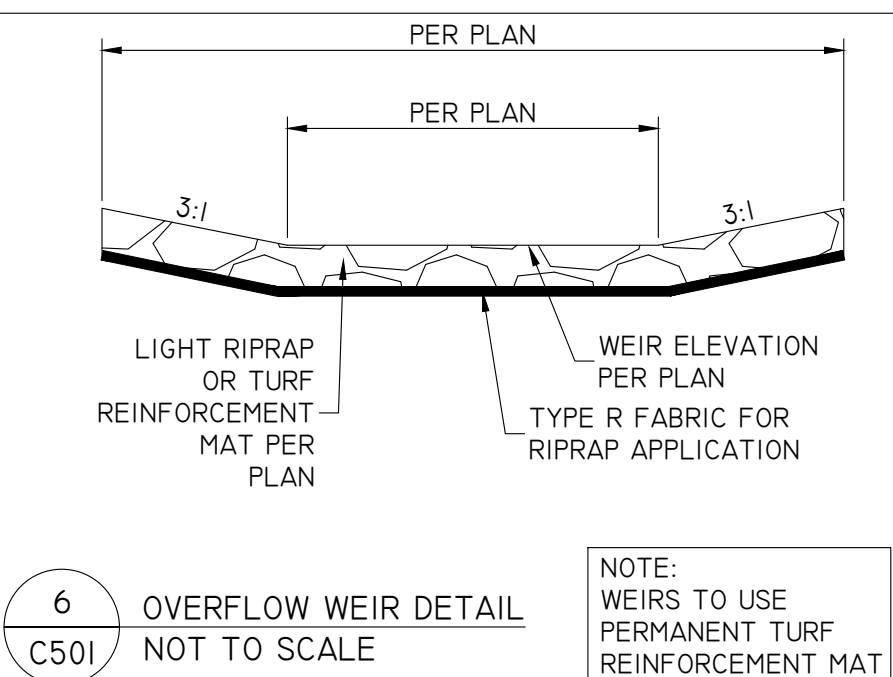
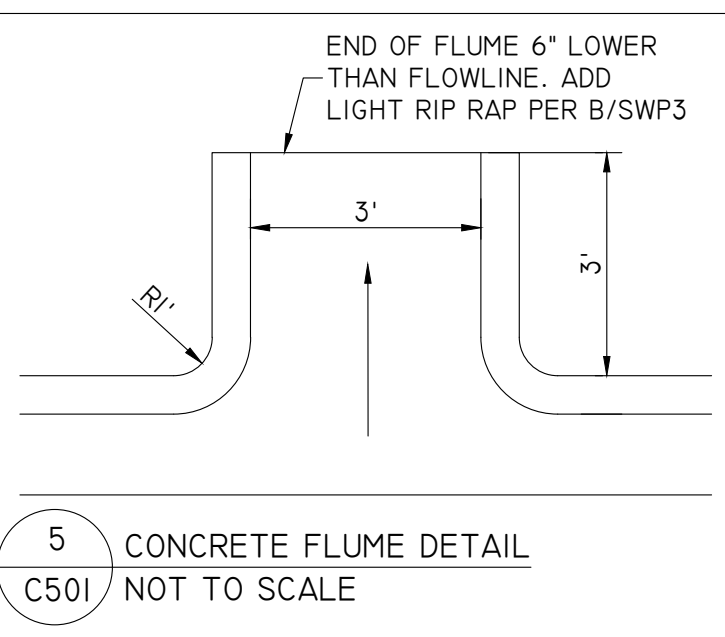
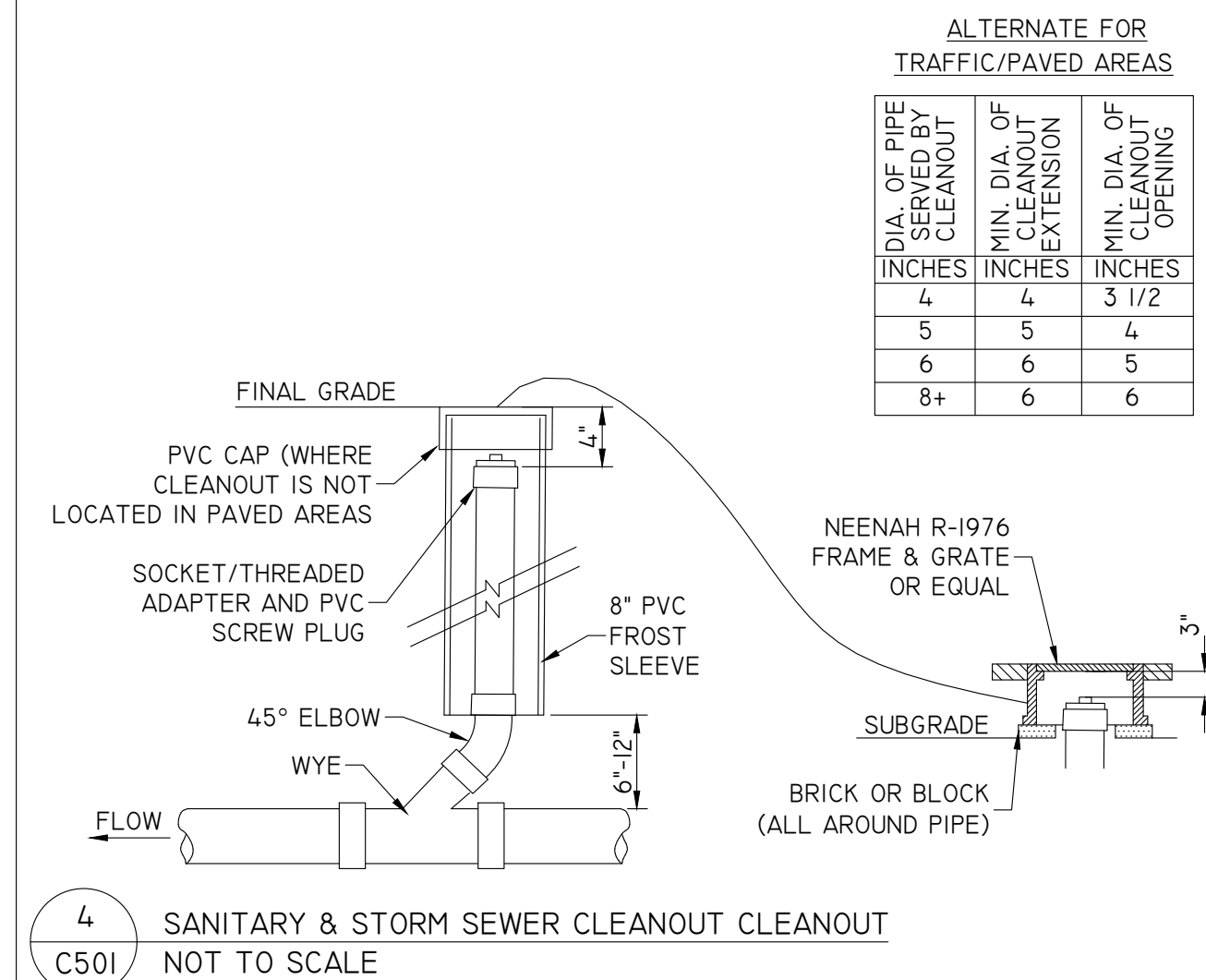
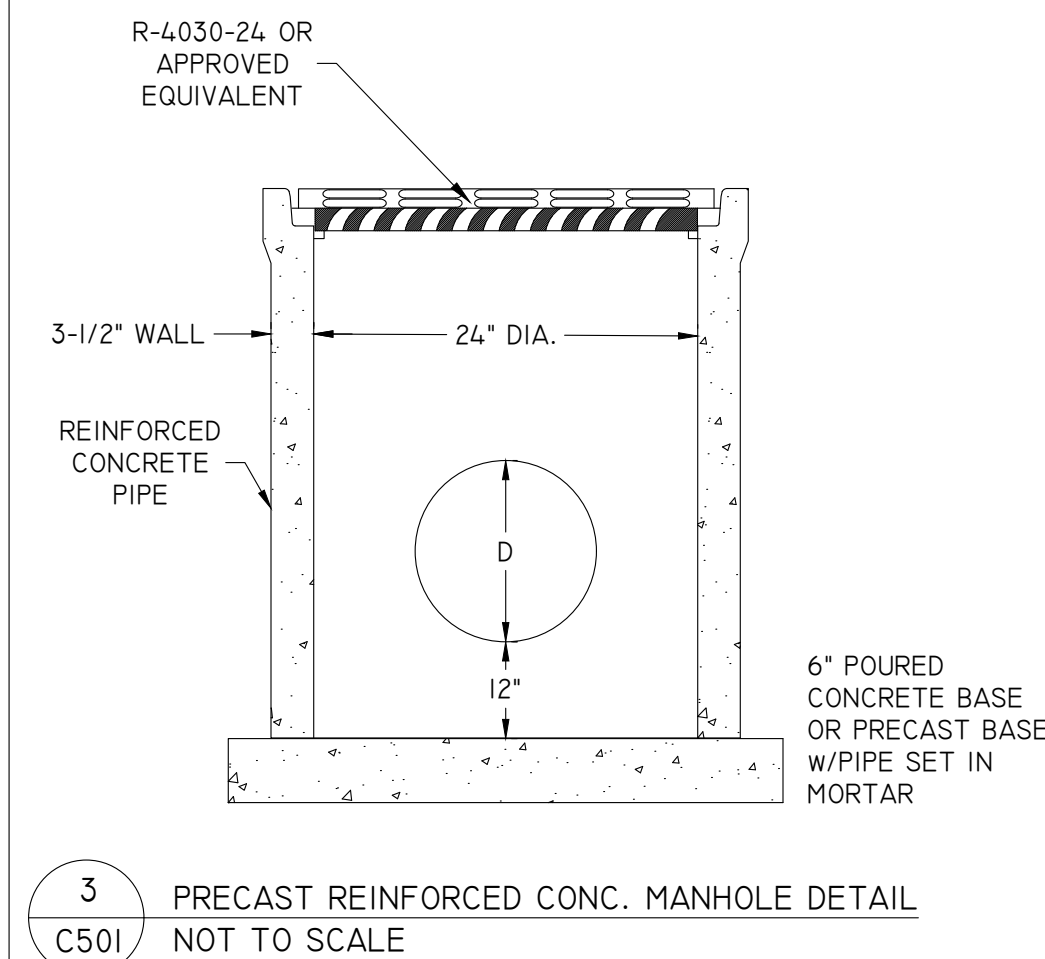
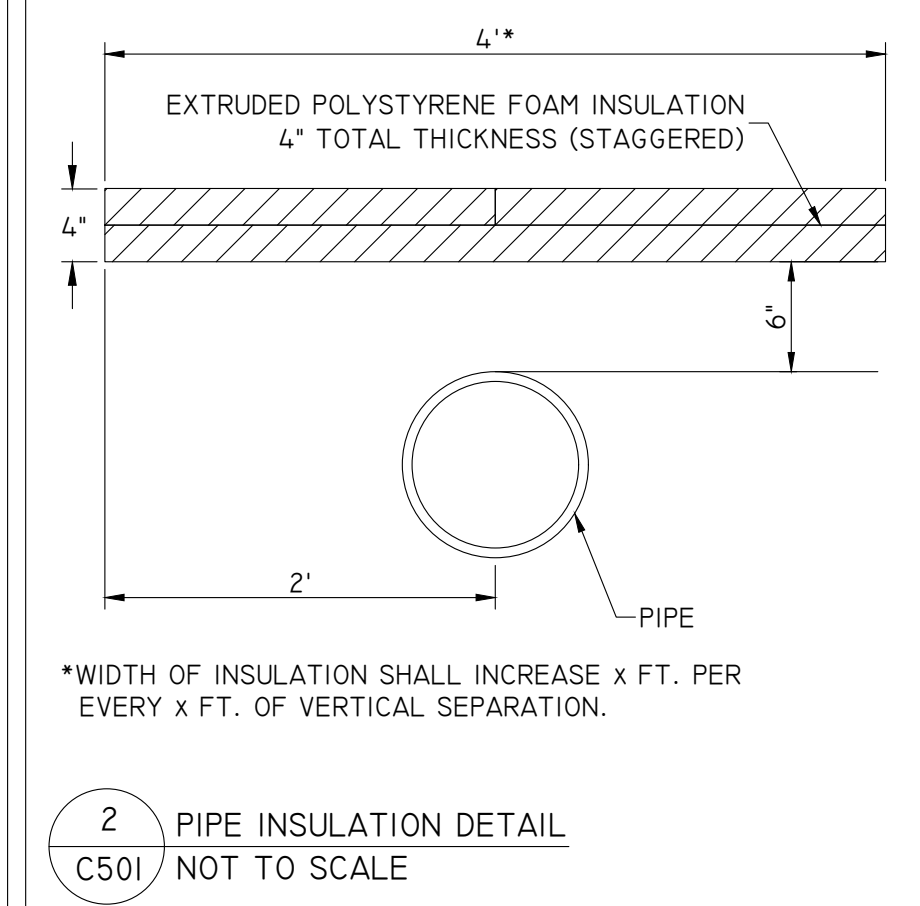
STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
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DATE	10/09/24 - REVIEW DOCUMENTS
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 STORAGE TANKS COMPLEX DETAIL
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The Kwik Star logo, featuring the word "Kwik" in a bold, italicized sans-serif font above the word "Star" in a similar font, with a five-pointed star replacing the letter "a". A small "TM" trademark symbol is located to the right of the logo.

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960



NO SCALE

SITE PLAN DETAILS

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
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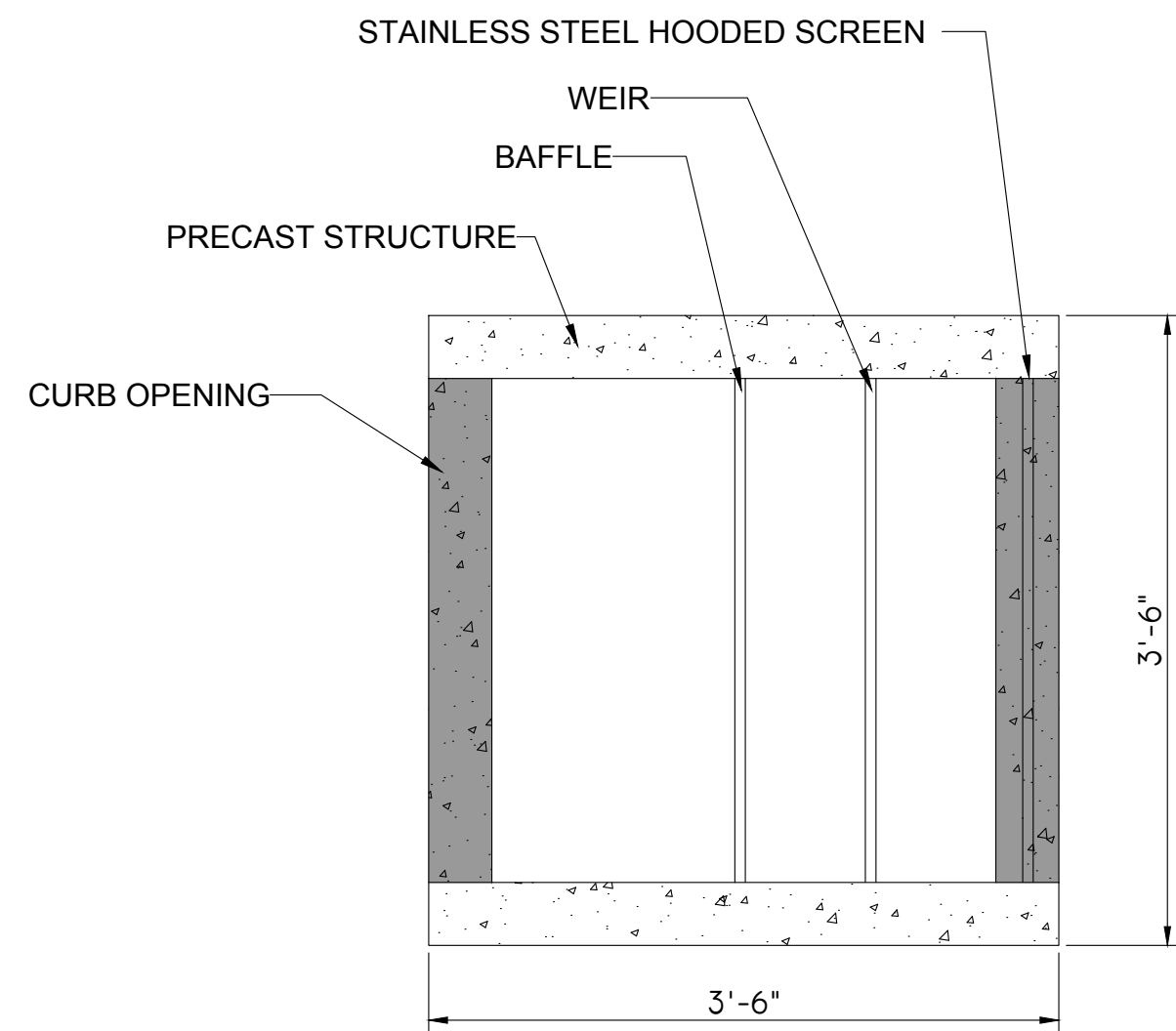
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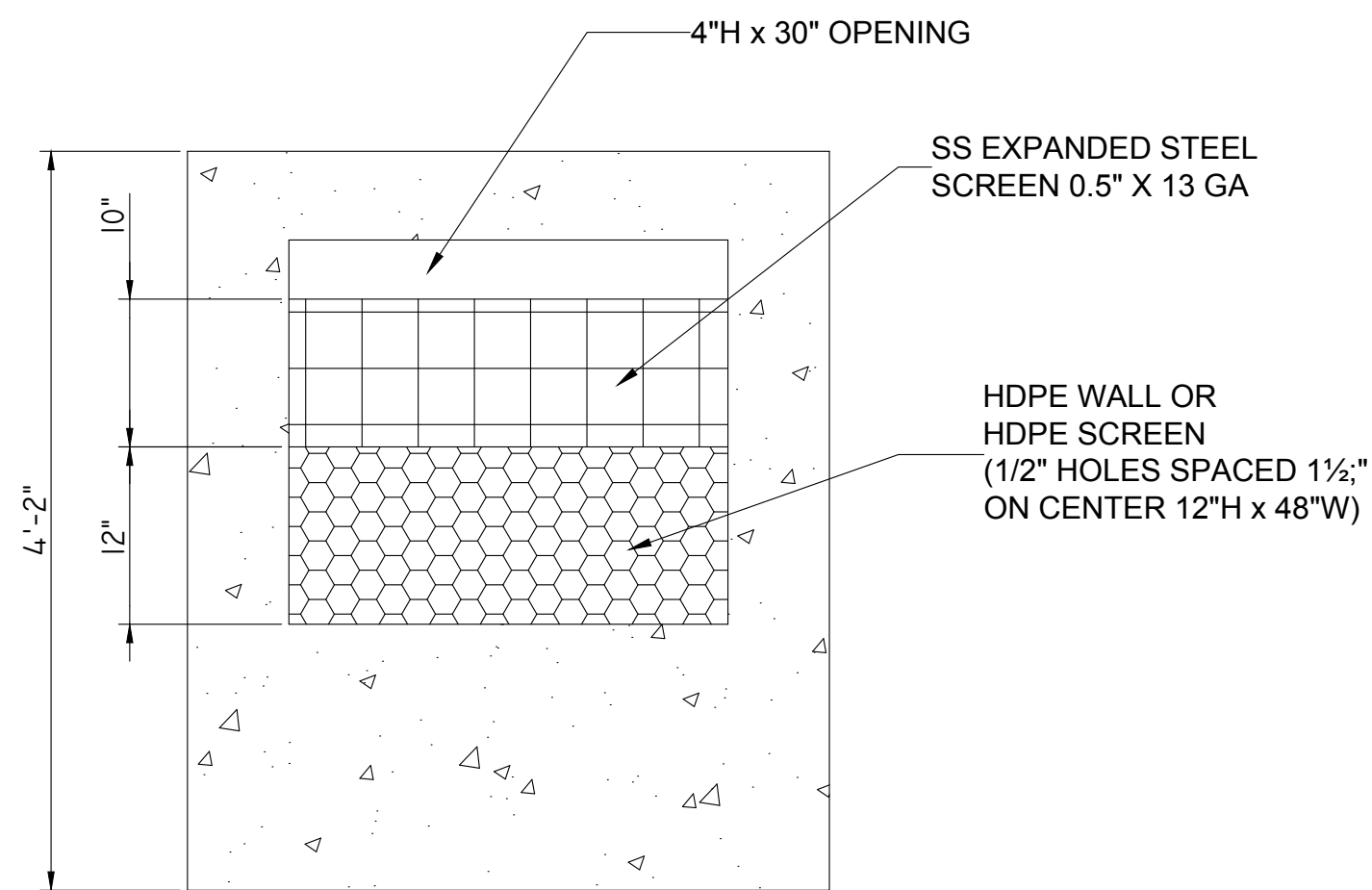
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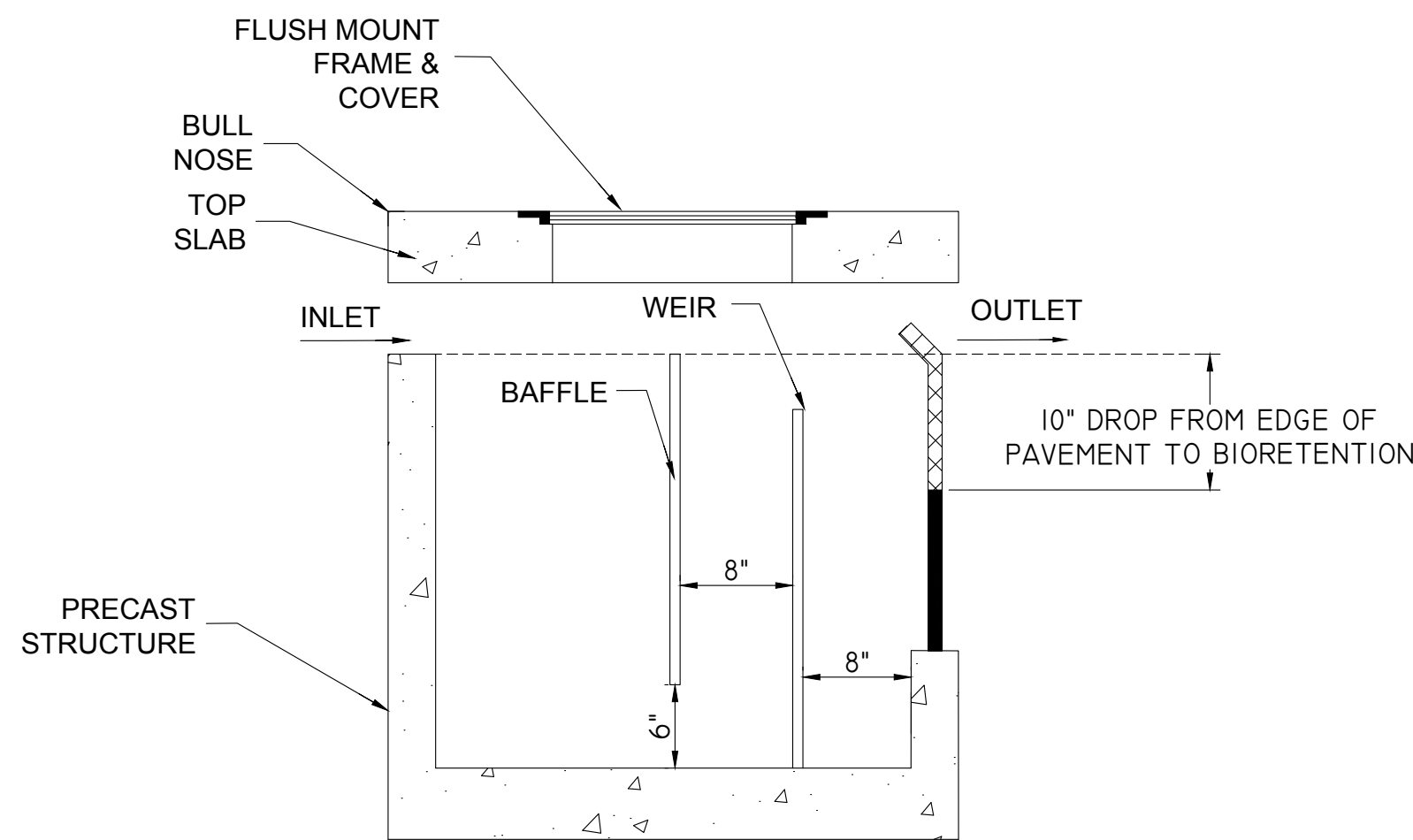
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PLAN VIEW

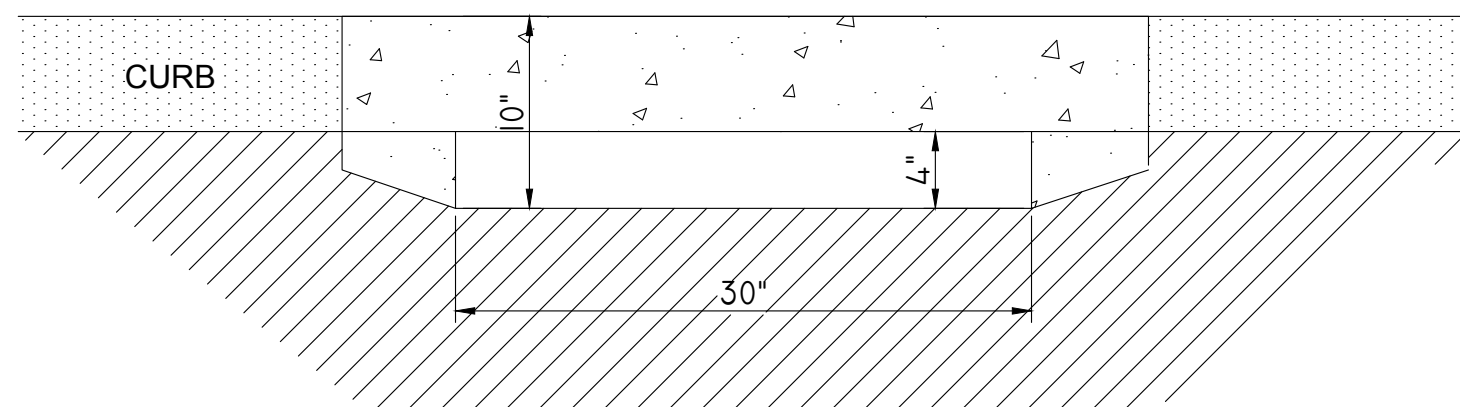


BACK VIEW

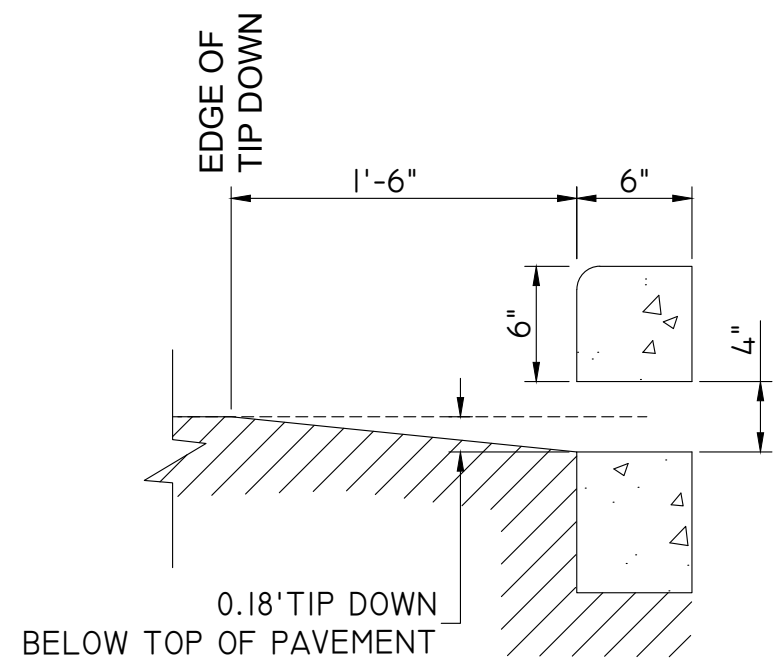


ELEVATION VIEW

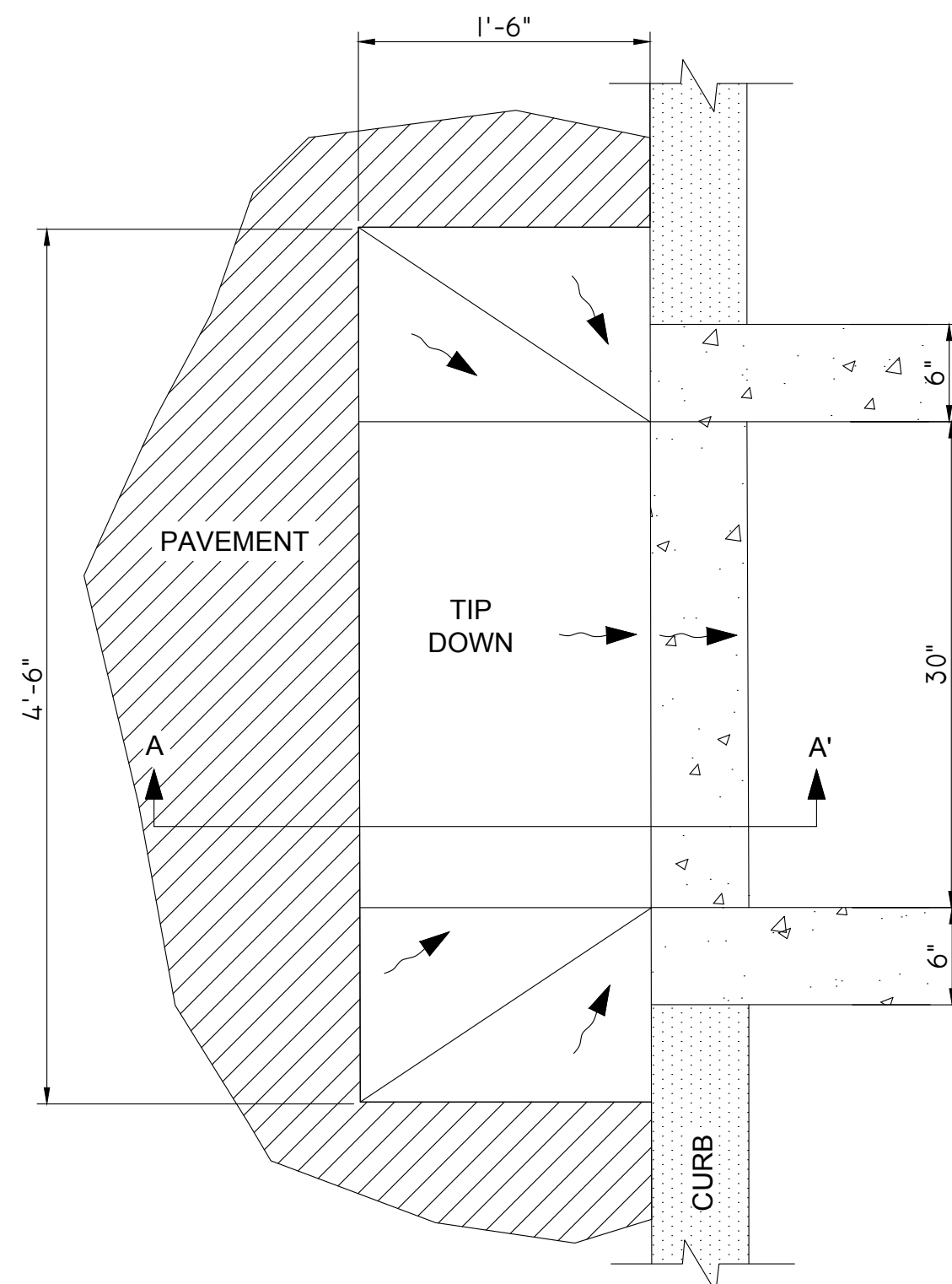
1 PRETX 30X30 UNIT DETAIL
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CURB FACE



SECTION A-A



PLAN

PRETX - 8" CURB REVEAL DETAIL
NOT TO SCALE

PRETX SPECIFICATIONS

A. GENERAL

- PRETX SYSTEMS ARE A PRE-FILTER AND CRITICAL MAINTENANCE DEVICE THAT EXTENDS THE OPERATING LIFE AND REDUCES THE MAINTENANCE BURDEN OF BIORETENTION SYSTEMS, RAIN GARDENS, BIOSWALES AND OTHER TYPES OF SURFACE BEST MANAGEMENT PRACTICES BY FILTERING OUT SEDIMENT, TRASH AND DEBRIS AT THE INLET.

B. PRODUCTS

- ACCEPTABLE SYSTEM SUPPLIER:
CONVERGENT WATER TECHNOLOGIES, INC. OR ITS
AUTHORIZED VALUE-ADDED RESELLER
P: (800) 711-5428; W: WWW.CONVERGENTWATER.COM

C. CONSTRUCTION AND SEQUENCING

- EXCAVATION AND INSTALLATION
 - ROUGH GRADE THE PRE-TX SYSTEM AREA DURING GENERAL CONSTRUCTION. EXCAVATE THE PRE-TX SYSTEM FACILITIES TO WITHIN 1 FOOT OF STRUCTURE BOTTOM.
 - PLACE 1 FOOT BED OF COARSE STONE TO ELEVATION OF BASE OF STRUCTURE.
 - ESTABLISH ELEVATIONS FOR ADJACENT CURBS, EDGE OF PAVEMENT AND TIP DOWN, SIDEWALK, PIPE INVERTS FOR INLETS AND OUTLETS AS INDICATED ON DRAWINGS.
- INSTALLATION
 - PLACE THE PRECAST SYSTEM TO NECESSARY ELEVATION.
 - FOR PRETX-SURFACE:
 - VERIFY ELEVATIONS FOR ADJACENT CURBS.
 - VERIFY EDGE OF PAVEMENT TIP DOWN PAVEMENT GRADING FOR INLET GRATE.
 - VERIFY CURB ELEVATION IN RELATION TO PAVEMENT AND TIP DOWN.
 - VERIFY OUTLET INVERT FOR KNEE WALL IN RELATION TO FILTER MEDIA.
 - INSTALL BAFFLES, WEIR, AND SCREENS AS INDICATED ON DRAWINGS.
 - VERIFY MAINTENANCE ACCESS THROUGH GRATE OR COVER AND CLEARANCE FOR VACTOR.
 - INSTALL TOP OF STRUCTURE LEVEL WITH ADJACENT CURB OR SIDEWALK AS PER MANUFACTURERS SPECIFICATIONS. ENGINEER FIELD VISIT REQUIRED PRIOR TO BACKFILLING.
- BACKFILLING
 - BACKFILL WITH APPROVED SOIL AND STONE TO THE DESIGN GRADE AS SPECIFIED IN THE DRAWINGS.
 - BACKFILL WITH 12" OF NO. 57 STONE AROUND REAR, LEFT, AND RIGHT SIDES TO LEVEL WITH TOP OF HDPE SCREEN.
 - BACKFILL WITH BIORETENTION SOIL MIX BEYOND STONE BACKFILL TO EQUAL ELEVATION OF THE TOP OF HDPE SCREEN.
 - DO NOT BACKFILL SOIL OR STONE AGAINST STAINLESS SCREEN.
 - DO NOT COMPACT ADJACENT FILTRATION SYSTEM SOIL WITH MECHANICAL EQUIPMENT.
 - STABILIZE ALL REMAINING DISTURBED AREAS AND SIDE SLOPES WITH SEEDING, HYDROSEEDING, AND/ OR EROSION CONTROL BLANKETS AS INDICATED ON DRAWINGS.
- CLEAN UP
 - AFTER COMPLETION OF THE WORK, REMOVE AND PROPERLY DISPOSE ALL DEBRIS, CONSTRUCTION MATERIALS, RUBBISH, EXCESS SOIL, ETC., FROM THE PROJECT SITE. REPAIR PROMPTLY ANY IDENTIFIED DEFICIENCIES AND LEAVE THE PROJECT SITE IN A CLEAN AND SATISFACTORY CONDITION.

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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

NO SCALE

SITE PLAN DETAILS

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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DRAWN BY: NAP
SCALE: NOT TO SCALE
PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: C502

PROJECT DATA
PROJECT START DATE
PROJECT COMPLETION DATE
SITE AREA DATA
PRE-CONSTRUCTION IMPERVIOUS AREA
POST-CONSTRUCTION IMPERVIOUS AREA
APPROX. AREA OF LAND DISTURBANCE
SITE RUNOFF COEFFICIENT
PRE-CONSTRUCTION
POST-CONSTRUCTION
SOIL DATA
SURFACE SOIL
SUB-SURFACE SOIL
DEPTH OF GROUND WATER
DOWN-STREAM TRIBUTARY

NOTES:
(A) CONTRACTOR SHALL ABIDE BY THE WDNR CONSERVATION PRACTICE STANDARDS FOR INSTALLATION AND MAINTENANCE OF EROSION CONTROL. REFER TO C603 FOR TECHNICAL STANDARDS EMPLOYED.
(B) CONTRACTOR SHALL PROVIDE CONCRETE WASHOUT AREAS ON-SITE. SEE DETAIL E/C603.
(C) DEWATERING BAGS SHALL BE READILY AVAILABLE AND SHALL BE USED AT ALL TIMES IN THE PROCESS OF DEWATERING.

ESTIMATED PRELIMINARY EROSION CONTROL QUANTITIES (ACTUAL QUANTITIES SUBJECT TO CHANGE)	
ITEM	QUANTITY
ROCK CONSTRUCTION ENTRANCE	400 SQ.YD.
INLET PROTECTION	12
EROSION CONTROL BLANKET	2,000 SQ.YD.
RIP RAP	30 CU. YD.
SILT FENCE	870 L.F.
CULVERT PROTECTION	0
DITCH CHECK	AS NEEDED
BIO ROLL/EROSION LOG	AS NEEDED

-SITE EROSION CONTROL MEASURES MUST BE IN PLACE AT ALL TIMES. SHOULD DEVICES BE REMOVED FOR WORK ACCESS, THEY SHALL BE REINSTALLED AT THE END OF EACH WORK DAY UNTIL PAVEMENTS HAVE BEEN INSTALLED AND ALL LANDSCAPE AREAS HAVE BEEN MULCHED AND SODDED. SEEDED AREAS MUST EXHIBIT MINIMUM OF 70% SOIL COVERAGE.

-REFER TO THE SWP PLAN NOTES AND DETAIL SHEETS SWP2-4 FOR MORE INFORMATION.

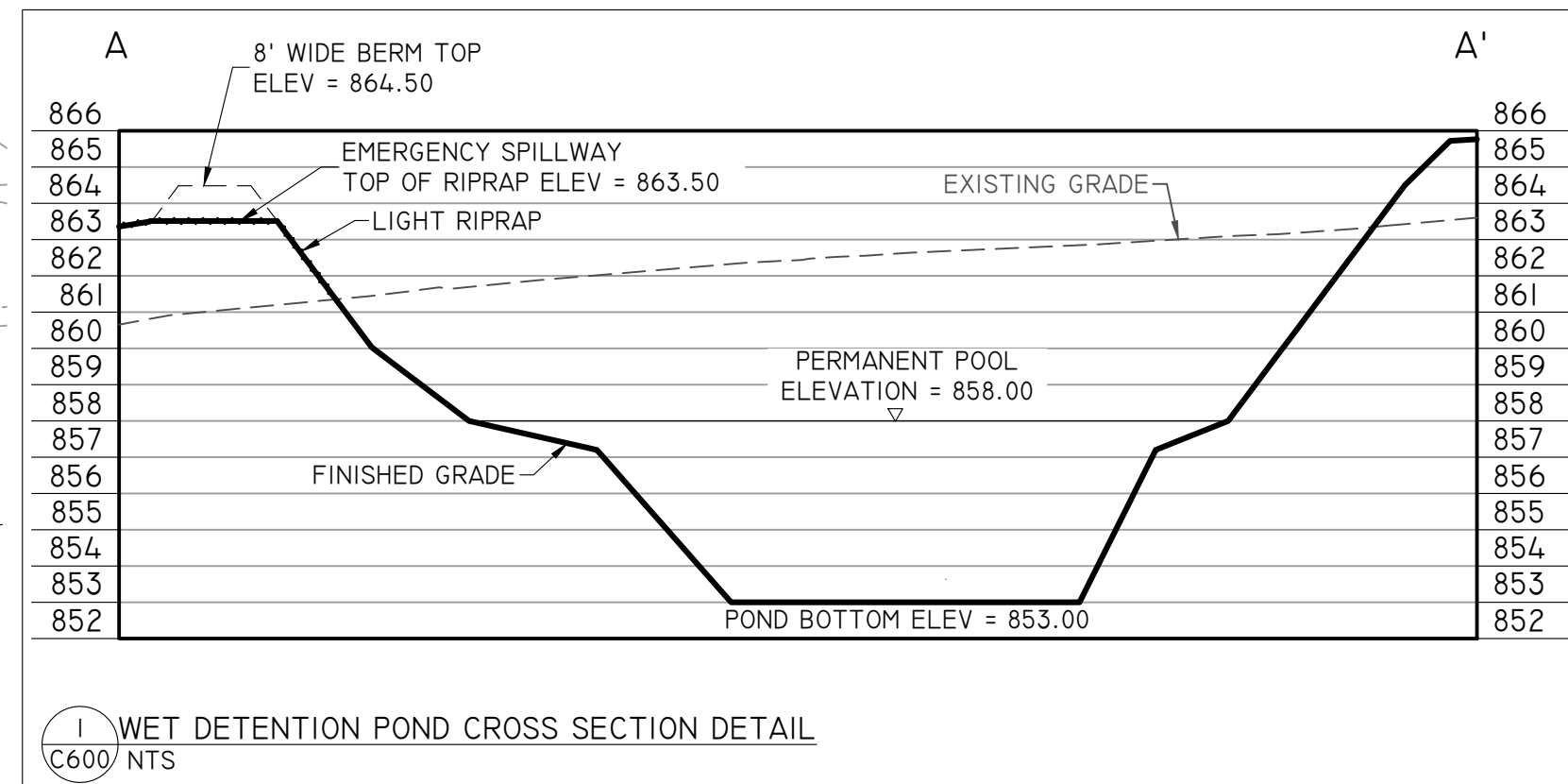
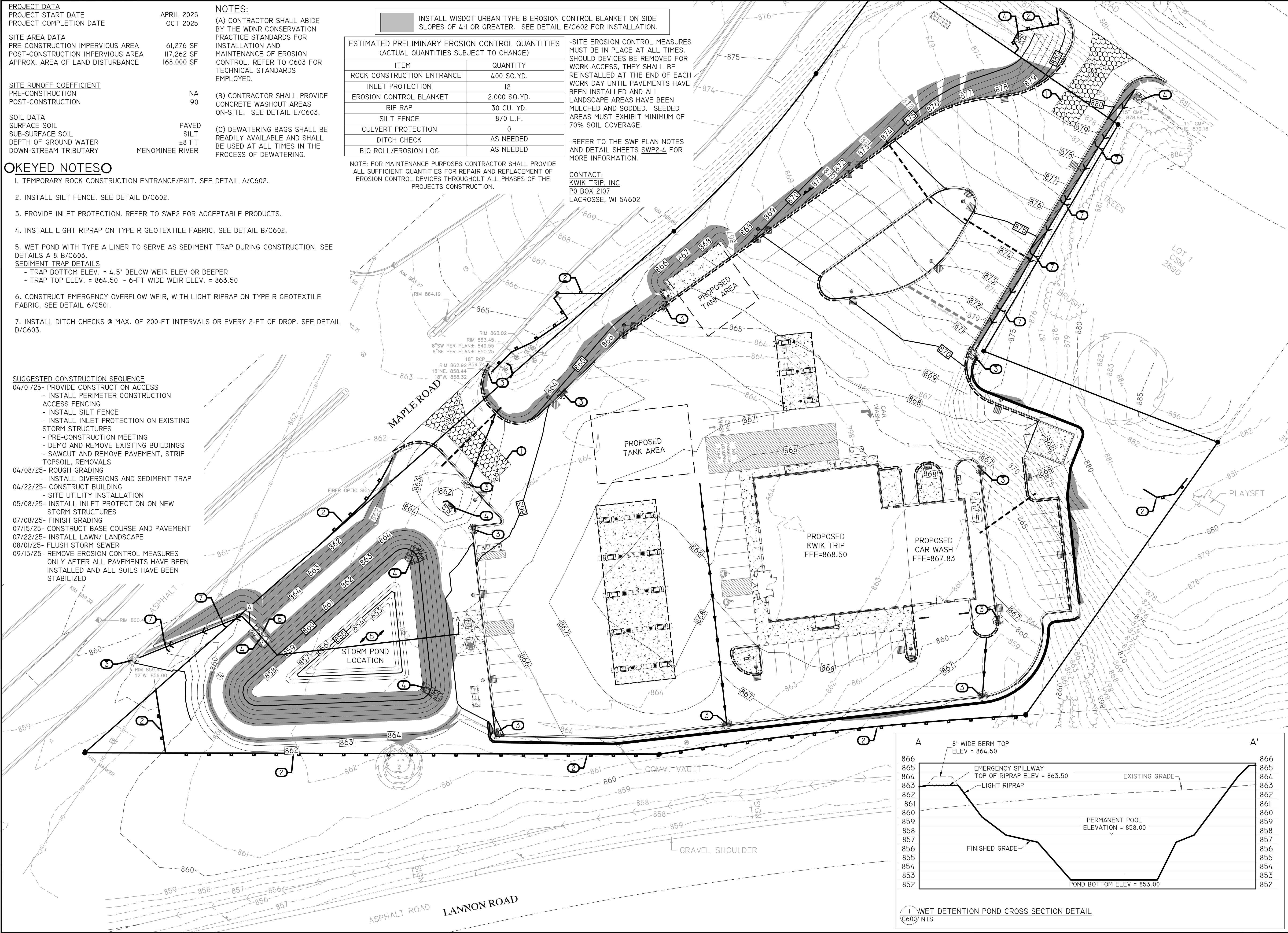
CONTACT:
KWIK TRIP, INC
PO BOX 2107
LACROSSE, WI 54602

NOTE: FOR MAINTENANCE PURPOSES CONTRACTOR SHALL PROVIDE ALL SUFFICIENT QUANTITIES FOR REPAIR AND REPLACEMENT OF EROSION CONTROL DEVICES THROUGHOUT ALL PHASES OF THE PROJECTS CONSTRUCTION.

KEYED NOTES

1. TEMPORARY ROCK CONSTRUCTION ENTRANCE/EXIT. SEE DETAIL A/C602.
2. INSTALL SILT FENCE. SEE DETAIL D/C602.
3. PROVIDE INLET PROTECTION. REFER TO SWP2 FOR ACCEPTABLE PRODUCTS.
4. INSTALL LIGHT RIPRAP ON TYPE R GEOTEXTILE FABRIC. SEE DETAIL B/C602.
5. WET POND WITH TYPE A LINER TO SERVE AS SEDIMENT TRAP DURING CONSTRUCTION. SEE DETAILS A & B/C603.
SEDIMENT TRAP DETAILS
- TRAP BOTTOM ELEV. = 4.5' BELOW WEIR ELEV OR DEEPER
- TRAP TOP ELEV. = 864.50 - 6-FT WIDE WEIR ELEV. = 863.50
6. CONSTRUCT EMERGENCY OVERFLOW WEIR, WITH LIGHT RIPRAP ON TYPE R GEOTEXTILE FABRIC. SEE DETAIL 6/C501.
7. INSTALL DITCH CHECKS @ MAX. OF 200-FT INTERVALS OR EVERY 2-FT OF DROP. SEE DETAIL D/C603.

- SUGGESTED CONSTRUCTION SEQUENCE
- 04/01/25- PROVIDE CONSTRUCTION ACCESS
- INSTALL PERIMETER CONSTRUCTION ACCESS FENCING
 - INSTALL SILT FENCE
 - INSTALL INLET PROTECTION ON EXISTING STORM STRUCTURES
 - PRE-CONSTRUCTION MEETING
 - DEMO AND REMOVE EXISTING BUILDINGS
 - SAWCUT AND REMOVE PAVEMENT, STRIP TOPSOIL, REMOVALS
- 04/08/25- ROUGH GRADING
- INSTALL DIVERSIONS AND SEDIMENT TRAP
- 04/22/25- CONSTRUCT BUILDING
- SITE UTILITY INSTALLATION
- 05/08/25- INSTALL INLET PROTECTION ON NEW STORM STRUCTURES
- 07/08/25- FINISH GRADING
- 07/15/25- CONSTRUCT BASE COURSE AND PAVEMENT
- 07/22/25- INSTALL LAWN/ LANDSCAPE
- 08/01/25- FLUSH STORM SEWER
- 09/15/25- REMOVE EROSION CONTROL MEASURES ONLY AFTER ALL PAVEMENTS HAVE BEEN INSTALLED AND ALL SOILS HAVE BEEN STABILIZED

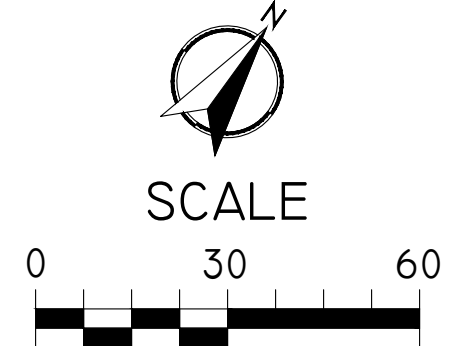


STORES



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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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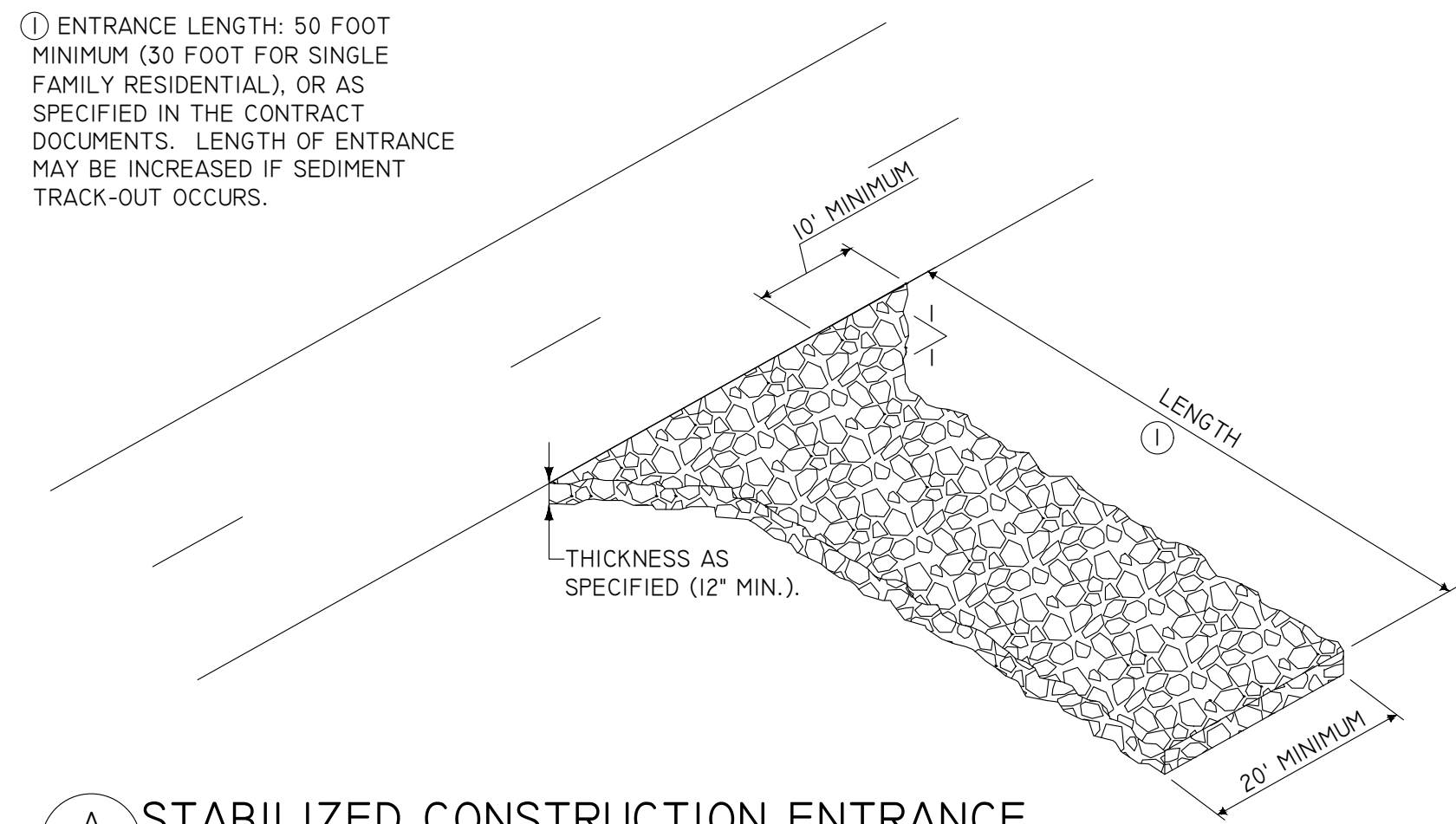
EROSION CONTROL PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

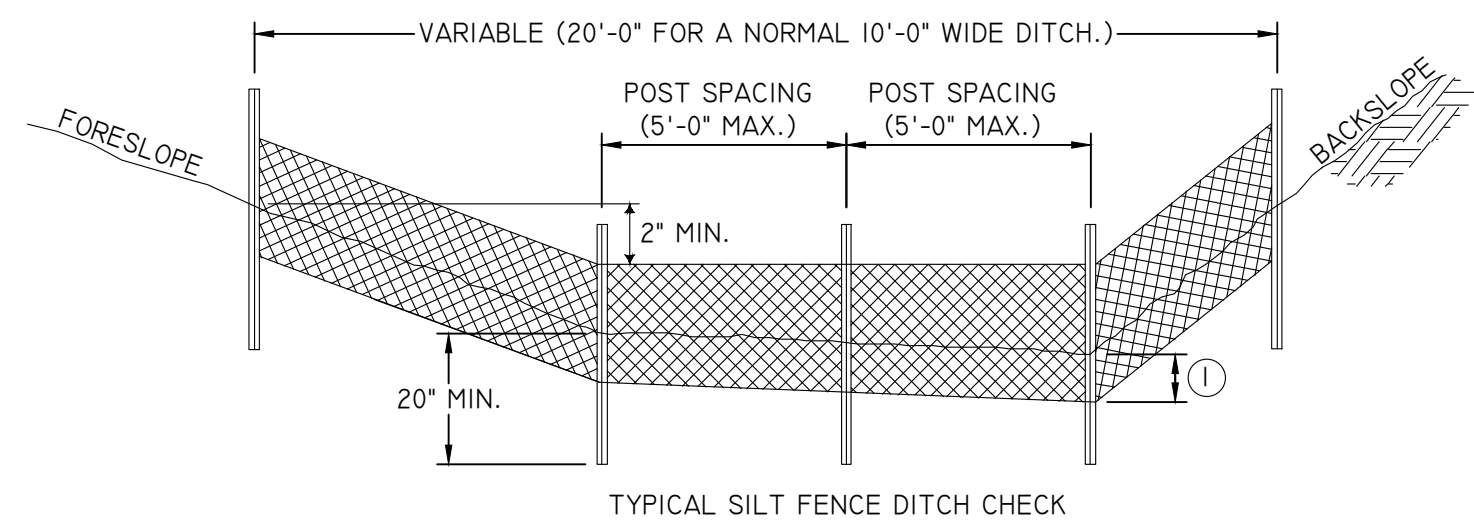
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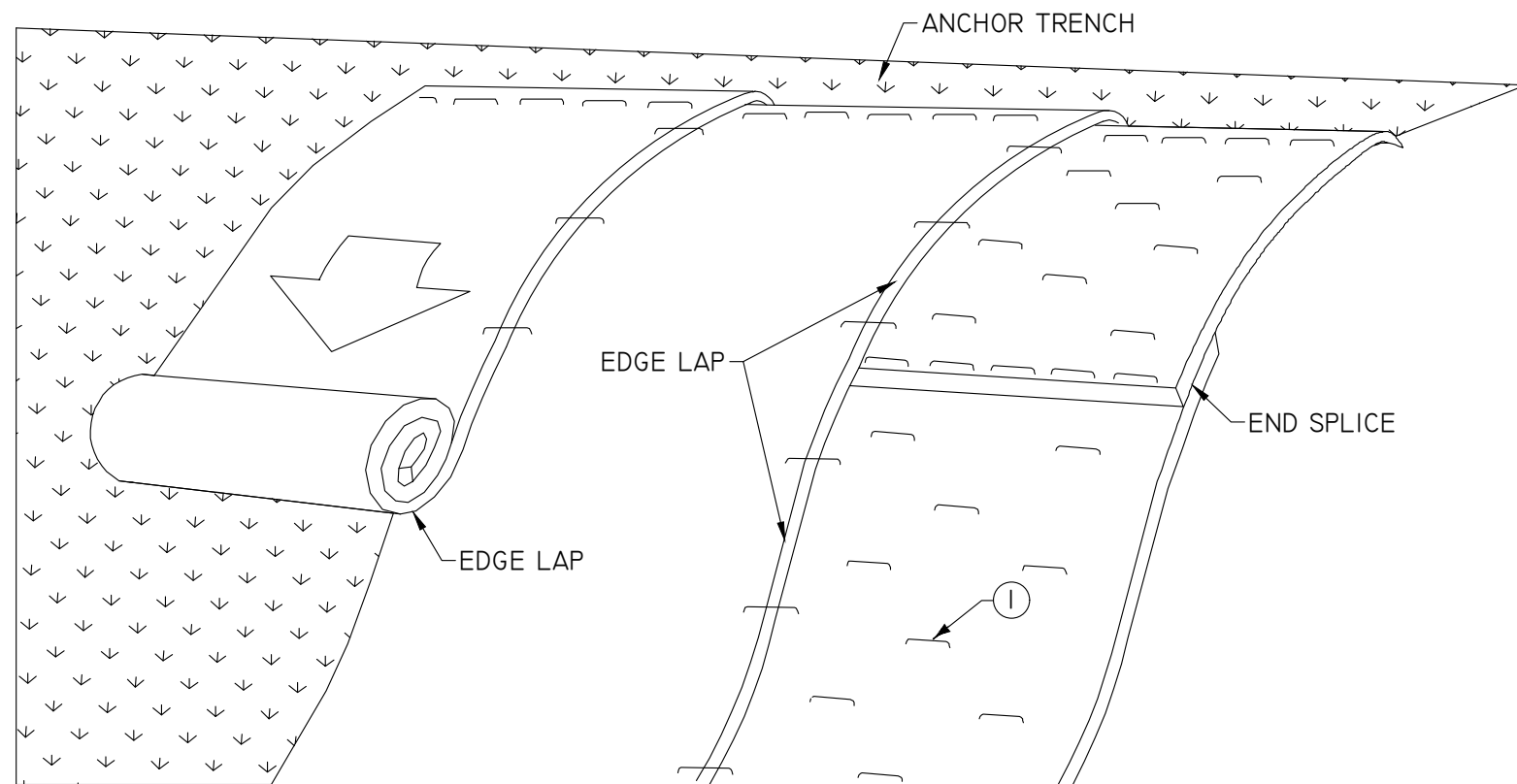


A STABILIZED CONSTRUCTION ENTRANCE
C602 FOR CONSTRUCTION EGRESS POINTS
NTS

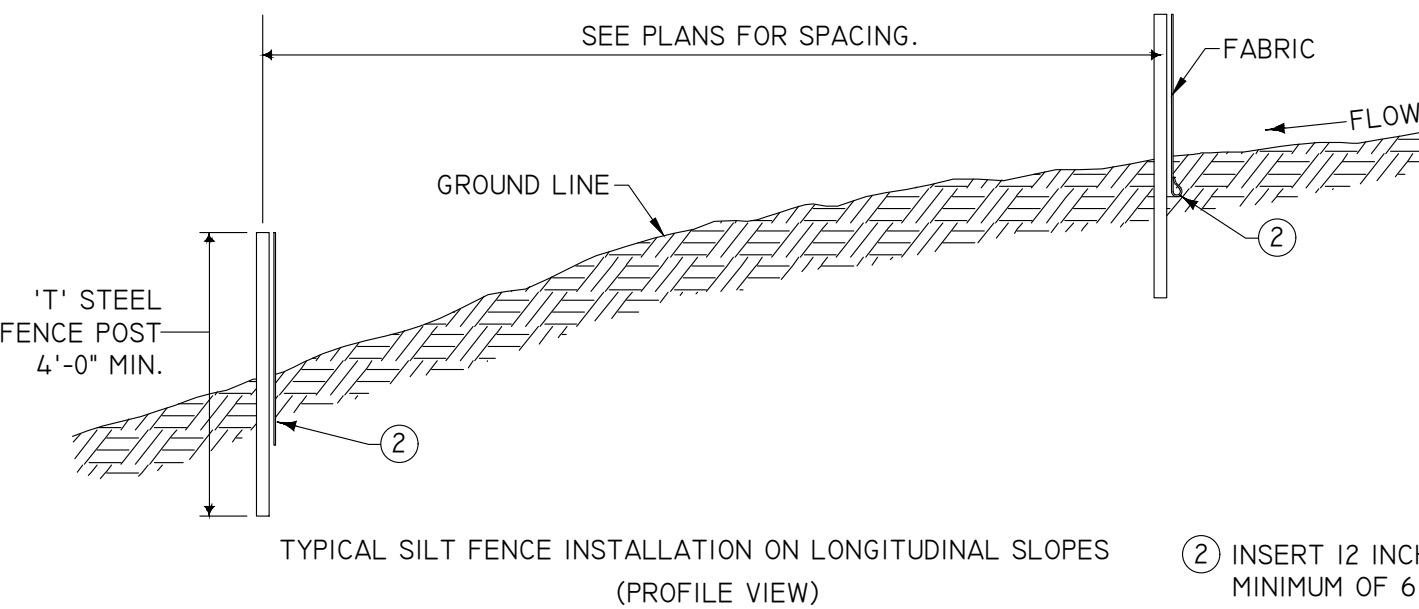
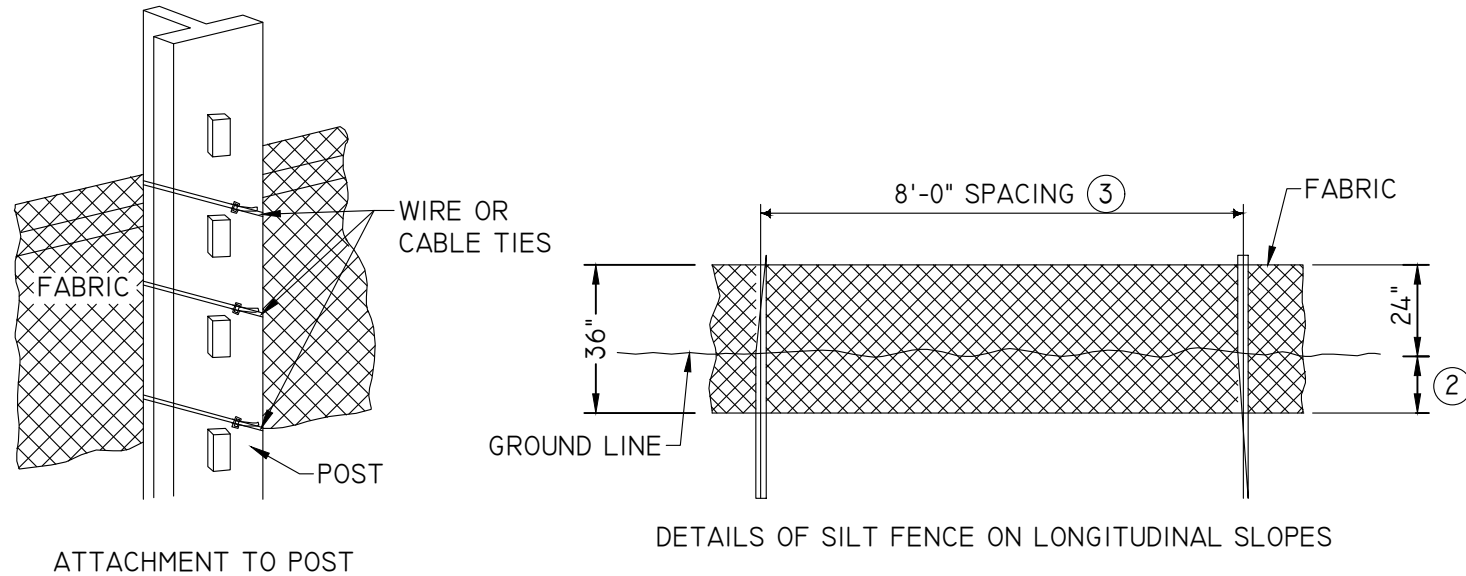
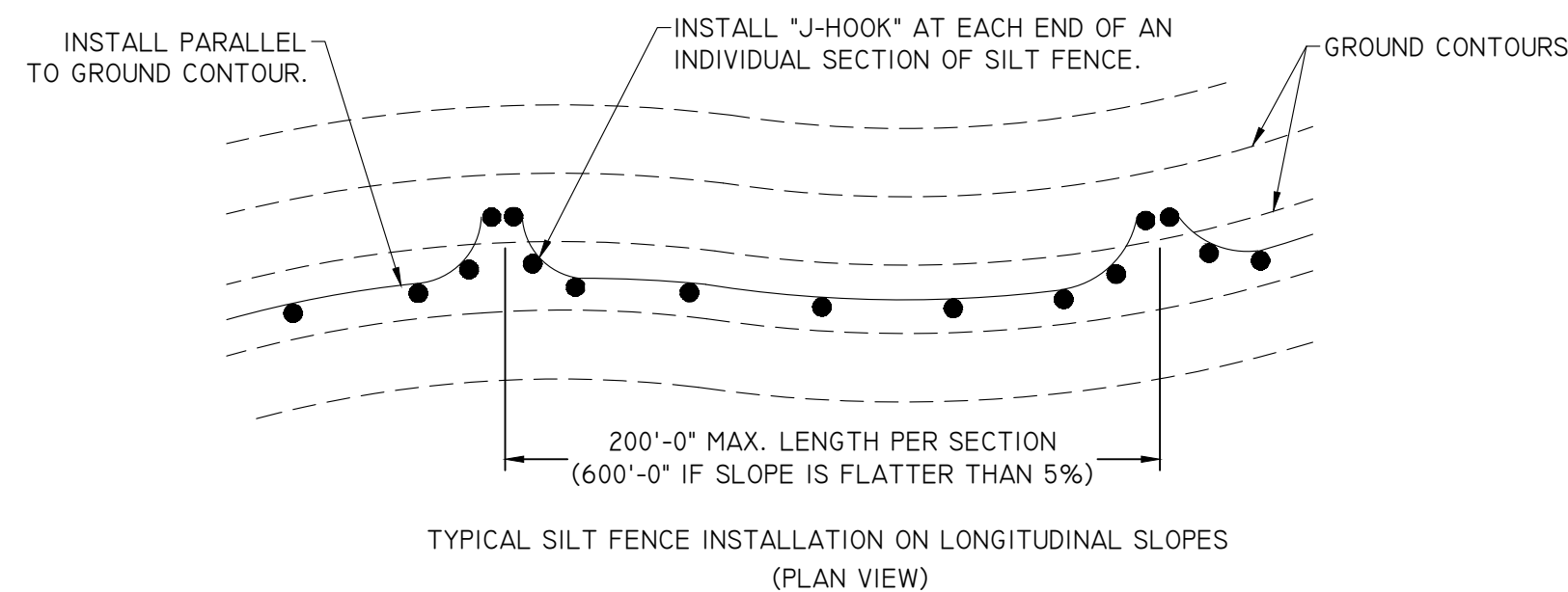
① INSERT 12 INCHES OF FABRIC A MINIMUM OF 6 INCHES DEEP (FABRIC MAY BE FOLDED BELOW THE GROUND LINE).



B RIP RAP APRON FOR PIPE OUTLET INTO CHANNEL
C602 NTS



C CULVERT PROTECTION
C602 NTS



D SILTS FENCE
C602 NTS

② INSERT 12 INCHES OF FABRIC A MINIMUM OF 6 INCHES DEEP (FABRIC MAY BE FOLDED BELOW THE GROUND LINE).

③ REDUCE POST SPACING TO 5'-0" AT WATER CONCENTRATION AREAS, OR AS REQUIRED TO ADEQUATELY SUPPORT FENCE.

E ROLLED EROSION CONTROL (RECP) INSTALLATION ON SLOPES
C602 NTS

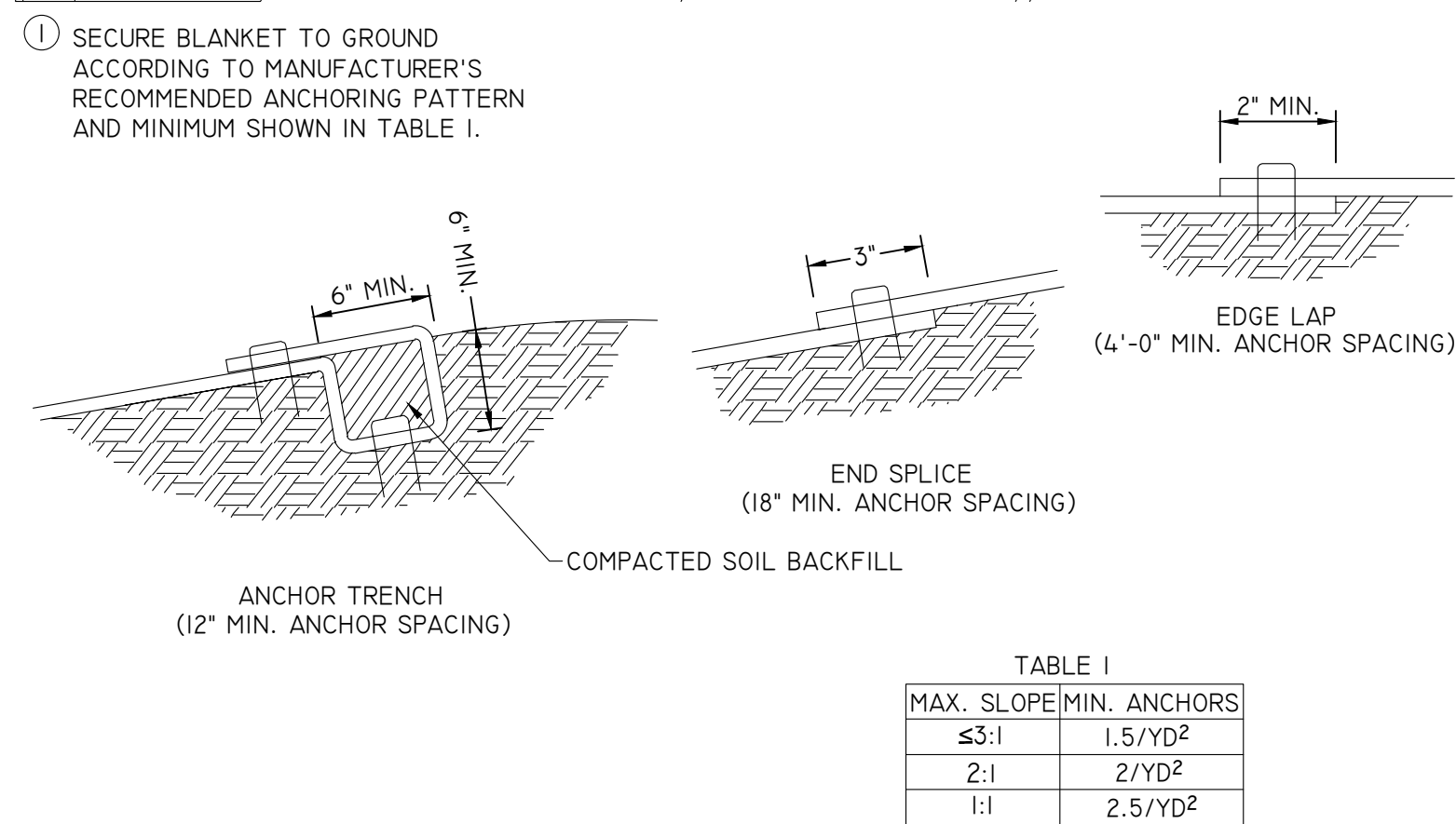
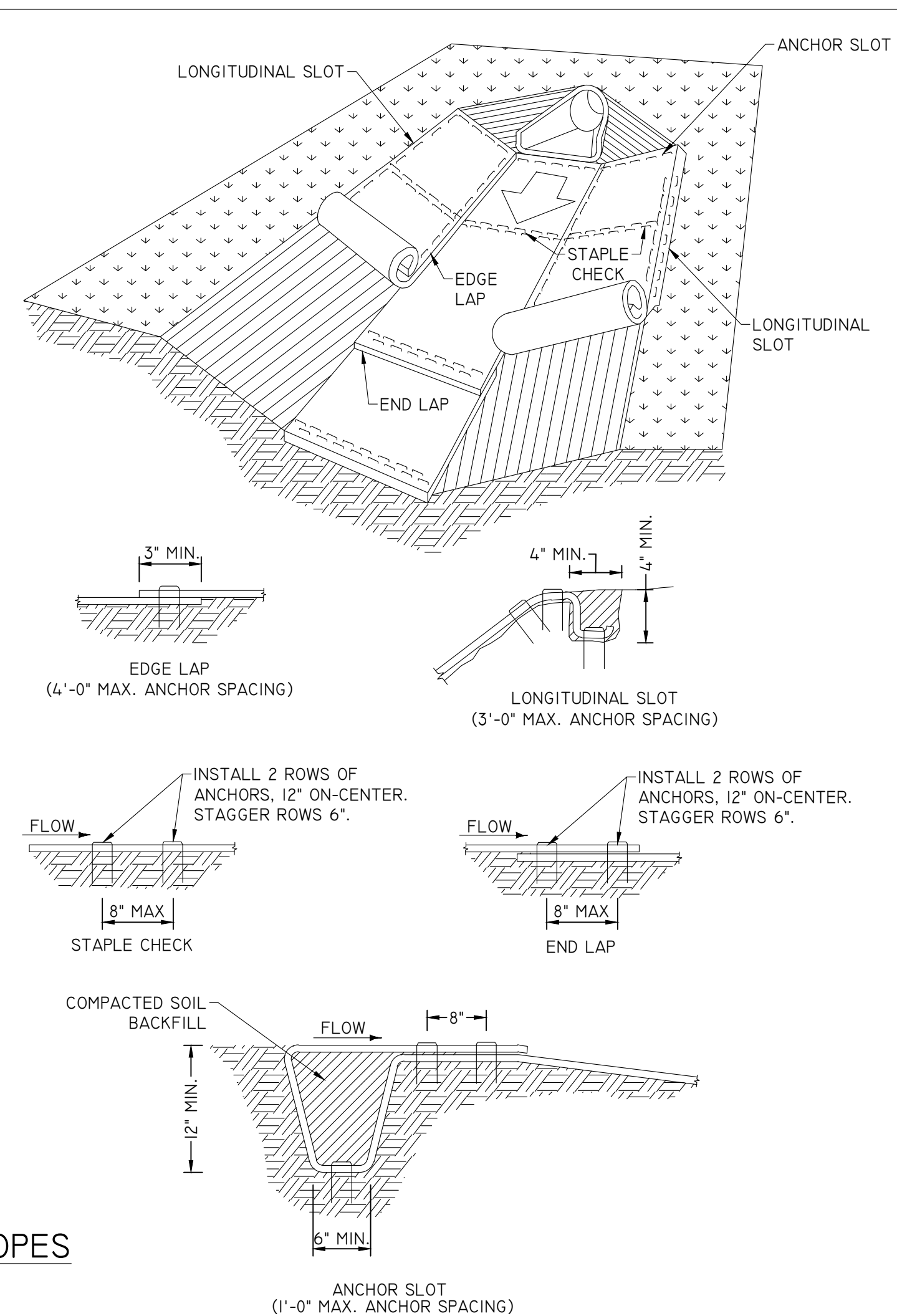


TABLE I		
MAX. SLOPE	MIN. ANCHORS	
3:1	1.5/YD ²	
2:1	2/YD ²	
1:1	2.5/YD ²	



ALL EROSION CONTROL MEASURES TO BE
INSTALLED AND MAINTAINED PER WDNR STANDARDS
[HTTP://DNR.WI.GOV/ORG/WATER/WM/NFS/STORMWATER/TECHSTDS.HTM](http://dnr.wi.gov/org/water/wm/nfs/stormwater/techstds.htm)

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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

EROSION CONTROL
DETAILS

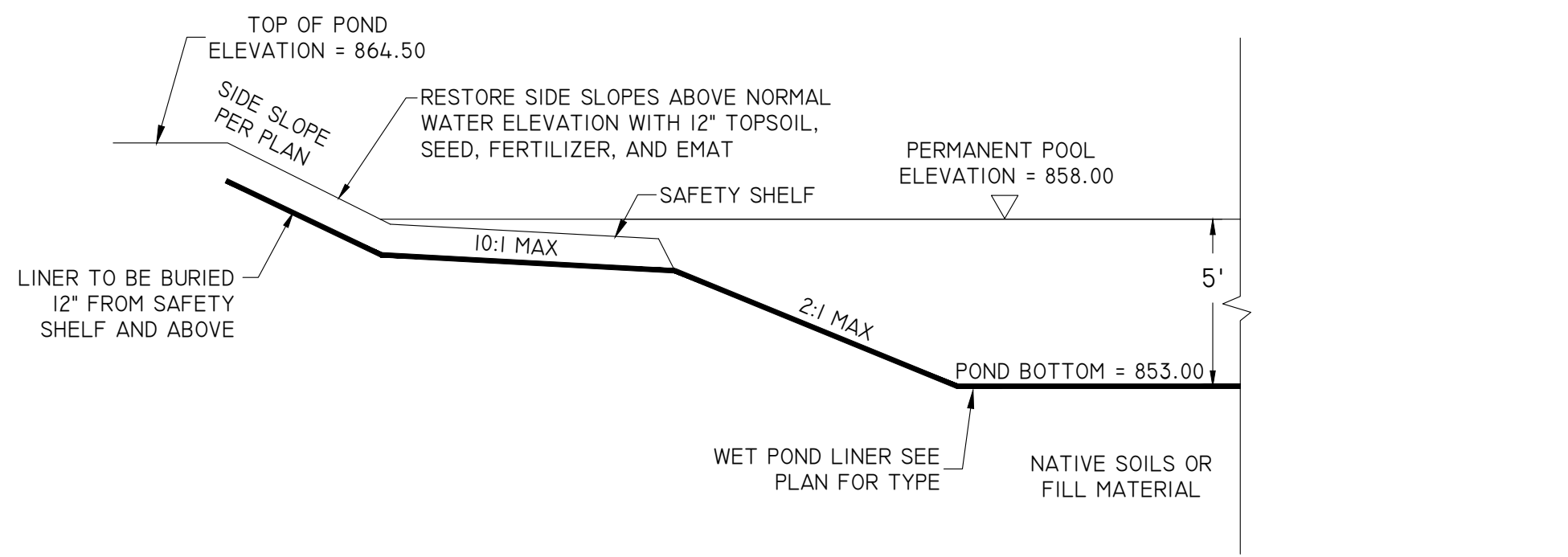
CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
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SCALE: GRAPHIC
PROJ. NO. 11757
DATE 10/09/24 - REVIEW DOCUMENTS
SHEET C602

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GENERAL POND LINER SPECIFICATIONS (REFER TO APPENDIX D OF WDNR TECHNICAL STANDARD 1001 FOR DETAILED SPECIFICATIONS)

- * I. TYPE A LINER (ANY OF THE FOLLOWING)
- CLAY LINER: MINIMUM THICKNESS OF 2 FEET WITH AN IN-PLACE HYDRAULIC CONDUCTIVITY OF 1×10^{-7} CM/SEC OR LESS.
 - HDPE: MINIMUM THICKNESS OF 60 MIL.
 - GCL: GEOSYNTHETIC CLAY LINER PER NRCS SPECIFICATIONS OUTLINED IN APPENDIX D.

- TYPE B LINER (ANY OF THE FOLLOWING)
- CLAY LINER: MINIMUM THICKNESS OF 2 FEET WITH AN IN-PLACE HYDRAULIC CONDUCTIVITY OF 1×10^{-6} CM/SEC OR LESS.
 - HDPE: MINIMUM THICKNESS OF 40 MIL.
 - PPL: MINIMUM THICKNESS OF 30 MIL.

- TYPE C LINER (ANY OF THE FOLLOWING)
- SILT/CLAY LINER: MINIMUM THICKNESS OF 2 FEET
 - HDPE: ANY THICKNESS
 - PPL: MINIMUM THICKNESS OF 20 MIL
 - PVC: MINIMUM THICKNESS OF 30 MIL
 - EPDM: MINIMUM THICKNESS OF 45 MIL

NOTE:
1. SHOULD THE CONTRACTOR ENCOUNTER SEASONAL OR PERCHED GROUNDWATER DURING CONSTRUCTION OF THE POND AND IT'S LINER, CONTACT ENGINEER FOR UNDERDRAIN RECOMMENDATIONS.

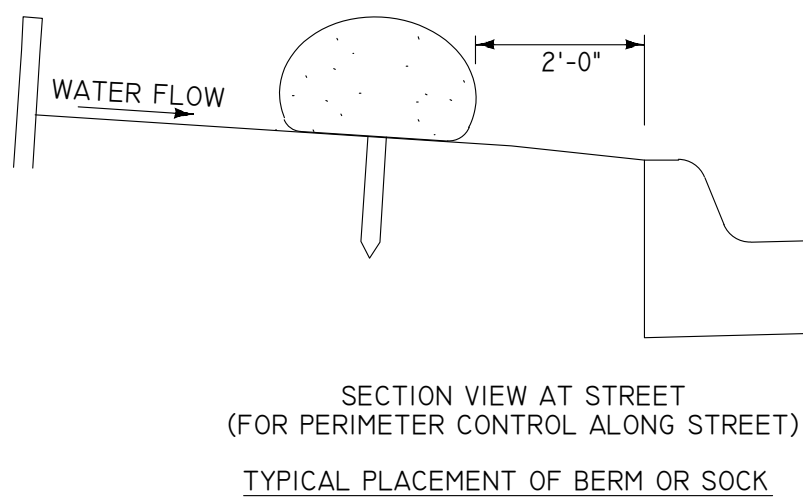
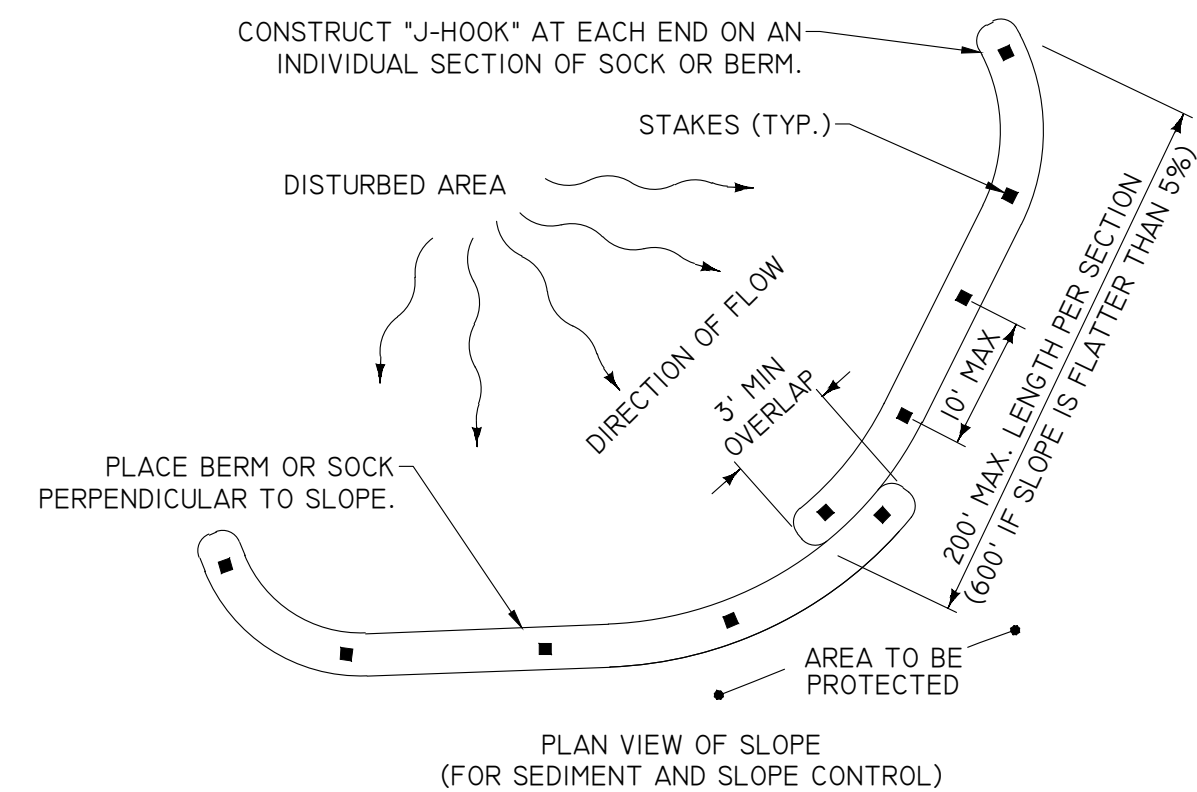
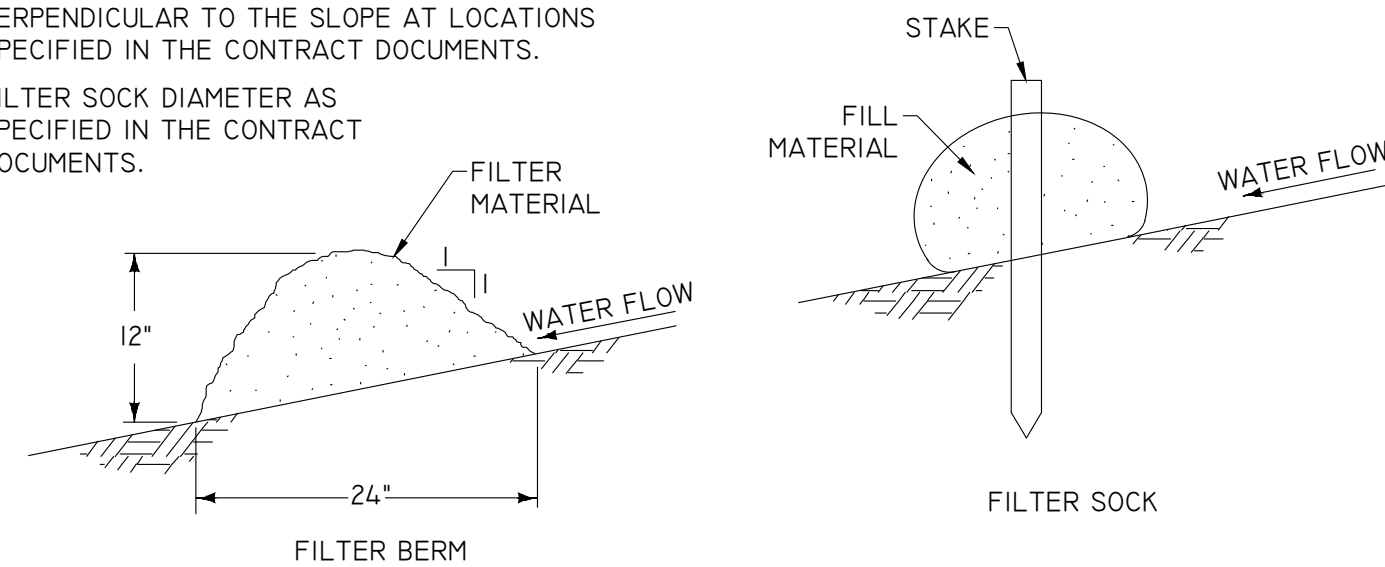
2. MANUFACTURED LINERS SHALL BE PROVIDED WITH AIR-RELEASE VENTS TO PREVENT FLOATING.

3. CONTRACTOR TO PROVIDE POND LINER DOCUMENTATION TO OWNER PRIOR TO FINAL ACCEPTANCE.

A C603 WET POND LINER NTS

BERM SHOWN IS TYPICAL FOR SLOPES FLATTER THAN 3:1. FOR STEEPER SLOPES, INCREASE BERM SIZE AS DIRECTED BY THE ENGINEER.
PLACE BERM IN UNCOMPACTED WINDROW PERPENDICULAR TO THE SLOPE AT LOCATIONS SPECIFIED IN THE CONTRACT DOCUMENTS.

FILTER SOCK DIAMETER AS SPECIFIED IN THE CONTRACT DOCUMENTS.



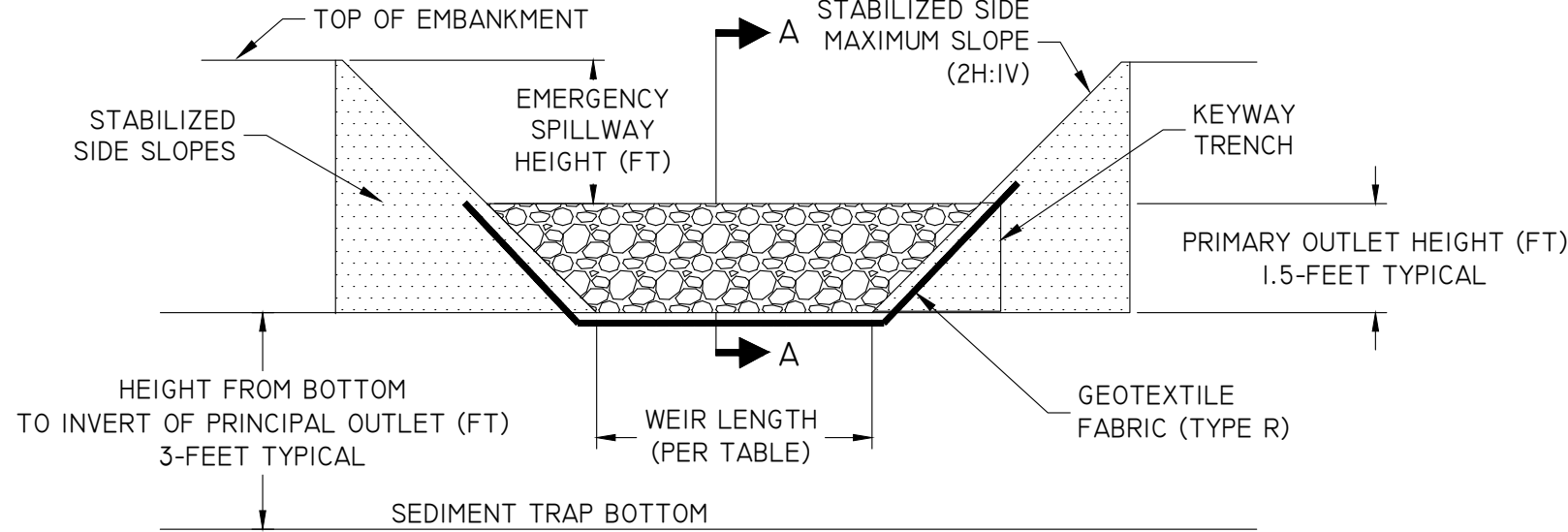
C C603 FILTER BERM AND FILTER SOCK NTS

- NOTES:
1. SIDE SLOPES AND FACES OF EARTHEN EMBANKMENT AROUND OUTLET SHALL BE ARMORED WITH RIPRAP OR STABILIZED WITH EROSION MAT SUFFICIENT TO HANDLE FLOWS FROM THE 10-YEAR STORM.
2. STONE (SHORT DURATION): 3'-6" WELL GRADED ANGULAR CLEAR STONE.
3. STONE (6+ MONTHS): COMBINATION OF LIGHT RIPRAP WITH 12"-THICK LAYER OF 1" ANGULAR CLEAR STONE.
4. REFER TO WDNR TECH STD 1063 FOR ADDITIONAL INFORMATION.

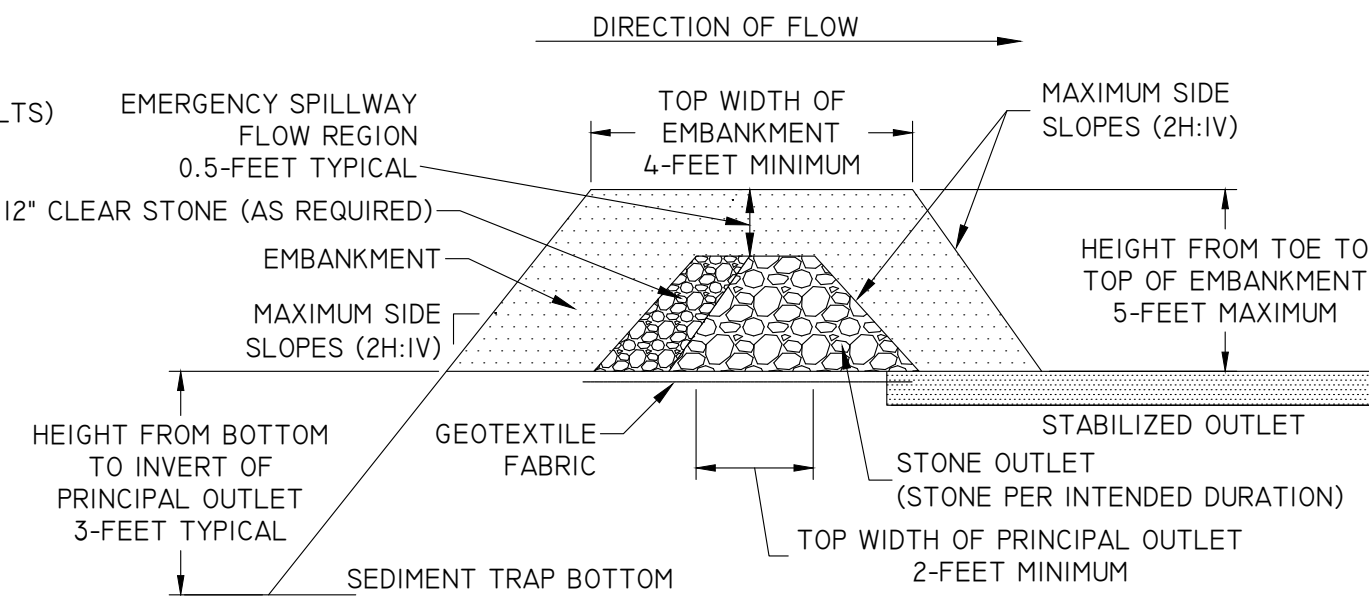
- * AS = 625 X ADR (COARSE GRAINED SOILS + SANDS)
AS = 1560 X ADR (MEDIUM GRAINED SOILS + LOAMS, SILTS)
AS = 5300 X ADR (FINE GRAINED SOILS + CLAYS)

ADR (OC)	WEIR LENGTH (FT)
1	4
2	6
3	8
4	10
5	12

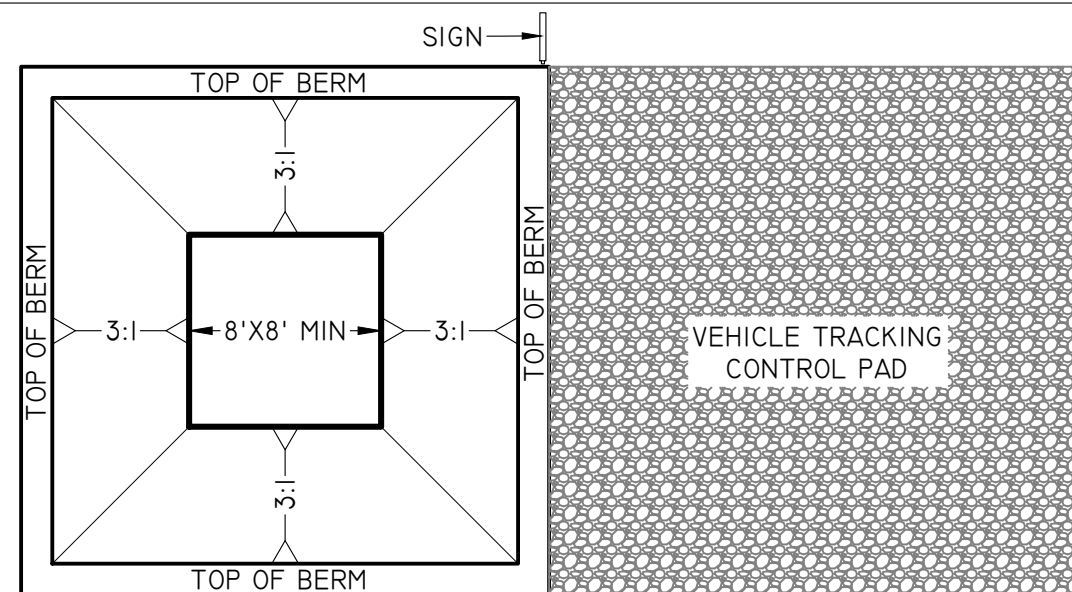
B C603 SEDIMENT TRAP DETAIL NTS



CROSS-SECTION VIEW OF PRINCIPAL OUTLET



VIEW A-A OF PRINCIPAL OUTLET



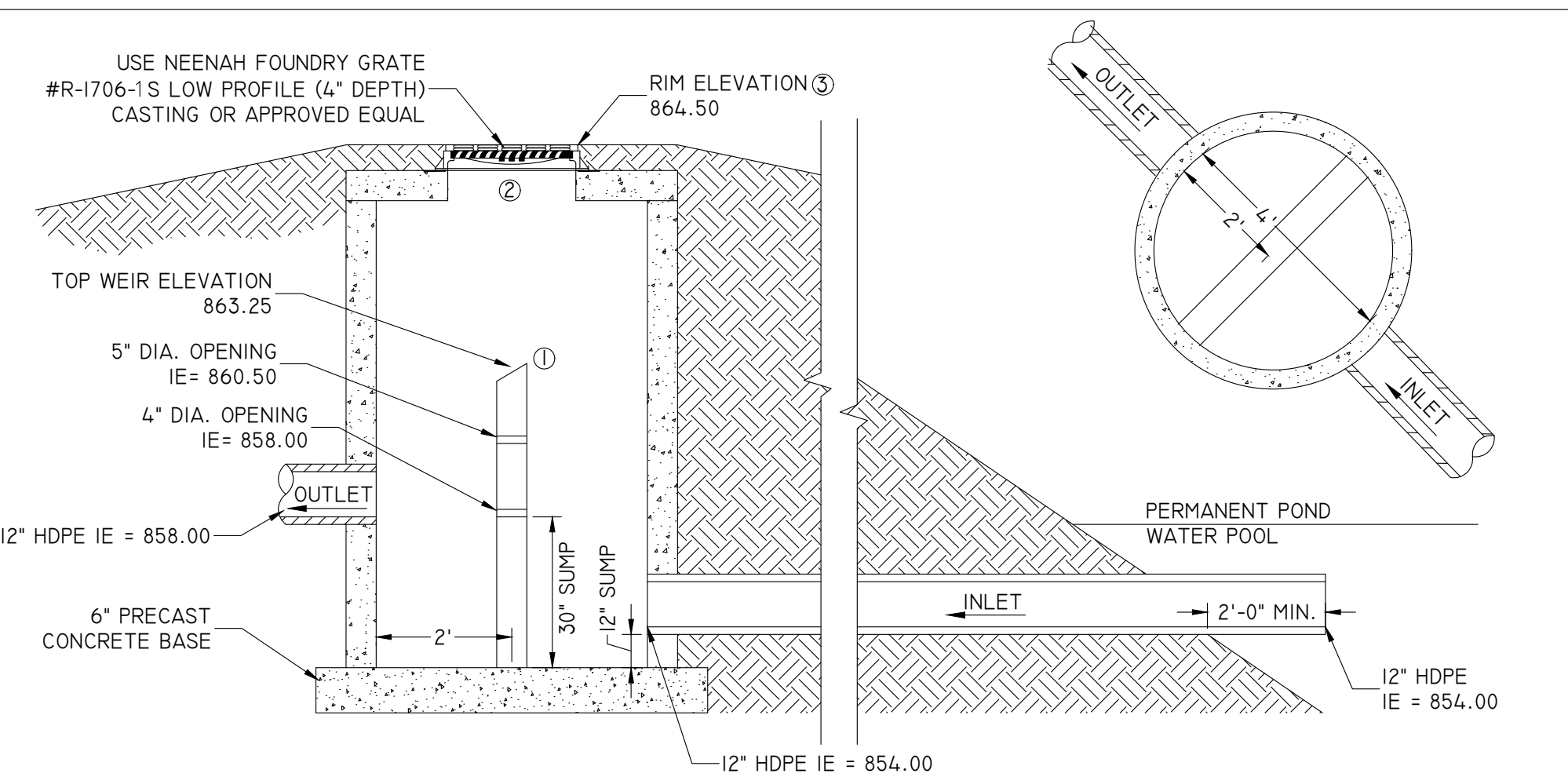
E C603 CONCRETE WASHOUT AREA NTS

- CONCRETE WASHOUT AREA INSTALLATION NOTES
1. SEE EROSION CONTROL PLAN FOR LOCATIONS OF CONCRETE WASHOUT AREA(S). TO BE PLACED A MIN. OF 50' FROM DRAINAGEWAYS, BODIES OF WATER, AND INLETS.)
 2. THE CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
 3. VEHICLE TRACKING CONTROL PAD IS REQ'D AT THE ACCESS POINT(S).
 4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA(S), AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREAS TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
 5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

CONCRETE WASHOUT AREA MAINTENANCE NOTES

6. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE
7. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
8. WHEN CONCRETE WASHOUT AREA(S) IS REMOVED, THE DISTURBED AREA SHALL BE STABILIZED PER SITE EROSION CONTROL MEASURES.
9. INSPECT WEEKLY AND DURING AND AFTER ALL STORM EVENTS. CLEAN-OUT OR COVER WASHOUT AREA PRIOR TO PREDICTED STORM EVENTS TO PREVENT OVER-FLOW.

E C603 CONCRETE WASHOUT AREA NTS



F C603 OUTLET CONTROL STRUCTURE NTS

- ① 4" THICK MASONRY WALL OR 1/2" STEEL PLATE. GROUT OR SEAL ALONG SIDES OF MANHOLE
- ② FORM OPENING IN TOP SLAB TO FIT CASTING
- ③ ADJUST GRADING AT THE OUTLET STRUCTURE TO COVER CASTING TO THE PROPOSED RIM ELEVATION

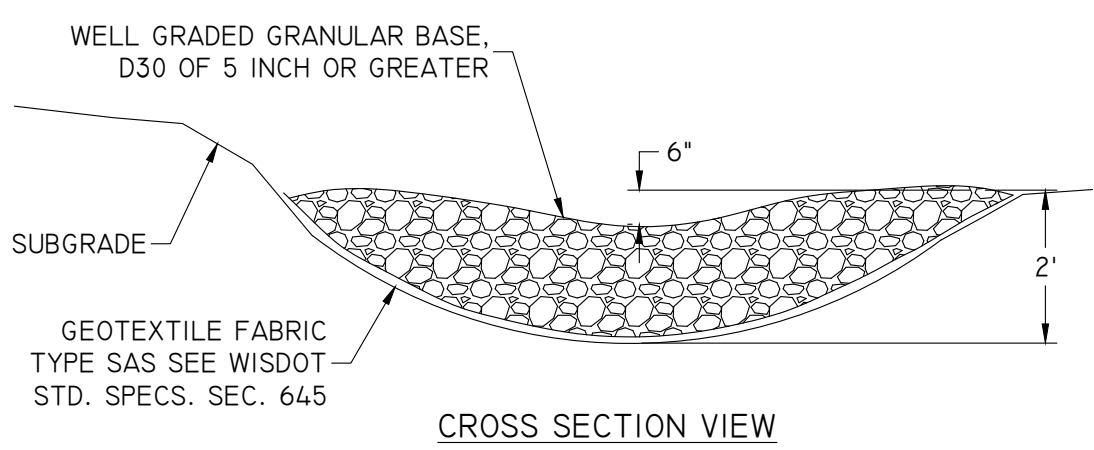
INSTALL & MAINTAIN IN ACCORDANCE WITH DNR TECHNICAL STANDARD 1062.

DITCH CHECKS TO BE REMOVED AFTER THE DITCH IS VEGETATED AND STABILIZED.

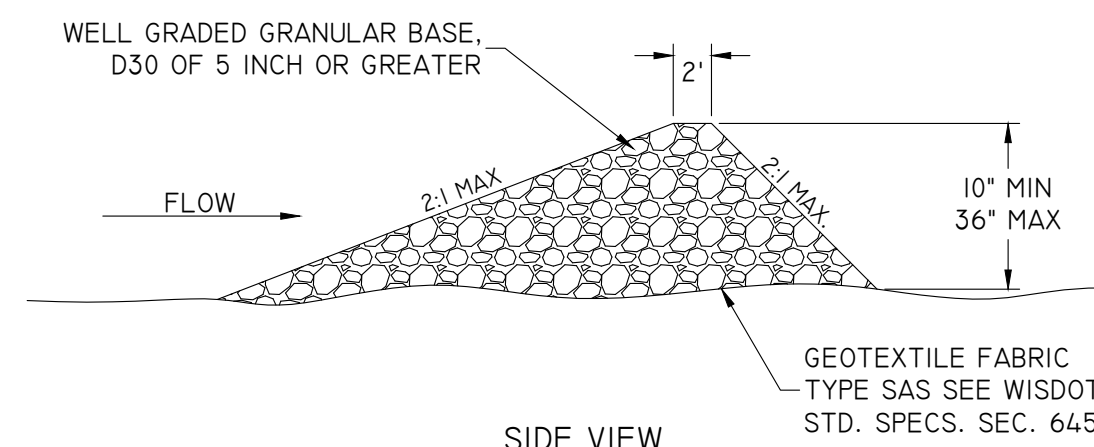
AREA UNDER THE DITCH CHECK TO BE SEEDED AFTER THE DITCH CHECK IS REMOVED.

PLACE EROSION MAT OVER THESE SEEDED AREAS.

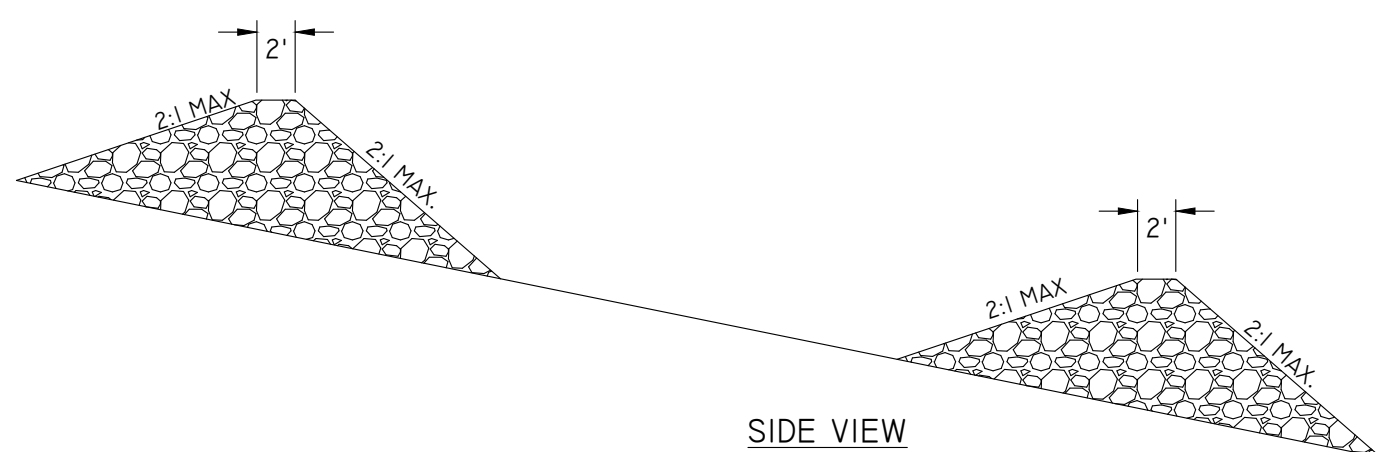
NOTE:
CONTRACTOR MAY REFER TO THE WISDOT PAL FOR OTHER APPROVED DITCH CHECKS AND THEIR INSTALLATION



CROSS SECTION VIEW



SIDE VIEW



SIDE VIEW

D C603 STONE DITCH CHECKS NTS

Kwik Trip

STORES

Kwik Star

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9786 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

EROSION CONTROL
DETAILS

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
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DRAWN BY: NAP XXX
SCALE: GRAPHIC
PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: C603

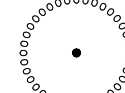
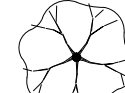
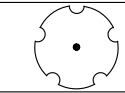
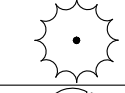
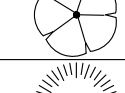
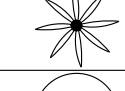
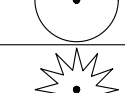
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PLOTTED: OCT 08, 2024 - 3:45PM PLOTTED BY: TODDW

REFER TO SHEET C701
REFER TO SHEET C702

GENERAL NOTES:

- (A) LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR LOCATING & VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, AND IS RESPONSIBLE FOR ANY DAMAGE TO THEM DURING CONSTRUCTION.
- (B) CALL DIGGERS HOTLINE @ 811 OR 1-800-242-8511 AT LEAST 5 WORKING DAYS PRIOR TO DEMOLITION, EXCAVATION OR ANY CONSTRUCTION ACTIVITY.
- (C) ALL PLANT MATERIAL SHALL BE GUARANTEED ONE (1) FULL YEAR UPON TOTAL COMPLETION OF PROJECT AND ACCEPTANCE BY OWNER, WITH A ONE TIME REPLACEMENT WARRANTY UPON REQUEST BY OWNER. WARRANTY EXPIRES AFTER FIRST FULL YEAR FOLLOWING PROJECT COMPLETION.
- (D) LANDSCAPE CONTRACTOR SHALL VERIFY MINIMUM 6" TOPSOIL DEPTH FOR ALL AREAS TO BE SEEDED/SODDED THROUGHOUT PROJECT SITE. CONTRACTOR IS REQUIRED TO CORRECT ANY DEFICIENCIES PRIOR TO SEED/SOD. TOPSOIL SHALL BE CLEAN AND FREE OF STONES, WEEDS AND OTHER UNDESIRABLE DEBRIS.
- (E) LANDSCAPE CONTRACTOR SHALL VERIFY MINIMUM 12" PLANTING SOIL DEPTH FOR ALL PROPOSED PLANTING BED AREAS THROUGHOUT THE PROJECT SITE. CONTRACTOR IS REQUIRED TO CORRECT ANY DEFICIENCIES PRIOR TO PLANT INSTALLATION. PLANTING SOIL & AREA SHALL BE CLEAN AND FREE OF STONES, WEEDS, CONCRETE WASTE AND OTHER UNDESIRABLE DEBRIS.
- (F) LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR REPAIRING TOPSOIL AND SODDING ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITY, INCLUDING ALL R.O.W. AND ADJACENT PROPERTIES.
- (G) CONTRACTOR SHALL CLEAN ALL PAVEMENT AREAS AFTER LANDSCAPE CONSTRUCTION ACTIVITIES ARE COMPLETE AND APPROVED BY OWNER. *THIS TO BE DONE DAILY AS DEEMED NECESSARY BY MUNICIPALITY.

PLANT SCHEDULE

SYMBOL	COMMON NAME	BOTANICAL NAME	SIZE	CONT.	QTY
DECIDUOUS TREES					
	Autumn Blaze® Freeman Maple	Acer x freemanii 'Jeffersred'	2.5" Cal.	B&B	11
	Fall Fiesta® Sugar Maple	Acer saccharum 'Baillista'	2" Cal.	B&B	18
	Red Oak	Quercus rubra	3" Cal.	B&B	8
	Swamp White Oak	Quercus bicolor	3" Cal.	B&B	7
EVERGREEN TREES					
	Black Hills White Spruce	Picea glauca 'Densata'	6' Ht.	B&B	2
	White Pine	Pinus alba	6' Ht.	B&B	8
	White Spruce	Picea glauca	6' Ht.	B&B	20
DECIDUOUS SHRUBS					
	Tiny Wine® Ninebark	Physocarpus opulifolius 'SMPOTW'	3 gal.	Pot	62
EVERGREEN SHRUBS					
	Dark Green Anglo-Japanese Yew	Taxus x media 'Dark Green'	5 gal.	Pot	11
	Kallay Compact Pfitzer Juniper	Juniperus chinensis 'Kallays Compact'	3 gal.	Pot	25
	Mini Arcade Juniper	Juniperus sabinia 'Mini Arcade'	3 gal.	Pot	58
PERENNIALS					
	Karl Foerster Feather Reed Grass	Calamagrostis x acutiflora 'Karl Foerster'	1 gal.	Pot	27
	Prairie Dropseed	Sporobolus heterolepis	1 gal.	Pot	104
	Shenandoah Switch Grass	Panicum virgatum 'Shenandoah'	1 gal.	Pot	68

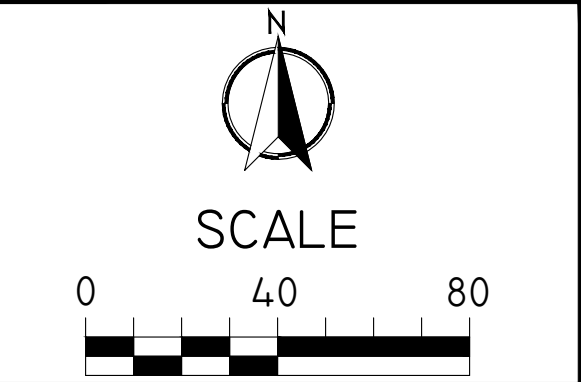


STORES



STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960



LANDSCAPE PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
		

DRAWN BY: NAP
SCALE: GRAPHIC
PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: C700

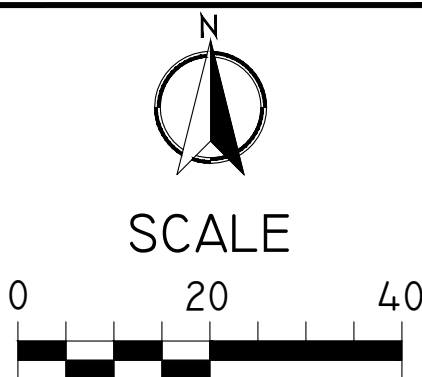
1. SOD, *ALL AREAS NOTED ON PLAN & ALL DISTURBED AREAS DUE TO CONSTRUCTION ACTIVITY.
2. (9,900 SF TOTAL) AGRECOL, SHORTGRASS PRAIRIE FOR DRY SOILS, APPLY GLYPHOSATE HERBICIDE TO AREA WHEN MAJORITY OF WEEDS ARE 2"-3" TALL. WAIT 10 DAYS THEN FINELY TILL THE SOIL ONLY 1"-2" DOWN AND PLANT IMMEDIATELY BY HAND BROADCASTING AT A RATE OF 11 LBS/ACRE. RAKE OR DRAG AREA LIGHTLY, COVERING THE SEED WITH ABOUT $\frac{1}{2}$ " TO $\frac{1}{4}$ " OF SOIL. ROLL AREA FIRMLY AFTER RAKING. MULCH PRAIRIE SEEDED AREAS LESS THAN 4:1 SLOPE WITH 1" OF WEED FREE STRAW MULCH. APPLY WISDOT NET-FREE CLASS I, URBAN TYPE B EROSION MAT ON SLOPING AREAS STEEPER THAN 4:1. *REFER TO AGRECOL'S "NATIVE SEEDING INSTRUCTIONS" ON THEIR WEBSITE FOR DETAILED INSTRUCTIONS/GUIDELINES FOR SUCCESSFUL SEED ESTABLISHMENT AND MANAGEMENT. (LINK BELOW)

[HTTPS://WWW.AGRECOL.COM/NATIVE-SEEDING-INSTRUCTIONS_EP_44_HTML](https://www.agrecol.com/Native-Seeding-Instructions_EP_44_HTML)
3. 6" DIAMETER WOOD MULCH TREE RING, 3'-4" DEPTH, DARK BROWN COLOR, *ALL TREES PLANTED WITHIN SOD AREAS.
4. SHREDDED HARDWOOD MULCH, 3'-4" DEPTH, DARK BROWN COLOR.
5. SHOVEL CUT EDGE, 4"-6" DEPTH CLEAN CUT EDGE AROUND PLANTING BEDS & PRAIRIE SEEDING WITHIN SOD AREAS.

SYMBOL	BOTANICAL NAME
DECIDUOUS TREES	
	Acer saccharum 'Baillista'
	Acer x freemanii 'Jeffersred'
	Quercus bicolor
	Quercus rubra
EVERGREEN TREES	
	Picea glauca
	Picea glauca 'Densata'
	Pinus alba
DECIDUOUS SHRUBS	
	Physocarpus opulifolius 'SMPOTW'
EVERGREEN SHRUBS	
	Juniperus chinensis 'Kallays Compact'
	Juniperus sabina 'Mini Arcade'
	Taxus x media 'Dark Green'
PERENNIALS	
	Calamagrostis x acutiflora 'Karl Foerster'
	Panicum virgatum 'Shenandoah'
	Sporobolus heterolepis

STORES

 **REI**
**CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING**
REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

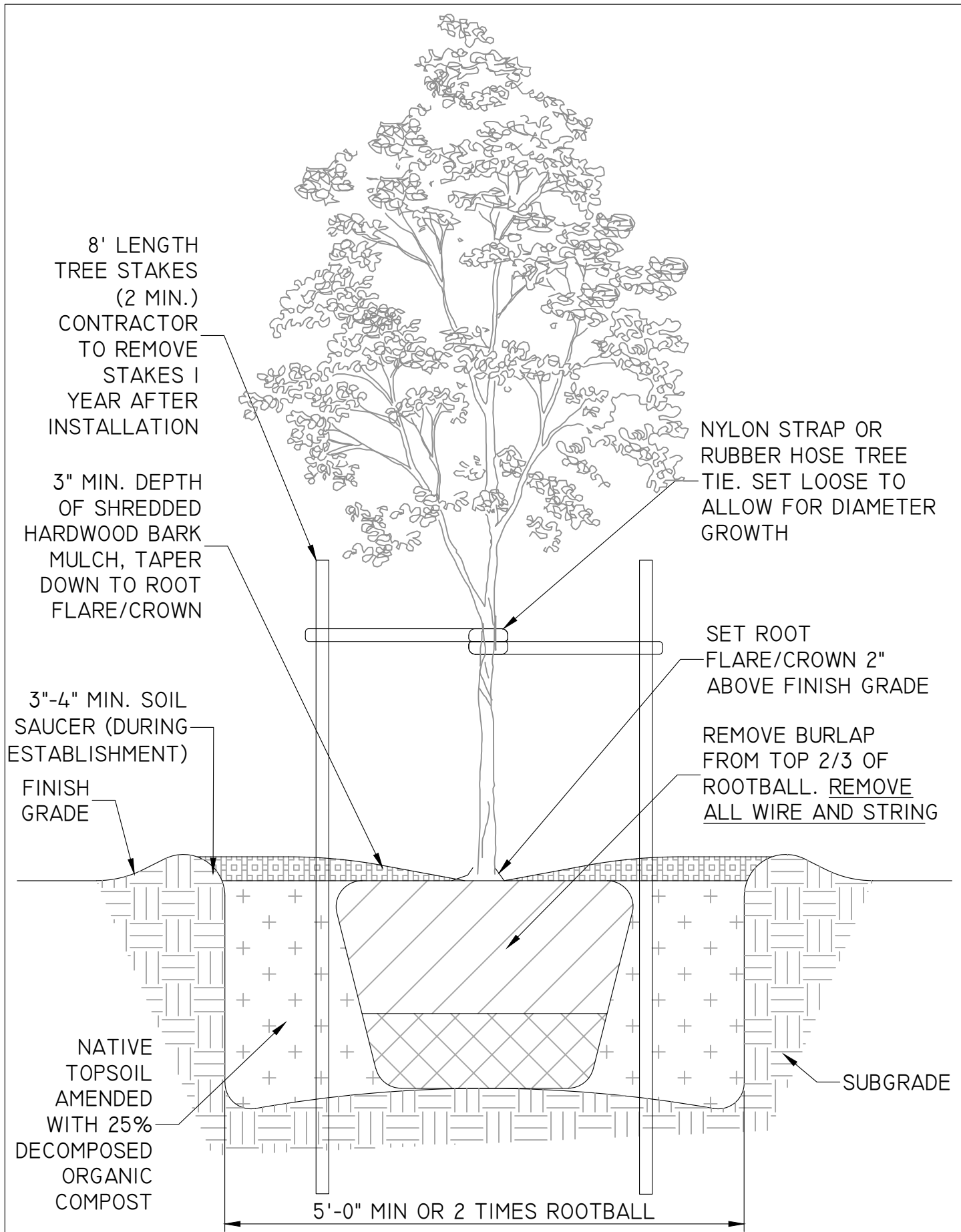


CONVENIENCE STORE #631

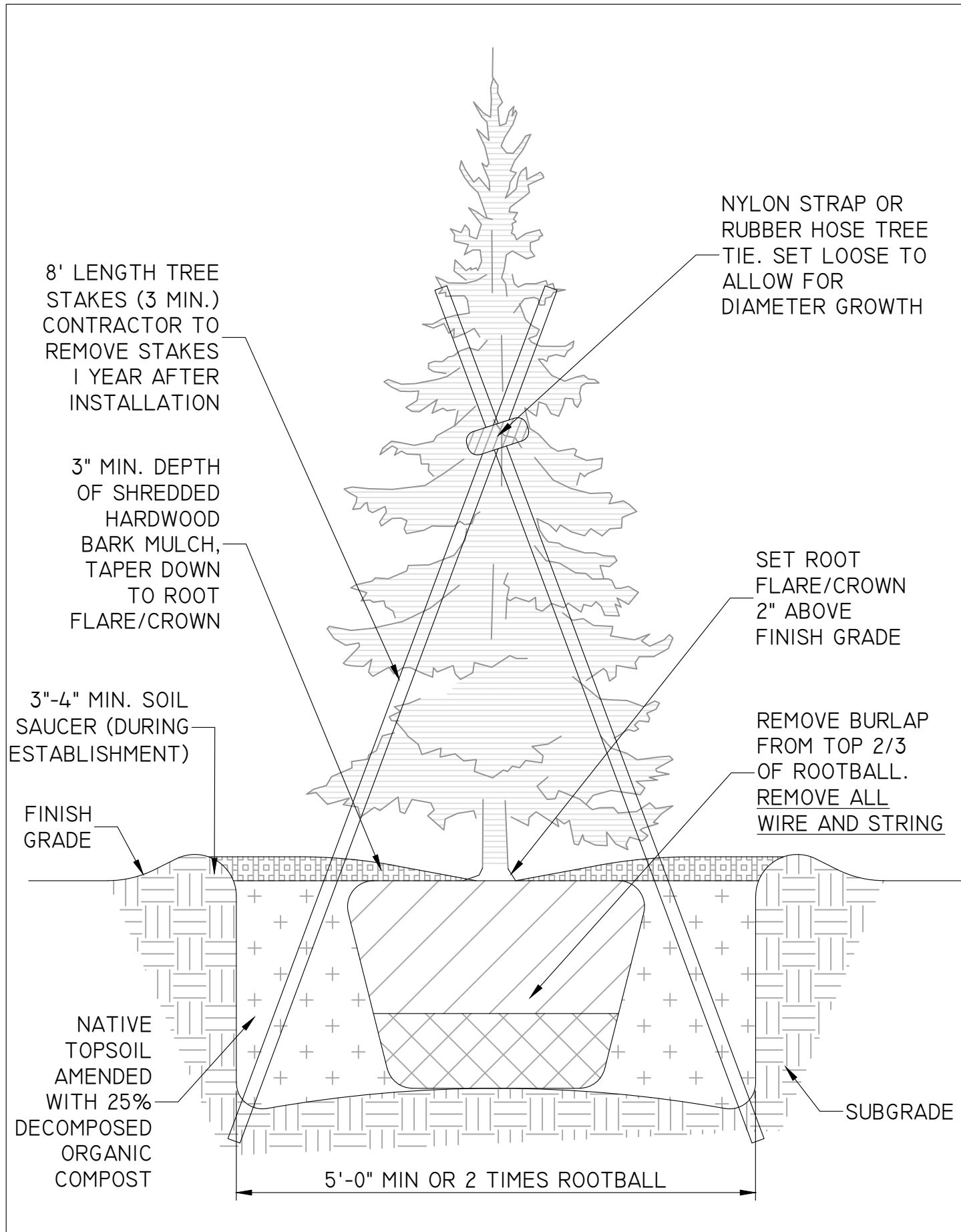
STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
		
DRAWN BY NAP		
SCALE	GRAPHIC	
PROJ. NO.	11757	
DATE	10/09/24 - REVIEW DOCUMENTS	
SHEET	C701	

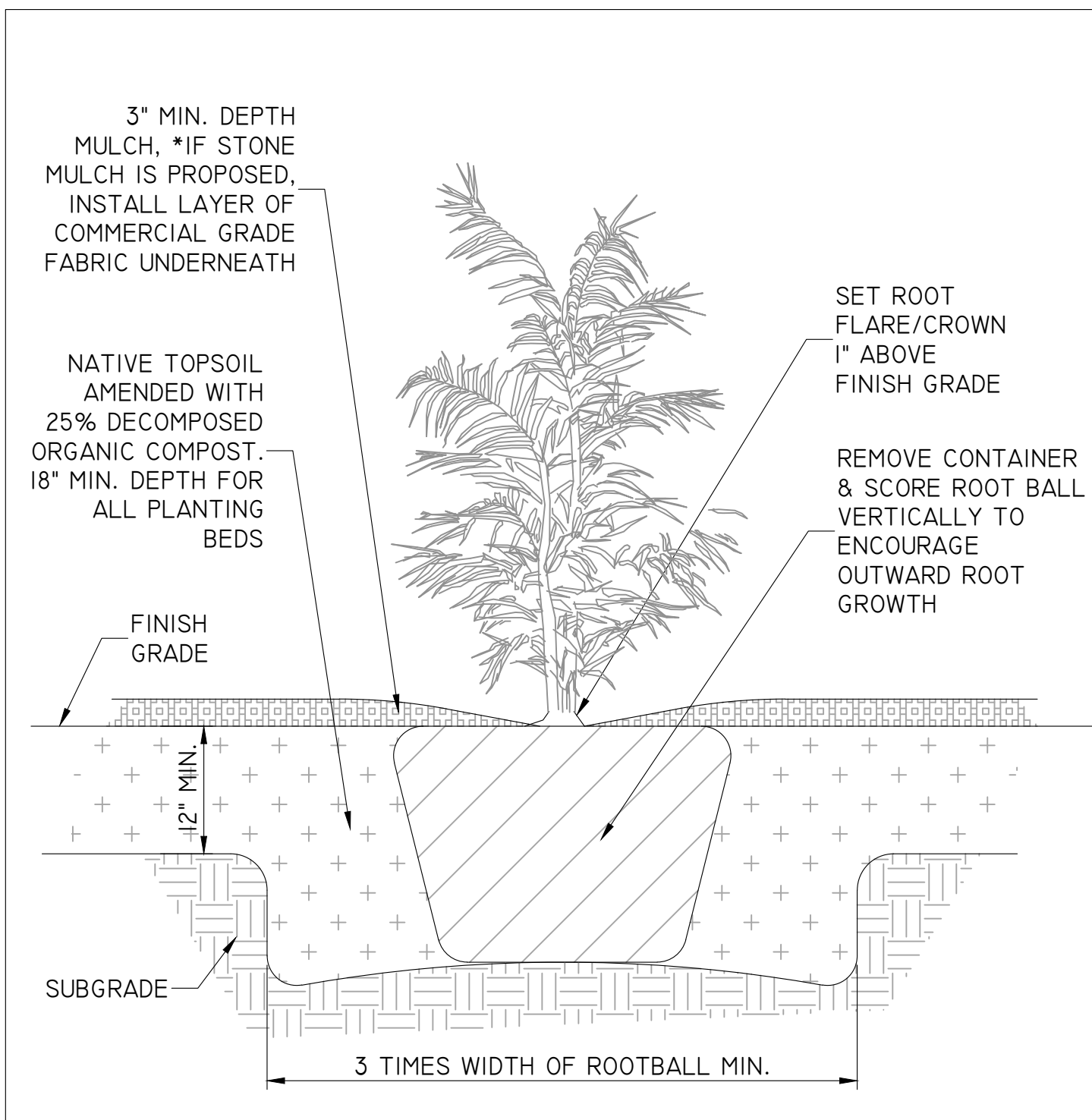
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PLOTTED: OCT 08, 2024 - 3:47PM PLOTTED BY: TODDW



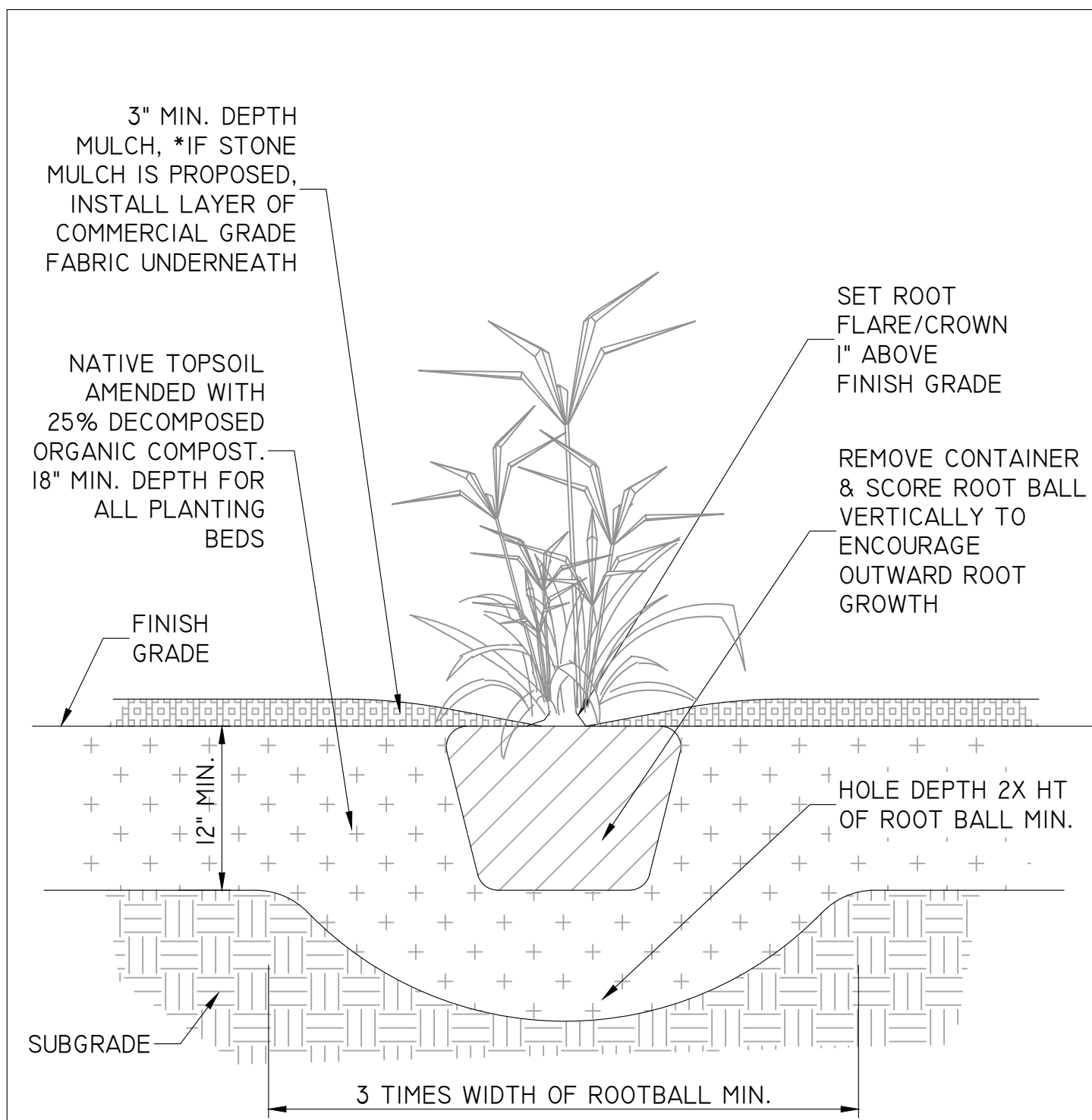
DECIDUOUS TREE - PLANTING DETAIL



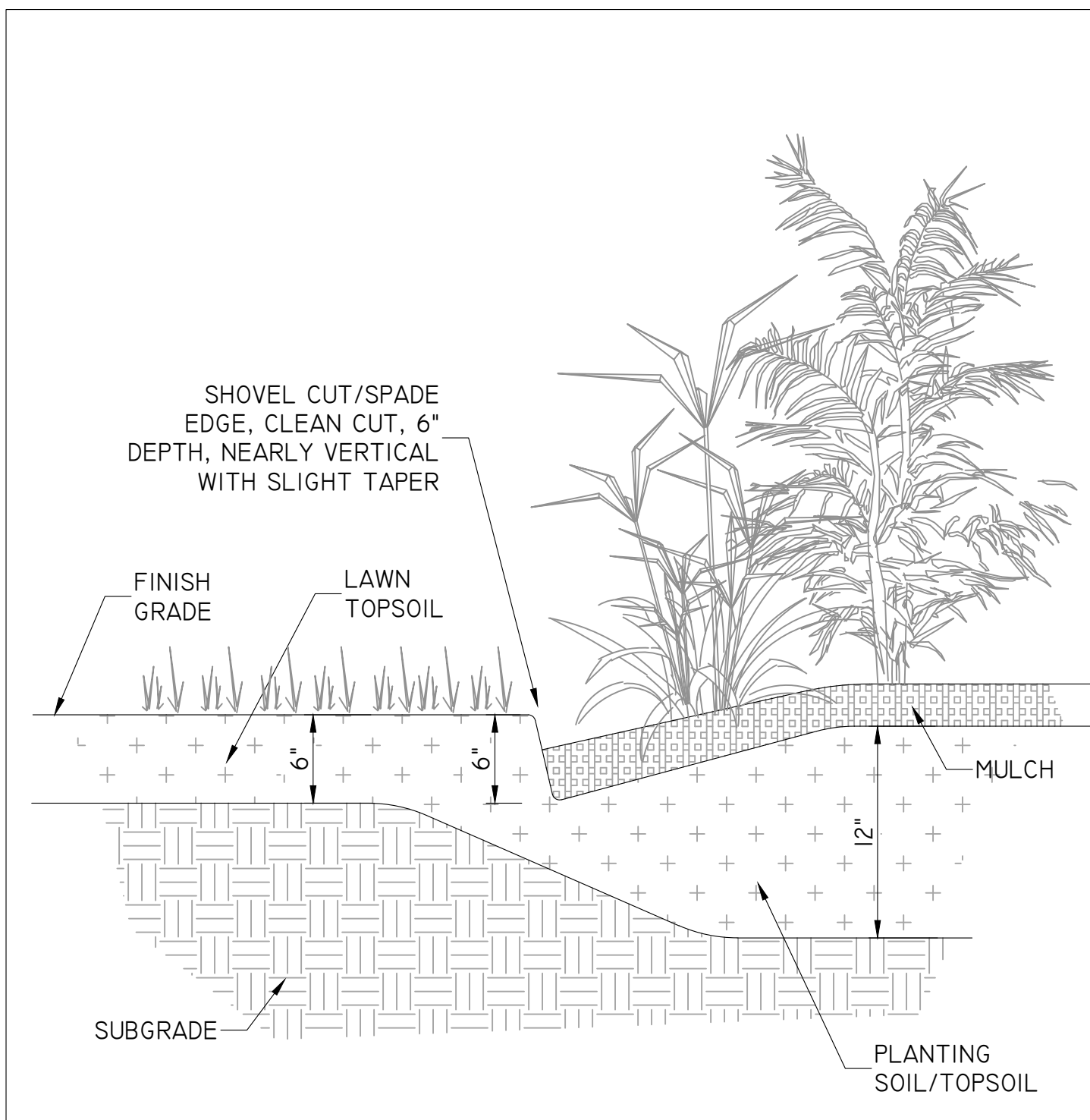
EVERGREEN TREE - PLANTING DETAIL



SHRUB - PLANTING DETAIL



PERENNIAL - PLANTING DETAIL



SHOVEL CUT EDGE - DETAIL

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Kwik
STAR

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9786 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

LANDSCAPE DETAILS

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
1		
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DRAWN BY: NAP
SCALE: GRAPHIC
PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: C703



OVERALL SITE:
AVERAGE: 3.2
MAXIMUM: 78.7
MINIMUM: 0.0

FIXTURE QUANTITIES

D20	-44
S7E	-6
CF	-20
CFBK	-8
P13	-5
P13L	-1
P1F	-14
P1FL	-4

PROVIDE (19) 16' POLES.

GENERAL NOTES:

1. FOOTCANDLE LEVELS SHOWN ON THIS PLAN ARE CALCULATED AT GRADE LEVEL.
2. ALL POLES SHALL BE INSTALLED A MINIMUM OF 3'-0" FROM BACK OF CURB TO EDGE OF POLE BASE UNLESS NOTED.
3. POLE THAT ARE LOCATED AT CORNER OF ISLAND SHALL BE A MINIMUM OF 6'-0" FROM BACK OF CURB TO EDGE OF POLE BASE. POLES THAT MUST BE INSTALLED LESS THAN 6'-0" FROM BACK OF CURB TO EDGE OF POLE BASE SHALL HAVE PROTECTIVE BOLLARDS INSTALLED AROUND THE POLE BASE. COORDINATE WITH KWIK TRIP PRIOR TO INSTALLATION.

KEYED NOTES:

- ① COORDINATE LOCATION AND MOUNTING HEIGHT OF SECURITY CAMERA WITH OWNER
- ② CONTRACTOR SHALL POLE MOUNT FIXTURE 8'-0" FROM BACK OF CURB TO EDGE OF POLE BASE.
- ③ CONTRACTOR SHALL POLE MOUNT FIXTURE 2'-0" FROM BACK OF CURB TO EDGE OF POLE BASE TO AVOID UNDERGROUND UTILITIES.
- ④ CONTRACTOR SHALL POLE MOUNT FIXTURE 3'-0" FROM BACK OF CURB TO EDGE OF POLE BASE NEAR RETAINING WALL.
- ⑤ CONTRACTOR SHALL POLE MOUNT FIXTURE 5'-0" FROM BACK OF CURB TO EDGE OF POLE BASE TO AVOID UNDERGROUND UTILITIES.

FIXTURE TYPES:

D20- RECESSED LED DOWNLIGHT
GOTHAM EVO-35/30-8AR-WD-120-TRW

57E- LED STRIP LIGHT MOUNTED IN GABLE LITHONIA
TZL1HL96-1000MLM-FST-MVOLT

CF- LSI LIGHTING: SCV4L-23-SCFT-UNV-DIM-50-WHT MOUNTED
UNDER GAS CANOPY MOUNT FIXTURES WITH FORWARD
THROW OPTIC AIMING IN DIRECTION OF ARROW.

CFBK- LSI LIGHTING: SCV4L-23-SCFT-UNV-DIM-50-BLK MOUNTED
UNDER DIESEL CANOPY MOUNT FIXTURES WITH
FORWARD THROW OPTIC AIMING IN DIRECTION OF ARROW.

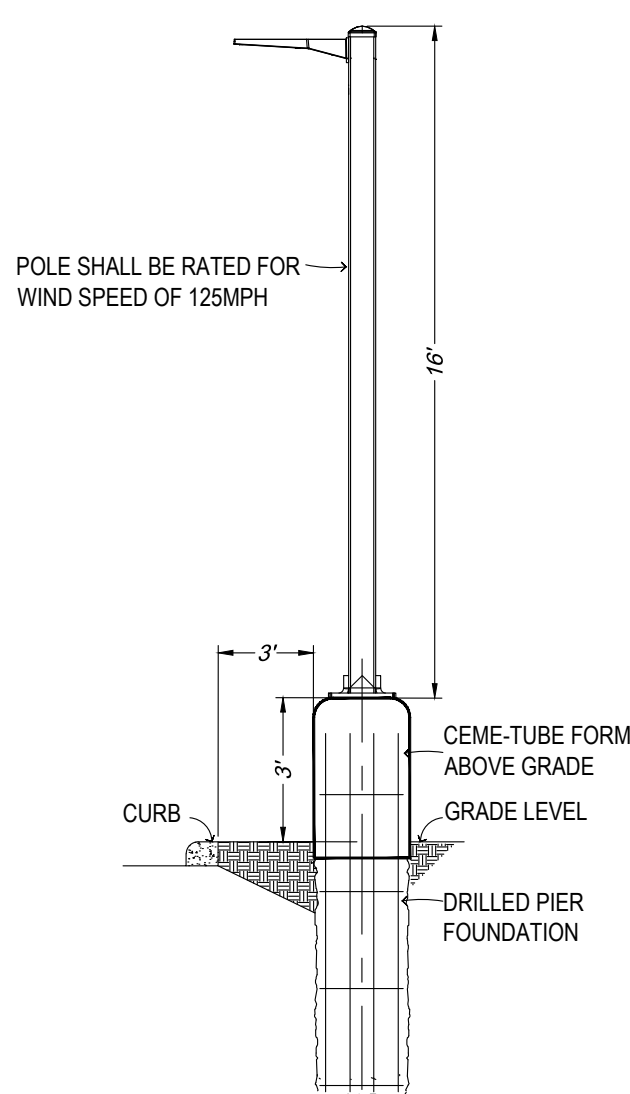
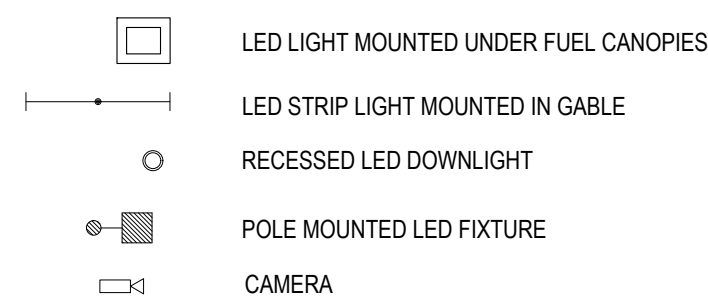
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P14- LSI LIGHTING: MRS-LED-18L-SIL-3-UNV-50-70CRI-WHT-IL

P15- LSI LIGHTING: MRS-LED-18L-SIL-FT-UNV-50-70CRI-WHT

P1FL- LSI LIGHTING: MRS-LED-18L-SIL-FT-UNV-50-70CRI-WHT-IL

FIXTURE SYMBOLS:



LOT LIGHT ELEVATION DETAIL

NOT TO SCALE

**KWIK
TRIP**

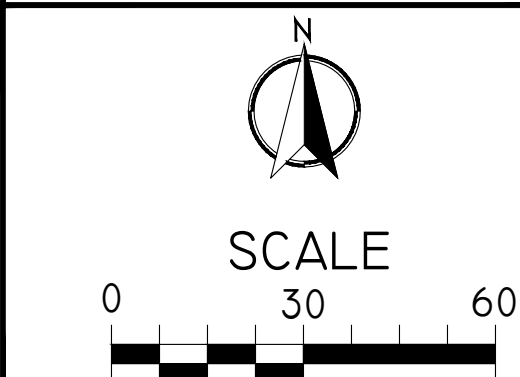
STORES

The Kwik Star logo, featuring the word "Kwik" in a bold, italicized sans-serif font above the word "Star" in a similar font, with a five-pointed star replacing the letter "a".

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

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REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



PHOTOMETRIC LIGHTING PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
1		

DRAWN BY	XXX
SCALE	GRAPHIC
PROJ. NO.	11757
DATE	10/09/24 - REVIEW DOCUMENTS
SHEET	C80

C800





**Kwik
Trip**

**Kwik
Star**

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P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

10 MPD

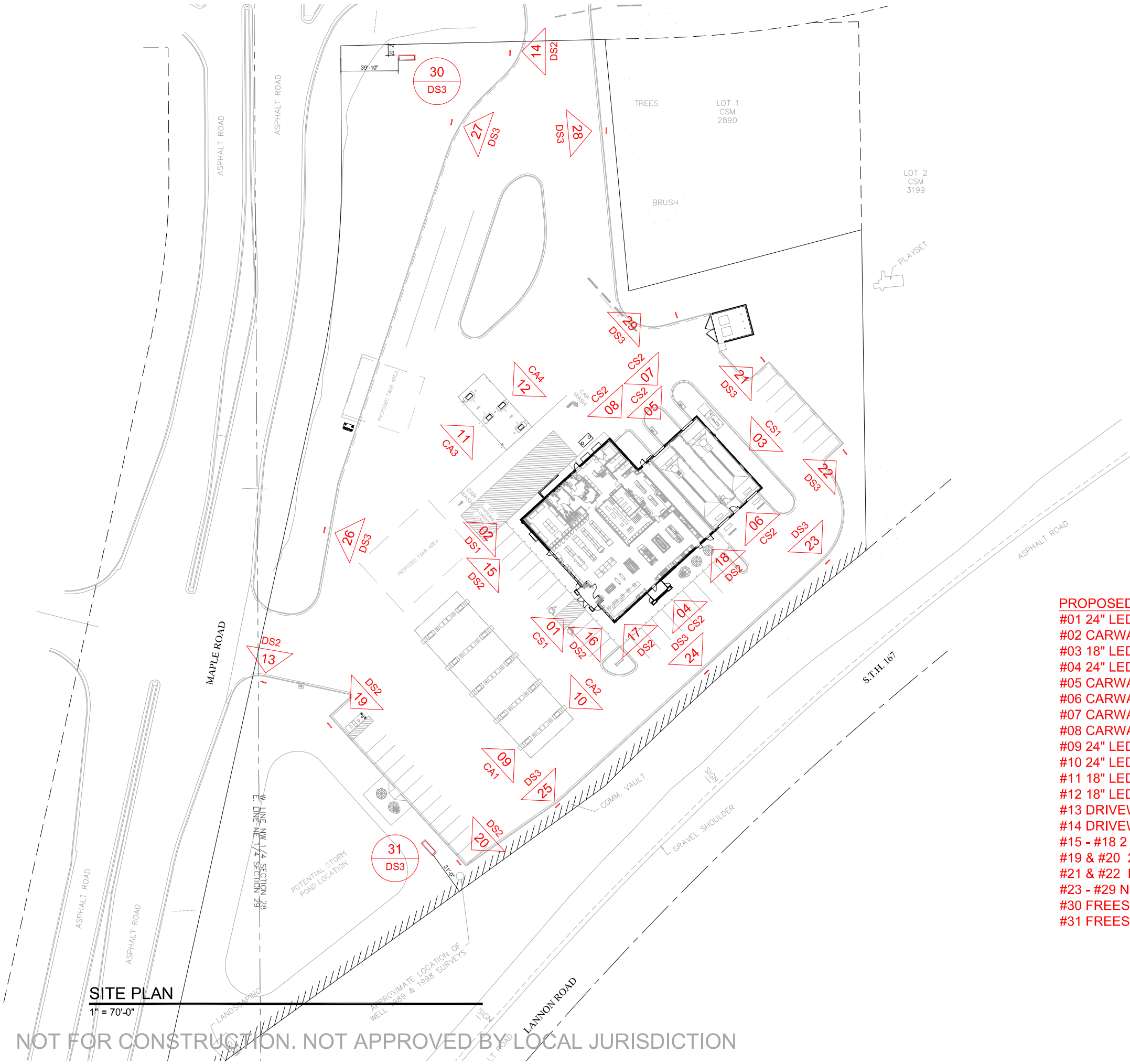


**Kwik
Trip**

**Kwik
Star**

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

DIESEL



- PROPOSED SIGNS:**
#01 24" LED KWIK TRIP BUILDING LETTERS
#02 CARWASH BUILDING DIRECTIONAL SIGN
#03 18" LED KWIK TRIP & 24" CARWASH BUILDING LETTERS
#04 24" LED KWIK TRIP BUILDING LETTERS
#05 CARWASH ENTER
#06 CARWASH EXIT
#07 CARWASH INFORMATIONAL SIGN
#08 CARWASH INFORMATIONAL SIGN
#09 24" LED KWIK TRIP CANOPY LETTERS
#10 24" LED KWIK TRIP CANOPY LETTERS
#11 18" LED DIESEL ENTER CANOPY SIGN
#12 18" LED DIESEL EXIT CANOPY SIGN
#13 DRIVEWAY DIRECTIONAL
#14 DRIVEWAY DIRECTIONAL
#15 - #18 2 HOUR PARKING SIGNS
#19 & #20 2 HOUR PARKING SIGNS
#21 & #22 EMPLOYEE PARKING SIGNS
#23 - #29 NO PARKING SIGNS
#30 FREESTANDING MONUMENT SIGN
#31 FREESTANDING MONUMENT SIGN

SITE PLAN
1" = 70'-0"

NOT FOR CONSTRUCTION. NOT APPROVED BY LOCAL JURISDICTION



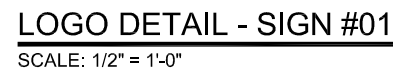
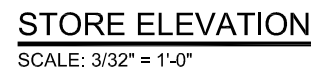
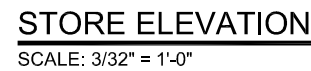
KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

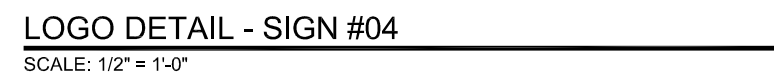
SITE PLAN		CONVENIENCE STORE #631 W. 2BAY CW & SIDE DIESEL	
		Mequon Rd & Maple Rd Germantown, WI	
#	DATE	DESCRIPTION	
DRAWN BY		X.XXXXX	
SCALE		MULTIPLE	
PROJ. NO.		0001	
DATE		2024 10-11	
SHEET		SP1	



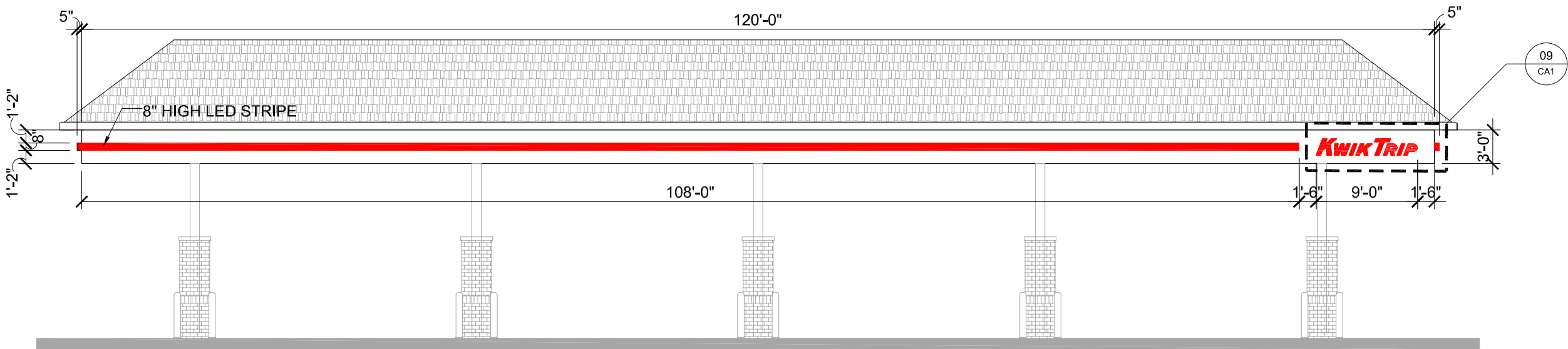
Mequon Rd & Maple Rd
Germantown, WI

#	DATE	DESCRIPTION
DRAWN BY	X.XXXXXX	
SCALE	MULTIPLE	
PROJ. NO.	0001	
DATE	2024-10-11	
SHEET	CS1	





CONVENIENCE STORE SIGNAGE	
CONVENIENCE STORE #631 W. 2BAY CW & SIDE DIESEL	
Mequon Rd & Maple Rd Germantown, WI	
# _____	DATE _____ DESCRIPTION _____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
DRAWN BY _____ X.XXXXXX	
SCALE _____	MULTIPLE _____
PROJ. NO. _____	0001
DATE _____	2024 10-11
SHEET _____	CS2



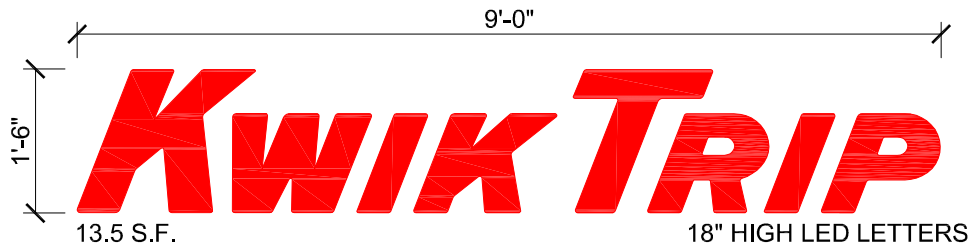
CANOPY ELEVATION

SCALE: 3/32" = 1'-0"



CANOPY ELEVATION

SCALE: 3/32" = 1'-0"



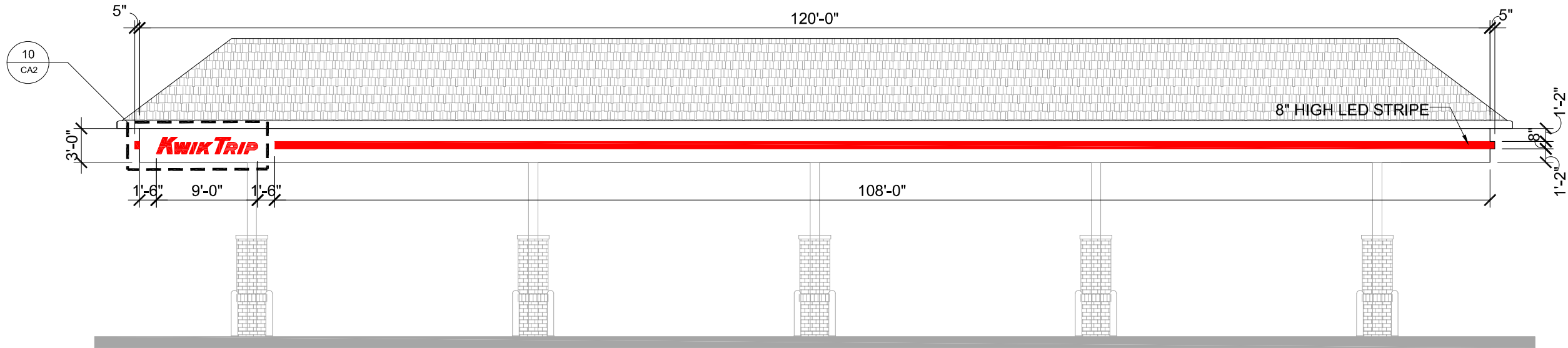
LOGO DETAIL - SIGN #08

SCALE: 1/2" = 1'-0"



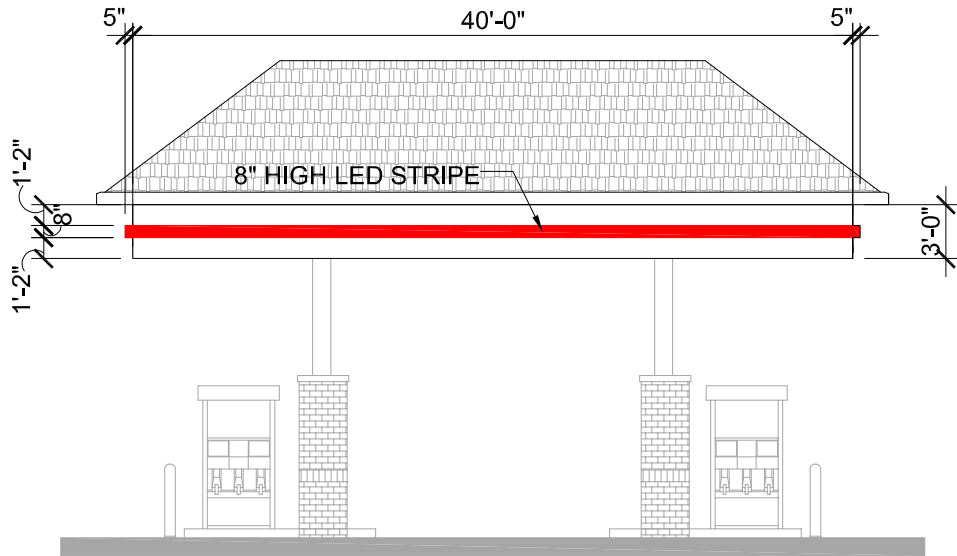
KWIK TRIP, Inc.
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1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

CANOPY SIGNAGE	CONVENIENCE STORE #631	
	W. 2BAY CW & SIDE DIESEL	
	Mequon Rd & Maple Rd	
	Germantown, WI	
#	DATE	DESCRIPTION
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
DRAWN BY		X.XXXXX
SCALE		MULTIPLE
PROJ. NO.		0001
DATE		2024 10-11
SHEET		CA1



CANOPY ELEVATION

SCALE: 3/32" = 1'-0"



CANOPY ELEVATION

SCALE: 3/32" = 1'-0"



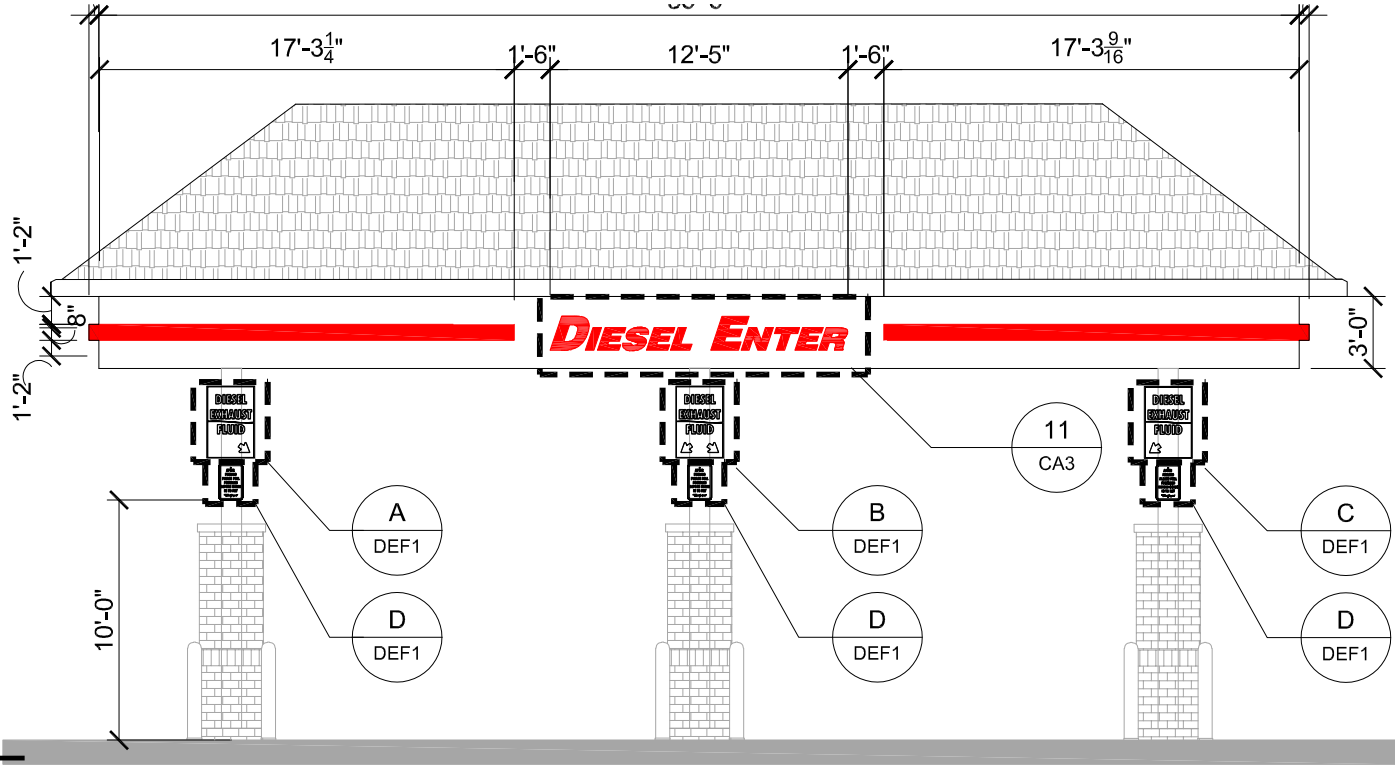
LOGO DETAIL - SIGN #09

SCALE: 1/2" = 1'-0"



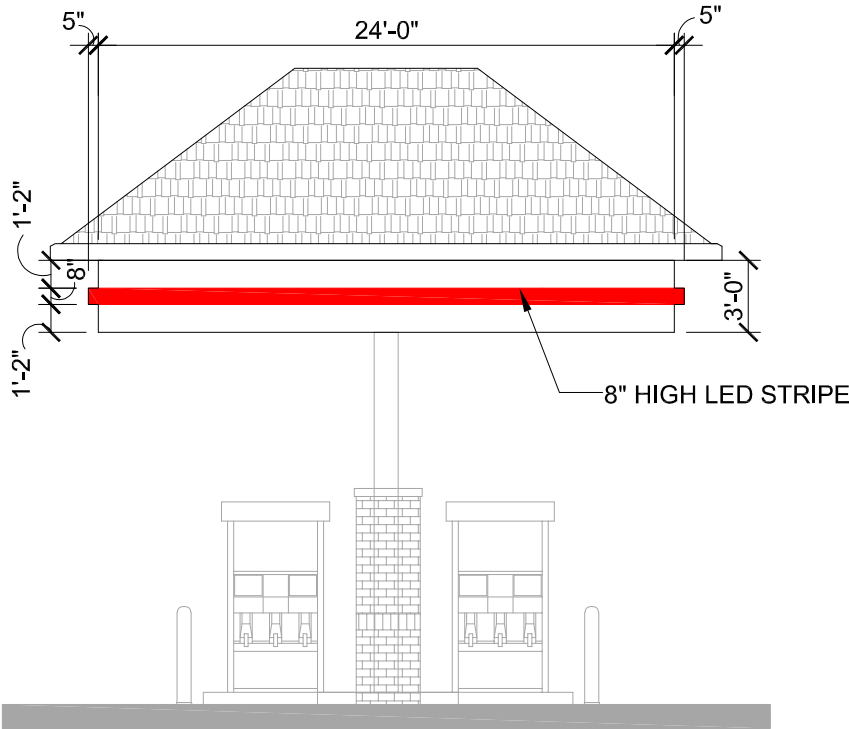
KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

CANOPY SIGNAGE	CONVENIENCE STORE #631	
	W. 2BAY CW & SIDE DIESEL	
	Mequon Rd & Maple Rd	
	Germantown, WI	
#	DATE	DESCRIPTION
DRAWN BY		X.XXXXX
SCALE		MULTIPLE
PROJ. NO.		0001
DATE		2024 10-11
SHEET		CA2



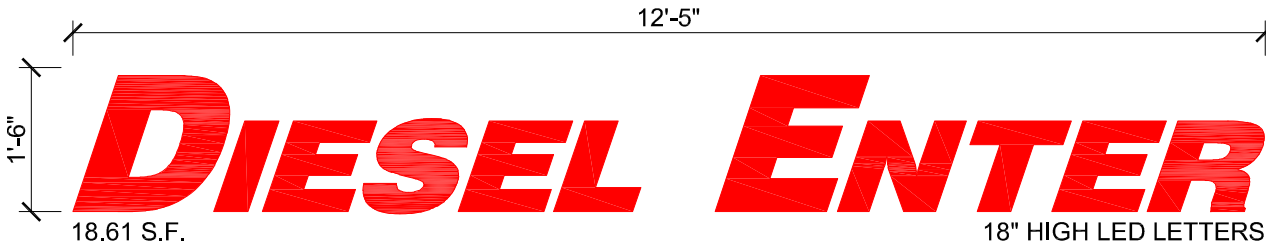
CANOPY ELEVATION

SCALE: 1/8" = 1'-0"



CANOPY ELEVATION

SCALE: 1/8" = 1'-0"



LOGO DETAIL - SIGN #10

SCALE: 1/2" = 1'-0"

**Kwik
TRIP**

**Kwik
STAR**

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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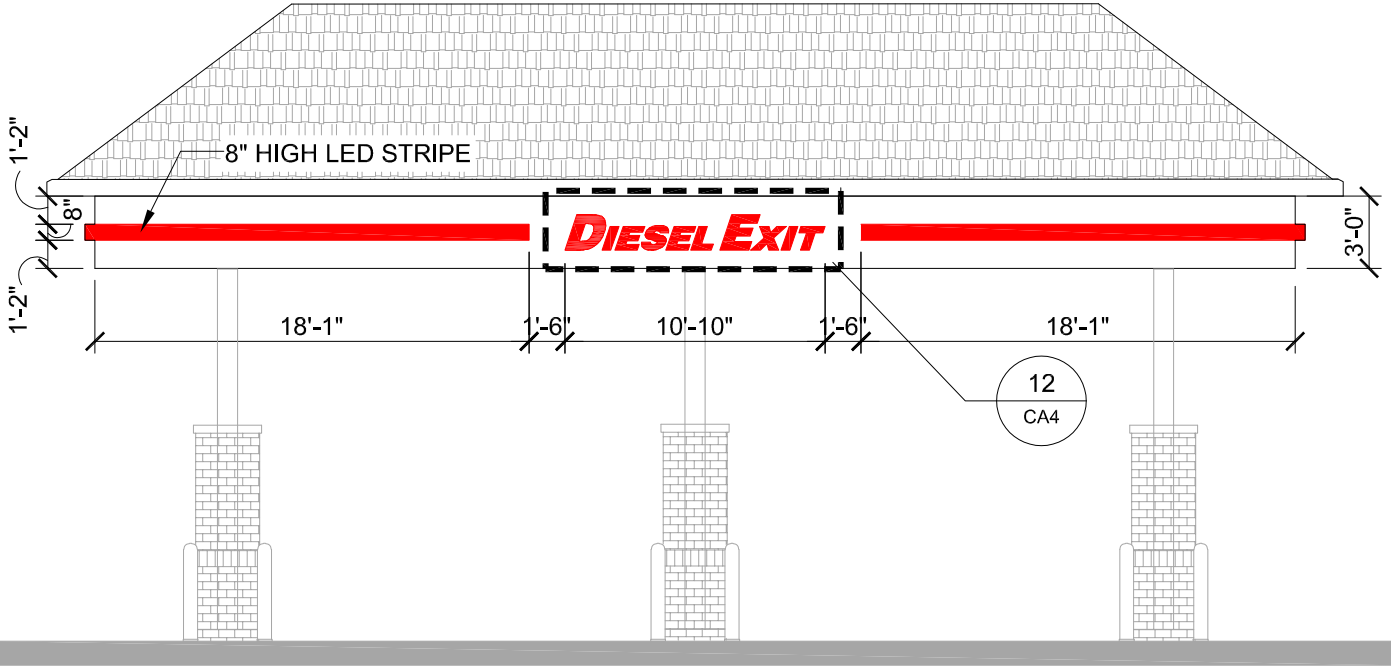
CANOPY SIGNAGE

CONVENIENCE STORE #631
W. 2BAY CW & SIDE DIESEL

Mequon Rd & Maple Rd
Germantown, WI

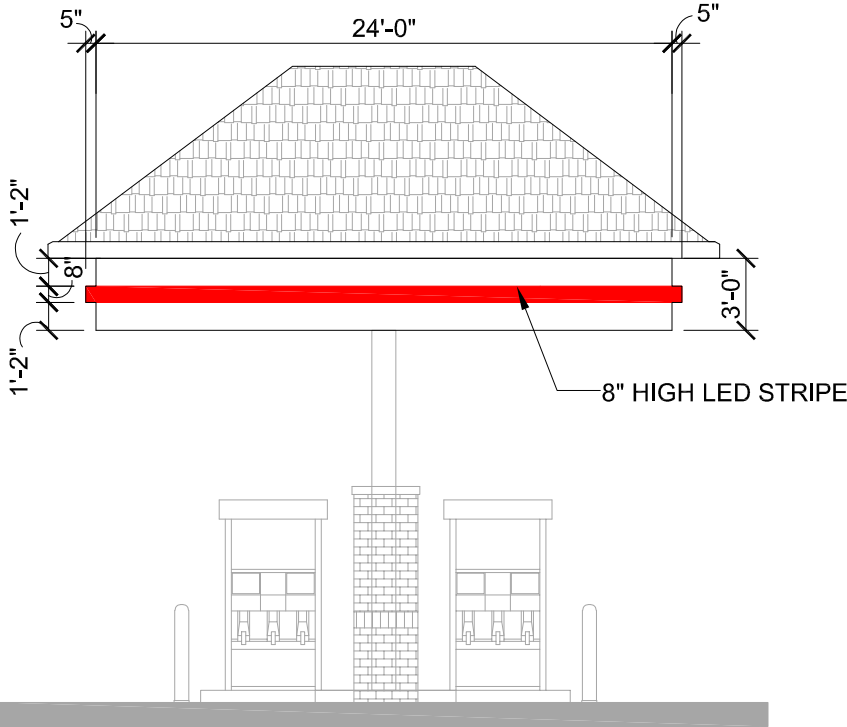
#	DATE	DESCRIPTION

DRAWN BY	X.XXXXX
SCALE	MULTIPLE
PROJ. NO.	0001
DATE	2024 10-11
SHEET	CA3



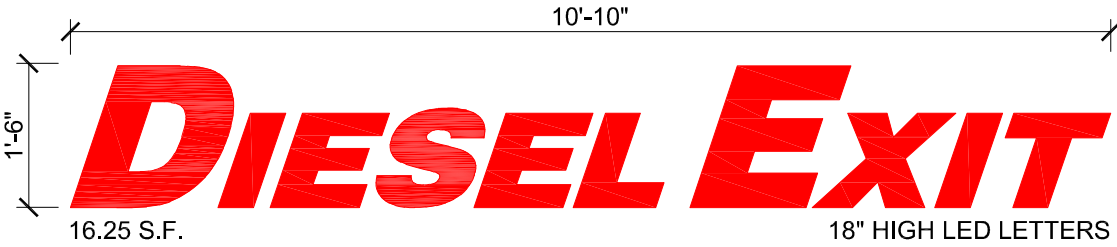
CANOPY ELEVATION

SCALE: 1/8" = 1'-0"



CANOPY ELEVATION

SCALE: 1/8" = 1'-0"



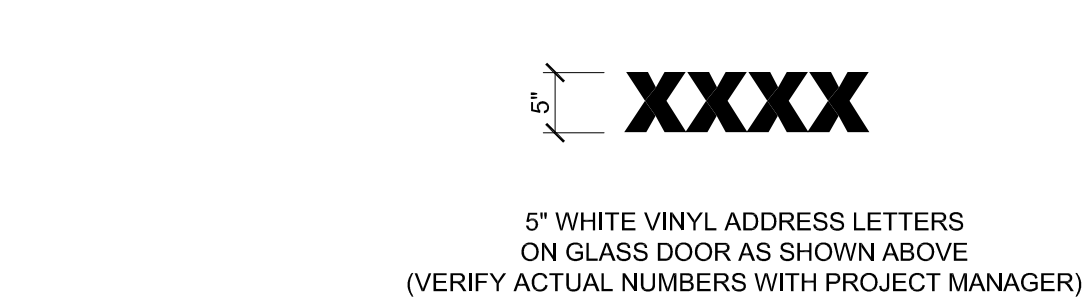
LOGO DETAIL - SIGN #11

SCALE: 1/2" = 1'-0"



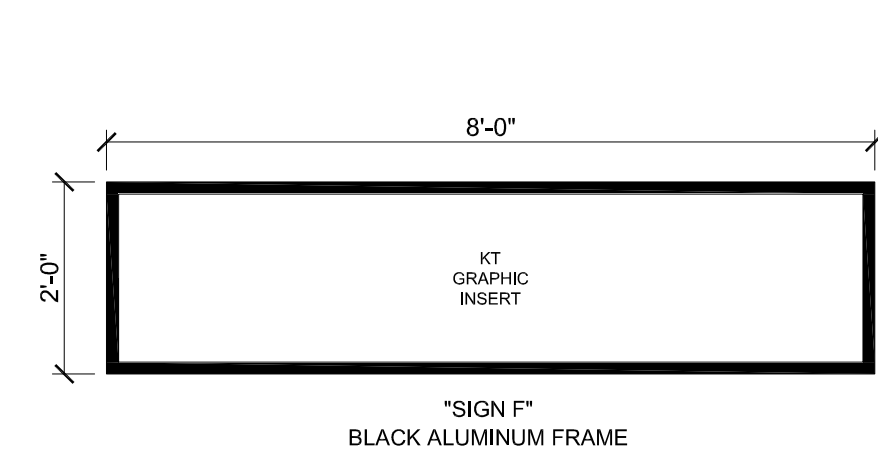
KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

CANOPY SIGNAGE	CONVENIENCE STORE #631 W. 2BAY CW & SIDE DIESEL	Mequon Rd & Maple Rd Germantown, WI
#	DATE	DESCRIPTION
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
DRAWN BY	X.XXXXX	
SCALE	MULTIPLE	
PROJ. NO.	0001	
DATE	2024 10-11	
SHEET	CA4	



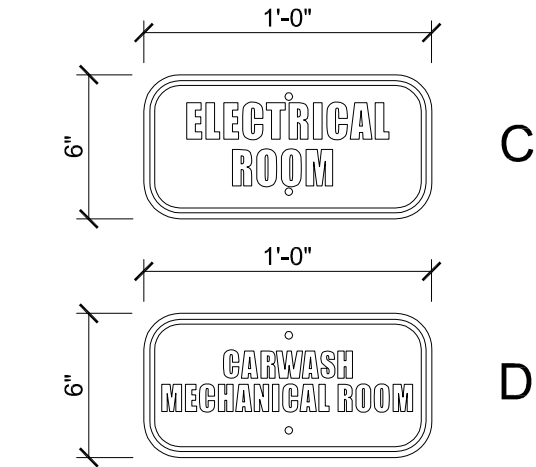
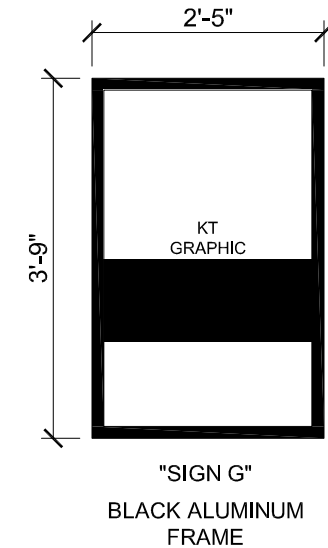
ADDRESS SIGN A

SCALE: 3/4" = 1'-0"



INFORMATIONAL SIGNS F & G

SCALE: 1/2" = 1'-0"



INFORMATIONAL SIGNS C & D

SCALE: 1 1/2" = 1'-0"

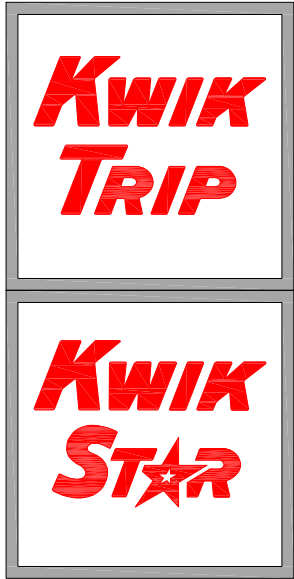


NON-LIT DIRECTIONAL SIGN
WHITE VINYL ON RED ALUMINUM
1'-0"H X 4'-0"W = 4.0 SQ FT
SIGN TO BE MOUNTED 48" AFF

DIRECTIONAL SIGN #02

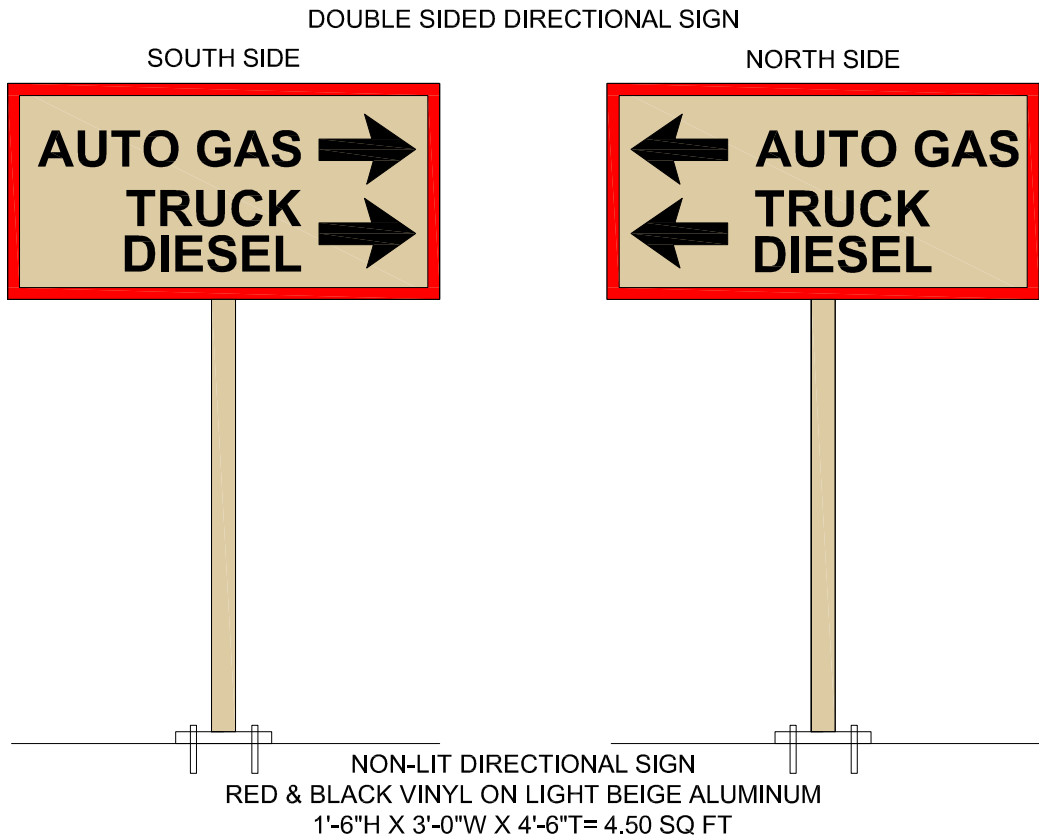
SCALE: 3/4" = 1'-0"

GENERAL SPECIFICATIONS
<i>ROOM SIGNS</i> <i>Qty: 3 total (different copy on each)</i> <i>Size: per art</i> <i>Material: white sign blank</i> <i>Finish: cut vinyl</i>
<i>Install along with various signs for same site, crew to give to KT trim guys to install.</i>



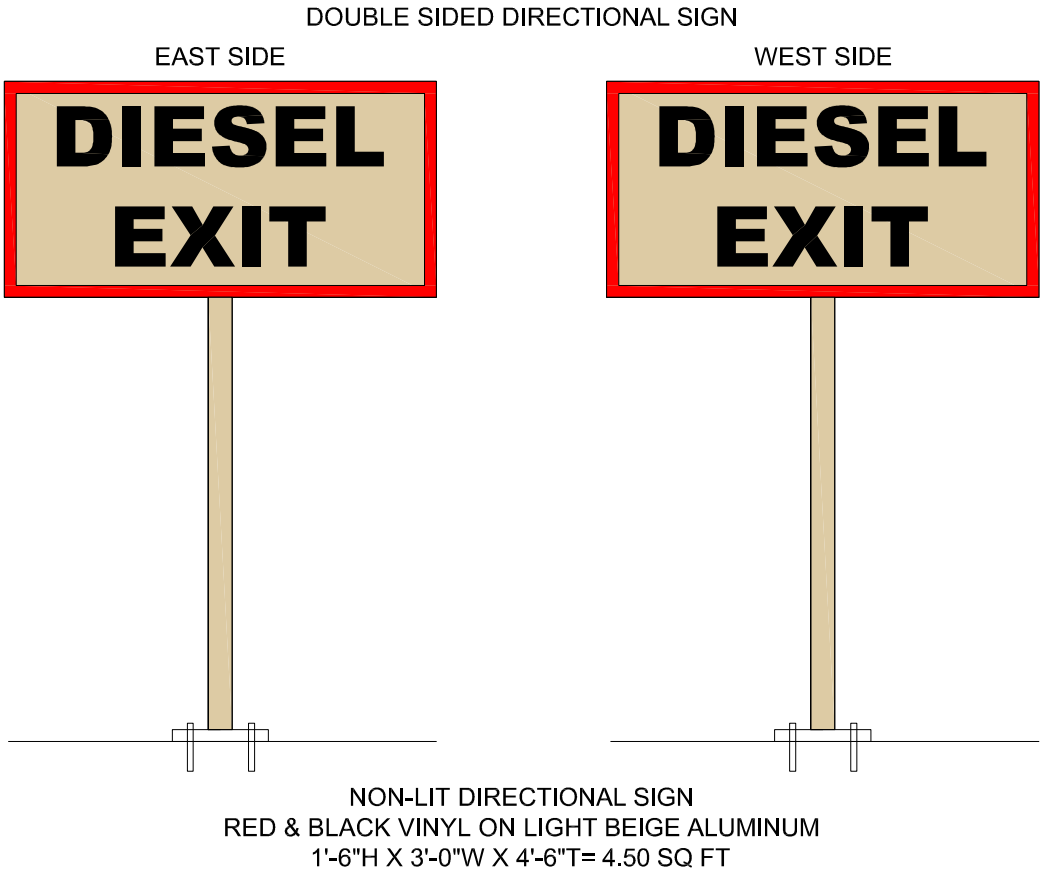
KWIK TRIP, Inc. P.O. BOX 2107 1626 OAK STREET LA CROSSE, WI 54602-2107 PH. (608) 781-8988 FAX (608) 781-8960

DIRECTIONAL SIGNAGE		CONVENIENCE STORE #631 W. 2BAY CW & SIDE DIESEL Mequon Rd & Maple Rd Germantown, WI
#	DATE	DESCRIPTION
DRAWN BY		X.XXXXX
SCALE		MULTIPLE
PROJ. NO.		0001
DATE		2024 10-11
SHEET		DS1



DIRECTIONAL SIGN #13

SCALE: 3/4" = 1'-0"



DIRECTIONAL SIGN #14

SCALE: 3/4" = 1'-0"

SINGLE SIDED SIGN



12" X 18" ALUMINUM SIGN
QTY: 4

SIGNS TO BE MOUNTED ON
BUILDING NO HIGHER THAN 48"
AFF

PARKING SIGN #15 - #18

SCALE: 1/2" = 1'-0"

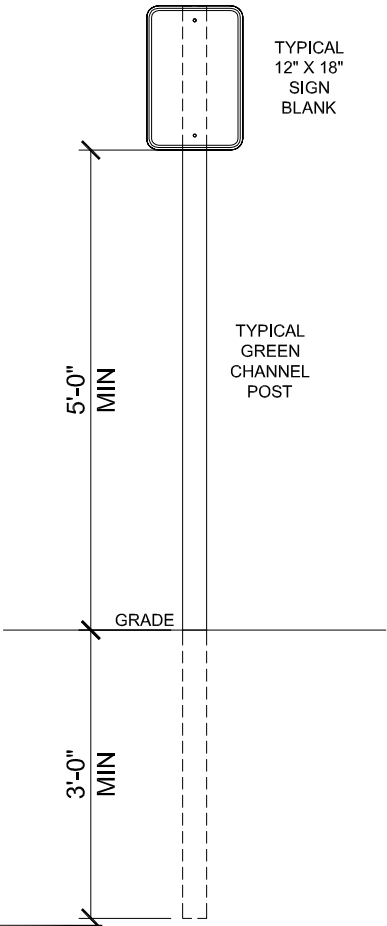
SINGLE SIDED SIGN



12" X 18" ALUMINUM SIGN
QTY: 2

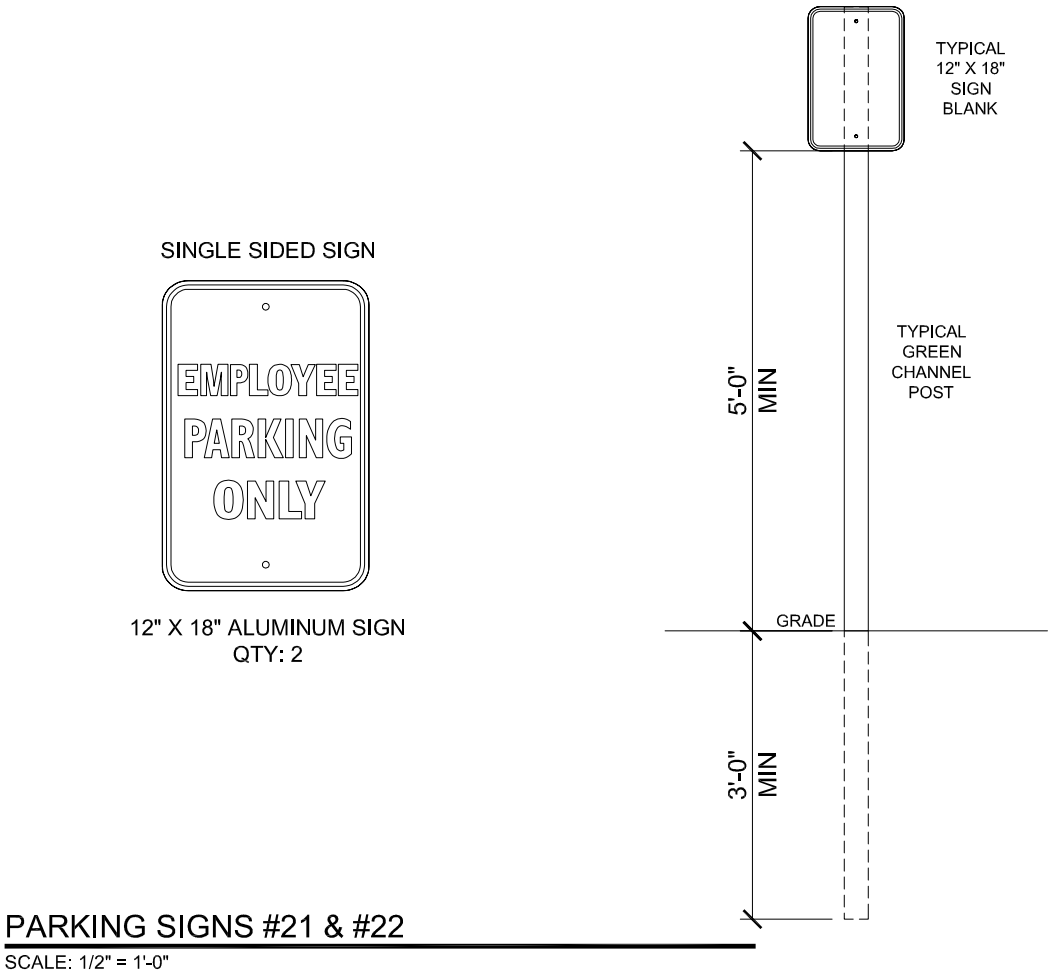
PARKING SIGNS # 19 & #20

SCALE: 1/2" = 1'-0"



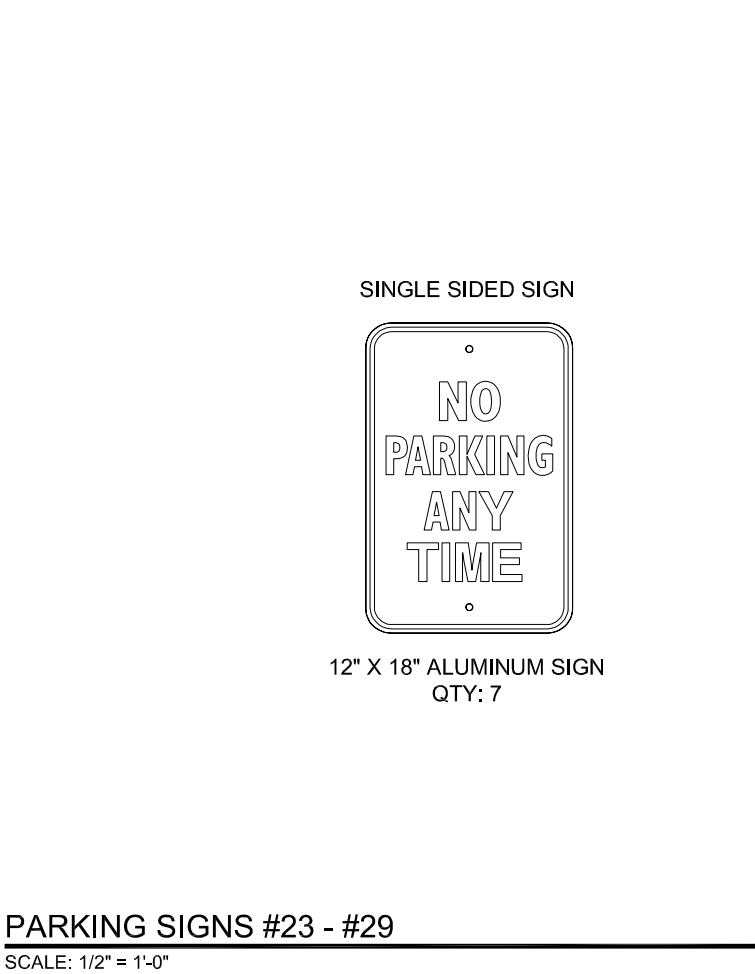
KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

DIRECTIONAL SIGNAGE		CONVENIENCE STORE #631 W. 2BAY CW & SIDE DIESEL		Mequon Rd & Maple Rd Germantown, WI	
#	DATE	DESCRIPTION			
DRAWN BY		X.XXXXX			
SCALE		MULTIPLE			
PROJ. NO.		0001			
DATE		2024 10-11			
SHEET		DS2			



#30 KWIK TRIP FREESTANDING MONUMENT SIGN

SEE ATTACHED ARTWORK



#31 KWIK TRIP FREESTANDING MONUMENT SIGN

SEE ATTACHED ARTWORK



KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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DIRECTIONAL SIGNAGE

CONVENIENCE STORE #631
W. 2BAY CW & SIDE DIESEL

Mequon Rd & Maple Rd
Germantown, WI

#	DATE	DESCRIPTION

DRAWN BY

X.XXXXX

SCALE

MULTIPLE

PROJ. NO.

