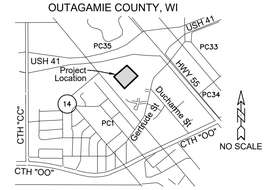
Hurkman Heights 4

City of Kaukauna,
Outagamie County, WI

For: Hurkman Heights Development, LLC

LOCATION MAP

PART OF PC35, T 21 N, R 18 E,
CITY OF KAUKAUNA
OUTAGAMIE COUNTY, WI



Sewer and Water shall be constructed in accordance with the State of Wisconsin Standard Specifications for Sewer and Water Construction, and all Special Provisions of the City of Kaukauna & Kaukauna Utilities. Granular backfill required when watermain is placed over sanitary. Inlet leads with 3' or more cover will be perforated PVC with sock and clear stone backfill. Where depth does not allow this, inlets will need 4" perforated underdrain 10' each direction with sock and clear stone backfill.

Watermain Pipe shall be PVC C900 D(18), Sanitary Main Sewer Pipe shall be PVC SDR 35, Storm Sewer Pipe shall be PVC SDR 35 or Reinforced Concrete. Provide services and single-conductor tracer wire, or equivalent, per per City of Kaukauna or Kaukauna Utilities specifications.

Streets shall be constructed in accordance with the State of Wisconsin Standard Specifications for Highway and Structures Construction, and all Special Provisions of the City of Kaukauna.

Contractor shall locate all buried facilities prior to excavating. This plan may not correctly or completely show all buried utilities.

The Contractor shall verify all staking and field layout against the plan and field conditions prior to constructing the work and immediately notify the Engineer of any discrepancies.

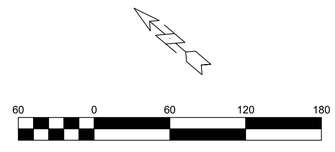
The Contractor shall comply with all conditions of the Erosion Control Plan and the Storm Water discharge Permit. All Erosion Control shall be done in accordance with the Plan and Wisconsin DNR Technical Standards.

Pipe lengths are measured to center of structure. Endwalls are included in pipe length. All apron endwalls shall be RCP CL-3 with trash racks and joint ties (3 minimum).

The contractor shall coordinate with provider for electric, gas, and telecommunication service connection and relocations.

LEGEND

CATV CATV CATV	Underground Cable TV		Sanitary MH / Tank / Base		CATV Pedestal
FO FO	Underground Fiber Optic		Clean Out / Curb Stop / Pull Box		Gas Regulator
San San	Sanitary Sewer		Storm Manhole	△	1½" Rebar Found
Sto Sto	Storm Sewer		Inlet	○	¾" Rebar Found
E E	Underground Electric		Catch Basin / Yard Drain	□	1" Iron Pipe Found
G G	Underground Gas Line		Water MH / Well		Government Corner
T T	Underground Telephone		Hydrant		Benchmark
W W	Water Main				Wetlands
800	Index Contour				
799	Intermediate Contour				
	Proposed Storm Sewer		Proposed Sanitary Manhole		Proposed Reducer
	Proposed Sanitary Sewer		Proposed Storm Manhole		Proposed Plug
	Proposed Water Main		Proposed Curb Inlet		Proposed Water MH
608	Proposed Contour		Prop. Catch Basin / Yard Drain		Proposed Tee
	Proposed Swale		Proposed Endwall		Proposed Cross
	Proposed Culvert		Proposed Hydrant		Proposed 90° Bend
			Proposed Valve		Proposed 45° Bend
			Proposed Curb Stop		Proposed 22.5° Bend



SHEET INDEX:

SEWER & WATER COVER SHEET

DAVEL ENGINEERING & ENVIRONMENTAL, INC.
CIVIL ENGINEERING CONSULTANTS
1811 Racine Street Menasha, WI 54952
Ph: 920-991-1866 Fax: 920-830-9595
www.davel.pro

Project Number: 4562
September 28, 2022

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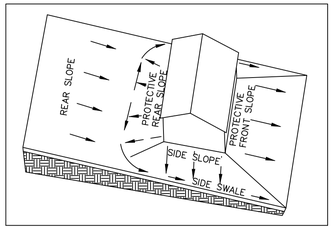
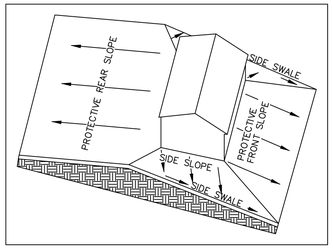
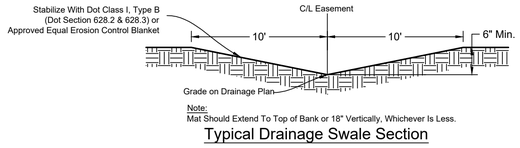




HOUSE ELEVATIONS:

The house elevations shall be set to provide positive drainage away from the building in all directions as shown in the above details. House elevations and driveway locations may need to vary depending on size, location, and architecture of the home. Changes to the grading plan or house elevations can be allowed only if an individual lot grading plan is prepared by a professional engineer.



Typical Drainage Swale Section

BENCHMARKS (NAVD 88 Datum)

BM 0 NGS Benchmark
PID PN0153
Elev 712.26

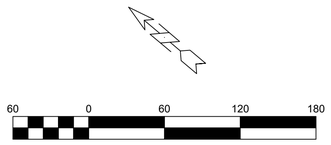
BM 1 Fire Hydrant, Tag Bolt
NW Corner of Ducharme St. & Gertrude St.
Elev 772.72

BM 2 Fire Hydrant, Tag Bolt
SW Corner of Ducharme St. & Ben's Way
Elev 721.21

BM 3 Fire Hydrant, Tag Bolt
Lots 17/18 S R/W Ben's Way
Elev 722.56

BM 4 Fire Hydrant, Tag Bolt
West End of Ben's Way (NW Corner Lot 21)
Elev 720.53

BM 5 Fire Hydrant, Tag Bolt
North End of Rusty Street (NE Corner Lot 26)
Elev 723.06



LEGEND

CATV CATV CATV	Underground Cable TV	Sanitary MH / Tank / Base	CATV Pedestal
FO FO	Underground Fiber Optic	Clean Out / Curb Stop / Pull Box	Gas Regulator
San San	Sanitary Sewer	Storm Manhole	1¼" Rebar Found
Sto Sto	Storm Sewer	Inlet	⅝" Rebar Found
E E	Underground Electric	Catch Basin / Yard Drain	1" Iron Pipe Found
G G	Underground Gas Line	Water MH / Well	Government Corner
T T	Underground Telephone	Hydrant	Benchmark
W W	Water Main		Wetlands
800	Index Contour		
799	Intermediate Contour		
	Proposed Storm Sewer	Proposed Storm Manhole	
608	Proposed Contour	Proposed Curb Inlet	
	Proposed Swale	Prop. Catch Basin / Yard Drain	
	Proposed Culvert	Proposed Endwall	
[607.86]	Adjacent Plat Grade	Proposed Rip Rap	
608.73	Prop. Lot Corner Elevation	Prop. Drainage Direction	
×608.73	Proposed Spot Elevation	000.0 Prop. Garage Floor Elev.	
× (608.7)	Existing Grade		

NOTES:

1. Existing utilities shown are indicated in accordance with available records and field measurements. The contractor shall be responsible for obtaining exact locations & elevations of all utilities, including sewer and water from the owners of the respective utilities. All utility owners shall be notified by the contractor 72 hours prior to excavation. Contact Digger's Hotline (1-800-242-8511) for exact utility locations.
2. The Contractor shall verify all staking and field layout against the plan and field conditions prior to constructing the work and immediately notify the Engineer of any discrepancies.
3. Contractor shall remove all excess materials from the site. Earthwork contractors shall verify topsoil depth.
4. All sediment and erosion control devices and methods shall be in accordance with the Wisconsin DNR Technical Standards, refer to sheet 1.3.
5. No lot shall have lowest opening elevations lower than grade at foundation per plan.

City of Kaukauna Drainage Easement Restrictions:

The following uses and structures are prohibited within all drainage easements in the subdivision plat of Hurkman Heights 3; filling, grading, and excavating except for construction of drainage ways and drainage facilities; the cultivation of crops, fruits, or vegetables; the dumping or depositing of ashes, waste, compost or materials of any kind; the storage of vehicles, equipment, materials or personal property of any kind and constructing, erecting or moving any building or structure, including fences, within the drainage easement.

City of Kaukauna Drainage Easement Maintenance:

Maintenance of all drainage ways and associated drainage structures within the subdivision of Hurkman Heights 3 are the sole responsibility of the property owners in the subdivision, unless otherwise noted on the drainage plan which has been prepared for this subdivision and which has been approved by and is on file with the City of Kaukauna.

Upon failure of any property owner to perform maintenance, abide by restrictions, or follow grading requirements of the drainage ways and associated drainage structures, the City of Kaukauna retains the right to have maintenance or corrective measures performed. The cost of said maintenance or corrective measures on any given lot shall be a special charge to the non-complying lot.

Maintenance by the city include, but is not limited to, the removal of silt and decomposed vegetation that gradually accumulates in the bottom of a pond, a detention area, and/or ditch. Payment for above maintenance items shall be placed on the annual real estate tax bill as a special assessment if not paid.

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DRAINAGE & GRADING PLAN

Hurkman Heights 4

City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

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Author: TNW
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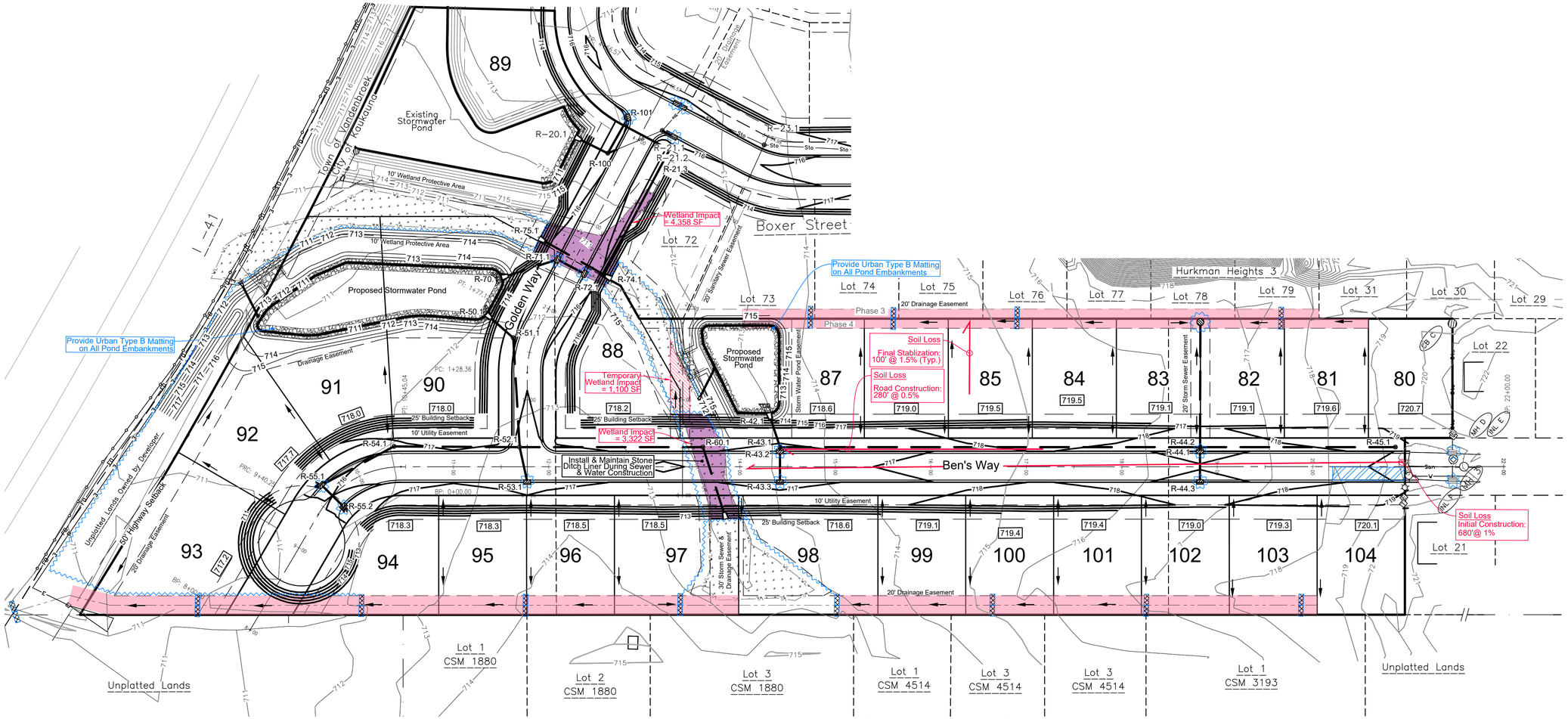
Page 1.2



