VILLAGE OF MCFARLAND *NOTICE OF PUBLIC MEETING*

Joint Meeting of Public Works and Public Utilities Committees

Tuesday, March 8, 2022 **6:00 PM** **McFarland Municipal Center**
Community Room

AGENDA

You are invited to this meeting through a Zoom webinar. The public is strongly encouraged to watch and participate in these meetings remotely through either the webinar or telephone options listed below.

PLEASE CLICK THE LINK BELOW TO JOIN THE ZOOM WEBINAR:
https://us02web.zoom.us/j/89483539566

Or by Telephone: +1 (312) 626-6799
Webinar ID: 894 8353 9566
Press *9 to raise/lower hand. Press *6 to mute/unmute.

1. CALL TO ORDER, ROLL CALL.

2. PUBLIC APPEARANCES.
   a. This is an opportunity for members of the public to address the Village Board. Please remember this is a virtual meeting conducted through the Zoom online meeting platform. Zoom meeting attendees wishing to address the board may do so using the Question and Answer feature within the Zoom online meeting platform. You may state your name, address, and provide your comments to the board for their consideration. Members of the public who are present in person and wish to address the board should fill out a public comment form and turn into the meeting chairperson. Members of the public may speak during public appearances or during their selected agenda item as they designate on the public comment form. Please adhere to the 3-minute time limit. Additionally, you may send your public comments to aimee.irwin@mcfarland.wi.us to be included as part of the meeting.

3. BUSINESS.
   a. Discussion and action to make a recommendation to the Village Board regarding the award of Contract A for the 2022 Terminal Drive Reconstruction Project including supplemental bid for the 2022 Sidewalk Replacement Project.

   b. Discussion and action to make a recommendation to the Village Board regarding the award of Contract B for the 2022 Street & Utility Improvements project(s).

   c. Presentation of the Public Works Director's monthly report.

   d. Discussion and action to adjourn the Public Works Committee portion of the joint meeting.

   e. Discussion and action to make a recommendation to the Village Board regarding the award of Contract C for the 2022 Stormwater Improvement Project(s).

f. Discussion and action to make a recommendation to the Village Board regarding the award of contract for meter replacement installation services.

g. Discussion and action to make a recommendation to the Village Board regarding the award of contract for Forcemain locating services.

h. Discussion and action to make a recommendation to the Village Board regarding the award of contract for storm sewer cleaning and televising services.

i. Discussion and action to make a recommendation to the Village Board regarding the MS4 permit and plan.

j. Discussion regarding funding allocation to the utilities funds associated with street projects.

4. SCHEDULE NEXT MEETING DATE.

   a. Public Works Committee--Tuesday, April 12, 2022 at 6:00 pm
   Public Utilities Committee--Tuesday, April 19, 2022 at 6:00 pm

5. ADJOURNMENT.

This meeting notice constitutes an official meeting of the above referenced group and was posted in accordance with all applicable laws related to Open Meetings Law. It is possible that members of and possibly a quorum of members of other governmental bodies of the municipality may be in attendance at the above stated meeting to gather information. No action will be taken by any governmental body at the above stated meeting other than the governmental body specifically referred to above in this notice. Upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals. For additional information or to request this service, contact the McFarland Municipal Center at (608) 838-3153 or cassandra.suettinger@mcfarland.wi.us

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, March 8, 2022**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Jim Hessling, Public Works Director, Matt Schuenke, Village Administrator**

AGENDA ITEM: **Discussion and action to make a recommendation to the Village Board regarding the award of Contract A for the 2022 Terminal Drive Reconstruction Project including supplemental bid for the 2022 Sidewalk Replacement Project.**

PREVIOUS ACTION:
The Public Works Committee recommended approval of the design for the project and requested authorization to bid the project at its meeting on December 14, 2021.

The Public Utilities Committee recommended approval of the design for the project and requested authorization to bid the project at its meeting on December 21, 2021.

The Village Board approved the recommendation from Committee in order to approve the design and send the project to bidding at its meeting on January 10, 2022.

Bids were opened on February 17, 2022.

ISSUE SUMMARY:
The 2022 Terminal Drive Reconstruction Project involves changing the roadway from a rural section into an urban section and will include curb and gutter, a sidewalk (east side), a pedestrian path (west side) and a small amount of sanitary sewer replacement. This project also improves the north pedestrian crossing the railroad tracks on Siggelkow Road with a sidewalk connection to the Waubesa Village apartments. The Public Works and Utilities Committee(s) moved these projects forward for bidding late in 2021 with the Board sending them to bid earlier this year. There were three contracts bid as part of the same process and Contract A is for Terminal Drive. An addendum was issued to include a supplemental bid request for isolated spot repair to sidewalks within the Village. Town and Country received twenty-eight requested sets of plans, specifications and bidding documents from general contractors, subcontractors and material suppliers. Of the twenty-eight, six contractors submitted bids. Town and Country Engineering has provided an analysis of the bids received included within the packet and recommends the award of contract to Raymond P. Cattell Inc of Madison for the base bid plus supplemental bids excluding the sidewalk work. The added sidewalk work bid through this process remains very expensive. Staff is recommending direct quotes for this maintenance work in 2022 in order to access better pricing. Additionally, the contractor is qualified in accordance with Village Ordinance. The Project will begin this Summer for completion in early Fall.

VILLAGE OF
McFarland

FINANCIAL/BUDGET IMPACT:
The total budget for this project is $1,557,750 to be paid for through borrowed money within TID #3. The project costs are very close to that amount as follows:

1,258,563	Construction
78,870	Supplemental
100,307	Contingency
100,307	Engineering
15,100	Siggelkow Railroad Crossing
1,553,148	Total Estimated Cost

Contingency and engineering percentages were held equally at 7.5% each for this project. This allowed for the project to fall within the budgeted amount of borrowing allocated for the project. If additional funds are needed for these two items beyond what was been allocated from the borrowing, TID #3 has adequate funds to address this issue.

VILLAGE PLAN REFERENCE:
Long Range CIP 12.10.2021

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:
Recommended Action:

> *Motion, second to make a recommendation to the Village Board to award Contract A to Raymond P. Cattell, Inc. of Madison in the amount of $1,337,433 for the base bid and supplemental bid approving the total project cost of $1,553,148 including also the railroad crossing, contingency, and engineering expenses. Furthermore, the optional supplemental bid for additional sidewalk replacement is rejected and the Village Engineer will solicit direct quotations for this work to be reviewed and approved by the Village Board upon recommendation of the Committee.*

ATTACHMENTS:
1. Recommendation Ltr- Contract A
2. Bid Tabulation-Contract A-Terminal Drive MC189
3. MC 189- CONTRACT A TERMINAL DRIVE

TOWN & COUNTRY ENGINEERING, INC.

February 23, 2022

Village of McFarland
5915 Milwaukee Street, P.O. Box 110
McFarland, WI 53558

Attention: Mr. Matthew Schuenke, Administrator

Subject: Analysis of Bids and Recommendation for Award of Contracts; 2022 Street and Utility Improvements – Contract A

Bid Deadline: February 17, 2022, at 10:00 local time

Ladies and Gentlemen:

The purpose of this letter is to analyze the bids received for Contract A of the 2022 Street and Utility Improvements project and to recommend award of a contract.

Contract A involves a rural conversion street reconstruction of Terminal Drive from Siggelkow Road to approximately 2,000 feet north of Siggelkow Road. The existing street is a rural cross section with no sidewalk or path. This project includes full street reconstruction with new curb and gutter, new storm sewer, new sidewalk, new 10-foot wide path, on-street bike lanes, spot sanitary sewer replacements, sanitary sewer lining, and water main adjustments.

The pre-bid estimate for the base bid was $1,357,782.50. Twenty-eight general contractors, subcontractors, and material suppliers requested sets of the plans, specifications and bidding documents. Six contractors submitted bids.

A summary of Contract A bids is as follows:

Contractor	Base Bid	Alternate Bid Total	Supplemental Bid Total	Optional Supplemental Bid Total
Raymond P. Cattell Inc.	$1,258,563.05	$0	$78,870.00	$19,940.00
Wolf Paving & Excavating	$1,323,758.45	$0	$84,035.00	$11,010.00
S & L Underground, Inc.	$1,385,764.50	$1.00	$93,444.00	$16,534.00
Parisi Construction , LLC.	$1,437,870.95	$0	$89,995.00	$17,527.50
E & N Hughes Co. Inc.	$1,511,093.24	$(100.00)	$119,952.50	$7,734.00
Fischer Excavating, Inc.	$2,511,664.90	$0.01	$118,550.00	$20,640.00

All of the bids were properly submitted.

The alternate bid includes an item for add/deduct to the contract if the Contractor were to be simultaneously awarded Contracts A, B, and C. No Contractor submitted a bid for all three contracts, so no contractor is eligible for the award of the alternate bid.
The supplemental bid includes items for property corner replacement, excavation and disposal of bad subbase below subgrade, and breaker run replacement. We recommend award of the supplemental bid.

The optional supplemental bid includes items for isolated spot repairs to sidewalk in the Village. We do not recommend award of these items.

The low bidder, using any combination of bid awards, is Raymond P. Cattell, Inc. of Madison, Wisconsin, an experienced utility and street contractor that completed similar projects for the Village of McFarland in 2018 (Farwell Street reconstruction) and 2020 (Renee Court and stormwater improvements). The bid prices are in line with the original budget. We recommend that Raymond P. Cattell, Inc. be awarded Contract A for the base bid, plus the supplemental bid if the budgets allow, for a total of $1,337,433.05.

This will be a unit price contract. That is, the contractors will be paid for the work actually performed on the basis on the unit prices bid. This means that the final line item costs could be either greater than or less than the bid totals. Also, unexpected conditions are sometimes encountered which result in increased project costs. Therefore, it would be wise to continue to carry the recommended 10% contingency.

If you have any questions with respect to our thoughts on this matter, I am available at your convenience to discuss them with you.

Very truly yours,
TOWN & COUNTRY ENGINEERING, INC.

Tim Stieve, P.E.
Project Engineer

TS:sai
J:\JOB#S\McFarland\MC-189-M4 2022 Street and Utility Improvements\Bidding\Recommendation Ltr.docx

BID TABULATION

Project: 2022 Street and Utility Improvements - Contact A- 2022 Terminal Drive Reconstruction

Engineer's Project Number: MC 189 Bid Deadline: February 17, 2022 at 10:00 a.m. local time

ITEM NO.	DESCRIPTION OF WORK	BID QUANT.	UNITS	PRE-BID ESTIMATE UNIT PRICE	PRE-BID ESTIMATE AMOUNT	Raymond P. Cattell Inc. UNIT PRICE	Raymond P. Cattell Inc. AMOUNT	Wolf Paving & Excavating UNIT PRICE	Wolf Paving & Excavating AMOUNT	S & L Underground, Inc. UNIT PRICE	S & L Underground, Inc. AMOUNT
CONTRACT A- 2022 TERMINAL DRIVE RECONSTRUCTION											
Utility Work											
A1.	8" PVC SDR 26 Sanitary Sewer Removal and Replacement	48	lin. ft.	$ 85.00	$ 4,080.00	$ 294.00	$ 14,112.00	$ 165.00	$ 7,920.00	$ 315.00	$ 15,120.00
A2.	8" Sanitary Sewer Preparatory Sewer Cleaning and Pre-Lining Televising	793	lin. ft.	$ 5.00	$ 3,965.00	$ 5.00	$ 3,965.00	$ 5.00	$ 3,965.00	$ 5.05	$ 4,004.65
A3.	8" Sanitary Sewer Lining and Post-Lining Televising	793	lin. ft.	$ 75.00	$ 59,475.00	$ 40.00	$ 31,720.00	$ 40.00	$ 31,720.00	$ 40.40	$ 32,037.20
A4.	Temporary Sewer Bypassing	1	lump sum	$ 5,000.00	$ 5,000.00	$ 350.00	$ 350.00	$ 350.00	$ 350.00	$ 2,062.00	$ 2,062.00
A5.	Sanitary Manhole Castings	5	each	$ 800.00	$ 4,000.00	$ 750.00	$ 3,750.00	$ 815.00	$ 4,075.00	$ 1,593.00	$ 7,965.00
A6.	6" PVC Sanitary Service Laterals (Horizontal)	64	lin. ft.	$ 85.00	$ 5,440.00	$ 105.00	$ 6,720.00	$ 86.00	$ 5,504.00	$ 112.50	$ 7,200.00
A7.	6" PVC Sanitary Service Laterals (Vertical)	5	vert. ft.	$ 50.00	$ 250.00	$ 72.30	$ 361.50	$ 465.00	$ 2,325.00	$ 77.80	$ 389.00
A8.	Sanitary Lateral - Tracer Wire Systems	1	each	$ 400.00	$ 400.00	$ 171.00	$ 171.00	$ 390.00	$ 390.00	$ 184.00	$ 184.00
A9.	6" Ductile Iron CL52 Water Main or Hydrant Lead	74	lin. ft.	$ 120.00	$ 8,880.00	$ 109.00	$ 8,066.00	$ 92.50	$ 6,845.00	$ 117.00	$ 8,658.00
A10.	6" Gate Valve & Box	3	each	$ 2,200.00	$ 6,600.00	$ 3,059.00	$ 9,177.00	$ 1,950.00	$ 5,850.00	$ 3,289.00	$ 9,867.00
A11.	Replace Existing Water Main Valve	1	lump sum	$ 9,500.00	$ 9,500.00	$ 11,603.00	$ 11,603.00	$ 7,260.00	$ 7,260.00	$ 12,483.00	$ 12,483.00
A12.	Hydrants	3	each	$ 5,200.00	$ 15,600.00	$ 5,840.00	$ 17,520.00	$ 5,150.00	$ 15,450.00	$ 6,282.00	$ 18,846.00
A13.	Replace Top Section of Water Valve Boxes	12	each	$ 800.00	$ 9,600.00	$ 400.00	$ 4,800.00	$ 315.00	$ 3,780.00	$ 628.00	$ 7,536.00
A14.	12" RCP Apron Endwalls	3	each	$ 1,100.00	$ 3,300.00	$ 1,000.00	$ 3,000.00	$ 795.00	$ 2,385.00	$ 2,125.00	$ 6,375.00
A15.	Field Connection to Existing Storm Sewer	5	each	$ 500.00	$ 2,500.00	$ 900.00	$ 4,500.00	$ 950.00	$ 4,750.00	$ 918.00	$ 4,590.00
A16.	24" RCP CL III Storm Sewer	113	lin. ft.	$ 85.00	$ 9,605.00	$ 73.00	$ 8,249.00	$ 81.75	$ 9,237.75	$ 104.10	$ 11,763.30
A17.	18" RCP CL III Storm Sewer	372	lin. ft.	$ 80.00	$ 29,760.00	$ 60.00	$ 22,320.00	$ 64.50	$ 23,994.00	$ 90.90	$ 33,814.80
A18.	12" RCP CL III Storm Sewer	1,599	lin. ft.	$ 70.00	$ 111,930.00	$ 52.00	$ 83,148.00	$ 56.40	$ 90,183.60	$ 81.20	$ 129,838.80
A19.	Precast Rectangular Inlets	25	each	$ 2,300.00	$ 57,500.00	$ 2,250.00	$ 56,250.00	$ 2,095.00	$ 52,375.00	$ 2,685.00	$ 67,125.00
A20.	72" Storm Manholes	1	each	$ 5,500.00	$ 5,500.00	$ 6,500.00	$ 6,500.00	$ 6,625.00	$ 6,625.00	$ 12,070.00	$ 12,070.00
A21.	48" Storm Manholes	8	each	$ 4,000.00	$ 32,000.00	$ 4,500.00	$ 36,000.00	$ 2,655.00	$ 21,240.00	$ 3,545.00	$ 28,360.00
A22.	60" Storm Catch Basin Manholes	5	each	$ 5,000.00	$ 25,000.00	$ 5,500.00	$ 27,500.00	$ 4,595.00	$ 22,975.00	$ 3,818.00	$ 19,090.00
A23.	New Storm Inlet Constructed on Pipe	4	each	$ 800.00	$ 3,200.00	$ 2,250.00	$ 9,000.00	$ 2,595.00	$ 10,380.00	$ 3,658.00	$ 14,632.00

BID TABULATION

Project: 2022 Street and Utility Improvements - Contact A- 2022 Terminal Drive Reconstruction

Engineer's Project Number: MC 189 Bid Deadline: February 17, 2022 at 10:00 a.m. local time

ITEM NO.	DESCRIPTION OF WORK	BID QUANT.	BID UNITS	PRE-BID ESTIMATE UNIT PRICE	PRE-BID ESTIMATE AMOUNT	Raymond P. Cattell Inc. UNIT PRICE	Raymond P. Cattell Inc. AMOUNT	Wolf Paving & Excavating UNIT PRICE	Wolf Paving & Excavating AMOUNT	S & L Underground, Inc. UNIT PRICE	S & L Underground, Inc. AMOUNT
Street Work											
A24.	Excavation/Fill to Plan Subgrade	1	lump sum	$ 175,000.00	$ 175,000.00	$ 245,000.00	$ 245,000.00	$ 295,000.00	$ 295,000.00	$ 221,423.00	$ 221,423.00
A25.	Truncated Dome Panels	94	sq. ft.	$ 45.00	$ 4,230.00	$ 35.00	$ 3,290.00	$ 40.00	$ 3,760.00	$ 52.53	$ 4,937.82
A26.	7" Thick Concrete Sidewalk and Aprons	4,085	sq. ft.	$ 5.80	$ 23,693.00	$ 6.40	$ 26,144.00	$ 6.55	$ 26,756.75	$ 7.07	$ 28,880.95
A27.	5" Thick Concrete Sidewalk	10,660	sq. ft.	$ 4.50	$ 47,970.00	$ 4.50	$ 47,970.00	$ 4.10	$ 43,706.00	$ 5.30	$ 56,498.00
A28.	Concrete Medians	345	sq. ft.	$ 12.00	$ 4,140.00	$ 12.00	$ 4,140.00	$ 13.50	$ 4,657.50	$ 5.30	$ 1,828.50
A29.	New 30" Concrete Curb & Gutter	3,992	lin. ft.	$ 14.50	$ 57,884.00	$ 15.50	$ 61,876.00	$ 23.00	$ 91,816.00	$ 14.80	$ 59,081.60
A30.	2" Hot Mix Asphalt Surface Course, Type 5 LT	941	ton	$ 74.00	$ 69,634.00	$ 71.50	$ 67,281.50	$ 78.00	$ 73,398.00	$ 72.22	$ 67,959.02
A31.	3" Hot Mix Asphalt Lower Course, Type 4 LT	1,411	ton	$ 71.00	$ 100,181.00	$ 68.25	$ 96,300.75	$ 69.80	$ 98,487.80	$ 68.94	$ 97,274.34
A32.	3" Hot-Mix Asphalt Path (10' Wide)	2,179	sq. yd.	$ 18.50	$ 40,311.50	$ 14.20	$ 30,941.80	$ 15.00	$ 32,685.00	$ 14.34	$ 31,246.86
A33.	2" Hot-Mix Asphalt Paving and Driveways	695	sq. yd.	$ 17.50	$ 12,162.50	$ 20.00	$ 13,900.00	$ 15.10	$ 10,494.50	$ 12.12	$ 8,423.40
A34.	Carlson Asphalt Curb	75	lin. ft.	$ 1.00	$ 75.00	$ 13.00	$ 975.00	$ 1.50	$ 112.50	$ 13.13	$ 984.75
A35.	0.75" Crushed Aggregate Base Course	5,975	ton	$ 18.00	$ 107,550.00	$ 14.00	$ 83,650.00	$ 14.00	$ 83,650.00	$ 16.70	$ 99,782.50
A36.	3" Breaker Run	6,372	ton	$ 16.00	$ 101,952.00	$ 13.00	$ 82,836.00	$ 13.50	$ 86,022.00	$ 14.40	$ 91,756.80
A37.	Clean & Tack	7,435	sq. yds.	$ 0.30	$ 2,230.50	$ 0.35	$ 2,602.25	$ 0.20	$ 1,487.00	$ 0.35	$ 2,602.25
A38.	Modular Concrete Retaining Wall	959	face square ft.	$ 60.00	$ 57,540.00	$ 38.85	$ 37,257.15	$ 38.85	$ 37,257.15	$ 45.45	$ 43,586.55
A39.	Remove, Salvage and Install Existing Chain Link Fence	213	lin. ft.	$ 30.00	$ 6,390.00	$ 28.10	$ 5,985.30	$ 28.10	$ 5,985.30	$ 14.00	$ 2,982.00
A40.	Permanent Signage	1	lump sum	$ 2,500.00	$ 2,500.00	$ 6,890.00	$ 6,890.00	$ 6,890.00	$ 6,890.00	$ 7,500.00	$ 7,500.00
A41.	Permanent Pavement Markings	1	lump sum	$ 30,000.00	$ 30,000.00	$ 9,825.00	$ 9,825.00	$ 9,825.00	$ 9,825.00	$ 9,825.00	$ 9,825.00
A42.	Sawcutting Existing Concrete and Asphalt Pavements	550	lin. ft.	$ 3.00	$ 1,650.00	$ 2.00	$ 1,100.00	$ 3.00	$ 1,650.00	$ 1.50	$ 825.00
A43.	Topsoil Restoration, Seeding, Fertilizing & Mulching or Matting	7,192	sq. yds.	$ 6.00	$ 43,152.00	$ 3.45	$ 24,812.40	$ 4.35	$ 31,285.20	$ 6.20	$ 44,590.40
A44.	Straw Erosion Mat	6,113	sq. yds.	$ 4.00	$ 24,452.00	$ 1.80	$ 11,003.40	$ 1.80	$ 11,003.40	$ 1.77	$ 10,820.01
A45.	Erosion Control	1	lump sum	$ 12,000.00	$ 12,000.00	$ 11,000.00	$ 11,000.00	$ 6,550.00	$ 6,550.00	$ 24,545.00	$ 24,545.00
A46.	Traffic Control	1	lump sum	$ 10,000.00	$ 10,000.00	$ 5,000.00	$ 5,000.00	$ 11,700.00	$ 11,700.00	$ 4,400.00	$ 4,400.00
A47.	Railroad Insurance Allowance	1	lump sum	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00
	TOTAL CONTRACT A				$ 1,357,782.50		$ 1,258,563.05		$ 1,323,758.45		$ 1,385,764.50
CONTRACT A ALTERNATE BID											
AA1.	Add/Deduct for Simultaneous Award of Contracts A, B, and C	1	lump sum	$ (20,000.00)	$ (20,000.00)	$ -	$ -	$ -	$ -	$ 1.00	$ 1.00

BID TABULATION

Project: 2022 Street and Utility Improvements - Contact A- 2022 Terminal Drive Reconstruction

Engineer's Project Number: MC 189 Bid Deadline: February 17, 2022 at 10:00 a.m. local time

ITEM NO.	DESCRIPTION OF WORK	BID QUANT.	UNITS	PRE-BID ESTIMATE UNIT PRICE	PRE-BID ESTIMATE AMOUNT	Raymond P. Cattell Inc. UNIT PRICE	Raymond P. Cattell Inc. AMOUNT	Wolf Paving & Excavating UNIT PRICE	Wolf Paving & Excavating AMOUNT	S & L Underground, Inc. UNIT PRICE	S & L Underground, Inc. AMOUNT
CONTRACT A SUPPLEMENTAL BID											
SA1.	Property Corner Replacement	1	each	$ 350.00	$ 350.00	$ 750.00	$ 750.00	$ 900.00	$ 900.00	$ 500.00	$ 500.00
SA2.	Excavation and Disposal of Bad Subbase Below Subgrade	2,000	cu. yds.	$ 15.00	$ 30,000.00	$ 15.00	$ 30,000.00	$ 14.50	$ 29,000.00	$ 17.60	$ 35,200.00
SA3.	3" Breaker Run Replacement of Excavation of Bad Subbase Below Subgrade	4,010	tons	$ 16.00	$ 64,160.00	$ 12.00	$ 48,120.00	$ 13.50	$ 54,135.00	$ 14.40	$ 57,744.00
	TOTAL CONTRACT A SUPPLEMENTAL BID				$ 94,510.00		$ 78,870.00		$ 84,035.00		$ 93,444.00
CONTRACT A OPTIONAL SUPPLEMENTAL SIDEWALK REPLACEMENT BID											
OSA1.	Remove and Replace 4" Thick Concrete Sidewalk and Aprons	700	sq.ft.	$ 22.00	$ 15,400.00	$ 20.00	$ 14,000.00	$ 11.10	$ 7,770.00	$ 16.60	$ 11,620.00
OSA2.	Remove and Replace 6" Thick Concrete Sidewalk and Aprons	270	sq.ft.	$ 22.00	$ 5,940.00	$ 22.00	$ 5,940.00	$ 12.00	$ 3,240.00	$ 18.20	$ 4,914.00
	TOTAL CONTRACT A SUPPLEMENTAL BID				$ 21,340.00		$ 19,940.00		$ 11,010.00		$ 16,534.00

BID TABULATION

Project: 2022 Street and Utility Improvements - Contact A- 2022 Terminal Drive Reconstruction

Engineer's Project Number: MC 189 Bid Deadline: February 17, 2022 at 10:00 a.m. local time

ITEM NO.	DESCRIPTION OF WORK	BID QUANT.	UNITS	Parisi Construction , LLC. UNIT PRICE	Parisi Construction , LLC. AMOUNT	E & N Hughes Co. Inc. UNIT PRICE	E & N Hughes Co. Inc. AMOUNT	Fischer Excavating, Inc. UNIT PRICE	Fischer Excavating, Inc. AMOUNT		
CONTRACT A- 2022 TERMINAL DRIVE RECONSTRUCTION											
Utility Work											
A1.	8" PVC SDR 26 Sanitary Sewer Removal and Replacement	48	lin. ft.	$ 240.00	$ 11,520.00	$ 286.00	$ 13,728.00	$ 390.00	$ 18,720.00		
A2.	8" Sanitary Sewer Preparatory Sewer Cleaning and Pre-Lining Televising	793	lin. ft.	$ 5.30	$ 4,202.90	$ 5.75	$ 4,559.75	$ 5.00	$ 3,965.00		
A3.	8" Sanitary Sewer Lining and Post-Lining Televising	793	lin. ft.	$ 42.50	$ 33,702.50	$ 45.20	$ 35,843.60	$ 40.00	$ 31,720.00		
A4.	Temporary Sewer Bypassing	1	lump sum	$ 370.00	$ 370.00	$ 403.00	$ 403.00	$ 350.00	$ 350.00		
A5.	Sanitary Manhole Castings	5	each	$ 1,100.00	$ 5,500.00	$ 1,040.00	$ 5,200.00	$ 1,080.83	$ 5,404.15		
A6.	6" PVC Sanitary Service Laterals (Horizontal)	64	lin. ft.	$ 85.00	$ 5,440.00	$ 108.00	$ 6,912.00	$ 64.00	$ 4,096.00		
A7.	6" PVC Sanitary Service Laterals (Vertical)	5	vert. ft.	$ 140.00	$ 700.00	$ 85.00	$ 425.00	$ 100.00	$ 500.00		
A8.	Sanitary Lateral - Tracer Wire Systems	1	each	$ 560.00	$ 560.00	$ 406.00	$ 406.00	$ 250.00	$ 250.00		
A9.	6" Ductile Iron CL52 Water Main or Hydrant Lead	74	lin. ft.	$ 130.00	$ 9,620.00	$ 182.00	$ 13,468.00	$ 180.00	$ 13,320.00		
A10.	6" Gate Valve & Box	3	each	$ 3,100.00	$ 9,300.00	$ 1,803.00	$ 5,409.00	$ 2,100.00	$ 6,300.00		
A11.	Replace Existing Water Main Valve	1	lump sum	$ 19,600.00	$ 19,600.00	$ 8,757.00	$ 8,757.00	$ 9,700.00	$ 9,700.00		
A12.	Hydrants	3	each	$ 6,700.00	$ 20,100.00	$ 6,124.00	$ 18,372.00	$ 4,100.00	$ 12,300.00		
A13.	Replace Top Section of Water Valve Boxes	12	each	$ 520.00	$ 6,240.00	$ 323.00	$ 3,876.00	$ 480.00	$ 5,760.00		
A14.	12" RCP Apron Endwalls	3	each	$ 2,300.00	$ 6,900.00	$ 1,631.00	$ 4,893.00	$ 1,200.00	$ 3,600.00		
A15.	Field Connection to Existing Storm Sewer	5	each	$ 1,900.00	$ 9,500.00	$ 1,794.00	$ 8,970.00	$ 1,400.00	$ 7,000.00		
A16.	24" RCP CL III Storm Sewer	113	lin. ft.	$ 110.00	$ 12,430.00	$ 91.50	$ 10,339.50	$ 107.00	$ 12,091.00		
A17.	18" RCP CL III Storm Sewer	372	lin. ft.	$ 77.00	$ 28,644.00	$ 68.18	$ 25,362.96	$ 90.00	$ 33,480.00		
A18.	12" RCP CL III Storm Sewer	1,599	lin. ft.	$ 70.00	$ 111,930.00	$ 66.00	$ 105,534.00	$ 77.00	$ 123,123.00		
A19.	Precast Rectangular Inlets	25	each	$ 3,100.00	$ 77,500.00	$ 2,250.00	$ 56,250.00	$ 3,000.00	$ 75,000.00		
A20.	72" Storm Manholes	1	each	$ 6,900.00	$ 6,900.00	$ 5,634.00	$ 5,634.00	$ 5,800.00	$ 5,800.00		
A21.	48" Storm Manholes	8	each	$ 3,500.00	$ 28,000.00	$ 2,690.00	$ 21,520.00	$ 3,100.00	$ 24,800.00		
A22.	60" Storm Catch Basin Manholes	5	each	$ 4,500.00	$ 22,500.00	$ 4,503.00	$ 22,515.00	$ 3,850.00	$ 19,250.00		
A23.	New Storm Inlet Constructed on Pipe	4	each	$ 4,100.00	$ 16,400.00	$ 1,977.00	$ 7,908.00	$ 5,150.00	$ 20,600.00		

BID TABULATION

Project: 2022 Street and Utility Improvements - Contact A- 2022 Terminal Drive Reconstruction

Engineer's Project Number: MC 189 Bid Deadline: February 17, 2022 at 10:00 a.m. local time

ITEM NO.	DESCRIPTION OF WORK	BID QUANT.	UNITS	Parisi Construction , LLC. UNIT PRICE	Parisi Construction , LLC. AMOUNT	E & N Hughes Co. Inc. UNIT PRICE	E & N Hughes Co. Inc. AMOUNT	Fischer Excavating, Inc. UNIT PRICE	Fischer Excavating, Inc. AMOUNT		
Street Work											
A24.	Excavation/Fill to Plan Subgrade	1	lump sum	$ 245,000.00	$ 245,000.00	$ 259,865.00	$ 259,865.00	$ 257,000.00	$ 257,000.00		
A25.	Truncated Dome Panels	94	sq. ft.	$ 49.00	$ 4,606.00	$ 34.50	$ 3,243.00	$ 30.00	$ 2,820.00		
A26.	7" Thick Concrete Sidewalk and Aprons	4,085	sq. ft.	$ 7.00	$ 28,595.00	$ 6.55	$ 26,756.75	$ 7.50	$ 30,637.50		
A27.	5" Thick Concrete Sidewalk	10,660	sq. ft.	$ 5.00	$ 53,300.00	$ 4.85	$ 51,701.00	$ 6.00	$ 63,960.00		
A28.	Concrete Medians	345	sq. ft.	$ 13.00	$ 4,485.00	$ 13.35	$ 4,605.75	$ 13.50	$ 4,657.50		
A29.	New 30" Concrete Curb & Gutter	3,992	lin. ft.	$ 14.25	$ 56,886.00	$ 18.30	$ 73,053.60	$ 16.00	$ 63,872.00		
A30.	2" Hot Mix Asphalt Surface Course, Type 5 LT	941	ton	$ 76.00	$ 71,516.00	$ 82.25	$ 77,397.25	$ 72.00	$ 67,752.00		
A31.	3" Hot Mix Asphalt Lower Course, Type 4 LT	1,411	ton	$ 72.00	$ 101,592.00	$ 78.50	$ 110,763.50	$ 69.00	$ 97,359.00		
A32.	3" Hot-Mix Asphalt Path (10' Wide)	2,179	sq. yd.	$ 15.00	$ 32,685.00	$ 16.35	$ 35,626.65	$ 14.50	$ 31,595.50		
A33.	2" Hot-Mix Asphalt Paving and Driveways	695	sq. yd.	$ 14.00	$ 9,730.00	$ 13.80	$ 9,591.00	$ 12.00	$ 8,340.00		
A34.	Carlson Asphalt Curb	75	lin. ft.	$ 13.75	$ 1,031.25	$ 14.95	$ 1,121.25	$ 14.50	$ 1,087.50		
A35.	0.75" Crushed Aggregate Base Course	5,975	ton	$ 15.00	$ 89,625.00	$ 20.25	$ 120,993.75	$ 21.50	$ 128,462.50		
A36.	3" Breaker Run	6,372	ton	$ 13.75	$ 87,615.00	$ 21.90	$ 139,546.80	$ 20.00	$ 127,440.00		
A37.	Clean & Tack	7,435	sq. yds.	$ 0.35	$ 2,602.25	$ 0.40	$ 2,974.00	$ 0.35	$ 2,602.25		
A38.	Modular Concrete Retaining Wall	959	face square ft.	$ 51.00	$ 48,909.00	$ 48.00	$ 46,032.00	$ 56.00	$ 53,704.00		
A39.	Remove, Salvage and Install Existing Chain Link Fence	213	lin. ft.	$ 31.75	$ 6,762.75	$ 33.35	$ 7,103.55	$ 30.00	$ 6,390.00		
A40.	Permanent Signage	1	lump sum	$ 13,700.00	$ 13,700.00	$ 7,923.50	$ 7,923.50	$ 8,850.00	$ 8,850.00		
A41.	Permanent Pavement Markings	1	lump sum	$ 10,400.00	$ 10,400.00	$ 11,299.00	$ 11,299.00	$ 9,825.00	$ 9,825.00		
A42.	Sawcutting Existing Concrete and Asphalt Pavements	550	lin. ft.	$ 2.10	$ 1,155.00	$ 2.20	$ 1,210.00	$ 1,846.00	$ 1,015,300.00		
A43.	Topsoil Restoration, Seeding, Fertilizing & Mulching or Matting	7,192	sq. yds.	$ 7.30	$ 52,501.60	$ 10.50	$ 75,516.00	$ 4.00	$ 28,768.00		
A44.	Straw Erosion Mat	6,113	sq. yds.	$ 1.90	$ 11,614.70	$ 2.16	$ 13,204.08	$ 1.00	$ 6,113.00		
A45.	Erosion Control	1	lump sum	$ 11,000.00	$ 11,000.00	$ 21,250.00	$ 21,250.00	$ 34,500.00	$ 34,500.00		
A46.	Traffic Control	1	lump sum	$ 35,000.00	$ 35,000.00	$ 14,030.00	$ 14,030.00	$ 13,500.00	$ 13,500.00		
A47.	Railroad Insurance Allowance	1	lump sum	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00		
	TOTAL CONTRACT A				$ 1,437,870.95		$ 1,511,093.24		$ 2,511,664.90		
CONTRACT A ALTERNATE BID											
AA1.	Add/Deduct for Simultaneous Award of Contracts A, B, and C	1	lump sum	$ -	$ -	$ (100.00)	$ (100.00)	$ 0.01	$ 0.01		

BID TABULATION

Project: 2022 Street and Utility Improvements - Contact A- 2022 Terminal Drive Reconstruction

Engineer's Project Number: MC 189 Bid Deadline: February 17, 2022 at 10:00 a.m. local time

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CONTRACT A SUPPLEMENTAL BID											
SA1.	Property Corner Replacement	1	each	$ 360.00	$ 360.00	$ 750.00	$ 750.00	$ 350.00	$ 350.00		
SA2.	Excavation and Disposal of Bad Subbase Below Subgrade	2,000	cu. yds.	$ 17.75	$ 35,500.00	$ 19.00	$ 38,000.00	$ 19.00	$ 38,000.00		
SA3.	3" Breaker Run Replacement of Excavation of Bad Subbase Below Subgrade	4,010	tons	$ 13.50	$ 54,135.00	$ 20.25	$ 81,202.50	$ 20.00	$ 80,200.00		
	TOTAL CONTRACT A SUPPLEMENTAL BID				$ 89,995.00		$ 119,952.50		$ 118,550.00		
CONTRACT A OPTIONAL SUPPLEMENTAL SIDEWALK REPLACEMENT BID											
OSA1.	Remove and Replace 4" Thick Concrete Sidewalk and Aprons	700	sq.ft.	$ 18.00	$ 12,600.00	$ 7.50	$ 5,250.00	$ 21.00	$ 14,700.00		
OSA2.	Remove and Replace 6" Thick Concrete Sidewalk and Aprons	270	sq.ft.	$ 18.25	$ 4,927.50	$ 9.20	$ 2,484.00	$ 22.00	$ 5,940.00		
	TOTAL CONTRACT A SUPPLEMENTAL BID				$ 17,527.50		$ 7,734.00		$ 20,640.00		

2022 STREET AND UTILITY IMPROVEMENTS

Village of McFarland, Wisconsin

CONTRACT A PLAN SET

NO SCALE

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Madison, WI 53719
(608) 273-3350
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TOLL FREE

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

LEGEND

UNDERGROUND TELE. — UT —
UNDERGROUND CATV. — UCATV —
UNDERGROUND ELEC. — UE —
OVERHEAD — OH —
EXISTING GAS — G —
PROPERTY LINE
EXISTING WATER MAIN — WM —
EXISTING SANITARY SEWER — SAN —
EXISTING STORM SEWER — STM —
EXISTING FENCE LINE — x —
SAWCUT xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
NEW STORM SEWER
NEW WATER MAIN
NEW SANITARY SEWER

NEW ITEMS:

WATER VALVE · CURB STOP · HYDRANT · MANHOLE · CURB INLET · ENDWALL · CAUTION GAS WARNING

EXISTING ITEMS:

FLAG POLE · MAILBOX · POWER POLE · LIGHT POLE · LAMP POST · PULL BOX
WATER VALVE · CURB STOP · HYDRANT · WELL · MONITORING WELL · TRACER WIRE
SANITARY MANHOLE · SANITARY VALVE · CLEANOUT · STORM MANHOLE · CURB INLET · CIRCULAR INLET
SQUARE INLET · ENDWALL · STUMP · DECID. TREE (RELATIVE SIZE) · EVERGREEN SHOWN) · SHRUB OR HEDGE · SIGN
CATV. PED. · TELE. PED. · ELEC. PED. · GAS VALVE · STREET SIGN · IRON PIPE · IRON ROD

NOTES: 1.) EXISTING FEATURES AND LABELS ARE SHOWN WITH SCREENED, LIGHTER LINES.
2.) NEW CONCRETE IS SHOWN SHADED IN PLAN VIEWS
3.) CONCRETE REMOVALS ARE SHOWN BY CROSS-HATCHING

REVISIONS	BY	DATE

SHEET

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

DRAWN BY:	CHECKED BY:	REV. DATE:
J.R.K.	T.J.S.	

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL DETAILS.DWG
DATE: 2-3-22

SHEET INDEX – GENERAL

SHEET NO.	SHEET DESCRIPTION
1	INDEX
2	EROSION CONTROL PLAN AND GENERAL NOTES
~~3~~	~~EROSION CONTROL PLAN~~
4	EROSION CONTROL – STANDARD CONSTRUCTION DETAILS
5	SANITARY SEWER – STANDARD CONSTRUCTION DETAILS
6	WATER MAIN – STANDARD CONSTRUCTION DETAILS
7	STORM SEWER – STANDARD CONSTRUCTION DETAILS
8	STREET IMPROVEMENTS – STANDARD CONSTRUCTION DETAILS

SHEET INDEX – CONTRACT A

SHEET NO.	SHEET DESCRIPTION
	SANITARY SEWER, WATER MAIN, AND STORM SEWER
A1	PLAN & PROFILE – TERMINAL DRIVE STATION 10+00 TO STATION 16+00
A2	PLAN & PROFILE – TERMINAL DRIVE STATION 15+60 TO STATION 21+60
A3	PLAN & PROFILE – TERMINAL DRIVE STATION 21+20 TO STATION 27+20
A4	PLAN & PROFILE – TERMINAL DRIVE STATION 26+80 TO STATION 32+80
	CURB & GUTTER AND STREET CONSTRUCTION
A5	PLAN & PROFILE – TERMINAL DRIVE STATION 10+00 TO STATION 16+00
A6	PLAN & PROFILE – TERMINAL DRIVE STATION 15+60 TO STATION 21+60
A7	PLAN & PROFILE – TERMINAL DRIVE STATION 21+20 TO STATION 27+20
A8	PLAN & PROFILE – TERMINAL DRIVE STATION 26+80 TO STATION 32+80
A9	PLAN – SIGGELKOW ROAD SIDEWALK
A10	CROSS SECTIONS – TERMINAL DRIVE STATION 12+08 TO STATION 13+50
A11	CROSS SECTIONS – TERMINAL DRIVE STATION 14+00 TO STATION 15+42
A12	CROSS SECTIONS – TERMINAL DRIVE STATION 15+50 TO STATION 17+53
A13	CROSS SECTIONS – TERMINAL DRIVE STATION 17+71 TO STATION 18+77
A14	CROSS SECTIONS – TERMINAL DRIVE STATION 19+00 TO STATION 19+50
A15	CROSS SECTIONS – TERMINAL DRIVE STATION 20+00 TO STATION 20+84
A16	CROSS SECTIONS – TERMINAL DRIVE STATION 21+00 TO STATION 22+00
A17	CROSS SECTIONS – TERMINAL DRIVE STATION 22+17 TO STATION 23+17
A18	CROSS SECTIONS – TERMINAL DRIVE STATION 23+31 TO STATION 24+50
A19	CROSS SECTIONS – TERMINAL DRIVE STATION 24+89 TO STATION 26+50
A20	CROSS SECTIONS – TERMINAL DRIVE STATION 27+00 TO STATION 29+50
A21	CROSS SECTIONS – TERMINAL DRIVE STATION 29+91 TO STATION 30+94

~~SHEET INDEX – CONTRACT B~~

SHEET NO.	SHEET DESCRIPTION
B1	PLAN & PROFILE – HIDDEN FARM ROAD STATION 70+00 TO STATION 76+00
B2	PLAN & PROFILE – HIDDEN FARM ROAD STATION 75+60 TO STATION 81+60
B3	CROSS SECTIONS – HIDDEN FARM ROAD STATION 71+64 TO STATION 75+50
B4	CROSS SECTIONS – HIDDEN FARM ROAD STATION 76+00 TO STATION 78+00
B5	PLAN & PROFILE – BREMER ROAD STATION 50+00 TO STATION 55+40
B6	PLAN & PROFILE – LARSON BEACH ROAD STATION 54+20 TO STATION 60+20
B7	PLAN & PROFILE– CARD AVENUE STATION 100+00 TO STATION 103+00
B8	PLAN & PROFILE– CARD AVENUE STATION 102+80 TO STATION 105+80
B9	PLAN & PROFILE– CARD AVENUE STATION 105+60 TO STATION 107+80
B10	PLAN & PROFILE– BELLEVUE COURT STATION 107+60 TO STATION 110+40
B11	PLAN – CARD AVENUE STATION 100+00 TO STATION 105+80
B12	PLAN – CARD AVENUE & BELLEVUE COURT STATION 105+60 TO STATION 110+40
B13	PLAN – STORCK ROAD STATION 500+00 TO STATION 525+00

~~SHEET INDEX – CONTRACT C~~

SHEET NO.	SHEET DESCRIPTION
	STORM SEWER IMPROVEMENTS
C1	PLAN – TERMINAL DRIVE & OSBORN DRIVE

2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
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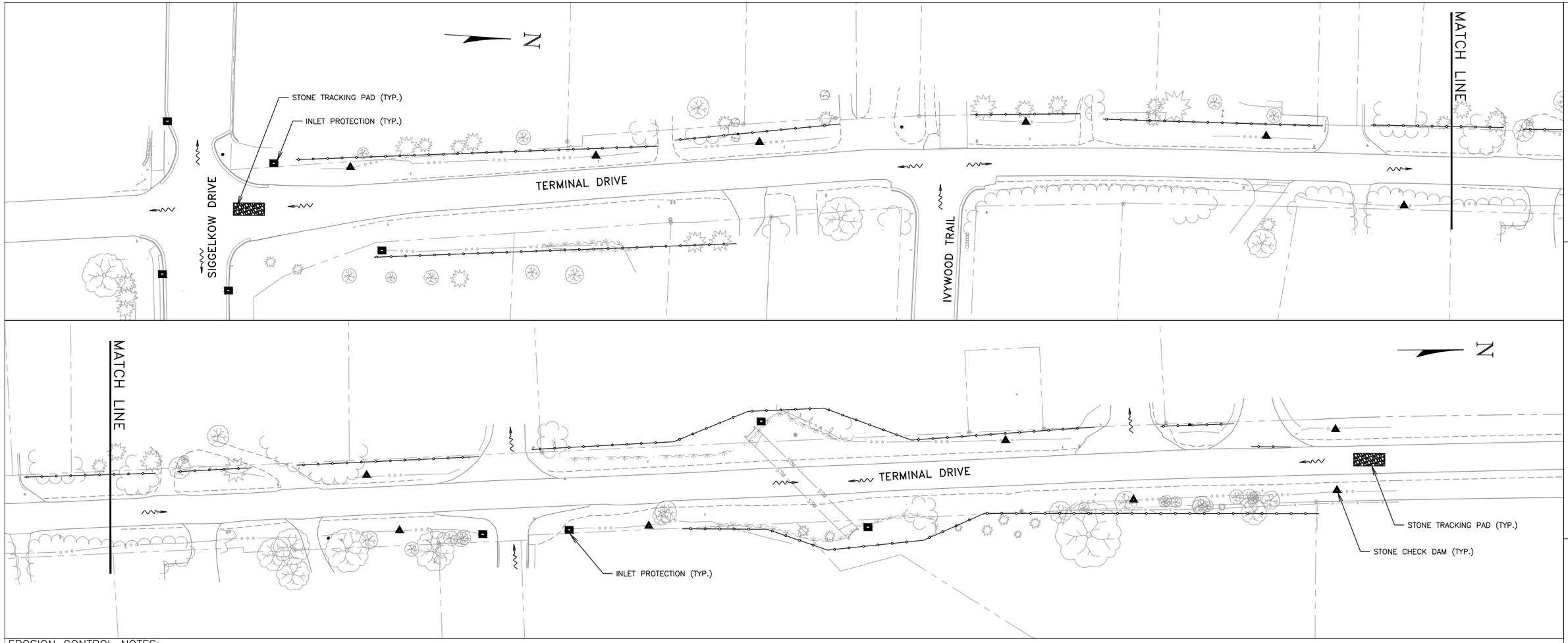
TOWN & COUNTRY ENGINEERING, INC.

INDEX

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL DETAILS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE:	N.T.S.
SHEET:	1



EROSION CONTROL NOTES:

- LOCATIONS MARKED WITH "■" TO RECEIVE INLET FILTER PROTECTION DURING CONSTRUCTION. ALL NEW STREET INLETS MUST ALSO RECEIVE INLET FILTER PROTECTION.
- CONSTRUCT A STONE CHECK DAM IN GUTTER LINE AT ALL LOCATIONS MARKED WITH "▲"
- SURFACE FLOW DIRECTION IS INDICATED WITH
- SILT FENCE INSTALLATION IS INDICATED WITH
- POST WDNR CERTIFICATE OF PERMIT COVERAGE ON SITE AND MAINTAIN UNTIL CONSTRUCTION ACTIVITIES HAVE CEASED, THE SITE IS STABILIZED, AND A NOTICE OF TERMINATION IS FILED WITH WDNR.
- KEEP A COPY OF THE CURRENT EROSION CONTROL PLAN ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
- SUBMIT PLAN REVISIONS OR AMENDMENTS TO THE WDNR AT LEAST 5 DAYS PRIOR TO FIELD IMPLEMENTATION.
- THE CONTRACTOR IS RESPONSIBLE FOR ROUTINE SITE INSPECTIONS AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. KEEP INSPECTION REPORTS ON-SITE AND MAKE THEM AVAILABLE UPON REQUEST.
- INSPECT AND MAINTAIN ALL INSTALLED EROSION CONTROL PRACTICES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
- WHEN POSSIBLE: PRESERVE EXISTING VEGETATION (ESPECIALLY ADJACENT TO SURFACE WATERS), MINIMIZE LAND-DISTURBING CONSTRUCTION ACTIVITY ON SLOPES OF 20% OR MORE, MINIMIZE SOIL COMPACTION, AND PRESERVE TOPSOIL.
- REFER TO THE WDNR STORMWATER CONSTRUCTION TECHNICAL STANDARDS AT http:dnr.wi.gov/topic/stormwater/standards/const_standards.html.
- INSTALL PERIMETER EROSION CONTROLS AND ROCK TRACKING PAD CONSTRUCTION ENTRANCE(S) PRIOR TO ANY LAND-DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING. USE WDNR TECHNICAL STANDARD STONE TRACKING PAD AND TIRE WASHING #1057 FOR ROCK CONSTRUCTION ENTRANCE(S).
- INSTALL INLET PROTECTION PRIOR TO LAND-DISTURBING ACTIVITIES IN THE CONTRIBUTING DRAINAGE AREA AND/OR IMMEDIATELY UPON INLET INSTALLATION. COMPLY WITH WDNR TECHNICAL STANDARD STORM DRAIN INLET PROTECTION FOR CONSTRUCTION SITES #1060.
- STAGE CONSTRUCTION GRADING ACTIVITIES TO MINIMIZE THE CUMULATIVE EXPOSED AREA. CONDUCT TEMPORARY GRADING FOR EROSION CONTROL PER WDNR TECHNICAL STANDARD TEMPORARY GRADING PRACTICES FOR EROSION CONTROL #1067.
- NOTIFY THE OWNER IF DEWATERING IS SCHEDULED TO OCCUR IN AREAS OF SOIL AND/OR GROUNDWATER CONTAMINATION, OR IF DEWATERING WILL OCCUR FROM A HIGH CAPACITY WELL (70 GPM OR MORE). DEWATER ONLY AFTER THE APPROPRIATE WDNR DEWATERING DISCHARGE PERMIT HAS BEEN OBTAINED.
- PROVIDE ANTI-SCOUR PROTECTION AND MAINTAIN NON-EROSIVE FLOW DURING DEWATERING. LIMIT PUMPING RATES TO EITHER (A) THE SEDIMENT BASIN/TRAP DESIGN DISCHARGE RATE, OR (B) THE BASIN DESIGN RELEASE RATE WITH THE CORRECTLY-FITTED HOSE AND GEOTEXTILE FILTER BAG. PERFORM DEWATERING OF ACCUMULATED SURFACE RUNOFF IN ACCORDANCE WITH WDNR TECHNICAL STANDARD DE-WATERING #1061.
- INSTALL AND MAINTAIN SILT FENCING PER WDNR TECHNICAL STANDARD SILT FENCE #1056. REMOVE SEDIMENT FROM BEHIND SILT FENCES AND SEDIMENT BARRIERS BEFORE SEDIMENT REACHES A DEPTH THAT IS EQUAL TO ONE-HALF OF THE FENCE AND/OR BARRIER HEIGHT.
- REPAIR BREAKS AND GAPS IN SILT FENCES AND BARRIERS IMMEDIATELY. REPLACE DECOMPOSING STRAW BALES (TYPICAL BALE LIFE IS 3 MONTHS). LOCATE, INSTALL, AND MAINTAIN STRAW BALES PER WDNR TECHNICAL STANDARD DITCH CHECKS #1062.
- INSTALL AND MAINTAIN FILTER SOCKS IN ACCORDANCE WITH WDNR TECHNICAL STANDARD INTERIM MANUFACTURED PERIMETER CONTROL AND SLOPE INTERRUPTION PRODUCTS #1071.
- IMMEDIATELY STABILIZE STOCKPILES AND SURROUND STOCKPILES AS NEEDED WITH SILT FENCE OR OTHER PERIMETER CONTROL IF STOCKPILES WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.
- IMMEDIATELY STABILIZE ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR 14 DAYS OR LONGER. BETWEEN SEPTEMBER 15 AND OCTOBER 15: STABILIZE WITH MULCH, TACKIFIER, AND A PERENNIAL SEED MIXED WITH WINTER WHEAT, ANNUAL OATS, OR ANNUAL RYE, AS APPROPRIATE FOR REGION AND SOIL TYPE. OCTOBER 15 THROUGH COLD WEATHER: STABILIZE WITH A POLYMER AND DORMANT SEED MIX, AS APPROPRIATE FOR REGION AND SOIL TYPE.
- STABILIZE AREAS OF FINAL GRADING WITHIN 7 DAYS OF REACHING FINAL GRADE.
- SWEEP/CLEAN UP ALL SEDIMENT/TRASH THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS BEFORE THE END OF THE SAME WORKDAY OR AS DIRECTED BY THE OWNER. SEPARATE SWEPT MATERIALS (SOILS AND TRASH) AND DISPOSE OF APPROPRIATELY.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST PER WDNR TECHNICAL STANDARD DUST CONTROL ON CONSTRUCTION SITES #1068.
- PROPERLY DISPOSE OF ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, OR OTHER CONSTRUCTION MATERIALS) AND DO NOT ALLOW THESE MATERIALS TO BE CARRIED BY RUNOFF INTO THE RECEIVING CHANNEL.
- COORDINATE WITH THE OWNER TO UPDATE THE LAND DISTURBANCE PERMIT TO INDICATE THE ANTICIPATED OR LIKELY DISPOSAL LOCATIONS FOR ANY EXCAVATED SOILS OR CONSTRUCTION DEBRIS THAT WILL BE HAULED OFF-SITE FOR DISPOSAL. THE DEPOSITED OR STOCKPILED MATERIAL NEEDS TO INCLUDE PERIMETER SEDIMENT CONTROL MEASURES (SUCH AS SILT FENCE, HAY BALES, FILTER SOCKS, OR COMPACTED EARTHEN BERMS).
- FOR NON-CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED SLOPES, PROVIDE CLASS I, II OR III TYPE A EROSION CONTROL MATTING. SELECT EROSION MATTING FROM APPROPRIATE MATRIX IN WDOT'S WIDOT PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD NON-CHANNEL EROSION MAT #1052.
- FOR CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED AREAS, PROVIDE CLASS I, II, OR III TYPE B EROSION CONTROL MATTING. SELECT EROSION MATTING FROM APPROPRIATE MATRIX IN WDOT'S WIDOT PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD CHANNEL EROSION MAT #1053.
- MAKE PROVISIONS FOR WATERING DURING THE FIRST 8 WEEKS FOLLOWING SEEDING OR PLANTING OF DISTURBED AREAS WHENEVER MORE THAN 7 CONSECUTIVE DAYS OF DRY WEATHER OCCUR.
- INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES (SUCH AS TEMPORARY SEDIMENT BASINS, DITCH CHECKS, EROSION CONTROL MATTING, SILT FENCING, FILTER SOCKS, WATTLES, SWALES, ETC.), OR AS DIRECTED BY THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE WDNR REMEDIATION AND WASTE MANAGEMENT REQUIREMENTS FOR HANDLING AND DISPOSING OF CONTAMINATED MATERIALS. SITE-SPECIFIC INFORMATION FOR AREAS WITH KNOWN OR SUSPECTED SOIL AND/OR GROUNDWATER CONTAMINATION CAN BE FOUND ON WDNR'S BUREAU OF REMEDIATION AND REDEVELOPMENT TRACKING SYSTEM (BRRTS) PUBLIC DATABASE AT: http://dnr.wi.gov/botw/

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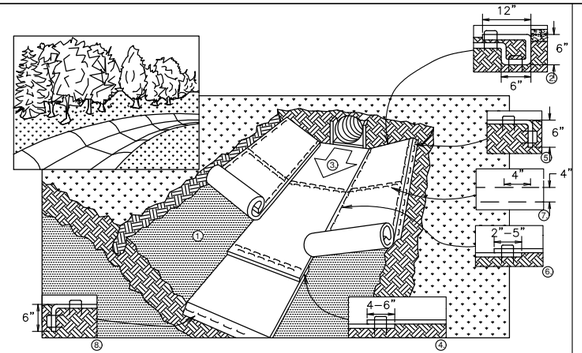
EROSION CONTROL PLAN AND GENERAL NOTES

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

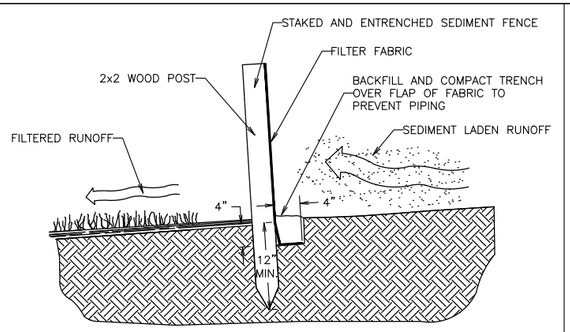
PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: 0 10 20 40
SHEET: 2



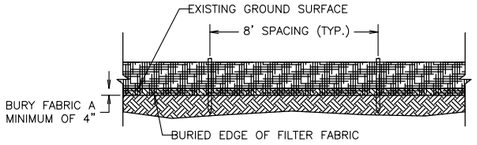
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4–6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPE MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 4" AND STAPLED.
7. A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLES OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

DETAIL
EROSION CONTROL MAT - CHANNEL INSTALLATION

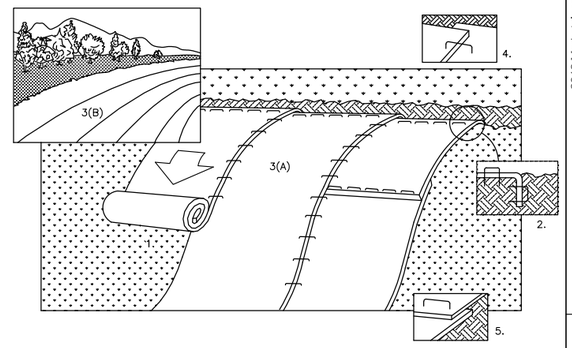


CROSS–SECTION OF A PROPERLY INSTALLED SEDIMENT FENCE



SEDIMENT FENCE DETAIL

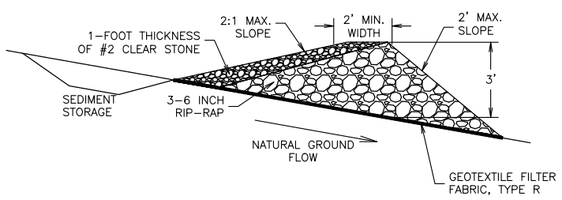
DETAIL
SEDIMENT FENCE



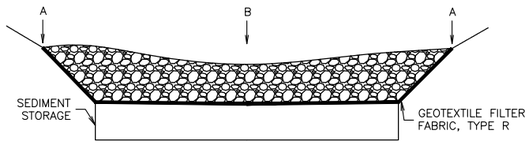
NOTE:
REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
6. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SLOPE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.

DETAIL
EROSION CONTROL MAT - SLOPE INSTALLATION

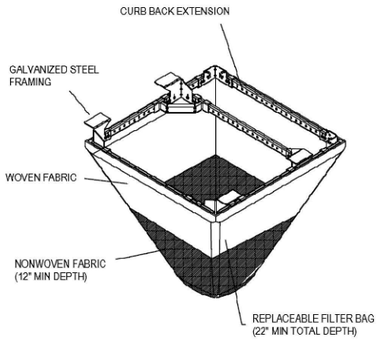


SECTION VIEW



FRONT VIEW

DETAIL
STONE CHECK DAM



GENERAL NOTES:

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

FRAMED INLET PROTECTION SHALL BE COMPLIANT WITH ALL ASTM STANDARD D8057–17 REQUIREMENTS, INCLUDING:
A. BYPASS OVERFLOW THAT MEETS OR EXCEEDS INLET DESIGN FLOW
B. FRAME AND BAG STRONG ENOUGH TO HANDLE FULL SEDIMENT LOAD.

INSTALLATION NOTES:

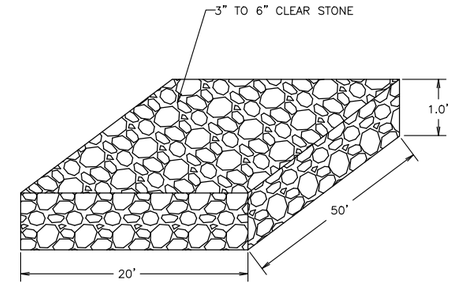
NO PART OF INLET PROTECTION SHALL BE PROJECTING ABOVE THE GRATE.

FOR COMBINATION INLETS, PROTECTION SHALL CAPTURE RUNOFF ENTERING BOTH GRATE AND CURB OPENING.

A DUAL FABRIC FILTER BAG, WITH NON–WOVEN BOTTOM AND WOVEN TOP SHALL BE USED.

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

DETAIL
INLET PROTECTION - FRAMED (W/ CURB BOX)



NOTE:

– ON STREET SURFACES CRUSHED AGGREGATE BASE STONE SERVES AS TRACKING PAD.

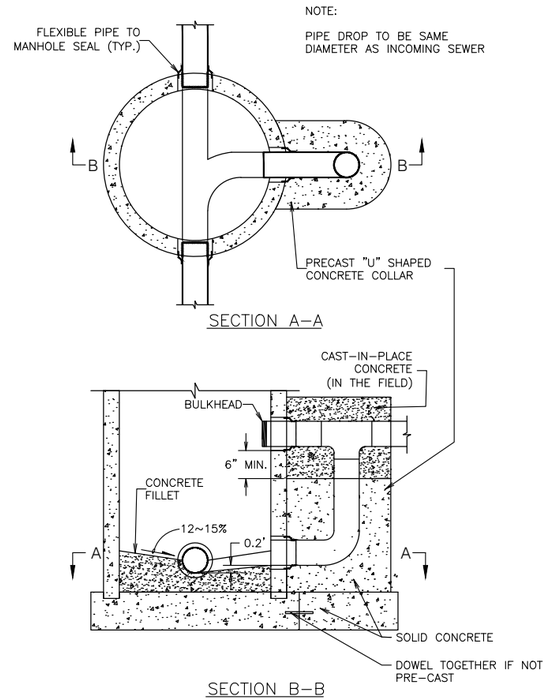
DETAIL
CLEAR STONE TRACKING PAD

TOWN & COUNTRY ENGINEERING, INC.
2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
www.tcengineers.net

STANDARD CONSTRUCTION DETAILS
EROSION CONTROL

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

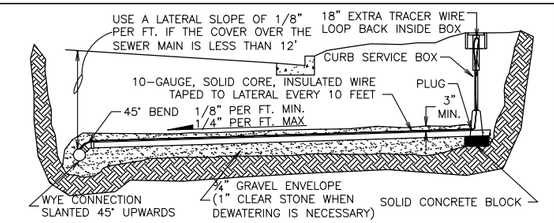
PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL DETAILS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2–3–22
REVISIONS:	
SCALE:	N.T.S.
SHEET:	4



SECTION A–A

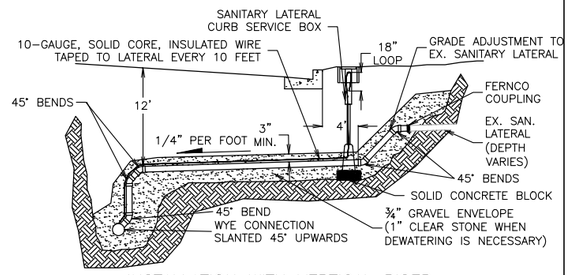
SECTION B–B

DETAIL
DROP MANHOLE ENTRANCE



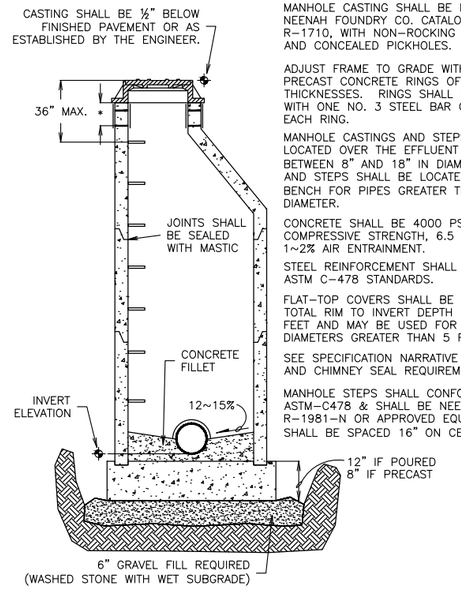
STANDARD INSTALLATION

NOTES:
1. CONSTRUCT LATERALS IN CONFORMANCE WITH CHAPTER SPS 382 OF THE WISCONSIN ADMINISTRATIVE CODE.
2. LATERAL SLOPE SHALL BE ¼" PER FOOT WHERE SUFFICIENT COVER EXISTS.
3. CONTRACTOR SHALL VERIFY SIZE, DEPTH, AND LOCATION OF EXISTING LATERALS.
4. WHERE LATERALS ARE NOT IMMEDIATELY CONNECTED TO BUILDING SEWERS THE ENDS OF THE LATERALS SHALL BE MARKED BY POSITIONING 4"x4" BOARDS VERTICALLY FROM THE ENDS OF THE LATERALS TO AT LEAST 2' ABOVE THE GROUND SURFACE.
5. THE LOCATION OF ALL SEWER LATERALS CROSSING UNDER THE CURB & GUTTER SHALL BE MARKED BY STAMPING AN "S" IN THE TOP OF THE CURB OVER THE LOCATION OF THE SEWER LATERAL.



INSTALLATION WITH VERTICAL RISER

DETAIL
SANITARY SEWER LATERAL



NOTES:

MANHOLE CASTING SHALL BE HEAVY DUTY, NEENAH FOUNDRY CO. CATALOG LISTING NO. R-1710, WITH NON-ROCKING LID, GASKET SEAL AND CONCEALED PICKHOLES.

ADJUST FRAME TO GRADE WITH AT LEAST TWO PRECAST CONCRETE RINGS OF DIFFERENT THICKNESSES. RINGS SHALL BE REINFORCED WITH ONE NO. 3 STEEL BAR CENTERED WITHIN EACH RING.

MANHOLE CASTINGS AND STEPS SHALL BE LOCATED OVER THE EFFLUENT PIPE FOR PIPES BETWEEN 8" AND 18" IN DIAMETER. CASTINGS AND STEPS SHALL BE LOCATED OVER THE BENCH FOR PIPES GREATER THAN 18" IN DIAMETER.

CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.

STEEL REINFORCEMENT SHALL CONFORM TO ASTM C-478 STANDARDS.

FLAT-TOP COVERS SHALL BE USED WHERE THE TOTAL RIM TO INVERT DEPTH IS LESS THAN 6 FEET AND MAY BE USED FOR MANHOLE DIAMETERS GREATER THAN 5 FEET.

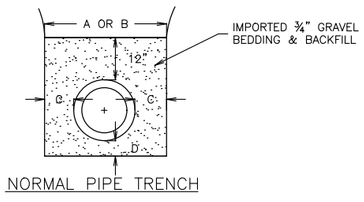
SEE SPECIFICATION NARRATIVE FOR PIPE SEAL AND CHIMNEY SEAL REQUIREMENTS.

MANHOLE STEPS SHALL CONFORM TO ASTM-C478 & SHALL BE NEENAH FOUNDRY CO. R-1981-N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.

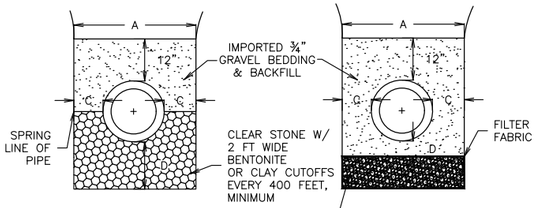
* A MINIMUM OF 3" TO A MAXIMUM OF 9" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

DETAIL
MANHOLE

DIMENSIONS:
- A: OUTSIDE DIAMETER OF PIPE PLUS 24" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36". TRENCH SHIELDS NARROWER THAN 4 FEET INSIDE WIDTH WILL NOT BE REQUIRED UNLESS SPECIFICALLY REQUIRED IN THE PROJECT SPECIFICATIONS.
- B: FOR ROCK, OUTSIDE DIAMETER OF PIPE PLUS 18" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36".
- C: MINIMUM – 6"
- D: MINIMUM 4" BELOW BARREL AND 3" BELOW BELL.



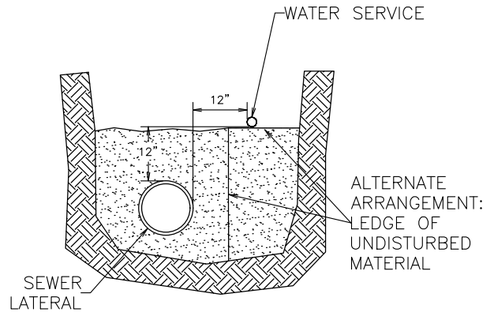
NORMAL PIPE TRENCH



WET TRENCH WITH SUMP DEWATERING

UNSTABLE TRENCH

DETAIL
TRENCH WIDTH AND BEDDING



DETAIL
JOINT TRENCH INSTALLATION

TOWN & COUNTRY ENGINEERING, INC.
2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
www.tcengineers.net

STANDARD CONSTRUCTION DETAILS
SANITARY SEWER

05

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL DETAILS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE:	N.T.S.
SHEET:	5

DIMENSIONS:
- A: OUTSIDE DIAMETER OF PIPE PLUS 24" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36". TRENCH SHIELDS NARROWER THAN 4 FEET INSIDE WIDTH WILL NOT BE REQUIRED UNLESS SPECIFICALLY REQUIRED IN THE PROJECT SPECIFICATIONS.
- B: FOR ROCK, OUTSIDE DIAMETER OF PIPE PLUS 18" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36".
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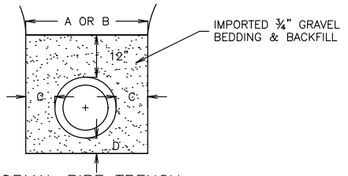
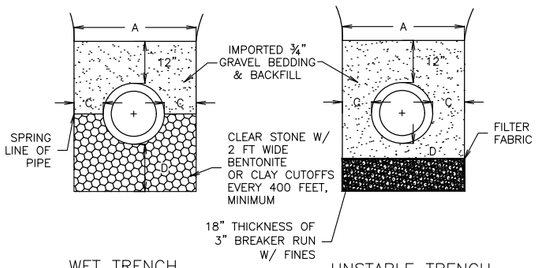


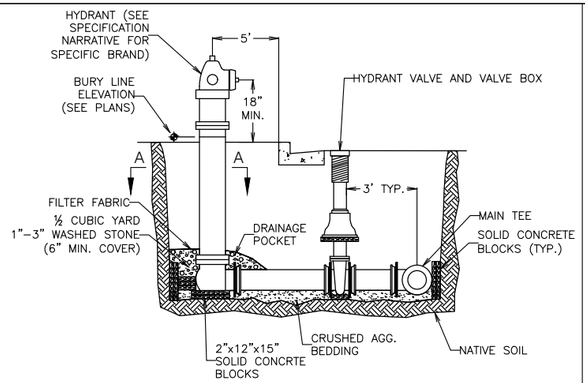
NORMAL PIPE TRENCH

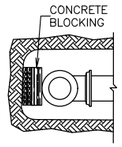


WET TRENCH WITH SUMP DEWATERING

UNSTABLE TRENCH

DETAIL
TRENCH WIDTH AND BEDDING





SECTION A–A

NOTES:

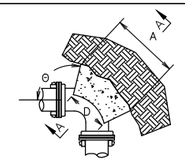
– THE HYDRANT AND HYDRANT VALVE SHALL BE CONNECTED TO THE MAIN TEE BY MEGALUGS.

–FILTER FABRIC SHALL BE WRAPPED AROUND THE DRAIN POCKET.

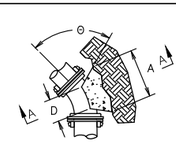
–WHERE THE HYDRANT IS INSTALLED AT THE HIGH POINT OF THE WATER MAIN ON MAINS 10 INCHES IN DIAMETER AND LARGER, THE CONTRACTOR SHALL TIP THE MAIN TEE UPWARDS 45 DEGREES AND USE A 45 DEGREE FITTING TO ALLOW AIR TO ESCAPE FROM THE MAIN.

–WHERE THE LOCATION OF THE HYDRANT VALVE BOX WOULD BE IN ANY PORTION OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PLACE THE VALVE IN THE TERRACE AREA.

DETAIL
HYDRANT SETTING

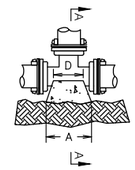


90° BEND

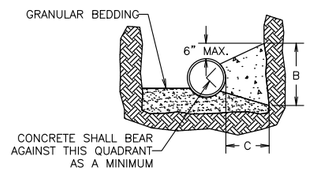


45° BEND

22½° BEND



TEE



SECTION A–A

WOOD BLOCKING MAY NOT BE USED. ONLY SOLID CONCRETE BLOCKS ARE ALLOWED.

DIMENSION "D" SHALL BE AS LARGE AS POSSIBLE, BUT THE CONCRETE SHALL NOT INTERFERE WITH THE MECHANICAL JOINTS.

DIMENSION "C" SHALL BE AT LEAST 6 INCHES, AND LARGE ENOUGH TO MAKE THE "θ" ANGLE EQUAL TO OR GREATER THAN 45 DEGREES WITH THE DIMENSION "A" AS SHOWN ON THE TABLE, OR GREATER, AND WITH DIMENSION "D" AS LARGE AS POSSIBLE.

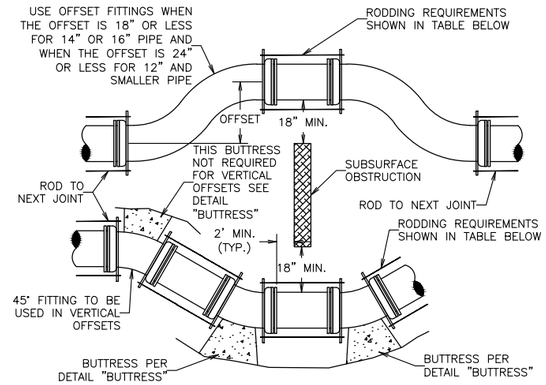
CONCRETE SHALL BE CLASS "CC". SEE SECTION 03301.

BUTTRESS DIMENSIONS								
PIPE SIZE*	TEES		22.5° BEND		45° BEND		90° BEND	
	A	B	A	B	A	B	A	B
6	1'–3"	1'–0"	1'–0"	1'–0"	1'–0"	1'–0"	1'–4"	1'–2"
8	1'–6"	1'–4"	1'–0"	1'–0"	1'–4"	1'–2"	1'–10"	1'–6"
10/12	2'–3"	2'–0"	1'–4"	1'–4"	1'–10"	1'–10"	2'–8"	2'–3"
14/16	3'–2"	2'–6"	1'–10"	1'–8"	2'–6"	2'–4"	3'–10"	2'–10"
18/20	4'–0"	3'–0"	2'–4"	2'–0"	3'–3"	2'–10"	5'–0"	3'–4"
22/24	5'–3"	3'–4"	2'–10"	2'–4"	4'–0"	3'–3"	6'–4"	3'–10"
30	6'–3"	4'–3"	3'–6"	3'–0"	5'–4"	3'–10"	8'–0"	4'–8"

* = FOR TEE THIS WILL BE THE BRANCH PIPE

DIMENSIONS IN THE TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND SOIL RESISTANCE OF 2000 LBS./SQ.FT.