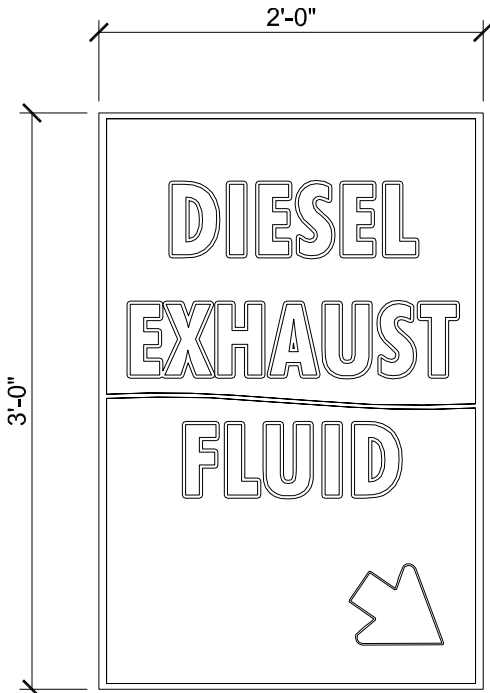
0001

DATE

2024 10-11

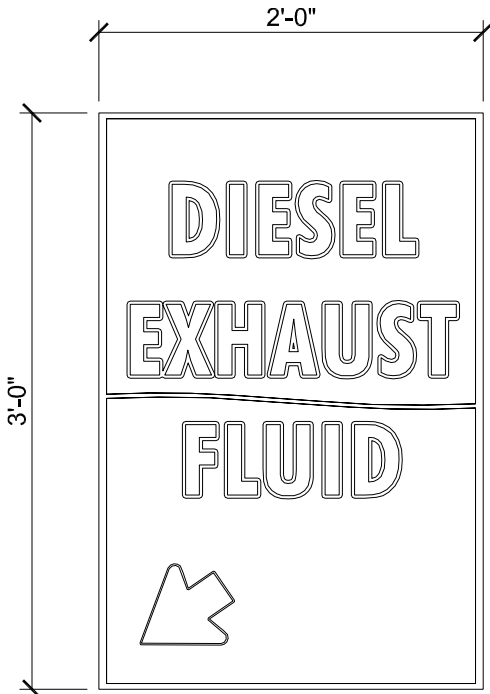
SHEET

DS3



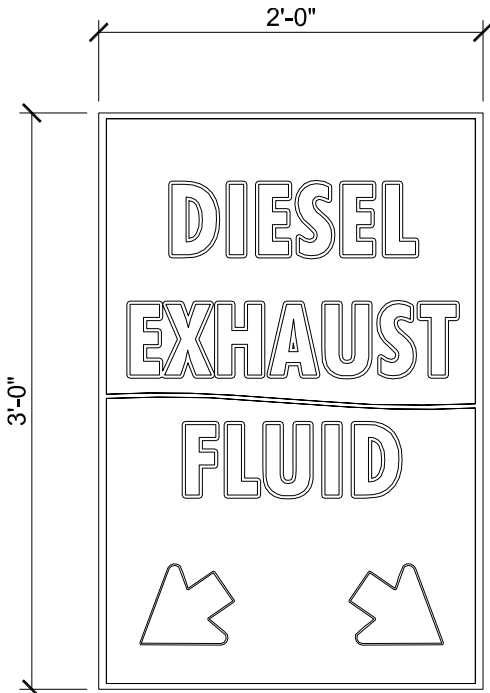
QTY: X

DEF SIGN A
SCALE: 3/4" = 1'-0"



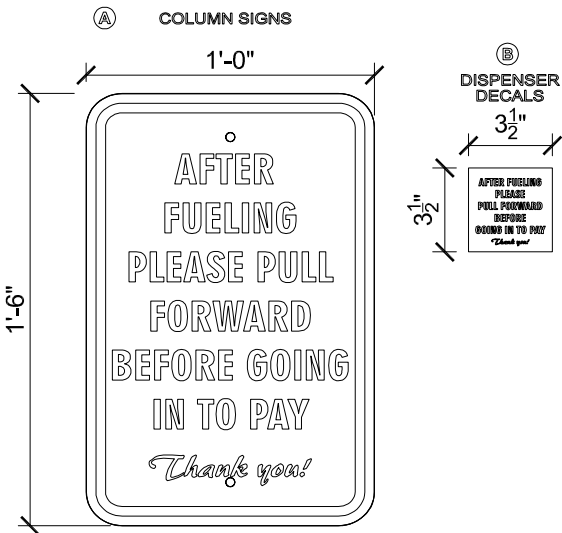
QTY: X

DEF SIGN C
SCALE: 3/4" = 1'-0"



QTY: X

DEF SIGN B
SCALE: 3/4" = 1'-0"

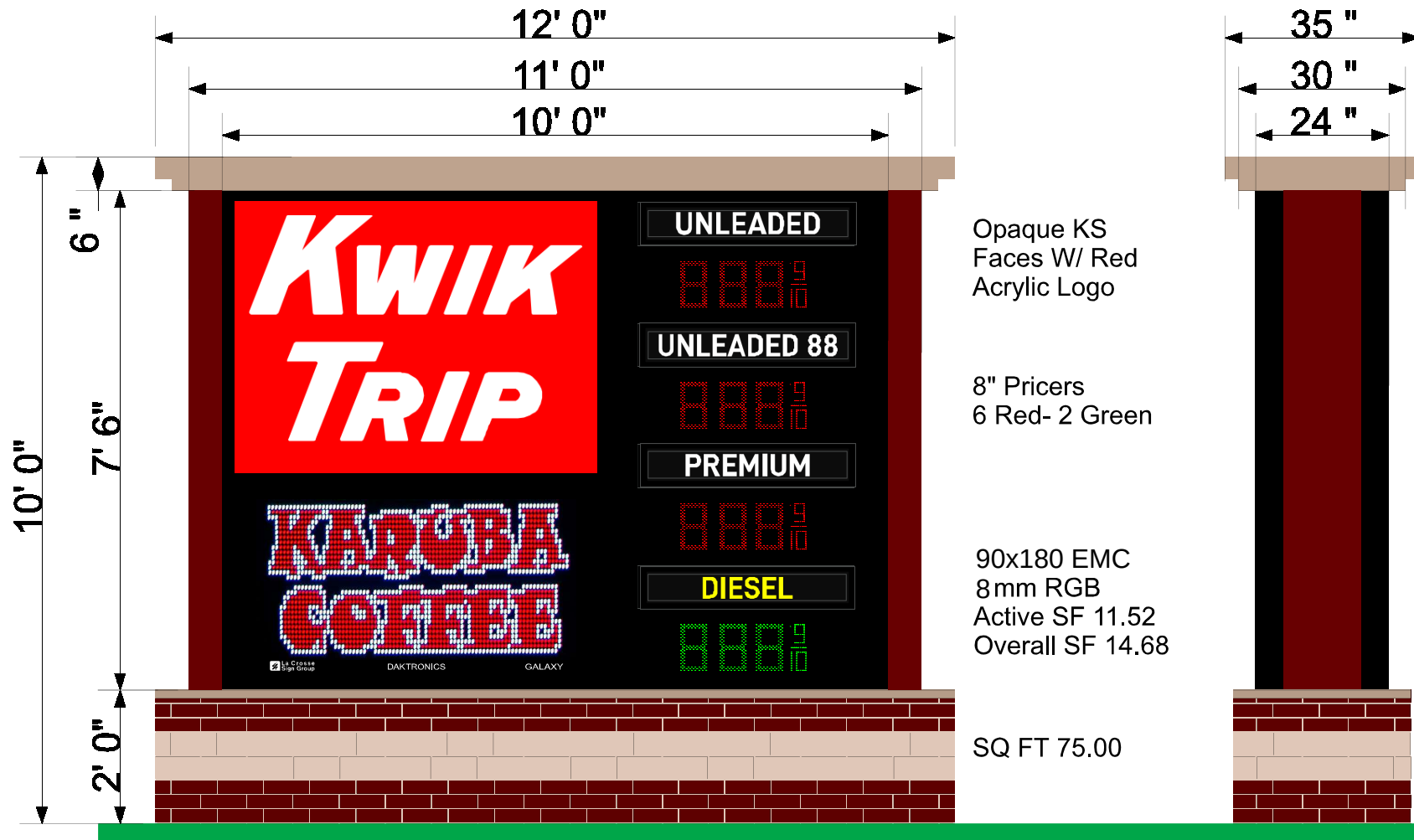


PULL AHEAD SIGN D
SCALE: 1 1/2" = 1'-0"



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P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

DEF / DSL SIGNAGE		CONVENIENCE STORE #631 W. 2BAY CW & SIDE DIESEL		Mequon Rd & Maple Rd Germantown, WI	
#	DATE	DESCRIPTION			
—	—	—			
—	—	—			
—	—	—			
—	—	—			
—	—	—			
DRAWN BY		X.XXXXX			
SCALE		MULTIPLE			
PROJ. NO.		0001			
DATE		2024 10-11			
SHEET		DEF1			



Approved by: _____ Date: _____ Landlord: _____ Date: _____

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It is the property of La Crosse Sign Co., Inc. and must be returned to them.

lacrossesign.com

DESIGN

SALES

FILE

COLOR KEY

*COLORS ON SKETCH ARE ONLY A REPRESENTATION.
ACTUAL COLOR OF FINISHED PRODUCT MAY DIFFER



1450 Oak Forest Drive • Onalaska, WI 54650 • 608-781-1450
2242 Mustang Way • Madison, WI 53718 • 608-222-5353
2502 Melby Street • Eau Claire, WI 54703 • 715-835-6189

Drawing by: Danielle Hadley

Sign Type: Monument

Date Created: 10/7/2018

Last Modified: 3/28/2019

Scale: 3/8" = 1' 0"

Job Name: Kwik Trip

Job Address:

Salesperson: Cindy Bluske

Job Number: 102023

Revision Number:

Job File Location:

① PPG NA 208400

② Black S/G paint

③ NA 208080 Beige

④ #2283 Red Acrylic

⑤ White of Acrylic

⑥ Black (230-22)

⑦

⑧

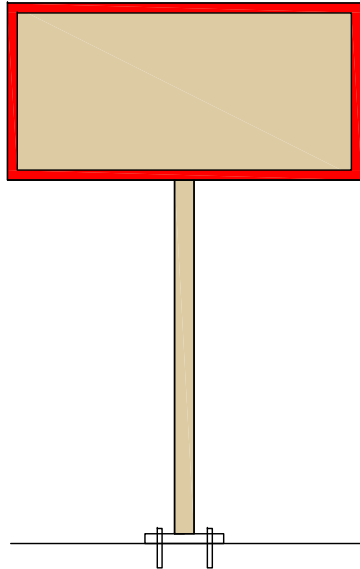
⑨

⑩

⑪

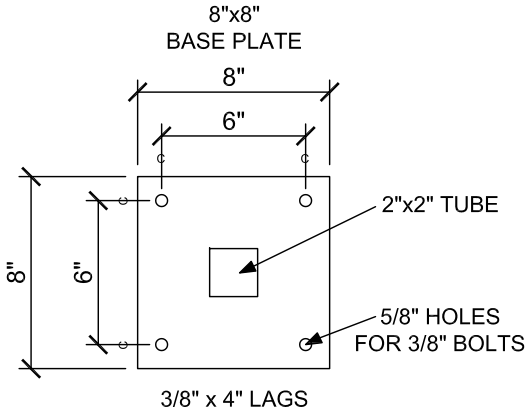
⑫

SINGLE SIDED NON-LIT DIRECTIONAL SIGN



DIRECTIONAL SIGN EXAMPLE

SCALE: NTS



NOTES:

- Sign vendor to anchor sign/s to concrete pad
- Sign vendor to anchor signs with (4) 3/8" x 4" lags & shield anchors. Use stainless steel hardware
- Stainless steel flat washers may be used under base plate as needed to shim sign to be plumb
- Concrete Pad installed by others (Kwik Trip/Kwik Star Concrete Vendor)
 - Concrete Pad to be 5"x 36"x 36"
 - Center of footing to be installed 48" from face of curb



DIRECTIONAL SIGN BASE PLATE

SCALE: 1 1/2" = 1'-0"

		KWIK TRIP, Inc. P.O. BOX 2107 1626 OAK STREET LA CROSSE, WI 54602-2107 PH. (608) 781-8988 FAX (608) 781-8960	PROJECT: Store- All Stores Date - 08/31/2023 DESCRIPTION: All Directional signs will have a single post per the detail above	SCB #1
--	---	---	---	--------

TRAFFIC IMPACT ANALYSIS

DATE: October 14, 2024

FOR: Jeff Osgood
Kwik Trip, Inc.

FROM: Tammi Czewski, P.E., PTOE
Traffic Analysis & Design, Inc.

SUBJECT: **Maple Road Kwik Trip Relocation Traffic Impact Analysis**
Germantown, WI

INTRODUCTION

A Kwik Trip gas station/convenience store is currently located in the southwest quadrant of the Maple Road/Lannon Road intersection in the Village of Germantown, Wisconsin ([Exhibit 1](#)). Kwik Trip, Inc. proposes to build a new, larger Kwik Trip gas station/convenience store in the northeast quadrant of the intersection, redeveloping the existing Kwik Trip site with a different commercial use. This study evaluates the traffic impacts of these development plans to study intersections along Maple Road and Mequon Road.

STUDY AREA

The study intersections are identified on [Exhibit 1](#) and listed below:

- Maple Road & Mequon Road
- Maple Road & Kleinmann Drive/Commercial (Future Kwik Trip) Driveway
- Maple Road & Lannon Road
- Maple Road & Commerce Circle
- Mequon Road & Commercial (Future Kwik Trip) Driveway

The Maple Road/Mequon Road intersection operates with all-way stop control and the Maple Road/Lannon Road intersection operates with traffic signal control. All other study intersections operate with two-way stop control, where the stop signs are on the minor street approaches. A transportation detail illustrating the intersection lane configurations, speed limits, and approximate intersection spacing is on [Exhibit 2](#).

Descriptions of the roadways within the study area are below.

- Lannon Road (also designated as STH 167) is a four-lane divided northeast/southwest arterial highway with a posted speed limit of 45 miles per hour (mph) within the limits of the study area. It is part of the state trunk highway network as a connecting highway under the jurisdiction of the Village of Germantown. According to WisDOT, the Year 2023 annual average daily traffic (AADT) volumes on Lannon Road were 24,300 vehicles per day (vpd) southwest of Maple Road and 18,300 vpd to the northeast. Sidewalks do not currently exist along Lannon Road within the limits of the study area.
- Maple Road is a two-lane undivided north/south roadway south of Lannon Road and a four-lane divided roadway to the north of Lannon Road with a posted speed limit of 40 mph within the limits of the study area. The Year 2023 AADT volumes along Maple Road were 8,100 vpd north of Mequon Road and 6,200 vpd south of Commerce Circle. A sidewalk exists on the west side of Maple Road between Kleinmann Drive and Lannon Road, and on the east side of Maple Road north of Mequon Road.
- Mequon Road is a two-lane undivided east/west roadway that has a 40-mph speed limit and 2023 AADT of 4,400 vpd west of Maple Road and a 30-mph speed limit and 2016 AADT of 2,800 vpd east of Maple Road.
- Kleinmann Drive and Commerce Circle are two-lane undivided roadways that connect to the west side of Maple Road and provide access for commercial developments along the roadway.

PROPOSED DEVELOPMENT

The existing Kwik Trip on Maple Road has 10 fueling positions, a convenience store, and two-bay car wash, with two access driveways to Commerce Circle. Kwik Trip will maintain ownership of this property and replace development on this site with other commercial that is not a competing land use (e.g. gas station, coffee shop, restaurant, etc.). For the purposes of this study, a bank with three drive-through lanes was estimated to replace the Kwik Trip on the existing site.

A larger, new Kwik Trip is proposed to be constructed on the now vacant 4.3-acre site previously occupied by Wisconsin Mutual Insurance ([Exhibit 3](#)). The existing insurance building will be removed and replaced with a large convenience store, 20 regular fueling positions, two diesel fueling positions, and a two-bay car wash. Access to the site remains at one location to Maple Road, directly across from Kleinmann Drive and one location to Mequon Road, just east of the Maple Road intersection. Both access driveways are unrestricted with full-access turning movements to and from the mainline roadways. This study evaluates the Maple Road access for two conditions:

- Alternative 1: Full access driveway at Maple Road
- Alternative 2: Partial access driveway (right-out only) at Maple Road

The partial access alternative assumes a physical barrier would be installed in the median on Maple Road that allows left-turns into both Kleinmann Drive and the proposed Kwik Trip driveway but restricts outbound traffic from both locations to right-out only movements.

PEAK HOUR TRAFFIC VOLUMES – NO DEVELOPMENT**Data Collection/Existing Traffic Volumes**

TADI collected weekday traffic counts at the study intersections between September 23 and September 24, 2024. Traffic counts were also collected at the existing Kwik Trip driveways on Commerce Circle. Traffic counts at the Maple Road/Mequon Road intersection were collected from 6:00 a.m. to 7:00 p.m. for signal warrant studies. All other traffic counts were collected from 6:00-9:00 a.m. and from 3:00-6:00 p.m.

During the traffic count at Maple Road/Commerce Circle, field staff noted that a road closure was in place on Maple Road, south of the study area. As this road closure may have affected through traffic volumes on Maple Road, as well as turning movement patterns at the Maple Road/Lannon Road intersection, TADI obtained and compared the following additional data:

- May 2021 traffic count collected for a previous study.
- Hourly traffic volumes from the WisDOT 2023 AADT data on Maple Road and Lannon Road.
- AM peak hour verification recount at the Maple Road/Mequon Road intersection on October 11, 2024 (when the Maple Road closure was no longer in place).

Using these sets of data, it was concluded that the Maple Road closure did not significantly impact turning volumes at the Maple Road/Mequon Road intersection, as the original September count and October verification count resulted in similar traffic volumes and traffic patterns. It was also concluded that the May 2021 traffic count at the Maple Road/Lannon Road intersection had similar approach volumes on Maple Road and Lannon Road to the hourly volumes from the 2023 AADT data. Therefore, the May 2021 Maple Road/Lannon Road turning movement count replaced the September 2024 turning movement count in this study. All other turning movement counts from September 2024 were used, but through volumes on Maple Road were balanced (increased) from the May 2021 Maple Road/Lannon Road count. All traffic count data used for this study is included in [Appendix A](#).

The combined peak hours from the turning movement counts were determined to occur from 6:45-7:45 a.m. (AM peak hour) and from 4:00-5:00 p.m. (PM peak hour). Traffic counts were compiled for these peak hours, balanced between intersections, and are shown as the Year 2024 Existing Traffic Volumes on [Exhibit 4](#).

Forecasted Traffic Volumes

WisDOT historical AADT data available on Maple Road, Mequon Road, and Lannon Road were compiled to determine historical traffic growth trends in the study area. From the available data (2004 to 2023), traffic growth on Maple Road ranges from 0.5% (north of Mequon Road) to 2.0% (south of Commerce Circle) per year, traffic growth on Lannon Road averages at 1.0% per year, and traffic growth on Mequon Road averages at 0.0% per year (traffic volumes have consistently declined over time). The historical AADT data and growth trend graph is on [Exhibit 5](#).

These growth rates were applied to the study area roadways for a five-year period and traffic was balanced between intersections. The resulting Year 2029 Future Traffic Volumes evaluated in this study are on [Exhibit 6](#).

PEAK HOUR TRAFFIC VOLUMES – RELOCATED KWIK TRIP DEVELOPMENT

Existing Kwik Trip Traffic Removals

Build traffic volumes evaluated in this study include the removal of the existing Kwik Trip development volumes from the roadway system, additional traffic from proposed new commercial (bank) development on the existing Kwik Trip site, and additional traffic from the larger, new Kwik Trip development north of Lannon Road.

Based on the Kwik Trip driveway counts at Commerce Circle, the existing Kwik Trip development generates 305 trips during the weekday AM peak hour and 260 trips during the weekday PM peak hour ([Exhibit 7A](#)). Gas station developments typically generate a relatively high volume of pass-by trips (trips that are already on the roadway system but divert into the site before continuing on their original route). Using WisDOT pass-by trip allowances, pass-by trips for the existing Kwik Trip site were estimated as 55% of the total site trips.

Trip distributions for the Kwik Trip site were first based on the distribution of traffic turning at the Maple Road/Commerce Circle intersection, and then on the distribution of traffic turning at the remaining study intersections. So as not to generate negative trips for any one movement (after removing the Kwik Trip trips from the study intersections), different trip distributions were developed separately for the AM and PM peak hours. The new and pass-by trip distributions estimated for the existing Kwik Trip site are shown below the trip generation table on [Exhibit 7A](#). These trip removals were assigned to the intersections as shown on [Exhibit 7B](#) (Existing Kwik Trip New Trips) and on [Exhibit 7C](#) (Existing Kwik Trip Pass-by Trips).

Future Commercial (Bank) Traffic

At this time, no specific commercial development user has been identified for the existing Kwik Trip site in the southwest quadrant of the Maple Road/Lannon Road intersection. For this study, a bank was estimated as a potential future development use. Trips for the bank development were generated from the *ITE Trip Generation Manual, 11th Edition*. Based on ITE, a bank with three drive-through lanes generates 390 weekday daily trips, with 25 trips in the AM peak hour and 80 trips in the PM peak hour ([Exhibit 8A](#)). Using WisDOT pass-by trip allowances, pass-by trips for the bank were estimated at 35% of the total site trips.

The new and pass-by trip distributions estimated for the existing Kwik Trip development were applied to the new bank trips ([Exhibit 8A](#)). The new and pass-by bank trips were assigned to the study intersections based on these trips distributions and are shown on [Exhibit 8B](#) (Bank Development New Trips) and on [Exhibit 7C](#) (Bank Development Pass-by Trips).

Relocated Kwik Trip Traffic

Trip generation for the relocated Kwik Trip was based on WisDOT fitted curve equations applied to the 22 total fueling stations proposed for the site. The WisDOT fitted curve equations are from the October 20, 2022 trip generation guidance for Convenience Store/Gas Station Land Use. Based on WisDOT equations, a 22-fueling position gas station/convenience store with a store size greater than 6,000 square feet, and in an area with a population greater than 300,000 generates 4,640 trips during a typical weekday with 335 trips in the weekday AM peak hour and 335 trips in the weekday PM peak hour ([Exhibit 9A](#)). Compared to the existing Kwik Trip site, the larger, relocated Kwik Trip generates about 10% (30) more trips during the weekday AM peak hour and about 29% (75) more trips during the weekday PM peak hour. Using WisDOT pass-by trip allowances, pass-by trips for the relocated Kwik Trip site were estimated as 55% of the total site trips.

The new trip distributions estimated for the existing Kwik Trip development were applied to the relocated Kwik Trip trips ([Exhibit 9A](#)). Pass-by trips, however, were recalculated based on existing peak hour traffic patterns on Mequon Road and Maple Road north of Lannon Road. The higher traffic volumes on Maple Road, north of Lannon Road, the proximity to the Maple Road/Mequon Road intersection, and the secondary access via the Mequon Road/Lannon Road intersection are expected to result in different pass-by trip patterns that is generated by the existing Kwik Trip store.

The new and pass-by bank trips were assigned to the study intersections based on the estimated trip distributions and are shown [Exhibit 9B](#) (Relocated Kwik Trip New Trips – Alternative 1), [Exhibit 9C](#) (Relocated Kwik Trip Pass-by Trips – Alternative 1), [Exhibit 9D](#) (Relocated Kwik Trip New Trips – Alternative 2), and [Exhibit 9E](#) (Relocated Kwik Trip Pass-by Trips – Alternative 2).

Driveway Traffic Volumes

The existing new and pass-by Kwik Trip trips (to be removed), bank trips, and relocated Kwik Trip trips were added together to identify the total trip impact with the proposed development plans. These are identified as the Development Driveway trips. The Development Driveway Trips are on [Exhibit 10](#) (Alternative 1) and on [Exhibit 11](#) (Alternative 2).

Build Traffic Volumes

The Development Driveway Trips for Alternatives 1 and 2 were added to the Year 2029 Future Traffic Volumes to generate the Year 2029 Build Traffic Volumes. The Year 2029 Build Traffic Volumes are on [Exhibit 12](#) (Alternative 1) and on [Exhibit 13](#) (Alternative 2).

PEAK HOUR TRAFFIC OPERATIONS & QUEUES

The study intersections were analyzed using the Synchro 12 traffic analysis model (outputs based on the *Highway Capacity Manual, 7th Edition*) and the peak hour turning movement volumes estimated for each intersection. Intersection operation is defined by “level of service.” Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS ‘A’, to very poor, represented by LOS ‘F’. For the purposes of this study, LOS D or better was used to define acceptable peak hour operating conditions. The LOS definitions for signalized and unsignalized intersections are included before the Year 2024 Existing analysis output in [Appendix B](#).

The analyses were completed using the existing geometrics and traffic control, existing peak hour factors and heavy vehicles, WisDOT right-turn on red adjustment factors and WisDOT Saturation Flow Rate values ([Appendix B](#)).

Traffic Operations – Existing & Future Traffic Volumes (No Development)

The peak hour traffic operations (LOS, delays, and 95th percentile queues) with the existing transportation system are in tables on [Exhibit 14](#) (Year 2024 Existing Traffic) and on [Exhibit 15](#) (Year 2029 Future Traffic). The Maple Road/Mequon Road intersection operates with movements over capacity and at LOS E/F conditions during the weekday AM peak hour, and the Maple Road/Lannon Road intersection operates with a westbound left-turn movement that is at LOS E during the weekday PM peak hour. Queues for the eastbound left-turn movement at this intersection are reported as 300 feet during the weekday AM peak hour, but theoretically infinite.

Adding additional green time to the left-turn lanes at the Maple Road/Lannon Road intersection mitigates delays and queues to acceptable levels. Reversing eastbound and westbound lane configurations on Mequon Road and installing traffic signals at the Maple Road/Mequon Road intersection mitigates the LOS E and F delays. Based on a signal warrant analysis (see the Warrant Analysis section of this report), peak hour and crash warrants are currently met, justifying traffic signal installation at this intersection.

The Year 2029 Future Traffic Volumes were evaluated with the modified geometrics and traffic control. These improvements result in acceptable queues and delays (LOS D or better) with all movements under capacity during the weekday AM and PM peak hours ([Exhibit 16](#)).

The Synchro analysis files for the Year 2024 Existing Traffic Volumes are in [Appendix B](#). The Synchro analysis files for the Year 2029 Future Traffic Volumes are in [Appendix C](#).

Traffic Operations – Build Volumes (Relocated Kwik Trip)

The Year 2029 Build Traffic Volumes for access Alternatives 1 and 2 were modeled with the recommended modifications for the Existing and Future traffic conditions. Based on right-turn lane warrants (see the Warrant Analysis section of this report), a northbound right-turn lane was modeled on Maple Road at the relocated Kwik Trip driveway across from Kleinmann Drive. With the Existing/Future and Build modifications, all study intersections operate with all movements under capacity and with acceptable peak hour queues and delays for both Alternative 1 ([Exhibit 17](#)) and Alternative 2 ([Exhibit 18](#)). The Synchro analysis files for the Year 2029 Build Traffic Volumes are in [Appendix C](#).

WARRANT ANALYSIS

Right-Turn Lane Warrant – Maple Road/Relocated Kwik Trip Driveway

A right-turn lane warrant analysis was completed to determine if a northbound right-turn lane should be added on Maple Road at the relocated Kwik Trip driveway across from Kleinmann Drive. The turn lane warrant is based approaching and right-turn traffic volumes and a 45-mph roadway design speed (five mph over the posted speed limit). Based on the warrant analysis, a right-turn lane is warranted and recommended to be constructed on Maple Road with buildout of the relocated Kwik Trip development.

Traffic Signal Warrant Analysis – Maple Road/Mequon Road

A traffic signal warrant analysis was completed for the Maple Road/Mequon Road intersection to determine if signals are warranted for mitigating existing and future delays and crashes. Traffic signal warrant studies are based on traffic volume and other warranting criterion from the *Manual on Uniform Traffic Control Devices* (MUTCD). Chapter 4C of the MUTCD outlines the standards for determining the need for traffic signals at a particular location.

The parameters used for the warrant analyses at the Maple Road/Mequon Road intersection are:

- Volume warrant thresholds were based on a four-leg intersection with two-lane major street approaches and one-lane minor street approaches. Due to the presence of an eastbound and westbound right-turn lane, 0% of the minor street right-turn volumes were included.
- The posted speed limit on the major street (Maple Road) is 40 mph; therefore, no reduction of volume thresholds was applied.

The intersection currently operates with all-way stop sign control, and with four-lane northbound and southbound approaches. Due to the wide multi-lane approaches, the high peak traffic volumes to and from the light industrial development to the north, and the comparatively low eastbound and westbound traffic volumes, a relatively high number of crashes occur during a 12-month period.

During the traffic counts, field staff noted that northbound and southbound traffic on Maple Road frequently did not stop at the stop signs when traveling through the intersection. Crash reports at this intersection (collected from January 2019 through September 2024) confirmed that this behavior caused right and left-angle crashes that are correctable with traffic signal control. Other causes of the angle crashes were from vehicles in adjacent lanes blocking visibility, or confusion over right-of-way (who's turn to go). Since at least five crashes of the type susceptible to correction by signal in a 12-month period have occurred, Warrant 7, Crash Experience is met.

Although traffic volumes aren't high enough to meet volume requirements for Warrants 1, 2, or 3, the major street approach experiences nearly 10 vehicle-hours of delay during the weekday AM peak hour, exceeding the delay threshold for Warrant 3, Peak Hour Volume. Note that the delay threshold for Warrant 3 typically applies to the stop-controlled, minor street approach, but is applied to the major street in this case since all approaches operate with stop control. Warrant 3 is applicable for warranting traffic signals as traffic flow through the intersection is highly impacted by the traffic surges to and from the light industrial development, which creates significant shift-work traffic patterns during the peak hours.

The hourly traffic volumes, signal warrant analysis, and crash analysis for the Maple Road/Mequon Road intersection are in [Appendix E](#).

RECOMMENDATIONS

Based on the results of the traffic analysis, the following modifications are recommended (shown graphically on [Exhibit 19](#)). Modifications are divided into two categories: modifications required to mitigate existing/non-development issues and modifications required to accommodate the proposed development changes with the relocation of Kwik Trip to the north side of Lannon Road.

Recommended modifications are for jurisdictional consideration and are not legally binding. The Village of Germantown reserves the right to determine alternative solutions.

Existing/Future (No Development) Recommendations

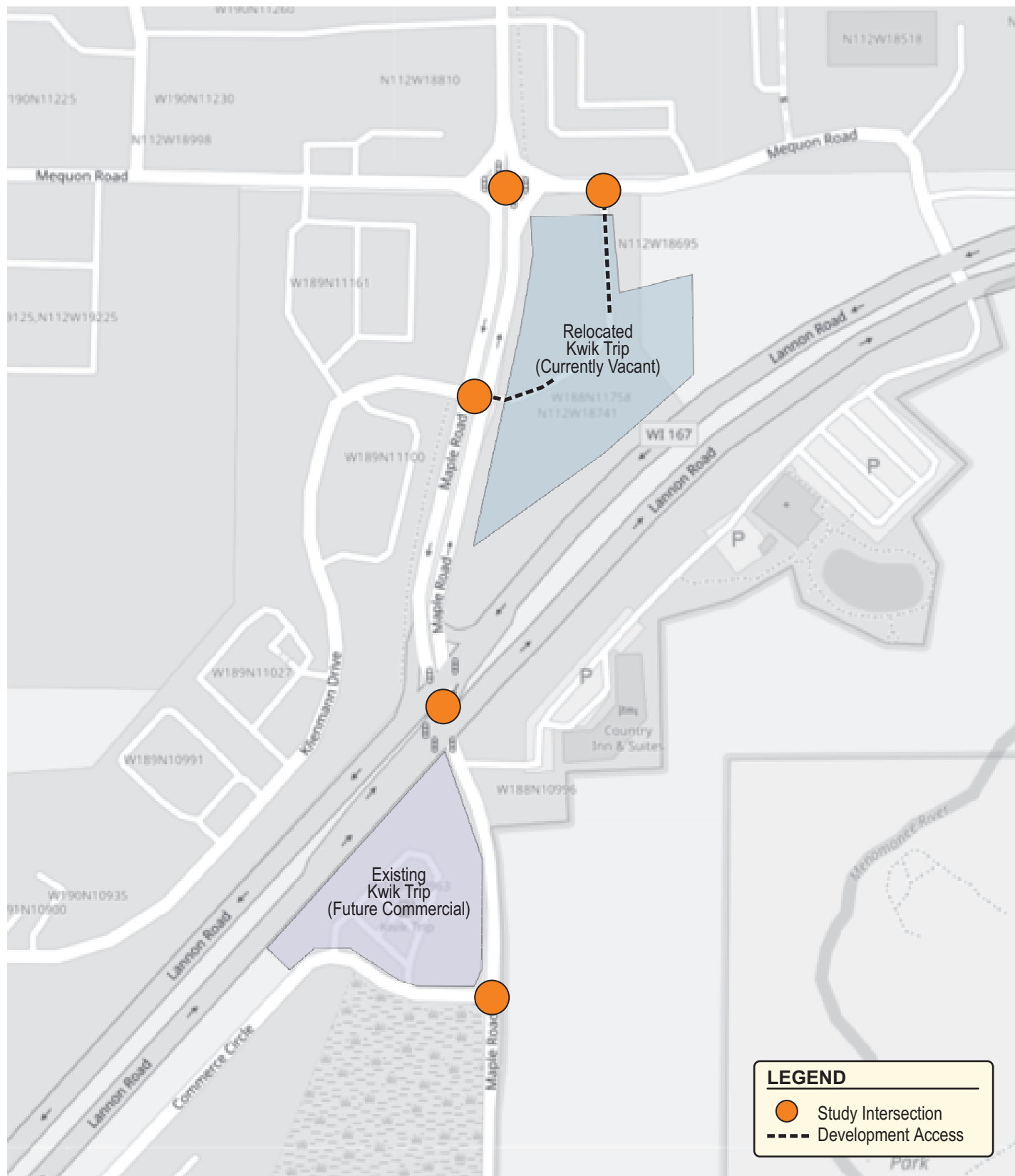
- Install traffic signal control at the Maple Road/Mequon Road intersection that is coordinated during the peak hours with the adjacent traffic signal at Maple Road/Lannon Road.
- With traffic signal control at the Maple Road/Mequon Road intersection, reverse the eastbound and westbound approach lanes from a shared left-turn/through plus right-turn lane to a left-turn lane plus shared through/right-turn lane.

Build (Relocated Kwik Trip Development) Recommendations

- Allow full-access turning movements at the relocated Kwik Trip driveways to both Maple Road and Mequon Road.
- Provide a northbound right-turn lane on Maple Road at the relocated Kwik Trip driveway across from Kleinmann Drive.

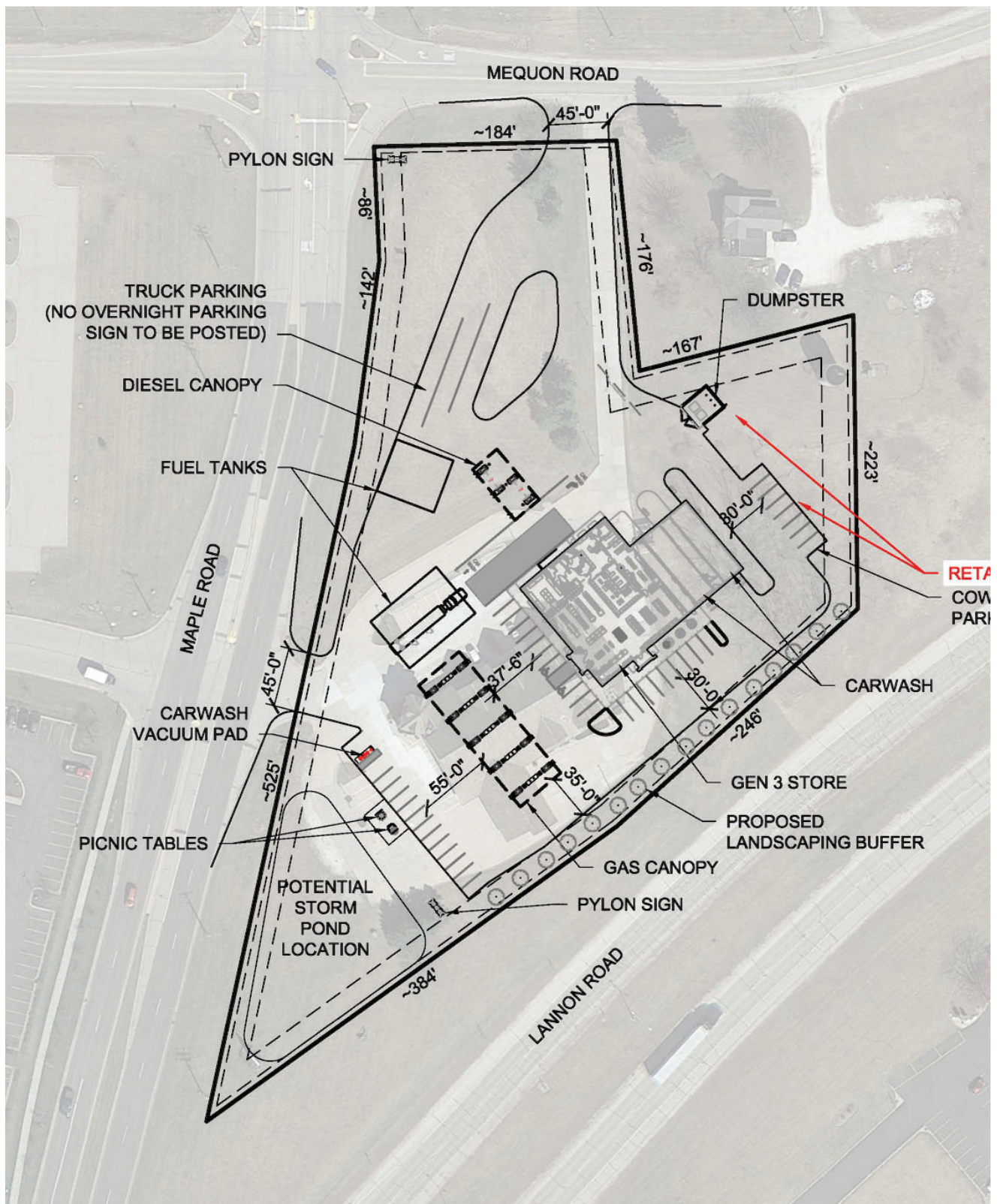
CONCLUSIONS

With the above modifications, the study intersections operate under capacity, with acceptable delays and queues during the peak hours.



LEGEND

- Orange circle: Study Intersection
- Dashed line: Development Access

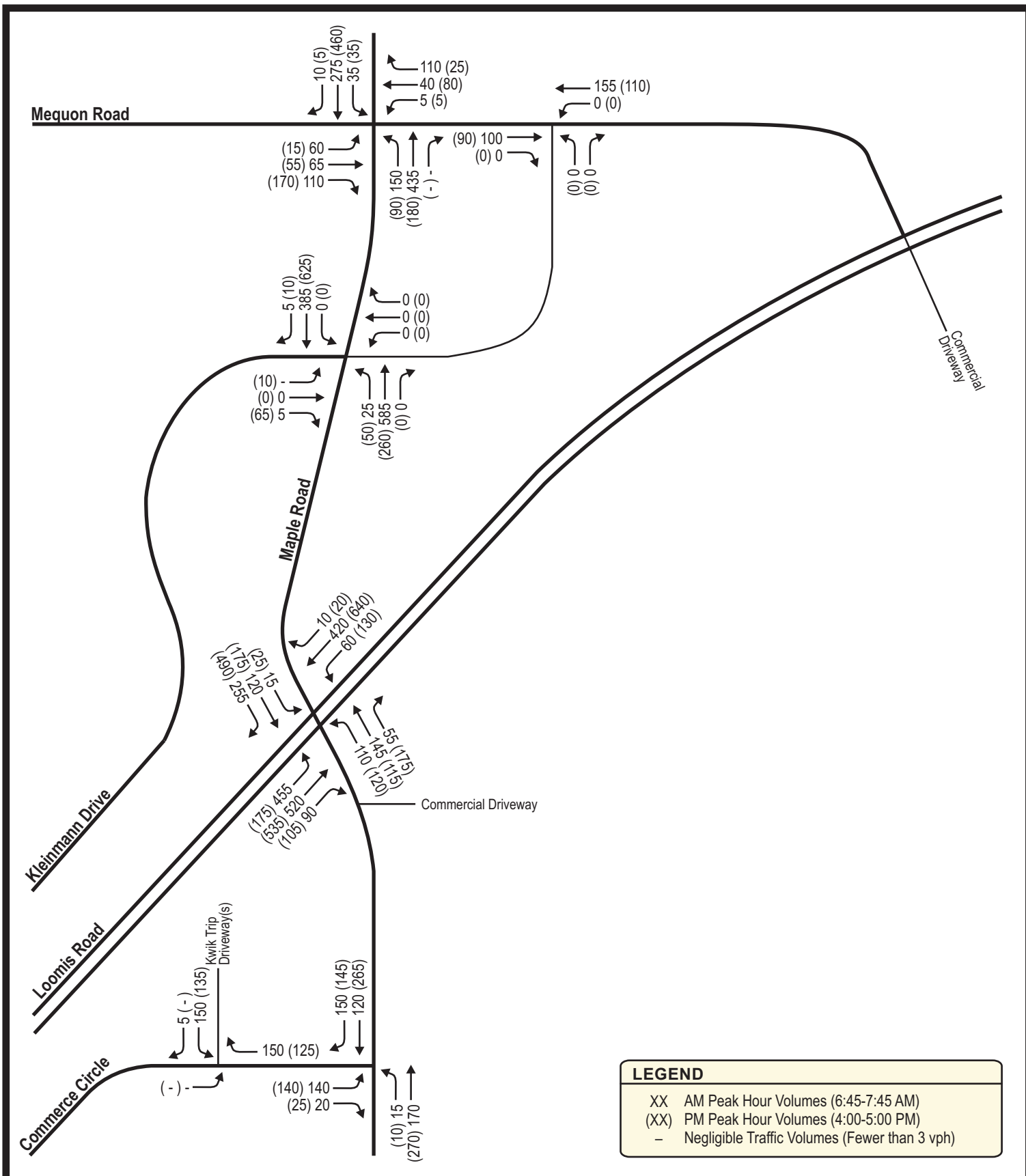


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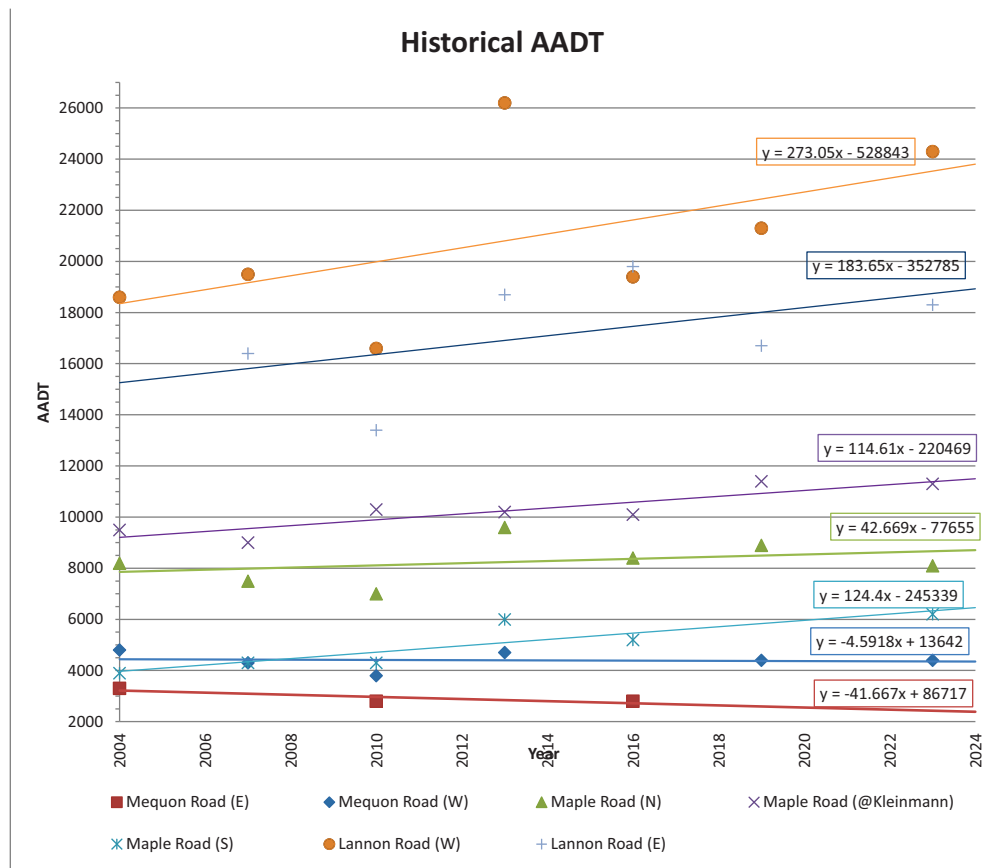
EXHIBIT 3 CONCEPTUAL SITE PLAN

MAPLE ROAD KWIK TRIP TIA - GERMANTOWN, WISCONSIN



Historical AADT							
Year	Mequon Road (W)	Mequon Road (E)	Maple Road (N)	Maple Road (@Kleinmann)	Maple Road (S)	Lannon Road (W)	Lannon Road (E)
2000							
2001							
2002							
2003							
2004	4800	3300	8200	9500	3900	18600	
2005							
2006							
2007	4300		7500	9000	4300	19500	16400
2008							
2009							
2010	3800	2800	7000	10300	4300	16600	13400
2011							
2012							
2013	4700		9600	10200	6000	26200	18700
2014							
2015							
2016		2800	8400	10100	5200	19400	19800
2017							
2018							
2019	4400		8900	11400		21300	16700
2020							
2021							
2022							
2023	4400		8100	11300	6200	24300	18300
2024							
Trendline Growth Rate							
	Mequon Road (W)	Mequon Road (E)	Maple Road (N)	Maple Road (@Kleinmann)	Maple Road (S)	Lannon Road (W)	Lannon Road (E)
Liner Eqn.	$y = -4.592x + 13642$	$y = -41.667x + 86717$	$y = 42.669x - 77655$	$y = 114.610x - 220469$	$y = 124.400x - 245339$	$y = 273.050x - 528843$	$y = 183.650x - 352785$
2024	4350	2380	8710	11500	6450	23810	18920
2029	4330	2170	8920	12070	7070	25180	19840
5-Yr Increase	-0.5%	-8.8%	2.4%	5.0%	9.6%	5.8%	4.9%
Growth/year	-0.09%	-1.76%	0.48%	0.99%	1.92%	1.15%	0.97%
Study %GR	0.00%	0.00%	0.50%	1.00%	2.00%	1.00%	1.00%

Notes:
 2029 AADT volumes were calculated from linear trendline equations from historical AADT values.
 Study %GR was applied to the Existing 2024 turning movement traffic counts in the Germantown Kwik Trip TIA.



Existing Kwik Trip - Trip Generation

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
Existing Kwik Trip	N/A	10 Fuel Positions		150	155	305	125	135	260
Total Driveway Trips			2,910	150	155	305	125	135	260
Pass-by Trips ²	N/A	55%	1,600	85	85	170	70	70	140
New Trips			1,310	65	70	135	55	65	120

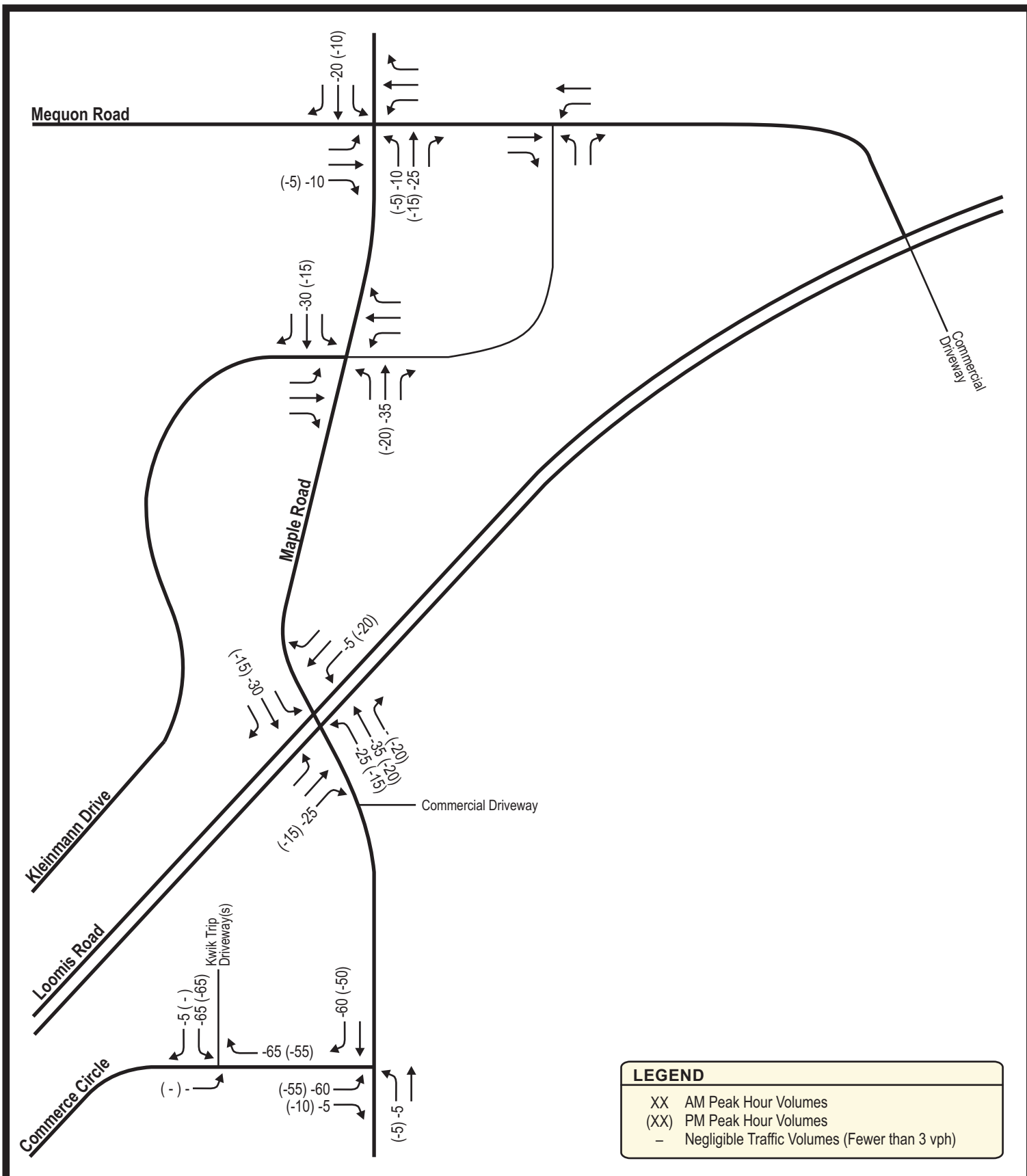
TRIP DISTRIBUTION (New Trips)

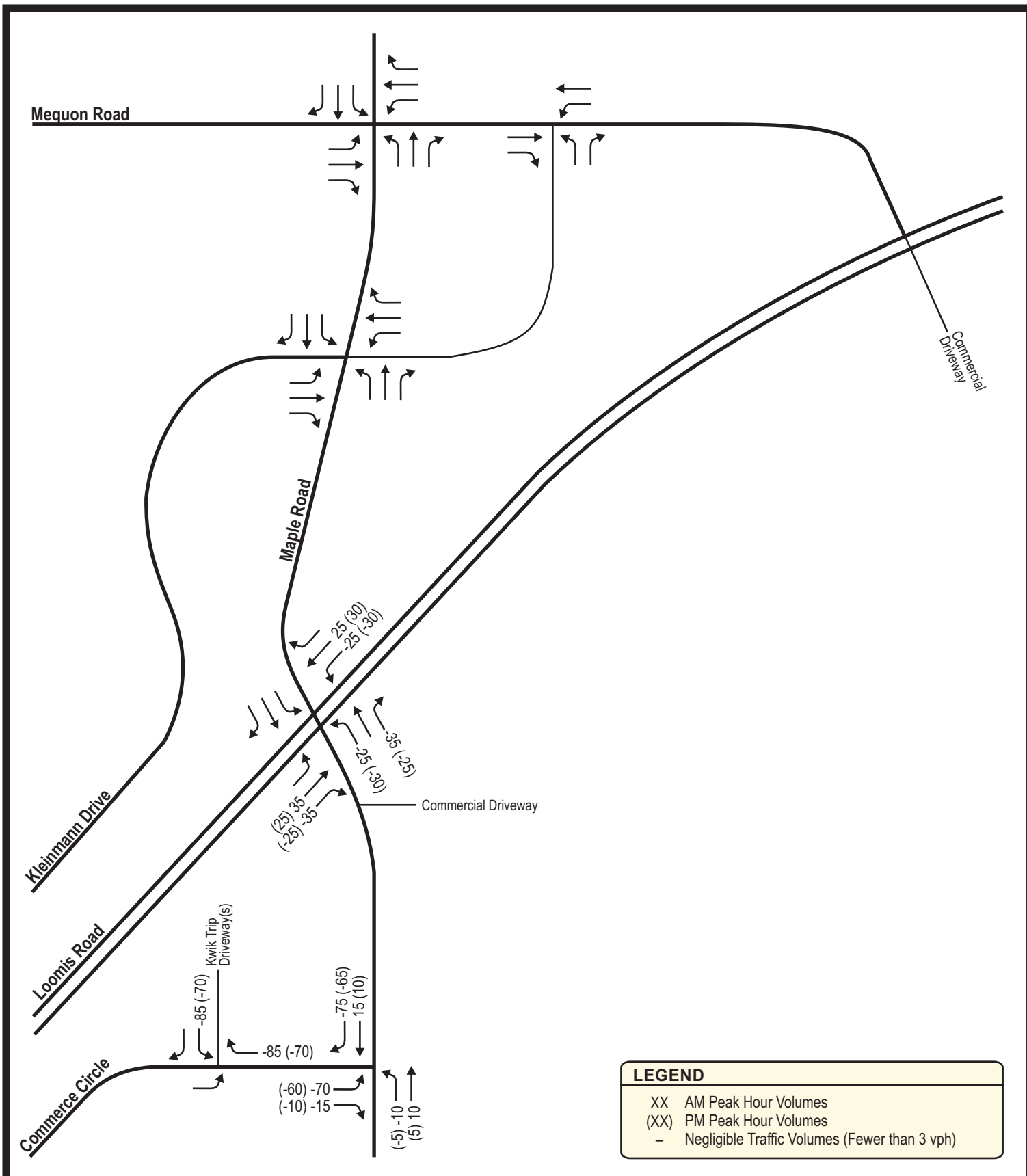
W. on Mequon Road	11% (9%)	10	10	5	5
E. on Mequon Road	0% (0%)	0	0	0	0
W. on Lannon Road	31% (24%)	25	25	15	15
E. on Lannon Road	18% (33%)	5	0	20	20
N. on Maple Road	30% (22%)	20	25	10	15
S. on Maple Road	11% (11%)	5	5	5	10
W. on Commerce Circle	0% (0%)	0	5	0	0
AM (PM)		65	70	55	65

TRIP DISTRIBUTION (Pass-by Trips)

EB Lannon Road	40% (35%)	35	35	25	25
WB Lannon Road	30% (45%)	25	25	30	30
NB on Maple Road	10% (5%)	10	10	5	5
SB on Maple Road	20% (15%)	15	15	10	10
AM (PM)		85	85	70	70







New Bank (Existing Kwik Trip Site) - Trip Generation¹

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
Drive-in Bank	912	3 Lanes	390 FCE	15 (61%)	10 (39%)	25 FCE	40 (49%)	40 (51%)	80 (27.07)
Total Driveway Trips			390	15	10	25	40	40	80
Pass-by Trips ²		35%	140	5	5	10	15	15	30
New Trips			250	10	5	15	25	25	50

¹ Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 11th Edition.

² Pass-by trip percentages are based on the maximum WisDOT values for the land use type.

³ New trips distribution based on distribution calculated for the existing Kwik Trip on the same site.

TRIP DISTRIBUTION (New Trips)³

W. on Mequon Road	11% (9%)	0	0	5	5
E. on Mequon Road	0% (0%)	0	0	0	0
W. on Lannon Road	31% (24%)	5	5	5	5
E. on Lannon Road	18% (33%)	0	0	5	5
N. on Maple Road	30% (22%)	5	0	5	5
S. on Maple Road	11% (11%)	0	0	5	5
AM (PM)		10	5	25	25

TRIP DISTRIBUTION (Pass-by Trips)

EB Lannon Road	40% (35%)	5	5	5	5
WB Lannon Road	30% (45%)	0	0	5	5
NB on Maple Road	10% (5%)	0	0	0	0
SB on Maple Road	20% (15%)	0	0	5	5
AM (PM)		5	5	15	15



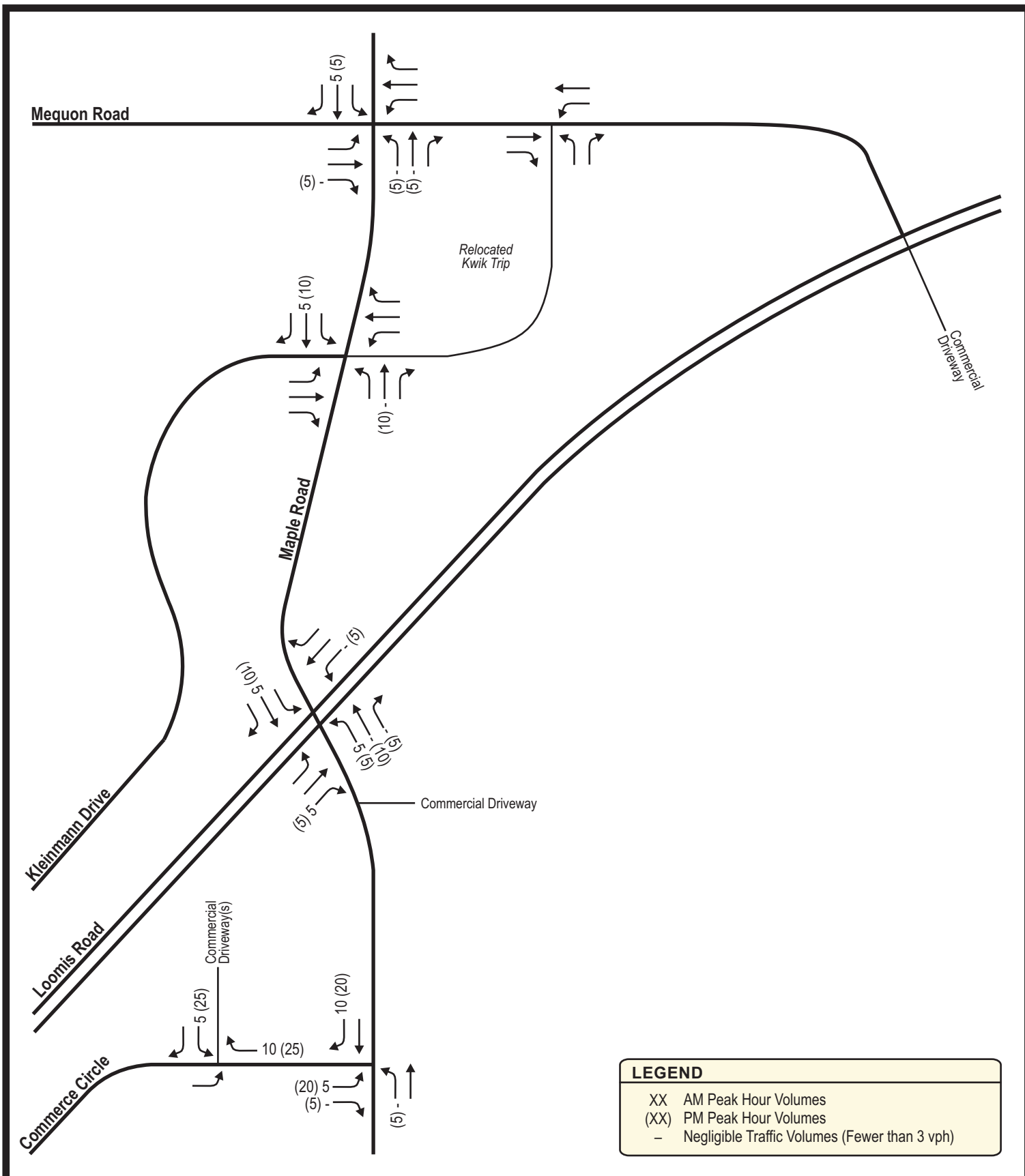
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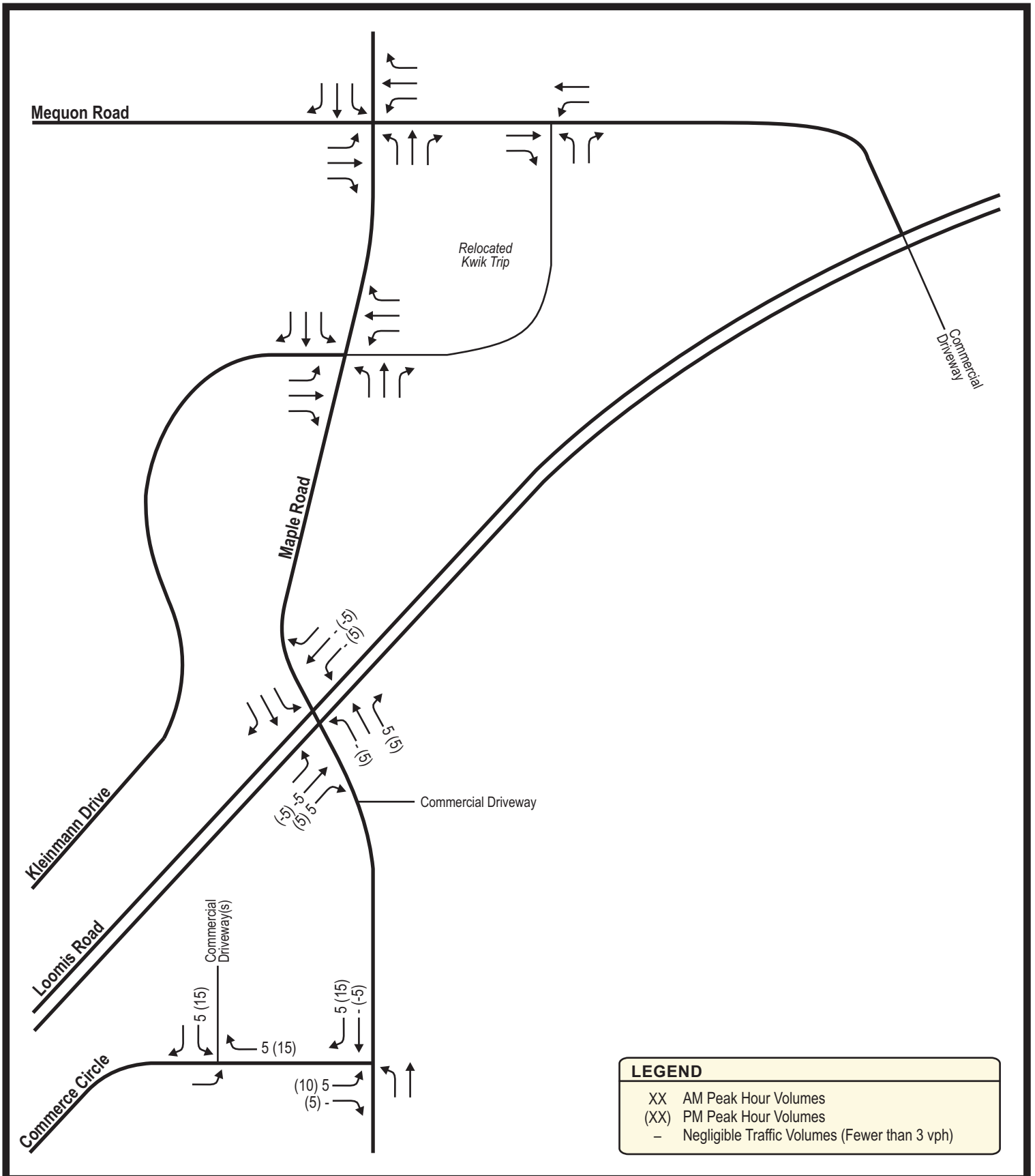


NOT TO SCALE

EXHIBIT 8A TRIP GENERATION & TRIP DISTRIBUTION BANK DEVELOPMENT

MAPLE ROAD KWIK TRIP TIA - GERMANTOWN, WISCONSIN





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NOT TO SCALE

EXHIBIT 8C BANK DEVELOPMENT PASS-BY TRIPS

MAPLE ROAD KWIK TRIP TIA - GERMANTOWN, WISCONSIN

New Kwik Trip - Trip Generation Table ¹

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
Super Convenience Market/Gas Station (Store Category 3, Pop≥300k)	WisDOT	22 Fuel Positions	4,640 FCE	170 (51%)	165 (49%)	335 FCE	170 (50%)	165 (50%)	335 FCE
Total Driveway Trips			4,640	170	165	335	170	165	335
Pass-by Trips ²		55%	2,550	90	90	180	90	90	180
New Trips			7,190	80	75	155	80	75	155
Existing Kwik Trip				150	155	305	125	135	260
Trip Difference				20	10	30	45	30	75
% Change						10%			29%

¹ Fitted Curve Equations (FCE) are from the October 20, 2022 trip generation guidance for the Convenience Store/Gas Station Land Use.

² Pass-by trip percentages are based on the maximum WisDOT values for the land use type.

³ New trips distribution based on distribution calculated for the existing Kwik Trip. Pass-by trips were recalculated based on existing traffic patterns

TRIP DISTRIBUTION (New Trips) ³

W. on Mequon Road	11% (9%)	10	10	5	5
W. on Lannon Road	31% (24%)	25	25	20	20
E. on Lannon & Mequon Rds	18% (33%)	15	15	25	25
N. on Maple Road	30% (22%)	25	20	20	15
S. on Maple Road	11% (11%)	5	5	10	10
	100%	80	75	80	75

TRIP DISTRIBUTION (Pass-by Trips) ³

NB on Maple Road	25% (10%)	20	20	10	10
SB on Maple Road	10% (25%)	10	10	20	20
EB on Lannon Road	35% (25%)	30	30	25	25
WB on Lannon Road	20% (30%)	20	20	25	25
EB Mequon Road	5% (5%)	5	5	5	5
WB Mequon Road	5% (5%)	5	5	5	5
	AM (PM)	90	90	90	90



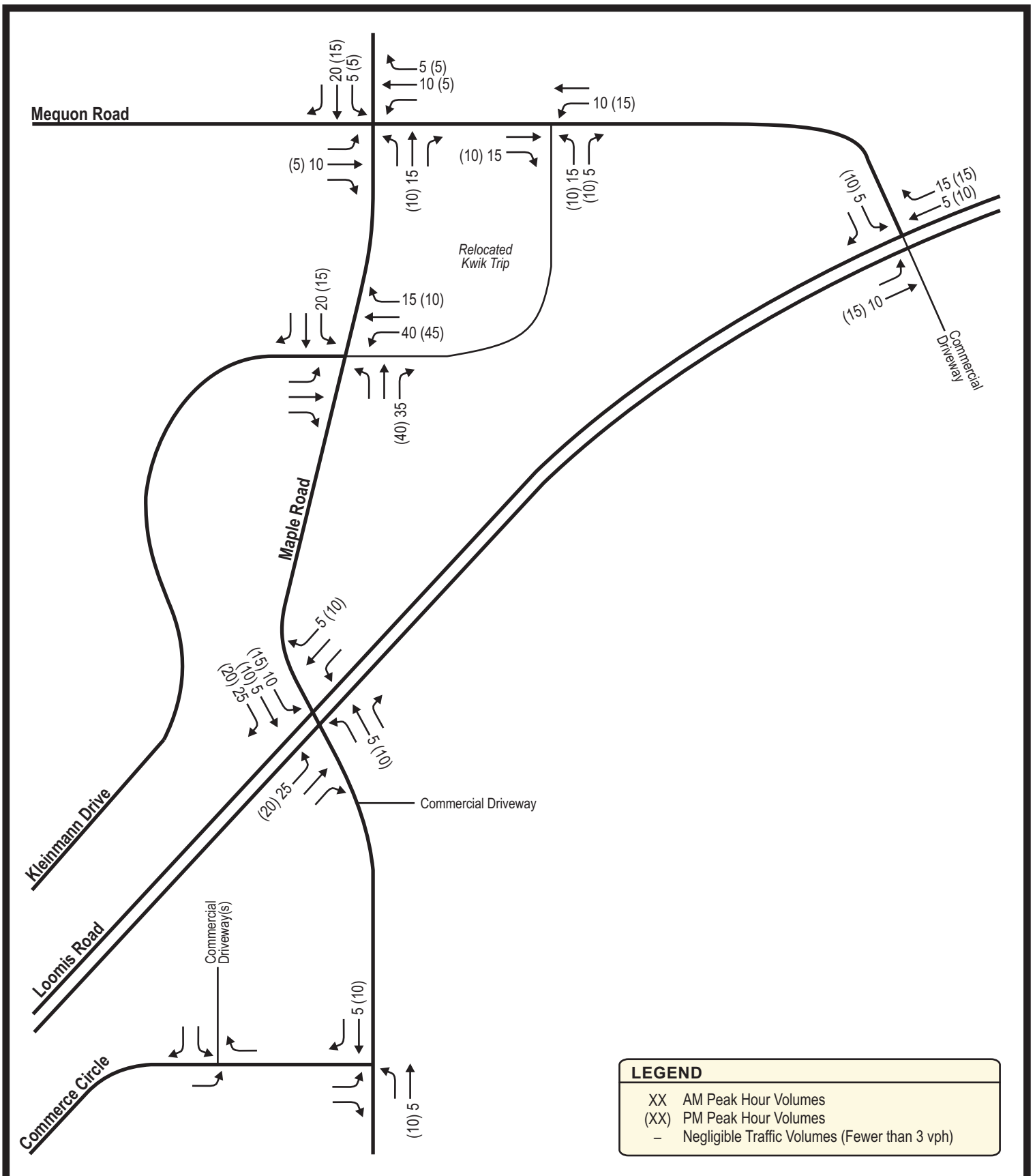
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**EXHIBIT 9A
TRIP GENERATION & TRIP DISTRIBUTION
RELOCATED KWIK TRIP**

MAPLE ROAD KWIK TRIP TIA - GERMANTOWN, WISCONSIN



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NOT TO SCALE

EXHIBIT 9B RELOCATED KWIK TRIP DEVELOPMENT NEW TRIPS ALTERNATIVE 1: FULL ACCESS AT MAPLE ROAD

MAPLE ROAD KWIK TRIP TIA - GERMANTOWN, WISCONSIN

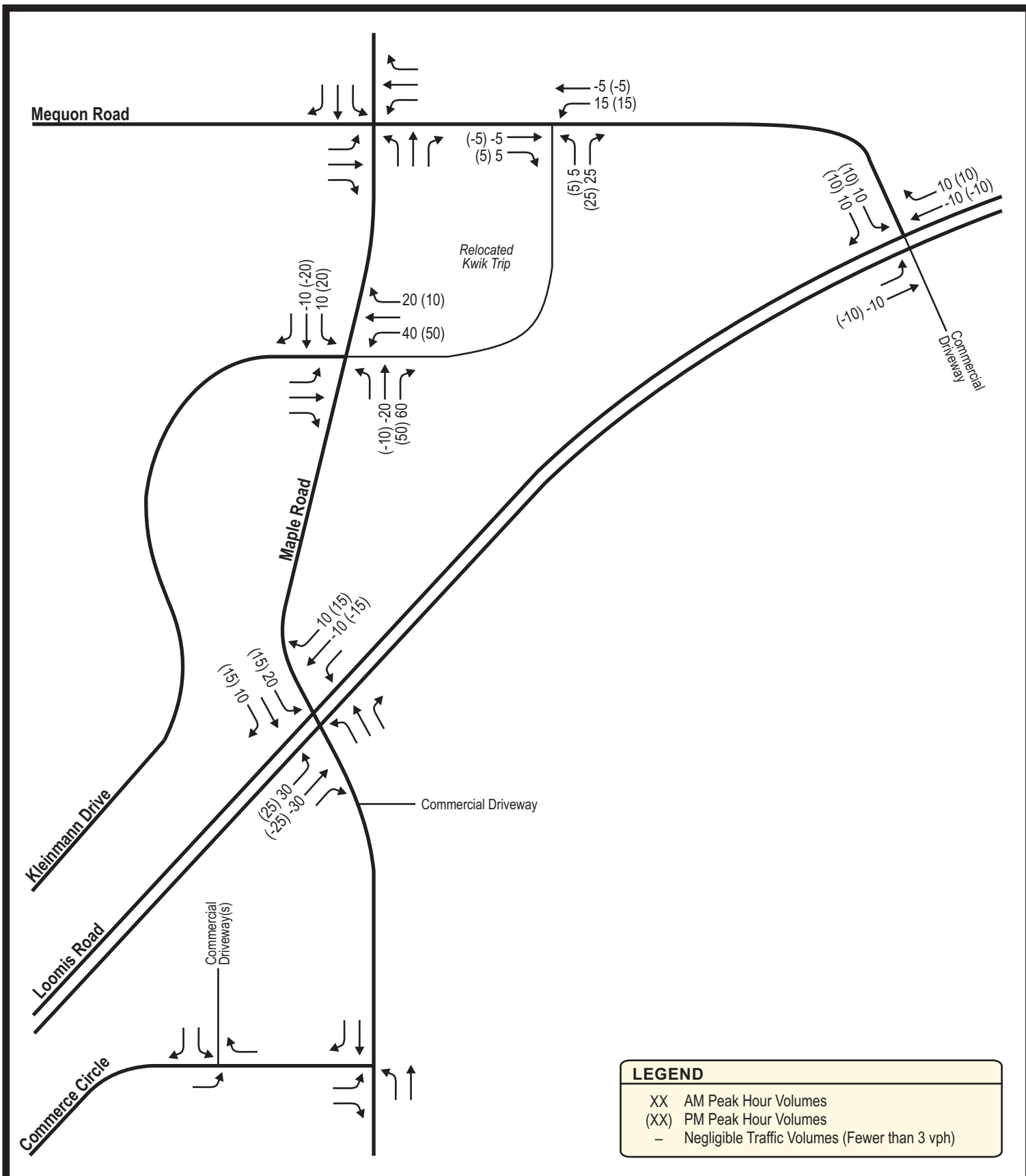


EXHIBIT 9C **RELOCATED KWIK TRIP DEVELOPMENT PASS-BY TRIPS** **ALTERNATIVE 1: FULL ACCESS AT MAPLE ROAD**

MAPLE ROAD KWIK TRIP TIA - GERMANTOWN, WISCONSIN



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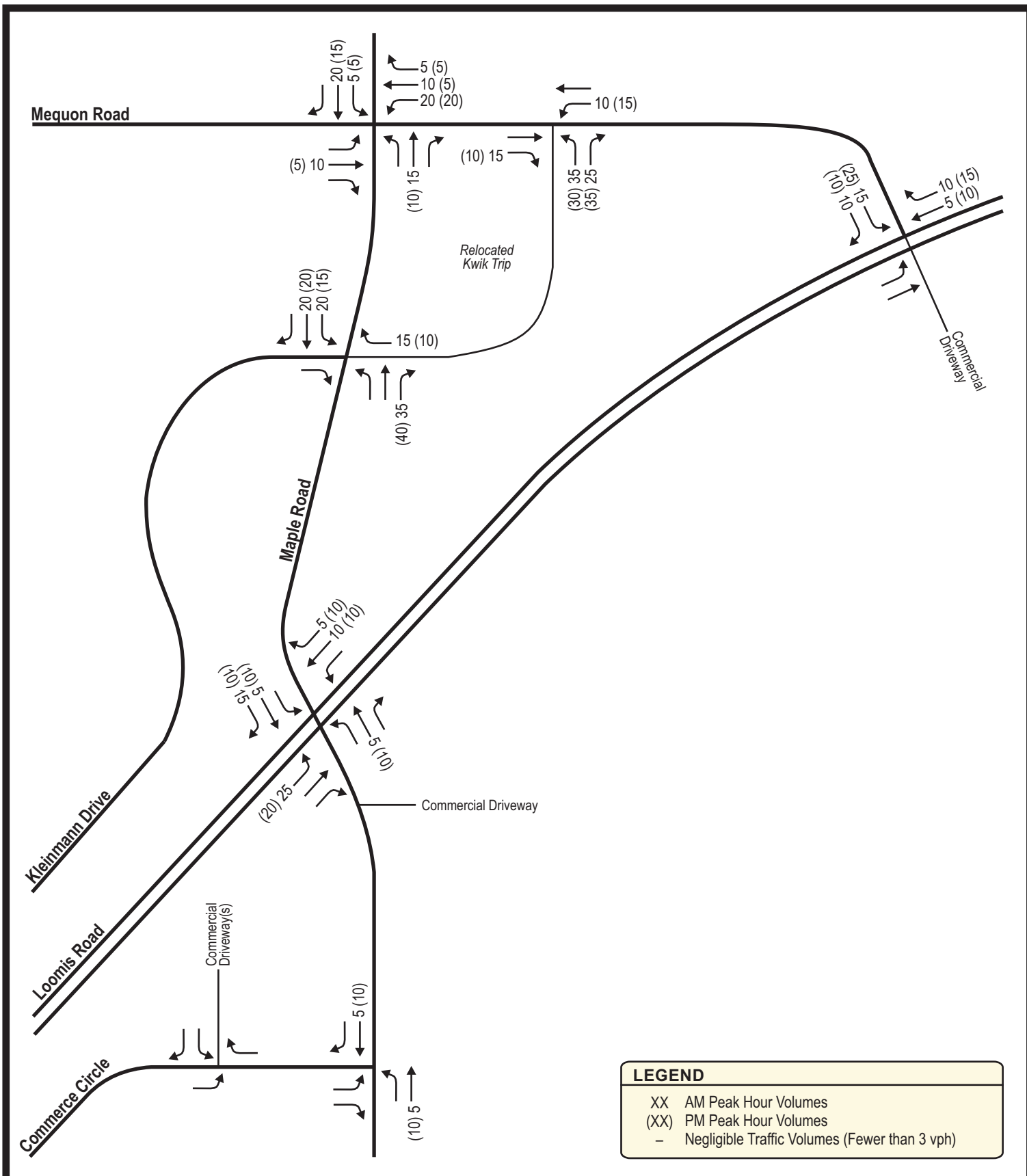


EXHIBIT 9D **RELOCATED KWIK TRIP DEVELOPMENT NEW TRIPS** **ALTERNATIVE 2: PARTIAL ACCESS AT MAPLE ROAD**

MAPLE ROAD KWIK TRIP TIA - GERMANTOWN, WISCONSIN



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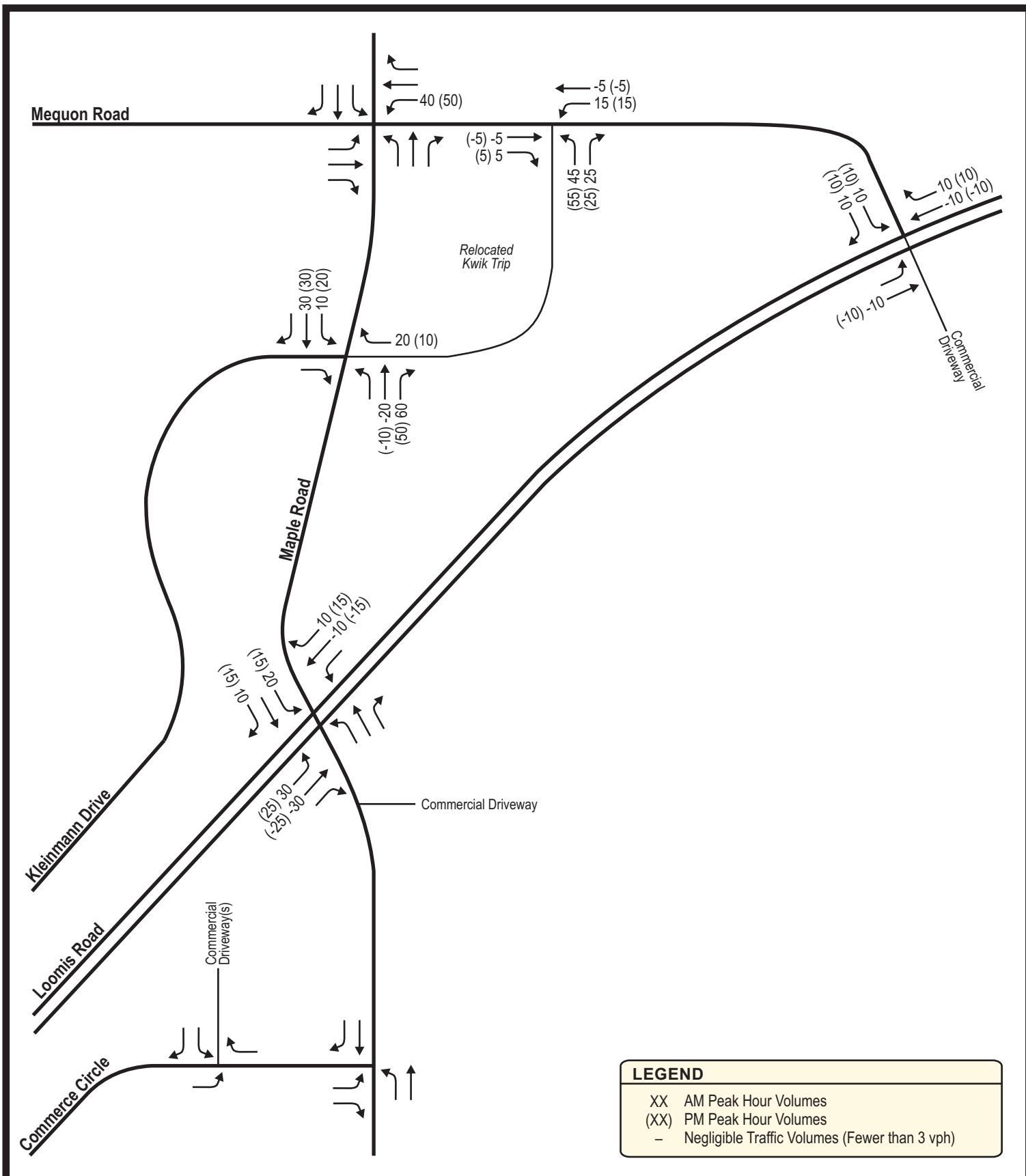


EXHIBIT 9E **RELOCATED KWIK TRIP DEVELOPMENT PASS-BY TRIPS** **ALTERNATIVE 2: PARTIAL ACCESS AT MAPLE ROAD**

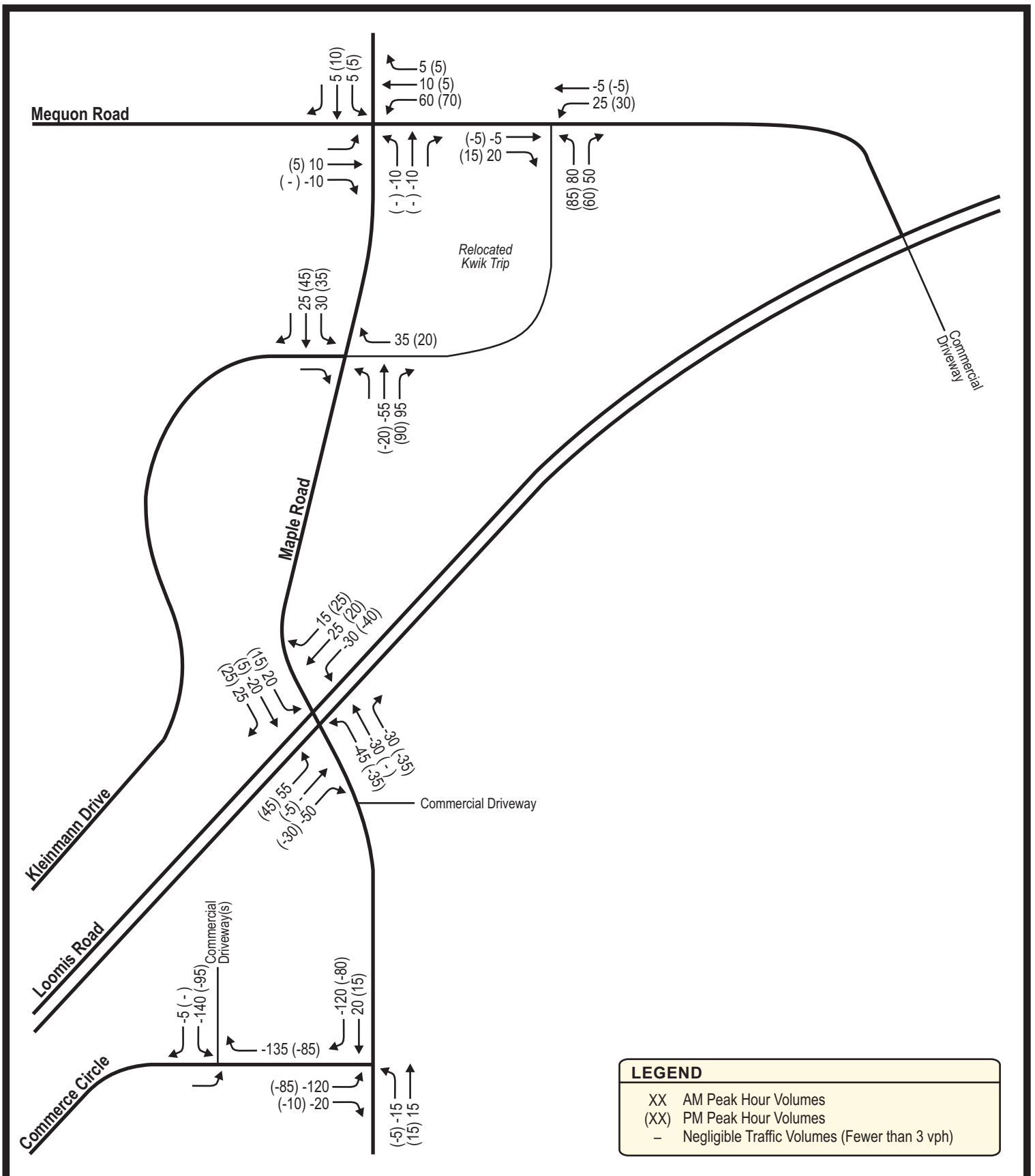
MAPLE ROAD KWIK TRIP TIA - GERMANTOWN, WISCONSIN



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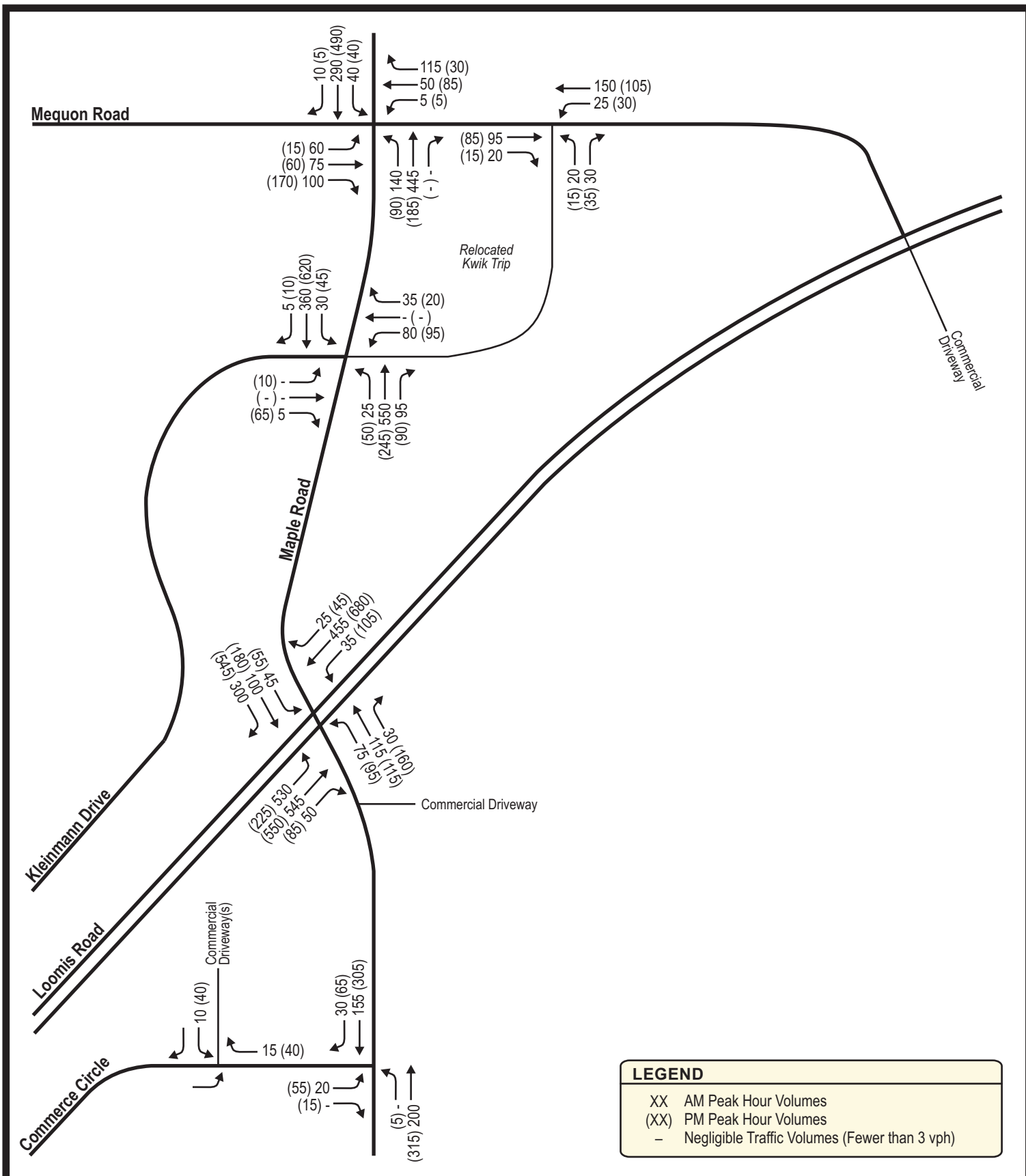
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EXHIBIT 11
DEVELOPMENT DRIVEWAY TRIPS
(BANK - EXISTING KWIK TRIP + NEW KWIK TRIP)
ALTERNATIVE 2: PARTIAL ACCESS AT MAPLE ROAD

MAPLE ROAD KWIK TRIP TIA - GERMANTOWN, WISCONSIN



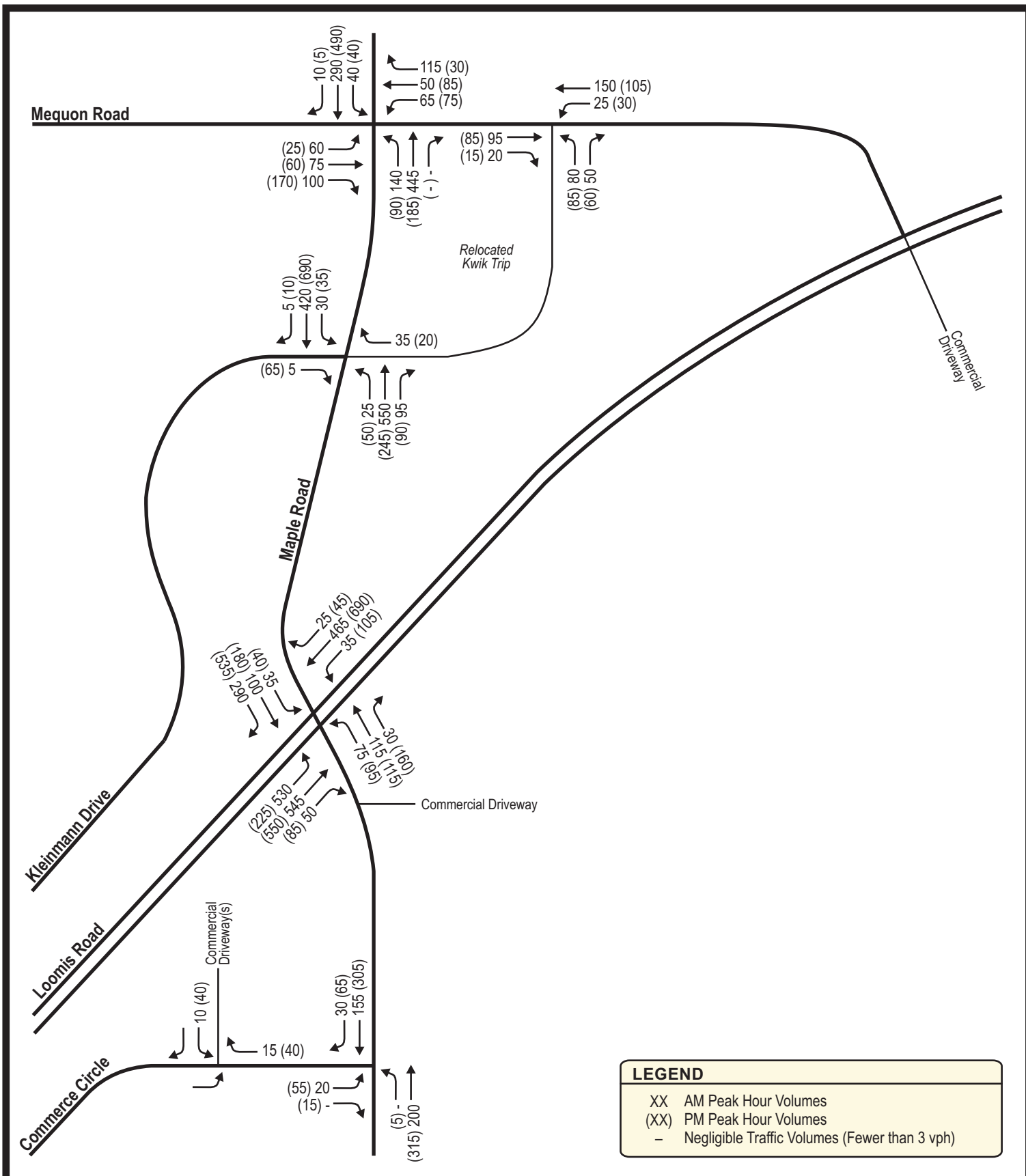


EXHIBIT 13 **YEAR 2029 BUILD TRAFFIC VOLUMES** **ALTERNATIVE 2: PARTIAL ACCESS AT MAPLE ROAD**

MAPLE ROAD KWIK TRIP TIA - GERMANTOWN, WISCONSIN



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NOT TO SCALE

Year 2024 Existing Traffic Peak Hour Operating Conditions
Existing Transportation System

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S
			Eastbound			Westbound			Northbound			Southbound			LOS & Delay
			↗	→	↘	↖	←	↗	↖	↑	↗	↘	↓	↖	
(100) Maple Road & Mequon Road Stop Sign Control (All-Way)	AM	Lanes->	<1	1	<1	1	1	1	2>	1	2>				
		LOS	C	C	C	C	C	F	C	D					
		Delay	23.6	18.6	16.0	19.9	23.8	81.7	15.0	33.5					
		v/c	0.51	0.41	0.19	0.43	0.56	1.01	0.14	0.71					
	Queue	70'	50'	20'	50'	85'	325'	15'	130'						
	PM	LOS	B	C	B	B	B	B	B	D					
		Delay	12.7	15.0	13.9	11.0	14.1	14.4	11.3	27.9					
		v/c	0.19	0.41	0.24	0.07	0.25	0.32	0.09	0.73					
Queue		20'	50'	25'	5'	25'	35'	10'	155'						
(200) Maple Road & Kleinmann Drive/Commercial Driveway Stop Sign Control (EB/WB)	Lanes->	<1>		<1>		1	2>	1	2>						
	AM	LOS	B		A		A	*	A	*					
		Delay	12.0		0.0		8.6	*	0.0	*					
		v/c	0.02		0.00		0.03	*	0.00	*					
		Queue	0'		0'		5'	*	0'	*					
	PM	LOS	B		A		A	*	A	*					
		Delay	14.5		0.0		9.8	*	0.0	*					
		v/c	0.19		0.00		0.07	*	0.00	*					
Queue		20'		0'		5'	*	0'	*						
(300) Maple Road & Lannon Road (STH 167) Traffic Signal Control	Lanes->	2	2	1	1	2	1	1	1	1	1	1	1		
	AM	LOS	D	B	A	D	B	B	D	C	C	D	C	A	C
		Delay	43.0	11.0	9.6	45.1	17.0	14.5	39.2	33.2	30.9	36.4	32.7	0.0	26.0
		v/c	0.80	0.28	0.07	0.68	0.29	0.01	0.51	0.46	0.13	0.08	0.40	0.00	
		Queue	~285	140'	40'	70'	110'	10'	110'	135'	40'	25'	115'	0'	
	PM	LOS	C	B	B	E	C	C	D	C	C	C	C	A	C
		Delay	26.6	15.7	13.6	56.0	28.8	21.6	38.5	29.3	29.6	32.0	30.6	0.0	27.3
		v/c	0.21	0.35	0.10	0.81	0.61	0.03	0.54	0.30	0.33	0.10	0.46	0.00	
Queue		85'	175'	55'	130'	200'	15'	125'	105'	105'	35'	155'	0'		
(400) Maple Road & Commerce Circle Stop Sign Control (EB)	Lanes->	< >		-		-		<1	-	-	1	1			
	AM	LOS	B			-			A	-	-	*	*		A
		Delay	13.2			-			8.0	-	-	*	*		3.6
		v/c	0.30			-			0.01	-	-	*	*		
		Queue	30'			-			0'	-	-	*	*		
	PM	LOS	C			-			A	-	-	*	*		A
		Delay	17.1			-			8.3	-	-	*	*		3.4
		v/c	0.38			-			0.01	-	-	*	*		
Queue		45'			-			0'	-	-	*	*			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared lane movement.
 (~) indicates a queue is theoretically infinite.
 Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

Year 2029 Future Traffic Peak Hour Operating Conditions
Existing Transportation System

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay										
			Eastbound			Westbound			Northbound			Southbound													
			↗	→	↘	↖	←	↗	↖	↑	↗	↘	↓	↖											
(100) Maple Road & Mequon Road Stop Sign Control (All-Way)	AM	Lanes->	<1			1			<1			1			2>			1	2>						
		LOS	C			C			C			C			F			C	E			E			
		Delay	24			19			16.2			20.3			24.1			97.9			15.2	36.6			40.9
		v/c	0.52			0.42			0.19			0.44			0.56			1.06			0.15	0.75			
	Queue	70'			50'			20'			55'			85'			370'			15'	140'				
	PM	LOS	B			C			B			B			B			B			B	D			C
		Delay	12.9			15.3			14.1			11.2			14.3			14.8			11.4	31.0			18.9
		v/c	0.19			0.42			0.24			0.07			0.26			0.33			0.09	0.77			
Queue		20'			50'			25'			5'			25'			35'			10'	175'				
(200) Maple Road & Kleinmann Drive/Commercial Driveway Stop Sign Control (EB/WB)	AM	Lanes->	<1>			<1>			1			2>			1			2>							
		LOS	B			A			A			*			A			*			A				
		Delay	12.2			0.0			8.7			*			0.0			*			0.3				
		v/c	0.02			0.00			0.03			*			0.00			*							
	Queue	0'			0'			5'			*			0'			*								
	PM	LOS	B			A			A			*			A			*			A				
		Delay	14.9			0.0			9.9			*			0.0			*			1.5				
		v/c	0.20			0.00			0.08			*			0.00			*							
Queue		20'			0'			5'			*			0'			*								
(300) Maple Road & Lannon Road (STH 167) Traffic Signal Control	AM	Lanes->	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1						
		LOS	D	B	B	D	B	B	D	C	C	D	C	C	D	C	A	C	C						
		Delay	50.2	11.6	10.0	45.4	17.2	14.5	38.9	32.6	30.4	35.8	32.1	0.0						27.7					
		v/c	0.87	0.29	0.08	0.71	0.30	0.01	0.53	0.44	0.13	0.08	0.38	0.00											
	Queue	~300	155'	45'	75'	115'	10'	120'	130'	45'	25'	110'	0'												
	PM	LOS	C	B	B	E	C	C	D	C	C	C	C	A	C	C	A	C	C						
		Delay	27.2	16.9	14.6	59.9	29.4	21.6	38.1	28.7	29.2	31.4	29.9	0.0						28.1					
		v/c	0.23	0.37	0.11	0.82	0.64	0.03	0.56	0.29	0.36	0.10	0.44	0.00											
Queue		85'	190'	65'	140'	220'	15'	130'	105'	110'	35'	150'	0'												
(400) Maple Road & Commerce Circle Stop Sign Control (EB)	AM	Lanes->	< >			-			<1			-			1			1							
		LOS	B			-			A			-			-			*	*	A					
		Delay	13.7			-			8.0			-			-			*	*	3.6					
		v/c	0.31			-			0.02			-			-			*	*						
	PM	Queue	35'			-			0'			-			-			*	*						
		LOS	C			-			A			-			-			*	*	A					
		Delay	18.7			-			8.4			-			-			*	*	3.5					
		v/c	0.41			-			0.01			-			-			*	*						
Queue	50'			-			0'			-			-			*	*								

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared lane movement.

(~) indicates a queue is theoretically infinite.

Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

Year 2029 Future Traffic Peak Hour Operating Conditions
Modified Transportation System

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
(100) Maple Road & Mequon Road Traffic Signal Control	AM	Lanes->	1	1>	1	1>	1	2	1	1	2	1			
		LOS	D	C	D	C	A	A	A	A	A	A	A	B	
		Delay	39.9	33.8	37.7	32.4	1.6	0.3	0.0	6.6	6.9	5.9		12.1	
		v/c	0.42	0.67	0.04	0.58	0.33	0.29	0.00	0.09	0.19	0.01			
	Queue	60'	140'	10'	120'	15'	20'	0'	25'	60'	5'				
	PM	LOS	C	D	D	C	A	A	A	A	A	A	A	B	
		Delay	34.3	40.4	42.0	31.9	1.1	0.1	0.0	5.2	6.1	4.9		14.3	
		v/c	0.07	0.83	0.05	0.36	0.19	0.10	0.00	0.05	0.24	0.00			
Queue		20'	185'	10'	90'	10'	10'	0'	25'	105'	5'				
(200) Maple Road & Kleinmann Drive/Commercial Driveway Stop Sign Control (EB/WB)	AM	Lanes->	<1>			<1>			1	2>		1	2>		
		LOS	A			A			A	*		A	*		A
		Delay	9.4			0.0			8.2	*		0.0	*		0.3
		v/c	0.01			0.00			0.03	*		0.00	*		
	Queue	0'			0'			5'	*		0'	*			
	PM	LOS	B			A			A	*		A	*		A
		Delay	10.6			0.0			9.0	*		0.0	*		1.2
		v/c	0.12			0.00			0.06	*		0.00	*		
Queue		10'			0'			5'	*		0'	*			
(300) Maple Road & Lannon Road (STH 167) Traffic Signal Control	AM	Lanes->	2	2	1	1	2	1	1	1	1	1	1	1	
		LOS	C	B	B	D	C	B	D	C	C	D	D	A	C
		Delay	34.4	11.9	10.3	45.4	20.8	17.5	39.0	32.1	30.0	40.8	37.0	0.0	25.2
		v/c	0.67	0.30	0.08	0.71	0.35	0.01	0.53	0.43	0.13	0.07	0.37	0.00	
	Queue	240'	155'	45'	75'	130'	10'	120'	130'	45'	20'	85'	0'		
	PM	LOS	C	B	B	D	C	C	D	C	C	D	D	A	C
		Delay	27.9	17.6	15.2	52.3	29.4	21.6	38.1	27.9	28.5	37.0	35.7	0.0	28.3
		v/c	0.24	0.38	0.12	0.82	0.64	0.03	0.56	0.28	0.34	0.09	0.42	0.00	
Queue		85'	190'	65'	140'	220'	15'	130'	105'	110'	25'	115'	0'		
(400) Maple Road & Commerce Circle Stop Sign Control (EB)	AM	Lanes->	< >			-			<1		-	-	1	1	
		LOS	B			-			A		-	-	*	*	A
		Delay	13.7			-			8.0		-	-	*	*	3.6
		v/c	0.31			-			0.02		-	-	*	*	
	Queue	35'			-			0'		-	-	*	*		
	PM	LOS	C			-			A		-	-	*	*	A
		Delay	18.7			-			8.4		-	-	*	*	3.5
		v/c	0.41			-			0.01		-	-	*	*	
Queue		50'			-			0'		-	-	*	*		

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared lane movement.
 Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

**Year 2029 Build - Alternative 1 (Full Kwik Trip Access) Traffic Peak Hour Operating Conditions
with Year 2029 Future Traffic Recommended Modifications**

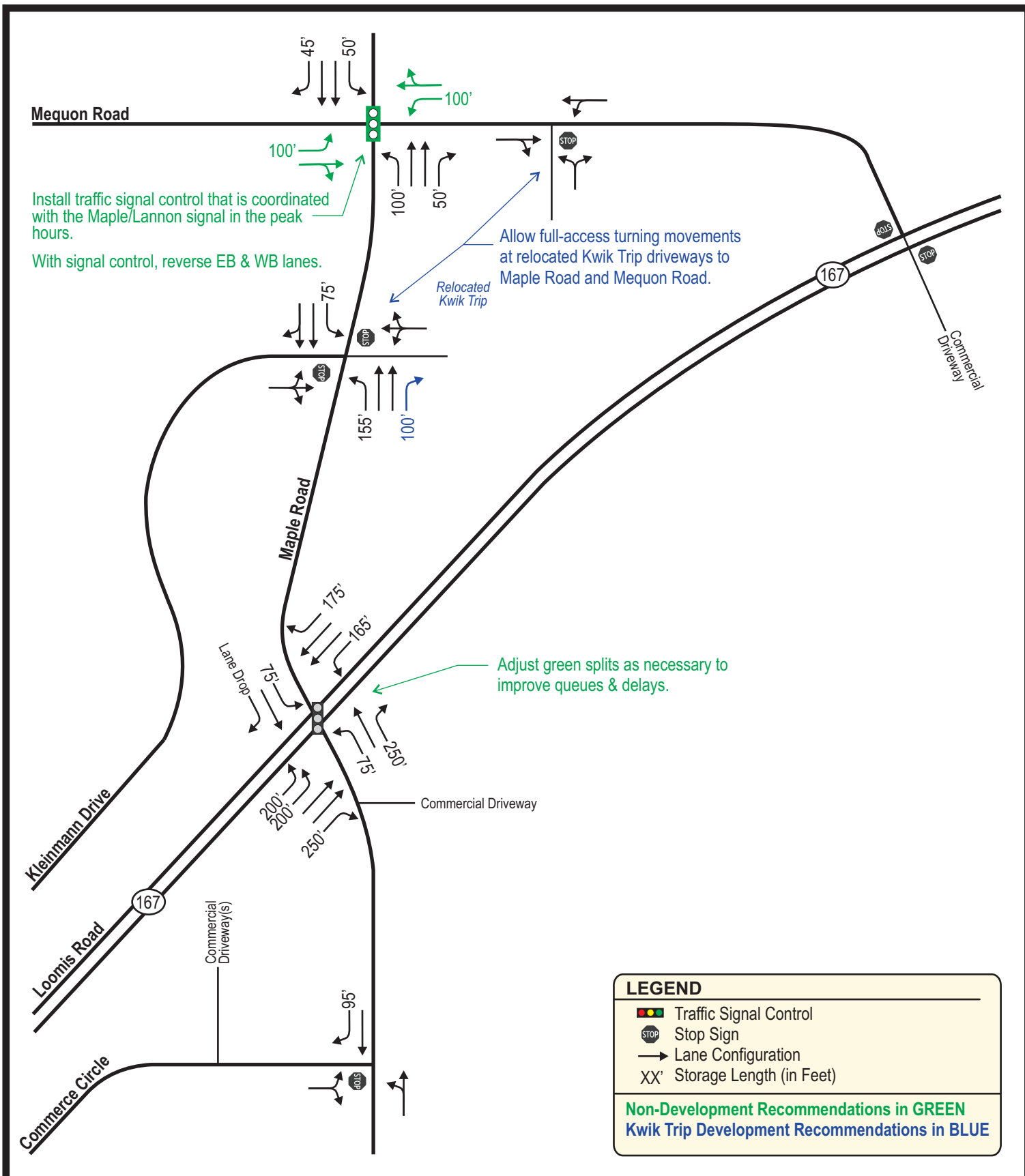
Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↖	←	↗	↖	↑	↗	↘	↓	↖	
(100) Maple Road & Mequon Road Traffic Signal Control	AM	Lanes->	1	1>		1	1>		1	2	1	1	2	1	
		LOS	D	C		D	C		A	A	A	A	A	A	B
		Delay	39.9	32.3		36.4	31.9		1.6	0.3	0.0	7.2	7.4	6.3	12.3
		v/c	0.42	0.63		0.04	0.60		0.31	0.29	0.00	0.10	0.20	0.01	
		Queue	60'	140'		10'	135'		20'	25'	0'	25'	60'	5'	
	PM	LOS	C	D		D	C		A	A	A	A	A	A	B
		Delay	34.5	40.3		41.9	32.0		1.1	0.1	0.0	5.3	6.2	5.0	14.5
		v/c	0.07	0.84		0.05	0.39		0.19	0.10	0.00	0.06	0.25	0.00	
	Queue	20'	190'		10'	95'		15'	15'	0'	25'	110'	5'		
(200) Maple Road & Kleinmann Drive/Commercial Driveway Stop Sign Control (EB/WB)	AM	Lanes->	<1>			<1>			1	1	1	1	2>		
		LOS	B			C			A	*	*	A	*		A
		Delay	12.2			21.5			8.1	*	*	9.5	*		2.6
		v/c	0.02			0.41			0.03	*	*	0.05	*		
		Queue	5'			50'			5'	*	*	5'	*		
	PM	LOS	B			C			A	*	*	A	*		A
		Delay	11.2			16.7			8.9	*	*	8.1	*		2.8
		v/c	0.14			0.31			0.06	*	*	0.03	*		
		Queue	15'			35'			5'	*	*	5'	*		
			Lanes->	2	2	1	1	2	1	1	1	1	1	1	1
(300) Maple Road & Lannon Road (STH 167) Traffic Signal Control	AM	LOS	C	A	A	D	C	C	D	D	C	D	D	A	C
		Delay	25.0	8.9	7.4	44.6	25.1	21.0	40.5	35.6	33.3	43.9	39.5	0.0	23.0
		v/c	0.50	0.27	0.04	0.52	0.42	0.03	0.42	0.46	0.09	0.26	0.41	0.00	
		Queue	215'	125'	25'	50'	135'	20'	85'	115'	30'	45'	80'	0'	
	PM	LOS	C	B	B	D	C	C	D	C	C	D	D	A	C
		Delay	26.4	14.3	12.2	45.0	29.7	22.0	39.4	30.0	30.0	39.9	37.5	0.0	27.0
		v/c	0.27	0.34	0.08	0.79	0.65	0.06	0.48	0.31	0.32	0.23	0.49	0.00	
		Queue	105'	165'	45'	110'	205'	25'	105'	110'	100'	60'	150'	0'	
(400) Maple Road & Commerce Circle Stop Sign Control (EB)	AM	Lanes->	< >			-			<1		-	-	1	1	
		LOS	B			-			A	-	-	*	*	A	
		Delay	11.5			-			7.7	-	-	*	*	0.6	
		v/c	0.04			-			0.00	-	-	*	*		
	PM	Queue	5'			-			0'	-	-	*	*		
		LOS	B			-			A	-	-	*	*	A	
		Delay	14.8			-			8.2	-	-	*	*	1.4	
		v/c	0.17			-			0.01	-	-	*	*		
	Queue	15'			-			0'	-	-	*	*			
(500) Mequon Road & Commercial Driveway Stop Sign Control (NB)	AM	Lanes->	-	1>		<1		-	< >			-			
		Volume	-	-	-	-	-	-	-	-	-	-	-	-	A
		LOS	-	*		A		-	B			-			
		Delay	-	*		7.7		-	10.5			-			2.1
		v/c	-	*		0.03		-	0.10			-			
	PM	Queue	-	*		5'		-	10'			-			
		Volume	-	-	-	-	-	-	-	-	-	-	-	-	A
		LOS	-	*		A		-	A			-			2.5
		Delay	-	*		7.5		-	9.6			-			
		v/c	-	*		0.02		-	0.07			-			
	Queue	-	*		5'		-	5'			-				

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared lane movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

**Year 2029 Build - Alternative 2 (Partial Kwik Trip Access) Traffic Peak Hour Operating Conditions
with Year 2029 Future Traffic Recommended Modifications**

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
(100) Maple Road & Mequon Road Traffic Signal Control	AM	Lanes->	1	1>		1	1>		1	2	1	1	2	1	
		LOS	D	C		D	C		A	A	A	A	A	A	B
		Delay	38.5	31.1		39.7	30.8		1.7	0.3	0.0	7.6	7.9	6.7	13.3
		v/c	0.39	0.60		0.44	0.58		0.32	0.29	0.00	0.11	0.20	0.01	
	PM	Queue	60'	140'		65'	135'		20'	25'	0'	25'	60'	5'	
		LOS	C	C		D	C		A	A	A	A	A	A	B
		Delay	29.9	31.3		40.3	27.2		1.6	0.1	0.0	7.4	8.6	6.9	15.0
		v/c	0.09	0.65		0.44	0.30		0.22	0.11	0.00	0.06	0.27	0.00	
Queue	30'	190'		75'	95'		15'	15'	0'	25'	110'	5'			
(200) Maple Road & Kleinmann Drive/Commercial Driveway Stop Sign Control (EB/WB)	AM	Lanes->	-		1	-		1	1	1	1	2>			
		LOS	-		A	-		A	A	*	*	A	*		A
		Delay	-		8.7	-		9.0	8.4	*	*	9.5	*		0.7
		v/c	-		0.01	-		0.05	0.03	*	*	0.05	*		
	PM	Queue	-		0'	-		5'	5'	*	*	5'	*		
		LOS	-		A	-		A	A	*	*	A	*		A
		Delay	-		9.4	-		8.6	9.1	*	*	8.1	*		1.3
		v/c	-		0.09	-		0.02	0.06	*	*	0.03	*		
Queue	-		10'	-		5'	5'	*	*	5'	*				
(300) Maple Road & Lannon Road (STH 167) Traffic Signal Control	AM	Lanes->	2	2	1	1	2	1	1	1	1	1	1	1	
		LOS	C	A	A	D	C	C	D	D	C	D	D	A	C
		Delay	25.0	8.9	7.4	44.6	25.2	21.0	40.5	35.6	33.3	43.4	39.5	0.0	23.0
		v/c	0.50	0.27	0.04	0.52	0.43	0.03	0.42	0.46	0.09	0.21	0.41	0.00	
	PM	Queue	215'	125'	25'	50'	140'	20'	85'	115'	30'	35'	80'	0'	
		LOS	C	B	B	D	C	C	D	C	C	D	D	A	C
		Delay	26.4	14.3	12.2	45.0	29.9	22.0	39.4	30.0	30.0	39.3	37.5	0.0	27.0
		v/c	0.27	0.34	0.08	0.79	0.66	0.06	0.48	0.31	0.32	0.17	0.49	0.00	
Queue	105'	165'	45'	110'	210'	25'	105'	110'	100'	40'	125'	0'			
(400) Maple Road & Commerce Circle Stop Sign Control (EB)	AM	Lanes->	< >			-			<1		-	-	1	1	
		LOS	B			-			A		-	-	*	*	A
		Delay	11.5			-			7.7		-	-	*	*	0.6
		v/c	0.04			-			0.00		-	-	*	*	
	PM	Queue	5'			-			0'		-	-	*	*	
		LOS	B			-			A		-	-	*	*	A
		Delay	14.8			-			8.2		-	-	*	*	1.4
		v/c	0.17			-			0.01		-	-	*	*	
Queue	15'			-			0'		-	-	*	*			
(500) Mequon Road & Commercial Driveway Stop Sign Control (NB)	AM	Lanes->	-	1>		<1		-	< >			-			
		Volume	-	-	-	-	-	-	-	-	-	-	-	-	A
		LOS	-	*		A		-	B			-			4.3
		Delay	-	*		7.7		-	12.5			-			
	PM	v/c	-	*		0.03		-	0.28			-			
		Queue	-	*		5'		-	30'			-			
		Volume	-	-	-	-	-	-	-	-	-	-	-	-	A
		LOS	-	*		A		-	B			-			4.8
Delay	-	*		7.5		-	11.1			-					
v/c	-	*		0.02		-	0.23			-					
Queue	-	*		5'		-	25'			-					

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared lane movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.



NOT TO SCALE

APPENDIX A

TRAFFIC COUNT DATA

Intersection Traffic Volume Report

Count Basics		Version 2024.04	Page 1 of 13
Start Date:	Friday, October 11, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	1.25	Non-Holiday	No Special Events

Base Information, Observed (1.25) Hour and Estimated (24) Hour Volume Summaries

Major St: Maple Road
 Minor St: Mequon Road
 Intersection of: Maple Road & Mequon Road

IX_ID:

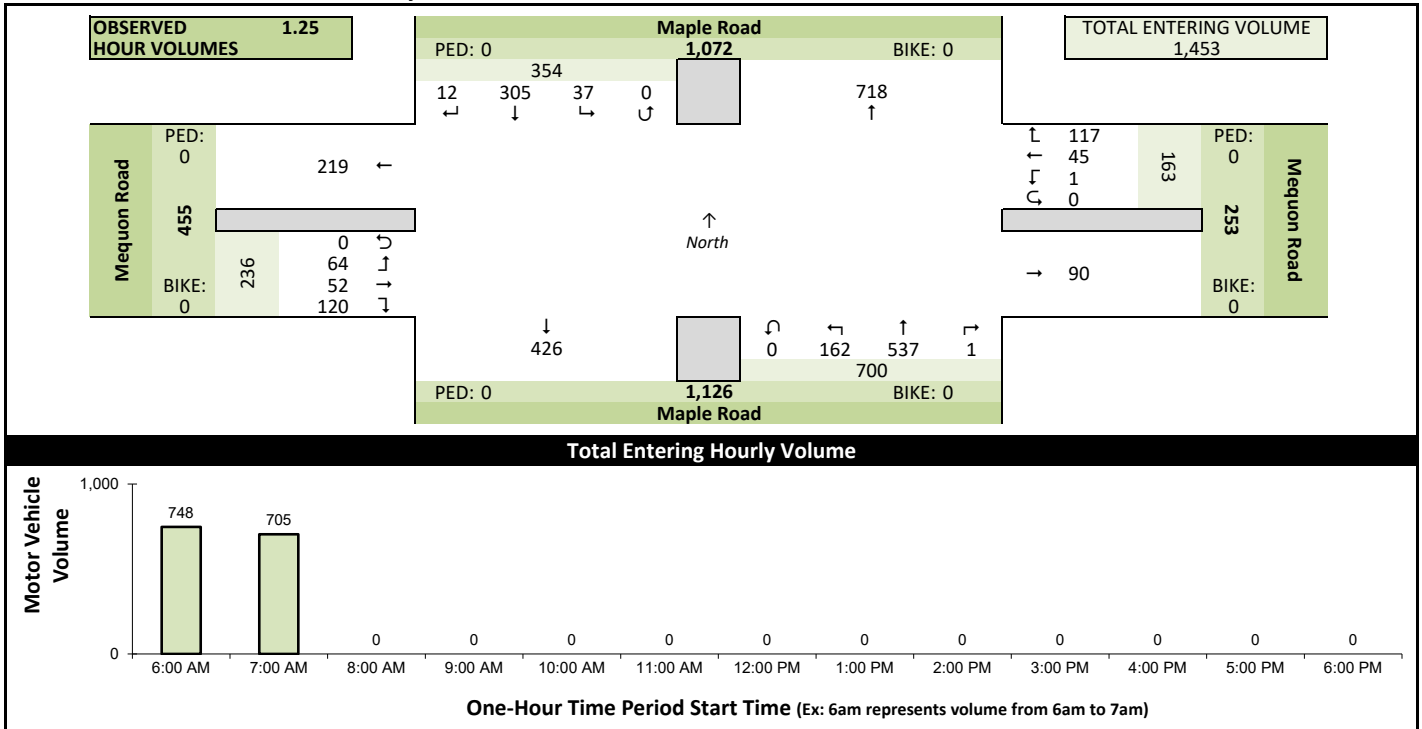
Site Information

Municipality	Village of Germantown		
County	66 - Washington	WisDOT Region	SE
Traffic Control	All-Way Stop		
Roadway Names		North Direction	↑
North Leg	Maple Road		
East Leg	Mequon Road		
South Leg	Maple Road		
West Leg	Mequon Road		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None	

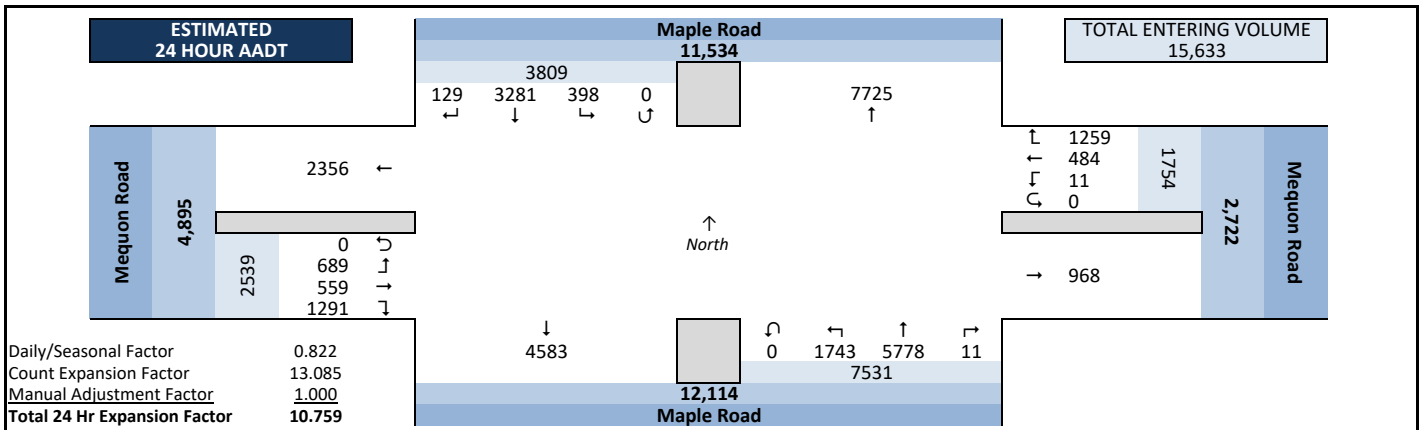
Count Information

Hrs Counted:		06:30 AM-07:45 AM	
1st Day of Count		Friday, October 11, 2024	
AM Peak Period		Clear & Dry	
Midday Peak Period		Clear & Dry	
PM Peak Period		Clear & Dry	
Calculated Peak Hours			
AM	6:30-7:30am	MD	PM
Peak Hours Selected for Analysis			
AM	6:30-7:30am	MD	PM 4:00-5:00pm
Daily/Seasonal Adjustment Group		(2) Urban Arterials & Collectors	
Count Expansion Group		(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor		Count Expansion Factor	13.085
Company Name		TADI, Inc.	Manual Adj. 1.000
Observers	AM Peak Period	Amy Scheuerlein	
	Midday Peak Period	None	
	PM Peak Period	None	
Comments	2021 DOT Daily & Seasonal Factors		

Observed 1.25 Hour Volume Summary



Estimated 24 Hour AADT



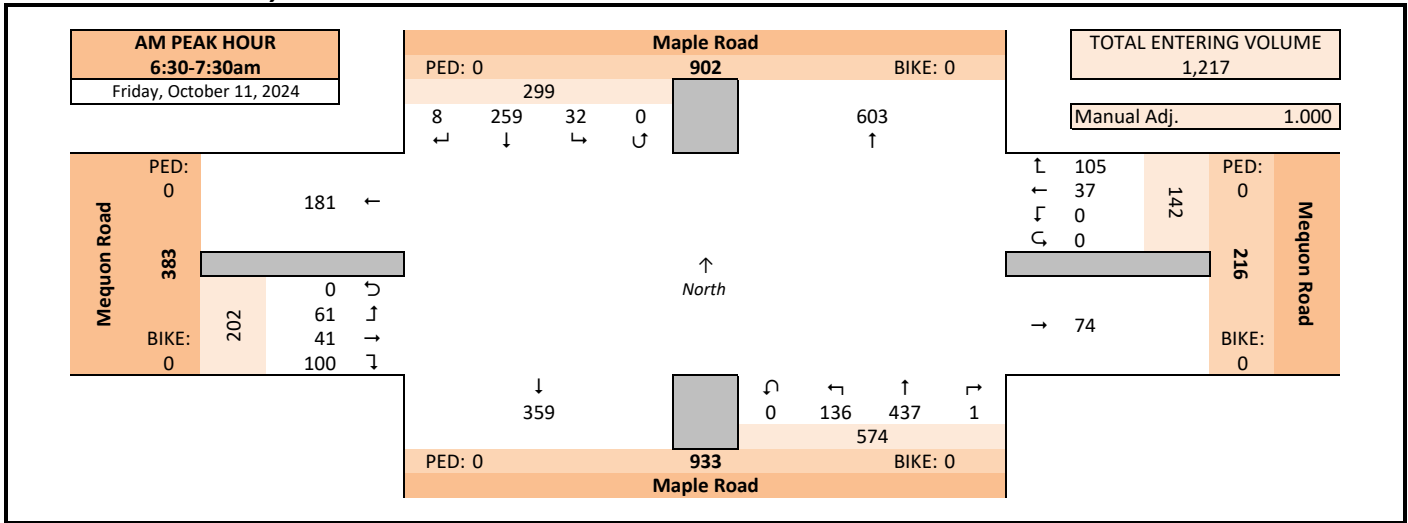
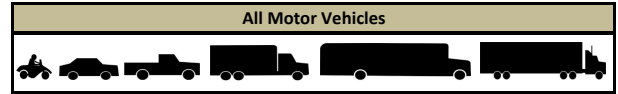
Intersection Traffic Volume Report

Peak Hour Volume Graphical Summary

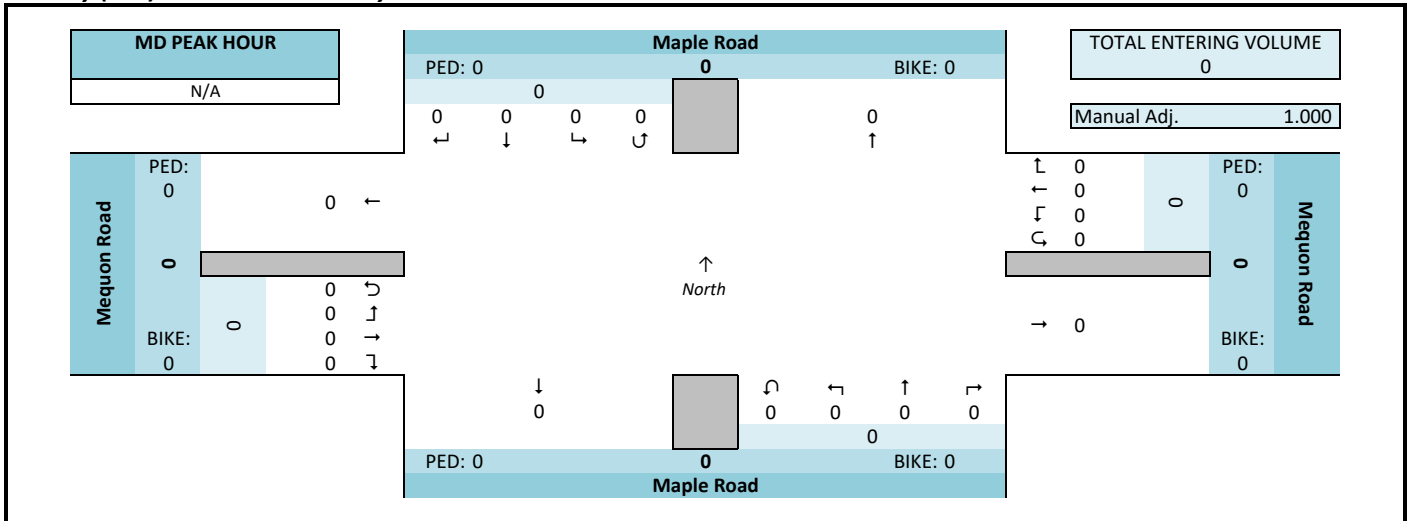
Count Basics		Page 2 of 13	
Start Date:	Friday, October 11, 2024	Weekday	Schools in Session
Total Number of Hours Counted: 1.25		Non-Holiday	No Special Events

Maple Road & Mequon Road

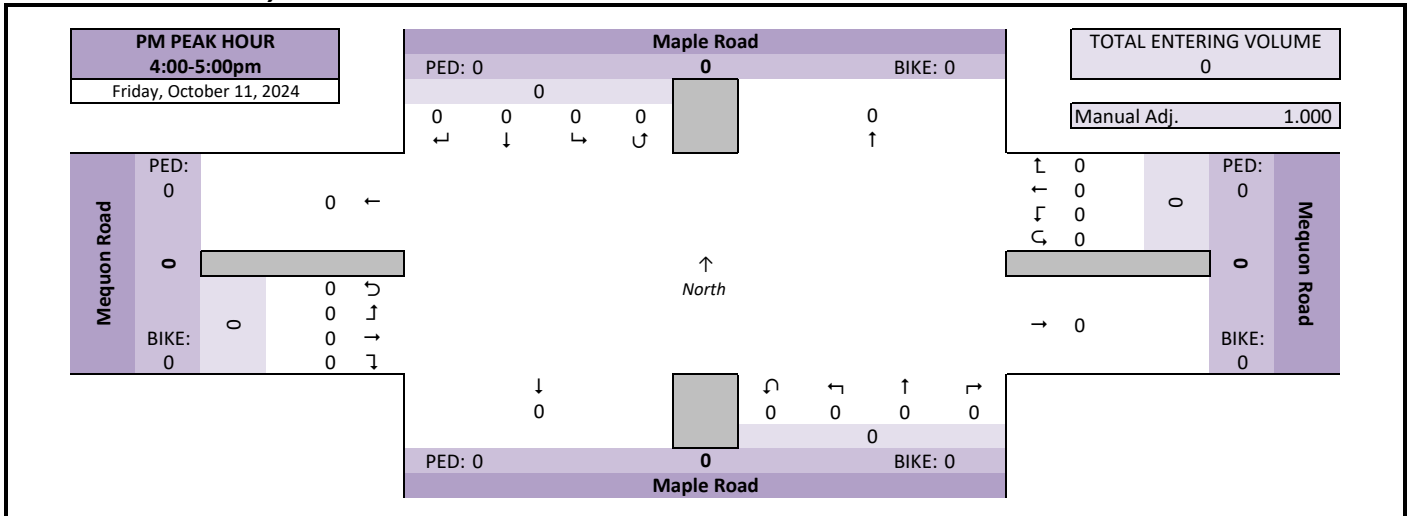
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics		Version 2024.04	Page 1 of 13
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events

Base Information, Observed (13) Hour and Estimated (24) Hour Volume Summaries

Major St: Maple Road
 Minor St: Mequon Road
 Intersection of: Maple Road & Mequon Road

IX_ID:

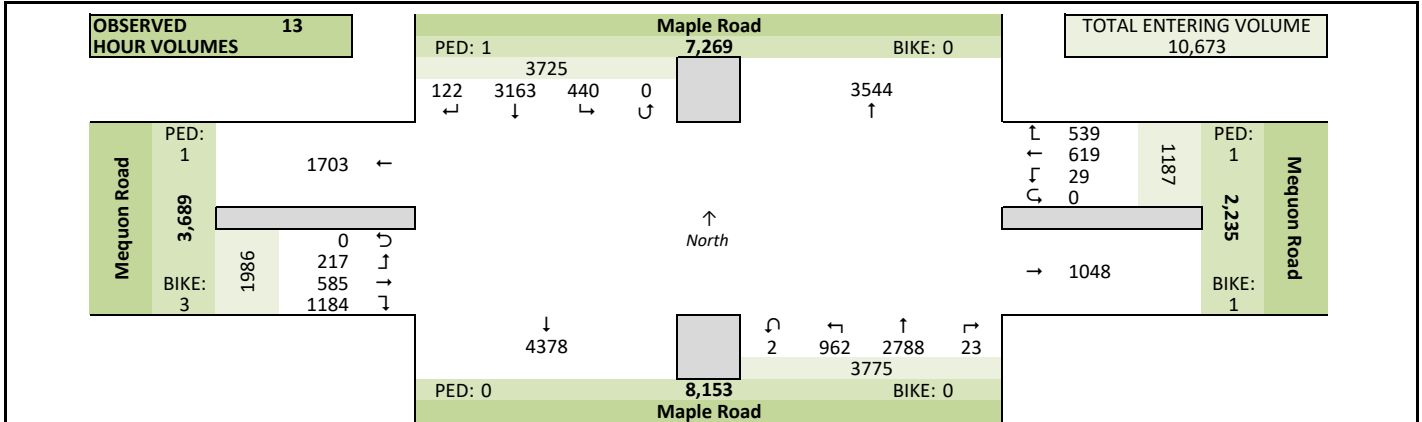
Site Information

Municipality	Village of Germantown		
County	66 - Washington	WisDOT Region	SE
Traffic Control	All-Way Stop		
Roadway Names	North Direction	↑	
North Leg	Maple Road		
East Leg	Mequon Road		
South Leg	Maple Road		
West Leg	Mequon Road		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None	

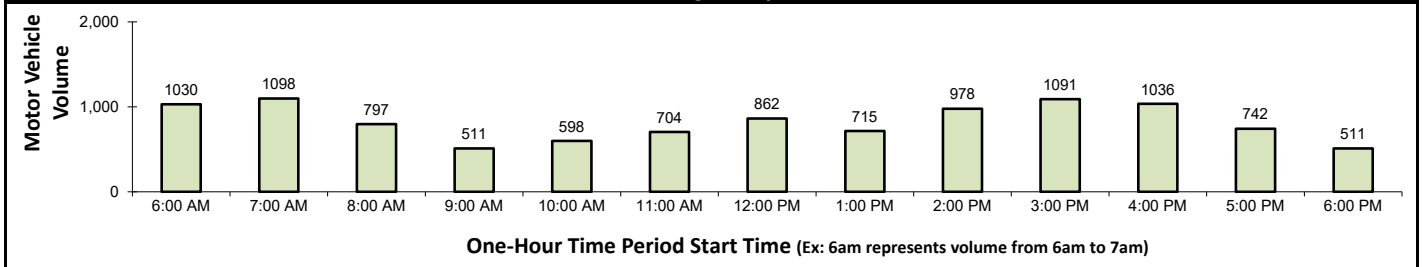
Count Information

Hrs Counted: 06:00 AM-07:00 PM				
1st Day of Count		Monday, September 23, 2024		Weather
AM Peak Period		Tuesday, September 24, 2024		Clear & Dry
Midday Peak Period		Tuesday, September 24, 2024		Clear & Dry
PM Peak Period		Monday, September 23, 2024		Clear & Dry
Calculated Peak Hours				
	AM	6:30-7:30am	MD	12:00-1:00pm
	PM	2:45-3:45pm		
Peak Hours Selected for Analysis				
	AM	6:45-7:45am	MD	12:00-1:00pm
	PM	4:00-5:00pm		
Daily/Seasonal Adjustment Group			(2) Urban Arterials & Collectors	
Count Expansion Group			(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor			0.931	Count Expansion Factor 1.187
Company Name			TADI, Inc.	Manual Adj. 1.000
Observers	AM Peak Period		Wendy Picard	
	Midday Peak Period		Jane Fait	
	PM Peak Period		Wendy Picard	
Comments	2021 DOT Daily & Seasonal Factors			

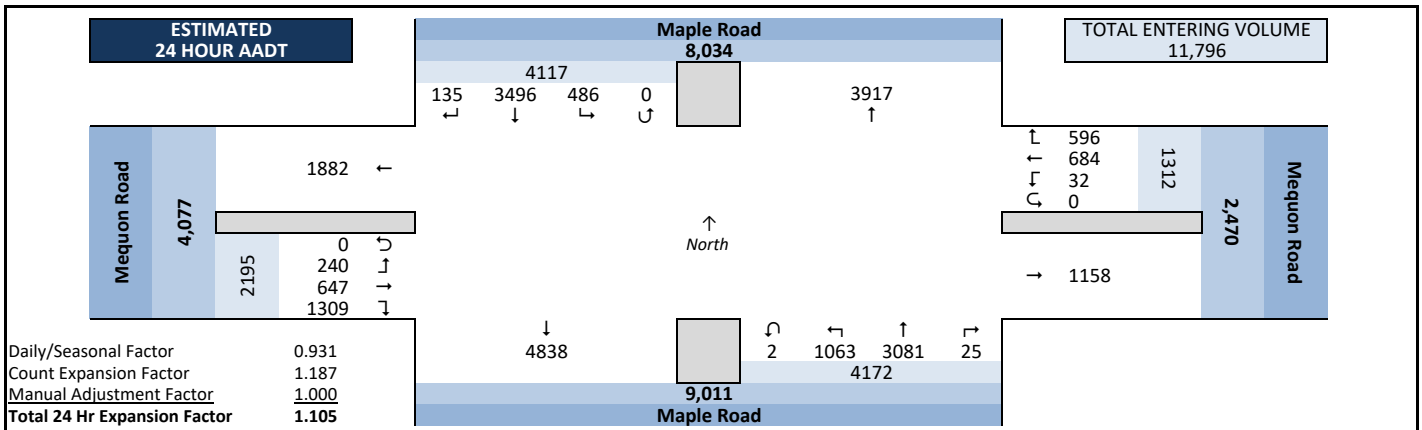
Observed 13 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



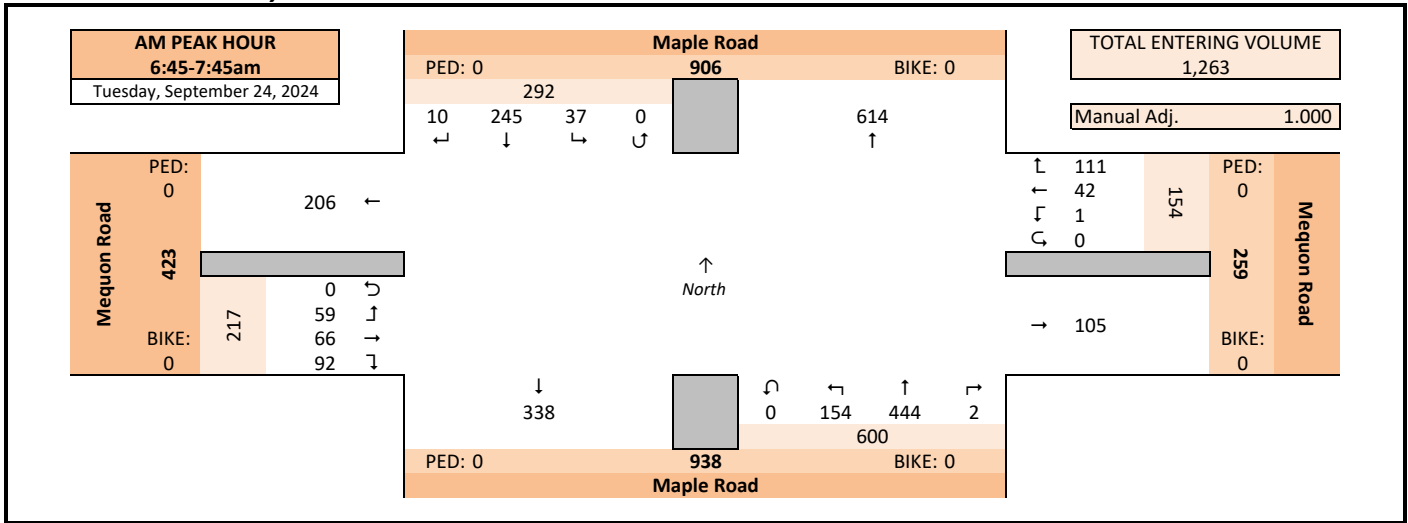
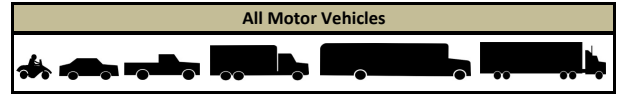
Intersection Traffic Volume Report

Peak Hour Volume Graphical Summary

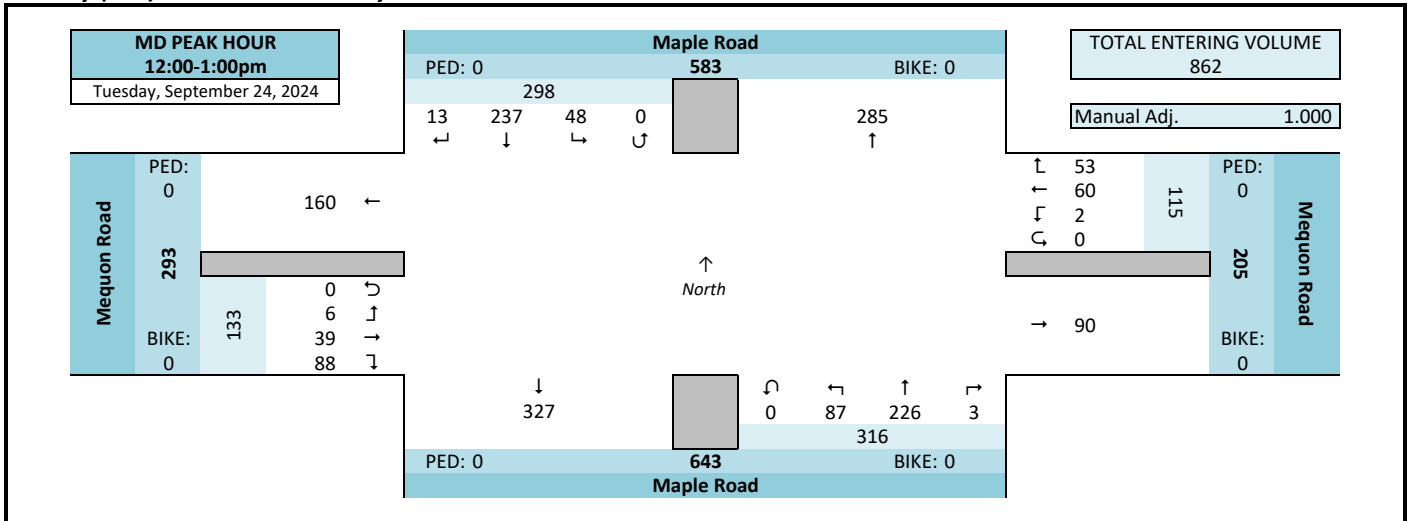
Count Basics		Page 2 of 13	
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session
Total Number of Hours Counted: 13		Non-Holiday	No Special Events

Maple Road & Mequon Road

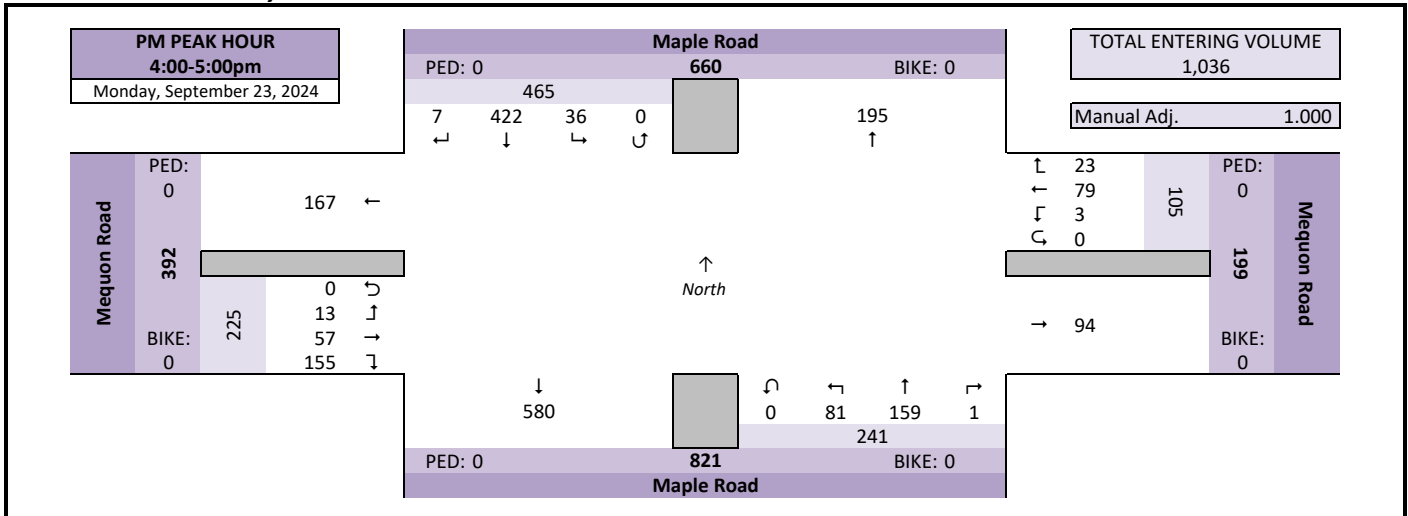
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

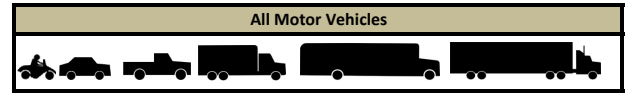


Intersection Traffic Volume Report

Peak Hour Volume Summary

Maple Road & Mequon Road

Count Basics			Page 3 of 13
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events



Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, September 24, 2024		↴					↶					↴					↷						
AM Peak Hour	AM Peak Hour	From North					From East					From South					From West						
		Maple Road					Mequon Road					Maple Road					Mequon Road						
	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	
	6:45 AM	3	38	4	0	45	69	9	0	0	78	0	209	60	0	269	7	12	35	0	54	446	
	7:00 AM	2	101	22	0	125	21	10	0	0	31	0	72	34	0	106	42	18	15	0	75	337	
	7:15 AM	2	57	6	0	65	12	13	0	0	25	0	73	20	0	93	19	12	6	0	37	220	
	7:30 AM	3	49	5	0	57	9	10	1	0	20	2	90	40	0	132	24	24	3	0	51	260	
	Peak Hour Volume	10	245	37	0	292	111	42	1	0	154	2	444	154	0	600	92	66	59	0	217	1263	
	Rounded Hourly Volume	10	245	35	0	290	110	40	0	0	150	0	445	155	0	600	90	65	60	0	215	1255	
	% Single Unit Trucks	10.0	11.8	13.5	0.0	12.0	2.7	7.1	0.0	0.0	3.9	0.0	3.6	1.9	0.0	3.2	2.2	4.5	10.2	0.0	5.1	5.6	
% Heavy Trucks	0.0	2.4	0.0	0.0	2.1	2.7	0.0	100.0	0.0	2.6	0.0	2.0	3.9	0.0	2.5	5.4	0.0	0.0	0.0	2.3	2.4		
% Trucks (Total)	10.0	14.3	13.5	0.0	14.0	5.4	7.1	100.0	0.0	6.5	0.0	5.6	5.8	0.0	5.7	7.6	4.5	10.2	0.0	7.4	8.0		
Peak Hour Factor (PHF)	0.83	0.61	0.42	0.00	0.58	0.40	0.81	0.25	0.00	0.49	0.25	0.53	0.64	0.00	0.56	0.55	0.69	0.42	0.00	0.72	0.71		

Tuesday, September 24, 2024		↴					↶					↴					↷					
Midday (MD) Peak Hour	MD Peak Hour	From North					From East					From South					From West					
	Start Time	Maple Road					Mequon Road					Maple Road					Mequon Road					Totals
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	12:00 PM	5	90	17	0	112	8	8	0	0	16	0	51	16	0	67	28	16	2	0	46	241
	12:15 PM	1	50	12	0	63	22	18	0	0	40	2	66	24	0	92	25	9	2	0	36	231
	12:30 PM	2	51	9	0	62	11	12	1	0	24	0	52	25	0	77	19	6	1	0	26	189
	12:45 PM	5	46	10	0	61	12	22	1	0	35	1	57	22	0	80	16	8	1	0	25	201
	Peak Hour Volume	13	237	48	0	298	53	60	2	0	115	3	226	87	0	316	88	39	6	0	133	862
	Rounded Hourly Volume	15	235	50	0	300	55	60	0	0	115	5	225	85	0	315	90	40	5	0	135	865
	% Single Unit Trucks	23.1	9.7	6.2	0.0	9.7	5.7	10.0	0.0	0.0	7.8	0.0	8.8	6.9	0.0	8.2	3.4	2.6	33.3	0.0	4.5	8.1
% Heavy Trucks	7.7	7.6	0.0	0.0	6.4	1.9	3.3	0.0	0.0	2.6	0.0	9.7	8.0	0.0	9.2	9.1	2.6	0.0	0.0	6.8	7.0	
% Trucks (Total)	30.8	17.3	6.2	0.0	16.1	7.5	13.3	0.0	0.0	10.4	0.0	18.6	14.9	0.0	17.4	12.5	5.1	33.3	0.0	11.3	15.1	
Peak Hour Factor (PHF)	0.65	0.66	0.71	0.00	0.67	0.60	0.68	0.50	0.00	0.72	0.37	0.86	0.87	0.00	0.86	0.79	0.61	0.75	0.00	0.72	0.89	

Monday, September 23, 2024		↴					↶					↴					↷					
		From North					From East					From South					From West					
		Maple Road					Mequon Road					Maple Road					Mequon Road					
PM Peak Hour	PM Peak Hour	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
	Start Time																					
	4:00 PM	2	117	3	0	122	3	20	0	0	23	1	46	23	0	70	32	15	3	0	50	265
	4:15 PM	0	94	8	0	102	8	19	3	0	30	0	40	19	0	59	18	15	5	0	38	229
	4:30 PM	1	114	15	0	130	6	21	0	0	27	0	38	23	0	61	71	15	3	0	89	307
	4:45 PM	4	97	10	0	111	6	19	0	0	25	0	35	16	0	51	34	12	2	0	48	235
	Peak Hour Volume	7	422	36	0	465	23	79	3	0	105	1	159	81	0	241	155	57	13	0	225	1036
	Rounded Hourly Volume	5	420	35	0	460	25	80	5	0	110	0	160	80	0	240	155	55	15	0	225	1035
	% Single Unit Trucks	14.3	2.8	2.8	0.0	3.0	4.3	2.5	0.0	0.0	2.9	0.0	8.8	6.2	0.0	7.9	1.9	0.0	7.7	0.0	1.8	3.9
	% Heavy Trucks	0.0	1.4	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	3.1	2.5	0.0	2.9	1.9	0.0	0.0	0.0	1.3	1.5
% Trucks (Total)	14.3	4.3	2.8	0.0	4.3	4.3	2.5	0.0	0.0	2.9	0.0	11.9	8.6	0.0	10.8	3.9	0.0	7.7	0.0	3.1	5.4	
Peak Hour Factor (PHF)	0.44	0.90	0.60	0.00	0.89	0.72	0.94	0.25	0.00	0.87	0.25	0.86	0.88	0.00	0.86	0.55	0.95	0.65	0.00	0.63	0.84	

Peak Hour Pedestrian and Bicyclist Volumes

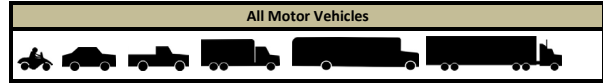
Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total Ped & Bike Volume
		North Approach			East Approach			South Approach			West Approach			
15-Minute Start Time		Maple Road			Mequon Road			Maple Road			Mequon Road			
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

Maple Road & Mequon Road

Count Basics			Page 5 of 13
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events



