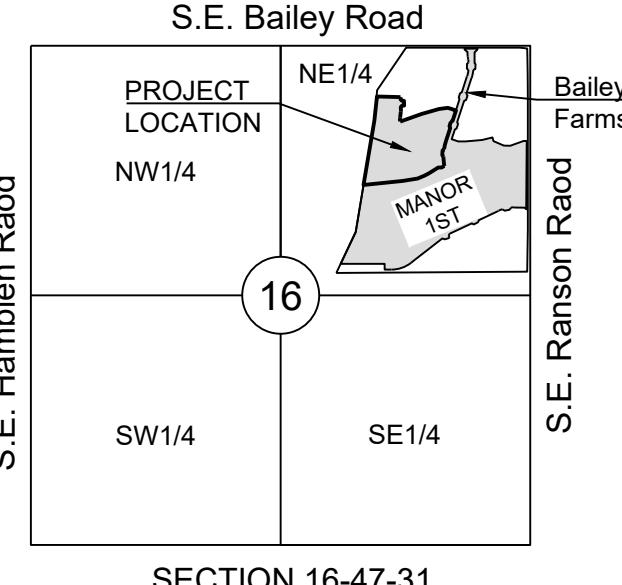


LEGEND:	
A/E	- ACCESS EASEMENT
BC	- BACK OF CURB
B/B	- BACK TO BACK
BM	- BENCHMARK
BL or B.L.	- BUILDING LINE
CO	- CLEANOUT
TJB	- TELEPHONE JUNCTION BOX
C&G	- CURB AND GUTTER
D/E	- DRAINAGE EASEMENT
E/E	- ELECTRICAL EASEMENT
EL	- ELEVATION
FL	- FLOW LINE
G/E	- GAS LINE EASEMENT
HDPE	- HIGH-DENSITY POLYETHYLENE
UE	- LANDSCAPE EASEMENT
MSFE	- MINIMUM SERVICEABLE FLOOR ELEVATION
PVC	- POLYVINYL CHLORIDE
P/L	- PROPERTY LINE
PUB/E	- PUBLIC EASEMENT
RCP	- REINFORCED CONCRETE PIPE
ROW or R/W	- RIGHT-OF-WAY
S/E	- SANITARY SEWER EASEMENT
SL	- SERVICE LINE
S/W	- SIDEWALK
TE	- TOP ELEVATION
U/E	- UTILITY EASEMENT
WSE	- WATER SURFACE ELEVATION
W/E	- WATERLINE EASEMENT
ASPHALT PAVEMENT - EXISTING	
ASPHALT PAVEMENT - PROPOSED	
CONCRETE PAVEMENT - EXISTING	
CONCRETE SIDEWALK - EXISTING	
CONCRETE SIDEWALK - PROPOSED	
CURB & GUTTER	
CURB & GUTTER - EXISTING	
TREELINE	
EXISTING LOT AND R/W LINES	
EXISTING PLAT LINES	
PROPERTY LINES	
RIGHT-OF-WAY	
SANITARY SEWER MAIN	
SANITARY SEWER MAIN - EXIST.	
STORM SEWER	
STORM SEWER - EXISTING	
CABLE TV - EXISTING	
FIBER OPTIC CABLE - EXISTING	
TELEPHONE LINE - EXIST.	
ELECTRIC LINE - EXISTING	
OVERHEAD POWER LINE - EXIST.	
UNDERGROUND ELECTRIC - EX.	
GAS LINE - EXISTING	
WATERLINE - EXISTING	
LIGHT - EXISTING	
EXISTING MANHOLE	
CLEANOUT	
EXISTING SANITARY MANHOLE	
PROPOSED SANITARY MANHOLE	
EXISTING AREA INLET	
EXISTING CURB INLET	
EXISTING GRATE INLET	
EXISTING JUNCTION BOX	
EXISTING STORM MANHOLE	



LOCATION MAP
SCALE 1" = 2000'
BASIS OF BEARINGS:
MISSOURI COORDINATE SYSTEM 1983,
WEST ZONE

GENERAL NOTES:

- ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
- ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
- LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
- NO GEOLOGICAL INVESTIGATION HAS BEEN PERFORMED ON THE SITE.
- THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND APPARENT FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT OF WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC." 1-800-DIG-RITE. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
- PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. AFTER APPROVAL OF THE SHOP DRAWINGS, A COPY OF THE APPROVED AND SIGNED SHOP DRAWINGS SHALL BE PROVIDED TO THE CITY INSPECTOR UPON REQUEST.
- THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
- CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
- ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, OR AS DIRECTED BY THE OWNER.
- ALL EXCAVATIONS SHALL BE UNCLASSIFIED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.
- THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASED OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
- ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
- THE CONTRACTOR SHALL CONTACT DEVELOPMENT SERVICES INSPECTIONS AT: 816-969-1200 TO OBTAIN A DEVELOPMENT SERVICES CONSTRUCTION PERMIT. A MINIMUM 48 HOUR NOTICE SHALL BE GIVEN PRIOR TO PERMIT ISSUANCE.
- THE CONTRACTOR SHALL CONTACT THE RIGHT OF WAY INSPECTOR AT 816-969-1800 PRIOR TO ANY LAND DISTURBANCE ACTIVITIES WITHIN THE RIGHT OF WAY. THESE ACTIVITIES MAY REQUIRE A PERMIT.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD-LATEST EDITION).

UTILITY CONTACTS:

MISSOURI DEPARTMENT OF TRANSPORTATION (MODOT)
Steve Holloway
600 NE Colbern Road
Lee's Summit, MO 64086
(816) 607-2186

MISSOURI GAS ENERGY (MGE)
Brent Jones
3025 SE Clover Drive
Lee's Summit, MO 64082
(816) 399-9633
brent.jones@mgeenergy.com

KANSAS CITY POWER & LIGHT COMPANY (KCP&L)
Ron Dejarnette
1300 SE Hamblin Road
Lee's Summit, MO 64081
Office: (816) 347-4316
Cell: (816) 810-5234
ron.dejarnette@kopl.com

CITY OF LEE'S SUMMIT PUBLIC WORKS
Dena Merger
220 SE Green Street
Lee's Summit, MO 64063
(816) 969-1800

AT&T
Mark Marion or Marty Loper
500 E. 8th Street, Room 370
Kansas City, MO 64106
(816) 275-2341 or (816) 275-1550

COMCAST CABLE
John Meadows
4700 Little Blue Parkway
Independence, MO 64057
(816) 795-2257

CITY OF LEE'S SUMMIT WATER UTILITIES
Mark Schaufler
1200 SE Hamblen Road
Lee's Summit, MO 64081
(816) 969-1900

STREET NOTES:

- ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL. ALL APPLICABLE AASHTO STANDARDS HAVE BEEN MET.
- ALL INSPECTION OF STREET CONSTRUCTION TO BE PERFORMED BY THE CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEERING.
- CURB RETURN RADII SHALL BE 25' AT BACK OF CURB UNLESS OTHERWISE NOTED.
- SUBGRADE TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- ASSUMED DESIGN SPEED = 25 MPH (COLLECTOR).
- MINIMUM STOPPING SIGHT DISTANCE = 155 FEET.
- MINIMUM K, SAG CURVE = 26 (14 WITH LIGHTING), CREST CURVE = 12.
- GRADE INTERSECTIONS TO DRAIN AS SHOWN.
- SSD = STOPPING SIGHT DISTANCE.
- ALL ADA SIDEWALK RAMPS SHALL BE CONSTRUCTED BY THE DEVELOPER WITH THE PUBLIC INFRASTRUCTURE.

SUMMARY OF QUANTITIES		
ITEM	QUANTITY	UNITS
1 CLEARING AND GRUBBING	1	LS
2 GRADING	1	LS
3 8" ASPHALT PAVEMENT - LOCAL-RESIDENTIAL STREET	5025	SY
4 FLY ASH OR COMPACTED AGGREGATE BASE	6150	SY
5 CURB AND GUTTER (INLET TRANSITIONS NOT INCLUDED) SUBSIDIARY TO CG-2 IS ALL CG-2 DRY NEEDED)	3024	LF
6 5' CONC. SIDEWALK	57	LF
7 TYPE A SIDEWALK RAMP	2	EA
8 TYPE M SIDEWALK RAMP	4	EA
9 6X4' CURB INLET	12	EA
10 6X5' CURB INLET	1	EA
11 6X6' CURB INLET	2	EA
12 8X4' CURB INLET	1	EA
13 4X4' JUNCTION BOX	1	EA
14 4X5' JUNCTION BOX	1	EA
15 5X5' JUNCTION BOX	1	EA
16 4X4' AREA INLET WITH ONE OPENING	1	EA
17 4X4' AREA INLET WITH TWO OPENINGS	1	EA
18 WATER QUALITY STRUCTURE (STRUCTURE 3901) STRUCTURE TO INCLUDE, 8" PVC, RISER PIPE, CONCRETE BLOCK, TRASH RACK, ETC.	1	LS

19 FAIRCLOTH SKIMMER - INCLUDE SKIMMER, CONCRETE BLOCK, RISER PIPE, REMOVAL AND REPLACEMENT WITH PERMANENT STRUCTURE	1	LS
20 24" END SECTION WITH TOE WALL	1	EA
21 30" END SECTION WITH TOE WALL	2	EA
22 36" END SECTION WITH TOE WALL	1	EA
23 50# STONE RIPRAP WITH FILTER FABRIC	12	EA
24 100# STONE RIPRAP WITH FILTER FABRIC	12	CY
25 150# STONE RIPRAP WITH FILTER FABRIC	7	CY
26 15" HDPE	460	LF
27 18" HDPE	150	LF
28 24" HDPE	425	LF
29 30" HDPE	385	LF
30 36" HDPE	670	LF
31 TURF REINFORCEMENT MAT	412	SY
32 EROSION CONTROL	1	LS
33 END OF ROAD MARKERS (OM 4-1)	6	EA
34 SEEDING AND MULCHING ALL DISTURBED AREAS	1	LS
THESE QUANTITIES ARE SUPPLIED FOT THE CONTRACTOR'S BENEFIT - CONTRACTOR SHALL VERIFY QUANTITIES AND DISCREPANCIES WHEN PLACING THEIR BID		

STREET, STORMWATER, AND MASTER DRAINAGE PLAN FOR CORNERSTONE AT BAILEY FARMS, FIRST PLAT IN THE CITY OF LEE'S SUMMIT JACKSON COUNTY, MISSOURI

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL LAYOUT
3	MASTER DRAINAGE PLAN-GRADING PLAN
4	MASTER DRAINAGE PLAN - SWALE GRADING PLAN
5	SE CRONIN ST PLAN AND PROFILE
6	SE SILO ST PLAN AND PROFILE
7	SE WINDBREAK DR (WEST) AND ARBORETUM DR PLAN AND PROFILE
8	INTERSECTION DETAILS
9	MASTER DRAINAGE PLAN-DRAINAGE AREA MAP
10	MASTER DRAINAGE PLAN-DRAINAGE CALCULATIONS
11	STORM PLAN
12	STORM PROFILE 1
13	STORM PROFILE 2
14	DETENTION BASIN DESIGN
15	STREET DETAILS 1
16	STREET DETAILS 2
17	STORM DETAILS
18	STORM DETAILS 2
19	SIGNAGE PLAN
20	SIGN POST DETAILS
21	SIGN MOUNTING DETAILS
22	STREET NAME SIGN DETAILS
23	OM-4 SIGN DETAILS

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
1420 West 107th Street Lenexa Kansas 66215
(913) 482-5158 • Fax: (913) 482-3400
WWW.SCHLAGELASSOCIATES.COM
MAILING ADDRESS: C/O SCHLAGEL ASSOCIATES, INC.
#2020038002 F-BLAC2020038002

PREPARED BY:

JAMES L. LONG
10/27/2023
NUMBER PE-204040495
SCHLAGEL & ASSOCIATES, P.A.

APPROVED BY:

CITY ENGINEER
APPROVED FOR ONE YEAR FROM THIS DATE

OWNER/DEVELOPER:

CLAYTON PROPERTIES GROUP INC., DBA SUMMIT HOMES
BRADLEY KEMPF
120 SE 30TH STREET
LEE'S SUMMIT, MO 64082
p (816) 246-6700
BRADLEY@SUMMITHOMESKC.COM



MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCHMARK:

BM JA-45, IS A KC METRO ALUMINUM GRS DISK SET IN CONCRETE AND ABOUT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE RANSON ROAD. IT IS STAMPED JA45, 1987.

ELEV. = 1046.25

COVER SHEET

DRAWN BY:	REVISION DATE:
JRL	01/01/2022
CHECKED BY:	PER CITY COMMENTS DATED 01/01/2022
JLL	01/01/2022
DATE PREPARED:	01/01/2022
DATE ISSUED:	01/01/2022
PROJ. NUMBER:	21-16
SHEET:	1

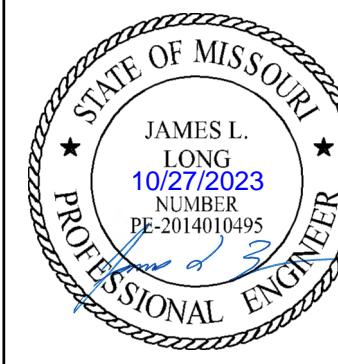


2

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.

GRADING LEGEND:
 - - - 1023 EXISTING CONTOUR
 — 1023 PROPOSED CONTOUR

PREPARED BY:



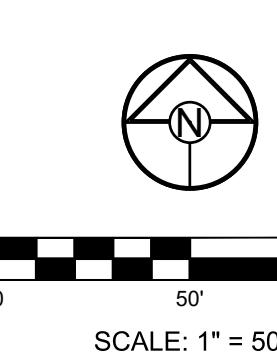
SCHLAGEL & ASSOCIATES, P.A.

NOTES:

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

LOT TYPE TABLE		
LOT NUMBER	BASEMENT TYPE	MBOE
1	STANDARD	
2	DAYLIGHT	
3	DAYLIGHT	
4	DAYLIGHT	
5	WALKOUT	
6	WALKOUT	
7	WALKOUT	
8	WALKOUT	
9	DAYLIGHT	
10*	STANDARD	1012
11*	STANDARD	1014
12*	STANDARD	1014
13*	STANDARD	1015
14*	STANDARD	1015
15*	STANDARD	1012
16*	STANDARD	1012
17*	STANDARD	1012
18*	STANDARD	1012
19*	DAYLIGHT	1012
20	DAYLIGHT	
21*	DAYLIGHT	1014
22*	DAYLIGHT	1014
23	DAYLIGHT	
24	DAYLIGHT	
25*	STANDARD	1018
26*	STANDARD	1019
27	STANDARD	
28	STANDARD	
29	STANDARD	
30*	STANDARD	1019
31*	STANDARD	1018
32	STANDARD	
33	STANDARD	
34	STANDARD	
35	STANDARD	
36	STANDARD	
37	STANDARD	

* LOTS WHICH REQUIRE AN "AS-GRADED PLOT PLAN" BEFORE OCCUPANCY.



CORNERSTONE AT BAILEY FARMS, FIRST PLAT
 STREET, STORMWATER, AND MASTER DRAINAGE
 PLAN
 SE BAILEY ROAD AND SE RANSON ROAD
 LEE'S SUMMIT, MISSOURI

DRAWN BY:	REVISION DATE:	DESCRIPTION:
JRU	02/02/2022	PER CITY COMMENTS DATED 01/02/2022
	04/20/2022	PER CITY COMMENTS DATED 02/28/2022
	05/20/2022	PER CITY COMMENTS DATED 05/13/2022
Updated City Details to 2023 Details		
DATE PREPARED:	JUL 12/20/2021	
PROJ. NUMBER:	21-136	





BASIS OF BEARINGS:

MISSOURI STATE PLANE COORDINATE SYSTEM
(NAD 1983, MISSOURI, WEST ZONE)

NOTES:

ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM TO THE CITY OF LEES SUMMIT TECHNICAL SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.

GRADING LEGEND:

—	—	1023	EXISTING CONTOUR
—	—	1023	PROPOSED CONTOUR

A A
DENOTES OVERFLOW SWALE

EL:000.00 DENOTES FINISHED GRADE ELEVATION

EL:000.00 (EX.) DENOTES EXISTING GRADE ELEVATION

HP 000.00 DENOTES LOT HIGH POINT ELEVATION

NOTES:

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

WEIR CALCULATIONS ($Q = CLH^{(3/2)}$)									
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	WEIR ELEVATION	WEIR COEFFICIENT	LENGTH (FT.)	HEAD REQUIRED (FT.)	
1-1	0.60	5.11	2.91	2.20	1016.30	3.33	10	0.16	1016.46

100 YEAR OVERFLOW SWALES												
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	BED SLOPE (%)	BASE WIDTH (FT.)	SIDE SLOPE	TOP WIDTH (FT.)	NORMAL DEPTH (FT.)	VELOCITY (FPS)	EGL (FT.)	
E-E	0.76	6.47	3.69	2.78	2.2	5	4:1	4.00	0.50	2.78	0.12	0.62
F-F	3.21	27.33	15.57	11.76	2.0	5	4:1	8.84	0.48	3.54	0.19	0.67
G-G	3.56	30.31	17.27	13.04	2.4	0	4:1	6.96	0.87	4.31	0.29	1.16
H-H	8.77	74.67	42.54	32.12	5.3	5	4:1	10.04	0.63	6.78	0.71	1.34

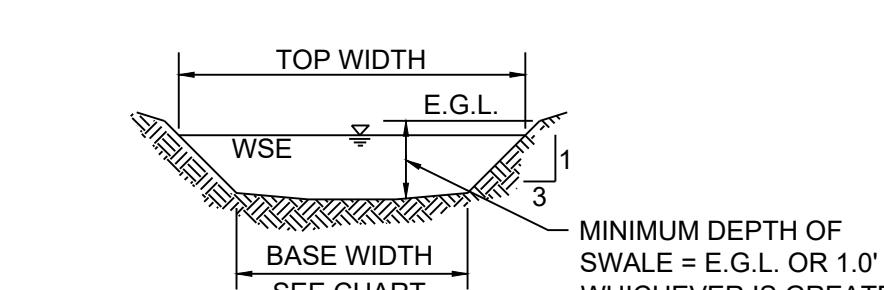
RUNOFF CALCULATIONS:

$$Q = K \cdot C \cdot I \cdot A$$

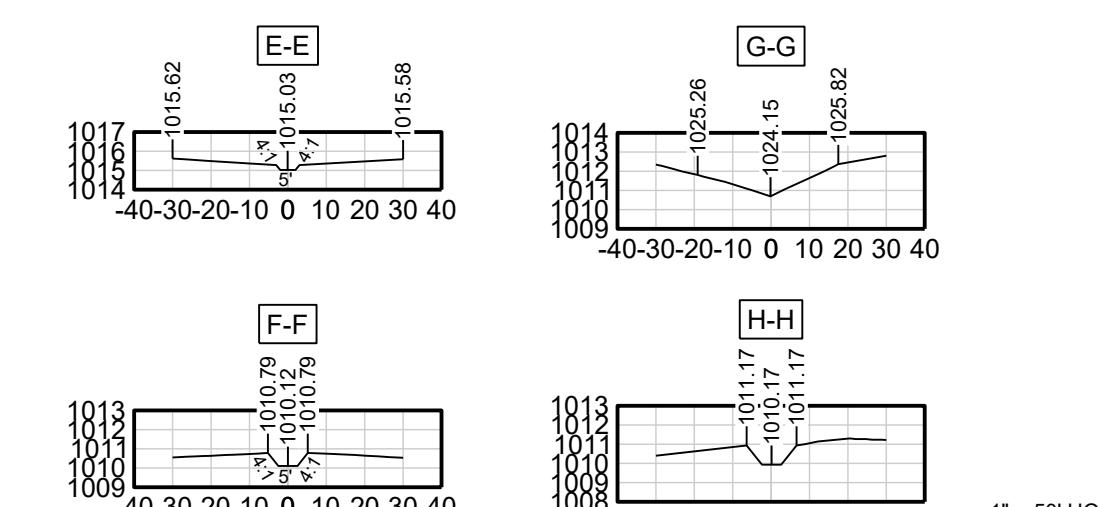
$$K_0 = 1.0 \quad K_{100} = 1.25 \quad C = 0.66 \quad I = INTENSITY$$

$$\text{DESIGN OVERFLOW} = Q_{\text{OVERFLOW}} = Q_{100} - Q_{10}$$

$$\text{MANNINGS } n = 0.030 \text{ FOR SWALES}$$



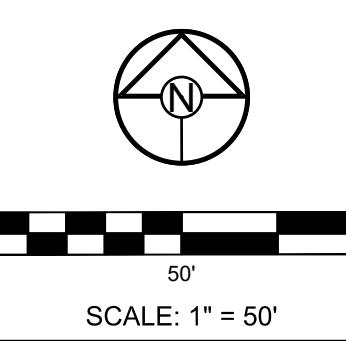
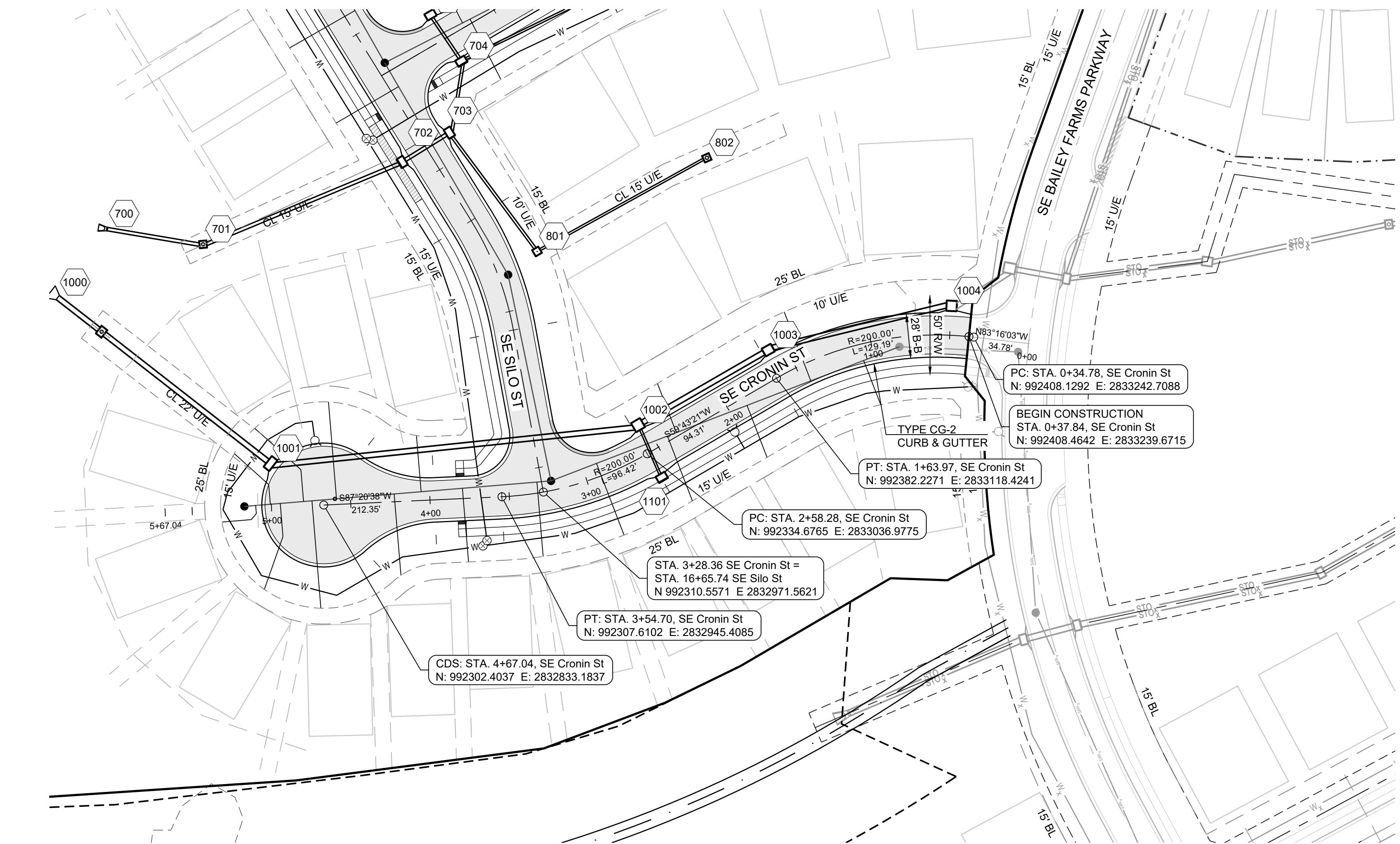
100 YEAR OVERFLOW SWALE SECTIONS



CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI



MASTER
DRAINAGE PLAN
- SWALE
GRADING PLAN
SHEET
4



SCALE: 1" = 50'

**MISSOURI GEOGRAPHIC REFERENCE SYSTEM
BENCHMARK:**

BM JA 45, IS A KC METRO ALUMINUM GRIS DISK SET IN CONCRETE AND ABOUT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE RANSON ROAD. IT IS STAMPED JA45, 1987.

ELEV. = 1046.25

NOTES:

ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM TO THE CITY OF LEES SUMMIT TECHNICAL SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.