DETAIL
BUTTRESS



NOMINAL PIPE SIZE	RODS NO.	RODS DIA.	STRAP SIZE	BOLT DIA.	WASHER SIZE
6	3	¾	½ x 2	¾	½ x 3 x 5
8	4	¾	½ x 2	¾	½ x 3 x 5
10	4	¾	½ x 2½	1	½ x 3 x 5
12	4	¾	½ x 2½	1	½ x 3 x 5
14	4	¾	½ x 2½	1	½ x 3 x 5

ALL DIMENSIONS IN THIS TABLE ARE IN INCHES

NOTES:
– RODS AND WASHERS TO BE ASTM A–575 MERCHANT QUALITY 0.17–0.24 CARBON. NUTS TO BE AMERICAN STANDARD HEAVY, NOT PRESSED.

– TIE RODS, BOLTS, NUTS, BANDS AND WASHERS TO BE FURNISHED AND ASSEMBLED BY THE CONTRACTOR.

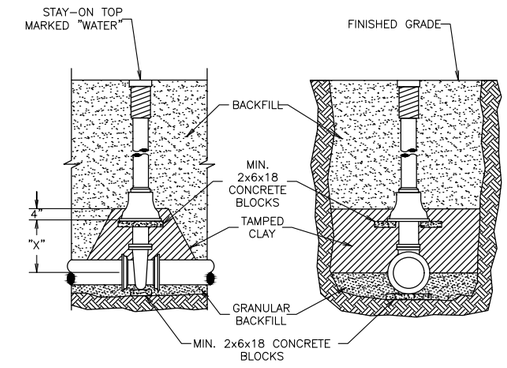
– ALL STEEL MATERIAL TO BE GALVANIZED OR THOROUGHLY COATED WITH ENGINEER APPROVED COATING.

– OFFSET FITTINGS REQUIRE CONTINUOUS RODDING IN ALL POSITIONS.

– VERTICAL OFFSETS SHALL NOT CREATE A HIGH POINT IN THE WATER MAIN. VERTICAL OFFSETS REQUIRE THE SAME RODDING AND BUTTRESSING AS SHOWN ABOVE.

– MEGALUG RESTRAINTS MAY BE USED IN LIEU OF RODDING.

DETAIL
OFFSET AND RODDING



VIEW ALONG PIPELINE

SECTION VIEW

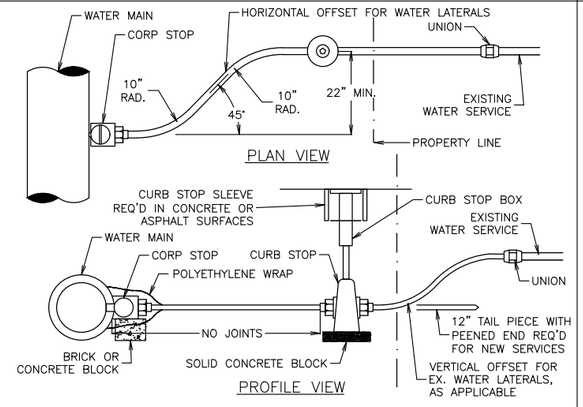
PIPE DIA., INCHES	6	8	10	12	14	16
"X" DIMENSION, INCHES	12	13	17	21	25	30

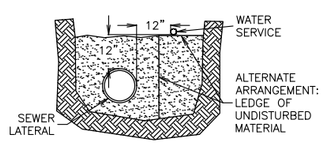
NOTES:

– SOLID CONCRETE BLOCKS MUST BE USED.

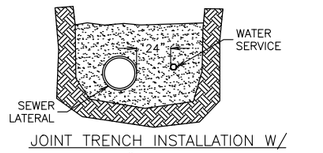
– VALVES SHALL BE SECURED WITH RODDING OR MEGALUGS TO THE NEAREST "TEE" FITTING OR TO THE FIRST JOINT CONNECTING A FULL SECTION OF WATER MAIN PIPE. SEE RODDING DETAIL "OFFSET AND RODDING".

DETAIL
VALVE BOX SETTING





JOINT TRENCH INSTALLATION



JOINT TRENCH INSTALLATION W/ LESS THAN 12" VERTICAL SEPARATION

NOTES:
– HORIZONTAL AND VERTICAL OFFSETS SHALL BE MADE WITH AN APPROVED PIPE BENDING TOOL. SHARP BENDS OR KINKS IN THE WATER SERVICE ARE NOT ALLOWED.

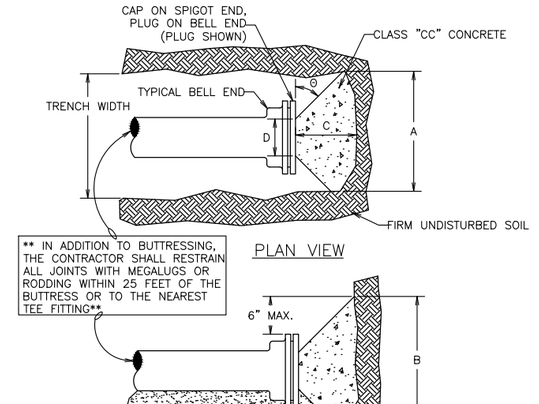
– VERTICAL OFFSETS SHALL BE MADE ON THE PROPERTY LINE SIDE OF THE CURB STOP.

– PLASTIC OR CAST IRON CURB BOX SLEEVES SHALL BE INSTALLED WHERE CURB BOXES ARE INSTALLED IN CONCRETE OR ASPHALT SURFACES.

–THE SEWER LATERAL SHALL BE LOCATED ON THE DOWNSTREAM SIDE OF THE WATER SERVICE, BASED ON SEWER MAIN FLOW DIRECTION.

–THE LOCATION OF ALL WATER SERVICES CROSSING UNDER THE CURB & GUTTER SHALL BE MARKED BY STAMPING A "W" IN THE TOP OF CURB OVER THE LOCATION OF THE WATER SERVICE LINE.

DETAIL
WATER SERVICE INSTALLATION



BUTTRESS DIMENSIONS				
DIA.	A	B	C	D
6"	1'–3"	1'–0"	SEE NOTES ABOVE	SEE NOTES ABOVE
8"	1'–8"	1'–6"		
10"	2'–0"	1'–8"		
12"	2'–5"	1'–10"		
16"	3'–4"	2'–4"		
20"	4'–3"	2'–10"		
24"	5'–2"	3'–4"		
30"	6'–9"	4'–0"		

NOTES:
– DIMENSION "C" SHALL BE LARGE ENOUGH TO MAKE ANGLE θ EQUAL TO OR GREATER THAN 45°.

– DIMENSION "D" EQUALS APPROX. I.D. OF PIPE, LESS 2 INCHES. CONTRACTOR SHALL PROTECT THE MECH. JOINT BOLTS FROM THE CONCRETE BUTTRESS.

– BUTTRESS DIMENSIONS ARE BASED UPON A SOIL RESISTANCE OF 2 TONS PER SQ. FT. AND A WATER PRESSURE OF 150 P.S.I.

DETAIL
BUTTRESS FOR DEAD ENDS

2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
www.tcengineers.net
TOWN & COUNTRY ENGINEERING, INC.

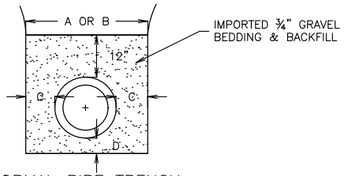
STANDARD CONSTRUCTION DETAILS WATER MAIN

05

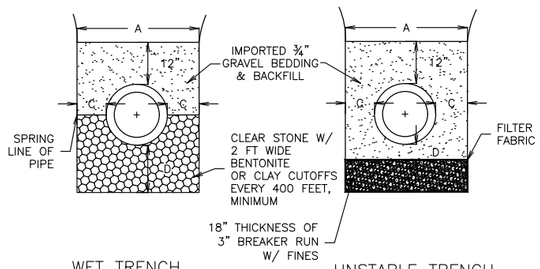
2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL DETAILS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2–3–22
REVISIONS:
SCALE: N.T.S.
SHEET: 6

DIMENSIONS:
- A: OUTSIDE DIAMETER OF PIPE PLUS 24" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36". TRENCH SHIELDS NARROWER THAN 4 FEET INSIDE WIDTH WILL NOT BE REQUIRED UNLESS SPECIFICALLY REQUIRED IN THE PROJECT SPECIFICATIONS.
- B: FOR ROCK, OUTSIDE DIAMETER OF PIPE PLUS 18" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36".
- C: MINIMUM – 6"
- D: MINIMUM 4" BELOW BARREL AND 3" BELOW BELL.



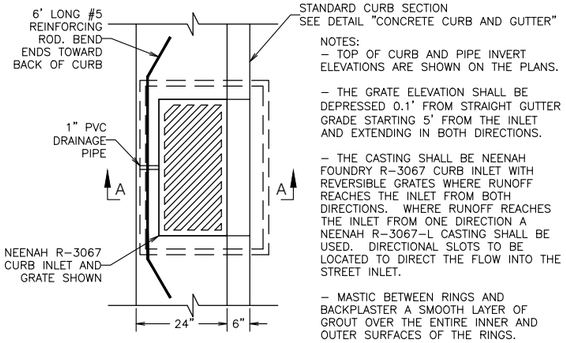
NORMAL PIPE TRENCH



WET TRENCH WITH SUMP DEWATERING

UNSTABLE TRENCH

DETAIL
TRENCH WIDTH AND BEDDING



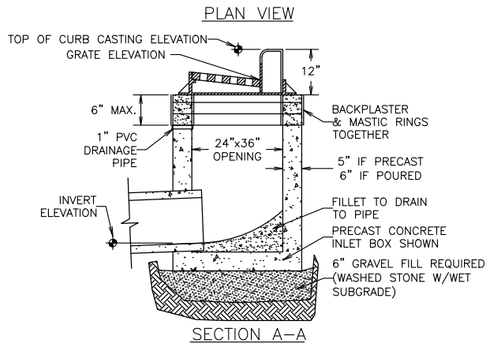
PLAN VIEW

NOTES:
– TOP OF CURB AND PIPE INVERT ELEVATIONS ARE SHOWN ON THE PLANS.

– THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.

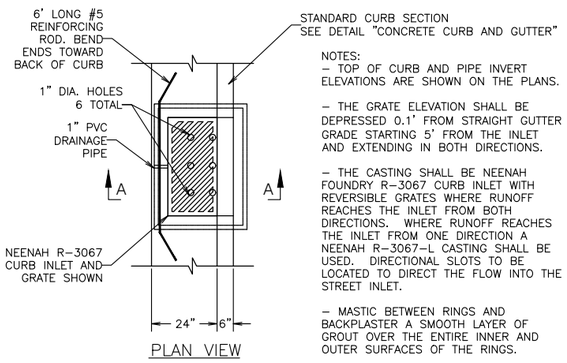
– THE CASTING SHALL BE NEENAH FOUNDRY R–3067 CURB INLET WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.

– MASTIC BETWEEN RINGS AND BACKPLASTER A SMOOTH LAYER OF GROUT OVER THE ENTIRE INNER AND OUTER SURFACES OF THE RINGS.



SECTION A–A

DETAIL
RECTANGULAR CURB INLET



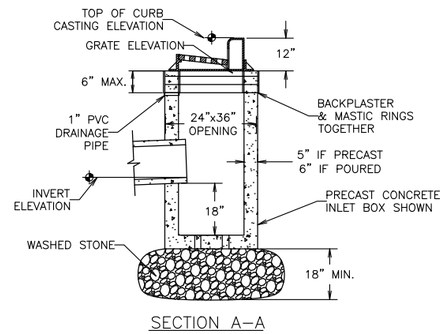
PLAN VIEW

NOTES:
– TOP OF CURB AND PIPE INVERT ELEVATIONS ARE SHOWN ON THE PLANS.

– THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.

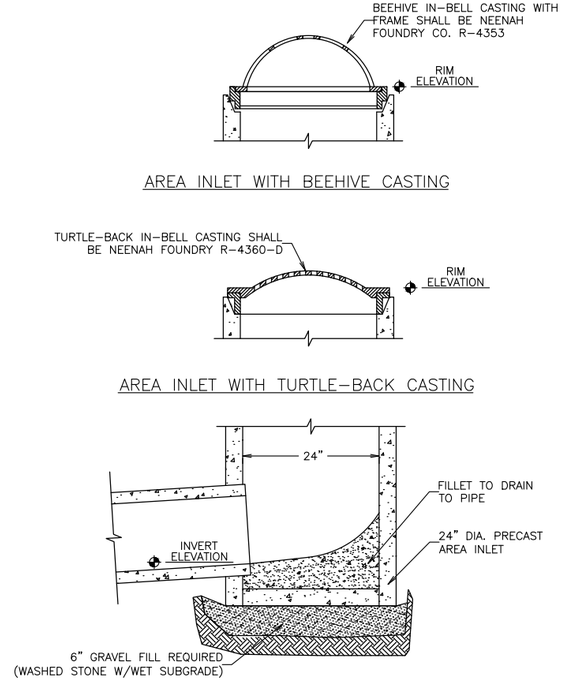
– THE CASTING SHALL BE NEENAH FOUNDRY R–3067 CURB INLET WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.

– MASTIC BETWEEN RINGS AND BACKPLASTER A SMOOTH LAYER OF GROUT OVER THE ENTIRE INNER AND OUTER SURFACES OF THE RINGS.



SECTION A–A

DETAIL
RECTANGULAR CATCH BASIN

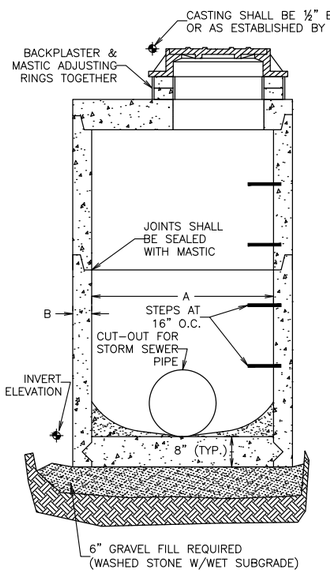


AREA INLET WITH BEEHIVE CASTING

AREA INLET WITH TURTLE–BACK CASTING

AREA INLET BOTTOM SECTION

DETAIL
AREA INLET



NOTES:

CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.

MANHOLE STEPS SHALL CONFORM TO ASTM–C478 & SHALL BE NEENAH FOUNDRY R–1981–N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.

ADJUST FRAME TO GRADE WITH AT LEAST TWO PRECAST CONCRETE RINGS OF DIFFERENT THICKNESSES. RINGS SHALL BE REINFORCED WITH ONE NO.3 STEEL BAR CENTERED WITHIN EACH RING.

A MINIMUM OF 3" TO A MAXIMUM OF 9" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

MANHOLE CASTING SHALL BE HEAVY DUTY, NEENAH FOUNDRY R–1550–A, WITH TYPE "B" NON–ROCKING LID, GASKET SEAL AND CONCEALED PICK HOLES.

MANHOLE INLET CASTING SHALL BE NEENAH FOUNDRY R–2050 WITH TYPE "C" NON–ROCKING GRATE.

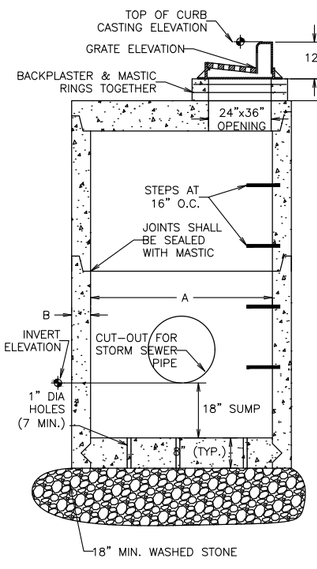
MANHOLE–TYPE CURB INLET CASTING SHALL BE NEENAH FOUNDRY R–3067 WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE CURB INLET.

A 2x3 LID OPENING IS REQUIRED FOR MANHOLE–TYPE CURB INLETS. ADJUSTING RINGS SHOULD THEN BE LIMITED TO 6" MAX.

STORM MANHOLE DIMENSIONS

MANHOLE SIZE	DIMENSION A	DIMENSION B (MIN.)
48"	48"	5"
60"	60"	6"
72"	72"	7"
84"	84"	7"
96"	96"	9"

DETAIL
STORM SEWER MANHOLE AND INLET



NOTES:

CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.

MANHOLE STEPS SHALL CONFORM TO ASTM–C478 & SHALL BE NEENAH FOUNDRY R–1981–N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.

A MAXIMUM OF 6" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE–TYPE CURB CATCH BASIN CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.

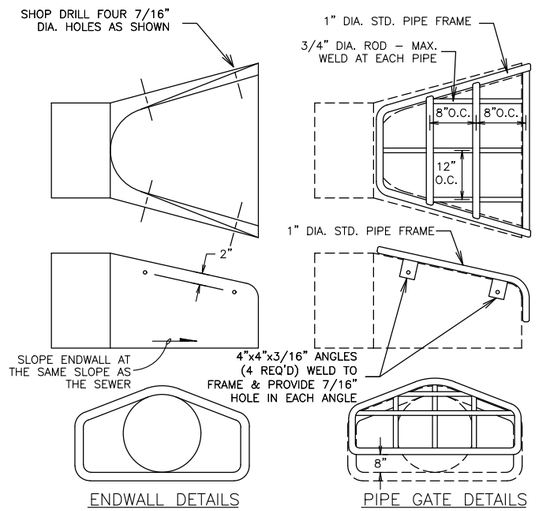
MANHOLE–TYPE CURB CATCH BASIN CASTING SHALL BE NEENAH FOUNDRY R–3067 WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.

A 2x3 LID OPENING IS REQUIRED FOR MANHOLE–TYPE CURB CATCH BASINS.

STORM MANHOLE DIMENSIONS

MANHOLE SIZE	DIMENSION A	DIMENSION B (MIN.)
48"	48"	5"
60"	60"	6"
72"	72"	7"
84"	84"	7"
96"	96"	9"

DETAIL
STORM SEWER MANHOLE CATCH BASIN



ENDWALL DETAILS

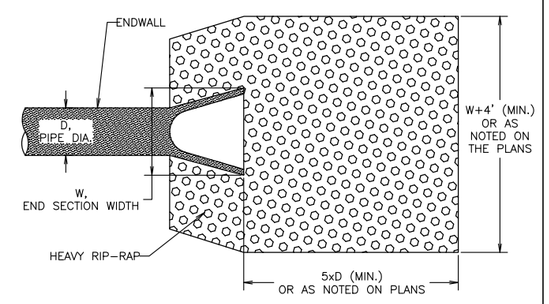
PIPE GATE DETAILS

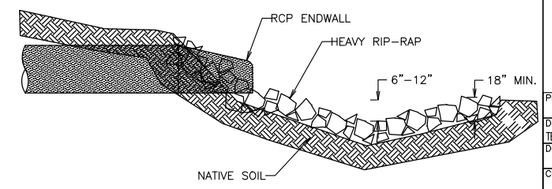
NOTES:
– THE CONTRACTOR SHALL BOLT THE PIPE GATE TO THE CONCRETE ENDWALL WITH FOUR 3/8"x6" MACHINE BOLTS WITH NUTS ON INSIDE WALL.

PAINTING SPECIFICATIONS:
– THE PIPE GATE SHALL RECEIVER THE FOLLOWING PREPARATION & PAINTING. THE FIRST COAT SHALL BE RUS–OLEUM X–60 RED BARE METAL PRIMER OR APPROVED EQUAL. THE SECOND COAT SHALL BE RUST–OLEUM 960 ZINC CHROMATE PRIMER OR APPROVED EQUAL. THE THIRD COAT SHALL BE RUS–OLEUM 1282 HIGH GLOSS METAL FINISH OR APPROVED EQUAL.

PREPARATION STEPS:
1. BARE METAL SURFACES – TREAT WITH THE THREE–COAT PAINTING SYSTEM LISTED AFTER A THOROUGH SCRAPING, WIRE BRUSHING & CLEANING.
2. EACH COAT OF PAINT SHALL BE APPLIED OVER THE ENTIRE GATE SURFACE.
3. ALLOW 24–48 HOURS DRYING TIME AT 60° OR ABOVE BETWEEN COATS.

DETAIL
ENDWALLS





NOTE:

RIP–RAP SHALL BE A MINIMUM OF 2 C.Y. PER ENDWALL.

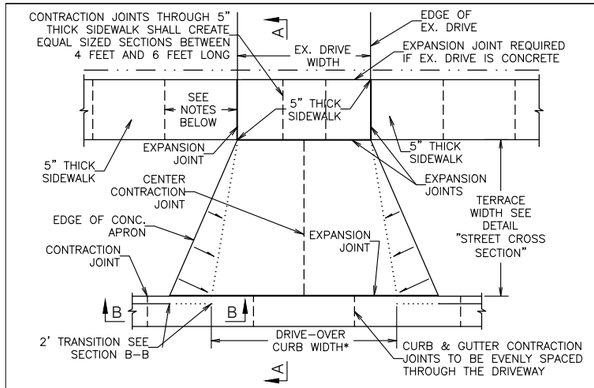
DETAIL
ENDWALL AND RIP–RAP

TOWN & COUNTRY ENGINEERING, INC.
2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
www.tcengineers.net

STANDARD CONSTRUCTION DETAILS
STORM SEWER

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

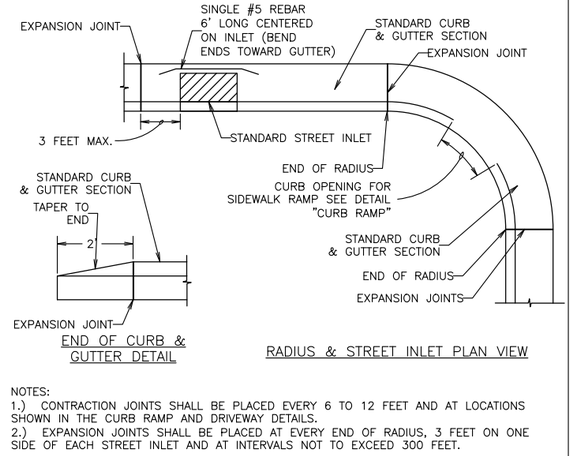
PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL DETAILS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2–3–22
REVISIONS:	
SCALE:	N.T.S.
SHEET:	7



NOTES: – 5" THICK WALK WIDTH SHALL BE EQUAL TO THE EX. DRIVE WIDTH OR A MINIMUM OF 12' CENTERED ON THE EX. DRIVE. THE DRIVE–OVER CURB WIDTH SHALL BE EQUAL TO THE 5" THICK WALK WIDTH PLUS 2', CENTERED ON THE EX. DRIVE.

– CONTRACTION JOINTS IN 5" THICK SIDEWALKS SHALL BE PLACED EVERY 5'. EXPANSION JOINTS SHALL BE PLACED AT INTERVALS NOT TO EXCEED 96 FEET.

PLAN VIEW



SECTION A–A

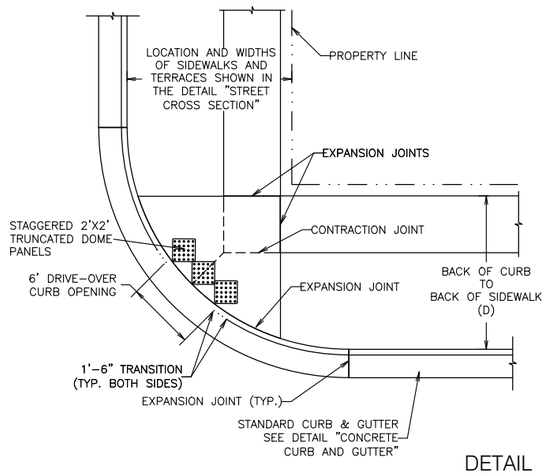
SECTION B–B

DETAIL
DRIVEWAY

NOTES:
TRUNCATED DOME PANELS MUST TOUCH ONE CORNER TO RADIUS OF BACK OF CURB. IF MORE THAN ONE IS USED THEY MUST TOUCH OR OVERLAP. DOMES SHALL BE ALIGNED WITH CROSS WALK DIRECTION.

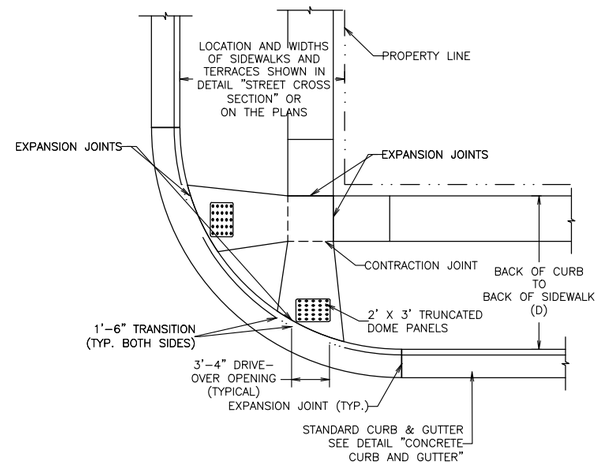
TYPE 1 CURB RAMP

– FOR USE WHEN THE DISTANCE FROM THE BACK OF THE CURB TO THE BACK OF THE SIDEWALK (D) IS LESS THAN 12 FEET.

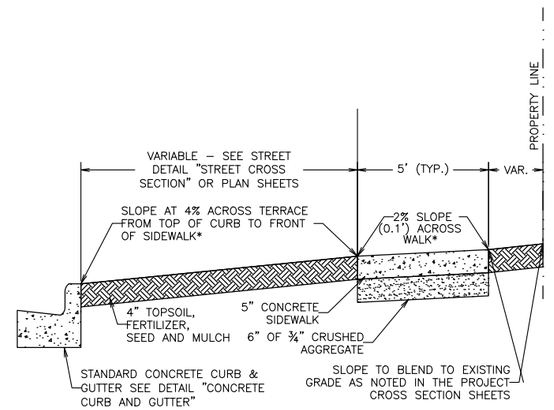


TYPE 2 CURB RAMP

– FOR USE WHEN THE DISTANCE FROM THE BACK OF THE CURB TO THE BACK OF THE SIDEWALK (D) IS GREATER THAN OR EQUAL TO 12 FEET.

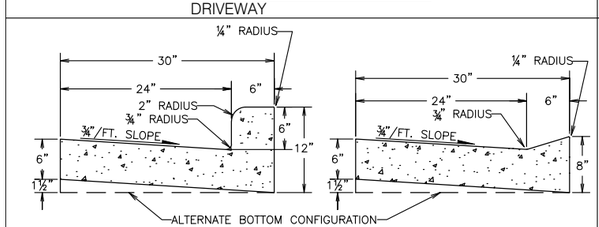


DETAIL
CURB RAMP



* WHERE PLAN CROSS SECTIONS CONFLICT WITH THIS DETAIL THE PLAN CROSS SECTIONS SHALL GOVERN.

DETAIL
SIDEWALK - TERRACE SECTION



STANDARD CURB & GUTTER CROSS SECTION DIMENSIONS

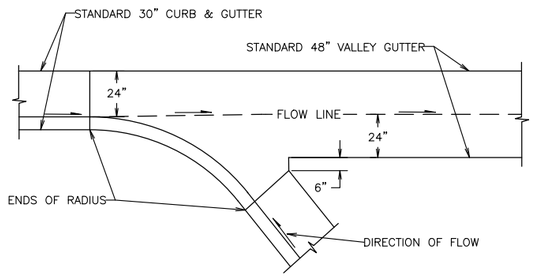
DRIVE–OVER CURB & GUTTER CROSS SECTION DIMENSIONS

END OF CURB & GUTTER DETAIL

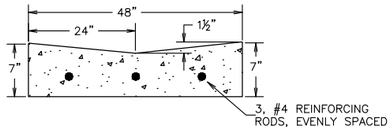
RADIUS & STREET INLET PLAN VIEW

NOTES:
1.) CONTRACTION JOINTS SHALL BE PLACED EVERY 6 TO 12 FEET AND AT LOCATIONS SHOWN IN THE CURB RAMP AND DRIVEWAY DETAILS.
2.) EXPANSION JOINTS SHALL BE PLACED AT EVERY END OF RADIUS, 3 FEET ON ONE SIDE OF EACH STREET INLET AND AT INTERVALS NOT TO EXCEED 300 FEET.

DETAIL
CONCRETE CURB AND GUTTER

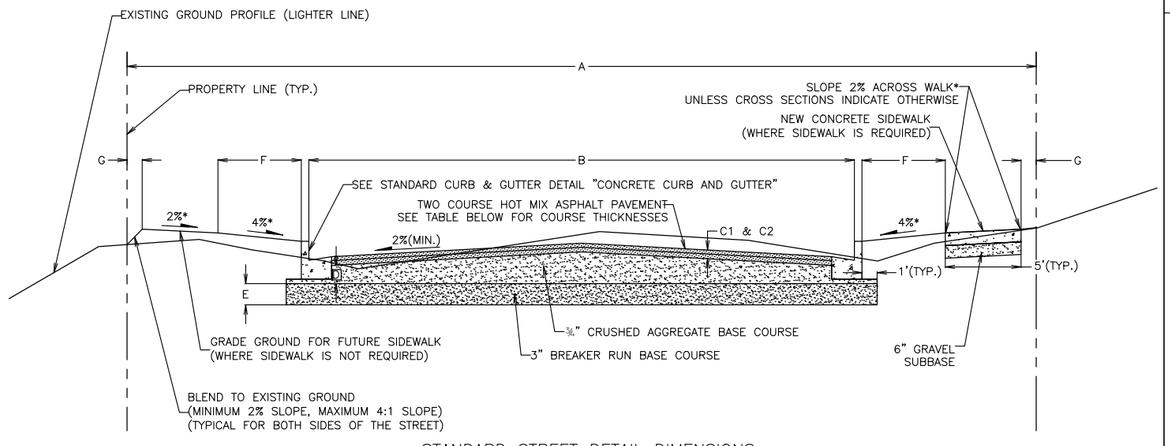


VALLEY GUTTER PLAN VIEW



STANDARD VALLEY GUTTER CROSS SECTION DIMENSIONS

DETAIL
VALLEY GUTTER



STANDARD STREET DETAIL DIMENSIONS

STREET NAME	A RIGHT OF WAY WIDTH	B CURB FACE TO CURB FACE WIDTH	C1 LOWER COURSE THICKNESS	C2 SURFACE COURSE THICKNESS	D ¾" C.A.B.C. THICKNESS*	E 3" BREAKER RUN B.C. THICKNESS	F TERRACE WIDTH	G BACK OF WALK TO PROP. LINE
TERMINAL DRIVE	VARIES	34'	3"	2"	6"	12" MIN.	4'	VARIES
HIDDEN FARM ROAD	66'	27'	1.75"	1.5"	6"	12" MIN.	4'	VARIES
CARD AVENUE	10'	N/A	1.75"	1.5"	6"	12" MIN.	N/A	N/A
BREMER ROAD	VARIES	34'	1.75"	1.5"	6"	12" MIN.	N/A	VARIES
LARSON BEACH RD	VARIES	34'	1.75"	1.5"	6"	12" MIN.	N/A	VARIES
STORCK ROAD	66'	N/A	N/A	2"	6"	N/A	N/A	N/A

*WHERE PLAN CROSS SECTIONS CONFLICT WITH THIS DETAIL, THE PLAN CROSS SECTION SHALL GOVERN.

NOTES:
THE CROWN OF THE ROAD SHALL BE CREATED USING THE ¾" CRUSHED AGGREGATE BASE COURSE. THE THICKNESS SHOWN IS THE MINIMUM THICKNESS REQUIRED AS MEASURED AT THE CONCRETE CURB & GUTTER SECTION.

THE 3" BREAKER RUN BASE COURSE THICKNESS MAY NEED TO BE INCREASED DEPENDING UPON SUBGRADE CONDITIONS.

DETAIL
STREET CROSS SECTION

2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
www.tcengineers.net
TOWN & COUNTRY ENGINEERING, INC.

STANDARD CONSTRUCTION DETAILS
STREET IMPROVEMENTS

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL DETAILS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2–3–22
REVISIONS:
SCALE: N.T.S.
SHEET: 8

NOTE: CONTRACTOR TO DETERMINE FORCE LOCATION AND DEPTH AT SIGGELKOW & TERMINAL INTERSECTION BEFORE CONSTRUCTION BEGINS.

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
92	871.09	NW TAG BOLT OF HYDRANT
800	868.77	CHISELED X IN BOW SW QUADRANT OF TERMINAL & SIGGELKOW
801	881.15	REBAR W/CAP IN FRONT YARD OF HSE #4903

NOTE: SEWER AND WATER LATERALS ARE SHOWN AT APPROXIMATE LOCATIONS ONLY. CONTRACTOR TO VERIFY LOCATION OF EXISTING LATERALS BEFORE CONSTRUCTING NEW UTILITIES.

N

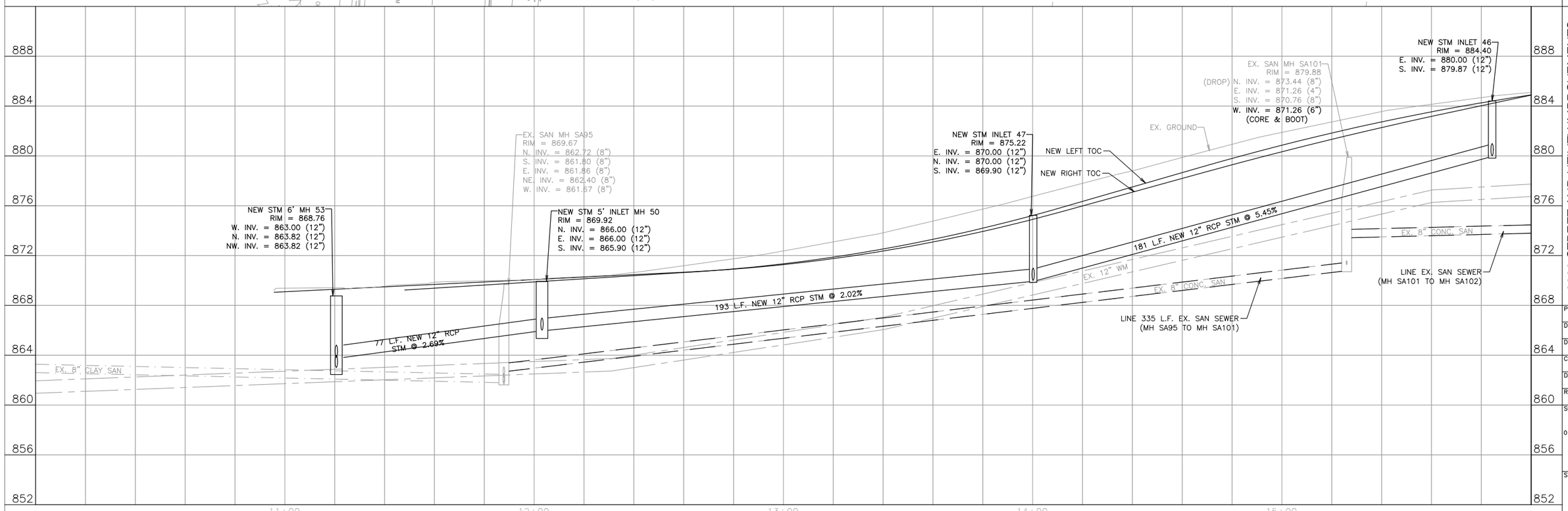
MATCH LINE SHEETS A1 & A2

SIGGELKOW ROAD

TERMINAL DRIVE

72 L.F. NEW 12" RCP STM @ 0.51%
NEW STM INLET MH 52
RIM = 867.95
SE. INV. = 864.20 (12")
NW. INV. = 864.30 (12")
7 L.F. NEW 12" RCP STM @ 0.94%
NEW STM INLET 51
RIM = 867.95
SE. INV. = 864.40 (12")
NE. INV. = 864.63 (12")
8 L.F. NEW 12" RCP STM @ 5.87%
NEW STM ENDWALL 20
SW. INV. = 865.50 (12")

EX. NEWSPAPER BOX
EX. GAS VALVE (TYP.)
EX. STM INLET 4
RIM = 868.34
E. INV. = 865.35 (12")
W. INV. = 865.69 (12")
EX. STONE RET. WALL (TYP.)
EX. 12" RCP
EX. STM MH 4
RIM = 870.39
E. INV. = 863.11 (30")
W. INV. = 865.35 (12")
N. INV. = 866.89 (12")
13 L.F. NEW 12" RCP STM @ 0.08%
REMOVE, SALVAGE, AND REPLACE EX. PARK SIGN. OWNER TO PROVIDE STORAGE LOCATION.
EX. 36" RCP
77 L.F. NEW 12" RCP STM @ 2.69%
NEW STM 6' MH 53
RIM = 868.76
W. INV. = 863.00 (12")
N. INV. = 863.82 (12")
NW. INV. = 863.82 (12")
TBM 800
EX. 30" RCP
EX. SIGN (TYP.)
EX. 8" CLAY
EX. 30" RCP
EX. STM ENDWALL 2
N. INV. = 862.56 (30")
EX. STM MH 3
RIM = 869.55
NE. INV. = 864.16 (30")
S. INV. = 864.22 (30")
W. INV. = 864.04 (30")
EX. STM SADDLE INLET
RIM = 869.38
NE INV. = 864.28 (30")
SW INV. = 864.28 (30")
EX. 24" RCP
EX. STM MH 2
EX. HYDRANT (TYP.)
EX. 1" RCP
TBM 92
EX. STM ENDWALL 3
S. INV. = 865.84 (12")
EX. TELE. PED. (TYP.)
EX. POWER POLE (TYP.)
EX. SAN MH SA95
EX. 8" PVC
EX. 24" RCP
EX. 10" WM
EX. STM INLET 1
RIM = 869.01
N. INV. = 865.68 (24")
N. INV. = 865.64 (2")
S. INV. = 864.84 (24")
EX. STM INLET 2
RIM = 869.70
N. INV. = 864.71 (24")
S. INV. = 864.71 (24")
EX. 2" PVC
EX. STM ENDWALL
S. INV. = 865.98 (24")
EX. 12" WM
LINE EX. SEWER
EX. WATER VALVE (TYP.)
EX. 8" CONC.
EX. 4" WM
NEW STM 5' INLET MH 50
STA. 12+03.17/-16.25L
193 L.F. NEW 12" RCP STM @ 2.02%
29 L.F. NEW 12" RCP STM @ 1.70%
NEW STM INLET 49
RIM = 870.12
W. INV. = 866.50 (12")
NEW STM INLET 47
STA. 14+00.21/-17.50L
NEW STM INLET 48
RIM = 874.91
W. INV. = 870.80 (12")
31 L.F. NEW 12" RCP STM @ 2.58%
181 L.F. NEW 12" RCP STM @ 5.45%
REMOVE & REPLACE 8 L.F. OF 8" PVC SAN SPOT REPAIR. USE SHIELDED COUPLINGS FOR CONNECTION TO EXISTING.
REMOVE & REPLACE 8 L.F. OF 8" PVC SAN SPOT REPAIR. USE SHIELDED COUPLINGS FOR CONNECTION TO EXISTING.
REMOVE & REPLACE 32 L.F. OF 8" PVC SAN SPOT REPAIR. USE SHIELDED COUPLINGS FOR CONNECTION TO EXISTING.
52 L.F. NEW 6" D.I. WATER SERVICE
64 L.F. NEW 6" PVC SAN LATERAL & TRACER WIRE BOX
NEW LIVE TAPPING SLEEVE
EX. MAILBOX (TYP.)
EX. TREE (TYP.)
EX. CURB STOP (3)
EX. PINE (TYP.)
GRAV. DRIVE
WETLAND DISTURBANCE 380 SQ. FT.
EX. SAN MH SA101 (CORE & BOOT)
EX. 4" CLAY
EX. CURB STOP (TYP.)
TBM 801
EX. PROP. CORNER (TYP.)
XXXXXXXX ASPH. DRIVE
EX. PROP. BOUNDARY (TYP.)
#4908
#4620
#4690
#4702
#4903
10+00
11+00
12+00
13+00
14+00
15+00
16+00



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PLAN & PROFILE
TERMINAL DRIVE
Station 10+00 To Station 16+00

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: 0 5 10
SHEET: A1

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
79	887.97	SW TAG BOLT ON HYDRANT
802	885.60	CHISELED X IN DRIVE HSE #4818
803	873.93	PK NAIL SET IN APRON OF HSE # 4810

NOTE: SEWER AND WATER LATERALS ARE SHOWN AT APPROXIMATE LOCATIONS ONLY. CONTRACTOR TO VERIFY LOCATION OF EXISTING LATERALS BEFORE CONSTRUCTING NEW UTILITIES.

N

MATCH LINE SHEETS A1 & A2

MATCH LINE SHEETS A2 & A3

#4902 #4818 #4810 #4901 #4706 #4813 #4809 #4805 #4903

EX. PROP. BOUNDARY (TYP.)

EX. BUSH (TYP.)

EX. TELE. PED. (TYP.)

EX. GUY WIRE (TYP.)

EX. PINE (TYP.)

EX. PROP. CORNER (TYP.)

EX. TREE (TYP.)

CONC. WALK

ASPH. DRIVE

GRAV. DRIVE

CONC. DRIVE

NEW STM INLET 46
STA. 15+84.34/−17.50L

NEW HYDRANT, 6" VALVE, & 7 L.F. 6" D.I. HYDRANT LEAD

TBM 79

TBM 802

TBM 803

NEW STM INLET 41
RIM = 883.60
S. INV. = 879.08 (12")
NE. INV. = 878.98 (12")

NEW STM INLET 42
RIM = 883.73
N. INV. = 879.11 (12")

NEW STM INLET 38
RIM = 876.89
E. INV. = 872.72 (12")

EX. 12" WM

3 L.F. NEW 12" RCP STM @ 1.00%
9 L.F. NEW 12" RCP STM @ 1.00%

TERMINAL DRIVE

194 L.F. NEW 12" RCP STM @ 3.66%

NEW STM MH 37
STA. 20+61.10/−4.95L

9 L.F. NEW 12" RCP STM @ 9.45%
NEW 12" RCP STM

16+00 17+00 18+00 19+00 20+00 21+00

NEW STM MH 40
STA. 18+63.61/−5.01L

19 L.F. NEW 12" RCP STM @ 10.00%

EX. WATER VALVE (TYP.)

LINE EX. SEWER

31 L.F. NEW 12" RCP STM @ 2.12%

EX. 6" HDPE
EX. SAN MH SA103

EX. CULVERT (REMOVE)

EX. 8" CONC.

GRAV. APRON

EX. GAS VALVE (TYP.)

NEW STM INLET 43
RIM = 885.40
W. INV. = 881.28 (12")

EX. SAN MH SA102

EX. POWER POLE (TYP.)

EX. 4" CLAY

EX. CURB STOP (TYP.)

EX. 4" PVC

EX. MAILBOX (TYP.)

EX. TREELINE (TYP.)

NEW STM INLET 45
RIM = 884.16
W. INV. = 880.66 (12")

EX. BLOCK RET. WALL (TYP.)

IVYWOOD TRAIL

EX. 8" WM

EX. 8" CONC.

892 888 884 880 876 872 868 864 860 856

NEW STM INLET 46
RIM = 884.40
E. INV. = 880.00 (12")
S. INV. = 879.87 (12")

EX. SAN MH SA102
RIM = 887.08
N. INV. = 874.62 (8")
E. INV. = 879.53 (8") (DROP)
S. INV. = 874.60 (8")

NEW STM MH 40
RIM = 883.75
SW. INV. = 878.89 (12")
E. INV. = 879.39 (12")
N. INV. = 878.79 (12")

EX. GROUND

NEW LEFT TOC

EX. SAN MH SA103
RIM = 879.95
SE. INV. = 876.33 (4")
NE. INV. = 876.03 (4")
NW. INV. = 876.42 (6")
E. INV. = 876.33 (4")
S. INV. = 875.50 (8")

NEW STM MH 37
RIM = 877.04
S. INV. = 871.62 (12")
W. INV. = 871.72 (12")
N. INV. = 871.52 (12")

NEW RIGHT TOC

EX. 6" FM

194 L.F. NEW 12" RCP STM @ 3.66%

EX. 8" CONC. SAN

LINE 230 L.F. EX. SAN SEWER (MH SA102 TO MH SA103)

LINE 230 L.F. EX. SAN SEWER (MH SA101 TO MH SA102)

NEW 12" RCP STM @ 6.42%

EX. 12" WM

16+00 17+00 18+00 19+00 20+00 21+00

TOWN & COUNTRY ENGINEERING, INC.
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PLAN & PROFILE
TERMINAL DRIVE
Station 15+60 To Station 21+60

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE: HORIZONTAL	0 10 20
VERTICAL	2 4
SHEET:	A2

MATCH LINE
SHEETS A2 & A3

MATCH LINE
SHEETS A3 & A4

N

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
82	862.65	NE TAG BOLT ON HYDRANT
804	858.46	PK NAIL IN NORTH APRON HSE #4703

#4814
#4712
#4719
#4805
#4715
#4703

EX. PINE (TYP.)
EX. TREE (TYP.)
EX. MAILBOX (TYP.)
EX. POWER POLE (TYP.)
EX. PROP. BOUNDARY (TYP.)
EX. PROP. CORNER (TYP.)
EX. TELE. PED. (TYP.)
EX. GUY WIRE (TYP.)
EX. TREELINE (TYP.)
EX. STM ENDWALL 10
EX. 10'X6' BOX CULVERT
GRAV. DRIVE
ASPH. DRIVE
EX. 12" WM
EX. 10" WM
EX. WATER VALVE (TYP.)
EX. CULVERT (REMOVE)
EX. HEDGE (TYP.)
EX. CURB STOP (TYP.)
EX. STM ENDWALL 8
N. INV. = 857.04 (15")
EX. CURB & GUTTER
EX. 8" WM
CONC. DRIVE
CONC. WALK
EX. STM ENDWALL 9
S. INV. = 855.79 (15")
ASPH. APRON

NEW STM INLET 36
RIM = 867.57
NE. INV. = 862.84 (12")

NEW STM INLET 34
RIM = 861.38
N. INV. = 857.06 (12")

3 L.F. NEW 12" RCP STM @ 1.00%

NEW STM INLET 33
RIM = 861.12
S. INV. = 857.03 (12")
E. INV. = 856.93 (12")

NEW STM INLET 29
RIM = 858.96
E. INV. = 854.38 (12")

NEW STM INLET 25
RIM = 855.88
E. INV. = 851.74 (12")

WETLAND DISTURBANCE
3110 SQ. FT.

NEW STM INLET 22
RIM = 854.99
5 L.F. NEW 24" RCP STM @ 1.37%

143 L.F. NEW 12" RCP STM @ 6.42%
10 L.F. NEW 12" RCP STM @ 2.00%
145 L.F. NEW 18" RCP STM @ 4.28%
NEW STM 5' CATCH BASIN 31
STA. 23+56.70/-5.02L
8 L.F. NEW 12" RCP STM @ 6.86%
83 L.F. NEW 18" RCP STM @ 2.34%
10 L.F. NEW 12" RCP STM @ 1.00%
9 L.F. NEW 12" RCP STM @ 2.50%
NEW STM MH 24
STA. 25+91.73/-5.00L
144 L.F. NEW 18" RCP STM @ 1.53%
19 L.F. NEW 12" RCP STM @ 7.75%
108 L.F. NEW 24" RCP STM @ 0.65%

22+00
23+00
24+00
25+00
26+00
27+00

TERMINAL DRIVE

NEW STM MH 35
STA. 22+07.50/-5.00L

19 L.F. NEW 12" RCP STM @ 3.68%

NEW STM MH 28
STA. 24+43.75/-4.99L

20 L.F. NEW 12" RCP STM @ 1.00%

NEW STM 5' CATCH BASIN 23
RIM = 854.91
S. INV. = 850.66 (24")
NW. INV. = 850.56 (24")

FIELD CONNECT TO EX.

TBM 804

TBM 82

NEW HYDRANT, 6" VALVE, &
12 L.F. NEW 6" D.I. HYDRANT LEAD

NEW STM INLET 32
RIM = 861.64
W. INV. = 857.03 (12")

NEW STM INLET 30
RIM = 859.65
W. INV. = 854.48 (12")

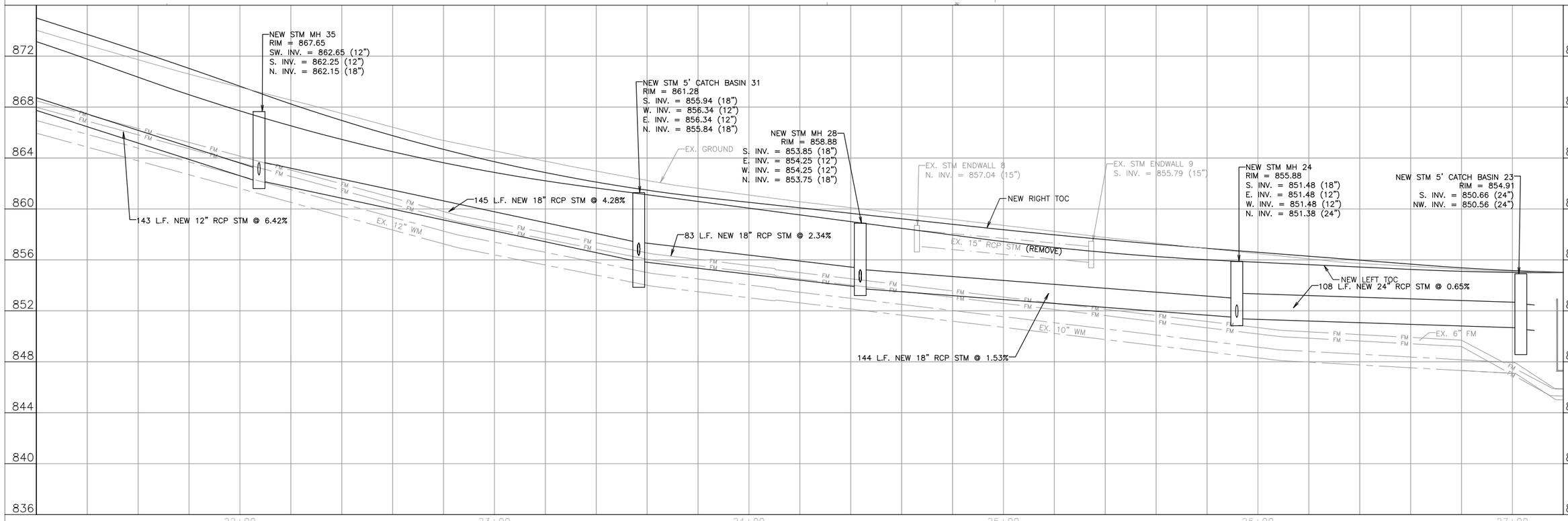
NEW STM INLET 26
RIM = 856.76
S. INV. = 853.28 (12")
W. INV. = 853.08 (12")

3 L.F. NEW 12" RCP STM @ 1.00%

NEW STM INLET 27
RIM = 856.81
N. INV. = 853.31 (12")

WETLAND DISTURBANCE
610 SQ. FT.

NOTE: SEWER AND WATER LATERALS ARE SHOWN AT APPROXIMATE LOCATIONS ONLY. CONTRACTOR TO VERIFY LOCATION OF EXISTING LATERALS BEFORE CONSTRUCTING NEW UTILITIES.



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PLAN & PROFILE
TERMINAL DRIVE
Station 21+20 To Station 27+20

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE: HORIZONTAL	0 10 20
VERTICAL	2 4
SHEET:	A3

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
37	861.40	SW TAG BOLT ON HYDRANT
805	861.86	CHISELED X ON SE CORNER OF LIFT STATION #4

MATCH LINE
SHEETS A3 & A4

#4704

EX. 8" PVC (UNKNOWN SLOPE)

EX. BUSH (TYP.)

WETLAND DISTURBANCE
542 SQ. FT.

EX. TELE. PED. (TYP.)

EX. SAN MH SA941

EX. PROP. CORNER (TYP.)

TBM 805

EX. 10" PVC

EX. SIGN (TYP.)

EX. 8" PVC

ASPH. DRIVE

EX. STM ENDWALL 12
S. INV. = 858.13 (12")

EX. 12" CMP (REMOVE)

EX. MAILBOX (TYP.)

NEW STM INLET 17
RIM = 857.31
E. INV. = 853.27 (12")
INV. = 855.79

NEW STM INLET 21
RIM = 854.99

NEW STM 5' CATCH BASIN 19
STA. 27+48.43/−5.08L

NEW STM MH 16
STA. 28+89.44/−4.86L

9 L.F. NEW 12" RCP STM @ 2.50%

137 L.F. NEW 12" RCP STM @ 1.00%

142 L.F. NEW 12" RCP STM @ 2.50%

5 L.F. NEW 12" RCP STM @ 1.00%

FIELD CONNECT TO EX.

NEW STM MH 60
RIM = 855.00

20 L.F. NEW 12" RCP STM @ 2.00%

NEW HYDRANT &
6 L.F. NEW 6" D.I
HYDRANT LEAD

EX. HYDRANT (TYP.)

EX. 10" WM

EX. STUMP (TYP.)

EX. GATE

EX. CHAIN
LINK FENCE (TYP.)
(REMOVE, SALVAGE, AND
REINSTALL 213 L.F. & 1 GATE)

EX. PINE (TYP.)

NEW STM INLET 18
RIM = 857.18
W. INV. = 853.45 (12")

EX. TREELINE (TYP.)

EX. TREE (TYP.)

EX. SAN MH SA942
RIM = 855.69
E. INV. = 838.90 (8")
E. INV. = 839.47 (8")
W. INV. = 838.74 (8")

NEW STM INLET 20
RIM = 854.98

EX. 10'X6'
BOX CULVERT

EX. STM ENDWALL 11
SW. INV. = 850.22 (36")

WETLAND DISTURBANCE
465 SQ. FT.

EX. TELE. PED.
(RELOCATE BY OTHERS)

EX. PROP. BOUNDARY (TYP.)

EX. SAN MH 14
RIM = 859.58
W. INV. = 848.23 (6")
E. INV. = 848.12 (6")

#4606

EX. SAN MH SA940

EX. WATER
VALVE (TYP.)

EX. 8" PVC

TBM 37

NEW STM INLET 14
RIM = 860.55
E. INV. = 856.95 (12")

INV. = 859.40

ASPH. DRIVE

INV. = 860.51

EX. POWER
POLE (TYP.)

16 L.F. NEW 12" RCP STM @ 3.20%

NEW STM ENDWALL 5
SE. INV. = 860.28 (12")

EX. 18" CMP (REMOVE)

EX. 10" WM

9 L.F. NEW 12" RCP STM @ 3.77%

NEW STM MH 13
STA. 30+35.55/−5.00L

TERMINAL DRIVE

90 L.F. NEW 12" RCP STM @ 2.50%

NEW STM MH 12
STA. 31+29.80/−4.78L

19 L.F. NEW 12" RCP STM @ 2.00%

NEW STM INLET 15
RIM = 860.84
W. INV. = 857.16 (12")

18 L.F. NEW 12" RCP STM @ 2.00%

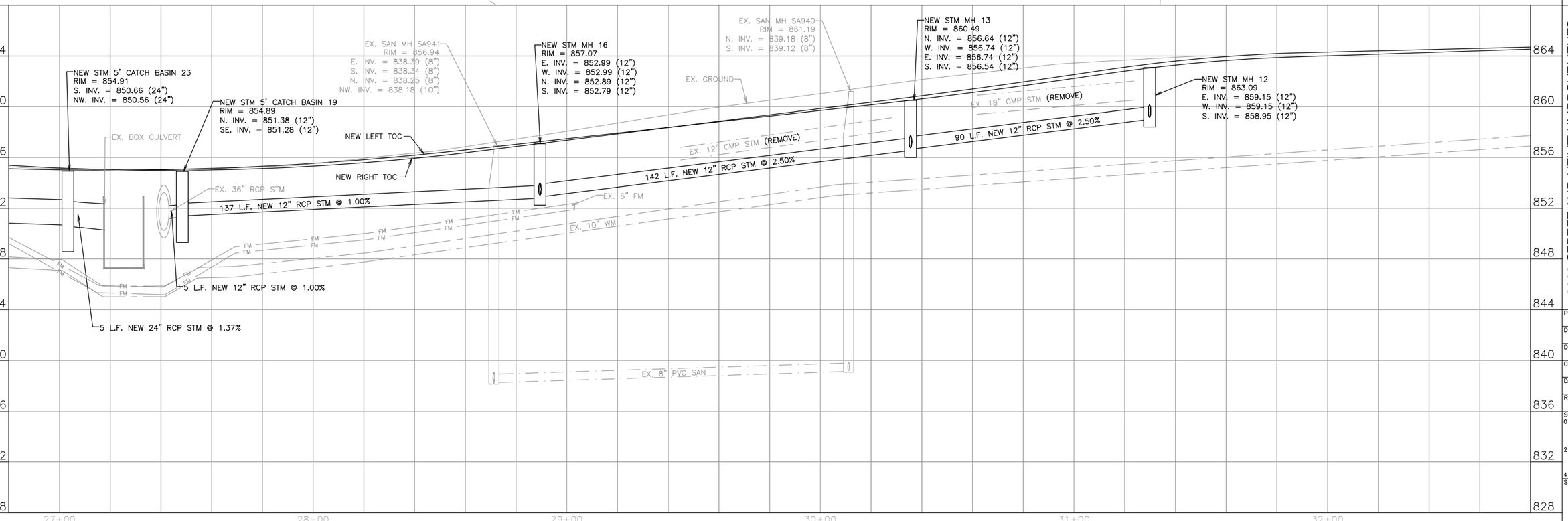
16 L.F. NEW 12" RCP STM @ 2.36%

NEW STM ENDWALL 6
S. INV. = 860.25 (12")

#4405

27+00 28+00 29+00 30+00 31+00

NOTE: SEWER AND WATER LATERALS ARE SHOWN AT APPROXIMATE LOCATIONS ONLY. CONTRACTOR TO VERIFY LOCATION OF EXISTING LATERALS BEFORE CONSTRUCTING NEW UTILITIES.



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PLAN & PROFILE
TERMINAL DRIVE
Station 27+80 To Station 33+80

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 10 20, VERTICAL 2 4
SHEET: A4

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
92	871.09	NW TAG BOLT OF HYDRANT
800	868.77	CHISELED X IN BOW SW QUADRANT OF TERMINAL & SIGGELKOW
801	881.15	REBAR W/CAP IN FRONT YARD OF HSE #4903

SIGGELKOW ROAD

TERMINAL DRIVE

MATCH LINE SHEETS A5 & A6

N

EX. NEWSPAPER BOX

EX. STONE RET. WALL (TYP.)

TBM 92

CURB CUT

ER 11+80.30/37.46'L
869.10

REMOVE, SALVAGE, AND REPLACE EX. PARK SIGN. OWNER TO PROVIDE STORAGE LOCATION.

TBM 800

MID RAD
869.52

R=20'

NEW STOP SIGN

NEW 18" STOP BAR (TYP.)

ER 11+99.79/17.50'L
869.88

ER 12+06.21/17.50'R
870.14

MID RAD
870.01

ER 11+86.77/35.45'R
869.85

11+86.08/44.13'R
869.72 (MATCH EX.)

EX. TELE. PED. (TYP.)

EX. POWER POLE (TYP.)

NEW 10' ASPHALT PATH

REINSTALL EXISTING "NO PARKING THIS SIDE" ON NEW POLE

EX. PINE (TYP.)

REINSTALL EXISTING "NO PARKING THIS SIDE" ON NEW POLE

GRAV. DRIVE

NEW 4' TERRACE

5' BIKE LANES

10' LANES

34' F-F

EX. WATER VALVE (TYP.)

EX. GRAVEL EDGE (TYP.)

NEW 30" CURB & GUTTER

EX. ASPHALT EDGE (TYP.)

EX. MANHOLE (TYP.)

NEW 4' TERRACE

NEW "NO PARKING THIS SIDE" SIGN

REINSTALL EXISTING "WEIGHT LIMIT 10 TONS" SIGN ON NEW POLE

NEW 5' CONC. SIDEWALK

NEW "NO PARKING THIS SIDE" SIGN

WETLAND DISTURBANCE 380 SQ. FT.

REINSTALL EXISTING 25 MPH SIGN ON NEW POLE

TBM 801

ASPH. DRIVE

EX. PROP. CORNER (TYP.)

EX. PROP. BOUNDARY (TYP.)

10+00 11+00 12+00 13+00 14+00 15+00 16+00

#4908 #4620 #4702 #4903 #4690

892 888 884 880 876 872 868 864 860 856

VPC STA=14+68 L
ELEV=879.11
VPT STA=15+93 L
ELEV=884.68
GRADE IN=5.78%
GRADE OUT=3.13%
L=125' K=47.1

VPC STA=12+63 L
ELEV=870.67
VPT STA=14+13 L
ELEV=875.94
GRADE IN=1.25%
GRADE OUT=5.78%
L=150' K=33.1

VPC STA=14+68 R
ELEV=878.61
VPT STA=15+68 R
ELEV=883.49
GRADE IN=5.52%
GRADE OUT=4.25%
L=100' K=79.1

VPC STA=12+62 R
ELEV=870.69
VPT STA=14+12 R
ELEV=875.56
GRADE IN=0.98%
GRADE OUT=5.52%
L=150' K=33.1

11+00 12+00 13+00 14+00 15+00

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PLAN & PROFILE
TERMINAL DRIVE
Station 10+00 To Station 16+00

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 10 20, VERTICAL 2 4
SHEET: A5

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
79	887.97	SW TAG BOLT ON HYDRANT
802	885.60	CHISELED X IN DRIVE HSE #4818
803	873.93	PK NAIL SET IN APRON OF HSE # 4810

MATCH LINE SHEETS A5 & A6

MATCH LINE SHEETS A6 & A7

N

#4902 #4818 #4810 #4901 #4903 #4706 #4813 #4809 #4805

EX. PROP. BOUNDARY (TYP.)

CONSTRUCT CARLSON CURB ON NORTH SIDE OF LOT

EX. BUSH (TYP.)

EX. TELE. PED. (TYP.)

EX. GUY WIRE (TYP.)

REINSTALL EXISTING "NO PARKING THIS SIDE" ON NEW POLE

EX. PROP. CORNER (TYP.)

EX. PINE (TYP.)

NEW "NO PARKING THIS SIDE" SIGN

EX. TREE (TYP.)

CONC. WALK

TBM 79

TBM 802

TBM 803

NEW 10' ASPHALT PATH

GRAV. DRIVE

CONC. DRIVE

ASPH. DRIVE

NEW 4' TERRACE

5' BIKE LANES

TERMINAL DRIVE

10' LANES

EX. WATER VALVE (TYP.)

EX. ASPHALT EDGE (TYP.)

NEW 30" CURB & GUTTER

EX. GRAVEL EDGE (TYP.)

EX. MANHOLE (TYP.)

16+00 17+00 18+00 19+00 20+00 21+00

34' F-F

ER 17+18.33/17.50'R
887.29

HIGH POINT
16+13/17.50'R
886.39

ER 17+96.06/17.50'R
886.55

MID RAD
887.06

MID RAD
887.37

NEW 4' TERRACE

GRAV. APRON

R=20'

NEW TRUNCATED DOME PANELS (TYP.)

EX. GAS VALVE (TYP.)

NEW BLOCK RET. WALL

NEW "NO PARKING THIS SIDE" SIGN

EX. POWER POLE (TYP.)

NEW 5' CONC. SIDEWALK

CONC. DRIVE

CONC. DRIVE

EX. MAILBOX (TYP.)

REINSTALL EXISTING STREET SIGN AND INSTALL NEW STOP SIGN ON NEW POLE

17+76.60/35.70'R
888.12 (MATCH EX.)

ER 17+39.46/38.64'R
887.65

17+39.08/44.39'R
888.01 (MATCH EX.)

NEW "NO PARKING THIS SIDE" SIGN

EX. TREELINE (TYP.)

EX. BLOCK RET. WALL (TYP.)

EX. TREELINE (TYP.)

IVYWOOD TRAIL

VPC STA=16+02 L
ELEV=884.97
VPT STA=17+52 L
ELEV=885.79
GRADE IN=3.13%
GRADE OUT=-2.03%
L=150' K=29.1

VPC STA=15+96 R
ELEV=884.71
VPT STA=17+46 R
ELEV=887.15
GRADE IN=4.25%
GRADE OUT=-1.01%
L=150' K=28.5

VPC STA=17+56 R
ELEV=887.05
VPT STA=18+56 R
ELEV=885.49
GRADE IN=-1.01%
GRADE OUT=-2.12%
L=100' K=90.3

VPC STA=19+22 L
ELEV=882.35
VPT STA=20+72 L
ELEV=876.19
GRADE IN=-2.03%
GRADE OUT=-6.18%
L=150' K=36.1

VPC STA=19+22 R
ELEV=884.09
VPT STA=20+72 R
ELEV=877.96
GRADE IN=-2.12%
GRADE OUT=-6.06%
L=150' K=38.1

VPC STA=20+93 L
ELEV=874.89
VPT STA=21+43 L
ELEV=871.57
GRADE IN=-6.18%
GRADE OUT=-7.11%
L=50' K=53.8

VPC STA=20+94 R
ELEV=876.62
VPT STA=21+94 R
ELEV=870.08
GRADE IN=-6.06%
GRADE OUT=-7.02%
L=100' K=103.9

896 892 888 884 880 876 872 868 864 860

16+00 17+00 18+00 19+00 20+00 21+00

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PLAN & PROFILE TERMINAL DRIVE

Station 15+60 To Station 21+60

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE: HORIZONTAL	0 10 20
	2 VERTICAL 4
SHEET:	A6

MATCH LINE
SHEETS A6 & A7

MATCH LINE
SHEETS A7 & A8

N

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
82	862.65	NE TAG BOLT ON HYDRANT
804	858.46	PK NAIL IN NORTH APRON HSE #4703

#4814
#4712
#4719
#4715
#4703
#4805

EX. PINE (TYP.)
EX. TREE (TYP.)
EX. MAILBOX (TYP.)
GRAV. DRIVE
EX. POWER POLE (TYP.)
NEW 10' ASPHALT PATH
NEW "NO PARKING THIS SIDE" SIGN
EX. PROP. BOUNDARY (TYP.)
NEW "BIKE LANE ENDS" SIGN
EX. PROP. CORNER (TYP.)
EX. TELE. PED. (TYP.)
EX. GUY WIRE (TYP.)
EX. TREELINE (TYP.)
ASPH. DRIVE
WETLAND DISTURBANCE 3110 SQ. FT.
EX. SIGN (TYP.)
REINSTALL EXISTING 25 MPH SIGN ON NEW POLE
NEW "NO PARKING THIS SIDE" SIGN
NEW 4' TERRACE
5' BIKE LANES
34' F-F
NEW REJECT CURB 6" PAN, 18" HEAD
TERMINAL DRIVE
10' LANES
22+00
23+00
24+00
25+00
26+00
27+00
EX. CULVERT (REMOVE)
EX. WATER VALVE (TYP.)
EX. ASPHALT EDGE (TYP.)
EX. GRAVEL EDGE (TYP.)
NEW 30" CURB & GUTTER
TBM 804
NEW 4' TERRACE
ASPH. APRON
EX. CULVERT (REMOVE)
(REMOVE) TBM 82
ASPH. DRIVE
ASPH. CORNER
NEW 5' CONC. SIDEWALK
EX. HEDGE (TYP.)
NEW SIGN WITH R4-7 AND W16-1
NEW "BIKE LANE ENDS" SIGN
NEW "NO PARKING THIS SIDE" SIGN
NEW SIGN WITH R4-7, "NO TRUCKS BEYOND THIS POINT", AND W16-1
EX. CURB & GUTTER
CONC. DRIVE
CONC. WALK
WETLAND DISTURBANCE 610 SQ. FT.

880
876
872
868
864
860
856
852
848
844

VPC STA=21+61 L
ELEV=870.28
VPT STA=23+36 L
ELEV=861.76
GRADE IN=-7.11%
GRADE OUT=-2.64%
L=175' K=39.1

VPC STA=20+94 R
ELEV=876.62
VPT STA=21+94 R
ELEV=870.08
GRADE IN=-6.06%
GRADE OUT=-7.02%
L=100' K=103.9

VPC STA=22+11 R
ELEV=868.84
VPT STA=23+86 R
ELEV=860.81
GRADE IN=-7.02%
GRADE OUT=-2.15%
L=175' K=36.0

VPC STA=24+90 L
ELEV=857.69
VPT STA=25+90 L
ELEV=855.90
GRADE IN=-2.64%
GRADE OUT=-0.93%
L=100' K=58.7

VPC STA=24+86 R
ELEV=858.67
VPT STA=25+86 R
ELEV=856.82
GRADE IN=-2.15%
GRADE OUT=-1.55%
L=100' K=166.3

22+00
23+00
24+00
25+00
26+00
27+00

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PLAN & PROFILE
TERMINAL DRIVE
Station 21+20 To Station 27+20

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 10 20, VERTICAL 2 4
SHEET: A7

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
37	861.40	SW TAG BOLT ON HYDRANT
805	861.86	CHISELED X ON SE CORNER OF LIFT STATION #4

MATCH LINE
SHEETS A7 & A8

#4704

#4606

#4405

EX. PROP. BOUNDARY (TYP.)

EX. PROP. CORNER (TYP.)

TBM 805

TBM 37

EX. SIGN (TYP.)

EX. BUSH (TYP.)

WETLAND DISTURBANCE
542 SQ. FT.

EX. TELE. PED. (TYP.)

NEW 10'
ASPHALT
PATH

ASPH.
DRIVE

NEW "NO PARKING
THIS SIDE" SIGN

EX. POWER
POLE (TYP.)

EX. GRAVEL EDGE (TYP.)

EX. MAILBOX (TYP.)

NEW 4' TERRACE

5' BIKE LANES

10' LANES

TERMINAL DRIVE

34' F-F

27+00
28+00
29+00
30+00
31+00
31+50

NEW SIGN POST W9-XX
AND W16-2A

NEW SIGN POST AND W9-XX

EX. ASPHALT EDGE (TYP.)

EX. WATER
VALVE (TYP.)

EX. MANHOLE

NEW 30" CURB & GUTTER

NEW 4' TERRACE

NEW 5' CONC.
SIDEWALK

EX. STUMP (TYP.)

EX. GATE

EX. CHAIN
LINK FENCE (TYP.)
(REMOVE, SALVAGE, AND
REINSTALL 213 L.F. & 1 GATE)

EX. PINE (TYP.)

NEW "NO PARKING
THIS SIDE" SIGN

WETLAND DISTURBANCE
465 SQ. FT.

EX. TELE. PED.
(RELOCATE BY OTHERS)

EX. TREELINE (TYP.)

EX. TREE (TYP.)

VPC STA=26+58 L
ELEV=855.27
VPT STA=28+58 L
ELEV=856.55
GRADE IN=-0.93%
GRADE OUT=2.22%
L=200' K=63.4

VPC STA=26+66 R
ELEV=855.57
VPT STA=28+66 R
ELEV=856.51
GRADE IN=-1.55%
GRADE OUT=2.49%
L=200' K=49.4

VPC STA=30+18 L
ELEV=860.10
VPT STA=30+93 L
ELEV=862.03
GRADE IN=2.22%
GRADE OUT=2.91%
L=75' K=108.5

VPC STA=30+18 R
ELEV=860.30
VPT STA=30+93 R
ELEV=862.33
GRADE IN=2.49%
GRADE OUT=2.91%
L=75' K=177.7

VPC STA=31+13 L
ELEV=862.59
VPT STA=31+88 L
ELEV=863.93
GRADE IN=2.91%
GRADE OUT=0.66%
L=75' K=33.3

VPC STA=31+15 R
ELEV=862.97
VPT STA=31+90 R
ELEV=864.26
GRADE IN=2.91%
GRADE OUT=0.50%
L=75' K=31.1

872
868
864
860
856
852
848
844
840
836

27+00
28+00
29+00
30+00
31+00
32+00

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PLAN & PROFILE
TERMINAL DRIVE
Station 27+80 To Station 33+80

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 10 20
VERTICAL 2 4
SHEET: A8

N

#4516

NEW 10' WIDE CROSSING PANEL (BY OTHERS)

NEW STOP SIGN
NEW RR CROSSBUCK
INSTALL 25' FROM CENTER OF RAIL

EX. ENDWALL

NEW W10-1 SIGN

CONC. DRIVE

NEW 5' SIDEWALK

EX. POWER POLE (TYP.)

EX. TELE. PED.

EX. GUY WIRE (TYP.)

CONC. DRIVE

EX CONC. WALK

EX. HYDRANT

EX. INLET

SIGGELKOW ROAD

EX. RAILROAD TRACK

EX ASPHALT PATH

NEW STOP SIGN
NEW RR CROSSBUCK
INSTALL 25' FROM CENTER OF RAIL

NEW W10-1 SIGN

EARLING AVENUE

#4519

#4601

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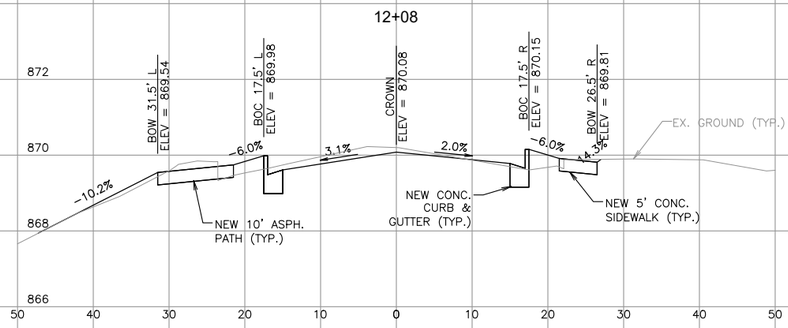
TOWN & COUNTRY ENGINEERING, INC.

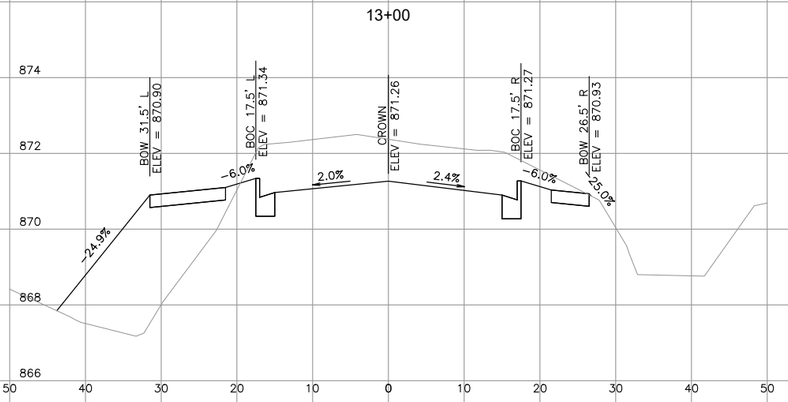
PLAN
SIGGELKOW ROAD

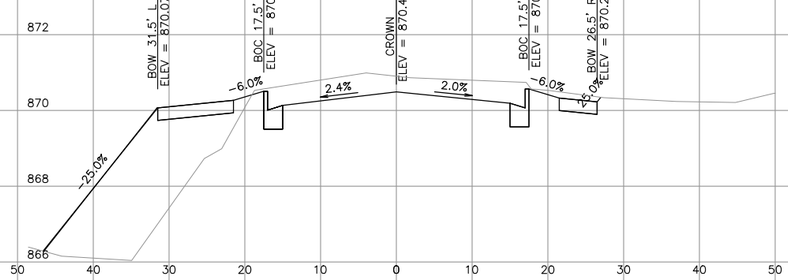
2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

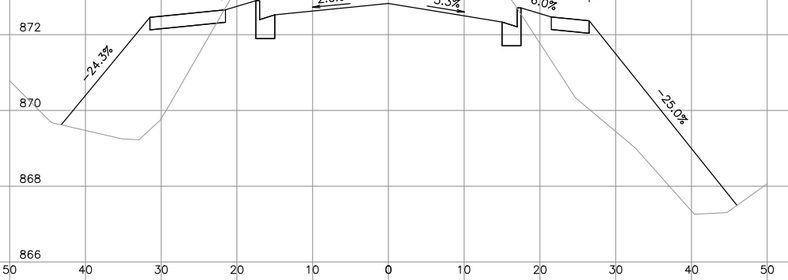
PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE:	0 5 10 20
SHEET:	A9

EXISTING CONTOURS ARE DENOTED BY LIGHTER LINES.
FINISHED CONTOURS ARE DENOTED BY DARKER LINES.
DRIVE OVER CURB ELEVATIONS ARE LABELED AT FULL CURB HEIGHT.









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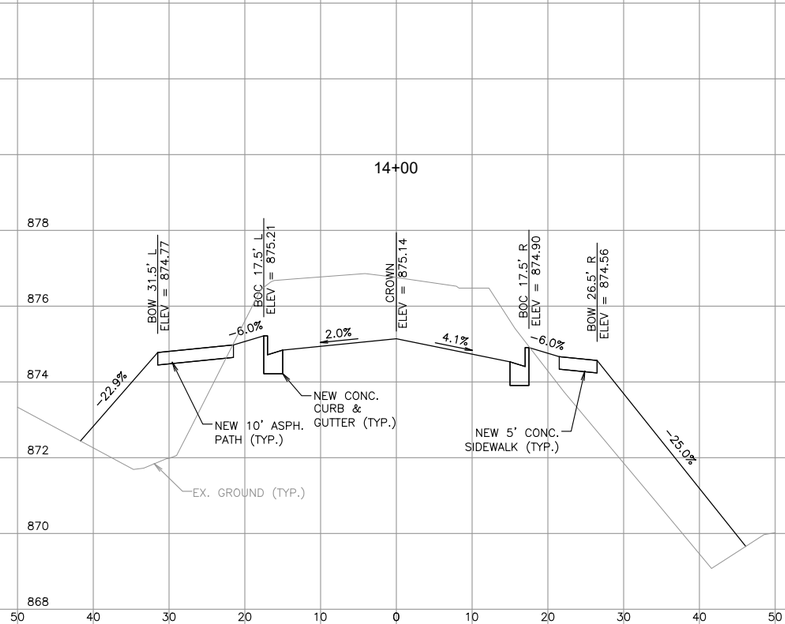
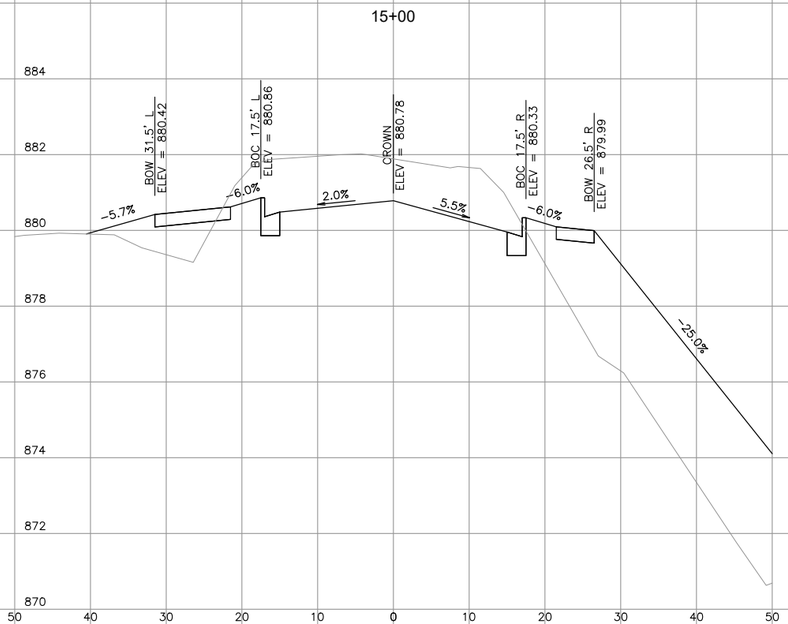
CROSS SECTIONS
TERMINAL DRIVE
Station 12+08 To Station 13+50

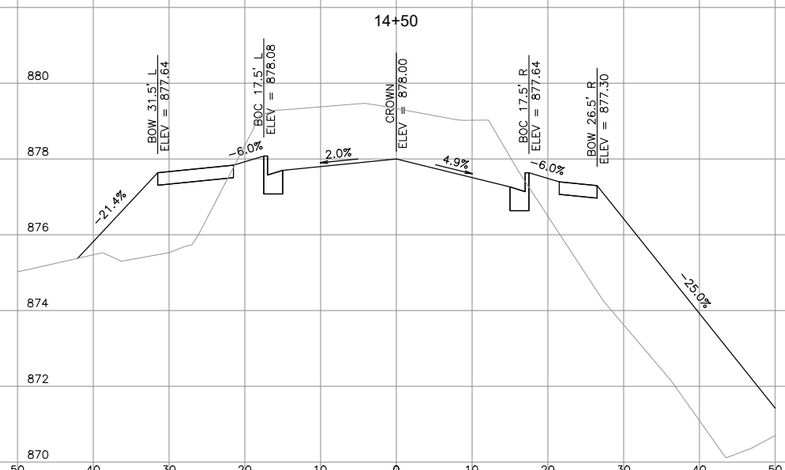
2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

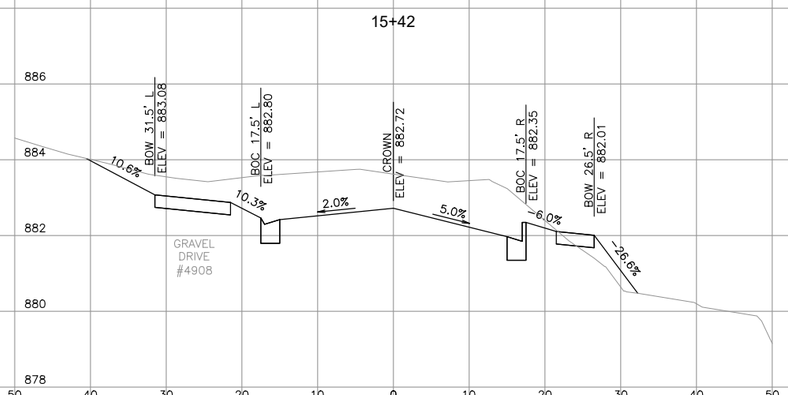
PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 2.5 5 10
VERTICAL 1 2
SHEET: A10

EXISTING CONTOURS ARE DENOTED BY LIGHTER LINES.
FINISHED CONTOURS ARE DENOTED BY DARKER LINES.
DRIVE OVER CURB ELEVATIONS ARE LABELED AT FULL CURB HEIGHT.









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CROSS SECTIONS TERMINAL DRIVE

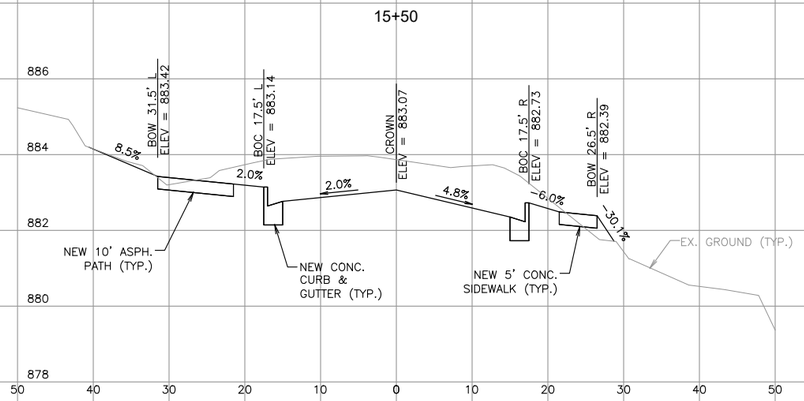
Station 14+00 To Station 15+42

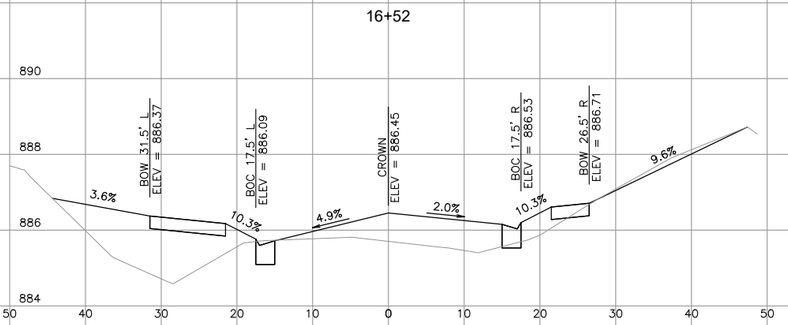
2022 STREET AND UTILITY IMPROVEMENTS CONTRACT A

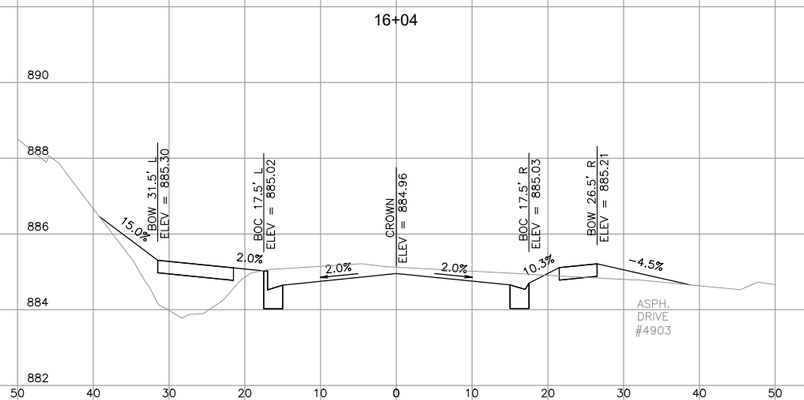
Village of McFarland, Wisconsin

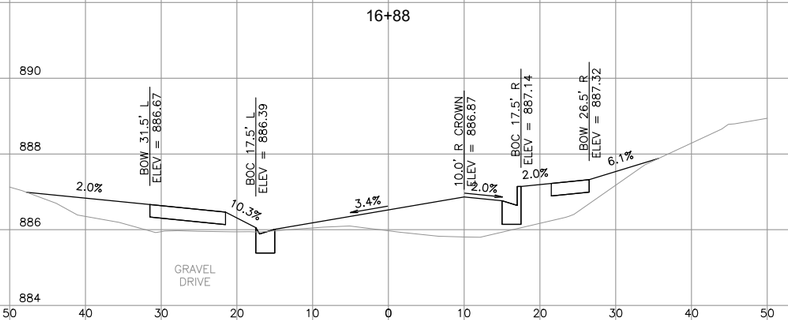
PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE: HORIZONTAL	0 2.5 5 10
	1 VERTICAL 2
SHEET:	A11

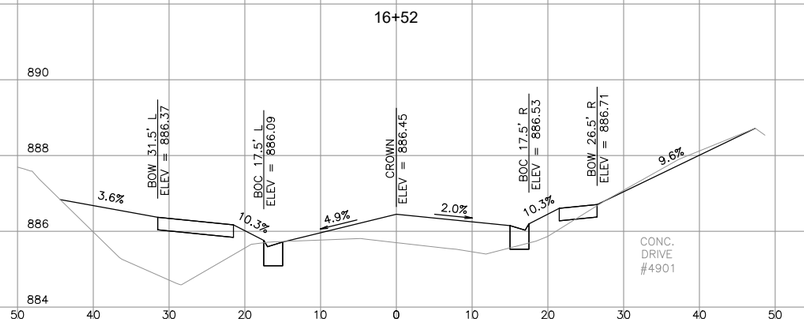
EXISTING CONTOURS ARE DENOTED BY LIGHTER LINES.
FINISHED CONTOURS ARE DENOTED BY DARKER LINES.
DRIVE OVER CURB ELEVATIONS ARE LABELED AT FULL CURB HEIGHT.

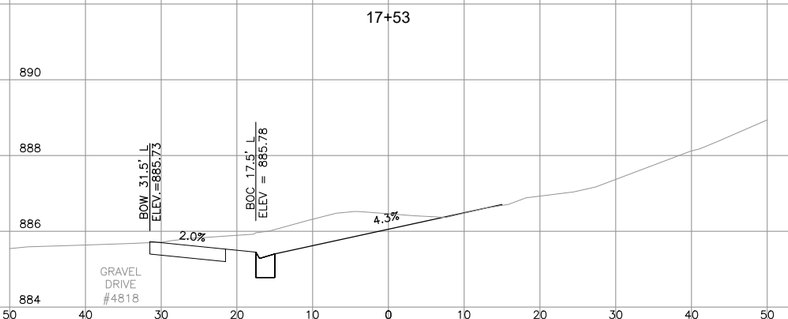












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CROSS SECTIONS
TERMINAL DRIVE
Station 15+50 To Station 17+53

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

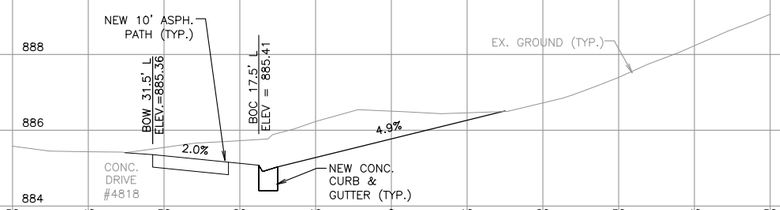
PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	

SCALE: HORIZONTAL 0 2.5 5 10
VERTICAL 1 2

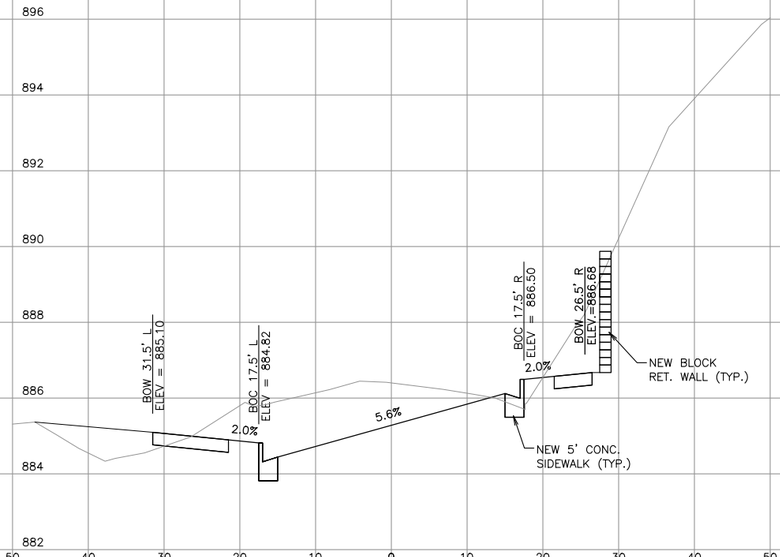
SHEET: A12

EXISTING CONTOURS ARE DENOTED BY LIGHTER LINES.
FINISHED CONTOURS ARE DENOTED BY DARKER LINES.
DRIVE OVER CURB ELEVATIONS ARE LABELED AT FULL CURB HEIGHT.

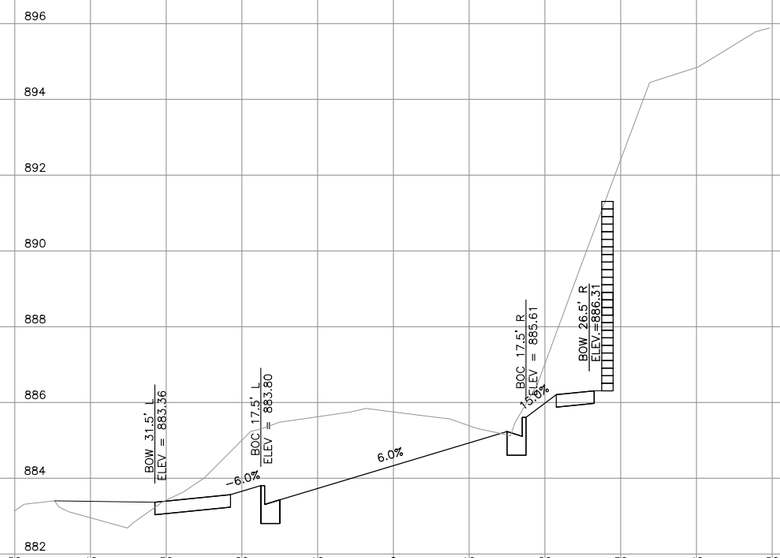
17+71



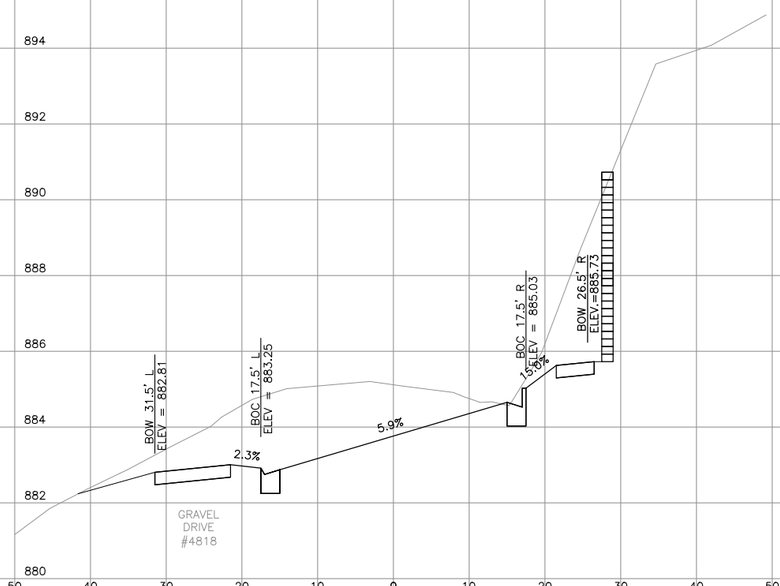
18+00



18+50



18+77



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CROSS SECTIONS
TERMINAL DRIVE
Station 17+71 To Station 18+77

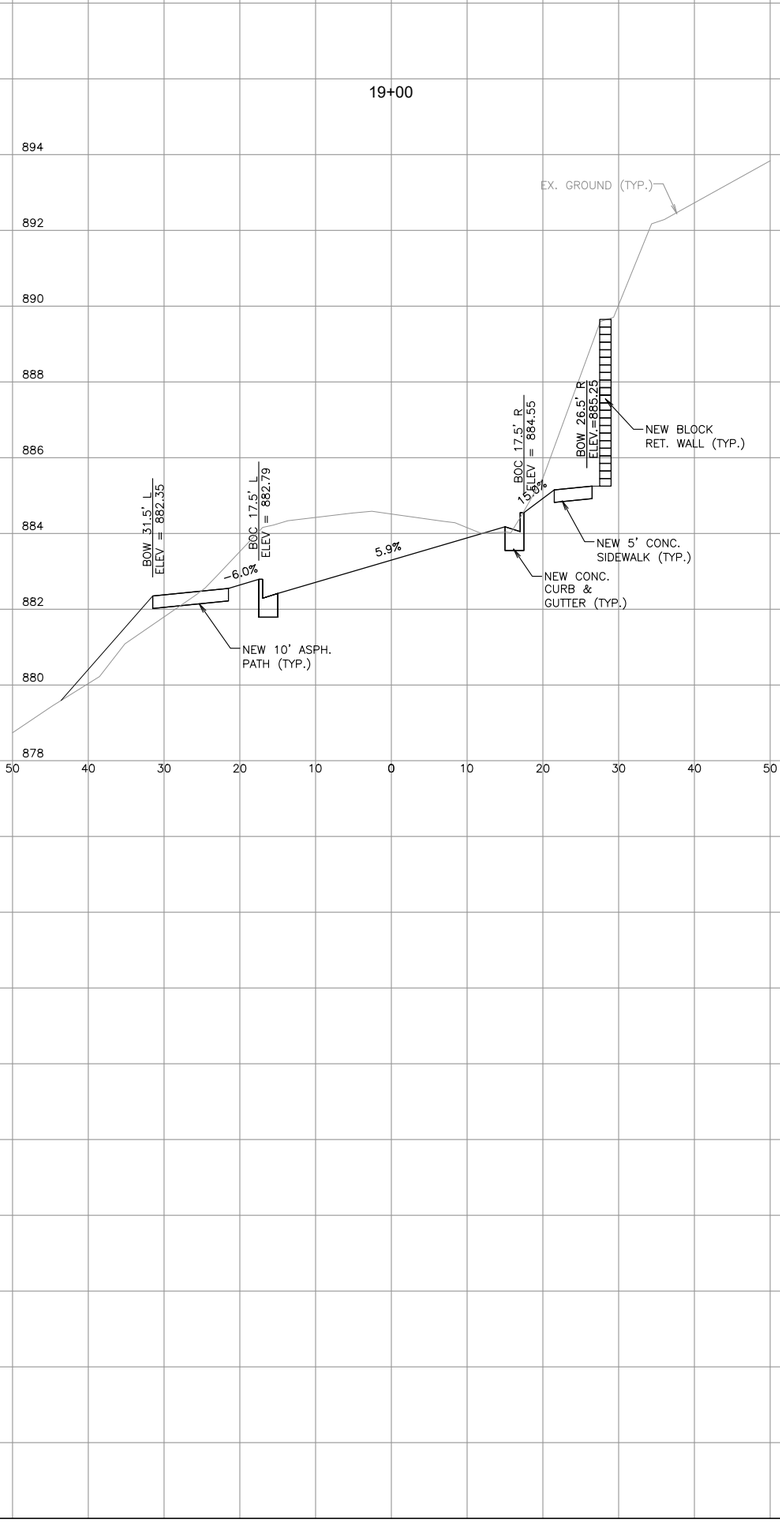
2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

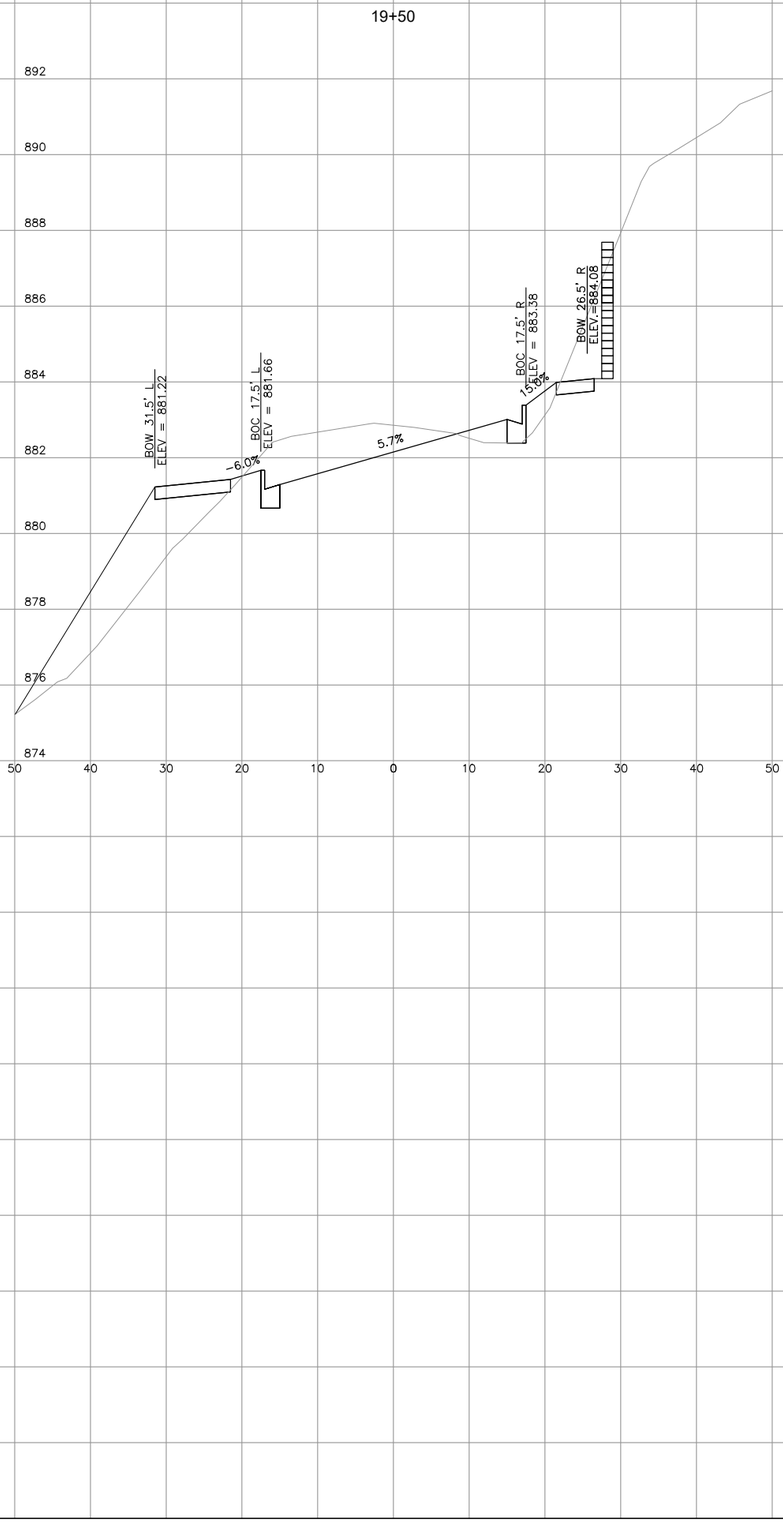
PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	

SCALE: HORIZONTAL 0 2.5 5 10
VERTICAL 1 2

SHEET: A13

EXISTING CONTOURS ARE DENOTED BY LIGHTER LINES.
FINISHED CONTOURS ARE DENOTED BY DARKER LINES.
DRIVE OVER CURB ELEVATIONS ARE LABELED AT FULL CURB HEIGHT.





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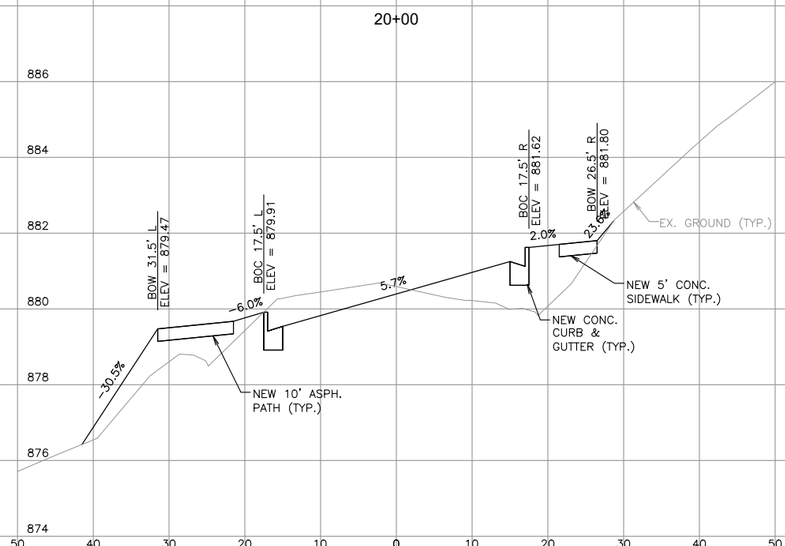
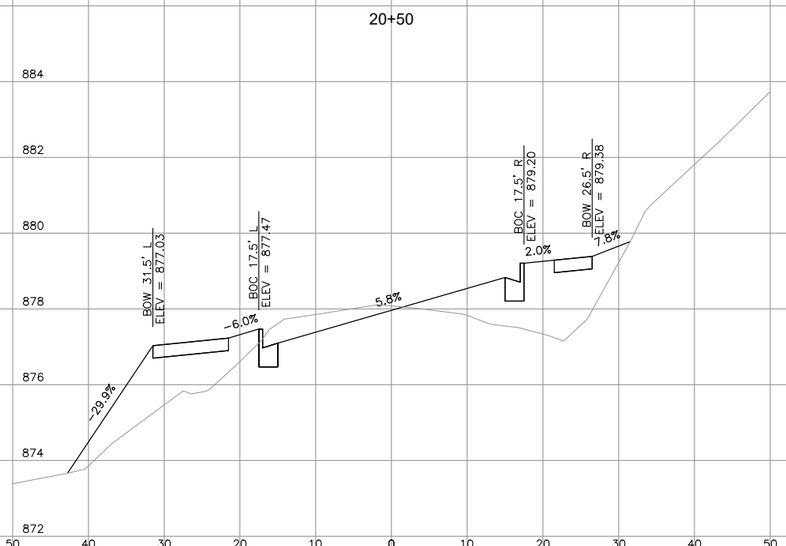
CROSS SECTIONS
TERMINAL DRIVE
Station 19+00 To Station 19+50

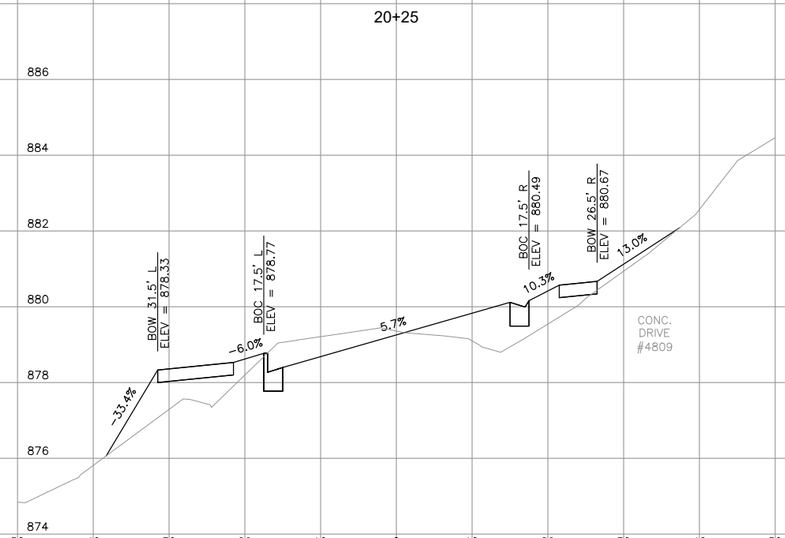
2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

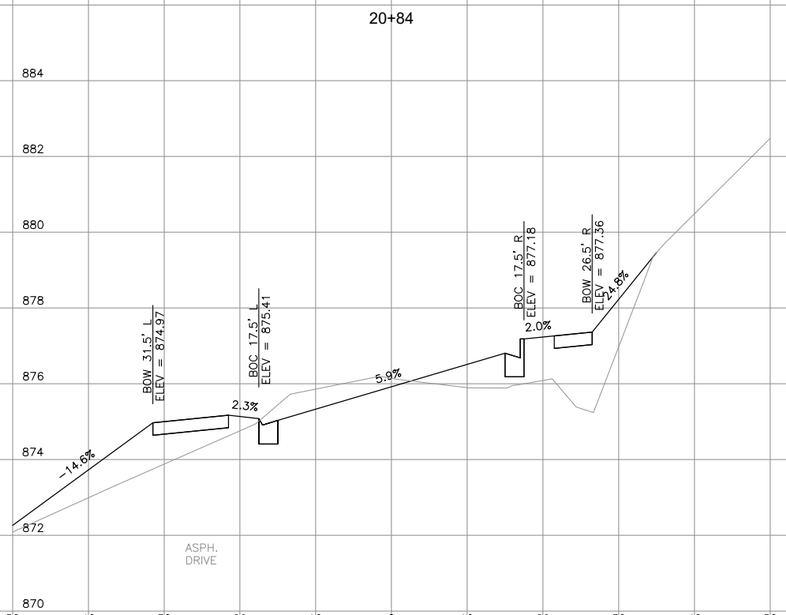
PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 2.5 5 10
VERTICAL 1 2
SHEET: A14

EXISTING CONTOURS ARE DENOTED BY LIGHTER LINES.
FINISHED CONTOURS ARE DENOTED BY DARKER LINES.
DRIVE OVER CURB ELEVATIONS ARE LABELED AT FULL CURB HEIGHT.









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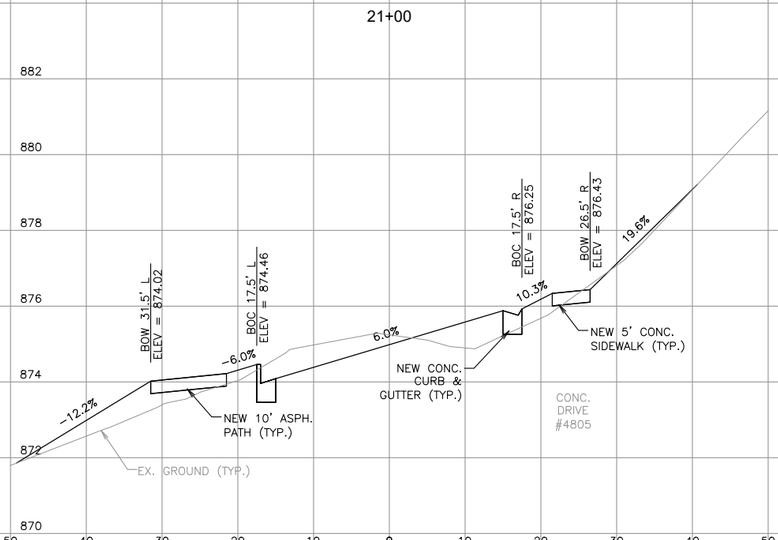
CROSS SECTIONS
TERMINAL DRIVE
Station 20+00 To Station 20+84

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 2.5 5 10
1 VERTICAL 2
SHEET: A15

EXISTING CONTOURS ARE DENOTED BY LIGHTER LINES.
FINISHED CONTOURS ARE DENOTED BY DARKER LINES.
DRIVE OVER CURB ELEVATIONS ARE LABELED AT FULL CURB HEIGHT.

21+00



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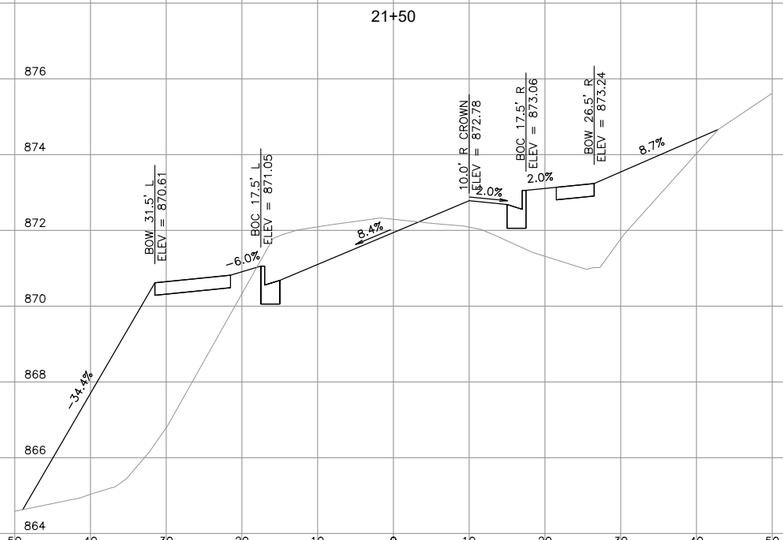

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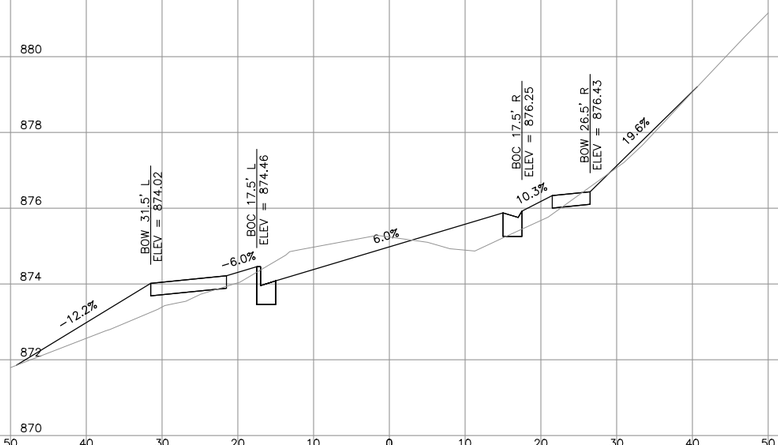

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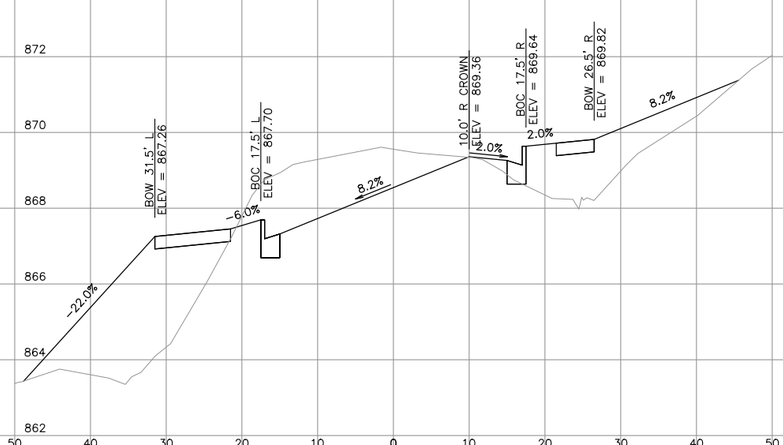

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2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 2.5 5 10, 1, 2 VERTICAL
SHEET: A16

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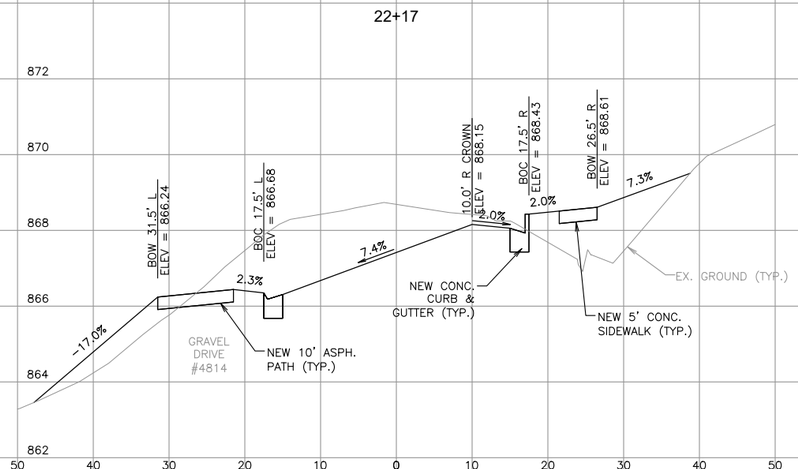

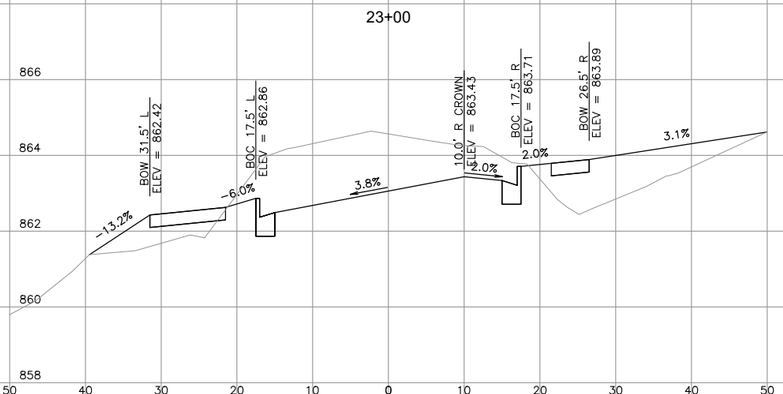

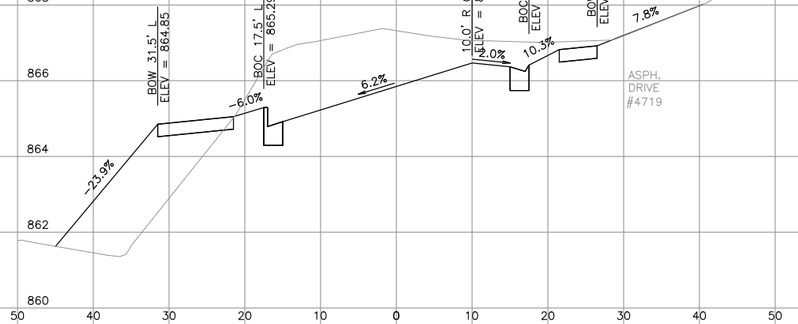

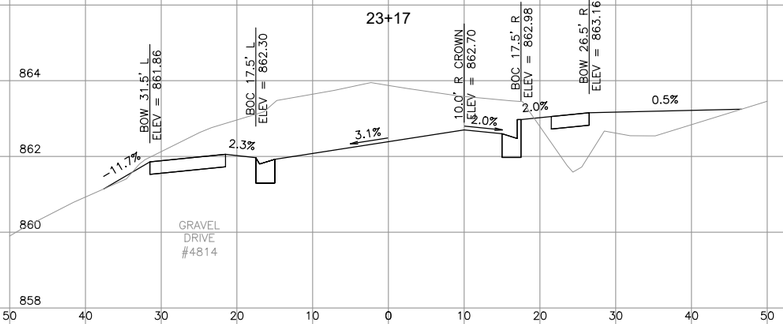

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2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	

SCALE: HORIZONTAL 0 2.5 5 10
VERTICAL 1 2

SHEET: A17

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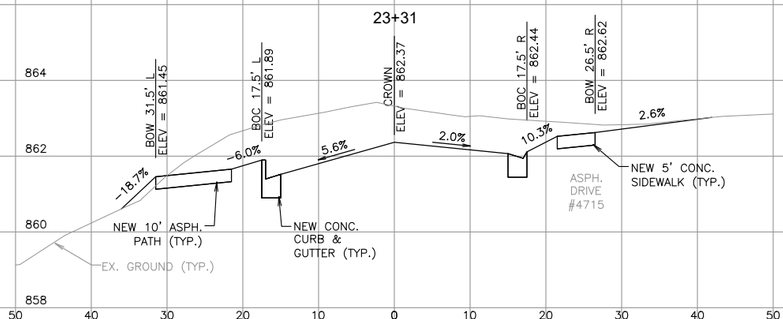

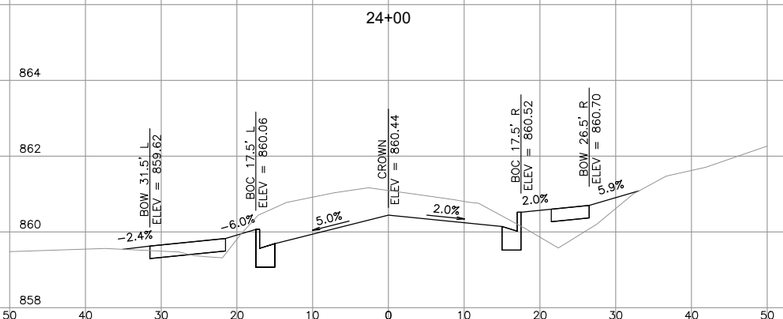

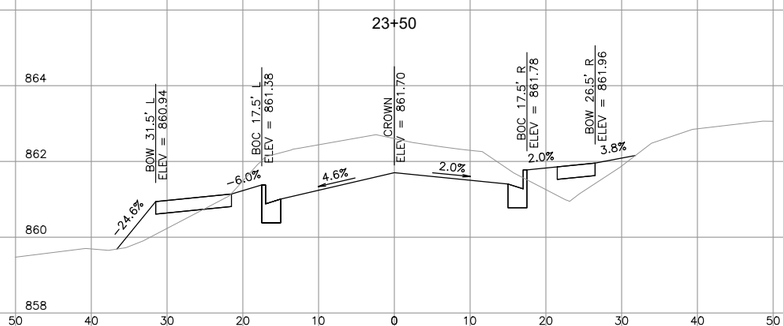

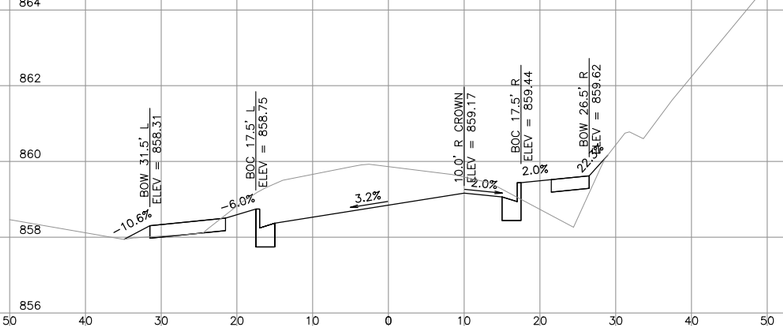

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2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	

SCALE: HORIZONTAL 0 2.5 5 10
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SHEET: A18

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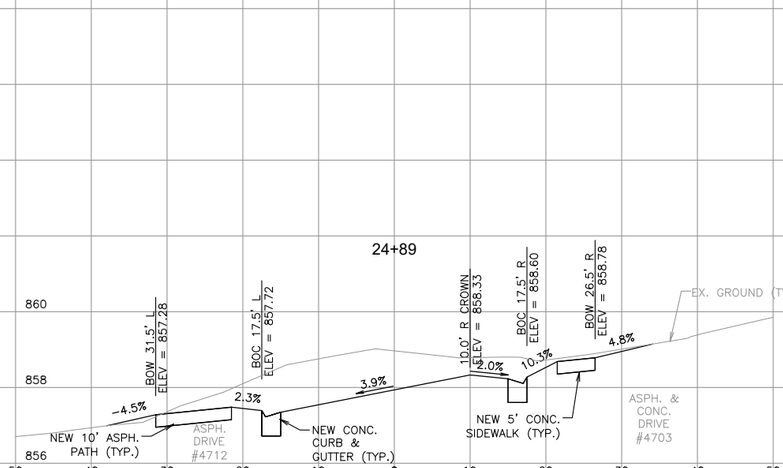
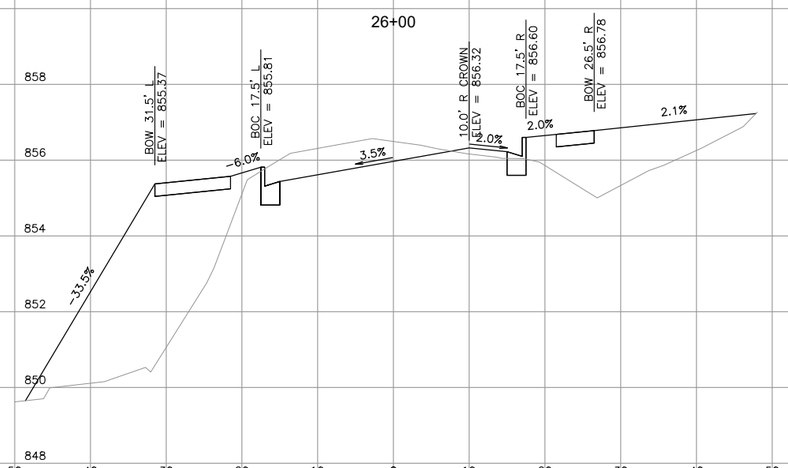
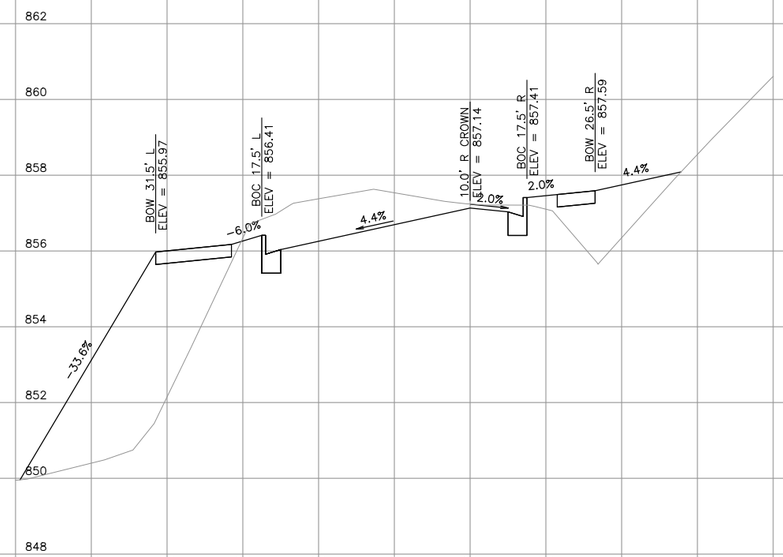
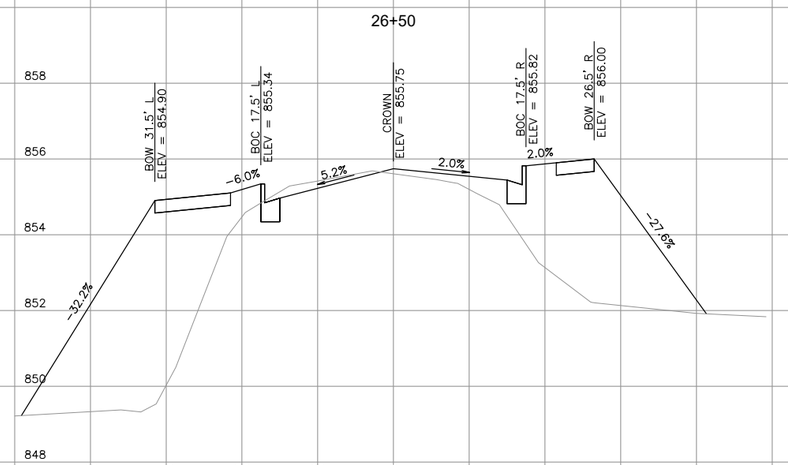
DRIVE OVER CURB ELEVATIONS ARE LABELED AT FULL CURB HEIGHT.









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2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 2.5 5 10
VERTICAL 1 2
SHEET: A19

EXISTING CONTOURS ARE DENOTED BY LIGHTER LINES.
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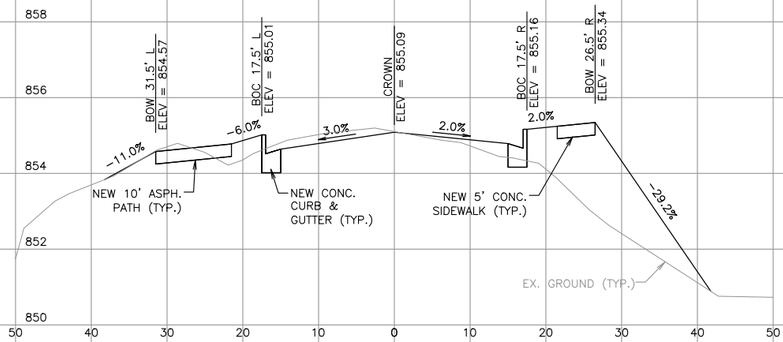

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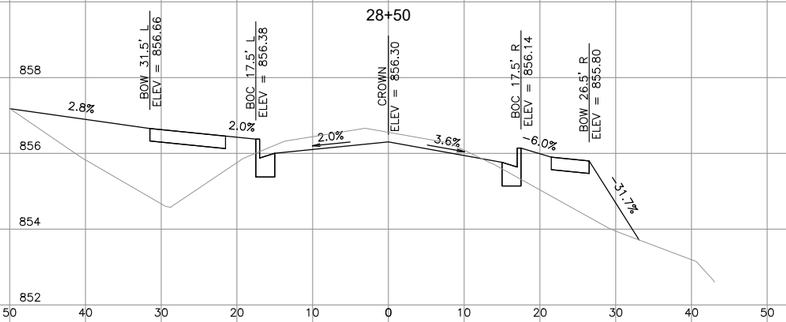

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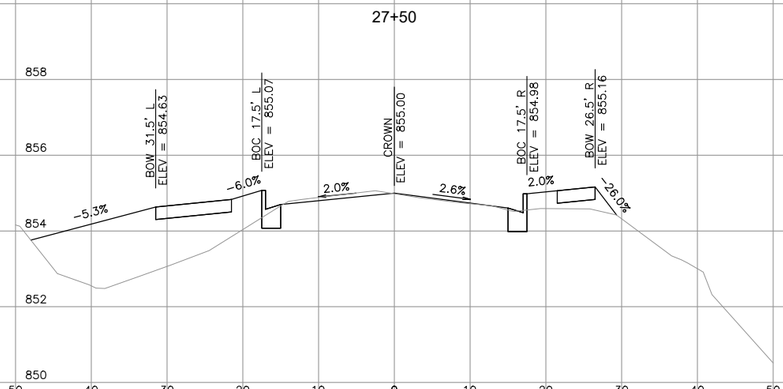

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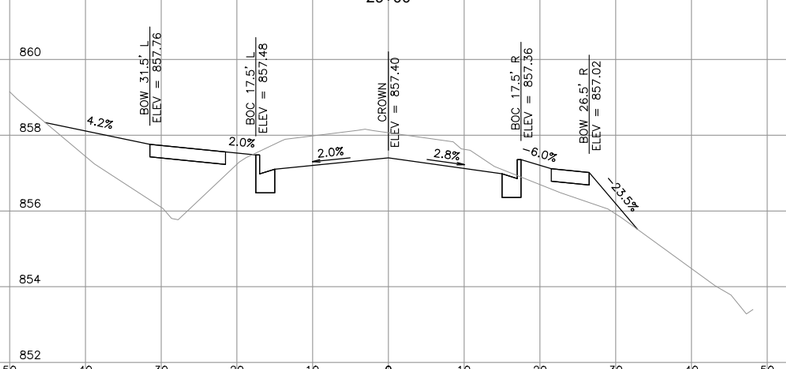

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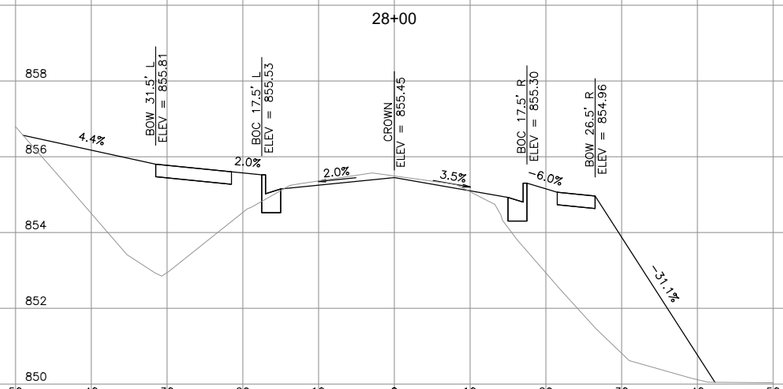

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2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
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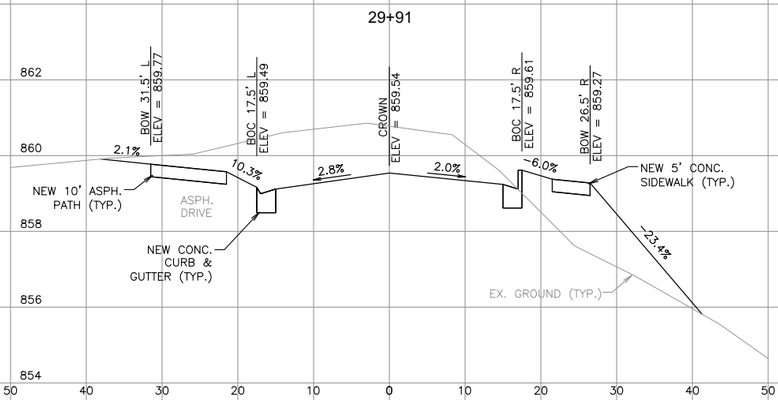

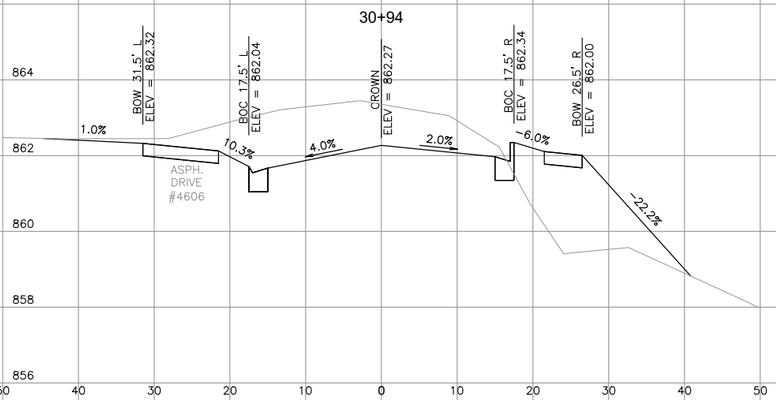

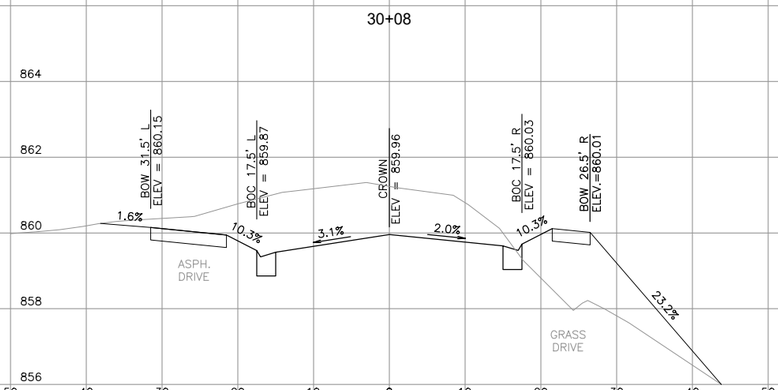

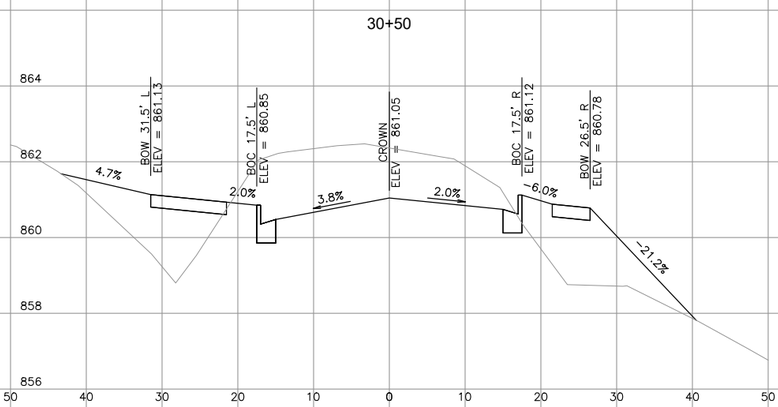

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2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
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DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 2.5 5 10, VERTICAL 1 2
SHEET: A21

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, March 8, 2022**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Jim Hessling, Public Works Director**

AGENDA ITEM: **Discussion and action to make a recommendation to the Village Board regarding the award of Contract B for the 2022 Street & Utility Improvements project(s).**

PREVIOUS ACTION:
The Public Works Committee recommended approval of the design for the project and requested authorization to bid the project at its meeting on December 14, 2021.

The Public Utilities Committee recommended approval of the design for the project and requested authorization to bid the project at its meeting on December 21, 2021.

The Village Board approved the recommendation from Committee in order to approve the design and send the project to bidding at its meeting on January 10, 2022.

Bids were opened on February 17, 2022.

ISSUE SUMMARY:
The 2022 Street and Utility Improvement Project includes street and water main improvements on Bellevue Court, Card Avenue, Bremer Road, Hidden Farm, and Storck Road. The Public Works and Utilities Committee(s) moved these projects forward for bidding late in 2021 with the Board sending them to bid earlier this year. There were three contracts bid as part of the same process and Contract B is for these listed locations. Town and Country received twenty-two requested sets of plans, specifications and bidding documents from general contractors, subcontractors and material suppliers. Of the twenty-two, two contractors submitted bids. Town and Country Engineering has provided an analysis of the bids received included within the packet and recommends the award of contract to Wolf Paving & Excavating of Madison for the base bid, plus supplemental bid. Additionally, the contractor is qualified in accordance with Village Ordinance. The Project will begin this Summer for completion in early Fall.

FINANCIAL/BUDGET IMPACT:
The total budget for this project is $1,257,500 to be paid for through borrowed money within the Capital Projects Fund and Utilities Fund (Water). The project costs for these bids came in under what was budgeted as follows:

874,998 Construction
(3,744) Alternate

50,305	Supplemental
92,156	Contingency
73,725	Engineering
8,817	Miscellaneous
1,100,000	Total Estimated Cost

Contingency and engineering percentages were included at 10% and 8% respectively as is customary. The borrowing was adjusted downward to account for the savings via the bidding process.

VILLAGE PLAN REFERENCE:

Long Range CIP 12.10.2021

ORDINANCE REFERENCE:

None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Recommended Action:

> *Motion, second to make a recommendation to the Village Board to award Contract B to Wolf Paving and Excavating of Madison in the amount of $921,559 for the base alternate, and supplemental bids approving the total project cost of $1,100,000 including contingency, engineering, and miscellaneous expenses.*

ATTACHMENTS:

1. Bid Tabulation-Contract B-2022 Street and Water Main Improvements
2. Recommendation Ltr- Contract B
3. MC 189- CONTRACT B STREET AND WM

BID TABULATION

Project: 2022 Street and Utility Improvements - Contact B- 2022 Street and Water Main Improvements

Engineer's Project Number: MC 189 Bid Deadline: February 17, 2022 at 10:00 a.m. local time

ITEM NO.	DESCRIPTION OF WORK	BID QUANT.	UNITS	PRE-BID ESTIMATE UNIT PRICE	PRE-BID ESTIMATE AMOUNT	Wolf Paving & Excavating UNIT PRICE	Wolf Paving & Excavating AMOUNT	E & N Hughes Co. Inc. UNIT PRICE	E & N Hughes Co. Inc. AMOUNT
CONTRACT B- 2022 STREET AND WATER MAIN IMPROVEMENTS									
Utility Work									
B1.	8" Ductile Iron CL52 Water Main or Hydrant Lead	780	lin. ft.	$ 120.00	$ 93,600.00	$ 103.00	$ 80,340.00	$ 119.00	$ 92,820.00
B2.	6" Ductile Iron CL52 Water Main or Hydrant Lead	39	lin. ft.	$ 110.00	$ 4,290.00	$ 94.00	$ 3,666.00	$ 107.00	$ 4,173.00
B3.	8" Gate Valve & Box	11	each	$ 2,200.00	$ 24,200.00	$ 2,700.00	$ 29,700.00	$ 2,381.00	$ 26,191.00
B4.	6" Gate Valve & Box	4	each	$ 1,700.00	$ 6,800.00	$ 2,000.00	$ 8,000.00	$ 1,670.00	$ 6,680.00
B5.	Hydrants	3	each	$ 5,300.00	$ 15,900.00	$ 5,300.00	$ 15,900.00	$ 6,043.00	$ 18,129.00
B6.	1" Corporation Stops	32	each	$ 450.00	$ 14,400.00	$ 500.00	$ 16,000.00	$ 99.00	$ 3,168.00
B7.	1" Curb Stops	32	each	$ 460.00	$ 14,720.00	$ 550.00	$ 17,600.00	$ 302.00	$ 9,664.00
B8.	1" Copper Water Service Laterals	314	lin. ft.	$ 85.00	$ 26,690.00	$ 50.00	$ 15,700.00	$ 92.00	$ 28,888.00
B9.	Water Service Lateral Reconnections	13	each	$ 300.00	$ 3,900.00	$ 500.00	$ 6,500.00	$ 717.00	$ 9,321.00
B10.	Existing Main Reconnections	7	each	$ 2,500.00	$ 17,500.00	$ 2,600.00	$ 18,200.00	$ 1,750.00	$ 12,250.00
B11.	Sanitary Manhole Castings	6	each	$ 800.00	$ 4,800.00	$ 1,600.00	$ 9,600.00	$ 1,170.00	$ 7,020.00
B12.	21" RCP Apron Endwalls	2	each	$ 1,500.00	$ 3,000.00	$ 1,450.00	$ 2,900.00	$ 2,102.00	$ 4,204.00
B13.	12" RCP Apron Endwalls	2	each	$ 750.00	$ 1,500.00	$ 1,100.00	$ 2,200.00	$ 1,295.00	$ 2,590.00
B14.	Field Connection to Existing Storm Sewer	3	each	$ 750.00	$ 2,250.00	$ 850.00	$ 2,550.00	$ 1,801.00	$ 5,403.00
B15.	24" RCP CL III Storm Sewer	7	lin. ft.	$ 85.00	$ 595.00	$ 86.00	$ 602.00	$ 292.00	$ 2,044.00
B16.	21" RCP CL III Storm Sewer	54	lin. ft.	$ 82.00	$ 4,428.00	$ 66.00	$ 3,564.00	$ 123.00	$ 6,642.00
B17.	18" RCP CL III Storm Sewer	5	lin. ft.	$ 70.00	$ 350.00	$ 95.00	$ 475.00	$ 250.00	$ 1,250.00
B18.	12" RCP CL III Storm Sewer	84	lin. ft.	$ 62.00	$ 5,208.00	$ 53.00	$ 4,452.00	$ 80.00	$ 6,720.00
B19.	Precast Rectangular Curb Catch Basins	1	each	$ 2,300.00	$ 2,300.00	$ 2,450.00	$ 2,450.00	$ 2,420.00	$ 2,420.00
B20.	Precast Rectangular Curb Inlets	1	each	$ 2,600.00	$ 2,600.00	$ 2,250.00	$ 2,250.00	$ 2,311.00	$ 2,311.00
B21.	60" Storm Catch Basin Manholes	2	each	$ 5,000.00	$ 10,000.00	$ 3,500.00	$ 7,000.00	$ 5,012.00	$ 10,024.00
B22.	Card Avenue Water Main Replacement	761	Sta. ft.	$ 150.00	$ 114,150.00	$ 119.00	$ 90,559.00	$ 266.00	$ 202,426.00
B23.	1" Copper Water Service Laterals- Card Avenue	174	lin. ft.	$ 110.00	$ 19,140.00	$ 51.00	$ 8,874.00	$ 143.65	$ 24,995.10
B24.	Water Service Lateral Reconnections- Card Avenue	19	each	$ 500.00	$ 9,500.00	$ 1,300.00	$ 24,700.00	$ 1,005.00	$ 19,095.00

BID TABULATION

Project: 2022 Street and Utility Improvements - Contact B- 2022 Street and Water Main Improvements

Engineer's Project Number: MC 189 Bid Deadline: February 17, 2022 at 10:00 a.m. local time

ITEM NO.	DESCRIPTION OF WORK	BID QUANT.	UNITS	PRE-BID ESTIMATE UNIT PRICE	PRE-BID ESTIMATE AMOUNT	Wolf Paving & Excavating UNIT PRICE	Wolf Paving & Excavating AMOUNT	E & N Hughes Co. Inc. UNIT PRICE	E & N Hughes Co. Inc. AMOUNT
Street Work									
B25.	Pulverizing and Grading of Existing Asphalt Pavement	7,535	sq. yd.	$ 3.50	$ 26,372.50	$ 3.05	$ 22,981.75	$ 3.50	$ 26,372.50
B26.	Excavation to Plan Subgrade	1	lump sum	$ 125,000.00	$ 125,000.00	$ 150,000.00	$ 150,000.00	$ 127,918.00	$ 127,918.00
B27.	Truncated Dome Panels	24	sq. ft.	$ 50.00	$ 1,200.00	$ 45.00	$ 1,080.00	$ 35.00	$ 840.00
B28.	6" Thick Concrete Sidewalk and Aprons	2,368	sq. ft.	$ 5.50	$ 13,024.00	$ 7.95	$ 18,825.60	$ 7.05	$ 16,694.40
B29.	New 30" Concrete Curb & Gutter	771	lin. ft.	$ 15.00	$ 11,565.00	$ 19.50	$ 15,034.50	$ 19.40	$ 14,957.40
B30.	Remove and Replace 30" Concrete Curb & Gutter (< 50-foot sections)	380	lineal ft.	$ 40.00	$ 15,200.00	$ 40.00	$ 15,200.00	$ 36.20	$ 13,756.00
B31.	1.5" Hot Mix Asphalt Surface Course, Type 5 LT	553	ton	$ 71.00	$ 39,263.00	$ 88.00	$ 48,664.00	$ 87.10	$ 48,166.30
B32.	1.75" Hot Mix Asphalt Lower Course, Type 4 LT	645	ton	$ 69.00	$ 44,505.00	$ 80.00	$ 51,600.00	$ 85.20	$ 54,954.00
B33.	2" Hot Mix Asphalt Paving, Type 5 LT	428	ton	$ 75.00	$ 32,100.00	$ 85.00	$ 36,380.00	$ 87.10	$ 37,278.80
B34.	2" HMA Asphalt Driveway Paving	159	sq. yd.	$ 17.50	$ 2,782.50	$ 24.00	$ 3,816.00	$ 18.40	$ 2,925.60
B35.	18" Gravel Shoulder	785	lineal ft.	$ 3.00	$ 2,355.00	$ 6.00	$ 4,710.00	$ 4.00	$ 3,140.00
B36.	0.75" Crushed Aggregate Base Course	4,490	ton	$ 18.00	$ 80,820.00	$ 14.00	$ 62,860.00	$ 22.35	$ 100,351.50
B37.	3" Hot-Mix Asphalt Path (10' Wide)	811	sq. yd.	$ 18.50	$ 15,003.50	$ 15.90	$ 12,894.90	$ 15.80	$ 12,813.80
B38.	3" Breaker Run	1,757	ton	$ 16.00	$ 28,112.00	$ 13.50	$ 23,719.50	$ 22.30	$ 39,181.10
B39.	Clean & Tack	5,810	sq. yds.	$ 0.30	$ 1,743.00	$ 0.25	$ 1,452.50	$ 0.20	$ 1,162.00
B40.	Sawcutting Existing Concrete and Asphalt Pavements	580	lin. ft.	$ 3.00	$ 1,740.00	$ 3.50	$ 2,030.00	$ 2.25	$ 1,305.00
B41.	Topsoil Restoration, Seeding, Fertilizing & Mulching or Matting	2,128	sq. yds.	$ 6.00	$ 12,768.00	$ 4.35	$ 9,256.80	$ 12.00	$ 25,536.00
B42.	Straw Erosion Mat	1,195	sq. yds.	$ 4.00	$ 4,780.00	$ 1.85	$ 2,210.75	$ 2.10	$ 2,509.50
B43.	Erosion Control	1	lump sum	$ 10,000.00	$ 10,000.00	$ 4,000.00	$ 4,000.00	$ 17,170.00	$ 17,170.00
B44.	Traffic Control	1	lump sum	$ 7,000.00	$ 7,000.00	$ 14,500.00	$ 14,500.00	$ 23,200.00	$ 23,200.00
	TOTAL CONTRACT B				$ 877,154.50		$ 874,998.30		$ 1,078,660.00

BID TABULATION

Project: 2022 Street and Utility Improvements - Contact B- 2022 Street and Water Main Improvements

Engineer's Project Number: MC 189 Bid Deadline: February 17, 2022 at 10:00 a.m. local time

ITEM NO.	DESCRIPTION OF WORK	BID QUANT.	UNITS	PRE-BID ESTIMATE UNIT PRICE	PRE-BID ESTIMATE AMOUNT	Wolf Paving & Excavating UNIT PRICE	Wolf Paving & Excavating AMOUNT	E & N Hughes Co. Inc. UNIT PRICE	E & N Hughes Co. Inc. AMOUNT
CONTRACT B ALTERNATE BID									
AB1.	Add/Deduct 8" PVC Water Main or Hydrant Lead	780	lin. ft.	$ (25.00)	$ (19,500.00)	$ (4.00)	$ (3,120.00)	$ (10.00)	$ (7,800.00)
AB2.	Add/Deduct 6" PVC Water Main or Hydrant Lead	39	lin. ft.	$ (30.00)	$ (1,170.00)	$ (16.00)	$ (624.00)	$ (8.00)	$ (312.00)
	TOTAL CONTRACT B ALTERNATE BID				$ (20,670.00)		$ (3,744.00)		$ (8,112.00)
CONTRACT B SUPPLEMENTAL BID									
SB1.	Property Corner Replacement	1	each	$ 350.00	$ 350.00	$ 900.00	$ 900.00	$ 750.00	$ 750.00
SB2.	Excavation and Disposal of Bad Subbase Below Subgrade	971	cu. yds.	$ 14.00	$ 13,594.00	$ 14.50	$ 14,079.50	$ 21.85	$ 21,216.35
SB3.	3" Breaker Run Replacement of Excavation of Bad Subbase Below Subgrade	1,950	tons	$ 16.00	$ 31,200.00	$ 13.50	$ 26,325.00	$ 21.30	$ 41,535.00
SB4.	3" Pavement Patching	250	sq. yds.	$ 40.00	$ 10,000.00	$ 36.00	$ 9,000.00	$ 62.00	$ 15,500.00
	TOTAL CONTRACT B SUPPLEMENTAL BID				$ 55,144.00		$ 50,304.50		$ 79,001.35

TOWN & COUNTRY
ENGINEERING, INC.

February 23, 2022

Village of McFarland
5915 Milwaukee Street, P.O. Box 110
McFarland, WI 53558

Attention: Mr. Matthew Schuenke, Administrator

Subject: Analysis of Bids and Recommendation for Award of Contracts; 2022 Street and Utility Improvements – Contract B

Bid Deadline: February 17, 2022, at 10:00 local time

Ladies and Gentlemen:

The purpose of this letter is to analyze the bids received for Contract B of the 2022 Street and Utility Improvements project and to recommend award of a contract.

Contract B involves the following:

- Area 1 – Card Avenue from Larson Street to Bellvue Court and Bellvue Court from Card Avenue to Bremer Road. The work in Area 1 consists of water main replacement, water lateral replacement, concrete pavement removal, and asphalt paving.
- Area 2 – Bremer Road from Lake Edge Road to 200 feet north of Lake Edge Road and Larson Beach Road from Lake Edge Road to 400 feet east of Lake Edge Road. The work in Area 2 consists of water main replacement, water lateral replacement, and asphalt paving.
- Area 3 – Hidden Farm Road from Elvehjem Road to 800 feet south of Elvehjem Road. The work in Area 3 consists of rural to urban conversion street reconstruction. It includes curb and gutter installation, new path installation, storm sewer installation, and asphalt paving.
- Area 4 – Strock Road from Siggelkow Road to 2,200 feet north of Siggelkow Road. The work in Area 4 consists of a repaving of Storck Road.

The pre-bid estimate for the base bid was $877,154.50. Twenty-two general contractors, subcontractors, and material suppliers requested sets of the plans, specifications and bidding documents. Two contractors submitted bids.

A summary of Contract B bids is as follows:

Contractor	Base Bid	Alternate Bid Total	Supplemental Bid Total
Wolf Paving & Excavating	$874,998.30	$(3,744.00)	$50,304.50
E & N Hughes Co. Inc.	$1,078,660.00	$(8,112.00)	$79,001.35

All of the bids were properly submitted.

The alternate bid includes items for the use of PVC water main or hydrant lead in place of the ductile iron water main that is included in the base bid. Since the Village standard for water main is ductile iron and there is little cost savings, we do not recommend award of the alternate bid.

The supplemental bid includes items for property corner replacement, excavation and disposal of bad subbase below subgrade, breaker run replacement and pavement patching. We do recommend award of the supplemental bid.

The low bidder, using any combination of bid awards, is Wolf Paving & Excavating of Madison, Inc. an experienced paving contractor that has completed similar paving projects for the Village of Waunakee and City of Jefferson. The bid prices are in line with the original budget. We recommend that Wolf Paving & Excavating of Madison, Inc. be awarded Contract B for the base bid, plus the supplemental bid, if the budgets allow, for a total of $925,302.80.

This will be a unit price contract. That is, the contractors will be paid for the work actually performed on the basis on the unit prices bid. This means that the final line item costs could be either greater than or less than the bid totals. Also, unexpected conditions are sometimes encountered which result in increased project costs. Therefore, it would be wise to continue to carry the recommended 10% contingency.

If you have any questions with respect to our thoughts on this matter, I am available at your convenience to discuss them with you.

Very truly yours,
TOWN & COUNTRY ENGINEERING, INC.