15-Minute Motor Vehicle Data

15-Minute Time Period Start Time	From North Maple Road					From East Mequon Road					From South Maple Road					From West Mequon Road					15-Min Totals	Hourly Sum	PHF	
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM Peak Period	6:00 AM	1	30	3	0	34	10	3	1	0	14	0	48	18	0	66	9	4	4	0	17	131	1030	0.58
	6:15 AM	3	34	3	0	40	10	4	0	0	14	1	78	20	0	99	13	5	2	0	20	173	1236	0.69
	6:30 AM	3	41	3	0	47	29	4	0	0	33	0	132	40	0	172	13	8	7	0	28	280	1283	0.72
	6:45 AM	3	38	4	0	45	69	9	0	0	78	0	209	60	0	269	7	12	35	0	54	446	1263	0.71
	7:00 AM	2	101	22	0	125	21	10	0	0	31	0	72	34	0	106	42	18	15	0	75	337	1098	0.81
	7:15 AM	2	57	6	0	65	12	13	0	0	25	0	73	20	0	93	19	12	6	0	37	220	1019	0.91
	7:30 AM	3	49	5	0	57	9	10	1	0	20	2	90	40	0	132	24	24	3	0	51	260	1006	0.90
	7:45 AM	0	59	7	0	66	14	8	0	0	22	2	88	29	0	119	41	29	4	0	74	281	931	0.83
	8:00 AM	5	43	6	0	54	17	8	0	0	25	1	102	21	0	124	35	18	2	0	55	258	797	0.77
	8:15 AM	3	44	1	0	48	13	13	1	0	27	0	64	25	0	89	23	10	10	0	43	207	670	0.81
	8:30 AM	3	53	4	0	60	8	8	0	0	16	0	59	8	0	67	31	9	2	0	42	185	591	0.80
	8:45 AM	3	34	4	0	41	8	9	0	0	17	0	47	13	0	60	13	9	7	0	29	147	521	0.89
	9:00 AM	1	41	3	0	45	3	8	1	0	12	2	37	16	0	55	12	5	2	0	19	131	511	0.93
	9:15 AM	2	28	3	0	33	11	6	2	0	19	1	49	5	0	55	14	6	1	0	21	128	528	0.89
	9:30 AM	0	38	8	0	46	4	4	0	0	8	1	23	16	0	40	15	6	0	0	21	115	553	0.90
9:45 AM	1	37	10	0	48	3	6	2	0	11	0	41	13	0	54	13	10	1	0	24	137	565	0.92	
Midday Peak Period	10:00 AM	2	28	7	0	37	5	12	1	0	18	0	41	16	0	57	29	5	2	0	36	148	598	0.88
	10:15 AM	2	47	9	0	58	5	10	0	0	15	0	36	12	0	48	18	11	3	0	32	153	622	0.90
	10:30 AM	0	30	4	0	34	10	9	0	0	19	0	37	15	0	52	13	7	2	0	22	127	625	0.91
	10:45 AM	3	38	5	0	46	10	8	0	0	18	1	49	14	0	64	17	19	6	0	42	170	683	0.92
	11:00 AM	2	59	13	0	74	7	6	2	0	15	0	35	13	0	48	19	13	3	0	35	172	704	0.92
	11:15 AM	0	45	5	0	50	11	12	0	0	23	1	42	7	1	51	18	10	4	0	32	156	773	0.80
	11:30 AM	3	61	11	0	75	7	12	1	0	20	0	39	14	0	53	24	10	3	0	37	185	848	0.88
	11:45 AM	1	65	17	0	83	12	7	0	0	19	0	37	13	0	50	16	21	2	0	39	191	852	0.88
	12:00 PM	5	90	17	0	112	8	8	0	0	16	0	51	16	0	67	28	16	2	0	46	241	862	0.89
	12:15 PM	1	50	12	0	63	22	18	0	0	40	2	66	24	0	92	25	9	2	0	36	231	820	0.89
	12:30 PM	2	51	9	0	62	11	12	1	0	24	0	52	25	0	77	19	6	1	0	26	189	765	0.95
	12:45 PM	5	46	10	0	61	12	22	1	0	35	1	57	22	0	80	16	8	1	0	25	201	738	0.92
	1:00 PM	2	65	9	0	76	15	19	1	0	35	0	49	12	0	61	19	7	1	0	27	199	715	0.90
	1:15 PM	3	42	9	0	54	10	11	0	0	21	0	48	20	0	68	18	11	4	0	33	176	741	0.82
	1:30 PM	5	47	6	0	58	12	8	0	0	20	2	46	14	0	62	8	11	3	0	22	162	778	0.86
1:45 PM	2	50	6	0	58	9	14	0	0	23	0	51	15	0	66	18	10	3	0	31	178	884	0.82	
PM Peak Period	2:00 PM	0	82	10	0	92	12	9	3	0	24	0	48	15	0	63	32	13	1	0	46	225	978	0.90
	2:15 PM	3	57	11	0	71	12	10	3	0	25	0	63	23	0	86	19	7	5	0	31	213	1094	0.80
	2:30 PM	2	82	13	0	97	14	15	0	0	29	0	66	29	0	95	31	10	6	0	47	268	1118	0.82
	2:45 PM	6	114	20	0	140	6	19	1	0	26	0	59	21	0	80	14	8	4	0	26	272	1149	0.84
	3:00 PM	4	137	24	0	165	3	25	1	0	29	1	71	18	0	90	44	10	3	0	57	341	1091	0.80
	3:15 PM	2	90	9	0	101	7	15	0	0	22	0	48	19	0	67	27	15	5	0	47	237	1015	0.85
	3:30 PM	1	141	14	0	156	1	14	0	0	15	0	30	12	0	42	67	14	5	0	86	299	1007	0.84
	3:45 PM	1	83	11	0	95	4	18	1	0	23	1	26	24	0	51	32	11	2	0	45	214	1015	0.83
	4:00 PM	2	117	3	0	122	3	20	0	0	23	1	46	23	0	70	32	15	3	0	50	265	1036	0.84
	4:15 PM	0	94	8	0	102	8	19	3	0	30	0	40	19	0	59	18	15	5	0	38	229	1017	0.83
	4:30 PM	1	114	15	0	130	6	21	0	0	27	0	38	23	0	61	71	15	3	0	89	307	997	0.81
	4:45 PM	4	97	10	0	111	6	19	0	0	25	0	35	16	0	51	34	12	2	0	48	235	836	0.85
	5:00 PM	2	101	9	0	112	7	16	1	0	24	0	42	16	0	58	29	17	6	0	52	246	742	0.75
	5:15 PM	1	67	8	0	76	6	24	0	0	30	1	41	14	0	56	21	20	6	0	47	209	661	0.79
	5:30 PM	4	57	6	0	67	5	9	0	0	14	0	32	11	0	43	11	11	0	0	22	146	579	0.88
	5:45 PM	7	37	6	0	50	9	22	0	0	31	0	29	8	0	37	9	6	8	0	23	141	544	0.82
	6:00 PM	5	59	8	0	72	7	10	0	0	17	1	34	8	0	43	24	8	1	0	33	165	511	0.77
	6:15 PM	3	35	11	0	49	9	6	0	0	15	1	28	11	0	40	15	7	1	0	23	127		
	6:30 PM	1	27	1	0	29	4	11	1	0	16	0	34	11	1	46	11	5	4	0	20	111		
	6:45 PM	0	31	2	0	33	3	6	0	0	9	0	30	11	0	41	14	7	4	0	25	108		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 PM	0	0	0	0	0	0	0	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	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			
9:15 PM	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0			
Totals	122	3163	440	0	3725	539	619	29	0	1187	23	2788	962	2	3775	1184	585	217	0	1986	10673			

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	From North Maple Road					From East Mequon Road					From South Maple Road					From West Mequon Road					Total Hourly Volume	PHF
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Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

Maple Road & Mequon Road

Count Basics		Page 9 of 13	
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events

Heavy Vehicles (Single-Unit Trucks, Buses & Semi-Trucks)



15-Minute Heavy Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	
	Maple Road					Mequon Road					Maple Road					Mequon Road							
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
AM Peak Period	6:00 AM	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	3	0	1	0	4	10	70
	6:15 AM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	3	1	0	0	4	8	83
	6:30 AM	0	11	1	0	12	1	0	0	0	1	0	2	3	0	5	2	0	0	0	2	20	93
	6:45 AM	0	10	0	0	10	2	2	0	0	4	0	11	1	0	12	1	0	5	0	6	32	101
	7:00 AM	0	7	3	0	10	1	0	0	0	1	0	6	1	0	7	2	2	1	0	5	23	101
	7:15 AM	0	11	1	0	12	1	1	0	0	2	0	1	2	0	3	1	0	0	0	1	18	109
	7:30 AM	1	7	1	0	9	2	0	1	0	3	0	7	5	0	12	3	1	0	0	4	28	123
	7:45 AM	0	14	3	0	17	0	1	0	0	1	0	6	3	0	9	2	3	0	0	5	32	117
	8:00 AM	0	11	1	0	12	4	1	0	0	5	0	6	3	0	9	2	3	0	0	5	31	106
	8:15 AM	0	13	0	0	13	1	1	0	0	2	0	5	3	0	8	7	1	1	0	9	32	108
	8:30 AM	0	6	1	0	7	4	3	0	0	7	0	4	2	0	6	2	0	0	0	2	22	103
	8:45 AM	0	8	0	0	8	0	1	0	0	1	0	7	3	0	10	2	0	0	0	2	21	106
	9:00 AM	0	10	1	0	11	0	1	1	0	2	0	10	7	0	17	3	0	0	0	3	33	120
	9:15 AM	0	9	1	0	10	3	0	0	0	3	0	10	0	0	10	4	0	0	0	4	27	120
	9:30 AM	0	6	2	0	8	2	0	0	0	2	1	7	4	0	12	2	1	0	0	3	25	127
	9:45 AM	0	6	2	0	8	1	1	1	0	3	0	16	4	0	20	4	0	0	0	4	35	130
Midday Peak Period	10:00 AM	1	6	0	0	7	3	1	0	0	4	0	16	3	0	19	3	0	0	0	3	33	135
	10:15 AM	0	13	1	0	14	2	1	0	0	3	0	8	5	0	13	4	0	0	0	4	34	135
	10:30 AM	0	9	1	0	10	1	1	0	0	2	0	11	2	0	13	3	0	0	0	3	28	131
	10:45 AM	0	15	2	0	17	1	0	0	0	1	0	12	4	0	16	2	2	2	0	6	40	132
	11:00 AM	0	9	1	0	10	3	1	2	0	6	0	11	3	0	14	2	0	1	0	3	33	118
	11:15 AM	0	12	0	0	12	0	2	0	0	2	0	11	1	0	12	3	0	1	0	4	30	115
	11:30 AM	0	10	2	0	12	0	0	0	0	0	0	13	3	0	16	1	0	0	0	1	29	113
	11:45 AM	0	12	1	0	13	3	0	0	0	3	0	4	3	0	7	3	0	0	0	3	26	121
	12:00 PM	1	12	0	0	13	1	0	0	0	1	0	10	3	0	13	3	0	0	0	3	30	130
	12:15 PM	0	8	1	0	9	0	2	0	0	2	0	8	4	0	12	3	1	1	0	5	28	130
	12:30 PM	1	11	1	0	13	2	3	0	0	5	0	10	4	0	14	3	1	1	0	5	37	131
	12:45 PM	2	10	1	0	13	1	3	0	0	4	0	14	2	0	16	2	0	0	0	2	35	127
	1:00 PM	1	10	1	0	12	1	3	0	0	4	0	9	1	0	10	3	1	0	0	4	30	131
	1:15 PM	1	11	0	0	12	0	1	0	0	1	0	9	2	0	11	2	1	2	0	5	29	130
	1:30 PM	3	10	1	0	14	1	0	0	0	1	0	8	5	0	13	2	2	1	0	5	33	129
	1:45 PM	1	13	2	0	16	1	2	0	0	3	0	10	3	0	13	5	1	1	0	7	39	120
PM Peak Period	2:00 PM	0	9	1	0	10	3	0	0	0	3	0	11	1	0	12	2	2	0	0	4	29	109
	2:15 PM	0	10	0	0	10	2	0	0	0	2	0	10	5	0	15	0	0	1	0	1	28	109
	2:30 PM	0	4	0	0	4	2	0	0	0	2	0	11	2	0	13	3	2	0	0	5	24	110
	2:45 PM	1	5	0	0	6	1	2	0	0	3	0	7	6	0	13	2	1	3	0	6	28	100
	3:00 PM	0	10	1	0	11	0	3	0	0	3	0	13	1	0	14	1	0	0	0	1	29	85
	3:15 PM	0	6	1	0	7	0	4	0	0	4	0	12	2	0	14	1	2	1	0	4	29	73
	3:30 PM	0	7	0	0	7	0	1	0	0	1	0	3	1	0	4	2	0	0	0	2	14	58
	3:45 PM	0	2	0	0	2	1	1	0	0	2	0	5	1	0	6	3	0	0	0	3	13	58
	4:00 PM	1	5	0	0	6	0	0	0	0	0	0	5	2	0	7	4	0	0	0	4	17	56
	4:15 PM	0	5	0	0	5	1	0	0	0	1	0	6	1	0	7	0	0	1	0	1	14	49
	4:30 PM	0	3	1	0	4	0	1	0	0	1	0	5	3	0	8	1	0	0	0	1	14	41
	4:45 PM	0	5	0	0	5	0	1	0	0	1	0	3	1	0	4	1	0	0	0	1	11	33
	5:00 PM	0	5	0	0	5	1	0	0	0	1	0	3	1	0	4	0	0	0	0	0	10	27
	5:15 PM	0	3	0	0	3	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	6	28
	5:30 PM	0	0	1	0	1	0	1	0	0	1	0	2	1	0	3	1	0	0	0	1	6	30
	5:45 PM	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	5	29
	6:00 PM	0	4	0	0	4	0	1	0	0	1	0	5	1	0	6	0	0	0	0	0	11	25
	6:15 PM	1	2	0	0	3	1	0	0	0	1	0	2	0	0	2	1	0	1	0	2	8	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	1	0	0	0	1	5	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 PM	0	0	0	0	0	0	0	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	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		
9:15 PM	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0		
Totals	16	395	37	0	448	55	47	5	0	107	1	371	121	0	493	111	28	26	0	165	1213		

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time	From North						From East						From South						From West						Total Hourly Volume
	Maple Road						Mequon Road						Maple Road						Mequon Road						
	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 6:45 AM	1	35	5	0	41	6	3	1	0	10	0	25	9	0	34	7	3	6	0	16	101				
MD 12:00 PM	4	41	3	0	48	4	8	0	0	12	0	42	13	0	55	11	2	2	0	15	130				
PM 4:00 PM	1	18	1	0	20	1	2	0	0	3	0	19	7	0	26	6	0	1	0	7	56				

Intersection Traffic Volume Report

Count Basics		Version 2024.04		Page 1 of 13
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session	
Total Number of Hours Counted:	6	Non-Holiday	No Special Events	

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Major St: Maple Road
 Minor St: Kleimmann Drive
 Intersection of: Maple Road & Kleimmann Drive

IX_ID:

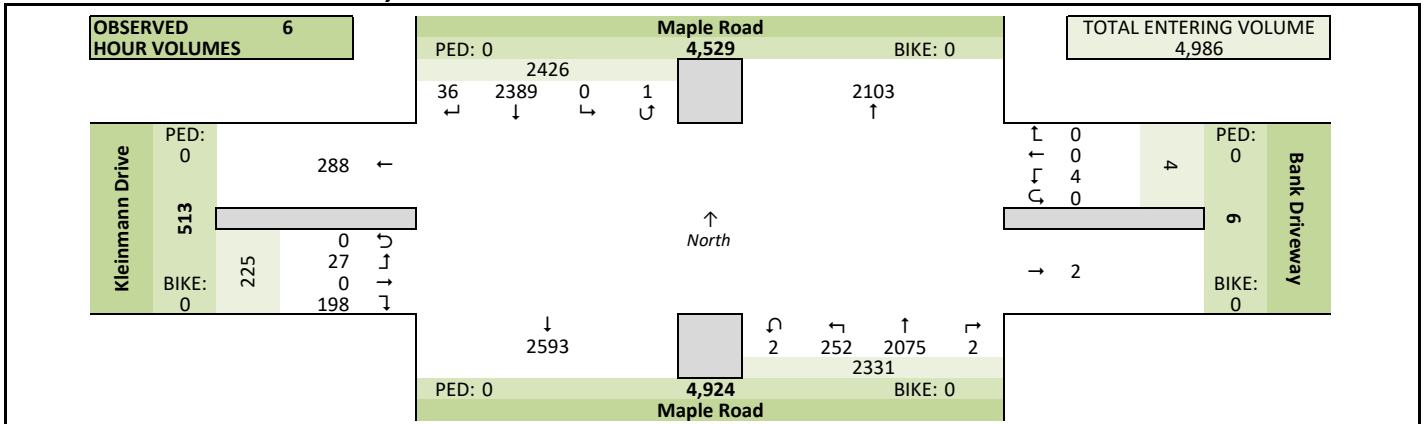
Site Information

Municipality	Village of Germantown
County	66 - Washington
WisDOT Region	SE
Traffic Control	Partial Stop Control
Roadway Names	North Direction
North Leg	Maple Road
East Leg	Bank Driveway
South Leg	Maple Road
West Leg	Kleimmann Drive
Special Considerations	
Schools	In Session
Holidays	None
Special Events	None
Special Pedestrians Observed	
Pre-school children	None
Elementary school age children	None
Visually impaired (white cane/helper dog)	None
Elderly/disabled (except wheelchairs)	None
Wheelchairs/electric scooters	None
Other (describe)	None

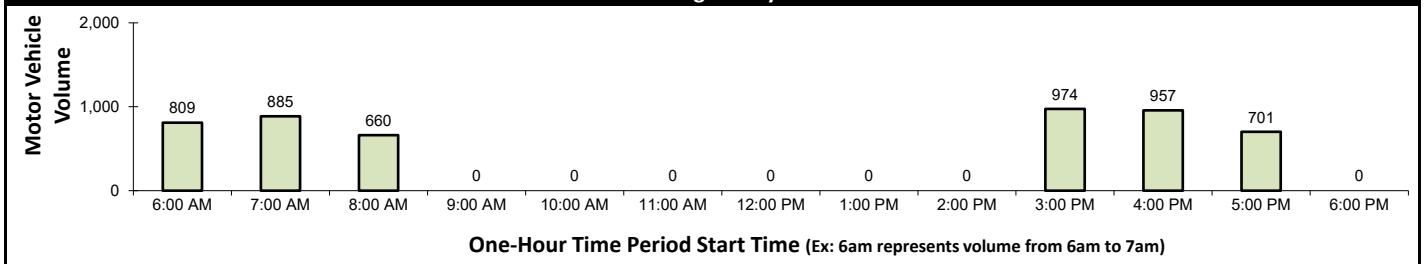
Count Information

Hrs Counted:	06:00 AM-09:00 AM and 03:00 PM-06:00 PM
1st Day of Count	Monday, September 23, 2024
Weather	Clear & Dry
AM Peak Period	Tuesday, September 24, 2024
Midday Peak Period	Tuesday, September 24, 2024
PM Peak Period	Monday, September 23, 2024
Calculated Peak Hours	
AM	6:30-7:30am
MD	
PM	3:00-4:00pm
Peak Hours Selected for Analysis	
AM	6:45-7:45am
MD	
PM	4:00-5:00pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors
Count Expansion Group	(2) Urban Arterials & Collectors
Daily/Seasonal Adjustment Factor	0.931
Count Expansion Factor	2.327
Company Name	TADI, Inc.
Manual Adj.	1.000
Observers	AM Peak Period: LuAnn Gaertner Midday Peak Period: None PM Peak Period: Jane Fait
Comments	2021 DOT Daily & Seasonal Factors

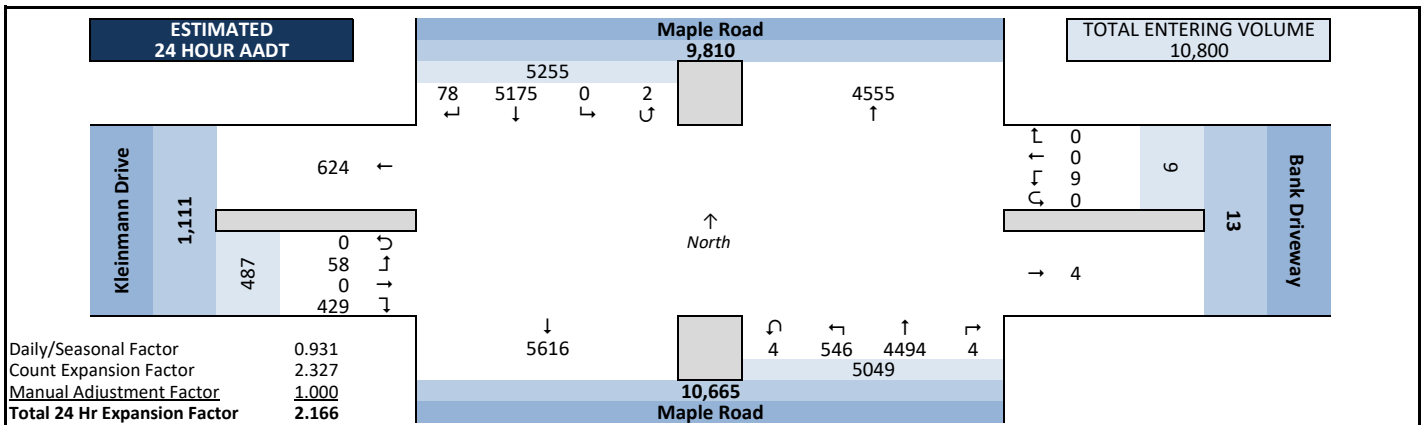
Observed 6 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



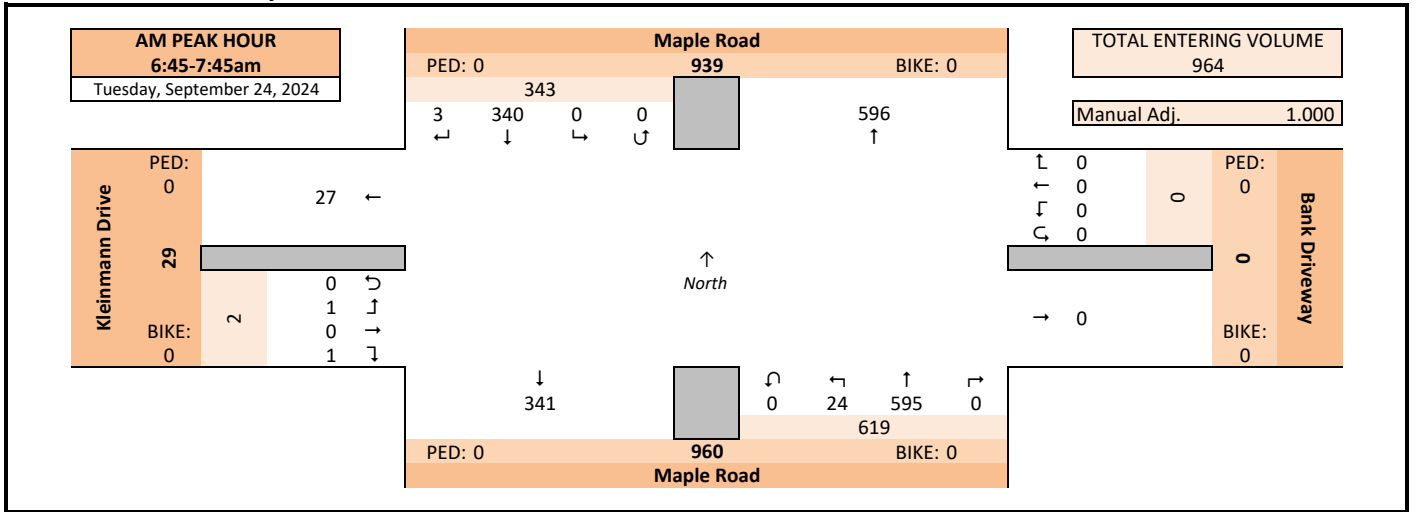
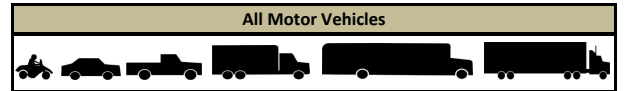
Intersection Traffic Volume Report

Peak Hour Volume Graphical Summary

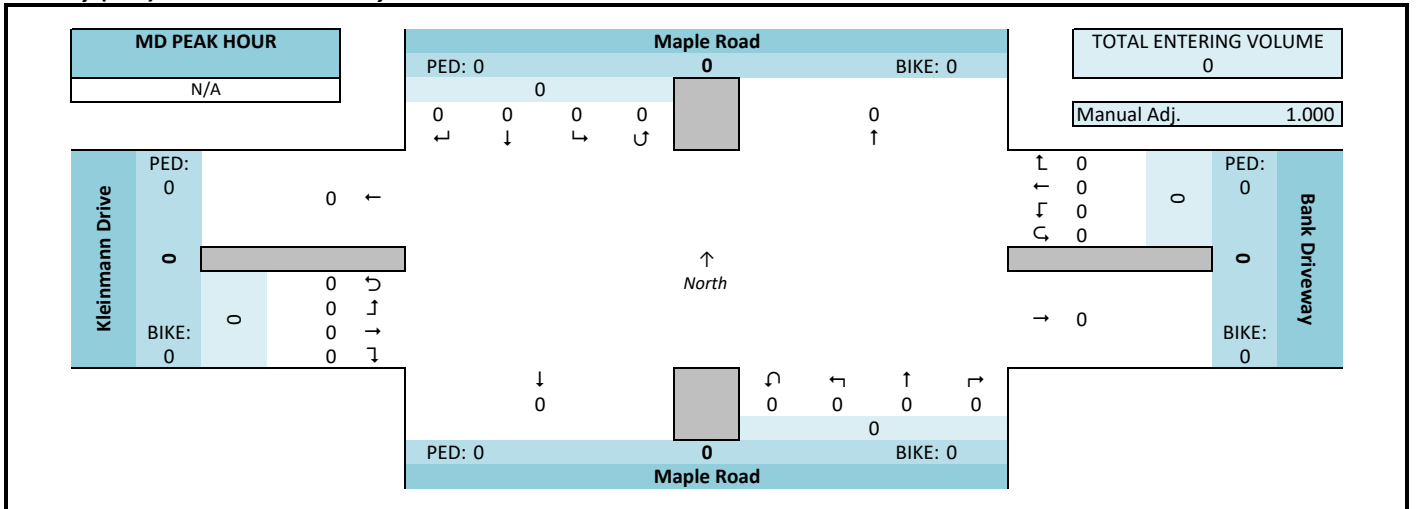
Maple Road & Kleimann Drive

AM Peak Hour Summary

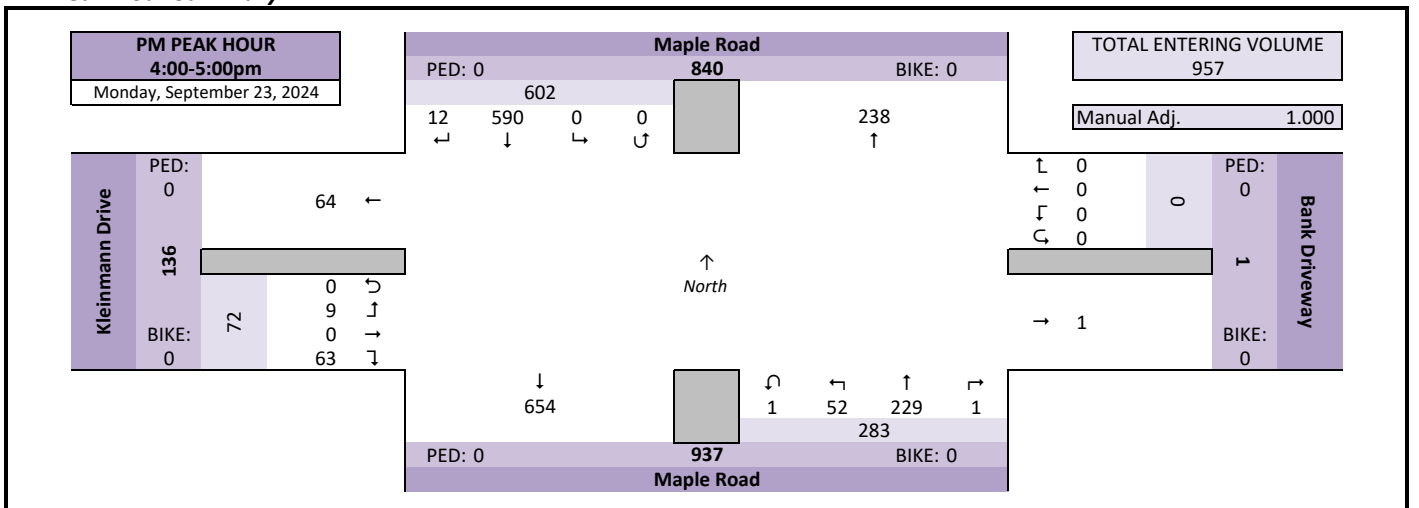
Count Basics		Page 2 of 13	
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

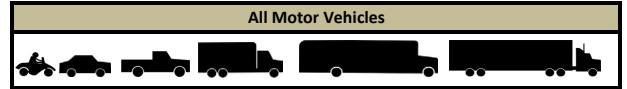


Intersection Traffic Volume Report

Peak Hour Volume Summary

Maple Road & Kleimann Drive

Count Basics				Page 3 of 13
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session	
Total Number of Hours Counted:	6	Non-Holiday	No Special Events	



Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, September 24, 2024		From North Maple Road					From East Bank Driveway					From South Maple Road					From West Kleinmann Drive					Totals
AM Peak Hour		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
Start Time																						
6:45 AM		0	46	0	0	46	0	0	0	0	0	0	267	3	0	270	0	0	0	0	0	316
7:00 AM		0	142	0	0	142	0	0	0	0	0	0	104	6	0	110	0	0	0	0	0	252
7:15 AM		2	75	0	0	77	0	0	0	0	0	0	94	7	0	101	0	0	0	0	0	178
7:30 AM		1	77	0	0	78	0	0	0	0	0	0	130	8	0	138	1	0	1	0	2	218
Peak Hour Volume		3	340	0	0	343	0	0	0	0	0	0	595	24	0	619	1	0	1	0	2	964
Rounded Hourly Volume		5	340	0	0	345	0	0	0	0	0	0	595	25	0	620	0	0	0	0	0	965
% Single Unit Trucks		33.3	7.9	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	2.5	4.2	0.0	2.6	0.0	0.0	0.0	0.0	0.0	4.6
% Heavy Trucks		0.0	3.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	2.8
% Trucks (Total)		33.3	11.8	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	4.2	0.0	4.8	0.0	0.0	0.0	0.0	0.0	7.4
Peak Hour Factor (PHF)		0.37	0.60	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.75	0.00	0.57	0.25	0.00	0.25	0.00	0.25	0.76

N/A		From North Maple Road					From East Bank Driveway					From South Maple Road					From West Kleinmann Drive					Totals
MD Peak Hour		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
Start Time																						
12:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Volume		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rounded Hourly Volume		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Single Unit Trucks		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Heavy Trucks		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peak Hour Factor (PHF)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Monday, September 23, 2024		From North Maple Road					From East Bank Driveway					From South Maple Road					From West Kleinmann Drive					Totals
PM Peak Hour		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
Start Time																						
4:00 PM		4	149	0	0	153	0	0	0	0	0	0	66	24	0	90	15	0	5	0	20	263
4:15 PM		2	112	0	0	114	0	0	0	0	0	0	57	8	1	66	15	0	1	0	16	196
4:30 PM		5	202	0	0	207	0	0	0	0	0	0	56	4	0	60	17	0	1	0	18	285
4:45 PM		1	127	0	0	128	0	0	0	0	0	1	50	16	0	67	16	0	2	0	18	213
Peak Hour Volume		12	590	0	0	602	0	0	0	0	0	1	229	52	1	283	63	0	9	0	72	957
Rounded Hourly Volume		10	590	0	0	600	0	0	0	0	0	0	230	50	0	280	65	0	10	0	75	955
% Single Unit Trucks		0.0	2.2	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	6.6	3.8	0.0	6.0	1.6	0.0	0.0	0.0	1.4	3.2
% Heavy Trucks		0.0	1.9	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	2.1
% Trucks (Total)		0.0	4.1	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5	3.8	0.0	9.2	1.6	0.0	0.0	0.0	1.4	5.3
Peak Hour Factor (PHF)		0.60	0.73	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00	0.25	0.87	0.54	0.25	0.79	0.93	0.00	0.45	0.00	0.90	0.84

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach Maple Road			Crossing East Approach Bank Driveway			Crossing South Approach Maple Road			Crossing West Approach Kleinmann Drive			Total Ped & Bike Volume
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

15-Minute Motor Vehicle Data

All Motor Vehicles

15-Minute Motor Vehicle Data

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time		Peak Hour All Vehicle Volume Summary																				Total Hourly Volume	PHF
		From North					From East					From South					From West						
		Maple Road					Bank Driveway					Maple Road					Kleinmann Drive						
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 6:45 AM	3	340	0	0	343	0	0	0	0	0	0	595	24	0	619	1	0	1	0	2	964	0.76	
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM 4:00 PM	12	590	0	0	602	0	0	0	0	1	229	52	1	283	63	0	9	0	72	957	0.84		

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

Maple Road & Kleimann Drive

Count Basics			Page 9 of 13
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



15-Minute Heavy Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	
	Maple Road					Bank Driveway					Maple Road					Kleinmann Drive							
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
AM Peak Period	6:00 AM	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	9	55
	6:15 AM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7	61
	6:30 AM	0	14	0	0	14	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	20	68
	6:45 AM	0	10	0	0	10	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	19	71
	7:00 AM	0	9	0	0	9	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	15	78
	7:15 AM	1	9	0	0	10	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	14	84
	7:30 AM	0	12	0	0	12	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	23	96
	7:45 AM	0	15	0	0	15	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	26	90
	8:00 AM	0	14	0	0	14	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	21	83
	8:15 AM	0	18	0	0	18	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	26	
	8:30 AM	0	9	0	0	9	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	17	
	8:45 AM	0	10	0	0	10	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	19	
Midday Peak Period	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:00 PM	0	11	0	0	11	0	0	0	0	0	0	13	0	0	13	0	0	1	0	1	25	69	
3:15 PM	0	6	0	0	6	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	21	60	
3:30 PM	0	8	0	0	8	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	12	50	
3:45 PM	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	11	51	
4:00 PM	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	16	51	
4:15 PM	0	5	0	0	5	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	11	44	
4:30 PM	0	4	0	0	4	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1	13	38	
4:45 PM	0	6	0	0	6	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	11	29	
5:00 PM	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	9	22	
5:15 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5		
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4		
5:45 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	4		
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 PM	0	0	0	0	0	0	0	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	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		
9:15 PM	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0		
Totals	1	198	0	0	199	0	0	0	0	0	0	151	5	0	156	2	0	1	0	3	358		

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time	↕ From North					↶ From East					↗ From South					↘ From West					Total Hourly Volume
	Maple Road					Bank Driveway					Maple Road					Kleinmann Drive					
	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 6:45 AM	1	40	0	0	41	0	0	0	0	0	0	29	1	0	30	0	0	0	0	0	71
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 4:00 PM	0	24	0	0	24	0	0	0	0	0	0	24	2	0	26	1	0	0	0	1	51

Intersection Traffic Volume Report

Count Basics		Version 2013.14.1	Page 1 of 13
Start Date:	Tuesday, May 18, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events

Base Information, Observed (13) Hour and Estimated (24) Hour Volume Summaries

Intersection of: **Maple Road and STH 167/Lannon Road**

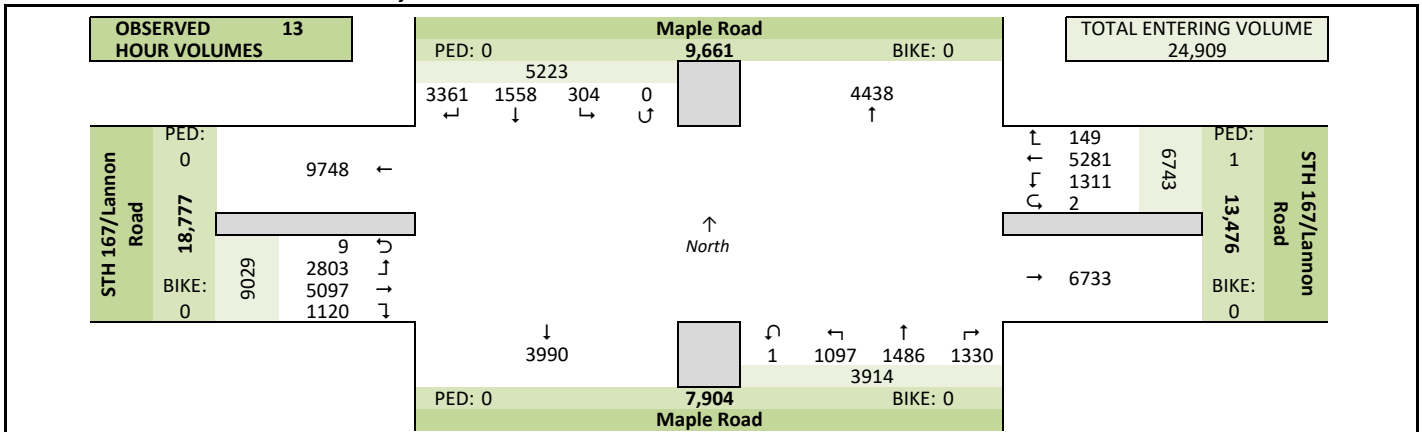
Site Information

Municipality	Village of Germantown		
County	Washington	WisDOT Region	SE
Traffic Control	Traffic Signal		
Roadway Names		North Direction	↑
North Leg	Maple Road		
East Leg	STH 167/Lannon Road		
South Leg	Maple Road		
West Leg	STH 167/Lannon Road		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None	

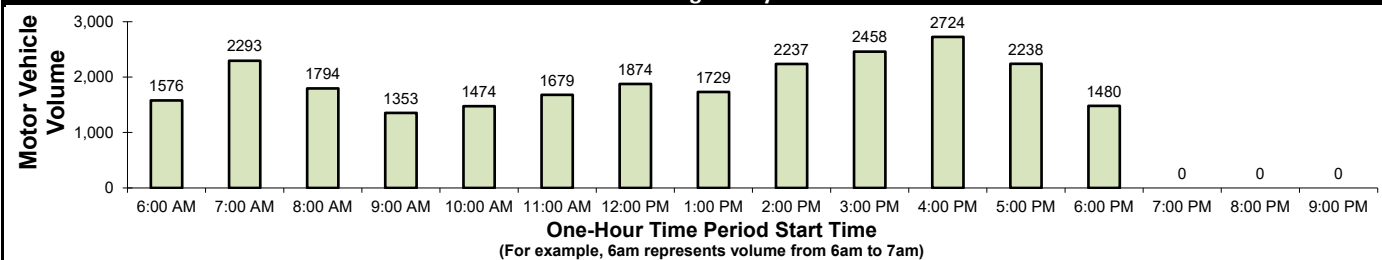
Count Information

Hrs Counted:		6:00 AM-7:00 PM	
1st Day of Count		Tuesday, May 18, 2021	
AM Peak Period		Tuesday, May 18, 2021	
Midday Peak Period		Tuesday, May 18, 2021	
PM Peak Period		Tuesday, May 18, 2021	
Calculated Peak Hours			
AM	7:00-8:00am	MD	12:00-1:00pm
PM	4:00-5:00pm		
Peak Hours Selected for Analysis			
AM	6:45-7:45am	MD	12:00-1:00pm
PM	4:00-5:00pm		
Daily/Seasonal Adjustment Group		(2) Urban Arterials & Collectors	
Count Expansion Group		(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor		0.881	Count Expansion Factor
Company Name		TADI	Manual Adj.
Observers	AM Peak Period	TADI	
	Midday Peak Period	TADI	
	PM Peak Period	TADI	
Comments	2019 DOT Seasonal Factors		

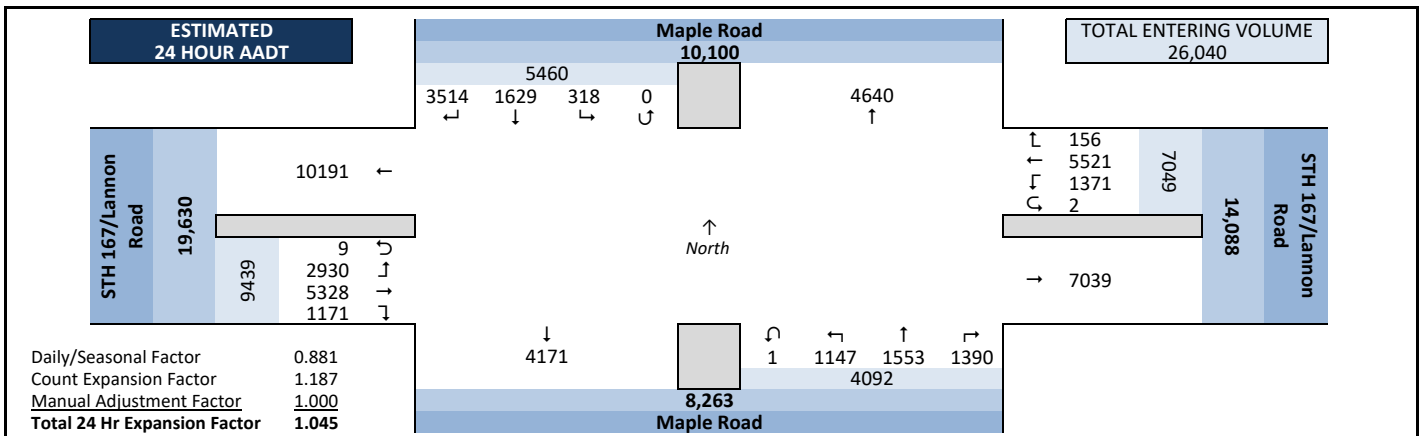
Observed 13 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



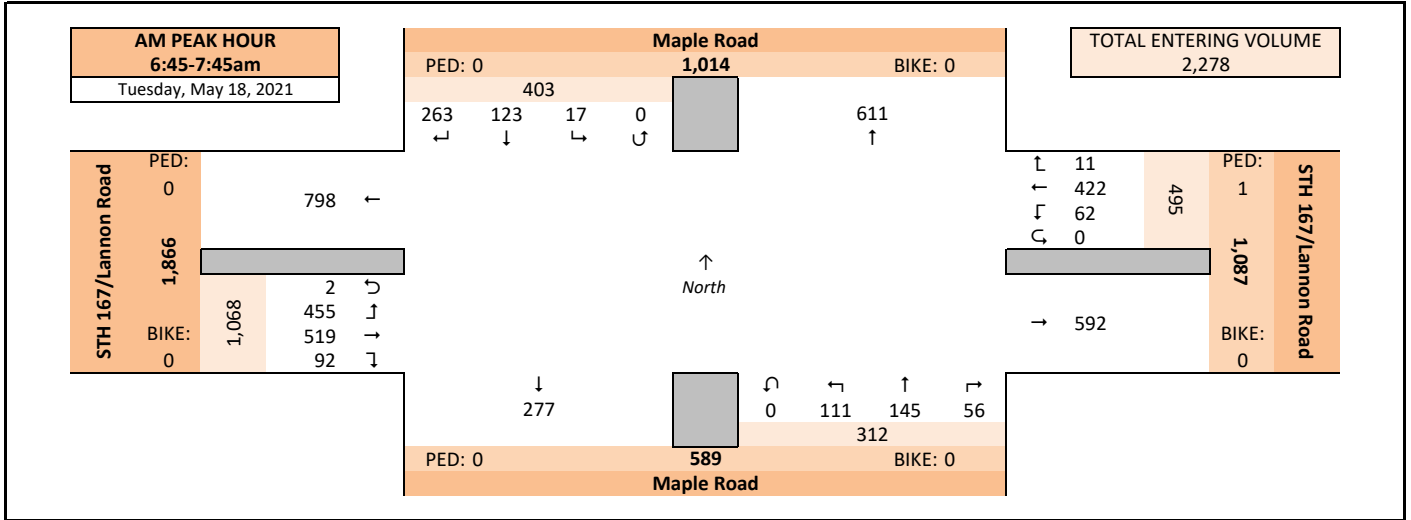
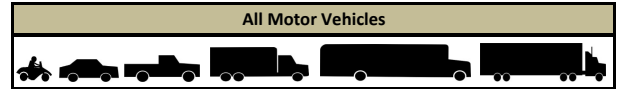
Intersection Traffic Volume Report

Peak Hour Volume Graphical Summary

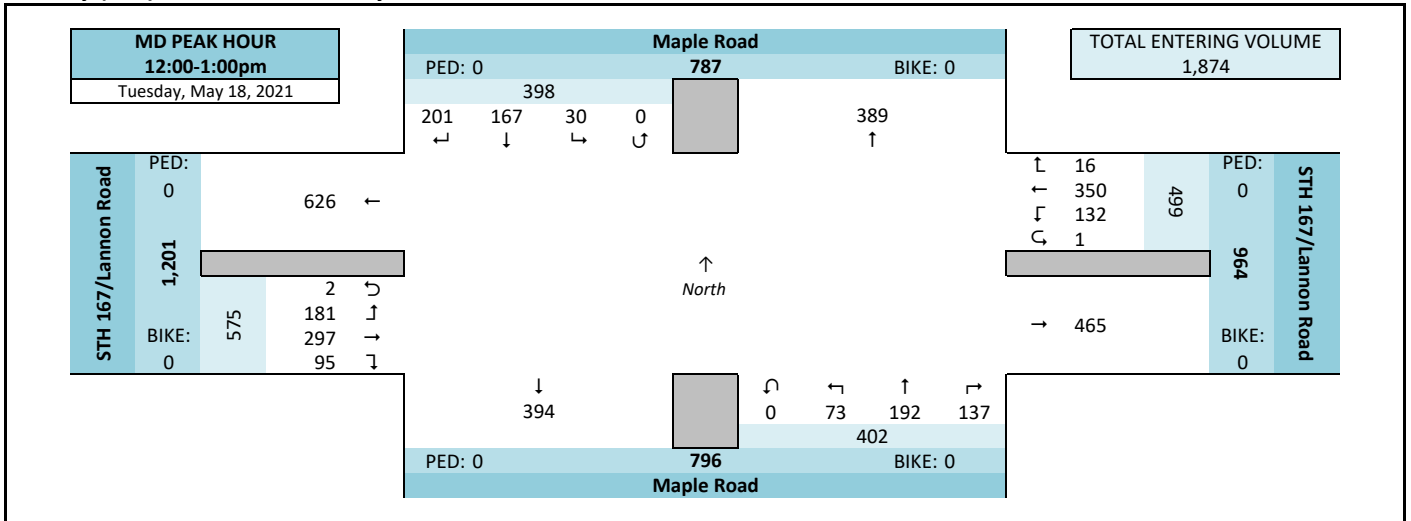
Maple Road and STH 167/Lannon Road

AM Peak Hour Summary

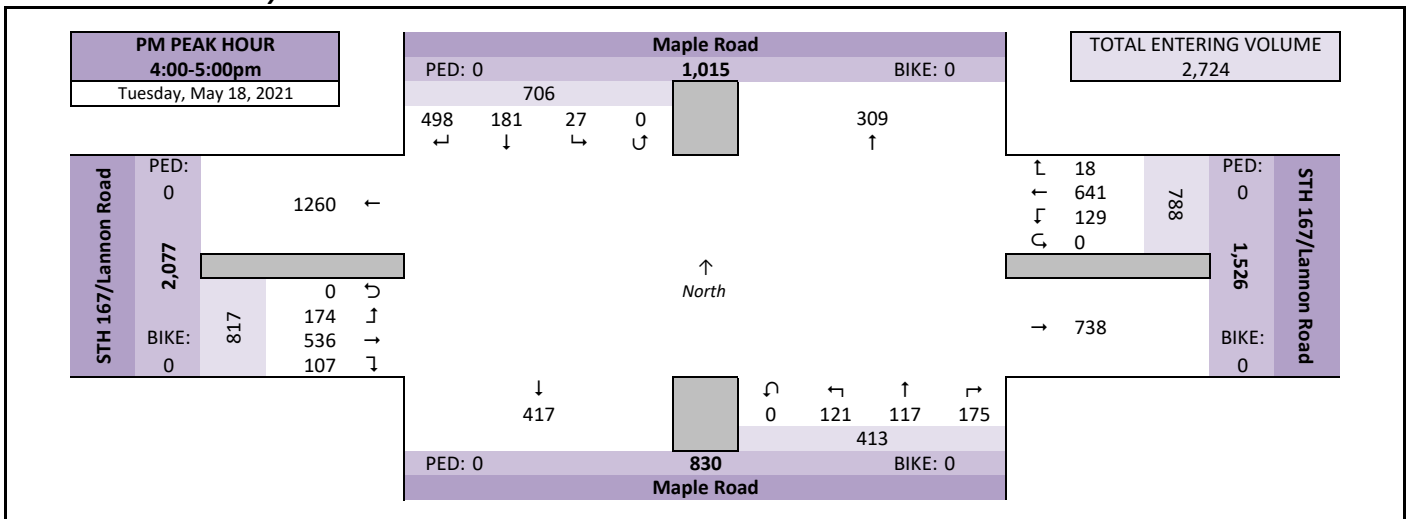
Count Basics		Page 2 of 13	
Start Date:	Tuesday, May 18, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



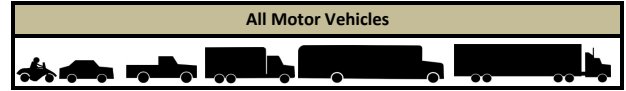
Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Tuesday, May 18, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events

Peak Hour Volume Summary

Maple Road and STH 167/Lannon Road

Peak Hour Volumes, Truck Percentages, and PHFs



Tuesday, May 18, 2021		↴ From North					← From East					↱ From South					→ From West					
AM Peak Hour	AM Peak Hour	Maple Road					STH 167/Lannon Road					Maple Road					STH 167/Lannon Road					
	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
	6:45 AM	40	17	5	0	62	2	76	12	0	90	13	32	24	0	69	26	128	164	0	318	539
	7:00 AM	109	48	8	0	165	4	111	11	0	126	13	62	23	0	98	14	118	131	1	264	653
	7:15 AM	56	31	3	0	90	2	130	20	0	152	22	23	33	0	78	27	135	78	1	241	561
	7:30 AM	58	27	1	0	86	3	105	19	0	127	8	28	31	0	67	25	138	82	0	245	525
	Peak Hour Volume	263	123	17	0	403	11	422	62	0	495	56	145	111	0	312	92	519	455	2	1068	2278
	Rounded Hourly Volume	265	125	15	0	405	10	420	60	0	490	55	145	110	0	310	90	520	455	0	1065	2270
	% Single Unit Trucks	7.6	11.4	35.3	0.0	9.9	9.1	5.5	4.8	0.0	5.5	10.7	2.1	7.2	0.0	5.4	10.9	7.7	5.7	0.0	7.1	7.0
	% Heavy Trucks	7.2	0.0	5.9	0.0	5.0	18.2	1.7	0.0	0.0	1.8	0.0	0.7	0.0	0.0	0.3	0.0	4.2	3.1	0.0	3.4	2.9
% Trucks (Total)	14.8	11.4	41.2	0.0	14.9	27.3	7.1	4.8	0.0	7.3	10.7	2.8	7.2	0.0	5.8	10.9	11.9	8.8	0.0	10.5	9.9	
Peak Hour Factor (PHF)	0.60	0.64	0.53	0.00	0.61	0.69	0.81	0.77	0.00	0.81	0.64	0.58	0.84	0.00	0.80	0.85	0.94	0.69	0.50	0.84	0.87	

Tuesday, May 18, 2021		↙					←					↗					→					
		From North					From East					From South					From West					
Midday (MD) Peak Hour	MD Peak Hour	Maple Road					STH 167/Lannon Road					Maple Road					STH 167/Lannon Road					
	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
	12:00 PM	72	63	12	0	147	3	94	33	0	130	33	67	22	0	122	21	74	40	0	135	534
	12:15 PM	44	41	7	0	92	6	90	34	0	130	34	46	17	0	97	25	72	47	1	145	464
	12:30 PM	48	29	4	0	81	4	71	29	1	105	34	46	13	0	93	19	74	46	0	139	418
	12:45 PM	37	34	7	0	78	3	95	36	0	134	36	33	21	0	90	30	77	48	1	156	458
	Peak Hour Volume	201	167	30	0	398	16	350	132	1	499	137	192	73	0	402	95	297	181	2	575	1874
	Rounded Hourly Volume	200	165	30	0	395	15	350	130	0	495	135	190	75	0	400	95	295	180	0	570	1860
	% Single Unit Trucks	7.0	6.0	20.0	0.0	7.5	6.2	9.4	3.0	0.0	7.6	2.9	3.1	9.6	0.0	4.2	5.3	10.8	13.3	0.0	10.6	7.8
	% Heavy Trucks	14.4	0.6	6.7	0.0	8.0	6.2	4.6	0.8	0.0	3.6	0.0	1.0	0.0	0.0	0.5	0.0	5.1	16.6	0.0	7.8	5.2
% Trucks (Total)	21.4	6.6	26.7	0.0	15.6	12.5	14.0	3.8	0.0	11.2	2.9	4.2	9.6	0.0	4.7	5.3	15.8	29.8	0.0	18.4	13.0	
Peak Hour Factor (PHF)	0.70	0.66	0.62	0.00	0.68	0.67	0.92	0.92	0.25	0.93	0.95	0.72	0.83	0.00	0.82	0.79	0.96	0.94	0.50	0.92	0.88	

Tuesday, May 18, 2021		↙					←					↗					→					
		From North					From East					From South					From West					
PM Peak Hour	PM Peak Hour	Maple Road					STH 167/Lannon Road					Maple Road					STH 167/Lannon Road					Totals
	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
	4:00 PM	140	47	6	0	193	7	151	29	0	187	40	30	36	0	106	27	129	47	0	203	689
	4:15 PM	89	50	1	0	140	2	161	29	0	192	47	27	24	0	98	36	135	37	0	208	638
	4:30 PM	165	52	11	0	228	6	182	30	0	218	40	32	32	0	104	22	137	44	0	203	753
	4:45 PM	104	32	9	0	145	3	147	41	0	191	48	28	29	0	105	22	135	46	0	203	644
	Peak Hour Volume	498	181	27	0	706	18	641	129	0	788	175	117	121	0	413	107	536	174	0	817	2724
	Rounded Hourly Volume	500	180	25	0	705	20	640	130	0	790	175	115	120	0	410	105	535	175	0	815	2720
	% Single Unit Trucks	2.0	2.2	3.7	0.0	2.1	5.6	3.0	0.8	0.0	2.7	1.7	3.4	2.5	0.0	2.4	4.7	2.6	8.0	0.0	4.0	2.9
	% Heavy Trucks	2.4	0.6	0.0	0.0	1.8	0.0	0.8	2.3	0.0	1.0	0.0	0.0	0.8	0.0	0.2	0.0	1.7	8.0	0.0	2.8	1.7
% Trucks (Total)	4.4	2.8	3.7	0.0	4.0	5.6	3.7	3.1	0.0	3.7	1.7	3.4	3.3	0.0	2.7	4.7	4.3	16.1	0.0	6.9	4.6	
Peak Hour Factor (PHF)	0.75	0.87	0.61	0.00	0.77	0.64	0.88	0.79	0.00	0.90	0.91	0.91	0.84	0.00	0.97	0.74	0.98	0.93	0.00	0.98	0.90	

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total Ped & Bike Volume
		North Approach			East Approach			South Approach			West Approach			
15-Minute Start Time		Maple Road			STH 167/Lannon Road			Maple Road			STH 167/Lannon Road			
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	1	0	1	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	1	0	1	0	0	0	0	0	0	1
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Maple Road and STH 167/Lannon Road

Count Basics		Page 5 of 13	
Start Date:	Tuesday, May 18, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events



15-Minute Motor Vehicle Data

15-Minute Time Period Start Time	↙					←					↑					→					15-Min Totals	Hourly Sum	PHF	
	From North					From East					From South					From West								
	Maple Road					STH 167/Lannon Road					Maple Road					STH 167/Lannon Road								
Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total					
AM Peak Period	6:00 AM	36	8	0	0	44	0	43	6	0	49	7	16	12	0	35	12	53	58	0	123	251	1576	0.73
	6:15 AM	43	9	2	0	54	0	46	11	0	57	11	21	10	0	42	20	83	79	1	183	336	1978	0.76
	6:30 AM	48	15	0	0	63	1	74	16	0	91	14	32	15	0	61	30	87	118	0	235	450	2203	0.84
	6:45 AM	40	17	5	0	62	2	76	12	0	90	13	32	24	0	69	26	128	164	0	318	539	2278	0.87
	7:00 AM	109	48	8	0	165	4	111	11	0	126	13	62	23	0	98	14	118	131	1	264	653	2293	0.88
	7:15 AM	56	31	3	0	90	2	130	20	0	152	22	23	33	0	78	27	135	78	1	241	561	2135	0.95
	7:30 AM	58	27	1	0	86	3	105	19	0	127	8	28	31	0	67	25	138	82	0	245	525	2015	0.91
	7:45 AM	61	18	4	0	83	2	75	9	0	86	17	36	22	0	75	23	166	121	0	310	554	1927	0.87
	8:00 AM	46	22	5	0	73	2	83	20	0	105	20	22	13	0	55	16	144	102	0	262	495	1794	0.91
	8:15 AM	31	20	8	0	59	1	84	15	0	100	17	17	21	0	55	18	148	61	0	227	441	1625	0.92
	8:30 AM	38	25	3	0	66	1	83	21	0	105	18	15	20	0	53	21	137	55	0	213	437	1515	0.87
	8:45 AM	36	24	4	0	64	2	74	26	0	102	21	16	12	0	49	12	139	55	0	206	421	1406	0.83
Midday Peak Period	9:00 AM	40	23	2	0	65	1	72	10	0	83	10	19	14	0	43	16	71	48	0	135	326	1353	0.92
	9:15 AM	38	20	3	0	61	3	79	23	0	105	15	21	17	0	53	13	68	31	0	112	331	1383	0.94
	9:30 AM	32	28	5	0	65	0	62	28	0	90	13	23	15	0	51	15	72	35	0	122	328	1393	0.95
	9:45 AM	40	20	4	0	64	6	68	29	1	104	17	22	19	0	58	13	87	41	1	142	368	1420	0.96
	10:00 AM	47	15	11	0	73	1	80	21	0	102	27	23	15	0	65	15	69	32	0	116	356	1474	0.87
	10:15 AM	48	22	4	0	74	0	72	30	0	102	21	15	15	0	51	12	64	37	1	114	341	1535	0.91
	10:30 AM	41	24	2	0	67	0	72	26	0	98	21	18	22	0	61	14	88	27	0	129	355	1581	0.94
	10:45 AM	30	26	8	0	64	6	89	29	0	124	26	26	19	0	71	26	100	37	0	163	422	1672	0.94
	11:00 AM	51	38	4	0	93	1	95	30	0	126	39	27	18	0	84	25	60	29	0	114	417	1679	0.94
	11:15 AM	39	31	8	0	78	2	84	30	0	116	35	26	25	0	86	13	68	26	0	107	387	1796	0.84
	11:30 AM	41	45	13	0	99	3	87	27	0	117	31	35	22	0	88	21	87	34	0	142	446	1873	0.88
	11:45 AM	45	48	6	0	99	5	95	30	0	130	22	35	21	0	78	14	66	42	0	122	429	1845	0.86
PM Peak Period	12:00 PM	72	63	12	0	147	3	94	33	0	130	33	67	22	0	122	21	74	40	0	135	534	1874	0.88
	12:15 PM	44	41	7	0	92	6	90	34	0	130	34	46	17	0	97	25	72	47	1	145	464	1795	0.97
	12:30 PM	48	29	4	0	81	4	71	29	1	105	34	46	13	0	93	19	74	46	0	139	418	1737	0.95
	12:45 PM	37	34	7	0	78	3	95	36	0	134	36	33	21	0	90	30	77	48	1	156	458	1741	0.95
	1:00 PM	60	29	10	0	99	0	92	31	0	123	29	32	31	0	92	24	87	30	0	141	455	1729	0.95
	1:15 PM	46	18	2	0	66	3	99	26	0	128	32	23	11	0	66	24	81	41	0	146	406	1783	0.88
	1:30 PM	57	23	3	0	83	3	87	28	0	118	33	33	14	0	80	19	88	34	0	141	422	1889	0.92
	1:45 PM	45	33	7	0	85	2	100	33	0	135	24	30	19	0	73	20	95	38	0	153	446	2051	0.88
	2:00 PM	85	31	6	0	122	2	110	29	0	141	37	35	21	0	93	26	77	50	0	153	509	2237	0.88
	2:15 PM	56	32	4	0	92	5	107	34	0	146	31	45	20	0	96	22	93	62	1	178	512	2361	0.93
	2:30 PM	90	43	9	0	142	7	114	24	0	145	30	32	24	0	86	38	106	67	0	211	584	2410	0.95
	2:45 PM	123	38	11	0	172	4	140	29	0	173	29	21	31	0	81	28	99	79	0	206	632	2500	0.93
3:00 PM	157	36	14	0	207	4	152	30	0	186	25	32	28	0	85	22	79	54	0	155	633	2458	0.91	
3:15 PM	101	30	6	0	137	7	131	26	0	164	25	18	31	0	74	26	114	46	0	186	561	2514	0.91	
3:30 PM	152	49	7	0	208	4	145	28	0	177	31	19	44	0	94	25	125	45	0	195	674	2591	0.94	
3:45 PM	98	31	12	0	141	4	105	36	0	145	37	31	30	0	98	32	124	50	0	206	590	2670	0.89	
4:00 PM	140	47	6	0	193	7	151	29	0	187	40	30	36	0	106	27	129	47	0	203	689	2724	0.90	
4:15 PM	89	50	1	0	140	2	161	29	0	192	47	27	24	0	98	36	135	37	0	208	638	2709	0.90	
4:30 PM	165	52	11	0	228	6	182	30	0	218	40	32	32	0	104	22	137	44	0	203	753	2651	0.88	
4:45 PM	104	32	9	0	145	3	147	41	0	191	48	28	29	0	105	22	135	46	0	203	644	2438	0.90	
5:00 PM	120	52	6	0	178	2	179	29	0	210	31	38	23	0	92	25	124	45	0	194	674	2238	0.83	
5:15 PM	83	35	8	0	126	2	125	34	0	161	30	38	27	1	96	25	128	44	0	197	580	1949	0.84	
5:30 PM	57	23	3	0	83	3	156	41	0	200	28	32	19	0	79	18	111	49	0	178	540	1764	0.82	
5:45 PM	58	22	5	0	85	3	118	24	0	145	30	20	15	0	65	22	84	43	0	149	444	1578	0.89	
6:00 PM	44	20	4	0	68	2	111	14	0	127	21	21	18	0	60	14	76	40	0	130	385	1480	0.94	
6:15 PM	47	17	5	0	69	4	117	15	0	136	27	24	6	0	57	21	74	38	0	133	395			
6:30 PM	51	26	5	0	82	1	89	15	0	105	13	20	15	0	48	21	68	30	0	119	354			
6:45 PM	38	18	7	0	63	5	74	25	0	104	17	23	18	0	58	25	55	40	1	121	346			
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 PM	0	0	0	0	0	0	0	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	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			
9:15 PM	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0			
Totals		3361	1558	304	0	5223	149	5281	1311	2	6743	1330	1486	1097	1	3914	1120	5097	2803	9	9029	24909		

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	↓ From North					← From East					↑ From South					→ From West					Total Hourly Volume	PHF
	Maple Road					STH 167/Lannon Road					Maple Road					STH 167/Lannon Road						
	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 6:45 AM	263	123	17	0	403	11	422	62	0	495	56	145	111	0	312	92	519	455	2	1068	2278	0.87
MD 12:00 PM	201	167	30	0	398	16	350	132	1	499	137	192	73	0	402	95	297	181	2	575	1874	0.88
PM 4:00 PM	498	181	27	0	706	18	641	129	0	788	175	117	121	0	413	107	536	174	0	817	2724	0.90

Intersection Traffic Volume Report

Count Basics				Page 9 of 13
Start Date:	Tuesday, May 18, 2021	Weekday	Schools in Session	
Total Number of Hours Counted:	13	Non-Holiday	No Special Events	

15-Minute Heavy Vehicle Data

Maple Road and STH 167/Lannon Road



15-Minute Heavy Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	
	Maple Road					STH 167/Lannon Road					Maple Road					STH 167/Lannon Road							
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
AM Peak Period	6:00 AM	9	1	0	0	10	0	4	0	0	4	0	0	1	0	1	0	4	0	0	8	23	124
	6:15 AM	11	0	0	0	11	0	3	1	0	4	0	0	0	0	0	0	8	2	0	10	25	168
	6:30 AM	14	2	0	0	16	0	6	1	0	7	0	0	1	0	1	0	6	4	0	10	34	207
	6:45 AM	7	2	1	0	10	0	7	1	0	8	1	0	1	0	2	1	14	7	0	22	42	226
	7:00 AM	9	7	4	0	20	0	8	2	0	10	3	1	2	0	6	0	13	18	0	31	67	237
	7:15 AM	13	4	1	0	18	1	9	0	0	10	0	1	1	0	2	4	25	5	0	34	64	231
	7:30 AM	10	1	1	0	12	2	6	0	0	8	2	2	4	0	8	5	10	10	0	25	53	237
	7:45 AM	15	2	0	0	17	0	7	0	0	7	5	0	4	0	9	2	11	7	0	20	53	242
	8:00 AM	13	3	2	0	18	0	11	2	0	13	2	2	2	0	6	0	15	9	0	24	61	253
	8:15 AM	9	6	3	0	18	1	15	0	0	16	0	1	4	0	5	3	16	12	0	31	70	244
	8:30 AM	15	1	0	0	16	0	9	1	0	10	2	1	3	0	6	3	12	11	0	26	58	239
	8:45 AM	11	2	2	0	15	0	12	2	0	14	2	0	5	0	7	2	17	9	0	28	64	231
Midday Peak Period	9:00 AM	15	0	1	0	16	1	11	0	0	12	0	1	0	0	1	1	9	13	0	23	52	224
	9:15 AM	14	5	2	0	21	1	12	1	0	14	0	2	1	0	3	1	16	10	0	27	65	225
	9:30 AM	12	0	1	0	13	0	10	1	0	11	0	1	2	0	3	0	12	11	0	23	50	212
	9:45 AM	12	2	0	0	14	0	12	0	0	12	1	2	2	0	5	2	8	16	0	26	57	213
	10:00 AM	10	1	4	0	15	0	13	1	0	14	2	2	0	0	4	1	12	7	0	20	53	242
	10:15 AM	16	0	2	0	18	0	6	3	0	9	0	3	1	0	4	1	9	11	0	21	52	241
	10:30 AM	9	3	0	0	12	0	15	0	0	15	0	1	1	0	2	4	10	8	0	22	51	245
	10:45 AM	13	1	3	0	17	2	14	1	0	17	2	0	5	0	7	8	28	9	0	45	86	249
	11:00 AM	12	4	2	0	18	0	11	3	0	14	2	0	4	0	6	3	4	7	0	14	52	222
	11:15 AM	9	1	2	0	12	1	7	1	0	9	6	2	5	0	13	2	10	10	0	22	56	232
	11:30 AM	6	2	0	0	8	0	7	5	0	12	1	0	9	0	10	1	10	14	0	25	55	225
	11:45 AM	12	1	2	0	15	0	11	0	0	11	0	1	5	0	6	1	9	17	0	27	59	228
PM Peak Period	12:00 PM	10	3	2	0	15	0	14	0	0	14	2	1	1	0	4	2	14	13	0	29	62	243
	12:15 PM	10	3	1	0	14	0	8	0	0	8	1	1	0	0	2	2	11	12	0	25	49	244
	12:30 PM	12	2	2	0	16	1	10	1	0	12	1	1	4	0	6	0	9	15	0	24	58	255
	12:45 PM	11	3	3	0	17	1	17	4	0	22	0	5	2	0	7	1	13	14	0	28	74	241
	1:00 PM	17	2	1	0	20	0	14	3	0	17	3	3	4	0	10	1	7	8	0	16	63	219
	1:15 PM	14	1	0	0	15	0	22	0	0	22	0	2	0	0	2	0	9	12	0	21	60	206
	1:30 PM	15	1	0	0	16	1	11	0	0	12	1	0	0	0	1	4	3	8	0	15	44	197
	1:45 PM	8	3	2	0	13	0	10	0	0	10	0	1	4	0	5	3	15	6	0	24	52	202
	2:00 PM	11	2	1	0	14	0	7	2	0	9	2	2	1	0	5	1	10	11	0	22	50	202
	2:15 PM	10	1	0	0	11	0	7	3	0	10	2	1	1	0	4	0	17	9	0	26	51	189
	2:30 PM	9	2	0	0	11	0	7	3	0	10	0	2	3	0	5	1	11	11	0	23	49	182
	2:45 PM	10	0	0	0	10	0	16	0	0	16	0	2	0	0	2	1	10	13	0	24	52	180
3:00 PM	9	0	1	0	10	0	8	0	0	8	1	2	1	0	4	0	6	9	0	15	37	169	
3:15 PM	7	2	3	0	12	2	10	1	0	13	1	1	1	0	3	0	11	5	0	16	44	159	
3:30 PM	11	0	1	0	12	0	8	1	0	9	1	0	3	0	4	3	8	11	0	22	47	153	
3:45 PM	10	1	1	0	12	0	9	1	0	10	2	0	1	0	3	0	10	6	0	16	41	129	
4:00 PM	6	0	0	0	6	1	6	1	0	8	0	1	2	0	3	0	6	4	0	10	27	124	
4:15 PM	4	2	0	0	6	0	8	2	0	10	2	2	0	0	4	3	4	11	0	18	38	128	
4:30 PM	6	1	0	0	7	0	5	0	0	5	0	0	2	0	2	0	5	4	0	9	23	102	
4:45 PM	6	2	1	0	9	0	5	1	0	6	1	1	0	0	2	2	8	9	0	19	36	94	
5:00 PM	7	1	0	0	8	0	6	1	0	7	1	0	2	0	3	3	5	5	0	13	31	75	
5:15 PM	1	0	0	0	1	0	3	1	0	4	0	0	2	0	2	0	1	4	0	5	12	59	
5:30 PM	2	0	0	0	2	0	7	1	0	8	0	0	0	0	0	1	2	2	0	5	15	61	
5:45 PM	2	0	0	0	2	0	4	1	0	5	1	0	0	0	1	3	3	3	0	9	17	53	
6:00 PM	1	0	0	0	1	0	2	0	0	2	0	0	3	0	3	2	1	6	0	9	15	44	
6:15 PM	3	0	0	0	3	0	1	1	0	2	0	2	1	0	3	0	3	3	0	6	14		
6:30 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5	7		
6:45 PM	1	0	0	0	1	0	4	0	0	4	0	0	1	0	1	0	0	2	0	2	8		
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 PM	0	0	0	0	0	0	0	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	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		
9:15 PM	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0		
Totals		490	84	52	0	626	15	455	54	0	524	53	53	102	0	208	78	492	450	0	1020	2378	

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time	↓ From North					← From East					↑ From South					→ From West					Total Hourly Volume
	Maple Road					STH 167/Lannon Road					Maple Road					STH 167/Lannon Road					
	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 6:45 AM	39	14	7	0	60	3	30	3	0	36	6	4	8	0	18	10	62	40	0	112	226
MD 12:00 PM	43	11	8	0	62	2	49	5	0	56	4	8	7	0	19	5	47	54	0	106	243
PM 4:00 PM	22	5	1	0	28	1	24	4	0	29	3	4	4	0	11	5	23	28	0	56	124

Intersection Traffic Volume Report

Count Basics		Version 2024.04		Page 1 of 13
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session	
Total Number of Hours Counted:	6	Non-Holiday	No Special Events	

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Major St: STH 167 - Lannon Road

Minor St: Maple Road

Intersection of: STH 167 - Lannon Road & Maple Road

IX_ID:

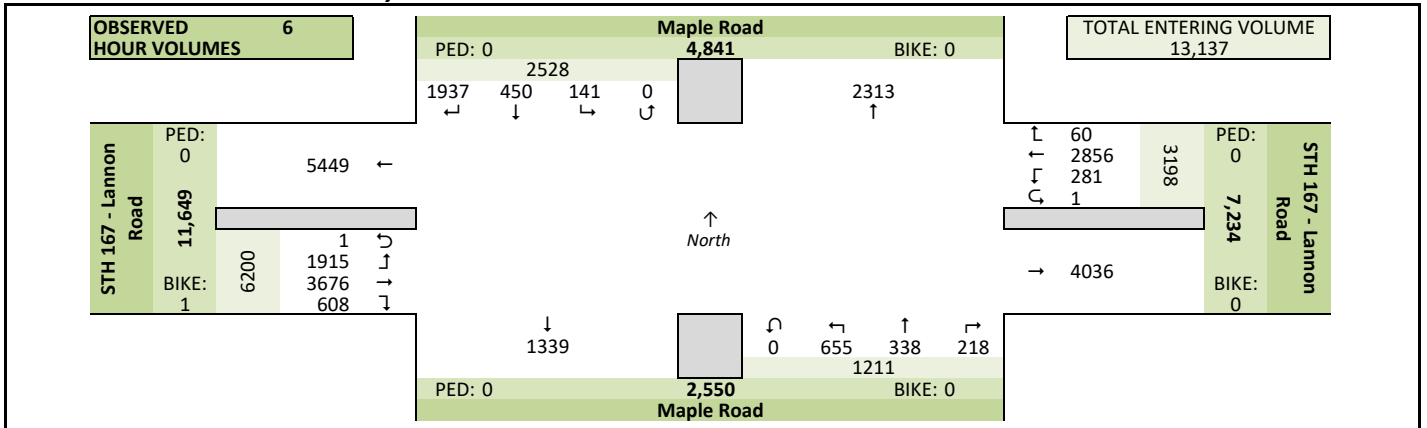
Site Information

Municipality	Village of Germantown
County	66 - Washington
WisDOT Region	SE
Traffic Control	Traffic Signal
Roadway Names	North Direction
North Leg	Maple Road
East Leg	STH 167 - Lannon Road
South Leg	Maple Road
West Leg	STH 167 - Lannon Road
Special Considerations	
Schools	In Session
Holidays	None
Special Events	None
Special Pedestrians Observed	
Pre-school children	None
Elementary school age children	None
Visually impaired (white cane/helper dog)	None
Elderly/disabled (except wheelchairs)	None
Wheelchairs/electric scooters	None
Other (describe)	None

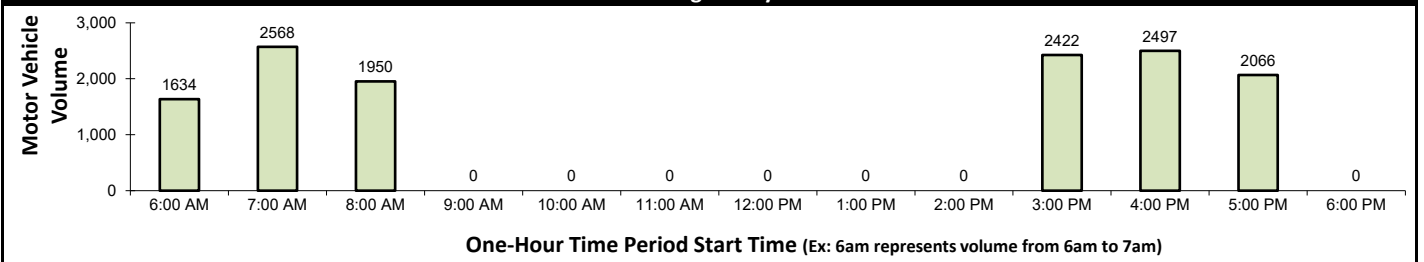
Count Information

Hrs Counted:	06:00 AM-09:00 AM and 03:00 PM-06:00 PM
1st Day of Count	Monday, September 23, 2024
Weather	Clear & Dry
AM Peak Period	Tuesday, September 24, 2024
Midday Peak Period	Tuesday, September 24, 2024
PM Peak Period	Monday, September 23, 2024
Calculated Peak Hours	
AM	7:00-8:00am
MD	
PM	4:15-5:15pm
Peak Hours Selected for Analysis	
AM	6:45-7:45am
MD	
PM	4:00-5:00pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors
Count Expansion Group	(2) Urban Arterials & Collectors
Daily/Seasonal Adjustment Factor	0.931
Count Expansion Factor	2.327
Company Name	TADI, Inc.
Manual Adj.	1.000
Observers	AM Peak Period: Amy Scheuerlein Midday Peak Period: None PM Peak Period: Amy Scheuerlein
Comments	2021 DOT Daily & Seasonal Factors

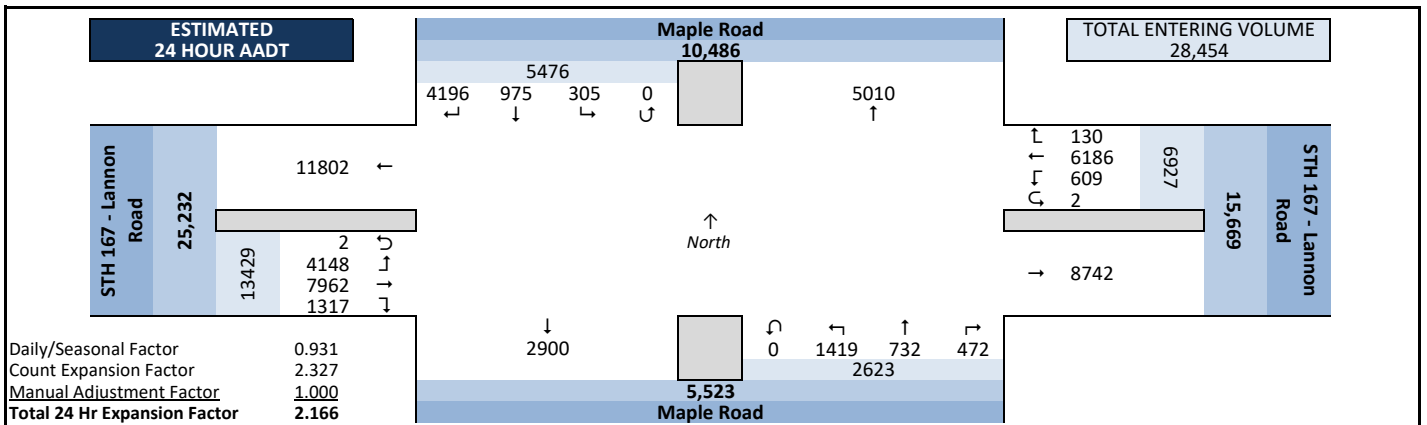
Observed 6 Hour Volume Summary



Total Entering Hourly Volume



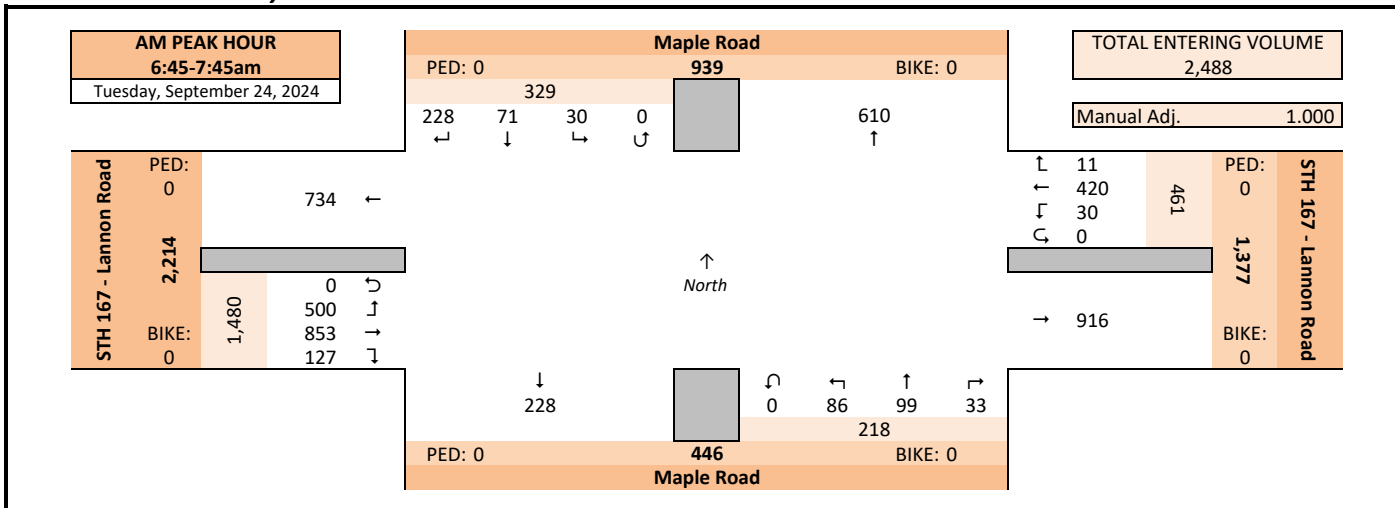
Estimated 24 Hour AADT



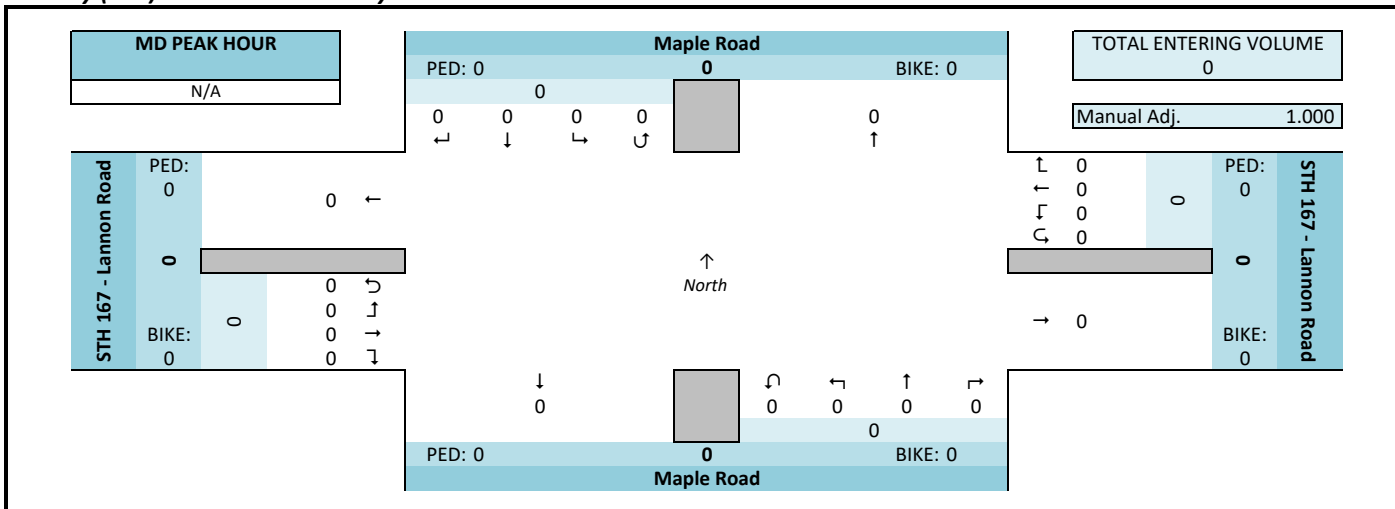
Peak Hour Volume Graphical Summary

STH 167 - Lannon Road & Maple Road

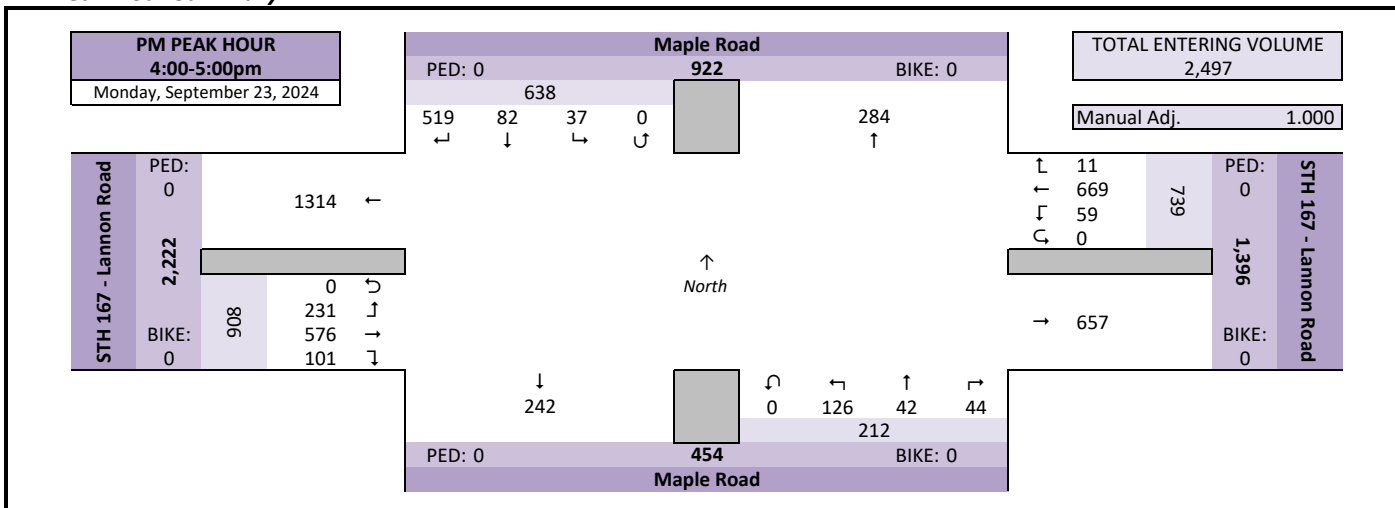
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

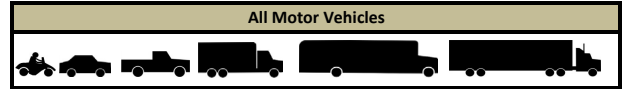


Intersection Traffic Volume Report

Peak Hour Volume Summary

STH 167 - Lannon Road & Maple Road

Count Basics			Page 3 of 13
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, September 24, 2024		↕					↖					↗					↘					
		From North					From East					From South					From West					
AM Peak Hour	AM Peak Hour	Maple Road					STH 167 - Lannon Road					Maple Road					STH 167 - Lannon Road					
	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
	6:45 AM	32	9	3	0	44	3	70	4	0	77	9	56	13	0	78	16	163	212	0	391	590
	7:00 AM	97	29	8	0	134	3	119	8	0	130	10	12	18	0	40	37	211	86	0	334	638
	7:15 AM	48	16	10	0	74	3	114	11	0	128	10	13	29	0	52	35	229	86	0	350	604
	7:30 AM	51	17	9	0	77	2	117	7	0	126	4	18	26	0	48	39	250	116	0	405	656
	Peak Hour Volume	228	71	30	0	329	11	420	30	0	461	33	99	86	0	218	127	853	500	0	1480	2488
	Rounded Hourly Volume	230	70	30	0	330	10	420	30	0	460	35	100	85	0	220	125	855	500	0	1480	2490
	% Single Unit Trucks	6.6	8.5	6.7	0.0	7.0	18.2	5.5	13.3	0.0	6.3	6.1	4.0	8.1	0.0	6.0	2.4	3.6	2.0	0.0	3.0	4.4
	% Heavy Trucks	4.4	0.0	10.0	0.0	4.0	9.1	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	2.9	2.6	0.0	2.6	2.4
% Trucks (Total)	11.0	8.5	16.7	0.0	10.9	27.3	7.1	13.3	0.0	8.0	6.1	4.0	8.1	0.0	6.0	2.4	6.6	4.6	0.0	5.5	6.8	
Peak Hour Factor (PHF)	0.59	0.61	0.75	0.00	0.61	0.92	0.88	0.68	0.00	0.89	0.82	0.44	0.74	0.00	0.70	0.81	0.85	0.59	0.00	0.91	0.95	

N/A		↴					↶					↴					↷					
Midday (MD) Peak Hour	MD Peak Hour	Maple Road					STH 167 - Lannon Road					Maple Road					STH 167 - Lannon Road					
	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
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Monday, September 23, 2024		↴					↶					↴					↷					
		From North					From East					From South					From West					
PM Peak Hour		Maple Road					STH 167 - Lannon Road					Maple Road					STH 167 - Lannon Road					
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
4:00 PM		136	18	5	0	159	2	158	15	0	175	11	12	35	0	58	30	136	73	0	239	631
4:15 PM		107	14	8	0	129	4	155	15	0	174	11	9	24	0	44	18	147	58	0	223	570
4:30 PM		176	25	10	0	211	0	189	13	0	202	12	11	33	0	56	34	128	46	0	208	677
4:45 PM		100	25	14	0	139	5	167	16	0	188	10	10	34	0	54	19	165	54	0	238	619
Peak Hour Volume		519	82	37	0	638	11	669	59	0	739	44	42	126	0	212	101	576	231	0	908	2497
Rounded Hourly Volume		520	80	35	0	635	10	670	60	0	740	45	40	125	0	210	100	575	230	0	905	2490
% Single Unit Trucks		1.9	1.2	0.0	0.0	1.7	0.0	2.7	3.4	0.0	2.7	0.0	2.4	2.4	0.0	1.9	2.0	3.1	7.8	0.0	4.2	2.9
% Heavy Trucks		1.9	0.0	2.7	0.0	1.7	0.0	0.6	0.0	0.0	0.5	2.3	0.0	0.0	0.0	0.5	0.0	1.9	3.5	0.0	2.1	1.4
% Trucks (Total)		3.9	1.2	2.7	0.0	3.4	0.0	3.3	3.4	0.0	3.2	2.3	2.4	2.4	0.0	2.4	2.0	5.0	11.3	0.0	6.3	4.3
Peak Hour Factor (PHF)		0.74	0.82	0.66	0.00	0.76	0.55	0.88	0.92	0.00	0.91	0.92	0.87	0.90	0.00	0.91	0.74	0.87	0.79	0.00	0.95	0.92

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total Ped & Bike
		North Approach			East Approach			South Approach			West Approach			
15-Minute Start Time		Maple Road			STH 167 - Lannon Road			Maple Road			STH 167 - Lannon Road			Volume
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

STH 167 - Lannon Road & Maple Road

Count Basics			Page 5 of 13	
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session	
Total Number of Hours Counted:	6	Non-Holiday	No Special Events	

All Motor Vehicles					
					

15-Minute Motor Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF	
	Maple Road					STH 167 - Lannon Road					Maple Road					STH 167 - Lannon Road								
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM Peak Period	6:00 AM	38	1	1	0	40	0	53	4	0	57	4	14	12	0	30	17	44	49	0	110	237	1634	0.69
	6:15 AM	37	3	0	0	40	1	61	10	0	72	4	14	17	0	35	23	75	84	0	182	329	2035	0.80
	6:30 AM	42	14	0	0	56	0	72	4	1	77	6	28	19	0	53	11	118	163	0	292	478	2310	0.91
	6:45 AM	32	9	3	0	44	3	70	4	0	77	9	56	13	0	78	16	163	212	0	391	590	2488	0.95
	7:00 AM	97	29	8	0	134	3	119	8	0	130	10	12	18	0	40	37	211	86	0	334	638	2568	0.96
	7:15 AM	48	16	10	0	74	3	114	11	0	128	10	13	29	0	52	35	229	86	0	350	604	2537	0.95
	7:30 AM	51	17	9	0	77	2	117	7	0	126	4	18	26	0	48	39	250	116	0	405	656	2399	0.90
	7:45 AM	42	41	13	0	96	2	81	7	0	90	9	19	24	0	52	35	279	118	0	432	670	2209	0.82
	8:00 AM	41	29	3	0	73	2	92	10	0	104	14	11	24	0	49	25	238	118	0	381	607	1950	0.80
	8:15 AM	47	14	6	0	67	1	112	10	0	123	6	12	19	0	37	18	144	77	0	239	466		
	8:30 AM	70	15	5	0	90	2	84	16	0	102	7	8	32	0	47	20	135	72	0	227	466		
	8:45 AM	32	11	8	0	51	4	74	5	0	83	6	10	24	0	40	24	154	59	0	237	411		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	160	22	5	0	187	3	177	19	0	199	6	14	44	0	64	32	131	74	0	237	687	2422	0.88
	3:15 PM	89	21	7	0	117	2	136	20	0	158	14	10	39	0	63	19	141	64	0	224	562	2366	0.94
	3:30 PM	176	24	5	0	205	2	133	14	0	149	10	5	36	0	51	21	117	46	1	185	590	2374	0.94
	3:45 PM	98	22	3	0	123	7	112	18	0	137	12	8	42	0	62	30	168	63	0	261	583	2461	0.91
	4:00 PM	136	18	5	0	159	2	158	15	0	175	11	12	35	0	58	30	136	73	0	239	631	2497	0.92
	4:15 PM	107	14	8	0	129	4	155	15	0	174	11	9	24	0	44	18	147	58	0	223	570	2518	0.93
	4:30 PM	176	25	10	0	211	0	189	13	0	202	12	11	33	0	56	34	128	46	0	208	677	2495	0.92
	4:45 PM	100	25	14	0	139	5	167	16	0	188	10	10	34	0	54	19	165	54	0	238	619	2305	0.88
	5:00 PM	122	25	5	0	152	3	178	17	0	198	15	12	25	0	52	23	163	64	0	250	652	2066	0.79
	5:15 PM	85	27	5	0	117	6	147	14	0	167	11	9	27	0	47	26	140	50	0	216	547		
	5:30 PM	67	12	1	0	80	2	153	17	0	172	7	15	23	0	45	35	107	48	0	190	487		
	5:45 PM	44	16	7	0	67	1	102	7	0	110	10	8	36	0	54	21	93	35	0	149	380		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 PM	0	0	0	0	0	0	0	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	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			
9:15 PM	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0			
Totals		1937	450	141	0	2528	60	2856	281	1	3198	218	338	655	0	1211	608	3676	1915	1	6200	13137		

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

STH 167 - Lannon Road & Maple Road

Count Basics			Page 9 of 13
Start Date:	Monday, September 23, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



15-Minute Heavy Vehicle Data

15-Minute Time Period	Start Time	From North Maple Road					From East STH 167 - Lannon Road					From South Maple Road					From West STH 167 - Lannon Road					15-Min Totals	Hourly Sum
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	8	0	0	0	8	0	3	0	0	3	0	1	1	0	2	1	4	0	0	5	18	117
	6:15 AM	4	0	0	0	4	0	3	1	0	4	0	0	1	0	1	0	7	1	0	8	17	136
	6:30 AM	12	2	0	0	14	0	3	1	0	4	0	0	2	0	2	0	7	7	0	14	34	150
	6:45 AM	7	2	0	0	9	1	9	0	0	10	1	2	1	0	4	1	17	7	0	25	48	168
	7:00 AM	6	0	2	0	8	1	9	0	0	10	1	0	2	0	3	1	11	4	0	16	37	174
	7:15 AM	5	1	2	0	8	0	2	2	0	4	0	0	1	0	1	1	13	4	0	18	31	189
	7:30 AM	7	3	1	0	11	1	10	2	0	13	0	2	3	0	5	0	15	8	0	23	52	222
	7:45 AM	10	5	1	0	16	1	11	1	0	13	1	0	6	0	7	0	9	9	0	18	54	206
	8:00 AM	11	0	1	0	12	1	9	2	0	12	4	0	1	0	5	3	13	7	0	23	52	202
	8:15 AM	14	1	2	0	17	0	10	2	0	12	2	1	5	0	8	3	17	7	0	27	64	
	8:30 AM	6	1	3	0	10	0	6	1	0	7	0	0	2	0	2	1	8	8	0	17	36	
	8:45 AM	9	0	1	0	10	1	13	0	0	14	0	0	1	0	1	4	12	9	0	25	50	
Midday Peak Period	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	11	0	0	0	11	0	9	2	0	11	1	0	3	0	4	0	8	12	0	20	46	131
	3:15 PM	5	0	1	0	6	0	4	1	0	5	1	0	1	0	2	0	10	13	0	23	36	115
	3:30 PM	6	1	1	0	8	0	4	0	0	4	1	0	1	0	2	1	2	5	0	8	22	111
	3:45 PM	4	0	0	0	4	1	8	2	0	11	0	0	1	0	1	1	6	4	0	11	27	113
	4:00 PM	8	0	0	0	8	0	5	0	0	5	1	0	1	0	2	1	7	7	0	15	30	108
	4:15 PM	5	1	0	0	6	0	5	0	0	5	0	1	1	0	2	0	11	8	0	19	32	96
	4:30 PM	4	0	0	0	4	0	7	1	0	8	0	0	1	0	1	1	4	6	0	11	24	74
	4:45 PM	3	0	1	0	4	0	5	1	0	6	0	0	0	0	0	0	7	5	0	12	22	63
	5:00 PM	2	0	0	0	2	0	8	0	0	8	0	0	0	0	0	0	4	4	0	8	18	51
	5:15 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	4	2	0	7	10	
	5:30 PM	0	0	0	0	0	0	6	0	0	6	0	1	1	0	2	2	1	2	0	5	13	
	5:45 PM	2	1	0	0	3	0	3	0	0	3	0	1	1	0	2	0	1	1	0	2	10	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	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	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	
	9:15 PM	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	
Totals		152	18	16	0	186	7	152	19	0	178	13	9	37	0	59	22	198	140	0	360	783	

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period	Start Time	From North Maple Road					From East STH 167 - Lannon Road					From South Maple Road					From West STH 167 - Lannon Road					Total Hourly 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	6:45 AM	25	6	5	0	36	3	30	4	0	37	2	4	7	0	13	3	56	23	0	82	168
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	20	1	1	0	22	0	22	2	0	24	1	1	3	0	5	2	29	26	0	57	108

Intersection Traffic Volume Report

Count Basics		Version 2024.04	Page 1 of 13
Start Date:	Wednesday, September 25, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Major St: Maple Road
 Minor St: Commerce Circle
 Intersection of: Maple Road & Commerce Circle

IX_ID:

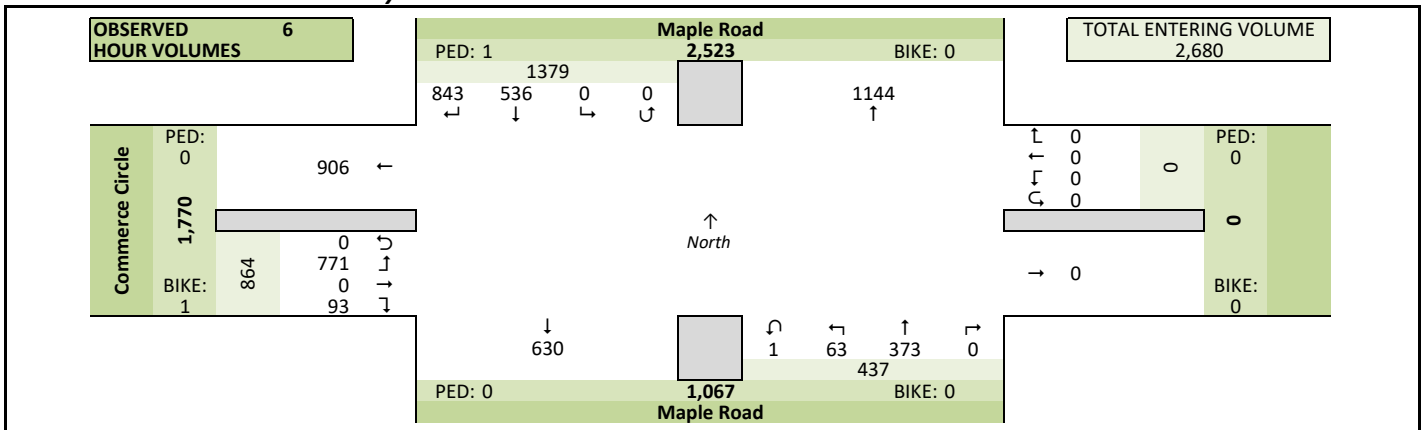
Site Information

Municipality	Village of Germantown
County	66 - Washington
WisDOT Region	SE
Traffic Control	Partial Stop Control
Roadway Names	North Direction ↑
North Leg	Maple Road
East Leg	
South Leg	Maple Road
West Leg	Commerce Circle
Special Considerations	
Schools	In Session
Holidays	None
Special Events	None
Special Pedestrians Observed	
Pre-school children	None
Elementary school age children	None
Visually impaired (white cane/helper dog)	None
Elderly/disabled (except wheelchairs)	None
Wheelchairs/electric scooters	None
Other (describe)	None

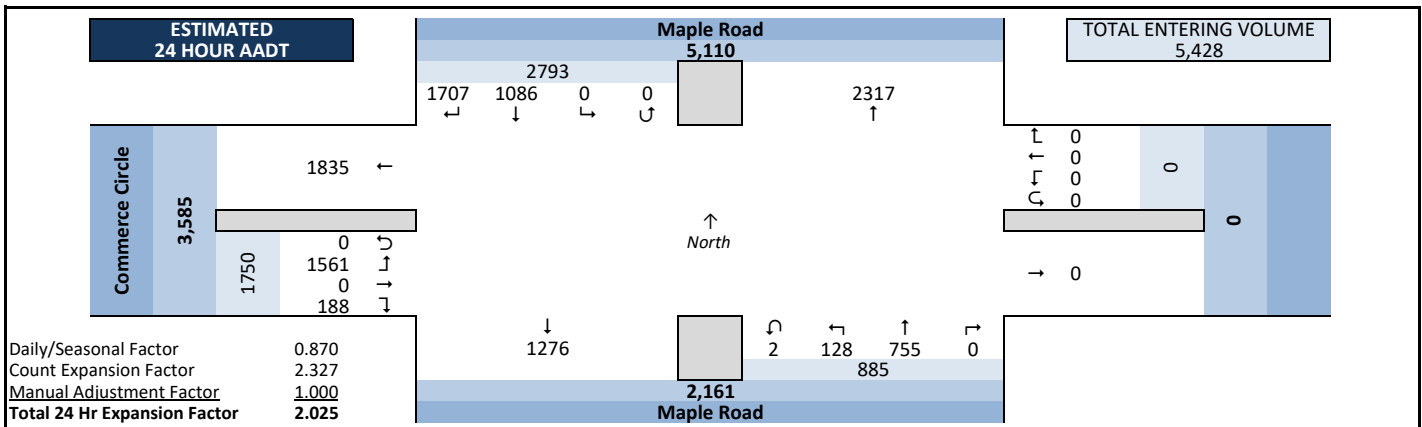
Count Information

Hrs Counted:	06:00 AM-09:00 AM and 03:00 PM-06:00 PM
1st Day of Count	Wednesday, September 25, 2024
Weather	Clear & Dry
AM Peak Period	Wednesday, September 25, 2024
Midday Peak Period	Wednesday, September 25, 2024
PM Peak Period	Wednesday, September 25, 2024
Calculated Peak Hours	
AM	6:30-7:30am
MD	
PM	3:30-4:30pm
Peak Hours Selected for Analysis	
AM	6:45-7:45am
MD	
PM	4:00-5:00pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors
Count Expansion Group	(2) Urban Arterials & Collectors
Daily/Seasonal Adjustment Factor	0.870
Count Expansion Factor	2.327
Company Name	TADI, Inc.
Manual Adj.	1.000
Observers	AM Peak Period Luann Gaertner Midday Peak Period None PM Peak Period Jane Fait
Comments	2021 DOT Daily & Seasonal Factors

Observed 6 Hour Volume Summary



Estimated 24 Hour AADT

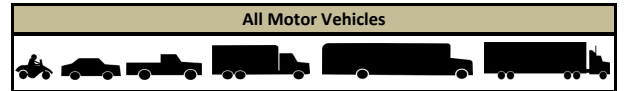


Intersection Traffic Volume Report

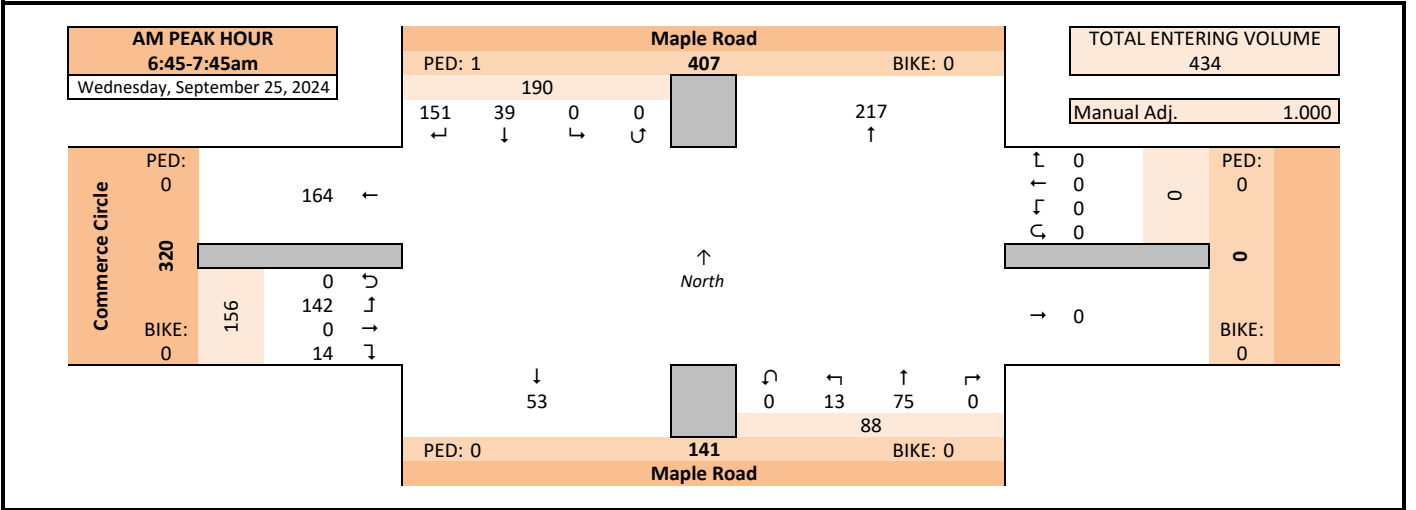
Peak Hour Volume Graphical Summary

Maple Road & Commerce Circle

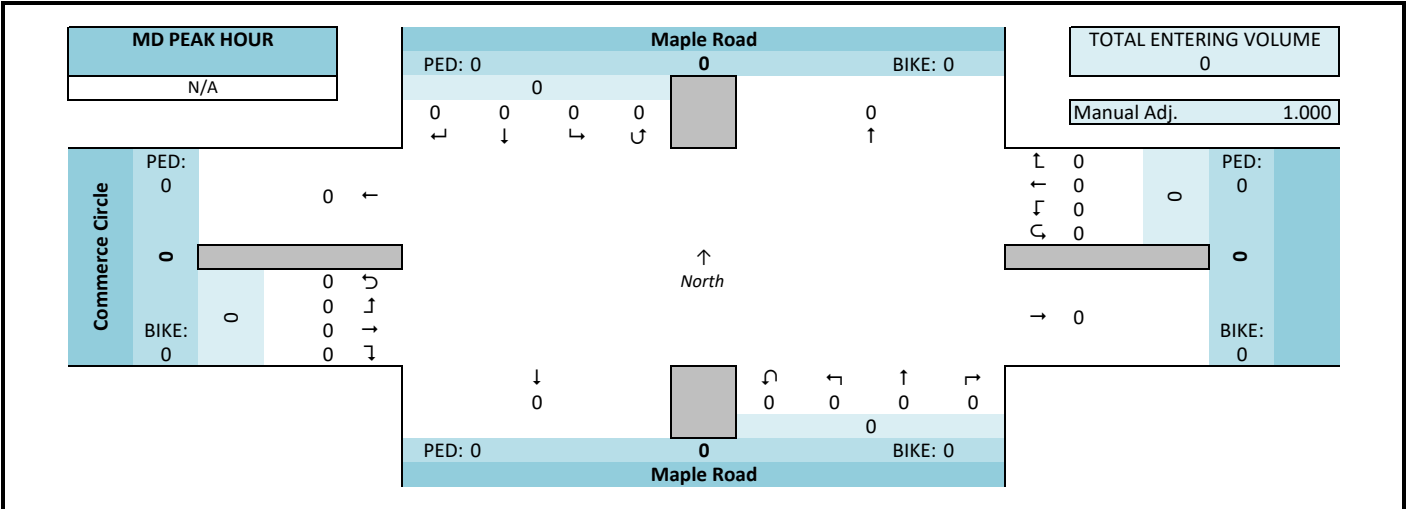
Count Basics		Page 2 of 13	
Start Date:	Wednesday, September 25, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



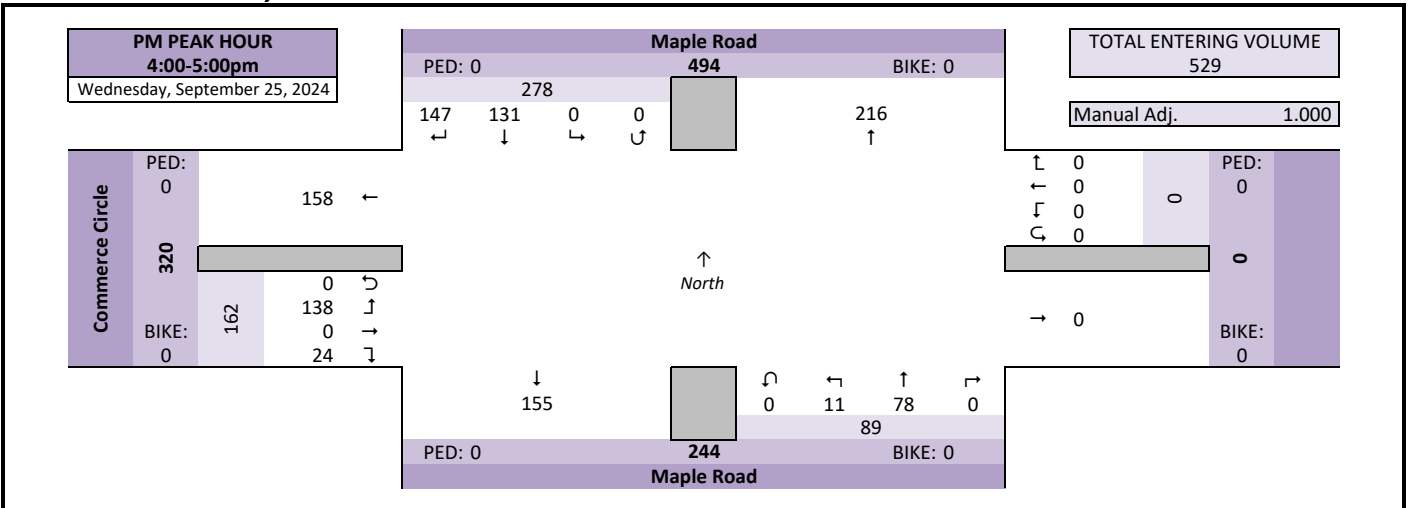
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

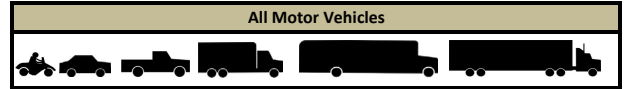


Intersection Traffic Volume Report

Peak Hour Volume Summary

Maple Road & Commerce Circle

Count Basics			Page 3 of 13
Start Date:	Wednesday, September 25, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, September 25, 2024		↕ From North					← From East					↗ From South					→ From West					Totals
		Maple Road										Maple Road					Commerce Circle					
AM Peak Hour		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM Peak Hour	Start Time																					
	6:45 AM	27	5	0	0	32	0	0	0	0	0	0	37	1	0	38	4	0	27	0	31	101
	7:00 AM	38	15	0	0	53	0	0	0	0	0	0	13	3	0	16	4	0	35	0	39	108
	7:15 AM	50	13	0	0	63	0	0	0	0	0	0	10	6	0	16	4	0	41	0	45	124
	7:30 AM	36	6	0	0	42	0	0	0	0	0	0	15	3	0	18	2	0	39	0	41	101
	Peak Hour Volume	151	39	0	0	190	0	0	0	0	0	0	75	13	0	88	14	0	142	0	156	434
	Rounded Hourly Volume	150	40	0	0	190	0	0	0	0	0	0	75	15	0	90	15	0	140	0	155	435
	% Single Unit Trucks	17.9	2.6	0.0	0.0	14.7	0.0	0.0	0.0	0.0	0.0	0.0	6.7	7.7	0.0	6.8	14.3	0.0	14.8	0.0	14.7	13.1
	% Heavy Trucks	1.3	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.7
	% Trucks (Total)	19.2	2.6	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0	0.0	8.0	7.7	0.0	8.0	14.3	0.0	14.8	0.0	14.7	13.8
Peak Hour Factor (PHF)	0.75	0.65	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.54	0.00	0.58	0.87	0.00	0.87	0.00	0.87	0.87	

N/A		From North					From East					From South					From West					Totals
Midday (MD) Peak Hour	MD Peak Hour	Maple Road										Maple Road					Commerce Circle					
	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	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Wednesday, September 25, 2024		↴					↶					↴					↷					
PM Peak Hour	PM Peak Hour	From North					From East					From South					From West					
		Maple Road										Maple Road					Commerce Circle					
	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
	4:00 PM	47	38	0	0	85	0	0	0	0	0	0	23	0	0	23	5	0	33	0	38	146
	4:15 PM	38	29	0	0	67	0	0	0	0	0	0	20	0	0	20	8	0	36	0	44	131
	4:30 PM	37	33	0	0	70	0	0	0	0	0	0	19	5	0	24	6	0	40	0	46	140
	4:45 PM	25	31	0	0	56	0	0	0	0	0	0	16	6	0	22	5	0	29	0	34	112
	Peak Hour Volume	147	131	0	0	278	0	0	0	0	0	0	78	11	0	89	24	0	138	0	162	529
	Rounded Hourly Volume	145	130	0	0	275	0	0	0	0	0	0	80	10	0	90	25	0	140	0	165	530
	% Single Unit Trucks	6.1	1.5	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	3.4	0.0	0.0	3.6	0.0	3.1	3.6
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.6	0.2	
% Trucks (Total)	6.1	1.5	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	3.4	0.0	0.0	4.3	0.0	3.7	3.8	
Peak Hour Factor (PHF)	0.78	0.86	0.00	0.00	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.46	0.00	0.93	0.75	0.00	0.86	0.00	0.88	0.91	

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total Ped & Bike Volume
		North Approach			East Approach			South Approach			West Approach			
15-Minute Start Time		Maple Road			Maple Road			Maple Road			Commerce Circle			
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	1	0	1	0	0	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	1	0	1	0	0	0	0	0	0	0	0	0	1
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

Maple Road & Commerce Circle

Count Basics			Page 5 of 13	
Start Date:	Wednesday, September 25, 2024	Weekday	Schools in Session	
Total Number of Hours Counted:	6	Non-Holiday	No Special Events	

All Motor Vehicles					
					

15-Minute Motor Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF	
	Maple Road										Maple Road					Commerce Circle								
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM Peak Period	6:00 AM	30	2	0	0	32	0	0	0	0	0	0	4	0	0	4	1	0	24	0	25	61	374	0.79
	6:15 AM	42	2	0	0	44	0	0	0	0	0	0	5	3	0	8	0	0	41	0	41	93	421	0.88
	6:30 AM	44	9	0	0	53	0	0	0	0	0	0	13	6	0	19	6	0	41	0	47	119	452	0.91
	6:45 AM	27	5	0	0	32	0	0	0	0	0	0	37	1	0	38	4	0	27	0	31	101	434	0.88
	7:00 AM	38	15	0	0	53	0	0	0	0	0	0	13	3	0	16	4	0	35	0	39	108	439	0.89
	7:15 AM	50	13	0	0	63	0	0	0	0	0	0	10	6	0	16	4	0	41	0	45	124	407	0.82
	7:30 AM	36	6	0	0	42	0	0	0	0	0	0	15	3	0	18	2	0	39	0	41	101	370	0.87
	7:45 AM	38	20	0	0	58	0	0	0	0	0	0	13	0	0	13	4	0	31	0	35	106	343	0.81
	8:00 AM	20	13	0	0	33	0	0	0	0	0	0	11	4	1	16	7	0	20	0	27	76	335	0.85
	8:15 AM	36	17	0	0	53	0	0	0	0	0	0	9	1	0	10	2	0	22	0	24	87		
	8:30 AM	20	12	0	0	32	0	0	0	0	0	0	16	0	0	16	3	0	23	0	26	74		
	8:45 AM	44	14	0	0	58	0	0	0	0	0	0	9	2	0	11	5	0	24	0	29	98		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	3:00 PM	36	29	0	0	65	0	0	0	0	0	0	18	4	0	22	1	0	33	0	34	121	510	0.87
	3:15 PM	36	33	0	0	69	0	0	0	0	0	0	11	2	0	13	4	0	34	0	38	120	535	0.92
	3:30 PM	34	44	0	0	78	0	0	0	0	0	0	21	6	0	27	3	0	38	0	41	146	546	0.93
	3:45 PM	35	32	0	0	67	0	0	0	0	0	0	11	4	0	15	7	0	34	0	41	123	540	0.92
	4:00 PM	47	38	0	0	85	0	0	0	0	0	0	23	0	0	23	5	0	33	0	38	146	529	0.91
	4:15 PM	38	29	0	0	67	0	0	0	0	0	0	20	0	0	20	8	0	36	0	44	131	517	0.92
	4:30 PM	37	33	0	0	70	0	0	0	0	0	0	19	5	0	24	6	0	40	0	46	140	516	0.92
	4:45 PM	25	31	0	0	56	0	0	0	0	0	0	16	6	0	22	5	0	29	0	34	112	503	0.94
	5:00 PM	33	50	0	0	83	0	0	0	0	0	0	19	1	0	20	3	0	28	0	31	134	493	0.92
	5:15 PM	37	35	0	0	72	0	0	0	0	0	0	20	3	0	23	4	0	31	0	35	130		
	5:30 PM	34	30	0	0	64	0	0	0	0	0	0	19	1	0	20	4	0	39	0	43	127		
	5:45 PM	26	24	0	0	50	0	0	0	0	0	0	21	2	0	23	1	0	28	0	29	102		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 PM	0	0	0	0	0	0	0	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	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			
9:15 PM	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0			
Totals	843	536	0	0	1379	0	0	0	0	0	0	373	63	1	437	93	0	771	0	864	2680			

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	From North					From East					From South					From West					Total Hourly Volume	PHF
	Maple Road										Maple Road					Commerce Circle						
	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 6:45 AM	151	39	0	0	190	0	0	0	0	0	0	75	13	0	88	14	0	142	0	156	434	0.88
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 4:00 PM	147	131	0	0	278	0	0	0	0	0	0	78	11	0	89	24	0	138	0	162	529	0.91

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

Maple Road & Commerce Circle

Count Basics			Page 9 of 13
Start Date:	Wednesday, September 25, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



15-Minute Heavy Vehicle Data

15-Minute Time Period Start Time	↙ From North					↖ From East					↗ From South					↘ From West					15-Min Totals	Hourly Sum	
	Maple Road										Maple Road					Commerce Circle							
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
AM Peak Period	6:00 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	22
	6:15 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	5	34
	6:30 AM	4	0	0	0	4	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	8	49
	6:45 AM	3	1	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	6	60
	7:00 AM	5	0	0	0	5	0	0	0	0	0	0	1	1	0	2	1	0	7	0	8	15	63
	7:15 AM	12	0	0	0	12	0	0	0	0	0	0	1	0	0	1	1	0	6	0	7	20	54
	7:30 AM	9	0	0	0	9	0	0	0	0	0	0	3	0	0	3	0	0	7	0	7	19	44
	7:45 AM	3	2	0	0	5	0	0	0	0	0	0	1	0	0	1	0	0	3	0	3	9	33
	8:00 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	4	0	4	6	37
	8:15 AM	6	2	0	0	8	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	10	
	8:30 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	5	0	6	8	
	8:45 AM	6	2	0	0	8	0	0	0	0	0	0	1	1	0	2	0	0	3	0	3	13	
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	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	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
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	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
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	3	3	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	9	18
	3:15 PM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4	11
	3:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	4	9
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	13
	4:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	20
	4:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	23
	4:30 PM	4	1	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	8	25
	4:45 PM	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	4	0	4	8	21
	5:00 PM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	5	17
	5:15 PM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	4	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	4	
	5:45 PM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	4	
	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
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 PM	0	0	0	0	0	0	0	0	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	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	
9:15 PM	0	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	0	
Totals	70	19	0	0	89	0	0	0	0	0	0	23	4	0	27	4	0	57	0	61	177		

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time	↙ From North					↖ From East					↗ From South					↘ From West					Total Hourly Volume
	Maple Road										Maple Road					Commerce Circle					
	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 6:45 AM	29	1	0	0	30	0	0	0	0	0	0	6	1	0	7	2	0	21	0	23	60
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 4:00 PM	9	2	0	0	11	0	0	0	0	0	0	3	0	0	3	0	0	6	0	6	20

Intersection Traffic Volume Report

Count Basics		Version 2024.04	Page 1 of 13
Start Date:	Wednesday, September 25, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Major St: Commerce Circle

Minor St: KT DWs

Intersection of: Commerce Circle & KT DWs

IX_ID:

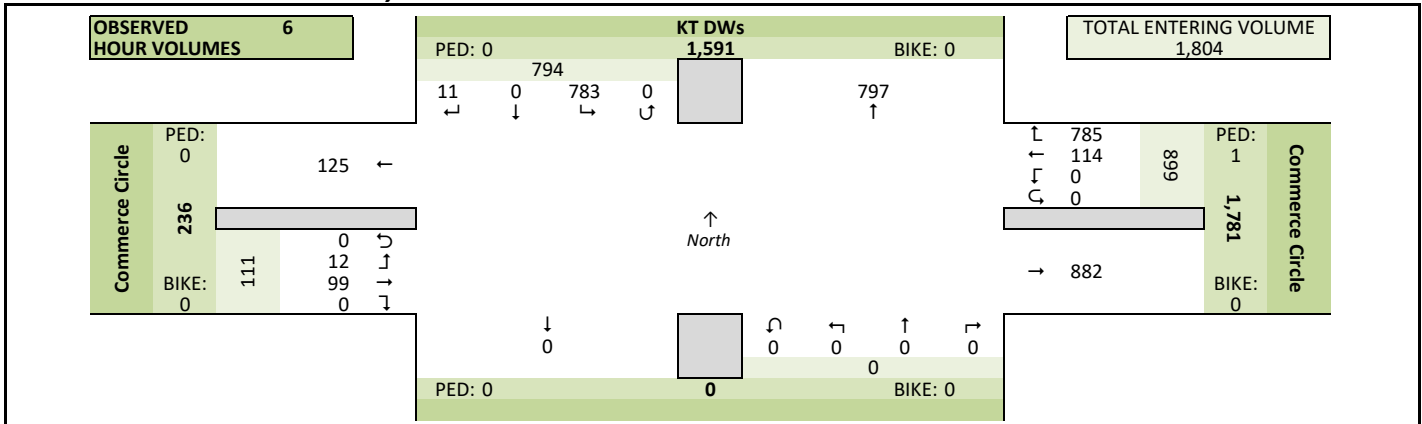
Site Information

Municipality	Village of Germantown
County	66 - Washington
WisDOT Region	SE
Traffic Control	Uncontrolled
Roadway Names	North Direction
North Leg	KT DWs
East Leg	Commerce Circle
South Leg	
West Leg	Commerce Circle
Special Considerations	
Schools	In Session
Holidays	None
Special Events	None
Special Pedestrians Observed	
Pre-school children	None
Elementary school age children	None
Visually impaired (white cane/helper dog)	None
Elderly/disabled (except wheelchairs)	None
Wheelchairs/electric scooters	None
Other (describe)	None

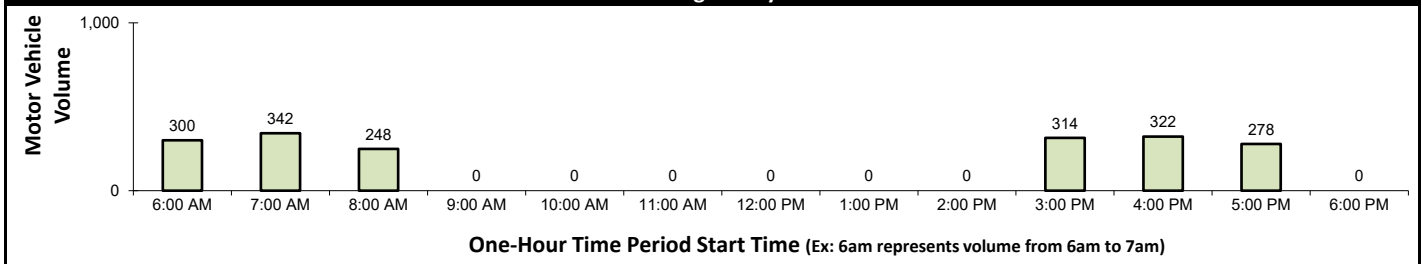
Count Information

Hrs Counted:	06:00 AM-09:00 AM and 03:00 PM-06:00 PM
1st Day of Count	Wednesday, September 25, 2024
Weather	Clear & Dry
AM Peak Period	Wednesday, September 25, 2024
Midday Peak Period	Wednesday, September 25, 2024
PM Peak Period	Wednesday, September 25, 2024
Calculated Peak Hours	
AM	6:30-7:30am
MD	
PM	3:45-4:45pm
Peak Hours Selected for Analysis	
AM	6:45-7:45am
MD	
PM	4:00-5:00pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors
Count Expansion Group	(2) Urban Arterials & Collectors
Daily/Seasonal Adjustment Factor	0.870
Count Expansion Factor	2.327
Company Name	TADI, Inc.
Manual Adj.	1.000
Observers	AM Peak Period Amy Scheuerlein
	Midday Peak Period None
	PM Peak Period Amy Scheuerlein
Comments	2021 DOT Daily & Seasonal Factors

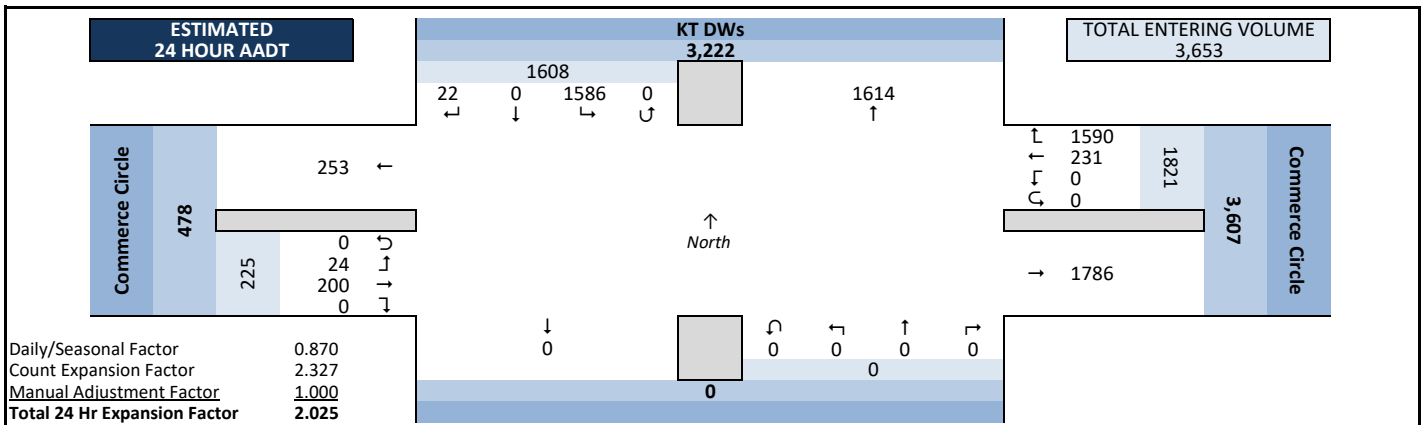
Observed 6 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT

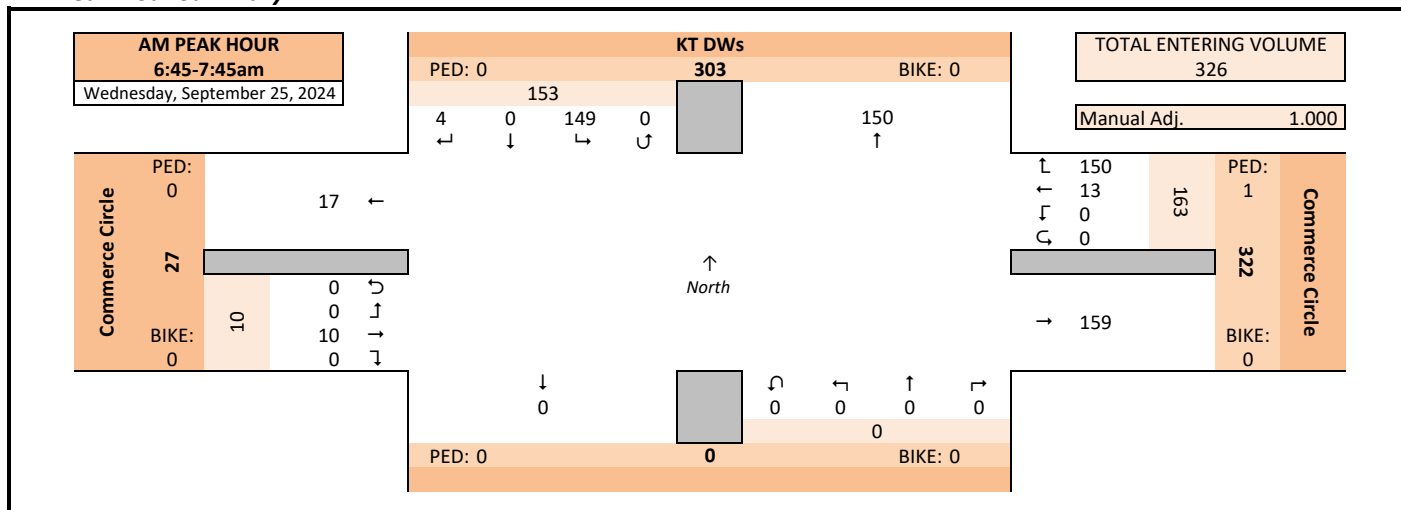


Peak Hour Volume Graphical Summary

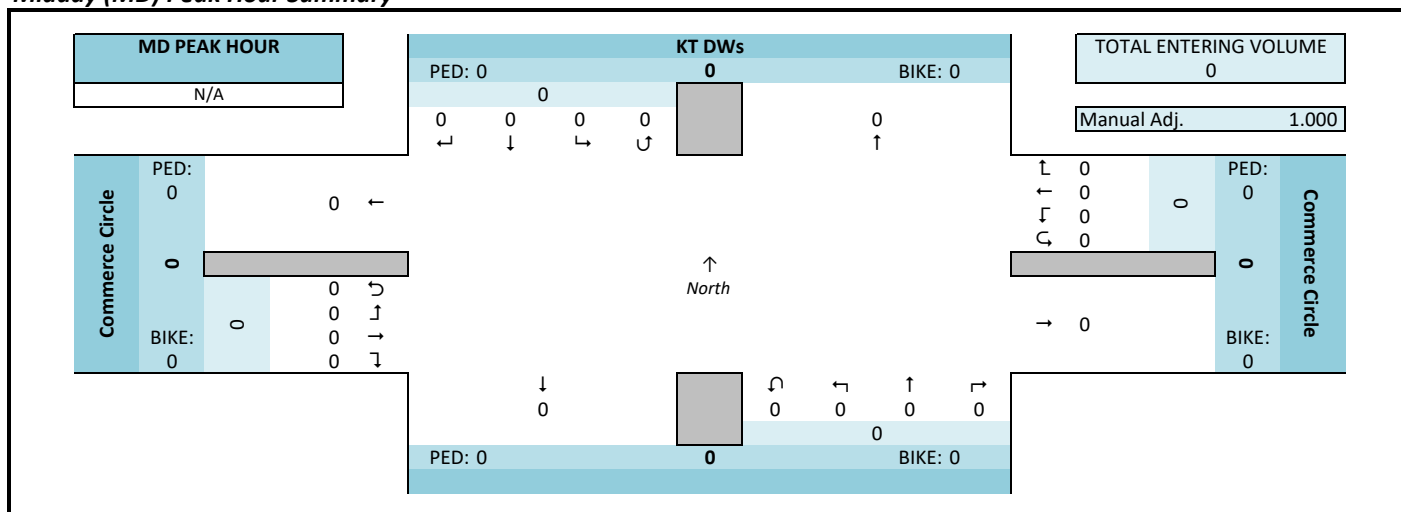
Count Basics		Page 2 of 13	
Start Date:	Wednesday, September 25, 2024	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Commerce Circle & KT DWs

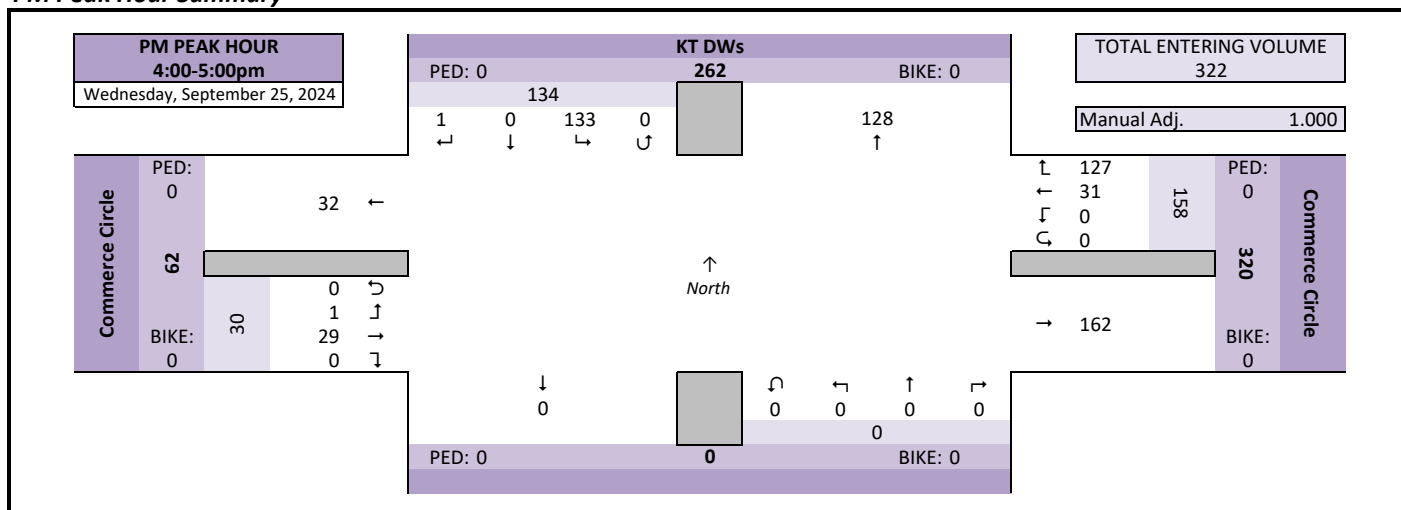
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

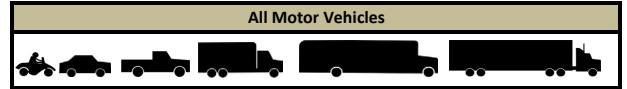


Intersection Traffic Volume Report

Peak Hour Volume Summary

Commerce Circle & KT DWs

Count Basics			Page 3 of 13
Start Date:	Wednesday, September 25, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, September 25, 2024		From North					From East					From South					From West						
		KT DWs					Commerce Circle										Commerce Circle						
		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	
AM Peak Hour	Start Time																						
	6:45 AM	0	0	30	0	30	25	1	0	0	26	0	0	0	0	0	0	0	1	0	0	1	57
	7:00 AM	0	0	34	0	34	37	3	0	0	40	0	0	0	0	0	0	0	4	0	0	4	78
	7:15 AM	2	0	42	0	44	51	6	0	0	57	0	0	0	0	0	0	0	3	0	0	3	104
	7:30 AM	2	0	43	0	45	37	3	0	0	40	0	0	0	0	0	0	0	2	0	0	2	87
	Peak Hour Volume	4	0	149	0	153	150	13	0	0	163	0	0	0	0	0	0	0	10	0	0	10	326
	Rounded Hourly Volume	5	0	150	0	155	150	15	0	0	165	0	0	0	0	0	0	0	10	0	0	10	330
	% Single Unit Trucks	50.0	0.0	12.8	0.0	13.7	15.3	53.8	0.0	0.0	18.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	60.0	17.5
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
	% Trucks (Total)	50.0	0.0	12.8	0.0	13.7	15.3	61.5	0.0	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	60.0	17.8
Peak Hour Factor (PHF)	0.50	0.00	0.87	0.00	0.85	0.74	0.54	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.62	0.78	

N/A		From North					From East					From South					From West					Totals
Midday (MD) Peak Hour	MD Peak Hour	KT DWs					Commerce Circle					Commerce Circle					Commerce Circle					
	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	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Wednesday, September 25, 2024		↓ From North					← From East					↑ From South					→ From West					Totals	
PM Peak Hour		KT DWs					Commerce Circle					Commerce Circle					Commerce Circle						
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		
4:00 PM		0	0	33	0	33	35	10	0	0	45	0	0	0	0	0	0	5	0	0	0	5	83
4:15 PM		0	0	35	0	35	31	7	0	0	38	0	0	0	0	0	0	9	0	0	0	9	82
4:30 PM		1	0	36	0	37	34	6	0	0	40	0	0	0	0	0	0	11	0	0	0	11	88
4:45 PM		0	0	29	0	29	27	8	0	0	35	0	0	0	0	0	0	4	1	0	0	5	69
Peak Hour Volume		1	0	133	0	134	127	31	0	0	158	0	0	0	0	0	0	29	1	0	0	30	322
Rounded Hourly Volume		0	0	135	0	135	125	30	0	0	155	0	0	0	0	0	0	30	0	0	0	30	320
% Single Unit Trucks		100.0	0.0	1.5	0.0	2.2	3.9	12.9	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0	0.0	10.0	4.7
% Heavy Trucks		0.0	0.0	0.8	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
% Trucks (Total)		100.0	0.0	2.3	0.0	3.0	3.9	12.9	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	10.3	0.0	0.0	0.0	10.0	5.0
Peak Hour Factor (PHF)		0.25	0.00	0.92	0.00	0.91	0.91	0.77	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.25	0.00	0.00	0.68	0.91

Peak Hour Pedestrian and Bicyclist Volumes

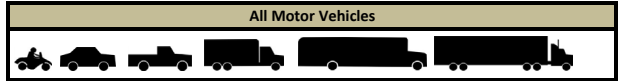
Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total Ped & Bike Volume
		North Approach			East Approach			South Approach			West Approach			
15-Minute Start Time		KT DWs			Commerce Circle			Commerce Circle			Commerce Circle			
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	1	0	1	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	1	0	1	0	0	0	0	0	0	1
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

Commerce Circle & KT DWs

Count Basics			Page 5 of 13	
Start Date:	Wednesday, September 25, 2024	Weekday	Schools in Session	
Total Number of Hours Counted:	6	Non-Holiday	No Special Events	



15-Minute Motor Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF	
	KT DWs					Commerce Circle					Commerce Circle					Commerce Circle								
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM Peak Period	6:00 AM	0	0	26	0	26	29	0	0	0	29	0	0	0	0	0	0	0	0	0	0	55	300	0.72
	6:15 AM	0	0	41	0	41	43	0	0	0	43	0	0	0	0	0	0	0	0	0	0	84	323	0.78
	6:30 AM	0	0	50	0	50	51	2	0	0	53	0	0	0	0	0	0	1	0	0	1	104	343	0.82
	6:45 AM	0	0	30	0	30	25	1	0	0	26	0	0	0	0	0	0	1	0	0	1	57	326	0.78
	7:00 AM	0	0	34	0	34	37	3	0	0	40	0	0	0	0	0	0	4	0	0	4	78	342	0.82
	7:15 AM	2	0	42	0	44	51	6	0	0	57	0	0	0	0	0	0	3	0	0	3	104	320	0.77
	7:30 AM	2	0	43	0	45	37	3	0	0	40	0	0	0	0	0	0	2	0	0	2	87	279	0.80
	7:45 AM	1	0	34	0	35	35	2	0	0	37	0	0	0	0	0	0	1	0	0	1	73	243	0.83
	8:00 AM	0	0	29	0	29	22	3	0	0	25	0	0	0	0	0	0	1	1	0	2	56	248	0.79
	8:15 AM	0	0	27	0	27	34	1	0	0	35	0	0	0	0	0	0	0	1	0	1	63		
	8:30 AM	0	0	29	0	29	18	2	0	0	20	0	0	0	0	0	0	1	1	0	2	51		
	8:45 AM	0	0	26	0	26	39	7	0	0	46	0	0	0	0	0	0	3	3	0	6	78		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	3:00 PM	1	0	26	0	27	30	8	0	0	38	0	0	0	0	0	0	8	1	0	9	74	314	0.96
	3:15 PM	2	0	29	0	31	28	11	0	0	39	0	0	0	0	0	0	9	0	0	9	79	323	0.97
	3:30 PM	0	0	28	0	28	31	8	0	0	39	0	0	0	0	0	0	12	0	0	12	79	326	0.98
	3:45 PM	0	0	35	0	35	29	11	0	0	40	0	0	0	0	0	0	6	1	0	7	82	335	0.95
	4:00 PM	0	0	33	0	33	35	10	0	0	45	0	0	0	0	0	0	5	0	0	5	83	322	0.91
	4:15 PM	0	0	35	0	35	31	7	0	0	38	0	0	0	0	0	0	9	0	0	9	82	302	0.86
	4:30 PM	1	0	36	0	37	34	6	0	0	40	0	0	0	0	0	0	11	0	0	11	88	296	0.84
	4:45 PM	0	0	29	0	29	27	8	0	0	35	0	0	0	0	0	0	4	1	0	5	69	289	0.89
	5:00 PM	0	0	27	0	27	28	5	0	0	33	0	0	0	0	0	0	3	0	0	3	63	278	0.86
	5:15 PM	0	0	31	0	31	34	6	0	0	40	0	0	0	0	0	0	4	1	0	5	76		
	5:30 PM	0	0	39	0	39	31	3	0	0	34	0	0	0	0	0	0	6	2	0	8	81		
	5:45 PM	2	0	24	0	26	26	1	0	0	27	0	0	0	0	0	0	5	0	0	5	58		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 PM	0	0	0	0	0	0	0	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	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			
9:15 PM	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0			
Totals	11	0	783	0	794	785	114	0	0	899	0	0	0	0	0	0	99	12	0	111	1804			

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	From North					From East					From South					From West					Total Hourly Volume	PHF	
	KT DWs					Commerce Circle					Commerce Circle					Commerce Circle							
	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 6:45 AM	4	0	149	0	153	150	13	0	0	163	0	0	0	0	0	0	10	0	0	0	10	326	0.78
PM 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD 4:00 PM	1	0	133	0	134	127	31	0	0	158	0	0	0	0	0	0	29	1	0	0	30	322	0.91

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

Commerce Circle & KT DWs

Count Basics			Page 9 of 13
Start Date:	Wednesday, September 25, 2024	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



15-Minute Heavy Vehicle Data

15-Minute Time Period Start Time	From North					From East					From South					From West					15-Min Totals	Hourly Sum	
	KT DWs					Commerce Circle					Commerce Circle					Commerce Circle							
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
AM Peak Period	6:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	16
	6:15 AM	0	0	3	0	3	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5	28
	6:30 AM	0	0	2	0	2	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	6	45
	6:45 AM	0	0	1	0	1	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	4	58
	7:00 AM	0	0	5	0	5	5	0	0	0	5	0	0	0	0	0	0	3	0	0	3	13	60
	7:15 AM	1	0	5	0	6	10	4	0	0	14	0	0	0	0	0	0	2	0	0	2	22	54
	7:30 AM	1	0	8	0	9	6	3	0	0	9	0	0	0	0	0	0	1	0	0	1	19	34
	7:45 AM	0	0	3	0	3	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	6	22
	8:00 AM	0	0	5	0	5	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7	24
	8:15 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	
	8:30 AM	0	0	4	0	4	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	7	
	8:45 AM	0	0	1	0	1	4	2	0	0	6	0	0	0	0	0	0	1	0	0	1	8	
Midday Peak Period	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	2	0	2	3	0	0	0	3	0	0	0	0	0	0	1	0	0	1	6	11
	3:15 PM	1	0	1	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	7
	3:30 PM	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	6
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	4:00 PM	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	16
	4:15 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2	17
	4:30 PM	1	0	0	0	1	1	3	0	0	4	0	0	0	0	0	0	1	0	0	1	6	17
	4:45 PM	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	0	2	0	0	2	6	13
	5:00 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	9
	5:15 PM	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	
	5:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	
	5:45 PM	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	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	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	
	9:15 PM	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	
Totals	4	0	48	0	52	54	17	0	0	71	0	0	0	0	0	0	13	0	0	13	136		

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time	From North					From East					From South					From West					Total Hourly Volume
	KT DWs					Commerce Circle					Commerce Circle					Commerce Circle					
	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 6:45 AM	2	0	19	0	21	23	8	0	0	31	0	0	0	0	0	0	6	0	0	6	58
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 4:00 PM	1	0	3	0	4	5	4	0	0	9	0	0	0	0	0	0	3	0	0	3	16

Wisconsin Department of Transportation

Hourly Traffic Volume Report

2023-Aug-07 to 2023-Aug-09

Coverage Count

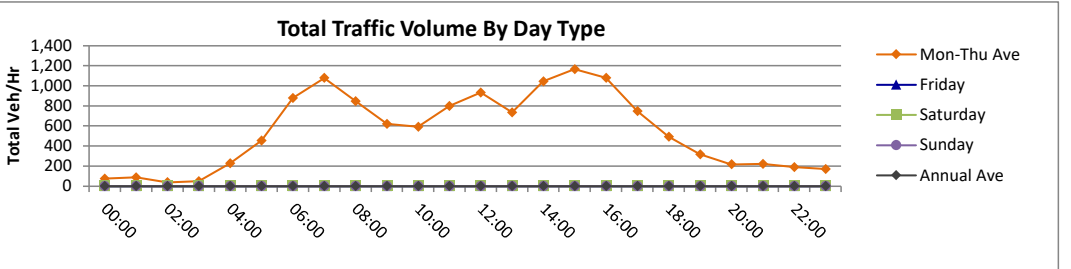
50 Hour Count - Averages and Graphs Do Not Include All Days

Location	MAPLE RD SOUTH OF W MEQUON RD GERMANTOWN										Segment ID	
Site #	660448										Seasonal Factor Group	2
Region	SE										Daily Factor Group	2
County	WASHINGTON										Axle Factor Group	6
Funct. Class	U Minor Arterial										Growth Factor Group	

Hour	Sun			Mon 2023-08-07			Tues 2023-08-08			Wed 2023-08-09			Thur			Fri			Sat		
	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total
00:00-00:59			-			-	17	48	65	22	60	82			-			-			-
01:00-01:59			-			-	15	67	82	28	64	92			-			-			-
02:00-02:59			-			-	12	18	30	15	30	45			-			-			-
03:00-03:59			-			-	29	27	56	24	17	41			-			-			-
04:00-04:59			-			-	180	57	237	175	43	218			-			-			-
05:00-05:59			-			-	342	119	461	335	114	449			-			-			-
06:00-06:59			-			-	654	237	891	611	254	865			-			-			-
07:00-07:59			-			-	594	521	1,115	528	512	1,040			-			-			-
08:00-08:59			-	438	388	826	460	382	842	510	360	870			-			-			-
09:00-09:59			-	287	321	608	286	336	622	286	339	625			-			-			-
10:00-10:59			-	270	346	616	230	338	568			-			-			-			-
11:00-11:59			-	314	435	749	398	450	848			-			-			-			-
12:00-12:59			-	433	457	890	462	513	975			-			-			-			-
13:00-13:59			-	363	395	758	349	365	714			-			-			-			-
14:00-14:59			-	428	599	1,027	440	623	1,063			-			-			-			-
15:00-15:59			-	348	839	1,187	346	800	1,146			-			-			-			-
16:00-16:59			-	294	752	1,046	325	786	1,111			-			-			-			-
17:00-17:59			-	278	459	737	313	447	760			-			-			-			-
18:00-18:59			-	250	239	489	231	263	494			-			-			-			-
19:00-19:59			-	121	186	307	120	207	327			-			-			-			-
20:00-20:59			-	120	94	214	122	96	218			-			-			-			-
21:00-21:59			-	76	139	215	78	148	226			-			-			-			-
22:00-22:59			-	126	59	185	136	55	191			-			-			-			-
23:00-23:59			-	38	131	169	42	128	170			-			-			-			-
Daily Total	-	-	-	-	-	-	6,181	7,031	13,212	-	-	-	-	-	-	-	-	-	-	-	-

AM Peak	-	-	-	-	-	-	654	521	1,115	611	512	1,040	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	06:00	07:00	07:00	06:00	07:00	07:00	-	-	-	-	-	-	-	-	-
MD Peak	-	-	-	-	433	599	1,027	462	623	1,063	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	12:00	14:00	14:00	12:00	14:00	14:00	-	-	-	-	-	-	-	-	-	-	-
PM Peak	-	-	-	-	348	839	1,187	346	800	1,146	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	15:00	15:00	15:00	15:00	15:00	15:00	-	-	-	-	-	-	-	-	-	-	-
Daily Peak	-	-	-	-	-	-	654	800	1,146	-	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	06:00	15:00	15:00	-	-	-	-	-	-	-	-	-	-	-	-
% of Total	-	-	-	-	-	-	10.6%	11.4%	8.7%	-	-	-	-	-	-	-	-	-	-	-	-
Daily Ave	-	-	-	-	-	-	258	293	551	-	-	-	-	-	-	-	-	-	-	-	-

Seasonal Fctr																					
Daily Fctr																					
Axle Factor																					
Pulse Fctr																					
Overall Fctr	0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000	



Hour	Mon-Thurs Average			Mon-Fri Average			7 Day Average			Estimated Annual Ave		
	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total
00:00-00:59	20	54	74	-	-	-	-	-	-	0	0	0
01:00-01:59	22	66	87	-	-	-	-	-	-	0	0	0
02:00-02:59	14	24	38	-	-	-	-	-	-	0	0	0
03:00-03:59	27	22	49	-	-	-	-	-	-	0	0	0
04:00-04:59	178	50	228	-	-	-	-	-	-	0	0	0
05:00-05:59	339	117	455	-	-	-	-	-	-	0	0	0
06:00-06:59	633	246	878	-	-	-	-	-	-	0	0	0
07:00-07:59	561	517	1,078	-	-	-	-	-	-	0	0	0
08:00-08:59	469	377	846	-	-	-	-	-	-	0	0	0
09:00-09:59	286	332	618	-	-	-	-	-	-	0	0	0
10:00-10:59	250	342	592	-	-	-	-	-	-	0	0	0
11:00-11:59	356	443	799	-	-	-	-	-	-	0	0	0
12:00-12:59	448	485	933	-	-	-	-	-	-	0	0	0
13:00-13:59	356	380	736	-	-	-	-	-	-	0	0	0
14:00-14:59	434	611	1,045	-	-	-	-	-	-	0	0	0
15:00-15:59	347	820	1,167	-	-	-	-	-	-	0	0	0
16:00-16:59	310	769	1,079	-	-	-	-	-	-	0	0	0
17:00-17:59	296	453	749	-	-	-	-	-	-	0	0	0
18:00-18:59	241	251	492	-	-	-	-	-	-	0	0	0
19:00-19:59	121	197	317	-	-	-	-	-	-	0	0	0
20:00-20:59	121	95	216	-	-	-	-	-	-	0	0	0
21:00-21:59	77	144	221	-	-	-	-	-	-	0	0	0
22:00-22:59	131	57	188	-	-	-	-	-	-	0	0	0
23:00-23:59	40	130	170	-	-	-	-	-	-	0	0	0
Daily Total	6,072	6,977	13,049	-	-	-	-	-	-	0	0	0

AM Peak	633	517	1,078	-	-	-	-	-	-	0	0	0
Hour	06:00	07:00	07:00	-	-	-	-	-	-	00:00	00:00	00:00
MD Peak	448	611	1,045	-	-	-	-	-	-	0	0	0
Hour	12:00	14:00	14:00	-	-	-	-	-	-	10:00	10:00	10:00
PM Peak	347	820	1,167	-	-	-	-	-	-	0	0	0
Hour	15:00	15:00	15:00	-	-	-	-	-	-	15:00	15:00	15:00
Daily Peak	633	820	1,167	-	-	-	-	-	-	0	0	0
Hour	06:00	15:00	15:00	-	-	-	-	-	-	00:00	00:00	00:00
% of Total	10.4%	11.7%	8.9%	-	-	-	-	-	-	#DIV/0!	#DIV/0!	#####
Daily Ave	253	291	544	-	-	-	-	-	-	0	0	0

AM	579	449
PM	310	769

Wisconsin Department of Transportation

Hourly Traffic Volume Report

2023-Jul-24 to 2023-Jul-26

Coverage Count

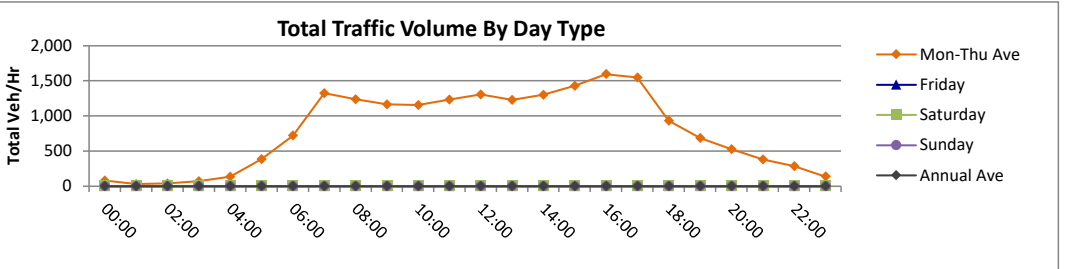
49 Hour Count - Averages and Graphs Do Not Include All Days

Location	STH 167 EAST OF MAPLE RD GERMANTOWN	Segment ID	3712
Site #	660449	Seasonal Factor Group	2
Region	SE	Daily Factor Group	2
County	WASHINGTON	Axle Factor Group	5
Funct. Class	U Principal Arterial - Other	Growth Factor Group	1

Hour	Sun			Mon 2023-07-24			Tues 2023-07-25			Wed 2023-07-26			Thur			Fri			Sat		
	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total
00:00-00:59			-			-	47	30	77	43	34	77			-			-			-
01:00-01:59			-			-	12	14	26	20	15	35			-			-			-
02:00-02:59			-			-	25	6	31	25	18	43			-			-			-
03:00-03:59			-			-	45	32	77	30	36	66			-			-			-
04:00-04:59			-			-	72	61	133	70	66	136			-			-			-
05:00-05:59			-			-	210	160	370	235	165	400			-			-			-
06:00-06:59			-			-	425	298	723	394	321	715			-			-			-
07:00-07:59			-			-	774	554	1,328	769	552	1,321			-			-			-
08:00-08:59			-			-	720	518	1,238	743	494	1,237			-			-			-
09:00-09:59			-	634	581	1,215	578	574	1,152	589	536	1,125			-			-			-
10:00-10:59			-	570	579	1,149	546	612	1,158			-			-			-			-
11:00-11:59			-	545	676	1,221	586	653	1,239			-			-			-			-
12:00-12:59			-	653	656	1,309	614	682	1,296			-			-			-			-
13:00-13:59			-	579	631	1,210	593	647	1,240			-			-			-			-
14:00-14:59			-	638	662	1,300	583	720	1,303			-			-			-			-
15:00-15:59			-	626	780	1,406	664	781	1,445			-			-			-			-
16:00-16:59			-	717	850	1,567	721	901	1,622			-			-			-			-
17:00-17:59			-	673	831	1,504	691	898	1,589			-			-			-			-
18:00-18:59			-	439	497	936	433	491	924			-			-			-			-
19:00-19:59			-	328	335	663	346	362	708			-			-			-			-
20:00-20:59			-	277	225	502	278	270	548			-			-			-			-
21:00-21:59			-	200	144	344	245	169	414			-			-			-			-
22:00-22:59			-	170	111	281	172	112	284			-			-			-			-
23:00-23:59			-	60	52	112	82	77	159			-			-			-			-
Daily Total	-	-	-	-	-	-	9,462	9,622	19,084	-	-	-	-	-	-	-	-	-	-	-	-

AM Peak	-	-	-	-	-	-	774	574	1,328	769	552	1,321	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	07:00	09:00	07:00	07:00	07:00	07:00	-	-	-	-	-	-	-	-	-
MD Peak	-	-	-	-	653	676	1,309	614	720	1,303	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	12:00	11:00	12:00	12:00	14:00	14:00	-	-	-	-	-	-	-	-	-	-	-
PM Peak	-	-	-	-	717	850	1,567	721	901	1,622	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	16:00	16:00	16:00	16:00	16:00	16:00	-	-	-	-	-	-	-	-	-	-	-
Daily Peak	-	-	-	-	-	-	774	901	1,622	-	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	07:00	16:00	16:00	-	-	-	-	-	-	-	-	-	-	-	-
% of Total	-	-	-	-	-	-	8.2%	9.4%	8.5%	-	-	-	-	-	-	-	-	-	-	-	-
Daily Ave	-	-	-	-	-	-	394	401	795	-	-	-	-	-	-	-	-	-	-	-	-

Seasonal Fctr																					
Daily Fctr																					
Axle Factor																					
Pulse Fctr																					
Overall Fctr	0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000	



Hour	Mon-Thurs Average			Mon-Fri Average			7 Day Average			Estimated Annual Ave		
	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total
00:00-00:59	45	32	77	-	-	-	-	-	-	0	0	0
01:00-01:59	16	15	31	-	-	-	-	-	-	0	0	0
02:00-02:59	25	12	37	-	-	-	-	-	-	0	0	0
03:00-03:59	38	34	72	-	-	-	-	-	-	0	0	0
04:00-04:59	71	64	135	-	-	-	-	-	-	0	0	0
05:00-05:59	223	163	385	-	-	-	-	-	-	0	0	0
06:00-06:59	410	310	719	-	-	-	-	-	-	0	0	0
07:00-07:59	772	553	1,325	-	-	-	-	-	-	0	0	0
08:00-08:59	732	506	1,238	-	-	-	-	-	-	0	0	0
09:00-09:59	600	564	1,164	-	-	-	-	-	-	0	0	0
10:00-10:59	558	596	1,154	-	-	-	-	-	-	0	0	0
11:00-11:59	566	665	1,230	-	-	-	-	-	-	0	0	0
12:00-12:59	634	669	1,303	-	-	-	-	-	-	0	0	0
13:00-13:59	586	639	1,225	-	-	-	-	-	-	0	0	0
14:00-14:59	611	691	1,302	-	-	-	-	-	-	0	0	0
15:00-15:59	645	781	1,426	-	-	-	-	-	-	0	0	0
16:00-16:59	719	876	1,595	-	-	-	-	-	-	0	0	0
17:00-17:59	682	865	1,547	-	-	-	-	-	-	0	0	0
18:00-18:59	436	494	930	-	-	-	-	-	-	0	0	0
19:00-19:59	337	349	686	-	-	-	-	-	-	0	0	0
20:00-20:59	278	248	525	-	-	-	-	-	-	0	0	0
21:00-21:59	223	157	379	-	-	-	-	-	-	0	0	0
22:00-22:59	171	112	283	-	-	-	-	-	-	0	0	0
23:00-23:59	71	65	136	-	-	-	-	-	-	0	0	0
Daily Total	9,444	9,453	18,897	-	-	-	-	-	-	0	0	0

AM Peak	772	564	1,325	-	-	-	-	-	-	0	0	0
Hour	07:00	09:00	07:00	-	-	-	-	-	-	00:00	00:00	00:00
MD Peak	634	691	1,303	-	-	-	-	-	-	0	0	0
Hour	12:00	14:00	12:00	-	-	-	-	-	-	10:00	10:00	10:00
PM Peak	719	876	1,595	-	-	-	-	-	-	0	0	0
Hour	16:00	16:00	16:00	-	-	-	-	-	-	15:00	15:00	15:00
Daily Peak	772	876	1,595	-	-	-	-	-	-	0	0	0
Hour	07:00	16:00	16:00	-	-	-	-	-	-	00:00	00:00	00:00
% of Total	8.2%	9.3%	8.4%	-	-	-	-	-	-	#DIV/0!	#DIV/0!	#####
Daily Ave	394	394	787	-	-	-	-	-	-	0	0	0

AM	681	492
PM	719	876

Wisconsin Department of Transportation

Hourly Traffic Volume Report

2023-Aug-14 to 2023-Aug-16

Coverage Count

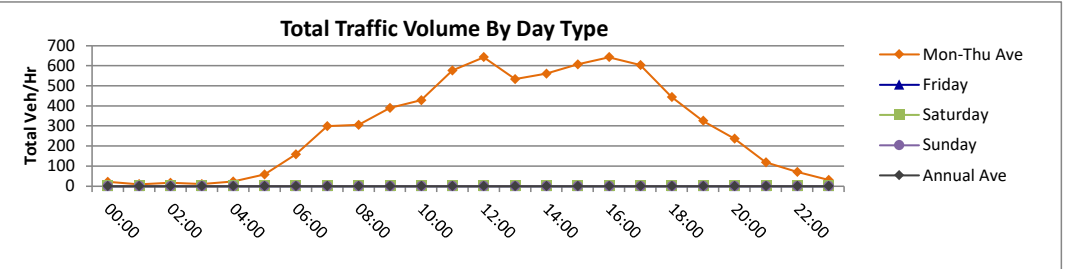
49 Hour Count - Averages and Graphs Do Not Include All Days

Location	MAPLE RD NORTH OF STH 175 GERMANTOWN										Segment ID	
Site #	660466										Seasonal Factor Group	2
Region	SE										Daily Factor Group	2
County	WASHINGTON										Axle Factor Group	6
Funct. Class	U Minor Arterial										Growth Factor Group	

Hour	Sun			Mon 2023-08-14			Tues 2023-08-15			Wed 2023-08-16			Thur			Fri			Sat		
	Undivided Hwy		Total	Undivided Hwy		Total	Undivided Hwy		Total	Undivided Hwy		Total	Undivided Hwy		Total	Undivided Hwy		Total	Undivided Hwy		Total
00:00-00:59			-			-		17	17		24	24			-			-			-
01:00-01:59			-			-		9	9		10	10			-			-			-
02:00-02:59			-			-		15	15		19	19			-			-			-
03:00-03:59			-			-		11	11		9	9			-			-			-
04:00-04:59			-			-		22	22		22	22			-			-			-
05:00-05:59			-			-		56	56		61	61			-			-			-
06:00-06:59			-			-		158	158		160	160			-			-			-
07:00-07:59			-			-		282	282		315	315			-			-			-
08:00-08:59			-		284	284		322	322		311	311			-			-			-
09:00-09:59			-		374	374		405	405			-			-			-			-
10:00-10:59			-		371	371		484	484			-			-			-			-
11:00-11:59			-		468	468		683	683			-			-			-			-
12:00-12:59			-		592	592		694	694			-			-			-			-
13:00-13:59			-		465	465		602	602			-			-			-			-
14:00-14:59			-		481	481		640	640			-			-			-			-
15:00-15:59			-		546	546		668	668			-			-			-			-
16:00-16:59			-		552	552		734	734			-			-			-			-
17:00-17:59			-		493	493		713	713			-			-			-			-
18:00-18:59			-		383	383		506	506			-			-			-			-
19:00-19:59			-		273	273		377	377			-			-			-			-
20:00-20:59			-		175	175		298	298			-			-			-			-
21:00-21:59			-		106	106		130	130			-			-			-			-
22:00-22:59			-		52	52		88	88			-			-			-			-
23:00-23:59			-		24	24		37	37			-			-			-			-
Daily Total	-	-	-	-	-	-	-	7,951	7,951	-	-	-	-	-	-	-	-	-	-	-	-

AM Peak	-	-	-	-	-	-	-	405	405	-	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	-	09:00	09:00	-	-	-	-	-	-	-	-	-	-	-	-
MD Peak	-	-	-	-	-	592	592	-	694	694	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	12:00	12:00	-	12:00	12:00	-	-	-	-	-	-	-	-	-	-	-
PM Peak	-	-	-	-	-	552	552	-	734	734	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	16:00	16:00	-	16:00	16:00	-	-	-	-	-	-	-	-	-	-	-
Daily Peak	-	-	-	-	-	-	-	734	734	-	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	-	16:00	16:00	-	-	-	-	-	-	-	-	-	-	-	-
% of Total	-	-	-	-	-	-	-	9.2%	9.2%	-	-	-	-	-	-	-	-	-	-	-	-
Daily Ave	-	-	-	-	-	-	-	331	331	-	-	-	-	-	-	-	-	-	-	-	-

Seasonal Fctr																					
Daily Fctr																					
Axle Factor																					
Pulse Fctr																					
Overall Fctr	0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000	



Hour	Mon-Thurs Average			Mon-Fri Average			7 Day Average			Estimated Annual Ave		
	Undivided Hwy		Total	Undivided Hwy		Total	Undivided Hwy		Total	Undivided Hwy		Total
00:00-00:59	-	21	21	-	-	-	-	-	-	-	0	0
01:00-01:59	-	10	10	-	-	-	-	-	-	-	0	0
02:00-02:59	-	17	17	-	-	-	-	-	-	-	0	0
03:00-03:59	-	10	10	-	-	-	-	-	-	-	0	0
04:00-04:59	-	22	22	-	-	-	-	-	-	-	0	0
05:00-05:59	-	59	59	-	-	-	-	-	-	-	0	0
06:00-06:59	-	159	159	-	-	-	-	-	-	-	0	0
07:00-07:59	-	299	299	-	-	-	-	-	-	-	0	0
08:00-08:59	-	306	306	-	-	-	-	-	-	-	0	0
09:00-09:59	-	390	390	-	-	-	-	-	-	-	0	0
10:00-10:59	-	428	428	-	-	-	-	-	-	-	0	0
11:00-11:59	-	576	576	-	-	-	-	-	-	-	0	0
12:00-12:59	-	643	643	-	-	-	-	-	-	-	0	0
13:00-13:59	-	534	534	-	-	-	-	-	-	-	0	0
14:00-14:59	-	561	561	-	-	-	-	-	-	-	0	0
15:00-15:59	-	607	607	-	-	-	-	-	-	-	0	0
16:00-16:59	-	643	643	-	-	-	-	-	-	-	0	0
17:00-17:59	-	603	603	-	-	-	-	-	-	-	0	0
18:00-18:59	-	445	445	-	-	-	-	-	-	-	0	0
19:00-19:59	-	325	325	-	-	-	-	-	-	-	0	0
20:00-20:59	-	237	237	-	-	-	-	-	-	-	0	0
21:00-21:59	-	118	118	-	-	-	-	-	-	-	0	0
22:00-22:59	-	70	70	-	-	-	-	-	-	-	0	0
23:00-23:59	-	31	31	-	-	-	-	-	-	-	0	0
Daily Total	-	7,108	7,108	-	-	-	-	-	-	-	0	0

AM Peak	-	390	390	-	-	-	-	-	-	-	0	0
Hour	-	09:00	09:00	-	-	-	-	-	-	-	00:00	00:00
MD Peak	-	643	643	-	-	-	-	-	-	-	0	0
Hour	-	12:00	12:00	-	-	-	-	-	-	-	10:00	10:00
PM Peak	-	643	643	-	-	-	-	-	-	-	0	0
Hour	-	16:00	16:00	-	-	-	-	-	-	-	15:00	15:00
Daily Peak	-	643	643	-	-	-	-	-	-	-	0	0
Hour	-	12:00	12:00	-	-	-	-	-	-	-	00:00	00:00
% of Total	-	9.0%	9.0%	-	-	-	-	-	-	-	#DIV/0!	#####
Daily Ave	-	296	296	-	-	-	-	-	-	-	0	0

AM 264
PM 643

Wisconsin Department of Transportation

Hourly Traffic Volume Report

2023-Jul-24 to 2023-Jul-26

Coverage Count

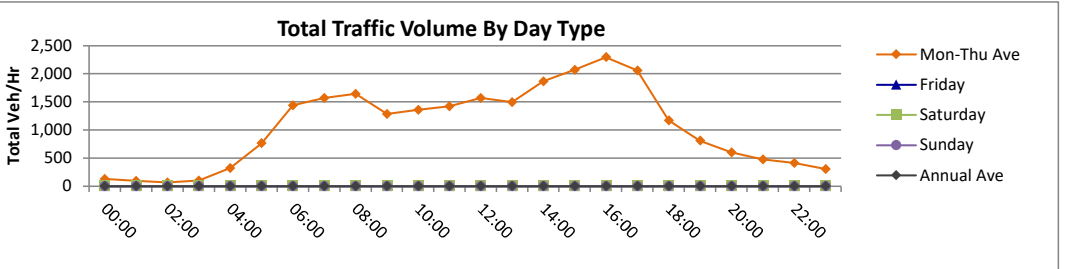
51 Hour Count - Averages and Graphs Do Not Include All Days

Location	STH 167 BTWN USH USH 41-45 & MAPLE RD GERMANTOWN	Segment ID	9137
Site #	660588	Seasonal Factor Group	2
Region	SE	Daily Factor Group	2
County	WASHINGTON	Axle Factor Group	5
Funct. Class	U Principal Arterial - Other	Growth Factor Group	1

Hour	Sun			Mon 2023-07-24			Tues 2023-07-25			Wed 2023-07-26			Thur			Fri			Sat		
	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total
00:00-00:59			-			-	49	74	123	49	84	133			-			-			-
01:00-01:59			-			-	25	62	87	28	73	101			-			-			-
02:00-02:59			-			-	28	34	62	33	35	68			-			-			-
03:00-03:59			-			-	58	40	98	48	46	94			-			-			-
04:00-04:59			-			-	220	90	310	229	101	330			-			-			-
05:00-05:59			-			-	498	281	779	495	250	745			-			-			-
06:00-06:59			-			-	934	487	1,421	954	501	1,455			-			-			-
07:00-07:59			-	343	202	545	1,212	914	2,126	1,121	918	2,039			-			-			-
08:00-08:59			-	875	684	1,559	956	762	1,718	938	709	1,647			-			-			-
09:00-09:59			-	746	699	1,445	725	708	1,433	512	466	978			-			-			-
10:00-10:59			-	638	651	1,289	689	732	1,421			-			-			-			-
11:00-11:59			-	635	768	1,403	680	756	1,436			-			-			-			-
12:00-12:59			-	795	774	1,569	766	801	1,567			-			-			-			-
13:00-13:59			-	690	782	1,472	741	775	1,516			-			-			-			-
14:00-14:59			-	839	1,001	1,840	838	1,050	1,888			-			-			-			-
15:00-15:59			-	745	1,275	2,020	799	1,320	2,119			-			-			-			-
16:00-16:59			-	872	1,325	2,197	931	1,462	2,393			-			-			-			-
17:00-17:59			-	825	1,169	1,994	869	1,257	2,126			-			-			-			-
18:00-18:59			-	543	621	1,164	541	633	1,174			-			-			-			-
19:00-19:59			-	366	436	802	349	464	813			-			-			-			-
20:00-20:59			-	307	272	579	295	329	624			-			-			-			-
21:00-21:59			-	215	221	436	266	242	508			-			-			-			-
22:00-22:59			-	220	170	390	267	169	436			-			-			-			-
23:00-23:59			-	85	200	285	95	224	319			-			-			-			-
Daily Total	-	-	-	-	-	-	12,831	13,666	26,497	-	-	-	-	-	-	-	-	-	-	-	-

AM Peak	-	-	-	-	-	-	1,212	914	2,126	1,121	918	2,039	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	07:00	07:00	07:00	07:00	07:00	07:00	-	-	-	-	-	-	-	-	-
MD Peak	-	-	-	-	839	1,001	1,840	838	1,050	1,888	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	14:00	14:00	14:00	14:00	14:00	14:00	-	-	-	-	-	-	-	-	-	-	-
PM Peak	-	-	-	-	872	1,325	2,197	931	1,462	2,393	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	16:00	16:00	16:00	16:00	16:00	16:00	-	-	-	-	-	-	-	-	-	-	-
Daily Peak	-	-	-	-	-	-	1,212	1,462	2,393	-	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	07:00	16:00	16:00	-	-	-	-	-	-	-	-	-	-	-	-
% of Total	-	-	-	-	-	-	9.4%	10.7%	9.0%	-	-	-	-	-	-	-	-	-	-	-	-
Daily Ave	-	-	-	-	-	-	535	569	1,104	-	-	-	-	-	-	-	-	-	-	-	-

Seasonal Fctr																					
Daily Fctr																					
Axle Factor																					
Pulse Fctr																					
Overall Fctr	0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000	



Hour	Mon-Thurs Average			Mon-Fri Average			7 Day Average			Estimated Annual Ave		
	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total	Pos Dir	Neg Dir	Total
00:00-00:59	49	79	128	-	-	-	-	-	-	0	0	0
01:00-01:59	27	68	94	-	-	-	-	-	-	0	0	0
02:00-02:59	31	35	65	-	-	-	-	-	-	0	0	0
03:00-03:59	53	43	96	-	-	-	-	-	-	0	0	0
04:00-04:59	225	96	320	-	-	-	-	-	-	0	0	0
05:00-05:59	497	266	762	-	-	-	-	-	-	0	0	0
06:00-06:59	944	494	1,438	-	-	-	-	-	-	0	0	0
07:00-07:59	892	678	1,570	-	-	-	-	-	-	0	0	0
08:00-08:59	923	718	1,641	-	-	-	-	-	-	0	0	0
09:00-09:59	661	624	1,285	-	-	-	-	-	-	0	0	0
10:00-10:59	664	692	1,355	-	-	-	-	-	-	0	0	0
11:00-11:59	658	762	1,420	-	-	-	-	-	-	0	0	0
12:00-12:59	781	788	1,568	-	-	-	-	-	-	0	0	0
13:00-13:59	716	779	1,494	-	-	-	-	-	-	0	0	0
14:00-14:59	839	1,026	1,864	-	-	-	-	-	-	0	0	0
15:00-15:59	772	1,298	2,070	-	-	-	-	-	-	0	0	0
16:00-16:59	902	1,394	2,295	-	-	-	-	-	-	0	0	0
17:00-17:59	847	1,213	2,060	-	-	-	-	-	-	0	0	0
18:00-18:59	542	627	1,169	-	-	-	-	-	-	0	0	0
19:00-19:59	358	450	808	-	-	-	-	-	-	0	0	0
20:00-20:59	301	301	602	-	-	-	-	-	-	0	0	0
21:00-21:59	241	232	472	-	-	-	-	-	-	0	0	0
22:00-22:59	244	170	413	-	-	-	-	-	-	0	0	0
23:00-23:59	90	212	302	-	-	-	-	-	-	0	0	0
Daily Total	12,251	13,039	25,290	-	-	-	-	-	-	0	0	0

AM Peak	944	718	1,641	-	-	-	-	-	-	0	0	0
Hour	06:00	08:00	08:00	-	-	-	-	-	-	00:00	00:00	00:00
MD Peak	839	1,026	1,864	-	-	-	-	-	-	0	0	0
Hour	14:00	14:00	14:00	-	-	-	-	-	-	10:00	10:00	10:00
PM Peak	902	1,394	2,295	-	-	-	-	-	-	0	0	0
Hour	16:00	16:00	16:00	-	-	-	-	-	-	15:00	15:00	15:00
Daily Peak	944	1,394	2,295	-	-	-	-	-	-	0	0	0
Hour	06:00	16:00	16:00	-	-	-	-	-	-	00:00	00:00	00:00
% of Total	7.7%	10.7%	9.1%	-	-	-	-	-	-	#DIV/0!	#DIV/0!	#####
Daily Ave	510	543	1,054	-	-	-	-	-	-	0	0	0

AM 905 632
PM 902 1,394

APPENDIX B

SYNCHRO INTERSECTION CAPACITY ANALYSIS

Year 2024 Existing Traffic Volumes
plus
LOS Definitions
Saturation Flow Rate Calculations

Level of Service Definitions

LOS	Signalized Intersections Control Delay/Vehicle (sec/veh)	Unsignalized Intersections Avg. Control Delay (sec/veh)	Relative Delay
A	≤10	≤10	Short Delays
	Free-flow traffic operations at average travel speeds. Vehicles completely unimpeded in ability to maneuver. Minimal delay at signalized intersections.		
B	> 10 - 20	> 10 - 15	
	Reasonably unimpeded traffic operations at average travel speeds. Vehicle maneuverability slightly restricted. Low traffic delays.		
C	> 20 - 35	> 15 - 25	
	Stable traffic operations. Lane changes becoming more restricted. Travel speeds reduced to half of average free flow travel speeds. Longer intersection delays.		
D	> 35 - 55	> 25 - 35	Moderate Delays
	Small increases in traffic flow can cause increased delays. Delays likely attributable to increased traffic, reduced signal progression, and adverse timing.		
E	> 55 - 80	> 35 - 50	
	Significant delays. Travel speeds reduced to one-third of average free flow travel speed.		
F	> 80	> 50	
	Extremely low speeds. Intersection congestion. Long delays. Extensive traffic queues at intersections.		

