

PREPARED BY:



9/8/2022  
 SCHLAGEL & ASSOCIATES, P.A.

**RETREAT 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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**APPROVED BY:**

CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED FOR ONE YEAR FROM THIS DATE

**OWNER/DEVELOPER:**

CLAYTON PROPERTIES GROUP INC., DBA SUMMIT HOMES  
 BRADLEY KEMP  
 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

# STREET, STORMWATER, AND MASTER DRAINAGE PLAN

## FOR

# RETREAT AT BAILEY FARMS, FIRST PLAT

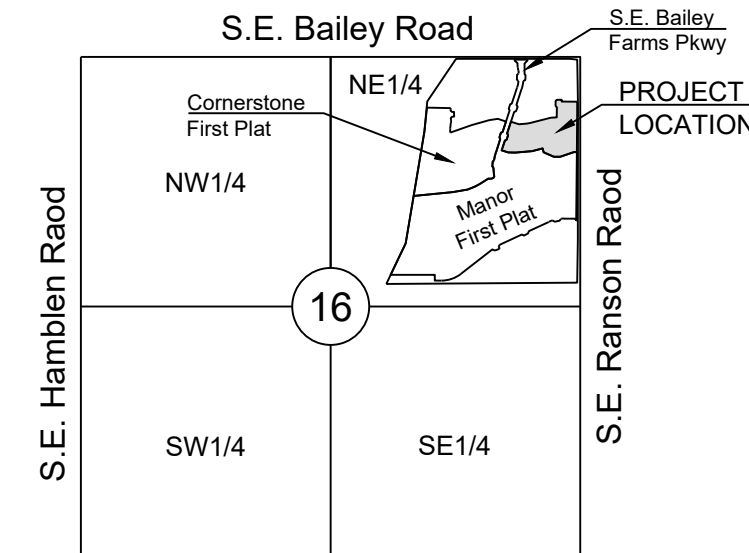
## IN THE CITY OF LEE'S SUMMIT

## JACKSON COUNTY, MISSOURI

**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
- L/E - LANDSCAPE EASEMENT
- MSFE - MINIMUM SERVICEABLE FLOOR ELEVATION
- PVC - POLYVINYL CHLORIDE
- P/L - PROPERTY LINE
- PUB/E - PUBLIC EASEMENT
- RCP - REINFORCED CONCRETE PIPE
- ROW or RW - RIGHT-OF-WAY
- S/E - SANITARY SEWER EASEMENT
- SL - SERVICE LINE
- SW - 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
- P/L - PROPERTY LINES
- ROW - RIGHT-OF-WAY
- STO - STORM SEWER
- STORM SEWER - EXISTING
- CATV - 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



**UTILITY CONTACTS:**

**MISSOURI DEPARTMENT OF TRANSPORTATION (MODOT)**  
 Steve Holloway  
 600 NE Colbern Road  
 Lee's Summit, MO 64086  
 (816) 399-2186

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

**KANSAS CITY POWER & LIGHT COMPANY (KCP&L)**  
 Ron Dejamette  
 1300 SE Hamblen Road  
 Lee's Summit, MO 64081  
 Office: (816) 347-4316  
 Cell: (816) 810-5234  
 ron.dejamette@kcpcl.com

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

**AT&T**  
 Mark Manion 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 Schaffer  
 1200 SE Hamblen Road  
 Lee's Summit, MO 64081  
 (816) 969-1900

**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).

**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.

**EARTHWORK:**

- It is recommended that a Geotechnical Engineer observe and document all earthwork activities.
- Contours have been shown at 1-foot or 2-foot intervals, as indicated. Grading shall consist of completing the earthwork required to bring the physical ground elevations of the existing site to the finished grade (or sub-grade) elevations provided on the plans as spot grades, contours or others means as indicated on the plans.
- The existing site topography depicted on the plans by contouring has been established by aerial photography and field verified by p.s. observation near 2-20-19. The contour elevations provided may not be exact ground elevations, but rather interpretations of such. Accuracy shall be considered to be such that not more than 10 percent of spot elevation checks shall be in error by more than one-half the contour interval provided, as defined by the National Map Accuracy Standards. Any quantities provided for earthwork volumes are established using this topography contour accuracy, and therefore the inherent accuracy of any earthwork quantity is assumed from the topography accuracy.
- Proposed contours are to approximate finished grade.
- Unless otherwise noted, payment for earthwork shall include backfilling of the curb and gutter, sidewalk and further manipulation of utility trench spoils. The site shall be left in a movable condition and positive drainage maintained throughout.
- Unless otherwise noted, all earthwork is considered Unclassified. No additional compensation will be provided for rock or shale excavation, unless specifically stated otherwise.
- Prior to earthwork activities, pre-disturbance erosion and sediment control devices shall be in place per the Storm Water Pollution Prevention plan and/or the Erosion and Sediment Control Plan prepared for this site.
- All topsoil shall be stripped from all areas to be graded and stockpiled adjacent to the site at an area specified by the project owner or his appointed representative. Vegetation, trash, trees, brush, tree roots and limbs, rock fragments greater than 6-inches and other deleterious materials shall be removed and properly disposed of offsite or as directed by the owner or his appointed representative.
- Unless otherwise specified in the Geotechnical Report, all fills shall be placed in maximum 6-inch lifts and compacted to 95-percent of maximum density as defined using a standard proctor test (AASHTO T99/ASTM 698).
- Fill materials shall be per Geotechnical Report and shall not include organic matter, debris or topsoil. All fills placed on slopes greater than 6:1 shall be benched.
- The Contractor shall be responsible for redistributing the topsoil over proposed turf and landscaped areas to a minimum depth of 6-inches below final grade.
- All areas shall be graded for positive drainage. Unless noted otherwise the following grades shall apply:
  - Turf Areas - 2.5% Minimum, 4H:1V Maximum
  - Paved Areas - 1.2% Minimum, 5% Maximum
- All disturbed areas shall be fertilized, seeded and mulched immediately after earthwork activities have ceased. Seeding shall be per the Erosion and Sediment Control Plan and/or Landscape Plan. If not specified seeding shall be per APWA Section 2400, latest edition. Unless otherwise noted, seeding shall be subsidiary to the contract price for earthwork and grading activities.
- All disturbed areas in the right-of-way shall be sodded.
- Underdrains are recommended for all paved areas adjacent to irrigated turf and landscaped beds.
- The contractor shall adhere to the reporting requirements outlined in the Storm Water Pollution Prevention Plan (SWPPP) prepared for this project. Erosion and Sediment control devices shall be properly maintained and kept clean of silt and debris and in good working order. Additional erosion and sediment control measures shall be installed as required.

**UTILITIES:**

- Existing utilities have been shown to the greatest extent possible based upon information provided to the Engineer. The contractor is responsible for contacting the respective utility companies and field locating utilities prior to construction and identifying any potential conflicts. All conflicts shall immediately be brought to the attention of the Engineer.
- The contractor shall be responsible for coordinating any required utility relocations. Utilities damaged through the negligence of the contractor shall be repaired at the contractor's expense.
- Contractor shall verify flow-lines and structure tops prior to construction, and shall notify Engineer of any discrepancies. Provide shop drawings for all precast and manufactured utility structures for review by the Engineer prior to construction of the structures.
- Utility Separation: Waterlines shall have a minimum of 10 feet horizontal and 2 feet vertical separation from all sanitary sewer lines, manholes, and sanitary sewer service laterals, as measured from edge to edge. If minimum separations can not be obtained, concrete encasement of the sanitary line shall be required 10 feet in each direction of the conflict.
- Payment for trenching, backfilling, pipe embedment, flowable fill, backfill materials, clean up, seeding, sodding and any other items necessary for the construction of the utility line shall be included in the contract price for the utility installation.
- The Contractor shall be responsible for contacting respective utility companies 48-hours in advance for the inspection of any proposed utility main extension or service line or service connection to any existing main.
- Trench spoils shall be neatly placed onsite adjacent to the trench, and compacted to prevent saturation and excess sediment runoff. Unsuitable materials, excess rock and shale, asphalt, concrete, trees, brush etc. shall be properly disposed of offsite. Materials may be wasted onsite at the direction of the Owner or his appointed representative.
- All excavation is considered unclassified, unless noted otherwise. Unclassified excavation for utility trenching is subsidiary to the unit price provided for the pipe. Any quantity provided for rock excavation is estimated based on the best information provided to the Project Engineer. The Engineer has the authority to identify and define the physical characteristics to determine the classification. Unit price quantities for rock excavation will be paid at a trench width of the nominal pipe diameter of the installed main plus 18 inches. Contractor is required to dispose of excess rock from their trenches by disposing it in areas as specified by the Project Engineer.

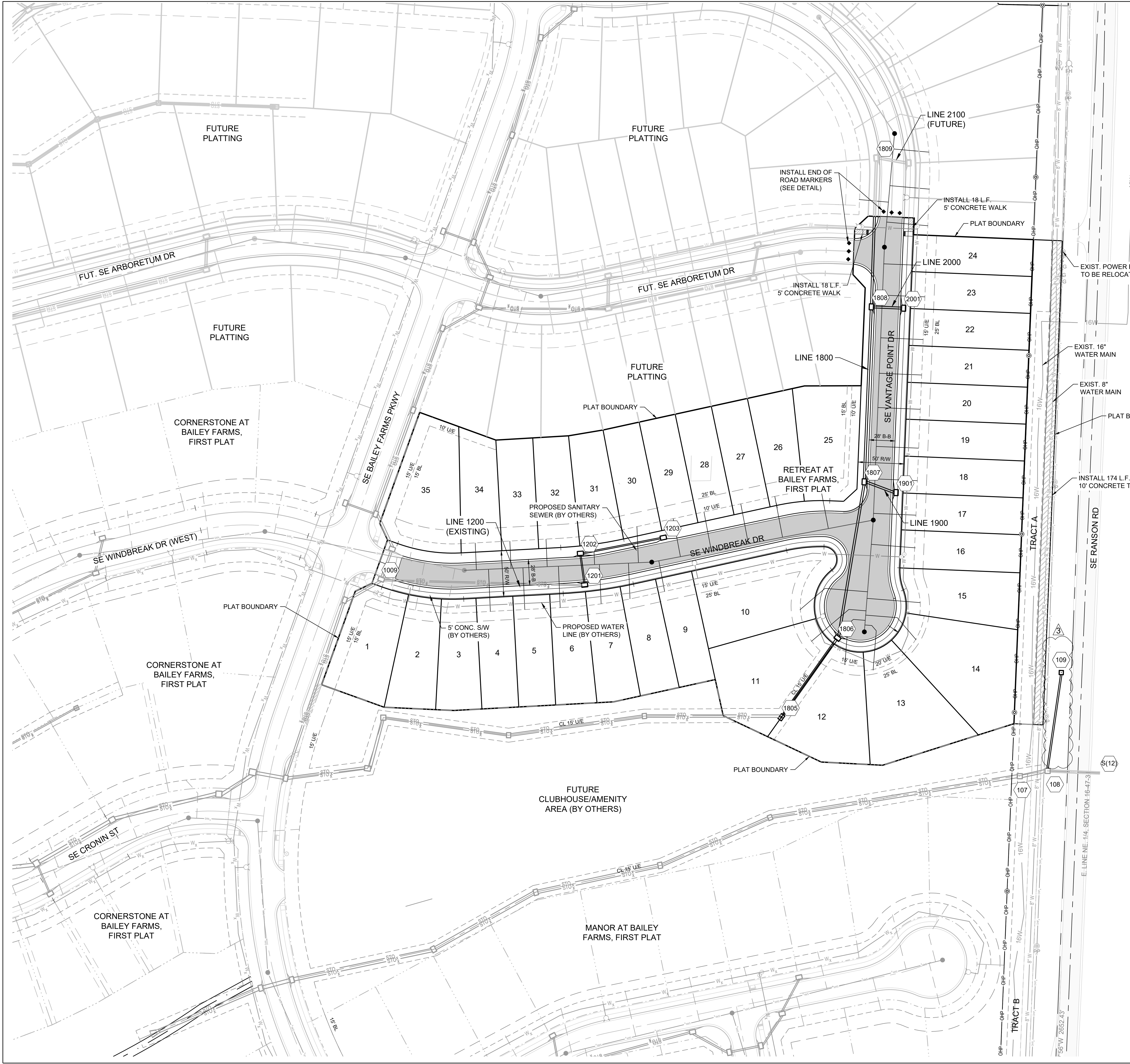
SUMMARY OF QUANTITIES			
	ITEM	QUANTITY	UNITS
1	CLEARING AND GRUBBING	1	LS
2	GRADING	1	LS
3	6" ASPHALT PAVEMENT - LOCAL-RESIDENTIAL STREET	3,100	SY
4	FLY-ASH OR COMPACTED AGGREGATE BASE	3,743	SY
5	TYPE CG-2 CURB AND GUTTER (INLET TRANSITIONS NOT INCLUDED) SUBSIDIARY TO CG-2 IS ALL CG-2 DRY NEEDED	1,771	LF
6	TYPE A SIDEWALK RAMP	2	EA
7	5' CONCRETE SIDEWALK	36	LF
8	10' CONCRETE TRAIL	174	LF
9	4'x4' JUNCTION BOX	1	EA
10	6'x4' CURB INLET	8	EA
11	4'x4' FIELD INLET	1	EA
12	18" RCP	108	LF
13	15" HDPE	360	LF
14	18" HDPE	172	LF
15	24" HDPE	106	LF
16	TURF REINFORCEMENT MAT	206	SY
17	END OF ROAD MARKERS (OM 4-1)	6	EA
18	SIGNAGE	1	LS
19	EROSION CONTROL	1	LS
20	SEEDING AND MULCHING	1	LS

COVER SHEET

SHEET

1

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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

**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.

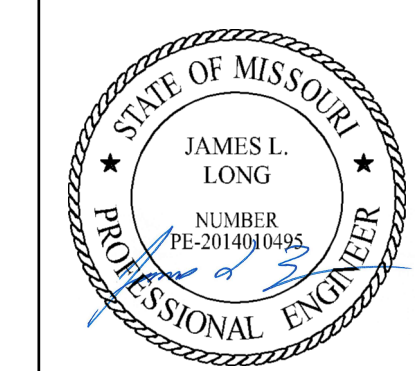
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**STREET LEGEND:**

RESIDENTIAL LOCAL

**SCHLAGEL**  
**ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS**  
 14920 West 107th Street • Lenexa, Kansas 66215  
 (913) 492-5158 • Fax: (913) 492-8400  
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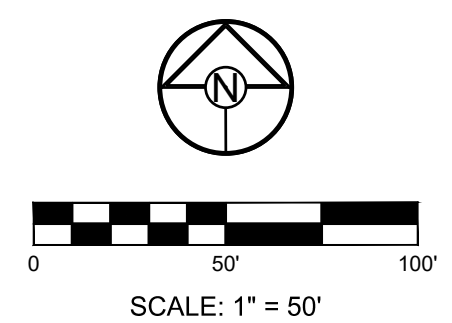


