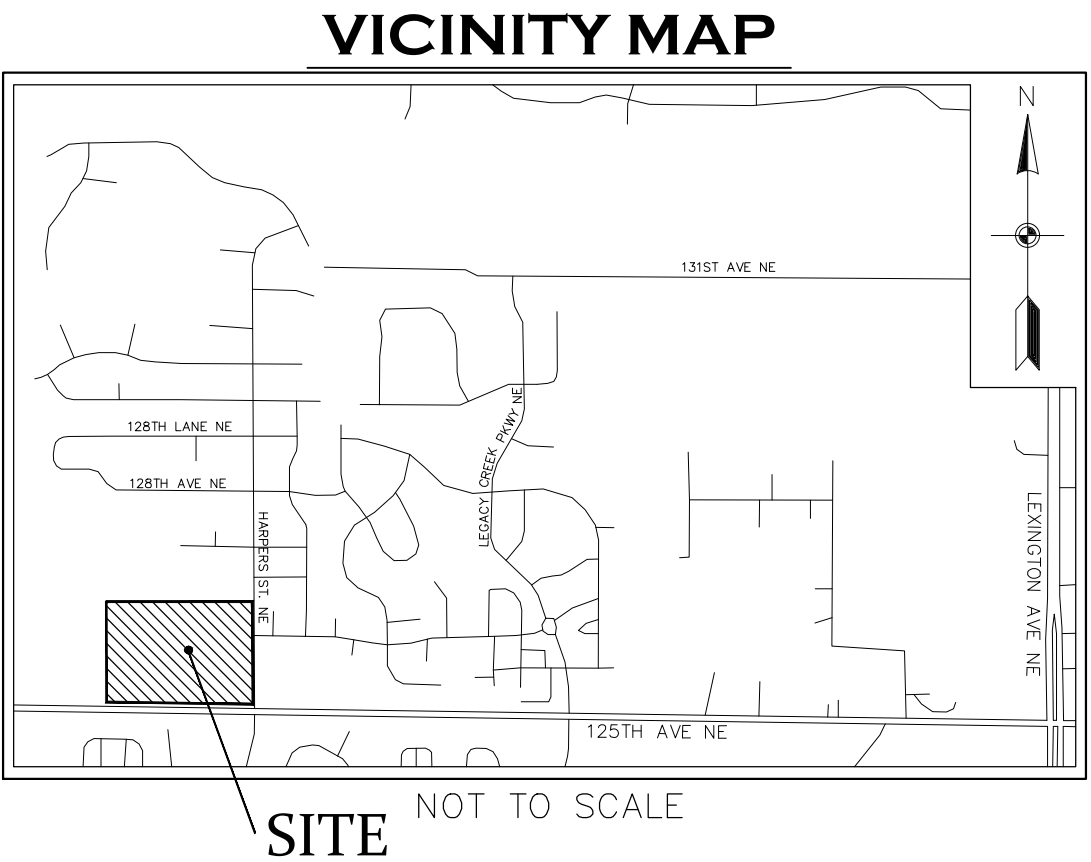
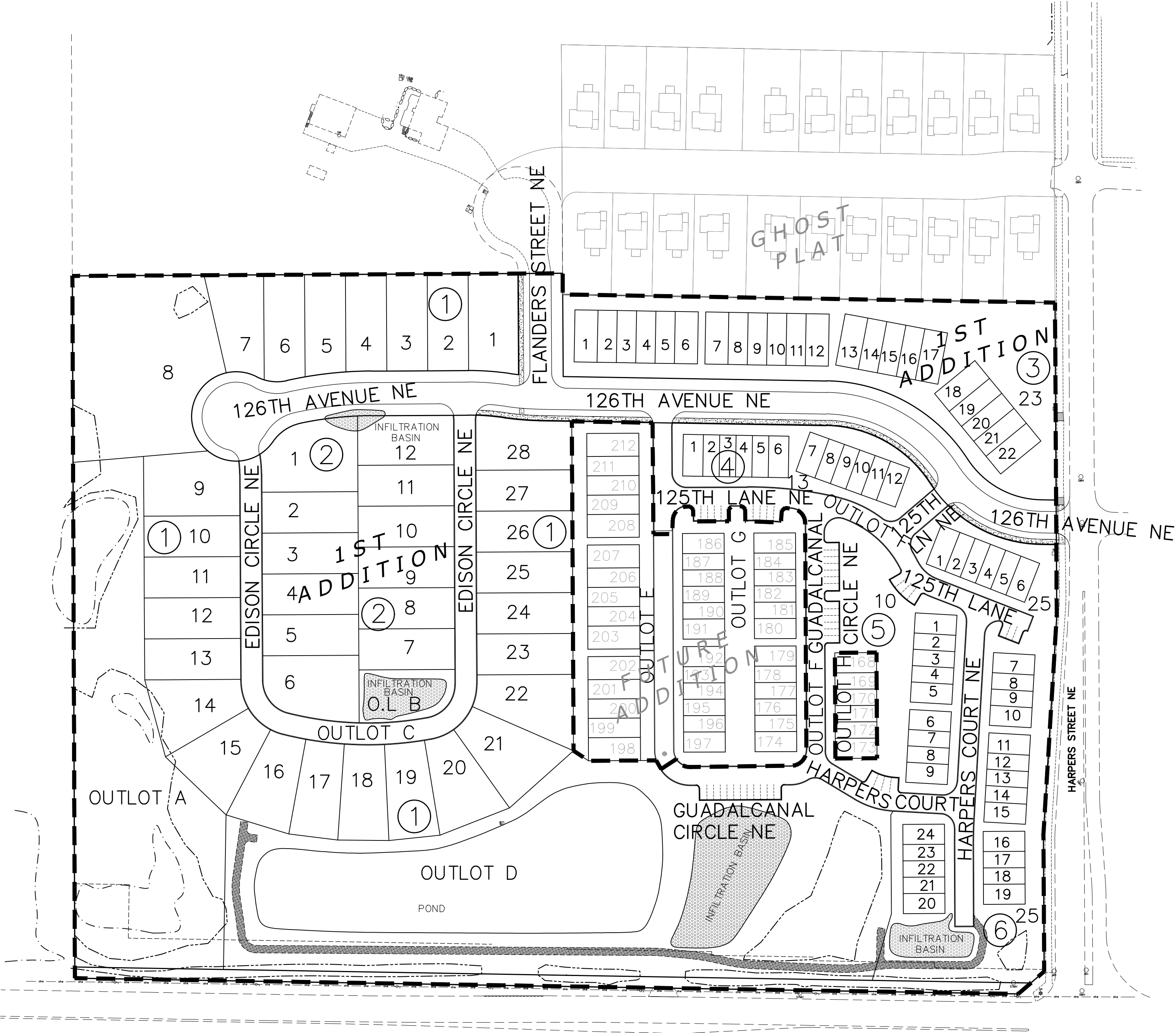
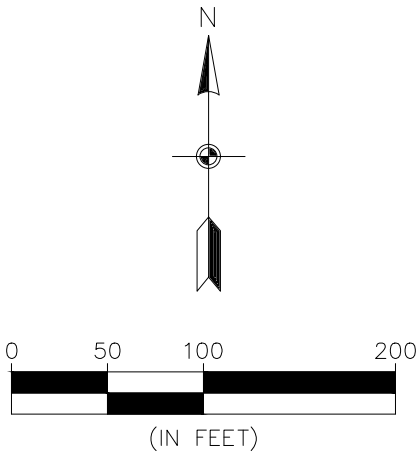


HARPERS LANDING 1ST ADDITION

BLAINE, MINNESOTA



CONTACT THE CITY OF BLAINE ENGINEERING
DEPARTMENT AT (763) 785-6172 FOR
INSPECTION OF ALL STREET & UTILITY WORK.



BENCHMARKS	
1.	Top nut of hydrant located in the NW quadrant of the intersection of 128th Avenue NE and Harpers Street NE Elevation= 913.25 ft.
2.	Top nut of hydrant located in the NW quadrant of the intersection of 127th Avenue NE and Guadalcanal Street NE Elevation= 908.83 ft.

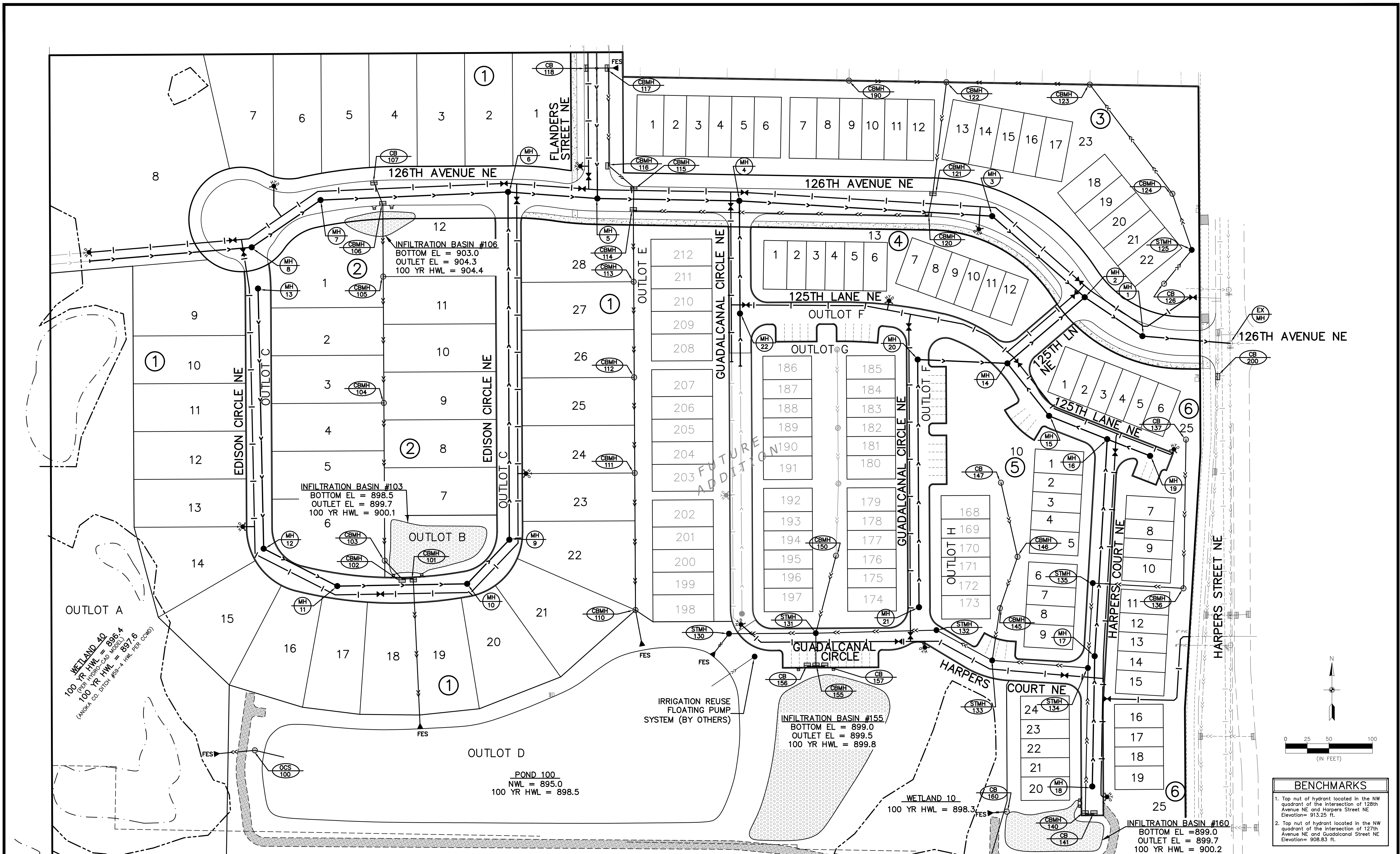
SHEET INDEX

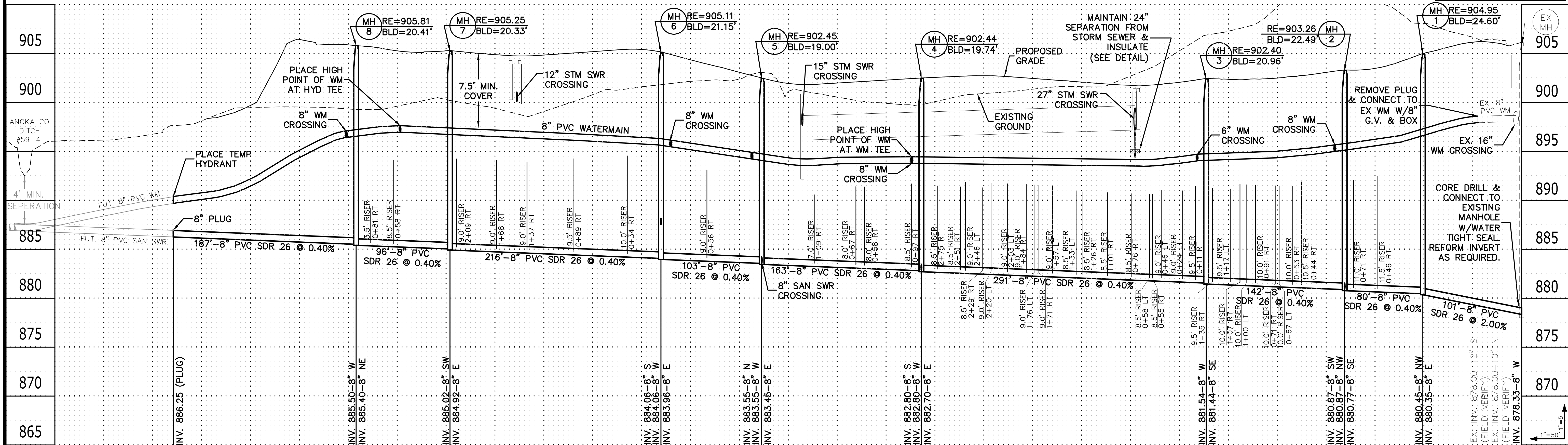
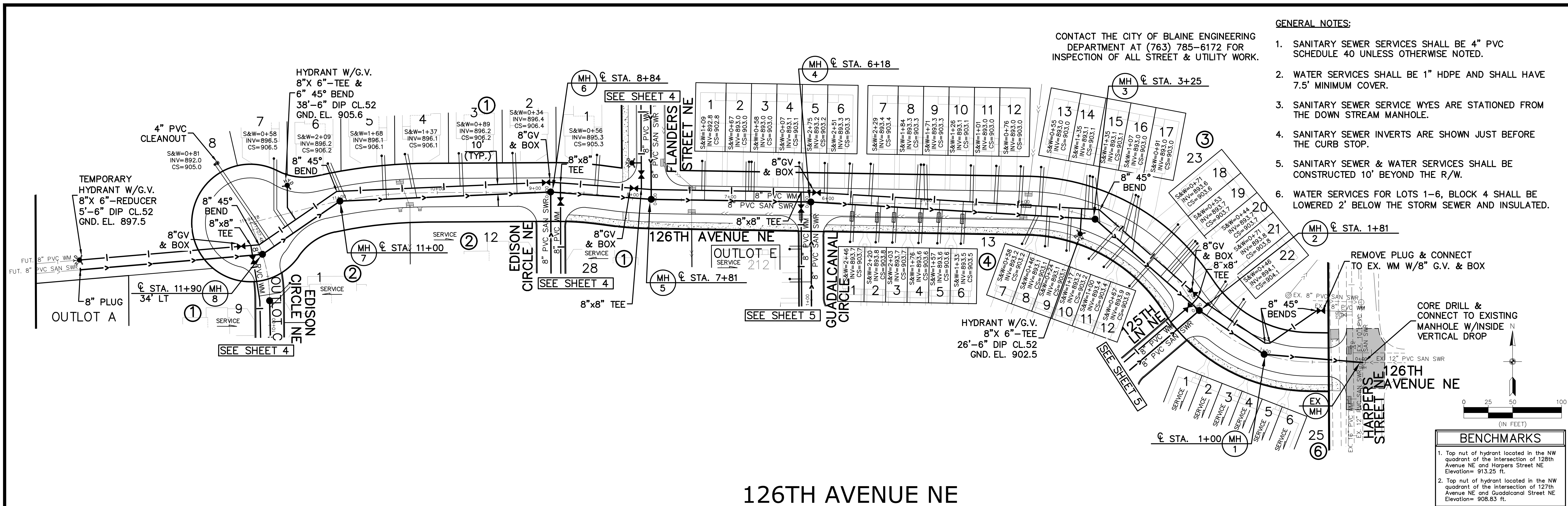
- 1. COVER
- 2. INDEX
- 3-6. SANITARY SEWER & WATERMAIN
- 7-10. STORM SEWER
- 11-14. STREET CONSTRUCTION
- 15. SIGNING & STRIPING PLAN
- 16-19. DETAILS