Source: Highway Capacity Manual, Transportation Research Board, Washington, D.C., 2010

Date: **October 10, 2024**

BASE SATURATION FLOW RATE CALCULATIONS

Intersection Name
Maple Road & STH 167/Lannon Road

Exit Ramp:	No
Speed Limit:	40

Urbanized Area/Cluster Population
1,376,476

Sat. Flow Rate (pc/h/ln)				
1900		1910		1910



Exit Ramp:
No
Speed Limit:
45

Sat. Flow (pc/h/ln)	1985
	1985
	1900

# of Lanes	2	L
Lane Type		L-T
	2	T
		T-R
	1	R

# of Lanes				
Lane Type				
1		1		1
R	T-R	T	L-T	L
Traffic Signal				
L	L-T	T	T-R	R
1		1		1
Lane Type				
# of Lanes				

R	1
T-R	
T	2
L-T	
L	1

1900	
1972	
1972	

Exit Ramp:
No
Speed Limit:
45



Bureau of Traffic Operations
Last Updated: **4/7/2022**

1910		1910		1900
Sat. Flow Rate (pc/h/ln)				

Speed Limit:	40
Exit Ramp:	No

Date: **October 10, 2024**

BASE SATURATION FLOW RATE CALCULATIONS

Intersection Name
Maple Road & STH 167/Mequon Road

Exit Ramp:	No
Speed Limit:	40

Urbanized Area/Cluster Population
1,376,476

Sat. Flow Rate (pc/h/ln)				
1900		1931		1931



Exit Ramp:
No
Speed Limit:
40

Sat. Flow (pc/h/ln)	
1900	
1900	

# of Lanes		L
Lane Type	1	L-T
		T
		T-R
	1	R

# of Lanes				
Lane Type				
1		2		1
R	T-R	T	L-T	L
Traffic Signal				
L	L-T	T	T-R	R
1		2		1
Lane Type				
# of Lanes				

R	1	Lane Type # of Lanes
T-R		
T		
L-T	1	
L		

1900	Sat. Flow (pc/h/ln)
1900	

Exit Ramp:
No
Speed Limit:
30



Bureau of Traffic Operations
Last Updated: **4/7/2022**

1931		1931		1900
Sat. Flow Rate (pc/h/ln)				

Speed Limit:	40
Exit Ramp:	No

Intersection	
Intersection Delay, s/veh	36.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↕↔		↕	↕↔	
Traffic Vol, veh/h	60	65	110	5	40	110	150	435	1	35	275	10
Future Vol, veh/h	60	65	110	5	40	110	150	435	1	35	275	10
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles, %	7	7	7	7	7	7	6	6	6	14	14	14
Mvmt Flow	85	92	155	7	56	155	211	613	1	49	387	14
Number of Lanes	0	1	1	0	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay, s/veh	21.3	18.8	51.8	26.8
HCM LOS	C	C	F	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	48%	0%	11%	0%	100%	0%	0%
Vol Thru, %	0%	100%	99%	52%	0%	89%	0%	0%	100%	90%
Vol Right, %	0%	0%	1%	0%	100%	0%	100%	0%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	290	146	125	110	45	110	35	183	102
LT Vol	150	0	0	60	0	5	0	35	0	0
Through Vol	0	290	145	65	0	40	0	0	183	92
RT Vol	0	0	1	0	110	0	110	0	0	10
Lane Flow Rate	211	408	206	176	155	63	155	49	258	143
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.56	1.023	0.515	0.507	0.405	0.187	0.424	0.141	0.704	0.387
Departure Headway (Hd)	9.537	9.019	9.014	10.523	9.563	10.795	10.02	10.607	10.087	10.015
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	380	404	401	345	378	335	361	340	362	362
Service Time	7.267	6.749	6.744	8.223	7.263	8.495	7.72	8.307	7.787	7.715
HCM Lane V/C Ratio	0.555	1.01	0.514	0.51	0.41	0.188	0.429	0.144	0.713	0.395
HCM Control Delay, s/veh	23.8	81.7	21	23.6	18.6	16	19.9	15	33.5	18.9
HCM Lane LOS	C	F	C	C	C	C	C	B	D	C
HCM 95th-tile Q	3.3	12.9	2.8	2.7	1.9	0.7	2	0.5	5.1	1.8

HCM 7th TWSC
200: Maple Road & Kleinmann Drive/Commercial Dwy.

2024 Existing Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↕		↵	↕	
Traffic Vol, veh/h	1	0	5	0	0	0	25	585	0	0	385	5
Future Vol, veh/h	1	0	5	0	0	0	25	585	0	0	385	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	155	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	12	12	12
Mvmt Flow	1	0	7	0	0	0	33	770	0	0	507	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	961	1345	257	1089	1349	385	513	0	0	770	0	0
Stage 1	510	510	-	836	836	-	-	-	-	-	-	-
Stage 2	451	836	-	253	513	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.2	-	-	4.34	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.25	-	-	2.32	-	-
Pot Cap-1 Maneuver	214	153	749	173	152	619	1028	-	-	778	-	-
Stage 1	520	541	-	332	385	-	-	-	-	-	-	-
Stage 2	563	385	-	735	539	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	207	148	749	166	147	619	1028	-	-	778	-	-
Mov Cap-2 Maneuver	207	148	-	166	147	-	-	-	-	-	-	-
Stage 1	520	541	-	322	373	-	-	-	-	-	-	-
Stage 2	545	373	-	728	539	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v12.01		0	0.35	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1028	-	-	521	778	-	-
HCM Lane V/C Ratio	0.032	-	-	0.015	-	-	-
HCM Control Delay (s/veh)	8.6	-	-	12	0	-	-
HCM Lane LOS	A	-	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0	-	-

Queues

2024 Existing Traffic

300: Maple Road & Lannon Road

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	479	547	59	63	442	7	116	153	36	16	126	166
v/c Ratio	1.39	0.27	0.07	0.41	0.24	0.01	0.63	0.56	0.16	0.09	0.48	0.11
Control Delay (s/veh)	225.1	11.8	12.0	46.2	12.2	11.7	50.5	42.8	32.9	31.8	40.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	225.1	11.8	12.0	46.2	12.2	11.7	50.5	42.8	32.9	31.8	40.5	0.2
Queue Length 50th (ft)	~188	80	14	35	65	2	63	83	18	8	67	0
Queue Length 95th (ft)	#285	141	41	72	108	9	111	133	42	24	113	0
Internal Link Dist (ft)		674			679			287			626	
Turn Bay Length (ft)	200		250	165		175	75		250	75		
Base Capacity (vph)	345	2039	873	462	1856	800	308	456	386	287	435	1455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	0.27	0.07	0.14	0.24	0.01	0.38	0.34	0.09	0.06	0.29	0.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary

300: Maple Road & Lannon Road

2024 Existing Traffic
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	455	520	90	60	420	10	110	145	55	15	120	255
Future Volume (veh/h)	455	520	90	60	420	10	110	145	55	15	120	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1892	1892	1811	1847	1847	1781	1821	1821	1811	1746	1746	1737
Adj Flow Rate, veh/h	479	547	59	63	442	7	116	153	36	16	126	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	8	8	8	6	6	6	11	11	11
Cap, veh/h	598	1982	846	93	1521	654	226	332	280	200	318	
Arrive On Green	0.17	0.55	0.55	0.05	0.43	0.43	0.18	0.18	0.18	0.18	0.18	0.00
Sat Flow, veh/h	3496	3595	1535	1759	3509	1510	1231	1821	1535	1115	1746	1472
Grp Volume(v), veh/h	479	547	59	63	442	7	116	153	36	16	126	0
Grp Sat Flow(s),veh/h/ln	1748	1797	1535	1759	1755	1510	1231	1821	1535	1115	1746	1472
Q Serve(g_s), s	11.8	7.2	1.6	3.2	7.3	0.2	8.3	6.8	1.8	1.2	5.7	0.0
Cycle Q Clear(g_c), s	11.8	7.2	1.6	3.2	7.3	0.2	14.0	6.8	1.8	7.9	5.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	598	1982	846	93	1521	654	226	332	280	200	318	
V/C Ratio(X)	0.80	0.28	0.07	0.68	0.29	0.01	0.51	0.46	0.13	0.08	0.40	
Avail Cap(c_a), veh/h	598	1982	846	469	1521	654	314	461	389	279	442	
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.8	10.7	9.4	41.9	16.5	14.5	38.6	32.8	30.8	36.4	32.4	0.0
Incr Delay (d2), s/veh	7.1	0.3	0.2	3.2	0.5	0.0	0.7	0.4	0.1	0.1	0.3	0.0
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(50%),veh/ln	5.4	2.6	0.5	1.4	2.8	0.1	2.4	2.9	0.6	0.3	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.0	11.0	9.6	45.1	17.0	14.5	39.2	33.2	30.9	36.4	32.7	0.0
LnGrp LOS	D	B	A	D	B	B	D	C	C	D	C	
Approach Vol, veh/h	1085			512			305			142		
Approach Delay, s/veh	25.1			20.4			35.2			33.1		
Approach LOS	C			C			D			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.4	45.0		23.6	10.8	55.6		23.6				
Change Period (Y+Rc), s	6.0	6.0		7.2	6.0	6.0		7.2				
Max Green Setting (Gmax), s	9.0	39.0		22.8	24.0	24.0		22.8				
Max Q Clear Time (g_c+I1), s	13.8	9.3		9.9	5.2	9.2		16.0				
Green Ext Time (p_c), s	0.0	6.2		0.3	0.1	5.9		0.4				
Intersection Summary												
HCM 7th Control Delay, s/veh	26.0											
HCM 7th LOS	C											
Notes												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th TWSC
400: Maple Road & Commerce Circle

2024 Existing Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	140	20	15	170	120	150
Future Vol, veh/h	140	20	15	170	120	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	15	15	8	8	16	16
Mvmt Flow	161	23	17	195	138	172

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	368	138	310	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Critical Hdwy	6.55	6.35	4.18	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.435	2.272	-	-	-
Pot Cap-1 Maneuver	607	877	1217	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	598	877	1217	-	-	-
Mov Cap-2 Maneuver	598	-	-	-	-	-
Stage 1	844	-	-	-	-	-
Stage 2	779	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v13.19		0.65	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	146	-	622	-	-
HCM Lane V/C Ratio	0.014	-	0.296	-	-
HCM Control Delay (s/veh)	8	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	101	0	0	155	0	0
Future Vol, veh/h	101	0	0	155	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	142	0	0	218	0	0

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	142	0	361	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	218	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1410	-	638	905
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	818	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1410	-	638	905
Mov Cap-2 Maneuver	-	-	-	-	638	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	818	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1410	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection												
Intersection Delay, s/veh	17.7											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↕↔		↕	↕↔	
Traffic Vol, veh/h	15	55	170	5	80	25	90	180	1	35	460	5
Future Vol, veh/h	15	55	170	5	80	25	90	180	1	35	460	5
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
Heavy Vehicles, %	3	3	3	3	3	3	11	11	11	4	4	4
Mvmt Flow	18	65	202	6	95	30	107	214	1	42	548	6
Number of Lanes	0	1	1	0	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay, s/veh	14.3	13.2	13.8	22.5
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	21%	0%	6%	0%	100%	0%	0%
Vol Thru, %	0%	100%	98%	79%	0%	94%	0%	0%	100%	97%
Vol Right, %	0%	0%	2%	0%	100%	0%	100%	0%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	120	61	70	170	85	25	35	307	158
LT Vol	90	0	0	15	0	5	0	35	0	0
Through Vol	0	120	60	55	0	80	0	0	307	153
RT Vol	0	0	1	0	170	0	25	0	0	5
Lane Flow Rate	107	143	73	83	202	101	30	42	365	188
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.253	0.317	0.161	0.187	0.409	0.238	0.064	0.09	0.737	0.379
Departure Headway (Hd)	8.488	7.976	7.965	8.097	7.283	8.478	7.739	7.777	7.267	7.244
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	422	450	450	442	494	423	461	460	497	496
Service Time	6.252	5.739	5.727	5.861	5.047	6.251	5.512	5.533	5.023	5
HCM Lane V/C Ratio	0.254	0.318	0.162	0.188	0.409	0.239	0.065	0.091	0.734	0.379
HCM Control Delay, s/veh	14.1	14.4	12.3	12.7	15	13.9	11	11.3	27.9	14.4
HCM Lane LOS	B	B	B	B	B	B	B	B	D	B
HCM 95th-tile Q	1	1.3	0.6	0.7	2	0.9	0.2	0.3	6.1	1.8

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	10	0	65	0	0	0	50	260	0	0	625	10
Future Vol, veh/h	10	0	65	0	0	0	50	260	0	0	625	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	155	-	-	75	-	-
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, %	1	1	1	0	0	0	9	9	9	4	4	4
Mvmt Flow	12	0	77	0	0	0	60	310	0	0	744	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1024	1179	378	801	1185	155	756	0	0	310	0	0
Stage 1	750	750	-	429	429	-	-	-	-	-	-	-
Stage 2	274	429	-	372	756	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.5	6.5	6.9	4.28	-	-	4.18	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.5	4	3.3	2.29	-	-	2.24	-	-
Pot Cap-1 Maneuver	191	191	623	279	191	870	806	-	-	1233	-	-
Stage 1	372	419	-	580	588	-	-	-	-	-	-	-
Stage 2	712	585	-	626	419	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	177	177	623	226	177	870	806	-	-	1233	-	-
Mov Cap-2 Maneuver	177	177	-	226	177	-	-	-	-	-	-	-
Stage 1	372	419	-	537	544	-	-	-	-	-	-	-
Stage 2	659	542	-	548	419	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v14.55		0	1.58	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	806	-	-	466	-	1233	-
HCM Lane V/C Ratio	0.074	-	-	0.192	-	-	-
HCM Control Delay (s/veh)	9.8	-	-	14.5	0	0	-
HCM Lane LOS	A	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	-	0	-

Queues

300: Maple Road & Lannon Road

2024 Existing Traffic

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	190	582	71	141	696	13	130	125	118	27	190	330
v/c Ratio	0.38	0.33	0.09	0.60	0.40	0.02	0.75	0.41	0.45	0.13	0.62	0.21
Control Delay (s/veh)	37.4	16.0	15.5	47.4	16.9	14.8	60.0	36.4	38.4	31.2	43.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.4	16.0	15.5	47.4	16.9	14.8	60.0	36.4	38.4	31.2	43.3	0.3
Queue Length 50th (ft)	51	99	20	77	127	4	72	65	62	13	102	0
Queue Length 95th (ft)	83	174	55	130	199	16	124	107	104	34	156	0
Internal Link Dist (ft)		674			679			287			626	
Turn Bay Length (ft)	200		250	165		175	75		250	75		
Base Capacity (vph)	498	1753	751	246	1734	748	350	620	524	415	613	1568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.33	0.09	0.57	0.40	0.02	0.37	0.20	0.23	0.07	0.31	0.21
Intersection Summary												

HCM 7th Signalized Intersection Summary

300: Maple Road & Lannon Road

2024 Existing Traffic
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	535	105	130	640	20	120	115	175	25	175	490
Future Volume (veh/h)	175	535	105	130	640	20	120	115	175	25	175	490
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1892	1892	1811	1924	1924	1856	1880	1880	1870	1865	1865	1856
Adj Flow Rate, veh/h	190	582	71	141	696	13	130	125	118	27	190	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	3	3	3	2	2	2	3	3	3
Cap, veh/h	884	1686	720	174	1137	489	241	419	353	270	415	
Arrive On Green	0.25	0.47	0.47	0.10	0.31	0.31	0.22	0.22	0.22	0.22	0.22	0.00
Sat Flow, veh/h	3496	3595	1535	1832	3655	1572	1200	1880	1585	1134	1865	1572
Grp Volume(v), veh/h	190	582	71	141	696	13	130	125	118	27	190	0
Grp Sat Flow(s),veh/h/ln	1748	1797	1535	1832	1828	1572	1200	1880	1585	1134	1865	1572
Q Serve(g_s), s	3.9	9.2	2.3	6.8	14.6	0.5	9.5	5.0	5.6	1.8	7.9	0.0
Cycle Q Clear(g_c), s	3.9	9.2	2.3	6.8	14.6	0.5	17.4	5.0	5.6	6.8	7.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	884	1686	720	174	1137	489	241	419	353	270	415	
V/C Ratio(X)	0.21	0.35	0.10	0.81	0.61	0.03	0.54	0.30	0.33	0.10	0.46	
Avail Cap(c_a), veh/h	884	1686	720	204	1137	489	371	623	525	393	618	
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.6	15.1	13.3	39.9	26.4	21.5	37.8	29.1	29.4	32.0	30.3	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.3	16.1	2.5	0.1	0.7	0.1	0.2	0.1	0.3	0.0
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(50%),veh/ln	1.5	3.5	0.8	3.7	6.2	0.2	2.7	2.2	2.1	0.5	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.6	15.7	13.6	56.0	28.8	21.6	38.5	29.3	29.6	32.0	30.6	0.0
LnGrp LOS	C	B	B	E	C	C	D	C	C	C	C	
Approach Vol, veh/h	843			850			373			217		
Approach Delay, s/veh	18.0			33.2			32.6			30.7		
Approach LOS	B			C			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	28.8	34.0		27.2	14.6	48.2		27.2				
Change Period (Y+Rc), s	6.0	6.0		7.2	6.0	6.0		7.2				
Max Green Setting (Gmax), s	13.0	28.0		29.8	10.0	31.0		29.8				
Max Q Clear Time (g_c+I1), s	5.9	16.6		9.9	8.8	11.2		19.4				
Green Ext Time (p_c), s	0.2	5.9		0.6	0.0	7.5		0.6				

Intersection Summary

HCM 7th Control Delay, s/veh 27.3
HCM 7th LOS C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th TWSC
400: Maple Road & Commerce Circle

2024 Existing Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	140	25	10	270	265	145
Future Vol, veh/h	140	25	10	270	265	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	4	4	3	3	4	4
Mvmt Flow	154	27	11	297	291	159

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	610	291	451	0	-	0
Stage 1	291	-	-	-	-	-
Stage 2	319	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.13	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.227	-	-	-
Pot Cap-1 Maneuver	455	743	1105	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	733	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	449	743	1105	-	-	-
Mov Cap-2 Maneuver	449	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	733	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v17.07		0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	64	-	478	-	-
HCM Lane V/C Ratio	0.01	-	0.38	-	-
HCM Control Delay (s/veh)	8.3	0	17.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.8	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	91	0	0	110	0	0
Future Vol, veh/h	91	0	0	110	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	108	0	0	131	0	0

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	108	0	239	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	131	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1476	-	749	945
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	895	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1476	-	749	945
Mov Cap-2 Maneuver	-	-	-	-	749	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	895	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1476	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

APPENDIX C

SYNCHRO INTERSECTION CAPACITY ANALYSIS

Year 2029 Future Traffic Volumes

Intersection												
Intersection Delay, s/veh	40.9											
Intersection LOS	E											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↕↔		↕	↕↔	
Traffic Vol, veh/h	60	65	110	5	40	110	150	455	1	35	285	10
Future Vol, veh/h	60	65	110	5	40	110	150	455	1	35	285	10
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles, %	7	7	7	7	7	7	6	6	6	14	14	14
Mvmt Flow	85	92	155	7	56	155	211	641	1	49	401	14
Number of Lanes	0	1	1	0	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay, s/veh	21.7	19.1	60.5	28.9
HCM LOS	C	C	F	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	48%	0%	11%	0%	100%	0%	0%
Vol Thru, %	0%	100%	99%	52%	0%	89%	0%	0%	100%	90%
Vol Right, %	0%	0%	1%	0%	100%	0%	100%	0%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	303	153	125	110	45	110	35	190	105
LT Vol	150	0	0	60	0	5	0	35	0	0
Through Vol	0	303	152	65	0	40	0	0	190	95
RT Vol	0	0	1	0	110	0	110	0	0	10
Lane Flow Rate	211	427	215	176	155	63	155	49	268	148
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.563	1.077	0.542	0.51	0.409	0.188	0.428	0.142	0.736	0.404
Departure Headway (Hd)	9.592	9.073	9.069	10.695	9.734	10.967	10.192	10.713	10.193	10.124
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	376	402	398	340	372	329	355	337	356	358
Service Time	7.348	6.829	6.824	8.395	7.434	8.667	7.892	8.413	7.893	7.824
HCM Lane V/C Ratio	0.561	1.062	0.54	0.518	0.417	0.191	0.437	0.145	0.753	0.413
HCM Control Delay, s/veh	24.1	97.9	22.1	24	19	16.2	20.3	15.2	36.6	19.5
HCM Lane LOS	C	F	C	C	C	C	C	C	E	C
HCM 95th-tile Q	3.3	14.7	3.1	2.8	1.9	0.7	2.1	0.5	5.6	1.9

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	1	0	5	0	0	0	25	605	0	0	395	5
Future Vol, veh/h	1	0	5	0	0	0	25	605	0	0	395	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	155	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	12	12	12
Mvmt Flow	1	0	7	0	0	0	33	796	0	0	520	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	987	1385	263	1122	1388	398	526	0	0	796	0	0
Stage 1	523	523	-	862	862	-	-	-	-	-	-	-
Stage 2	464	862	-	260	526	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.2	-	-	4.34	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.25	-	-	2.32	-	-
Pot Cap-1 Maneuver	205	145	741	163	144	607	1016	-	-	760	-	-
Stage 1	510	534	-	320	375	-	-	-	-	-	-	-
Stage 2	553	375	-	728	532	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	198	140	741	157	139	607	1016	-	-	760	-	-
Mov Cap-2 Maneuver	198	140	-	157	139	-	-	-	-	-	-	-
Stage 1	510	534	-	310	363	-	-	-	-	-	-	-
Stage 2	535	363	-	722	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v12.19		0	0.34	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1016	-	-	509	760	-	-
HCM Lane V/C Ratio	0.032	-	-	0.016	-	-	-
HCM Control Delay (s/veh)	8.7	-	-	12.2	0	0	-
HCM Lane LOS	A	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0	-	-

Queues

2029 Future Traffic

300: Maple Road & Lannon Road

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	500	574	65	68	463	7	126	153	39	16	126	173
v/c Ratio	1.45	0.29	0.08	0.43	0.25	0.01	0.65	0.53	0.16	0.09	0.46	0.12
Control Delay (s/veh)	250.0	12.5	12.7	46.5	12.7	12.1	50.9	41.0	32.3	30.9	38.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	250.0	12.5	12.7	46.5	12.7	12.1	50.9	41.0	32.3	30.9	38.9	0.2
Queue Length 50th (ft)	~201	87	16	37	70	2	69	82	20	8	66	0
Queue Length 95th (ft)	#300	153	46	76	116	10	118	131	44	24	111	0
Internal Link Dist (ft)		674			679			287			626	
Turn Bay Length (ft)	200		250	165		175	75		250	75		
Base Capacity (vph)	345	2004	858	462	1830	789	308	456	386	287	435	1455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.45	0.29	0.08	0.15	0.25	0.01	0.41	0.34	0.10	0.06	0.29	0.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary

300: Maple Road & Lannon Road

2029 Future Traffic
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	545	100	65	440	10	120	145	60	15	120	265
Future Volume (veh/h)	475	545	100	65	440	10	120	145	60	15	120	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1892	1892	1811	1847	1847	1781	1821	1821	1811	1746	1746	1737
Adj Flow Rate, veh/h	500	574	65	68	463	7	126	153	39	16	126	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	8	8	8	6	6	6	11	11	11
Cap, veh/h	572	1951	833	96	1521	654	236	345	291	208	331	
Arrive On Green	0.16	0.54	0.54	0.05	0.43	0.43	0.19	0.19	0.19	0.19	0.19	0.00
Sat Flow, veh/h	3496	3595	1535	1759	3509	1510	1231	1821	1535	1112	1746	1472
Grp Volume(v), veh/h	500	574	65	68	463	7	126	153	39	16	126	0
Grp Sat Flow(s),veh/h/ln	1748	1797	1535	1759	1755	1510	1231	1821	1535	1112	1746	1472
Q Serve(g_s), s	12.6	7.8	1.8	3.4	7.8	0.2	9.0	6.7	1.9	1.2	5.7	0.0
Cycle Q Clear(g_c), s	12.6	7.8	1.8	3.4	7.8	0.2	14.6	6.7	1.9	7.9	5.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	572	1951	833	96	1521	654	236	345	291	208	331	
V/C Ratio(X)	0.87	0.29	0.08	0.71	0.30	0.01	0.53	0.44	0.13	0.08	0.38	
Avail Cap(c_a), veh/h	572	1951	833	469	1521	654	314	461	389	279	442	
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.7	11.2	9.8	41.8	16.6	14.5	38.2	32.3	30.3	35.7	31.9	0.0
Incr Delay (d2), s/veh	13.5	0.4	0.2	3.6	0.5	0.0	0.7	0.3	0.1	0.1	0.3	0.0
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(50%),veh/ln	6.1	2.8	0.6	1.5	2.9	0.1	2.6	2.9	0.7	0.3	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.2	11.6	10.0	45.4	17.2	14.5	38.9	32.6	30.4	35.8	32.1	0.0
LnGrp LOS	D	B	B	D	B	B	D	C	C	D	C	
Approach Vol, veh/h	1139			538			318			142		
Approach Delay, s/veh	28.5			20.7			34.8			32.5		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.7	45.0		24.3	10.9	54.8		24.3				
Change Period (Y+Rc), s	6.0	6.0		7.2	6.0	6.0		7.2				
Max Green Setting (Gmax), s	9.0	39.0		22.8	24.0	24.0		22.8				
Max Q Clear Time (g_c+I1), s	14.6	9.8		9.9	5.4	9.8		16.6				
Green Ext Time (p_c), s	0.0	6.5		0.3	0.1	6.0		0.4				

Intersection Summary

HCM 7th Control Delay, s/veh	27.7
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	140	20	15	185	135	150
Future Vol, veh/h	140	20	15	185	135	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	15	15	8	8	16	16
Mvmt Flow	161	23	17	213	155	172

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	402	155	328	0	-	0
Stage 1	155	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.55	6.35	4.18	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.435	2.272	-	-	-
Pot Cap-1 Maneuver	580	858	1199	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	570	858	1199	-	-	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v13.73		0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	135	-	595	-	-
HCM Lane V/C Ratio	0.014	-	0.309	-	-
HCM Control Delay (s/veh)	8	0	13.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.3	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	101	0	0	155	0	0
Future Vol, veh/h	101	0	0	155	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	142	0	0	218	0	0

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	142	0	361	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	218	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1410	-	638	905
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	818	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1410	-	638	905
Mov Cap-2 Maneuver	-	-	-	-	638	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	818	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1410	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	18.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱	↱		↱	↱	↱	↱↲		↱	↱↲	
Traffic Vol, veh/h	15	55	170	5	80	25	90	185	1	35	480	5
Future Vol, veh/h	15	55	170	5	80	25	90	185	1	35	480	5
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
Heavy Vehicles, %	3	3	3	3	3	3	11	11	11	4	4	4
Mvmt Flow	18	65	202	6	95	30	107	220	1	42	571	6
Number of Lanes	0	1	1	0	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay, s/veh	14.6	13.4	14.1	24.5
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	21%	0%	6%	0%	100%	0%	0%
Vol Thru, %	0%	100%	98%	79%	0%	94%	0%	0%	100%	97%
Vol Right, %	0%	0%	2%	0%	100%	0%	100%	0%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	123	63	70	170	85	25	35	320	165
LT Vol	90	0	0	15	0	5	0	35	0	0
Through Vol	0	123	62	55	0	80	0	0	320	160
RT Vol	0	0	1	0	170	0	25	0	0	5
Lane Flow Rate	107	147	75	83	202	101	30	42	381	196
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.255	0.329	0.167	0.19	0.415	0.241	0.065	0.091	0.774	0.398
Departure Headway (Hd)	8.567	8.055	8.044	8.194	7.38	8.584	7.845	7.82	7.31	7.288
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	418	445	445	437	486	417	455	458	495	493
Service Time	6.34	5.828	5.816	5.964	5.149	6.365	5.625	5.582	5.071	5.049
HCM Lane V/C Ratio	0.256	0.33	0.169	0.19	0.416	0.242	0.066	0.092	0.77	0.398
HCM Control Delay, s/veh	14.3	14.8	12.4	12.9	15.3	14.1	11.2	11.4	31	14.8
HCM Lane LOS	B	B	B	B	C	B	B	B	D	B
HCM 95th-tile Q	1	1.4	0.6	0.7	2	0.9	0.2	0.3	6.9	1.9

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	10	0	65	0	0	0	50	265	0	0	645	10
Future Vol, veh/h	10	0	65	0	0	0	50	265	0	0	645	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	155	-	-	75	-	-
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, %	1	1	1	0	0	0	9	9	9	4	4	4
Mvmt Flow	12	0	77	0	0	0	60	315	0	0	768	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1051	1208	390	818	1214	158	780	0	0	315	0	0
Stage 1	774	774	-	435	435	-	-	-	-	-	-	-
Stage 2	277	435	-	384	780	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.5	6.5	6.9	4.28	-	-	4.18	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.5	4	3.3	2.29	-	-	2.24	-	-
Pot Cap-1 Maneuver	183	183	612	271	183	866	789	-	-	1227	-	-
Stage 1	360	409	-	575	584	-	-	-	-	-	-	-
Stage 2	709	582	-	616	409	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	169	169	612	219	169	866	789	-	-	1227	-	-
Mov Cap-2 Maneuver	169	169	-	219	169	-	-	-	-	-	-	-
Stage 1	360	409	-	532	540	-	-	-	-	-	-	-
Stage 2	655	538	-	538	409	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v14.88		0	1.58	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	789	-	-	453	-	1227	-
HCM Lane V/C Ratio	0.075	-	-	0.197	-	-	-
HCM Control Delay (s/veh)	9.9	-	-	14.9	0	0	-
HCM Lane LOS	A	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	-	0	-

Queues

2029 Future Traffic

300: Maple Road & Lannon Road

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	196	603	78	158	728	13	141	125	131	27	190	344
v/c Ratio	0.39	0.36	0.11	0.62	0.43	0.02	0.75	0.38	0.48	0.12	0.59	0.22
Control Delay (s/veh)	37.6	17.6	17.0	46.4	17.9	15.7	58.8	34.9	38.0	30.0	40.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.6	17.6	17.0	46.4	17.9	15.7	58.8	34.9	38.0	30.0	40.8	0.3
Queue Length 50th (ft)	52	109	24	85	137	4	78	64	68	13	101	0
Queue Length 95th (ft)	86	191	63	142	218	16	130	104	111	33	152	0
Internal Link Dist (ft)		674			679			287			626	
Turn Bay Length (ft)	200		250	165		175	75		250	75		
Base Capacity (vph)	498	1676	717	264	1700	733	355	620	524	415	613	1568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.36	0.11	0.60	0.43	0.02	0.40	0.20	0.25	0.07	0.31	0.22
Intersection Summary												

HCM 7th Signalized Intersection Summary

300: Maple Road & Lannon Road

2029 Future Traffic
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	555	115	145	670	20	130	115	195	25	175	510
Future Volume (veh/h)	180	555	115	145	670	20	130	115	195	25	175	510
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1892	1892	1811	1924	1924	1856	1880	1880	1870	1865	1865	1856
Adj Flow Rate, veh/h	196	603	78	158	728	13	141	125	131	27	190	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	3	3	3	2	2	2	3	3	3
Cap, veh/h	855	1622	692	192	1137	489	252	434	366	277	431	
Arrive On Green	0.24	0.45	0.45	0.10	0.31	0.31	0.23	0.23	0.23	0.23	0.23	0.00
Sat Flow, veh/h	3496	3595	1535	1832	3655	1572	1200	1880	1585	1121	1865	1572
Grp Volume(v), veh/h	196	603	78	158	728	13	141	125	131	27	190	0
Grp Sat Flow(s),veh/h/ln	1748	1797	1535	1832	1828	1572	1200	1880	1585	1121	1865	1572
Q Serve(g_s), s	4.0	10.0	2.6	7.6	15.4	0.5	10.3	4.9	6.2	1.8	7.9	0.0
Cycle Q Clear(g_c), s	4.0	10.0	2.6	7.6	15.4	0.5	18.1	4.9	6.2	6.8	7.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	855	1622	692	192	1137	489	252	434	366	277	431	
V/C Ratio(X)	0.23	0.37	0.11	0.82	0.64	0.03	0.56	0.29	0.36	0.10	0.44	
Avail Cap(c_a), veh/h	855	1622	692	204	1137	489	373	623	525	390	618	
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.2	16.3	14.3	39.5	26.7	21.5	37.4	28.5	29.0	31.3	29.6	0.0
Incr Delay (d2), s/veh	0.1	0.7	0.3	20.4	2.8	0.1	0.7	0.1	0.2	0.1	0.3	0.0
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(50%),veh/ln	1.6	3.8	0.9	4.3	6.6	0.2	2.9	2.1	2.3	0.5	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.2	16.9	14.6	59.9	29.4	21.6	38.1	28.7	29.2	31.4	29.9	0.0
LnGrp LOS	C	B	B	E	C	C	D	C	C	C	C	
Approach Vol, veh/h	877			899			397			217		
Approach Delay, s/veh	19.0			34.7			32.2			30.1		
Approach LOS	B			C			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	28.0	34.0		28.0	15.4	46.6		28.0				
Change Period (Y+Rc), s	6.0	6.0		7.2	6.0	6.0		7.2				
Max Green Setting (Gmax), s	13.0	28.0		29.8	10.0	31.0		29.8				
Max Q Clear Time (g_c+I1), s	6.0	17.4		9.9	9.6	12.0		20.1				
Green Ext Time (p_c), s	0.2	5.8		0.6	0.0	7.6		0.7				

Intersection Summary

HCM 7th Control Delay, s/veh	28.1
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	140	25	10	300	290	145
Future Vol, veh/h	140	25	10	300	290	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	4	4	3	3	4	4
Mvmt Flow	154	27	11	330	319	159

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	670	319	478
Stage 1	319	-	-
Stage 2	352	-	-
Critical Hdwy	6.44	6.24	4.13
Critical Hdwy Stg 1	5.44	-	-
Critical Hdwy Stg 2	5.44	-	-
Follow-up Hdwy	3.536	3.336	2.227
Pot Cap-1 Maneuver	419	717	1079
Stage 1	733	-	-
Stage 2	708	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	414	717	1079
Mov Cap-2 Maneuver	414	-	-
Stage 1	723	-	-
Stage 2	708	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v18.69		0.27	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	58	-	442	-	-
HCM Lane V/C Ratio	0.01	-	0.41	-	-
HCM Control Delay (s/veh)	8.4	0	18.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	2	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	91	0	0	110	0	0
Future Vol, veh/h	91	0	0	110	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	108	0	0	131	0	0
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	108	0	239	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	131	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1476	-	749	945
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	895	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1476	-	749	945
Mov Cap-2 Maneuver	-	-	-	-	749	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	895	-
Approach	EB	WB		NB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	1476	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s/veh)	0	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	-	-	-	0	-	

Queues

2029 Future Traffic w/Modifications

100: Maple Road & Mequon Road

AM Peak Hour

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	85	247	7	211	211	641	1	49	401	9
v/c Ratio	0.43	0.72	0.04	0.62	0.34	0.28	0.00	0.11	0.19	0.01
Control Delay (s/veh)	36.0	43.9	25.2	39.4	3.6	1.9	2.0	8.3	7.3	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.0	43.9	25.2	39.4	3.6	1.9	2.0	8.3	7.3	7.5
Queue Length 50th (ft)	42	131	3	110	10	16	0	9	42	2
Queue Length 95th (ft)	60	141	10	122	m16	21	m0	23	60	7
Internal Link Dist (ft)		1001		145		397			293	
Turn Bay Length (ft)	100		100		100		50	50		45
Base Capacity (vph)	315	554	269	544	612	2255	993	441	2097	923
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.45	0.03	0.39	0.34	0.28	0.00	0.11	0.19	0.01
Intersection Summary										
m Volume for 95th percentile queue is metered by upstream signal.										

HCM 7th Signalized Intersection Summary 100: Maple Road & Mequon Road

2029 Future Traffic w/Modifications
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	65	110	5	40	110	150	455	1	35	285	10
Future Volume (veh/h)	60	65	110	5	40	110	150	455	1	35	285	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1796	1796	1796	1796	1796	1796	1840	1840	1811	1719	1719	1693
Adj Flow Rate, veh/h	85	92	155	7	56	155	211	641	1	49	401	9
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Percent Heavy Veh, %	7	7	7	7	7	7	6	6	6	14	14	14
Cap, veh/h	204	137	231	177	96	266	644	2232	980	542	2085	916
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	1.00	1.00	1.00	0.64	0.64	0.64
Sat Flow, veh/h	1124	601	1013	1088	421	1165	960	3495	1535	724	3267	1434
Grp Volume(v), veh/h	85	0	247	7	0	211	211	641	1	49	401	9
Grp Sat Flow(s),veh/h/ln	1124	0	1614	1088	0	1586	960	1748	1535	724	1633	1434
Q Serve(g_s), s	6.6	0.0	12.6	0.5	0.0	10.7	2.4	0.0	0.0	2.4	4.6	0.2
Cycle Q Clear(g_c), s	17.2	0.0	12.6	13.1	0.0	10.7	6.9	0.0	0.0	2.4	4.6	0.2
Prop In Lane	1.00		0.63	1.00		0.73	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	0	368	177	0	362	644	2232	980	542	2085	916
V/C Ratio(X)	0.42	0.00	0.67	0.04	0.00	0.58	0.33	0.29	0.00	0.09	0.19	0.01
Avail Cap(c_a), veh/h	334	0	556	303	0	546	644	2232	980	542	2085	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	0.0	31.6	37.6	0.0	30.9	0.3	0.0	0.0	6.3	6.7	5.9
Incr Delay (d2), s/veh	1.4	0.0	2.1	0.1	0.0	1.5	1.4	0.3	0.0	0.3	0.2	0.0
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(50%),veh/ln	1.8	0.0	4.9	0.1	0.0	4.1	0.2	0.1	0.0	0.3	1.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.9	0.0	33.8	37.7	0.0	32.4	1.6	0.3	0.0	6.6	6.9	5.9
LnGrp LOS	D		C	D		C	A	A	A	A	A	A
Approach Vol, veh/h	332			218			853			459		
Approach Delay, s/veh	35.3			32.6			0.6			6.9		
Approach LOS	D			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	63.5			26.5			63.5			26.5		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	47.0			31.0			47.0			31.0		
Max Q Clear Time (g_c+I1), s	8.9			19.2			6.6			15.1		
Green Ext Time (p_c), s	6.0			1.3			3.2			1.1		
Intersection Summary												
HCM 7th Control Delay, s/veh	12.1											
HCM 7th LOS	B											

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	1	0	5	0	0	0	25	605	0	0	395	5
Future Vol, veh/h	1	0	5	0	0	0	25	605	0	0	395	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	155	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	12	12	12
Mvmt Flow	1	0	7	0	0	0	33	796	0	0	520	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	987	1385	263	1122	1388	398	526	0	0	796	0	0
Stage 1	523	523	-	862	862	-	-	-	-	-	-	-
Stage 2	464	862	-	260	526	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.2	-	-	4.34	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.25	-	-	2.32	-	-
Pot Cap-1 Maneuver	451	222	*994	*337	221	*922	1142	-	-	925	-	-
Stage 1	645	621	-	*463	476	-	-	-	-	-	-	-
Stage 2	869	476	-	*937	619	-	-	-	-	-	-	-
Platoon blocked, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Cap-1 Maneuver	438	216	*994	*325	215	*922	1142	-	-	925	-	-
Mov Cap-2 Maneuver	438	216	-	*325	215	-	-	-	-	-	-	-
Stage 1	645	621	-	*450	462	-	-	-	-	-	-	-
Stage 2	844	462	-	*931	619	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.43	0	0.33	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1142	-	-	820	925	-	-
HCM Lane V/C Ratio	0.029	-	-	0.01	-	-	-
HCM Control Delay (s/veh)	8.2	-	-	9.4	0	0	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-	0	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Queues

2029 Future Traffic w/Modifications

300: Maple Road & Lannon Road

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	500	574	65	68	463	7	126	153	39	16	126	173
v/c Ratio	0.93	0.29	0.08	0.43	0.28	0.01	0.65	0.53	0.16	0.09	0.46	0.12
Control Delay (s/veh)	64.3	12.5	12.7	46.5	15.8	15.0	50.9	41.0	32.3	23.6	30.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	64.3	12.5	12.7	46.5	15.8	15.0	50.9	41.0	32.3	23.6	30.1	0.2
Queue Length 50th (ft)	146	87	16	37	80	2	69	82	20	6	54	0
Queue Length 95th (ft)	#241	153	46	76	130	11	118	131	44	m18	84	0
Internal Link Dist (ft)		674			679			287			626	
Turn Bay Length (ft)	200		250	165		175	75		250	75		
Base Capacity (vph)	536	2004	858	462	1637	706	308	456	386	287	435	1455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.29	0.08	0.15	0.28	0.01	0.41	0.34	0.10	0.06	0.29	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary

300: Maple Road & Lannon Road

2029 Future Traffic w/Modifications

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	545	100	65	440	10	120	145	60	15	120	265
Future Volume (veh/h)	475	545	100	65	440	10	120	145	60	15	120	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1892	1892	1811	1847	1847	1781	1821	1821	1811	1746	1746	1737
Adj Flow Rate, veh/h	500	574	65	68	463	7	126	153	39	16	126	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	8	8	8	6	6	6	11	11	11
Cap, veh/h	746	1929	824	96	1326	570	236	356	300	215	341	
Arrive On Green	0.21	0.54	0.54	0.05	0.38	0.38	0.20	0.20	0.20	0.06	0.06	0.00
Sat Flow, veh/h	3496	3595	1535	1759	3509	1510	1231	1821	1535	1112	1746	1472
Grp Volume(v), veh/h	500	574	65	68	463	7	126	153	39	16	126	0
Grp Sat Flow(s),veh/h/ln	1748	1797	1535	1759	1755	1510	1231	1821	1535	1112	1746	1472
Q Serve(g_s), s	11.8	7.9	1.8	3.4	8.5	0.3	9.0	6.6	1.9	1.2	6.2	0.0
Cycle Q Clear(g_c), s	11.8	7.9	1.8	3.4	8.5	0.3	15.2	6.6	1.9	7.9	6.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	746	1929	824	96	1326	570	236	356	300	215	341	
V/C Ratio(X)	0.67	0.30	0.08	0.71	0.35	0.01	0.53	0.43	0.13	0.07	0.37	
Avail Cap(c_a), veh/h	746	1929	824	469	1326	570	307	461	389	280	442	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.5	11.5	10.1	41.8	20.1	17.5	38.3	31.8	29.9	40.8	36.8	0.0
Incr Delay (d2), s/veh	1.9	0.4	0.2	3.6	0.7	0.0	0.7	0.3	0.1	0.1	0.2	0.0
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(50%),veh/ln	4.9	2.8	0.6	1.5	3.3	0.1	2.6	2.8	0.7	0.4	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.4	11.9	10.3	45.4	20.8	17.5	39.0	32.1	30.0	40.8	37.0	0.0
LnGrp LOS	C	B	B	D	C	B	D	C	C	D	D	
Approach Vol, veh/h	1139			538			318			142		
Approach Delay, s/veh	21.7			23.9			34.6			37.5		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.2	40.0		24.8	10.9	54.3		24.8				
Change Period (Y+Rc), s	6.0	6.0		7.2	6.0	6.0		7.2				
Max Green Setting (Gmax), s	14.0	34.0		22.8	24.0	24.0		22.8				
Max Q Clear Time (g_c+I1), s	13.8	10.5		9.9	5.4	9.9		17.2				
Green Ext Time (p_c), s	0.0	5.9		0.3	0.1	6.0		0.4				

Intersection Summary

HCM 7th Control Delay, s/veh	25.2
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	140	20	15	185	135	150
Future Vol, veh/h	140	20	15	185	135	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	15	15	8	8	16	16
Mvmt Flow	161	23	17	213	155	172

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	402	155	328	0	-	0
Stage 1	155	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.55	6.35	4.18	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.435	2.272	-	-	-
Pot Cap-1 Maneuver	580	858	1199	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	570	858	1199	-	-	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v13.73		0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	135	-	595	-	-
HCM Lane V/C Ratio	0.014	-	0.309	-	-
HCM Control Delay (s/veh)	8	0	13.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.3	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	101	0	0	155	0	0
Future Vol, veh/h	101	0	0	155	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	142	0	0	218	0	0

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	142	0	361	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	218	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1410	-	638	905
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	818	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1410	-	638	905
Mov Cap-2 Maneuver	-	-	-	-	638	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	818	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1410	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Queues

2029 Future Traffic w/Modifications

100: Maple Road & Mequon Road

PM Peak Hour

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	18	267	6	125	107	220	1	42	571	4
v/c Ratio	0.06	0.73	0.04	0.31	0.22	0.10	0.00	0.06	0.25	0.00
Control Delay (s/veh)	25.0	43.5	24.2	29.6	3.2	1.6	2.0	7.9	8.0	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.0	43.5	24.2	29.6	3.2	1.6	2.0	7.9	8.0	8.0
Queue Length 50th (ft)	8	141	3	60	4	4	0	8	65	1
Queue Length 95th (ft)	21	186	11	89	10	8	m0	23	104	5
Internal Link Dist (ft)		1001		145		397			293	
Turn Bay Length (ft)	100		100		100		50	50		45
Base Capacity (vph)	485	636	296	691	484	2121	934	731	2264	997
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.42	0.02	0.18	0.22	0.10	0.00	0.06	0.25	0.00
Intersection Summary										
m Volume for 95th percentile queue is metered by upstream signal.										

HCM 7th Signalized Intersection Summary

100: Maple Road & Mequon Road

2029 Future Traffic w/Modifications

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	55	170	5	80	25	90	185	1	35	480	5
Future Volume (veh/h)	15	55	170	5	80	25	90	185	1	35	480	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1856	1856	1856	1856	1856	1856	1764	1764	1737	1870	1870	1841
Adj Flow Rate, veh/h	18	65	202	6	95	30	107	220	1	42	571	4
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, %	3	3	3	3	3	3	11	11	11	4	4	4
Cap, veh/h	250	78	242	123	265	84	560	2248	987	858	2383	1046
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	1.00	1.00	1.00	0.67	0.67	0.67
Sat Flow, veh/h	1256	398	1236	1104	1352	427	790	3352	1472	1160	3553	1560
Grp Volume(v), veh/h	18	0	267	6	0	125	107	220	1	42	571	4
Grp Sat Flow(s),veh/h/ln	1256	0	1633	1104	0	1779	790	1676	1472	1160	1776	1560
Q Serve(g_s), s	1.1	0.0	14.1	0.5	0.0	5.5	1.4	0.0	0.0	1.1	5.7	0.1
Cycle Q Clear(g_c), s	6.6	0.0	14.1	14.6	0.0	5.5	7.1	0.0	0.0	1.1	5.7	0.1
Prop In Lane	1.00		0.76	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	250	0	320	123	0	349	560	2248	987	858	2383	1046
V/C Ratio(X)	0.07	0.00	0.83	0.05	0.00	0.36	0.19	0.10	0.00	0.05	0.24	0.00
Avail Cap(c_a), veh/h	492	0	635	336	0	692	560	2248	987	858	2383	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	0.0	34.8	41.8	0.0	31.3	0.3	0.0	0.0	5.1	5.8	4.9
Incr Delay (d2), s/veh	0.1	0.0	5.7	0.2	0.0	0.6	0.8	0.1	0.0	0.1	0.2	0.0
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(50%),veh/ln	0.3	0.0	5.9	0.1	0.0	2.4	0.1	0.0	0.0	0.2	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.3	0.0	40.4	42.0	0.0	31.9	1.1	0.1	0.0	5.2	6.1	4.9
LnGrp LOS	C		D	D		C	A	A	A	A	A	A
Approach Vol, veh/h	285			131			328			617		
Approach Delay, s/veh	40.1			32.4			0.4			6.0		
Approach LOS	D			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	66.4			23.6			66.4			23.6		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	43.0			35.0			43.0			35.0		
Max Q Clear Time (g_c+I1), s	9.1			16.1			7.7			16.6		
Green Ext Time (p_c), s	2.2			1.5			4.2			0.6		
Intersection Summary												
HCM 7th Control Delay, s/veh	14.3											
HCM 7th LOS	B											

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	10	0	65	0	0	0	50	265	0	0	645	10
Future Vol, veh/h	10	0	65	0	0	0	50	265	0	0	645	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	155	-	-	75	-	-
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, %	1	1	1	0	0	0	9	9	9	4	4	4
Mvmt Flow	12	0	77	0	0	0	60	315	0	0	768	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1051	1208	390	818	1214	158	780	0	0	315	0	0
Stage 1	774	774	-	435	435	-	-	-	-	-	-	-
Stage 2	277	435	-	384	780	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.5	6.5	6.9	4.28	-	-	4.18	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.5	4	3.3	2.29	-	-	2.24	-	-
Pot Cap-1 Maneuver	329	269	*922	*530	267	1015	954	-	-	1311	-	-
Stage 1	527	525	-	*651	633	-	-	-	-	-	-	-
Stage 2	810	631	-	*872	523	-	-	-	-	-	-	-
Platoon blocked, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Cap-1 Maneuver	308	252	*922	*455	251	1015	954	-	-	1311	-	-
Mov Cap-2 Maneuver	308	252	-	*455	251	-	-	-	-	-	-	-
Stage 1	527	525	-	*611	594	-	-	-	-	-	-	-
Stage 2	760	592	-	*799	523	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v10.63		0	1.43	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	954	-	-	728	1311	-	-
HCM Lane V/C Ratio	0.062	-	-	0.123	-	-	-
HCM Control Delay (s/veh)	9	-	-	10.6	0	0	-
HCM Lane LOS	A	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	-	0	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Queues

2029 Future Traffic w/Modifications

300: Maple Road & Lannon Road

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	196	603	78	158	728	13	141	125	131	27	190	344
v/c Ratio	0.39	0.36	0.11	0.64	0.43	0.02	0.75	0.38	0.48	0.12	0.59	0.22
Control Delay (s/veh)	37.6	17.4	16.9	48.2	17.9	15.7	58.8	34.9	38.0	23.6	32.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.6	17.4	16.9	48.2	17.9	15.7	58.8	34.9	38.0	23.6	32.8	0.3
Queue Length 50th (ft)	52	107	23	86	137	4	78	64	68	11	80	0
Queue Length 95th (ft)	86	192	63	142	218	16	130	104	111	m25	115	0
Internal Link Dist (ft)		674			679			287			626	
Turn Bay Length (ft)	200		250	165		175	75		250	75		
Base Capacity (vph)	498	1695	726	272	1700	733	355	620	524	415	613	1568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.36	0.11	0.58	0.43	0.02	0.40	0.20	0.25	0.07	0.31	0.22

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary

300: Maple Road & Lannon Road

2029 Future Traffic w/Modifications

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	555	115	145	670	20	130	115	195	25	175	510
Future Volume (veh/h)	180	555	115	145	670	20	130	115	195	25	175	510
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1892	1892	1811	1924	1924	1856	1880	1880	1870	1865	1865	1856
Adj Flow Rate, veh/h	196	603	78	158	728	13	141	125	131	27	190	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	3	3	3	2	2	2	3	3	3
Cap, veh/h	822	1586	677	193	1137	489	252	452	381	289	448	
Arrive On Green	0.24	0.44	0.44	0.11	0.31	0.31	0.24	0.24	0.24	0.08	0.08	0.00
Sat Flow, veh/h	3496	3595	1535	1832	3655	1572	1200	1880	1585	1121	1865	1572
Grp Volume(v), veh/h	196	603	78	158	728	13	141	125	131	27	190	0
Grp Sat Flow(s),veh/h/ln	1748	1797	1535	1832	1828	1572	1200	1880	1585	1121	1865	1572
Q Serve(g_s), s	4.1	10.1	2.7	7.6	15.4	0.5	10.3	4.9	6.2	2.1	8.7	0.0
Cycle Q Clear(g_c), s	4.1	10.1	2.7	7.6	15.4	0.5	19.0	4.9	6.2	6.9	8.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	822	1586	677	193	1137	489	252	452	381	289	448	
V/C Ratio(X)	0.24	0.38	0.12	0.82	0.64	0.03	0.56	0.28	0.34	0.09	0.42	
Avail Cap(c_a), veh/h	822	1586	677	244	1137	489	361	623	525	390	618	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.9	16.9	14.8	39.4	26.7	21.5	37.4	27.8	28.3	37.0	35.5	0.0
Incr Delay (d2), s/veh	0.1	0.7	0.3	12.9	2.8	0.1	0.7	0.1	0.2	0.1	0.2	0.0
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(50%),veh/ln	1.6	3.9	0.9	3.9	6.6	0.2	2.9	2.1	2.3	0.6	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.9	17.6	15.2	52.3	29.4	21.6	38.1	27.9	28.5	37.0	35.7	0.0
LnGrp LOS	C	B	B	D	C	C	D	C	C	D	D	
Approach Vol, veh/h	877			899			397			217		
Approach Delay, s/veh	19.7			33.3			31.8			35.9		
Approach LOS	B			C			C			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.2	34.0		28.8	15.5	45.7		28.8				
Change Period (Y+Rc), s	6.0	6.0		7.2	6.0	6.0		7.2				
Max Green Setting (Gmax), s	13.0	28.0		29.8	12.0	29.0		29.8				
Max Q Clear Time (g_c+I1), s	6.1	17.4		10.7	9.6	12.1		21.0				
Green Ext Time (p_c), s	0.2	5.8		0.6	0.0	7.1		0.6				

Intersection Summary

HCM 7th Control Delay, s/veh	28.3
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	140	25	10	300	290	145
Future Vol, veh/h	140	25	10	300	290	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	4	4	3	3	4	4
Mvmt Flow	154	27	11	330	319	159

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	670	319	478	0	-	0
Stage 1	319	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.13	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.227	-	-	-
Pot Cap-1 Maneuver	419	717	1079	-	-	-
Stage 1	733	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	414	717	1079	-	-	-
Mov Cap-2 Maneuver	414	-	-	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	708	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v18.69		0.27	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	58	-	442	-	-
HCM Lane V/C Ratio	0.01	-	0.41	-	-
HCM Control Delay (s/veh)	8.4	0	18.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	2	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	91	0	0	110	0	0
Future Vol, veh/h	91	0	0	110	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	108	0	0	131	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	108
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.13
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.227
Pot Cap-1 Maneuver	-	-	1476
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1476
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1476	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

APPENDIX D

SYNCHRO INTERSECTION CAPACITY ANALYSIS

Year 2029 Build Traffic Volumes Alternatives 1 & 2

Queues

2029 Build Alt 1 (Full KT Access)

100: Maple Road & Mequon Road

AM Peak Hour

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	85	247	7	232	197	627	1	56	408	9
v/c Ratio	0.48	0.71	0.04	0.68	0.32	0.28	0.00	0.12	0.19	0.01
Control Delay (s/veh)	38.5	43.8	25.2	42.3	3.7	2.5	3.0	8.4	7.3	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.5	43.8	25.2	42.3	3.7	2.5	3.0	8.4	7.3	7.5
Queue Length 50th (ft)	43	131	3	123	12	20	0	11	42	2
Queue Length 95th (ft)	61	141	10	133	21	27	m0	25	61	7
Internal Link Dist (ft)		1001		145		397			293	
Turn Bay Length (ft)	100		100		100		50	50		45
Base Capacity (vph)	297	577	277	564	608	2259	995	449	2101	925
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.43	0.03	0.41	0.32	0.28	0.00	0.12	0.19	0.01
Intersection Summary										
m Volume for 95th percentile queue is metered by upstream signal.										

HCM 7th Signalized Intersection Summary

100: Maple Road & Mequon Road

2029 Build Alt 1 (Full KT Access)

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	75	100	5	50	115	140	445	1	40	290	10
Future Volume (veh/h)	60	75	100	5	50	115	140	445	1	40	290	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1796	1796	1796	1796	1796	1796	1840	1840	1811	1719	1719	1693
Adj Flow Rate, veh/h	85	106	141	7	70	162	197	627	1	56	408	9
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Percent Heavy Veh, %	7	7	7	7	7	7	6	6	6	14	14	14
Cap, veh/h	203	168	224	194	116	268	626	2189	961	539	2046	898
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	1.00	1.00	1.00	0.63	0.63	0.63
Sat Flow, veh/h	1103	699	930	1088	481	1114	954	3495	1535	733	3267	1434
Grp Volume(v), veh/h	85	0	247	7	0	232	197	627	1	56	408	9
Grp Sat Flow(s),veh/h/ln	1103	0	1629	1088	0	1596	954	1748	1535	733	1633	1434
Q Serve(g_s), s	6.7	0.0	12.2	0.5	0.0	11.6	2.4	0.0	0.0	2.8	4.8	0.2
Cycle Q Clear(g_c), s	18.3	0.0	12.2	12.7	0.0	11.6	7.2	0.0	0.0	2.8	4.8	0.2
Prop In Lane	1.00		0.57	1.00		0.70	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	0	392	194	0	384	626	2189	961	539	2046	898
V/C Ratio(X)	0.42	0.00	0.63	0.04	0.00	0.60	0.31	0.29	0.00	0.10	0.20	0.01
Avail Cap(c_a), veh/h	330	0	579	319	0	567	626	2189	961	539	2046	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	0.0	30.6	36.3	0.0	30.4	0.3	0.0	0.0	6.8	7.2	6.3
Incr Delay (d2), s/veh	1.4	0.0	1.7	0.1	0.0	1.5	1.3	0.3	0.0	0.4	0.2	0.0
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(50%),veh/ln	1.8	0.0	4.7	0.1	0.0	4.5	0.2	0.1	0.0	0.4	1.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.9	0.0	32.3	36.4	0.0	31.9	1.6	0.3	0.0	7.2	7.4	6.3
LnGrp LOS	D		C	D		C	A	A	A	A	A	A
Approach Vol, veh/h	332			239			825			473		
Approach Delay, s/veh	34.2			32.0			0.6			7.4		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	62.4			27.6			62.4			27.6		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	46.0			32.0			46.0			32.0		
Max Q Clear Time (g_c+I1), s	9.2			20.3			6.8			14.7		
Green Ext Time (p_c), s	5.8			1.3			3.3			1.3		
Intersection Summary												
HCM 7th Control Delay, s/veh	12.3											
HCM 7th LOS	B											

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕	↕	↕	↕	
Traffic Vol, veh/h	1	1	5	80	1	35	25	550	95	30	360	5
Future Vol, veh/h	1	1	5	80	1	35	25	550	95	30	360	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	155	-	100	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	12	12	12
Mvmt Flow	1	1	7	105	1	46	33	724	125	39	474	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	984	1470	240	1106	1349	362	480	0	0	849	0	0
Stage 1	556	556	-	789	789	-	-	-	-	-	-	-
Stage 2	428	914	-	316	559	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.2	-	-	4.34	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.25	-	-	2.32	-	-
Pot Cap-1 Maneuver	414	182	*994	321	225	*946	1193	-	-	847	-	-
Stage 1	614	599	-	489	499	-	-	-	-	-	-	-
Stage 2	853	430	-	872	597	-	-	-	-	-	-	-
Platoon blocked, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Cap-1 Maneuver	363	169	*994	293	209	*946	1193	-	-	847	-	-
Mov Cap-2 Maneuver	363	169	-	293	209	-	-	-	-	-	-	-
Stage 1	586	571	-	475	485	-	-	-	-	-	-	-
Stage 2	787	418	-	824	569	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v12.18		21.5	0.3	0.72
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1193	-	-	511 369	847	-	-
HCM Lane V/C Ratio	0.028	-	-	0.018 0.414	0.047	-	-
HCM Control Delay (s/veh)	8.1	-	-	12.2 21.5	9.5	-	-
HCM Lane LOS	A	-	-	B C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1 2	0.1	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Queues

2029 Build Alt 1 (Full KT Access)

300: Maple Road & Lannon Road

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	558	574	33	37	479	16	79	121	20	47	105	196
v/c Ratio	0.77	0.25	0.03	0.28	0.31	0.02	0.50	0.52	0.10	0.31	0.48	0.13
Control Delay (s/veh)	41.5	8.9	9.1	44.1	17.1	15.3	47.0	44.5	34.6	33.4	36.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.5	8.9	9.1	44.1	17.1	15.3	47.0	44.5	34.6	33.4	36.0	0.2
Queue Length 50th (ft)	155	75	7	20	86	5	43	66	10	21	46	0
Queue Length 95th (ft)	213	127	23	50	135	18	84	115	30	43	79	0
Internal Link Dist (ft)		674			679			287			626	
Turn Bay Length (ft)	200		250	165		175	75		250	75		
Base Capacity (vph)	728	2256	966	462	1548	667	314	456	386	295	435	1455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.25	0.03	0.08	0.31	0.02	0.25	0.27	0.05	0.16	0.24	0.13
Intersection Summary												

HCM 7th Signalized Intersection Summary

300: Maple Road & Lannon Road

2029 Build Alt 1 (Full KT Access)

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	530	545	50	35	455	25	75	115	30	45	100	300
Future Volume (veh/h)	530	545	50	35	455	25	75	115	30	45	100	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1892	1892	1811	1847	1847	1781	1821	1821	1811	1746	1746	1737
Adj Flow Rate, veh/h	558	574	33	37	479	16	79	121	20	47	105	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	8	8	8	6	6	6	11	11	11
Cap, veh/h	1113	2159	922	71	1131	486	190	266	224	179	255	
Arrive On Green	0.32	0.60	0.60	0.04	0.32	0.32	0.15	0.15	0.15	0.05	0.05	0.00
Sat Flow, veh/h	3496	3595	1535	1759	3509	1510	1255	1821	1535	1165	1746	1472
Grp Volume(v), veh/h	558	574	33	37	479	16	79	121	20	47	105	0
Grp Sat Flow(s),veh/h/ln	1748	1797	1535	1759	1755	1510	1255	1821	1535	1165	1746	1472
Q Serve(g_s), s	11.7	6.8	0.8	1.9	9.6	0.7	5.5	5.5	1.0	3.6	5.3	0.0
Cycle Q Clear(g_c), s	11.7	6.8	0.8	1.9	9.6	0.7	10.8	5.5	1.0	9.0	5.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1113	2159	922	71	1131	486	190	266	224	179	255	
V/C Ratio(X)	0.50	0.27	0.04	0.52	0.42	0.03	0.42	0.46	0.09	0.26	0.41	
Avail Cap(c_a), veh/h	1113	2159	922	469	1131	486	325	461	389	304	442	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.9	8.5	7.3	42.3	23.9	20.9	40.0	35.2	33.3	43.6	39.1	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.1	2.2	1.2	0.1	0.5	0.5	0.1	0.3	0.4	0.0
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(50%),veh/ln	4.5	2.3	0.2	0.8	3.9	0.2	1.7	2.4	0.4	1.1	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.0	8.9	7.4	44.6	25.1	21.0	40.5	35.6	33.3	43.9	39.5	0.0
LnGrp LOS	C	A	A	D	C	C	D	D	C	D	D	
Approach Vol, veh/h	1165			532			220			152		
Approach Delay, s/veh	16.5			26.3			37.2			40.8		
Approach LOS	B			C			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.7	35.0		20.3	9.6	60.0		20.3				
Change Period (Y+Rc), s	6.0	6.0		7.2	6.0	6.0		7.2				
Max Green Setting (Gmax), s	19.0	29.0		22.8	24.0	24.0		22.8				
Max Q Clear Time (g_c+I1), s	13.7	11.6		11.0	3.9	8.8		12.8				
Green Ext Time (p_c), s	0.6	5.4		0.3	0.0	6.1		0.4				

Intersection Summary

HCM 7th Control Delay, s/veh	23.0
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	1	1	200	155	30
Future Vol, veh/h	20	1	1	200	155	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	15	15	8	8	16	16
Mvmt Flow	23	1	1	230	178	34

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	410	178	213
Stage 1	178	-	-
Stage 2	232	-	-
Critical Hdwy	6.55	6.35	4.18
Critical Hdwy Stg 1	5.55	-	-
Critical Hdwy Stg 2	5.55	-	-
Follow-up Hdwy	3.635	3.435	2.272
Pot Cap-1 Maneuver	573	832	1323
Stage 1	822	-	-
Stage 2	777	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	573	832	1323
Mov Cap-2 Maneuver	573	-	-
Stage 1	821	-	-
Stage 2	777	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	11.46	0.04	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	9	-	581	-	-
HCM Lane V/C Ratio	0.001	-	0.042	-	-
HCM Control Delay (s/veh)	7.7	0	11.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	20	25	150	20	30
Future Vol, veh/h	95	20	25	150	20	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	134	28	35	211	28	42
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	162	0	430	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	282	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1387	-	582	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	766	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1387	-	566	899
Mov Cap-2 Maneuver	-	-	-	-	566	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	744	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		1.09		10.48	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	728	-	-	257	-	
HCM Lane V/C Ratio	0.097	-	-	0.025	-	
HCM Control Delay (s/veh)	10.5	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	

Queues

2029 Build Alt 1 (Full KT Access)

100: Maple Road & Mequon Road

PM Peak Hour

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	18	273	6	137	107	220	1	48	583	4
v/c Ratio	0.06	0.73	0.04	0.34	0.23	0.10	0.00	0.07	0.26	0.00
Control Delay (s/veh)	24.7	43.3	24.0	29.9	4.1	2.6	4.0	8.1	8.2	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.7	43.3	24.0	29.9	4.1	2.6	4.0	8.1	8.2	8.0
Queue Length 50th (ft)	8	144	3	66	6	6	0	9	67	1
Queue Length 95th (ft)	21	189	11	97	17	14	m0	26	108	5
Internal Link Dist (ft)		1001		145		397			293	
Turn Bay Length (ft)	100		100		100		50	50		45
Base Capacity (vph)	479	637	291	689	474	2111	929	727	2253	992
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.43	0.02	0.20	0.23	0.10	0.00	0.07	0.26	0.00
Intersection Summary										
m Volume for 95th percentile queue is metered by upstream signal.										

HCM 7th Signalized Intersection Summary 100: Maple Road & Mequon Road

2029 Build Alt 1 (Full KT Access)

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	60	170	5	85	30	90	185	1	40	490	5
Future Volume (veh/h)	15	60	170	5	85	30	90	185	1	40	490	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1856	1856	1856	1856	1856	1856	1764	1764	1737	1870	1870	1841
Adj Flow Rate, veh/h	18	71	202	6	101	36	107	220	1	48	583	4
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, %	3	3	3	3	3	3	11	11	11	4	4	4
Cap, veh/h	244	85	242	123	260	93	551	2237	982	854	2371	1041
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	1.00	1.00	1.00	0.67	0.67	0.67
Sat Flow, veh/h	1242	426	1212	1097	1306	466	782	3352	1472	1160	3553	1560
Grp Volume(v), veh/h	18	0	273	6	0	137	107	220	1	48	583	4
Grp Sat Flow(s),veh/h/ln	1242	0	1637	1097	0	1772	782	1676	1472	1160	1776	1560
Q Serve(g_s), s	1.1	0.0	14.4	0.5	0.0	6.0	1.5	0.0	0.0	1.3	5.9	0.1
Cycle Q Clear(g_c), s	7.2	0.0	14.4	14.9	0.0	6.0	7.4	0.0	0.0	1.3	5.9	0.1
Prop In Lane	1.00		0.74	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	244	0	326	123	0	353	551	2237	982	854	2371	1041
V/C Ratio(X)	0.07	0.00	0.84	0.05	0.00	0.39	0.19	0.10	0.00	0.06	0.25	0.00
Avail Cap(c_a), veh/h	480	0	637	331	0	689	551	2237	982	854	2371	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	34.6	41.8	0.0	31.3	0.4	0.0	0.0	5.2	6.0	5.0
Incr Delay (d2), s/veh	0.1	0.0	5.6	0.2	0.0	0.7	0.8	0.1	0.0	0.1	0.2	0.0
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(50%),veh/ln	0.3	0.0	6.0	0.1	0.0	2.6	0.1	0.0	0.0	0.3	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.5	0.0	40.3	41.9	0.0	32.0	1.1	0.1	0.0	5.3	6.2	5.0
LnGrp LOS	C		D	D		C	A	A	A	A	A	A
Approach Vol, veh/h	291			143			328			635		
Approach Delay, s/veh	39.9			32.4			0.4			6.1		
Approach LOS	D			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	66.1			23.9			66.1			23.9		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	43.0			35.0			43.0			35.0		
Max Q Clear Time (g_c+I1), s	9.4			16.4			7.9			16.9		
Green Ext Time (p_c), s	2.2			1.5			4.3			0.7		
Intersection Summary												
HCM 7th Control Delay, s/veh	14.5											
HCM 7th LOS	B											

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕	↕	↕	↕	
Traffic Vol, veh/h	10	1	65	95	1	20	50	245	90	35	620	10
Future Vol, veh/h	10	1	65	95	1	20	50	245	90	35	620	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	155	-	100	75	-	-
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, %	1	1	1	0	0	0	9	9	9	4	4	4
Mvmt Flow	12	1	77	113	1	24	60	292	107	42	738	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1093	1345	375	864	1244	146	750	0	0	399	0	0
Stage 1	827	827	-	411	411	-	-	-	-	-	-	-
Stage 2	265	518	-	453	833	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.5	6.5	6.9	4.28	-	-	4.18	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.5	4	3.3	2.29	-	-	2.24	-	-
Pot Cap-1 Maneuver	301	214	*922	*484	255	1034	984	-	-	1216	-	-
Stage 1	484	492	-	*674	649	-	-	-	-	-	-	-
Stage 2	823	577	-	*872	490	-	-	-	-	-	-	-
Platoon blocked, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Cap-1 Maneuver	266	194	*922	*400	231	1034	984	-	-	1216	-	-
Mov Cap-2 Maneuver	266	194	-	*400	231	-	-	-	-	-	-	-
Stage 1	467	475	-	*633	610	-	-	-	-	-	-	-
Stage 2	754	542	-	*769	474	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11.2	16.73	1.15	0.42
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	984	-	-	671	444	1216	-
HCM Lane V/C Ratio	0.06	-	-	0.135	0.311	0.034	-
HCM Control Delay (s/veh)	8.9	-	-	11.2	16.7	8.1	-
HCM Lane LOS	A	-	-	B	C	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	1.3	0.1	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Queues

2029 Build Alt 1 (Full KT Access)

300: Maple Road & Lannon Road

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	245	598	57	114	739	30	103	125	108	60	196	367
v/c Ratio	0.49	0.31	0.07	0.56	0.42	0.04	0.64	0.42	0.43	0.30	0.67	0.23
Control Delay (s/veh)	39.3	13.9	13.8	48.2	16.7	14.1	52.6	37.5	38.6	33.0	41.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.3	13.9	13.8	48.2	16.7	14.1	52.6	37.5	38.6	33.0	41.8	0.3
Queue Length 50th (ft)	67	97	15	63	136	9	56	65	56	26	87	0
Queue Length 95th (ft)	104	167	43	111	206	26	103	110	99	59	148	0
Internal Link Dist (ft)		674			679			287			626	
Turn Bay Length (ft)	200		250	165		175	75		250	75		
Base Capacity (vph)	498	1932	827	237	1756	757	337	620	524	415	613	1568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.31	0.07	0.48	0.42	0.04	0.31	0.20	0.21	0.14	0.32	0.23
Intersection Summary												

HCM 7th Signalized Intersection Summary

300: Maple Road & Lannon Road

2029 Build Alt 1 (Full KT Access)

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	550	85	105	680	45	95	115	160	55	180	545
Future Volume (veh/h)	225	550	85	105	680	45	95	115	160	55	180	545
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1892	1892	1811	1924	1924	1856	1880	1880	1870	1865	1865	1856
Adj Flow Rate, veh/h	245	598	57	114	739	30	103	125	108	60	196	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	3	3	3	2	2	2	3	3	3
Cap, veh/h	915	1776	758	145	1137	489	214	402	339	261	399	
Arrive On Green	0.26	0.49	0.49	0.08	0.31	0.31	0.21	0.21	0.21	0.07	0.07	0.00
Sat Flow, veh/h	3496	3595	1535	1832	3655	1572	1193	1880	1585	1144	1865	1572
Grp Volume(v), veh/h	245	598	57	114	739	30	103	125	108	60	196	0
Grp Sat Flow(s),veh/h/ln	1748	1797	1535	1832	1828	1572	1193	1880	1585	1144	1865	1572
Q Serve(g_s), s	5.0	9.1	1.8	5.5	15.7	1.2	7.5	5.0	5.2	4.6	9.1	0.0
Cycle Q Clear(g_c), s	5.0	9.1	1.8	5.5	15.7	1.2	16.7	5.0	5.2	9.6	9.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	915	1776	758	145	1137	489	214	402	339	261	399	
V/C Ratio(X)	0.27	0.34	0.08	0.79	0.65	0.06	0.48	0.31	0.32	0.23	0.49	
Avail Cap(c_a), veh/h	915	1776	758	224	1137	489	354	623	525	395	618	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.4	13.8	12.0	40.7	26.8	21.8	38.8	29.8	29.8	39.8	37.1	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.2	4.3	2.9	0.2	0.6	0.2	0.2	0.2	0.3	0.0
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(50%),veh/ln	2.0	3.4	0.6	2.5	6.8	0.4	2.2	2.2	1.9	1.4	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.4	14.3	12.2	45.0	29.7	22.0	39.4	30.0	30.0	39.9	37.5	0.0
LnGrp LOS	C	B	B	D	C	C	D	C	C	D	D	
Approach Vol, veh/h	900			883			336			256		
Approach Delay, s/veh	17.5			31.4			32.9			38.0		
Approach LOS	B			C			C			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.6	34.0		26.4	13.1	50.5		26.4				
Change Period (Y+Rc), s	6.0	6.0		7.2	6.0	6.0		7.2				
Max Green Setting (Gmax), s	13.0	28.0		29.8	11.0	30.0		29.8				
Max Q Clear Time (g_c+I1), s	7.0	17.7		11.6	7.5	11.1		18.7				
Green Ext Time (p_c), s	0.2	5.8		0.7	0.0	7.4		0.6				

Intersection Summary

HCM 7th Control Delay, s/veh	27.0
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	15	5	315	305	65
Future Vol, veh/h	55	15	5	315	305	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	4	4	3	3	4	4
Mvmt Flow	60	16	5	346	335	71
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	692	335	407	0	-	0
Stage 1	335	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.13	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.227	-	-	-
Pot Cap-1 Maneuver	407	702	1147	-	-	-
Stage 1	720	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	404	702	1147	-	-	-
Mov Cap-2 Maneuver	404	-	-	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	14.78	0.13		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	28	-	445	-	-	
HCM Lane V/C Ratio	0.005	-	0.173	-	-	
HCM Control Delay (s/veh)	8.2	0	14.8	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.6	-	-	

Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	85	15	30	105	15	35
Future Vol, veh/h	85	15	30	105	15	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	101	18	36	125	18	42
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	119	0	307	110
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	196	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1463	-	686	943
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	837	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1463	-	668	943
Mov Cap-2 Maneuver	-	-	-	-	668	-
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	815	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		1.67		9.62	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	839	-	-	400	-	
HCM Lane V/C Ratio	0.071	-	-	0.024	-	
HCM Control Delay (s/veh)	9.6	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	

Queues

2029 Build Alt 2 (Partial KT Access)

100: Maple Road & Mequon Road

AM Peak Hour

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	85	247	92	232	197	627	1	56	408	9
v/c Ratio	0.48	0.71	0.55	0.68	0.32	0.28	0.00	0.12	0.19	0.01
Control Delay (s/veh)	38.5	43.8	43.0	42.3	3.7	2.5	3.0	8.4	7.3	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.5	43.8	43.0	42.3	3.7	2.5	3.0	8.4	7.3	7.5
Queue Length 50th (ft)	43	131	47	123	12	20	0	11	42	2
Queue Length 95th (ft)	61	141	65	133	21	27	m0	25	61	7
Internal Link Dist (ft)		1001		145		397			293	
Turn Bay Length (ft)	100		100		100		50	50		45
Base Capacity (vph)	297	577	277	564	608	2259	995	449	2101	925
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.43	0.33	0.41	0.32	0.28	0.00	0.12	0.19	0.01
Intersection Summary										
m Volume for 95th percentile queue is metered by upstream signal.										

HCM 7th Signalized Intersection Summary 100: Maple Road & Mequon Road

2029 Build Alt 2 (Partial KT Access)

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	75	100	65	50	115	140	445	1	40	290	10
Future Volume (veh/h)	60	75	100	65	50	115	140	445	1	40	290	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1796	1796	1796	1796	1796	1796	1840	1840	1811	1719	1719	1693
Adj Flow Rate, veh/h	85	106	141	92	70	162	197	627	1	56	408	9
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Percent Heavy Veh, %	7	7	7	7	7	7	6	6	6	14	14	14
Cap, veh/h	218	176	234	209	121	281	614	2148	943	531	2008	882
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.61	0.61	0.61
Sat Flow, veh/h	1103	699	930	1088	481	1114	954	3495	1535	733	3267	1434
Grp Volume(v), veh/h	85	0	247	92	0	232	197	627	1	56	408	9
Grp Sat Flow(s),veh/h/ln	1103	0	1629	1088	0	1596	954	1748	1535	733	1633	1434
Q Serve(g_s), s	6.6	0.0	12.0	7.3	0.0	11.5	2.5	0.0	0.0	2.9	5.0	0.2
Cycle Q Clear(g_c), s	18.0	0.0	12.0	19.4	0.0	11.5	7.5	0.0	0.0	2.9	5.0	0.2
Prop In Lane	1.00		0.57	1.00		0.70	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	0	411	209	0	402	614	2148	943	531	2008	882
V/C Ratio(X)	0.39	0.00	0.60	0.44	0.00	0.58	0.32	0.29	0.00	0.11	0.20	0.01
Avail Cap(c_a), veh/h	332	0	579	321	0	567	614	2148	943	531	2008	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.3	0.0	29.7	38.2	0.0	29.5	0.3	0.0	0.0	7.2	7.6	6.7
Incr Delay (d2), s/veh	1.1	0.0	1.4	1.5	0.0	1.3	1.4	0.3	0.0	0.4	0.2	0.0
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(50%),veh/ln	1.8	0.0	4.6	2.0	0.0	4.4	0.2	0.1	0.0	0.4	1.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.5	0.0	31.1	39.7	0.0	30.8	1.7	0.3	0.0	7.6	7.9	6.7
LnGrp LOS	D		C	D		C	A	A	A	A	A	A
Approach Vol, veh/h	332			324			825			473		
Approach Delay, s/veh	33.0			33.3			0.7			7.8		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	61.3			28.7			61.3			28.7		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	46.0			32.0			46.0			32.0		
Max Q Clear Time (g_c+l1), s	9.5			20.0			7.0			21.4		
Green Ext Time (p_c), s	5.8			1.3			3.3			1.3		
Intersection Summary												
HCM 7th Control Delay, s/veh	13.3											
HCM 7th LOS	B											

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱	↱	↱↱	↱	↱	↱↱	
Traffic Vol, veh/h	0	0	5	0	0	35	25	550	95	30	420	5
Future Vol, veh/h	0	0	5	0	0	35	25	550	95	30	420	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	155	-	100	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	12	12	12
Mvmt Flow	0	0	7	0	0	46	33	724	125	39	553	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	280	-	-	362	559	0	0	849	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.9	4.2	-	-	4.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	2.25	-	-	2.32	-	-
Pot Cap-1 Maneuver	0	0	974	0	0	*946	1107	-	-	847	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	974	-	-	*946	1107	-	-	847	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	8.72	9	0.31	0.62
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1107	-	-	974	946	847	-
HCM Lane V/C Ratio	0.03	-	-	0.007	0.049	0.047	-
HCM Control Delay (s/veh)	8.4	-	-	8.7	9	9.5	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.2	0.1	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Queues

2029 Build Alt 2 (Partial KT Access)

300: Maple Road & Lannon Road

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	558	574	33	37	489	16	79	121	20	37	105	189
v/c Ratio	0.77	0.25	0.03	0.28	0.32	0.02	0.50	0.52	0.10	0.25	0.48	0.13
Control Delay (s/veh)	41.5	8.9	9.1	44.1	17.1	15.3	47.0	44.5	34.6	29.1	33.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.5	8.9	9.1	44.1	17.1	15.3	47.0	44.5	34.6	29.1	33.5	0.2
Queue Length 50th (ft)	155	75	7	20	88	5	43	66	10	16	46	0
Queue Length 95th (ft)	213	127	23	50	138	18	84	115	30	m37	79	0
Internal Link Dist (ft)		674			679			287			626	
Turn Bay Length (ft)	200		250	165		175	75		250	75		
Base Capacity (vph)	728	2256	966	462	1548	667	314	456	386	295	435	1455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.25	0.03	0.08	0.32	0.02	0.25	0.27	0.05	0.13	0.24	0.13

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary 300: Maple Road & Lannon Road

2029 Build Alt 2 (Partial KT Access)

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	530	545	50	35	465	25	75	115	30	35	100	290
Future Volume (veh/h)	530	545	50	35	465	25	75	115	30	35	100	290
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1892	1892	1811	1847	1847	1781	1821	1821	1811	1746	1746	1737
Adj Flow Rate, veh/h	558	574	33	37	489	16	79	121	20	37	105	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	8	8	8	6	6	6	11	11	11
Cap, veh/h	1113	2159	922	71	1131	486	190	266	224	179	255	
Arrive On Green	0.32	0.60	0.60	0.04	0.32	0.32	0.15	0.15	0.15	0.05	0.05	0.00
Sat Flow, veh/h	3496	3595	1535	1759	3509	1510	1255	1821	1535	1165	1746	1472
Grp Volume(v), veh/h	558	574	33	37	489	16	79	121	20	37	105	0
Grp Sat Flow(s),veh/h/ln	1748	1797	1535	1759	1755	1510	1255	1821	1535	1165	1746	1472
Q Serve(g_s), s	11.7	6.8	0.8	1.9	9.9	0.7	5.5	5.5	1.0	2.8	5.3	0.0
Cycle Q Clear(g_c), s	11.7	6.8	0.8	1.9	9.9	0.7	10.8	5.5	1.0	8.3	5.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1113	2159	922	71	1131	486	190	266	224	179	255	
V/C Ratio(X)	0.50	0.27	0.04	0.52	0.43	0.03	0.42	0.46	0.09	0.21	0.41	
Avail Cap(c_a), veh/h	1113	2159	922	469	1131	486	325	461	389	304	442	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.9	8.5	7.3	42.3	24.0	20.9	40.0	35.2	33.3	43.2	39.1	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.1	2.2	1.2	0.1	0.5	0.5	0.1	0.2	0.4	0.0
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(50%),veh/ln	4.5	2.3	0.2	0.8	4.0	0.2	1.7	2.4	0.4	0.8	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.0	8.9	7.4	44.6	25.2	21.0	40.5	35.6	33.3	43.4	39.5	0.0
LnGrp LOS	C	A	A	D	C	C	D	D	C	D	D	
Approach Vol, veh/h	1165			542			220			142		
Approach Delay, s/veh	16.5			26.4			37.2			40.5		
Approach LOS	B			C			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.7	35.0		20.3	9.6	60.0		20.3				
Change Period (Y+Rc), s	6.0	6.0		7.2	6.0	6.0		7.2				
Max Green Setting (Gmax), s	19.0	29.0		22.8	24.0	24.0		22.8				
Max Q Clear Time (g_c+l1), s	13.7	11.9		10.3	3.9	8.8		12.8				
Green Ext Time (p_c), s	0.6	5.4		0.3	0.0	6.1		0.4				

Intersection Summary

HCM 7th Control Delay, s/veh	23.0
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	1	1	200	155	30
Future Vol, veh/h	20	1	1	200	155	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	15	15	8	8	16	16
Mvmt Flow	23	1	1	230	178	34

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	410	178	213	0	-	0
Stage 1	178	-	-	-	-	-
Stage 2	232	-	-	-	-	-
Critical Hdwy	6.55	6.35	4.18	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.435	2.272	-	-	-
Pot Cap-1 Maneuver	573	832	1323	-	-	-
Stage 1	822	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	573	832	1323	-	-	-
Mov Cap-2 Maneuver	573	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	777	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	11.46	0.04	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	9	-	581	-	-
HCM Lane V/C Ratio	0.001	-	0.042	-	-
HCM Control Delay (s/veh)	7.7	0	11.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	4.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	20	25	150	80	50
Future Vol, veh/h	95	20	25	150	80	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	134	28	35	211	113	70
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	162	0	430	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	282	-
Critical Hdwy	-	-	4.17	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1387	-	582	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	766	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1387	-	566	899
Mov Cap-2 Maneuver	-	-	-	-	566	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	744	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		1.09		12.54	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	660	-	-	257	-	
HCM Lane V/C Ratio	0.278	-	-	0.025	-	
HCM Control Delay (s/veh)	12.5	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-	

Queues

2029 Build Alt 1 (Partial KT Access)

100: Maple Road & Mequon Road

PM Peak Hour

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	30	273	89	137	107	220	1	48	583	4
v/c Ratio	0.11	0.73	0.52	0.34	0.23	0.10	0.00	0.07	0.26	0.00
Control Delay (s/veh)	25.7	43.3	40.3	29.9	4.3	2.8	4.0	8.1	8.2	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.7	43.3	40.3	29.9	4.3	2.8	4.0	8.1	8.2	8.0
Queue Length 50th (ft)	14	144	45	66	8	8	0	9	67	1
Queue Length 95th (ft)	30	189	77	97	17	14	m0	26	108	5
Internal Link Dist (ft)		1001		145		397			293	
Turn Bay Length (ft)	100		100		100		50	50		45
Base Capacity (vph)	479	637	291	689	474	2111	929	727	2253	992
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.43	0.31	0.20	0.23	0.10	0.00	0.07	0.26	0.00
Intersection Summary										
m Volume for 95th percentile queue is metered by upstream signal.										

HCM 7th Signalized Intersection Summary 100: Maple Road & Mequon Road

2029 Build Alt 1 (Partial KT Access)

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	60	170	75	85	30	90	185	1	40	490	5
Future Volume (veh/h)	25	60	170	75	85	30	90	185	1	40	490	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1856	1856	1856	1856	1856	1856	1764	1764	1737	1870	1870	1841
Adj Flow Rate, veh/h	30	71	202	89	101	36	107	220	1	48	583	4
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, %	3	3	3	3	3	3	11	11	11	4	4	4
Cap, veh/h	324	110	313	201	338	120	495	2039	895	785	2160	949
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	1.00	1.00	1.00	0.61	0.61	0.61
Sat Flow, veh/h	1242	426	1212	1097	1306	466	782	3352	1472	1160	3553	1560
Grp Volume(v), veh/h	30	0	273	89	0	137	107	220	1	48	583	4
Grp Sat Flow(s),veh/h/ln	1242	0	1637	1097	0	1772	782	1676	1472	1160	1776	1560
Q Serve(g_s), s	1.8	0.0	13.4	7.1	0.0	5.6	2.0	0.0	0.0	1.5	6.9	0.1
Cycle Q Clear(g_c), s	7.4	0.0	13.4	20.4	0.0	5.6	8.9	0.0	0.0	1.5	6.9	0.1
Prop In Lane	1.00		0.74	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	324	0	423	201	0	458	495	2039	895	785	2160	949
V/C Ratio(X)	0.09	0.00	0.64	0.44	0.00	0.30	0.22	0.11	0.00	0.06	0.27	0.00
Avail Cap(c_a), veh/h	486	0	637	344	0	689	495	2039	895	785	2160	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	0.0	29.7	38.8	0.0	26.8	0.6	0.0	0.0	7.2	8.3	6.9
Incr Delay (d2), s/veh	0.1	0.0	1.7	1.5	0.0	0.4	1.0	0.1	0.0	0.1	0.3	0.0
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(50%),veh/ln	0.5	0.0	5.2	2.0	0.0	2.4	0.1	0.0	0.0	0.4	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.9	0.0	31.3	40.3	0.0	27.2	1.6	0.1	0.0	7.4	8.6	6.9
LnGrp LOS	C		C	D		C	A	A	A	A	A	A
Approach Vol, veh/h	303			226			328			635		
Approach Delay, s/veh	31.2			32.3			0.6			8.5		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	60.7			29.3			60.7			29.3		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	43.0			35.0			43.0			35.0		
Max Q Clear Time (g_c+I1), s	10.9			15.4			8.9			22.4		
Green Ext Time (p_c), s	2.2			1.6			4.3			0.9		
Intersection Summary												
HCM 7th Control Delay, s/veh	15.0											
HCM 7th LOS	B											

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱	↱	↱↱	↱	↱	↱↱	
Traffic Vol, veh/h	0	0	65	0	0	20	50	245	90	35	690	10
Future Vol, veh/h	0	0	65	0	0	20	50	245	90	35	690	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	155	-	100	75	-	-
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, %	1	1	1	0	0	0	9	9	9	4	4	4
Mvmt Flow	0	0	77	0	0	24	60	292	107	42	821	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	417	-	-	146	833	0	0	399	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.92	-	-	6.9	4.28	-	-	4.18	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.31	-	-	3.3	2.29	-	-	2.24	-	-
Pot Cap-1 Maneuver	0	0	*899	0	0	1034	932	-	-	1216	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*899	-	-	1034	932	-	-	1216	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	9.38		8.56		1.19		0.38	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	932	-	-	899 1034	1216	-	-
HCM Lane V/C Ratio	0.064	-	-	0.086 0.023	0.034	-	-
HCM Control Delay (s/veh)	9.1	-	-	9.4 8.6	8.1	-	-
HCM Lane LOS	A	-	-	A A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3 0.1	0.1	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Queues

2029 Build Alt 1 (Partial KT Access)

300: Maple Road & Lannon Road

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	245	598	57	114	750	30	103	125	108	43	196	361
v/c Ratio	0.49	0.31	0.07	0.56	0.43	0.04	0.64	0.42	0.43	0.22	0.67	0.23
Control Delay (s/veh)	39.3	13.9	13.8	48.2	16.7	14.1	52.6	37.5	38.6	26.2	37.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.3	13.9	13.8	48.2	16.7	14.1	52.6	37.5	38.6	26.2	37.7	0.3
Queue Length 50th (ft)	67	97	15	63	138	9	56	65	56	18	83	0
Queue Length 95th (ft)	104	167	43	111	210	26	103	110	99	39	123	0
Internal Link Dist (ft)		674			679			287			626	
Turn Bay Length (ft)	200		250	165		175	75		250	75		
Base Capacity (vph)	498	1932	827	237	1756	757	337	620	524	415	613	1568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.31	0.07	0.48	0.43	0.04	0.31	0.20	0.21	0.10	0.32	0.23
Intersection Summary												

HCM 7th Signalized Intersection Summary 300: Maple Road & Lannon Road

2029 Build Alt 1 (Partial KT Access)

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	550	85	105	690	45	95	115	160	40	180	535
Future Volume (veh/h)	225	550	85	105	690	45	95	115	160	40	180	535
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1892	1892	1811	1924	1924	1856	1880	1880	1870	1865	1865	1856
Adj Flow Rate, veh/h	245	598	57	114	750	30	103	125	108	43	196	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	3	3	3	2	2	2	3	3	3
Cap, veh/h	915	1776	758	145	1137	489	214	402	339	261	399	
Arrive On Green	0.26	0.49	0.49	0.08	0.31	0.31	0.21	0.21	0.21	0.07	0.07	0.00
Sat Flow, veh/h	3496	3595	1535	1832	3655	1572	1193	1880	1585	1144	1865	1572
Grp Volume(v), veh/h	245	598	57	114	750	30	103	125	108	43	196	0
Grp Sat Flow(s),veh/h/ln	1748	1797	1535	1832	1828	1572	1193	1880	1585	1144	1865	1572
Q Serve(g_s), s	5.0	9.1	1.8	5.5	16.0	1.2	7.5	5.0	5.2	3.2	9.1	0.0
Cycle Q Clear(g_c), s	5.0	9.1	1.8	5.5	16.0	1.2	16.7	5.0	5.2	8.3	9.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	915	1776	758	145	1137	489	214	402	339	261	399	
V/C Ratio(X)	0.27	0.34	0.08	0.79	0.66	0.06	0.48	0.31	0.32	0.16	0.49	
Avail Cap(c_a), veh/h	915	1776	758	224	1137	489	354	623	525	395	618	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.4	13.8	12.0	40.7	26.9	21.8	38.8	29.8	29.8	39.1	37.1	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.2	4.3	3.0	0.2	0.6	0.2	0.2	0.1	0.3	0.0
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(50%),veh/ln	2.0	3.4	0.6	2.5	6.9	0.4	2.2	2.2	1.9	0.9	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.4	14.3	12.2	45.0	29.9	22.0	39.4	30.0	30.0	39.3	37.5	0.0
LnGrp LOS	C	B	B	D	C	C	D	C	C	D	D	
Approach Vol, veh/h	900			894			336			239		
Approach Delay, s/veh	17.5			31.5			32.9			37.8		
Approach LOS	B			C			C			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.6	34.0		26.4	13.1	50.5		26.4				
Change Period (Y+Rc), s	6.0	6.0		7.2	6.0	6.0		7.2				
Max Green Setting (Gmax), s	13.0	28.0		29.8	11.0	30.0		29.8				
Max Q Clear Time (g_c+I1), s	7.0	18.0		11.1	7.5	11.1		18.7				
Green Ext Time (p_c), s	0.2	5.7		0.6	0.0	7.4		0.6				

Intersection Summary

HCM 7th Control Delay, s/veh	27.0
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	15	5	315	305	65
Future Vol, veh/h	55	15	5	315	305	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	4	4	3	3	4	4
Mvmt Flow	60	16	5	346	335	71
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	692	335	407	0	-	0
Stage 1	335	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.13	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.227	-	-	-
Pot Cap-1 Maneuver	407	702	1147	-	-	-
Stage 1	720	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	404	702	1147	-	-	-
Mov Cap-2 Maneuver	404	-	-	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	14.78	0.13		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	28	-	445	-	-	
HCM Lane V/C Ratio	0.005	-	0.173	-	-	
HCM Control Delay (s/veh)	8.2	0	14.8	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.6	-	-	

Intersection						
Int Delay, s/veh	4.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	85	15	30	105	85	60
Future Vol, veh/h	85	15	30	105	85	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	101	18	36	125	101	71
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	119	0	307	110
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	196	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1463	-	686	943
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	837	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1463	-	668	943
Mov Cap-2 Maneuver	-	-	-	-	668	-
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	815	-
Approach	EB	WB		NB		
HCM Control Delay, s/v	0	1.67		11.13		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	759	-	-	400	-	
HCM Lane V/C Ratio	0.227	-	-	0.024	-	
HCM Control Delay (s/veh)	11.1	-	-	7.5	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-	

APPENDIX E

WARRANT STUDIES

Right-Turn Lane Warrants

Traffic Signal Warrants

Crash Analysis

Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

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

Intersection: #100 - Maple Road & Mequon Road
County: Washington County
Village: Germantown, WI

Major Street: Maple Road
Critical Approach Speed: 40 mph
Lanes: 2 or more lanes

Minor Street: Mequon Road
Critical Approach Speed: 30 mph
Lanes: 1 lane

% Right Turns Included
From North (SB) 100%
From East (WB) 0%
From South (NB) 100%
From West (EB) 0%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level?

Analysis based on **PROJECTED** volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
Year 2024 Existing Traffic		6:00	AM	6:00	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	No
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	Yes
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Tammi Czewski
Agency: TADI
Date: 10/10/2024

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	0	4

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	772	77	849
2	7:00	8:00	763	111	874
3	8:00	9:00	543	67	610
4	9:00	10:00	376	31	407
5	10:00	11:00	396	55	451
6	11:00	12:00	484	66	550
7	12:00	13:00	614	62	676
8	13:00	14:00	503	53	556
9	14:00	15:00	724	60	784
10	15:00	16:00	767	74	841
11	16:00	17:00	706	82	788
12	17:00	18:00	499	74	573
13	18:00	19:00	353	37	390
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

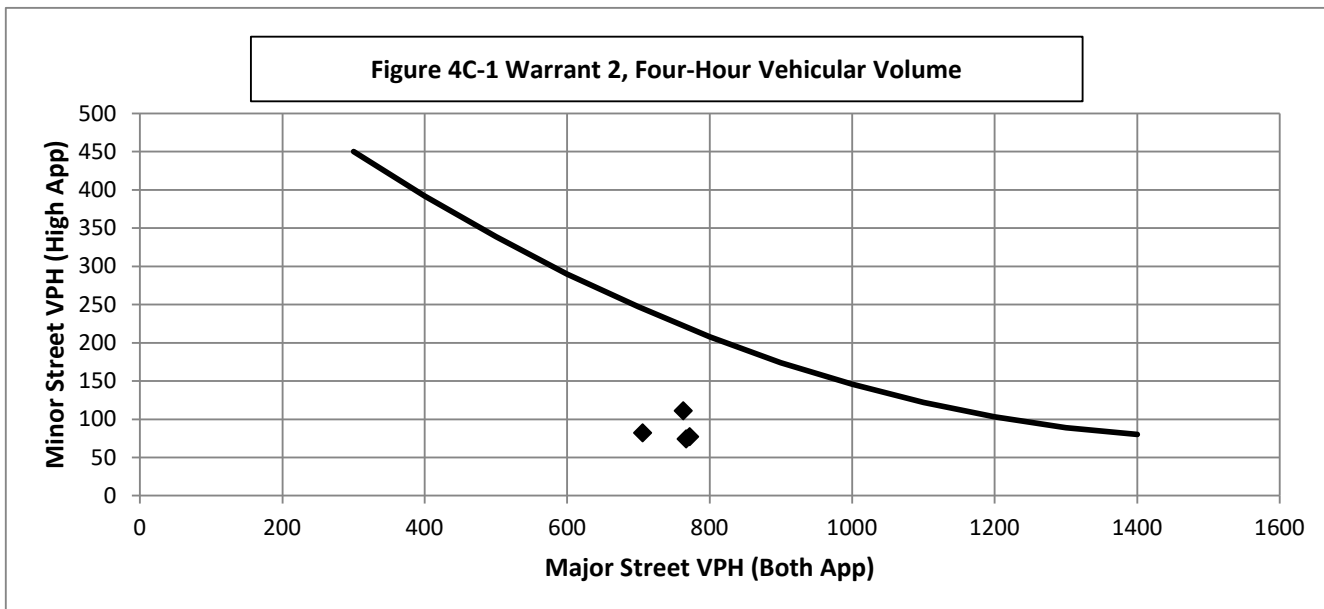
100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Hour Start	7:00	6:00	15:00	16:00
Major Road Vol.	763	772	767	706
Minor Road Vol.	111	77	74	82



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Condition justifying use of warrant:

Light industrial development creates significant peaking.
9.9 veh-hours of delay in the AM peak hour.

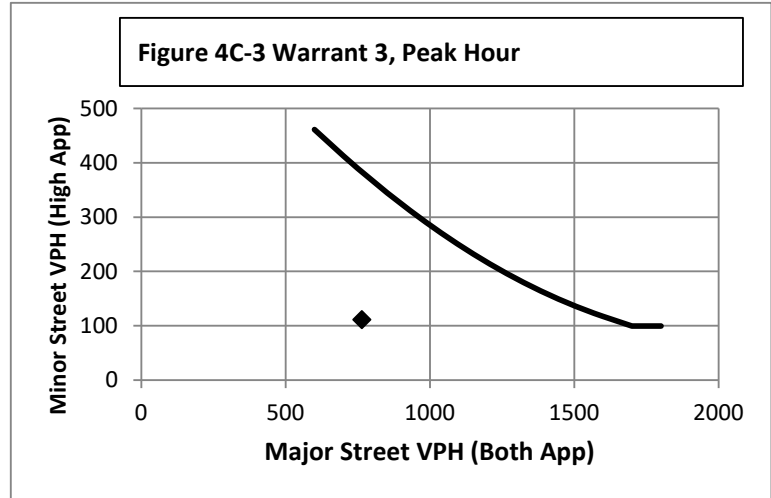
Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour?

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
7:00	763	111

Warrant Satisfied? Yes

Manually Set To:



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

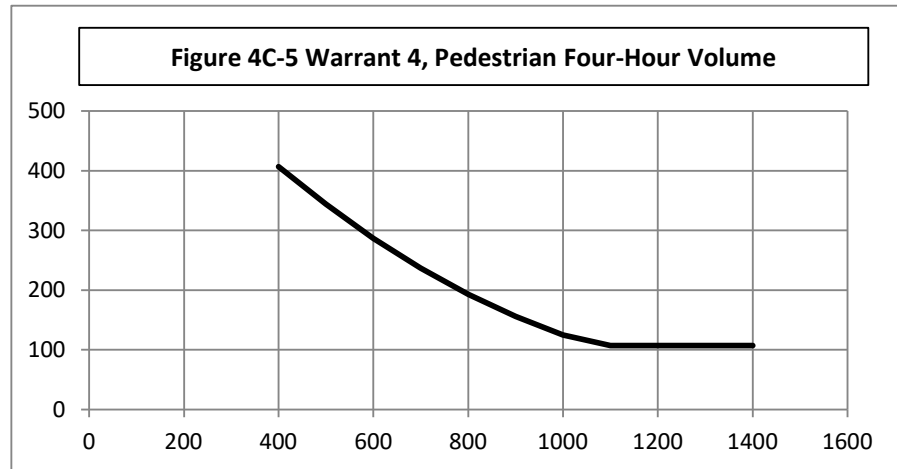
Criterion A: Four Hour

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?

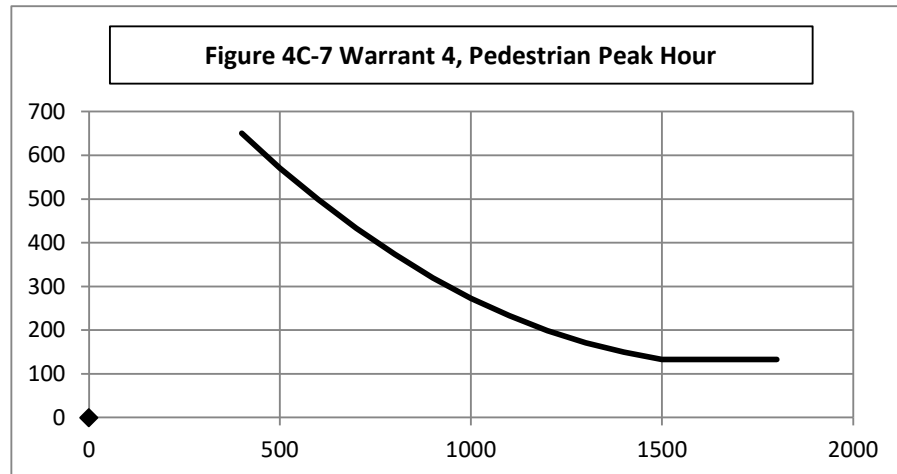
Criterion A Satisfied?



Criterion B: Peak Hour

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

Criterion B Satisfied?



Warrant 5: School Crossing

100%

Warrant Evaluated?

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

100%

Warrant Evaluated?

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

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Criteria

Met?

Fulfilled?

1	Adequate trial of other remedial measures has failed to reduce crash frequency.			Yes	
	Measures Tried:	Install AWSC			
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		Yes	
		5			
3	Warrant 1, Condition A (80%)			No	Yes
	Warrant 1, Condition B (80%)			No	
	Warrant 4, Criterion A (80%)			No	
	Warrant 4, Criterion B (80%)			Yes	

Warrant 8: Roadway Network

100%

Warrant Evaluated?

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		874	No	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

100%

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	763	111	37.185

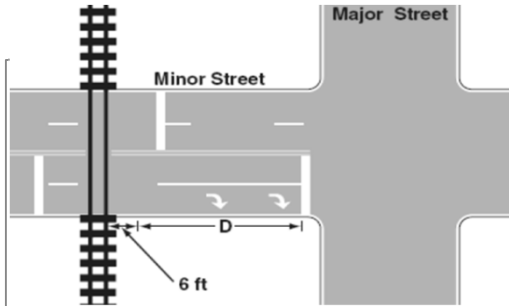
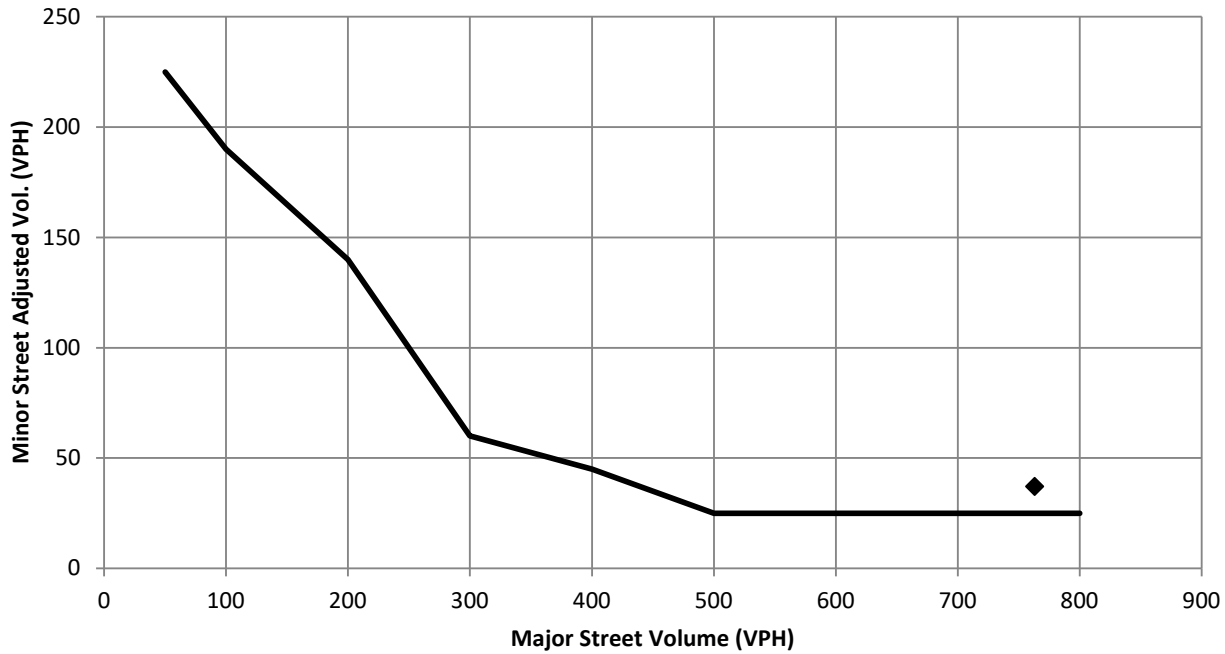


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)



Conclusions/Comments:

Updated: 12/6/2017

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	10	143	13	0	166	118	20	1	0	139	1	467	138	0	606	42	29	48	0	119	1030
	7:00	7	266	40	0	313	56	41	1	0	98	4	323	123	0	450	126	83	28	0	237	1098
	8:00	14	174	15	0	203	46	38	1	0	85	1	272	67	0	340	102	46	21	0	169	797
	9:00	4	144	24	0	172	21	24	5	0	50	4	150	50	0	204	54	27	4	0	85	511
MD	10:00	7	143	25	0	175	30	39	1	0	70	1	163	57	0	221	77	42	13	0	132	598
	11:00	6	230	46	0	282	37	37	3	0	77	1	153	47	1	202	77	54	12	0	143	704
	12:00	13	237	48	0	298	53	60	2	0	115	3	226	87	0	316	88	39	6	0	133	862
	13:00	12	204	30	0	246	46	52	1	0	99	2	194	61	0	257	63	39	11	0	113	715
PM	14:00	11	335	54	0	400	44	53	7	0	104	0	236	88	0	324	96	38	16	0	150	978
	15:00	8	451	58	0	517	15	72	2	0	89	2	175	73	0	250	170	50	15	0	235	1091
	16:00	7	422	36	0	465	23	79	3	0	105	1	159	81	0	241	155	57	13	0	225	1036
	17:00	14	262	29	0	305	27	71	1	0	99	1	144	49	0	194	70	54	20	0	144	742
	18:00	9	152	22	0	183	23	33	1	0	57	2	126	41	1	170	64	27	10	0	101	511
	19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20:00																					0
	21:00																					0
Totals		122	3163	440	0	3725	539	619	29	0	1187	23	2788	962	2	3775	1184	585	217	0	1986	10673

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:

N/S

Major Road Left Turn as Minor Approach?

% Right Turns Included (Default 0%)

From North (SB)	100%
From East (WB)	0%
From South (NB)	100%
From West (EB)	0%

Major Road Volume Totals: North/South				
Right	Thru	Left	T+LT	Total
11	610	151	761	772
11	589	163	752	763
15	446	82	528	543
8	294	74	368	376
8	306	82	388	396
7	383	94	477	484
16	463	135	598	614
14	398	91	489	503
11	571	142	713	724
10	626	131	757	767
8	581	117	698	706
15	406	78	484	499
11	278	64	342	353
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
145	5951	1404	7355	7500

Minor Road Highest Volume: East/West				
Right	Thru	Left	T+LT	Total
0	29	48	77	77
0	83	28	111	111
0	46	21	67	67
0	27	4	31	31
0	42	13	55	55
0	54	12	66	66
0	60	2	62	62
0	52	1	53	53
0	53	7	60	60
0	72	2	74	74
0	79	3	82	82
0	54	20	74	74
0	27	10	37	37
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	678	171	849	849

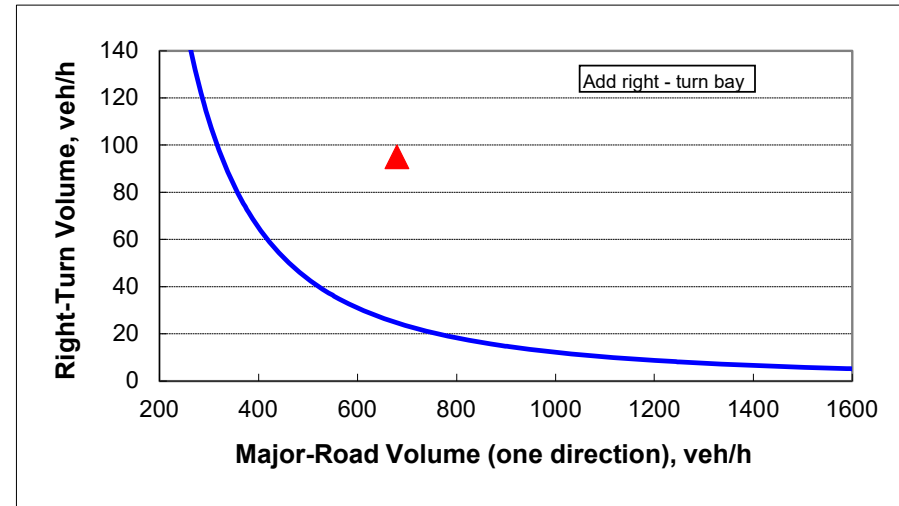
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	680
Right-turn volume, veh/h:	95

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	25
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	



Intersection Collision Diagram

Location: Maple Rd & Mequon Rd
Municipality: Germantown
County: Washington
Traffic Control: All-Way Stop

From: 1/1/2019 5 Years
To: 9/30/2024 9 Months
AADT: 13,300
Area Type: Urban
GPS Coordinates: 43.221069, -88.142373

TOTAL CRASHES: 24

AVG. CRASHES/YEAR: 4.2

CRASH RATE: 0.86 per MEV

KAB CRASH RATE: 0.07 per MEV

ECONOMIC LOSS*: \$671,600

*KA=\$684K, B=\$217K, C=\$123K, PDO=\$10.8K

Maple Rd

Mn Misc. Crashes
1 North Leg

SB₆ 1
SB₅ 2

SB₂ 3
NB₁ 5

EB₄ 1

NB₂ 2

WB₂ 7

YEAR	K	A	B	C	PDO	TOT.	ECON. LOSS
2019	0	0	0	0	4	4	\$ 43,200
2020	0	0	1	0	1	2	\$ 227,800
2021	0	0	0	0	7	7	\$ 75,600
2022	0	0	0	0	3	3	\$ 32,400
2023	0	0	1	0	7	8	\$ 292,600

TOTAL 0 0 2 0 22 24 \$ 671,600

K = Fatal, A = Suspected Serious Injury, B = Suspected Minor Injury,
C = Possible Injury, PDO = No Apparent Injury

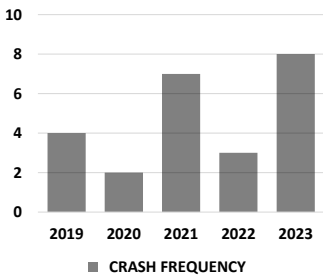


WB 1,400 Entering ADT



ECON. LOSS
COLOR SCALE
> \$1 M
> \$500 K
Ped/Bike

ANNUAL CRASH TRENDS



ROAD CONDITIONS		
DRY	17	71%
WET	6	25%
SNOW	1	4%
ICE	0	0%
OTH.	0	0%
TOT.	24	

LIGHT CONDITIONS		
DAY	20	83%
DARK	4	17%
TOT.	24	

DRIVER BEHAVIOR		
ALCOHOL	0	0%
DRUGS	0	0%
SPEED	1	4%

SEASON		
SPRING	4	17%
SUMMER	5	21%
FALL	5	21%
WINTER	10	42%
TOT.	24	

FAILURE TO YIELD		
NB	3	13%
SB	4	17%
EB	1	4%
WB	1	4%
TBD	0	0%
TOT.	9	38%

DISRGRD. CONTROL		
NB	3	13%
SB	1	4%
EB	0	0%
WB	0	0%
TBD	0	0%
TOT.	4	17%

VEHICLE DAMAGE		
OTHER/UNK.	0	0%
NONE	1	2%
VERY MINOR	0	0%
MINOR	18	40%
MODERATE	18	40%
SEVERE	8	18%
VERY SEVERE	0	0%
TOTAL VEHICLES	45	

NOTES:

Injury crashes have been vetted.

DAY/TIME TRENDS

	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	UNK		TOT.
MON	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	MON	4
TUE	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	TUE	4
WED	1	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	2	1	0	0	0	0	0	0	0	WED	7
THU	0	0	0	0	0	0	0	2	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	THU	6
FRI	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	FRI	1
SAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	SAT	1
SUN	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	SUN	1
	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	UNK		TOT.
TOT.	1	0	0	0	0	0	1	5	2	0	0	0	4	0	2	1	4	1	0	1	1	0	1	0	0	TOT.	24

Corresponds to Collision Diagram



Stormwater Management Plan

Kwik Trip Store #631
STH 167 & Maple Rd
Village of Germantown
Washington County, WI

REI # 11757



**COMPREHENSIVE
SERVICES WITH
PRACTICAL
SOLUTIONS**



Stormwater Management Plan For:

**Kwik Trip Store #631
STH 167 & Maple Rd
Village of Germantown
Washington County, WI**

REI # 11757

**Prepared For:
Kwik Trip, Inc.
1813 Kramer Street
La Crosse, WI 54602**

10/9/2024

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1.0	Introduction and Overview of the Proposed Project
2.0	Site Soils Evaluation
3.0	Water Quality
4.0	Peak Flow Reduction
5.0	Infiltration Performance
6.0	Protective Area Setbacks
7.0	Erosion Control Plan
8.0	Long Term Maintenance
9.0	References

LIST OF FIGURES

Construction Plans:	28 Sheets
Sheet STM-1 (Appendix 3&4):	Post Development Watershed Areas

LIST OF APPENDICES

Appendix 1	NR 151 Post Construction Standards
Appendix 2	Site Soils Information
Appendix 3	Water Quality Calculations & WinSLAMM Inputs
Appendix 4	Post-Development Conditions Peak Flow Analysis
Appendix 5	Detention Pond Safe Passage Analysis
Appendix 6	USLE Map & Calculations
Appendix 7	Storm Water Management Maintenance Schedule and Procedures

Executive Summary

The proposed project consists of constructing a new Kwik Trip convenience store, vehicle fueling, parking and driving surfaces, and miscellaneous other amenities. The development will occur on a 4.36-acre property located at 607 E Pioneer Street within the City of Crandon, Forest County, Wisconsin. Land disturbance associated with the project is estimated to be at 3.8 acres. The project site is a redevelopment and is subject to the post-construction stormwater requirements for a redevelopment site found within NR 151.121 - NR 151.126. The development will also require compliance defined within the *Village of Germantown Post-Stormwater Ordinance*¹ and runoff management requirements defined within the *MMSD Rules and Regulations*².

Stormwater Management requirements will be achieved utilizing overland flow coupled with a storm sewer conveyance system that routes stormwater runoff to a proposed wet detention pond. The wet detention pond will treat and detain the stormwater runoff prior to discharging it to the public storm sewer system in Maple Road.

Although the overall site exceeds the peak flow requirements defined in the *MMSD Rules and Regulations*², the peak flow leaving the wet detention pond meets said requirement. The exceedance of the overall site is due to undetained perimeter area (almost entirely greenspace) having a higher peak flow than what is required for the overall site. However, the perimeter greenspace, in all likelihood, would meet the peak volume requirements stated in the *MMSD Rules and Regulations*². For this reason, REI's professional opinion is that the site meets all required post-construction stormwater management performance standards. Additional detail relative to the stormwater management system design can be found within the report, appendices, stormwater figures, and plan set.

1.0 Introduction and Overview of the Proposed Project

Project Owner: Kwik Trip, Inc.

Project

Location: STH 167 & Maple Road

Project City: Village of Germantown

Project
County/State: Washington County, WI

Property Area: 4.36 Acres

Area of Land

Disturbance: 3.8 Acres

Existing Site Description: The existing site consists of a 9,200 sq. ft. building with associated parking and driving surfaces. Runoff is generally in the southwest direction towards Maple Road.

Proposed Development: The proposed development consists of a new Kwik Trip convenience store, vehicle fueling, parking and driving surfaces, and miscellaneous other amenities. Hydrology in the proposed condition will be similar to the existing condition. Runoff of the majority of the proposed development will be conveyed to a wet detention pond in the southwest corner of the property, which will provide stormwater management for the site.

WDNR Compliance: Wisconsin Administrative Code ch. NR 151 and NR 216

Development Classification: Re-Development

Classification: (Refer to Appendix 1 for NR 151 post-construction performance standards)

Local Compliance: Village of Germantown Post-Construction Stormwater Ordinance¹

Compliance: MMSD Rules and Regulations²

Anticipated

Construction Start Date: 4/1/2025

2.0 Site Soils Evaluation

Additional data regarding the site soils can be found in **Appendix 2** of this report.

Table 1A
Soils Summary per the Web Soil Survey³

Soil Type	USGS Classification	Infiltration Rate (in/hr)	Hydro Group	Water Table	Restrictive Depth
HmB2, HmC2	Loam	0.06 - 0.20	D	>80 in.	20 - 40 in.
HmD2	Loam	0.06 - 0.20	D	>80 in.	20 - 36 in.
OuB2	Silt Loam	0.06 - 0.20	C	~24 - 42 in.	22 - 40 in.
Sf	Sand	-	D	~60 - 80 in.	>80 in.
VsA	Silt Loam	0.60 - 2.00	B/D	~0 - 24 in.	>80 in.

Table 1B
Soils Summary per Onsite Exploration

Boring/Test Pit #	Stormwater Facility	Stormwater Facility Bottom Elv	Infiltration Rate (in/hr)	Water Table Elv	Bedrock Elv
9	Wet Det. Pond	853.00	0.04	856.4*	N/A

note: infiltration rate is based off of the limiting soil layer

***Per Geotech report, the water table elevation at B-9 is 8-ft below existing grade. Existing grade at the wet detention pond location is elevation 862± (existing grade per Geotech report is 864.4 is same location). Elevation shown on Table 1B is based on Geotech report.**

3.0 Water Quality

Calculation Appendix 3

Reference:

Figure STM-1

Reference:

Software: WinSLAMM Version 10.5

Rainfall: Green Bay, 1969 (March 29 - November 25)

State Stormwater Requirements (WDNR) 40% Total Suspended Solids (TSS) reduction of parking lots and roads in the post-development conditions as compared to no controls.

Local Stormwater Requirements (Village of Germantown) *Village of Germantown Post-Construction Stormwater Ordinance*¹ refers to current state standards for water quality requirements.

Table 2
Water Quality Device Summary

Water Quality Device	Permanent Pool Area (sf)	Storage Depth (in)	Control Structure
Wet Detention Pond	5,564	78	Manhole with weir plate having a primary 4"-dia. orifice and a secondary 5"-dia. orifice

Table 3
Total Suspended Solids (TSS) Removal Summary

Development Type	Required (% of No Control)	TSS Generated (lbs)	TSS Leaving Site (lbs)	% TSS Removed
Redevelopment	40	1,854	506.6	72.68

4.0 Peak Flow Reduction

Post-development Runoff Appendix 4
Calculation Reference:
Post-development Runoff Figure STM-1
Reference:

Software: HydroCAD Version 10.20-5a
Rainfall NRCS Rainfall Distributions and 24-hour Duration Rainfall Depths for each Wisconsin
Reference: County⁵
Rainfall MSE 3
Distribution:

State
Stormwater (WDNR) Since the project is classified as a redevelopment site it qualifies for the peak
Requirements: flow exemption as found within NR 151.123 (2) (b).
(Village of Germantown) *Village of Germantown Post-Construction Stormwater*
Local Ordinance¹ refers to runoff management requirements defined within the *MMSD Rules*
Stormwater and Regulations² which states that redevelopment sites having greater than one-half
Requirements acre of new impervious are to have peak flow no higher than 0.15 cfs and 0.5 cfs
multiplied by the area of the site for the 2-year and 100-year storm events,
respectively.

Stormwater Device Summary: Refer to Table 2

Table 4
Peak Flow Summary

Development Condition	2-yr Storm Peak Flow	100-yr Storm Peak Flow
Peak Flow Runoff Requirement (Site Area = 4.364 ac.)	0.65	2.18
Post-Development w/o detention	12.54	35.17
Post-Development (Total Site)	1.35	5.92
Post-Development (From Wet Det. Pond)	0.63	2.01

note: peak flow units are in cfs

Table 5 summarizes the results of the maximum water surface elevation in each pond
Infiltration rates for each device (if applicable) were ignored for this analysis

Calculation Appendix 5
Reference:
Figure STM-1
Reference: (Appendix 4)

Table 5
100-year Peak Water Elevation

Stormwater Device	100-Year Peak Elevation	Top of Pond Elevation	Overflow Elevation
Wet Det. Pond	863.49	864.50	863.50

5.0 Infiltration Performance

Since the project site is classified as a redevelopment site, it qualifies for the infiltration exemption as found within NR 151.123 (3) (b) 3. The *Village of Germantown Post-Construction Stormwater Ordinance*¹ refers to NR 151 regulation.

6.0 Protective Area Setbacks

There are no natural features located near the proposed project improvements that require special consideration for this project.

7.0 Erosion Control Plan

An erosion control plan, and associated details, were developed for the proposed construction and are included within the construction plan set. The site contractor will be responsible for implementing and maintaining the erosion control measures throughout construction until they may be removed following site stabilization.

Plan Sheet Sheets C600-603
Reference:

A Soil Loss & Sediment Discharge Calculation Tool (USLE) and accompanying Figure were completed to assure WDNR erosion control compliance and is included within **Appendix 6**.

8.0 Long Term Maintenance

Inspection and routine maintenance of the proposed structural and non-structural stormwater best-management practices will be required to ensure they continue to function following completion of the construction project. A maintenance schedule has been prepared and is included within **Appendix 7**. It will be the landowner's responsibility to document the inspections and ensure any followup action is completed in a timely manner.

9.0 References

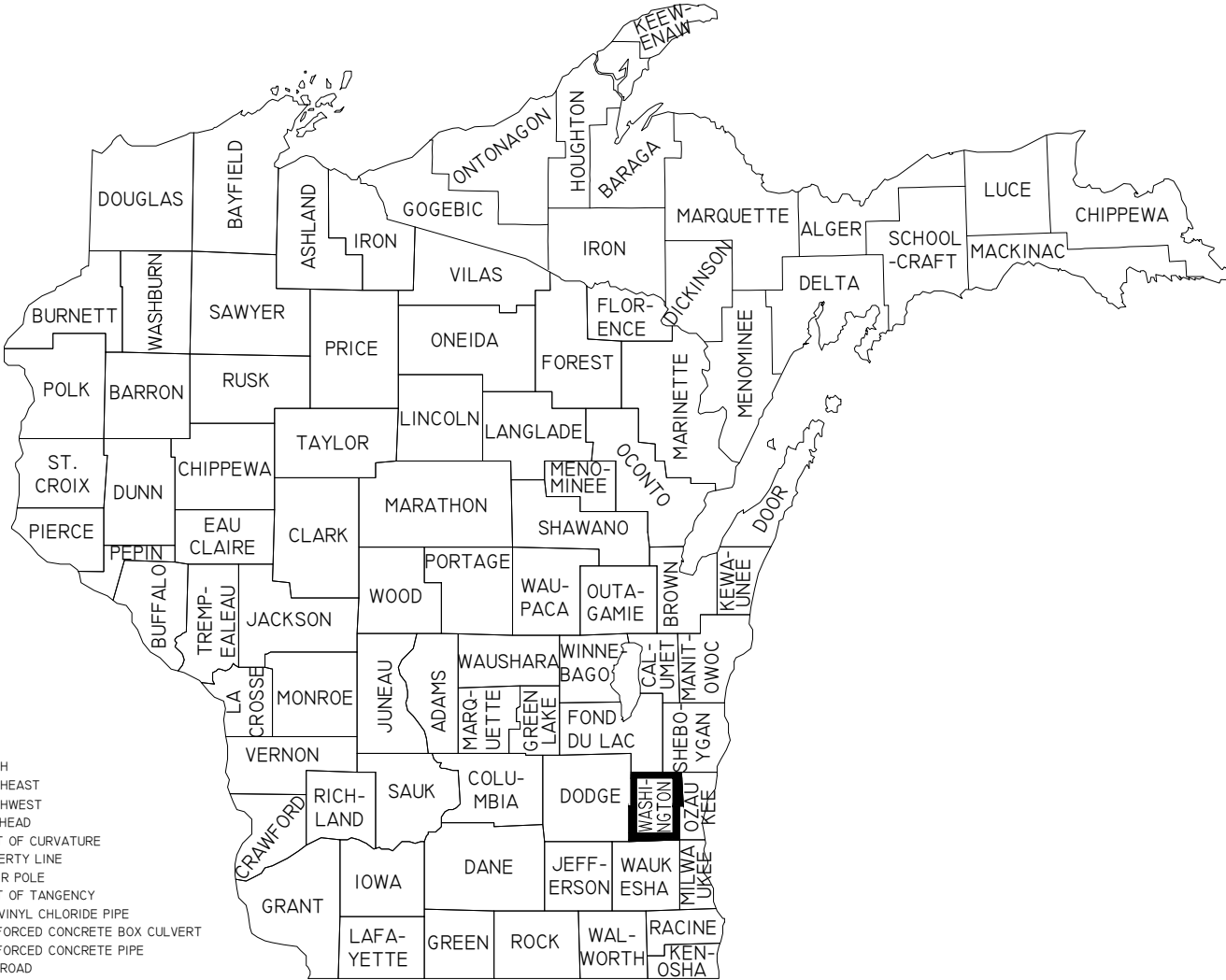
- 1) Village of Germantown Post-Construction Stormwater Ordinance. Chapter 27. Post-Construction Stormwater Management. Village of Germantown. Code of Ordinances. June 2023.
- 2) MMSD Rules and Regulations. Chapter 13. Surface Water and Stormwater. Subchapter III. Stormwater Runoff Management Requirements. Milwaukee Metropolitan Sewerage District. March 2023.
- 3) Web Soil Survey of Washington County, Wisconsin. United States Department of Agriculture. Soil Conservation Service. <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.
- 4) Site Evaluation for Stormwater Infiltration. Technical Standard 1002. Wisconsin Department of Natural Resources. Conservation Practice Standards February 2004.
- 5) NRCS Rainfall Distributions and 24-hour Duration Rainfall Depths for each Wisconsin County. National Engineering Handbook (NEH) Part 650. Chapter 2. Appendix 1. United States Department of Agriculture.

REVIEW PLANS FOR:
KWIK TRIP #631
VILLAGE OF GERMANTOWN,
WASHINGTON COUNTY, WISCONSIN

INDEX OF SHEETS

C001	TITLE SHEET
C010	ALTA
C020	DEMO PLAN
C100	SITE KEYNOTE PLAN
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C181	SITE DIMENSION PLAN
C200	GRADING PLAN
C201	GRADING PLAN DETAIL - SOUTH
C201.1	GRADING PLAN DETAIL - NORTH
C202	GRADING PLAN SPOT DETAIL - SOUTH
C202.1	GRADING PLAN SPOT DETAIL - NORTH
C203	CANOPY AND TANK GRADING DETAILS
C204	ACCESSIBILITY PLAN
C300	STORM SEWER PLAN
C400	UTILITY PLAN
C401	UTILITY NOTES
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C601	EROSION CONTROL NOTES
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C603	EROSION CONTROL DETAILS
C700	LANDSCAPE PLAN
C701	LANDSCAPE PLAN
C702	LANDSCAPE PLAN
C703	LANDSCAPE DETAILS
C800	PHOTOMETRIC LIGHTING PLAN

TOTAL SHEETS = 28



LIST OF STANDARD ABBREVIATIONS

AB	AND	(N)	NORTH
ADT	AUGER BORING	(NE)	NORTHEAST
BC	AVERAGE DAILY TRAFFIC	(NW)	NORTHWEST
BM	BOTTOM OF CURB	OH	OVERHEAD
BOC	BENCHMARK	PC	POINT OF CURVATURE
BR	BACK OF CURB	P/L	PROPERTY LINE
BS	BOTTOM OF RAMP	PP	POWER POLE
BW	BOTTOM OF STEPS	PT	POINT OF TANGENCY
CB	BOTTOM OF WALL	PVC	POLYVINYL CHLORIDE PIPE
CMAC	CATCH BASIN	RCB	REINFORCED CONCRETE BOX CULVERT
CMB	CORRUGATED METAL ARCH CULVERT	RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL BOX CULVERT	RR	RAIL ROAD
CO	CORRUGATED METAL PIPE	R/W	RIGHT OF WAY
CONC.	CLEANOUT	(S)	SOUTH
CPP	CONCRETE	SAN	SANITARY SEWER
DGB	CORRUGATED PLASTIC PIPE	SB	SOIL BORING
DIP	DENSE GRADED BASE	SS	STORM SEWER
D/S	DUCTILE IRON PIPE	STM	STORM
(E)	DOWNSTREAM	(SW)	SOUTHWEST
ELEV.	EAST	TC	TOP OF CURB
EOG	ELEVATION	TBR	TO BE REMOVED
FFE	EDGE OF GRAVEL	TLE	TEMPORARY LIMITED EASEMENT
FG	FINISHED FLOOR ELEVATION	TNH	TOP NUT FIRE HYDRANT
F.O.	FINISH GRADE	TP	TEST PIT
INL	FIBER OPTIC	TR	TOP OF RAMP
HDPE	INLET	TYP.	TYPICAL
HMA	HIGH DENSITY POLYETHYLENE PIPE	TS	TOP OF STEPS
HP	HOT MIX ASPHALT	TW	TOP OF WALL
IE	HIGH POINT	U/S	UPSTREAM
LF	INVERT ELEVATION	VAR.	VARIES
LP	LINEAL FEET	(W)	WEST
MEG	LOW POINT		
MH	MATCH EXISTING GRADE		
	MANHOLE		

LEGEND

	BENCHMARK
	1" IRON BAR
	EXISTING MANHOLE
	EXISTING TELEPHONE MANHOLE
	EXISTING STORM SEWER MANHOLE
	EXISTING SANITARY SEWER MANHOLE
	EXISTING HYDRANT
	EXISTING WATER VALVE
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING WATER SHUTOFF
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	EXISTING GAS VALVE
	EXISTING CURB INLET
	EXISTING WELL
	TEST PIT LOCATION
	SOIL BORING
	EXISTING AIR CONDITIONING UNIT
	EXISTING GAS METER
	EXISTING ELECTRIC METER
	EXISTING UTILITY PEDESTAL
	EXISTING RAILROAD TRACKS
	EXISTING TREE LINE
	EXISTING GUY POLE
	EXISTING CABLE TV
	EXISTING FIBER OPTIC CABLE
	EXISTING UNDERGROUND GAS
	EXISTING UNDERGROUND ELECTRIC
	EXISTING UNDERGROUND TELEPHONE
	EXISTING OVERHEAD UTILITIES
	EXISTING WATER MAIN
	EXISTING STORM SEWER
	EXISTING SANITARY SEWER
	EXISTING PROPERTY LINE
	PROPOSED HANDICAP PARKING
	PROPOSED CURB STOP
	PROPOSED HYDRANT
	PROPOSED WATER VALVE
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
	PROPOSED FORCE MAIN
	PROPOSED SANITARY SEWER LATERAL
	PROPOSED WATER LATERAL
	PROPOSED WATER MAIN
	PROPOSED PUMP STATION
	PROPOSED SANITARY MANHOLE
	PROPOSED STORM MANHOLE
	PROPOSED CURB INLET
	PROPOSED CATCH BASIN
	PROPOSED CLEANOUT
	PROPOSED DRAINAGE FLOW
	PROPOSED SLOPE
	PROPOSED CURB & GUTTER
	PROPOSED REJECT CURB & GUTTER
	PROPOSED MOUNTABLE CURB & GUTTER
	EXISTING GROUND CONTOUR (INTERVAL=1 FT.)
	PROPOSED GROUND CONTOUR (INTERVAL=1 FT.)
	PROPOSED SPOT ELEVATION (TOP OF CURB)
	PROPOSED SPOT ELEVATION (BOTTOM OF CURB)
	PROPOSED SILT FENCE
	PROPOSED INLET PROTECTION
	PROPOSED RIPRAP
	PROPOSED EROSION MAT
	PROPOSED SAWCUT
	PROPOSED DRAINAGE SWALE



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KWIK TRIP, Inc.
P.O. BOX 2107
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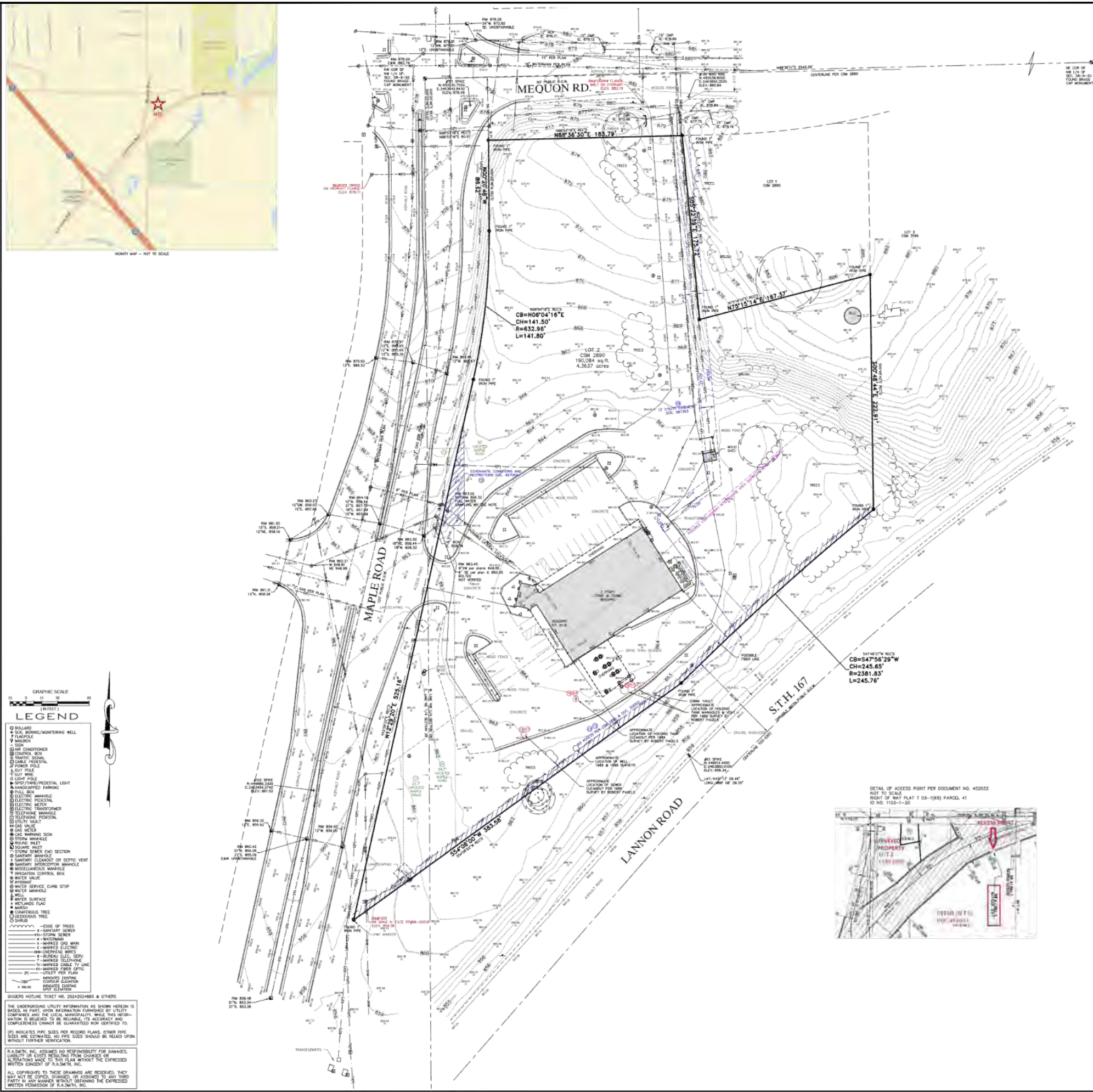


TITLE SHEET

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
1		
DRAWN BY NAP		
SCALE GRAPHIC		
PROJ. NO.	11757	
DATE	10/09/24 - REVIEW DOCUMENTS	
SHEET	C001	



ALTA/NSPS LAND TITLE SURVEY STORE #631 - GERMANTOWN

Known as N112 W18741 Mequon Road and W188N1116, W188N11758 & W188 N11762 Maple Road, in the Village of Germantown, Washington County, Wisconsin.

Lot Two (2) of CERTIFIED SURVEY MAP No. 2590 recorded in the Office of the Registrar of Deeds for Washington County, Wisconsin on April 29, 1986, in Volume 18, Pages 129-132, as Document No. 490681, said certified survey map being a part of the Northwest 1/4 of the Northwest 1/4 of Section 28 and Northeast 1/4 of the Northeast 1/4 of Section 29, Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

Prepared for: Kwik Trip, Inc.
Survey No. 157613-RSM

A. Basis of Bearings
Bearings are based on the North line of the Northwest 1/4 of Section 28-9-20, which bears North 88°38'30" East, Wisconsin State Plane Coordinate System, South Zone (NAD83/2011).

B. Title Commitment
This survey was prepared based on First American Title Insurance Company National Commercial Services title commitment number NCS-1212465-MAC, commitment date March 19, 2024, which lists the following easements and/or restrictions from schedule B-1:

1-3, 5, 10. Visible evidence shown, if any.

4, 5-9, 19. Not survey related.

11. Rights for entrance to, maintenance, construction, or repair of any utility structures, improvements or services which may be under the surface of the portion of the insured premises lying within vacated Maple Road, pursuant to Section 66.1005(2) (a) Wisconsin Statutes.

Resolution No. 12-86, resolution regarding discontinued portion of Maple Road as set forth in Quit Claim Deed recorded May 09, 1986 in Volume 885 of Records, Page 585 as Document No. 491363. Lies within or crosses the surveyed property - its location is shown.

12. Easements, dedications, reservations, provisions, relinquishments, reverts, certificates, and any other matters as provided for or delineated on Certified Survey Map No. 2890 recorded April 29, 1986, in Volume 18, Pages 129-132, as Document No. 490681 referenced in the legal description contained herein. Reference is hereby made to said plat for particulars. Lies within or crosses the surveyed property - its location is shown.

13. Covenants, Conditions and Restrictions as set forth in document recorded on April 07, 1969 in Volume 463, Page 617 as Document No. 306921. Lies within or crosses the surveyed property - its location is shown.

14. Covenants, Conditions and Restrictions as set forth in Quit Claim Deed recorded on May 07, 1983 in Volume 790 of Records, Page 86 as Document No. 452033. Does not lie within or cross the surveyed property - its location is shown-see detail. Access point is on the South side of Lannon Road, East of Surveyed property.

15. Covenants, Conditions and Restrictions as set forth in deed recorded on May 14, 1984 in Volume 627, Page 126 as Document No. 467059. Lies within or crosses the surveyed property - its location is shown.

16. Holding Tank Agreement:
Dated: September 15, 1989
Parties: Village of Germantown, Washington County, State of Wisconsin and Ron Robbins a/k/a Ronald W. Robbins
Recorded: September 23, 1989 in Volume 910 of Records, Page 119
Instrument No.: 498849. Lies within or crosses the surveyed property - it is a blanket easement - location of tank, vent and cleanout shown per 1989 survey by Robert Pagels.

17. Holding Tank Agreement:
Dated: September 13, 1991
Parties: Village of Germantown, Washington County, State of Wisconsin and Kibbern State Bank
Recorded: September 30, 1991 in Volume 1144, Page 552
Instrument No.: 506058. Lies within or crosses the surveyed property - it is a blanket easement - location of tank, vent and cleanout shown per 1989 survey by Robert Pagels.

18. Utility Easement to Wisconsin Electric Power Company and Wisconsin Bell, Inc., dated October 07, 1991, recorded/October 25, 1991 in Volume 1149, Page 649 as Document No. 587363. Lies within or crosses the surveyed property - its location is shown.

C. Flood Note
According to flood insurance rate map of the Village of Germantown, community panel number 56131C0037D, effective date of 11/02/2013, this site falls in zone X (areas determined to be outside the 0.2% annual chance floodplain).

D. Parking Spaces
There are 35 total parking spaces consisting of 31 regular and 2 handicapped parking spaces marked on this site.

E. Elevations
Elevations refer to NAVD83 Datum. Starting benchmark - Northwest 1/4 corner Section 28-9-20. Brass cap monument elevation 877.87'

F. Municipal Zoning
The zoning information listed below is taken from a Zoning Report prepared by The Village of Germantown, dated May 30, 2024.

Zoning Classification: B-3 General Business, Highway Interchange Overlay District (HIA)
Setback Requirements, not specified in letter. Listed setbacks per Zoning code provided with Letter as follows:

Principal structures
Lot Frontage at Setback: Minimum 50 ft.
Front yard: None, except that the front yard for newly constructed principal buildings shall be the average of the front yard of adjoining or neighboring properties.
Side yards: None, except as required in Sections 17.07 and 17.50
Rear yards: Minimum 25 ft.
Number of stories: Maximum 2 1/2

Accessory Building:
Front yard: Minimum 5 ft.
Side yards: Minimum 5 ft.
Rear yard: Minimum 5 ft.

Building Height:
Principal building: Maximum 45 ft.
Accessory building: Maximum 15 ft.

HIA - Highway Interchange Area District (Overlay District)
Setback: Setback from intersecting highway shall be 160' from Centerline or 100' from the right of way line (SHOWN), whichever is greater, or 50 feet from the right-of-way of a frontage road

Parking Requirements 1 space for each 200 square feet of floor area, plus 1 space for each 2 employees.
The subject parcel is located within a wellhead protection area, which may impact sign design and placement.

G. Notes
As to Table A Item 11
Surveyor's responsibility to coordinate markings shall be limited to one marking request to 811 (national "call before you dig" number) based on the property address, as provided by the client.
Note to the client, insurer, and lender - With regard to Table A, Item 11, information from the sources checked within will be combined with observed evidence of utilities pursuant to Section 5.5 in. To develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response.
As of the field date indicated below in certificate (most recent site visit/inspection), it appears some underground utilities were not marked. This affected the surveyor's assessment of the location of the utilities resulting in partial illustration and/or mapping per plan. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

There are proposed changes in street right of way lines. Document 467059 (Exception 15 - blue hatch) indicates areas subject to dedication upon request.

There is no visible evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork.

The area computed land area of Lot 2 does not match CSM 2590, and is less than the platted Lot by 1.966 s.f. or 0.045 ac.

Sanitary manhole note - from Timothy Zimmerman at Village of Germantown (germantown@germantown.gov)
- Misc. Manhole near entrance to Maple Road is a Sanitary manhole. Vis. find the manhole full of water.

To: Kwik Trip, Inc., a Wisconsin corporation
First American Title Insurance Company National Commercial Services

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS and includes Items 1, 2, 3, 4, 5, 6(a), 6(b), 7(a), 7(b), 8, 9, 11(a), 11(b), 14, 17, 18, 20(a) and 20(b) of Table A thereof. The fieldwork was completed on May 23, 2024.

Date of Plat or Map: June 12, 2024

I CERTIFY, that this survey was prepared under my supervision and is correct to the best of my professional knowledge and belief and complies with Chapter A-8.7 of the Wisconsin Administrative Code.

John P. Casucci
JOHN P. CASUCCI
PROFESSIONAL LAND SURVEYOR
REGISTRATION NUMBER 5-2055
JOHN.CASUCCI@GMAIL.COM

John P. Casucci
Professional Land Surveyor
Registration Number 5-2055
john.casucci@gmail.com

raSmith
LAND TITLE SURVEYING & CONSULTING
14145 W. Wisconsin Road
Bloomfield, WI 54923-2908
(920) 781-1000
FAX: (920) 781-1000

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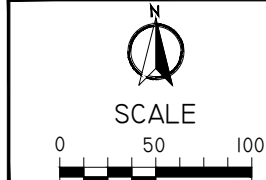
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KWIK STAR

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KWIK TRIP, Inc.
P.O. BOX 2107
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ALTA
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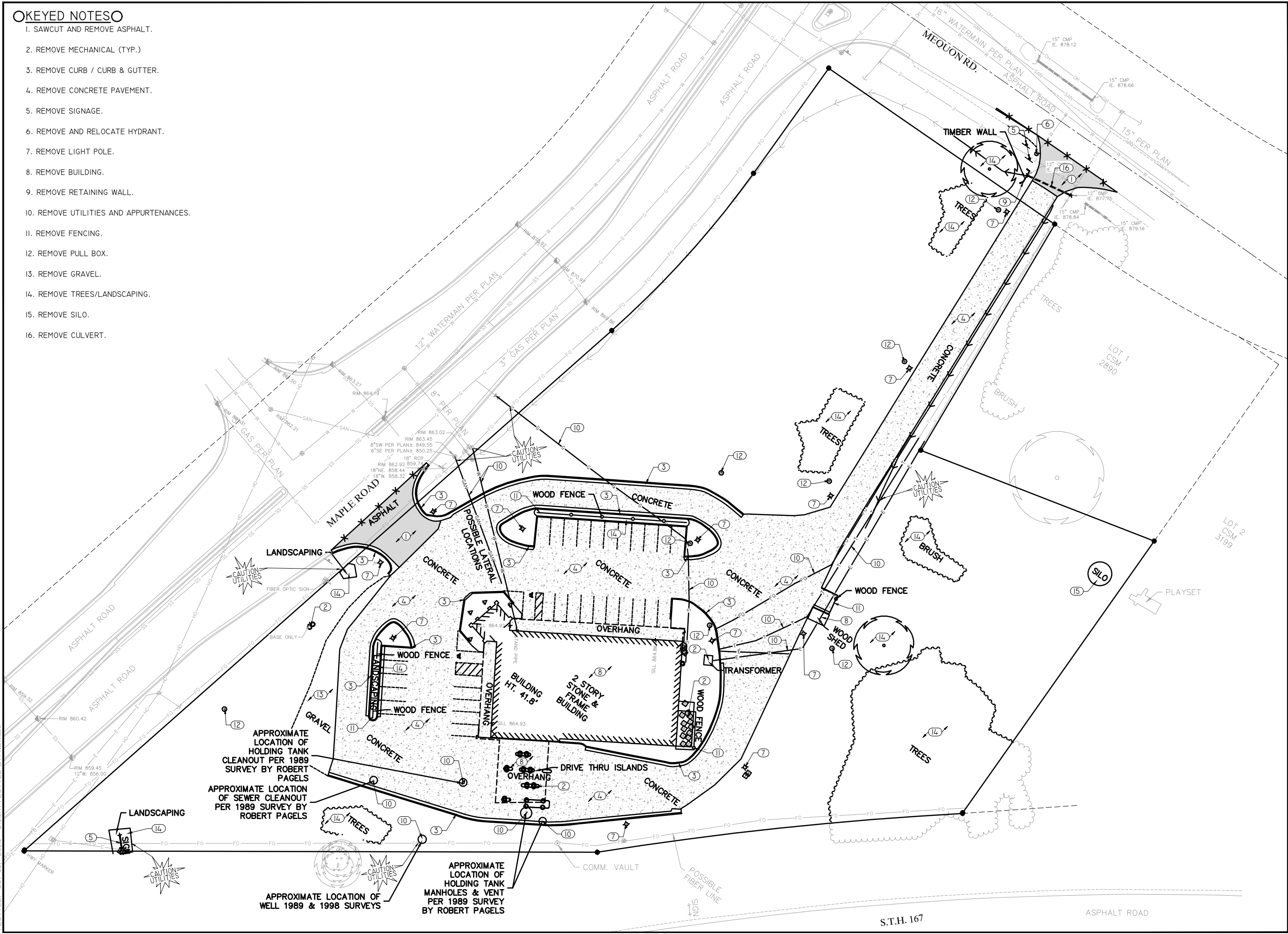
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C010

OKEYED NOTES

- 1. SAWCUT AND REMOVE ASPHALT.
- 2. REMOVE MECHANICAL (TYP.)
- 3. REMOVE CURB / CURB & GUTTER.
- 4. REMOVE CONCRETE PAVEMENT.
- 5. REMOVE SIGNAGE.
- 6. REMOVE AND RELOCATE HYDRANT.
- 7. REMOVE LIGHT POLE.
- 8. REMOVE BUILDING.
- 9. REMOVE RETAINING WALL.
- 10. REMOVE UTILITIES AND APPURTENANCES.
- 11. REMOVE FENCING.
- 12. REMOVE PULL BOX.
- 13. REMOVE GRAVEL.
- 14. REMOVE TREES/LANDSCAPING.
- 15. REMOVE SILO.
- 16. REMOVE CULVERT.



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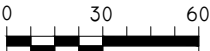
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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

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CIVIL & ENVIRONMENTAL
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REI Engineering, INC.
4080 N. 20TH AVENUE
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PHONE: 715.673.9704 FAX: 715.673.4060
EMAIL: MAIL@REIENGINEERING.COM



SCALE



DEMO PLAN

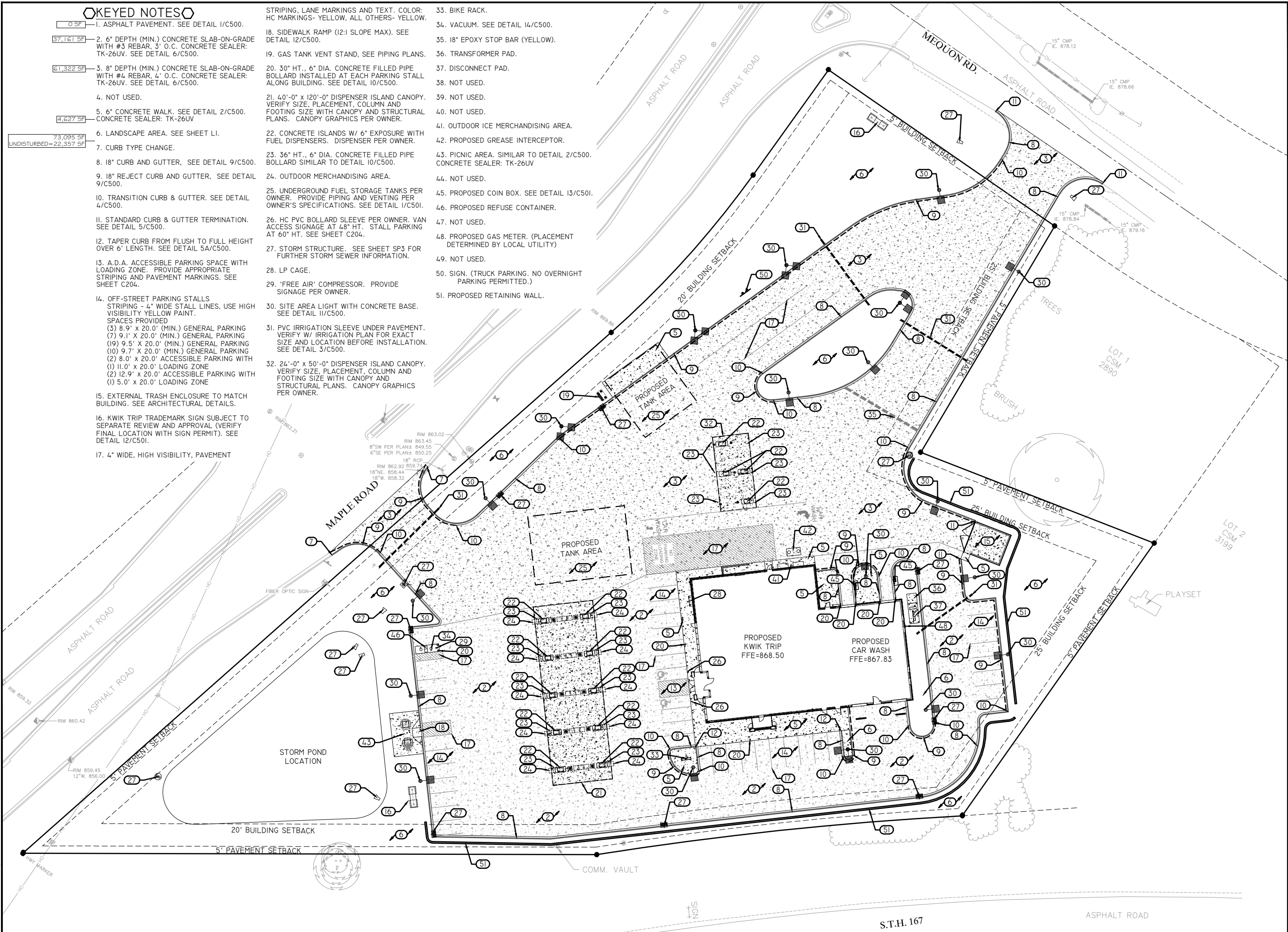
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STH 167 & MAPLE ROAD
GERMANTOWN, WI

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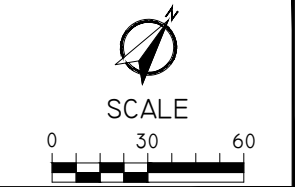


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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

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REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
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SITE KEYNOTE PLAN

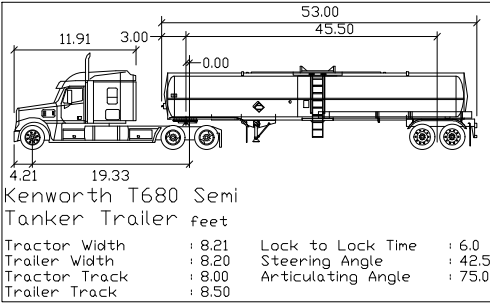
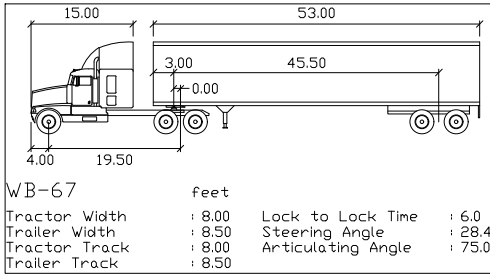
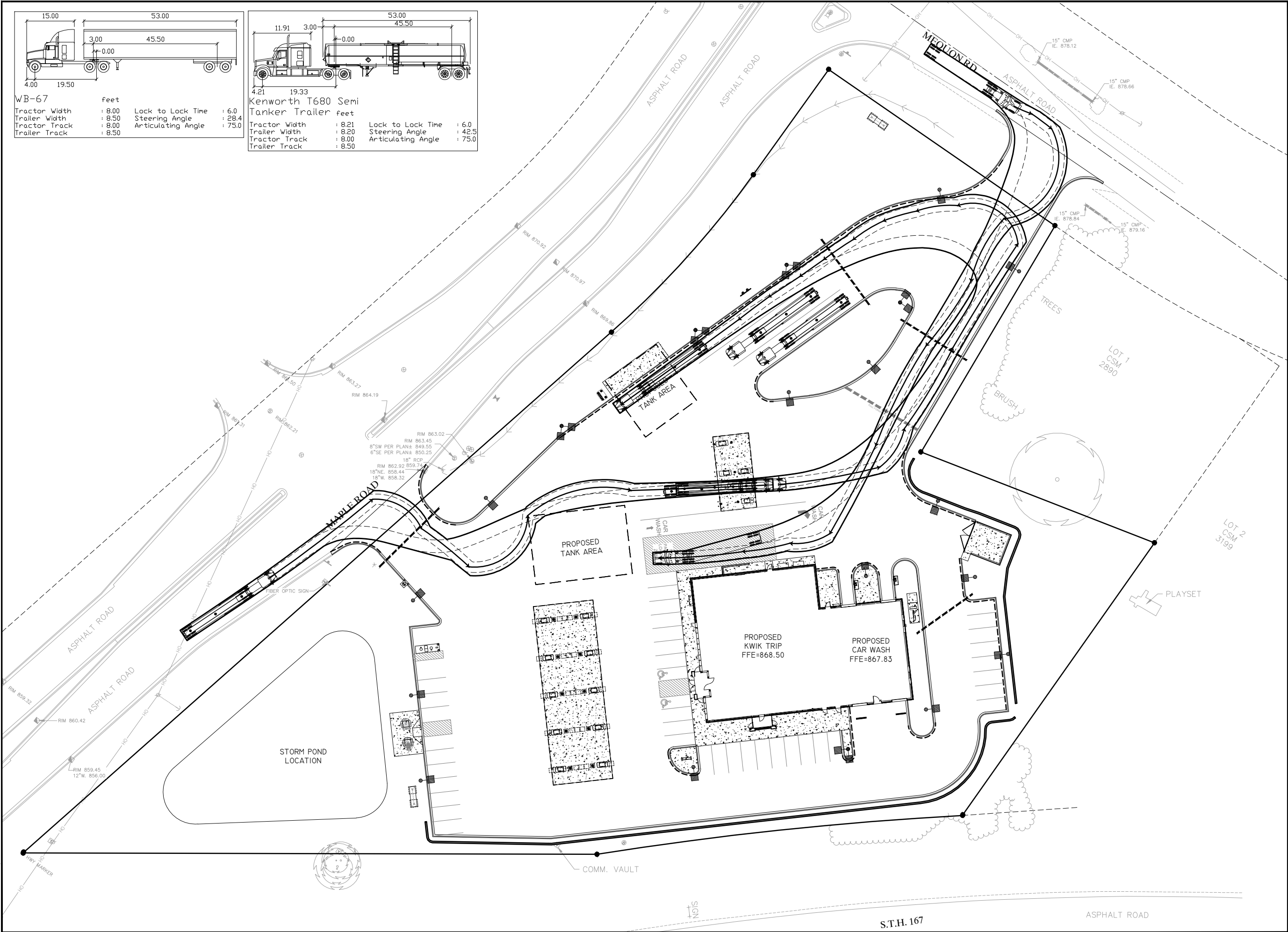
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KWIK TRIP

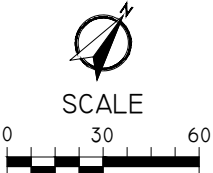
STORES

KWIK STAR

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9104 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



SITE CIRCULATION
PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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DRAWN BY	NAP
SCALE	GRAPHIC
PROJ. NO.	11757
DATE	10/09/24 - REVIEW DOCUMENTS
SHEET	C180

DRAWING FILE: Q:\11700-11799\11757 - KWIK TRIP #631 - GERMANTOWN\DRAWING\PLANS\11757-C181-SITE PLAN.DWG LAYOUT: C181
PLOTTED: OCT 08, 2024 - 3:26PM PLOTTED BY: NATHAN P

LAYOUT NOTES:

1. PLAN PREPARED FROM AN ALTA/ACSM LAND TITLE SURVEY BY:
R.A. SMITH, INC.
262-781-1000
2. CURBS ARE DIMENSIONED TO BACK OF CURB.
3. CONVENIENCE STORE, AND ISLAND COMPLEXES ARE LOCATED FROM THE NORTHEASTERN MOST PROPERTY CORNER AND ALIGNED PARALLEL/PERPENDICULAR TO THE REFERENCE LINE LABELED N47°37'24"E, UNLESS OTHERWISE INDICATED ON THIS PLAN.
4. UNLESS SHOWN OTHERWISE ON THIS DRAWING, CONTRACTOR SHALL PROVIDE CONTROL JOINTS, CONSTRUCTION JOINTS, AND EXPANSION JOINTS IN SLAB ON GRADE, SIDEWALKS AND DRIVES.
CONTROL JOINT MAXIMUM DISTANCE: WALKS- 8' O.C., ALL OTHERS- 15' O.C. SAW CUT CONTROL JOINTS MINIMUM ONE-QUARTER CONCRETE THICKNESS.
EXPANSION JOINT MAXIMUM DISTANCE: WALKS- 24' O.C., ALL OTHERS- 40' O.C. DOWEL ALL EXPANSION JOINTS- MAXIMUM 24" O.C.
5. CONCRETE IN ISLAND COMPLEX SHALL BE SMOOTH FINISHED.
6. EXTERIOR CONCRETE SURFACES TO BE SEALED.
CONCRETE SEALER:
APR 15- OCT 31 USE: TK-26UV
NOV 1- DEC 31 USE: TK-290
7. EXPANSION JOINTS SHALL BE DECK-O-FOAMED AND CAULKED WITH SLI.
8. DIAGONAL STRIPING LINES (HATCHING) IN THE " NO PARKING LOADING ZONE" AREA AND ANY OTHER AREA THAT IS HATCHED SHALL BE SPACED 5' ON CENTER.
9. LETTERING FOR ALL WORDING SUCH AS " NO PARKING LOADING ZONE" AND CARWASH SHOULD BE 12" TALL.
10. ALL DIAGONAL STRIPING SHALL BE ANGLED AS CLOSE TO DIMENSIONED ANGLE AS POSSIBLE.
- II. CURBS AROUND THE RAISED FILLS SHALL BE PAINTED YELLOW.

↑↑ - FOR INFORMATIONAL PURPOSES ONLY

SITE DATA:

ZONING DISTRICT: B3
TOTAL SITE AREA - EXISTING/PROPOSED: 190,357 SF
EX. IMPERVIOUS: 61,276 SF (32%)
EX. PERVIOUS: 129,081 SF (68%)
PARKING REQUIREMENTS
PARKING REQUIRED
PARKING PROVIDED
BUILDING HEIGHTS
CONVENIENCE STORE
CANOPY
SERVICE STATION
= 1 STALL PER 2
EMPLOYEES +1
42 STALLS
20.0'
19.5'

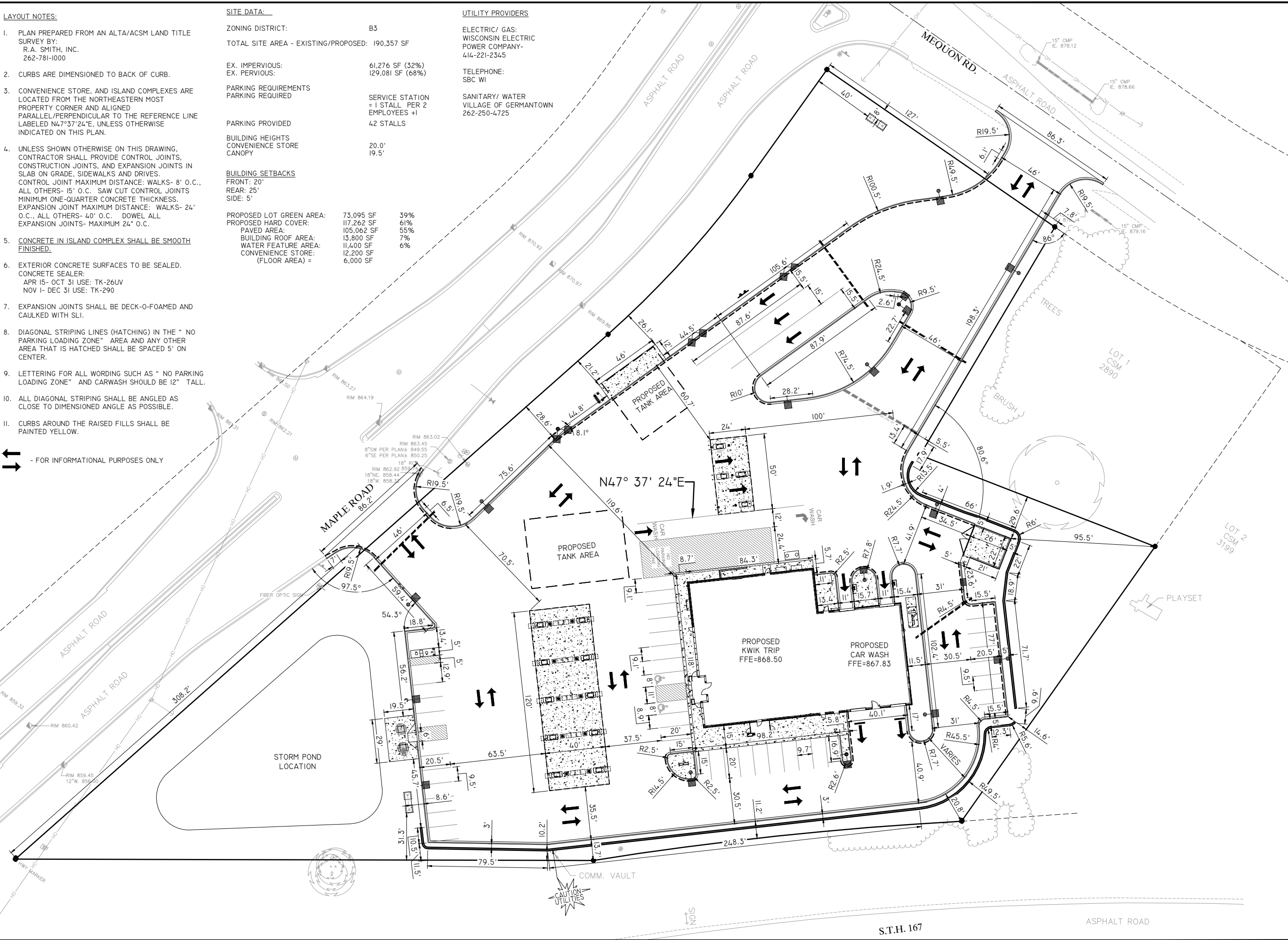
BUILDING SETBACKS

FRONT: 20'
REAR: 25'
SIDE: 5'

PROPOSED LOT GREEN AREA: 73,095 SF 39%
PROPOSED HARD COVER: 117,262 SF 61%
PAVED AREA: 105,062 SF 55%
BUILDING ROOF AREA: 13,800 SF 7%
WATER FEATURE AREA: 11,400 SF 6%
CONVENIENCE STORE:
(FLOOR AREA) = 6,000 SF

UTILITY PROVIDERS

ELECTRIC/ GAS:
WISCONSIN ELECTRIC
POWER COMPANY-
414-221-2345
TELEPHONE:
SBC WI
SANITARY/ WATER
VILLAGE OF GERMANTOWN
262-250-4725



**KWIK
TRIP**

STORES

**KWIK
STAR**

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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
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CIVIL & ENVIRONMENTAL
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REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9194 FAX: 715.675.4060
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SCALE



SITE DIMENSION PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
		
DRAWN BY		NAP
SCALE		GRAPHIC
PROJ. NO.		11757
DATE		10/09/24 - REVIEW DOCUMENTS
SHEET		C181

NOTE: CONTRACTOR TO OBTAIN RIGHT-OF-WAY EXCAVATION PERMIT PRIOR TO BEGINNING SITE WORK.