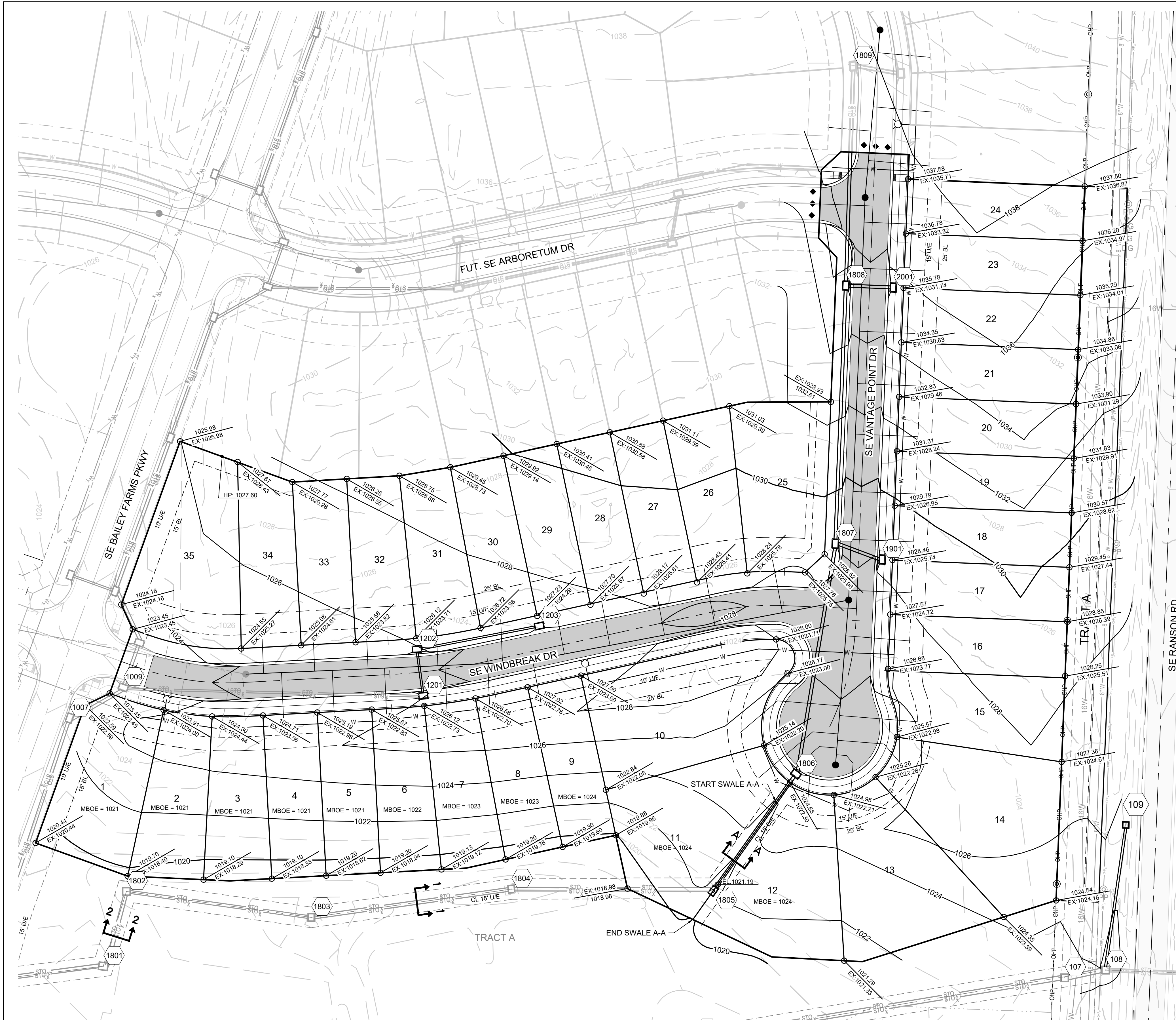
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 STREET, STORMWATER, AND MASTER  
 DRAINAGE PLAN**  
**SE BAILEY ROAD AND SE RANSON ROAD  
 LEES SUMMIT, MISSOURI**

REVISION DATE	DESCRIPTION
03/21/2022	PER CITY COMMENTS
04/20/2022	PER CITY COMMENTS DATED 02/25/2022
08/25/2022	ADD FIELD INLET
09/08/2022	REVISE FIELD INLET

GENERAL LAYOUT  
 SHEET  
**2**





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

LOT TYPE TABLE		
LOT NUMBER	BASEMENT TYPE	MBOE
1	DAYLIGHT	1021
2	DAYLIGHT	1021
3	DAYLIGHT	1021
4	DAYLIGHT	1021
5	DAYLIGHT	1021
6	DAYLIGHT	1022
7	DAYLIGHT	1023
8	DAYLIGHT	1023
9	DAYLIGHT	1024
10	STANDARD	1026
11	STANDARD	1024
12	STANDARD	1024
13	STANDARD	
14	STANDARD	
15	STANDARD	
16	STANDARD	
17	STANDARD	
18	STANDARD	
19	STANDARD	
20	STANDARD	
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35	STANDARD	

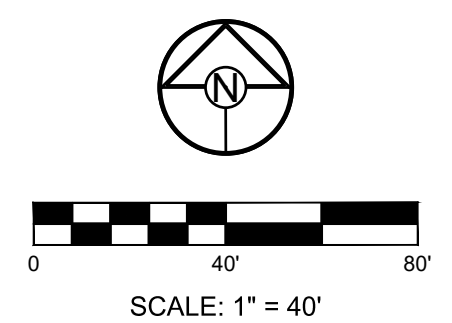
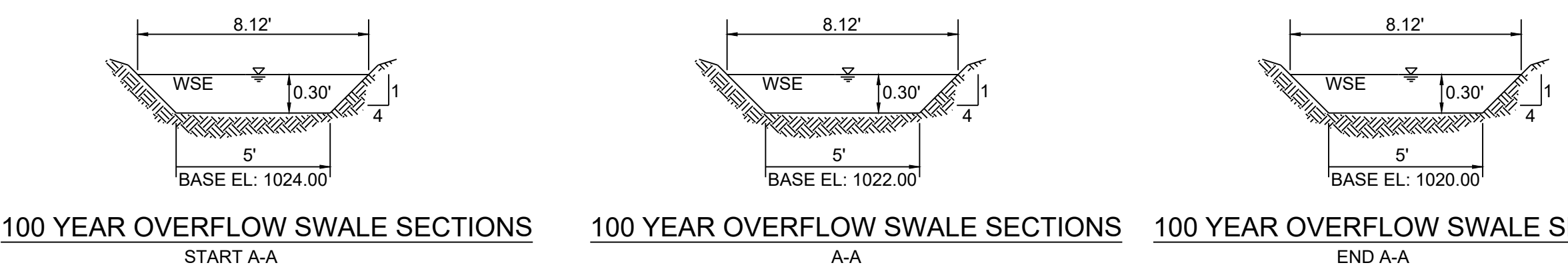
**NOTES:**

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

SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	DESIGN OVERFLOW (CFS)	WEIR ELEVATION	WEIR COEFFICIENT	LENGTH	HEAD REQ'D	WSE
1	4.07	34.65	34.65	1018.50	3.33	10'-0"	1.03	1019.53
2	5.12	43.60	43.60	1018.50	3.33	10'-0"	1.20	1019.70

SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	BED SLOPE (%)	BASE WIDTH (FT.)	SIDE SLOPE	TOP WIDTH (FT.)	NORMAL DEPTH (FT.)	VELOCITY (FPS)	VELOCITY HEAD (FT.)	EGL (FT.)
A-A	3.11	26.50	15.10	11.40	3.80	5	4:1	8.12	0.39	4.45	0.31	0.70

**RUNOFF CALCULATIONS:**  
 $Q = K \cdot C \cdot I \cdot A$   
 $K_{10} = 1.0$   $K_{100} = 1.25$   $C = 0.66$   $I =$  INTENSITY  
 DESIGN OVERFLOW =  $Q_{OVERFLOW} = Q_{100} - Q_{10}$   
 MANNINGS "n" = 0.030 FOR SWALES



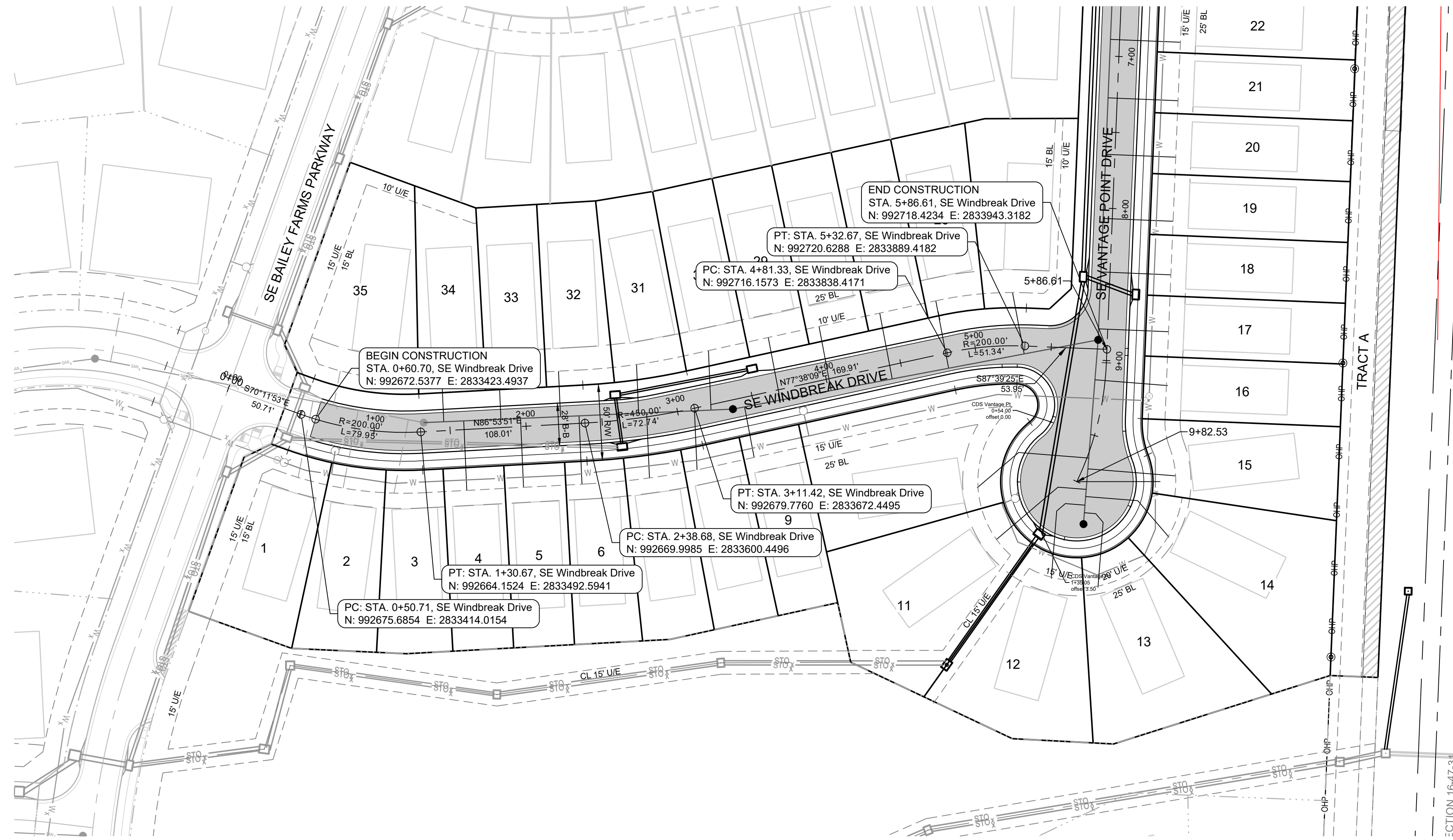
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 PROFESSIONAL ENGINEER  
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02/09/2022	DATE PREPARED
21-133	PROJ. NUMBER

MASTER DRAINAGE PLAN-GRADING PLAN  
 SHEET  
**3**



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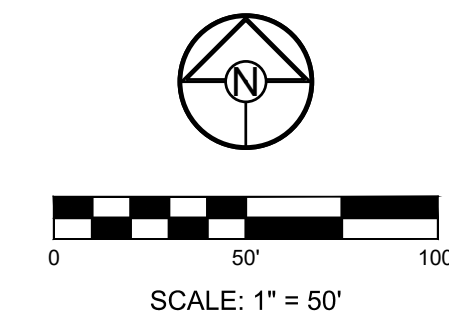
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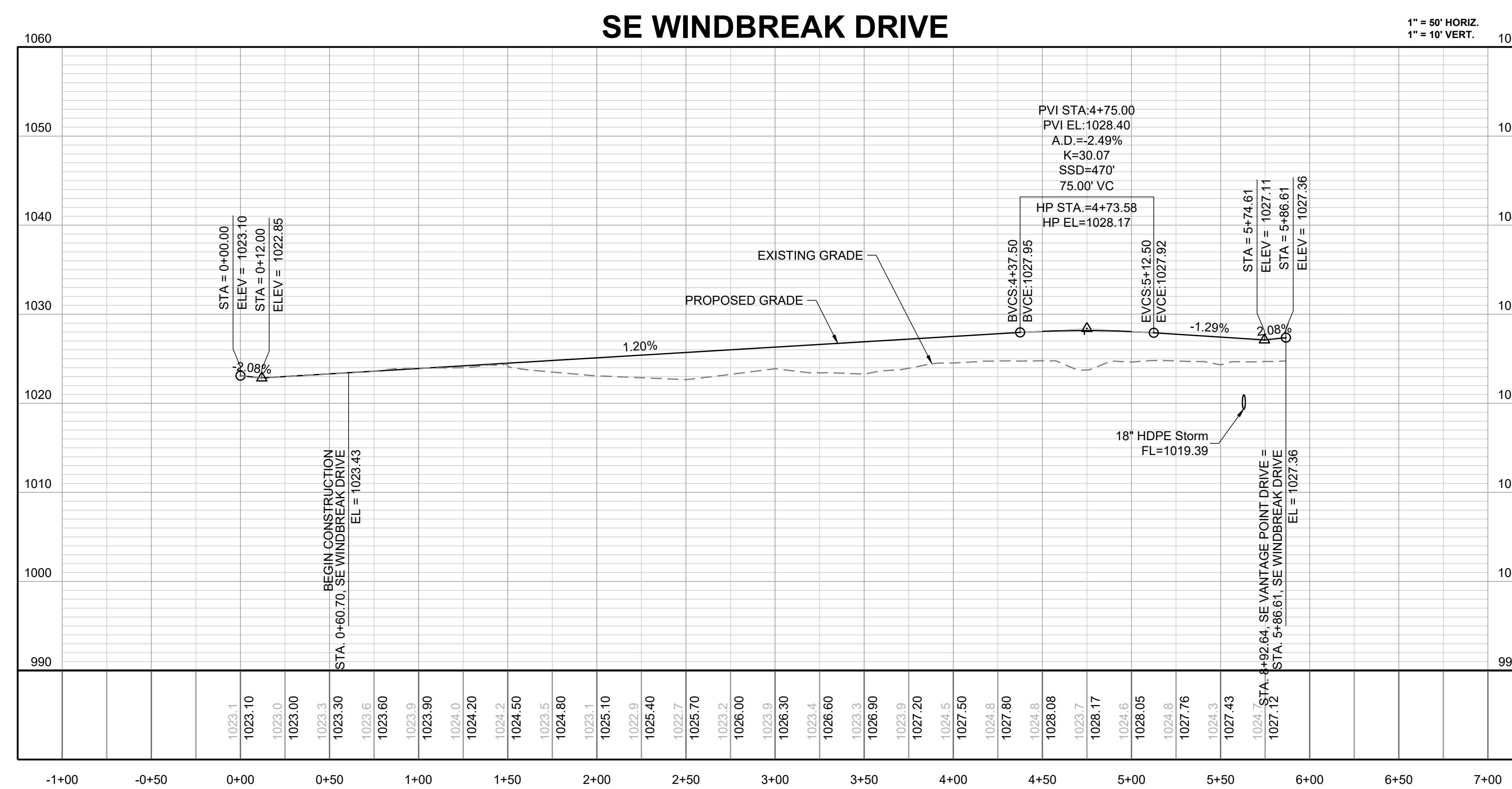


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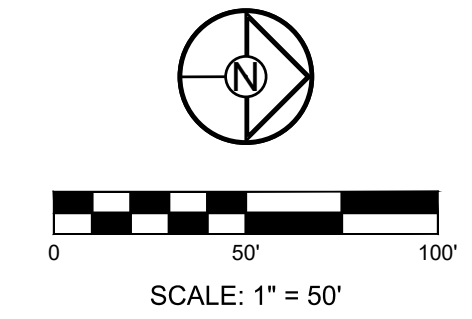
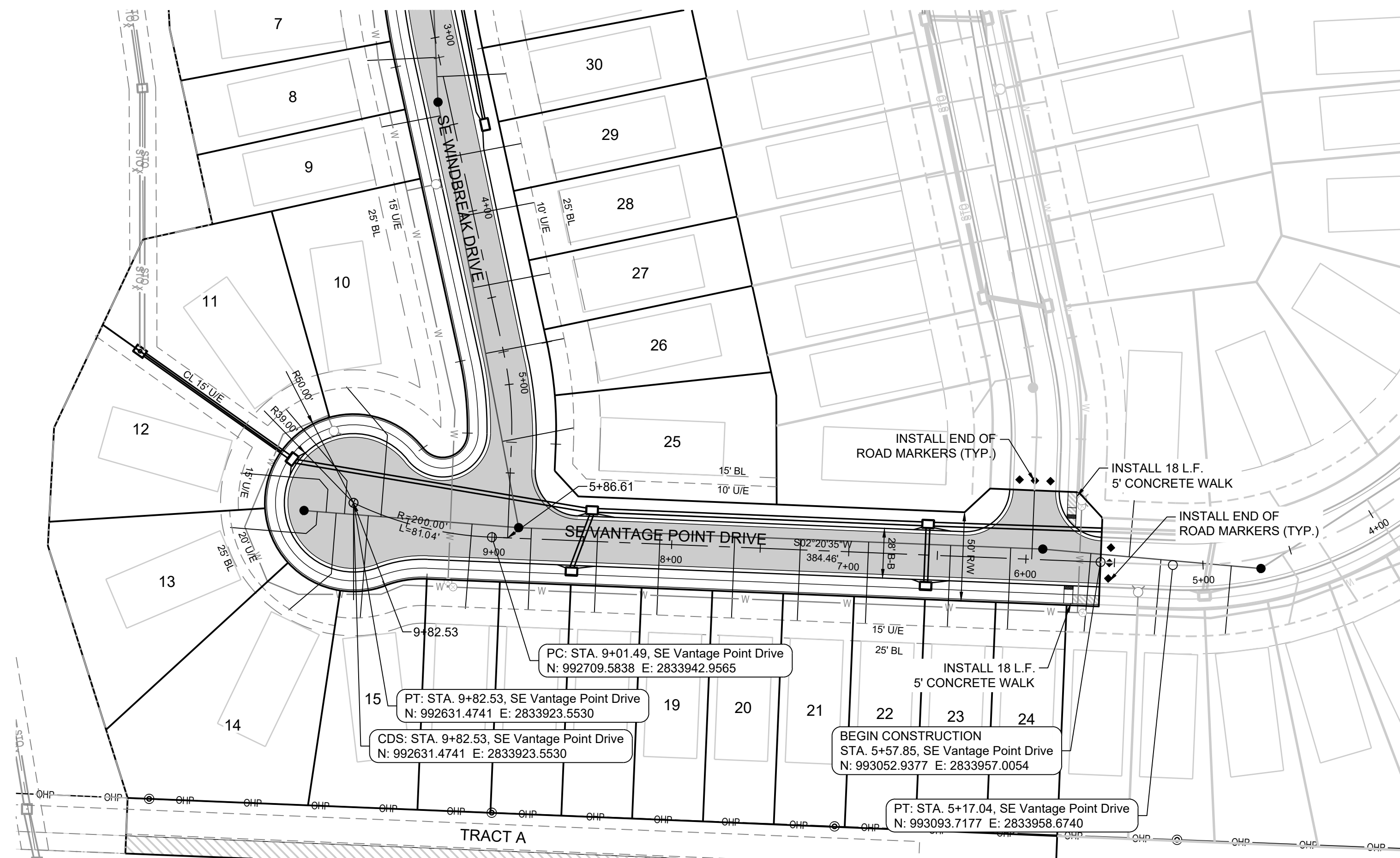
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SE WINDBREAK  
 DR PLAN AND  
 PROFILE

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**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

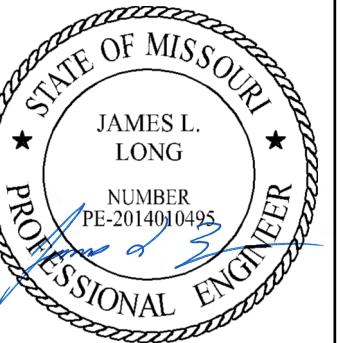
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PREPARED BY:



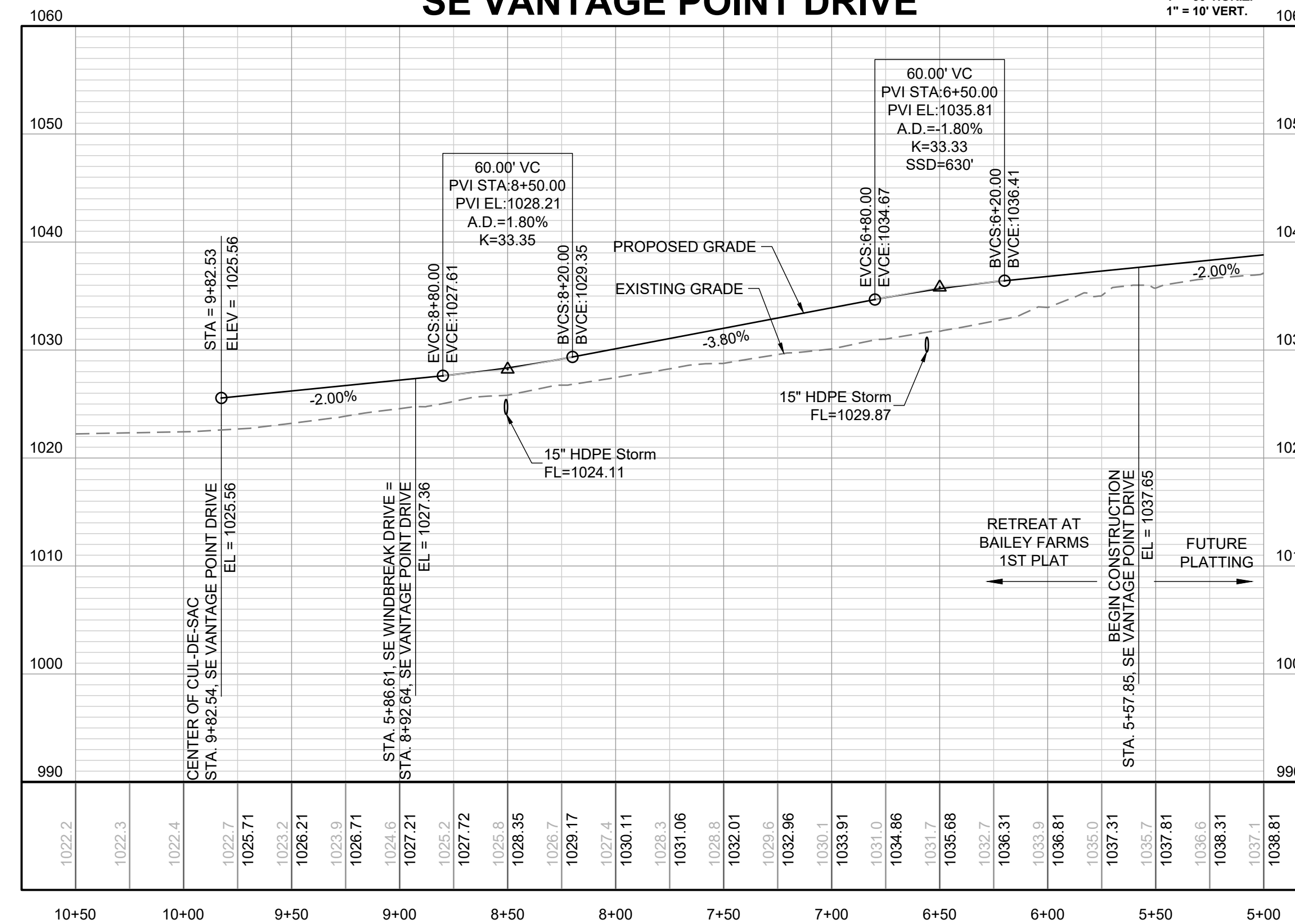
9/8/2022

SCHLAGEL & ASSOCIATES, P.A.

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

**SE VANTAGE POINT DRIVE**

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

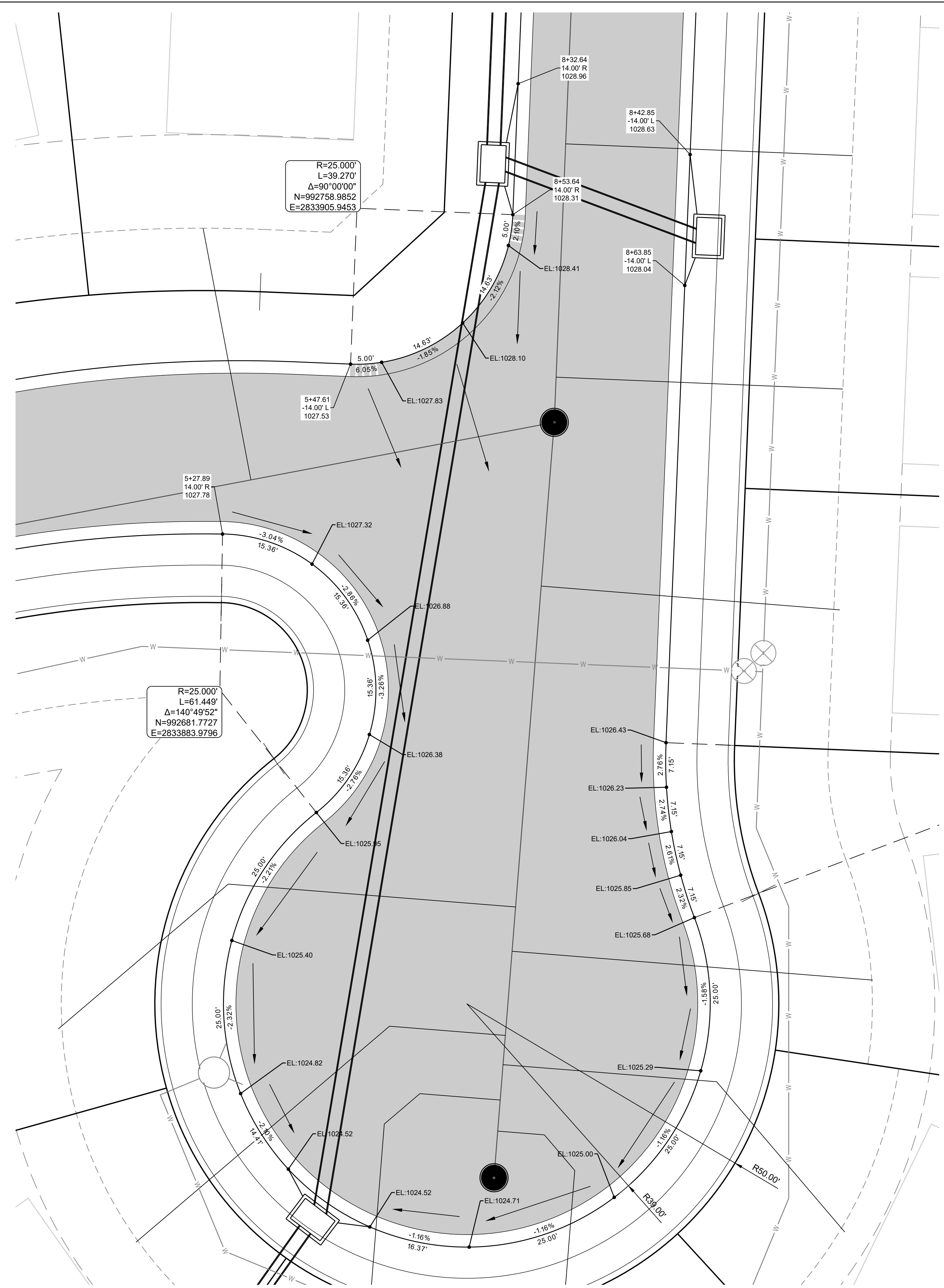
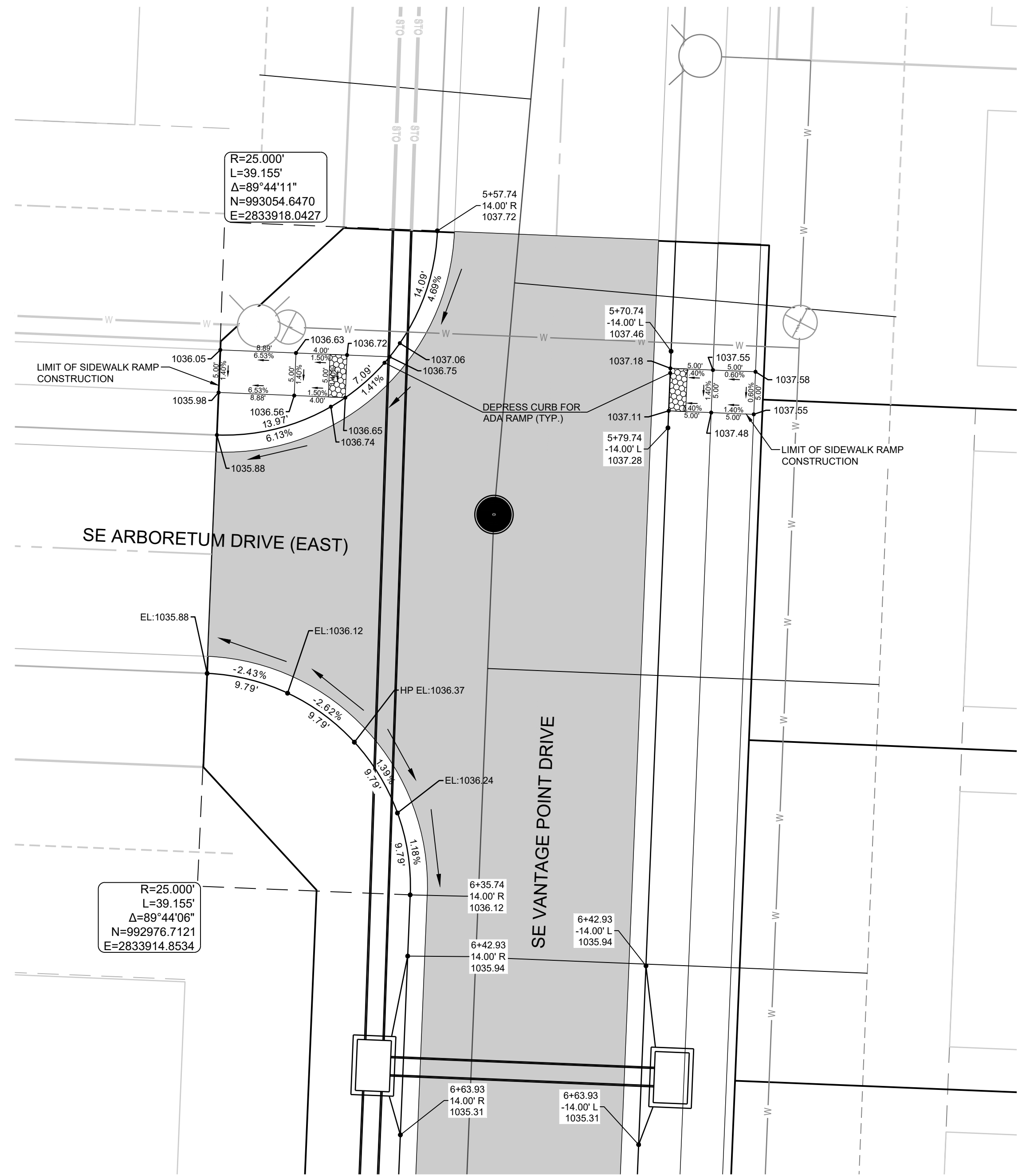


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08/25/2022	ADD FIELD INLET
09/08/2022	REVISE FIELD INLET

SE VANTAGE POINT DR PLAN AND PROFILE

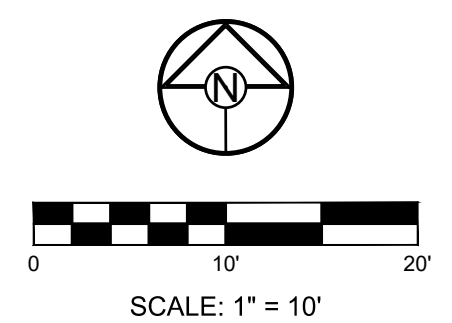
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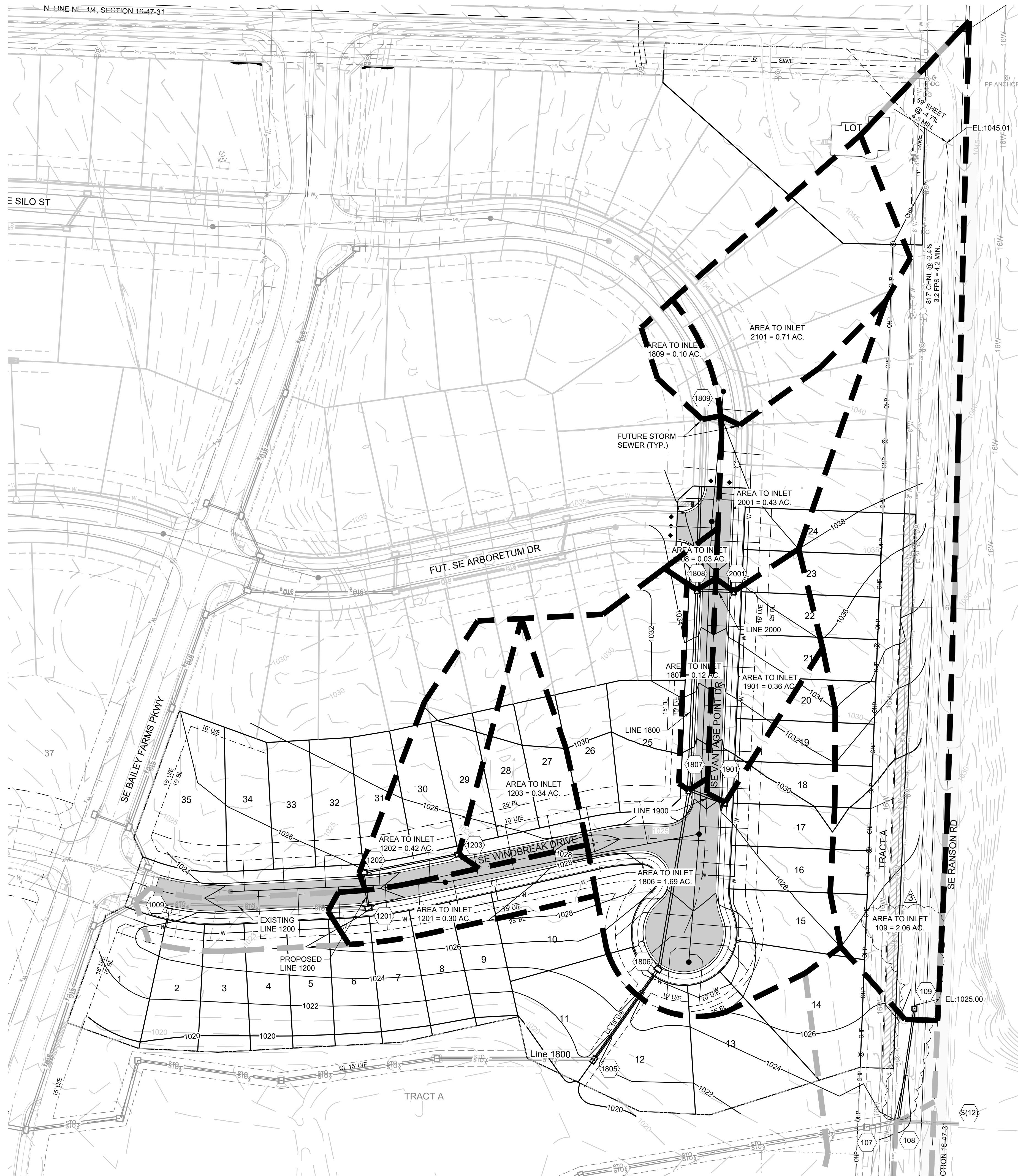


**CURB LEGEND**

	CURB & GUTTER - EXISTING
	TYPE *CG-2* CURB & GUTTER
	TYPE *CG-2* DRY CURB & GUTTER
	TRANSITION *CG-2* TO *CG-2 DRY*



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ELEV. = 1046.25

**BASIS OF BEARINGS:**

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

**NOTES:**

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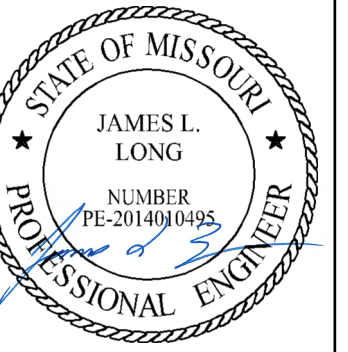
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**LEGEND**

- EXISTING DRAINAGE AREA
- PROPOSED DRAINAGE AREA



PREPARED BY:



9/8/2022

SCHLAGEL & ASSOCIATES, P.A.

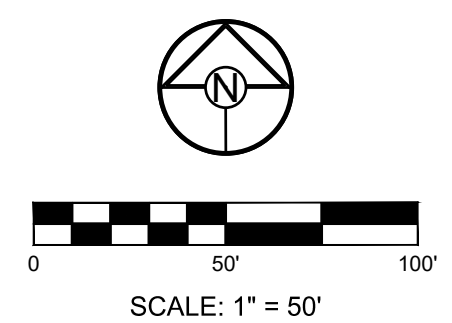
**RETREAT AT BAILEY FARMS, FIRST PLAT  
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**MASTER DRAINAGE PLAN-DRAINAGE MAP**

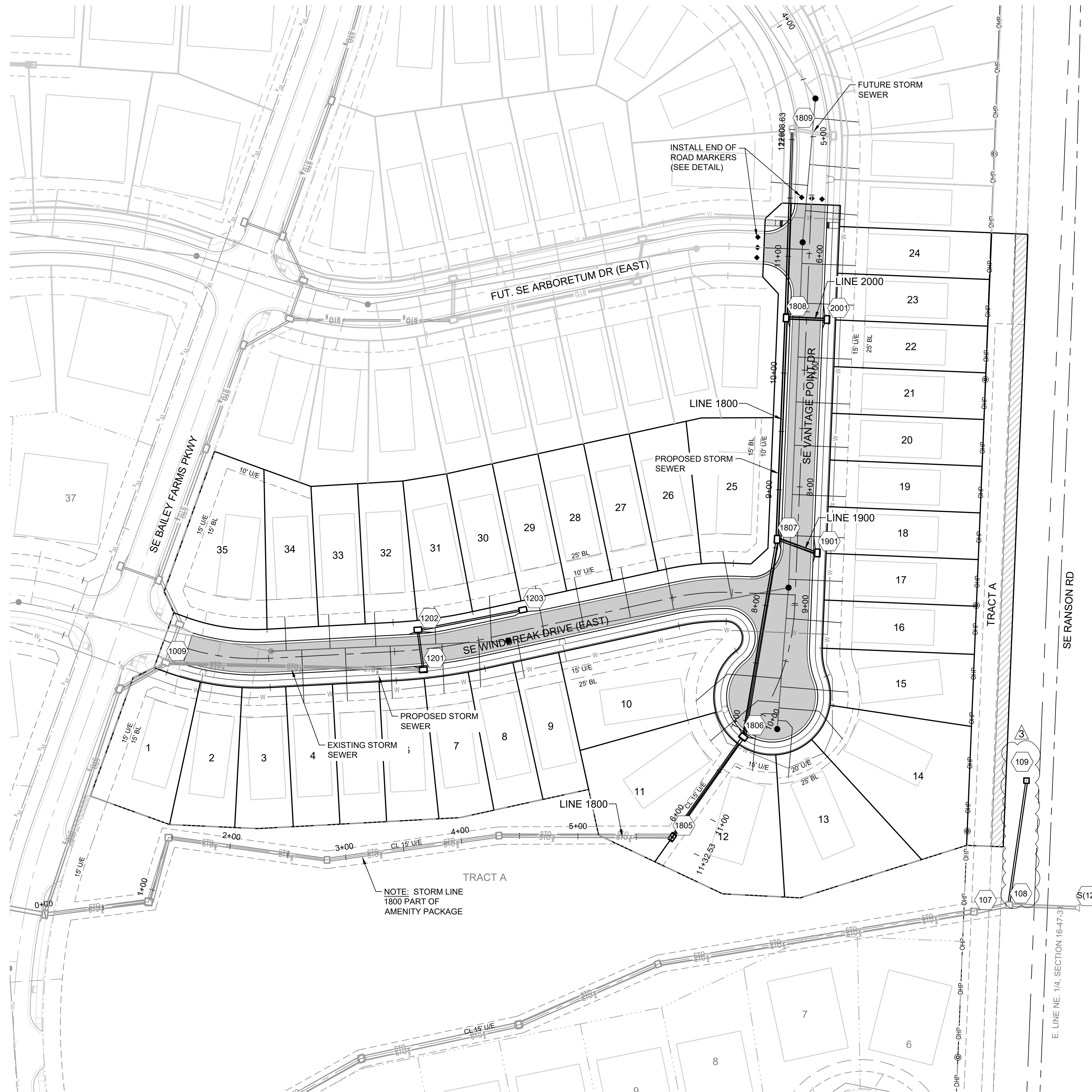
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**7**

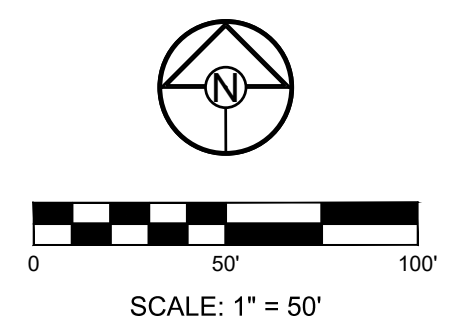








Storm Sewer Construction Notes	
Structure	Notes
109	STA 11+18.60, LINE 100 INSTALL 4 X 4 FIELD INLET OPEN TO NORTH & SOUTH N 992559.4871 E 2834141.2360
1201	STA 2+20.44, LINE 1200 INSTALL 6 X 4 CURB INLET N 992654.3986 E 2833624.9486
1202	STA 2+54.97, LINE 1200 INSTALL 6 X 4 CURB INLET N 992688.6205 E 2833620.3630
1203	STA 3+46.45, LINE 1200 INSTALL 6 X 4 CURB INLET N 992705.6873 E 2833710.2379
1805	STA 5+80.78, LINE 1800 INSTALL 4 X 4 JUNCTION BOX N 992511.0888 E 2833838.0784
1806	STA 6+85.93, LINE 1800 INSTALL 6 X 4 CURB INLET N 992596.8865 E 2833898.8588
1807	STA 8+57.59, LINE 1800 INSTALL 6 X 4 CURB INLET N 992766.0995 E 2833927.7543
1808	STA 10+47.31, LINE 1800 INSTALL 6 X 4 CURB INLET N 992955.6599 E 2833935.5105
1901	STA 0+36.46, LINE 1900 INSTALL 6 X 4 CURB INLET N 992754.4673 E 2833962.3077
2001	STA 0+35.00, LINE 2000 INSTALL 6 X 4 CURB INLET N 992954.2290 E 2833970.4812



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**SCHLAGEL**  
ENGINEERS, PLANNERS, SURVEYORS, LANDSCAPE ARCHITECTS  
14920 West 107th Street • Lenexa, Kansas 66215  
(913) 492-5158 • Fax: (913) 492-8400  
WWW.SCHLAGELASSOCIATES.COM  
Missouri State Certificates of Authority  
#E200200360P-F #LAC2001005237 #LS200200869F

PREPARED BY:



9/8/2022

SCHLAGEL & ASSOCIATES, P.A.

RETREAT AT BAILEY FARMS, FIRST PLAT  
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DRAINAGE PLAN  
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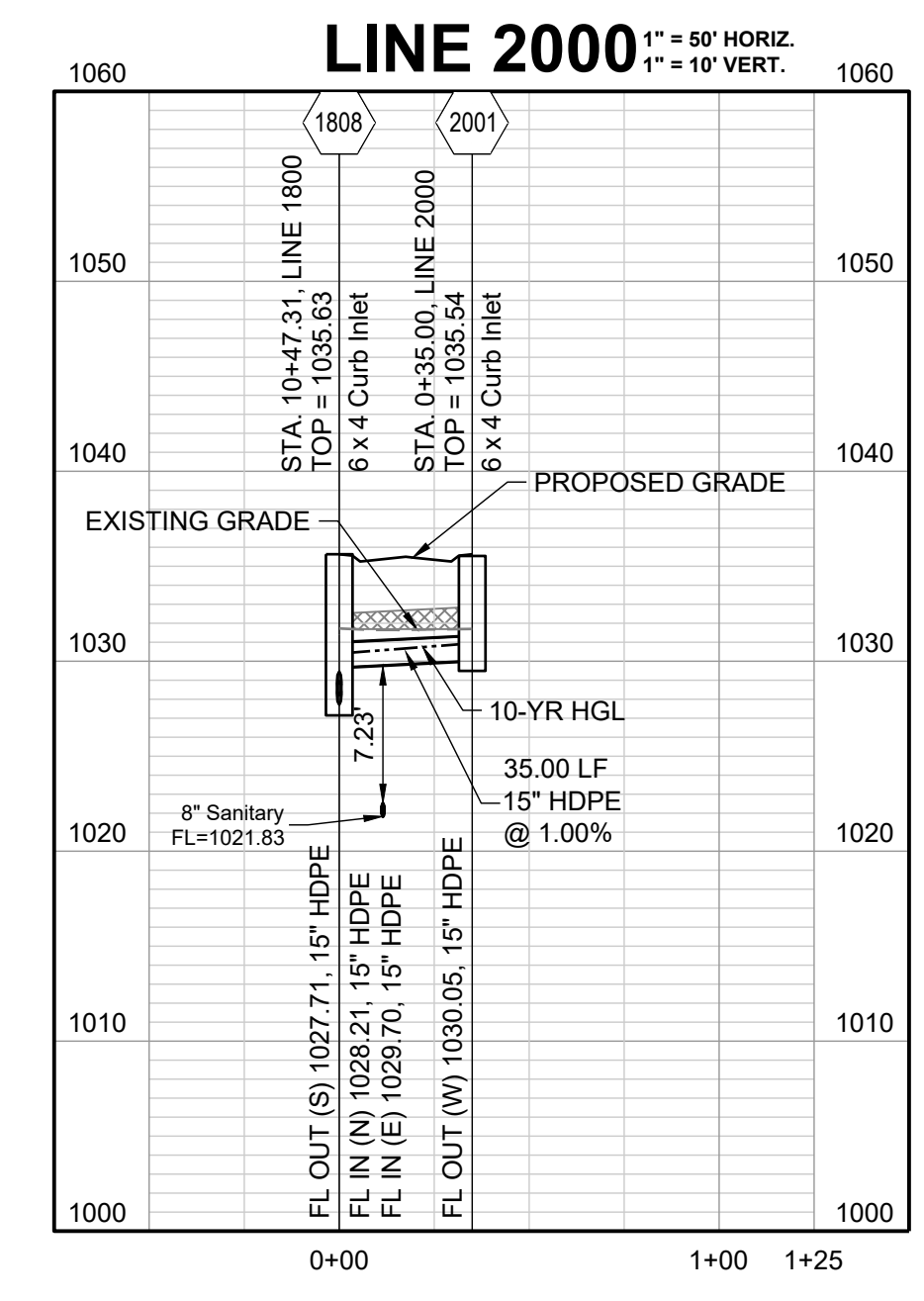
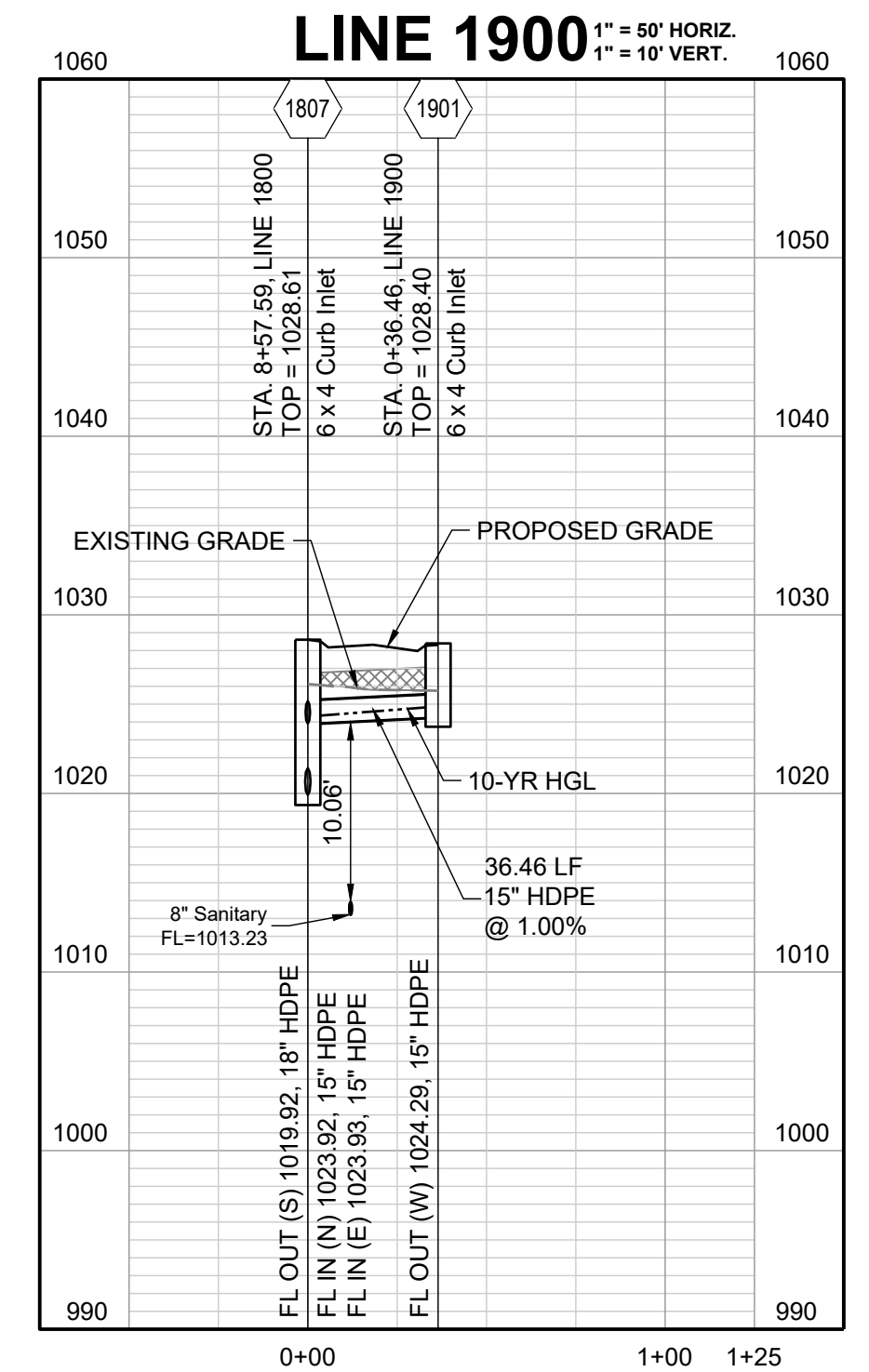
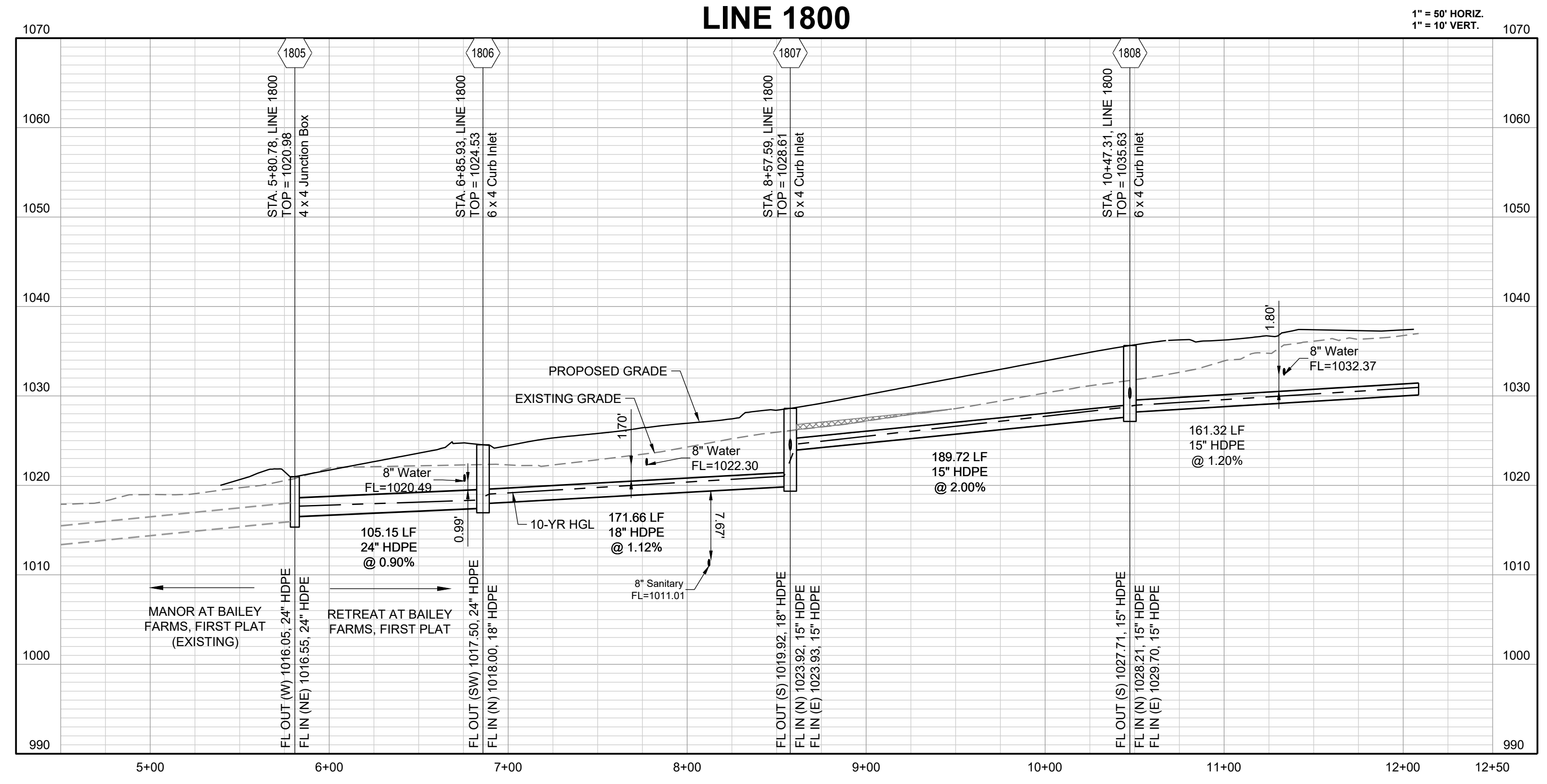
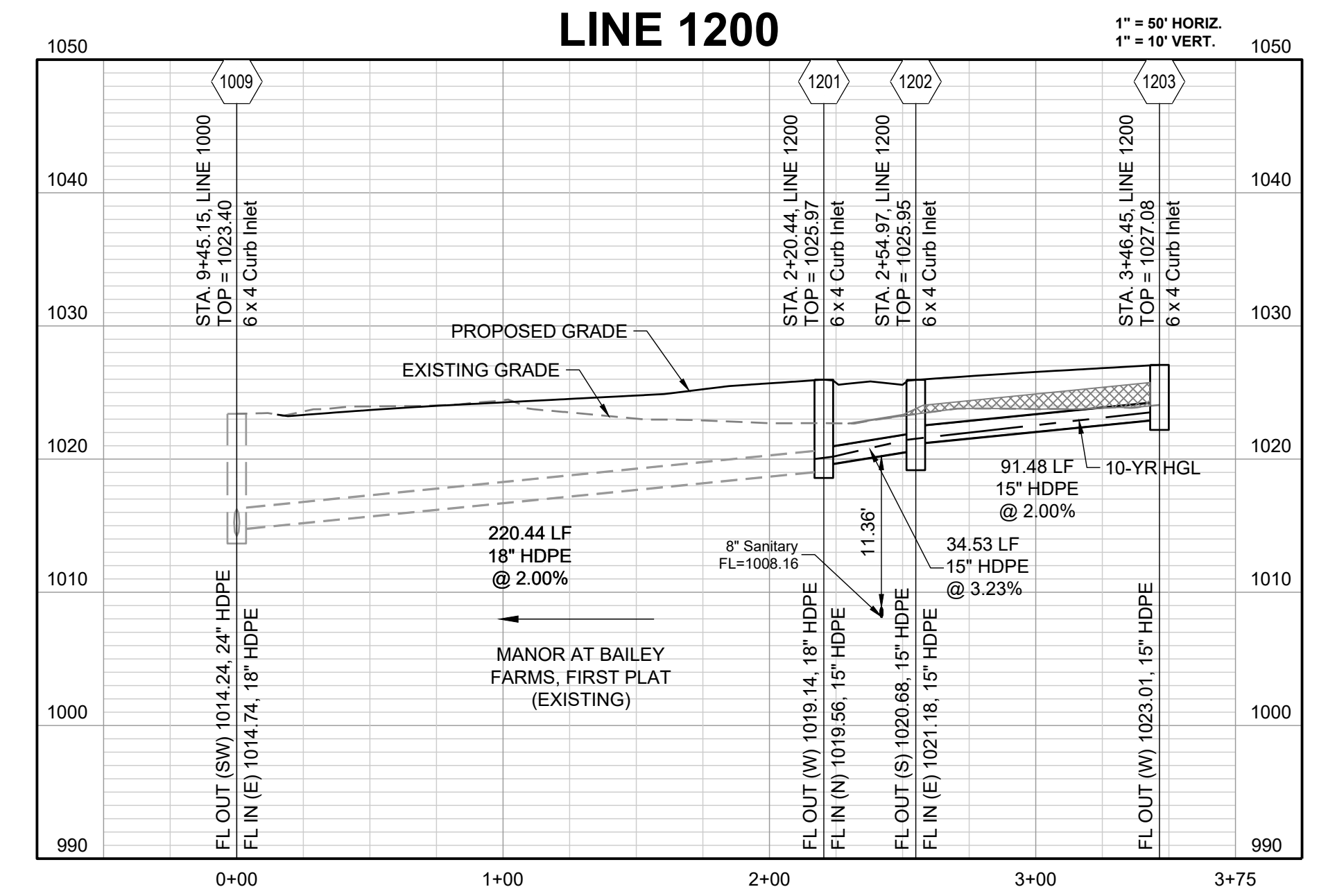
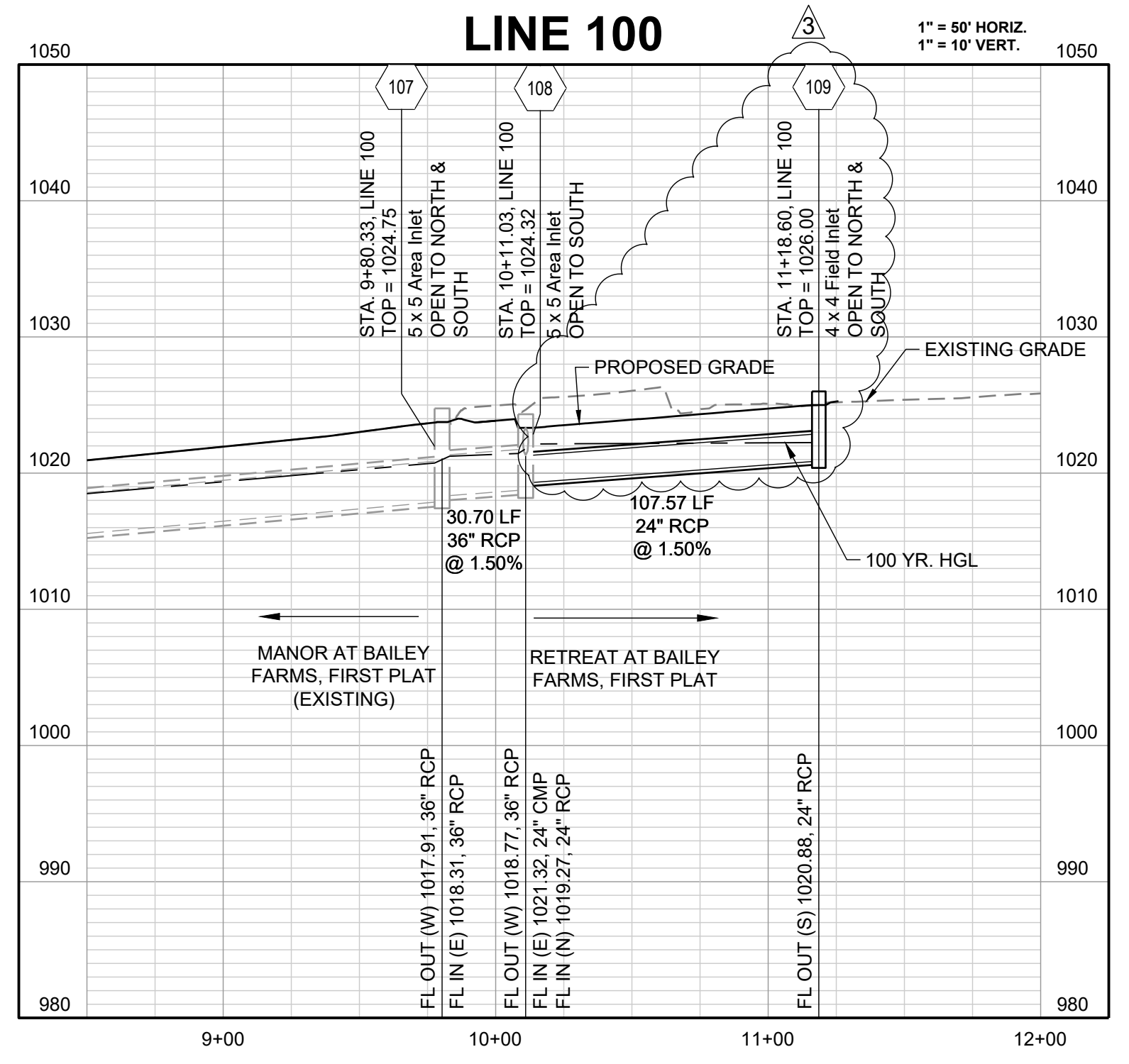
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STORM PLAN

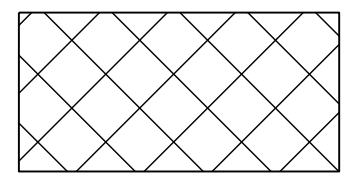
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COMPACTED FILL TO BE PLACED A MINIMUM OF 1.5 FEET ABOVE TOP OF PIPE ELEVATION PRIOR TO PIPE INSTALLATION.



10-YEAR HGL - - - - -

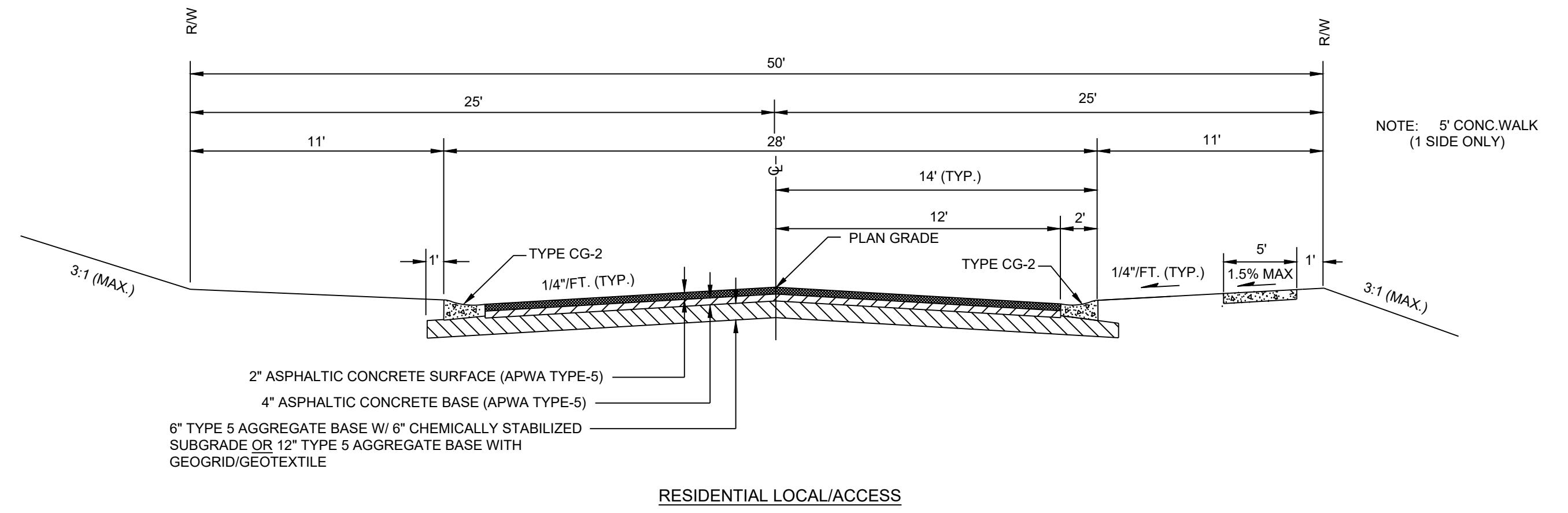
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02/09/2022	
21-133	

STORM PROFILE

**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 <sup>(1)</sup>
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

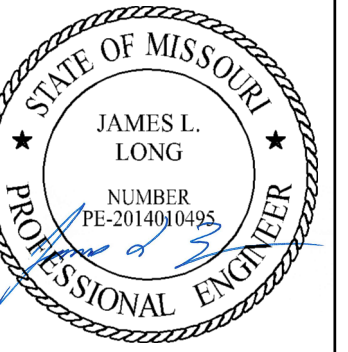


LS5200

17

July 2020

PREPARED BY:



9/8/2022

SCHLAGEL & ASSOCIATES, P.A.

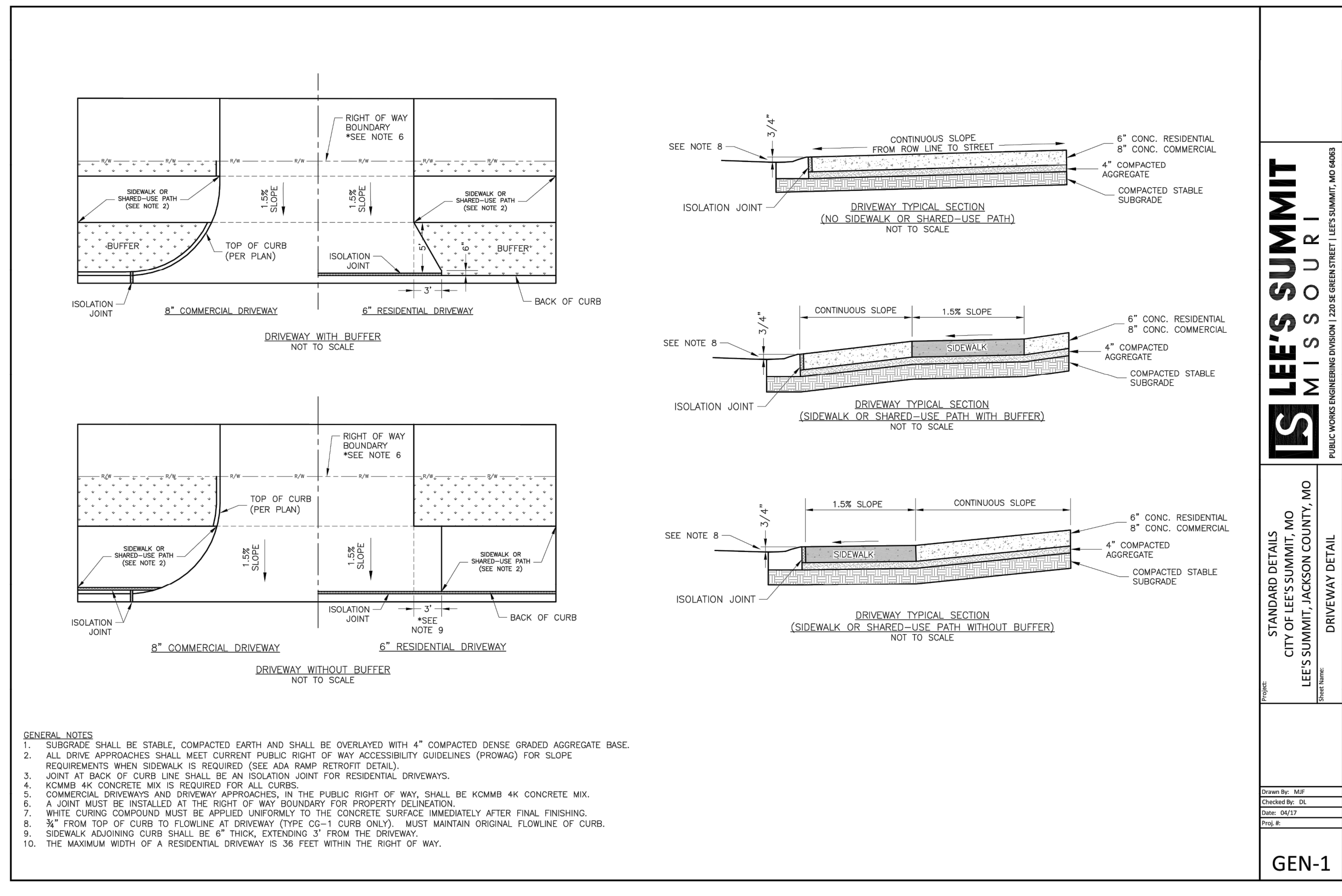
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DRAWN BY: JRJ  
 CHECKED BY: JLL  
 DATE PREPARED: 02/09/2022  
 PROJ. NUMBER: 21-133

STREET DETAILS

SHEET

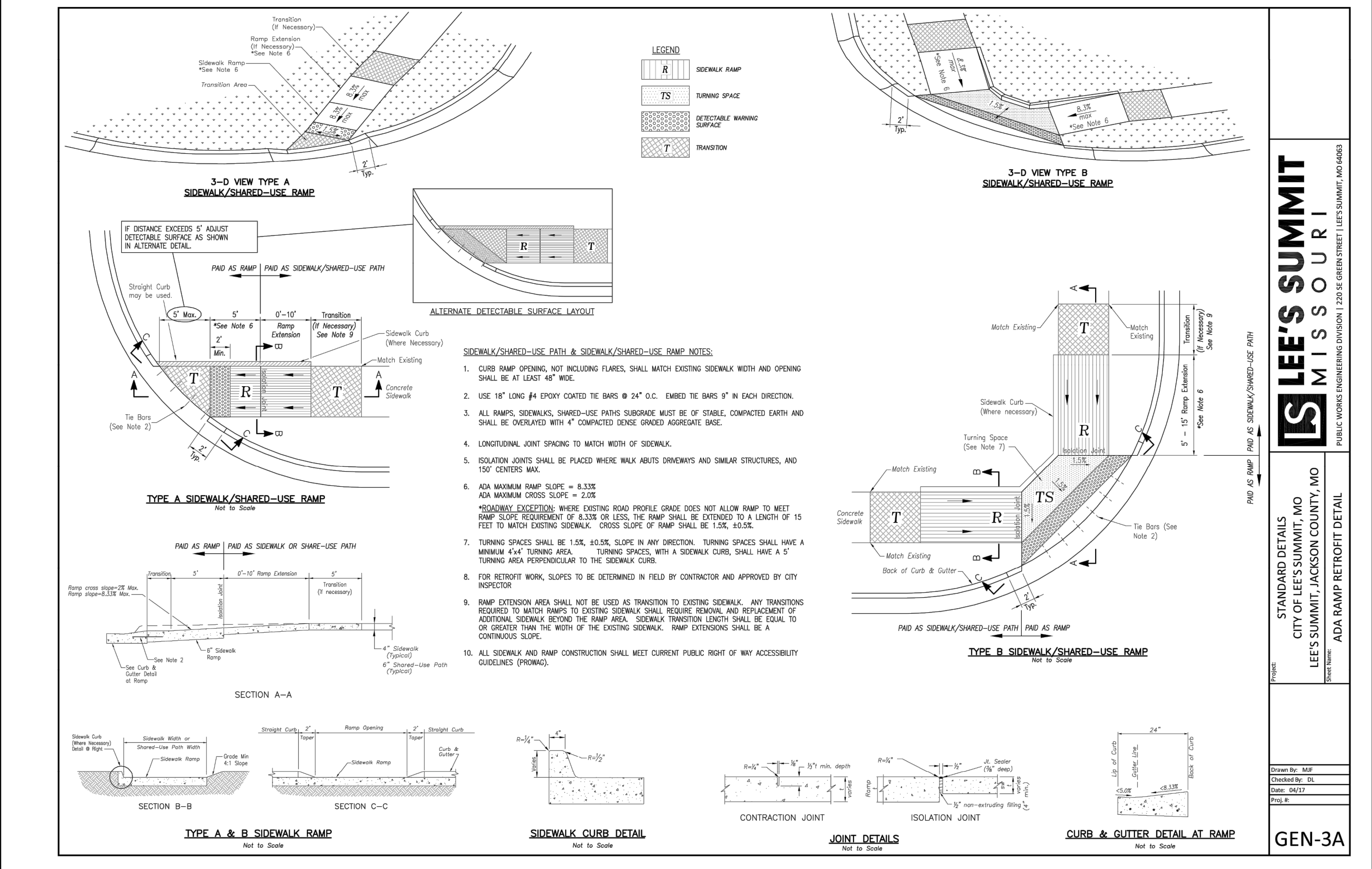


**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

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

Drawn By: MIF  
 Checked By: DL  
 Date: 04/17  
 Proj #: 21-133

GEN-1

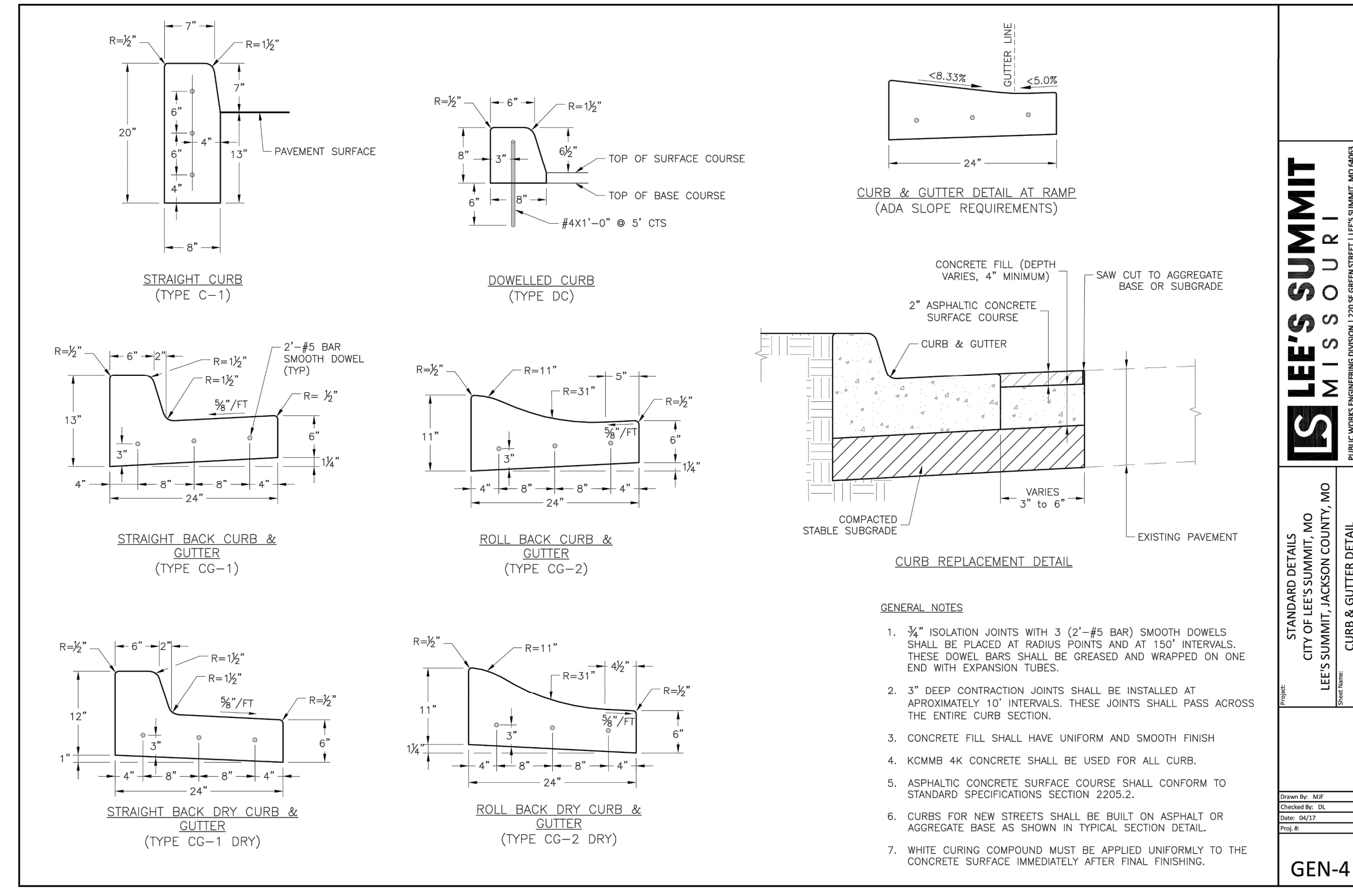


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GEN-3A

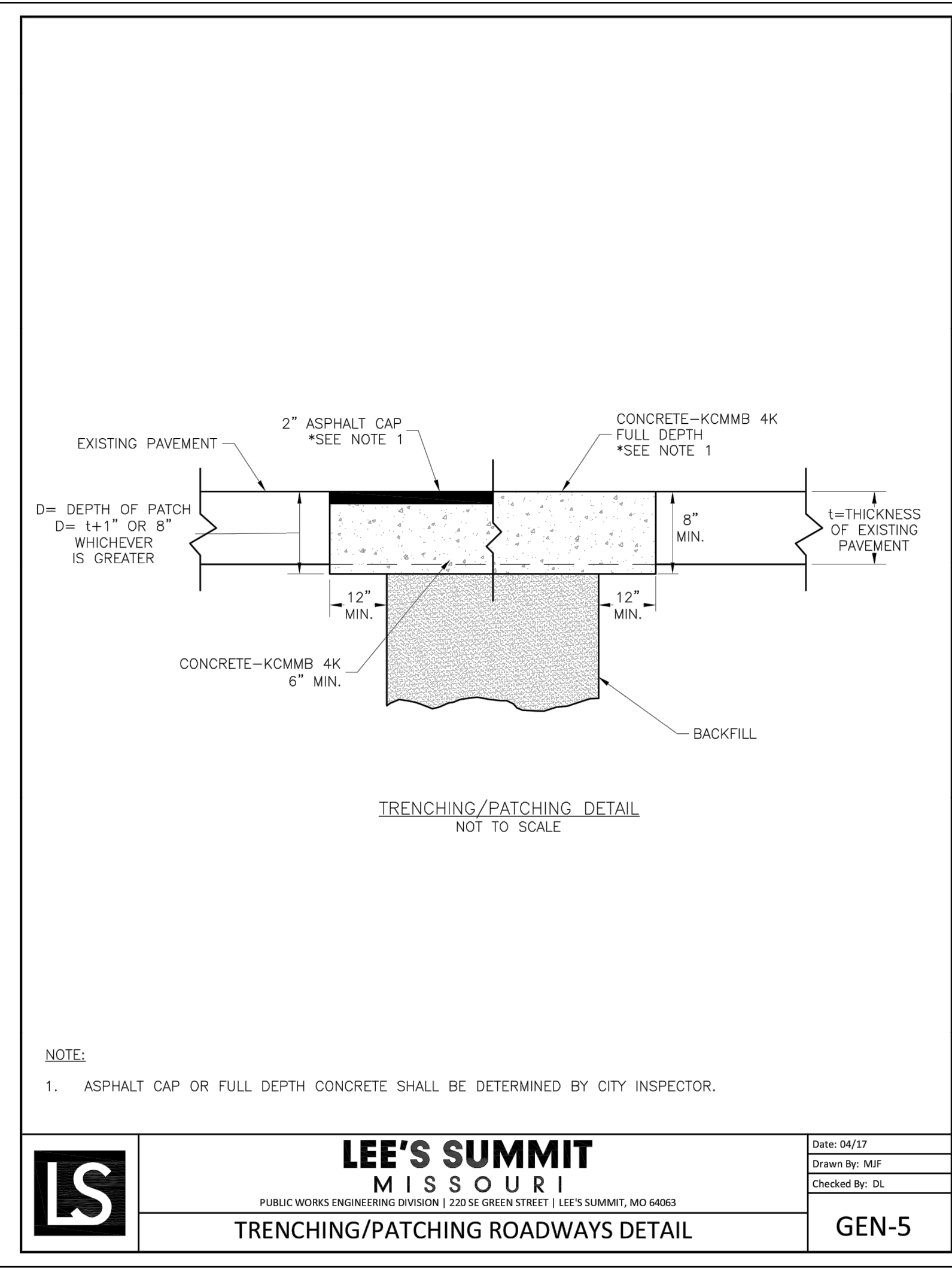


**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS  
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 LEE'S SUMMIT, JACKSON COUNTY, MO

Drawn By: MIF  
 Checked By: DL  
 Date: 04/17  
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GEN-4



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

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

GEN-5

PREPARED BY:

**JAMES L. LONG**  
 PROFESSIONAL ENGINEER  
 NUMBER PE-2014040193  
 9/8/2022  
 SCHLAGEL & ASSOCIATES, P.A.

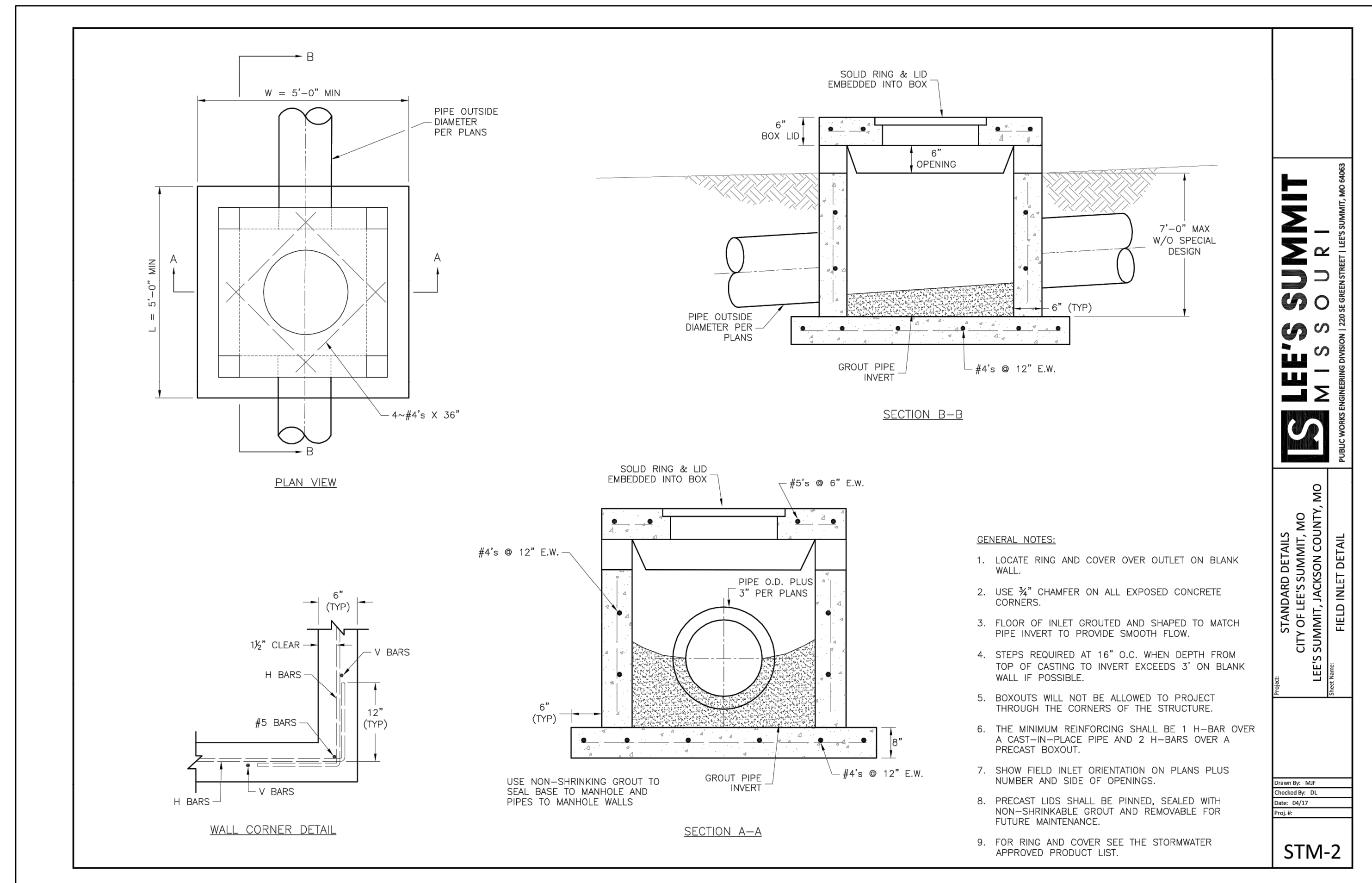
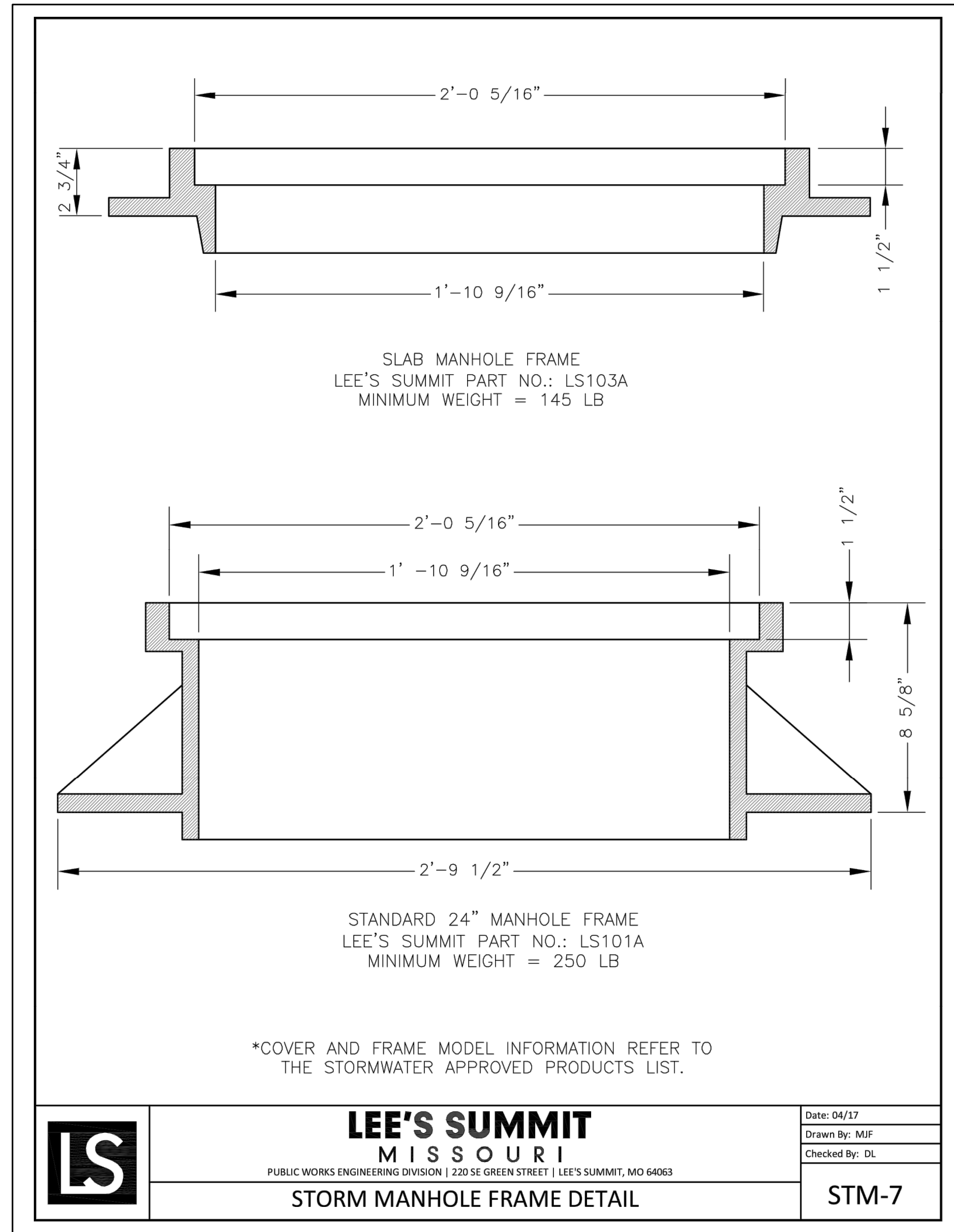
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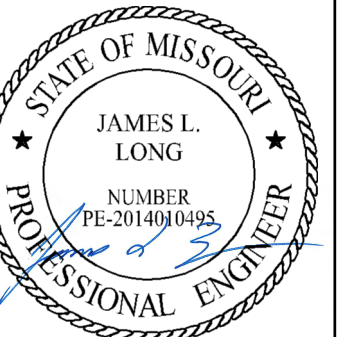
STREET DETAILS