Tim Stieve, P.E.
Project Engineer

TS:sai
J:\JOB#S\McFarland\MC-189-M4 2022 Street and Utility Improvements\Bidding\Recommendation Ltr.docx

2022 STREET AND UTILITY IMPROVEMENTS

Village of McFarland, Wisconsin

CONTRACT B PLAN SET

NO SCALE

MEMBER
ONE CALL SYSTEMS INTERNATIONAL

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

LEGEND

UNDERGROUND TELE. — UT
UNDERGROUND CATV. — UCATV
UNDERGROUND ELEC. — UE
OVERHEAD — OH
EXISTING GAS — G
PROPERTY LINE
EXISTING WATER MAIN — WM
EXISTING SANITARY SEWER — SAN
EXISTING STORM SEWER — STM
EXISTING FENCE LINE — x
SAWCUT — XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
NEW STORM SEWER
NEW WATER MAIN
NEW SANITARY SEWER

NEW ITEMS:
WATER VALVE, CURB STOP (CS), HYDRANT, MANHOLE, CURB INLET, ENDWALL, CAUTION GAS WARNING

EXISTING ITEMS:
FLAG POLE, MAILBOX, POWER POLE, LIGHT POLE, LAMP POST, PULL BOX,
WATER VALVE, CURB STOP (CS), HYDRANT, WELL, MONITORING WELL, TRACER WIRE (TW),
SANITARY MANHOLE, SANITARY VALVE, CLEANOUT, STORM MANHOLE, CURB INLET, CIRCULAR INLET,
SQUARE INLET, ENDWALL, STUMP, DECID. TREE, EVERGREEN (RELATIVE SIZE SHOWN), SHRUB OR HEDGE, SIGN,
CATV. PED. (C), TELE. PED. (T), ELEC. PED. (E), GAS VALVE, STREET SIGN, IRON PIPE (IP), IRON ROD (IR)

NOTES:
1.) EXISTING FEATURES AND LABELS ARE SHOWN WITH SCREENED, LIGHTER LINES.
2.) NEW CONCRETE IS SHOWN SHADED IN PLAN VIEWS
3.) CONCRETE REMOVALS ARE SHOWN BY CROSS-HATCHING

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6264 Nesbitt Road
Madison, WI 53719
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DATE	BY	REVISIONS

SHEET

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
REV. DATE:
PROJECT NO.: MC 189
DRAWING FILE: TERMINAL DETAILS.DWG
DATE: 2-3-22

SHEET INDEX – GENERAL

SHEET NO.	SHEET DESCRIPTION
1	INDEX
2	EROSION CONTROL PLAN AND GENERAL NOTES
3	EROSION CONTROL PLAN
4	EROSION CONTROL – STANDARD CONSTRUCTION DETAILS
5	SANITARY SEWER – STANDARD CONSTRUCTION DETAILS
6	WATER MAIN – STANDARD CONSTRUCTION DETAILS
7	STORM SEWER – STANDARD CONSTRUCTION DETAILS
8	STREET IMPROVEMENTS – STANDARD CONSTRUCTION DETAILS

SHEET INDEX – CONTRACT A

SHEET NO.	SHEET DESCRIPTION
SANITARY SEWER, WATER MAIN, AND STORM SEWER	
A1	PLAN & PROFILE – TERMINAL DRIVE STATION 10+00 TO STATION 16+00
A2	PLAN & PROFILE – TERMINAL DRIVE STATION 15+60 TO STATION 21+60
A3	PLAN & PROFILE – TERMINAL DRIVE STATION 21+20 TO STATION 27+20
A4	PLAN & PROFILE – TERMINAL DRIVE STATION 26+80 TO STATION 32+80
CURB & GUTTER AND STREET CONSTRUCTION	
A5	PLAN & PROFILE – TERMINAL DRIVE STATION 10+00 TO STATION 16+00
A6	PLAN & PROFILE – TERMINAL DRIVE STATION 15+60 TO STATION 21+60
A7	PLAN & PROFILE – TERMINAL DRIVE STATION 21+20 TO STATION 27+20
A8	PLAN & PROFILE – TERMINAL DRIVE STATION 26+80 TO STATION 32+80
A9	PLAN – SIGGELKOW ROAD SIDEWALK
A10	CROSS SECTIONS – TERMINAL DRIVE STATION 12+08 TO STATION 13+50
A11	CROSS SECTIONS – TERMINAL DRIVE STATION 14+00 TO STATION 15+42
A12	CROSS SECTIONS – TERMINAL DRIVE STATION 15+50 TO STATION 17+53
A13	CROSS SECTIONS – TERMINAL DRIVE STATION 17+71 TO STATION 18+77
A14	CROSS SECTIONS – TERMINAL DRIVE STATION 19+00 TO STATION 19+50
A15	CROSS SECTIONS – TERMINAL DRIVE STATION 20+00 TO STATION 20+84
A16	CROSS SECTIONS – TERMINAL DRIVE STATION 21+00 TO STATION 22+00
A17	CROSS SECTIONS – TERMINAL DRIVE STATION 22+17 TO STATION 23+17
A18	CROSS SECTIONS – TERMINAL DRIVE STATION 23+31 TO STATION 24+50
A19	CROSS SECTIONS – TERMINAL DRIVE STATION 24+89 TO STATION 26+50
A20	CROSS SECTIONS – TERMINAL DRIVE STATION 27+00 TO STATION 29+50
A21	CROSS SECTIONS – TERMINAL DRIVE STATION 29+91 TO STATION 30+94

SHEET INDEX – CONTRACT B

SHEET NO.	SHEET DESCRIPTION
B1	PLAN & PROFILE – HIDDEN FARM ROAD STATION 70+00 TO STATION 76+00
B2	PLAN & PROFILE – HIDDEN FARM ROAD STATION 75+60 TO STATION 81+60
B3	CROSS SECTIONS – HIDDEN FARM ROAD STATION 71+64 TO STATION 75+50
B4	CROSS SECTIONS – HIDDEN FARM ROAD STATION 76+00 TO STATION 78+00
B5	PLAN & PROFILE – BREMER ROAD STATION 50+00 TO STATION 55+40
B6	PLAN & PROFILE – LARSON BEACH ROAD STATION 54+20 TO STATION 60+20
B7	PLAN & PROFILE– CARD AVENUE STATION 100+00 TO STATION 103+00
B8	PLAN & PROFILE– CARD AVENUE STATION 102+80 TO STATION 105+80
B9	PLAN & PROFILE– CARD AVENUE STATION 105+60 TO STATION 107+80
B10	PLAN & PROFILE– BELLEVUE COURT STATION 107+60 TO STATION 110+40
B11	PLAN – CARD AVENUE STATION 100+00 TO STATION 105+80
B12	PLAN – CARD AVENUE & BELLEVUE COURT STATION 105+60 TO STATION 110+40
B13	PLAN – STORCK ROAD STATION 500+00 TO STATION 525+00

SHEET INDEX – CONTRACT C

SHEET NO.	SHEET DESCRIPTION
STORM SEWER IMPROVEMENTS	
C1	PLAN – TERMINAL DRIVE & OSBORN DRIVE

TOWN & COUNTRY ENGINEERING, INC.
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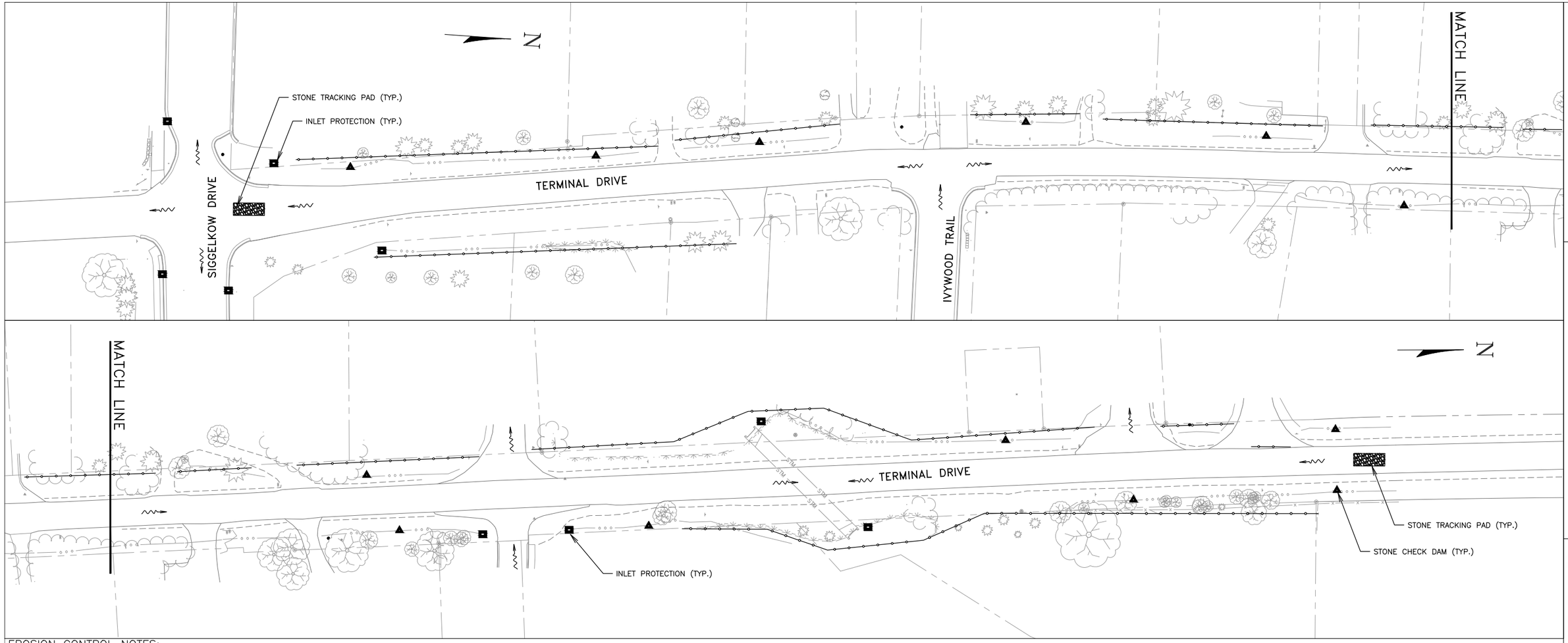
INDEX

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL DETAILS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: N.T.S.
SHEET: 1



EROSION CONTROL NOTES:

- LOCATIONS MARKED WITH "■" TO RECEIVE INLET FILTER PROTECTION DURING CONSTRUCTION. ALL NEW STREET INLETS MUST ALSO RECEIVE INLET FILTER PROTECTION.
- CONSTRUCT A STONE CHECK DAM IN GUTTER LINE AT ALL LOCATIONS MARKED WITH "▲"
- SURFACE FLOW DIRECTION IS INDICATED WITH
- SILT FENCE INSTALLATION IS INDICATED WITH
- POST WDNR CERTIFICATE OF PERMIT COVERAGE ON SITE AND MAINTAIN UNTIL CONSTRUCTION ACTIVITIES HAVE CEASED, THE SITE IS STABILIZED, AND A NOTICE OF TERMINATION IS FILED WITH WDNR.
- KEEP A COPY OF THE CURRENT EROSION CONTROL PLAN ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
- SUBMIT PLAN REVISIONS OR AMENDMENTS TO THE WDNR AT LEAST 5 DAYS PRIOR TO FIELD IMPLEMENTATION.
- THE CONTRACTOR IS RESPONSIBLE FOR ROUTINE SITE INSPECTIONS AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. KEEP INSPECTION REPORTS ON-SITE AND MAKE THEM AVAILABLE UPON REQUEST.
- INSPECT AND MAINTAIN ALL INSTALLED EROSION CONTROL PRACTICES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
- WHEN POSSIBLE: PRESERVE EXISTING VEGETATION (ESPECIALLY ADJACENT TO SURFACE WATERS), MINIMIZE LAND-DISTURBING CONSTRUCTION ACTIVITY ON SLOPES OF 20% OR MORE, MINIMIZE SOIL COMPACTION, AND PRESERVE TOPSOIL.
- REFER TO THE WDNR STORMWATER CONSTRUCTION TECHNICAL STANDARDS AT http:dnr.wi.gov/topic/stormwater/standards/const_standards.html.
- INSTALL PERIMETER EROSION CONTROLS AND ROCK TRACKING PAD CONSTRUCTION ENTRANCE(S) PRIOR TO ANY LAND-DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING. USE WDNR TECHNICAL STANDARD STONE TRACKING PAD AND TIRE WASHING #1057 FOR ROCK CONSTRUCTION ENTRANCE(S).
- INSTALL INLET PROTECTION PRIOR TO LAND-DISTURBING ACTIVITIES IN THE CONTRIBUTING DRAINAGE AREA AND/OR IMMEDIATELY UPON INLET INSTALLATION. COMPLY WITH WDNR TECHNICAL STANDARD STORM DRAIN INLET PROTECTION FOR CONSTRUCTION SITES #1060.
- STAGE CONSTRUCTION GRADING ACTIVITIES TO MINIMIZE THE CUMULATIVE EXPOSED AREA. CONDUCT TEMPORARY GRADING FOR EROSION CONTROL PER WDNR TECHNICAL STANDARD TEMPORARY GRADING PRACTICES FOR EROSION CONTROL #1067.
- NOTIFY THE OWNER IF DEWATERING IS SCHEDULED TO OCCUR IN AREAS OF SOIL AND/OR GROUNDWATER CONTAMINATION, OR IF DEWATERING WILL OCCUR FROM A HIGH CAPACITY WELL (70 GPM OR MORE). DEWATER ONLY AFTER THE APPROPRIATE WDNR DEWATERING DISCHARGE PERMIT HAS BEEN OBTAINED.
- PROVIDE ANTI-SCOUR PROTECTION AND MAINTAIN NON-EROSIVE FLOW DURING DEWATERING. LIMIT PUMPING RATES TO EITHER (A) THE SEDIMENT BASIN/TRAP DESIGN DISCHARGE RATE, OR (B) THE BASIN DESIGN RELEASE RATE WITH THE CORRECTLY-FITTED HOSE AND GEOTEXTILE FILTER BAG. PERFORM DEWATERING OF ACCUMULATED SURFACE RUNOFF IN ACCORDANCE WITH WDNR TECHNICAL STANDARD DE-WATERING #1061.
- INSTALL AND MAINTAIN SILT FENCING PER WDNR TECHNICAL STANDARD SILT FENCE #1056. REMOVE SEDIMENT FROM BEHIND SILT FENCES AND SEDIMENT BARRIERS BEFORE SEDIMENT REACHES A DEPTH THAT IS EQUAL TO ONE-HALF OF THE FENCE AND/OR BARRIER HEIGHT.
- REPAIR BREAKS AND GAPS IN SILT FENCES AND BARRIERS IMMEDIATELY. REPLACE DECOMPOSING STRAW BALES (TYPICAL BALE LIFE IS 3 MONTHS). LOCATE, INSTALL, AND MAINTAIN STRAW BALES PER WDNR TECHNICAL STANDARD DITCH CHECKS #1062.
- INSTALL AND MAINTAIN FILTER SOCKS IN ACCORDANCE WITH WDNR TECHNICAL STANDARD INTERIM MANUFACTURED PERIMETER CONTROL AND SLOPE INTERRUPTION PRODUCTS #1071.
- IMMEDIATELY STABILIZE STOCKPILES AND SURROUND STOCKPILES AS NEEDED WITH SILT FENCE OR OTHER PERIMETER CONTROL IF STOCKPILES WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.
- IMMEDIATELY STABILIZE ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR 14 DAYS OR LONGER. BETWEEN SEPTEMBER 15 AND OCTOBER 15: STABILIZE WITH MULCH, TACKIFIER, AND A PERENNIAL SEED MIXED WITH WINTER WHEAT, ANNUAL OATS, OR ANNUAL RYE, AS APPROPRIATE FOR REGION AND SOIL TYPE. OCTOBER 15 THROUGH COLD WEATHER: STABILIZE WITH A POLYMER AND DORMANT SEED MIX, AS APPROPRIATE FOR REGION AND SOIL TYPE.
- STABILIZE AREAS OF FINAL GRADING WITHIN 7 DAYS OF REACHING FINAL GRADE.
- SWEEP/CLEAN UP ALL SEDIMENT/TRASH THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS BEFORE THE END OF THE SAME WORKDAY OR AS DIRECTED BY THE OWNER. SEPARATE SWEPT MATERIALS (SOILS AND TRASH) AND DISPOSE OF APPROPRIATELY.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST PER WDNR TECHNICAL STANDARD DUST CONTROL ON CONSTRUCTION SITES #1068.
- PROPERLY DISPOSE OF ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, OR OTHER CONSTRUCTION MATERIALS) AND DO NOT ALLOW THESE MATERIALS TO BE CARRIED BY RUNOFF INTO THE RECEIVING CHANNEL.
- COORDINATE WITH THE OWNER TO UPDATE THE LAND DISTURBANCE PERMIT TO INDICATE THE ANTICIPATED OR LIKELY DISPOSAL LOCATIONS FOR ANY EXCAVATED SOILS OR CONSTRUCTION DEBRIS THAT WILL BE HAULED OFF-SITE FOR DISPOSAL. THE DEPOSITED OR STOCKPILED MATERIAL NEEDS TO INCLUDE PERIMETER SEDIMENT CONTROL MEASURES (SUCH AS SILT FENCE, HAY BALES, FILTER SOCKS, OR COMPACTED EARTHEN BERMS).
- FOR NON-CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED SLOPES, PROVIDE CLASS I, II OR III TYPE A EROSION CONTROL MATTING. SELECT EROSION MATTING FROM APPROPRIATE MATRIX IN WDOT'S WIDOT PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD NON-CHANNEL EROSION MAT #1052.
- FOR CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED AREAS, PROVIDE CLASS I, II, OR III TYPE B EROSION CONTROL MATTING. SELECT EROSION MATTING FROM APPROPRIATE MATRIX IN WDOT'S WIDOT PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD CHANNEL EROSION MAT #1053.
- MAKE PROVISIONS FOR WATERING DURING THE FIRST 8 WEEKS FOLLOWING SEEDING OR PLANTING OF DISTURBED AREAS WHENEVER MORE THAN 7 CONSECUTIVE DAYS OF DRY WEATHER OCCUR.
- INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES (SUCH AS TEMPORARY SEDIMENT BASINS, DITCH CHECKS, EROSION CONTROL MATTING, SILT FENCING, FILTER SOCKS, WATTLES, SWALES, ETC.), OR AS DIRECTED BY THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE WDNR REMEDIATION AND WASTE MANAGEMENT REQUIREMENTS FOR HANDLING AND DISPOSING OF CONTAMINATED MATERIALS. SITE-SPECIFIC INFORMATION FOR AREAS WITH KNOWN OR SUSPECTED SOIL AND/OR GROUNDWATER CONTAMINATION CAN BE FOUND ON WDNR'S BUREAU OF REMEDIATION AND REDEVELOPMENT TRACKING SYSTEM (BRRTS) PUBLIC DATABASE AT: http://dnr.wi.gov/botw/

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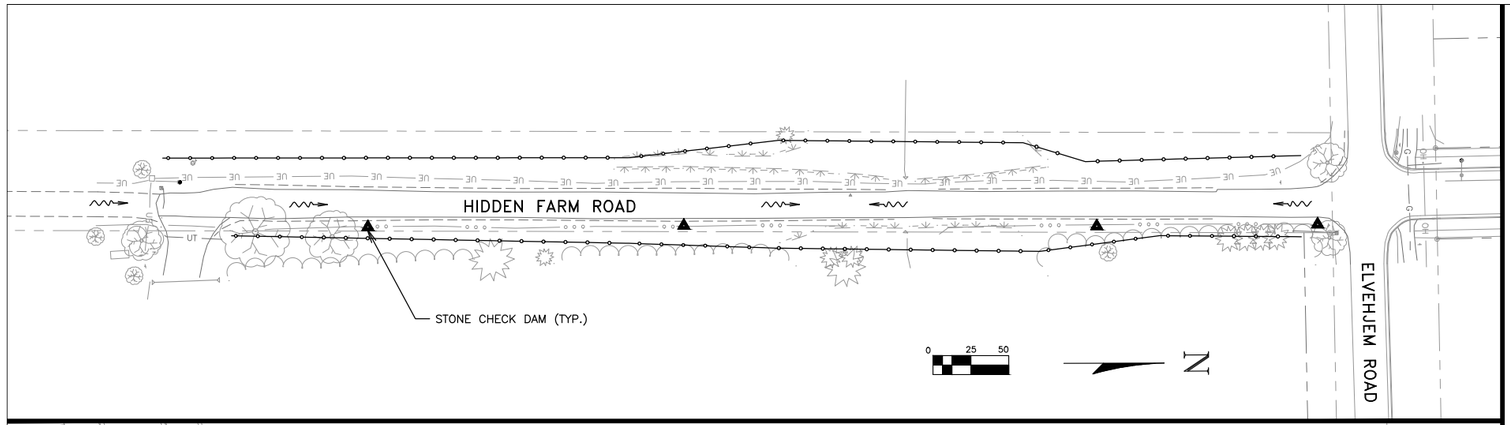
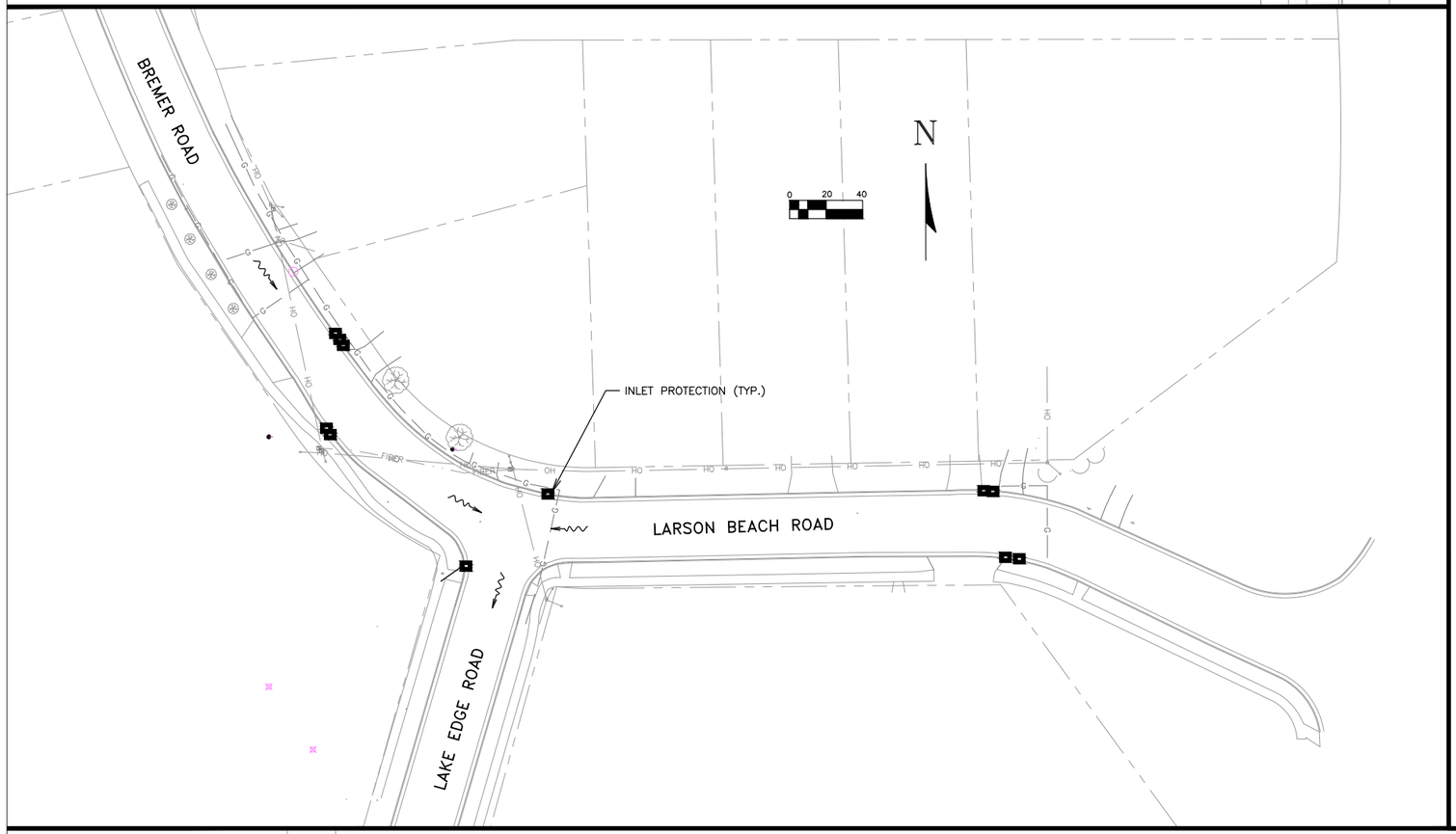
TOWN & COUNTRY ENGINEERING, INC.

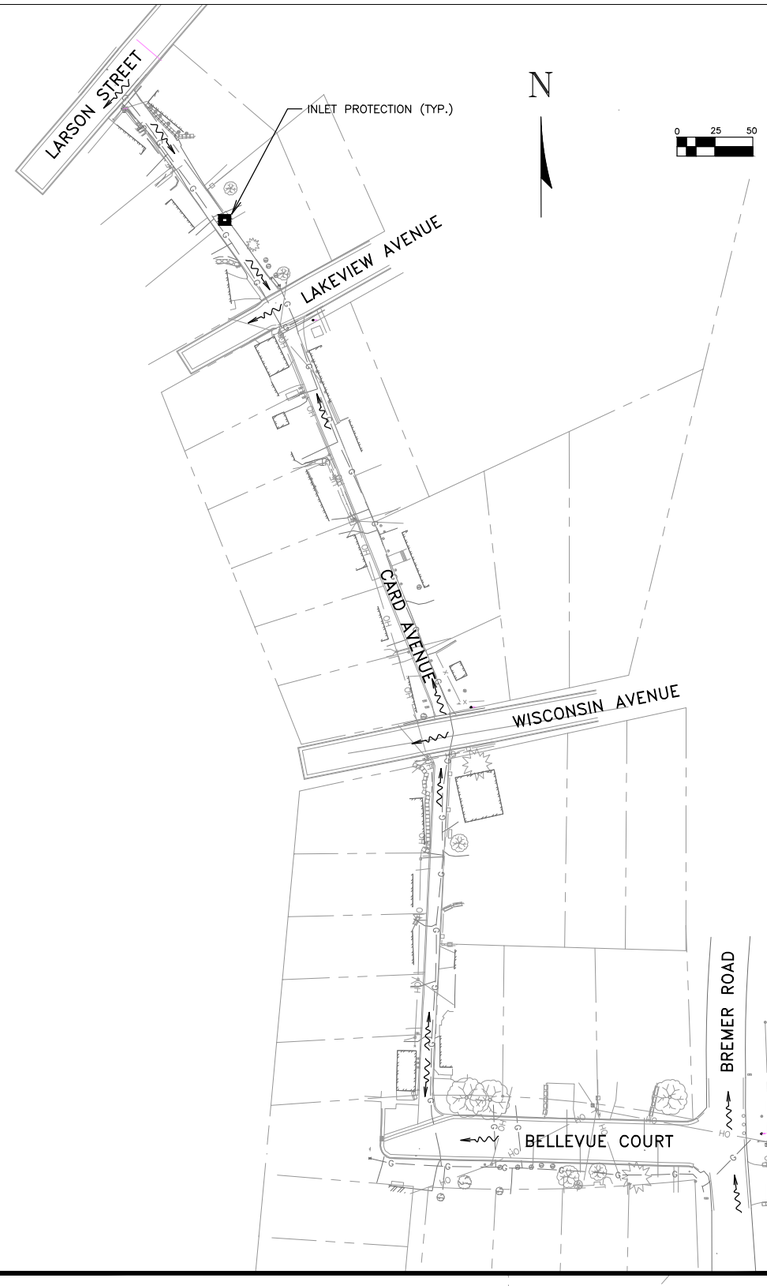
EROSION CONTROL PLAN AND GENERAL NOTES

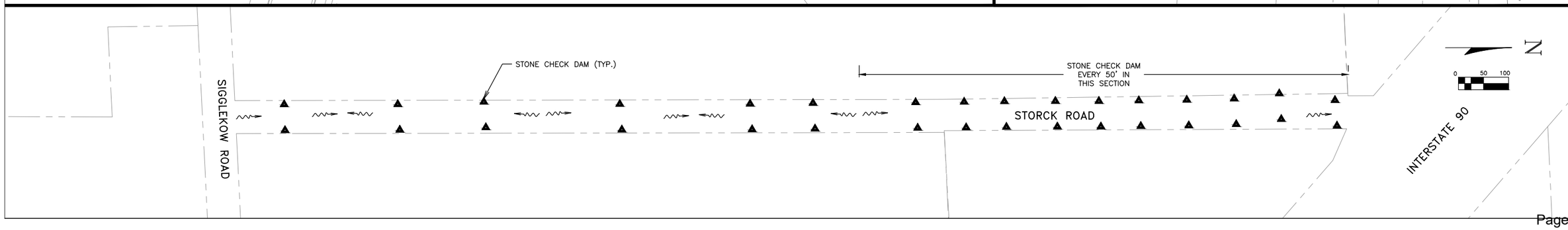
2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE:	0 10 20 40
SHEET:	2









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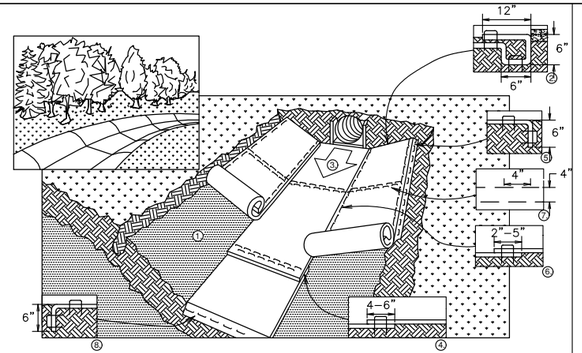
EROSION CONTROL PLAN

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

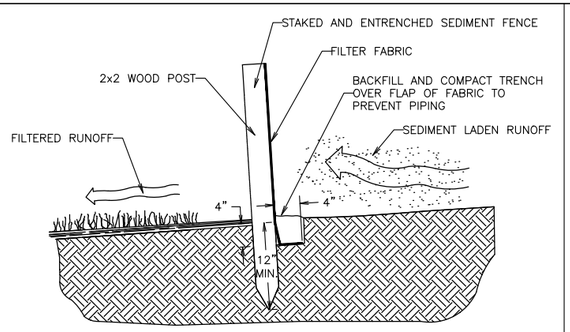
PROJECT NO.: MC 129
DRAWING FILE: HIDDEN FARM SHEETS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: VARIES
SHEET: 3



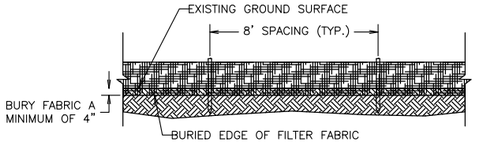
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4–6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPE MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 4" AND STAPLED.
7. A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLES OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

DETAIL
EROSION CONTROL MAT - CHANNEL INSTALLATION

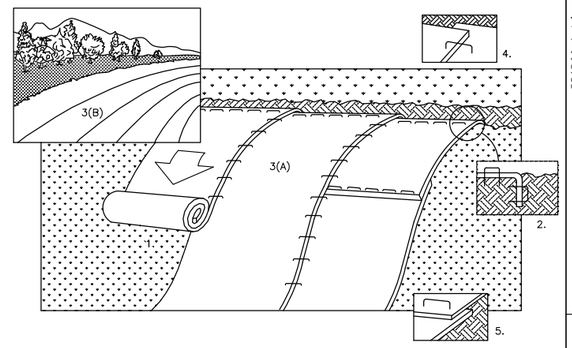


CROSS–SECTION OF A PROPERLY INSTALLED SEDIMENT FENCE



SEDIMENT FENCE DETAIL

DETAIL
SEDIMENT FENCE



NOTE:
REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
6. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SLOPE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.

DETAIL
EROSION CONTROL MAT - SLOPE INSTALLATION

2912 Marketplace Drive
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Madison, WI 53719
(608) 273-3350
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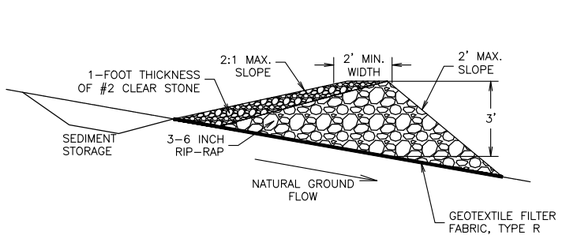
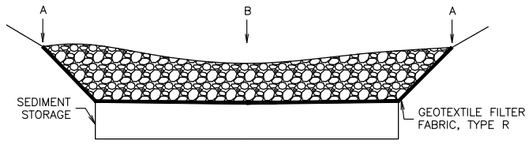
TOWN & COUNTRY ENGINEERING, INC.

STANDARD CONSTRUCTION DETAILS
EROSION CONTROL

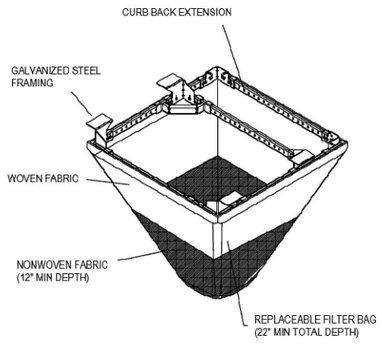


SECTION VIEW



FRONT VIEW

DETAIL
STONE CHECK DAM



GENERAL NOTES:

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

FRAMED INLET PROTECTION SHALL BE COMPLIANT WITH ALL ASTM STANDARD D8057–17 REQUIREMENTS, INCLUDING:
A. BYPASS OVERFLOW THAT MEETS OR EXCEEDS INLET DESIGN FLOW
B. FRAME AND BAG STRONG ENOUGH TO HANDLE FULL SEDIMENT LOAD.

INSTALLATION NOTES:

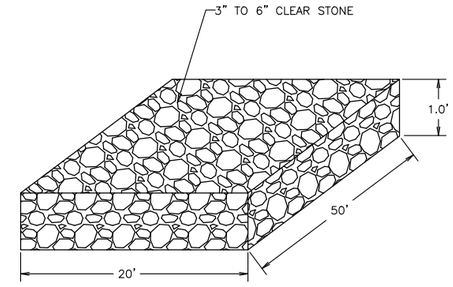
NO PART OF INLET PROTECTION SHALL BE PROJECTING ABOVE THE GRATE.

FOR COMBINATION INLETS, PROTECTION SHALL CAPTURE RUNOFF ENTERING BOTH GRATE AND CURB OPENING.

A DUAL FABRIC FILTER BAG, WITH NON–WOVEN BOTTOM AND WOVEN TOP SHALL BE USED.

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

DETAIL
INLET PROTECTION - FRAMED (W/ CURB BOX)



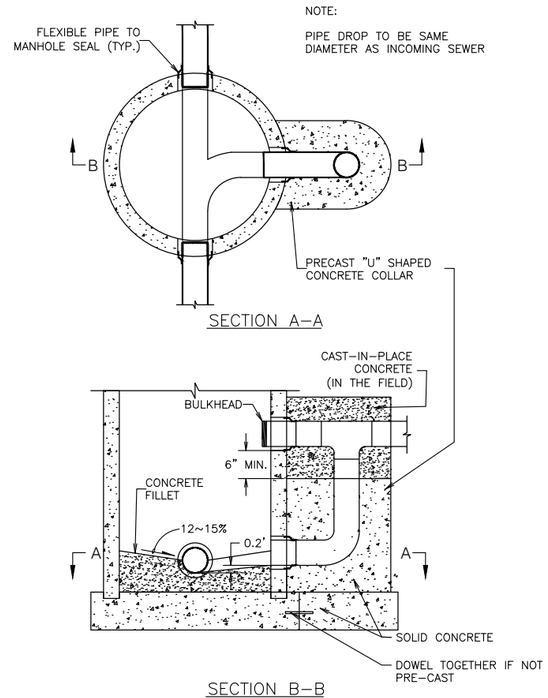
NOTE:

– ON STREET SURFACES CRUSHED AGGREGATE BASE STONE SERVES AS TRACKING PAD.

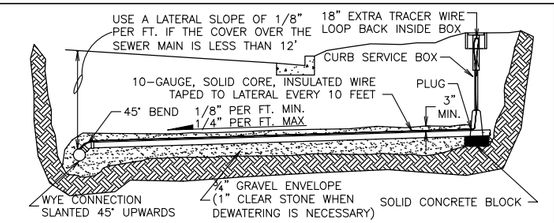
DETAIL
CLEAR STONE TRACKING PAD

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL DETAILS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2–3–22
REVISIONS:	
SCALE:	N.T.S.
SHEET:	4

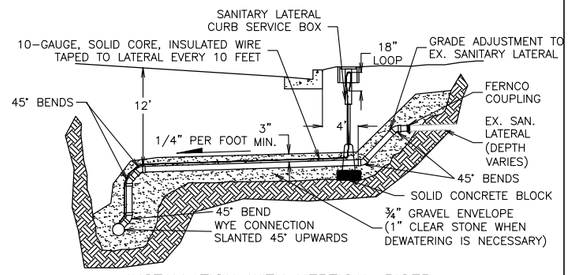


DETAIL
DROP MANHOLE ENTRANCE



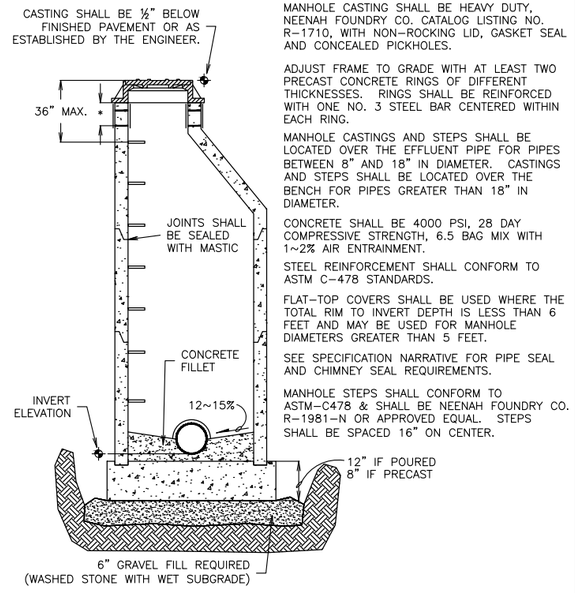
STANDARD INSTALLATION

NOTES:
1. CONSTRUCT LATERALS IN CONFORMANCE WITH CHAPTER SPS 382 OF THE WISCONSIN ADMINISTRATIVE CODE.
2. LATERAL SLOPE SHALL BE ¼" PER FOOT WHERE SUFFICIENT COVER EXISTS.
3. CONTRACTOR SHALL VERIFY SIZE, DEPTH, AND LOCATION OF EXISTING LATERALS.
4. WHERE LATERALS ARE NOT IMMEDIATELY CONNECTED TO BUILDING SEWERS THE ENDS OF THE LATERALS SHALL BE MARKED BY POSITIONING 4"x4" BOARDS VERTICALLY FROM THE ENDS OF THE LATERALS TO AT LEAST 2' ABOVE THE GROUND SURFACE.
5. THE LOCATION OF ALL SEWER LATERALS CROSSING UNDER THE CURB & GUTTER SHALL BE MARKED BY STAMPING AN "S" IN THE TOP OF THE CURB OVER THE LOCATION OF THE SEWER LATERAL.



INSTALLATION WITH VERTICAL RISER

DETAIL
SANITARY SEWER LATERAL



NOTES:

MANHOLE CASTING SHALL BE HEAVY DUTY, NEENAH FOUNDRY CO. CATALOG LISTING NO. R–1710, WITH NON–ROCKING LID, GASKET SEAL AND CONCEALED PICKHOLES.

ADJUST FRAME TO GRADE WITH AT LEAST TWO PRECAST CONCRETE RINGS OF DIFFERENT THICKNESSES. RINGS SHALL BE REINFORCED WITH ONE NO. 3 STEEL BAR CENTERED WITHIN EACH RING.

MANHOLE CASTINGS AND STEPS SHALL BE LOCATED OVER THE EFFLUENT PIPE FOR PIPES BETWEEN 8" AND 18" IN DIAMETER. CASTINGS AND STEPS SHALL BE LOCATED OVER THE BENCH FOR PIPES GREATER THAN 18" IN DIAMETER.

CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.

STEEL REINFORCEMENT SHALL CONFORM TO ASTM C–478 STANDARDS.

FLAT–TOP COVERS SHALL BE USED WHERE THE TOTAL RIM TO INVERT DEPTH IS LESS THAN 6 FEET AND MAY BE USED FOR MANHOLE DIAMETERS GREATER THAN 5 FEET.

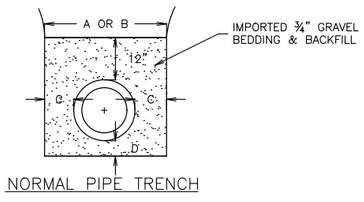
SEE SPECIFICATION NARRATIVE FOR PIPE SEAL AND CHIMNEY SEAL REQUIREMENTS.

MANHOLE STEPS SHALL CONFORM TO ASTM–C478 & SHALL BE NEENAH FOUNDRY CO. R–1981–N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.

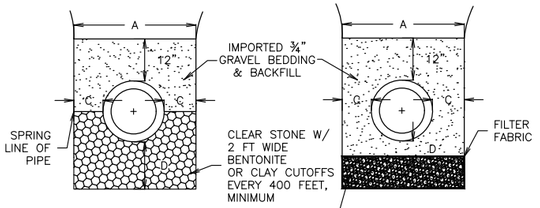
* A MINIMUM OF 3" TO A MAXIMUM OF 9" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

DETAIL
MANHOLE

DIMENSIONS:
- A: OUTSIDE DIAMETER OF PIPE PLUS 24" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36". TRENCH SHIELDS NARROWER THAN 4 FEET INSIDE WIDTH WILL NOT BE REQUIRED UNLESS SPECIFICALLY REQUIRED IN THE PROJECT SPECIFICATIONS.
- B: FOR ROCK, OUTSIDE DIAMETER OF PIPE PLUS 18" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36".
- C: MINIMUM – 6"
- D: MINIMUM 4" BELOW BARREL AND 3" BELOW BELL.



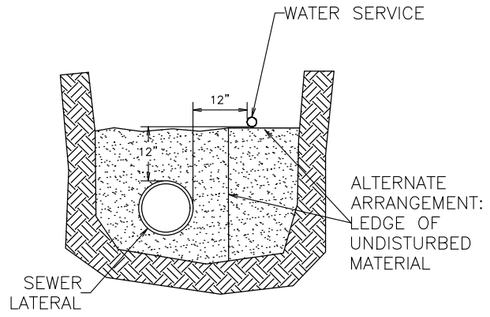
NORMAL PIPE TRENCH



WET TRENCH WITH SUMP DEWATERING

UNSTABLE TRENCH

DETAIL
TRENCH WIDTH AND BEDDING



DETAIL
JOINT TRENCH INSTALLATION

TOWN & COUNTRY ENGINEERING, INC.
2912 Marketplace Drive
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www.tcengineers.net

STANDARD CONSTRUCTION DETAILS
SANITARY SEWER

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL DETAILS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2–3–22
REVISIONS:	
SCALE:	N.T.S.
SHEET:	5

DIMENSIONS:
- A: OUTSIDE DIAMETER OF PIPE PLUS 24" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36". TRENCH SHIELDS NARROWER THAN 4 FEET INSIDE WIDTH WILL NOT BE REQUIRED UNLESS SPECIFICALLY REQUIRED IN THE PROJECT SPECIFICATIONS.
- B: FOR ROCK, OUTSIDE DIAMETER OF PIPE PLUS 18" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36".
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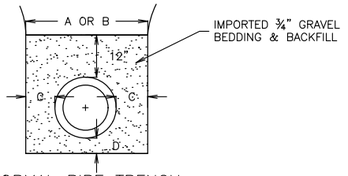
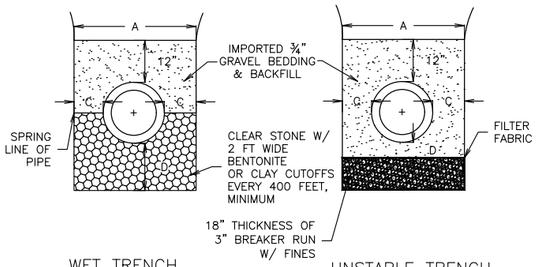


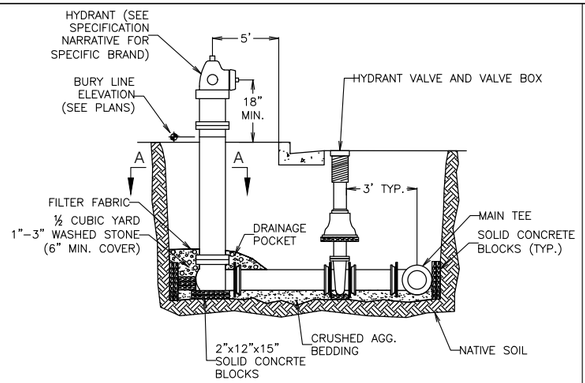
NORMAL PIPE TRENCH

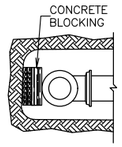


WET TRENCH WITH SUMP DEWATERING

UNSTABLE TRENCH

DETAIL
TRENCH WIDTH AND BEDDING





SECTION A–A

NOTES:

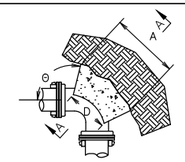
– THE HYDRANT AND HYDRANT VALVE SHALL BE CONNECTED TO THE MAIN TEE BY MEGALUGS.

–FILTER FABRIC SHALL BE WRAPPED AROUND THE DRAIN POCKET.

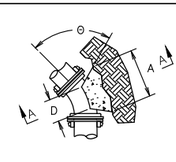
–WHERE THE HYDRANT IS INSTALLED AT THE HIGH POINT OF THE WATER MAIN ON MAINS 10 INCHES IN DIAMETER AND LARGER, THE CONTRACTOR SHALL TIP THE MAIN TEE UPWARDS 45 DEGREES AND USE A 45 DEGREE FITTING TO ALLOW AIR TO ESCAPE FROM THE MAIN.

–WHERE THE LOCATION OF THE HYDRANT VALVE BOX WOULD BE IN ANY PORTION OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PLACE THE VALVE IN THE TERRACE AREA.

DETAIL
HYDRANT SETTING

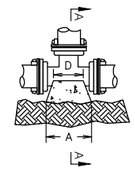


90° BEND

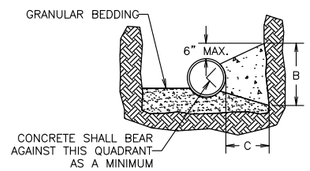


45° BEND

22½° BEND



TEE



SECTION A–A

WOOD BLOCKING MAY NOT BE USED. ONLY SOLID CONCRETE BLOCKS ARE ALLOWED.

DIMENSION "D" SHALL BE AS LARGE AS POSSIBLE, BUT THE CONCRETE SHALL NOT INTERFERE WITH THE MECHANICAL JOINTS.

DIMENSION "C" SHALL BE AT LEAST 6 INCHES, AND LARGE ENOUGH TO MAKE THE "θ" ANGLE EQUAL TO OR GREATER THAN 45 DEGREES WITH THE DIMENSION "A" AS SHOWN ON THE TABLE, OR GREATER, AND WITH DIMENSION "D" AS LARGE AS POSSIBLE.

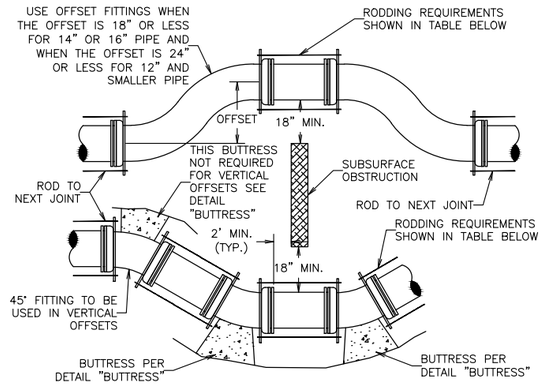
CONCRETE SHALL BE CLASS "CC". SEE SECTION 03301.

BUTTRESS DIMENSIONS								
PIPE SIZE*	TEES		22.5° BEND		45° BEND		90° BEND	
	A	B	A	B	A	B	A	B
6	1'–3"	1'–0"	1'–0"	1'–0"	1'–0"	1'–0"	1'–4"	1'–2"
8	1'–6"	1'–4"	1'–0"	1'–0"	1'–4"	1'–2"	1'–10"	1'–6"
10/12	2'–3"	2'–0"	1'–4"	1'–4"	1'–10"	1'–10"	2'–8"	2'–3"
14/16	3'–2"	2'–6"	1'–10"	1'–8"	2'–6"	2'–4"	3'–10"	2'–10"
18/20	4'–0"	3'–0"	2'–4"	2'–0"	3'–3"	2'–10"	5'–0"	3'–4"
22/24	5'–3"	3'–4"	2'–10"	2'–4"	4'–0"	3'–3"	6'–4"	3'–10"
30	6'–3"	4'–3"	3'–6"	3'–0"	5'–4"	3'–10"	8'–0"	4'–8"

* = FOR TEE THIS WILL BE THE BRANCH PIPE

DIMENSIONS IN THE TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND SOIL RESISTANCE OF 2000 LBS./SQ.FT.

DETAIL
BUTTRESS



NOMINAL PIPE SIZE	RODS NO.	RODS DIA.	STRAP SIZE	BOLT DIA.	WASHER SIZE
6	3	¾	½ x 2	¾	½ x 3 x 5
8	4	¾	½ x 2	¾	½ x 3 x 5
10	4	¾	½ x 2½	1	½ x 3 x 5
12	4	¾	½ x 2½	1	½ x 3 x 5
14	4	¾	½ x 2½	1	½ x 3 x 5

ALL DIMENSIONS IN THIS TABLE ARE IN INCHES

NOTES:
– RODS AND WASHERS TO BE ASTM A–575 MERCHANT QUALITY 0.17–0.24 CARBON. NUTS TO BE AMERICAN STANDARD HEAVY, NOT PRESSED.

– TIE RODS, BOLTS, NUTS, BANDS AND WASHERS TO BE FURNISHED AND ASSEMBLED BY THE CONTRACTOR.

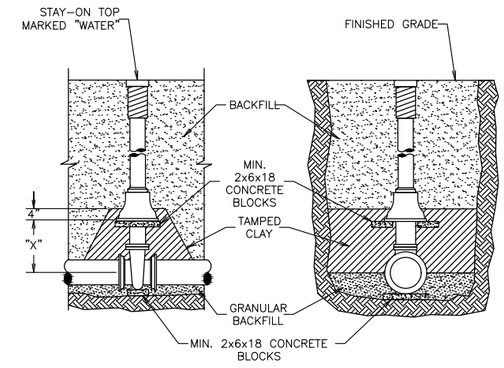
– ALL STEEL MATERIAL TO BE GALVANIZED OR THOROUGHLY COATED WITH ENGINEER APPROVED COATING.

– OFFSET FITTINGS REQUIRE CONTINUOUS RODDING IN ALL POSITIONS.

– VERTICAL OFFSETS SHALL NOT CREATE A HIGH POINT IN THE WATER MAIN. VERTICAL OFFSETS REQUIRE THE SAME RODDING AND BUTTRESSING AS SHOWN ABOVE.

– MEGALUG RESTRAINTS MAY BE USED IN LIEU OF RODDING.

DETAIL
OFFSET AND RODDING



VIEW ALONG PIPELINE

SECTION VIEW

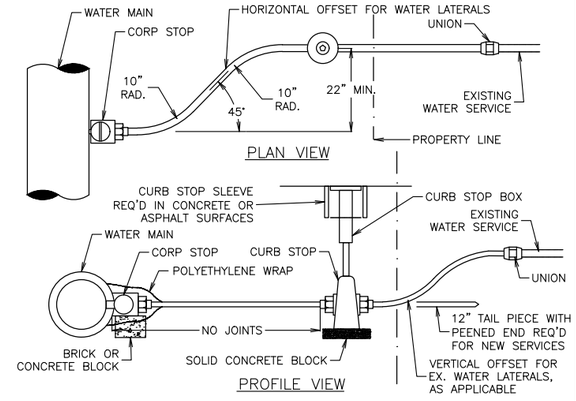
PIPE DIA., INCHES	6	8	10	12	14	16
"X" DIMENSION, INCHES	12	13	17	21	25	30

NOTES:

– SOLID CONCRETE BLOCKS MUST BE USED.

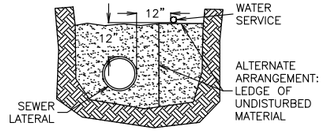
– VALVES SHALL BE SECURED WITH RODDING OR MEGALUGS TO THE NEAREST "TEE" FITTING OR TO THE FIRST JOINT CONNECTING A FULL SECTION OF WATER MAIN PIPE. SEE RODDING DETAIL "OFFSET AND RODDING".

DETAIL
VALVE BOX SETTING

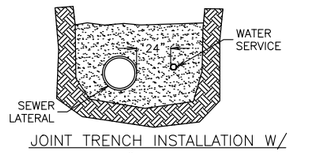


PLAN VIEW

PROFILE VIEW



JOINT TRENCH INSTALLATION



JOINT TRENCH INSTALLATION W/ LESS THAN 12" VERTICAL SEPARATION

NOTES:
– HORIZONTAL AND VERTICAL OFFSETS SHALL BE MADE WITH AN APPROVED PIPE BENDING TOOL. SHARP BENDS OR KINKS IN THE WATER SERVICE ARE NOT ALLOWED.

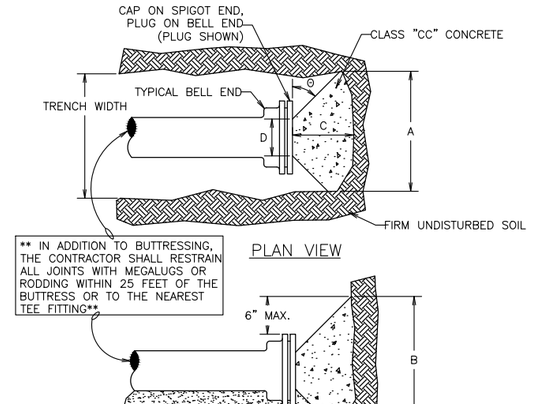
– VERTICAL OFFSETS SHALL BE MADE ON THE PROPERTY LINE SIDE OF THE CURB STOP.

– PLASTIC OR CAST IRON CURB BOX SLEEVES SHALL BE INSTALLED WHERE CURB BOXES ARE INSTALLED IN CONCRETE OR ASPHALT SURFACES.

–THE SEWER LATERAL SHALL BE LOCATED ON THE DOWNSTREAM SIDE OF THE WATER SERVICE, BASED ON SEWER MAIN FLOW DIRECTION.

–THE LOCATION OF ALL WATER SERVICES CROSSING UNDER THE CURB & GUTTER SHALL BE MARKED BY STAMPING A "W" IN THE TOP OF CURB OVER THE LOCATION OF THE WATER SERVICE LINE.

DETAIL
WATER SERVICE INSTALLATION



PLAN VIEW

ELEVATION VIEW

BUTTRESS DIMENSIONS				
DIA.	A	B	C	D
6"	1'–3"	1'–0"	SEE NOTES ABOVE	SEE NOTES ABOVE
8"	1'–8"	1'–6"		
10"	2'–0"	1'–8"		
12"	2'–5"	1'–10"		
16"	3'–4"	2'–4"		
20"	4'–3"	2'–10"		
24"	5'–2"	3'–4"		
30"	6'–9"	4'–0"		

NOTES:
– DIMENSION "C" SHALL BE LARGE ENOUGH TO MAKE ANGLE θ EQUAL TO OR GREATER THAN 45°.

– DIMENSION "D" EQUALS APPROX. I.D. OF PIPE, LESS 2 INCHES. CONTRACTOR SHALL PROTECT THE MECH. JOINT BOLTS FROM THE CONCRETE BUTTRESS.

– BUTTRESS DIMENSIONS ARE BASED UPON A SOIL RESISTANCE OF 2 TONS PER SQ. FT. AND A WATER PRESSURE OF 150 P.S.I.

DETAIL
BUTTRESS FOR DEAD ENDS

2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
www.tcengineers.net
TOWN & COUNTRY ENGINEERING, INC.

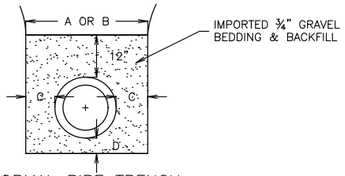
STANDARD CONSTRUCTION DETAILS WATER MAIN

05

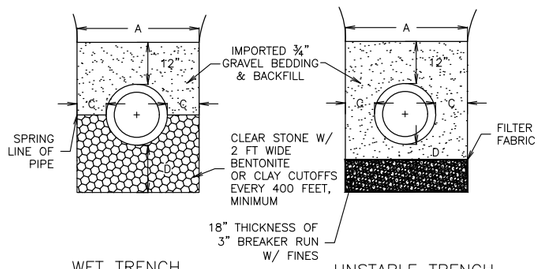
2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL DETAILS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2–3–22
REVISIONS:
SCALE: N.T.S.
SHEET: 6

DIMENSIONS:
- A: OUTSIDE DIAMETER OF PIPE PLUS 24" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36". TRENCH SHIELDS NARROWER THAN 4 FEET INSIDE WIDTH WILL NOT BE REQUIRED UNLESS SPECIFICALLY REQUIRED IN THE PROJECT SPECIFICATIONS.
- B: FOR ROCK, OUTSIDE DIAMETER OF PIPE PLUS 18" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36".
- C: MINIMUM – 6"
- D: MINIMUM 4" BELOW BARREL AND 3" BELOW BELL.



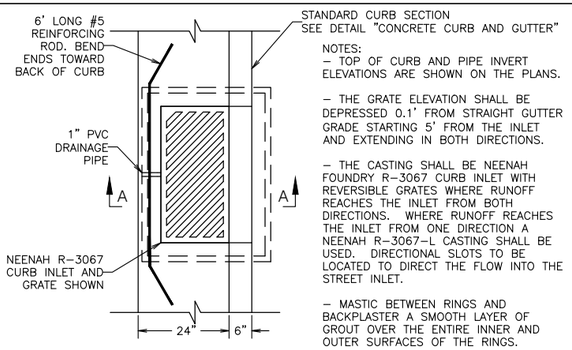
NORMAL PIPE TRENCH



WET TRENCH WITH SUMP DEWATERING

UNSTABLE TRENCH

DETAIL
TRENCH WIDTH AND BEDDING



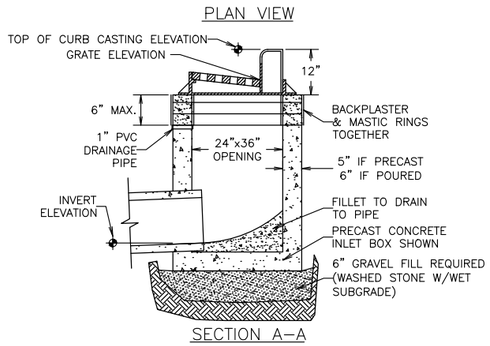
PLAN VIEW

NOTES:
– TOP OF CURB AND PIPE INVERT ELEVATIONS ARE SHOWN ON THE PLANS.

– THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.

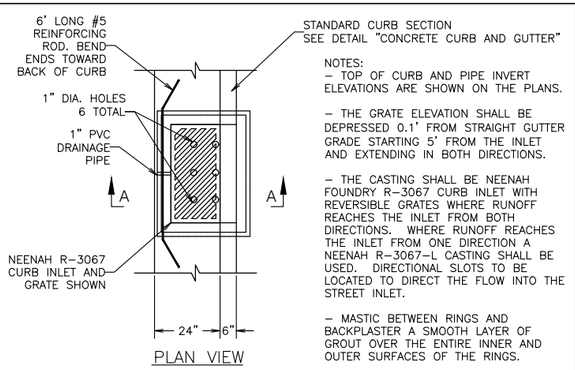
– THE CASTING SHALL BE NEENAH FOUNDRY R–3067 CURB INLET WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.

– MASTIC BETWEEN RINGS AND BACKPLASTER A SMOOTH LAYER OF GROUT OVER THE ENTIRE INNER AND OUTER SURFACES OF THE RINGS.



SECTION A–A

DETAIL
RECTANGULAR CURB INLET



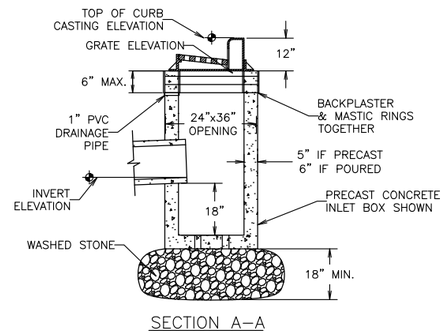
PLAN VIEW

NOTES:
– TOP OF CURB AND PIPE INVERT ELEVATIONS ARE SHOWN ON THE PLANS.

– THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.

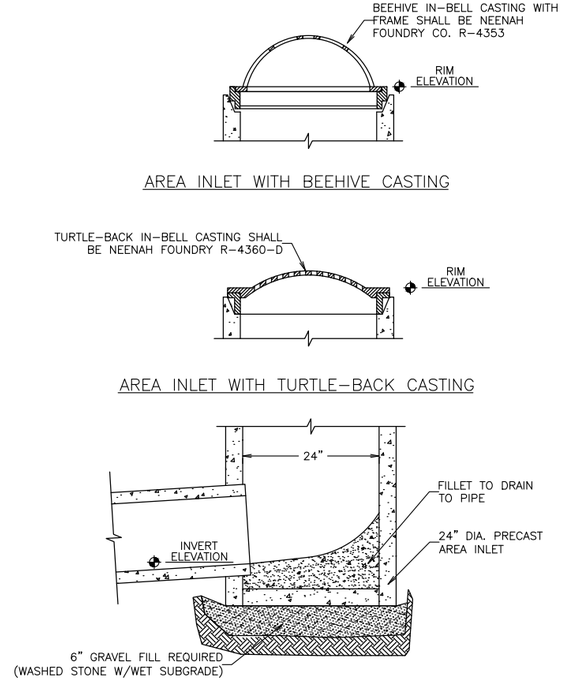
– THE CASTING SHALL BE NEENAH FOUNDRY R–3067 CURB INLET WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.

– MASTIC BETWEEN RINGS AND BACKPLASTER A SMOOTH LAYER OF GROUT OVER THE ENTIRE INNER AND OUTER SURFACES OF THE RINGS.



SECTION A–A

DETAIL
RECTANGULAR CATCH BASIN

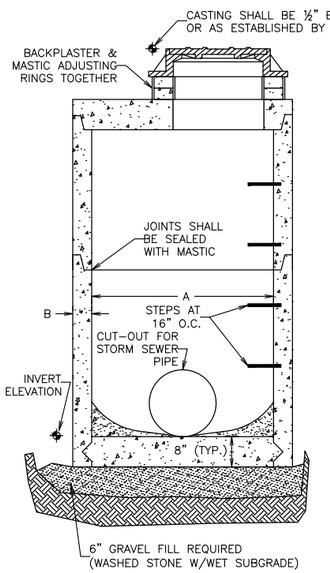


AREA INLET WITH BEEHIVE CASTING

AREA INLET WITH TURTLE–BACK CASTING

AREA INLET BOTTOM SECTION

DETAIL
AREA INLET



NOTES:

CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.

MANHOLE STEPS SHALL CONFORM TO ASTM–C478 & SHALL BE NEENAH FOUNDRY R–1981–N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.

ADJUST FRAME TO GRADE WITH AT LEAST TWO PRECAST CONCRETE RINGS OF DIFFERENT THICKNESSES. RINGS SHALL BE REINFORCED WITH ONE NO.3 STEEL BAR CENTERED WITHIN EACH RING.

A MINIMUM OF 3" TO A MAXIMUM OF 9" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

MANHOLE CASTING SHALL BE HEAVY DUTY, NEENAH FOUNDRY R–1550–A, WITH TYPE "B" NON–ROCKING LID, GASKET SEAL AND CONCEALED PICK HOLES.

MANHOLE INLET CASTING SHALL BE NEENAH FOUNDRY R–2050 WITH TYPE "C" NON–ROCKING GRATE.

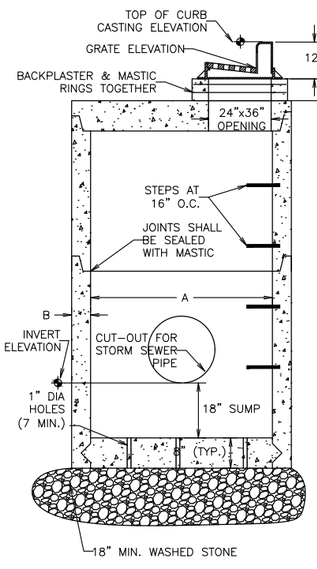
MANHOLE–TYPE CURB INLET CASTING SHALL BE NEENAH FOUNDRY R–3067 WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE CURB INLET.

A 2x3 LID OPENING IS REQUIRED FOR MANHOLE–TYPE CURB INLETS. ADJUSTING RINGS SHOULD THEN BE LIMITED TO 6" MAX.

STORM MANHOLE DIMENSIONS

MANHOLE SIZE	DIMENSION A	DIMENSION B (MIN.)
48"	48"	5"
60"	60"	6"
72"	72"	7"
84"	84"	7"
96"	96"	9"

DETAIL
STORM SEWER MANHOLE AND INLET



NOTES:

CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.

MANHOLE STEPS SHALL CONFORM TO ASTM–C478 & SHALL BE NEENAH FOUNDRY R–1981–N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.

A MAXIMUM OF 6" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE–TYPE CURB CATCH BASIN CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.

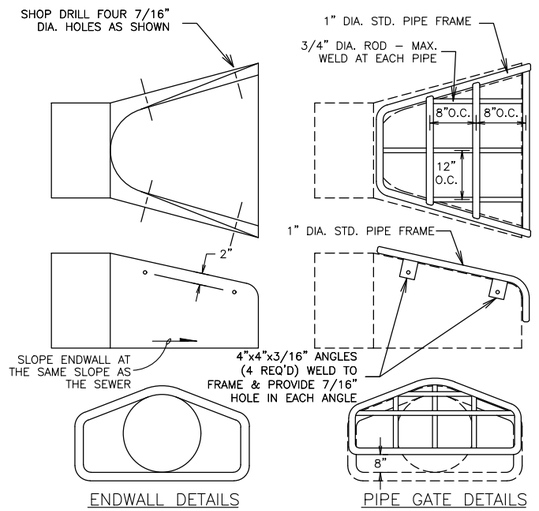
MANHOLE–TYPE CURB CATCH BASIN CASTING SHALL BE NEENAH FOUNDRY R–3067 WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.

A 2x3 LID OPENING IS REQUIRED FOR MANHOLE–TYPE CURB CATCH BASINS.

STORM MANHOLE DIMENSIONS

MANHOLE SIZE	DIMENSION A	DIMENSION B (MIN.)
48"	48"	5"
60"	60"	6"
72"	72"	7"
84"	84"	7"
96"	96"	9"

DETAIL
STORM SEWER MANHOLE CATCH BASIN



ENDWALL DETAILS

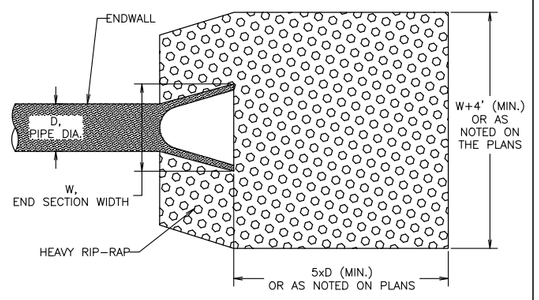
PIPE GATE DETAILS

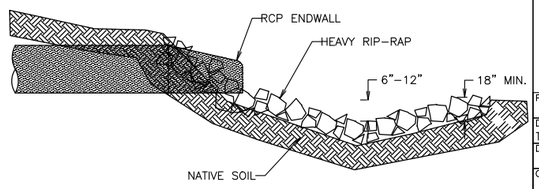
NOTES:
– THE CONTRACTOR SHALL BOLT THE PIPE GATE TO THE CONCRETE ENDWALL WITH FOUR 3/8"x6" MACHINE BOLTS WITH NUTS ON INSIDE WALL.

PAINTING SPECIFICATIONS:
– THE PIPE GATE SHALL RECEIVER THE FOLLOWING PREPARATION & PAINTING. THE FIRST COAT SHALL BE RUS–OLEUM X–60 RED BARE METAL PRIMER OR APPROVED EQUAL. THE SECOND COAT SHALL BE RUST–OLEUM 960 ZINC CHROMATE PRIMER OR APPROVED EQUAL. THE THIRD COAT SHALL BE RUS–OLEUM 1282 HIGH GLOSS METAL FINISH OR APPROVED EQUAL.

PREPARATION STEPS:
1. BARE METAL SURFACES – TREAT WITH THE THREE–COAT PAINTING SYSTEM LISTED AFTER A THOROUGH SCRAPING, WIRE BRUSHING & CLEANING.
2. EACH COAT OF PAINT SHALL BE APPLIED OVER THE ENTIRE GATE SURFACE.
3. ALLOW 24–48 HOURS DRYING TIME AT 60° OR ABOVE BETWEEN COATS.

DETAIL
ENDWALLS





NOTE:

RIP–RAP SHALL BE A MINIMUM OF 2 C.Y. PER ENDWALL.

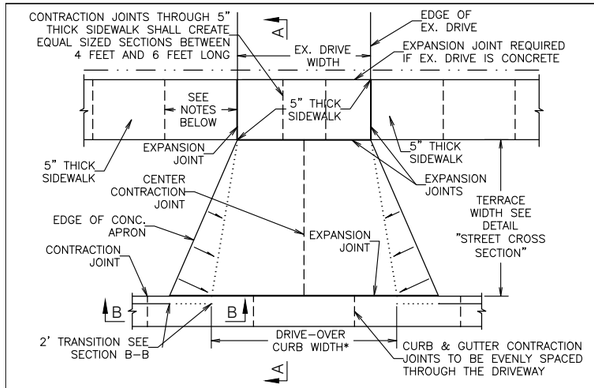
DETAIL
ENDWALL AND RIP–RAP

TOWN & COUNTRY ENGINEERING, INC.
2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
www.tcengineers.net

STANDARD CONSTRUCTION DETAILS
STORM SEWER

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

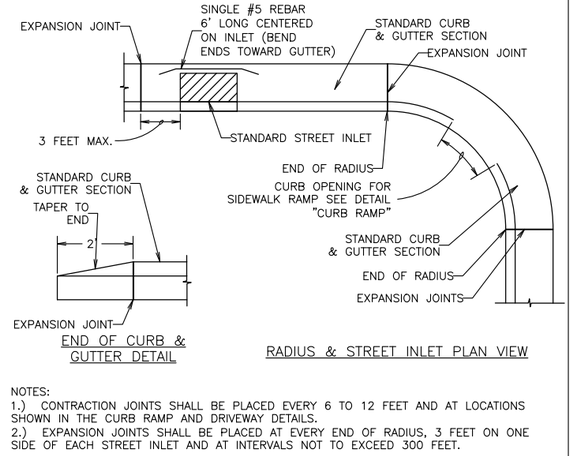
PROJECT NO.: MC 189
DRAWING FILE: TERMINAL DETAILS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2–3–22
REVISIONS:
SCALE: N.T.S.
SHEET: 7



NOTES: – 5" THICK WALK WIDTH SHALL BE EQUAL TO THE EX. DRIVE WIDTH OR A MINIMUM OF 12' CENTERED ON THE EX. DRIVE. THE DRIVE–OVER CURB WIDTH SHALL BE EQUAL TO THE 5" THICK WALK WIDTH PLUS 2', CENTERED ON THE EX. DRIVE.

– CONTRACTION JOINTS IN 5" THICK SIDEWALKS SHALL BE PLACED EVERY 5'. EXPANSION JOINTS SHALL BE PLACED AT INTERVALS NOT TO EXCEED 96 FEET.

PLAN VIEW

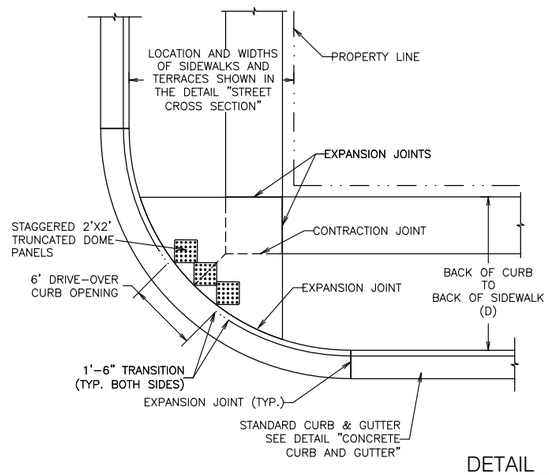


DETAIL
DRIVEWAY

NOTES:
TRUNCATED DOME PANELS MUST TOUCH ONE CORNER TO RADIUS OF BACK OF CURB. IF MORE THAN ONE IS USED THEY MUST TOUCH OR OVERLAP. DOMES SHALL BE ALIGNED WITH CROSS WALK DIRECTION.

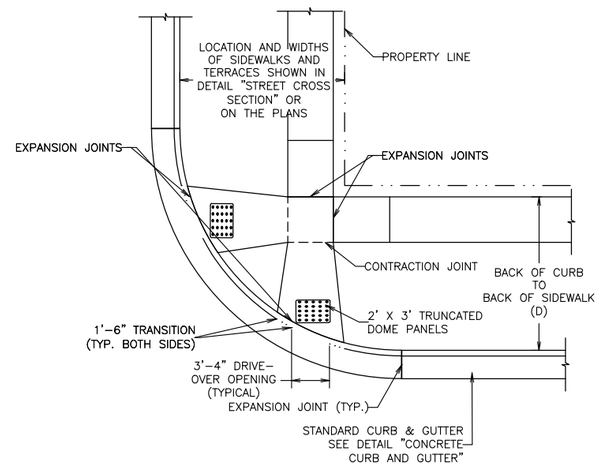
TYPE 1 CURB RAMP

– FOR USE WHEN THE DISTANCE FROM THE BACK OF THE CURB TO THE BACK OF THE SIDEWALK (D) IS LESS THAN 12 FEET.

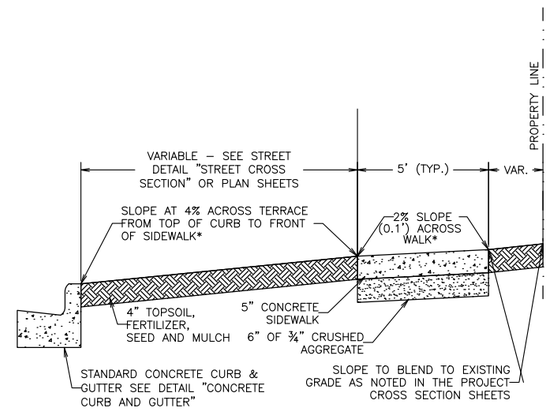


TYPE 2 CURB RAMP

– FOR USE WHEN THE DISTANCE FROM THE BACK OF THE CURB TO THE BACK OF THE SIDEWALK (D) IS GREATER THAN OR EQUAL TO 12 FEET.