CALL DIGGERS HOTLINE @ 1-800-242-8511 AT LEAST 3 WORKING DAYS PRIOR TO EXCAVATING.

CONSTRUCTION NOTE:

COORDINATE WITH OWNER FOR POSSIBLE CONSTRUCTION FENCING AND GATE LOCATIONS AND APPROPRIATE SIGNAGE INSTALLATION.

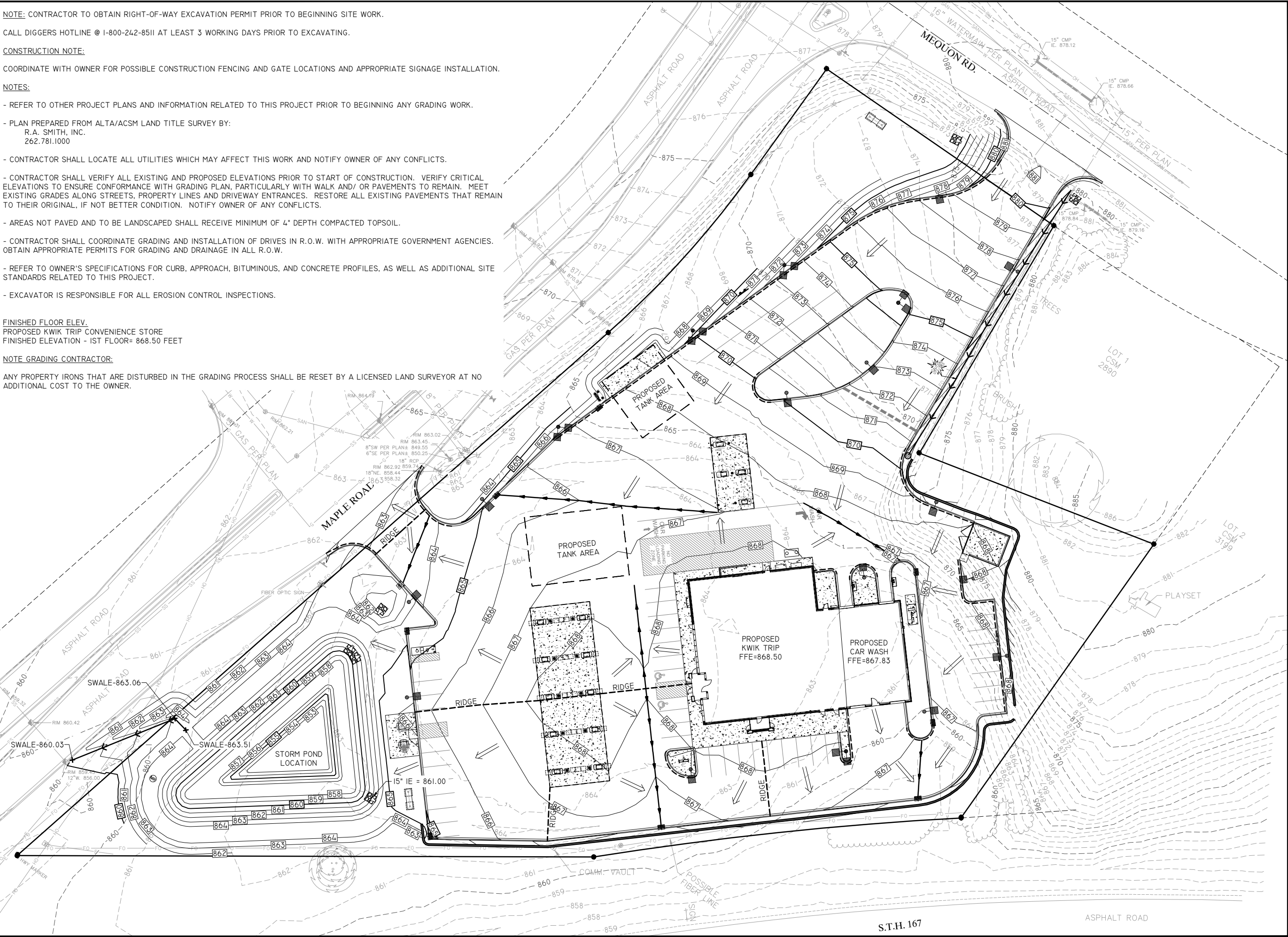
NOTES:

- REFER TO OTHER PROJECT PLANS AND INFORMATION RELATED TO THIS PROJECT PRIOR TO BEGINNING ANY GRADING WORK.
- PLAN PREPARED FROM ALTA/ACSM LAND TITLE SURVEY BY:
R.A. SMITH, INC.
262.781.1000
- CONTRACTOR SHALL LOCATE ALL UTILITIES WHICH MAY AFFECT THIS WORK AND NOTIFY OWNER OF ANY CONFLICTS.
- CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED ELEVATIONS PRIOR TO START OF CONSTRUCTION. VERIFY CRITICAL ELEVATIONS TO ENSURE CONFORMANCE WITH GRADING PLAN, PARTICULARLY WITH WALK AND/ OR PAVEMENTS TO REMAIN. MEET EXISTING GRADES ALONG STREETS, PROPERTY LINES AND DRIVEWAY ENTRANCES. RESTORE ALL EXISTING PAVEMENTS THAT REMAIN TO THEIR ORIGINAL, IF NOT BETTER CONDITION. NOTIFY OWNER OF ANY CONFLICTS.
- AREAS NOT PAVED AND TO BE LANDSCAPED SHALL RECEIVE MINIMUM OF 4" DEPTH COMPACTED TOPSOIL.
- CONTRACTOR SHALL COORDINATE GRADING AND INSTALLATION OF DRIVES IN R.O.W. WITH APPROPRIATE GOVERNMENT AGENCIES. OBTAIN APPROPRIATE PERMITS FOR GRADING AND DRAINAGE IN ALL R.O.W.
- REFER TO OWNER'S SPECIFICATIONS FOR CURB, APPROACH, BITUMINOUS, AND CONCRETE PROFILES, AS WELL AS ADDITIONAL SITE STANDARDS RELATED TO THIS PROJECT.
- EXCAVATOR IS RESPONSIBLE FOR ALL EROSION CONTROL INSPECTIONS.

FINISHED FLOOR ELEV.
PROPOSED KWIK TRIP CONVENIENCE STORE
FINISHED ELEVATION - 1ST FLOOR= 868.50 FEET

NOTE GRADING CONTRACTOR:

ANY PROPERTY IRONS THAT ARE DISTURBED IN THE GRADING PROCESS SHALL BE RESET BY A LICENSED LAND SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.



**Kwik
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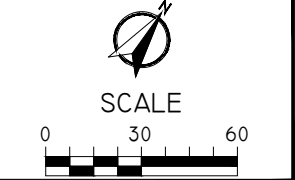
STORES

**Kwik
STAR**

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P.O. BOX 2107
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PH. (608) 781-8988
FAX (608) 781-8960

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CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
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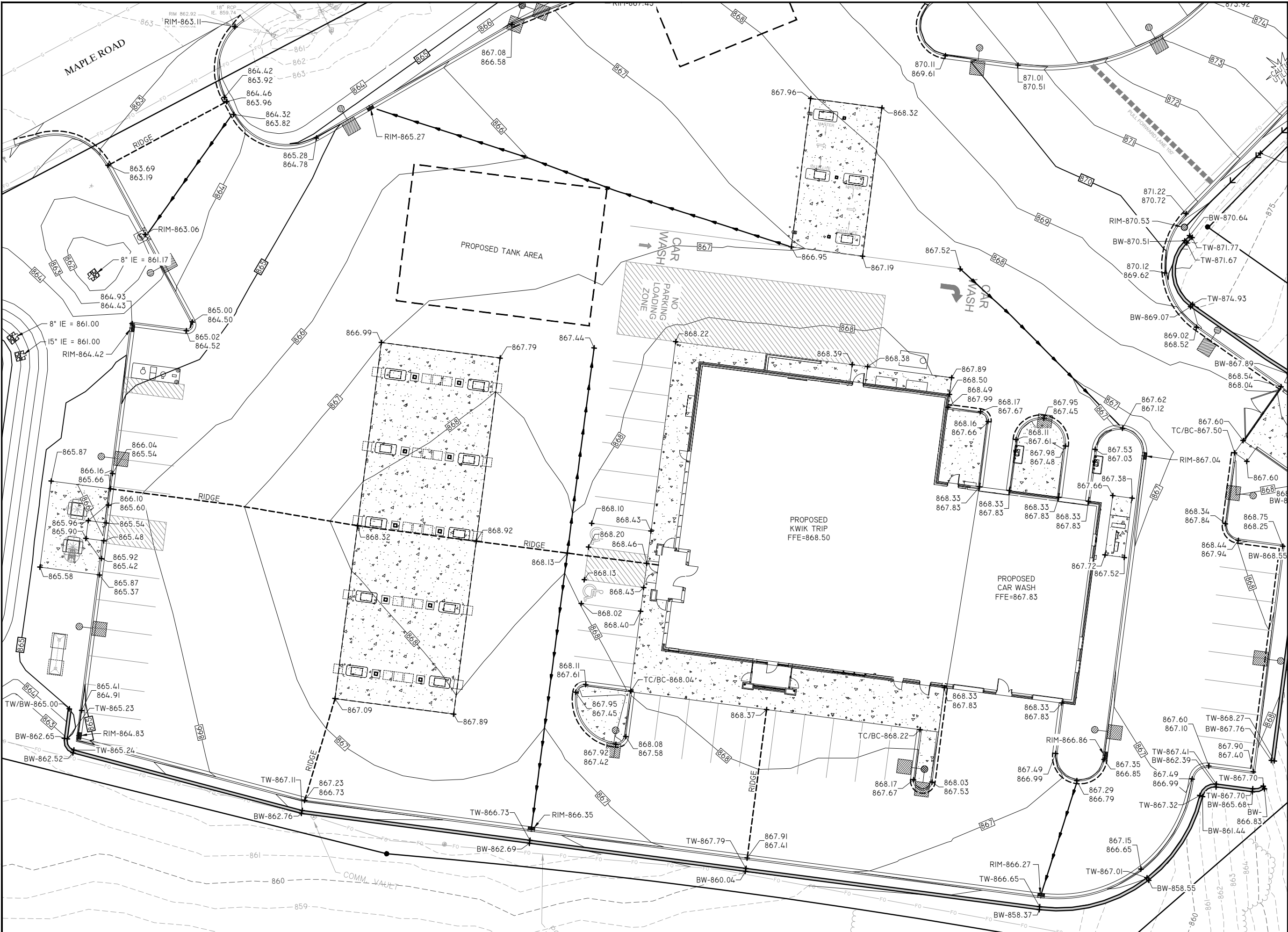
GRADING PLAN

CONVENIENCE STORE #631

**STH 167 & MAPLE ROAD
GERMANTOWN, WI**

#	DATE	DESCRIPTION
		

DRAWING FILE: Q:\11700-11799\11757 - KWIK TRIP #631 - GERMANTOWN\DRAWING\PLANS\11757-C200-GRADING PLANS.DWG LAYOUT: C201
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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

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CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



SCALE



GRADING PLAN DETAIL
- SOUTH

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
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P.O. BOX 2107
1626 OAK STREET
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SCALE



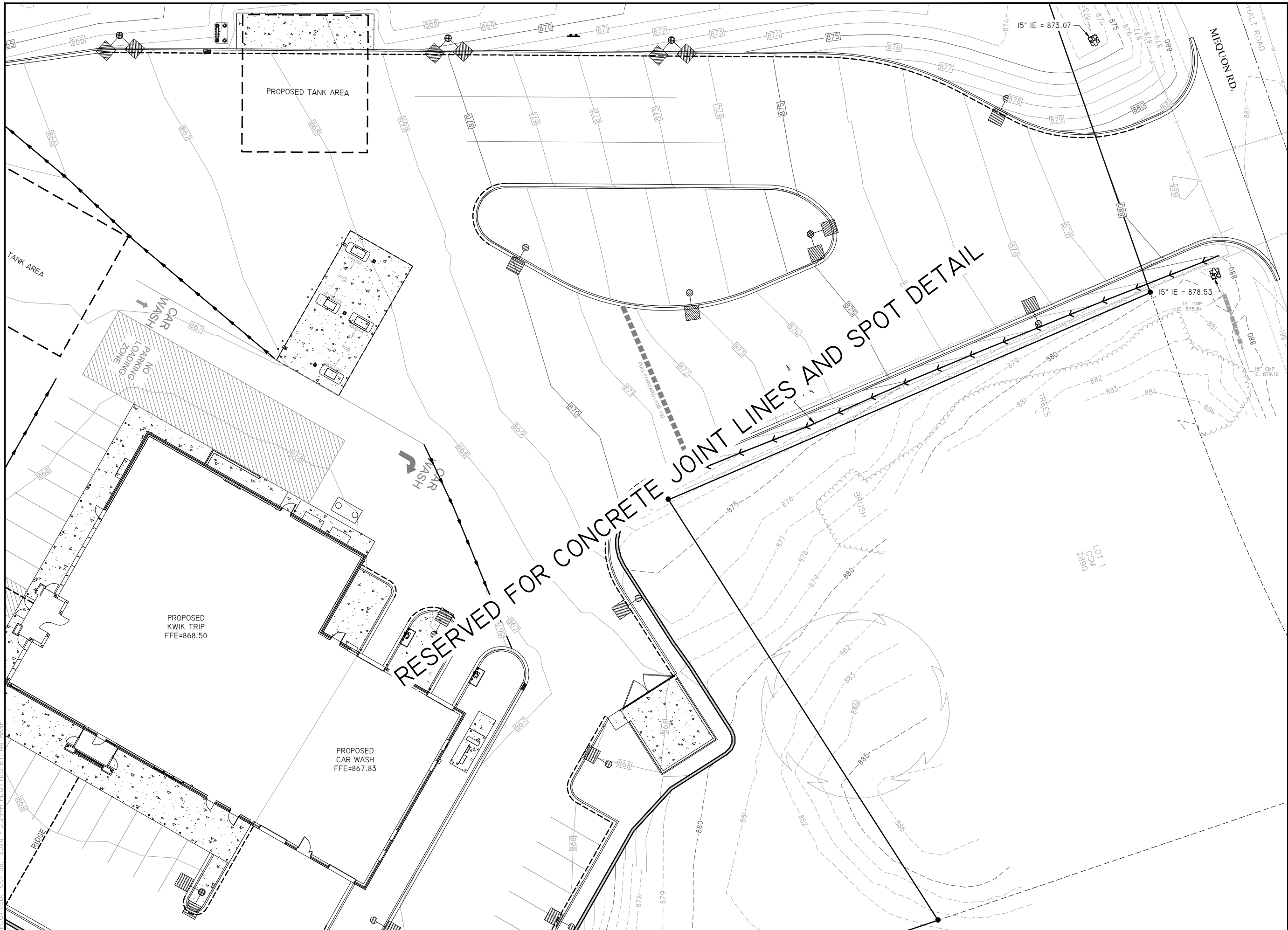
GRADING PLAN DETAIL
- NORTH

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9184 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



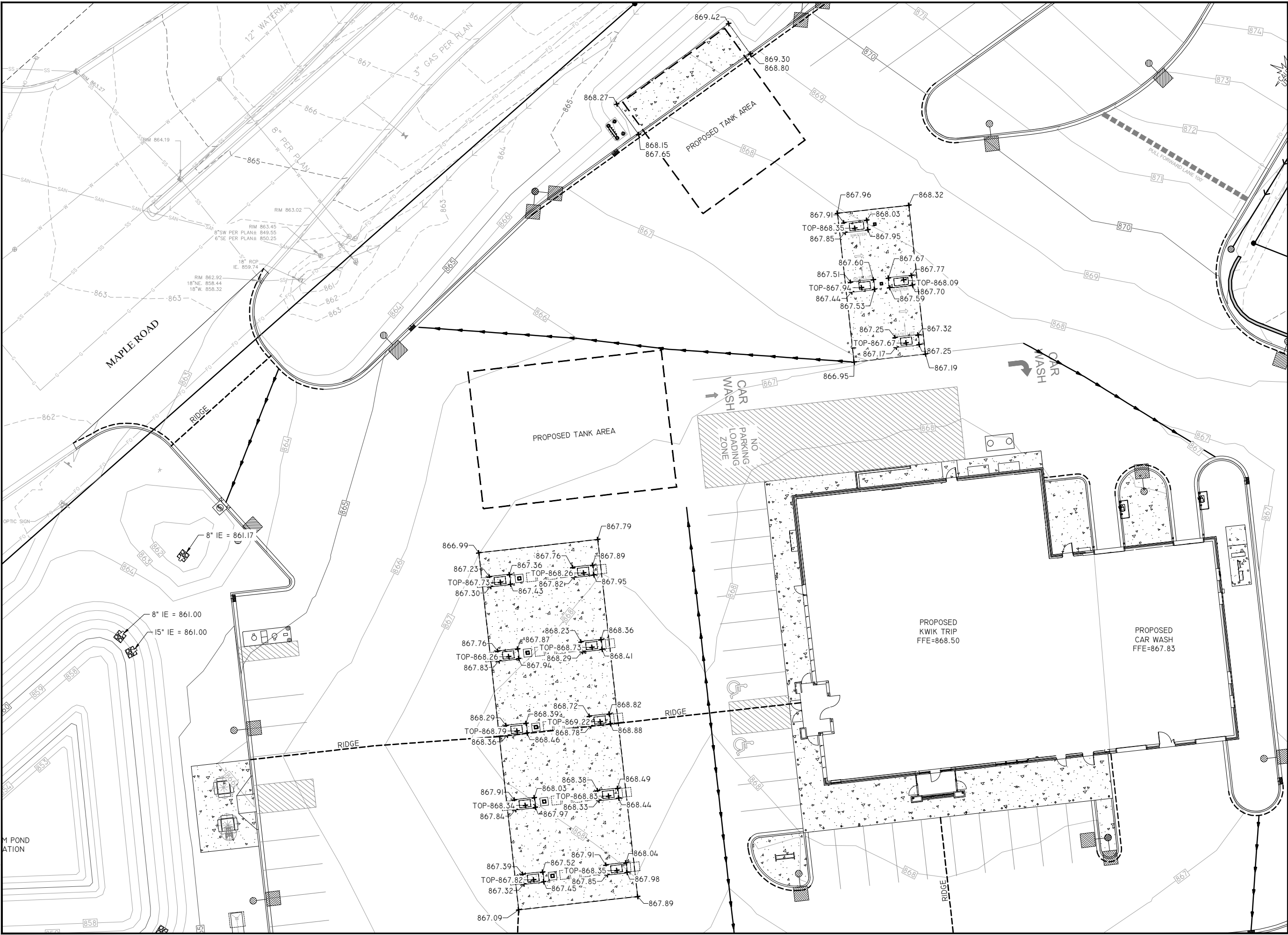
GRADING PLAN SPOT
DETAIL - NORTH

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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DRAWING FILE: Q:\11700-11799\11757 - KWIK TRIP #631 - GERMANTOWN\DRAWING\PLANS\11757-C200-GRADING PLANS.DWG LAYOUT: C203
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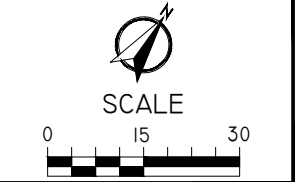
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KWIK TRIP, Inc.
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LA CROSSE, WI 54602-2107
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REI Engineering, INC.
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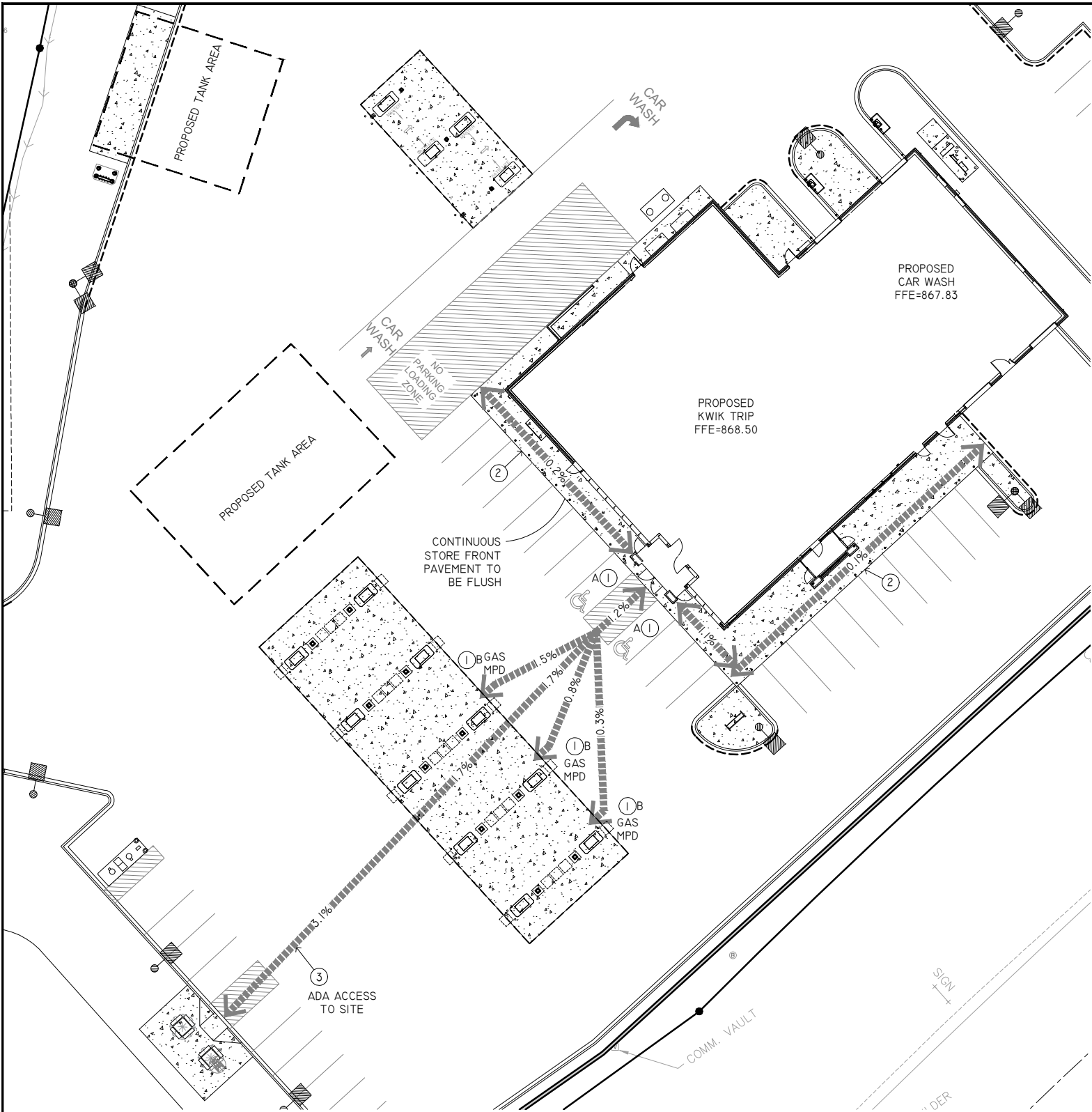
CANOPY AND TANK
GRADING DETAILS

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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PLOTTED: OCT 08, 2024 - 3:50PM PLOTTED BY: NATHANP



PLAN KEYNOTES

- ACCESSIBLE STALLS
 - STRIPING - 4" WIDE STALL LINES, USE HIGH VISIBILITY BLUE PAINT.
- SPACES PROVIDED
 - 8'-0"X 20'-0" ACCESSIBLE PARKING WITH (1) 11'-0"X 20'-0" LOADING ZONE
- ACCESSIBLE FUELING POINT AND DISPENSER AND VALET. VALET AND KEY PAD ON PUMP SHALL CONFORM TO ADA REACH DIMENSIONS AS SHOWN IN DETAIL. SEE NOTES FOR CONVENIENCE STORE ACCESSIBILITY.
- PAVEMENTS FLUSH FOR ACCESSIBILITY.
- ACCESSIBLE ROUTE TO STORE.



Know what's below.
Call before you dig.

NOTES FOR CONVENIENCE STORE ACCESSIBILITY
AT LEAST 1 MPD (MULTI PRODUCT DISPENSER) COVERING ALL GRADES OF FUEL MUST BE ACCESSIBLE IN A 30'X48" CLEAR LEVEL FLOOR AREA (CLF).

ALL PUMP CONTROLS SHALL BE < 48" (2010 STANDARD). WINDOW WASHER, PAPER TOWEL DISPENSER, LITERATURE, FIRE EXTINGUISHER, EMERGENCY FUEL STOPS, ETC. BE ACCESSIBLE 30'X48" CLF SPACE AND WITHIN A FORWARD OR SIDE APPROACH REACH RANGE.

PROVIDE ISA (INDUSTRY STANDARD ARCHITECTURE) AT EACH ACCESSIBLE FUEL POSITION ON FACE OF PUMP.

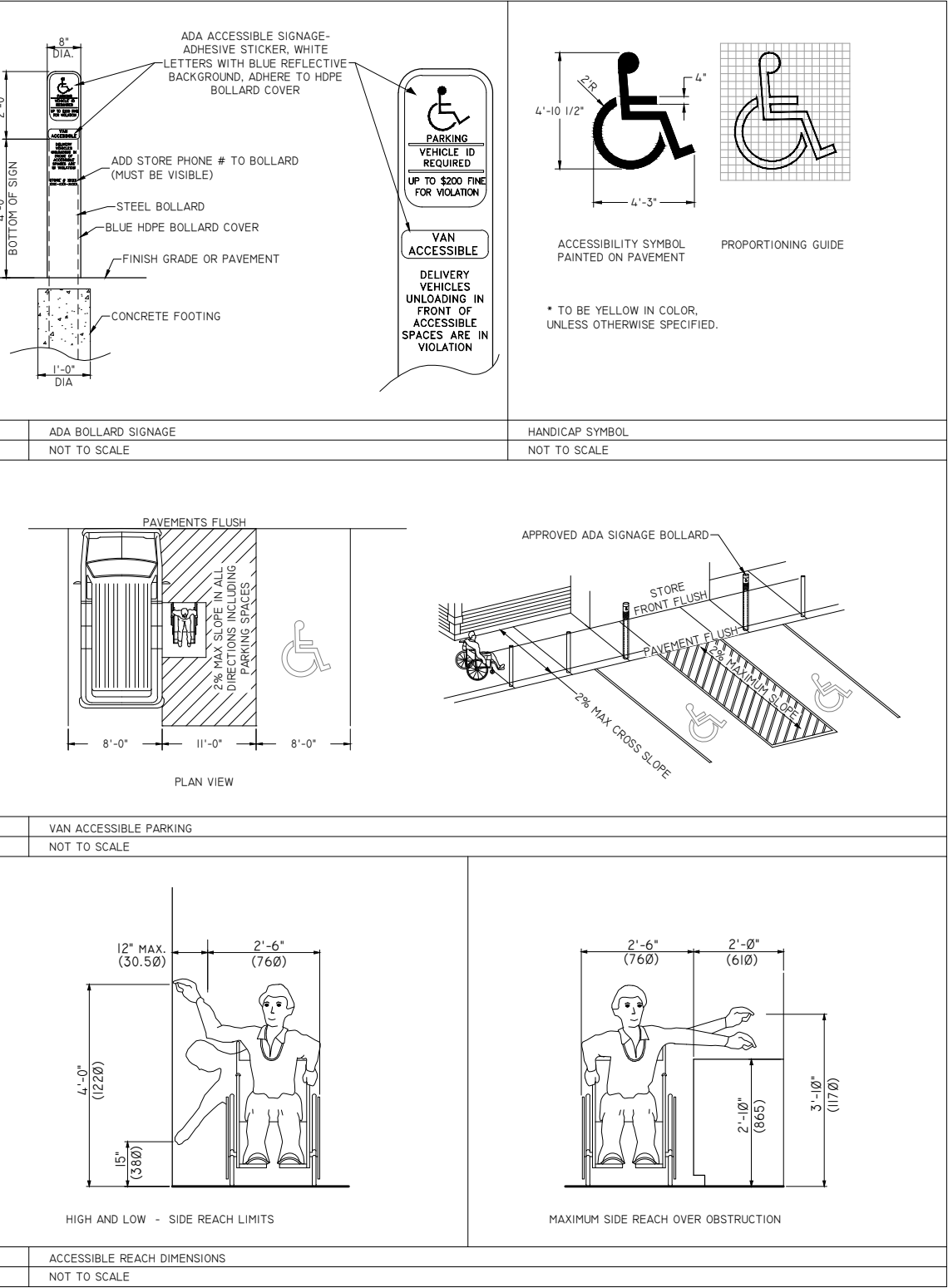
PROVIDE ISA AT EACH ACCESSIBLE FUELING POSITION VISIBLE TO APPROACHING VEHICLES.

PROVIDE A SIGN AT EACH ACCESSIBLE FUELING POSITION WITH STORE TELEPHONE NUMBER, ADVISING AVAILABLE FUELING ASSISTANCE.

ANY PAY FUNCTION- I.E. AIR/VACUUM ETC. ARE REQUIRED TO HAVE AN ACCESSIBLE ROUTE TO STORE ENTRANCE. CONTROLS SHALL BE ACCESSIBLE 30'X48" CLF SPACE AND WITHIN A FORWARD OR SIDE APPROACH REACH RANGE.

NOTES:

- REFER TO THE DOCUMENT FROM THE DEPARTMENT OF JUSTICE ON "2010 ADA STANDARDS FOR ACCESSIBLE DESIGN". CONTRACTOR SHALL REFERENCE CURRENT A.D.A. GUIDELINES AND LOCAL REGULATIONS FOR SITE ACCESSIBILITY. IN ALL CASES THE MINIMUM REQUIREMENTS SHALL BE PROVIDED ON SITE TO ENSURE COMPLIANCE TO ALL REGULATIONS.
- KWIK TRIP STANDARD ENTRANCE DOOR IS AUTOMATIC SLIDING DOOR SYSTEM DESIGNED TO COMPLY WITH ALL ACCESS CODES AND LAWS. ENTRANCE DOORS FOR ACCESSIBLE ROUTES WILL HAVE A MINIMUM CLEAR OPENING OF 32"
- STORE FRONTS WILL PROVIDE FLUSH PAVEMENTS ALONG ACCESSIBLE ROUTES WITH PROTECTIVE SECURITY BOLLARDS INDICATED AND SPACED BETWEEN PARKING SURFACES AND BUILDING WALK PER PLAN.
- NO OBJECTS OR DISPLAYS SHOULD PROTRUDE INTO THE MINIMUM CLEAR SPACE OF THE ACCESSIBLE ROUTES TO THE STORE ENTRANCE. THIS WILL INCLUDE SEASONAL DISPLAY VENDING AREAS AS WELL AS OTHER OUTDOOR STORAGE UNITS FOR PROPANE AND ICE, ETC.
- PER A.D.A GUIDELINES- CLEAR WIDTH OF ACCESSIBLE ROUTES SHALL BE 36" AND PERMITTED TO BE REDUCED TO 32" FOR A LENGTH OF 24".
- ACCESS ISLES SERVING WHEEL CHAIR LIFTS OR CHAIR ACCESS FROM VEHICLES ARE REQUIRED TO BE NEARLY LEVEL IN ALL DIRECTIONS TO PROVIDE SAFE TRANSFER OF WHEELCHAIRS TO AND FROM VEHICLES. THE EXCEPTION WOULD BE FOR DRAINAGE. MAXIMUM SLOPE FOR THE ACCESS ISLE IS 1:48. NO CURB RAMPS SHALL BE A PART OF THE ACCESS ISLE.
- IDENTIFICATION SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY WITH THE DESIGNATION OF 1 "VAN ACCESSIBLE" IN EVERY 8 ACCESSIBLE SPACES ON SITE.



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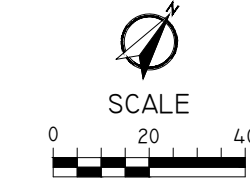
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P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

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CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9184 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



ACCESSIBILITY PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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DATE: 10/09/24 - REVIEW DOCUMENTS
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I. PRETX UNIT. SEE DETAIL I/C502.

2. INSTALL OIL SEPARATOR ON OUTLET PIPE OF PROPOSED CATCH BASIN. (SNOUT OR APPROVED EQUAL)

3. INSTALL STORM SEWER INLET WITH NO SUMP. SEE DETAIL 7 & II/C50I.

3A. INSTALL STORM SEWER INLET WITH 36"
SUMP. SEE DETAIL 7 & 8/C501.

4. CORE AND CONNECT 12" HDPE PIPE TO EXISTING STRUCTURE.

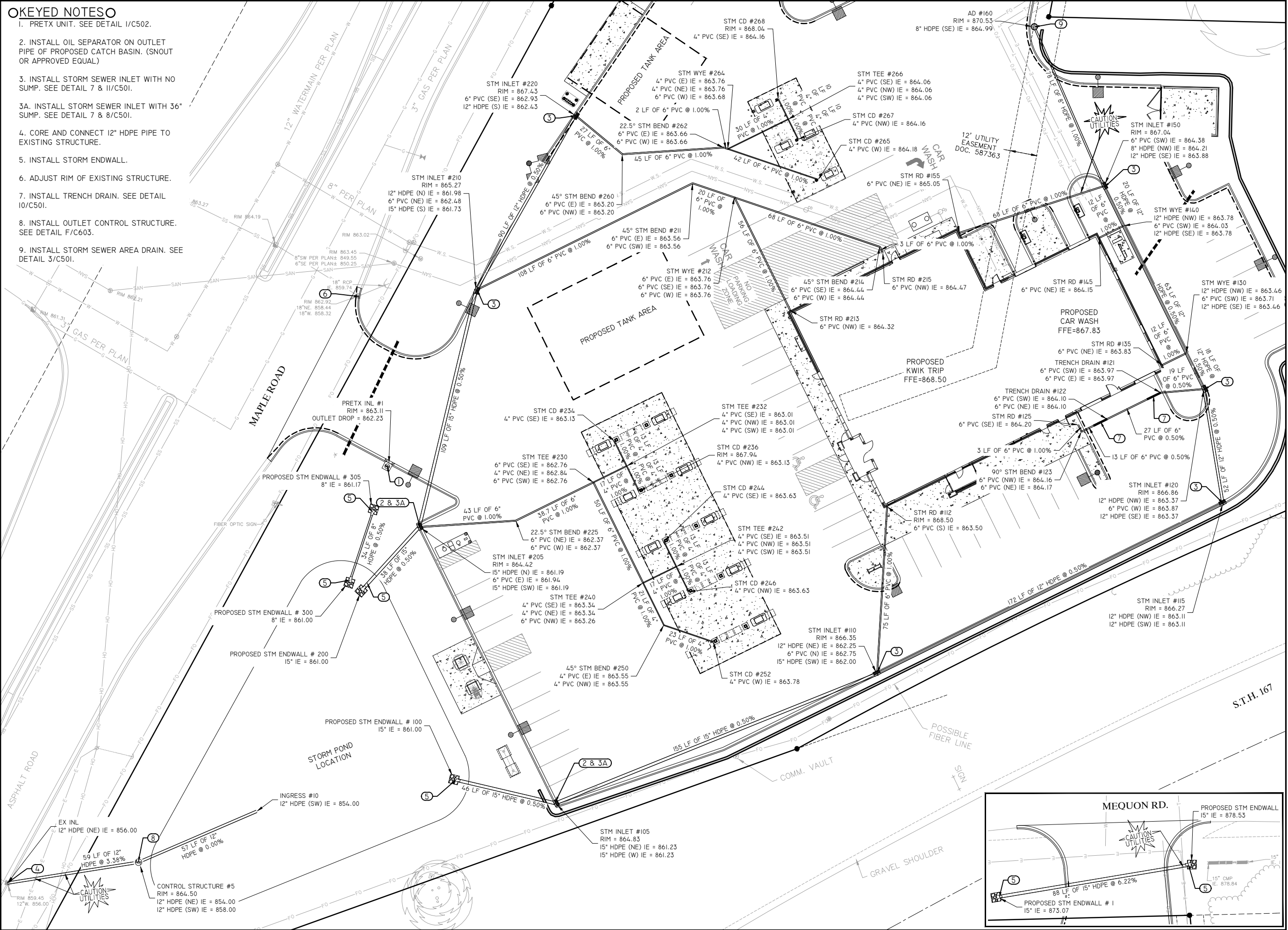
5. INSTALL STORM ENDWALL.

6. ADJUST RIM OF EXISTING STRUCTURE.

7. INSTALL TRENCH DRAIN. SEE DETAIL I0/C501.

8. INSTALL OUTLET CONTROL STRUCTURE.
SEE DETAIL F/C603.

9. INSTALL STORM SEWER AREA DRAIN. SEE
DETAIL 3/C501.



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REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
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SCALE



STORM SEWER PLAN

CONVENIENCE STORE #631

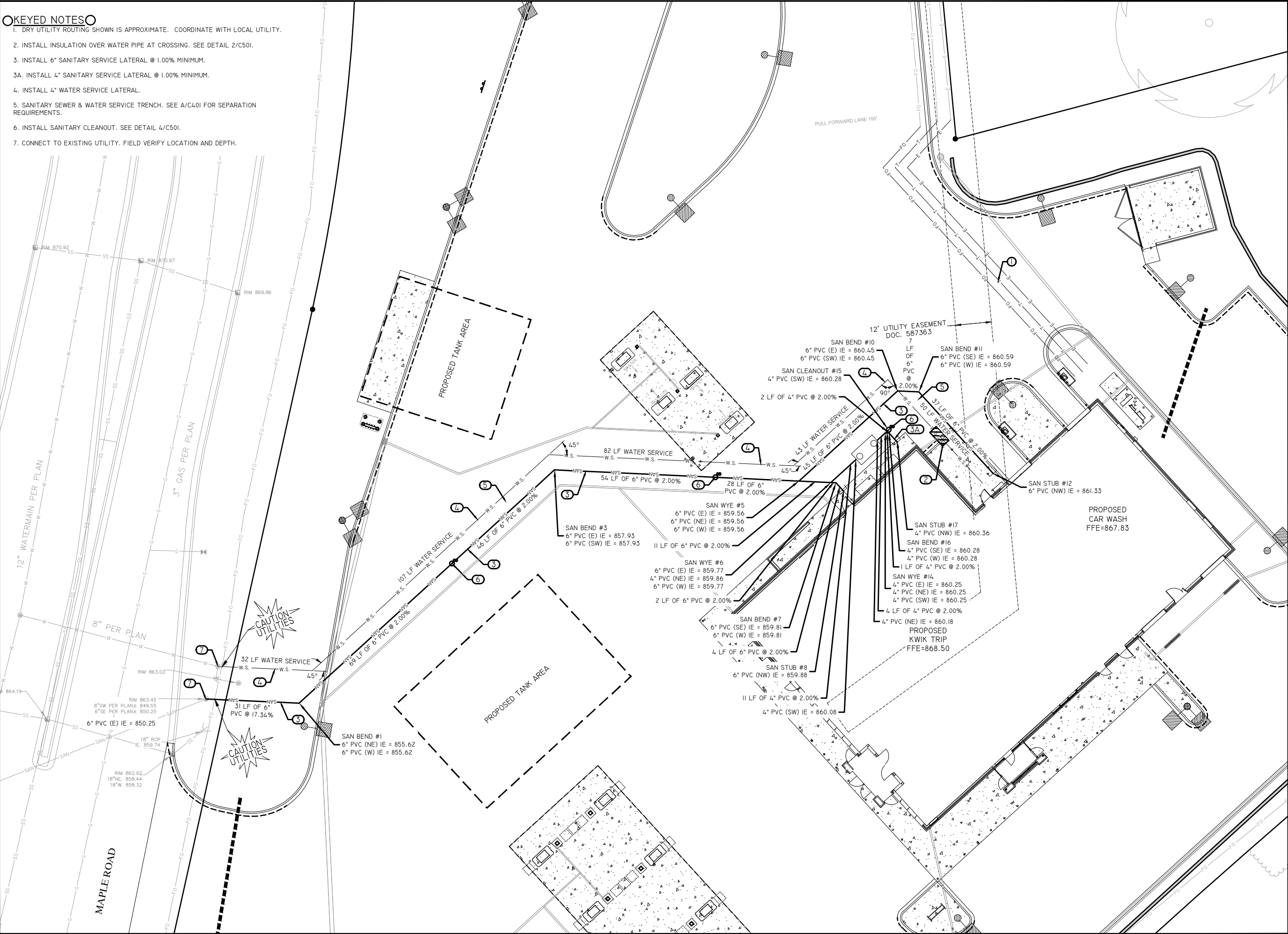
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OKEYED NOTES

1. DRY UTILITY ROUTING SHOWN IS APPROXIMATE. COORDINATE WITH LOCAL UTILITY.
2. INSTALL INSULATION OVER WATER PIPE AT CROSSING. SEE DETAIL 2/C501.
3. INSTALL 6" SANITARY SERVICE LATERAL @ 1.00% MINIMUM.
- 3A. INSTALL 4" SANITARY SERVICE LATERAL @ 1.00% MINIMUM.
4. INSTALL 4" WATER SERVICE LATERAL.
5. SANITARY SEWER & WATER SERVICE TRENCH. SEE A/C401 FOR SEPARATION REQUIREMENTS.
6. INSTALL SANITARY CLEANOUT. SEE DETAIL 4/C501.
7. CONNECT TO EXISTING UTILITY. FIELD VERIFY LOCATION AND DEPTH.



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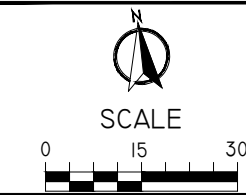
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LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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CIVIL & ENVIRONMENTAL
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REI Engineering, INC.
4080 N. 20TH AVENUE
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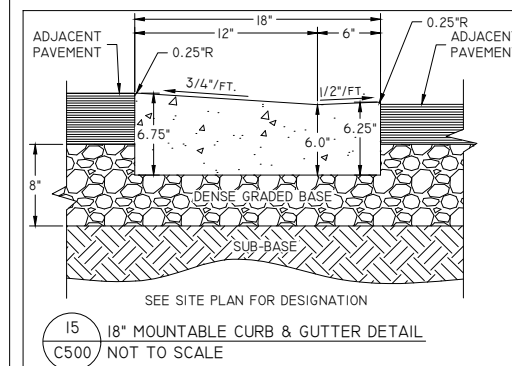
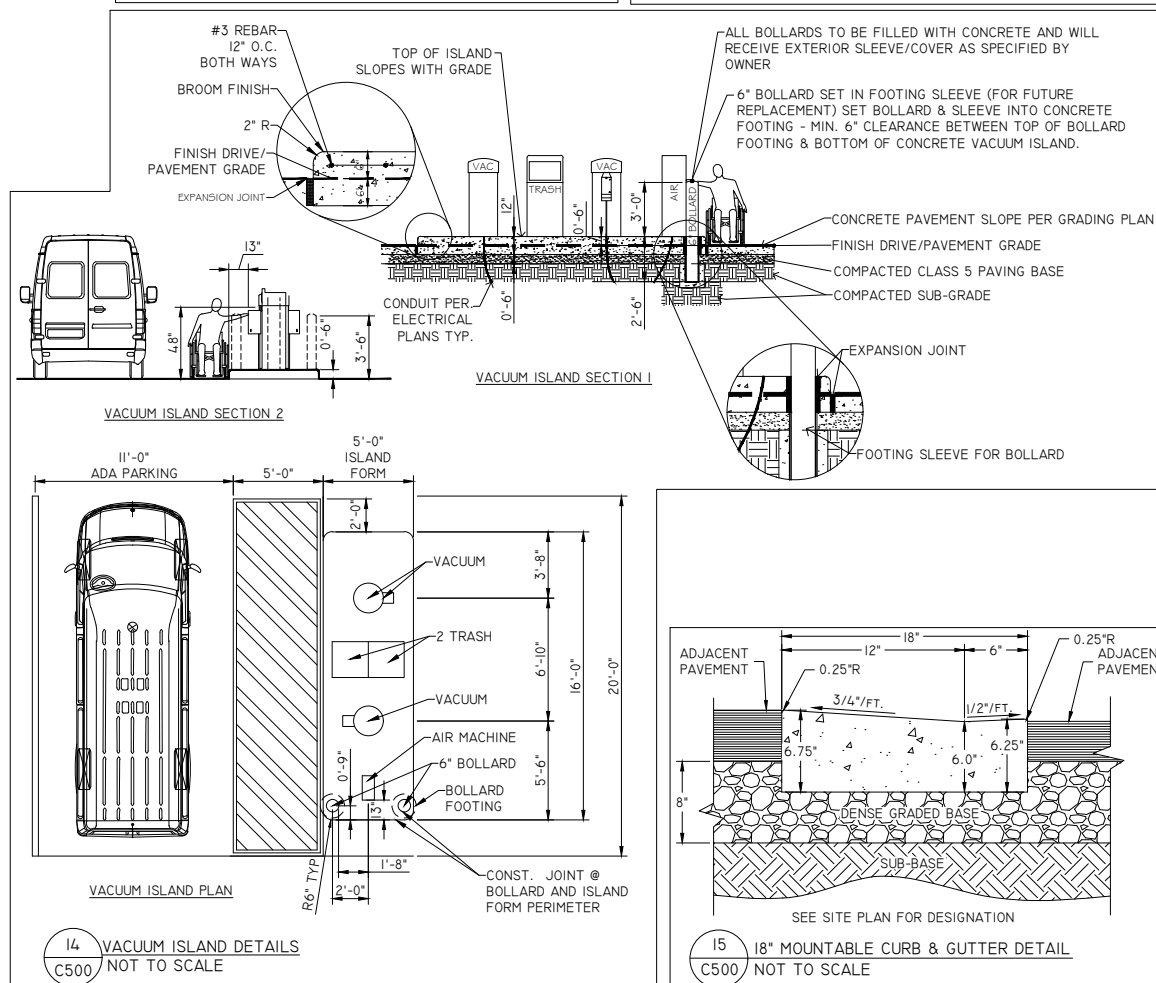
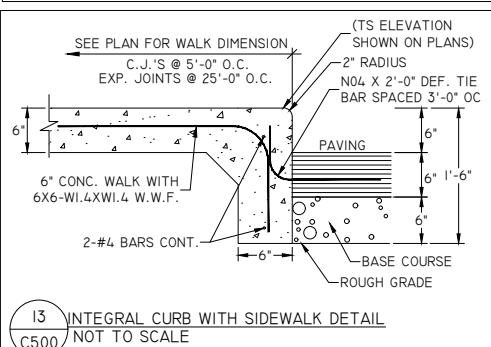
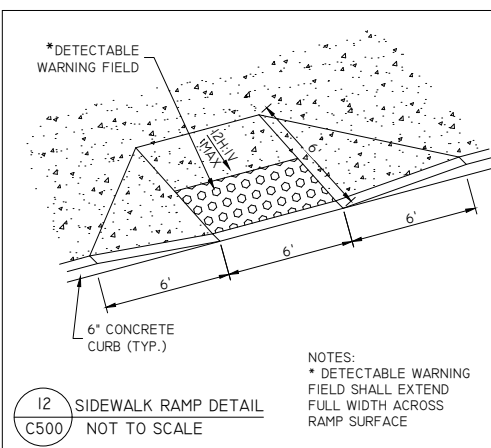
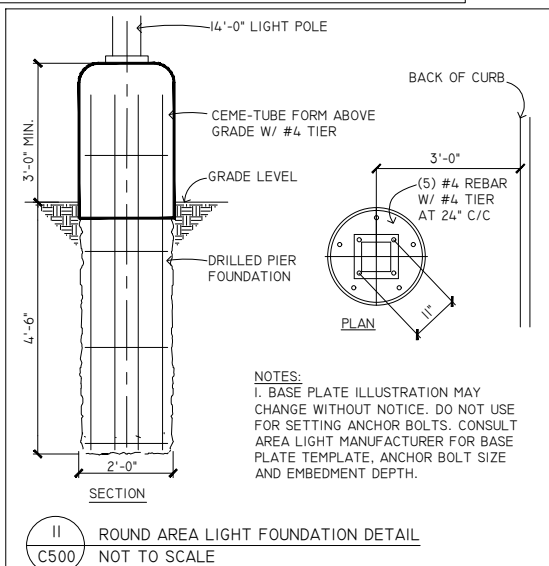
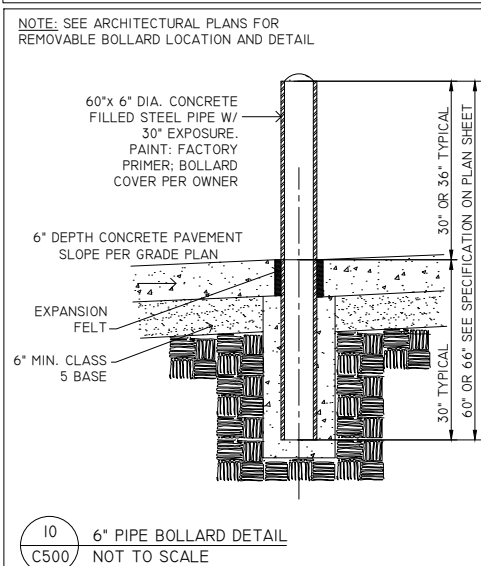
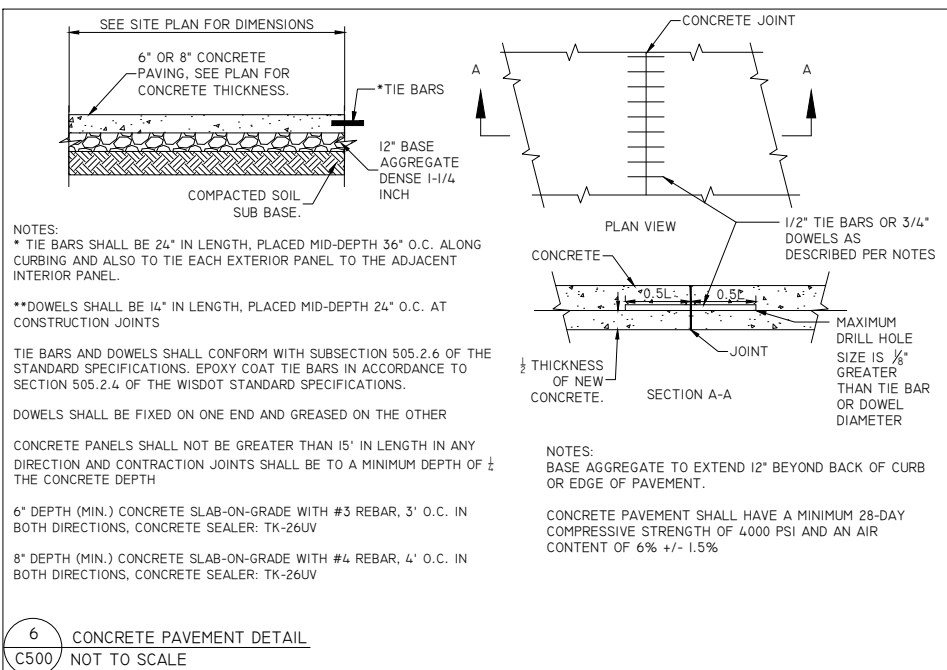
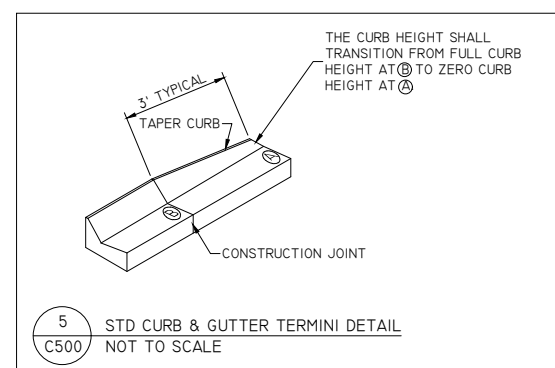
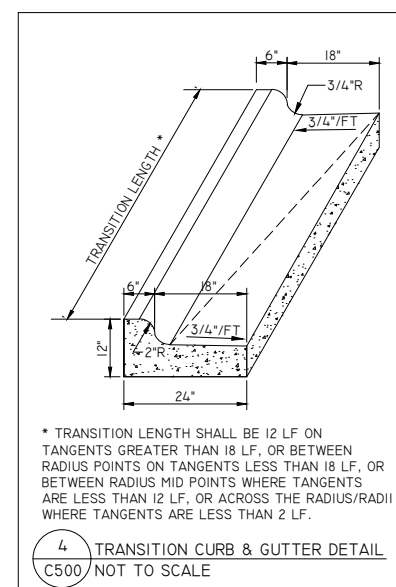
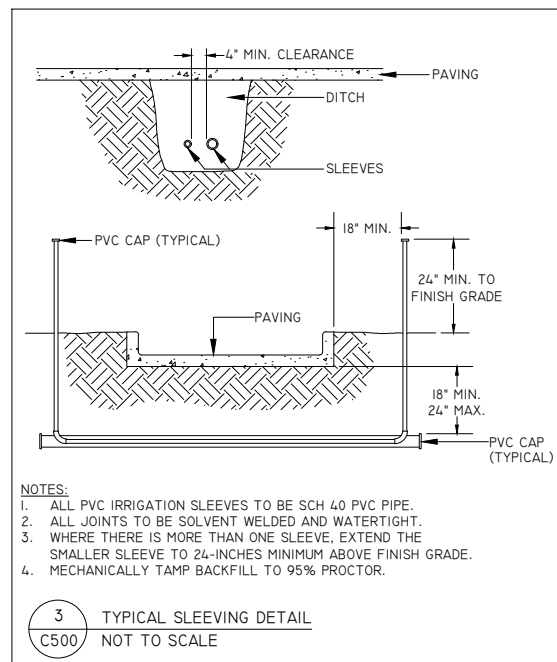
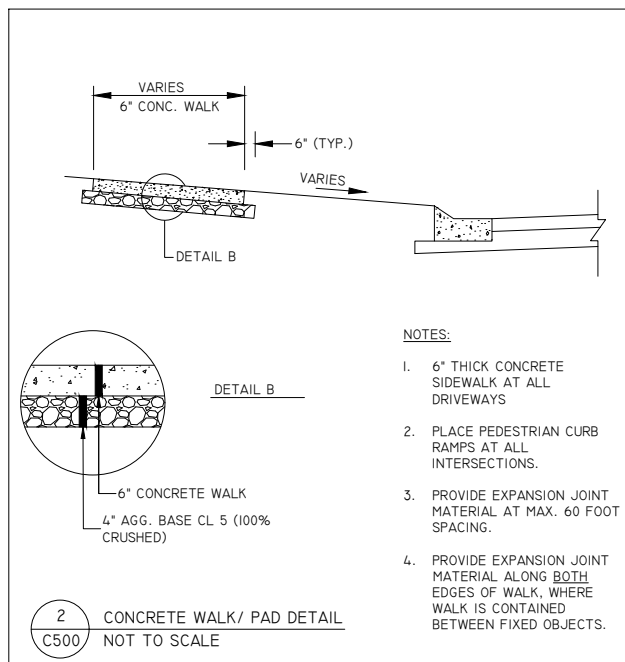
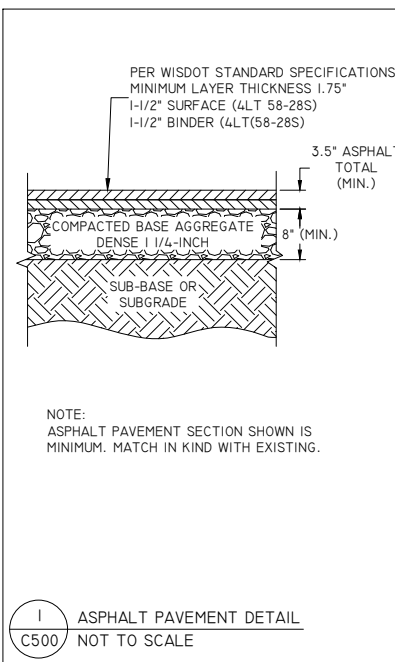
UTILITY PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

 **REI**
**CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING**
REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

NO SCALE

SITE PLAN DETAILS

CONVENIENCE STORE #631

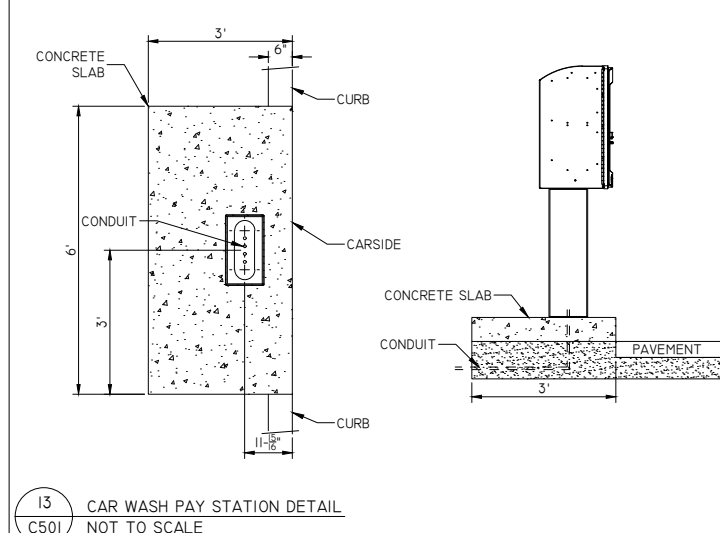
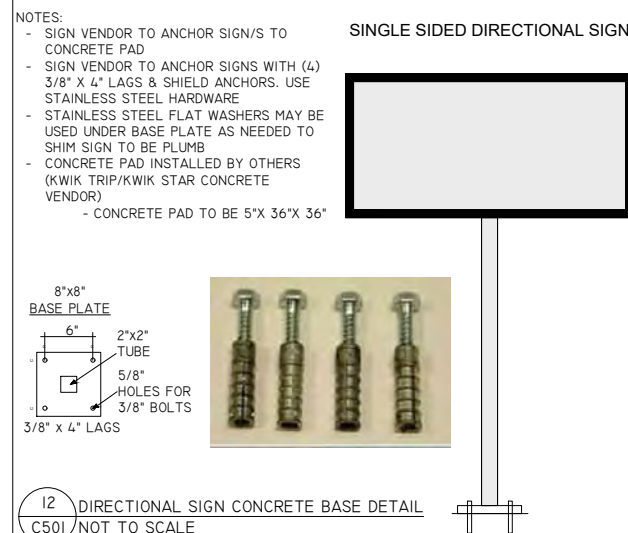
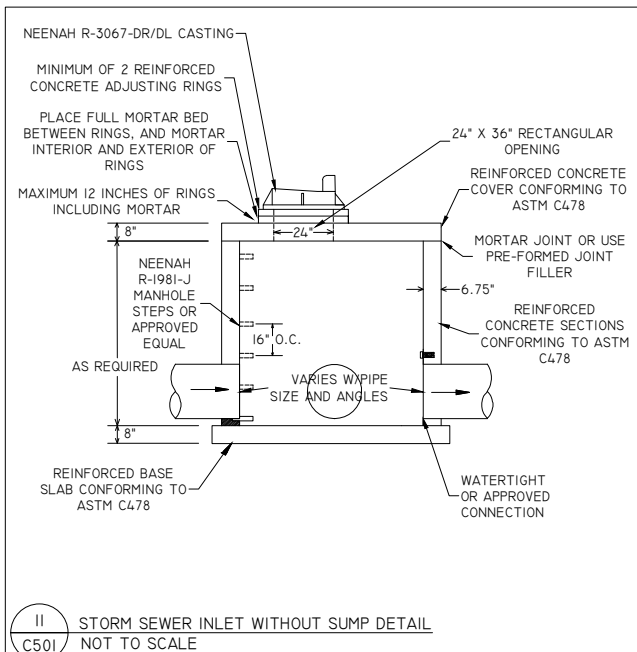
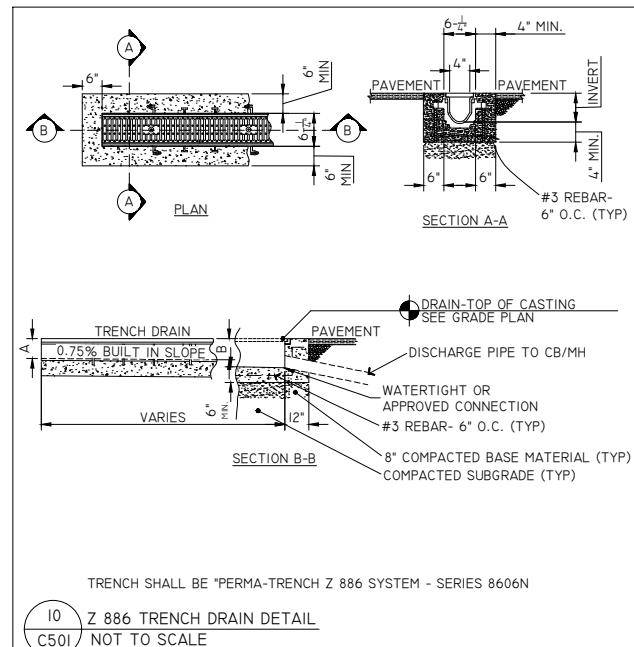
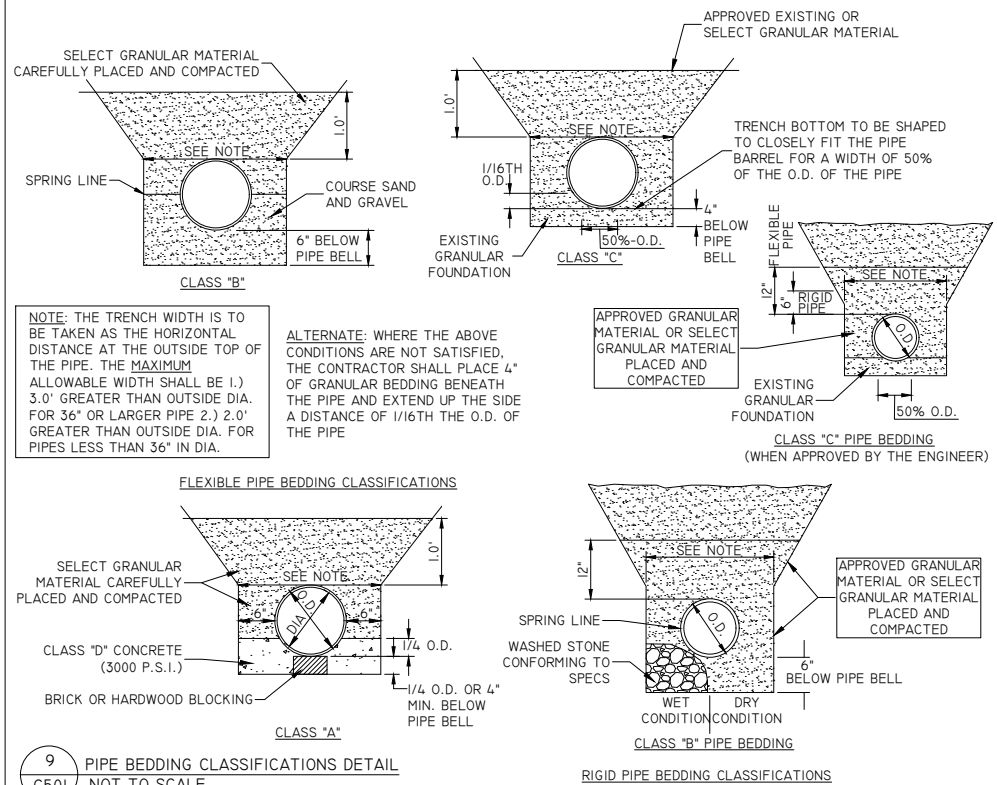
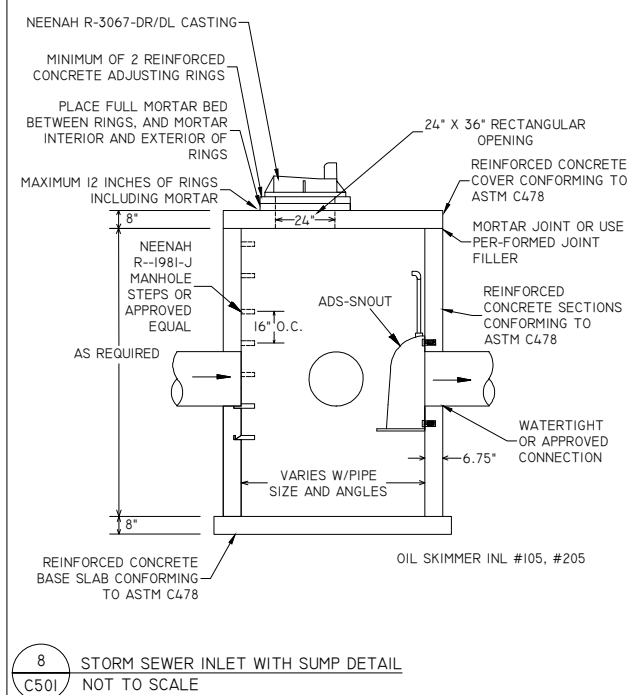
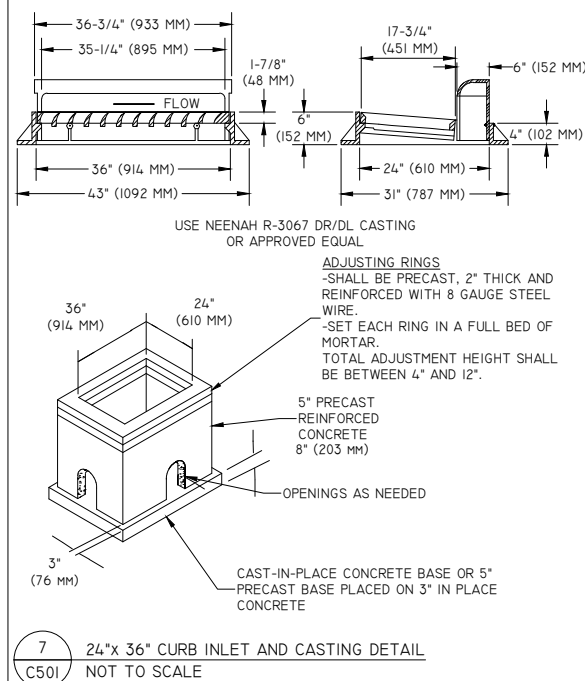
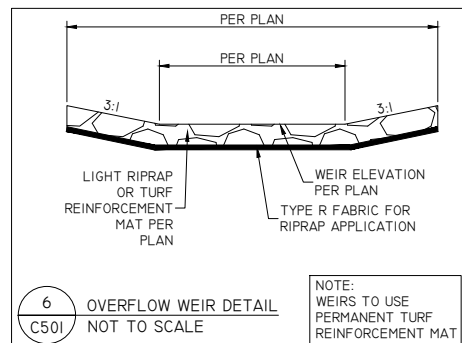
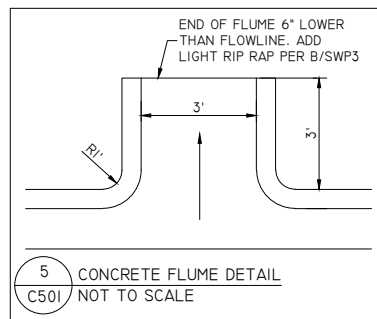
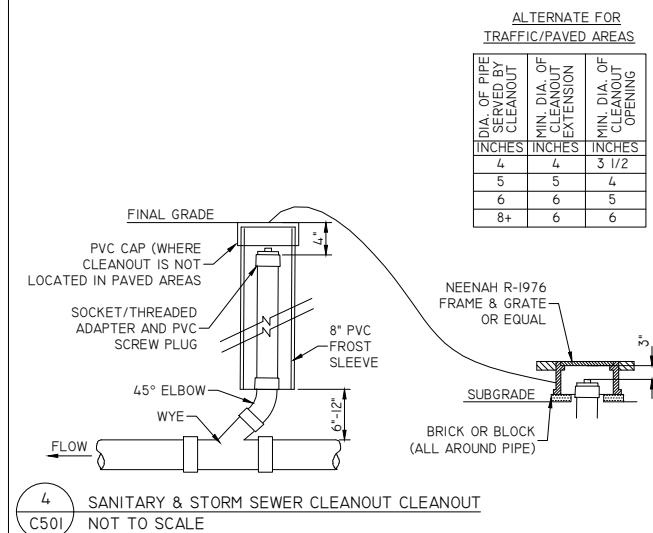
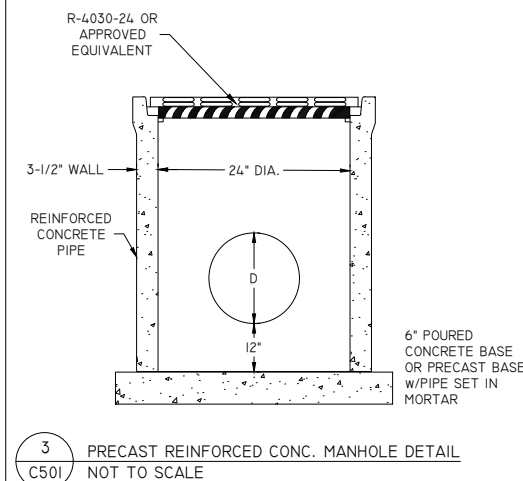
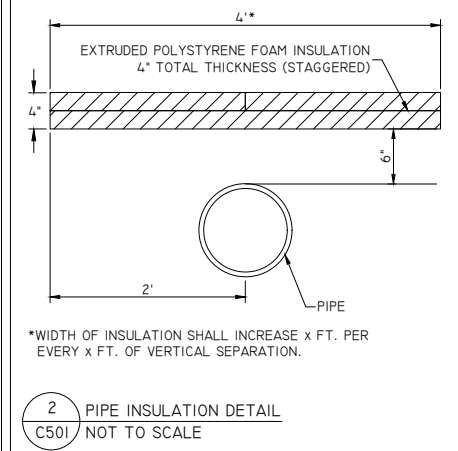
STH 167 & MAPLE ROAD
GERMANTOWN, WI

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**CIVIL & ENVIRONMENTAL
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REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

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SITE PLAN DETAILS

CONVENIENCE STORE #631

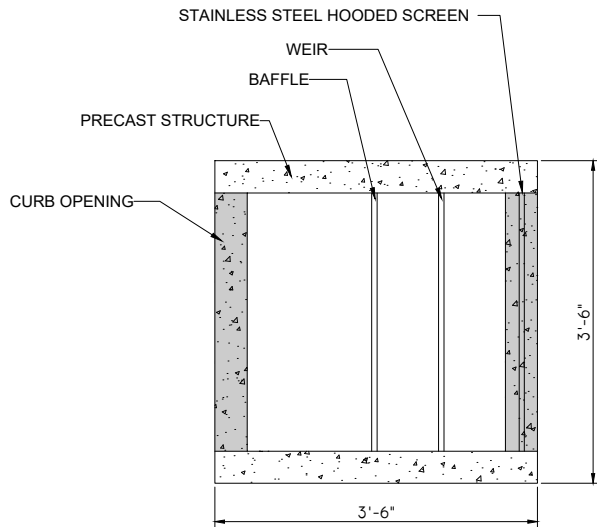
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GERMANTOWN, WI

#	DATE	DESCRIPTION
		

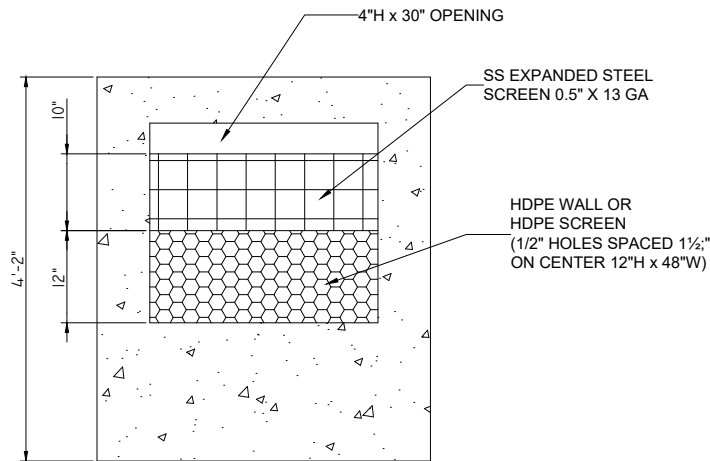
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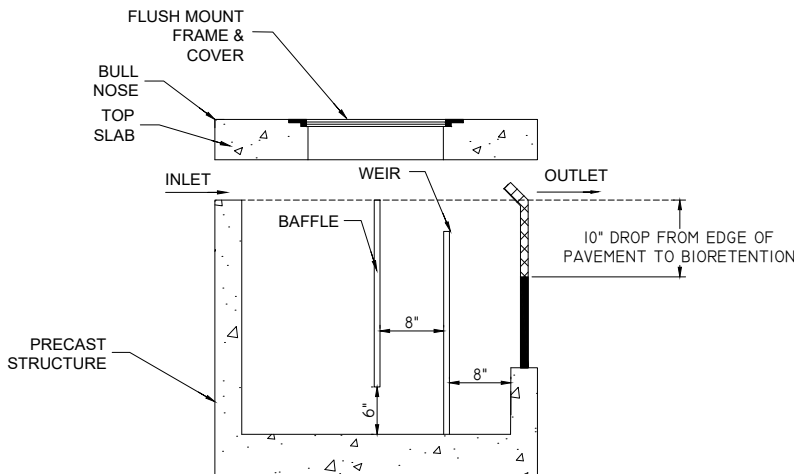
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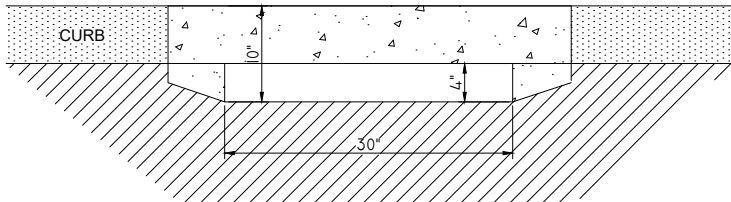


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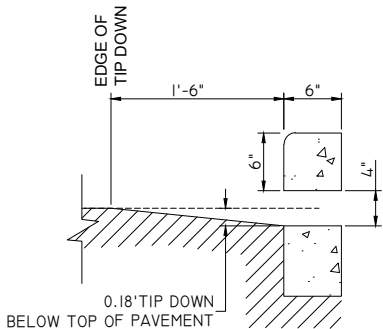


ELEVATION VIEW

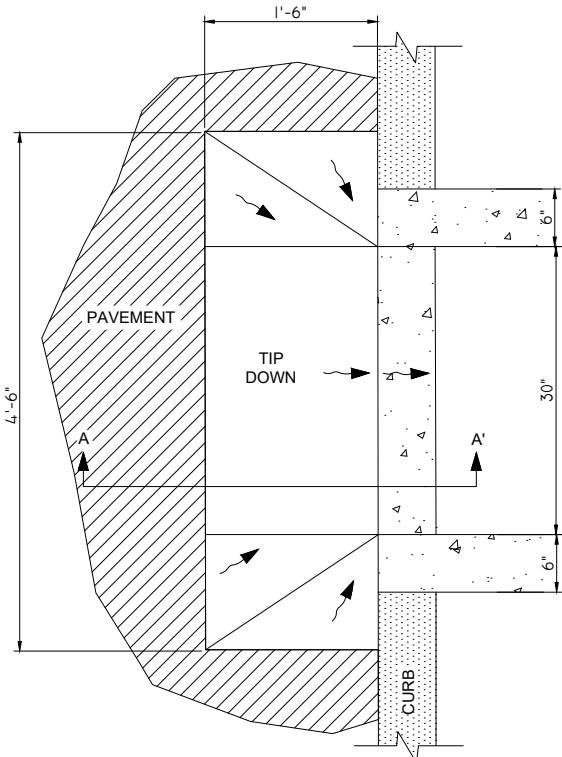
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CURB FACE



SECTION A-A



PLAN

PRETX - 8" CURB REVEAL DETAIL
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PRETX SPECIFICATIONS

A. GENERAL

1. PRETX SYSTEMS ARE A PRE-FILTER AND CRITICAL MAINTENANCE DEVICE THAT EXTENDS THE OPERATING LIFE AND REDUCES THE MAINTENANCE BURDEN OF BIORETENTION SYSTEMS, RAIN GARDENS, BIOSWALES AND OTHER TYPES OF SURFACE BEST MANAGEMENT PRACTICES BY FILTERING OUT SEDIMENT, TRASH AND DEBRIS AT THE INLET.

B. PRODUCTS

1. ACCEPTABLE SYSTEM SUPPLIER:
CONVERGENT WATER TECHNOLOGIES, INC. OR ITS
AUTHORIZED VALUE-ADDED RESELLER
P: (800) 711-5428; W: WWW.CONVERGENTWATER.COM

C. CONSTRUCTION AND SEQUENCING

1. EXCAVATION AND INSTALLATION
 - a. ROUGH GRADE THE PRE-TX SYSTEM AREA DURING GENERAL CONSTRUCTION. EXCAVATE THE PRE-TX SYSTEM FACILITIES TO WITHIN 1 FOOT OF STRUCTURE BOTTOM .
 - b. PLACE 1 FOOT BED OF COARSE STONE TO ELEVATION OF BASE OF STRUCTURE.
 - c. ESTABLISH ELEVATIONS FOR ADJACENT CURBS, EDGE OF PAVEMENT AND TIP DOWN, SIDEWALK, PIPE INVERTS FOR INLETS AND OUTLETS AS INDICATED ON DRAWINGS.
2. INSTALLATION
 - a. PLACE THE PRECAST SYSTEM TO NECESSARY ELEVATION.
 - b. FOR PRETX-SURFACE:
 - VERIFY ELEVATIONS FOR ADJACENT CURBS.
 - VERIFY EDGE OF PAVEMENT TIP DOWN PAVEMENT GRADING FOR INLET GRATE.
 - VERIFY CURB ELEVATION IN RELATION TO PAVEMENT AND TIP DOWN.
 - VERIFY OUTLET INVERT FOR KNEE WALL IN RELATION TO FILTER MEDIA.
- C. INSTALL BAFFLES, WEIR, AND SCREENS AS INDICATED ON DRAWINGS.
- D. VERIFY MAINTENANCE ACCESS THROUGH GRATE OR COVER AND CLEARANCE FOR VACTOR.
- e. INSTALL TOP OF STRUCTURE LEVEL WITH ADJACENT CURB OR SIDEWALK AS PER MANUFACTURERS SPECIFICATIONS. ENGINEER FIELD VISIT REQUIRED PRIOR TO BACKFILLING.
6. BACKFILLING
 - a. BACKFILL WITH APPROVED SOIL AND STONE TO THE DESIGN GRADE AS SPECIFIED IN THE DRAWINGS.
 - b. BACKFILL WITH 12" OF NO. 57 STONE AROUND REAR, LEFT, AND RIGHT SIDES TO LEVEL WITH TOP OF HDPE SCREEN.
 - c. BACKFILL WITH BIORETENTION SOIL MIX BEYOND STONE BACKFILL TO EQUAL ELEVATION OF THE TOP OF HDPE SCREEN.
 - d. DO NOT BACKFILL SOIL OR STONE AGAINST STAINLESS SCREEN.
 - e. DO NOT COMPACT ADJACENT FILTRATION SYSTEM SOIL WITH MECHANICAL EQUIPMENT.
 - f. STABILIZE ALL REMAINING DISTURBED AREAS AND SIDE SLOPES WITH SEEDING, HYDROSEEDING, AND/ OR EROSION CONTROL BLANKETS AS INDICATED ON DRAWINGS.
4. CLEAN UP
 - a. AFTER COMPLETION OF THE WORK, REMOVE AND PROPERLY DISPOSE ALL DEBRIS, CONSTRUCTION MATERIALS, RUBBISH, EXCESS SOIL, ETC., FROM THE PROJECT SITE. REPAIR PROMPTLY ANY IDENTIFIED DEFICIENCIES AND LEAVE THE PROJECT SITE IN A CLEAN AND SATISFACTORY CONDITION.

KWIK
TRIP

STORES

KWIK
STAR

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9194 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

NO SCALE

SITE PLAN DETAILS

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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PROJ. NO. 11757
DATE 10/09/24 - REVIEW DOCUMENTS
SHEET

C502

SOIL DATA	
SURFACE SOIL	PAVE
SUB-SURFACE SOIL	SILT
DEPTH OF GROUND WATER	±8 FT
DOWN-STREAM TRIBUTARY	MENOMINEE RIVER

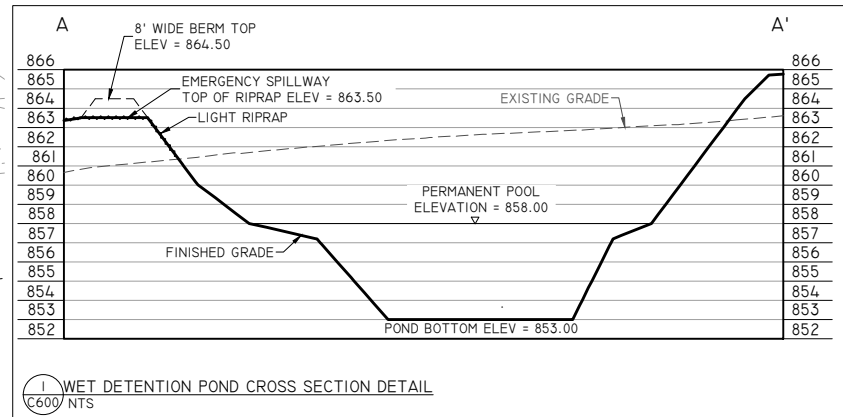
(C) DEWATERING BAGS SHALL BE READILY AVAILABLE AND SHALL BE USED AT ALL TIMES IN THE PROCESS OF DEWATERING.

	INSTALL WISDOT URBAN TYPE B EROSION CONTROL BLANKET ON SIDE SLOPES OF 4:1 OR GREATER. SEE DETAIL E/C602 FOR INSTALLATION.
ESTIMATED PRELIMINARY EROSION CONTROL QUANTITIES (ACTUAL QUANTITIES SUBJECT TO CHANGE)	
ITEM	QUANTITY
ROCK CONSTRUCTION ENTRANCE	400 SQ.YD.
INLET PROTECTION	12
EROSION CONTROL BLANKET	2,000 SQ.YD.
RIP RAP	30 CU. YD.
SILT FENCE	870 L.F.
CULVERT PROTECTION	0
DITCH CHECK	AS NEEDED
BIO ROLL/EROSION LOG	AS NEEDED

CONTACT:
KWIK TRIP, INC
P0 BOX 2107
LACROSSE, WI 54602

7. INSTALL DITCH CHECKS @ MAX. OF 200-FT INTERVALS OR EVERY 2-FT OF DROP. SEE DETAIL D/C603.

09713/25- REMOVE EROSION CONTROL MEASURES
ONLY AFTER ALL PAVEMENTS HAVE BEEN
INSTALLED AND ALL SOILS HAVE BEEN
STABILIZED



STORES

SIH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
		
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PROJ. NO.		11757
DATE 10/09/24 - REVIEW DOCUMENTS		
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DRAWING FILE: Q:\11700-11799\11757 - Kwik Trip #631 - GERMANTOWN\DRAWING\PLANS\11757-C600-EROSION CONTROL PLAN.DWG LAYOUT: C601 PLOTTED: OCT 08, 2024 - 3:35PM PLOTTED BY: NATHANP

STORM WATER POLLUTION PREVENTION PLAN

POLLUTION PREVENTION PLAN

ALL CONTRACTORS / SUBCONTRACTORS SHALL CONDUCT THEIR OPERATIONS IN A MANNER THAT MINIMIZES EROSION AND PREVENTS SEDIMENTS FROM LEAVING THE PROJECT SITE. THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLIANCE AND IMPLEMENTATION OF THE POLLUTION PREVENTION PLAN (PPP) FOR THEIR ENTIRE CONTRACT. THE RESPONSIBILITY SHALL BE FURTHER SHARED WITH SUBCONTRACTORS WHOSE WORK IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THE PPP.

I. SITE DESCRIPTION

THIS POLLUTION PREVENTION PLAN IS FOR THE CONSTRUCTION OF THE KWIK TRIP CONVENIENCE STORE #631 PROJECT. THE PROJECT IS LOCATED IN SECTION 28, TOWNSHIP 09, RANGE 20, WASHINGTON COUNTY, WISCONSIN.

THIS PPP COVERS 4.37 ACRES WITH AN ESTIMATED 3.86 ACRES BEING DISTURBED THROUGH EXCAVATION, GRADING, AND PAVING. THE PORTION OF THE PPP COVERED BY THIS CONTRACT HAS 4.37 ACRES BEING DISTURBED.

THE PROJECT IS LOCATED IN AN AREA OF (HMB2 - HOCHHEIM LOAM, HMC2 - HOCHHEIM LOAM, HMD2 - HOCHHEIM LOAM, OUB2 - OZAUKEE SILT LOAM, SF - SANDY AND GRAVELLY LAND, USA - VIRGIL SILTY LOAM). THE ESTIMATED CURVE NUMBER FOR THIS PPP AFTER CONSTRUCTION IS XX.

REFER TO PLANS: KWIK TRIP CONVENIENCE STORE #631 FOR LOCATIONS OF TYPICAL SLOPES, DITCH GRADES, AND MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS. A COPY OF THIS PLAN WILL BE ON FILE AT THE PROJECT ENGINEER'S OFFICE AND ON-SITE. RUNOFF FROM THIS WORK WILL OVERLAND FLOW THROUGH DETENTION POND, DITCHES, STORM SEWER TO MENOMINEE RIVER.

THIS PROJECT IS NOT LOCATED WITHIN A 100-YEAR FLOODPLAIN.

POTENTIAL SOURCES OF POLLUTION:

SITE SOURCES OF POLLUTION GENERATED AS A RESULT OF THIS WORK RELATE TO SILTS AND SEDIMENT WHICH MAY BE TRANSPORTED AS A RESULT OF A STORM EVENT. HOWEVER, THIS PPP PROVIDES CONVEYANCE FOR OTHER (NON-PROJECT RELATED) OPERATIONS. THESE OTHER OPERATIONS HAVE STORM WATER RUNOFF, THE REGULATION OF WHICH IS BEYOND THE CONTROL OF THIS PPP. POTENTIALLY THIS RUNOFF CAN CONTAIN POLLUTANTS RELATED TO SITE-SPECIFIC LAND USES. EXAMPLES ARE:

RURAL AGRICULTURAL ACTIVITIES:

RUNOFF FROM AGRICULTURAL LAND USE CAN POTENTIALLY CONTAIN CHEMICALS INCLUDING HERBICIDES, PESTICIDES, FUNGICIDES, AND FERTILIZERS.

CONSTRUCTION ACTIVITIES:

RUNOFF FROM CONSTRUCTION ACTIVITIES CAN POTENTIALLY CONTAIN FUELS, OILS, AND CHEMICALS FROM SPECIFIC CONSTRUCTION RELATED ACTIVITIES.

2. CONTROLS

INLET PROTECTION DEVICES SHALL BE PLACED AROUND INTAKES. SILT FENCE SHALL BE PLACED AT LOCATIONS WHERE RUNOFF CAN MOVE OFFSITE. VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION SHALL BE PRESERVED. AS AREAS REACH THEIR FINAL GRADE, ADDITIONAL SILT FENCES, SILT BASINS, INTERCEPTING DITCHES, SOD FLUMES, LETDOWNS, BRIDGE END DRAINS, AND EARTH DIKES SHALL BE INSTALLED AS SPECIFIED IN THE PLANS AND / OR AS REQUIRED BY PROJECT ENGINEER. THIS MAY INCLUDE USING SILT FENCE AS DITCH CHECKS. TEMPORARY STABILIZING SHALL BE COMPLETED AS THE DISTURBED AREAS ARE CONSTRUCTED. IF CONSTRUCTION ACTIVITY IS NOT PLANNED TO OCCUR IN A DISTURBED AREA IMMEDIATELY, THE AREA SHALL BE STABILIZED BY TEMPORARY SEEDING OR MULCHING WITHIN 14 DAYS. OTHER STABILIZING METHODS SHALL BE USED OUTSIDE THE SEEDING PERIOD.

THIS WORK SHALL BE DONE IN ACCORDANCE WITH THE WISCONSIN TRANSPORTATION STANDARD SPECIFICATIONS. CONTRACTOR SHALL ALSO FOLLOW ALL REQUIREMENTS OF THE WASHINGTON COUNTY EROSION AND SEDIMENT CONTROL REGULATIONS.

AS THE WORK PROGRESSES, ADDITIONAL EROSION CONTROL ITEMS SUCH AS SOD FLUMES, DITCH CHECKS, ROCK OUTLET PROTECTION, AND LETDOWN STRUCTURES AND OTHER APPROPRIATE MEASURES SHALL BE INSTALLED BY THE CONTRACTOR AS DETERMINED BY THE ENGINEER AFTER FIELD INVESTIGATION. THE CONSTRUCTION WILL BE COMPLETED WITH THE ESTABLISHMENT OF PERMANENT PERENNIAL VEGETATION OF ALL DISTURBED AREAS BY THE CONTRACTOR.

3. OTHER CONTROLS

CONTRACTOR DISPOSAL OF UNUSED CONSTRUCTION MATERIALS AND CONSTRUCTION MATERIAL WASTE SHALL COMPLY WITH APPLICABLE STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEM REGULATIONS. IN THE EVENT OF A CONFLICT WITH OTHER GOVERNMENT LAWS, RULES, AND REGULATIONS, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

MUD TRACK-OUT SHALL BE CLEANED OFF THE ROADWAY NIGHTLY AND BEFORE ANY RAINFALL EVENT. WATER MAY NOT BE USED TO CLEAN THE ROADWAY.

CONTRACTOR SHALL KEEP PERMIT, INSPECTION LOGS, SITE PLAN, AND OTHER PERMIT DATA ON SITE AT ALL TIMES. MATERIAL SHALL BE PLACED IN AN EASILY ACCESSIBLE MAILBOX THAT IS CLEARLY MARKED "SWPPP".

ALL FUELS AND OILS SHALL BE CONTAINED BY A SECONDARY CONTAINMENT BERM OR WITHIN A TRAILER.

ALL SILT FENCE AND INLET PROTECTION DEVICES AS SHOWN SHALL BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION WHENEVER POSSIBLE.

A NOTICE OF DISCONTINUATION MUST BE FILED WITH THE WDNR ONCE VEGETATION HAS BEEN ESTABLISHED TO A MINIMUM COVERAGE OF 70%.

CONTRACTOR SHALL MARK ON THE INITIAL STORM WATER POLLUTION PREVENTION PLAN THE LOCATION OF STORAGE AREAS FOR FUELS AND OILS, PORTA-POTTY, DUMPSTER OR WASTE CONTAINMENT BINS, CONCRETE WAS OUT AREA, AND OTHER NECESSARY ITEMS.

ENTRANCES SHALL BE MAINTAINED TO CONTROL MUD TRACK-OUT FROM THE SITE.

THE STORMWATER POLLUTION PREVENTION PLAN SHALL BE UPDATED AS NECESSARY DURING CONSTRUCTION.

APPROVED STATE OF LOCAL PLANS:

DURING THE COURSE OF THIS CONSTRUCTION, IT IS POSSIBLE THAT SITUATIONS WILL ARISE WHERE UNKNOWN MATERIALS WILL BE ENCOUNTERED. WHEN SUCH SITUATIONS ARE ENCOUNTERED, THEY WILL BE HANDLED ACCORDING TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS IN EFFECT AT THE TIME.

4. MAINTENANCE

THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL TEMPORARY EROSION CONTROL MEASURES IN PROPER WORKING ORDER, INCLUDING CLEANING, REPAIRING, OR REPLACING THEM THROUGHOUT THE CONTRACT PERIOD. CLEANING OF SILT CONTROL DEVICES SHALL BEGIN WHEN THE FEATURES HAVE LOST 50% OF THEIR CAPACITY.

5. INSPECTIONS

INSPECTIONS SHALL BE MADE JOINTLY BY THE CONTRACTOR AND THE CONTRACTING AUTHORITY EVERY SEVEN CALENDAR DAYS. THE CONTRACTOR SHALL IMMEDIATELY BEGIN CORRECTIVE ACTION ON ALL DEFICIENCIES FOUND. THE FINDINGS OF THIS INSPECTION SHALL BE RECORDED IN THE PROJECT DIARY. THIS PPP MAY BE REVISED BASED ON THE FINDING OF THE INSPECTION. THE CONTRACTOR SHALL IMPLEMENT ALL REVISIONS. ALL CORRECTIVE ACTIONS SHALL BE COMPLETED WITHIN 3 CALENDAR DAYS OF THE INSPECTION.

6. NON-STORM DISCHARGES

THIS INCLUDES SUBSURFACE DRAINS (I.E. FIELD TILE, SUBDRAINS), SLOPE DRAINS, AND BRIDGE END DRAINS. THE VELOCITY OF THE DISCHARGE FROM THESE FEATURES MAY BE CONTROLLED BY THE USE OF PATIO BLOCKS, CLASS A STONE, OR EROSION STONE.

7. SEQUENCE OF CONSTRUCTION ACTIVITIES

ALL EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCING ANY CONSTRUCTION ON-SITE. FIRST, ALL NOTED REMOVALS SHALL BE COMPLETED. SECOND, GRADING CAN COMMENCE TO BRING SOIL TO FINAL GRADE.. NEXT, INSTALLATION OF UTILITIES AND PAVING SHALL BE COMPLETED. FINALLY, THE DISTURBED AREAS SHALL BE SEEDED, FERTILIZED, AND MULCHED AS SHOWN IN THE PLANS.

OWNER CERTIFICATION:

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

NAME (PRINTED OR TYPED): _____

TITLE: _____

SIGNATURE: _____

DATE: _____

NAME OF COMPANY, IF APPLICABLE: _____

ADDRESS: _____

CITY, STATE, ZIP CODE: _____

TELEPHONE NUMBER: _____

ADDRESS OF THE SITE: _____

CONTRACTOR / SUBCONTRACTOR CERTIFICATION:

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE AS PART OF THIS CERTIFICATION. FURTHER, BY MY SIGNATURE, I UNDERSTAND THAT I AM BECOMING CO-PERMITTEE, ALONG WITH THE OWNER(S) AND OTHER CONTRACTORS AND SUBCONTRACTORS SIGNING SUCH CERTIFICATIONS, TO THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2 FOR "STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES" AT THE IDENTIFIED SITE. AS A CO-PERMITTEE, I UNDERSTAND THAT I, AND MY COMPANY, ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE CODE OF WISCONSIN, TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN DEVELOPED UNDER THE NPDES PERMIT AND THE TERMS OF THE NPDES PERMIT."

NAME (PRINTED OR TYPED): _____

TITLE: _____

SIGNATURE: _____

DATE: _____

NAME OF CONTRACTING FIRM: _____

ADDRESS: _____

CITY, STATE, ZIP CODE: _____

TELEPHONE NUMBER: _____

ADDRESS OF THE SITE: _____

CONTRACTORS/SUBCONTRACTORS WHO WILL IMPLEMENT EACH EROSION CONTROL MEASURE:

SILT FENCE: CONTRACTOR (WITH ADDRESS AND TELEPHONE NUMBER)

TOPSOIL BERM: CONTRACTOR (WITH ADDRESS AND TELEPHONE NUMBER)

STABILIZED CONSTRUCTION ENTRANCE: CONTRACTOR (WITH ADDRESS AND TELEPHONE NUMBER)

CONCRETE WASH-OUT AREA: CONTRACTOR (WITH ADDRESS AND TELEPHONE NUMBER)

DUMPSTER: CONTRACTOR (WITH ADDRESS AND TELEPHONE NUMBER)

PORT-A-POTTY: CONTRACTOR (WITH ADDRESS AND TELEPHONE NUMBER)

INLET PROTECTION DEVICE: CONTRACTOR (WITH ADDRESS AND TELEPHONE NUMBER)



KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

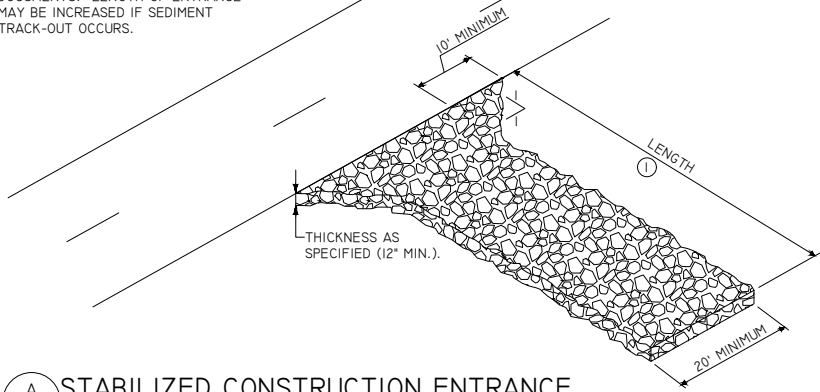


EROSION CONTROL NOTES
CONVENIENCE STORE #631
STH 167 & MAPLE ROAD
GERMANTOWN, WI

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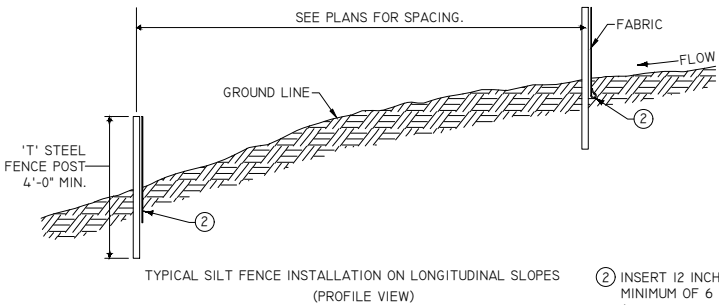
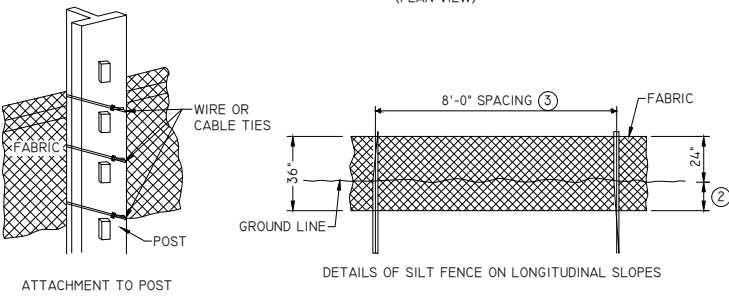
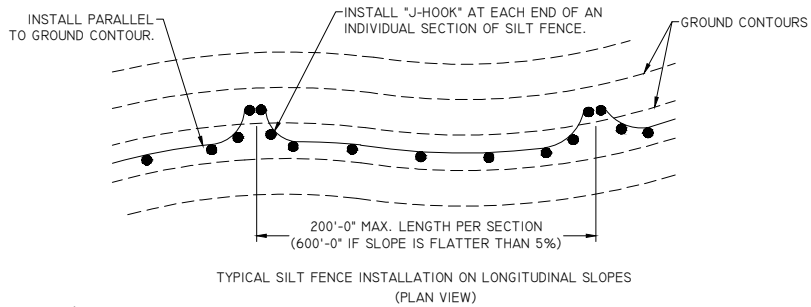
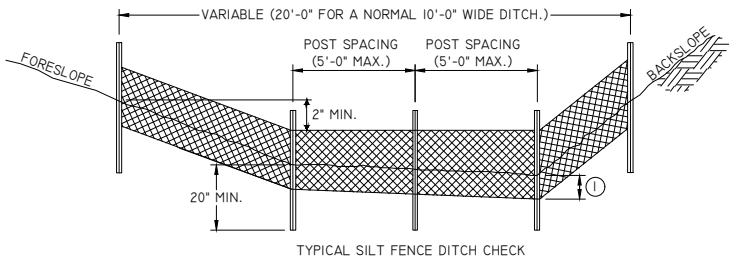
DRAWING FILE: Q:\11700-11799\11757 - Kwik Trip #631 - GERMANTOWN\DRAWING\PLANS\11757-C600-EROSION CONTROL PLAN.DWG LAYOUT: C602
PLOTTED: OCT 08, 2024 - 3:56PM PLOTTED BY: NATHANP

① ENTRANCE LENGTH: 50 FOOT MINIMUM (30 FOOT FOR SINGLE FAMILY RESIDENTIAL), OR AS SPECIFIED IN THE CONTRACT DOCUMENTS. LENGTH OF ENTRANCE MAY BE INCREASED IF SEDIMENT TRACK-OUT OCCURS.



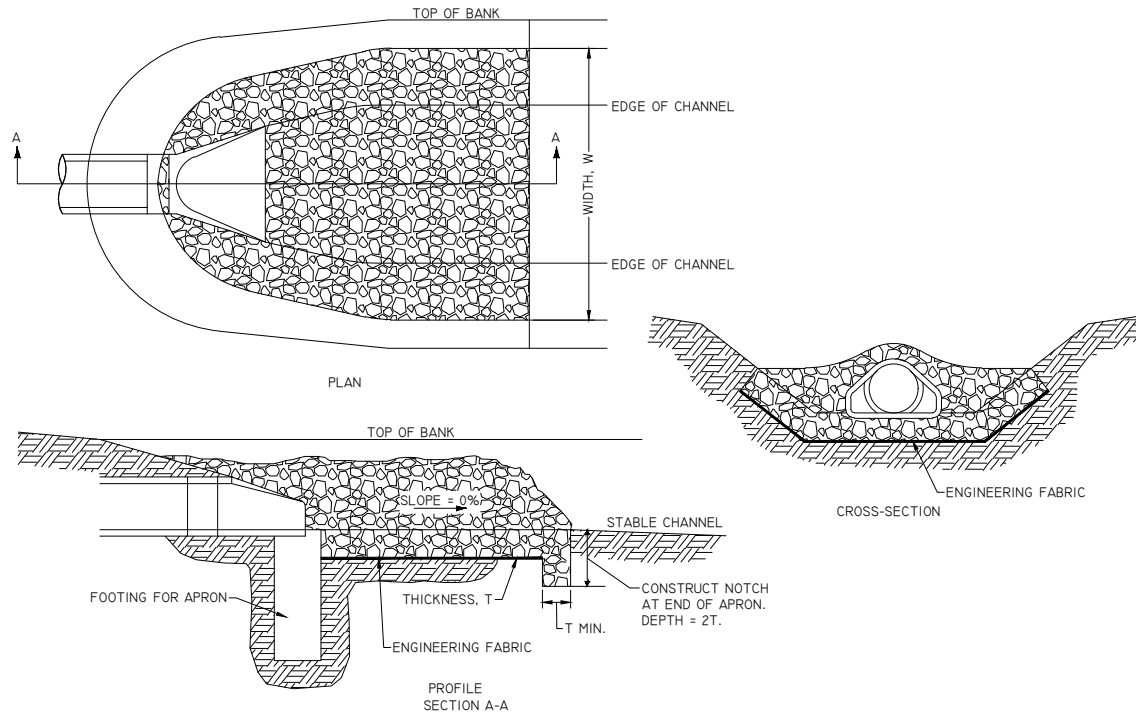
A STABILIZED CONSTRUCTION ENTRANCE
C602 FOR CONSTRUCTION EGRESS POINTS
NTS

① INSERT 12 INCHES OF FABRIC A MINIMUM OF 6 INCHES DEEP (FABRIC MAY BE FOLDED BELOW THE GROUND LINE).

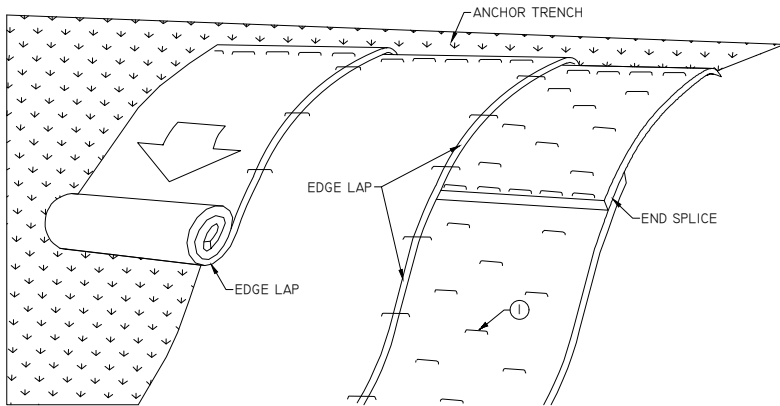


D SILT FENCE
C602 NTS

② INSERT 12 INCHES OF FABRIC A MINIMUM OF 6 INCHES DEEP (FABRIC MAY BE FOLDED BELOW THE GROUND LINE).
③ REDUCE POST SPACING TO 5'-0" AT WATER CONCENTRATION AREAS, OR AS REQUIRED TO ADEQUATELY SUPPORT FENCE.



B RIP RAP APRON FOR PIPE OUTLET INTO CHANNEL
C602 NTS



① SECURE BLANKET TO GROUND ACCORDING TO MANUFACTURER'S RECOMMENDED ANCHORING PATTERN AND MINIMUM SHOWN IN TABLE I.

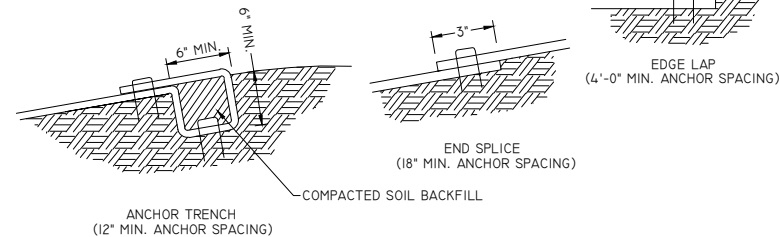
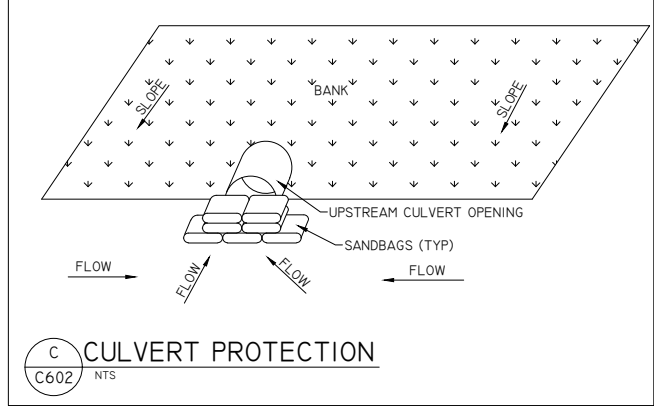
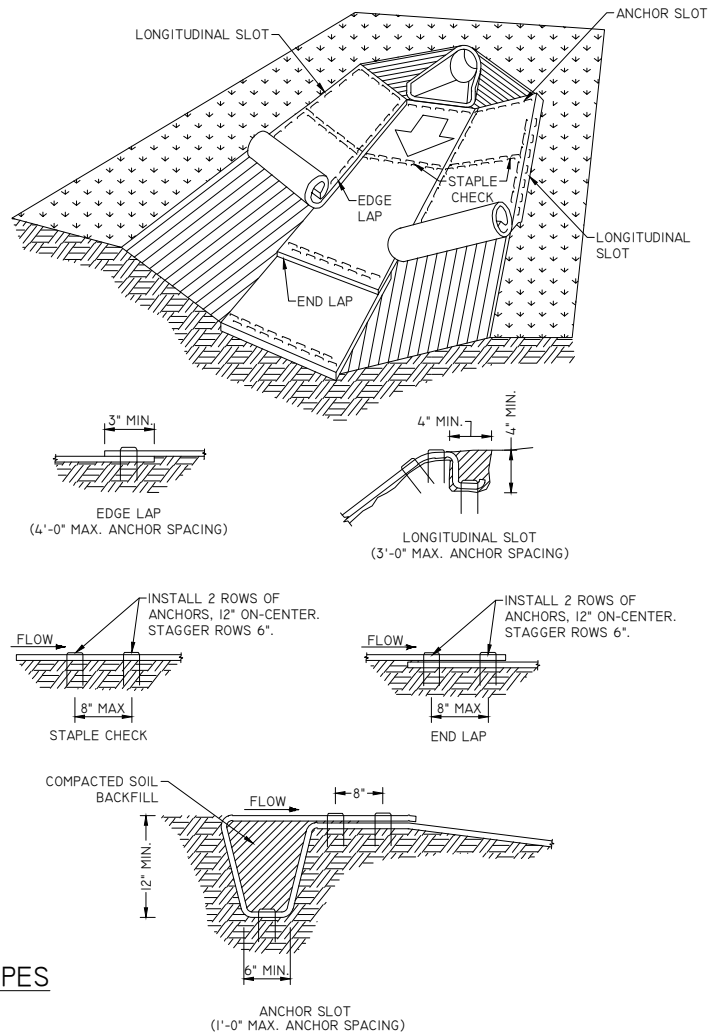


TABLE I		
MAX. SLOPE	MIN. ANCHORS	
≤3:1	1.5/YD ²	
2:1	2/YD ²	
1:1	2.5/YD ²	

E ROLLED EROSION CONTROL (RECP) INSTALLATION ON SLOPES
C602 NTS



C CULVERT PROTECTION
C602 NTS



ALL EROSION CONTROL MEASURES TO BE
INSTALLED AND MAINTAINED PER WDNR STANDARDS
[HTTP://DNR.WI.GOV/ORG/WATER/WM/NPS/STORMWATER/TECHSTDS.HTM](http://DNR.WI.GOV/ORG/WATER/WM/NPS/STORMWATER/TECHSTDS.HTM)

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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

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CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

EROSION CONTROL
DETAILS

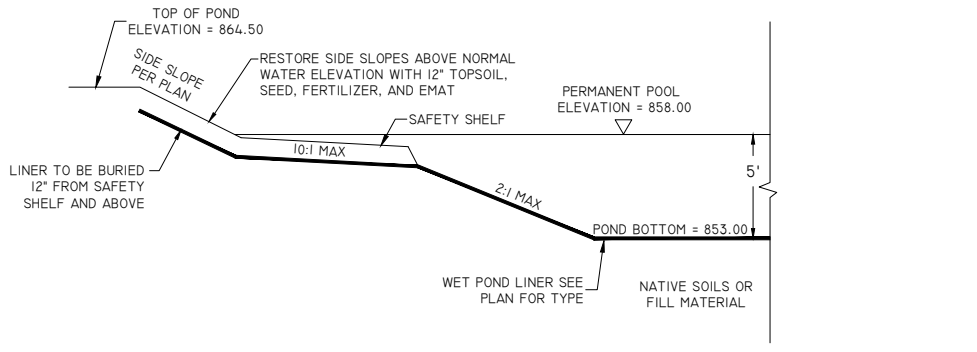
CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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DRAWN BY: NAP XXX
SCALE: GRAPHIC
PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: C602

DRAWING FILE: Q:\11700-11799\11757 - Kwik Trip #631 - GERMANTOWN\DRAWING\PLANS\11757-C600-EROSION CONTROL PLAN.DWG LAYOUT: C603
PLOTTED: OCT 08, 2024 - 3:36PM PLOTTED BY: NATHANP



GENERAL POND LINER SPECIFICATIONS

(REFER TO APPENDIX D OF WDNR TECHNICAL STANDARD 1001 FOR DETAILED SPECIFICATIONS)

- *1. TYPE A LINER (ANY OF THE FOLLOWING)
- CLAY LINER: MINIMUM THICKNESS OF 2 FEET WITH AN IN-PLACE HYDRAULIC CONDUCTIVITY OF 1×10^{-7} CM/SEC OR LESS.
 - HDPE: MINIMUM THICKNESS OF 60 MIL.
 - GCL: GEOSYNTHETIC CLAY LINER PER NRCS SPECIFICATIONS OUTLINED IN APPENDIX D.

TYPE B LINER (ANY OF THE FOLLOWING)

- CLAY LINER: MINIMUM THICKNESS OF 2 FEET WITH AN IN-PLACE HYDRAULIC CONDUCTIVITY OF 1×10^{-6} CM/SEC OR LESS.
- HDPE: MINIMUM THICKNESS OF 40 MIL.
- PPL: MINIMUM THICKNESS OF 30 MIL.

TYPE C LINER (ANY OF THE FOLLOWING)

- SILT/CLAY LINER: MINIMUM THICKNESS OF 2 FEET
- HDPE: ANY THICKNESS
- PPL: MINIMUM THICKNESS OF 20 MIL
- PVC: MINIMUM THICKNESS OF 30 MIL
- EPDM: MINIMUM THICKNESS OF 45 MIL

NOTE:

1. SHOULD THE CONTRACTOR ENCOUNTER SEASONAL OR PERCHED GROUNDWATER DURING CONSTRUCTION OF THE POND AND IT'S LINER, CONTACT ENGINEER FOR UNDERDRAIN RECOMMENDATIONS.

2. MANUFACTURED LINERS SHALL BE PROVIDED WITH AIR-RELEASE VENTS TO PREVENT FLOATING.

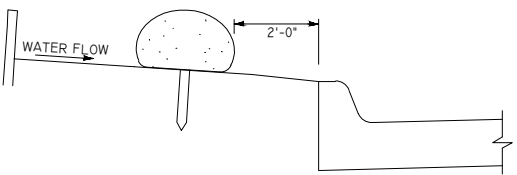
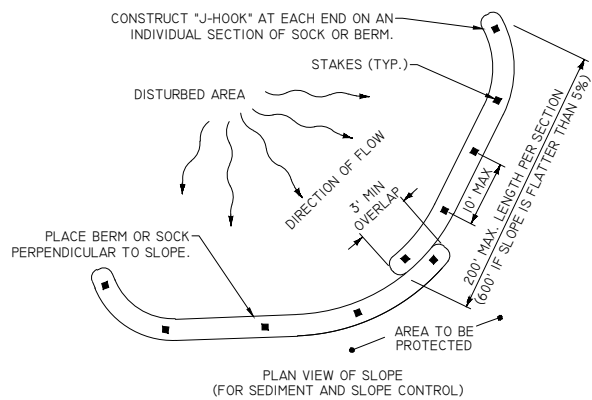
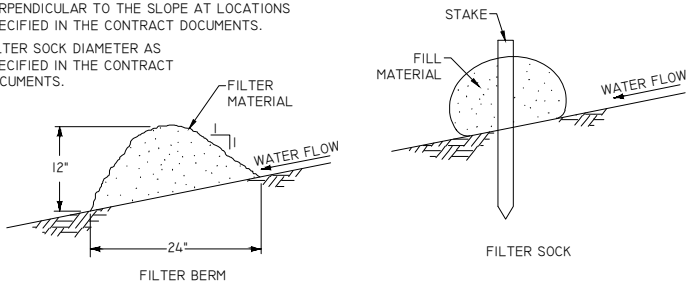
3. CONTRACTOR TO PROVIDE POND LINER DOCUMENTATION TO OWNER PRIOR TO FINAL ACCEPTANCE.

WET POND LINER

BERM SHOWN IS TYPICAL FOR SLOPES FLATTER THAN 3:1. FOR STEEPER SLOPES, INCREASE BERM SIZE AS DIRECTED BY THE ENGINEER.

PLACE BERM IN UNCOMPACTED WINDROW PERPENDICULAR TO THE SLOPE AT LOCATIONS SPECIFIED IN THE CONTRACT DOCUMENTS.

FILTER SOCK DIAMETER AS SPECIFIED IN THE CONTRACT DOCUMENTS.



SECTION VIEW AT STREET
(FOR PERIMETER CONTROL ALONG STREET)
TYPICAL PLACEMENT OF BERM OR SOCK

FILTER BERM AND FILTER SOCK

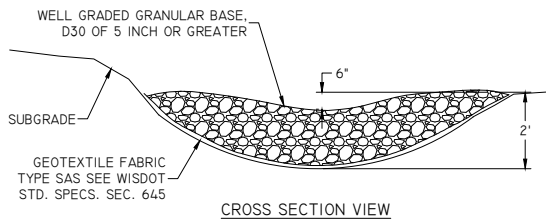
INSTALL & MAINTAIN IN ACCORDANCE WITH DNR TECHNICAL STANDARD 1062.

DITCH CHECKS TO BE REMOVED AFTER THE DITCH IS VEGETATED AND STABILIZED.

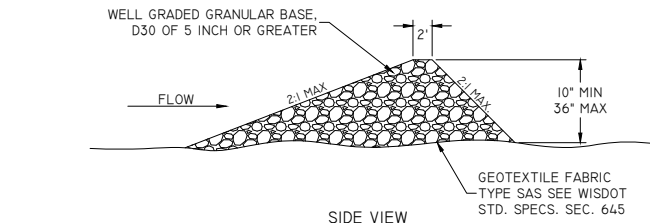
AREA UNDER THE DITCH CHECK TO BE SEEDD AFTER THE DITCH CHECK IS REMOVED.

PLACE EROSION MAT OVER THESE SEEDD AREAS.

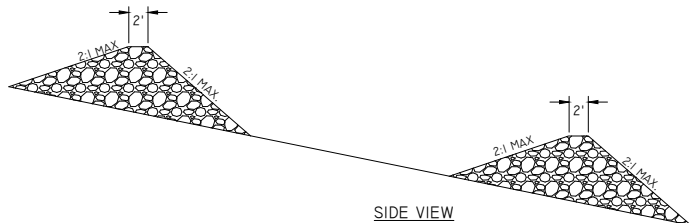
NOTE:
CONTRACTOR MAY REFER TO THE WISDOT PAL FOR OTHER APPROVED DITCH CHECKS AND THEIR INSTALLATION



CROSS SECTION VIEW



SIDE VIEW



SIDE VIEW

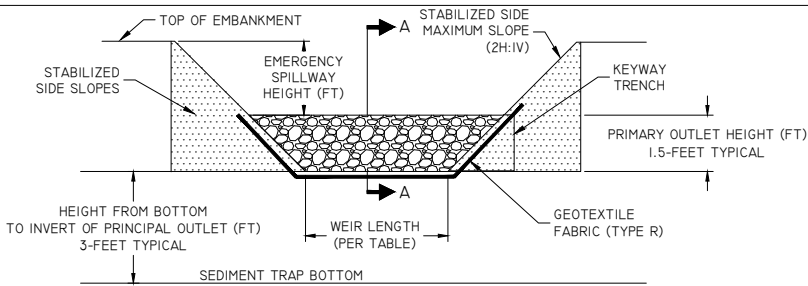
STONE DITCH CHECKS

- NOTES:
1. SIDE SLOPES AND FACES OF EARTHEN EMBANKMENT AROUND OUTLET SHALL BE ARMORED WITH RIPRAP OR STABILIZED WITH EROSION MAT SUFFICIENT TO HANDLE FLOWS FROM THE 10-YEAR STORM.
 2. STONE (SHORT DURATION): 3-6" WELL GRADED ANGULAR CLEAR STONE.
 3. STONE (6+ MONTHS): COMBINATION OF LIGHT RIPRAP WITH 12"-THICK LAYER OF 1" ANGULAR CLEAR STONE.
 4. REFER TO WDNR TECH STD 1063 FOR ADDITIONAL INFORMATION.

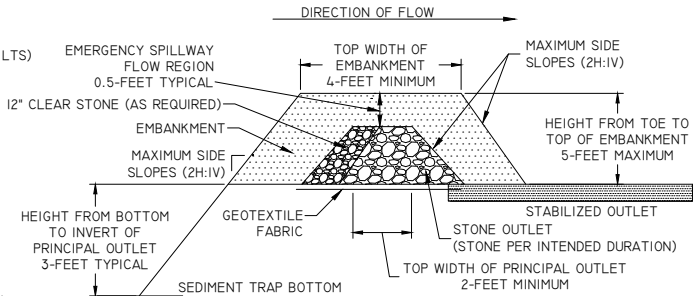
- * AS = 625 X ADR (COARSE GRAINED SOILS + SANDS)
AS = 1560 X ADR (MEDIUM GRAINED SOILS + LOAMS, SILTS)
AS = 5300 X ADR (FINE GRAINED SOILS + CLAYS)

ADR (OC)	WEIR LENGTH (FT)
1	4
2	6
3	8
4	10
5	12

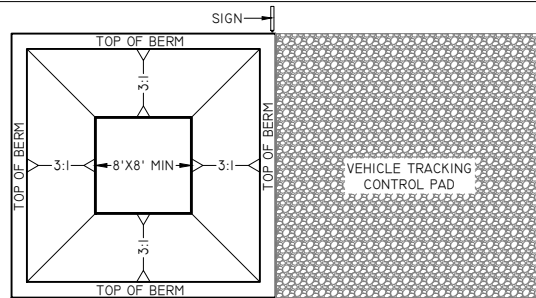
SEDIMENT TRAP DETAIL



CROSS-SECTION VIEW OF PRINCIPAL OUTLET



VIEW A-A OF PRINCIPAL OUTLET



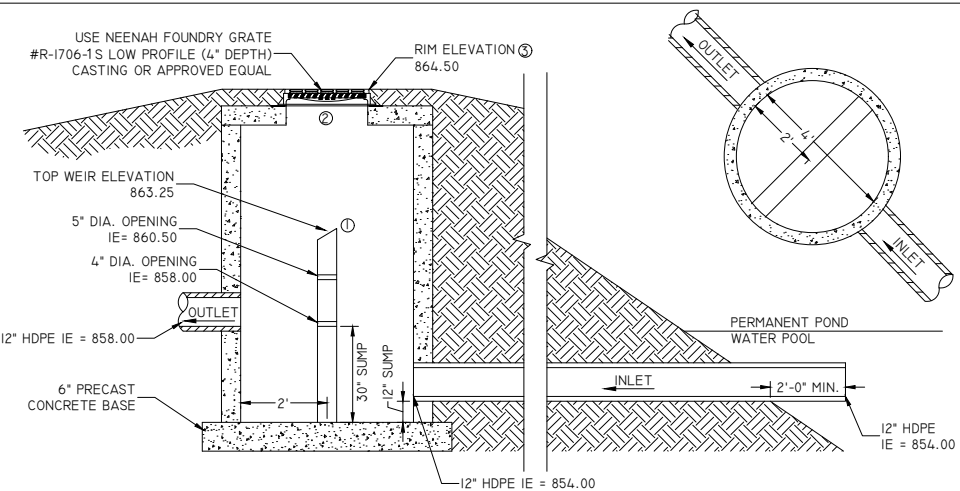
CONCRETE WASHOUT AREA INSTALLATION NOTES

1. SEE EROSION CONTROL PLAN FOR LOCATIONS OF CONCRETE WASHOUT AREA(S). TO BE PLACED A MIN. OF 50' FROM DRAINAGEWAYS, BODIES OF WATER, AND INLETS.)
2. THE CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL PAD IS REQ'D AT THE ACCESS POINT(S).
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA(S), AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREAS TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

CONCRETE WASHOUT AREA MAINTENANCE NOTES

6. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE
7. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
8. WHEN CONCRETE WASHOUT AREA(S) IS REMOVED, THE DISTURBED AREA SHALL BE STABILIZED PER SITE EROSION CONTROL MEASURES.
9. INSPECT WEEKLY AND DURING AND AFTER ALL STORM EVENTS. CLEAN-OUT OR COVER WASHOUT AREA PRIOR TO PREDICTED STORM EVENTS TO PREVENT OVER-FLOW.

CONCRETE WASHOUT AREA



OUTLET CONTROL STRUCTURE

- ① 4" THICK MASONRY WALL OR 1/2" STEEL PLATE. GROUT OR SEAL ALONG SIDES OF MANHOLE
- ② FORM OPENING IN TOP SLAB TO FIT CASTING
- ③ ADJUST GRADING AT THE OUTLET STRUCTURE TO COVER CASTING TO THE PROPOSED RIM ELEVATION

Kwik Trip

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Kwik Star

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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9704 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

EROSION CONTROL
DETAILS

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
1		
DRAWN BY NAP XXX		
SCALE		GRAPHIC
PROJ. NO.		11757
DATE		10/09/24 - REVIEW DOCUMENTS
SHEET		C603

- (A) LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, AND IS RESPONSIBLE FOR ANY DAMAGE TO THEM DURING CONSTRUCTION.
- (B) CALL DIGGERS HOTLINE @ 811 OR 1-800-242-8511 AT LEAST 5 WORKING DAYS PRIOR TO DEMOLITION, EXCAVATION OR ANY CONSTRUCTION ACTIVITY.
- (C) ALL PLANT MATERIAL SHALL BE GUARANTEED ONE (1) FULL YEAR UPON TOTAL COMPLETION OF PROJECT AND ACCEPTANCE BY OWNER, WITH A ONE TIME REPLACEMENT WARRANTY UPON REQUEST BY OWNER. WARRANTY EXPIRES AFTER FIRST FULL YEAR FOLLOWING PROJECT COMPLETION.
- (D) LANDSCAPE CONTRACTOR SHALL VERIFY MINIMUM 6" TOPSOIL DEPTH FOR ALL AREAS TO BE SEEDED/SODDED THROUGHOUT PROJECT SITE. CONTRACTOR IS REQUIRED TO CORRECT ANY DEFICIENCIES PRIOR TO SEED/SOD. TOPSOIL SHALL BE CLEAN AND FREE OF STONES, WEEDS AND OTHER UNDESIRABLE DEBRIS.
- (E) LANDSCAPE CONTRACTOR SHALL VERIFY MINIMUM 12" PLANTING SOIL DEPTH FOR ALL PROPOSED PLANTING BED AREAS THROUGHOUT THE PROJECT SITE. CONTRACTOR IS REQUIRED TO CORRECT ANY DEFICIENCIES PRIOR TO PLANT INSTALLATION. PLANTING SOIL & AREA SHALL BE CLEAN AND FREE OF STONES, WEEDS, CONCRETE WASTE AND OTHER UNDESIRABLE DEBRIS.
- (F) LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR REPAIRING TOPSOIL AND SODDING ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITY, INCLUDING ALL R.O.W. AND ADJACENT PROPERTIES.
- (G) CONTRACTOR SHALL CLEAN ALL PAVEMENT AREAS AFTER LANDSCAPE CONSTRUCTION ACTIVITIES ARE COMPLETE AND APPROVED BY OWNER. *THIS TO BE DONE DAILY AS DEEMED NECESSARY BY MUNICIPALITY.

PLANT SCHEDULE

SYMBOL	COMMON NAME	BOTANICAL NAME	SIZE	CONT.	QTY
DECIDUOUS TREES					
	Autumn Blaze® Freeman Maple	Acer x freemanii 'Jeffersred'	2.5' Cal.	B&B	11
	Fall Fiesta® Sugar Maple	Acer saccharum 'Bailsta'	2' Cal.	B&B	18
	Red Oak	Quercus rubra	3' Cal.	B&B	8
	Swamp White Oak	Quercus bicolor	3' Cal.	B&B	7
EVERGREEN TREES					
	Black Hills White Spruce	Picea glauca 'Densata'	6' Ht.	B&B	2
	White Pine	Pinus alba	6' Ht.	B&B	8
	White Spruce	Picea glauca	6' Ht.	B&B	20
DECIDUOUS SHRUBS					
	Tiny Wine® Ninebark	Physocarpus opulifolius 'SMPOTW'	3 gal.	Pot	62
EVERGREEN SHRUBS					
	Dark Green Anglo-Japanese Yew	Taxus x media 'Dark Green'	5 gal.	Pot	11
	Kallay Compact Pfitzer Juniper	Juniperus chinensis 'Kallays Compact'	3 gal.	Pot	25
	Mini Arcade Juniper	Juniperus sabina 'Mini Arcade'	3 gal.	Pot	58
PERENNIALS					
	Karl Foerster Feather Reed Grass	Calamagrostis x acutiflora 'Karl Foerster'	1 gal.	Pot	27
	Prairie Dropseed	Sporobolus heterolepis	1 gal.	Pot	104
	Shenandoah Switch Grass	Panicum virgatum 'Shenandoah'	1 gal.	Pot	68

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The Kwik Star logo, featuring the word "Kwik" in a bold, italicized sans-serif font above the word "Star" in a similar font, with a five-pointed star replacing the letter "a".

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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**CIVIL & ENVIRONMENTAL
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REI Engineering, INC.
4080 N. 20TH AVENUE
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SCALE

LANDSCAPE PLAN

CONVENIENCE STORE #631

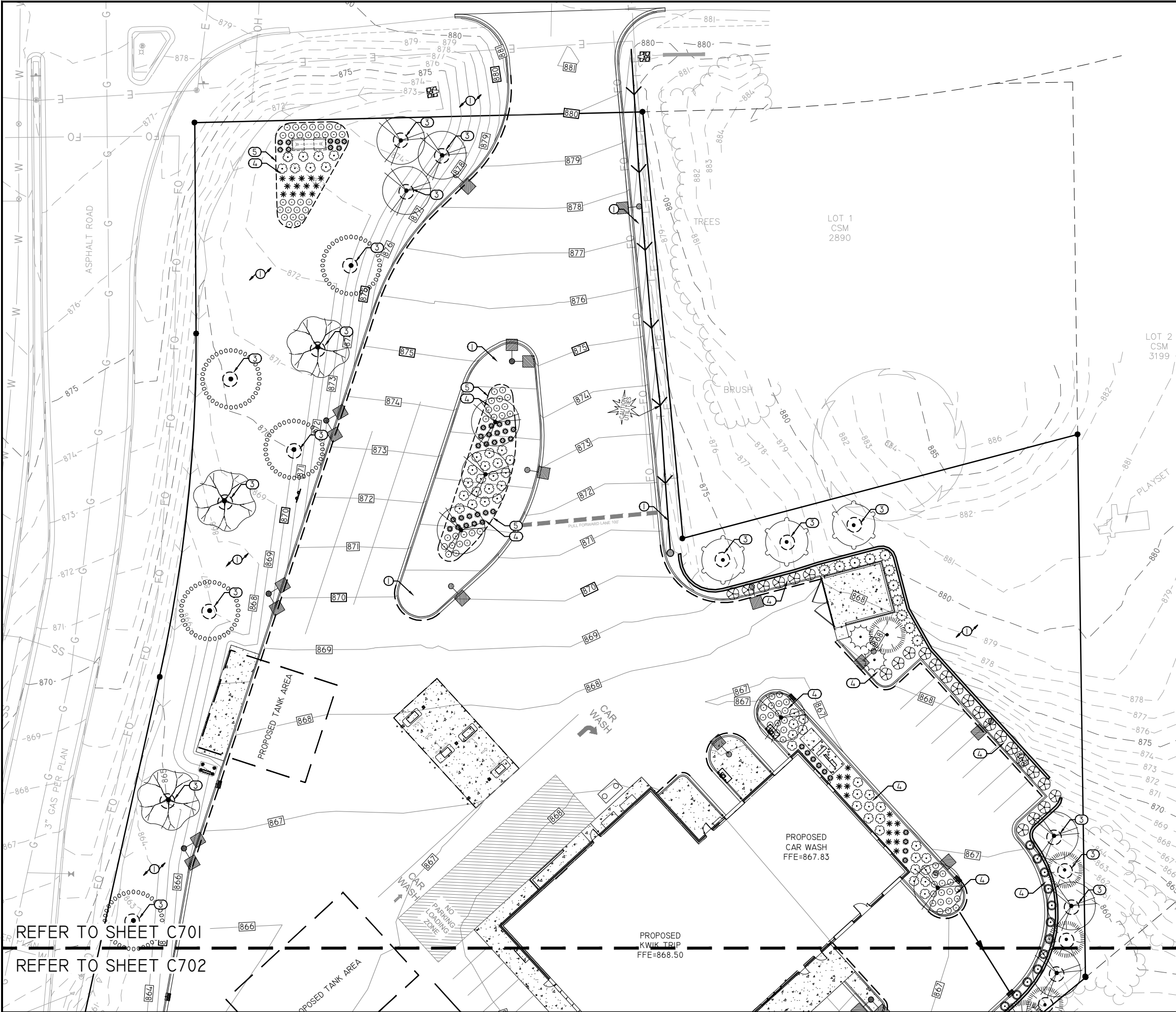
SIH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
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DRAWN BY	NAP
SCALE	GRAPHIC
PROJ. NO.	11757
DATE	10/09/24 - REVIEW DOCUMENTS
SHEET	C70

C700 |

DRAWING FILE: Q:\11700-11799\11757 - KWIK TRIP #631 - GERMANTOWN\DRAWING\PLANS\11757-C700-LANDSCAPE PLAN.DWG LAYOUT: C701
PLOTTED: OCT 08, 2024 - 3:38PM PLOTTED BY: NATHAN P



REFER TO SHEET C701
REFER TO SHEET C702

KEYED NOTES

1. SOD, *ALL AREAS NOTED ON PLAN & ALL DISTURBED AREAS DUE TO CONSTRUCTION ACTIVITY.
2. (9,900 SF TOTAL) AGRECOL, SHORTGRASS PRAIRIE FOR DRY SOILS. APPLY GLYPHOSATE HERBICIDE TO AREA WHEN MAJORITY OF WEEDS ARE 2"-3" TALL. WAIT 10 DAYS THEN FINELY TILL THE SOIL ONLY 1"-2" DOWN AND PLANT IMMEDIATELY BY HAND BROADCASTING AT A RATE OF 11 LBS/ACRE. RAKE OR DRAG AREA LIGHTLY, COVERING THE SEED WITH ABOUT 1/4" TO 1/2" OF SOIL. ROLL AREA FIRMLY AFTER RAKING. MULCH PRAIRIE SEEDED AREAS LESS THAN 4:1 SLOPE WITH 1" OF WEED FREE STRAW MULCH. APPLY WISDOT NET-FREE CLASS I, URBAN TYPE B EROSION MAT ON SLOPING AREAS STEEPER THAN 4:1. *REFER TO AGRECOL'S 'NATIVE SEEDING INSTRUCTIONS' ON THEIR WEBSITE FOR DETAILED INSTRUCTIONS/GUIDELINES FOR SUCCESSFUL SEED ESTABLISHMENT AND MANAGEMENT. (LINK BELOW)

[HTTPS://WWW.AGRECOL.COM/NATIVE-SEEDING-INSTRUCTIONS_EP_44.HTML](https://www.agrecol.com/native-seeding-instructions_ep_44.html)
3. 6' DIAMETER WOOD MULCH TREE RING, 3"-4" DEPTH, DARK BROWN COLOR, *ALL TREES PLANTED WITHIN SOD AREAS.
4. SHREDDED HARDWOOD MULCH, 3"-4" DEPTH, DARK BROWN COLOR.
5. SHOVEL CUT EDGE, 4"-6" DEPTH CLEAN CUT EDGE AROUND PLANTING BEDS & PRAIRIE SEEDING WITHIN SOD AREAS.

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME
DECIDUOUS TREES	
	Acer saccharum 'Bailest'
	Acer x freemanii 'Jeffersred'
	Quercus bicolor
	Quercus rubra
EVERGREEN TREES	
	Picea glauca
	Picea glauca 'Densata'
	Pinus alba
DECIDUOUS SHRUBS	
	Physocarpus opulifolius 'SMPOTW'
EVERGREEN SHRUBS	
	Juniperus chinensis 'Kallays Compact'
	Juniperus sabina 'Mini Arcade'
	Taxus x media 'Dark Green'
PERENNIALS	
	Calamagrostis x acutiflora 'Karl Foerster'
	Panicum virgatum 'Shenandoah'
	Sporobolus heterolepis

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STORES

KWIK STAR

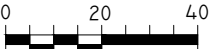
STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9184 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



SCALE



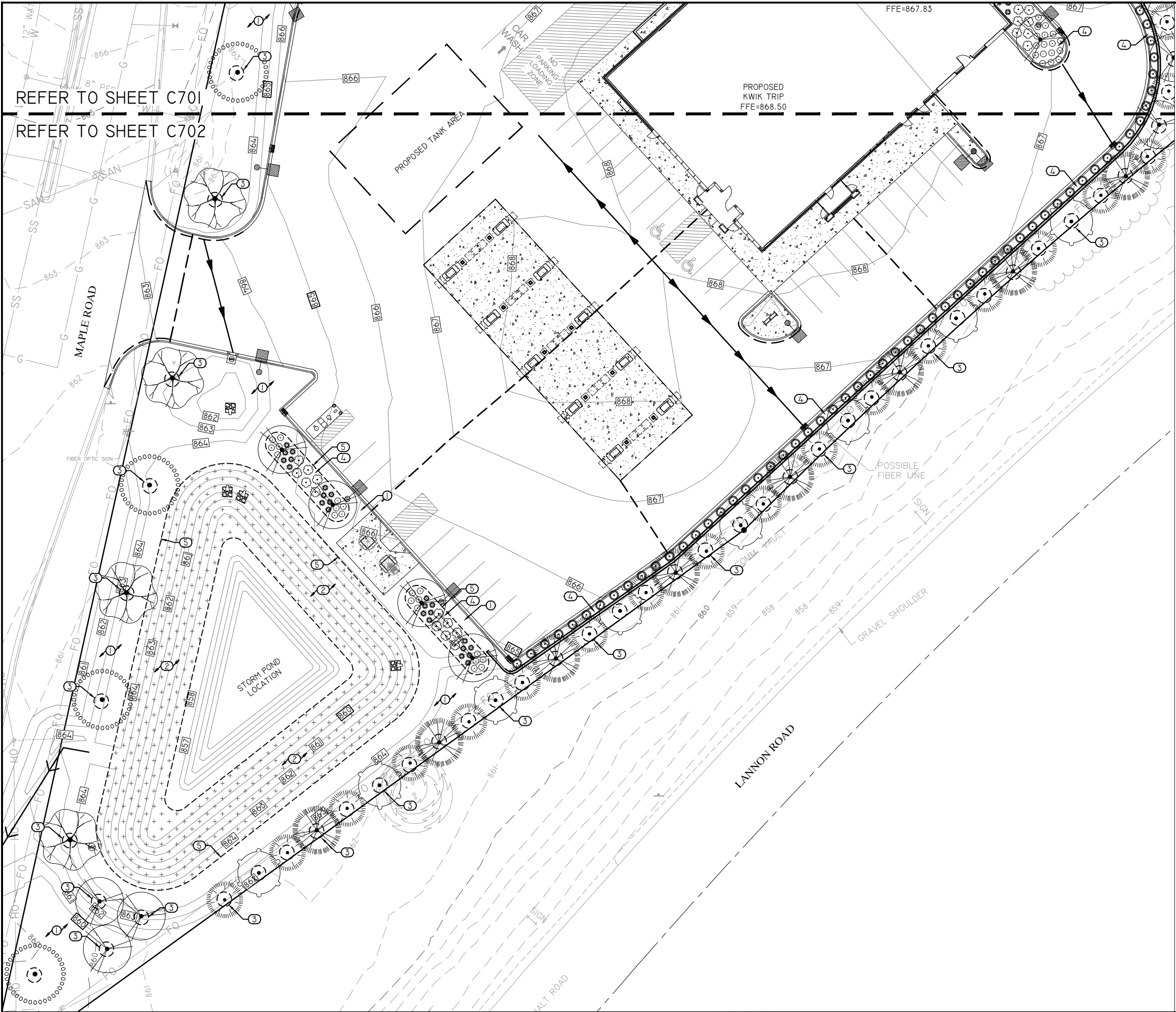
LANDSCAPE PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
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SHEET		C701

DRAWING FILE: Q:\11700-11799\11757 - KWIK TRIP #631 - GERMANTOWN\DRAWING\PLANS\11757-C700-LANDSCAPE PLAN.DWG PLOTTED: OCT 08, 2024 - 3:39PM PLOTTED BY: NATHAN P. LAYOUT: C702



KEYED NOTES

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2. (9,900 SF TOTAL) AGRECOL, SHORTGRASS PRAIRIE FOR DRY SOILS. APPLY GLYPHOSATE HERBICIDE TO AREA WHEN MAJORITY OF WEEDS ARE 2"-3" TALL. WAIT 10 DAYS THEN FINELY TILL THE SOIL ONLY 1"-2" DOWN AND PLANT IMMEDIATELY BY HAND BROADCASTING AT A RATE OF 11 LBS/ACRE. RAKE OR DRAG AREA LIGHTLY, COVERING THE SEED WITH ABOUT 1/4" TO 1/2" OF SOIL. ROLL AREA FIRMLY AFTER RAKING. MULCH PRAIRIE SEEDED AREAS LESS THAN 4:1 SLOPE WITH 1" OF WEED FREE STRAW MULCH. APPLY WISDOT NET-FREE CLASS I, URBAN TYPE B EROSION MAT ON SLOPING AREAS STEEPER THAN 4:1. *REFER TO AGRECOL'S 'NATIVE SEEDING INSTRUCTIONS' ON THEIR WEBSITE FOR DETAILED INSTRUCTIONS/GUIDELINES FOR SUCCESSFUL SEED ESTABLISHMENT AND MANAGEMENT. (LINK BELOW)

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5. SHOVEL CUT EDGE, 4"-6" DEPTH CLEAN CUT EDGE AROUND PLANTING BEDS & PRAIRIE SEEDING WITHIN SOD AREAS.

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME
DECIDUOUS TREES	
	Acer saccharum 'Baileta'
	Acer x freemanii 'Jeffersred'
	Quercus bicolor
	Quercus rubra
EVERGREEN TREES	
	Picea glauca
	Picea glauca 'Densata'
	Pinus alba
DECIDUOUS SHRUBS	
	Physocarpus opulifolius 'SMPOTW'
EVERGREEN SHRUBS	
	Juniperus chinensis 'Kallays Compact'
	Juniperus sabina 'Mini Arcade'
	Taxus x media 'Dark Green'
PERENNIALS	
	Calamagrostis x acutiflora 'Karl Foerster'
	Panicum virgatum 'Shenandoah'
	Sporobolus heterolepis

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P.O. BOX 2107
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LA CROSSE, WI 54602-2107
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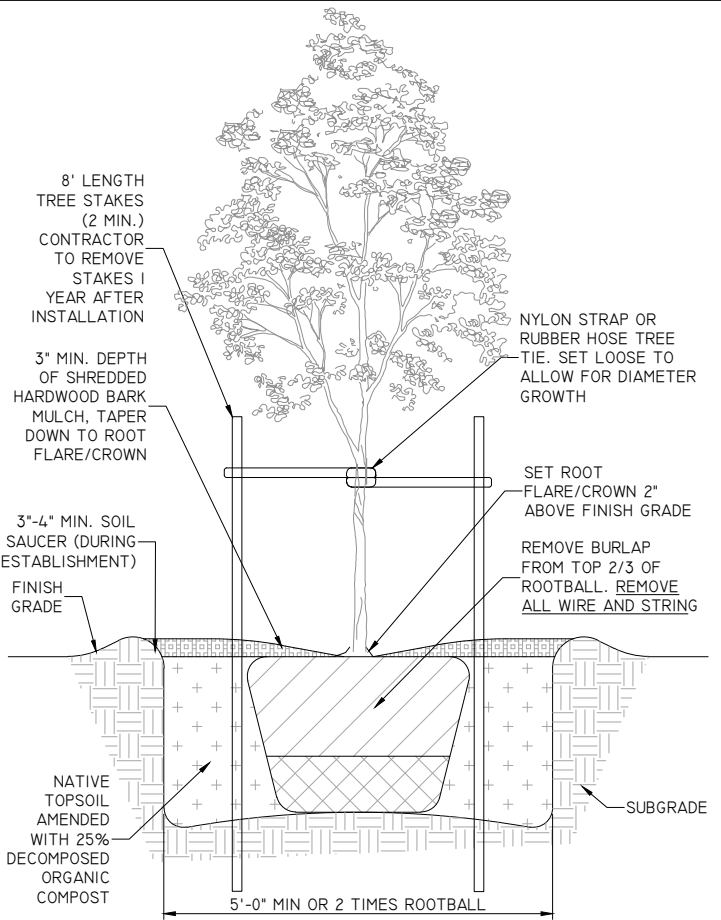
LANDSCAPE PLAN

CONVENIENCE STORE #631

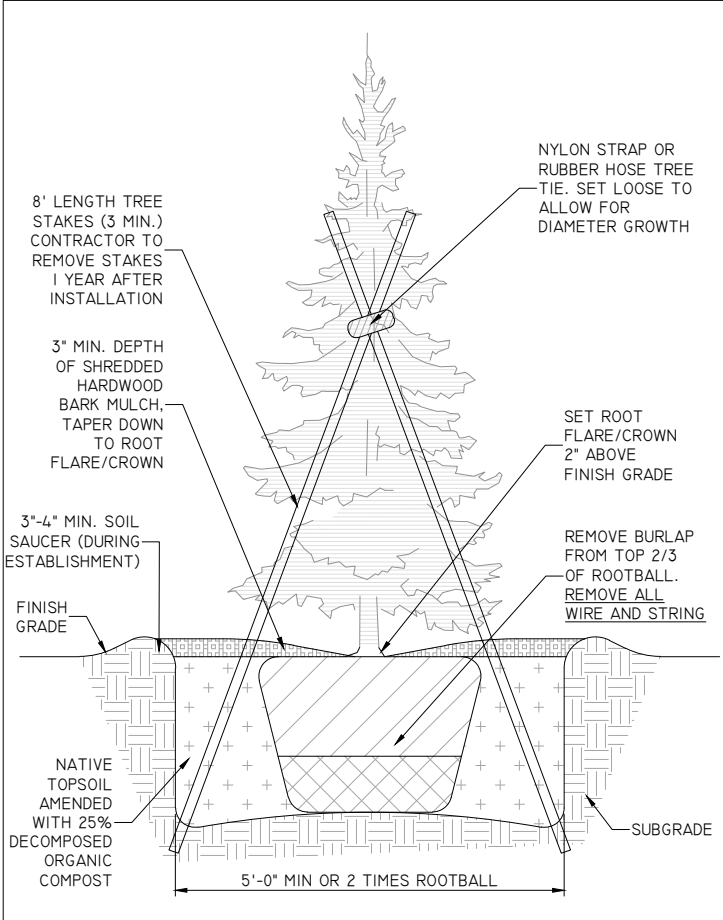
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DATE		10/09/24 - REVIEW DOCUMENTS
SHEET		C702

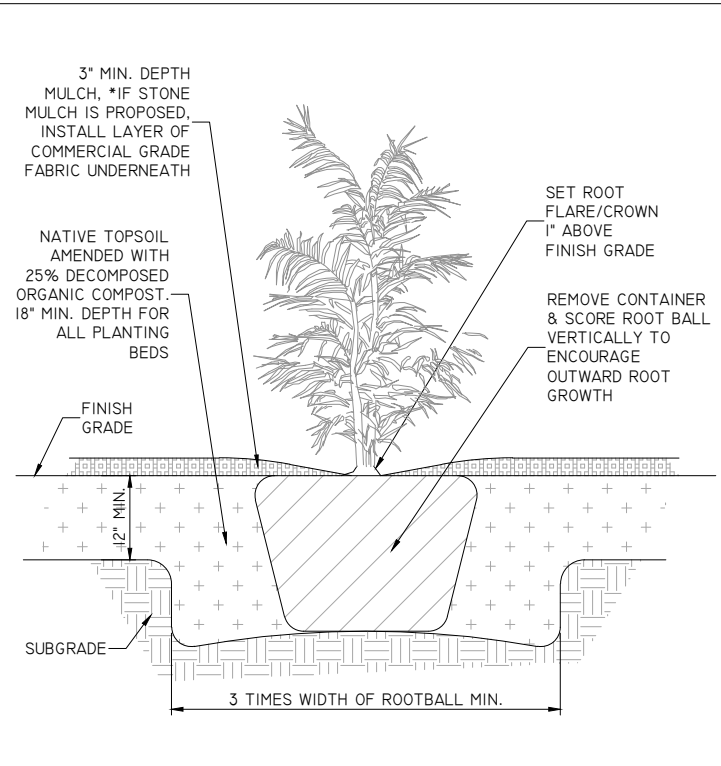
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PLOTTED: OCT 08, 2024 - 3:59PM PLOTTED BY: NATHANP



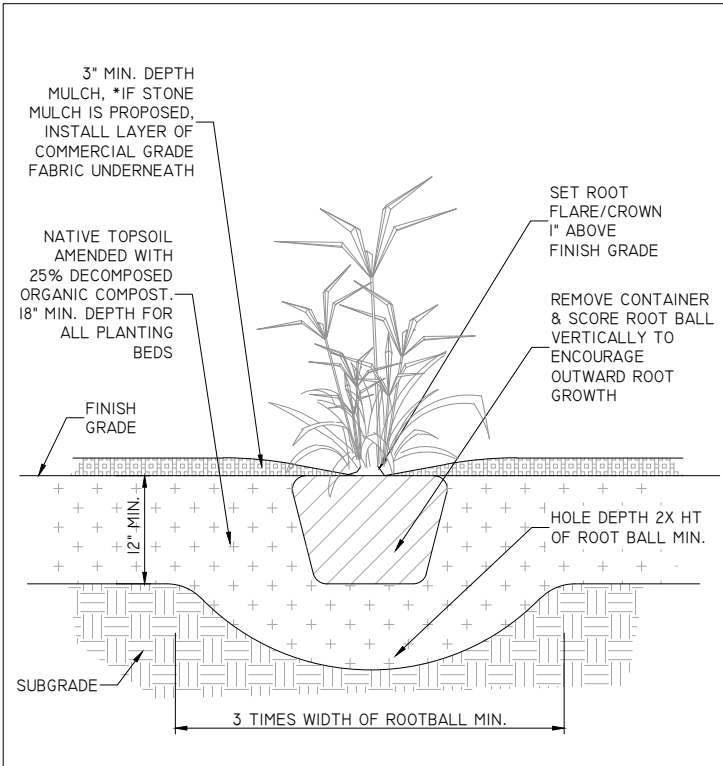
DECIDUOUS TREE - PLANTING DETAIL



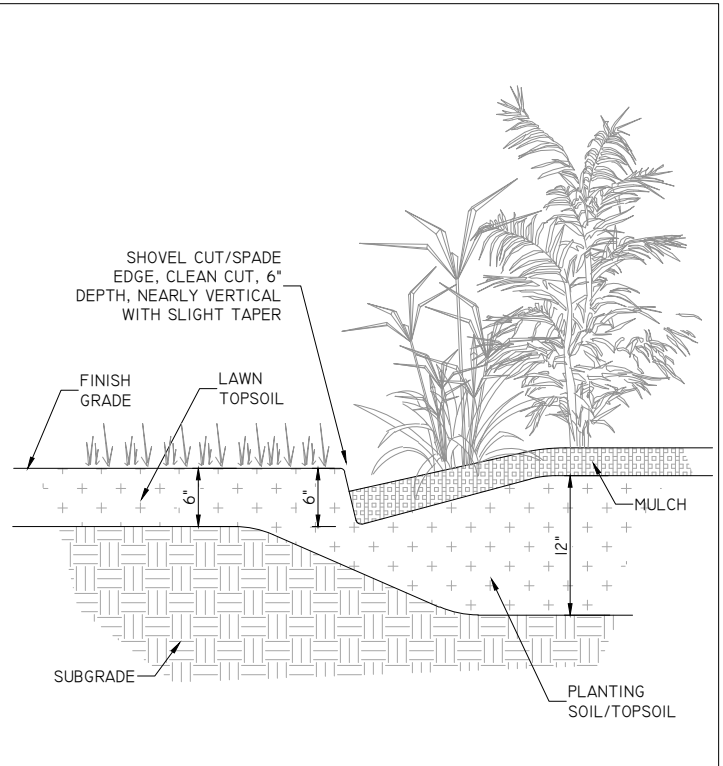
EVERGREEN TREE - PLANTING DETAIL



SHRUB - PLANTING DETAIL



PERENNIAL - PLANTING DETAIL



SHOVEL CUT EDGE - DETAIL

KWIK
TRIP

STORES

KWIK
STAR

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9184 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM

LANDSCAPE DETAILS

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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SCALE GRAPHIC
PROJ. NO. 11757
DATE 10/09/24 - REVIEW DOCUMENTS
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C703



#	DATE	DESCRIPTION
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DATE	10/09/24 - REVIEW DOCUMENTS	
SHEET		C800

Appendix 1

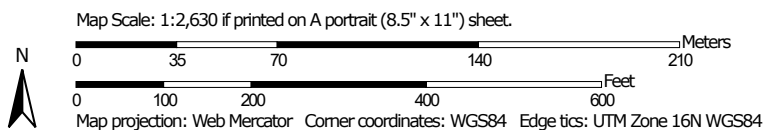
NR 151 Post Construction Standards

WISCONSIN DNR NR 151 STORMWATER PERFORMANCE STANDARDS APPLICABLE TO PROJECTS WITH ONE OR MORE ACRES OF DISTURBANCE (After January 1, 2011)				
DEVELOPMENT TYPE	TOTAL SUSPENDED SOLIDS (TSS)	PEAK FLOW	INFILTRATION	PROTECTIVE AREA SETBACKS
New Development Infill $\geq$ 5 ac Redevelopment of Sites Permitted after October 1, 2004 New Transportation Facilities	Reduce by 80% compared to no controls	Peak discharge matches pre-dev. discharge rate for 1-yr and 2-yr, 24-hr storm events	Low Impervious (up to 40% connected - eg parks, cemeteries, low density residential) – infiltrate 90% pre-development infiltration volume, w/ 1% device area cap	75 ft for outstanding resource waters and highly-susceptible wetlands
			Moderate Impervious (up to 40-80% connected - eg single- and multi-family residential, industrial, institutional, office parks) – infiltrate 75% pre-development infiltration volume w/ 2% device area cap	50 ft for lakes, perennial and intermittent streams, and wetlands that are neither classified as highly susceptible nor less susceptible
			High Impervious (Over 80% connected - eg commercial strips, shopping centers, commercial downtown) – infiltrate 60% pre-development infiltration volume w/ 2% device area cap	10-30 feet for less susceptible wetlands based upon average wetland width
			Most New Transportation Facilities (above the local residential classification) are Exempt	10 feet for concentrated flow channels with drainage areas over 130 acres
Infill < 5 acres	Reduce by 40% compared to no controls (80% on/after October 1, 2012)	Exempt	Exempt	Exempt
Highway Reconstruction	Reduce by 40% compared to no controls	Exempt	Exempt	Exempt
Redevelopment of Sites Permitted Prior to October 1, 2004	Reduce parking areas and roads by 40% compared to no controls	Exempt	Exempt	Exempt
Post-Construction Site or Transportation Facility w/ Less than 10% Connected Impervious (assuming cumulative impervious is beneath 1 acre)	Exempt	Exempt	Exempt	Follow as if New Construction

Appendix 2

Site Soils Information

Soil Map—Washington County, Wisconsin



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

10/4/2024
Page 1 of 3
Page 351 of 646

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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

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

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Washington County, Wisconsin

Survey Area Data: Version 24, Sep 3, 2024

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

Date(s) aerial images were photographed: Aug 4, 2022—Sep 13, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CeC2	Casco loam, 6 to 12 percent slopes, eroded	0.1	0.2%
GP	Gravel pit	0.7	1.9%
GrB	Grays silt loam, 2 to 6 percent slopes	1.5	3.9%
HmB2	Hochheim loam, 2 to 6 percent slopes, eroded	2.7	7.3%
HmC2	Hochheim loam, 6 to 12 percent slopes, eroded	8.0	21.4%
HmD2	Hochheim loam, 12 to 20 percent slopes, eroded	2.0	5.2%
LmA	Lamartine silt loam, 0 to 3 percent slopes	0.1	0.2%
MgA	Martinton silt loam, 1 to 3 percent slopes	2.3	6.2%
MtA	Mequon silt loam, 1 to 3 percent slopes	2.3	6.0%
Mzb	Montgomery silty clay loam	1.4	3.7%
OuB2	Ozaukee silt loam, high carbonate substratum, 2 to 6 percent slopes, eroded	3.5	9.4%
Pc	Palms mucky peat, 0 to 2 percent slopes	0.1	0.2%
Sf	Sandy and gravelly land	5.9	15.8%
ThB2	Theresa silt loam, 2 to 6 percent slopes, eroded	0.3	0.8%
VsA	Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	6.7	17.8%
Totals for Area of Interest		37.6	100.0%

Washington County, Wisconsin

HmB2—Hochheim loam, 2 to 6 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2t03w

Elevation: 820 to 1,330 feet

Mean annual precipitation: 29 to 36 inches

Mean annual air temperature: 43 to 46 degrees F

Frost-free period: 135 to 175 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Hochheim, eroded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hochheim, Eroded

Setting

Landform: Drumlins

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Crest, side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loamy till and/or calcareous, dense loamy till

Typical profile

Ap - 0 to 7 inches: loam

Bt - 7 to 16 inches: loam

C - 16 to 33 inches: gravelly sandy loam

Cd - 33 to 79 inches: gravelly sandy loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 20 to 40 inches to densic material

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 60 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: D
Ecological site: F095XB007WI - Loamy Upland with Carbonates
Forage suitability group: Mod AWC, adequately drained
(G095BY005WI)
Other vegetative classification: Mod AWC, adequately drained
(G095BY005WI)
Hydric soil rating: No

Minor Components

Theresa, eroded

Percent of map unit: 10 percent
Landform: Till plains
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F095XB007WI - Loamy Upland with Carbonates
Hydric soil rating: No

Lamartine

Percent of map unit: 5 percent
Landform: Drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F095XB005WI - Moist Loamy or Clayey Lowland
Hydric soil rating: No

Data Source Information

Soil Survey Area: Washington County, Wisconsin
Survey Area Data: Version 24, Sep 3, 2024

Washington County, Wisconsin

HmC2—Hochheim loam, 6 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2t03r

Elevation: 900 to 1,340 feet

Mean annual precipitation: 31 to 33 inches

Mean annual air temperature: 43 to 46 degrees F

Frost-free period: 135 to 175 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Hochheim, eroded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hochheim, Eroded

Setting

Landform: Drumlins

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Crest, side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loamy till and/or calcareous, dense loamy till

Typical profile

Ap - 0 to 7 inches: loam

Bt - 7 to 16 inches: clay loam

C - 16 to 33 inches: gravelly sandy loam

Cd - 33 to 79 inches: gravelly sandy loam

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: 20 to 40 inches to densic material

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 60 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Ecological site: F095XB007WI - Loamy Upland with Carbonates
Forage suitability group: Mod AWC, adequately drained
(G095BY005WI)
Other vegetative classification: Mod AWC, adequately drained
(G095BY005WI)
Hydric soil rating: No

Minor Components

Theresa

Percent of map unit: 5 percent
Landform: Drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F095XB007WI - Loamy Upland with Carbonates
Hydric soil rating: No

Hochheim

Percent of map unit: 5 percent
Landform: Drumlins
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope, head slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F095XB006WI - Shallow Upland
Hydric soil rating: No

Data Source Information

Soil Survey Area: Washington County, Wisconsin
Survey Area Data: Version 24, Sep 3, 2024

Washington County, Wisconsin

HmD2—Hochheim loam, 12 to 20 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2t72w

Elevation: 820 to 1,330 feet

Mean annual precipitation: 28 to 36 inches

Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 130 to 175 days

Farmland classification: Not prime farmland

Map Unit Composition

Hochheim, eroded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hochheim, Eroded

Setting

Landform: Drumlins

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loamy till and/or calcareous, dense loamy till

Typical profile

Ap - 0 to 6 inches: loam

Bt - 6 to 16 inches: clay loam

C - 16 to 30 inches: gravelly loam

Cd - 30 to 79 inches: gravelly loam

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: 20 to 36 inches to densic material

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 60 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Ecological site: F095XB007WI - Loamy Upland with Carbonates
Forage suitability group: Mod AWC, adequately drained with limitations (G095BY006WI)
Other vegetative classification: Mod AWC, adequately drained with limitations (G095BY006WI)
Hydric soil rating: No

Minor Components

Theresa

Percent of map unit: 10 percent
Landform: Drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F095XB007WI - Loamy Upland with Carbonates
Hydric soil rating: No

Hochheim

Percent of map unit: 5 percent
Landform: Drumlins
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F095XB006WI - Shallow Upland
Hydric soil rating: No

Data Source Information

Soil Survey Area: Washington County, Wisconsin
Survey Area Data: Version 24, Sep 3, 2024

Washington County, Wisconsin

OuB2—Ozaukee silt loam, high carbonate substratum, 2 to 6 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2sn0c

Elevation: 650 to 1,010 feet

Mean annual precipitation: 31 to 39 inches

Mean annual air temperature: 44 to 49 degrees F

Frost-free period: 125 to 185 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Ozaukee, high carbonate substratum, eroded, and similar soils: 96 percent

Minor components: 4 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ozaukee, High Carbonate Substratum, Eroded

Setting

Landform: Ground moraines, end moraines

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Thin mantle of loess over silty and clayey till

Typical profile

Ap - 0 to 7 inches: silt loam

Bt1 - 7 to 11 inches: silty clay loam

2Bt2 - 11 to 22 inches: silty clay

2Bt3 - 22 to 27 inches: silty clay loam

2Cd - 27 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 22 to 40 inches to densic material

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 24 to 42 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 60 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Ecological site: F110XY012IL - Moist Glacial Drift Upland Forest

Forage suitability group: Mod AWC, adequately drained with
limitations (G095BY006WI)

Other vegetative classification: Mod AWC, adequately drained with
limitations (G095BY006WI)

Hydric soil rating: No

Minor Components

Ashkum, drained

Percent of map unit: 2 percent

Landform: End moraines, ground moraines

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Concave

Ecological site: R110XY024IL - Ponded Depressional Sedge
Meadow

Hydric soil rating: Yes

Urban land

Percent of map unit: 1 percent

Landform: Ground moraines

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Orthents, clayey

Percent of map unit: 1 percent

Landform: Ground moraines

Landform position (two-dimensional): Summit, backslope

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: F095XB010WI - Loamy and Clayey Upland

Hydric soil rating: No

Data Source Information

Soil Survey Area: Washington County, Wisconsin

Survey Area Data: Version 24, Sep 3, 2024

Washington County, Wisconsin

Sf—Sandy and gravelly land

Map Unit Setting

National map unit symbol: g91m

Elevation: 790 to 1,250 feet

Mean annual precipitation: 32 to 35 inches

Mean annual air temperature: 37 to 55 degrees F

Frost-free period: 145 to 165 days

Farmland classification: Not prime farmland

Map Unit Composition

Sandy and gravelly land and similar soils: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sandy And Gravelly Land

Setting

Parent material: Sandy and gravelly outwash

Typical profile

C - 0 to 10 inches: sand

Properties and qualities

Slope: 0 to 12 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Depth to water table: About 60 to 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydrologic Soil Group: D

Ecological site: F095XB010WI - Loamy and Clayey Upland

Hydric soil rating: No

Data Source Information

Soil Survey Area: Washington County, Wisconsin

Survey Area Data: Version 24, Sep 3, 2024

Washington County, Wisconsin

VsA—Virgil silt loam, gravelly substratum, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2wsqx

Elevation: 750 to 1,150 feet

Mean annual precipitation: 31 to 35 inches

Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 110 to 171 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Virgil, gravelly substratum, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Virgil, Gravelly Substratum

Setting

Landform: Drainageways on outwash plains

Landform position (three-dimensional): Dip, talf

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Loess over calcareous, stratified sandy and gravelly outwash

Typical profile

Ap - 0 to 9 inches: silt loam

E - 9 to 13 inches: silt loam

Bt - 13 to 44 inches: silty clay loam

2BC - 44 to 49 inches: sandy loam

2C - 49 to 79 inches: stratified gravel to sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: About 0 to 24 inches

Frequency of flooding: None

Frequency of ponding: Occasional

Calcium carbonate, maximum content: 20 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F095XB005WI - Moist Loamy or Clayey Lowland
Forage suitability group: High AWC, high water table
(G095BY007WI)
Other vegetative classification: High AWC, high water table
(G095BY007WI)
Hydric soil rating: No

Minor Components

Sebewa

Percent of map unit: 4 percent
Landform: Depressions on outwash plains
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave
Across-slope shape: Concave, linear
Ecological site: F095XB004WI - Wet Loamy or Clayey Lowland
Hydric soil rating: Yes

Drummer, drained

Percent of map unit: 4 percent
Landform: Depressions on outwash plains
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave
Across-slope shape: Concave, linear
Ecological site: F095XB004WI - Wet Loamy or Clayey Lowland
Hydric soil rating: Yes

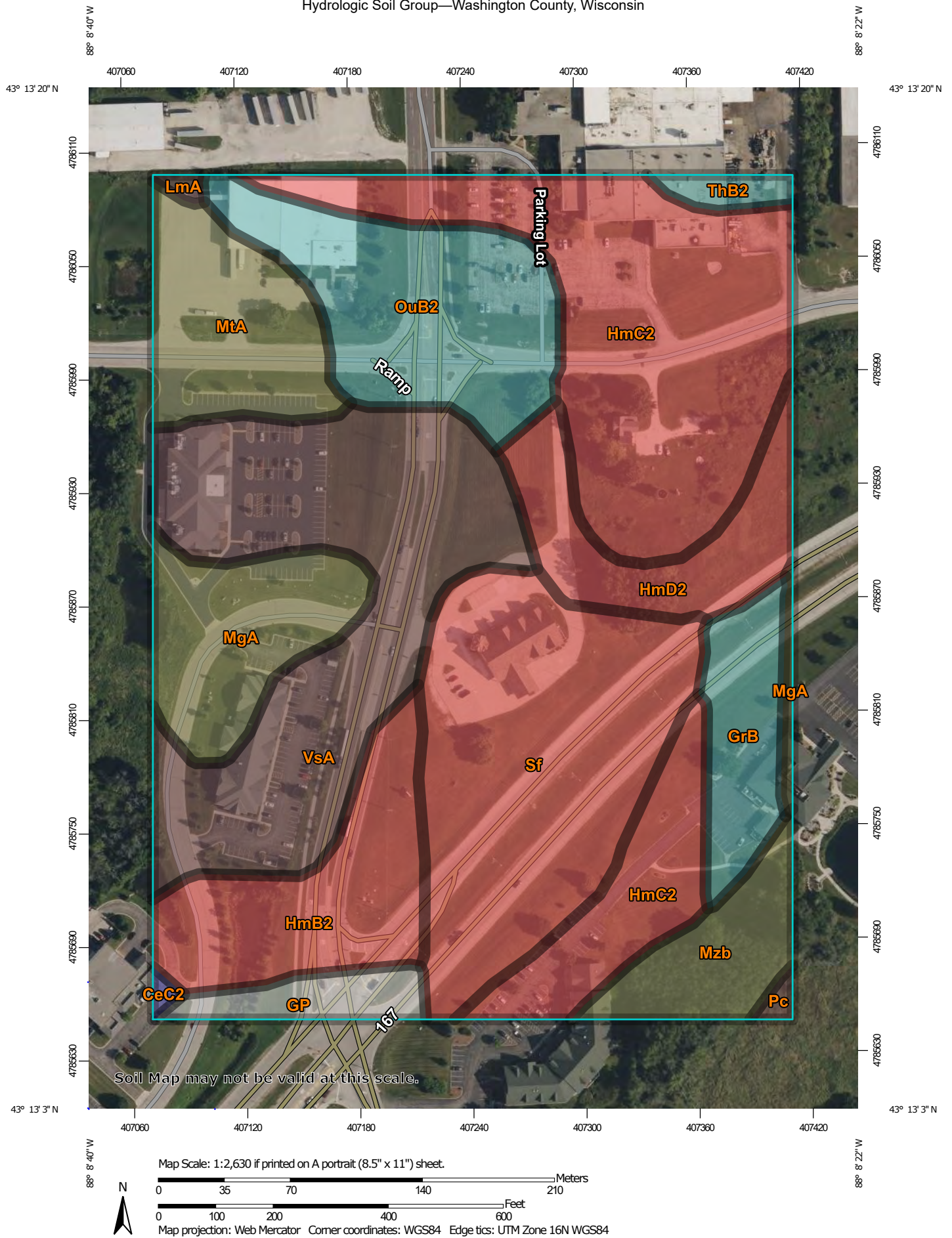
Sable

Percent of map unit: 2 percent
Landform: Depressions on outwash plains
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave
Across-slope shape: Concave, linear
Ecological site: F095XB004WI - Wet Loamy or Clayey Lowland
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Washington County, Wisconsin
Survey Area Data: Version 24, Sep 3, 2024

Hydrologic Soil Group—Washington County, Wisconsin



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

10/4/2024
Page 1 of 4
Page 365 of 646

MAP LEGEND**Area of Interest (AOI)**
 Area of Interest (AOI)
Soils**Soil Rating Polygons**

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

Soil Rating Lines

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

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

Water Features
 Streams and Canals
Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background
 Aerial Photography
MAP INFORMATION

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Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Washington County, Wisconsin
Survey Area Data: Version 24, Sep 3, 2024

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

Date(s) aerial images were photographed: Aug 4, 2022—Sep 13, 2022

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CeC2	Casco loam, 6 to 12 percent slopes, eroded	B	0.1	0.2%
GP	Gravel pit		0.7	1.9%
GrB	Grays silt loam, 2 to 6 percent slopes	C	1.5	3.9%
HmB2	Hochheim loam, 2 to 6 percent slopes, eroded	D	2.7	7.3%
HmC2	Hochheim loam, 6 to 12 percent slopes, eroded	D	8.0	21.4%
HmD2	Hochheim loam, 12 to 20 percent slopes, eroded	D	2.0	5.2%
LmA	Lamartine silt loam, 0 to 3 percent slopes	B/D	0.1	0.2%
MgA	Martinton silt loam, 1 to 3 percent slopes	C/D	2.3	6.2%
MtA	Mequon silt loam, 1 to 3 percent slopes	C/D	2.3	6.0%
Mzb	Montgomery silty clay loam	C/D	1.4	3.7%
OuB2	Ozaukee silt loam, high carbonate substratum, 2 to 6 percent slopes, eroded	C	3.5	9.4%
Pc	Palms mucky peat, 0 to 2 percent slopes	B/D	0.1	0.2%
Sf	Sandy and gravelly land	D	5.9	15.8%
ThB2	Theresa silt loam, 2 to 6 percent slopes, eroded	C	0.3	0.8%
VsA	Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	B/D	6.7	17.8%
Totals for Area of Interest			37.6	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

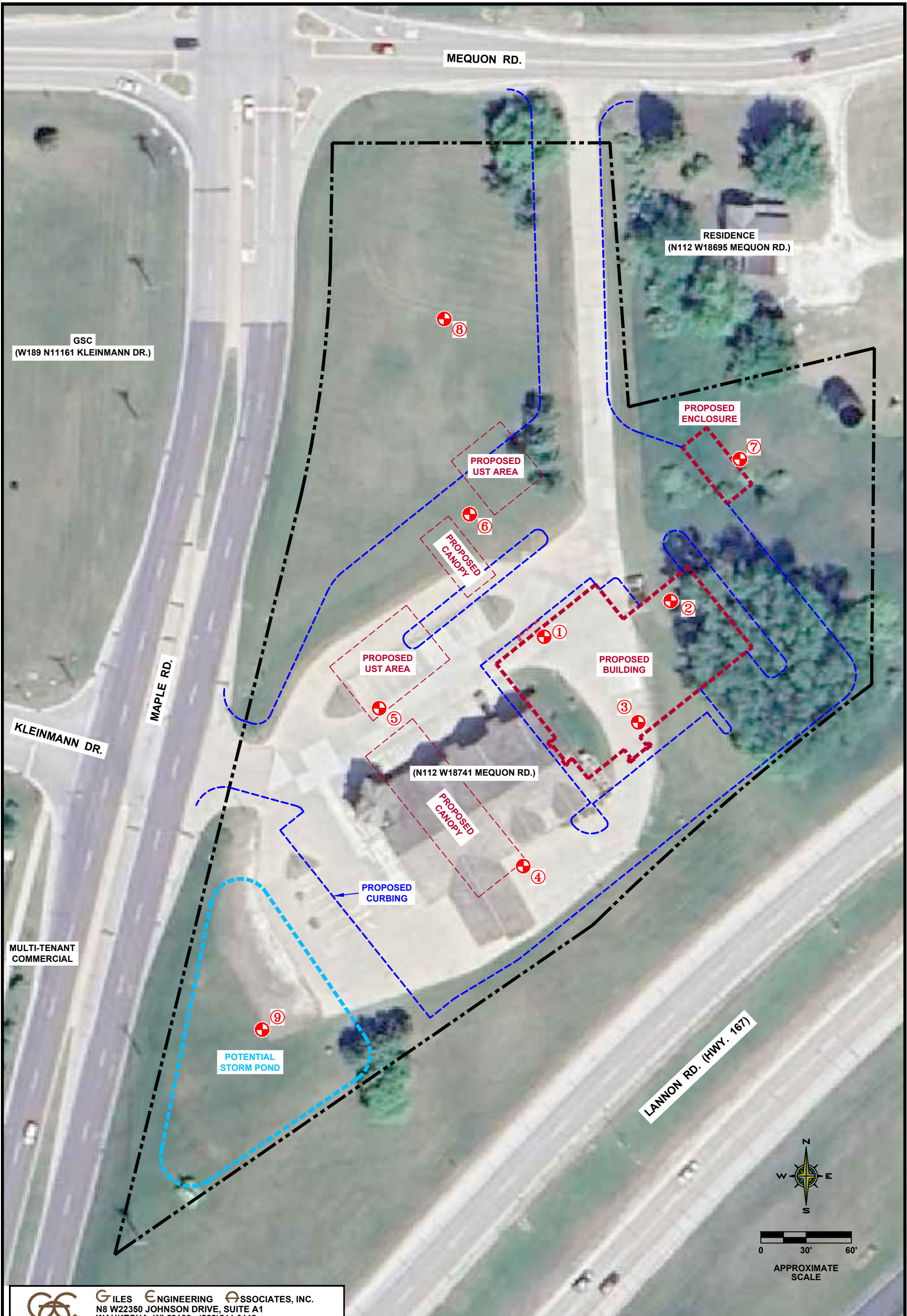
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher





GILES ENGINEERING ASSOCIATES, INC.

