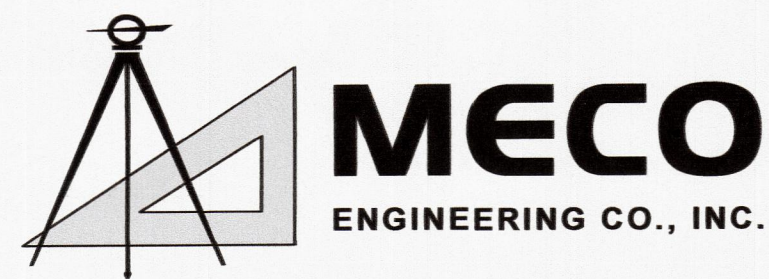


# RE-BID

# CIPP Lining and Replacement of Storm Sewer Piping Western Missouri Correctional Center Cameron, Missouri



mecoengineering.com  
MO Engineering Lic. #000898 - IL Design Firm #184-001749

**OFFICE LOCATIONS**  
HANNIBAL, MO  
JEFFERSON CITY, MO  
BRANSON, MO  
BOONVILLE, MO  
PITTSFIELD, IL

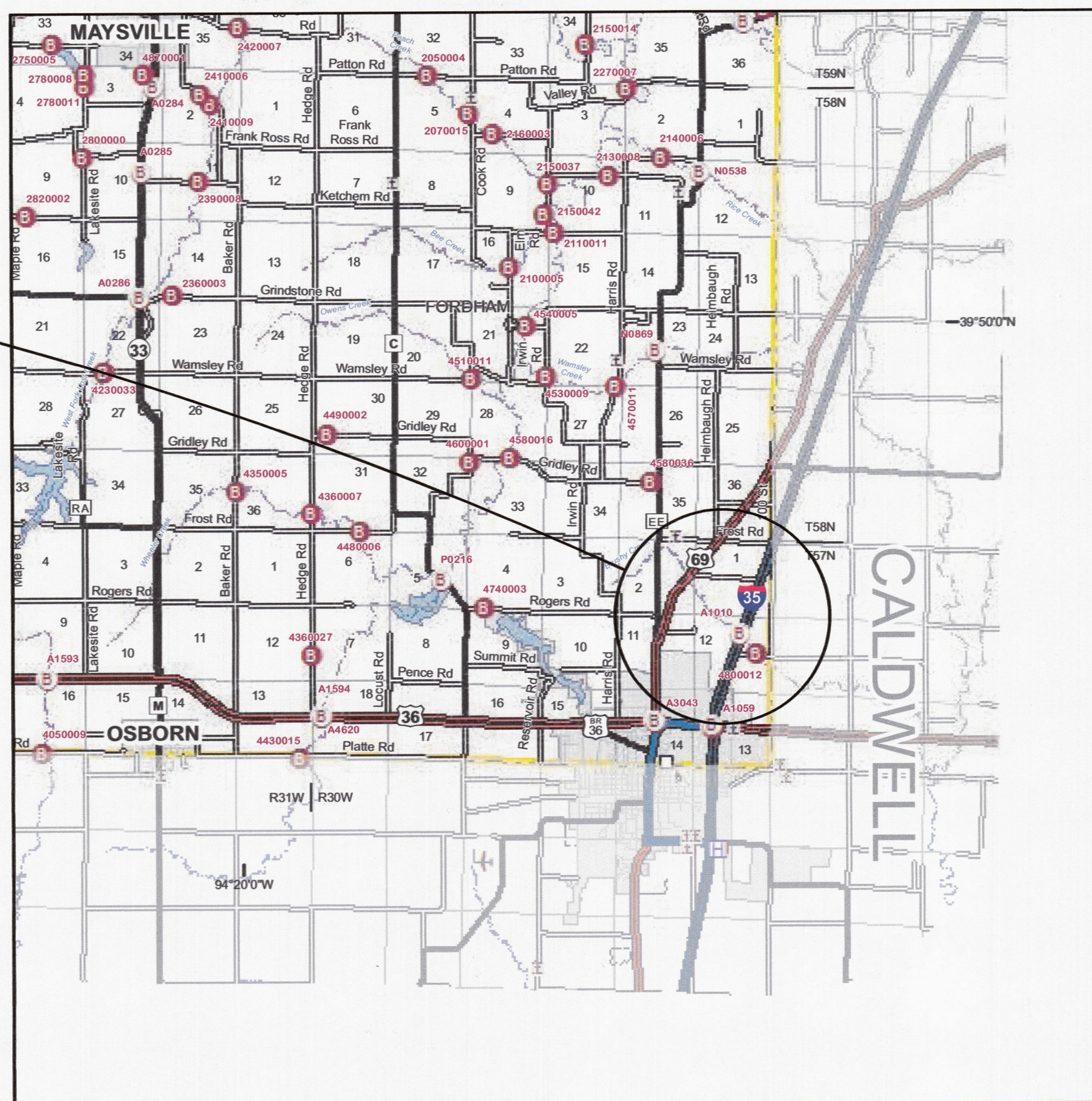


## LEGEND / ABBREVIATIONS

	LIGHT POLE	STA.	STATION
	POWER POLE	INV.	INVERT
	EXISTING STORM SEWER STRUCTURE	EL.	ELEVATION
	EXISTING MANHOLE	N	NORTH
	PROPOSED MANHOLE	S	SOUTH
	EXISTING STORM SEWER LINE	E	EAST
	PROPOSED STORM SEWER LINE	W	WEST
	EXISTING UNDERGROUND ELECTRIC	NW	NORTHWEST
	EXISTING CHAIN LINK FENCE	NE	NORTHEAST
	EXISTING ELECTRIC BORDER WIRE	SW	SOUTHWEST
	PROPOSED SILT FENCE	SE	SOUTHEAST
	EXISTING EDGE OF ASPHALT	M.H.	MANHOLE
	EXISTING CONTOURS	I.D.	INSIDE DIAMETER
	EXISTING GRAVE SURFACING	T.O.	TOP OF
		T.B.M.	TEMPORARY BENCHMARK
		CONC.	CONCRETE
		TYP.	TYPICAL

## INDEX OF SHEETS

SHEET NO.	SHEET DESCRIPTION
G-001	COVER SHEET / LOCATION MAP
C-101	EXISTING NORTHWEST STORM SEWER SITE CONDITION PLAN
C-102	EXISTING SOUTHEAST STORM SEWER SITE CONDITION PLAN
C-103	NORTHWEST STORM SEWER SITE PLAN BASE BID
C-104	SOUTHEAST STORM SEWER SITE PLAN BASE BID
C-105	SOUTHEAST STORM SEWER SITE PLAN ALTERNATE BID #1
C-106	NORTHWEST STORM SEWER SITE PLAN ALTERNATE BID#2
C-107	NORTHWEST & SOUTHEAST STORM SEWER PROFILES BASE BID
C-108	SOUTHEAST STORM SEWER PROFILES ALTERNATE BID #1
C-109	NORTHWEST STORM SEWER PROFILES ALTERNATE BID #2
C-501	TYPICAL DETAILS



LOCATION MAP

**OWNER:** STATE OF MISSOURI  
MICHAEL L. PARSON, GOVERNOR  
DEPARTMENT OF CORRECTIONS

**PROJECT MANAGEMENT:** OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES MANAGEMENT,  
DESIGN AND CONSTRUCTION

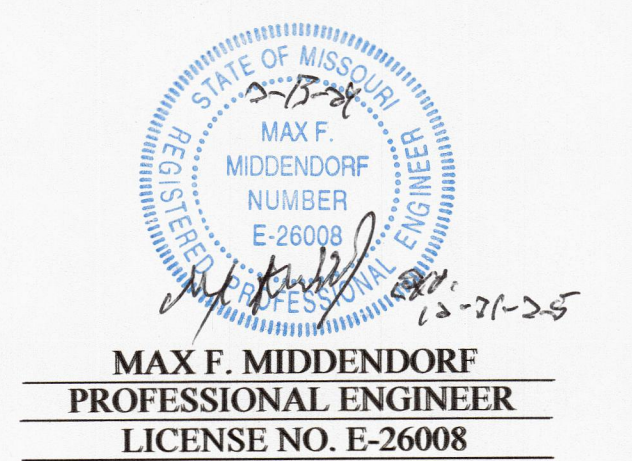
**DESIGNER:** MECO ENGINEERING COMPANY INC.

**PROJECT NUMBER:** C2223-03

**SITE NUMBER:** 7011

**ASSET NUMBER:** 9327011049

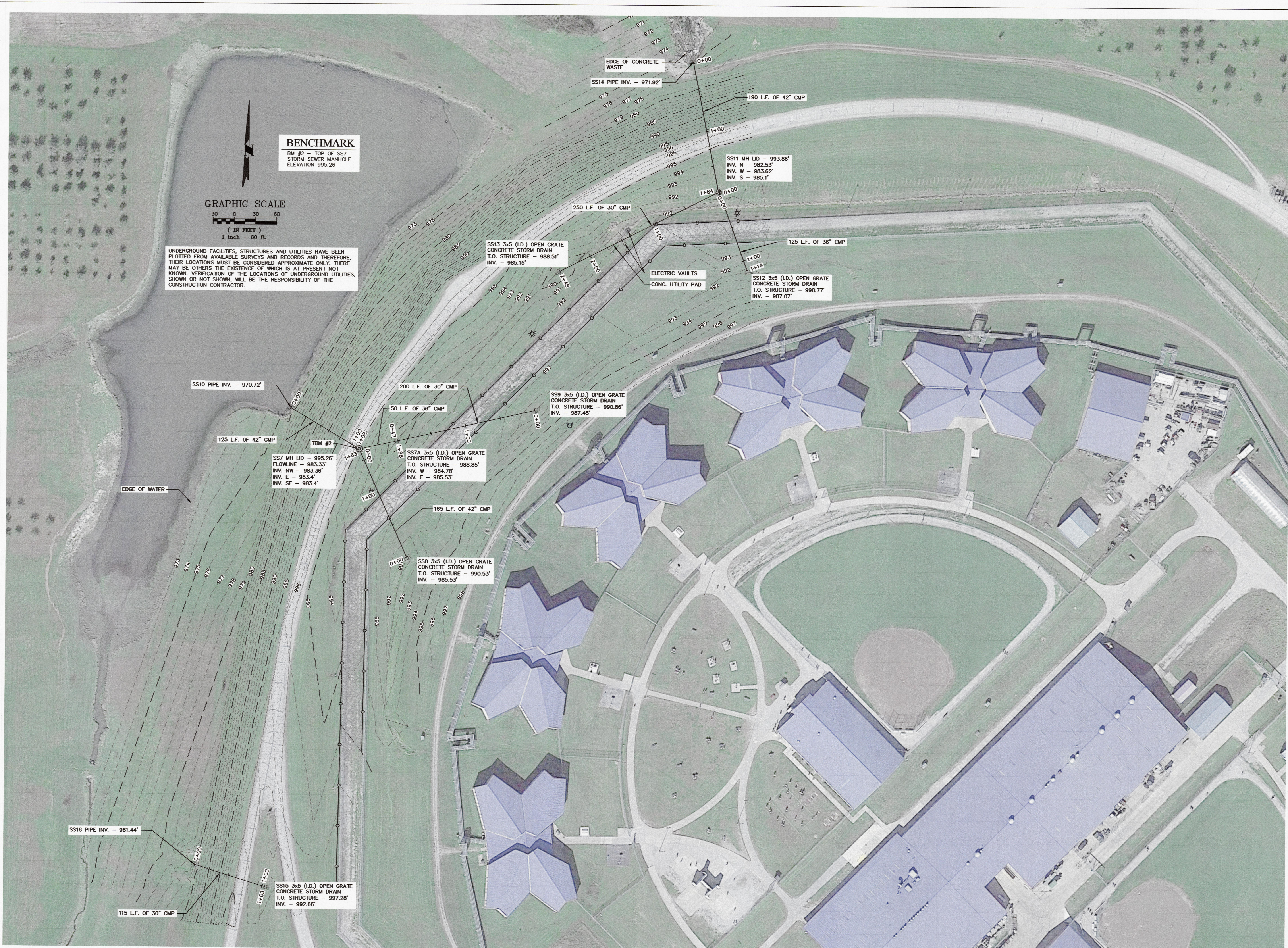
**MISSOURI STATE CERTIFICATE OF AUTHORITY:** 00273655



SHEET NUMBER:

# G-001

1 OF 11 SHEETS  
FEBRUARY 14, 2024

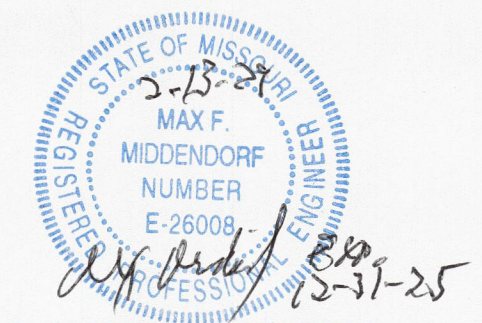


**BENCHMARK**  
 BM #2 - TOP OF SS7  
 STORM SEWER MANHOLE  
 ELEVATION 995.26

**GRAPHIC SCALE**  
 ( IN FEET )  
 1 inch = 60 ft.

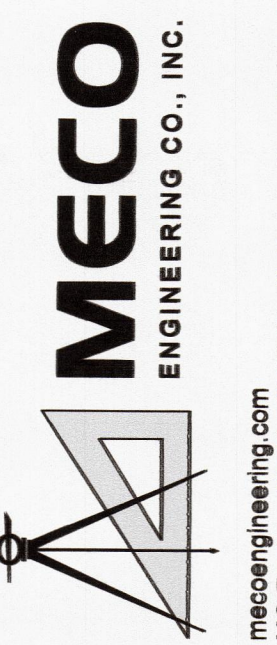
UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS THE EXISTENCE OF WHICH IS AT PRESENT NOT KNOWN. VERIFICATION OF THE LOCATIONS OF UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, WILL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR.