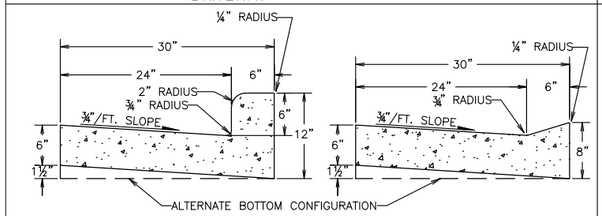


DETAIL
CURB RAMP



* WHERE PLAN CROSS SECTIONS CONFLICT WITH THIS DETAIL THE PLAN CROSS SECTIONS SHALL GOVERN.

DETAIL
SIDEWALK - TERRACE SECTION



STANDARD CURB & GUTTER CROSS SECTION DIMENSIONS

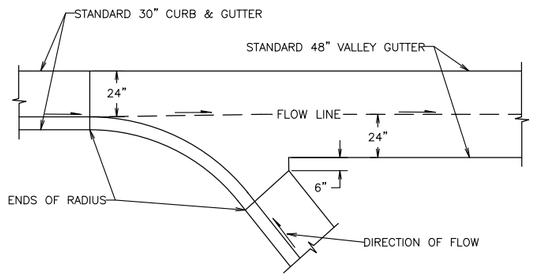
DRIVE–OVER CURB & GUTTER CROSS SECTION DIMENSIONS

END OF CURB & GUTTER DETAIL

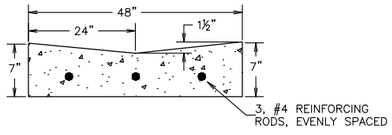
RADIUS & STREET INLET PLAN VIEW

NOTES:
1.) CONTRACTION JOINTS SHALL BE PLACED EVERY 6 TO 12 FEET AND AT LOCATIONS SHOWN IN THE CURB RAMP AND DRIVEWAY DETAILS.
2.) EXPANSION JOINTS SHALL BE PLACED AT EVERY END OF RADIUS, 3 FEET ON ONE SIDE OF EACH STREET INLET AND AT INTERVALS NOT TO EXCEED 300 FEET.

DETAIL
CONCRETE CURB AND GUTTER

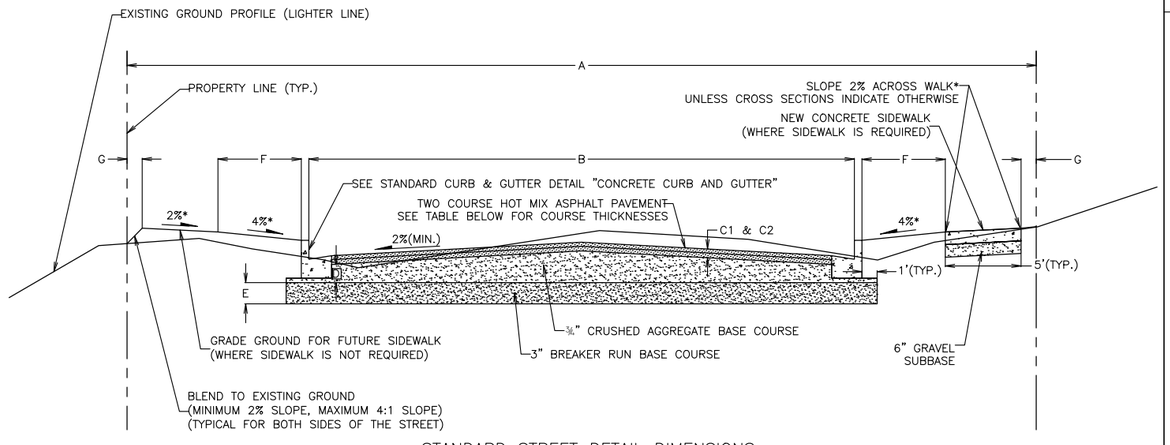


VALLEY GUTTER PLAN VIEW



STANDARD VALLEY GUTTER CROSS SECTION DIMENSIONS

DETAIL
VALLEY GUTTER



STANDARD STREET DETAIL DIMENSIONS

STREET NAME	A RIGHT OF WAY WIDTH	B CURB FACE TO CURB FACE WIDTH	C1 LOWER COURSE THICKNESS	C2 SURFACE COURSE THICKNESS	D ¾" C.A.B.C. THICKNESS*	E 3" BREAKER RUN B.C. THICKNESS	F TERRACE WIDTH	G BACK OF WALK TO PROP. LINE
TERMINAL DRIVE	VARIES	34'	3"	2"	6"	12" MIN.	4'	VARIES
HIDDEN FARM ROAD	66'	27'	1.75"	1.5"	6"	12" MIN.	4'	VARIES
CARD AVENUE	10'	N/A	1.75"	1.5"	6"	12" MIN.	N/A	N/A
BREMER ROAD	VARIES	34'	1.75"	1.5"	6"	12" MIN.	N/A	VARIES
LARSON BEACH RD	VARIES	34'	1.75"	1.5"	6"	12" MIN.	N/A	VARIES
STORCK ROAD	66'	N/A	N/A	2"	6"	N/A	N/A	N/A

*WHERE PLAN CROSS SECTIONS CONFLICT WITH THIS DETAIL, THE PLAN CROSS SECTION SHALL GOVERN.

NOTES:
THE CROWN OF THE ROAD SHALL BE CREATED USING THE ¾" CRUSHED AGGREGATE BASE COURSE. THE THICKNESS SHOWN IS THE MINIMUM THICKNESS REQUIRED AS MEASURED AT THE CONCRETE CURB & GUTTER SECTION.

THE 3" BREAKER RUN BASE COURSE THICKNESS MAY NEED TO BE INCREASED DEPENDING UPON SUBGRADE CONDITIONS.

DETAIL
STREET CROSS SECTION

2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
www.tcengineers.net
TOWN & COUNTRY ENGINEERING, INC.

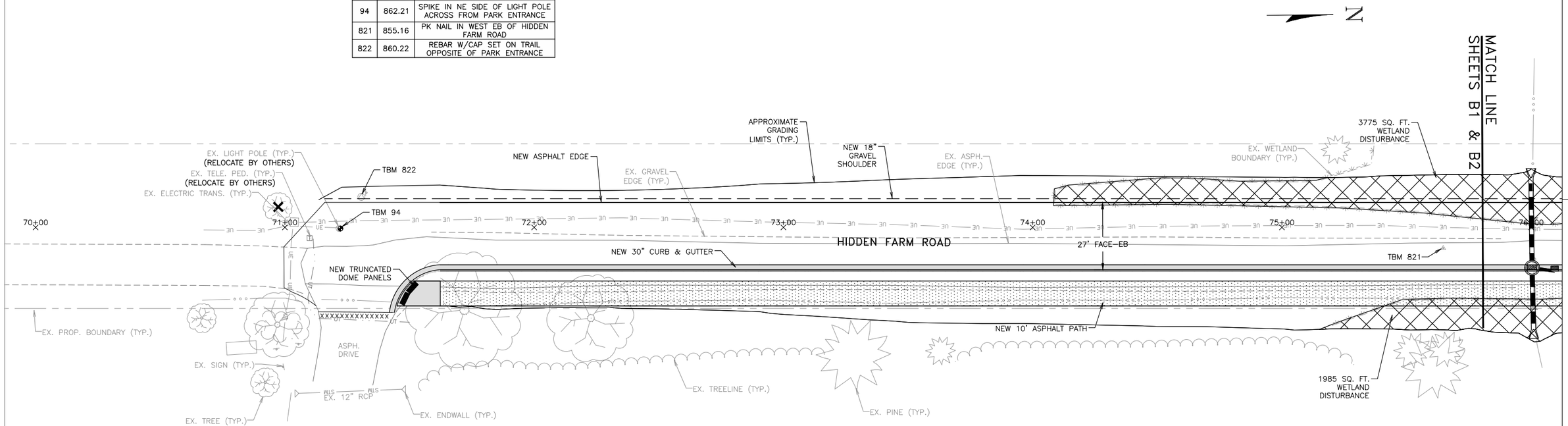
STANDARD CONSTRUCTION DETAILS
STREET IMPROVEMENTS

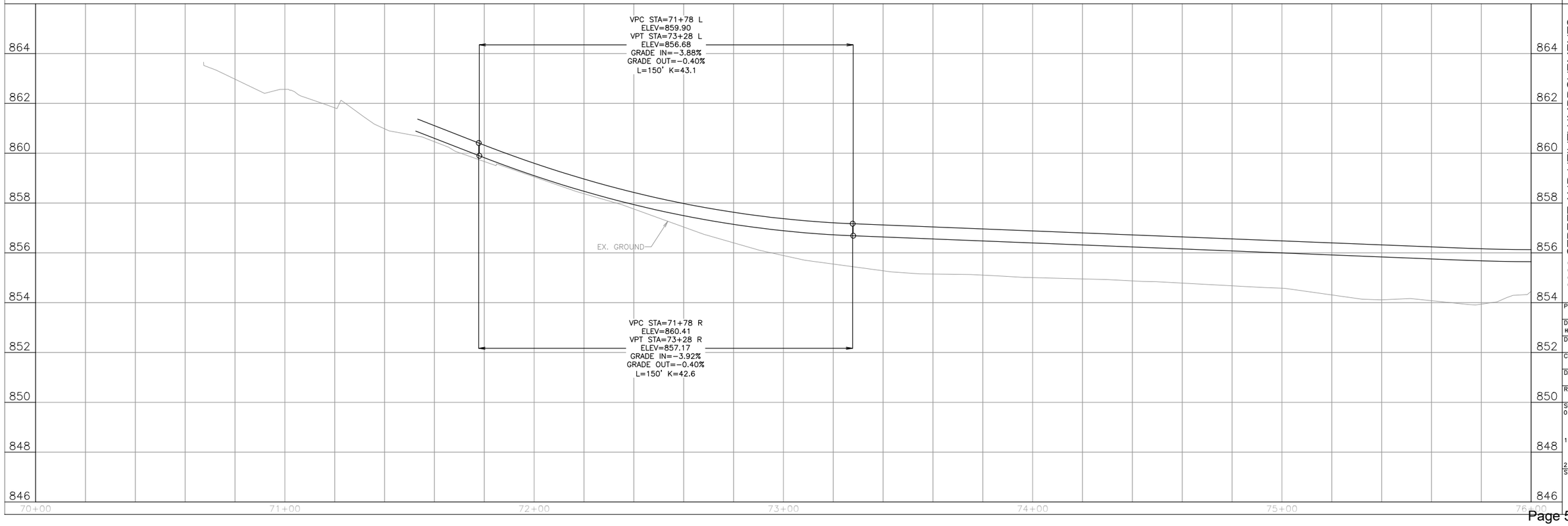
05

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL DETAILS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2–3–22
REVISIONS:
SCALE: N.T.S.
SHEET: 8

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
94	862.21	SPIKE IN NE SIDE OF LIGHT POLE ACROSS FROM PARK ENTRANCE
821	855.16	PK NAIL IN WEST EB OF HIDDEN FARM ROAD
822	860.22	REBAR W/CAP SET ON TRAIL OPPOSITE OF PARK ENTRANCE





6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
www.tcengineers.net
TOWN & COUNTRY ENGINEERING, INC.

PLAN & PROFILE
HIDDEN FARM ROAD
Station 70+00 To Station 76+00

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

PROJECT NO.:	MC 129
DRAWING FILE:	HIDDEN FARM SHEETS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE: HORIZONTAL	0 10 20
VERTICAL	1 2
SHEET:	B1

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
93	861.36	SW TAG BOLT ON HYDRANT NW QUADRANT OF HIDDEN FARM & ELVEHJEM
820	859.32	CHISELED X ON BOC NE QUADRANT OF HIDDEN FARM & ELVEHJEM

MATCH LINE
SHEETS B1 & B2

NEW STM ENDWALL 4
E. INV. = 852.57 (21")

EX. STM ENDWALL 2
E. INV. = 852.68 (21")

EX. WETLAND BOUNDARY (TYP.)

NEW ASPHALT EDGE

NEW 18" GRAVEL SHOULDER

EX. GRAVEL EDGE (TYP.)

EX. ASPH. EDGE (TYP.)

ER 78+73.32/6.00'L
857.76

KINK 78+53.26/6.00'L
857.28

KINK 78+33.26/10.00'L
856.88

MID RAD
858.01

78+93.21/23.62'L
858.26 (MATCH EX.)

R=20'

76+00 77+00 78+00 79+00 80+00 81+00

33 L.F. NEW 21" RCP STM @ 0.64%

NEW STM CATCH BASIN 26
RIM = 856.14
S. INV. = 852.93 (12")

27' FACE-EB

NEW 30" CURB & GUTTER

HIDDEN FARM ROAD

ER 78+72.30/17.50'R
858.22

NEW STOP SIGN

MID RAD
858.84

NEW TRUNCATED DOME PANEL

3 L.F. NEW 12" RCP STM @ 1.00%

NEW STM 5' INLET CATCH BASIN 27
RIM = 856.13
W. INV. = 852.79 (21")
E. INV. = 852.79 (21")
N. INV. = 852.89 (12")

NEW STM ENDWALL 3
W. INV. = 852.90 (21")

EX. STM ENDWALL 1
W. INV. = 852.92 (21")

21 L.F. NEW 21" RCP STM @ 0.50%

APPROXIMATE GRADING LIMITS (TYP.)

EX. TREE (TYP.)

NEW 10' ASPHALT PATH

EX. PINE (TYP.)

EX. TELE. PED. (TYP.)

ER 78+91.79/36.42'R
858.72

78+94.57/45.60'R
858.41 (MATCH EX.)

ELVEHJEM ROAD

EX. PROP. BOUNDARY (TYP.)

EX. LIGHT POLE (TYP.)

TBM 93

EX. HYDRANT (TYP.)

EX. WATER VALVE (TYP.)

TBM 820

EX. PROP. CORNER (TYP.)

EX. SIGN (TYP.)

N

VPC STA=75+75 L
ELEV=855.70
VPT STA=76+25 L
ELEV=855.70
GRADE IN=-0.40%
GRADE OUT=0.40%
L=50' K=62.1

NEW STM 5' INLET CATCH BASIN 27
RIM = 856.13
W. INV. = 852.79 (21")
E. INV. = 852.79 (21")
N. INV. = 852.89 (12")

NEW STM CATCH BASIN 26
RIM = 856.14
S. INV. = 852.93 (12")

3 L.F. NEW 12" RCP STM @ 1.00%

EX. 21" CMP STM

EX. GROUND

VPC STA=77+83 L
ELEV=856.34
VPT STA=78+58 L
ELEV=857.39
GRADE IN=0.40%
GRADE OUT=2.40%
L=75' K=37.7

VPC STA=77+81 R
ELEV=856.81
VPT STA=78+56 R
ELEV=857.84
GRADE IN=0.40%
GRADE OUT=2.36%
L=75' K=38.2

VPC STA=75+75 R
ELEV=856.18
VPT STA=76+25 R
ELEV=856.18
GRADE IN=-0.40%
GRADE OUT=0.40%
L=50' K=62.5

860 858 856 854 852 850 848 846 844 842

76+00 77+00 78+00 79+00 80+00 81+00

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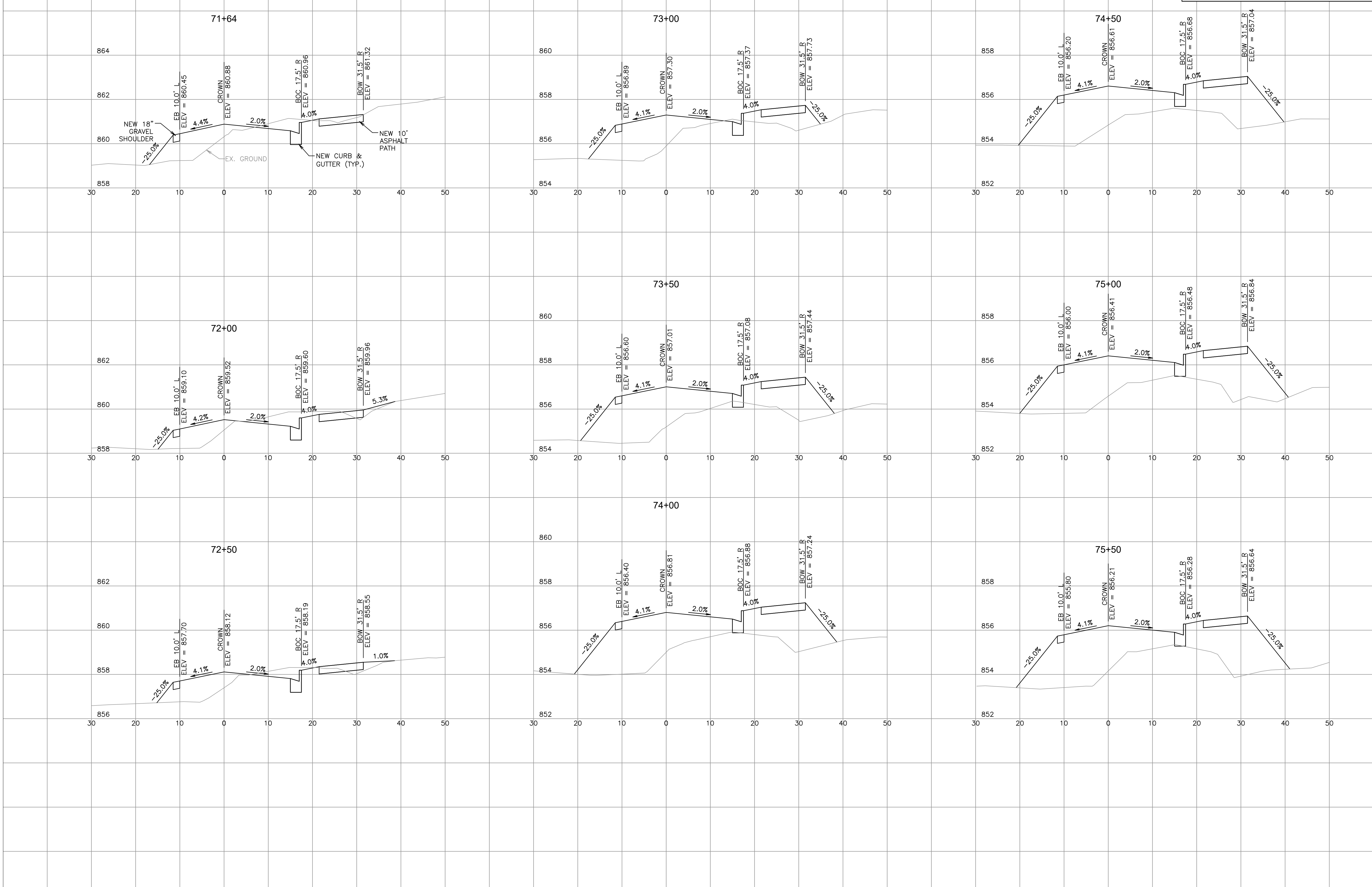
TOWN & COUNTRY ENGINEERING, INC.

PLAN & PROFILE
HIDDEN FARM ROAD
Station 75+60 To Station 81+60

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

PROJECT NO.: MC 129
DRAWING FILE: HIDDEN FARM SHEETS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 10 20 VERTICAL 1 2
SHEET: B2

EXISTING CONTOURS ARE DENOTED BY LIGHTER LINES.
FINISHED CONTOURS ARE DENOTED BY DARKER LINES.
DRIVE OVER CURB ELEVATIONS ARE LABELED AT FULL CURB HEIGHT.



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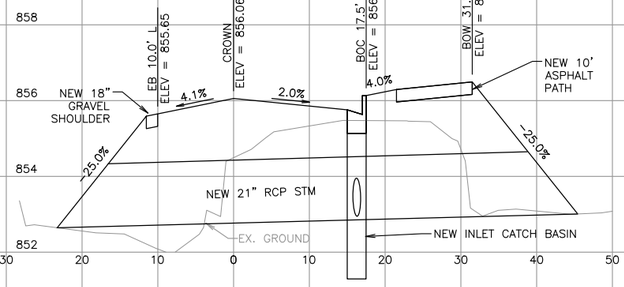
CROSS SECTIONS
HIDDEN FARM ROAD
Station 71+64 To Station 75+50

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

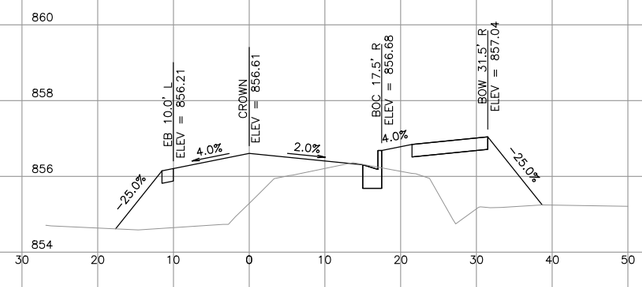
PROJECT NO.: MC 129
DRAWING FILE: HIDDEN FARM SHEETS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 2.5 5 10
VERTICAL 1 2
SHEET: B3

EXISTING CONTOURS ARE DENOTED BY LIGHTER LINES.
FINISHED CONTOURS ARE DENOTED BY DARKER LINES.
DRIVE OVER CURB ELEVATIONS ARE LABELED AT FULL CURB HEIGHT.

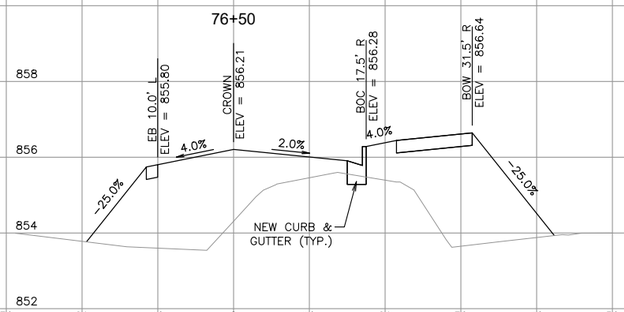
76+00



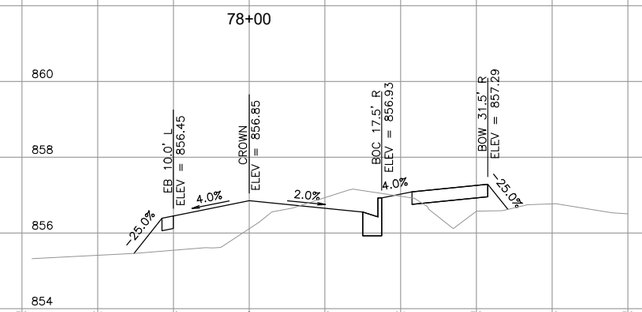
77+50



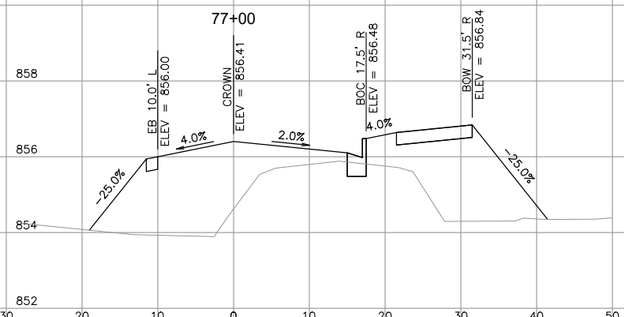
76+50



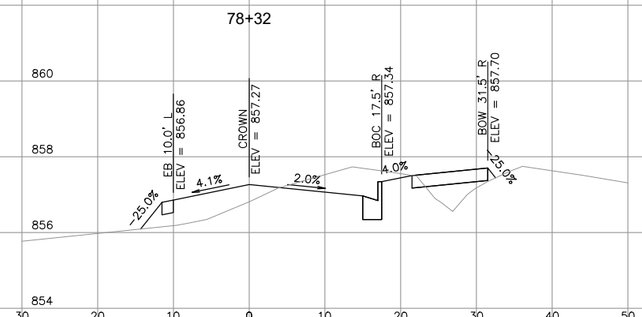
78+00



77+00



78+32



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CROSS SECTIONS
HIDDEN FARM ROAD
Station 76+00 To Station 78+00

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

PROJECT NO.:	MC 129
DRAWING FILE:	HIDDEN FARM SHEETS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	

SCALE: HORIZONTAL 0 2.5 5 10
1
2
VERTICAL

SHEET:
B4

NOTE: SEWER AND WATER LATERALS ARE SHOWN AT APPROXIMATE LOCATIONS ONLY. CONTRACTOR TO VERIFY LOCATION OF EXISTING LATERALS BEFORE CONSTRUCTING NEW UTILITIES.

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
49	853.36	NW TAG BOLT ON HYDRANT
50	855.67	SE TAG BOLT ON HYDRANT NEAR ENTRANCE TO #5600
850	851.68	CHISELED X IN WALK, SW QUADRANT OF BREMER & LAKE EDGE
851	858.02	CHISELED X ON WEST BOC OF BREMER ROAD

MATCH LINE SHEETS B5 & B6

#5517 #5519 #5521 #5523 #5525 #4606 #5516 #4605

EX. PROP. BOUNDARY (TYP.)

EX. CURB STOP (TYP.)

EX. TELE. PED. (TYP.)

EX. STM INLET 21
EX. 12" RCP
EX. STM INLET 22
EX. 12" RCP
EX. STM INLET 12

ASPH. DRIVE

NEW 8"X6" TEE
NEW 6" VALVE
5 L.F. NEW 6" D.I. WM

NEW 8" VALVE, NEW 45° BENDS (2), CONNECT TO EXISTING

CAP EX. WM

EX. 8" WM

30 L.F. NEW 1" COPPER SERVICE W/CURB STOP

NEW HYDRANT, VALVE, TEE, & 20 L.F. NEW 6" D.I. HYDRANT LEAD

EX. SAN MH SA158

EX. STM INLET 18
RIM = 851.25
SW. INV. = 848.20 (12")

EX. SAN MH SA162

EX. 8" CLAY SAN

50+00 51+00 52+00 53+00 54+00 55+00

231 L.F. NEW 8" D.I. WM (CONN. TO TEE)

BREMER ROAD

NEW 8" D.I. WM

NEW 8" VALVE

NEW 45° BEND, NEW 22.5° BEND, CAP EX. WM

NEW 8" TEE

EX. GUY WIRE (TYP.)

EX. POWER POLE (TYP.)

EX. STM INLET 19
RIM = 851.56
NE. INV. = 846.98 (12")
SW. INV. = 846.98 (12")

EX. CONC. WALK

CONC. DRIVE

EX. TREE (TYP.)

EX. STM INLET 13
EX. 12" RCP

EX. STM INLET 20

EX. 18" STM RCP

EX. SAN MH SA160

EX. STM MH 14

EX. WATER VALVE (TYP.)

EX. HYDRANT (TYP.)

LAKE EDGE ROAD

WAUBESA SHORES

EX. GROUND

EX. STM INLET 12
RIM = 853.31
NW. INV. = 849.25 (12")
S. INV. = 849.03 (15")

EX. SAN MH SA162
RIM = 858.52
N. INV. = 845.99 (8")
W. INV. = 845.92 (8")
SE. INV. = 845.92 (8")

EX. STM INLET 20
RIM = 852.62
NW. INV. = 848.42 (12")
N. INV. = 848.42 (15")
SE. INV. = 848.42 (18")

EX. SAN MH SA160
RIM = 852.13
NW. INV. = 845.21 (8")
W. INV. = 845.23 (8")
E. INV. = 845.01 (8")

EX. STM MH 14
RIM = 851.64
NW. INV. = 846.59 (18")
NE. INV. = 846.49 (12")
S. INV. = 846.46 (18")

EX. SAN MH SA158
RIM = 851.54
W. INV. = 844.88 (8")
E. INV. = 844.88 (8")
S. INV. = 844.88 (8")

EX. 12" RCP STM

EX. 15" RCP STM

EX. 18" RCP STM

EX. 8" WM

EX. 8" CLAY SAN

NEW 8" D.I. WM

MIN. 18" CLEARANCE AT SAN CROSSING

858 856 854 852 850 848 846 844 842 840

50+00 51+00 52+00 53+00 54+00 55+00

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PLAN & PROFILE
BREMER ROAD
Station 50+00 To Station 55+40

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: BREMER SHEETS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 10 20, VERTICAL 1 2
SHEET: B5

NOTE: SEWER AND WATER LATERALS ARE SHOWN AT APPROXIMATE LOCATIONS ONLY. CONTRACTOR TO VERIFY LOCATION OF EXISTING LATERALS BEFORE CONSTRUCTING NEW UTILITIES.

MATCH LINE
SHEETS B5 & B6

#4606

#4608

34 L.F. NEW 1" COPPER SERVICE W/CURB STOP (TYP.–3 THIS SIDE)

REMOVE EXISTING HYDRANT AND VALVE BOX

EX. SAN MH SA159

EX. STM INLET 24
RIM = 850.84
N. INV. = 848.57 (15")
S. INV. = 848.57 (15")

EX. STM ENDWALL 23
S. INV. = 848.79 (15")

EX. STM ENDWALL 28
S. INV. = 848.73 (15")

EX. STM ENDWALL 31
E. INV. = 848.92 (18")

EX. STM INLET 29
RIM = 850.84
N. INV. = 848.48 (15")
S. INV. = 848.48 (15")

EX. STM ENDWALL 30
W. INV. = 849.02 (18")

EX. 18" RCP STM

12 L.F. NEW 1" COPPER SERVICE W/CURB STOP

REMOVE VALVE BOX

CAP EX. WM

NEW 8" VALVE, CONNECT TO EXISTING

NEW 22.5° BENDS (2)

ASPH. DRIVE

CONC. DRIVE

EX. 8" WM

EX. 8" CLAY

EX. 6" PVC

55+00

56+00

57+00

58+00

58+50

376 L.F. NEW 8" D.I. WM (TEE TO CONN.)

NEW HYDRANT, VALVE, TEE, & 14 L.F. NEW 6" D.I. HYDRANT LEAD

EX. STM INLET 25
RIM = 850.24
N. INV. = 848.49 (15")
SE. INV. = 848.49 (15")

EX. STM INLET 26
RIM = 850.20
N. INV. = 848.40 (15")
SE. INV. = 848.40 (15")

LARSON BEACH ROAD

N

EX. SAN MH SA159
RIM = 850.95
W. INV. = 845.68 (8")
N. INV. = 845.73 (8")
S. INV. = 846.65 (4")

EX. GROUND

EX. 15" RCP STM

EX. 15" RCP STM

EX. 8" CLAY SAN

EX. 8" WM

NEW 8" D.I. WM

856
854
852
850
848
846
844
842
840
838

55+00
56+00
57+00
58+00
59+00
60+00

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PLAN & PROFILE
LARSON BEACH ROAD
Station 54+20 To Station 60+20

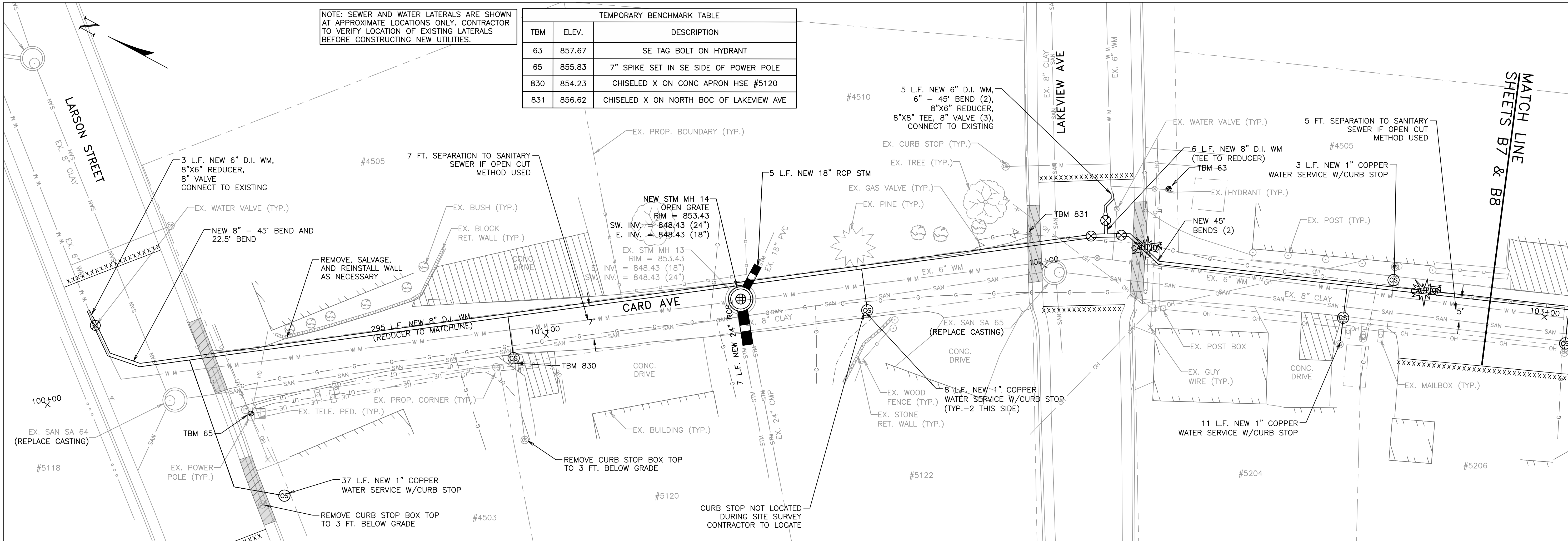
2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	BREMER SHEETS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2–3–22
REVISIONS:	
SCALE: HORIZONTAL	0 10 20
VERTICAL	1 2
SHEET:	B6

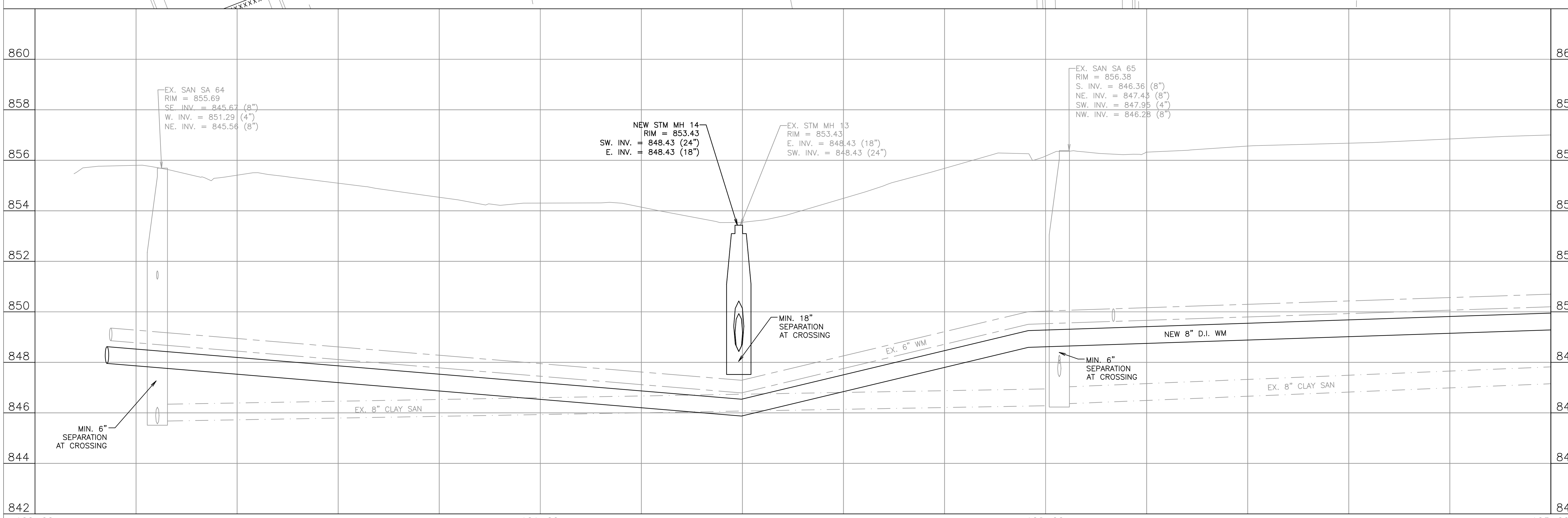
NOTE: SEWER AND WATER LATERALS ARE SHOWN AT APPROXIMATE LOCATIONS ONLY. CONTRACTOR TO VERIFY LOCATION OF EXISTING LATERALS BEFORE CONSTRUCTING NEW UTILITIES.

TEMPORARY BENCHMARK TABLE

TBM	ELEV.	DESCRIPTION
63	857.67	SE TAG BOLT ON HYDRANT
65	855.83	7" SPIKE SET IN SE SIDE OF POWER POLE
830	854.23	CHISELED X ON CONC APRON HSE #5120
831	856.62	CHISELED X ON NORTH BOC OF LAKEVIEW AVE



LARSON STREET
CARD AVE
LAKEVIEW AVE
MATCH LINE SHEETS B7 & B8
3 L.F. NEW 6" D.I. WM, 8"X6" REDUCER, 8" VALVE CONNECT TO EXISTING
NEW 8" – 45° BEND AND 22.5° BEND
EX. WATER VALVE (TYP.)
REMOVE, SALVAGE, AND REINSTALL WALL AS NECESSARY
7 FT. SEPARATION TO SANITARY SEWER IF OPEN CUT METHOD USED
EX. BUSH (TYP.)
EX. BLOCK RET. WALL (TYP.)
EX. PROP. BOUNDARY (TYP.)
295 L.F. NEW 8" D.I. WM. (REDUCER TO MATCHLINE)
NEW STM MH 14 OPEN GRATE RIM = 853.43 SW. INV. = 848.43 (24") E. INV. = 848.43 (18")
EX. STM MH 13 RIM = 853.43 E. INV. = 848.43 (18") SW. INV. = 848.43 (24")
5 L.F. NEW 18" RCP STM
7 L.F. NEW 24" RCP
EX. 18" PVC
EX. 24" CMP
TBM 830
TBM 65
EX. TELE. PED. (TYP.)
EX. PROP. CORNER (TYP.)
EX. SAN SA 64 (REPLACE CASTING)
EX. POWER POLE (TYP.)
37 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP
REMOVE CURB STOP BOX TOP TO 3 FT. BELOW GRADE
REMOVE CURB STOP BOX TOP TO 3 FT. BELOW GRADE
EX. BUILDING (TYP.)
CONC. DRIVE
CURB STOP NOT LOCATED DURING SITE SURVEY CONTRACTOR TO LOCATE
EX. CURB STOP (TYP.)
EX. TREE (TYP.)
EX. GAS VALVE (TYP.)
EX. PINE (TYP.)
EX. SAN SA 65 (REPLACE CASTING)
EX. WOOD FENCE (TYP.)
EX. STONE RET. WALL (TYP.)
8 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP (TYP.-2 THIS SIDE)
5 L.F. NEW 6" D.I. WM, 6" – 45° BEND (2), 8"X6" REDUCER, 8"X8" TEE, 8" VALVE (3), CONNECT TO EXISTING
TBM 831
6 L.F. NEW 8" D.I. WM (TEE TO REDUCER)
TBM 63
EX. HYDRANT (TYP.)
NEW 45° BENDS (2)
EX. POST (TYP.)
5 FT. SEPARATION TO SANITARY SEWER IF OPEN CUT METHOD USED
3 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP
EX. POST BOX
EX. GUY WIRE (TYP.)
EX. MAILBOX (TYP.)
11 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP
CAUTION
100+00
101+00
102+00
103+00
#4505
#4510
#5118
#4503
#5120
#5122
#5204
#5206



860
858
856
854
852
850
848
846
844
842
EX. SAN SA 64 RIM = 855.69 SE. INV. = 845.67 (8") W. INV. = 851.29 (4") NE. INV. = 845.56 (8")
NEW STM MH 14 RIM = 853.43 SW. INV. = 848.43 (24") E. INV. = 848.43 (18")
EX. STM MH 13 RIM = 853.43 E. INV. = 848.43 (18") SW. INV. = 848.43 (24")
EX. SAN SA 65 RIM = 856.38 S. INV. = 846.36 (8") NE. INV. = 847.43 (8") SW. INV. = 847.95 (4") NW. INV. = 846.28 (8")
MIN. 18" SEPARATION AT CROSSING
MIN. 6" SEPARATION AT CROSSING
MIN. 6" SEPARATION AT CROSSING
NEW 8" D.I. WM
EX. 6" WM
EX. 8" CLAY SAN
100+00
101+00
102+00
103+00

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PLAN & PROFILE
CARD AVENUE
Station 100+00 To Station 103+00

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: CARD SHEETS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: HORIZONTAL 0 5 10; VERTICAL 1 2
SHEET: B7

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
64	860.14	NW TAG BOLT ON HYDRANT WISCONSIN AVE.
832	857.23	CHISELED X ON DRIVE OF HSE #5208
833	858.38	REBAR IN NE QUADRANT OF CARD AND WISCONSIN

NOTE: SEWER AND WATER LATERALS ARE SHOWN AT APPROXIMATE LOCATIONS ONLY. CONTRACTOR TO VERIFY LOCATION OF EXISTING LATERALS BEFORE CONSTRUCTING NEW UTILITIES.

N

MATCH LINE SHEETS B7 & B8

MATCH LINE SHEETS B8 & B9

CARD AVE

WISCONSIN AVE

EX. PROP. BOUNDARY (TYP.)

#5209 #4505 #4510 #5208 #5210 #5212 #4504 #5206 #4503 #4507

REMOVE CURB STOP BOX TOP TO 3 FT. BELOW GRADE

7 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP (TYP.–2 THIS SIDE)

EX. BUSH (TYP.)

EX. POST (TYP.)

CURB STOP NOT LOCATED DURING SITE SURVEY CONTRACTOR TO LOCATE

EX. STUMP (TYP.)

EX. WATER VALVE (TYP.)

EX. HYDRANT (TYP.)

TBM 64

TBM 833

TBM 832

2 L.F. NEW 6" D.I. WM (REDUCER TO EX. CONNECTION)

EX. 6" WATER VALVE

EX. PINE (TYP.)

13 L.F. NEW 8" D.I. WM (TEE TO REDUCER)

4 FT. SEPARATION TO SANITARY SEWER IF OPEN CUT METHOD USED

283 L.F. NEW 8" D.I. WM (MATCH LINE TO MATCH LINE)

EX. WOOD FENCE (TYP.) (REPLACE)

NEW 8"X8" TEE, 8" VALVE (3), 8"X6" REDUCER, 22.5° BEND, CONNECT TO EXISTING

EX. SAN SA 67 (REPLACE CASTING)

EX. CURB STOP (TYP.)

EX. SIGN (TYP.)

EX. GUY WIRE (TYP.)

EX. BLOCK RET. WALL (TYP.)

CURB STOP NOT LOCATED DURING SITE SURVEY CONTRACTOR TO LOCATE

REMOVE CURB STOP BOX TOP TO 3 FT. BELOW GRADE

7 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP (TYP.–6 THIS SIDE)

6 FT. SEPARATION TO SANITARY SEWER IF OPEN CUT METHOD USED

EX. BUILDING (TYP.)

EX. POWER POLE (TYP.)

EX. PROP. CORNER (TYP.)

EX. ELEC. PED. (TYP.)

CONC. DRIVE

CONC. WALK

ASPH. DRIVE

CAUTION

103+00 104+00 105+00

6'

4'

EX. 6" WM

EX. 8" CLAY

EX. SAN SA 67
RIM = 858.03
S. INV. = 849.50 (8")
E. INV. = 849.34 (8")
N. INV. = 848.88 (8")

NEW 8" D.I. WM

EX. 6" WM

MIN. 6" SEPARATION AT CROSSING

EX. 8" CLAY SAN

EX. 8" CLAY SAN

862 860 858 856 854 852 850 848 846 844

103+00 104+00 105+00

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PLAN & PROFILE
CARD AVENUE
Station 102+80 To Station 105+80

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	CARD SHEETS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2–3–22
REVISIONS:	
SCALE: HORIZONTAL	0 5 10
VERTICAL	1 2
SHEET:	B8

NOTE: SEWER AND WATER LATERALS ARE SHOWN AT APPROXIMATE LOCATIONS ONLY. CONTRACTOR TO VERIFY LOCATION OF EXISTING LATERALS BEFORE CONSTRUCTING NEW UTILITIES.

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
834	862.91	CHISELED X ON SE CURB OF BELLEVUE & CARD

N

MATCH LINE SHEETS B8 & B9

6 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP

EX. TREE (TYP.)

EX. WOOD RET. WALL (TYP.)

EX. STONE RET. WALL (TYP.)

EX. PROP. BOUNDARY (TYP.)

#4507

REMOVE CURB STOP BOX TOP TO 3 FT. BELOW GRADE

5 FT. SEPARATION TO SANITARY SEWER IF OPEN CUT METHOD USED

13 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP

#4514

ASPH. DRIVE

CONC. DRIVE

EX. WOOD DECK (TYP.)

EX. LANSCAPING

CONC. WALK

NEW HYDRANT, VAVLVE, AND TEE W/8 L.F. 6" D.I. HYDRANT LEAD

NEW 8" VALVE (2)

201 L.F. NEW 8" WM (MATCH LINE TO BEND)

CARD AVE

106+00

107+00

5'

EX. 6" WM

EX. 8" CLAY

EX. CURB STOP (TYP.)

EX. POWER POLE (TYP.)

EX. WOOD FENCE (TYP.)

CONC. DRIVE

CURB STOP NOT LOCATED DURING SITE SURVEY CONTRACTOR TO LOCATE

EX. WOOD DECK (TYP.)

9 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP (TYP.–4 THIS SIDE)

EX. BUILDING (TYP.)

EX. MAILBOX

EX. GUY WIRE (TYP.)

EX. SIGN (TYP.)

EX. BLOCK RET. WALL (TYP.)

ASPH. LOT

CONC. WALK

#4503

#5306

#5308

#5310

#4510

#4509

MATCH LINE SHEETS B9 & B10

BELLEVUE COURT

11'

108+00

2.00%

48 L.F. NEW 12" RCP STM

EX. SAN SA 70 (REPLACE CASTING)
RIM = 865.86
E. INV. = 857.84 (8")
S. INV. = 857.92 (8")
W. INV. = 857.83 (8")

11 FT. SEPARATION TO SANITARY SEWER IF OPEN CUT METHOD USED

NEW STM INL 16
STA. 108+02.37/–19.60L

22 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP (TYP.–3 THIS SIDE)

#4511

EX. BUSH (TYP.)

CURB STOP NOT LOCATED DURING SITE SURVEY CONTRACTOR TO LOCATE

CURB STOP NOT LOCATED DURING SITE SURVEY CONTRACTOR TO LOCATE

REMOVE CURB STOP BOX TOP TO 3 FT. BELOW GRADE

REMOVE CURB STOP BOX TOP TO 3 FT. BELOW GRADE

ASPH. DRIVE

TBM 834

EX. SAN SA 68 (REPLACE CASTING)

EX. 8" CLAY

EX. 8" CLAY

60" STORM CURB MANHOLE CATCH BASIN

REMOVE CURB STOP BOX TOP TO 3 FT. BELOW GRADE

NEW STM CURB MH CATCH BASIN 21
STA. 107+77.92/27.52R

5 L.F. NEW 24" RCP STM

EX. GAS VALVE (TYP.)

STM

EX. SAN SA 68
RIM = 863.06
E. INV. = 850.95 (8")
S. INV. = 856.69 (8")
S. INV. = 850.97 (8")
W. INV. = 857.71 (8")
W. INV. = 851.03 (8")
N. INV. = 850.89 (8")

EX. 6" WM

NEW 8" D.I. WM

EX. 8" CLAY SAN

866
864
862
860
858
856
854
852
850
848

106+00
107+00
108+00

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CARD AVENUE
Station 105+60 To Station 107+80

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	CARD SHEETS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2–3–22
REVISIONS:	
SCALE: HORIZONTAL	0 5 10
VERTICAL	1 2
SHEET:	B9

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
52	877.42	TOP OF NOZZLE ON FIRE HYDRANT
834	862.91	CHISELED X ON SE CURB OF BELLEVUE & CARD
835	875.36	REBAR SET IN YARD #5309 BREMER

NOTE: SEWER AND WATER LATERALS ARE SHOWN AT APPROXIMATE LOCATIONS ONLY. CONTRACTOR TO VERIFY LOCATION OF EXISTING LATERALS BEFORE CONSTRUCTING NEW UTILITIES.

N

MATCH LINE SHEETS B9 & B10

EX. PROP. BOUNDARY (TYP.)

#4514 #4518 #4512 #5309 #4509 #4511 #4513 #4515 #4517

14 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP

EX. TELE. PED. (TYP.)

EX. WOOD FENCE (TYP.)

EX. GUY WIRE (TYP.)

EX. TREE (TYP.)

EX. PROP. CORNER (TYP.)

EX. WOOD RET. WALL (TYP.)

9 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP

REMOVE CURB STOP BOX TOP TO 3 FT. BELOW GRADE

CAUTION

CONC. DRIVE

CONC. WALK

ASPH. LOT

NEW STM INL 16
STA. 108+02.37/-19.60L

11 FT. SEPARATION TO SANITARY SEWER IF OPEN CUT METHOD USED

RB MH CATCH BASIN 21
STA. 107+77.92/27.52R

60" STORM CURB MANHOLE CATCH BASIN

2.00%

NEW 90° BEND

48 L.F. NEW 12" RCP STM @ 2.00%

EX. SIGN (TYP.)

NEW 8" VALVE

173 L.F. NEW 8" D.I. WM (BEND TO REDUCER)

10 L.F. NEW 6" D.I. WM, 6" – 45° BENDS (2), 8"X6" REDUCER, CONNECT TO EXISTING

TBM 835

EX. HYDRANT (TYP.)

TBM 52

EX. POWER POLE (TYP.)

EX. SAN SA 70 (REPLACE CASTING)

EX. WATER VALVE (TYP.)

EX. 6" WM

108+00

109+00

110+00

11

BELLEVUE COURT

EX. 8" CLAY

EX. MANHOLE (TYP.)

EX. SAN SA 71 (REPLACE CASTING)

EX. BLOCK RET. WALL (TYP.)

5 L.F. NEW 24" RCP STM

EX. SAN SA 68 (REPLACE CASTING)

TBM 834

EX. POST BOX

CURB STOP NOT LOCATED DURING SITE SURVEY CONTRACTOR TO LOCATE

CURB STOP NOT LOCATED DURING SITE SURVEY CONTRACTOR TO LOCATE

CURB STOP NOT LOCATED DURING SITE SURVEY CONTRACTOR TO LOCATE

23 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP (TYP.–4 THIS SIDE)

ASPH. DRIVE

EX. PROP. CORNER (TYP.)

28 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP

30 L.F. NEW 1" COPPER WATER SERVICE W/CURB STOP

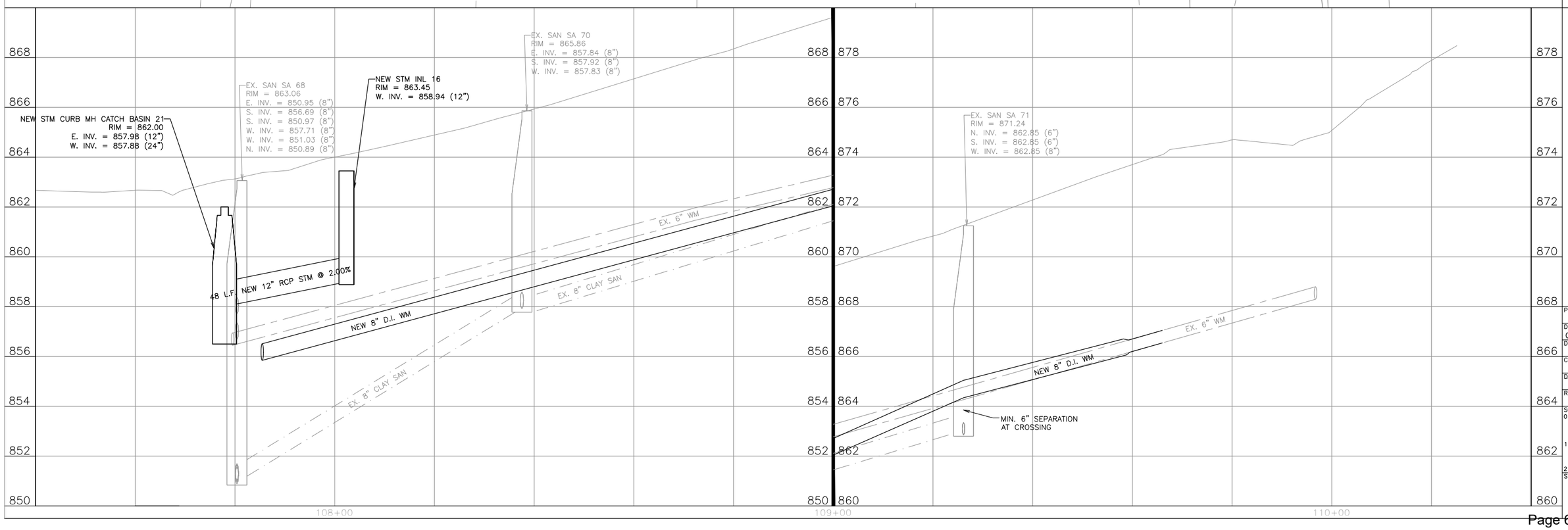
EX. BUSH (TYP.)

EX. PINE (TYP.)

EX. MAILBOX (TYP.)

BREMER ROAD

REMOVE CURB STOP BOX TOP TO 3 FT. BELOW GRADE



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2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	CARD SHEETS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE: HORIZONTAL	0 5 10
VERTICAL	1 2
SHEET:	B10

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
63	857.67	SE TAG BOLT ON HYDRANT
65	855.83	7" SPIKE SET IN SE SIDE OF POWER POLE
830	854.23	CHISELED X ON CONC APRON HSE #5120
831	856.62	CHISELED X ON NORTH BOC OF LAKEVIEW AVE

NOTE: INVERTED CROWN CROSS SECTION ALONG ENTIRE LENGTH OF CARD AVE

LARSON STREET

LAKEVIEW AVE

MATCH LINE

CARD AVE

EX. PROP. BOUNDARY (TYP.)

EX. TREE (TYP.)

EX. GAS VALVE (TYP.)

EX. PINE (TYP.)

EX. BUSH (TYP.)

EX. BLOCK RET. WALL (TYP.)

CONC. DRIVE

EX. POST (TYP.)

EX. POST BOX

EX. GUY WIRE (TYP.)

EX. MAILBOX (TYP.)

EX. PROP. CORNER (TYP.)

EX. TELE. PED. (TYP.)

EX. BUILDING (TYP.)

EX. 24" CMP

EX. WOOD FENCE (TYP.)

EX. STONE RET. WALL (TYP.)

EX. POWER POLE (TYP.)

TBM 63

TBM 65

TBM 830

TBM 831

100+00

101+00

102+00

103+00

10'

9'

#4510

#4505

#5118

#4503

#5120

#5122

#5204

#5206

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
64	860.14	NW TAG BOLT ON HYDRANT WISCONSIN AVE.
832	857.23	CHISELED X ON DRIVE OF HSE #5208
833	858.38	REBAR IN NE QUADRANT OF CARD AND WISCONSIN

NOTE: INVERTED CROWN CROSS SECTION ALONG ENTIRE LENGTH OF CARD AVE

MATCH LINE

CARD AVE

EX. PROP. BOUNDARY (TYP.)

EX. BUSH (TYP.)

EX. POST (TYP.)

EX. STUMP (TYP.)

EX. PINE (TYP.)

CONC. DRIVE

CONC. WALK

ASPH. DRIVE

EX. ELEC. (TYP.)

EX. BUILDING (TYP.)

EX. POWER POLE (TYP.)

EX. PROP. CORNER (TYP.)

EX. SIGN (TYP.)

EX. GUY WIRE (TYP.)

EX. BLOCK RET. WALL (TYP.)

TBM 64

TBM 832

TBM 833

103+00

104+00

105+00

9'

#4510

#4505

#5209

#4507

#5206

#5208

#5210

#5212

#4504

#4503

MATCH LINE SHEETS B11 & B12

WISCONSIN AVE

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PLAN VIEW - CARD AVENUE
Station 100+00 To Station 103+00
Station 102+80 To Station 105+80

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	CARD SHEETS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	

SCALE: HORIZONTAL 0 5 10
VERTICAL 1 2

SHEET: B11

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
834	862.91	CHISELED X ON SE CURB OF BELLEVUE & CARD

NOTE: INVERTED CROWN CROSS SECTION ALONG ENTIRE LENGTH OF CARD AVE

MATCH LINE SHEETS B11 & B12

EX. PROP. BOUNDARY (TYP.)

#4507

EX. TREE (TYP.)

ASPH. DRIVE

CONC. DRIVE

ASPH. DRIVE

EX. WOOD DECK (TYP.)

EX. LANSCAPING

CONC. WALK

#4514

106+00

CARD AVE

107+00

9'

CONC. DRIVE

EX. WOOD FENCE (TYP.)

CONC. DRIVE

CONC. DRIVE

EX. MAILBOX

EX. CURB STOP (TYP.)

EX. POWER POLE (TYP.)

EX. WOOD DECK (TYP.)

EX. BUILDING (TYP.)

#4503

#5306

#5308

#5310

EX. SIGN (TYP.)

CONC. DRIVE

EX. BLOCK RET. WALL (TYP.)

ASPH. LOT

CONC. WALK

#4510

REMOVE VALLEY GUTTER AND CREATE NEW CROWN IN THIS AREA

MATCH LINE

BELLEVUE COURT

108+00

EX. PROP. CORNER (TYP.)

#4511

EX. BUSH (TYP.)

ASPH. DRIVE

TBM 834

#4509

EX. GAS VALVE (TYP.)

N

#4512

#4514

#4518

MATCH LINE

EX. PROP. CORNER (TYP.)

EX. TELE. PED. (TYP.)

EX. WOOD FENCE (TYP.)

EX. GUY WIRE (TYP.)

EX. TREE (TYP.)

EX. WOOD RET. WALL (TYP.)

CONC. DRIVE

CONC. DRIVE

CONC. DRIVE

CONC. WALK

ASPH. LOT

EX. SIGN (TYP.)

BELLEVUE COURT

25'

108+00

109+00

BELLEVUE COURT

EX. MANHOLE (TYP.)

REMOVE VALLEY GUTTER AND CREATE NEW CROWN IN THIS AREA

TBM 834

ASPH. DRIVE

EX. POST BOX

EX. PROP. CORNER (TYP.)

CONC. WALK

EX. PINE (TYP.)

EX. MAILBOX (TYP.)

BREMER ROAD

#4509

#4511

EX. BUSH (TYP.)

#4513

#4515

#4517

N

#5309

TBM 835

TBM 52

EX. POWER POLE (TYP.)

110+00

EX. BLOCK RET. WALL (TYP.)

CONC. DRIVE

TEMPORARY BENCHMARK TABLE		
TBM	ELEV.	DESCRIPTION
52	877.42	TOP OF NOZZLE ON FIRE HYDRANT
834	862.91	CHISELED X ON SE CURB OF BELLEVUE & CARD
835	875.36	REBAR SET IN YARD #5309 BREMER

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Station 105+60 To Station 107+80
Station 107+60 To Station 110+40

2022 STREET AND UTILITY IMPROVEMENTS CONTRACT B

Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	CARD SHEETS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	

SCALE: HORIZONTAL 0 5 10
VERTICAL 1 2

SHEET: B12

CONTRACTOR TO PULVERIZE AND GRADE EXISTING ASPHALT ROADWAY. 6 INCHES OF ADDITIONAL GRAVEL BASE SHALL BE ADDED TO PULVERIZED EXISTING ROADWAY SURFACE. 12 INCHES OF GRAVEL BASE SHALL BE ADDED TO PORTIONS OF ROADWAY WHICH ARE EXPANDED IN WIDTH.

N

MATCH LINE

14' WIDE ROADWAY FROM SIGGLEKOW ROAD TO STA. 512+76

W. INV. = 926.13

33 L.F. NEW 12" RCP WITH ENDWALLS

2% CROSS SLOPE FLOWING WEST TO EAST ALONG ENTIRE ROADWAY

#3341 STORCK ROAD

SIGGELKOW ROAD

500+00 501+00 502+00 503+00 504+00 505+00 506+00 STORCK ROAD 507+00 508+00 509+00 510+00 511+00 512+00 513+00

E. INV. = 926.00

#3372 STORCK ROAD

APPROX. EX. PROPERTY LINES (TYP.)

CONTRACTOR TO PULVERIZE AND GRADE EXISTING ASPHALT ROADWAY. 6 INCHES OF ADDITIONAL GRAVEL BASE SHALL BE ADDED TO PULVERIZED EXISTING ROADWAY SURFACE. 12 INCHES OF GRAVEL BASE SHALL BE ADDED TO PORTIONS OF ROADWAY WHICH ARE EXPANDED IN WIDTH.

N

MATCH LINE

12' WIDE ROADWAY FROM STA. 512+76 TO END

EXISTING PAVEMENT TRANSITIONS TO GRAVEL FROM HERE TO NORTH

2% CROSS SLOPE FLOWING WEST TO EAST ALONG ENTIRE ROADWAY

#4502 STORCK ROAD

511+00 512+00 513+00 514+00 515+00 516+00 STORCK ROAD 517+00 518+00 519+00 520+00 521+00 522+00 523+00 524+00 525+00

R=20' 16' 52' R=20'

APPROX. EX. PROPERTY LINES (TYP.)

#4501 STORCK ROAD

INTERSTATE 90/39

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PLAN VIEW - STORCK ROAD

Station 500+00 To Station 525+00

2022 STREET AND UTILITY IMPROVEMENTS CONTRACT B

Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: STORCK SHEETS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: 0 25 50
SHEET: B13

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, March 8, 2022**

SECTION: **Staff Reports**

DEPARTMENT: **Public Works**

CONTACT:

AGENDA ITEM: **Presentation of the Public Works Director's monthly report.**

PREVIOUS ACTION:

ISSUE SUMMARY:

FINANCIAL/BUDGET IMPACT:

VILLAGE PLAN REFERENCE:

ORDINANCE REFERENCE:

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

ATTACHMENTS:

1. Monthly report for March meeting

PUBLIC WORKS COMMITTEE
March 8, 2022

PUBLIC UTILITIES COMMITTEE
March 8, 2022

Public Works Directors Report for February 2022

The following is information concerning events and activities of the Public Works Department along with the Water and Sewer Utilities for the previous month. This information is provided in brief to provide an overview of the highlights.

Waterworks School

Bryan Westbury and Lee Igl have attended waterworks school in order to help learn about groundwater and distribution systems and their components. This class in turn will help to them obtain their operators licensure. License testing will happen in the near future.

Watermain Break

The department repaired a watermain break at the intersection of Main Street and Olson Court during the day on February 14.

New Hire

The Department of Public Works is pleased to announce Jordan Thompson as the newest Public Works employee to join us. Jordan comes to us from the public works department with City of Sherwood, OR. Welcome Jordan.

Parks Position

The department has started the interview process for the additional parks crew position that was approved in the 2022 operating budget. It is our hope to have this position up and running on April 1, 2022.

Snow Events/ Plowing Operations

The department handled various snow and ice events as listed below.

- February 11, minor and spotty ice/sleet event - 2 trucks out to salt select areas
- February 12, minor and spotty ice/sleet event - 1 truck out to salt select areas
- February 22-23, ice event, entire crew out salting
- February 25, 3" snow

Meetings/Training/Seminars

A majority of meetings were held by electronic means and some were in person. Those meetings include:

- WWOA Seminar - Pospyhalla
- WIAWWA Distribution Seminar - Brandt, Kelln, Pospyhalla
- APWA monthly board meeting - Igl, Hessling
- APWA - Public Works Awareness Task Force - Hessling
- Water Softener Brine Reclamation Innovation Project - Hessling
- MAMSWaP meeting - Igl - Hessling
- PSC Water Utility Stakeholder Roundtable Irwin -Hessling
- YP meeting, spring conference mtg, monthly mtg. - Irwin

- Diggers Hotline Utility Damage Prevention - Brandt, Pospyhalla, Warren, Wilson, Irwin, Hessling
- Security Culture: Small Systems Aren't Small Potatoes - Why & What to Do - Hessling
- WI Park & Recreation Assoc. Annual Conference - Larson
- APWA Council of Chapter meeting - Hessling

2022 WATER SYSTEM IMPACT FEES

Collected in Month	2022 Fees	2021 Fees	2022 Impact Fee Distribution		
			Tower	Main	Well
January	3,250.00	-	1,832.40	520.00	897.60
February	1,300.00	5,851.00	732.96	208.00	359.04
March	-	3,900.00	-	-	-
1st Quarter Total	**4,550.00**	**9,751.00**	**2,565.36**	**728.00**	**1,256.64**
April	-	1,950.00	-	-	-
May	-	650.00	-	-	-
June	-	1,950.00	-	-	-
2nd Quarter Total	**-**	**4,550.00**	**-**	**-**	**-**
July	-	650.00	-	-	-
August	-	-	-	-	-
September	-	1,300.00	-	-	-
3rd Quarter Total	**-**	**1,950.00**	**-**	**-**	**-**
October	-	650.00	-	-	-
November	-	13,003.00	-	-	-
December	-	650.00	-	-	-
4th Quarter Total	**-**	**14,303.00**	**-**	**-**	**-**

HISTORICAL WATER IMPACT FEE TOTALS

2022 Total	4,550.00		2,565.36	728.00	1,256.64
2021 Total	30,554.00		17,226.73	4,888.64	8,438.63
2020 Total	64,854.16		38,222.36	10,020.80	16,611.00
2019 Total	57,201.00		32,250.79	9,152.16	15,798.05
2018 Total	71,501.00		40,313.34	11,440.16	19,747.50
2017 Total	60,801.20		34,281.17	9,728.00	16,792.03
2016 Total	38,026.00		23,708.24	5,252.00	9,065.76
2015 Total	5,851.00		3,298.92	936.00	1,616.08
2014 Total	7,150.00		4,031.28	1,144.00	1,974.72
2013 Total	21,125.00		11,910.59	3,380.00	5,834.41
2012 Total	13,650.00		7,696.08	2,184.00	3,769.92
2011 Total	12,350.00		6,963.12	1,976.00	3,410.88
2010 Total	5,200.00		2,931.84	832.00	1,436.16
2009 Total	7,150.00		4,031.26	1,144.00	1,974.74
2008 Total	10,400.00		5,863.62	1,664.00	2,872.38
2007 Total	34,451.00		19,423.88	5,512.16	9,514.96
2006 Total	28,927.00		16,309.33	4,628.32	7,989.35
2005 Total	52,326.00		29,501.92	8,372.16	14,451.92
2004 Total	77,679.00		43,796.20	12,428.64	21,454.16
2003 Total	59,802.00		33,716.97	9,568.32	16,516.71
2002 Total	69,625.00		39,255.27	11,140.00	19,229.73
2001 Total	55,271.50		31,162.62	8,843.44	15,265.44
2000 Total	56,701.00		31,968.59	9,072.16	15,660.25
1999 Total	55,388.00		31,228.31	8,862.08	15,297.61
1998 Total	14,581.73		8,221.33	2,333.08	4,027.32
Grand Total	**$ 815,157.43**	**$ -**	**$ 461,864.67**	**$ 129,592.68**	**$ 223,700.08**

$650=	$366.48	$104.00	$179.52
$1300	$732.96	$208.00	$359.04

Tower= .56381, Main=.16, Well=.27619

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, March 8, 2022**

SECTION: **Business**

DEPARTMENT: **Administration**

CONTACT: **Matt Schuenke, Village Administrator**

AGENDA ITEM: **Discussion and action to adjourn the Public Works Committee portion of the joint meeting.**

PREVIOUS ACTION:
None.

ISSUE SUMMARY:
At the conclusion of the first three items, the Public Works Committee work as part of the joint meeting is done and those members are free to leave following adjournment.

FINANCIAL/BUDGET IMPACT:
None.

VILLAGE PLAN REFERENCE:
None.

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:
Recommended Action:

> *Motion and second (from a Public Works Committee member) to adjourn the Public Works Committee portion of the joint meeting.*

ATTACHMENTS:
None

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, March 8, 2022**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Jim Hessling, Public Works Director, Lee Igl, Streets/Utilities Superintendent**

AGENDA ITEM: **Discussion and action to make a recommendation to the Village Board regarding the award of Contract C for the 2022 Stormwater Improvement Project(s).**

PREVIOUS ACTION:
The Public Utilities Committee recommended approval of the design for the project and requested authorization to bid the project at its meeting on December 21, 2021.

The Village Board approved the recommendation from Committee in order to approve the design and send the project to bidding at its meeting on January 10, 2022.

Bids were opened on February 17, 2022.

ISSUE SUMMARY:
The 2022 Stormwater Improvement Project includes structure improvements at the Osborn Storm Water Pond and to an outfall on Terminal Drive. The Public Utilities Committee moved these projects forward for bidding late in 2021 with the Board sending them to bid earlier this year. There were three contracts bid as part of the same process and Contract C is for these listed locations. Town and Country received nineteen requested sets of plans, specifications and bidding documents from general contractors, subcontractors and material suppliers. Of the nineteen, two contractors submitted bids. Town and Country Engineering has provided an analysis of the bids received included within the packet and recommends the award of contract to R & T Voegeli Excavating, LLC. Additionally, the contractor is qualified in accordance with Village Ordinance. The Project will begin this Summer for completion in early Fall.

FINANCIAL/BUDGET IMPACT:
The total budget for this project is $110,000 to be paid for through borrowed money within the Stormwater Utility Fund. The project costs for these bids came in under what was budgeted as follows:

49,970	Construction
4,997	Contingency
3,998	Miscellaneous
58,965	Total Estimated Cost

Contingency and engineering percentages were included at 10% and 8% respectively as is customary. Fund balance is planned for utilization and will be adjusted downward to account for the savings via the bidding process.

VILLAGE PLAN REFERENCE:
None.

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:
Recommended Action:

Motion, second to make a recommendation to the Village Board to award Contract C to R & T Voegeli of Monroe in the amount of $49,970 for the base bid approving the total project cost of $58,965 including contingency and engineering.

ATTACHMENTS:
1. Recommendation Ltr- Contract C
2. Bid Tabulation Results-mc189_c
3. MC 189- CONTRACT C STORM IMPROVEMENTS

TOWN & COUNTRY ENGINEERING, INC.

February 23., 2022

Village of McFarland
5915 Milwaukee Street, P.O. Box 110
McFarland, WI 53558

Attention: Mr. Matthew Schuenke, Administrator

Subject: Analysis of Bids and Recommendation for Award of Contracts; 2022 Street and Utility Improvements – Contract C

Bid Deadline: February 17, 2022, at 10:00 local time

Ladies and Gentlemen:

The purpose of this letter is to analyze the bids received for Contract C of the 2022 Street and Utility Improvements project and to recommend award of a contract. Contract C involves storm sewer repairs and rip rap installations beneath the Terminal Drive railroad bridge and at the Village's Osborn Stormwater Pond.

The pre-bid estimate for the base bid was $99,152.00. Nineteen general contractors, subcontractors, and material suppliers requested sets of the plans, specifications and bidding documents. Two contractors submitted bids.

A summary of Contract C bids is as follows:

Contractor	Base Bid
R & T Voegeli Excavating, LLC	$49,970.00
Raymond P. Cattell Inc.	$83,700.00

All of the bids were properly submitted. The low bidder is R & T Voegeli Excavating, LLC of Monroe, Wisconsin, an experienced landscaping, utility, and excavating contractor that has completed a similar project for the Village of Oregon. The bid prices are lower than the original budget. We recommend that R & T Voegeli Excavating, LLC be awarded Contract C for the base bid for a total of $49,970.00.

This will be a unit price contract. That is, the contractors will be paid for the work actually performed on the basis on the unit prices bid. This means that the final line item costs could be either greater than or less than the bid totals. Also, unexpected conditions are sometimes encountered which result in increased project costs. Therefore, it would be wise to continue to carry the recommended 10% contingency.

If you have any questions with respect to our thoughts on this matter, I am available at your convenience to discuss them with you.

Very truly yours,
TOWN & COUNTRY ENGINEERING, INC.