N8 W22350 JOHNSON DRIVE, SUITE A1
WAUKESHA, WI 53186 (262)544-0118
www.gilesengr.com

FIGURE 1
TEST BORING LOCATION PLAN
PROPOSED KWIK TRIP KT631 RELOCATION
N112 W18741 MEQUON ROAD
GERMANTOWN, WISCONSIN

DESIGNED	DRAWN	SCALE	DATE	REVISED
GDB/AJG	<i>AJG</i>	approx. 1"=60'	06-13-24	--
PROJECT NO.: 1G-2405020			CAD No. 1g2405020-blp	

- NOTES:
- 1.) TEST BORING LOCATIONS ARE APPROXIMATE AND WERE DRILLED AT THE LOCATIONS STAKED IN THE FIELD BY PIONEER ENVIRONMENTAL GROUP.
 - 2.) PROPOSED FEATURES ARE APPROXIMATE BASED ON THE FILE (KT631 proposed BLM map.pdf), UNDATED, PROVIDED BY THE CLIENT.

LEGEND:



1

GEOTECHNICAL TEST BORING

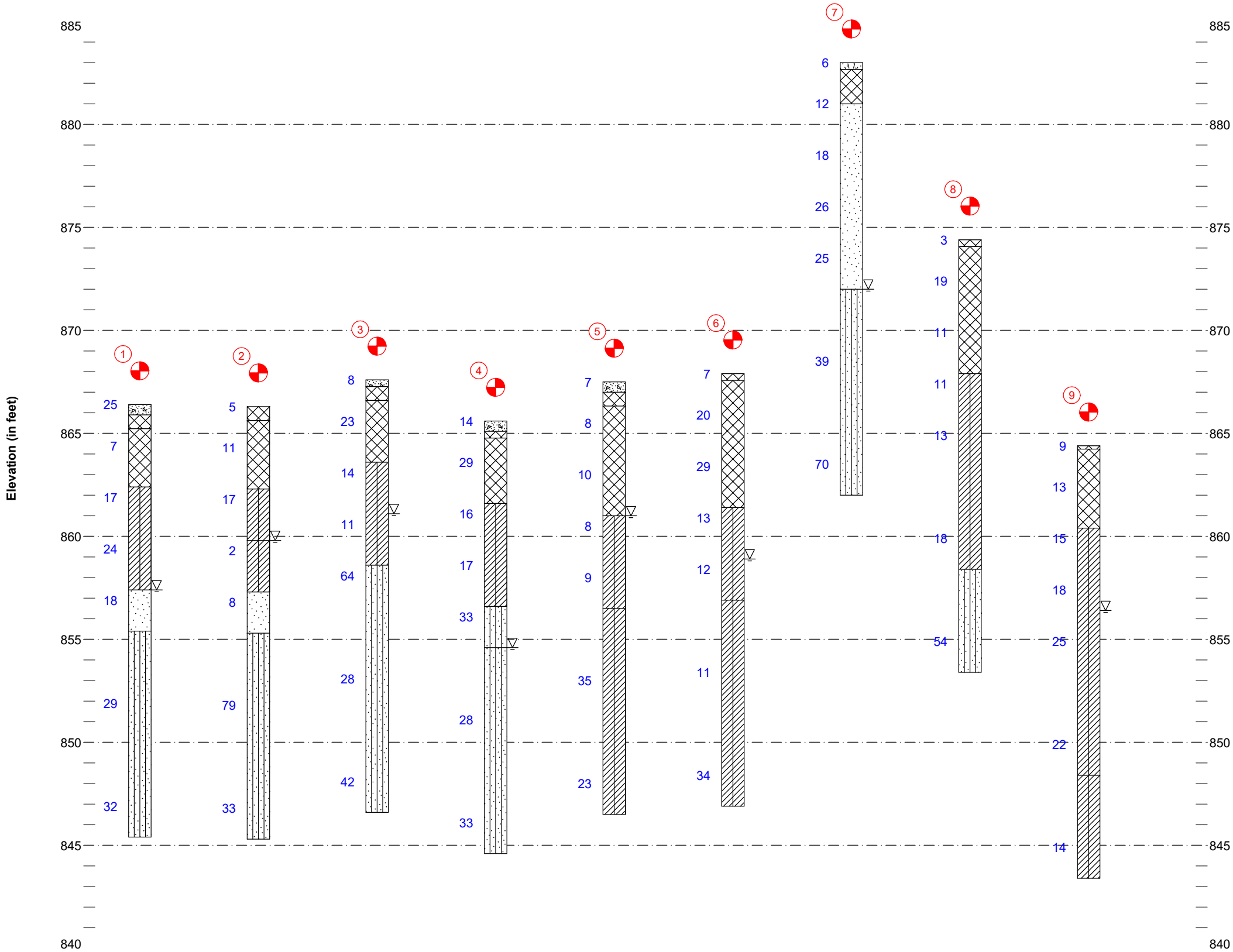


PROPERTY LINE

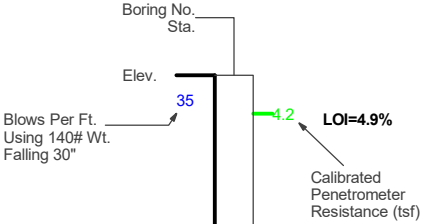
GILES FENCE REPORT 11 X 17 1G2405020.GPJ GILES.GDT 8/20/24

FENCE DIAGRAM

SCALE: VERTICAL: 1" = 5.45'
HORIZONTAL: N.T.S.



LEGEND OF BORING



Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 2" O.D.x 1. 4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

MATERIAL SYMBOLS

	CONCRETE - Concrete		FILL - Fill (made ground)
	CL-ML - USCS Low Plasticity Silty Clay		SP - USCS Poorly-graded Sand
	MLS - USCS Sandy Silt		TOPSOIL - Topsoil

FIGURE 2
Proposed Kwik Trip 631 Relocation
N112 W18741 Mequon Road
Germantown, Wisconsin
Project No. 1G-2405020



GILES ENGINEERING
ASSOCIATES, INC.

NOTES:

BORING NO. & LOCATION: 1	TEST BORING LOG PROPOSED KWIK TRIP 631 RELOCATION N112 W18741 MEQUON ROAD GERMANTOWN, WISCONSIN PROJECT NO: 1G-2405020	 GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 866.4 feet		
COMPLETION DATE: 06/06/24		
FIELD REP: JAMES BLAIR		

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q _u (tsf)	Q _p (tsf)	Q _s (tsf)	W (%)	PID	NOTES
±6" Portland Cement Concrete										
±8" Base Course										
Fill: Brown Silty Clay, little Sand-Moist			1-SS	25		1.5		17	*BDL	
		865	2-SS	7		3.0		24	*BDL	
Brown Silty Clay, little Sand-Moist	5		3-SS	17				22	*BDL	
		860								
			4-SS	24				15	*BDL	
Brown fine to medium Sand, trace Silt-Wet	10		5-SS	18					*BDL	
Gray Sandy Silt-Wet		855								
	15		6-SS	29				15	*BDL	
		850								
	20		7-SS	32				16	*BDL	

Boring Terminated at about 21 feet (EL. 845.4')

Water Observation Data			Remarks:
	Water Encountered During Drilling: 9 ft.		*PID Results are lab screened results that may reflect differently from field screened results. *BDL = Below Detection Limit
	Water Level At End of Drilling:		
	Cave Depth At End of Drilling:		
	Water Level After Drilling:		
	Cave Depth After Drilling:		

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 2	TEST BORING LOG PROPOSED KWIK TRIP 631 RELOCATION N112 W18741 MEQUON ROAD GERMANTOWN, WISCONSIN PROJECT NO: 1G-2405020	 GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 866.3 feet		
COMPLETION DATE: 06/06/24		
FIELD REP: JAMES BLAIR		

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q _u (tsf)	Q _p (tsf)	Q _s (tsf)	W (%)	PID	NOTES
±8" Topsoil Fill: Dark Gray Silty Clay, little Sand and Organic Matter-Moist		865	1-SS	5		1.5		18	*BDL	
Fill: Brown Silty Clay, little Sand, trace Gravel-Moist			2-SS	11					*BDL	
Brown Silty Clay, little Sand, trace Gravel-Moist	5		3-SS	17					*BDL	
Brown Silty Clay with Silty fine to medium Sand lenses-Wet		860	4-SS	2				15	*BDL	
Brown fine to medium Sand, trace Silt-Wet	10		5-SS	8					*BDL	
Gray Sandy Silt, trace Gravel-Wet		855								
	15		6-SS	79					*BDL	
		850								
	20		7-SS	33				16	*BDL	

Boring Terminated at about 21 feet (EL. 845.3')

Water Observation Data		Remarks:
	Water Encountered During Drilling: 6.5 ft.	*PID Results are lab screened results that may reflect differently from field screened results. *BDL = Below Detection Limit
	Water Level At End of Drilling:	
	Cave Depth At End of Drilling:	
	Water Level After Drilling:	
	Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 3	TEST BORING LOG PROPOSED KWIK TRIP 631 RELOCATION N112 W18741 MEQUON ROAD GERMANTOWN, WISCONSIN PROJECT NO: 1G-2405020	 GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 867.6 feet		
COMPLETION DATE: 06/06/24		
FIELD REP: JAMES BLAIR		

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q _u (tsf)	Q _p (tsf)	Q _s (tsf)	W (%)	PID	NOTES
±4" Portland Cement Concrete										
±8" Base Course			1-SS	8					*BDL	
Fill: Brown Silty fine to medium Sand, trace Silt and Gravel-Moist		865	2-SS	23					*BDL	
Brown Silty Clay, little Sand-Moist to Wet at ±6½ feet	5		3-SS	14		3.0		13	*BDL	
		860	4-SS	11				20	*BDL	
Brown Sandy Silt-Wet	10		5-SS	64					*BDL	
		855								
	15		6-SS	28					*BDL	
		850								
	20		7-SS	42					*BDL	

Boring Terminated at about 21 feet (EL. 846.6')

	Water Observation Data	Remarks:
	Water Encountered During Drilling: 6.5 ft.	*PID Results are lab screened results that may reflect differently from field screened results. *BDL = Below Detection Limit
	Water Level At End of Drilling:	
	Cave Depth At End of Drilling:	
	Water Level After Drilling:	
	Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 4	TEST BORING LOG PROPOSED KWIK TRIP 631 RELOCATION N112 W18741 MEQUON ROAD GERMANTOWN, WISCONSIN PROJECT NO: 1G-2405020	 GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 865.6 feet		
COMPLETION DATE: 06/06/24		
FIELD REP: JAMES BLAIR		

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q _u (tsf)	Q _p (tsf)	Q _s (tsf)	W (%)	PID	NOTES
±6" Portland Cement Concrete		865								
±4" Base Course			1-SS	14					*BDL	
Fill: Brown Silty Clay, little Sand, trace Gravel-Moist			2-SS	29					*BDL	
Brown Silty Clay, little Sand-Moist	5	860	3-SS	16					*BDL	
			4-SS	17					*BDL	
Brown Sandy Silt-Moist	10	855	5-SS	33					*BDL	
Gray Sandy Silt-Wet	15	850	6-SS	28					*BDL	
	20	845	7-SS	33					*BDL	

Boring Terminated at about 21 feet (EL. 844.6')

Water Observation Data			Remarks:
▽	Water Encountered During Drilling: 11 ft.		*PID Results are lab screened results that may reflect differently from field screened results. *BDL = Below Detection Limit
▼	Water Level At End of Drilling:		
⋯	Cave Depth At End of Drilling:		
▼	Water Level After Drilling:		
■	Cave Depth After Drilling:		

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 5	TEST BORING LOG PROPOSED KWIK TRIP 631 RELOCATION N112 W18741 MEQUON ROAD GERMANTOWN, WISCONSIN PROJECT NO: 1G-2405020	 GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 867.5 feet		
COMPLETION DATE: 06/06/24		
FIELD REP: JAMES BLAIR		

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q _u (tsf)	Q _p (tsf)	Q _s (tsf)	W (%)	PID	NOTES
±6" Portland Cement Concrete										
±8" Base Course			1-SS	7					*BDL	
Fill: Dark Brown and Brown Silty Clay, little Sand-Moist (Includes Silty fine to medium Sand lenses at ±4 feet)		865	2-SS	8		3.0		15	*BDL	
	5		3-SS	10		1.0		6	*BDL	
		860	4-SS	8		1.0		15	*BDL	
Brown Silty Clay, little Sand-Wet	10		5-SS	9				15	*BDL	
		855								
Gray Silty Clay, little Sand-Wet (Includes Sandy Silt lenses between ±14 feet and ±16 feet)	15		6-SS	35					*BDL	
		850								
	20		7-SS	23					*BDL	

Boring Terminated at about 21 feet (EL. 846.5')

Water Observation Data		Remarks:
	Water Encountered During Drilling: 6.5 ft.	*PID Results are lab screened results that may reflect differently from field screened results. *BDL = Below Detection Limit
	Water Level At End of Drilling:	
	Cave Depth At End of Drilling:	
	Water Level After Drilling:	
	Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 6	TEST BORING LOG PROPOSED KWIK TRIP 631 RELOCATION N112 W18741 MEQUON ROAD GERMANTOWN, WISCONSIN PROJECT NO: 1G-2405020	 GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 867.9 feet		
COMPLETION DATE: 06/06/24		
FIELD REP: JAMES BLAIR		

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q _u (tsf)	Q _p (tsf)	Q _s (tsf)	W (%)	PID	NOTES
±4" Topsoil Fill: Dark Brown Silty Clay, little Sand and Organic Matter-Moist Fill: Brown Silty fine to medium Sand-Moist			1-SS	7					*BDL	
		865	2-SS	20					*BDL	
	5		3-SS	29					*BDL	
Brown Silty Clay, little Sand-Moist to Wet at ±9 feet		860	4-SS	13		2.0		10	*BDL	
	10		5-SS	12		2.0		15	*BDL	
Gray Silty Clay with Sandy Silt lenses-Wet		855								
	15		6-SS	11		1.3		10	*BDL	
		850								
	20		7-SS	34		2.3		11	*BDL	

Boring Terminated at about 21 feet (EL. 846.9')

Water Observation Data		Remarks:
	Water Encountered During Drilling: 9 ft.	*PID Results are lab screened results that may reflect differently from field screened results. *BDL = Below Detection Limit
	Water Level At End of Drilling:	
	Cave Depth At End of Drilling:	
	Water Level After Drilling:	
	Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 7	TEST BORING LOG PROPOSED KWIK TRIP 631 RELOCATION N112 W18741 MEQUON ROAD GERMANTOWN, WISCONSIN PROJECT NO: 1G-2405020	 GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 883 feet		
COMPLETION DATE: 06/06/24		
FIELD REP: JAMES BLAIR		

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q _u (tsf)	Q _p (tsf)	Q _s (tsf)	W (%)	PID	NOTES
±4" Topsoil: Dark Brown Silty Clay, little Sand and Organic Matter-Moist			1-SS	6					*BDL	
Fill: Brown Silty fine to medium Sand, trace Silt-Moist			2-SS	12					*BDL	
Brown fine to medium Sand, trace Silt-Moist		880								
	5		3-SS	18					*BDL	
		875	4-SS	26					*BDL	
	10		5-SS	25					*BDL	
Brown Sandy Silt-Wet		870								
	15		6-SS	39					*BDL	
		865								
	20		7-SS	70					*BDL	

Boring Terminated at about 21 feet (EL. 862')

	Water Observation Data	Remarks:
	Water Encountered During Drilling: 11 ft.	*PID Results are lab screened results that may reflect differently from field screened results. *BDL = Below Detection Limit
	Water Level At End of Drilling:	
	Cave Depth At End of Drilling:	
	Water Level After Drilling:	
	Cave Depth After Drilling:	

BORING NO. & LOCATION: 8	TEST BORING LOG PROPOSED KWIK TRIP 631 RELOCATION N112 W18741 MEQUON ROAD GERMANTOWN, WISCONSIN PROJECT NO: 1G-2405020	 GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 874.4 feet		
COMPLETION DATE: 06/06/24		
FIELD REP: JAMES BLAIR		

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q _u (tsf)	Q _p (tsf)	Q _s (tsf)	W (%)	PID	NOTES
±4" Topsoil Fill: Dark Brown Silty Clay, little Sand and Organic Matter-Moist Fill: Dark Brown Silty Clay, little Sand, trace Gravel-Moist	5	870	1-SS	3					*BDL	
			2-SS	19					*BDL	
			3-SS	11		1.3		16	*BDL	
Brown Silty Clay, little Sand-Moist	10	865	4-SS	11		3.3		10	*BDL	
			5-SS	13	1.7	1.3		17	*BDL	
			6-SS	18		2.0		5	*BDL	
Gray Sandy Silt-Wet	20	855	7-SS	54				9	*BDL	

Boring Terminated at about 21 feet (EL. 853.4')

Water Observation Data		Remarks:
	Water Encountered During Drilling:	*PID Results are lab screened results that may reflect differently from field screened results. *BDL = Below Detection Limit
	Water Level At End of Drilling:	
	Cave Depth At End of Drilling:	
	Water Level After Drilling:	
	Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 9	TEST BORING LOG PROPOSED KWIK TRIP 631 RELOCATION N112 W18741 MEQUON ROAD GERMANTOWN, WISCONSIN PROJECT NO: 1G-2405020	 GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 864.4 feet		
COMPLETION DATE: 06/06/24		
FIELD REP: JAMES BLAIR		

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q _u (tsf)	Q _p (tsf)	Q _s (tsf)	W (%)	PID	NOTES
±2" Topsoil Fill: Dark Brown Silty Clay, little Sand and Organic Matter-Moist Fill: Brown Silty fine to medium Sand-Moist			1-SS	9					*BDL	
			2-SS	13						
Brown Silty Clay, little Sand-Moist to Wet at ±8 feet	5	860	3-SS	15	1.0			11	*BDL	
			4-SS	18						
			5-SS	25						
	10	855			2.0			16	*BDL	
	15	850	6-SS	22				14	*BDL	
Gray Silty Clay, little Sand-Wet	20	845	7-SS	14	1.8			12	*BDL	

Boring Terminated at about 21 feet (EL. 843.4')

	Water Observation Data	Remarks:
	Water Encountered During Drilling: 8 ft.	*PID Results are lab screened results that may reflect differently from field screened results. *BDL = Below Detection Limit
	Water Level At End of Drilling:	
	Cave Depth At End of Drilling:	
	Water Level After Drilling:	
	Cave Depth After Drilling:	



Soil and Site Evaluation – Stormwater Infiltration

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

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

Page 1 of 4

Attach a complete site plan on paper not less than 8 ½ x 11 inches in size. Plan must include, but is not limited to: vertical and horizontal reference point (BM); direction and percent of slope; scale or dimensions; north arrow; and BM referenced to nearest road. PLEASE PRINT ALL INFORMATION		COUNTY Washington
		PARCEL ID
PROPERTY OWNER	PROPERTY LOCATION	
PROPERTY OWNER'S MAILING ADDRESS	Govt. Lot_ NW ¼ NW ¼, S28, T9N, R20E	
CITY, STATE, ZIP CODE	Lot #, Block #, Subd. Name or CSM #: <u>CSM 2890</u>	
PHONE	Municipality: <u>Germantown</u>	
	☐ City ☒ Village ☐ Town Nearest Road: <u>Maple Road</u>	
Drainage area _____ ☐ sq. ft. ☐ acres Test site suitable for (check all that apply): ☐ Site not suitable ☐ Bioretention ☐ Reuse ☐ Subsurface Dispersal System ☐ Irrigation ☐ Other _____	HYDRAULIC APPLICATION TEST METHOD ☐ Morphological Evaluation ☐ Double Ring Infiltrometer ☐ Other: (specify) _____	SOIL MOISTURE Date of soil borings: <u>6/6/24</u> USDA-NRCS WETS VALUE: ☐ Dry = 1 ☐ Normal = 2 ☐ Wet = 3

1 #OBS. ☐ Pit ☒ Boring Ground Surface Elevation 866.4 ft. Elevation of Limiting Factor 857.4 ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
PVMT	0-14	--	--	--	--	--	--	--	--	--
FILL	14-48	10 YR 5/4	--	SICL	1, F, SBK	M, FI	C, W	<5%	90%	0.04
B	48-108	10 YR 5/4	--	SICL	MA	M, FI	C, W	<5%	90%	0.04
C	108-132	10 YR 5/4	--	LS	1, M, GR	M, FI	G, S	<5%	20%	1.63
C	132-252	10 YR 6/1	--	SIL	1, F GR	M, FI	--	<5%	55%	0.13

Comments: Water encountered at 9 feet below ground surface.

2 #OBS.		☐ Pit	☒ Boring	Ground Surface Elevation <u>866.3</u> ft.		Elevation of Limiting Factor <u>859.8</u> ft.				
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
FILL	0-8	10 YR 3/1	--	SICL	1, VF, SBK	M, FR	C, W	<5%	90%	0.04
FILL	8-48	10 YR 5/4	--	SICL	1, F, SBK	M, FI	C, W	10%	90%	0.04
B	48-108	10 YR 5/4	--	SICL	MA	M, FI	C, W	10%	90%	0.04
C	108-132	10 YR 5/4	--	LS	1, M, GR	M, FI	G, S	<5%	20%	1.63
C	132-252	10 YR 6/1	--	SIL	1, F GR	M, FI	--	10%	55%	0.13
Comments: Water encountered at 6½ feet below ground surface.										

3 #OBS.		☐ Pit	☒ Boring	Ground Surface Elevation <u>867.6</u> ft.		Elevation of Limiting Factor <u>861.1</u> ft.				
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
PVMT	0-12	--	--	--	--	--	--	--	--	--
FILL	12-48	10 YR 5/4	--	LS	1, M, GR	M, FI	C, W	10%	20%	1.63
B	48-108	10 YR 5/4	--	SICL	1, F, SBK	M, FI	C, W	<5%	90%	0.04
C	108-252	10 YR 6/1	--	SIL	1, F GR	M, FI	--	<5%	55%	0.13
Comments: Water encountered at 6½ feet below ground surface.										

4 #OBS.		☐ Pit	☒ Boring	Ground Surface Elevation <u>865.6</u> ft.		Elevation of Limiting Factor <u>854.6</u> ft.				
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
PVMT	0-10	--	--	--	--	--	--	--	--	--
FILL	10-48	10 YR 5/4	--	SICL	1, F, SBK	M, FI	C, W	10%	90%	0.04
B	48-108	10 YR 5/4	--	SICL	MA	M, FI	C, W	<5%	90%	0.04
C	108-132	10 YR 5/4	--	SIL	1, F GR	M, FI	--	<5%	55%	0.13
C	132-252	10 YR 6/1	--	SIL	1, F GR	M, FI	--	<5%	55%	0.13
Comments: Water encountered at 11 feet below ground surface.										

5 #OBS.		☐ Pit	☒ Boring	Ground Surface Elevation <u>867.5</u> ft.		Elevation of Limiting Factor <u>861</u> ft.				
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
PVMT	0-14	--	--	--	--	--	--	--	--	--
FILL	14-78	10 YR 5/4	--	SICL	1, F, SBK	M, FI	C, W	<5%	90%	0.04
B	78-132	10 YR 5/4	--	SICL	MA	M, FI	C, W	<5%	90%	0.04
C	132-192	10 YR 6/1	--	SIL	1, F GR	M, FI	C, W	<5%	55%	0.13
C	192-252	10 YR 6/1	--	SICL	1, F, SBK	M, FI	--	<5%	90%	0.04
Comments: Water encountered at 6½ feet below ground surface.										

6 #OBS. ☐ Pit ☒ Boring Ground Surface Elevation 867.9 ft. Elevation of Limiting Factor 868.9 ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
FILL	0-4	10 YR 3/3	--	SICL	1, VF, SBK	M, FR	C, W	<5%	90%	0.04
FILL	4-78	10 YR 5/4	--	SICL	1, F, SBK	M, FI	C, W	<5%	90%	0.04
B	78-132	10 YR 5/4	--	SICL	MA	M, FI	C, W	<5%	90%	0.04
C	132-252	10 YR 6/1	--	SICL	1, M, SBK	M, FI	--	<5%	90%	0.04

Comments: Water encountered at 9 feet below ground surface.

7 #OBS. ☐ Pit ☒ Boring Ground Surface Elevation 883 ft. Elevation of Limiting Factor 872 ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
FILL	0-4	10 YR 3/3	--	SICL	1, VF, SBK	M, FR	C, W	<5%	90%	0.04
FILL	4-24	10 YR 5/4	--	SL	1, M, GR	M, FI	C, W	<5%	10%	0.50
C	24-132	10 YR 5/4	--	LS	1, M, GR	M, FI	C, W	<5%	20%	1.63
C	132-252	10 YR 5/4	--	SIL	1, F, GR	M, FI	--	<5%	55%	0.13

Comments: Water encountered at 11 feet below ground surface.

8 #OBS. ☐ Pit ☒ Boring Ground Surface Elevation 874.4 ft. Elevation of Limiting Factor 858.4 ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
FILL	0-4	10 YR 5/4	--	SICL	1, VF, SBK	M, FR	C, W	<5%	90%	0.04
FILL	4-78	10 YR 3/3	--	SICL	1, F, SBK	M, FI	C, W	10%	90%	0.04
B	78-192	10 YR 5/4	--	SICL	MA	M, FI	C, W	<5%	90%	0.04
C	192-252	10 YR 6/1	--	SIL	1, F GR	M, FI	--	<5%	55%	0.13

Comments: Wet soil encountered at 16 feet below ground surface.

9 #OBS. ☐ Pit ☒ Boring Ground Surface Elevation 864.4 ft. Elevation of Limiting Factor 856.4 ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
FILL	0-2	10 YR 3/3	--	SICL	1, VF, SBK	M, FR	C, W	<5%	90%	0.04
FILL	2-48	10 YR 5/4	--	SICL	1, M, SBK	M, FI	C, W	<5%	90%	0.04
B	48-192	10 YR 5/4	--	SICL	MA	M, FI	C, W	<5%	90%	0.04
C	192-252	10 YR 6/1	--	SICL	1, F, SBK	M, FI	--	<5%	90%	0.04

Comments: Water encountered at 8 feet below ground surface.

Overall Site Comments:

Benjamin M. Stark, P.E.		P.E. No.: 48164-6
Name (Please Print)	Signature	Credential Number
N8 W22350 Johnson Drive, Waukesha, WI	June 6, 2024	(262) 544-0118
Address	Date Evaluation Conducted	Phone Number

Appendix 3

Water Quality Calculations & WinSLAMM Inputs

POST DEVELOPMENT
WATERSHED AREA

4.806 AC.
XX% IMPERVIOUS
CN= 90

SUB-AREA I

AREA = 3.522 AC.
79% IMPERVIOUS
CN = 94
TC = 6.0 MIN.

SUB-AREA IA

AREA = 0.442 AC.
XX% IMPERVIOUS
CN = XX
TC = 6.0 MIN.

SUB-AREA 2

AREA = 0.842 AC.
1% IMPERVIOUS
CN = 72
TC = 6.0 MIN.

SUB-AREA I

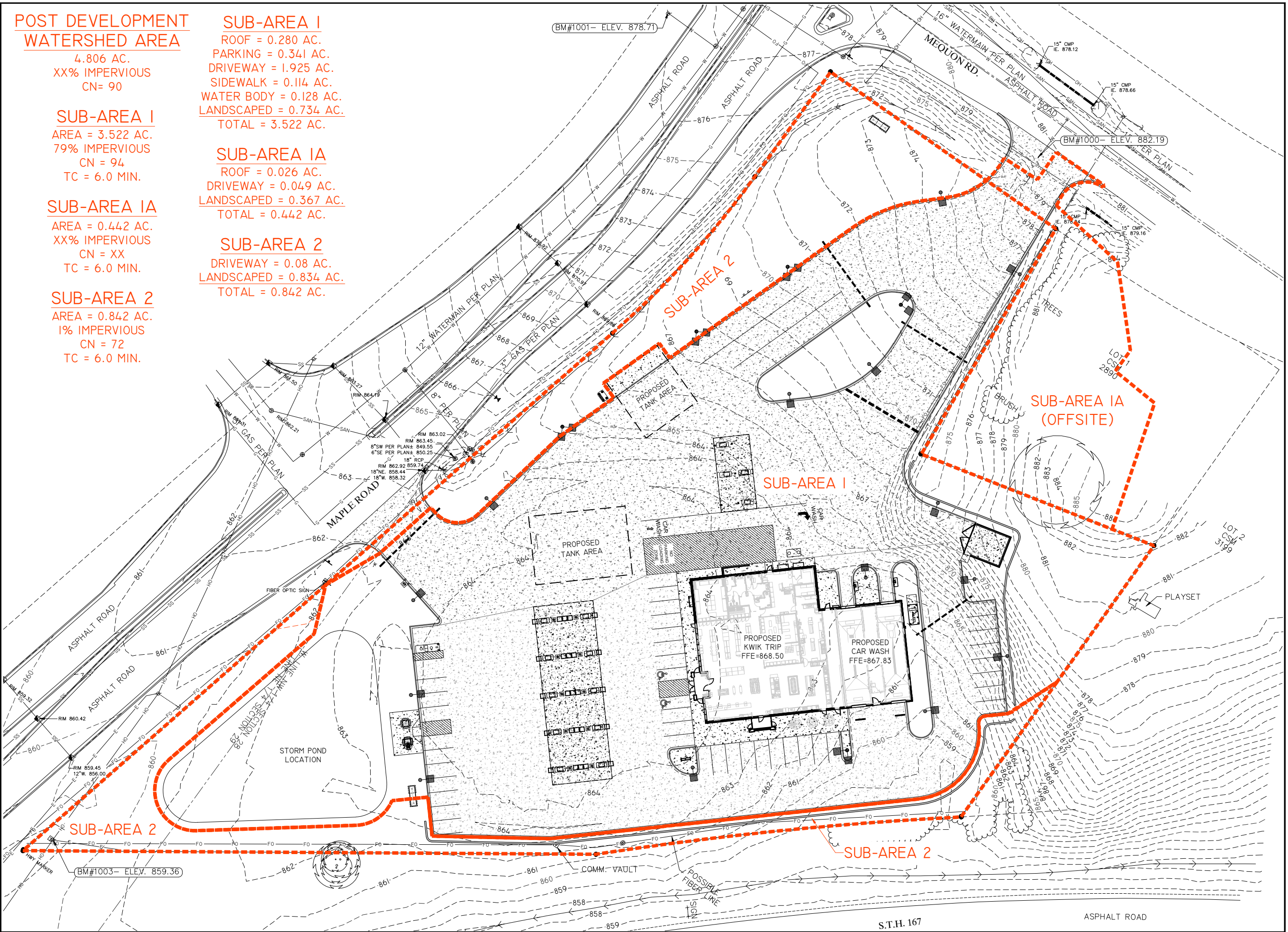
ROOF = 0.280 AC.
PARKING = 0.341 AC.
DRIVEWAY = 1.925 AC.
SIDEWALK = 0.114 AC.
WATER BODY = 0.128 AC.
LANDSCAPED = 0.734 AC.
TOTAL = 3.522 AC.

SUB-AREA IA

ROOF = 0.026 AC.
DRIVEWAY = 0.049 AC.
LANDSCAPED = 0.367 AC.
TOTAL = 0.442 AC.

SUB-AREA 2

DRIVEWAY = 0.08 AC.
LANDSCAPED = 0.834 AC.
TOTAL = 0.842 AC.



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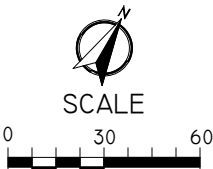
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(608) 781-8988
Fax (608) 781-8960

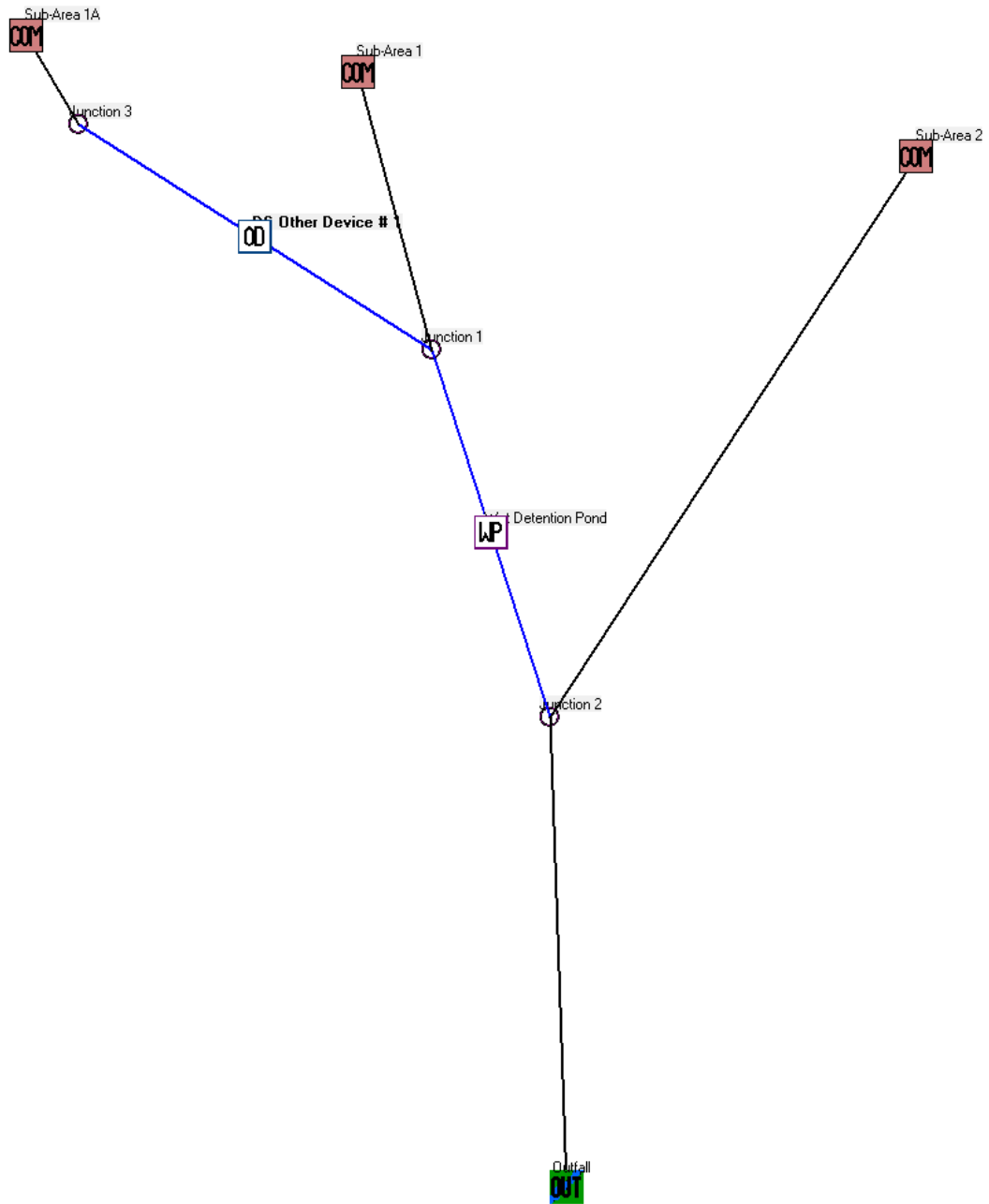
REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



STORE #631
67 & MAPLE ROAD
ERMANTOWN, WI

DRAWN BY: NAP
SCALE: GRAPHIC
PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: STM-I

SITE TSS REMOVAL WINSLAMM INPUT



WET DETENTION POND INPUT

Wet Detention Control Device

Pond Number 1

Drainage System Control Practice

Initial Stage Elevation (ft): 5.00

Maximum Inflow into Pond (cfs)
Enter 0 or leave blank for no limit:

Enter Two Stage Area Values in Rows 1 and 2, and Press to Interpolate

Create Pond Stage-Area Values

Enter fraction (greater than 0) that you want to modify all pond areas by and then select 'Modify Pond Areas' button

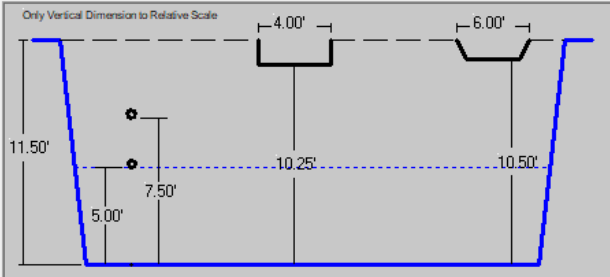
Copy Pond Data

Paste Pond Data

Recalculate Cumulative Volume

Save or Delete Pond Data to Database File

Get Pond Data From Database File



**To Delete This Practice,
Right Mouse Click on
Icon and Select Delete**

Cancel

Continue

Press 'F1' for Help

Control Practice #: 1	CP Index #: 1
-----------------------	---------------

Remove	Sharp Crested Weir
Weir Length (ft)	4.00
Height from datum to bottom of weir opening (ft)	10.25

Add **V-Notch Weir**

Weir Angle (<180 degrees)	
Height from datum to bottom of weir opening (ft)	
Number of V-Notch weirs	

Remove **Orifice Set 1**

Orifice Diameter (ft)	0.33
Invert elevation above datum (ft)	5.00
Number of orifices in set	1

Remove **Orifice Set 2**

Orifice Diameter (ft)	0.42
Invert elevation above datum (ft)	7.50
Number of orifices in set	1

Add	Orifice Set 3
-----	---------------

Orifice Diameter (ft)	
Invert elevation above datum (ft)	
Number of orifices in set	

Add	Stone Weeper
-----	--------------

Width at bottom of weeper (ft)	
Weeper side slope (H:1V)	

Weeper side slope (H:1V)	
Upstream side slope (H:1V)	
Downstream side slope (H:1V)	

Downstream side slope [H:1V]	
Horizontal flow path length at top of weeper (ft)	
Average rock diameter (ft)	

Average rock diameter (ft)	
Distance from bottom to top of weeper (ft)	

of weeper (ft)	
Height from datum to bottom of weeper (ft)	

Add	Vertical Stand Pipe
-----	----------------------------

Pipe diameter (ft)	
Height above datum (ft)	

	Add	Add
Month	Evaporation (in/day)	Water Withdraw Rate (ac-ft/day)
Jan	0.00	0.000
Feb	0.00	0.000
Mar	0.00	0.000
Apr	0.00	0.000
May	0.00	0.000
Jun	0.00	0.000
Jul	0.00	0.000
Aug	0.00	0.000
Sep	0.00	0.000
Oct	0.00	0.000
Nov	0.00	0.000
Dec	0.00	0.000

	Add	Add	
Stage (ft)	Natural Seepage Rate (in/hr)	Other Outflow Rate (cfs)	
0.00	0.00	0.000	
0.01	0.00	0.000	
1.00	0.00	0.000	
2.00	0.00	0.000	
3.00	0.00	0.000	
4.00	0.00	0.000	
4.20	0.00	0.000	

Broad Crested Weir (Required)

Weir crest length (ft)	6.00
Weir crest width (ft)	14.00
Height from datum to bottom of weir opening (ft)	10.50

Add **Seepage Basin**

Infiltration rate (in/hr)	
Width of device (ft)	
Length of device (ft)	
Invert elevation of seepage basin inlet above datum (ft)	

Add	Pump
-----	------

WINSLAMM OUTPUT

File Name:
Q:\11700-11799\11757 - Kwik Trip #631 - Germantown\Engineer\Stormwater Management\Modeling\winSlamm\11757\water Quality Analysis.mdb

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	240500		0.42	123.5 (1)	1854 (1)	
Outfall Total with Controls	240753	-0.11 %	0.42	33.70	506.6	72.68 %

Current File Output: Annualized Total
After Outfall Controls 244097 Years in Model Run: 0.99 513.6

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

Print Output Summary to .csv File

Print Output Summary to Text File

Print Output Summary to Printer

Total Area Modeled (ac)

4.806

Total Control Practice Costs

Capital Cost	N/A
Land Cost	N/A
Annual Maintenance Cost	N/A
Present Value of All Costs	N/A
Annualized Value of All Costs	N/A

Perform Outfall
Flow Duration
Curve Calculations

Receiving Water Impacts Due To Stormwater Runoff

(CWP Impervious Cover Model)

	Calculated Rv	Approximate Urban Stream Classification
Without Controls	0.42	Poor
With Controls	0.42	Poor

ANNUAL YIELD OF TSS (NO CONTROL) = 1,854 lbs

ANNUAL YIELD OF TSS AFTER CONTROLS = 506.6 lbs

PERCENT TSS REDUCTION = 72.68%

Data file name: Q:\11700-11799\11757 - Kwik Trip #631 - Germantown\Engineer\Stormwater Management\Modeling-WinSlamm\11757-Water Quality Analysis.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 10-09-2024 Time: 12:41:33
Site information:

LU# 1 - Commercial: Sub-Area 1 Total area (ac): 3.522
1 - Roofs 1: 0.280 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 0.341 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 1.925 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.114 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 0.020 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
46 - Large Landscaped Areas 2: 0.714 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.128 ac. PSD File: Source Area PSD File:
LU# 2 - Commercial: Sub-Area 2 Total area (ac): 0.842
25 - Driveways 1: 0.008 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 0.290 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
46 - Large Landscaped Areas 2: 0.159 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
47 - Large Landscaped Areas 3: 0.385 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
LU# 3 - Commercial: Sub-Area 1A Total area (ac): 0.442
1 - Roofs 1: 0.026 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.049 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 0.367 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - Wet Detention Pond
Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 5
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:
 Outlet type: Sharp Crested Weir
 1. Sharp crested weir length (ft): 4
 2. Sharp crested weir height from invert: 1.25
 3. Sharp crested weir invert elevation above datum (ft): 10.25
 Outlet type: Orifice 1
 1. Orifice diameter (ft): 0.33
 2. Number of orifices: 1
 3. Invert elevation above datum (ft): 5
 Outlet type: Orifice 2
 1. Orifice diameter (ft): 0.42
 2. Number of orifices: 1
 3. Invert elevation above datum (ft): 7.5
 Outlet type: Broad Crested Weir
 1. Weir crest length (ft): 6
 2. Weir crest width (ft): 14
 3. Height from datum to bottom of weir opening: 10.5
Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0284	0.00	0.00
2	1.00	0.0368	0.00	0.00
3	2.00	0.0462	0.00	0.00
4	3.00	0.0567	0.00	0.00
5	4.00	0.0677	0.00	0.00
6	4.20	0.0700	0.00	0.00
7	5.00	0.1277	0.00	0.00
8	6.00	0.1520	0.00	0.00
9	7.00	0.1775	0.00	0.00
10	8.00	0.2043	0.00	0.00
11	9.00	0.2322	0.00	0.00
12	10.00	0.2615	0.00	0.00
13	11.00	0.2922	0.00	0.00
14	11.50	0.3080	0.00	0.00

Control Practice 2: Other Device CP# 1 (DS) - DS Other Device # 1
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 0.00
Runoff volume reduction fraction = 0

Appendix 4

Post-Development Conditions Peak Flow Analysis

POST DEVELOPMENT
WATERSHED AREA

4.806 AC.
XX% IMPERVIOUS
CN= 90

SUB-AREA I

AREA = 3.522 AC.
79% IMPERVIOUS
CN = 94
TC = 6.0 MIN.

SUB-AREA IA

AREA = 0.442 AC.
XX% IMPERVIOUS
CN = XX
TC = 6.0 MIN.

SUB-AREA 2

AREA = 0.842 AC.
1% IMPERVIOUS
CN = 72
TC = 6.0 MIN.

SUB-AREA I

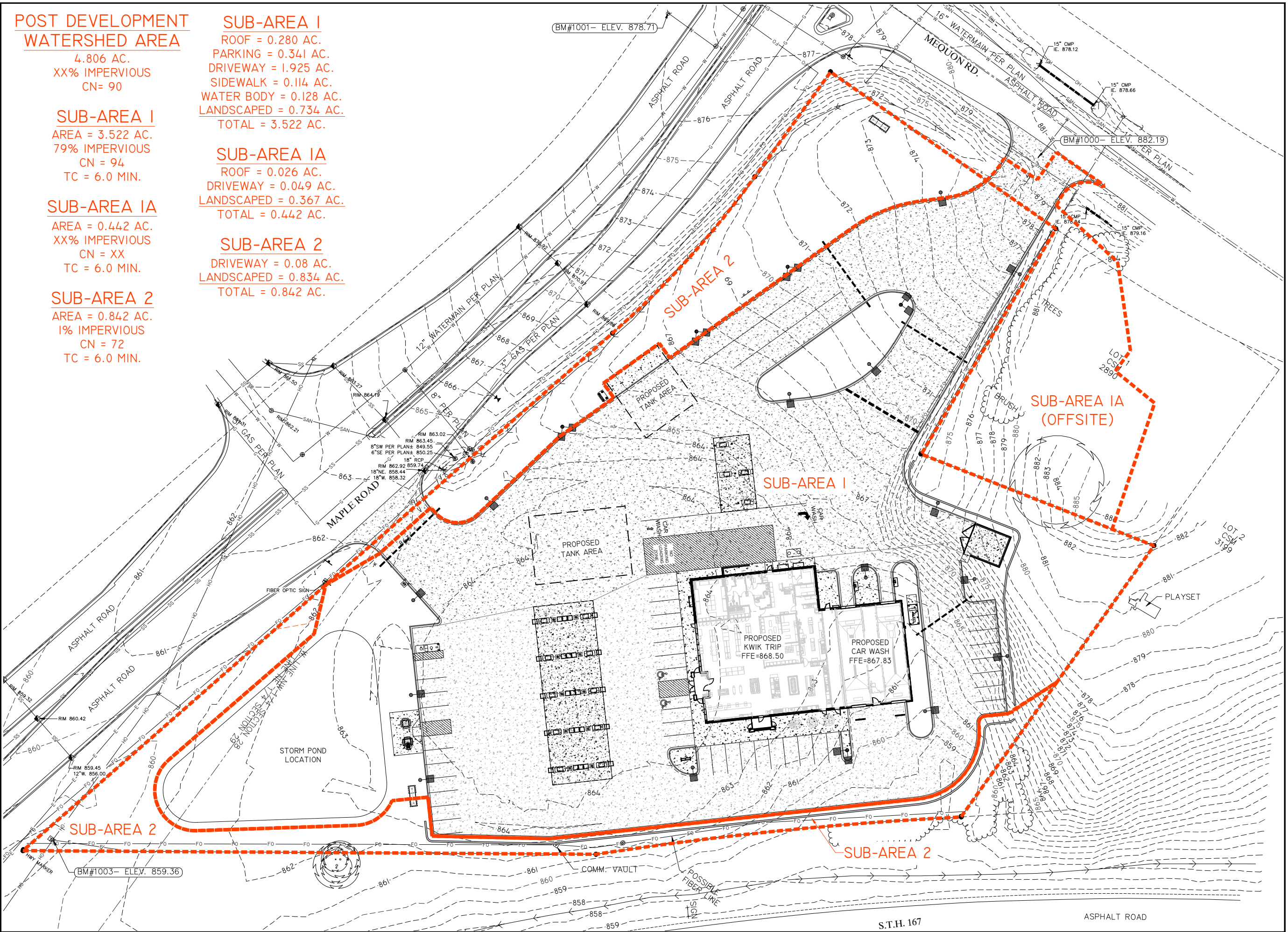
ROOF = 0.280 AC.
PARKING = 0.341 AC.
DRIVEWAY = 1.925 AC.
SIDEWALK = 0.114 AC.
WATER BODY = 0.128 AC.
LANDSCAPED = 0.734 AC.
TOTAL = 3.522 AC.

SUB-AREA IA

ROOF = 0.026 AC.
DRIVEWAY = 0.049 AC.
LANDSCAPED = 0.367 AC.
TOTAL = 0.442 AC.

SUB-AREA 2

DRIVEWAY = 0.08 AC.
LANDSCAPED = 0.834 AC.
TOTAL = 0.842 AC.



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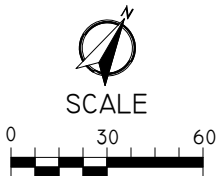
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WI 54602-2107
(608) 781-8988
FAX (608) 781-8960

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CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, INC.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



STORE #631
67 & MAPLE ROAD
ERMANTOWN, WI

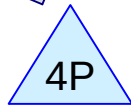
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SCALE: GRAPHIC
PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: STM-I



Sub-Area 1



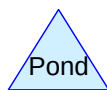
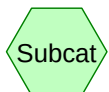
Sub-Area 2



Wet Detention Pond



Post Development
Runoff



Routing Diagram for 11757-Post Peak Flow
Prepared by REI Engineering, Printed 10/9/2024
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11757-Post Peak Flow

Prepared by REI Engineering

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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	MSE 24-hr	3	Default	24.00	1	2.65	2

11757-Post Peak Flow*MSE 24-hr 3 2-Year Rainfall=2.65"*

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Page 3

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Sub-Area 1

Runoff Area=3.522 ac 79.16% Impervious Runoff Depth=2.13"
Tc=6.0 min CN=WQ Runoff=11.75 cfs 0.624 af

Subcatchment2S: Sub-Area 2

Runoff Area=0.842 ac 0.95% Impervious Runoff Depth=0.69"
Flow Length=396' Tc=10.6 min CN=WQ Runoff=0.79 cfs 0.049 af

Pond 4P: Wet Detention Pond

Peak Elev=860.44' Storage=16,795 cf Inflow=11.75 cfs 0.624 af
Primary=0.63 cfs 0.622 af Secondary=0.00 cfs 0.000 af Outflow=0.63 cfs 0.622 af

Link 5L: Post Development Runoff

Inflow=1.35 cfs 0.671 af
Primary=1.35 cfs 0.671 af

Total Runoff Area = 4.364 ac Runoff Volume = 0.673 af Average Runoff Depth = 1.85"
35.93% Pervious = 1.568 ac 64.07% Impervious = 2.796 ac

11757-Post Peak Flow

Prepared by REI Engineering

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MSE 24-hr 3 2-Year Rainfall=2.65"

Printed 10/9/2024

Page 4

Summary for Subcatchment 1S: Sub-Area 1

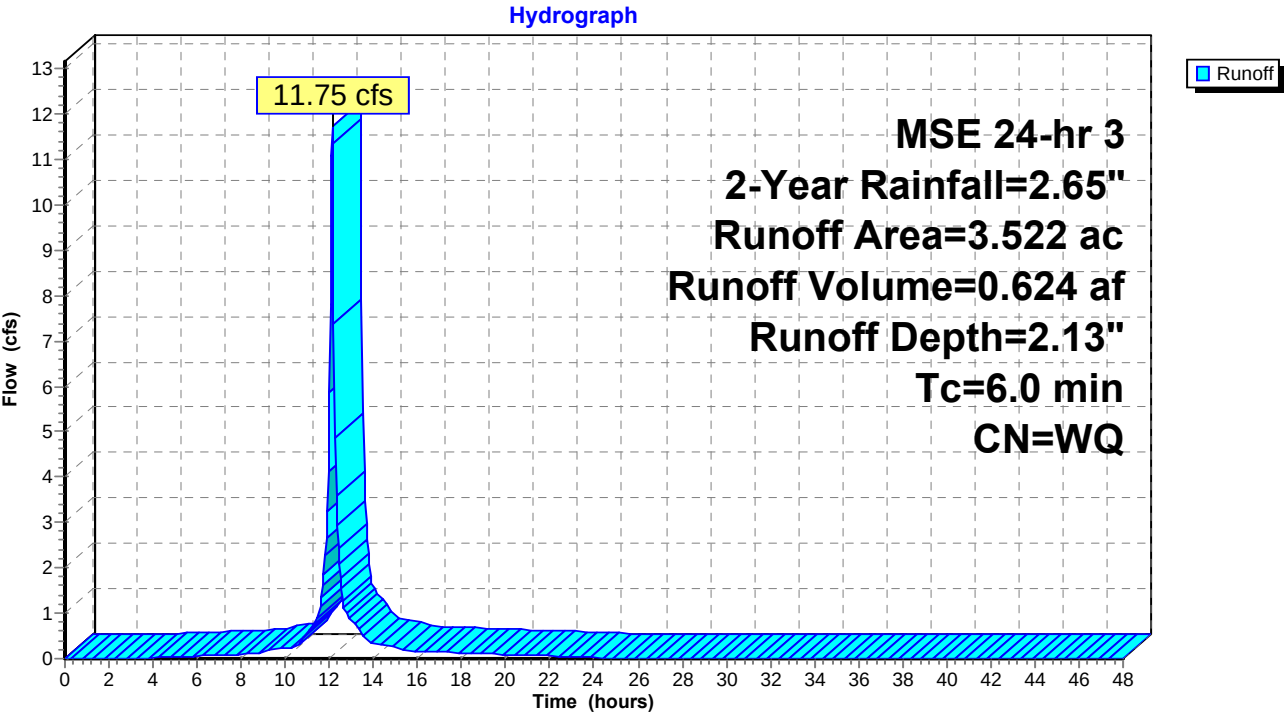
Runoff = 11.75 cfs @ 12.13 hrs, Volume= 0.624 af, Depth= 2.13"
Routed to Pond 4P : Wet Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.65"

	Area (ac)	CN	Description
*	0.280	98	Roof
*	0.341	98	Parking
*	1.925	98	Driveway
*	0.114	98	Sidewalk
	0.020	61	>75% Grass cover, Good, HSG B
	0.714	80	>75% Grass cover, Good, HSG D
*	0.128	100	Water Body
	3.522		Weighted Average
	0.734		20.84% Pervious Area
	2.788		79.16% Impervious Area

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

Subcatchment 1S: Sub-Area 1



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MSE 24-hr 3 2-Year Rainfall=2.65"

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Summary for Subcatchment 2S: Sub-Area 2

Runoff = 0.79 cfs @ 12.20 hrs, Volume= 0.049 af, Depth= 0.69"
Routed to Link 5L : Post Development Runoff

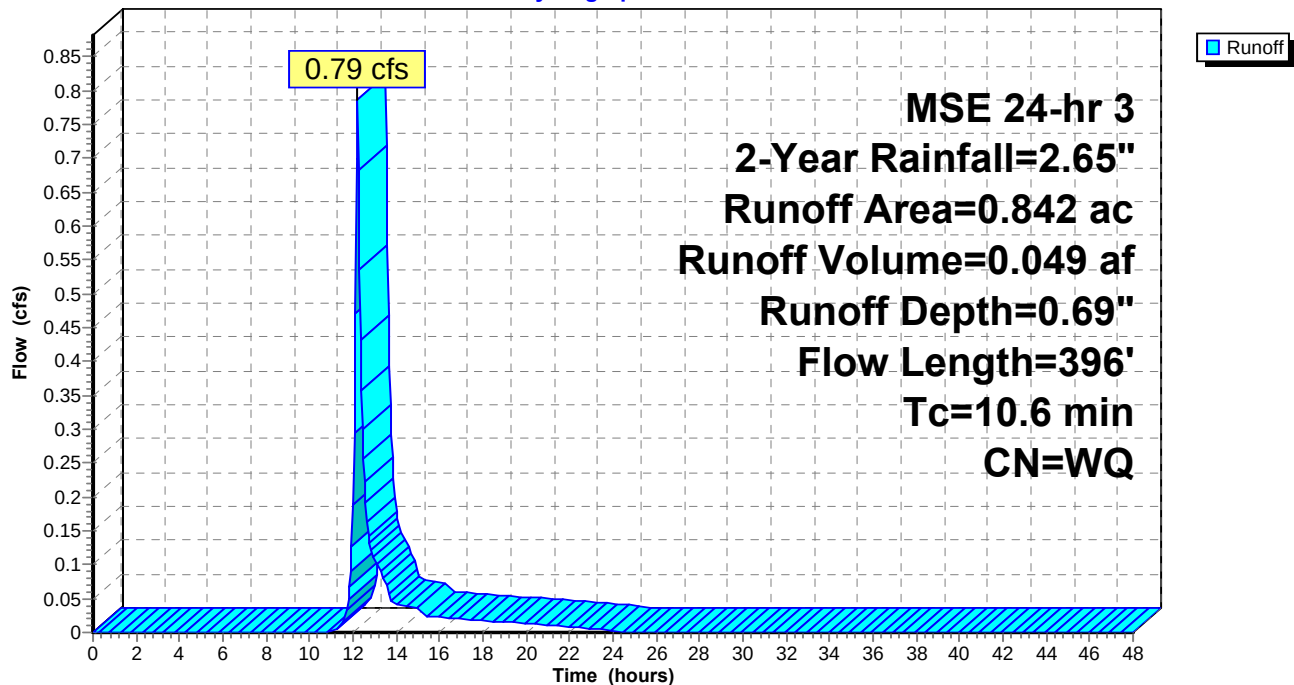
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.65"

Area (ac)	CN	Description
* 0.008	98	Driveway
0.290	61	>75% Grass cover, Good, HSG B
0.159	74	>75% Grass cover, Good, HSG C
0.385	80	>75% Grass cover, Good, HSG D
0.842		Weighted Average
0.834		99.05% Pervious Area
0.008		0.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0310	0.18		Sheet Flow, Grass: Short n= 0.150 P2= 2.65"
1.6	296	0.0360	3.05		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
10.6	396	Total			

Subcatchment 2S: Sub-Area 2

Hydrograph



11757-Post Peak Flow

MSE 24-hr 3 2-Year Rainfall=2.65"

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Summary for Pond 4P: Wet Detention Pond

Inflow Area = 3.522 ac, 79.16% Impervious, Inflow Depth = 2.13" for 2-Year event
 Inflow = 11.75 cfs @ 12.13 hrs, Volume= 0.624 af
 Outflow = 0.63 cfs @ 13.33 hrs, Volume= 0.622 af, Atten= 95%, Lag= 72.3 min
 Primary = 0.63 cfs @ 13.33 hrs, Volume= 0.622 af
 Routed to Link 5L : Post Development Runoff
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Link 5L : Post Development Runoff

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 860.44' @ 13.33 hrs Surf.Area= 8,240 sf Storage= 16,795 cf

Plug-Flow detention time= 328.0 min calculated for 0.622 af (100% of inflow)
 Center-of-Mass det. time= 327.0 min (1,087.2 - 760.1)

Volume	Invert	Avail.Storage	Storage Description		
#1	858.00'	60,396 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
858.00	5,564	342.3	0	0	5,564
859.00	6,619	361.2	6,084	6,084	6,679
860.00	7,731	380.0	7,168	13,252	7,848
861.00	8,900	398.9	8,309	21,560	9,083
862.00	10,113	417.3	9,500	31,060	10,346
863.00	11,392	436.1	10,746	41,807	11,692
864.00	12,728	454.9	12,054	53,860	13,097
864.50	13,417	464.4	6,535	60,396	13,829

Device	Routing	Invert	Outlet Devices
#1	Primary	858.00'	12.0" Round Culvert L= 60.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 858.00' / 856.00' S= 0.0333 ' /' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	858.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	860.50'	5.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	863.25'	4.0' long x 1.25' rise Sharp-Crested Rectangular Weir 2 End Contraction(s)
#5	Secondary	863.50'	6.0' long + 3.0 ' /' SideZ x 14.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.64 2.67 2.70 2.65 2.64 2.65 2.65 2.63

Primary OutFlow Max=0.63 cfs @ 13.33 hrs HW=860.44' (Free Discharge)

- 1=Culvert (Passes 0.63 cfs of 4.16 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.63 cfs @ 7.27 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)
- 4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=858.00' (Free Discharge)

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

11757-Post Peak Flow

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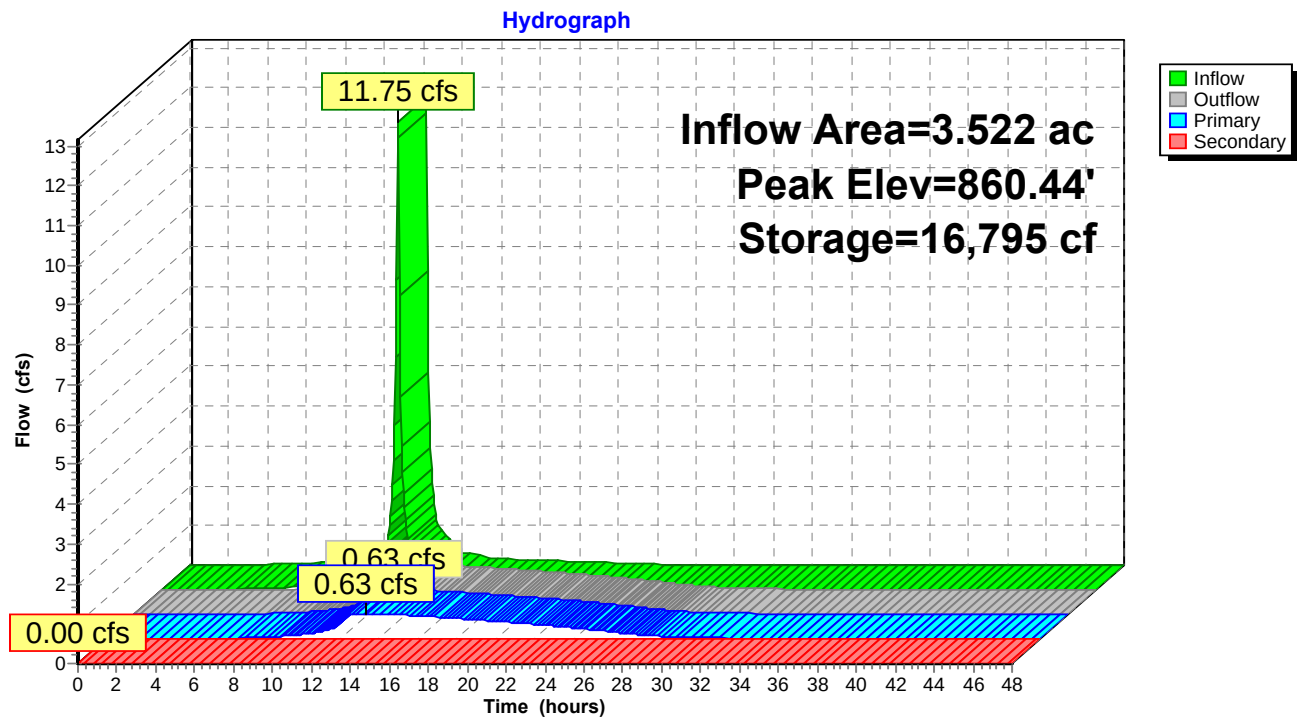
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MSE 24-hr 3 2-Year Rainfall=2.65"

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Pond 4P: Wet Detention Pond



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MSE 24-hr 3 2-Year Rainfall=2.65"

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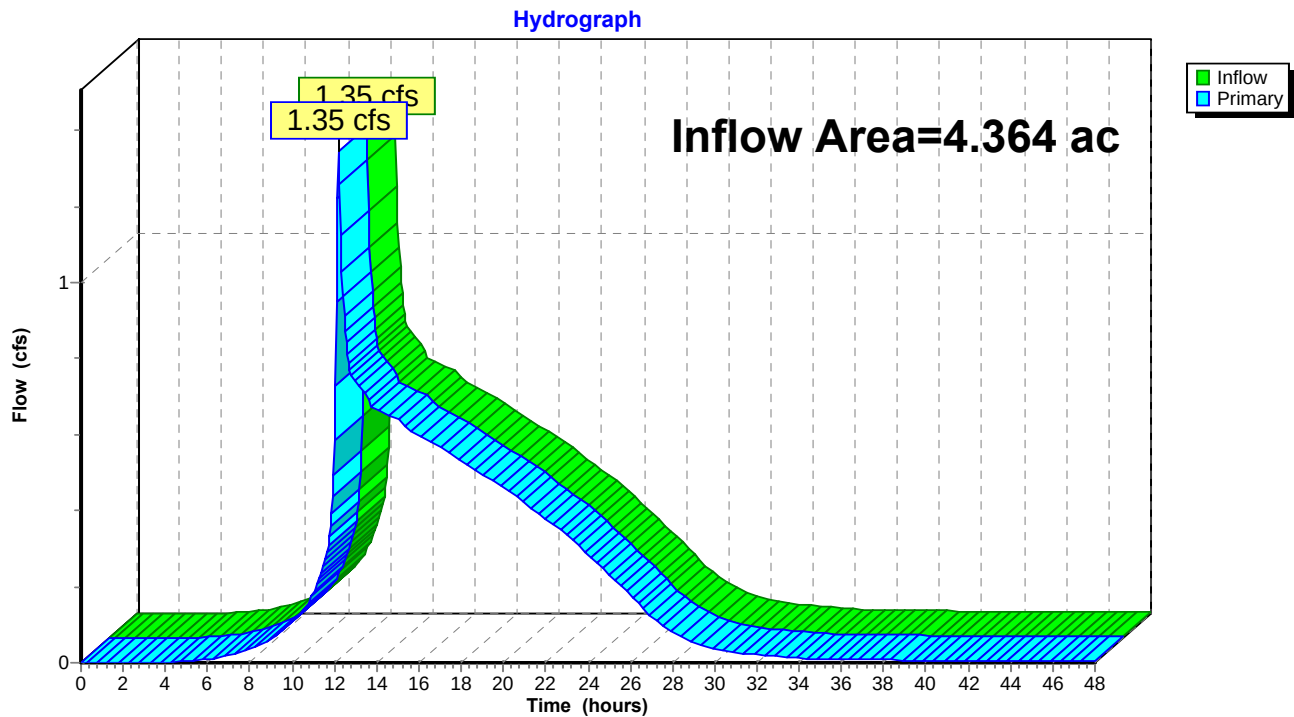
Page 8

Summary for Link 5L: Post Development Runoff

Inflow Area = 4.364 ac, 64.07% Impervious, Inflow Depth > 1.84" for 2-Year event
Inflow = 1.35 cfs @ 12.20 hrs, Volume= 0.671 af
Primary = 1.35 cfs @ 12.20 hrs, Volume= 0.671 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 5L: Post Development Runoff



11757-Post Peak Flow*MSE 24-hr 3 100-Year Rainfall=6.41"*

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Page 1

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Sub-Area 1

Runoff Area=3.522 ac 79.16% Impervious Runoff Depth=5.75"
Tc=6.0 min CN=WQ Runoff=30.96 cfs 1.687 af

Subcatchment2S: Sub-Area 2

Runoff Area=0.842 ac 0.95% Impervious Runoff Depth=3.41"
Flow Length=396' Tc=10.6 min CN=WQ Runoff=4.21 cfs 0.239 af

Pond 4P: Wet Detention Pond

Peak Elev=863.26' Storage=44,800 cf Inflow=30.96 cfs 1.687 af
Primary=2.01 cfs 1.683 af Secondary=0.00 cfs 0.000 af Outflow=2.01 cfs 1.683 af

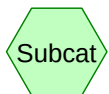
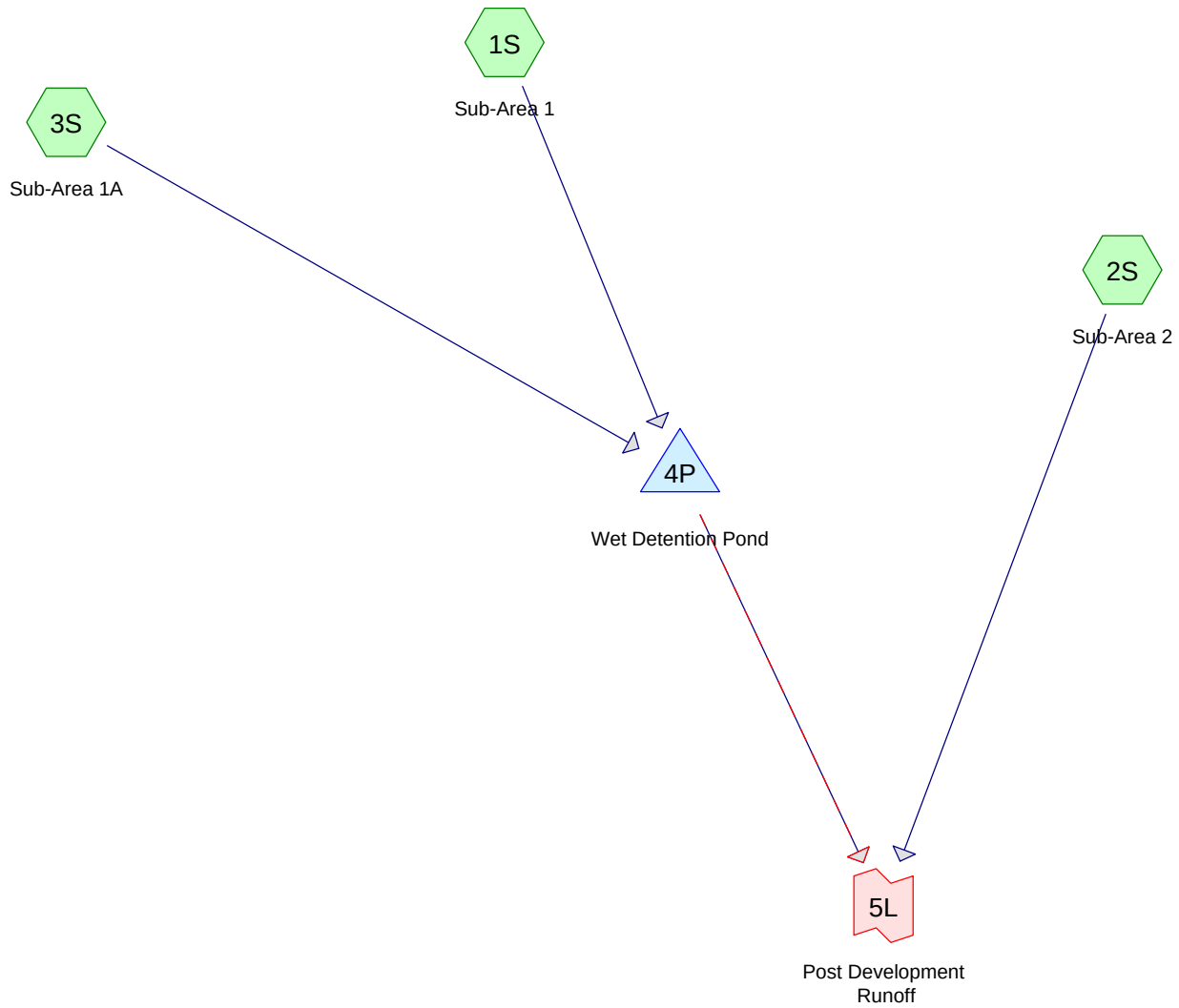
Link 5L: Post Development Runoff

Inflow=5.92 cfs 1.923 af
Primary=5.92 cfs 1.923 af

Total Runoff Area = 4.364 ac Runoff Volume = 1.927 af Average Runoff Depth = 5.30"
35.93% Pervious = 1.568 ac 64.07% Impervious = 2.796 ac

Appendix 5

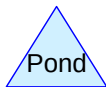
Detention Pond Safe Passage Analysis



Subcat



Reach



Pond



Link

Routing Diagram for 11757-Post Peak Flow-100
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11757-Post Peak Flow-100

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100-Year	MSE 24-hr	3	Default	24.00	1	6.41	2

11757-Post Peak Flow-100

MSE 24-hr 3 100-Year Rainfall=6.41"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Sub-Area 1

Runoff Area=3.522 ac 79.16% Impervious Runoff Depth=5.75"
Tc=6.0 min CN=WQ Runoff=30.96 cfs 1.687 af

Subcatchment2S: Sub-Area 2

Runoff Area=0.842 ac 0.95% Impervious Runoff Depth=3.41"
Flow Length=396' Tc=10.6 min CN=WQ Runoff=4.21 cfs 0.239 af

Subcatchment3S: Sub-Area 1A

Runoff Area=0.442 ac 16.97% Impervious Runoff Depth=4.50"
Tc=6.0 min CN=WQ Runoff=3.36 cfs 0.166 af

Pond 4P: Wet Detention Pond

Peak Elev=863.49' Storage=47,517 cf Inflow=34.32 cfs 1.853 af
Primary=3.56 cfs 1.849 af Secondary=0.00 cfs 0.000 af Outflow=3.56 cfs 1.849 af

Link 5L: Post Development Runoff

Inflow=6.03 cfs 2.088 af
Primary=6.03 cfs 2.088 af

Total Runoff Area = 4.806 ac Runoff Volume = 2.092 af Average Runoff Depth = 5.22"
40.26% Pervious = 1.935 ac 59.74% Impervious = 2.871 ac

11757-Post Peak Flow-100

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MSE 24-hr 3 100-Year Rainfall=6.41"

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Summary for Subcatchment 1S: Sub-Area 1

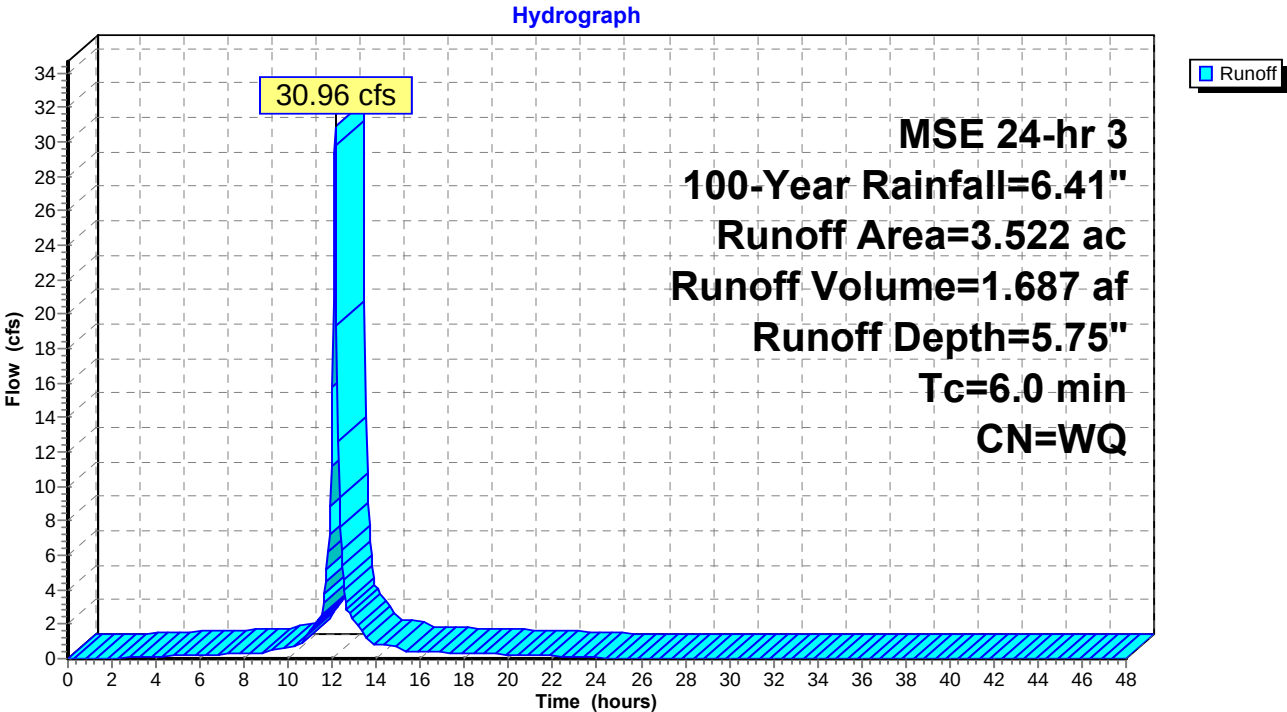
Runoff = 30.96 cfs @ 12.13 hrs, Volume= 1.687 af, Depth= 5.75"
Routed to Pond 4P : Wet Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 0.280	98	Roof
* 0.341	98	Parking
* 1.925	98	Driveway
* 0.114	98	Sidewalk
0.020	61	>75% Grass cover, Good, HSG B
0.714	80	>75% Grass cover, Good, HSG D
* 0.128	100	Water Body
3.522		Weighted Average
0.734		20.84% Pervious Area
2.788		79.16% Impervious Area

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

Subcatchment 1S: Sub-Area 1



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MSE 24-hr 3 100-Year Rainfall=6.41"

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Summary for Subcatchment 2S: Sub-Area 2

Runoff = 4.21 cfs @ 12.19 hrs, Volume= 0.239 af, Depth= 3.41"
Routed to Link 5L : Post Development Runoff

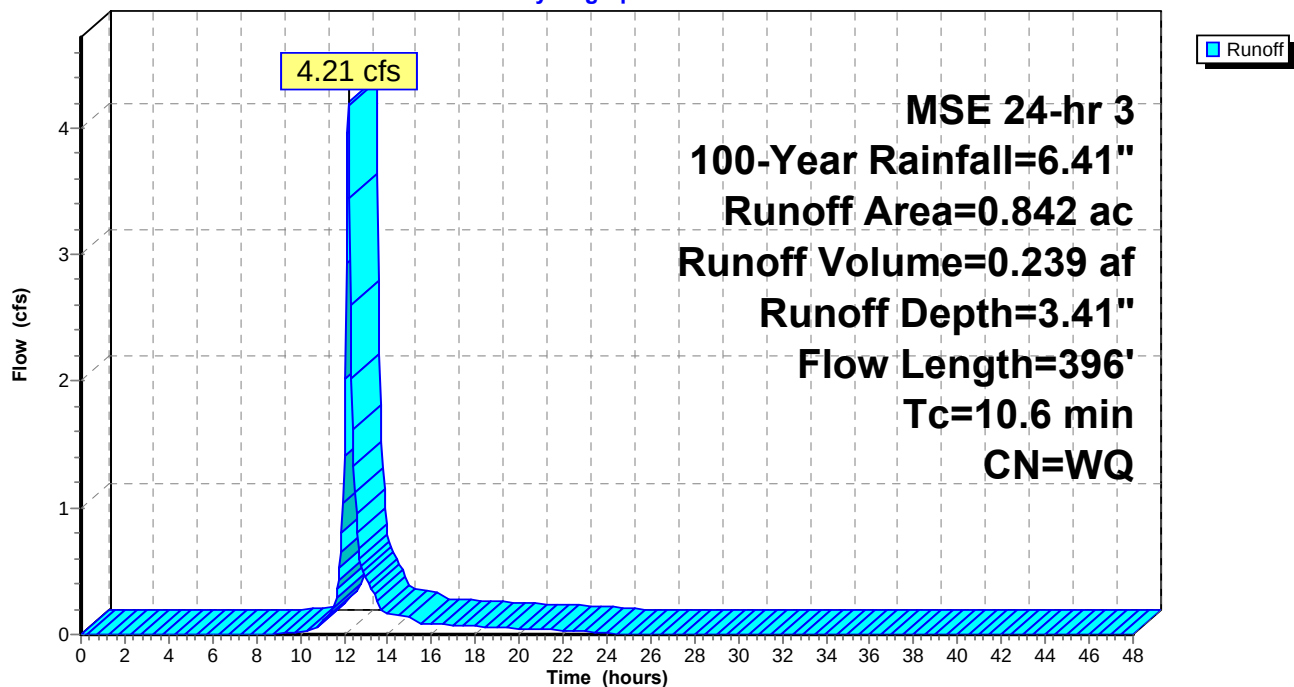
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 0.008	98	Driveway
0.290	61	>75% Grass cover, Good, HSG B
0.159	74	>75% Grass cover, Good, HSG C
0.385	80	>75% Grass cover, Good, HSG D
0.842		Weighted Average
0.834		99.05% Pervious Area
0.008		0.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0310	0.18		Sheet Flow, Grass: Short n= 0.150 P2= 2.65"
1.6	296	0.0360	3.05		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
10.6	396	Total			

Subcatchment 2S: Sub-Area 2

Hydrograph



11757-Post Peak Flow-100

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MSE 24-hr 3 100-Year Rainfall=6.41"

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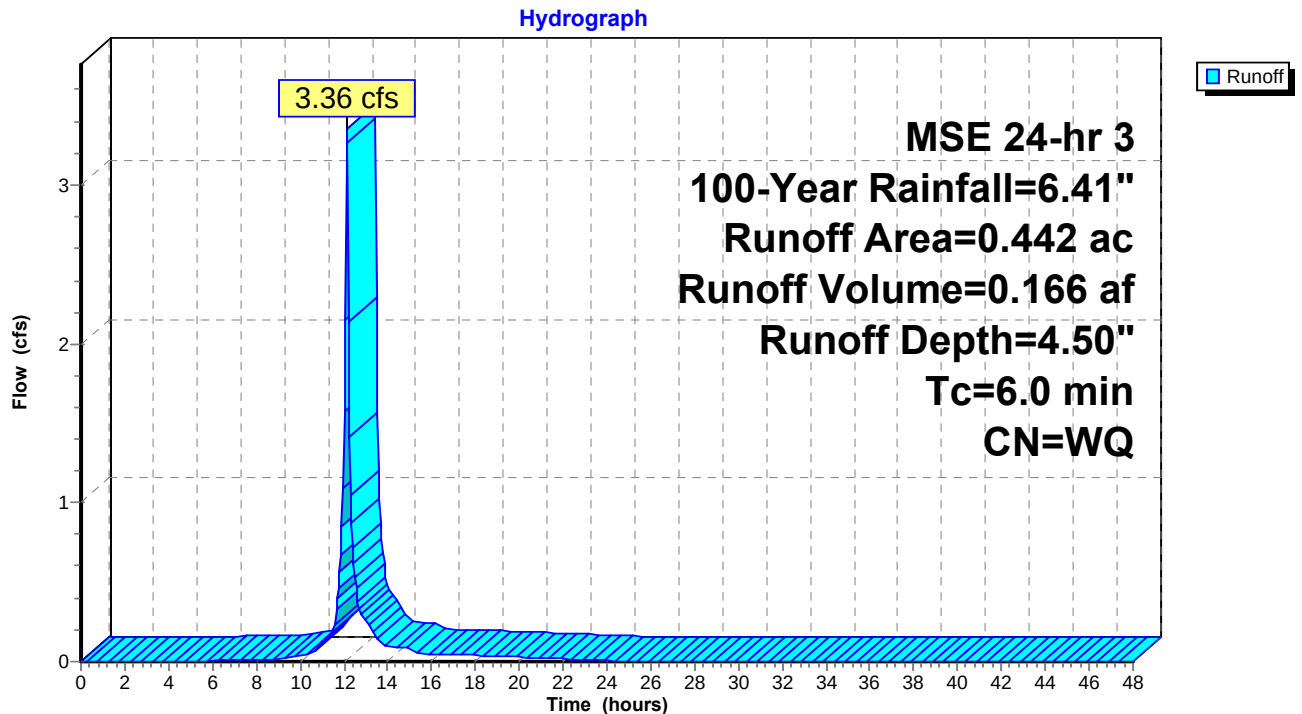
Summary for Subcatchment 3S: Sub-Area 1A

Runoff = 3.36 cfs @ 12.13 hrs, Volume= 0.166 af, Depth= 4.50"
Routed to Pond 4P : Wet Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 0.026	98	Roof
* 0.049	98	Driveway
0.367	80	>75% Grass cover, Good, HSG D
0.442		Weighted Average
0.367		83.03% Pervious Area
0.075		16.97% Impervious Area

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

Subcatchment 3S: Sub-Area 1A

11757-Post Peak Flow-100

MSE 24-hr 3 100-Year Rainfall=6.41"

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Summary for Pond 4P: Wet Detention Pond

Inflow Area = 3.964 ac, 72.23% Impervious, Inflow Depth = 5.61" for 100-Year event
 Inflow = 34.32 cfs @ 12.13 hrs, Volume= 1.853 af
 Outflow = 3.56 cfs @ 12.62 hrs, Volume= 1.849 af, Atten= 90%, Lag= 29.3 min
 Primary = 3.56 cfs @ 12.62 hrs, Volume= 1.849 af
 Routed to Link 5L : Post Development Runoff
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Link 5L : Post Development Runoff

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 863.49' @ 12.62 hrs Surf.Area= 12,034 sf Storage= 47,517 cf

Plug-Flow detention time= 320.8 min calculated for 1.849 af (100% of inflow)
 Center-of-Mass det. time= 319.4 min (1,071.2 - 751.8)

Volume	Invert	Avail.Storage	Storage Description		
#1	858.00'	60,396 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
858.00	5,564	342.3	0	0	5,564
859.00	6,619	361.2	6,084	6,084	6,679
860.00	7,731	380.0	7,168	13,252	7,848
861.00	8,900	398.9	8,309	21,560	9,083
862.00	10,113	417.3	9,500	31,060	10,346
863.00	11,392	436.1	10,746	41,807	11,692
864.00	12,728	454.9	12,054	53,860	13,097
864.50	13,417	464.4	6,535	60,396	13,829

Device	Routing	Invert	Outlet Devices
#1	Primary	858.00'	12.0" Round Culvert L= 60.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 858.00' / 856.00' S= 0.0333 ' /' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	858.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	860.50'	5.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	863.25'	4.0' long x 1.25' rise Sharp-Crested Rectangular Weir 2 End Contraction(s)
#5	Secondary	863.50'	6.0' long + 3.0 ' /' SideZ x 14.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.64 2.67 2.70 2.65 2.64 2.65 2.65 2.63

Primary OutFlow Max=3.55 cfs @ 12.62 hrs HW=863.49' (Free Discharge)

- 1=Culvert (Passes 3.55 cfs of 6.67 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.97 cfs @ 11.11 fps)
- 3=Orifice/Grate (Orifice Controls 1.09 cfs @ 8.03 fps)
- 4=Sharp-Crested Rectangular Weir (Weir Controls 1.49 cfs @ 1.59 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=858.00' (Free Discharge)

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

11757-Post Peak Flow-100

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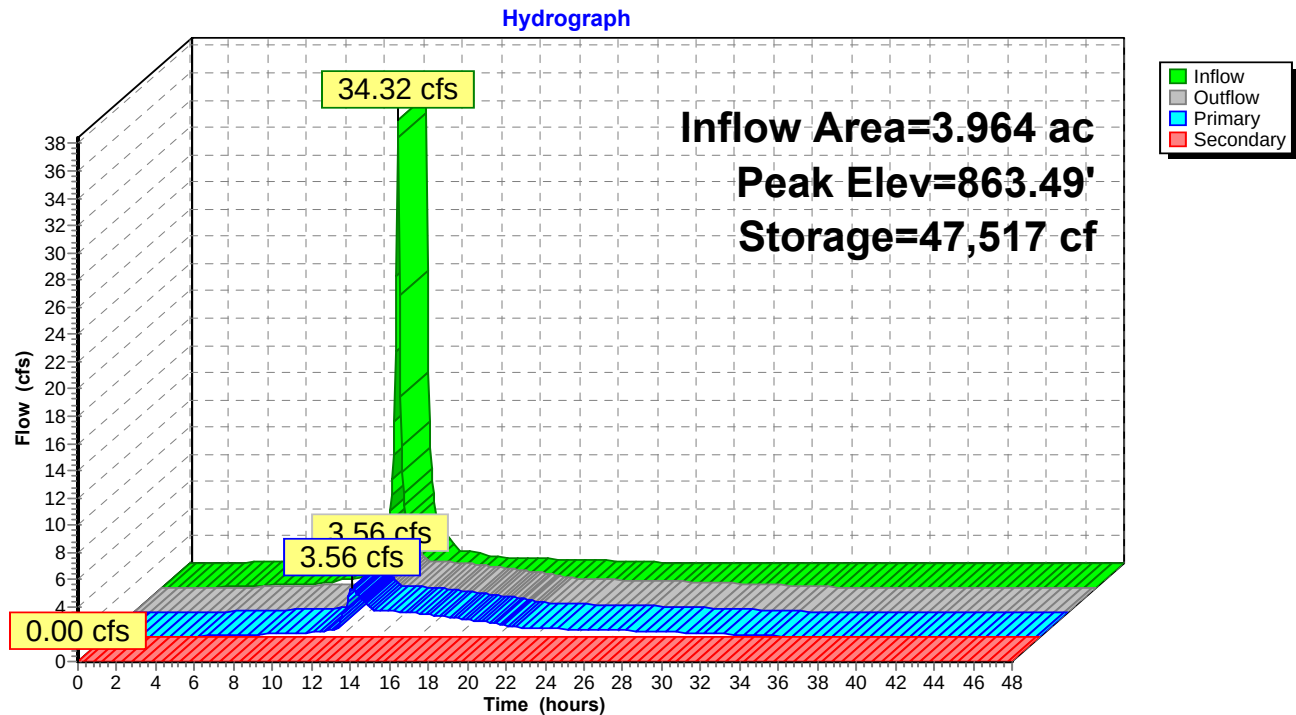
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MSE 24-hr 3 100-Year Rainfall=6.41"

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Pond 4P: Wet Detention Pond



11757-Post Peak Flow-100

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MSE 24-hr 3 100-Year Rainfall=6.41"

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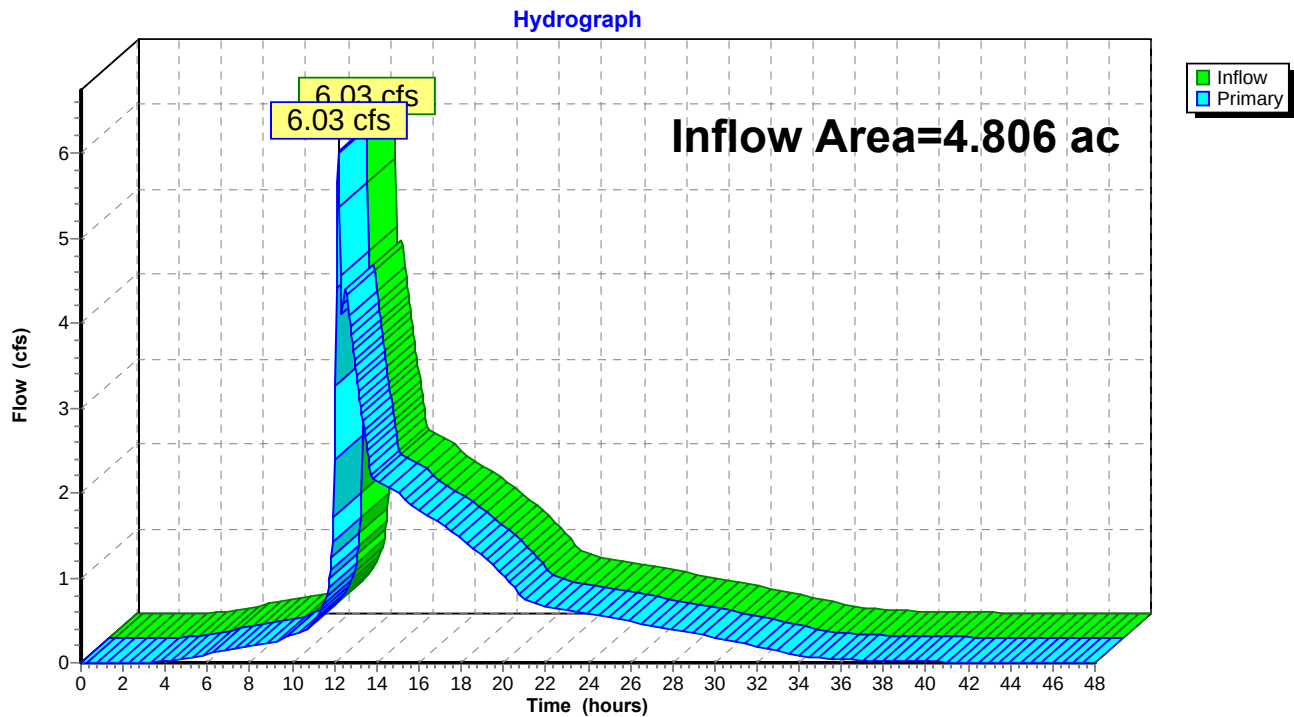
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Summary for Link 5L: Post Development Runoff

Inflow Area = 4.806 ac, 59.74% Impervious, Inflow Depth > 5.21" for 100-Year event
Inflow = 6.03 cfs @ 12.19 hrs, Volume= 2.088 af
Primary = 6.03 cfs @ 12.19 hrs, Volume= 2.088 af, Atten= 0%, Lag= 0.0 min

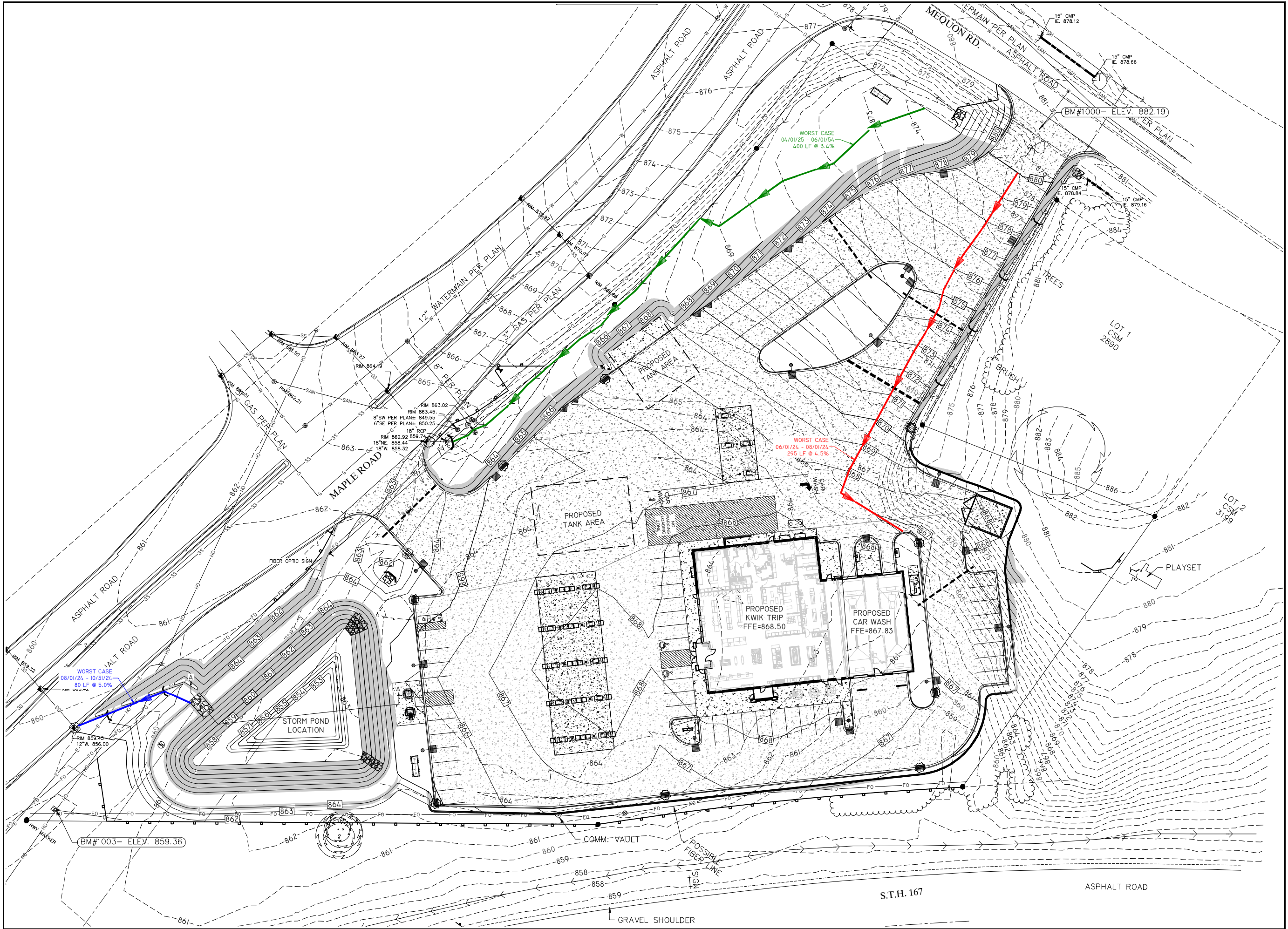
Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 5L: Post Development Runoff



Appendix 6

USLE Map & Calculations



NOTES:

(A)

**AWIK
TRIP**

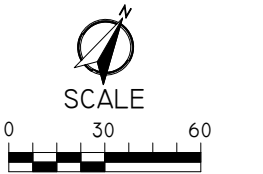
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EMAIL: MAIL@REIENGINEERING.COM



STORE #631

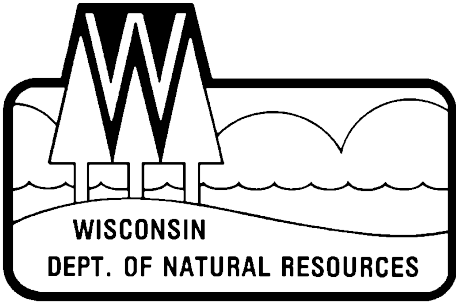
67 & MAPLE ROAD
ERMANTOWN, WI

DRAWN BY: NAP
SCALE: GRAPHIC
PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: USLE



Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin



WDNR Version 2.0 (06-29-2017)

YEAR 1

Developer: Kwik Trip, Inc.

Project: Kwik Trip #631

Date: 10/09/24

County: Washington

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	04/01/25	06/01/25	16.4%	120	Sandy Loam	0.28	3.4%	400	0.59	1.00	3.2	1.043	Silt Fence	2.0
Bare Ground	06/01/25	08/01/25	43.1%	120	Sandy Loam	0.28	4.5%	295	0.81	1.00	11.7	0.956	Sediment Basin	2.2
Seed with Mulch or Er	08/01/25	10/31/25	33.4%	120	Sandy Loam	0.28	5.0%	80	0.48	0.10	0.5	0.906	Silt Fence	0.3
End	10/31/25	----	----	----	-----	----			----	-----	----	0.000		0.0
		----	----	----	-----	----			----	-----	----	0.000		0.0
		----	----	----	-----	----			----	-----	----	0.000		0.0
TOTAL											15.5		TOTAL	4.6
													% Reduction Required	NONE

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

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

Recommended Permanent Seeding Dates:
4/15-6/1 and 8/1-8/21 Turf, introduced grasses and legumes
Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	GSW
Date	10/8/2024

Appendix 7

Storm Water Management Maintenance Schedule and Procedures

**Post Construction Long Term Maintenance Plan for
Kwik Trip # 631 Village of Germantown, Washington County, Wisconsin**

System Description:

The property is located at STH 167 & Maple Road, Village of Germantown, Washington County, Wisconsin. The site consists of a series of storm water conveyances through sheet draining, piping, and a wet detention pond.

System Maintenance**Catch Basin / Manhole and Oil Skimmer**

- The facility structures should be checked annually for signs of damage and cracks to top slab, walls and bottom.
- The structure's cover or grate should be fully in place.
- Metal grates shall be free of debris and vegetation.
- Grates should be checked for missing or broken members of the grate.
- Ladder should be inspected for missing rungs, wall attachments, rust, cracks or sharp edges.
- The structure bottom and pipes should be clear of vegetation and debris.
- Remove sediment when it is within 12 inches from the lowest pipe invert or 50% of sump depth.

Trench Drain

- The facility structures should be checked annually for signs of damage and cracks to top grate.
- The structure's bottom and walls to be checked for cracks.
- Metal grates shall be free of debris and vegetation.
- Grates should be checked for missing or broken members of the grate.
- The structure bottom and pipes should be clear of sediment and debris.

OUR MISSION

To serve our customers and community more effectively than anyone else by treating our customers, co-workers and suppliers as we, personally, would like to be treated, and to make a difference in someone's life.

Outflow Control Structures

- The facility structures should be checked annually for signs of damage and cracks to top slab, walls and bottom.
- The structure's cover or grate should be fully in place.
- Metal grates shall be free of debris and vegetation.
- Grates should be checked for missing or broken members of the grate.
- Ladder should be inspected for missing rungs, wall attachments, misalignment, rust, cracks or sharp edges.
- Removed debris from interior trash rack (if present).
- The connection of the interior steel plates to the structure should be inspected for cracks.
- The structure bottom and pipes should be clear of vegetation and debris.
- Remove sediment when it within 12 inches from the lowest pipe invert.

Apron and Riprap

- The facility structures should be checked annually for signs of damage to apron.
- The end of pipe, apron and surrounding riprap should be free of debris.
- Inspect for erosion around apron.
- Inspect for erosion and sediment accumulation within the riprap.

Storm Detention Areas/Infiltration Ponds

- The facility should be checked annually for signs of erosion or bare soil along the perimeter, inlet pipe or swale, side slopes and at the inlet/outlet devices.
- Remove any dead or invasive vegetation and trees.
- Keep all areas free of debris.
- Remove sediment by hand with a flat-bottomed shovel during dry periods. Remove only the amount of sediment necessary to restore hydraulic capacity, leaving as much of the vegetation in place as possible. Reseed or unplug any damaged turf or vegetation.

****NOTE**

- Some sediment may contain contaminants that requires special disposal. If there is uncertainty about what the sediment contains or it is known to contain contaminants, the Department of Natural Resources should be consulted through Kwik Trip's Environmental Department. Generally, special attention or sampling should be given to sediment accumulated in fueling areas, large parking lots, or other areas where pollutants (other than clean soil) are suspected to accumulate and be conveyed by storm runoff.
- Some sediment collected may be free of pollutants and can be used as fill material. It is vital that this material not be placed in any way that will promote or allow re-suspension in the storm runoff.

Tasks	Street Clean	Underground Storm Sewer System	Catch Basin	Apron/ Rip Rap	Wet Pond	Outflow Control Structure	Schedule
Inspection		X	X	X	X	X	Annual
Clean Streets	X						Annual
Mowing					X		0-2 times per year
System Clean Out		X				X	1 Time per 4 years



Kwik Trip Stormwater BMP Inspection

Store #: 1732

Number of BMPs: 15

Location (City, State): City of Green Bay, Brown County, WI

Weather: _____

Inspection date: _____

Inspection By: _____

Inspection Results:

<u>Maintenance Required:</u>	YES	NO	N/A	<u>Maintenance Required:</u>	YES	NO	N/A
Infall Erosion	☐	☐	☐	Trench Drain	☐	☐	☐
Outfall Erosion	☐	☐	☐	Oil/Debris Separator	☐	☐	☐
Outlet Structure	☐	☐	☐	Catch Basin/Manhole	☐	☐	☐
Depth/Sediment Accumulation	☐	☐	☐	Apron	☐	☐	☐
Infiltration Pond	☐	☐	☐	Rip Rap	☐	☐	☐
Other Structure	☐	☐	☐	Other			

Attach pictures on last page

Communication Notes

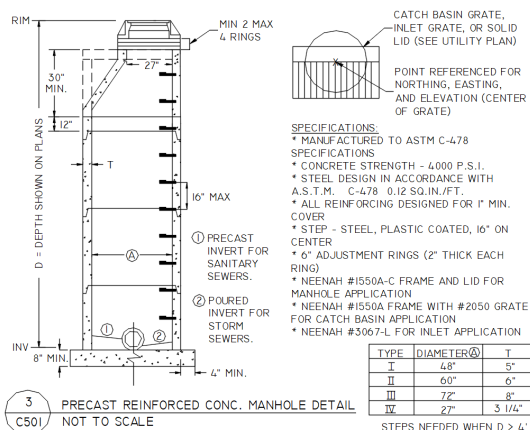
Phone ☐ Fax ☐ Written ☐ E-Mail ☐ Personal Discussion ☐

To whom: _____

Comments: _____

Structure

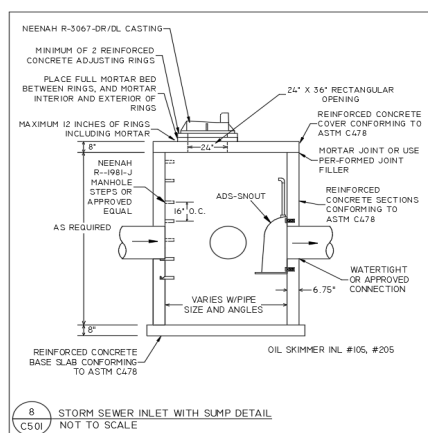
Quantity: 09



- Casting
- Adjustment rings and mortar
- Concrete cover and mortar
- Steps (if present), wall and floor
- Pipes and seals
- If sediment is present, use a rod to determine depth and if it needs to be removed

Oil Skimmer

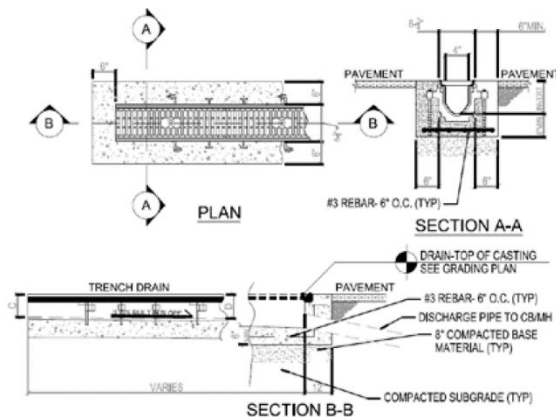
Quantity: 02



- Casting
- Adjustment rings and mortar
- Concrete cover and mortar
- Steps (if present), wall and floor
- Pipes, snout and seals
- If sediment is present, use a rod to determine depth and if it needs to be removed

Trench Drain

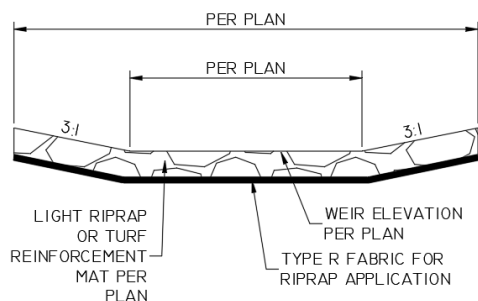
Quantity: 01



- Casting
- Surrounding concrete / pavement
- Trench condition
- Pipes and seals
- Sediment depth

Outfall / Overflow

Quantity: 1



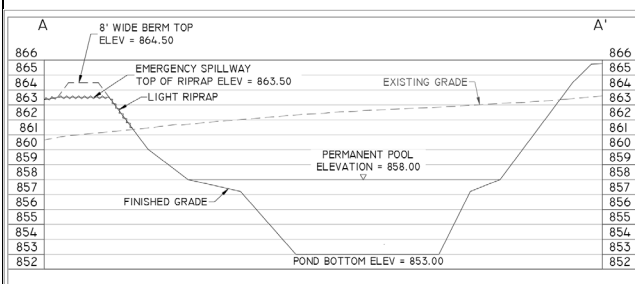
6 OVERFLOW WEIR DETAIL
SP6 NOT TO SCALE

NOTE:
WEIRS TO USE
PERMANENT TURF
REINFORCEMENT MAT

- Sides
- Sediment depth
- Signs of erosion

Wet Detention Pond

Quantity: 1

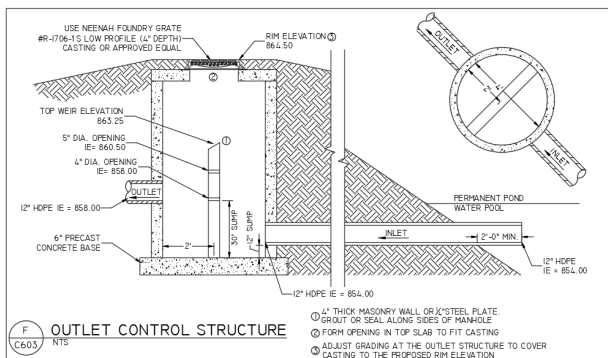


1 WET DETENTION POND CROSS SECTION DETAIL
C600 NTS

- Vegetation (weeds or bare spots)
- Sediment depth / odor
- Erosion
- Emergency spill way
- Side Slopes

Outlet Control Structure

Quantity: 1



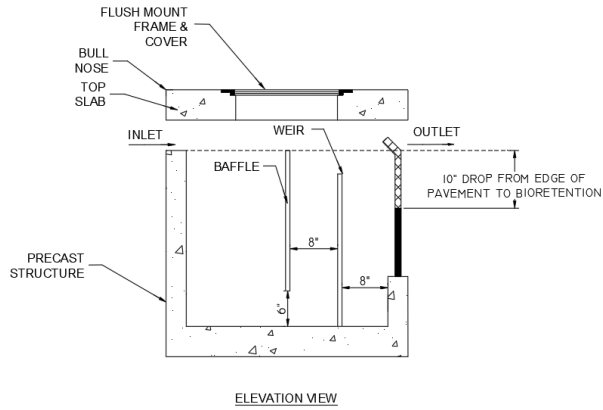
F OUTLET CONTROL STRUCTURE
C603 NTS

① 4\"/>

- Vegetation (weeds or bare spots)
- Sediment depth / odor
- Erosion
- Emergency spill way
- Side Slopes

PRETX 30x30 Unit

Quantity: 1



- Casting
- Adjustment rings and mortar
- Concrete cover and mortar
- Steps (if present), wall and floor
- Pipes, snout and seals
- If sediment is present, use a rod to determine depth and if it needs to be removed



Photos Before Maintenance	Photos After Maintenance (if required)
Structure:	
Structure:	

Structure:

Structure:

Structure:

Structure:

Wellhead Protection CUP Checklist

Application Document Ref & Page #
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17.40.11 CONDITIONAL USES.

- | | |
|--|--|
| <p>(3) All requests for a conditional use permit shall be submitted in writing to the Germantown Village Planning and Zoning Department, and shall include all of the following:</p> <ul style="list-style-type: none"> (a) A site plan map with all building and structure footprints, driveways, sidewalks, parking lots, stormwater management structures, groundwater monitoring wells, and 2-foot ground elevation contours. (b) A business plan and/or other documentation which describes in detail the use, activities, and structures proposed. (c) An environmental assessment report prepared by a licensed environmental engineer which details the risk to, and potential impact of, the proposed use, activities, and structures on groundwater quality. In the event of a substitution or relocation of a pre-existing use under this section, the report shall address the ways that the substituted or relocated use will reduce the risk to groundwater compared to the pre-existing use. (d) An operational safety plan, which details the operational procedures for material processes and containment, best management practices, stormwater runoff management, and groundwater monitoring. (e) A contingency plan which addresses in detail the actions that will be taken should a contamination event caused by the proposed use, activities, or structures occur. <p>(4) All applicants submitting a request for a conditional use permit shall reimburse the Village for all consultant fees and expenses and technical review committee expenses associated with this review, plus administrative costs and processing fees.</p> <p>(5) All conditional use permits granted shall be subject to conditions that will include environmental and safety monitoring determined necessary to afford adequate protection of the public water supply. These conditions shall include all of the following:</p> <ul style="list-style-type: none"> (a) Provide current copies of all federal, state and local facility operation approval or certificates and on-going environmental monitoring results to the Village. (b) Establish environmental or safety structures/monitoring to include an operational safety plan, material processes and containment, operations monitoring, best management practices, stormwater runoff management, and groundwater monitoring. (c) Replace equipment or expand in a manner that improves the environmental and safety technologies in existence. (d) Prepare, file and maintain a current contingency plan which details the response to any emergency which occurs at the facility, including notifying municipal, county and state officials. Provide a current copy to the Village. <p>(6) The Germantown Village Board shall decide upon a request for a conditional use permit only after full consideration of the recommendations made by the Germantown Groundwater Technical Review Committee. Any conditions above and beyond those specified in conditional uses, subsection (5) herein that are recommended by the Germantown Groundwater Technical Review Committee may be applied to the granting of the conditional use permit.</p> | <p><u>Section 3.0 (Page 3) & Pages 12-15</u></p> <p><u>Section 4.0 (Page 3)</u></p> <p><u>Section 5.0 (Pages 4-5)</u></p> <p><u>Section 6.0 (Pages 5-6) & stand-alone Spill Response Plan</u></p> <p><u>Section 7.0 (Page 6) & stand-alone Spill Response Plan</u></p> <p><u>Section 8.0 (Page 6, last paragraph)</u></p> <p><u>Section 6.0 (Pages 5-6) & stand-alone Spill Response Plan</u></p> <p><u>Section 5.0 (Pages 4-5)</u></p> <p><u>Section 7.0 (Page 6) & stand-alone Spill Response Plan</u></p> |
|--|--|

**17.40.12 PROVISIONS AND REQUIREMENTS FOR PRE-EXISTING USES OR FACILITIES
REQUIRING A CONDITIONAL USE PERMIT OR LISTED AS A PROHIBITED USE.**

Application Document Ref & Page #
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(4) Conditional Use Permit Requirements. At a minimum, conditional use permits granted by the Village pursuant to subsection 17.40.12(3) above shall include conditions that require the following:

(a) to the extent feasible, based upon scientific, engineering and economic factors, all site, building and other improvements shall be repaired, rebuilt, expanded, relocated, or substituted using best management practices, designs and technologies which are state of the art, such that they diminish the potential for wellhead contamination; and

Section 5.0 (Pages 4-5) &
Section 8.0 (Page 6, first
paragraph)

(b) to the extent feasible, based upon scientific, engineering, and economic factors, the replacement, substitution, or augmentation of equipment and machinery and the installation thereof shall utilize state of the art equipment and machinery which diminishes potential for wellhead contamination; and

Section 5.0 (Pages 4-5) &
Section 8.0 (Page 6, first
paragraph)

(c) The relocation of pre-existing uses or facilities is allowed provided all the following are met:

(i) The pre-existing use or facility is relocated within the same Groundwater Protection Overlay District;

Section 8.0 (Page 6, second
paragraph & Page 11)

(ii) The new location meets all applicable separation distance requirements set forth under subsection 17.40.09;

Section 8.0 (Page 6, second
paragraph & Page 11)

(iii) The use or facility can obtain all applicable Federal, State and Local approvals and permits;

Section 8.0 (Page 6, last
paragraph)

(iv) The owner of the property or current site from which the pre-existing use or facility is relocating from records a deed restriction against the property that prohibits future uses and/or facilities that require a conditional use permit under subsection 17.40.11 or are listed as a prohibited use in subsection 17.40.11; and

Section 8.0 (Page 7, first
paragraph)

(v) The owner of the property or operator of the pre-existing use or facility being relocated causes the property and all structures, equipment, and systems located thereon to be altered and/or restored to a physical condition that can be reasonably expect to not cause groundwater contamination, including but not limited to the removal of storage tanks, pipes, and systems that previously contained or utilized hazardous, flammable, or other liquids or materials that had the potential to contaminate the Village's groundwater resources. Such alteration and restoration shall meet all applicable Federal, State, and Local agency requirements (e.g. Wisconsin's Cleanup Rules and Laws).

Section 8.0 (Page 7,
second paragraph)



Environmental

PHONE 608-793-6283

FAX 608-781-8960

EMAIL environmental@kwiktrip.com

1626 Oak St., P.O. Box 2107
La Crosse, WI 54602

www.kwiktrip.com

Conditional Use Permit Request Wellhead Protection Proposed Kwik Trip #631 Relocation N112W18741 Mequon Rd. Germantown, WI 53022

Date: October 11, 2024

1.0 Introduction

This request is intended to accompany our submittal to the Village of Germantown for the requested conditional use permit (CUP) application for our proposed project located at N112W18741 Mequon Rd. This proposed location is within a current wellhead protection area within the Village, so a CUP is required.

1.1 Site Location and Legal Description

The subject property is located in a part of the NW ¼ of the NW ¼ of Section 28 and the NE ¼ of the NE ¼ of Section 29, Township 9 North, Range 20 East, Village of Germantown, Washington County, Wisconsin. The subject property consists of 1 parcel of land totaling approximately 4.37 acres located on the western side of the Village of Germantown. Specifically, the subject property is at N112W18741 Mequon Rd, Germantown, WI 53022. A Site Location Map is included as Figure 1.

1.2 Site Description

The subject property is located in an area of residential and commercial properties adjacent to a business park in the western portion of the Village of Germantown. The subject property consists of a two-story commercial bank property. There is a concrete parking lot connecting to public roads in two locations with the rest of the land being undeveloped green space. An Aerial Map is included as Figure 2.

1.3 Physical Setting

The subject property is located in an area of Washington County that is typified by glacial outwash sediments consisting of unsorted mixtures of clay, sand, gravel, and boulders. Beneath the sediments,

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To serve our customers and community more effectively than anyone else by treating our customers, co-workers and suppliers as we, personally, would like to be treated, and to make a difference in someone's life.

sedimentary bedrock units, predominantly limestone/dolomite underlined by sandstone and shale is found in the area.

Based on a review of USGS topographical maps of the area, the vicinity surrounding the subject property is relatively flat, with rolling hills, and with low lying areas with associated wetland/rivers. The property and STH 167 rides along an elevated flute of land that slopes off to the northwest and southeast. The subject property slopes off towards the Menomonee River a 1/3 of a mile to the southeast.

Washington County is characterized by two groundwater systems: a shallow “water-table” system, within the glacial deposits, and a deeper sandstone aquifer. The general direction of shallow groundwater flow in the vicinity of the subject property was not determined in the field as part of the recent Phase I or II Environmental Site Assessments. However, the depth to ground water based on adjoining site information is approximately 10 feet below grade. Shallow groundwater flow in glacial deposits typically mimics surface water drainage. Anticipated groundwater flow direction at the subject property is likely to occur towards southeast, towards the Menomonee River.

1.4 Wellhead Protection Area

The current Kwik Trip located at W188N10963 Maple Road is right on the outskirts of the 5-year travel time for the Graef Wellhead Protection area. Village Well #3 is located approximately 4,800 feet northeast and Village Wells #5 and #7 are located approximately 1.2 miles east/northeast from the site. The proposed new Kwik Trip parcel is diagonally across HWY 167 from the current location, which is still within the same Graef Wellhead Protection area. This new location is approximately 3,800 feet from Well #3 and 1.1 miles from Wells #5 and #7. See attached Wellhead Protection Area Map (Figure 3) for reference.

2.0 Conditional Use Permit Request

As specified in the Village of Germantown Wellhead Protection ordinance, all requests for a conditional use permit shall be submitted in writing to the Germantown Village Planning and Zoning Department, and shall include all of the following:

- (a) A site plan map with all building and structure footprints, driveways, sidewalks, parking lots, stormwater management structures, groundwater monitoring wells, and 2-foot ground elevation contours.
- (b) A business plan and/or other documentation which describes in detail the use, activities, and structures proposed.
- (c) An environmental assessment report prepared by a licensed environmental engineer which details the risk to, and potential impact of, the proposed use, activities, and structures on groundwater quality. In the event of a substitution or relocation of a pre-existing use under this section, the report shall address the ways that the substituted or relocated use will reduce the risk to groundwater compared to the pre-existing use.
- (d) An operational safety plan, which details the operational procedures for material processes and containment, best management practices, stormwater runoff management, and groundwater monitoring.
- (e) A contingency plan which addresses in detail the actions that will be taken should a contamination event caused by the proposed use, activities, or structures occur.

The following sections provide further details on these items.

3.0 Site Plan Map

Refer to attached civil plan sheet C100 (Site Keynote Plan) for the proposed Kwik Trip building footprint, driveways, sidewalks, parking lot area.

Plan sheet C200 (Grade Plan) details the proposed final ground elevation contours.

Plan sheet C300 (Storm Sewer Plan) details the stormwater management structures. Of note are the oil skimmer structures located prior to the on-site stormwater pond. Two of these structures are proposed since there are two outfall locations into the stormwater pond. These structures are designed to capture any surface fuel spills that enter the stormwater system. It acts as an oil-water separator and is able to contain approximately 100-200 gallons of product. Refer to attached plan sheet C501 (Site Plan Details) for a schematic of the storm sewer inlet with sump detail.

An on-site stormwater pond is also proposed for the new development. The pond not only provides suspended solids removal prior to discharge, but it also provides another location to detect and recover a large fuel spill. Having an onsite stormwater pond is more protective for the environment versus if the stormwater system is connected directly to the village mains underground where surface spills and discharges can go unnoticed.

Please note that installation of groundwater monitoring wells are not proposed during development. It is not common practice to install monitoring wells solely as a contingency when there has not been any signs of a petroleum release. Refer to later sections that further detail the petroleum system leak prevention and leak detection technologies which are state of the art, such that they diminish the potential for wellhead contamination.

4.0 Business Plan

Kwik Trip, Inc. is proposing the construction of a 11,120 square-foot convenience store with attached 1-bay carwash and an attached dumpster enclosure with fueling canopy and separate diesel fuel canopy. The proposed method of operation for this development will be consistent with that for our existing convenience stores within the area. The requested hours of operation will be 24 hours for all uses. The type of products that will be sold will be similar to that of our existing stores: gasoline, in line diesel, E-85, Unleaded 88, groceries, bakery and dairy, hot and cold food and beverages, tobacco products, off-sale alcohol products, lotto, convenience store merchandise, ice, and propane. The outside merchandising of products is being requested next to the store (ice and propane) and miscellaneous merchandising under the gas canopy. The proposed store is projected to have between 28-35 full and part time employees, with 2-8 on staff at any given time.

5.0 Environmental Assessment Report

Several improvements are planned for the new Kwik Trip fueling system to reduce the risk to groundwater compared to the pre-existing use. Kwik Trip in some areas exceeds state and federal guidelines for what is required to operate a retail gas operation with respect to monitoring fuel systems. Kwik Trip also has a documented spill response plan in place to handle any situation that may arise. Below are additional details on the primary environmental protection improvements.

5.1 Double-Wall Flexible Fuel Piping

The proposed new fuel system will utilize double-wall flexible fuel piping from the underground storage tanks to the fuel dispensers. Double-wall design allows for a means to contain a release from the primary pipe if it were to occur. If product would happen to be released from the primary pipe, it would travel through the outer secondary pipe and be contained in a liquid tight sump. Sumps are located at the submersible head on each tank and under each product dispenser. These sumps are designed to contain and alert the operator of a release. All sumps are also equipped with a liquid sensor, which alerts our coworkers and the 24/7 Kwik Trip Operation Support Center immediately of any liquid that has entered the sump. Kwik Trip has an in-house fuel service technician team who would then receive a work order to investigate the alarms and make immediate corrective action, if needed.

Current Kwik Trip fuel piping is double-wall fiberglass piping that was installed in 1995. Fiberglass piping comes in straight sections that have to be joined together by fittings to create bends or for long sections. These fittings and joints are much more susceptible to have leaks that can contribute to groundwater contamination versus the new flexible fuel piping systems. Existing joints are not located within a containment, whereas the new flexible piping would have no joints outside a containment structure. Additionally, double-wall fiberglass piping is susceptible on getting moisture or water within the annular space that can undergo freeze-thaw cycles and result in cracking. This is especially true in the Wisconsin climate.

Below is summary of advantages that new proposed flexible fuel piping has versus old fiberglass piping:

- Eliminates the need to hand-build joints in the field;
- No cutting, fitting and welding of underground fittings;
- Termination points can be contained safely inside containment sumps, no need to bury joints underground;
- Reduction in or elimination of potential leak points;
- No need to use adhesives or glue kits to connect pipe to fittings;
- Flexible piping can withstand freeze-thaw if moisture gets in annular space, and;
- Can be installed in any type of weather conditions.

5.2 Line Leak Detection

Not only will the new underground fuel lines be flexible double-wall piping, but they will also be equipped with electronic line leak detection (ELLD). This ELLD system is installed in the pipe run for each product dispensed and is designed to shut down flow to the dispenser if there is a pressure loss in the product pipe. An alert is then sent to the Kwik Trip 24-hr Operation Support team to send out a fuel technician to evaluate if there is an issue.

Current Kwik Trip fuel lines are not equipped with this type of precise leak detection.

5.3 Double-Wall Fiberglass Tanks

The proposed new underground fuel tanks work on the same premise as the double-wall piping. Tanks will be constructed as a double-wall fiberglass tank. There is a membrane between the two layers that allows for monitoring of liquid in the event it is released from the primary tank. This membrane space is called the interstitial space. Within the interstitial space is a riser pipe that allows the space to be continuously monitored with a liquid sensor. These sensors also alert our coworkers and the 24/7 Kwik Trip Operation Support Center immediately of any liquid that has entered this interstitial space. Kwik Trip has an in-house fuel service technician team who would then receive a work order to investigate the alarms and make immediate corrective action if needed. If product is found within the interstitial space, the tank will be shut down and fuel removed until a repair can be made.

Current Kwik Trip underground fuel tanks are double-wall fiberglass tanks installed in 1995. This older style fiberglass tank is not equipped with interstitial monitoring for leak detection. Rather, their means for leak detection is statistical inventory reconciliation (SIR). That leak detection method relies on comparing fuel sales to how much fuel is left in the underground tank to determine if there is unaccounted for fuel that may be due to a leak. This leak detection does not provide the immediate notification that the new proposed interstitial monitoring would provide. Leaks detected from SIR monitoring also comes after the fact and can be several days or even weeks after a leak has started.

5.4 Double-Wall Spill Buckets

The proposed new fuel system will also utilize double-wall spill buckets to further enhance spill prevention. A spill bucket is in place where the fuel delivery tanker connects to the underground fuel tank for filling. If any product is inadvertently spilled while connecting or disconnecting to the tank, it is captured by this spill bucket. These spill buckets can hold approximately 5-gallons of product. The spill bucket also has a secondary wall, or secondary containment, as another layer of protection if there is a crack in the primary spill bucket. There is a visual gauge that shows if any fuel is accumulating in this secondary containment.

Current Kwik Trip fills only have a single-wall spill bucket, which are much more susceptible to have leaks that go unnoticed.

6.0 Operational Safety Plan

Many items discussed in the above Environmental Assessment Report section are also applicable to this section on operational safety. The proposed new fuel system will have secondary containment present by utilizing double-wall flexible fuel piping, double-wall fiberglass tanks, and double-wall spill buckets. Additionally, liquid-tight containment sumps will be present beneath each fuel dispenser and where fuel piping comes out of the underground fuel tank (called the submersible turbine pump sump). All containment sumps are also equipped with a liquid sensor, which alerts our coworkers immediately of any liquid that has entered the sump.

Spill response best management practices are further outlined within the Spill Response Plan in the following Contingency Plan section.

Stormwater runoff management is previously discussed in Site Plan Map section. A highlight of that section are inclusion of an oil-skimmer structure that is capable of capturing a fuel spill prior to leaving the Kwik Trip property. Additionally, an on-site stormwater pond will be present to provide another location to detect and recover a large fuel spill.

As previously mentioned in the Site Plan Map section, installation of groundwater monitoring wells are not proposed during development. It is not common practice to install monitoring wells solely as a contingency when there has not been any signs of a petroleum release.

7.0 Contingency Plan

Kwik Trip has an established Spill Response Plan outlining how fuel spill situations are handled. The plan is included as a separate stand-alone document. Information contained in the plan describes response actions, identifies the chain of command, gives information on spill reporting requirements, and lists the companies and phone numbers of the people that can respond to a spill.

This spill response plan has proven to be effective over the years from a tanker accident down to a small spill. Kwik Trip has an internal call center (called Operation Support Center) that is staffed 24 hours a day, 365 days a year, to take calls from retail stores in the event of a spill. If a call comes in from a store, operations support staff gathers information about the spill, then they can determine the severity of the situation and contact the appropriate people or teams to respond. We have 24/7 on-call spill response vendors set up in all geographic locations that Kwik Trip has stores.

All Kwik Trip store locations are also equipped with the basic spill response material. Absorbent material packaged in 25 pound bags are kept at store level and can be ordered from our warehouse. Each store also has a 55 gallon drum for containerizing the absorbent material after the clean-up. A separate company is then contracted to pick up and properly disposed of the used absorbent material.

All Kwik Trip retail co-workers are also Class C certified, which means they have been training in basic understanding of gas equipment and operation, tank monitors and alarms, and spill response.

8.0 Conclusion

Based on information provided in this document, the proposed Kwik Trip relocation project will reduce the risk to groundwater compared to the pre-existing store location. The new location will utilize state of the art equipment to diminish the potential for wellhead contamination.

The pre-existing facility is also being relocated within the same Groundwater Protection Overlay District (Graef Wellhead Protection Area). It's being relocated approximately 1,000 feet northeast of the existing location. This new location is approximately 3,800 feet from Village of Germantown Well #3 and 1.1 miles from Wells #5 and #7, which also meets all separation distance requirements as set forth under subsection 17.40.09 of the Village of Germantown Wellhead Protection ordinance.

Prior to commencing operation, Kwik trip will obtain all applicable Federal, State, and Local approvals and permits to operate a retail fuel station/convenience store.

Once the new Kwik Trip location development is complete, the pre-existing store location will file a deed restriction against the property that prohibits future uses and/or facilities that require a conditional use permit under subsection 17.40.11 or are listed as prohibited use in subsection 17.40.11 of the Village of Germantown Wellhead Protection ordinance.

Lastly, once the new Kwik Trip is complete, the pre-existing location will have all fuel equipment removed to prevent the potential for any future groundwater contamination. This includes removal of the underground storage tanks and piping.

Please contact Kevin Nestingen at 608.793.6464 or knestingen@kwiktrip.com if you have questions or require further information on this Conditional Use Permit request.

Sincerely,

KWIK TRIP, INC.


Kevin D. Nestingen, PE
Environmental Compliance Manager
Wisconsin PE License #44284-6

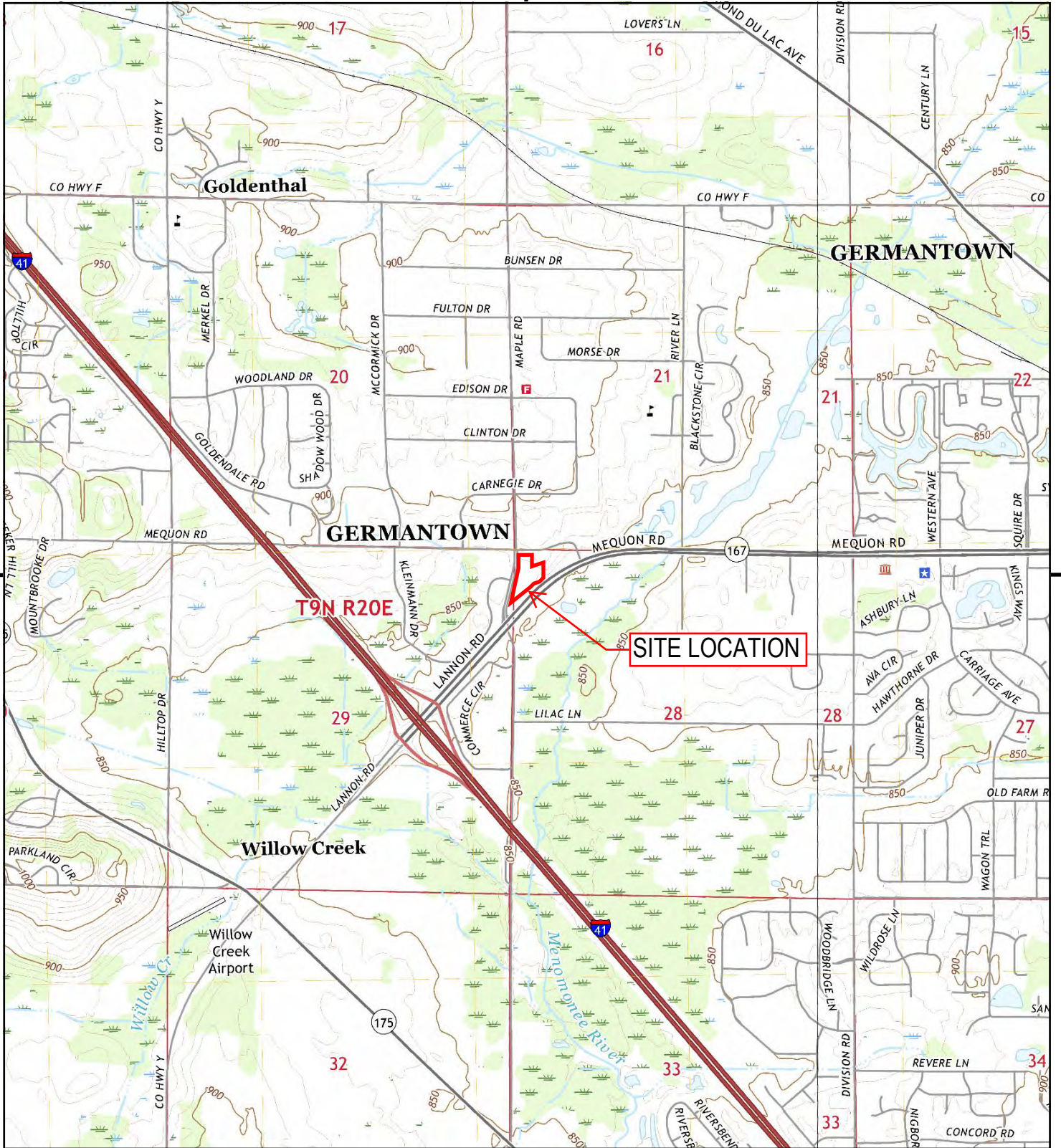


Attachments:

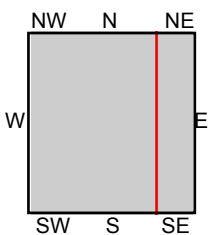
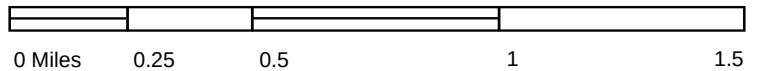
Figures

Spill Response Plan (stand-alone document)

Figures



This report includes information from the following map sheet(s).



TP, Sussex, 2022, 7.5-minute
SE, Menomonee Falls, 2022, 7.5-minute

FIGURE 1 - SITE LOCATION MAP
PROPOSED KWIK TRIP #631 RELOCATION
N112 W18741 MEQUON ROAD
GERMANTOWN, WISCONSIN





SITE LOCATION

**FIGURE 2 - 2020 AERIAL MAP
PROPOSED KWIK TRIP #631 RELOCATION
N112 W18741 MEQUON ROAD
GERMANTOWN, WISCONSIN**

INQUIRY #: 7646882.8

YEAR: 2020

1" = 500'



FIGURE 3

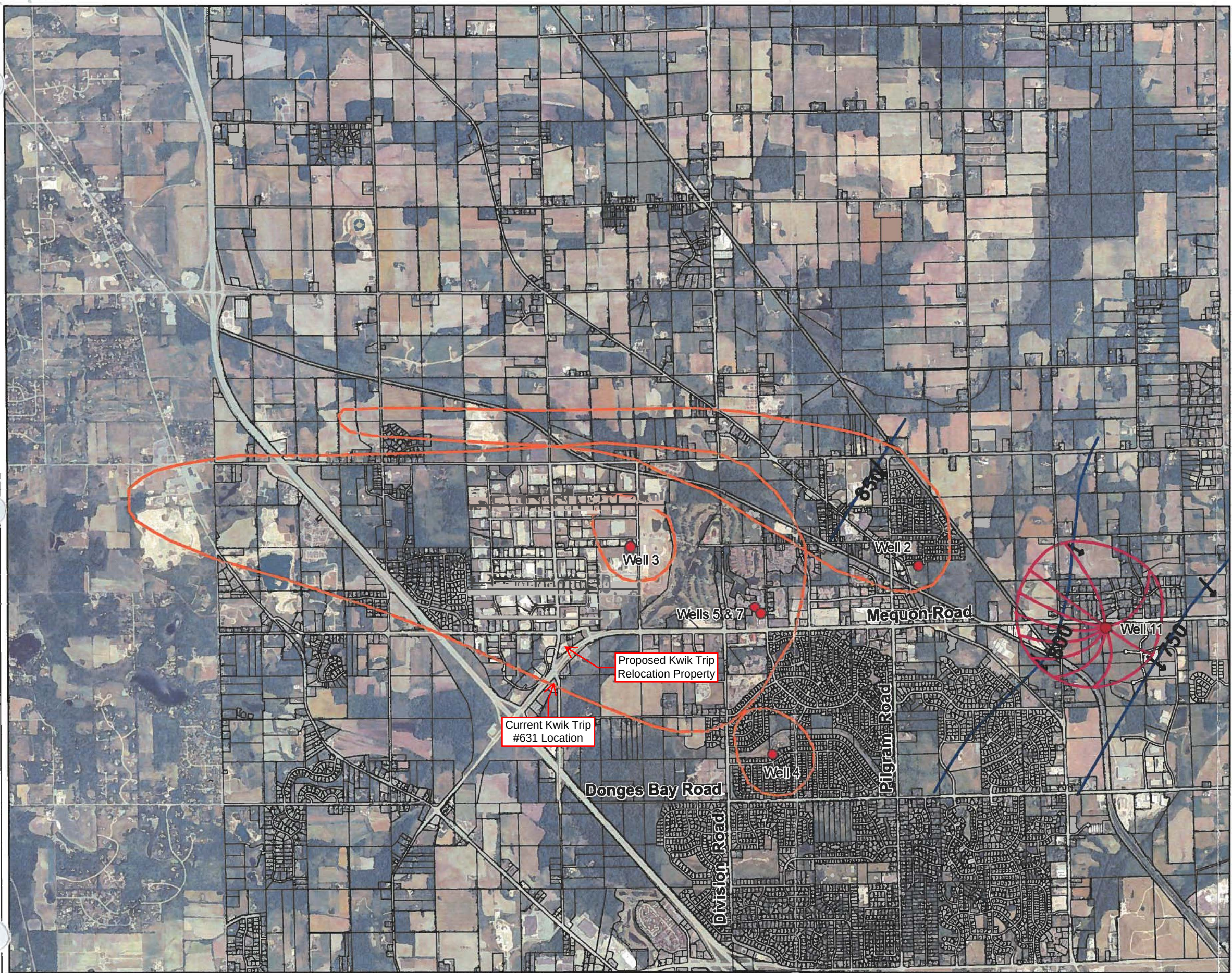
**Wellhead Protection Areas for
Germantown Well No. 11***

**Village of Germantown
Washington County, Wisconsin**

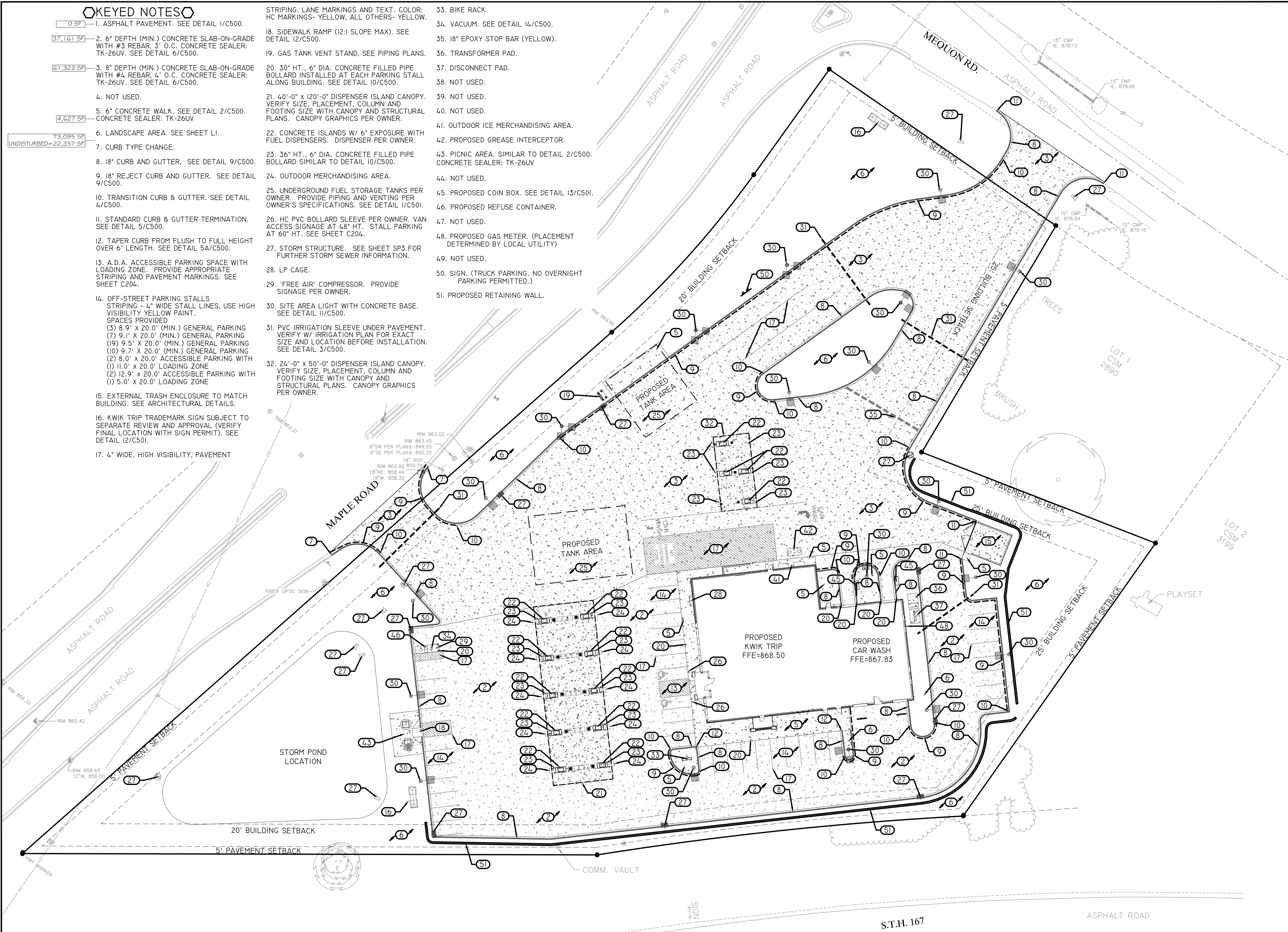
*WHPA for Well 11 delineated by
Ruekert-Mielke, 2010 in Amendment
No. 1 to Wellhead Protection Plan for
Municipal Well Nos. 2, 3, 3, 5, & 7
delineated by Graef, 2008

Legend

- Village Well Sites
- Direction of Groundwater Flow
- 800 Potentiometric Surface Elevation of Sandstone Aquifer (Static Condition)
- Wellhead Protection Area Well 11 (Based on 5-Year TOT)
- Graef Wellhead Protection Areas Wells 2-5 & 7 (Based on 5-Year TOT)



DRAWING FILE: Q:\11700-11799\11757 - Kwik Trip #631 - GERMANTOWN\DRAWING\PLANS\11757-C100-SITE KEYNOTE PLAN.DWG LAYOUT: C100
PLOTTED: OCT 08, 2024 - 3:30PM PLOTTED BY: TODDW



KEYED NOTES

- 0.5' 1. ASPHALT PAVEMENT. SEE DETAIL 1/C500.
- 37.161 5' 2. 6" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #3 REBAR. 3" O.C. CONCRETE SEALER: TK-26UV. SEE DETAIL 6/C500.
- 61.322 5' 3. 8" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #4 REBAR. 4" O.C. CONCRETE SEALER: TK-26UV. SEE DETAIL 6/C500.
4. NOT USED.
- 4.627 5' 5. 6" CONCRETE WALK. SEE DETAIL 2/C500. CONCRETE SEALER: TK-26UV
- 73.095 5' 6. LANDSCAPE AREA. SEE SHEET L1.
- UNDISTURBED=22.357 5' 7. CURB TYPE CHANGE.
8. 18" CURB AND GUTTER. SEE DETAIL 9/C500.
9. 18" REJECT CURB AND GUTTER. SEE DETAIL 9/C500.
10. TRANSITION CURB & GUTTER. SEE DETAIL 4/C500.
11. STANDARD CURB & GUTTER TERMINATION. SEE DETAIL 5/C500.
12. TAPER CURB FROM FLUSH TO FULL HEIGHT OVER 6' LENGTH. SEE DETAIL 5A/C500.
13. A.D.A. ACCESSIBLE PARKING SPACE WITH LOADING ZONE. PROVIDE APPROPRIATE STRIPING AND PAVEMENT MARKINGS. SEE SHEET C204.
14. OFF-STREET PARKING STALLS. STRIPING - 4" WIDE STALL LINES. USE HIGH VISIBILITY YELLOW PAINT. SPACES PROVIDED
(3) 8.9' x 20.0' (MIN.) GENERAL PARKING
(7) 9.1' x 20.0' (MIN.) GENERAL PARKING
(9) 9.5' x 20.0' (MIN.) GENERAL PARKING
(10) 9.7' x 20.0' (MIN.) GENERAL PARKING
(2) 8.0' x 20.0' ACCESSIBLE PARKING WITH
(1) 11.0' x 20.0' LOADING ZONE
(2) 12.9' x 20.0' ACCESSIBLE PARKING WITH
(1) 5.0' x 20.0' LOADING ZONE
15. EXTERNAL TRASH ENCLOSURE TO MATCH BUILDING. SEE ARCHITECTURAL DETAILS.
16. KWIK TRIP TRADEMARK SIGN SUBJECT TO SEPARATE REVIEW AND APPROVAL (VERIFY FINAL LOCATION WITH SIGN PERMIT). SEE DETAIL 12/C501.
17. 4" WIDE, HIGH VISIBILITY, PAVEMENT
18. SIDEWALK RAMP (12:1 SLOPE MAX). SEE DETAIL 12/C500.
19. GAS TANK VENT STAND. SEE PIPING PLANS.
20. 30" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD INSTALLED AT EACH PARKING STALL ALONG BUILDING. SEE DETAIL 10/C500.
21. 40'-0" x 120'-0" DISPENSER ISLAND CANOPY. VERIFY SIZE, PLACEMENT, COLUMN AND FOOTING SIZE WITH CANOPY AND STRUCTURAL PLANS. CANOPY GRAPHICS PER OWNER.
22. CONCRETE ISLANDS W/ 6" EXPOSURE WITH FUEL DISPENSERS. DISPENSER PER OWNER.
23. 36" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD SIMILAR TO DETAIL 10/C500.
24. OUTDOOR MERCHANDISING AREA.
25. UNDERGROUND FUEL STORAGE TANKS PER OWNER. PROVIDE PIPING AND VENTING PER OWNER'S SPECIFICATIONS. SEE DETAIL 1/C501.
26. HC PVC BOLLARD SLEEVE PER OWNER. VAN ACCESS SIGNAGE AT 48" HT. STALL PARKING AT 60" HT. SEE SHEET C204.
27. STORM STRUCTURE. SEE SHEET SP3 FOR FURTHER STORM SEWER INFORMATION.
28. LP CAGE.
29. 'FREE AIR' COMPRESSOR. PROVIDE SIGNAGE PER OWNER.
30. SITE AREA LIGHT WITH CONCRETE BASE. SEE DETAIL 11/C500.
31. PVC IRRIGATION SLEEVE UNDER PAVEMENT. VERIFY W/ IRRIGATION PLAN FOR EXACT SIZE AND LOCATION BEFORE INSTALLATION. SEE DETAIL 3/C500.
32. 24'-0" x 50'-0" DISPENSER ISLAND CANOPY. VERIFY SIZE, PLACEMENT, COLUMN AND FOOTING SIZE WITH CANOPY AND STRUCTURAL PLANS. CANOPY GRAPHICS PER OWNER.
33. BIKE RACK.
34. VACUUM. SEE DETAIL 14/C500.
35. 18" EPOXY STOP BAR (YELLOW).
36. TRANSFORMER PAD.
37. DISCONNECT PAD.
38. NOT USED.
39. NOT USED.
40. NOT USED.
41. OUTDOOR ICE MERCHANDISING AREA.
42. PROPOSED GREASE INTERCEPTOR.
43. PICNIC AREA. SIMILAR TO DETAIL 2/C500. CONCRETE SEALER: TK-26UV
44. NOT USED.
45. PROPOSED COIN BOX. SEE DETAIL 13/C501.
46. PROPOSED REFUSE CONTAINER.
47. NOT USED.
48. PROPOSED GAS METER. (PLACEMENT DETERMINED BY LOCAL UTILITY)
49. NOT USED.
50. SIGN. (TRUCK PARKING. NO OVERNIGHT PARKING PERMITTED.)
51. PROPOSED RETAINING WALL.

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TRIP

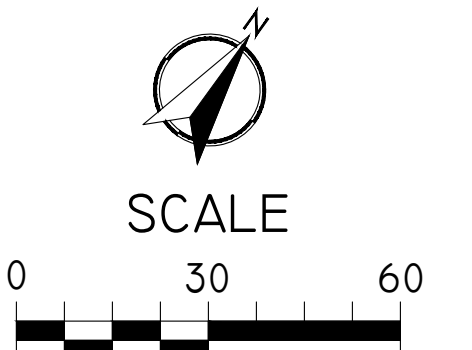
STORES

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STAR

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KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, Inc.
4080 N. 20TH AVENUE
WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



SITE KEYNOTE PLAN

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

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DRAWN BY: NAP
SCALE: GRAPHIC
PROJ. NO.: 11757
DATE: 10/09/24 - REVIEW DOCUMENTS
SHEET: C100

NOTE: CONTRACTOR TO OBTAIN RIGHT-OF-WAY EXCAVATION PERMIT PRIOR TO BEGINNING SITE WORK.

CALL DIGGERS HOTLINE @ 1-800-242-8511 AT LEAST 3 WORKING DAYS PRIOR TO EXCAVATING.

CONSTRUCTION NOTE:

COORDINATE WITH OWNER FOR POSSIBLE CONSTRUCTION FENCING AND GATE LOCATIONS AND APPROPRIATE SIGNAGE INSTALLATION.

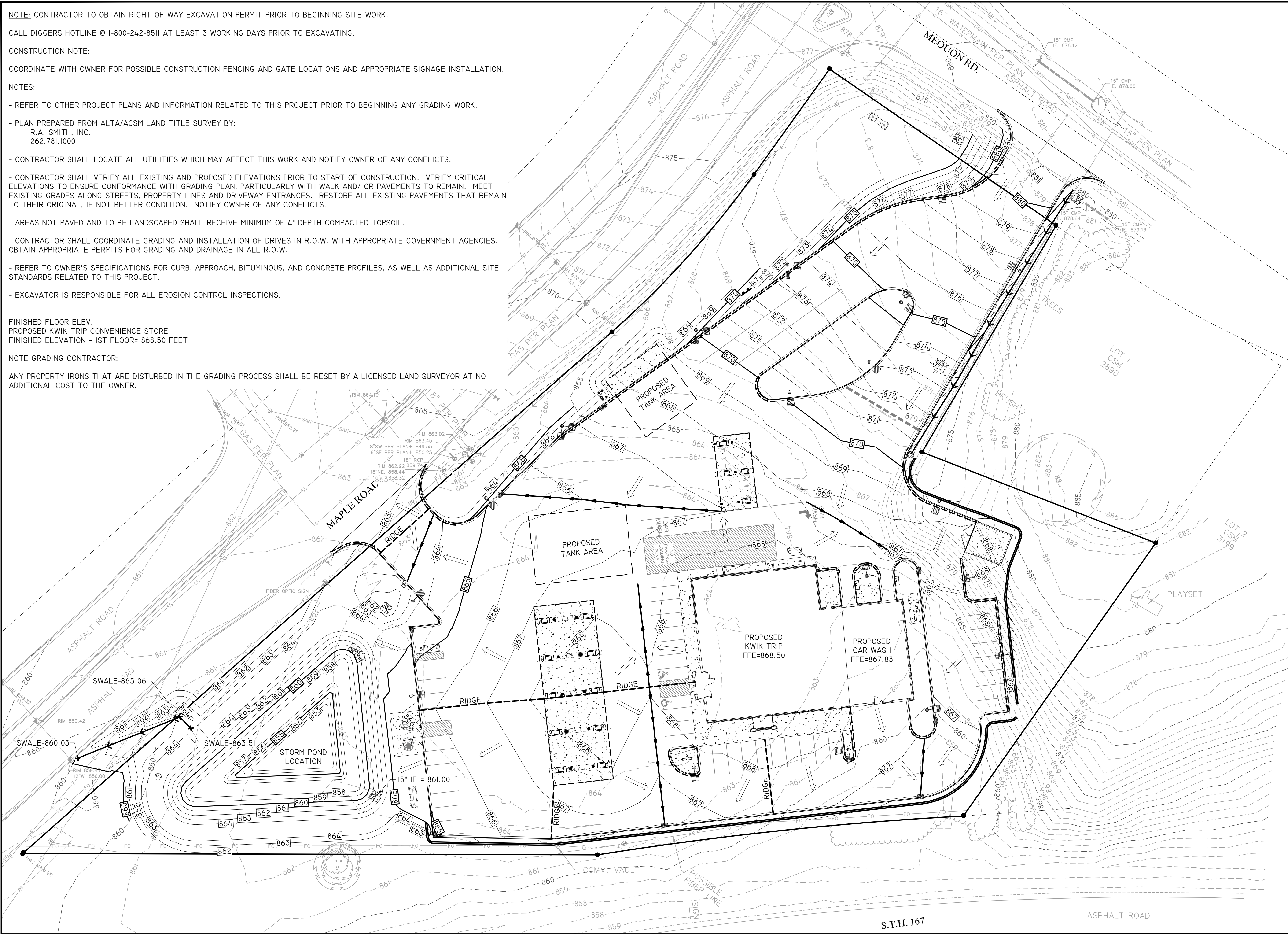
NOTES:

- REFER TO OTHER PROJECT PLANS AND INFORMATION RELATED TO THIS PROJECT PRIOR TO BEGINNING ANY GRADING WORK.
- PLAN PREPARED FROM ALTA/ACSM LAND TITLE SURVEY BY:
R.A. SMITH, INC.
262.781.1000
- CONTRACTOR SHALL LOCATE ALL UTILITIES WHICH MAY AFFECT THIS WORK AND NOTIFY OWNER OF ANY CONFLICTS.
- CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED ELEVATIONS PRIOR TO START OF CONSTRUCTION. VERIFY CRITICAL ELEVATIONS TO ENSURE CONFORMANCE WITH GRADING PLAN, PARTICULARLY WITH WALK AND/ OR PAVEMENTS TO REMAIN. MEET EXISTING GRADES ALONG STREETS, PROPERTY LINES AND DRIVEWAY ENTRANCES. RESTORE ALL EXISTING PAVEMENTS THAT REMAIN TO THEIR ORIGINAL, IF NOT BETTER CONDITION. NOTIFY OWNER OF ANY CONFLICTS.
- AREAS NOT PAVED AND TO BE LANDSCAPED SHALL RECEIVE MINIMUM OF 4" DEPTH COMPACTED TOPSOIL.
- CONTRACTOR SHALL COORDINATE GRADING AND INSTALLATION OF DRIVES IN R.O.W. WITH APPROPRIATE GOVERNMENT AGENCIES. OBTAIN APPROPRIATE PERMITS FOR GRADING AND DRAINAGE IN ALL R.O.W.
- REFER TO OWNER'S SPECIFICATIONS FOR CURB, APPROACH, BITUMINOUS, AND CONCRETE PROFILES, AS WELL AS ADDITIONAL SITE STANDARDS RELATED TO THIS PROJECT.
- EXCAVATOR IS RESPONSIBLE FOR ALL EROSION CONTROL INSPECTIONS.

FINISHED FLOOR ELEV.
PROPOSED KWIK TRIP CONVENIENCE STORE
FINISHED ELEVATION - 1ST FLOOR= 868.50 FEET

NOTE GRADING CONTRACTOR:

ANY PROPERTY IRONS THAT ARE DISTURBED IN THE GRADING PROCESS SHALL BE RESET BY A LICENSED LAND SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.



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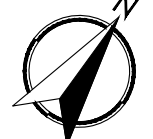
STORES

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STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING
REI Engineering, Inc.
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WAUSAU, WISCONSIN 54401
PHONE: 715.675.9784 FAX: 715.675.4060
EMAIL: MAIL@REIENGINEERING.COM



SCALE

0 30 60

GRADING PLAN

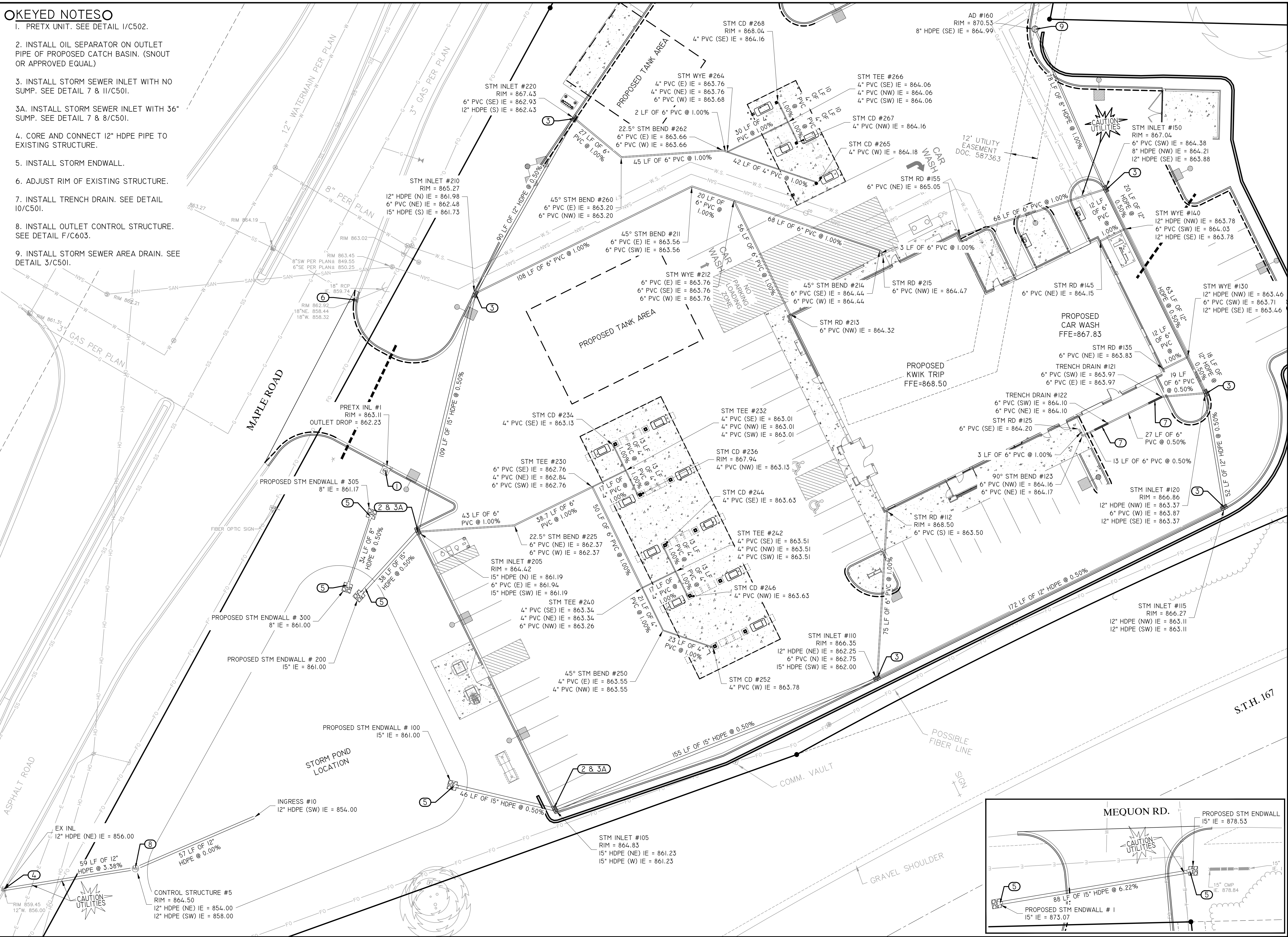
CONVENIENCE STORE #631

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OKEYED NOTES

1. PRETX UNIT. SEE DETAIL 1/C502.
2. INSTALL OIL SEPARATOR ON OUTLET PIPE OF PROPOSED CATCH BASIN. (SNOUT OR APPROVED EQUAL)
3. INSTALL STORM SEWER INLET WITH NO SUMP. SEE DETAIL 7 & 11/C501.
- 3A. INSTALL STORM SEWER INLET WITH 36" SUMP. SEE DETAIL 7 & 8/C501.
4. CORE AND CONNECT 12" HDPE PIPE TO EXISTING STRUCTURE.
5. INSTALL STORM ENDWALL.
6. ADJUST RIM OF EXISTING STRUCTURE.
7. INSTALL TRENCH DRAIN. SEE DETAIL 10/C501.
8. INSTALL OUTLET CONTROL STRUCTURE. SEE DETAIL F/C603.
9. INSTALL STORM SEWER AREA DRAIN. SEE DETAIL 3/C501.