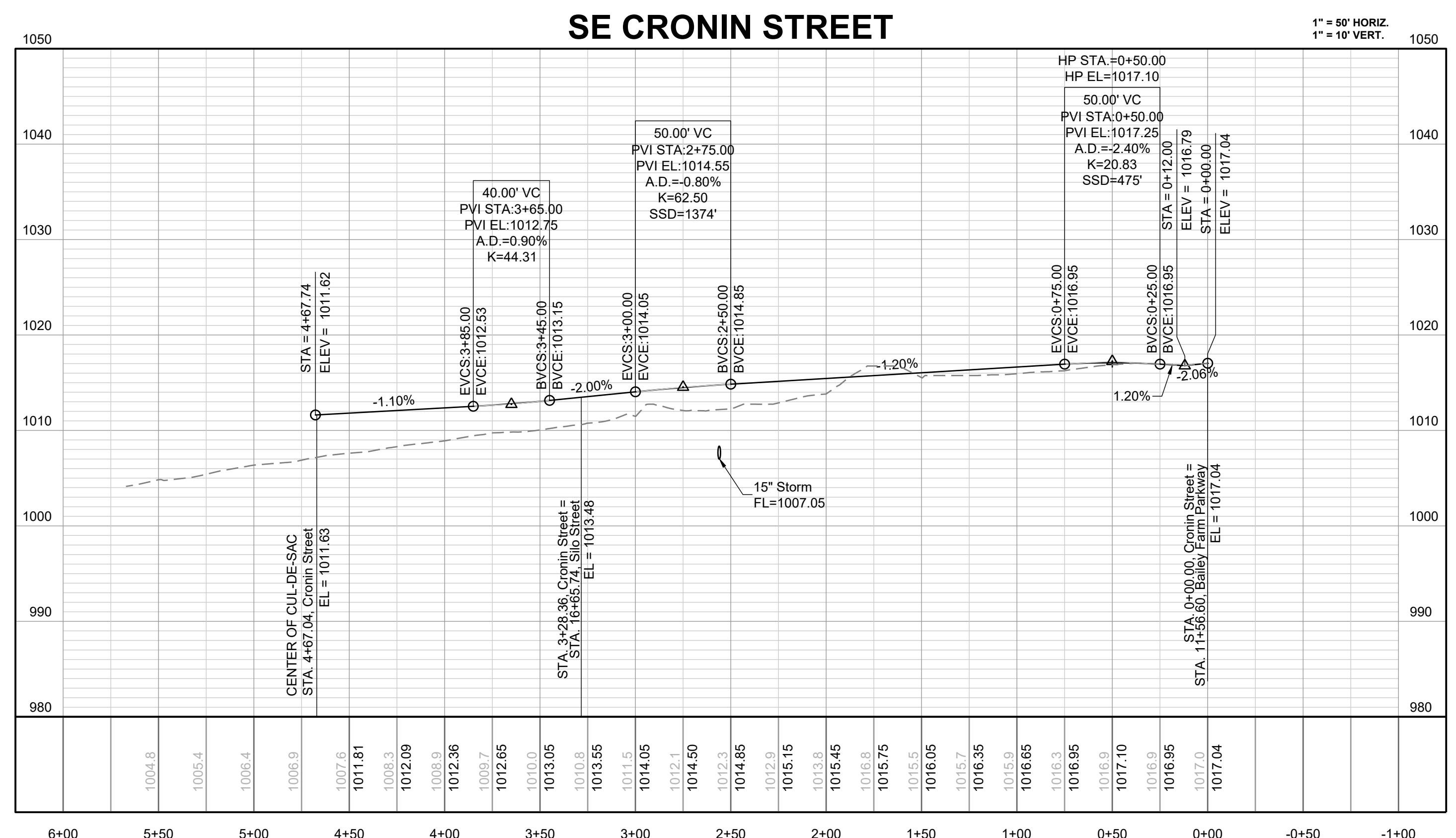
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 (913) 492-5158 • Fax: (913) 492-3400
 WWW.SCHLAGELASSOCIATES.COM
 Missouri State Certificates of Authority #E20200380-F, #LS200200889-F

PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.



CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN

SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

SE CRONIN ST PLAN AND PROFILE		DRAWN BY: IRJ	REVISION DATE: 02/2022	DESCRIPTION: PER CITY COMMENTS DATED 01/10/2022
		CHECKED BY: JILL	02/2022	PER CITY COMMENTS DATED 02/20/2022
		APPROVED BY: JILL	02/2022	PER CITY COMMENTS DATED 02/20/2022
		DATE PREPARED: 12/20/2021	02/2022	Updated City Details to 2022
		PROJ. NUMBER: 2-136	02/2022	

BM JA-45, IS A KC METRO ALUMINUM GRS DISK SET IN CONCRETE AND
ABOUT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE
RANSON ROAD. IT IS STAMPED JA45, 1987.

ELEV. = 1046.25

OTES:

ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM TO THE
CITY OF LEES SUMMIT TECHNICAL SPECIFICATIONS.

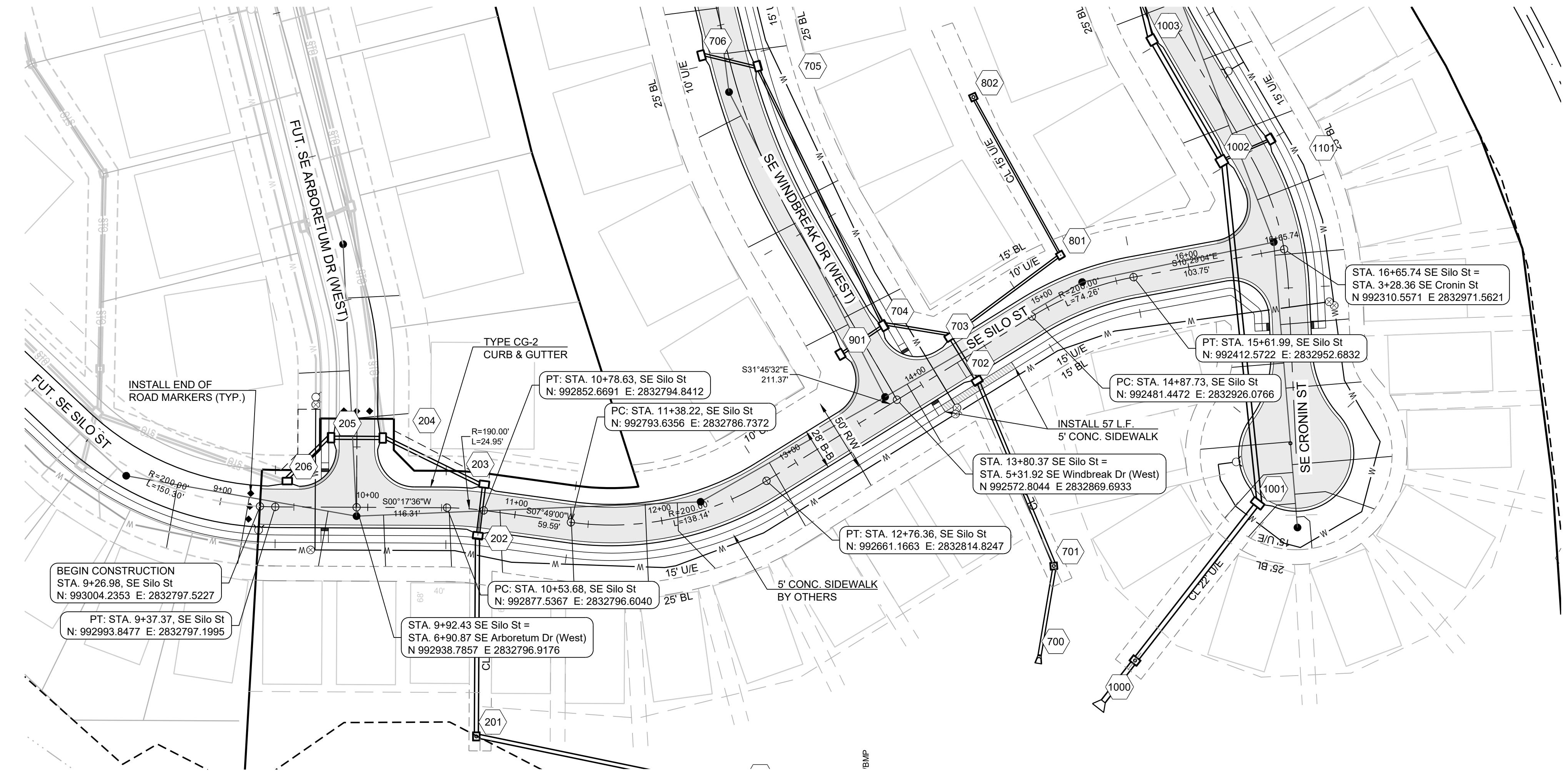
THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.



PREPARED BY:



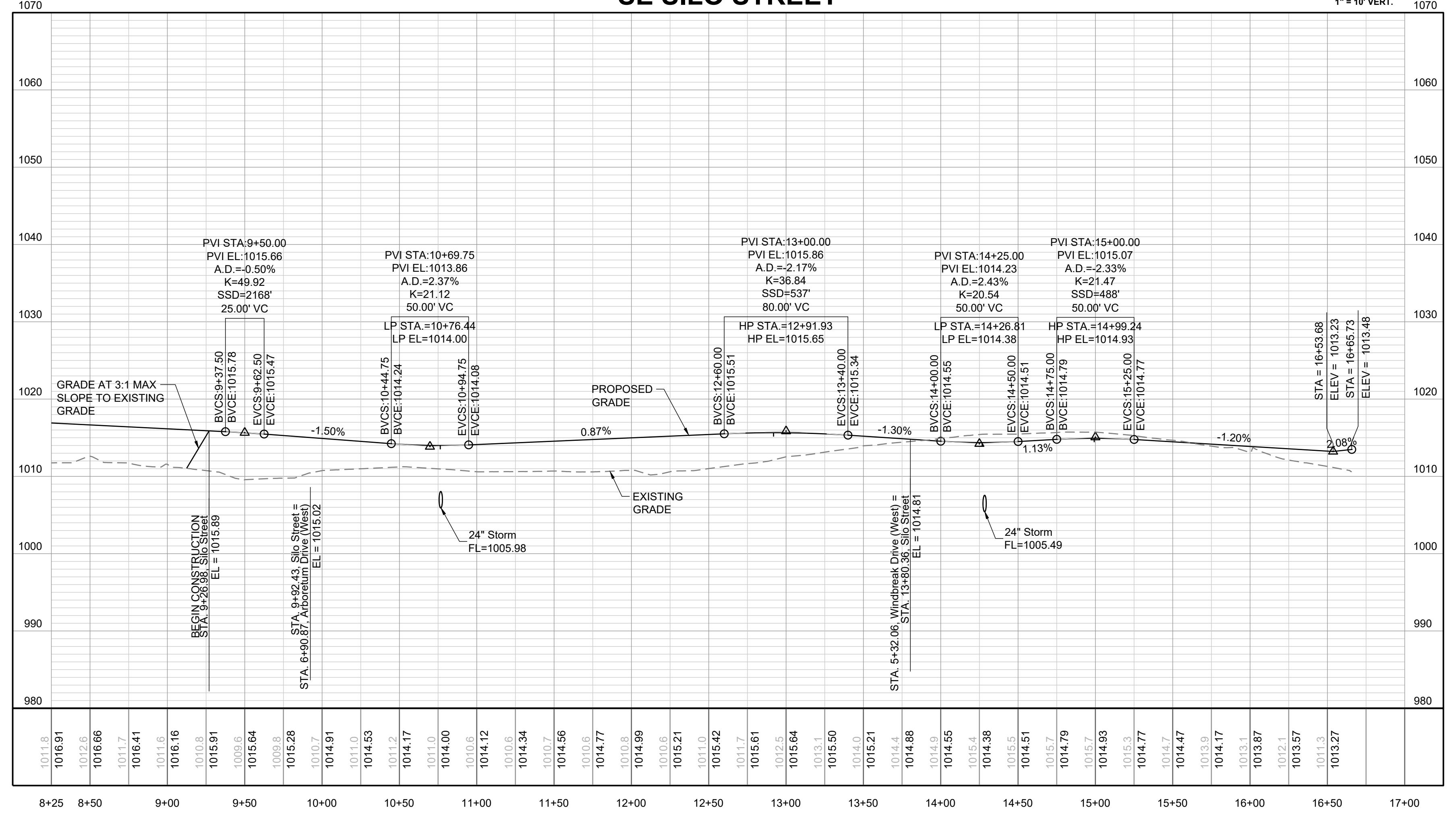
HAGI & ASSOCIATES, P.



A circular registration mark with a letter 'N' in the center. Below the circle is a horizontal scale bar consisting of a black and white checkerboard pattern followed by the text '50' and the label 'SCALE: 1" = 50'.

SE SILO STREET

" = 50' HORIZ.
" = 10' VERT 1070

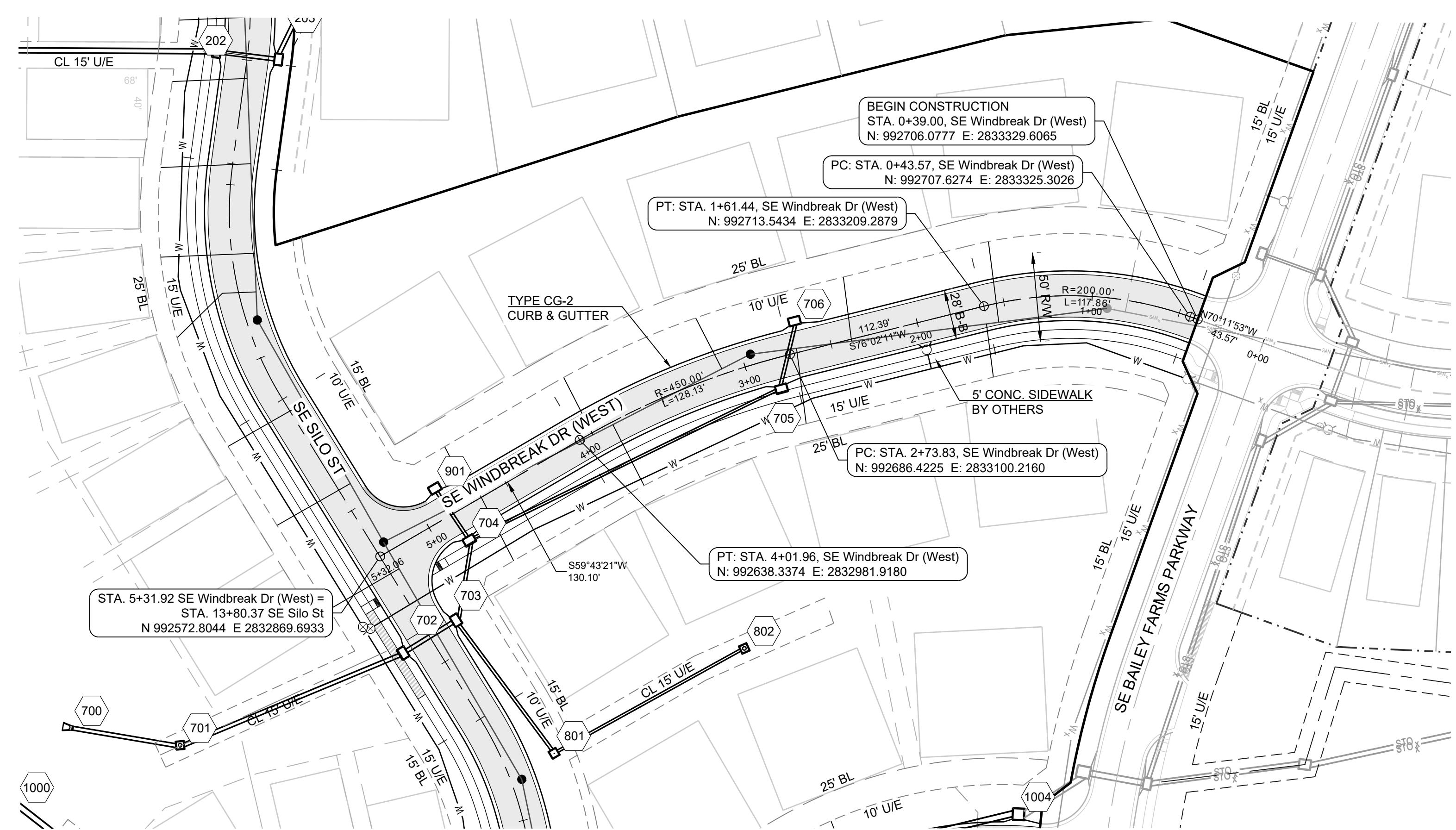
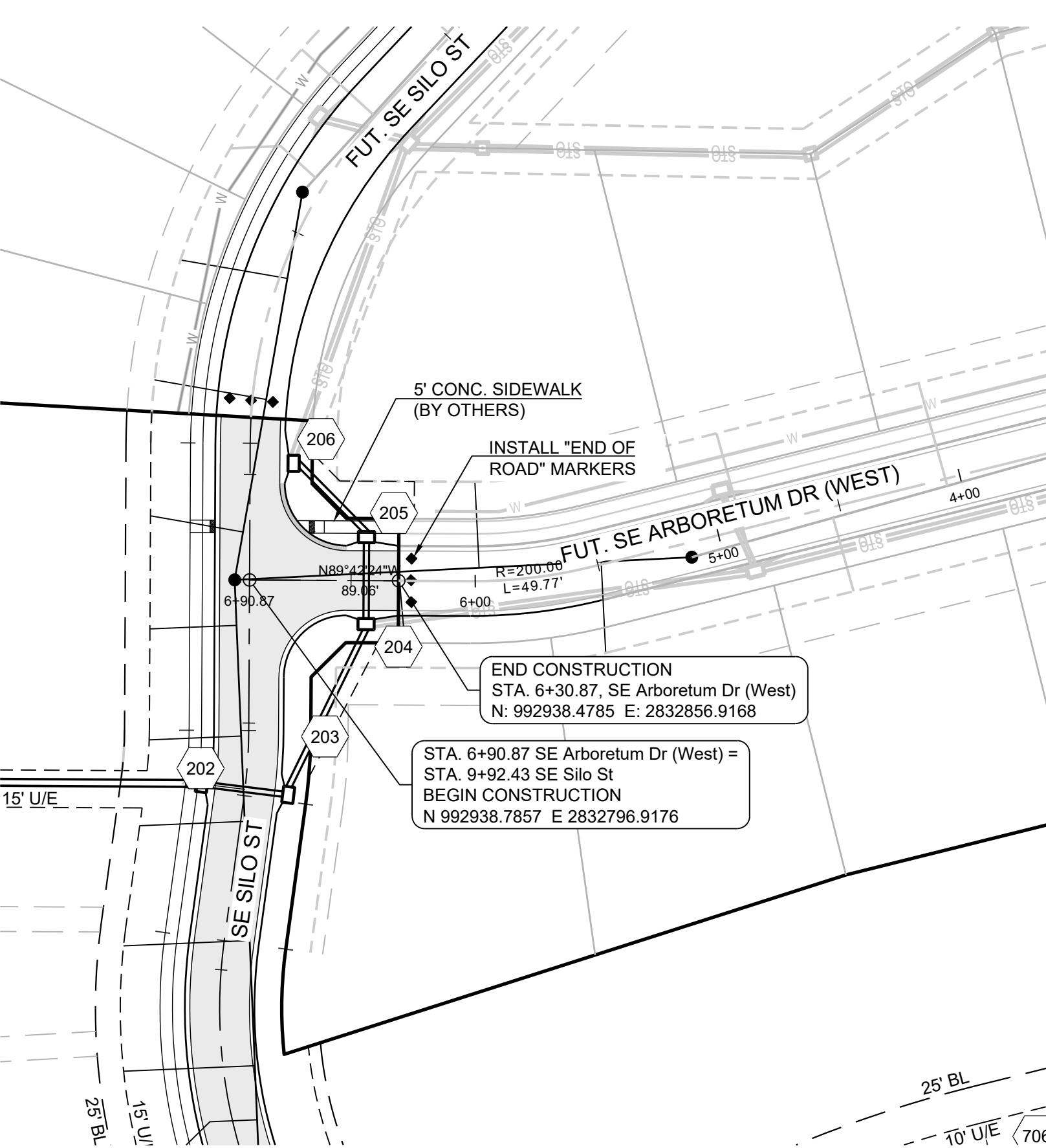


CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN

SE BAILEY ROAD AND SE RANSON ROAD

EE'S SUMMIT MISSOURI

DRAWN BY: JRW		REVISION DATE <u>1</u> 02/03/2022	DESCRIPTION PER CITY COMMENTS DATED 01/10/2022
CHECKED BY: JLL		<u>2</u> 04/20/2022	PER CITY COMMENTS DATED 02/28/2022
DATE PREPARED: 12/20/021		<u>3</u> 05/19/2022	PER CITY COMMENTS DATED 05/13/2022
		<u>4</u> 10/27/2023	Updated City Details to 2023 Details
		<u>5</u>	
		<u>6</u>	
		<u>7</u>	
		<u>8</u>	
<p style="text-align: center;">SE SILO ST PLAN AND PROFILE</p>			
<p style="text-align: center;">SHEET 6</p>			



MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCHMARK:

M JA-45, IS A KC METRO ALUMINUM GRS DISK SET IN CONCRETE AND
ABOUT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE
ANSON ROAD. IT IS STAMPED JA45, 1987.

LEV. = 1046.25

NOTES:
ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM TO THE
CITY OF LEES SUMMIT TECHNICAL SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.

SCHLAGEL

ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS

14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
www.schlagelassociates.com

Missouri State Contractors License #PE-2014010495

PREPARED BY:

JAMES L.
LONG
10/27/2023
NUMBER
PE-2014010495

[Handwritten signature over the date]

PROFESSIONAL ENGINEER

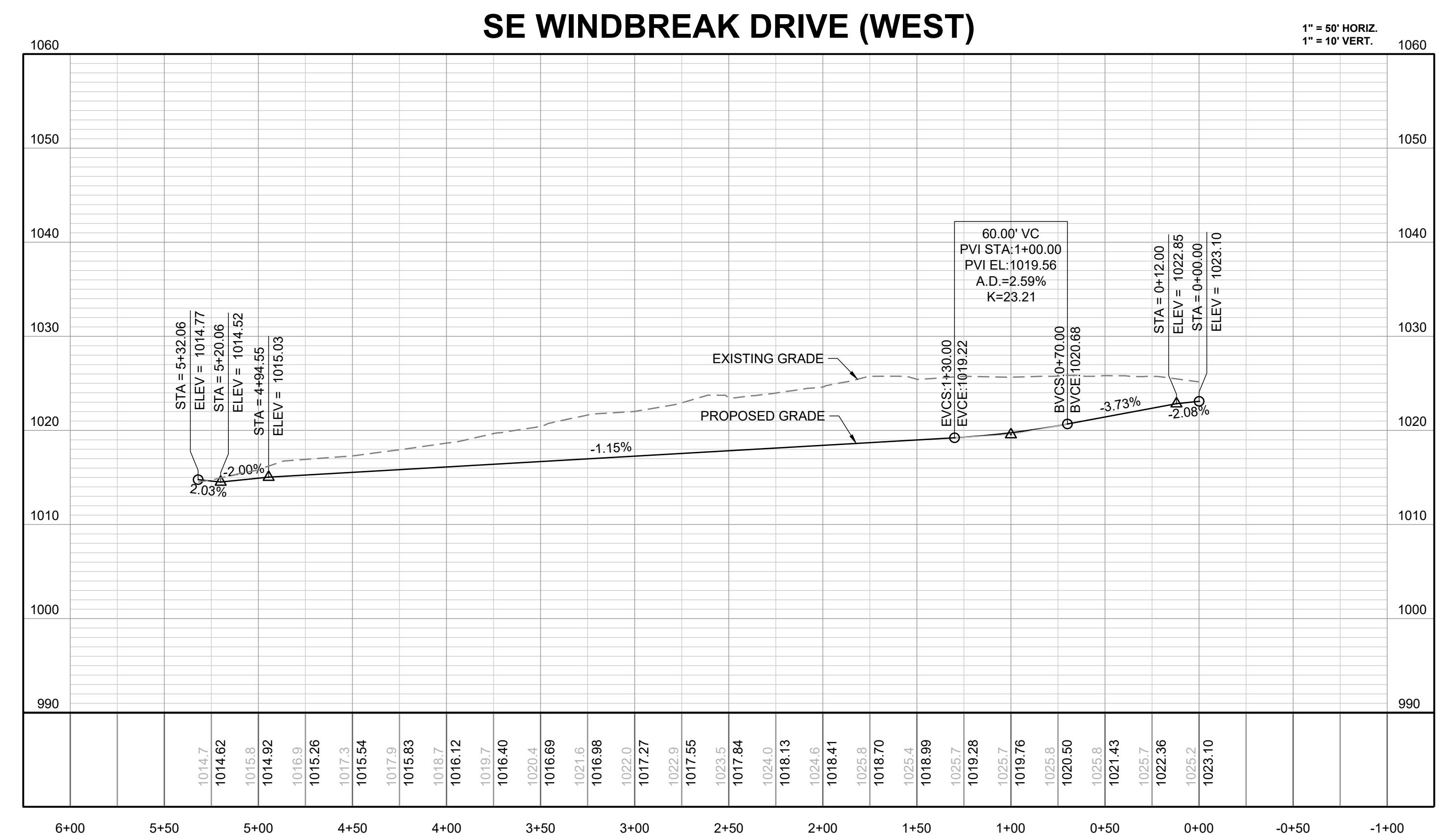
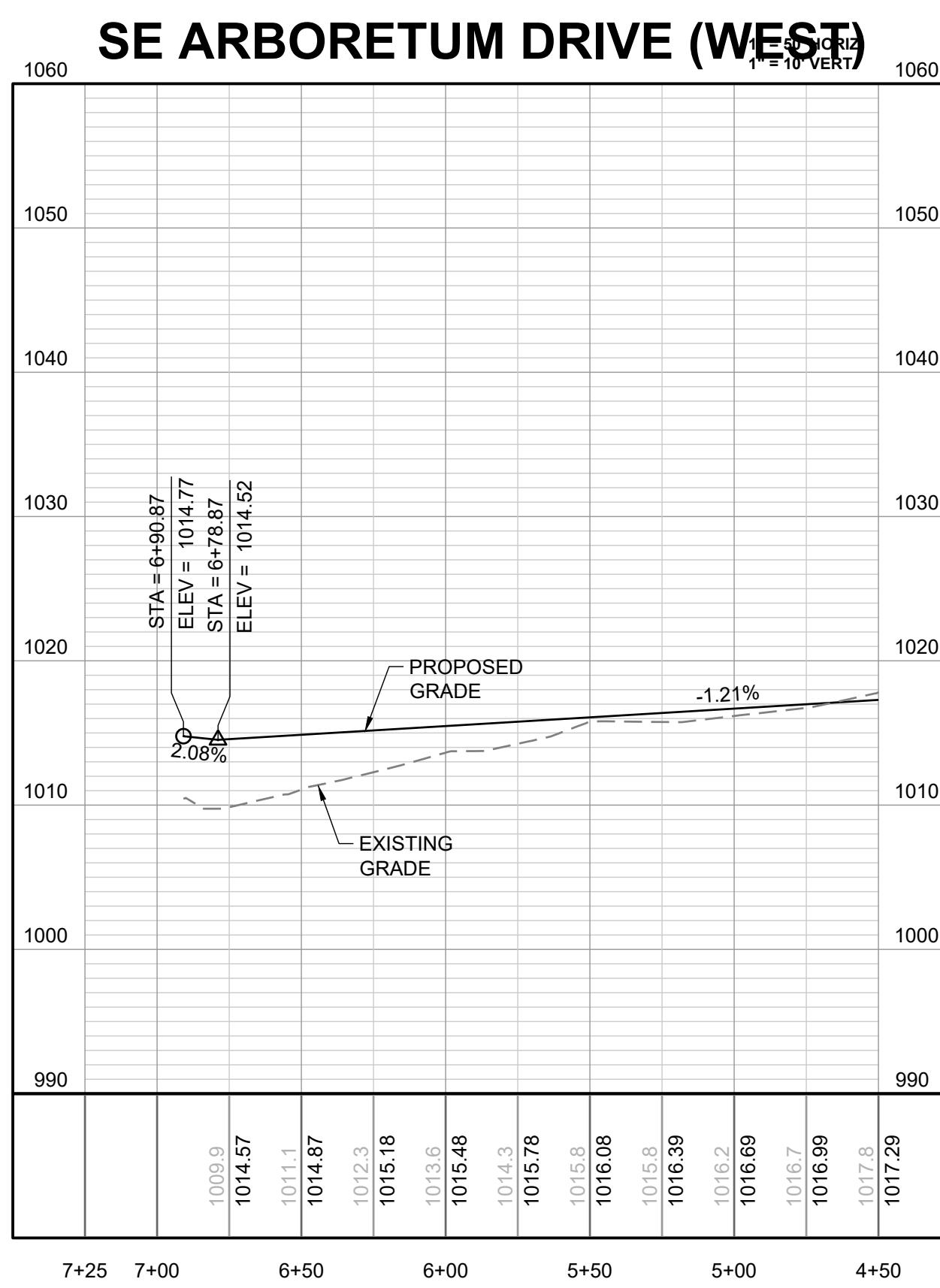
SCHLAGEL & ASSOCIATES, P

A scale bar at the bottom shows a 50' distance with a checkered pattern. Above it is a registration mark consisting of a circle divided into four quadrants by a crosshair, with a large letter 'N' in the center.

SCALE: 1" = 50'

**CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER
DRAINAGE PLAN**

SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT MISSOURI



**SE WINDBREAK DR
(WEST) AND
ARBORETUM DR
PLAN AND PROFILE
SHEET**

PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

**CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN**

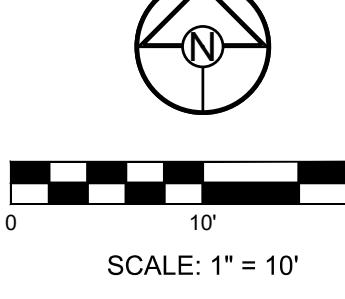
**SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI**

88

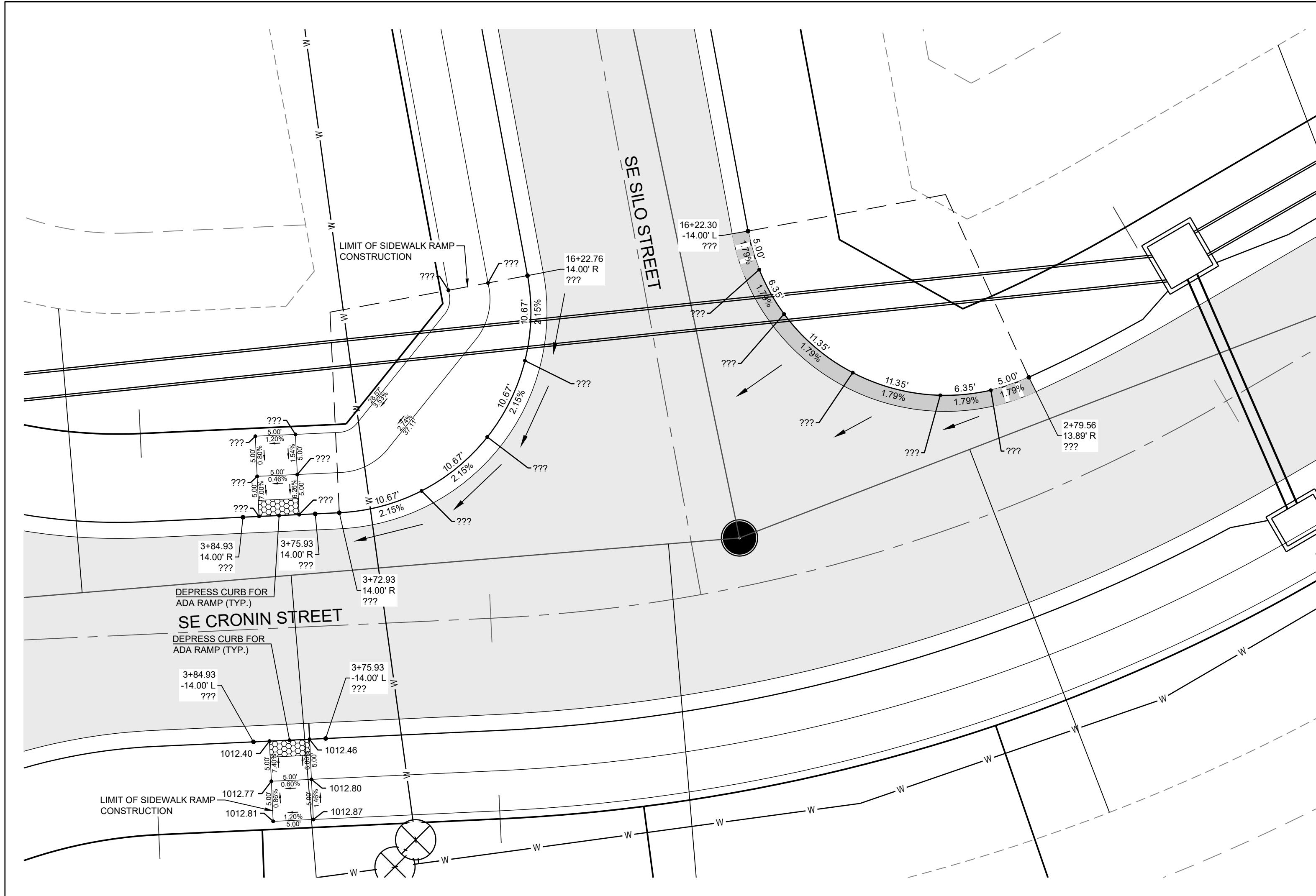
SHEET	DRAWN BY:	REVISION DATE	DESCRIPTION
	JRU	02/05/2022	PER CITY COMMENTS DATED 01/10/2022
CHECKED BY:	JLL	04/20/2022	PER CITY COMMENTS DATED 02/28/2022
DATE PREPARED	JLL	05/15/2022	Updated City Details to 2023 Details
PROJ. NUMBER:	JLL	JLL	JLL
21-136			

CURB LEGEND

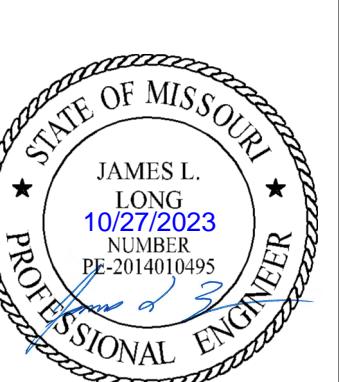
- Curb & Gutter - Existing
- Type "CG-2" Curb & Gutter
- Type "CG-2" Dry Curb & Gutter
- Transition "CG-2" to "CG-2 Dry"



SCALE: 1" = 10'



PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

**CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI**

MASTER DRAINAGE
PLAN-DRAINAGE
AREA MAP

SHEET

9

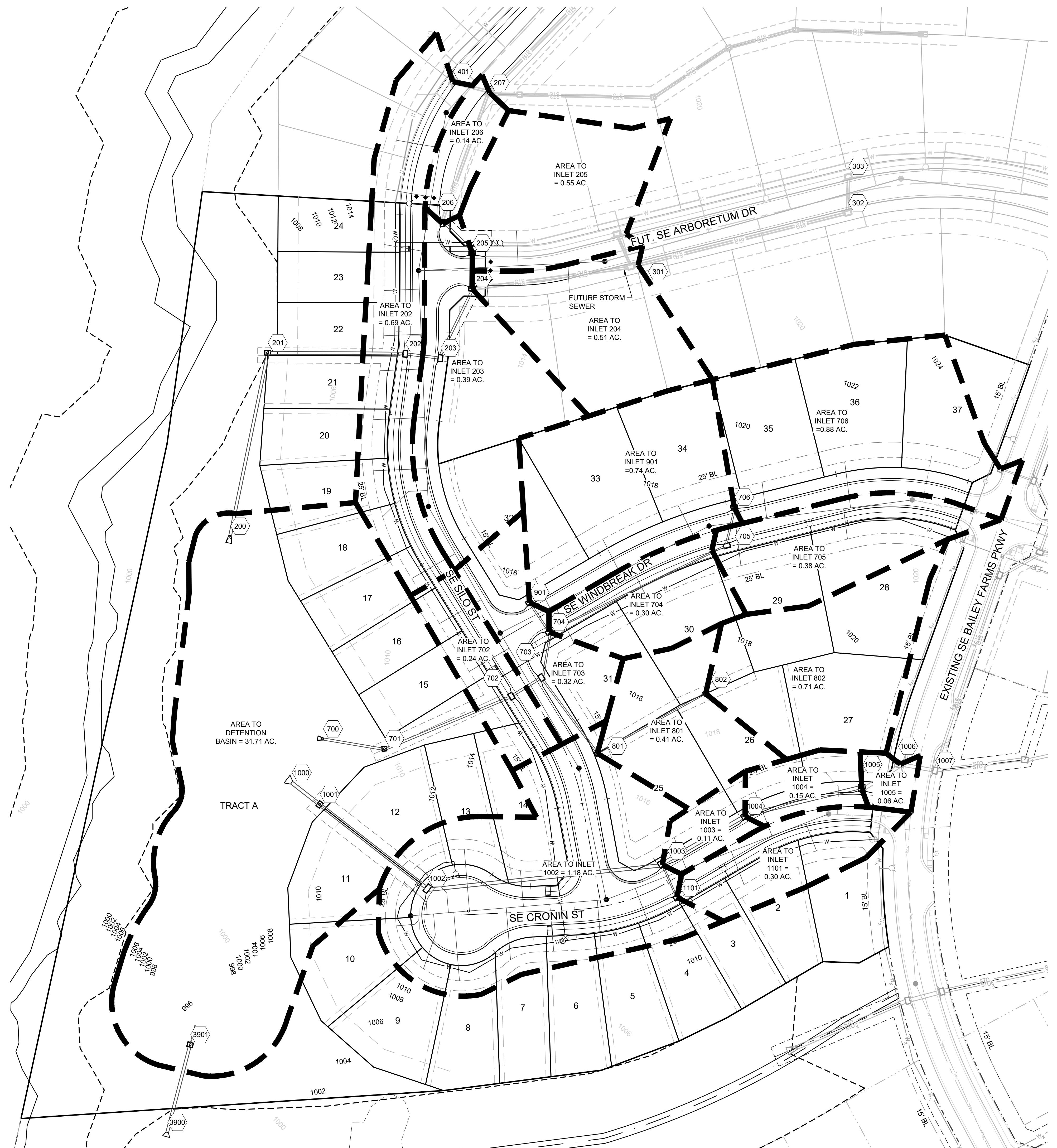
SCALE: 1" = 50'

0 50' 100'

**MISSOURI GEOGRAPHIC REFERENCE SYSTEM
BENCHMARK:**

BM JA-45, IS A KC METRO ALUMINUM GRS DISK SET IN CONCRETE AND
ABOUT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE
RANSON ROAD. IT IS STAMPED JA45, 1987.

ELEV. = 1046.25



10-YEAR RUNOFF CALCULATIONS

100-YEAR RUNOFF CALCULATIONS

Design Storm:	100																											
"K" Value:	1.25																											
"F" Factor:	1.00																											
Runoff Calculations																												
Inlet	Area	"C"	Cumul.			Runoff	To	Cumul.	Pipe	Pipe	Up	Up	Up		Pipe Properties						Drop							
#	(acres)	Value	Area	Cumul.	CxA	Tc	Intensity	Inlet	Runoff	Cap.	Vel.	Piped	Inlet 1	Inlet 2	Area	Up	Inlet	Down	Pipe	"n"	Pipe	Size	Length	%	In	FL Up	FL Down	Inlet Top
LINE 200																									DS TAILWATER @ STR #200			
201	0.00	0.66	8.09	5.34	7.7	9.31	0.00	62.14	34.42	7.01					0.00	0.00	201	200	HDPE	0.012	30	184.94	0.60	0.20	1002.61	1001.50	1008.75	
202	0.69	0.66	8.09	5.34	7.4	9.41	5.35	62.78	39.74	8.10					0.00	0.00	202	201	HDPE	0.012	30	135.90	0.80	1.50	1003.90	1002.81	1013.49	
203	0.39	0.66	7.40	4.88	7.3	9.44	3.04	57.60	21.92	6.98					0.00	0.00	203	202	HDPE	0.012	24	35.04	0.80	0.50	1005.68	1005.40	1013.50	
204	0.51	0.66	7.01	4.63	7.2	9.50	4.00	54.93	21.92	6.98	301				1.85	1.22	204	203	HDPE	0.012	24	75.49	0.80	0.50	1006.78	1006.18	1015.11	
205	0.55	0.66	4.65	3.07	7.1	9.53	4.32	36.55	21.92	6.98					0.00	0.00	205	204	HDPE	0.012	24	35.00	0.80	0.50	1007.56	1007.28	1015.11	
206	0.14	0.66	4.10	2.71	7.0	9.56	1.10	32.35	21.92	6.98					0.00	0.00	206	205	HDPE	0.012	24	41.74	0.80	0.20	1008.40	1008.06	1015.83	
LINE 700																									DS TAILWATER @ STR #700			
701	0.00	0.66	1.98	1.31	5.7	10.03	0.00	16.38	21.92	6.98					0.00	0.00	701	700	HDPE	0.012	24	61.51	0.80	0.50	1000.13	999.64	1009.24	
702	0.24	0.66	1.98	1.31	5.5	10.11	2.00	16.52	34.66	11.03					0.00	0.00	702	701	HDPE	0.012	24	135.04	2.00	0.30	1003.33	1000.63	1014.47	
703	0.32	0.66	1.74	1.15	5.5	10.13	2.67	14.54	34.66	11.03	901				0.74	0.49	703	702	HDPE	0.012	24	35.00	2.00	0.40	1004.33	1003.63	1014.47	
704	0.30	0.66	0.68	0.45	5.4	10.16	2.51	5.70	19.71	11.15					0.00	0.00	704	703	HDPE	0.012	18	41.96	3.00	0.40	1005.99	1004.73	1015.29	
705	0.38	0.66	0.38	0.25	5.0	10.32	3.24	3.24	9.90	8.06					0.00	0.00	705	704	HDPE	0.012	15	195.23	2.00	0.40	1010.30	1006.39	1017.49	
706	0.88	0.66	0.88	0.58	5.0	10.32	7.49	7.49	9.90	8.06					0.00	0.00	706	705	HDPE	0.012	15	38.73	2.00	N/A	1011.47	1010.70	1017.78	
LINE 800																									Drop in Inlet 703			
801	0.41	0.66	1.12	0.74	5.3	10.22	3.46	9.44	16.09	9.11					0.00	0.00	801	703	HDPE	0.012	18	97.97	2.00	0.50	1006.79	1004.83	1014.92	
802	0.71	0.66	0.71	0.47	5.0	10.32	6.05	6.05	9.90	8.06					0.00	0.00	802	801	HDPE	0.012	15	122.16	2.00	N/A	1009.74	1007.29	1015.80	
LINE 900																									Drop in Inlet 704			
901	0.74	0.66	0.74	0.49	5.0	10.32	6.30	6.30	9.90	8.06					0.00	0.00	901	704	HDPE	0.012	15	35.06	2.00	N/A	1007.19	1006.49	1015.06	
LINE 1000																									DS TAILWATER @ STR #1000			
1001	0.00	0.66	14.65	10.02	8.3	9.09	0.00	113.91	67.78	9.59					0.00	0.00	1001	1000	HDPE	0.012	36	35.00	0.88	0.30	999.49	999.18	1010.90	
1002	1.18	0.66	14.65	10.02	8.1	9.17	0.00	114.81	72.26	10.22					0.00	0.00	1002	1001	HDPE	0.012	36	135.00	1.00	0.30	1001.14	999.79	1010.90	
1003	0.11	0.66	14.65	10.02	7.7	9.31	9.06	116.58	64.63	9.14	1101				0.30	0.20	1003	1002	HDPE	0.012	36	232.81	0.80	0.40	1003.30	1001.44	1014.95	
1004	0.15	0.66	13.17	9.04	7.5	9.37	0.85	105.88	64.63	9.14					0.00	0.00	1004	1003	HDPE	0.012	36	94.66	0.80	0.40	1004.46	1003.70	1016.07	
1005	0.06	0.66	13.06	8.97	7.3	9.44	1.17	105.87	64.63	9.14					0.00	0.00	1005	1004	HDPE	0.012	36	118.84	0.80	0.40	1005.81	1004.86	1017.25	
LINE 1100																									Drop in Inlet 1002			
1101	0.30	0.66	0.30	0.20	5.0	10.32	2.55	2.55	12.12	9.88					0.00	0.00	1101	1002	HDPE	0.012	15	36.19	3.00	N/A	1003.97	1002.89	1014.88	

GUTTER SPREAD AND INLET CAPACITY CALCULATIONS

BIRRAP SIZING CALCULATIONS

Outlet/Channel Properties						Rip-Rap Dimensions									
Outlet Structure	Pipe Size (ft)	Downstream Channel/Swale Section	V Pipe (ft/s)	V Swale (ft/s)	Average Shear Stress (lb/ft^2)	W Calculated (ft)	W USED (ft)	L Calculated (ft)	L (min.) 3*D (ft)	L (max.) 10*D (ft)	L USED (ft)	D50 Calculated (ft)	Size (Wt.) USED (d50,ft)	Critical Shear Stress (lb/ft^2)	T (ft)
200	2.50	N/A	7.01	0.00	N/A	7.50	8	n/a	7.50	25.00	16	0.32	1.50 (100#)	5.16	2.25
700	2.00	N/A	6.98	0.00	N/A	6.00	6	n/a	6.00	20.00	14	0.32	1.00 (50#)	4.00	2.00
1000	3.00	N/A	9.59	0.00	N/A	9.00	9	n/a	9.00	30.00	18	0.60	1.50 (100#)	5.16	2.25
3900	2.50	N/A	15.69	0.00	N/A	7.50	8	n/a	7.50	25.00	16	1.60	2.00 (200#)	6.91	3.00

1

- NOTES:

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

3. MANNINGS "n" VALUE FOR COMBINED ASPHALT PAVEMENT AND CONCRETE CURB = 0.0

**CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN**

**SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI**

10



Storm Sewer Construction Notes

Structure	Notes
200	STA 0+00.00, LINE 200 INSTALL 30" HDPE FLARED END SECTION W/ TOEWALL AND 7 CU. YD (16'X8'X2.5') STONE RIP-RAP USING A MIN. 100# (D50=15") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP. N 992676.4508 E 2832604.7511
201	STA 1+84.94, LINE 200 INSTALL 5 X 4 JUNCTION BOX N 992857.6387 E 2832641.8233
202	STA 3+20.54, LINE 200 INSTALL 6 X 4 CURB INLET N 992856.6502 E 2832777.4172
203	STA 3+55.57, LINE 200 INSTALL 6 X 4 CURB INLET N 992852.4044 E 2832812.1893
204	STA 4+31.15, LINE 200 INSTALL 6 X 4 CURB INLET N 992921.0453 E 2832843.8274
205	STA 4+66.15, LINE 200 INSTALL 6 X 4 CURB INLET N 992956.0449 E 2832844.0066
206	STA 5+07.89, LINE 200 INSTALL 6 X 4 CURB INLET N 992985.7268 E 2832814.6582
700	STA -0+00.00, LINE 700 INSTALL 24" HDPE FLARED END SECTION W/ TOEWALL AND 5 CU. YD (14'X6'X1.5') STONE RIP-RAP USING A MIN. 50# (D50=12") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP. N 992476.2527 E 2832696.4116
701	STA 0+61.50, LINE 700 INSTALL 4 X 4 JUNCTION BOX N 992466.5519 E 2832757.1471
702	STA 1+97.26, LINE 700 INSTALL 6 X 4 CURB INLET N 992518.4477 E 2832882.5904
703	STA 2+32.26, LINE 700 INSTALL 6 X 4 CURB INLET N 992536.8697 E 2832912.3499
704	STA 2+77.85, LINE 700 INSTALL 6 X 4 CURB INLET N 992581.8404 E 2832919.8570
705	STA 4+73.08, LINE 700 INSTALL 6 X 4 CURB INLET N 992667.1149 E 2833095.4758
706	STA 5+11.81, LINE 700 INSTALL 6 X 4 CURB INLET N 992705.1565 E 2833102.7289
801	STA 0+92.98, LINE 800 INSTALL 4 X 4 AREA INLET OPEN TO EAST N 992462.0478 E 2832967.5530

Storm Sewer Construction Notes

Structure	Notes
802	STA 2+15.14, LINE 800 INSTALL 4 X 4 AREA INLET OPEN TO EAST & WEST N 992521.0360 E 2833074.5302
901	STA 0+35.06, LINE 900 INSTALL 6 X 4 CURB INLET N 992611.0492 E 2832900.4685
1000	STA 0+00.00, LINE 1000 INSTALL 36" HDPE FLARED END SECTION W/ TOEWALL AND 12 CU. YD. (18'X9'X2') STONE RIP-RAP USING A MIN. 100# (D50=15") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP. N 992433.0590 E 2832665.5966
1001	STA 0+35.00, LINE 1000 INSTALL 5 X 5 JUNCTION BOX N 992411.5375 E 2832693.1978
1002	STA 1+70.00, LINE 1000 INSTALL 8 X 4 CURB INLET N 992328.5259 E 2832799.6593
1003	STA 4+02.81, LINE 1000 INSTALL 6 X 6 CURB INLET N 992352.7296 E 2833031.2069
1004	STA 4+97.47, LINE 1000 INSTALL 6 X 5 CURB INLET N 992399.9823 E 2833113.2254
1005	STA 6+16.30, LINE 1000 INSTALL 6 X 6 CURB INLET N 992427.8021 E 2833228.7610
1101	STA 0+36.19, LINE 1100 INSTALL 6 X 4 CURB INLET N 992319.7811 E 2833046.1733
3900	STA -0+00.00, LINE 3900 INSTALL 30" HDPE FLARED END SECTION W/ TOEWALL AND 7 CU. YD (16'X8'X2.5') STONE RIP-RAP USING A MIN. 200# (D50=24") STONE. PLACE FILTER FABRIC PRIOR TO INSTALLATION OF RIP-RAP. N 992087.6378 E 2832542.7072
3901	STA 0+89.50, LINE 3900 INSTALL 4 X 5 JUNCTION BOX N 992174.2309 E 2832565.3322

IRONSTONE AT BAILEY FARMS, FIRST PLATE
STREET, STORMWATER, AND MASTER
DRAINAGE PLAN

SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

SCHLAGEL & ASSOCIATES, P.A.