LEGEND

CATV Underground Cable TV	Sanitary MH / Tank / Base	CATV Pedestal
FO Underground Fiber Optic	Clean Out / Curb Stop / Pull Box	Gas Regulator
San Sanitary Sewer	Storm Manhole	1¼" Rebar Found
Sto Storm Sewer	Inlet	¾" Rebar Found
E Underground Electric	Catch Basin / Yard Drain	1" Iron Pipe Found
G Underground Gas Line	Water MH / Well	Government Corner
T Underground Telephone	Hydrant	Benchmark
V Water Main		Wetlands
800 Index Contour		
799 Intermediate Contour		
Proposed Storm Sewer	Proposed Storm Manhole	
608 Proposed Contour	Proposed Curb Inlet	
Proposed Swale	Prop. Catch Basin / Yard Drain	
Proposed Culvert	Proposed Endwall	
Proposed Silt Fence	Proposed Rip Rap	
Prop. Drainage Direction	Proposed Ditch Check	
Proposed Tracking Pad	Proposed Inlet Protection	
	Type of Inlet Protection	
Class 1 Type B Matting & Seed		

60 0 60 120 180

Temporary Wetland Impact

Remove topsoil from easement/wetland and stockpile; replace topsoil to original grade after sanitary sewer installation. Provide seed mixture per sheet 2.4, wetlands conveyance vegetation, with Class I, Type B matting.

Planned Sediment and Erosion Control Practices

All erosion control practices shall be in place prior to disturbing the site. All sediment and erosion control devices and methods shall be in accordance with DNR Technical Standards and the WisDOT Erosion Control product acceptability lists (PAL). It is the responsibility of the Contractor to minimize the area disturbed and the duration of the disturbance. Erosion & sediment control measures shall be maintained on a continuing basis until the site is permanently stabilized. All applicable controls must be in place at the end of each work day. All off-site sediment deposits occurring as a result of construction work or a storm event shall be cleaned up at a minimum of the end of each day or as necessary. Flushing shall not be allowed.

1) Diverting Flow
   a) Permanent Diversion - Intended to divert runoff around disturbed areas to a location where the water can be discharged without adversely impacting the receiving area or channel. Permanent diversions will be used to route runoff to the ponds.

   b) Temporary Diversion - Intended to divert runoff around disturbed areas to a location where the water can be discharged without adversely impacting the receiving area or channel. Unlike a permanent diversion, the temporary diversion will be removed upon the completion of the project. Temporary diversions will be used upslope of any soil piles to reduce the amount of sediment transported. A diversion is also proposed to temporarily redirect the onsite conveyance a non-erosive manner with use of a stone ditch liner during sewer and water construction on Ben's Way. **All diversions shall be installed and maintained in accordance with DNR Technical Standard 1066.**

2) Overland Flow
   a) Silt Fence - Intended to provide a temporary barrier to the transportation of sediment offsite. Silt fence also reduces the velocity of sheet flow; thereby reducing the erosion potential of flowing water. Silt fencing is not to be used in areas of channelized flow and sediment deposits shall be removed when a 6-inch depth is reached. The silt fence shall be repaired or replaced as necessary to maintain a barrier. **All Silt Fence shall be installed and maintained in accordance with DNR Technical Standard 1056**. It will be placed at the following locations:
   i) along the site boundary where runoff will leave the site,
   ii) and at the toe of soil piles if the pile will remain in place for more than seven (7) days.

   b) Sediment Bale Barrier - Intended to intercept and detain small amounts of sediment from construction operations to prevent sediment from leaving the site. Sediment Bale Barriers are not to be used in areas of channelized flow. **All Sediment Bale Barriers shall be installed and maintained in accordance with DNR Technical Standard 1055**. Sediment Bale Barriers may be used in place of silt fence around soil stockpiles.

   c) Mulching and Erosion Mat - Intended to reduce the amount of erosion caused by raindrop impact, high overland and concentrated flow velocities and assist the establishment of both temporary and permanent vegetation. **All Erosion Mat shall be installed and maintained in accordance with DNR Technical Standards 1052 and 1053 and all Mulching with DNR Technical Standard 1058**. In addition to mulching, Erosion Mat is required per plan with installation per manufacturer specifications.

   d) Seeding - Intended to provide a reduction of overland flow velocities and stabilize disturbed areas. Seeding will be used on all disturbed areas within seven days of the completion of the activity that will disturb the area. **All seeding shall be in accordance with DNR Technical Standard 1059**. Seed mixture 40 (per WisDOT Specifications, Section 630) shall be applied at 5 pounds per 1000 square feet for permanent seeding prior to September 15th. If required, temporary seeding shall consist of Oats, Rye, Winter Wheat, and/or Annual Ryegrass applied at rates and during the season specified by the Technical Standard but no later than November 1st. Sod placement may occur at anytime sod is available and the sod and soil are not frozen.

3) Trapping Sediment in Channelized Flow
   a) Ditch Checks - Intended to settle suspended sediment in channelized flow by reducing the flow velocity. **All Ditch Checks shall be installed and maintained in accordance with DNR Technical Standard 1062**. Ditch Checks will be used where indicated on the plan as sediment logs, Class III (12"-15" Height). Additional ditch checks may be required in areas where erosion is occurring.

   b) Sediment Basin - Intended to detain sediment-laden runoff from disturbed areas for a sufficient time to allow the sediment to settle. The north pond will function as a sediment basin during the construction of the project in accordance with WDNR Technical Standard 1064. **The west pond shall each have the 4-inch intake pipe capped with a 2-inch orifice (upon final stabilization of the site, the cap shall be removed).**

4) Permanent Channel Stabilization
   a) Armored Waterway - Intended to establish a non-erosive lining in the channel to prevent erosion. This can be accomplished using riprap. Riprap will be used in the following areas:
   i) drainage swales and pipe outfalls as indicated on the plans;

   b) Vegetated Waterway - Intended to establish permanent vegetation to reduce the velocity of concentrated runoff thereby protecting the waterway from erosion. The type of erosion mat used will depend upon the velocity of the runoff in the channel and are specified in accordance with DOT Erosion Control Product Acceptability Lists (PAL). Vegetated waterways will be used in the following areas:
   i) drainage swales as indicated on the plans;

5) Inlet Protection Barriers - Intended to prevent the sedimentation of storm water conveyance structures. **All Inlet Protection Barriers shall be installed and maintained in accordance with DNR Technical Standard 1060**. As required, inlet protection barriers will be used at all storm sewer inlets as indicated on the plans. Type A inlet protection is required on all storm inlets until roadway construction at which time road inlets are to be modified to a Type D-M.

6) Stone Tracking Pad - Intended to reduce the amount of sediment transported onto public roads. **The Tracking Pad shall be installed and maintained in accordance with DNR Technical Standard 1057**. A tracking pad will be constructed at the site entrance as indicated on the plan.

7) Dust Control - Intended to reduce surface to air transport of dust during construction. **Dust control shall be implemented with use of methods provided in DNR Technical Standard 1068.** These methods include the use of polymers, seeding, and mulch.

8) Dewatering BMP - Intended to reduce the amount of sediment conveyed due to dewatering practices. **Dewatering practices require compliance with DNR Technical Standard 1061.** The use of geotextile bags is required to prevent sedimentation with discharge to the adjacent storm water pond. The bags shall meet the requirements of Technical Standard 1061. Upon completion of the dewatering operation, all materials must be disposed of properly in accordance with all state and local requirements.

9) Waste Material - All onsite waste and construction materials shall be handled and disposed of properly. No pavement material, runoff from concrete washout, or other waste material is allowed to enter the storm sewer system or receiving waters.

Sequence of Construction

1) Obtain plan approval and other applicable permits
2) Install & maintain all erosion & sediment control measures, construct ponds (refer to sediment basin above): January 2022
3) Utility construction: January - March 2023
4) Site grading: March - July 2023
5) Grade and gravel roadway construction: July 2023
6) Stabilize lawn and ditch areas no later than one week after final grade is established. No later than September 15, 2023 for initial seed/mulch application.
7) Remove all temporary measures, topsoil critical areas, and establish vegetation. Water if necessary to establish healthy and well rooted vegetation. Sediment controls (silt fence, sediment logs) shall be removed and properly disposed of once the site has achieved greater than 70-percent dense vegetative cover.

Note: The dates provided are approximate and subject to weather conditions and overall project schedule. Several work items as listed above may occur simultaneously with others.

Maintenance Plan

The contractor is responsible for inspection and maintenance of sediment and erosion control measures until the project is completed. The inspections shall be made every seven days or within 24-hours of a rainfall event of 0.50-inch or greater. Any practices that are damaged or not working properly shall be repaired by the end of the day. Accumulated sediment shall be removed when it has reached a height of one-half the height of the structure. In addition, the following measures shall be taken:

1) All seeded areas will be re-seeded and mulched as necessary according to the specifications in the planned practices to maintain a vigorous, dense vegetated cover.
2) Remove silt fence and temporary structures only after final stabilization and vegetative cover is established.
3) Avoid the use of fertilizers and pesticides in or adjacent to channels or ditches.
4) Construction and waste materials shall be properly disposed.

Weekly inspection reports shall be maintained by the contractor. These reports shall document inspections and maintenance performed. The date and time of the inspections, the inspector's name, and the status of construction and any maintenance performed. Refer to Appendix C of the Erosion & Sediment Control Plan (report) or the DNR website for a template: http://dnr.wi.gov/runoff/stormwater/constforms.htm#forms. Upon request, the inspection reports shall be made available to the owner, the engineer, the Wisconsin Department of Natural Resources, or the City of Kaukauna.

Responsible Parties

Best Management Practices (BMPs) Construction and Maintenance:
To be Determined (TBD)

BMP Inspection and Compliance Enforcement
City of Kaukauna
Wisconsin Department of Natural Resources

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EROSION & SEDIMENT CONTROL PLAN

Hurkman Heights 4

City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

Date: 09/28/2022
Filename: 4562engr Ph4.dwg
Author: TNW
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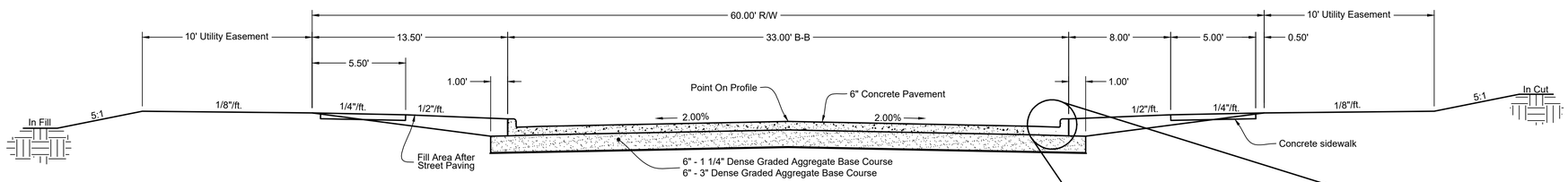
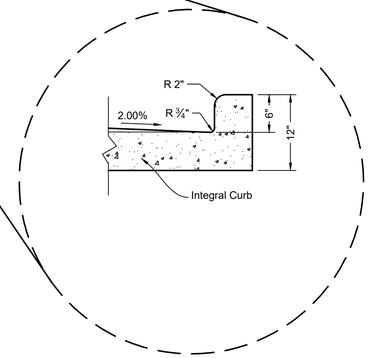


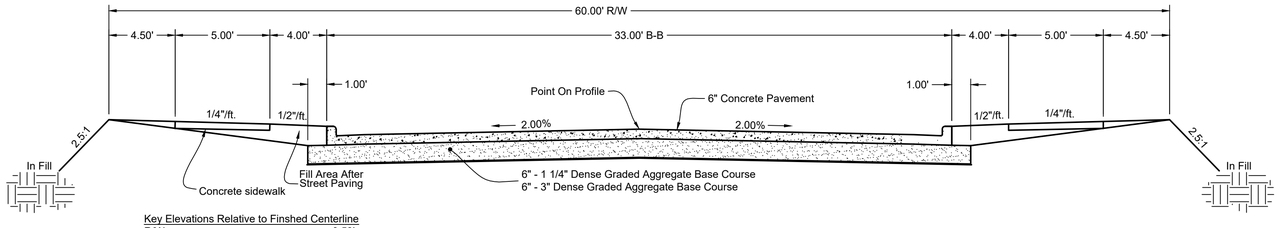
Key Elevations Relative to Finshed Centerline

R/W	+0.61'
Sidewalk Edge, Closest to Street*	+0.50'
Top of Curb	+0.18'
Gutter Flow Lline	-0.32'
Gravel Grade @ C/L	-0.50'
Subgrade	-1.50'

TYPICAL STREET SECTION

Ben's Way
Golden Way (Sta: 0+60 - 2+20, 3+20 - 4+06.57)



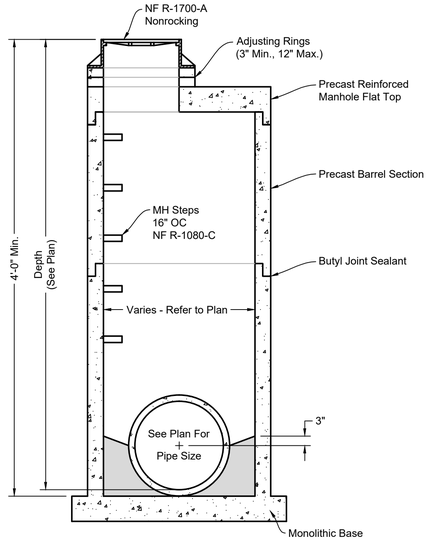


Key Elevations Relative to Finshed Centerline

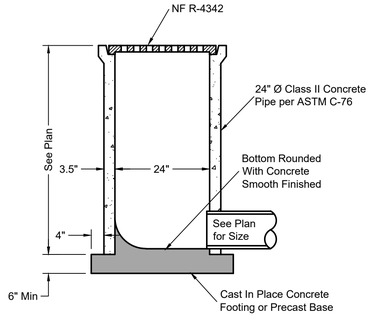
R/W	+0.53'
Sidewalk Edge, Closest to Street*	+0.42'
Top of Curb	+0.18'
Gutter Flow Lline	-0.32'
Gravel Grade @ C/L	-0.50'
Subgrade	-1.50'

TYPICAL STREET SECTION

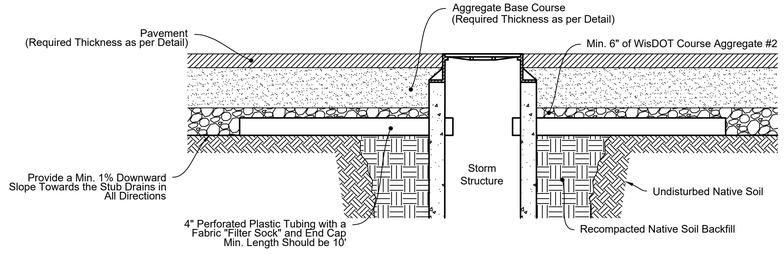
Golden Way (Sta: 2+40 to 3+00)



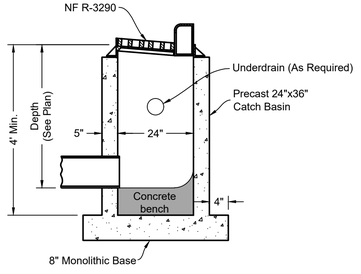
STANDARD STORM MANHOLE



YARD DRAIN DETAIL

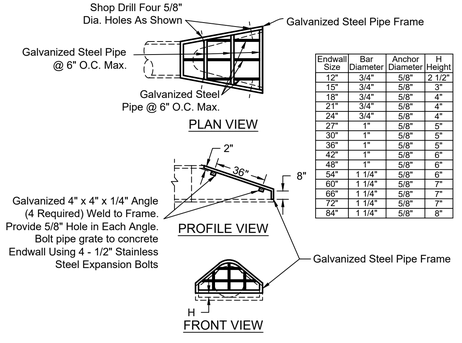


STORM SEWER UNDERDRAIN



CURB INLET DETAIL

Note:
Inlet leads with 3' or more of cover shall be perforated PVC with sock and clear stone backfill. If less than 3' cover exists, inlets require underdrain per detail drawing.



Endwall Size	Bar Diameter	Anchor Diameter	H Height
12"	3/4"	5/8"	2 1/2"
15"	3/4"	5/8"	3"
18"	3/4"	5/8"	4"
21"	3/4"	5/8"	4"
24"	3/4"	5/8"	4"
27"	1"	5/8"	5"
30"	1"	5/8"	5"
36"	1"	5/8"	5"
42"	1"	5/8"	6"
48"	1"	5/8"	6"
54"	1 1/4"	5/8"	6"
60"	1 1/4"	5/8"	7"
66"	1 1/4"	5/8"	7"
72"	1 1/4"	5/8"	7"
84"	1 1/4"	5/8"	8"

ENDWALL PIPE GRATE

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CONSTRUCTION DETAILS

Hurkman Heights 4

City of Kaukauna, Outagamie County, WI
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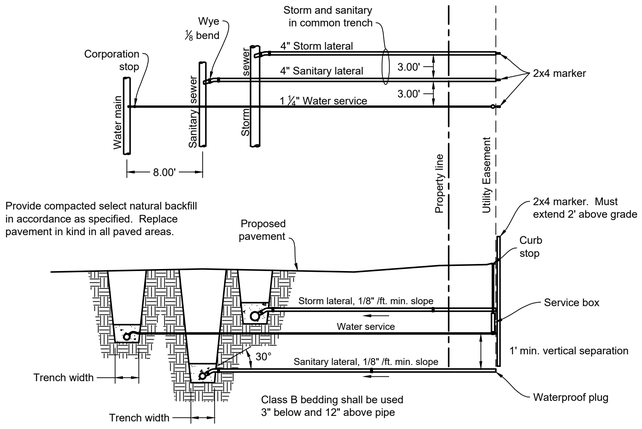
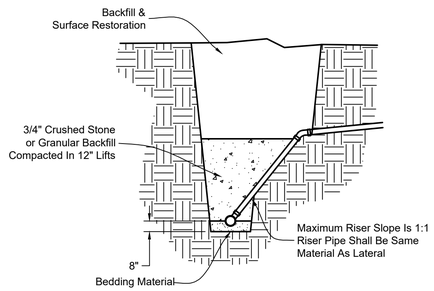
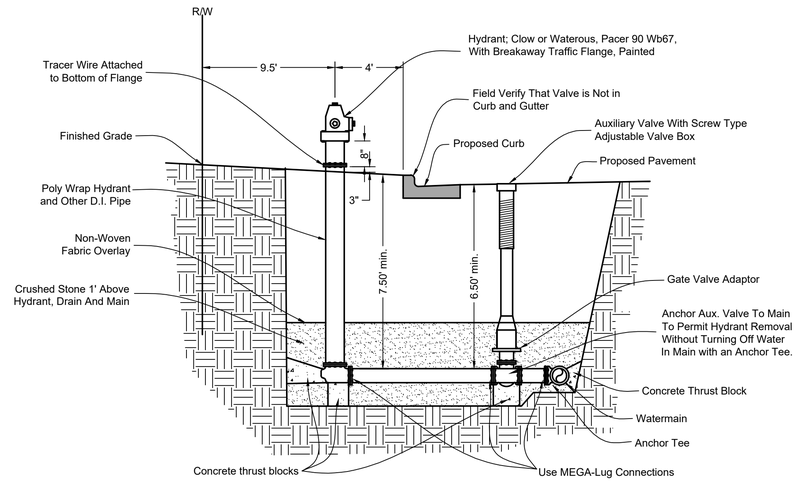


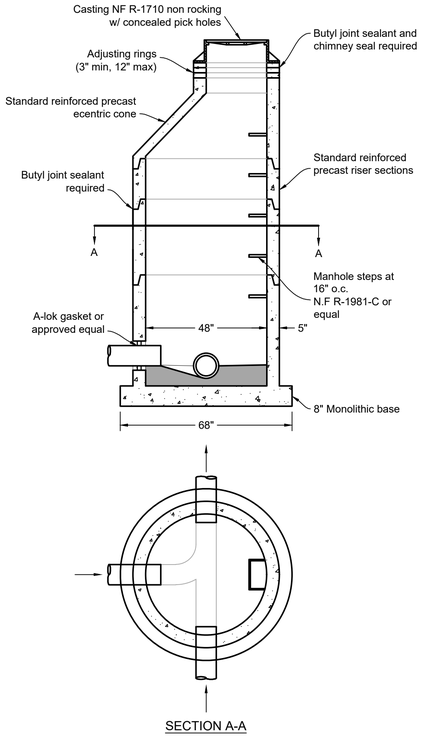
LATERAL DETAIL



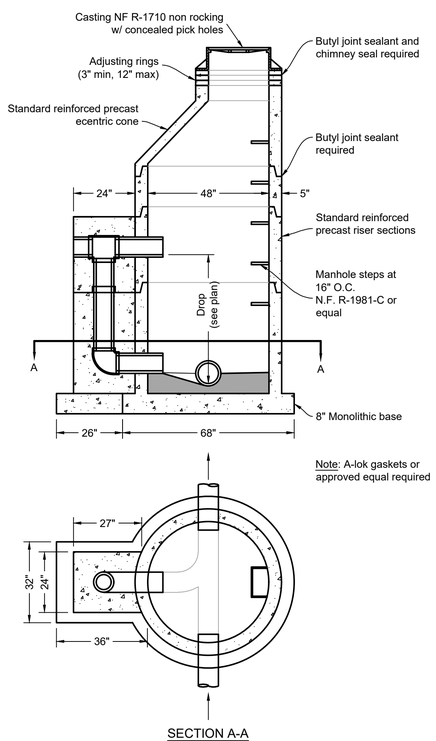
RISER DETAIL



HYDRANT DETAIL



SANITARY MANHOLE



PRECAST OUTSIDE DROP SANITARY MANHOLE

SANITARY LATERAL AND WATER SERVICE TABLE

	LOT INFORMATION				WATER SERVICES		STORM	SANITARY SERVICES					
PHASE	LOT #	STREET	FINISHED GARAGE FLOOR	FOOTING ELEV	CURB BOX ELEV	WATER LATERAL LENGTH	4" STORM LATERAL LENGTH	DISTANCE TO D.S. MH	WYE INVERT	4" SAN LATERAL LENGTH	4" SAN RISER HEIGHT	SAN LAT INV @ PL	SAN LAT INV @ SB
4	80	Bens Way	720.7	712.53	719.20	50	20	350	708.27	40		709.74	710.04
4	81	Bens Way	719.6	711.43	718.53	50	20	274	707.82	40		709.29	709.59
4	82	Bens Way	719.1	710.93	718.09	50	20	185	707.28	40		708.75	709.05
4	83	Bens Way	719.1	710.93	718.05	50	20	98	706.76	40		708.23	708.53
4	84	Bens Way	719.5	711.33	718.49	50	20	10	706.23	40		707.70	708.00
4	85	Bens Way	719.5	711.33	718.43	50	20	322	705.76	40		707.23	707.53
4	86	Bens Way	719.0	710.83	717.98	50	20	233	705.41	40		706.87	707.17
4	87	Bens Way	718.6	710.43	717.53	50	20	146	705.06	40		706.53	706.83
4	88	Bens Way	718.2	710.03	717.61	50	20	82	699.40	40	5	705.87	706.17
4	90	Bens Way	718.0	709.83	717.53	50	19	250	700.07	40	4	705.54	705.84
4	91	Bens Way	718.0	709.83	717.06	62	29	26	700.46	51	4	706.15	706.45
4	92	Bens Way	717.7	709.53	716.84	65	26	70	700.63	51	4	706.32	706.62
4	93	Bens Way	717.2	709.03	716.46	50	67	65	701.11	40	3	705.58	705.88
4	94	Bens Way	718.3	710.13	716.98	18	51	44	700.53	27	4	705.74	706.04
4	95	Bens Way	718.3	710.13	717.41	30	61	204	699.89	40	5	706.36	706.66
4	96	Bens Way	718.5	710.33	717.38	30	61	120	699.55	40	5	706.02	706.32
4	97	Bens Way	718.5	710.33	717.88	30	61	12	699.12	40	6	706.59	706.89
4	98	Bens Way	718.6	710.43	717.46	30	61	136	705.02	40		706.49	706.79
4	99	Bens Way	719.1	710.93	718.03	30	61	250	705.47	40		706.94	707.24
4	100	Bens Way	719.4	711.23	718.50	30	61	342	705.84	40		707.31	707.61
4	101	Bens Way	719.4	711.23	718.40	30	61	35	706.38	40		707.85	708.15
4	102	Bens Way	719.0	710.83	717.96	30	61	123	706.91	40		708.38	708.68
4	103	Bens Way	719.3	711.13	718.22	30	61	218	707.48	40		708.95	709.25
4	104	Bens Way	720.1	711.93	718.68	30	61	310	708.03	40		709.50	709.80
				New Sewers, Total =		995	974			969	40		

Sanitary lateral grades are based on 1/4"/ft. slopes from the sewer main. The depth at the footing is from the bottom of the footing to the top of the 4" lateral. Lot 89 was part of Phase 3 and has existing services.

DAVEL ENGINEERING & ENVIRONMENTAL, INC.
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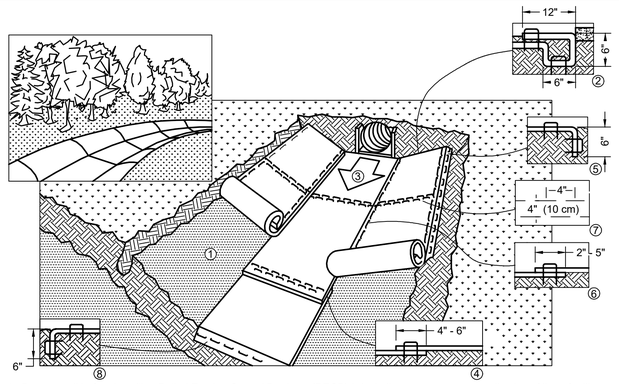
SEWER & WATER DETAILS

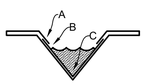
Hurkman Heights 4

City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

Date: 09/27/2022
Filename: 4562engr Ph4.dwg
Author: TNW
Last Saved by: jennifer
Page 2.2



1. Prepare soil before installing Rolled Erosion Control Products (RECP's), including any necessary application of lime, 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 channel by anchoring the RECP's in a 6" (15 cm) deep x 6" (15 cm) wide trench with approximately 12" (30 cm) of RECP's extended beyond the up-slope portion of the trench. Anchor the RECP's with a row of staples/stakes approximately 12" (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12" (30 cm) portion of RECP's back over seed and compacted soil. Secure RECP's over compacted soil with a row of staples/stakes spaced approximately 12" (30 cm) across the width of the RECP's.
3. Roll center RECP's in direction of water flow in bottom of channel. RECP's will unroll with appropriate side against the soil surface. All RECP's must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide. When using the DOT system, staples/stakes should be placed through each of the colored dots corresponding to the appropriate staple pattern.
4. Place consecutive RECP's end over end (shingle style) with a 4" - 6" (10 cm - 15 cm) overlap. Use a double row of staples staggered 4" (10 cm) apart and 4" (10 cm) on center to secure RECP's.
5. Full length edge of RECP's at top of side slopes must be anchored with a row of staples/stakes approximately 12" (30 cm) apart in a 6" (15 cm) deep x 6" (15 cm) wide trench. Backfill and compact the trench after stapling.
6. Adjacent RECP's must be overlapped approximately 2" - 5" (5cm - 12.5 cm) (depending on RECP's type) and stapled.
7. In high flow channel applications a staple check slot is recommended at 30 to 40 foot (9 M - 12 M) intervals. Use a double row of staples staggered 4" (10 cm) apart and 4" (10 cm) on center over entire width of the channel.
8. The terminal end of the RECP's must be anchored with a row of staples.stakes approximately 12" (30 cm) apart in a 6" (15 cm) deep x 6" (15 cm) wide trench. Backfill and compact the trench after stapling.
Note:
* In loose soil conditions, the use of staple or stake lengths greater than 6" (15 cm) may be necessary to properly anchor the RECP's.
9. Detail provided by North American Green (www.nagreen.com)

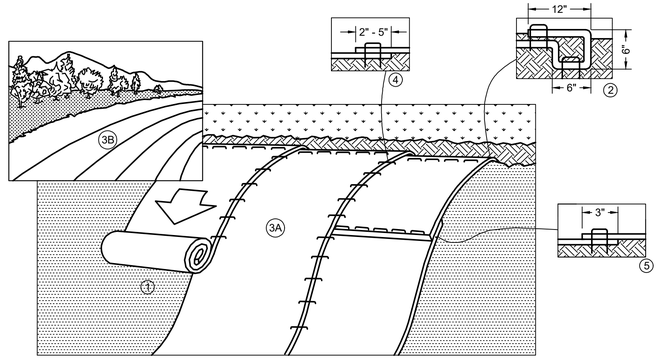


Critical Points
A. Overlaps and seams
B. Projected Water line
C. Channel Bottom/side slope vertices

Note:
* Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.

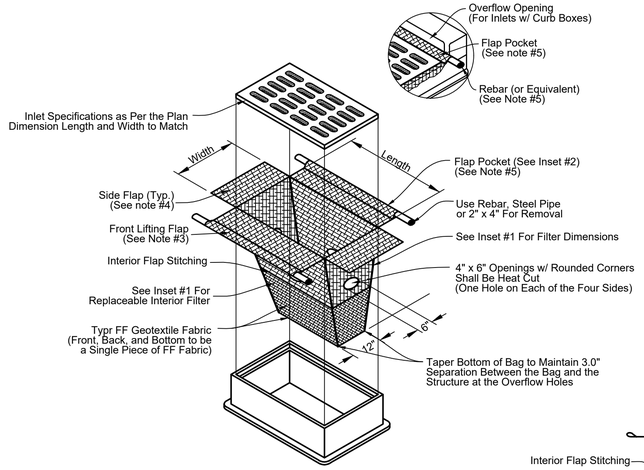
** In loose soil conditions, the use of staple or stake lengths greater than 6" (15 cm) may be necessary to properly anchor the RECP's.

EROSION MAT CHANNEL INSTALLATION



1. Prepare soil before installing Rolled Erosion Control Products (RECP's), including any necessary application of lime, 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 RECP's in a 6" (15 cm) deep x 6" (15 cm) wide trench with approximately 12" (30 cm) of RECP's extended beyond the up-slope portion of the trench. Anchor the RECP's with a row of staples/stakes approximately 12" (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12" (30 cm) portion of RECP's back over seed and compacted soil. Secure RECP's over compacted soil with a row of staples/stakes spaced approximately 12" (30 cm) apart across the width of the RECP's.
3. Roll the RECP's (A.) down or (B.) horizontally across the slope. RECP's will unroll with appropriate side against the soil surface. All RECP's must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide. When using the Dot system, staples/stakes should be placed through each of the colored Dots corresponding to the appropriate staple pattern.
4. The edges of parallel RECP's must be stapled with approximately 2" - 5" (5 cm - 12.5 cm) overlap depending on RECP's type.
5. Consecutive RECP's spliced down the slope must be placed end over end (shingle style) with an approximate 3" (7.5 cm) overlap. Staple through overlapped area, approximately 12" (30 cm) apart across entire RECP's width.
Note: * In loose soil conditions, the use of staple or stake lengths greater than 6" (30 cm) may be necessary to properly secure the RECP's.
6. Detail provided by North American Green (www.nagreen.com)
7. Turf Reinforcement Mats (TRM's) shall be installed in accordance with the above specifications for all RECP's. Anchoring size and pattern is to be installed per manufacturer specifications for clay soils having 4:1 slope. All TRM's shall be topsoil filled, seeded, and covered with a Class 2, Type B erosion mat in accordance with all manufacturer specifications.

EROSION/TURF REINFORCEMENT MAT SLOPE INSTALLATION



INLET PROTECTION, TYPE D-M

DNR TECHNICAL STANDARD 1060

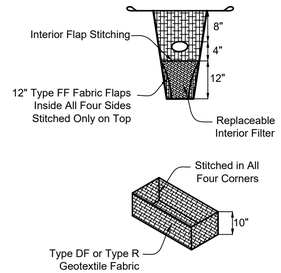
(CAN BE INSTALLED IN ANY INLET WITH OR WITHOUT A CURB BOX)

NOTES:

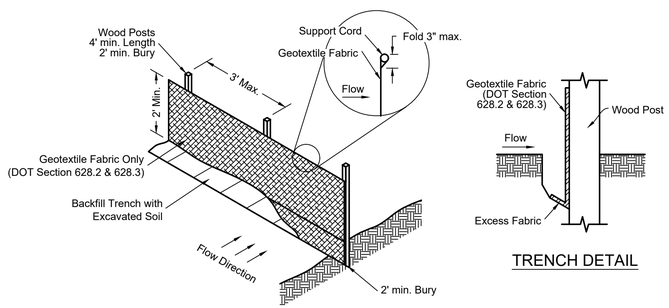
1. Taper bottom of bag to maintain three inches of clearance between the bag and the structure, measured from the bottom of the overflow openings to the structure wall.
2. Geotextile fabric, Type FF for flaps, top and bottom of outside of filter bag. Front, back and bottom of filter bag being one piece.
3. Front lifting flap is to be used when removing and maintaining filter bag.
4. Side flaps shall be a maximum of two inches long. Fold the fabric over and reinforce with multiple stitches.
5. Flap pockets shall be large enough to accept wood 2" x 4". The rebar, steel pipe, or wood shall be installed in the rear flap and shall not block the top half of the curb face opening.

MAINTENANCE NOTES:

1. When removing or maintaining inlet protection, care shall be taken so that the sediment trapped in the fabric does not fall into the structure. Material that has fallen into the inlet shall be immediately removed.



STONE DITCH LINER



Silt fence notes:

1. Detail of construction not shown on this drawings shall conform to criteria set by authorities having jurisdiction and by DNR Technical Standard 1056.
2. When possible, the silt fence should be constructed in an arc or horseshoe shape with the ends pointing upslope to maximize both strength and effectiveness.
3. Attach the fabric to the posts with wire staples or wooden lath and nails.
4. 8'-0" post spacing allowed if a woven geotextile fabric is used.
5. Trench shall be a minimum of 4" wide and 6" deep to bury and anchor the geotextile fabric. Fold material to fit trench and backfill and compact trench with excavated soil.
6. Geotextile fabric shall be reinforced with an industrial polypropylene netting with a maximum mesh spacing of 3/4" or equal. A heavy-duty nylon top support chord or equivalent is required.
7. Steel posts shall be studded "tee" or "u" type with a minimum weight of 128 lbs/lineal foot (without anchor). Fin anchors shall be a minimum size of 4" diameter or 1 1/2" x 3 1/2", except wood posts for geotextile fabric reinforced with netting shall be a minimum size of 1 1/8" x 1 1/8" oak or hickory.

SILT FENCE INSTALLATION

DNR TECHNICAL STANDARD 1056

GENERAL NOTES:

Inlet protection devices shall be maintained or replaced at the direction of the engineer.

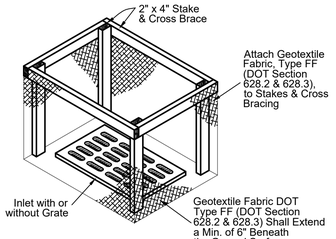
Manufactured alternatives approved and listed on the DOT Erosion Control Product Acceptability list may be substituted.

When removing or maintaining inlet protection, care shall be taken so that the sediment trapped on the geotextile fabric does not fall into the inlet. Any material falling into the inlet shall be removed immediately.

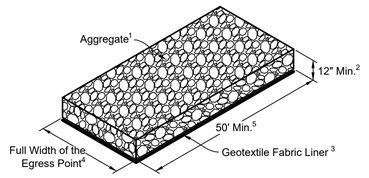
1. Finished size, including flap pockets where required, shall extend a minimum of 10" around the perimeter to facilitate maintenance or removal.

2. For inlet protection, Type C (with curb box), an additional 10" of fabric is wrapped around the wood and secured with staples. The wood shall not block the entire height of the curb box opening.

3. Flap pockets shall be large enough to accept wood 2x4.



INLET PROTECTION, TYPE A



TRACKING PAD DETAIL

DNR TECHNICAL STANDARD 1057

Note [1] Use hard, durable, angular stone or recycled concrete meeting the gradation in Table 1. Where this gradation is not available, meet the gradation in Wisconsin Department of Transportation (DOT) 2018 Standard Specification, Section 312, Select Crushed Material.

Note [2] Slope the stone tracking pad in a manner to direct runoff to an approved treatment practice.

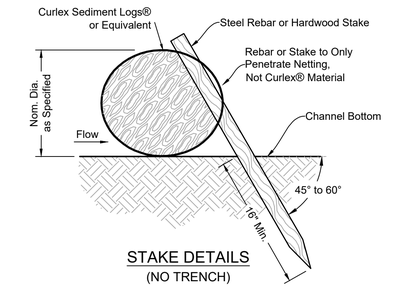
Note [3] Select fabric type based on soil conditions and vehicles loading.

Note [4] Install tracking pad across full width of the access point, or restrict existing traffic to a dedicated egress lane at least 12 feet wide across the top of the pad.

Note [5] If a 50' pad length is not possible due to site geometry, install the maximum length practicable and supplement with additional practices as needed.

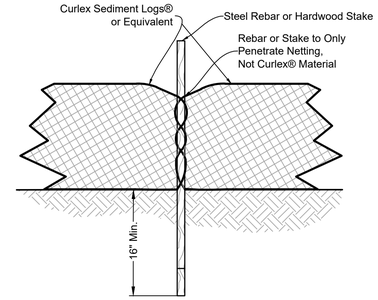
TABLE 1: GRADATION FOR STONE TRACKING PADS

Sieve Size	Percent by weight passing
3"	100
2-1/2"	90-100
1-1/2"	25-60
3/4"	0-20
3/8"	0-5



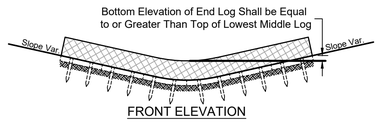
STAKE DETAILS

(NO TRENCH)



STAKE DETAIL

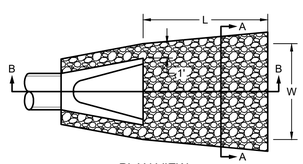
(FRONT VIEW)



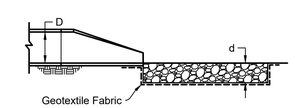
FRONT ELEVATION

NOTE:
Stake installation shall meet manufacturer's requirements in regard to spacing, material, size, and bury depth.

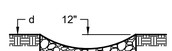
SEDIMENT LOG DETAIL



PLAN VIEW



SECTION B-B



SECTION A-A

D	12"	15"	18"	21"	24"	30"	36"	42"	48"	54"	60"
L	10'	12'	18'	20'	20'	25'	28'	33'	37'	40'	45'
W	11'	13'	20'	22'	24'	28'	32'	38'	42'	45'	50'
d	12"	12"	12"	18"	18"	18"	24"	24"	24"	24"	24"
Riprap	Light	Light	Light	Med.	Med.	Med.	Heavy	Heavy	Heavy	Heavy	Heavy
cu yds	2.6	3.6	7.8	14.3	15.8	22.6	38.4	53.2	65.8	76.3	95.0

Notes:
1. Excavate below channel outlet and widen channel outlet to the required riprap thickness for each apron. Foundation to be set to zero grade and smoothed.
2. Place geotextile fabric on bottom and sides of prepared foundation. Fabric shall extend under endwall in accordance with DOT specifications. (DOT Section 628.2 & 628.3)
3. Exercise care in placement of riprap to avoid damage to filter fabric.
4. Use riprap conforming to Wisconsin DOT specifications. (DOT Section 606.2 & 606.3)
5. Use DOT Type R geotextile fabric for light riprap. Use Type HR for medium and heavy riprap. (DOT Section 606.2, 606.3, 628.2 & 628.3)
6. Use 12" dimension for pipes less than 12" in diameter.

OUTLET PROTECTION

DAVEL ENGINEERING & ENVIRONMENTAL, INC.
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EROSION & SEDIMENT CONTROL DETAILS

Hurkman Heights 4
City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

Date: 09/27/2022
Filename: 4562engr Ph4.dwg
Author: TNW
Last Saved by: jennifer
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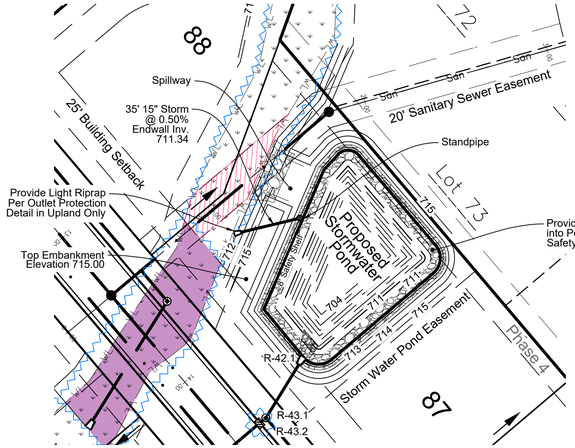
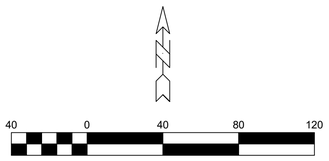
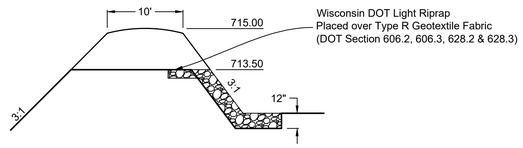
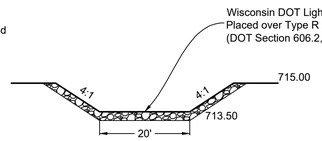


POND SOUTH

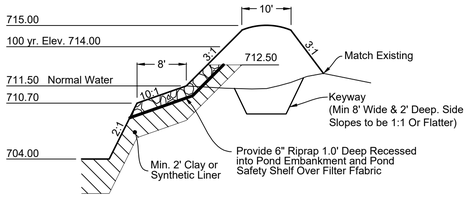




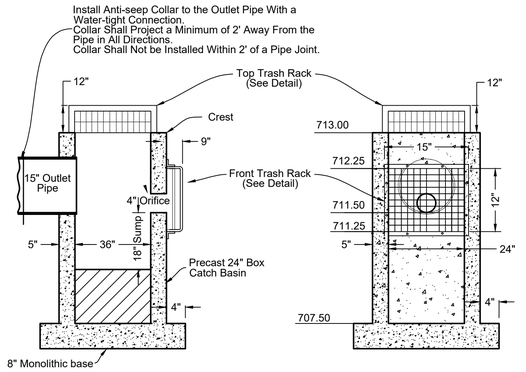
SOUTH POND EAST SPILLWAY SECTION



SOUTH POND EAST SPILLWAY DETAIL



SOUTH POND EMBANKMENT SECTION

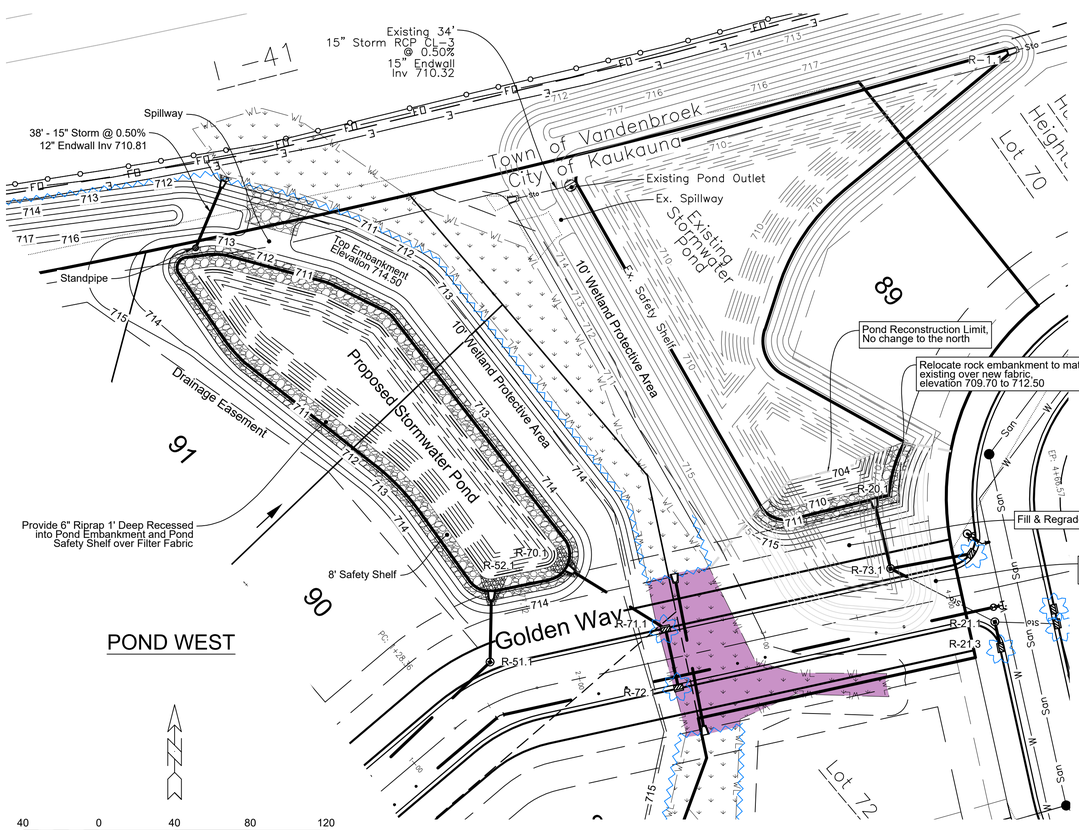


SECTION VIEW

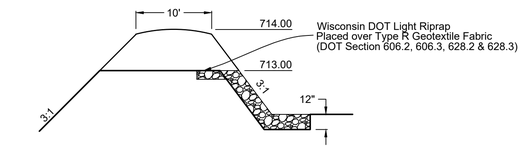
FRONT VIEW

POND SOUTH STAND PIPE DETAIL

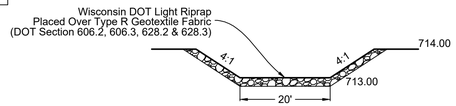
Note - Stormwater Pond Stand Pipe Trash Rack Details are shown on Sheet 2.5



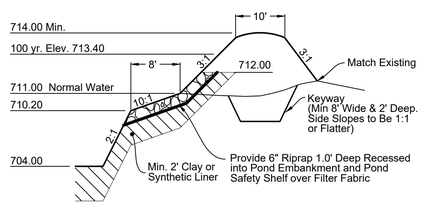
POND WEST



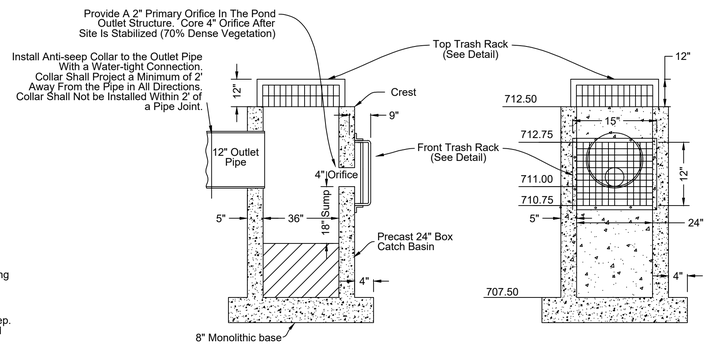
POND WEST SPILLWAY SECTION



POND WEST SPILLWAY DETAIL



WEST POND EMBANKMENT SECTION



SECTION VIEW

FRONT VIEW

POND WEST STAND PIPE DETAIL

Note - Stormwater Pond Stand Pipe Trash Rack Details are shown on Sheet 2.5

Pond Notes:

1. The base of the embankment shall be stripped of all vegetation, stumps, topsoil and other matter. Stripping shall be to a minimum of 6 inches.
2. Embankments shall be constructed with non-organic soils and compacted to 90% standard proctor according to the procedures outlined in ASTM D-698. No tree stumps, or other organic material shall be buried in the embankment. The constructed embankment height shall be increased a minimum of 5% to account for settling.
3. All pipes extending through the embankment shall be bedded and backfilled with embankment or equivalent soils. The bedding and backfill shall be compacted in lifts and to the same standard as the original embankment. Excavation through a completed embankment shall have a side slope of 1:1 or flatter.
4. Topsoil shall be spread on all disturbed areas, except for elevations below the safety shelf riprap as work is completed. The minimum depth of topsoil shall be 4 inches.
5. All areas disturbed by pond construction shall be seeded as work is completed. Pond side slopes above permanent pool shall be temporarily seeded with annual rye or oats immediately after pond is "roughed in." This will require topsoil application. Slopes steeper than 10:1 but less than 4:1 will require properly anchored mulch in accordance with Section 627.1 of the DOT Standard Specifications for Highway and Structure Construction. DOT Class I, Type B erosion mat will be required on slopes steeper than 4:1 (Section 628.2 & 628.3).
6. Riprap at all inflow points shall extend a minimum of 18 vertical inches below the permanent pool. (Section 606.2 & 606.3)
7. Any rock encountered shall be excavated to a depth two feet deeper than the proposed pond grade.
8. The pond shall be constructed with a Type B Liner with the following WDNR specifications (Wet Detention Pond Technical Standard 1001). Liners include; Clay, High Density Polyethylene (HDPE), Polyethylene Pond Liner (PPL) or any liner satisfying Type A Liner criteria.

Clay liners specifications are as follows:
- 50% fines (200 sieve) or more.
- Hydraulic conductivity of 1 x 10-6 cm/sec or less.
- Average liquid limit of 16 or greater, with no value less than 14.
- Average PI of 7 or more, with no values less than 5.
- Clay compaction and documentation as specified in NRCS Wisconsin Construction Specification 204, Earthfill for Waste Storage Facilities.
- Minimum thickness of 2 feet.
- If in-situ soils meet the above requirements of the specification for a Type B Clay Liner, including a minimum saturated hydraulic conductivity of 1 x 10-6 cm/sec to a depth of 4 feet below the pond bottom, the in-situ soils then satisfy the pond liner requirements.

HDPE liner specifications are as follows:
- Minimum thickness of 40 mils.
- Design according to the criteria in Table 3 of NRCS 313, Waste Storage Facility Technical Standard.
- Install according to NRCS Wisconsin Construction Specification 202, Polyethylene Geomembrane Lining.

PPL liner Specifications are as follows:
- Minimum thickness of 30 mils.
- Design according to the criteria in Table 3 of NRCS 313, Waste Storage Facility Technical Standard.
- Install according to NRCS Wisconsin Construction Specification 202, Polyethylene Geomembrane Lining.

9. All liners must extend above the permanent pool up to the elevation of the 2-Year, 24-hour rainfall event.
10. All storm sewer endwalls (R-71.1, R-51.1, pond outlet) shall have concrete endwalls with grates installed and minimum 3 joint ties per structure.

Pond Embankment Vegetation:
Plant no-mow seed with permanent seed after grading. Place erosion mat immediately after seeding. Seed shall be 20% Blue Fescue, 35% Creeping Red Fescue, 25% Chewings Fescue, and 20% Hard Fescue at 5 pounds per 1,000 square feet or equivalent (seed mixture and rate may be adjusted with Engineer's approval).

Wetland - Conveyance Vegetation:
Place mulch immediately after seeding. Seed per either below mixture or alternate waterway or channel seed mixture per NRCS critical area plantings.

Seed Calculator Code*	Moisture Regimes	Common Name	Scientific Name	Seeding Rate in lb/ac PLS	Seeding Rate in Seeds/Ft² PLS
342-19	*Wet Mesic* Sites	Redtop	Agrostis gigantea	1	115
		Timothy	Phleum pratense	1	28
		Red Clover	Trifolium pratense	4	25
		Kentucky Bluegrass	Poa pratensis	2	100
342-20	*Wet* Sites***	Redtop	Agrostis gigantea	2	229
		Alsike Clover	Trifolium hybridum	2	31
		Kentucky Bluegrass	Poa pratensis	2	100

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STORMWATER POND DETAIL

Hurkman Heights 4

City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

Date: 09/28/2022
Filename: 4562engr Ph4.dwg
Author: TNW
Last Saved by: tim
Page 2.4

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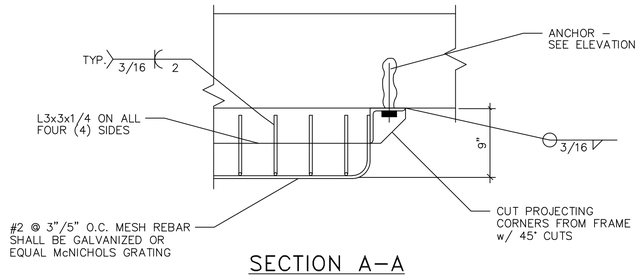
STRUCTURAL STEEL

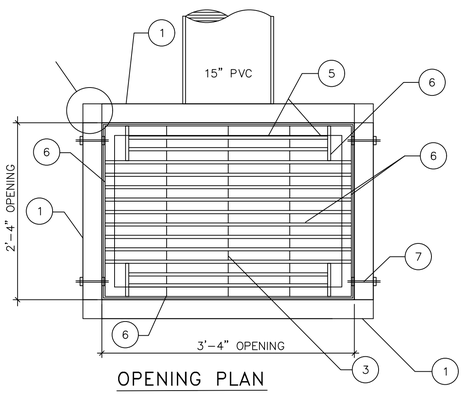
1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:
   BARS & PLATES – ASTM A36 THREADED BOLTS – ASTM A301
   ANCHOR BOLTS – ASTM A36 THREADED BOLTS – ASTM A36
   WELDS – E70 XX
   ALL STEEL SHALL BE GALVANIZED
2. ALL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC "LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" AND "CODE OF STANDARD PRACTICE FOR BUILDINGS AND BRIDGES", CURRENT EDITION.
3. ALL WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER IN ACCORDANCE WITH A.W.S. CODE FOR WELDING IN BUILDING CONSTRUCTION. SURFACES FOR FIELD WELDED MATERIAL SHALL BE PROPERLY PREPARED PRIOR TO BEING WELDED TO ASSURE A GOOD QUALITY WELD. REMOVE PAINT, GREASE, DIRT, ETC.
4. ALL STEEL MEMBERS SHALL BE WELDED WITH A 3/16" CONTINUOUS FILLET WELD (UNLESS OTHERWISE NOTED)
5. ALL WELDS SHALL BE TOUCHED UP WITH GALVANIZING COMPOUND.

PAINT:

SURFACE	TNEMEC COATING SYSTEM	COVERAGE SQ. FT./GAL	THICKNESS /COAT DMT	COLOR
STEEL (OUTDOORS)	SHOP PRIMER 69–1255 BEIGE	277	4.0	BEIGE
	1 COAT 69 H.B. EPOXY	221	5.0	BLACK
	1 COAT 74 ENDURA–SHELD IV	310	3.0	BLACK



SECTION A–A

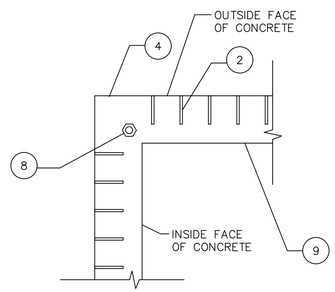


OPENING PLAN

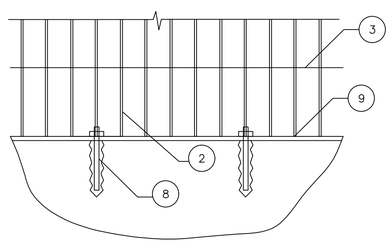
TOP TRASH RACK DETAIL PLAN VIEW

ELEMENT KEY

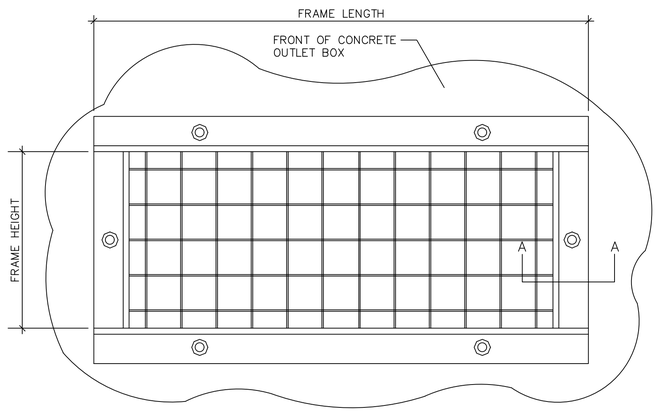
1	HSS 3x3x1/4
2	1/4"x3" PLATE @ 3"o.c. MAXIMUM
3	1/2" DIA BAR @ 10"o.c. MAXIMUM
4	HSS2x2x1/4
5	1/4"x2" HORIZONTAL PLATE WELDED TO SIDE OF HSS3x3x1/4
6	1/4"x2" PLATE @ 2"o.c. MAXIMUM
7	3/8" DIA. SST BOLT
8	3/8" DIA. SST ADHESIVE ANCHOR @ 24"o.c. MAXIMUM
9	3/8"x5"x CONT. PLATE



CORNER DETAIL



GRATE SUPPORT DETAIL



NOTES:

1. WHEN FRAME HEIGHT IS 24 INCHES OR LESS, PROVIDE (1) ANCHOR PER VERTICAL LEG, OTHERWISE PROVIDE TWO OR MORE ANCHORS @ 24" O.C. MAX.
2. WHEN FRAME LENGTH IS 12" OR LESS, PROVIDE (1) ANCHOR PER HORIZONTAL LEG, OTHERWISE PROVIDE TWO OR MORE ANCHORS @ 24" O.C. MAX.
3. PROVIDE ½" EPOXY ANCHOR EMBEDDED 4" MIN. INTO CONCRETE WHERE REQUIRED BY THIS DRAWING OR NOTES.
4. SEE OUTLET STRUCTURE DETAIL FOR TRASH RACK FRAME SIZE.

FRONT TRASH RACK DETAIL–ELEVATION VIEW

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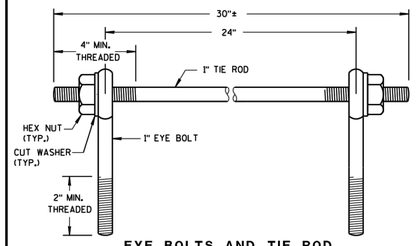
POND GRATE DETAIL

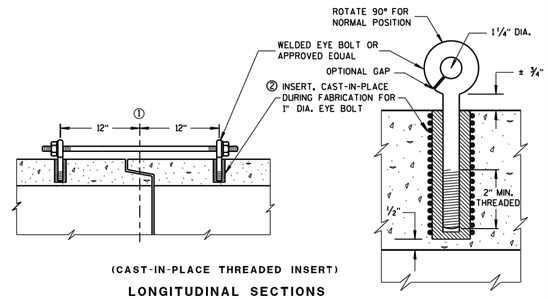
Hurkman Heights 4
City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

Date: 09/27/2022
Filename: 4562engr Ph4.dwg
Author: TNW
Last Saved by: jennifer
Page 2.5

SDD 8f4 Joint Ties for Concrete Pipe and Concrete Pipe Collars



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

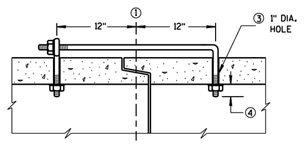
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

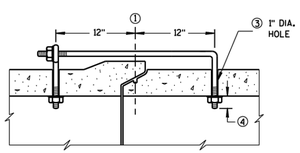
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

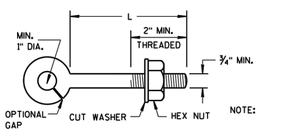


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

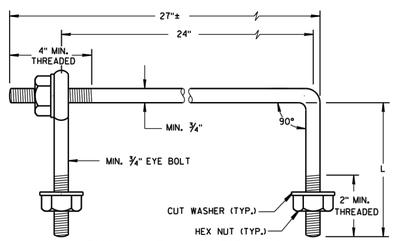
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 ½"	6 ¼"
30"	5"	7"
36"	5 ½"	7"
42"	6"	
48"	6 ½"	
60"	7 ½"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

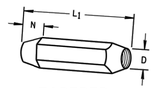
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	⅝	⅝	5	½
66-84	¾	¾	5	½
90-108	1	1	7	1 ⅜

DIMENSIONS SHOWN ARE IN INCHES



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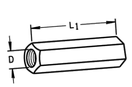
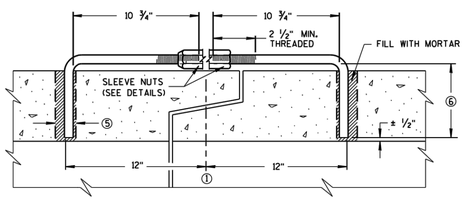


PLAIN

RIGHT AND LEFT THREADS

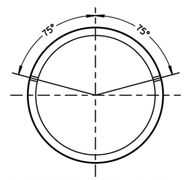
SLEEVE NUTS



LONGITUDINAL SECTION

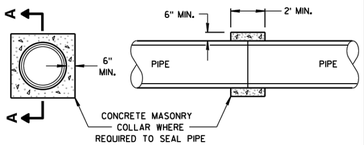
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-5-2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 4-7

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S.D.D. 8 F 4-7

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JOINT TIE DETAIL

Hurkman Heights 4
City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

Date: 09/27/2022
Filename: 4562engr Ph4.dwg
Author: TNW
Last Saved by: jennifer
Page 2.6

NOTES:

RADIUS STATIONING IS TO BACK OF CURB.

814.16 = PROPOSED GRADE

ENDWALLS ARE INCLUDED IN CULVERT LENGTH

CASTING ELEVATIONS SHOWN ON PLAN ARE TO FINISH GRADE. CONSTRUCT STRUCTURES TO GRAVEL GRADE WHICH IS 0.50-FEET BELOW FINISH GRADE FOR INLETS, MANHOLES, AND VALVES WITHIN PAVEMENT

LEGEND

- Proposed Storm Sewer
- Proposed Sanitary Sewer
- Proposed Water Main
- Proposed Culvert
- Proposed Swale/ Ditch
- Proposed Sanitary Manhole
- Proposed Storm Manhole
- Proposed Curb Inlet
- Prop Catch Basin/Yard Drain
- Proposed Endwall
- Proposed Hydrant
- Proposed Valve
- Proposed Tee
- Proposed Cross
- Proposed Bend
- Proposed Reducer
- Proposed Plug

Horizontal 40 20 0 40
Vertical 0 2 4

Hurkman Heights 4

City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

IMPROVEMENT PLANS
Ben's Way
Sta 8+00 to 14+00

DAVEL ENGINEERING & ENVIRONMENTAL, INC.
Civil Engineers and Land Surveyors
1164 Province Terrace, Menasha, WI 54952
Ph: 920-991-1866 Fax: 920-441-0804
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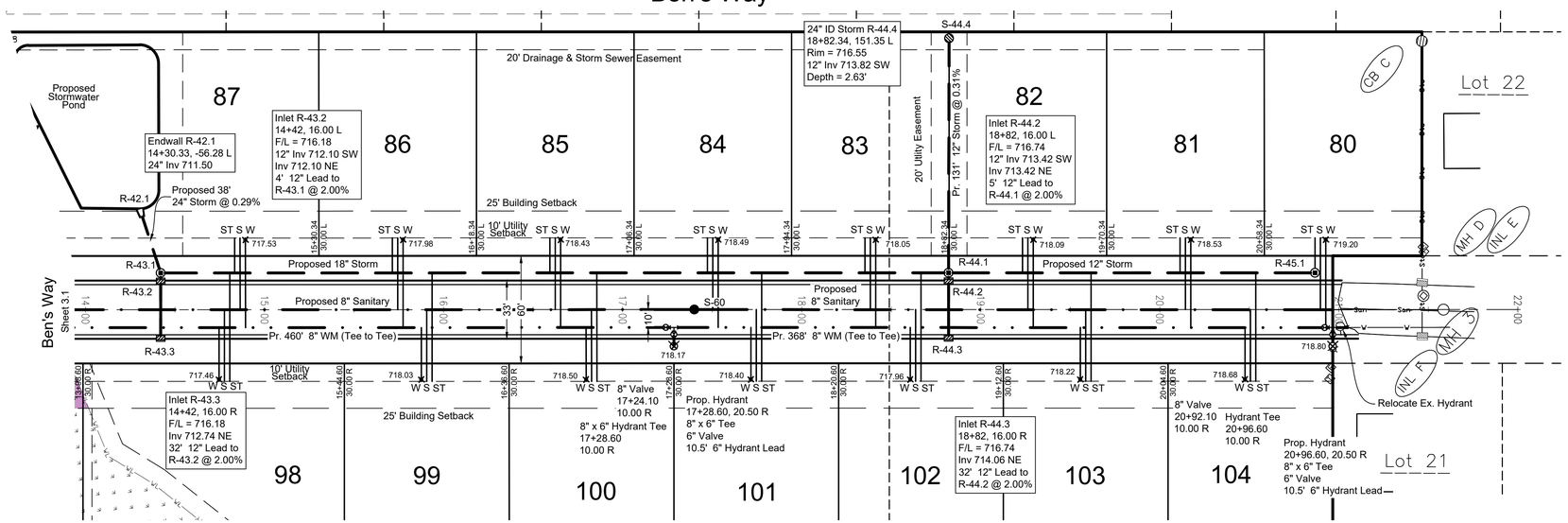
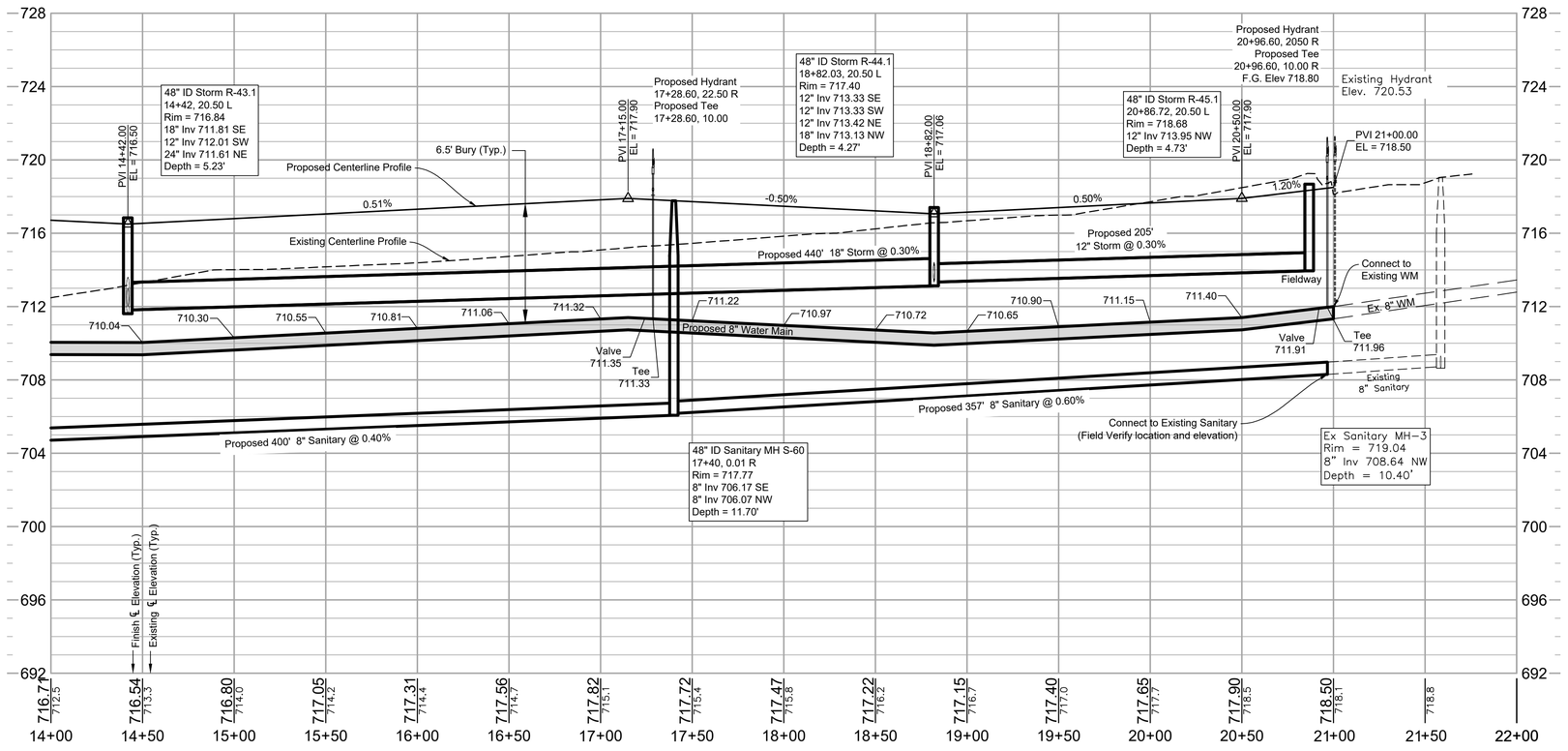
Filename: 4562prof1 Ph4.dwg
Date: September 28, 2022
Engineer: TNW
Drafted By: jennifer
Page: 3.1





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- Proposed Endwall
- Proposed Hydrant
- Proposed Valve
- Proposed Tee
- Proposed Cross
- Proposed Bend
- Proposed Reducer
- Proposed Plug