Tim Stieve, P.E.
Project Engineer

TS:sai
J:\JOB#S\McFarland\MC-189-M4 2022 Street and Utility Improvements\Bidding\Recommendation Ltr- Contract C.docx

BID TABULATION

Project: 2022 Street and Utility Improvements Contact C- 2022 Storm Sewer Improvements
Engineer's Project Number: MC 189 Bid Deadline: February 17, 2022 at 10:00 a.m. local time

ITEM NO.	DESCRIPTION OF WORK	BID QUANT.	UNITS	PRE-BID ESTIMATE UNIT PRICE	PRE-BID ESTIMATE AMOUNT	R & T Voegeli Excavating, LLC UNIT PRICE	R & T Voegeli Excavating, LLC AMOUNT	Raymond P. Cattell Inc. UNIT PRICE	Raymond P. Cattell Inc. AMOUNT
CONTRACT C- 2022 STORM SEWER IMPROVEMENTS									
Utility Work									
C1.	Terminal Drive Outfall Excavation and Regrading	1	lump sum	$ 35,000.00	$ 25,000.00	$ 3,750.00	$ 3,750.00	$ 13,500.00	$ 13,500.00
C2.	Terminal Drive Outfall Rip-Rap Installation	20	ton	$ 16.00	$ 320.00	$ 110.00	$ 2,200.00	$ 300.00	$ 6,000.00
C3.	Osborn Pond Excavation and Grading	1	lump sum	$ 55,000.00	$ 55,000.00	$ 6,320.00	$ 6,320.00	$ 12,500.00	$ 12,500.00
C4.	Osborn Pond Outfall Rip-Rap Installation	52	ton	$ 16.00	$ 832.00	$ 100.00	$ 5,200.00	$ 100.00	$ 5,200.00
C5.	Osborn Pond Endwall Repairs	1	lump sum	$ 500.00	$ 500.00	$ 4,000.00	$ 4,000.00	$ 12,500.00	$ 12,500.00
C6.	54" Apron Endwall, with Grate	1	each	$ 4,000.00	$ 4,000.00	$ 9,500.00	$ 9,500.00	$ 12,000.00	$ 12,000.00
C7.	48" Apron Endwall, with Grate	1	each	$ 3,500.00	$ 3,500.00	$ 9,000.00	$ 9,000.00	$ 12,000.00	$ 12,000.00
C8.	Railroad Insurance Allowance	1	lump sum	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00
	TOTAL CONTRACT C				$ 99,152.00		$ 49,970.00		$ 83,700.00

2022 STREET AND UTILITY IMPROVEMENTS

Village of McFarland, Wisconsin

CONTRACT C PLAN SET

NO SCALE

MEMBER ONE CALL SYSTEMS INTERNATIONAL

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

LEGEND

UNDERGROUND TELE. — UT —
UNDERGROUND CATV. — UCATV —
UNDERGROUND ELEC. — UE —
OVERHEAD — OH —
EXISTING GAS — G —
PROPERTY LINE
EXISTING WATER MAIN — WM —
EXISTING SANITARY SEWER — SAN —
EXISTING STORM SEWER — STM —
EXISTING FENCE LINE — x —
SAWCUT
NEW STORM SEWER
NEW WATER MAIN
NEW SANITARY SEWER

NEW ITEMS:

WATER VALVE · CURB STOP · HYDRANT · MANHOLE · CURB INLET · ENDWALL · CAUTION GAS WARNING

EXISTING ITEMS:

FLAG POLE · MAILBOX · POWER POLE · LIGHT POLE · LAMP POST · PULL BOX
WATER VALVE · CURB STOP · HYDRANT · WELL · MONITORING WELL · TRACER WIRE
SANITARY MANHOLE · SANITARY VALVE · CLEANOUT · STORM MANHOLE · CURB INLET · CIRCULAR INLET
SQUARE INLET · ENDWALL · STUMP · DECID. TREE (RELATIVE SIZE) · EVERGREEN SHOWN) · SHRUB OR HEDGE · SIGN
CATV. PED. · TELE. PED. · ELEC. PED. · GAS VALVE · STREET SIGN · IRON PIPE · IRON ROD

NOTES: 1.) EXISTING FEATURES AND LABELS ARE SHOWN WITH SCREENED, LIGHTER LINES.
2.) NEW CONCRETE IS SHOWN SHADED IN PLAN VIEWS
3.) CONCRETE REMOVALS ARE SHOWN BY CROSS-HATCHING

6264 Nesbitt Road
Madison, WI 53719
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REVISIONS | BY | DATE | SHEET

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
REV. DATE:
PROJECT NO.: MC 189
DRAWING FILE: TERMINAL DETAILS.DWG
DATE: 2-3-22

SHEET INDEX – GENERAL

SHEET NO.	SHEET DESCRIPTION
1	INDEX
2	EROSION CONTROL PLAN AND GENERAL NOTES
3	EROSION CONTROL PLAN
4	EROSION CONTROL – STANDARD CONSTRUCTION DETAILS
5	SANITARY SEWER – STANDARD CONSTRUCTION DETAILS
6	WATER MAIN – STANDARD CONSTRUCTION DETAILS
7	STORM SEWER – STANDARD CONSTRUCTION DETAILS
8	STREET IMPROVEMENTS – STANDARD CONSTRUCTION DETAILS

SHEET INDEX – CONTRACT A

SHEET NO.	SHEET DESCRIPTION
	SANITARY SEWER, WATER MAIN, AND STORM SEWER
A1	PLAN & PROFILE – TERMINAL DRIVE STATION 10+00 TO STATION 16+00
A2	PLAN & PROFILE – TERMINAL DRIVE STATION 15+60 TO STATION 21+60
A3	PLAN & PROFILE – TERMINAL DRIVE STATION 21+20 TO STATION 27+20
A4	PLAN & PROFILE – TERMINAL DRIVE STATION 26+80 TO STATION 32+80
	CURB & GUTTER AND STREET CONSTRUCTION
A5	PLAN & PROFILE – TERMINAL DRIVE STATION 10+00 TO STATION 16+00
A6	PLAN & PROFILE – TERMINAL DRIVE STATION 15+60 TO STATION 21+60
A7	PLAN & PROFILE – TERMINAL DRIVE STATION 21+20 TO STATION 27+20
A8	PLAN & PROFILE – TERMINAL DRIVE STATION 26+80 TO STATION 32+80
A9	PLAN – SIGGELKOW ROAD SIDEWALK
A10	CROSS SECTIONS – TERMINAL DRIVE STATION 12+08 TO STATION 13+50
A11	CROSS SECTIONS – TERMINAL DRIVE STATION 14+00 TO STATION 15+42
A12	CROSS SECTIONS – TERMINAL DRIVE STATION 15+50 TO STATION 17+53
A13	CROSS SECTIONS – TERMINAL DRIVE STATION 17+71 TO STATION 18+77
A14	CROSS SECTIONS – TERMINAL DRIVE STATION 19+00 TO STATION 19+50
A15	CROSS SECTIONS – TERMINAL DRIVE STATION 20+00 TO STATION 20+84
A16	CROSS SECTIONS – TERMINAL DRIVE STATION 21+00 TO STATION 22+00
A17	CROSS SECTIONS – TERMINAL DRIVE STATION 22+17 TO STATION 23+17
A18	CROSS SECTIONS – TERMINAL DRIVE STATION 23+31 TO STATION 24+50
A19	CROSS SECTIONS – TERMINAL DRIVE STATION 24+89 TO STATION 26+50
A20	CROSS SECTIONS – TERMINAL DRIVE STATION 27+00 TO STATION 29+50
A21	CROSS SECTIONS – TERMINAL DRIVE STATION 29+91 TO STATION 30+94

SHEET INDEX – CONTRACT B

SHEET NO.	SHEET DESCRIPTION
B1	PLAN & PROFILE – HIDDEN FARM ROAD STATION 70+00 TO STATION 76+00
B2	PLAN & PROFILE – HIDDEN FARM ROAD STATION 75+60 TO STATION 81+60
B3	CROSS SECTIONS – HIDDEN FARM ROAD STATION 71+64 TO STATION 75+50
B4	CROSS SECTIONS – HIDDEN FARM ROAD STATION 76+00 TO STATION 78+00
B5	PLAN & PROFILE – BREMER ROAD STATION 50+00 TO STATION 55+40
B6	PLAN & PROFILE – LARSON BEACH ROAD STATION 54+20 TO STATION 60+20
B7	PLAN & PROFILE– CARD AVENUE STATION 100+00 TO STATION 103+00
B8	PLAN & PROFILE– CARD AVENUE STATION 102+80 TO STATION 105+80
B9	PLAN & PROFILE– CARD AVENUE STATION 105+60 TO STATION 107+80
B10	PLAN & PROFILE– BELLEVUE COURT STATION 107+60 TO STATION 110+40
B11	PLAN – CARD AVENUE STATION 100+00 TO STATION 105+80
B12	PLAN – CARD AVENUE & BELLEVUE COURT STATION 105+60 TO STATION 110+40
B13	PLAN – STORCK ROAD STATION 500+00 TO STATION 525+00

SHEET INDEX – CONTRACT C

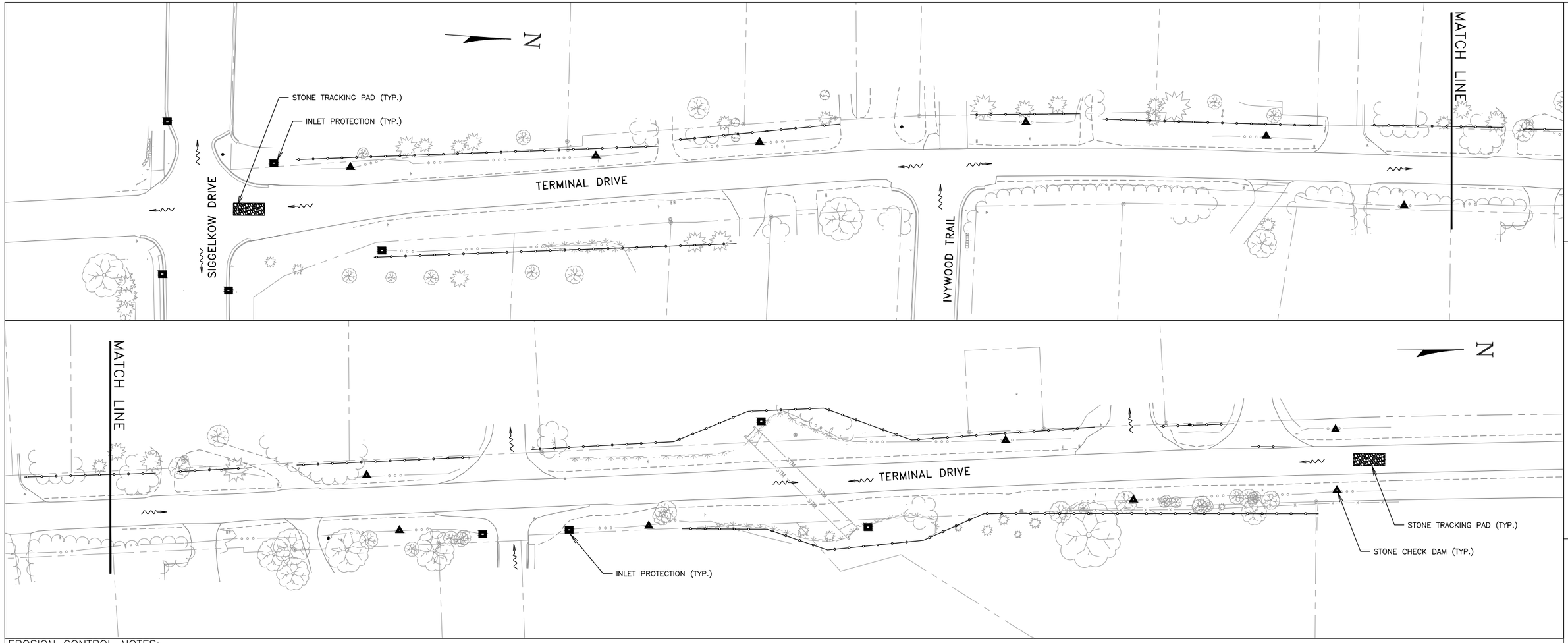
SHEET NO.	SHEET DESCRIPTION
	STORM SEWER IMPROVEMENTS
C1	PLAN – TERMINAL DRIVE & OSBORN DRIVE

2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
www.tcengineers.net
TOWN & COUNTRY ENGINEERING, INC.

INDEX

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL DETAILS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE:	N.T.S.
SHEET:	1



EROSION CONTROL NOTES:

- LOCATIONS MARKED WITH "■" TO RECEIVE INLET FILTER PROTECTION DURING CONSTRUCTION. ALL NEW STREET INLETS MUST ALSO RECEIVE INLET FILTER PROTECTION.
- CONSTRUCT A STONE CHECK DAM IN GUTTER LINE AT ALL LOCATIONS MARKED WITH "▲"
- SURFACE FLOW DIRECTION IS INDICATED WITH
- SILT FENCE INSTALLATION IS INDICATED WITH
- POST WDNR CERTIFICATE OF PERMIT COVERAGE ON SITE AND MAINTAIN UNTIL CONSTRUCTION ACTIVITIES HAVE CEASED, THE SITE IS STABILIZED, AND A NOTICE OF TERMINATION IS FILED WITH WDNR.
- KEEP A COPY OF THE CURRENT EROSION CONTROL PLAN ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
- SUBMIT PLAN REVISIONS OR AMENDMENTS TO THE WDNR AT LEAST 5 DAYS PRIOR TO FIELD IMPLEMENTATION.
- THE CONTRACTOR IS RESPONSIBLE FOR ROUTINE SITE INSPECTIONS AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. KEEP INSPECTION REPORTS ON-SITE AND MAKE THEM AVAILABLE UPON REQUEST.
- INSPECT AND MAINTAIN ALL INSTALLED EROSION CONTROL PRACTICES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
- WHEN POSSIBLE: PRESERVE EXISTING VEGETATION (ESPECIALLY ADJACENT TO SURFACE WATERS), MINIMIZE LAND-DISTURBING CONSTRUCTION ACTIVITY ON SLOPES OF 20% OR MORE, MINIMIZE SOIL COMPACTION, AND PRESERVE TOPSOIL.
- REFER TO THE WDNR STORMWATER CONSTRUCTION TECHNICAL STANDARDS AT http:dnr.wi.gov/topic/stormwater/standards/const_standards.html.
- INSTALL PERIMETER EROSION CONTROLS AND ROCK TRACKING PAD CONSTRUCTION ENTRANCE(S) PRIOR TO ANY LAND-DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING. USE WDNR TECHNICAL STANDARD STONE TRACKING PAD AND TIRE WASHING #1057 FOR ROCK CONSTRUCTION ENTRANCE(S).
- INSTALL INLET PROTECTION PRIOR TO LAND-DISTURBING ACTIVITIES IN THE CONTRIBUTING DRAINAGE AREA AND/OR IMMEDIATELY UPON INLET INSTALLATION. COMPLY WITH WDNR TECHNICAL STANDARD STORM DRAIN INLET PROTECTION FOR CONSTRUCTION SITES #1060.
- STAGE CONSTRUCTION GRADING ACTIVITIES TO MINIMIZE THE CUMULATIVE EXPOSED AREA. CONDUCT TEMPORARY GRADING FOR EROSION CONTROL PER WDNR TECHNICAL STANDARD TEMPORARY GRADING PRACTICES FOR EROSION CONTROL #1067.
- NOTIFY THE OWNER IF DEWATERING IS SCHEDULED TO OCCUR IN AREAS OF SOIL AND/OR GROUNDWATER CONTAMINATION, OR IF DEWATERING WILL OCCUR FROM A HIGH CAPACITY WELL (70 GPM OR MORE). DEWATER ONLY AFTER THE APPROPRIATE WDNR DEWATERING DISCHARGE PERMIT HAS BEEN OBTAINED.
- PROVIDE ANTI-SCOUR PROTECTION AND MAINTAIN NON-EROSIVE FLOW DURING DEWATERING. LIMIT PUMPING RATES TO EITHER (A) THE SEDIMENT BASIN/TRAP DESIGN DISCHARGE RATE, OR (B) THE BASIN DESIGN RELEASE RATE WITH THE CORRECTLY-FITTED HOSE AND GEOTEXTILE FILTER BAG. PERFORM DEWATERING OF ACCUMULATED SURFACE RUNOFF IN ACCORDANCE WITH WDNR TECHNICAL STANDARD DE-WATERING #1061.
- INSTALL AND MAINTAIN SILT FENCING PER WDNR TECHNICAL STANDARD SILT FENCE #1056. REMOVE SEDIMENT FROM BEHIND SILT FENCES AND SEDIMENT BARRIERS BEFORE SEDIMENT REACHES A DEPTH THAT IS EQUAL TO ONE-HALF OF THE FENCE AND/OR BARRIER HEIGHT.
- REPAIR BREAKS AND GAPS IN SILT FENCES AND BARRIERS IMMEDIATELY. REPLACE DECOMPOSING STRAW BALES (TYPICAL BALE LIFE IS 3 MONTHS). LOCATE, INSTALL, AND MAINTAIN STRAW BALES PER WDNR TECHNICAL STANDARD DITCH CHECKS #1062.
- INSTALL AND MAINTAIN FILTER SOCKS IN ACCORDANCE WITH WDNR TECHNICAL STANDARD INTERIM MANUFACTURED PERIMETER CONTROL AND SLOPE INTERRUPTION PRODUCTS #1071.
- IMMEDIATELY STABILIZE STOCKPILES AND SURROUND STOCKPILES AS NEEDED WITH SILT FENCE OR OTHER PERIMETER CONTROL IF STOCKPILES WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.
- IMMEDIATELY STABILIZE ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR 14 DAYS OR LONGER. BETWEEN SEPTEMBER 15 AND OCTOBER 15: STABILIZE WITH MULCH, TACKIFIER, AND A PERENNIAL SEED MIXED WITH WINTER WHEAT, ANNUAL OATS, OR ANNUAL RYE, AS APPROPRIATE FOR REGION AND SOIL TYPE. OCTOBER 15 THROUGH COLD WEATHER: STABILIZE WITH A POLYMER AND DORMANT SEED MIX, AS APPROPRIATE FOR REGION AND SOIL TYPE.
- STABILIZE AREAS OF FINAL GRADING WITHIN 7 DAYS OF REACHING FINAL GRADE.
- SWEEP/CLEAN UP ALL SEDIMENT/TRASH THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS BEFORE THE END OF THE SAME WORKDAY OR AS DIRECTED BY THE OWNER. SEPARATE SWEPT MATERIALS (SOILS AND TRASH) AND DISPOSE OF APPROPRIATELY.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST PER WDNR TECHNICAL STANDARD DUST CONTROL ON CONSTRUCTION SITES #1068.
- PROPERLY DISPOSE OF ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, OR OTHER CONSTRUCTION MATERIALS) AND DO NOT ALLOW THESE MATERIALS TO BE CARRIED BY RUNOFF INTO THE RECEIVING CHANNEL.
- COORDINATE WITH THE OWNER TO UPDATE THE LAND DISTURBANCE PERMIT TO INDICATE THE ANTICIPATED OR LIKELY DISPOSAL LOCATIONS FOR ANY EXCAVATED SOILS OR CONSTRUCTION DEBRIS THAT WILL BE HAULED OFF-SITE FOR DISPOSAL. THE DEPOSITED OR STOCKPILED MATERIAL NEEDS TO INCLUDE PERIMETER SEDIMENT CONTROL MEASURES (SUCH AS SILT FENCE, HAY BALES, FILTER SOCKS, OR COMPACTED EARTHEN BERMS).
- FOR NON-CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED SLOPES, PROVIDE CLASS I, II OR III TYPE A EROSION CONTROL MATTING. SELECT EROSION MATTING FROM APPROPRIATE MATRIX IN WDOT'S WIDOT PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD NON-CHANNEL EROSION MAT #1052.
- FOR CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED AREAS, PROVIDE CLASS I, II, OR III TYPE B EROSION CONTROL MATTING. SELECT EROSION MATTING FROM APPROPRIATE MATRIX IN WDOT'S WIDOT PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD CHANNEL EROSION MAT #1053.
- MAKE PROVISIONS FOR WATERING DURING THE FIRST 8 WEEKS FOLLOWING SEEDING OR PLANTING OF DISTURBED AREAS WHENEVER MORE THAN 7 CONSECUTIVE DAYS OF DRY WEATHER OCCUR.
- INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES (SUCH AS TEMPORARY SEDIMENT BASINS, DITCH CHECKS, EROSION CONTROL MATTING, SILT FENCING, FILTER SOCKS, WATTLES, SWALES, ETC.), OR AS DIRECTED BY THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE WDNR REMEDIATION AND WASTE MANAGEMENT REQUIREMENTS FOR HANDLING AND DISPOSING OF CONTAMINATED MATERIALS. SITE-SPECIFIC INFORMATION FOR AREAS WITH KNOWN OR SUSPECTED SOIL AND/OR GROUNDWATER CONTAMINATION CAN BE FOUND ON WDNR'S BUREAU OF REMEDIATION AND REDEVELOPMENT TRACKING SYSTEM (BRRTS) PUBLIC DATABASE AT: http://dnr.wi.gov/botw/

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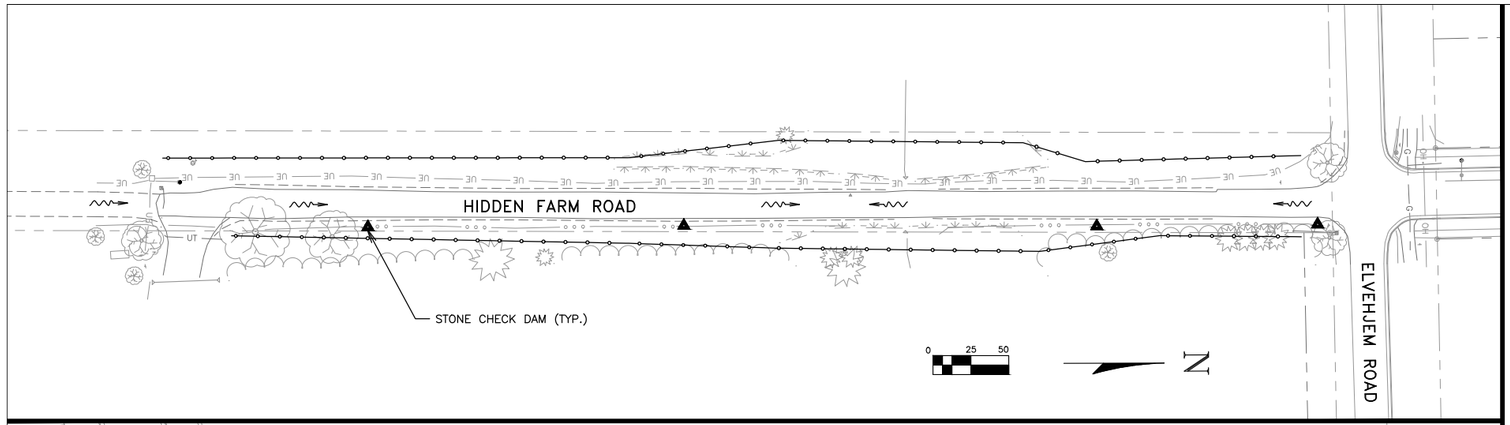
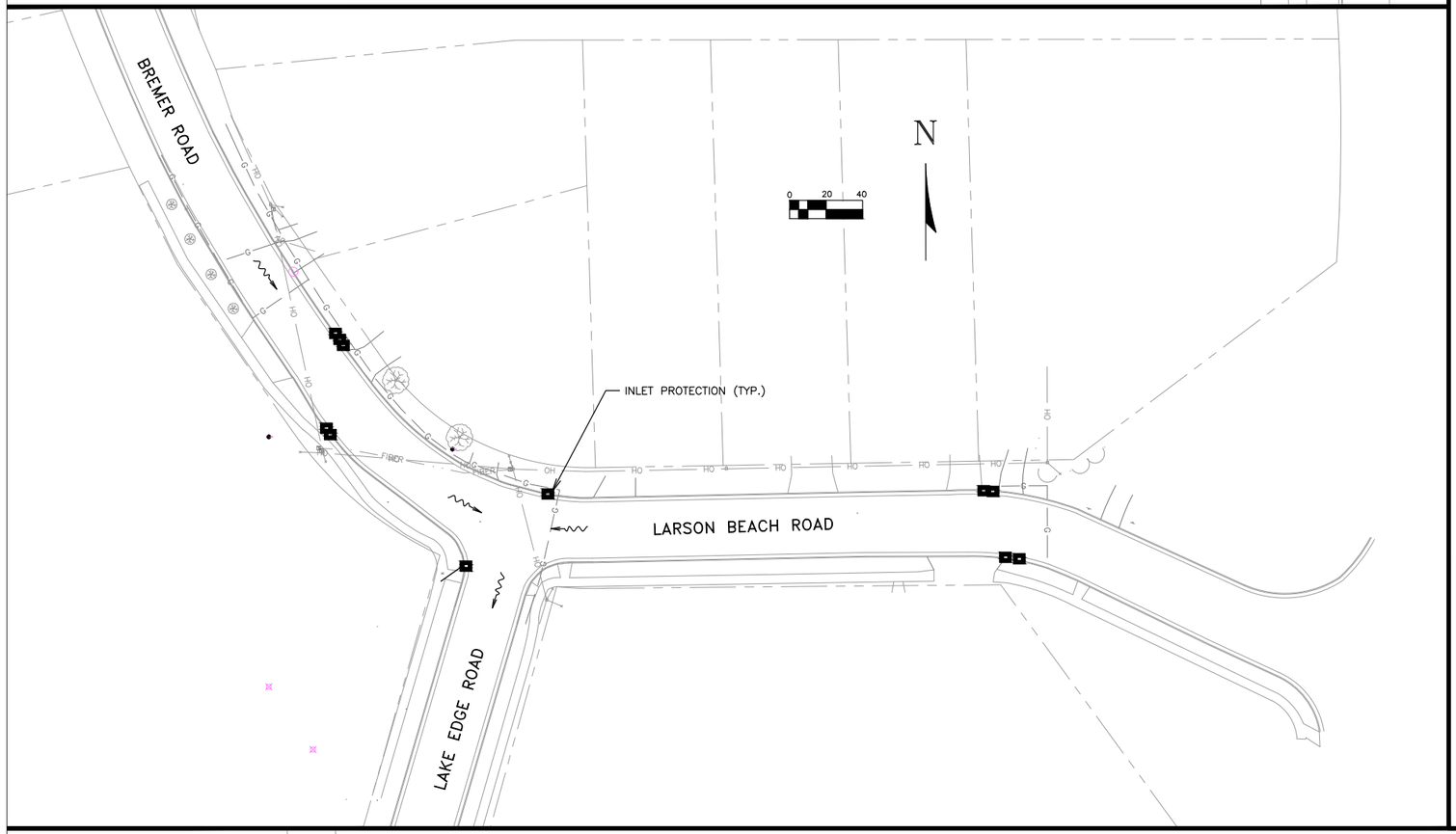
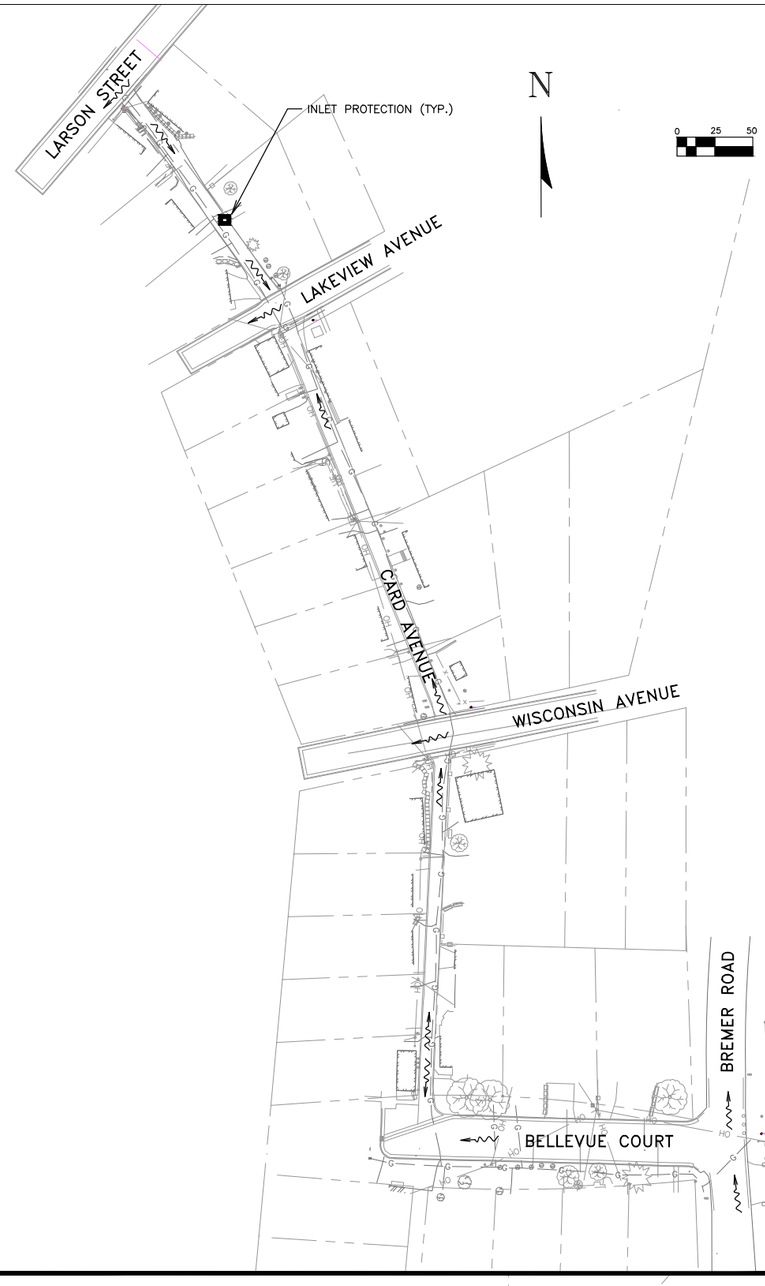
EROSION CONTROL PLAN AND GENERAL NOTES

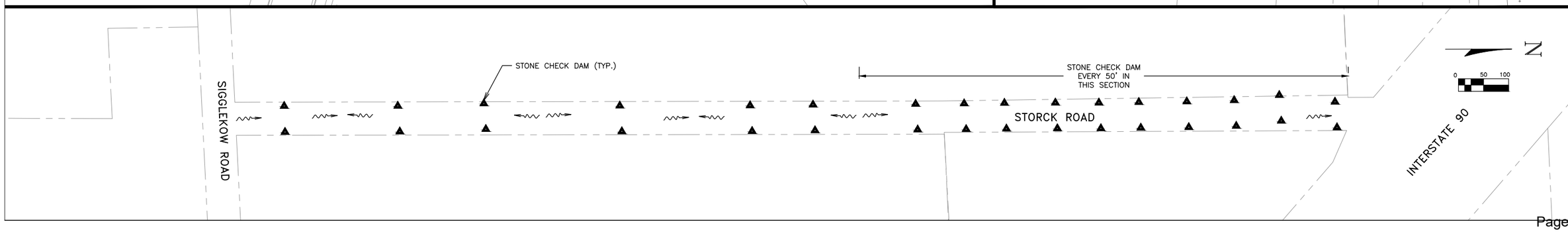
2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT A
Village of McFarland, Wisconsin

PROJECT NO.: MC 189
DRAWING FILE: TERMINAL.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: 0 10 20 40
SHEET: 2









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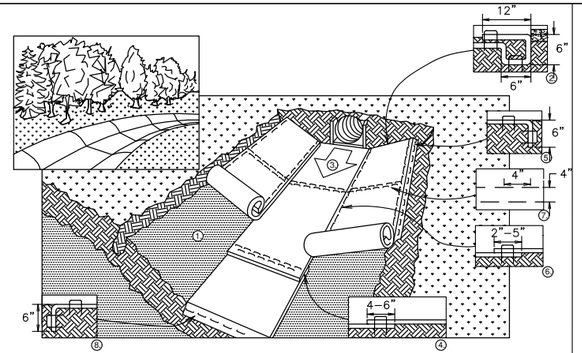
EROSION CONTROL PLAN

2022 STREET AND UTILITY IMPROVEMENTS
CONTRACT B
Village of McFarland, Wisconsin

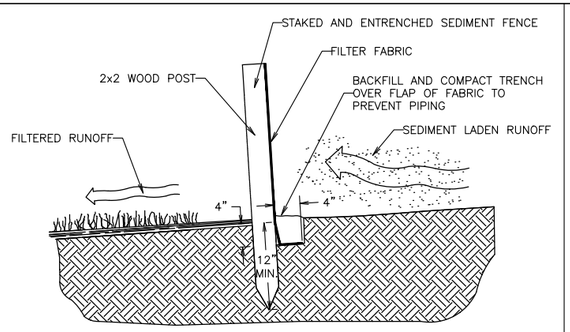
PROJECT NO.: MC 129
DRAWING FILE: HIDDEN FARM SHEETS.DWG
DRAWN BY: J.R.K.
CHECKED BY: T.J.S.
DATE: 2-3-22
REVISIONS:
SCALE: VARIES
SHEET: 3



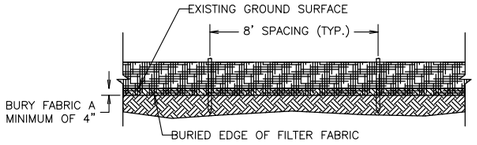
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4–6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPE MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 4" AND STAPLED.
7. A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLES OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

DETAIL
EROSION CONTROL MAT - CHANNEL INSTALLATION

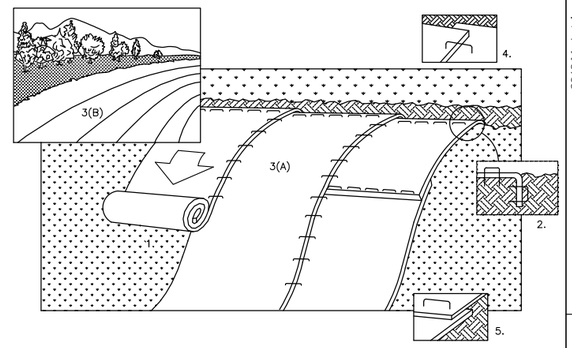


CROSS–SECTION OF A PROPERLY INSTALLED SEDIMENT FENCE



SEDIMENT FENCE DETAIL

DETAIL
SEDIMENT FENCE



NOTE:
REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
6. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SLOPE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.

DETAIL
EROSION CONTROL MAT - SLOPE INSTALLATION

2912 Marketplace Drive
Suite 103
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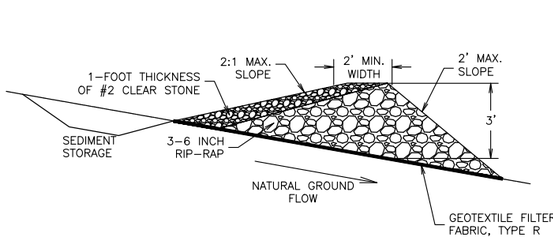
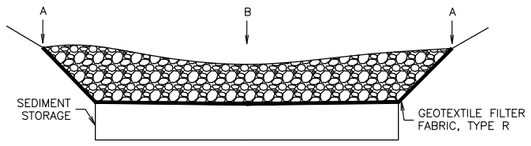
STANDARD CONSTRUCTION DETAILS
EROSION CONTROL

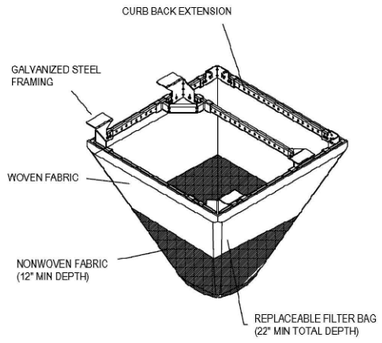


SECTION VIEW



FRONT VIEW

DETAIL
STONE CHECK DAM



GENERAL NOTES:

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

FRAMED INLET PROTECTION SHALL BE COMPLIANT WITH ALL ASTM STANDARD D8057–17 REQUIREMENTS, INCLUDING:
A. BYPASS OVERFLOW THAT MEETS OR EXCEEDS INLET DESIGN FLOW
B. FRAME AND BAG STRONG ENOUGH TO HANDLE FULL SEDIMENT LOAD.

INSTALLATION NOTES:

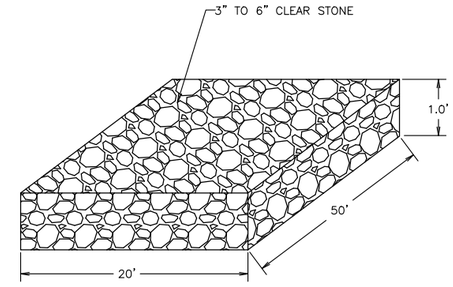
NO PART OF INLET PROTECTION SHALL BE PROJECTING ABOVE THE GRATE.

FOR COMBINATION INLETS, PROTECTION SHALL CAPTURE RUNOFF ENTERING BOTH GRATE AND CURB OPENING.

A DUAL FABRIC FILTER BAG, WITH NON–WOVEN BOTTOM AND WOVEN TOP SHALL BE USED.

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

DETAIL
INLET PROTECTION - FRAMED (W/ CURB BOX)



NOTE:

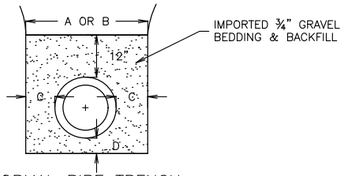
– ON STREET SURFACES CRUSHED AGGREGATE BASE STONE SERVES AS TRACKING PAD.

DETAIL
CLEAR STONE TRACKING PAD

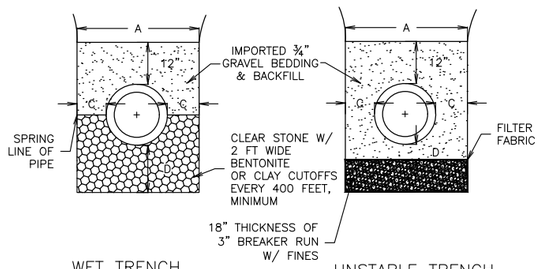
2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL DETAILS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2–3–22
REVISIONS:	
SCALE:	N.T.S.
SHEET:	4

DIMENSIONS:
- A: OUTSIDE DIAMETER OF PIPE PLUS 24" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36". TRENCH SHIELDS NARROWER THAN 4 FEET INSIDE WIDTH WILL NOT BE REQUIRED UNLESS SPECIFICALLY REQUIRED IN THE PROJECT SPECIFICATIONS.
- B: FOR ROCK, OUTSIDE DIAMETER OF PIPE PLUS 18" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36".
- C: MINIMUM – 6"
- D: MINIMUM 4" BELOW BARREL AND 3" BELOW BELL.



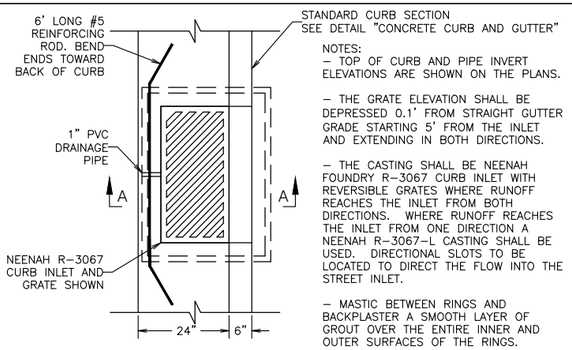
NORMAL PIPE TRENCH



WET TRENCH WITH SUMP DEWATERING

UNSTABLE TRENCH

DETAIL
TRENCH WIDTH AND BEDDING



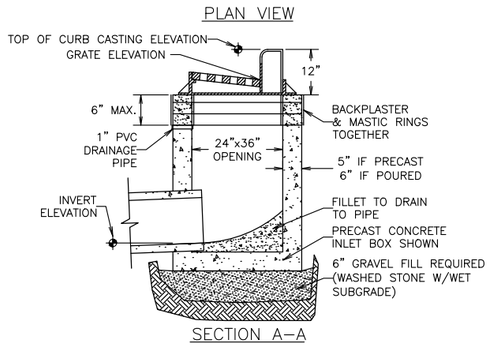
PLAN VIEW

NOTES:
– TOP OF CURB AND PIPE INVERT ELEVATIONS ARE SHOWN ON THE PLANS.

– THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.

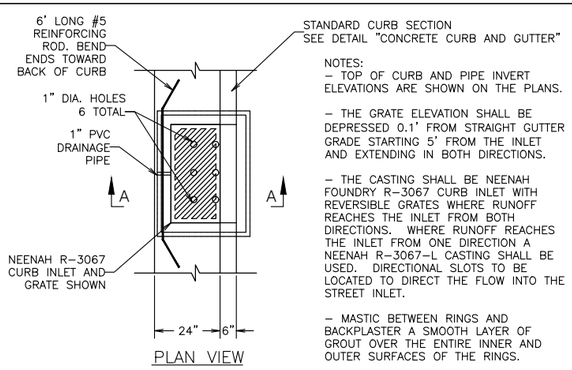
– THE CASTING SHALL BE NEENAH FOUNDRY R–3067 CURB INLET WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.

– MASTIC BETWEEN RINGS AND BACKPLASTER A SMOOTH LAYER OF GROUT OVER THE ENTIRE INNER AND OUTER SURFACES OF THE RINGS.



SECTION A–A

DETAIL
RECTANGULAR CURB INLET



PLAN VIEW

NOTES:
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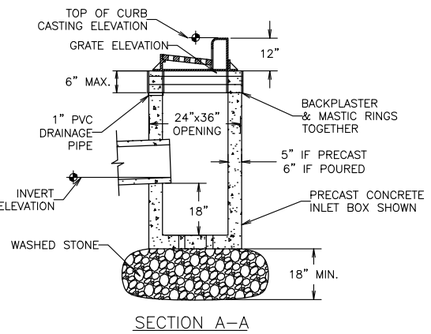
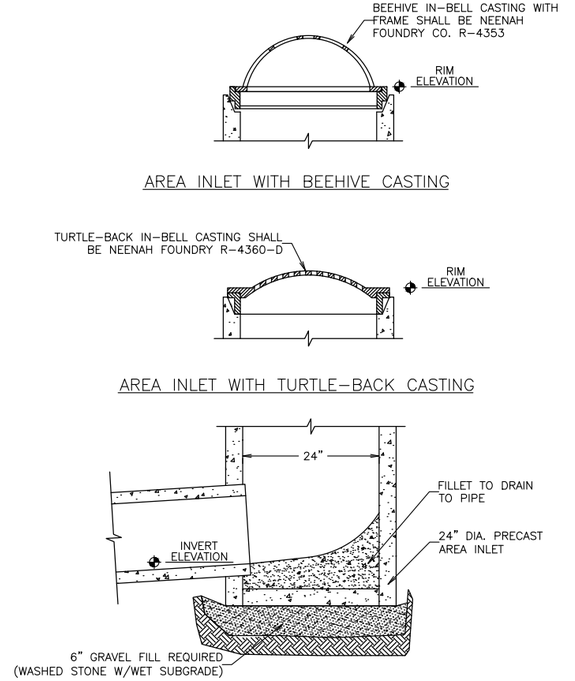


SECTION A–A

DETAIL
RECTANGULAR CATCH BASIN

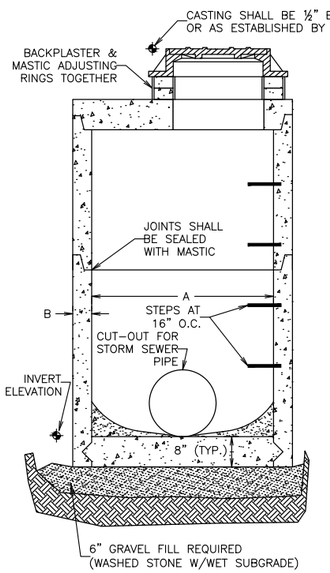


AREA INLET WITH BEEHIVE CASTING

AREA INLET WITH TURTLE–BACK CASTING

AREA INLET BOTTOM SECTION

DETAIL
AREA INLET



NOTES:

CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.

MANHOLE STEPS SHALL CONFORM TO ASTM–C478 & SHALL BE NEENAH FOUNDRY R–1981–N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.

ADJUST FRAME TO GRADE WITH AT LEAST TWO PRECAST CONCRETE RINGS OF DIFFERENT THICKNESSES. RINGS SHALL BE REINFORCED WITH ONE NO.3 STEEL BAR CENTERED WITHIN EACH RING.

A MINIMUM OF 3" TO A MAXIMUM OF 9" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

MANHOLE CASTING SHALL BE HEAVY DUTY, NEENAH FOUNDRY R–1550–A, WITH TYPE "B" NON–ROCKING LID, GASKET SEAL AND CONCEALED PICK HOLES.

MANHOLE INLET CASTING SHALL BE NEENAH FOUNDRY R–2050 WITH TYPE "C" NON–ROCKING GRATE.

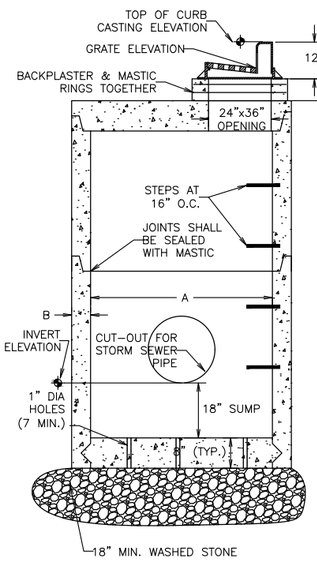
MANHOLE–TYPE CURB INLET CASTING SHALL BE NEENAH FOUNDRY R–3067 WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE CURB INLET.

A 2x3 LID OPENING IS REQUIRED FOR MANHOLE–TYPE CURB INLETS. ADJUSTING RINGS SHOULD THEN BE LIMITED TO 6" MAX.

STORM MANHOLE DIMENSIONS

MANHOLE SIZE	DIMENSION A	DIMENSION B (MIN.)
48"	48"	5"
60"	60"	6"
72"	72"	7"
84"	84"	7"
96"	96"	9"

DETAIL
STORM SEWER MANHOLE AND INLET



NOTES:

CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.

MANHOLE STEPS SHALL CONFORM TO ASTM–C478 & SHALL BE NEENAH FOUNDRY R–1981–N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.

A MAXIMUM OF 6" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE–TYPE CURB CATCH BASIN CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.

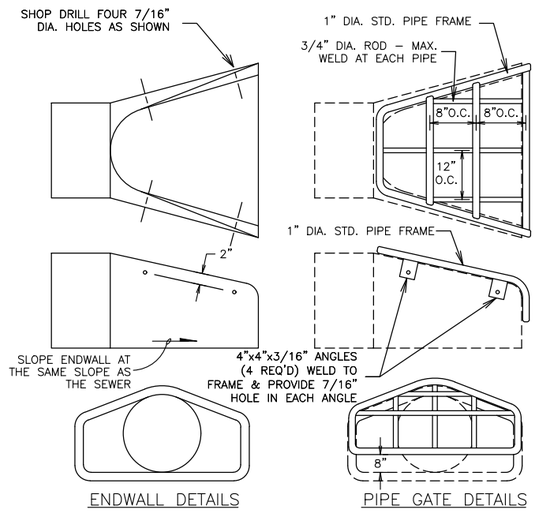
MANHOLE–TYPE CURB CATCH BASIN CASTING SHALL BE NEENAH FOUNDRY R–3067 WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R–3067–L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.

A 2x3 LID OPENING IS REQUIRED FOR MANHOLE–TYPE CURB CATCH BASINS.

STORM MANHOLE DIMENSIONS

MANHOLE SIZE	DIMENSION A	DIMENSION B (MIN.)
48"	48"	5"
60"	60"	6"
72"	72"	7"
84"	84"	7"
96"	96"	9"

DETAIL
STORM SEWER MANHOLE CATCH BASIN



ENDWALL DETAILS

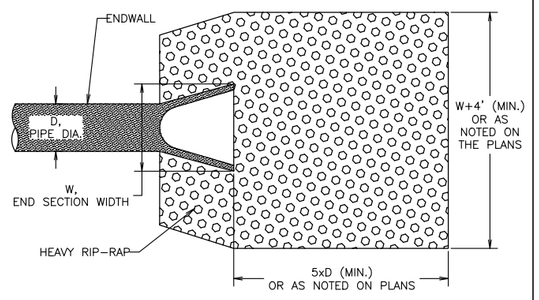
PIPE GATE DETAILS

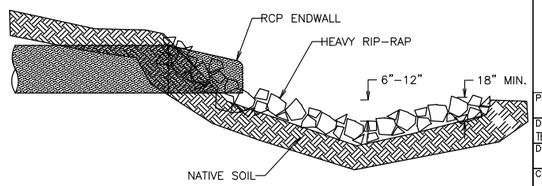
NOTES:
– THE CONTRACTOR SHALL BOLT THE PIPE GATE TO THE CONCRETE ENDWALL WITH FOUR 3/8"x6" MACHINE BOLTS WITH NUTS ON INSIDE WALL.

PAINTING SPECIFICATIONS:
– THE PIPE GATE SHALL RECEIVER THE FOLLOWING PREPARATION & PAINTING. THE FIRST COAT SHALL BE RUS–OLEUM X–60 RED BARE METAL PRIMER OR APPROVED EQUAL. THE SECOND COAT SHALL BE RUST–OLEUM 960 ZINC CHROMATE PRIMER OR APPROVED EQUAL. THE THIRD COAT SHALL BE RUS–OLEUM 1282 HIGH GLOSS METAL FINISH OR APPROVED EQUAL.

PREPARATION STEPS:
1. BARE METAL SURFACES – TREAT WITH THE THREE–COAT PAINTING SYSTEM LISTED AFTER A THOROUGH SCRAPING, WIRE BRUSHING & CLEANING.
2. EACH COAT OF PAINT SHALL BE APPLIED OVER THE ENTIRE GATE SURFACE.
3. ALLOW 24–48 HOURS DRYING TIME AT 60° OR ABOVE BETWEEN COATS.

DETAIL
ENDWALLS





NOTE:

RIP–RAP SHALL BE A MINIMUM OF 2 C.Y. PER ENDWALL.

DETAIL
ENDWALL AND RIP–RAP

TOWN & COUNTRY ENGINEERING, INC.
2912 Marketplace Drive
Suite 103
Madison, WI 53719
(608) 273-3350
www.tcengineers.net

STANDARD CONSTRUCTION DETAILS
STORM SEWER

2022 STREET AND UTILITY IMPROVEMENTS
Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING FILE:	TERMINAL DETAILS.DWG
DRAWN BY:	J.R.K.
CHECKED BY:	T.J.S.
DATE:	2–3–22
REVISIONS:	
SCALE:	N.T.S.
SHEET:	7

6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
www.tcengineers.net
TOWN & COUNTRY ENGINEERING, INC.

TERMINAL DRIVE AND OSBORN DRIVE STORM SEWER IMPROVEMENTS

2022 STREET AND UTILITY IMPROVEMENTS CONTRACT C

Village of McFarland, Wisconsin

PROJECT NO.:	MC 189
DRAWING TITLE:	TERMINAL AND OSBORN STM.DWG
DRAWN BY:	N.J.D.
CHECKED BY:	T.J.S.
DATE:	2-3-22
REVISIONS:	
SCALE:	0 5 10 20
SHEET:	C1

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, March 8, 2022**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Aimee Irwin, Assistant to the Public Works Director, Jim Hessling, Public Works Director**

AGENDA ITEM: **Discussion and action to make a recommendation to the Village Board regarding the award of contract for meter replacement installation services.**

PREVIOUS ACTION:
The Public Utilities Committee and Village Board approved upgrading the meter reading process to a cellular AMI format and to contract with a company for the installation over a three-year period on August 10, 2021 and August 23, 2021, respectively.

The Public Utilities Committee and the Village Board approved the issuance of a Request for Proposal (RFP) for meter replacement installation services on December 21, 2021 and January 10, 2022, respectively.

ISSUE SUMMARY:
The Public Utilities Committee had previously reviewed various options for the future of meter reading for the utility in 2021. The option selected by the Committee and subsequently approved by the Village Board would result in upgrading the process from a mobile drive-by reading to an AMI cellular reading format. Following the recommendation of the upgrade process, an RFP was issued for meter replacement installation services. The RFP is a for a three-year time period to complete the upgrade and change over to the new AMI Cellular reading format.

Timeline estimates for installation provided by HydroCorp:

Year	Weeks	Installations per week
1	11 1/2	150
2	6 1/2	150
3	5 1/2	150

Staff recommends proceeding with the project as planned for 2022. We will be reviewing combining years two and three of the project into a single year of implementation in 2023 based on favorable pricing.

The RFP was available on the village website and emailed to three companies. All three

companies expressed interest in applying but only two submitted proposals. The two proposals received were from Midwest Testing, LLC out of Minnesota and HydroCorp out of Brookfield, Wisconsin. The proposals were reviewed by the Public Works Department and Village Administrator. Staff recommend the award of contract to HydroCorp for the meter replacement installation services over a three-year period due to the total projected costs and for providing a complete proposal as outlined in the RFP.

FINANCIAL/BUDGET IMPACT:

The 2022 Capital Project fund includes $650,000 for the first phase of the water meter replacement project. The cost is to be split between the Water (borrowing) and Sewer (fund balance) services. The same amount of funds and allocations are planned in 2023 and 2024 as well. A full cost projection is included within the packet comparing the three years of installation costs with three years of equipment costs.

Our objective for this meeting is to evaluate the proposal on the installation costs as the equipment has already been ordered for the 2022 program to avoid price increases earlier in the year. When looking at the proposed installation costs, HydroCorp's total estimated project cost for the three-year period totals $351,175.50 which is less than Midwest Testing LLC's estimated costs of $519,171.00. HydroCorp's estimated total project cost is also less than the previous estimate provided to the committee of $444,730.00 over the three-year period. This estimate was derived last Fall when the plan was set and what the budget for this year was based on. The installation costs portion of the project as proposed is under budget for 2022 and overall for the three year period as projected.

Looking at the project overall now adding in the equipment costs, the project for 2022 is well within budget and overall for the three year period is trending significantly less than anticipated even when taking into account price increases. Equipment cost prices jumped 11% between the Fall of 2021 and the Winter of 2021/2022 when the order was placed. There are additional projections of increases in future years that Staff is working with the supplier to figure out for future years. However, as we evaluate this proposal and think about the full extent of the project we have a great deal of flexibility with the installation costs as we look to finish the implementation of the project. The total projected cost for the project in 2022 including installation services, equipment, and software upgrades is estimated at $661,518 compared with the $700,000 budgeted for the project this year. The equipment needs have already been ordered for 2022 to avoid a price increase and will allow for the full implementation in year one. Accepting this proposal will lock that in for the first year with some contingency proposed in the motion recommendation. Total cost is trending around $410,000 in 2023 and $350,000 in 2024 when compared to the previously planned $650,000 for each of those years. The Water Utility is borrowing its 2022 and 2023 needs this year, and as a result likely will not to further borrow money in 2024 to support the remainder of the program. As we look to combine the final years of implementation into one year, we'll still have flexibility based on the plan that was established and the funding allocated.

VILLAGE PLAN REFERENCE:

None.

VILLAGE OF
McFarland

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:
Recommended Action:

Motion, second to make a recommendation to the Village Board to award the proposal from Hydrocorp of Brookfield for meter replacement installation services over the time period of 2022 through 2024 at an estimated amount of $351,175.50 with a total project costs including contingency for $387,000.

ATTACHMENTS:
1. HydroCorp Proposal
2. Proposal Comparison
3. Meter Replacement Installation RFP

Installation Services				Metering Equipment				
Est. Project Cost--Hydrocorp Proposal				Badger Meter/Beacon Software				
2022	Rate	Units	Cost	Meters Complete	Totals	System Totals	Annual System Support (est) *	**Annual Total Cost**
5/8"	$ 97.00	1619	$ 157,043.00	$ 265.00	$ 429,035.00			
1"	$ 97.00	27	$ 2,619.00	$ 370.00	$ 9,990.00			
1.5"	$ 230.50	27	$ 6,223.50	$ 745.00	$ 20,115.00			
2"	$ 230.50	9	$ 2,074.50	$ 1,010.00	$ 9,090.00			
CC-Res**	$ -	1053	$ -					
Mobilization	$ -		$ -					
		Annual Total	$ 167,960.00		$ 468,230.00	$ 12,500.00	$ 12,828.00	$ 661,518.00
2023	Rate	Units	Cost	Meters Complete	Totals	System Totals	Annual System Support (est) *	Annual Total Cost
5/8"	$ 97.00	932	$ 90,404.00	$ 265.00	$ 246,980.00			
1"	$ 97.00	19	$ 1,843.00	$ 370.00	$ 7,030.00			
1.5"	$ 230.50	9	$ 2,074.50	$ 745.00	$ 6,705.00			
2"	$ 230.50	3	$ 691.50	$ 1,010.00	$ 3,030.00			
3"	$ 600.00	8	$ 4,800.00	$ 2,782.00	$ 22,256.00			
4"	$ 600.00	2	$ 1,200.00	$ 3,380.00	$ 6,760.00			
CC-Res**	$ -	1053	$ -					
Mobilization	$ -		$ -					
		Annual Total	$ 101,013.00		$ 292,761.00	$ -	$ 17,980.00	$ 411,754.00
2024	Rate	Units	Cost	Meters Complete	Totals	System Totals	Annual System Support (est) *	Annual Total Cost
5/8"	$ 97.00	790	$ 76,630.00	$ 265.00	$ 209,350.00			
1"	$ 97.00	8	$ 776.00	$ 370.00	$ 2,960.00			
1.5"	$ 230.50	6	$ 1,383.00	$ 745.00	$ 4,470.00			
2"	$ 230.50	7	$ 1,613.50	$ 1,010.00	$ 7,070.00			
3"	$ 600.00	3	$ 1,800.00	$ 2,782.00	$ 8,346.00			
CC-Res**	$ -	1053	$ -					
Mobilization	$ -		$ -					
		Annual Total	$ 82,202.50		$ 232,196.00	$ -	$ 32,431.00	$ 346,829.50
3 Year Estimated Total Project Cost			$ 351,175.50		$ 993,187.00	$ 12,500.00	$ 63,239.00	$ 1,420,101.50
**Cross Connection included within cost					* Includes BEACON Mobile Service Units (for both ITRON mobile and ORION Cellular AMI), BEACON Mobile Read (for ITRON)			
	Estimate within Proposal		$ 351,399.64					

Midwest Testing 3 Year Estimate	$ 519,171.00
Hydrocorp 3 Year Estimate	$ 351,175.50
Projected 3 Year Estimate	$ 444,730.00
Midwest Testing difference	74,441.00
Hydrocorp difference	(93,554.50)

Installation Services				Metering Equipment				
Est. Project Cost--Hydrocorp Proposal				Badger Meter/Beacon Software				
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3"	$ 600.00	8	$ 4,800.00	$ 2,782.00	$ 22,256.00			
4"	$ 600.00	2	$ 1,200.00	$ 3,380.00	$ 6,760.00			
CC-Res**	$ -	1053	$ -					
Mobilization	$ -		$ -					
		Annual Total	$ 101,013.00		$ 292,761.00	$ -	$ 17,980.00	$ 411,754.00
2024	Rate	Units	Cost	Meters Complete	Totals	System Totals	Annual System Support (est) *	Annual Total Cost
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	Estimate within Proposal		$ 351,399.64					

Installation Services				Metering Equipment				
Est. Project Cost--Midwest Testing Proposal				Badger Meter/Beacon Software				
2022	Rate	Units	Cost	Meters Complete	Meter Totals	System Totals	Annual System Support (est) *	Annual Total Cost
5/8"	$ 81.00	1619	$ 131,139.00	$ 265.00	$ 429,035.00			
1"	$ 81.00	27	$ 2,187.00	$ 370.00	$ 9,990.00			
1.5"	$ 200.00	27	$ 5,400.00	$ 745.00	$ 20,115.00			
2"	$ 200.00	9	$ 1,800.00	$ 1,010.00	$ 9,090.00			
CC-Res**	$ 30.00	1053	$ 31,590.00					
Mobilization	$ 42,000.00		$ 42,000.00					
		Annual Total	$ 214,116.00		$ 468,230.00	$ 12,500.00	$ 12,828.00	$ 707,674.00
2023	Rate	Units	Cost	Meters Complete	Meter Totals	System Totals	Annual System Support (est) *	Annual Total Cost
5/8"	$ 89.00	932	$ 82,948.00	$ 265.00	$ 246,980.00			
1"	$ 89.00	19	$ 1,691.00	$ 370.00	$ 7,030.00			
1.5"	$ 225.00	9	$ 2,025.00	$ 745.00	$ 6,705.00			
2"	$ 225.00	3	$ 675.00	$ 1,010.00	$ 3,030.00			
3"	$ 375.00	8	$ 3,000.00	$ 2,782.00	$ 22,256.00			
4"	$ 550.00	2	$ 1,100.00	$ 3,380.00	$ 6,760.00			
CC-Res**	$ 32.00	1053	$ 33,696.00					
Mobilization	$ 33,000.00		$ 33,000.00					
		Annual Total	$ 158,135.00		$ 292,761.00	$ -	$ 17,980.00	$ 468,876.00
2024	Rate	Units	Cost	Meters Complete	Meter Totals	System Totals	Annual System Support (est) *	Annual Total Cost
5/8"	$ 95.00	790	$ 75,050.00	$ 265.00	$ 209,350.00			
1"	$ 95.00	8	$ 760.00	$ 370.00	$ 2,960.00			
1.5"	$ 235.00	6	$ 1,410.00	$ 745.00	$ 4,470.00			
2"	$ 235.00	7	$ 1,645.00	$ 1,010.00	$ 7,070.00			
3"	$ 400.00	3	$ 1,200.00	$ 2,782.00	$ 8,346.00			
CC-Res**	$ 35.00	1053	$ 36,855.00					
Mobilization	$ 30,000.00		$ 30,000.00					
		Annual Total	$ 146,920.00		$ 232,196.00	$ -	$ 32,431.00	$ 411,547.00
3 Year Estimated Total Project Cost			$ 519,171.00		$ 993,187.00	$ 12,500.00	$ 63,239.00	$ 1,588,097.00

**Cross Connection--total Residential Customer divided by 3 years

* Includes BEACON Mobile Service Units (for both ITRON mobile and ORION Cellular AMI), BEACON Mobile Read (for ITRON)

VILLAGE OF
McFarland

Request For Proposals

Water Meter Replacement Installation

RFP Issuance Date: January 25, 2022

RFP Due Date: February 25, 2022

Please Submit to:

Public Works Director, Jim Hessling

public.works@mcfarland.wi.us

Section 1 Purpose

The purpose and intent of this Request for Proposal (RFP) is to solicit proposals from qualified Contractor(s) to provide water meter replacement and installation services for the Village of McFarland Water Utility. The proposal(s) are required to meet the scope of services detailed within. The Village is requesting proposal(s) for a three year contract with one contractor completing the entire project.

Section 2 Background

The Village of McFarland Water Utility is implementing a system change from Itron/FCS to Beacon/Orion Cellular software and equipment while continuing to utilize Badger Meter products. The utility has experienced failures in meter reading due to the battery life of endpoints within the system. The Village plans to implement this change over a three year period focusing on 50W endpoints in year one (1682 meters), 60W endpoints in year two (973 meters) and 100W endpoints in year three (814 meters). The utility currently operates in two cycles for billing purposes with approximately half of the Village split between Cycle 1 and Cycle 2.

Meter & Endpoint data (as of December 2, 2021)

Size of Meter	50W Endpoint	60W Endpoint	100W Endpoint
5/8 inch	**1619**	**931**	**790**
3/4 inch	**0**	**1**	**0**
1 inch	**27**	**19**	**8**
1.5 inch	**27**	**9**	**6**
2 inch	**9**	**3**	**7**
3 inch	**0**	**8**	**3**
4 inch	**0**	**2**	**0**

Customer Type data (as of December 2, 2021)

Commercial	Multi-Family	Public Authority	Residential	**Grand Total**
223	58	29	3159	**3469**

Section 3 Scope of Services

A. The contractor will provide the following services when exchanging water meters:
    a. Contractor will devise a postal notification letter to inform metered customers of required meter replacement during a specific date range specified in the letter. Letter shall be approved by the Village to use by the contractor and include Village branding. Notification letter to include advising owner/occupant of temporary water disconnection and responsibilities of owner for providing unobstructed access to within 8 feet surrounding the existing water meter including operational valves for shut off.
    b. Contractor must send postal notification letters to designated water customer addresses to ensure necessary meter replacement appointments are confirmed.
    c. Contractor must devise and host a dedicated website page for setting appointments with water customers at specific intervals during normal business hours. Water customers must have access to schedule their own appointments via a free and secure appointment website system. Website link must be presented on postal notices and Village website.
    d. Contractor must provide designated Village staff with online access to the live appointment schedule system.
    e. Contractor must provide a full-time Toll Free number phone support for customer questions and appointment requests by Contractors Administration staff. Direct phone contact to contractor staff will be available during normal business hours, five days per week excluding holidays.
    f. Contractor will be required to make 2 attempts to establish an appointment for meter replacement at each address. After 2 attempts, the Village will continue attempts until replacement occurs. Definition of attempts:
        i. 1st Postal Notice
        ii. 2nd Postal Notice
        iii. 3rd Village

g. Contractor will document in electronic format; relevant identification numbers and meter readings of each existing and new meter installed. Each digital record will be required to include a digital image of the old meter and new meter installed for account reference including property address.
h. Contractor will provide identification to the property owner upon arrival.
i. Contractor will install new water meter, associated fittings and gaskets as provided by the Village or supplier.
j. Contractor will verify activation of each meter installed, re-establish water supply and verify full water pressure at nearest tap for 30 seconds and include GPS location of each meter as indicated on handheld.
k. Contractor must respond to reported leaks at meter junction or service control valve within 24 hours (Monday-Saturday) after the incident has been reported to the Village.
l. Contractor must deliver removed (old) meters, transmitters and wiring to designated area of the Public Works building on a daily basis or alternate site provided by the Village.
m. Contractor will retrieve new meters, fittings and gaskets as provided by the Village and/or supplier on a daily basis during normal working hours. New meters will be available in a designated area at the Public Works building, or alternate location.
n. Contractor will provide ongoing progress meter replacement status reporting during the contract period on a weekly basis.
o. Contractor will provide a report of all homes with sump pumps. The report will specify if plumbed correctly or incorrectly.
p. Contractor must record and be able to report on the type of water service material and the size of service along with pictures and serial numbers of old and new meters.
q. Contractor will notify the Village of any violations found during installation process at property locations.
r. Contractor will complete the annual replacement in five to six months from initial start of installation procedures.
s. Contractor will begin installation procedures within 30 days of substantial delivery of meter supplies to the Village.

B. The contractor will provide the following Cross Connection Control Inspection services when exchanging residential water meters:
    a. Contractor will perform a comprehensive cross connection control inspection at each residential home where water meters are replaced. The inspection will not be applicable to Commercial, Public Authority or Multi-Family locations.
    b. Contractor will document and inventory all backflow prevention assemblies, devices, and methods during the on-site survey and be made available in an electronic and Excel format to the Village.
    c. Contractor will inventory and document all existing backflow prevention devices on the outside and around the water meter for proper installation.
    d. Contractor will generate all inspection notifications for non-compliant homeowners informing them of installation requirements or required corrective action. Specific plumbing code reference and written corrective action recommendations must be included for each non-compliant home. A detailed corrective action report for each non-compliant residential home must be provided to the Village.
    e. Contractor will provide full-time and Toll-Free phone call support for customer questions. Phones must be staffed during normal business hours between Monday through Friday. An automatic message service must be provided for after hour calls.
    f. Contractor will document a degree of hazard and appropriate future re-survey frequency upon completion of each survey.
    g. Contractor will provide a comprehensive summary of all cross-connection inspections completed and compliance status in electronic and Excel format to the Village. Records will also be accessible via secured website and include property address.
    h. Contractor must record any private wells found and make sure not connected to public supply. Private wells will be reported to Village.
    i. Contractor must provide a full time employed individual, or individuals to oversee the project with American Society of Sanitary Engineering credentials (ASSE) 5120 and 5150 along with holding a masters plumbing license in the state of Wisconsin.

Section 4 RFP Submittal Requirements

1) **Qualification Details consisting of**:
    a. Cover Letter
    b. Experience—A summary of two to five similar relevant projects that the applicant has conducted within the last ten years.
    c. References—Provide three or more client references for which the applicant has conducted similar projects for within the last ten years. Include name, title, email and phone number of the contact person.
2) **Technical Proposal consisting of**:
    a. A description of the approach to be taken toward completion of each item listed under Section 3 of this RFP. An explanation of any variances to the proposed Scope of Work as outlined in the RFP.
3) **Project Management plan consisting of**:
    a. Key Personnel—A list or organization chart of personnel directly assigned to the project, along with responsibilities. Clearly illustrate the responsibilities and lines of communication. Describe your plan to interface with the Village staff. The main contact for the project including name, email and phone number.
    b. Village Staff Commitments—Identify those items within the Scope of Work for which the contractor anticipates assistance by Village Staff. Village Staff will provide a point of contract for public inquires during the planning process and provide public outreach and updates during the project phase.
    c. Project Schedule—A proposed schedule that indicates project timeline for completion of the entire project.
    d. Supplemental Information—Any other information deemed necessary to address the requests of this RFP.
4) **Cost Proposal consisting of**:
    a. Cost—Price per meter to complete this project on an annual basis.
    b. Estimated Labor Hours—A summary of estimated labor hours by team members to perform the necessary functions of this project.
    c. Additional Scope/Fee—Additional fees associated with additional work outside of the scope of services

5) **General requirements consisting of**:
    a. Due Date—Responses to the RFP must be received by 12:00 PM CST on February 25, 2022. Proposals received late, for any reason, shall not be accepted.
    b. Format & Location—Prospective contractors shall provide an electronic PDF submitted via email to the Public Works Director at public.works@mcfarland.wi.us, subject: Water Meter Replacement Installation RFP.
    c. Property—All information developed as part of this RFP, including data, shall become the property of the Village upon completion of the project. All text shall be submitted electronically as is most convenient. All original data generated as a part of the RFP shall be submitted to the Village in an easily reproducible hardcopy and electronic format as applicable.

Section 5 Evaluation Criteria

The following criteria will be used to evaluate each proposal submitted:

- Key Personnel (10 points). Experience and qualifications relevant to key personnel and their associated project responsibilities.
- Project Experience (15 points). Level of experience completing similar projects with similar entities.
- Scope of Work (10 points). Level of responsiveness and technical approaches to the scope of work outlined within the RFP. Demonstration of knowledge and innovative approaches particular to the desired Scope of Work.
- Cost Effectiveness (25 points). Ability to meet budget/value as related to proposed and additional costs.
- Project Schedule (30 points). Ability to be responsive in meeting schedule required to complete scope of work. Quality, clarity and creativity of proposed planning process.
- Quality of Submittal (10 points). Quality, clarity and completeness of submittal package. Contractors shall not submit verbatim sections of this RFP as their proposal.

Section 6 Method and Timeline of Selection

The Village Administrator, Public Works Director, and Public Works staff will conduct the evaluation of proposals submitted. They will make a recommendation to the Public Utilities Committee who will make the final recommendation to the Village Board for action. The following method and timeline will be utilized in order to select the desired proposal:

- **January 25th – RFP Issuance Date**
- **February 25th —RFP Due Date**
- **February 28th – March 11th —Evaluation**
- **March 15th —Public Utilities Committee.** The Committee will consider the recommendation of staff in order to make their own recommendation to the Village Board.
- **March 28th – Village Board.** The Board will take final action to consider acceptance of the recommended proposal and enter into a contract for this purpose.
- **May 2nd—**Commence Work

Section 7 Terms and Conditions

Each proposal will be reviewed to determine if it meets the submittal requirements contained within this RFP. Failure to meet the requirements for the RFP can be cause for rejection of the proposal. The Village may reject any proposal if it is conditional, incomplete, contains irregularities, or if in the sole discretion of the Village not considered in our best interest. The Village may waive an immaterial deviation in a proposal, but this shall in no way modify the proposal document or excuse the Contractor from compliance with the contract requirements if the Contractor is awarded a contract. A prospective Contractor may be requested for an interview at the sole discretion of the Village. The recommended Contractor will be selected and approved by the Village Board.

The Village uses a standard template contract for such services and will require its utilization for this project. A copy of the standard template can be provided for review upon request and will be updated to adapt to the proposal ultimately selected.

There is no expressed or implied obligation for the Village to reimburse firms for any expenses incurred in preparing proposals in response to this request. Materials submitted by respondents are subject to public inspection under Wisconsin law. Any language purporting to render the entire proposal confidential or proprietary will be ineffective and will be disregarded.

The Village will not discriminate against individuals due to sex, race, religion, creed, color, national origin, age, disability, sexual orientation, ancestry, marital status, arrest or conviction record, military service, or any other characteristics protected by law. This applies to all Contractors submitting proposals to this project.

The Village reserves the right to retain all proposals submitted, and to use any idea in a proposal, regardless of whether the proposal was selected. Submission of a proposal indicates acceptance by the firm of the conditions contained in the RFP, unless clearly and specifically noted in the proposal submitted and confirmed in the contract between the Village and the Contractor.

All property rights, including publication rights of all reports produced by the selected firm in connection with services performed under this agreement shall be vested in the Village.

The Village reserves the right to reject any or all proposals submitted.

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, March 8, 2022**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Jim Hessling, Public Works Director**

AGENDA ITEM: **Discussion and action to make a recommendation to the Village Board regarding the award of contract for Forcemain locating services.**

PREVIOUS ACTION:
The Public Utilities Committee approved the issuance of a RFP for Forcemain locating services at its December 21, 2021 meeting. The Village Board approved issuance of the RFP at its meeting on January 10, 2022.

ISSUE SUMMARY:
Included within the packet is a proposal for the locating of the village's sanitary sewer forcemains. Forcemains are pressurized pipes that carry sewage from a low point within a lift station that pumps the wastewater to a higher point where it can then flow by gravity within the system. Staff has general knowledge of the location of these pipes, but using the proposed services these will be more readily identified when they need to be located. Without that detail, these pipes have been hit during other excavation projects which disrupts the pumping within the system. to a higher gravity point. We have an idea where these underground pipes are but nothing definite. The Village Engineer has included his review and recommendation within your packet.

An RFP was put out on Quest CDN, a service that advertises to various contractors about available upcoming projects. There was a single proposal received from Utility Mapping Services, Inc. of St. Cloud, Minnesota. Staff's recommendation is to accept the proposal as presented.

FINANCIAL/BUDGET IMPACT:
Project costs are included within the 2022 Public Works Capital Improvement Plan up to $100,000 paid for by the Sanitary Sewer Utility.

The locating proposal came in at $10.25 per lineal foot. There is approximately 8,300 lineal feet to map which would generate an estimated cost of $85,075. The estimated cost is projected to be under budget and the motion recommended authorizing the full budget amount in case there is additional mapping that is needed as the work begins (i.e. includes a contingency).

VILLAGE PLAN REFERENCE:

None.

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:
Recommended Action:

Motion, second to recommend to the Village Board to approve the proposal from Utility Mapping Services, Inc. of St. Cloud, MN in the amount up of $10.25 per lineal foot not to exceed a total cost of $100,000 for Forcemain locating services.

ATTACHMENTS:
1. Force Main Locating RFP 12092021 FINAL-for 2022
2. UMS Proposal 31Jan2022 - McFarland Force Main Locating RFP 12092021
3. Forcemain Locating Recommendation letter

VILLAGE OF
McFarland

Request For Proposals

Sanitary Sewer Force Main Locating/Mapping Services

-

RFP Issuance Date: January 11, 2022

Proposal Due Date: February 1, 2022 by 10:00 am

Please Submit to:

Village of McFarland
Attn: Jim Hessling
5915 Milwaukee Street, PO Box 110
McFarland, WI 53558

SECTION 1 Purpose/Introduction

A. The purpose and intent of the Request for Proposals (RFP) is to solicit proposals from qualified Contractor(s) to provide personnel and equipment necessary for locating and mapping of several sanitary sewer force mains under the direction of the Village of McFarland Public Works Director. The Village desires a private contractor to perform these services which will help us to maintain our collection and transmission system. Additionally, it will assist us to properly assess the location of the sanitary sewer force main portion of our system.

SECTION 2 Background

A. The Village of McFarland is located adjacent to the southeast side of the City of Madison in Dane County. The current population of McFarland is estimated 8,952. The Village has approximately 43.9 road miles and is a little under 5 square miles in total land area. The Village is serviced by US Highway 51 serving as the main connection point between the cities of Madison and Stoughton. The Community is home to a high quality of life within the Madison metropolitan area as demonstrated by its excellent schools, variety in commercial enterprises, vast parks, and safe neighborhoods. More information about the Village is available at www.mcfarland.wi.us.

SECTION 3 Scope of Work

This Scope of Work will become an integral part of the contract between the Village and the Contractor. The Contractor hereby agrees to provide services and/or materials to the Village pursuant to the provisions set forth as follows:

A. **Description.** Surveying services for locating and mapping seven existing force mains totaling approximately 8,300 lineal feet as defined below:

i. Erling Avenue Force Main (Lift Station #1) – Consisting of 1,443 lineal feet. Pipe material and size unknown.

ii. Pheasant Run Force Main (Lift Station #2) – Consisting of 3,077 lineal feet. Pipe material is ductile iron and pipe size is 8 inches in diameter.

iii. Meredith Way Force Main (Lift Station #3) – Consisting of 802 lineal feet. Pipe material is ductile iron and pipe size is 4 inches in diameter.

iv. Terminal Drive Force Main (Lift Station #4) – Consisting of 1,916 lineal feet. Pipe material is HDPE and pipe size is 6 inches in diameter.

v. Lewis Lane Private Force Main – Consisting of 447 lineal feet. Pipe material is PVC and pipe size is 1.5 inches in diameter.

vi. Taylor/Terminal/Erling Private Force Main – Consisting of 600 lineal feet. Pipe material and size unknown.

B. **Locating.** The Contractor will be given a list of line sections to be located. It is the intent of this contract to satisfy Village collection system requirements; namely, the Contractor will locate the sanitary sewer force mains as required as part of the Village sanitary sewer transmission system. It is estimated that the footage to be located is approximately 8,300 feet. This includes sewer mains located in the street, easements, and on private property. As a condition of the work, the Contractor will be required to identify the diameter, length, depth, and material of the sanitary sewer force main being located. The Contractor shall provide an electronic copy of the locating report upon completion.

C. **Mapping.** The Contractor will be given a list of line sections to be mapped. It is the intent of this contract to satisfy Village collection system requirements; namely, the Contractor will map the sanitary sewer force mains as required as part of the Village sanitary sewer transmission system. It is estimated that the footage to be mapped is approximately 8,300 lineal feet. This includes sewer mains located in the street, easements, and on private property. As a condition of the work, the Contractor will be required to identify the diameter, length and material of the sanitary sewer

force main being mapped. The Contractor shall provide a mapping report including horizontal coordinate information of the force mains at all major bends (greater than 22 degrees), and at increments of no more than 50 feet between bends. Coordinates shall be on the Dane County Coordinate system.

D. **General Requirements.**

i. A copy of the sanitary sewer transmission system map will be given to the contractor at the onset of the contract, to assist in this endeavor.

ii. During the course of the Contract, additional infrastructure not presently defined under Section 3(A) may need to be located and mapped. The Contractor will provide a price per lineal foot for any additional locating and mapping needs outside of the previously defined locations.

iii. It is understood that this will take multiple weeks, or months, to locate and map the specified sections of the system. Once operations commence, updates will be required by the Village as part of their notification process to residents and businesses. It is also understood that more frequent updates should be given, if the Village or the Contractor feels there is need.

iv. All reports are required to be submitted in an electronic format compatible with GIS. The following information will be required within the reports for each force main:

- Diameter of force main.
- Length of force main.
- Material of which the force main is made of.
- Pipe depth.
- Locations of any bends or deviations in the line.
- Date and time located/mapped.
- Any noted problems in this section of pipe.