PREPARED BY:

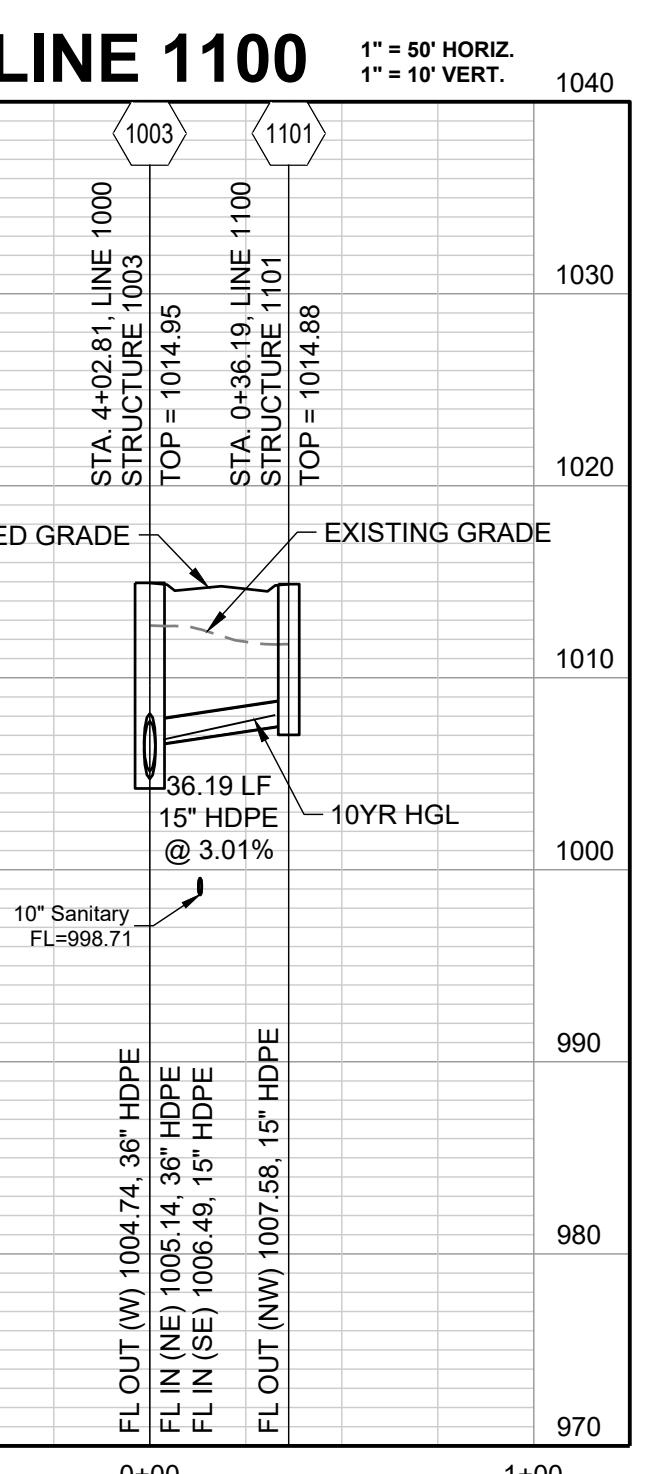
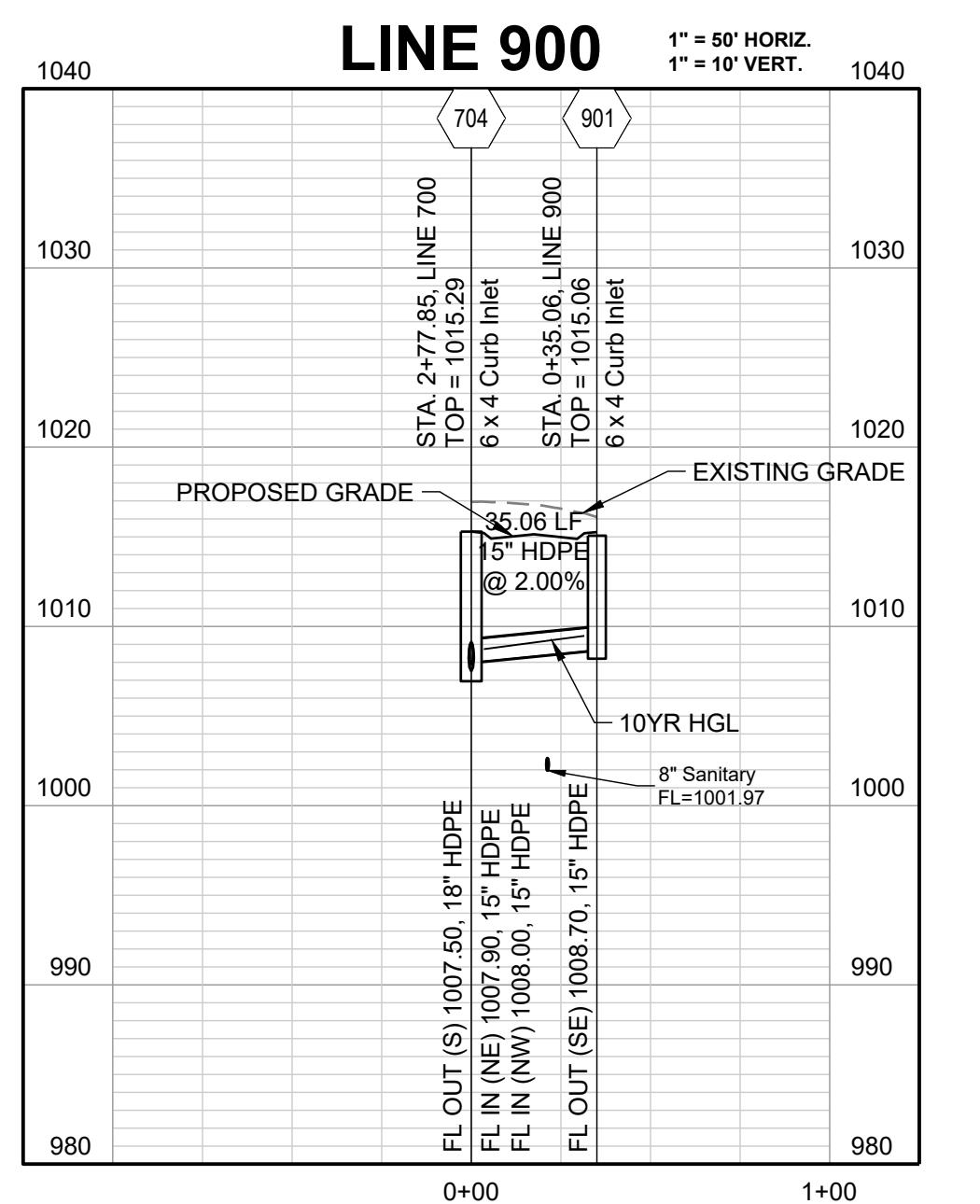
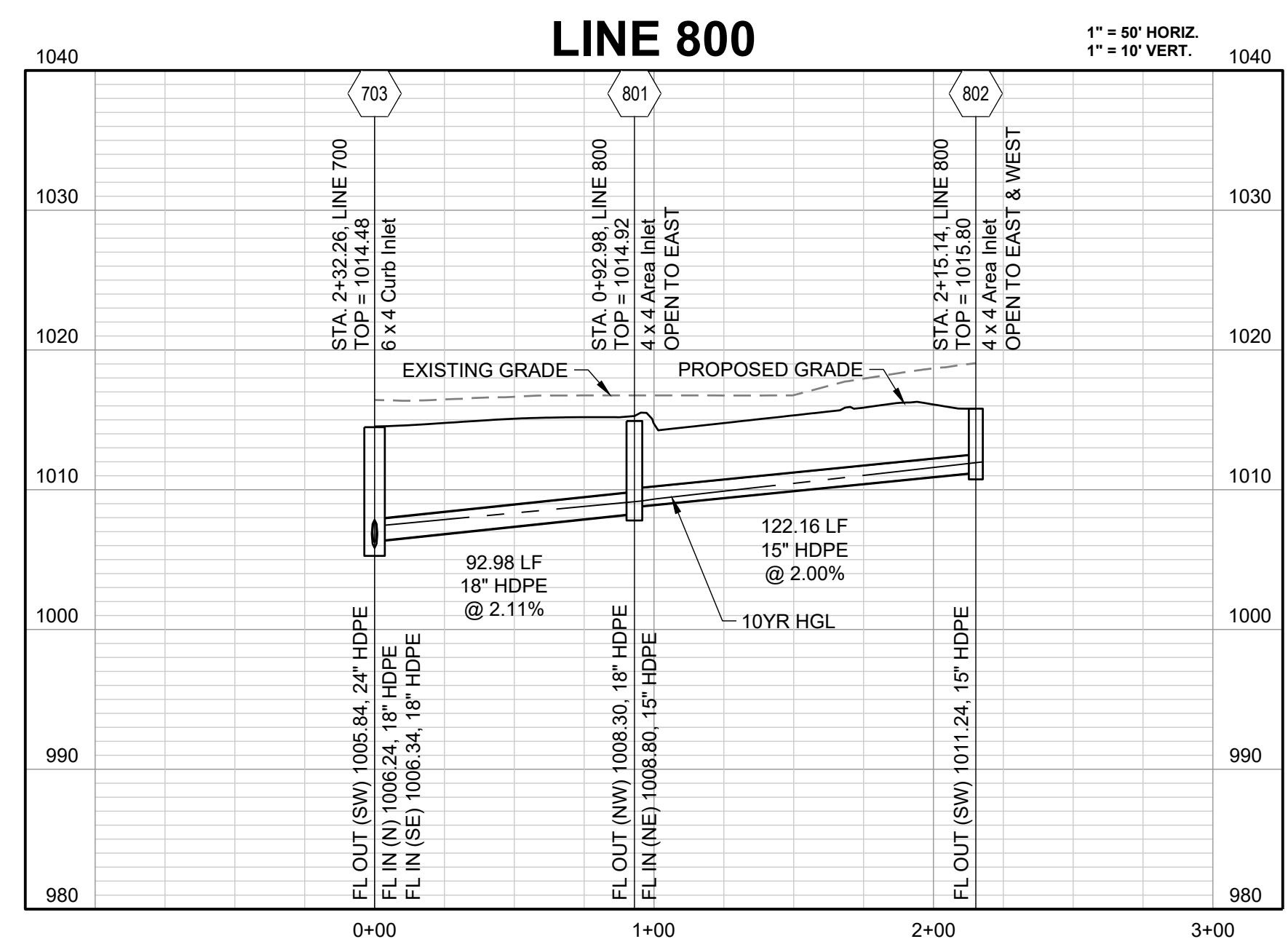
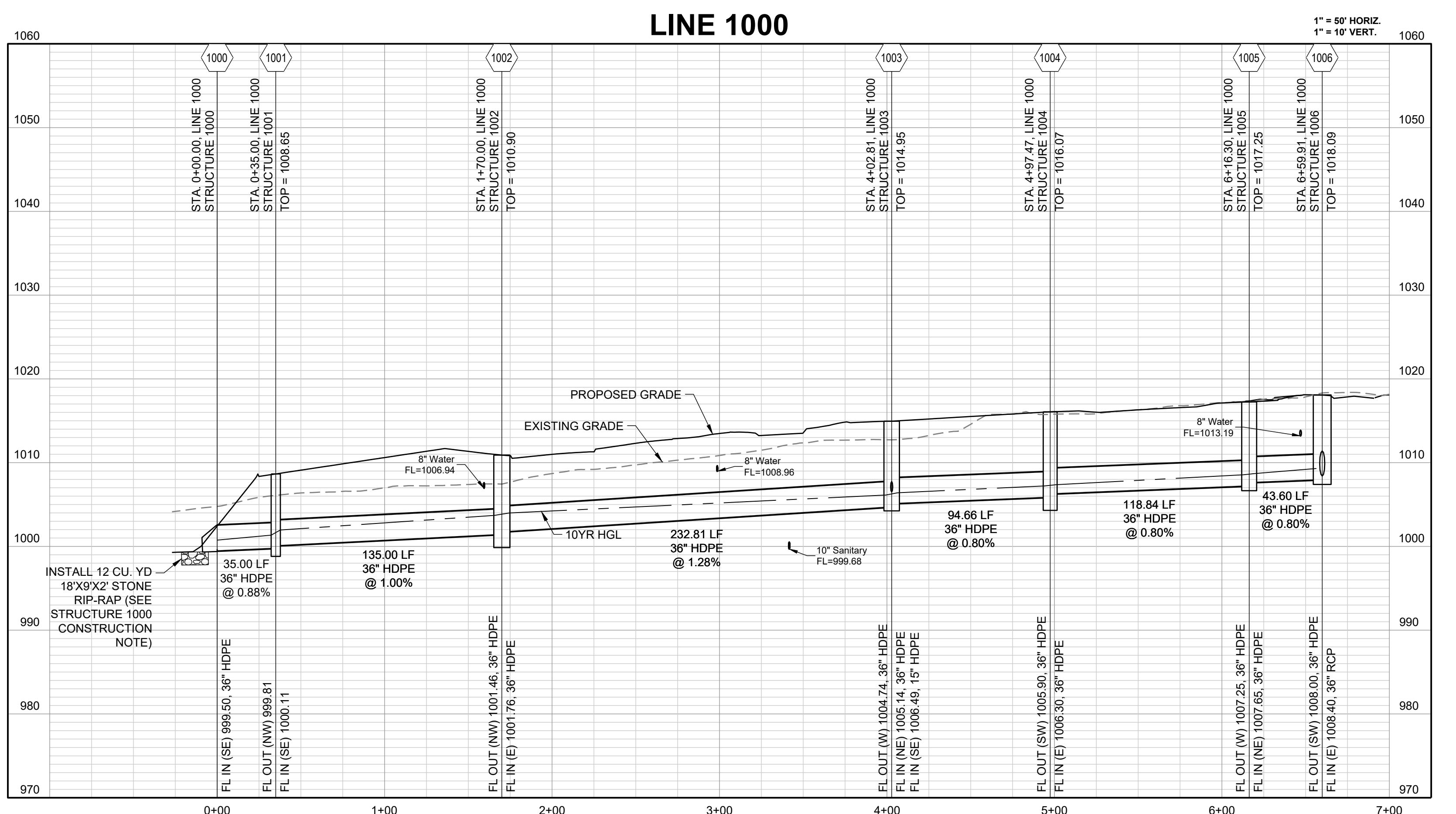


The logo for Schlage Landscaping features a large, bold, black sans-serif font where the letter 'S' is uniquely designed as a horizontal bar divided into two segments: a blue segment on the left and a grey segment on the right.

STORM PLAN

HEET

11



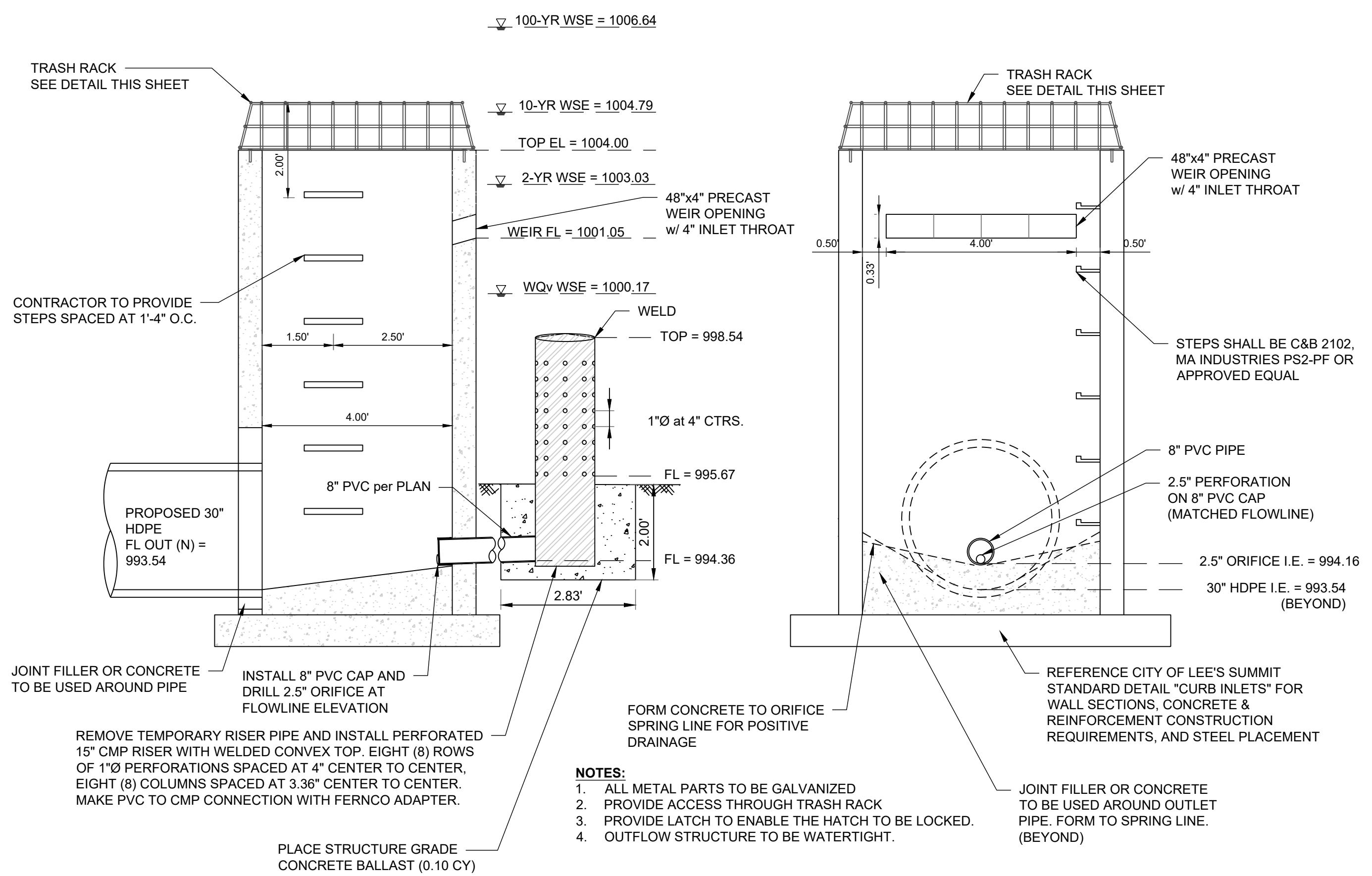
**CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN**

SE BAILEY ROAD AND SE RANSON ROAD

EE'S SPLIT MISSOURI



DRAWN BY: JRU	REVISION DATE 02/03/2022	DESCRIPTION PER CITY COMMENTS DATED 01/10/2022
CHECKED BY: JLL	04/20/2022 05/19/2022	PER CITY COMMENTS DATED 02/28/2022 PER CITY COMMENTS DATED 05/13/2022
DATE PREPARED: 12/20/021	10/27/2023	Updated City Details to 2023 Details
PROJ. NUMBER: 21-136	5 6 7 8 9	
<h1 style="text-align: center;">STORM PROFILE</h1> <h2 style="text-align: center;">2</h2>		
<h1 style="text-align: center;">13</h1>		
<h3 style="text-align: center;">SHEET</h3>		



WATER QUALITY STRUCTURE 3901

(NOT TO SCALE)

DETENTION STORAGE:
100 YEAR, 24 HR. RAINFALL - MAXIMUM WSE = 1006.
(SEE FINAL STORMWATER MGMT. PLAN)

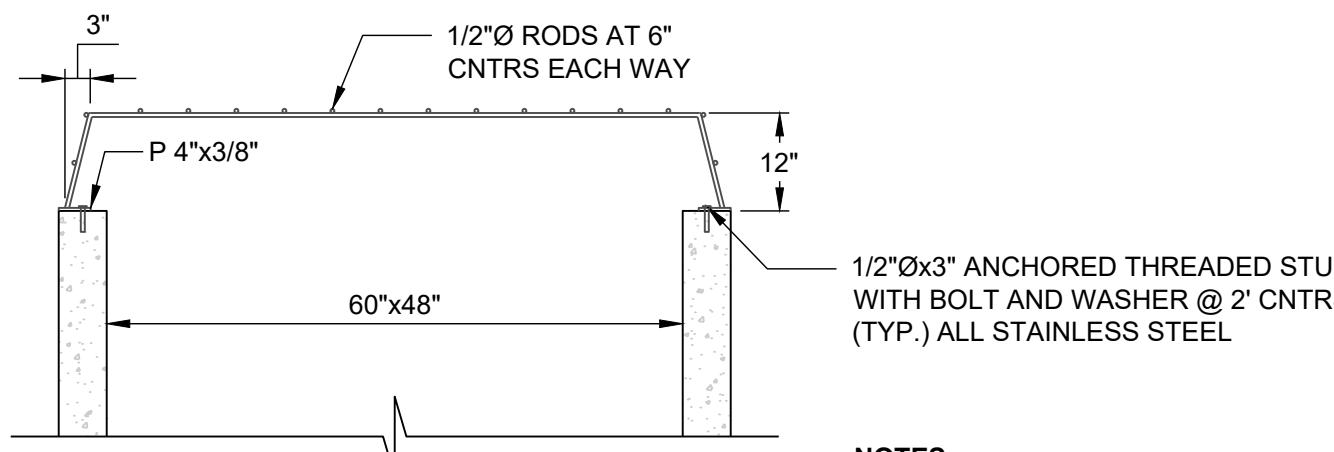
EMERGENCY SPILLWAY FLOWLINE SET AT
0.5 FEET ABOVE MAX. WSE, SPILLWAY ELEV. = 1007..

EMERGENCY SPILLWAY DESIGN:
 $Q(100) = 260.19 \text{ CFS}$, $Q = CLH^{(3/2)}$, $C=3.33$,
 $L = 220 \text{ FT.}$, $260.19 \text{ CFS} = 3.33 * 220 \text{ FT.} * (H^{(3/2)})$, $H = 0.5 \text{ FT.}$

WATER SURFACE ELEVATION THROUGH SPILLWAY =
+ ONE (1) FOOT OF FREEBOARD =
SET BASIN TOP AT

+ ONE (1) FOOT OF FREEBOARD = 1008.
SET BASIN TOP AT 1008.

DETENTION BASIN STORAGE VOLUME	
DESIGN STORM	VOLUME (CUBIC FEET)
2-YEAR	164,409
10-YEAR	249,634
100-YEAR	352,702



TRASH RACK DETAIL (NOT TO SCALE)

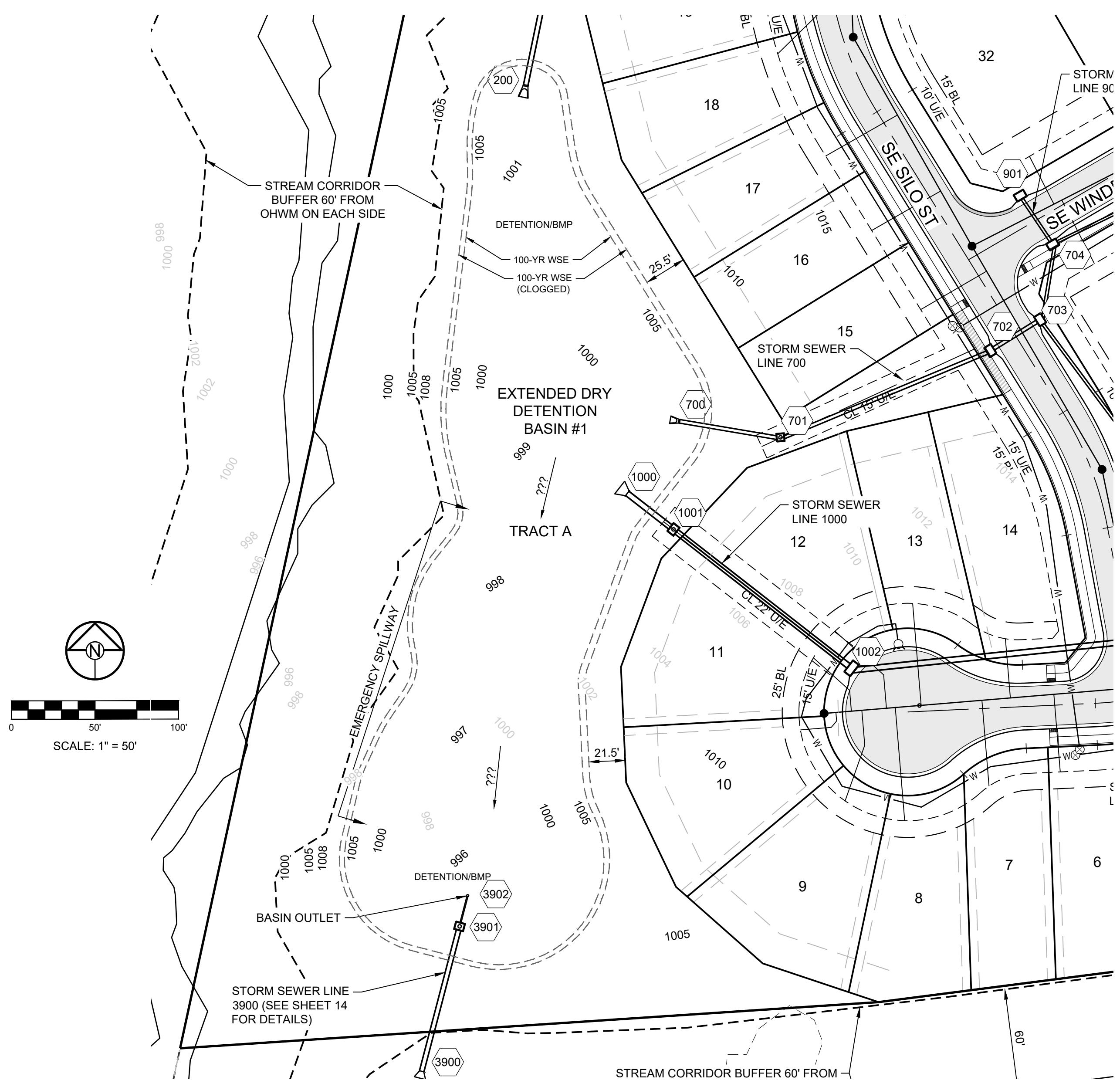
36"x36" ACCESS HATCH
PROVIDE MEANS TO LOCK
ACCESS HATCH.
HATCH LOCATION TO BE
POSITIONED OVER STEPS

6.0'

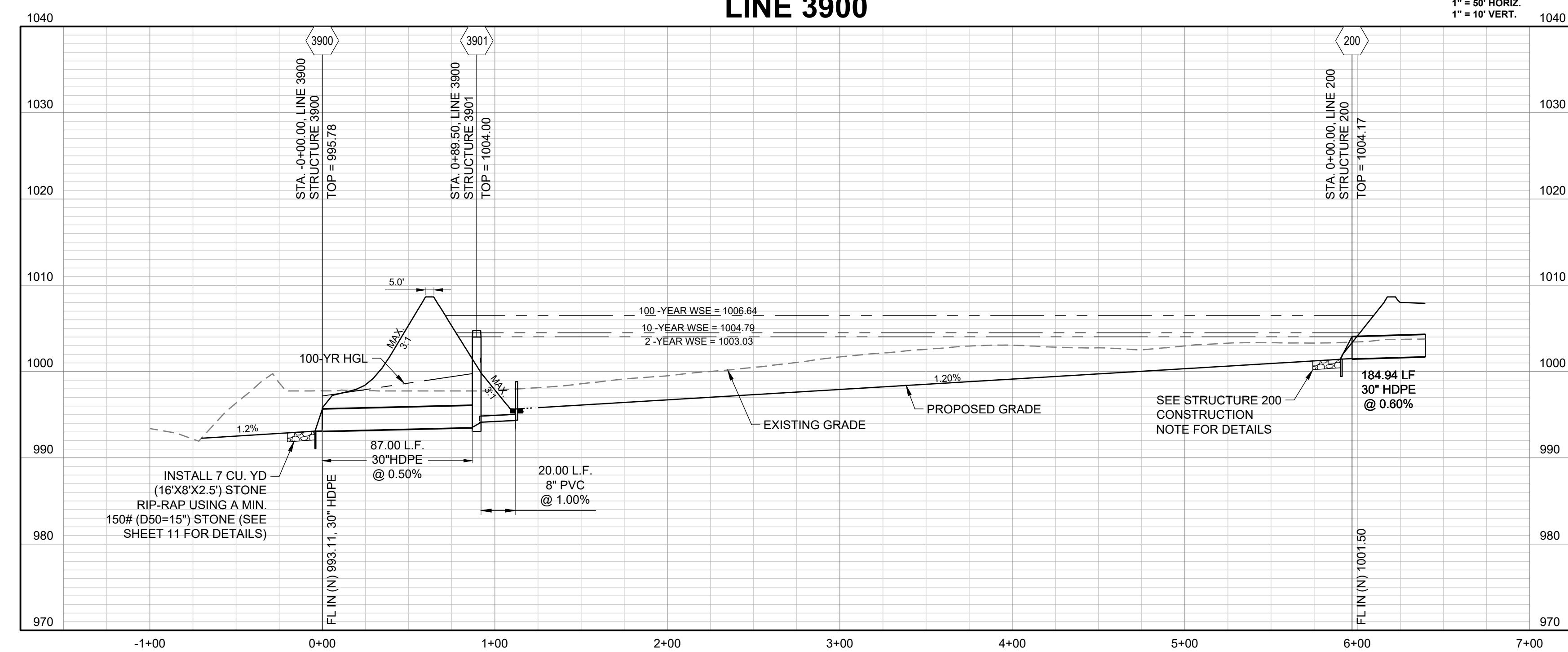
The diagram illustrates a cross-section of a V-notch casting. A grid of 8" PVC pipes is installed within the casting. An arrow points to one of the pipes. The text "V-NOTCH CASTING AFTER THE REMOVAL OF THE TEMPORARY SEDIMENT PERFORATED STEEL PLATE. (RE: EROSION CONTROL PLAN)" is present above the casting, and "8" PVC" is indicated below it.

