

MESENBRINK CONSTRUCTION

CONSTRUCTION PLANS FOR

AVEYDA PRESERVE - SOUTH PUD

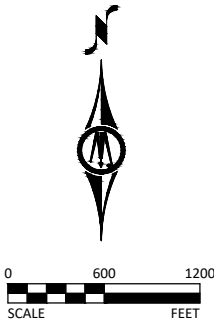
MANKATO, MN

PAVEMENT AND SIDEWALK CONSTRUCTION, SITE GRADING
WATERMAIN, SANITARY SEWER, AND STORM SEWER INSTALLATION

MARCH 2026



MAP OF THE
CITY OF MANKATO
BLUE EARTH COUNTY, MN



NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY [GOPHER STATE ONE CALL](#), 1-800-252-1166 OR 651-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

SHEET
NUMBER

SHEET TITLE

GENERAL

G0.01 - G0.02	TITLE SHEET & LEGEND
G1.01	CONSTRUCTION DETAIL TABLES
G2.01	PROJECT OVERVIEW

CIVIL

C0.01	EXISTING CONDITIONS
C1.01 - C1.04	CONSTRUCTION DETAILS
C2.01 - C2.09	STORMWATER POLLUTION PREVENTION PLAN
C3.01 - C3.04	GRADING PLAN
C4.01 - C4.07	SANITARY SEWER & WATERMAIN PLAN
C4.08 - C4.XX	SERVICE PLAN & TABULATION (IN PROGRESS, NOT PROVIDED)
C5.01 - C5.05	STORM SEWER PLAN & PROFILE
C6.01 - C6.07	STREET PLAN & PROFILE
C6.08 - C6.11	INTERSECTION DETAILS

THIS PLAN SET CONTAINS 38 SHEETS.

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⊕ BM=1012.33 TOP NUT HYDRANT SE QUADRANT OF HOFFMAN / CSAH 12 ROUNDABOUT	PROJECT DATUM: BLUE EARTH COUNTY HORIZONTAL: 2011 COUNTY COORDINATES VERTICAL: NAVD 1988	RECORD DRAWING INFORMATION	
		OBSERVER:	
		CONTRACTOR:	
		DATE:	
	MESENBRINK CONSTRUCTION		SHEET G0.01
	AVEYDA PRESERVE - SOUTH PUD		
	TITLE SHEET		

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.

NOT FOR CONSTRUCTION

ALEC W. PIETZ, P.E.
LIC. NO. 59617 DATE XX/XX/XXXX



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MANKATO, MINNESOTA 56001
Phone: (507) 625-4171
Email: Mankato@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
AWP			
DRAWN			
AWP			
CHECKED			
NPM			
CLIENT PROJ. NO.			
0M1.128460			

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EXISTING TOPOGRAPHIC SYMBOLS

	ACCESS GRATE		REGULATION STATION GAS
	AIR CONDITION UNIT		SATELLITE DISH
	ANTENNA		SIGN NON TRAFFIC
	AUTO SPRINKLER CONNECTION		SIGN TRAFFIC
	BARRICADE PERMANENT		SIGNAL CONTROL CABINET
	BASKETBALL POST		SOIL BORING
	BENCH		SIREN
	BIRD FEEDER		TELEPHONE BOOTH
	BOLLARD		TILE INLET
	BUSH		TILE OUTLET
	CATCH BASIN RECTANGULAR CASTING		TILE RISER
	CATCH BASIN CIRCULAR CASTING		TRANSFORMER-ELECTRIC
	CURB STOP		TREE-CONIFEROUS
	CLEAN OUT		TREE-DEAD
	CULVERT END		TREE-DECIDUOUS
	DRINKING FOUNTAIN		TREE STUMP
	DOWN SPOUT		TRAFFIC ARM BARRIER
	FILL PIPE		TRAFFIC SIGNAL
	FIRE HYDRANT		TRASH CAN
	FLAG POLE		UTILITY MARKER
	FLARED END / APRON		VALVE
	FUEL PUMP		VALVE POST INDICATOR
	GRILL		VALVE VAULT
	GUY WIRE ANCHOR		VAULT
	HANDHOLE		VENT PIPE
	HANDICAP SPACE		WATER SPIGOT
	IRRIGATION SPRINKLER HEAD		WELL
	IRRIGATION VALVE BOX		WETLAND DELINEATED MARKER
	LIFT STATION CONTROL PANEL		WETLAND
	LIFT STATION		WET WELL
	LIGHT ON POLE		YARD HYDRANT
	LIGHT-GROUND		
	MAILBOX		

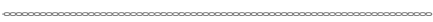
PROPOSED TOPOGRAPHIC SYMBOLS

	CLEANOUT
	MANHOLE
	LIFT STATION
	STORM SEWER CIRCULAR CASTING
	STORM SEWER RECTANGULAR CASTING
	STORM SEWER FLARED END / APRON
	STORM SEWER OUTLET STRUCTURE
	STORM SEWER OVERFLOW STRUCTURE
	CURB BOX
	FIRE HYDRANT
	WATER VALVE
	WATER REDUCER
	WATER BEND
	WATER TEE
	WATER CROSS
	WATER SLEEVE
	WATER CAP / PLUG
	RIP RAP
	DRAINAGE FLOW
	TRAFFIC SIGNS

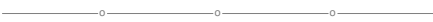
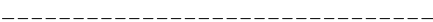
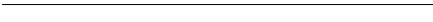
SURVEY SYMBOLS

	BENCHMARK LOCATION
	CONTROL POINT
	MONUMENT FOUND
	CAST IRON MONUMENT
	STONE MONUMENT

EXISTING TOPOGRAPHIC LINES

	RETAINING WALL
	FENCE
	FENCE-DECORATIVE
	GUARD RAIL
	TREE LINE
	BUSH LINE

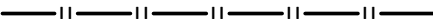
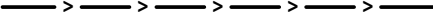
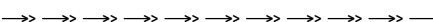
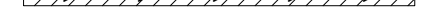
SURVEY LINES

	CONTROLLED ACCESS
	BOUNDARY
	CENTERLINE
	EXISTING EASEMENT LINE
	PROPOSED EASEMENT LINE
	EXISTING LOT LINE
	PROPOSED LOT LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	SETBACK LINE
	SECTION LINE
	QUARTER LINE
	SIXTEENTH LINE
	TEMPORARY EASEMENT

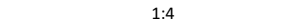
EXISTING UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE

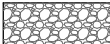
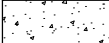
PROPOSED UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	PIPE CASING

GRADING INFORMATION

	EXISTING CONTOUR MINOR
	EXISTING CONTOUR MAJOR
	PROPOSED CONTOUR MINOR
	PROPOSED CONTOUR MAJOR
	PROPOSED GRADING LIMITS / SLOPE LIMITS
	PROPOSED SPOT ELEVATION
	RISE:RUN (SLOPE)

HATCH PATTERNS

	BITUMINOUS		GRAVEL
	CONCRETE		

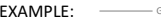
EXISTING PRIVATE UTILITY LINES

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	UNDERGROUND FIBER OPTIC
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS
	UNDERGROUND COMMUNICATION
	OVERHEAD ELECTRIC
	OVERHEAD COMMUNICATION
	OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL :

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE:  G-A  G-A UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-02.

UTILITY QUALITY LEVELS:

QUALITY LEVEL D: PROVIDES THE MOST BASIC LEVEL OF INFORMATION. IT INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS. RECORDS MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICES MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASES, CONSTRUCTION PLANS, ETC.

QUALITY LEVEL C: INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. INCLUDES QUALITY LEVEL D ACTIVITIES.

QUALITY LEVEL B: INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND COLLECTING THE INFORMATION THROUGH A SURVEY METHOD. INCLUDES QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL A: PROVIDES THE HIGHEST LEVEL OF ACCURACY. IT INVOLVES LOCATING OR POTHOLING UTILITIES AS WELL AS ACTIVITIES IN QUALITY LEVELS B, C, AND D. THE LOCATED FACILITY INFORMATION IS SURVEYED AND MAPPED AND THE DATA PROVIDES PRECISE PLAN AND PROFILE INFORMATION.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GRAV	GRAVEL	RSC	RIGID STEEL CONDUIT
ADJ	ADJUST	GU	GUTTER	RT	RIGHT
ALT	ALTERNATE	GV	GATE VALVE	SAN	SANITARY SEWER
B-B	BACK TO BACK	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
BIT	BITUMINOUS	HH	HANDHOLE	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL	CLASS	MAX	MAXIMUM	TYP	TYPICAL
CLVT	CULVERT	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VERT	VERTICAL
C.O.	CHANGE ORDER	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CON	CONCRETE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
CSP	CORRUGATED STEEL PIPE	NTS	NOT TO SCALE	WM	WATERMAIN
DIA	DIAMETER	NWL	NORMAL WATER LEVEL		
DIP	DUCTILE IRON PIPE	OHW	ORDINARY HIGH WATER LEVEL		
DWY	DRIVEWAY	PC	POINT OF CURVE	AC	ACRES
E	EXTERNAL CURVE DISTANCE	PCC	POINT OF COMPOUND CURVE	CF	CUBIC FEET
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CV	COMPACTED VOLUME
ELEV	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CY	CUBIC YARD
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	EA	EACH
ER	END RADIUS	PERM	PERMANENT	EV	EXCAVATED VOLUME
ESMT	EASEMENT	PI	POINT OF INTERSECTION	LB	POUND
EX	EXISTING	PL	PROPERTY LINE	LF	LINEAR FEET
FES	FLARED END SECTION	PRC	POINT OF REVERSE CURVE	LS	LUMP SUM
F-F	FACE TO FACE	PT	POINT OF TANGENT	LV	LOOSE VOLUME
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE PIPE	SF	SQUARE FEET
F&I	FURNISH AND INSTALL	PVMT	PAVEMENT	SV	STOCKPILE VOLUME
FM	FORCEMAIN	R	RADIUS	SY	SQUARE YARD
FO	FIBER OPTIC	R/W	RIGHT-OF-WAY		
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE		
GRAN	GRANULAR	RET	RETAINING		

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NOT FOR CONSTRUCTION

ALEC W. PIETZ, P.E.
LIC. NO. 59617 DATE XX/XX/XXXX



1960 PREMIER DRIVE
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Email: Mankato@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
AWP			
DRAWN			
AWP			
CHECKED			
NPM			
CLIENT PROJ. NO.			
0M1.128460			

MESENBRINK CONSTRUCTION

AVEYDA PRESERVE - SOUTH PUD

LEGEND

SHEET

G0.02

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STORM SEWER TABLE								
STRUCTURE NUMBER	STRUCTURE DESIGN	STATION	CASTING	RIM ELEV	LOW INVERT ELEV	DOWNSTREAM STRUCTURE	HEIGHT	NOTES
A-1	60-4020	516+80.1	C-1	1015.03	1007.92	EX STM - 2	7.11 LF	
A-1A	18" NYLOPLAST	N/A	C-4	1014.48	1010.77	A-1	3.71 LF	OR ALTERNATE STRUCTURE DESIGN
A-1B	18" NYLOPLAST	N/A	C-4	1014.48	1011.48	A-1A	3.00 LF	OR ALTERNATE STRUCTURE DESIGN
A-2	48-4022	515+83.0	C-3	1013.55	1008.21	A-1	5.34 LF	
A-2A	R-1	515+82.3	C-3	1013.63	1009.95	A-2	3.68 LF	
A-3	60-4020	515+32.9	C-1	1013.95	1008.36	A-2	5.59 LF	
A-3A	R-1	521+43.6	C-3	1013.03	1008.95	A-3	4.08 LF	
A-3B	R-1	521+43.6	C-3	1013.03	1009.53	A-3A	3.50 LF	
A-3C	18" NYLOPLAST	520+50.0	C-4	1012.42	1009.42	A-3A	3.00 LF	OR ALTERNATE STRUCTURE DESIGN
A-4	48-4022	515+02.8	C-3	1013.44	1008.48	A-3	4.96 LF	
A-4A	R-1	515+02.8	C-3	1013.48	1009.98	A-4	3.50 LF	
A-5	48-4022	513+03.3	C-2	1013.90	1009.28	A-4	4.62 LF	
A-6	48-4022	511+95.6	C-3	1013.34	1009.71	A-5	3.63 LF	
A-6A	R-1	51+95.6	C-3	1013.39	1010.39	A-6	3.00 LF	
A-6B	18" NYLOPLAST	N/A	C-4	1013.73	1010.21	A-6	3.52 LF	OR ALTERNATE STRUCTURE DESIGN
A-6C	18" NYLOPLAST	N/A	C-4	1013.22	1010.36	A-6B	2.86 LF	OR ALTERNATE STRUCTURE DESIGN
A-6D	18" NYLOPLAST	N/A	C-4	1013.77	1010.77	A-6B	3.00 LF	OR ALTERNATE STRUCTURE DESIGN
A-7	48-4020	510+50.0	C-1	1014.23	1010.30	A-6	3.93 LF	
A-7A	R-1	510+49.8	C-3	1013.97	1010.45	A-7	3.52 LF	
A-7B	R-1	510+25.8	C-3	1013.97	1010.57	A-7A	3.40 LF	
A-7C	R-1	510+45.8	C-3	1013.99	1010.55	A-7	3.44 LF	
A-7D	R-1	510+21.9	C-3	1013.99	1010.67	A-7C	3.32 LF	
A-8	48-4022	524+02.4	C-2	1014.50	1009.13	A-3	5.37 LF	
A-8A	18" NYLOPLAST	524+02.4	C-4	1013.01	1010.01	A-8	3.00 LF	OR ALTERNATE STRUCTURE DESIGN
A-9	48-4022	524+97.7	C-3	1013.99	1009.42	A-8	4.57 LF	
A-9A	R-1	524+97.7	C-3	1014.04	1009.66	A-9	4.38 LF	
A-9B	R-1	525+26.4	C-3	1013.88	1010.22	A-9A	3.66 LF	
A-9C	R-1	525+64.4	C-3	1013.88	1010.38	A-9B	3.50 LF	
A-10	48-4020	525+34.7	C-1	1014.25	1009.53	A-9	4.72 LF	
A-10A	R-1	525+34.7	C-3	1013.69	1009.92	A-10	3.77 LF	
A-10B	R-1	525+57.0	C-3	1013.69	1010.04	A-10A	3.65 LF	
A-11	48-4020	526+64.4	C-1	1014.82	1010.09	A-10	4.73 LF	
A-11A	18" NYLOPLAST	526+64.4	C-4	1013.44	1010.44	A-11	3.00 LF	OR ALTERNATE STRUCTURE DESIGN
A-12	48-4022	527+42.9	C-3	1014.09	1010.45	A-11	3.64 LF	
A-12A	R-1	527+42.9	C-3	1014.14	1010.61	A-12	3.53 LF	
A-12B	18" NYLOPLAST	N/A	C-4	1014.54	1010.95	A-12A	3.59 LF	
A-12C	18" NYLOPLAST	N/A	C-4	1014.80	1011.43	A-12B	3.37 LF	
A-12D	18" NYLOPLAST	N/A	C-4	1014.66	1011.72	A-12C	2.94 LF	
A-13	R-1	528+93.2	C-3	1014.14	1010.90	A-12	3.24 LF	
A-13A	R-1	529+10.8	C-3	1014.14	1011.14	A-13	3.00 LF	
B-1	18" NYLOPLAST	N/A	C-4	1013.29	1010.29	EX STM - 1	3.00 LF	OR ALTERNATE STRUCTURE DESIGN
B-2	48-4020	504+20.7	C-1	1013.90	1007.54	EX STM - 1	6.36 LF	
B-3	48-4022	503+03.2	C-3	1012.99	1008.13	B-2	4.86 LF	
B-3A	R-1	502+96.6	C-3	1013.03	1009.53	B-3	3.50 LF	
B-4	R-1	500+50.0	C-3	1013.41	1009.33	B-3	4.08 LF	
B-5	R-1	500+50.2	C-3	1013.41	1009.33	B-4	4.08 LF	
B-6	18" NYLOPLAST	N/A	C-4	1013.82	1009.85	B-5	3.97 LF	OR ALTERNATE STRUCTURE DESIGN
B-6A	18" NYLOPLAST	N/A	C-4	1013.14	1010.14	B-6	3.00 LF	OR ALTERNATE STRUCTURE DESIGN
B-6B	18" NYLOPLAST	N/A	C-4	1013.12	1010.12	B-6	3.00 LF	OR ALTERNATE STRUCTURE DESIGN

SANITARY SEWER TABLE						
STRUCTURE	STATION	RIM ELEV	LOW INVERT ELEV	DOWNSTREAM STRUCTURE	HEIGHT	NOTES
S-1	405+66.2	1014.16	1000.28	EXISTING	13.88 LF	
S-2	402+66.2	1013.85	1003.87	S-1	9.98 LF	
S-3	400+50.0	1014.44	1006.13	S-2	8.31 LF	
S-3A	450+90.0	1015.11	1008.60	S-3	6.51 LF	
S-3B	455+58.6	1015.17	1008.55	S-3	6.62 LF	
S-4	421+33.4	1013.61	1003.28	S-1	10.33 LF	
S-5	445+41.0	1013.19	1003.94	S-4	9.25 LF	
S-6	443+00.0	1013.76	1006.45	S-5	7.31 LF	
S-7	440+84.0	1014.62	1008.71	S-6	5.91 LF	
S-8	413+76.1	1014.52	1003.56	EXISTING	10.96 LF	
S-8A	426+00.0	1014.85	1005.20	S-8	9.65 LF	
S-9	411+40.5	1014.49	1007.50	S-8	6.99 LF	
S-10	410+42.0	1015.16	1008.58	S-9	6.58 LF	
S-11	429+18.3	1014.43	1005.31	S-8	9.12 LF	
S-12	430+88.6	1014.60	1007.11	S-11	7.49 LF	
S-13	432+68.1	1015.56	1009.00	S-12	6.56 LF	

CASTING ASSEMBLY TABLE			
CASTING ID	CASTING DESIGNATION	CASTING TYPE	NUMBER REQ'D
C-1	NEENAH R-1733	PLATEN LID LETTERED "STORM SEWER" WITH TWO CONCEALED PICKHOLES	6
C-2	NEENAH R-3067-V	CURB INLET FRAME & CURB BOX WITH TYPE V-VANE GRATE	2
C-3	NEENAH R-3067-VB	CURB INLET FRAME & CURB BOX WITH TYPE BIDIRECTIONAL V-VANE GRATE	26
C-4	18" INLET FRAME AND GRATE	INLET FRAME AND GRATE COMPATIBLE WITH STRUCTURE MATERIAL	15
C-5	NEENAH R-1642	FRAME W / SELF-SEALING SOLID LID LETTERED "SANITARY SEWER" WITH TWO CONCEALED PICKHOLES	16

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NOT FOR CONSTRUCTION

ALEC W. PIETZ, P.E.
LIC. NO. 59617 DATE XX/XX/XXXX



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Phone: (507) 625-4171
Email: Mankato@bolton-menk.com
www.bolton-menk.com

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CHECKED	NPM			
CLIENT PROJ. NO.	0M1.128460			

MESENBRINK CONSTRUCTION

AVEYDA PRESERVE - SOUTH PUD

CONSTRUCTION DETAIL TABLES

SHEET

G1.01

- 8" SANITARY SEWER
- 8" WATERMAIN
- 12"-18" STORM SEWER (PRIMARILY)

- 8" SANITARY SEWER
- 8" WATERMAIN
- 12"-18" STORM SEWER (PRIMARILY)



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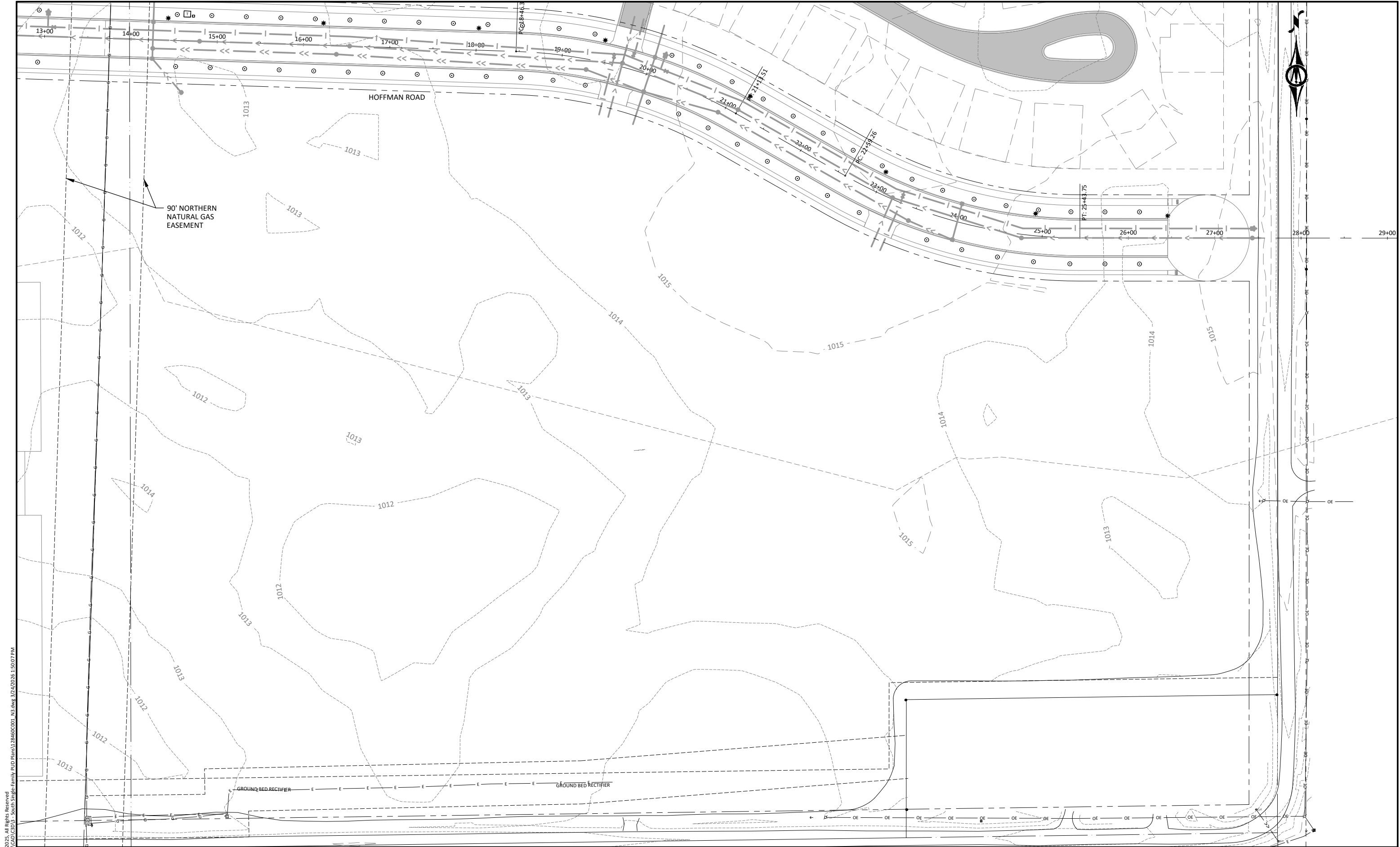


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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
PROJECT OVERVIEW

SHEET
G2.01



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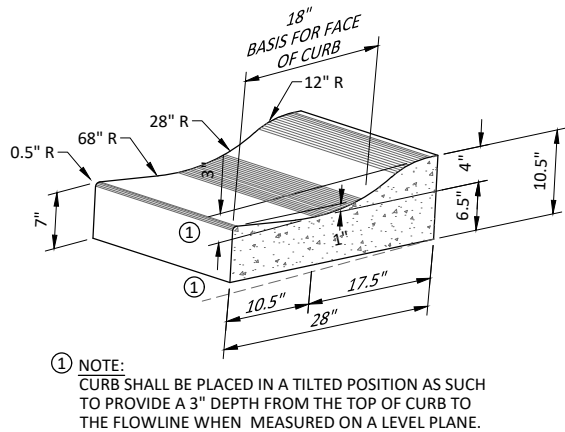
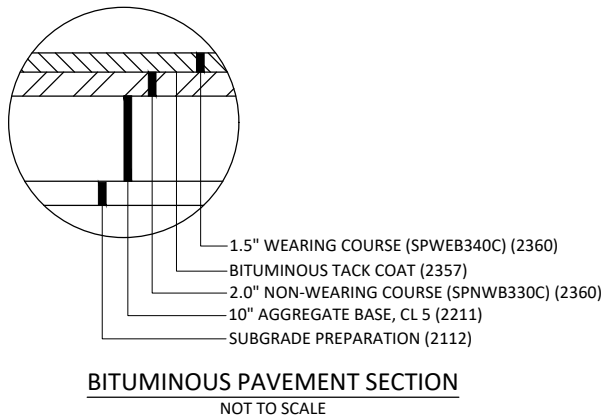


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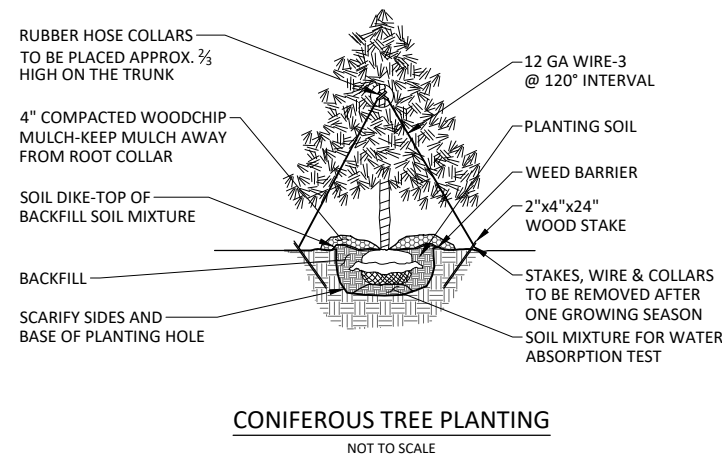
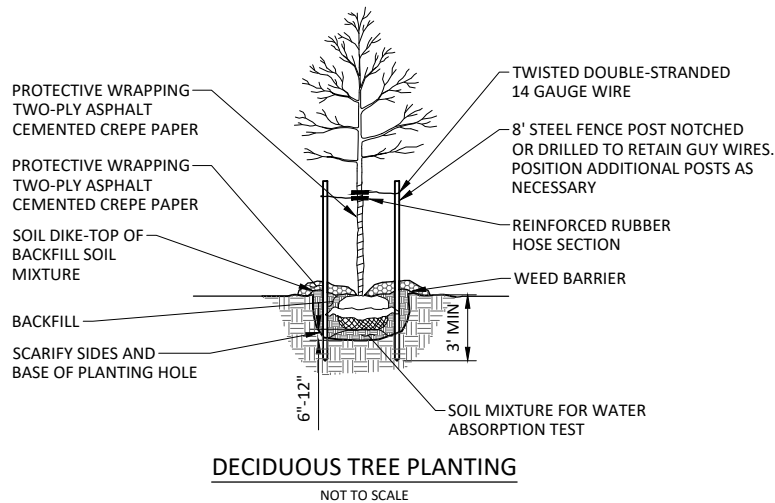
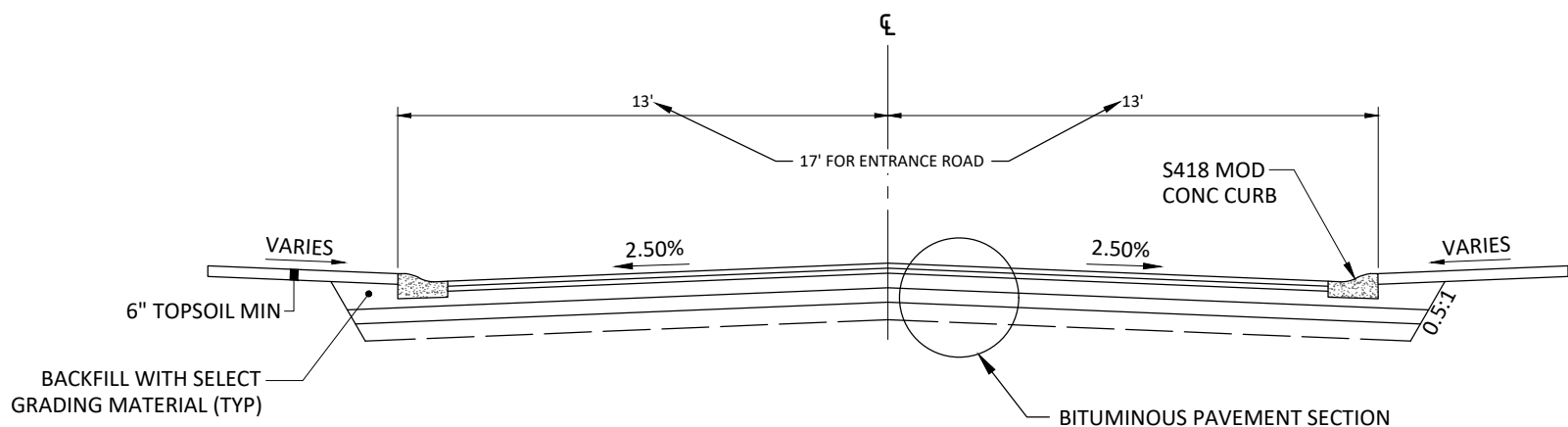
MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
EXISTING CONDITIONS
OVERVIEW

SHEET
C0.01



MOUNTABLE
CONCRETE CURB & GUTTER
NOT TO SCALE
(MODIFIED S418 CURB & GUTTER)

TYPICAL SECTION
PRIVATE ROAD
NOT TO SCALE



- BAG & BALL PLANTING NOTE:**
1. REMOVE WRAPPING AND ALL TIES OR STRAPS. IF ROOT BALL IS WRAPPED IN BURLAP THE LOWER 1/2 PORTION OF THE FABRIC MAY BE LEFT AT THE BOTTOM OF THE HOLE. SYNTHETIC WRAP MUST BE REMOVED AND PROPERLY DISPOSED.
 2. LOOSEN ROOTS TO ENSURE THEY ARE NOT GIRDLING THE ROOT BALL.
 3. SALVAGE AND REUSE ALL SOIL THAT CAME WITH THE ROOT BALL.
 4. IF ROOT BALL IS EXTREMELY DRY WATER IT PRIOR TO PLACING IT IN THE HOLE.
 5. IF TREE IS CONTAINER GROWN, SALVAGE ALL SOIL AND MIX WITH SUPPLEMENTED SOIL FOR BACK FILL.

1. PROVIDE AND INSTALL HEALTHY PLANT MATERIALS THAT MEET ALL SPECIFICATIONS AND ARE OF THE SIZE, TYPE AND SPECIES NAMED ON THE PLANT SCHEDULE AND SHOWN ON THE PLANS.
2. DIG PLANT HOLE 1'-0" MINIMUM LARGER ON ALL SIDES THAN ROOT BALL.
3. PRIOR TO PLACING TREE, SCARIFY BOTTOM AND SIDES OF THE PLANTING HOLE.
4. TEST SOIL ABSORPTION.
5. FILL HOLE PARTIALLY WITH SUPPLEMENTED SOIL MIXTURE, ADD WATER AND ALLOW TO PUDDLE AND SETTLE PRIOR TO SETTING TREE.
6. AFTER PUDDLING HAS SETTLED, SET TREE AND BACK FILL WITH SUPPLEMENTED SOIL MIXTURE.
7. WATER THOROUGHLY AND ADD BACK FILL AS NEEDED AFTER MOISTURE IS ABSORBED.
8. BUILD SOIL DIKE AROUND PERIPHERY OF TREE TO HOLD WATER.
9. AFTER SETTLEMENT, MULCH WITH MINIMUM 4" LAYER SHREDDED BARK, WOOD CHIPS OR AS OTHERWISE SPECIFIED. DO NOT PLACE MULCH OVER THE ROOT COLLAR.
10. REMOVE DEAD OR DAMAGED BRANCHES RETAINING THE NATURAL FORM OF THE TREE.

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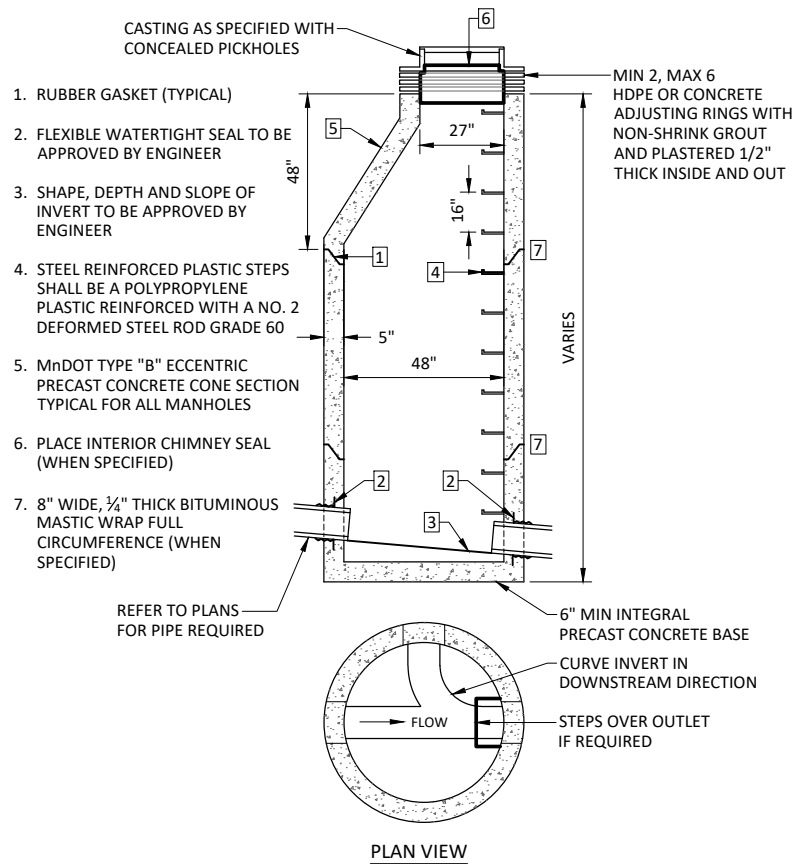


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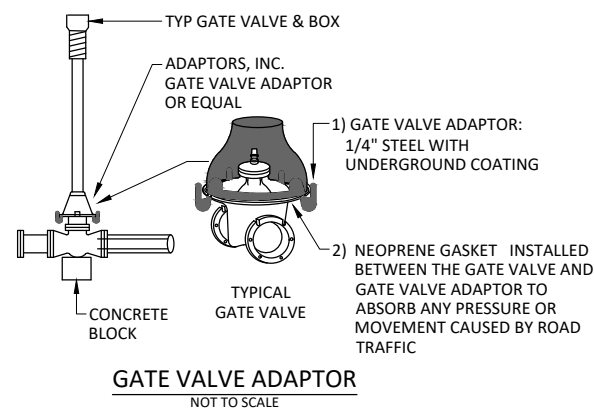
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
SURFACE CONSTRUCTION DETAILS

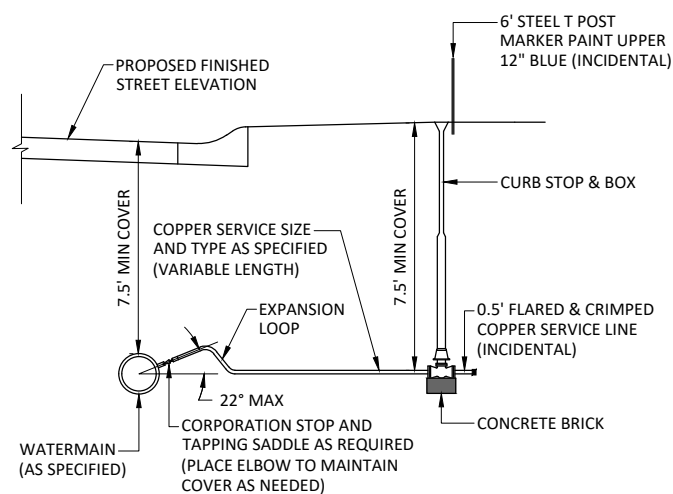
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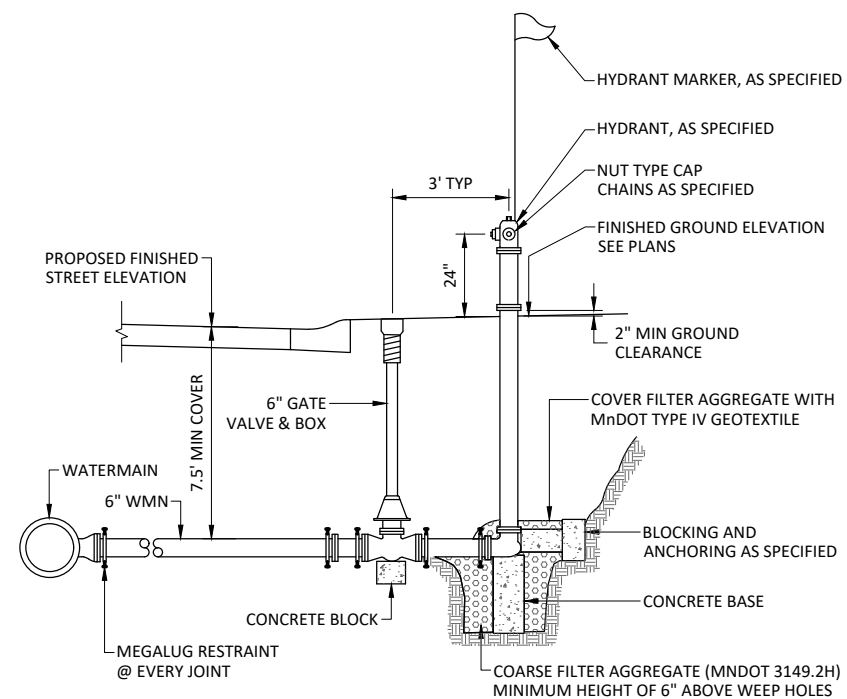
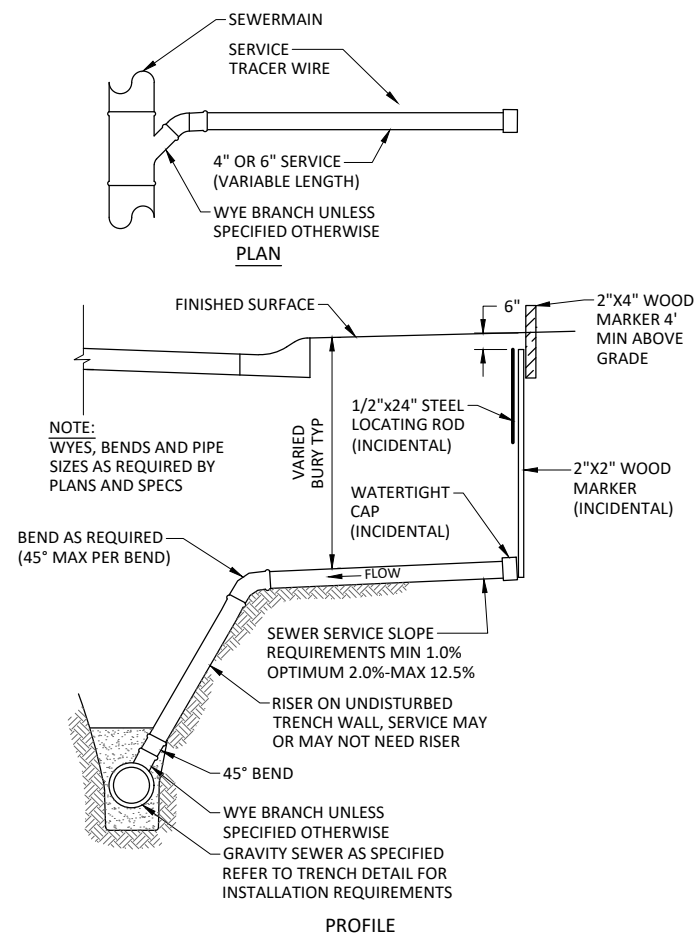
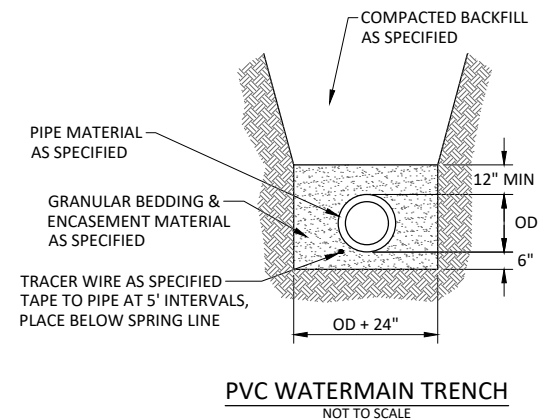
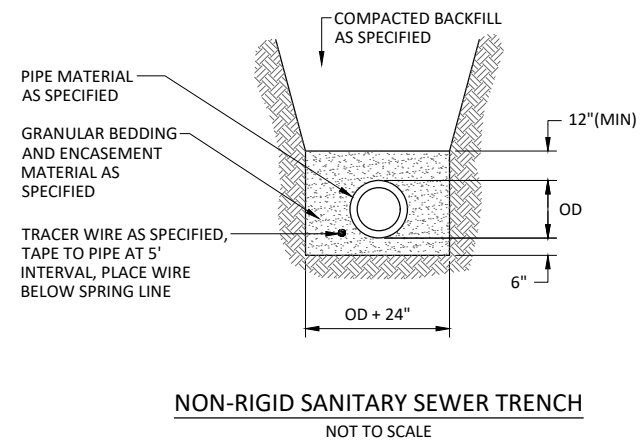
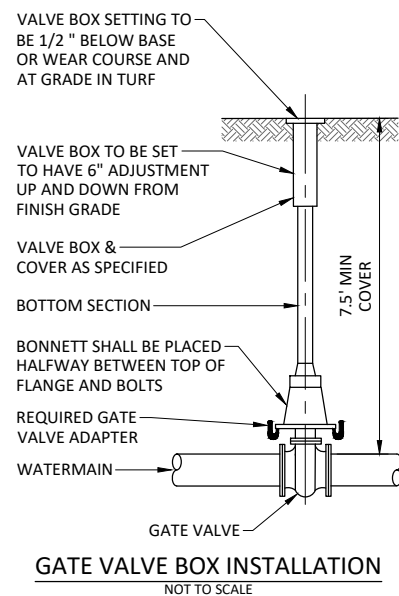
DESIGN 4007C SANITARY MANHOLE
NOT TO SCALE



- NOTES:
1. VALVE BOX SHALL BE CENTERED ON OPERATING NUTS, STRAIGHT, FREE FROM DEBRIS, AND ALL SECTIONS UNBROKEN
 2. VALVES IN EASEMENTS SHALL HAVE CHANNEL POST WITNESS MARKERS WITH REFLECTIVE "GV" SIGN
 3. DEEP VALVES SHALL HAVE NUT EXTENSIONS INSTALLED TO ELEVATION TO ACCOMMODATE STANDARD 10' KEY; BOTTOM NUT SHALL BE BOLTED TO VALVE NUT AND ONLY ONE SECTION
 4. COMPACTION WITH MECHANICAL TAMPER AROUND VALVE BOX SHALL BE PLACED AND COMPACTED WITH 2' LIFTS TO ACHIEVE 95% COMPACTION
 5. GATE VALVES LOCATED WITHIN THE CONCRETE SIDEWALK SHALL INCLUDE A METAL SEPARATOR BETWEEN THE VALVE BOX AND THE CONCRETE



WATER SERVICE INSTALLATION
NEW CONSTRUCTION
NOT TO SCALE



HYDRANTS LOCATED WHERE THE GROUNDWATER TABLE IS ABOVE THE DRAIN OUTLET SHALL HAVE THE OUTLET DRAIN PLUGGED AND SHALL BE EQUIPPED WITH A TAG STATING "PUMP AFTER USE"

TRACER WIRE NOTE:
REFER TO THE MINNESOTA RURAL WATER ASSOCIATION (MRWA) TRACER WIRE SPECIFICATION GUIDE & DETAILS TO PROPERLY INSTALL TRACER WIRE WITH WATERMAIN AND SANITARY SEWER. THE GUIDE CAN BE FOUND AT: mrwa.com/tools.html - Tracer Wire Specification Guide & Details

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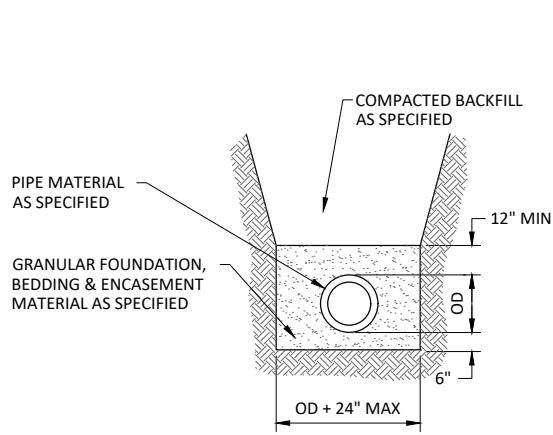
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
WATERMAIN & SANITARY SEWER DETAILS

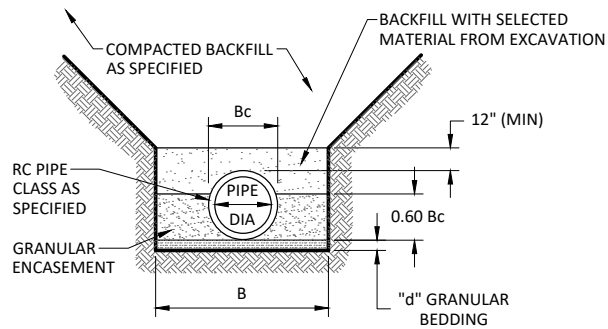
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NON-RIGID STORM SEWER TRENCH

NOT TO SCALE

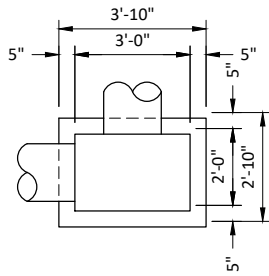


PIPE DIA	d	B
27" OR LESS	3"	Bc + 24"
30" TO 60"	4"	1.5 x Bc
66" OR OVER	6"	Bc + 36"

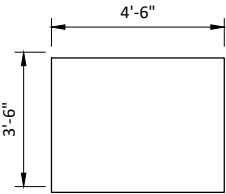
**RC PIPE
CLASS "B" BEDDING-SQUARE TRENCH**

NOT TO SCALE

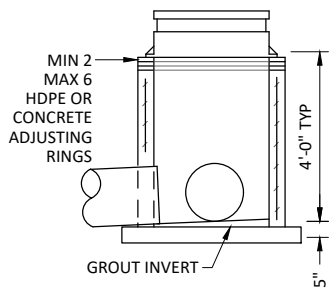
NOTE:
CONTRACTOR MAY SELECT STORM SEWER
CONFORMING TO PLUMBING CODE OR ALTERNATES
APPROVED BY THE AUTHORITY HAVING JURISDICTION



CATCH BASIN PLAN



BASE SLAB PLAN



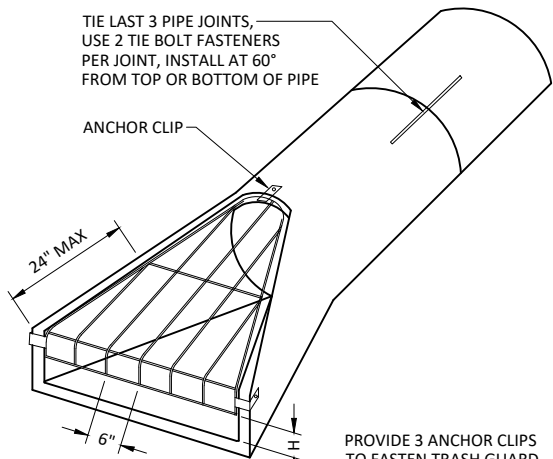
SECTION

NOTES:

1. CASTING PER CONSTRUCTION DOCUMENTS
2. PIPE CUT-OUTS PER CONSTRUCTION DOCUMENTS
3. ALTERNATE CAST-IN-PLACE BASE CAN BE USED
4. MIN REINFORCING SHALL BE WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ IN PER FOOT IN BOTH DIRECTIONS

**CATCH BASIN STRUCTURE
DESIGN R-1 (2'x3')**

NOT TO SCALE



ANCHOR BOTH SIDES

PROVIDE 3 ANCHOR CLIPS
TO FASTEN TRASH GUARD
TO FLARED END SECTION
HOT DIP GALVANIZE
AFTER FABRICATION

TRASH GUARD SIZES			
PIPE SIZE	BAR	"H"	BOLTS
12"-18"	3/4"Ø	4"	5/8"
21"-42"	1"Ø	6"	3/4"
42"-72"	1 1/4"Ø	12"	1"

**RC APRON TRASH RACK
(STEEL BARS)**

NOT TO SCALE

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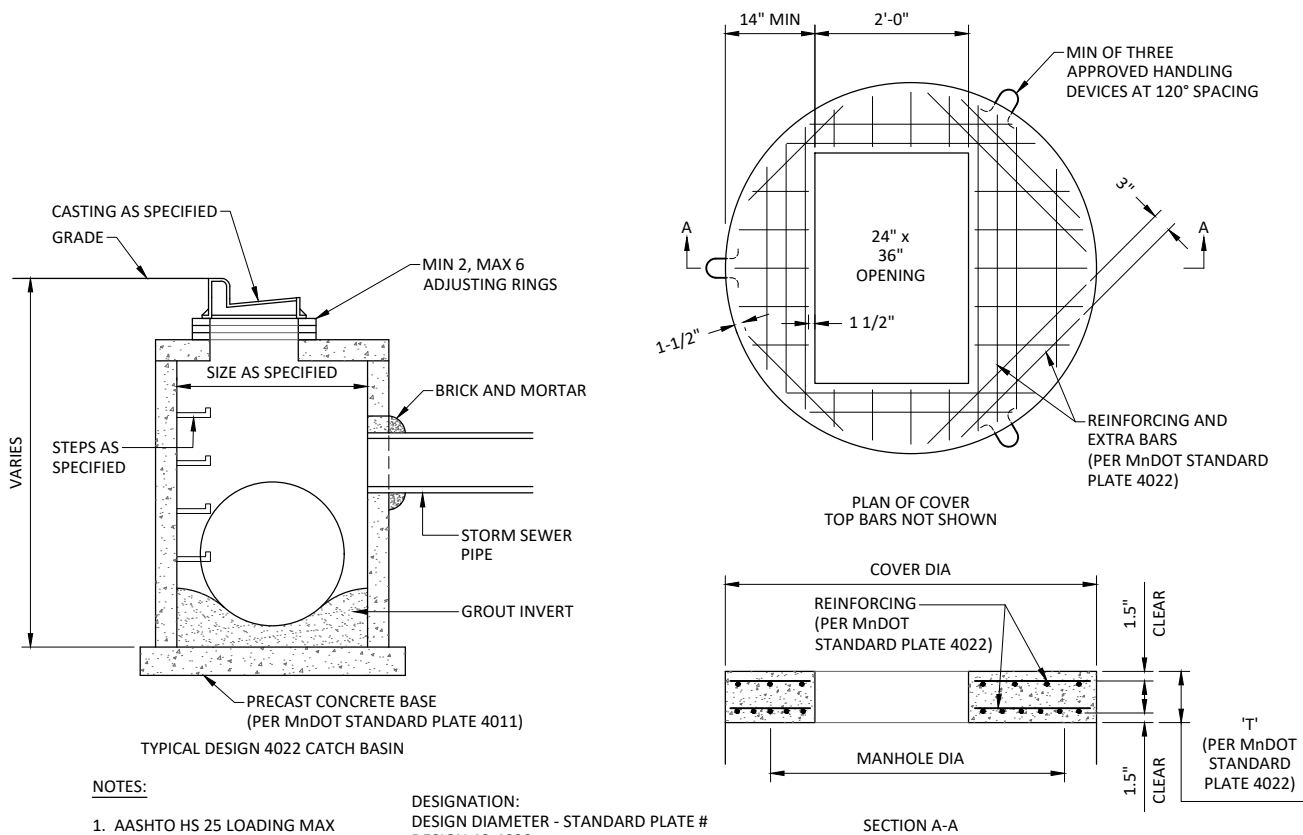
MESENBRINK CONSTRUCTION

AVEYDA PRESERVE - SOUTH PUD

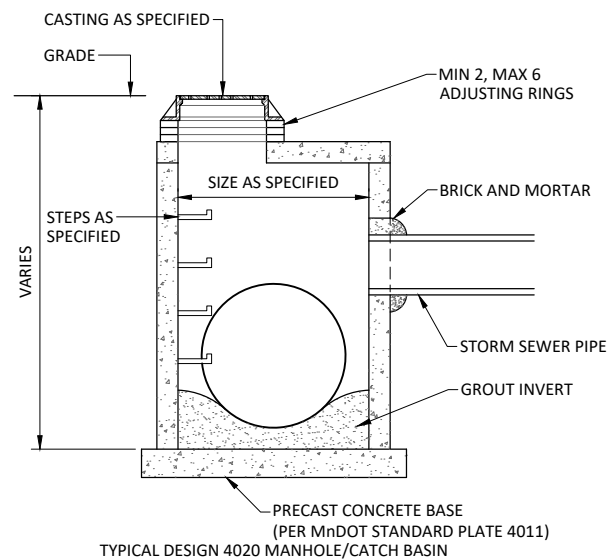
STORM SEWER DETAILS

SHEET

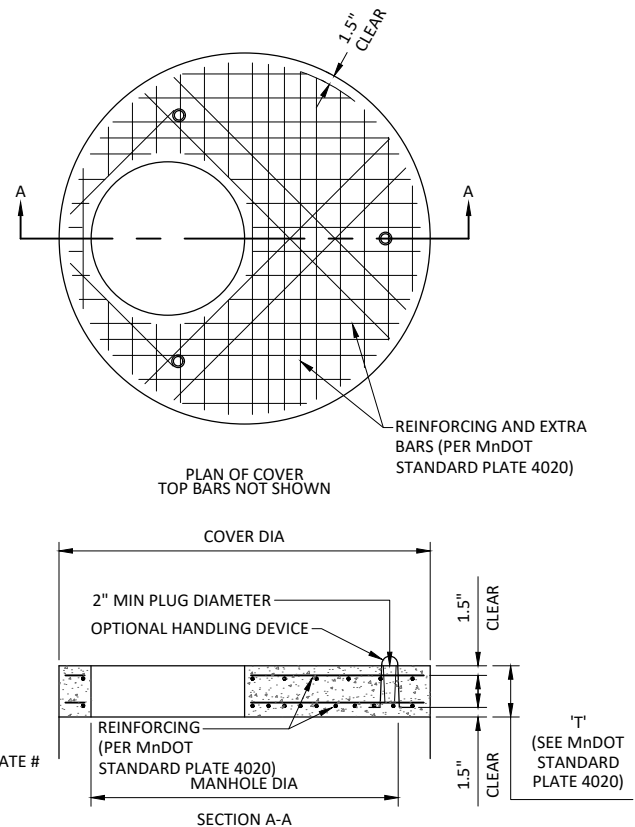
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STORM SEWER STRUCTURE
DESIGN 4022
NOT TO SCALE

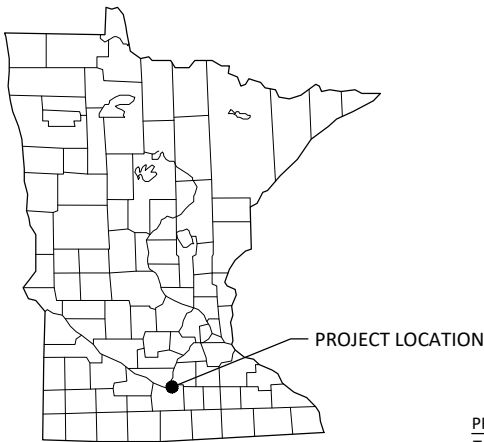


STORM SEWER STRUCTURE
DESIGN 4020
NOT TO SCALE



STORMWATER
POLLUTION PREVENTION
PLAN (SWPPP)

AVEYDA PRESERVE -
SOUTH PUD
CITY OF MANKATO
BLUE EARTH COUNTY, MINNESOTA



LEGEND

1-MILE BOUNDARY

PROJECT BOUNDARY

PROTECTED AND/OR IMPAIRED WATERS

NATIONAL WETLANDS INVENTORY

PROJECT AREAS:

Total Project Size (disturbed area) =	21.1	ACRES
Existing area of impervious surface =	0	ACRES
Post construction area of impervious surface =	9.1	ACRES
Total new impervious surface area created =	9.1	ACRES

Planned Construction Start Date:	TBD
Estimated Construction Completion Date:	TBD

PERMANENT STORMWATER MANAGEMENT SYSTEM:
Type of storm water management used if more than 1 acre of new impervious surface is created:

	Wet Sedimentation Basin
	Infiltration/Filtration
X	Regional Pond
	Permanent Stormwater Management Not Required

Stormwater is routed to public storm sewer with outfall to regional ponds.

PROJECT LOCATION:

COUNTY	TOWNSHIP	RANGE	SECTION	LATITUDE	LONGITUDE
BLUE EARTH	T108N	R26W	15	44.1547° N	93.9340° W

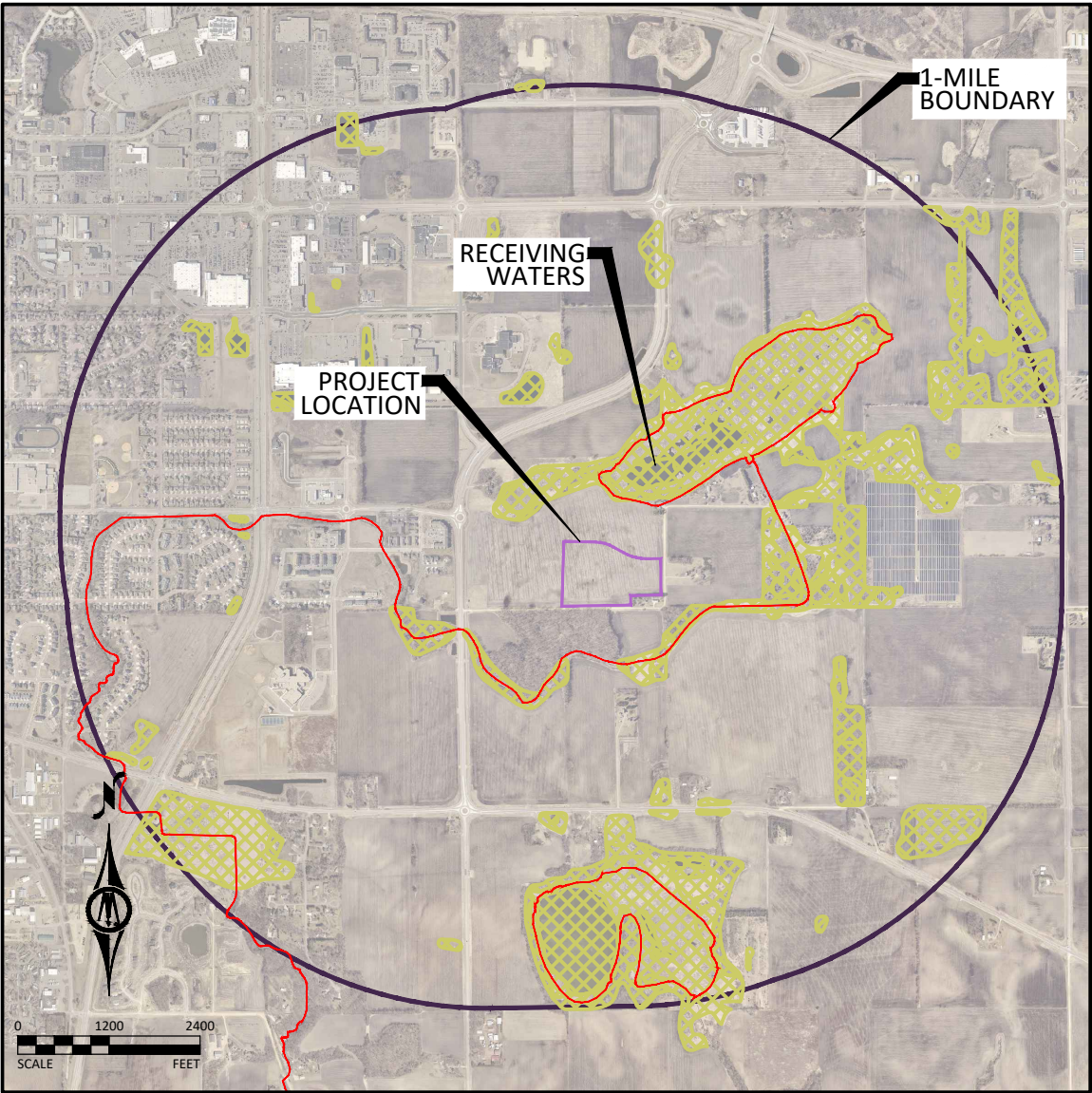
BMP SUMMARY	QUANTITY	UNIT
STABILIZED CONSTRUCTION EXIT	2	EACH
STORM DRAIN INLET PROTECTION	42	EACH
SILT FENCE, TYPE MACHINE SLICED	4050	LIN FT
SEED MIX 25-151, FERTILIZE, & MULCH	19.0	ACRE
NOTE: QUANTITIES LISTED ACCOUNT FOR ONE INSTALLATION. ADDITIONAL INSTALLATIONS MAY BE NECESSARY AS A RESULT OF SCHEDULING AND MAINTENANCE.		

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:
Construction activities include: Construction of private roadways and infrastructure in Mankato, Minnesota to provide service to low/medium density housing. Site improvements include pavements, storm sewer, watermain, sanitary sewer, water and sanitary services, and an elective wet sedimentation basin construction.

Currently, stormwater is conveyed by overland flow in various directions and local watersheds primarily to an existing unnamed lake to the north of the property.

After development, storm sewer and stormwater management systems will be installed to convey drainage of roadways and yards. Drainage will be routed to adjacent public storm sewer routing to regional ponds. The listed impervious area created with this project is based on the proposed roadway and anticipated unit impervious area.

A copy of the SWPPP must remain onsite at all times. Any modifications to the SWPPP shall be approved by the Engineer.



RECEIVING WATERS:
Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, within 1-mile of the project boundary are identified on the USGS 7.5 min quad map above. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in the permit for special, prohibited, restricted, or impaired have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Special, Prohibited, Restricted Water ¹	Flows to Impaired Water Within 1-Mile ²	USEPA Approved Construction Related TMDL ³
Unnamed Lake	Lake	Yes	Yes	N/A

¹ Special, prohibited, and restricted waters are listed in Section 23 of the MN Construction Stormwater General Permit (MNR100001).
² Identified as impaired under section 303 (d) of the federal Clean Water Act for phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.
³ Construction Related TMDLs include those related to: phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.

IMPLEMENTATION SCHEDULE AND PHASING: The Contractor is required to provide an updated schedule and site management plan meeting the minimum requirements of Section 1717 of the Minnesota Standard Specifications for Construction.

- 1) Submit SWPPP Updates to Engineer. Submittal shall include any requested changes to the SWPPP, including but not limited to: Trained Personnel, Locations for Stockpiles, Concrete Washout, Sanitation Facilities, Types and Locations of Erosion & Sediment Control. Failure to submit updates shall be considered acceptance of the SWPPP as designed with no changes.

2) Install perimeter sediment control, inlet protection, and construction exit.

3) Remove existing surfaces as required.

4) Complete site and utility improvements.

5) Install additional inlet protection as needed.

6) Reestablish turf.

7) Repeat steps 2-6 as necessary throughout the project.

8) Add additional temporary BMPs as necessary during construction based on inspection reports.

9) Ensure final stabilization measures are complete.

10) Provide digital copy of all Field SWPPP Documentation including Inspection Reports and SWPPP Revisions to the Owner.

11) Submit Notice of Termination (NOT) to MPCA. NOTE: The NOT must be submitted to MPCA before Final Stabilization is considered complete.

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MESENBRINK CONSTRUCTION

AVEYDA PRESERVE - SOUTH PUD

STORMWATER POLLUTION PREVENTION PLAN

PROJECT INFORMATION & LOCATION MAP

SHEET
C2.01

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Information contained in this SWPPP narrative sheet summarizes requirements of the GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM PROGRAM - Permit No: MN RI00001 (Permit) as they apply to this project. All provisions of the Permit including those not specifically cited herein shall apply to this project. The Contractor is responsible to be familiar with and comply with all conditions of the permit. The full text of the Permit is available at: <https://www.pca.state.mn.us/sites/default/files/wq-strm2-80a.pdf>

SWPPP AMENDMENTS AND SUBMITTALS

Contractor must prepare and submit to the Engineer a SWPPP amendment as necessary to include additional Best Management Practices (BMPs) to correct problems identified or address the following situations.

- Contact information and training documentation for Construction SWPPP Manager and BMP Installer,
- There is a change in construction method of phasing, operation, maintenance, weather or seasonal conditions not anticipated during the design of the SWPPP including but not limited to:
 - Types and/or Locations of BMPs
 - Material Storage and Spill Response
 - Fueling Plans
 - Locations for Stockpiles, Concrete Washout, and Sanitation Facilities and
 - Project Phasing
- It is determined that the SWPPP is not achieving objectives of minimizing pollutants in stormwater discharges associated with construction activity, or
- The SWPPP is not consistent with the terms and conditions of the permit.

The Contractor may implement SWPPP amendments immediately and is not required to wait for Engineer review of the submittal. The responsibility for completeness of SWPPP amendments and compliance with the Permit lies with the Contractor. Review, comment, or lack of comment by the Engineer on a SWPPP amendment shall not absolve the responsibilities of the Contractor in any way.

If a change order is issued for a design change the SWPPP amendment will be prepared by the Engineer and included in the change order.

In addition to SWPPP amendments, the Contractor shall submit to the Engineer Weekly Erosion and Sediment Control Schedule meeting the requirements of MnDOT 1717.

The Contractor shall keep copies of all SWPPP amendments, Weekly Erosion and Sediment Control Schedules, inspection logs, and maintenance logs with the field copy of the SWPPP. A PDF copy of these documents will be provided along with a copy of the final Field Copy of the SWPPP to the Engineer along with the signed Notice of Termination when final stabilization is complete.

EROSION PREVENTION PRACTICES

Stormwater conveyance channels shall be routed around unstabilized areas. Erosion controls and velocity dissipation devices shall be used at outlets within and along the length of any constructed conveyance channel.

The normal wetted perimeter of all ditches or swales, including storm water management pond slopes, that drain waters from the site must be stabilized within 200' of any property edge or discharge point, including storm sewer inlets, within 24 hours of connection.

Temporary or permanent ditches or swales used as sediment containment during construction do not need to be stabilized during temporary period of use and shall be stabilized within 24 hours after no longer used as sediment containment.

Mulch, hydromulch, tackifier, or similar practice shall not be used in any portion of the wetted perimeter of a temporary or permanent drainage ditch or swale section with a continuous slope of greater than 2 percent.

Energy dissipation shall be installed at all temporary or permanent pipe outlets within 24 hours of connection to a surface water or permanent stormwater treatment system.

The Contractor shall phase construction and use construction methods to the extent practical to minimize exposed soils. The project phasing shall be documented in the Weekly Erosion and Sediment Control Schedule.

SEDIMENT CONTROL PRACTICES

Down gradient BMPs including perimeter BMPs must be in place before up gradient land- disturbing activities begin and shall remain in place until final stabilization.

All BMPs that have been adjusted or removed to accommodate short-term activities shall be re-installed or replaced the earlier of the end of the work day or before the next precipitation event even if the activity is not complete.

Inlet BMPs may be removed for specific safety concerns. The BMPs shall be replaced as soon as the safety concern is resolved. The removal shall be documented in the SWPPP as a SWPPP amendment.

Temporary stockpiles must have sediment control BMPs. The Contractor shall prepare and submit to the Engineer a SWPPP amendment showing the location of temporary stockpiles and the BMPs for each stockpile. The SWPPP amendment must meet the minimum requirements of Section 9 of the Permit.

Soil compaction shall be minimized and topsoil shall be preserved, unless infeasible or if construction activities dictate soil compaction or topsoil stripping.

The use of polymers, flocculants, or other sedimentation treatment chemicals are not proposed as part of this SWPPP as designed by the Engineer. If methods or phasing of construction require the use of any of these chemicals, the Contractor shall prepare and submit to the Engineer a SWPPP amendment that meets the minimum requirements of Section 9 of the Permit.

TEMPORARY SEDIMENTATION BASINS

A temporary sedimentation basin has not been included in this SWPPP as designed by the Engineer. If a basin is later determined to be desirable or necessary the Contractor shall prepare and submit to the Engineer a SWPPP amendment. Temporary sedimentation basins shall meet or exceed the minimum requirements of Section 14 of the Permit and shall include a basin draining plan meeting or exceeding the minimum requirements of Section 10 of the Permit. Where the site discharges to Special and/or Impaired Waters the SWPPP amendment shall also meet or exceed the minimum requirements of Section 23 of the permit.

DEWATERING

A dewatering plan has not been included in this SWPPP as designed by the Engineer. If dewatering is required for this project, the Contractor shall prepare and submit to the Engineer a SWPPP amendment. All dewatering shall meet or exceed the minimum requirements of Section 10 of the Permit.

POLLUTION PREVENTION

Products and materials that have the potential to leach pollutants that are stored on the site must be stored in a manner designed to minimize contact with stormwater. Materials that are not a source of potential contamination to stormwater or that are designed for exposure to stormwater are not required to be covered.

Hazardous materials including but not limited to pesticides, fertilizer, petroleum products, curing compounds and toxic waste must be properly stored and protected from stormwater exposure as recommended by the manufacturer in an access restricted area.

Solid waste must be stored, collected and disposed of in compliance with Minnesota Administrative Rules Chapter 7035.

Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. CH 7041.

Exterior vehicle or equipment washing on the project site shall be limited to a defined area of the site. No engine degreasing is allowed on site. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

The Contractor shall prepare and submit a SWPPP amendment detailing the location and BMPs proposed for storage of materials, solid waste, portable toilets, and exterior vehicle or equipment washing on the site. The SWPPP amendment shall include a spill prevention and response plan that is appropriate for the materials proposed to be on the site. The SWPPP amendment shall meet or exceed the minimum requirements of Section 12 of the Permit.

INSPECTION & MAINTENANCE

A trained person shall routinely inspect the entire construction site at the time interval indicated on this sheet of the SWPPP during active construction and within 24-hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24-hours after a rainfall event, the next inspection must be conducted at the time interval indicated in the Receiving Waters Table found on the SITE PLAN AND INFORMATION SHEET of the SWPPP.

All inspections and maintenance conducted during construction must be recorded on the day it is completed and must be retained with the SWPPP. Inspection report forms are available in the Project Specifications. Inspection report forms other than those provided shall be approved by the engineer.

The Contractor may request a change in inspection schedule for the following conditions:

- Inspections of areas with permanent cover to be reduced to once per month,
- Inspections of areas that have permanent cover and have had no construction activity for 12 months to be suspended until construction resumes,
- Inspections of areas where construction is suspended due to frozen ground conditions, inspections to be suspended until the earlier of within 24 hours of runoff occurring, or upon resuming construction.

No change in inspection schedule shall occur until authorized by the Engineer.

Inspections must include:

- All erosion prevention and sediment control BMPs and Pollution Prevention Management Measures to ensure integrity and effectiveness.
- Surface waters, including drainage ditches and conveyance systems for evidence of erosion and sediment deposition.
- Construction site vehicle exit locations, streets and curb and gutter systems within and adjacent to the project for sedimentation from erosion or tracked sediment from vehicles.
- Infiltration areas to ensure that no sediment from ongoing construction activity is reaching the infiltration area and that equipment is not being driven across the infiltration area.

All non-functioning BMPs and those BMPs where sediment reaches one-half (1/2) of the depth of the BMP, or in the case of sediment basins one-half (1/2) of the storage volume, must be repaired, replaced, or supplemented by the end of the next business day after discovery, or as soon as field conditions allow.

Permittees must repair, replace or supplement all nonfunctional BMPs with functional BMPs by the end of the next business day after discovery, or as soon as field conditions allow.

Any sediment that escapes the site must be removed and the area stabilized within 7 calendar days of discovery unless precluded by legal, regulatory, or physical access in which case the work shall be completed within 7 calendar days of authorization. Paved surfaces such as streets shall have any escaped or tracked sediment removed by the end of the day that it is discovered. Sediment release, other than paved surfaces that can be cleaned up with street sweeping shall be reported immediately upon discovery to the Engineer.

PUBLIC WATER RESTRICTIONS:

For public waters that have been promulgated "work in water restrictions" during fish spawning time frames, all exposed soil areas that are within 200 feet of the water's edge, and drain to these waters must complete stabilization within 24-hours during the time period. MN DNR permits are not valid for work in waters that are designated as infested waters unless accompanied by an Infested Waters Permit or written notification has been obtained from MN DNR stating that such permit is not required. There is no exception for pre-existing permits. If a MN DNR Permit has been issued for the project and the water is later designated as infested, the Contractor shall halt all work covered by the MN DNR Permit until an Infested Waters Permit is obtained or that written notification is obtained stating that such permit is not required.

FINAL STABILIZATION

Final Stabilization is not complete until all the following requirements have been met:

- Substantial Completion has been reached and no ground disturbing activities are anticipated.
- Permanent cover has been installed with an established minimum uniform perennial vegetation density of 70 percent of its expected final growth. Vegetation is not required in areas where no vegetation is proposed by this project such as impervious surfaces or the base of a sand filter.

- Accumulated sediment has been removed from all permanent stormwater treatment systems as necessary to ensure the system is operating as designed.
- All sediment has been removed from conveyance systems
- All temporary synthetic erosion prevention and sediment control BMPs have been removed. BMPs designated on the SWPPP to remain to decompose on-site may remain.
- For residential construction only, permit coverage terminates on individual lots if the structures are finished and temporary erosion prevention and downgradient perimeter control is complete, the residence sells to the homeowner, and the permittee distributes the MPCA's "Homeowner Fact Sheet" to the homeowner.
- For agricultural land only (e.g., pipelines across cropland), the disturbed land must be returned to its preconstruction agricultural use prior to submitting the NOT.

SITE STABILIZATION COMPLETION:

Stabilization of exposed soils shall begin immediately and shall be completed after the construction activity has temporarily or permanently ceased no later than:	7 calendar days
--	-----------------

SITE INSPECTION INTERVAL:

A trained person shall routinely inspect the entire construction site during active construction at an interval of no less than:	3 calendar days
--	-----------------

SPECIAL ENVIRONMENTAL CONSIDERATIONS AND PERMITS:

1)	Was an environmental review required for this project or any part of a common plan of development or sale that includes all or any portion of this project?	NO
2)	Does any portion of the site have the potential to affect threatened or endangered species or their critical habitat?	NO
3)	Does any portion of this site discharge to a Calcareous fen.	NO
4)	Will any portion of the site potentially affect properties listed on the National Register of Historic Places or a known or discovered archeological site?	NO
5)	Have any Karst features have been identified in the project vicinity?	NO
6)	Is compliance with temporary or permanent stormwater management design requirements infeasible for this project?	NO
7)	Has the MN DNR promulgated "work in water restrictions" for any Public Water this site discharges to during fish spawning?	NO

SWPPP DESIGNER TRAINING DOCUMENTATION:

UNIVERSITY OF MINNESOTA
Alec W. Pietz
Design of Construction SWPPP (May 31 2027)

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NOT FOR CONSTRUCTION	
ALEC W. PIETZ, P.E.	
LIC. NO. 59617	DATE XX/XX/XXXX



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MESENBRINK CONSTRUCTION	C2.02
AVEYDA PRESERVE - SOUTH PUD	
STORMWATER POLLUTION PREVENTION PLAN	
NARRATIVE	

SHEET



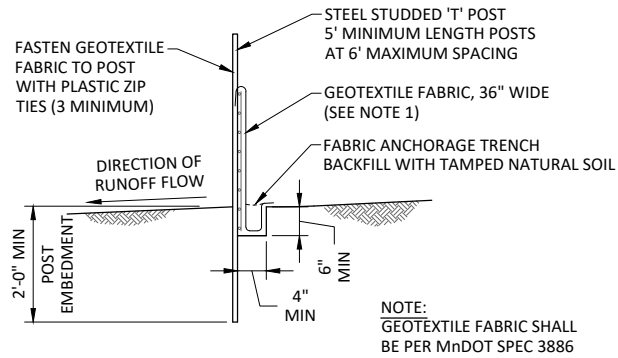
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MESENBRINK CONSTRUCTION

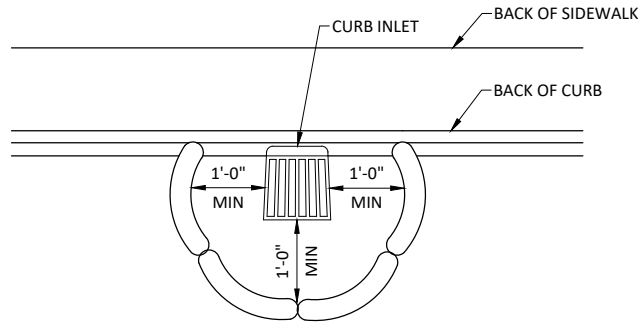
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LEGEND



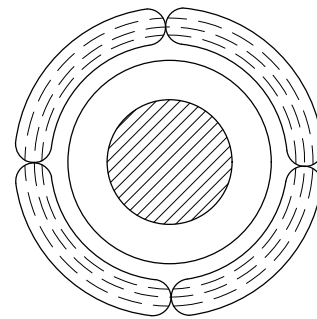


SILT FENCE - HEAVY DUTY
NOT TO SCALE

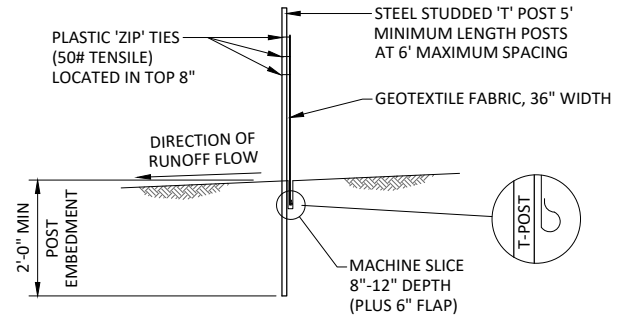


NOTE:
THIS INLET PROTECTION IS USED DURING
ROUGH GRADING ONLY, USE BEFORE ROAD
IS OPEN TO TRAFFIC OR IS PAVED

PAYMENT SHALL INCLUDE ALL MATERIALS,
FILLING OF LOG, PLACEMENT,
MAINTENANCE & REMOVAL;
80% OF BID PRICE SHALL BE PAID UPON
PROPER PLACEMENT WITH THE FINAL 20%
PAID UPON REMOVAL



**INLET PROTECTION
WITH ROCK LOG**

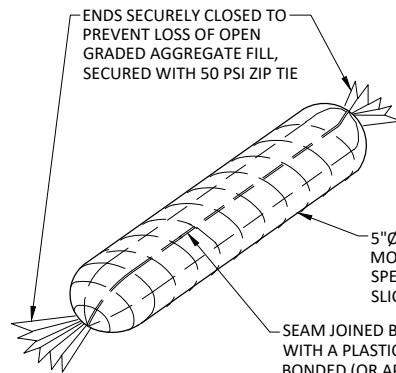


SILT FENCE - MACHINE SLICED
NOT TO SCALE

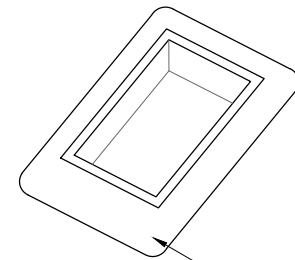
FILL ROCK LOG WITH 45 LBS. OF OPEN
GRADED AGGREGATE CONSISTING OF
SOUND, DURABLE PARTICLES OF CRUSHED
QUARRY ROCK OR GRAVEL CONFORMING
TO THE FOLLOWING GRADATION.

GRADATION	
SIEVE SIZE	PERCENT PASSING
1 1/2"	100
1"	95-100
3/4"	65-95
3/8"	30-65
NO 4	10-35
NO 10	3-20
NO 40	0-8
NO 200	0-3

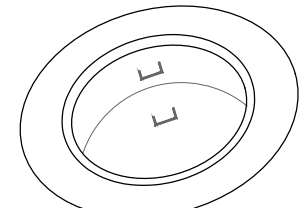
NOTE:
CRUSHED CONCRETE OR BITUMINOUS
SHALL NOT BE USED FOR OPEN
GRADED AGGREGATE.



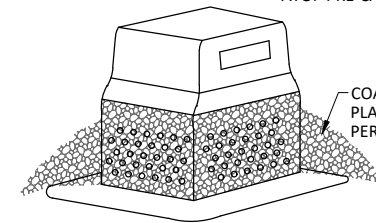
**INLET PROTECTION
ROCK BAG**
NOT TO SCALE



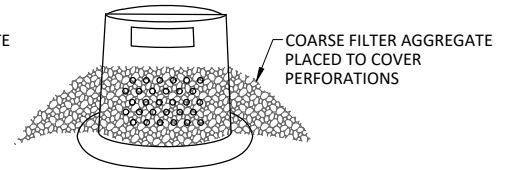
PLACE BARRIER FRAME
ATOP PRE-CAST TOP SLAB



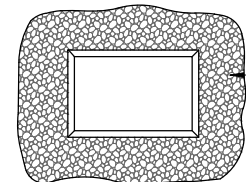
PLACE BARRIER FRAME
ATOP PRE-CAST TOP SLAB



COARSE FILTER AGGREGATE
PLACED TO COVER
PERFORATIONS

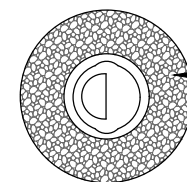


COARSE FILTER AGGREGATE
PLACED TO COVER
PERFORATIONS



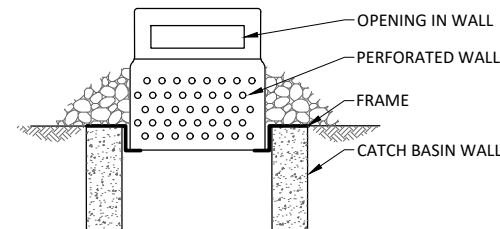
COARSE FILTER AGGREGATE
PLACED TO COVER
PERFORATIONS

TOP VIEW

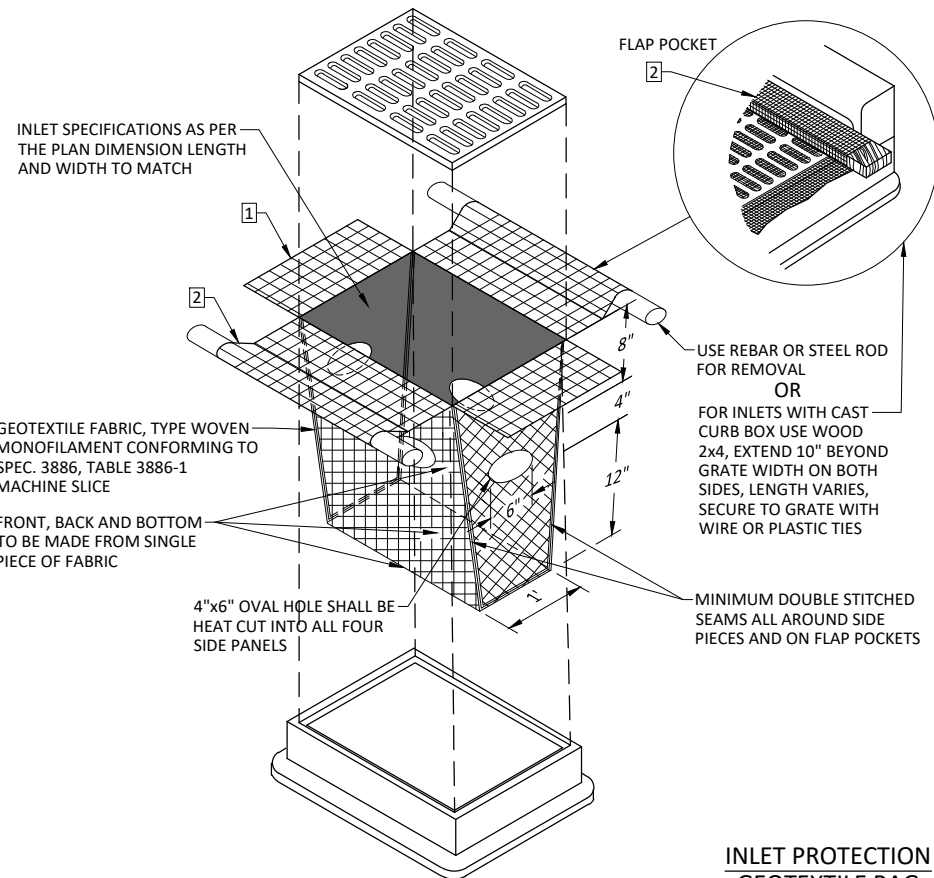
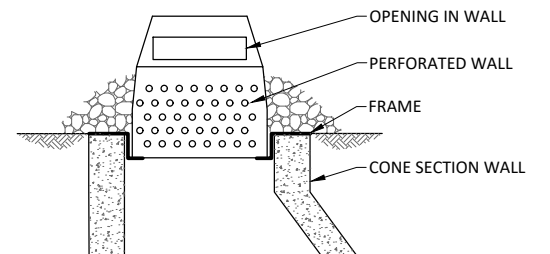


COARSE FILTER AGGREGATE
PLACED TO COVER
PERFORATIONS

TOP VIEW



**INLET PROTECTION
PERFORATED WALL**
NOT TO SCALE



**INLET PROTECTION
GEOTEXTILE BAG**
NOT TO SCALE

NOTES:
1 INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE
DIRECTION OF THE ENGINEER. MANUFACTURED ALTERNATIVES APPROVED
AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT
ACCEPTABILITY LIST MAY BE SUBSTITUTED. WHEN REMOVING OR
MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE
SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL IN THE INLET.
ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

2 FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED, SHALL EXTEND A
MINIMUM OF 10\"/>

FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2x4.

INSTALLATION NOTES:
DO NOT INSTALL PROTECTION IN INLETS SHALLOWER THAN 30\", MEASURED
FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3\"/>

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE
INLET AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES,
OF 3\"/>

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PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ALEC W. PIETZ, P.E.
LIC. NO. 59617 DATE XX/XX/XXXX



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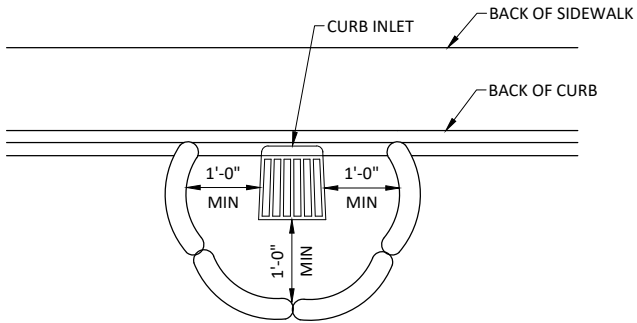
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
STORMWATER POLLUTION PREVENTION PLAN
BEST MANAGEMENT PRACTICE DETAILS

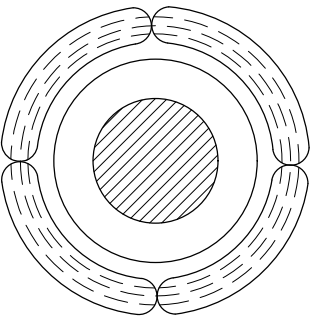
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PAYMENT SHALL INCLUDE ALL MATERIALS,
FILLING OF LOG, PLACEMENT,
MAINTENANCE & REMOVAL;
80% OF BID PRICE SHALL BE PAID UPON
PROPER PLACEMENT WITH THE FINAL 20%
PAID UPON REMOVAL

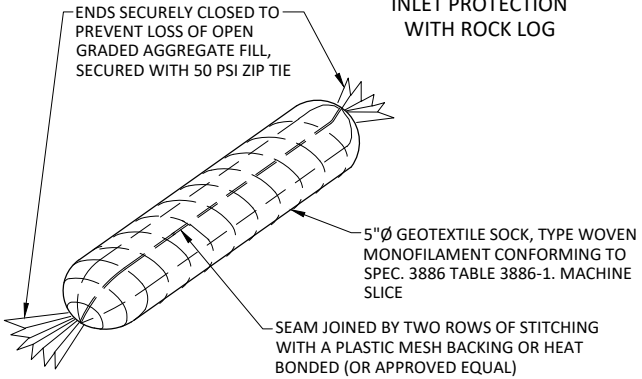


NOTE:
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ROUGH GRADING ONLY, USE BEFORE ROAD
IS OPEN TO TRAFFIC OR IS PAVED

FILL ROCK LOG WITH 45 LBS. OF OPEN
GRADED AGGREGATE CONSISTING OF
SOUND, DURABLE PARTICLES OF CRUSHED
QUARRY ROCK OR GRAVEL CONFORMING
TO THE FOLLOWING GRADATION.

GRADATION	
SIEVE SIZE	PERCENT PASSING
1 1/2"	100
1"	95-100
3/4"	65-95
3/8"	30-65
NO 4	10-35
NO 10	3-20
NO 40	0-8
NO 200	0-3

NOTE:
CRUSHED CONCRETE OR BITUMINOUS
SHALL NOT BE USED FOR OPEN
GRADED AGGREGATE.



INLET PROTECTION
ROCK BAG
NOT TO SCALE

INLET PROTECTION
WITH ROCK LOG

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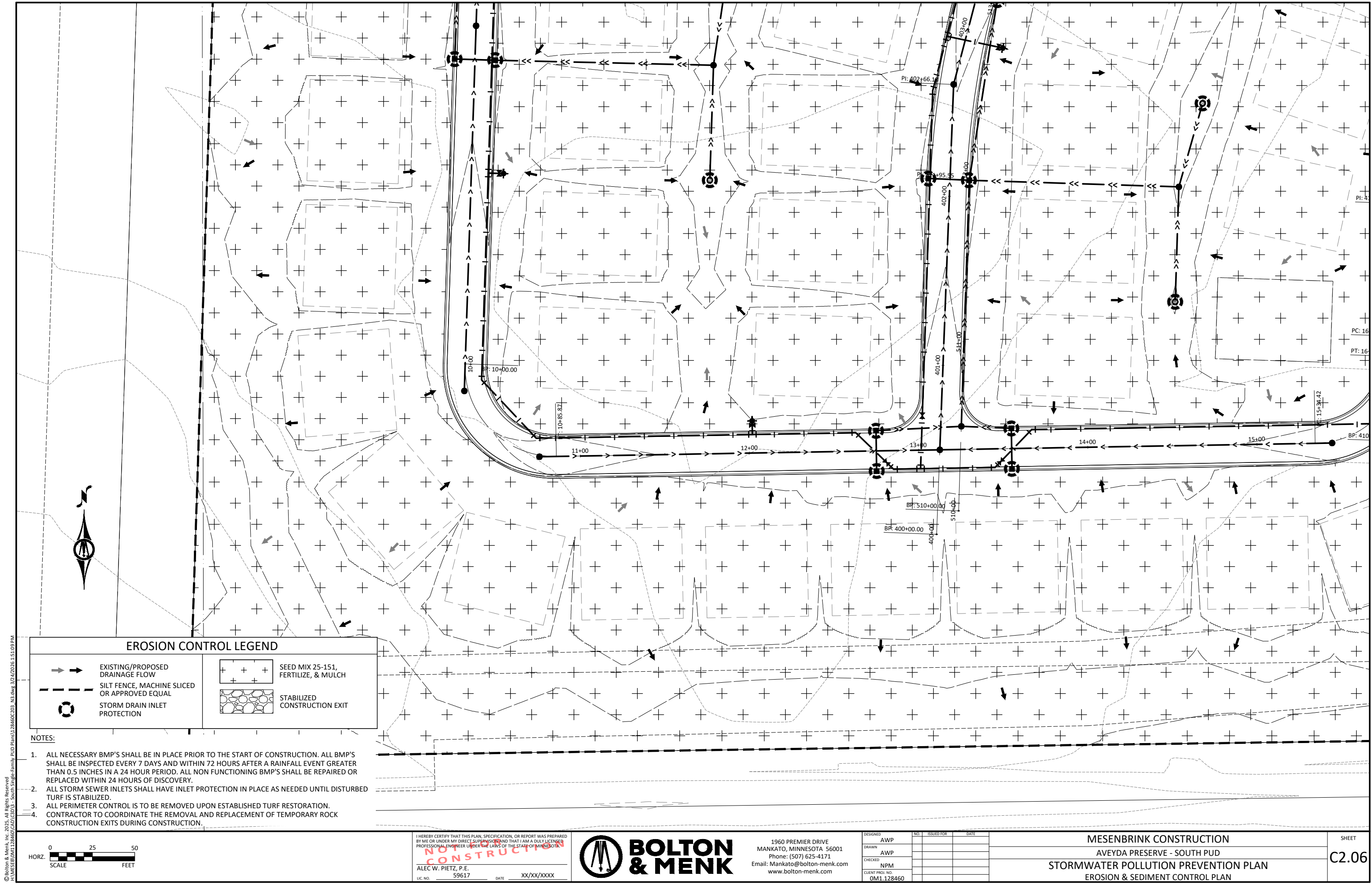
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
STORMWATER POLLUTION PREVENTION PLAN
BEST MANAGEMENT PRACTICE DETAILS

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EROSION CONTROL LEGEND

EXISTING/PROPOSED DRAINAGE FLOW

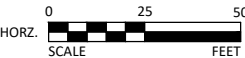
SILT FENCE, MACHINE SLICED OR APPROVED EQUAL

STORM DRAIN INLET PROTECTION

SEED MIX 25-151, FERTILIZE, & MULCH

STABILIZED CONSTRUCTION EXIT

- NOTES:
- ALL NECESSARY BMP'S SHALL BE IN PLACE PRIOR TO THE START OF CONSTRUCTION. ALL BMP'S SHALL BE INSPECTED EVERY 7 DAYS AND WITHIN 72 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN A 24 HOUR PERIOD. ALL NON FUNCTIONING BMP'S SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF DISCOVERY.
 - ALL STORM SEWER INLETS SHALL HAVE INLET PROTECTION IN PLACE AS NEEDED UNTIL DISTURBED TURF IS STABILIZED.
 - ALL PERIMETER CONTROL IS TO BE REMOVED UPON ESTABLISHED TURF RESTORATION.
 - CONTRACTOR TO COORDINATE THE REMOVAL AND REPLACEMENT OF TEMPORARY ROCK CONSTRUCTION EXITS DURING CONSTRUCTION.



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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
STORMWATER POLLUTION PREVENTION PLAN
EROSION & SEDIMENT CONTROL PLAN

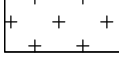
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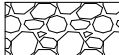
EROSION CONTROL LEGEND

- 

EXISTING/PROPOSED DRAINAGE FLOW
- 

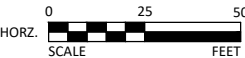
SILT FENCE, MACHINE SLICED OR APPROVED EQUAL
- 

STORM DRAIN INLET PROTECTION
- 

SEED MIX 25-151, FERTILIZE, & MULCH
- 

STABILIZED CONSTRUCTION EXIT

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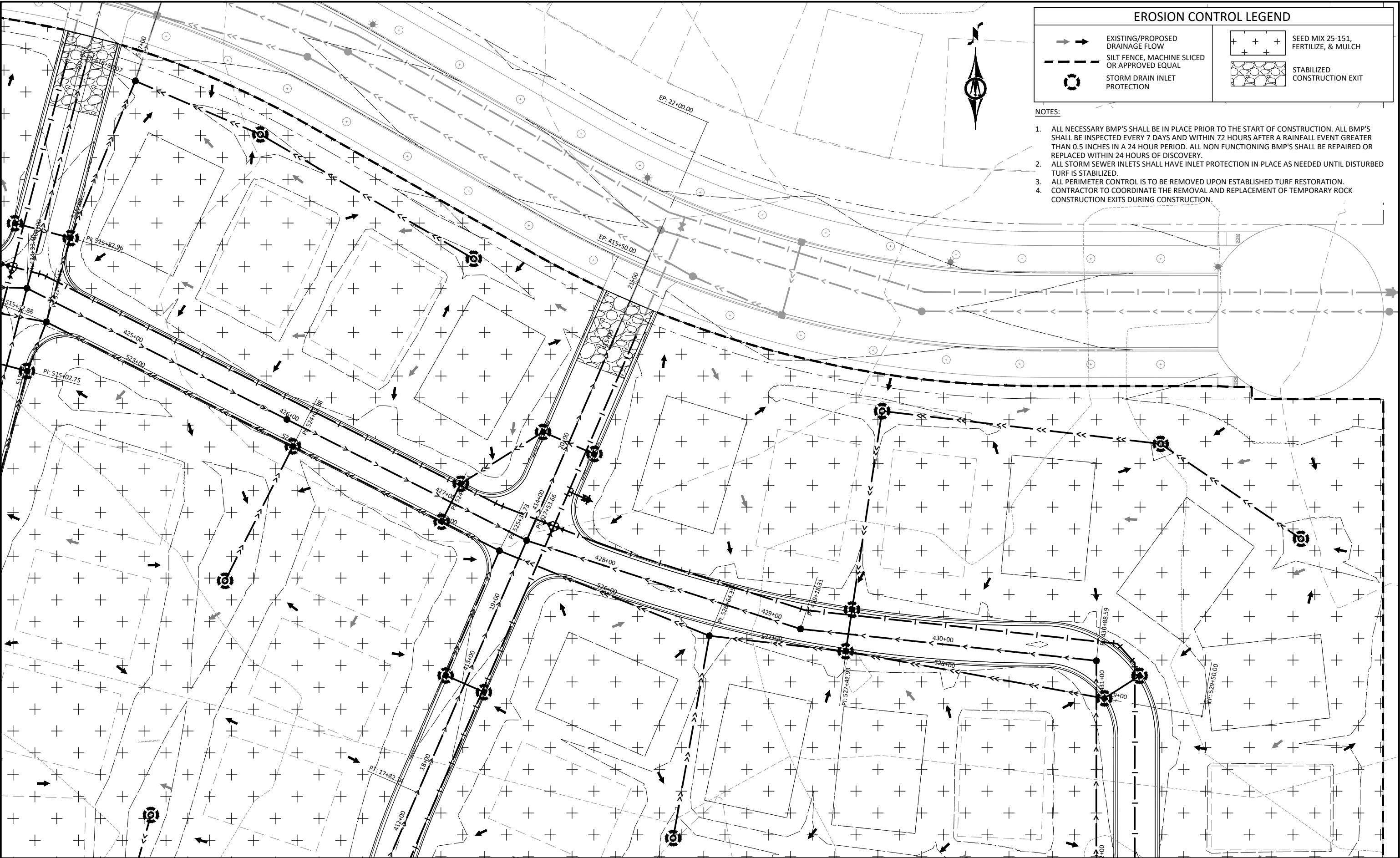
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
STORMWATER POLLUTION PREVENTION PLAN
EROSION & SEDIMENT CONTROL PLAN

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EROSION CONTROL LEGEND

EXISTING/PROPOSED DRAINAGE FLOW

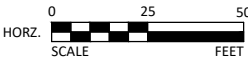
SILT FENCE, MACHINE SLICED OR APPROVED EQUAL

STORM DRAIN INLET PROTECTION

SEED MIX 25-151, FERTILIZE, & MULCH

STABILIZED CONSTRUCTION EXIT

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- ALL NECESSARY BMP'S SHALL BE IN PLACE PRIOR TO THE START OF CONSTRUCTION. ALL BMP'S SHALL BE INSPECTED EVERY 7 DAYS AND WITHIN 72 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN A 24 HOUR PERIOD. ALL NON FUNCTIONING BMP'S SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF DISCOVERY.
 - ALL STORM SEWER INLETS SHALL HAVE INLET PROTECTION IN PLACE AS NEEDED UNTIL DISTURBED TURF IS STABILIZED.
 - ALL PERIMETER CONTROL IS TO BE REMOVED UPON ESTABLISHED TURF RESTORATION.
 - CONTRACTOR TO COORDINATE THE REMOVAL AND REPLACEMENT OF TEMPORARY ROCK CONSTRUCTION EXITS DURING CONSTRUCTION.



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NOT FOR CONSTRUCTION

ALEC W. PIETZ, P.E.
LIC. NO. 59617 DATE XX/XX/XXXX



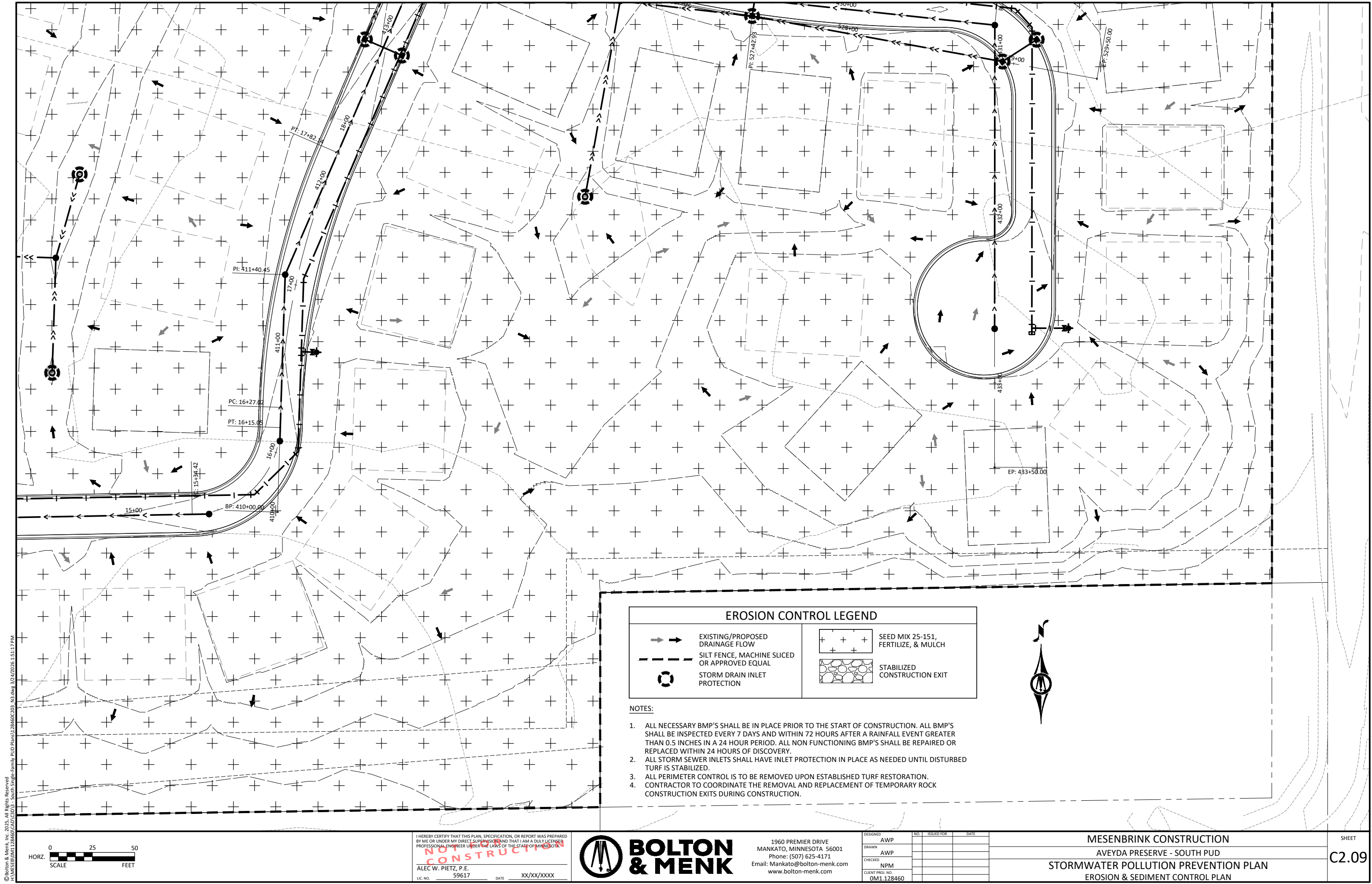
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
STORMWATER POLLUTION PREVENTION PLAN
EROSION & SEDIMENT CONTROL PLAN

SHEET
C2.08



EROSION CONTROL LEGEND

EXISTING/PROPOSED DRAINAGE FLOW

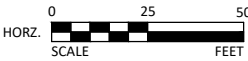
SILT FENCE, MACHINE SLICED OR APPROVED EQUAL

STORM DRAIN INLET PROTECTION

SEED MIX 25-151, FERTILIZE, & MULCH

STABILIZED CONSTRUCTION EXIT

- NOTES:
- ALL NECESSARY BMP'S SHALL BE IN PLACE PRIOR TO THE START OF CONSTRUCTION. ALL BMP'S SHALL BE INSPECTED EVERY 7 DAYS AND WITHIN 72 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN A 24 HOUR PERIOD. ALL NON FUNCTIONING BMP'S SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF DISCOVERY.
 - ALL STORM SEWER INLETS SHALL HAVE INLET PROTECTION IN PLACE AS NEEDED UNTIL DISTURBED TURF IS STABILIZED.
 - ALL PERIMETER CONTROL IS TO BE REMOVED UPON ESTABLISHED TURF RESTORATION.
 - CONTRACTOR TO COORDINATE THE REMOVAL AND REPLACEMENT OF TEMPORARY ROCK CONSTRUCTION EXITS DURING CONSTRUCTION.



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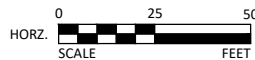
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
STORMWATER POLLUTION PREVENTION PLAN
EROSION & SEDIMENT CONTROL PLAN

SHEET
C2.09

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LEGEND

→ GENERAL DRAINAGE DIRECTION,
MIN 1.0% IN BETWEEN TOWNHOMES

NOTE:
HIGH-POINT BETWEEN UNITS SHALL BE
MINIMUM 0.5-FT LOWER THAN THE LOWEST
ADJACENT PAD ELEVATION



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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
GRADING PLAN
SOUTH WEST QUADRANT

SHEET

C3.01

LEGEND

→ GENERAL DRAINAGE DIRECTION,
MIN 1.0% IN BETWEEN TOWNHOMES

NOTE:
HIGH-POINT BETWEEN UNITS SHALL BE
MINIMUM 0.5-FT LOWER THAN THE LOWEST
ADJACENT PAD ELEVATION



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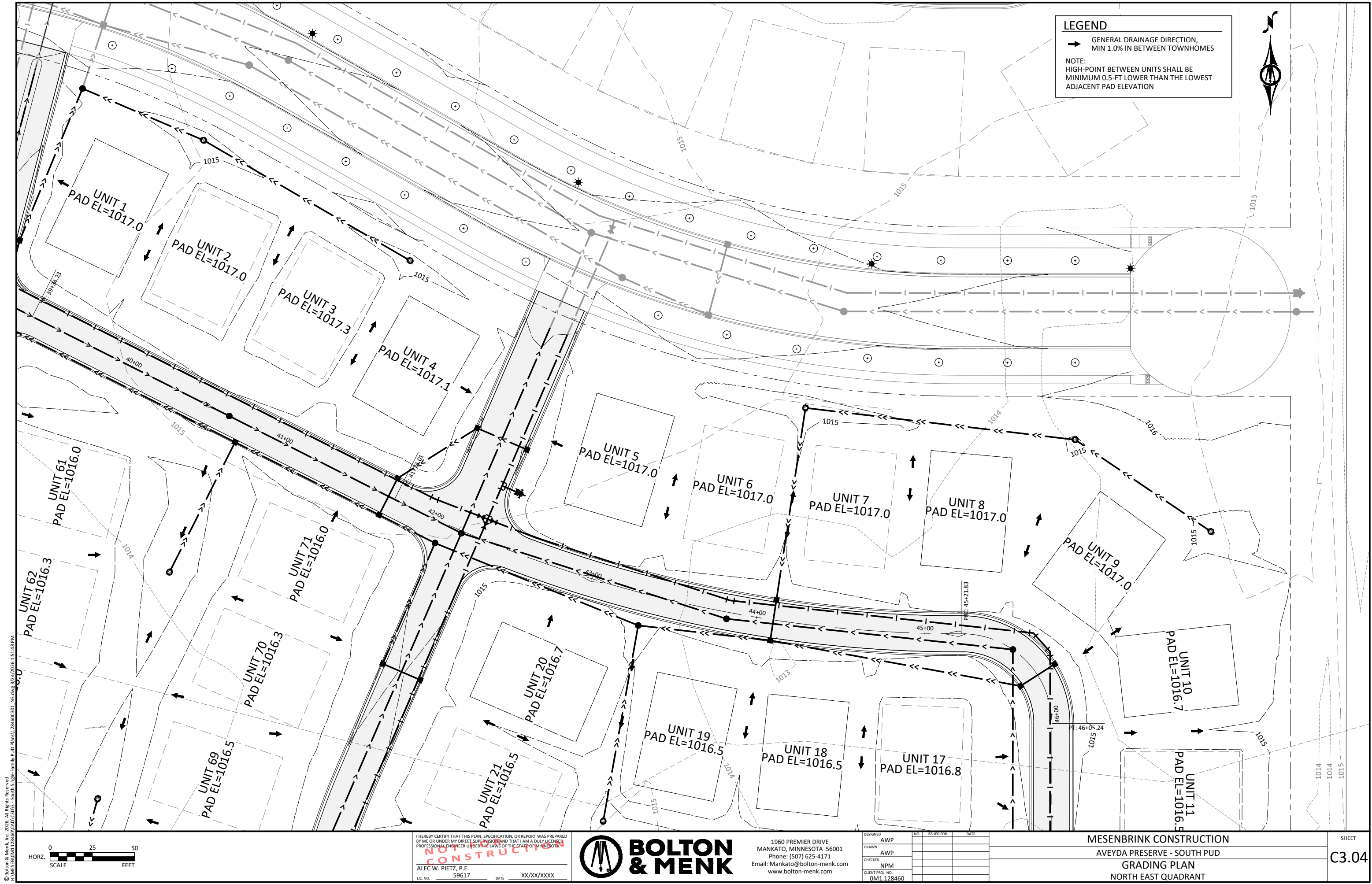
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
GRADING PLAN
NORTH WEST QUADRANT

SHEET

C3.02



LEGEND

→ GENERAL DRAINAGE DIRECTION,
MIN 1.0% IN BETWEEN TOWNHOMES

NOTE:
HIGH-POINT BETWEEN UNITS SHALL BE
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ADJACENT PAD ELEVATION



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0 25 50
HORIZ. SCALE FEET

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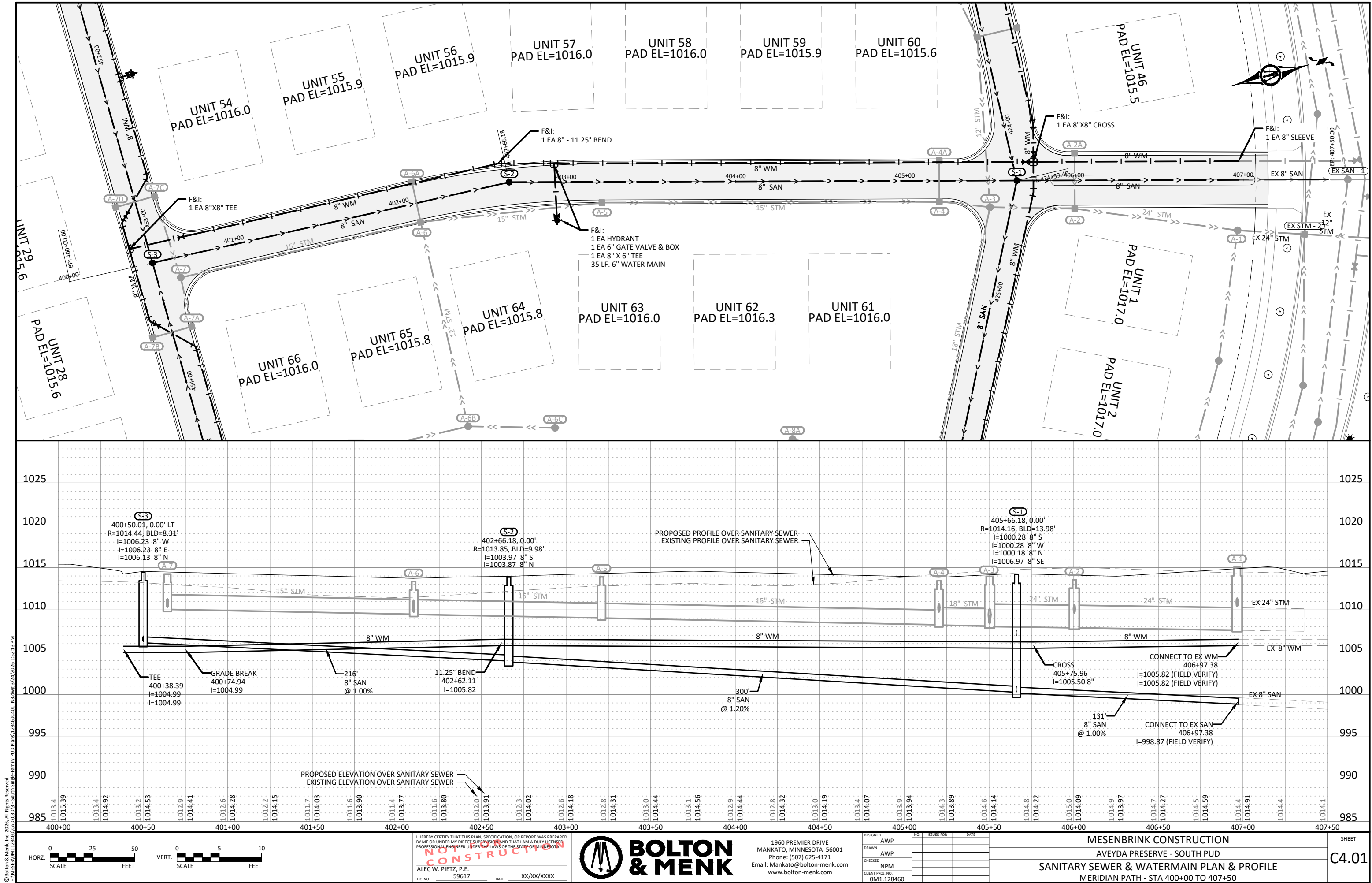
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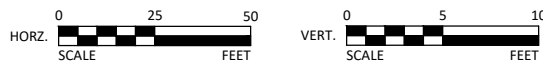
MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
GRADING PLAN
NORTH EAST QUADRANT

SHEET

C3.04



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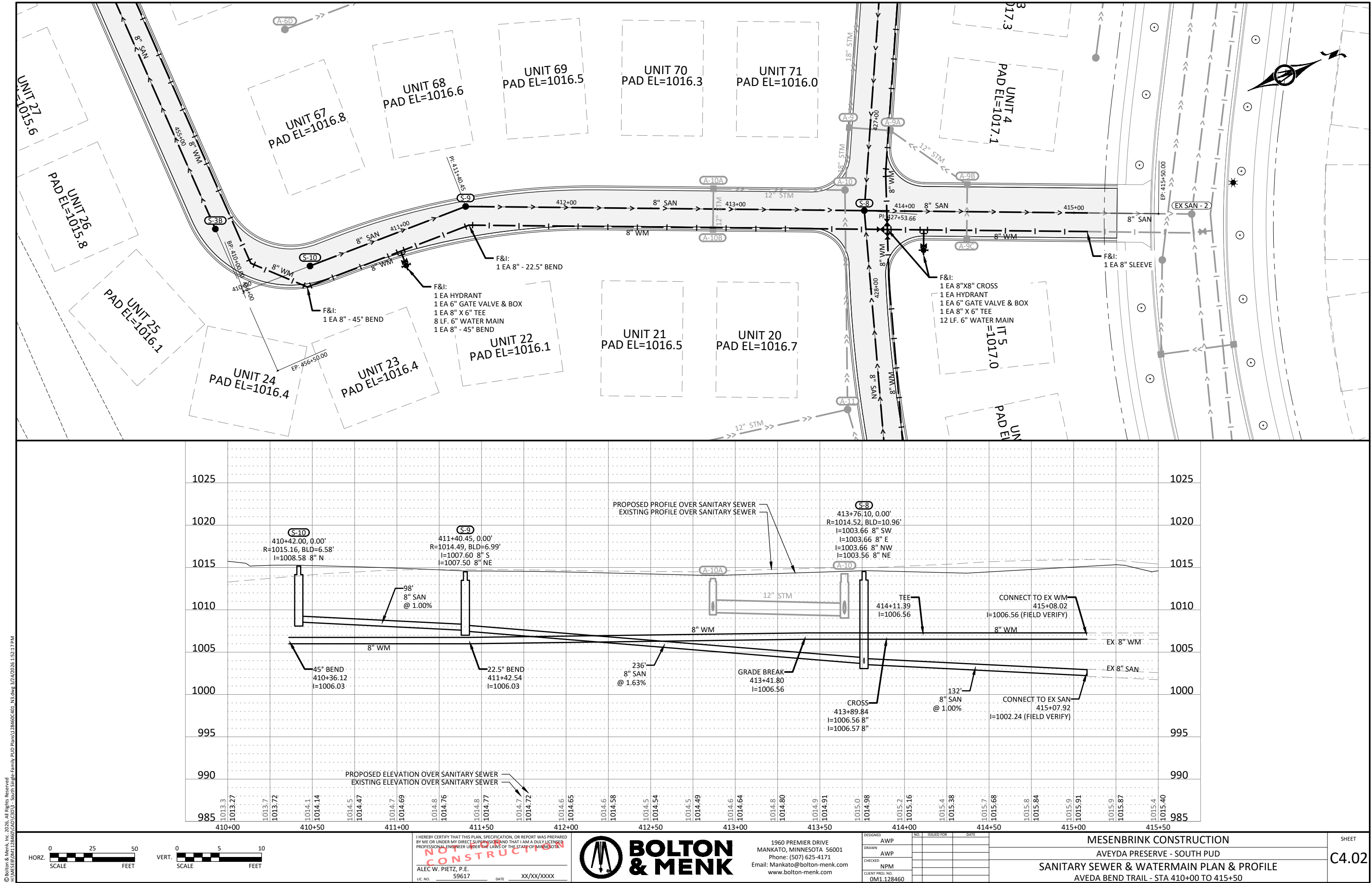
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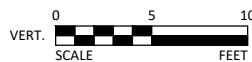
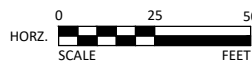
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
SANITARY SEWER & WATERMAIN PLAN & PROFILE
MERIDIAN PATH - STA 400+00 TO 407+50

SHEET
C4.01



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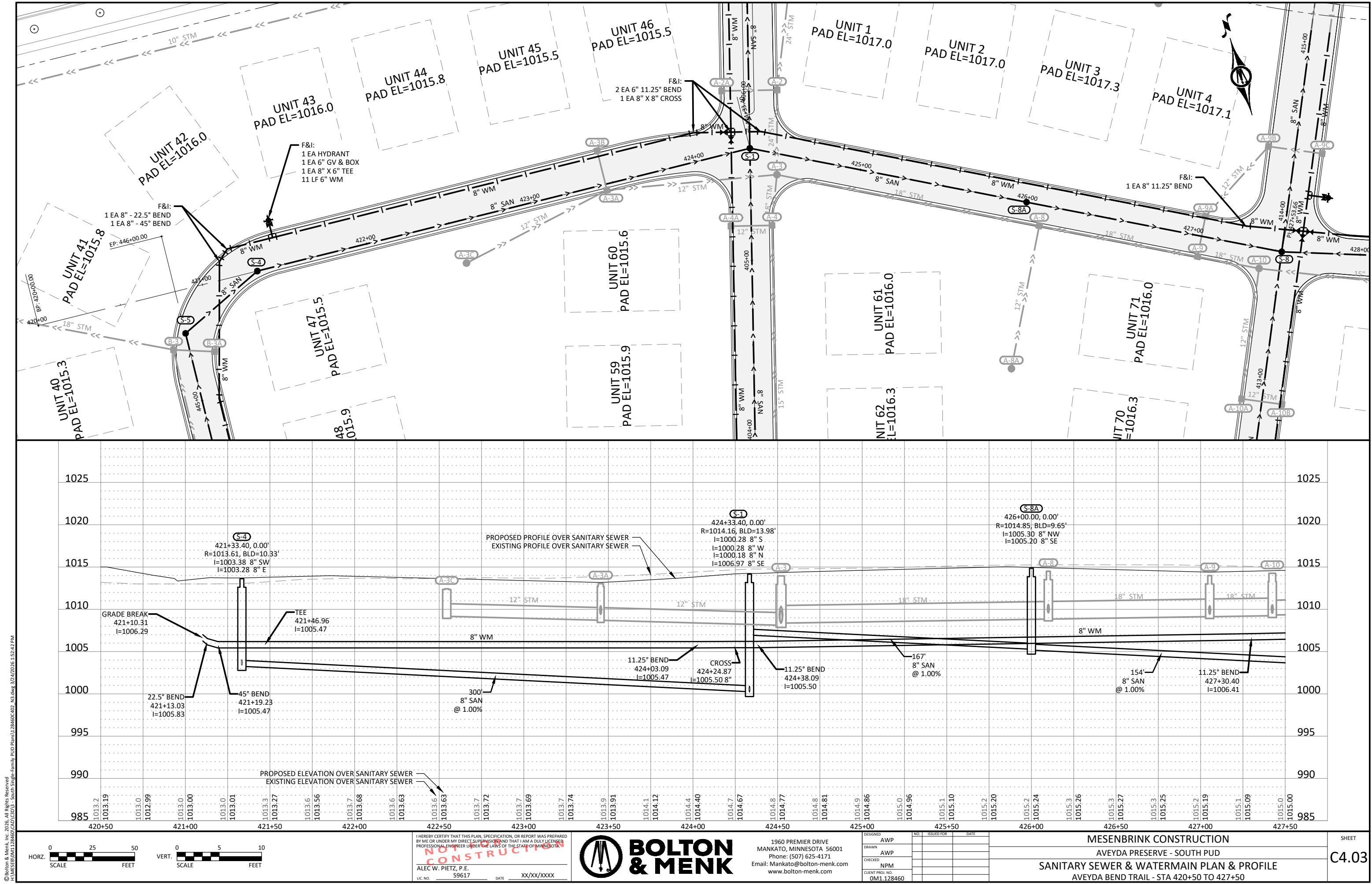
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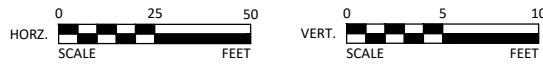
MESENBRINK CONSTRUCTION
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AVEDA BEND TRAIL - STA 410+00 TO 415+50

SHEET

C4.02



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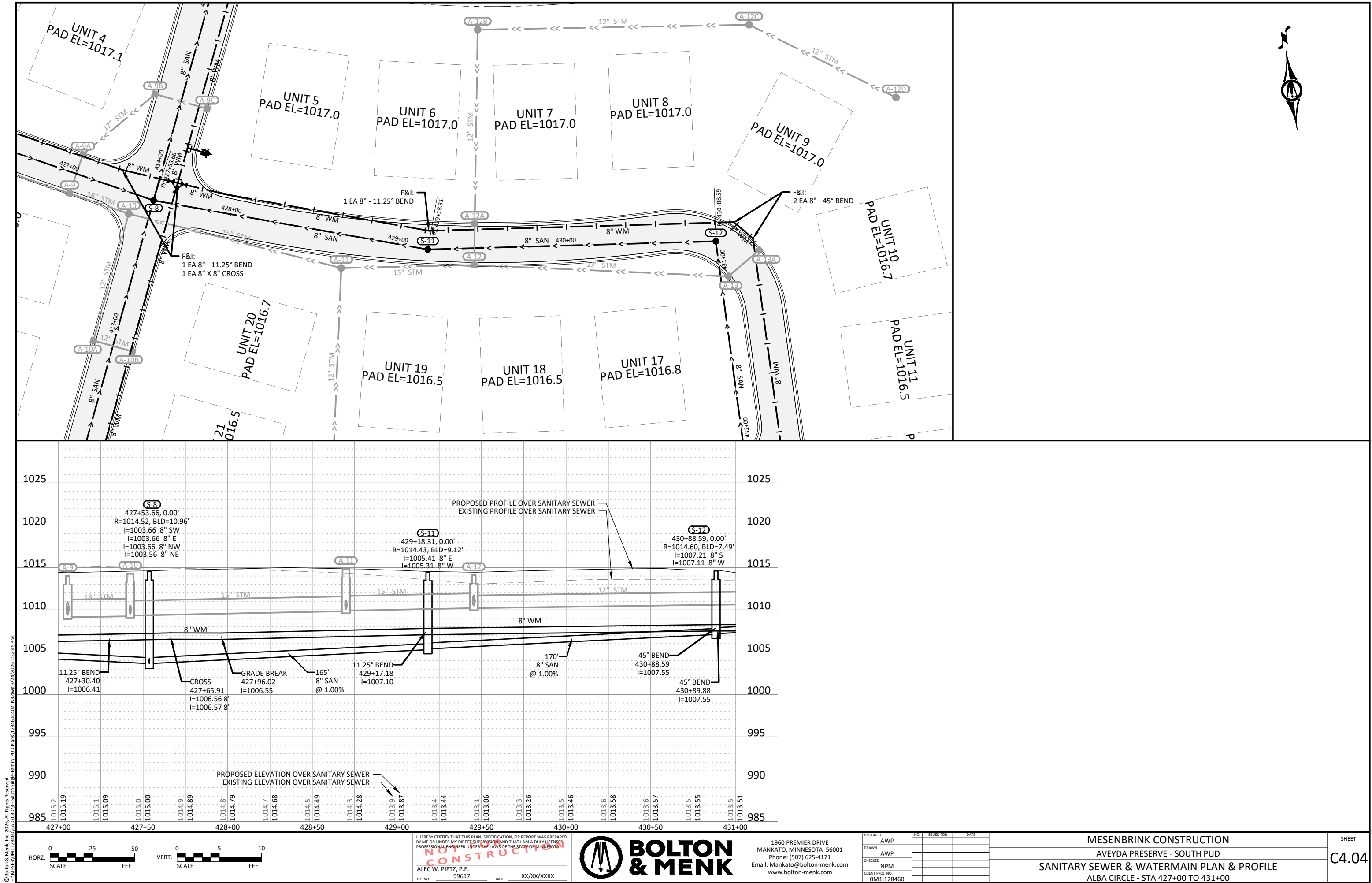


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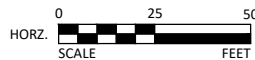
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
SANITARY SEWER & WATERMAIN PLAN & PROFILE
AVEYDA BEND TRAIL - STA 420+50 TO 427+50

SHEET
C4.03



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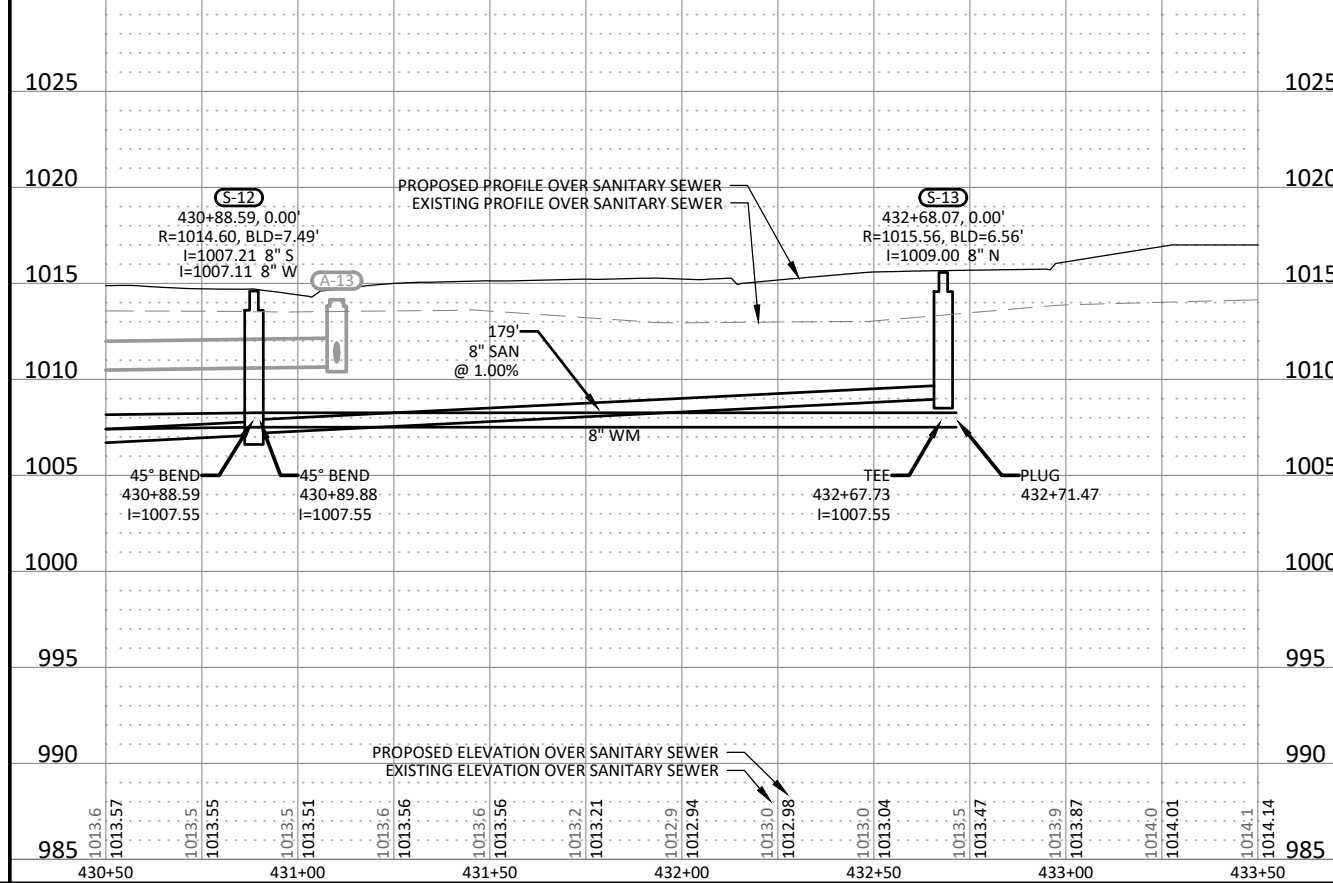
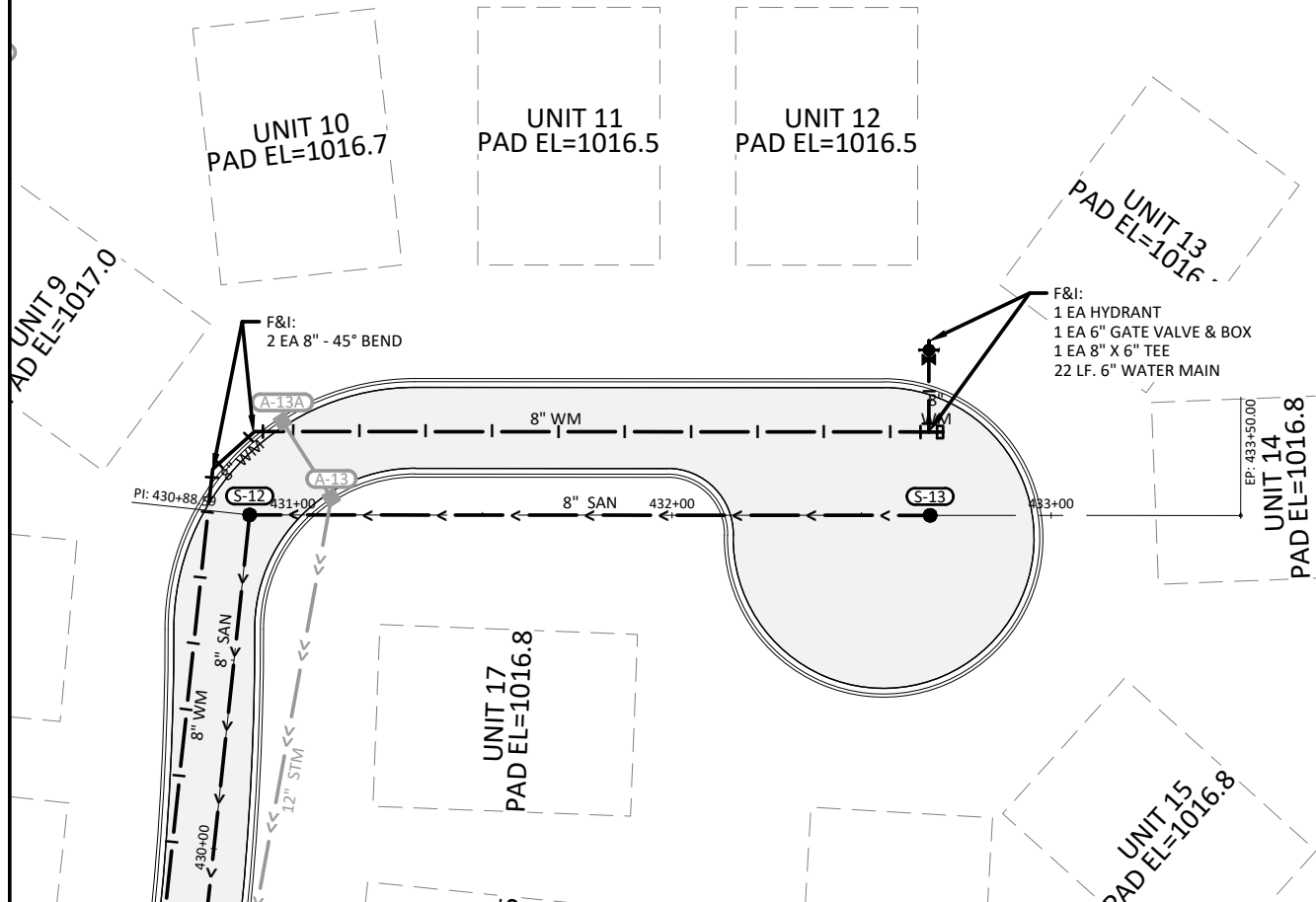
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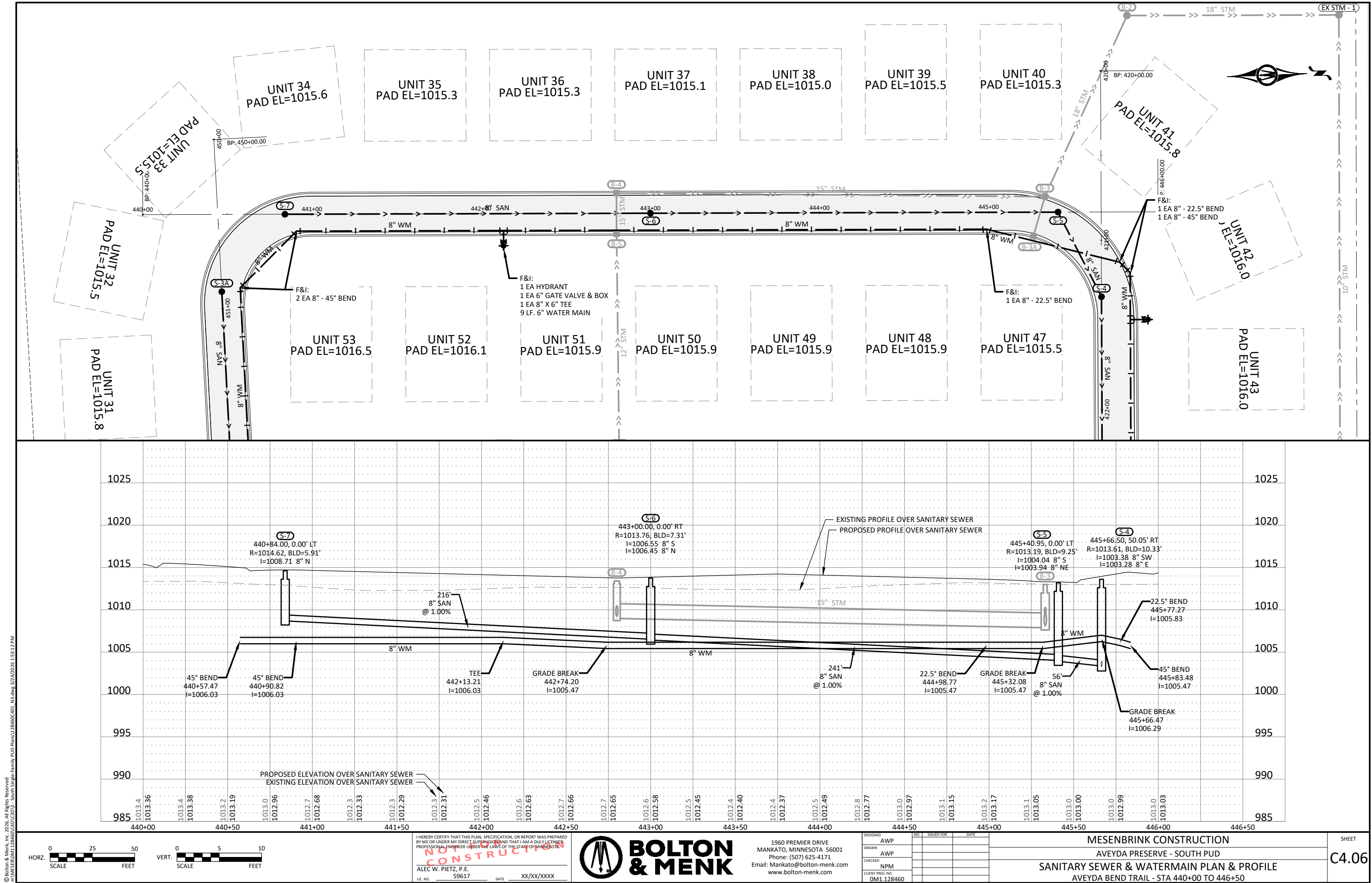
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ALBA CIRCLE - STA 430+50 TO 433+50

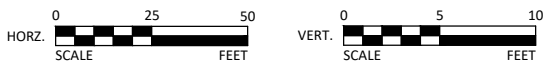
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C4.05





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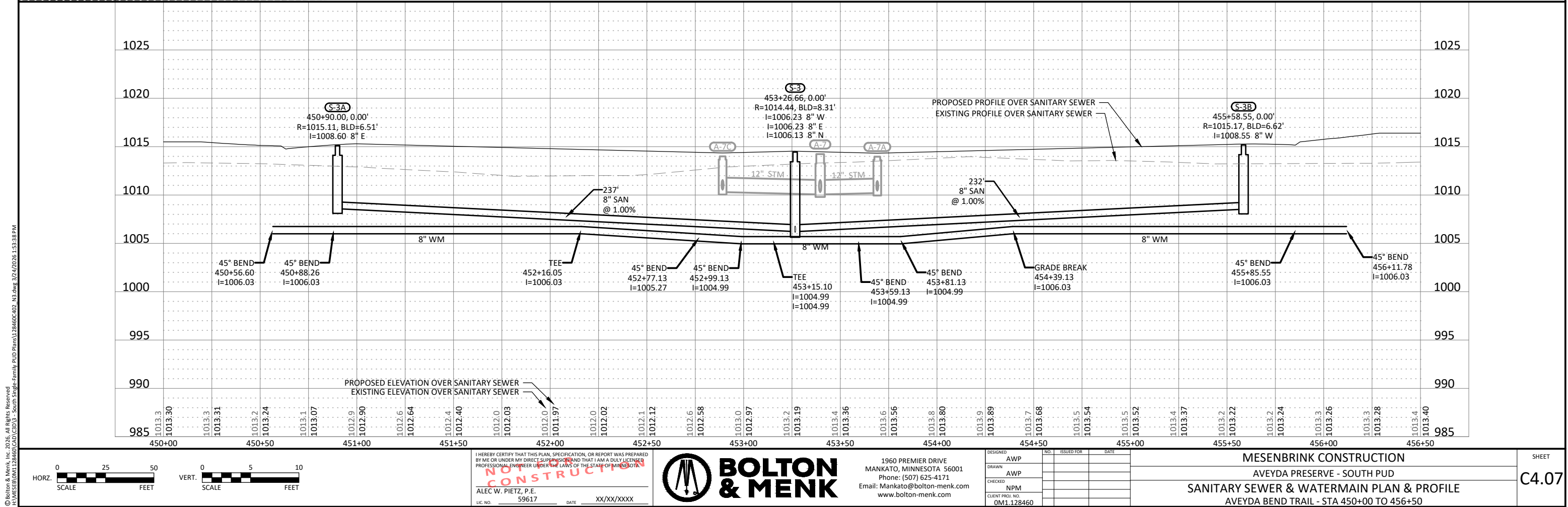
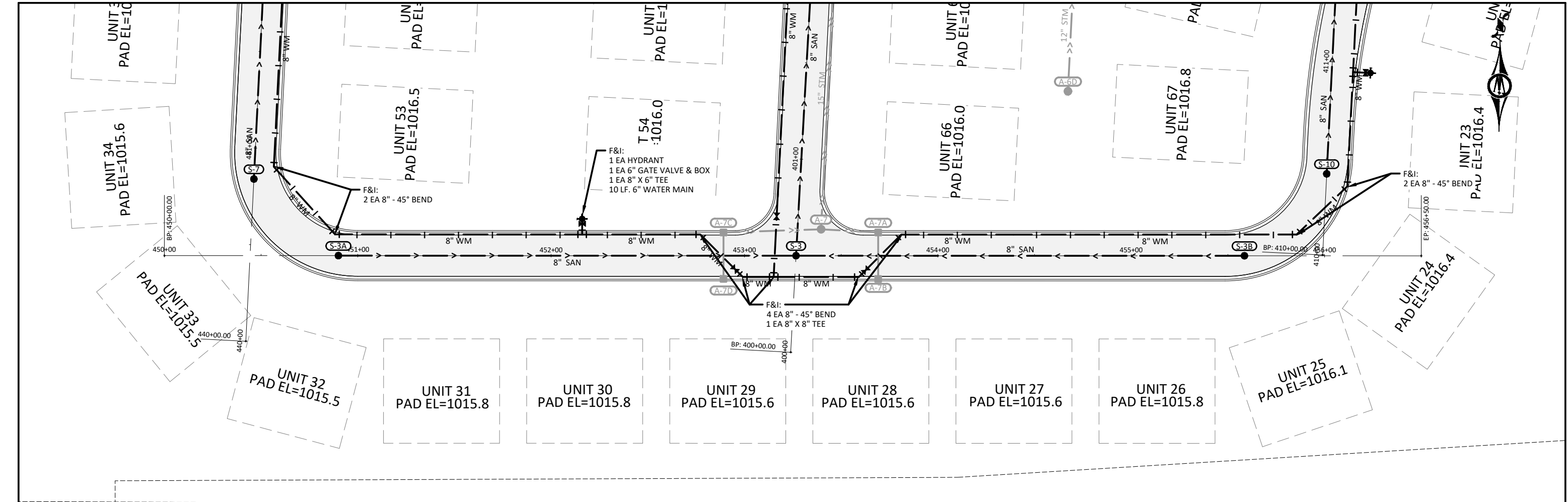


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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
SANITARY SEWER & WATERMAIN PLAN & PROFILE
AVEYDA BEND TRAIL - STA 440+00 TO 446+50

SHEET
C4.06



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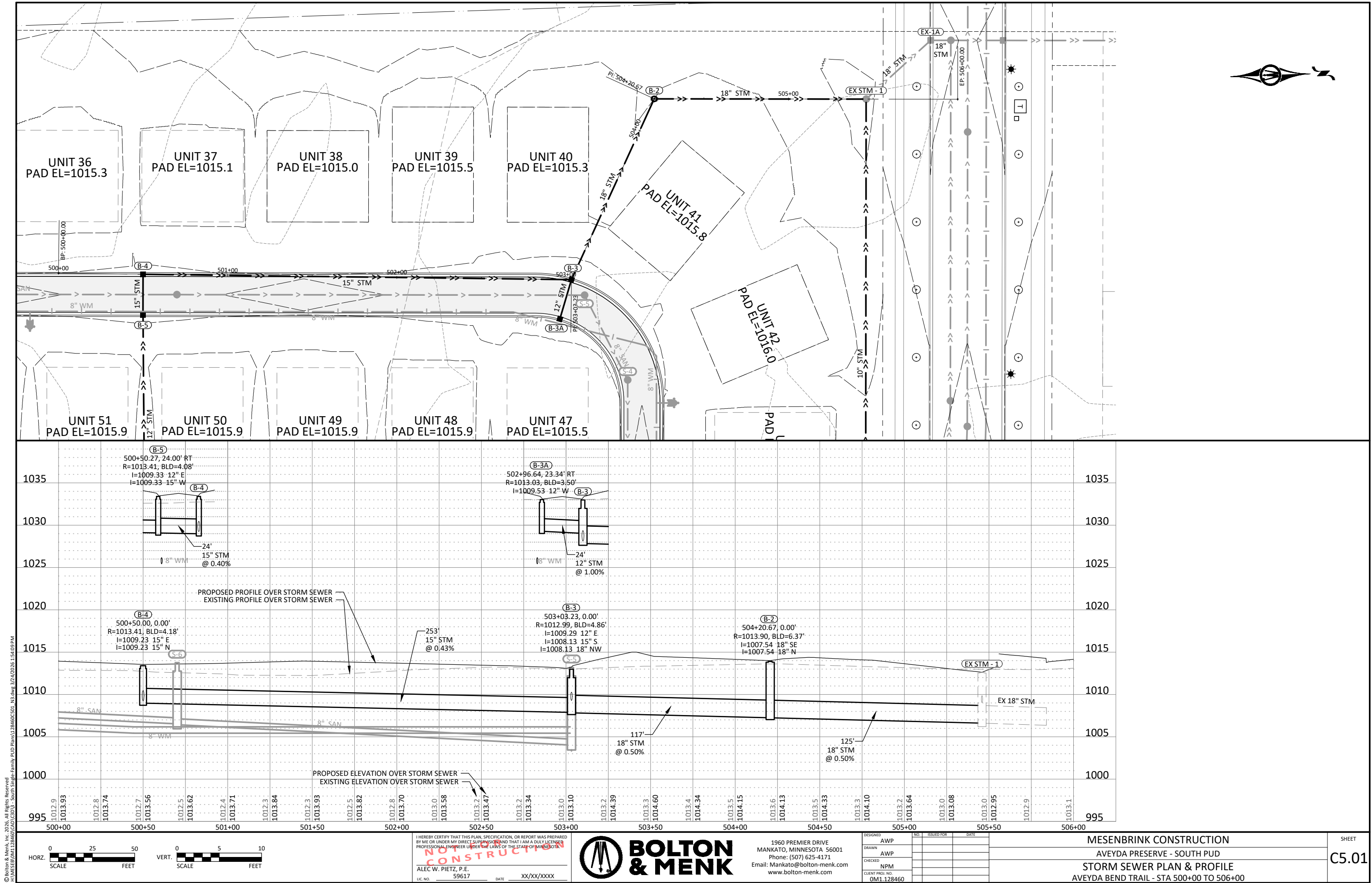
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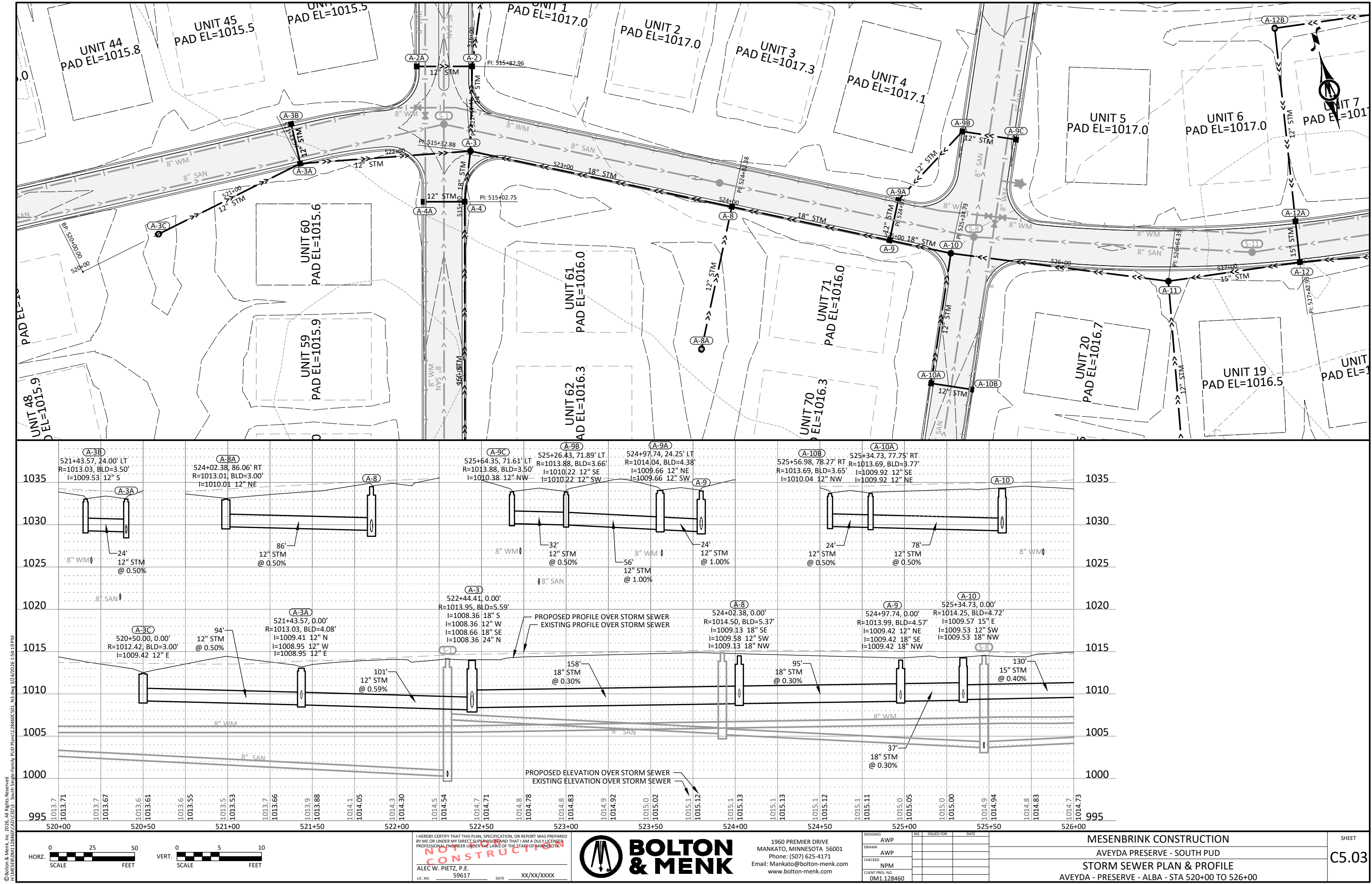
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
SANITARY SEWER & WATERMAIN PLAN & PROFILE
AVEYDA BEND TRAIL - STA 450+00 TO 456+50

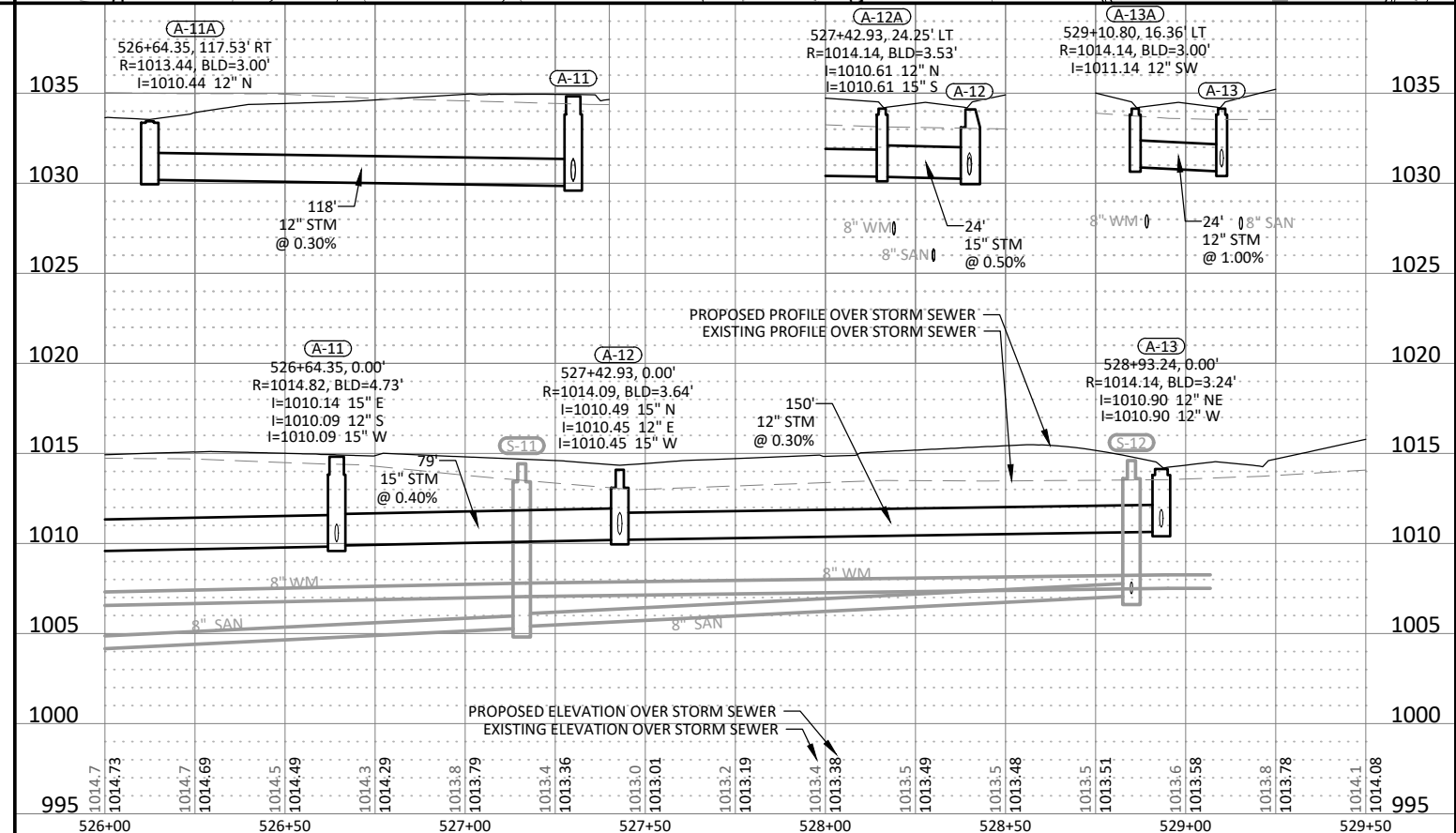
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C4.07





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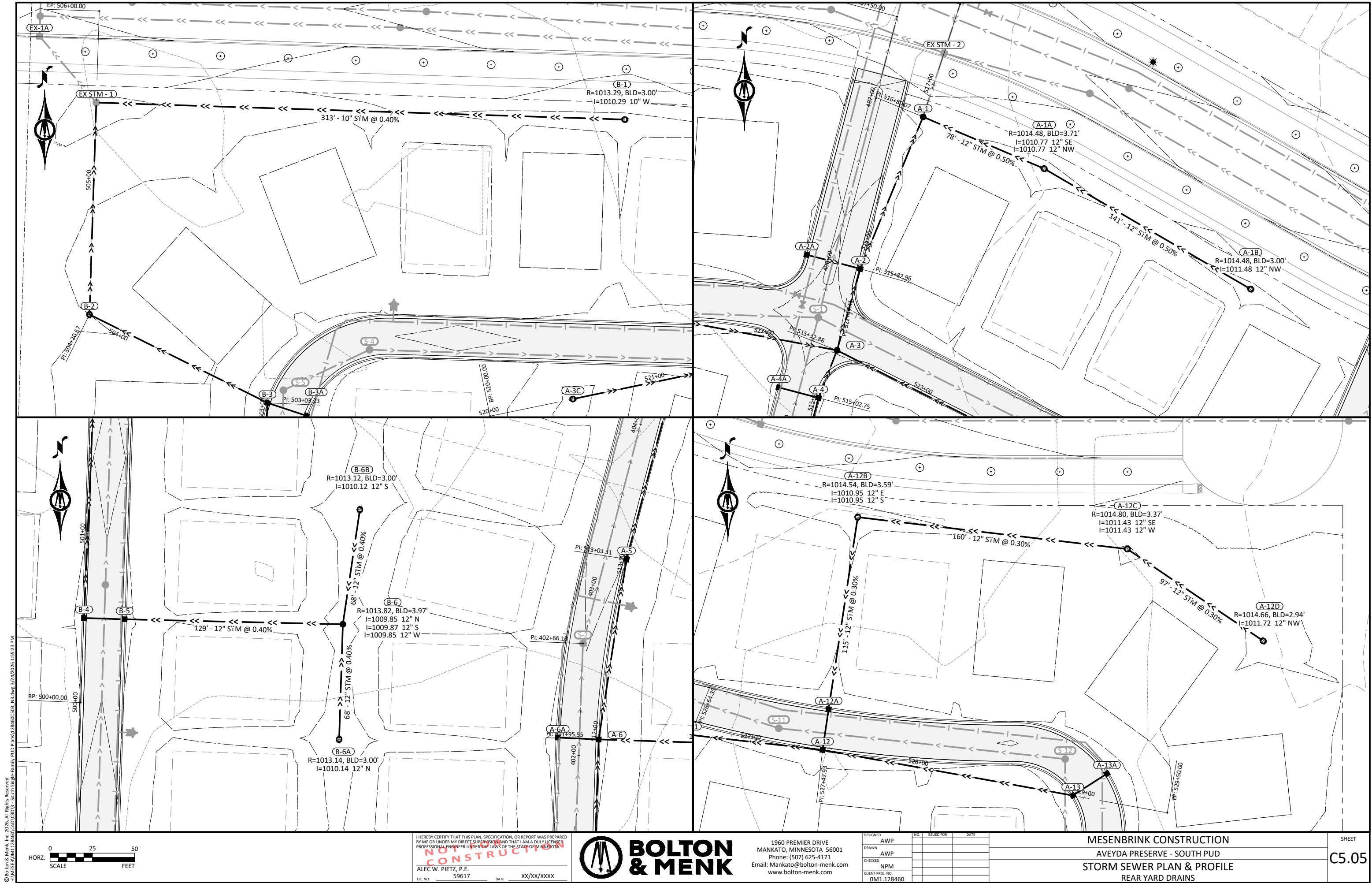


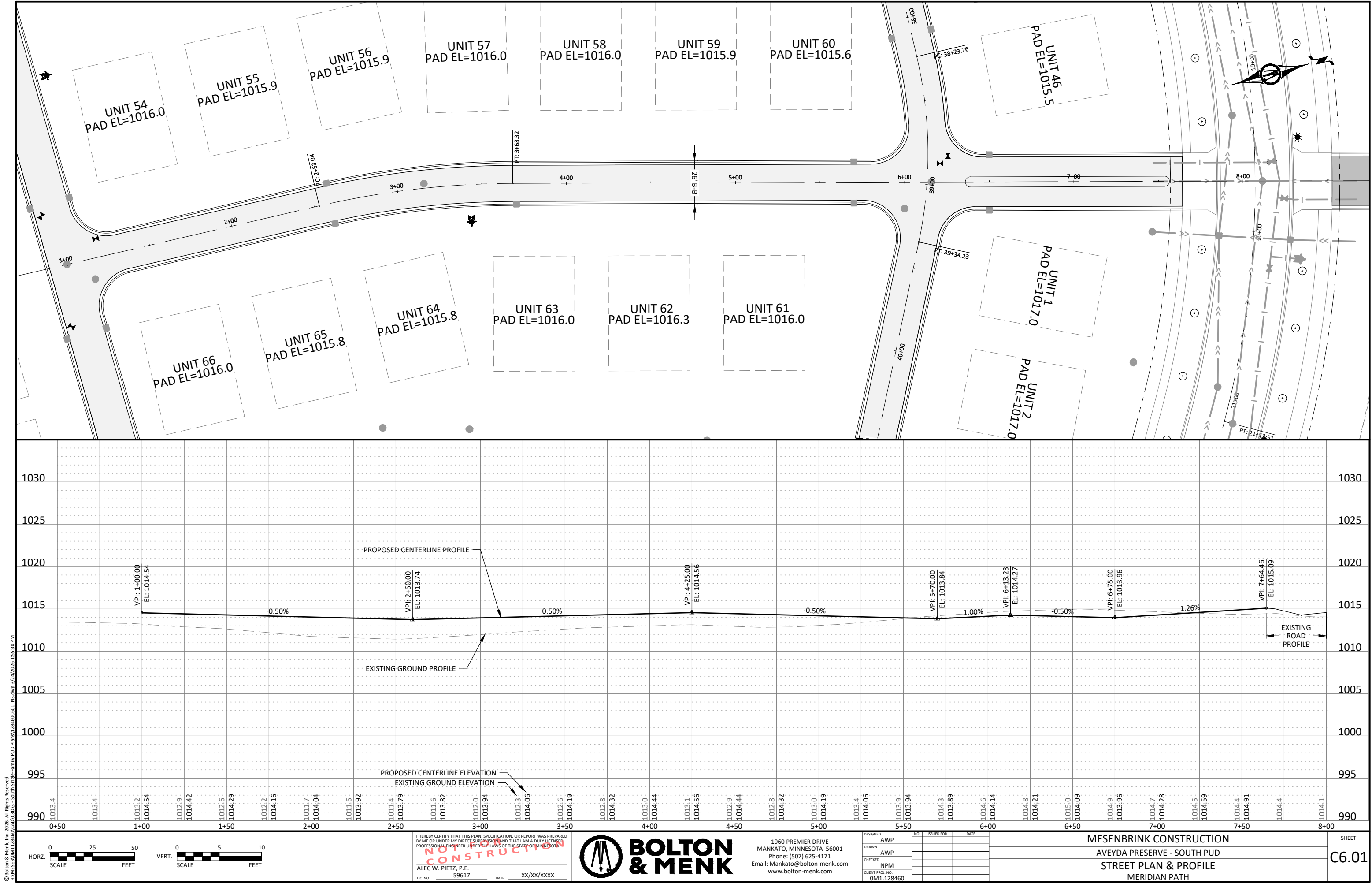
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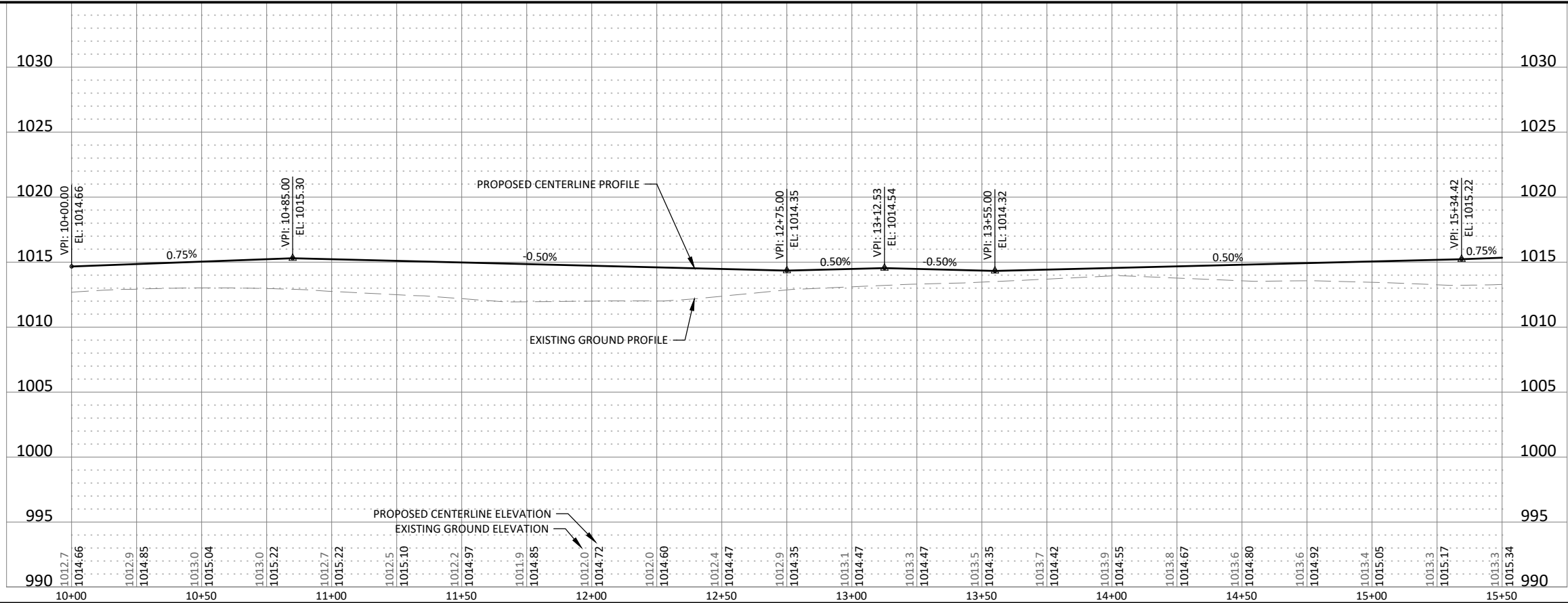
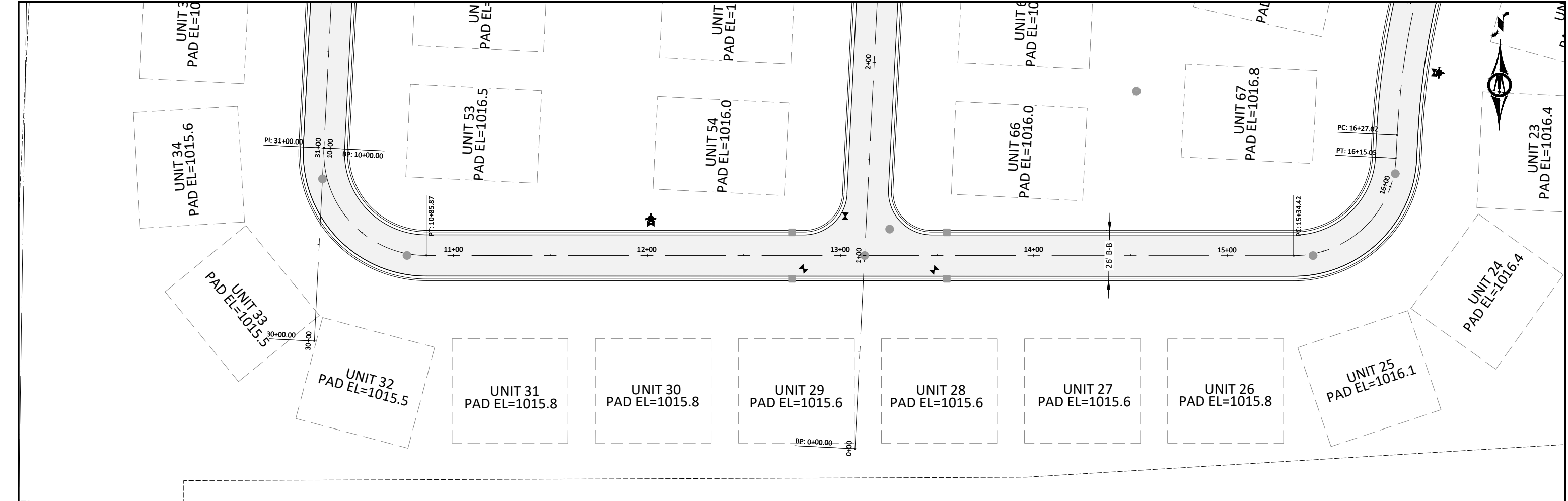
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AVEYDA PRESERVE - SOUTH PUD
STORM SEWER PLAN & PROFILE
ALBA CIRCLE - STA 526+00 TO 529+50

SHEET
C5.04





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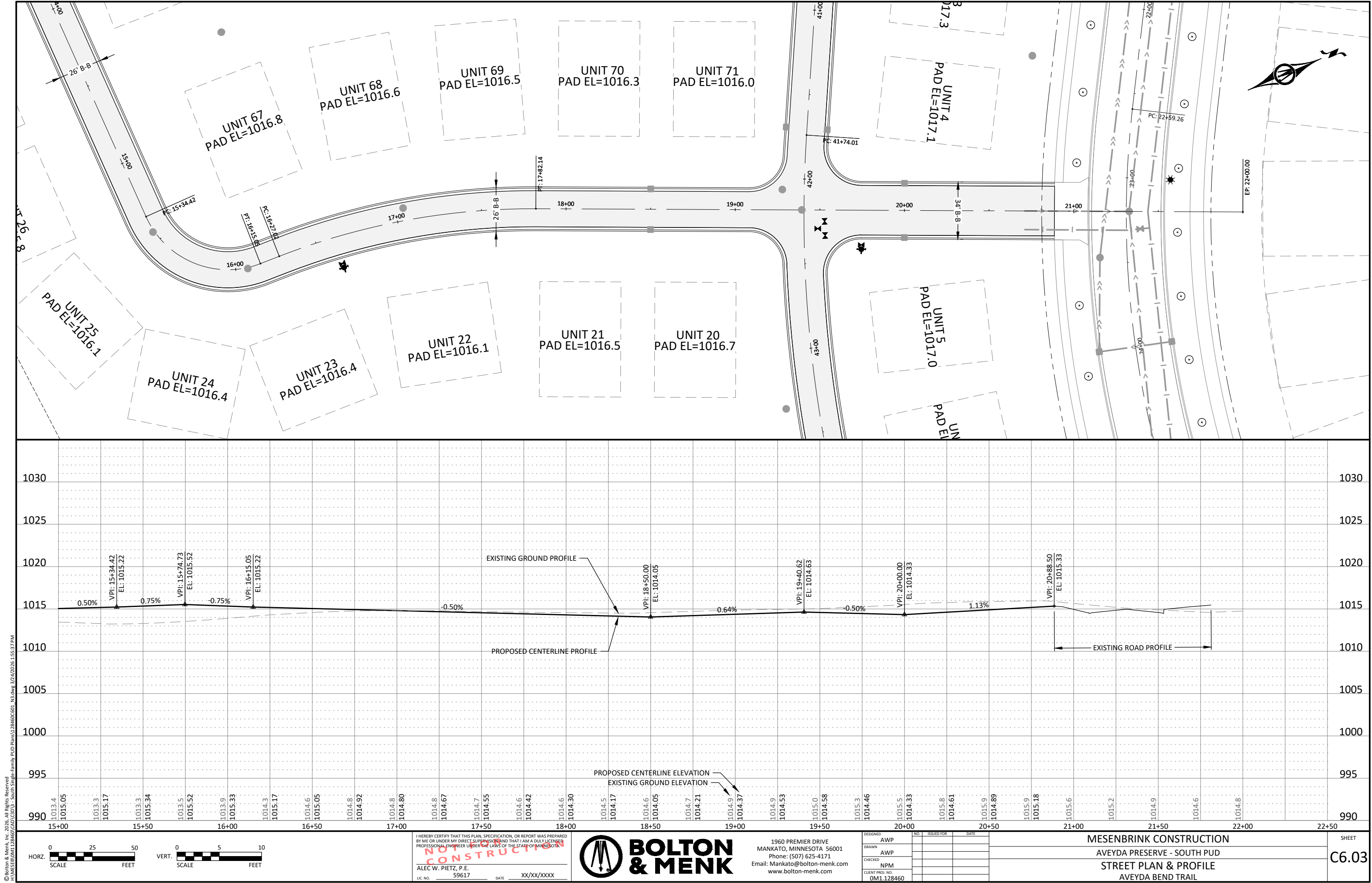
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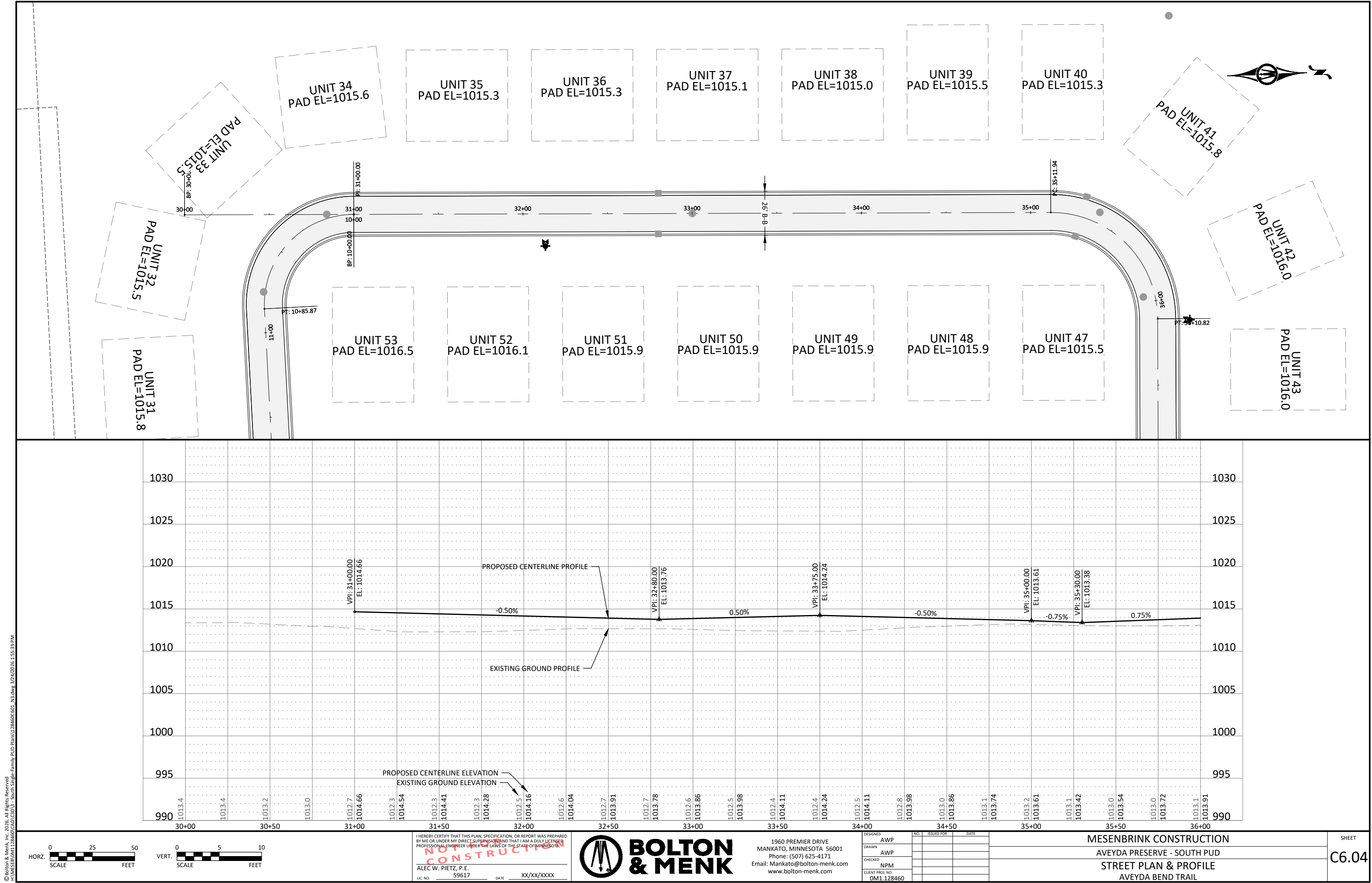
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
STREET PLAN & PROFILE
AVEYDA BEND TRAIL

SHEET
C6.02





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MESENBRINK CONSTRUCTION

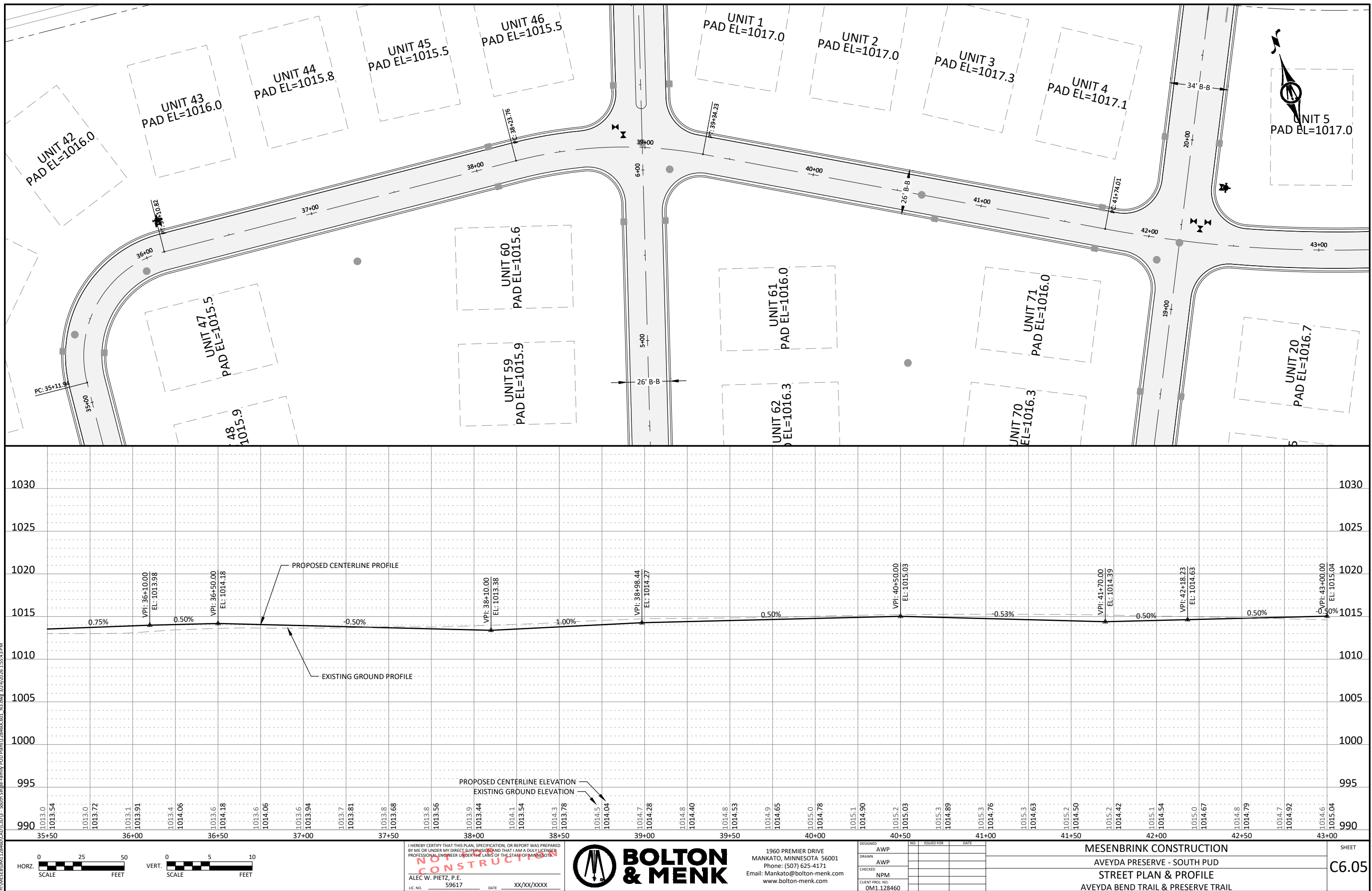
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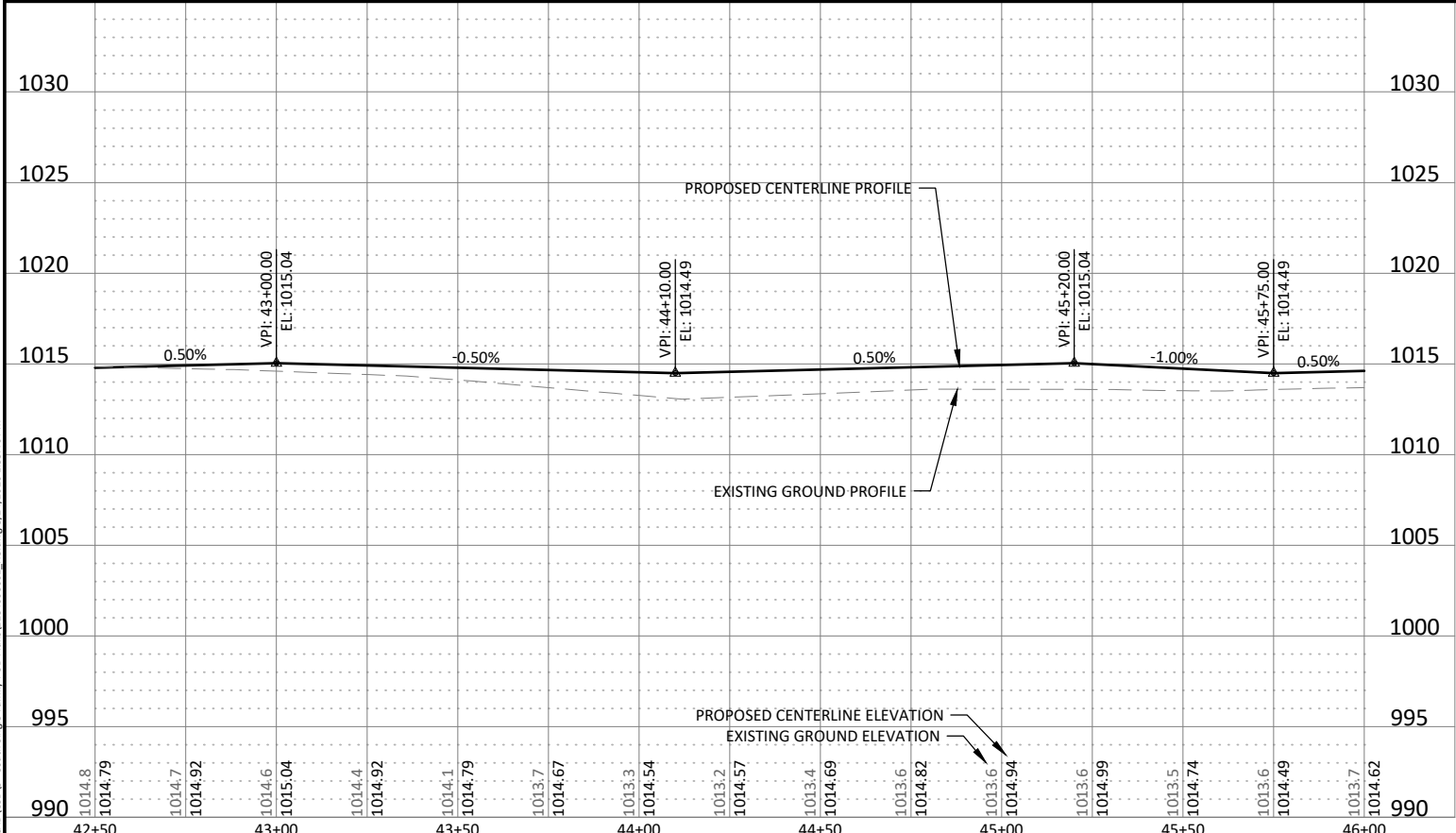
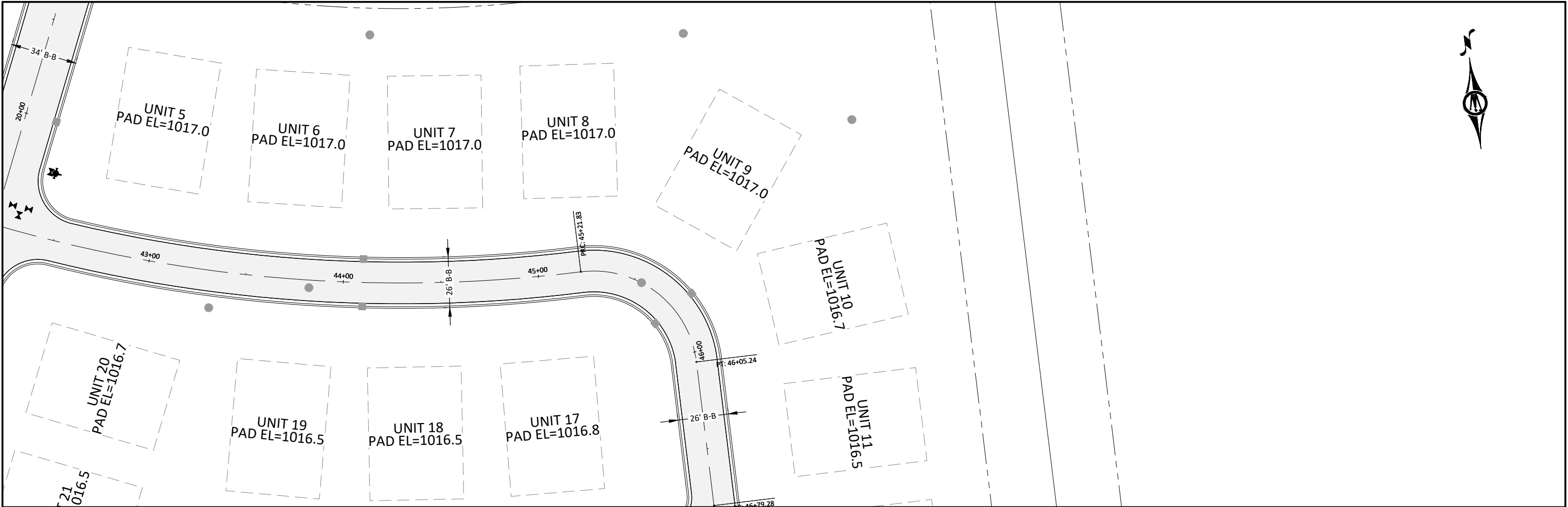
STREET PLAN & PROFILE

AVEYDA BEND TRAIL

SHEET

C6.04





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1014.79

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1013.6
1014.49

1013.7
1014.62

42+5043+0043+5044+0044+5045+0045+5046+00

02550

HORZ. SCALE FEET

0510

VERT. SCALE FEET

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LIC. NO. 59617

DATE XX/XX/XXXX

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Email: Mankato@bolton-menk.com
www.bolton-menk.com

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DRAWN	AWP			
CHECKED	NPM			
CLIENT PROJ. NO.	0M1.128460			

MESENBRINK CONSTRUCTION

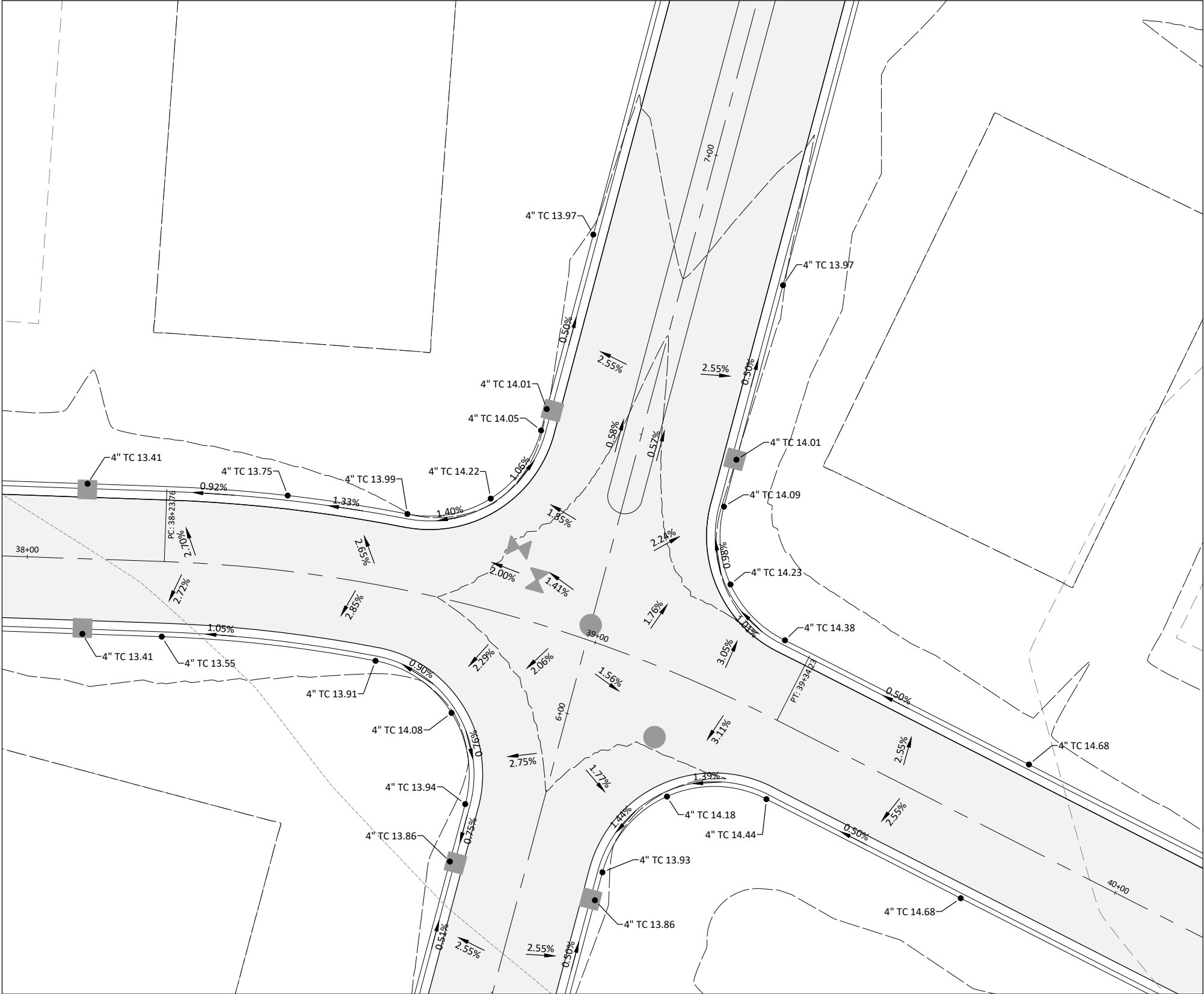
AVEYDA PRESERVE - SOUTH PUD

STREET PLAN & PROFILE

ALBA CIRCLE

SHEET

C6.06

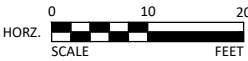


LEGEND	
6" TC=	6" HEIGHT CURB
4" TC=	4" HEIGHT CURB
B=	BITUMINOUS
ME=	MATCH EXISTING



MERIDIAN PATH (NORTH)

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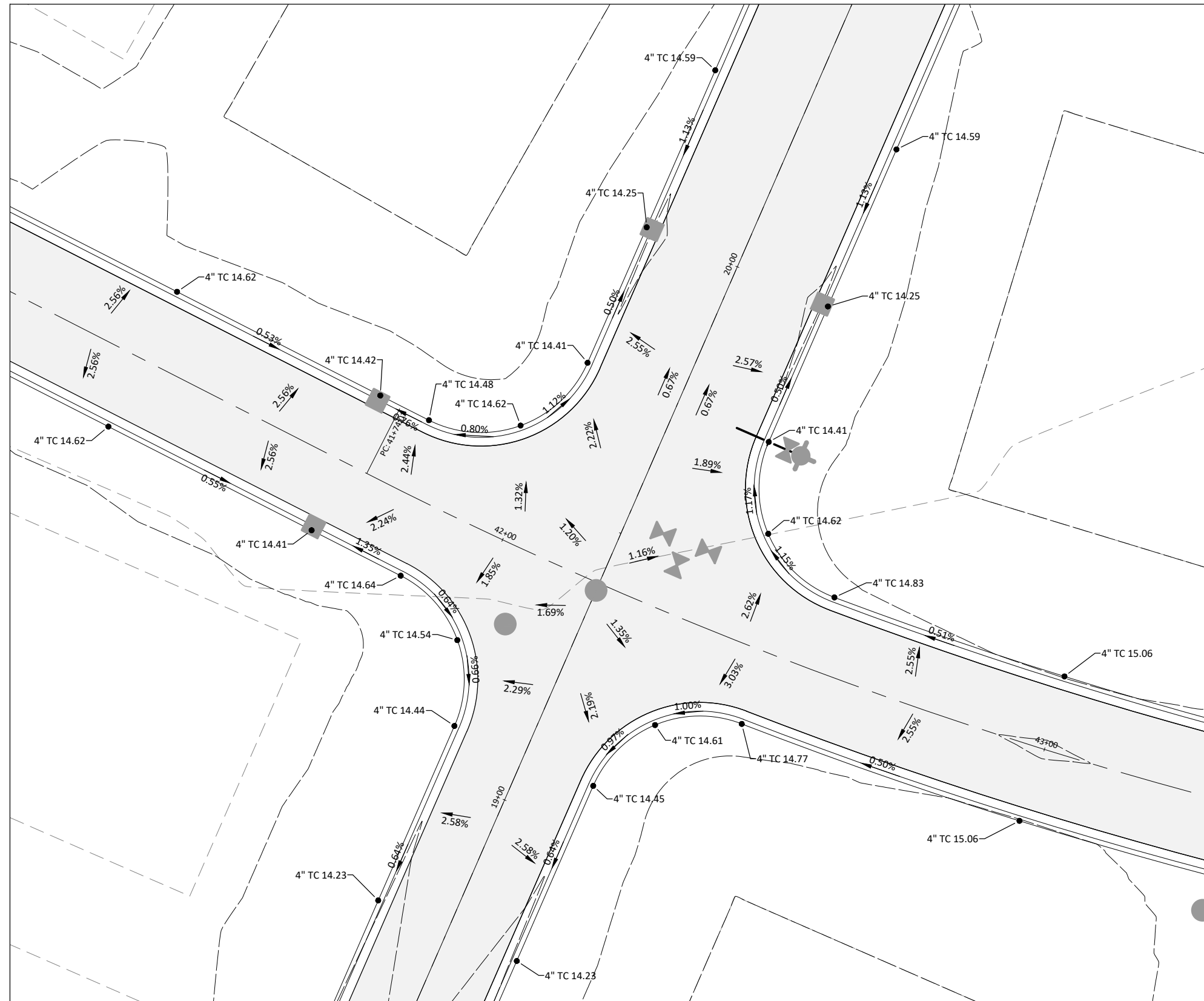
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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
INTERSECTION DETAILS
MERIDIAN PATH (NORTH)

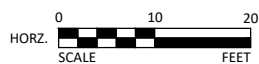
SHEET

C6.08



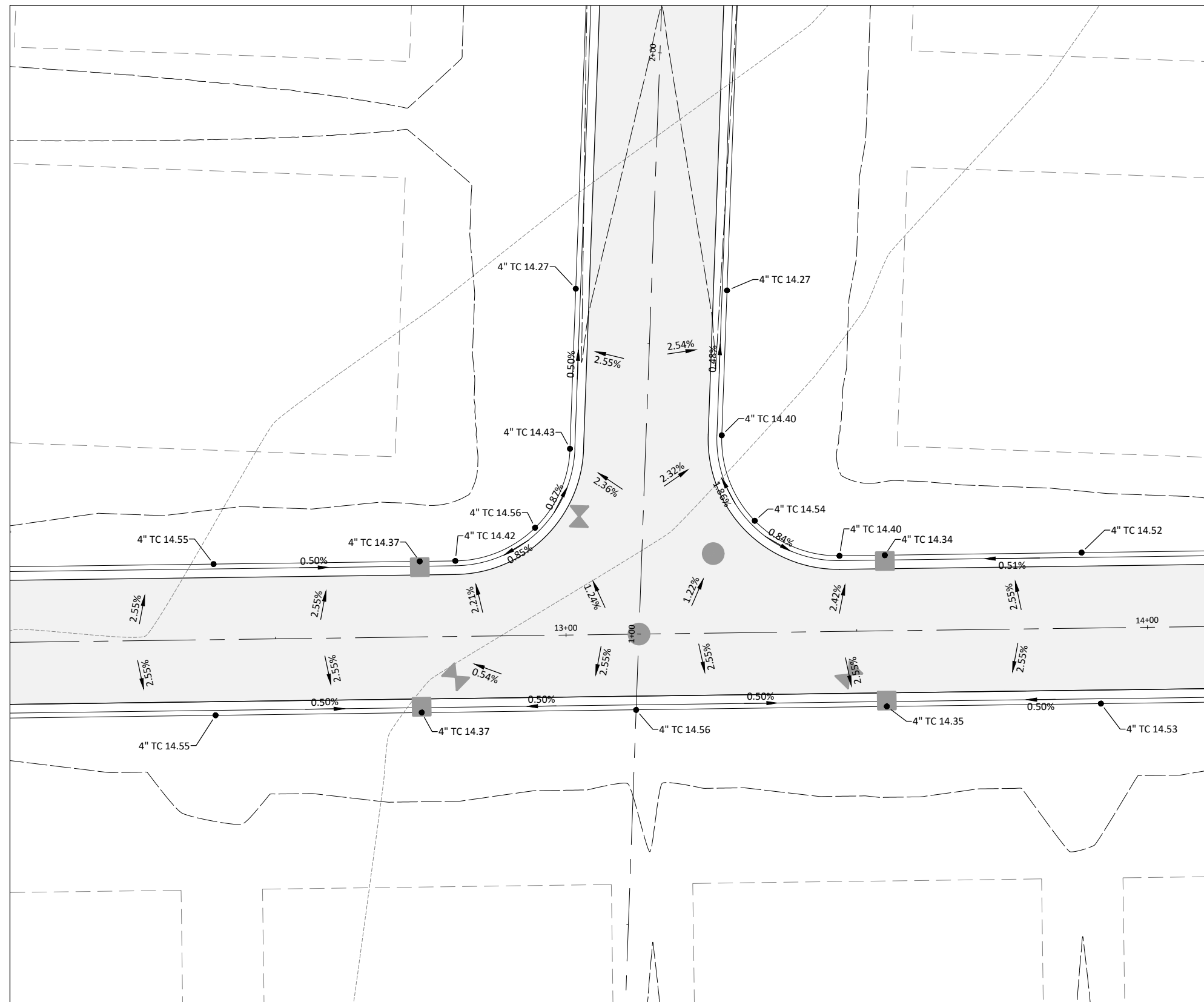
LEGEND

6" TC=	6" HEIGHT CURB
4" TC=	4" HEIGHT CURB
B=	BITUMINOUS
ME=	MATCH EXISTING



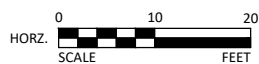
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SHEET
C6.09



LEGEND

6" TC=	6" HEIGHT CURB
4" TC=	4" HEIGHT CURB
B=	BITUMINOUS
ME=	MATCH EXISTING



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SHEET
C6.10

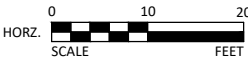


LEGEND	
6" TC=	6" HEIGHT CURB
4" TC=	4" HEIGHT CURB
B=	BITUMINOUS
ME=	MATCH EXISTING



ALBA CIRCLE

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MESENBRINK CONSTRUCTION
AVEYDA PRESERVE - SOUTH PUD
INTERSECTION DETAILS
ALBA CIRCLE

SHEET

C6.11