STATE OF MISSOURI  
 MICHAEL L. PARSON,  
 GOVERNOR



MAX F. MIDDENDORF  
 PROFESSIONAL ENGINEER  
 LICENSE NO. E-26008

OFFICE LOCATIONS  
 HANNIBAL, MO  
 JEFFERSON CITY, MO  
 BRANSON, MO  
 BOONVILLE, MO  
 PITTSFIELD, IL



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DEPARTMENT OF  
 CORRECTIONS

STORM SEWER LINING

WESTERN MISSOURI  
 CORRECTIONAL CENTER  
 CAMERON, MISSOURI

PROJECT # C2223-03  
 SITE # 7011  
 ASSET # 9327011049

REVISION: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 ISSUE DATE: 09/26/2023

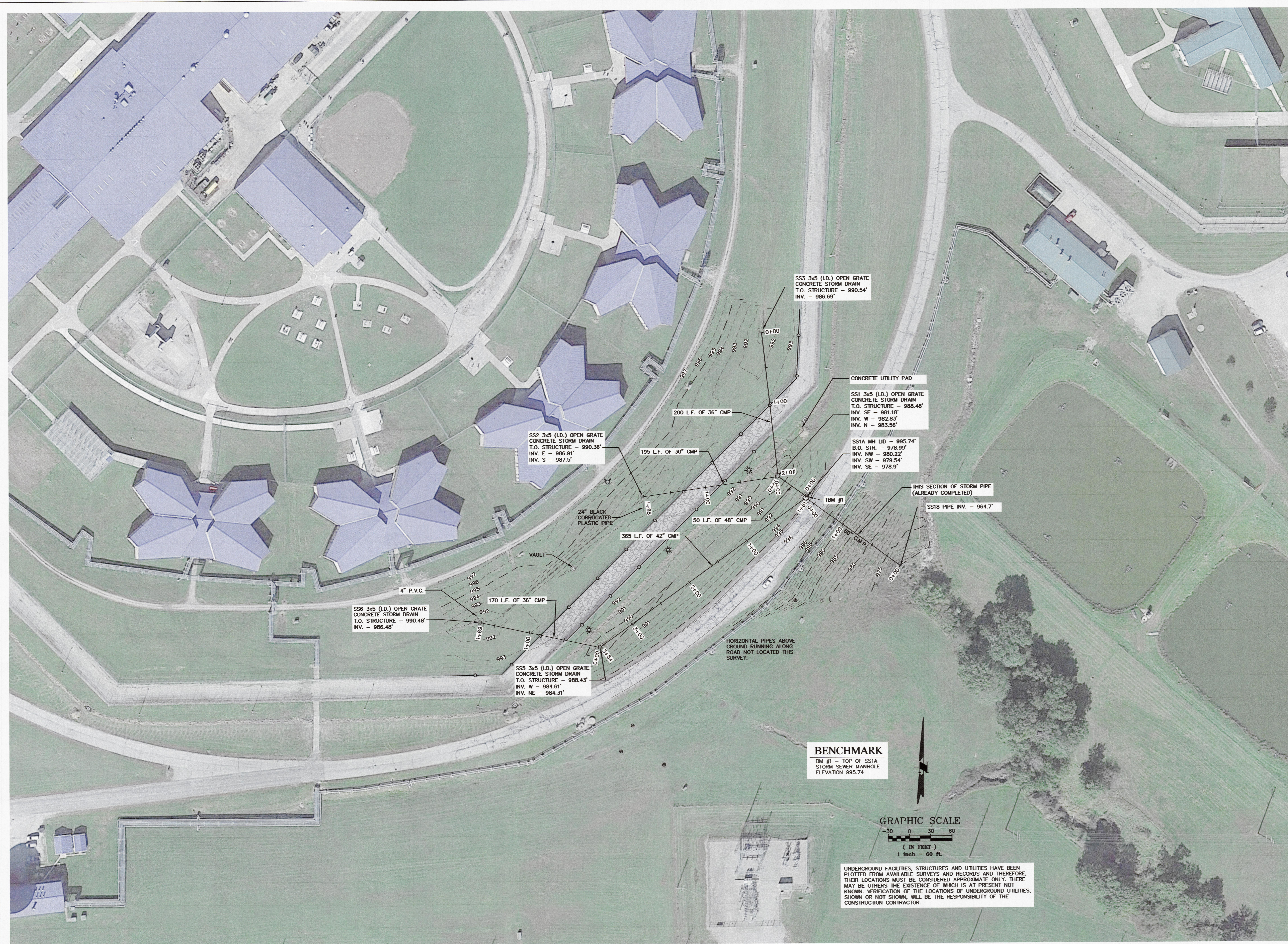
CAD DWG FILE: ?  
 DRAWN BY: R.HAYES  
 CHECKED BY: B.MARTIN  
 DESIGNED BY: B.MARTIN

SHEET TITLE:  
**EXISTING NORTHWEST  
 STORM SEWER SITE  
 CONDITION PLAN**

SHEET NUMBER:

**C-101**

SHEET 2 OF 11  
 FEBRUARY 14, 2024



STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR



MAX F. MIDDENDORF  
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CORRECTIONS

STORM SEWER LINING

WESTERN MISSOURI  
CORRECTIONAL CENTER  
CAMERON, MISSOURI

PROJECT # C2223-03  
SITE # 7011  
ASSET # 9327011049

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 09/26/2023

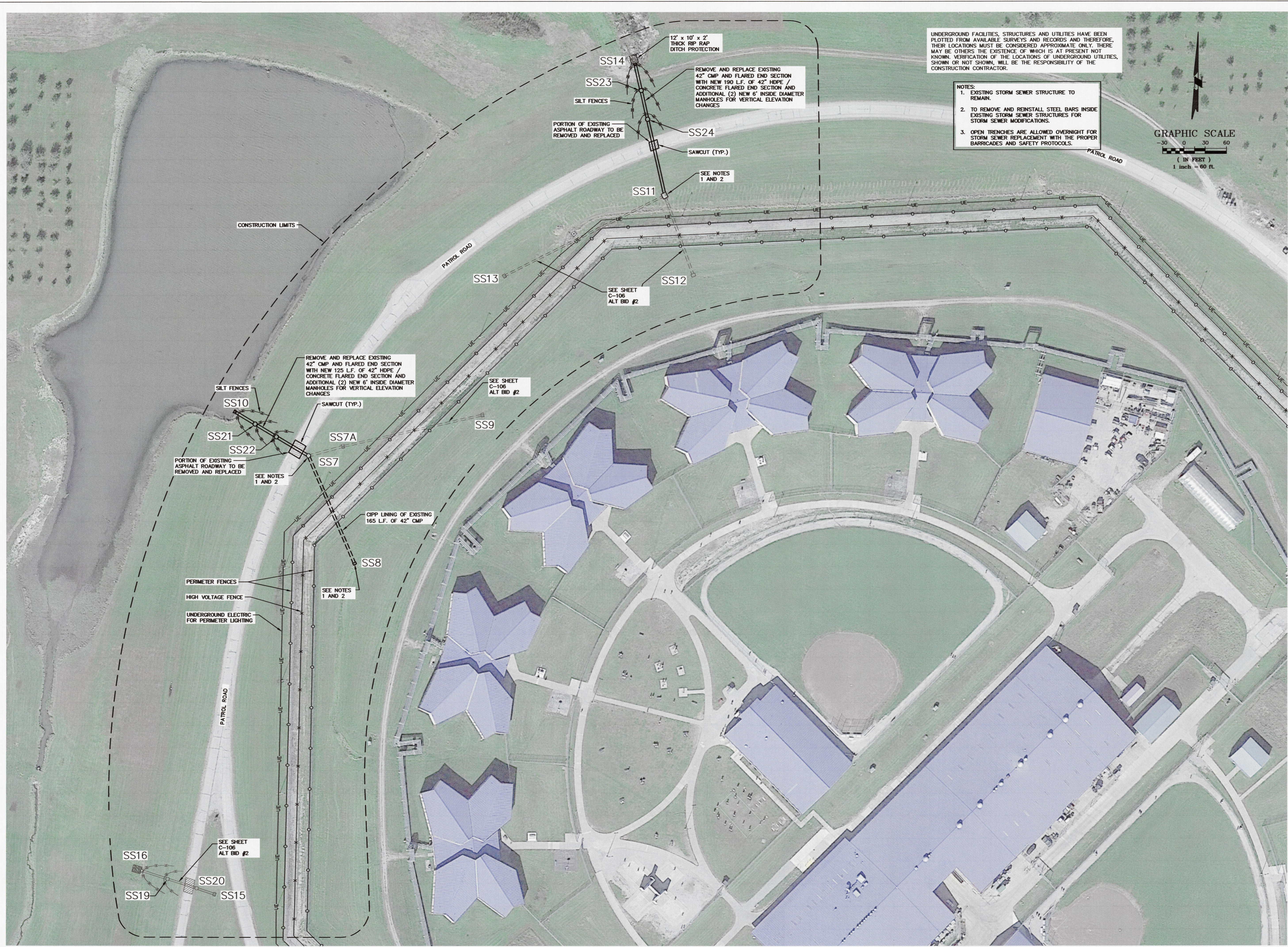
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DRAWN BY: R.HAYES  
CHECKED BY: B.MARTIN  
DESIGNED BY: B.MARTIN

SHEET TITLE:  
EXISTING SOUTHEAST  
STORM SEWER SITE  
CONDITION PLAN

SHEET NUMBER:

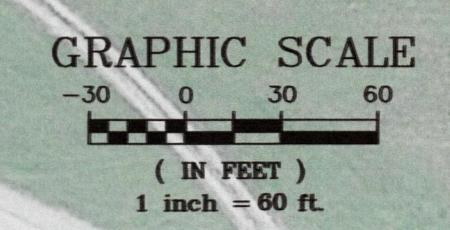
C-102

SHEET 3 OF 11  
FEBRUARY 14, 2024

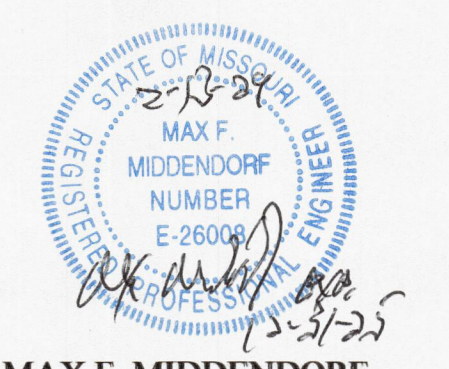


UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS THE EXISTENCE OF WHICH IS AT PRESENT NOT KNOWN. VERIFICATION OF THE LOCATIONS OF UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, WILL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR.

- NOTES:
1. EXISTING STORM SEWER STRUCTURE TO REMAIN.
  2. TO REMOVE AND REINSTALL STEEL BARS INSIDE EXISTING STORM SEWER STRUCTURES FOR STORM SEWER MODIFICATIONS.
  3. OPEN TRENCHES ARE ALLOWED OVERNIGHT FOR STORM SEWER REPLACEMENT WITH THE PROPER BARRICADES AND SAFETY PROTOCOLS.



STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR



MAX F. MIDDENDORF  
PROFESSIONAL ENGINEER  
LICENSE NO. E-26008

- OFFICE LOCATIONS
- HANNIBAL, MO
  - JEFFERSON CITY, MO
  - BRANSON, MO
  - BOONVILLE, MO
  - PITTSFIELD, IL



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DESIGN AND CONSTRUCTION

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CORRECTIONS

STORM SEWER LINING

WESTERN MISSOURI  
CORRECTIONAL CENTER  
CAMERON, MISSOURI

PROJECT # C2223-03  
SITE # 7011  
ASSET # 9327011049

REVISION: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
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ISSUE DATE: 09/26/2023

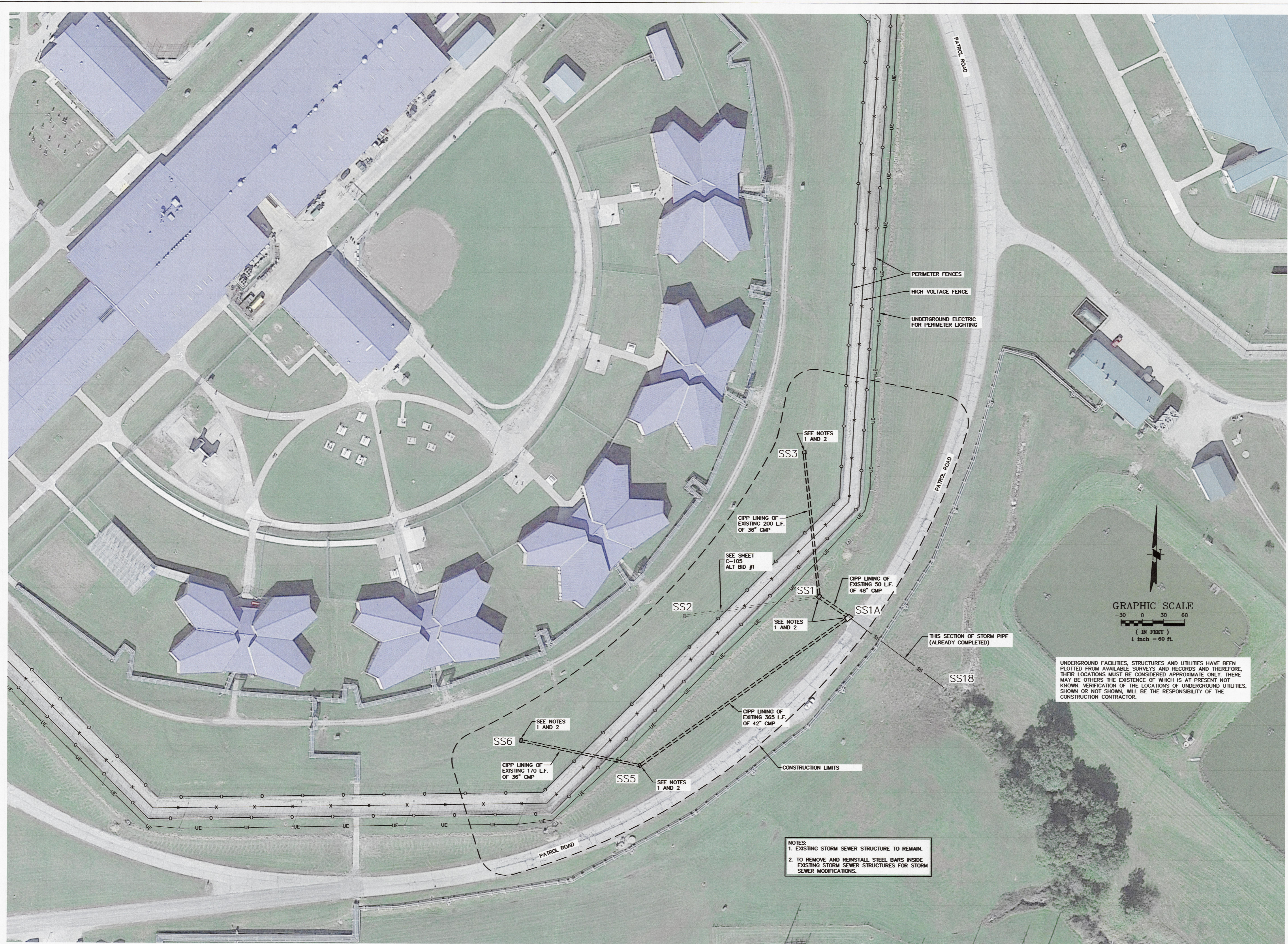
CAD DWG FILE: ?  
DRAWN BY: B.F. & R.H.  
CHECKED BY: B.MARTIN  
DESIGNED BY: B.MARTIN

SHEET TITLE:  
**NORTHWEST STORM  
SEWER SITE PLAN  
BASE BID**

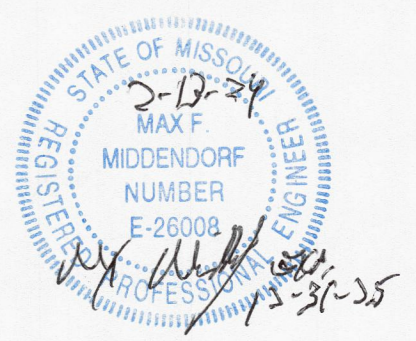
SHEET NUMBER:

**C-103**

SHEET 4 OF 11  
FEBRUARY 14, 2024



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MICHAEL L. PARSON,  
GOVERNOR



MAX F. MIDDENDORF  
PROFESSIONAL ENGINEER  
LICENSE NO. E-26008

OFFICE LOCATIONS  
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BRANSON, MO  
BOONVILLE, MO  
PITTSFIELD, IL



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DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
CORRECTIONS

STORM SEWER LINING

WESTERN MISSOURI  
CORRECTIONAL CENTER  
CAMERON, MISSOURI

PROJECT # C2223-03  
SITE # 7011  
ASSET # 9327011049

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 09/26/2023

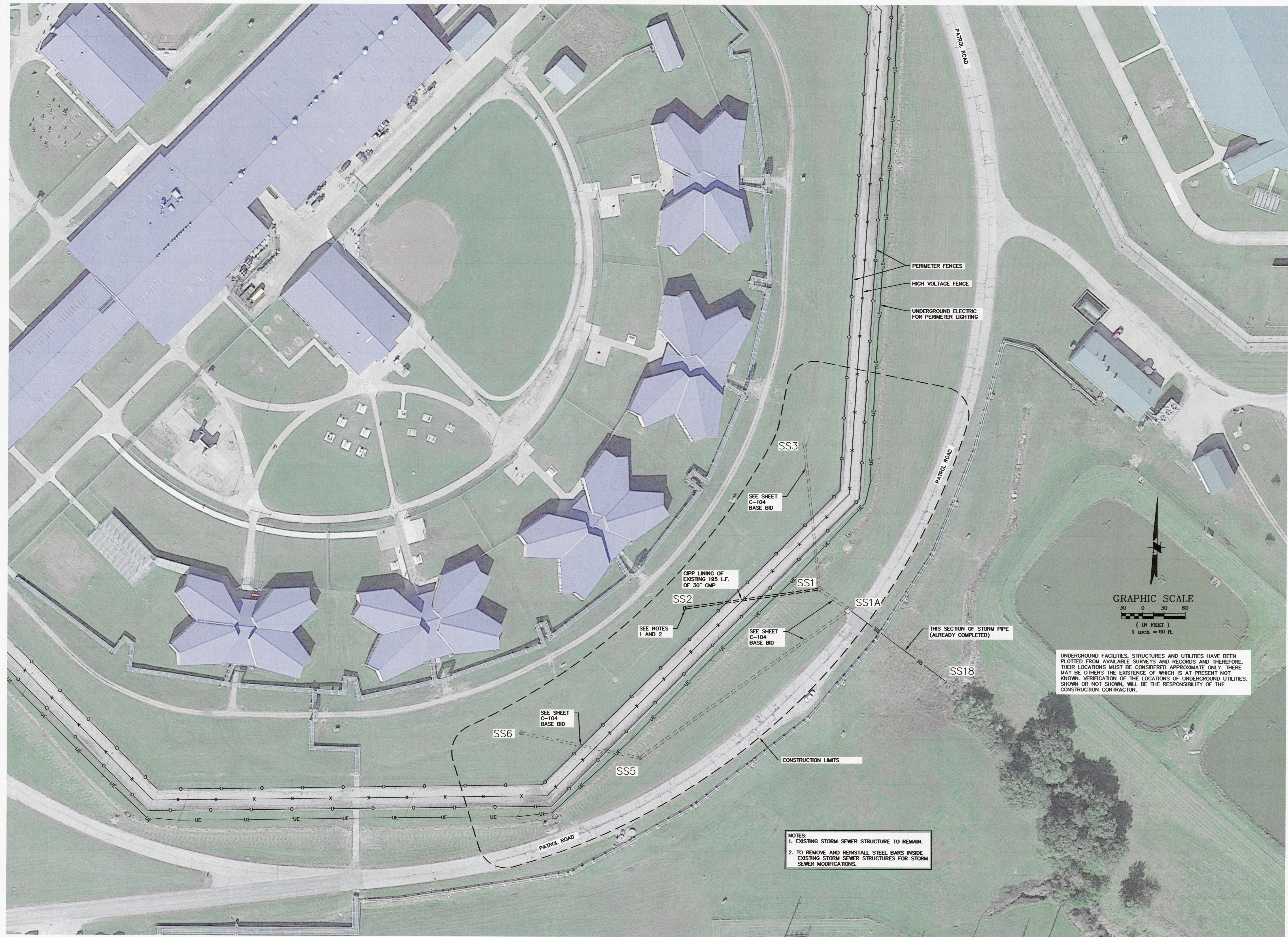
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DRAWN BY: B.F. & R.H.  
CHECKED BY: B.MARTIN  
DESIGNED BY: B.MARTIN

SHEET TITLE:  
**SOUTHEAST STORM  
SEWER SITE PLAN  
BASE BID**

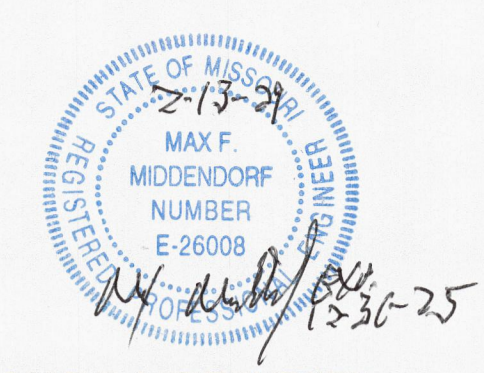
SHEET NUMBER:

**C-104**

SHEET 5 OF 11  
FEBRUARY 14, 2024



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LICENSE NO. E-26008

OFFICE LOCATIONS  
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JEFFERSON CITY, MO  
BRANSON, MO  
BOONVILLE, MO  
PITTSFIELD, IL



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MANAGEMENT,  
DESIGN AND CONSTRUCTION

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CORRECTIONS

STORM SEWER LINING

WESTERN MISSOURI  
CORRECTIONAL CENTER  
CAMERON, MISSOURI

PROJECT # C2223-03  
SITE # 7011  
ASSET # 9327011049

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 09/26/2023

CAD DWG FILE: ?  
DRAWN BY: B.F. & R.H.  
CHECKED BY: B.MARTIN  
DESIGNED BY: B.MARTIN

SHEET TITLE:  
**SOUTHEAST STORM  
SEWER SITE PLAN  
ALTERNATE BID #1**

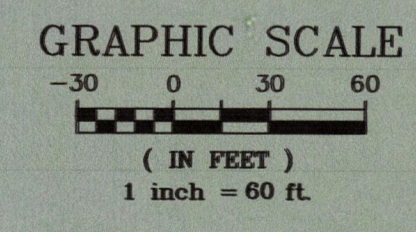
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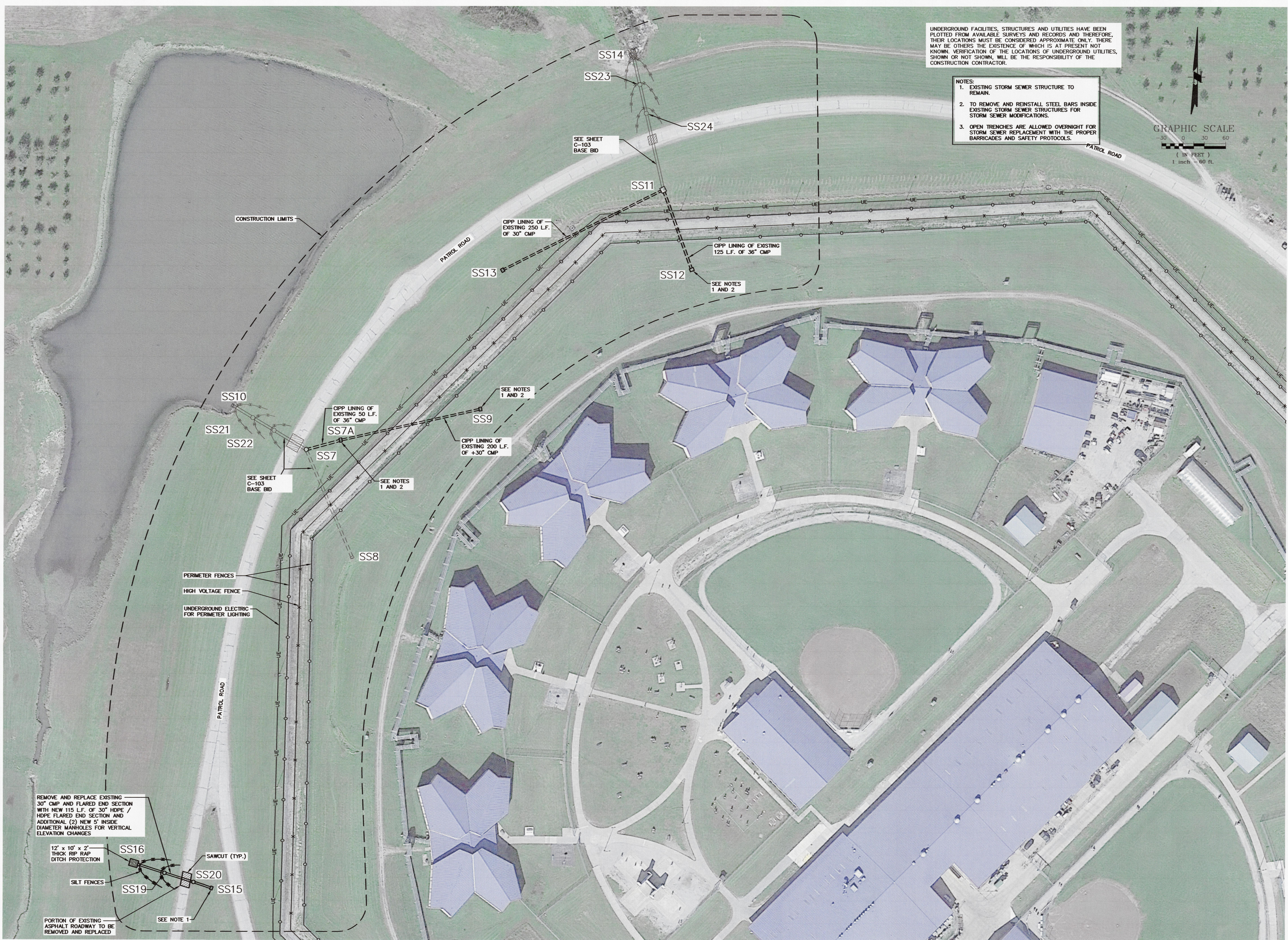
**C-105**

SHEET 6 OF 11  
FEBRUARY 14, 2024

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS THE EXISTENCE OF WHICH IS AT PRESENT NOT KNOWN. VERIFICATION OF THE LOCATIONS OF UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, WILL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR.

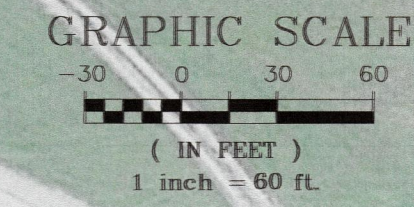
NOTES:  
1. EXISTING STORM SEWER STRUCTURE TO REMAIN.  
2. TO REMOVE AND REINSTALL STEEL BARS INSIDE EXISTING STORM SEWER STRUCTURES FOR STORM SEWER MODIFICATIONS.





UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS THE EXISTENCE OF WHICH IS AT PRESENT NOT KNOWN. VERIFICATION OF THE LOCATIONS OF UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, WILL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR.

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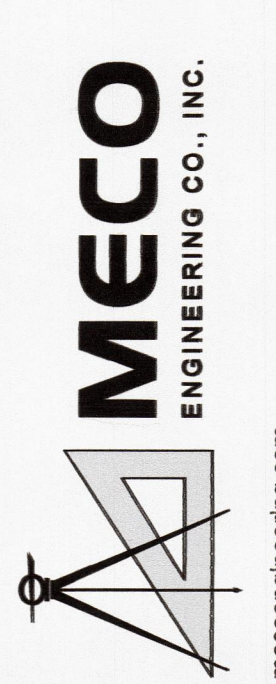


STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR



MAX F. MIDDENDORF  
PROFESSIONAL ENGINEER  
LICENSE NO. E-26008

OFFICE LOCATIONS  
HANNIBAL, MO  
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BOSSFELD, MO  
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DEPARTMENT OF  
CORRECTIONS

STORM SEWER LINING

WESTERN MISSOURI  
CORRECTIONAL CENTER  
CAMERON, MISSOURI

PROJECT # C2223-03  
SITE # 7011  
ASSET # 9327011049

REVISION: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 09/26/2023

CAD DWG FILE: ?  
DRAWN BY: B.F. & R.H.  
CHECKED BY: B.MARTIN  
DESIGNED BY: B.MARTIN

SHEET TITLE:  
NORTHWEST STORM  
SEWER SITE PLAN  
ALTERNATE BID #2

SHEET NUMBER:

**C-106**

SHEET 7 OF 11  
FEBRUARY 14, 2024



MAX F. MIDDENDORF  
PROFESSIONAL ENGINEER  
LICENSE NO. E-26008

OFFICE LOCATIONS  
HANNIBAL, MO  
JEFFERSON CITY, MO  
BRANSON, MO  
BOONVILLE, MO  
PITTSFIELD, IL



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DEPARTMENT OF  
CORRECTIONS

STORM SEWER LINING

WESTERN MISSOURI  
CORRECTIONAL CENTER  
CAMERON, MISSOURI

PROJECT # C2223-03  
SITE # 7011  
ASSET # 9327011049

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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 09/26/2023

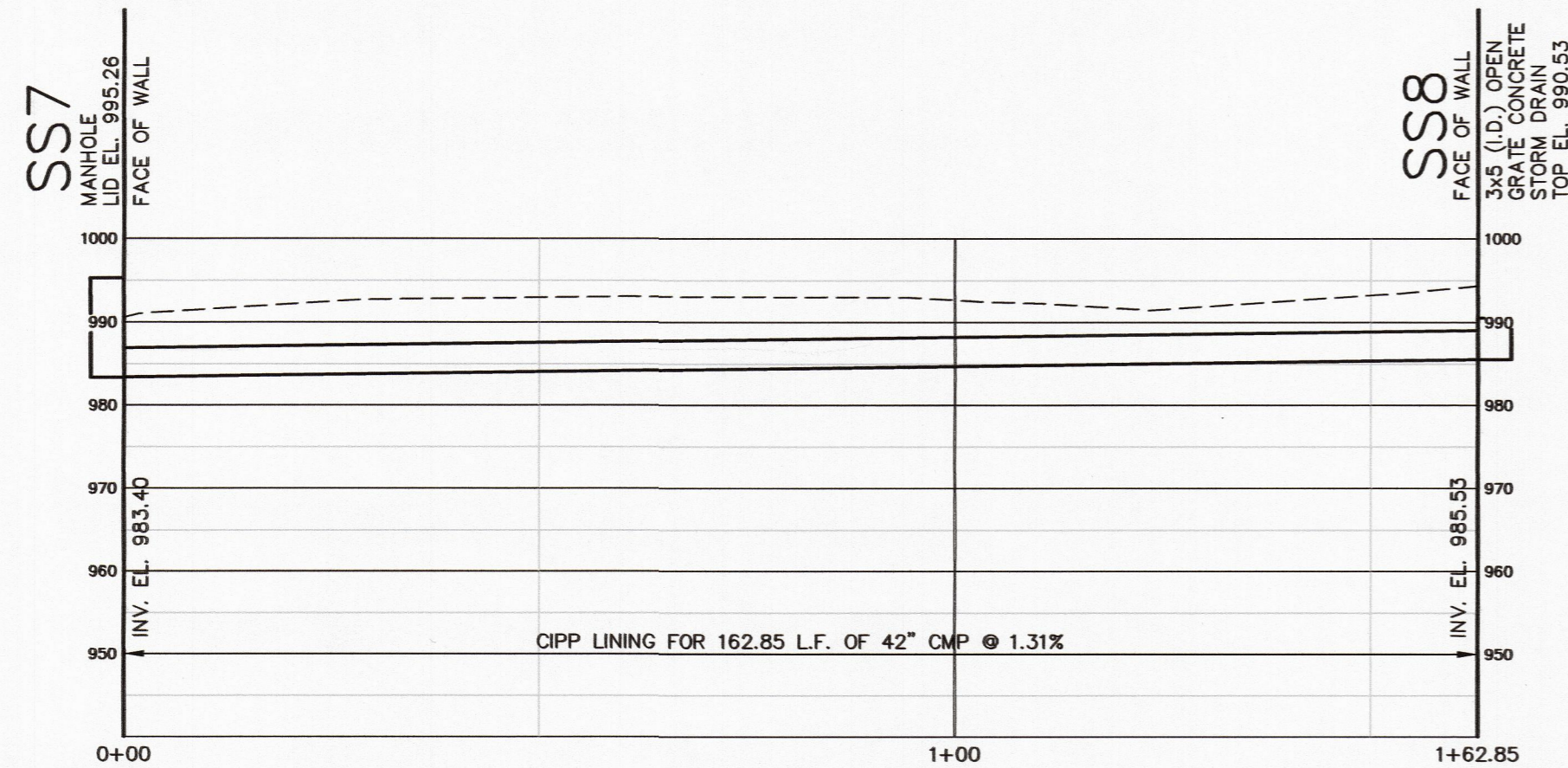
CAD DWG FILE: ?  
DRAWN BY: R.HAYES  
CHECKED BY: B.MARTIN  
DESIGNED BY: B.MARTIN

SHEET TITLE:  
**NORTHWEST &  
SOUTHEAST  
STORM SEWER  
BASE BID PROFILES**

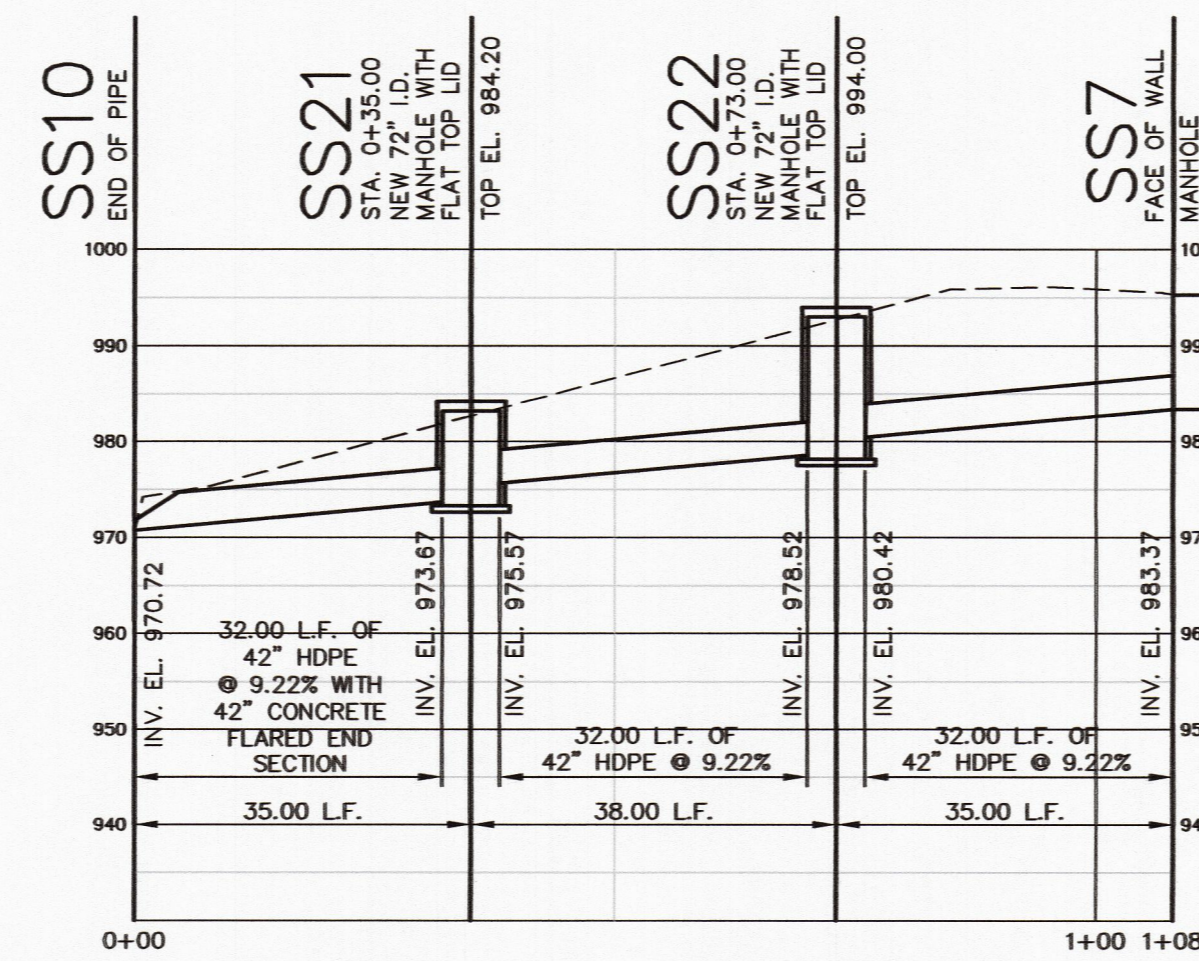
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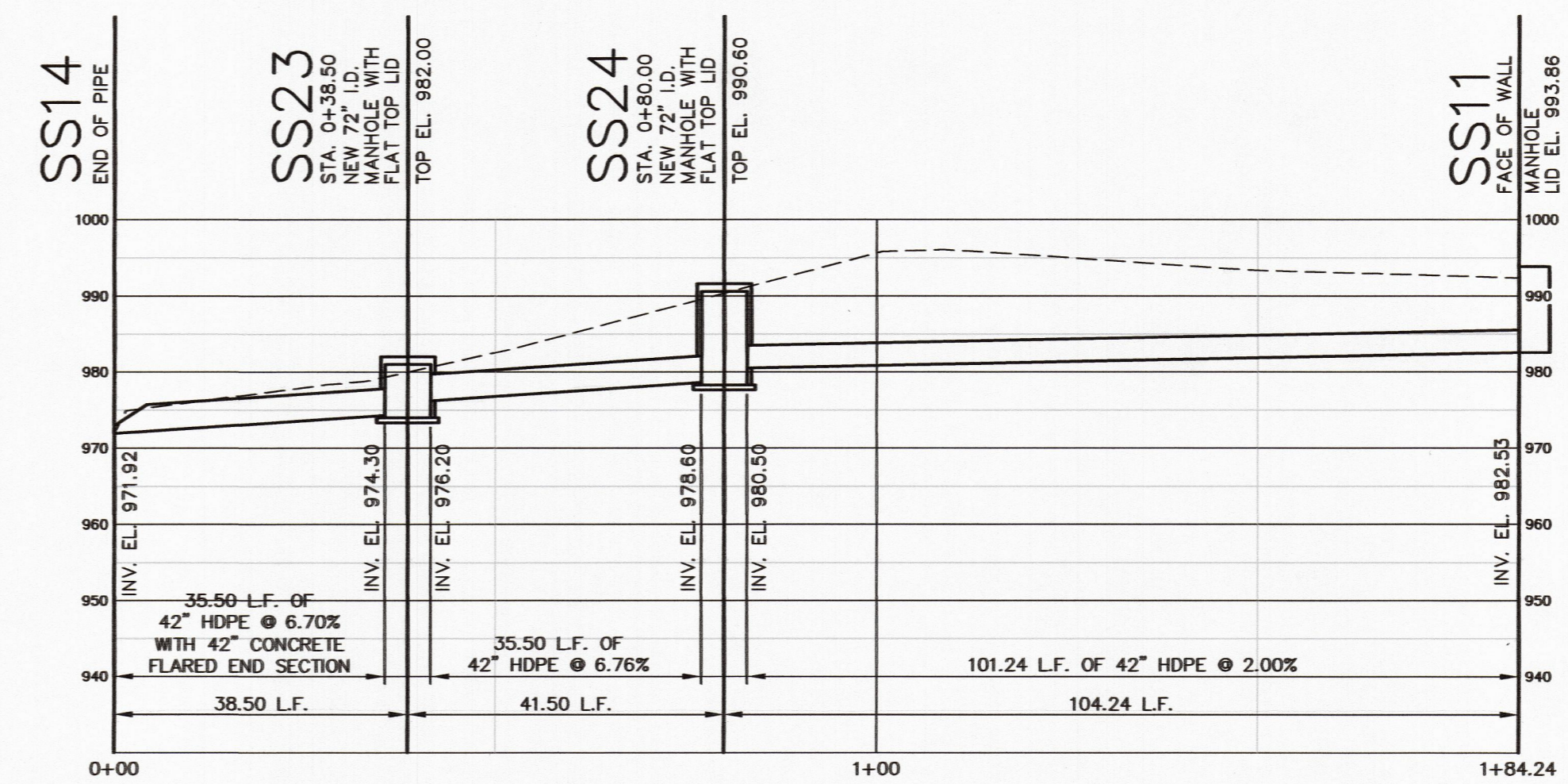
SHEET 8 OF 11  
FEBRUARY 14, 2024



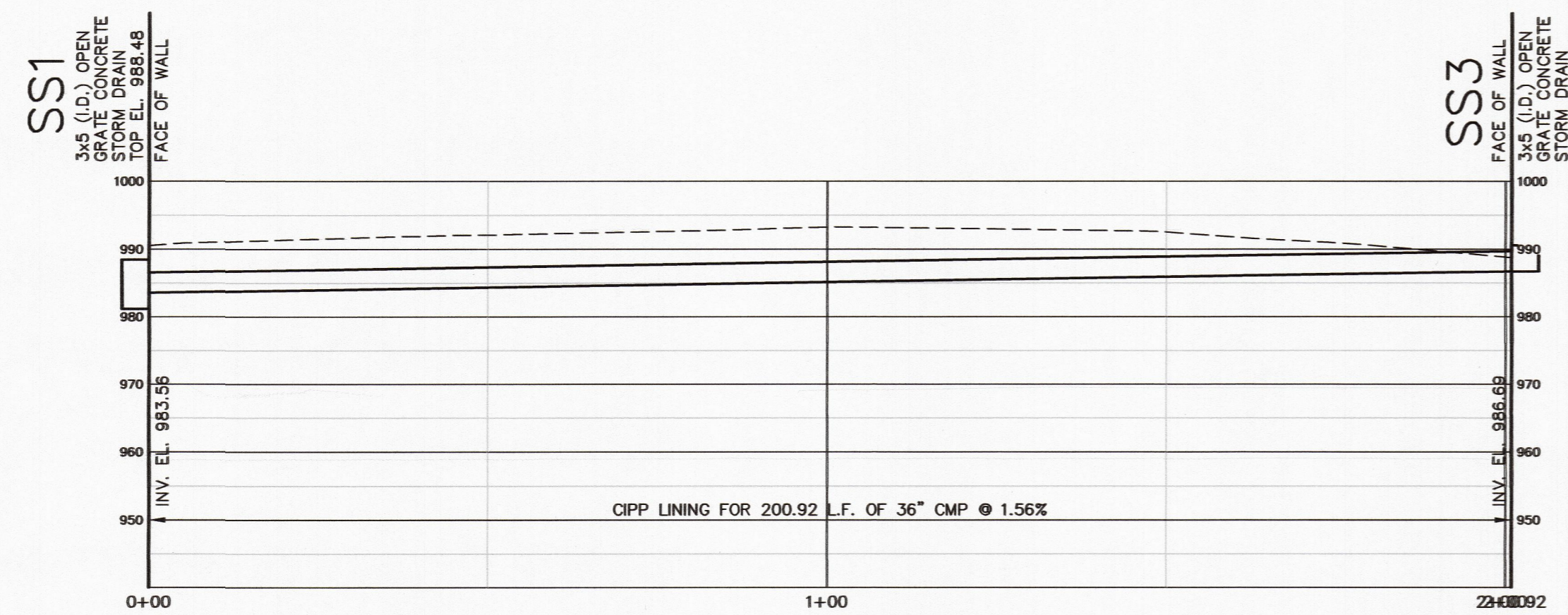
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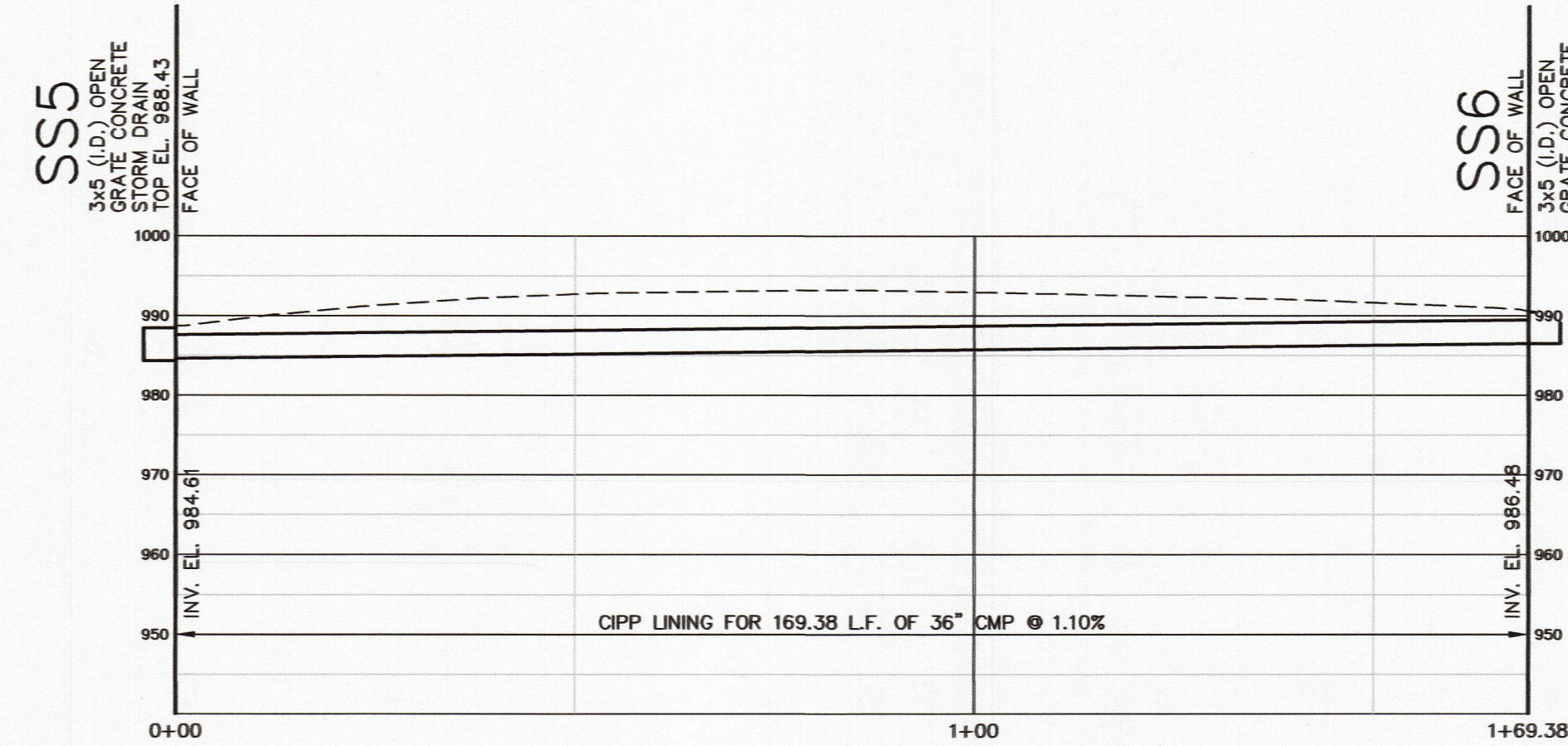
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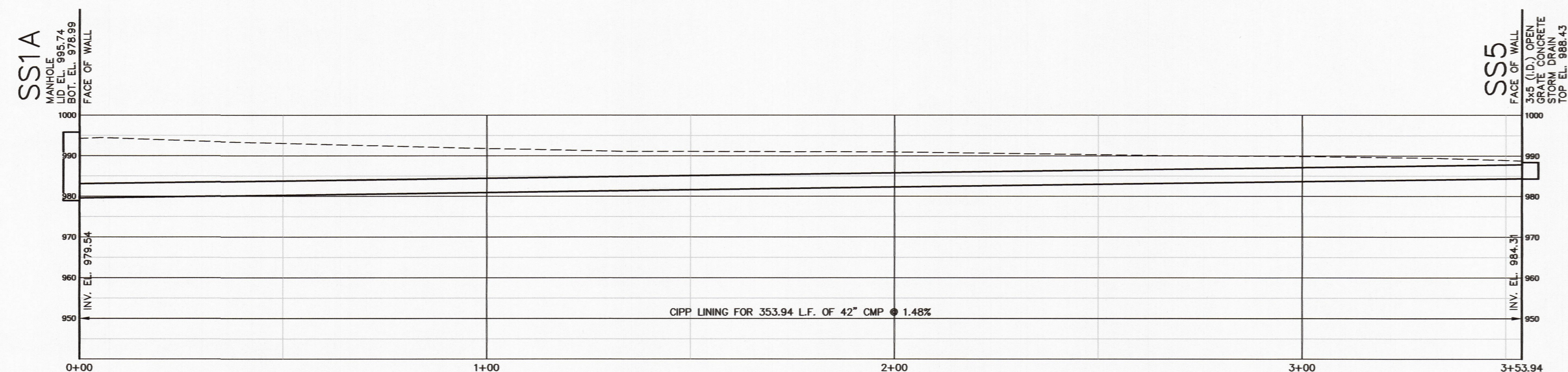
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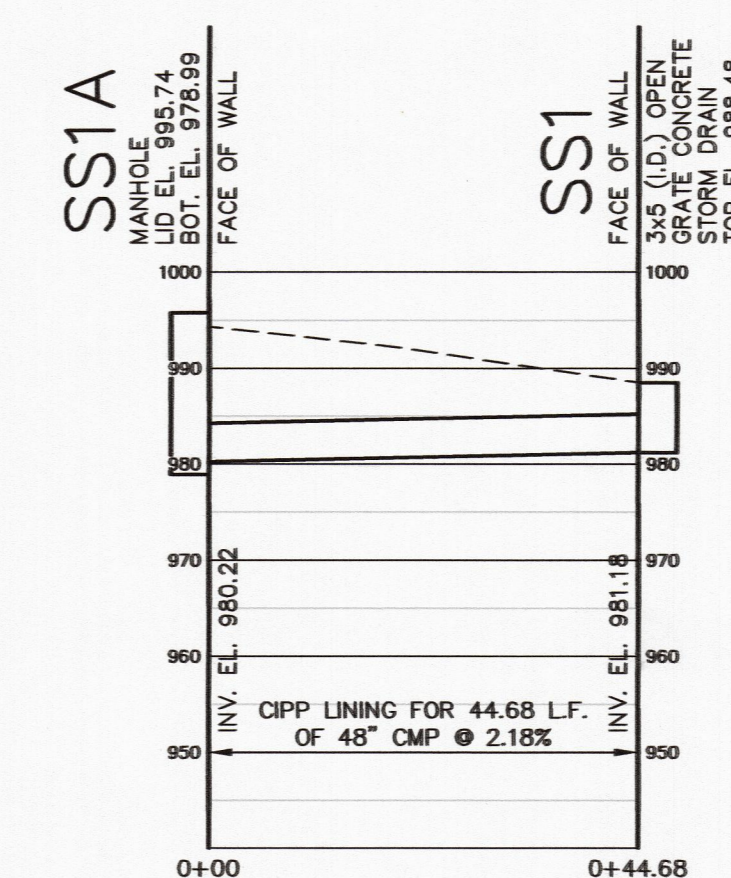
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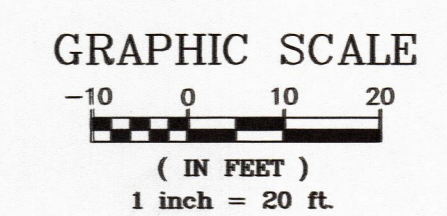
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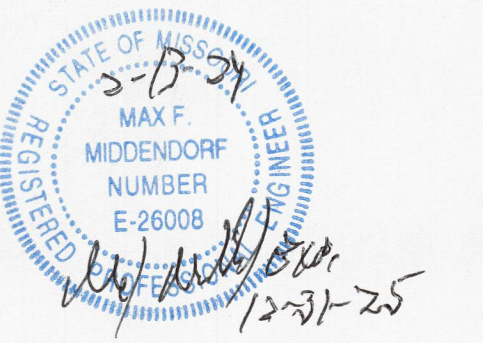
SS1A TO SS5



SS1A TO SS1







MAX F. MIDDENDORF  
PROFESSIONAL ENGINEER  
LICENSE NO. E-26008

OFFICE LOCATIONS  
HANNIBAL, MO  
JEFFERSON CITY, MO  
BRANSON, MO  
BOONVILLE, MO  
PITTSFIELD, IL



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MO Engineering Lic. #000898 - IL Design Firm #184-001749

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STORM SEWER LINING

WESTERN MISSOURI  
CORRECTIONAL CENTER  
CAMERON, MISSOURI

PROJECT # C2223-03  
SITE # 7011  
ASSET # 9327011049

REVISION: \_\_\_\_\_  
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ISSUE DATE: 09/26/2023

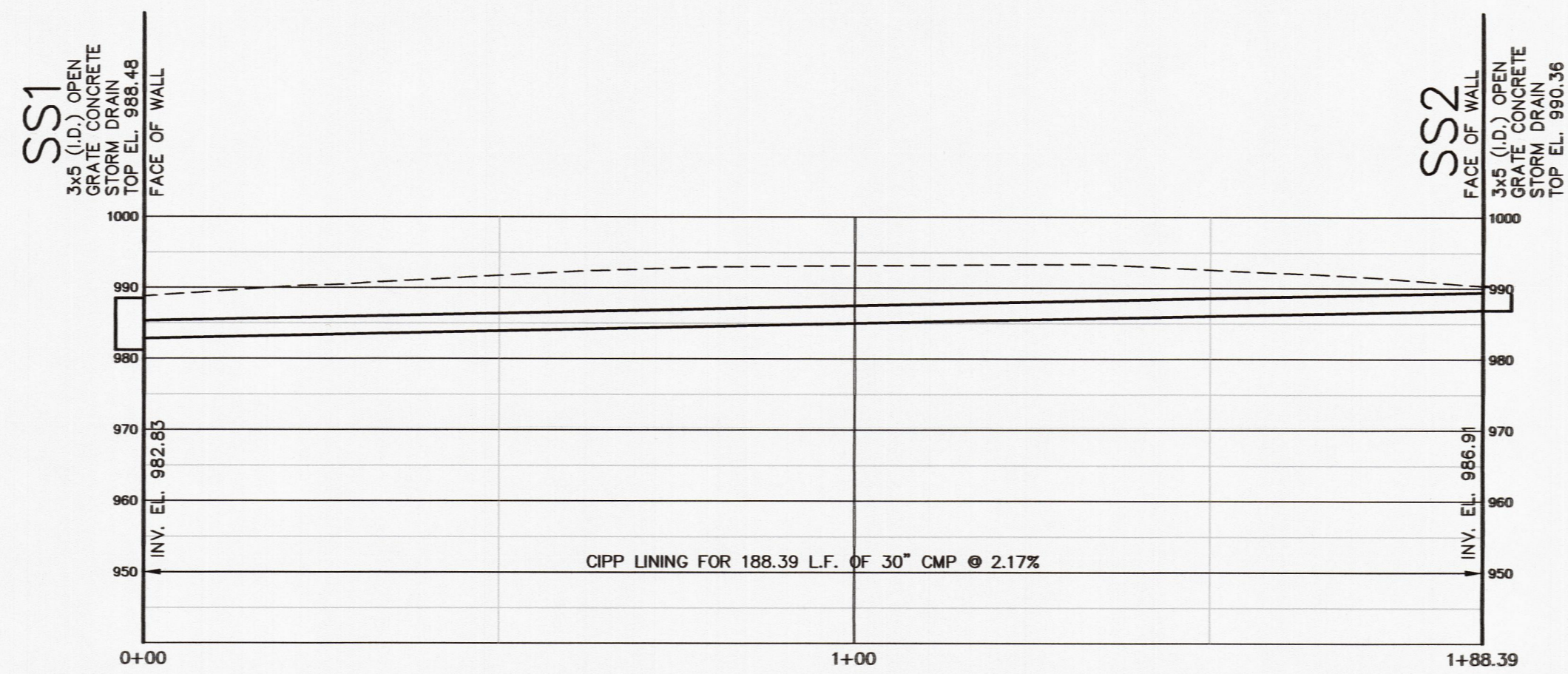
CAD DWG FILE: ?  
DRAWN BY: R.HAYES  
CHECKED BY: B.MARTIN  
DESIGNED BY: B.MARTIN

SHEET TITLE:  
**SOUTHEAST  
STORM SEWER  
ALTERNATE BID #1  
PROFILE**

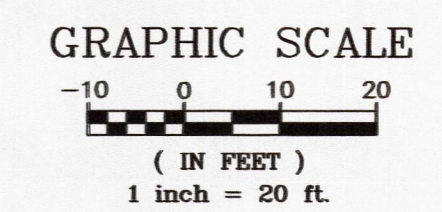
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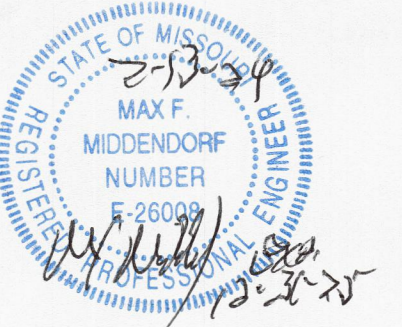
**C-108**

SHEET 9 OF 11  
FEBRUARY 14, 2024



SS1 TO SS2





MAX F. MIDDENDORF  
PROFESSIONAL ENGINEER  
LICENSE NO. E-26008

OFFICE LOCATIONS  
HANNIBAL, MO  
JEFFERSON CITY, MO  
BRANSON, MO  
BOONVILLE, MO  
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STORM SEWER LINING

WESTERN MISSOURI  
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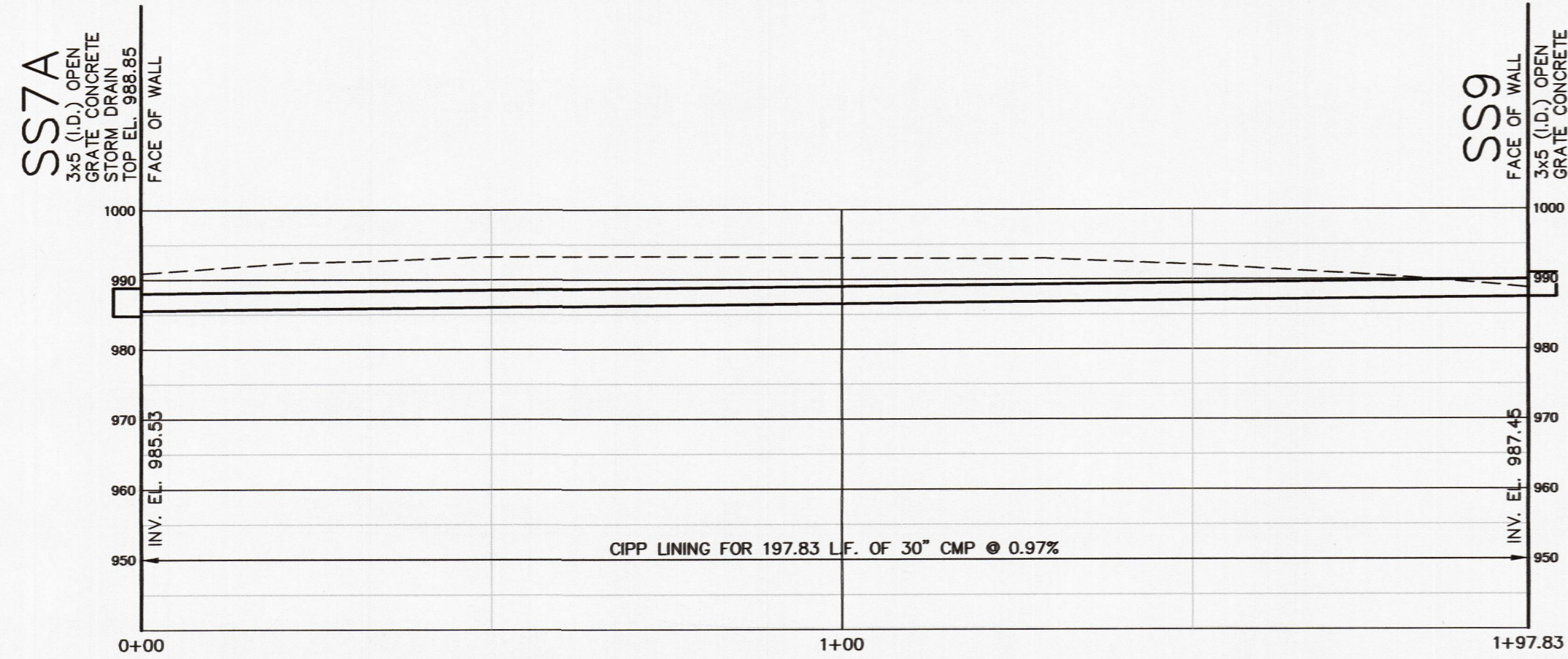
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DRAWN BY: R.HAYES  
CHECKED BY: B.MARTIN  
DESIGNED BY: B.MARTIN

SHEET TITLE:  
NORTHWEST  
STORM SEWER  
ALTERNATE BID #2  
PROFILES

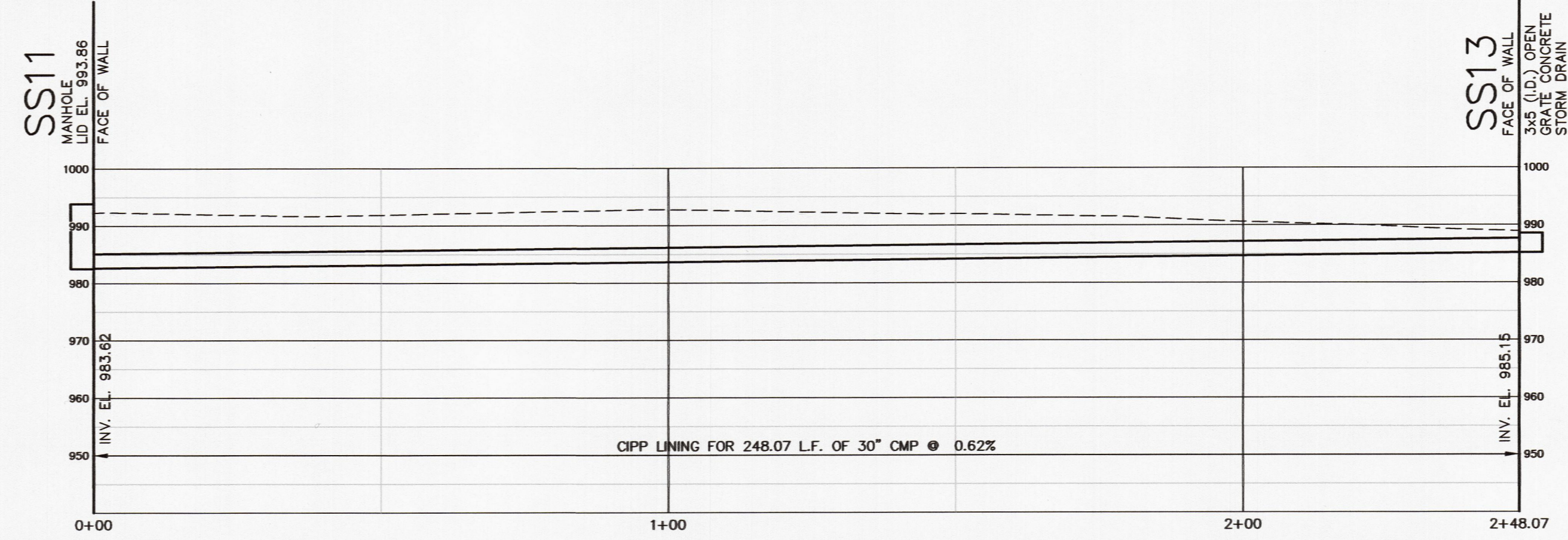
SHEET NUMBER:

C-109

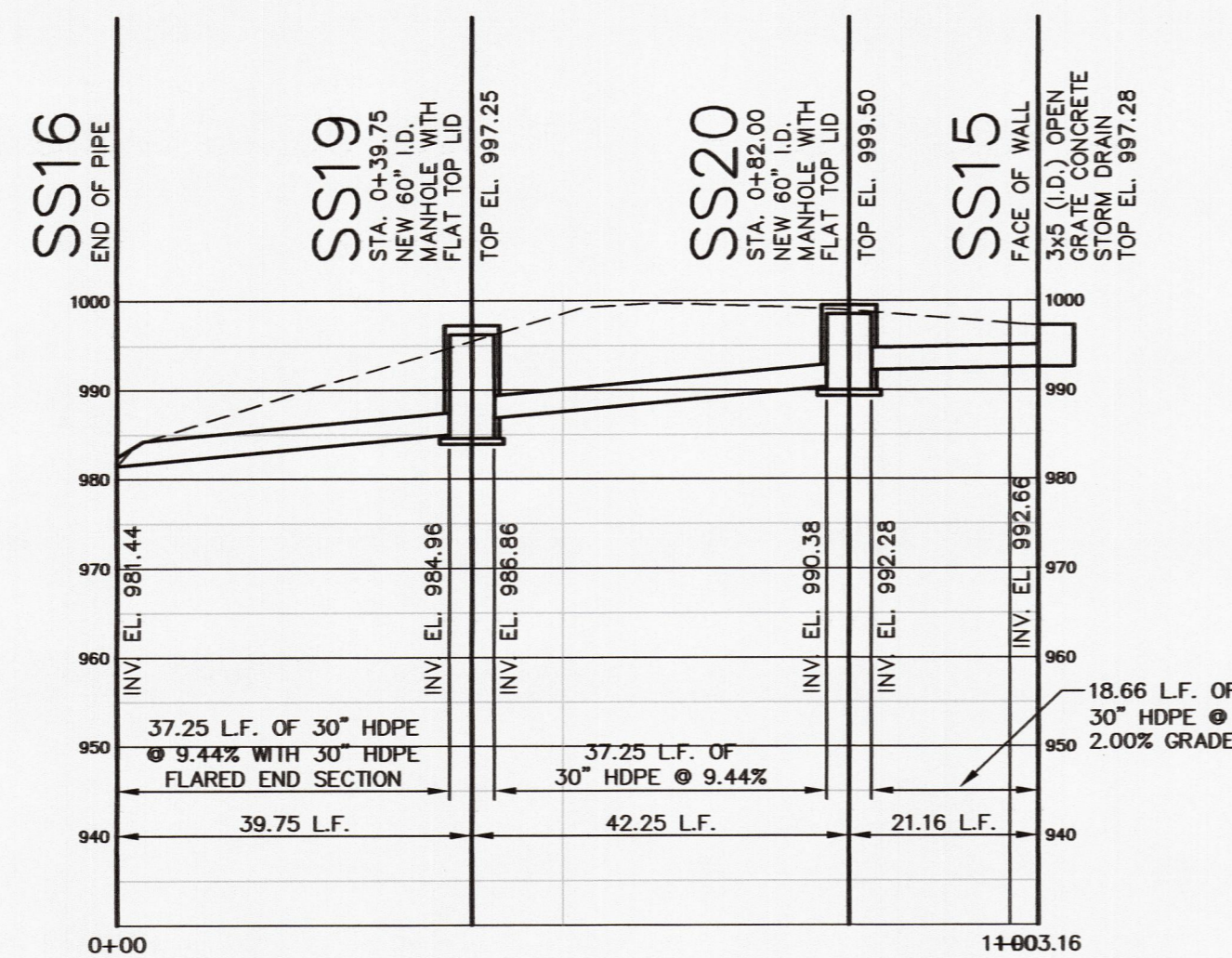
SHEET 10 OF 11  
FEBRUARY 14, 2024



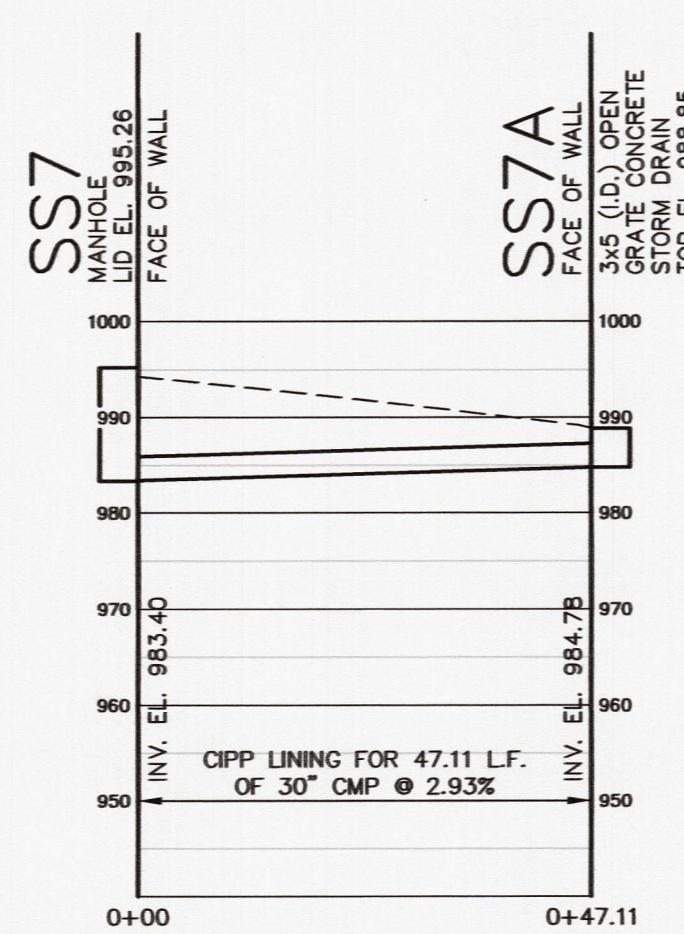
SS7A TO SS9



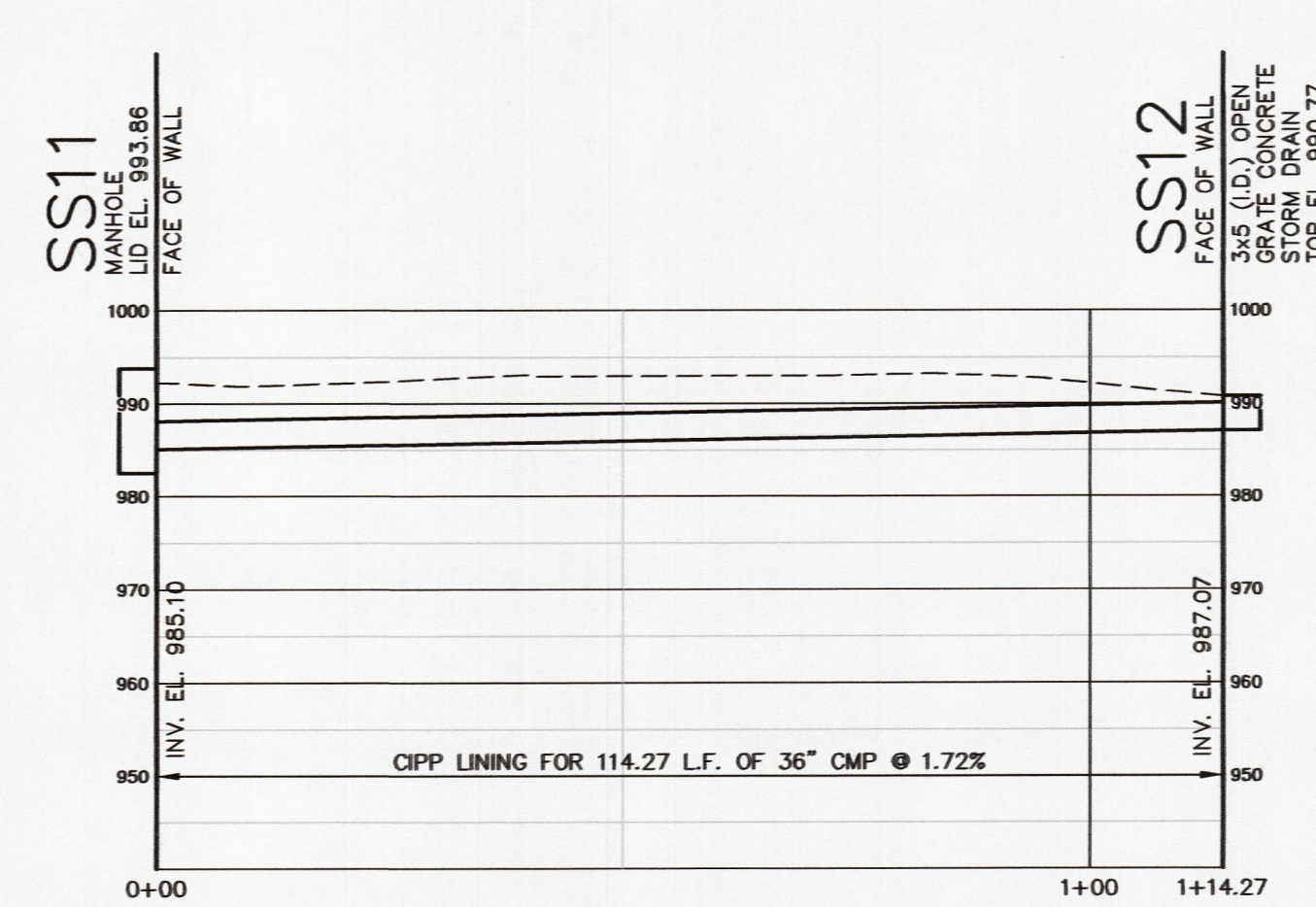
SS11 TO SS13



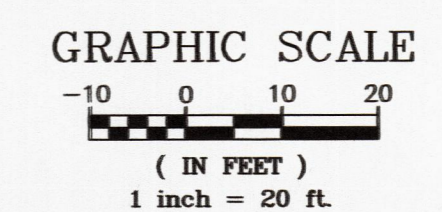
SS16 TO SS15



SS7 TO SS7A



SS11 TO SS12





MAX F. MIDDENDORF  
PROFESSIONAL ENGINEER  
LICENSE NO. E-26008

OFFICE LOCATIONS  
HANNIBAL, MO  
JEFFERSON CITY, MO  
BRANSON, MO  
BOONVILLE, MO  
PITTSFIELD, IL

**MECO**  
ENGINEERING CO., INC.

mecoeengineering.com  
MCO Engineering, Lc. #000898 - IL Design Firm #84-001749

OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
CORRECTIONS

STORM SEWER LINING

WESTERN MISSOURI  
CORRECTIONAL CENTER  
CAMERON, MISSOURI

PROJECT # C2223-03  
SITE # 7011  
ASSET # 9327011049

REVISION:  
DATE: \_\_\_\_\_  
REVISION:  
DATE: \_\_\_\_\_  
REVISION:  
DATE: \_\_\_\_\_  
ISSUE DATE: 09/26/2023

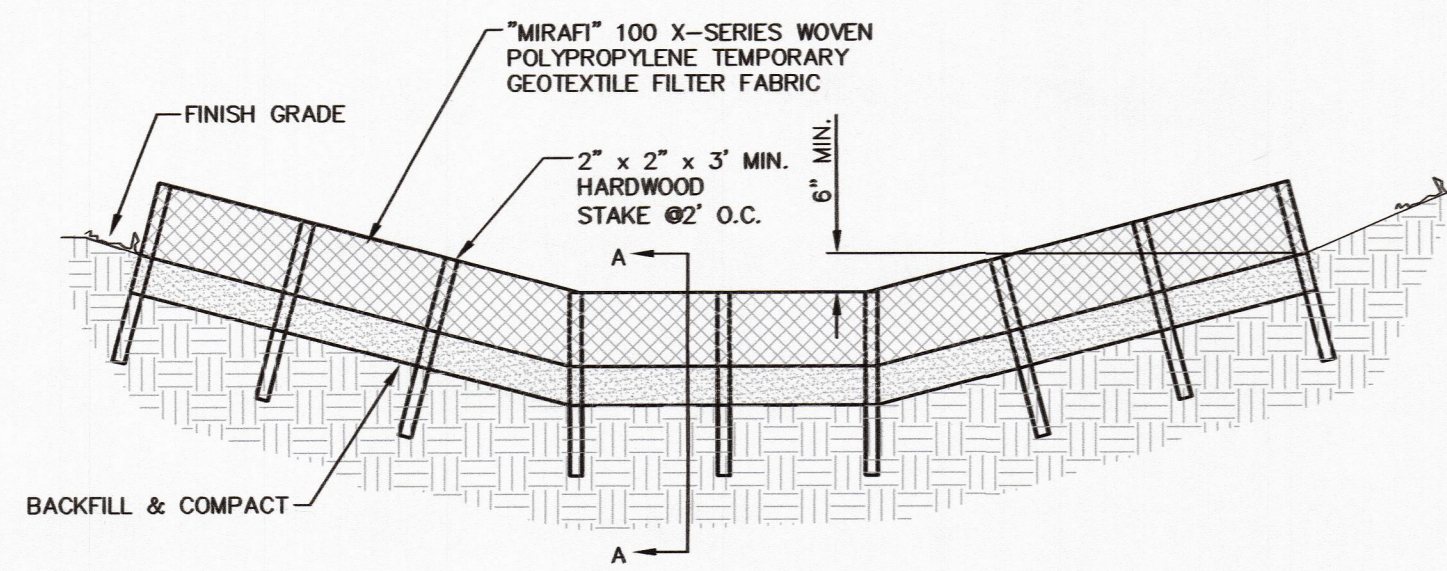
CAD DWG FILE: ?  
DRAWN BY: R.HAYES  
CHECKED BY: B.MARTIN  
DESIGNED BY: B.MARTIN

SHEET TITLE:  
**TYPICAL DETAILS**

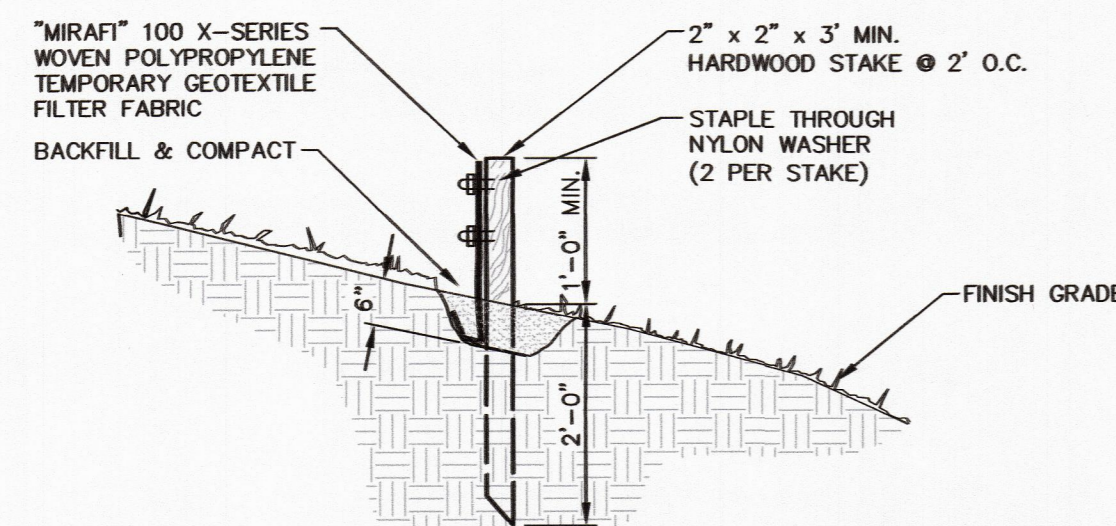
SHEET NUMBER:

**C-501**

SHEET 11 OF 11  
FEBRUARY 14, 2024



**ELEVATION**



**SECTION A-A**

**ADS FLARED END SECTION SPECIFICATION**

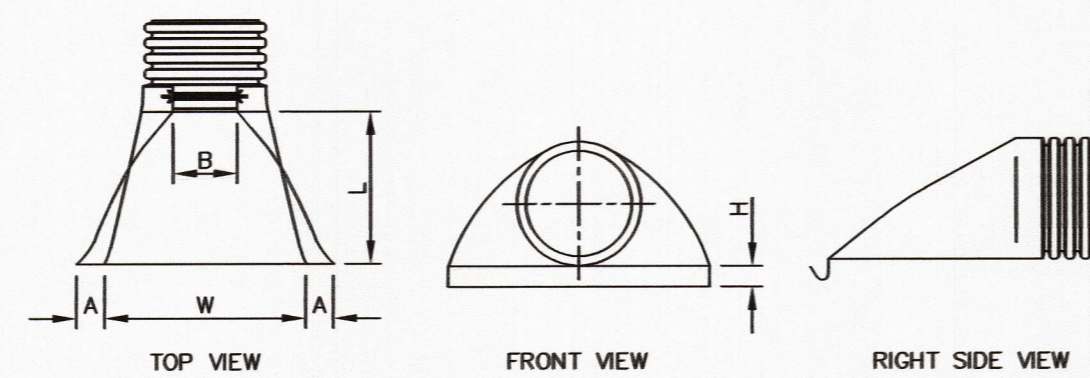
**Scope**  
This specification describes 12- through 36-inch (300 to 900mm) ADS Flared End Sections for use in culvert and drainage outlet applications.

**Requirements**  
The ADS Flared End Section shall be high density polyethylene meeting ASTM D3350 minimum cell classification 213320C; contact manufacturer for additional cell classification information. When provided, the metal threaded fastening rod shall be stainless steel.

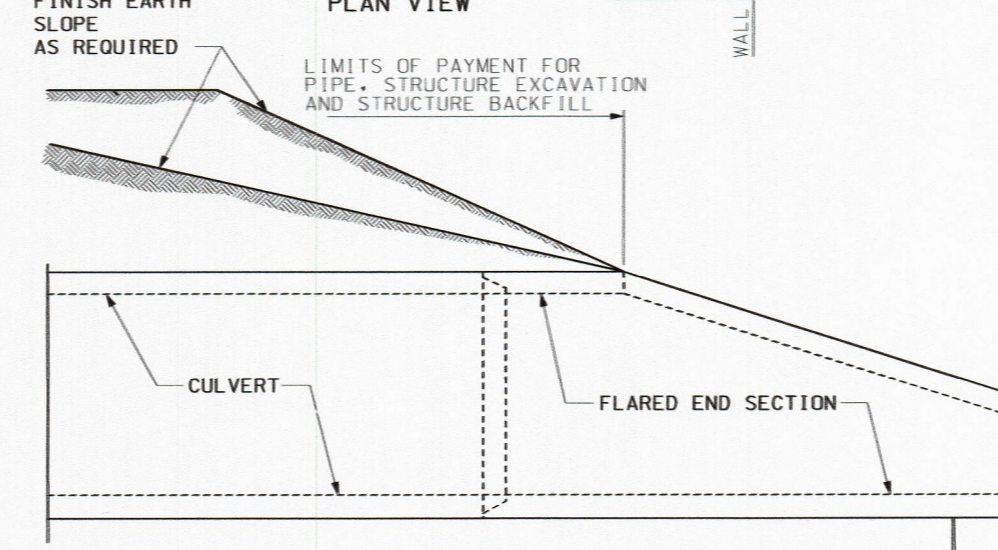
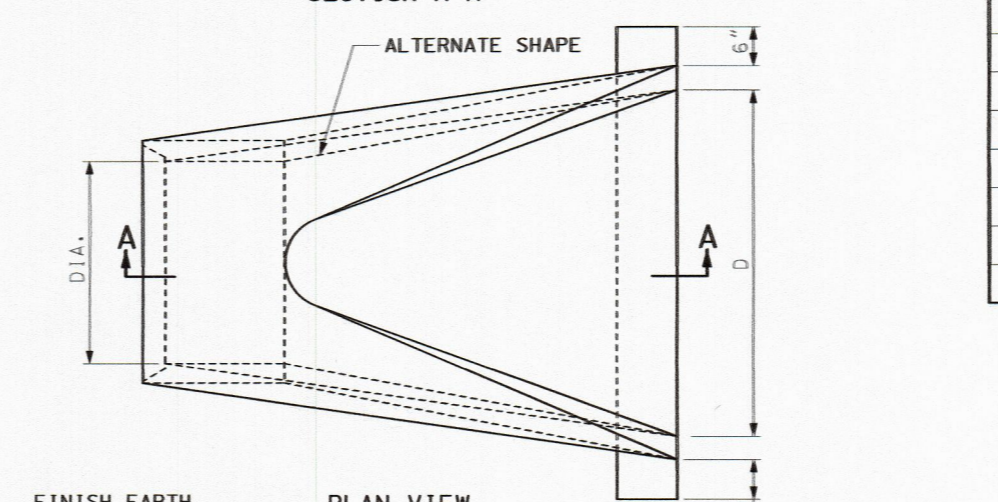
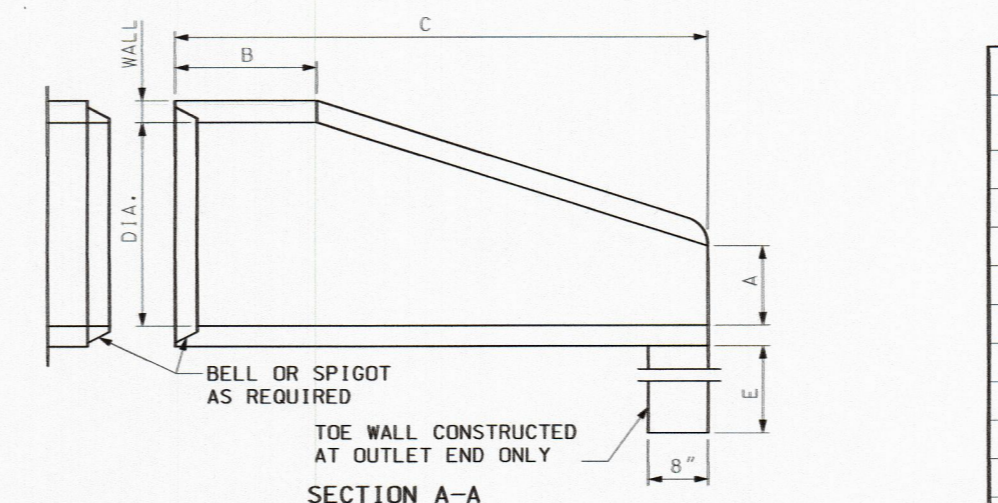
**Installation**  
Installation shall be in accordance with ADS installation instructions and with those issued by state or local authorities. Contact your local ADS representative or visit [www.ads-pipe.com](http://www.ads-pipe.com) for the latest installation instructions.

Diameter in (mm)	PIPE DIAMETER, in (mm)					
	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
A	6.5 (165)	6.5 (165)	7.5 (191)	7.5 (191)	7.5 (191)	7.5 (191)
B	10.0 (254)	10.0 (254)	15.0 (381)	18.0 (457)	22.0 (559)	25.0 (635)
H	6.5 (165)	6.5 (165)	6.5 (165)	6.5 (165)	8.6 (218)	8.6 (218)
L	25.0 (635)	25.0 (635)	32.0 (813)	36.0 (914)	58.0 (1473)	58.0 (1473)
W	29.0 (737)	29.0 (737)	35.0 (889)	45.0 (1143)	63.0 (1600)	63.0 (1600)

\*Product detail may differ slightly from actual product appearance

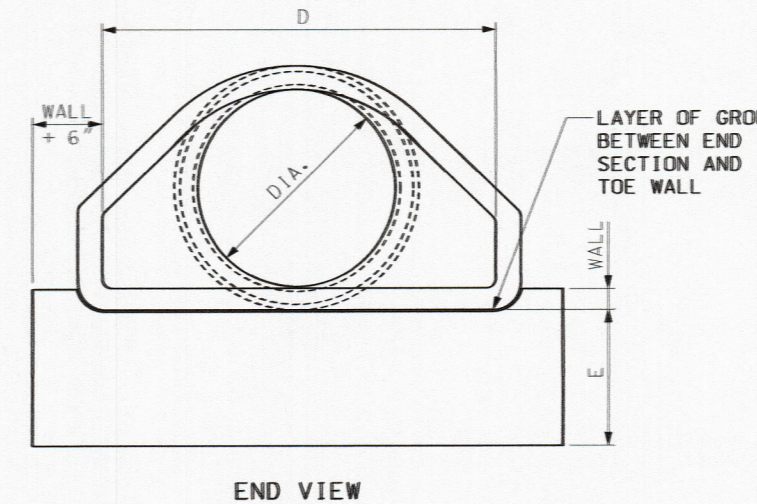


**7 HDPE FLARED END SECTIONS**  
NO SCALE



**INSTALLATION DETAILS**

DIA.	WALL	DIMENSIONS				
		A	B	C	D	E
12"	2"	4"	4'-0"	6'	2'-0"	18"
15"	2 1/2"	6"	3'-10"	6'	2'-6"	18"
18"	2 3/4"	9"	3'-10"	6'	3'-0"	18"
21"	2 3/4"	9"	3'-2"	6'	3'-6"	18"
24"	3"	9 1/2"	2'-6"	6'	4'-0"	24"
27"	3 1/2"	10 1/2"	2'-1"	6'	4'-6"	24"
30"	3 1/2"	1'-0"	1'-7"	6'	5'-0"	24"
33"	3 3/4"	1'-2"	1'-7"	6'	5'-6"	24"
36"	4"	1'-3"	2'-10"	8'	6'-0"	24"
42"	4 1/2"	1'-9"	2'-11"	8'	6'-6"	24"
48"	5"	2'-0"	2'-2"	8'	7'-0"	24"
54"	5 1/2"	2'-3"	2'-11"	8'	7'-6"	36"
60"	6"	2'-6"	3'-3"	8'	8'-0"	36"
66"	6 1/2"	2'-0"	1'-9"	8'	8'-6"	36"
72"	7"	2'-0"	2'-9"	10'	9'-0"	36"
78"	7 1/2"	2'-3"	2'-3"	10'	9'-6"	36"
84"	8"	2'-6"	2'-0"	10'	10'-0"	36"

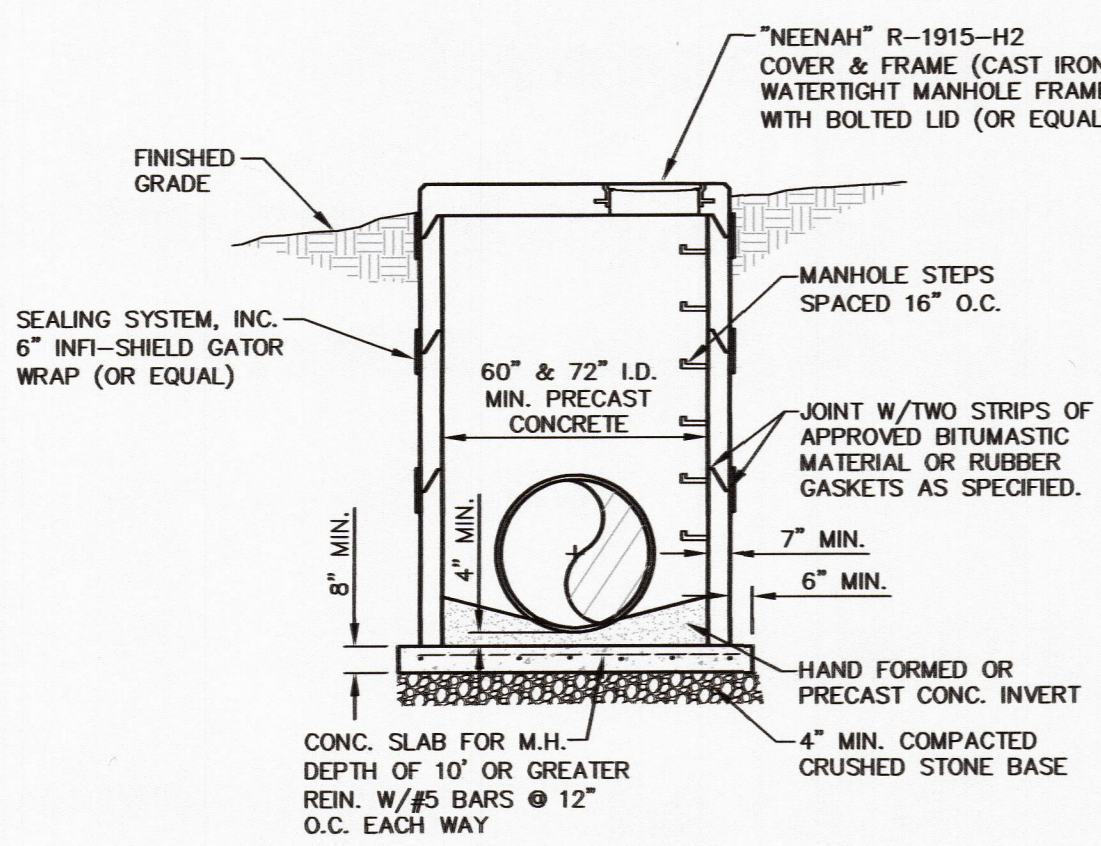


**END VIEW**

**GENERAL NOTES:**  
SLIGHT VARIATIONS IN BOTH SHAPE AND DIMENSIONS FROM THOSE SHOWN MAY BE ACCEPTED IF APPROVED BY THE ENGINEER.  
NOT MORE THAN THREE LIFT HOLES MAY BE DRILLED OR CAST IN THE END SECTION FOR HANDLING AND LAYING.  
LIFT LUGS OR BARS WILL BE PERMITTED IN PRECAST TOE WALLS.  
TOE WALLS MAY BE CAST-IN-PLACE OR PRECAST.  
STEEL FIBERS MAY BE USED IN LIEU OF REBAR OR COLD DRAWN STEEL WIRE AS PER SECTION 1032.3.4.

**8 CONCRETE FLARED END SECTIONS**  
NO SCALE

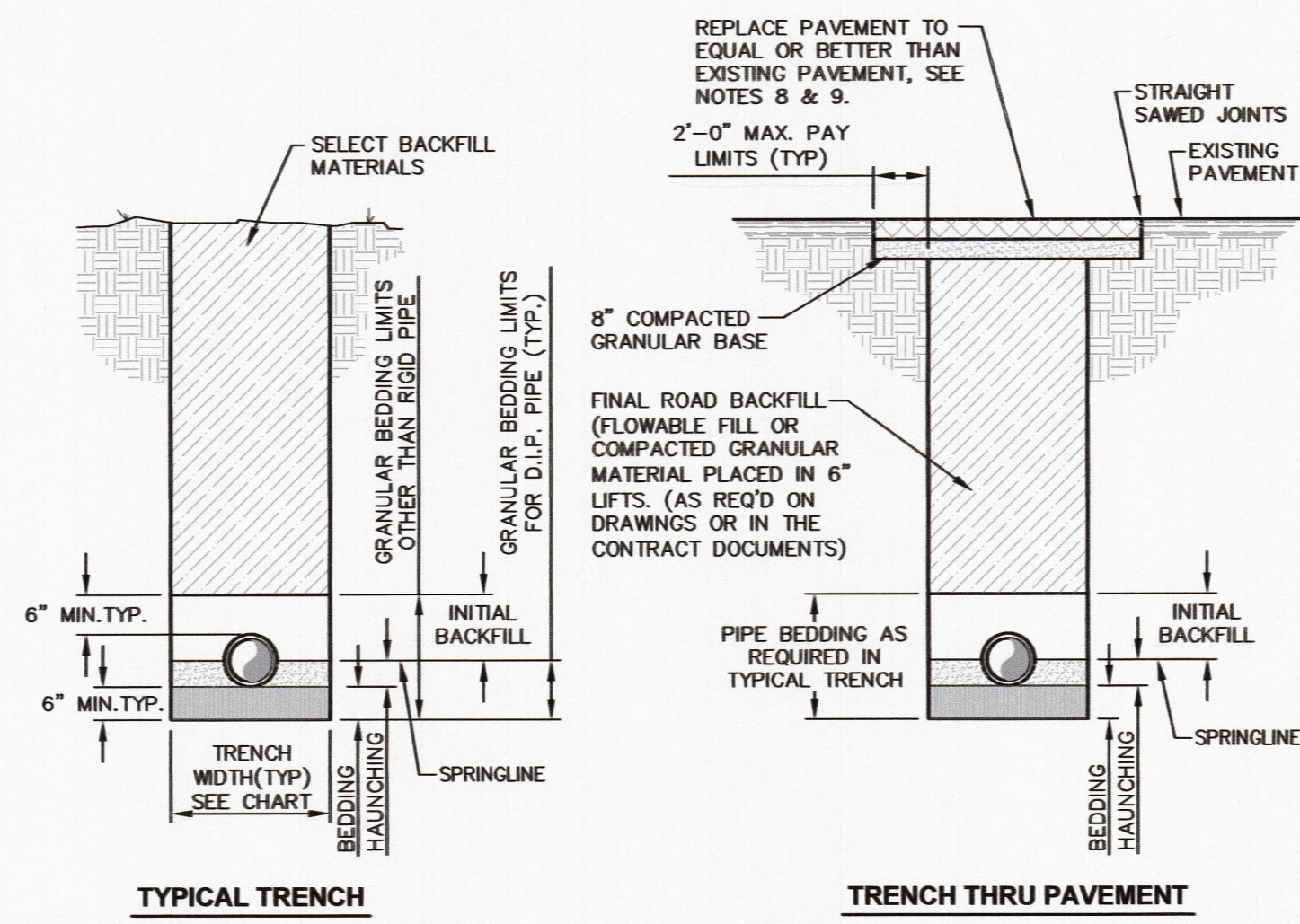
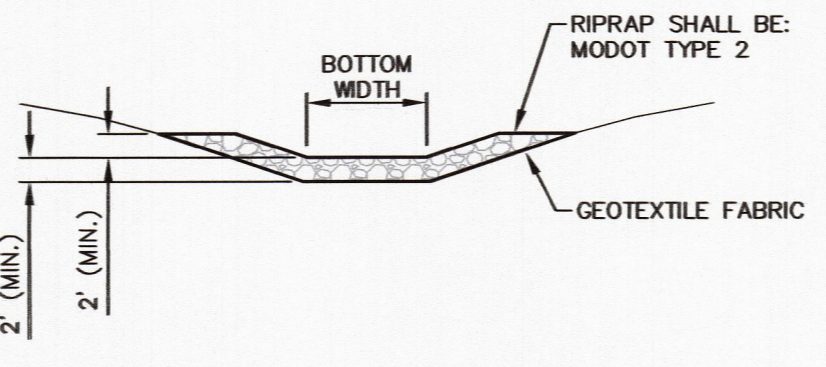
**6 EROSION CONTROL (SILT FENCE)**  
NO SCALE



**4 STANDARD MANHOLE SECTION**  
NO SCALE

- GENERAL NOTES:**
- MANHOLE LID TO BE FLUSH WITH FINISHED GRADE UNLESS OTHERWISE SHOWN ON PLANS.
  - ALL CONCRETE MANHOLES SHALL HAVE A CAST IN PLACE COMPRESSIVE TYPE GASKET JOINT FOR SEWER PIPE SEALS.
  - MANHOLE JOINTS SHALL BE UNIFORM, PROVIDE COMPATIBLE FIT, BE FREE FROM HONEYCOMBS OR CHIPS AND BE SEALED AS SPECIFIED.
  - MANHOLE EXTERIOR SHALL BE DAMP PROOFED WITH A SOLVENT BASED ASPHALT NON-FIBERED COATING.
  - PLUG ALL LIFT HOLES AND COVER OUTSIDE WITH BITUMASTIC SEALER.
  - FIELD PIPE OPENINGS SHALL ONLY BE ALLOWED WITH ENGINEER'S APPROVAL.

**5 RIPRAP SPILLWAY SECTION**  
NO SCALE



**TYPICAL TRENCH**

**TRENCH THRU PAVEMENT**

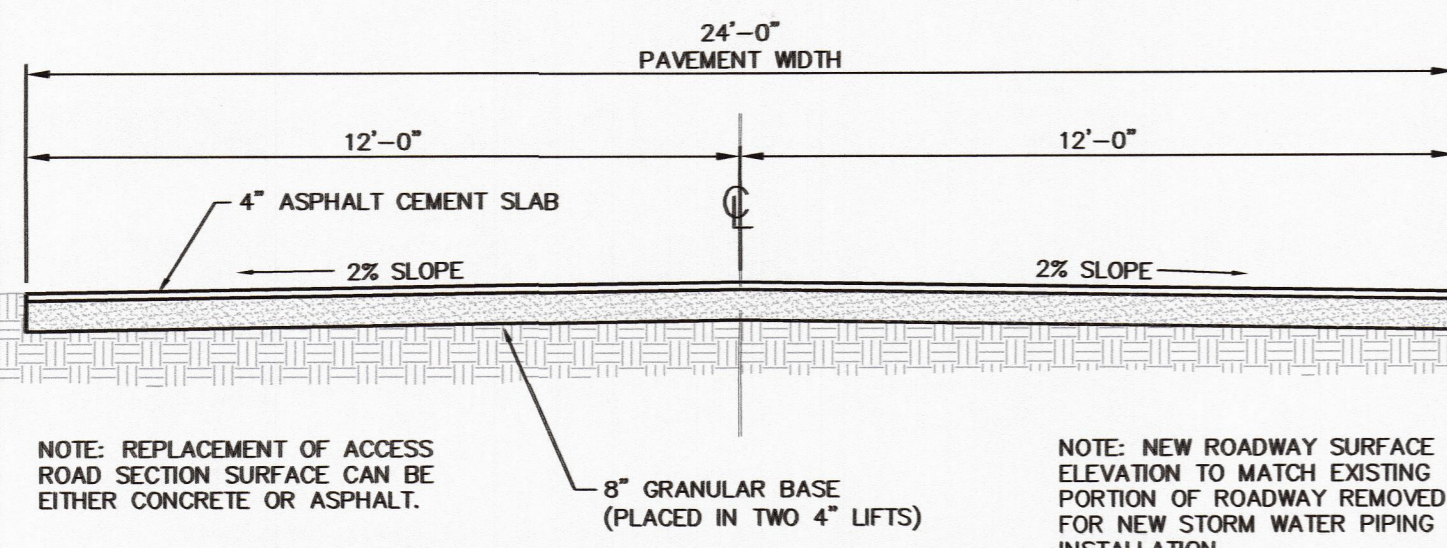
SIEVE SIZE	PERCENT PASSING
1/2"	100
3/8"	80-100
#4	5-80
#10	0-5

MATERIAL	QUANTITY/CY YD
CEMENT	70 POUNDS
FLY ASH	300 POUNDS
FINE AGGREGATE	2600 POUNDS
WATER	50 GALLON

PIPE DIA.	MIN. TRENCH WIDTH ABOVE PIPE	MAX. TRENCH WIDTH FOR PAYMENT	PIPE DIA
LESS THAN 8"	+1'-0"	+2'-0"	
8"	1'-8"	2'-8"	
10"	1'-10"	2'-10"	
12"	2'-0"	3'-0"	
15"	2'-3"	3'-3"	
18"	2'-6"	3'-6"	
21"	2'-9"	3'-9"	
24"	3'-0"	4'-0"	
27"	3'-3"	4'-3"	
30"	3'-6"	4'-6"	
36"	4'-0"	5'-0"	
42"	4'-6"	5'-6"	

**TRENCH WIDTH CHART**

**1 ACCESS ROAD SECTION (ASPHALT)**  
NO SCALE



NOTE: REPLACEMENT OF ACCESS ROAD SECTION SURFACE CAN BE EITHER CONCRETE OR ASPHALT.  
NOTE: NEW ROADWAY SURFACE ELEVATION TO MATCH EXISTING PORTION OF ROADWAY REMOVED FOR NEW STORM WATER PIPING INSTALLATION.

**2 STORM SEWER TRENCH DETAILS**  
NO SCALE

**3 STORM SEWER TRENCH NOTES**  
NO SCALE