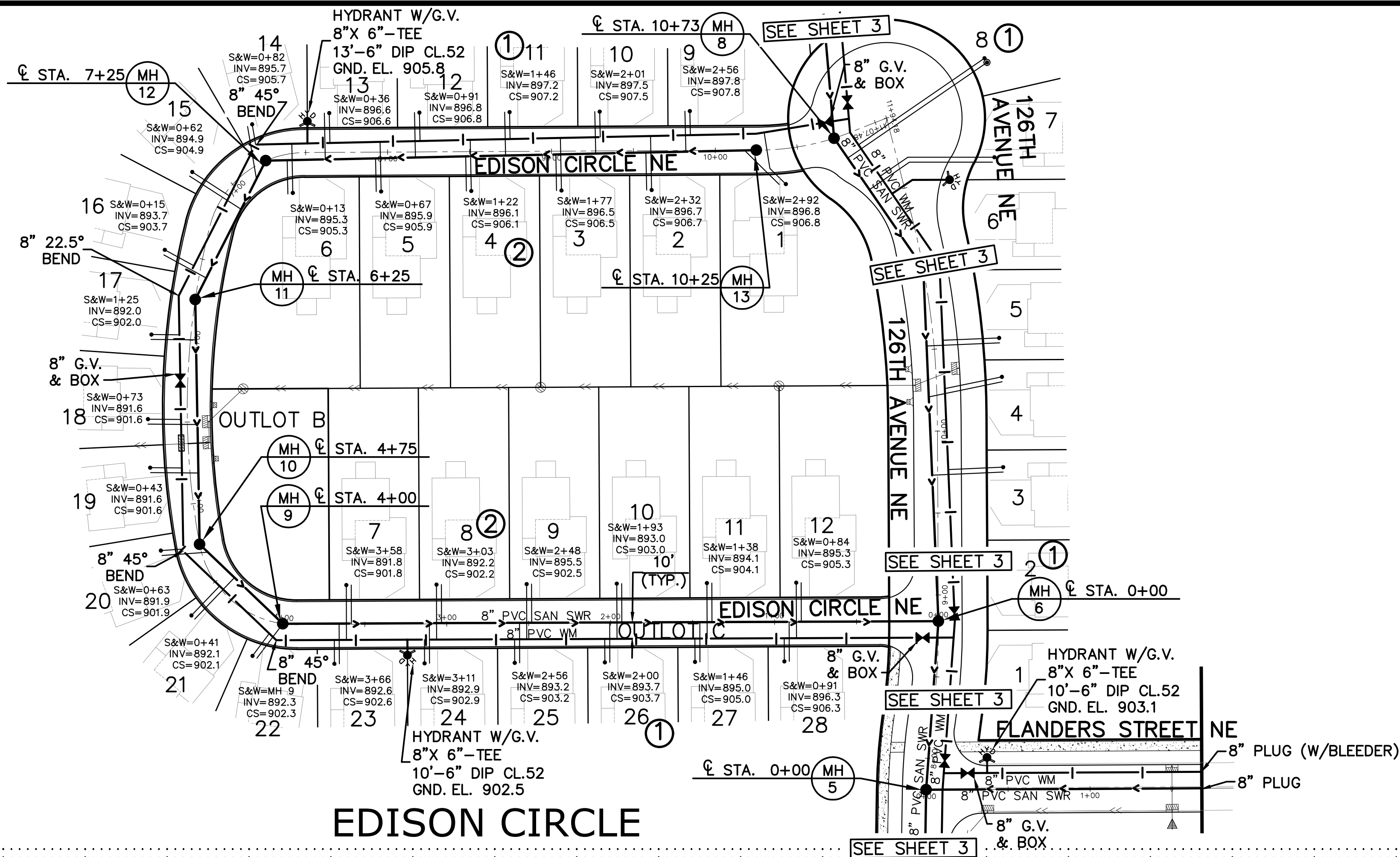
CALL BEFORE YOU DIG

Know what's below.
Call before you dig.

The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of C/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

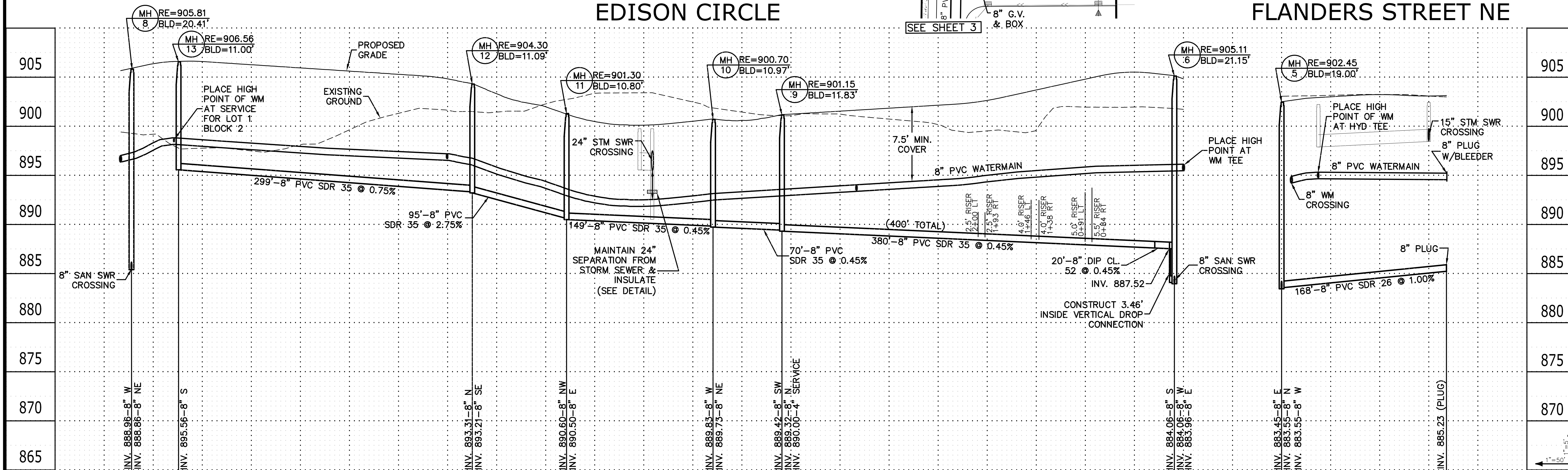
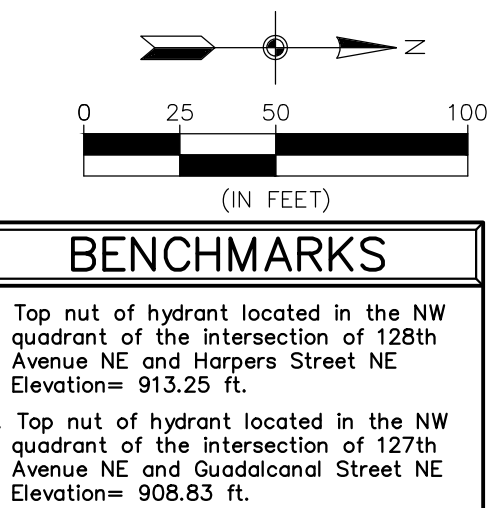


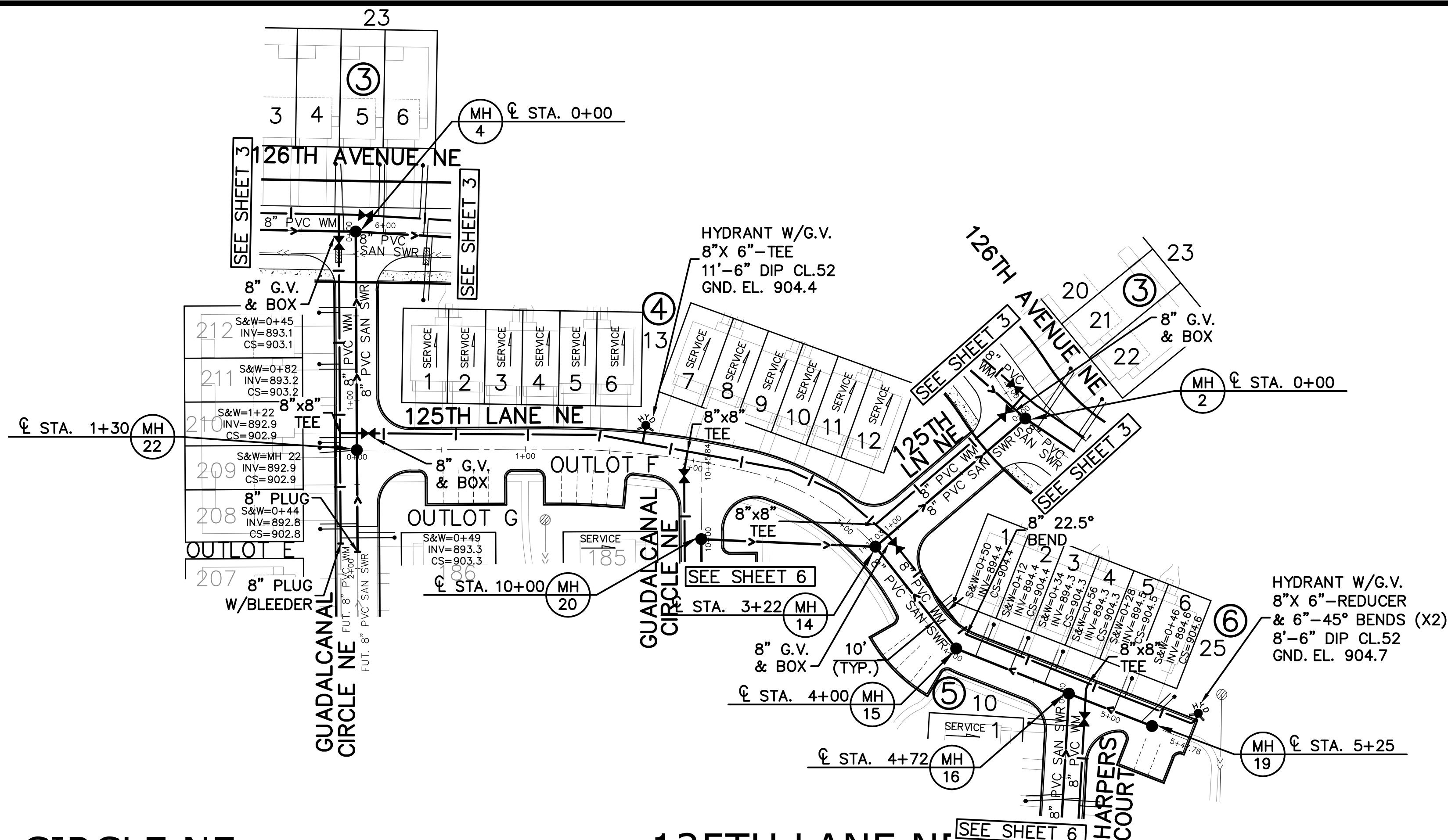




- GENERAL NOTES:**
- SANITARY SEWER SERVICES SHALL BE 4" PVC SCHEDULE 40 UNLESS OTHERWISE NOTED.
 - WATER SERVICES SHALL BE 1" HDPE AND SHALL HAVE 7.5' MINIMUM COVER.
 - SANITARY SEWER SERVICE WYES ARE STATIONED FROM THE DOWN STREAM MANHOLE.
 - SANITARY SEWER INVERTS ARE SHOWN JUST BEFORE THE CURB STOP.
 - SANITARY SEWER & WATER SERVICES SHALL BE CONSTRUCTED 10' BEYOND THE BACK OF CURB.

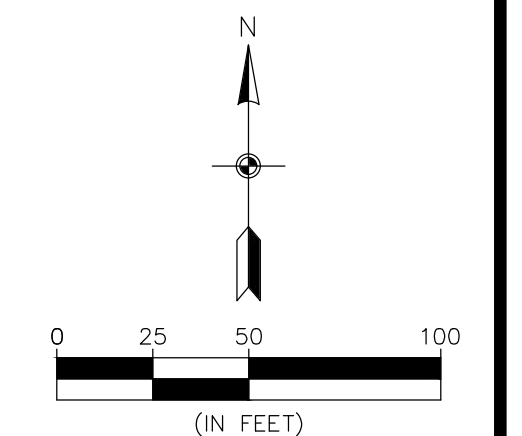
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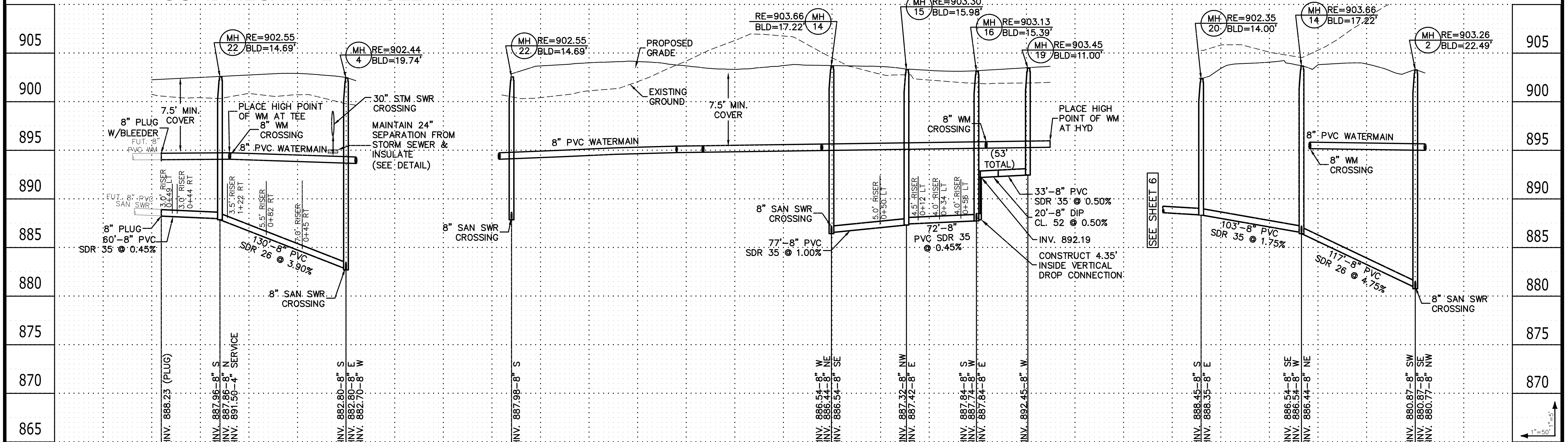


BENCHMARKS	
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2.	Top nut of hydrant located in the NW quadrant of the intersection of 127th Avenue NE and Guadalcanal Street NE Elevation= 908.83 ft.

GUADALCANAL CIRCLE NE

125TH LANE NE

125TH LN NE



3890 PHEASANT RIDGE DR NE
SUITE 100
BLAINE, MN 55449
TEL 763.489.7900
FAX 763.489.7959
CARLSONMCCAIN.COM

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature: *Brian J. Krystofiak*
Date: 4/23/21 License #: 25063

Drawn: NJP
Designed: BJK
Date: 4/23/21

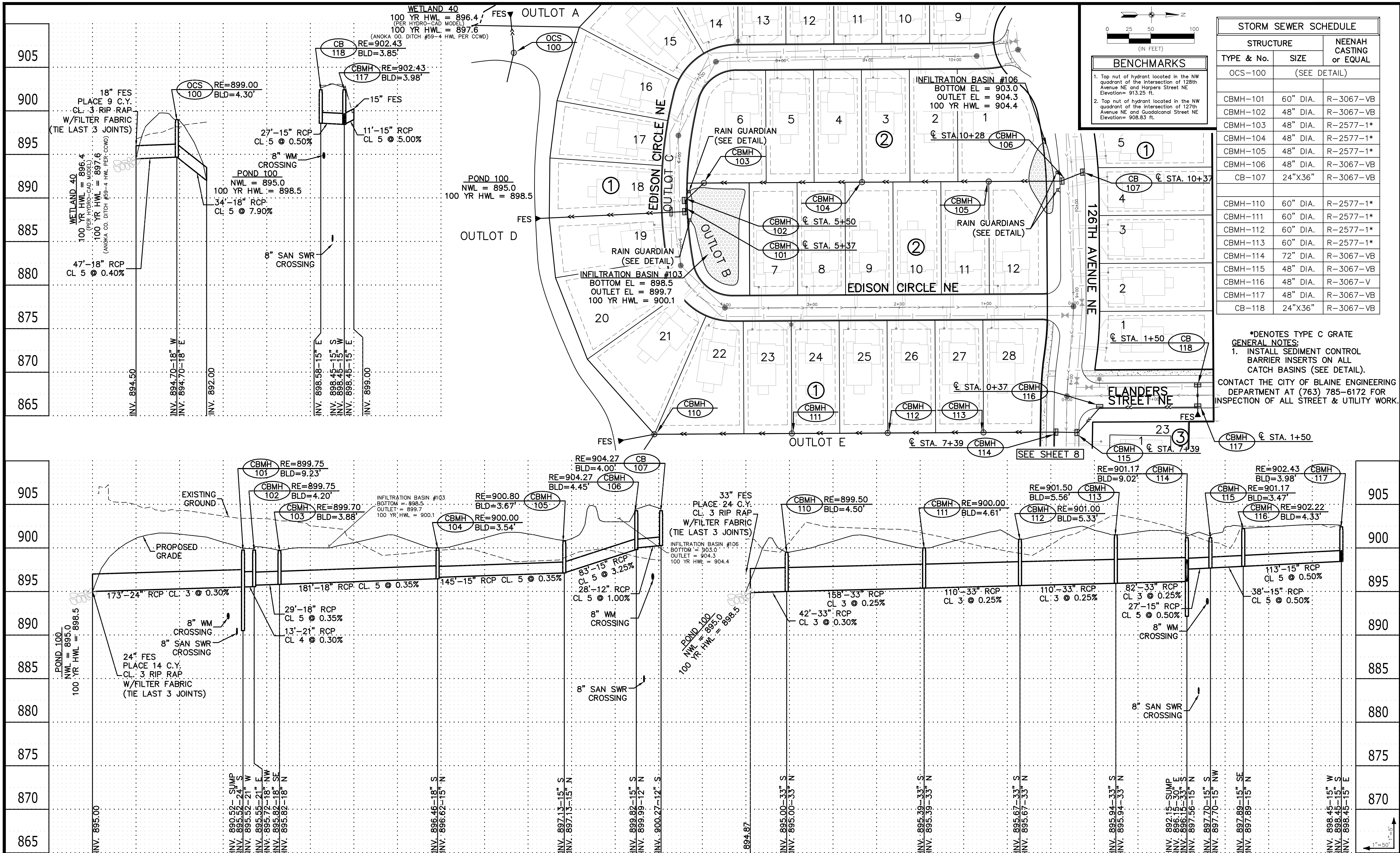
Revisions:
1. 5/11/21 Lower San. Swr. for Future Ditch Crossing Separation

HARPERS GROVE, LLC
3066 Island View Drive
Mound, MN 55364

HARPERS LANDING 1ST ADDITION
Blaine, Minnesota

SANITARY SEWER &
WATER MAIN

5
of
19



BENCHMARKS

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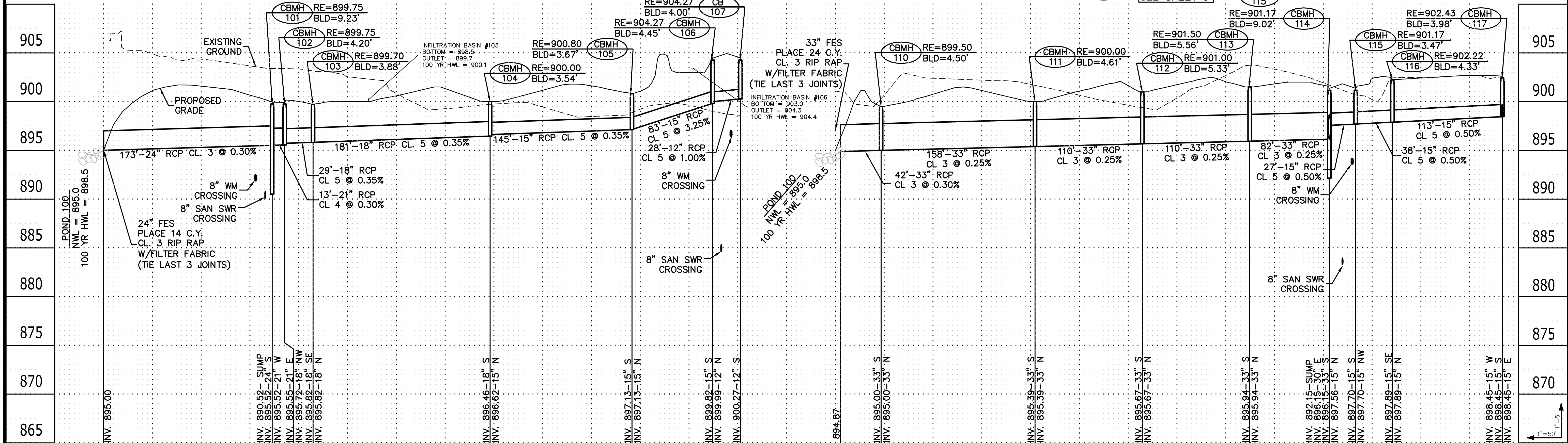
STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
OCS-100	(SEE DETAIL)	
CBMH-101	60" DIA.	R-3067-VB
CBMH-102	48" DIA.	R-3067-VB
CBMH-103	48" DIA.	R-2577-1*
CBMH-104	48" DIA.	R-2577-1*
CBMH-105	48" DIA.	R-2577-1*
CBMH-106	48" DIA.	R-3067-VB
CB-107	24"X36"	R-3067-VB
CBMH-110	60" DIA.	R-2577-1*
CBMH-111	60" DIA.	R-2577-1*
CBMH-112	60" DIA.	R-2577-1*
CBMH-113	60" DIA.	R-2577-1*
CBMH-114	72" DIA.	R-3067-VB
CBMH-115	48" DIA.	R-3067-VB
CBMH-116	48" DIA.	R-3067-V
CBMH-117	48" DIA.	R-3067-VB
CB-118	24"X36"	R-3067-VB

*DENOTES TYPE C GRATE

GENERAL NOTES:

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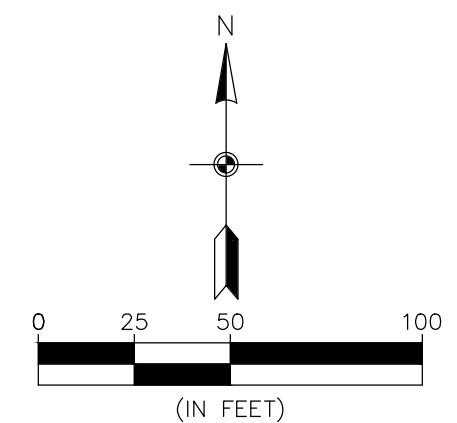
STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CBMH-120	72" DIA.	R-3067-VB
CBMH-121	48" DIA.	R-3067-VB
CBMH-122	72" DIA.	R-2577-1*
CBMH-123	48" DIA.	R-2577-1*
CBMH-124	48" DIA.	R-2577-1*
STMH-125	48" DIA.	R-1733
CB-126	27" DIA.	R-2577-1*
CBMH-190	60" DIA.	R-2577-1*
CB-200	48" DIA.	R-3067-VB

*DENOTES TYPE C GRATE

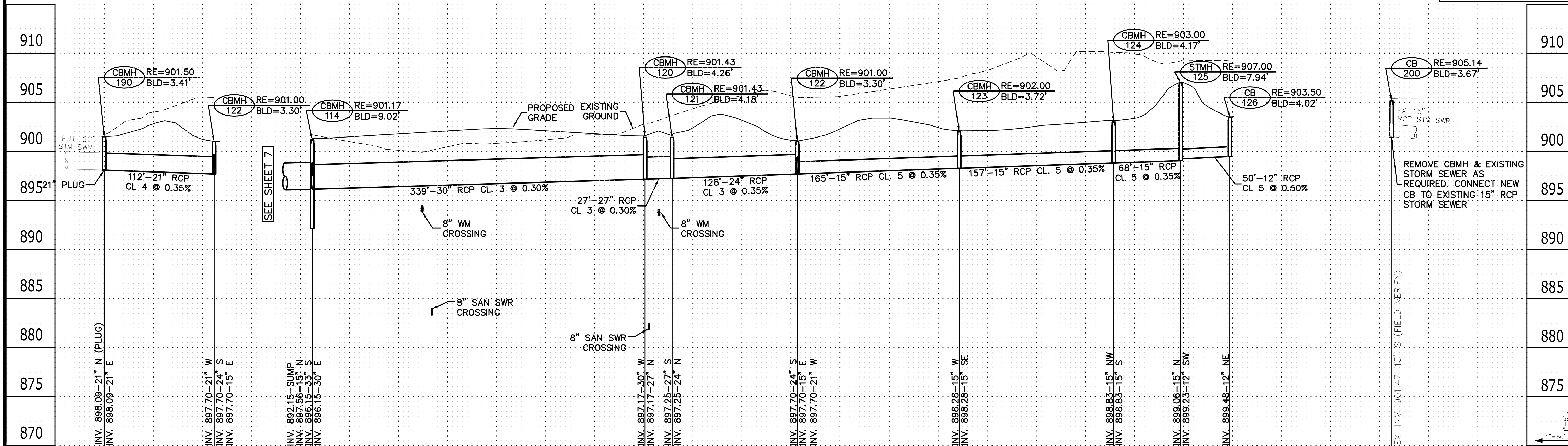
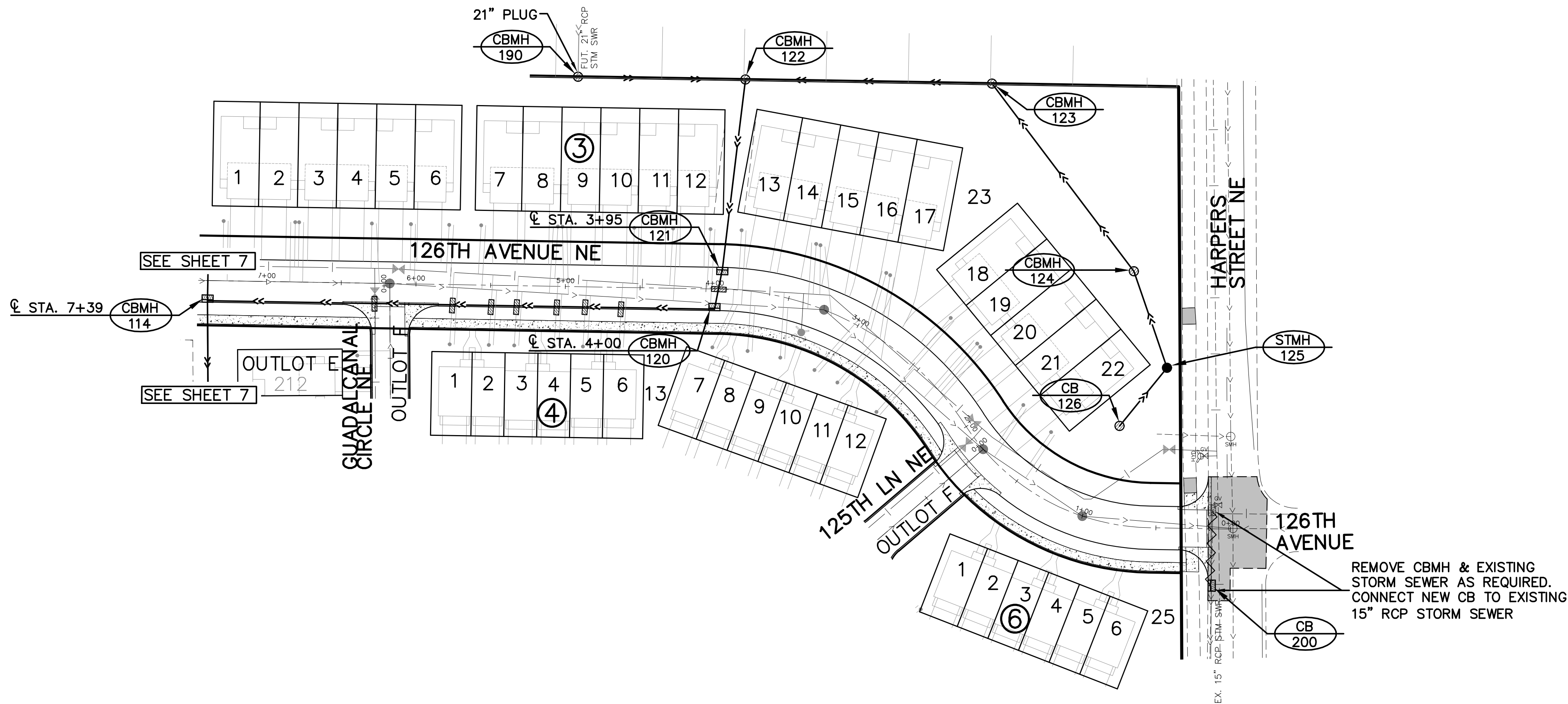
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Designed: BJK
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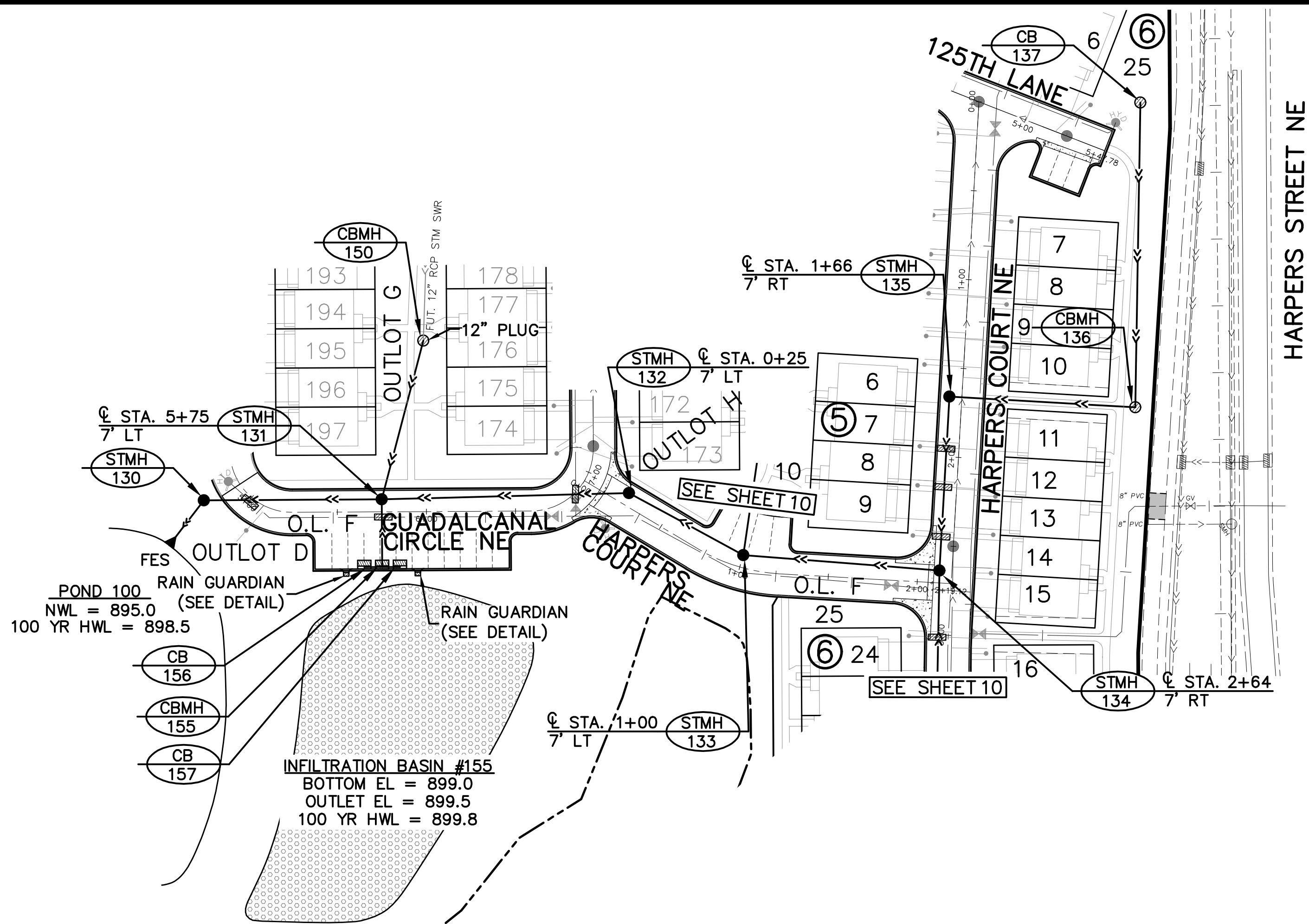
Revisions:
1.

HARPERS GROVE, LLC
3066 Island View Drive
Mound, MN 55364

HARPERS LANDING 1ST ADDITION
Blaine, Minnesota

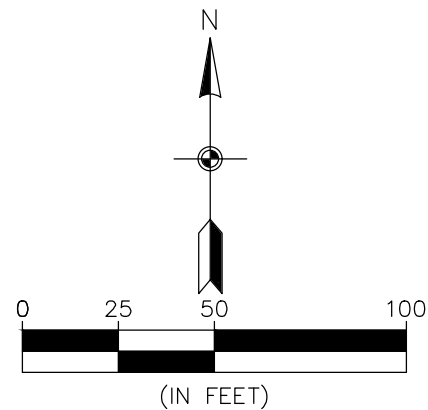
STORM SEWER

8 of 19

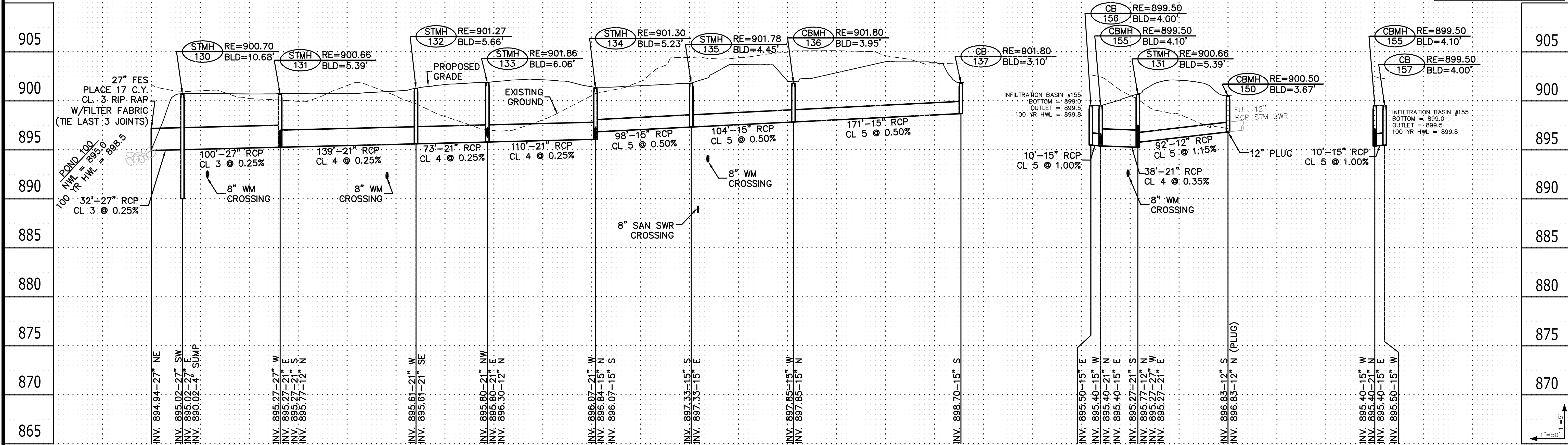


STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
STMH-130	60" DIA.	R-1733
STMH-131	72" DIA.	R-1733
STMH-132	48" DIA.	R-1733
STMH-133	60" DIA.	R-1733
STMH-134	48" DIA.	R-1733
STMH-135	48" DIA.	R-1733
CBMH-136	48" DIA.	R-2577-1*
CBMH-137	27" DIA.	R-2577-1*
CB-150	27" DIA.	R-2577-1*
CBMH-155	48" DIA.	R-3067-VB
CB-156	24"x36"	R-3067-V
CB-157	24"x36"	R-3067-V

*DENOTES TYPE C GRATE
GENERAL NOTES:
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Blaine, Minnesota

STORM SEWER

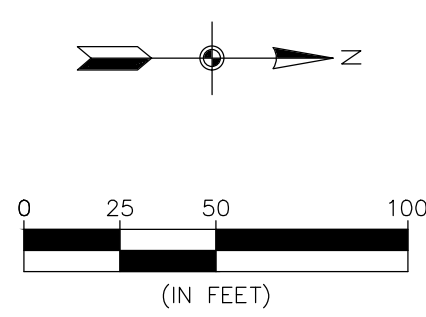
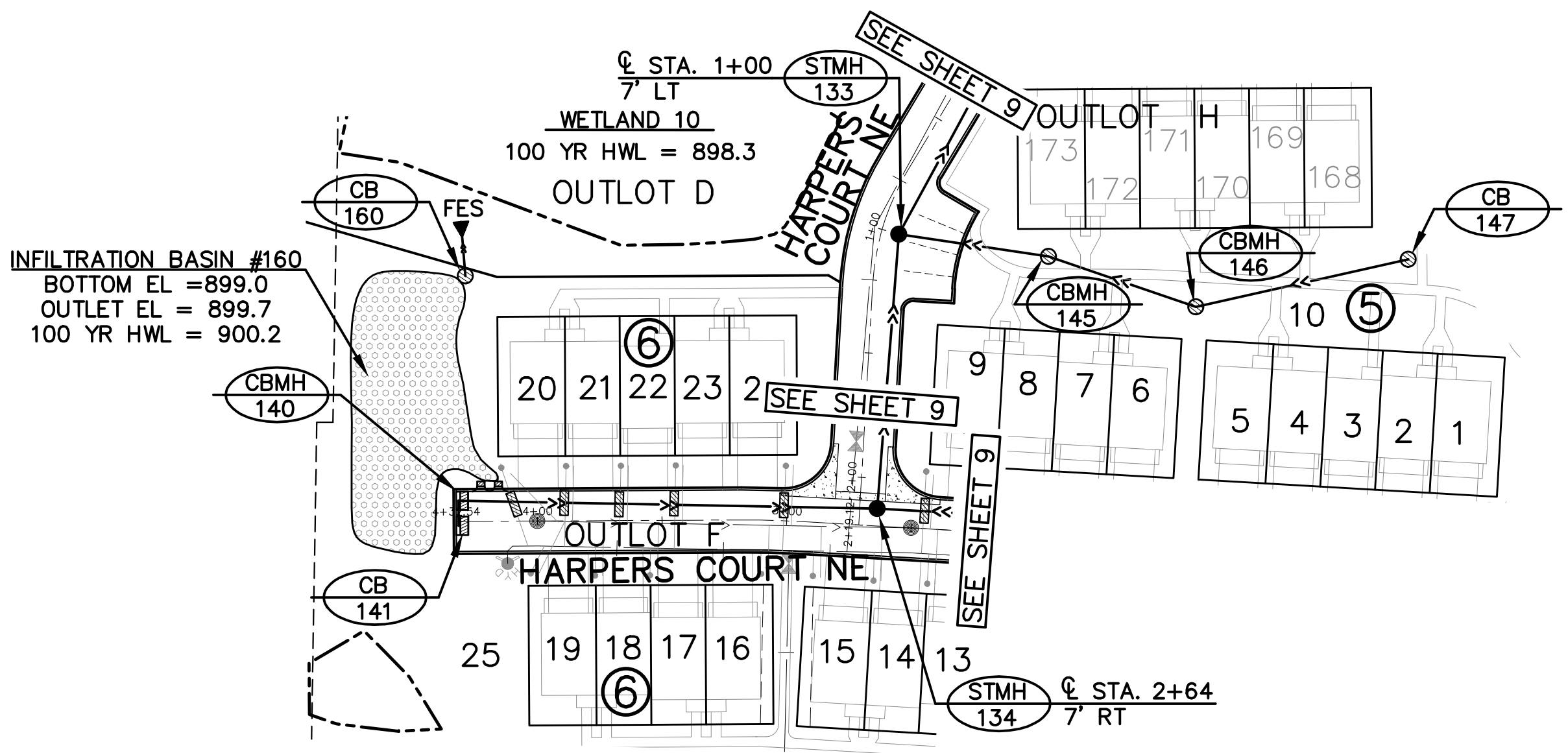
9 of 19

STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CBMH-140	48" DIA.	R-3067-V
CB-141	24"X36"	R-3067-V
CBMH-145	27" DIA.	R-2577-1*
CBMH-146	27" DIA.	R-2577-1*
CB-147	27" DIA.	R-2577-1*

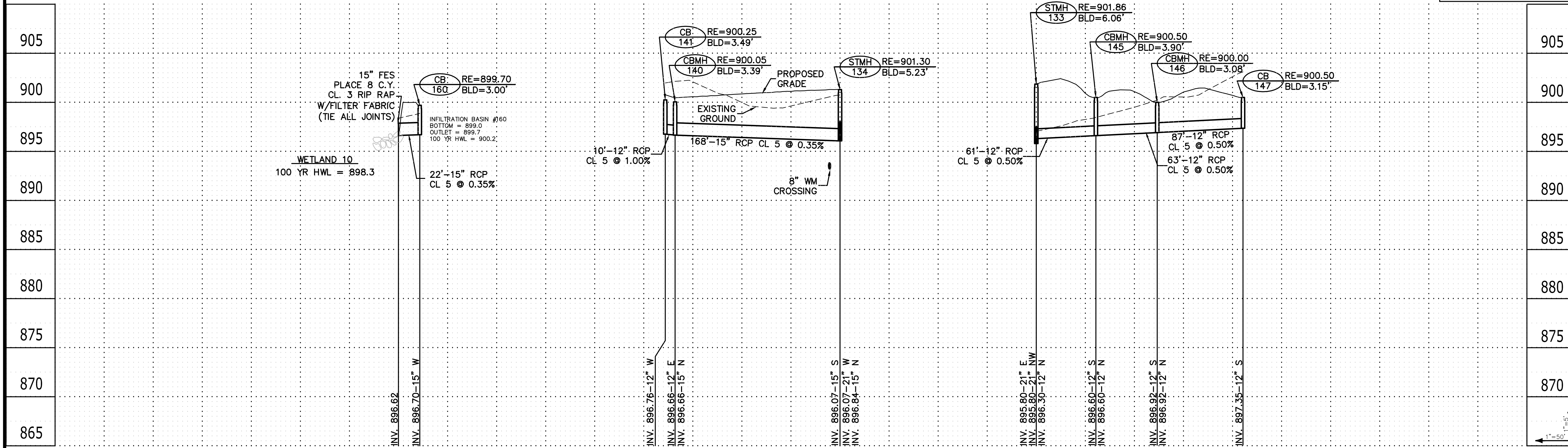
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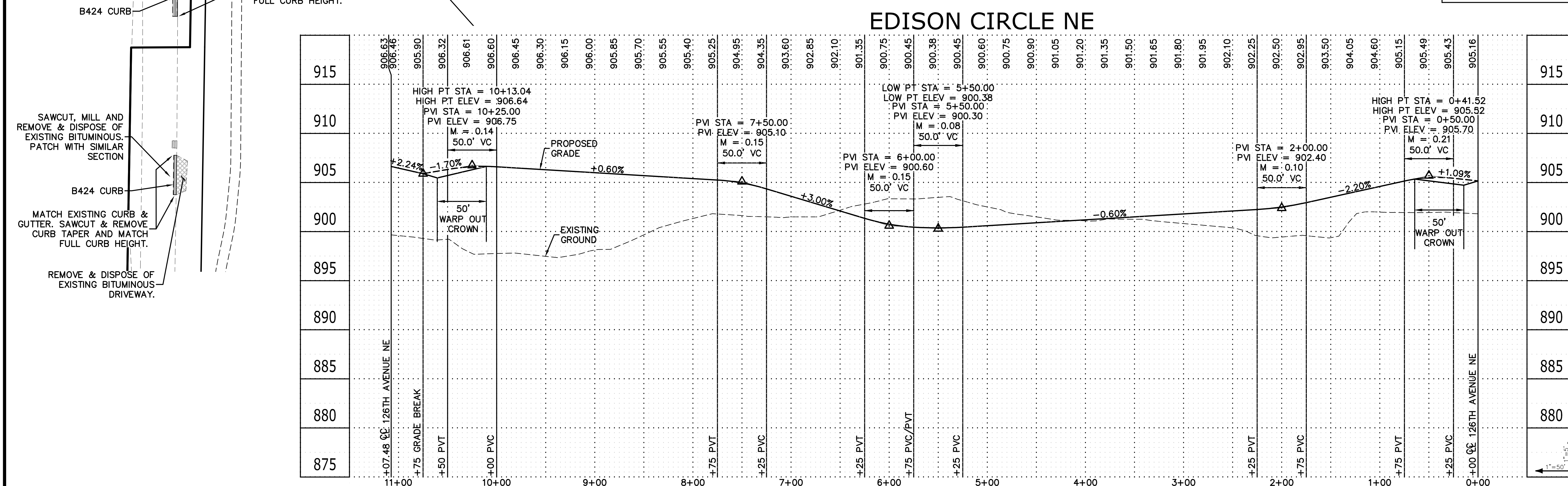
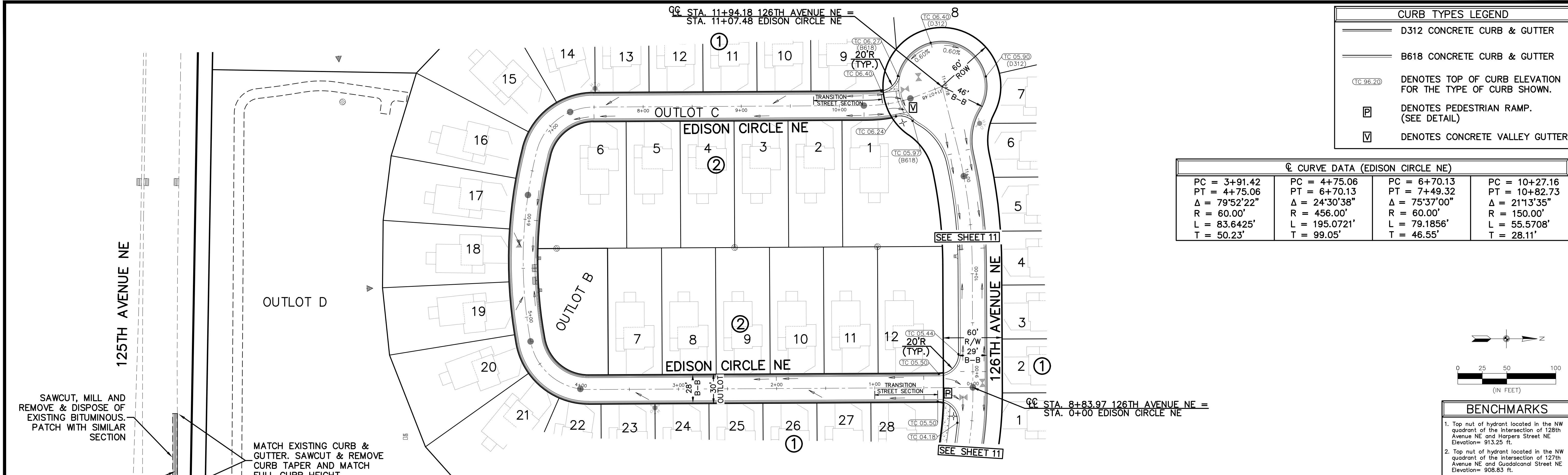
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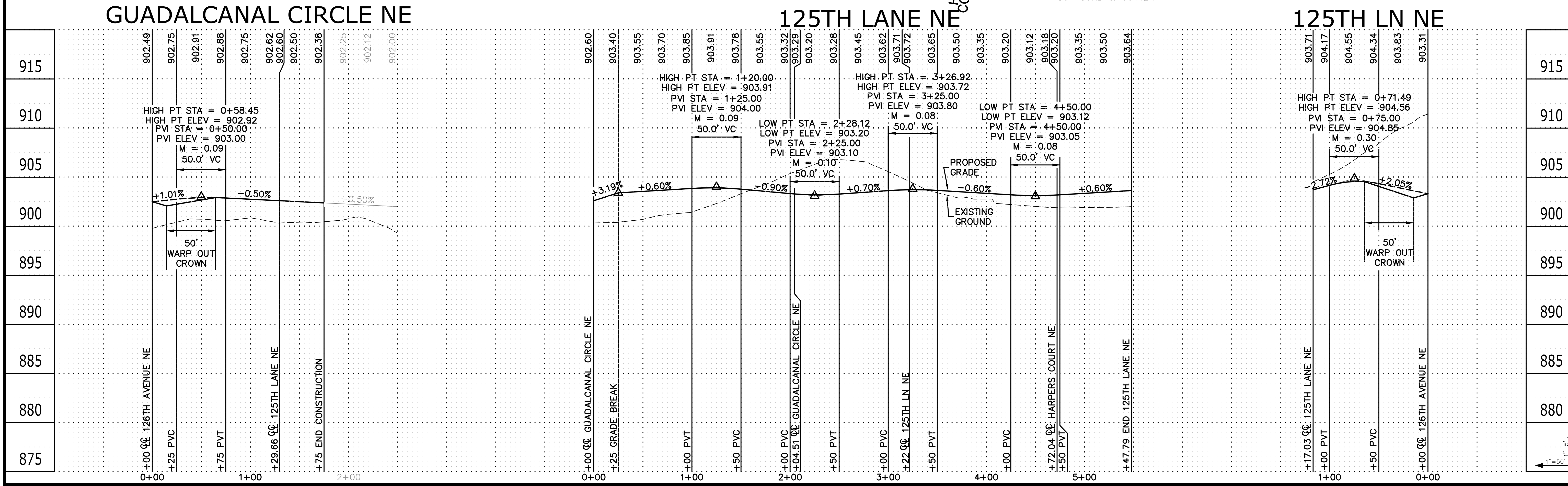
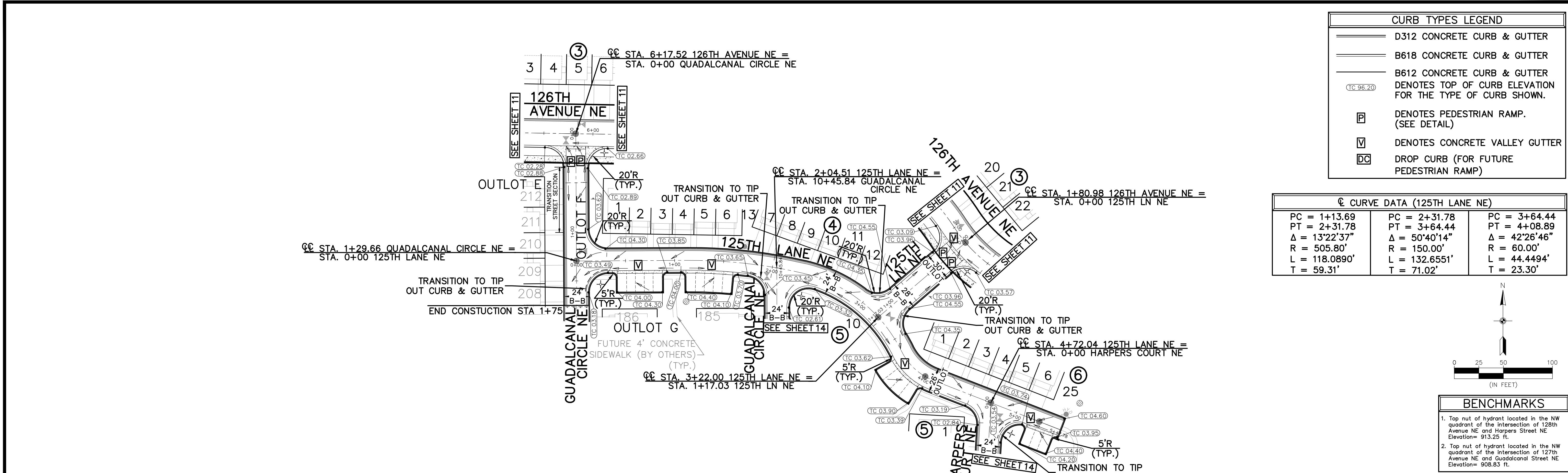
HARPERS LANDING 1ST ADDITION
Blaine, Minnesota

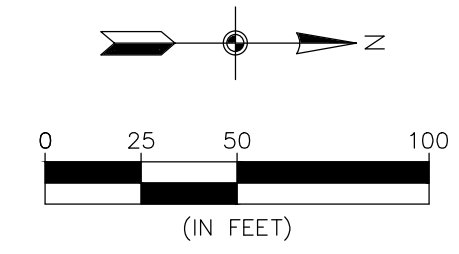
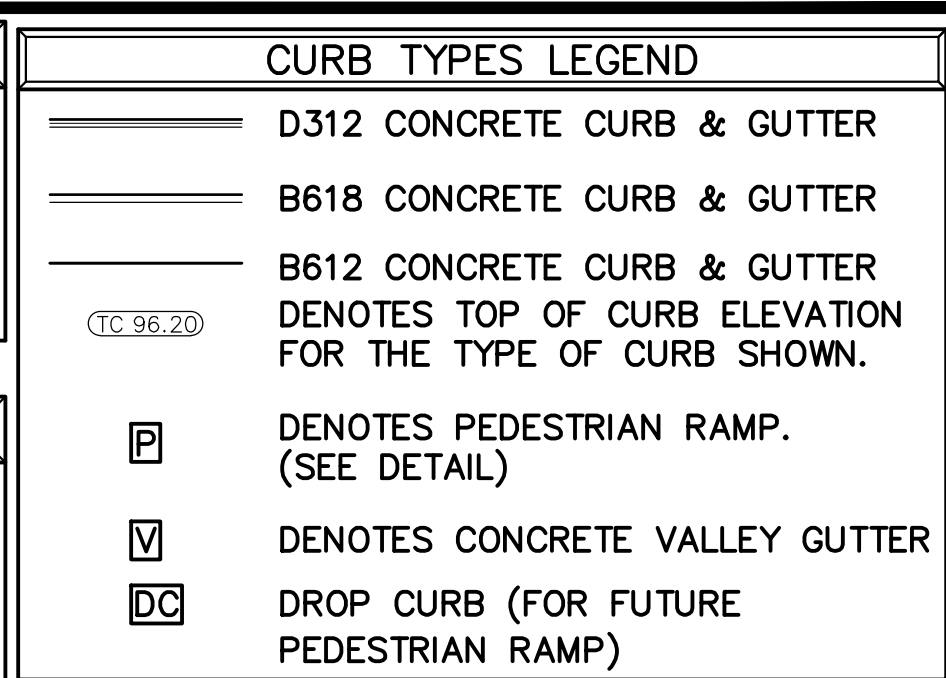
STORM SEWER

10 of 19





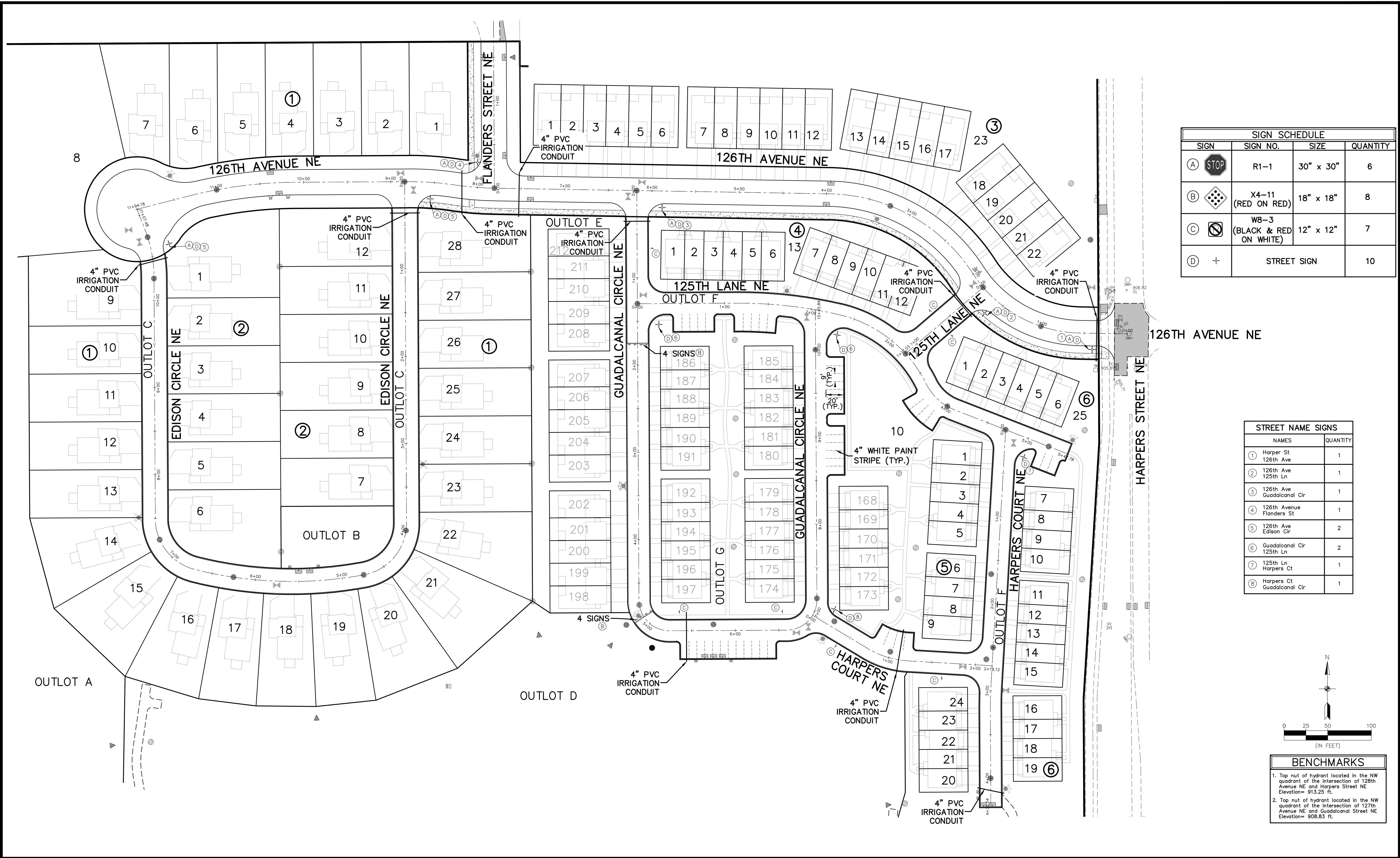




BENCHMARKS

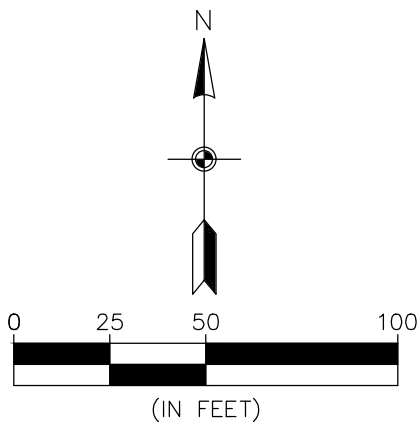
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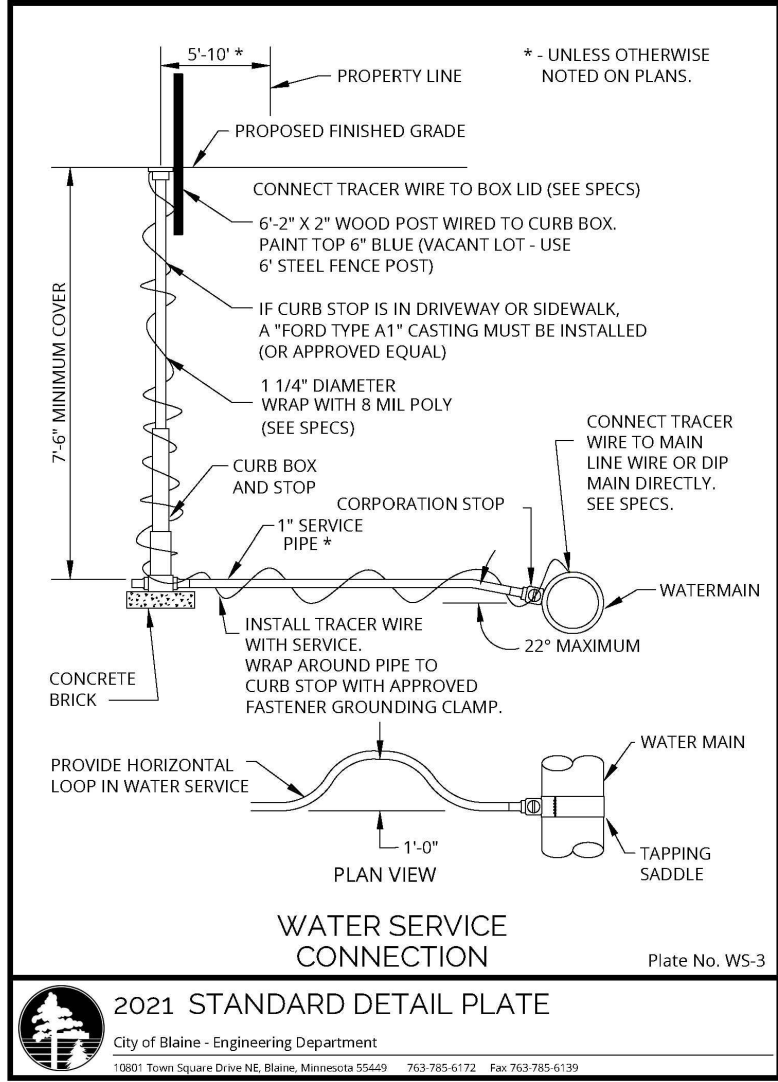
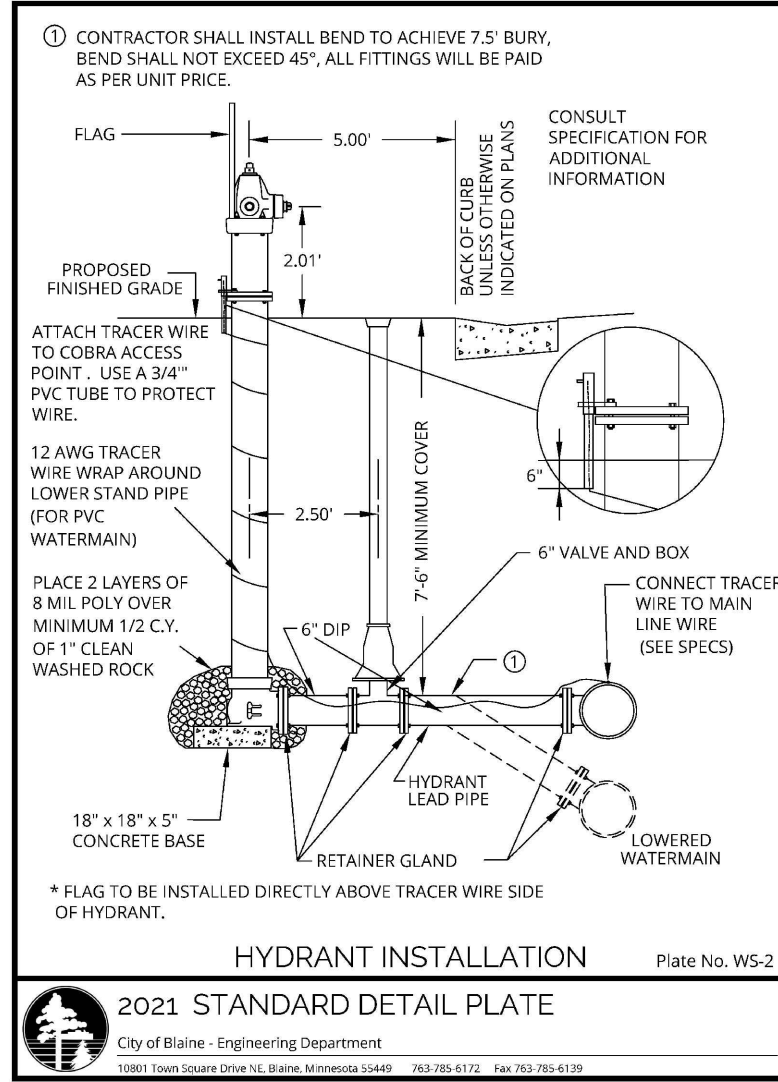
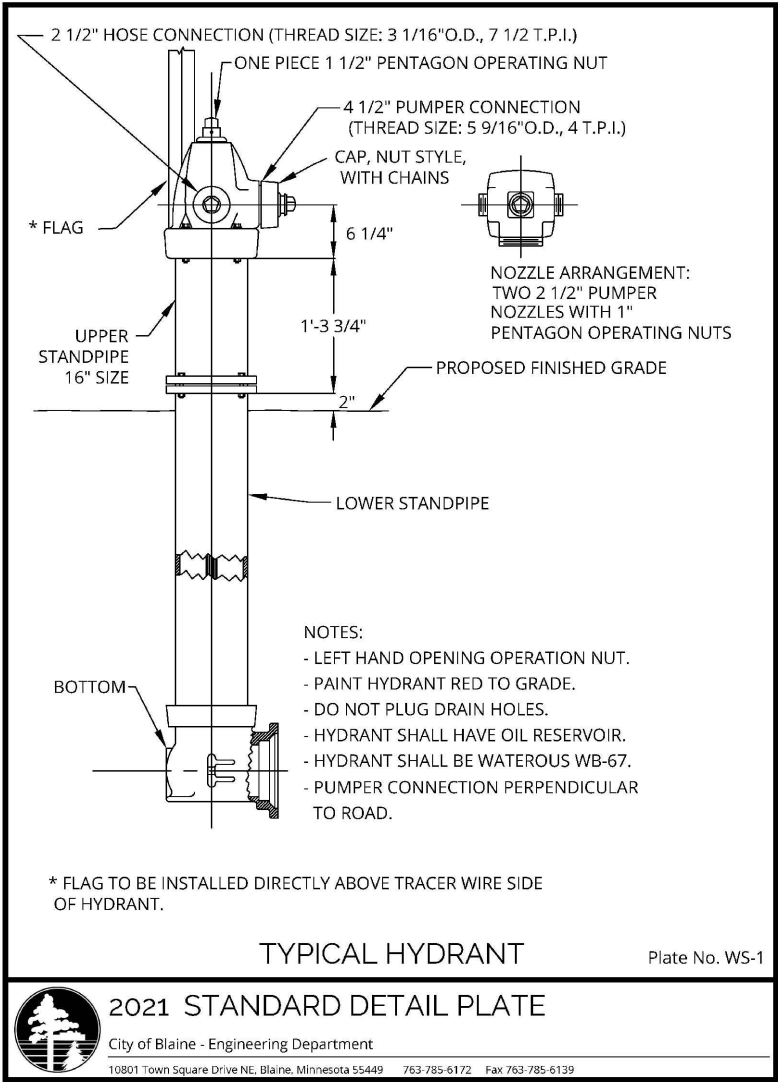
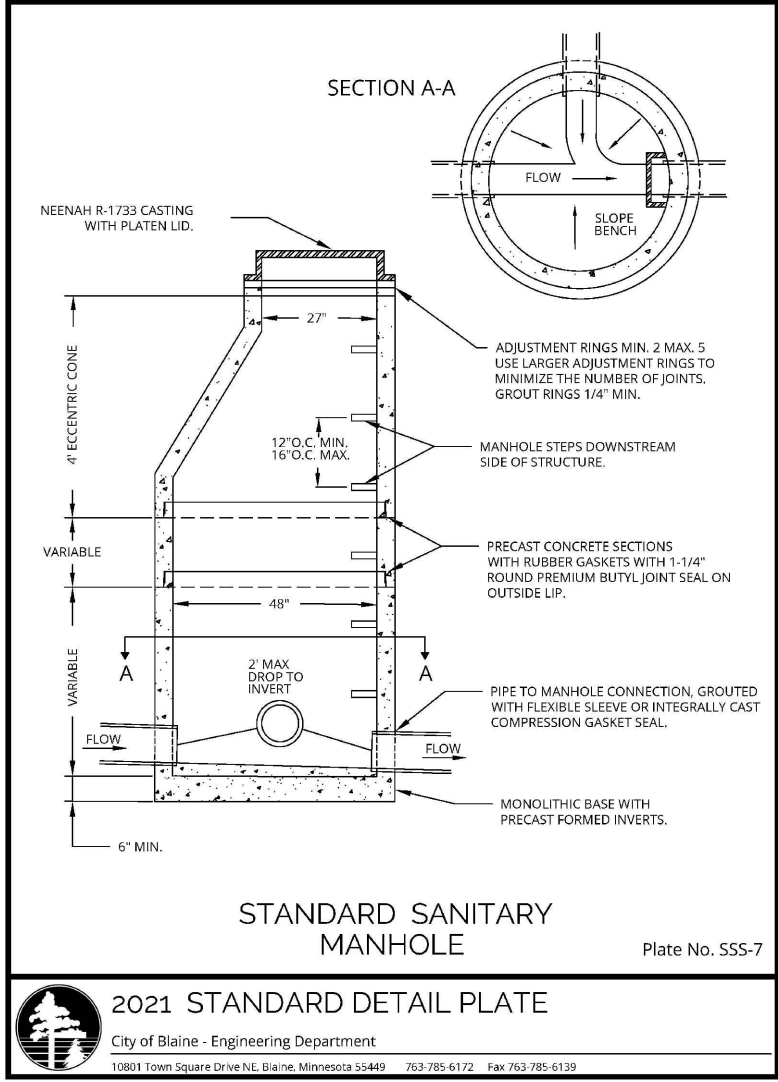
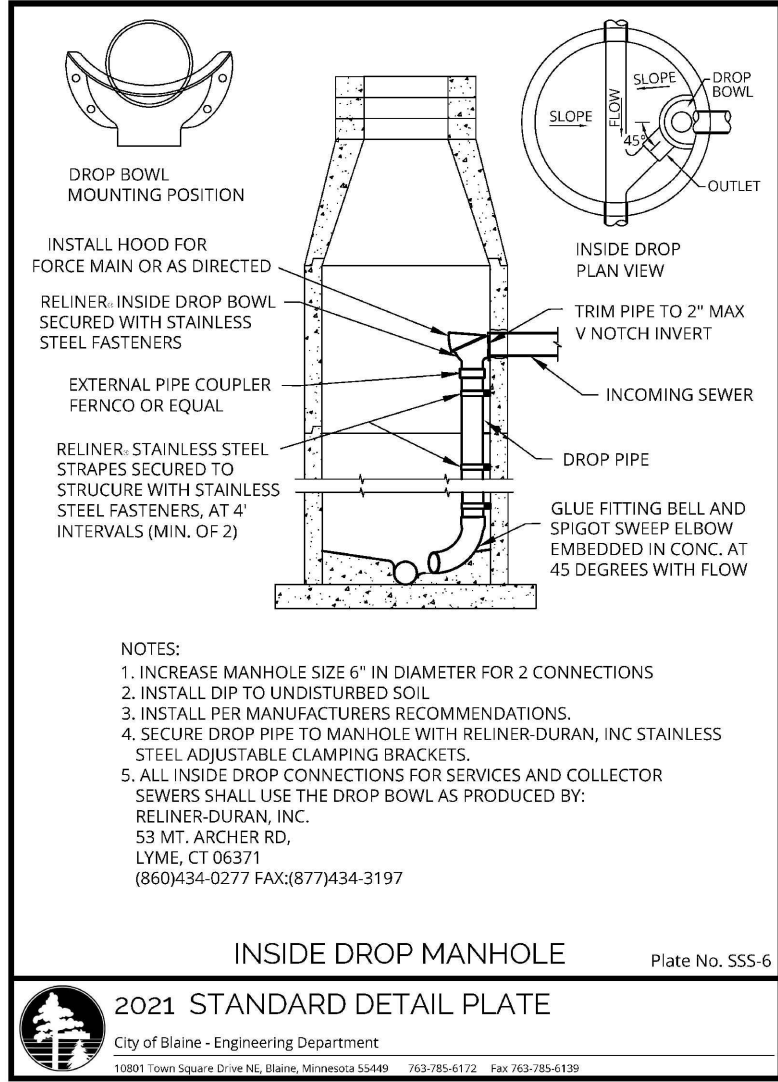
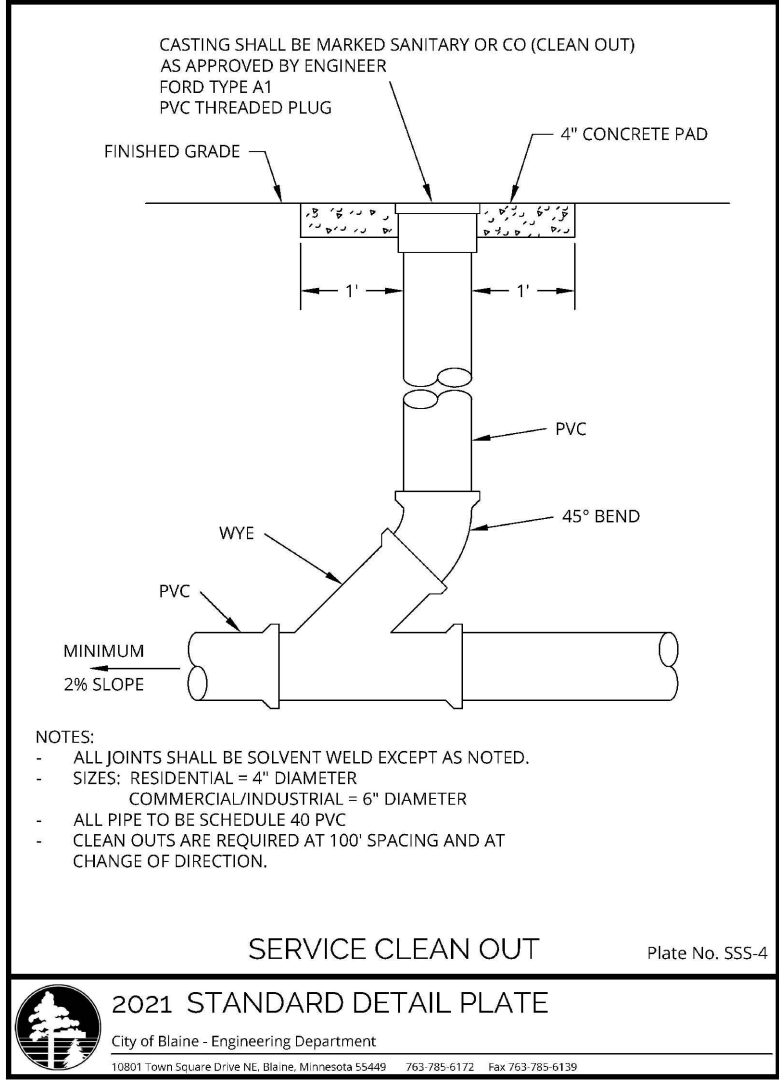
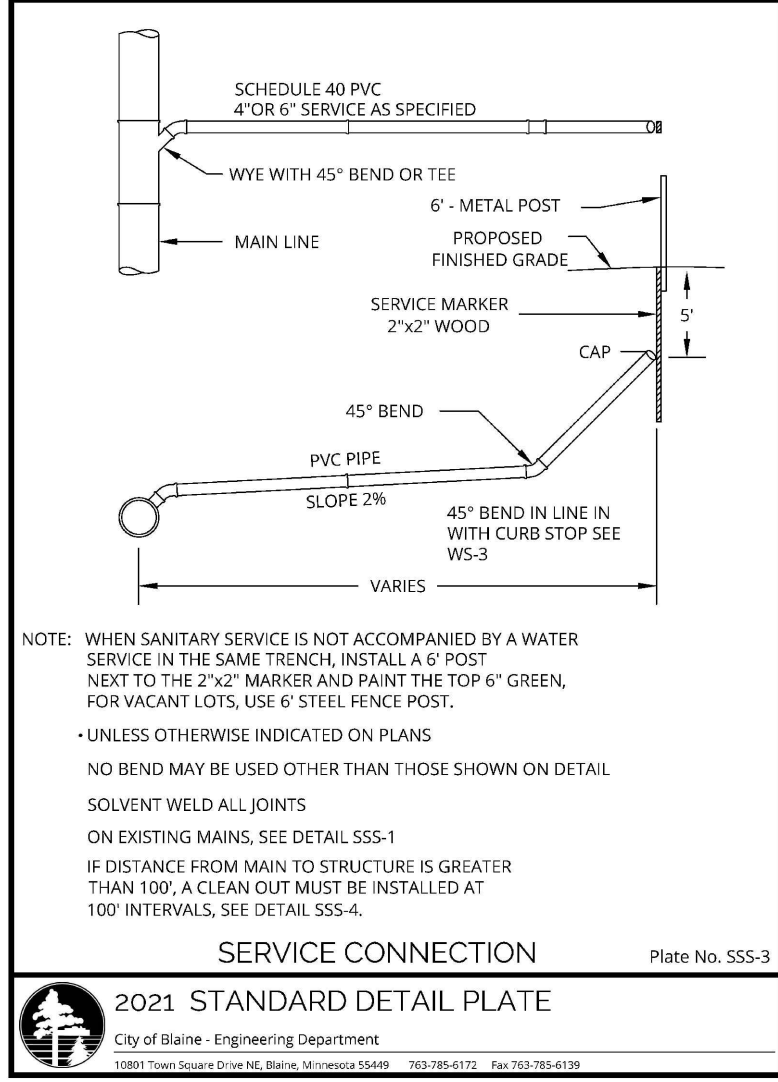
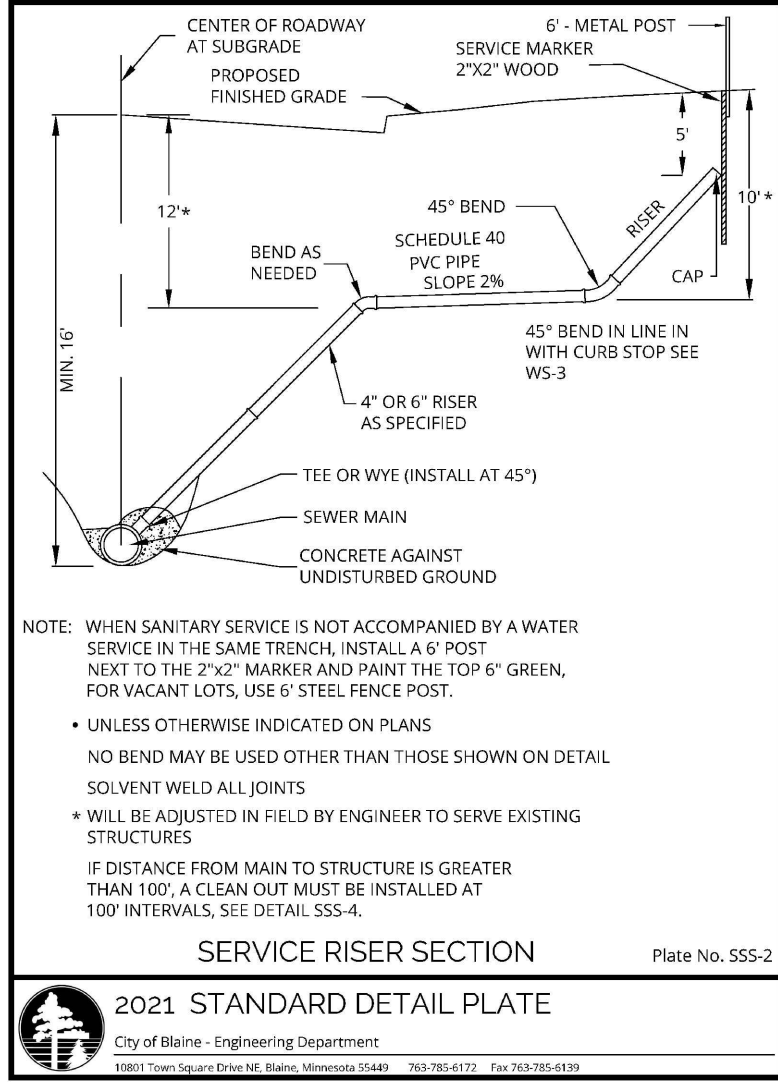
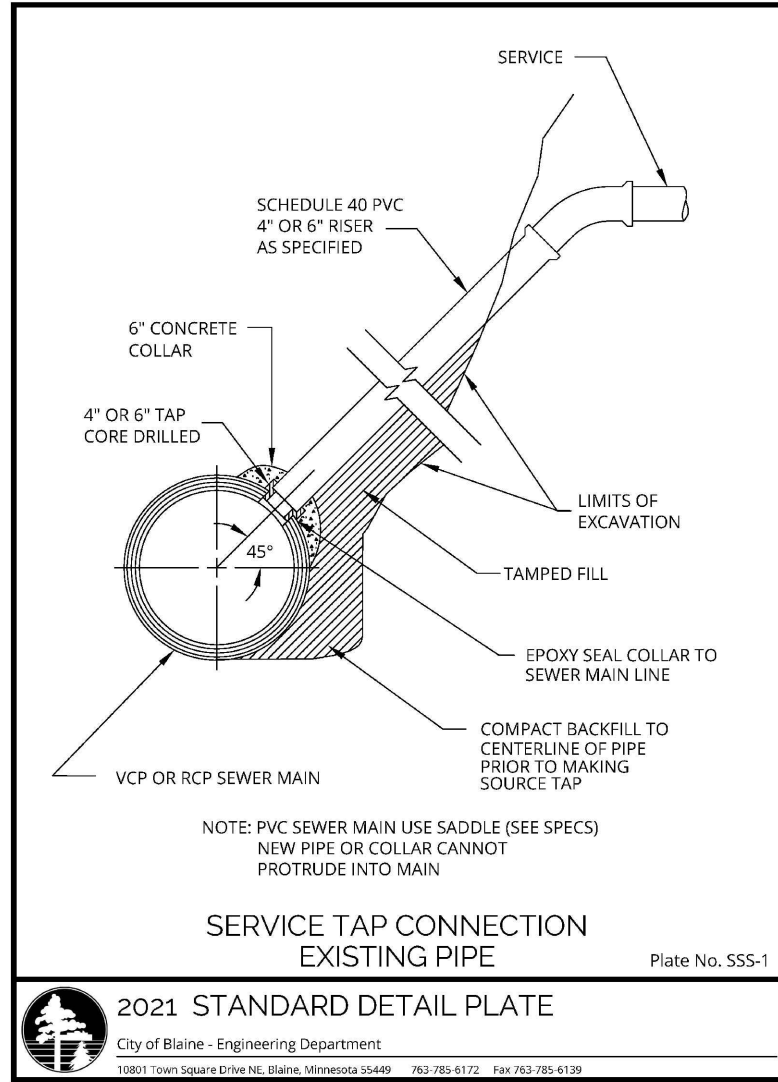


SIGN SCHEDULE			
SIGN	SIGN NO.	SIZE	QUANTITY
(A) STOP	R1-1	30" x 30"	6
(B) X4-11 (RED ON RED)		18" x 18"	8
(C) W8-3 (BLACK & RED ON WHITE)		12" x 12"	7
(D) +	STREET SIGN		10

STREET NAME SIGNS		
NAMES		QUANTITY
① Harper St 126th Ave		1
② 126th Ave 125th Ln		1
③ 126th Ave Guadalcana Cir		1
④ 126th Avenue Flanders St		1
⑤ 126th Ave Edison Cir		2
⑥ Guadalcana Cir 125th Ln		2
⑦ 125th Ln Harpers Ct		1
⑧ Harpers Ct Guadalcana Cir		1

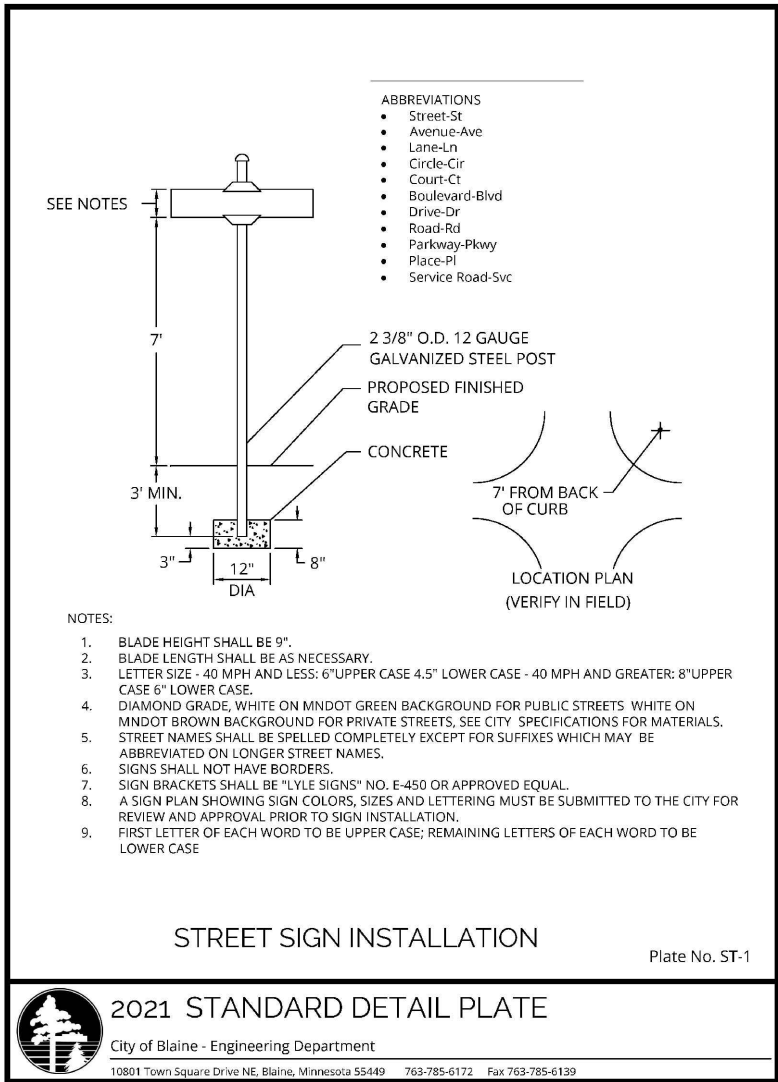
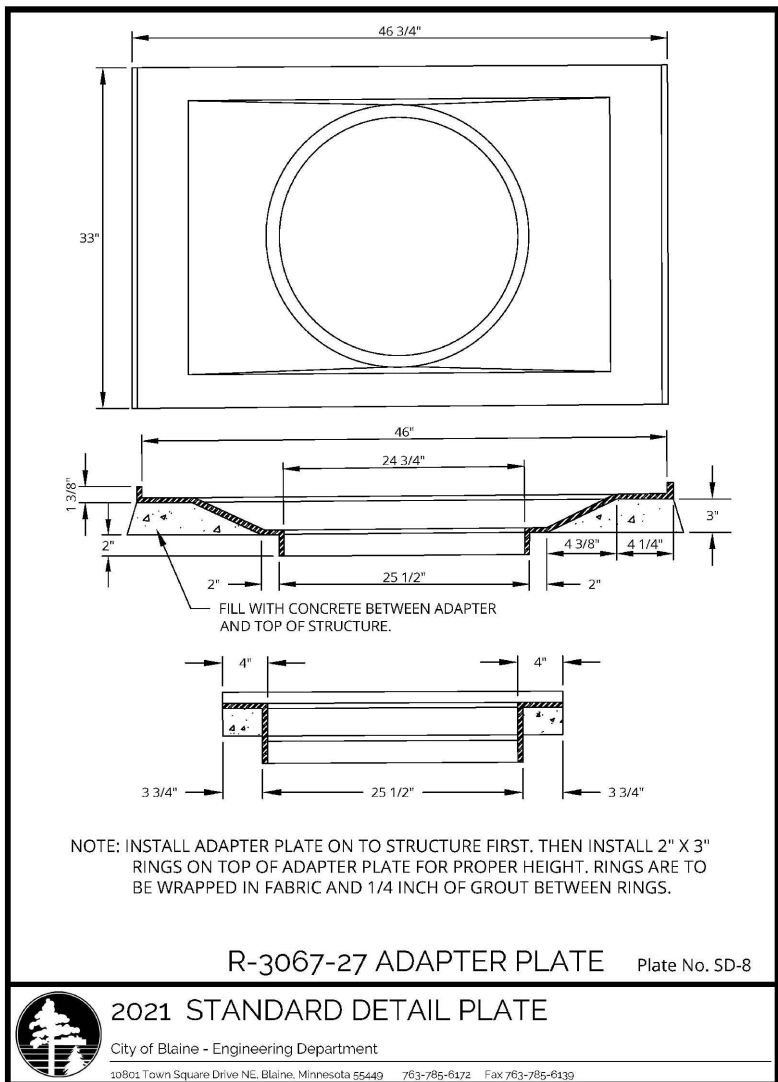
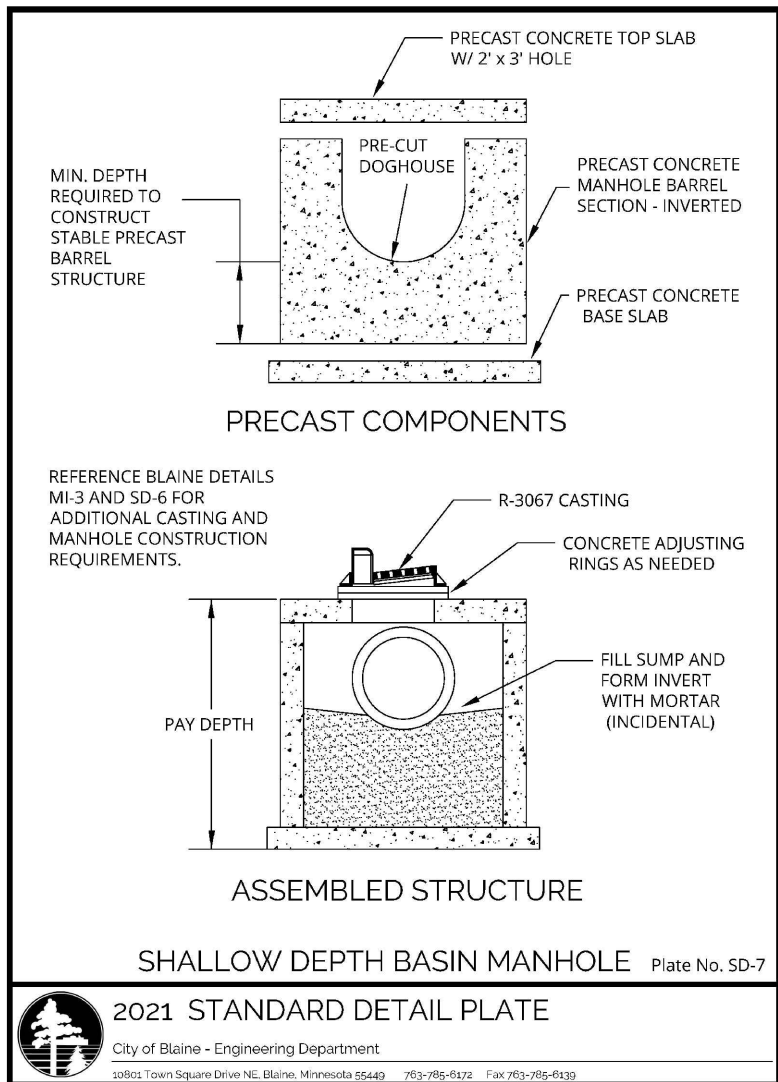
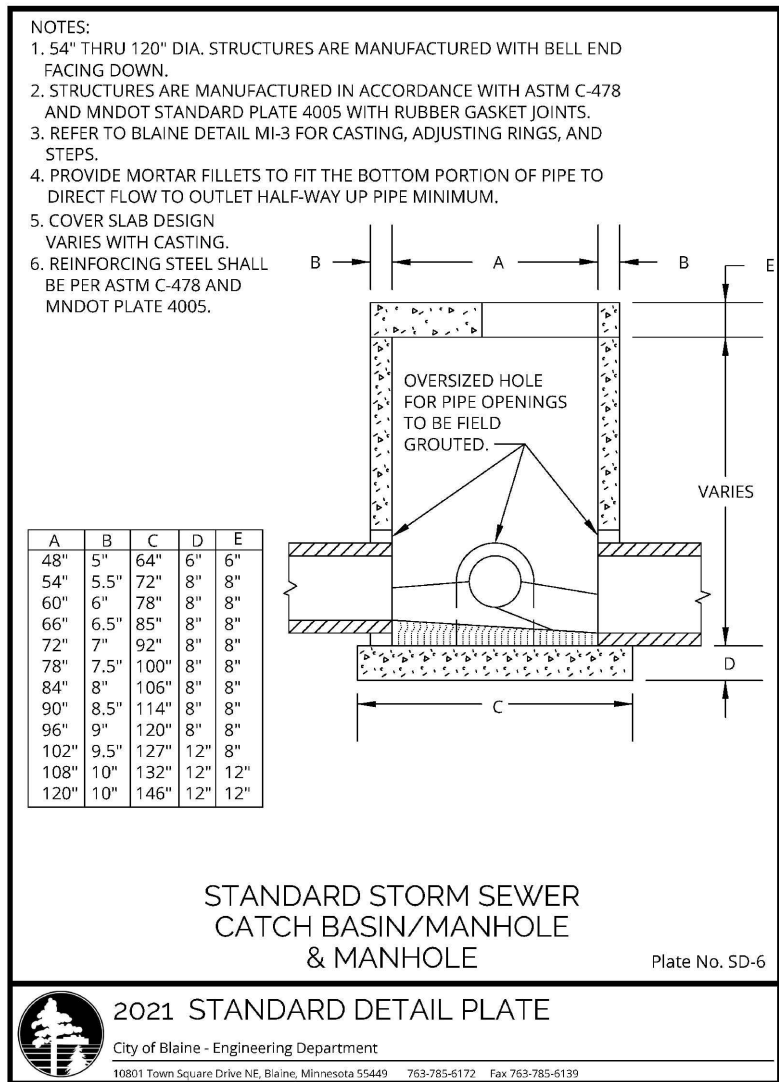
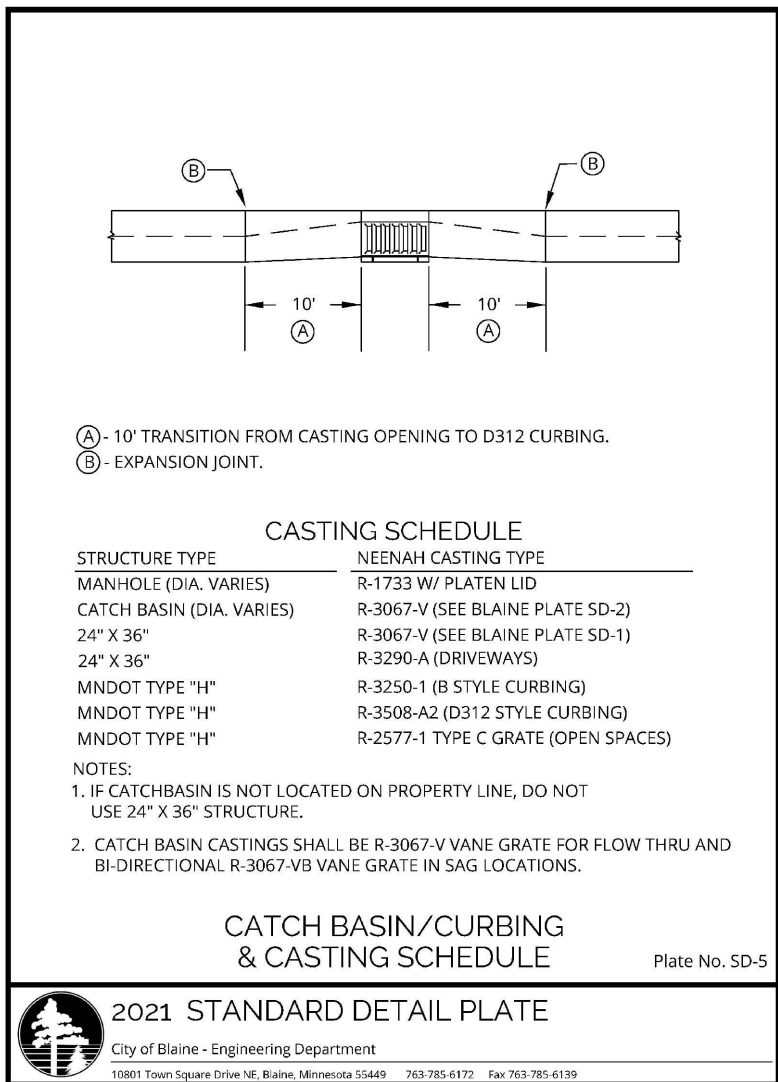
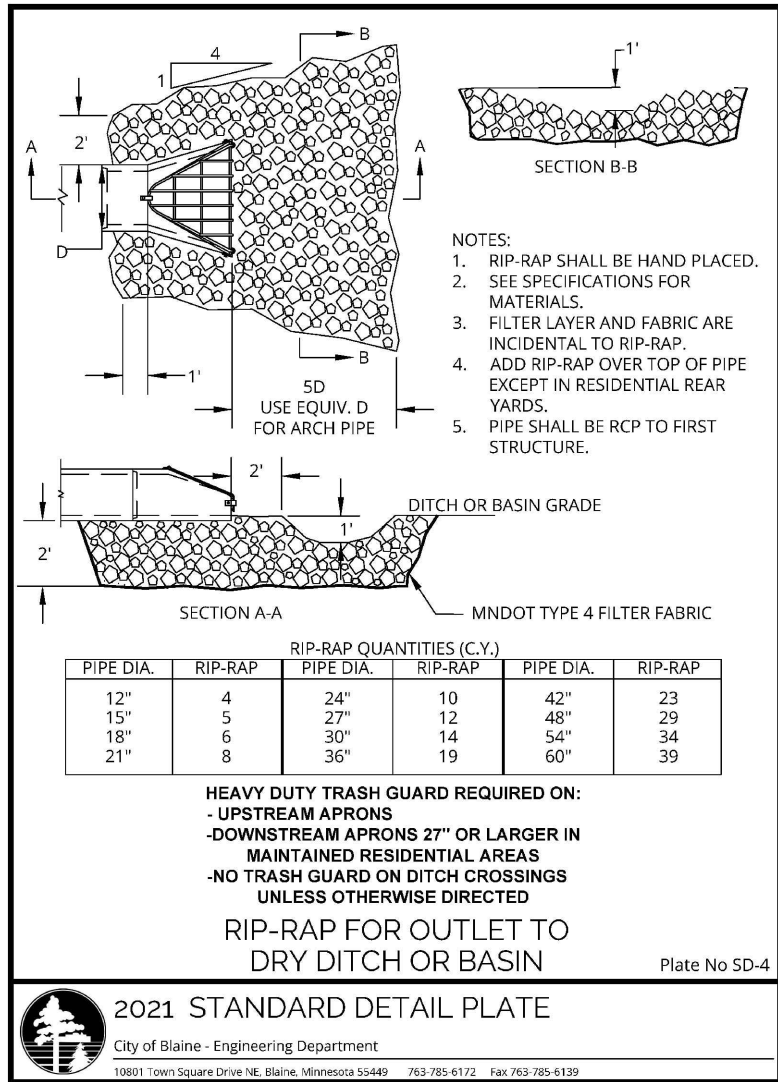
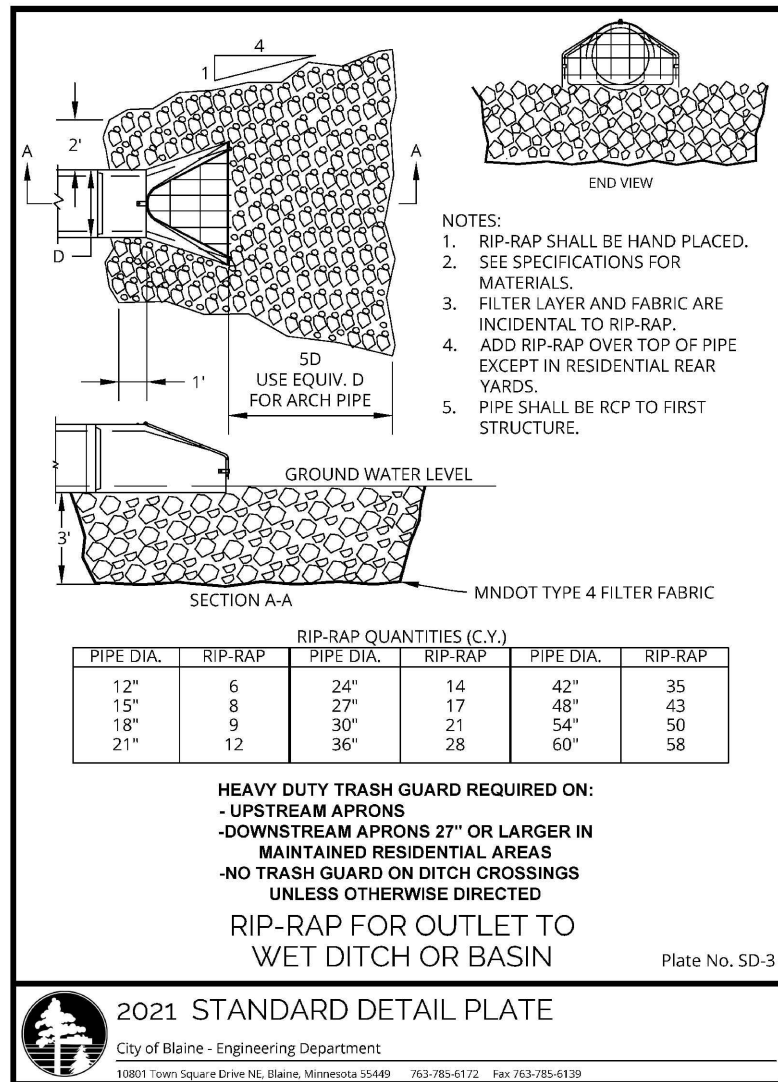
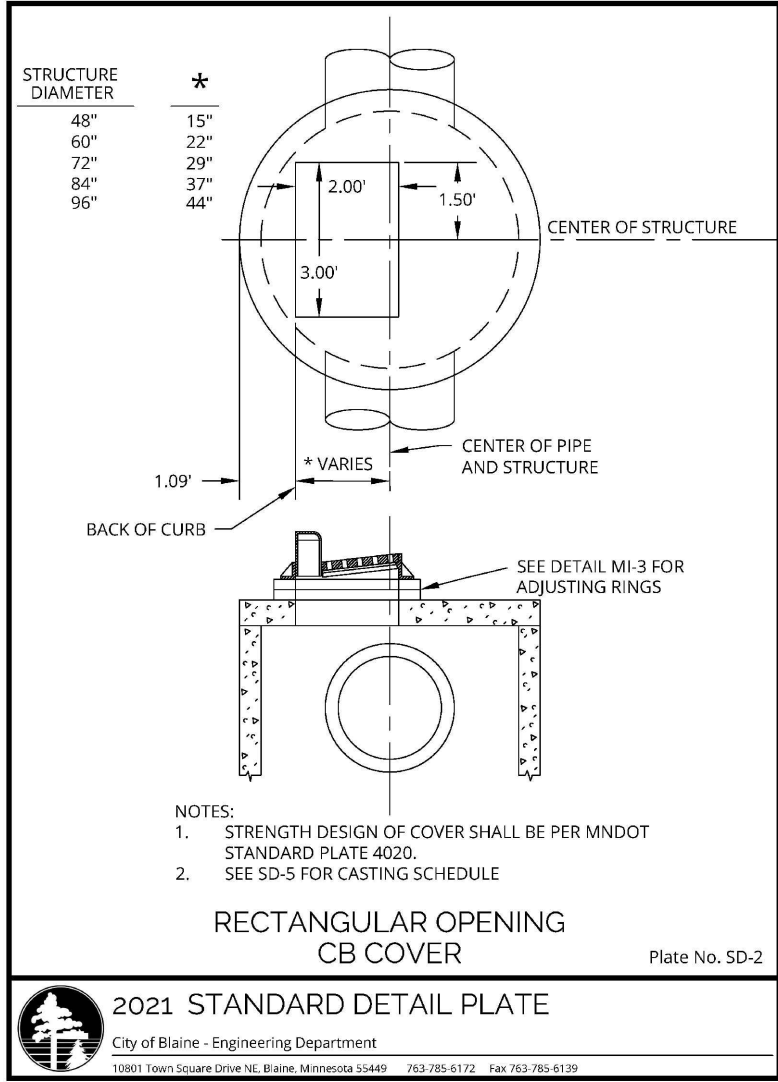
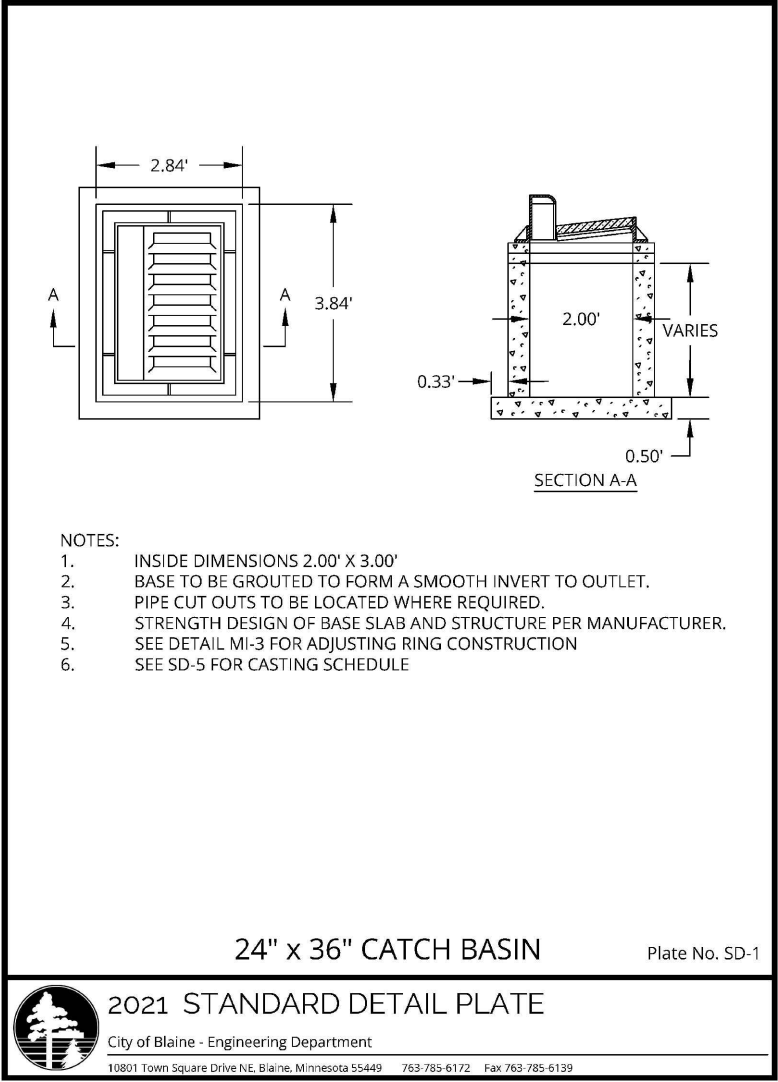
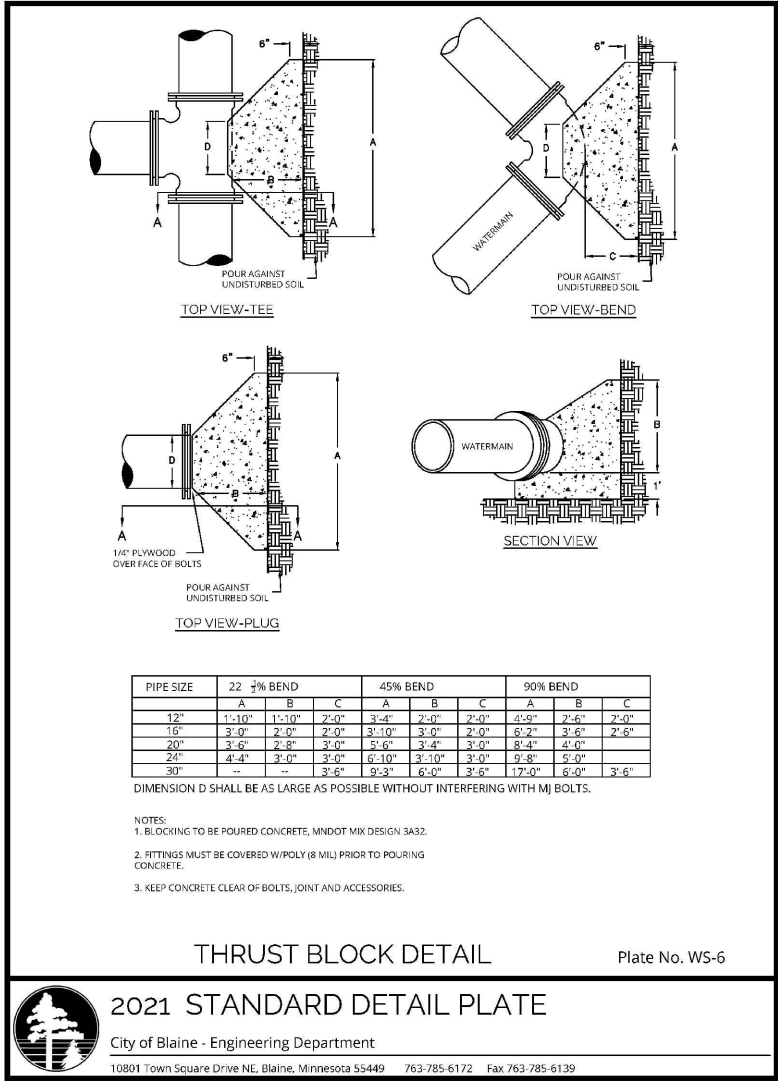
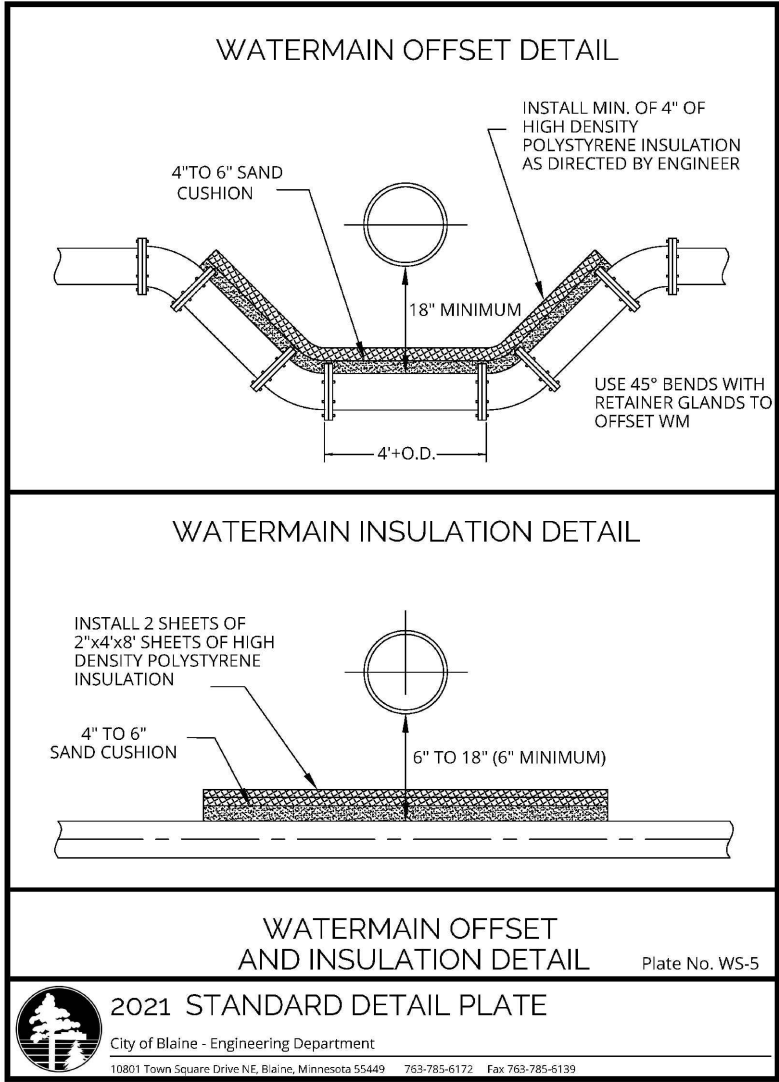