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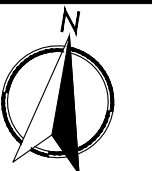
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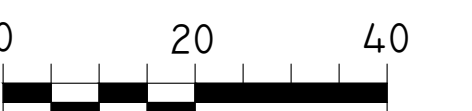
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P.O. BOX 2107
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LA CROSSE, WI 54602-2107
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CIVIL & ENVIRONMENTAL
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WAUSAU, WISCONSIN 54401
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EMAIL: MAIL@REIENGINEERING.COM



SCALE



STORM SEWER PLAN

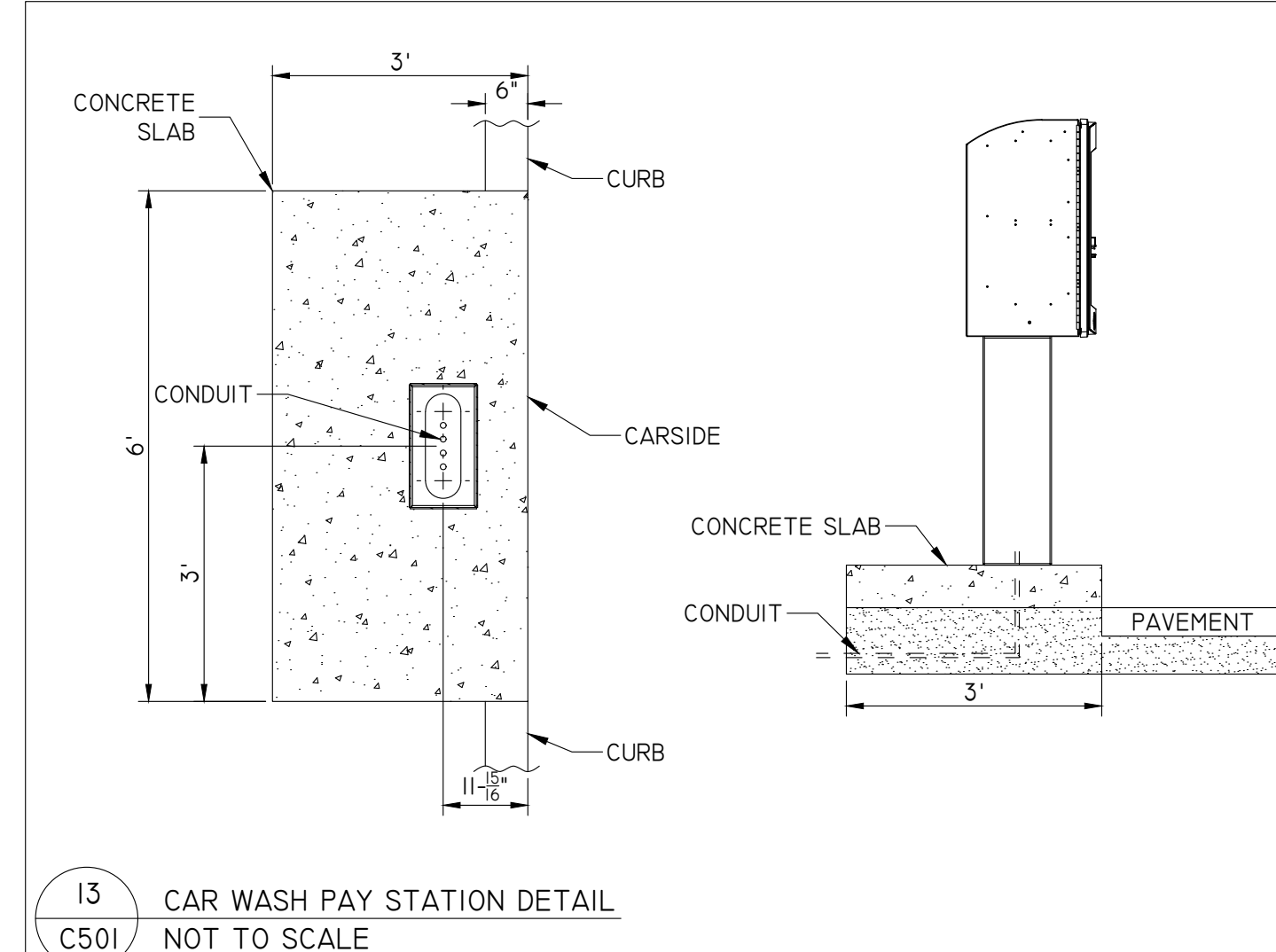
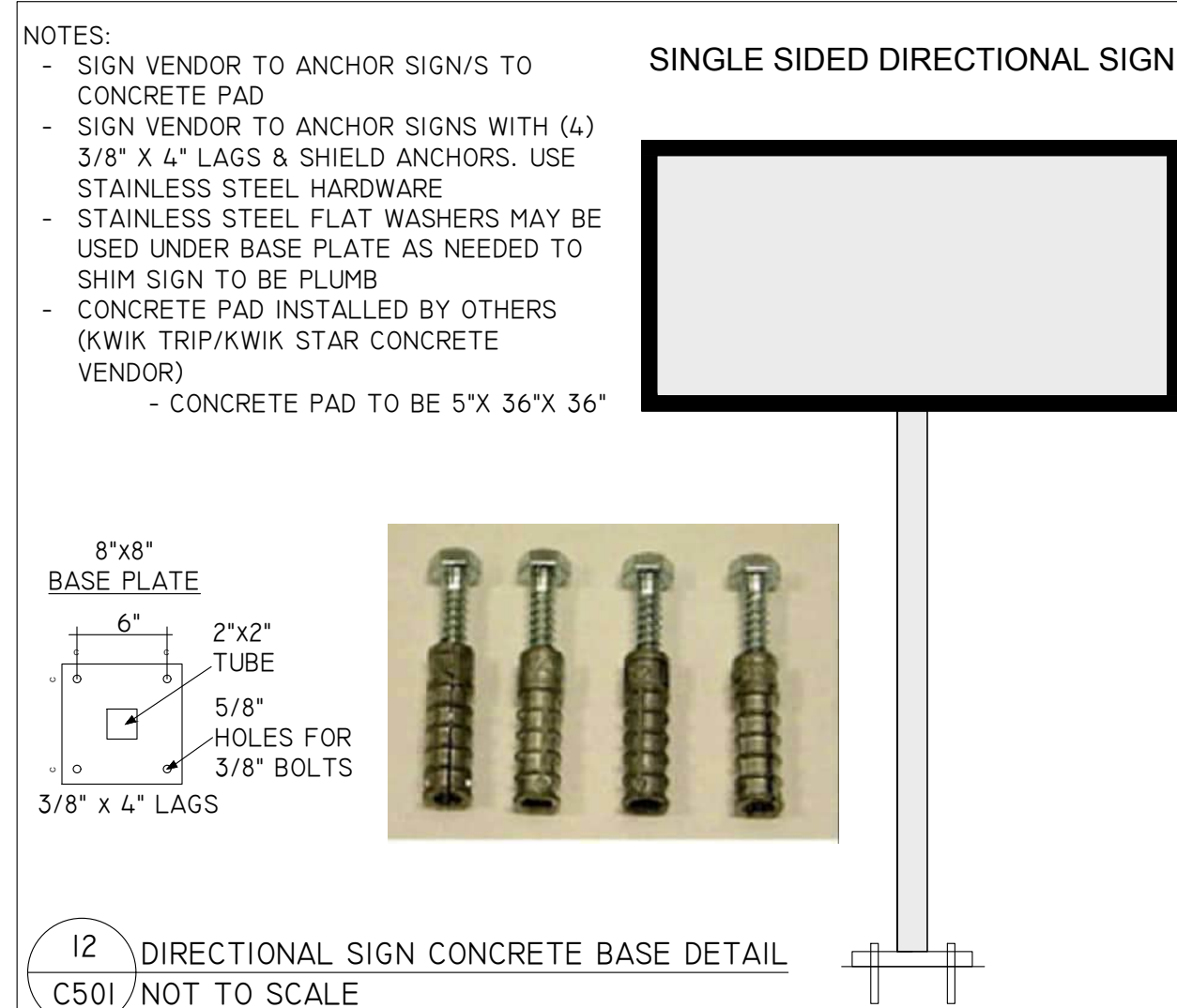
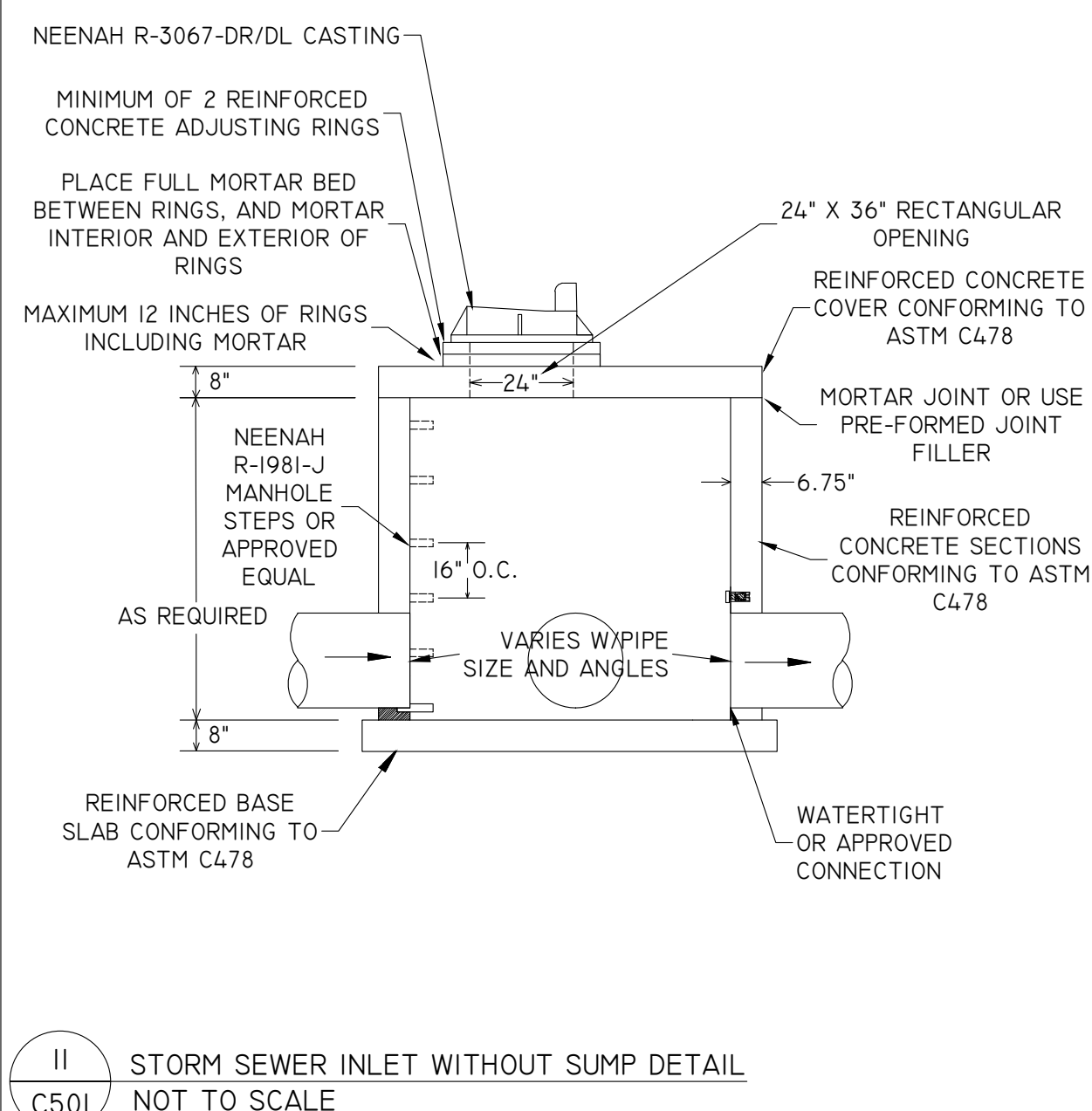
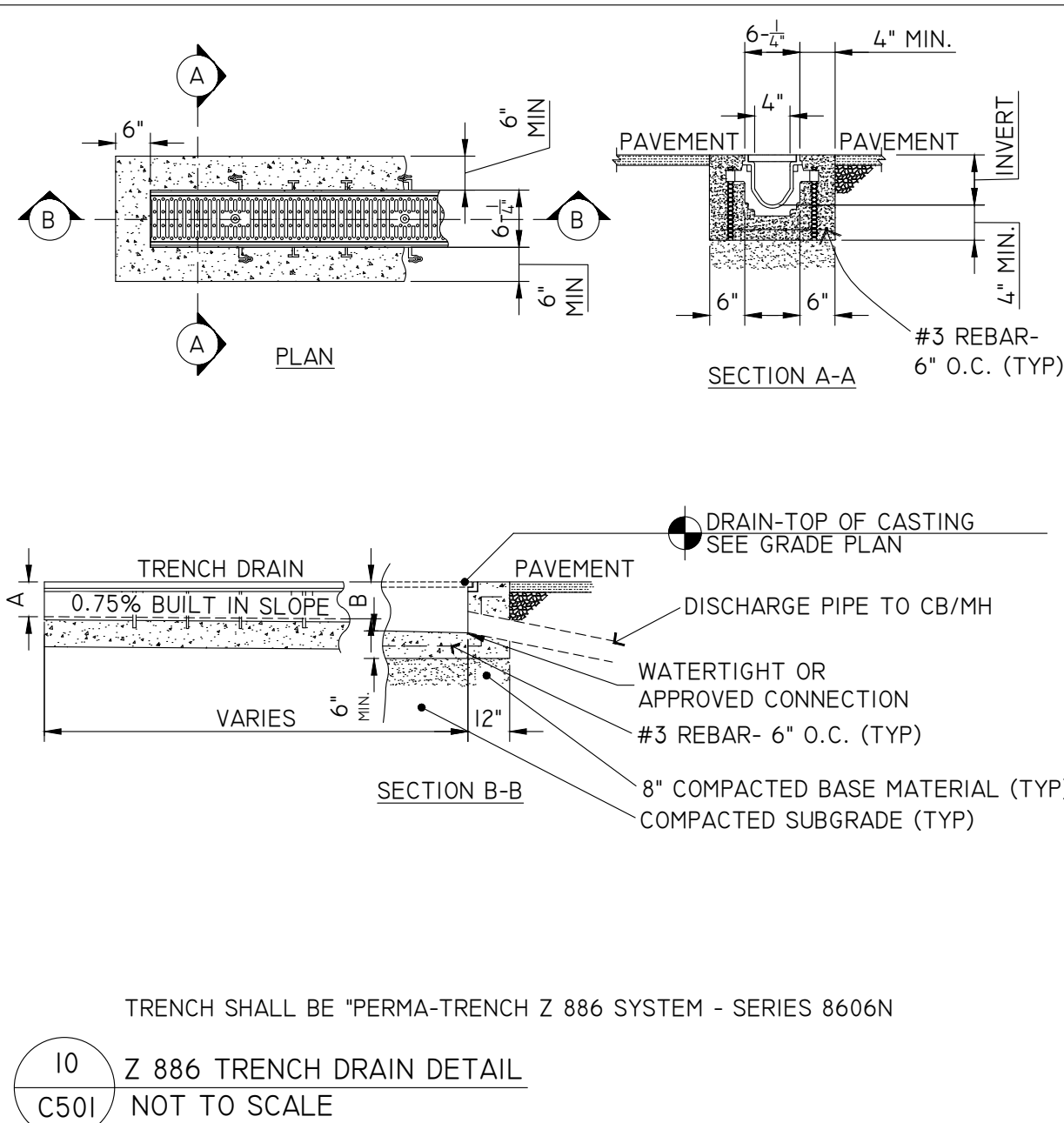
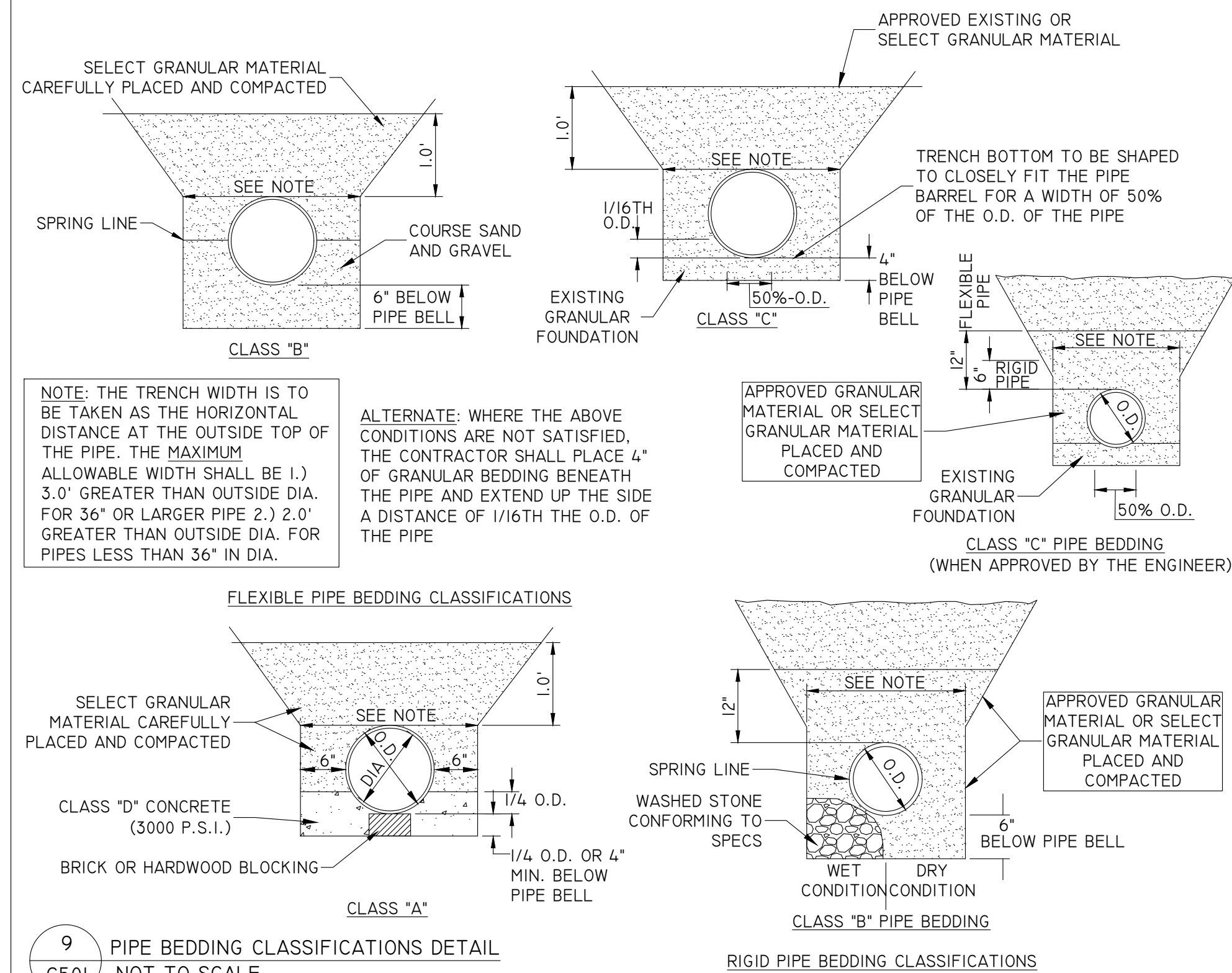
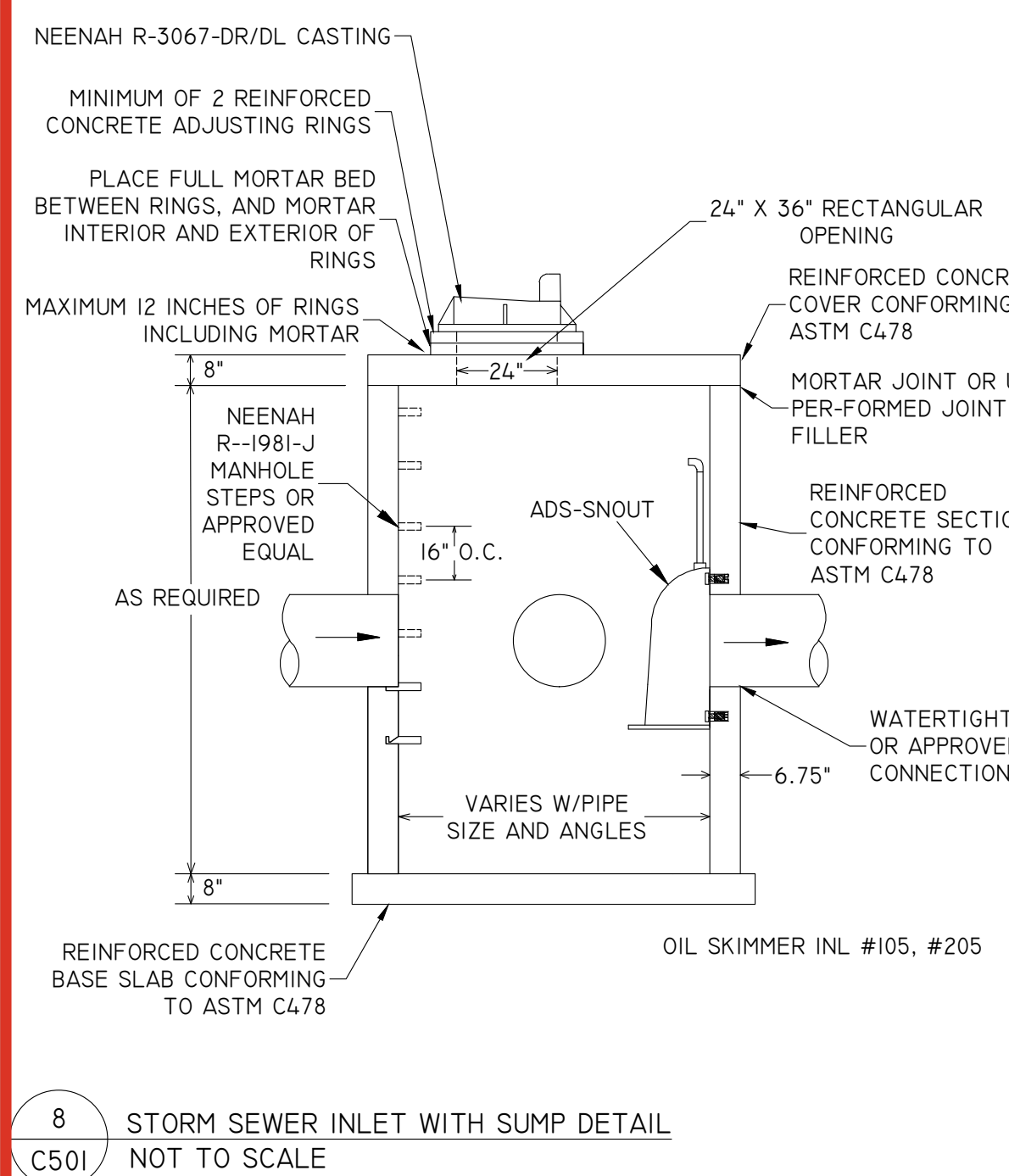
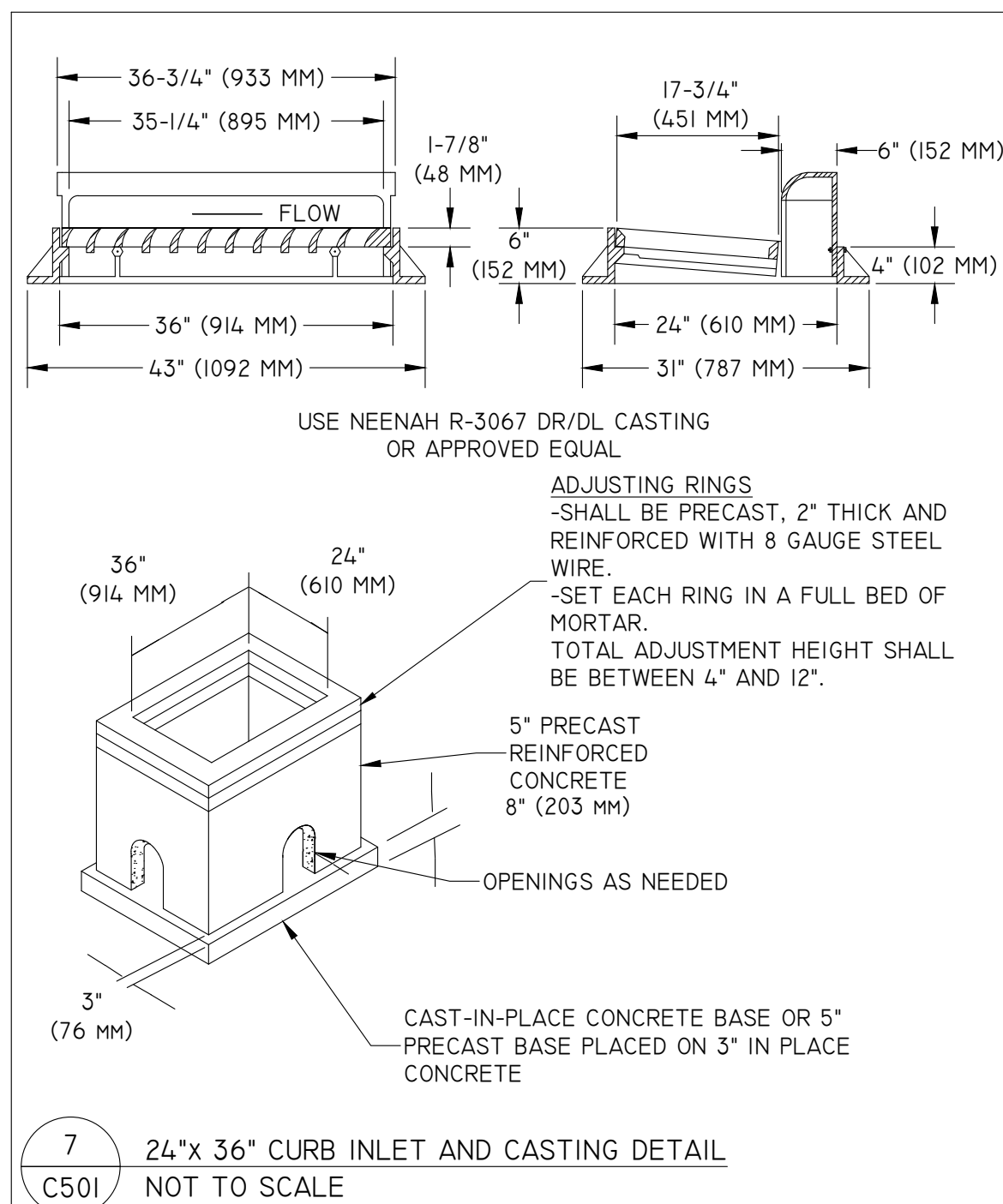
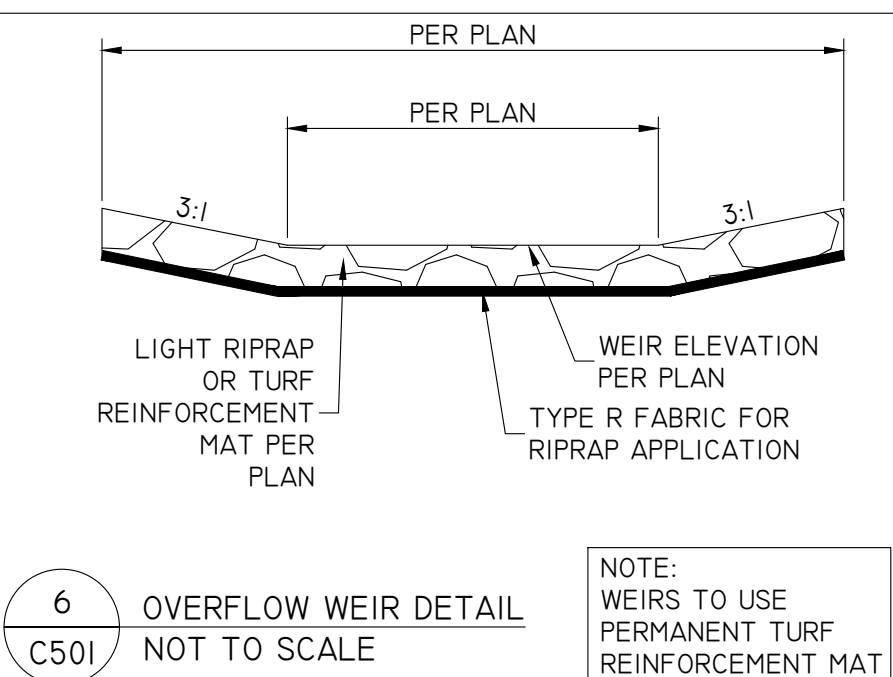
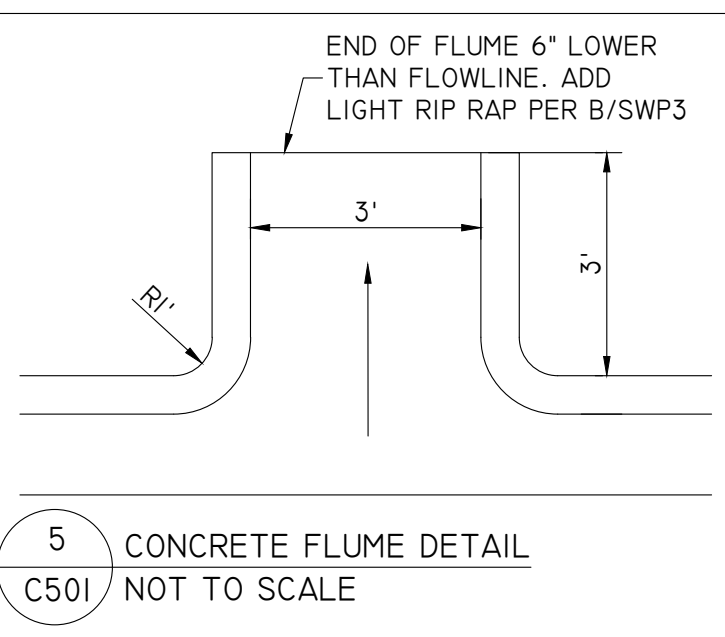
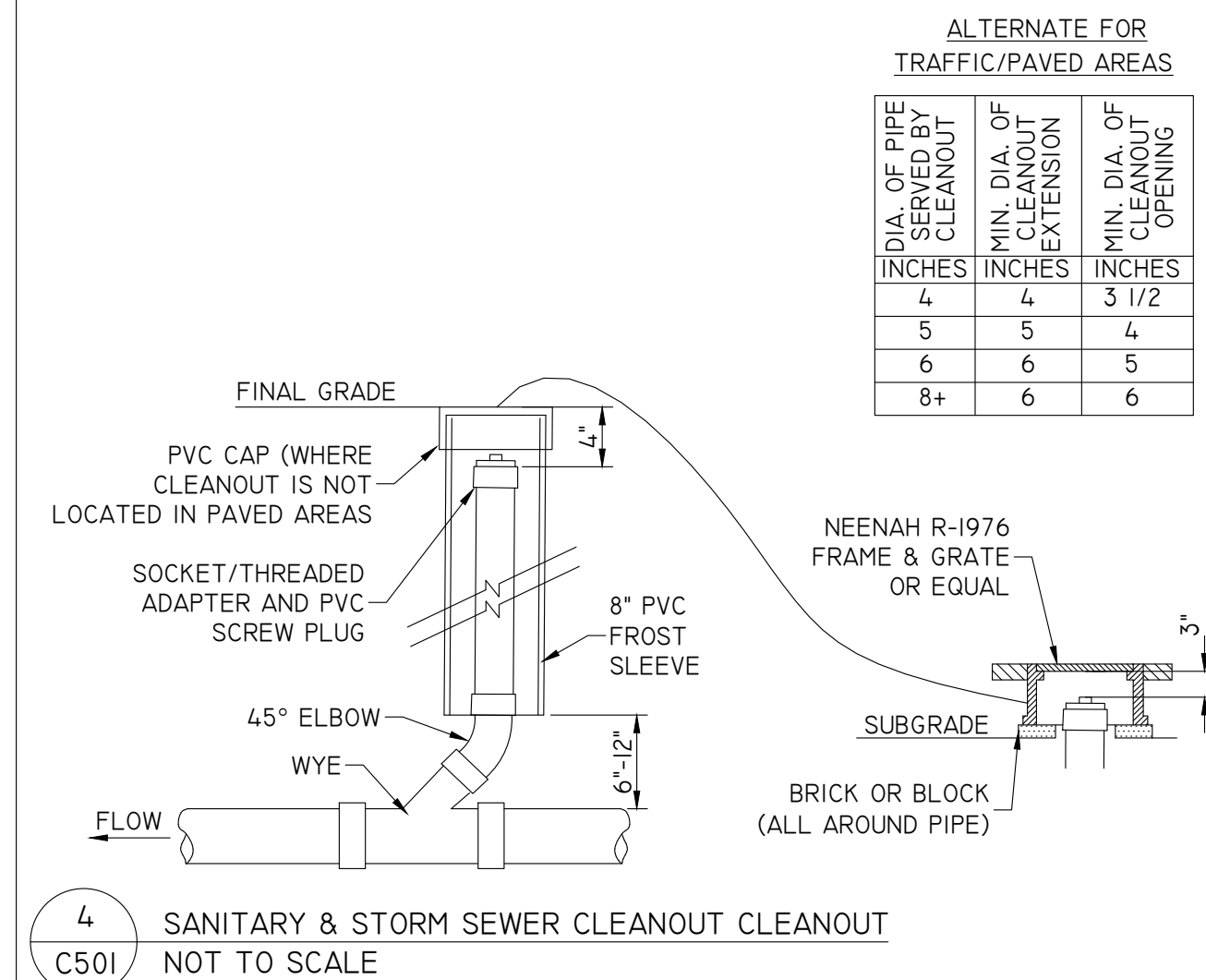
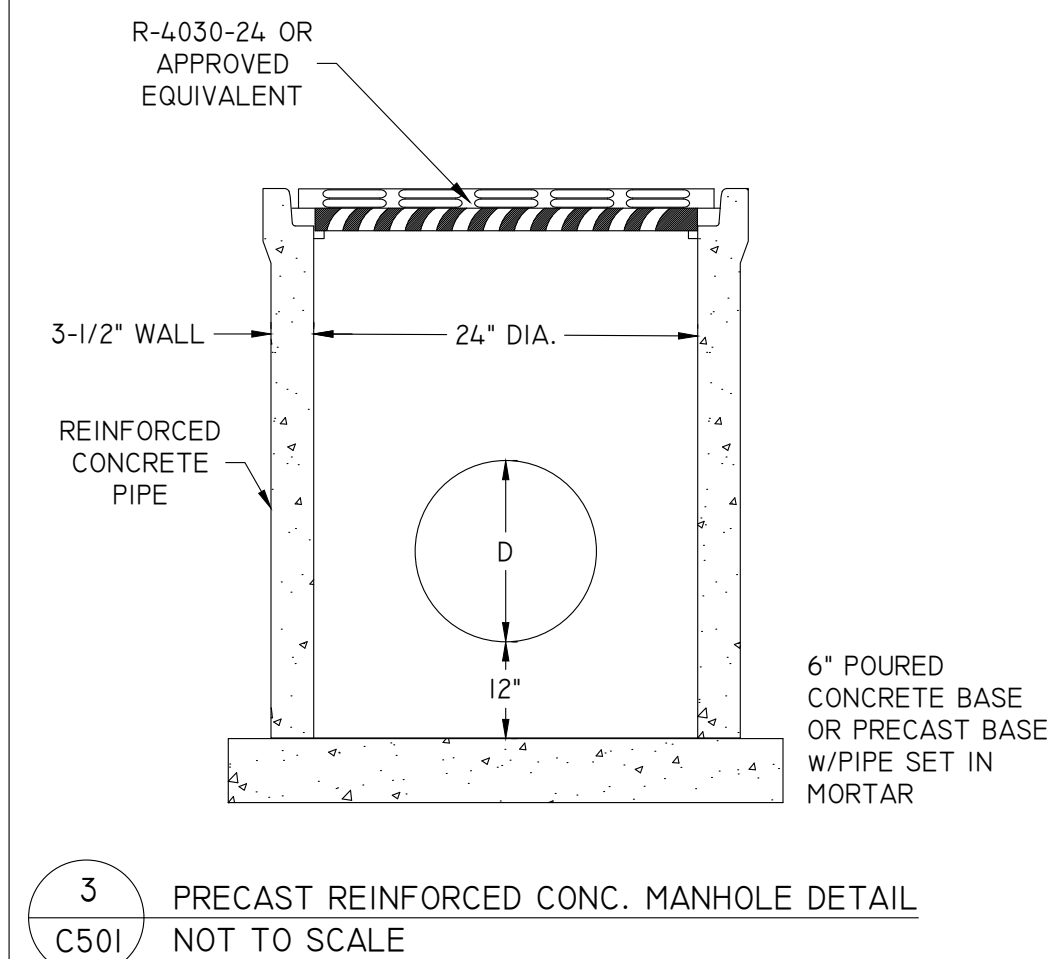
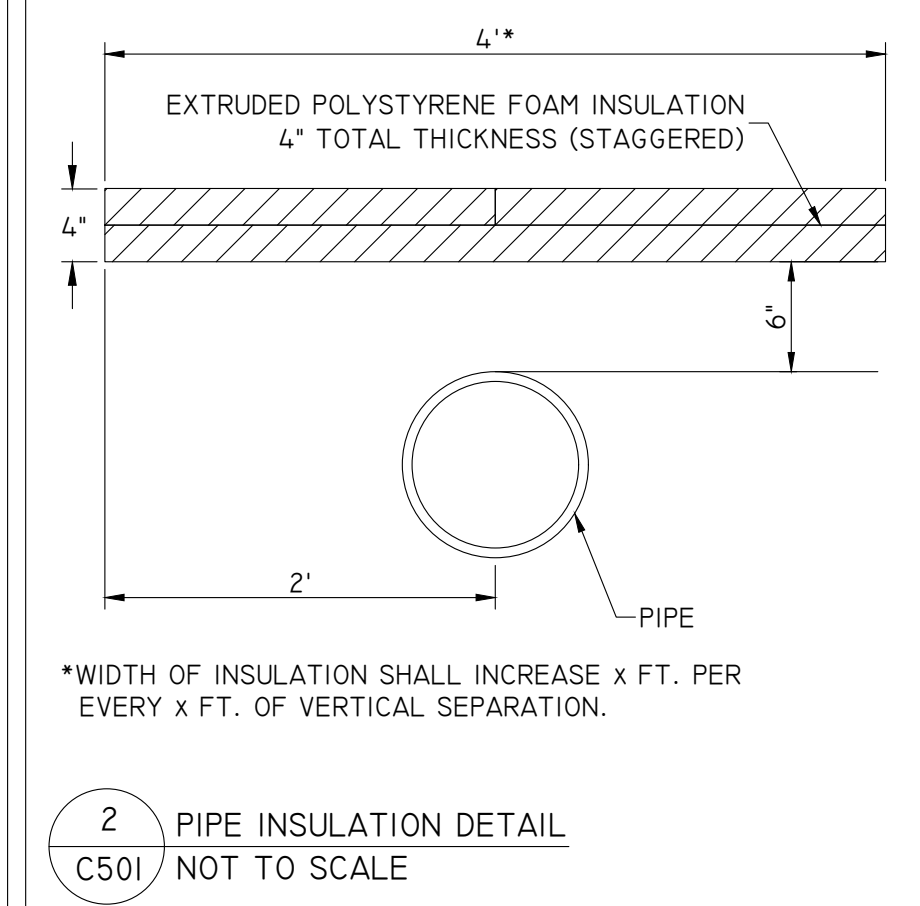
CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
		



 STORAGE TANKS COMPLEX DETAIL
 NOT TO SCALE



**KWIK
TRIP™**

STORES

The Kwik Star logo, featuring the word "Kwik" in a bold, italicized sans-serif font above the word "Star" in a similar font, with a five-pointed star replacing the letter "a". A small "TM" trademark symbol is located to the right of the logo.

STORES

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960



NO SCALE

SITE PLAN DETAILS

CONVENIENCE STORE #631

STH 167 & MAPLE ROAD
GERMANTOWN, WI

#	DATE	DESCRIPTION
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DRAWN BY NAD

SCALE NOT TO SCALE

PROJ. NO. 11757

DATE 10/09/24 - REVIEW DOCUMENTS

SHEET C501

Environmental Standard Operating Procedure (SOP) Spill Response Plan



Rev. 10 (Sep. 12, 24



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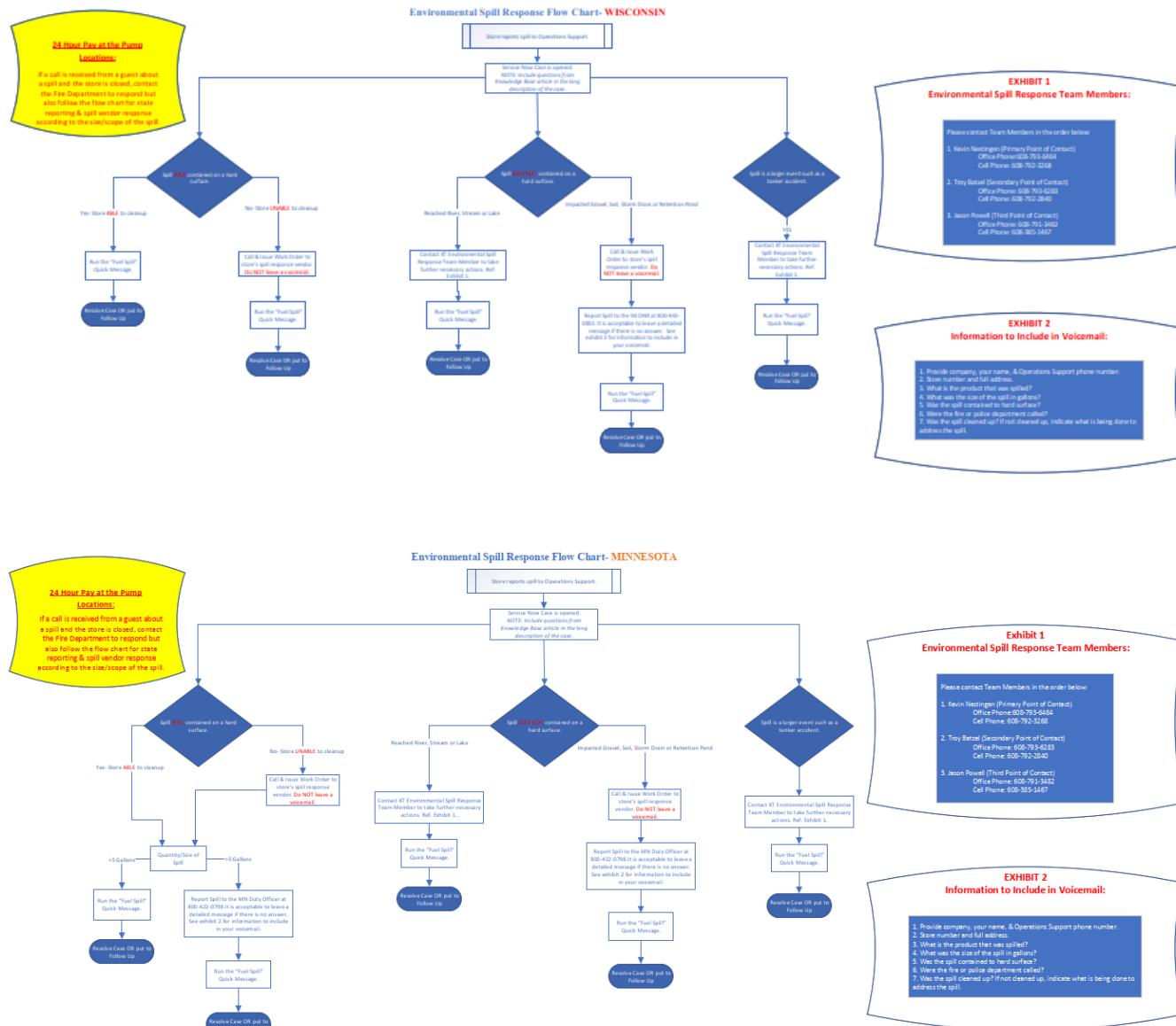
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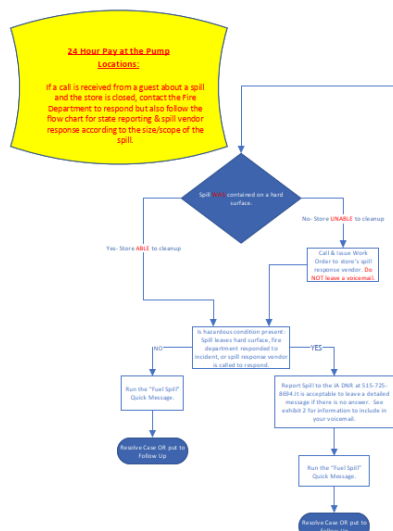
1.0 Purpose

The purpose of the Spill Response Plan is to comply with Minnesota State Statutes 2002 Chapters 115E.04 and 115E.045. It also is to be utilized as a tool for Kwik Trip in having a documented procedure on how to respond to a spill situation. The information contained in this booklet describes response actions, identifies the chain of command, gives information on spill reporting requirements, and lists the companies and phone numbers of the people that can respond to a spill.

Chapter 115E of Minnesota Rules describes the requirements for what is to be included in the spill response plans. A copy of Chapter 115E.02, 115E.03, 115E.04 and 115E.045 are included in Section 10.2 in this booklet.

2.0 Spill Response Flow Chart by State





Environmental Spill Response Flow Chart-IOWA

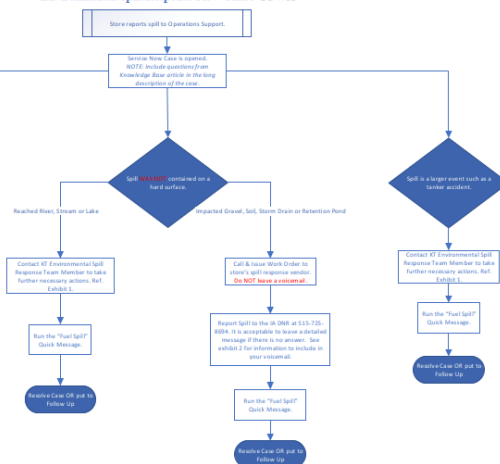


EXHIBIT 1 Environmental Spill Response Team Members:

Please contact Team Members in the order below:

1. Kevin Neering (Primary Point of Contact)
Office Phone: 608-793-5686
Cell Phone: 608-792-5288
2. Troy Bessel (Secondary Point of Contact)
Office Phone: 608-793-5433
Cell Phone: 608-792-2840
3. Jason Powell (Third Point of Contact)
Office Phone: 608-793-3482
Cell Phone: 608-305-3487

EXHIBIT 2 Information to Include in Voicemail:

1. Provide company, your name, & Operations Support phone number.
2. Store number and full address.
3. What is the product that was spilled?
4. What was the size of the spill in gallons?
5. Was the spill contained to hard surface?
6. Were the fire or police departments called?
7. Was the spill cleaned up? If not cleaned up, indicate what is being done to address the spill.



Environmental Spill Response Flow Chart-ILLINOIS

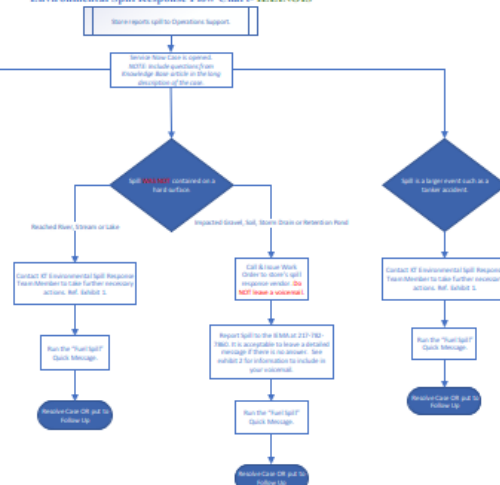


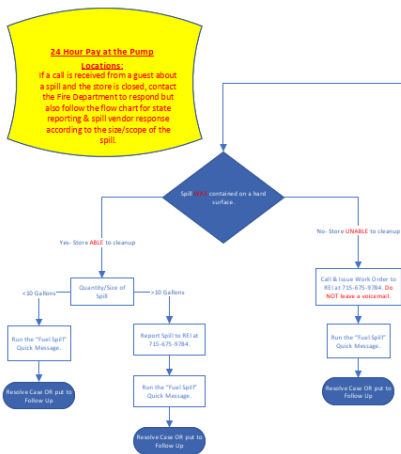
EXHIBIT 1 Environmental Spill Response Team Members:

Please contact Team Members in the order below:

1. Kevin Neering (Primary Point of Contact)
Office Phone: 608-793-5686
Cell Phone: 608-792-5288
2. Troy Bessel (Secondary Point of Contact)
Office Phone: 608-793-5433
Cell Phone: 608-792-2840
3. Jason Powell (Third Point of Contact)
Office Phone: 608-793-3482
Cell Phone: 608-305-3487

EXHIBIT 2 Information to Include in Voicemail:

1. Provide company, your name, & Operations Support phone number.
2. Store number and full address.
3. What is the product that was spilled?
4. What was the size of the spill in gallons?
5. Was the spill contained to hard surface?
6. Were the fire or police departments called?
7. Was the spill cleaned up? If not cleaned up, indicate what is being done to address the spill.



Environmental Spill Response Flow Chart- MICHIGAN

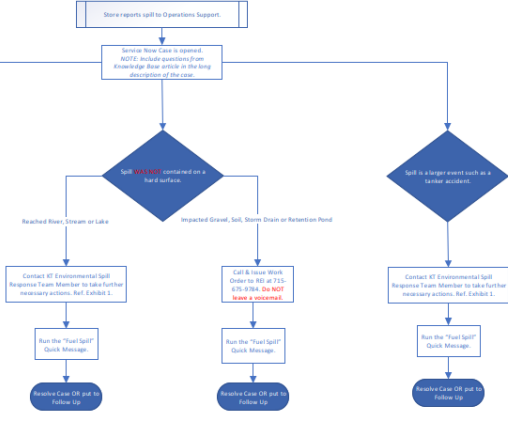


EXHIBIT 1
Environmental Spill Response Team Members:

Please contact Team Members in the order below:

1. Kevin Nestingen (Primary Point of Contact)
Office Phone: 608-793-6464
Cell Phone: 608-792-5268
2. Troy Betzel (Secondary Point of Contact)
Office Phone: 608-793-6283
Cell Phone: 608-792-5242
3. Jason Powell (Third Point of Contact)
Office Phone: 608-793-3482
Cell Phone: 608-355-5467

EXHIBIT 2
Information to Include in Voicemail:

1. Provide company, your name, & Operations Support phone number.
2. Store number and full address.
3. What is the product that was spilled?
4. What was the size of the spill in gallons?
5. Was the spill contained to hard surface?
6. Were the fire or police department called?
7. Was the spill cleaned up? If not cleaned up, indicate what is being done to address the spill.



Environmental Spill Response Flow Chart- NORTH DAKOTA

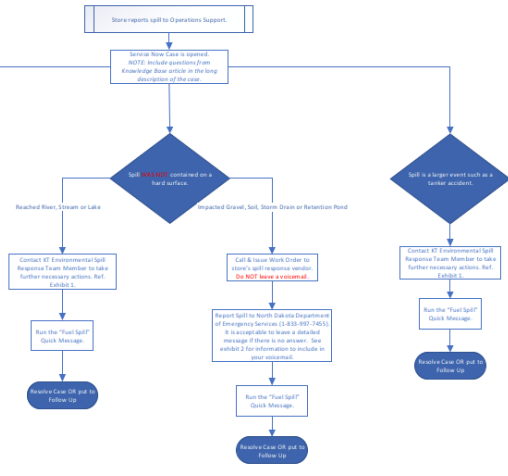


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Environmental Spill Response Team Members:

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1. Kevin Nestingen (Primary Point of Contact)
Office Phone: 608-793-6464
Cell Phone: 608-792-5268
2. Troy Betzel (Secondary Point of Contact)
Office Phone: 608-793-6283
Cell Phone: 608-792-5242
3. Jason Powell (Third Point of Contact)
Office Phone: 608-793-3482
Cell Phone: 608-355-5467

EXHIBIT 2
Information to Include in Voicemail:

1. Provide company, your name, & Operations Support phone number.
2. Store number and full address.
3. What is the product that was spilled?
4. What was the size of the spill in gallons?
5. Was the spill contained to hard surface?
6. Were the fire or police department called?
7. Was the spill cleaned up? If not cleaned up, indicate what is being done to address the spill.

24 Hour Pay at the Pump Locations:

If a call is received from a guest about a spill and the store is closed, contact the Fire Department to respond but also follow the flow chart for state reporting & spill vendor response according to the size/scope of the spill.

Environmental Spill Response Flow Chart- ILLINOIS

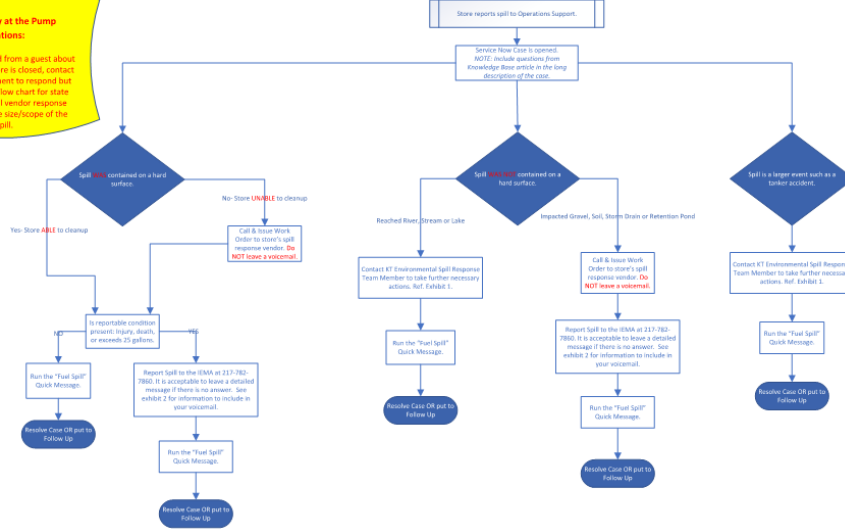


EXHIBIT 1 Environmental Spill Response Team Members:

Please contact Team Members in the order below:

1. Troy Batzel (Primary Point of Contact)
Office Phone: 608-793-6283
Cell Phone: 608-792-2840
2. Kevin Nostinger (Secondary Point of Contact)
Office Phone: 608-793-6664
Cell Phone: 608-792-3268
3. Jason Powell (Third Point of Contact)
Office Phone: 608-793-3482
Cell Phone: 608-385-1467

EXHIBIT 2 Information to Include in Voicemail:

1. Provide company, your name, & Operations Support phone number.
2. Store number and full address.
3. What is the product that was spilled?
4. What was the size of the spill in gallons?
5. Was the spill contained to hard surface?
6. Were the fire or police department called?
7. Was the spill cleaned up? If not cleaned up, indicate what is being done to address the spill.

24 Hour Pay at the Pump Locations:

If a call is received from a guest about a spill and the store is closed, contact the Fire Department to respond but also follow the flow chart for state reporting & spill vendor response according to the size/scope of the spill.

Environmental Spill Response Flow Chart- SOUTH DAKOTA

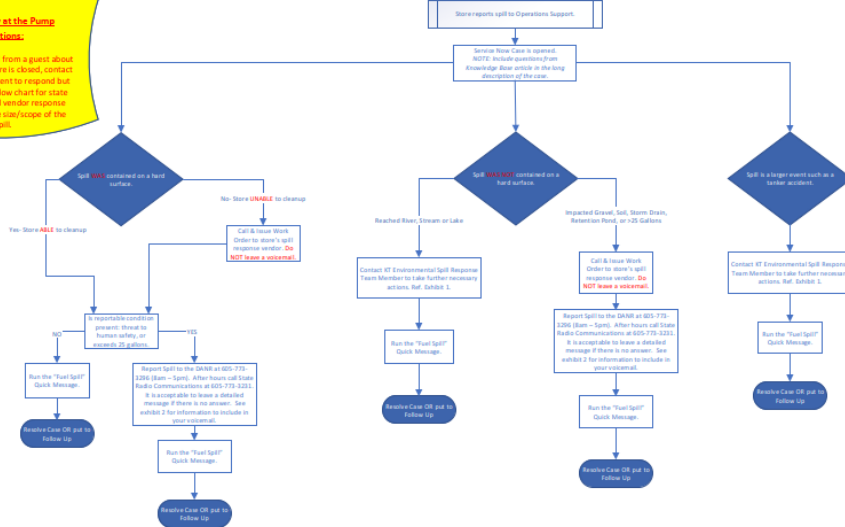


EXHIBIT 1 Environmental Spill Response Team Members:

Please contact Team Members in the order below:

1. Kevin Nostinger (Primary Point of Contact)
Office Phone: 608-793-6283
Cell Phone: 608-792-2840
2. Troy Batzel (Secondary Point of Contact)
Office Phone: 608-793-6664
Cell Phone: 608-792-3268
3. Jason Powell (Third Point of Contact)
Office Phone: 608-793-3482
Cell Phone: 608-385-1467

EXHIBIT 2 Information to Include in Voicemail:

1. Provide company, your name, & Operations Support phone number.
2. Store number and full address.
3. What is the product that was spilled?
4. What was the size of the spill in gallons?
5. Was the spill contained to hard surface?
6. Were the fire or police department called?
7. Was the spill cleaned up? If not cleaned up, indicate what is being done to address the spill.

3.0 Response Implementation Authority Information

This section identifies the individual or individuals within Kwik Trip that have the authority to implement a response action along with their title. Contact phone numbers are included in Section 13.5.

Primary:	Kevin Nestingen
Title:	Environmental Compliance Manager
Name:	Troy Batzel
Title:	Principal of Environmental Compliance
Name:	Jason Powell
Title:	Environmental Project Coordinator
Name:	Bryan Novy
Title:	Director of Retail Projects
Name:	Erik Peterson
Title:	Vice President of Store Engineering
Name:	Operations Support staff
Title:	

4.0 How To Respond To Discharges

4.1 Small Fuel Discharges

Small discharges that occur from our facilities or our transport trucks are addressed in a similar manner as a large discharge, the differences would be in the order in which they would contact the local authorities or Operations Support.

In the event of a small spill (gasoline, diesel, E85 or diesel exhaust fluid (DEF)), the store co-worker would assess the size or quantity of the spill and determine the required response based on their assessment. If the co-worker determines that the spill is of a small quantity and does not pose a threat to safety or the environment, they will move to clean up. The first rule is to always make sure that the situation is safe, this means they need to keep all customers clear of the spill area. They then would apply absorbent material to the spill. Once the material has been applied to the spill area they would sweep up the material and containerize it for pick up. At that point they would contact Operations Support to notify them of the spill and the material that would need to be picked up for disposal.

4.2 Large Fuel Discharges

Large discharges follow a different chain of events due to the threat to safety and the environment.

In the case of a large spill (gasoline diesel, E85), or an anticipated release to the environment, the assessment would have been made that safety or environment were compromised. The first step would be to hit the emergency shut off button, which kills power to the dispenser islands and canopy. The next step is to keep people clear of the area. If the co-worker is able to safely contain the spill they would do so at this time. The local authorities would be the first point of contact, which would be the local fire department and police department. Once the local authorities have been alerted to the discharge the next call would be to our Operations Support, which is staffed 24 hours a day. Ops Support would gather the information regarding the spill and immediately contact the Environmental Manager or the person in authority (PIN). The PIN has the responsibility to determine the appropriate response to the spill based on the information provided by store co-workers, fire department and/or police department. This would also include state and sometimes federal reporting of the spill.

There are several companies that are equipped to respond to large discharges and are listed in the Contact Information (Section 9.0). These companies have access to vacuum trucks, absorbent booms, floor dry, absorbent towels and trained personnel along with many other tools and equipment. Many times the local authorities have the capabilities to contain the spill and remove the threat to safety. In the event they are not able to contain the product, or it has been released to a sensitive area, the hazmat teams would be notified and be asked to respond.

4.3 DEF Spill Response

Spills or leaks involving DEF will follow the same basic procedure as petroleum products even though DEF is mostly water based. Spilled DEF still needs to be recovered and should be prevented from leaving a hard surface. DEF does have the potential to impact groundwater, rivers, and streams if released to the environment.

Below are minimum requirements for the initial spill response assessment:

- Take pictures of the dispenser and area of the spill
- Take pictures of the lot
- Determine what direction things may have flowed from the leak area
- Check the areas it may have flowed to such as: ponds, ditches, storm inlets, green space, etc.
- Utilize a field urea meter to assess areas it may have flowed
- Note weather conditions and what they were during the time of the spill and also at the time of your site visit
- Look for signs of crystallization that occurs from DEF drying
- Complete a short report that covers all findings from the visit, including urea field meter results
- Send to KT and the State

4.4 CNG Spill Response

The purpose of the compressed natural gas (CNG) spill response plan is to lay out the process that needs to be followed to ensure the safety of our co-workers and guests. We also want to make sure that there is a clear plan with regard to response and reporting to applicable agencies.

A leak from a CNG system will be discovered as a result of an odor (mercaptin, or rotten egg smell), fire coming from the system, or an alarm condition from the system.

If a leak is discovered (store response)

- Hit the emergency stop button
- Call Operations Support
- Keep co-workers and customers away from the area
- Do not reset Emergency stop switch until leak is stopped, repairs have been made and the system is verified tight

Operations Support Protocol

- If there is a fire, instruct the store to call 911 and to keep people clear of the area
- Instruct Fire Department to close main valve to eliminate gas coming from supply line
- If damage or injury, follow accident protocol and contact Stephanie Fox
- Notify people on the spill call list

- Do not reset Emergency stop switch until leak is stopped, repairs have been made and the system is verified tight
- If the leak is coming from the Utility provider service line call the Utility provider emergency number provided
- Instruct the store to lock out and tag the dispenser as out of order until repair is made

Store Engineering service/repair protocol

- Contact regional service or appropriate service contractor

4.5 Fuel Blending Sites (SPCC Plans)

Each Kwik Trip fuel blending/biodiesel site will have its own Spill Prevention, Control, and Countermeasure (SPCC) Plan. The purpose of the SPCC Plan is to describe measures implemented by facility management employees to prevent oil discharges from occurring, and to prepare facility management employees to respond in a safe, effective, and timely manner to mitigate the impacts of a discharge. Additionally, the SPCC Plans are used as a reference for oil storage information and testing records, as a tool to communicate practices on preventing and responding to discharges with employees, as a guide to facility inspections, and as a resource during emergency response.

The Plans will be prepared to meet the requirements of Title 40, Code of Federal Regulations, part 112 (40 CFR part 112). The United States Environmental Protection Agency (US EPA) has established regulations for oil pollution prevention in the Code of Federal Regulations, Title 40 (40 CFR), Parts 110 through 112. The regulations require that a SPCC Plan be prepared if it could reasonably be expected that a harmful quantity of oil could be discharged into navigable waters of the United States or adjoining shorelines. The SPCC regulations apply to owners or operators of facilities that meet the following three primary criteria:

- The facility must be non-transportation related and engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products.
- The facility must have an aggregate aboveground storage capacity greater than 1,320 gallons (excluding those tanks and oil filled equipment below 55 gallons in capacity, the capacity of a container that is “permanently closed”, and the capacity of a “motive power container”) or an aggregate underground storage capacity greater than 42,000 gallons (excluding those that are currently subject to all of the technical requirements of 40 CFR Part 280 or all of the technical requirements of state programs approved under 40 CFR Part 281).
- There must be reasonable expectation that, due to its location, the facility could discharge oil into or upon the navigable waters or adjoining shorelines of the United States.

The US EPA requires that a complete copy of the SPCC Plan be maintained at the facility if it is attended at least four hours per day or at the nearest office if the facility is not attended.

4.6 Indoor Air Quality Response

These pages outline the process that will be followed by Operations Support in the event of an indoor air quality issue or complaint.

Problem:

Unknown smell or odor inside the store

Questions to ask regarding odor:

- When did you first notice this smell?
- Where in the building is the smell the strongest?
- Do you smell it outside as well?
- Has anyone complained of ill effects and what are the symptoms?
 - If yes, create another call for the co-worker illness and assign it to HR Daily, this will create a call for HR to follow up with the co-worker. (If after hours/weekend, then call Jill Rettler (HR) to make her aware of the situation and determine if immediate action is needed.)
- Have we had any service vendors out recently and for what?
- What does it smell like? Natural Gas (Rotten Eggs) or Gasoline?
 - If yes, do we have a gas container in the store or does this store have natural gas service to the store (see attached list to see where we pay for natural gas)?
- Have we had any fuel deliveries recently?

----- If they feel that it is a natural gas, gasoline, or propane type smell then the Fire Department should be called out to investigate to determine if it is an explosive environment. If there is a threat of fire or explosion and the area needs to be evacuated, please refer to evacuation procedures listed on the Kwik Net HR Services/Safety Manual/Emergency Procedures.

Other known smell or odor sources could be:

- Do we have any dry drain traps in the floor in the following store areas: bathrooms, fountain pop machines, kitchen floor drains? If this area has the strongest odor have the store pour approximately a gallon of water down the drain. This will fill the trap and prevent air from coming back up through the pipe.
- Paint or open cleaning chemicals in the store, have they been closed back up? Do we need to open up the back and front door of the store to air it out?

If the smell/odor cannot be confirmed to a known source, store personnel should contact Ops Support for further direction.

Last step is to e-mail the District Leader and Zone Leader to make them aware of the situation.

5.0 Description of Training

Kwik Trip has developed a training program as part of a state and federal requirement for staff to be Class C certified, All retail co-workers complete this training. This training covers the following information:

- 1) Where to find emergency stop switch.
- 2) Who to call and when.
- 3) Information you need to gather in the event of a spill.
- 4) Equipment and materials needed in a response action.
- 5) How to assess a spill and how respond accordingly.

All retail co-workers are required to complete the training module which is available on the KwikNet 24/7.

All people considered to be PIN's (persons in authority) have gone through a training session with the Environmental Compliance Manager.

6.0 Communication and Incident Command

Communication and incident command are very important when trying to accomplish a successful spill response action. It is very important to have one point of contact during this type of situation to ensure a smooth response. Our point of contact is the person in authority (PIN) listed on the “Response Implementation Authority Information” section who is handling the response action. This person will be responsible for communicating with local authorities to better understand the spill situation in progress until a representative from the company can arrive on site. They will also be in contact with the necessary Federal and State agencies for reporting purposes.

The PIN will coordinate the response action based on the report from the incident commander on site. The PIN will contact the appropriate response persons and inform the incident commander of those people's role in the response action.

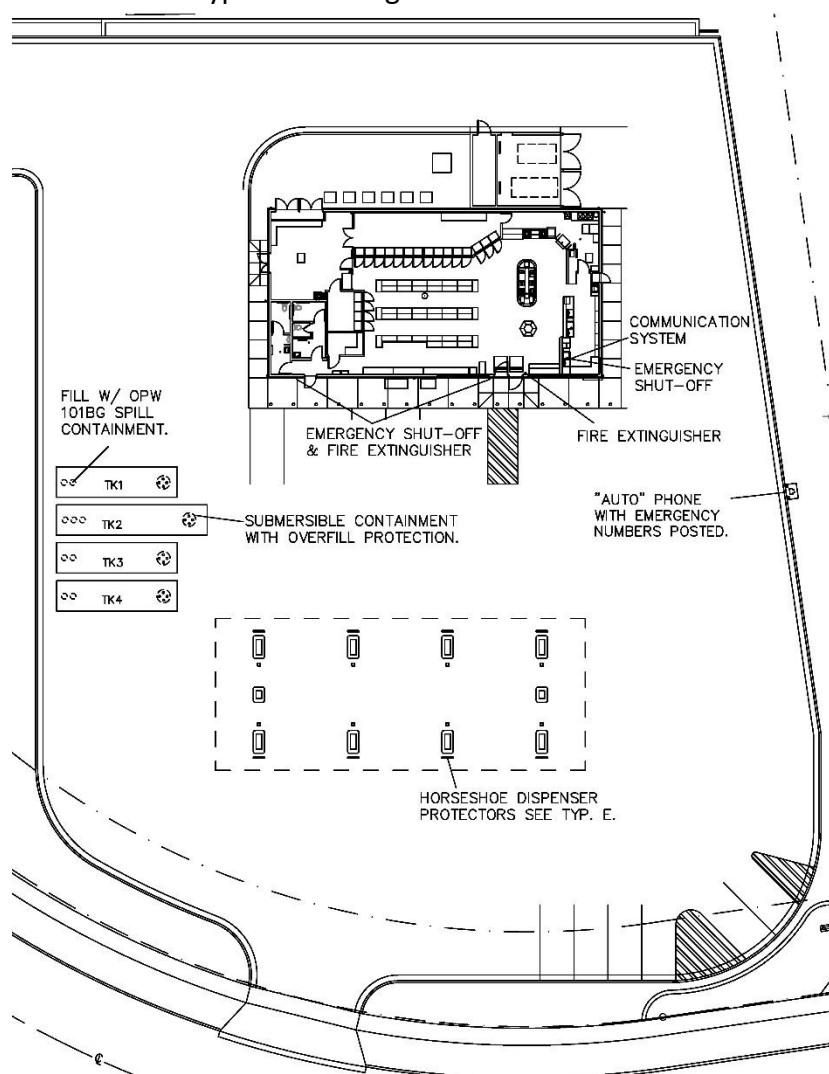
Hazmat teams responding to the incident should always have a team leader, this person would communicate with the PIN during the course of the response action.

It is the job of the PIN to be the center of communication between the local authorities, hazmat teams and State and/or Federal agencies.

In many cases, the incident command role will be a shared duty based on the experience of the on-site personnel.

7.0 Facility Description

Kwik Trip stores are all relatively similar in construction. Most locations consist of a convenience store that is approximately 7,000 - 9,000 square feet in size. They all have a gasoline operation that typically has 4-10 multi-product dispensers that are supplied by pressurized piping coming from underground storage tanks. The underground tanks that store the product range in size from 10,000 gallons capacity to 30,000 gallons. The products that are usually sold at our facilities are Unleaded, Plus and Premium gasoline, as well as diesel. In addition to selling E85, biodiesel and in some cases electric vehicle charging, Kwik Trip has CNG (Compressed Natural Gas) infrastructure throughout Minnesota, Wisconsin and Iowa. A typical site diagram is shown below.



This is a typical site layout, which shows the location of the emergency stop switch, telephone and fire extinguishers. It also depicts the layout of the gas operation and underground storage tanks.

8.0 Transport Vessel Description

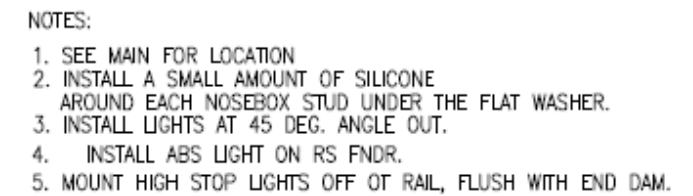
Our transports that haul product to our sites are made of aluminum and are divided into 3 compartments. The compartments have the following capacities 4,400 gallons, 2,300 gallons and 3,000 gallons. Each transport is equipped with an emergency shut off switch located at the front of the transport trailer. They also all carry spill response kits located under the belly of the transport trailer. These kits include drain mats, booms, floor dry and absorbent towels.

8.1 Transport Spill Kit Contents

- 1 spill kit bag
- 1 drain blocker
- 4 bags of Sphag-Sorb absorbent
- 4 Sphag-Sorb absorbent snakes
- 20-50 absorbent pads in the cabinet on truck

8.2 Transport Trailer Spec Sheet

The following page shows specifications of the typical transport. Click [HERE](#) for link to a .pdf document with additional specification information.

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9.0 Contact Information

9.1 State Spill Reporting

WI DNR

1-800-943-0003

MN Duty Officer

1-800-422-0798

IA DNR

515-725-8694

National Response Center

1-800-424-8802

9.2 Hazmat Response Contacts

Wisconsin

Clean Harbors Southeast and South-Central Region : 1-800-645-8265
SET (Secondary): 877-437-7455
REI North and Central Region: 715-675-9784
UP Environmental NE Region (Secondary): 906-466-9900
WCEC (Secondary) Central to North Region: 1-888-923-2778
WCEC West-central Region : 1-888-923-2778
Clean Harbors West-central region: (Secondary): 1-800-645-8265

Minnesota

WCEC: 1-888-923-2778
Clean Harbors (secondary): 1-800-645-8265

Iowa

All of Iowa except SE region: Hazmat Response: 1-800-229-5252
Seneca SE region: (secondary): 1-800-369-5500

Michigan

REI: 715-675-9784
UP Environmental (secondary): 906-466-9900 (O) 906-280-8908 ©

Illinois

Clean Harbors covers east region: 1-800-645-8265
Seneca covers west region: 1-800-369-5500
SET (secondary): 877-437-7455

South Dakota

WCEC: 1-888-923-2778
Clean Harbors (Secondary): 1-800-645-8265

North Dakota

WCEC: 1-888-369-5500
Clean Harbors (Secondary): 1-800-645-8265

9.3 Emergency Spill Response Contacts

Primary Contacts

WCEC

24-hr Spill Hotline: 1-888-544-9481

SET

24-hr Hotline: 1-877-437-7455

Clean Harbors

24-hr Spill Hotline: 1-800-645-8265

REI - Ken Lassa

Office: 715-675-9784

Cell: 715-574-3430

Bay West - Jim Stockinger

24-hr Spill Hotline: 1-800-279-0456

Cell: 612-207-0561

SCS Engineers - Eric Oelkers

Office: 608-224-2830

Cell: 608-444-3934

HMR (Hazmat Response - John Towle

W: (515) 297-8664

C: (913) 333-8985

Seneca

24-hr Hotline: 1-800-369-5500

9.7 Store Engineering Phone List

Store Engineering Delivery		-----	-----	-----
Store Engineering Service Desk		-----	-----	-----
Store Engineering Ship Outs		-----	-----	-----
Aaron Asp		608-604-4983	-----	-----
Aaron Bowen		262-282-9609	-----	-----
Aaron Bradle		-----	608-799-6963	-----
Aaron Bright		608-792-9407	-----	-----
Aaron Harmon		-----	-----	-----
Aaron Sill		608-317-7109	-----	-----
Adam Cook		-----	-----	-----
Adam Gibbs		262-770-0309	-----	-----
Adam Kleine		920-946-7755	-----	-----
Adam Raisanen		920-309-7280	-----	-----
Adam Schwartz		-----	-----	-----
Adam Vettel		319-830-0797	-----	-----
Addison Skeels			920-251-4627	
AJ Loken		608-864-0618	-----	-----
Alex Lenzer		608-225-4416	-----	-----
Alex Pollex		-----	608-769-7442	-----
Alex Polnaszek		-----	608-385-5491	-----
Alex Will		608-317-6197	-----	-----
Ali Van Dalen		-----	320-761-4908	-----
Allison Christianson		-----	608-385-4994	-----
Alyx Bushnell		-----	608-397-4103	-----
Amy Wermager		-----	608-518-9230	-----

Anden Schieldt		-----	-----	-----
Andre Larsen		920-680-1365	-----	-----
Andrew Tauzell		712-754-2500	-----	-----
Andrew Wegner		-----	319-533-7658	-----
Andy Logue		-----	319-431-8497	-----
Andy Martell		715-586-0735	-----	-----
Andy Norton		608-633-1192	-----	-----
Barbara McIntyre		-----	608-669-3073	-----
Ben Hendrickson		-----	-----	-----
Ben Hyland		920-918-0920	-----	-----
Ben Ipsen		-----	978-257-5007	-----
Ben Krause		-----	715-207-5522	-----
Ben Patten		715-252-6259	-----	-----
Bill Eastman		608-317-6141	-----	608-489-2236
Bill Glauner		715-891-7527	-----	-----
Bill Horihan		608-317-8669	-----	-----
Bill Sanderson		608-386-0684	-----	-----
Bjorn Berg		608-606-3998	-----	-----
Bob Alf		920-295-2586	-----	-----
Bob Lynch		262-470-4085	-----	-----
Bo Collins		-----	-----	-----
Brad Chambers		507-340-2839	-----	-----
Brad Fry		608-792-7450	-----	-----
Brandon Bohnert		563-676-0936	-----	-----
Brett Attlen		-----	-----	-----
Brett Needham		608-216-1149	-----	-----
Brian Arntsen		920-585-0296	-----	-----
Brian Barter		262-909-4148	-----	-----
Brian Kruk		608-487-3005	-----	608-487-7724
Brian Nighbor		-----	715-299-3658	-----
Brittani Devine		-----	608-519-6397	-----
Brittany Erler		-----	608-792-8287	-----
Brock White		920-699-2922	-----	-----

Bruce Henslin		608-386-6423	-----	-----
Bryan Novy		608-317-0530	-----	608-786-4975
Cameron Stowe		218-760-1710	-----	-----
Carl Klemp		-----	608-385-9233	-----
Carla Lang		-----	608-769-2438	-----
Chad Feyen		608-386-0682	-----	-----
Chad Juel		-----	608-738-2492	-----
Chad Nienow		507-990-3114	-----	-----
Charlotte Gonyo		-----	608-738-7252	-----
Charles Redbird		-----	715-538-5104	-----
Chase Jacobson		608-548-7425	-----	-----
Chelsey George		-----	608-386-9603	-----
Chris Fenske		920-969-8169	-----	-----
Chris Johnson		507-459-5132	-----	-----
Chris Nutini		-----	608-518-8254	-----
Christian Niemi		-----	-----	-----
Cody Flury		608-343-0899	-----	-----
Cody Miles		-----	414-533-1446	-----
Corey Hoffman		319-296-8589	-----	-----
Corey Kessel		763-229-3732	-----	-----
Cory Joas		-----	-----	-----
Cory Lang		608-769-5264	-----	-----
Coty Tonne				
Dalton Treanor		-----	608-790-5308	-----
Dan Covart		608-790-0571	952-807-2987	952-707-9825
Dan Heath		608-769-3413	-----	-----
Dan Perreault		608-632-4029	-----	-----
Dan Steele		-----	608-386-3527	-----
Daniel Nusse		818-915-6226	-----	-----
Daniel Schmaltz		715-236-9998	-----	715-736-6615
Darrion Marquardt		-----	-----	-----
Dave Cedarblade		763-334-0146	-----	-----
Dave McDowell		608-518-0077	-----	-----

Dave Piggott		608-658-3397	-----	-----
Dave Powell		608-504-6009	-----	-----
David Forrest		414-595-4773	ony	-----
David Gryskiewicz		608-572-3467	-----	-----
David J Johnson		262-397-6426	-----	-----
David Kirchner		608-343-1325	-----	-----
David Link		920-210-2767	-----	-----
David Mottl		262-719-9784	-----	-----
David Thompson		-----	-----	-----
David Zweibohmer		641-229-5720	-----	-----
Derec Koch		641-224-5934	-----	-----
Derek Rieber		608-738-3459	-----	-----
Devin Boynton		507-990-8172	-----	-----
Desmond Gerdes		507-514-3792	-----	-----
Dirk Hagedorn		262-323-6148	-----	-----
Drake Evers		507-208-5608	-----	-----
Duane Bennett		-----	920-253-7226	-----
Dustin Ditzman		309-945-8158	-----	-----
Dustin Wilkening		651-706-1771	-----	-----
Dylan Noel		-----	608-397-5737	-----
Elias Johnson		-----	608-863-6407	-----
Eli Ruff		507-327-7461	-----	-----
Emily Helwig		-----	507-458-0628	-----
Emma Jagodka		-----	952-451-0563	-----
Emma Reber		-----	-----	-----
Eric Matthews		920-213-5916	-----	-----
Eric Presuhn		715-969-4920	-----	-----
Eric Thompson		507-438-6470	-----	-----
Eric Valentine		-----	-----	-----
Erica Lampert		-----	-----	-----
Erik Culver		608-793-6087	715-379-0665	-----
Erik Peterson		608-792-5370	-----	608-786-3199
Ethan Niles		-----	608-797-5458	-----

Evan Oeltjenbruns		507-841-4895	-----	----
Garrett Spafford		608-451-4258		
Gary Boynton		507-259-5024	-----	-----
Genevieve Mortenson		-----	-----	-----
Greg Guenther		608-790-3767	-----	-----
Heather Servais		-----	-----	-----
Holly Daines				
Isaac Eastling		715-421-0165	-----	-----
Isaac Laube		608-498-0926	-----	-----
Isaiah Schwinn		920-449-8596	-----	-----
Isaiah Graewin		-----	608-498-2909	----
Jacob Beckel		-----	507-279-4526	-----
Jacob Johnson		612-229-3144	-----	-----
Jacob Nordstrom		-----	608-738-8211	----
Jakob Hallback-Kettner		-----	608-797-3084	----
Jake Stern		-----	-----	-----
Jamal Holmes		319-464-2287	-----	-----
James Oldenburg		608-317-0346	-----	-----
Jamie Olson		-----	608-386-5878	-----
Jared Nordaas		-----	507-995-1786	-----
Jarred Koss		507-269-2772	-----	-----
Jason Martin		-----	-----	-----
Jason Mozena		712-363-7614	-----	-----
Jason Powell		-----	608-385-1467	-----
Jason Smothers			262-865-1099	
Jason Wucki		608-780-7663	-----	-----
Jay Marco		608-396-1228	-----	-----
Jean Drinkman		-----	608-387-0769	-----
Jeff Anderson		-----	218-428-3750	-----
Jeff Benvenuto		262-620-0651	-----	-----
Jeff Dahl		-----	-----	-----
Jeff Fontano		-----	651-329-5181	----
Jeff Groth		320-333-0285	-----	-----

Jeff Kerska		-----	-----	
Jeff Osgood		608-792-2136	-----	-----
Jeremy Turben		608-606-9333	-----	-----
Jill Langrehr		-----	608-486-4980	-----
Jill McDonah		-----	-----	-----
Jim Coblentz		608-386-2639	-----	608-489-4591
Jim Freitag		507-469-0497	-----	-----
Jim Lopez		952-693-3062	-----	-----
Jim Smith		715-697-0063	-----	-----
Joe Bechle		608-317-2363	-----	-----
Joe Gauthier		920-901-9826	-----	-----
Joe Kappers		651-785-8949	-----	-----
Joe Theisen		715-271-5210	-----	-----
Joe Tomman		563-219-1744	-----	-----
Joel Krueger		-----	608-385-5756	-----
Joey Hafemann		262-384-1596	-----	-----
John Halverson		-----	507-450-7115	-----
John Prunty		262-501-9691	-----	-----
John Vandagriff		651-212-1055	-----	-----
John Wahl		-----	608-317-5550	-----
Jordan Stricker		920-542-8053	920-542-8053	-----
Jordan Skilling		319-333-9922	-----	-----
Jordan Wilke		940-287-4605	-----	-----
Jon Davis		715-220-0740		
Josh Johnson		715-392-2954	-----	-----
Josh Merrell		608-386-8350	-----	-----
Josh Meyer		319-230-1103	-----	-----
Justin Gilbertson		608-865-0029	-----	-----
Justin Lowrance		262-818-8411	-----	-----
Kat Watson		612-390-4669	-----	-----
Kayla Kyser		-----	715-316-7151	-----
Keith McIntyre		608-635-5809	-----	-----
Ken Seidel		-----	-----	608-779-9469

Kendon Thurk		608-792-4120	-----	-----
Kevin Boldt		-----	507-429-6102	-----
Kevin Brathall		715-222-1097	-----	-----
Kevin Harris		-----	608-790-2226	-----
Kevin King		920-583-0400	-----	-----
Kevin Nestingen		-----	608-792-3268	-----
Kevin Tassoul		920-845-5070		
Kim Lovejoy		-----	-----	-----
Kim Sake		-----	-----	-----
Kollin Hemenway		920-202-0565	-----	-----
Kristen Gran			608-797-9686	-----
Kristine Kish		-----	608-738-1236	-----
Kurtis Huber		-----	608-848-9040	-----
Kyle Bourget		-----	-----	-----
Kyle Drysdale		715-581-2331	-----	-----
Lacey Baum		-----	608-317-5005	-----
Larry Zielke		608-797-1520	-----	-----
Lauren Fortin		-----	-----	-----
Lauren Mueller		-----	608-881-1597	-----
Leah Berlin		608-797-1547	-----	-----
Lincoln Beery		507-216-2581	-----	-----
Logan Schlough		-----	715-308-8420	-----
Lon Anderson		715-815-0821	-----	-----
Lucas Walz		608-317-7444	-----	-----
Luke Christenson		507-273-4145	-----	-----
Lyle Antony		608-317-6140	-----	608-526-4963
Lynette Dickie-Privet		-----	507-450-6489	-----
Malia Kirchner		507-676-2601	-----	-----
Mandy Dale		-----	-----	-----
Manuel Carpenter		-----	608-498-7450	-----
Mark Ervin		715-344-7774	-----	-----
Mark Graff		-----	608-797-2335	-----
Mark Lukken		571-481-1464	-----	-----

Mark Parsneau		608-792-6121	-----	-----
Mark Reps		608-780-4051	-----	-----
Mark Thesing		608-317-6143	-----	507-895-6730
Mark Vinz		-----	608-397-5540	-----
Mary Semrow		-----	608-558-4526	-----
Marty Putz		-----	608-317-0195	-----
Mason Reed		608-633-1645	-----	-----
Matt Bartlett		608-780-7276	-----	-----
Matt Franklin		715-305-3819	-----	-----
Matt Franzini		704-677-4718	-----	-----
Matt Gran		608-780-0744	-----	-----
Matt Massie		608-385-9864	-----	-----
Matt Theisen		608-865-0944	-----	-----
Matt Thony		608-381-4836	-----	-----
Matthew Lepke		-----	-----	-----
Matthew Vetsch		5075009073	608-797-7216	-----
Max Merrell		608-799-4895	-----	-----
McKayla Haldorson		-----	608-385-5286	-----
Melissa Gabrielson				
Michael Nelson		-----	-----	
Michelle Scanlan		-----	507-429-1812	507-482-7052
Mike Clark		608-797-2200	-----	-----
Mike Ferron		715-574-5310	-----	-----
Mike Ideker		-----	-----	-----
Mike McDermott		608-778-6180	-----	-----
Mike Miles		-----	-----	-----
Mike Mellom		608-212-5962	-----	-----
Mike Rochester		-----	608-397-4142	-----
Mike Schaefer		920-960-8194	-----	-----
Mike Welsh		608-317-6145	-----	-----
Mitch Luster		-----	608-412-2145	-----
Mitch Williams		608-498-3786	608-669-6322	-----
Nate Byom		-----	608-792-7780	-----

Nathan Best		-----	715-379-0959	-----
Nick Newman		-----	608-317-9446	608-783-7623
Nick Spors		608-921-2670	-----	-----
Pang Vang		-----	608-764-0390	-----
Patrick Klopotek		608-495-1738	-----	-----
Pao Xiong		651-457-5622	-----	-----
Paul Evers		507-269-1703	-----	-----
Paul Stanhope		-----	-----	-----
Paul Van Keulen		507-226-7302	-----	-----
Peter Bergrud		507-458-1280	-----	-----
Peter Seich		-----	920-287-1826	-----
Phillip Tennant		-----	608-799-9290	-----
Raider Yang		-----	-----	-----
Randy LeBeau		701-471-5603	-----	-----
Rich Williams		920-993-9089	-----	-----
Rich Wolfert		608-797-9424	-----	-----
Rob Mickow		608-317-3728	763-228-1253	-----
Robbie Olson		262-720-2622	-----	-----
Robert Dinkle		608-239-0682	-----	-----
Robert Preston		815-708-4471	-----	-----
Ron Humm		-----	-----	608-518-2365
Ron Kind		715-512-1373	-----	-----
Ron McAtee		-----	319-331-9898	-----
Rory Severson		608-279-5913	-----	-----
Ross Weber		-----	612-327-3651	-----
Ryan Allen		218-729-7004	-----	-----
Ryan Bader		-----	608-385-0385	-----
Ryan Keeney		-----	608-397-4101	-----
Ryan Philippi		320-557-8054	-----	-----
Ryan Roberts		608-343-3447	-----	-----
Ryan Thorne		-----	608-385-2439	-----
Sadie Mashak		-----	920-222-1941	-----
Sam Bratz		262-631-9116	-----	-----

Sam Rusch			-----	-----
Sarah Sweet		-----	608-797-1115	-----
Scott Dus		-----	-----	608-781-2919
Scott Murtz		-----	-----	-----
Scott Teigen		715-556-4444	-----	715-235-6626
Scott Zietlow		608-385-6938	-----	-----
Sierra Bahr		-----	608-498-9915	-----
Seth Waddell		-----	608-343-0978	-----
Shane Easton		-----	612-619-8273	-----
Shane Enos		-----	319-252-7555	-----
Shannon Jandt		608-385-6295	-----	-----
Sharon Schmelzer		-----	-----	-----
Stacy McArdle		-----	608-790-4422	-----
Steve Boldt		608-790-3977	-----	-----
Steve Lowe		608-780-9157	-----	-----
Steven Linberg		715-440-1059		
Taylor Keehn		-----	608-604-8204	----
Tanner Sampson		319-240-4277	-----	-----
Ted Cone		608-792-2539	-----	-----
Terry Path		608-633-0327	-----	-----
Terry Roesler		608-498-0739	608-498-0739	608-779-9519
Terry Sanders		608-769-4234	-----	-----
Tim Farrell		507-440-3455	-----	-----
Tina Friedl		-----	-----	-----
Thomas Nelson		-----	-----	-----
Tim Woxland		608-799-3359	-----	608-534-5625
TJ Alioto		262-370-4168	-----	-----
Todd Bornholdt		608-406-0375	-----	-----
Todd Crogan		-----	-----	-----
Todd Fox		-----	608-498-2106	-----
Tom Bartel		920-418-4322	-----	-----
Tom Winters		-----	563-568-1985	-----
Tom Witzke		-----	-----	-----

Tony Kissinger		920-205-1186	-----	-----
Tony Streicher		608-317-2852	-----	-----
Tony Towbridge		612-298-5186	-----	-----
Tony Xiong		651-212-1409	-----	-----
Tony Zeman		608-386-1148	-----	-----
Tracy Christopherson		-----	608-797-5709	-----
Tracey Schmidt		-----	608-397-3387	507-725-8227
Travis Hutzenbuhler		-----	-----	-----
Travis Lockington		608-498-0562	-----	-----
Travis Swarthout		507-269-3350	-----	-----
Trent Kastenschmidt		-----	-----	-----
Trevor Swarthout		507-990-1998	-----	-----
Troy Batzel		608-792-2840	-----	608-526-1132
Troy Cutsforth		563-379-1686	-----	-----
Tucker Kunkel		608-449-4857	-----	-----
Tyler Brones		952-217-6263	-----	-----
Tyler Hannah		-----	608-632-0958	-----
Vero Saylor		-----	-----	-----
Vicki Kruse		608-780-7142	-----	-----
Vicky Mueller		-----	608-780-9425	-----
Vince Hildestad		608-834-9390	-----	-----
Wayne Fox		-----	608-558-6864	-----
Wendy Sutton		-----	608-792-2965	-----
Yazan Mahmoud		507-589-8581	-----	-----
Zach Ferron		715-297-7300	-----	-----
Zach Stackhouse		-----	-----	-----
Zoe Katrichis		-----	-----	-----
378				
Campus Maint Shop		-----	-----	-----
Brandon Batzel		-----	608-792-4307	-----
David Woodliff		608-792-9789	-----	-----
Mike Massoth		608-792-9667	-----	-----
Mike Schultz		608-317-8276	-----	608-781-0752

Mitchell Iverson		-----	715-299-9307	-----
Peter Sinnett		608-604-4447	-----	-----
Ric Tuma		608-487-4059	-----	-----
Scott Berg		608-790-7452	-----	608-452-3322
Scott Sill		-----	608-386-2185	-----
Tim Pralle		-----	608-386-7914	-----
Todd Stafslein		-----	608-780-7218	-----
Wade Resac		608-397-3940	-----	-----
Other Office				
Cindy Allen		-----	-----	-----
Brad Fogarty		608-498-6542	-----	-----
Sandy Malay		608-769-4416	-----	-----
Joan Elsing		608-792-7124	-----	-----
Chuck Thoftne		608-792-4861	-----	-----
Greg Olson		608-792-3461	-----	-----
Contractors			-----	507-498-3722
Aaron (Concrete Solutions)		608- 792-0438		
J.D. (Call Const.)		608-792-2999	-----	-----
Mike McGregor(CallConst.)		608-792-3204	-----	-----
Shawn Burkhardt(Call Const)		608-792-7865	-----	-----
Stafferd Call		608-792-3251	-----	-----
Tim Padesky		608-780-1322	-----	608-783-8168
Store Engineering Delivery		-----	-----	783-0737 OFFICE
Store Engineering Service Desk		-----	-----	-----
			-----	-----

10.0 Reporting Requirements

Don't be afraid to report spills to state agencies, the situation will not become worse for doing so but not reporting can have huge consequences.

When to Report

MN 800-422-0798

If spill is off of an impervious surface, has made its way to soil or storm sewer or is greater than 5 gallons.

WI 800-943-0003

If spill is off of the impervious surface, has made its way to soil or storm sewer or can adversely impact or threaten to adversely impact public health, welfare or the environment.

IA 515-281-8694

If spill is off of the impervious surface, has made its way to soil or storm sewer or creates a hazardous condition.

MI Email: EGLE-stdtanks@michigan.gov For further information contact EGLE-RRD or phone 800-MICHUST

Releases of a regulated substance of any amount from underground storage tank (UST) systems (includes the emergency shutoff valve on down) subject to registration; overfill from UST fill pipe or vent onto ground;

IL Illinois Emergency Management Agency (IEMA)/State Emergency Response Commission (SERC) at 1-800-782-7860 (within state) or (217) 782-7860 (when calling from out-ofstate)

If a spill meets the minimum reporting limits, if someone is injured or killed, there was an evacuation, a motor vehicle was overturned on a hwy, any spill of petroleum that results in a release to the environment that is >25 gallons

SD DANR at 605-773-3296

The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water); The discharge causes an immediate danger to human health or

safety; The discharge exceeds 25 gallons; if you release a gaseous substance and need help converting to gallons

ND North Dakota Department of Environmental Quality (1-701-328-5210)

If a spill or discharge of liquid or solid waste which may cause pollution of waters of the state must be reported immediately

Federal

NRC 800-424-8802

When spill reaches a creek, lake, or river you must report to the NRC. Also, if a transport tanker is involved in an accident that causes a spill.

10.1 Spill Reporting Law – Federal (National Response Center)



Below is from the United States Environmental Protection Agency (US EPA) website on December 16, 2016 (<https://www.epa.gov/emergency-response/when-are-you-required-report-oil-spill-and-hazardous-substance-release>).

When are you required to report a spill or release?

Any person or organization responsible for a release or spill is required to notify the federal government when the amount reaches a federally-determined limit. Separate reporting requirements exist for:

- Oil spills
- Hazardous substance releases

States also may have separate reporting requirements. However, anyone who discovers a hazardous substance release or oil spill is encouraged to contact the federal government, regardless of whether they are the responsible party. All it takes is a single telephone call to the National Response Center at (800) 424-8802.

Oil Spills

EPA has established requirements to report spills to navigable waters or adjoining shorelines. EPA has determined that discharges of oil in quantities that may be harmful to public health or the environment include those that:

- Violate applicable water quality standards;
- Cause a film or "sheen" upon, or discoloration of the surface of the water or adjoining shorelines; or
- Cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

Any person in charge of vessels or facilities that discharge oil in such quantities is required to report the spill to the federal government. EPA provides several exemptions from the oil spill reporting requirements.

The requirement for reporting oil spills stems from the Discharge of Oil Regulation, known as the "sheen rule." Under this regulation, oil spill reporting does not depend on the specific amount of oil spilled, but on the presence of a visible sheen created by the spilled oil. Reporting an oil discharge may also be required under the Spill Prevention, Control, and Countermeasure (SPCC) Rule. For more information on reporting oil discharges, please see: Oil Discharge Reporting Requirements: How to Report to the National Response Center and EPA.

Hazardous Substances

For releases of hazardous substances, the federal government has established Superfund Reportable Quantities (RQs). If a hazardous substance is released to the environment in an amount that equals or exceeds its RQ, the release must be reported to federal authorities, unless certain reporting exemptions for hazardous substance releases also apply.

Under the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, the federal government has designated several hundred substances as "extremely hazardous substances" based on their acute lethal toxicity. Under the law, releases of these extremely hazardous substances trigger reporting requirements to state and local authorities, as well as the federal authorities. The owner or operator of a facility that releases an extremely hazardous substance in an amount greater than its established RQ must follow requirements on how to report to the appropriate authorities (in many cases, the State Emergency Response Commission (SERC) and the Local Emergency Planning Committee (LEPC)) for the location where the incident occurs.

What information is needed when reporting a spill or release?

Reporting a hazardous substance release or oil spill takes only a few minutes. To report a release or spill, contact the federal government's centralized reporting center, the National Response Center (NRC), at 1-800-424-8802. The NRC is staffed 24 hours a day by personnel who will ask you to provide as much information about the incident as possible. Please include the following:

- Your name, location, organization, and telephone number
- Name and address of the party responsible for the incident; or name of the carrier or vessel, the railcar/truck number, or other identifying information
- Date and time of the incident
- Location of the incident
- Source and cause of the release or spill
- Types of material(s) released or spilled
- Quantity of materials released or spilled

- Medium (e.g. land, water) affected by release or spill
- Danger or threat posed by the release or spill
- Number and types of injuries or fatalities (if any)
- Weather conditions at the incident location
- Whether an evacuation has occurred
- Other agencies notified or about to be notified
- Any other information that may help emergency personnel respond to the incident

If reporting directly to the NRC is not possible, reports also can be made to the EPA Regional office or the U.S. Coast Guard Marine Safety Office in the area where the incident occurred. In general, EPA should be contacted if the incident involves a release to inland areas or inland waters. The U.S. Coast Guard should be contacted for releases to coastal waters, the Great Lakes, ports and harbors, or the Mississippi River. EPA or the U.S. Coast Guard will relay release and spill reports to the NRC promptly.

For more information, please see: [Reporting Spills and Environmental Violations](#)

10.2 Spill Reporting Law – Minnesota

Reporting of petroleum releases

Petroleum Remediation Program

Minnesota state law requires immediate reporting upon the discovery of a spill, leak, overfill, or other signs of a petroleum release to the environment. Minnesota Statute 115.061 Duty to Notify; Avoiding Water Pollution, in effect since 1969, describes requirement to notify the Minnesota Pollution Control Agency (MPCA) of spills and leaks.

What and how much has to be reported?

For petroleum products:

- Report all releases known to be greater than five gallons.
- Report any detectable past releases because a volume greater than five gallons was likely released. If contamination is encountered at a previously closed petroleum tank release sites, please refer to Assessment of petroleum contamination at closed leak sites for assistance.

Evidence of a petroleum release includes:

- Organic vapor readings above background levels
- Visual soil staining or petroleum odors
- Free product and/or petroleum sheen
- Analytical data indicating petroleum contaminants are present

Who is required to report?

Anyone who encounters a petroleum spill or release must notify the MPCA, such as:

- Property owners
- Individuals, partnerships, companies, and corporations
- Government entities
- Owners of substances being stored or transported by another company
- Contractors and/or consultants

When to report?

The Minnesota Department of Public Safety operates a 24-hour duty officer service for all state reporting requirements. Immediately report spills and releases to the Minnesota duty officer upon discovery. The duty officer records all pertinent information about the release and then makes the appropriate notifications to all necessary state and local governments.

To report a spill or leak – call the Minnesota duty officer at 651-649-5451 or 800-422-0798

Webpages and Phone Numbers

MPCA General Line	651-296-6300 or 1-800-657-3864
MPCA Staff	http://www.pca.state.mn.us/wfhy3ec
Petrofund Webpage	http://mn.gov/commerce/topics/Petrofund/
Petrofund Phone	651-539-1515 or 1-800-638-0418
Emergency Response Webpage	http://www.pca.state.mn.us/yhiz7fd
Minnesota State Duty Officer	651-649-5451 or 1-800-422-0798

2016 Minnesota Statutes – Chapter 115E

Chapter 115E of Minnesota Rules describes the requirements for what is to be included in the spill response plans. A copy of Chapter 115E.02, 115E.03, 115E.04 and 115E.045 are included in Section 10.2 in this booklet.

115E.02 DUTY TO PREVENT DISCHARGES.

A person who owns or operates a vessel or facility transporting, storing, or otherwise handling hazardous substances or oil or who is otherwise in control of hazardous substances or oil shall take reasonable steps to prevent the discharge of those materials in a place or manner that might cause pollution of the land, waters, or air of the state or that might threaten the public's safety or health.

History: 1991 c 305 s 2

115E.03 DUTY TO PREPARE FOR RESPONSE TO DISCHARGES.

Subdivision 1. **General preparedness.** A person who owns or operates a vessel or facility transporting, storing, or otherwise handling hazardous substances or oil or who is otherwise in control of hazardous substances or oil shall be prepared at all times to rapidly and thoroughly recover discharged hazardous substances or oil that were under that person's control and to take all other actions necessary to minimize or abate pollution of land, waters, and air of the state and to protect the public's safety and health.

Subd. 2. **Specific preparedness.** The following persons shall comply with the specific requirements of subdivisions 3 and 4 and section 115E.04:

- (1) persons who own or operate a vessel that is constructed or adapted to carry, or that carried, oil or hazardous substances in bulk as cargo or cargo residue;
- (2) persons who own or operate railroad car rolling stock transporting an aggregate total of more than 100,000 gallons of oil or hazardous substance as cargo in Minnesota in any calendar month;
- (3) persons who own or operate facilities containing 1,000,000 gallons or more of oil or hazardous substance in tank storage at any time;
- (4) persons who own or operate facilities where there is transfer of an average monthly aggregate total of more than 1,000,000 gallons of oil or hazardous substances to or from vessels, tanks, rolling stock, or pipelines, except for facilities where the primary transfer activity is the retail sales of motor fuels;
- (5) persons who own or operate hazardous liquid pipeline facilities through which more than 100,000 gallons of oil or hazardous substance is transported in any calendar month; and
- (6) persons required to demonstrate preparedness under section 115E.05.

Subd. 3. **Level of preparedness.** A person described in subdivision 2 shall maintain a level of preparedness that ensures that effective response can reliably be made to worst case discharges.

Subd. 4. **Demonstrating satisfactory preparedness.** A person required to maintain preparedness under subdivision 2 may demonstrate satisfactory preparedness to the commissioner of the lead agency through one or a combination of the following means:

- (1) adequate response personnel and equipment in the usual employ of the person;
- (2) adequate response personnel and equipment available from for-hire cleanup contractors with arrangements made for their deployment;
- (3) adequate response personnel and equipment from a response cooperative or community awareness and emergency response organization meeting guidelines prepared by the lead agency with arrangements made for their deployment; or
- (4) adequate response personnel and equipment of local, state, or federal public sector response organizations with arrangements made for their deployment.

Subd. 5. **Department of Transportation.** The commissioner of transportation may examine the evidence of financial responsibility required under section 1016 of the Oil Pollution Act of 1990 for a vessel and may apply the sanctions in that section.

History: 1991 c 305 s 3; 1993 c 341 art 2 s 1

115E.04 PREVENTION AND RESPONSE PLANS.

Subdivision 1. **Plan contents.** Persons required to show specific preparedness under section 115E.03, subdivision 2, shall prepare and maintain a prevention and response plan for a worst case discharge. The plan must:

- (1) describe how it is consistent with the requirements of the national or area contingency plans developed under the Oil Pollution Act of 1990;
- (2) describe the measures taken to prevent discharges from occurring, including prevention of a worst case discharge, prevention of discharges of lesser magnitude, and prevention of discharges similar to those that have occurred from the vessel or facility during its history of operation;
- (3) identify the individual or individuals having full authority to implement response actions, and those individuals' qualifications and titles;
- (4) identify how communication and incident command relationships will be established between the individuals in command of a vessel or facility response and the following persons:
 - (i) individuals in the employ of the owner or operator of the vessel or facility who are responding to the discharge;
 - (ii) appropriate federal, state, and local officials; and
 - (iii) other persons providing emergency response equipment and personnel;
- (5) describe the facility or vessel and identify the locations and characteristics of potential worst case discharges from the vessel or facility;
- (6) identify the means under section 115E.03, subdivision 4, that will be used to satisfy the requirement to have adequate equipment and personnel to respond to a worst case discharge;
- (7) contain copies of contracts, correspondence, or other documents showing that adequate personnel and equipment as described in section 115E.03, subdivision 4, will be available to respond to a worst case discharge;
- (8) describe the actions that will be taken by the persons described in section 115E.03, subdivision 4, in the event of a worst case discharge; and
- (9) describe the training, equipment testing, periodic drills, and unannounced drills that will be used to ensure that the persons and equipment described in section 115E.03, subdivision 4, are ready for response.

A plan submitted to the federal government under the Oil Pollution Act of 1990 or prepared under other law may be used to satisfy the requirements in clauses (1) to (9) provided that the information required by clauses (1) to (9) is included in the plan.

Subd. 2. Timing. (a) A person required to be prepared under section 115E.03, other than a person who owns or operates a motor vehicle, rolling stock, or a facility that stores less than 250,000 gallons of oil or a hazardous substance, shall complete the response plan required by this section by March 1, 1993, unless one of the commissioners orders the person to demonstrate preparedness at an earlier date under section 115E.05.

(b) A person who owns or operates a motor vehicle, rolling stock, or a facility that stores less than 250,000 gallons of oil or a hazardous substance shall complete the response plan required by this section by January 1, 1994.

(c) Plans required under section 115E.04 or 115E.045 must be updated every three years. Plans must be updated before three years following a significant discharge, upon significant change in vessel or facility operation or ownership, upon significant change in the national or area contingency plans under the Oil Pollution Act of 1990, or upon change in the capabilities or role of a person named in a plan who has an important response role.

Subd. 3. Notification. (a) The commissioner of public safety must be notified when any of the following takes place:

(1) submission of the plan to the federal government;

(2) granting of exemptions or extensions of time by the federal government for submission of the plan; or

(3) completion of the plan if submission to the federal government is not required.

(b) Notification under this subdivision must be on a form prescribed by the commissioner of public safety and must include:

(1) a description of the facility or vessel;

(2) a description of the activities involving oil or hazardous substances;

(3) a description of the types of materials being handled, including whether agricultural chemicals are involved; and

(4) other information required by the commissioner.

(c) The commissioner of public safety shall transmit a copy of the notification to the other commissioners as appropriate, depending on the types of materials involved.

Subd. 4. Review of prevention and response plan. (a) A person required to show specific preparedness under section 115E.03, subdivision 2, must submit a copy of the prevention and response plan to any of the commissioners who request it and to an official of a political subdivision with appropriate jurisdiction upon the official's request, or the plan and equipment and material named in the plan may be examined upon the request of an authorized agent of a commissioner or official.

(b) Upon the request of one or more of the commissioners, a person shall demonstrate the adequacy of prevention and response plans and preparedness measures by conducting announced or unannounced drills, calling persons and organizations named in a prevention and response plan and verifying roles and capabilities, locating and testing response equipment, questioning response personnel, or other means that in the judgment of the requesting commissioner demonstrate preparedness. Before requesting an unannounced drill, the requesting commissioner shall notify the other commissioners that a drill will be requested and invite them to participate in or witness the drill. If an unannounced drill is conducted to the satisfaction of the commissioners, the person conducting the drill may not be required to conduct an additional unannounced drill in the same calendar year.

Subd. 5. **Citizens advisory groups.** The commissioner of the Pollution Control Agency, the Department of Agriculture, or the Department of Public Safety may establish, or a local official may request a commissioner to establish, a citizens advisory group following a discharge of oil or a hazardous substance. The purpose of the citizens advisory group is to facilitate exchange of information and concerns related to the discharge and response between the owner or operator of the vessel or facility, the governmental responders, and the affected members of the public.

History: 1991 c 305 s 4; 1992 c 593 art 2 s 1; 1993 c 341 art 2 s 2; 1995 c 240 art 2 s 6

115E.045 RESPONSE PLANS FOR TRUCKS AND CERTAIN TANK FACILITIES.

Subdivision 1. **Response plan for trucks.** (a) By June 1, 1994, a person who owns or operates trucks or cargo trailer rolling stock transporting an average monthly aggregate total of more than 10,000 gallons of oil or hazardous substances as bulk cargo in this state shall prepare and maintain a prevention and response plan in accordance with this subdivision. The plan must include:

- (1) the name and business and nonbusiness telephone numbers of the individual or individuals having full authority to implement response action;
- (2) the telephone number of the local emergency response organizations, as defined in section 299K.01, subdivision 3, if the organizations cannot be reached by calling 911;
- (3) a description of the type of rolling stock and the maximum potential discharge that could occur from the equipment;
- (4) the telephone number of the single answering point system established under section 115E.09;
- (5) the telephone number of an individual or company with adequate personnel and equipment available to respond to a discharge, along with evidence that the individual or company and the individual responsible for preparing the plan have made arrangements for such response;
- (6) a description of the training that the owner or operator's truck or cargo trailer operators have received in handling hazardous materials and the emergency response information available in the vehicle; and
- (7) a description of the action that will be taken by a truck or cargo trailer owner or operator in response to a discharge.

(b) The response plan must be retained on file at the person's principal place of business.

Subd. 2. **Response plan for certain tank facilities.** (a) By June 1, 1994, a person who owns or operates a facility that stores more than 10,000 gallons but less than 1,000,000 gallons of oil or hazardous substances in aboveground tanks shall prepare and maintain a prevention and response plan in accordance with this subdivision. The abbreviated plan must include:

- (1) the name and business and nonbusiness telephone numbers of the individual or individuals having full authority to implement response action;
- (2) the telephone number of the local emergency response organizations, as defined in section 299K.01, subdivision 3, if the organizations cannot be reached by calling 911;
- (3) a description of the facility, tank capacities, spill prevention and secondary containment measures at the facility, and the maximum potential discharge that could occur at the facility;
- (4) the telephone number of the single answering point system established under section 115E.09;
- (5) documentation that adequate personnel and equipment will be available to respond to a discharge, along with evidence that prearrangements for such response have been made;
- (6) a description of the training employees at the facility receive in handling hazardous materials and in emergency response information; and
- (7) a description of the action that will be taken by the facility owner or operator in response to a discharge.

(b) The response plan must be retained on file at the person's principal place of business.

Subd. 3. **Notice of plan completion.** A person required to prepare a response plan under this section shall notify the commissioner of public safety when the plan has been completed. Upon request, the person shall provide a copy of the plan to the commissioner of the Pollution Control Agency.

Subd. 4. **Agricultural chemicals exempt.** This section does not apply to agricultural chemicals, as defined in section 18D.01, subdivision 3, that are subject to chapter 18B or 18C.

History: 1993 c 341 art 2 s 3; 1994 c 589 s 2

10.3 Spill Reporting Law – Wisconsin



Below is from the Wisconsin Department of Natural Resources (WDNR) website on December 16, 2016 (<http://dnr.wi.gov/topic/Spills/define.html>).

What is a spill?

Spill are discharges of hazardous substances that adversely impact, or threaten to adversely impact, human health, welfare or the environment and require an immediate response.

For detailed information on spill reporting requirements, see [Section 292.11, Wis. Stats. \[PDF exit DNR\]](#) and [Chapter NR 706, Wis. Admin. Code \[PDF exit DNR\]](#).

Do I have to report my spill?

Your spill is **reportable** to the DNR if:

- **there is an impact to human health;**
Note: An evacuation is considered a threat to human health.
- **there is an impact to the environment;**
Note: Water of the state includes a threat or spill into a sanitary sewer, storm sewer, and/or surface water.
- **there is a fire, explosion or safety hazard;**
Note: A slippery road condition is considered a safety hazard.
- **you have not immediately cleaned up the spill;**
Note: Has it evaporated or been cleaned up in accordance with NR700-726?
- **the spill was more than the reportable quantities listed below.***

*A hazardous substance that is "discharged" into a secondary containment structure, that is completely contained and can be recovered with no discharge to the environment, is not subject to the discharge notification requirements.

Reportable quantities

If your spill is **more** than the amounts listed below, you **must** report it to the DNR.

Petroleum compounds

- Petroleum product completely contained on an impervious surface.
- Less than 1 gallon of gasoline or light grade petroleum product onto a pervious surface or runs off an impervious surface.
- Less than 5 gallons of medium or heavy grade petroleum products onto a pervious surface or runs off an impervious surface.

Agrichemical compounds

- Less than 250 pounds dry fertilizer.
- Less than 25 gallons of a liquid fertilizer.
- Pesticides that would cover less than 1 acre of land if applied according to label instructions.

Federal reportable quantities

The federal reportable quantity for a specific substance as outlined in the [CERCLA RQ column of the Sara Title 3 list of lists \[exit DNR\]](#).

How to report a spill

Discharges of hazardous substances generally fall into one of two broad categories:

1. **Spills** - Spills that need an immediate response. These can include a tank truck rollover, failure of a storage tank valve or failure of a wall in a manure storage lagoon. **Call the 24-hour spill hotline at 1-800-943-0003.**
2. **Discovery of Spills Through Analysis** - Soil or groundwater contamination that is discovered via sampling. The best way to report discovery of a discharge that is identified through analysis of soil or water is to use DNR's [Notification For Hazardous Substance Discharge \(Non-Emergency Only\) \(Form 4400-225\) \[PDF\]](#). This form includes information about how to fax or email the form DNR. Please include a summary of the laboratory data with the form. Don't wait for a written report describing the contamination – immediately fax or email the form, or make a phone call to a [DNR regional office](#), immediately.

Federal reporting requirements

A responsible party may also have to comply with other state and/or federal reporting requirements relating to the Emergency Planning and Community Right to Know Act (EPCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). To report a spill, contact the [The Federal Government National Response Center \[exit DNR\]](#) (800-424-8802).

To determine if you have a reportable spill, please check either of these two EPA resources.

- EPA's [Sara Title III Consolidated Lists of Lists \[exit DNR\]](#)
- EPA's [Searchable Database for the Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act \(EPCRA\) and Section 112\(r\) of the Clean Air Act \[exit DNR\]](#)

Regional Spill Coordinators - WDNR contacts

DNR Spill Coordinator Telephone Numbers

Name	Region	Office
24 Hour Hotline	Statewide	800-943-0003
Cody Heinze	Northeast	920-883-9383
Jeff Paddock	Northern	715-828-8544
Trevor Bannister	South Central	608-347-0058
Riley Neumann	Southeast	414-750-7030
Jayson Schrank	West Central	715-410-8841



10.4 Spill Reporting Law – Iowa



Below is from the Iowa Department of Natural Resources (IDNR) Environmental Services Division Field Services & Compliance Bureau guidance document, Iowa Administrative Code Chapter 131 Notification of Hazardous Conditions, revised July 2015.

Notification of Hazardous Conditions

Summary of Key Points and Definitions

“Hazardous Condition” means any situation involving the actual, imminent or probable spillage, leakage, or release of a hazardous substance onto the land, into a water of the state or into the atmosphere which, because of quantity, strength and toxicity of the hazardous substance, its mobility in the environment and its persistence, creates an immediate or potential danger to the public health or safety or to the environment.

“Hazardous Substance” means any substance or mixture of substance that presents a danger to the public health or safety and includes, but is not limited to, a substance that is toxic, corrosive, or flammable, or that is an irritant or that, in confinement, generates pressure through decomposition, heat, or other means. The following are examples of substances which, in sufficient quantity, may be hazardous: acids; alkalis; explosives; fertilizers; heavy metals such as chromium, arsenic, mercury, lead, and cadmium; industrial chemicals; paint thinners; paints; pesticides; petroleum products; poisons; radioactive materials; sludges; and organic solvents.

“Hazardous substances” may include any hazardous waste identified or listed by the administrator of the United States Environmental Protection Agency under the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976, or any toxic pollutant listed under Section 307 of the federal Water Pollution Control Act as amended to January 1, 1977, or any hazardous substance designated under Section 311 of the federal Water Pollution Control Act as amended to January 1, 1977, or any hazardous material designated by the secretary of transportation under the Hazardous Materials Transportation Act (49 CFR 172.101)

Key Points

Who is Required to Report Hazardous Conditions

Any person manufacturing, storing, handling, transporting, or disposing of a hazardous substance shall notify the department at (515) 725-8694 and the local police department or the office of the sheriff of the affected county of the occurrence of a hazardous condition as soon as possible but not later than six hours after the onset of the hazardous condition or the discovery of the hazardous condition. A sheriff or police chief who has been notified of a hazardous condition shall immediately notify the department. Reports made pursuant to this rule shall be confirmed in writing as provided in 131.2(2).

Reporting Subsequent Findings

All subsequent finding and laboratory results should be reported and submitted in writing to the department as soon as they become available.

Reminder: VERBAL REPORTS ARE REQUIRED WITHIN 6 HOURS OF INCIDENCE OCCURRENCE OR DISCOVERY.

Guidelines for Reporting Hazardous Conditions Verbal Reporting

Report the Condition if:

- The hazardous substance has the potential to leave the property by run-off, sewers, tile lines, culverts, drains, utility lines, or some other conduit, or,
- The hazardous substance has the potential to reach a water of the state – either surface water or groundwater or,
- The hazardous substance can be detected in the air at the boundaries of the facility property by the senses (sight and smell) or by monitoring equipment or,
- There is a potential threat to the public health and safety or,
- Local officials (Fire department, law enforcement, Hazmat, public health, and emergency management) respond to the incident or,
- The release exceeds a Federal Reportable Quantity (RQ).

~ If in Doubt, Report It ~

**IDNR REQUIRES VERBAL REPORTS WITHIN 6 HOURS OF
INCIDENCE OCCURRENCE OR DISCOVERY**

- It is recommended that all spills be cleaned up although a particular spill may not be reportable. A series of small spills over time can result in one big cleanup.
- Department rules stress the immediate or potential danger that a spill may cause.
- A written report of the Hazardous Condition is required within 30 days of the verbal notification.

In general, Iowa reporting requirements are more stringent than Federal reporting requirements. However, the **time limit** for reporting at the Federal level is more immediate.

Guidelines for Reporting Hazardous Conditions Written Report Requirements

The Iowa Department of Natural Resources Requires a written report of any Hazardous Condition.
(VERBAL REPORT REQUIRED WITHIN 6 HOURS)

Written Report

The written report of such a hazardous condition shall be submitted to the department within 30 days and contain the following information:

- a. The exact location of the hazardous condition.
- b. The time and date of onset or discovery of the hazardous condition.
- c. The name of the material, the manufacturer's name, and the volume of each material involved in the hazardous condition in addition to contaminants within the material if they by themselves could cause a hazardous condition.
- d. The medium (land, water, or air) in which the hazardous condition occurred or exists.
- e. The name, address, and telephone number of the party responsible for the hazardous condition.
- f. The time and date of the verbal report to the department of the hazardous condition.
- g. The weather conditions at the time of the hazardous condition onset of discovery.
- h. The name, mailing address, and telephone number of the person reporting the hazardous condition.
- i. The name and telephone of the person closest to the scene of the hazardous condition who can be contacted for further information and action.
- j. Any other information, such as the circumstances leading to the hazardous condition, visible effects, and containment measures taken that may assist in the proper evaluation by the department.

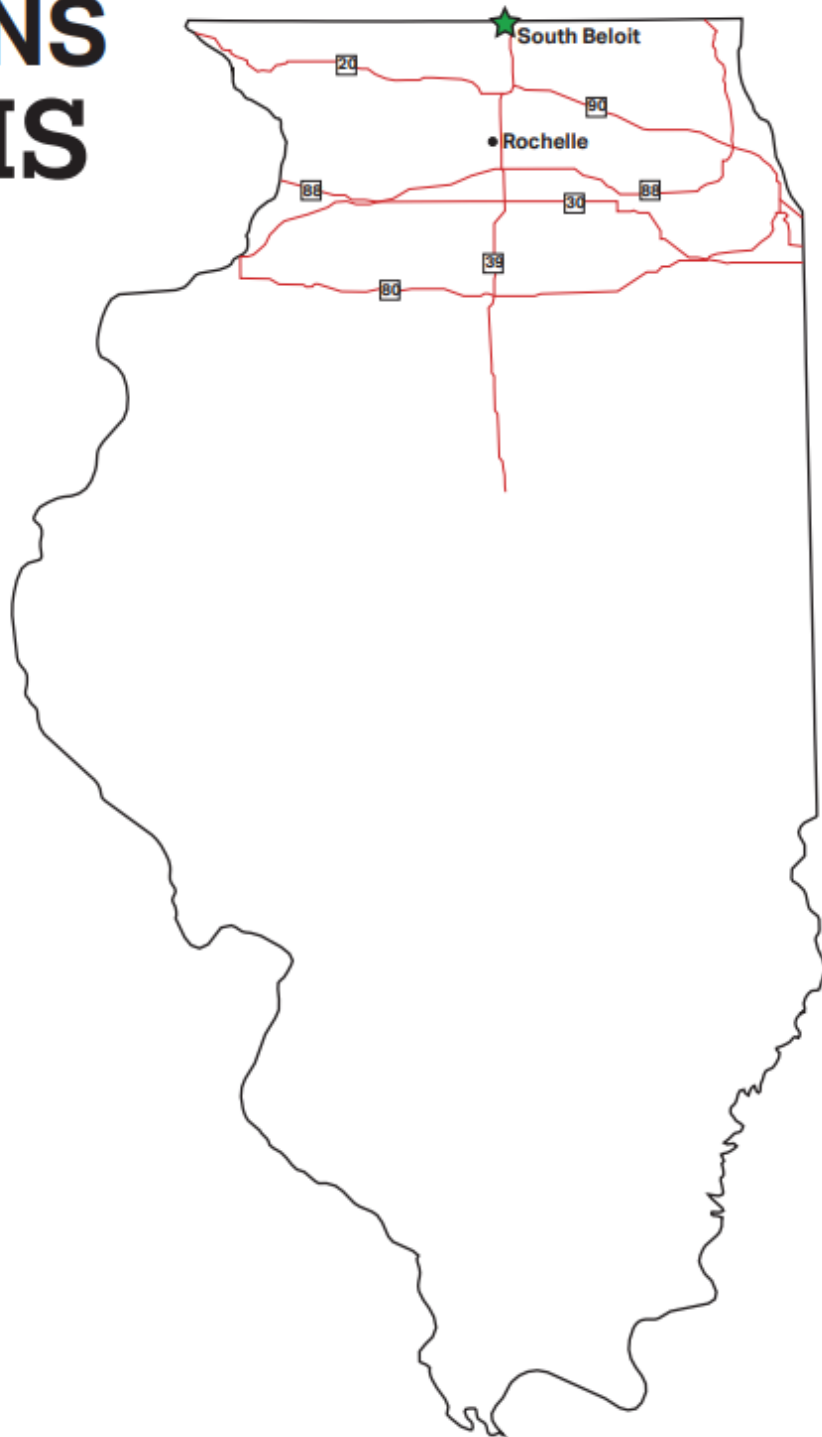
The written report should include the IDNR Spill Number (assigned at the time of the verbal report) and be addressed to the duty officer responding to the spill. Reports can be sent via mail, fax, or electronic mail to the addresses listed below.

Mail	Fax	E-Mail
Iowa DNR Field Services Emergency Response 7900 Hickman Rd. Suite 200 Windsor Heights, IA 50324	515/281-7229	Emergency_Response@dnr.iowa.gov

11.0 Kwik Trip Locations

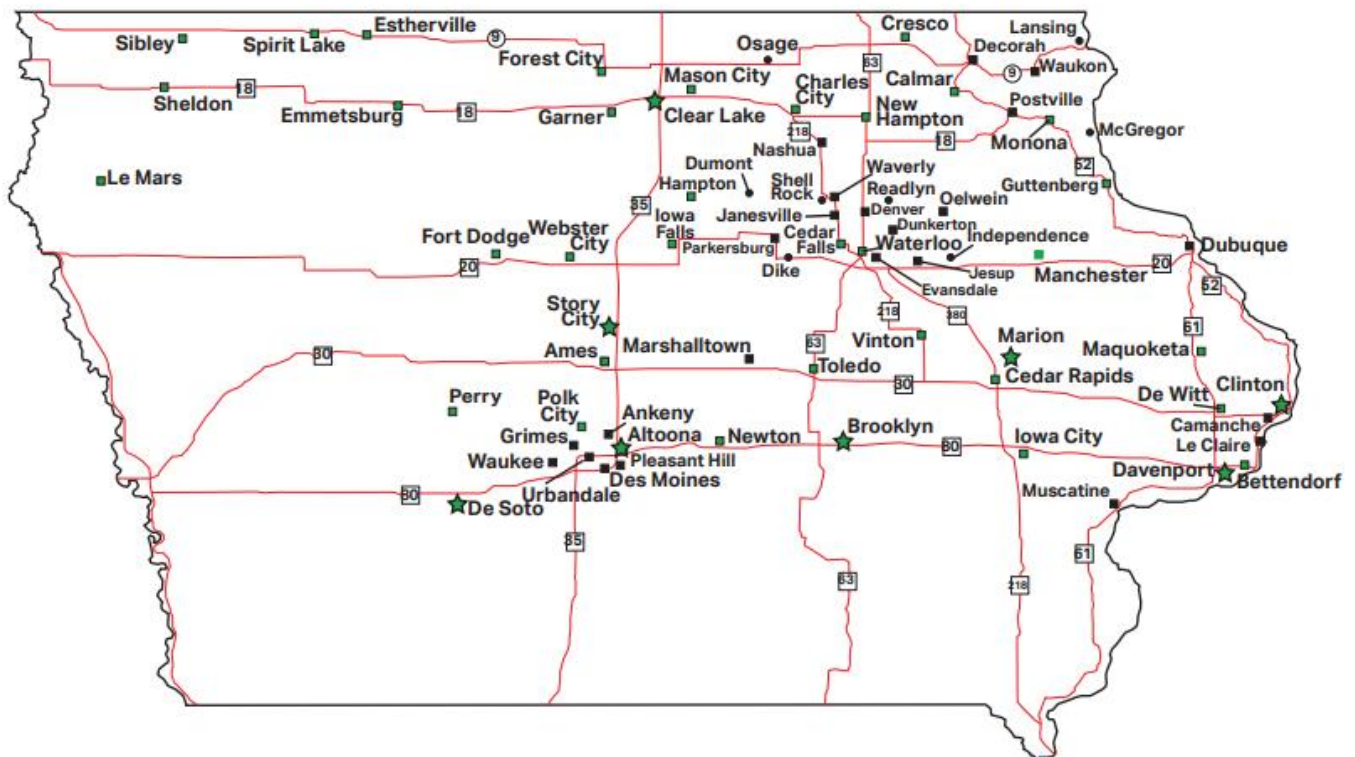
Kwik STAR

**LOCATIONS
ILLINOIS**





LOCATIONS IOWA



Kwik TripTM

LOCATIONS

MICHIGAN



Kwik Trip

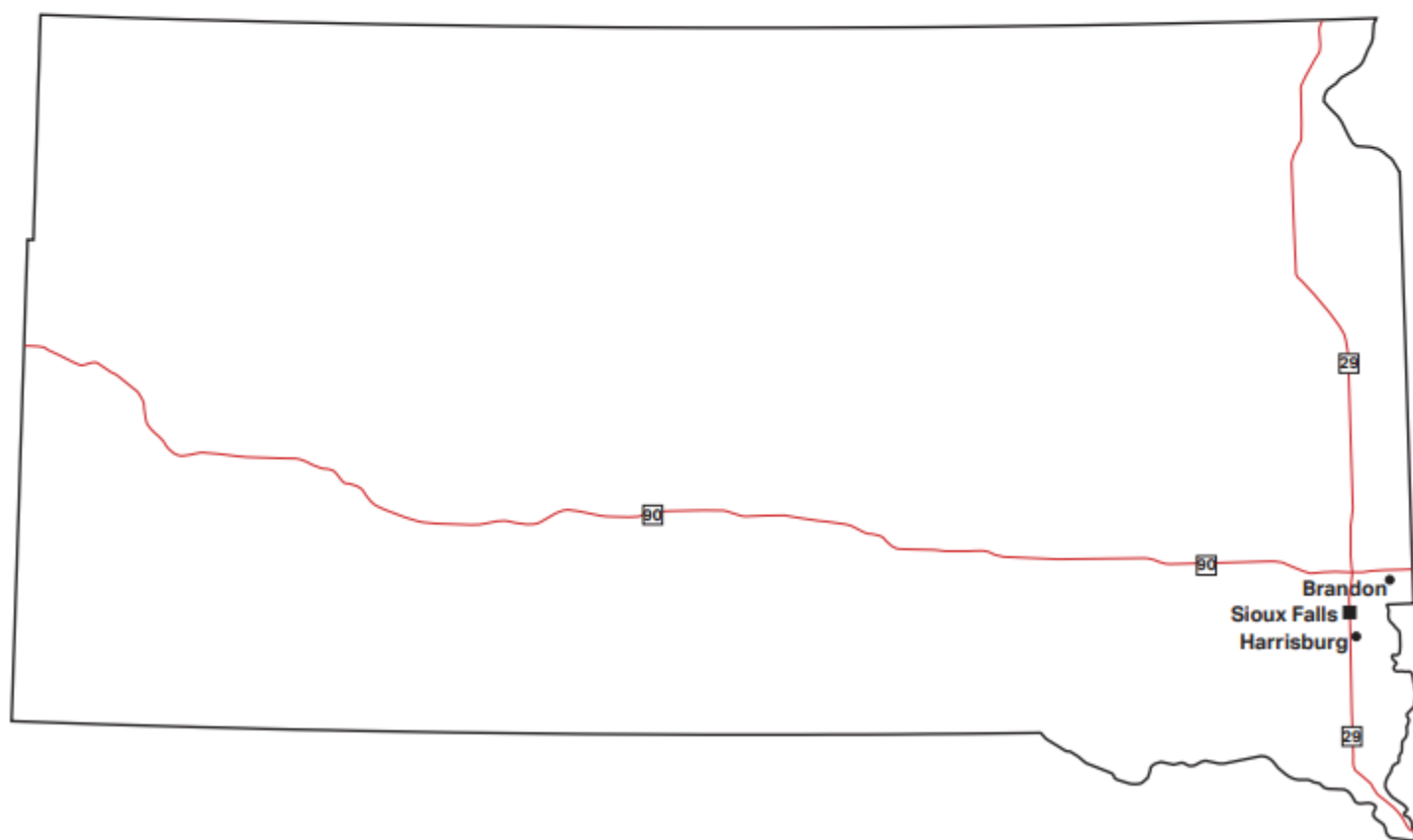
LOCATIONS

MINNESOTA

The map shows the state of Minnesota with major highways highlighted in red. Kwik Trip locations are indicated by green stars. The locations are distributed across the state, with a higher concentration in the central and southern regions. Key cities shown include Duluth, Two Harbors, Hermantown, Cloquet, Carleton Place, Moose Lake, Hinckley, Mora, Rush City, North Branch, Stacy, Chisago City, East Bethel, Lino Lakes, Circle Pines, Vadnais Heights, Oak Park Heights, Lake Elmo, North St. Paul, Woodbury, South St. Paul, Hastings, Rosemount, Red Wing, Wabasha, Minnesota City, Winona, Lawton, Dakota, Nodine, La Crescent, Hokah, Caledonia, Spring Valley, Harmony, Austin, Albert Lea, Blue Earth, Fairmont, Worthington, Windom, New Ulm, Saint Peters, North Mankato, Mankato, Waseca, Dodge Center, Byron, Kasson, Plainview, Rochester, Eyota, Chatfield, Stewartville, Spring Grove, and Redwood Falls. Other locations include Saint Joseph, Sartell, Sauk Rapids, Waite Park, Cold Spring, Paynesville, Clearwater, Monticello, Albertville, Buffalo, Rockford, Delano, St. Bonifacius, Hutchinson, Glencoil, Vacionia, Norwood Young America, Belle Plaine, Chaska, Carver, Prior Lake, Lakeville, New Prague, Eagan, Apple Valley, Farmington, Northfield, Dundas, Faribault, Pine Island, Owatonna, Mankato, Saint Cloud, Big Lake, Otsego, Cambridge, Princeton, Anoka, Saint Francis, Andover, Coon Rapids, Blaine, Hugo, Forest Lake, Stillwater, Oakdale, Shakopee, Maple Grove, and Shakopee.



LOCATIONS SOUTH DAKOTA



[illegible]

12.0 Safety Data Sheets

A complete list of Safety Data Sheets (SDSs) for products present at a Kwik Trip properties are located on the Damarco Solutions searchable website using the hyperlink [HERE](#).

13.0 Spill Response Summary Report Requirements

The responding consultant should provide a summary report at the conclusion including the following, at a minimum:

- 1.0 Introduction
- 2.0 Hazardous Substance Discharged, Toxicity, Mobility and Volume
- 3.0 Duration of Discharge
- 4.0 Time discharge was Responded to and Properly Contained
- 5.0 Mitigation Efforts (including if efforts may have accelerated migration of pollution of hazardous substances)
- 6.0 Weather Conditions
- 7.0 Migration Potential of the Contamination
- 8.0 Nature and Scope of Immediate Response Actions
- 9.0 Sampling Results to Confirm Adequacy of Response
- 10.0 Visual and Olfactory Evidence of Contamination
- 11.0 Actual or Potential Environmental Impacts
- 12.0 Proximity of Contamination to Receptors
- 13.0 Present and Anticipated Future Land Use
- 14.0 Exposure Routes Evaluation and Summary of Remediation to the Extent Practicable
- 15.0 Other Relevant Information
- 16.0 Conclusions and Recommendations

Figures

Figure 1 – Site Vicinity Map

Figure 2 – Site Map (note: show release area)

Appendices

Appendix A – Photographs

Appendix B – Disposal Documentation

Appendix C – WTM Coordinates of Spill

Note: Report should be submitted to Kwik Trip electronically and to the appropriate state agency according to their requirements. Iowa requires a specific form be completed within 30 days of the release.

13.1 Required Reporting

Iowa



Written Report for Hazardous Conditions
The Iowa Department of Natural Resources
Requires a written report of any Hazardous Condition.

(VERBAL REPORT REQUIRED WITHIN 6 HOURS)

Written Report. The written report of a hazardous condition shall be submitted to the department within 30 days and contain the following information (Please complete as much as possible):

DNR Spill Number for hazardous condition:	
---	--

Location of hazardous condition:

Physical Address		city	
Legal Address	Lat/Long or Twn/Rng	zip	
Other description			

Time and Date of *onset or discovery* of hazardous condition:

Time ☐ AM ☐ PM Date _____

Time and Date of *verbal report* to the department of the hazardous condition:

Time ☐ AM ☐ PM Date _____

The Hazardous Condition:

Name of material/substance(s)	Manufacturer	Volume

If more space is needed add additional pages. Attach a Material Safety Data Sheet (MSDS) if possible.

The medium in which the hazardous condition occurred/existed (Check all that apply):

☐ Ground Water ☐ Surface Water ☐ Land ☐ Air

Weather Conditions during the time of the hazardous condition onset or discovery:

Temperature	Wind Direction	Wind Speed	Humidity	Precipitation

Contact Information:

	Name	Company	Mailing Address	Telephone
Person Reporting (if known)				
Party Responsible				
Site Contact				

Cause of the Incident: Write a narrative of the events leading to the incident

Initial Actions Taken: Write a narrative of the initial actions and instructions taken or required.

Written reports should include the DNR spill number and be addressed to the duty officer responding to the spill. Reports can be sent via mail, fax, or electronic mail.

Mail	Fax	Email
IDNR Emergency Response 7900 Hickman Rd Ste 200 Windsor Heights, IA 50324-4432	515/281-7229	Emergency_Response@dnr.iowa.gov

South Dakota

INCIDENT FOLLOW-UP REPORT

(Page 1 of 2)

DANR CASE FILE #:

**RETURN
COMPLETED
FORM TO:**

SOUTH DAKOTA DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES (DANR)
INSPECTION, COMPLIANCE, AND REMEDIATION PROGRAM
JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE SD 57501-3182

NAME/TYPE OF PRODUCT SPILLED:

TOTAL AMOUNT OF PRODUCT SPILLED:

POUNDS OF ACTIVE INGREDIENT SPILLED (fertilizer/pesticide spills):

AMOUNT OF PRODUCT RECOVERED:

WAS SURFACE WATER OR GROUND WATER IMPACTED BY THE SPILL?:

SPILL DATE:

DATE CLEANUP OCCURRED:

SPILL LOCATION (physical address, directions, distance to nearest intersection or landmark, etc.):

LATITUDE/LONGITUDE:

LAND USE (Residential, Commercial, Agricultural, Industrial, Other – describe):

RESPONSIBLE PARTY:

MAILING ADDRESS:

CITY/STATE:

TELEPHONE NUMBER:

PROPERTY OWNER:

MAILING ADDRESS:

CITY/STATE:

TELEPHONE NUMBER:

CONSULTANT / CLEANUP CONTRACTOR (if applicable):

MAILING ADDRESS:

CITY/STATE:

TELEPHONE NUMBER:

INSURANCE PROVIDER (if applicable):

NAME OF INSURED:

POLICY NUMBER:

CLAIM NUMBER:

MAILING ADDRESS:

CITY/STATE:

TELEPHONE NUMBER:

INCIDENT FOLLOW-UP REPORT (Page 2 of 2)

DANR CASE FILE #: _____

WAS SOIL EXCAVATED?: _____ DIMENSIONS OF EXCAVATION: _____

CUBIC YARDS EXCAVATED: _____

DISPOSAL SITE (Name of Facility): _____

DISPOSAL DATE: _____

If soil was disposed, attach copies of disposal receipts

FERTILIZER/PESTICIDE SPILLS ONLY**!!REQUIRES DANR PRE-APPROVAL!!**

WILL THE CONTAMINATED SOIL/MATERIAL BE LAND APPLIED?: _____

WHAT CROP IS/WILL BE GROWN ON THE LAND APPLICATION SITE?: _____

LEGAL DESCRIPTION OF THE LAND APPLICATION SITE: _____

TOTAL ACRES SOIL/MATERIAL WILL BE APPLIED TO: _____

YARDS/POUNDS/ETC. OF SOIL/MATERIAL TO BE APPLIED: _____

CONCENTRATION OF CHEMICAL IN THE SOIL/MATERIAL TO BE APPLIED?: _____

**THIS SECTION
FOR DANR
OFFICE USE
ONLY**

LAND APPLICATION APPROVAL DATE: _____

APPLICATION APPROVED BY: _____

WAS SPILL CONTAINED TO IMMEDIATE AREA?: _____

DISTANCE TO AND NAME OF NEAREST SURFACE WATER (include currently dry perennial streams): _____

DISTANCE TO NEAREST WATER WELL (if applicable): _____

OWNER OF NEAREST WATER WELL (if applicable): _____

DESCRIBE RESPONSE ACTION AND ADDITIONAL WORK PLANNED: _____

FORM COMPLETED BY: _____

DATE: _____

E-MAIL ADDRESS: _____

Village of



Germantown

Engineering Department

Memorandum

To: Jeff Retzlaff, Director of Community Development

From: Kevin Driscoll, Village Engineer

Date: November 26, 2024

Re: N112 W18741 Mequon Road - Kwik Trip Relocation

Items Reviewed:

- | | |
|-------------------------------|-----------------|
| 1. Civil Plan Set | Dated: 10/09/24 |
| 2. Stormwater Management Plan | Dated: 10/09/24 |

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal.**
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
5. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
6. A Permit for Excavation of Roadway for Utility Work within the ROW is required, along with a Village Erosion Control Permit. Contact the Village Engineering Department to obtain permits.
7. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

C-200 Grading Plan

1. Plans show a berm and swale being created in the Maple Avenue ROW. Its not clear what the purpose of the berm is and a berm is not desired within the ROW. Remove the berm or provide more information on the purpose for review.
2. Show overland flow path through the site with large bold arrows.
3. Recommend showing storm sewer pipes on grading plans.
4. Show pond overflow elevation and top of berm elevations.
5. Show storm sewer diameters. Show inlet connections and how they are connected to the retention pond.

C-201 Grading Plan Detail – South

1. Review grading around storm inlet 150. Rim elevation is shown higher than contours.

C-300 Grading Plan Detail – South

1. Existing inlet catch basin has 12-inch dia. to collect road runoff, and drains into storm sewer main. Proposed Discharge pipe diameter is 12-inch dia. from proposed storm water pond. Connect storm water pond discharge pipe to existing storm sewer with new manhole in the median.

C-400 Water

1. Sheet C400 – Add NOTE #8. install tracer wire per Germantown specification in the Development Handbook.
2. Sheet C400 – Shows 32 LF Water Service - Remove existing 6" or 8" gate valve. Install 8" x 4" reducer, install 4" R/W Mueller gate valve at ROW line
3. Sheet C401 – NOTES for Water Distribution System #6. – No station rods allowed
4. Sheet C401 – NOTES for Water Distribution System #7.

C603 Erosion Control Details

1. Specify liner type that will be used for this project (Type A, B or C).
2. Clay liner to extend to 2 year water elevation. Note elevation on detail.
3. Show required keyway under berm on the details.
4. Outlet control structure (inlet invert 854, outlet invert 858, allows for 4-ft pond fluctuation. Plus additional 6-ft fluctuation to 864. Emergency spillway is 863.5 for 100yr

Stormwater Management Plan

1. Executive summary references a different project. A Storm Water Management Plan refers to Crandon, and Green Bay data set from 1969. Update with relevant information.
2. Section 3 of the report references the Green Bay rainfall file but the SLAMM model is using the correct Milwaukee rainfile file.
3. Section 3, table 2 list a storage depth of 78". Provide information as to what this represents. The proposed basin has a depth of 60"
4. Clarify the Executive Summary statement, where, the overall site exceeds the peak flow requirements defined in the *MMSD Rules and Regulations*. The Project must meet MMSD unit rate or volumetric requirements, including undetained areas. Portions of the site that are undetained and undisturbed do not need to be included. Parcel is 4.37 acres. Inflow area is identified as 4.806 acres. Clarify drainage analysis.
5. Show proposed grading on exhibit STM-1.
6. Show Tc paths on exhibit STM-1
7. Provide information on how the 100 year storm event will be routed to the basin. It appears some inlets will overflow offsite and not make it to the basin.
8. Revise SLAMM model to clayey for Type C and D soils per WDNR guidance.
9. Provide storm sewer calculations.

Traffic

1. Traffic Study identified right turn northbound lane. Coordinate with staff to prepare agreement for work in the public right of way.
2. Traffic Study to Clarify anticipated trips generated, and requirements for acceleration and deceleration lanes, and potentially any stop signs or signals.

MEETING:	REGULAR MEETING OF THE GROUNDWATER TECHNICAL REVIEW COMMITTEE
DATE AND TIME:	Monday, November 25, 2024 11:00 AM
LOCATION:	Germantown Village Hall Board Room N112 W17001 Mequon Road

MINUTES

I. **CALL TO ORDER:** *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*
Administrative Coordinator Deb Remich called the meeting to order at 11:06am.

II. **ROLL CALL:**
All committee members were present.

III. **ELECTION OF A CHAIRPERSON:**
Motion: Appoint Jeff Retzlaff as Chairperson
Motioned By: Matthew Mortwedt
Seconded By: John Delain
Yes: Matthew Mortwedt, Kevin Driscoll, John Delain, Paul Haugen, Jeff Retzlaff
No: None
Abstain: None
Motion Passed (Yes 5, No 0, Abstained 0)

IV. **APPROVAL OF MINUTES:**

A. GTRC Minutes 9-4-24
Motion: Approve 9/4/24 Minutes
Motioned By: Kevin Driscoll
Seconded By: Matthew Mortwedt
Yes: Matthew Mortwedt, Kevin Driscoll, John Delain, Paul Haugen, Jeff Retzlaff
No: None
Abstain: None
Motion Passed (Yes 5, No 0, Abstained 0)

V. **NEW BUSINESS:**

A. Jeff Osgood, Agent for Kwik Trip, Inc., and Ben Venue Properties, Property Owner; Review and Recommendation for a Conditional Use Permit (CUP) Application to Allow a "Motor Vehicle Filling Station" within a Groundwater Protection Overlay District Pursuant to Section 17.40.12(3) of the Village Zoning Code. (DISCUSSION & ACTION)
Associate Planner Jordan Yanke went over the Kwik Trip proposal briefly. Director Retzlaff discussed the Wellhead Protection checklist. He went through the ordinance and listed the applicable sections including requirements for a CUP in the Wellhead

Protection area. He discussed the Kwik Trip document dated 10/11/24 summarizing their request for a CUP within the Wellhead Protection area. Village Engineer Driscoll stated that he is supportive of the project as per chapters 17.40.11 & 17.40.12 and stated that the equipment will be replaced with new equipment with updated safety features which will curtail Wellhead contamination. Chief Delain was in agreement.

Motion: Approve CUP as presented subject to the applicant following their submittal documents as presented.

Motioned By: Kevin Driscoll

Seconded By: John Delain

Yes: Matthew Mortwedt, Kevin Driscoll, John Delain, Paul Haugen, Jeff Retzlaff

No: None

Abstain: None

Motion Passed (Yes 5, No 0, Abstained 0)

Water Superintendent Haugen asked for utility connection information. Driscoll suggested adding a condition within his engineering memo to include his comments. Retzlaff stated that the information Superintendent Haugen is asking for would be included with the Site Plan approval.

VI. ADJOURNMENT:

Motion: Adjourn at 11:23am

Motioned By: John Delain

Seconded By: Matthew Mortwedt

Yes: Matthew Mortwedt, Kevin Driscoll, John Delain, Paul Haugen, Jeff Retzlaff

No: None

Abstain: None

Motion Passed (Yes 5, No 0, Abstained 0)

ORDINANCE NO. xx - 2024

AN ORDINANCE TO AMEND THE OFFICIAL ZONING MAP
OF THE VILLAGE OF GERMANTOWN ZONING CODE

Village of Germantown, Property Owner

THE VILLAGE BOARD OF THE VILLAGE OF GERMANTOWN, WASHINGTON
COUNTY, WISCONSIN, ORDAINS AS FOLLOWS:

SECTION 1. That the zoning map of the Village of Germantown is amended by rezoning from the B-3: General Business District to the B-5: Highway Business District for the following described property:

Lot 2 of Certified Survey Map No. 2890, recorded in the Washington County Registry on April 29, 1986, in Volume 16 of Certified Survey Maps on Pages 129-132, as Document No. 490681, and being a part of the Northwest ¼ of the Northwest ¼ of Section 28 of the Northeast ¼ of the Northeast ¼ of Section 29, Town 9 North, Range 20 East, in the Village of Germantown, County of Washington, State of Wisconsin.

Address: N112 W18741 Mequon Road
Tax Key No: GTVN_282-990

SECTION 2. This ordinance shall take effect and be in full force the day after its passage and publication, as provided by law.

Introduced by Trustee: _____
Adopted: _____, 2024

Vote: Ayes: _____
Nays: _____

Dean Wolter, Village President

ATTEST:

Donna Ott, Village Clerk

APPROVED AS TO FORM:

Brian Sajdak, Attorney

Published:

CUP # xx-2024

Document No.

CONDITIONAL USE PERMIT

Document Title

**VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN
CONDITIONAL USE ZONING PERMIT**

Whereas the Applicants:

**Jeff Osgood, Kwik Trip, Inc. Applicant and
Ben Venue Properties, Property Owner**

agree to comply with applicable Codes and Ordinances of the Village of Germantown, Wisconsin, and further agrees that all work done pursuant to the permission granted herewith will conform with the applications and drawings filed with and approvals granted by officials of the Village for the purpose of obtaining this permit.

Now, therefore, this permit is issued to allow the use and operation of a "Self-Service Carwash" from the property located at N112 W18741 Mequon Road pursuant to Section 17.32(3)(g) of the Village Zoning Code.

Name & Return Address:

**Village of Germantown
P.O. Box 337
Germantown, WI 53022**

Parcel Identification No:

GTNV_282-990

**On the following described property located in the Village of Germantown,
Washington County, Wisconsin:**

Lot 2 of Certified Survey Map No. 2890, recorded in the Washington County Registry on April 29, 1986, in Volume 16 of Certified Survey Maps on Pages 129-132, as Document No. 490681, and being a part of the Northwest ¼ of the Northwest ¼ of Section 28 of the Northeast ¼ of the Northeast ¼ of Section 29, Town 9 North, Range 20 East, in the Village of Germantown, County of Washington, State of Wisconsin.

Tax Key No: 282-990

Address: N112 W18741 Mequon Road

Pursuant to the following condition(s):

1. The uses and activities allowed on the property shall be limited to those uses and activities specified in the Conditional Use Permit (CUP) application and project narrative dated October 14, 2024, and October 17, 2024, and supporting site plan documents revised dated September 5, 2024. Days and hours of operation shall be in accordance with those specified in the CUP supporting documents submitted to the Village.
2. The Owner/Operator is responsible for reporting any significant changes in the type, intensity, amount, or location of the land use and activities, days and hours of operation, size or location or other operational characteristics of said uses and activities authorized under this CUP to the Village Zoning Administrator.
3. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or, where there is a change in the nature, character, intensity or extent of the activities or uses which causes problems or harmful effects that were not anticipated at the time of approval of this CUP, the Conditional Use Permit (CUP) may be modified or terminated by the Village Board by the amendment to or addition of conditions after public hearing thereon.
4. All temporary and permanent exterior signs require a permit and shall comply with all

current sign regulations. Off-premises advertising and directional signage is regulated by the Village and requires a permit if/when allowed.

5. All future site improvements, including all building, parking area, landscaping, storm water management facilities, signage, exterior lighting, and any other improvements made to or on the property that are necessary for the land use and activities authorized under this CUP shall be submitted for review and approval by the Village through the Zoning Permit or Site Plan application process as determined by the Village Zoning Administrator. If required, Site Plan review and approval will include Plan Commission review and approval.
6. Building permits and commercial building code plan approval are required for the planned building and canopy construction. Contact SAFEbuilt staff in Inspection Services at Village Hall prior to any work for more information.
7. No overnight parking of semi-trailer trucks shall be permitted on site.
8. Pursuant to Section 17.47 of the Zoning Code, if the Village observes and/or receives complaints regarding negative impacts associated with and/or created by business-related activities conducted on the property, including but not limited to noise, dust or other airborne materials, the Property Owner/Operator shall work with the Village to identify the source of such impact(s), evaluate alternative mitigation measures, and implement a mutually-agreeable solution to mitigating the impact(s).

Granted by the Village Board of the Village of Germantown, Washington County, Wisconsin
on the _____ day of _____, 2024.

Dean Wolter, Village President

ATTEST:

Donna Ott, Village Clerk

STATE OF WISCONSIN) SS
WASHINGTON COUNTY)
Personally came before me this _____ day of _____, 2024, the above
named Dean Wolter, Village President, and Donna Ott, Village Clerk, to me known to be the
persons who executed the foregoing instrument and acknowledged the same.

{type or print name of Notary on this line}

{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: _____

ACCEPTANCE OF TERMS AND CONDITIONS BY APPLICANT

I hereby accept the terms and conditions set forth in this Permit and realize that non-adherence to the terms and conditions as stated hereon may result in the revocation of this Permit by the Village of Germantown.

Dated this ____ day of _____, 2024

Jeff Osgood (Kwik Trip, Inc.), Applicant

STATE OF WISCONSIN) SS
_____) COUNTY)

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

{type or print name of Notary on this line}

{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: _____

ACCEPTANCE OF TERMS AND CONDITIONS BY PROPERTY OWNER

I hereby accept the terms and conditions set forth in this Permit and realize that non-adherence to the terms and conditions as stated hereon may result in the revocation of this Permit by the Village of Germantown.

Dated this ____ day of _____, 2024

Steven Schellin (Ben Venue Properties), Property Owner

STATE OF WISCONSIN) SS
_____) COUNTY)

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

{type or print name of Notary on this line}

{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: _____

This instrument was drafted by:

Jordan Yanke
Associate Planner
Village of Germantown, Wisconsin

CUP # xx-2024

Document No.

CONDITIONAL USE PERMIT

Document Title

**VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN
CONDITIONAL USE ZONING PERMIT**

Whereas the Applicants:

**Jeff Osgood, Kwik Trip, Inc., Applicant and
Ben Venue Properties, Property Owner**

agree to comply with applicable Codes and Ordinances of the Village of Germantown, Wisconsin, and further agrees that all work done pursuant to the permission granted herewith will conform with the applications and drawings filed with and approvals granted by officials of the Village for the purpose of obtaining this permit.

Now, therefore, this permit is issued to allow the use and operation of a "Motor Vehicle Filling Station" from the property located at N112 W18741 Mequon Road pursuant to Section 17.40.10(1)(m) and Section 17.40.12(3) of the Village Zoning Code.

Name & Return Address:

**Village of Germantown
P.O. Box 337
Germantown, WI 53022**

Parcel Identification No:

GTNV_282-990

**On the following described property located in the Village of Germantown,
Washington County, Wisconsin:**

Lot 2 of Certified Survey Map No. 2890, recorded in the Washington County Registry on April 29, 1986, in Volume 16 of Certified Survey Maps on Pages 129-132, as Document No. 490681, and being a part of the Northwest ¼ of the Northwest ¼ of Section 28 of the Northeast ¼ of the Northeast ¼ of Section 29, Town 9 North, Range 20 East, in the Village of Germantown, County of Washington, State of Wisconsin.

Tax Key No: 282-990

Address: N112 W18741 Mequon Road

Pursuant to the following condition(s):

1. Applicant/owner shall provide current copies of all federal, state, and local facility operation approval or certificates and on-going environmental monitoring results to the Village.
2. Applicant/owner shall establish environmental or safety structures/monitoring to include an operation safety plan, material processes and containment, operations monitoring, best management practices, stormwater runoff management, and groundwater monitoring.
3. Replace equipment or expand in a manner that improves the environmental and safety technologies in existence.
4. Prepare, file, and maintain a current contingency plan which details the response to any emergency which occurs at the facility, including notifying municipal, county, and state officials. Provide a current copy to the Village.
5. To the extent feasible, based upon scientific, engineering and economic factors, all site, building and other improvements shall be repaired, rebuilt, expanded, relocated, or substituted using best management practices, designs and technologies which are state of the art, such that they diminish the potential for wellhead contamination.

6. To the extent feasible, based upon scientific, engineering, and economic factors, the replacement, substitution, or augmentation of equipment and machinery and the installation thereof shall utilize state of the art equipment and machinery which diminishes potential for wellhead contamination.
7. The relocation of pre-existing uses or facilities is allowed provided all the following are met:
 - a. The pre-existing use or facility is relocated within the same Groundwater Protection Overlay District.
 - b. The new location meets all applicable separation distance requirements set forth under subsection 17.40.09.
 - c. The use or facility can obtain all applicable Federal, State and Local approvals and permits.
 - d. The owner of the property or current site from which the pre-existing use or facility is relocating from records a deed restriction against the property that prohibits future uses and/or facilities that require a conditional use permit under subsection 17.40.11 or are listed as a prohibited use in subsection 17.40.11. A copy of the recorded deed restriction shall be submitted to the Village.
 - e. The owner of the property or operator of the pre-existing use or facility being relocated causes the property and all structures, equipment, and systems located thereon to be altered and/or restored to a physical condition that can be reasonably expect to not cause groundwater contamination, including but not limited to the removal of storage tanks, pipes, and systems that previously contained or utilized hazardous, flammable, or other liquids or materials that had the potential to contaminate the Village's groundwater resources. Such alteration and restoration shall meet all applicable Federal, State, and Local agency requirements (e.g. Wisconsin's Cleanup Rules and Laws). Documentation providing proof of meeting this condition shall be submitted to the Village.
8. Applicant/company shall add the Village as an insured party on their Pollution Liability Insurance Policy. Proof of compliance with this condition shall be submitted to and accepted by the Village.

Granted by the Village Board of the Village of Germantown, Washington County, Wisconsin
on the _____ day of _____, 2024.

Dean Wolter, Village President

ATTEST:

Donna Ott, Village Clerk

STATE OF WISCONSIN) SS
WASHINGTON COUNTY)

Personally came before me this _____ day of _____, 2024, the above
named Dean Wolter, Village President, and Donna Ott, Village Clerk, to me known to be the
persons who executed the foregoing instrument and acknowledged the same.

{type or print name of Notary on this line}

{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: _____

ACCEPTANCE OF TERMS AND CONDITIONS BY APPLICANT

I hereby accept the terms and conditions set forth in this Permit and realize that non-adherence to the terms and conditions as stated hereon may result in the revocation of this Permit by the Village of Germantown.

Dated this ____ day of _____, 2024

Jeff Osgood (Kwik Trip, Inc.), Applicant

STATE OF WISCONSIN) SS
_____) COUNTY)

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

{type or print name of Notary on this line}

{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: _____

ACCEPTANCE OF TERMS AND CONDITIONS BY PROPERTY OWNER

I hereby accept the terms and conditions set forth in this Permit and realize that non-adherence to the terms and conditions as stated hereon may result in the revocation of this Permit by the Village of Germantown.

Dated this ____ day of _____, 2024

Steven Schellin (Ben Venue Properties), Property Owner

STATE OF WISCONSIN) SS
_____) COUNTY)

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

{type or print name of Notary on this line}

{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: _____

This instrument was drafted by:

Jordan Yanke
Associate Planner
Village of Germantown, Wisconsin

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: OneEnergy Development, LLC, Agent for Wayne Lutynski, Property Owner. Certified Survey Map (CSM) to combine existing parcels into one (1) lot. Property located at approximately N132W18100 Rockfield Road.

SUBMITTED BY: Jordan Yanke, Associate Planner

SUMMARY EXPLANATION:

OneEnergy Development, LLC, Agent for Wayne Lutynski, Property Owner. Certified Survey Map (CSM) to combine existing parcels into one (1) lot. Property located at approximately N132W18100 Rockfield Road.

ATTACHMENT:

1. STAFF REPORT_ONE ENERGY SOLAR
2. APPLICATIONS
3. PROJECT OVERVIEW
4. PROJECT NARRATIVE
5. OPERATIONS PLAN
6. SITE PLAN
7. CERTIFIED SURVEY MAP (CSM)
8. LANDSCAPE PLAN
9. LANDSCAPE MANAGEMENT PLAN
10. SOLAR GLARE ANALYSIS
11. DECOMMISSIONING PLAN
12. STAFF REVIEW MEMOS
13. NEIGHBORHOOD NOTICE & MAILING LIST
14. OPPOSITION PETITIONS
15. VILLAGE ATTORNEY MEMO

STAFF RECOMMENDATION:

APPROVE the Certified Survey Map (CSM), subject to (2) conditions.

ACTION BY Committee:

Plan Commission recommended to **DENY** the Certified Survey Map (CSM).

CERTIFIED SURVEY MAP (CSM) & SITE PLAN REVIEW

12/16/24 Village Board Meeting

OneEnergy Development, LLC / Wayne Lutynski

Village Staff Report & Recommendation

Germantown, Wisconsin

SUMMARY

OneEnergy Development, LLC, agent for Wayne Lutynski, property owner, is seeking approval of a Certified Survey Map (CSM) and site development plan to allow for an approximate 30-acre solar energy facility (i.e. "solar farm"). The site is zoned Agricultural (A-1) and is located at approximately N132 W18100 Rockfield Road in the Rural Preservation District.

Location: N132 W18100 Rockfield Road (Approximate Address)

Applicant/

Owner: OneEnergy Development, LLC
10 N Livingston Street, Suite 201
Madison, WI 53703

Wayne Lutynski
W167 N11183 Queens Court
Germantown, WI 53022

Zoning: A-1: Agricultural

Adjacent Land Uses		Zoning
North	Agricultural	A-1/A-2
South	Residential (Village & Town of Germ.)	RS-3/RS-4
East	Agricultural	A-1
West	Agricultural (Equestrian Center)	A-1



Background/Proposal

OneEnergy Development, LLC, agent for Wayne Lutynski, property owner, is seeking approval of a Certified Survey Map (CSM) and site development plan to allow for an approximate 30-acre solar energy project. The site is zoned Agricultural (A-1) and is located at approximately N132 W18100 Rockfield Road in the Rural Preservation District. As designated in the Comprehensive Plan institutional type uses are allowable in the Rural Preservation District, and the proposed use is a permitted use within the A-1 District requiring site plan review and approval.

As presented in the application, the proposed solar energy facility will consist of solar modules and associated collection equipment that delivers power to the electric grid serving local We Energies customers. The solar facility will have a capacity of six (6) megawatts (MW) capable of serving 1,400 average Wisconsin households. The on-site equipment will consist primarily of solar modules mounted on single-axis tracking racking. These panels generate direct current (DC) electricity. Approximately 24 inverters, situated throughout the array area, convert the DC electricity to alternating current (AC) electricity to allow it to be delivered to the existing electric distribution system. Two (2) transformers increase the AC voltage produced by the inverters to the grid voltage of the existing 3-phase distribution line to which the project connects.

The facility will be an unmanned plant that will operate through local and remote control and monitoring. The solar photovoltaic (PV) system will be monitored remotely through the Utility Energy Management System and the integrated Data Acquisition System (DAS), which signals alerts for any irregular operating condition. Scheduled maintenance will occur once annually to inspect all elements of the project to ensure optimal performance. After construction is complete (typically 4-6 months from start date and targeted for late 2025), there will be limited access to the site for periodic inspections (monthly), maintenance and vegetation management. Per submittal documents, the following are additional details associated with the proposal:

- Hours of Operation: The solar facility will operate during daylight hours. This facility will not be continuously staffed and will not be open to the public. It is anticipated that once construction is complete, operations and maintenance personnel (one or two people) will access the site once or twice per month for inspection or minor maintenance.
- Number of Employees: There will be no employees stationed at the facility. As noted in Item No. 1 above, one or two people will visit the site a once or twice each month for inspection and minor maintenance, as needed.
- Anticipated Customers: No customers will be served at the facility, and there will be no traffic associated with such customers. The renewable electricity generated from the facility will be used to serve the needs of local utility customers.
- Outside Storage: None proposed.
- Outdoor Activities: Inspection of the solar electric system and periodic maintenance as described above.
- Outdoor Lighting: No permanent outdoor lighting is proposed.
- Outside Loudspeakers: None.

-
- Proposed Signs: The site will only include necessary safety signage with contact information for the Project Operations team and an entrance sign.
 - Trash Removal: There will not be trash generated at this site.

As it pertains to this proposal, the expected useful lifespan of the project is 30-50 years, meaning the project will be decommissioned and the site restored after there is no longer an economical reason for the solar facility to keep operating. Note that a Solar Generating Facility Decommissioning Plan was provided by the applicant and is attached. During the project's existence the property owner intends to continue farming the portion of land unaffiliated with the solar facility.

According to their website ([link](#)), *"OneEnergy is a Public Benefit Corporation with a mission to fight climate change by making clean energy the number one source of electricity for consumers and utilities."* The company has five (5) listed office locations with a regional office in Madison, WI. OneEnergy has a portfolio that includes implementation of solar energy projects across the country, including 42 projects in the Midwest and 31 of those being in Wisconsin. More information on the company and their profile statistics are included in the attachments section.

Certified Survey Map (CSM)

The development site is currently comprised of four (4) parcels totaling 54 acres. The applicant submitted a Certified Survey Map (CSM) to combine the parcels to create one (1) lot for development purposes (i.e. applicable setbacks and development standards). Below are the parcels that would be combined into an individual lot:

- GTNV_091986 (10.0 Acres) – Vacant
- GTNV_091987 (8.37 Acres) – Vacant
- GTNV_092979 (20.0 Acres) – Vacant
- GTNV_092994 (16.0 Acres) – Existing Barn Structure

Site Plan

As indicated in the application and site plan, the proposed solar energy facility is approximately 30 acres in size and will contain the primary components of bifacial solar panels, inverters and transformers, access drive (16' width), perimeter 8' fencing, and vegetative screening. These components and additional details are spelled out further in this section.

Site & Land Use Summary

Total property acreage:	54.25
Solar facility acreage:	27.69
Access road acreage:	0.61
Module count:	11,960
Inverter count:	24
Solar Array Height:	8' (Average); 10' (Maximum)

Landscape and Buffering

The applicant submitted a landscape plan that includes vegetative screening along the southern boundary of the solar facility, running parallel to and on the outside of the perimeter fence/enclosed area. The screening is shown to run the entire width of the property with evergreen trees planted every 25'. It is understood the screening is proposed along the southern boundary of the facility as there are nearby homes, although several hundred feet away, to the south of the facility. The property to the west, which contains an equestrian center, is buffered by a natural tree line between the properties, while the properties to the north and east are large undeveloped plots of land. Finally, an 8' tall agricultural (i.e. deer-exclusion style) fence will enclose the site where the solar array panels are located.

Access and Traffic Circulation

Access to the site will be provided through a private driveway entrance (existing) from Rockfield Road. The drive will extend several hundred feet straight north from Rockfield Road until its terminus in the center of the solar panel area. The drive is proposed at 16' in width and made of aggregate material. Note that a separate property owner shares access to the driveway from Rockfield Road to gain entry into his/her private property where their home is located. The entry to this resident's property is roughly 80-100 feet north of Rockfield Road, meaning shared access is for that distance until the separate property owner's drive breaks off to the west.

Minimal traffic is anticipated in relation to the solar energy facility, as the applicant states the facility will not be continuously staffed and will not be open to the public. It is anticipated that once construction is complete, operations and maintenance personnel (one or two people) will access the site once or twice per month for inspection or minor maintenance. There will be no employees stationed at the facility and no customers will be served at the facility.

Vegetation Installation and Stormwater Management

The project proposal includes the installation of native prairie plants on site. A vegetation plan was submitted specifying that the site will be managed for native pollinator habitat after the construction of the solar arrays. According to the submitted vegetation plan, there are several benefits of pollinator habitats with native plantings on solar sites, including but not limited to the following:

- Restores soil by preventing erosion.
- Improves soil structure and fertility.
- Increases carbon storage.
- Diversifies microbial communities.
- Increase value of soil for future agricultural production.

In order to implement the pollinator habitat, the plan lays out site preparation tasks, temporary/permanent seeding timing, management and monitoring guidelines, which includes invasive species management. While native prairie plants are known to prevent stormwater runoff and improve surrounding water quality, the applicant is required to supplement the submitted vegetation plan with a stormwater management plan. The applicant will be required to submit a stormwater management plan subject to review

and approval by the Village Engineer prior to any construction activity or issuance of an Erosion Control Permit.

Utilities

As the purpose of this project is for the solar facility to produce and deliver power to the electric grid, there is a proposed point of connection with the electric grid at the site's entrance at Rockfield Road. Sanitary and water utilities are not needed/required to serve the proposed solar energy facility.

Signage Plan

Staff understands the only signage proposed is safety/wayfinding signage that includes contact information for the Project Operations team and an entrance sign.

Lighting

According to the application, no permanent outdoor lighting is proposed.

Recap/Update – 10/14/24 & 11/11/24 Plan Commission Meetings

This case was heard by the Plan Commission at its October 14 meeting, and the case was tabled/continued by the Plan Commission. During the meeting there was an abundance of questions from the Plan Commission, Town of Germantown, and the public, which the applicant responded to. For a summary of the discussion please refer to the meeting minutes from the 10/14 meeting, but for a list of the main questions brought up and the response provided by the applicant please see below:

- *Town of Germantown Road (Rockfield Road) and Potential Damages from Use*
"We often have a road agreement with jurisdictions in which we work, committing us to repair any damage caused by construction traffic. As part of this, we often have a haul route that all deliveries must follow, which usually minimizes traffic along subject Town roads... The haul route I drafted keeps trucks to the east of the project and uses about 0.5 miles of town road before turning onto county and state roads..."
- *Noise/Traffic During Construction and Consideration of the Nearby School*
"Project construction takes 4-6 months, and the majority of our work takes place over 2 months in the summer when school is not in session. We have natural limits to how many deliveries we can accept because of the number of staff on site. We can receive one or two trucks that are similar in size to a grain hauler delivering equipment per day. The greatest amount of traffic would be at the very beginning, with dump trucks hauling aggregate in to build the access drive, similar to constructing the access to a home that's set back a ways from the road. Long term, the project would have maybe one truck per month on the high side."
- *Power Route and Ending Location*
"The electricity produced by the solar project would be used by the nearest load (i.e. the people who live and work near to the project). The electricity will connect to the existing distribution lines along Rockfield Road with minimal upgrades. The plan shows an underground medium voltage line connecting from the project to an existing pole just west of the existing driveway."
- *Chemical Use to Clean Solar Panels and Potential Impact*

"The solar panels do not get cleaned because it rains frequently enough in this area that they do not experience significant soiling. Chemicals are not applied to the solar panels."

- *Glare from Solar Panels*

"The Glare Analysis we submitted shows no glare. The solar panels track the sun, and any reflection would therefore be angled back at the sun and not at neighboring properties."

- *Site Remediation Plan after Lease Contract*

"The project is required to be decommissioned at the end of its useful life or after any period of 12 months that it is not operational. This is guaranteed in the lease as well as our permit application materials. The Decommissioning Plan details the process for removal. These obligations are required of any future owner of the project, if for example OneEnergy went out of business or if the project was purchased by the utility company."

After the public comment period and applicant responses to the questions asked, the Plan Commission tabled/continued the case and directed staff to engage with the Town of Germantown regarding a Road Use Agreement for Rockfield Road in consideration of the project implementation process. The direction provided by the Plan Commission was that all parties (Village, Town, and OneEnergy) shall be involved in formulating a Road Use Agreement, so Village staff and the applicant reached out to Town officials and provided a draft Road Use Agreement for their review.

The Plan Commission heard this case again at its November 11 meeting. Due to the fact no formal meeting had taken place between the aforementioned parties by that time, the Plan Commission tabled/continued the case again. Since then, Village and Town officials were able to meet and discuss the draft Road Use Agreement. At this time the Road Use Agreement remains under review but progress has been made in terms of the communication between the parties and concerns with the initial draft being conveyed to the applicant (OneEnergy) so they can be addressed.

Staff Comments

Community Development: Planning and Zoning

The project site is in the "Rural Preservation District" under the Village's 2050 Comprehensive Plan and is zoned A-1 Agricultural. The Comprehensive Plan designation lists institutional type uses as allowable and the A-1 District is intended to provide for the continuation of general farming and related uses in those areas of the Village that are not committed to urban development. It is further the intent of the district to protect rural lands in the Village from urban development until their orderly transition into urban-oriented districts is required. Therefore, the proposed use of "solar energy conversion system" is a permitted use within the A-1 District.

Wisconsin has enacted statutes that protect solar development and limit municipal oversight. Wisconsin Statute § 66.0401 explicitly limits the authority of municipalities to regulate solar energy systems. Under Wis. Stat. § 66.0401(1m), municipalities may not place any restriction on the installation or use of solar energy systems unless the restriction satisfies one of the following conditions:

-
- Serves to preserve or protect the public health or safety;
 - Does not significantly increase system cost or decrease efficiency; or
 - Allows for an alternative system of comparable costs and efficiency.

The above-mentioned statute is not superseded by municipal zoning powers. As proposed, however, the project complies with the A-1 District zoning standards. The solar array structures comply with setbacks, building height, and the proposed agricultural fence complies with code. While there is no applicable lot coverage standard in the A-1 District, there is little change to the amount of impervious surface quantity through implementation of the project.

OneEnergy has committed through its lease agreement with the landowner to remove the system at the end of the project life, including provisions to ensure that there is adequate financial security set aside to perform such decommissioning. When the project is decommissioned, all infrastructure will be removed, and the site will be restored to predevelopment conditions for continued agricultural use with rested and restored soils. Please see attached Decommissioning Plan.

Additionally, the applicant submitted a Glare Analysis performed by ForgeSolar. According to the analysis there was no glare found for all photovoltaic (PV) solar arrays.

Community Development: Inspection Services

State agency (DSPS) approved plans and a \$20,000 bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS to provide all commercial plan review and inspection services through SAFEBuilt of Wisconsin and the Village of Germantown.

Public Works/Village Engineer/Village Surveyor

The Village Engineer and Village Surveyor have identified technical issues and plan revisions that need to be resolved or otherwise addressed by the applicant prior to commencing construction activities. The applicant will be required to submit a stormwater management plan subject to review and approval by the Village Engineer prior to any construction activity or issuance of an Erosion Control Permit. Staff is recommending a condition requiring all outstanding items and issues identified in the following review memos be resolved and reflected in additional information and/or revised plans submitted to staff for further review, comment, and approval prior to commencing any site construction:

- September 14, 2024 – Review Memo from Village Surveyor
- September 25, 2024 – Review Memo from Village Engineer

Village Forester

After review of the landscape screening and vegetation plan, the Village Forester had one comment for the applicant to address as follows: “Include evergreen tree species selection, nursery stock selection, and caliper sizes. Additionally, include planting/tree installation specifications.” The applicant acknowledged this review comment and has submitted a response and revised plan for staff review.

Fire and Police Departments

The Fire Department is requiring an additional ingress/egress point to the solar facility on the northeast side. The additional access point can be provided by installing a gate per the Fire Department, which the applicant since has acknowledged and agreed to. No comments were made by the Police Department.

Legal

The Village received two (2) petitions in opposition of this project. The petitions have been signed and notarized and were submitted to the Plan Commission and Village Board. Both petitions are attached to this memo.

Staff has requested the Village Attorney to review each petition and advise if they have any legal impact or standing as it applies to the subject zoning applications. The attorney review is pending.

VILLAGE STAFF RECOMMENDATIONS

APPROVE the proposed 1-lot Certified Survey Map (CSM) for OneEnergy Renewables solar project located at approximately N132 W18100 Rockfield Road, subject to the following conditions:

1. All technical issues and corrections identified by the Village Surveyor (see September 14, 2024, memo from Bob Beilfuss, PLS) shall be addressed and reflected in a revised CSM reviewed and approved by Village staff prior to recording.
2. The CSM be revised to denote a front setback of 60' in accordance with the A-1 District. Any pre-existing structures found to be within this setback shall be noted as "nonconforming" on the CSM.

APPROVE the site development plan submitted by OneEnergy Development, LLC for a solar energy facility approximately 30 acres in size containing bifacial solar panels, inverters and transformers, access drive (16' width), perimeter 8' fencing, and vegetative screening for property located at approximately N132 W18100 Rockfield Road, subject to the following conditions:

1. This approval is for the plan sheets that comprise the site plan set as noted below and is subject to compliance with all the conditions and requirements set forth herein and subsequently adopted and/or revised by the Plan Commission. Approval is granted for the following unless superseded by subsequent plan sheets approved by Village Staff pursuant to revisions required herein and/or by the Plan Commission:
 - a. *Site Development Plan dated October 2, 2024.*
 - b. *Vegetative Screening Plan dated August 26, 2024.*

If revised plan sheets are necessary, each revised sheet shall contain the date of said revision clearly stamped in the lower right corner.

-
2. The Vegetative Screening Plan shall be subject to final acceptance by the Village Forester and Community Development staff prior to commencement of construction.
 3. The technical issues and plan revisions identified in the September 25, 2024, memo from the Village Engineer shall be addressed in revised plan sheets and/or supplemental documents as necessary prior to commencing construction activities or issuance of an Erosion Control Permit.
 4. Site operations are limited to the proposed activity by the applicant per the submitted/attached "Solar Generating Facility Operations Plan".
 5. State agency (DSPS) approved plans and a \$20,000 bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS and may be used as an alternative to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.
 6. A gate shall be installed providing another ingress/egress point into the solar array facility on the northeast side of the development site. The gate installation and specifications shall be approved and inspected by the Fire Department prior to commencement of facility operations.
 7. Applicant shall install the agricultural/wildlife perimeter fence with openings at the bottom (i.e. at-grade) to allow greater wildlife movement.
 8. The maximum height of the solar array panels (i.e. structures) shall be 10' from established grade.
 9. All temporary and permanent exterior signs require a permit and shall comply with all current Village sign regulations and requires a permit if/when allowed.
 10. Applicant shall provide a commitment to the Village including provisions to ensure that there is adequate financial security set aside to perform the specified decommissioning of the project and any restoration needed to be performed to the shared access drive after construction of the project or its decommissioning. Said commitment shall be reviewed and approved/accepted by the Village Attorney.
 11. Applicant/company shall enter into (i.e. sign) a road use/maintenance agreement with/between the Town of Germantown and Village of Germantown specifying terms of use of Rockfield Road during the construction and implementation process for the project. Such agreement shall stipulate terms for any use of Class A weight vehicles on Rockfield Road and shall be approved/accepted by the Village Attorney prior to commencement of construction or issuance of any permits, including an Erosion Control Permit.
 12. Pursuant to Section 17.47 of the Zoning Code, if the Village observes and/or receives complaints regarding negative impacts associated with and/or created by construction activities or the facility's day-to-day operation on the property, including but not limited to glare, noise, or dust, among other things, the Property Owner/Operator shall work with the Village to identify the source of such impact(s), evaluate alternative mitigation measures, and implement a mutually-agreeable solution to mitigating the impact(s).



Village of



Fee must accompany application

☐ \$2,900 with public improvements

☒ \$1,960 no public improvements

Paid OR Date 8/9/24
CHK # 004856

CERTIFIED SURVEY MAP APPLICATION

Pursuant to Section 18.06 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

OneEnergy Development, LLC

PROPERTY OWNER

Wayne Lutynski

Phone (262) 573-3089

Fax ()

E-Mail peter@oneenergyrenewables.com

Phone (414) 659-8901

PROPERTY ADDRESS OR GENERAL LOCATION

TAX KEY NUMBER

2 Approximately 43.257821, - 88.131597

091986, 091987, 092979, 092994

3 PURPOSE OF LAND SPLIT

Combine parcels

Will the land split require rezoning?

No

From

To

4 READ AND INITIAL THE FOLLOWING:

X

I understand that the Certified Survey Map is not valid until recorded at the Washington County Register of Deeds. The Village will record the document and charge the applicant all applicable recording fees.

X

I understand that the Map will not be placed on the Village Board agenda until all the technical corrections to the CSM are made, the payment of any outstanding impact fees are paid to the Village Clerk's Department, and the original signed and stamped copy of the Map is submitted on the proper paper.

X

I understand that parcels created outside the Sewer Service Area will require a soil test. I also understand that all properties abutting a State Highway will require DOT approval and I will be responsible for securing such approval prior to recording.

X

I understand all delinquent property taxes on any of the properties involved shall be paid prior to recording.

5 SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Applicant

8/6/2024

Date

Owner

8/6/24

Date

OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

Page 530 of 646

**Fee must accompany application**

- ☐ \$700 Minor Addition
- ☐ \$1,240 Construction <10,000 SF
- ☐ \$2,095 Construction 10,000 SF to 50,000
- ☐ \$3,460 Industrial Construction >50,000 SF
- ☐ \$3,460 Commercial Construction >50,000
- ☒ \$200 Plan Commission Consultation
- ☐ \$125 Fire Department Plan Review

PAID

DATE

8/9/24

CHK #004856

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. All applications must be signed and dated.

1**APPLICANT OR AGENT**

OneEnergy Development, LLC

Phone (262) 573 - 3089

E-Mail peter.murphy@oneenergyrenewables.com

PROPERTY OWNER

Wayne Lutynski

Phone (414) 659 - 8901

E-Mail

2**PROPERTY ADDRESS**

To be assigned. Approximately 43.257821°, -88.131597°

3**NEIGHBORING USES** – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.North Saddle Up LLC, A-2, Agricultural
(Horse Stable),
MARLENE KASTEN, MARY LYNN
PROST ET AL, A-1, AgriculturalSouth
Residential homes, RS-3 & RS-4East
Milwaukee Metropolitan
Sewerage District, A-1,
AgriculturalWest
Saddle Up LLC, A-1,
Agricultural (Horse
Stable)**4****READ AND INITIAL THE FOLLOWING:**

- ☒ I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.
- ☒ I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.
- ☒ I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

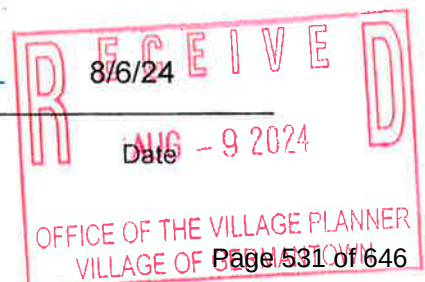
5**SIGNATURES** – ALL APPLICATION MUST BE SIGNED BY OWNER!