The diagram shows a rectangular room with a grid of 1/2" diameter rods welded at 6" centers. The room has dimensions of 20' by 24'. A callout shows a cross-section of a rod end.

WELDED 1/2"Ø
RODS AT 6"
CNTRS EACH WAY



LINE 3900



**CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE
PLAN**

SE BAILEY ROAD AND SE RANSON ROAD

The seal is circular with a rope-like outer border. Inside, the words "STATE OF MISSOURI" are written in a curved font along the top inner edge. The bottom half contains the text "PROFESSIONAL ENGINEER" also in a curved font. In the center, it says "JAMES L. LONG" above the date "10/27/2023". Below the date is the text "NUMBER PE-2014010495". A blue signature "James L. Long" is written across the center, with "PE-2014010495" written vertically next to it. Two small stars are positioned on either side of the central text.

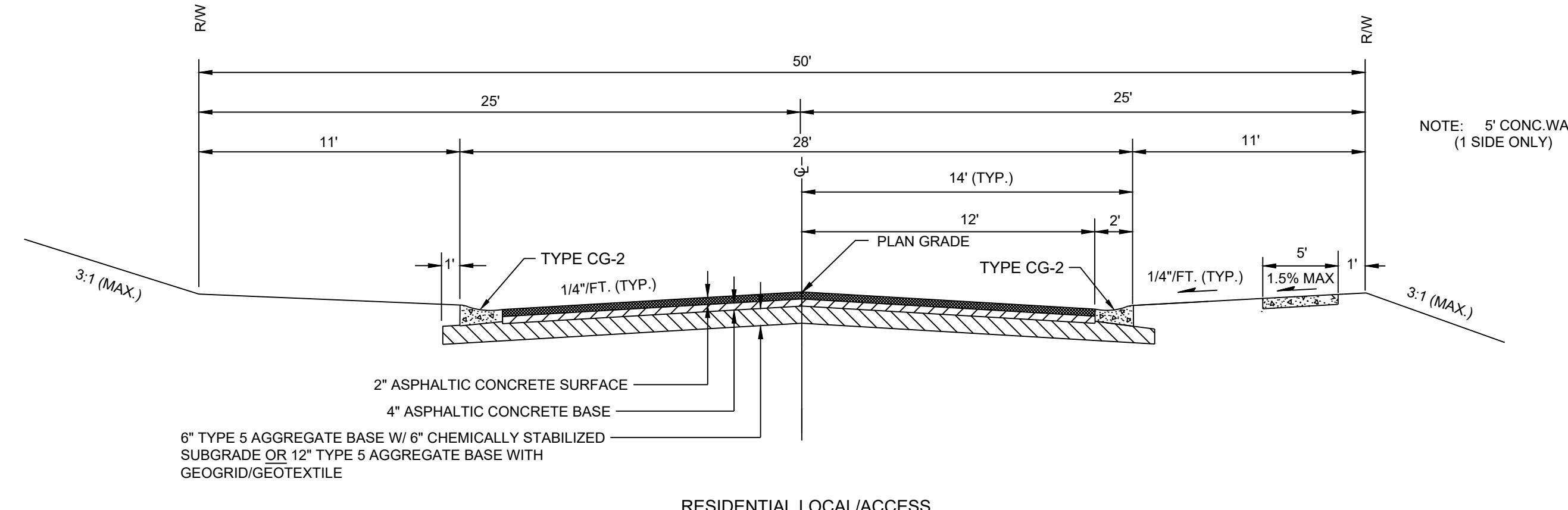
SCHLAGEL
PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority

TABLE LS-2: MINIMUM ASPHALT PAVEMENT THICKNESSES

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

Notes:

(1) Geogrid shall be polypropylene material and Geotextile shall be woven, polypropylene as shown in the City's Approved Products List

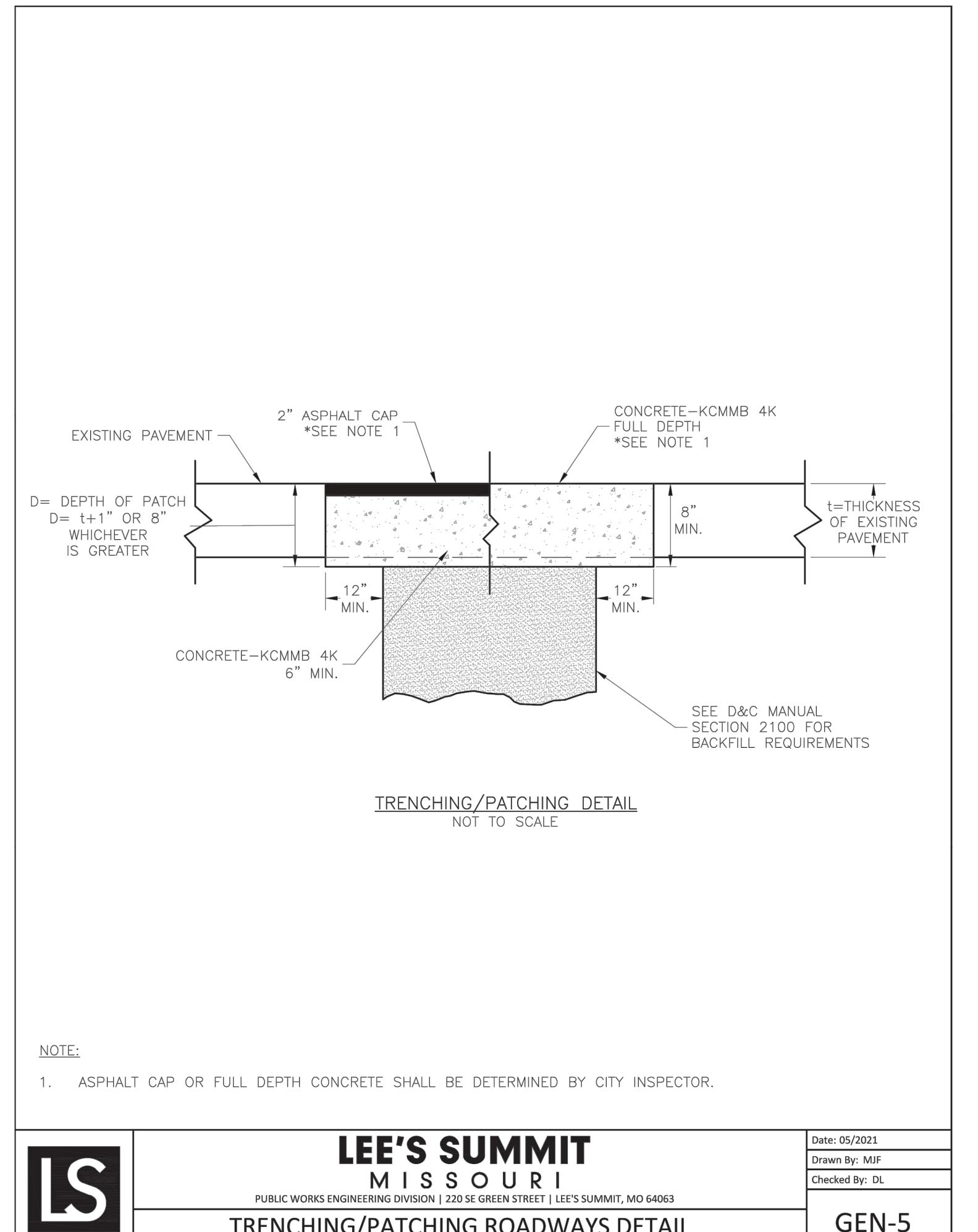


ASPHALT MIX:
Surface: 5-01
Base: 5-01

LS5200

17

July 2020



LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063	Date: 05/2021 Drawn By: MIF Checked By: DL
TRENCHING/PATCHING ROADWAYS DETAIL	GEN-5



PREPARED BY:

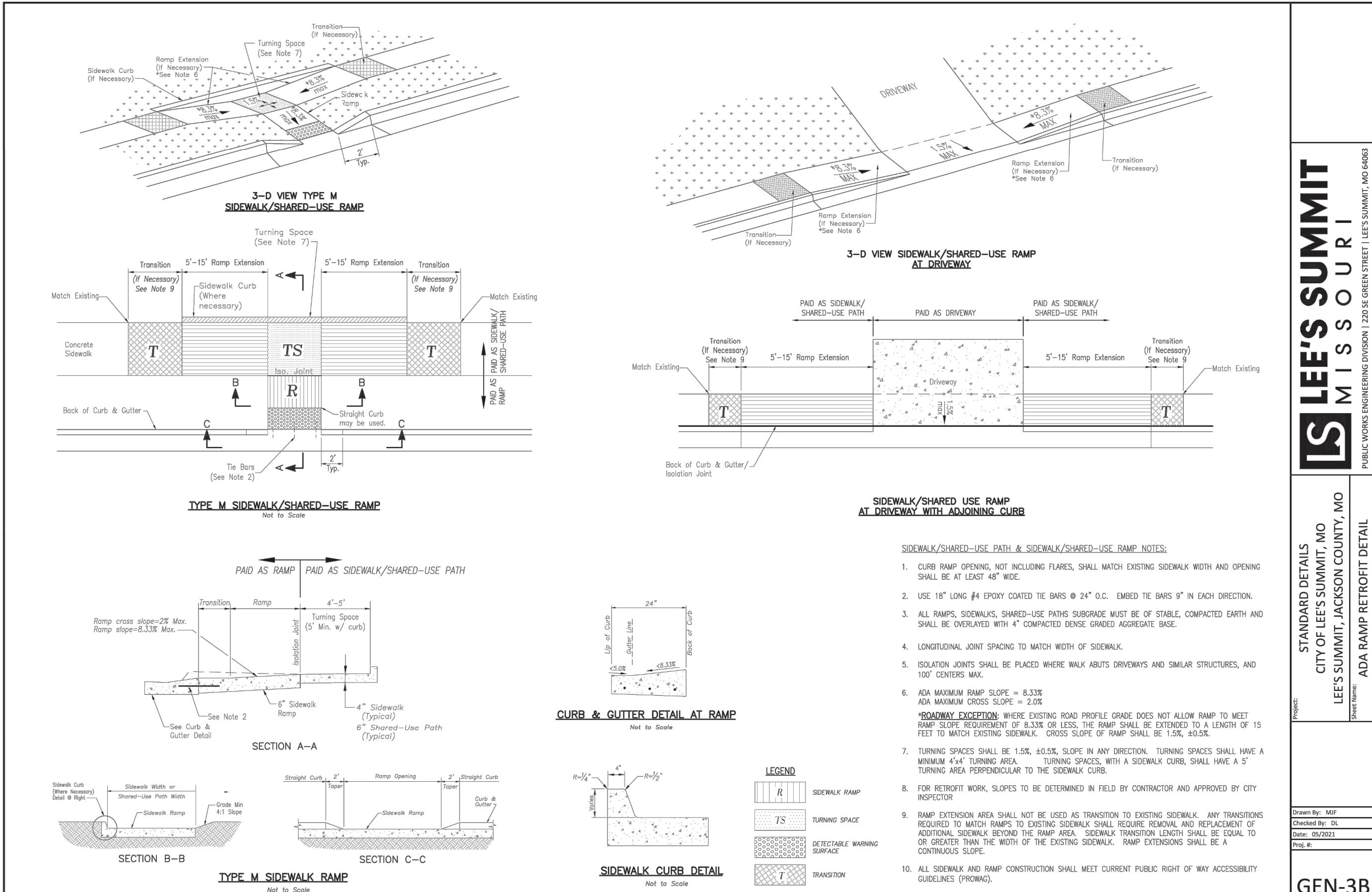
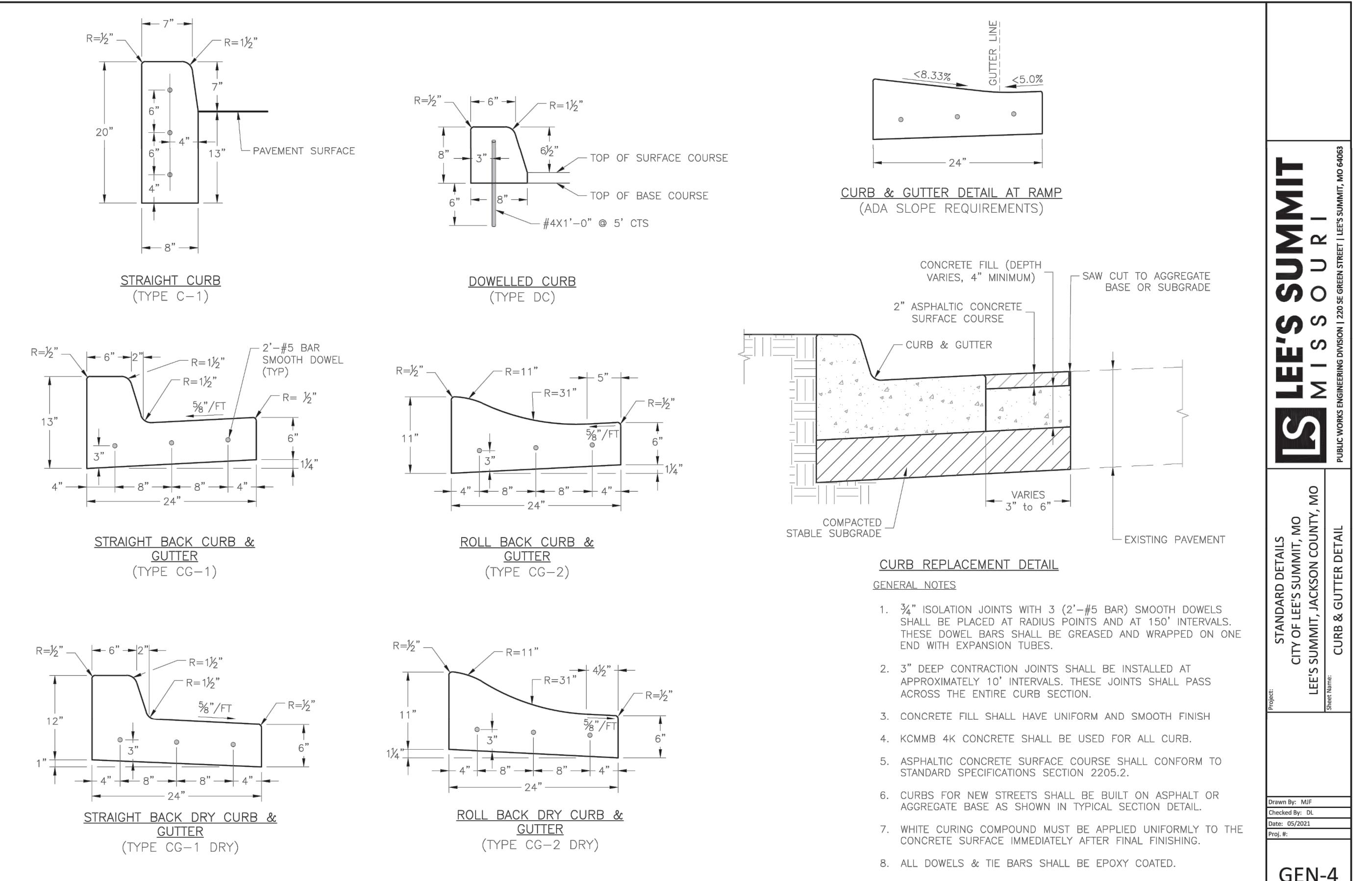
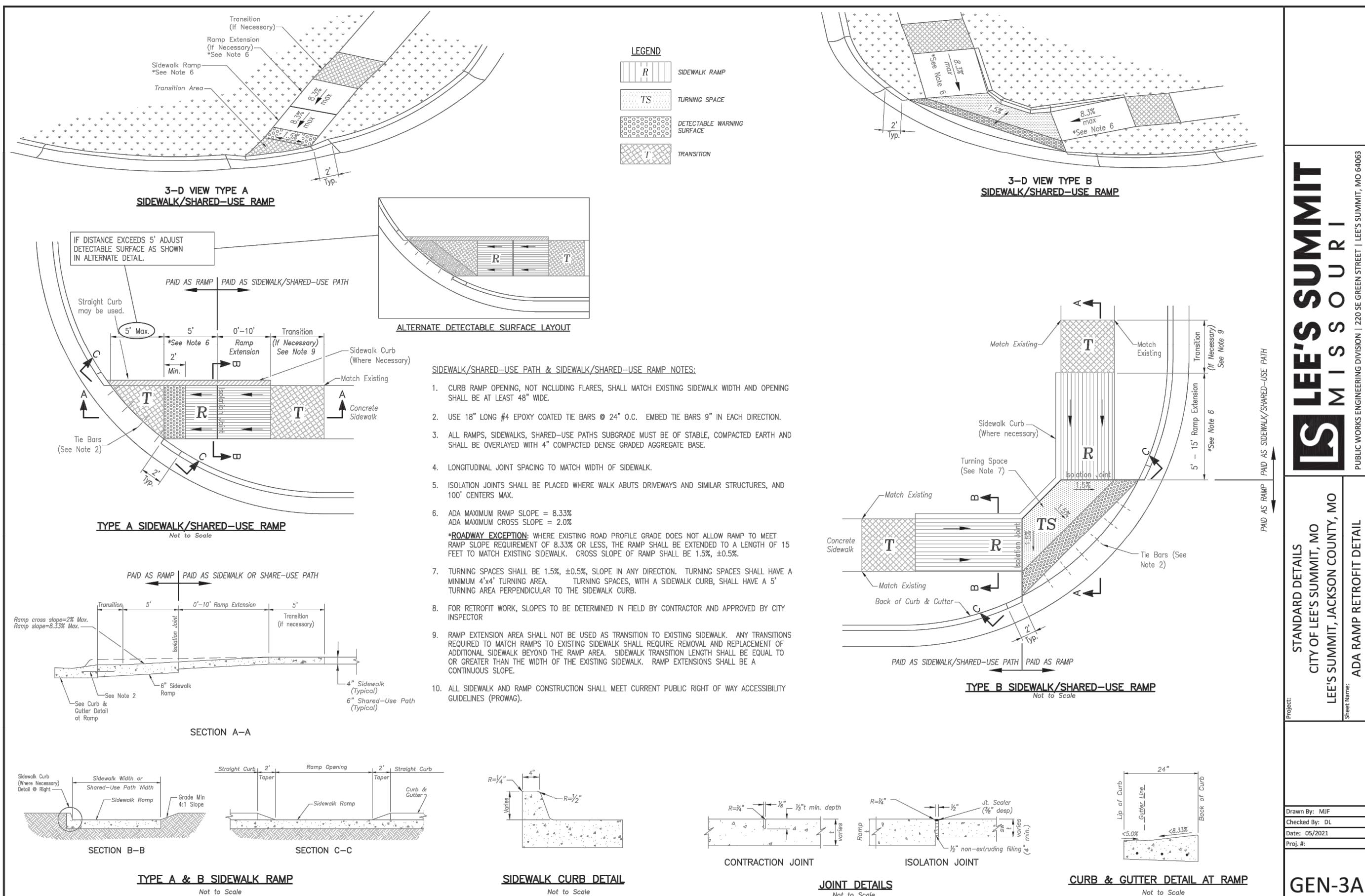
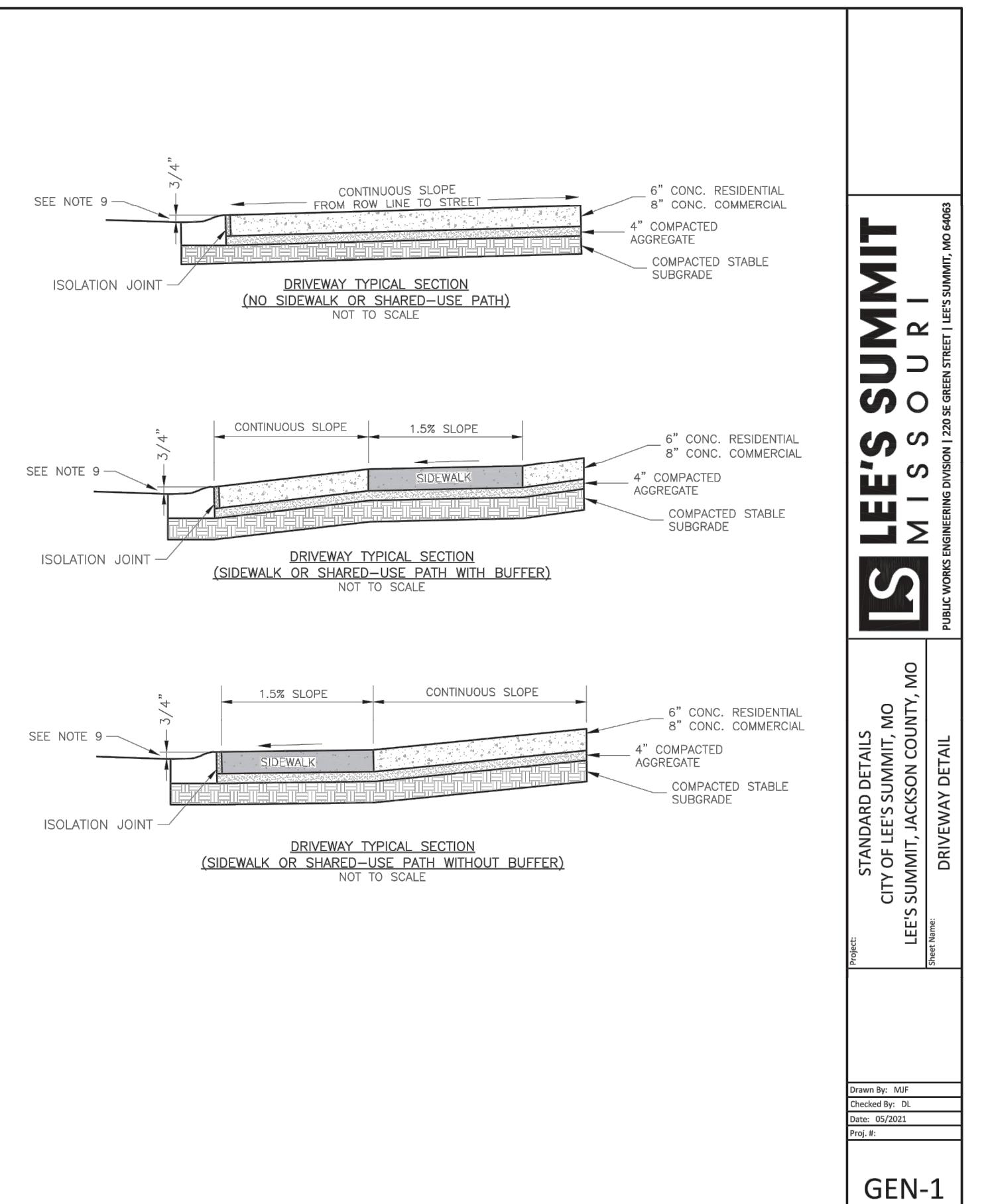
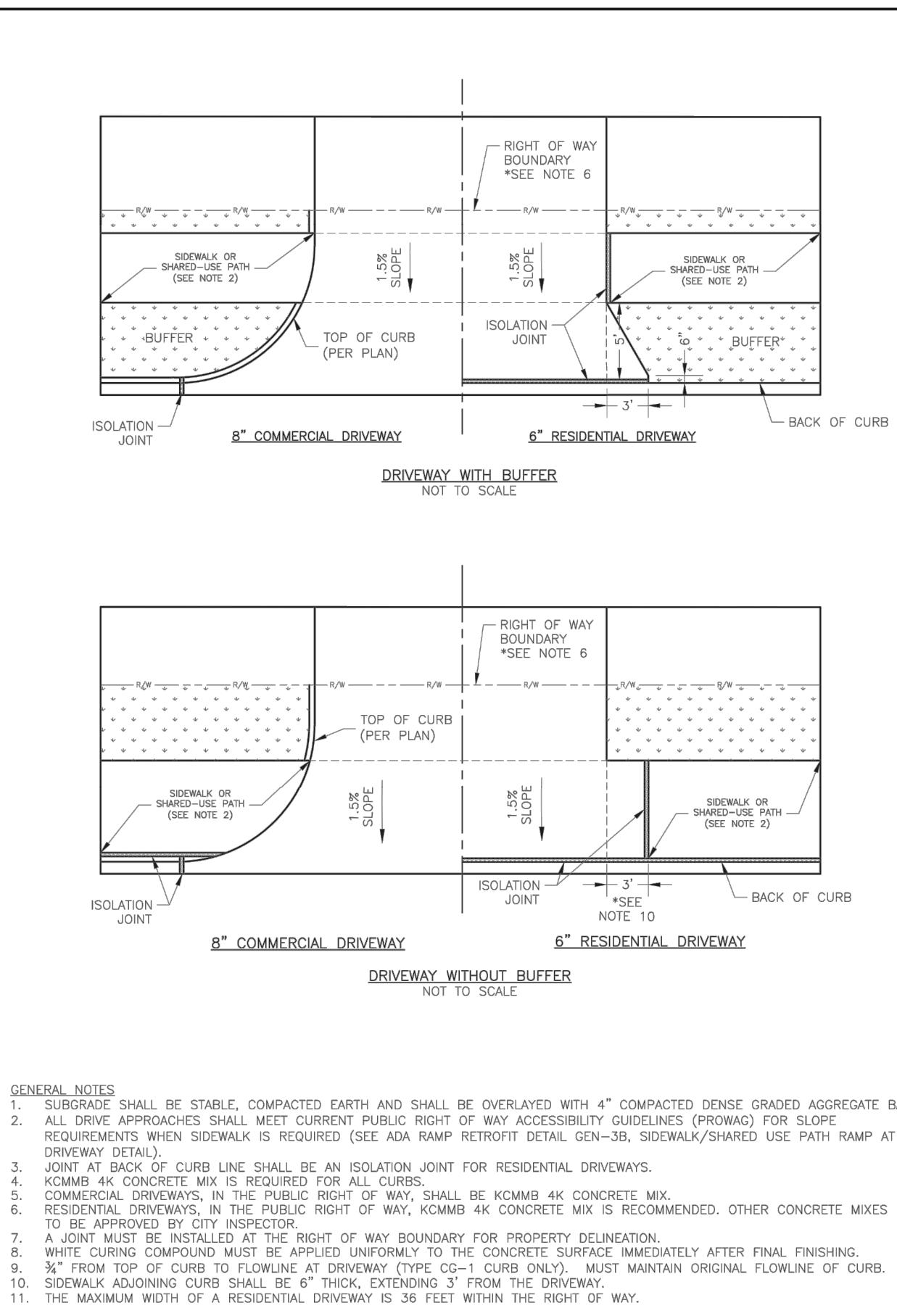
JAMES L. LONG
NUMBER PE-204040495
10/27/2023

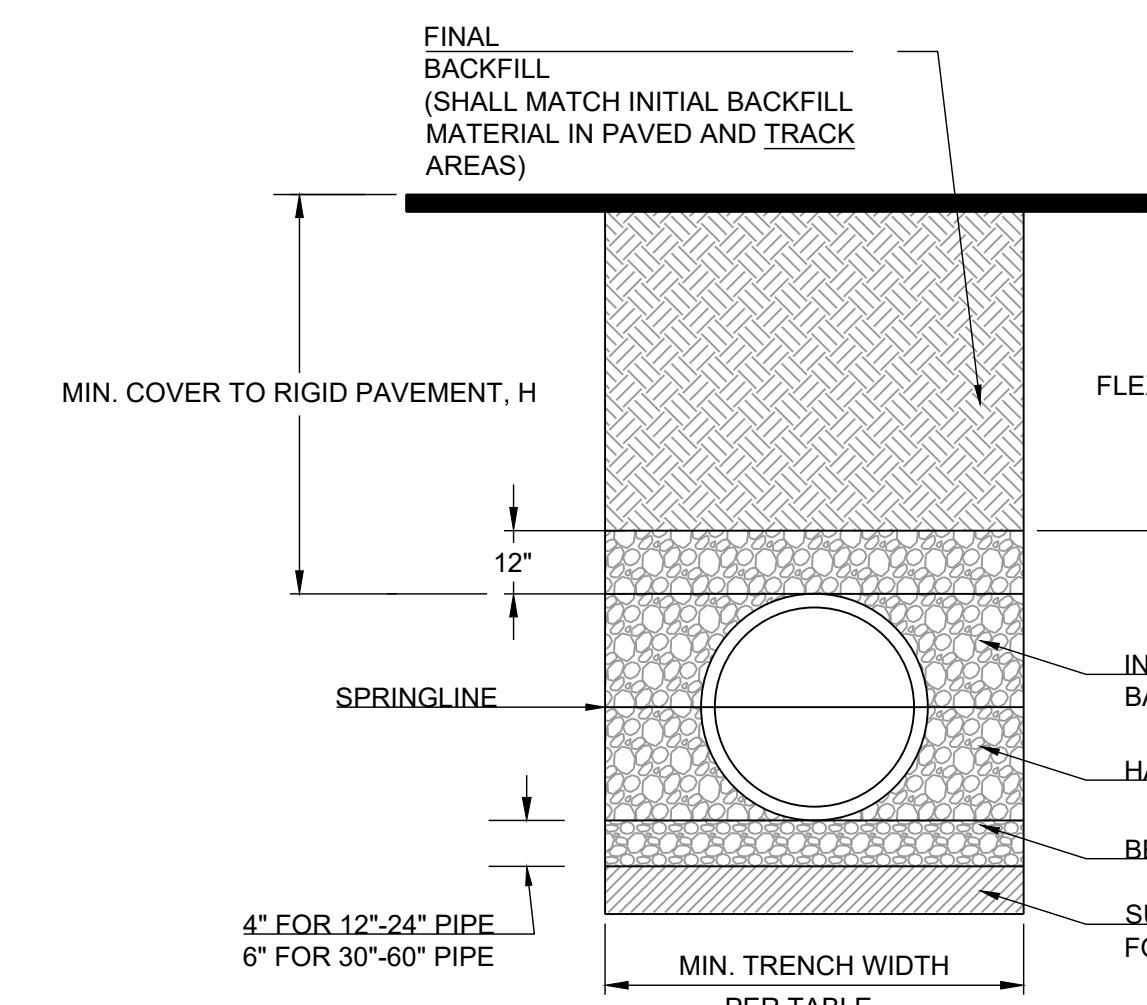
SCHLAGEL & ASSOCIATES, P.A.

SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER AND MASTER
DRAINAGE PLAN

16





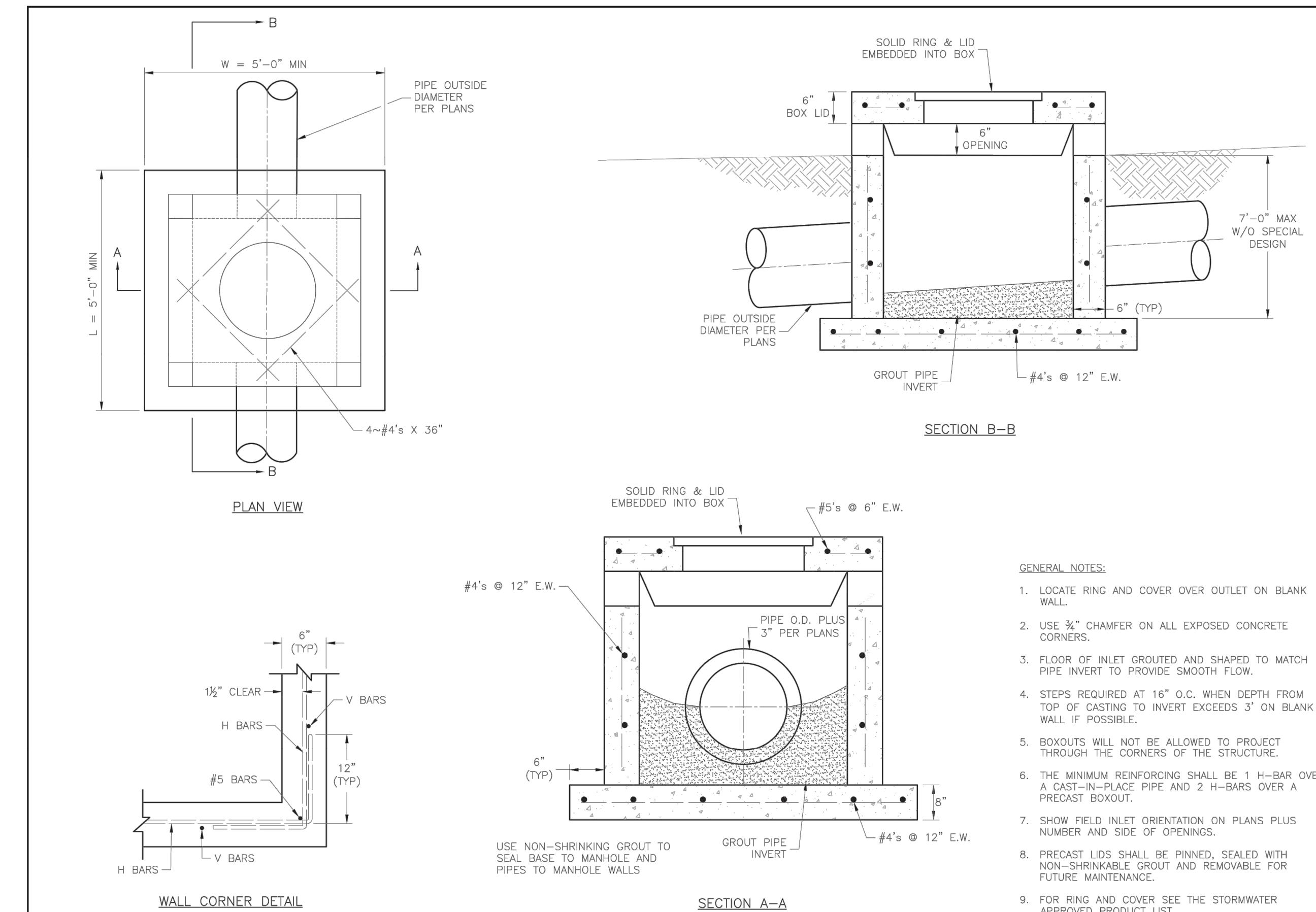
MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS		
SURFACE LIVE LOADING CONDITION		
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

NOTES:

- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
- INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"



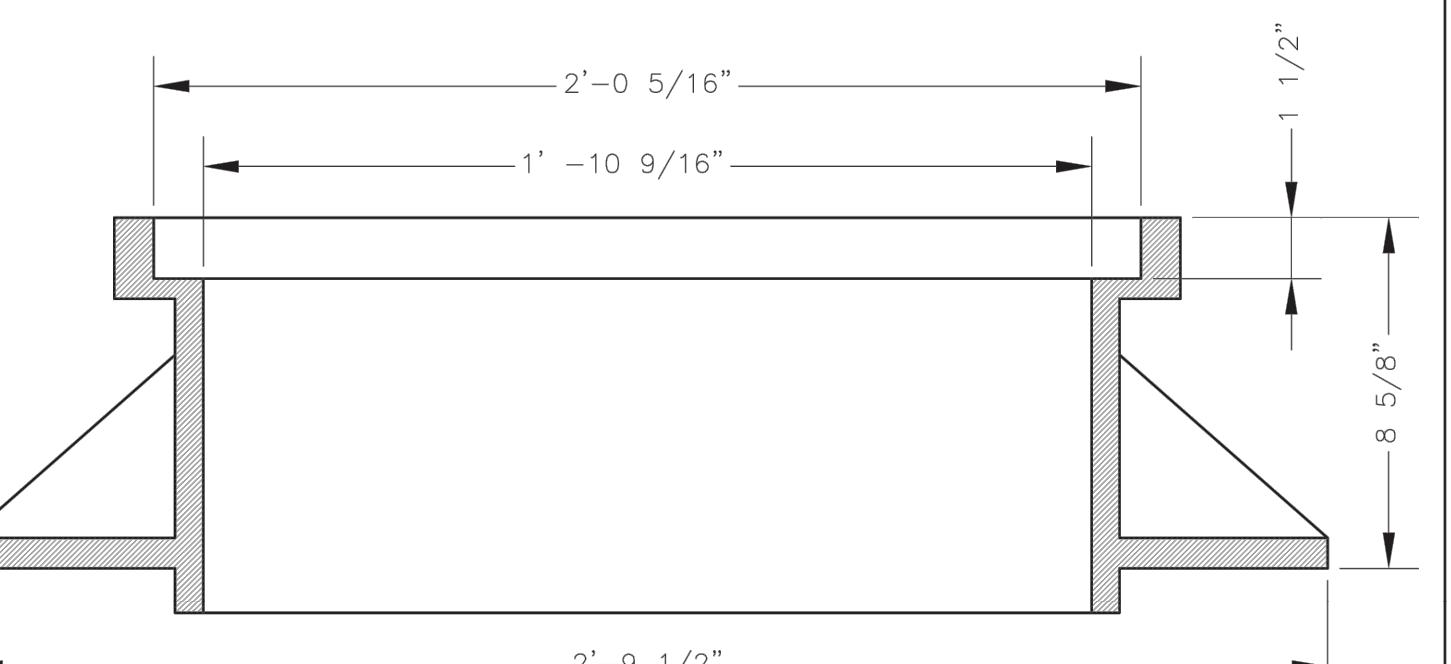
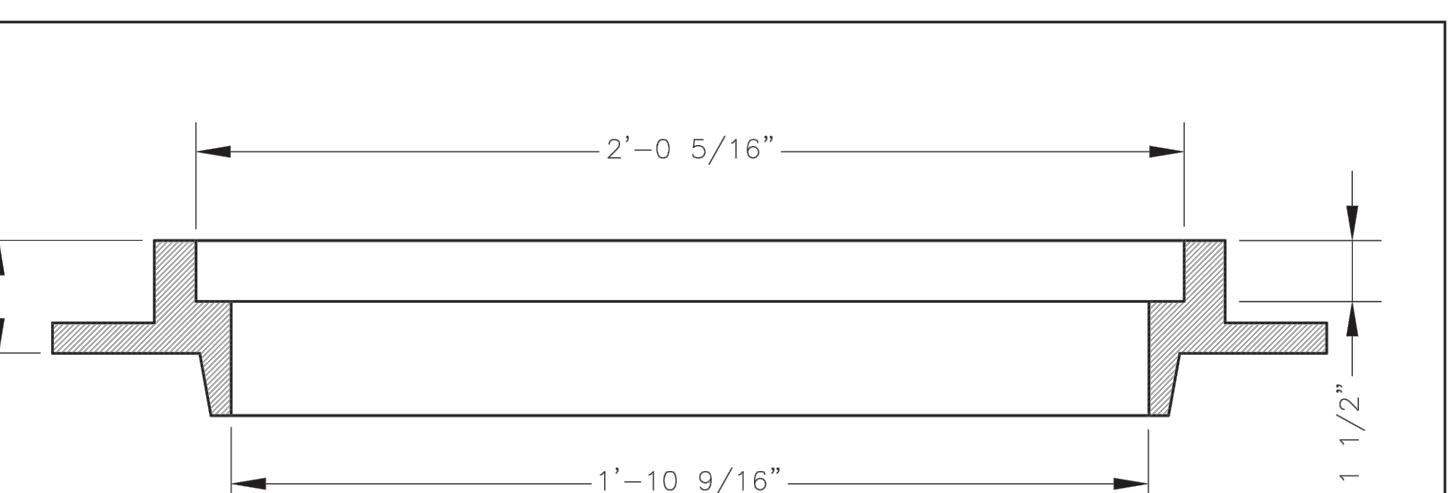
STM-2

CORNERSTONE AT BAILEY FARMS, FIRST PLAT STREET, STORMWATER AND MASTER DRAINAGE PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

PREPARED BY:

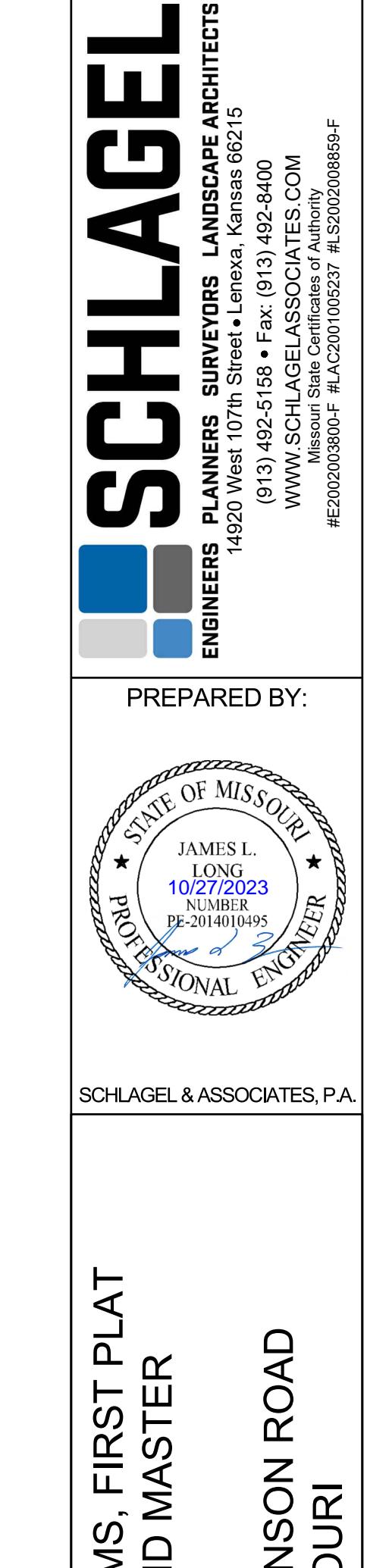
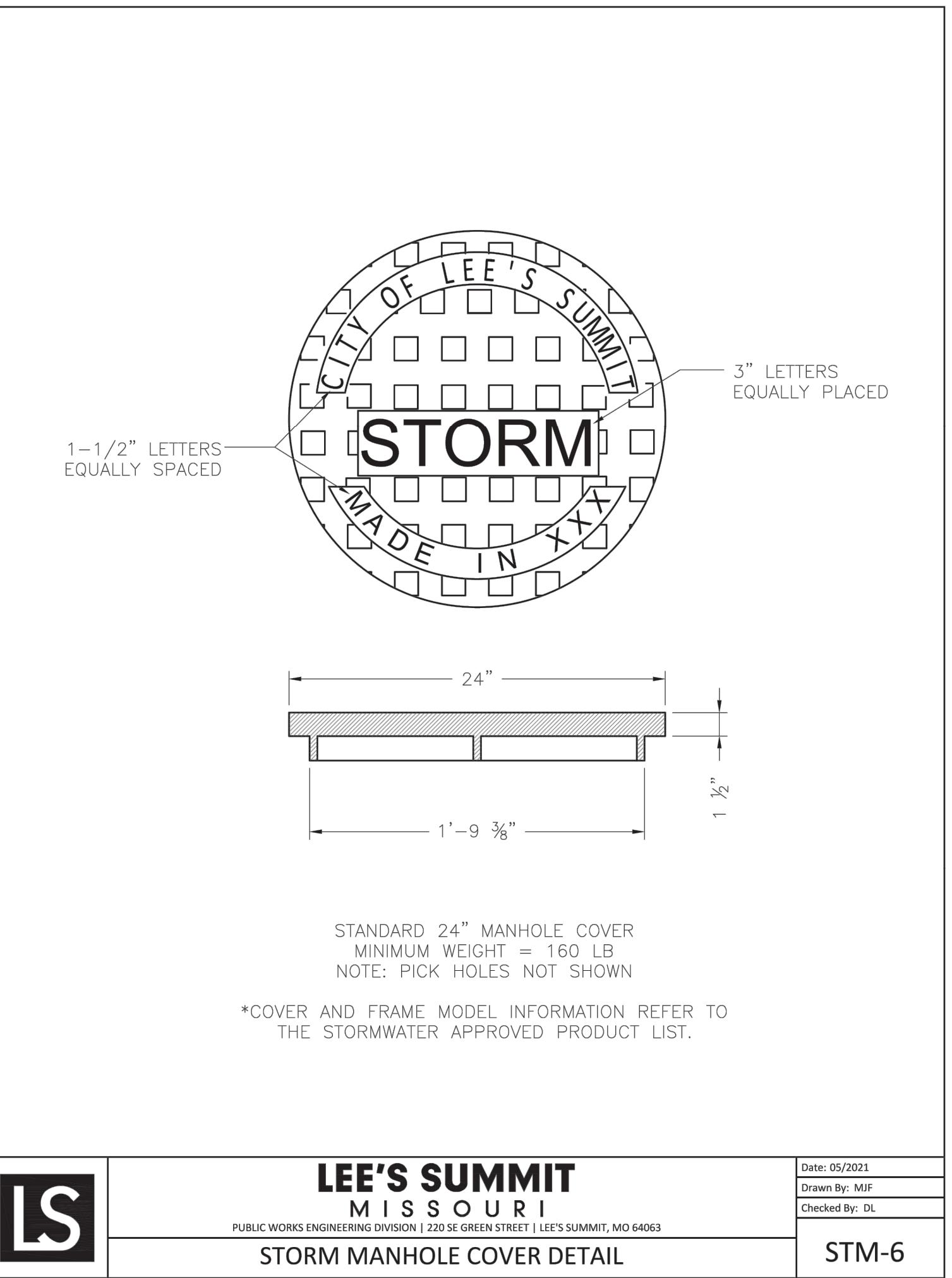
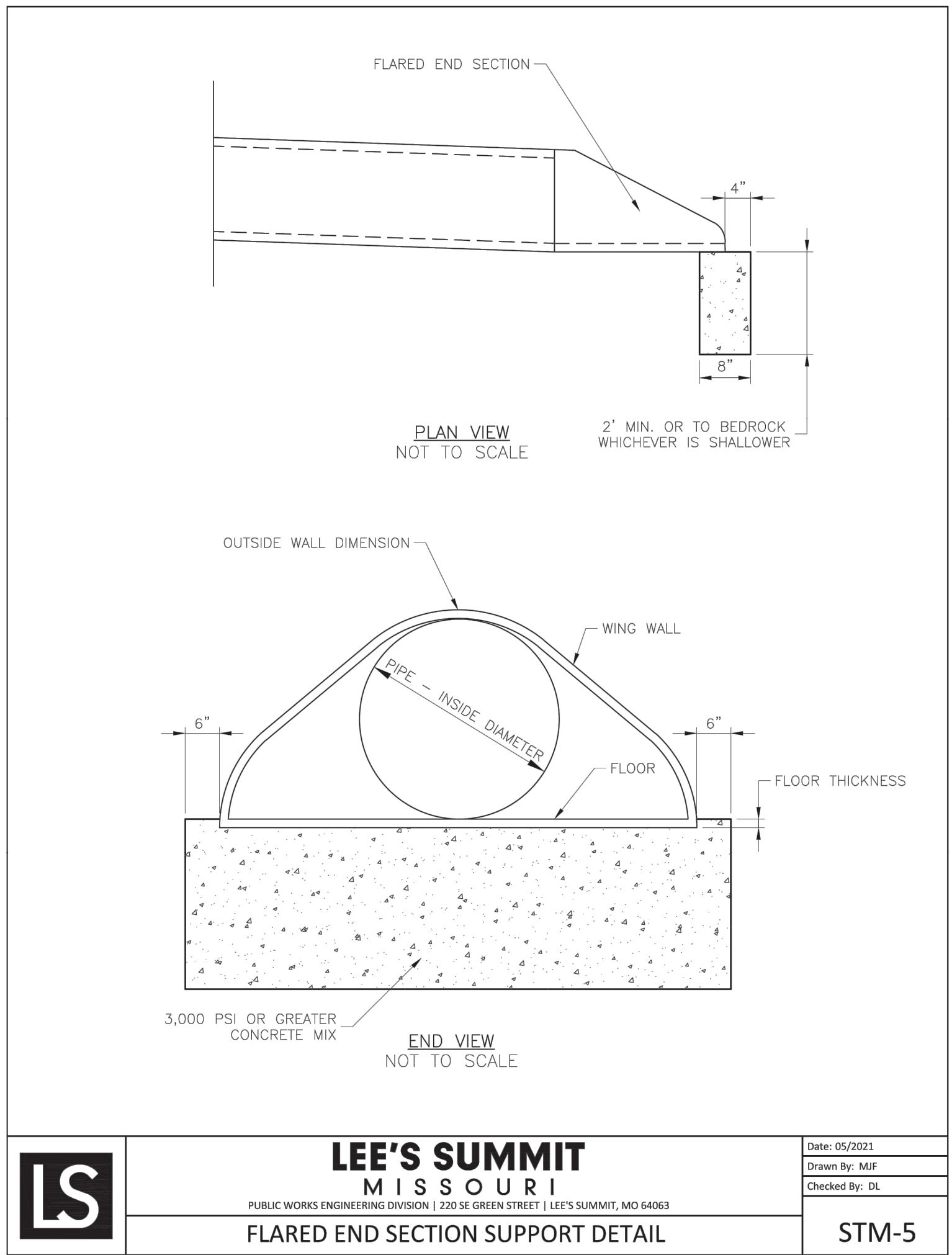
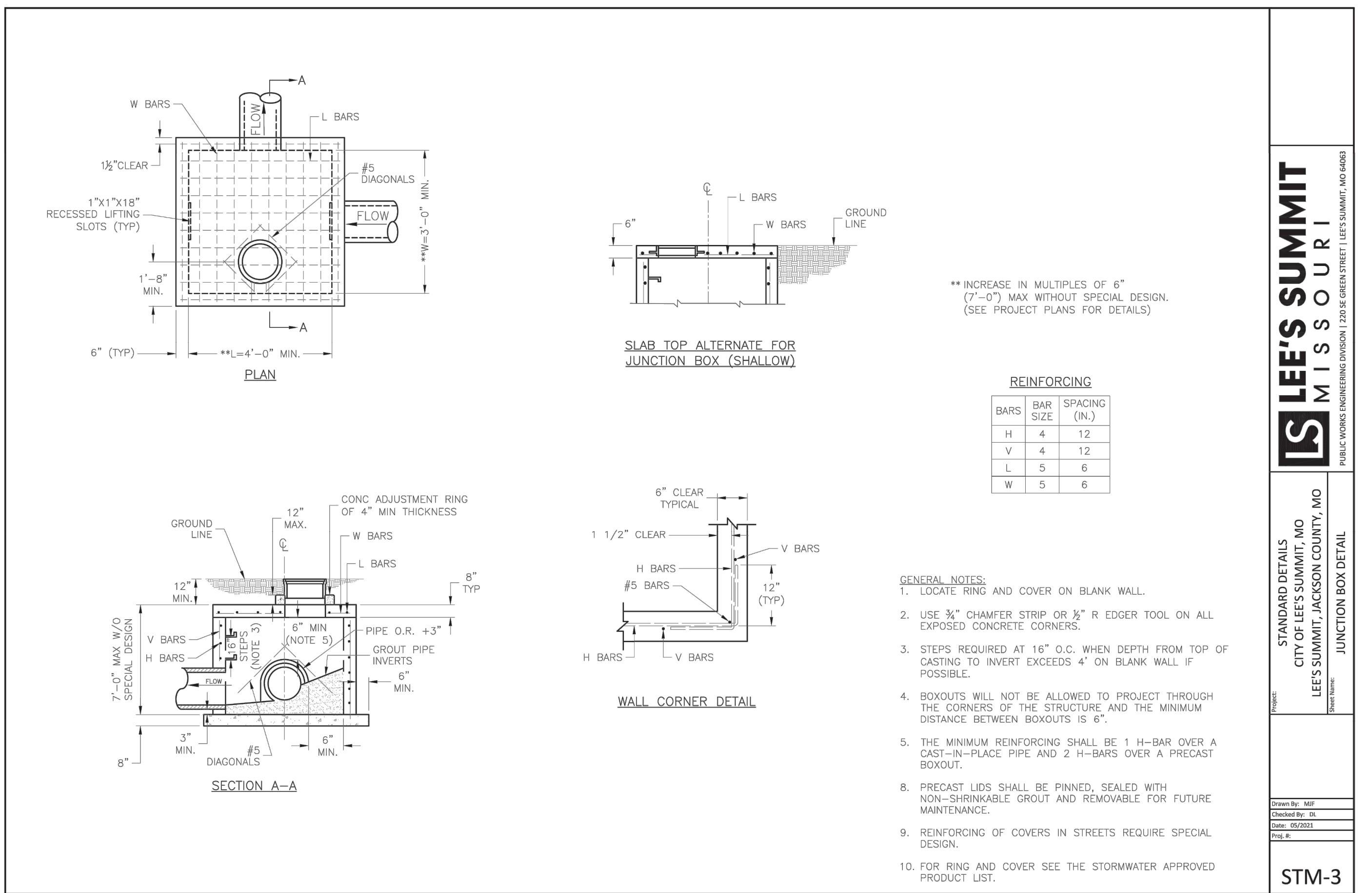
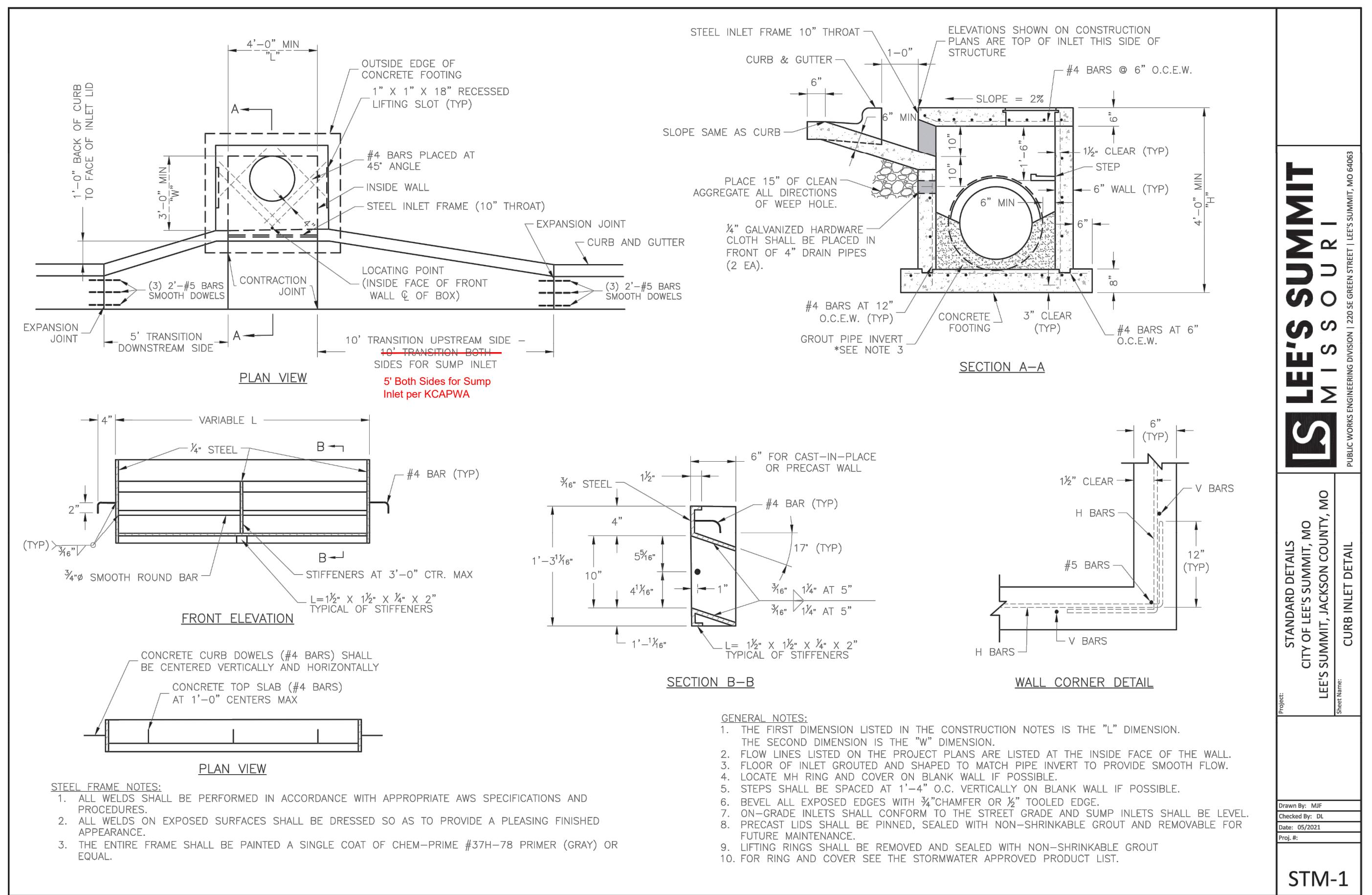
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MAILING ADDRESS: 14920 WEST 107TH STREET, LENEXA, KS 66215
#E2020038005 F BLAC20101000237 #S202008859-F

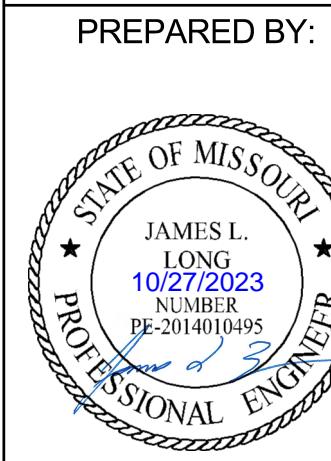
STATE OF MISSOURI
PROFESSIONAL ENGINEER
JAMES L. LONG
10/27/2023
NUMBER PE-2014040495
FIELD INLET DETAIL



*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

STORM DETAILS	
DRAWN BY: JRJ	REVISION DATE: 05/02/2022
CHECKED BY: DL	PER CITY COMMENTS DATED 01/02/2022
DATE PREPARED: 10/27/2023	PER CITY COMMENTS DATED 02/28/2022
PROJ. NUMBER: 21-136	PER CITY COMMENTS DATED 05/13/2022

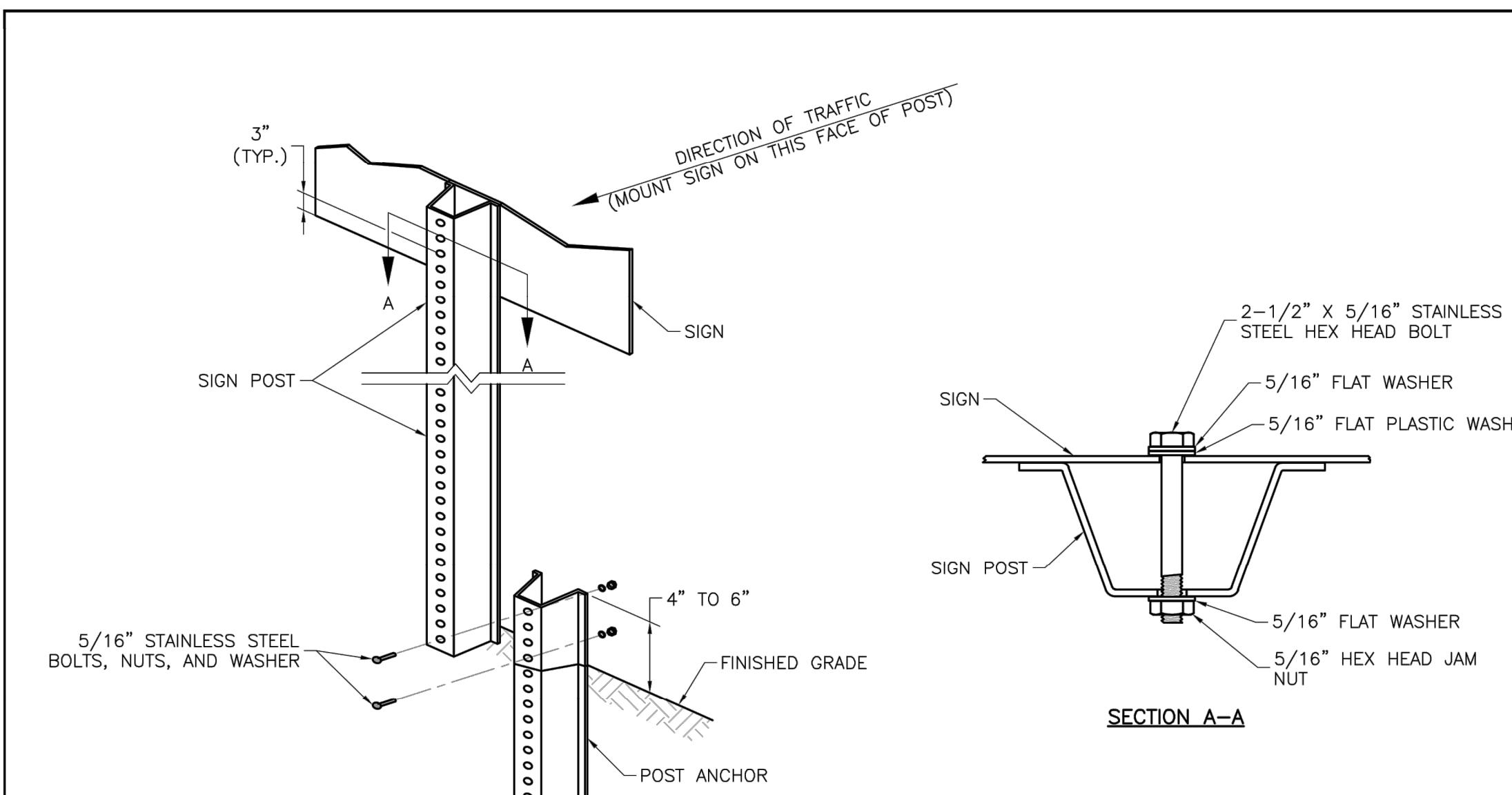




STATE OF MISSOURI
PROFESSIONAL ENGINEER
JAMES L. LONG
10/27/2023
NUMBER
PE-2014010495

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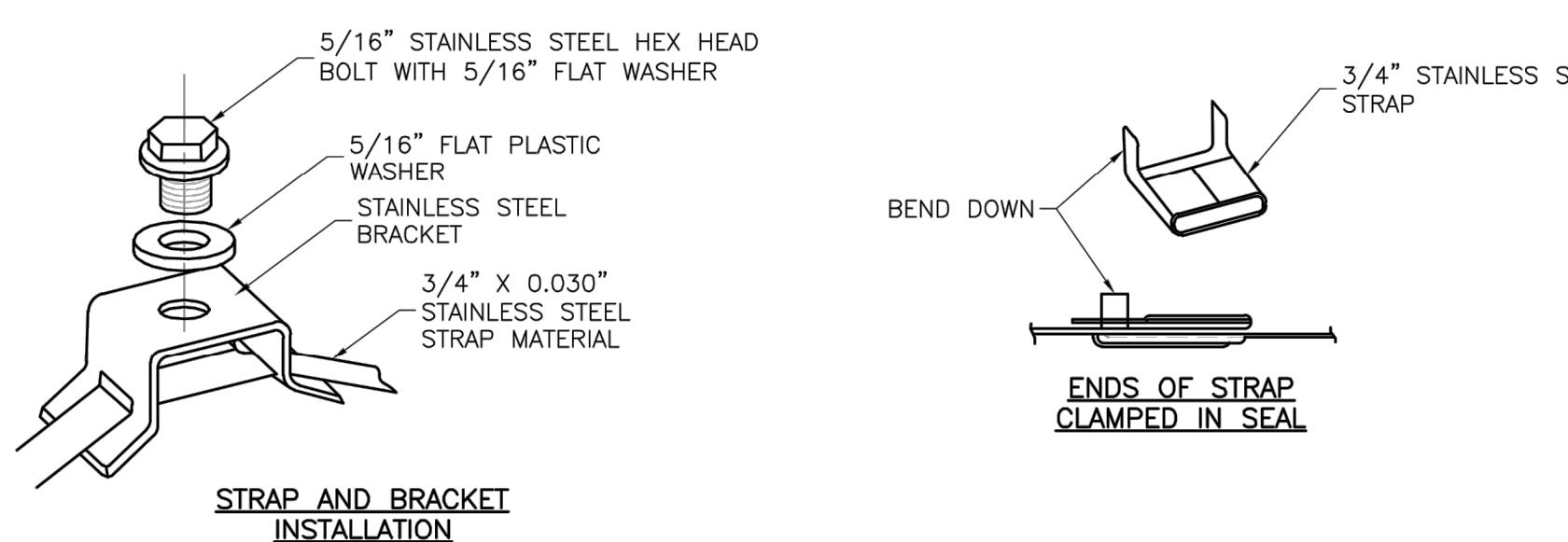
PREPARED BY:



U-STEEL POST DETAILS

NOTES:

- SPICE SHALL BE POSITIONED ENTIRELY BETWEEN FINISHED GRADE LINE AND 18" ABOVE FINISHED GRADE LINE. ONLY ONE SPLICE WILL BE ALLOWED PER POST.
- U-STEEL POST SHALL BE 3 LB./FT., GALVANIZED ACCORDING TO ASTM A123.
- U-STEEL POST CAN BE USED FOR INSTALLATION OF SIGNS WITH AN AREA OF LESS THAN 2.5 SQUARE FEET.
- ALL POSTS SHALL BE EMBEDDED A MINIMUM OF 3 FEET.



STRAP TYPE SIGN SUPPORT DETAILS

NOTES:

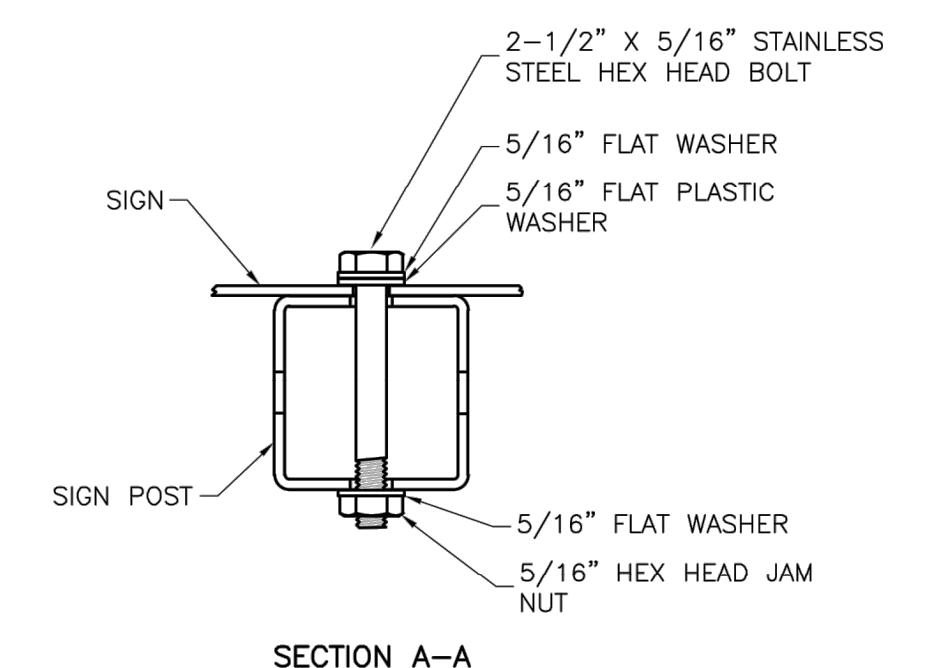
- SIGNS ON METAL POLES SHALL BE ATTACHED WITH TWO BRACKETS AND STAINLESS STEEL BANDS.
- HOLE IN SIGN FOR ATTACHMENT TO THE MOUNTING BRACKETS SHALL BE OFFSET A MINIMUM OF 2 INCHES FROM THE EDGE OF THE SIGN.
- HOLE IN SIGN SHALL BE LOCATED SUCH THAT THE SIGN IS LEVEL.
- ALL STRAP, BRACKET, AND SEAL MATERIALS SHOULD BE TYPE 201 STAINLESS STEEL.

PERMANENT SIGNING GENERAL NOTES:

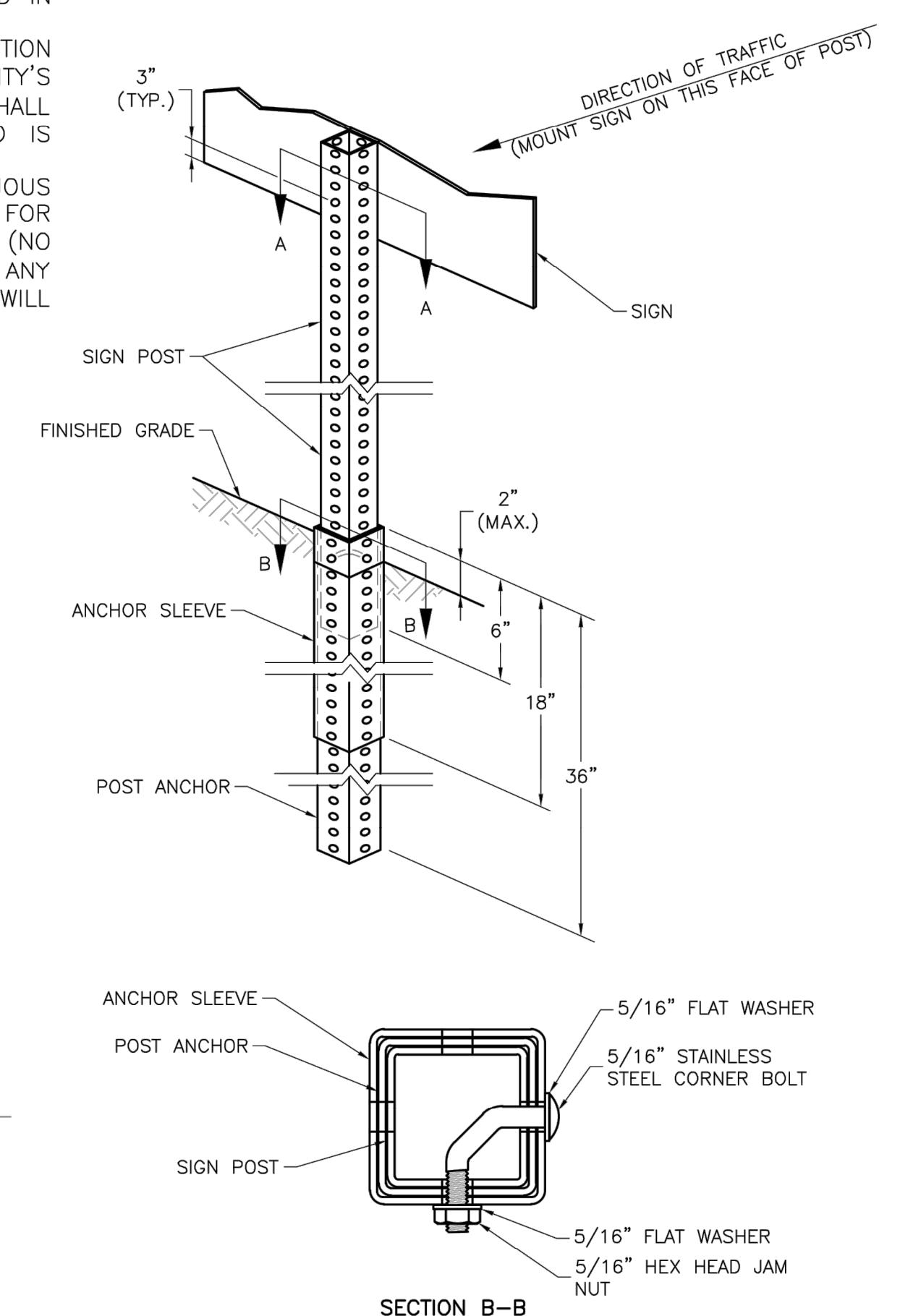
- ALL SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- THE CONTRACTOR IS RESPONSIBLE FOR AVOIDING ANY AND ALL UTILITIES WHEN INSTALLING SIGN POSTS, WHETHER THE UTILITY IS INDICATED ON THE PLANS OR NOT.
- ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE PUBLIC WORKS DEPARTMENT OF THE CITY OF LEE'S SUMMIT.
- THE CONTRACTOR SHALL STAKE THE LOCATION OF ALL SIGN POSTS TO BE INSTALLED. THE CITY INSPECTOR SHALL INSPECT THE STAKING PRIOR TO INSTALLATION. MINOR RELOCATION TO AVOID CONFLICTS MAY BE ALLOWED WITH THE APPROVAL OF THE CITY TRAFFIC ENGINEER.
- SIGNS SHOWN TO BE INSTALLED ON THE SIDE OF METAL POLES SHALL BE MOUNTED WITH STAINLESS STEEL STRAPS OR WING BRACKETS AS DETAILED. NO SIGNS ARE TO BE INSTALLED ON WOOD POLES. SEE TRAFFIC SIGNAL STANDARD DRAWINGS FOR THE INSTALLATION OF SIGNS ON MAST ARMS.
- ALL POST MOUNTED SIGNS SHALL BE INSTALLED WITH BREAKAWAY ANCHORS ACCORDING TO THE STANDARD DRAWINGS.
- ALL EXISTING SIGNS WILL BE USED IN PLACE DURING CONSTRUCTION AND PROTECTED FROM DAMAGE UNLESS OTHERWISE INDICATED IN THE PLANS. IF THE CONTRACTOR DAMAGES ANY EXISTING SIGN OR POSTS DURING CONSTRUCTION, THE CONTRACTOR WILL BE REQUIRED TO REPLACE THE DAMAGED MATERIALS WITH NEW SIGNS OR POSTS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND STORING ANY SIGNS THAT ARE TO BE REINSTALLED ON THE PROJECT. ALL EQUIPMENT SHALL BE REINSTALLED IN GOOD CONDITION.
- EXISTING PERMANENT SIGNS AND POSTS REMOVED BY THE CONTRACTOR FOR CONSTRUCTION PURPOSES WHICH ARE NOT TO BE REINSTALLED SHALL BE DELIVERED TO THE CITY'S PUBLIC WORKS MAINTENANCE FACILITY (1971 SE HAMBLIN ROAD). THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND STORING EQUIPMENT IN GOOD CONDITION AND IS FULLY RESPONSIBLE FOR THE EQUIPMENT UNTIL IT IS DELIVERED.
- ALL STOP, YIELD, OR STREET NAME SIGNS SHALL BE MAINTAINED IN A CONSPICUOUS LOCATION FOR THE DRIVING PUBLIC. ALL STOP AND YIELD SIGNS REMOVED FOR CONSTRUCTION PURPOSES CAN BE TEMPORARILY ERECTED IN REFLECTORIZED DRUMS (NO LESS THAN 7 FEET ABOVE THE PAVEMENT SURFACE) UNTIL THEY CAN BE REINSTALLED. ANY TEMPORARY STOP OR YIELD SIGN INSTALLATION TO BE LEFT IN PLACE OVERNIGHT WILL REQUIRE PRIOR APPROVAL FROM THE CITY INSPECTOR.