BENCHMARKS
1. Top nut of hydrant located in the NW quadrant of the intersection of 126th Avenue NE and Harpers Street NE Elevation= 913.25 ft.
2. Top nut of hydrant located in the NW quadrant of the intersection of 127th Avenue NE and Guadalcana Street NE Elevation= 908.53 ft.



2021 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10001 Town Square Drive NE, Blaine, Minnesota 55449 763.785.4172 Fax: 763.785.4139

PIPE SIZE	PIPE SIZE											
	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	42"
BENDS	35	57	89	108	210	364	335	402	565			
SHORT	35	57	89	108	210	364	335	402	565			
LONG	35	57	89	108	210	364	335	402	565			
PLUG	18	26	36	46	85	93	130	153	202			
TEES	17	25	35	44	79	100	122	202	214			
REDUCERS	8"	36	54	84	100	100	100	100	100			
12"	60	60	60	60	60	60	60	60	60			
14"	100	100	100	100	100	100	100	100	100			
16"	124	124	124	124	124	124	124	124	124			
18"	140	140	140	140	140	140	140	140	140			
20"	153	153	153	153	153	153	153	153	153			
24"	202	202	202	202	202	202	202	202	202			
30"	335	335	335	335	335	335	335	335	335			
36"	402	402	402	402	402	402	402	402	402			
42"	565	565	565	565	565	565	565	565	565			



FERTILIZER: TYPE 1 10-10-10 AT 200 POUNDS PER ACRE

4:1 MAX

10'

SLOPE MIN 2%

4:1 MAX

4-6" TOPSOIL

COMPACTED SUBGRADE

Technical drawing of a Rain Guardian Bunker, showing plan and elevation views with dimensions and labels.

Plan View (Top):

- INSURMOUNTABLE CURB:** Dimensions are 2'-6" wide and 1'-7 7/8" deep.
- CONCRETE PAD:** Located inside the curb.
- RAIN GUARDIAN BUNKER:** The main structure with a grid pattern.
- BASIN INLET:** Indicated by an arrow pointing into the bunker.
- GUTTER LINE:** Indicated by an arrow pointing to the curb.
- 24" MAY VARY BASED ON SITE CONDITIONS:** Dimension for the curb cut elevation.
- 8" WIDE CONCRETE INLET (WIDTH MAY VARY BASED ON SITE CONDITIONS):** Dimension for the inlet width.
- PLACE TEMPORARY SANDBAG OR EQUAL APPROVED SEDIMENT BARRIER TO PREVENT WATER INFLOW:** Instruction for the inlet area.
- POSITION RAIN GUARDIAN BUNKER SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH FILTER:** Instruction for placement.

Elevation View (Bottom):

- CURB-CUT ELEVATION (SEE PLAN):** Indicated by a dashed line.
- 24" MAY VARY BASED ON SITE CONDITIONS:** Dimension for the curb cut elevation.
- CARRIAGE BOLT (PROVIDED):** Dimension is 6".
- RAIN GUARDIAN BUNKER INLET:** Indicated by an arrow.
- RAIN GUARDIAN BUNKER TOP METAL GRATE:** Indicated by an arrow.
- REMOVABLE FILTER WALL:** Indicated by an arrow.
- CONCRETE PAD:** Indicated by an arrow.
- CLASS 5 AGGREGATE:** Indicated by an arrow.
- SUBSOIL:** Indicated by an arrow.
- 9" BELOW CURB-CUT ELEVATION (SEE PLAN):** Dimension for the primary outlet.
- 1'-11/16" GUTTER LINE:** Dimension for the gutter line.
- 1'-1/2" PRIMARY OUTLET:** Dimension for the primary outlet.
- 7 1/2" BOTTOM OF STORM WATER MANAGEMENT BMP AT OR BELOW PRIMARY OUTLET ELEVATION:** Dimension for the bottom of the BMP.
- MASONRY SCREWS (PROVIDED):** Indicated by an arrow.
- SITE SPECIFIC:** Indicated by an arrow.
- INLET CURB:** Indicated by an arrow.
- 4 1/4" INLET CURB:** Dimension for the inlet curb.
- 1'-1/2" GUTTER LINE:** Dimension for the gutter line.

CURB-OUT ELEVATION (SEE PLAN)

RAIN GUARDIAN (SEE DETAIL)

OUTLET ELEVATION

PLANT W/ MnDOT SEED MIX 3.3-261 W/ EROSION CONTROL BLANKET

VARIES

BASIN BOTTOM

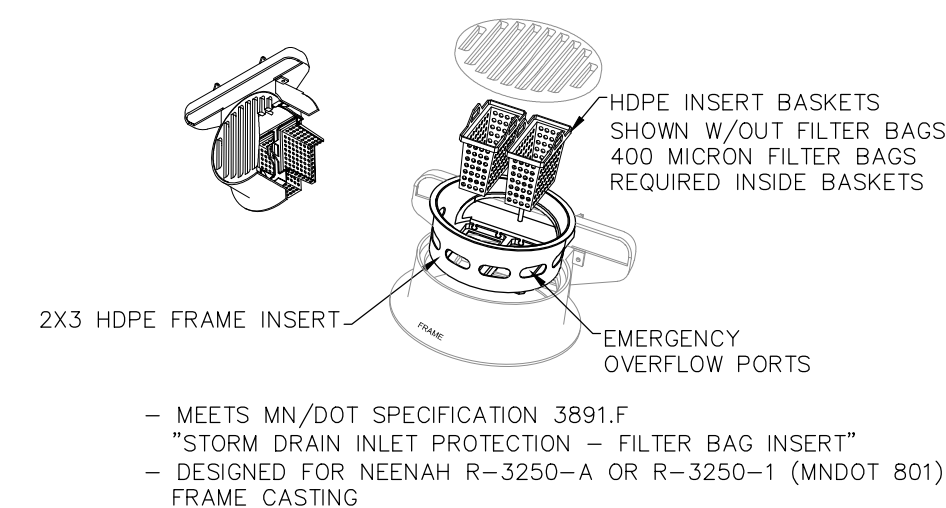
12"

RIPPED NATIVE PERMEABLE SOIL

UNDISTURBED NATIVE PERMEABLE SOIL

NOTE: CONDUCT POST-CONSTRUCTION TEST OF INFILTRATION BASIN BY FILLING BASINS TO MINIMUM 6-INCH DEPTH AND MONITORING THE TIME FOR THE BASIN TO DRAIN. NOTIFY COON CREEK WATERSHED DISTRICT PRIOR TO CONDUCTING TEST TO ALLOW TEST OBSERVATION. (NOTE: A DOUBLE RING FILTRATION TEST MAY BE DONE IN LIEU OF FILLING THE BASIN)

AS MANUFACTURED BY ROYAL ENVIRONMENTAL SERVICES



AS MANUFACTURED BY ROYAL ENVIRONMENTAL SYSTEMS

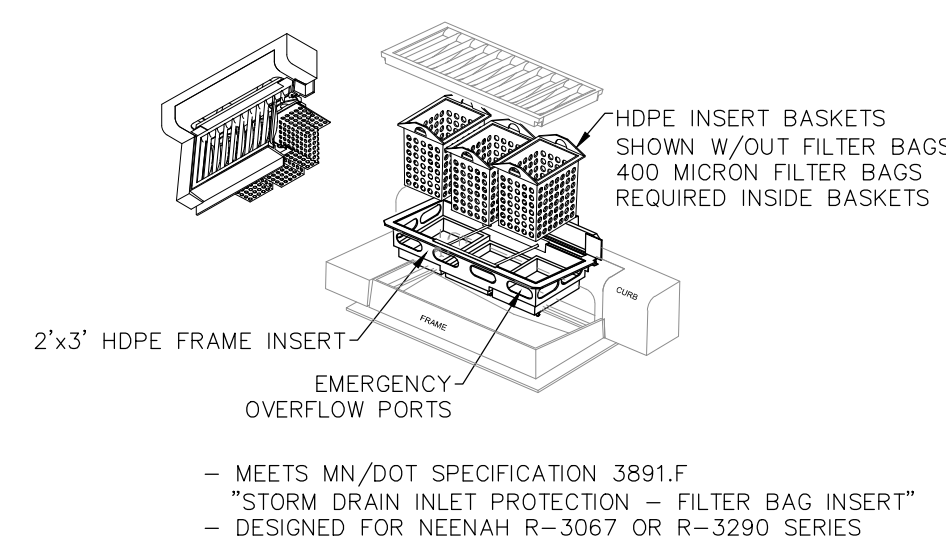


Diagram illustrating the installation of a watermain plug and curb stop:

- MARK W/ STEEL FENCE POST & PAINT BLUE.**: A vertical line indicates the marking location on the ground surface.
- 1.5' FROM FINISHED GRADE**: A dimension line shows the vertical distance from the ground surface to the top of the curb stop.
- 1" CURB STOP AND BOX**: The vertical pipe assembly that connects the surface to the underground watermain.
- 1"**: A dimension line indicates the horizontal distance from the curb stop to the watermain plug.
- WATERMAIN PLUG**: The component that seals the connection between the watermain and the curb stop.
- WATERMAIN**: The main underground water supply pipe.
- 1" CORP. TAPPED INTO WATERMAIN PLUG**: A small pipe connection for tapping into the watermain.
- CONCRETE BRICK**: The base material supporting the curb stop and plug assembly.
- 1" HDPE SERVICE PIPE**: The pipe that carries water from the curb stop to the building.

B.O.C.

5' 5' 3'

FLANGED CAP

4" G.V. & BOX

4" DIP

4" DIP WM

TAP PLUG

1" COPPER TYPE K (BLOWOUT)

EXTEND IRRIGATION SERVICE & BLOWOUT LINE 3' ABOVE GRADE & CAP. MARK W/ STEEL FENCE POST & PAINT BLUE.

PVC WATERMAIN

8"x4" TEE

CONCRETE BRICK

•HDPE ALLOWED IN LIEU OF COPPER

NOTE: IRRIGATION SERVICE IS A BACKUP TO THE IRRIGATION REUSE SYSTEM ONLY.
A BACKFLOW PREVENTION VALVE SHALL BE INSTALLED (BY OTHERS) TO
PREVENT CROSS-CONTAMINATION OF CITY WATER.