8/6/2024

Applicant

Wayne Lutynski (Aug 6, 2024 13:28 CDT)

Owner

OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN
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GERMANTOWN SOLAR Project Overview

OneEnergy Renewables is in the process of developing a 6 MW solar project in the Village of Germantown, Washington County, WI. The project is located north of Rockfield Road (Please see site plan on reverse). OneEnergy Renewables will develop, design, and construct the solar project, and electricity from the project will serve local We Energies customers.

The project will occupy approximately 30 acres, and has an expected useful life of 30-50 years, providing clean, local renewable energy for years to come. At the height of construction, roughly 30 people will be employed on this project. *Solar installer* is one of the fastest growing jobs in the USA.

SYSTEM STATISTICS

6 Megawatts
~30 acres
~12,000,000 kWh per year

MAIN SYSTEM COMPONENTS

- Single-axis tracker (tracks the sun from east to west throughout the day)
- Bifacial solar panels
- Inverters
- Transformers

12,000,000 kWh of electricity per year, equivalent to...



1,400

AVERAGE WISCONSIN
HOUSEHOLDS



9,241

TONS OF CO₂ AVOIDED,
LIKE TAKING 1,600+
CARS OFF THE ROAD*



9,787

ACRES OF U.S.
FOREST CARBON
SEQUESTRATION*

Sustainable Design and Construction

The area beneath and around the panels will be planted to a low-growing perennial pollinator mix. This increases water infiltration relative to conventional row-cropping. Water that flows off solar panels is safe for people and wildlife.

The project area will be fenced within an 8' tall deer-exclusion style fence, similar to what one might find around an orchard. The area surrounding the project will continue to be farmed.

When the project is decommissioned, all infrastructure will be removed, and the site restored to pre-development conditions for continued agricultural use with rested and restored soils.

Contact

PETER MURPHY
PROJECT MANAGER

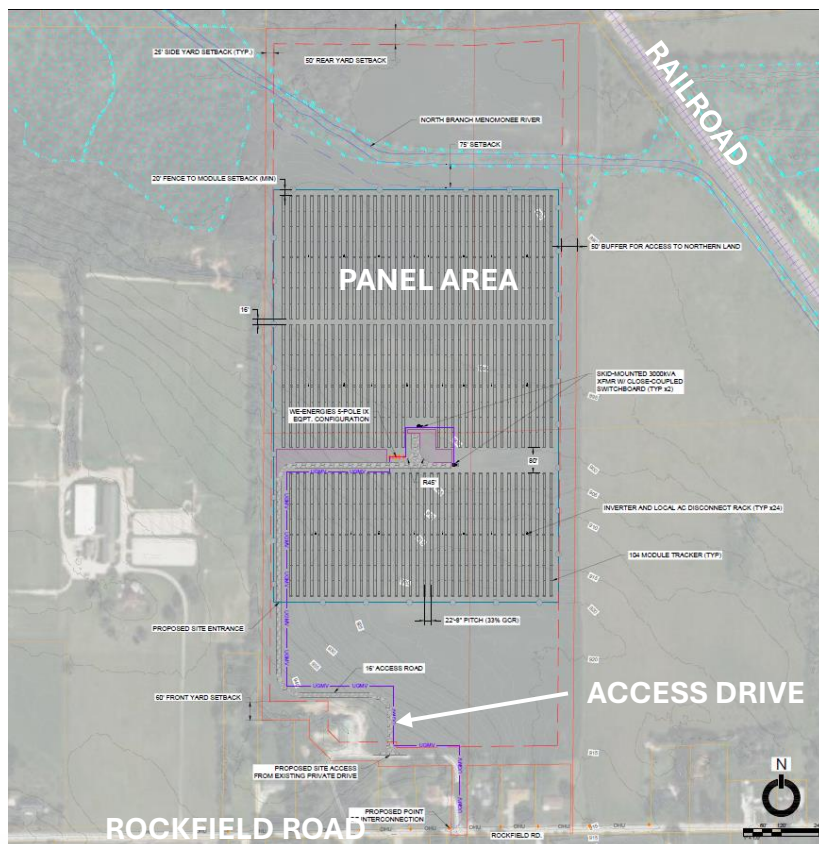
(414) 768-2590 |C

peter@oneenergyrenewables.com

10 N. Livingston St, Suite 201
Madison, WI 53703



PROPOSED GERMANTOWN SOLAR PROJECT SITE PLAN



Village of Germantown, WI

Germantown Solar Project

Applicant:

**OneEnergy Development, LLC
10 N. Livingston St., Suite 201
Madison, WI 53703**

Contents

A. General Land Use Description.....	3
B. Description of Equipment	3
C. Scale Map of the Project Site	7
D. Landscaping.....	7
E. Wetland and Drainage Facilities	7
F. Construction Schedule	8
G. Operations & Vehicular Traffic Description	8
H. Decommissioning and Removal	9
I. About OneEnergy.....	9

Exhibits

Exhibit A – Site Plan

Exhibit B – Operations Plan

Exhibit C – Vegetation Management Plan

Exhibit D – Project Profile

Exhibit E – Decommissioning Plan

Exhibit F – Survey Map

Exhibit G – Glare Analysis



Background

The Germantown Solar Project (the “Project”) is a proposed 6 Megawatt solar generation facility. OneEnergy Development, LLC (“OneEnergy” or “the Applicant”) will develop, engineer, and construct the Project.

The Applicant will complete all environmental studies and surveys required to construct the Project, including the following: wetland delineation, Phase I Environmental Site Assessment, soil analysis, Wisconsin State Historical Preservation Office, and endangered resources review. The Project is not expected to impact natural resources.

The Applicant intends to start construction on the Project in the spring of 2025, pending receipt of all required permits and approvals and availability of key equipment for the project. Construction of the project is expected to take approximately 4-6 months. If construction starts in spring of 2025, the Project is expected to be completed by the end of 2025. If construction is delayed due to key equipment availability or other issues until spring of 2026, the project is expected to be constructed and operational by the end of 2026. Once complete, the Project will generate local power for local customers within We Energies’ service territory.



Strobus Solar Project in Black River Falls, WI

A. General Land Use Description

Location

The Project is located on approximately 30 acres of vacant land in the Village of Germantown known as parcels 092994, 092979, 091987, and 091986 at the north of Rockfield Road and east of Maple Road. The land is part of a larger 54-acre group of parcels owned by Wayne Lutynski.

Zoning

The proposed Project is situated on land that is zoned A-1 Agricultural Preservation District. Adjacent parcels are farms, several homes, and a horse training facility, zoned A-1, A-2, RS-4, and RS-3.

Setbacks

OneEnergy commits to following all applicable Setbacks (please see Village of Germantown Ordinance 17.12(5) and 24.04)

- (a) Front Setback. 60 feet, minimum.
- (b) Side Yards. 25 feet, minimum, except that bee hives and buildings used for keeping livestock and poultry, and all new buildings constructed after the effective date of this Code shall have yards of not less than 50 feet.

(c) Rear Yard. 50 feet, minimum.

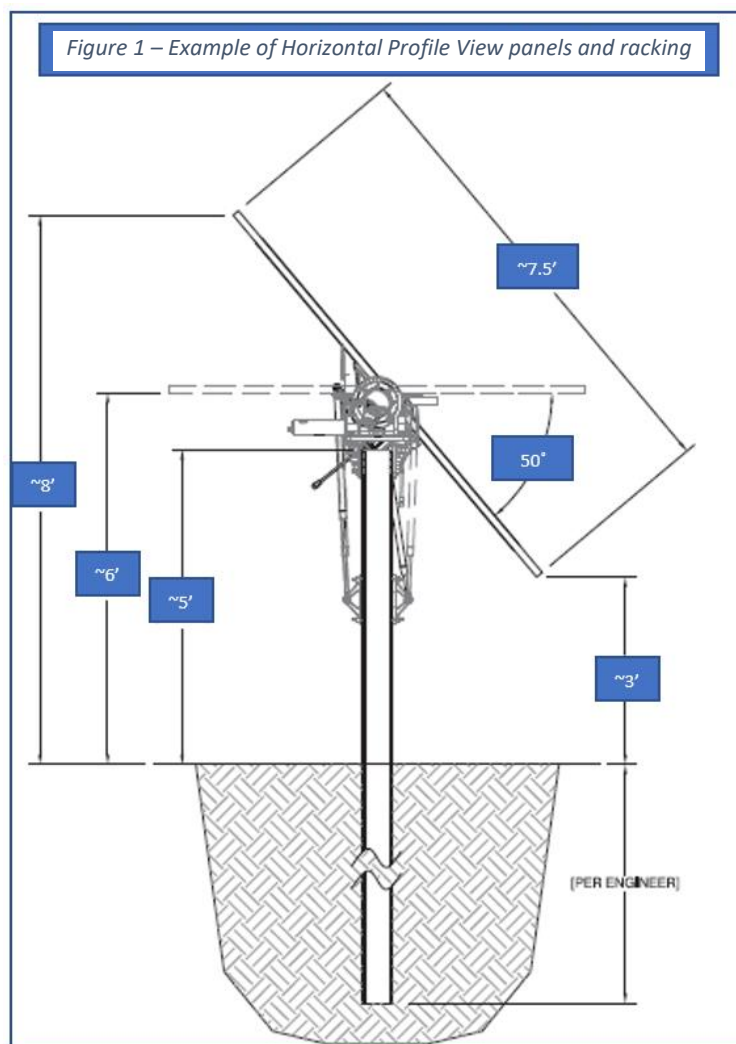
Setback from navigable waterway located to the north: 75'

Description of Equipment

Racking and Panels

The racking for the proposed project consists of driven steel I-Beams that are embedded approximately 10' into the ground, and extend approximately 5' above ground. A torque tube connects to the top of the I-Beams, and the panels are mounted to the top of the torque tube. All components of the racking system are galvanized steel.

Below is a depiction of the horizontal profile view of the panels and racking, which will run in rows from north to south throughout the site and will track the sun from east to west throughout the day. At their maximum angle in morning and evening, the panels are 50 degrees from horizontal facing either east (morning) or west (evening). At mid-day, the panels are flat. At their maximum tilt angle in morning and evening, the tallest part of the panel is ~8' above ground level.



Solar Panels

Crystalline silicon solar PV panels, which represent ~95% of the installed solar panels in the US, consist primarily of tempered glass, silicon wafers, anodized aluminum, and wiring, all of which can be recovered and recycled at the end of their useful life. PV panels are extremely durable and built for long service life, as indicated by their 30-year warranty.

Inverters, Transformer, Electrical Rack

The inverters, electrical panels and transformers will be located in the middle of the project as depicted in the site plan. Most equipment (inverters, electrical panel, etc.) will be mounted on driven pilings similar to the pilings that support the solar panels and racking with a maximum height of 8 feet. The transformers and disconnects will be mounted on a concrete pad. These pieces of electrical equipment look similar to what you would see at a large load service like a grocery store.

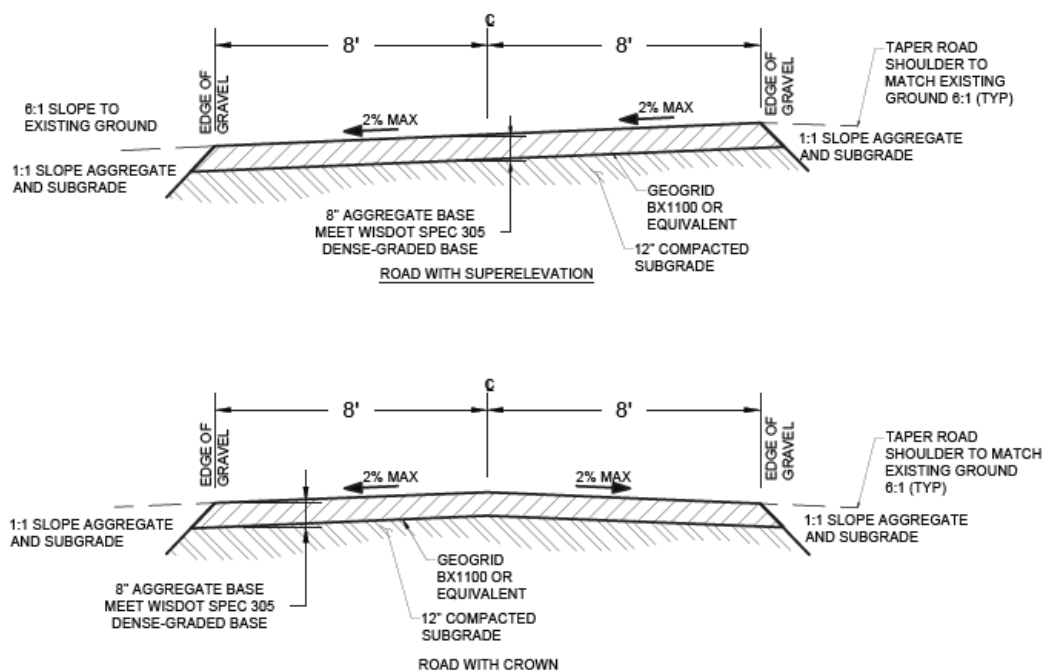


Image 3 - Hodag Solar Project in Rhinelander, WI

Access Drive

The access drive is proposed to be 16' wide and will come off of Rockfield Road. The access drive will be installed below depending on the slope. The access drive is installed at-grade to minimize changes to existing drainage patterns.

Figure 2 – Example of Access Drive Design Detail



Fence

A fence will surround the solar project and will be an 8' tall agricultural-style fixed knot wildlife exclusion fence similar to what you might see around an orchard. The fence will have either wood or steel posts.



Image 4 – Fence at Rushford Village Solar Project in Rushford Village, MN



Image 5 – Fence at Blue Prairie Solar Project in Black River Falls, WI

B. Scale Map of the Project Site

Please see **Exhibit A - Proposed Site Plan** for dimensions and location of proposed facilities. OneEnergy designs our projects using highly efficient bifacial solar panels and single-axis tracking racking. Using this equipment, a 6 Megawatt solar system can be located on approximately 30 acres of relatively flat topography and, most importantly, consistent elevations in the north-south direction.

The proposed project is expected to produce enough electricity for approximately 1,400 average Wisconsin residences, or almost 17% of the electricity needs of the Village of Germantown's approximately 8,280 households.

C. Landscaping

The Project will be developed in a manner that complements the agricultural setting by using an agricultural-style fence, either a pasture for grazing sheep or a pollinator seed mix to attract bees and birds. Topsoil integrity will be preserved throughout construction by pre-seeding a cover crop prior to construction to minimize erosion and compaction, as well as by minimizing grading within the site. The permanent seeding will



take place after construction is complete, and will conform with Wisconsin DNR recommendations for solar projects. The final landscape plan will be developed in partnership with the Wisconsin DNR and in compliance with all applicable stormwater requirements. By planting dense perennial vegetation beneath and around the solar panels, the project provides ecosystem services associated with pollinator benefits, soil building, increased water infiltration and reduced stormwater runoff compared to regularly tilled farmland. Please see **Exhibit C –Vegetation Management Plan**.

D. Wetland and Drainage Facilities

The project is designed to minimize soil disturbance and drainage alterations as much as possible. OneEnergy anticipates limited ground disturbance for the installation of the solar array and will ensure all grading is done in compliance with recommended best practices for stormwater and sediment erosion control. Because the project will occupy more than one acre, OneEnergy will be required to comply with the Wisconsin Department of Natural Resources NPDES Construction General Permit, which has the following requirements:

- Implement Best Management Practices to control sedimentation during construction, i.e. silt fencing, fiber logs, temporary stabilization, etc.
- Submittal of a Water Resource Application for Project Permits (WRAPP)
- Develop a Stormwater Management Plan approved by the Wisconsin DNR prior to commencement of construction

Sedimentation will be controlled from leaving the project area after construction by changing the land use of the project area from cultivated agricultural land to nearly 100% vegetated ground cover. The pollinator meadow growing beneath and around the solar panels acts as a vegetative buffer that covers ~95% of the site. Runoff from the access roads and concrete pads will travel through the vegetative cover prior to leaving the project area. Water that runs off panels into the proposed dense pollinator planting below will act as a natural vegetative buffer which will increase infiltration and act as erosion control to help the site meet required standards.

OneEnergy solicited records from the landowner on any known drain tile on the property, reviewed aerial photographs available on Google Earth, and studied the Project Area for evidence of drain tile. OneEnergy then contracted environmental resource specialists Emmons & Olivier Resources (EOR), to evaluate the Project site for evidence of drain tile. Based on all available information and EOR's expert opinion, there is not expected to be drain tile within the project area

E. Construction Schedule

OneEnergy's goal is to finalize engineering in the winter of 2024-2025, to enable purchasing of long-lead equipment in early 2025 and construction during the months of May to October, 2025. If construction is delayed due to key equipment availability or other issues until spring of 2026, the project is expected to be constructed and operational by the end of 2026.

A project of this size typically takes 4-6 months to construct. The Project is intended to start construction in the summer of 2025 and be complete by the end of 2025. A tentative construction schedule is as follows:

Civil Work and Fencing Install	5/1/2025	5/31/2025
Pile Installation	6/1/2025	7/1/2025
Racking and Module Installation	7/1/2025	9/1/2025
Wiring and Transformer Installation	9/1/2025	10/15/2025
Pollinator Seeding and Revegetation	10/15/2025	11/1/2025
Target In-service Date	11/1/2025	

F. Operations & Vehicular Traffic Description

During operation, the Facility will be an unmanned plant that will operate through local and remote control/monitoring. Please see **Exhibit B –Operations Plan**. During construction, we anticipate that there will be between 5 and 30 construction workers on-site for the 6-month period (May-October) during which the bulk of construction will take place. Adequate provision for parking of such construction staff has been included in the design of the laydown area within the site perimeter. Additionally, deliveries will be expected during business hours. It is not expected that more than 3-4 delivery trucks will arrive at the site per day during construction. Following construction, traffic will be very limited. We typically expect approximately one pickup truck to visit the site per month during the operational period for routine site maintenance and mowing.



G. Decommissioning and Removal

OneEnergy has committed through its lease agreement with the landowner to remove the system at the end of the project life, including provisions to ensure that there is adequate financial security set aside to perform such decommissioning. When the Project is decommissioned, all infrastructure will be removed, and the site will be restored to predevelopment conditions for continued agricultural use with rested and restored soils. Please see **Exhibit E – Decommissioning Plan**.

H. About OneEnergy

OneEnergy is the leading developer of community-scale solar projects in Wisconsin, having developed 42 projects in Wisconsin and adjacent states totaling 155 MW, and 31 projects totaling 125 MW in Wisconsin that are currently operating or under construction. Our regional team, consisting of developers, engineers, legal and construction managers based out of our Madison office, completed development, engineering and in 2023 managed the construction of 16 projects in Wisconsin, including:

- A series of four 7.5 Megawatt projects for WE Energies located in Kenosha, Washington, Walworth and Shawano Counties
- A portfolio of 10 projects for rural electric cooperatives in Western Wisconsin.

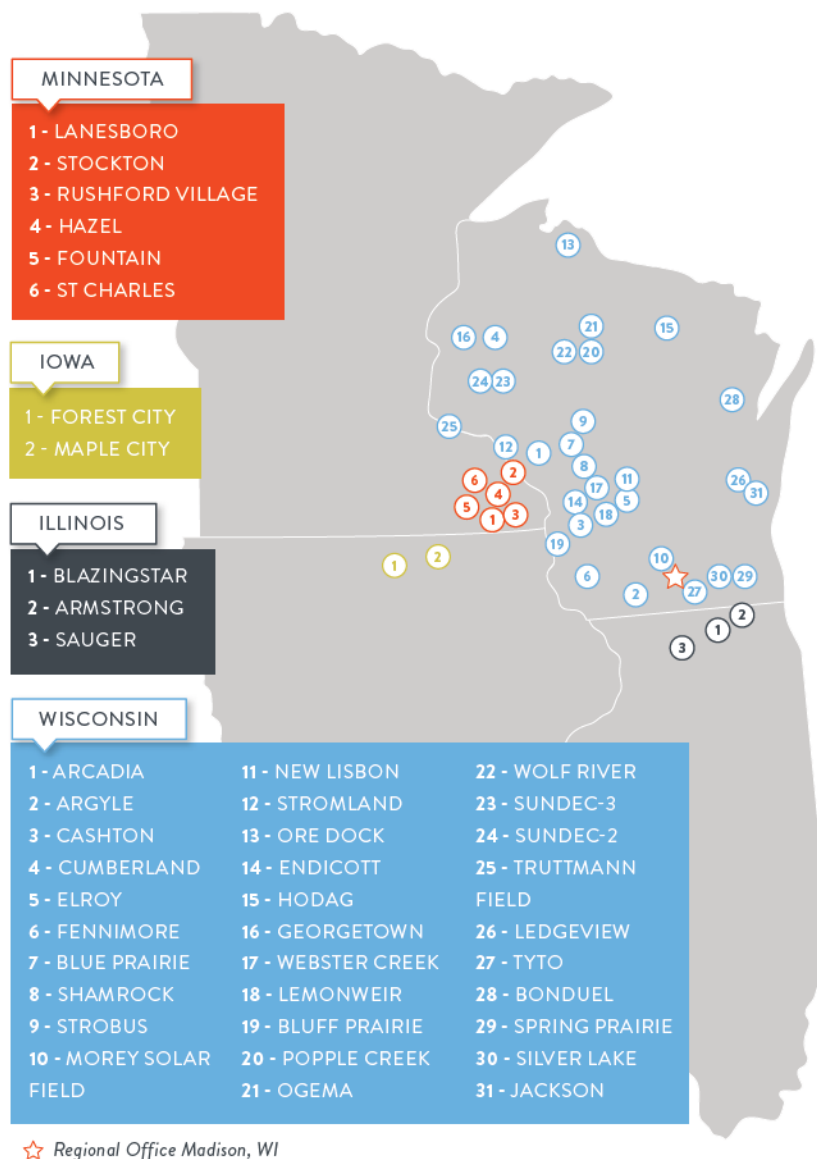


Figure 3 – OneEnergy Midwest Solar Projects

OneEnergy Renewables

Germantown Solar Project

Solar Generating Facility Operations Plan

Type of Activity Proposed: OneEnergy Development, LLC is proposing to build a solar generation project (the “Facility” or “Project”) located on approximately 30 acres, consisting of solar modules and associated collection equipment that delivers power to the electric grid. The Facility will have a maximum capacity of 6 MW AC. The on-site equipment at the Facility will consist primarily of solar modules mounted on single-axis tracking racking. These panels generate direct current (DC) electricity. Approximately 24 inverters, situated throughout the array area, convert the DC electricity to alternating current (AC) electricity to allow it to be delivered to the existing electric distribution system. Two transformers increase the AC voltage produced by the inverters to the grid voltage of the existing three-phase distribution line to which the Project connects.

The Facility will be an unmanned plant that will operate through local and remote control and monitoring. The PV system will be monitored remotely through the Utility Energy Management System and the integrated Data Acquisition System (DAS), which signals alerts for any irregular operating condition. Scheduled maintenance will occur once annually to inspect all elements of the project to ensure optimal performance. After construction is complete, there will be limited access to the site for periodic inspections (monthly), maintenance and vegetation management.

The Facility will provide solar electricity to serve the needs of local utility customers.

1. **Hours of Operation:** The solar facility will operate during daylight hours. This Facility will not be continuously staffed and will not be open to the public. It is anticipated that once construction is complete, operations and maintenance personnel (one or two people) will access the site once or twice per month for inspection or minor maintenance.
2. **Number of Employees:** There will be no employees stationed at the Facility. As noted in Item No. 1 above, one or two people will visit the site a once or twice each month for inspection and minor maintenance, as needed.
3. **Anticipated Customers:** No customers will be served at the Facility, and there will be no traffic associated with such customers. The renewable electricity generated from the Facility will be used to serve the needs of local utility customers.
4. **Outside Storage:** None proposed.
5. **Outdoor Activities:** Inspection of the solar electric system and periodic maintenance as described above.
6. **Outdoor Lighting:** No permanent outdoor lighting is proposed.
7. **Outside Loudspeakers:** None.
8. **Proposed Signs:** The site will only include necessary safety signage with contact information for the Project Operations team and an entrance sign.
9. **Trash Removal:** There will not be trash generated at this site.

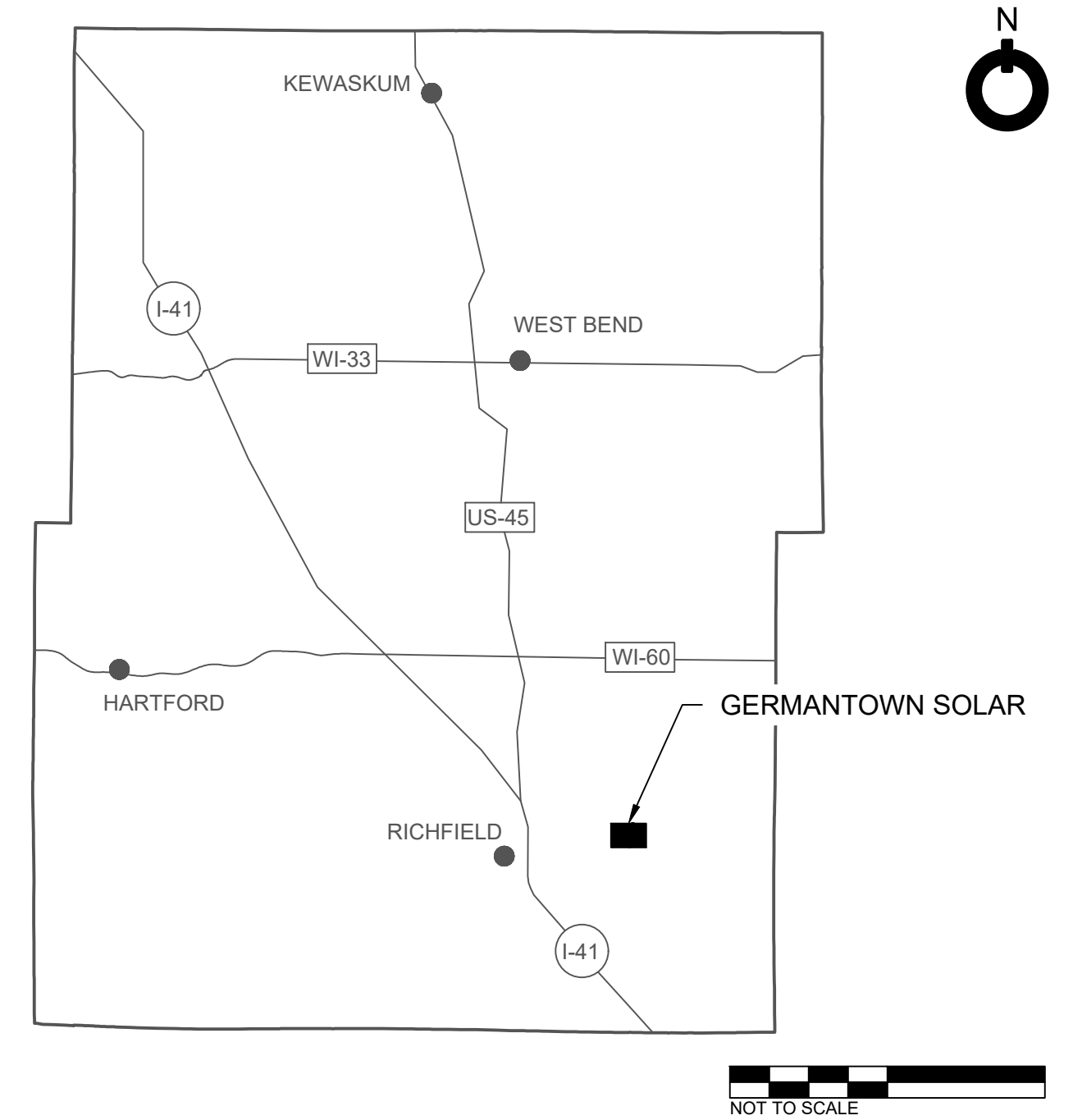
WASHINGTON COUNTY, WISCONSIN

SOLAR PV PROJECT
6.877 MWDC / 6.000 MWAC

LEGEND

- | | |
|---|------------------------------|
| | PROJECT AREA PARCEL BOUNDARY |
| | ZONING SETBACK |
| | RIGHT-OF-WAY |
| | NEIGHBORING PARCEL |
| | TREELINE (E) |
| | FEMA FLOODPLAIN |
| | FLOODPLAIN SETBACK |
| | PERIMETER FENCE (P) |
| | GRAVEL ACCESS ROAD |
| | STAGING AREA |
| | UG MV |
| | OH ELECTRICAL (P) |
| | OH ELECTRICAL (E) |
| | UTILITY POLE (E) |
| | UTILITY POLE (P) |

WASHINGTON COUNTY MAP



PROJECT DETAILS

THIS PROJECT CONSISTS OF THE DESIGN AND INSTALLATION OF 6.000 MWAC SOLAR PHOTOVOLTAIC SYSTEM. MODULES ARE TO BE MOUNTED IN A SINGLE AXIS TRACKERS, WHICH FOLLOW THE SUN FROM EAST TO WEST THROUGHOUT THE DAY.

SITE DETAILS:

PARCEL ID	092994, 092979, 091987, 091986
OWNER:	WAYNE LUTYNSKI
ACREAGE:	54.25
EXISTING ZONE:	A-1

DESIGN SUMMARY:

MODULE POWER:	575 W
MODULE COUNT:	11960
ARRAY DC VOLTAGE:	1500 V
INVERTER SIZE:	250 kW / 250 kVA
INVERTER COUNT:	24
DC SIZE:	6.877 MWdc
AC SIZE:	6.000 MWac
DC/AC RATIO:	1.146
GROUND COVERAGE RATIO:	33.0 %
ASCE 7-16 GSL:	30 PSF
ASCE 7-16 WIND SPEED:	100 MPH

ADDITIONAL NOTES:

- BASEMAP DEVELOPED FROM ALTA FIELD SURVEY
- PARCEL DATA TAKEN FROM ALTA FIELD SURVEY
- FEMA FLOOD HAZARD ZONE FROM GIS DATA



2003 Western Ave, Suite 225
Seattle, WA 98121
oneenergyrenewables.com
206 922 7072

WRITTEN DIMENSIONS ON THIS PLAN SHALL SUPERCEDE SCALED DIMENSIONS. CONTRACTORS ARE RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS. THIS DRAWING, DESIGN, CONCEPT AND ARRANGEMENT REMAIN THE PROPERTY OF ONEENERGY RENEWABLES AND SHALL NOT BE COPIED, DISCLOSED OR REPRODUCED WITHOUT CONSENT.

[illegible]

PRELIMINARY

NOT FOR CONSTRUCTION

GERMANTOWN SOLAR
ONEENERGY RENEWABLES

43.257821°, -88.131597°
WASHINGTON COUNTY, WISCONSIN

SHEET TITLE: DEVELOPMENT LAYOUT

SHEET NO:

D-100

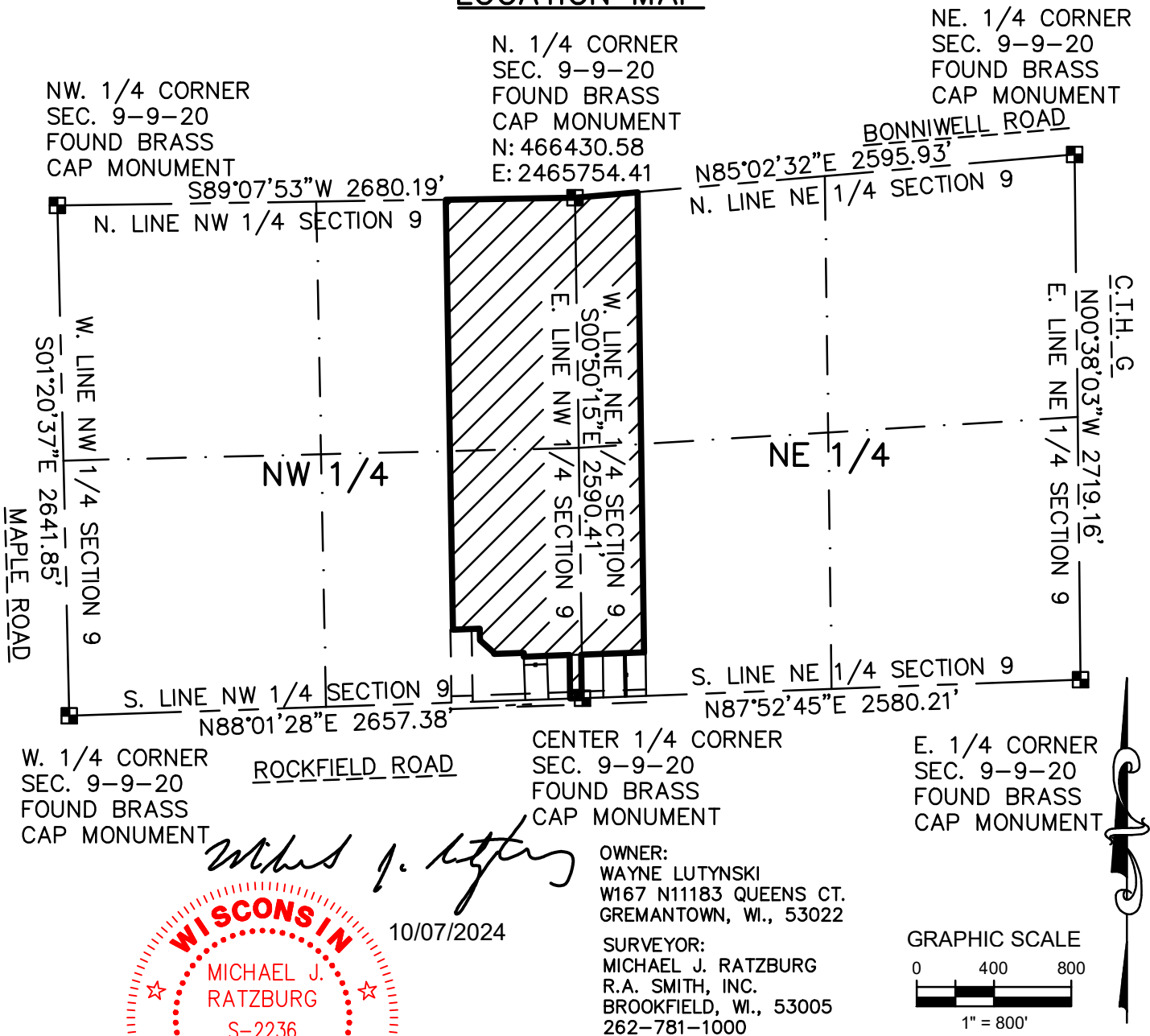
CERTIFIED SURVEY MAP NO. _____

A division of a part of the Northeast 1/4 and Southeast 1/4 of the Northwest 1/4 and part of the Northwest 1/4 and Southwest 1/4 of the Northeast 1/4 of Section 9, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

- ▲ INDICATES FOUND 3/4" IRON ROD, UNLESS NOTED
- INDICATES FOUND 1" IRON PIPE, UNLESS NOTED
- △ INDICATES SET MAG NAIL
- INDICATES SET 1.315" O.D. IRON PIPE AT LEAST 18" IN LENGTH, 1.68 LBS. PER LINEAL FOOT.
- ⓓ INDICATES DEDICATED TO THE VILLAGE OF GERMANTOWN FOR PUBLIC ROAD PURPOSES

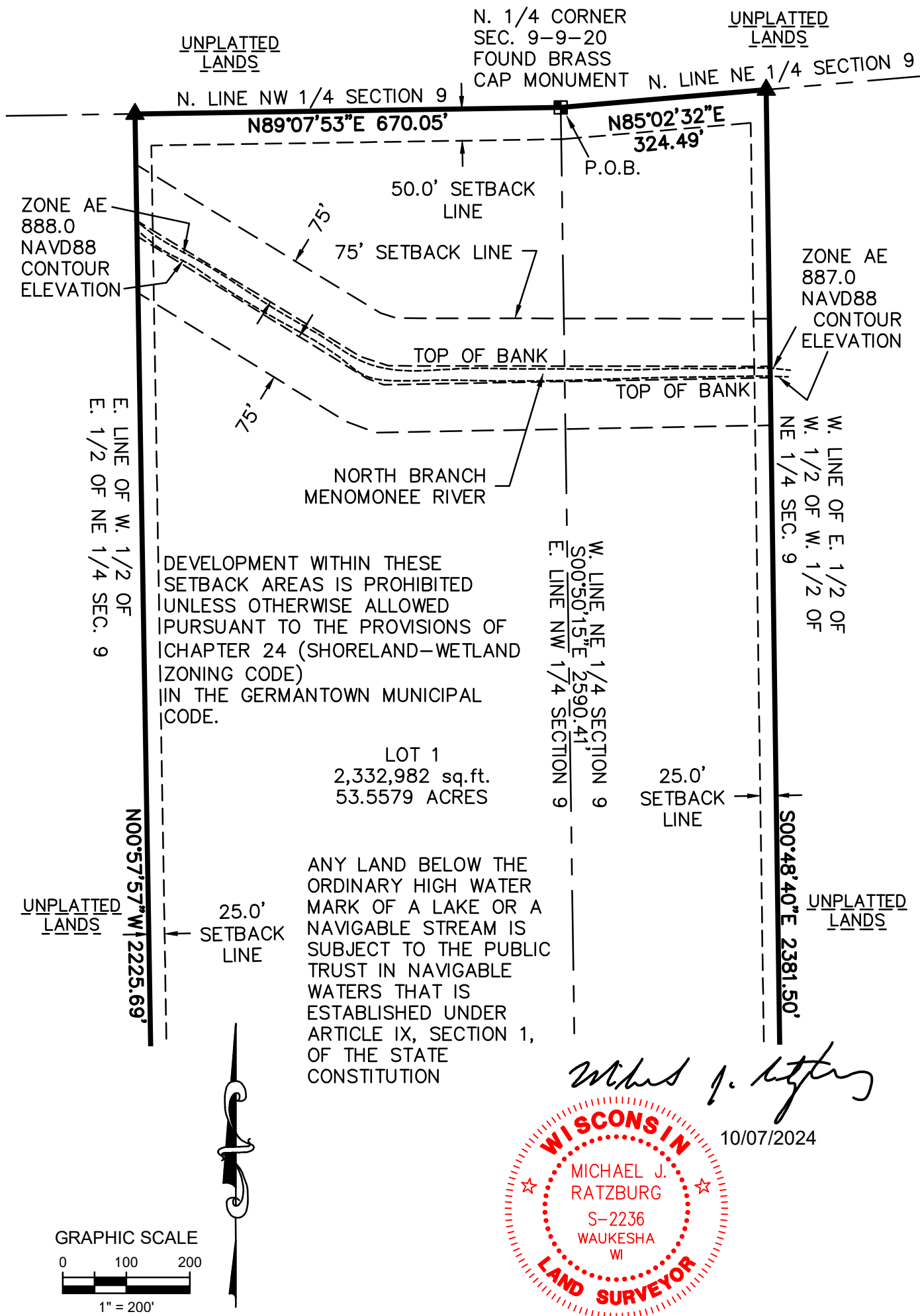
ALL DIMENSIONS SHOWN ARE MEASURED TO THE NEAREST HUNDREDTH OF A FOOT.
ALL BEARINGS ARE REFERENCED TO THE WEST LINE OF THE NE 1/4 OF SECTION 9, T 9 N, R 20 E, WHICH BEARS S00°50'15"E. WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD 83/2011).

LOCATION MAP



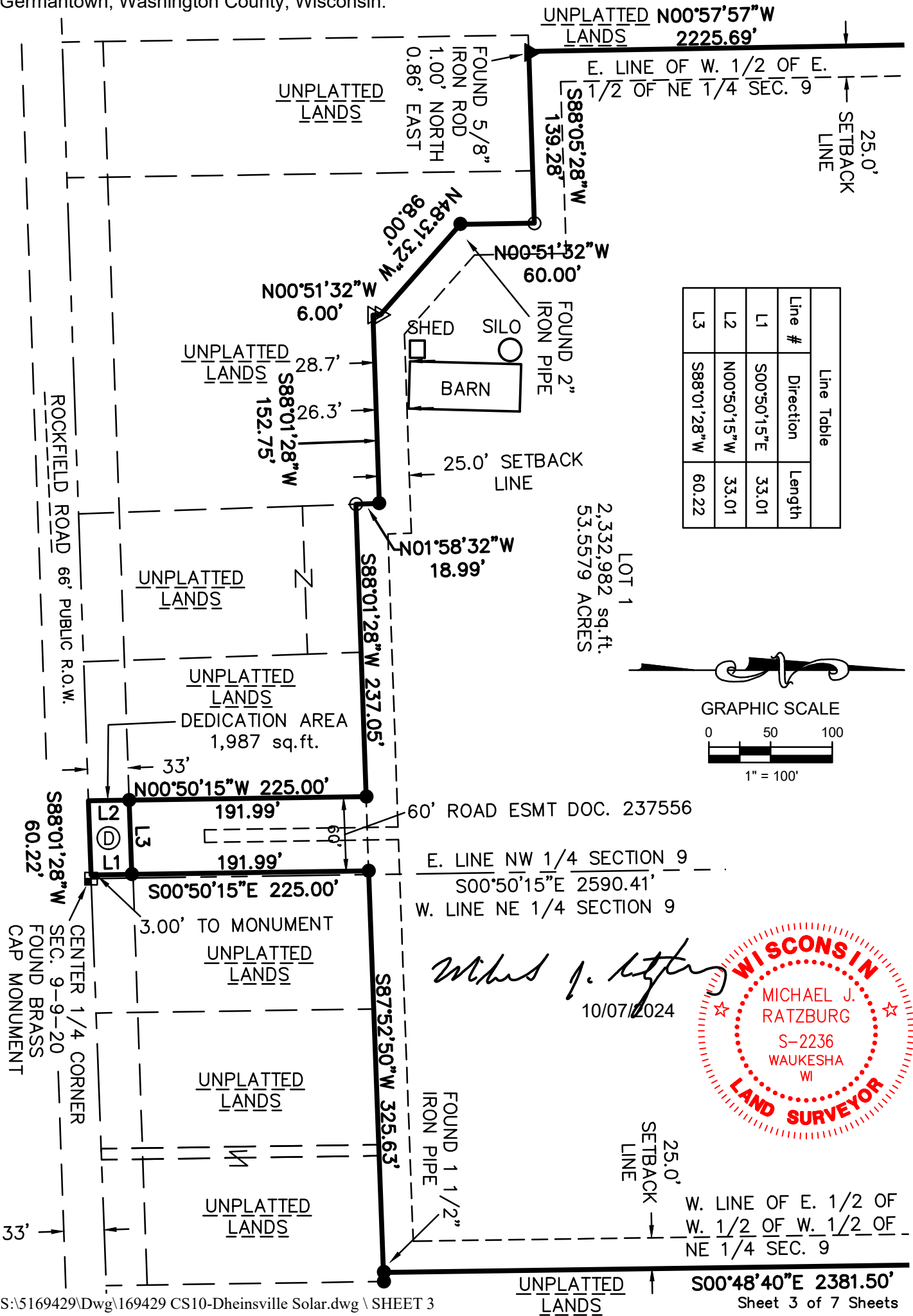
CERTIFIED SURVEY MAP NO.

A division of a part of the Northeast 1/4 and Southeast 1/4 of the Northwest 1/4 and part of the Northwest 1/4 and Southwest 1/4 of the Northeast 1/4 of Section 9, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.



CERTIFIED SURVEY MAP NO. _____

A division of a part of the Northeast 1/4 and Southeast 1/4 of the Northwest 1/4 and part of the Northwest 1/4 and Southwest 1/4 of the Northeast 1/4 of Section 9, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.



CERTIFIED SURVEY MAP NO. _____

A division of a part of the Northeast 1/4 and Southeast 1/4 of the Northwest 1/4 and part of the Northwest 1/4 and Southwest 1/4 of the Northeast 1/4 of Section 9, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

SURVEYOR'S CERTIFICATE

STATE OF WISCONSIN }
:SS
WAUKESHA COUNTY }

I, MICHAEL J. RATZBURG, Professional Land Surveyor, do hereby certify:

THAT I have surveyed, divided and mapped a division of a part of the Northeast 1/4 and Southeast 1/4 of the Northwest 1/4 and part of the Northwest 1/4 and Southwest 1/4 of the Northeast 1/4 of Section 9, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin, which is bounded and described as follows:

BEGINNING at the North 1/4 corner of said Section 9; thence North 85° 02' 32" East along the North line of the Northeast 1/4 of said Section 324.49 feet to a point in the West line of the East 1/2 of the West 1/2 of the West 1/2 of the Northeast 1/4 of said Section; thence South 00° 48' 40" East along said west line 2381.50 feet to a point; thence South 87° 52' 50" West 325.63 feet to a point; thence South 00° 50' 15" East 225.00 feet to a point in the South line of the Northwest 1/4 of said Section; thence South 88° 01' 28" West along said South line 60.22 feet to a point; thence North 00° 50' 15" West 225.00 feet to a point; thence South 88° 01' 28" West 237.05 feet to a point; thence North 01° 58' 32" West 18.99 feet to a point; thence South 88° 01' 28" West 152.75 feet to a point; thence North 00° 51' 32" West 6.00 feet to a point; thence North 48° 31' 32" West 98.00 feet to a point; thence North 00° 51' 32" West 60.00 feet to a point; thence South 88° 05' 28" West 139.28 feet to a point in the East line of the West 1/2 of the East 1/2 of the Northwest 1/4 of said Section; thence North 00° 57' 57" West along said East line 2225.69 feet to a point in the North line of the Northwest 1/4 of said Section; thence North 89° 07' 53" East along said North line 670.05 feet to the point of beginning.

Said land contains 2,334,969 square feet or 53.6035 acres.

THAT I have made the survey, land division and map by the direction of WAYNE LUTYNSKI, owner.

THAT the map is a correct representation of all the exterior boundaries of the land surveyed and the land division thereof made.

THAT I have fully complied with provisions of Chapter 236.34 of the Wisconsin Statutes and Chapter 18 of the Village of Germantown Subdivision Control Ordinances in surveying, dividing and mapping the same.

10/07/2024

Field date


MIKE J. RATZBURG
PROFESSIONAL LAND SURVEYOR S-2236



raSmith
CREATIVITY BEYOND ENGINEERING

16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com

CERTIFIED SURVEY MAP NO. _____

A division of a part of the Northeast 1/4 and Southeast 1/4 of the Northwest 1/4 and part of the Northwest 1/4 and Southwest 1/4 of the Northeast 1/4 of Section 9, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

OWNER CERTIFICATE

WAYNE LUTYNSKI, as owner, certifies that said corporation has caused the land described on this map to be surveyed, divided, dedicated, and mapped as represented on this map in accordance with the Ordinances of the Village of Sussex.

WAYNE LUTYNSKI, does further certify that this map is required by S.236.10 or S.236.12 to be submitted to the following for approval or objection: Village of Germantown.

As Owners, we hereby dedicate that part of Rockfield Road to the Village of Germantown for public road purposes as represented on this Certified Survey Map.

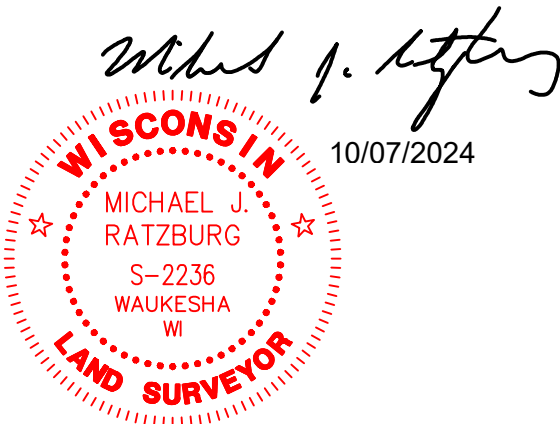
IN Witness Whereof, WAYNE LUTYNSKI, has caused these presents to be signed
this _____ day of _____, 2024.

WAYNE LUTYNSKI

PERSONALLY came before me this _____ day of _____, 2024, WAYNE LUTYNSKI, to me known as the person who executed the foregoing instrument and acknowledged the same.

(Notary Seal)

(print name)
Notary Public, State of Wisconsin
My commission expires _____



CERTIFIED SURVEY MAP NO. _____

A division of a part of the Northeast 1/4 and Southeast 1/4 of the Northwest 1/4 and part of the Northwest 1/4 and Southwest 1/4 of the Northeast 1/4 of Section 9, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

CONSENT OF CORPORATE MORTGAGEE

_____, a national banking association, duly organized and existing under and by virtue of the laws of the State of _____, as mortgagee of the above described land, consents to the surveying, dividing, mapping and restricting of the land described on this map and in the surveyor's certificate, and to the certificate of the owner of said land.

Date: _____
Entity Name: _____
Signature: _____
Print Name: _____
Title: _____

STATE OF _____ }
_____ }SS
COUNTY }

PERSONALLY came before me this _____ day of _____, 20_____, _____, the _____ of the above named organization, to me known to be the person who executed the foregoing instrument and acknowledged that he/she executed the foregoing instrument as such officer on behalf of the entity, by its authority.

(Notary Seal)

(print name)
Notary Public, State of Wisconsin
My commission expires _____



CERTIFIED SURVEY MAP NO. _____

A division of a part of the Northeast 1/4 and Southeast 1/4 of the Northwest 1/4 and part of the Northwest 1/4 and Southwest 1/4 of the Northeast 1/4 of Section 9, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

VILLAGE OF GERMANTOWN PLANNING COMMISSION APPROVAL

This Certified Survey Map is hereby APPROVED by the Planning Commission of the of the Village of Germantown on

this _____ day of _____,2024.

Date: _____
Dean Wolter, Chairman

Date: _____
Deborah J. Remich, Secretary

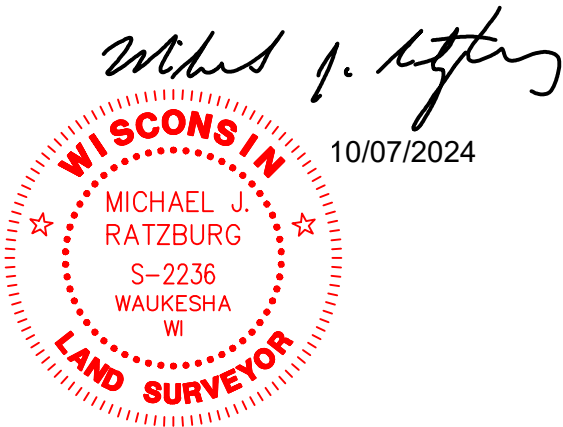
VILLAGE OF GERMANTOWN BOARD APPROVAL

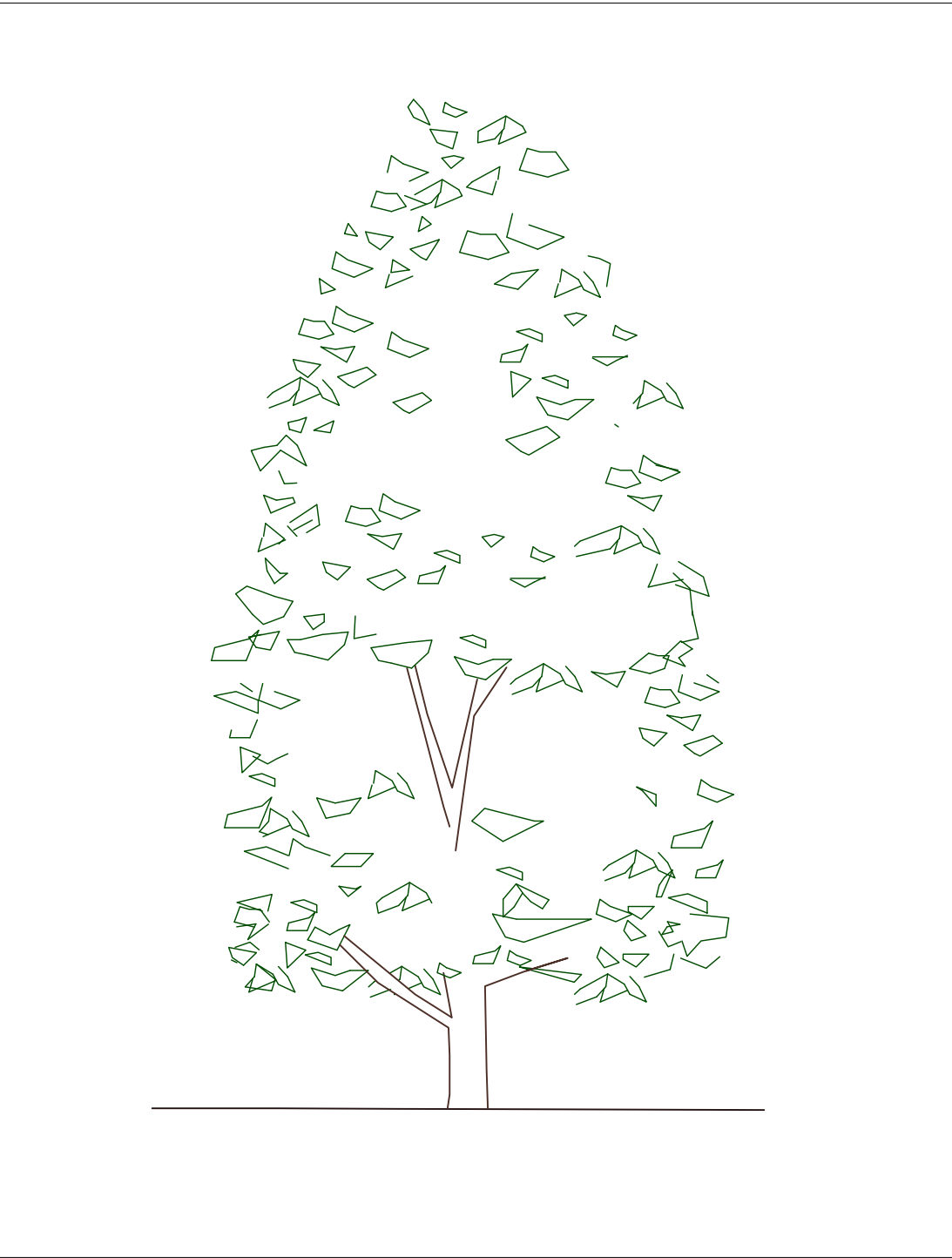
This Certified Survey Map, being a division of a part of the Northeast 1/4 and Southeast 1/4 of the Northwest 1/4 and part of the Northwest 1/4 and Southwest 1/4 of the Northeast 1/4 of Section 9, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin, having been approved by the Planning Commission being the same, is hereby approved and the dedication of that part of Rockfield Road for public road purposes as shown on this Certified Survey Map is hereby accepted by the Village Board of Trustees of the Village of Germantown

on this _____ day of _____,2024.

Date: _____
Dean Wolter, Village President

Date: _____
Donna Ott, Village Clerk

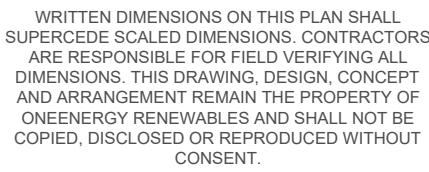




2 VEGETATION ELEVATION VIEW
SCALE: NTS



1. HARDY EVERGREEN TREES WILL BE PLANTED AT 25' INCREMENTS ON CENTER WITH AN APPROXIMATE HEIGHT OF 4' AT PLANTING. SPECIES MAY INCLUDE BUT ARE NOT LIMITED TO BLUE SPRUCE, WHITE SPRUCE, BLACK HILLS SPRUCE, OR EASTERN RED CEDAR.



ROCKFIELD RD.
GERMANTOWN, WI 53022
43 257821° -88 131597°

PRELIMINARY

NOT FOR CONSTRUCTION

[illegible]

SHEET TITLE

VEGETATION SCREENING PLAN

SHEET NO: EX-100

Germantown Solar

Vegetation Installation and Management Plan



Date: 7/26/2024

Site Location: 43.257821, -88.131597

ONEENERGY RENEWABLES • 2003 WESTERN AVE • STE 225 • SEATTLE, WA 98121

WWW.ONEENERGYRENEWABLES.COM

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2	Benefits of Pollinator-Friendly Solar	3
3	Site Preparation and Temporary Seeding	3
4	Permanent Seeding.....	4
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6	Invasive and Weed Species Management	5
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1 Site Overview

Germantown Solar is a 6 MWac solar project located north of Germantown in Washington County, Wisconsin. The 30-acre project site is currently used for agricultural production. The site does not contain wetlands and the predominant soils on site are well drained loam, well drained silt loam, and somewhat poorly drained silt loam. Following construction of the solar array, the site will be managed for native pollinator habitat.

2 Benefits of Pollinator-Friendly Solar

There are many benefits to installing native prairie plant communities on solar sites. Pollinator friendly solar sequesters carbon into the soil through plants, while carbon emissions are simultaneously reduced by using renewable solar energy. Planting native prairie species restores soil by preventing erosion, improving soil structure, increasing carbon storage, diversifying microbial communities, and increasing soil fertility. In addition to supporting native wildlife, these improvements to the soil will increase the value of the soil for future agricultural production once the solar panels are removed. Agricultural benefits are not limited to future land use. Supporting native pollinator populations can increase yields of nearby pollinator-dependent crops such as soybeans, apples, and many vegetables.

The aesthetic benefits of pollinator habitat provide additional services to the local community for those who appreciate observing the wildflowers, birds, butterflies, and other species that are drawn to the solar site. Native prairie plants prevent stormwater runoff and improve surrounding water quality, which is an important consideration following the construction of solar projects. While the initial costs and amount of planning needed for installing and managing native pollinator habitat may be greater than turfgrass, the benefits outweigh the costs. Following the first five years of management, as the hardier native plant communities become established, reduced maintenance needs are anticipated for the remainder of the time the solar array is in operation.

3 Site Preparation and Temporary Seeding

Construction debris and building materials will be cleared from the seeding area. An herbicide application may be required to remove undesirable vegetation from the site. The type of herbicide used will depend on the target species observed during initial site inspections by environmental specialists. If an herbicide such as glyphosate is used, this would necessitate a 10-day waiting period before disturbing the soil or seeding.

The environmental specialist overseeing site preparation activities and selecting herbicide treatments for noxious and invasive species suppression will have comprehensive knowledge and experience selecting and applying herbicides for restricting invasive species and managing vegetation to encourage native plant communities. Additionally, the environmental specialist

will have detailed knowledge of Wisconsin flora, excellent vegetation identification skills, and experience in ecological restoration that includes overseeing and conducting native prairie restoration and vegetation assessments.

Winter wheat or oats will be used as a cover crop depending on the time of year and based on the WDNR Technical Standard (1059) and the WisDOT seeding specification (630). For example, construction may delay seeding from fall until the following spring, in which case a cover crop would be used. A cover crop is also used during construction as part of the Stormwater Pollution Prevention Plan.

4 Permanent Seeding

The soil will be disced and then either harrowed or raked to prepare the soil for seeding. Native grasses will be seeded using a mechanical broadcast spreader at a depth of ¼ to ½-inch. Depending on site conditions, a nurse crop such as winter wheat will be seeded to stabilize the soil. Following grass seeding, the site will be raked and harrowed. Wildflowers and sedges will be seeded using a mechanical broadcast spreader and covered by raking the site.

The primary seed mix used will be a diverse mix of around thirty plant species designed by environmental specialists to suit site-specific soil and microclimate conditions and to provide continuous forage and habitat for pollinators. The seed mix includes flowering species with a wide range of bloom times to cover each season pollinators are active. Additionally, a lowland seed mix will be used where hydric soils are located. The upland and lowland seed mix examples can be found in Appendix A.

Changes to plant species and their proportions in the mix may be necessary depending on seed availability at the time of planting. The diversity of species and quality of the mix will be maintained.

5 Vegetation Management and Monitoring

Vegetation will be managed to achieve the following objectives:

1. Establish native vegetation cover as prescribed in the selected pollinator seed mixes.
2. Maintain complete vegetation cover while limiting noxious and invasive species.
3. Encourage the growth of flowering species to provide continuous forage and habitat for pollinators.

During the germination year, the site will be mowed to reduce competition and control weed growth. Additional mowing may be required to prevent annual and biennial weeds from setting seed. Vegetation will be mowed to a height of 8" and clippings will be mulched in place. During the establishment period, which spans 2 to 5 years after seeding, mowing should occur 2 to 3 times per year subject to the recommendations of the environmental specialist. Following the

establishment period, the site will be mowed as needed for weed and invasive species control and to intermittently remove biomass. A suggested timeline for vegetation management is provided in Section 7.

The following objectives will be achieved through vegetation monitoring:

1. Document the presence of targeted native species.
2. Document the presence of noxious and invasive species.
3. Provide recommendations for appropriate corrective actions to promote and maintain the planned vegetative cover and limit noxious and invasive species.

Specific maintenance activities and timelines will depend on observations during seasonal site inspections to determine vegetation growth progress and whether undesirable species are present. Following a fall seeding, these inspections would begin in late April to mid-June. Following a spring seeding, inspections should begin by mid-May.

Vegetation Management Reports (VMR) will be completed during each site visit to record the amount of vegetation cover, vegetation height, and presence of noxious and invasive species and targeted native species. Recommended next steps will be noted, and management plans will remain flexible to reflect changes in vegetation and noxious and invasive species pressure.

6 Invasive and Weed Species Management

In addition to the removal of invasive species, plant species will be suppressed if they are likely to either outcompete the native species planted or grow to a height that would potentially shade the solar panels. Noting noxious and invasive species through well-timed site inspections and proactively controlling these species during the establishment phase is critical for the long-term success of native vegetation establishment. Control of noxious and invasive species may include spot-spraying, spot-mowing, hand weeding, wicking, or other methods selected by the environmental specialist and depending on the target species and time of year.

If necessary, the following herbicides may be used for spot-treatment: glyphosate, triclopyr, clopyralid, or aminopyralid. Glyphosate is a non-selective systemic herbicide used to treat broadleaf weeds, grasses, and woody plants, and triclopyr is a selective systemic herbicide used to control woody and herbaceous broadleaf species. Clopyralid and aminopyralid are selective herbicides used to target broadleaf weeds, especially clover and thistle. Herbicide contact with native species will be limited and herbicides will not be used when wind speeds exceed 10 mph to prevent drift.

Other herbicides may be utilized based on the target species observed and identified for management. Environmental specialists will identify actual herbicide prescriptions based on observations during site inspections. The site will be inspected at least twice a year – once from

late April to mid-May, and again in mid-June. Site inspections may be needed at other times, depending on the life cycle of the species targeted for removal. Spot-mowing and removal of invasive species and other weeds will be completed as needed. If biomass removal is needed, the site can be mowed every three years using a flail mower. After the initial 5-year establishment period, the site should not be mowed more than once per year.

7 Vegetation Management Timeline

Year 0		
Seedbed Preparation	Herbicide application, soil bed preparation	Sep-Oct
Seeding	Site may be seeded with a temporary cover crop (see Section 3), followed by seeding with pollinator mix.	November
Years 1-3		
Site Inspections	Three site inspections to monitor vegetation and complete VMR. Plans will be made for any necessary reseeding, erosion mitigation, or weed/invasive species management. Site inspection may take place at the same time as management visit.	Late April to early May, mid-June, and late July
1 st Mow	Site mowed to 8" vegetation height. Spot-treat weed/invasive species as needed. Timing of mowing is dependent on plant phenology and weed/invasive species pressure, which will be evaluated during site inspections. Herbicide treatment types will depend on the target species observed during site inspection.	Late June to early July
2 nd Mow	Site mowed to 8" height. Spot-treatment of weed/invasive species as needed. Timing of mowing is dependent on observations during site assessments.	Late July to early August
Year 4		
Site Inspection	Vegetation will be monitored and VMR will be completed.	Late April to early May & mid-June
Spot treatment of invasives/weeds	Herbicide treatment types will depend on the target species observed during site inspections.	Variable
Dormant Mow	Mulch biomass by mowing in the spring to reduce competition and encourage native plant growth.	Spring
Years 5-25		
Site Inspection	Two annual visits to monitor vegetation in the spring and early summer. Spot-mowing or weed/invasive species removal will be completed as needed based on site inspections. If biomass removal is needed, sites can be mowed every three years using a flail mower. Site should	Late April to early May & mid-June

	not be mowed more than once per year, and mowing should occur from Mar-Apr 15 th or Sept-Oct to avoid disturbing nesting birds. Rotating halves or thirds of the site while mowing will increase plant diversity and structure and provide adjacent refuge for wildlife.	
--	---	--

8 References

Siegner, K., Wentzell, S., Urrutia, M., Mann, W., & Kennan, H. (2019) Maximizing land use benefits from utility scale solar: A cost benefit analysis of pollinator-friendly solar in Minnesota. *Yale Center for Business and the Environment*. <https://cbey.yale.edu/research/maximizing-land-use-benefits-from-utility-scale-solar>.

Walston, L. et al. (2018) Examining the potential for agricultural benefits from pollinator habitat at solar facilities in the United States. *Environmental Science & Technology* 52 (13), 7566-7576. <https://doi.org/10.1021/acs.est.8b00020>.

Walston, L. et al. (2020) Modeling the ecosystem services of native vegetation management practices at solar energy facilities in Midwestern United States. *Ecosystem Services* (47), 101227. <https://doi.org/10.1016/j.ecoser.2020.101227>.

9 Appendix A – Pollinator Seed Mixes

Upland Mix

Scientific Name	Common Name	% of Mix	Seeds/ft ²
Grasses			
Sideoats Grama	Bouteloua curtipendula	27.27%	6.61
Blue Grama	Bouteloua gracilis	7.27%	11.75
Plains Oval Sedge	Carex brevior	2.55%	2.98
June Grass	Koeleria macrantha	1.82%	14.69
Little Bluestem	Schizachyrium scoparium	33.45%	20.28
Prairie Dropseed	Sporobolus heterolepis	0.36%	0.24
Forbs			
Common Yarrow	Achillea millefolium	0.36%	2.62
Anise Hyssop	Agastache foeniculum	0.09%	0.33
Prairie Onion	Allium stellatum	0.73%	0.32
Lead Plant	Amorpha canescens	1.36%	0.88
Wild Columbine	Aquilegia canadensis	0.18%	0.28
Common Milkweed	Asclepias syriaca	0.36%	0.06
Butterfly Milkweed	Asclepias tuberosa	0.91%	0.16
	Symphyotrichum		
Sky Blue Aster	oolentangiense	0.18%	0.59
Upland White Goldenrod	Solidago ptarmicoides	0.73%	1.88
Partridge Pea	Chamaecrista fasciculata	2.73%	0.30
Lanceleaf Coreopsis	Coreopsis lanceolata	1.09%	0.88
White Prairie Clover	Dalea candida	4.55%	3.49
Purple Prairie Clover	Dalea purpurea	5.82%	4.23
Rough Blazing Star	Liatris aspera	0.27%	0.18
Spotted Bee Balm	Monarda punctata	0.18%	0.66
Large-flowered Beardtongue	Penstemon grandiflorus	0.73%	0.41
Prairie Wild Rose	Rosa arkansana	0.09%	0.01
Black-eyed Susan	Rudbeckia hirta	2.09%	7.77
Gray Goldenrod	Solidago nemoralis	0.09%	1.10
Ohio Spiderwort	Tradescantia ohiensis	0.45%	0.15
Hoary Vervain	Verbena stricta	1.73%	1.95
Heartleaf Alexanders	Zizia aptera	0.36%	0.18
Golden Alexanders	Zizia aurea	2.18%	0.97

Seeding Rate: 11 lbs/acre (85.9 seeds/square foot)

Lowland Mix

Scientific Name	Common Name	% of Mix	Seeds/ft ²
Grasses			
Carex scoparia	Pointed-broom Sedge	1.40%	2.81
Carex stipata	Common Fox Sedge	6.85%	5.56
Carex vulpinoidea	Brown Fox Sedge	4.65%	11.1
Juncus dudleyi	Dudley's Rush	0.15%	11.46
Juncus effusus	Common Rush	0.40%	9.55
Elymus virginicus	Virginia Wild Rye	55.60%	5.58
Poa palustris	Fowl Bluegrass	9.00%	27.93
Forbs			
Anemone canadensis	Canada Anemone	3.65%	0.7
Symphyotrichum novae-angliae	New England Aster	1.30%	2.05
Verbena hastata	Blue Vervain	0.90%	2
Lobelia siphilitica	Great Blue Lobelia	0.35%	4.18
Lycopus americanus	Water Horehound	0.45%	1.4
Lythrum alatum	Winged Loosestrife	0.01%	0.72
Mimulus ringens	Monkey Flower	0.10%	5.49
Alisma subcordatum	Water Plantain	1.95%	2.79
Pycnanthemum virginianum	Virginia Mountain Mint	0.65%	3.41
Tradescantia ohiensis	Ohio Spiderwort	7.29%	1.39
Zizia aurea	Golden Alexanders	5.30%	1.39
Seeding rate: 99.50 seeds/ft²			

FORGESOLAR GLARE ANALYSIS

Project: Germantown Solar

Germantown Solar is a proposed 6 MWac solar photovoltaic facility located on approximately 30 acres of agricultural land in the Village of Germantown, Washington County, Wisconsin. Some light grading and clearing may take place but there will be little change to the quantity of impervious surface.

Site configuration: **Germantown Solar**

Created 26 Jul, 2024

Updated 26 Jul, 2024

Time-step 1 minute

Timezone offset UTC-8

Minimum sun altitude 0.0 deg

DNI peaks at 1,000.0 W/m²

Category 1 MW to 5 MW

Site ID 125282.21473

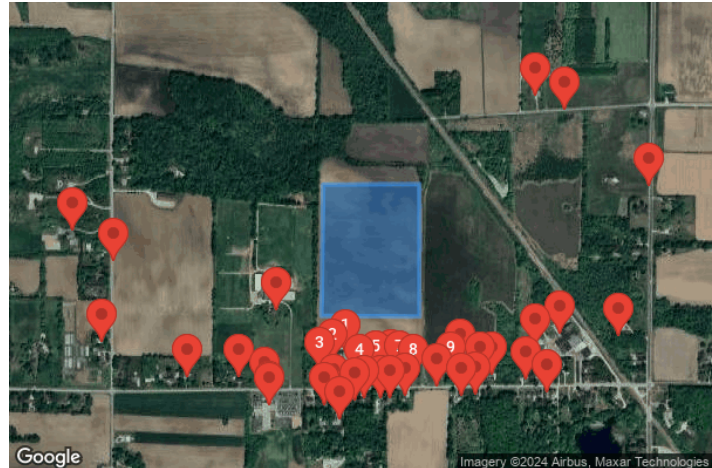
Ocular transmission coefficient 0.5

Pupil diameter 0.002 m

Eye focal length 0.017 m

Sun subtended angle 9.3 mrad

PV analysis methodology V2



Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
Germantown Solar	SA tracking	SA tracking	0	0.0	0	0.0	-

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0
OP 25	0	0.0	0	0.0
OP 26	0	0.0	0	0.0
OP 27	0	0.0	0	0.0
OP 28	0	0.0	0	0.0
OP 29	0	0.0	0	0.0
OP 30	0	0.0	0	0.0
OP 31	0	0.0	0	0.0
OP 32	0	0.0	0	0.0
OP 33	0	0.0	0	0.0
OP 34	0	0.0	0	0.0
OP 35	0	0.0	0	0.0
OP 36	0	0.0	0	0.0
OP 37	0	0.0	0	0.0
OP 38	0	0.0	0	0.0
OP 39	0	0.0	0	0.0
OP 40	0	0.0	0	0.0

Component Data

PV Arrays

Name: Germantown Solar
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 52.0°
Resting angle: 52.0°
Ground Coverage Ratio: 0.32
Rated power: -
Panel material: Light textured glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	43.259323	-88.135360	938.13	8.00	946.13
2	43.259307	-88.131770	920.33	8.00	928.33
3	43.262839	-88.131772	889.80	8.00	897.80
4	43.262825	-88.135300	896.85	8.00	904.85

Discrete Observation Point Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	43.258322	-88.134489	947.43	15.00
OP 2	2	43.258093	-88.134955	948.25	15.00
OP 3	3	43.257851	-88.135401	950.57	15.00
OP 4	4	43.257671	-88.133952	936.29	15.00
OP 5	5	43.257781	-88.133368	936.88	15.00
OP 6	6	43.257813	-88.132812	933.23	15.00
OP 7	7	43.257759	-88.132501	929.45	15.00
OP 8	8	43.257688	-88.131976	921.31	15.00
OP 9	9	43.257747	-88.130608	921.52	15.00
OP 10	10	43.258071	-88.130259	924.90	15.00
OP 11	11	43.257738	-88.129537	918.82	15.00
OP 12	12	43.257746	-88.129107	918.85	15.00
OP 13	13	43.257214	-88.129708	916.68	15.00
OP 14	14	43.257168	-88.130234	919.62	15.00
OP 15	15	43.257175	-88.132294	919.57	15.00
OP 16	16	43.257113	-88.132841	928.08	15.00
OP 17	17	43.257121	-88.133174	931.27	15.00
OP 18	18	43.257097	-88.133764	932.01	15.00
OP 19	19	43.257043	-88.134107	932.93	15.00
OP 20	20	43.257128	-88.134890	937.90	15.00
OP 21	21	43.256535	-88.134690	934.47	15.00
OP 22	22	43.256922	-88.135243	934.16	15.00
OP 23	23	43.256957	-88.137238	939.52	15.00
OP 24	24	43.256934	-88.137243	939.39	15.00
OP 25	25	43.257671	-88.138374	950.57	15.00
OP 26	26	43.257627	-88.127843	911.35	15.00
OP 27	27	43.257260	-88.127092	912.77	15.00
OP 28	28	43.258495	-88.127510	902.10	15.00
OP 29	29	43.258823	-88.126609	894.71	15.00
OP 30	30	43.258770	-88.124465	891.87	15.00
OP 31	31	43.259441	-88.137021	954.22	15.00
OP 32	32	43.257346	-88.137440	941.28	10.00
OP 33	33	43.257420	-88.131124	914.31	10.00
OP 34	34	43.260781	-88.142954	943.58	10.00
OP 35	35	43.262781	-88.123363	892.90	10.00
OP 36	36	43.264813	-88.126432	890.04	10.00
OP 37	37	43.257681	-88.140282	953.94	10.00
OP 38	38	43.258603	-88.143394	956.23	10.00
OP 39	39	43.261572	-88.144467	942.80	10.00
OP 40	40	43.265182	-88.127536	896.64	10.00

Glare Analysis Results

Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
Germantown Solar	SA tracking	SA tracking	0	0.0	0	0.0	-

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0
OP 25	0	0.0	0	0.0
OP 26	0	0.0	0	0.0
OP 27	0	0.0	0	0.0
OP 28	0	0.0	0	0.0
OP 29	0	0.0	0	0.0
OP 30	0	0.0	0	0.0
OP 31	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 32	0	0.0	0	0.0
OP 33	0	0.0	0	0.0
OP 34	0	0.0	0	0.0
OP 35	0	0.0	0	0.0
OP 36	0	0.0	0	0.0
OP 37	0	0.0	0	0.0
OP 38	0	0.0	0	0.0
OP 39	0	0.0	0	0.0
OP 40	0	0.0	0	0.0

PV: Germantown Solar no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0
OP 25	0	0.0	0	0.0
OP 26	0	0.0	0	0.0
OP 27	0	0.0	0	0.0
OP 28	0	0.0	0	0.0
OP 29	0	0.0	0	0.0
OP 30	0	0.0	0	0.0
OP 31	0	0.0	0	0.0
OP 32	0	0.0	0	0.0
OP 33	0	0.0	0	0.0
OP 34	0	0.0	0	0.0
OP 35	0	0.0	0	0.0
OP 36	0	0.0	0	0.0
OP 37	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 38	0	0.0	0	0.0
OP 39	0	0.0	0	0.0
OP 40	0	0.0	0	0.0

Germantown Solar and OP 1

No glare found

Germantown Solar and OP 2

No glare found

Germantown Solar and OP 3

No glare found

Germantown Solar and OP 4

No glare found

Germantown Solar and OP 5

No glare found

Germantown Solar and OP 6

No glare found

Germantown Solar and OP 7

No glare found

Germantown Solar and OP 8

No glare found

Germantown Solar and OP 9

No glare found

Germantown Solar and OP 10

No glare found

Germantown Solar and OP 11

No glare found

Germantown Solar and OP 12

No glare found

Germantown Solar and OP 13

No glare found

Germantown Solar and OP 14

No glare found

Germantown Solar and OP 15

No glare found

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No glare found

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Germantown Solar and OP 31

No glare found

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No glare found

Germantown Solar and OP 33

No glare found

Germantown Solar and OP 34

No glare found

Germantown Solar and OP 35

No glare found

Germantown Solar and OP 36

No glare found

Germantown Solar and OP 37

No glare found

Germantown Solar and OP 38

No glare found

Germantown Solar and OP 39

No glare found

Germantown Solar and OP 40

No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.

Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.

Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.

The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.

The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)

The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.

The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.

The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.

Refer to the Help page at www.forgesolar.com/help/ for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

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OneEnergy Renewables

Germantown Solar Project

Solar Generating Facility Decommissioning Plan

1. Introduction

The Decommissioning Plan provides an overview of activities that will occur during the decommissioning phase of the Germantown Solar Project, the “Project,” including activities related to the restoration of land and management of materials and waste.

The Project has an estimated useful lifetime of 40 years. This Decommissioning Plan assumes at the point it is no longer economical or prudent to continue operating, the Project will be dismantled, and the site restored to a state similar to its pre-construction condition.

Decommissioning activities include but are not limited to, disconnecting the Solar Facility from the electrical grid and removal of all components, including:

- Photovoltaic (PV) modules, panel racking, and supports
- Inverter units, transformers, and other electrical equipment
- Wiring cables, communications, and perimeter fence
- Concrete pads

The Decommissioning Plan is based on current best management practices and procedures. This Plan may be subject to revision based on new standards and best management practices at the time of decommissioning. Permits will be obtained as required and notification will be given to stakeholders prior to decommissioning.

Project Information

Address: To be assigned

County: Washington, Wisconsin

AHJ: Village of Germantown

Project Size: 6 MWac



2. Decommissioning Process

At the time of decommissioning, the installed components will be removed, reused, disposed, and recycled where possible. The site will be restored to a state similar to its pre-construction condition. All removal of equipment will be done in accordance with any applicable regulations and manufacturer recommendations. All applicable permits will be acquired before decommissioning activities begin.

Equipment Dismantling and Removal

Generally, the decommissioning of a Solar Project proceeds in the reverse order of the installation.

1. The Project will be disconnected from the utility power grid.
2. PV modules will be disconnected, collected, and disposed at an approved solar module recycler or reused/resold on the market. Although the PV modules will not be cutting edge technology at the time of decommissioning, they are expected to produce approximately 80% of the original electricity output at year 40 and offer value for many years.
3. All aboveground and underground electrical interconnection and distribution cables will be removed and disposed off-site at an approved facility.
4. Galvanized steel PV module support and racking system support posts will be removed and disposed off-site at an approved facility.
5. Electrical and electronic devices, including transformers and inverters will be removed and disposed off-site at an approved facility.
6. Concrete pads will be removed and disposed off-site at an approved facility.
7. Fencing will be removed and disposed off-site at an approved facility.

Environmental Effects

Decommissioning activities, particularly the removal of project components, could result in environmental effects similar to construction such as ground disturbance (erosion/sedimentation). Mitigation measures employed during the construction phase of the Project will be implemented. These will remain in place to mitigate erosion and silt/sediment runoff and prevent any impact to the natural features located adjacent to the site.

Road traffic will temporarily increase due to the movement of decommissioning crews and equipment. Work will be undertaken during daylight hours to conform to any applicable restrictions.

Site Restoration

Upon completion of the decommissioning phase, the site will be restored to a state similar to its pre-construction condition. Rehabilitated lands may be seeded with native seed mixes to help stabilize soil conditions, enhance soil structure, and increase soil fertility.

Managing Materials and Waste

During the decommissioning phase, a variety of excess materials and wastes (listed in the table below) will be generated. Most of the materials used in a Solar Project are reusable or recyclable and some equipment may have manufacturer take-back and recycling requirements. Any remaining materials will be removed and disposed of off site at an appropriate facility. Policies and procedures will be established to maximize recycling and reuse and project owners will work with manufacturers, local subcontractors, and waste firms to segregate material to be disposed of, recycled, or reused.

Solar module manufacturers are looking for ways to recycle and/or reuse solar modules when they have reached the end of their lifespan. OneEnergy works with The Retrofit Companies, Inc. (TRC) in Minnesota to recycle panels that are damaged during shipping or installation and intends to partner with TRC or another similar panel recycler to recycle any panels that require disposal in the future. Modules will be disposed in the best way possible using best management practices at the time of decommissioning.

Material / Waste	Means of Managing Excess Materials and Waste
PV Panels	If there is no possibility for reuse, the panels will either be returned to the manufacturer for appropriate disposal or will be transported to a recycling facility where the glass, metal, and semiconductor materials will be separated and recycled.
Mounting racks and supports	These steel and other metal materials will be disposed off-site at an approved facility
Transformer	The small amount of oil from the transformer will be removed on-site to reduce the potential for spills and will be transported to an approved facility for disposal. The transformers will be sent back to the manufacturer, recycled, reused, or safely disposed off-site in accordance with current standards of the day.
Inverters	The metal components of the inverters will be disposed of or recycled, where possible. Remaining components will be disposed of in accordance with the standards of the day.

Concrete Pad	Concrete pads will be broken down and transported by a certified and licensed contractor to a recycling or approved disposal facility.
Cables and Wiring	All electrical wiring will be disconnected and disposed of at an approved facility, associated electronic equipment (isolation switches, fuses, metering) will either be returned to the manufacturer for recycling or disposed off-site in accordance with current standards and best practices.
Fencing	Fencing will be removed and recycled at a metal recycling facility.
Debris	Any remaining debris on the site will be separated into recyclables/residual wastes and will be transported from the site and managed as appropriate.

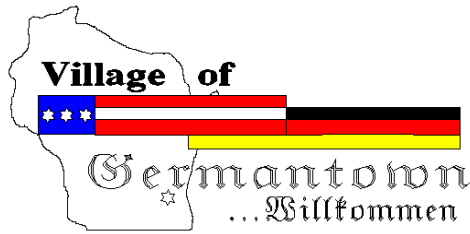
Decommissioning Notification

Decommissioning activities will require the notification of stakeholders given the nature of the works at the site. Twelve months prior to the start of decommissioning activities the list of stakeholders will be updated and notified. Federal, county, and local authorities will be notified as needed to discuss the potential approvals required to engage in decommissioning activities.

Approvals

Well-planned and well-managed renewable energy facilities are not expected to pose environmental risks at the time of decommissioning. Decommissioning of the Project will follow all standards of the day. Any required permits will be obtained prior to the start of any decommissioning activities.

This Decommissioning Report will be updated as necessary in the future to ensure that changes in technology and site restoration methods are taken into consideration.



Engineering Department Memorandum

To: Jeff W. Retzlaff, AICP, Community Development Director

From: Kevin R. Driscoll, PE, Village Engineer

Date: September 25, 2024

Re: Site Plan Review – Solar GTNV_092979, GTNV_092994, GTNV_091986, GTNV_091987

Items Reviewed:

1. Site Plan Review Application Dated: 9/13/2024

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal.**
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines identified in the Village Code of Ordinances, Section 17.43. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
5. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
6. Permits for work within the ROW are required. Contact the Village Engineering Department to obtain a driveway permit and permit for excavation in the right of way.
7. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

Storm Water Management

1. Sheet D-100 – Identify area of disturbance. Identify area of new impervious surface.
2. Provide storm water management plan, as identified in your site plan application addendum (page 7).
3. Provide a wetland delineation, or copies of any approved wetland exemptions.
4. Provide grading plan that avoids impacts to the floodplain. Clarify note "C.Flood Note" Note references falling into Zone X. Zone AE identified on mapped area.
5. Provide erosion control plan.

Road Plan

1. Complete a driveway permit and permit for excavation in the right of way.
2. Identify depth of proposed point of interconnection.
3. Provide plan at scale of 1:30 as listed in the attached checklist and per Village Code of Ordinance Section 17.43 (3).

To: Kevin Driscoll, Village Engineer

CC: Jeff Retzlaff Village Planner

From: Bob Beilfuss, PLS

Date: September 14, 2024

Re: Germantown Solar CSM

Kevin,

Here are my review comments for the CSM received from Anderson-Klosett/ Greenhills Contracting.

Kevin and Jeff,

Here are my review comments for the CSM received 9/13/2024.

Certified Survey Map

Applicant or Owner: Greenhills Contracting, Inc.

Land Surveyor/Firm: Mike Ratzburg, PLS – RA Smith

1. The Village Clerks name is Donna Ott. Please correct the Village Board approval certificate accordingly. Page 7 of 7.
2. The secretary of the Planning Commission is Deborah J. Remich. Please correct the Village Planning Commission approval certificate accordingly. Page 7 of 7.
3. In the Village Board Approval certificate on page 7 of 7, there are references to "the dedication of that part of Meeker Hills Lane and State Trunk Highway 175 for public road purposes". These two roads are not located in this Section and do not adjoin these properties. The road dedication should be for Rockfield Road.
4. Were there any wetlands located along the North Branch of the Menomonee River? The DNR Wetland Viewer does show wetlands along the North Branch and should be delineated, mapped and added to the CSM. The wetland setback should also be included and dimensioned. The wetlands should be dimensionally tied to both boundary lines on Lot 1 in a north-south direction from where those lines intersect the exterior boundary.
5. There were no professional seals and signatures of the professional land surveyor affixed to any of the 7 sheets of the document.

No further review comments.

Document Approval and Recording

For this CSM to be approved by the Village Board and recorded at the Washington County Register of Deeds, the document must be provided to the Village Clerk's office in a completed format including all original signatures of the owner and lending institution, original seals and signature of the professional land surveyor on the recordable media the Wednesday prior to the scheduled Village Board meeting.

This includes the CADD file.

Any documents or digital files not submitted by the due date or contain outstanding technical review comments that have not be addressed, will be moved to the next scheduled Village Board meeting agenda.

Document Submittals and Data Conversion

As of October 2005, the Village of Germantown requires a digital copy of all Certified Survey Maps, Condominium Plats and Subdivision Plats in addition to the documents as required by Wisconsin Statute and Village Ordinances as part of the land division approval.

Prior to Recording the Certified Survey Map or Subdivision Plat

The professional land surveyor is responsible for submitting a copy of the AutoCAD drawing file (.dwg) of the document in version 2023 via email to the Village Surveyor for mapping purposes.

All digital professional land surveyor seals and signatures will be purged from the digital copy prior to submittal

Sincerely,

Point Land Surveying & Mapping

Bob Beilfuss

Bob Beilfuss, P.L.S.
Principle



Community Development Department
Jordan Yanke, Associate Planner
N112 W17001 Mequon Road P.O. Box 337
Germantown, WI 53022-0337
(262) 250-4734
www.germantownwi.gov

OCTOBER 2024

NEIGHBORHOOD NOTICE

You are receiving this notice because our records indicate that you are the owner and/or occupant of property located in the vicinity of a proposed solar farm located at approximately N132W18100 Rockfield Road (GTNV_091986/091987/092979/092994).

As shown on the included site plan, One Energy is proposing to construct a solar farm of approximately 30 acres in size on subject property to the north of Rockfield Road, west of Division Road.

One Energy has submitted detailed plans for the project, which include the solar farm, access drive, and fencing, among other details. Those plans will be reviewed and considered for approval by the Village Plan Commission at their October 14TH meeting @ 6:30pm at Village Hall. At that time, the proposal will be formally presented by Village staff, discussed with One Energy and their consultants, and a decision will be made to either approve or deny the proposal (approval with certain stipulations or other requirements is also a possibility based on the discussion).

Also, this proposal does not require a formal public hearing. However, at the discretion of the Plan Commission Chairman, public comments may be received as part of the Plan Commission discussion. Given the proposed implementation of the solar farm and its size, the Village wants you to know what is being proposed and how it may impact your neighborhood.

You are not required to do anything nor are you expected to attend any meetings. However, you are welcome to attend the October 14TH meeting to hear first-hand what is discussed and what action is taken.

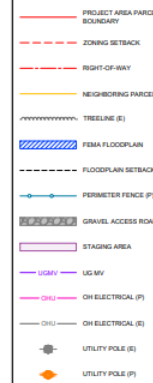
Comments from the public may be taken during the meeting (remember, it's not a mandatory public hearing), but you can provide written comments regarding the One Energy proposal by sending your comments via email to comments@germantownwi.gov before 4:00pm on the day of the meeting so they can be provided to Village staff and the Plan Commission for their consideration.

GERMANTOWN SOLAR

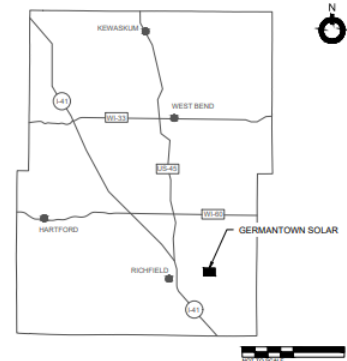
WASHINGTON COUNTY, WISCONSIN

SOLAR PV PROJECT
6.877 MWDC / 6.000 MWAC

LEGEND



WASHINGTON COUNTY MAP



PROJECT DETAILS

THIS PROJECT CONSISTS OF THE DESIGN AND INSTALLATION OF A 6.88 MWAC SOLAR PHOTOVOLTAIC SYSTEM. MODULES ARE TO BE MOUNTED IN A SINGLE AXIS TRACKERS, WHICH FOLLOW THE SUN FROM EAST TO WEST THROUGHOUT THE DAY.

SITE DETAILS

PARCEL ID: 032884, 032875, 031987, 031986
OWNER: WAYNE LUTYNSKI
ACREAGE: 54.25
EXISTING ZONE: A-1

LAND USE SUMMARY

TOTAL PARCEL AREA (ACRES): 54.25
TOTAL LEASED AREA (ACRES): TBD
TOTAL FENCED AREA (ACRES): 27.89
GRAVEL ACCESS ROAD (ACRES): 0.81
LAYDOWN AREA (ACRES): 0.59

DESIGN SUMMARY

MODULE POWER: 575 W
MODULE COUNT: 11980
ARRAY DC VOLTAGE: 1500 V
INVERTER SIZE: 250 MW / 250 KVA
INVERTER COUNT: 24
DC SIZE: 6.877 MWdc
AC SIZE: 6.000 MWac
DC/AC RATIO: 1.146
GROUND COVER RATIO: 35.0 %
ASCE 7-16 GSL: 30 PSF
ASCE 7-16 WIND SPEED: 100 MPH

ADDITIONAL NOTES

- BASEMAP DEVELOPED FROM ALTA FIELD SURVEY
- PARCEL DATA TAKEN FROM ALTA FIELD SURVEY
- FEMA FLOOD HAZARD ZONE FROM GIS DATA



2003 Victorian Ave, Suite 225
Seattle, WA 98121
oneenergymain@oneenergy.com
206.522.7072

NOTES: 1. THIS PLAN SHALL BE USED FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT. 2. THE DESIGNER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE DATA PROVIDED. 3. THE DESIGNER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE DATA PROVIDED. 4. THE DESIGNER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE DATA PROVIDED.

REV	DESCRIPTION	DATE	BY	CHKD	DATE
01	EPC RD SUBMITTAL	07/26/2024	A	AK	
01	DEVELOPMENT LAYOUT	08/23/2024	AK	AK	

PRELIMINARY
NOT FOR CONSTRUCTION

GERMANTOWN SOLAR
ONEENERGY RENEWABLES

43.20781° N, 88.13102° W
WASHINGTON COUNTY, WISCONSIN

SHEET TITLE:
DEVELOPMENT LAYOUT
SHEET NO:
D-100

Name	Address	City, State Zip	Tax Key	Site Address
1 SADDLE UP LLC	1975 WISCONSIN AVE	GRAFTON, WI 53024	GTNV_092981, 043980, 043998	Site Address:N132W18350 ROCKFIELD RD
2 MILWAUKEE METROPOLITAN SEWERAGE DIS	260 W SEEBOOTH ST	MILWAUKEE, WI 53204-1440	GTNV_091985, 091988, 091983	Site Address:N136W17795 BONNIWELL RD
3 WIS & SOUTHERN RAILROAD LLC	315 W 3RD ST	PITTSBURG, KS 66762	GTNV_044999, 094999	Site Address:BONNIWELL RD
4 LDF HOLDINGS LLC	3471 CTY HWY NN	WEST BEND, WI 53095	GTNV_092997	Site Address:N132W18286 ROCKFIELD RD
5 JOEL PIPKORN	921 BELL AVE	SHEBOYGAN, WI 53083	GTNV_091980	Site Address:N132W17558 ROCKFIELD RD
6 LEROY RUTTINGER LIVING TRUST	9538 N SUNDUNE DR	SUN LAKE, AZ 85248	T5_0255034, 0255033, 0255036, 02	Site Address:WOODLAND AVE
7 GERMANTOWN SCHOOL	N104W13840 DONGES BAY RD	GERMANTOWN, WI 53022	T5_025500A	Site Address:N132W18473 ROCKFIELD RD
8 RICHARD STEPHAN LIVING TRUST	N121W20344 NEULAND DR	RICHFIELD, WI 53076	GTNV_092974	Site Address:MAPLE RD
9 THOMAS HAPKA	N128W17714 HOLY HILL RD	GERMANTOWN, WI 53022	T5_0280	Site Address:ROCKFIELD RD
10 MARY PROST	N128W19734 HOLY HILL RD	RICHFIELD, WI 53076	GTNV_043999	Site Address:BONNIWELL RD
11 MARLENE KASTEN	N128W19734 HOLY HILL RD	RICHFIELD, WI 53076	GTNV_044997	Site Address:N136W17798 BONNIWELL RD
12 JOHN KOELLER	N131W18155 WOODLAND AVE	RICHFIELD, WI 53076	T5_025500B, 0255029, 0255025	Site Address:
13 GARY ZARTNER	N131W18279 WOODLAND AVE	GERMANTOWN, WI 53022	T5_0255019, 0255021, 0255020	Site Address:WOODLAND AVE
14 ANDREW KLUMB	N132W17573 ROCKFIELD RD	RICHFIELD, WI 53076	GTNV_094008	Site Address:N132W17573 ROCKFIELD RD
15 GERALD KISER	N132W17655 ROCKFIELD RD	GERMANTOWN, WI 53022	GTNV_094981	Site Address:N132W17655 ROCKFIELD RD
16 LARA SOLTIS	N132W17668 ROCKFIELD RD	GERMANTOWN, WI 53022	T5_023500D	Site Address:N132W17668 ROCKFIELD RD
17 JAMES KLEINMANN	N132W17684 ROCKFIELD RD	GERMANTOWN, WI 53022	GTNV_091004	Site Address:N132W17684 ROCKFIELD RD
18 CRAIG JOHNSON	N132W17711 ROCKFIELD RD	GERMANTOWN, WI 53022	T5_028000A	Site Address:N132W17711 ROCKFIELD RD
19 TODD HETZEL	N132W17857 ROCKFIELD RD	GERMANTOWN, WI 53022	GTNV_094982, T5_028000B	Site Address:N132W17857 ROCKFIELD RD
20 KRISTINE CRAMER	N132W17858 ROCKFIELD RD	GERMANTOWN, WI 53022	T5_023500C	Site Address:N132W17858 ROCKFIELD RD
21 SUSAN HOLMES	N132W18002 ROCKFIELD RD	GERMANTOWN, WI 53022	GTNV_091003	Site Address:N132W18002 ROCKFIELD RD
22 RYAN TURDO	N132W18005 ROCKFIELD RD	RICHFIELD, WI 53076	T5_028100B	Site Address:N132W18005 ROCKFIELD RD
23 ANGELA LAFOUNTAIN	N132W18021 ROCKFIELD RD	GERMANTOWN, WI 53022	T5_028100A	Site Address:N132W18021 ROCKFIELD RD
24 HEIDI BENEDUM	N132W18065 ROCKFIELD RD	GERMANTOWN, WI 53022	T5_0255001	Site Address:N132W18065 ROCKFIELD RD
25 PATRICIA ATHERTON REVOCABLE LIV TRUST	N132W18066 ROCKFIELD RD	RICHFIELD, WI 53076	GTNV_091001	Site Address:N132W18066 ROCKFIELD RD
26 MICHAEL HUG	N132W18067 ROCKFIELD RD	GERMANTOWN, WI 53022	T5_0255002	Site Address:N132W18067 ROCKFIELD RD
27 KARL GRIFFITHS	N132W18136 ROCKFIELD RD	GERMANTOWN, WI 53022	GTNV_092999	Site Address:N132W18136 ROCKFIELD RD
28 KEVIN OLSON	N132W18153 ROCKFIELD RD	RICHFIELD, WI 53076	T5_0255009	Site Address:SCOTT LN
29 WENDY PRITZLAFF	N132W18172 ROCKFIELD RD	RICHFIELD, WI 53076	GTNV_092998	Site Address:N132W18172 ROCKFIELD RD
30 ANDERSON IRREVOCABLE TRUST	N132W18187 ROCKFIELD RD	RICHFIELD, WI 53076	T5_0255005, 0255007	Site Address:N132W18187 ROCKFIELD RD
31 ANTHONY WAGLER	N132W18201 ROCKFIELD RD	RICHFIELD, WI 53076	T5_0255013	Site Address:N132W18201 ROCKFIELD RD
32 MARK LUCKA	N132W18297 ROCKFIELD RD	GERMANTOWN, WI 53022	T5_0255015	Site Address:N132W18297 ROCKFIELD RD
33 COLLEEN BRUSHABER TRUST	N132W18312 ROCKFIELD RD	RICHFIELD, WI 53076	GTNV_092996, 092995	Site Address:N132W18312 ROCKFIELD RD
34 TIMOTHY TRAPP	N132W18335 ROCKFIELD RD	GERMANTOWN, WI 53022	T5_0255017, 0255018	Site Address:ROCKFIELD RD
35 TYLER KOWALCHUK	N132W18474 ROCKFIELD RD	GERMANTOWN, WI 53076	GTNV_092978	Site Address:N132W18474 ROCKFIELD RD
36 KENNETH KLUMB	N132W18560 ROCKFIELD RD	RICHFIELD, WI 53076	GTNV_092991	Site Address:N132W18560 ROCKFIELD RD
37 PHILIP BARBER	N136W17560 BONNIWELL RD	GERMANTOWN, WI 53022	GTNV_044991	Site Address:N136W17560 BONNIWELL RD
38 ANDREW KLUMB	N140W12553 CEDAR LN	GERMANTOWN, WI 53022	GTNV_094007	Site Address:ROCKFIELD RD
39 DIANE BRADEN	N140W17595 CEDAR LN	RICHFIELD, WI 53076	GTNV_044992	Site Address:BONNIWELL RD
40 JEFFREY STEPHAN LIVING TRUST	N140W18726 CEDAR LN	RICHFIELD, WI 53076	GTNV_043982, 043981	Site Address:ROCKFIELD RD
41 JAMES SIEBERS	N47W7880 PARKLAND RD	CEDARBURG, WI 53012	GTNV_091002	Site Address:N132W18040 ROCKFIELD RD
42 TROY WETTERAU LIV TR	W130N11414 EQUINE TRL	GERMANTOWN, WI 53022	T5_0281	Site Address:ROCKFIELD RD
43 KEVIN OLSON	W132N18153 ROCKFIELD RD	GERMANTOWN, WI 53022	T5_0255003	Site Address:N132W18153 ROCKFIELD RD
44 WAYNE LUTYNSKI	W167N11183 QUEENS CT	GERMANTOWN, WI 53022	GTNV_091986, 091987, 092979, 092	Site Address:ROCKFIELD RD
45 BRIAN STEPHAN LIVING TRUST	W182N13087 SCOTT LN	GERMANTOWN, WI 53022	T5_025500C	Site Address:W182N13087 SCOTT LN
46 RICHARD BIRA	W182N13151 SCOTT LN	GERMANTOWN, WI 53022	T5_0255024, 0255023	Site Address:W182N13151 SCOTT LN
47 DALE DHEIN	W188N13102 MAPLE RD	RICHFIELD, WI 53076	T5_0256	Site Address:W188N13102 MAPLE RD
48 DANIEL STEPHAN	W188N13488 MAPLE RD	RICHFIELD, WI 53076	GTNV_092973	Site Address:W188N13488 MAPLE RD
49 FRANK WIEDMEYER	W204N13164 GOLDENDALE RD	RICHFIELD, WI 53076	T5_023500A	Site Address:N132W17882 ROCKFIELD RD
50 SARA GLASZCZ	W640 SAYLESVILLE RD	RUBICON, WI 53078	T5_0255031	Site Address:W182N13117 SCOTT LN

PETITION
TO THE VILLAGE OF GERMANTOWN – PLAN COMMISSION

To the Village of Germantown, N112 W17001 Mequon Road
Germantown, WI 53022

WE, THE UNDERSIGNED, HEREBY PETITION the Village of Germantown Board to halt the OneEnergy Development, LLC Agent for Wayne Lutynski, Property Owner. Certified Survey Map (CSM) to combine parcels and Site Plan Review for a 30-acre Solar Energy Facility located at approximately N132W180100 Rockfield Road by the Village pursuant to authority vested in it by Chapter 33, Wisconsin Statutes.

WE STATE OR BELIEVE:

1. Industrial-scale solar power plants should not be placed on land already zoned for A-1 (agricultural) and RA (Rural area) use.
2. The land (forest, farmland, vegetation, soil) is forever destroyed.
3. Solar Projects should not be placed near wetlands, rivers, streams, tributaries to avoid immediate damage to water quality, and possible contamination-ecological disasters.
4. Solar power plants destroy wildlife habitats.
5. Solar power plants threaten preservation and should not destroy historic sites.
6. Solar power plants cause a decline in eco and historical tourism.
7. Solar power generation is very inefficient with looking at the amount of land “consumed”.
8. The bill for decommissioning Solar Projects will likely be passed on to taxpayers.
9. Solar Projects can undermine local residents’ property values.
10. The local community has clearly expressed concern and opposition to the OneEnergy Solar Project.

See attached CSM dated 10/7/2024.

SIGNATURE PAGES TO FOLLOW

(PRINT AS MANY AS NEEDED AND FILL IN THE PAGE # AT TOP RIGHT)

- | Signature of Signer | Name | Legal Address | Date |
|-----------------------|------------------|--|----------|
| 1. - Sandi Budiac | Sandi Budiac | 3349 S Shore Dr
Hukerhus WI | 11/11/24 |
| 2. - Leonard Budiac | LEONARD Budiac | 3349 South Shore Dr. | 11/11/24 |
| 3. - Sarah Larson | Sarah Larson | W159N1737 Butternut Rd
Hukerhus WI 53023 | 11/11/24 |
| 4. - Jan Miller | JAN MILLER | W151N10297 WINDSONG CR, WI | 11/11/24 |
| 5. - Kathy Mannion | Kathy Mannion | N106W16212 Fieldstone Pass, G.T. | 11-11-24 |
| 6. - Emma Wood | EMMA WOOD | W148N13797 Maple Rd ROCKFIELD, WI 53076 | 11-11-24 |
| 7. - Cheryl Chykowski | Cheryl Chykowski | W188N13467 Maple Rd | |
| 8. - Rita Fitzgerald | Rita Fitzgerald | W148N13247 Windsong
Rockfield WI 53076
German town | |
| 9. - Elizabeth Barber | Elizabeth Barber | N136W17500 Bonniwell Rd.
German town, WI 53022 | |
| 10. - Pat Tasker | PAT Tasker | N97W14904 Burg Bush Ct - G.T. | |
| 11. - Zachary L Sowin | Zachary L SOWIN | W209N13524 Robinhood Dr | 11/11/24 |
| 12. - | | | |
| 13. - | | | |
| 14. - | | | |
| 15. - | | | |

STATE OF WISCONSIN
COUNTY OF WASHINGTON

Affidavit of Petition

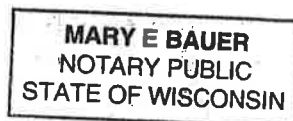
Circulator TRICK SCHLEIN

_____, being duly sworn, deposes and says that he or she is an owner of land within the boundaries of the proposed district; that to the best of his or her knowledge, all persons who have signed the foregoing petition are landowners within the boundaries of the proposed district and that the accompanying map and description indicates the territory to be included in the proposed district and that the petition has been signed by persons constituting 51 percent or more of the landowners within the proposed district.

Trick Schlein
Signature of Petition Circulator Trick Schlein PO Address
City N132W18350 ROCKFIELD RD.
GERMANTOWN, WI 53022

Subscribed and sworn to before me this 12 day of November, 2024.

Mary E. Bauer
Signature of Notary
My commission expires 9/20/2027



PAGE X2

Signature of Signer	Name	Legal Address	Date
1. <i>Lynne Schauer</i>	<i>Lynne Schauer</i>	<i>10121 Parker</i>	<i>11/11/24</i>
2. <i>-</i>	<i>Bedray</i>	<i>GT ct</i>	
3. <i>Maureen Fitzgerald</i>	<i>Maureen Fitzgerald</i>	<i>W164 N10253</i>	<i>11/11/24</i>
4. <i>PHILIP BARBER</i>	<i>PHILIP BARBER</i>	<i>W136 W17560 BONNIWECC RD</i>	
5. <i>-</i>		<i>GERMANTOWN WI</i>	
6. <i>-</i>			
7. <i>-</i>			
8. <i>-</i>			
9. <i>-</i>			
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14. <i>-</i>			
15. <i>-</i>			

STATE OF WISCONSIN
COUNTY OF WASHINGTON

Affidavit of Petition

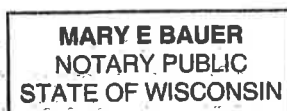
Circulator RICK SCHLEIN

_____, being duly sworn, deposes and says that he or she is an owner of land within the boundaries of the proposed district; that to the best of his or her knowledge, all persons who have signed the foregoing petition are landowners within the boundaries of the proposed district and that the accompanying map and description indicates the territory to be included in the proposed district and that the petition has been signed by persons constituting 51 percent or more of the landowners within the proposed district.

Signature of Petition Circulator Rich Schlelein PO Address 1132 W 18350 ROCKFIELD ROAD
City GERMANTOWN, WI 53022

Subscribed and sworn to before me this 12 day of November, 2024.

Signature of Notary Mary E. Bauer
My commission expires 9/20/2027



PETITION
TO THE VILLAGE OF GERMANTOWN BOARD

To the Village of Germantown, N112 W17001 Mequon Road
Germantown, WI 53022

WE, THE UNDERSIGNED, HEREBY PETITION the Village of Germantown
Board to halt the construction of a solar panel facility in Rockfield, Village of Germantown, WI

WE STATE OR BELIEVE:

1. Industrial-scale solar power plants should not be placed on land already zoned for A-1 (agricultural) and RA (rural area) use.

The local planning commission and boards of supervisors should vote to reject industrial-scale solar power plants based on this reason alone.

2. The land (forest, farmland, vegetation, soil) is forever destroyed.

Despite current discussions regarding decommissioning, the reality is that this rural land will be lost forever. Industrial-scale solar projects are typically for 30-40 years.

Construction of an industrial-scale solar power plant requires removal of trees, brush and root balls prior to installation of the arrays, creating an ecological wasteland. Grading, pile driving, blasting, electric cable trenching and road construction will compact the soil, likely delaying agricultural use for years after the project's end.

Stripping and compaction removes topsoil, destroys healthy soil organisms and allows for invasion of exotic plants that choke out native species.

3. Solar projects should not be placed near wetlands, rivers, streams, tributaries to avoid immediate damage to water quality, and possible contamination-ecological disasters. Uncontrolled runoff of water and topsoil is a well-documented byproduct of industrial-scale solar site development. This massive increase in watershed sedimentation impacts all downstream rivers and estuaries. Water contamination doesn't stop with the end of construction. Removal of all trees and deep-rooted plants, along with inadequate stormwater controls lead to long-term runoff and water contamination issues. Local municipalities usually do not have adequate resources to monitor construction and stormwater violations and, even when properly monitored, site developers have no problem paying fines, and there is no effective check on environmental damage.

4. Solar power plants destroy wildlife habitat.

Perimeter fencing, often 6-feet high and topped with barbed wire, will restrict movement of wildlife in the area. Removal of vegetation will impact bird population and other wildlife.

5. Solar power plants threaten preservation and should not destroy historic sites.

Many rural areas are the last undeveloped sites that contain prehistoric and historic archaeological deposits. Industrial development of these sites results in the irreversible loss of our history. In the Virginia Piedmont, this includes evidence of Native American settlements, early American settlement, Revolutionary and Civil War encampments and battlefields. Industrial development of these sites results in the irreversible loss of our history

6. A decline in eco and historical tourism.

Destruction of rural landscapes and areas of historic interest result in the decline in eco and historical-tourism (or may prevent the development of these industries), reducing the prosperity of the local community.

7. Solar power generation is very inefficient when looking at the amount of land "consumed."

Solar power's inefficiency argues for proper siting on brownfields, industrial areas, and commercial and residential rooftops - not on open or forested, agricultural and rural land.

8. Undermining of local residents' property values.

Based on recent studies, the expected reduction in property value ranged from 5-25% depending on proximity.

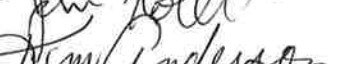
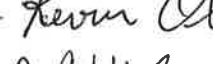
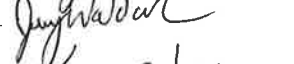
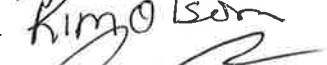
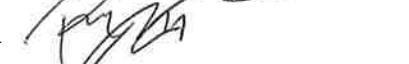
9. The bill for decommissioning projects will likely be passed on to taxpayers.

Insufficient surety fund by the developer could result in county responsibility for decommissioning costs. Net Decommissioning costs can range from \$43,584/MW to \$101,915/MW. No plan and cost should ever be approved without a full understanding of the cost to return the land to its original condition, and the county should not be responsible for this cost.

10. When the local community has clearly expressed concern and opposition.

Local planning commissions and boards of supervisors should vote to reject industrial-scale solar power plants when people in the community oppose it. With time, greater awareness of solar issues and accountability will take place.

SIGNATURE PAGES TO FOLLOW

Signature of Signer	Print Name	Legal Address	Date
1. 	Timothy Trapp	N132 W18375 Rockfield Rd Germantown, WI 53022	11/10/24
2. 	Roxanne Bira	W182N13151 Scotlan	11/10/24
3. 	Richard Bira	W182N13151 Scotlan Germantown WI 53022	11/10/24
4. 	LeeAnn Zartner	N131W18279 Woodland Ave Germantown, WI 53022	11/10/24
5. 	Gary Zartner	N131 W18279 Woodland Ave Germantown	11/10/24
6. 	JOHN KOELLER	N131 W18155 Woodland Ave Germantown	11/10/24
7. 	Kimberly Anderson	N132 W18187 Rockfield Rd Germantown	11/10/24
8. 	STEVE DeQuard	N132 W18187 Rockfield Rd Germantown	11/10/24
9. 	Kevin Olson	N132 W18153 Rockfield Rd Germantown	11/10/24
10. 	Joey Waldoch	N132 W18153 Rockfield Rd Germantown	11/10/24
11. 	Kim Olson	N132 W18153 Rockfield Rd Germantown	11/10/24
12. 	Ryan Turdo	N132 W18009 Rockfield Rd Germantown	11/10/24
13. 	DERRICK Rome	N132 W18040 Rockfield Rd Germantown	11/10/24
14. 	Angela Hedelma	N132 W18040 Rockfield Rd Germantown	11/10/24
15. 	Peter Ritz	N132 W18040 Rockfield Rd Germantown	11/10/24
16. 	Colleen Brushaber	N132 W18312 Rockfield Rd Germantown	11/10/24

17. -

18. -  Thalia Haseotes 14100 Woodlawn Cr. Elmhurst, WI 53122
(Boarder) 11/10/24

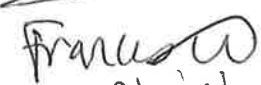
19. - ~~Angelacaudly~~ Angela Adey 4267 W Brown Deer Ln

20. - Angelacaudly Angela Adey 4267 W Cherrywood Ln 11/10/24
Brown Deer, WI 53209

21. - Kristina Awence 519 N 423 Ridgeway Ln 11/10/24
Cedarburg, WI 53012

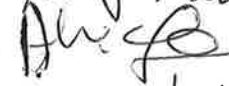
22. - Kristina Hoskins Kristina Hoskins 1336 Western Ave 11/10/24
Jackson, WI 53037

23. - Karin Murdock  6544 N Dayton St 11/10/24
Milwaukee 53224

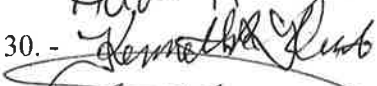
24. - Frances Gantner  545 Sherman Rd 11/10/24
53037

25. -  Linda Prochnow 5965 Deer Rd 11/10/24
Nin Christman 1 Colgate, 53011

26. -  Philip Menden 704 ASPER DR. 11/11/24
Kewaskum, WI 53040

27. -  Alicia Steffenhagen 2629 S. Galt 11/11/24
Milwaukee, WI 53219

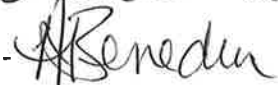
28. - Heidi Hokenstad HEIDI HOKENSTAD 3560 Circle Drive 11/11/24
Hubertus, WI 53033

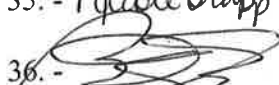
29. -  Kenneth R. Klumb 1132 W 1860 Rockfield Rd 11/11/24
Rockfield, WI

30. -  Will Wright 11/11/24

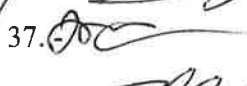
31. -  Jesus Johnson 1132 W 1711 Rockfield 11/11/24

32. - Katie Wiedmeyer Katie Wiedmeyer 1132 W 17882 Rockfield 11/11/24

33. -  Heidi Benedun 1135 N 15065 Rockfield Rd 11/11/24

34. -  Nicole Trapp 8234 Broadview Ln, Kewaskum, WI 53040 11/11/24

35. -  Beth G. Seep 17575 Doyle Rd Kewaskum, WI 53091 11/11/24

36. -  Michelle Johnson 2301 W 66th Hills N 66nd St WI 11/11/24
53209

37. -  Toddu Gillis 1899 Conestoga Ct Rockfield WI 11/11/24

38. -

39. -

40. -

STATE OF WISCONSIN
COUNTY OF _____

Affidavit of Petition
Circulator 

_____, being duly sworn, deposes and says that he or she is an owner of land within the boundaries of the proposed district; that to the best of his or her knowledge, all persons who have signed the

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STATE OF WISCONSIN
COUNTY OF GERMANTOWN

Affidavit of Petition
Circulator Rick Schellen RICK SCHLEHLEIN

_____, being duly sworn, deposes and says that he or she is an owner of land within the boundaries of the proposed district; that to the best of his or her knowledge, all persons who have signed the foregoing petition are landowners within the boundaries of the proposed district and that the accompanying map and description

indicates the territory to be included in the proposed district and that the petition has been signed by persons constituting 51 percent or more of the landowners within the proposed district.

Rick Schellen
Signature of Petition Circulator
City

Rick Schellen
PO Address

N 132 W 18350 ROCKFIELD RD.
GERMANTOWN, WI 53022

Subscribed and sworn to before me this 12 day of November, 2024.

Mary E. Bauer
Signature of Notary
My commission expires 9/26/2027

MARY E BAUER
NOTARY PUBLIC
STATE OF WISCONSIN



VILLAGE ATTORNEY
Wesolowski, Reidenbach & Sajdak, S.C.
11402 W. Church Street
Franklin, WI 53132
Phone: 414-529-8900

MEMORANDUM

TO: Plan Commission
FROM: Brian C, Sajdak, Village Attorney
DATE: December 6, 2024
RE: OneEnergy Development LLC Solar Farm Proposal

I have been asked to provide some input on two issues related to the OneEnergy solar farm proposal.

First, in the packet you will note that there is a petition included. The language of the petition suggests that there is some desire to have this considered as a protest petition under § 17.51(7) of the Municipal Code. However, in this case, the use of a protest petition is inapplicable. Under the code, a protest petition can be utilized when there is a change in a zoning district, or the regulations associated with a district. In this case, there is no change to the zoning district, nor is there any change to the regulations of a district. This proposal involves only the consideration of a permitted use within the A-1 District.¹ Because this does not qualify as a protest petition, there is no impact to the petition on the voting requirements, and a standard simply majority vote is all that is required.

The second issue centers on the impact of the Legislature's adoption of Wis. Stat. § 66.0401(1m). That provision provides:

No political subdivision may place any restriction, either directly or in effect, on the installation or use of a solar energy system, as defined in s. 13.48 (2) (h) 1. g., or a wind energy system, unless the restriction satisfies one of the following conditions:

- (a) Serves to preserve or protect the public health or safety.
- (b) Does not significantly increase the cost of the system or significantly decrease its efficiency.
- (c) Allows for an alternative system of comparable cost and efficiency.

Under this statute, the Legislature has significantly limited the ability of local governments to regulate solar energy projects. Indeed, the Courts have expressly held that even where a solar energy system is a conditional use that a plan commission is "duty bound to confine its consideration of the conditional use applications *in light of the restrictions placed on local*

¹ Note: In addition to the general inapplicability of protest petitions discussed above, the Legislature in 2023 Wis. Act 16 amended section 66.10015(3) of the Statutes to effectively prohibit protest petitions except in very rare circumstances (none of which are applicable here). This change goes into effect on January 1.

regulations pursuant to § [66.0401].” Numrich v. City of Mequon Board of Zoning Appeals, 2001 WI App 88, ¶23, 242 Wis. 2d 677, 626 N.W.2d 366 (emphasis in original). As such, even under a more strict conditional use review, any conditions placed on a solar energy proposal must meet those requirements. Here, however, the review is not even a conditional use review.

This is merely the consideration of an application for a permitted use. Under this standard, there are virtually no instances where denial of a permitted use would comply with the statute. Safety would be the only possible area where a denial might meet the statute (e.g., deny the application because of public safety concerns), however if the use was deemed unsafe why would it be permitted? Accordingly, the only regulations that appear to be acceptable under the statute and the zoning code would be those standard considerations when reviewing a site plan — setbacks, density, height, etc.

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: An Ordinance Repealing and Recreating Section 3.14 of the Municipal Code of Germantown Relating to the Imposition of Impact Fees

SUBMITTED BY: Steve Kreklow, Administrator

SUMMARY EXPLANATION:

During November, Ehlers presented the results of their study of Village of Germantown Impact Fees to the Utility Advisory Committee and the General Government & Finance Committee. Ehlers recommended that the Village update the impact fees for Parks, the Library and the Water Utility as presented in their report and continue work on Police, Fire and Sewer impact fees, updating those fees in early 2025. The General Government & Finance Committee voted to recommend approval of the changes to the Parks, Library, and Water Utility Impact fees as presented by Ehlers. The changes as recommended are summarized in the table below:

Impact Fee	Current Fee	Recommended Fee	Change
Parks	\$736	\$1,311	\$575
Library	\$281	\$711	\$430
Water	\$832	\$1,003	\$171

State Statute allows municipalities to use impact fees to recover a portion of the costs of expanding facilities required to accommodate growth from the businesses and developers who bring the growth into the community. If approved, the Park Impact Fee is projected to generate approximately \$2.8 million for new or expanded recreational trails in the Village. In particular, the these funds could be used offset the cost of future trail additions and improvements planned for Division Road, the Goldendale Creek area, and Freistadt Road. If approved, the Library Impact Fee is projected to generate approximately \$1.5 million that would offset the cost a second floor expansion of the Village Library. These impact fees would reduce the amount of levy supported debt required for these projects.

The increase in the Water Impact Fee is proposed to adjust the fee to reflect the actual construction costs of Well #11. The existing fee was set at \$832 in 2007 based on 71% of the estimated construction costs. Actual construction costs were approximately \$2.5 million and the increased fee would allow the Village to recover 71% of the actual construction costs.

The proposed Ordinance also makes changes to the process and procedures of impact fees to address issues raised by the recent impact fee appeal.

ATTACHMENT:

1. 2024 Impact Fee Study Update Report Updated 11-2024
2. Germantown impact fee ordinance - blackline
3. Ordinance Updating Impact Fees - 2024

STAFF RECOMMENDATION:

Approve the Modified Impact Fee Ordinance

ACTION BY Committee:

December 16, 2024

2024 IMPACT FEE STUDY UPDATE:

Village of Germantown, WI



Prepared by:

Ehlers
N19W24400 Ridgewood Dr
Suite 100
Waukesha, WI 53188

Advisors:

Jon Cameron
Senior Municipal Advisor

Lisa Trebatoski
Senior Fiscal Consultant

BUILDING COMMUNITIES. IT'S WHAT WE DO.



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SECTION 1 – BACKGROUND

A. Purpose of Impact Fees

When land is developed, it creates a need for additional park facilities, library facilities and water facilities. Impact fees are cash contributions, contributions of land or interests in land, or any other items of value that are imposed on a developer by a municipality for the purposes of providing new, expanded or improved public facilities to accommodate the land development. Historically, parkland and park facilities, library, and water facilities in the Village of Germantown have been financed by a combination of property taxes, utility rates, occasional state grants and impact fees.

B. Summary of Existing Impact Fees & Legislative Authority

The Village of Germantown has been collecting impact fees for parks, library, law enforcement, and fire protection facilities since the mid-1990's. The Village imposed a water impact fee in 2007. The law enforcement and fire protection impact fees are not being updated as part of this public facilities needs assessment as the Village is evaluating locations and layouts of future law enforcement and fire building facilities. The Village anticipates bringing forward law enforcement and fire impact fee updates as soon as the Village Board determines the future plans for these facilities.

A municipality may enact an ordinance under Wis. Stat. § 66.0617 that imposes impact fees on developers to pay for the capital costs that are necessary to accommodate land development. Wis. Stat. § 66.0617 was enacted in 1993 by Wisconsin Act 305. A 1997 change in the law prohibited counties from assessing impact fees to recover costs related to transportation projects. The statute was also amended in 2006 by Wisconsin Acts 203 and 477, and finally in 2008 by Wisconsin Act 44. The more recent acts made several changes to the impact fee statute, most notably the time period for which municipalities have to spend impact fees and the facilities for which impact fees can be imposed.

Prior to enacting or amending an existing ordinance that imposes an impact fee, a municipality shall hold a public hearing on the proposed ordinance or amendment. A municipality shall prepare a needs assessment for the public facilities for which it is anticipated that impact fees may be imposed. The public facilities needs assessment or revised public facilities needs assessment shall be available for



public inspection and copying in the office of the municipal clerk at least 20 days prior to the public hearing.

Public facilities mean highways, as defined in Wis. Stat. § 340.01(22), and other transportation facilities, traffic control devices, facilities for collecting and treating sewage, facilities for pumping, storing, and distributing water, parks, playgrounds, and land for athletic fields, solid waste and recycling facilities, fire protection facilities, law enforcement facilities, emergency medical facilities, and libraries. Public facilities do not include facilities owned by a school district.

C. Public Facilities Needs Assessment Requirements

Wisconsin Statute §66.0617 requires the public facilities needs assessment to include the following:

1. An inventory of existing public facilities, including an identification of any existing deficiencies in the quantity or quality of those public facilities, for which it is anticipated that an impact fee may be imposed.
2. An identification of the new public facilities, or improvements or expansions of existing public facilities, that will be required because of land development for which it is anticipated that impact fees be imposed. This identification shall be based on explicitly identified service areas and service standards.
3. A detailed estimate of the capital costs of providing the new public facilities or the improvements or expansions in existing public facilities, including an estimate of the effect of recovering these capital costs through impact fees on the availability of affordable housing within the municipality.

This needs assessment update complies with these requirements for all impact fees. Since 2015 the Village has updated its Comprehensive Plan and updated its Capital Improvement Planning efforts which is what this study update is based upon.

D. Standards for Impact Fees

Impact fees must meet seven standards, outlined in Wis. Stat. § 66.0617(6), prior to imposition:

1. Shall bear a rational relationship to the need for new, expanded or improved public facilities that are required to serve land development.
2. May not exceed the proportionate share of the capital costs that are required to serve land development, as compared to existing uses of land within the municipality.



3. Shall be based upon actual capital costs or reasonable estimates of capital costs for new, expanded, or improved public facilities.
4. Shall be reduced to compensate for other capital costs imposed by the municipality with respect to land development to provide or pay for public facilities, including special assessments, special charges, land dedications or fees in lieu of land dedications or any other items of value.
5. Shall be reduced to compensate for moneys received from the federal or state government specifically to provide or pay for the public facilities for which the impact fees are imposed.
6. May not include amounts necessary to address existing deficiencies in public facilities.
7. Shall be payable by the developer or the property owner to the municipality in full upon the issuance of a building permit by the municipality.

This update is completed to ensure that the impact fees that are currently in effect continue to comply with these standards.

E. Time Period for Expending Impact Fees and Managing Revenues

Wis. Stat. § 66.0617 states the following time periods for which impact fee revenues must be used or refunded to the current property owner with interest. Generally, impact fees must be spent within eight years from the time of collection.

Impact fees must be placed in a separate segregated account. The municipality should have a separate account for each impact fee. The impact fees and any interest accrued on the impact fees must be used for the facilities for which the impact fees were imposed.

SECTION 2 –DEMOGRAPHIC UPDATES

A. Population Trends

Population trends are shown in Table 1. The future population projections are taken from evaluating the Village's Comprehensive Plan, the Wisconsin Department of Administration future population projections and Southeastern Wisconsin Regional Planning Commission (SEWRPC) projections for the Village of Germantown.



Village of Germantown Impact Fee Study Update

Table 1 - Historical and Projected Population Statistics

	Population	Projection
1980 ¹	10,729	
1985 ¹	11,669	
1990 ¹	13,658	
1995 ¹	15,864	
2000 ¹	18,260	
2005 ¹	19,189	
2010 ¹	19,749	
2015 ¹	19,972	
2020 ¹	20,917	
2024 ¹	20,991	
2030 ²		23,503
2035 ²		23,881
2040 ²		23,852
2045 ³		27,438

Notes;

1. Census and WI Department of Administration Final Estimates.
2. Estimates taken from WI Department of Administration population estimate figures and Village Comprehensive Plan.
3. 2045 estimate gathered from SEWRPC 2050 population estimate and pro-rated to 2045.

SECTION 3 -PARKS, PLAYGROUNDS, AND LAND FOR ATHLETIC FIELDS PUBLIC FACILITIES NEEDS ASSESSMENT AND IMPACT FEE UPDATE

A. Introduction

Previous impact fee studies calculated a park impact fee for a number of park improvements contemplated with the original impact fee study. This study provides an updated impact fee for three upcoming trail projects in the Village.

B. Inventory of Existing Facilities

Table 2 shows the existing inventory of parkland within the Village including an identification of the type of park. The Village has approximately 414 acres of parkland between neighborhood, community, natural and regional parks and park trail land. The regional park owned by Washington County was not included in the



inventory of parkland within the Village. In addition to the amount of parkland, the Village owns and maintains approximately 4.5 miles of trails.

Village of Germantown Impact Fee Study Update

Table 2 - Inventory of Existing Park Acreage & Trail Mileage

Park Name	Park Type	Current Park Acreage
Alt Bauer Park	N	25.6
Dheinsville Historical Park	S	9.5
Firemen's Park	N	17
Friedenfeld Park	C	53
Haupt Strasse Park	N	13
Kinderberg Park	N	23
Little League Park	S	10
Schoen Laufen Park	E	39
Spassland Park	N	20
Widenback Park	P	4
Wilderness Park	E	200
Total		414.1

Trail Name	Current Trail Miles
Alt Bauer Park	1.59
Kinderberg Park	1.05
Schoen Lufen Park	1.19
Spassland Park	0.68
Total	4.51

Key:

N = Neighborhood Park

S = Special Park/Area

C = Community Park

E = Environmental Area

P = Playlot

Notes:

1. Source: Village of Germantown 2021 Comprehensive Outdoor Recreation Plan.



C. Service Standard

The Village's 2021 Comprehensive Outdoor Recreation Plan (CORP) lists service level standards based on the type of park within the Village. These standards are taken from the National Recreation and Park Association (NRPA). For the upcoming trail projects within the Village, a service level standard was calculated based upon the future trail miles within the Village expressed as total miles per 1,000 persons based upon the projected 2045 population estimates. This service level standard was then applied to the current miles of trails (without the three new projects contemplated) to quantify current deficiencies in the mileage of the Village trail system. This is shown on Table 3 below.

Village of Germantown Impact Fee Study Update

Table 3 - Trail Mileage Deficiency/Growth Analysis

Facility	Existing Miles	Future Additional Miles	Total Planned Future Miles	Future Miles per 1,000 persons design standard	Required Existing Acres	Surplus (Deficiency) Acres	Deficiency %	Future %
Recreation Trails								
Alt Bauer Park	1.59		1.59					
Kinderberg Park	1.05		1.05					
Schoen Lufen Park	1.19		1.19					
Spassland Park	0.68		0.68					
Goldendale Trail		2.955	2.96					
Division Road		1.686	1.69					
Freistadt Road		5.89	5.89					
Total Recreation Trails	4.51	10.531	15.041	0.55	11.47	(6.96)	66.06%	33.94%

D. Capital Costs of Trail Development

As shown on Table 4 below, the Village is planning to expand the trail networks with three upcoming projects. In total, the Village is planning to construct approximately \$8.3 million in future trail projects. Of that total, approximately \$5.5 million is allocated to meet existing deficiencies and \$2.8 million is allocated to future growth within the Village.



Village of Germantown Impact Fee Study Update

Table 4 - Trail Facilities Allocation of Costs for Park Impact Fee Calculation

Park	Total	Existing %	Future %	Existing \$	Future \$
Goldendale Trail (Option 3)	\$2,351,500	66.06%	33.94%	\$1,553,296	\$798,204
Division Road	\$1,167,750	66.06%	33.94%	\$771,364	\$396,386
Freistadt Road	\$4,780,750	66.06%	33.94%	\$3,157,950	\$1,622,800
Total	\$8,300,000			\$5,482,610	\$2,817,390

Notes:

1. Source: 2024 Village of Germantown Trail Master Plan.

E. Establishment of Fee

Table 5 shows the calculation of the impact fee per capita of \$437, and \$1,311 per dwelling unit. The park impact fee has historically been applied to residential development only, with the logic being that new or expanded park facilities primarily benefit Village residents vs. commercial and industrial development.

Village of Germantown Impact Fee Study Update

Table 5- Park Impact Fee Calculation

	Total Cost	Deficiency Cost	Deficiency %	Growth Cost	Growth %
Future Capital Improvement Projects	\$8,300,000	\$5,482,610	66%	\$2,817,390	34%
Total Incremental Population Growth	6,447				
Impact Fee Per Capita	\$437				
Impact Fee Per Dwelling Unit (3 people/unit)	\$1,311				

SECTION 4 - LIBRARY PUBLIC FACILITIES NEEDS ASSESSMENT AND IMPACT FEE UPDATE

A. Introduction

The Village historically began collecting impact fees for the construction of the now Village Library facility, which was opened in 2002. The Village now plans to add a second-floor addition to the existing facility. This impact fee study update will recalculate the impact fee for the second-floor addition.



B. Inventory of Existing and Proposed Facilities

The Village of Germantown Community Library is located at N112W16957 Mequon Road. The library was opened in 2002 and consists of 26,000 square feet. The Village plans to construct a second-floor addition of approximately 13,000 square feet.

Village of Germantown Impact Fee Study Update
Table 6 - Existing and Proposed Library Space

	Existing Space (sq. ft) ¹	Future Space (sq. ft) ²	Sq. Footage Change
Existing Library Space	26,000	39,000	13,000

Notes:

- 1. Source: Germantown Community Library Strategic Plan 2023-2027.

C. Deficiency/Growth Analysis and Establishment of Fees

The deficiency/growth allocation analysis shown on Table 7 establishes an impact fee eligible percentage for the new library facility based on the proportionate share of projected population growth over a 20-year planning period. The new growth share of the library facility is 23%. The impact fee analysis on the table shows the new library facility is estimated to cost \$8.5 million with \$2.0 million of that total being raised through fundraising efforts and a grant through Washington County. Of the remaining \$6.5 million to be financed by the Village the impact fee eligible share of the project is estimated at approximately \$1.5 million. The \$1.4 million divided by the 2024-2045 population growth increase of 6,447 people yields an impact fee per capita of \$237, or \$711 per dwelling unit.



Village of Germantown Impact Fee Study Update

Table 7 - Library Deficiency/Growth Standards and Impact Fee Calculation

Development of Deficiency/Growth Standards

	2045	2024
Population	27,438	20,991
Percent Deficiency Allocation		77%
Percent Growth Allocation		23%

Impact Fee Calculation

Total Library Facility Estimated Cost	\$8,500,000
Less: Library Fundraising Activities	(\$1,000,000)
Less: Washington Co. Grant	(\$1,000,000)
Total Village-Funded Project Cost	\$6,500,000
Growth Share of Village-Funded Building Cost	\$1,527,280
Deficiency Share of Village-Funded Building Cost	\$4,972,720
2024-2045 Population Growth Est	6,447
Impact Fee Per Capita	\$236.90
Impact Fee Per Dwelling Unit	\$710.69



SECTION 5 – WATER PUBLIC FACILITIES NEEDS ASSESSMENT AND IMPACT FEE UPDATE

A. Introduction

The Village has been collecting water impact fees since 2007. The 2007 study established an impact fee for the growth portion of Well No. 11. This study will update the fee for the Well No. 11 project with the actual costs of the well facility.

B. Inventory of Existing Facilities

At the time of the original impact fee the Village had five wells in service with the largest well being Well No. 7. The Village now has six wells in service with the addition of Well No. 11, with the largest Well still being Well No. 7.

C. Water Facilities Capital Cost Estimates and Impact Fee Update

The 2007 impact fee study identified 71% of the well facility as being related to servicing future growth in the Village. This analysis was based upon a capacity analysis with the largest well at the time placed out of service relative to meeting total max day pumpage needs prior to Well No. 11's construction.

After Well No. 11 project was completed and placed into service, a conventional water rate case was completed with the Wisconsin Public Service Commission (PSC). The 71% of the Well facility was booked into the utility's contributed rate base, recognizing that water impact fees would be the source of funding for that portion of the project. The updated water impact fee with the actual project costs for Well No. 11 are shown in Table 8 below.



Village of Germantown Impact Fee Study Update

Table 8 - Well 11 Final Cost & Updated Impact Fee Calculation

Description	Cost (1)
Land and Land Rights	\$ 182,962
Wells and Springs	\$ 522,357
Pumping Plant Power Production Equipment	\$ 78,139
Electric Pumping Equipment	\$ 102,985
Water Treatment Plant Structures and Improvements	\$ 1,031,754
Sand & Other Media Filtration Equipment	\$ 551,591
Total Cost	\$ 2,469,788
 Total Growth % From 2007 Study	 71%
Growth Share of Well Project	\$ 1,753,549
 Total Future Recs from 2007 Study	 1,748
 Updated Impact Fee per REC	 \$ 1,003

SECTION 6 – IMPACT FEE SUMMARY AND EFFECT OF IMPACT FEES ON HOUSING AFFORDABILITY

A. Summary of Proposed Impact Fees

The summary of the proposed impact fees by type per residential dwelling unit is shown in Table 9 below.

**Village of Germantown Impact Fee Study Update****Table 9 - Comparison of Existing and Proposed Impact Fees per Dwelling Unit**

Impact Fee	Current Impact Fee	Proposed Impact Fee	Difference
Parks	\$736	\$1,311	\$575
Library	\$281	\$711	\$430
Law Enforcement	\$148	\$148	\$0
Fire	\$171	\$171	\$0
Water	\$832	\$1,003	\$171
Total	\$2,168	\$3,344	\$1,176

Notes:

1. The law enforcement and fire impact fees are not recommended to remain the same. The Village is working to evaluate the future sites and layouts for new law enforcement and fire headquarters buildings. Updated impact fees for these facilities are anticipated in 2025.

B. Effect of Impact Fees on Housing Affordability

The effect of all impact fees on housing affordability is analyzed in Table 10 below. The impact fee statute does not define affordable housing, however section 66.1105(2)(ab) of State Statutes defines affordable housing as costing no more than 30% of the household's gross monthly income. Under 66.0617(7) of Wisconsin Statutes, the Village Board has the authority to reduce, in whole or part, impact fees for low-cost housing provided it adopts an ordinance to that effect.



Village of Germantown Impact Fee Study Update

Table 10 - Fee Impact on Affordable Housing

"Affordable House" \$400,000

Amount Financed¹

No Impact Fee	\$360,000
Existing Impact Fees	\$362,168
Proposed Impact Fees	\$363,344

Monthly Mortgage Payments²

		<u>Additional Monthly Cost</u>
No Impact Fee	\$2,872	\$0
Existing Impact Fees	\$2,886	\$14
Proposed Impact Fees	\$2,894	\$21

Notes:

1. The amount financed represents total cost of home less a 10% down payment.
2. Monthly mortgage payments include escrowing property tax payment and homeowners insurance.

At \$400,000 per unit, the fee would increase the annual housing payments for a median value home by \$21 per month.

SECTION 7 - IMPLEMENTATION AND CONTINUED MANAGEMENT

To implement the proposed impact fees the Village will need to:

1. Amend the existing impact fee ordinance to include the proposed impact fees.
2. Have the impact fee study on file in the office of the Clerk and available 20 days prior to the public hearing to allow the public time to review the document.
3. Prepare a Class 1 hearing notice and publish it in the Village newspaper.
4. Conduct a public hearing on the proposed impact fees.
5. After the conclusion of the public hearing the Village Board may adopt the proposed impact fees.

It is also recommended that the Village continue to review its impact fees on a 5-year cycle, or as new information becomes available that would affect the fee calculations.

3.14 IMPACT FEES. ~~(Cr. Ord. #24-95; Am. Ord. #30-03; Am. Ord. #13-06; Am. Ord. #22-06)~~

(1) DEFINITIONS. The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them below, except where the context clearly indicates a different meaning:

(a) BUILDING PERMIT. Any permit required for new construction, remodeling, rehabilitation, improvement, and/or additions pursuant to the provisions of the Germantown Municipal Code. Building permit shall include a utility connection permit. Building permit, as used in this section, does not include:

1. For residential uses, permits required for remodeling, rehabilitation, or other improvements to an existing structure, or for the rebuilding or reconstruction of a damaged or destroyed structure, which does not result in an increase in the number of dwelling units; or
2. For nonresidential uses, permits required for remodeling, rehabilitation, or other improvements to an existing structure, or for the rebuilding or reconstruction of a damaged or destroyed structure, which does not result in an increase in gross floor area or in water or sewer usage on a residential unit equivalent basis.

(b) DEVELOPER. A person or entity that constructs, creates, or undertakes a development.

(c) DEVELOPMENT. The construction or modification of improvements to real property that creates additional residential dwelling units, that results in nonresidential uses that create a need for new, expanded or improved public facilities within the Village, or any other activity that requires issuance of a building permit.

(d) DWELLING UNIT. A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, cooking, and sanitation.

(e) GROSS FLOOR AREA. The total floor area of buildings to be constructed.

(f) MIXED USE. Use of land involving both residential and nonresidential uses.

(g) NONRESIDENTIAL USE. Use of land for primarily industrial, commercial, or institutional purposes, or which does not fall within the definition of residential use.

(h) RESIDENTIAL USE. Use of land for the primary purpose of housing accommodations. Residential use does not include congregate care facilities having centralized dining services and private living quarters without an area equipped for preparing and cooking food, hotels, motels, or lodging houses.

(i) RESIDENTIAL UNIT EQUIVALENT (RUE). A unit of measure for sewer or water related impact fees equivalent to the amount of sewer or water capacity needed to supply one residential dwelling unit. The RUE shall be determined utilizing the method specified in the Metropolitan Milwaukee Sanitary Sewerage District's Cost Recovery Procedures Manual, except that that base equivalent residential unit flow shall be set at 81,860 gallons per year. The terms "residential equivalent connection" or "REC" shall have the same meaning as residential unit equivalent.

~~(1) The definitions in §66.0617(1), Wis. Stats., are hereby adopted by reference.~~

~~(2) IMPOSED.~~ Pursuant to §66.0617, Wis. Stats., impact fees are hereby imposed as follows:

(2)

(a)	Facilities for pumping and storing water (see section 15.07(2)) (Am. Ord. #44-95; Am. Ord. #34-07)	\$1,003.00/residential unit equivalent for pumping, storing and residential, commercial, industrial and institutional development located within the Village served by municipal water
(b)	Park, playgrounds and land for athletic facilities	\$1,311.00/residential unit
(c)	Fire protection facilities	\$171.00/residential unit and \$0.63549/\$1,000.00 of building costs of commercial, industrial and institutional development
(d)	Law enforcement facilities	\$148.00/residential unit and \$0.2809/\$1,000.00 of building costs of commercial, industrial and institutional development
(e)	Library facilities	\$711.00/residential unit

(f)	Reserved (Rep. Ord. #6-97)	
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(3) **PAYMENT OF IMPACT FEES.** (Am. Ord. #44-95)

- (a) Any ~~person-developer~~ who seeks to ~~[develop,]~~ or has developed, land within the Village of Germantown, by applying for a building permit ~~or an extension of a building permit, or a permit to connect to municipal water,~~ is hereby required to pay an impact fee in the manner and amount set forth in this section. Such impact fee shall be reduced to offset for impact fees previously paid, if any, at the time of building permit issuance, on account of ~~the existing~~ development of ~~the land~~~~the housing unit or units on the subject property for which the building permit or water connection permit is sought.~~ The amount of the impact fee shall also be reduced to compensate for other capital costs imposed by the Village with respect to development to provide or pay for public facilities, including special assessments, special charges, land dedications or fees in lieu of land dedications under ch. 236 or any other items of value, and for moneys received from the federal or state government specifically to provide or pay for the public facilities for which the impact fee is imposed. When considering reduction under this paragraph, offsets shall only be made on a per impact fee basis. For example, if the Village receives state aid to pay for capital costs related to water infrastructure, any offset or reduction applies only to the water impact fee and not any other impact fee imposed on a development. -
- (b) Any new building/~~water connection~~ permit issued by the Village shall be conditioned and its effective date delayed until the impact fees herein required have been paid.
- (d) The failure to apply for a required building permit for development shall in no way negate the imposition of an impact fee nor the requirement to pay the same.

(4) **REQUIREMENTS FOR IMPACT FEE REVENUES; RETURN OF IMPACT FEES.** (Am. Ord. #34-07) Revenues from impact fees shall be placed in a segregated, interest-bearing account and shall be accounted for separately from the other funds of the political subdivision. Impact fee revenues and interest earned on impact fee revenues may be expended only for capital costs for which the impact fees were imposed. The Finance Director shall keep an account of the amount and date of each impact fee payment and the date such funds are expended on a first-in first-out basis.

~~(5) **IMPACT FEE ACCOUNTING, TIME PERIODS, RETURN OF FEES.** Impact fees that are imposed and collected by the Village of Sussex must be spent or refunded pursuant to Wisconsin Statute Section 66.0617. The Village may collect and utilize impact fees in any manner and timeframe as otherwise allowed by law.~~

~~(a) The Village Treasurer shall keep an account of the amount and date of each impact fee payment and the date such funds are expended on a first-in first-out basis.~~

~~(b) Impact fees, together with interest earned, which are not used to pay the capital costs for which they were imposed within 8 years of the date collected shall be refunded to the current owner of the property with respect to which the impact fees were imposed.~~

~~(5)~~ **APPEAL.** Any ~~person or entity~~~~developer~~ upon whom an impact fee has been imposed may contest the amount, collection or the use of the impact fee as follows:

(a) A notice of appeal shall be filed with the village clerk within fifteen (15) days of the date of the determination appealed from. The notice of appeal shall state in detail the relief sought by the developer and any legal or factual basis for the relief requested; and shall include all supporting documentation upon which the developer relies in making the appeal.

(b) Unless acceptable surety is provided under subsection (c), it shall be a condition to the commencement of such an appeal that the impact fee from which the developer appeals shall be paid as and when the fee or any installment thereof becomes due and payable and, upon default in making any such payment, such appeal may be dismissed.

(c) If the Notice of Appeal is accompanied by a letter or credit, bond or other sufficient surety satisfactory to the Village Attorney in an amount equal to the impact fee due, as calculated by the Finance Director or the Finance Director's designee, and all other requirements have been satisfied, the building permit

may be issued. The filing of an appeal shall not stay the collection of the impact fee due unless a bond or other sufficient surety has been filed.

- (d) The only questions appealable under this Section are the following, as authorized by Wis. Stat. § 66.0617(10):
1. The amount of fee charged and paid by the developer;
 2. The method of collection of the impact fee; and
 3. The use to which the particular fee paid by the developer is made by the Village.
- (e) Following the filing of the notice of appeal, the Village Administrator, with the assistance of the applicable department staff, the Finance Director, and/or Village Attorney, shall within a reasonable time compile a record for the appeal consisting of, as appropriate, the notice of appeal and any supporting documentation provided by the developer, a copy of the ordinance imposing the impact fee that is the subject of the appeal, a copy of the applicable needs assessment, a record of the management and expenditure of the proceeds of the impact fee, and a report providing an analysis of the questions subject to the appeal. The record shall then be forwarded to the Village Board for a hearing on the appeal by filing the same with the Village Clerk and providing a copy to the developer.
- (f) Upon receipt of the record on the appeal, the Village Clerk shall promptly schedule the appeal for a hearing before the Village Board at which the developer and the Village Officials concerned can present their case. The burden shall be on the developer to establish illegality or impropriety of the impact fee from which the appeal has been taken. Following the close of the public hearing, the Common Council shall deliberate upon the matter, and may conduct such studies and inquiries as it deems appropriate to decide the appeal. Based upon review of the record, the testimony presented at the hearing, and the results of any studies or inquiries conducted, the Village Board shall make a determination with respect to the appeal. If the Village Board determines that the appeal has merit, it shall determine appropriate remedies including, but not limited to, the reallocation of the proceeds of the challenged impact fee to accomplish the purposes for which the fee was collected, refunding the impact fee in whole or in part, along with any interest collected by the Village thereon, granting the developer the opportunity to make the impact fee payment in installments, or such other remedies as it deems appropriate in a particular case.by filing an appeal to the Village Board addressed to the Village Clerk. A copy of the appeal shall be forwarded to the appropriate department head who shall submit a written report and recommendation to the Board in 10 days or less. The Board shall review the said report and make a recommendation. At the next Board meeting, the Board shall adopt a proposed resolution of the matter and the Village Clerk shall send a copy of the same to the appellant. If the appellant still feels aggrieved, within 10 days he may file a written request with the Village Clerk that a hearing on the matter be held. If the hearing request is received by the Clerk 5 days or more from the next Board meeting, the Board shall hear the matter at that meeting; if received less than 5 days from the next Board meeting, the matter shall be heard at the next succeeding Board meeting. After fully hearing the matter, the Board shall reduce its findings and decisions to writing within 10 days and the Clerk shall send a copy thereof to the developer by certified mail. If the developer still feels aggrieved, he may file an appeal with the circuit court within 30 days of the receipt of the Board's decision.
- (h) If the developer wishes to appeal the decision of the Village Board, the developer may commence an action by certiorari in the Washington County Circuit Court seeking review of the Board's decision within thirty (30) days after the date on which the Board adopted the decision with respect to the appeal.

State law reference—Impact fees, Wis. Stats. § 66.0617.—

AN ORDINANCE REPEALING AND RECREATING SECTION 3.14
OF THE MUNICIPAL CODE OF GERMANTOWN
RELATING TO THE IMPOSITION OF IMPACT FEES

WHEREAS, Wis. Stat. § 66.0617(2) authorizes the Village to impose impact fees on developers to pay for the capital costs that are necessary to accommodate new development; and

WHEREAS, the Village Board previously adopted Section 3.14 of the Municipal Code of Germantown which imposes certain impact fees on development within the Development; and

WHEREAS, the Village has completed an updated needs assessment for the water, parks and library impact fees; and

WHEREAS, the Village Board held a public hearing on the updated needs assessment pursuant to Wis. Stat. § 66.0617(3) on December 16, 2024; and

WHEREAS, the Village Board desires to implement the recommendations of the updated needs assessment and update the associated impact fees for these capital costs;

WHEREAS, the Village Board further desires to amend Section 3.14 to address best practices and to better specify process and procedures related to the imposition and collection of impact fees in the Village;

NOW, THEREFORE, the Village Board of the Village of Germantown, Wisconsin, do ordain as follows:

SECTION I:

Section 3.14 of the Municipal Code of Germantown is hereby repealed and recreated to read as:

3.14 IMPACT FEES.

- (1) **DEFINITIONS.** The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them below, except where the context clearly indicates a different meaning:

- (a) **BUILDING PERMIT.** Any permit required for new construction, remodeling, rehabilitation, improvement, and/or additions pursuant to the provisions of the Germantown Municipal Code. Building permit shall include a utility connection permit. Building permit, as used in this section, does not include:
 - 1. For residential uses, permits required for remodeling, rehabilitation, or other improvements to an existing structure, or for the rebuilding or reconstruction of a damaged or destroyed structure, which does not result in an increase in the number of dwelling units; or
 - 2. For nonresidential uses, permits required for remodeling, rehabilitation, or other improvements to an existing structure, or for the rebuilding or reconstruction of a damaged or destroyed structure, which does not result in an increase in gross floor area or in water or sewer usage on a residential unit equivalent basis.
- (b) **DEVELOPER.** A person or entity that constructs, creates, or undertakes a development.
- (c) **DEVELOPMENT.** The construction or modification of improvements to real property that creates additional residential dwelling units, that results in nonresidential uses that create a need for new, expanded or improved public facilities within the Village, or any other activity that requires issuance of a building permit.
- (d) **DWELLING UNIT.** A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, cooking, and sanitation.
- (e) **GROSS FLOOR AREA.** The total floor area of buildings to be constructed.
- (f) **MIXED USE.** Use of land involving both residential and nonresidential uses.
- (g) **NONRESIDENTIAL USE.** Use of land for primarily industrial, commercial, or institutional purposes, or which does not fall within the definition of residential use.
- (h) **RESIDENTIAL USE.** Use of land for the primary purpose of housing accommodations. Residential use does not include congregate care facilities having centralized dining services and private living quarters without an area equipped for preparing and cooking food, hotels, motels, or lodging houses.
- (i) **RESIDENTIAL UNIT EQUIVALENT (RUE).** A unit of measure for sewer or water related impact fees equivalent to the amount of sewer or water capacity needed to supply one residential dwelling unit. The RUE shall be determined utilizing the method specified in the Metropolitan Milwaukee Sanitary Sewerage District's Cost Recovery Procedures Manual, except that that base equivalent residential unit

flow shall be set at 81,860 gallons per year. The terms “residential equivalent connection” or “REC” shall have the same meaning as residential unit equivalent.

- (2) **IMPOSED.** Pursuant to §66.0617, Wis. Stats., impact fees are hereby imposed as follows:

(a)	Facilities for pumping and storing water (see section 15.07(2))	\$1,003.00/residential unit equivalent for pumping, storing and residential, commercial, industrial and institutional development located within the Village served by municipal water
(b)	Park, playgrounds and land for athletic facilities	\$1,311.00/residential unit
(c)	Fire protection facilities	\$171.00/residential unit and \$0.63549/\$1,000.00 of building costs of commercial, industrial and institutional development
(d)	Law enforcement facilities	\$148.00/residential unit and \$0.2809/\$1,000.00 of building costs of commercial, industrial and institutional development
(e)	Library facilities	\$711.00/residential unit

(3) **PAYMENT OF IMPACT FEES.**

- (a) Any developer who seeks to develop, or has developed, land within the Village of Germantown, by applying for a building permit is hereby required to pay an impact fee in the manner and amount set forth in this section. Such impact fee shall be reduced to offset for impact fees previously paid, if any, at the time of building permit issuance, on account of existing development of the land. The amount of the impact fee shall also be reduced to compensate for other capital costs imposed by the Village with respect to development to provide or pay for public facilities, including special assessments, special charges, land dedications or fees in lieu of land dedications under ch. 236 or any other items of value, and for moneys received from the federal or state government specifically to provide or pay for the

public facilities for which the impact fee is imposed. When considering reduction under this paragraph, offsets shall only be made on a per impact fee basis. For example, if the Village receives state aid to pay for capital costs related to water infrastructure, any offset or reduction applies only to the water impact fee and not any other impact fee imposed on a development.

- (b) Any new building permit issued by the Village shall be conditioned and its effective date delayed until the impact fees herein required have been paid.
- (c) The failure to apply for a required building permit for development shall in no way negate the imposition of an impact fee nor the requirement to pay the same.

(4) **REQUIREMENTS FOR IMPACT FEE REVENUES; RETURN OF IMPACT FEES.** Revenues from impact fees shall be placed in a segregated, interest-bearing account and shall be accounted for separately from the other funds of the political subdivision. Impact fee revenues and interest earned on impact fee revenues may be expended only for capital costs for which the impact fees were imposed. The Finance Director shall keep an account of the amount and date of each impact fee payment and the date such funds are expended on a first-in first-out basis. Impact fees that are imposed and collected by the Village must be spent or refunded pursuant to Wisconsin Statute Section 66.0617. The Village may collect and utilize impact fees in any manner and timeframe as otherwise allowed by law.

- (5) **APPEAL.** Any developer upon whom an impact fee has been imposed may contest the amount, collection or the use of the impact fee as follows:
- (a) A notice of appeal shall be filed with the village clerk within fifteen (15) days of the date of the determination appealed from. The notice of appeal shall state in detail the relief sought by the developer and any legal or factual basis for the relief requested; and shall include all supporting documentation upon which the developer relies in making the appeal.
 - (b) Unless acceptable surety is provided under subsection (c), it shall be a condition to the commencement of such an appeal that the impact fee from which the developer appeals shall be paid as and when the fee or any installment thereof becomes due and payable and, upon default in making any such payment, such appeal may be dismissed.
 - (c) If the Notice of Appeal is accompanied by a letter or credit, bond or other sufficient surety satisfactory to the Village Attorney in an amount equal to the impact fee due, as calculated by the Finance Director or the Finance Director's designee, and all other

requirements have been satisfied, the building permit may be issued. The filing of an appeal shall not stay the collection of the impact fee due unless a bond or other sufficient surety has been filed.

- (d) The only questions appealable under this Section are the following, as authorized by Wis. Stat. § 66.0617(10):
 - 1. The amount of fee charged and paid by the developer;
 - 2. The method of collection of the impact fee; and
 - 3. The use to which the particular fee paid by the developer is made by the Village.
- (e) Following the filing of the notice of appeal, the Village Administrator, with the assistance of the applicable department staff, the Finance Director, and/or Village Attorney, shall within a reasonable time compile a record for the appeal consisting of, as appropriate, the notice of appeal and any supporting documentation provided by the developer, a copy of the ordinance imposing the impact fee that is the subject of the appeal, a copy of the applicable needs assessment, a record of the management and expenditure of the proceeds of the impact fee, and a report providing an analysis of the questions subject to the appeal. The record shall then be forwarded to the Village Board for a hearing on the appeal by filing the same with the Village Clerk and providing a copy to the developer.
- (f) Upon receipt of the record on the appeal, the Village Clerk shall promptly schedule the appeal for a hearing before the Village Board at which the developer and the Village Officials concerned can present their case. The burden shall be on the developer to establish illegality or impropriety of the impact fee from which the appeal has been taken. Following the close of the public hearing, the Common Council shall deliberate upon the matter, and may conduct such studies and inquiries as it deems appropriate to decide the appeal. Based upon review of the record, the testimony presented at the hearing, and the results of any studies or inquiries conducted, the Village Board shall make a determination with respect to the appeal. If the Village Board determines that the appeal has merit, it shall determine appropriate remedies including, but not limited to, the reallocation of the proceeds of the challenged impact fee to accomplish the purposes for which the fee was collected, refunding the impact fee in whole or in part, along with any interest collected by the Village thereon, granting the developer the opportunity to make the impact fee payment in installments, or such other remedies as it deems appropriate in a particular case.
- (h) If the developer wishes to appeal the decision of the Village Board, the developer may commence an action by certiorari in the Washington County Circuit Court seeking review of the Board's

decision within thirty (30) days after the date on which the Board adopted the decision with respect to the appeal.

SECTION II:

The terms and provisions of this ordinance are severable. Should any term or provision of this ordinance be found to be invalid by a court of competent jurisdiction, the remaining terms and provisions shall remain in full force and effect.

SECTION III:

All ordinances or parts of ordinances contravening the terms of this ordinance are hereby to that extent repealed.

SECTION IV:

This ordinance shall take effect and be in full force upon its passage and the day after publication.

Adopted: _____, 2024 Vote: Ayes: Nays: Absent:

Dean Wolter, Village President

ATTEST:

Donna Ott, Village Clerk

Approved as to form:

Brian C. Sajdak, Village Attorney

Published: _____

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: 2025 4th of July Activities

SUBMITTED BY:

SUMMARY EXPLANATION:

ATTACHMENT:

1. Letter to Board- Options 4th of July 2025
2. 4th of July Power point

STAFF RECOMMENDATION:

ACTION BY Committee:



Germantown Park and Recreation Department

N112W17001 Mequon Rd
P.O. Box 337
Germantown, Wisconsin 53022-0337

(262)250-4710 Fax (262)255-2920
Information Line (262)250-4711

Meeting Date: December 16, 2024
To: Village Board
From: Gil Standridge, Park and Recreation Director
RE: Options for 4th of July Celebration

Village Board,

The Parks and Recreation department has been asked to coordinate the 2025 4th of July Celebration and activities.

I would like to show a power point at the Board meeting that propose two (2) options to the Board for the 4th of July celebration that will help mitigate the challenges, while still providing the residents of Germantown and surrounding Communities a celebration. The final decision is up to the board's discretion.

Thanks in advance for your consideration on this matter.

Regards,

Gil Standridge
Parks and Recreation Director
Village of Germantown

Coordinating the 4th of July event presents many challenges for Recreation Staff.

1. Recreation Staff generates over half of the year's revenue from summer programs they already coordinate and manage, Average work week w/o 4th is 50 hours +

Programs Recreation Runs in Summer

- A. Kids Klub programs– 52.5 hours a week, Kids Klub trips–18 over course of summer
- B. Six Music at the Park Events (concerts) average attendance over 3,000
- C. Family Fun Carnival in conjunction with Taste of Germantown
- D. Kids Triathlon
- E. Movies in the Park
- F. Youth Sports
- G. Instructional Classes
- H. Pickleball League for adults

Altogether over 95 programs during the summer months.

Coordinating the 4th of July event presents many challenges for Recreation Staff.

2. Finding Volunteers– Residents want to enjoy the holiday, not work it.

The very reason the last three organizations that coordinated the 4th of July stop doing it. Requiring public safety, police and fire, as well as DPW to work on the 4th as well as the overtime costs involved.

A. Asking our Dept. to fundraise for the 4th we feel is a conflict of interest.

- Our department spends hours finding donors to fund our year-round programs. To add the burden of finding sponsors for the 4th is much. Usually the organization that host the event has committee members to look for sponsorships.
- This forces us to ask the donor to choose between sponsoring a one day event or an event that lasts six to eight weeks (youth sports)
- Sponsorship dollars goes back into the general fund.

Coordinating the 4th of July event presents many challenges for Recreation Staff.

3. We propose two (2) options to the Board for the 4th of July Celebration that will help mitigate the challenges, while still providing the residents of Germantown and surrounding communities a celebration. The final decision is up to the board's discretion.

Option 1

Host a 4th of July parade in morning, and fireworks in the evening. No other planned events during the day.

Some issues with this plan.

a. Public Safety –

For police this could be problematic. It would require third shift officers to extend their shift for the parade, then have to report in earlier for the fireworks. This might create contractual issues with the CBA. For this option, it would require approximately 50 hours overtime for police at a cost of roughly \$3,000.

Option 1

Host a 4th of July parade in morning, and fireworks in the evening. No other planned events during the day.

b. Public Works–

It would require 3–4 staff members to work 16 manhours at a cost of \$1,792.80

Cleaning the park and Kennedy Middle School on the 5th (Saturday) requires 8–10 staff members at an approximate cost of \$4,302.72

Option 1

Host a 4th of July parade in morning, and fireworks in the evening. No other planned events during the day.

Financials

DPW– cost \$6,095.52

Police and Fire Department estimated cost \$4,000

Marketing and Supplies \$1,000

Total \$11,095.52

Option 1

Host a 4th of July parade in morning, and fireworks in the evening. No other planned events during the day.

Summary: With option one there would still be a parade on the fourth of July as well as a fireworks show for the public to enjoy. The Parks Director would still be present for both activities but Recreation Staff would be able to enjoy the day with their families as other Village employees are able to do.

Option 2

Host the celebration that would include live music, beer garden, food vendors, children's activities and a fireworks celebration on Thursday June 26th.

Program starts at 5pm and ends approx. 9:30 pm after the fireworks show.

Optional parade on July 4th with non-village staff organizing.

Option 2

**Celebration with Fireworks on Thursday June 26th.
Optional parade on July 4th with non-village staff
organizing.**

a. Public Safety–

According to police chief this would be the easiest on police officers and the least expensive.

b. DPW–

Setting up on Thursday the 26th and cleaning up Firemen's Park and Kennedy Middle School on Friday June 27th would not require any additional staff, and no overtime would be required. DPW employees and families would then get to enjoy the 4th of July with their families.

Option 2

**Celebration with Fireworks on Thursday June 26th.
Optional parade on July 4th with non-village staff
organizing.**

c. Financial–

Having this celebration on the 26th which is a scheduled concert night, means “Music at the Pavilion” fundraising efforts would pay for the band, sound, lighting, beer, soda, ice.

Estimated savings to Village would be \$6,000

Option 2

**Celebration with Fireworks on Thursday June 26th.
Optional parade on July 4th with non-village staff
organizing.**

- d. Residents still will be able to come together and celebrate and be treated to a fireworks show, as well as live music, food and beverage garden. Children will have activities planned for them such as bouncy houses, face painters and balloon artists, at no cost to the public.
- e. Volunteers– are easier to come by when the event is not on a major holiday. We have several community groups that enjoy working our music at the pavilion event.
- f. No conflict of interest in fund raising because we have a budget committed to our Music series, and the Chamber of Commerce and Tourism has agreed to help out with the fireworks.

What other surrounding communities are doing

- **City of Wauwatosa** moved their fireworks away from July 4th but is still hosting a July 4th parade on the 4th. They did so to relieve the burden on their Police and Fire Departments.
- **Mequon and Thiensville**, for over 10 years, holds all Fourth of July celebrations on the Saturday before the 4th of July. A committee of individuals and businesses organize all Fourth of July activities.
- **Hartford** cancelled their parade in 2023 due to a lack of volunteers from local community groups. Residents took it in their own hands to volunteer and organize the parade to maintain the tradition.
- **Brown Deer** relies on a Special Events Committee in cooperation with their Park and Recreation Department.
- **Cedarburg** Chamber of Commerce hosts an annual 4th of July Hometown Celebration.

Recreation Departments Recommendation and Ask of this Board:

We advocate for having the Fourth of July fireworks on June 26th after a Music at the Pavilion concert. We are confident we could find enough volunteers to fully staff the events at the park if it is moved off the holiday. In addition, the Village would not lose the revenue from beer garden sales or food vendor fees as they would if no festivities accompanied the fireworks. Village employees will get to enjoy the benefits of having the 4th of July holiday off.



Germantown Park and Recreation Department

N112W17001 Mequon Rd

P.O. Box 337

Germantown, Wisconsin 53022-0337

(262)250-4710 Fax (262)255-2920

Information Line (262)250-4711

Meeting Date: December 16, 2024
To: General Government & Finance Committee
From: Gil Standridge, Park and Recreation Director
RE: Renewal of Vermont Systems Contract

GGF Commissioners,

Respectfully request you allow Parks and Recreation to renew their contract with Vermont Systems.

We utilize a program through Vermont Systems called Rec Trac. It is a vital system to our operation and has been for many years.

Rec Trac is our accounting system in which we have Family accounts for our Kids Klub programs and for the over 100 programs we coordinate during the year. This system keeps up with the billing for all of these programs. Staff utilizes Rec trac to register citizens for all of our programs.

Rec trac keeps data on enrollment, rosters, and we can download budget reports.

We utilize the system to reserve park shelters and park facilities to the public. Rec Trac thru Vermont Systems is extremely important for our department to operate and function.

Thanks in advance for your consideration on this matter.

Regards,

Gil Standridge
Parks and Recreation Director
Village of Germantown



VERMONT SYSTEMS

Recreation & Parks Software

Invoice

RecTrac, LLC
dba Vermont Systems
12 Market Place
Essex Junction, VT 05452
Phone: (802)490-7672
accountsreceivable@vermontsystems.com

MAIL CHECKS TO:
Vermont Systems
PO Box 1377
Williston, VT 05495-1377

CUSTOMER NO.: VS-000852
INVOICE NO.: VS015197

Bill To: **Germantown Parks & Rec**
N112 W17001 Mequon Rd
P.O. Box 337
Germantown, WI 53022-0337

Ship To: **Germantown Parks & Rec**
N112 W17001 Mequon Rd
P.O. Box 337
Germantown, WI 53022-0337

Date	P O Number	Ship Via	F.O.B.	Terms
12/01/2024		Ground	Origin	Net 30
Quantity	Item Number	Description	Unit Price	Amount
1	VS-V-WT-SU-MWT-M	Mobile WebTrac Basic -	\$451.48	\$451.48
1	VS-V-WT-SU-IS-M	Web Internet Software, -	\$868.22	\$868.22
1	VS-V-WT-SU-FR-M	WebTrac Facility Reserv, -	\$219.95	\$219.95
1	VS-V-WT-SU-AU-M	WebTrac Small Workgroup -	\$144.70	\$144.70
1	VS-V-WT-SU-AR-M	WebTrac Activity Reg Annual -	\$219.95	\$219.95
1	VS-V-RT-MU-SA-M	RT SystemAdmin. M/U Annual -	\$463.05	\$463.05
1	VS-V-RT-MU-PS-M	POS Inventory-/Inventory/ -	\$636.70	\$636.70
1	VS-V-RT-MU-FR-M	Facility Res-M/U Annual MA -	\$636.70	\$636.70
1	VS-V-RT-MU-AR-M	Activity Reg-M/U Annual MA. -	\$636.70	\$636.70

Thank you for your order. We appreciate your business.

1	VS-V-RT-IN-GL-M	General Ledger Interface -	\$347.29	\$347.29
1	VS-V-PT-IN-ERI-M	Credit Card Interface -	\$694.58	\$694.58
12	VS-V-HS-S2	VSI Cloud Hosting Standard Service - Silver, Add'l Users Monthly - 4 additional users	\$176.40	\$2,116.80
1	VS-T-PG-M	Database Platform Annual Maintenance (formerly Progress) -	\$952.73	\$952.73
7	VS-V-RT-MU-AU-M	RecTrac Add'l User Annual MA -	\$69.45	\$486.15
12	VS-V-HS-S1	VSI Cloud Hosting Standard Service - Silver, First 5 Users Monthly -	\$744.18	\$8,930.16
			Subtotal	\$17,805.16
			FREIGHT	\$0.00
			SALES TAX	\$0.00
			Total	\$17,805.16

Covers 1/1/2025-12/31/2025

Thank you for your order. We appreciate your business.

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Transplant Contract Renewal with Optum RX

SUBMITTED BY: Erin Hirn, Support Services Manager

SUMMARY EXPLANATION:

The Village has maintained this transplant contract for a number of years to transfer some of the financial risk associated with transplants to Optum RX. Transplant procedures are among the most expensive medical treatments and by having a dedicated transplant contract, the Village's Self-funded policy can undergo more predictable budgeting. The total budget impact on the Village is a \$2,110 increase in transplant premiums, which are a fixed cost. With a projected budget surplus for 2025, this will have no impact on funding rates.

		2024	2025
Single	34	\$5.68	\$6.49
Family	72	\$14.49	\$16.55
	Monthly	\$1,236.40	\$1,412.26
	Annual	\$14,836.80	\$16,947.12
	Change		\$2,110.32
			14.22%

ATTACHMENT:

1. 2025 Village of Germantown Renewal Letter 8202024 1102 AM
2. Optum RX 2024 Contract

STAFF RECOMMENDATION:

To Approve the Transplant Contract Renewal for 2025

ACTION BY Committee:



08/20/2024

Policyholder: Village of Germantown
Policy Date: January 1, 2025 through December 31, 2025
Policy Number: 2123551
Premium Due Date: 01/01/2025

The Policyholder has selected the following critical care benefits plan: The Optum Managed Transplant Program through UnitedHealthcare[®] Insurance Company. The Managed Transplant Program is underwritten by UnitedHealthcare[®] Insurance Company and administered through Optum.

2025 Renewal Premium Rates:

Rate - Employee: \$6.49
Rate - Family: \$16.55

Commissions: 0.00%

Please notify Optum if you have any changes in your Third Party Administrator, Case Management or Agent of Record. This will allow Optum to continue to administer the Managed Transplant Program without disruption.

By signing this document I agree to renew the Managed Transplant Program policy.

(Signature)

(Title)

(Date)



08/08/2023

Policyholder: Village of Germantown
Policy Date: January 1, 2024 through December 31, 2024
Policy Number: 2123551
Premium Due Date: 01/01/2024

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Based on state specific assumptions and experience updated annually, the 2024 premium rate change is 12.50%.

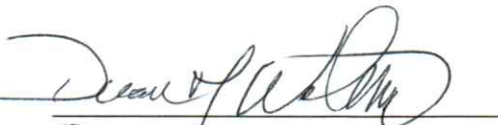
Renewal Premium Rates:

Rate - Employee: \$5.68
Rate - Family: \$14.49

Commissions: 0.00%

Please notify Optum if you have any changes in your Third Party Administrator, Case Management or Agent of Record. This will allow Optum to continue to administer the Managed Transplant Program without disruption.

By signing this document I agree to renew the Managed Transplant Program policy.


(Signature)

Village President
(Title)

10-16-23
(Date)

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Tyler Munis Contract Renewal

SUBMITTED BY: Matthew Uselding, Finance Director

SUMMARY EXPLANATION:

The Village of Germantown currently contracts with Tyler Technologies for our municipal ERP (Enterprise Resource Planning) system, which includes a range of critical modules supporting Village operations: General Ledger, Bank Reconciliation, Cash Receipting, Accounts Receivable, Accounts Payable, Budget Preparation, Payroll, Human Resources, Purchasing, Licensing, Building Permits, Asset Management, and Utility Billing.

Our current 3-year contract with Tyler Technologies has a fixed annual cost of \$125,262 and is set to expire at the end of 2024.

In anticipation of this expiration, Village staff has engaged with Tyler Technologies to review our renewal options. Although we are awaiting a final cost estimate, we project the annual contract cost for FY25 to be approximately \$120,000.

The final terms of this agreement will be presented once we receive the updated cost estimate from Tyler ahead of the GGF committee meeting on 12.16.2024.

The contract cost will be split between the General Fund, Water Utility, and Sewer Utility.

Fund	Account	Cost
General Fund	10522000-531300	\$ 60,000
Water Utility	50640000-581800	\$ 30,000
Sewer Utility	60730000-531300	\$ 30,000
	TOTAL	\$ 120,000

ATTACHMENT:

STAFF RECOMMENDATION:

Approve Annual Contract

ACTION BY Committee:

BUSINESS OF THE VILLAGE BOARD

MEETING DATE: December 16, 2024

PLACEMENT: Action Item

ITEM TITLE: Administrator 2024 Performance Review. The Village Board May Enter into Closed Session per Wis Stat § 19.85(1)(c) Considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility, and then may reconvene into open session to take such action as it deems appropriate.

SUBMITTED BY:

SUMMARY EXPLANATION:

ATTACHMENT:

STAFF RECOMMENDATION:

ACTION BY Committee: