

LEGEND	
	TEMPORARY STORAGE AREA FOR EXCESS MATERIAL
	TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA
	CONCRETE WASHOUT AREA
	SILT FOAM DIKE OR STRAW WATTLE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS
	ROCK DITCH CHECK
	STRAW WATTLE OR COIL LOG STAKED & INSTALL PER MFR'S RECOMMENDATIONS
	SILT FENCE (PRIOR TO LAND DISTURBANCE)
	SILT FENCE (DURING CONSTRUCTION)
	SILT SOCK / ROCK SOCK / SOCK WATTLE
	LIMITS OF DISTURBANCE
	EXISTING CONTOURS
	PROPOSED CONTOURS
	GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY
	BMP PLAN REF. NO.

DISTURBED AREA = 9.74 A.C.

SITE SPECIFIC NOTES:

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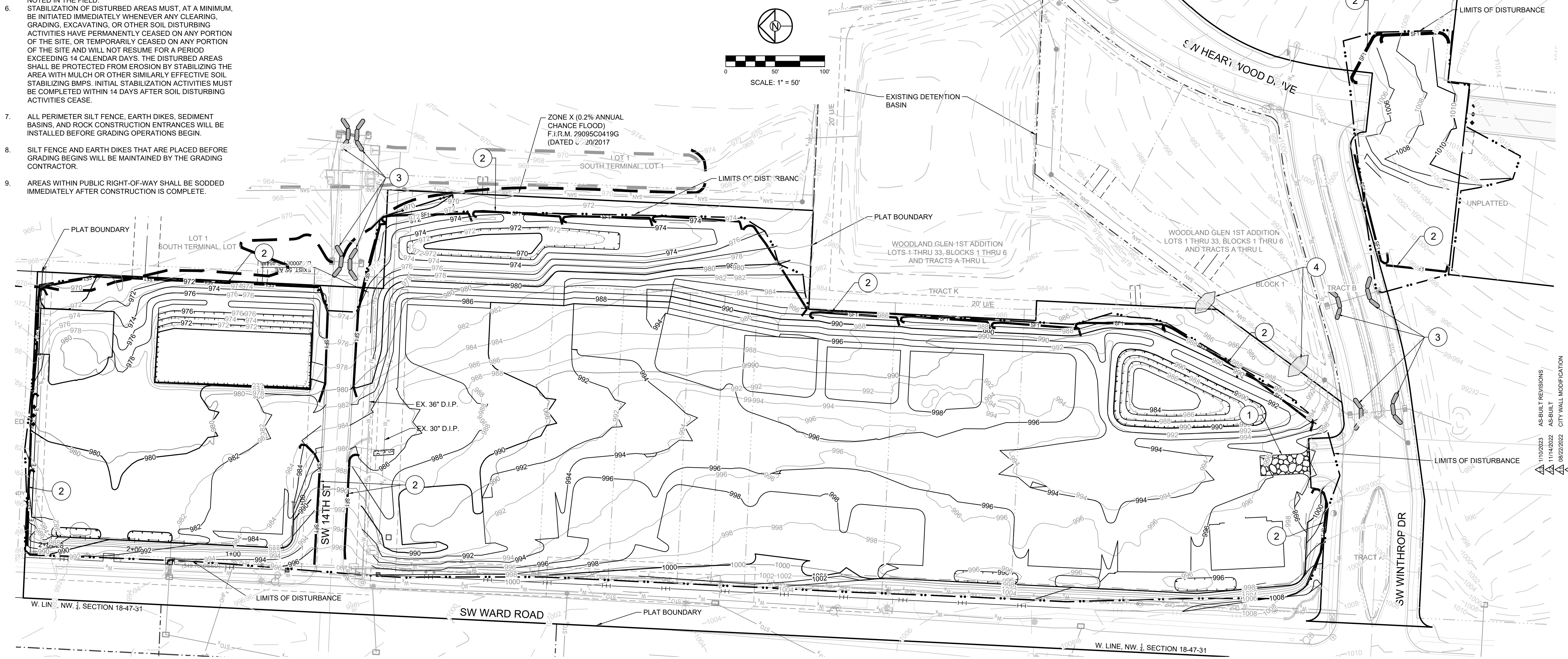
EROSION AND SEDIMENT CONTROL STAGING CHART				
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	3	EXISTING INLET PROTECTION	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	4	FOAM SILT DIKE OR ROCK DITCH CHECK	E	PLACE WHERE INDICATED AT EXISTING SWALES AND DRAINAGE COURSES
B - MASS GRADING	5	SEDIMENT BASINS (REF. DETAIL ON SHEET 6)	E	TO BE INSTALLED PRIOR TO DISTURBING ENTIRE SITE.
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C - UTILITY CONSTRUCTION	7	FOAM SILT DIKE OR STRAW WATTLE/COIL LOG CHECK	E	PLACE WHERE INDICATED AS SOON AS SWALE IS ESTABLISHED, REPAIR OR REPLACE AS NECESSARY
	8	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
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	12	SEEDING AND MULCHING	E	ALL DISTURBED AREAS PRIOR TO 14 DAYS OF CONSTRUCTION INACTIVITY
E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT	13			ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.

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Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlager and Associates, P.A.



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 14920 West 107th Street • Lenexa, Kansas 66215
 (913) 492-5158 • Fax: (913) 492-8400
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WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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11/14/2022	AS-BUILT
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06/16/2022	CITY EMAILED COMMENTS

DRAWN BY:	DESCRIPTION
BAL	CITY COMMENTS
CHEK	SCHLAGEL QUANTITIES
MAB	SCHLAGEL QUANTITIES
DATE PREPARED:	CITY COMMENTS
2-19-2020	CITY COMMENTS
PROJ. NUMBER:	SCHLAGEL UPDATE
10062021	CITY COMMENTS
18-017	WATER LINE CONFLICT

PRE-CLEARING PLAN

SHEET **2**

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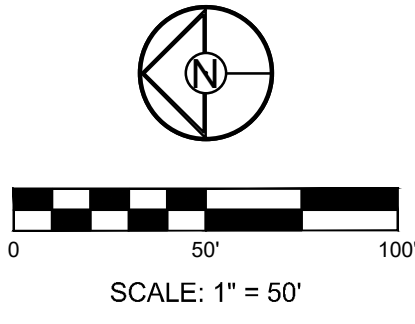
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TOTAL DRAINAGE AREA TO TEMPORARY SEDIMENT BASIN
 EDDB#1 AREA = 2.59 AC.
 EDDB#2 AREA = 4.99 AC.
 EDDB#3 AREA = 1.26 AC.

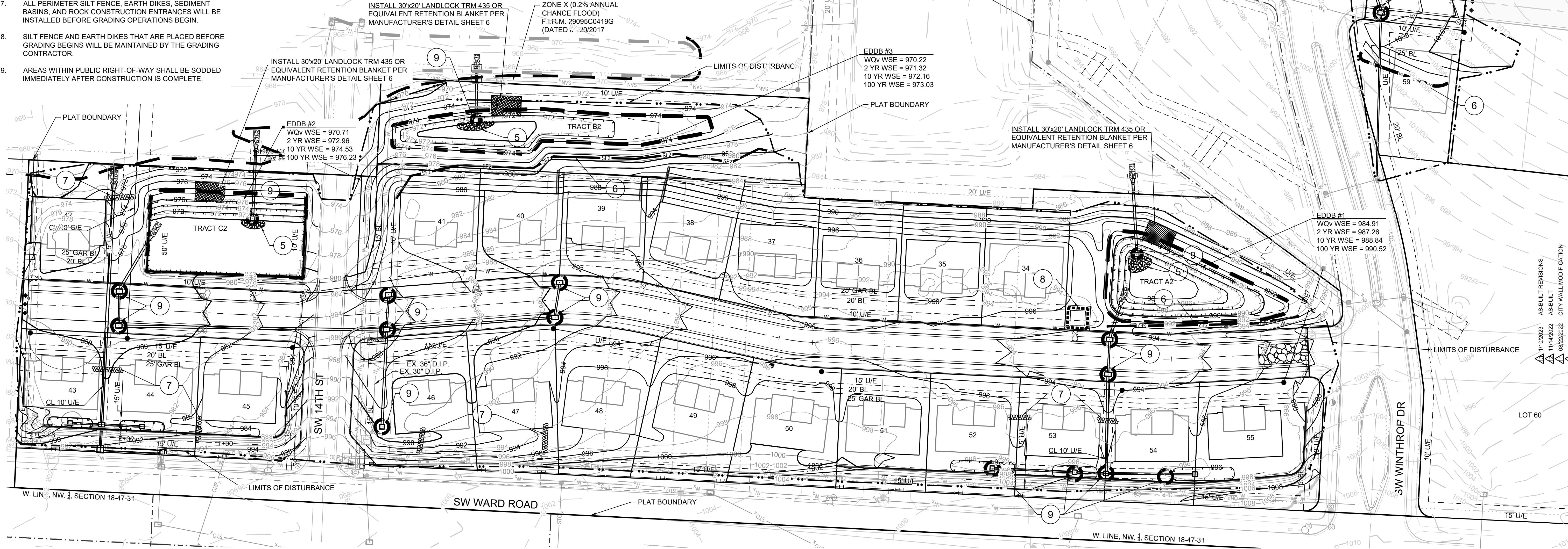
SEDIMENT VOLUME REQUIRED (3600 CU. FT./AC.)
 EDDB#1 2.59 AC. * 3600 CU.FT./AC. = 9,324 CU.FT.
 EDDB#2 4.99 AC. * 3600 CU.FT./AC. = 17,964 CU.FT.
 EDDB#3 1.26 AC. * 3600 CU.FT./AC. = 4,536 CU.FT.

SEDIMENT VOLUME PROVIDED
 EDDB#1 VOLUME @ 986.90 = 9,537 CU.FT.
 EDDB#2 VOLUME @ 972.10 = 18,904 CU.FT.
 EDDB#3 VOLUME @ 971.70 = 5,225 CU.FT.



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04/24/2020	CITY COMMENTS
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05/12/2021	CITY COMMENTS
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09/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

DRAWN BY: BAL
 CHECKED BY: MAB
 DATE PREPARED: 2-19-2020
 PROJ. NUMBER: 10062021
 SHEET: 18-017

ECP
 CONSTRUCTION

SHEET
3

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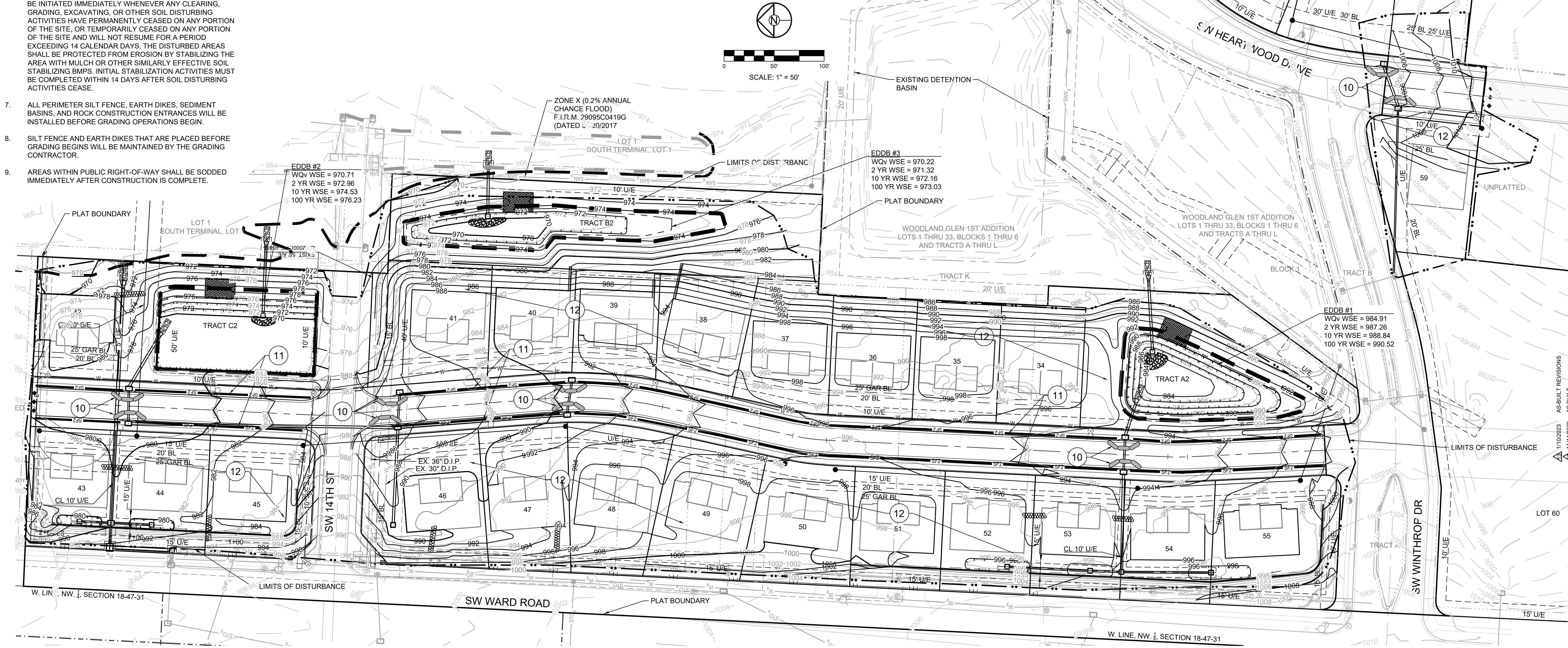
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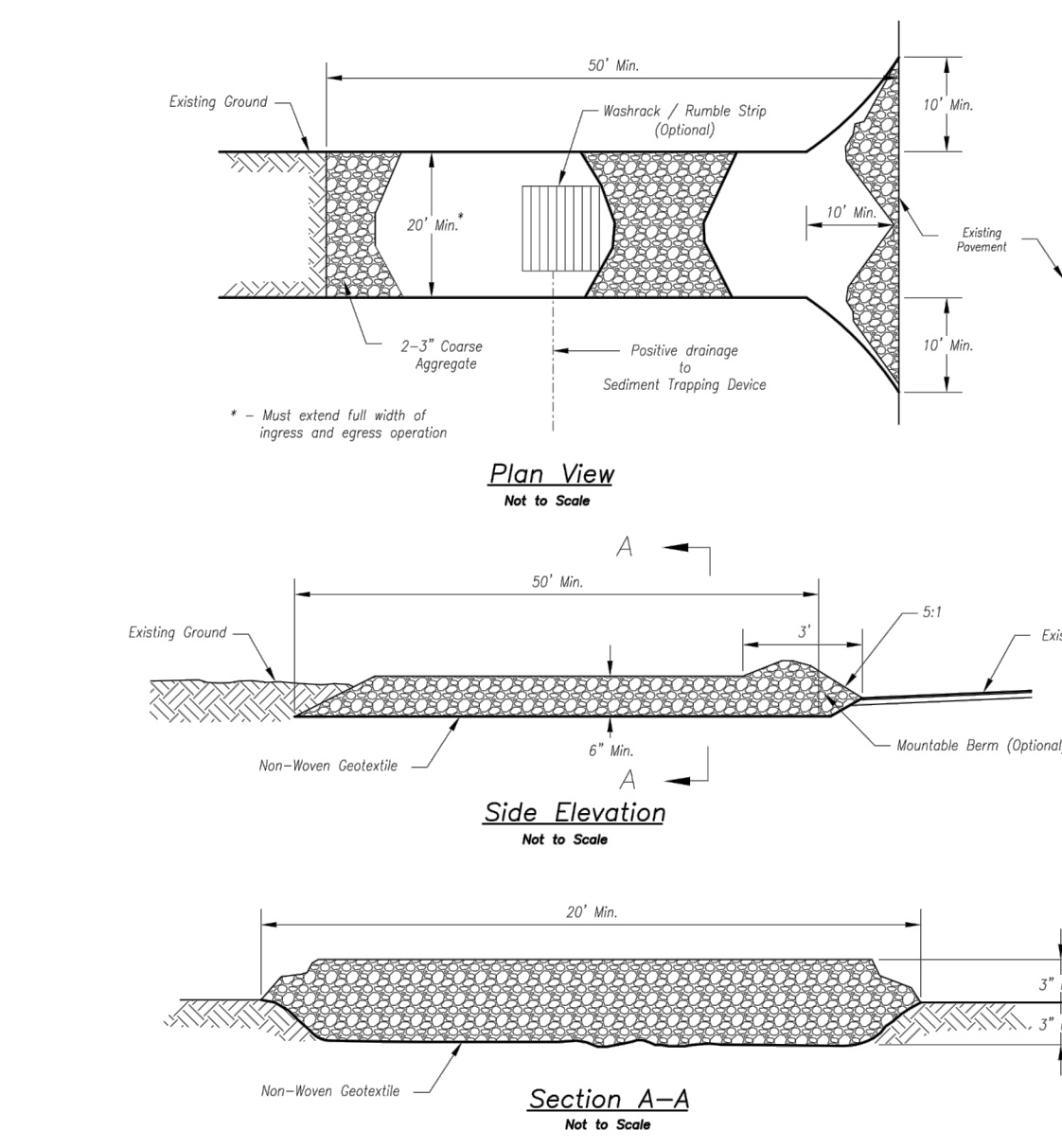
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18-017	01/20/2022 WATER LINE CONFLICT

ECP FINAL STABILIZATION	
SHEET	
4	

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Notes for Concrete Washout:

- Concrete washout areas shall be installed prior to any concrete placement on site.
- Concrete washout area shall include a full subsurface pit sized relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking and shall be moved towards the concrete washout area.
- Vehicle tracking control is required at the access point to all concrete washout areas.
- Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and pump rigs.
- A geotextile impermeable liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

Maintenance for Concrete Washout:

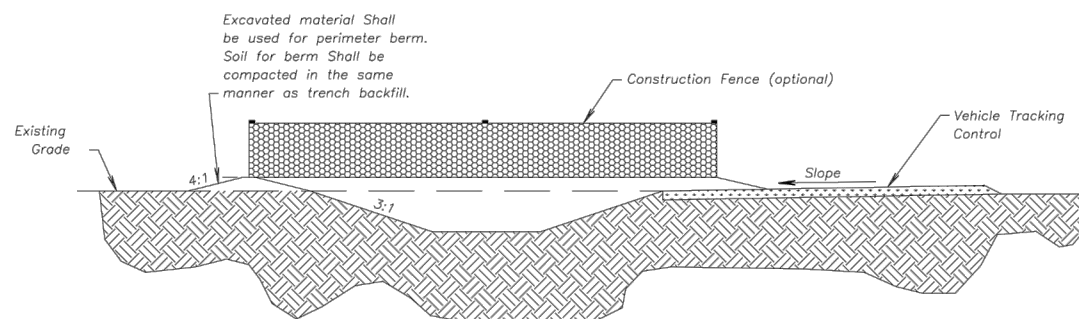
- Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
- Concrete washout areas shall be enlarged as necessary to maintain capacity for washed concrete.
- Concrete washout water, washed pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a water-tight container and disposed of properly.
- Concrete washout areas shall remain in place until all concrete for the project is placed.
- When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and riprap, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.

Notes for Construction Entrance:

- Avoid locating an steep slopes, at curves on public roads, or directly at disturbed areas.
- Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
- If slope towards the public road exceeds 2%, construct a 6- to 8-inch high ridge with 3:1 side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
- Install pipe under the entrance if needed to maintain drainage ditches along public roads.
- Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
- Divert all surface runoff and drainage from the entrance to a sediment control device.
- If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

- Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

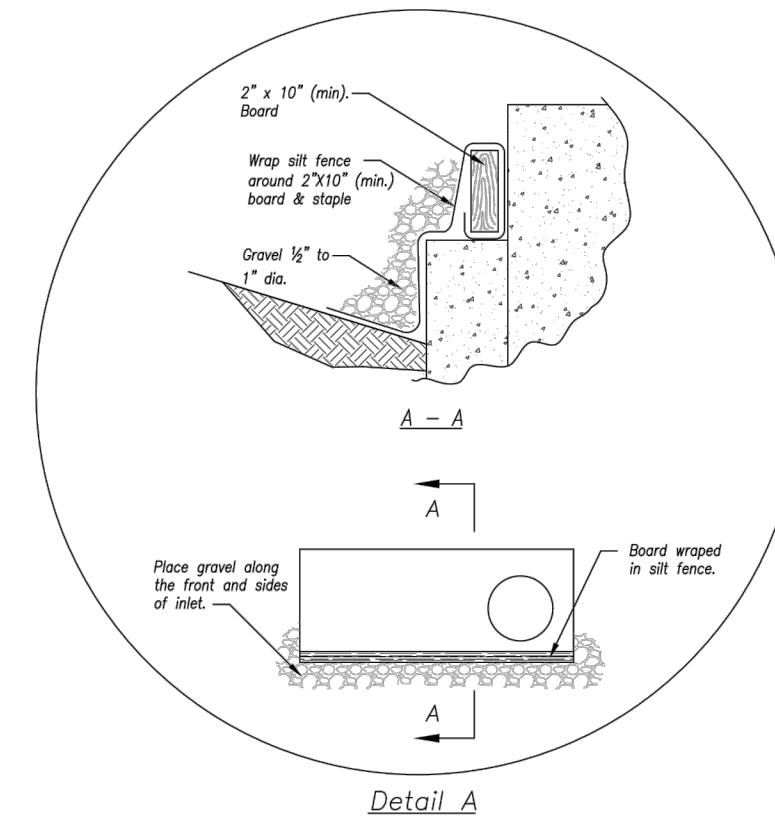
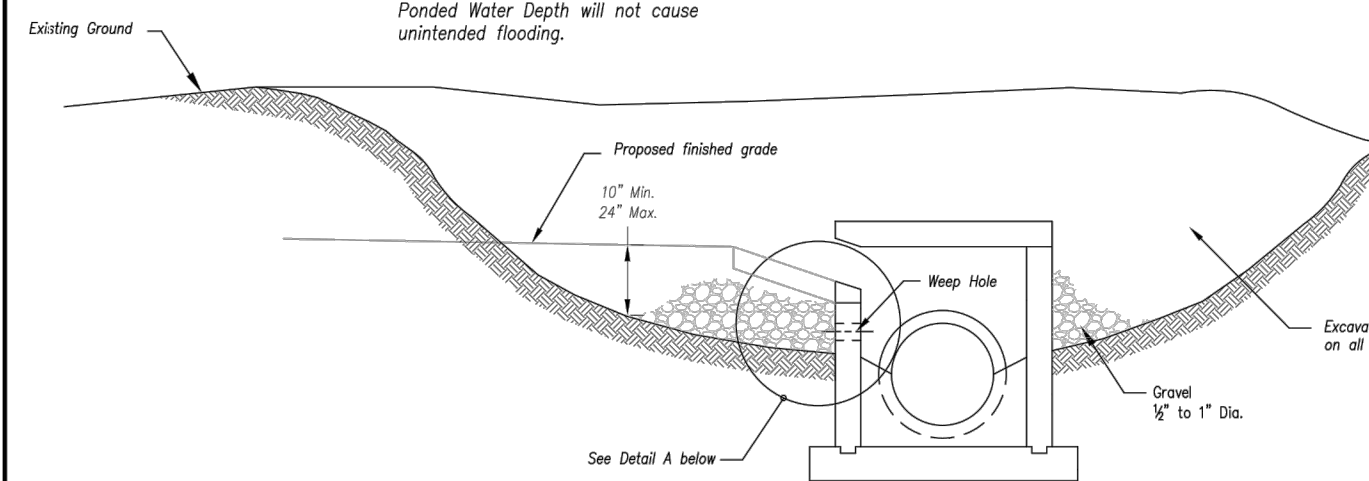


Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control. Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER

CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT

STANDARD DRAWING NUMBER ESC-01 ADOPTED: 10/24/2016



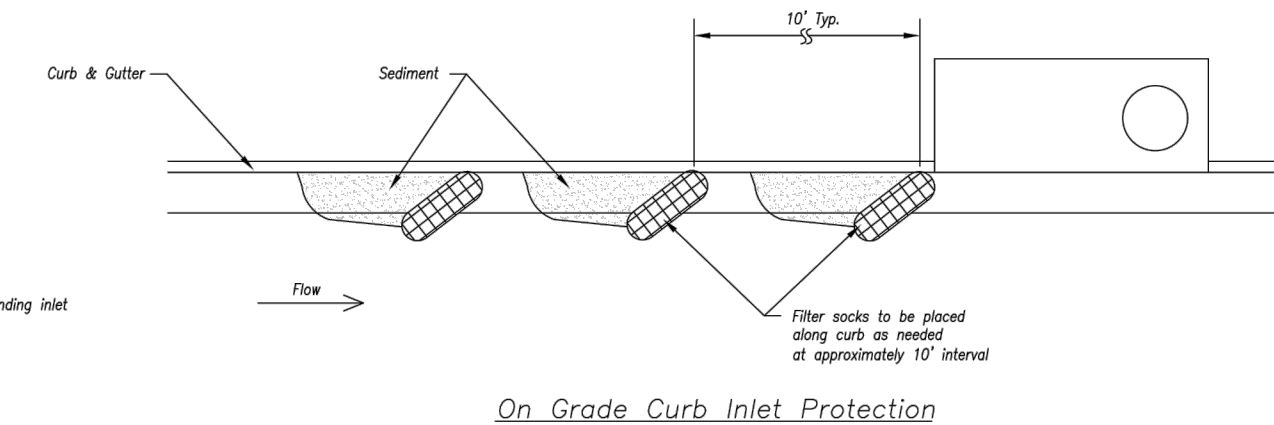
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

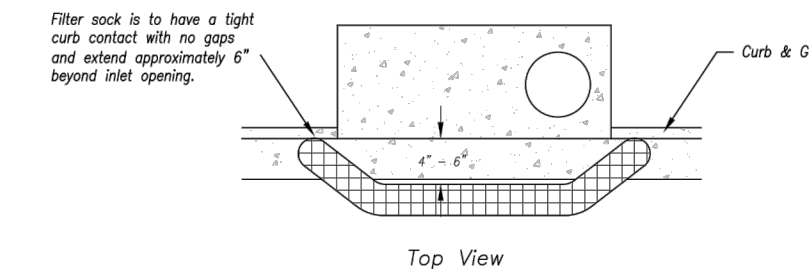
- Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2\"/>

Maintenance:

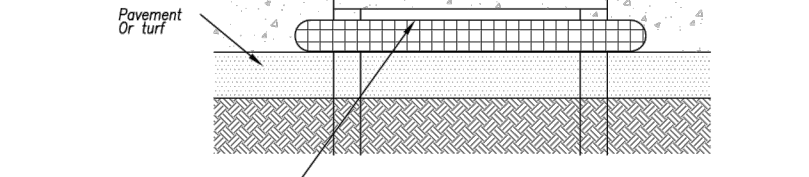
- Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
- Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
- Repair or replace as necessary to maintain function and integrity of installation.



On Grade Curb Inlet Protection



Top View



Front View

Sump Inlet Sediment Filter

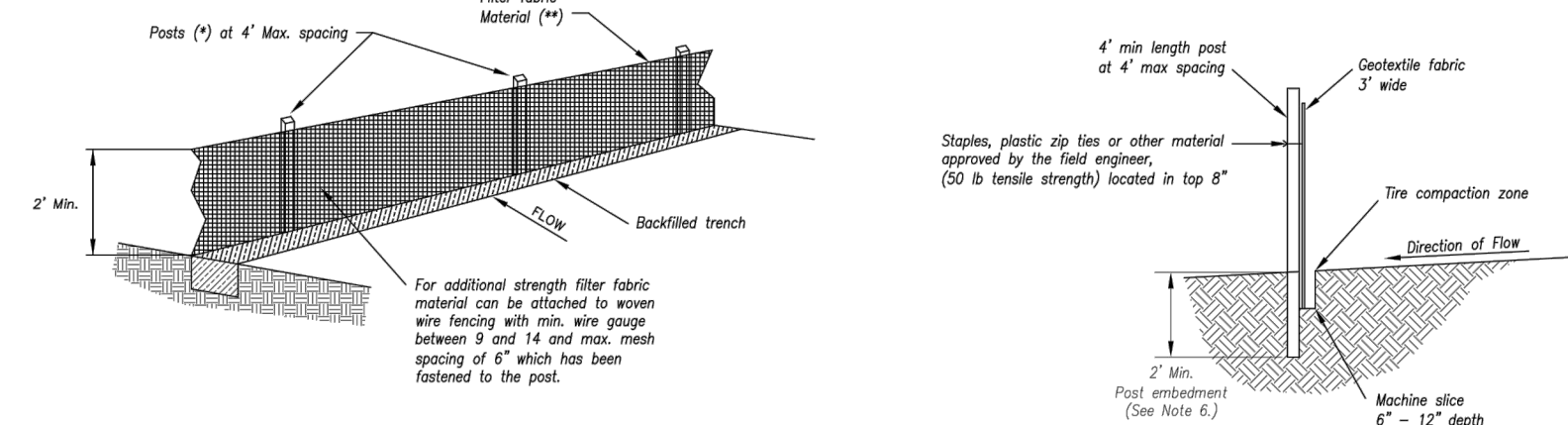
LATE STAGE CURB INLET
(After Pouring Curb and Inlet Throat)

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER

CURB INLET PROTECTION

STANDARD DRAWING NUMBER ESC-06 ADOPTED: 10/24/2016

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.



(*) EGGS:

- MIN. LENGTH 4'
- HARDWOOD 1 3/4" x 1 3/4"
- NO.2 SOUTHERN PINE 2 3/4" x 2 1/2"
- STEEL 1.33 LB/FT

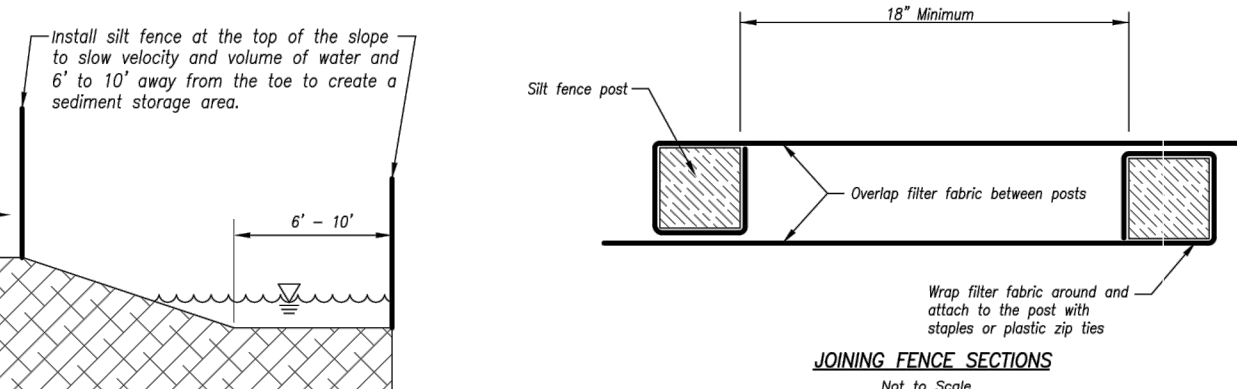
()** - Geotextile Fabric shall meet the requirements of AASHTO M288

Notes:

- In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
- Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
- Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
- Attach fabric to upstream side of post.
- Install posts a minimum of 2' into the ground.
- Fencing will only be allowed for small or difficult installation, where staking machines cannot be reasonably used.

Maintenance:

- Remove and dispose of sediment deposits when the deposit approaches 1/2 the height of silt fence.
- Repair as necessary to maintain function and structure.



JOINING FENCE SECTIONS
Not to Scale

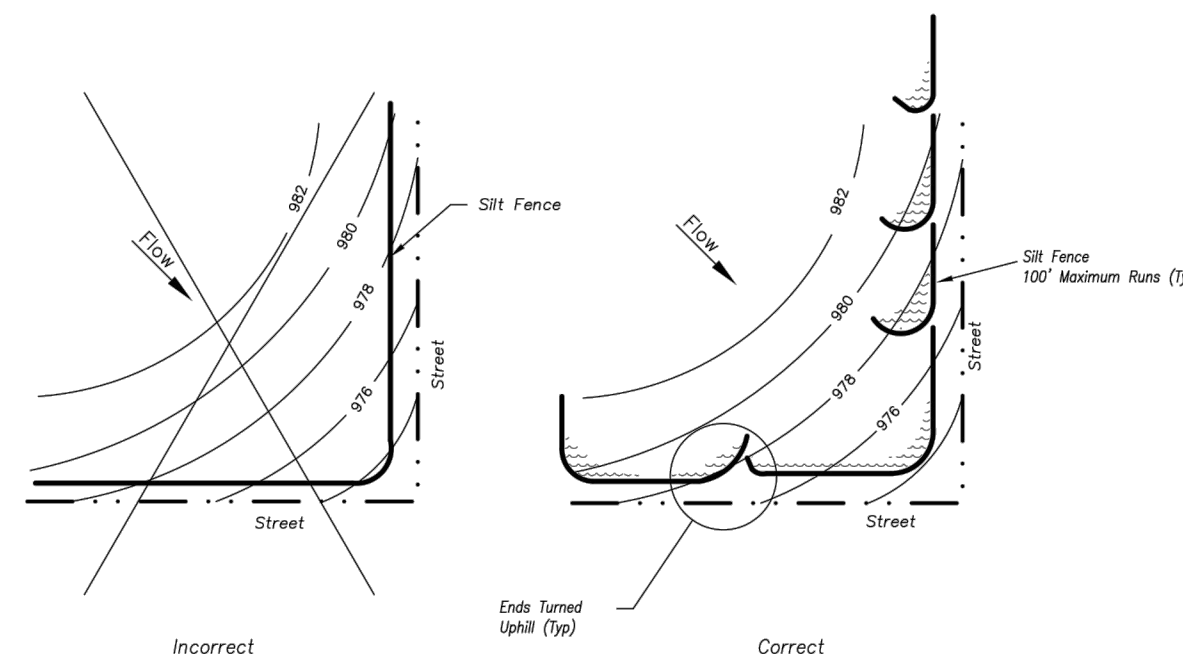


Figure A

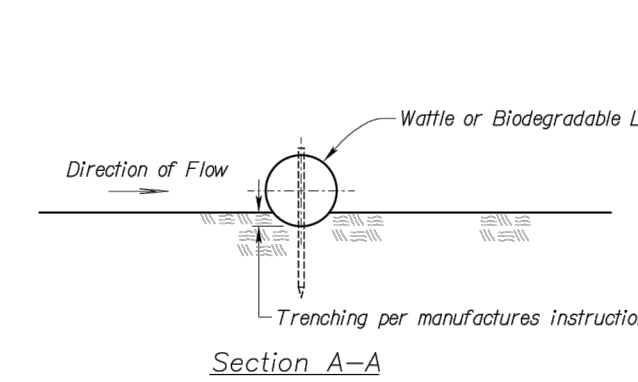
SILT FENCE LAYOUT
Not to Scale

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

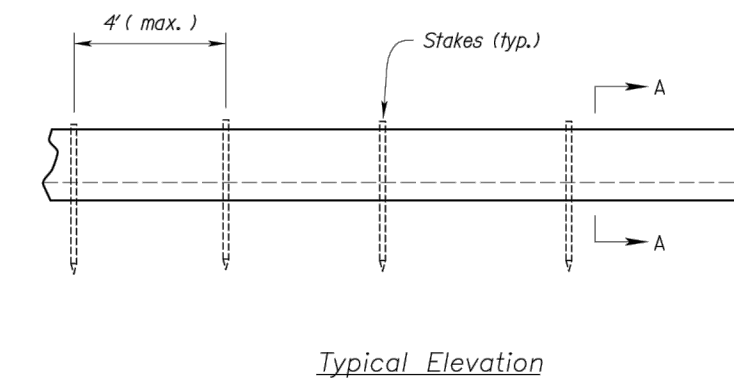
AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER

SILT FENCE

STANDARD DRAWING NUMBER ESC-03 ADOPTED: 10/24/2016



Section A-A



Typical Elevation

WATTLES AND BIODEGRADABLE LOG

Notes for Wattles and Biodegradable Log Slope Protection:

- The Slope barriers shall be placed along contour lines, with a short section turned updrift each end of the barrier. The maximum length of the slope barrier shall not exceed 250 feet, and the barrier ends must be staggered.
- Install wattles and biodegradable logs per manufacturer's instructions.
- Spacing of stakes per manufacturer's instructions with 4' max. spacing. Length of stakes shall be a minimum of 2 times the diameter of the log with minimum of 24".

Notes for Mulch and Compost Filter Berm:

- The sediment control berm shall be placed uncompact in a shallow at locations shown on the plans or as directed by the engineer.
- Parallel to the base of the slope, or around the perimeter of other affected areas, construct a 1 to 3 foot high by 2.5 to 3 foot wide berm (see Figure 1). For maximum water treatment ability or for steep slopes, construct a 1.5 to 3 foot high trapezoidal berm that is a minimum of 4 feet wide at the base (see Figure 2). In extreme conditions, or where specified by the engineer, a second berm shall be constructed at the top of the slope. Engineer will specify berm requirements.
- If berm is to left as permanent or part of the natural landscape, the compost berm may be seeded during application for permanent vegetation.
- Do not use compost or wood mulch berms in any runoff channels or concentrated flow areas.
- Wood mulch shall consist of tree and shrub debris resulting from clearing and grubbing and shall be ground by the mechanical means such as a chipper, hammermill, sub grinder or other approved method. Mulch sizing shall have a maximum width of 2" and a maximum length of 10".

Maintenance for Mulch and Compost Filter Berm:

- Berm shall be reshaped and material added as necessary to maintain function and dimensions.
- Branches in the berm shall be repaired promptly.

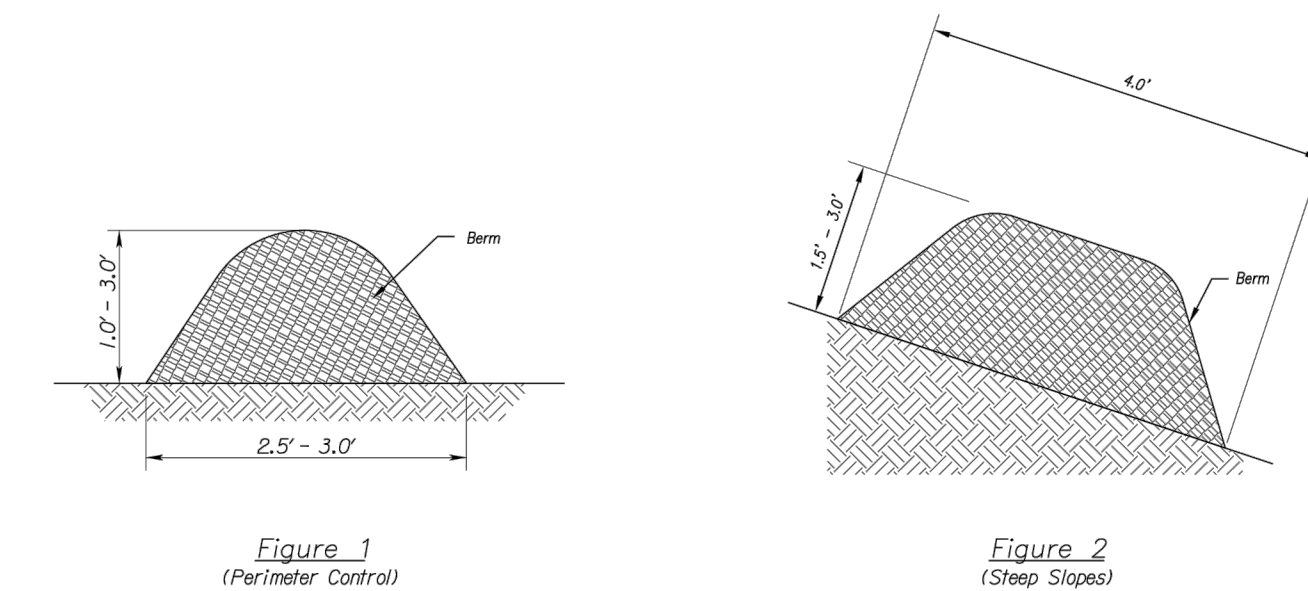


Figure 1
(Perimeter Control)

Figure 2
(Steep Slopes)

MULCH OR COMPOST FILTER BERMS

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER

WATTLES/BIODEGRADABLE LOG AND MULCH/COMPOST FILTER BERM

STANDARD DRAWING NUMBER ESC-04 ADOPTED: 10/24/2016

RECORD DRAWING

The information provided on this drawing conforms to construction records; it is not intended for construction, implementation or recording purposes; and it is solely based on information obtained by Schlagel and Associates.

"400.00 100.10", "1.00% 1.15% slope", or "8-inch HDPE PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

Date: 1/10/2023
Certified by: RPM
Title: Design Engineer
Firm: Schlagel and Associates, P.A.