SQUARE STEEL POST INSTALLATION SEQUENCE:

- SIGN POST ANCHOR DRIVEN PARTIALLY INTO THE GROUND USING A DRIVE CAP WITH A SLEDGE OR POWER EQUIPMENT.
- ANCHOR SLEEVE SLIPPED OVER ANCHOR AND DRIVE INTO THE GROUND TOGETHER WITH THE SIGN POST ANCHOR.
- INSERT SIGN POST INTO THE POST ANCHOR AND BOLT IN PLACE.



SECTION A-A CORNER BOLT



SECTION B-B

SQUARE STEEL POST DETAILS

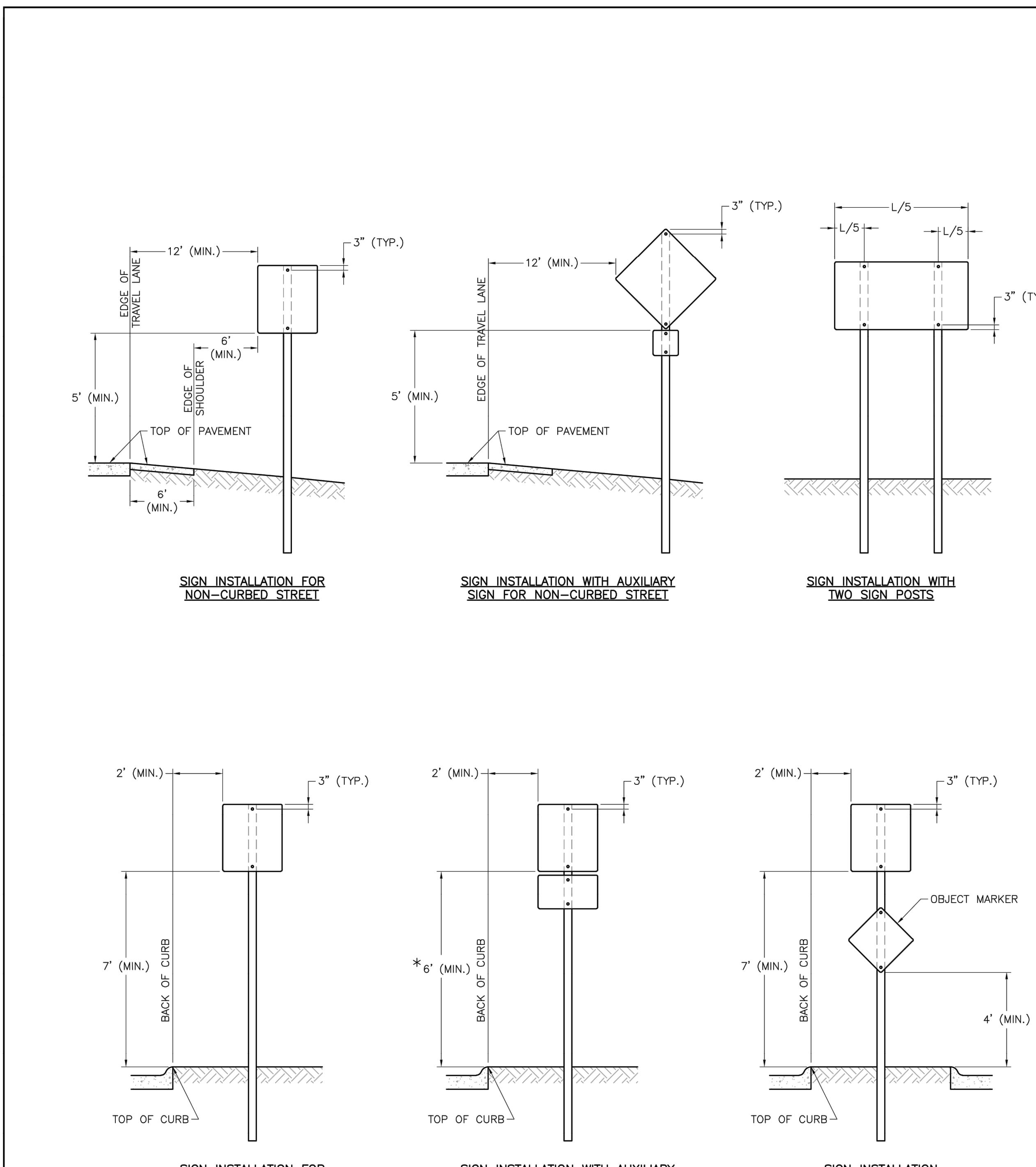
NOTES:

- SQUARE STEEL SIGN POSTS AND BREAK-AWAY ANCHOR SHALL CONSIST OF THE FOLLOWING MATERIALS:
SIGN POST - 14 GA. 2" X 2" SQUARE STEEL POST
POST ANCHOR - 12 GA. 2 1/4" X 2 1/4" X 36" SQUARE STEEL POST
ANCHOR SLEEVE - 12 GA. 2 1/2" X 2 1/2" X 18" SQUARE STEEL POST
2. 14 GA. POSTS MUST MEET A CERTIFIED MINIMUM YIELD STRENGTH OF 60,000 PSI.
- IN ALL INSTALLATIONS THE FIRST HOLE ABOVE THE FINISHED GRADE LINE ON THE SIGN POST, ANCHOR, AND ANCHOR SLEEVE MUST BE IN LINE FOR THE INSERTION OF THE CORNER BOLT.
- THE MAXIMUM AREA FOR ONE SIGN POST IS 9.0 SQUARE FEET. A SIGN OR COMBINATION OF SIGNS WITH AN AREA GREATER THAN 9.0 SQUARE FEET WILL REQUIRE TWO POSTS. ALSO, SIGNS WITH A WIDTH GREATER THAN OR EQUAL TO 48" (NOT INCLUDING 36" X 36" DIAMOND SHAPED SIGNS) WILL REQUIRE TWO POSTS.

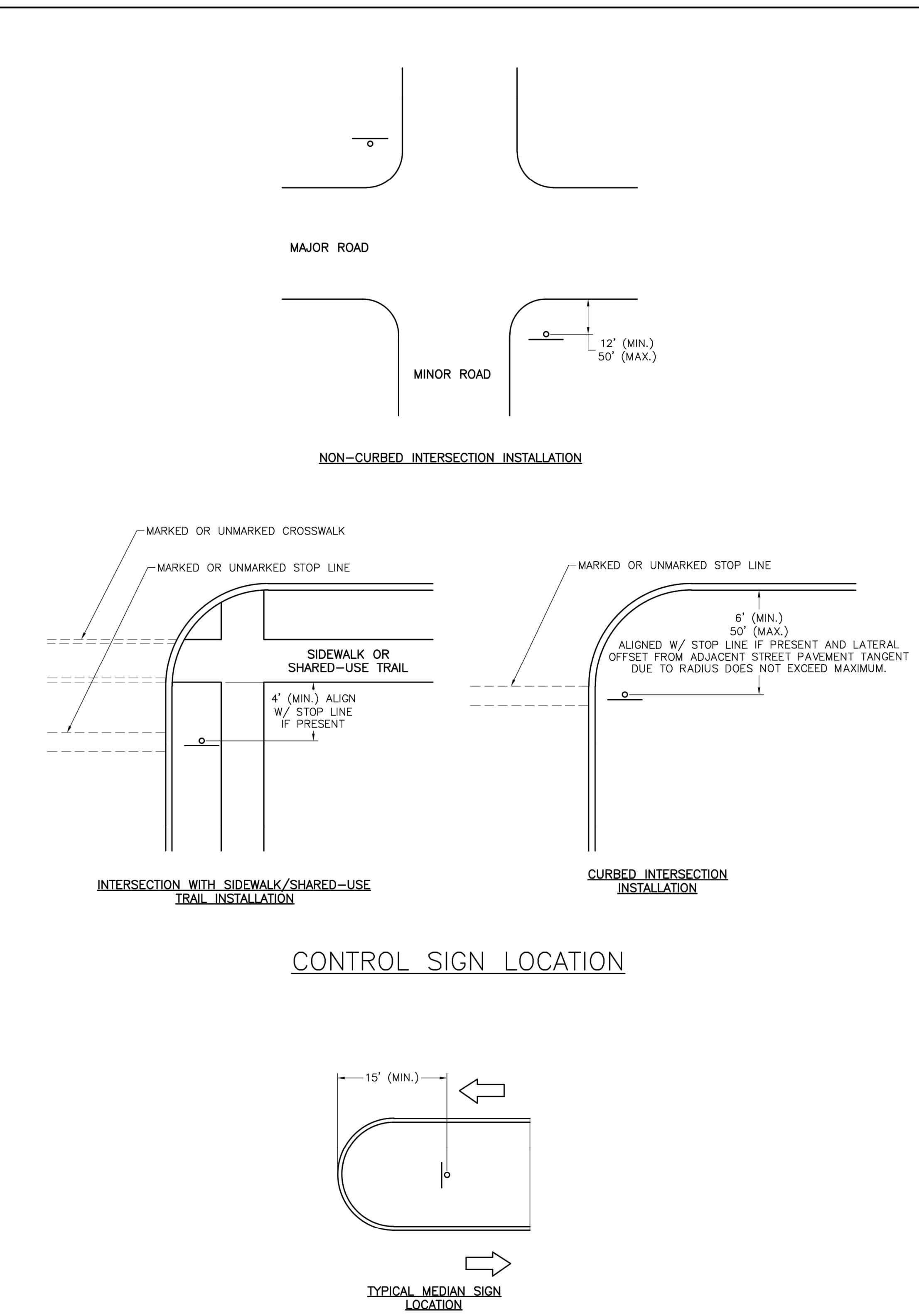
Project:		STANDARD DETAILS	CITY OF LEE'S SUMMIT, JACKSON COUNTY, MO	Sheet Name:	POST DETAILS

SN-2

CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE PLAN
LEE'S SUMMIT, MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

**NOTES:**

1. GENERALLY, THE SIGN MOUNTING HEIGHT SHOULD NOT BE MORE THAN 1' GREATER THAN THE MINIMUM MOUNTING HEIGHT.
2. *THE HEIGHT TO THE BOTTOM OF A SIGN WHEN IT IS LOCATED IN A PEDESTRIAN WALKWAY OR EXTENDS INTO A WALKWAY SHALL BE A MINIMUM OF 80 INCHES ABOVE THE WALKWAY.

**MEDIAN SIGN LOCATION**

NOTES:

1. A 4" P.V.C. SLEEVE SHALL BE INSTALLED IN NEW CONCRETE MEDIAN AT EACH LOCATION WHERE A SIGN IS TO BE INSTALLED.
2. FOR EXISTING CONCRETE MEDIAN, A 4" HOLE SHALL BE CORED INTO THE CONCRETE.

Project: CORNERSTONE AT BAILEY FARMS, FIRST PLAT STREET, STORMWATER, AND MASTER DRAINAGE PLAN		Sheet Name: SIGN MOUNTING DETAILS	

DRAWN BY: JRU		REVISION DATE: 01/01/2022	DESCRIPTION: PER CITY COMMENTS DATED 01/01/2022
CHECKED BY: JLL		04/20/2022	PER CITY COMMENTS DATED 02/28/2022
DATE PREPARED: 1/20/2021		05/15/2022	PER CITY COMMENTS DATED 05/15/2022
PROJ. NUMBER: SN-1	21-136	Proj. #: 21-136	
SIGN MOUNTING DETAILS			
SHEET			

21

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#E2020038005 F BLAC2010100237 4LS2020038059-F

PREPARED BY:

 SCHLAGEL & ASSOCIATES, P.A.

STANDARD ABBREVIATION LISTS

NAMED STREETS	
AVENUE	Ave
BOULEVARD	Blvd
CIRCLE	Cir
CREEK	Cr
COURT	Ct
CROSSING	Xing
DRIVE	Dr
HIGHWAY	Hwy
LANE	Ln
PARKWAY	Pkwy
PLACE	Pl
ROAD	Rd
STREET	St
TERRACE	Ter
TRAIL	Trl
WAY	Way

NUMBERED STREETS	
FIRST	ST
SECOND	ND
THIRD	RD
FOURTH TO TENTH	TH

NAMED STREET NAME SIGN DETAIL

* USE HIGHWAY SERIES B (MIXED CASE) IN LIEU OF SERIES C IF NECESSARY TO FIT TEXT ON A 36" SIGN BLANK.

STREET NAME SIGN FACE DETAILS
POST MOUNTED 2-LANE ALL SPEEDS AND MULTI-LANE UNDER 40 MPH

NUMBERED STREET NAME SIGN DETAIL

STREET NAME SIGN FACE DETAILS
POST MOUNTED 2-LANE ALL SPEEDS AND MULTI-LANE UNDER 40 MPH

NUMBERED STREET NAME SIGN DETAIL

STREET NAME SIGN FACE DETAILS
POST MOUNTED MULTI-LANE GREATER THAN 40 MPH

STREET NAME SIGN FACE DETAILS
POST MOUNTED MULTI-LANE GREATER THAN 40 MPH

SQUARE STEEL POST MOUNTING DETAILS

NOTES:

- FOR ALL STREET NAME SIGNS, THE LEGEND SHALL BE WHITE AND THE BACKGROUND SHALL BE GREEN.
- ARROWS SHALL BE ADDED TO STREET NAME SIGNS WHERE THE NAME OF A STREET CHANGES AT AN INTERSECTION. STREET NAME SIGNS WITH ARROWS ARE TO BE INSTALLED ON EACH SIDE OF THE INTERSECTION TO INDICATE THE CHANGE IN NAMES. ARROWS SHALL BE WHITE.
- THE "PRIVATE STREET" TAG SHOULD BE ADDED TO THE END OF STREET NAME SIGNS TO INDICATE WHERE A STREET THAT IS OUTSIDE THE RIGHT-OF-WAY INTERSECTS A PUBLIC STREET. THE BACKGROUND FOR THE "PRIVATE STREET" TAG SHALL BE YELLOW.
- MULTI-LANE IS DEFINED AS HAVING 2 LANES OR MORE IN EACH DIRECTION, EXCLUDING TURN LANES.
- OVERHEAD SIGN DETAILS MAY BE FOUND ON THE SIGNAL HEAD MOUNTING DETAIL.

STREET NAME SIGN INVENTORY	
66"	D3-1 (SP-1)
48"	D3-1 (SP-3)
48"	D3-1 (SP-3)
36"	D3-1 (SP-5)
30"	D3-1 (SP-6)
36"	D3-1 (SP-1)
30"	D3-1 (SP-6)
36"	D3-1 (SP-1)
30"	D3-1 (SP-6)

LEE'S SUMMIT

MISOURI

Project: CORNERSTONE AT BAILEY FARMS, FIRST PLAT
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Shee Name: STREET NAME SIGN DETAILS

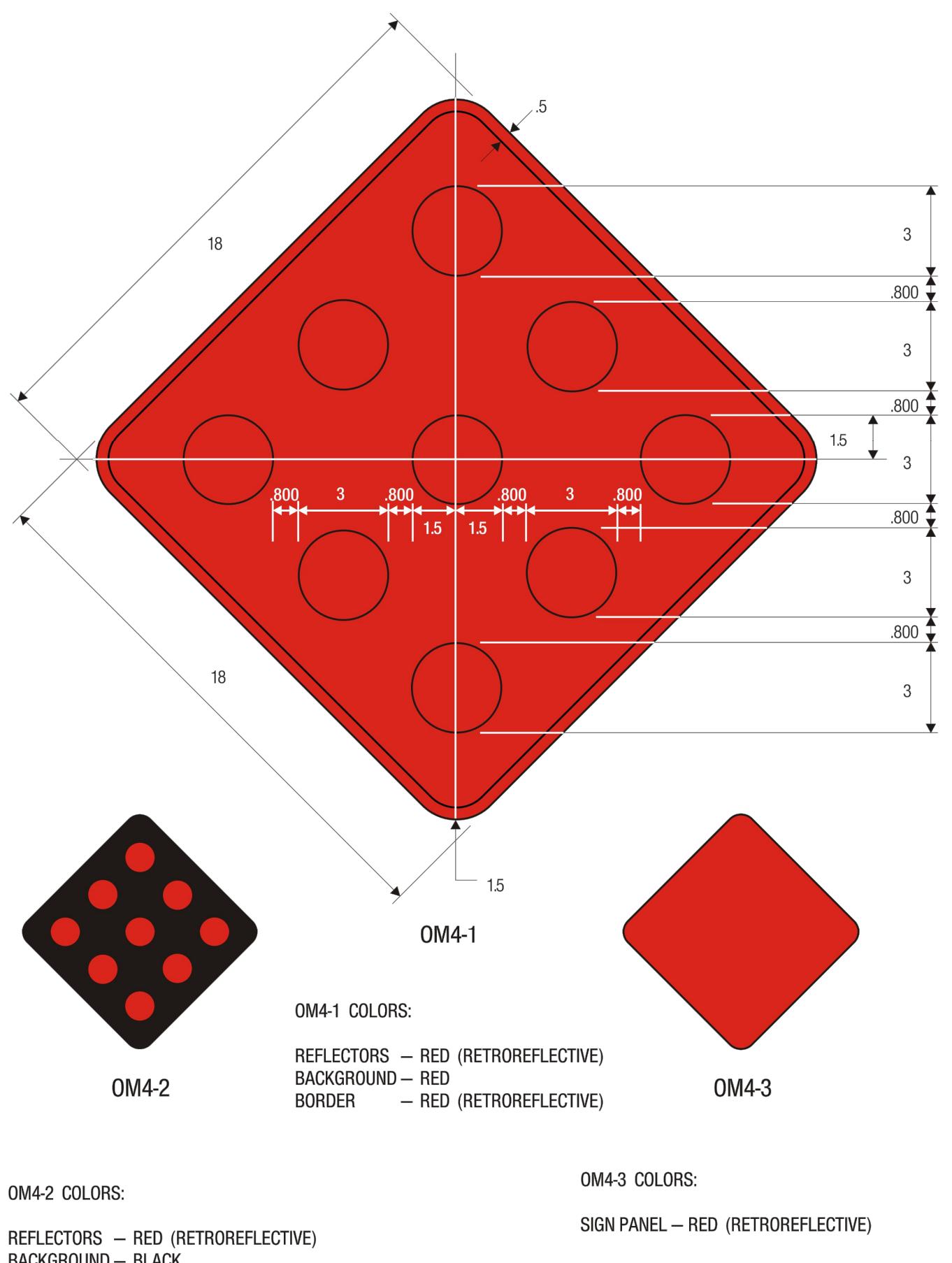
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Checked By: MP
Date: 01/2020
Proj. #:

SN-3

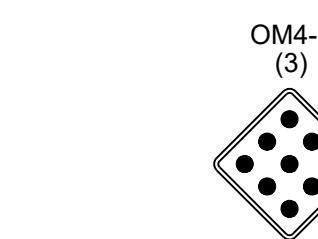
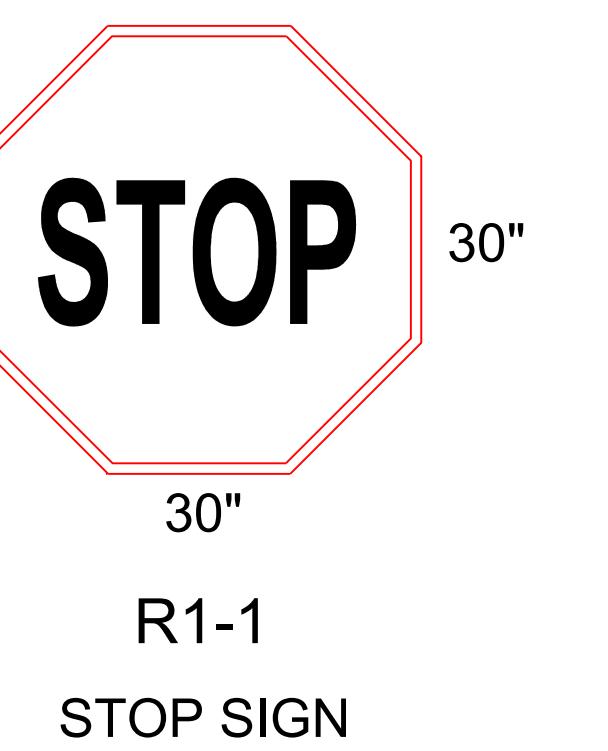


CORNERSTONE AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE PLAN
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
SE BAILEY ROAD AND SE RANSON ROAD
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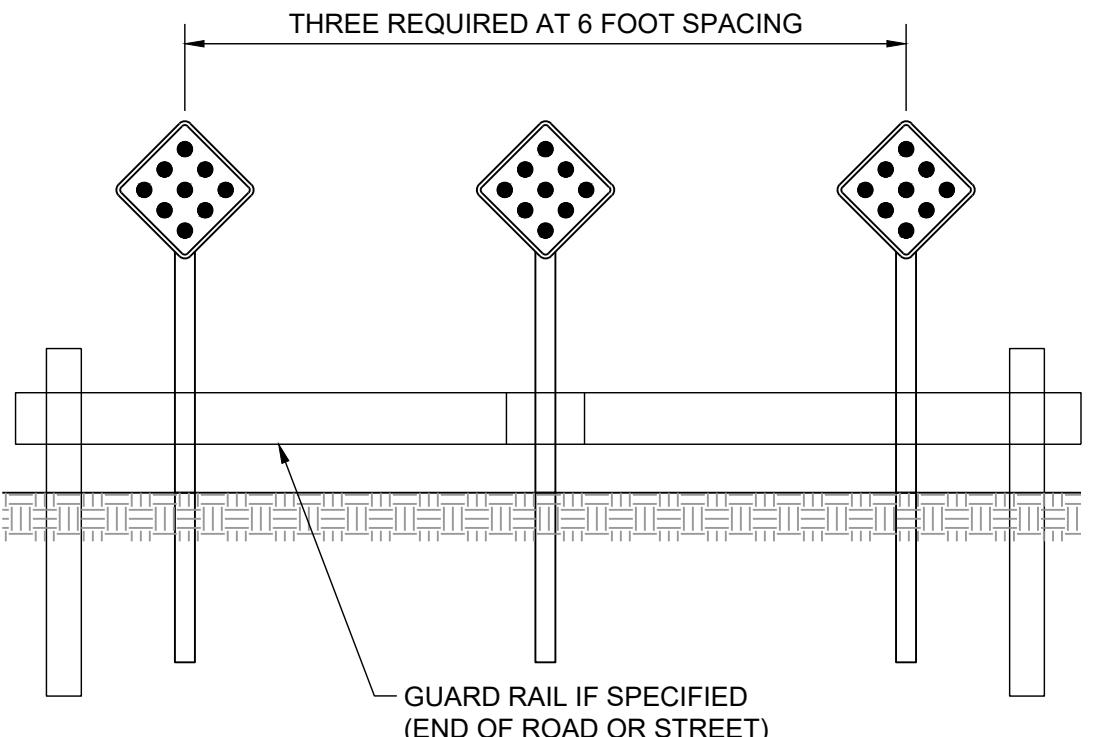
STREET NAME SIGN DETAILS
SHEET 22



11-4



NOTE:
THICKNESS OF FLAT SHEET FOR END OF ROAD
MARKERS SHALL BE 0.0063". RED REFLECTORS
ON RED BACKGROUND.



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PREPARED BY:													
SCHLAGEL & ASSOCIATES, P.A.													
CORNERSTONE AT BAILEY FARMS, FIRST PLAT STREET, STORMWATER, AND MASTER DRAINAGE PLAN SE BAILEY ROAD AND SE RANSON ROAD LEE'S SUMMIT, MISSOURI													
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PROJ. NUMBER: 21-136		Updated City Details to 2023 Details											
OM-4 SIGN DETAILS													
SHEET 23													