E. **Term.** The Contract term will commence on April 1, 2022. Substantial completion (draft report on

locating and mapping) shall be completed by July 1, 2022. Final completion of the contract shall be no later than September 30,2022.
Any extension, if applicable, shall be based on satisfactory performance by the Contractor during the year.

SECTION 4 RFP Submittal Requirements

A. The Proposal must include all of the information set forth in this Section and other Sections of this RFP. Additionally it should be organized and tabbed appropriately. Including but not limited to the following:

i. Company history and background.

ii. Qualifications of the Contractor.

iii. Relevant past project experience of the Contractor.

iv. Availability of resources and reliance on subcontractors.

v. No fewer than three municipal references.

vi. Completion of the Cost Proposal Form listed in Appendix A outlining the costs necessary to complete this work.

B. Responses to the RFP must be received by 10:00 am on Tuesday, February 1, 2022. Proposals received late, for any reason, shall not be accepted.

C. Responses to the RFP shall be provided to the Village of McFarland, Attn: Jim Hessling, 5915 Milwaukee Street, PO Box 110, McFarland, WI 53558.

D. Prospective Contractors shall provide five (5) printed copies of the proposal and one (1) electronic copy as their submittal.

SECTION 5 Proposal Evaluation Criteria and Timeline

A. The following criteria will be used to evaluate each proposal:

i. Qualifications of the Contractor.

ii. Relevant past project experience of the Contractor within Wisconsin.

iii. Resumes of all team members.

iv. Familiarity municipal sanitary sewer systems.

v. Availability and compatibility of technology.

vi. Past history with the Village as applicable.

vii. Availability of resources and reliance on subcontractors.

viii. Proposal completeness and effectiveness at addressing the needs of the Village for the project.

ix. Proposed cost.

B. The Public Works Director, Streets/Utilities Superintendent, and/or Village Engineer ("Evaluation Team") will be responsible for performing a technical evaluation of each proposal submitted and making a recommendation for selection to the Public Utilities Committee. The Public Utilities Committee will consider this recommendation and make its own recommendation to the Village Board regarding proposal acceptance. The Village Board shall hold the final decision regarding award of proposal for these services. Evaluations will focus on identifying the relative strengths, weaknesses, deficiencies, and risks associated with each submittal. Interviews with perspective Contractors will be held at the sole discretion of the Village. The Village reserves the right to obtain clarification or additional information from any firm regarding its proposal as is needed.

C. The Village reserves the sole right to select the most qualified Contractor on the basis of the best overall proposal that is most advantageous to the Village. Firms that submit proposals will be notified of the selection

results. Final approval of any selected Contractor is subject to the approval of the Village Board.

D. Evaluation timeline is as follows:

i. January 11, 2022 – Open Advertisement of RFP

ii. February 1, 2022 at 10:00 am – Deadline for Submission of Proposals

iii. February 4, 2022 – Evaluation Team Finalizes Selection and Makes Recommendation

iv. February 8, 2022 – Public Utilities Committee will consider findings of Evaluation Team to make recommendation to the Village Board.

v. February 28, 2022 – Village Board considers recommendation of the Public Utilities Committee to make final decision on award of proposal.

vi. April 1, 2022 (or as available) – Project Commences

E. Any questions regarding this RFP, its contents, and the proposed project may be directed to…

Jim Hessling, Public Works Director
jim.hessling@mcfarland.wi.us
(608) 838-7287

SECTION 7 Terms and Conditions

A. Each proposal will be reviewed to determine if it meets the submittal requirements contained within this RFP. Failure to meet the requirements for the RFP can be cause for rejection. The Village may reject any proposal if it is conditional, incomplete, contains irregularities, or if in the sole discretion of the Village not considered in its best interest. The Village may waive an immaterial deviation in a proposal, but this shall in no way modify the proposal document or excuse the Contractor from compliance with the contract requirements if the Contractor is awarded a contract.

B. The Village will require the use of its standard contract template set by policy. It can be made available upon request. Modifications to this standard may be required or considered subject to review and approval by the

Village Attorney under the direction of the Village Board.

C. There is no expressed or implied obligation for the Village to reimburse firms for any expenses incurred in preparing proposals in response to this request. Materials submitted by respondents are subject to public inspection under Wisconsin law. Any language purporting to render the proposal, or any part thereof, confidential or proprietary will be ineffective and will be disregarded unless consistent with the Wisconsin Public Records Law.

D. The Village reserves the right to retain all proposals submitted, and to use any idea in a proposal, regardless of whether the proposal was selected. Submission of a proposal indicates acceptance by the Contractor of the terms and conditions contained in the RFP, unless clearly and specifically noted in the proposal submitted and confirmed in the contract between the Village and the Contractor.

E. All property rights, including ownership and publication rights of all conceptual plans, designs, bidding documents, and reports produced by the selected Contractor in connection with services performed under this agreement shall be vested in the Village.

F. The Village reserves the right to reject any or all proposals submitted.

Appendix A

Cost Proposal Form

In accordance with the attached instructions, terms/conditions, and scope of services we, as the Contractor, submit the following cost proposal to the Village of McFarland.

This cost proposal shall include all necessary labor, materials, supervision, equipment, appliances, and materials to perform all operations required to provide sanitary sewer force main locating and mapping services.

Locating and Mapping Services $_____ per lineal foot

Vertical accuracy within actual placement ____ inches/feet (circle one)

Horizontal accuracy within actual placement ____ inches/feet (circle one)

Notes: _____

_____

_____

I certify that the contents of this proposal are known to no one outside the firm, and to the best of my knowledge all requirements have been complied with.

Authorized Signature: _____

Printed Name: _____

Title: _____

Firm Name: _____

Date: _____

Utility Mapping Services, Inc.

Sanitary Sewer Force Main Locating/Mapping Proposal

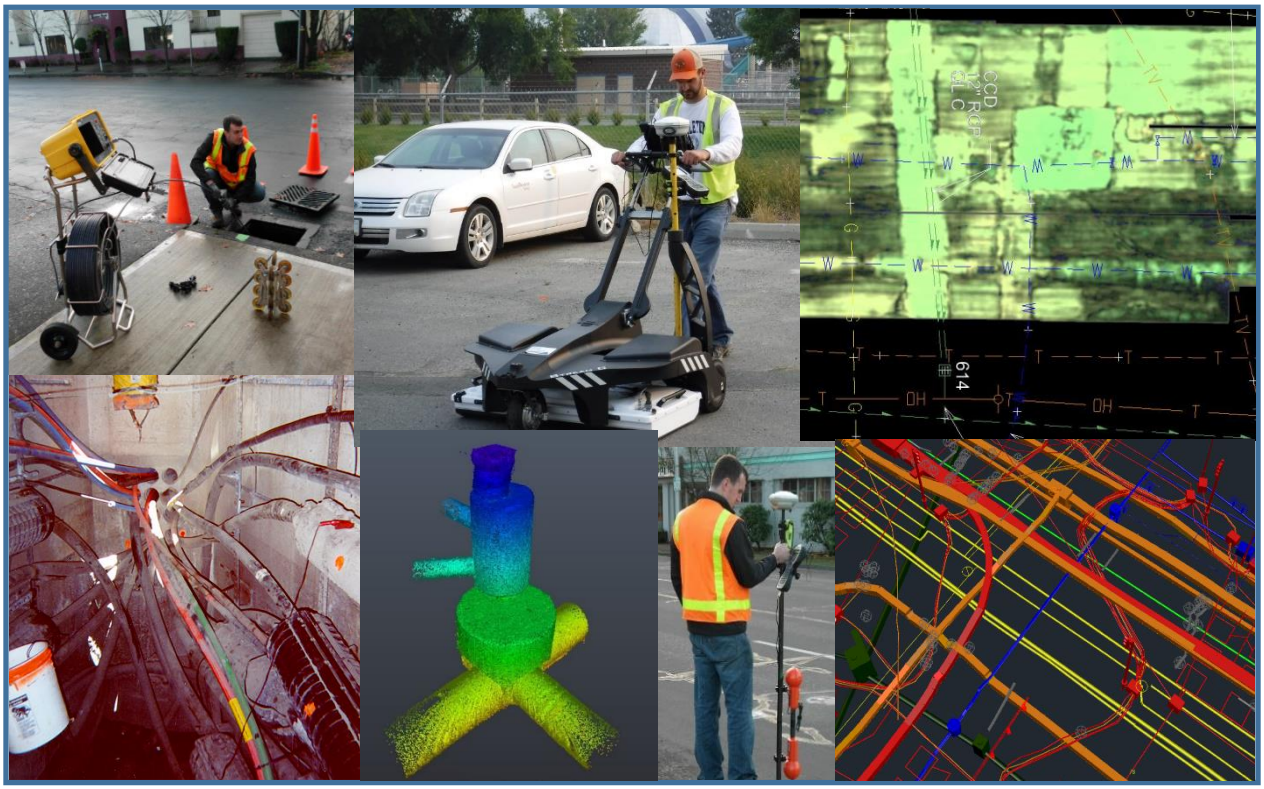
Attn: Jim Hessling

5915 Milwaukee Street, PO Box 110

McFarland, WI 53558

RFP 12092021

January 31, 2022



January 31st, 2021

WORK PLAN FOR UTILITY ENGINEERING

SUE Utility Investigation, Designating and Locating

Response to Village of McFarland
Sanitary Sewer *Force Main Locating/Mapping RFP 12092021*

Submitted to:

VILLAGE OF McFarland
Naturally Connected

Attn: Jim Hessling
5915 Milwaukee Street / PO Box 110
McFarland, WI 53558

Submitted by:

Utility Mapping Services, Inc.
www.umsi.us

2809 Clearwater Road
St. Cloud, MN 56301-4910
p. 406.552.0883 | pjmeis@umsi.us

UMS is a U.S. Department of Veterans Affairs verified Veteran Owned Small Business (VOSB) and member of the American Society of Civil Engineers (ASCE) and Utility Engineering and Surveying Institute (UESI).

Contents

WORK PLAN FOR UTILITY ENGINEERING
Subsurface Utility Engineering (SUE) Utility Investigation, Designating and Locating
Sanitary Sewer Force Main Locating and Mapping RFP 12092021 - Village of McFarland

Executive Summary

Utility Mapping Services (UMS) scope of work is to perform utility engineering (UE) subsurface utility engineering (SUE) services as a sub-consultant for the Village of McFarland (a.k.a. "Client" and "Owner") to complete the above named project. A utility investigation will be executed in accordance with ASCE 38[1] standards to designate and depict the identified existing sanitary sewer (SS) force mains for maintenance of McFarland's SS collection and transmission system. Data is expected to be used for asset management, damage prevention, and subsequent utility coordination and engineering for design and construction projects. Work will commence on **April 1st**, with substantial completion by **July 1st, 2022.** Final submittals completed no later than **September 30th, 2022.**

The project involves four Village of McFarland lift stations and two private lift stations for a total of six distinct sanitary sewer force main alignments. These alignments total approximately 8,300 feet along streets, easements, and on private property. Identification of **pipe diameter, length, depth, material** and **major bends** (greater than 22 degrees) and in increments not exceeding 50-feet between bends for each sanitary sewer force main. Horizontal coordinate information will be in **Dane County Coordinates.**

UMS will use state-of-the-art non-intrusive investigative technologies to "designate" (i.e., identify, detect, and delineate alignments in accordance with ASCE standard quality level B criteria) including, but not limited to: 1) Condux International Gyroscopic Inertial Navigation Technology; 2) Vacuum Excavations; 3) Inductive Electromagnetic (EM) Radio Detection (RD) Pipe and Cable Locator for conductive piping; 4) Inductive Electromagnetic Radio Detection Pipe and Cable Locator combined with a conductive rodder for non-conductive piping. Strategically placed vacuum excavated test holes (up to 25) will be employed to provide ground truth and verification information (i.e., ASCE 38 quality level A test hole results), supplement depth information as needed for gyroscope and EM equipment, and as necessary to achieve project objectives.

Submittals will be compliant with ASCE 38 and will be in digital CADD (Autodesk Civil 3D or Bentley MicroStation) format, GIS compatible format (e.g., ESRI), PDF format test hole summary report including depth, elevation, size, material, photographs, QL A utility position, and a SUE Utility Investigation report sealed by the SUE engineer-of-record (a qualified Wisconsin registered professional engineer highly experienced in subsurface utility engineering as defined by ASCE 38) which summarizes the investigation, highlights unusual or significant findings and encountered discrepancies, provides recommendations and lists submittal products.

[1] American Society of Civil Engineers Construction Institute *Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data* (ASCE/CI 38-02), Reston VA 2002

Company History and Background

Firm Capabilities / Expertise

UMS Office Locations

Utility Mapping Services, Inc. (UMS), a federally registered Veteran Owned Small Business with staffed offices across the U.S., is a specialized professional engineering firm established in 2002 specifically to address and execute SUE as a rigorous geophysical and engineering discipline. UMS methodologies include: 1) advanced 2-D and 3-D geophysical survey methods; 2) sophisticated data management technologies compliant with emerging 3-D digital technologies and ASCE and Open Geospatial Consortium (OGC) standards; 3) pioneered 3-D modeled depictions for enhanced design analytics, utility coordination, construction planning, building information management (BIM), machine guidance, etc.; 4) progressive conflict analysis, clash detection, and sophisticated resolution engineering; and 5) advanced coordination and innovative contracting strategies.

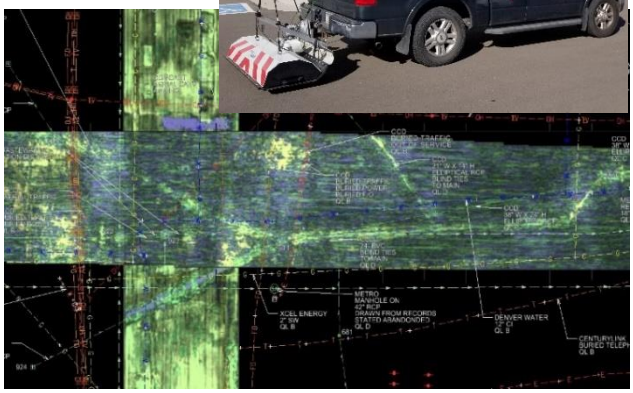
Our proven methodology optimizes utility coordination and conflict resolution engineering and includes the following activities: utility designating and locating per ASCE 38-02, conflict analytics, value engineering, cost estimates, agreements, quality control, scheduling, risk reduction, safety analyses improvements, and project buy-off. Our work meets ASCE 38 standards (as intended) and work products include: 1) existing utility reference CAD file with 2-D and/or 3-D depictions and labels provided in accordance with ASCE 38; 2) a corresponding SUE engineering report sealed by the SUE professional engineer-of-record. The goal of ASCE 38 is to achieve and utilize Quality Level (QL) B and QL A depictions for project development and delivery. For the isolated incidents where we cannot achieve QL B due to, for example, access constraints or geophysical limitations, we will document the reasons why and provide recommendations.

UMS was co-founded by Philip J. Meis, P.E., President. UMS currently has 35 full-time employees, including seasoned professionals and field technicians, located across the U.S. During the past two decades we've successfully completed over 1,250 SUE projects large and small without incident.

Qualifications of the Contractor – Capabilities and Expertise

UMS Owned and Operated Services and Equipment

UMS Raptor MCGPR and Data



UMS's company toolbox includes numerous state-of-the-art geophysical mapping and detection tools and associated software for data processing and utility depictions to meet our client's needs. Although not all tools listed below may be necessary for this project, UMS owns and has vast experience delivering utility mapping projects which incorporate the following company owned equipment:

Multichannel ground penetrating radar (MCGPR) with survey grade navigation and 3-D time-slice data processing software. This combined technology, promoted by the FHWA 2nd Strategic Highway Research Program (SHRP2) R01B

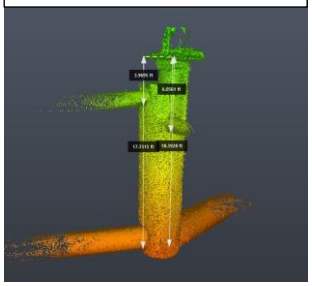
initiative, enables markedly enhanced investigative measures for searching for buried unknowns as well as providing extremely useful depth information for developing 3-D depictions and models of buried infrastructure.

UMS has successfully utilized MCGPR for utility investigations on recent large projects including: the Honolulu Authority for Rapid Transit light rail; Los Angeles World Airport Automated People Mover and Intermodal Transit Facilities; I405 / Renton to Bellevue Widening Project for WSDOT in the Seattle Metro area; I-15 Express Lanes in Salt Lake City; and the ten-mile I-494 3D SUE (SP 2785-424) for a wide variety of improvements between US 169 and TH5 (MSP Airport).

UMS Spar 300

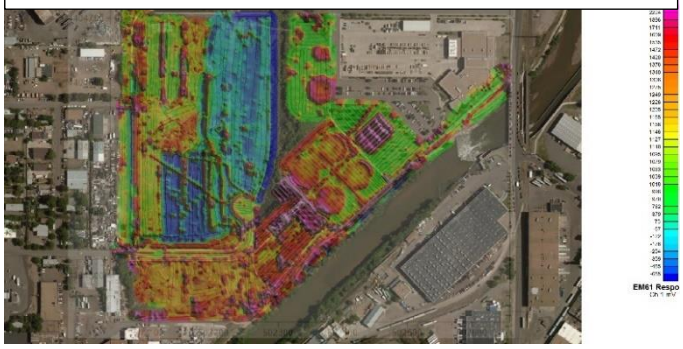
UMS's geophysical arsenal also includes the **Vivax Metrotech Spar 300©** electromagnetic induction system which derives 3D alignment data (position and elevation tied to project control) for conductive utilities, with results including metadata on observations for evaluating data reliability. A Wisconsin DOT Research Project (ID 0656-23-09) completed by UMS in 2014 verifies the Spar 300 can provide highly useful, contiguous 3D profile data at a fraction of the cost of discrete vacuum excavated test holes. UMS experience with combining Spar 300 and GPR records can **reduce test holes needs by 25% to 75%** depending on project and utility specifics.

UMS Downhole LiDAR

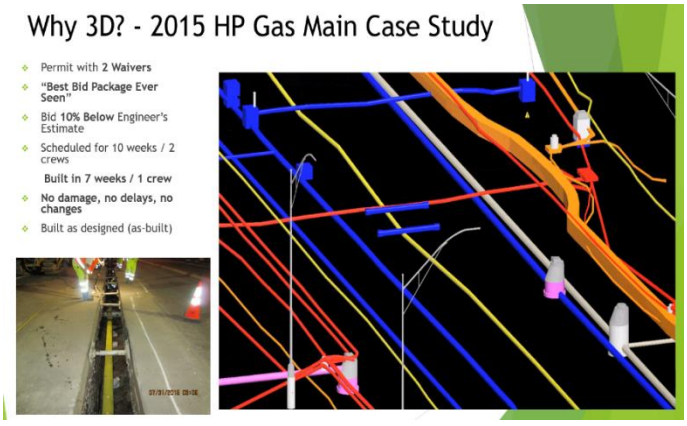


UMS utilizes **downhole LiDAR** to provide spatially accurate and comprehensive logging of buried structures, contents, and connecting pipe and cable infrastructure. UMS also utilizes **time domain electromagnetics (TDEM)** to sweep for buried unknowns.

UMS TDEM Reveals Unknown Infrastructure



With test hole (ground-truth) data at key locations, UMS engineers can develop reliably qualified **3-D model renderings of buried infrastructure** that can be referenced into proposed designs for subsequent clash detection and design development. 3D CADD and 3D BIM/CIM applications enable modeling and realistic virtual rendering of existing and proposed infrastructure which is unleashing previously untapped engineering strategies that mitigate project risk, reduce public and commercial disruption, and expedite construction. All this accordingly reduces project costs in a major way. Project data indicate cost savings incurred during construction are on the order of

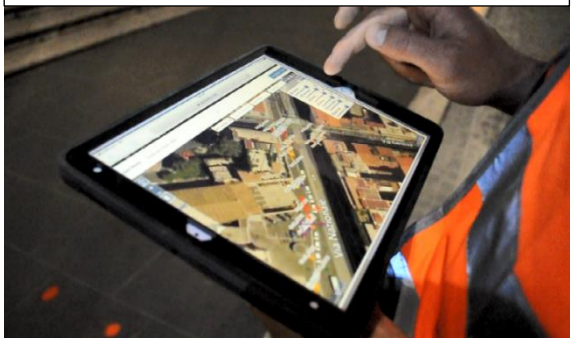


10% of overall project costs. A recent **UMS 3-D model** for a gas main installation project in Washington resulted in a 50% labor reduction, 30% schedule reduction. The project was completed without any damages, delays, or change orders.

GIS Data Management

Enabling the overall strategy is GEOfeature™, a collaborative, secure, web-based utility infrastructure repository and management application with live GIS mapping and viewing, which was developed with UMS support under a concerted effort with GEO.works International, Inc.

UMS Utility Data Repository GEOfeature™



Other tools and equipment commonly deployed by UMS on utility mapping projects include:

- Radio detection or Vivax Metrotech pipe and cable locators
- CCTV pipe camera
- Conductive Rodder for non-conductive ducts and pipes
- Trimble RTK GPS/GNSS and line of sight surveying equipment

Common software utilized for project delivery include:

- Bentley MicroStation
  - Open Roads
  - Power GEOPAK
  - Power INROADS
- Autodesk Civil 3D (2016-2021)

Services commonly subcontracted for UMS project delivery include:

- Traffic control
- Vacuum excavating
- Gyroscopic Inertial Navigation Technology (See appendix B for Condux International Company Information)

UMS is a U.S. Department of Veterans Affairs (VA) verified Veteran Owned Small Business (VOSB) and Member Organization of the ASCE Utility Engineering and Surveying Institute.

Project Experience and References

(Includes municipal references)

Project	Description	Contacts for references
3-D Utility Survey Practices PROJECT ID 0656-23-09	A 3-D Utility Investigation Research Initiative to: 1) Determine best practical mapping technologies for acquiring 3-D utility alignments; and 2) Incorporate associated standards and best practices. Project established WisDOT guidelines for acquisition of 3-D utility data for VDC, related digital project delivery technologies and utility engineering best practices that improve safety, mitigate risks and reduce costs. New inductive EM detection and mapping instrument, the Optimal Ranging "Spar 300", which can acquire both horizontal and vertical alignment coordinates along with associated observation accuracy metrics was trialed. GPR and Spar 300 data were compared against: 1) vacuum excavated test holes; and, 2) utility "as-built" information of known quality. Project included acquisition and analysis of data from five WisDOT pilot projects (one completed in each region) and two supplemental projects. Jan.-Sept. 2014; Total Contract Amount $29,000	**Wisconsin DOT** Norman Pawelczyk Technical Services Chief Division of Transportation Systems Development Bureau of Technical Services 4802 Sheboygan Ave. Room 501 P.O. Box 7986 Madison, WI 53707-7986 Office: 608-266-2362 Cell: 608-516-6355 Pawelczyk, Norman - DOT Norman.Pawelczyk@dot.wi.gov
Force Main Utility Locating – Billings Bypass Billings, MT	Full SUE utility investigation – utility designating and locating for road design and construction; however, project included locating 1,600 lineal feet of 6-inch HDPE sanitary sewer force main. 10-12 test holes completed for SS force main work. 2016-2021 Total Contract Amount $356,652 Force Main portion approximately $14,000	**Montana DOT** Douglas Enderson, PE, PTOE Transportation Manager DOWL - (406) 656-6399 | office (406) 869-6337 | direct (406) 671-9620 | cell DEnderson@dowl.com
US-550 Montrose (A 4-mile stretch of roadway along US-550, south of Montrose, CO)	Roadway improvements, turn lanes, deer fences. Services currently include utility data acquisition, geophysical survey, utility reference file CADD development. Future efforts include further utility data acquisition, geophysical survey, CADD file development, vacuum excavations and submittal documentation. May 2019 to current Total Contract Amount $83,100 Phase 1 field designating is currently being completed. Project in design.	**City and County of Denver** Mary Keith Floyd, P.E. – Goodbee & Associates 1221 Auraria Parkway, Denver, CO 80204 303-667-6985 mk@goodbeeassoc.com

Project	Description	Contacts for references
US-34, Denver Avenue to Rocky Mountain Avenue (Loveland, CO)	Roadway widening and intersection improvements. Construction of overpass over existing railroad crossing, roadway widening and intersection improvements. Services include utility data acquisition, geophysical survey, utility reference file CADD development and submittal documentation. January 2019 to June 2019. Total Cost: $134,500 UMS project scope has been completed. Project in design.	**City of Loveland** Michael Perez, P.E. – SEH, Inc. 2000 South Colorado Blvd, Suite 6000, Denver, CO 80222 720-540-6825 mperez@sehinc.com
US Hwy 212 PCN 027D Watertown SD	Full utility designating/mapping and locating (vac excavations) of sanitary sewer system including force mains. Utility conflict identification and utility coordination. July 2014 to April 2021 Total Cost: $181,000	**South Dakota DOT** Clint Freeman SDDOT - Road Design Utility Coordinator Ph: 605-773-4426 Fax: 605-773-2614 Clint.freeman@state.sd.us
I-25, Exit 11 (Trinidad, CO)	Interchange improvements. Services included utility data acquisition, geophysical survey, utility reference file CAD development and submittal documentation. September/October 2020 and February 2021 Total Contract Amount $45,000 Phase 1 and 2 investigations are complete.	**Colorado DOT** John Sabo, P.E. – Benesch 7979 East Tufts Avenue, Suite 800, Denver, CO 80237 720-771-6868 jsabo@benesch.com
Gun Club Road (Aurora, CO)	Roadway widening. Services include utility data acquisition, geophysical survey, ground penetrating radar, SPAR 300 survey, utility reference file CAD development, 3D utility model creation and submittal documentation. February 2020 to April 2021 Total Contract Amount $374,000 Phase 1 field designating, and 3D modeling is complete. Project is in the design phase.	**City of Aurora** Jeff Binning, P.E. – Stanley Consultants 8000 South Chester Street, Suite 500, Centennial, CO 80112 720-460-4724 binningjeff@stanleygroup.com
TH 212 Sacred Heart, MN	1 mile of urban roadway reconstruction, storm drainage replacement, street lighting replacement. 10 miles of rural truck highway surface reconstruction and drainage improvements. 3D QL B utility designating, vacuum excavations test holes, 3D existing utility model development, utility conflict analysis and utility coordination. May 2018 to Present (completion est. March 2022) Total Contract Amount: $166,600	**Minnesota DOT / SRF Consulting Group** Jon McPherson, P.E. – SRF Consulting Group 3701 Wayzata Boulevard, Suite 100, Minneapolis, MN 55416 763-452-4812 jmcpherson@srfconsulting.com

Availability of Resources and Reliance on Subcontractors

UMS field and office staff are confirmed as having availability to complete this project as is described in the RFP and as estimated by UMS. Field work will be completed on or before July 1st, 2022. Office processing and deliverables will be provided on or before September 30th, 2022. Below are the key UMS staff and subcontractor team to perform the work as described in the work plan.

The **UMS project management team** will consist of:

- Project Manager, Nathan Greer, ngreer@umsi.us, 406.665.5562
- Field Ops Manager, Mark Benner, mbenner@umsi.us, 320.247.3191
- SUE Engineer of Record, Phil Meis, P.E., pjmeis@umsi.us, 406.552.0883

		Current & Projected Workload			Total Monthly Time % Available (April 2022 - September 2022)	Average Monthly Estimated % of Time Required for this Project (April 2022 - September 2022)
Employee Name	Role	Project Name	Monthly % Time Commitment	Completion Date		
Philip Meis, PE	UMS Principal Engineer	Various Project Involvement	20%	Mar-22	15%	5%
		Marketing and other Company Related Items	65%	Ongoing		
Nathan Greer	UMS Project Manager	Minnesota Project Involvement	25%	Ongoing	75%	15%
		South Dakota Project Involvement	40%	Ongoing		
		Montana Project Involvement	10%	Ongoing		
Mark Benner	UMS Field Operations Manager	Various Project Involvement	15%	Ongoing	55%	25%
		SD, MT, MN, OR, WA Project Involvement	40%	Ongoing		

The **UMS subcontractor(s) team** will consist of:

3D Gyroscopic Inertial Navigation Mapping Technology

- Condux International, Santosh Saride, santoshs@condux.com, 507.387.8036

Vacuum excavation

- Goliath Hydro-Vac, Rachelle Volk, dispatch@goliathvac.com, 612.727.3444

Traffic control

- Mega Rentals, 608.222.8055; Barricade Flashers, 608.795.2241; or Local traffic control subcontractor

UMS has confirmed with Condux International and Goliath Hydro-Vac that both firms are 100% available to complete the work (estimated at ~2 weeks) as described between the months of April 1st, 2022 – July 1st, 2022.

If required, a weekly or bi-weekly progress report will be prepared by the project manager and submitted via email to Client project management to document the SUE investigation. During the project time frame UMS project management staff members can be available to meet in person with Client project management for any urgent reason. Cell phone numbers for all of the UMS project management team members will be available to the Client should immediate communication be desired.

Cost Proposal Form

In accordance with the attached instructions, terms/conditions, and scope of services we, as the Contractor, submit the following cost proposal to the Village of McFarland.

This cost proposal shall include all necessary labor, materials, supervision, equipment, appliances, and materials to perform all operations required to provide sanitary sewer force main locating and mapping services.

Locating and Mapping Services

- Conventional methods (Gyroscope, pipe and cable locator, rodder, vac truck – up to 25 test holes) **$10.25 per lineal foot**

Vertical accuracy within actual placement:

QL A Test Hole Observations: +/- 0.1 feet
QL B* Geophysical Observations: +/- 10% of depth (pipe and cable locator)
Gyroscopic Observations: +/- 0.33 feet

Horizontal accuracy within actual placement:

QL A Test Hole Observations: +/- 0.1 feet
QL B* Geophysical Observations: +/- 0.75 feet (pipe and cable locator)
Gyroscopic Observations: +/- 0.5 feet

*Notes: Geophysical tolerances may vary, but the majority of data will fit into the tolerances noted above. This work will be performed and submittals developed in accordance with ASCE 38[1] Interpretation of results, annotations, and applicability of data will accordingly adhere to ASCE 38 *Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data*.

(Phil Meis, P.E., is a member of the ASCE 38 standard committee.)

Pricing noted above assumes minimum of 8,300 lineal feet of SS force main utility infrastructure is designated and located. Reduction of the quantity of lineal feet may require UMS to increase rates to adequately cover fixed base costs for mobilization, setup, processing, submittal preparations, etc.

Cost Proposal for Additional Locating and Mapping Beyond RFP Details

Without further information detailing potential additional locating and mapping needs (utility type, material, location, length, etc.) beyond what is described in the RFP, the lineal footage pricing below may be utilized for additional locating and mapping. Further negotiation in the interest of both parties is recommended to ensure all necessary costs are covered appropriately and the work is completed in the most efficient manner possible to minimize owner expense. The lineal footage pricing provided below may be utilized to estimate cost of additional locating and mapping; additional UMS pricing information has been included as the overall price may need to consider crew location and specific utility details.

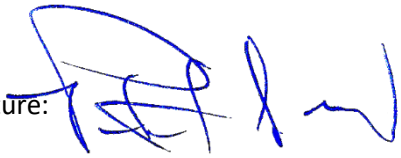
Optional additional utility designating:

- $ 9.00 per lineal foot additional sanitary sewer force main mapping conducted **during** 8,300-foot mobilization
- $1.50 conductive utility designating completed **during** the 8,300-foot mobilization (over 1,000 lineal feet)

Additional UMS pricing information (does not include Condux International and Goliath Hydro-Vac)

- Daily per diem (lodging and meals for Apr-Oct): $195 per person
- Mobilization cost (round trip): $1,725 (1) UMS vehicle, 1 field person
- Daily mileage cost: .585 per mile per UMS vehicle
- Labor cost per 1 UMS field person: $120 per hour
- Office Engineering/CADD Development: $110 per hour
- Conventional survey equipment: $146 per day
- Project Management: $149 per hour
- Professional Engineering: $160 per hour
- Traffic control (without flaggers): $1,500 per day

I certify that the contents of this proposal are known to no one outside the firm, and to the best of my knowledge all requirements have been met in compliance with the subject RFP.

Authorized Signature: 

Printed Name: Philip J. Meis, P.E.

Title: President / Principal Engineer

Firm Name: Utility Mapping Services, Inc.

Date: 31 January 2022

Section 1 - Statement of Scope of Work

This work will be performed in accordance with ASCE 38 and includes the following activities:

- Compile utility data, including records, as-built information, previous reports (e.g., 2018 McFarland East Basin Utility Service Study), and temporal AI diversion method information.
- Prepare field books, log sheets, and crew scheduling and logistics for the initial utility designating field campaign.
- Mobilize utility designating field crew to perform work in the following sequence:
    - For conductive force main pipes, UMS will utilize EM pipe and cable technology to locate the horizontal position of the pipe center from the ground surface. For non-conductive force main pipes, UMS will utilize Inductive EM RD Pipe and Cable Locator combined with a conductive rodder for up to 400 feet.
    - At each sewer outfall manhole, field personnel will log pipe size, material, depth and take photographs. Each manhole will be surveyed, and pipe elevation will be determined.
    - For verification of pipe size, material, depth, horizontal and vertical position, and to facilitate gyroscopic mapping methods, test holes will be completed ~25% from the force main outfall manhole.
    - Condux International will utilize their gyroscopic inertial navigation mapping equipment to determine positional data at 1 foot on center for each sewer force main (See **Appendix B** for an overview of Condux International and the gyroscopic equipment proposed for this project). Gyroscopic force main mapping will begin at the outfall manhole and extend the length of the pipe or up to ~1,500 lineal feet.
        - For conductive pipes longer than 1,500 lineal feet, additional test holes will be completed at ~250-foot intervals to reach the lift station. Supplemental EM depth measurements will be acquired between each test hole to provide data at no further than 100 feet on center.
        - For non-conductive pipes longer than 1,500 lineal feet, additional test holes will be completed at ~100-foot intervals to reach the lift station.
- Perform vacuum excavated test holes near each lift station to verify alignments, provide direct (QL A) observations of SS force mains and verify pipe size and material continuity.
- Characterization, and 3D wireframe depiction in CADD (Autodesk Civil 3D or Bentley MicroStation) and GIS (ESRI compatible) format of existing utility infrastructure data to develop a reliably qualified base map and data set from which to develop and support asset management, damage prevention, design, coordination, and construction decisions.
- Prepare professional submittals in accordance with ASCE 38 including engineering report, CADD (MicroStation or Civil 3D compatible format) reference file, and GIS compatible survey data file with depicted observed and designated SS force mains along with other adjacent utility infrastructure incidentally encountered and documented during the

investigation. GIS information to include related logged vaults and structures, and digital images. Manhole and Test Hole Summary Reports.

UMS has designated and mapped many SS force mains over the past two decades. In fact, the same project team members very recently completed mapping of some 1,600 lineal feet of SS force main in Billings MT for the Billings Bypass MDT project, and 1,080 lineal feet of SS service, SS force main and private roof drain/sump drain piping in Watertown SD for SDDOT. We know the systems and the tricks of the trade, including accessing outfalls and cleanouts with specialized inductive EM rodder equipment to obtain 3D QL B observations which help support gyroscopic mapping data.

Section 2 - Project Limits

Project involves seven existing force mains totaling approximately 8,285 lineal feet as defined below:

- Erling Avenue Force Main (Lift Station #1) – Consisting of 1,443 lineal feet. Pipe material and size unknown.
- Pheasant Run Force Main (Lift Station #2) – Consisting of 3,077 lineal feet. Pipe material is ductile iron and pipe size is 8 inches in diameter.
- Meredith Way Force Main (Lift Station #3) – Consisting of 802 lineal feet. Pipe material is ductile iron and pipe size is 4 inches in diameter.
- Terminal Drive Force Main (Lift Station #4) – Consisting of 1,916 lineal feet. Pipe material is HDPE and pipe size is 6 inches in diameter.
- Lewis Lane Private Force Main – Consisting of 447 lineal feet. Pipe material is PVC and pipe size is 1.5 inches in diameter.
- Taylor/Terminal/Erling Private Force Main – Consisting of 600 lineal feet. Pipe material and size unknown.

Figures 1 through 6 provide plan views and sample street views of the road corridors associated with these force mains.

Figure 1. Erling Avenue (Google Earth™)

Figure 2. Pheasant Run (Google Earth™)

Figure 3. Meredith Way (Google Earth™)

Figure 4. Terminal Drive (Google Earth™)

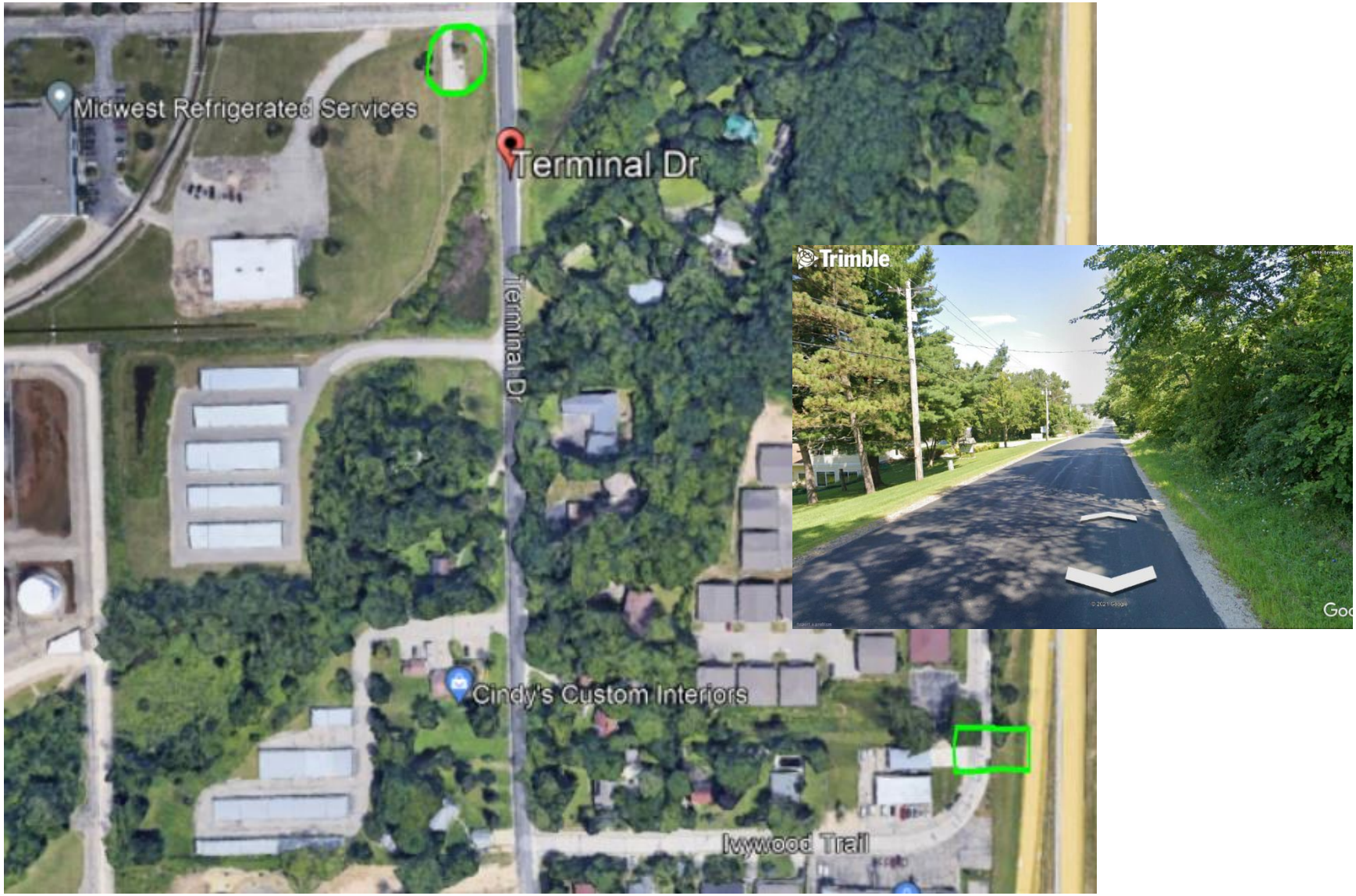
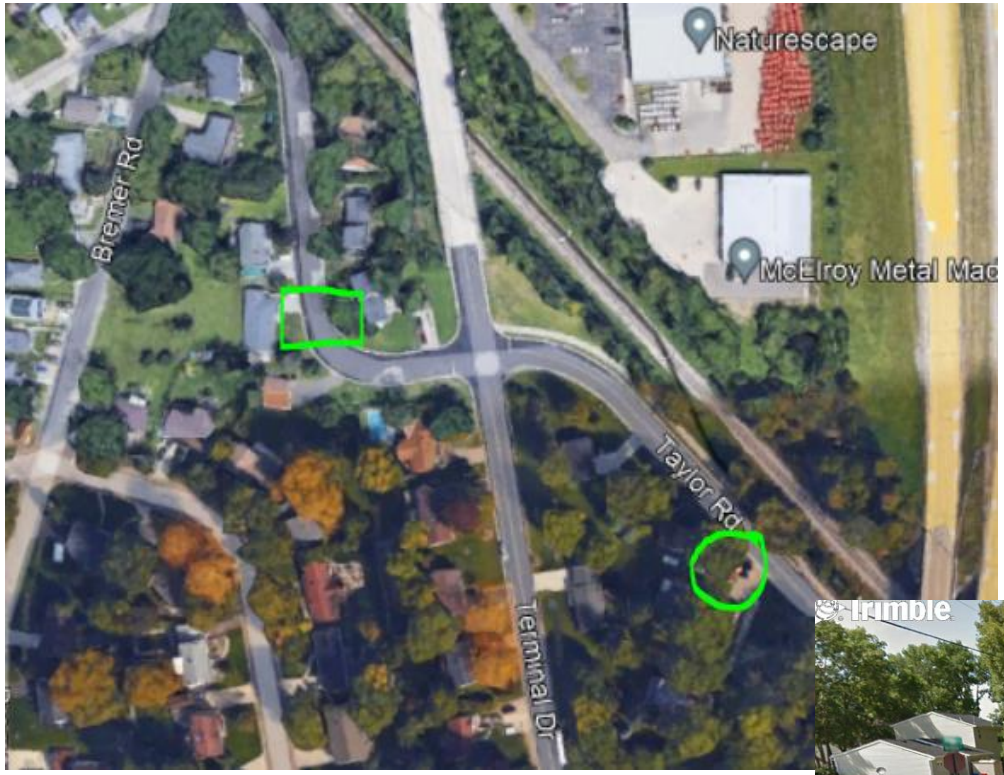


Figure 5. Lewis Lane (Google Earth™)

Figure 6. Taylor/Terminal/Erling (Google Earth™)



Section 3 - Project Deliverables

Utility Engineering deliverables include digital and hardcopy submittals of the following:

- CADD utility reference file (.DWG or. DGN format) based on Utility Designating and Locating results.
- GIS compatible data set with observation data presented as specified in the subject RFP. Observation data for each force main will include:
    - Diameter of force main.
    - Length of force main.
    - Material of which the force main is composed.
    - Pipe depth.
    - Locations of bends or significant deviations in the line.
    - Date and time located/mapped.
    - Noted problems for each section of pipe.
    - Other anomalies and other utilities incidentally encountered.
- Test Hole and Manhole log forms in PDF format.
- A P.E. sealed submittal report summarizing this investigation with highlights of unusual findings.

In addition, UMS will provide ongoing interpretive support to assist Village of McFarland officials with understanding submittals and ensure submitted data is properly understood and utilized.

Section 4 - Project Assumptions

Assumptions:

- UMS utility research will stem from previous records investigation work performed by the Client. UMS requests all previously obtained records be provided upon Notice to Proceed. Reasonable efforts will be made to obtain supplemental utility records to produce the deliverables within the project schedule. The timely cooperation of utility owners may be necessary to develop the utility inventory map for facilities within the project area.
- Pipe position data acquired using gyroscopic mapping equipment will be approximately 1 foot on center.
- Where gyroscopic mapping equipment cannot be used, test holes and EM depth observations will provide positional data on **average** no more than 100 feet on center or 50 feet from bends greater than 22 degrees.
- UMS assumes RTK GNSS survey operations will be sufficient for all engineering survey of exposed and designated utilities.
- Sufficient project survey control exists within the project area for engineering survey operations; consequently, labor for establishing survey control is currently not included within this scope of work and the associated cost estimate.
- Confined space entry by UMS or its subcontractors **will not** be required for this effort. Measurements within confined spaces will be taken from the surface (e.g., down hole LiDAR) without human entry into the confined space.
- Vertical (depth and elevation) direct observations (test holes, manholes, surface features, etc.) will be tied to project control to an average accuracy of +/- 0.1 feet.

- UMS assumes all work will be completed during regular working hours (8:00 AM to 5:00 PM) and without start/stop time restrictions.
- Field crews will use paint to mark out the utility alignments and assume no paint removal will be required.
- EM designating and access for gyroscopic mapping methods are assumed to be effective for the project based on other assumptions and details included in this workplan. Accordingly, up to 25 test holes are assumed to adequately: 1) provide required QL A observations for verifying QL B observations, including pipe material, size, depth information; 2) calibrate pipe position derived through geophysical methods; and 3) search for pipes which could not be designated using gyroscopic or EM designating methods. Additional fees may be required if more than 25 test holes are required to satisfy Owner assessed needs.
- Cold patch asphalt may be used to for restoration of vacuum excavated test holes.
- Provide traffic control for operations involving minor lane closures (on multi-lane roadways), lane shifts, shoulder work, etc. Traffic control does not include flaggers. Should flaggers be required, additional costs will be passed through at cost and in addition to the lineal foot price provided.

Client and / or Owner will:

- **Obtain all necessary right-of-entries, security clearances, etc. (including private land access) to allow UMS field personnel to work within the project limits and vicinity**.
- Provide information showing the project limits, alignment, profile, survey control points, benchmark data, coordinate data, relevant design and topographic CADD files, aerial photographs, and any other applicable information.
- Provide survey control information **prior** to UMS field crews arriving on-site.
- Provide any record or relevant survey or LIDAR information previously obtained by others.
- Assist UMS as necessary with access to utility facilities.
- **Remove any necessary elbows, drop pipes, and down pipes that are in force main outfall manholes to provide rodder and gyroscope equipment access.**
- **Temporarily shut off each force main lift pump twice to allow for sufficient working conditions. UMS will coordinate with village personnel to minimize lift pump down time.**
- **Village of McFarland personnel will monitor lift pump basin volume during pump shutdowns.**
- Provide water for hydrovac operations and a dump site for vacuum excavation spoils/slurry.

UMS will perform the following coordination activities:

- Work closely with the Client and Owner to facilitate the orderly progress and timely completion of the approved tasks.
- Coordinate the work effort with the Client to discuss progress and resolve problems.
- Upon request provide the Client copies of logs and/or correspondence that document work-related communications between utility owners, outside agencies, and/or private landowners.
- Coordinate operations with private and public utility infrastructure owners.
- Coordinate with the Client to have each force main shut off temporarily twice.
- Obtain required Diggers Hotline (811) tickets.

- Provide all necessary equipment, supplies, and support personnel to secure data outlined in this section.

Associated labor and costs may increase if actual conditions deviate significantly from those assumed for this estimate. UMS will work with the Client in good faith to complete operations in a timely manner and will negotiate new pricing if conditions encountered significantly deviate from those assumed.

The results of the utility investigation will be pertinent at the time in which field investigation operations are completed and are subject to change. Subsequent SUE investigations may be necessary to account for any new or changed utility installations.

Section 5 - Project Schedule

UMS can typically begin work within two weeks of receiving notice-to-proceed (NTP). Based on assumed conditions identified in this scope of work, the following is the estimated project schedule:

- The initial effort will consist of **requesting record information** from the Village of McFarland. Estimated completion **April 15th, 2022.**

- **Utility designating, vacuum excavation and gyroscopic mapping field operations** are estimated to require approximately **two weeks** to complete.
- **Substantial completion** of all field work will be achieved by **July 1st, 2022.**
- **Final submittals** will require up to **four weeks** after the field work has been completed to include the QL B CADD drawing, utility GIS database preparation, and completion of QA review and discrepancy resolution efforts.

Final deliverable will be delivered on or before September 30th, 2022.

UMS, at its own discretion, may assign different personnel to perform tasks specified within the work scope and estimate based on staff availability and project schedule.
UMS is prepared to add crew members as necessary to ensure necessary production levels are met and submittals are timely for utility coordination and design development.

Appendix A – Resumes

Philip J. Meis, P.E. – Principal Engineer and Project Engineer-of-Record

Nate Greer – Project Manager

Mark Benner – UMS SUE field Operations Manager

PHILIP J. MEIS, M.S., P.E.

PRESIDENT / PRINCIPAL ENGINEER

QUALIFICATIONS

Philip J. Meis, P.E. is a registered professional engineer with a background in civil design, surveying and mapping, geophysics, and data management. From 1986-90 he served as a NOAA Corps commissioned officer. Phil has been directing subsurface utility engineering services (SUE) on a national level since 1996 and was project manager and engineer-of-record for the SUE effort on the new I-70 Mississippi River Bridge design in St. Louis and the first SUE term contract for the TXDOT San Antonio District.

In 2002 Phil co-founded UMS specifically to address and execute SUE as a rigorous geophysical and engineering discipline. He is active with the Transportation Research Board Utilities Committee (AKD60), American Council of Engineering Companies, American Association of State Highway and Transportation Officials (AASHTO) and the American Society of Civil Engineers (ASCE). Phil served on an National Research Council Strategic Highway Resarch Program 2 initiative, R-15B, to standardize usage of utilitiy conflict matrices. He currently chairs the committee for the ASCE ***Standard for Recording and Exchanging Utility Infrastructure Data***, and the Utiltiy Engineering and Surveying Institute (UESI) ***Utility Risk Management Division***. He is a committee member for the ASCE 38 revision ***Standard Guideline for Investigating and Documenting Existing Utilities***.

Phil is currently involved with implementing 3-D digital utility data repositories, standards, and supporting applications for lifecycle management of utility infrastructure installed within public right of way. He co-authored a 3-D Utility Surveying Practices report for the Wisconsin DOT and presented those findings at the IADOT sponsored 3-D Design Workshop. At FHWA's request he has presented digital 3-D utility management practices to a nationwide audience for the Every Day Counts webinar series. While chair of the ASCE UESI Utility Investigation and SUE Committee, Phil helped lead the development of the ***Effective Utility Records Research*** white paper recently presented in a February 2019 ASCE webinar.

A leading national authority on utility engineering standards and best practices, Phil assures the latest technologies and methods are employed to acquire, analyze, and optimally integrate impacted utility infrastructure within project development and delivery efforts.

REGISTRATION

Registered Professional Engineer: MN 44853
CO 37934
MT 12815
UT 5099195-2202
SD 7782, WY 10186
(Additional Reg.)
IL, IA, ID, WI, MO, TX, MI, HI, DC

EDUCATION

M.Sc., Geophysical Engineering, Colorado School of Mines, 1986

B.Sc., Industrial Engineering, Iowa State University, 1983

AFFILIATIONS

ACEC, ASCE Utility Engineering and Surveying Institute, Construction Institute, SEG, TRB AKD60

EXPERIENCE

UMS ('02-PRESENT)
MACTEC, NOAA CORPS

PROJECT EXAMPLES

- 3-D Utility Investigation and BIM Model – Honolulu Authority for Rapid Transit (HART) City Center Guideway Project (light rail) and 138kV Transmission Relocation – Honolulu, Hawaii (2016-2019)
- SHRP2 R01A Implementation Utility 3D Digital Repository - MDT (2019)
- 3-D Utility Engineering – 10.5 Mile I-494 Corridor for MnDOT (ongoing)
- 3-D Utility Investigation and BIM Model - Landside Access Modernization Program (LAMP) Automated People Mover (APM) and Central Terminal Area CTA Projects for the Los Angeles World Airport (2016-2017)

Recent Presentations

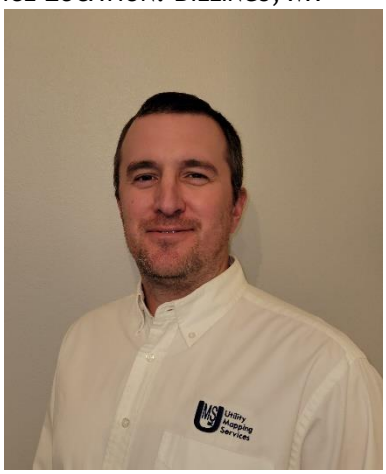
- Standard Guideline for Recording and Exchanging Utility Infrastructure Data – TX ASCE UESI Chapter College Station (Oct 19)
- 3D Utility Investigations and Modeling – Western Regional Gas Conference – Tempe, AZ (Aug 2019)
- Utility Risk Management Workshop – ASCE UESI Pipelines Conference – Nashville, TN (Jul 2019)

Recent Publications: NCHRP 20-07, Task 418, *An Impact and Value Analysis of Requiring Geospatial Locations for Utility Installation As-Builts*, Transportation Research Board of The National Academies of Sciences, Engineering, and Medicine, Jun 2020

NATHAN GREER

QUALIFICATIONS

UTILITY COORDINATOR / PROJECT MANAGER
OFFICE LOCATION: BILLINGS, MT



Nathan Greer has a diverse background in project management of both field and office personnel for civil construction and utility engineering projects. Mr. Greer's specialties include the evaluation of existing utility data and application of subsurface utility engineering practices for use in identification of utility impacts with project design elements. Mr. Greer has vast experience recognizing, coordinating and engineering low-cost, value-engineered utility conflict solutions. He has nearly a decade of experience acquiring and leveraging SUE data, coordinating with project owners, utility owners, design teams and has a proven track record of establishing good rapport with all parties involved in utility coordination and engineering processes. This wide array of management and engineering experience make him an ideal SUE Project Manager and Utility Coordinator for Montana Department of Transportation Design-Build projects.

Along with the above-mentioned accolades, Mr. Greer has performed or managed SUE projects for MDT, MnDOT, NDDOT, ODOT, SDDOT, UDOT, WisDOT, WSDOT, and for the Honolulu Authority for Rapid Transit (HART). His diverse civil construction background allows him to utilize both his engineering education and past construction experience as a project team asset throughout a project lifecycle. His civil construction experience installing utilities as a field engineer and heavy equipment operator, and nearly a decade spent in the field of Utility Engineering provides a unique knowledge base when managing and leading SUE and Utility Coordination projects. **He recently managed the SUE and Utility Coordination efforts as a member of the project team on the award-winning MT-81 Bridges Design-Build project (MDT).** This was one of MDT's first Design-Build projects, and one in which MDT assigned the role of SUE data acquisition, design and utility coordination, utility agreements and utility relocation reimbursement, as a task to be completed by the contractor. Mr. Greer has vast experience successfully working with MDT and design-team representatives on various MDT projects throughout his career. He has training and experience in project management, utility coordination and engineering, geophysical detection methods, surveying, database and data management, and quality assurance practices required for Utility Engineering.

EDUCATION

B.S. Construction Engineering Technology, Montana State University, 2007

EXPERIENCE

Project Manager / Utility Coordinator, UMS, Inc., 2012 to present

Project Superintendent, Project and Field Engineer, QC Engineer, Estimator, Kiewit Bridge & Marine, 2007 to 2012

Field Engineer/Equipment Operator T&S Cheff Construction, 2004-2006

PROJECT EXPERIENCE

- **MT 81 Bridges Reconstruction (Design-Build);** MDT / Morrison-Maierle and Frontier West, Denton, MT – SUE Phase 1 and 2 data collection, Conflict Identification, Utility Coordination, Relocation and Reimbursement Management.
- **TH212 Sacred Heart (Design-Bid-Build)**; MnDOT, Sacred Heart, MN – SUE Phase 1 and 2, 3-D QL B Data Acquisition, Multi-Channel Ground Penetrating Radar survey, 3-D Existing Utility Modeling, Utility Conflict Identification, Coordination, and Utility Relocation Notifications.
- **N. 7th Avenue and Griffin Drive Reconstruction (Design-Bid-Build);** MDT, Bozeman, MT – SUE Phase 1 and 2, Utility Coordination Support.
- **Deadwood Box Corridor Reconstruction Study (Design-Bid Build);** SDDOT, Deadwood, SD – SUE Phase 1, 3-D QL B data acquisition, Multi-Channel Ground Penetrating Radar survey, Utility Conflict Identification and Utility Coordination.
- **Billings Bypass (Design-Bid-Build / CMGC);** MDT, Billings, MT – SUE Phase 1 and 2, 3-D QL B Data Acquisition.

MARK BENNER

SUE FIELD OPERATIONS MANAGER/UTILITY DESIGNATOR

Utility Mapping Services, Inc.

QUALIFICATIONS

Mr. Benner has been a UMS employee for over 16 years where he has successfully fulfilled various roles, which include field designating, engineering survey, field manager, estimator, and is currently working as the SUE Field Operations Manager. Mr. Benner's resume includes 15 years working in the private utility industry where he worked as a field technician for three separate communications and pipeline companies. His roles for these companies included asset management, maintenance, repair, and he regularly researched, reviewed, and collected utility field data using various geophysical locating equipment.

Mr. Benner's responsibilities as the UMS SUE Field Operations Manager include, but are not limited to the following:

- Quality Control of ongoing field work and Quality Assurance reviews of data collected through comparison against utility owner records and as-built information.
- Training new hire and veteran field technicians and engineering surveyors on equipment use, QA/QC, SUE process, and project documentation.
- Training field personnel on the CI/ASCE 38-02 standards, application and documentation to ensure compliance when performing field work.
- Standard Operating Procedure development, updates, staff training, and continuing education.
- Cross-training and coordination with field and office engineers, and project management.
- Client coordination and liaison in relation to field operations.
- UMS equipment management, testing and research relating to new and emerging equipment and technologies.
- Project estimating and field crew scheduling.

Mr. Benner has participated in and lead field efforts to successfully complete 2-D and 3-D SUE projects in rural, suburban, dense urban corridors, refineries, and substations across the country. He is well versed in acquiring and documenting existing utility data collection efforts which fully comply with CI/ASCE 38-02 Standards.

EXPERIENCE

SUE Field Operations Manager
Utility Mapping Services, Inc., St. Cloud, MN
2005 - Present

Field Technician
US Cable
2004-2005

Field Technician
Northern Pipeline
2000-2004

Field Technician
Charter Communications
1990-2000

EDUCATION / TRAINING

13 years of formal education, including 1-year Automotive Vo-Tech

OSHA HAZWOPER 24-hour certification

Confined Space Training

Railroad Site Access and Safety Training for various railroad owners including - BNSF, Montana Rail-Link, Union Pacific, Trimet

Refinery Site Access and Safety Training - Exxon, CHS, Valero, LyondellBasell, Phillips 66, Kinder Morgan

PROJECT EXAMPLES

- **I-5 Rose Quarter Reconstruction**
  - **Project Owner**: Oregon Department of Transportation; **Client**: HDR
    - **Client Contact**: Steve Drahota, P.E., 503-423-3712 office, Steven.Drahota@hdrinc.com
  - **Location**: Portland Oregon; **Duration:** April 2020 - Present
  - **Project Description/Firm's Role**: SUE 2-D and 3-D QL B Designating of all utilities within the project corridor. Locating to support preliminary design efforts for reconstruction of I-5 between NE Lloyd Blvd. and I-405. SUE scope of work also included Time Domain Electromagnetic and Multi-Channel Ground Penetrating Radar surveys, down-hole LiDAR, 3-D QL B utility designating and 3-D Existing Utility Modeling compliant with ASCE 38-02
  - **Project Role**: Field Operations Manager, Field Designator, Engineering Survey, and 3-D QL B data acquisition.
  - **UMS Services Contract**: $2,632,372; **Total Utilities Designated:** ~300,000+LF
- **I-494 Reconstruction**
  - **Project Owner/Client**: Minnesota Department of Transportation;
    - **Owner/Client Contact**: Amber Blanchard, P.E., 651-234-7770 office, amber.blanchard@state.mn.us
  - **Location**: Bloomington/Richfield, MN; **Duration:** April 2018 - Present
  - **Project Description/Firm's Role**: SUE 2-D and 3-D QL B Designating of all utilities within the project corridor. Locating to support preliminary design efforts for reconstruction of I-494 from east of 34th Avenue South to Highway 169. SUE scope of work also included use of down-hole LiDAR, Multi-Channel Ground Penetrating Radar survey, and 3-D QL B utility Designating to facilitate future 3-D modeling efforts compliant with ASCE 38-02.
  - **Project Role**: Field Operations Manager, Field Designator, 3-D Engineering Survey.
  - **UMS Services Contract**: $1,593,784; **Total Utilities Designated:** ~1,550,000LF
- **TH371 Nisswa to Jenkins, Highway Realignment/Reconstruction**
  - **Project Owner/Client**: Minnesota Department of Transportation
    - **Client Contact**: MnDOT District 3, 218.828.5700 office
  - **Location**: Nisswa to Jenkins, MN; **Duration:** January 2015 – August 2015
  - **Project Description/Firm's Role**: Completion of SUE 2-D QL B Designating of all utilities within project corridor, SUE Utility Locating to obtain 3-D QL A data, Utility Conflict Identification and Utility Coordination to support design efforts for full highway reconstruction and realignment of Trunk Highway 371 between Nisswa and Jenkins, MN. Data acquisition compliant with CI/ASCE 38-02.
  - **Project Role**: Field Ops Manager, Field Designator, Engineering Survey.
  - **UMS Services Contract**: $191,381; **Total Utilities Designated:** ~386,047LF
- **I-229 Exit 6 Interchange Reconstruction and Interstate Realignment/Reconstruction**
  - **Project Owner**: South Dakota Department of Transportation; **Client:** HR Green
    - **Client Contact**: Ben White, P.E., LS, 605.221.2651 office, bwhite@hrgreen.com
  - **Location**: Sioux Falls, SD; **Duration:** October 2020 – July 2021
  - **Project Description/Firm's Role**: Completion of SUE 2-D QL B Designating of all utilities within project corridor to support preliminary design efforts for full reconstruction of the Interchange at I-229 and E. 10th Street and re-alignment/reconstruction of I-229 south of E. 18th Street. Data acquisition compliant with CI/ASCE 38-02.
  - **Project Role**: Field Operations Manager, Field Designator, Engineering Survey
  - **UMS Services Contract Value**: $245,000; **Total Utilities Designated:** ~230,400LF
- **Highway 212 Watertown Reconstruction**
  - **Project Owner/Client**: South Dakota Department of Transportation;
    - **Owner/Client Contact**: Clint Freeman, 605.773.4426 office, Clint.Freeman@state.sd.us
  - **Location**: Watertown, SD; **Duration:** June 2014 – May 2021
  - **Project Description/Firm's Role**: Completion of SUE 2-D QL B Designating of all utilities and Utility Locating within the Highway 212 project corridor to support preliminary design and utility coordination efforts. Project design included full reconstruction of Highway 212 from the intersection at Highway 81 to 19th Street SE. Data acquisition compliant with CI/ASCE 38-02
  - **Project Role**: Field Operations Manager, Field Designator, Engineering Survey
    UMS Services Contract Value: $90,200; **Total Utilities Designated:** ~51,400LF

Appendix B – Condux International Company Information and Gyroscopic Mapping Equipment Proposed

Company Introduction:

PRISUM Technologies is a division of Condux International Inc. Condux International is the premier manufacturer of underground and overhead cable installation tools and equipment for the telecom and electric power markets, with manufacturing/HQ located in Mankato, MN. PRISUM Technologies launched to provide innovative solutions for underground mapping. Prisum technologies primarily focus on accurately locate utility pipelines and securely manage your data, helping you to avoid unexpected damages, downtime and added expenses to the clients.

Gyro Technology: Underground Mapping System

The mapping probe is a autonomous tool built with Gyroscopes, accelerometers, inclinometers and odometer to capture the movements of the tool in the pipeline and store the data on the unit.

Figure 1: Underground Mapping System

The mapping probe measures the angular rate of change of its core axis and records change in direction at a sample rate of 100hz frequency while traveling inside the duct.

Figure 2: Pipeline 3D Data Collection

Guaranteed Calibration Accuracy:

Following assembly, each tool is calibrated to achieve optimal accuracy using a proprietary calibration robot. The robot validates static positions and dynamic moves in an inclination range between -60° and +60° while rotating 360° around its X-axis and 360° around its Y-axis.

DR Systems (Fiber Optic Gyros) – over 5000' length

- 6" on XY (0.02%, as of % pipe length)
- 4" on Z -Depth (0.01%, as of % pipe length)

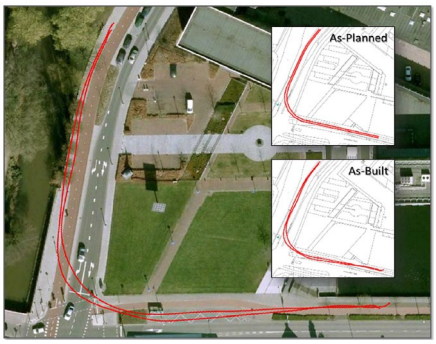


Figure 3: Comparison of As-Planned Vs As-Built maps

Output Data Results

Raw data is uploaded to post process software to establish specific pipeline position based on accurately logged entry and exit coordinates. The software analyzes changes in X, Y and Z position. Data processing requires only minutes, allowing our trained field experts to map multiple pipeline segments per day.

The software provides powerful and accurate analytics, profiling, pipeline audit reports and as-built maps. Output file formats meet GIS standards: AutoCAD, xlsx, csv, xml, kml and bmp.

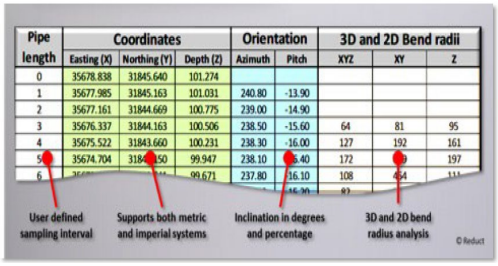


Figure 4: Output results, GPS Coordinates, Azimuth & Pitch

Technology Benefits

- Ability to 3D Map any underground utility
- Can map any Pipeline Material (Plastic or metallic pipes)
- No Above Ground Tracing required during data collection process
- Autonomous tool with ability to map any depths
- Unaffected by neighboring utility electromagnetic noise
- High-frequency sampling data collection
- Open platform output

TOWN & COUNTRY
ENGINEERING, INC.

February 24, 2022

Village of McFarland
5915 Milwaukee Street
McFarland, WI 53558

Attention: Mr. Matthew Schuenke, Village Administrator

Subject: Proposal Evaluation; Sanitary Sewer Force Main/Locating; Village of McFarland

Ladies and Gentlemen:

The purpose of this letter is to analyze the proposal received for Sanitary Sewer Force Main/Locating effort. The project involves determining actual locations of sanitary sewer force mains at 4 of the Village's sewer pumping stations (the 5th was built in 2015 and was accurately located as it was being built).

Only one provider submitted a proposal, Utility Mapping Services, Inc., a specialty firm that operates throughout the United States on projects like this. It is not unusual for unique projects like this to only receive one or two proposals given the scope of work is uncommon.

The submitted proposal calls for locating the approximately 8,300 feet of force main at $10.25/foot for an estimated total of 8,300 x $10.25 = $85,075. There are also some time-and-material added items that the Village could elect to use if desiring additional work. This estimated total is within the amount budgeted for the work in 2022.

We recommend proceeding with a contract with Utility Mapping Services, Inc. so that the work can begin this spring. It is desirable to coordinate their efforts at Lift Stations #4 and #1 (each has force main located on Terminal Drive) with the upcoming project on Terminal.

This will be a unit price contract. That is, the contractor will be paid for the work actually performed on the basis on the unit prices bid. This means that the final line item costs could be either greater than or less than the bid totals. Also, unexpected conditions are sometimes encountered which result in increased project costs. Therefore, it would be wise to continue to carry the recommended 10% contingency within the Village budget.

If you have any questions with respect to our thoughts on this matter, I am available at your convenience to discuss them with you.

Please feel free to contact us with any questions or comments regarding this review.

Very truly yours,
TOWN & COUNTRY ENGINEERING, INC.

Brian R. Berquist, P.E.
President

cc: Mr. Jim Hessling, Director of Public Works, Village of McFarland *(via email)*

BRB:brb
J:\JOB#S\McFarland\MC-00-00\Correspondence\2022\Forcemain Locating Recommendation letter.docx

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, March 8, 2022**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Jim Hessling, Public Works Director**

AGENDA ITEM: **Discussion and action to make a recommendation to the Village Board regarding the award of contract for storm sewer cleaning and televising services.**

PREVIOUS ACTION:
The RFP for storm sewer cleaning and televising was discussed and approved at the Public Utilities Committee meeting of January 18, 2022 and was also approved for distribution at the Village Board meeting on January 24, 2022.

ISSUE SUMMARY:
As part of our ongoing storm sewer maintenance responsibilities, the Department is proposing to start a Storm Sewer Line Cleaning and Televising program to help aid us in future maintenance activities.The cleaning and televising of the pipes will aid us in maintenance along with projecting future capital expenditures if something out of the ordinary is found. Essentially the pipes are cleaned to remove obstructions and then cameras used to check the condition of the pipes. Same action as is done for the sanitary pipes now proposed for storm.

RFP's for this work were sent to six vendors that perform this type of work. Three of the six vendors contacted submitted a proposal. The apparent low bidder, Green Bay Pipe & TV, LLC submitted a price of $1.48 per foot for services. We currently have a contract with Green Bay Pipe & TV, LLC for the cleaning and televising of our sanitary sewer system. We are very satisfied with their work.

A comparison sheet is included for your reference.

FINANCIAL/BUDGET IMPACT:
Funding for this work was approved in the 2022 budget in the amount of $47,500 which will allow for approximately 32,000 lineal feet of pipe cleaned and recorded.

VILLAGE PLAN REFERENCE:
None.

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Recommend to the Village Board the award of contract to Green Bay Pipe & TV, LLC for storm sewer cleaning and televising services at the cost of $1.48 per foot.

ATTACHMENTS:

1. Storm Sewer Line Cleaning & Televising Proposal results
2. Green Bay Pipe & TV Proposal
3. Storm Sewer Line Cleaning and Televising RFP FINAL

	Cleaning & Televising			Cleaning Only			Televising Only		
Vendor	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Green Bay Pipe & TV	$ 1.48	$ 1.48	$ 1.48	$ 1.50	$ 1.50	$ 1.50	$ 1.25	$ 1.25	$ 1.25
McCann's Underground	$ 5.00	$ 5.75	$ 6.50	$ 3.25	$ 3.50	$ 4.00	$ 1.75	$ 2.00	$ 2.50
The Expediters Inc.	$ 3.24	$ 3.54	$ 3.85	$ 2.25	$ 2.40	$ 2.70	$ 0.99	$ 1.14	$ 1.15

GREEN BAY PIPE & TV
SEWER TV INSPECTION AND JET/VAC CLEANING

February 18, 2022

Village of McFarland
Attn: Jim Hessling
5915 Milwaukee Street
McFarland WI 53558

Green Bay Pipe & TV, LLC has been a leader in the sewer cleaning and televising industry for the past 24 years. We pride ourselves in the help we have provided to municipalities, engineering firms, and private parties throughout the state of Wisconsin and the Upper Peninsula of Michigan.

If we are the chosen firm, we look forward to working for and with you on this project.

Thank you,

Stephanie De Keyser
President

1100 Columbia Ave., Green Bay, WI 54303
Phone: 920-490-5501
Fax: 920-490-6242
www.greenbaypipe.net

COST PROPOSAL FORM

The Village of McFarland invites your proposal to provide Storm Sewer Line Cleaning and Televising Services for the Village of McFarland Sewer System to be received until 10:00 a.m. on February 22, 2022 at the Village of McFarland Municipal Center, 5915 Milwaukee St, McFarland WI 53558.

In accordance with the attached instructions, terms, conditions, and Scope of Services we submit the following proposal to the Village of McFarland.

This shall include labor, materials, supervision, equipment, appliances, and materials to perform all operations required to do annual Storm Sewer Line Cleaning and/or Televising, as specified.

Description	Total Price
Cleaning and Televising cost per foot	2022 $ 1.48 2023 $ 1.48 2024 $ 1.48

Description	Total Price
Cleaning cost per foot	2022 $ 1.50 2023 $ 1.50 2024 $ 1.50

Description	Total Price
Televising cost per foot	2022 $ 1.25 2023 $ 1.25 2024 $ 1.25

I certify that the contents of this proposal are known to no one outside the firm, and to the best of my knowledge all requirements have been complied with.

Authorized Signature Stephanie DeKeyser

Printed Name Stephanie DeKeyser

Title President

Firm Name Green Bay Pipe - TV, LLC

Date February 18, 2022

GREEN BAY PIPE & TV
SEWER TV INSPECTION AND JET/VAC CLEANING

EMPLOYEE WORK EXPERIENCE

Steven De Keyser - Owner/Vice-President
36 Years in the Sewer Construction Industry.
17 Years in the Sewer Cleaning & Televising Industry.

Stephanie De Keyser – Owner/President
27 Years in the Accounting Industry.
17 Years as Accountant.

Tim La Crosse
23 Year Experience-Foreman-TV Technician/Vactor in the Sewer Cleaning Industry.

Charlie De Bauche
24 Year Experience-Vactor Operator/General Laborer in the Sewer Cleaning Industry.

Mike Trepanier
29 Year Experience-General Laborer in the Construction Industry.

Tyler Derenne
9 Year Experience-Project Manager-TV Technician in the Sewer Cleaning Industry.

Dean Kittell
7 Year Experience-General Laborer-Construction Industry.

Tim Buss
3 Year Experience-General Laborer-Construction Industry.

Tom Olson
3 Year Experience-General Laborer-Construction Industry.

ALL MEMBERS OF OUR FIELD STAFF ARE CONFINED SPACE ENTRY CERTIFIED

GREEN BAY PIPE & TV
SEWER TV INSPECTION AND JET/VAC CLEANING

COMPANY CAPABILITIES

1. Sewer Cleaning
2. Sewer Televising
3. Lateral Televising
4. Mini Camera Televising
5. Spot Repair Lining
6. Manhole Rehabilitation
7. Mandrel
8. Root Cutting
9. Smoke Testing
10. Air Testing
11. Vacuum Testing

1100 Columbia Ave., Green Bay, WI 54303
Phone: 920-490-5501
Fax: 920-490-6242

GREEN BAY PIPE & TV
SEWER TV INSPECTION AND JET/VAC CLEANING

REFERENCES

1. City of West Allis
   Heath Brozovich
   414-302-8376

2. City of Hurley
   Gary
   715-862-0125

3. City of Appleton
   Chad Weyenberg
   920-832-5915

4. City of Manitowoc
   Jill Erickson
   920-686-6908

5. Village of Caledonia
   Bob Lui
   262-317-3383

6. Village of Howard
   Wade Smith
   920-434-4060

Green Bay Pipe and TV, LLC 2021 Projects

Apple Tree Appleton Four
840 Challenger Drive, Suite 150
Green Bay WI 54311
Shaunn Huick
920-445-9016
$5625.00

Robert Immel-Village of Harrison
N1870 Municipal Drive
Greenville WI 54942
Todd Immel
920-585-2885
$1755.00

Adams County Landfill
1420 Highway 21
Friendship WI 53934
Charlie Kuhn
608-403-1549
$5572.00

Superior Sewer & Water-Hobart
1801 Deer Trail
Luxemburg WI 54217
Chad Dorner
920-621-3504
$1320.00

Wisconsin DOT-Black Creek
944 Vanderperren Way
Green Bay WI 54304
Tim Rank
920-360-2579
$943.00

Village of Bonduel
PO Box 67
Bonduel WI 54107
Jesse Rankin
715-758-8779
$5221.60

Taycheedah Sanitary District #3-Spot Repair
W2695 Loehr Street
Malone WI 53049
John Rickert
920-960-0345
$2150.00

Remington Ridge Way-Spot Repairs
1717 Remington Ridge Way
De Pere WI 54115
Michael Albers
920-784-6645
$2950.00

Maple Construction-Elm Grove
PO Box 245
Ringwood IL 60072
Gary Brand
815-790-7400
$2090.00

ALGWI, LLC
2973 Harbor Blvd, Suite 580
Costa Mesa CA 92626
Tyler Bertrand
920-
$1102.50

De Groot, Inc-Green Bay
4201 Champion Road
Green Bay WI 54311
Marty Jensen
920-621-1778
$225.00

Village of Fredonia
PO Box 159
Fredonia WI 53021
Roger
262-483-0275
$2516.75

New Holstein Utilities
2110 Washington Street
New Holstein WI 53061
Ian DeMarre
920-205-3085
$2345.05

Ferrellgas
735 Weise Street
Green Bay WI 54302
Dave Peters
920-579-1422
$1870.00

Michels-Suamico
817 Main Street
Brownsville WI 53006
Kyle Great
920-539-7078
$260.00

Robert Immel Excavating-Grand Chute
N1870 Municipal Drive
Greenville WI 54942
Todd Immel
920-757-5906
$1195.56

Village of Cleveland-Spot Repair
1150 W Washington Avenue
Cleveland WI 53015-0087
Chris
920-782-0249
$1915.60

Village of McFarland-Manhole Rehab
5915 Milwaukee Street
McFarland WI 53558
Jim Hessling
608-838-7287
$7393.00

Joski Sewer Services
6295 Maribel Road
Denmark WI 54208
Mark Joski
920-655-8954
$665.00

County Materials
2448 Century Road
Green Bay WI 54303
Russ
920-494-3436
$4,443.75

De Groot, Inc-Ashwaubenon
4201 Champion Road
Green Bay WI 54311
Marty Jensen
920-621-1778
$1667.72

Fitchburg Utility District No.1
2373 S Fish Hatchery Road
Fitchburg WI 53711
Tracy Foss
608-729-1730
$11,983.72

Nancy McGinnity
2779 Summerset Circle
Suamico WI 54173
Tyler Bertrand

$2040.00

Village of McFarland-Spot Repairs
5915 Milwaukee Street
McFarland WI 53558
Jim Hessling
608-838-7287
$41,028.00

Village of McFarland-Clean & TV
5915 Milwaukee Street
McFarland WI 53558
Jim Hessling
608-838-7287
$72,519.30

De Groot, Inc.-City of Brillion
4201 Champion Road
Green Bay WI 54311
Marty
920-621-1778
$825.25

Mountain Bay Condo Association
2547-M Telluride Trail
Green Bay WI 54313
Carol
920-606-6705
$900.00

Village of Suamico
12781 Velp Avenue
Suamico WI 54313
Joel VanLanen
920-434-8410
$32,138.40

A&V Terrace
1226 North Danz Avenue
Green Bay WI 54302
Mike
920-713-4453
$1800.00

Harold Tauschek-Howard
5875 Gauthier Road
New Franken WI 54229
Derek
920-676-7300
$2,312.36

City of Mosinee
225 Main Street
Mosinee WI 54455
Kevin Breit
715-573-1756
$3880.00

Prestige Cabinets
476 Packerland Drive
Green Bay WI 54303
Mike Mashl
920-965-1919
$5066.25

City of Milton
710 S Janesville Street
Milton WI 53563
Mark Langer
608-868-6921
$8208.90

City of De Pere
925 S 6th Street
De Pere WI 54115
Eric Rakers
920-339-4072
$41,627.96

Robert Immel-Appleton
N1870 Municipal Drive
Greenville WI 54942
Todd Immel
920-585-2885
$1426.53

Village of Kimberly
515 W Kimberly Avenue
Kimberly WI 54136
Allyn Dannhoff
920-788-7507
$30,245.30

Hurley School District
5503 W Rangeview Drive
Hurley WI 54534
Bill Trcka
$1800.00

Taycheedah Sanitary District #1
W4295 Kiekhaefer Pkwy
Fond du Lac WI 54937
Priscilla Yohann
920-923-0406
$9701.66

Fond du Lac Sanitary District #3
PO Box 1276
Fond du Lac WI 54936
Bob Giese
920-979-2897
$6,200.78

Lawrence University
235 East Water Street
Appleton WI 54911
Tony
920-450-0520
$567.50

Town of Knight
PO Box 40
Iron Belt WI 54536
Gary
715-862-0125
$9,361.41

Kewaunee County Landfill
E4280 CTH F
Kewaunee WI 54216
Bill @ Ayres
920-327-7815
$3731.70

Taycheedah Sanitary District #3
W2695 Loehr Street
Malone WI 53049
Brenda Schneider
920-960-0345
$9793.30

Fond du Lac Sanitary District #2
N7288 Winnebago Drive
Fond du Lac WI 54935
Tom Beltz

$4521.68

Fond du Lac Sanitary District #4
PO Box 1276
Fond du Lac WI 54936
John Ransom
920-907-5525
$5396.86

Jake's Excavating-Ironwood
N10633 Lake Road
Ironwood MI 49938
Jake
906-364-1429
$5884.89

City of Hurley
405 Fifth Avenue North
Hurley WI 54534
Gary
715-862-0125
$17,868.00

Village of Bowler
107 West Main Street
Bowler WI 54416
Aaron Gutt
715-584-5042
$4629.90

Village of Birnamwood
362 Railroad Street
Birnamwood WI 54414
Chris Jensen
715-219-4151
$8,204.58

Village of Caledonia
333-41/2 Mile Road
Racine WI 53402
Bob Lui
262-939-9570
$677.50

Village of Cleveland
1150 W Washington Avenue
Cleveland WI 53015
Chris
920-782-0249
$8,465.35

Robert Immel-Town of Clayton
N1870 Municipal Drive
Greenville WI 54942
Todd Immel
920-757-5906
$1,176.43

Fond du Lac Sanitary District #3-Grouting
PO Box 1276
Fond du Lac WI 54936
Bob Giese
920-979-2897
$1,000.00

Korff Plumbing-Sheboygan Falls
W5471 Sumac Road
Plymouth WI 53073
Corey
920-627-3620
$3,036.33

Village of Caroline
W15281 County Road D
Wittenberg WI 54499
Dale/Aaron
715-584-5042
$11,029.25

Village of Hatley
PO Box 99
Hatley WI 54440
Brian
715-446-2612
$6,759.60

Village of White Lake
PO Box 8
White Lake WI 54491
Scott
715-882-3411
$21,035.74

Village of Rosholt
101 South Main Street
Rosholt WI 54473
Rich
715-572-7567
$7,346.47

Korff Plumbing-Town of Sheboygan
W5471 Sumac Road
Plymouth WI 53073
Corey
920-627-3620
$598.50

Robert Immel-Harrison
N1870 Municipal Drive
Greenville WI 54942
Todd Immel
920-213-1102
$1,414.53

City of Rhinelander
135 South Sevens Street
Rhinelander WI 54501
Tom Roeser
715-437-0473
$2631.25

Toonen Properties-Sand Lake Apartments
2830 Curry Court, Suite 4
Green Bay WI 54311
Brent Veeser
920-619-8886
$450.00

AG Excavating-Grand Chute
1336 Russett Court
Green Bay WI 54313
Al Goesen
920-371-1885
$4340.00

Peters Concrete-Green Bay
1516 Atkinson Drive
Green Bay WI 54303
Kevin Moore
920-621-1739
$3431.25

Advance Construction-Two Rivers
2141 Woodale Ave
Green Bay WI 54313
Shane
920-606-5011
$6564.67

Village of Arpin
6190 County Road N
Arpin WI 54410
Jack Esser
715-897-3001
$3805.60

Village of Kronenwetter
1582 Kronenwetter Drive
Kronenwetter WI 54455
Austin Frederickson
715-693-4200
$14,401.30

De Groot, Inc.-Green Bay
4201 Champion Road
Green Bay WI 54311
Marty Jensen
920-621-1778
$8,718.75

Hormel Foods
PO Box 8599
St. Louis MO 63126

$3600.00

Kohler Company
444 Highland Drive
Kohler WI 53044
Jason Nall
920-226-8046
$1125.00

Village of Auburndale
5988 First Street
Auburndale WI 54412
John Spatz
715-305-0833
$3842.52

Village of Howards Grove
913 S Wisconsin Drive
Howards Grove WI 53083
Ryan Welsing
920-234-0305
$2417.52

Aqualis Stormwater Management-Target
2110 W Wright Road
McHenry IL 60050
Kerry Wilson
815-909-5441
$1625.00

Peters Concrete-Sturgeon Bay
1516 Atkinson Drive
Green Bay WI 54303
Kevin Moore
920-621-1739
$487.50

Toonen Properties-The Shores
2830 Curry Court-Suite 4
Green Bay WI 54311
Tim
920-619-3245
$562.50

Port Washington
100 W Grand Avenue
Port Washington WI 53074
Robert Vanden Noven
262-268-4267
$6,699.91

Village of Caroline-Spot Repairs
W15281 County Road D
Wittenberg WI 54499
Dale Klitz
715-250-2326
$9,370.00

City of West Allis
7525 W Greenfield Ave
West Allis WI 53214
Heath Brozovich
414-302-8376
$80,990.67

City of Manitowoc
900 Quay Street
Manitowoc WI 54220
Matt Smits
920-374-0088
$14,278.93

Jason Campbell
2075 Sandalwood Court
Green Bay WI 54304
Jason
920-3690-8988
$562.50

Unity
2366 Oak Ridge Circle
De Pere WI 54115
Jolene Bowers
920-339-6712
$1202.46

Peters Concrete-Town of Scott
1516 Atkinson Drive
Green Bay WI 54303
Kevin Moore
920-621-1739
$506.25

Walworth County
975 W Walworth Ave
Delavan WI 53115
Vincent Simek
262-379-4789
$14,323.80

City of Elkhorn
311 Seymour Street
Elkhorn WI 53121
Matt Lindstrom
262-325-0274
$25,310.46

Village of Scandinavia-Repairs
349 North Main Street
Scandinavia WI 54977
Renee Smith
715-467-0036
$5100.00

Aqualis Stormwater-Walmart-Lake Geneva
2510 Meridian Pkwy, Suite 350
Durham NC 27713
Forrest Hogshire
919-612-0552
$1250.00

Bohners Lake Sanitary District
PO Box 280
Burlington WI 53105
Harvey Kandler
262-206-2761
$24,296.29

Village of Arpin-Repairs
6190 County Road N
Arpin WI 54410
Jack Esser
715-897-3001
$2,504.75

City of Whitewater-Spot Repairs
312 W Whitewater Street
Whitewater WI 53190
Tavis Zahn
262-458-2809
$12,874.00

City of Appleton
100 N Appleton Street
Appleton WI 54911
Chad Weyenberg
920-832-5915
$272,062.34

Village of Rosholt-Repairs
101 South Main Street
Rosholt WI 54473
Rich
715-572-7567
$14,800.00

University Heights
2540 University Ave
Green Bay WI 54302
Brian
920-857-3741
$250.00

Walworth County (Walcomet)
975 W Walworth Avenue
Delavan WI 53115
Jared
262-728-4141
$6959.48

Ledgeview Estates
1963 Swan Road
De Pere WI 54115
Brian
920-901-8675
$2,200.00

Woodside Lutheran Home
1040 Pilgrim Way
Green Bay WI 54304
Ray
920-660-7963
$960.00

Granite Company
1130 S Taylor Street
Green Bay WI 54304
Chad
920-499-9715
$1530.00

Fond du Lac Sanitary District #2-Spot Repairs
N7288 Winnebago Drive
Fond du Lac WI 54935
Tom Belts
$7375.00

Village of Allouez
1900 Libal Street
Green Bay WI 54301
Jeff Piette
920-621-8736
$14,923.15

Village of Howard
1336 Cornell Road
Green Bay WI 54313
Kyle Johnson
920-434-4060
$14,089.14

VILLAGE OF
McFarland

Request For Proposals

Storm Sewer Line Cleaning and Televising

RFP Issuance Date: January 25, 2022

RFP Due Date: February 22, 2020 10:00 a.m.

Please Submit to:

Village of McFarland
Attn: Jim Hessling
5915 Milwaukee Street, PO Box 110
McFarland, WI 53558

STORM SEWER LINE CLEANING AND TELEVISING SERVICES FOR VILLAGE OF MCFARLAND

SCOPE OF SERVICES

This Scope of Services will become an integral part of the contract between the Village of McFarland and the Contractor. The Contractor hereby agrees to provide services and/or materials to the Village pursuant to the provisions set forth below.

1. **PURPOSE**: The purpose and intent of the Request for Proposals (RFP) is to solicit proposals from qualified Contractor(s) to provide personnel and equipment necessary for cleaning storm sewer lines and closed-circuit television inspection (CCTV) services under the direction of the Village of McFarland Public Works Director.

2. **BACKGROUND**: The Village desires a private contractor to perform these services to maintain a clean collection system, as well as to properly assess the condition of the collection system pipeline.

3. **VILLAGE OF MCFARLAND DESIGNATED REPRESENTATIVE**:

   Jim Hessling
   Public Works Director
   5115 Terminal Drive
   McFarland, WI 53558
   608-838-7287
   jim.hessling@mcfarland.wi.us

4. **WORK REQUIREMENTS**:

   A. CLEANING – The Contractor will be given a list of line sections to be cleaned. It is the intent of this contract to satisfy Village collection system requirements; namely, the Contractor will clean at least one-third (1/3) of the Village collection system each year for three (3) consecutive years. It is estimated that the footage to be cleaned is approximately 30,800 feet. This includes sewer mains located in the street and easements. As a condition of the work, the Contractor will be required to use water to clean the footages specified. Bulk water purchases are the responsibility of the contractor.

   B. TELEVISING - The Contractor will be given a list of line sections to be televised. It is the intent of this contract to satisfy Village collection system requirements; namely, the Contractor will televise at least one-third (1/3) of the Village collection system each year for three (3) consecutive years. It is estimated that the footage to be cleaned is approximately 30,800 feet. This includes sewer mains located in the street and easements. Should deficiencies in the pipeline or in the area of a manhole structure be noted during operations; additional photographic evidence will be required of the deficiencies to alert the Village of possible repair needs. The Contractor

shall provide an electronic copy of the television inspection report upon completion of the work.

C. GENERAL REQUIREMENTS

i. A copy of the collection system map will be given to the contractor at the onset of the contract, to assist in this endeavor.

ii. During the course of the contact, additional infrastructure may be incorporated into the collection system from new development, or other such causes. The village has a right to require the contractor to perform additional cleaning and inspection work at the price per foot quoted by the contractor.

iii. It is understood that this will take multiple weeks, or months, to clean the specified section of the system. Once operations commence, updates will be required by the Village as part of their notification process to residents and businesses. It is also understood that more frequent updates should be given, if the Village or the Contractor feels there is need. Final cleanings shall be completed by December 1st of the contract year, to give Village staff adequate time to review the deliverable and decide if the contract will be renewed.

5. **SCHEDULES/TIMELINES**: The initial term of the contract is from May 2, 2022 through December 31, 2022; with the option to renew by the Village for two (2) successive one (1) year periods, under the same terms and conditions. Any renewal shall be based on satisfactory performance by the Contractor during the previous year.

QUALIFICATIONS AND SUBMISSION REQUIREMENTS

The Proposal must include all of the information set forth in this Section and other Sections of this RFP and should be organized and tabbed appropriately. Including but not limited to the following:

- Company history and background.
- Qualifications of the Contractor.
- Relevant past project experience of the Contractor.
- Availability of resources and reliance on subcontractors.
- No fewer than three municipal references.

All reports are required to be submitted in an electronic format. The following information will be required on the report.

- Manhole number to and from
- Any manhole issues
- Pipe size
- Date and time cleaned
- Any noted problems in this section of pipe

TERMS AND CONDITIONS

Each proposal will be reviewed to determine if it meets the requirements contained within this RFP. Failure to meet the requirements for the RFP may be cause for rejection. The Village may reject any proposal if it is conditional, incomplete, contains irregularities, or if in the sole discretion of the Village not considered in the Village's best interest. The Village may waive an immaterial deviation in a proposal, but this shall in no way modify the proposal document or excuse the Architect from compliance with the contract requirements if the Architect is awarded a contract.

The Village will require the use of its standard contract template. Modifications to this standard may be required or considered subject to review and approval by the Village Attorney under the direction of the Village Board.

There is no expressed or implied obligation for the Village to reimburse firms for any expenses incurred in preparing proposals in response to this request. Materials submitted by respondents are subject to public inspection under Wisconsin law. Any language purporting to render the proposal, or any part thereof, confidential or proprietary will be ineffective and will be disregarded unless consistent with the Wisconsin Public Records Law.

The Village reserves the right to retain all proposals submitted, and to use any idea in a proposal, regardless of whether the proposal was selected. Submission of a proposal indicates acceptance by the Contractor of the terms and conditions contained in the RFP, unless clearly and specifically noted in the proposal submitted and confirmed in the contract between the Village and the Contractor.

All property rights, including ownership and publication rights of all conceptual plans, designs, bidding documents, and reports produced by the selected Contractor in connection with services performed under this agreement shall be vested in the Village.

The Village reserves the right to reject any or all proposals submitted. Furthermore, the Village reserves the right to award to multiple Contractors or to a single Contractor deemed to be fully qualified and best suited among those submitting proposals.

COST PROPOSAL FORM

The Village of McFarland invites your proposal to provide Storm Sewer Line Cleaning and Televising Services for the Village of McFarland Sewer System to be received until 10:00 a.m. on February 22, 2022 at the Village of McFarland Municipal Center, 5915 Milwaukee St, McFarland WI 53558.

In accordance with the attached instructions, terms, conditions, and Scope of Services we submit the following proposal to the Village of McFarland.

This shall include labor, materials, supervision, equipment, appliances, and materials to perform all operations required to do annual Storm Sewer Line Cleaning and/or Televising, as specified.

Description	**Total Price**
Cleaning and Televising cost per foot	2022 $ 2023 $ 2024 $

Description	**Total Price**
Cleaning cost per foot	2022 $ 2023 $ 2024 $

Description	**Total Price**
Televising cost per foot	2022 $ 2023 $ 2024 $

I certify that the contents of this proposal are known to no one outside the firm, and to the best of my knowledge all requirements have been complied with.

Authorized Signature_____

Printed Name_____

Title_____

Firm Name_____

Date_____

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, March 8, 2022**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Jim Hessling, Public Works Director**

AGENDA ITEM: **Discussion and action to make a recommendation to the Village Board regarding the MS4 permit and plan.**

PREVIOUS ACTION:
None.

ISSUE SUMMARY:
Attached is the 2021 DRAFT annual report for our Municipal Separate Storm Sewer System, otherwise known as an MS4 Permit. As part of the report, our Adaptive Management to Achieve TMDL Compliance and the village's stormwater system map are included. This report is a DNR mandate that we have been submitting for several years now. The permit governs storm water management practices in the Village and allows our discharge to area waterways. The Village remains compliant with these measures. The report is prepared by the village engineer, village staff and the staff of MAMSWaP and is presented for approval.

Once the report is voted on and passed by both the Public Utilities Committee and the Village Board, it will then be electronically submitted to the DNR. The report needs to be completed and submitted by March 31, 2022.

FINANCIAL/BUDGET IMPACT:
None.

VILLAGE PLAN REFERENCE:
None.

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:
Recommendation of approval to the Village Board regarding the MS4 permit and plan.

ATTACHMENTS:
1. Draft Annual Stormwater Report FYE 2021 to WI DNR
2. Adaptive Mgt Stormwater FYE 2021
3. Village stormwater map

Submittal of Annual Reports and Other Compliance Documents for Municipal Separate Storm Sewer System (MS4) Permits

NOTE: Missing or incomplete fields are highlighted at the bottom of each page. You may save, close and return to your draft permit as often as necessary to complete your application. After 120 days your draft is **deleted.**

Form 3400-224(R8/2021)

Reporting Information :

Will you be completing the Annual Report or other submittal type? (•) **Annual Report** ( ) **Other**

Project Name:	2021 Annual Report
County:	Dane
Municipality:	McFarland Village
Permit Number:	S058416
Facility Number:	30905
Reporting Year:	2021

Is this submittal also satisfying an Urban Nonpoint Source Grant funded deliverable? ( ) **Yes** (•) **No**

Required Attachments and Supplemental Information

Please complete the contents of each tab to submit your MS4 permit compliance document. The information included in this checklist is necessary for a complete submittal. A complete and detailed submittal will help us review about your MS4 permit document. To help us make a decision in the shortest amount of time possible, the following information must be submitted:

Annual Report

- Review related web site and instructions for Municipal storm water permit eReporting [Exit Form]
- Complete all required fields on the annual report form and upload required attachments
- Attach the following other supporting documents as appropriate using the attachments tab above
  - Public Education and Outreach Annual Report Summary
  - Public Involvement and Participation Annual Report Summary
  - Illicit Discharge Detection and Elimination Annual Report Summary
  - Construction Site Pollution Control Annual Report Summary
  - Post-Construction Storm Water Management Annual Report Summary
  - Pollution Prevention Annual Report Summary
    - Leaf and Yard Waste Management
    - Municipal Facility (BMP) Inspection Report
    - Municipal Property SWPPP
    - Municipally Property Inspection Report
    - Winter Road Maintenance
  - Storm Sewer Map Annual Report Attachment
  - Storm Water Quality Management Annual Report Attachment
  - TMDL Attachment
  - Storm Water Consortium/Group Report

- Municipal Cooperation Attachment
- Other Annual Report Attachment

- Attach the following permit compliance documents as appropriate using the attachments tab above

  - Storm Water Management Program
    - Public Education and Outreach Program
    - Public Involvement and Participation Program
    - Illicit Discharge Detection and Elimination Program
    - Construction Site Pollutant Control Program
    - Post-Construction Storm Water Management Program
    - Pollution Prevention Program
      - Municipal Storm Water Management Facility (BMP) Inventory
      - Municipal Storm Water Management Facility (BMP) Inspection and Maintenance Plan
  - Total Maximum Daily Load documents *(*If applicable, see permit for due dates.)*
    - TMDL Mapping*
    - TMDL Modeling*
    - TMDL Implementation Plan*
    - Fecal Coliform Screening Parameter *
    - Fecal Coliform Inventory and Map *(S050075-03 general permittees Appendix B B.5.2 – document due to the department by March 31, 2022)*
    - Fecal Coliform Source Elimination Plan *(S050075-03 general permittees Appendix B - document due to the department by October 31,2023)*

- Sign and Submit form

Form 3400-224 (R8/2021)

Municipal Contact Information- Complete

Notice: Pursuant to s. NR 216.07(8), Wis. Adm. Code, an owner or operator of a Municipal Separate Storm Sewer System (MS4) is required to submit an annual report to the Department of Natural Resources (Department) by March 31 of each year to report on activities for the previous calendar year ("reporting year"). This form is being provided by the Department for the user's convenience for reporting on activities undertaken in each reporting year of the permit term. Personal information collected will be used for administrative purposes and may be provided to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].
Note: Compliance items must be submitted using the Attachments tab.

Municipality Information

Name of Municipality	McFarland Village
Facility ID # or (FIN):	30905
Updated Information:	☑ Check to update mailing address information
Mailing Address:	5915 Milwaukee St
Mailing Address 2:	P.O. Box 110
City:	McFarland
State:	Wisconsin
Zip Code:	53558-0110 xxxxx or xxxxx-xxxx

Primary Municipal Contact Person (Authorized Representative for MS4 Permit)

The "Authorized Representative" or "Authorized Municipal Contact" includes the municipal official that was charged with compliance and oversight of the permit conditions, and has signature authority for submitting permit documents to the Department (i.e., Mayor, Municipal Administrator, Director of Public Works, City Engineer).

☐ Select to ***create new*** primary contact

First Name:	Jim
Last Name:	Hessling

☑ Select to ***update*** current contact information

Title:	DPW
Mailing Address:	5915 Milwaukee St
Mailing Address 2:	P.O. Box 110
City:	McFarland
State:	WI
Zip Code:	53558-0110 xxxxx or xxxxx-xxxx
Phone Number:	608-838-7287 Ext: xxx-xxx-xxxx
Email:	jim.hessling@mcfarland.wi.us

Additional Contacts Information (Optional)

☐ I&E Program

Individual with responsibility for: (Check all that apply)	☐ IDDE Program ☐ IDDE Response Procedure Manual ☐ Municipal-wide Water Quality Plan ☐ Ordinances ☐ Pollution Prevention Program ☐ Post-Construction Program ☐ Winter roadway maintenance

First Name:	
Last Name:	
Title:	
Mailing Address:	
Mailing Address 2:	
City:	
State:	
Zip Code:	xxxxx or xxxxx-xxxx
Phone Number:	Ext: xxx-xxx-xxxx
Email:	

1. Does the municipality rely on another entity to satisfy some of the permit requirements?

◉ Yes ○ No

☑ Public Education and Outreach MAMSWaP

☑ Public Involvement and Participation MAMSWaP

☐ Illicit Discharge Detection and Elimination

☐ Construction Site Pollutant Control

☐ Post-Construction Storm Water Management

☐ Pollution Prevention

2. Has there been any changes to the municipality's participation in group efforts towards permit compliances (i.e., the municipality has added or dropped consortium membership)?

○ Yes ◉ No

Missing Information

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7.

Form 3400-224 (R8/2021)

Minimum Control Measures- Section 1 : Complete

1. Public Education and Outreach

a. Complete the following information on Public Education and Outreach Activities related to storm water. Select the Delivery Mechanism that best describes how the topics were conveyed to your population. Use the Add Event to add additional entries.

Event Start Date	2/1/2021
Project/Event Name	Adopt a Storm Drain Pilot Program
Delivery Mechanism	Website *Active

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
☑ Illicit discharge detection and elimination ☐ Household hazardous waste disposal/pet waste management/vehicle washing ☑ Yard waste management/pesticide and fertilizer application ☐ Stream and shoreline management ☐ Residential infiltration ☐ Construction sites and post-construction storm water management ☑ Pollution prevention ☐ Green infrastructure/low impact development ☐ Other:	☑ General Public ☐ Public Employees ☑ Residents ☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	11-50	◉ Yes ○ No

Event Start Date	1/1/2021
Project/Event Name	Plant Dane
Delivery Mechanism	Workshop* *Active

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
☐ Illicit discharge detection and elimination ☐ Household hazardous waste disposal/pet waste management/vehicle washing ☑ Yard waste management/pesticide and fertilizer application ☐ Stream and shoreline management ☑ Residential infiltration ☐ Construction sites and post-construction storm water management ☑ Pollution prevention ☑ Green infrastructure/low impact development ☑ Other: Advertised via MAMSWaP newsletter	☑ General Public ☐ Public Employees ☑ Residents ☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	51-100	◉ Yes ○ No

Event Start Date	10/23/2022
Project/Event Name	Clean Sweep Local Collection Event
Delivery Mechanism	Website *Active

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
☐ Illicit discharge detection and elimination ☑ Household hazardous waste disposal/pet waste management/vehicle washing ☐ Yard waste management/pesticide and fertilizer application ☐ Stream and shoreline management ☐ Residential infiltration ☐ Construction sites and post-construction storm water management ☐ Pollution prevention ☐ Green infrastructure/low impact development ☑ Other: We advertised this for Fitchburg's event	☑ General Public ☐ Public Employees ☑ Residents ☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	Select...	◉ Yes ○ No

Event Start Date	1/1/2021
Project/Event Name	Website
Delivery Mechanism	Website *Active

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
☐ Illicit discharge detection and elimination ☑ Household hazardous waste disposal/pet waste management/vehicle washing ☑ Yard waste management/pesticide and fertilizer application ☐ Stream and shoreline management ☐ Residential infiltration ☑ Construction sites and post-construction storm water management ☑ Pollution prevention ☐ Green infrastructure/low impact development ☐ Other:	☑ General Public ☐ Public Employees ☑ Residents ☑ Businesses ☑ Contractors ☑ Developers ☑ Industries ☐ Other	Select...	○ Yes ◉ No

Event Start Date	1/1/2021
Project/Event Name	Tri-fold and other brochures/information
Delivery Mechanism	Passive print media *Active

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
☐ Illicit discharge detection and elimination ☑ Household hazardous waste disposal/pet waste management/vehicle washing	☑ General Public ☐ Public Employees ☑ Residents	Select...	○ Yes ○ No

☐ Yard waste management/pesticide and fertilizer application ☐ Stream and shoreline management ☑ Residential infiltration ☐ Construction sites and post-construction storm water management ☑ Pollution prevention ☐ Green infrastructure/low impact development ☐ Other:	☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other		

Event Start Date	11/18/2021
Project/Event Name	Adopt a Drain
Delivery Mechanism	Website *Active

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
☐ Illicit discharge detection and elimination ☐ Household hazardous waste disposal/pet waste management/vehicle washing ☐ Yard waste management/pesticide and fertilizer application ☐ Stream and shoreline management ☐ Residential infiltration ☐ Construction sites and post-construction storm water management ☑ Pollution prevention ☐ Green infrastructure/low impact development ☐ Other:	☑ General Public ☐ Public Employees ☑ Residents ☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	Select...	○ Yes ○ No

Event Start Date	9/23/2021
Project/Event Name	Leaf Free Streets (street sign campaign)
Delivery Mechanism	Signage *Active

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
☐ Illicit discharge detection and elimination ☐ Household hazardous waste disposal/pet waste management/vehicle washing ☐ Yard waste management/pesticide and fertilizer application ☐ Stream and shoreline management ☐ Residential infiltration ☐ Construction sites and post-construction storm water management ☑ Pollution prevention ☐ Green infrastructure/low impact development ☐ Other:	☑ General Public ☐ Public Employees ☑ Residents ☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	Select...	○ Yes ○ No

b. Brief explanation on Public Education and Outreach reporting. *Limit response to 250 characters and/or attach supplemental information on the attachments page.*

Various articles regarding above topics are included in newsletters to all Village residents and posted on website and Village social media. Village Engineer provides feedback to individual developers and contractors.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (R8/2021)

Minimum Control Measures - Section 2 : Complete

2. Public Involvement and Participation

a. Permit Activities. Complete the following information on Public Involvement and Participation Activities related to storm water. Select the Delivery Mechanism that best describes how the permit activities were conveyed to your population. Use the Add Event to add additional entries.

Event Start Date	3/22/2021
Project/Event Name	Presentation of the MS4 Annual Report
Delivery Mechanism	Government Event (Public Hearing, Council Meeting, etc)

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
☑ MS4 Annual Report ☑ Storm Water Management Program ☑ Storm Water related ordinance ☐ Other:	☑ General Public ☐ Public Employees ☑ Residents ☐ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	Select...	○ Yes ◉ No

b. Volunteer Activities. Complete the following information on Public Involvement and Participation Activities related to storm water. Select the Delivery Mechanism that best describes how volunteer activities were conveyed to your population. Use the Add Event to add additional entries.

Event Start Date	10/23/2021 ☐ NA (Individual Permittee).
Project/Event Name	Clean Sweep Local Collection Event
Delivery Mechanism	Clean up event

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)

Volunteer Opportunity	☑ General Public ☐ Public Employees ☑ Residents ☑ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	Select...	◉ Yes ○ No

Event Start Date	4/24/2021 ☐ NA (Individual Permittee).
Project/Event Name	2021 McFarland Community Service Day
Delivery Mechanism	Clean up event

Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	☑ General Public ☐ Public Employees ☑ Residents ☑ Businesses ☐ Contractors ☐ Developers ☐ Industries ☐ Other	11-50	○ Yes ○ No

c. Brief explanation on Public Involvement and Participation reporting. *Limit response to 250 characters and/or attach supplemental information on the attachments page.*

Stormwater Management Plan, Ordinances, and MS4 Annual Report were presented to the public at a Village Board meeting. The Village used its resources to advertise Fitchburg's Clean Sweep event coordinated through MAMSWaP membership

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (R8/2021)

Minimum Control Measures - Section 3 : Complete

3. Illicit Discharge Detection and Elimination

a. How many total outfalls does the municipality have? 8 ☐ Unsure

b. How many outfalls did the municipality evaluate as part of their routine ongoing field screening program? 8 ☐ Unsure

c. From the municipality's routine screening, how many were confirmed illicit discharges? 0 ☐ Unsure

d. How many illicit discharge complaints did the municipality receive? 0 ☐ Unsure

e. From the complaints received, how many were confirmed illicit discharges? 0 ☐ Unsure

f. How many of the identified illicit discharges did the municipality eliminate in the reporting year (from both routine screening and complaints)? 0 ☐ Unsure

(If the sum of 3.c. and 3.e. does not equal 3.f., please explain below.)

g. How many of the following enforcement mechanisms did the municipality use to enforce its illicit discharge ordinance? Check all that apply and enter the number of each used in the reporting year. ☐ Unsure

- ☑ Verbal Warning 0
- ☑ Written Warning (including email) 0
- ☑ Notice of Violation 0
- ☑ Civil Penalty/ Citation 0

Additional Information:

h. Brief explanation on Illicit Discharge Detection and Elimination reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (R8/2021)

Minimum Control Measures - Section 4 : Complete

4. Construction Site Pollutant Control

a. How many total construction sites with one acre or more of land disturbing construction activity were active at any point in the reporting year? 3 ☐ Unsure

b. How many construction sites with one acre or more of land disturbing construction activity did the municipality issue permits for in the reporting year? 3 ☐ Unsure

c. How many erosion control inspections did the municipality complete in the reporting year (at sites with one acre or more of land disturbing construction activity)? 12 ☐ Unsure

d. What types of enforcement actions does the municipality have available to compel compliance with the regulatory mechanism? Check all that ☐ Unsure

apply and enter the number of each used in the reporting year.

- ☐ No Authority
- ☑ Verbal Warning: 10
- ☑ Written Warning (including email): 3
- ☑ Notice of Violation: 0
- ☑ Civil Penalty/ Citation: 0
- ☑ Stop Work Order: 0
- ☑ Forfeiture of Deposit: 0
- ☐ Other - Describe below:

e. Brief explanation on Construction Site Pollutant Control reporting . *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (R8/2021)

Minimum Control Measures - Section 5 : Complete

5. Post-Construction Storm Water Management

a. How many sites with new structural storm water management facilities* have received local approval ? 0 ☐ Unsure

*Engineered and constructed systems that are designed to provide storm water quality control such as wet detention ponds, constructed wetlands, infiltration basins, grassed swales, permeable pavement, catch basin sumps, etc.

b. Does the permittee have procedures for inspecting and maintaining private storm water facilities? ◉ Yes ○ No ☐ Unsure

c. If Yes, how many privately owned storm water management facilities were inspected in the reporting year ? 0 ☐ Unsure

Inspections completed by private landowners should be included in the reported number.

d. What types of enforcement actions does the municipality have available to compel compliance with the regulatory mechanism? Check all that apply and enter the number of each used in the reporting year. ☐ Unsure

- ☐ No Authority
- ☑ Verbal Warning: 0
- ☑ Written Warning (including email): 0
- ☑ Notice of Violation: 0

☑ Civil Penalty/ Citation	0
☑ Forfeiture of Deposit	0
☑ Complete Maintenance	0
☑ Bill Responsible Party	0
☐ Other - Describe below	

e. Brief explanation on Post-Construction Storm Water Management reporting . *If marked 'Unsure' on any questions above, justify your reasoning. Limit your response to 250 characters and/or attach supplemental information on the attachments page*.

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (R8/2021)

Minimum Control Measures - Section 6 : Complete

6. Pollution Prevention

Storm Water Management Facility Inspections ☐ Not Applicable

a. Enter the total number of municipally owned or operated structural storm water management facilities ? 16 ☐ Unsure

b. How many new municipally owned storm water management facilities were installed in the reporting year ? 0 ☐ Unsure

c. How many municipally owned storm water management facilities were inspected in the reporting year? 16 ☐ Unsure

d. What elements are looked at during inspections (250 character limit)?

Sediment depth, Sump, cracks in structures, signs of sheening, ruts and rills, overgrown vegetation & brush and sediment issues.

e. How many of these facilities required maintenance? 0 ☐ Unsure

f. Brief explanation on Storm Water Management Facility inspection reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*.

Public Works Yards & Other Municipally Owned Properties (SWPPP Plan Review) ☐ Not Applicable

g. How many municipal properties require a SWPPP? 1 ☐ Unsure

h. How many inspections of municipal properties have been conducted in the reporting year? 1 ☐ Unsure

i. Have amendments to the SWPPPs been made?
○ Yes ◉ No ○ Unsure

j. If yes, describe what changes have been made. Limit response to 250 characters and/or attach supplemental information on the attachment page:

k. Brief explanation on Storm Water Pollution Prevention Plan reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

Collection Services - *Street Sweeping / Cleaning Program* ☐ Not Applicable

l. Did the municipality conduct street sweeping/cleaning during the reporting year?
◉ Yes ○ No ○ Unsure

m. If known, how many tons of material was removed? 56 ☐ Unsure

n. Does the municipality have a low hazard exemption for this material? ○ Yes ◉ No

o. If street cleaning is identified as a storm water best management practice in the pollutant loading analysis, was street cleaning completed at the assumed frequency?
◉ Yes - Explain frequency 1x per month winter months excluded Approx 56 ton
○ No - Explain _____
○ Not Applicable

Collection Services - *Catch Basin Sump Cleaning Program* ☐ Not Applicable

p. Did the municipality conduct catch basin sump cleaning during the reporting year? ◉ Yes ○ No ○ Unsure

q. How many catch basin sumps were cleaned in the reporting year? 40 ☐ Unsure

r. If known, how many tons of material was collected? 1 ☐ Unsure

s. Does the municipality have a low hazard exemption for this material? ○ Yes ◉ No

t. If catch basin sump cleaning is identified as a storm water best management practice in the pollutant loading analysis, was cleaning completed at the assumed frequency?
◉ Yes- Explain frequency Annually winter months excluded
○ No - Explain _____
○ Not Applicable

Collection Services - *Leaf Collection Program* ☐ Not Applicable

u. Does the municipality conduct curbside leaf collection? ○ Yes ◉ No ○ Unsure

v. Does the municipality notify homeowners about pickup? ◉ Yes ○ No ○ Unsure

w. Where are the residents directed to store the leaves for collection?

☐ Pile on terrace ☐ Pile in street ☐ Bags on terrace ☐ Unsure

☑ Other - Describe Residents bring material to the compost site at PW

x. What is the frequency of collection?

y. Is collection followed by street sweeping/cleaning? ◉ Yes ○ No ○ Unsure

z. Brief explanation on Collection Services reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*

Winter Road Management ☐ Not Applicable

*Note: We are requesting information that goes beyond the reporting year, answer the best you can.

aa. How many lane-miles of roadway is the municipality responsible for doing snow and ice control? 89 ☐ Unsure

ab. Provide amount of de-icing products used by month last winter season?

Solids (tons) (ex. sand, or salt-sand)

Product	Oct	Nov	Dec	Jan	Feb	Mar
Salt	0	30	180	240	180	0

Liquids (gallons) (ex. brine)

	Oct	Nov	Dec	Jan	Feb	Mar
Brine	0	150	900	1200	900	0

ac. Was salt applying machinery calibrated in the reporting year? ◉ Yes ○ No ○ Unsure

ad. Have municipal personnel attended salt reduction strategy training in the reporting year? ◉ Yes ○ No ○ Unsure

Training Date	Training Name	# Attendance
3/12/2021	WI Salt Wise	12

ae. Brief explanation on Winter Road Management reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*

All PW employees attended training on applying salt and calibration of equipment

Internal (Staff) Education & Communication

af. Has training or education been held for municipal or other personnel involved in implementing each of the pollution prevention program elements ? ◉ Yes ○ No ○ Unsure

If yes, describe what training was provided (250 character limit):

MS4 101- Basics of the Village's MS4 System and impacts on PW activities

When: 12/1/2021

How many attended: 12

ag. Describe how the municipality has kept the following local officials and municipal staff aware of the municipal storm water discharge permit programs and its requirements.

Elected Officials

Newsletter and annual presentation/approval of MS4 Annual Report

Municipal Officials

Newsletter and annual presentation/approval of MS4 Annual Report

Appropriate Staff (such as operators, Department heads, and those that interact with public)

Newsletter and annual presentation/approval of MS4 Annual Report

ah. Brief explanation on Internal Education reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

Missing Information

Do not close your work until you **SAVE.**

Note: For the minimum control measures, you must fill out all questions in sections 1 through 7

Form 3400-224 (R8/2021)

Minimum Control Measures - Section 7 : Complete

7. Storm Sewer System Map

a. Did the municipality update their storm sewer map this year?

(●) Yes ( ) No ( ) Unsure

If yes, check the areas the map items that got updated or changed:

- [ ] Storm water treatment facilities
- [x] Storm pipes
- [ ] Vegetated swales
- [ ] Outfalls
- [ ] Other - Describe below

Reconstruction project added storm sewer to the system.

b. Brief explanation on Storm Sewer System Map reporting. *If you marked Unsure for an question for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*.

Missing Information

Do not close your work until you SAVE.

Form 3400-224 (R8/2021)

Final Evaluation - Complete

Fiscal Analysis

Complete the fiscal analysis table provided below. For municipalities that do not break out funding into permit program elements, please enter the monetary amount to your best estimate of what funding may be going towards these programs.

Annual Expenditure Reporting Year	**Budget** Reporting Year	**Budget** Upcoming Year	**Source of Funds**
Element: Public Education and Outreach			
2021	57958	64386	Storm water utility
Element: Public Involvement and Participation			
2021	25336	28146	Storm water utility
Element: Illicit Discharge Detection and Elimination			
2021	32862	36507	Storm water utility
Element: Construction Site Pollutant Control			
2021	73089	81196	Storm water utility
Element: Post-Construction Storm Water Management			
2021	325944	362097	Storm water utility
Element: Pollution Prevention			
2021	208313	231419	Storm water utility
Other (describe)			
			Select...

Please provide a justification for a "0" entered in the Fiscal Analysis. *Limit response to 250 characters*.

Water Quality

a: Were there any known water quality improvements in the receiving waters to which the

municipality's storm sewer system directly discharges to?
○ Yes ◉ No ○ Unsure If Yes, explain below:

b : Were there any known water quality degradation in the receiving waters to which the municipality's storm sewer system directly discharges to?
○ Yes ◉ No ○ Unsure If Yes, explain below:

c: Have any of the receiving waters that the municipality discharges to been added to the impaired waters list during the reporting year?
○ Yes ◉ No ○ Unsure

d: Has the municipality evaluated their storm water practices to reduce the pollutants of concern?
◉ Yes ○ No ○ Unsure

Storm Water Quality Management

a. Has the municipality completed or updated modeling in the reporting year (relating to developed urban area performance standards of s. NR 151.13(2)(b)1., Wis. Adm. Code)? ○ Yes ◉ No

b. If yes, enter percent reduction in the annual average mass discharging from the entire MS4 to surface waters of the state as compared to implementing no storm water management controls:

Total suspended solids (TSS)

Total phosphorus (TP)

Status of Total Maximum Daily Loads (TMDLs) Implementation

The permittee McFarland Village is subject to the following approved TMDLs: Rock River Basin and/or and/or Beaver Dam Lake

The permittee intends to comply with the following permit requirements to show progress towards meeting the TMDL:

[A.3.2] The Permittee is participating in an approved Adaptive Management Project.

Attach a summary of adaptive management implementation actions for the reporting year, including:

- Most recent estimated pollutant of concern percent reduction levels (i.e. total phosphorus and total suspended solids/ sediment), as compared to no controls by reachshed, within the permittee's MS4 permitted area.
- Pollutant of concern percent reduction levels, as compared to no controls by reachshed, which the permittee intends to ultimately achieve within its own MS4 permitted area (not associated with AM buy-in).
- The financial dollar value contributed to an AM program for the reporting year.
- Identify any additional storm water measures that were initially implemented in the reporting year, which reduce the discharge of pollutants of concern from its MS4 permitted area (not associated with AM buy-in). If available, identify the incremental percent reduction gained by such measures relative to the MS4 permitted area.

Additional Information

Based on the municipality's storm water program evaluation, describe any proposed changes to the

municipality's storm water program. *If your response exceeds the 250 character limit, attach supplemental information on the attachments page.*

The Village of McFarland is part of the Yahara Wins & Madison Area Municipal Storm

Water Partnership.

Missing Information

Do not close your work until you SAVE.

Requests for Assistance on Understanding Permit Programs

Would the municipality like the Department to contact them about providing more information on understanding any of the Municipal Separate Storm Sewer Permit programs?

Please select all that apply:

- ☐ Public Education and Outreach
- ☐ Public Involvement and Participation
- ☐ Illicit Discharge Detection and Elimination
- ☐ Construction Site Pollutant Control
- ☐ Post-Construction Storm Water Management
- ☐ Pollution Prevention
- ☐ Storm Water Quality Management
- ☐ Storm Sewer System Map
- ☐ Water Quality Concerns
- ☐ Compliance Schedule Items Due
- ☐ MS4 Program Evaluation

Do not close your work until you **SAVE.**

Form 3400-224(R8/2021)

Required Attachments and Supplemental Information

Any other MS4 program information for inclusion in the Annual Report may be attached on here. Use the Add Additional Attachments to add multiple documents.

Upload Required Attachments (15 MB per file limit) - Help reduce file size and trouble shoot file uploads
*Required Item

Note: To replace an existing file, use the 'Click here to attach file ' link or press the to delete an item.

Storm Sewer System Map

File Attachment — MS43-2-22.pdf

Adaptive Management Summary

File Attachment — AdaptiveManagementPlanSummary2021.pdf

Attach - Other Supporting Documents

(To remove items, use your cursor to hover over the attachment section. When the drop down arrow appears, select remove item)

Attach - Permit Compliance Documents

(To remove items, use your cursor to hover over the attachment section. When the drop down arrow appears, select remove item)

Missing Information

Draft and Share PDF Report with the permittee's governing body or delegated representatives.

Press the button below to create a PDF. The PDF will be sent to the email address associated with the WAMS ID that is signed in. After the annual report has been reviewed by the governing body or delegated representative, return to the MS4 eReporting System to submit the final report to the DNR.

Draft and Share PDF Report

Form 3400-224(R8/2021)

Sign and Submit Your Application

Steps to Complete the signature process

1. Read and Accept the Terms and Conditions
2. Press the Submit and Send to the DNR button

NOTE: For security purposes all email correspondence will be sent to the address you used when registering your WAMS ID. This may be a different email than that provided in the application. For information on your WAMS account click HERE .

Terms and Conditions

Certification: I hereby certify that I am an authorized representative of the municipality covered under McFarland Village MS4 Permit for which this annual report or other compliance document is being submitted, and that the information contained in this submittal and all attachments were gathered and prepared under my direction or supervision. Based on my inquiry of the person or persons under my direction or supervision involved in the preparation of this document, to the best of my knowledge, the information is true, accurate, and complete. I further certify that the municipality's governing body or delegated representatives have reviewed or been apprised of the contents of this annual report. I understand that Wisconsin law provides severe penalties for submitting false information.

Signee (must check current role prior to accepting terms and conditions)

- ○ Authorized municipal contact using WAMS ID.
- ○ Delegation of Signature Authority (Form 3400-220) for agent signing on the behalf of the authorized municipal contact.
- ○ Agent seeking to share this item with authorized municipal contact (authorized municipal contact must get WAMS id and complete signature).

Name:	
Title:	

Authorized Signature.

☐ I accept the above terms and conditions.

After providing the final authorized signature, the system will send an email to the authorized party and any agents. This email will include a copy to the final read only version of this application.

Summary of Adaptive Management Participation to Achieve TMDL Compliance

Village of McFarland 2021 Annual Report

This summary documents the Village's progress to date towards meeting the water quality goals required by the Rock River TMDL, and the Village's plan to meet those goals through participation in the Yahara WINS Adaptive Management program. The Village's MS4 permit requires that the following information be included in the annual report:

1. Most recent estimated pollutant of concern percent reduction levels (i.e. total phosphorus and total suspended solids/ sediment), as compared to no controls by reachshed, within the permittee's MS4 permitted area.
2. Pollutant of concern percent reduction levels, as compared to no controls by reachshed, which the permittee intends to ultimately achieve within its own MS4 permitted area (not associated with Adaptive Management buy-in).
3. The financial dollar value contributed to an Adaptive Management program for the reporting year.
4. Identify any additional storm water measures that were initially implemented in the reporting year, which reduce the discharge of pollutants of concern from its MS4 permitted area (not associated with Adaptive Managment buy-in). If available, identify the incremental percent reduction gained by such measures relative to the MS4 permitted area.

1. Estimated Pollutant Reduction Levels

The Village's WinSLAMM model is used for estimating the pollutant loading and reduction. The most recent update of the Village's WinSLAMM model was performed in 2016 for the purposes of participation in the adaptive management program. The Village currently achieves a 47% reduction in TSS and a 35% reduction of TP. This meets the permit requirements of 40%/27% TSS and TP reductions respectively. A more detailed summary table of these reductions by watershed is attached in Appendix A.

2. Pollutant Reduction Level Goals

Additional pollutant level reduction goals are set by the Rock River Basin TMDL (Rock River Recovery). Within this TMDL, the Village's MS4 is in the Yahara River and Lake Kegonsa Watershed (LR06) and discharges to Reach 66 (Yahara River, Lake Waubesa, Lake Kegonsa). The Rock River TMDL sets the ultimate reduction level goals of 62%/54% TSS and TP reductions respectively.

The Village intends to continue to make improvements in TSS and TP reduction levels through a combination of efforts, including but not limited to the following:

- Maintenance of existing stormwater system and controls.
- Post-construction stormwater standards set by municipal ordinance for both TSS reduction and volume control for redevelopment sites that exceed the WDNR-set uniform state standards for redevelopment post-construction stormwater management.
- Continued improvement of the Village's leaf management program.
- Continued improvement to the Village's sweeping program where practicable.

3. Adaptive Management Financial Contribution

An invoice record of the Village's annual payment to the adaptive management program is attached in Appendix B.

4. New Storm Water Measures

No new municipally-owned storm water measures were installed in the reporting year which would be relevant to the Village's stormwater modeling.

APPENDIX A

Summary of Modeling Results														
Watershed Characteristics			Total Suspended Solids (TSS)			Total Phosphorous			Stormwater BMPs employed*					
Drainage Area (label)	Area (acres)	Primary Land Use	Discharge No Controls (pounds)	Discharge with Controls (pounds)	TSS Control (%)	Discharge no controls (pounds)	Discharge with controls (pounds)	P control (%)	Source Area Control Practice 1	Drainage Area Control Practice 1	Drainage Area Control Practice 2	Drainage Area Control Practice 3	Drainage Area Control Practice 4	Description of BMPs
A1	62.5	MI	31515.6	21345	32%	58	46.82	20%	SC	CB	OD-Pond (80% efficient)			Wetpond at 84 Lumber
A2	10.3	LI	6557	2351	64%	58.76	30.87	47%		GS	OD - Pond (55%)			High Track Pond
B1	26.9	MI, R	16044.6	12073.4	25%	29.3	23.18	21%	SC	CB	OD- Pond (40%)			Voges Road Pond
C1	74.4	MI	36760	28330	23%	70.86	56.72	20%		GS	OD - Pond (40%)			84 Lumber Pond
D1	13.8	LI	8023	1933.4	76%	14.786	6.898	53%	SC	CB	GS	OD - Pond (69%)		Commerce Park Pond 4
D2	6.1	LI	2889	657	77%	5.622	2.678	52%	SC	CB	GS	OD - Pond (70%)		Commerce Park Pond 3
E1	12.8	LI	7098.6	1199.72	83%	13.242	5.772	56%	SC	CB	OD - Pond (80%)			Commerce Park Pond 2
F1	34.5	R	11315.8	7860.2	31%	34.26	28.32	17%	SC	CB	OD - Pond (80%)			Storage Shop USA Pond
F2	5.4	LI	3175.4	547.2	83%	6.016	2.684	55%	SC	CB	OD - Pond (80%)			Commerce Park Pond 1
G1	12.7	R	2143.8	1792.8	16%	8.946	8.018	10%	SC	CB				
H1	10.9	R	3683.2	3047.4	17%	13.206	11.616	12%	SC	CB				
I1	25.9	R	7102.8	5731.2	19%	27.1	23.62	13%	SC	CB				
J1	52.2	R	17146	14524	15%	52.02	46.56	10%	SC	CB				
J2	2.9	C	1734.2	1399.4	19%	3.694	3.132	15%	SC	CB				
K1	8.5	R	2588.4	2180.6	16%	8.102	7.284	10%	SC	CB				
L1	158.4	R	37190.6	14049.4	62%	149.82	85.88	43%	SC	CB	OD - Pond (80%)			Valley Drive Pond at Church St.
M1	101.4	R, C	40478.6	20152.2	50%	111.48	68.78	38%	SC	CB	OD- Pond (40%)	OD - Pond (80%)	OD - Pond (37%)	Kwik Trip Pond, Bisbee Dale St Pond, Sediment Lagoon
M2	15.4	C	7119.6	2755.2	61%	17.496	8.868	49%	SC	CB	OD-Pond (53%)	OD-Pond (67%)		Woodland Commons Ponds 1a & 1b
M3	3.0	R	1113.2	914	18%	3.204	2.806	12%	SC	CB				
N1	24.1	R, C	8939.2	4546	49%	26.38	16.482	38%	SC	CB	OD- Pond (80%)	OD Pond (37%)		Burma Condos Pond, Sediment Lagoon
O1	13.3	R	3933.8	3238.6	18%	14.858	13.06	12%	SC	CB				
P1	58.1	R	16045.6	13433.6	16%	60.12	53.6	11%	SC	CB				
Q1	104.9	R	24001.6	20168	16%	100.46	90.22	10%	SC	CB				
Q2	6.9	R	1558.4	252.8	84%	6.274	2.586	59%	SC	CB	OD-Pond (80%)			Meredith Heights Pond
R1	75.3	R	25042.6	11612.8	54%	82.08	45.82	44%		GS	OD- Pond (37%)			Sediment Lagoon
S1	9.2	R	2874	628.4	78%	10.274	4.022	61%		GS	OD-Pond (70%)			Marsh/Siggelkow Pond
S2	32.1	R	7864.2	1972	75%	32.06	15.338	52%	SC	CB	OD-Pond (70%)			Marsh/Siggelkow Pond
T1	37.3	R, O	10356	8347.8	19%	34.12	29.5	14%	SC	CB	OD-Pond (70%)			Marsh/Siggelkow Pond
U1	48.5	R	13655	2262	83%	52.42	21.78	58%	SC	CB	OD - Pond (80%)			Red Oak Addition Pond
V1	73.0	R	23325.6	3882.8	83%	84	32.84	61%	SC	CB	OD - Pond (80%)			Red Oak Addition Pond
W1	178.1	R	50499.2	18440.6	63%	184.4	101.24	45%	SC	CB + one 6'MH	OD- Pond (60%)			Osborn Pond at Osborn/Leanne
W2	52.2	R	12866.2	3656.2	72%	50.36	24.8	51%	SC	CB	OD-Pond (80%)	OD Pond (60%)		Lot 17 Fieldstone Pond, Highland Oaks Regional Pond
X1	54.9	R	13743.4	11194.8	19%	51.82	45.58	12%	SC	CB				
X2	14.5	R, O	2615.4	2120.8	19%	11.188	9.922	11%	SC	CB				
X3	53.1	R	12066	2019.4	83%	49.14	21.26	57%	SC	CB	OD - Pond (80%)			Parkview Estates 1 Pond
X4	43.5	R	9872.6	5975.4	39%	39.76	27.34	31%	SC	CB	GS - (to model Dry Pond)			Countrywood 1998 dry pond with outlet structure
X5	12.1	R	3099.8	505.4	84%	11.762	4.784	59%	SC	CB	OD- Pond (80%)			Parkview Estates 2 Pond
Y1	~~27.2~~	Internally Drained - EXCLUDE								Internally drained basin - exclude				
TOTALS	1529		486038	257101	47%	1588	1031	35%						
*Particle sizes routed between control practices														

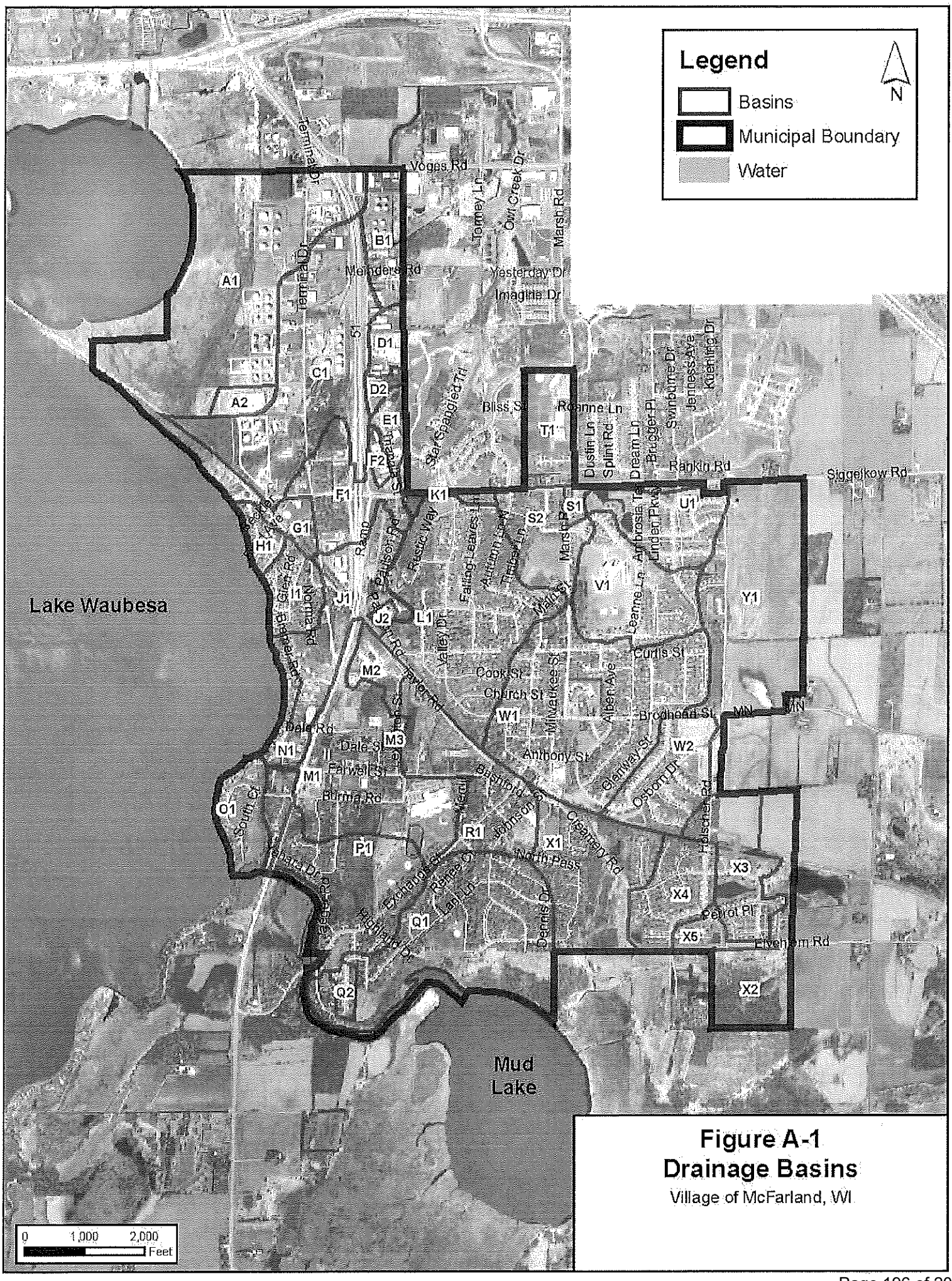


Figure A-1
Drainage Basins
Village of McFarland, WI

APPENDIX B

Madison Metro Sewerage Dist.
1610 Moorland Road
Madison, WI 53713-3398

Number:	RC000003754
Page:	1
Date:	12/1/2021

Sold To: VILLAGE OF MCFARLAND
ALLAN COVILLE
5915 MILWAUKEE ST
PO BOX 110
MCFARLAND, WI 53558

Reference - P.O. No.	Customer No.	Salesperson	Ship Via	Terms Code
	AMVMCFARLAND			WINS

	Description/Comments	Amount
	Yahara Watershed Adaptive Mgmt	14,770.00

Due Date	Amount Due	Disc. Date	Disc. Amount
2/28/2022	7,385.00		0.00
6/30/2022	7,385.00		0.00

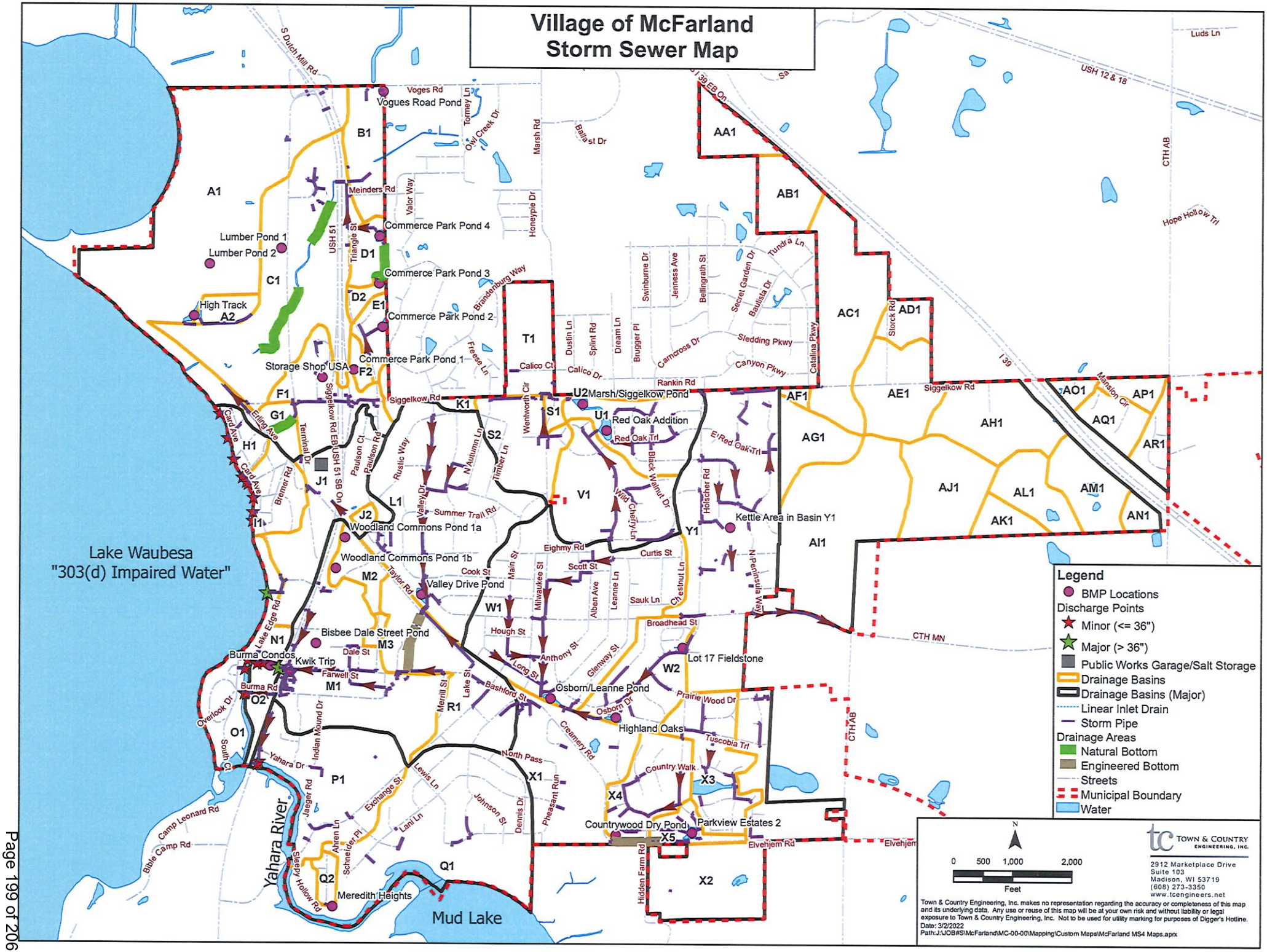
Remit To:
Madison Met. Sewerage District
1610 Moorland Road
Madison, WI 53713
USA

Total amount	14,770.00

1% Interest per month after 30 days

Invoice

Village of McFarland
Storm Sewer Map



VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, March 8, 2022**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Aimee Irwin, Assistant to the Public Works Director, Jim Hessling, Public Works Director**

AGENDA ITEM: **Discussion regarding funding allocation to the utilities funds associated with street projects.**

PREVIOUS ACTION:
None.

ISSUE SUMMARY:
The practice regarding funding allocation of street projects was previously discussed by committee members at the Public Utilities Committee meeting held on October 19, 2021. During the meeting, committee members reviewed Town & Country's experience with other Wisconsin municipalities along with questions from committee member, Marc Nielsen, and responded to by Village Staff and Engineer. Further discussion was requested by committee members at the conclusion of the October meeting.

Following the October meeting, staff gathered comparable municipal utilities regarding their water rates and their allocation process for street costs when utility work occurs. The comparable municipalities include: Middleton, Deforest, Waunakee, Cottage Grove, Stoughton, Oregon, Monona and Deerfield. The allocation process was also emailed to SWAPS members and additional responses were received from Whitewater, Watertown, Fort Atkinson, Janesville and Jefferson. Included within the packet are three documents. The Allocation Response document summarizes the responses from municipalities in terms of their allocation process. The document titled Rate Tariff Data shows water rates for Public Fire Protection, water base, water usage (volume) and billing cycle for identified comparable municipalities. The Comparative Monthly Data document compiles the rate tariff data into an estimated monthly bill between the comparable municipalities. This data was gathered to aid in continued discussion.

Committee member Marc Nielsen submitted additional questions to staff on February 3, 2022 and those have been answered by staff. The questions and responses are enclosed with the packet.

Village Staff proposes to continue to apply the 50% ratio as a guideline for planning that can be evaluated for adjustment on a project by project basis. The Village Engineer through the design process will review this cost allocation and make adjustments based on the actual work to be conducted. It will be cost inefficient to extend resources to ensuring every single penny is placed in the correct fund, and the Engineer is capable of allocating these resources

appropriately going forward as we do now. The overall impact to our rates has been nominal as we continue to project as a the lowest water rate even after the last increase when reviewing rates in our peers from that case. Committee Member Nielsen has submitted a formula for discussion as well.

FINANCIAL/BUDGET IMPACT:
None.

VILLAGE PLAN REFERENCE:
None.

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:
Presented for additional discussion. No further action is required on this.

ATTACHMENTS:
1. Municipal Allocation Response
2. Rate Tariff Data
3. Comparative Monthly Data Avg. Res. Water bill
4. Funding Allocation to the Utilities Feb 2022
5. Water Utility Cost Allocation Example

Municipality	Method
McFarland	50% of street construction costs are allocated to water utility when water utility improvements occur.
Middleton	Code directly to applicable utility. Code road improvements to utility if road improvements were not planned.
Oregon	No allocation to the utility for street costs. Street costs funded by streets.
Waunakee	Allocate based on project needs--streets take care of road costs, any costs to water is funded by water utility etc.
Deforest	Allocate based on project needs--streets take care of road costs, any costs to water is funded by water utility etc.
Stoughton	Utility is responsible for entire cost of the trench width
Monona	If work is related soley to replace water or sewer then utility will pay the whole project cost.
Deerfield	*No response received*
Cottage Grove	allocated to appropriate entity per the actual cost (or best engineer's estimate)
Whitewater	If street is in need of reconstruction, expense is paid for by street regardless if utility is being replaced
Watertown	When full reconstruction of a roadway occurs and utilities included, pavement is split between utilities and streets
Fort Atkinson	1/3 of road costs to whatever utility pipe is being replaced (water, sewer and storm)
Janesville	Charge back to the utility the pavement cost based on the width of the trench for work
Jefferson	Costs broken down and expensed to each utility and streets, including engineering costs for the project.

Municipality	Last Rate Adjust.	Public Fire Protection	5/8" Water Base	Volume Charges (Residential)	Billing	Notes
McFarland	8/13/2021	Charged to Village of McFarland	$16.00	First 67,000; $2.76. Over 67,000; $1.92	Bi-monthly, per 1,000 gal.	
Deerfield	9/28/2017	Charged to Village of Deerfield	$12.00	First 10,000; $5.15. Next 30,000 $4.60. Over 40,000 $3.00	Monthly, per 1,000 gal.	
Monona	7/1/2021	Charge based on assessed value	$11.00	First 2,500; $4.18. Next 3,750; $4.93. Over 6,250; $6.35	Monthly, per 1,000 gal.	Volume charges vary based on customer class
Oregon	12/28/2011	Charge based on meter size $6.85 for 5/8"	$5.67	First 10,000; $2.44. Next 30,000; $1.98. Over 40,000; $1.74	Monthly, per 1,000 gal.	
Stoughton	6/1/2021	Charge based on meter size $7.83 for 5/8"	$9.27	All water volume $2.90	Monthly, per 1,000 gal.	Volume charges vary based on customer class
Cottage Grove	7/1/2019	Charge based on meter size $33.59 for 5/8"	$25.34	First 30,000; $3.93. Next 70,000 $3.88. Next 100,000; $3.83. Over 200,000; $3.09	Quarterly, per 1,000 gal	
Waunakee	1/15/2019	Charge based on meter size $8.88 for 5/8"	$6.75	First 13,000; $2.65. Next 53,000; $2.35. Over 66,000; $1.93	Monthly, per 1,000 gal.	
Deforest	1/1/2021	Charge based on meter size $8.65 for 5/8"	$7.21	First 10,000; $3.04. Next 156,667; $2.58. Over 166,667; $1.85	Monthly, per 1,000 gal.	
Middleton	7/2/2019	Charged based on meter size $12.45 for 5/8"	$13.91	All water volume $2.61	Quarterly, per 1,000 gal	Volume charges vary based on customer class

Comparative Data (monthly basis)--Residential, 5/8" meter--*Total Water Bill*					
Municipality	**Water Base**	**Usage for 5,000**	**Average Res. Water bill**	**If Public Fire Protection added**	**Total Water Bill**
McFarland	$8.00	$13.80	$21.80	N/A	$21.80
Middleton	$4.64	$13.05	$17.69	$4.15	$21.84
Oregon	$5.67	$12.20	$17.87	$6.85	$24.72
Waunakee	$6.75	$13.25	$20.00	$8.88	$28.88
Deforest	$7.21	$15.20	$22.41	$8.65	$31.06
Stoughton	$9.27	$14.50	$23.77	$7.83	$31.60
Monona	$11.00	$22.78	$33.78	Unable to determine	$33.78
Deerfield	$12.00	$25.75	$37.75	N/A	$37.75
Cottage Grove	$8.45	$19.65	$28.10	$11.20	$39.29

Comparative Data (monthly basis)--Residential, 5/8" meter--*Avg. Res.Water Bill*					
Municipality	**Water Base**	**Usage for 5,000**	**Average Res. Water bill**	**If Public Fire Protection added**	**Total Water Bill**
Middleton	$4.64	$13.05	$17.69	$4.15	$21.84
Oregon	$5.67	$12.20	$17.87	$6.85	$24.72
Waunakee	$6.75	$13.25	$20.00	$8.88	$28.88
McFarland	$8.00	$13.80	$21.80	N/A	$21.80
Deforest	$7.21	$15.20	$22.41	$8.65	$31.06
Stoughton	$9.27	$14.50	$23.77	$7.83	$31.60
Cottage Grove	$8.45	$19.65	$28.10	$11.20	$39.29
Monona	$11.00	$22.78	$33.78	Unable to determine	$33.78
Deerfield	$12.00	$25.75	$37.75	N/A	$37.75

Funding Allocation to the Utilities (For Discussion at March 8, 2022 Meeting)
Questions provided by Committee Member Marc Nielsen
Staff Response provided by Village Staff, Engineer and Auditor

1) What percentage of utility revenues is allocated to the Village general fund for each of the three utilities? (As our auditor explains, these funds are in lieu of the profits a for-profit utility would earn.)
    a. Provided by Auditor (Jodi Dobson):
        i. The water utility pays a tax equivalent to the Village. This is calculated based on the water utility investment in capital assets and the annual tax rates. The calculation is shown in the annual report to the PSCW (page W-07) and this follows Wisconsin Administrative Code PSC 109. The 2020 tax equivalent for the water utility was 22.67% of its total operating revenues.
        ii. PSC admin code 109 specifies that no tax equivalent shall be determine for sewer utilities. In addition, state statute section 66.08(11) discusses the application of public utility revenues and the allowance for funding a tax equivalent (local and school taxes) but that applies to public utilities as defined by 196.01(5) which does not include sewer or stormwater within the definition. At this time neither the sewer or stormwater utilities pay a tax equivalent. This is consistent with other utilities I work with across Wisconsin.

2) I'd like to use N. Autumn Lane as an example. What is the total length that was re-constructed two years ago? What is the width of the roadway (excluding curb and gutter)? Is N. Autumn Lane classified as an local access road? How many customers (premises with service laterals) are on that length?
    a. Provided by Engineer:
        i. Total Length: 1600 feet
        ii. Width: 32 feet
        iii. Local access road: roadway is classified as a residential level street
        iv. Customers: 31 with laterals, plus 3 additional corner homes that are served off other streets

3) If it is known, when did the Village start allocating half of paving costs to the water utility?
    a. Provided by Engineer: Unknown, I think at least since the late 1990s.

4) How does the water utility depreciate rate base (straight-line, sum-of-years-digits, etc.)? Over what plant life?
    a. Provided by Auditor:
        i. Water utility assets are depreciated on a straight-line basis at useful lives established by the Public Service Commission of Wisconsin. The useful life of each type of asset is set by the PSCW and reviewed as part of each conventional water rate case.

5) What is the policy for allocating curb and gutter costs between the SWU and Streets?
    a. Provided by Engineer: No formal policy. Reviewed on a project-by-project basis.

6) Are any paving costs allocated to the Sewer Utility?
    a. Provided by Engineer: Same as above, just taken on a project-by-project basis. Holscher Road was the last paving project affiliated with a sanitary sewer scope, and costs were allocated to sanitary sewer on that one.

North Autumn Lane Example - 03-08-2022

	Inputs			
1.	Length of Paving	1600	Feet	
2.	Paving Width Gutter to Gutter	32	Feet	
3.	Service Laterals	31		
4.	Water Plant Trench Width	8	Feet	
	Total Paved Surface Area (1. x 4.)			
	Length of Paving	1,600	Feet	
	Paving Width Gutter to Gutter	32	Feet	
5.	Total Paved Surface Area (1. x 4.)	51,200	Sq. Ft.	
	Trench Paving Portion - Mains			
	Length of Paving	1,600	Feet	
	Trench Width	8	Feet	
6.	Trench Paved Surface Area - Mains	12,800	Sq. Ft.	
	Trench Paving Portion - Laterals			
	Half of Paving Width	16	Feet	
	Less Half of Trench Width	4	Feet	
		12	Feet	
	Trench Width	8	Feet	
	Trench Paved Surface per Lateral	96	Sq. Ft.	
	Service Laterals	31		
7.	Trench Paved Surface - Laterals	2,976	Sq. Ft.	
	Trench Paved Surface Area - Mains	12,800	Sq. Ft.	
	Trench Paved Surface Area - Laterals	2,976	Sq. Ft.	
	Total Water Paved Surface Area	15,776	Sq. Ft.	**31% Water Allocation**
	Remaining Paved Surface Area	35,424	Sq. Ft.	69%
	Check	51,200	Sq. Ft.	