Horizontal 40 20 0 40
Vertical 0 2 4

Hurkman Heights 4

City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

IMPROVEMENT PLANS

Ben's Way
Sta 14+00 to 22+00

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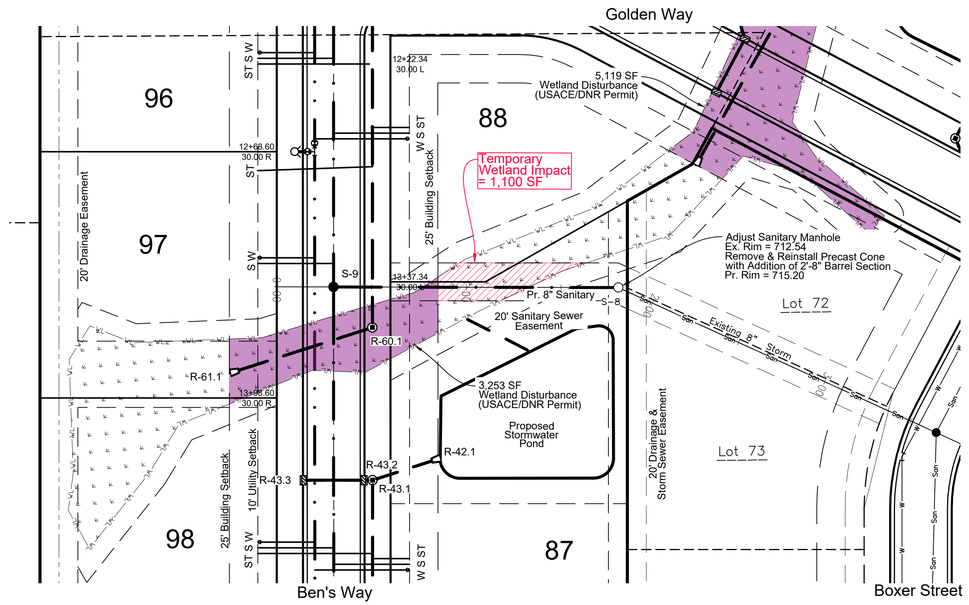
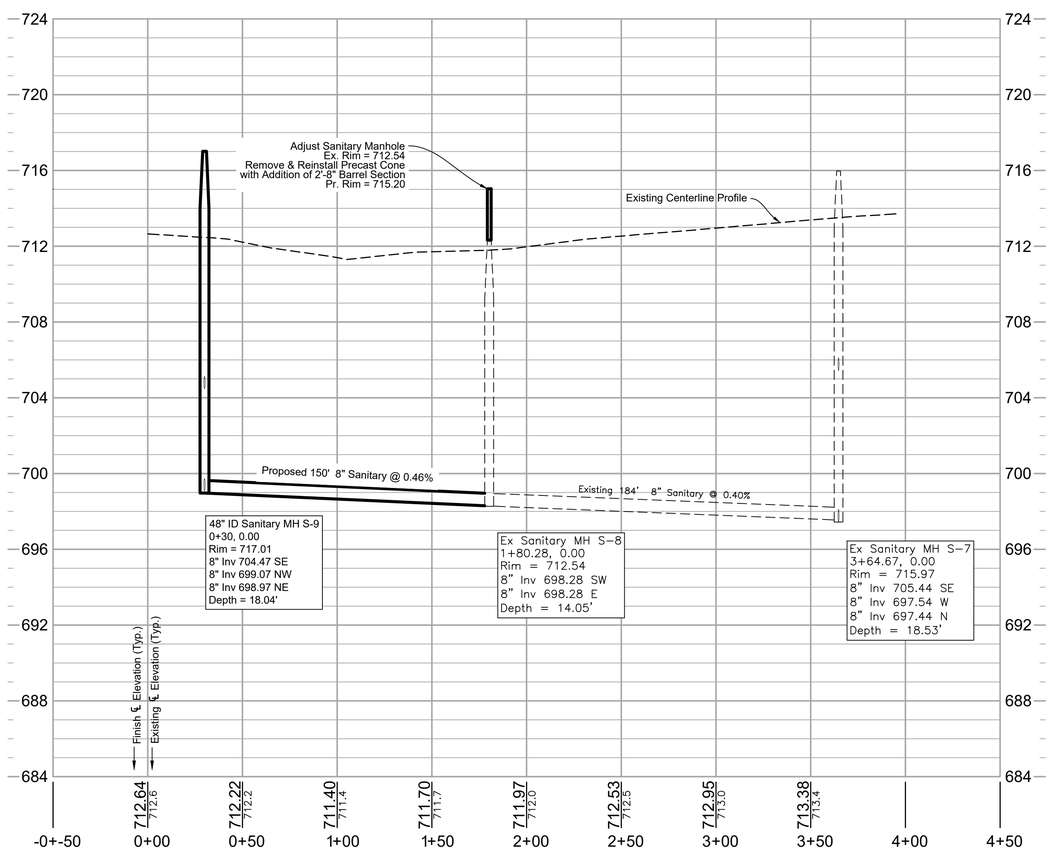
Filename: 4562prof1 Ph4.dwg
Date: September 27, 2022
Engineer: TNW
Drafted By: jennifer
Page: 3.2

Sanitary Sewer Easement





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- Proposed Curb Inlet
- Prop Catch Basin/Yard Drain
- Proposed Endwall
- Proposed Hydrant
- Proposed Valve
- Proposed Tee
- Proposed Cross
- Proposed Bend
- Proposed Reducer
- Proposed Plug

Horizontal: 40 20 0 40
Vertical: 0 2 4

Hurkman Heights 4

City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

IMPROVEMENT PLANS
Sanitary Sewer Easement
Sta 0+00 to 3+94.98

DAVEL ENGINEERING & ENVIRONMENTAL, INC.
Civil Engineers and Land Surveyors
1164 Province Terrace, Menasha, WI 54952
Ph: 920-991-1866 Fax: 920-441-0804
www.davel.pro

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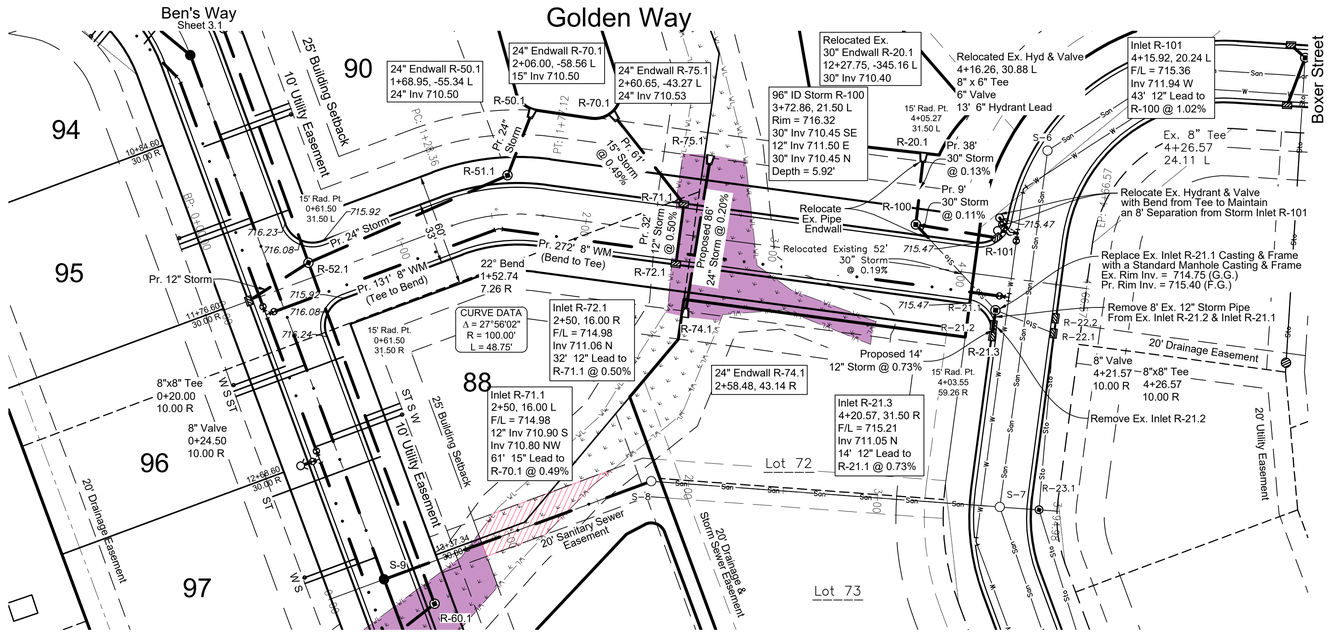
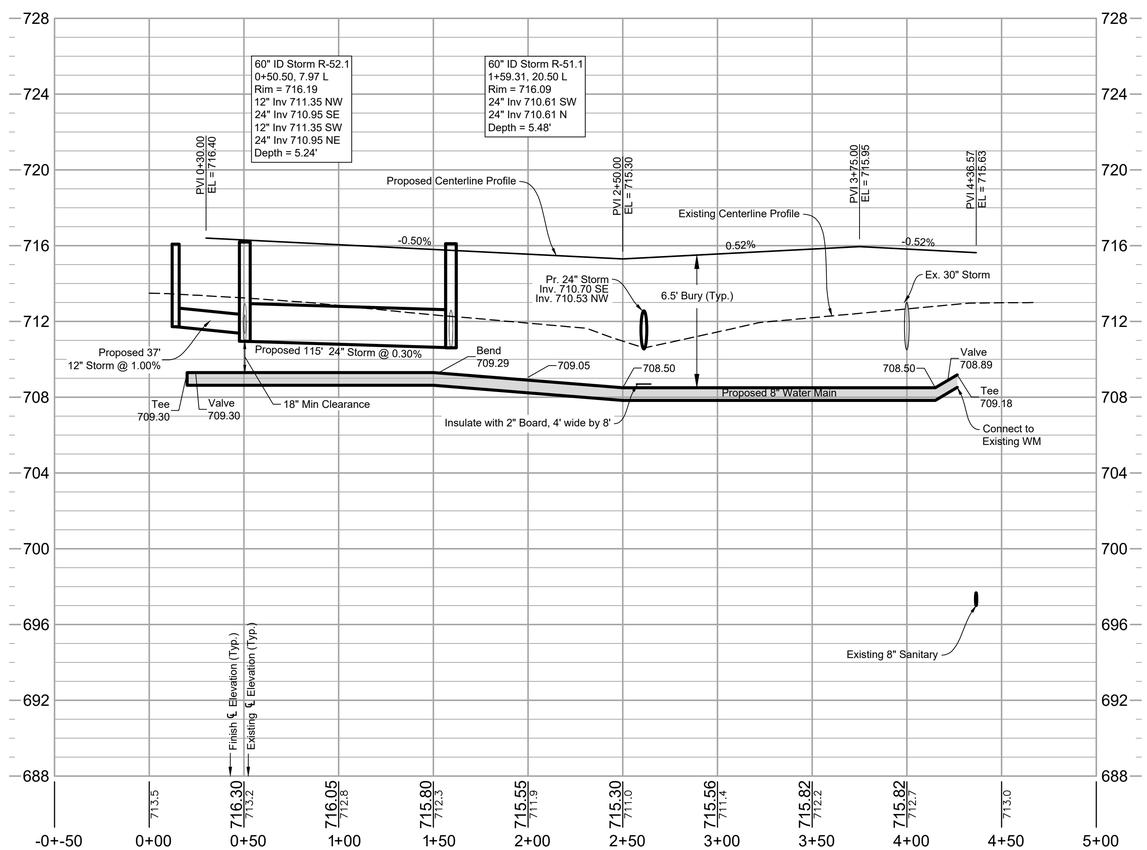
Filename: 4562prof2 Ph4.dwg	
Date: September 27, 2022	Page: 3.3
Engineer: TNW	Drafted By: jennifer





NOTES:

RADIUS STATIONING IS TO BACK OF CURB.

814.16 = PROPOSED GRADE

ENDWALLS ARE INCLUDED IN CULVERT LENGTH

CASTING ELEVATIONS SHOWN ON PLAN ARE TO FINISH GRADE. CONSTRUCT STRUCTURES TO GRAVEL GRADE WHICH IS 0.50-FEET BELOW FINISH GRADE FOR INLETS, MANHOLES, AND VALVES WITHIN PAVEMENT

LEGEND

- Proposed Storm Sewer
- Proposed Sanitary Sewer
- Proposed Water Main
- Proposed Culvert
- Proposed Swale/ Ditch
- Proposed Sanitary Manhole
- Proposed Storm Manhole
- Proposed Curb Inlet
- Prop Catch Basin/Yard Drain
- Proposed Endwall
- Proposed Hydrant
- Proposed Valve
- Proposed Tee
- Proposed Cross
- Proposed Bend
- Proposed Reducer
- Proposed Plug

Horizontal: 40 20 0 40
Vertical: 4 2 0

Hurkman Heights 4

City of Kaukauna, Outagamie County, WI
For: Hurkman Heights Development, LLC

IMPROVEMENT PLANS
Water Main Easement
Sta 0+00 to 4+50

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Filename: 4562prof3 Ph4.dwg
Date: September 27, 2022
Engineer: TNW
Drafted By: tim
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