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority #E2002003600CF #LAC201005237 #LS2002008899F

PREPARED BY:

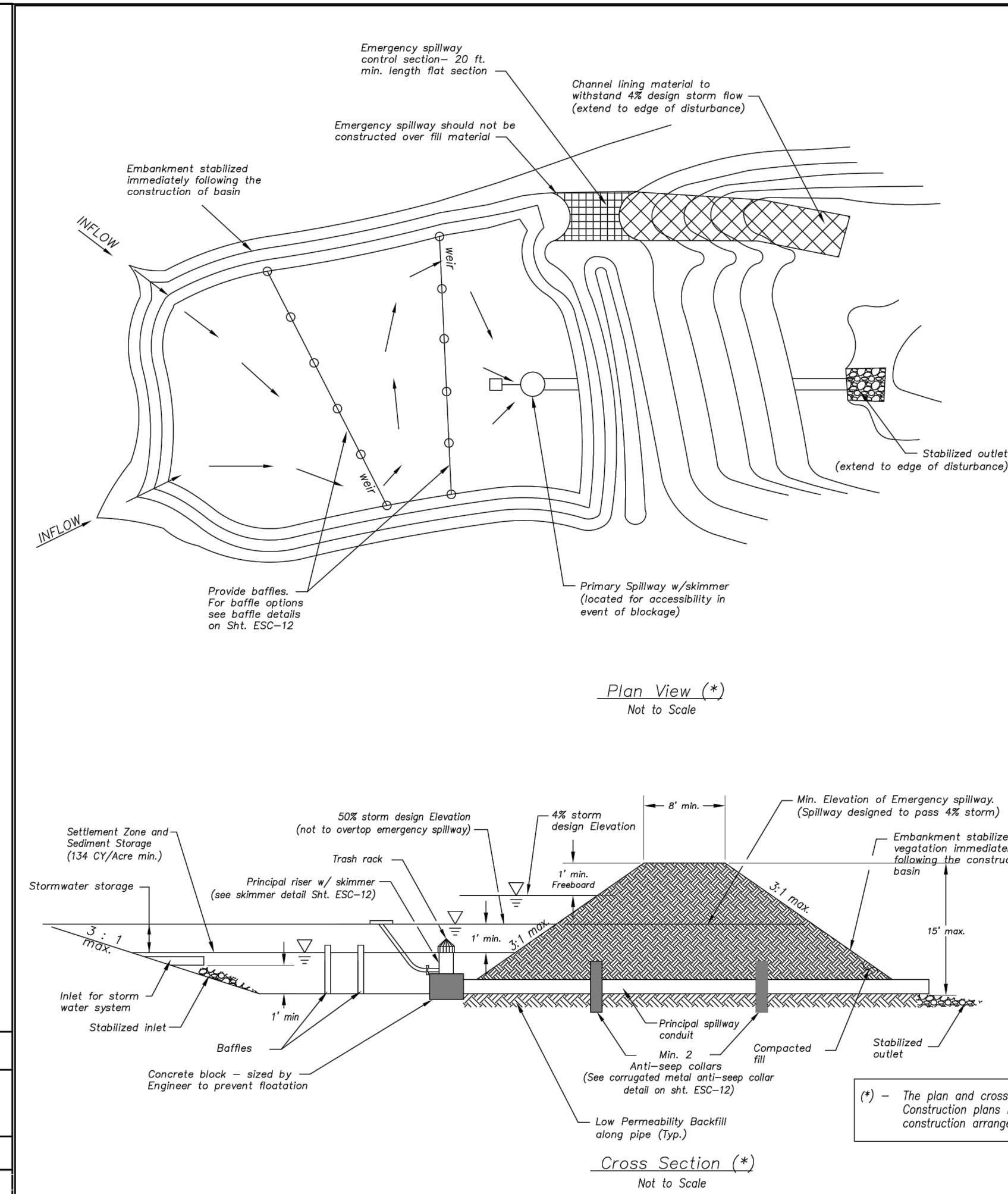
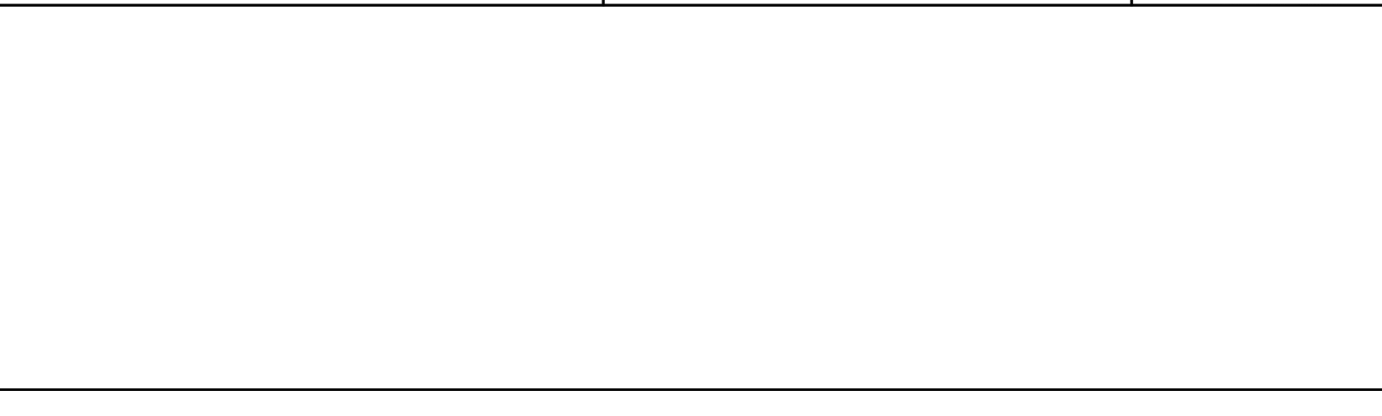
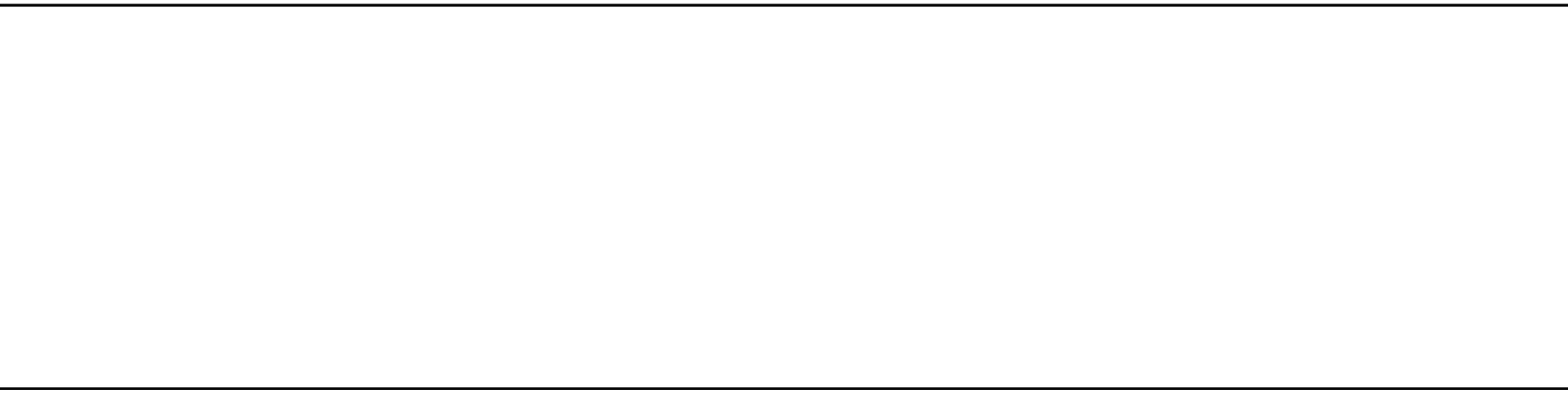
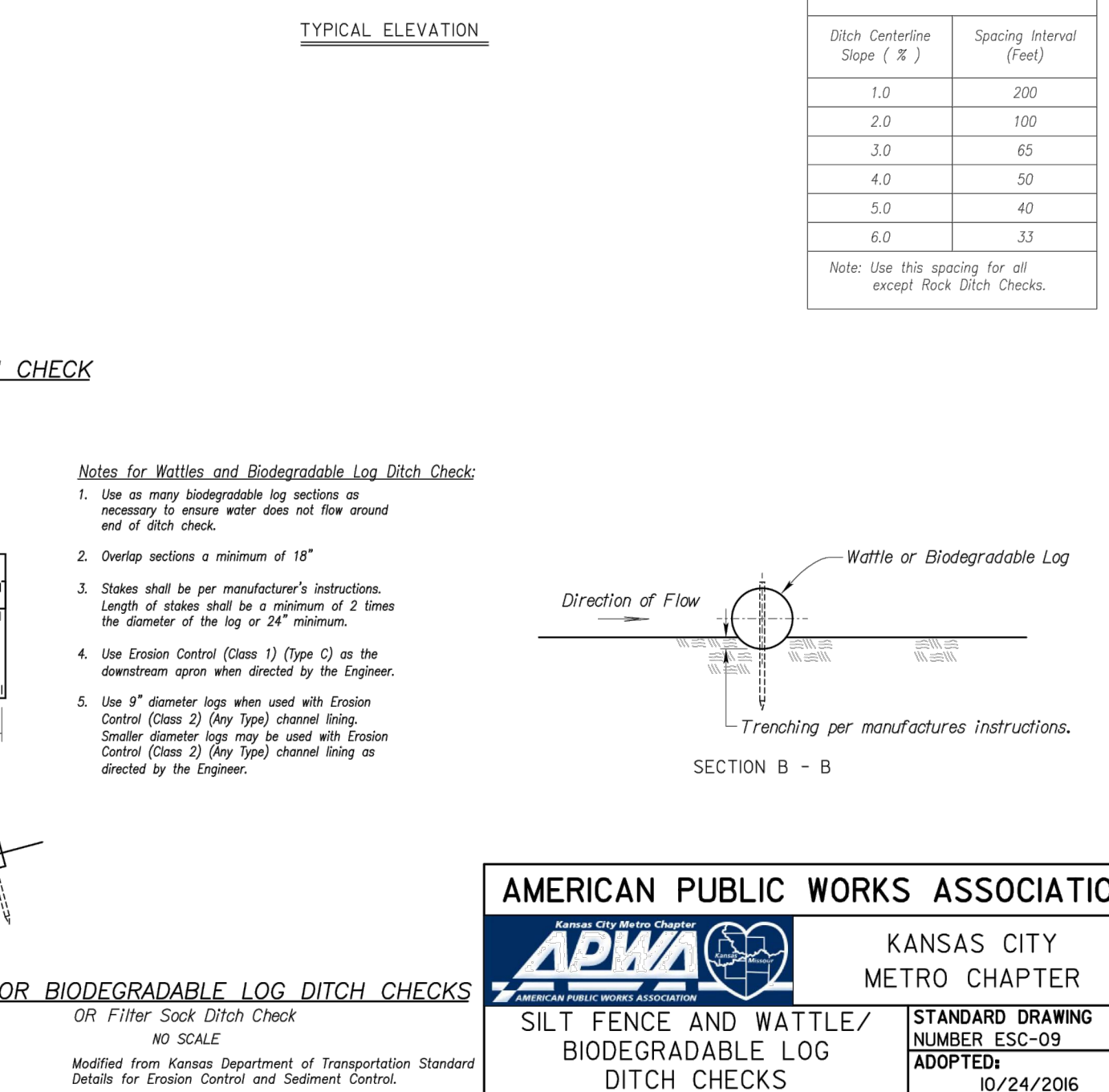
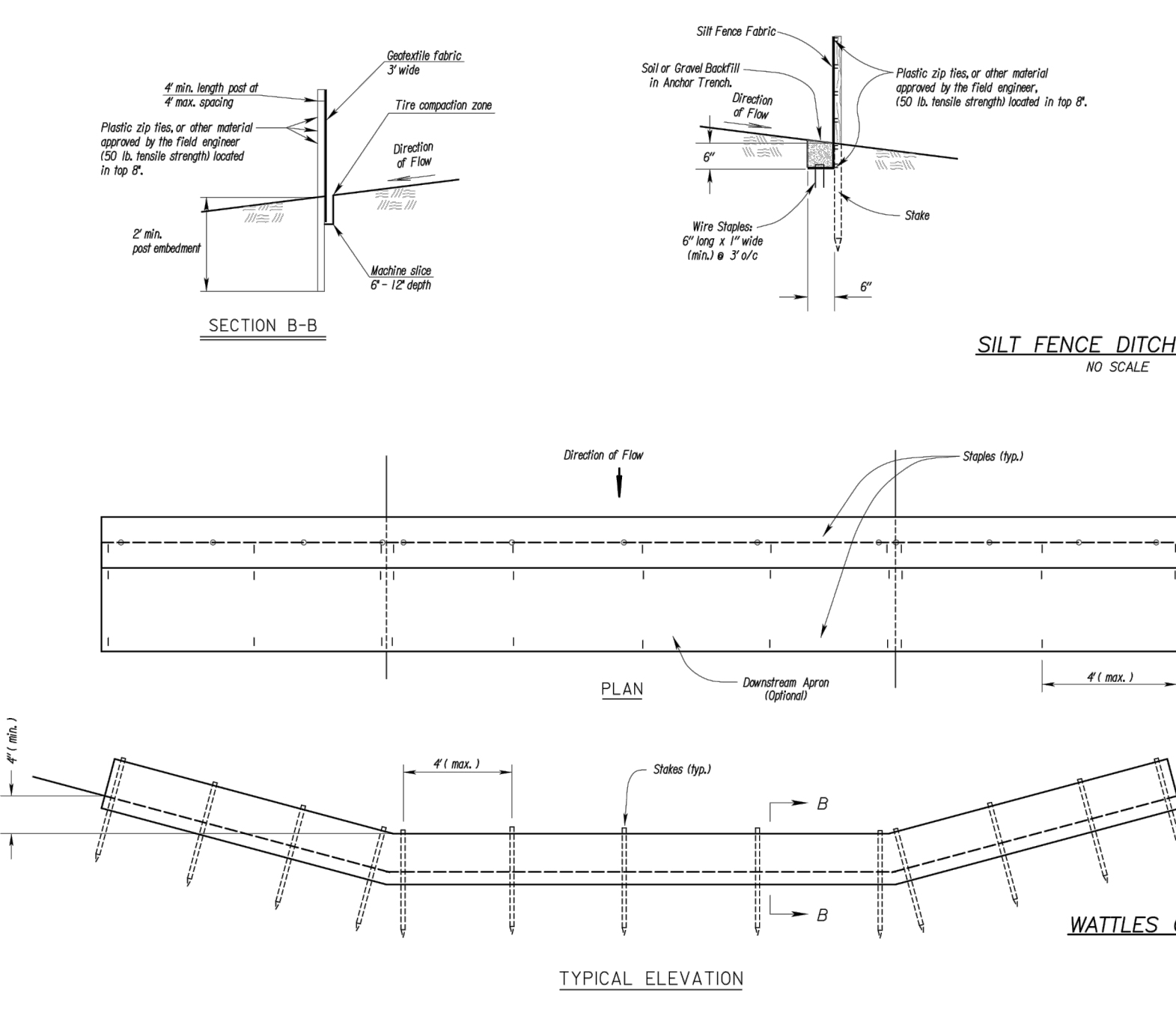
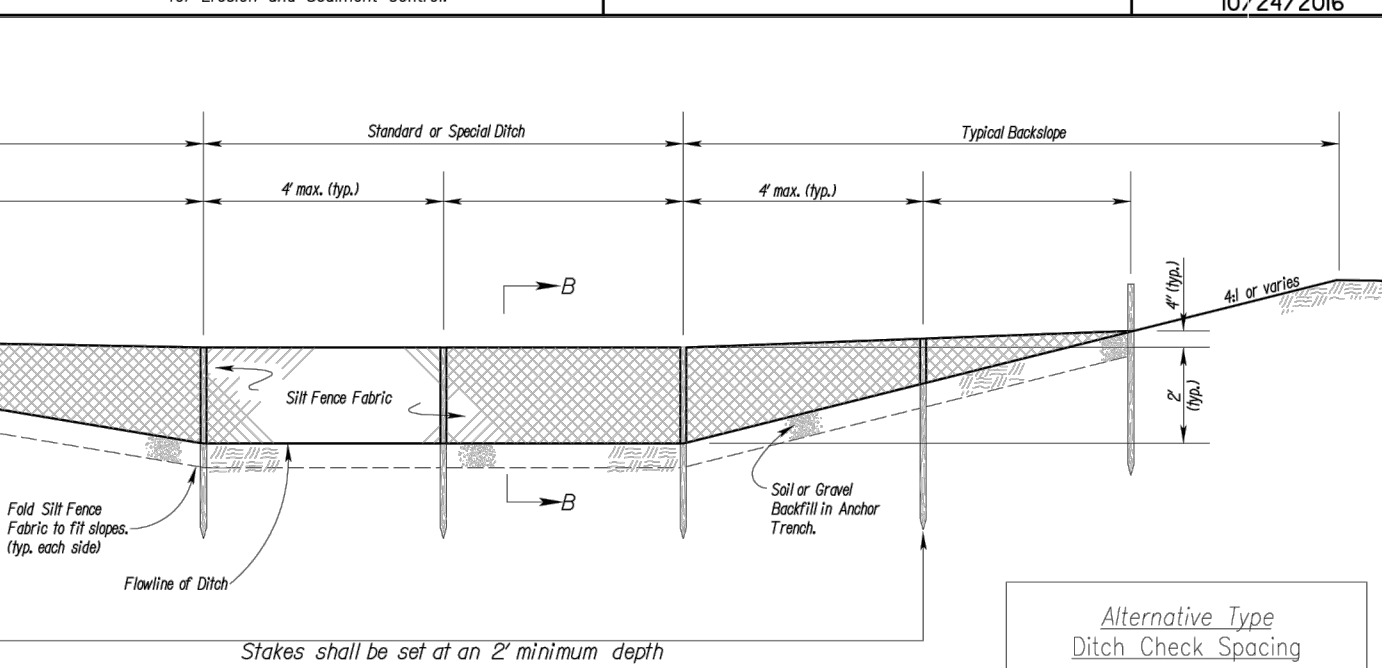
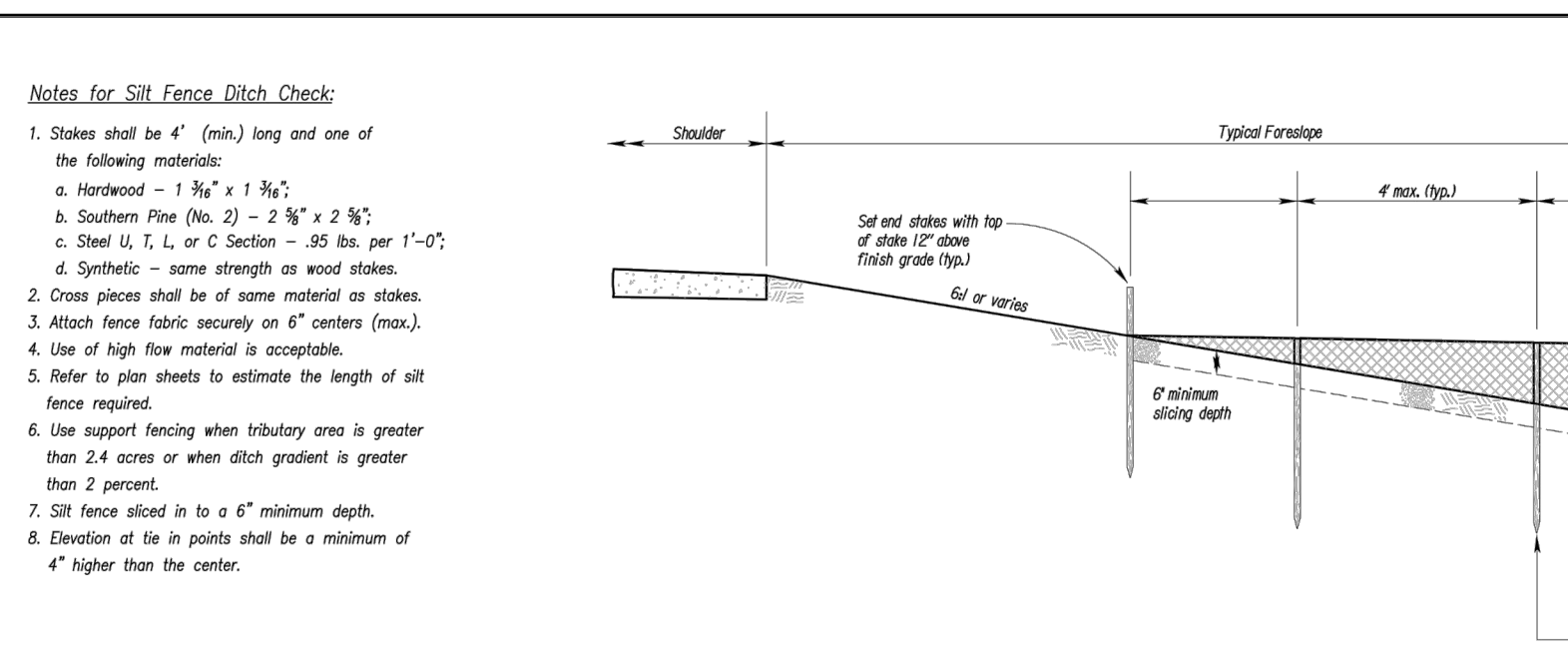
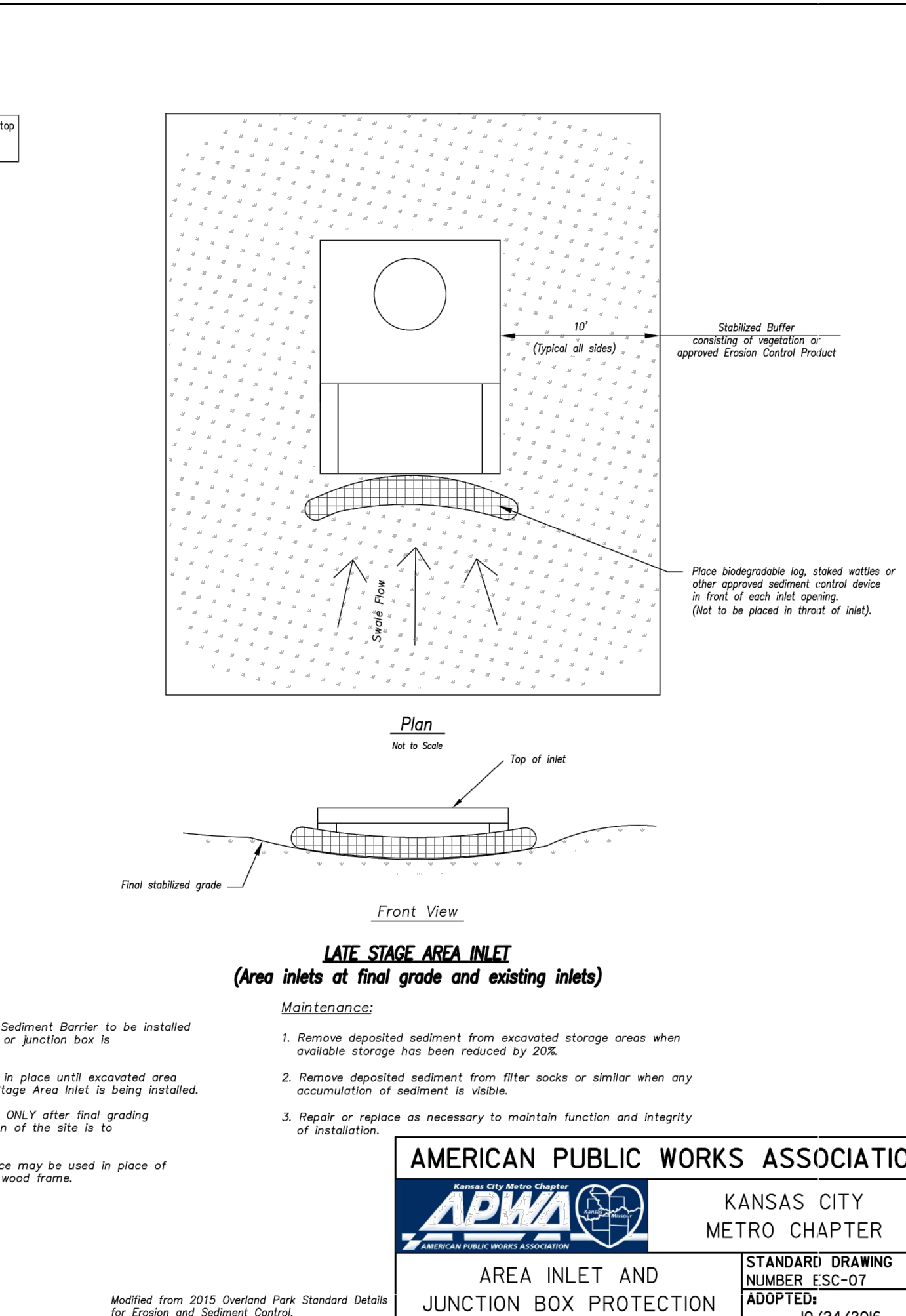
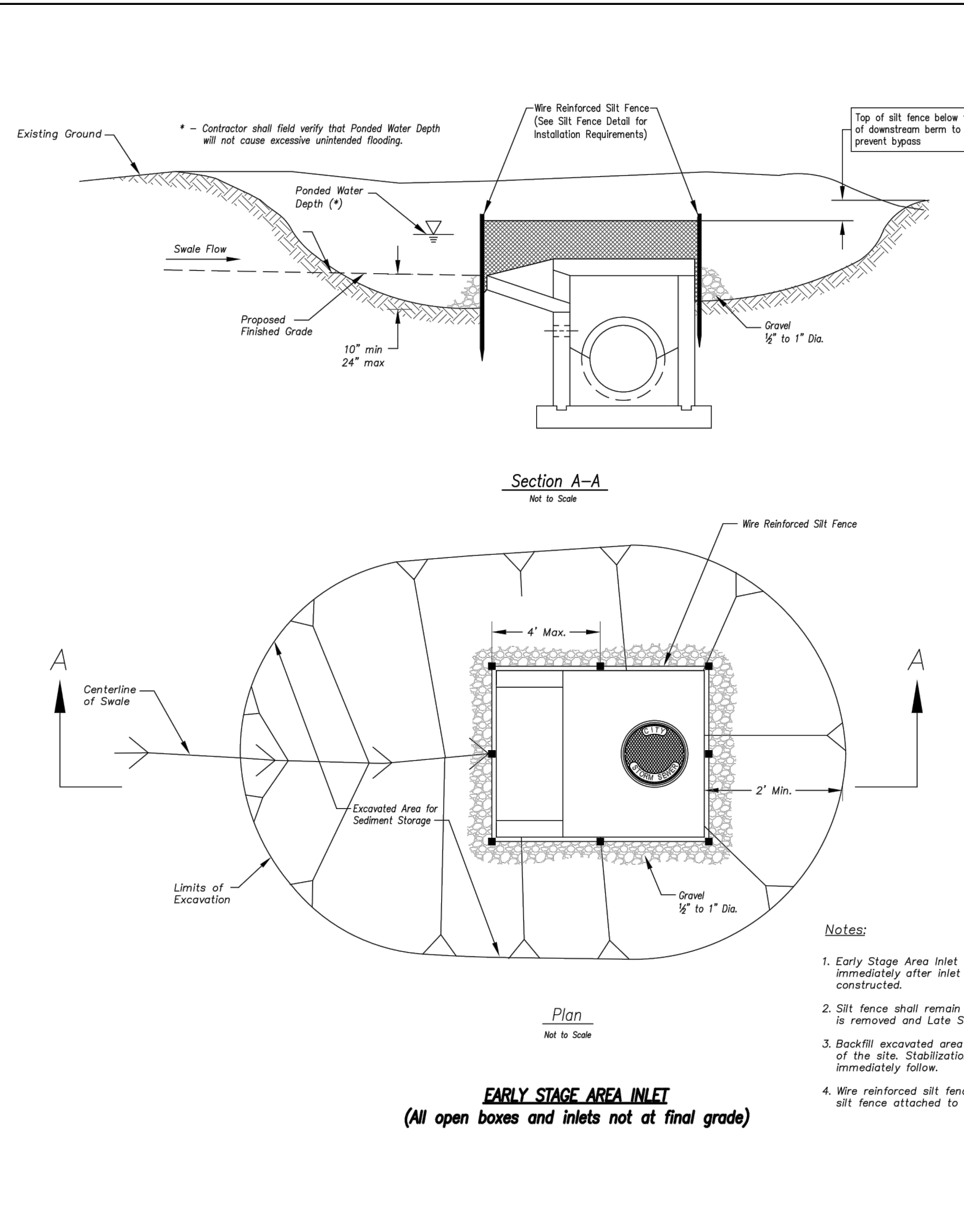
SCHLAGEL & ASSOCIATES, P.A.

WOODLAND GLEN 2ND PLAT
STREET, STORMWATER, MASTER DRAINAGE,
AND EROSION CONTROL PLANS
WARD ROAD & WINTHROP DRIVE
LEE'S SUMMIT, MISSOURI

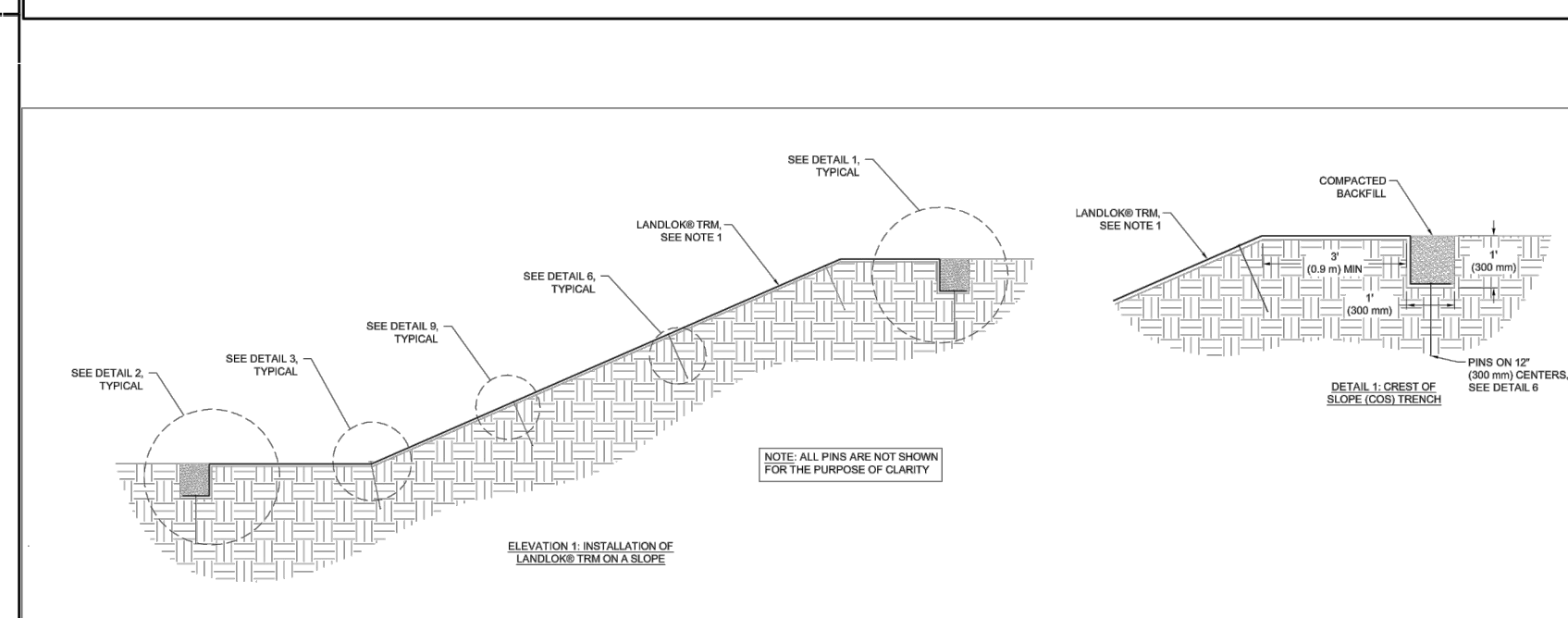
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11/02/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
09/22/2022	CITY WALL MODIFICATION
08/16/2022	CITY EMAILED COMMENTS
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01/12/2021	SCHLAGEL QUANTITIES
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02/28/2021	CITY COMMENTS
02/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

EROSION CONTROL DETAILS

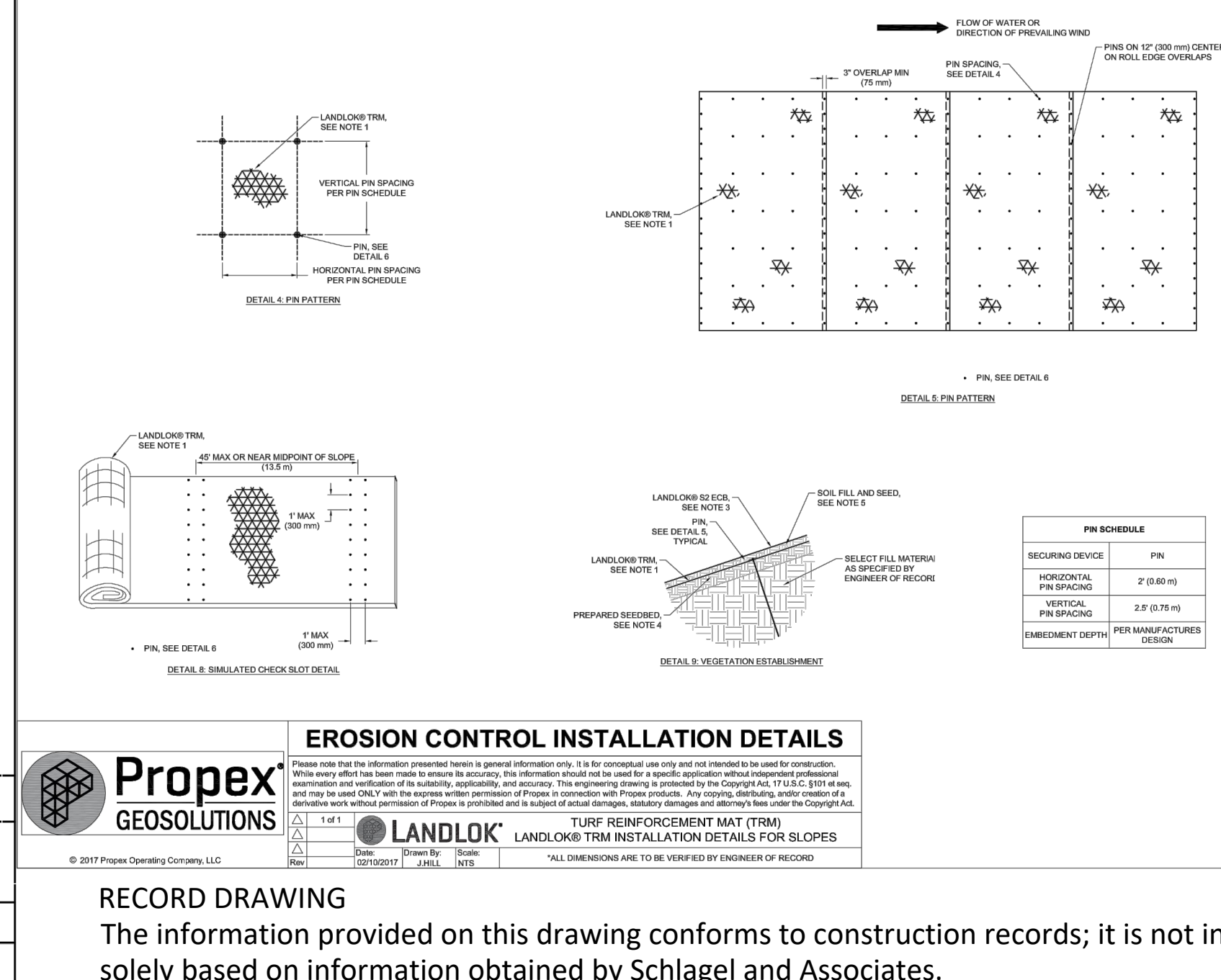
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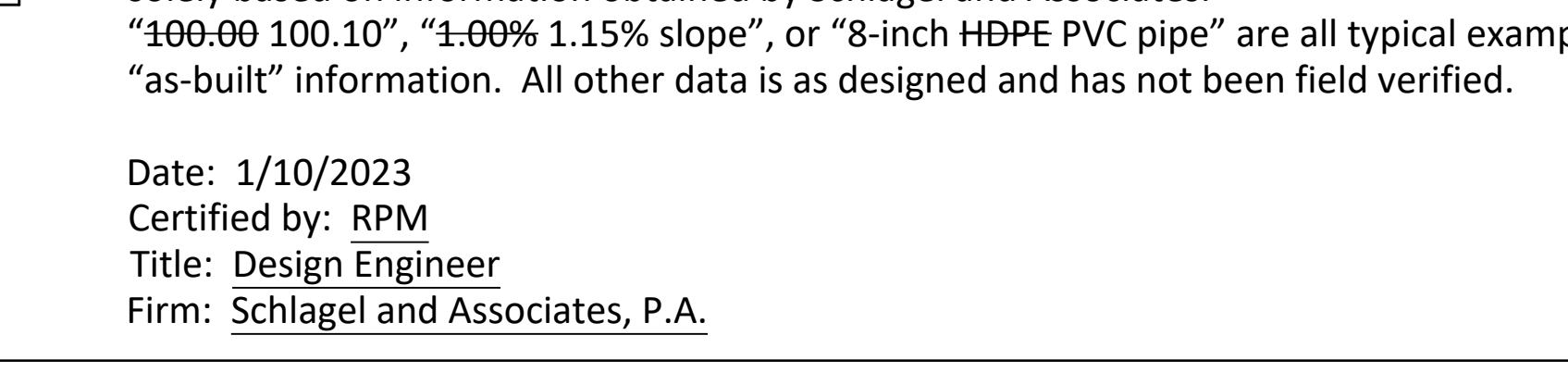
Sediment Basin Design Summary (**)			
Design Item	Basin #1	Basin #2	Units
Site Data:			
Tributary Drainage Area to Pond			Acres
50% (2 yr) Design Flow			cfs
4% (25 yr) Design Flow			cfs
Pond Data:			
Minimum Sediment Storage Volume		cu yd	1.34 cu/acre required minimum
Provided Sediment Storage Volume		cu yd	
Bottom Elevation		ft	
Sediment Outlet Elevation		ft	Elevation equal to 20% of original design volume
Top of River Elevation		ft	Top of dry storage volume
Emergency Spillway Elevation		ft	ft or above Q-2 elevation, 1.0 ft min above principal spillway
Top of Dam Elevation		ft	1.0 ft min above Q-25 elevation
Basin Shape Data:			
A = Area of Normal Pool		SF	
L = Length of Flow Path		ft	
We = Effective Width = A/L		ft	
Length to Width Ratio = L/We			
Principal Spillway Data:			
Riser Pipe dia		in	15" min. Size for 2 year flow minimum
Barrel Pipe dia		in	15" min. Size for 2 year flow minimum
Concrete Base size for Riser Pipe		CY	Size to prevent flotation, 1.25 safety factor required
Skimmer Size			Designer to provide specific details and calculations per application to dewater in 48 to 72 hours
Emergency Spillway Data:			
Design Depth in Spillway		ft	
Design Velocity in Spillway		ft/sec	
Lining Material			Designer to provide specific details and calculations per application



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Design Velocity in Spillway		ft/sec	
Lining Material			Designer to provide specific details and calculations per application

PROJECT: 2018181073.0 DWG: EROS DET 2, 1/10/2023, 3:15:39 PM, 1:1

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

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14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificate of Authority #E200200360F #LAC201005237 #LS200200895F

PREPARED BY:

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
STANDARD DRAWING NUMBER ESC-11
ADOPTED: 10/24/2016

WOODLAND GLEN 2ND PLAT
STREET, STORMWATER, MASTER DRAINAGE,
AND EROSION CONTROL PLANS
WARD ROAD & WINTHROP DRIVE
LEE'S SUMMIT, MISSOURI

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
STANDARD DRAWING NUMBER ESC-11
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REVISION DATE	DESCRIPTION
11/02/2023	AS-BUILT REVISIONS
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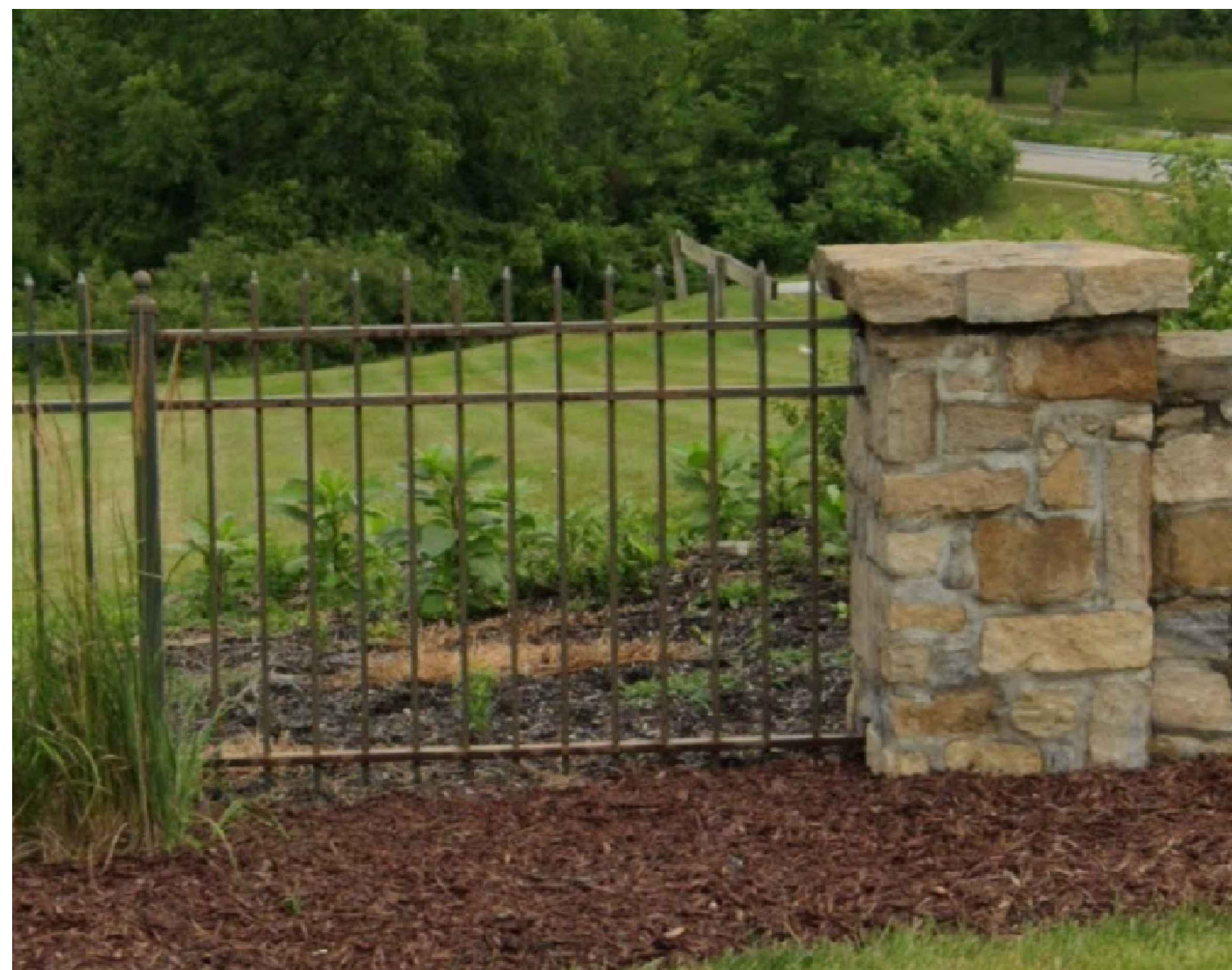
EROSION CONTROL DETAILS
SHEET
6

RECORD DRAWING

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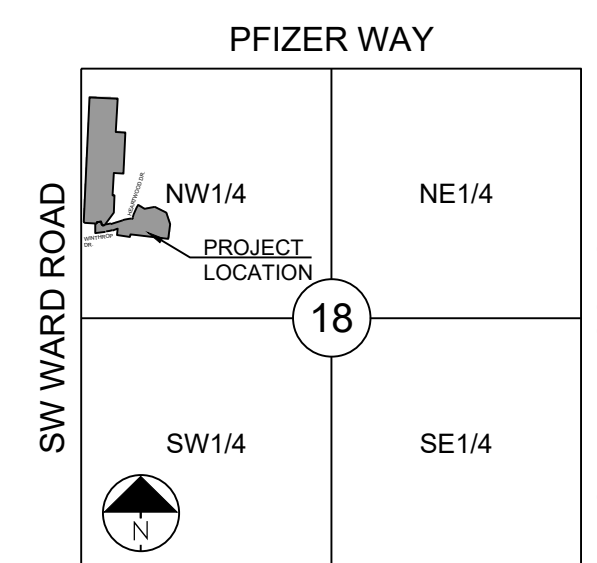
Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlager and Associates, P.A.



- 1 WALL UPDATED AND REQUIRED ADDITIONAL GOGRID IN THIS AREA RESULTING IN THE WALL MOVING NORTH ROUGHLY 2 FEET.
- 2 PROPOSED WROUGHT IRON FENCE CALLED OUT TO MATCH AND CONTINUE WITH THE EXISTING WROUGHT IRON FENCE IN THIS AREA.
- 3 ADDED STONE PILLARS AND DETAIL TO THE END OF THE WROUGHT IRON FENCE AS REQUESTED BY THE CITY. DEVELOPER TO PROVIDE WROUGHT FENCE SPECIFICATIONS FROM SUPPLIER.
- 4 MOVED THE LOCATION OF STORM LINE 600. ADDED A 4'x4' JUNCTION BOX (803) TO STORM LINE 800

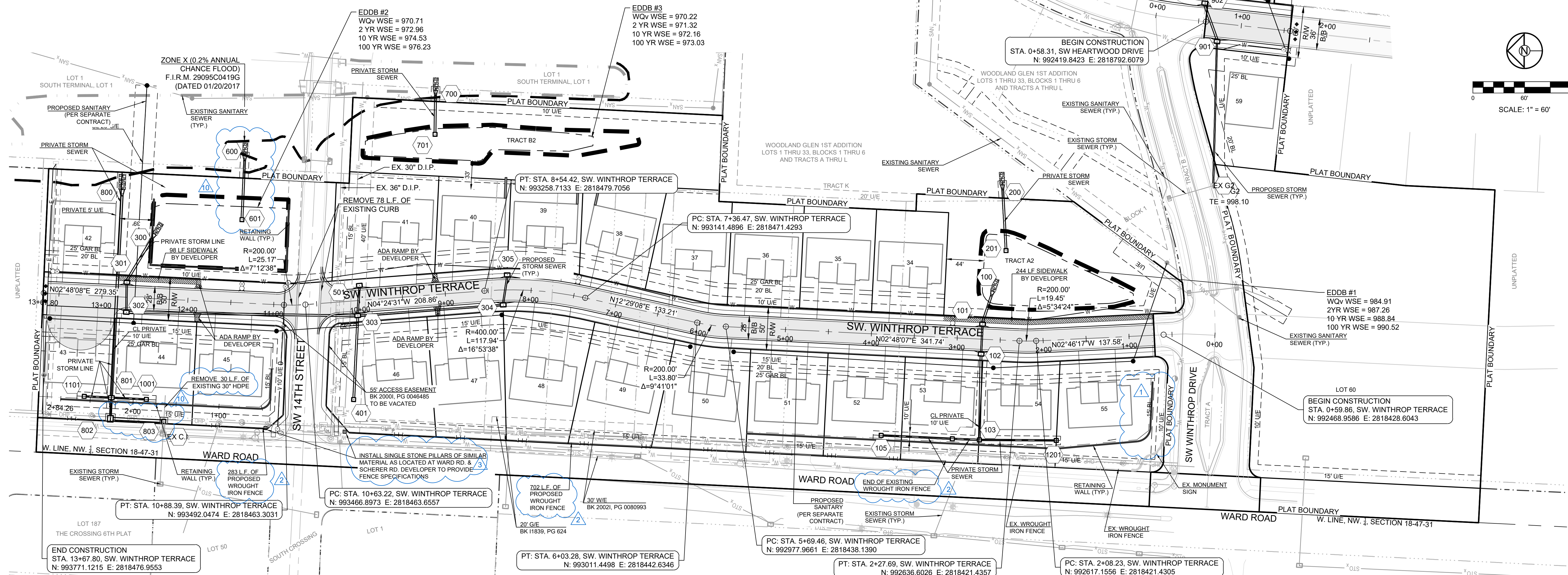
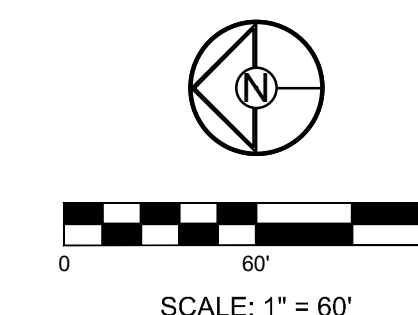
PROJECT BENCHMARK:

SW. CORNER NW 1/4 SEC. 18-47N-31W, JACKSON COUNTY, MO.
 3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
 M.D.N.R. DOC. NO. 600-65374
 ELEV. 1036.41



SECTION 18-47N-31W

LOCATION MAP
 SCALE 1" = 2000'



WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1/10/2023	AS-BUILT REVISIONS
1/11/2023	AS-BUILT
02/22/2023	CITY WALL MODIFICATION
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09/29/2021	CITY COMMENTS
09/29/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

GENERAL LAYOUT
 SHEET

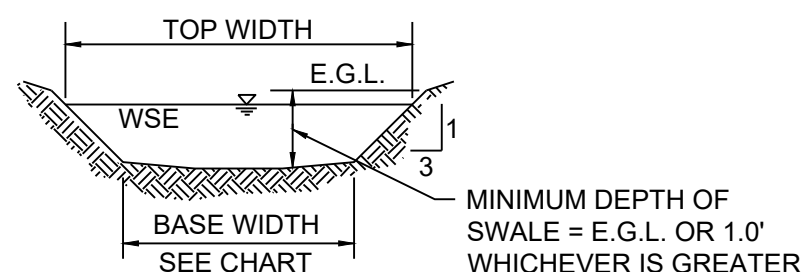
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I:\PROJECTS\2018\18-0773.0 Design\3.0 DWG Plans\6.0 SS\18-0773 SS GL AND CP.dwg, GENLAY, 1/10/2023 3:16:32 PM, 1:1

NOTES:

- MBOE = MINIMUM BUILDING OPENING ELEVATION FOR HOUSES ADJACENT TO ENGINEERED OVERFLOW SWALES SHALL BE MINIMUM 2 FEET ABOVE THE 100 YR WATER SURFACE ELEVATION.
- EGL = ENERGY GRADE LINE (100 YR)
- WSE = WATER SURFACE ELEVATION (100 YR)
- ENGINEERED SWALES TO BE GRADED TO NORMAL DEPTH OF FLOW (WATER SURFACE ELEVATION) OR 1.0 FT, WHICHEVER IS GREATER. MINIMUM SLOPE OF ENGINEERED SWALES SHALL BE AS NOTED.
- MBOE'S ADJACENT TO SUMPED INLETS SHALL BE A MINIMUM OF 1' ABOVE TOP OF ADJACENT BERM
- SWALE SECTIONS EXTEND THE ENTIRE LENGTH BETWEEN UPSTREAM AND DOWNSTREAM STRUCTURES WITH THE EXCEPTION OF A TRANSITION AT EACH STRUCTURE.

RUNOFF CALCULATIONS:
 $Q = K \cdot C \cdot I \cdot A$
 $K_{10} = 1.0$ $K_{100} = 1.25$ $C = 0.51$ $I = \text{INTENSITY}$
 DESIGN OVERFLOW = $Q_{\text{OVERFLOW}} = Q_{100} - Q_{10}$
 MANNINGS "n" = .030 FOR SWALES



MINIMUM DEPTH OF SWALE = E.G.L. OR 1.0' WHICHEVER IS GREATER

100 YEAR OVERFLOW SWALES												
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	BED SLOPE (%)	BASE WIDTH (FT.)	SIDE SLOPE	TOP WIDTH (FT.)	NORMAL DEPTH (FT.)	VELOCITY (FPS)	VELOCITY HEAD (FT.)	EGL (FT.)
A-A	0.32	2.11	-	2.11	2.52	5	3:1	6.02	0.17	2.26	0.08	0.25
B-B	3.54	23.29	-	23.29	7.93	5	3:1	7.91	0.49	7.44	0.86	1.35
C-C	0.93	6.12	-	6.12	6.50	5	3:1	6.44	0.24	4.46	0.31	0.55
D-D	2.65	17.44	-	17.44	5.93	5	3:1	7.69	0.45	6.13	0.58	1.03

DETENTION STORAGE EDDB #1:
 100 YEAR, 24 HR. RAINFALL - MAXIMUM WSE = 990.54 (SEE FINAL STORMWATER MGMT. PLAN) 990.5

AUXILIARY SPILLWAY SET AT 0.5 FEET ABOVE MAX. WSE, SPILLWAY ELEV. = 991.04
 990.7

AUXILIARY SPILLWAY DESIGN:
 $Q(100) = 2.74$ CFS, $Q = CLH^{\frac{2}{3}}$, $C = 3.33$, $L = 20$ FT., 2.74 CFS = $3.33 \cdot 20^{\frac{2}{3}} \cdot (H^{\frac{2}{3}})$, $H = 0.42$ FT.
 1.29 1.29 0.07

DETENTION STORAGE EDDB #2:
 100 YEAR, 24 HR. RAINFALL - MAXIMUM WSE = 975.90 (SEE FINAL STORMWATER MGMT. PLAN) 976.2

AUXILIARY SPILLWAY SET AT 0.5 FEET ABOVE MAX. WSE, SPILLWAY ELEV. = 976.40
 976.7

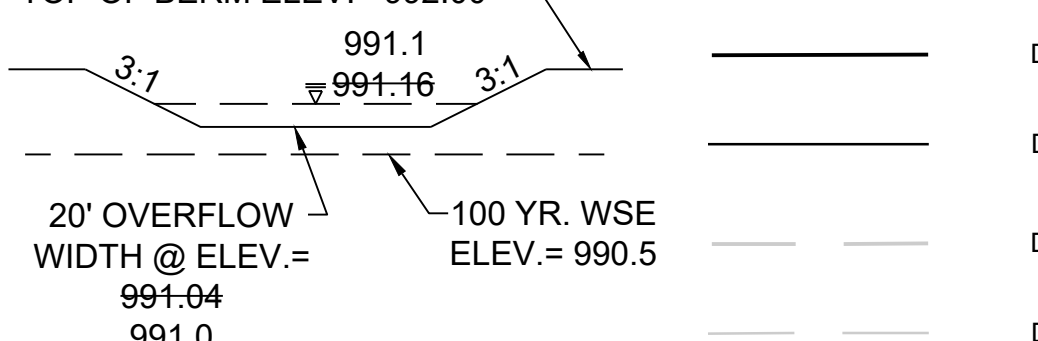
AUXILIARY SPILLWAY DESIGN:
 $Q(100) = 18.47$ CFS, $Q = CLH^{\frac{2}{3}}$, $C = 3.33$, $L = 20$ FT., 18.47 CFS = $3.33 \cdot 20^{\frac{2}{3}} \cdot (H^{\frac{2}{3}})$, $H = 0.43$ FT.
 19.09 19.09 0.43

DETENTION STORAGE EDDB #3:
 100 YEAR, 24 HR. RAINFALL - MAXIMUM WSE = 972.96 (SEE FINAL STORMWATER MGMT. PLAN) 973.03

AUXILIARY SPILLWAY SET AT 0.5 FEET ABOVE MAX. WSE, SPILLWAY ELEV. = 973.46
 973.9

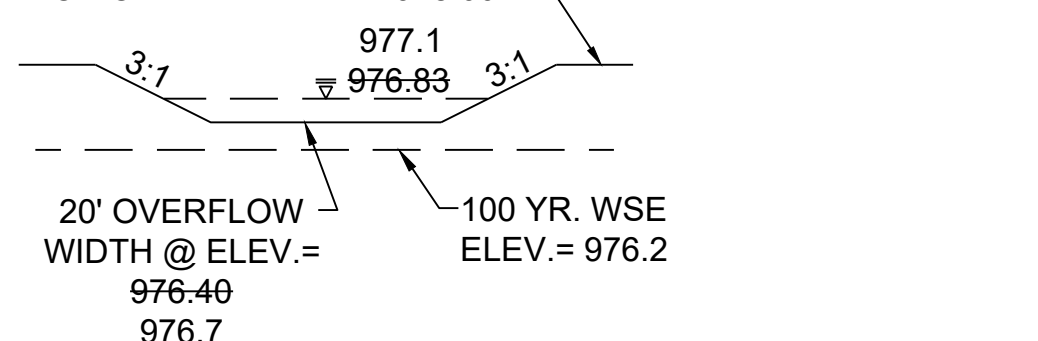
AUXILIARY SPILLWAY DESIGN:
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 0.71 0.71 0.05

TOP OF BERM ELEV. = 992.00



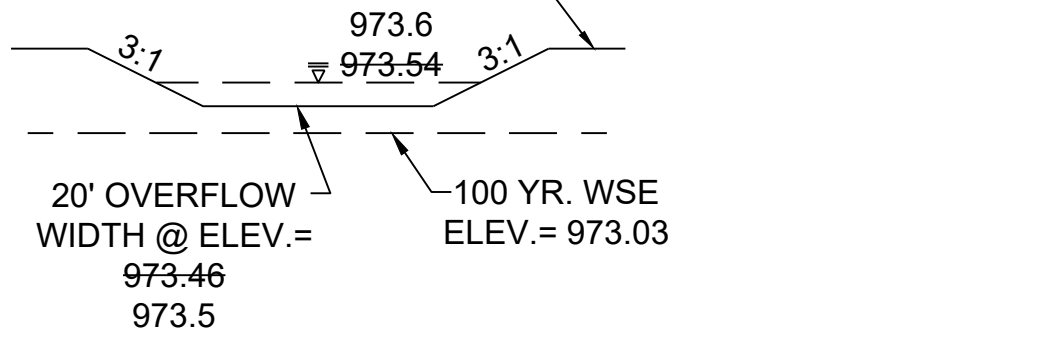
SECTION 1-1

TOP OF BERM ELEV. = 977.7



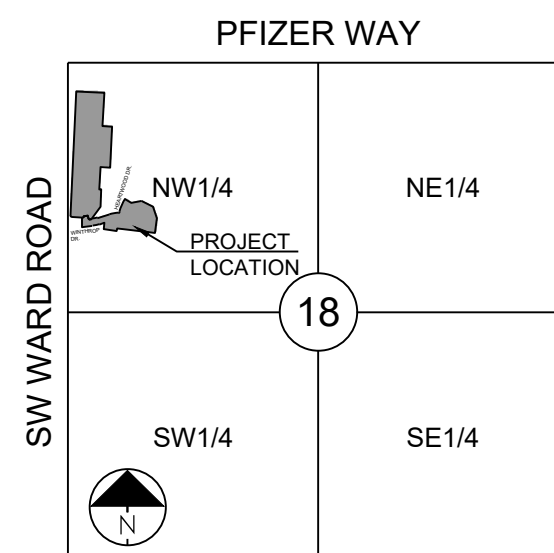
SECTION 2-2

TOP OF BERM ELEV. = 974.00



SECTION 3-3

- DENOTES LIMITS OF DISTURBANCE
- DENOTES PROPOSED MAJOR CONTOUR
- DENOTES PROPOSED MINOR CONTOUR
- DENOTES EXISTING MAJOR CONTOUR
- DENOTES EXISTING MINOR CONTOUR
- DENOTES AS-BUILT MAJOR CONTOUR
- DENOTES AS-BUILT MINOR CONTOUR

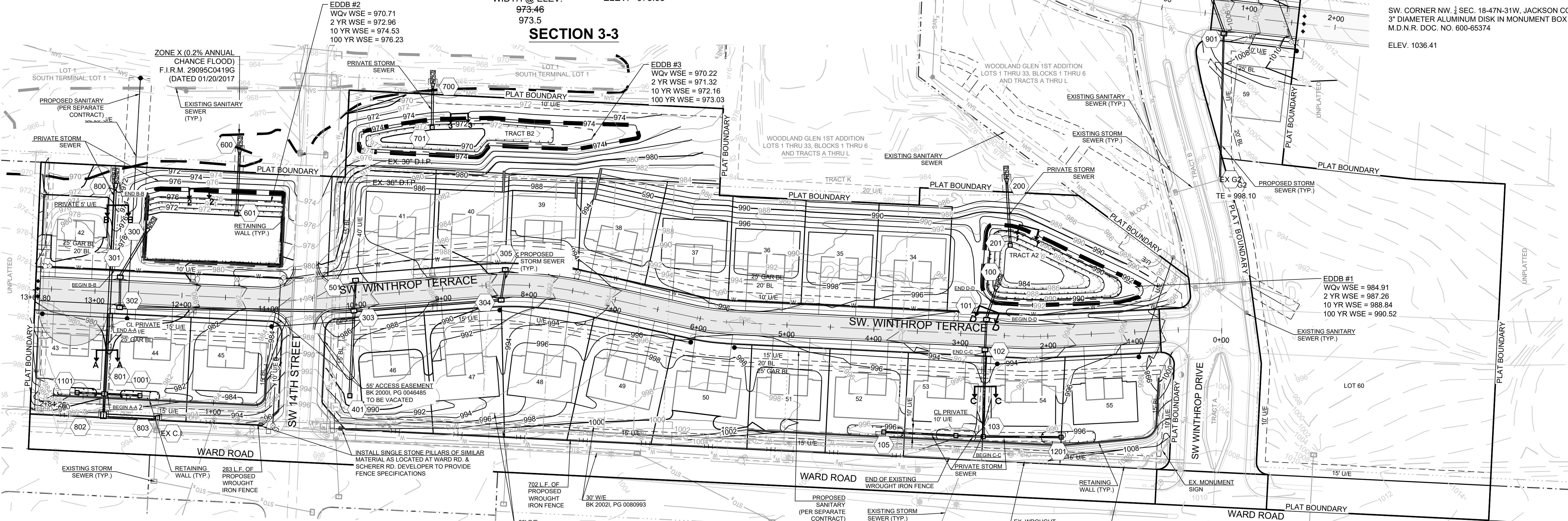


SECTION 18-47N-31W
 LOCATION MAP
 SCALE 1" = 2000'



PROJECT BENCHMARK:

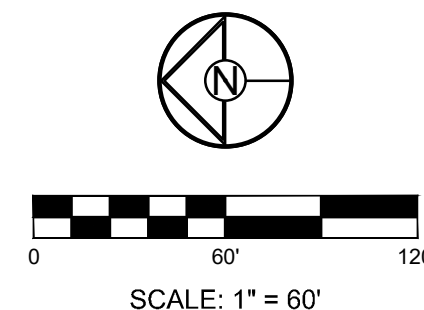
SW CORNER NW 1/4 SEC. 18-47N-31W, JACKSON COUNTY, MO.
 3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
 M.D.N.R. DOC. NO. 600-65374
 ELEV. 1036.41



RECORD DRAWING

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Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlager and Associates, P.A.



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WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1/10/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
08/22/2022	CITY WALL MODIFICATION
05/16/2022	CITY EMAILED COMMENTS
04/24/2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
04/09/2021	SCHLAGEL QUANTITIES
05/12/2021	CITY COMMENTS
06/15/2021	CITY COMMENTS
09/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

MASTER DRAINAGE PLAN
 GRADING PLAN

SHEET

I:\PROJECTS\2018\18-0773.0 Design\3.0 DWG Plans\6.0 SS\18-0773 SS GL AND GP.dwg, MDP GRADING, 1/10/2023, 3:19:09 PM, 1:1

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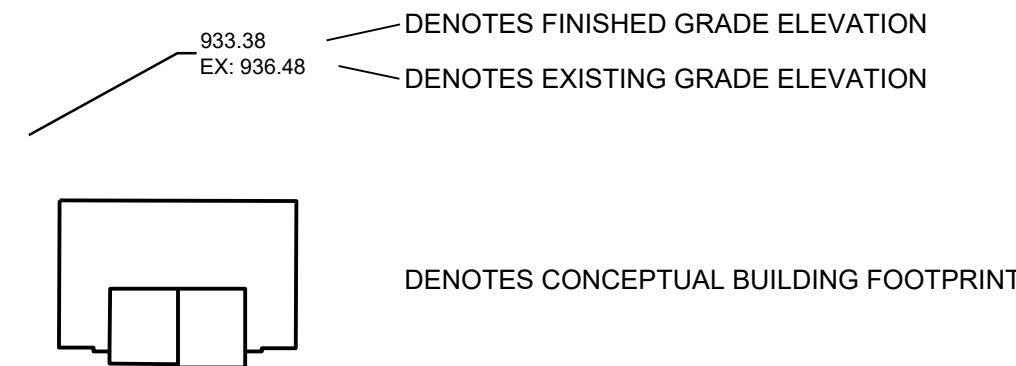
LOT TYPE TABLE		
LOT #	TYPE	MBOE
34	BASEMENT	992.5
35	WALKOUT	N/A
36	WALKOUT	N/A
37	WALKOUT	975.0
38	WALKOUT	975.0
39	WALKOUT	975.0
40	WALKOUT	975.0
41	WALKOUT	975.0
42	WALKOUT	971.5
43	STANDARD	981.0
44	STANDARD	981.0
45	STANDARD	N/A
46	STANDARD	982.8
47	STANDARD	N/A
48	STANDARD	N/A
49	STANDARD	N/A
50	STANDARD	N/A
51	STANDARD	N/A
52	STANDARD	996.0
53	STANDARD	996.0
54	STANDARD	996.0
55	STANDARD	996.0
56	WALKOUT	N/A
57	WALKOUT	N/A
58	WALKOUT	N/A
59	WALKOUT	N/A

NOTES:

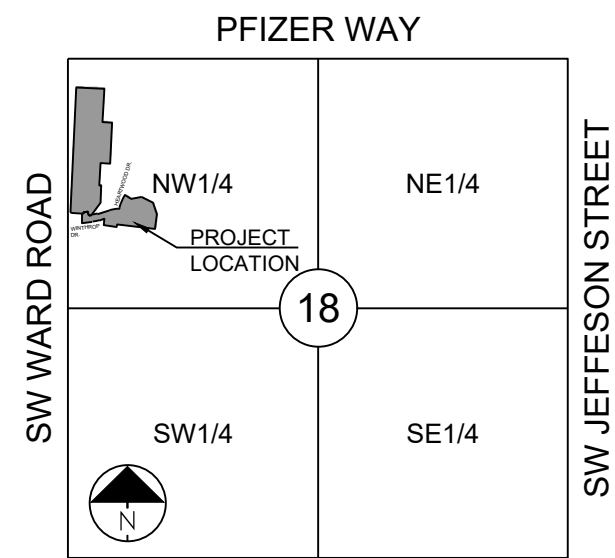
- MBOE = MINIMUM BUILDING OPENING ELEVATION FOR HOUSES ADJACENT TO ENGINEERED OVERFLOW SWALES SHALL BE MINIMUM 2 FEET ABOVE THE 100 YR WATER SURFACE ELEVATION.
- EGL = ENERGY GRADE LINE (100 YR)
- WSE = WATER SURFACE ELEVATION (100 YR)
- ENGINEERED SWALES TO BE GRADED TO NORMAL DEPTH OF FLOW (WATER SURFACE ELEVATION) OR 1.0 FT, WHICHEVER IS GREATER. MINIMUM SLOPE OF ENGINEERED SWALES SHALL BE AS NOTED.
- MBOE'S ADJACENT TO SUMPED INLETS SHALL BE A MINIMUM OF 1' ABOVE TOP OF ADJACENT BERM

PROJECT BENCHMARK:

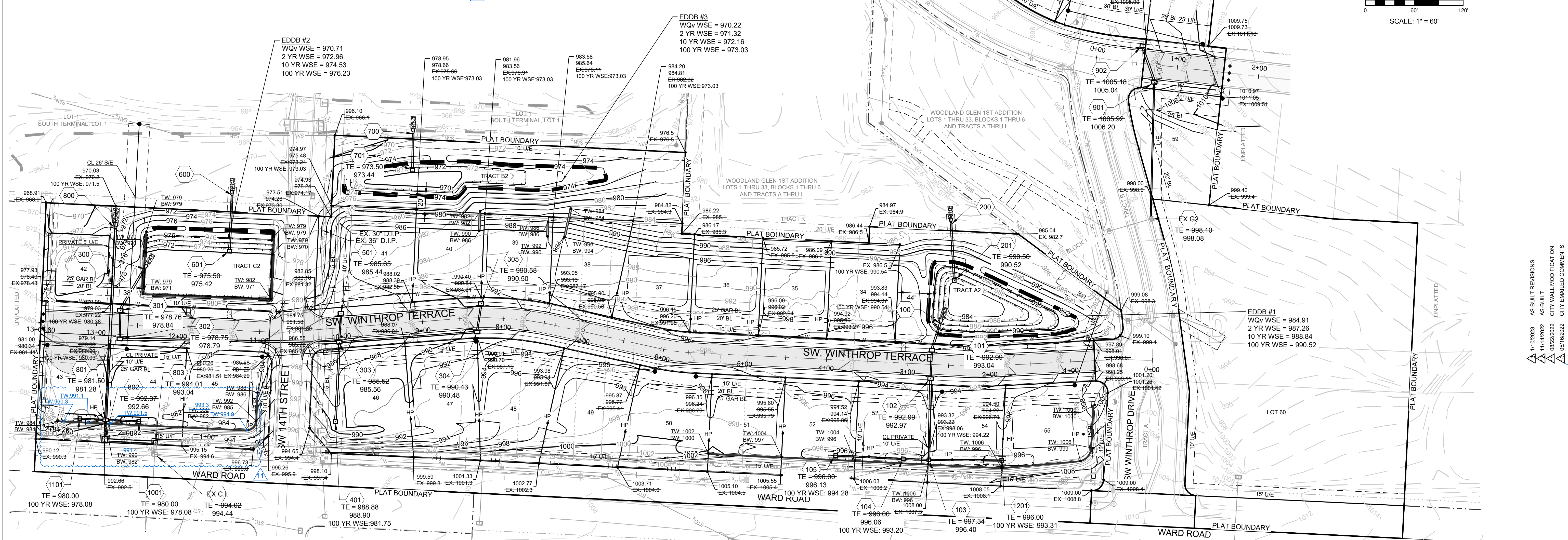
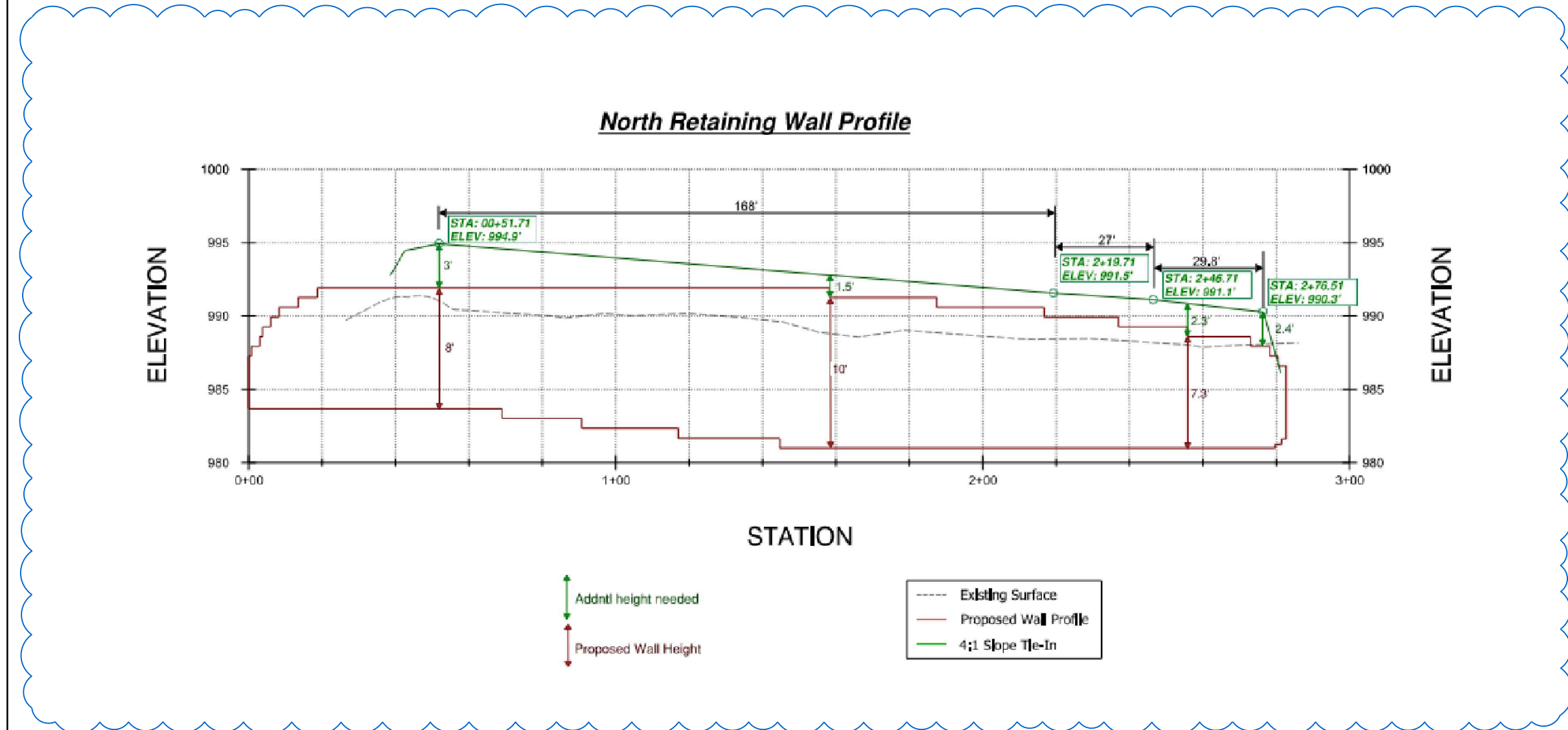
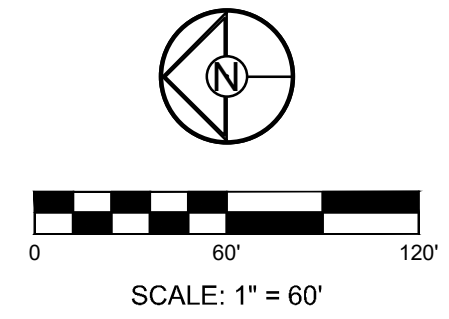
SW. CORNER NW 1/4 SEC. 18-47N-31W, JACKSON COUNTY, MO.
 3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
 M.D.N.R. DOC. NO. 600-65374
 ELEV. 1036.41



- ** --- DENOTES LIMITS OF DISTURBANCE
- DENOTES PROPOSED MAJOR CONTOUR
- DENOTES PROPOSED MINOR CONTOUR
- DENOTES EXISTING MAJOR CONTOUR
- DENOTES EXISTING MINOR CONTOUR
- DENOTES AS-BUILT MAJOR CONTOUR
- DENOTES AS-BUILT MINOR CONTOUR



SECTION 18-47N-31W
 LOCATION MAP
 SCALE 1" = 2000'



WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
11/02/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
08/22/2022	CITY WALL MODIFICATION
08/16/2022	CITY EMAILED COMMENTS

DRAWN BY	CITY COMMENTS
BAL	04/24/2020
MAB	01/12/2021
MAB	04/09/2021
MAB	05/12/2021
MAB	06/15/2021
MAB	06/28/2021
MAB	09/28/2021
MAB	10/08/2021
MAB	01/20/2022

DATE PREPARED	CITY COMMENTS
2-19-2020	01/20/2022
01/20/2022	01/20/2022

PROJ. NUMBER	WATER LINE CONFLICT
18-017	18-017

MASTER DRAINAGE PLAN
 SPOT ELEVATIONS
 SHEET

PROJECT BENCHMARK:

SW CORNER NW ¼ SEC. 18-47N-31W, JACKSON COUNTY, MO.
3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
M.D.N.R. DOC. NO. 600-65374

ELEV. 1036.41

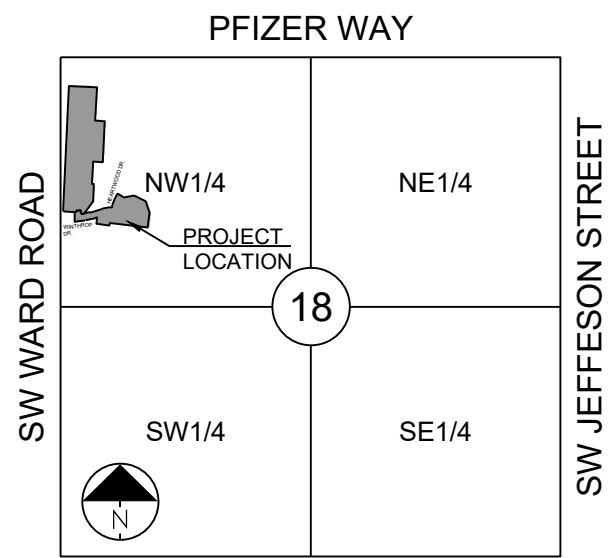


RECORD DRAWING

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Certified by: RPM
Title: Design Engineer
Firm: Schlagel and Associates, P.A.



SECTION 18-47N-31W

LOCATION MAP
SCALE 1" = 2000'

- DENOTES LIMITS OF DISTURBANCE
- DENOTES PROPOSED MAJOR CONTOUR
- - - DENOTES PROPOSED MINOR CONTOUR
- DENOTES EXISTING MAJOR CONTOUR
- - - DENOTES EXISTING MINOR CONTOUR
- DENOTES AS-BUILT MAJOR CONTOUR
- - - DENOTES AS-BUILT MINOR CONTOUR



EX-1
DA = 9.73 AC
PER FINAL
STORM WATER
REPORT

ZONE X (0.2% ANNUAL CHANCE FLOOD)
F.I.R.M. 29095C0419G
(DATED 01/20/2017)

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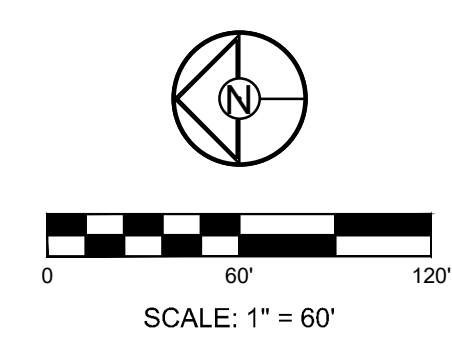
WOODLAND GLEN 2ND PLAT
STREET, STORMWATER, MASTER DRAINAGE,
AND EROSION CONTROL PLANS
WARD ROAD & WINTHROP DRIVE
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
11/02/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
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08/16/2022	CITY EMAILED COMMENTS
04/24/2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
04/09/2021	SCHLAGEL QUANTITIES
05/12/2021	CITY COMMENTS
05/15/2021	CITY COMMENTS
06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

MASTER DRAINAGE PLAN
DRAINAGE AREAS

SHEET

10



I:\PROJECTS\2018\18-0773.0 Design\3.0 DWG Plans\6.0 SS\18-07 SS GL AND GP.dwg, MDP DRAINAGE MAP (2), 11/02/2023 3:24:45 PM, 1:1

10 YR STORM SEWER DESIGN CALCULATIONS

Table with columns for Inlet #, Area (acres), C" Value, Cumul. Area (acres), Cumul. CxA, Runoff Intensity, Cumul. Runoff, Pipe Cap., Pipe Vel., Up Piped Inlet 1, Up Piped Inlet 2, Up Area (acres), Up CxA, Pipe Inlet, Down Inlet, Pipe Type, "n" Value, Pipe Size, Length, Slope %, Drop Inlet, FL Up, FL Down, Top. Includes lines 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200.

100 YR STORM SEWER DESIGN CALCULATIONS

Table with columns for Inlet #, Area (acres), C" Value, Cumul. Area (acres), Cumul. CxA, Runoff Intensity, Cumul. Runoff, Pipe Cap., Pipe Vel., Up Piped Inlet 1, Up Piped Inlet 2, Up Area (acres), Up CxA, Pipe Inlet, Down Inlet, Pipe Type, "n" Value, Pipe Size, Length, Slope %, Drop Inlet, FL Up, FL Down, Top. Includes lines 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200.

GUTTER SPREAD AND INLET CAPACITY CALCULATIONS - WOODLAND GLEN - 2ND PLAT

DESIGN STORM: 10; "K" FACTOR: 1.00; CURB TYPE "A" = LAZY BACK; CURB TYPE "B" = HIGH BACK

Table with columns for INLET #, COMPOSITE "C", AREA, INLET TC, INTENSITY, RUNOFF, UPSTREAM INLET, UPSTREAM INLET, UPSTREAM INLET, UPSTREAM INLET, BYPASS FROM UPSTREAM INLET, TOTAL RUNOFF, STREET GRADE, STREET SLOPE, CURB TYPE, INLET LENGTH, EFFECTIVE LENGTH 80% CAP, INLET INTERCEPTION, BYPASS TO DOWNSREAM INLET, STREET GRADE, STREET SLOPE, DEPTH AT CURB, SPREAD OF FLOW. Includes lines 100, 300, 400, 500, 800, 900, 1000, 1100, 1200.

- NOTES: 1. CAPACITY OF INLETS ON GRADE DETERMINED USING ROUTINE OUTLINED ON PGS 56-95 TO 56-97, SECTION 5600 APWA; 2. CAPACITY OF SUMP INLETS CALCULATED USING FIGURE 5604-21, SECTION 5600 APWA; 3. MANNINGS "N" VALUE FOR COMBINED ASPHALT PAVEMENT AND CONCRETE CURB - 0.014



WOODLAND GLEN 2ND PLAT, STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS, WARD ROAD & WINTHROP DRIVE, LEE'S SUMMIT, MISSOURI

RECORD DRAWING

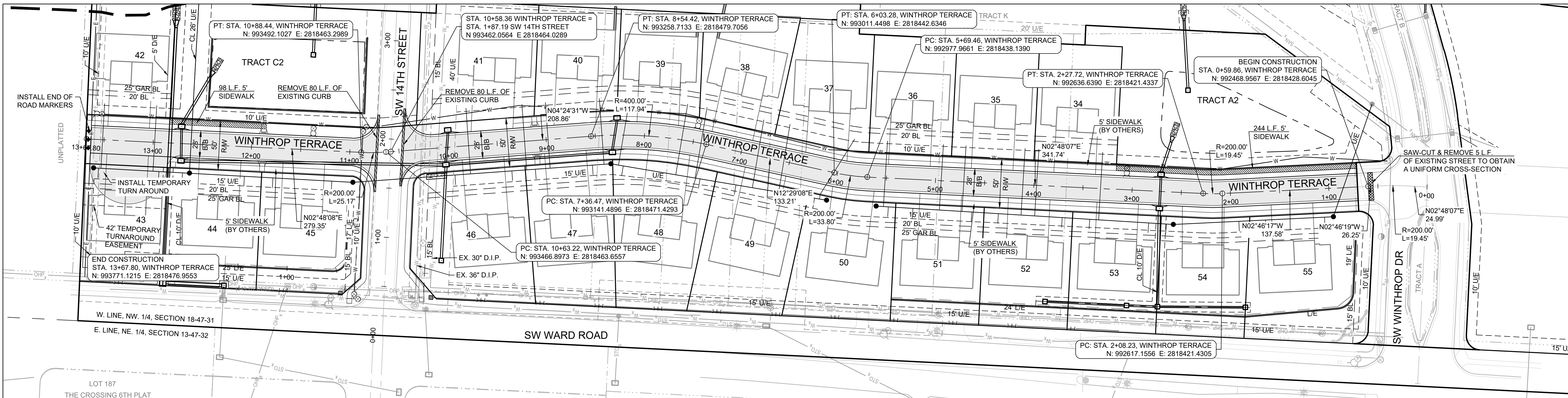
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Date: 1/10/2023, Certified by: RPM, Title: Design Engineer, Firm: Schlager and Associates, P.A.

Table with columns: REVISION DATE, DESCRIPTION, DRAWN BY, CHECKED BY, DATE PREPARED, PROJ. NUMBER. Includes revision history from 01/14/2023 to 01/20/2023.

MASTER DRAINAGE PLAN, DRAINAGE CALCULATIONS, SHEET



RECORD DRAWING

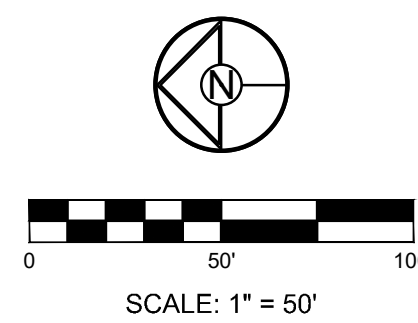
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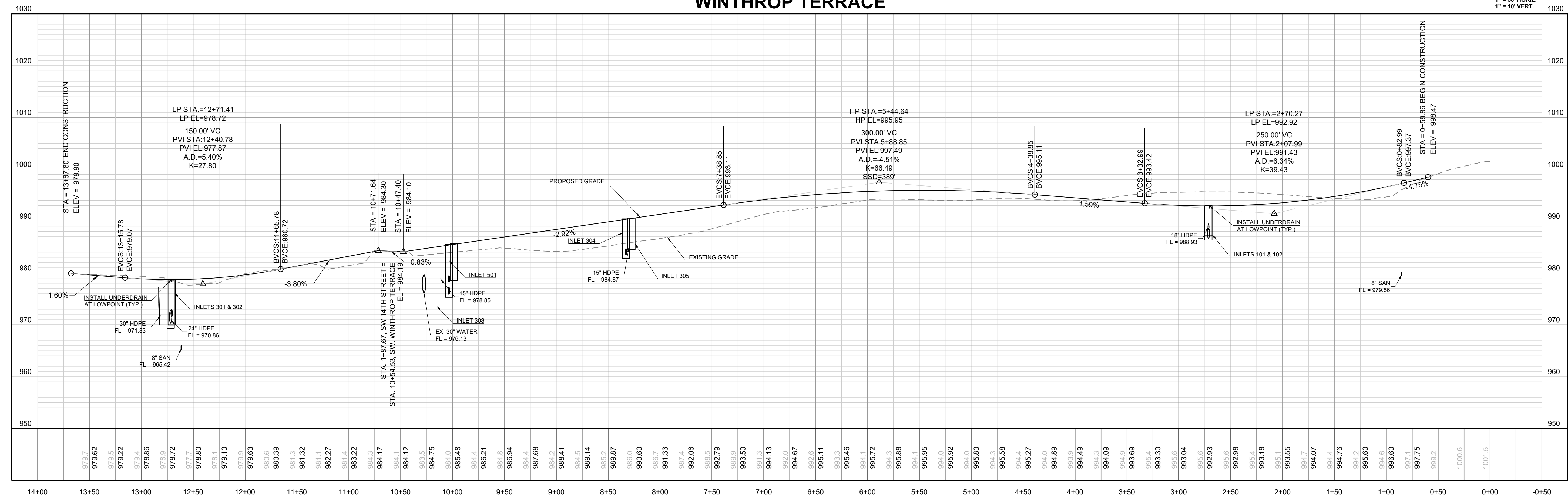
Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlagel and Associates, P.A.

PROJECT BENCHMARK:

SW CORNER NW 1/4 SEC. 18-47N-31W, JACKSON COUNTY, MO.
 3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
 M.D.N.R. DOC. NO. 600-65374
 ELEV. 1036.41



WINTHROP TERRACE



WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
11/02/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
08/22/2022	CITY WALL MODIFICATION
08/16/2022	CITY EMAILED COMMENTS

DRAWN BY:	DESCRIPTION
BAL	CITY COMMENTS
CHECKED BY:	SCHLAGEL QUANTITIES
MAB	SCHLAGEL QUANTITIES
DATE PREPARED:	CITY COMMENTS
2-19-2020	CITY COMMENTS
PROJ. NUMBER:	CITY COMMENTS
10062021	SCHLAGEL UPDATE
18-017	WATER LINE CONFLICT

WINTHROP TERRACE PLAN & PROFILE

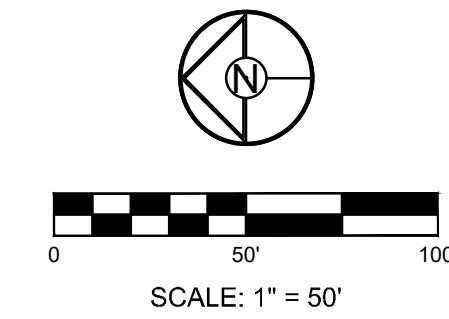
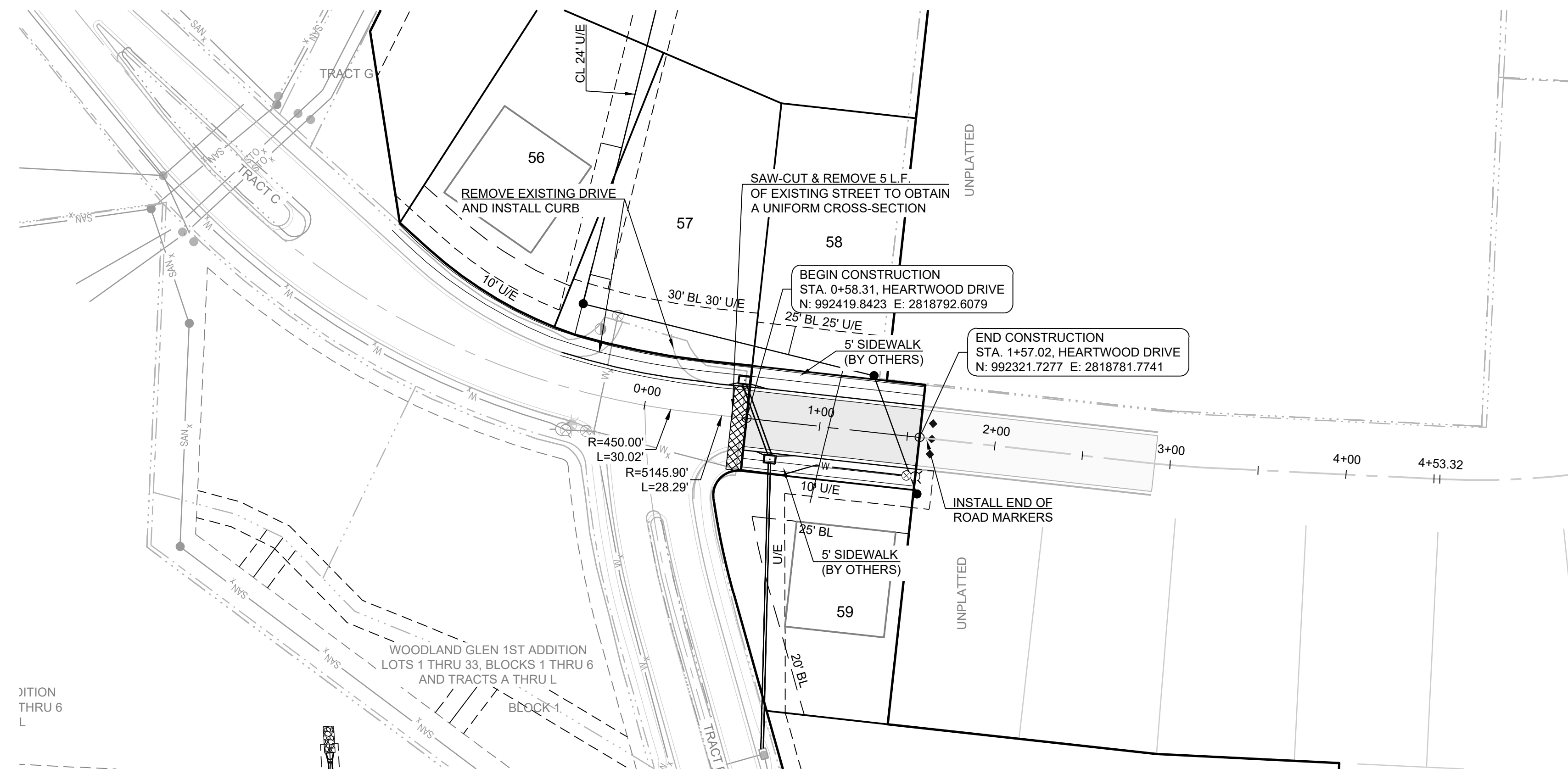
SHEET

I:\PROJECTS\2018\18-017\3.0 Design\3.0 DWG Plans\6.0 SS\18-017 STREET PP.dwg, WINTHROP TERR PP. 11/02/2023 3:28:37 PM, 1:1

PROJECT BENCHMARK:

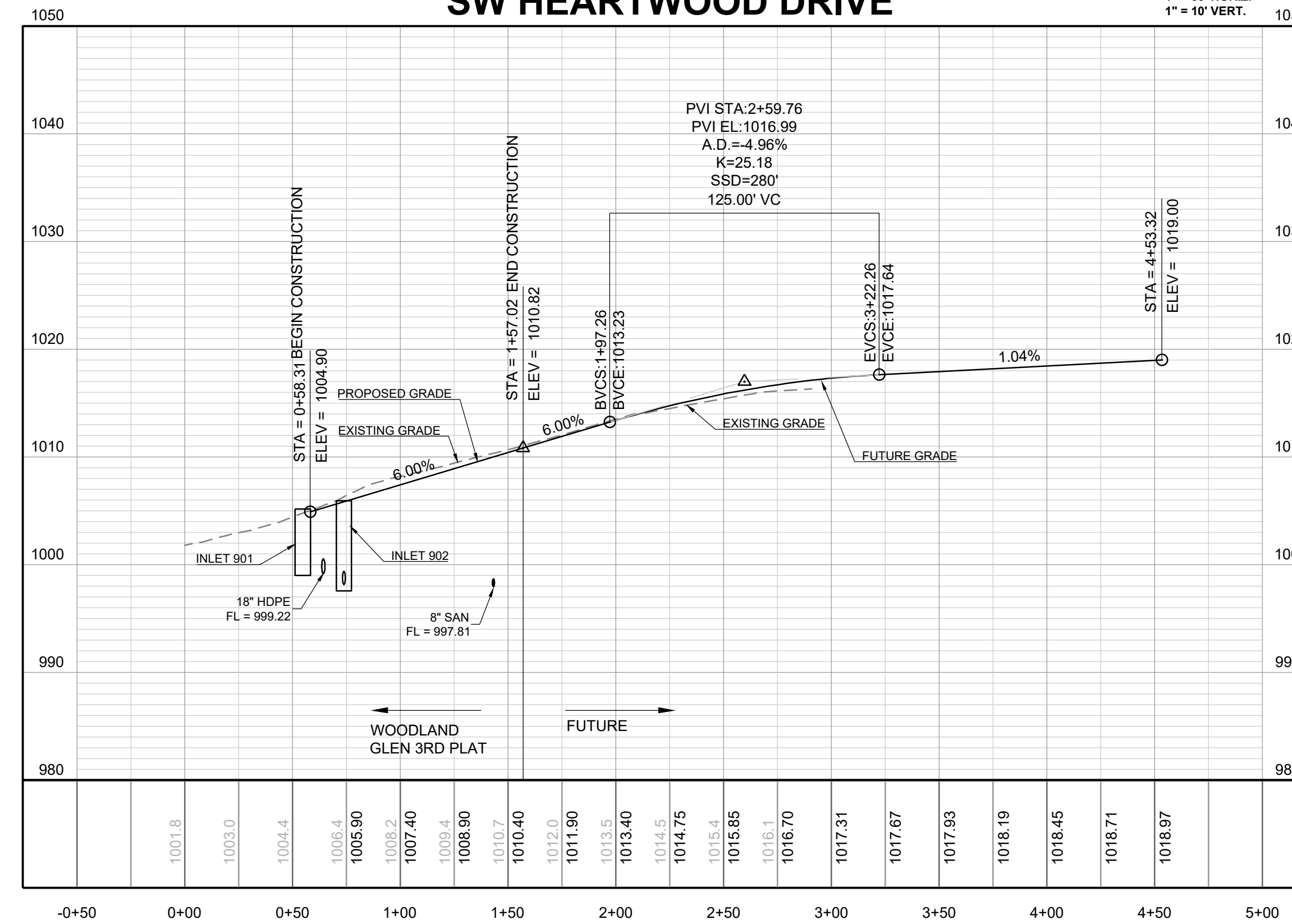
SW CORNER NW 1/4 SEC. 18-47N-31W, JACKSON COUNTY, MO.
 3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
 M.D.N.R. DOC. NO. 600-65374

ELEV. 1036.41



SW HEARTWOOD DRIVE

1" = 50' HORIZ.
 1" = 10' VERT.



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05/12/2021	CITY COMMENTS
05/15/2021	CITY COMMENTS
09/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

HEARTWOOD
 DRIVE PLAN &
 PROFILE

SHEET

13

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 #E2002003600F #LAC201005237 #S200200869F

PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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06/15/2021	CITY COMMENTS
06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

INTERSECTION
 DETAIL

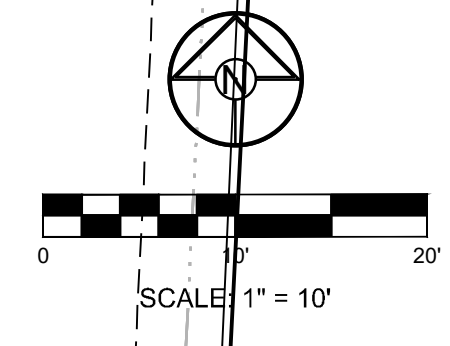
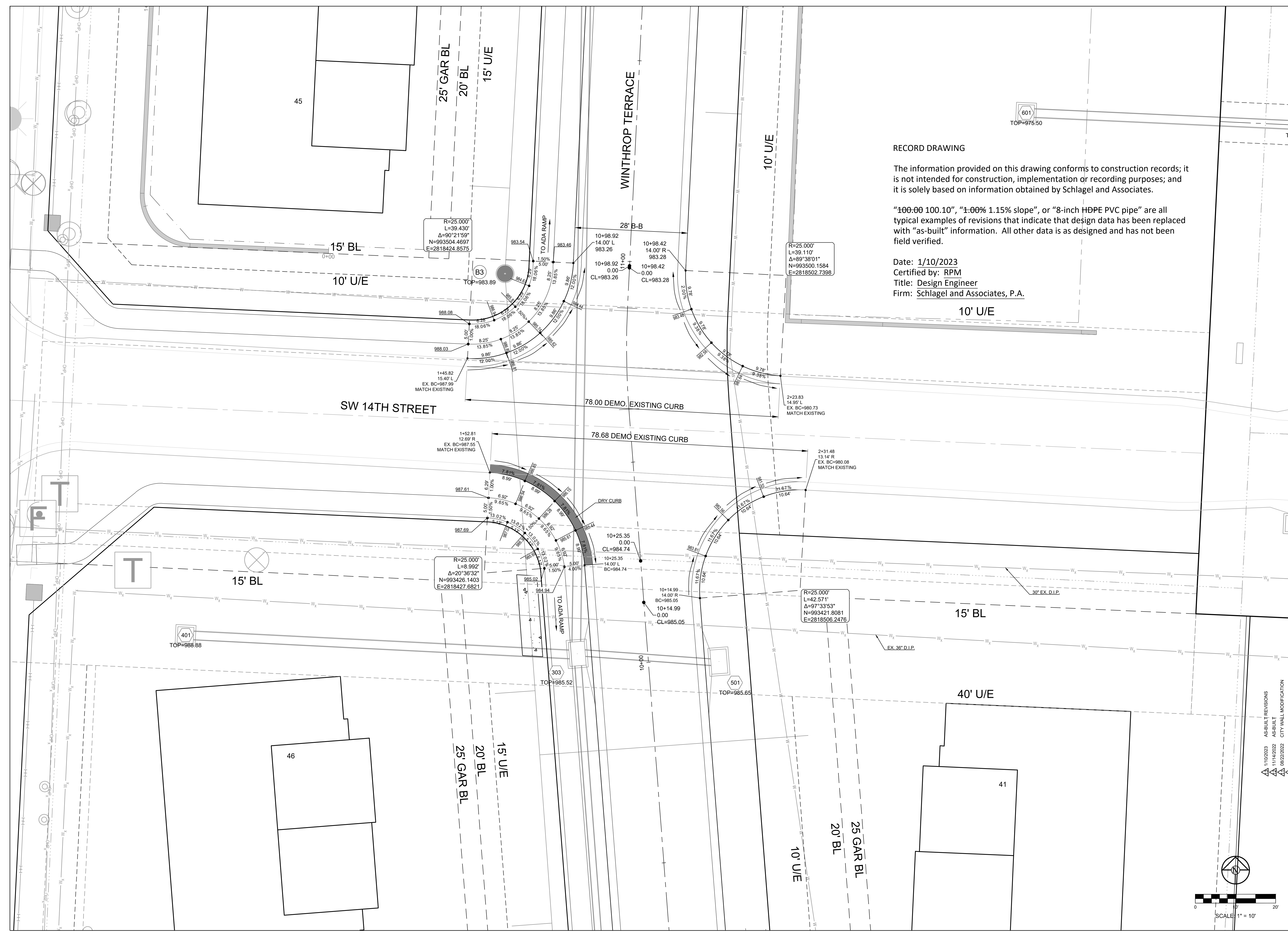
SHEET

RECORD DRAWING

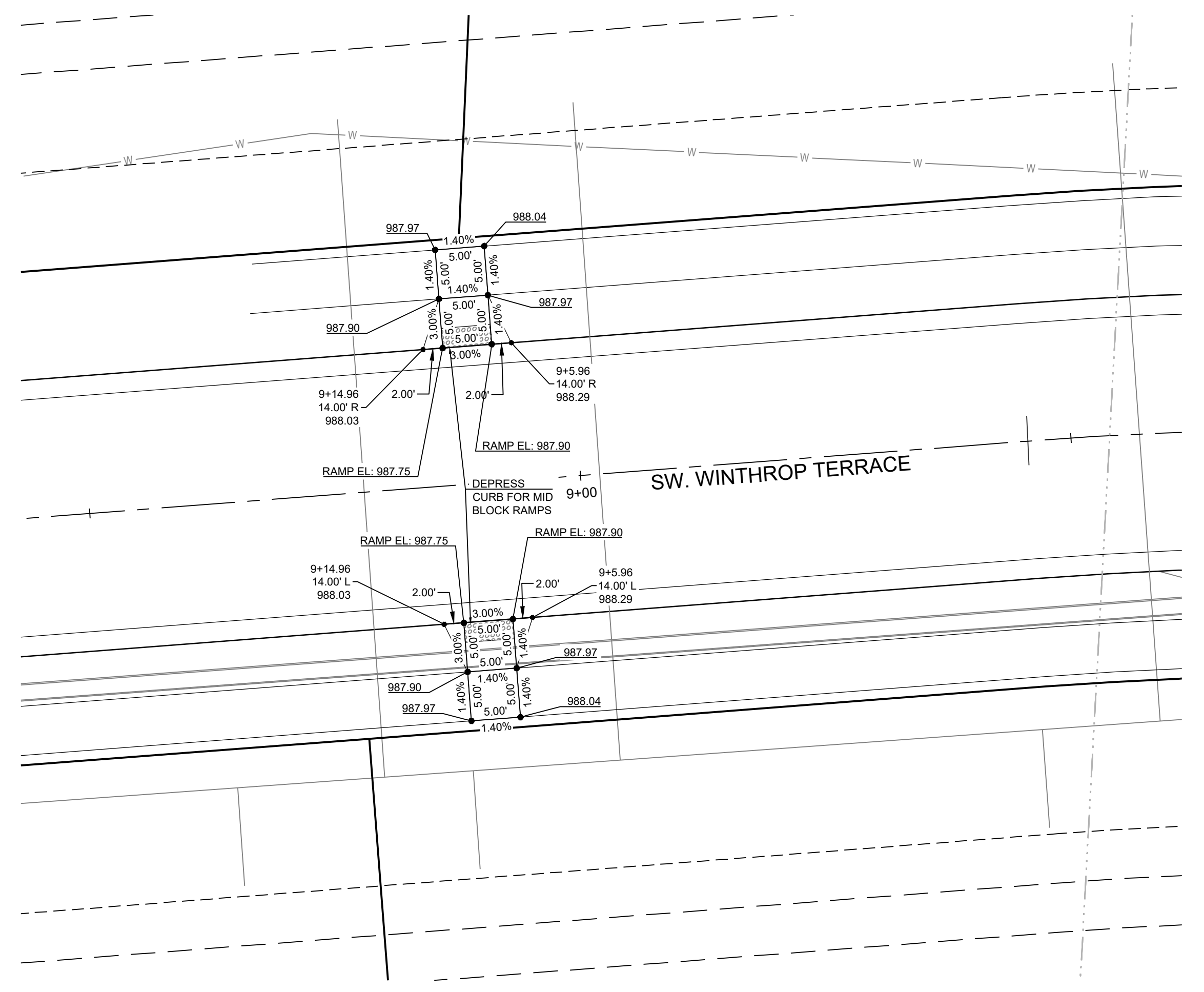
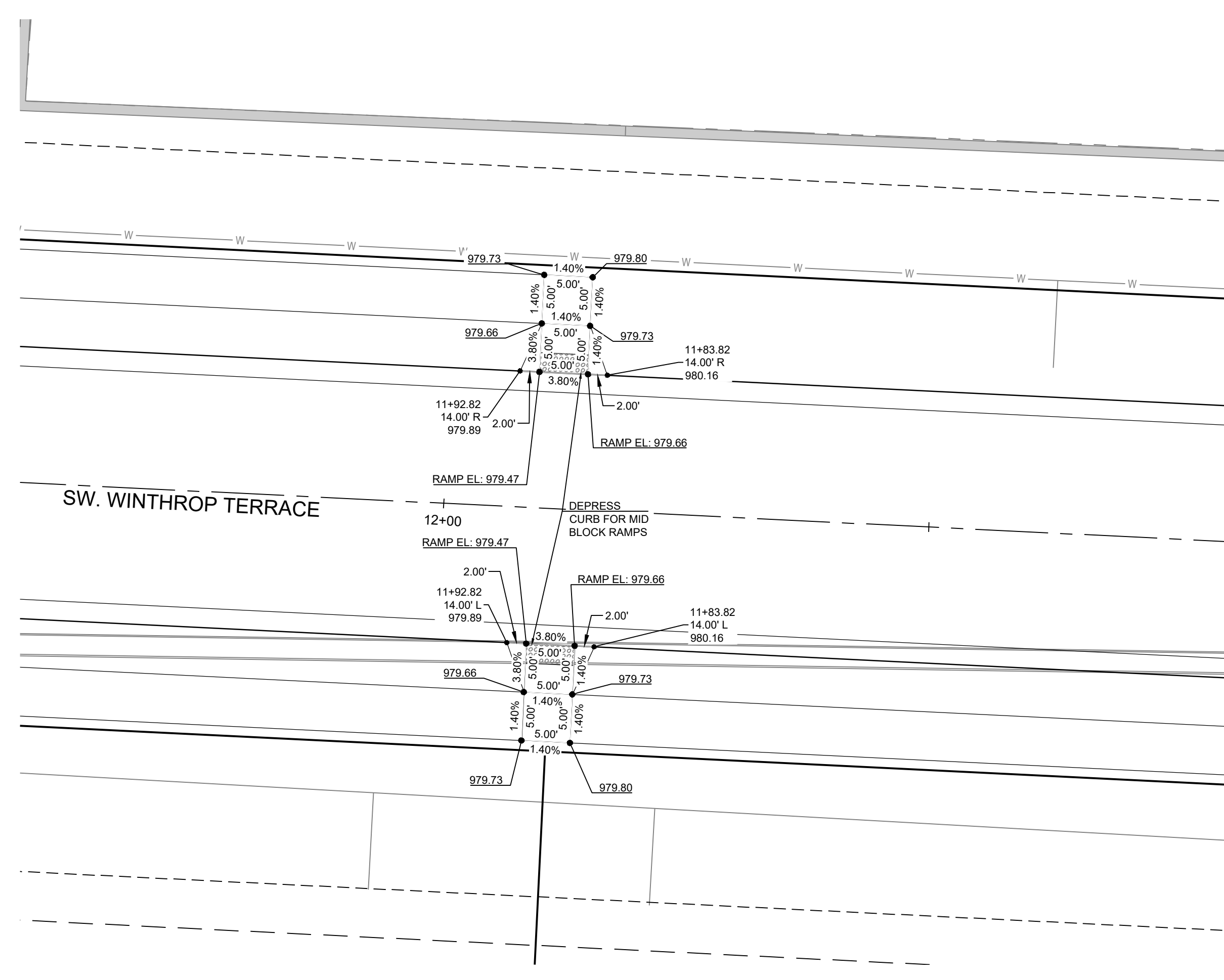
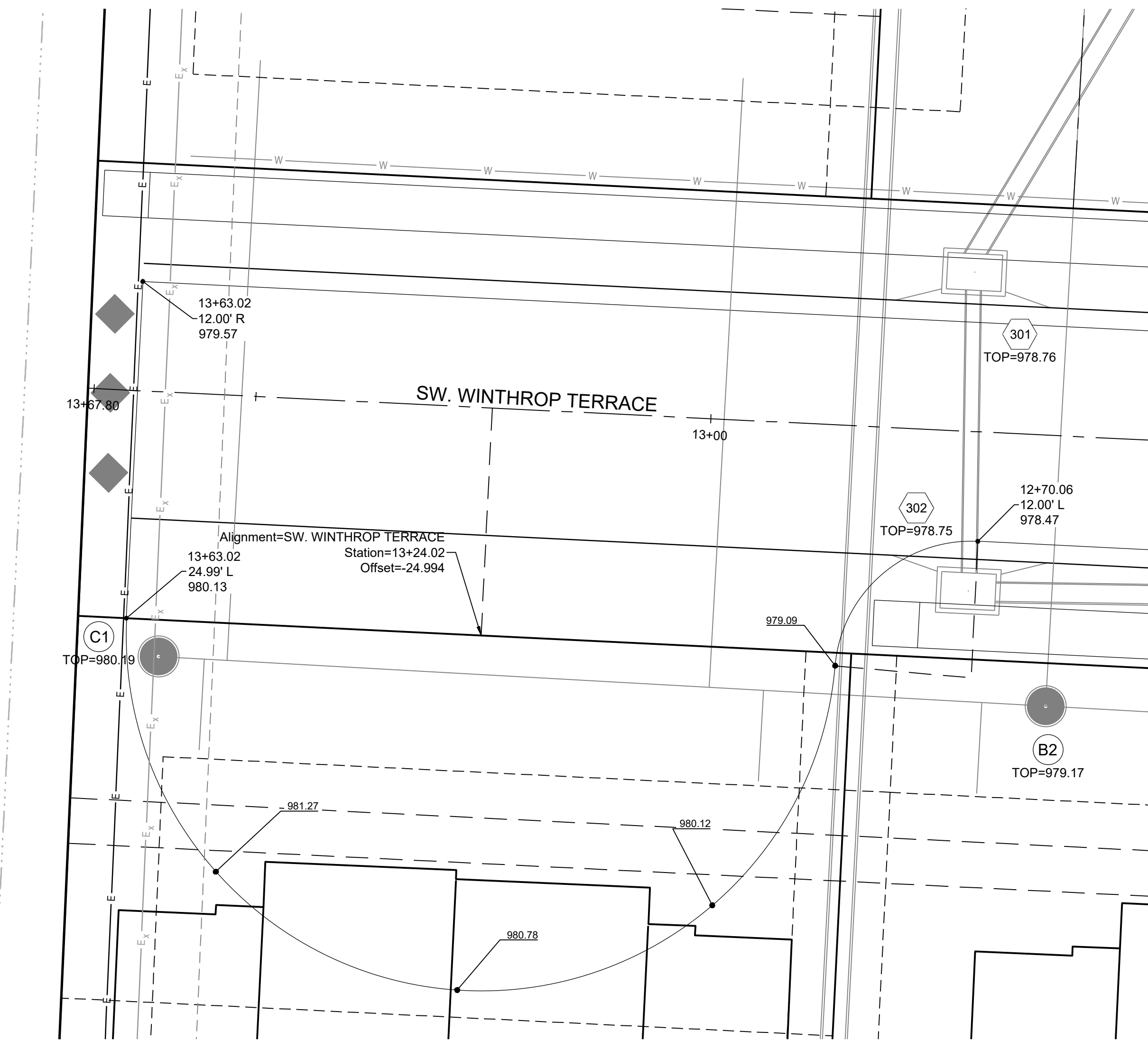
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"100.00 100.10", "1.00% 1.15% slope", or "8-inch HDPE PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlagel and Associates, P.A.



I:\PROJECTS\2018\18-0773.0 Design\3.0 DWG Plans\6.0 SS\18-017 SS INT DTLS.dwg, GenericPlanSet-IntersectionDetail, 1/10/2023 3:32:59 PM, 1:1

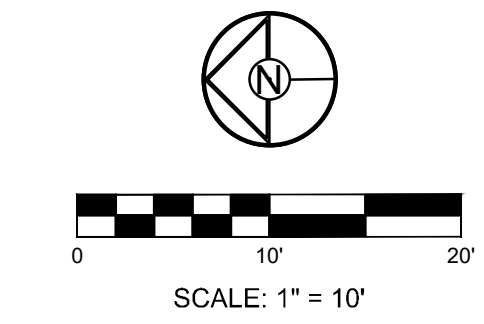


RECORD DRAWING

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Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlager and Associates, P.A.



PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

**WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI**

REVISION DATE	DESCRIPTION
1/10/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
08/22/2022	CITY WALL MODIFICATION
07/16/2022	CITY EMAILED COMMENTS
04/24/2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
04/09/2021	SCHLAGEL QUANTITIES
04/12/2021	CITY COMMENTS
06/15/2021	CITY COMMENTS
09/28/2021	CITY COMMENTS
10/06/2021	SCHLAGEL UPDATE
01/20/2022	WATER LINE CONFLICT

**INTERSECTION
 DETAILS**

SHEET

I:\PROJECTS\2018\18-07\3.0 Design\3.0 DWG Plans\6.0 SS\18-017 SS INT DTLS.dwg, TEMPORARY TURN AROUND, 1/10/2023 3:33:37 PM, 11

PROJECT BENCHMARK:

SW CORNER NW 1/4 SEC. 18-47N-31W, JACKSON COUNTY, MO.
 3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
 M.D.N.R. DOC. NO. 600-65374
 ELEV. 1036.41

RECORD DRAWING

The information provided on this drawing conforms to construction records; it is not intended for construction, implementation or recording purposes; and it is solely based on information obtained by Schlager and Associates.

"100.00 100.10", "1.00% 1.15% slope", or "8-inch HDPE PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

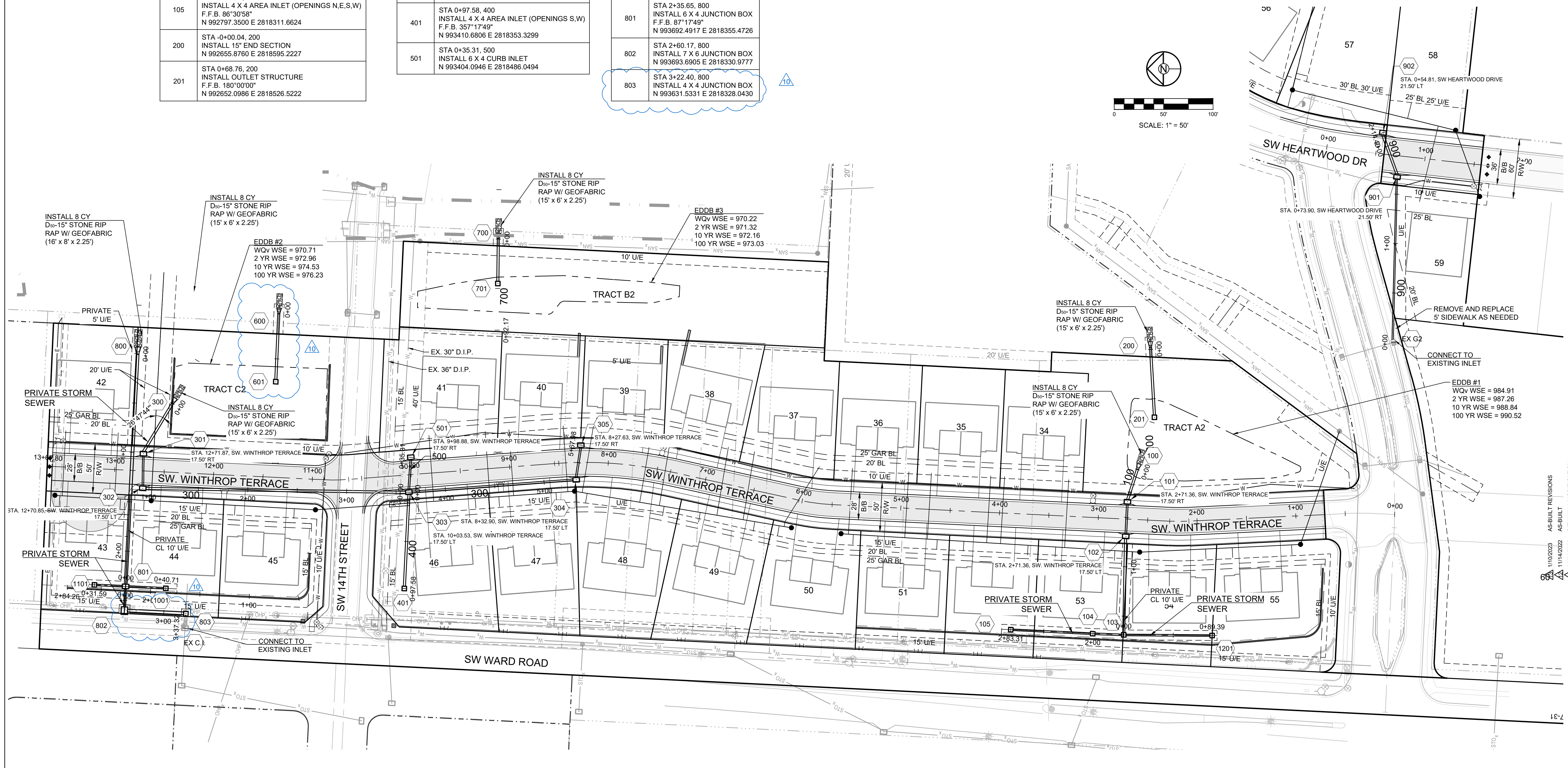
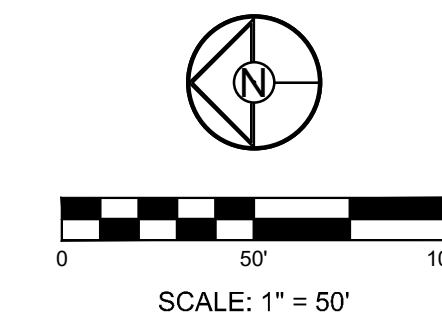
Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlager and Associates, P.A.

Structure	Notes
100	STA 0+00.00, 100 INSTALL 24" END SECTION N 992669.2728 E 2818473.6957
101	STA 0+34.17, 100 INSTALL 6 X 4 CURB INLET N 992679.3667 E 2818441.0459
102	STA 0+69.17, 100 INSTALL 6 X 4 CURB INLET N 992681.0777 E 2818406.0877
103	STA 1+68.90, 100 INSTALL 4 X 4 JUNCTION BOX F.F.B. 358°53'41" N 992683.0605 E 2818306.3812
104	STA 2+00.35, 100 INSTALL 4 X 4 AREA INLET (OPENINGS N.E.S.W) F.F.B. 0°00'00" N 992714.4882 E 2818307.6069
105	STA 2+83.31, 100 INSTALL 4 X 4 AREA INLET (OPENINGS N.E.S.W) F.F.B. 86°30'58" N 992797.3500 E 2818311.6624
200	STA -0+00.04, 200 INSTALL 15" END SECTION N 992655.8760 E 2818595.2227
201	STA 0+68.76, 200 INSTALL OUTLET STRUCTURE F.F.B. 180°00'00" N 992652.0986 E 2818526.5222

Structure	Notes
300	STA -0+00.00, 300 INSTALL 24" END SECTION N 993645.0883 E 2818540.6336
301	STA 0+58.76, 300 INSTALL 6 X 4 CURB INLET N 993674.4582 E 2818489.7451
302	STA 0+93.77, 300 INSTALL 6 X 4 CURB INLET N 993675.1476 E 2818454.7370
303	STA 3+62.91, 300 INSTALL 6 X 4 CURB INLET N 993406.0388 E 2818450.7956
304	STA 5+32.58, 300 INSTALL 6 X 4 CURB INLET N 993236.8248 E 2818463.2865
305	STA 5+67.98, 300 INSTALL 6 X 4 CURB INLET N 993232.1336 E 2818498.3682
401	STA 0+97.58, 400 INSTALL 4 X 4 AREA INLET (OPENINGS S.W) F.F.B. 357°17'49" N 993410.6806 E 2818353.3299
501	STA 0+35.31, 500 INSTALL 6 X 4 CURB INLET N 993404.0946 E 2818486.0494

Structure	Notes
600	STA 0+04.52, 600 INSTALL 18" END SECTION N 993537.5200 E 2818630.9786
601	STA 0+73.07, 600 INSTALL OUTLET STRUCTURE F.F.B. 357°23'29" N 993540.6400 E 2818562.4994
700	STA 0+00.00, 700 INSTALL 15" END SECTION N 993315.5193 E 2818706.7724
701	STA 0+44.96, 700 INSTALL OUTLET STRUCTURE F.F.B. 0°00'00" N 993316.1131 E 2818661.8180
800	STA 0+00.85, 800 INSTALL 36" END SECTION N 993680.3317 E 2818589.9535
801	STA 2+35.65, 800 INSTALL 6 X 4 JUNCTION BOX F.F.B. 87°17'49" N 993692.4917 E 2818355.4726
802	STA 2+60.17, 800 INSTALL 7 X 6 JUNCTION BOX N 993693.6905 E 2818330.9777
803	STA 3+22.40, 800 INSTALL 4 X 4 JUNCTION BOX N 993631.5331 E 2818328.0430

Structure	Notes
901	STA 1+67.35, 900 INSTALL 6 X 4 CURB INLET N 992406.7121 E 2818769.5220
902	STA 2+14.40, 900 INSTALL 6 X 4 CURB INLET N 992420.9665 E 2818814.3651
1001	STA 0+40.71, 1000 INSTALL 4 X 4 AREA INLET (OPENINGS N.E.S.W) F.F.B. 357°17'49" N 993651.8261 E 2818353.4824
1101	STA 0+31.59, 1100 INSTALL 4 X 4 AREA INLET (OPENINGS N.E.S.W) F.F.B. 357°17'49" N 993724.0390 E 2818357.0166
1201	STA 0+89.39, 1200 INSTALL 4 X 4 AREA INLET (OPENINGS N.E.S.W) F.F.B. 0°53'19" N 992593.6700 E 2818305.7533

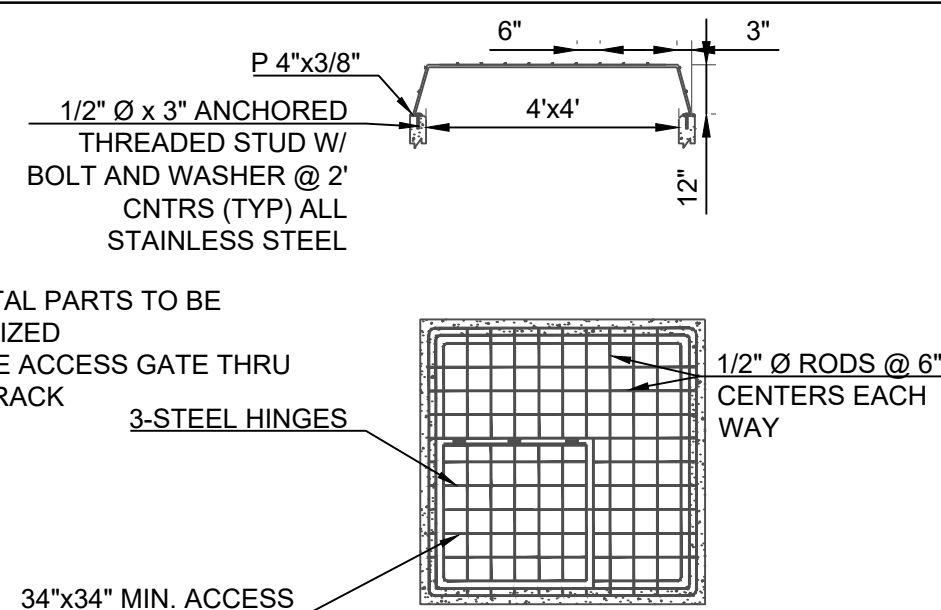


WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

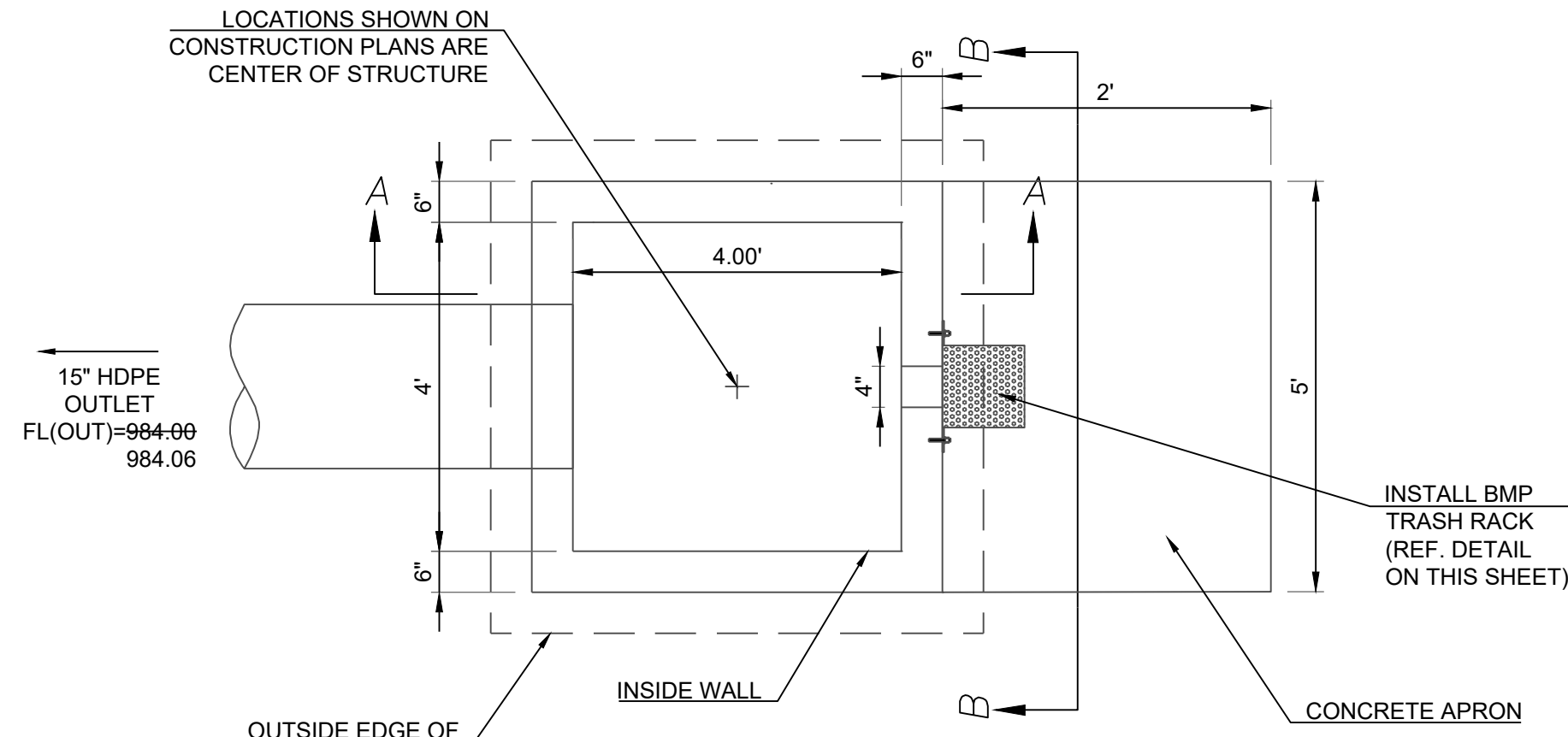
REVISION DATE	DESCRIPTION
11/02/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
08/22/2022	CITY WALL MODIFICATION
07/16/2022	CITY EMAILED COMMENTS
04/24/2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
04/09/2021	SCHLAGEL QUANTITIES
05/12/2021	CITY COMMENTS
06/15/2021	CITY COMMENTS
06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

STORM PLAN
 SHEET
16

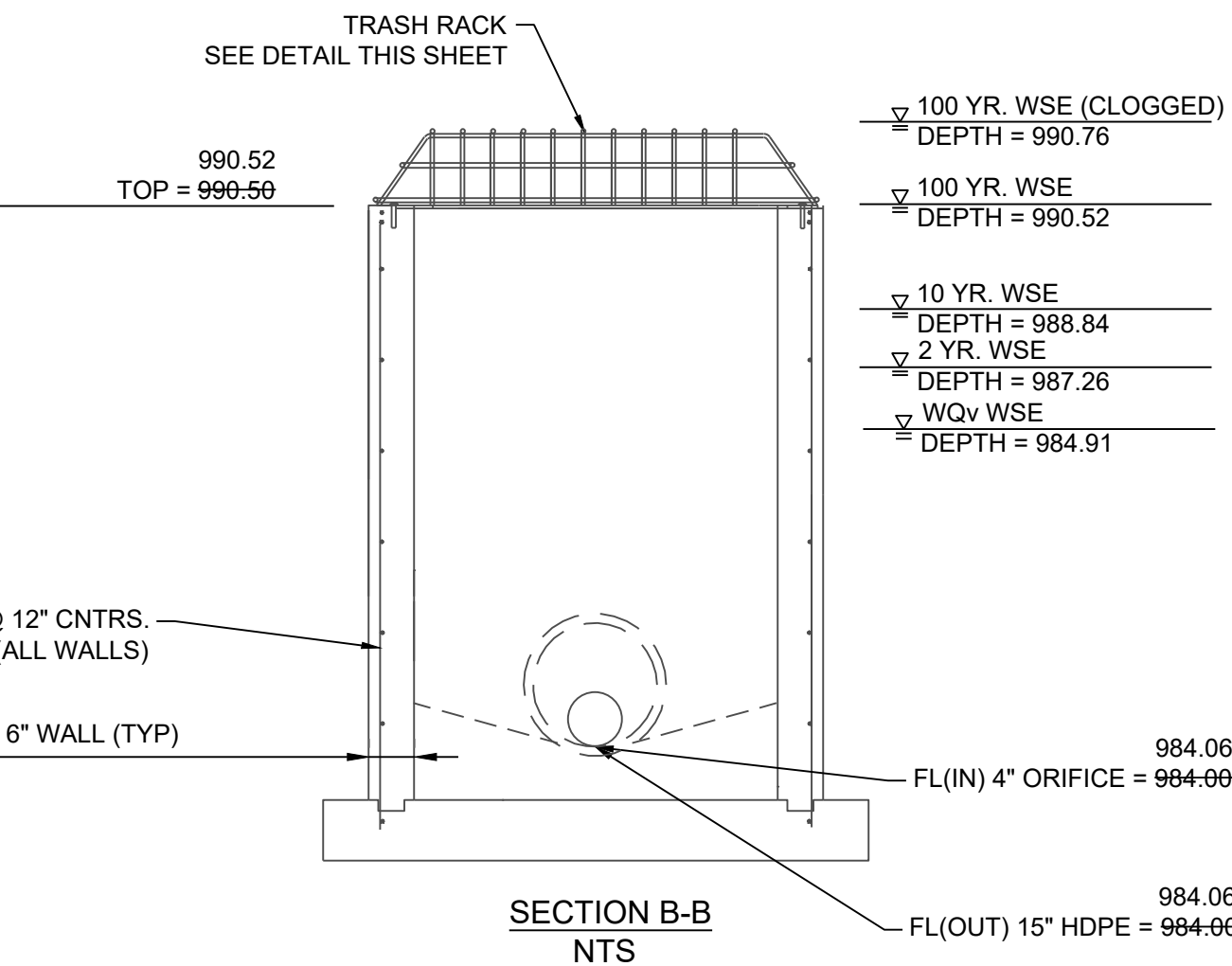
- NOTES:
 1. ALL METAL PARTS TO BE GALVANIZED
 2. PROVIDE ACCESS GATE THRU TRASH RACK



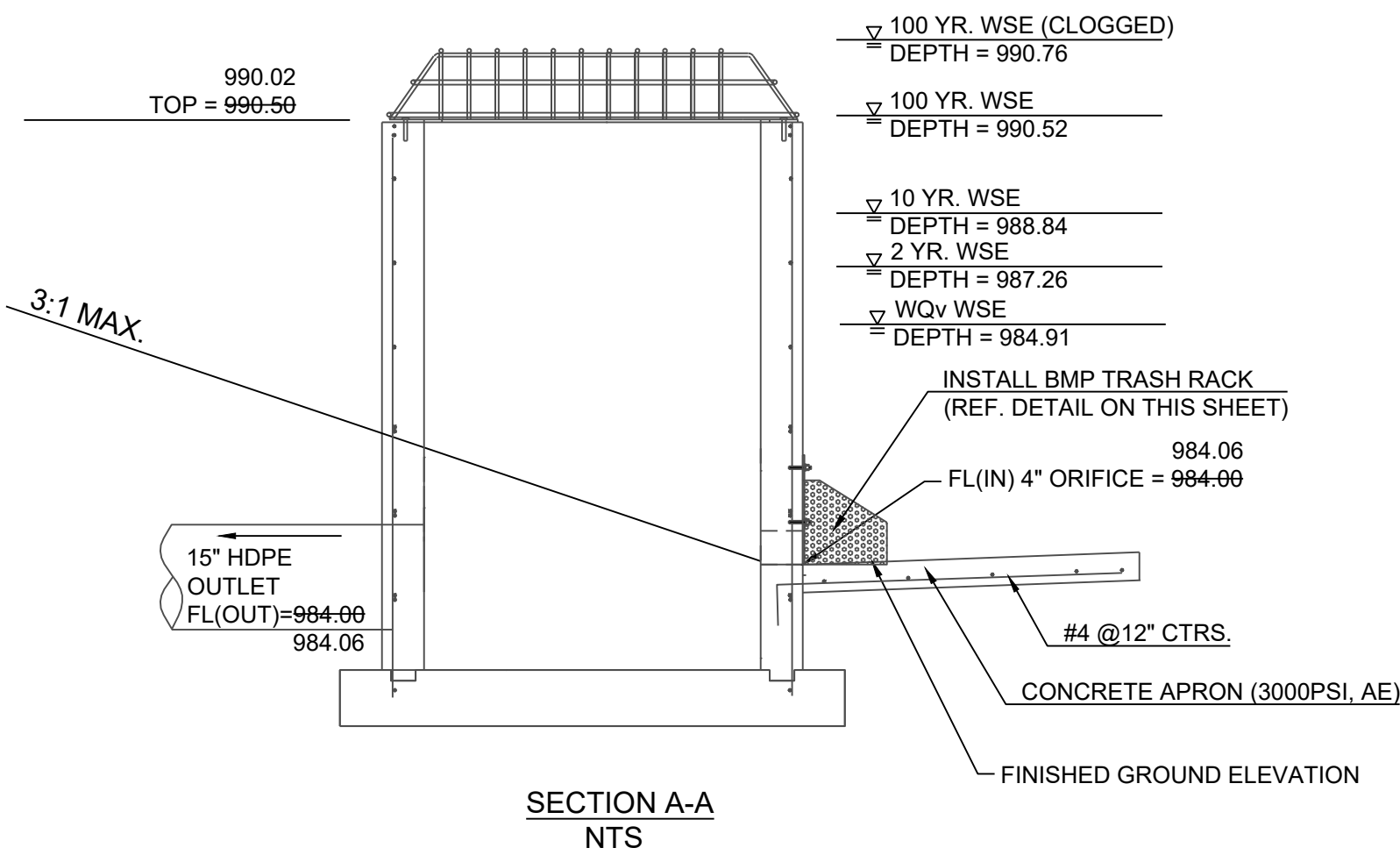
TRASH RACK DETAIL



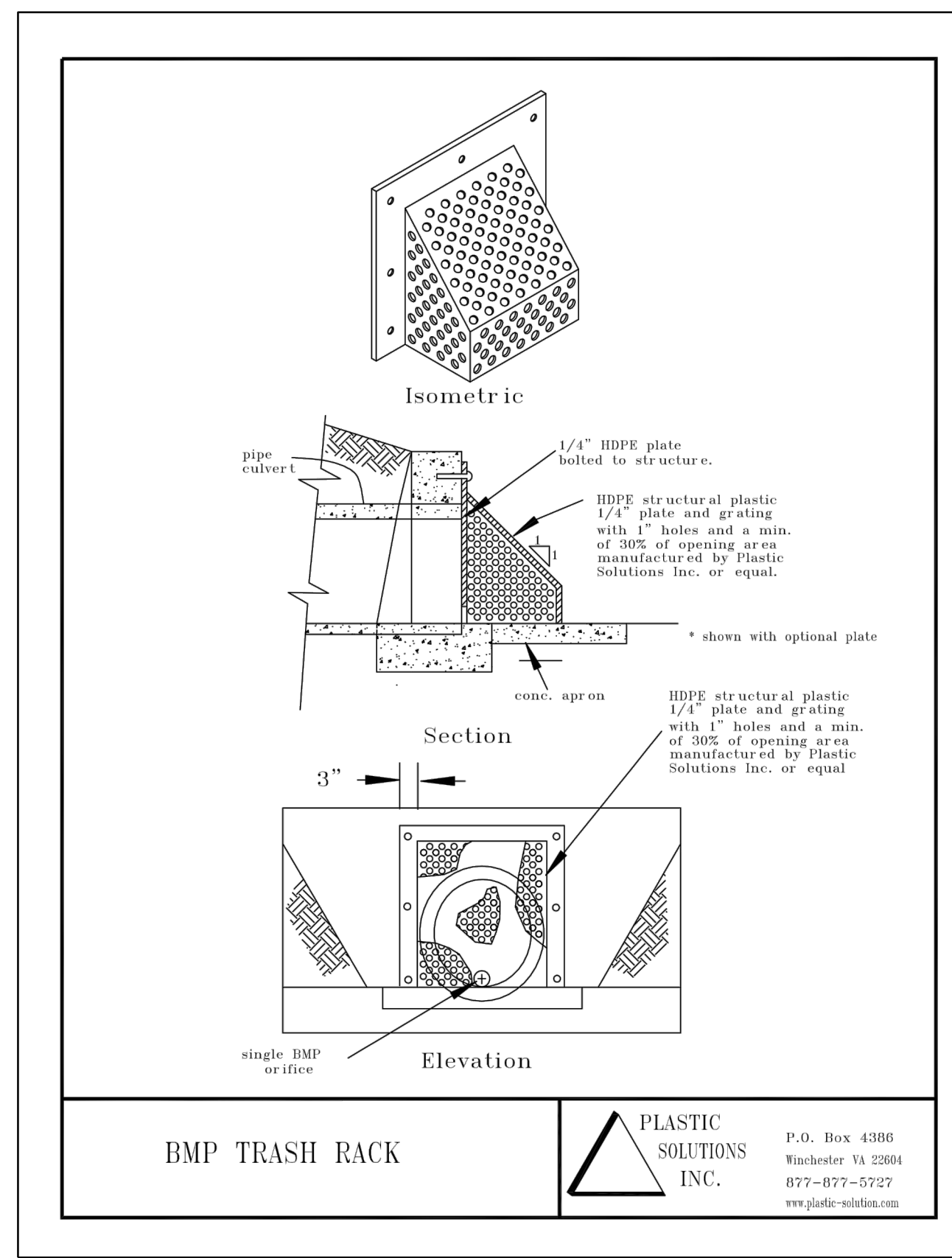
INSTALL BMP TRASH RACK (REF. DETAIL ON THIS SHEET)



SECTION B-B NTS



SECTION A-A NTS



BMP TRASH RACK

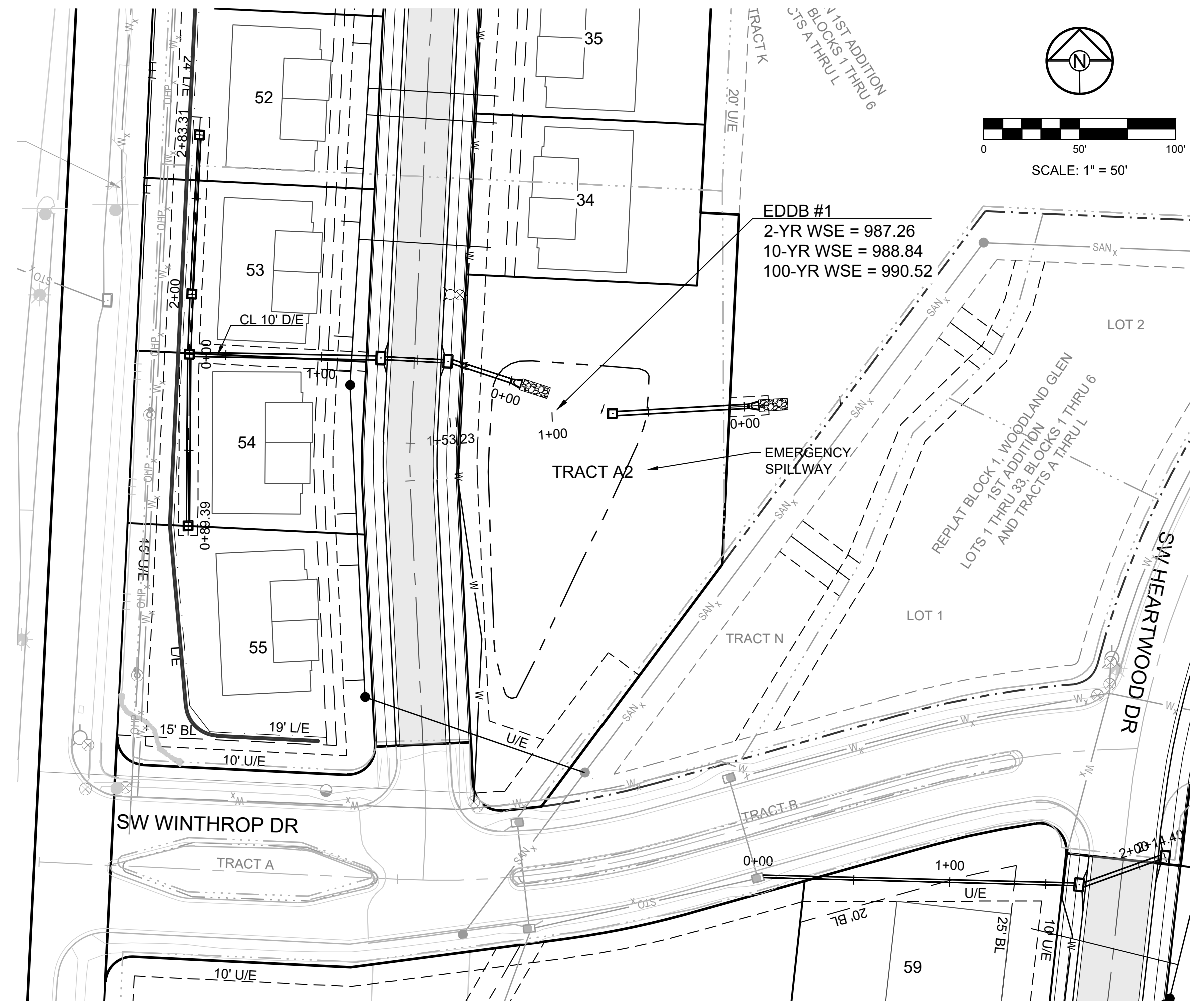
PLASTIC SOLUTIONS INC.
 P.O. Box 4386
 Winchester VA 22604
 877-877-5727
 www.jpl66-solutions.com

RECORD DRAWING

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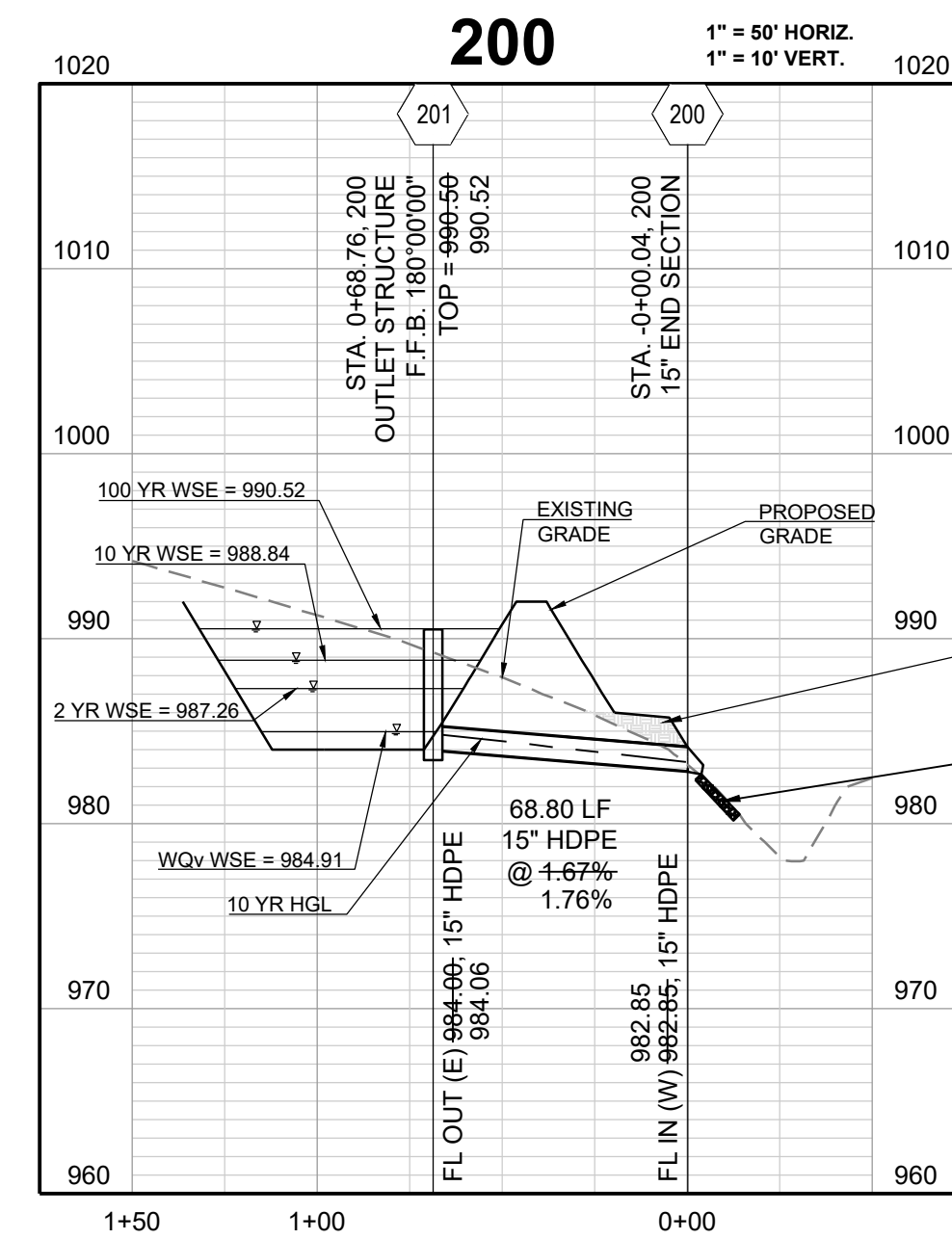
"100.00 100.10", "1.00% 1.15% slope", or "8-inch HDPE PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlagel and Associates, P.A.



EXTENDED DRY DETENTION BASIN #1 VOLUME

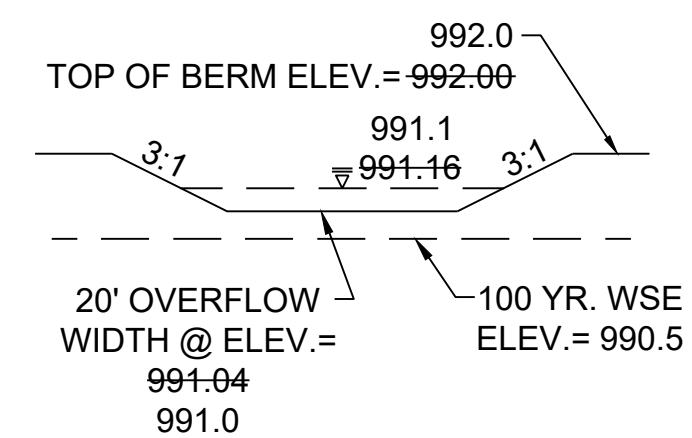
REQUIRED = 1,246 C.Y.
 PROPOSED = 1,787 C.Y.
 AS-BUILT = 1,668 C.Y.



DETENTION STORAGE EDDB #1:
 100 YEAR, 24 HR. RAINFALL - MAXIMUM WSE = 990.52 (SEE FINAL STORMWATER MGMT. PLAN)

AUXILIARY SPILLWAY SET AT 0.5 FEET ABOVE MAX. WSE, SPILLWAY ELEV. = 991.02

AUXILIARY SPILLWAY DESIGN:
 $Q(100)=2.71$ CFS, $Q=CLH^{(3/2)}$, $C=3.33$, $L=20$ FT., 2.71 CFS = $3.33 * 20^{(3/2)}$, $H=0.12$ FT.



PROJECT BENCHMARK:

SW. CORNER NW 1/4 SEC. 18-47N-31W, JACKSON COUNTY, MO.
 3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
 M.D.N.R. DOC. NO. 600-65374
 ELEV. 1036.41

WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

SCHLAGEL
 ENGINEERS, PLANNERS, SURVEYORS, LANDSCAPE ARCHITECTS
 14920 West 107th Street • Lenexa, Kansas 66215
 (913) 492-5158 • Fax: (913) 492-8400
 WWW.SCHLAGELASSOCIATES.COM
 Missouri State Certificate of Authority
 #E2002003600F #LAC201005237 #LS200200895F

PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

REVISION DATE	DESCRIPTION
11/02/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
09/22/2022	CITY WALL MODIFICATION
05/16/2022	CITY EMAILED COMMENTS
04/24/2020	CITY COMMENTS
01/11/2021	SCHLAGEL QUANTITIES
04/09/2021	SCHLAGEL QUANTITIES
05/12/2021	CITY COMMENTS
06/15/2021	CITY COMMENTS
06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

DRAWN BY:	DESCRIPTION
BAL	AS-BUILT QUANTITIES
MAB	CITY COMMENTS

EDDB 1 OUTLET STRUCTURE

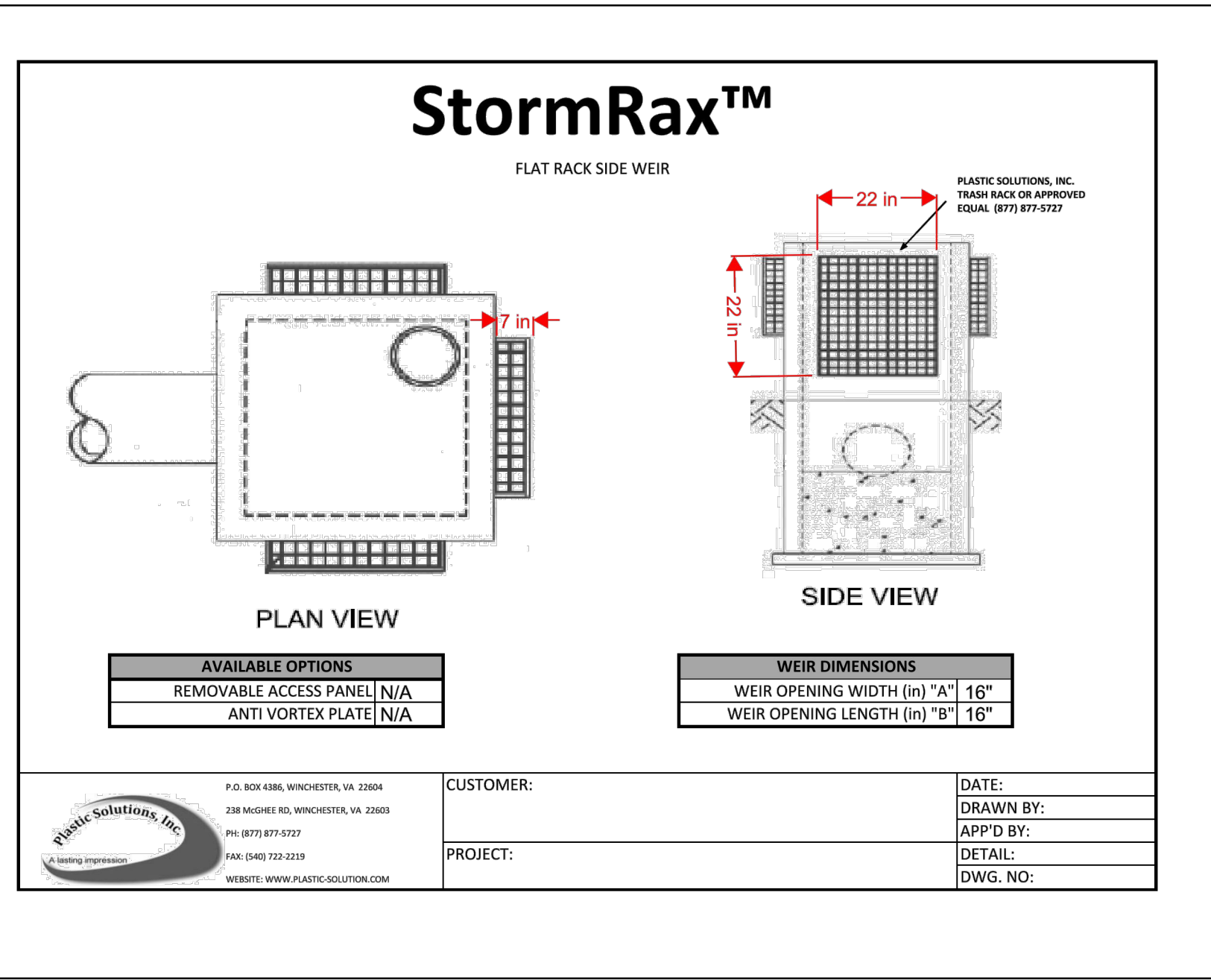
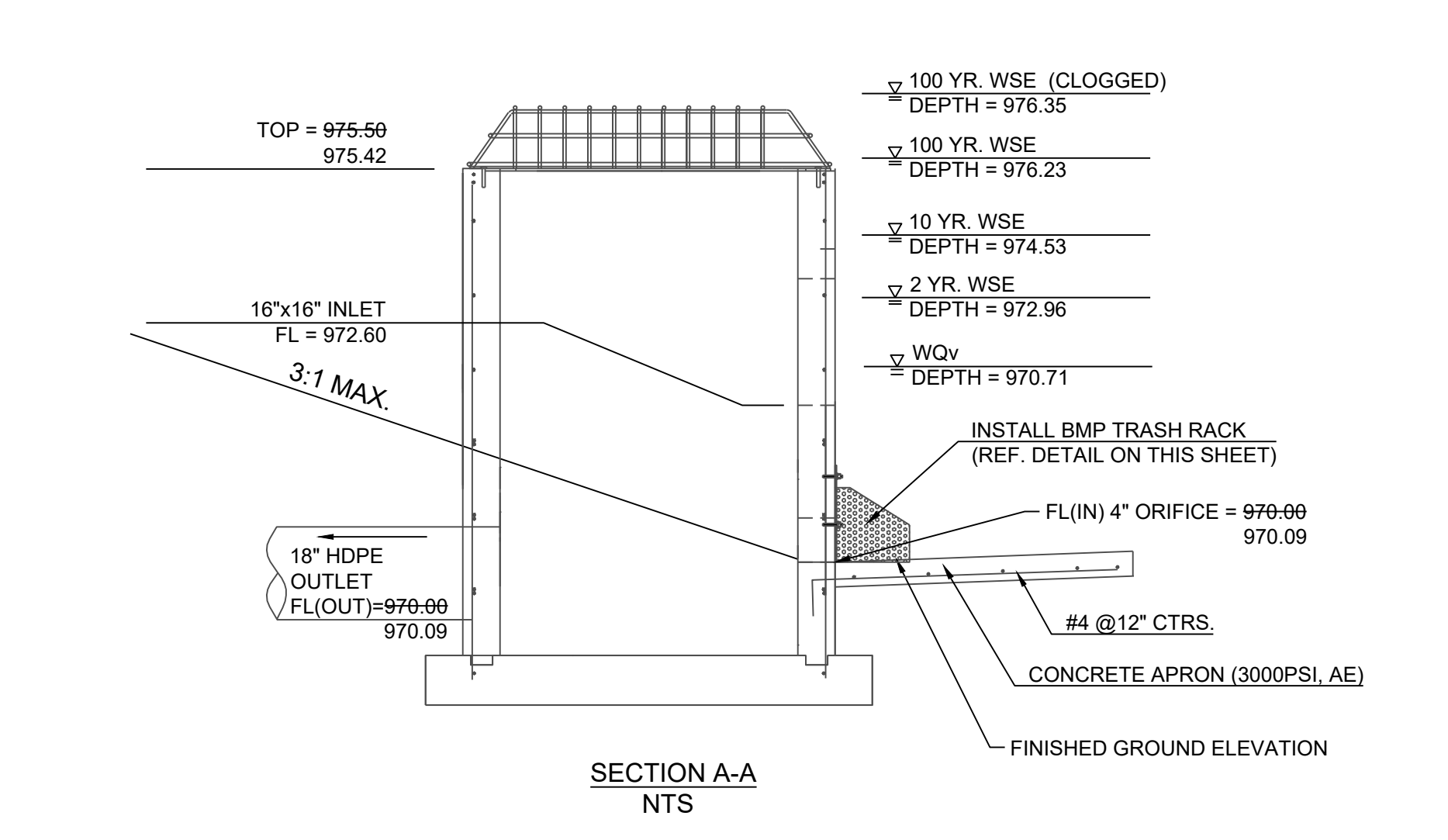
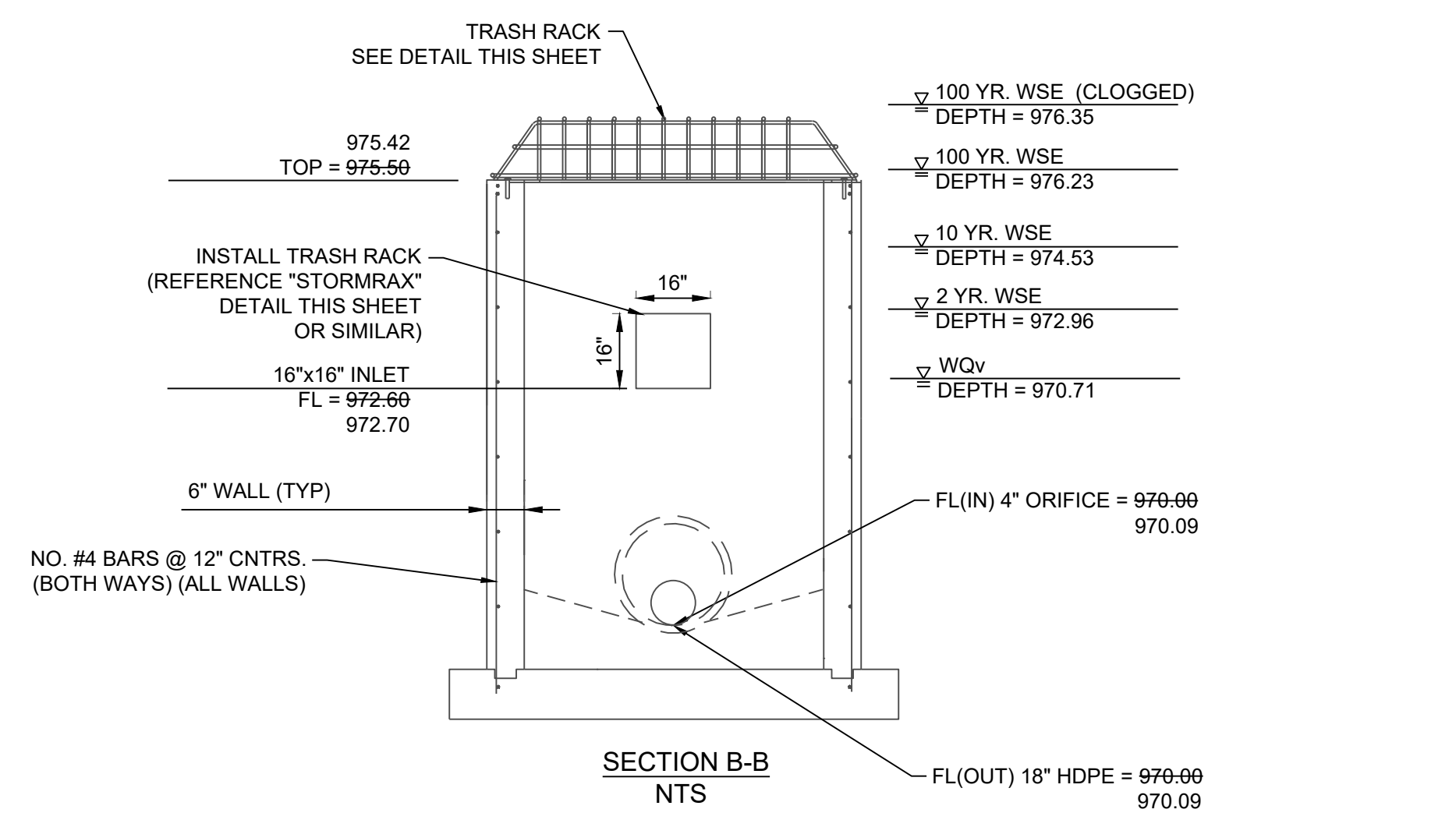
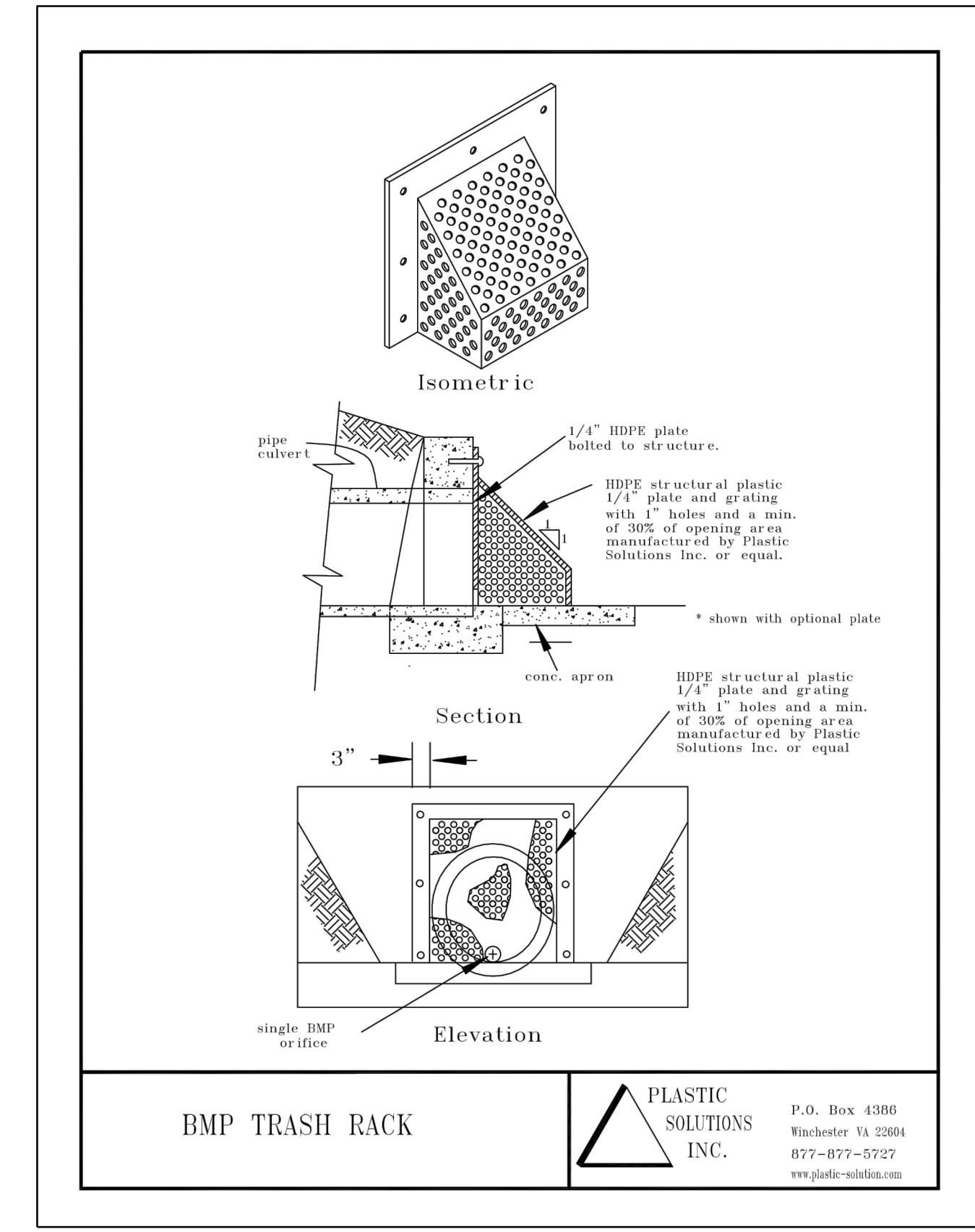
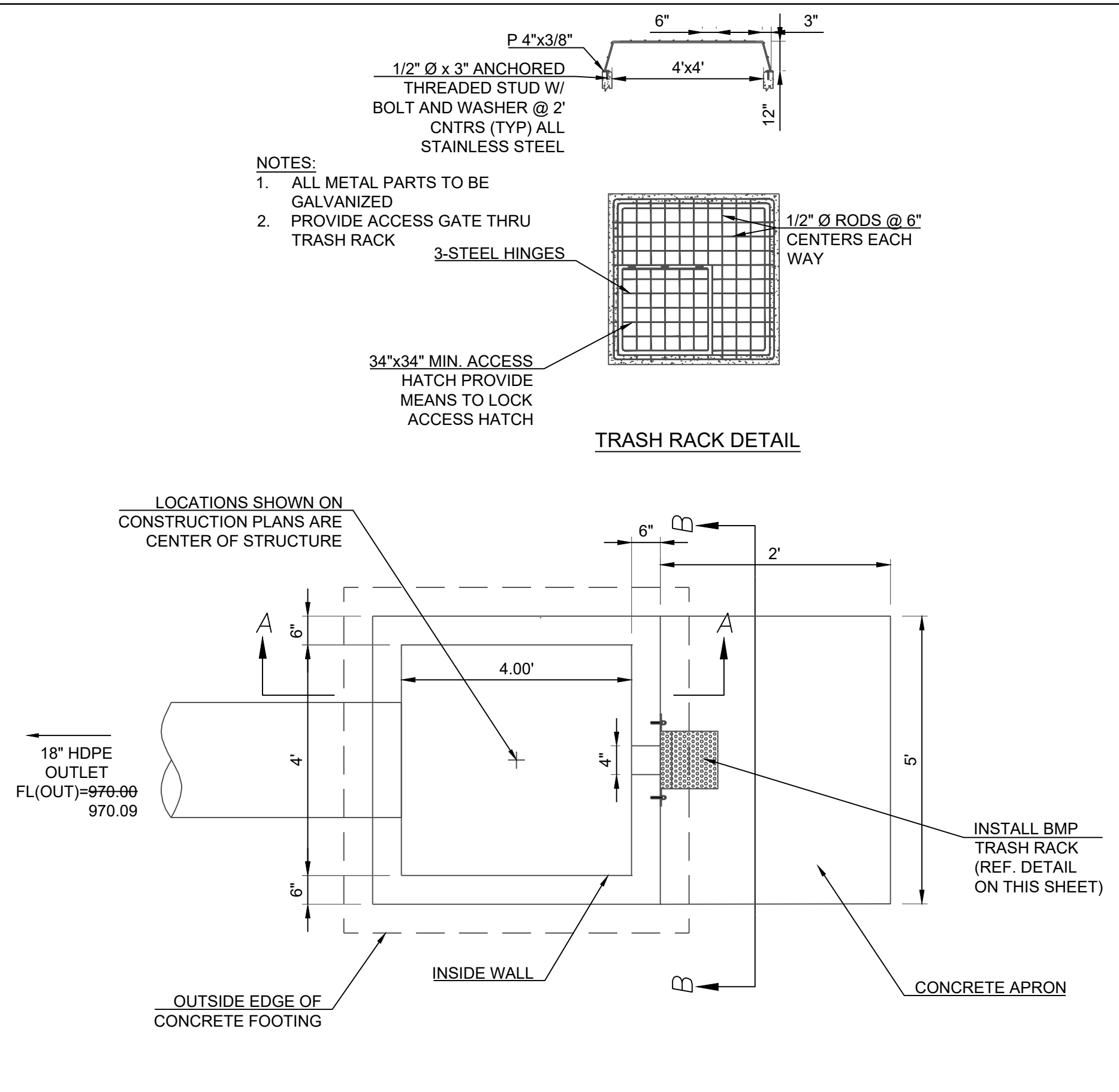
SHEET

I:\PROJECTS\2018\18-0713.0 Design\3.0 DWG Plans\6.0 SS\18-07 SS EDDB OUTLETS.dwg, 17 - EDDB 1 OUTLET STRUCTURE, 1/10/2023 1:35:39 PM, 1:1

REVISION DATE	DESCRIPTION
11/02/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
09/22/2022	CITY WALL MODIFICATION
09/16/2022	CITY EMAILED COMMENTS
04/24/2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
04/09/2021	SCHLAGEL QUANTITIES
05/12/2021	CITY COMMENTS
06/15/2021	CITY COMMENTS
06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

EDDB 2 OUTLET STRUCTURE

SHEET

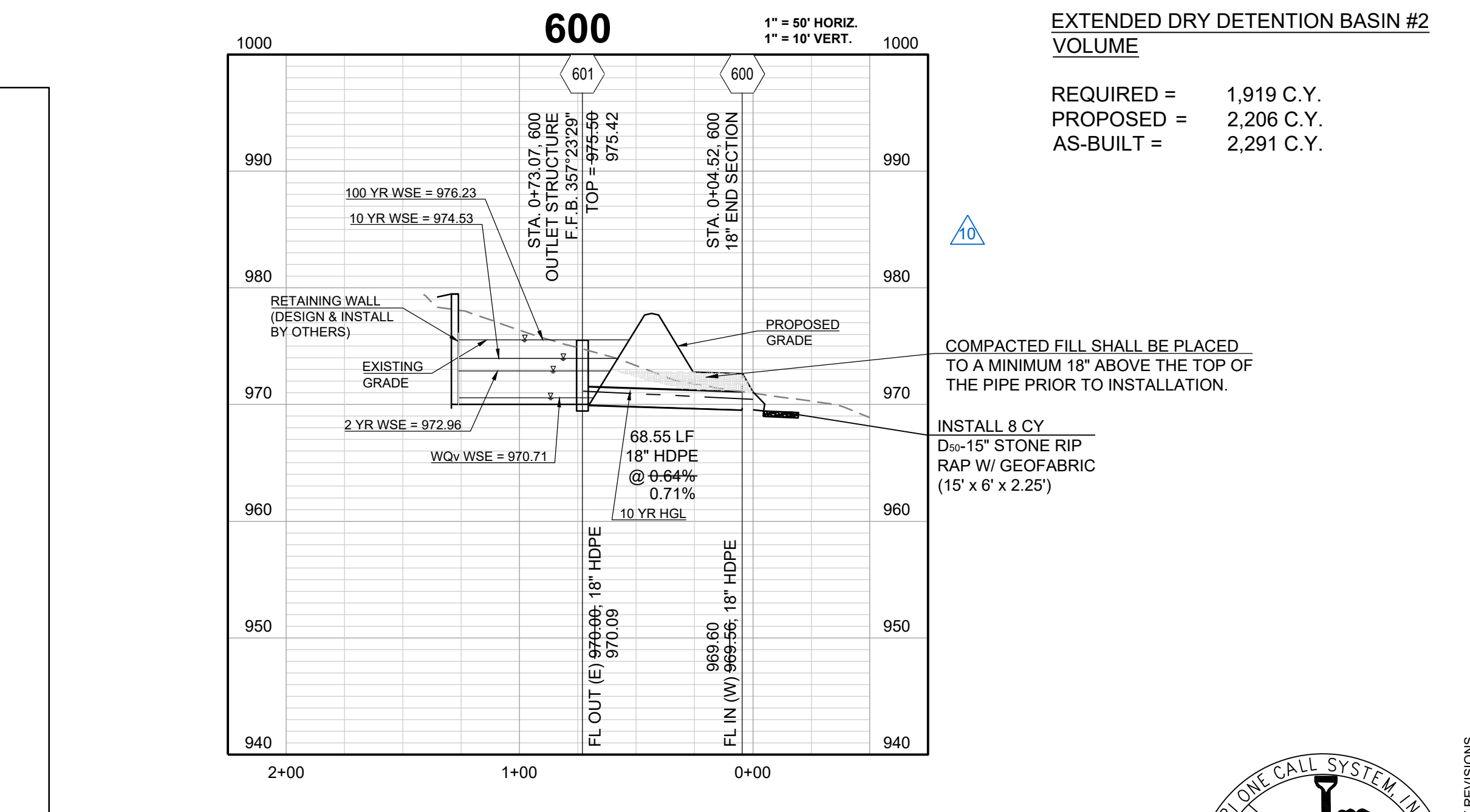
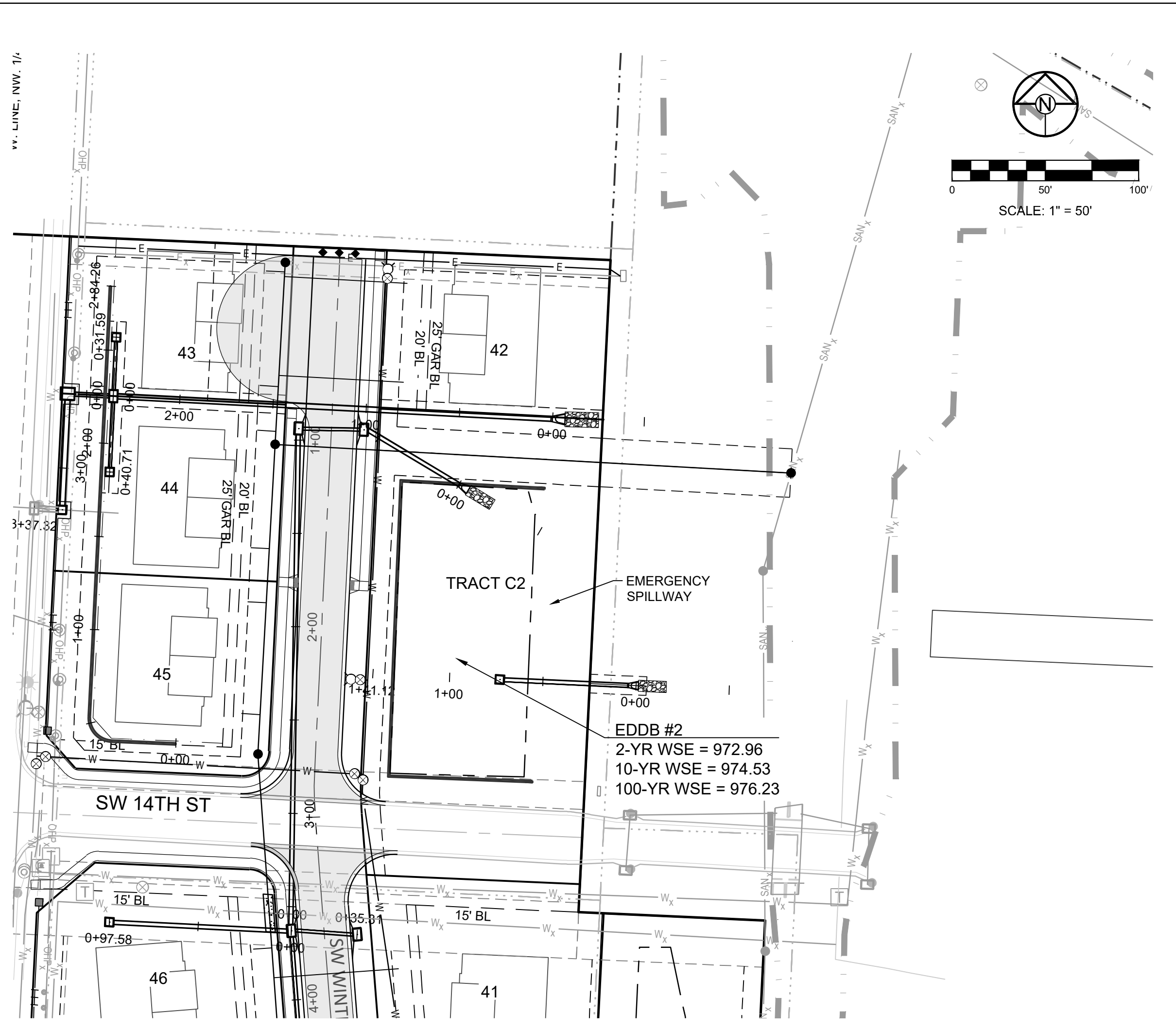


RECORD DRAWING

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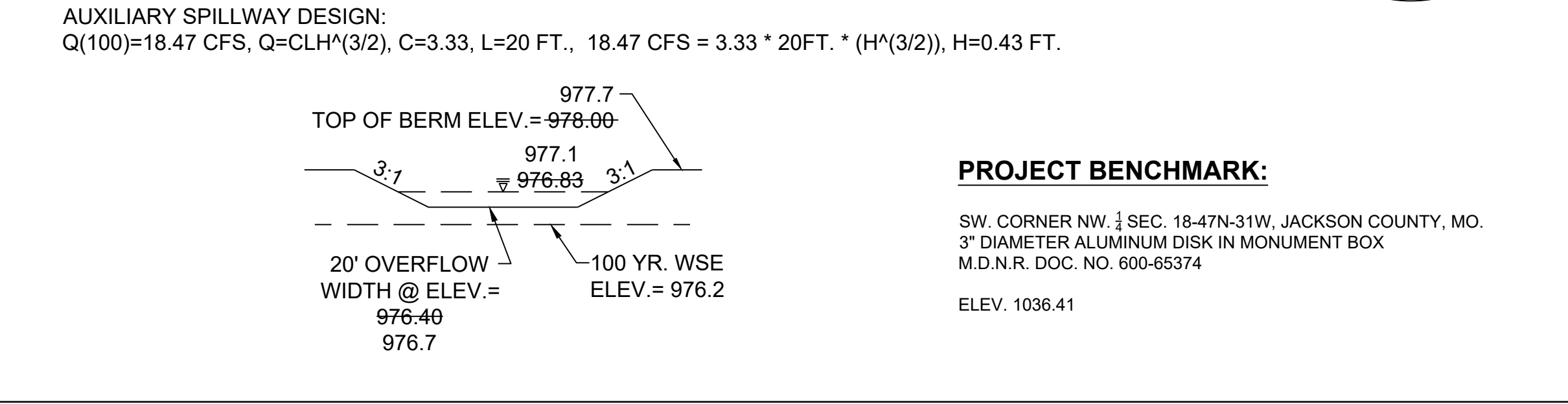
Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlagel and Associates, P.A.



DETENTION STORAGE EDDB #2:
 100 YEAR, 24 HR. RAINFALL - MAXIMUM WSE = 976.23 (SEE FINAL STORMWATER MGMT. PLAN)

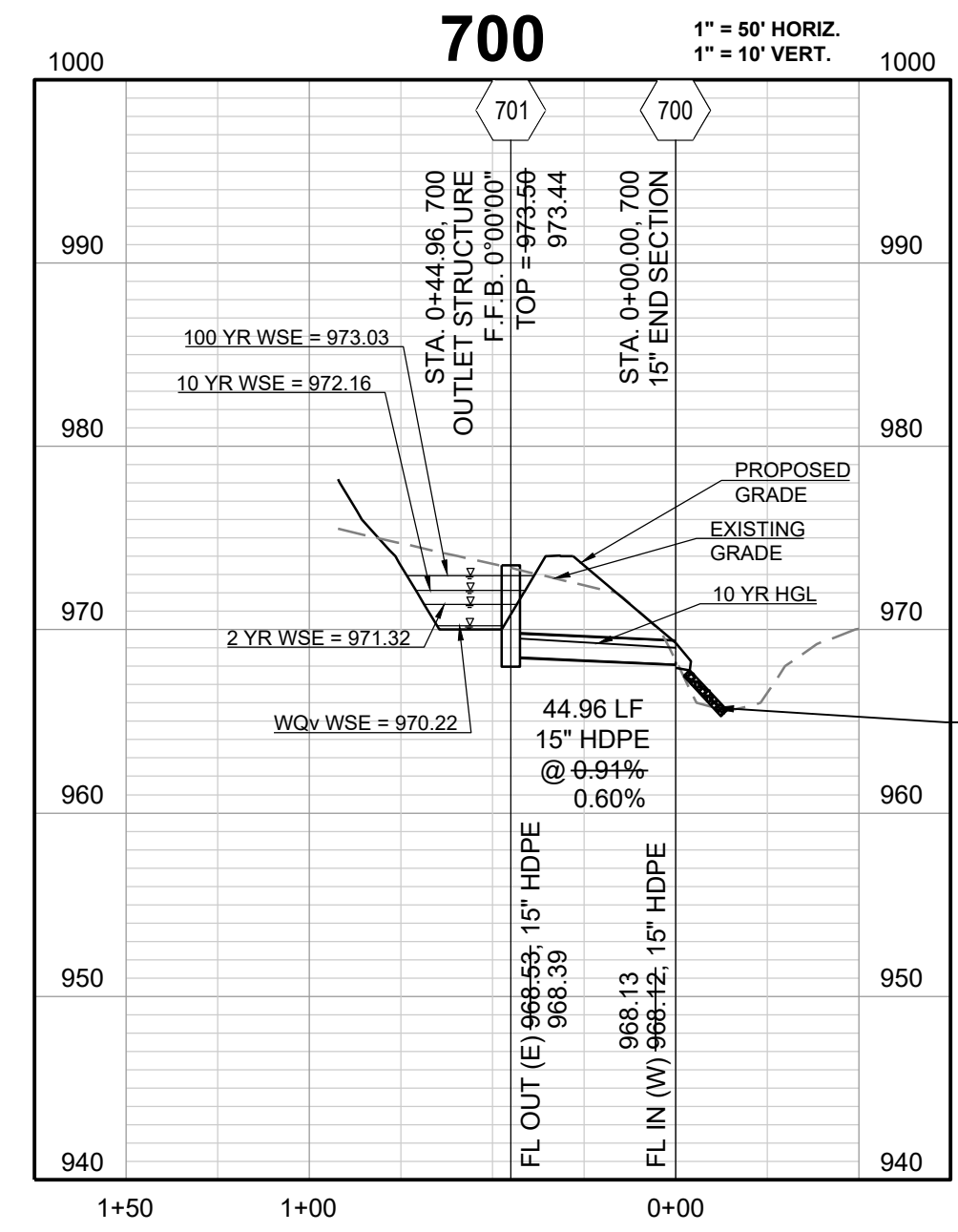
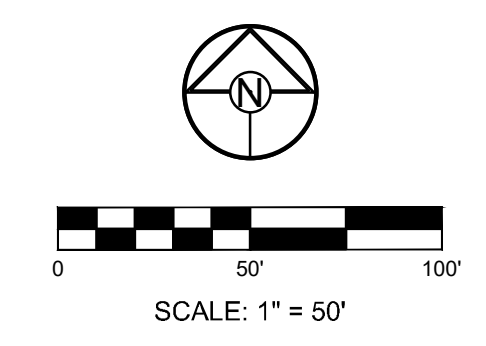
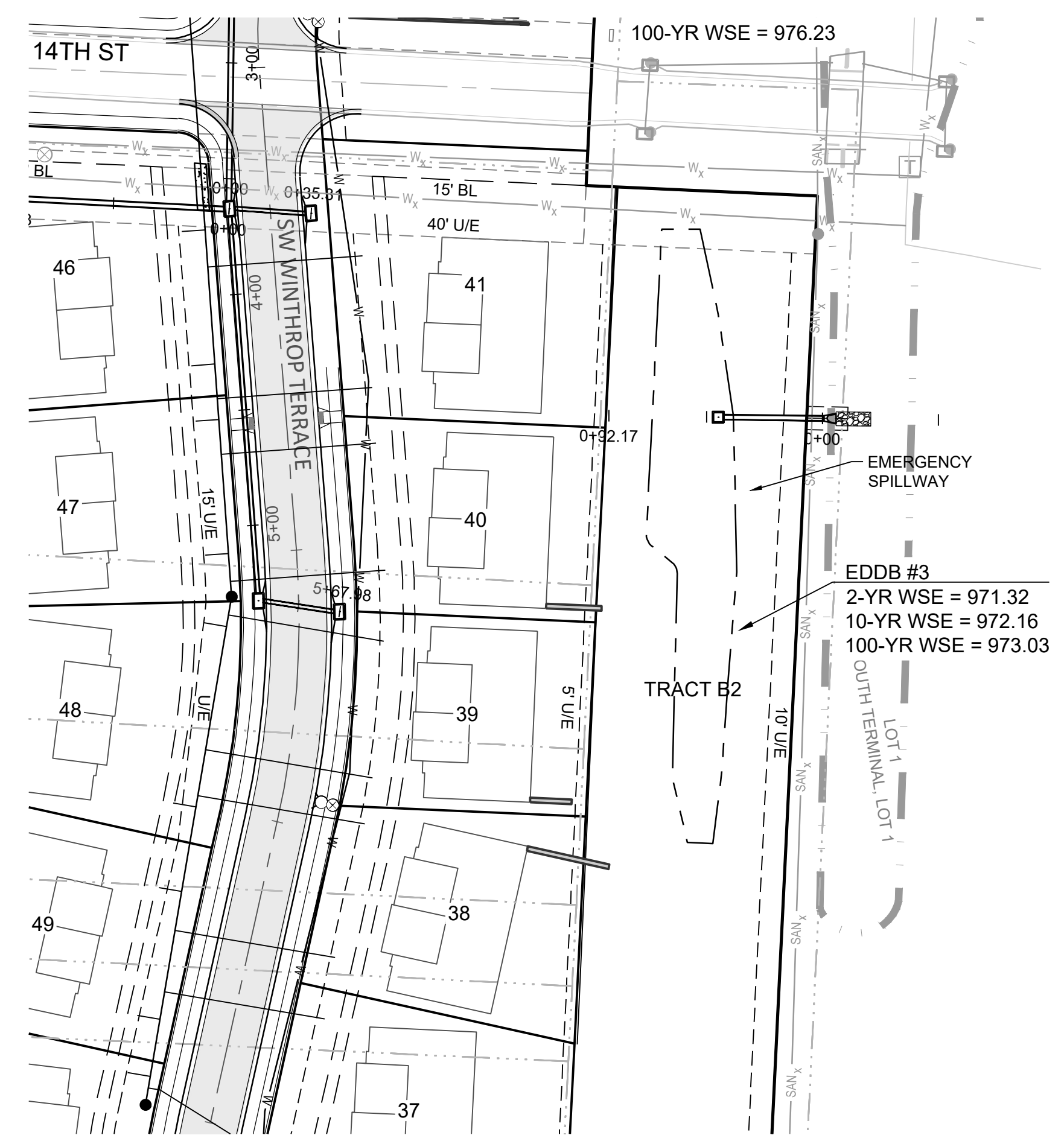
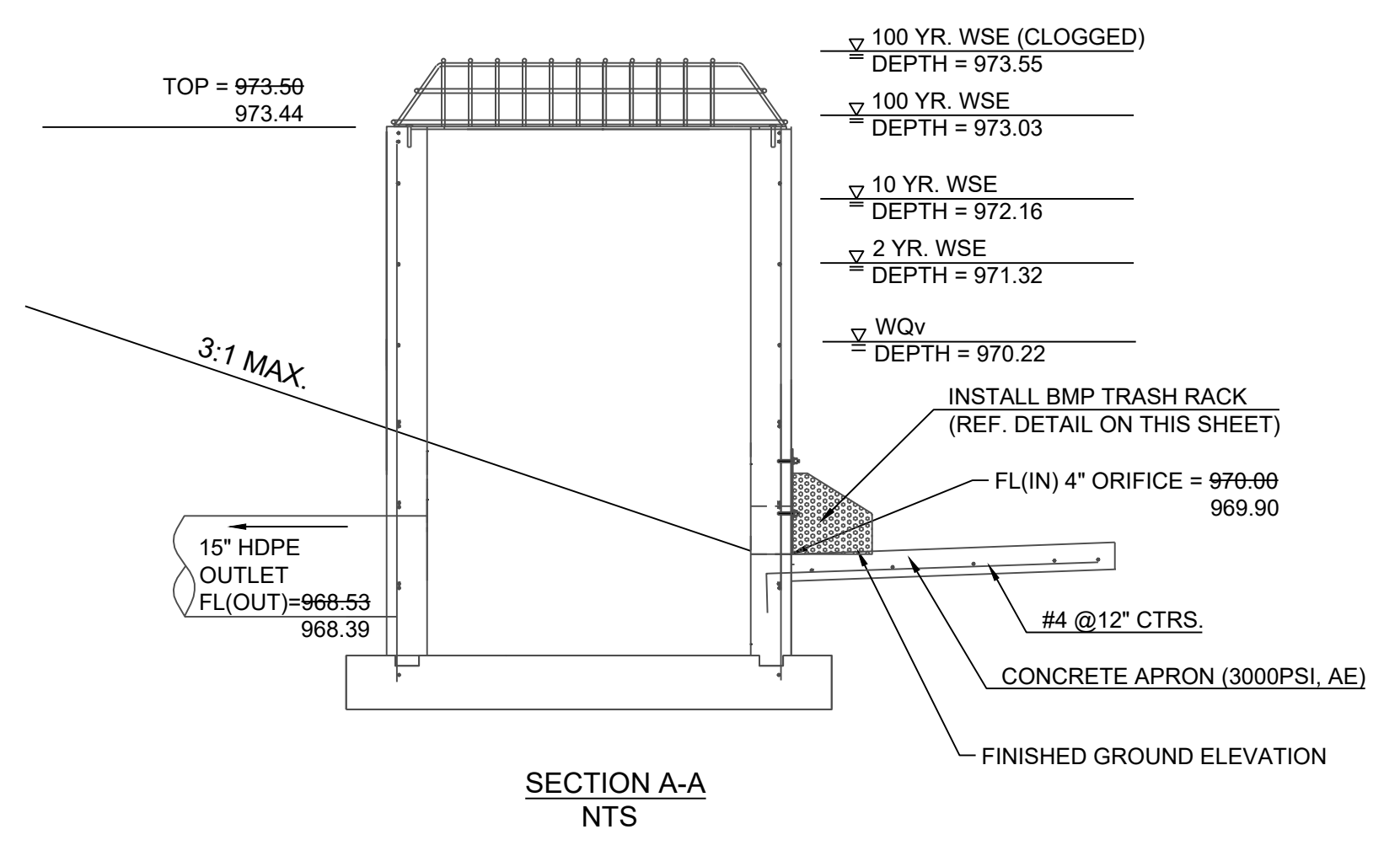
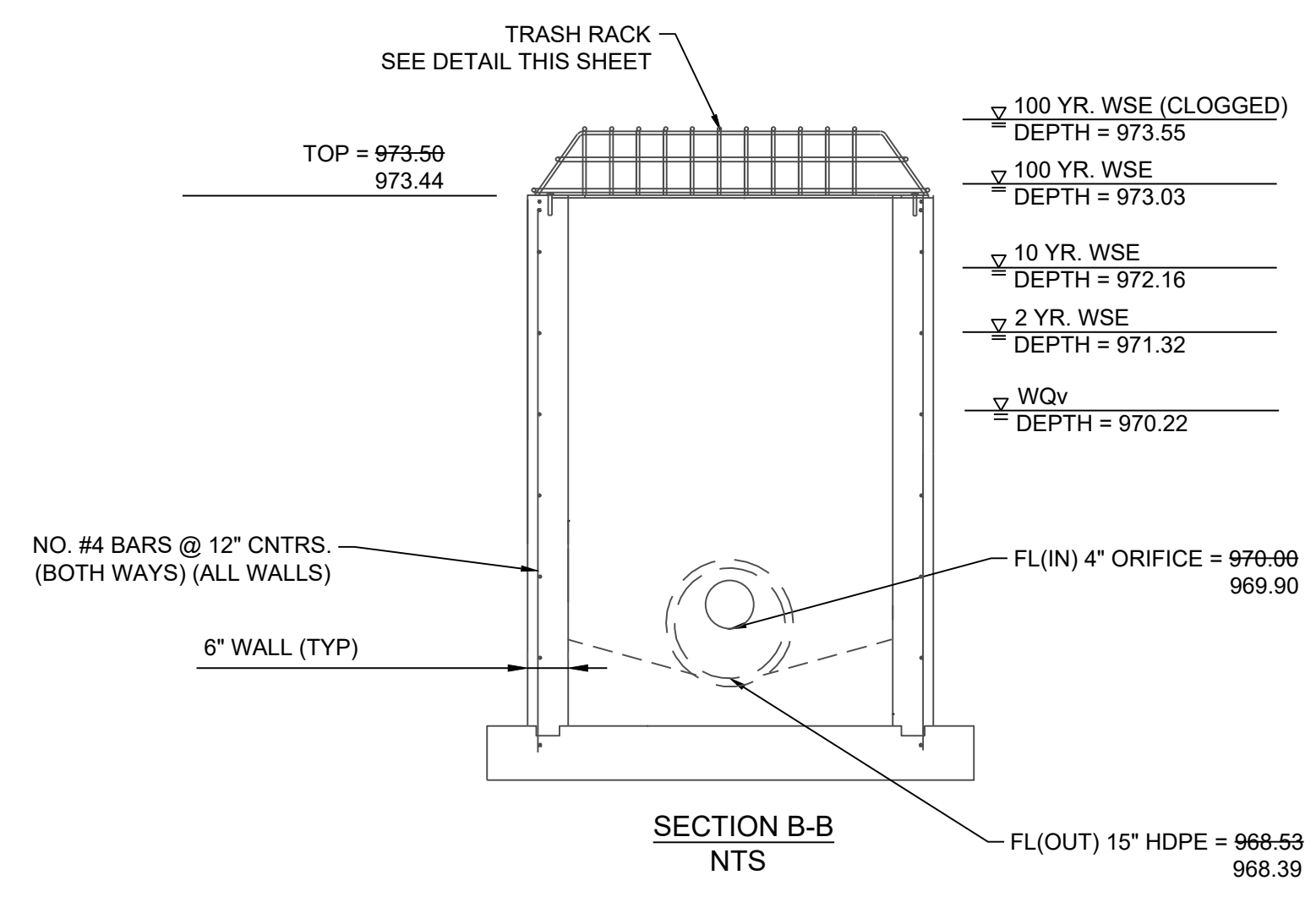
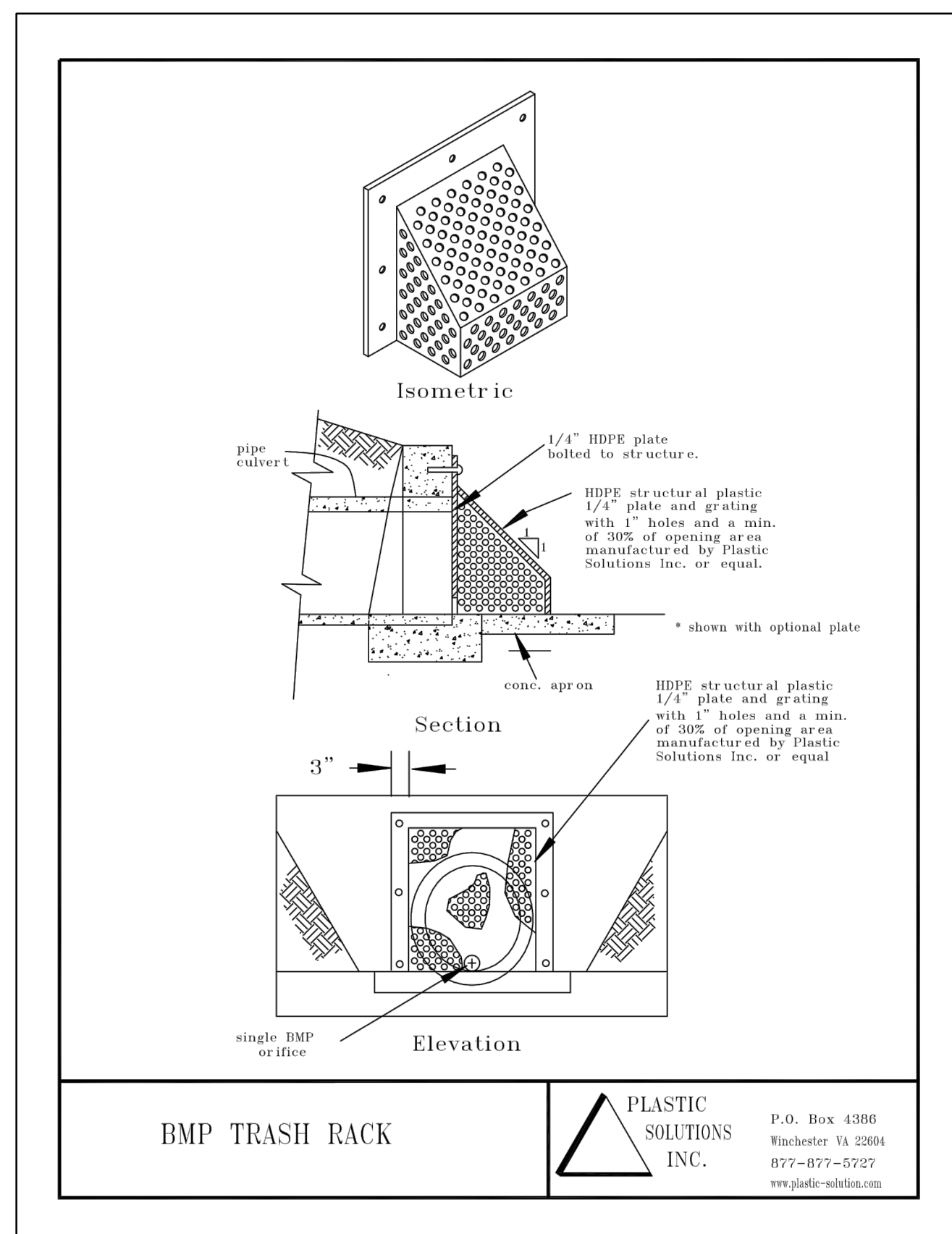
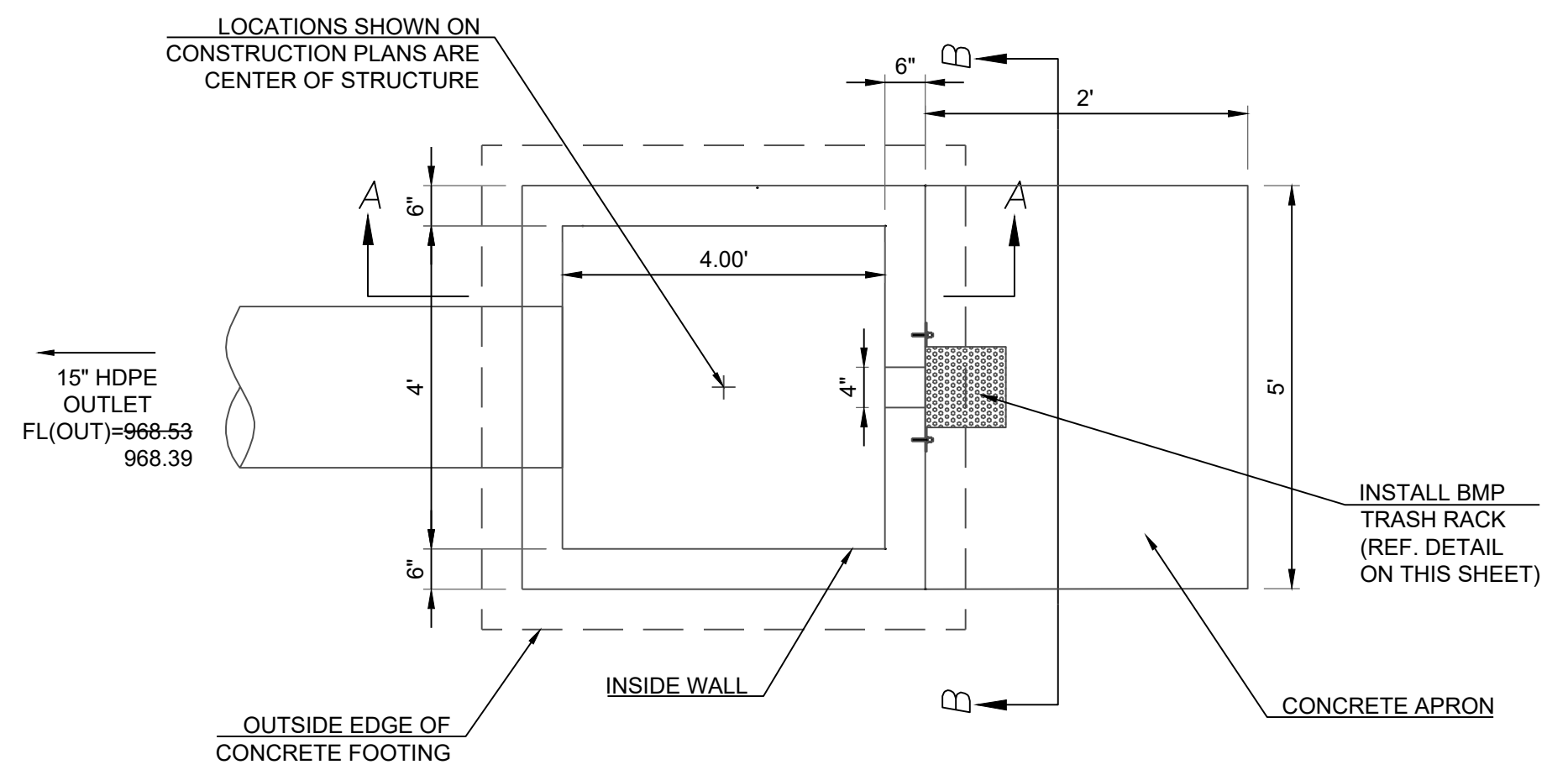
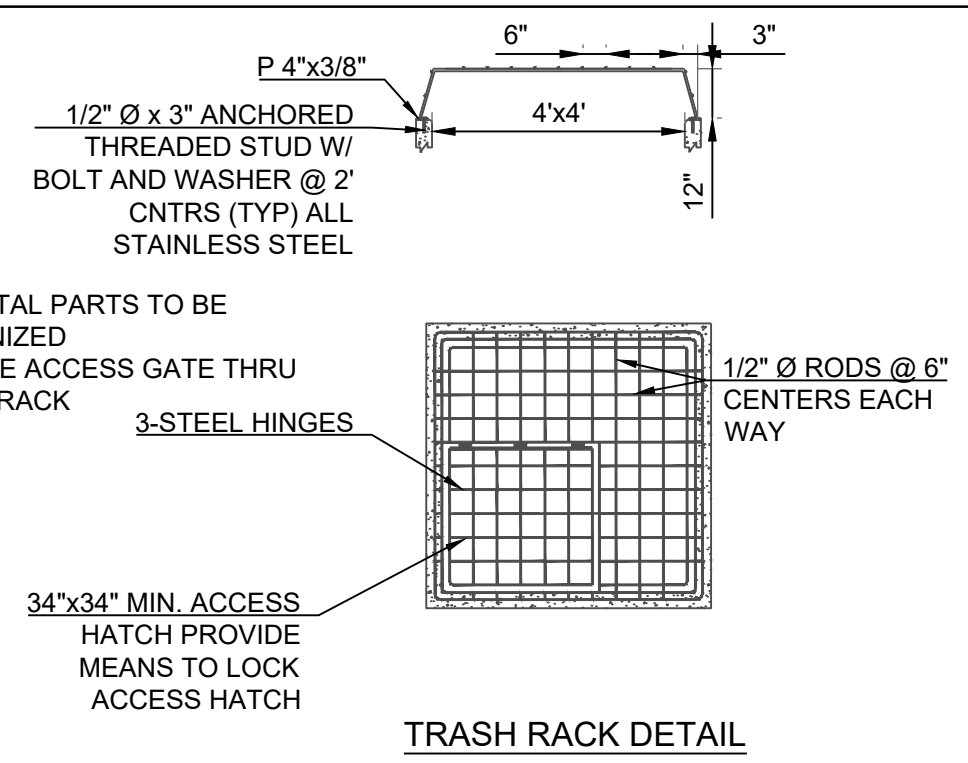
AUXILIARY SPILLWAY SET AT 0.5 FEET ABOVE MAX. WSE, SPILLWAY ELEV. = 976.73

AUXILIARY SPILLWAY DESIGN:
 Q(100)=18.47 CFS, Q=CLH^{3/2}, C=3.33, L=20 FT., 18.47 CFS = 3.33 * 20FT. * (H^{3/2}), H=0.43 FT.



I:\PROJECTS\2018\18-0713.0 Design\3.0 DWG Plans\6.0 SS\18-07 SS EDDB OUTLETS.dwg, 18 - EDDB 2 OUTLET STRUCTURE, 1/10/2023 1:30:06 PM, 1:1

- NOTES:
1. ALL METAL PARTS TO BE GALVANIZED
 2. PROVIDE ACCESS GATE THRU TRASH RACK



EXTENDED DRY DETENTION BASIN #3 VOLUME

REQUIRED = 484 C.Y.
 PROPOSED = 1,968 C.Y.
 AS-BUILT = 636 C.Y.

RECORD DRAWING

The information provided on this drawing conforms to construction records; it is not intended for construction, implementation or recording purposes; and it is solely based on information obtained by Schlager and Associates.

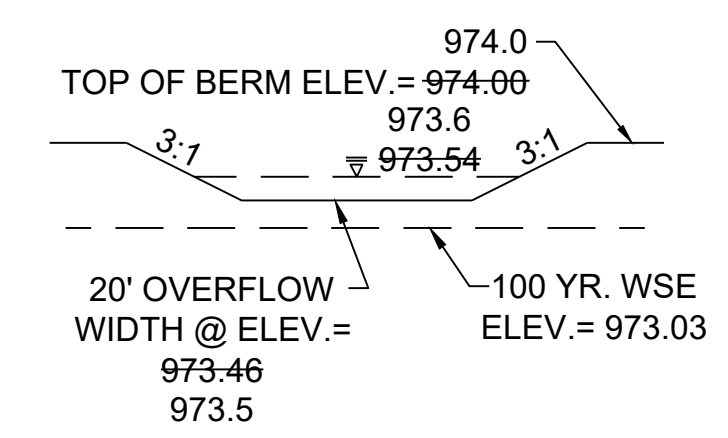
"100.00 100.10", "1.00% 1.15% slope", or "8-inch HDPE PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlager and Associates, P.A.

DETENTION STORAGE EDDB #3:
 100 YEAR, 24 HR. RAINFALL - MAXIMUM WSE = 973.03 (SEE FINAL STORMWATER MGMT. PLAN)

AUXILIARY SPILLWAY SET AT 0.5 FEET ABOVE MAX. WSE, SPILLWAY ELEV. = 973.53

AUXILIARY SPILLWAY DESIGN:
 $Q(100)=1.43$ CFS, $Q=CLH^{\frac{2}{3}}$, $C=3.33$, $L=20$ FT., 1.43 CFS = $3.33 * 20^{\frac{2}{3}}$, $H=0.08$ FT.



PROJECT BENCHMARK:

SW. CORNER NW 1/4 SEC. 18-47N-31W, JACKSON COUNTY, MO.
 3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
 M.D.N.R. DOC. NO. 600-65374

ELEV. 1036.41

PREPARED BY:
 SCHLAGEL & ASSOCIATES, P.A.

WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
11/02/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
09/22/2022	CITY WALL MODIFICATION
09/16/2022	CITY EMAILED COMMENTS
04/24/2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
04/09/2021	SCHLAGEL QUANTITIES
05/12/2021	CITY COMMENTS
06/15/2021	CITY COMMENTS
06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

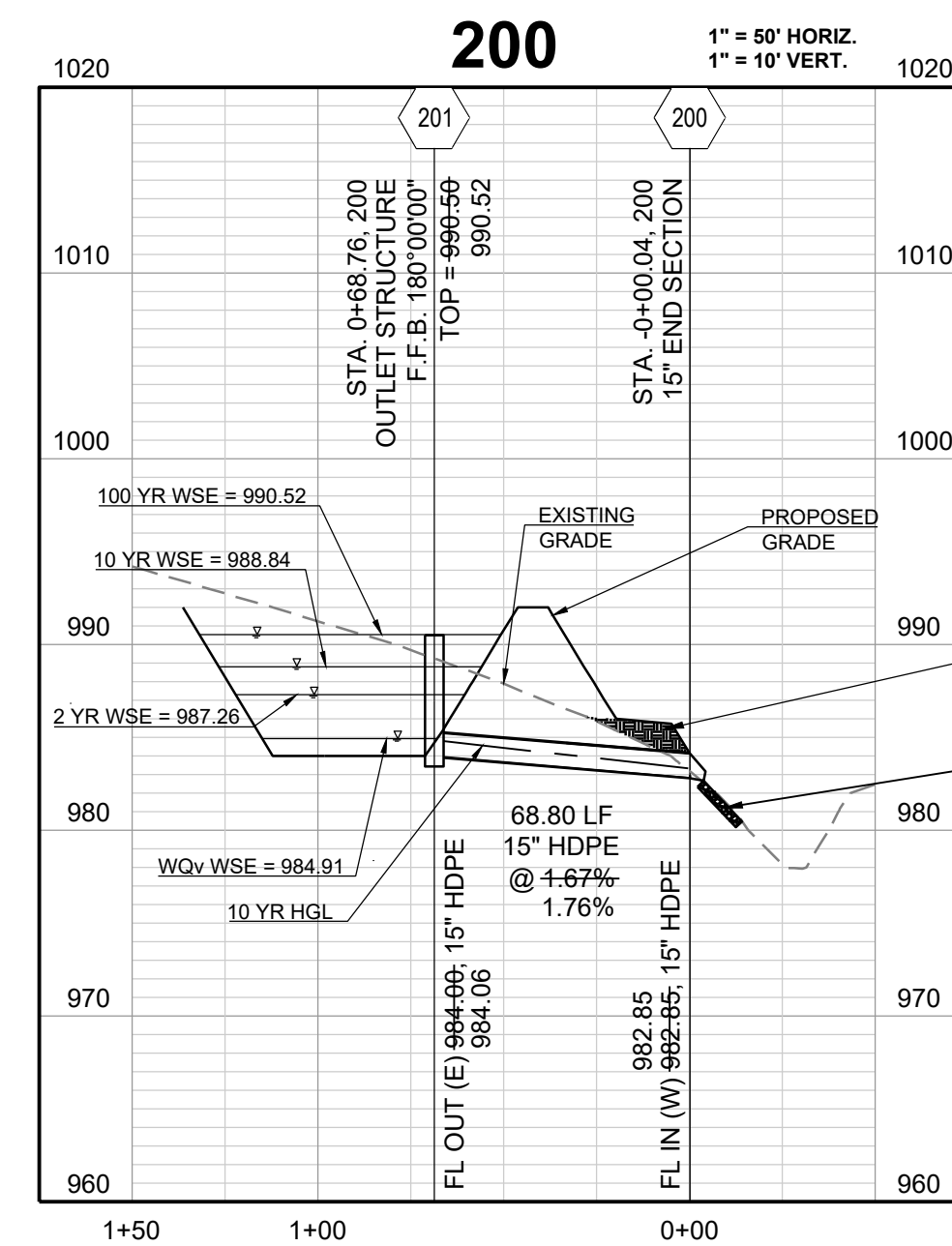
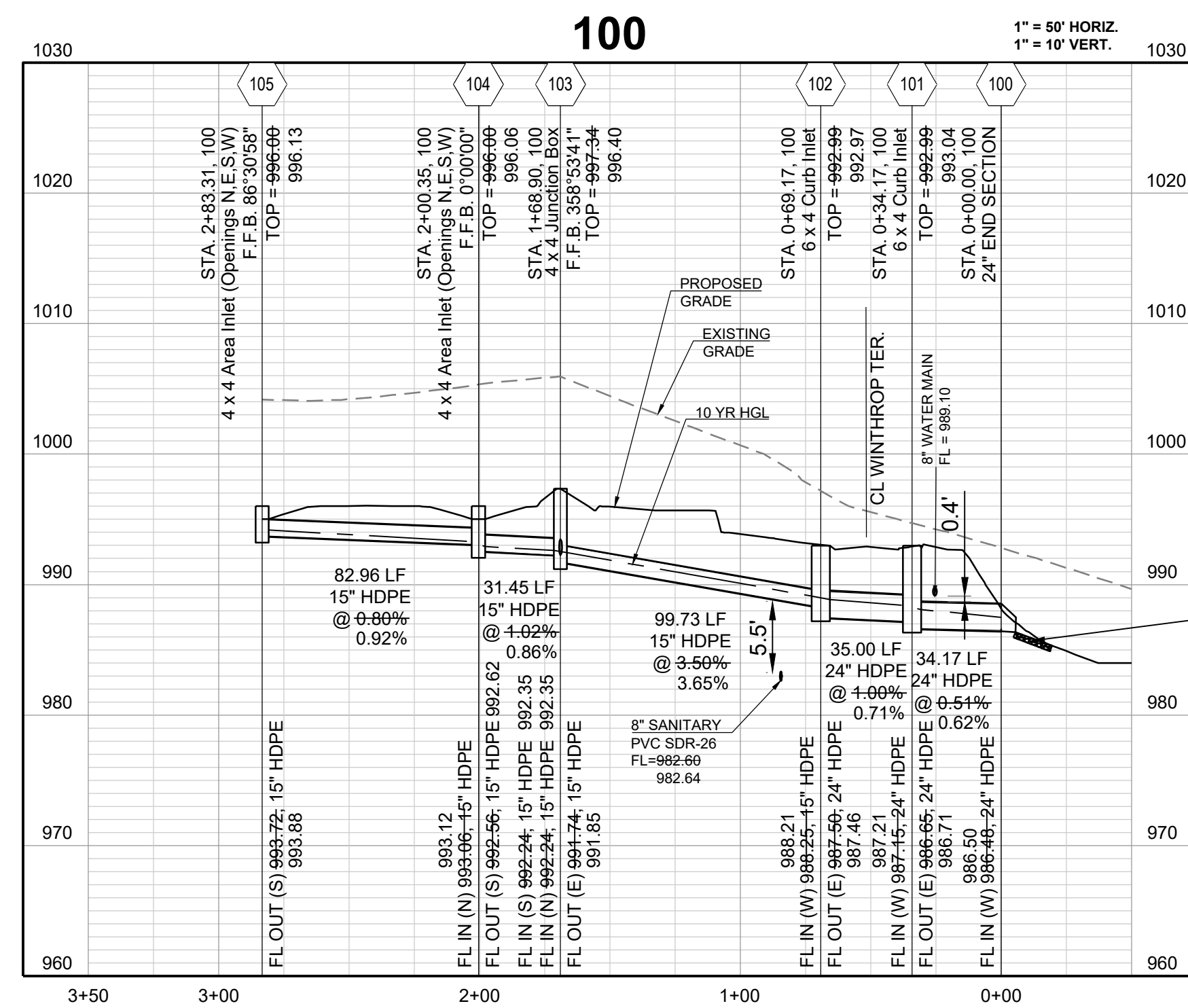
DRAWN BY: BAL
 CHECKED BY: MAB
 DATE PREPARED: 2-19-2020
 PROJ. NUMBER: 18-017

EDDB 3 OUTLET STRUCTURE

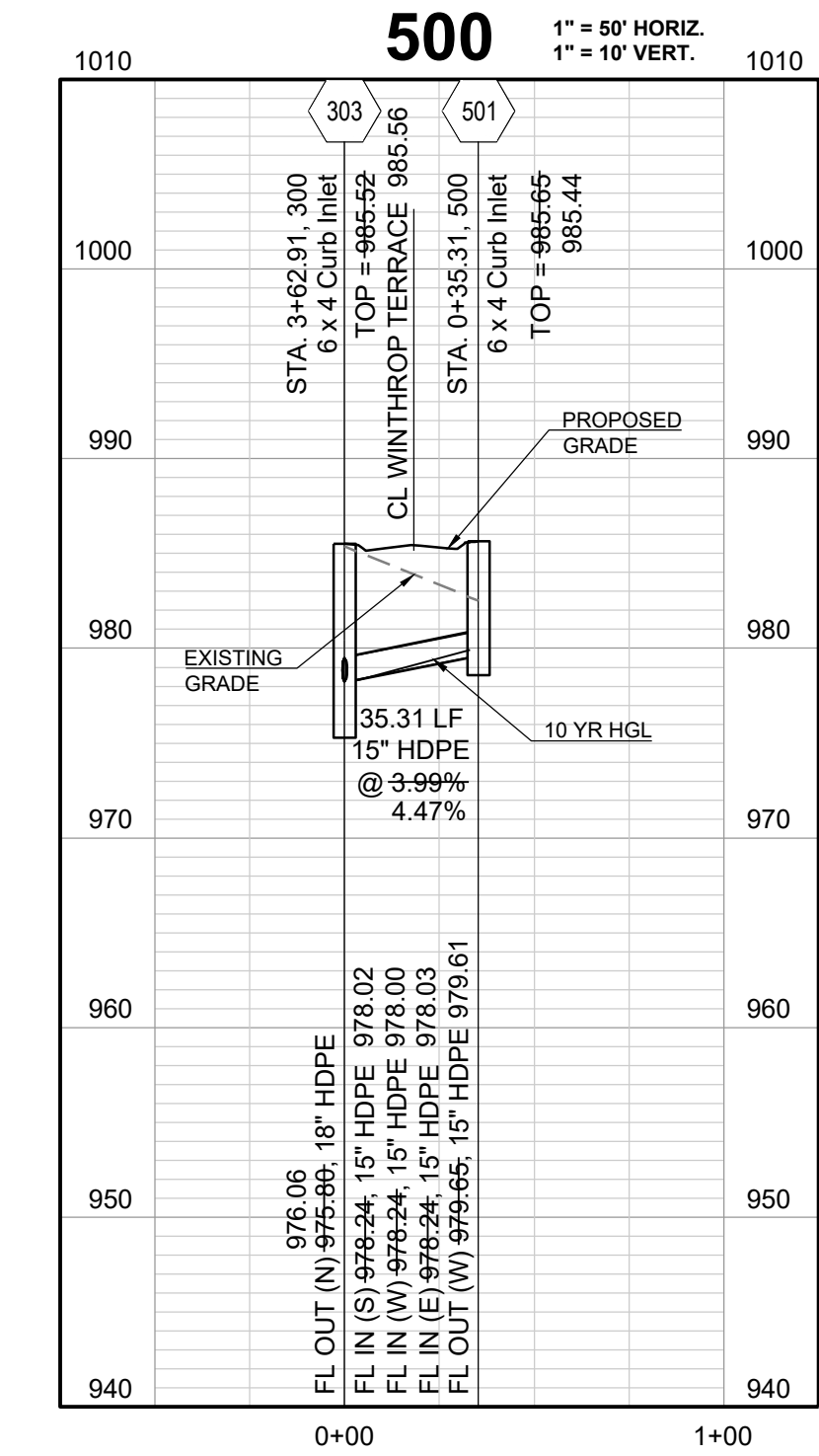
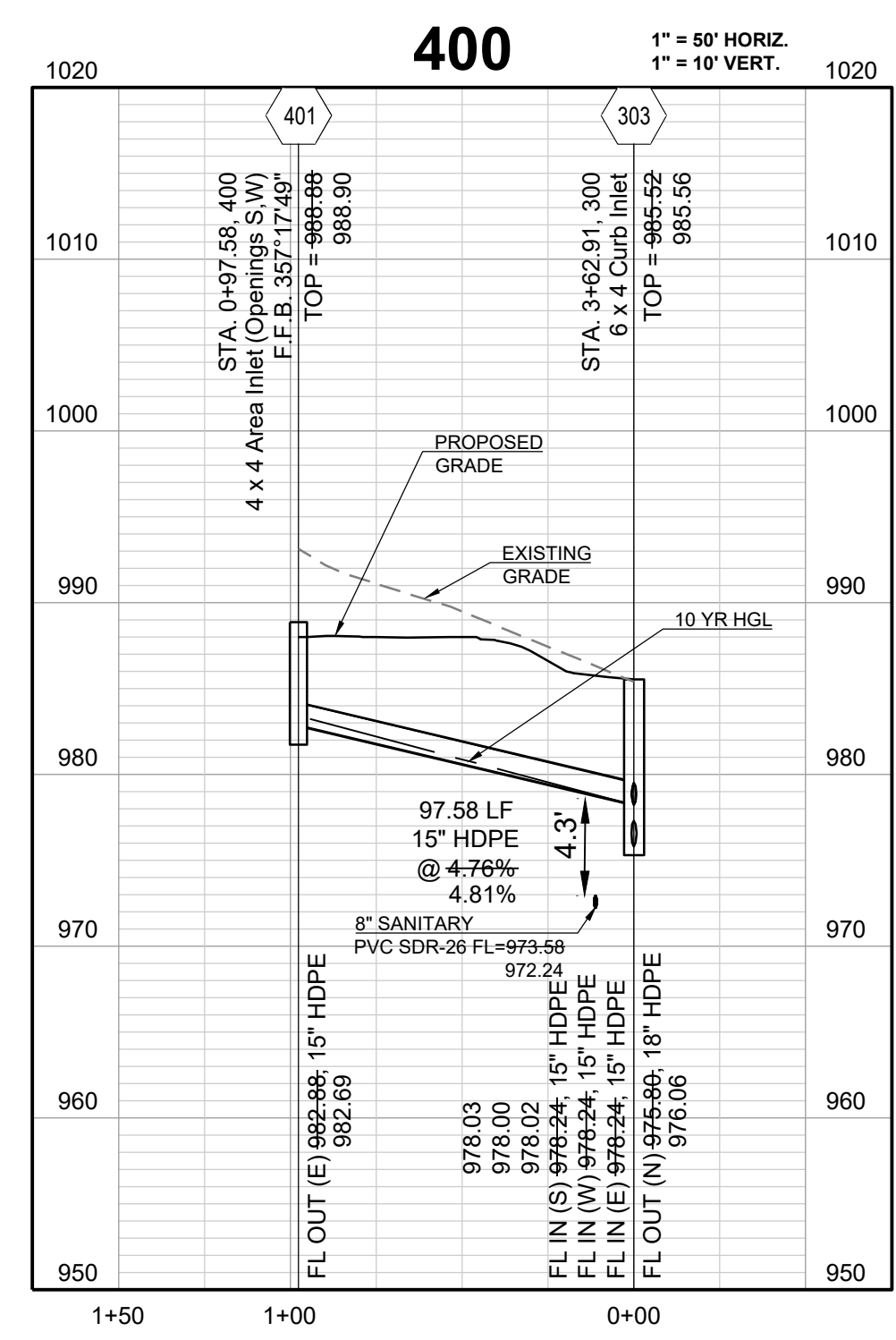
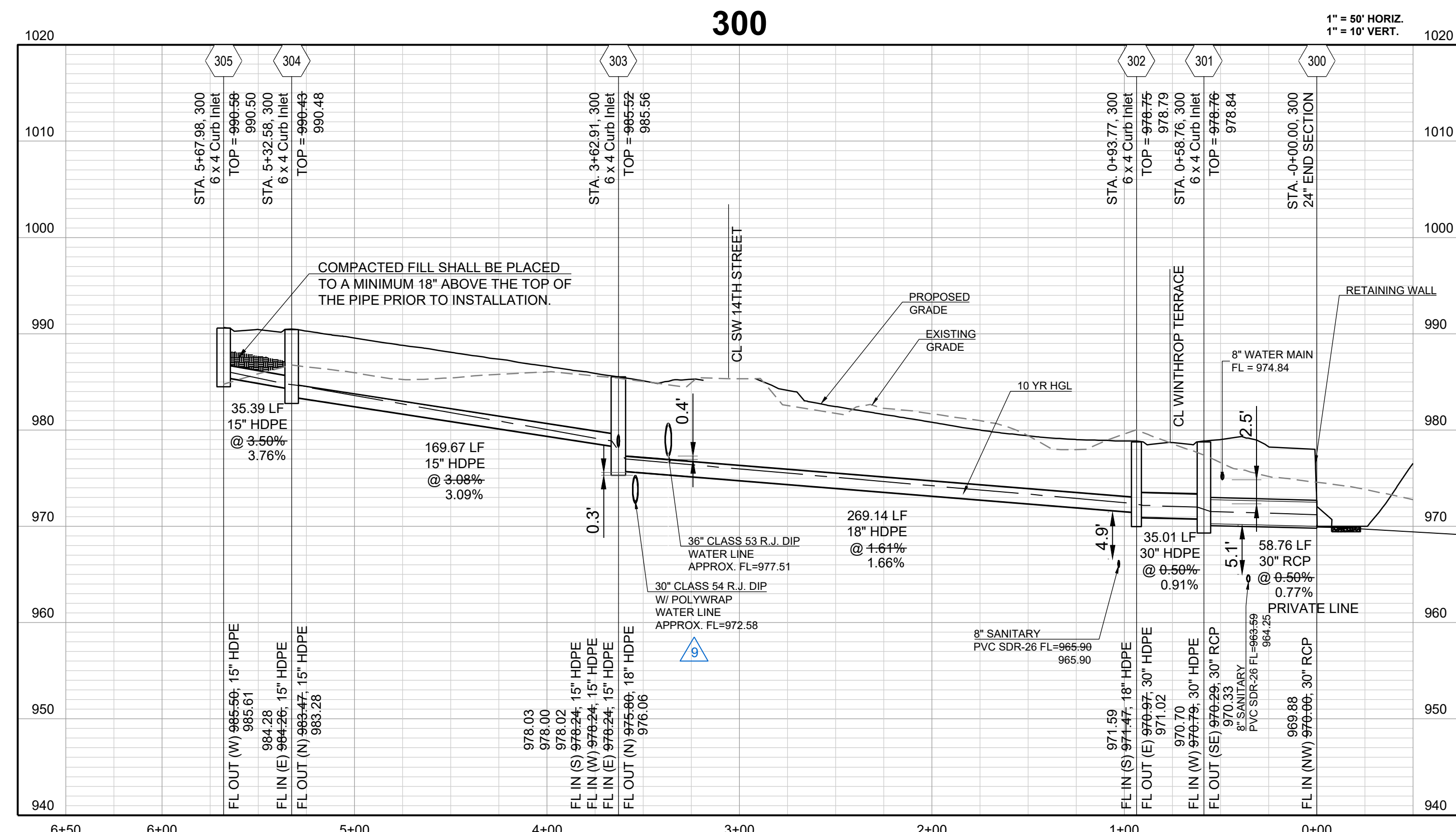
SHEET

I:\PROJECTS\2018\18-017\3.0 Design\3.0 DWG Plans\6.0 SS\18-017 SS EDDB OUTLETS.dwg, 19 - EDDB 3 OUTLET STRUCTURE, 1/10/2023 1:42:28 PM, 1:1

WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI



COMPACTED FILL SHALL BE PLACED TO A MINIMUM 18" ABOVE THE TOP OF THE PIPE PRIOR TO INSTALLATION.
 INSTALL 8 CY D₁₀-15" STONE RIP RAP W/ GEOFABRIC (15' x 6' x 2.25')



RECORD DRAWING

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Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlager and Associates, P.A.

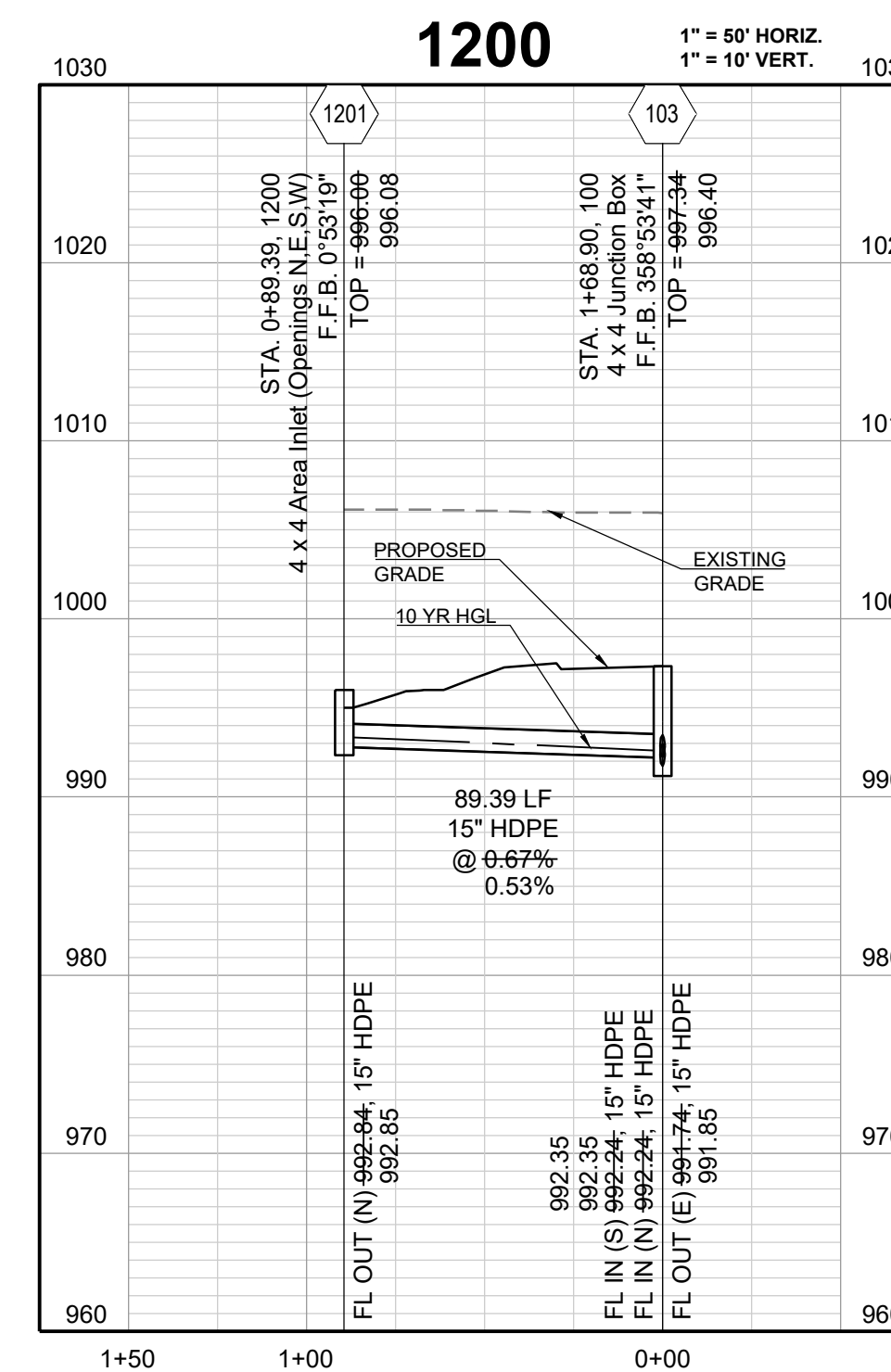
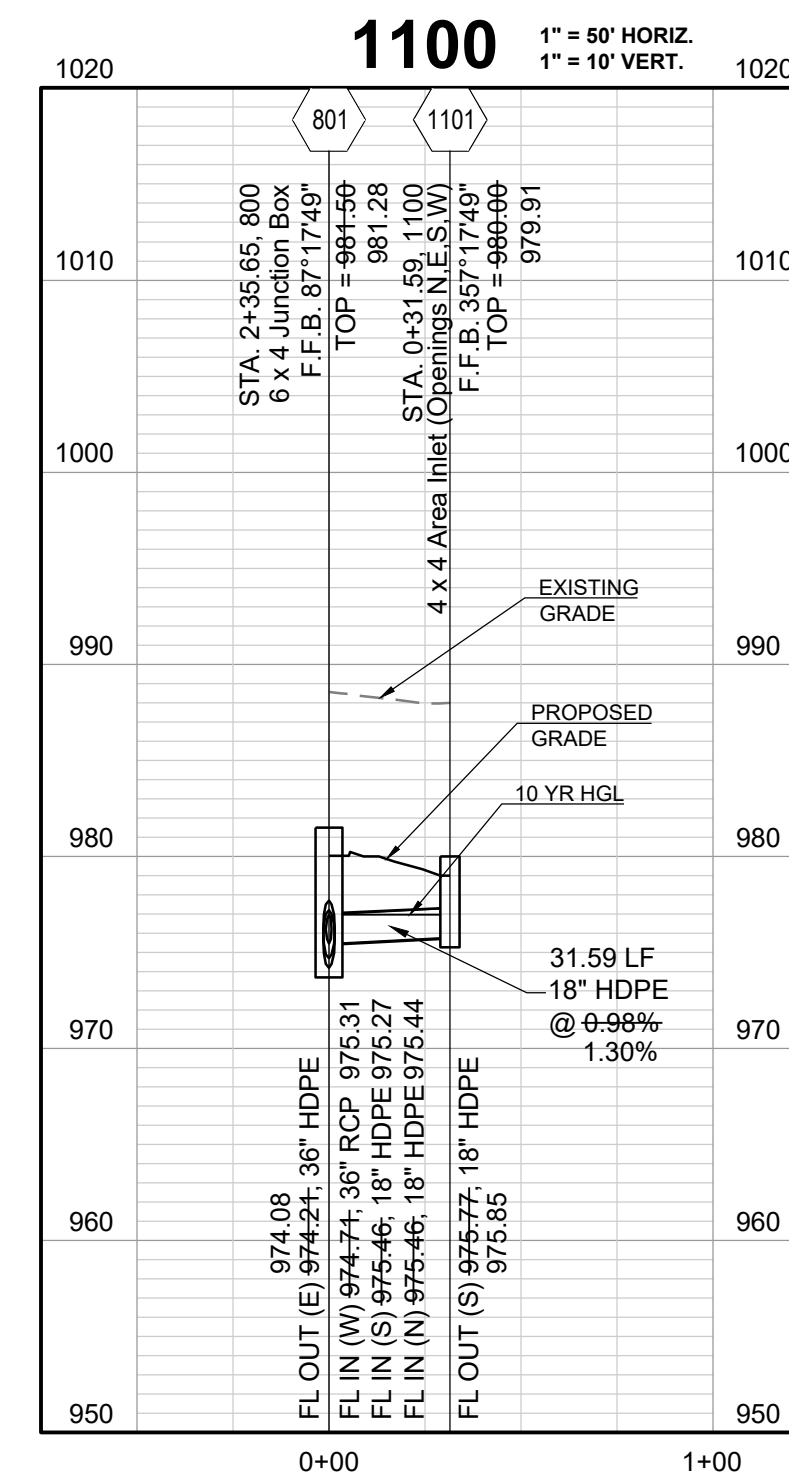
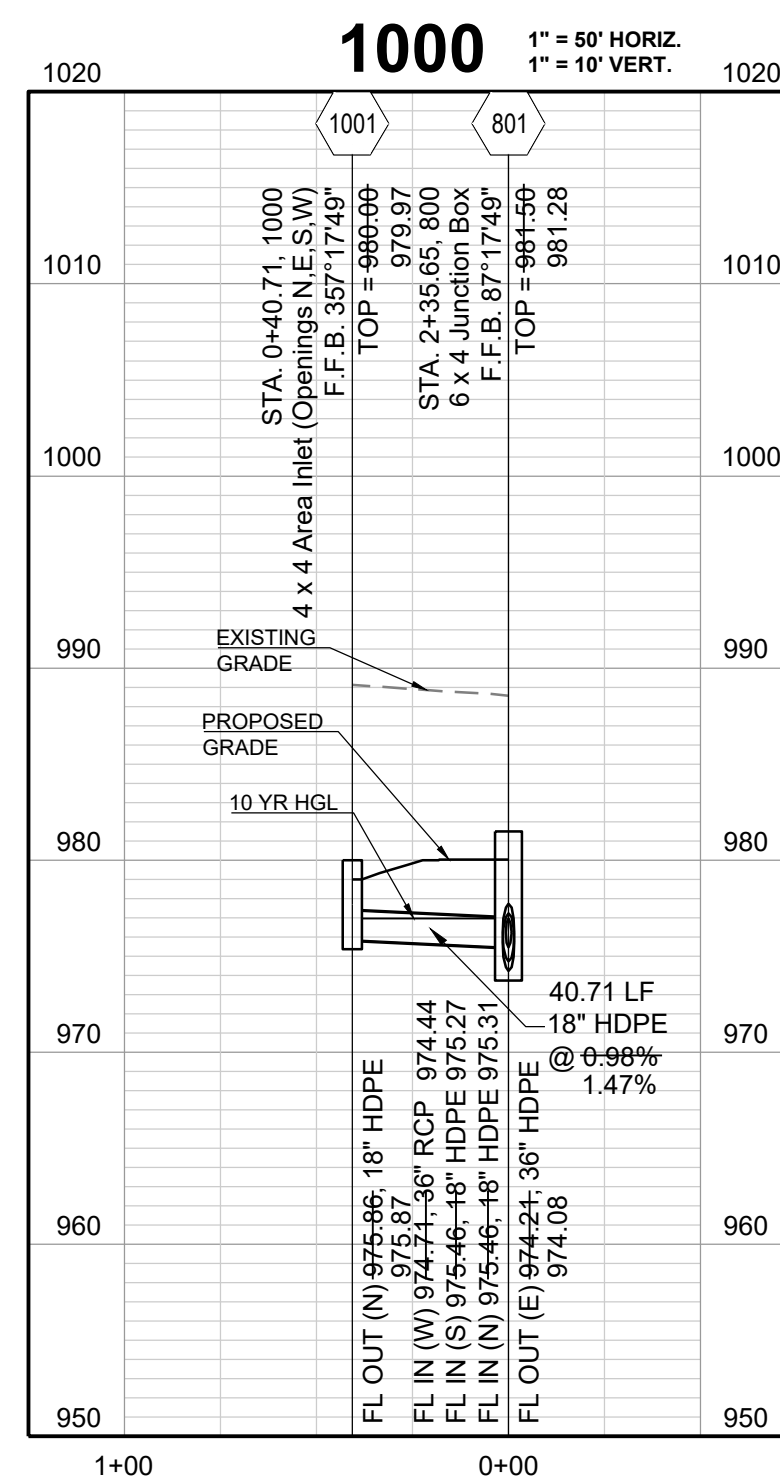
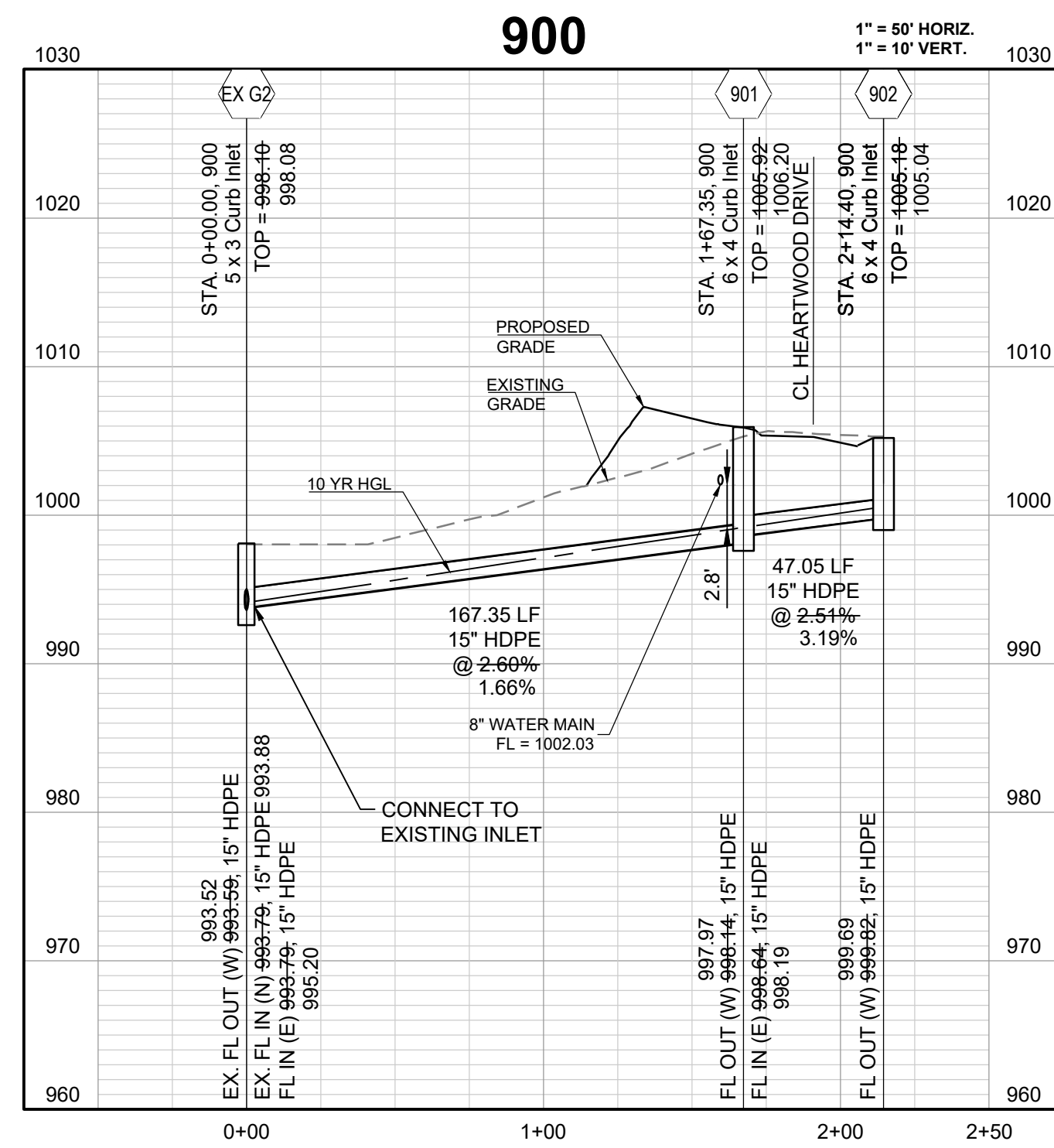
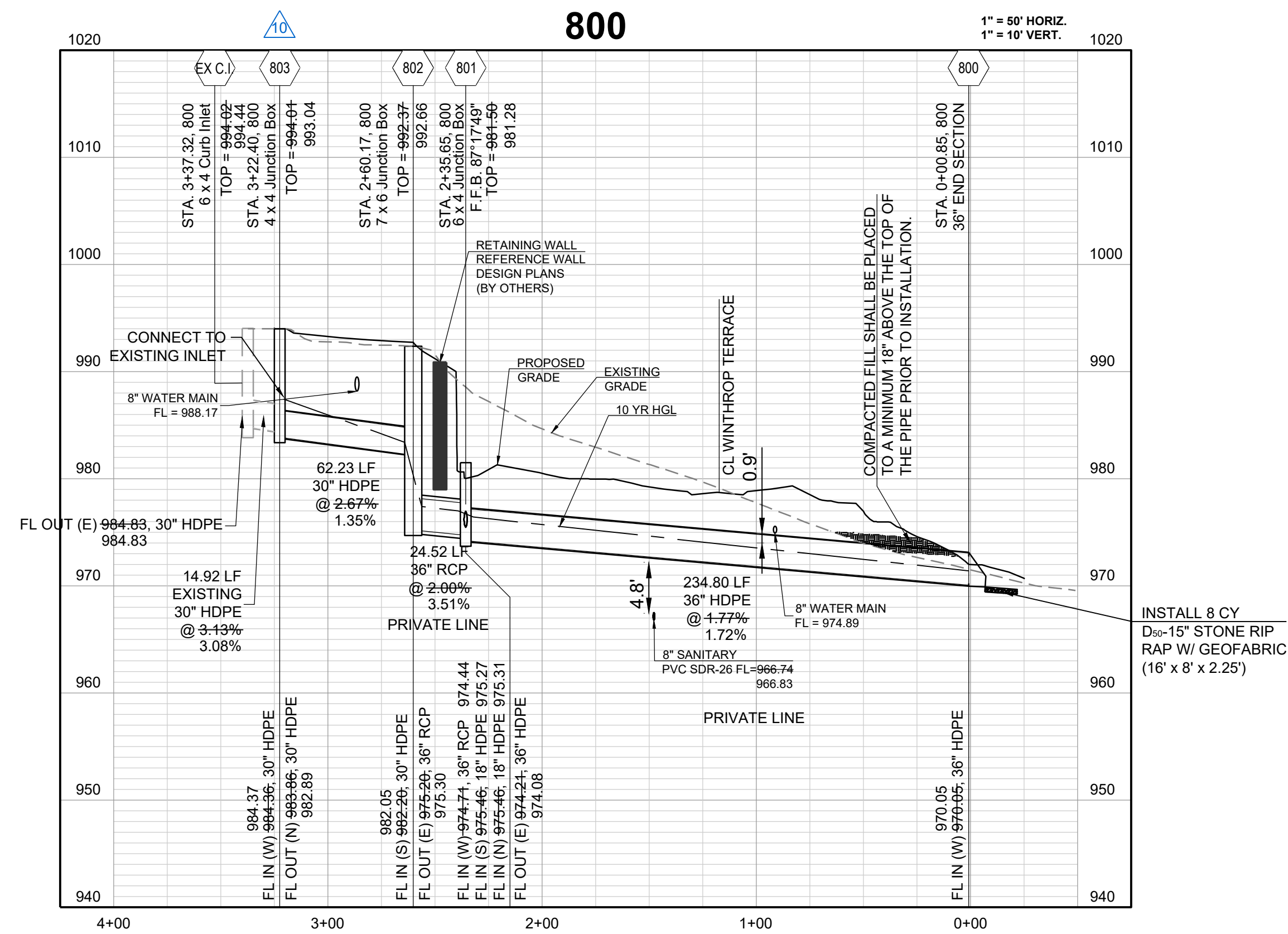
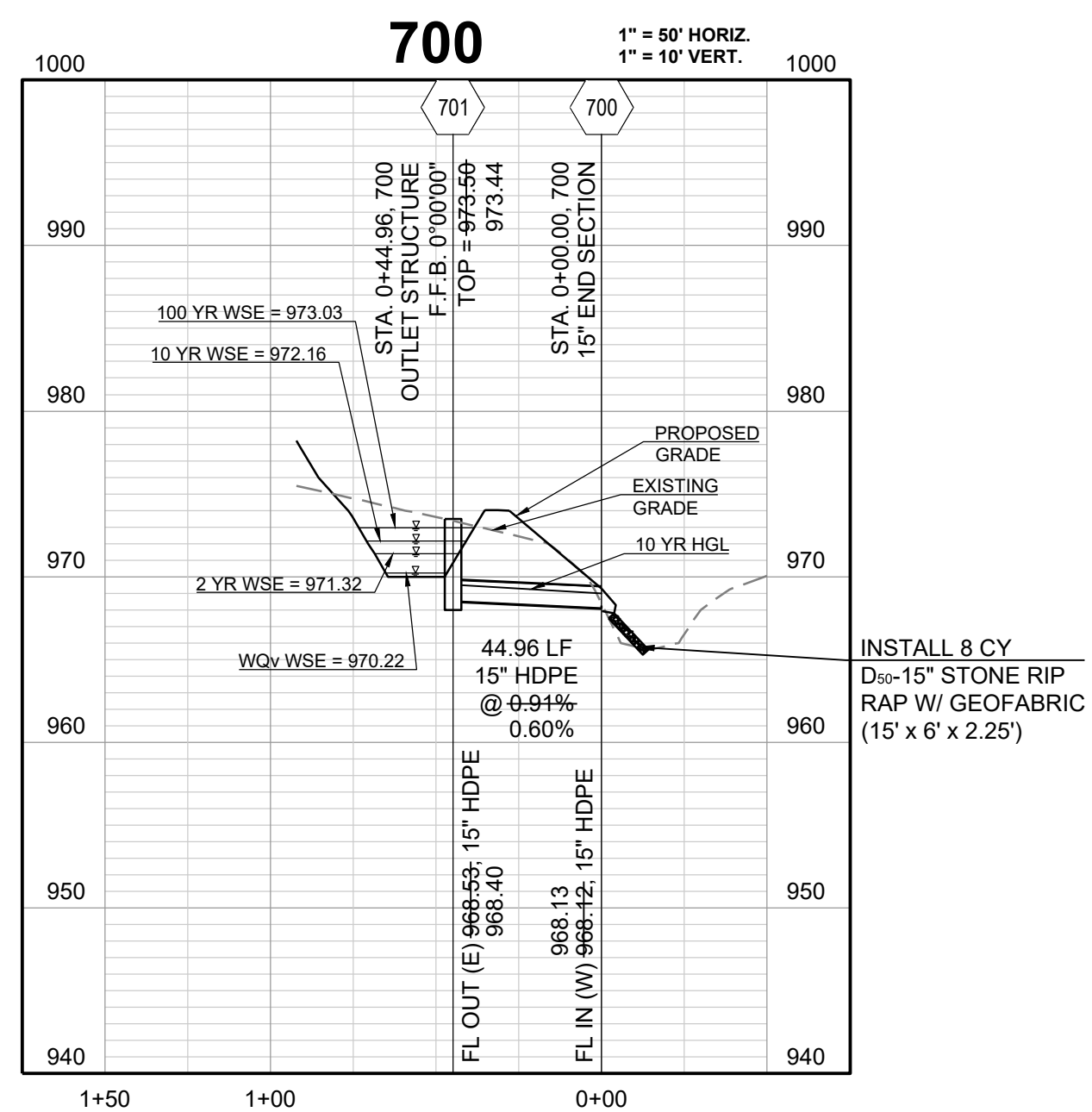
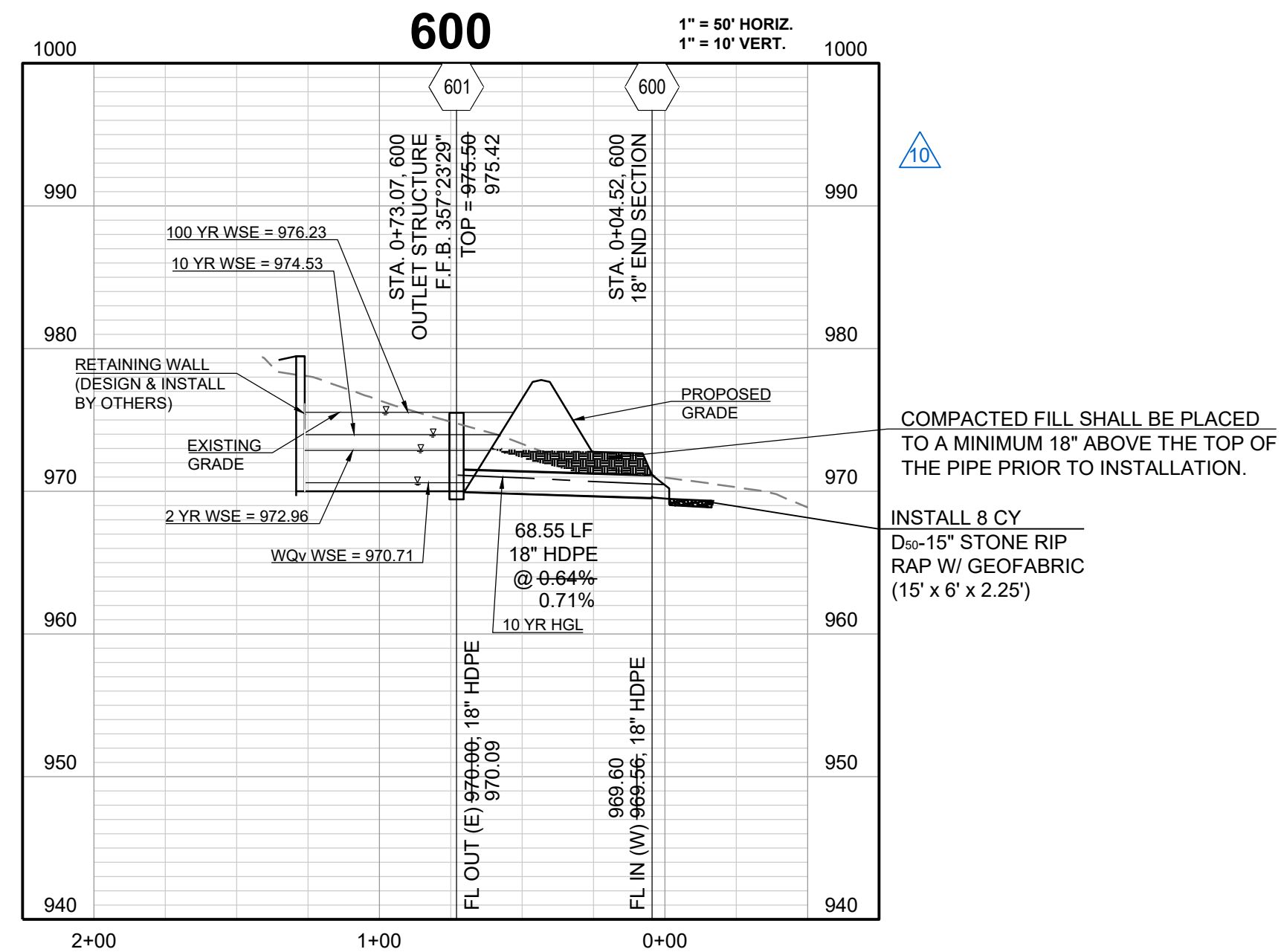
REVISIONS

NO.	DATE	DESCRIPTION
1	11/14/2022	AS-BUILT
2	08/22/2022	CITY WALL MODIFICATION
3	08/16/2022	CITY EMAILED COMMENTS

REVISION DATE	DESCRIPTION
04/24/2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
04/09/2021	SCHLAGEL QUANTITIES
05/12/2021	CITY COMMENTS
06/15/2021	CITY COMMENTS
09/28/2021	CITY COMMENTS
2-19-2020	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

STORM PROFILE

SHEET



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Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlager and Associates, P.A.

WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
11/10/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
08/22/2022	CITY WALL MODIFICATION
07/16/2022	CITY EMAILED COMMENTS

DRAWN BY:	REVISION DATE	DESCRIPTION
BAL	04/24/2020	CITY COMMENTS
MAB	01/12/2021	SCHLAGEL QUANTITIES
MAB	04/09/2021	SCHLAGEL QUANTITIES
MAB	05/12/2021	CITY COMMENTS
MAB	06/15/2021	CITY COMMENTS
MAB	09/29/2021	CITY COMMENTS
MAB	09/29/2021	SCHLAGEL UPDATE
MAB	10/06/2021	CITY COMMENTS
MAB	01/20/2022	WATER LINE CONFLICT

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REVISION DATE	DESCRIPTION
11/10/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
08/22/2022	CITY WALL MODIFICATION
07/16/2022	CITY EMAILED COMMENTS
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05/12/2021	CITY COMMENTS
06/15/2021	CITY COMMENTS
06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

LEE'S SUMMIT MISSOURI
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
FIELD INLET DETAIL

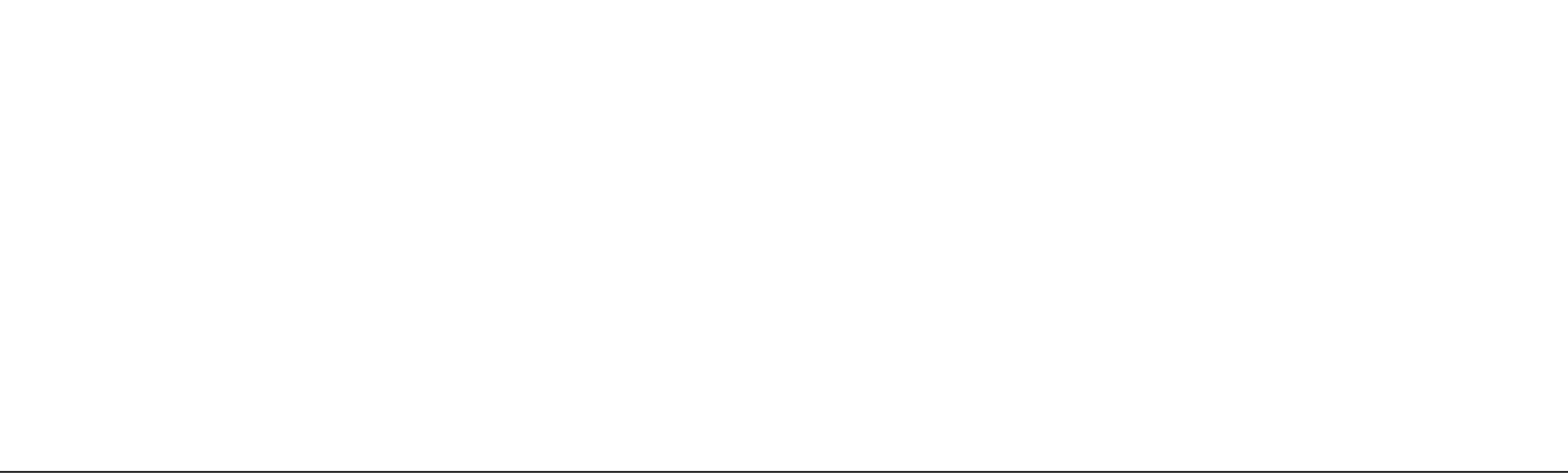
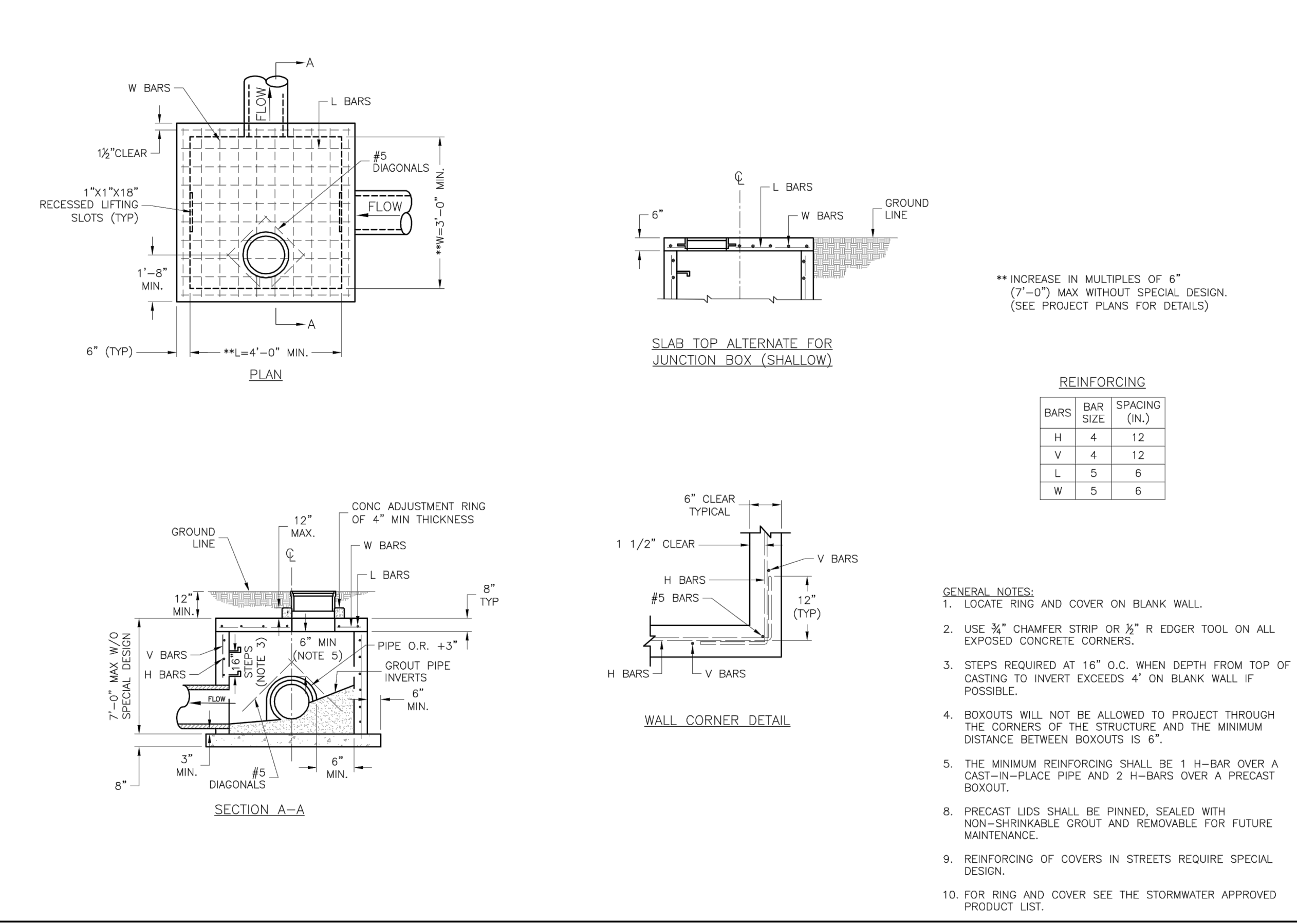
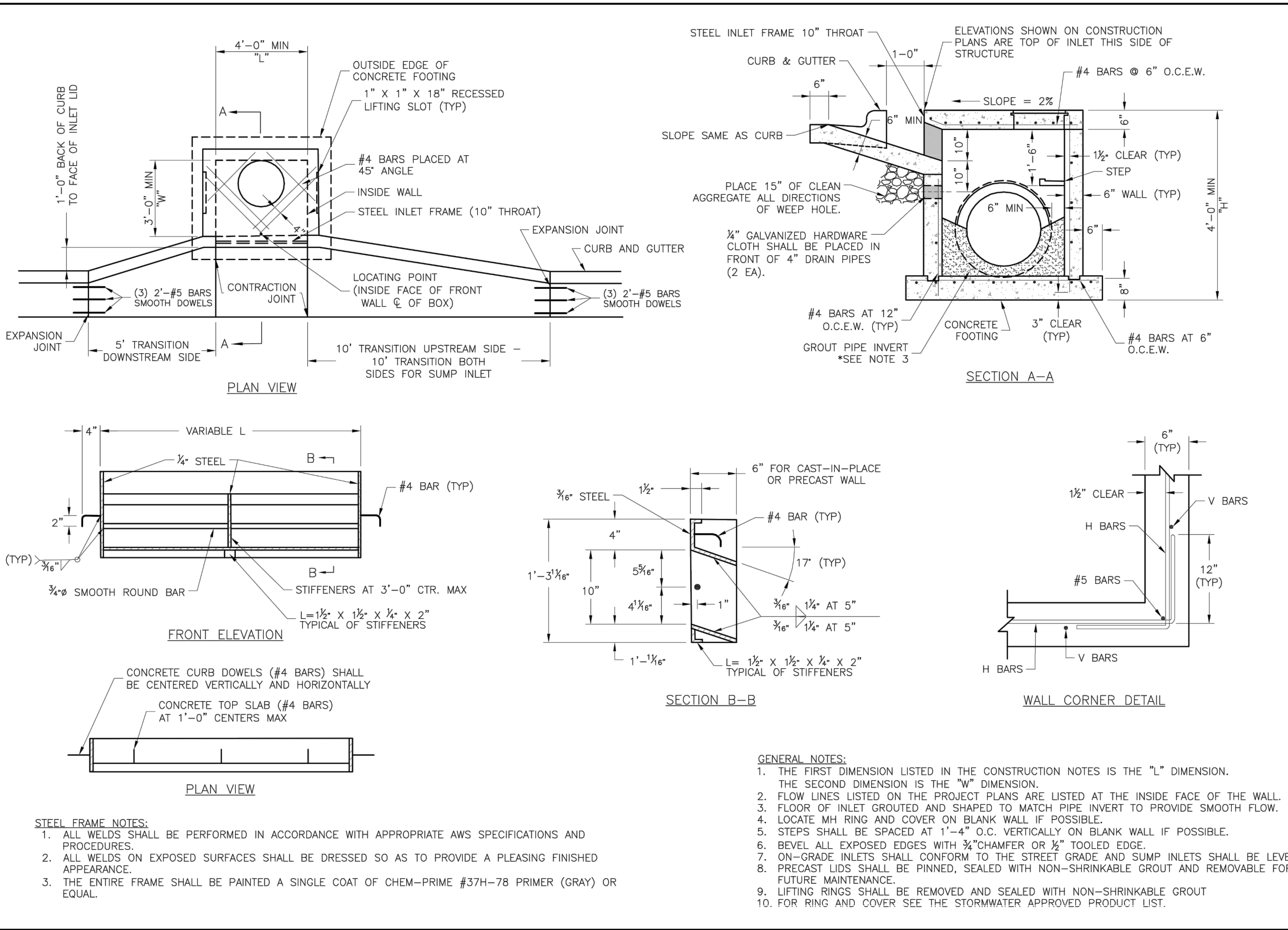
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STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
DRIVEWAY DETAIL

LEE'S SUMMIT MISSOURI
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
DRIVEWAY DETAIL

LEE'S SUMMIT MISSOURI
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
CURB INLET DETAIL

LEE'S SUMMIT MISSOURI
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
JUNCTION BOX DETAIL

LEE'S SUMMIT MISSOURI
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
JUNCTION BOX DETAIL



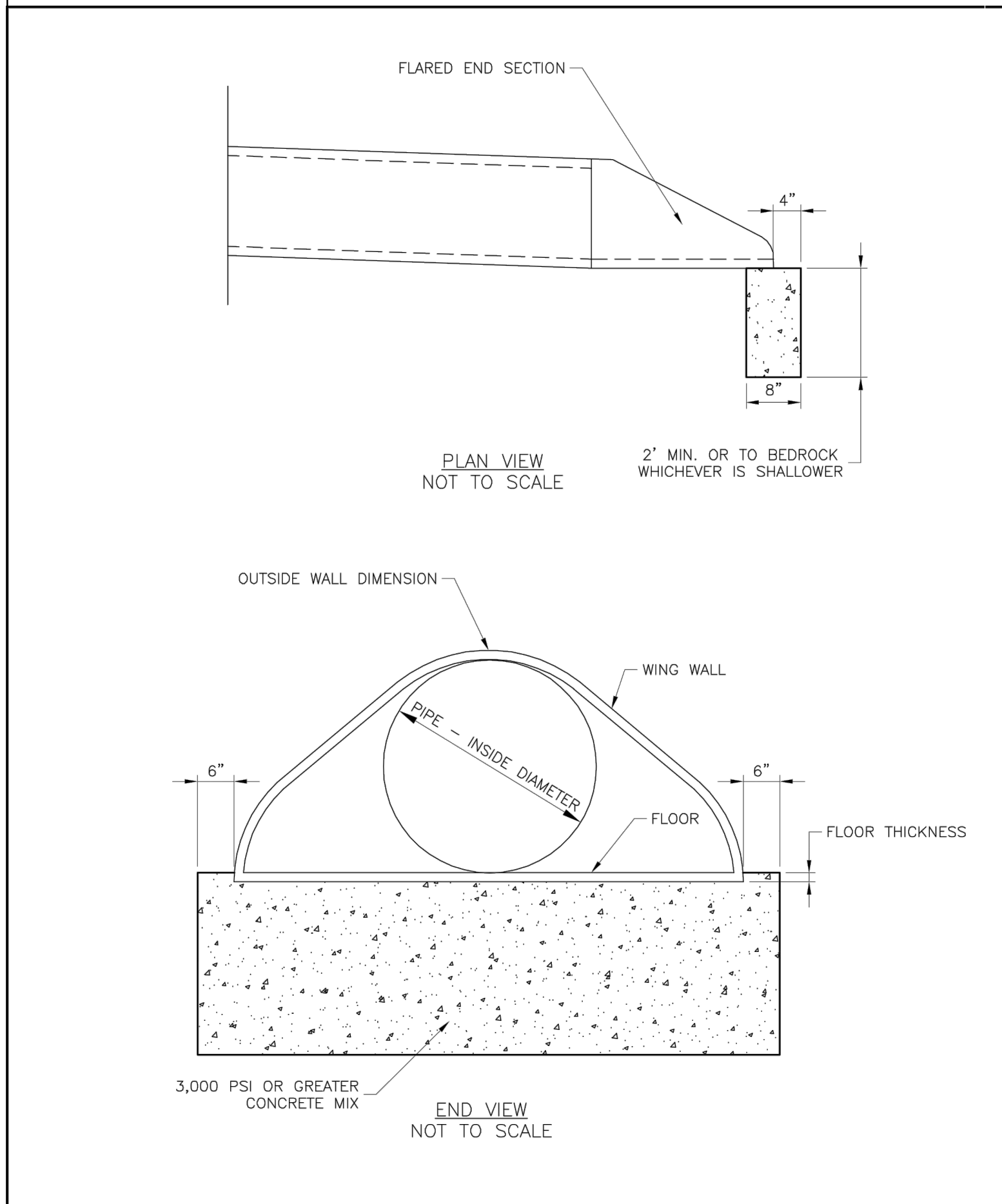
RECORD DRAWING

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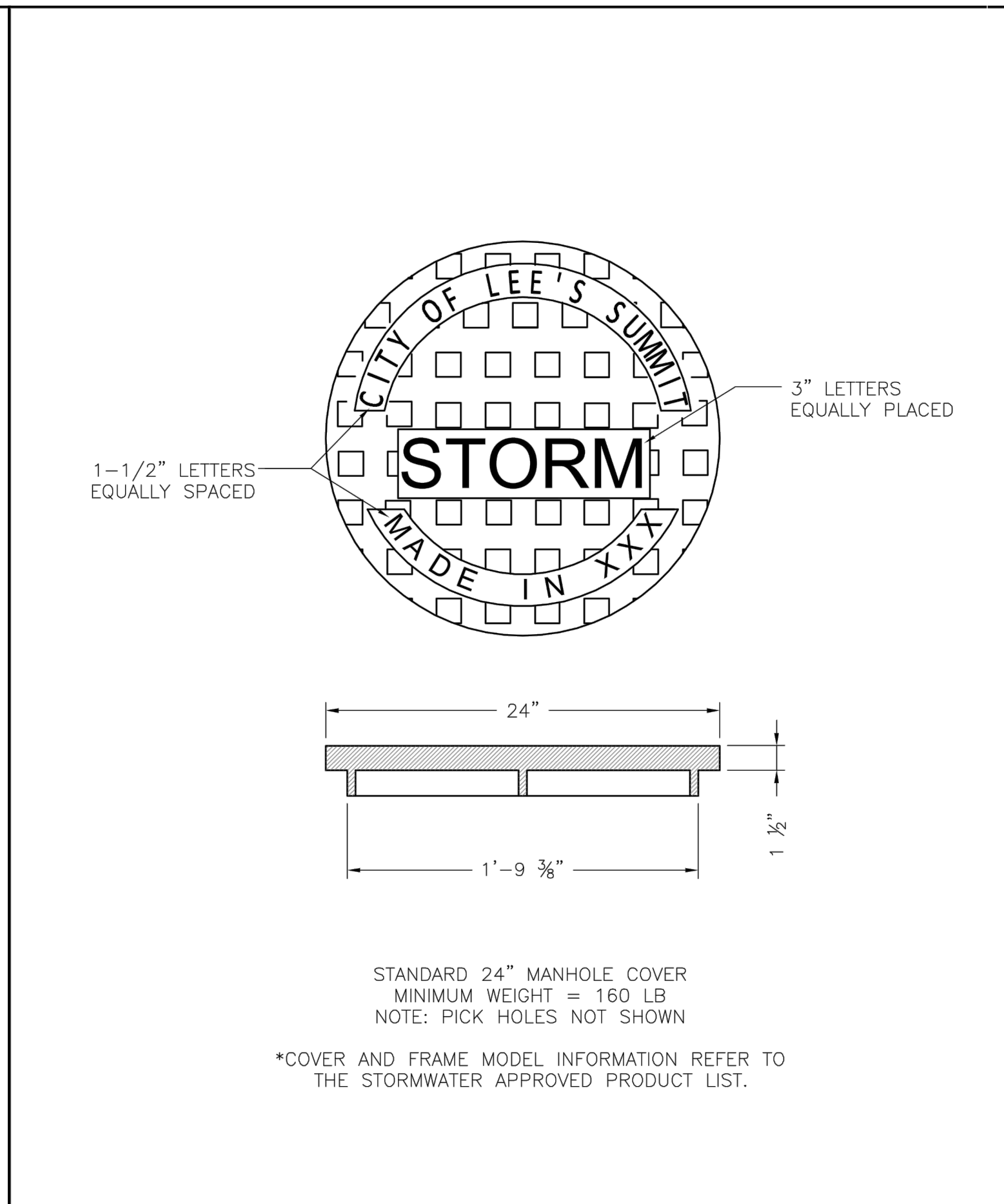
REVISION DATE	DESCRIPTION
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11/14/2022	AS-BUILT
08/22/2022	CITY WALL MODIFICATION
08/16/2022	CITY EMAILED COMMENTS
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05/28/2021	CITY COMMENTS
05/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT



LEE'S SUMMIT MISSOURI
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

FLARED END SECTION SUPPORT DETAIL **STM-5**

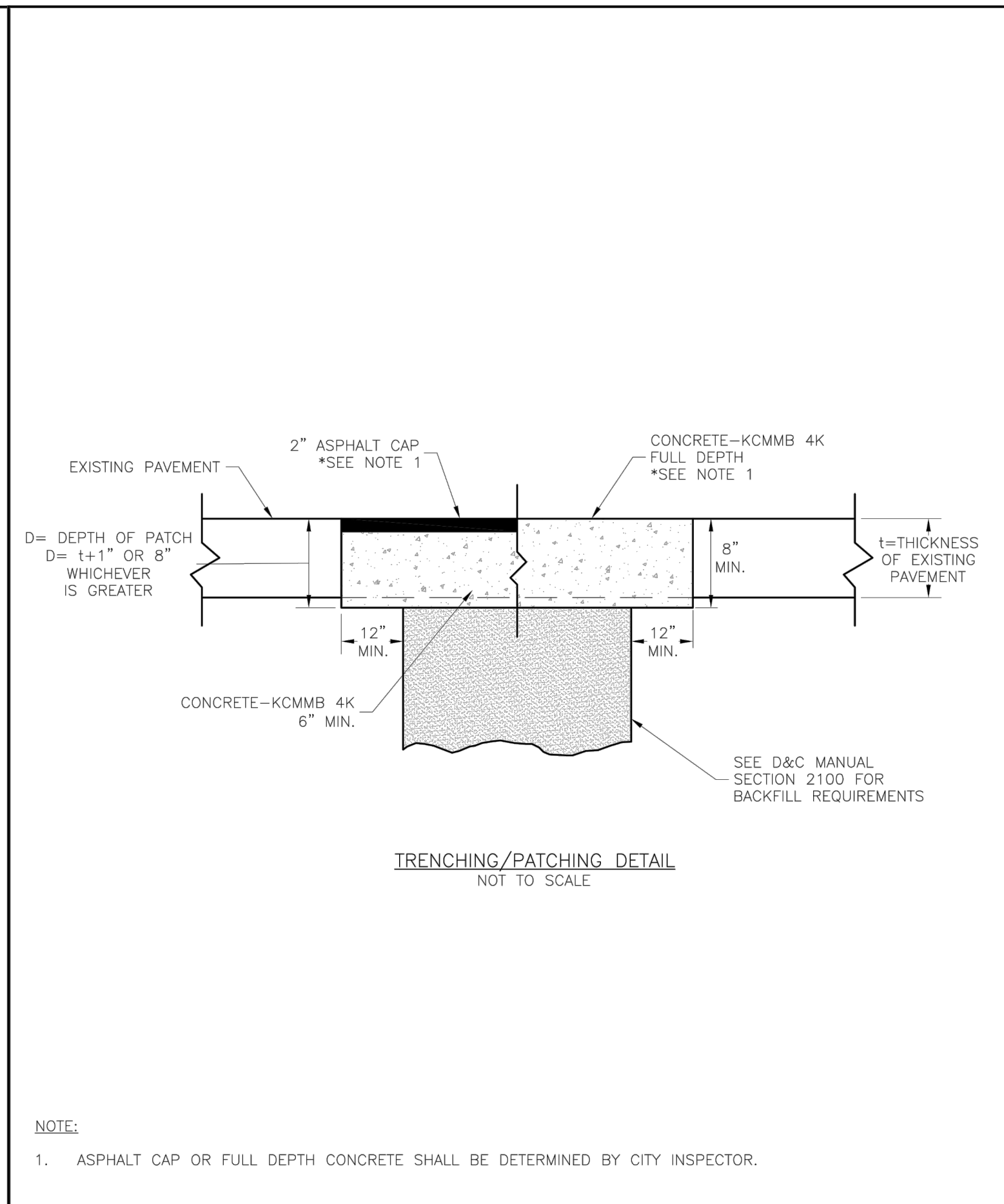
Date: 04/17
 Drawn By: MJF
 Checked By: DL



LEE'S SUMMIT MISSOURI
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE COVER DETAIL **STM-6**

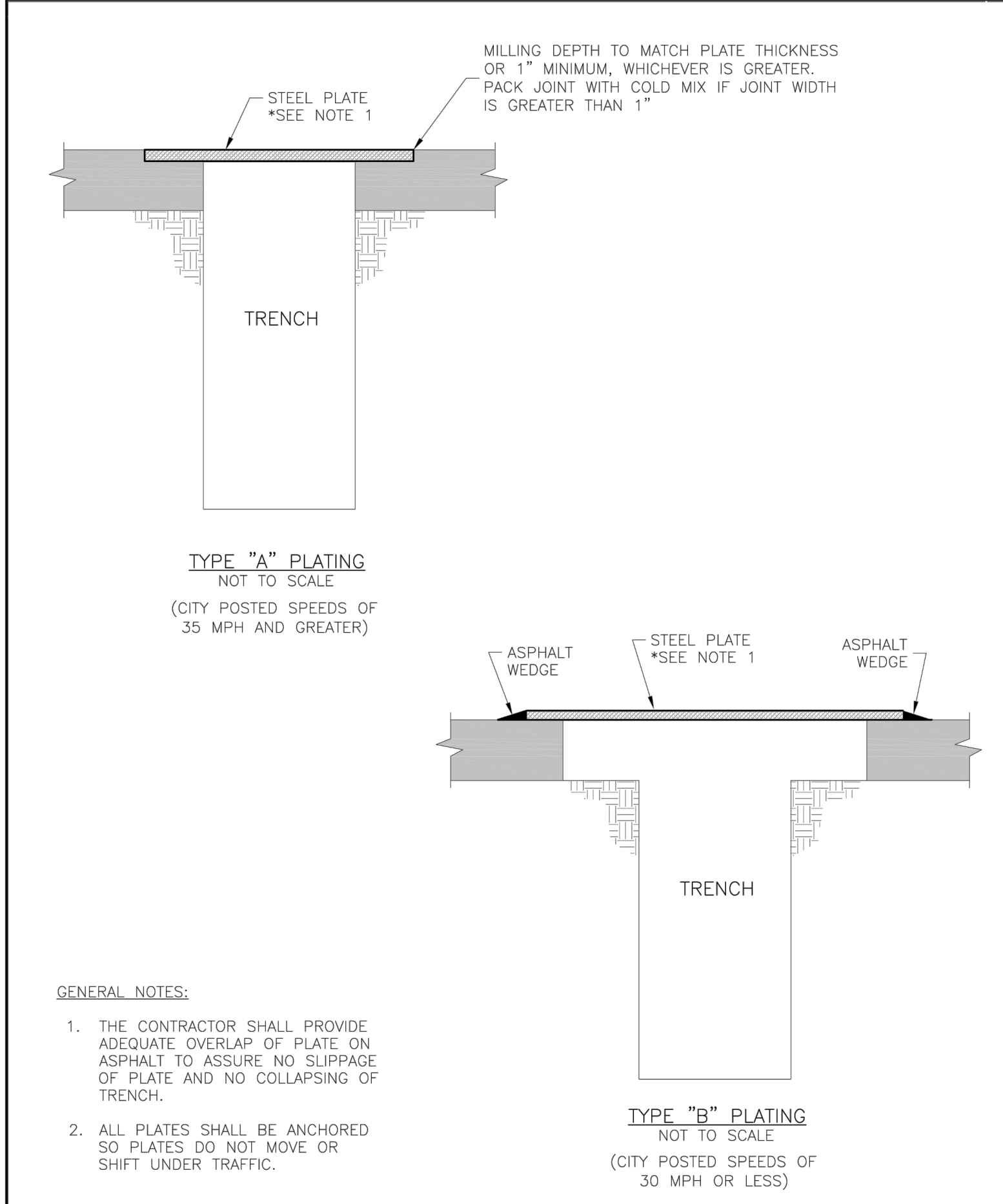
Date: 04/17
 Drawn By: MJF
 Checked By: DL



LEE'S SUMMIT MISSOURI
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

TRENCHING/PATCHING ROADWAYS DETAIL **GEN-5**

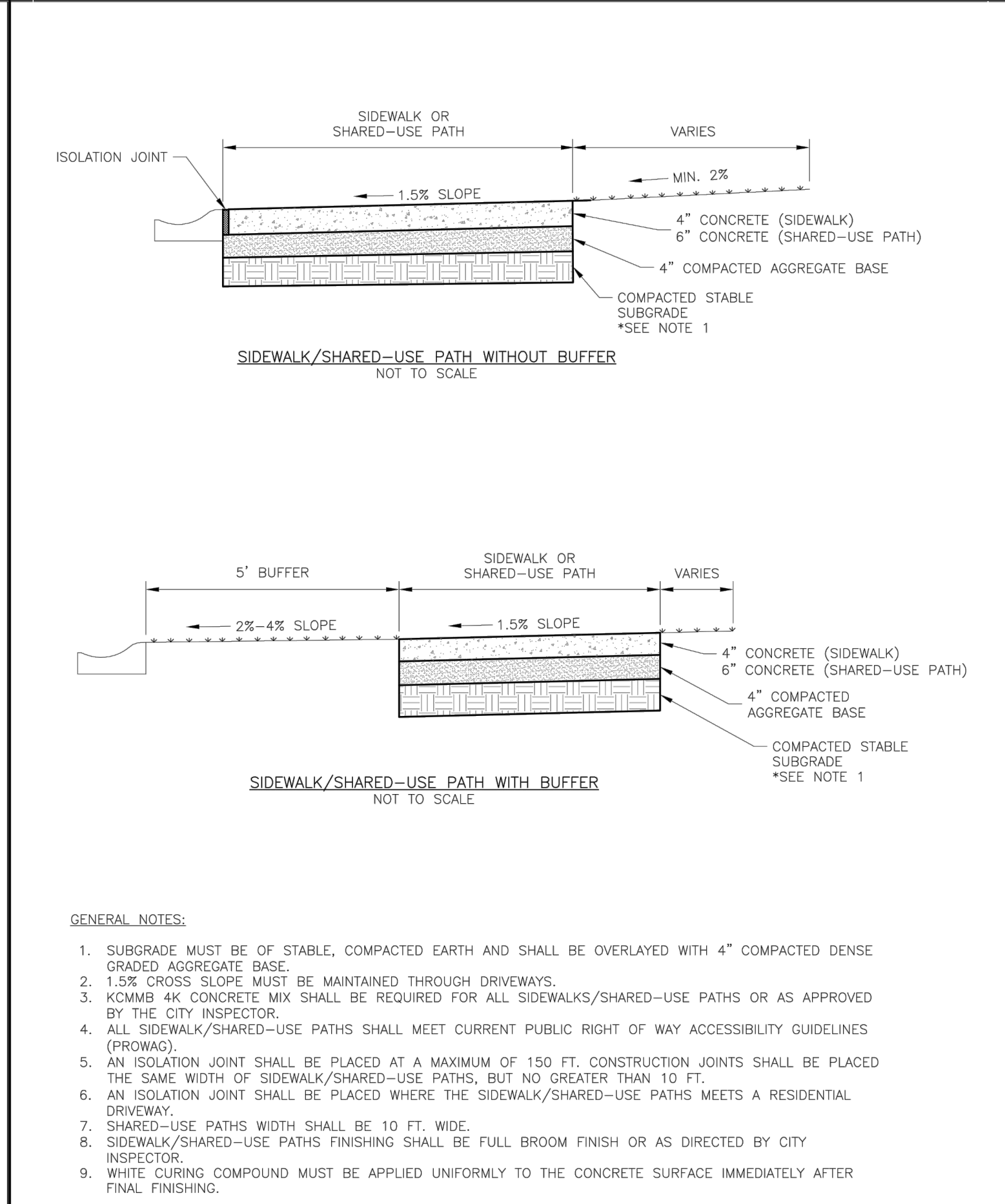
Date: 04/17
 Drawn By: MJF
 Checked By: DL



LEE'S SUMMIT MISSOURI
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

TRENCHING PLATE DETAIL **GEN-6**

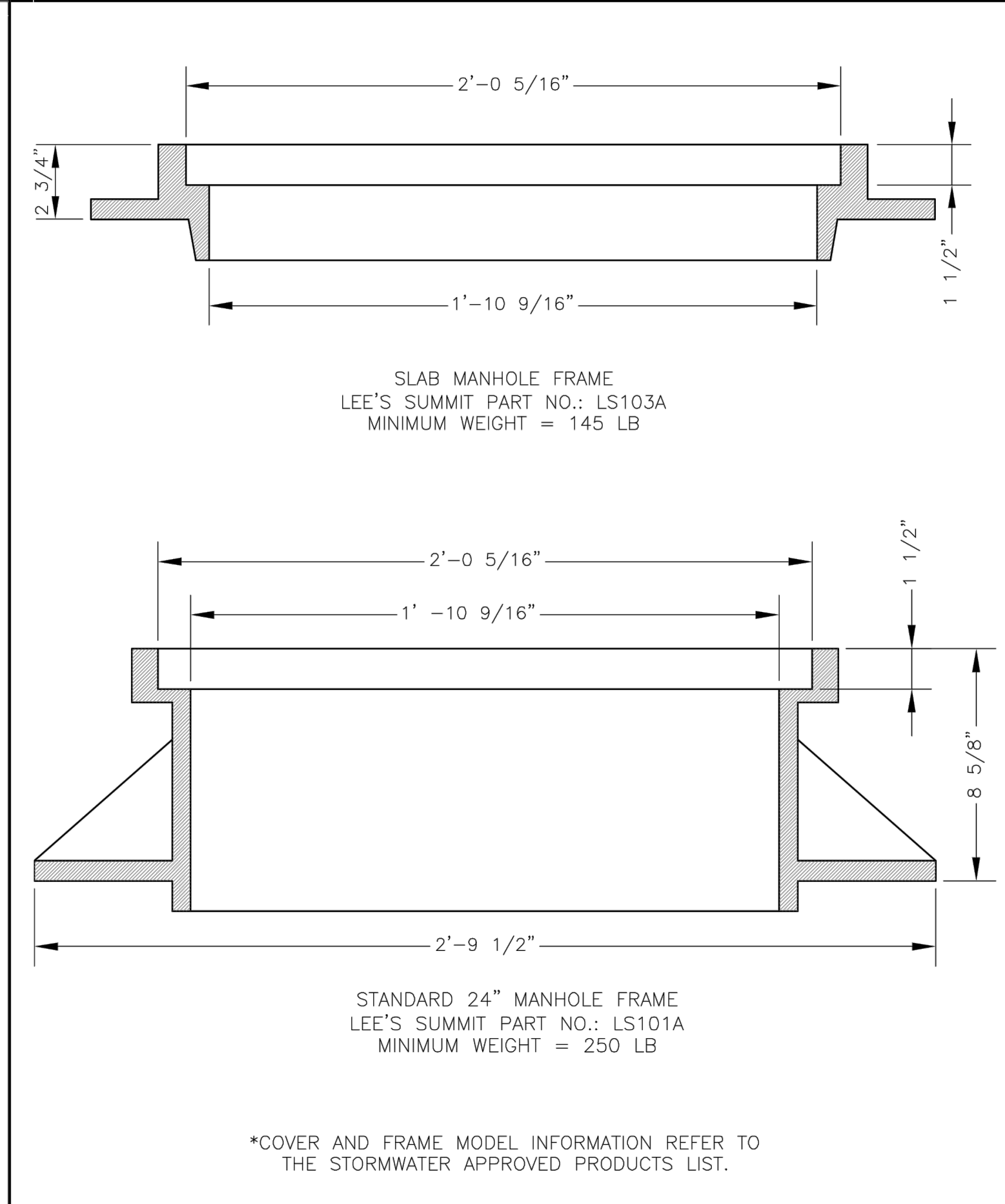
Date: 04/17
 Drawn By: MJF
 Checked By: DL



LEE'S SUMMIT MISSOURI
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

SIDEWALK/SHARED-USE PATH DETAIL **GEN-2**

Date: 04/17
 Drawn By: MJF
 Checked By: DL



LEE'S SUMMIT MISSOURI
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE FRAME DETAIL **STM-7**

Date: 04/17
 Drawn By: MJF
 Checked By: DL

RECORD DRAWING

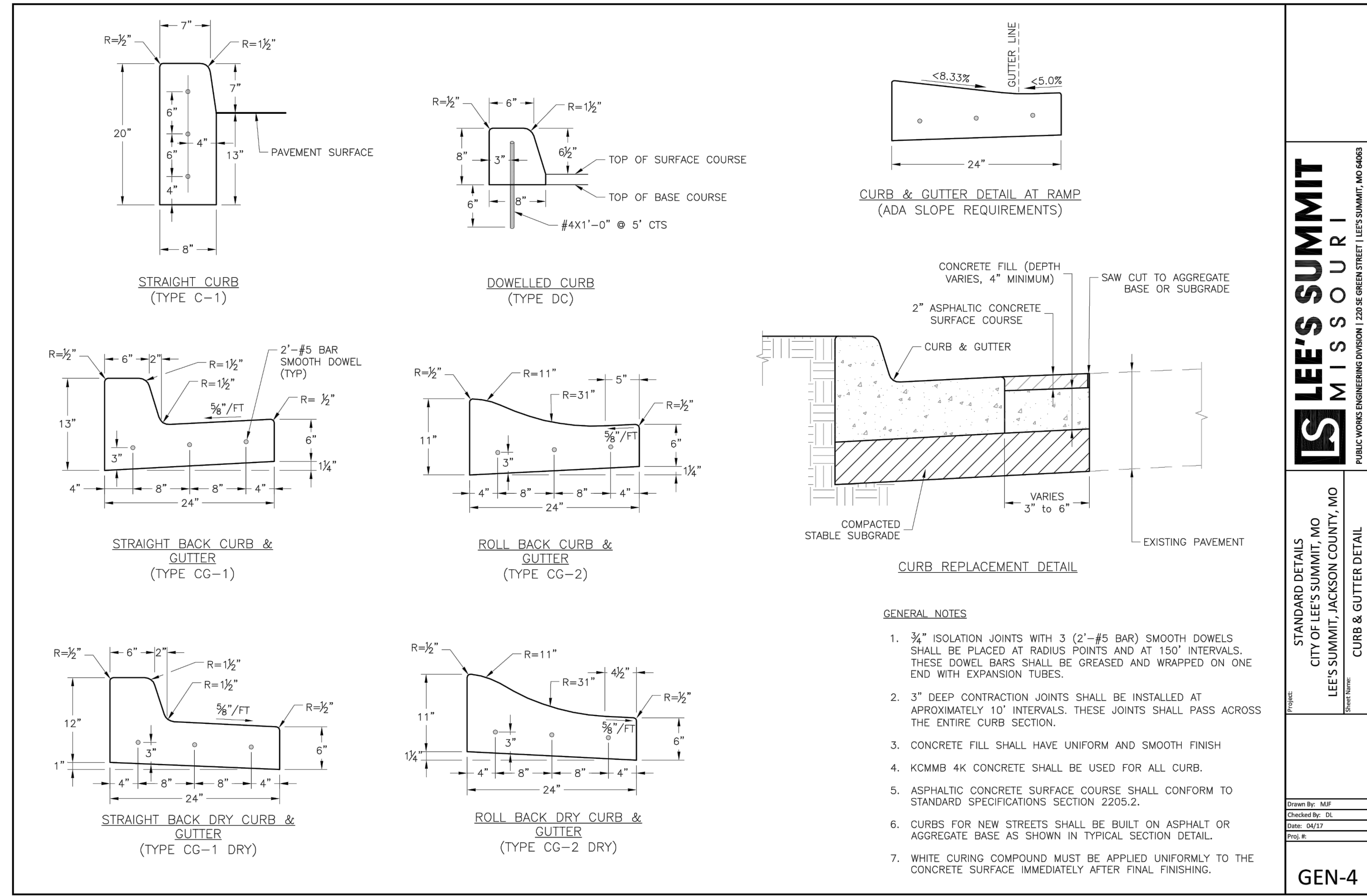
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Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlager and Associates, P.A.

I:\PROJECTS\2018\18-0773.0 Design\3.0 DWG Plans\6.0 SS\18-0773.0 SS DETAILS.dwg, DET. 2, 1/10/2023 3:53:00 PM, 1:1

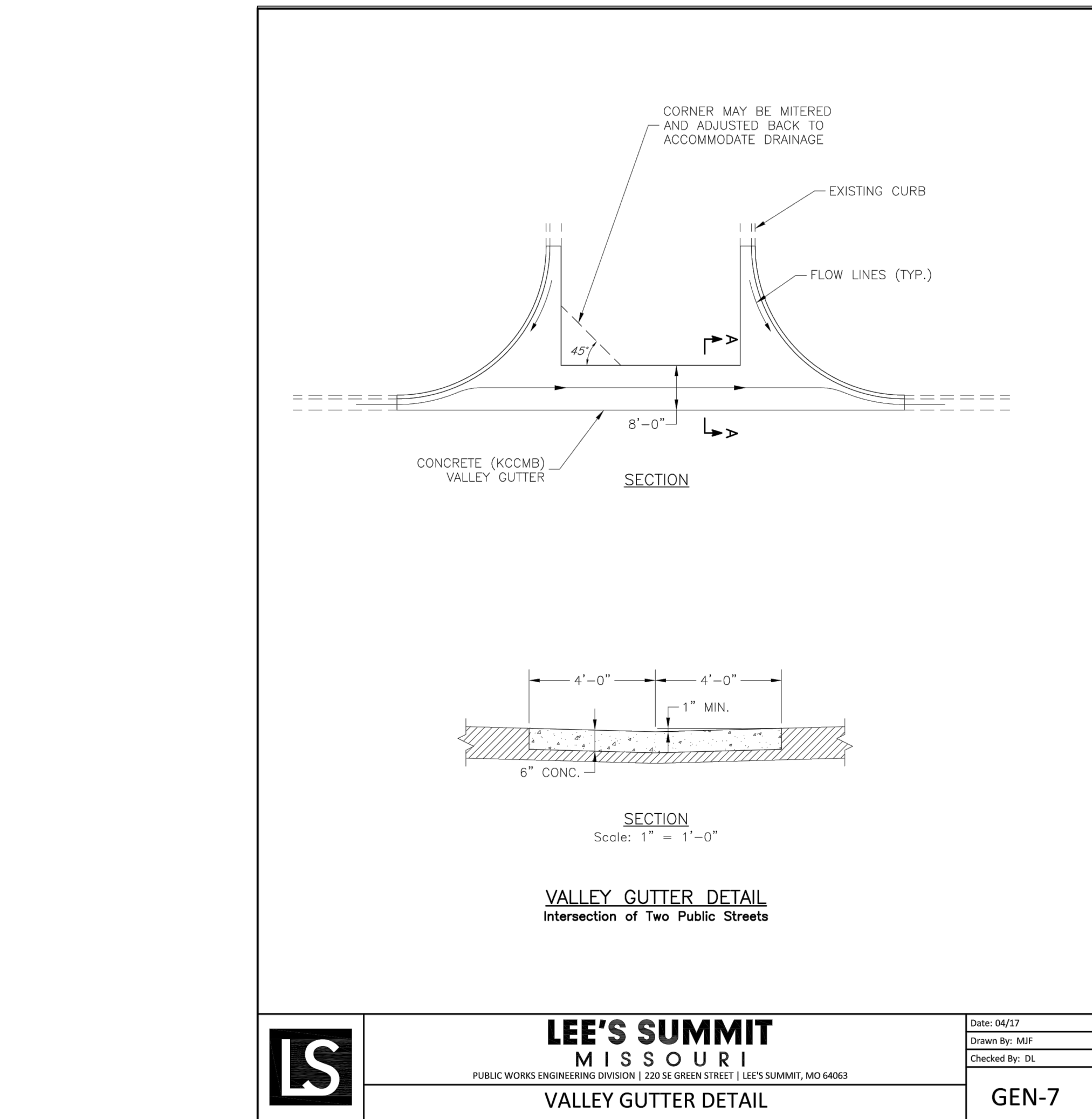
REVISION DATE	DESCRIPTION
11/10/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
08/22/2022	CITY WALL MODIFICATION
08/16/2022	CITY EMAILED COMMENTS
04/24/2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
04/09/2021	SCHLAGEL QUANTITIES
05/12/2021	CITY COMMENTS
06/15/2021	CITY COMMENTS
06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT



LEE'S SUMMIT MISSOURI
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
 CITY OF LEE'S SUMMIT, MO
 LEE'S SUMMIT, JACKSON COUNTY, MO
 CURB & GUTTER DETAIL

Drawn By: MJF
 Checked By: DL
 Date: 04/23
 Title: GEN-4



LEE'S SUMMIT MISSOURI
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Date: 04/17
 Drawn By: MJF
 Checked By: DL

GEN-7

TABLE LS-2: MINIMUM ASPHALT PAVEMENT THICKNESSES

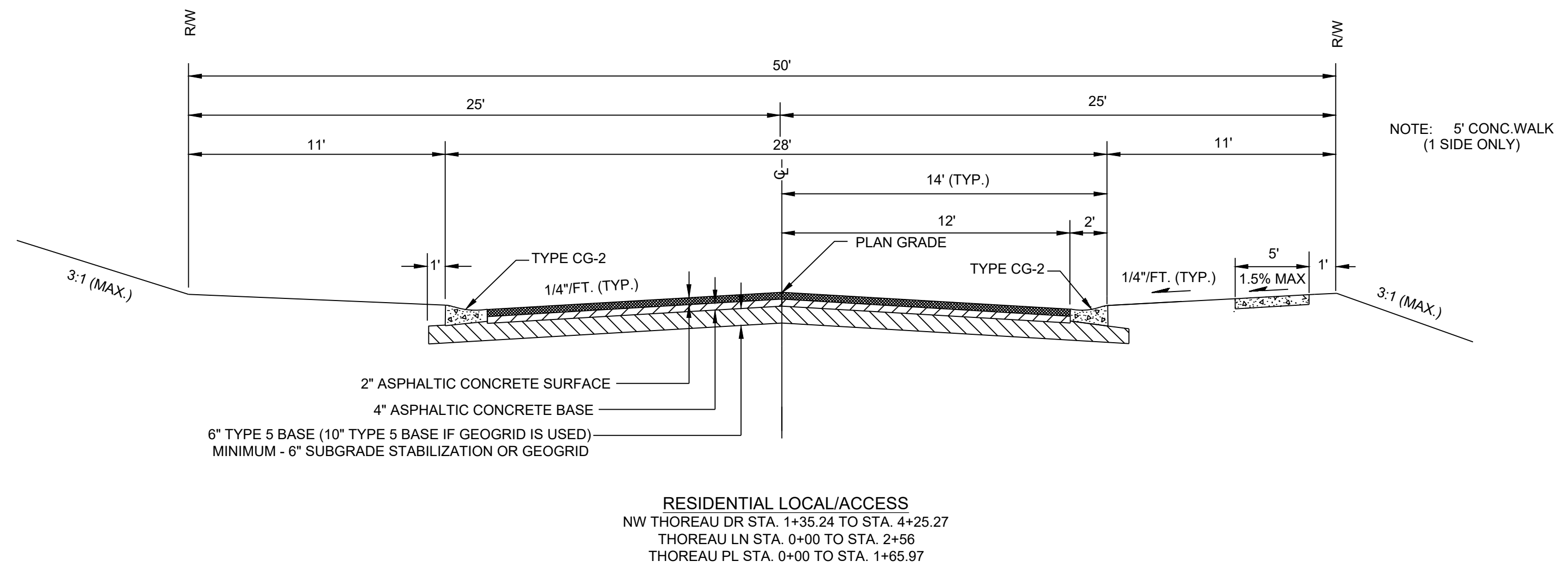
Street Classification	Pavement Option	AC Surface (in.)	AC Base (in.)	MoDOT Type 5 Base (in.)	Geogrid(1)	Chemical Subgrade Stabilization(2) (in.)
Residential Local/Access	A	2	4	6	--	6
	B	2	4	10	Geogrid	--
Residential Collector	A	2	5.5	6	--	9
	B	2	5.5	12	Geogrid	--
Commercial Industrial Local/Collector	A	2	7.5	6	--	9
	B	2	7.5	12	Geogrid	--

TABLE LS-3: MINIMUM PCC PAVEMENT THICKNESSES

Street Classification	PCC (in.)	Aggregate Base (in.)	Subgrade Stabilization ⁽¹⁾ (in.)
Residential Local/Access	6	4	--
Residential Collector	6	4	6
Commercial Industrial Local/Collector	8	4	9

(1) Subgrade Stabilization and 4" aggregate base may be replaced by approved geogrid and 6" of aggregate base

LS2200 16 October 2016



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Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlager and Associates, P.A.

PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

**WOODLAND GLEN 2ND PLAT
 STREET, STORMWATER, MASTER DRAINAGE,
 AND EROSION CONTROL PLANS
 WARD ROAD & WINTHROP DRIVE
 LEE'S SUMMIT, MISSOURI**

REVISION DATE	DESCRIPTION
11/02/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
09/22/2022	CITY HALL MODIFICATION
09/16/2022	CITY EMAILED COMMENTS
04/24/2020	CITY COMMENTS
01/11/2021	SCHLAGEL QUANTITIES
04/09/2021	SCHLAGEL QUANTITIES
05/12/2021	CITY COMMENTS
05/15/2021	CITY COMMENTS
06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

ON 18-47-31

SIGNING PLAN

SHEET

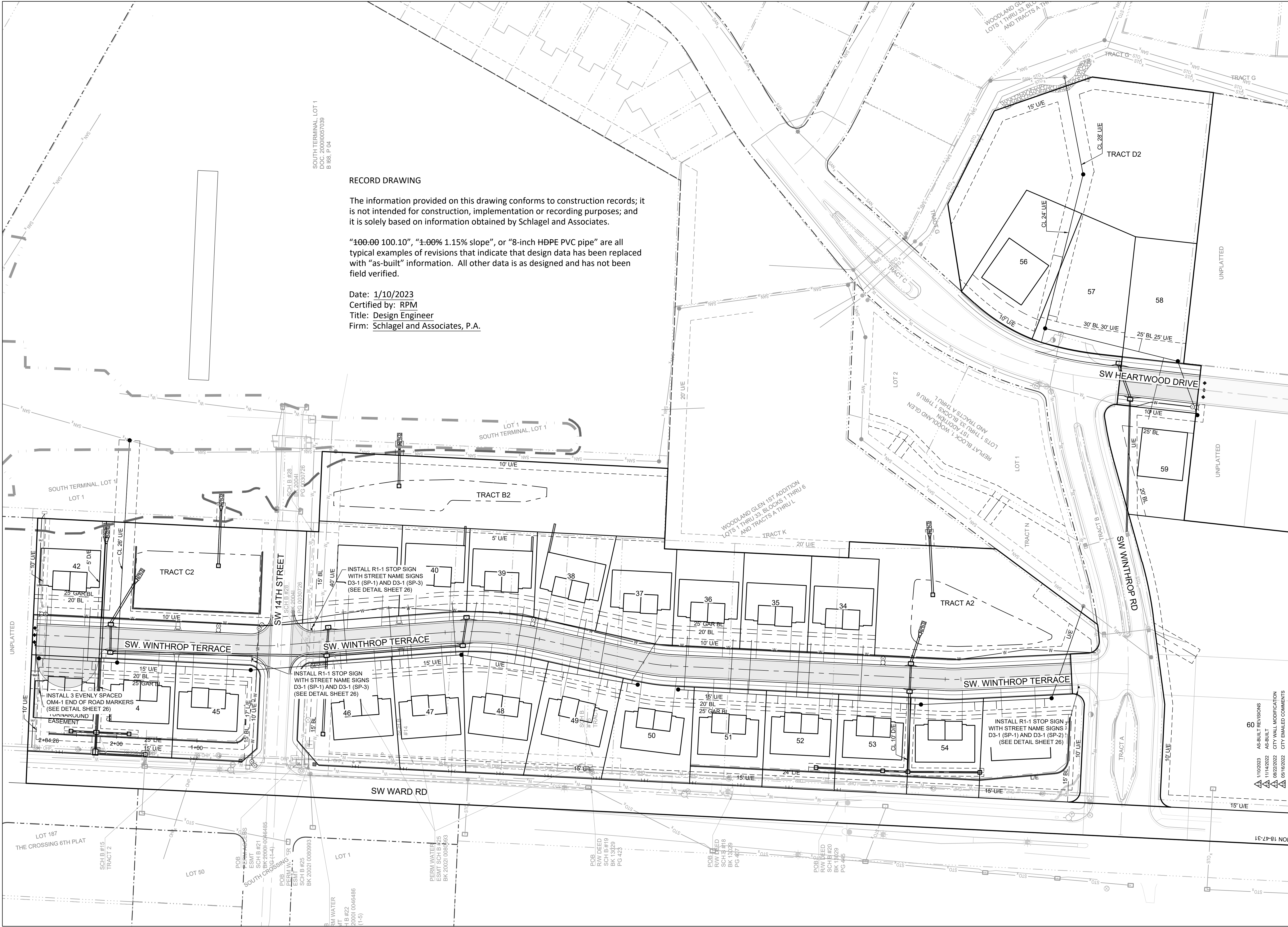
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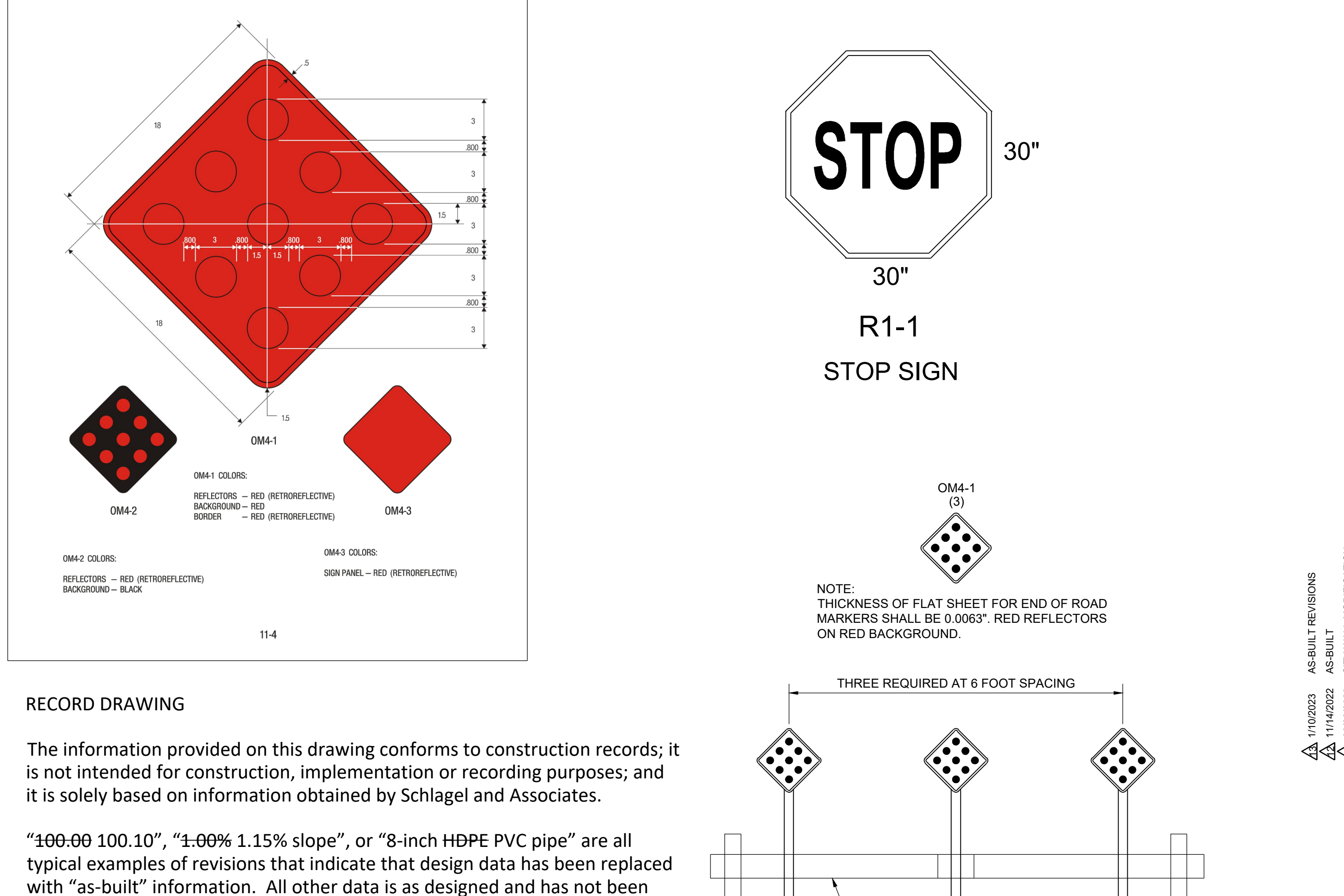
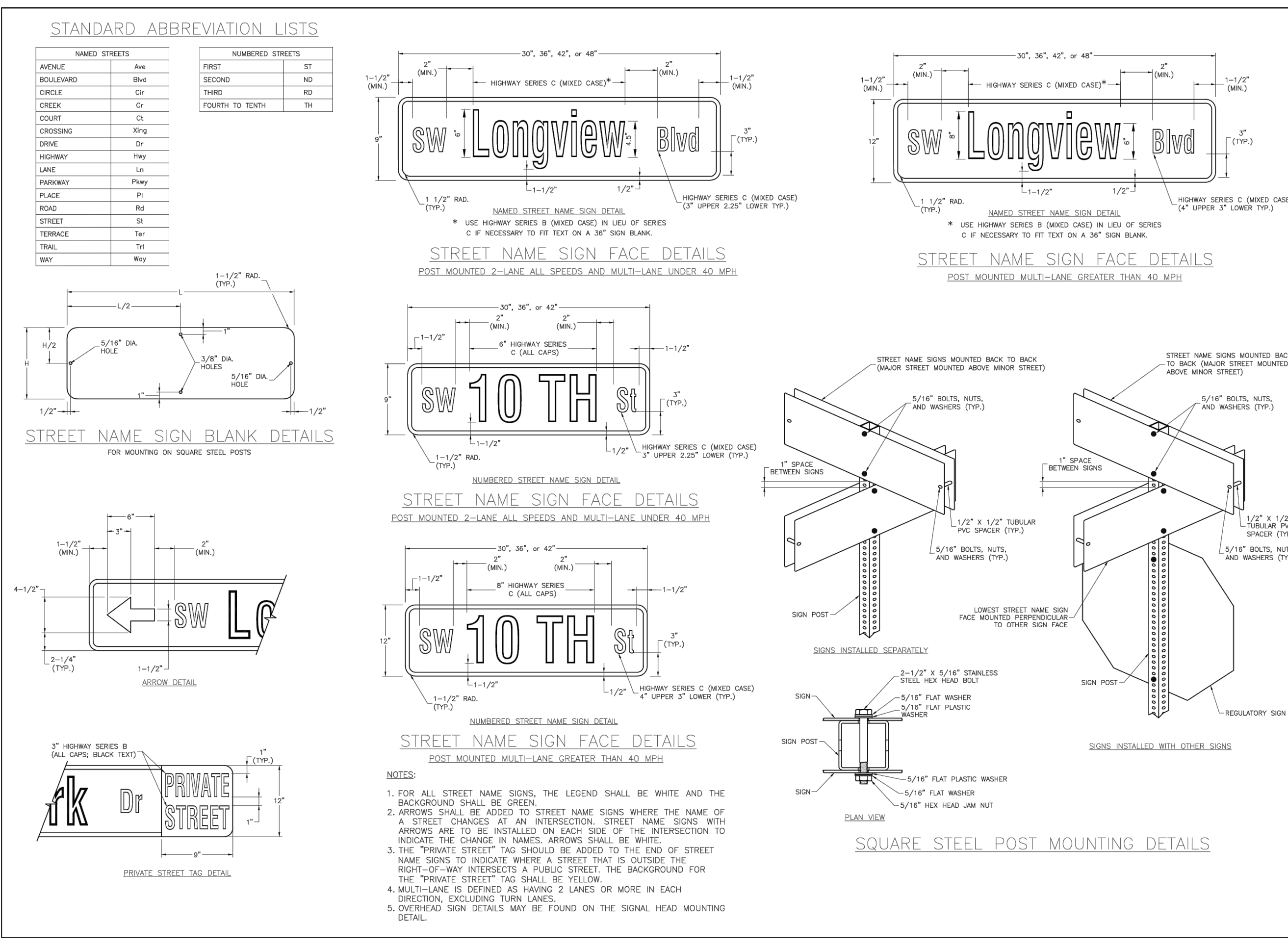
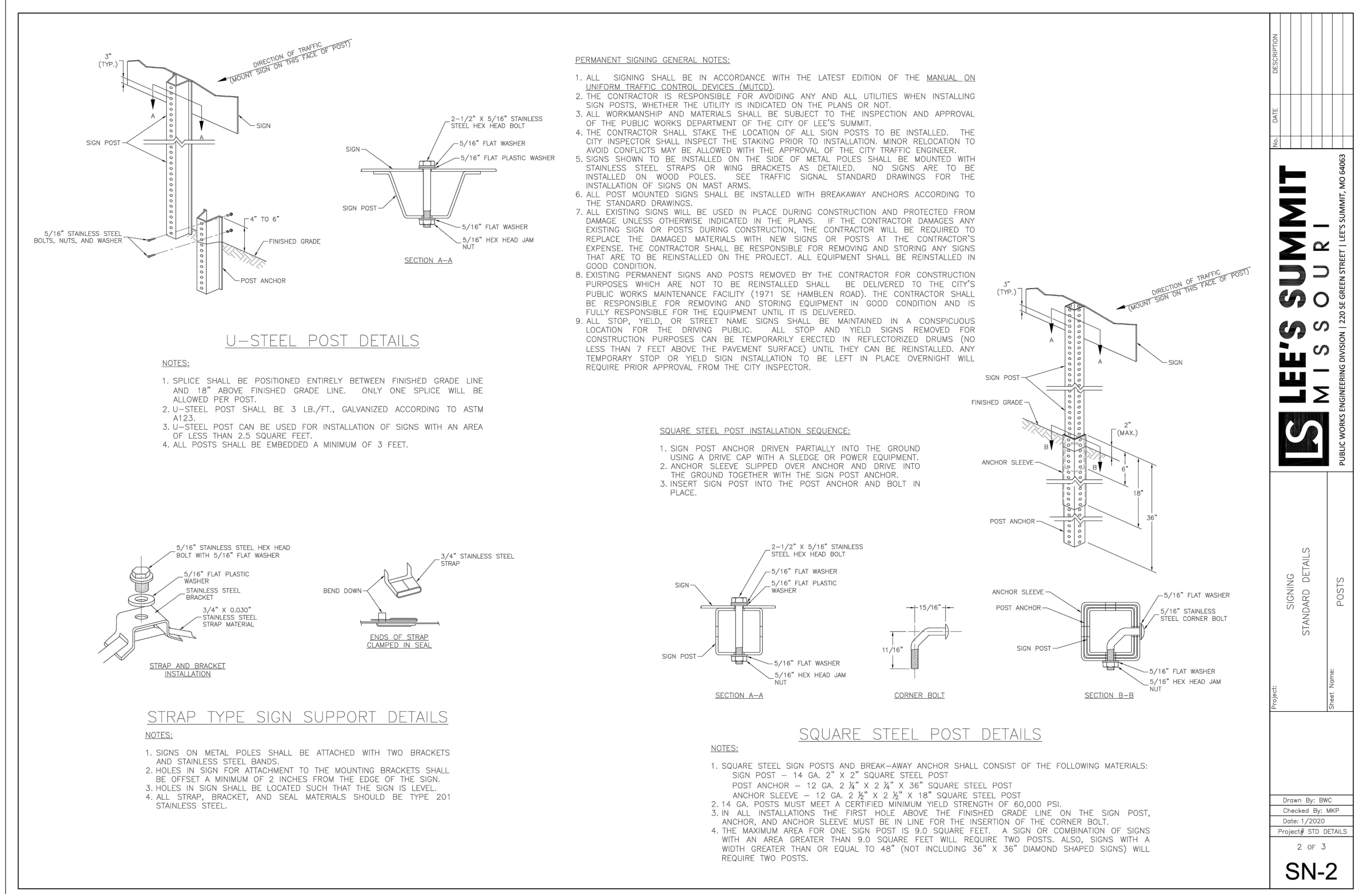
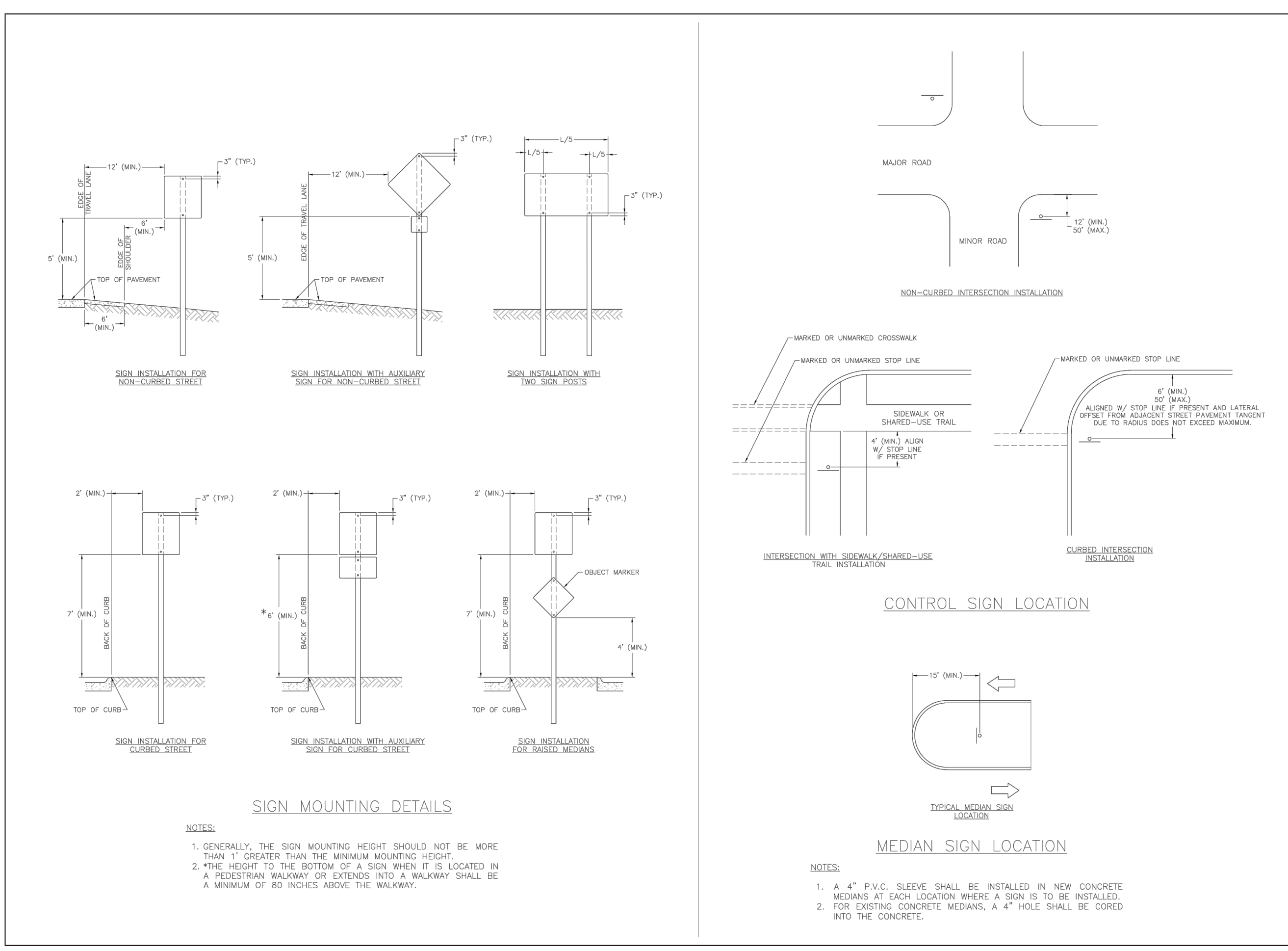
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 Firm: Schlager and Associates, P.A.

SOUTH TERMINAL LOT 1
 DOC. 20010057039
 B 168, P.04



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SCHLAGEL ARCHITECTS
ENGINEERS, PLANNERS, SURVEYORS
14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority
#E200200360FC #LAC201005237 #LS200200895F

PREPARED BY:
SCHLAGEL & ASSOCIATES, P.A.

WOODLAND GLEN 2ND PLAT
STREET, STORMWATER, MASTER DRAINAGE,
AND EROSION CONTROL PLANS
WARD ROAD & WINTHROP DRIVE
LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
1	11/14/2023	AS-BUILT REVISIONS
2	09/22/2022	CITY HALL MODIFICATION
3	05/16/2022	CITY EMAILED COMMENTS

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 2-19-2020
PROJ. NUMBER: 18-017

SIGN DETAILS

SHEET **26**

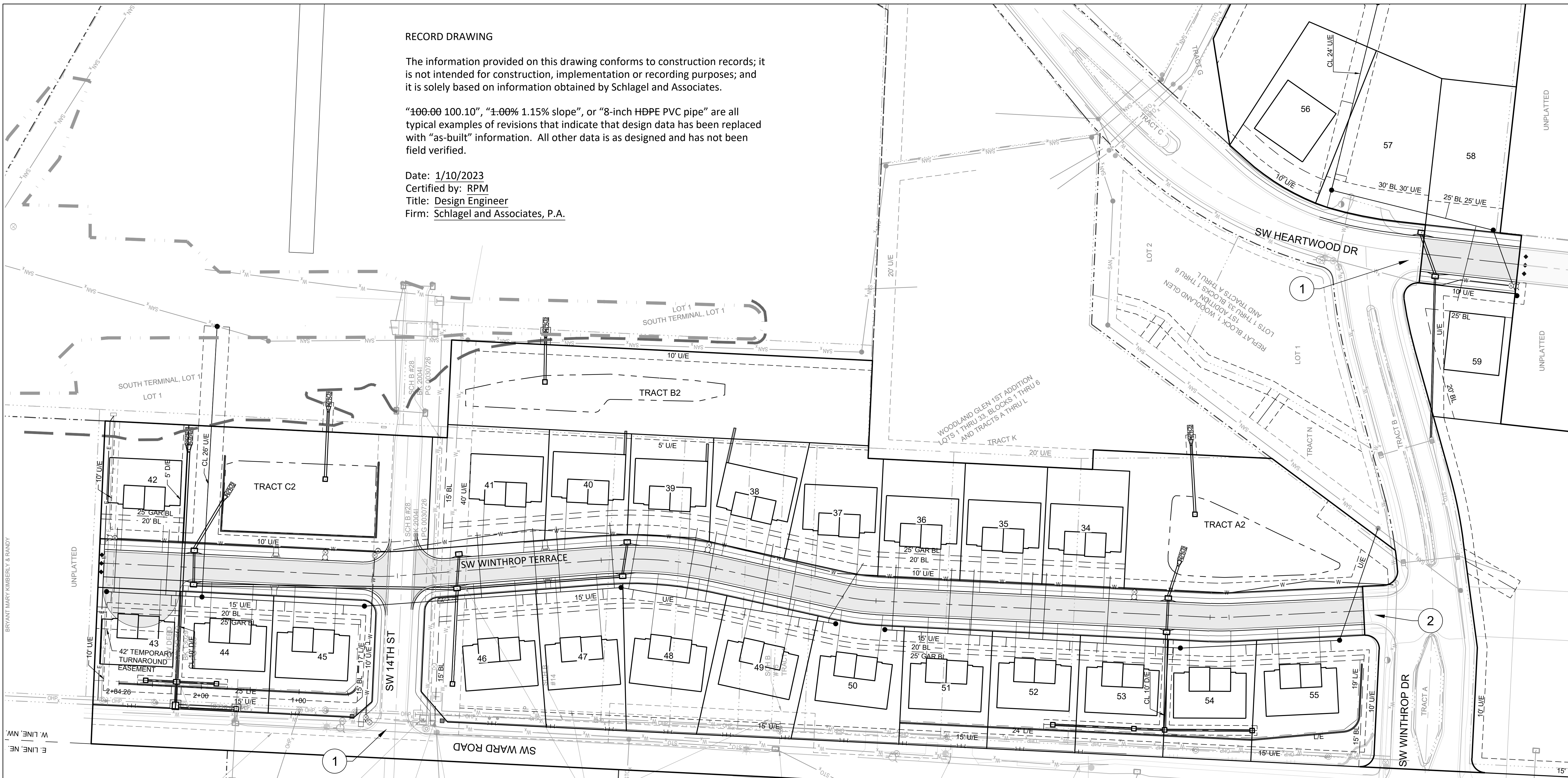
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RECORD DRAWING

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 Title: Design Engineer
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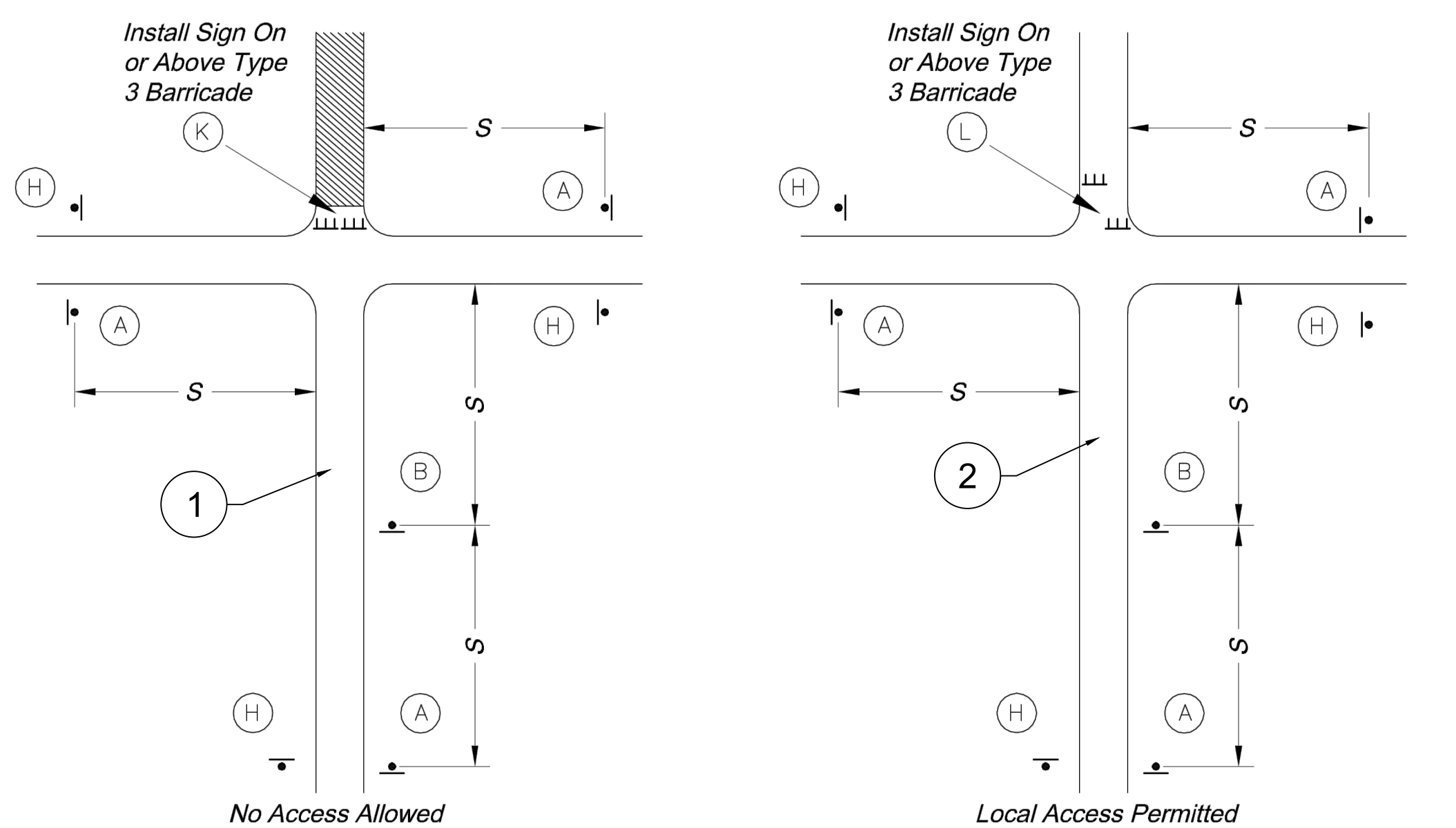


Sign Spacing "S"	
Speed Limit (mph)	Spacing (Feet)
25	100
30 - 35	250
≥ 40	350

Speed Limit (mph)	Taper Dimensions (Feet)			Minimum Number of Channelizers
	Minimum Taper Length "L", per Lane Width "W"			
10	11	12		6
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13

Guidelines for Length of Longitudinal Buffer Space "B"	
Speed Limit (mph)	Length (Feet)
25	35
30	55
35	85
40	120
45	170

Maximum Channelizer Spacing		
Speed Limit (mph)	Within Taper (Feet)	Outside Taper (Feet)
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90



TYPICAL STREET CLOSURE

NOTE:
 Reference the City of Lee's Summit "TRAFFIC CONTROL DETAILS" Standard Drawing TC-1 on Sheet 28 for sign types listed in the Typical Street Closure Diagrams.

REVISION DATE	DESCRIPTION
1/10/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
09/22/2022	CITY MAIL MODIFICATION
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06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

I:\PROJECTS\2018\18-017\3.0 Design\3.0 DWG Plans\6.0 SS\18-017 SS TC PLAN & DETAILS.dwg, 27 TRAFFIC CONTROL PLAN, 1/10/2023 3:55:47 PM, 1:1

REVISION DATE	DESCRIPTION
1/10/2023	AS-BUILT REVISIONS
11/14/2022	AS-BUILT
09/22/2022	CITY HALL MODIFICATION
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04/09/2021	SCHLAGEL QUANTITIES
05/12/2021	CITY COMMENTS
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06/28/2021	CITY COMMENTS
09/28/2021	SCHLAGEL UPDATE
10/06/2021	CITY COMMENTS
01/20/2022	WATER LINE CONFLICT

DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	2-19-2020
PROJ. NUMBER:	18-017

TRAFFIC CONTROL DETAILS

SHEET
28

SYMBOL LEGEND

- Work Area
- Sign
- Barricade
- Direction of Travel
- Channelizer
- Arrow Panel
- Flagger

SIGN LEGEND

GENERAL NOTES:

- All signs, barricades, channelizers, markings and other traffic control devices shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- All traffic control devices shall be standard in size, shape, color, and message, in good condition, and retro-reflectORIZED. All signs shall be securely mounted with height and lateral location as described in the MUTCD.
- Warning lights shall be used on barricades in place at night and on warning signs which alert drivers about a change in alignment, traffic control, lane closure, or road closure.
- Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic, or where construction activities impose a restriction on traffic, as directed by the City Traffic Engineer. Where flaggers are used, advance signing shall be erected as shown in the details or as specified in the MUTCD. Flaggers shall meet the requirements in the MUTCD in regard to character, training, attire, and behavior.
- Trim-lines are the City's preferred channelizing device. Cones may not be used at nighttime.
- Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
- The Contractor shall use barricades, street plates, or fencing as needed to effectively shield pedestrian and vehicular traffic from exposed objects, excavations, and construction activities.
- Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
- No street shall be closed without the approval of the City Traffic Engineer. The Contractor shall notify the City Traffic Engineer at least 7 days in advance of any street closure. If a detour route around the closure is to be provided, all detour signing shall be as shown on a plan approved by the City Traffic Engineer.
- Construction vehicles parked along streets shall be located within the work area (traffic control) or where otherwise normally permitted. Construction materials, including traffic control and vehicles shall not restrict sight distance for vehicles exiting at streets or drives.
- Construction materials shall be kept off of sidewalks, consolidated in one location within City right-of-way, and removed daily unless otherwise approved by the Inspector. Dirt, mud, and other construction debris on streets and sidewalks shall be removed immediately.
- The Contractor shall not perform any work that will restrict vehicular traffic in any way between the hours of 7:00 a.m. and 9:00 a.m. or 4:00 p.m. and 6:00 p.m. Monday through Friday unless otherwise indicated in the specifications.
- All travel lanes should be at least 11 feet wide unless otherwise authorized by the City Traffic Engineer. A "Narrow Lanes" sign shall be installed in advance of a lane width reduction to less than 11 feet.
- All edge drop-offs of more than 2 inches and less than 4 inches should be protected by a wedge or barrier and all edge drop-offs greater than 4 inches shall have edge protection (see Traffic Control Specifications for edge treatment requirements).
- The "Workers" symbolic sign (MUTCD No. W21-1a) may be used instead of the "Road Work Ahead" sign for work with a duration of 12 hours or less. The "End Road Work" sign is not required to be installed after the "Workers" sign.
- No traffic sign shall be altered or modified in any way without a plan approved by the City Traffic Engineer.
- The Contractor shall be responsible for maintaining all traffic control devices on an around-the-clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
- The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the Contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of drivers, pedestrians, and workers at all times.
- Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the City Traffic Engineer or representative, the City may take one or more of the following actions:
 - Employ another agency to correct deficiencies in traffic control devices and deduct the cost from the Contractor's pay estimate.
 - Stop the work until deficiencies are corrected.
 - Suspend all pay estimates until deficiencies are corrected, or
 - Place the Contractor in default.

LANE CLOSURE - TWO LANE STREET

TYPICAL SIGNING FOR WORK ADJACENT TO THE STREET

GENERAL NOTES:

- Employ another agency to correct deficiencies in traffic control devices and deduct the cost from the Contractor's pay estimate.
- Stop the work until deficiencies are corrected.
- Suspend all pay estimates until deficiencies are corrected, or
- Place the Contractor in default.

LANE CLOSURE - FOUR LANE STREET

* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed

LANE CLOSURE - THREE LANE STREET

* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed

CHANNELIZERS

NOTE: White Bands On Barricades and Channelizers Shall Be Made From High Intensity Sheeting Material.

TURN LANE CLOSURE

TYPICAL STREET CLOSURE

BARRICADES

Sign Spacing "S"	
Speed Limit (mph)	Spacing (Feet)
25	100
30 - 35	250
≥ 40	350

Taper Dimensions (Feet)			
Speed Limit (mph)	Minimum Taper Length "L"	Minimum Taper Length "W"	Minimum Number of Channelizers
10	11	12	6
25	105	115	125
30	150	165	180
35	205	225	245
40	270	295	320
45	450	495	540

Guidelines for Length of Longitudinal Buffer Space "B"		
Speed Limit (mph)	Length (Feet)	
25	35	
30	55	
35	85	
40	120	
45	170	

Maximum Channelizer Spacing		
Speed Limit (mph)	Within Taper (Feet)	Outside Taper (Feet)
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90

ARROW PANEL

BARRICADES

RECORD DRAWING

The information provided on this drawing conforms to construction records; it is not intended for construction, implementation or recording purposes; and it is solely based on information obtained by Schlagel and Associates.

"100.00 100.10", "1.00% 1.15% slope", or "8-inch HDPE PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

Date: 1/10/2023
 Certified by: RPM
 Title: Design Engineer
 Firm: Schlagel and Associates, P.A.