SHEET

**12**



PREPARED BY:



9/8/2022

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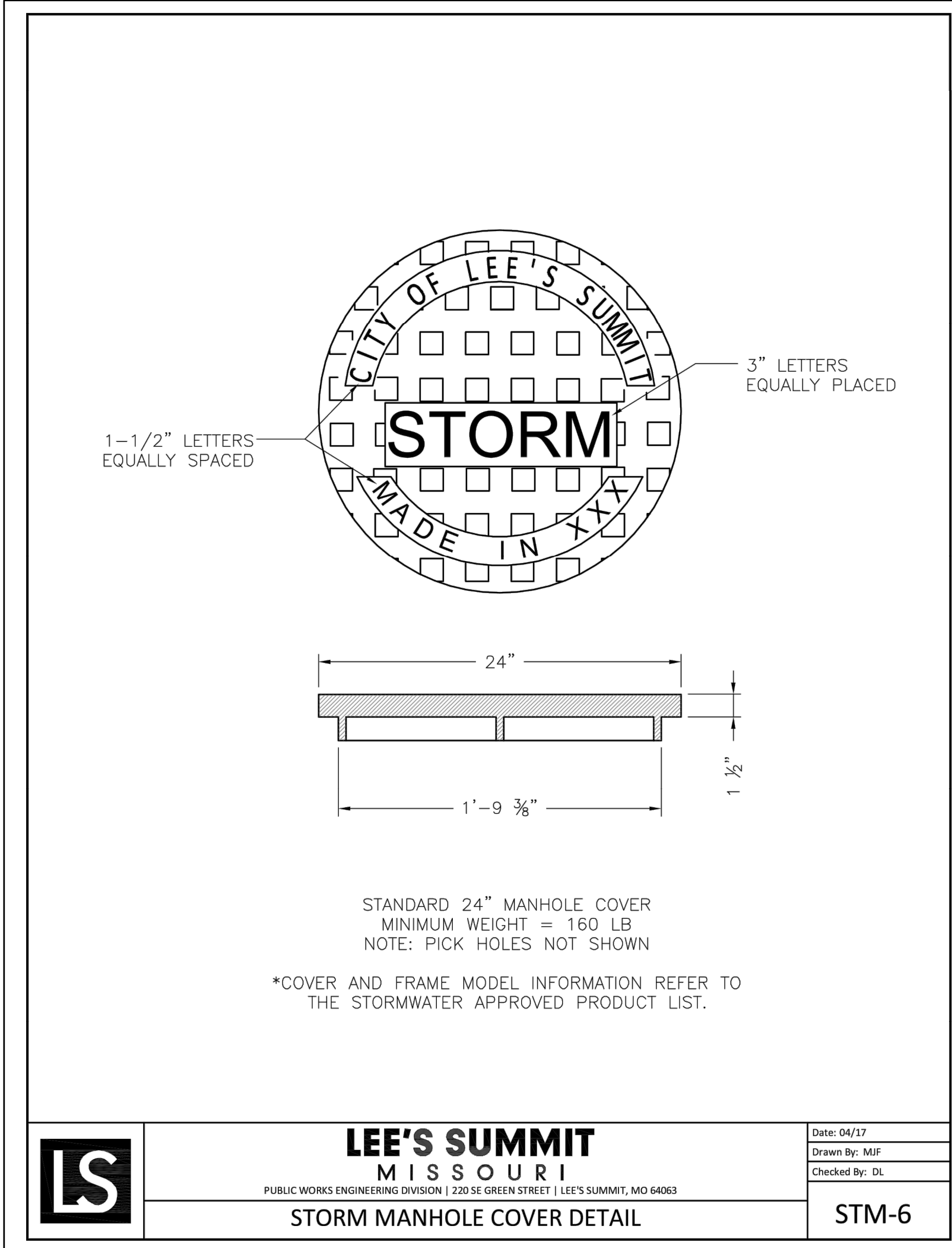
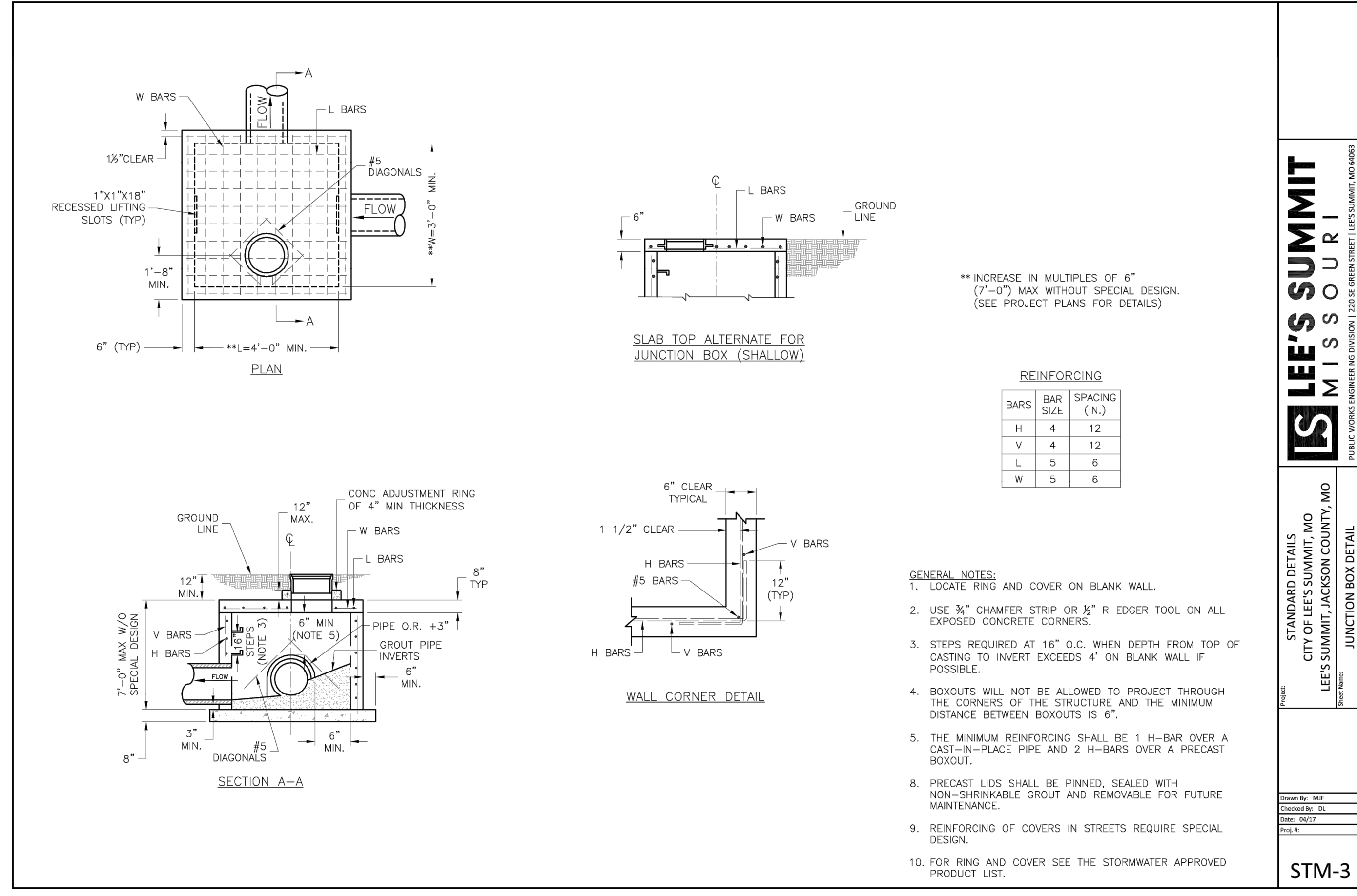
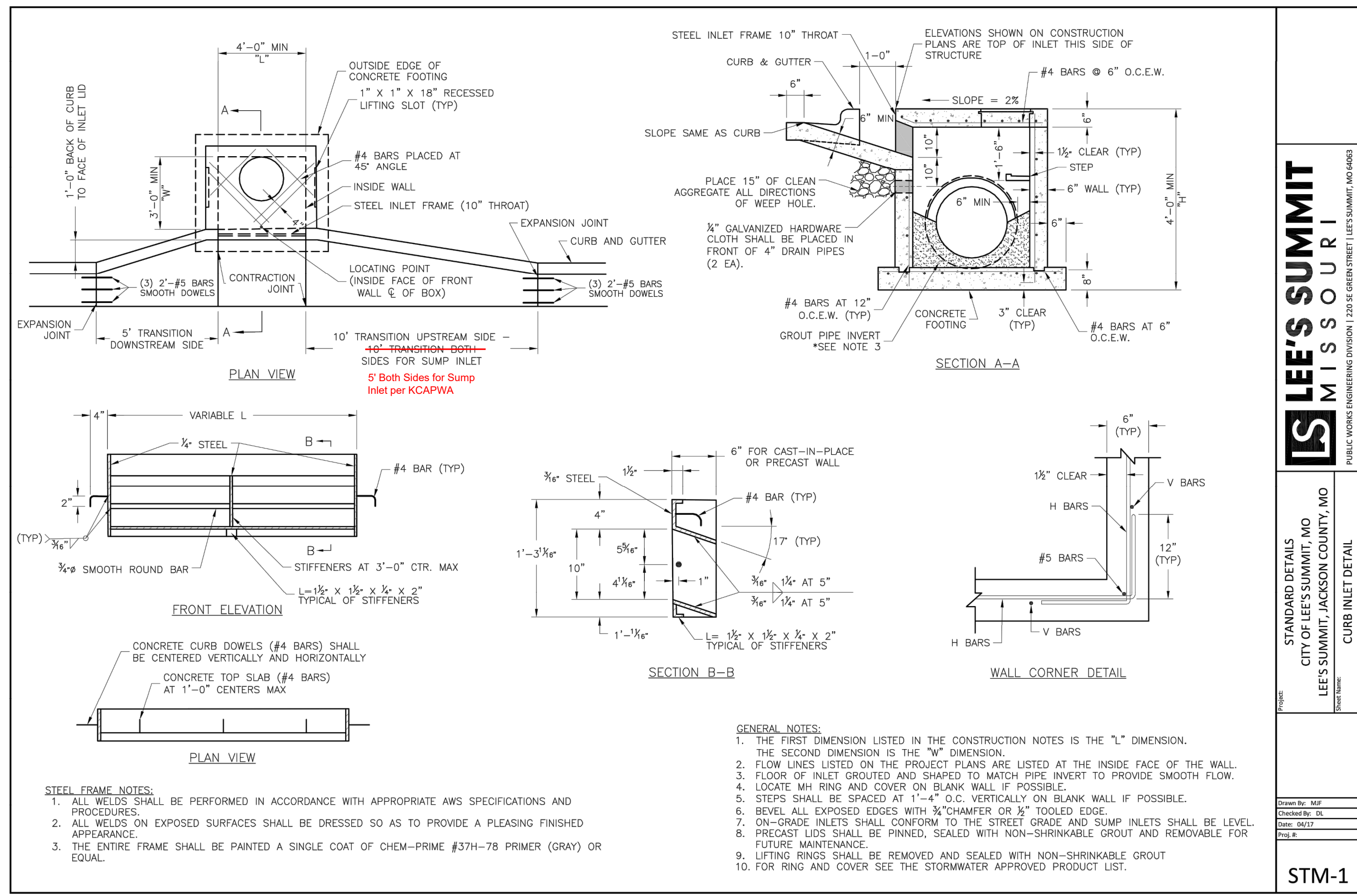
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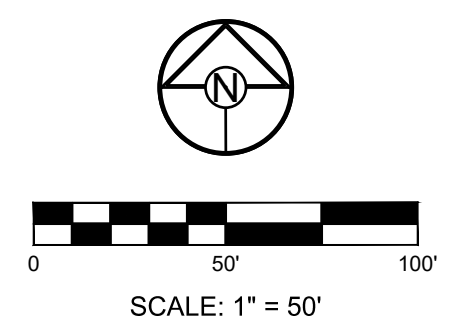
STORM DETAILS

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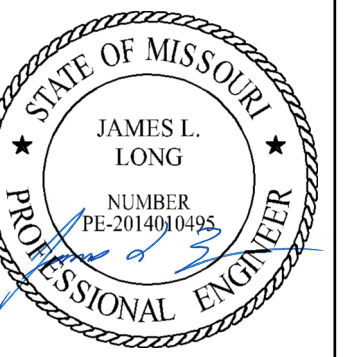
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DRAWN BY:	JRJ
CHECKED BY:	JLL
DATE PREPARED:	02/09/2022
PROJ. NUMBER:	21-133

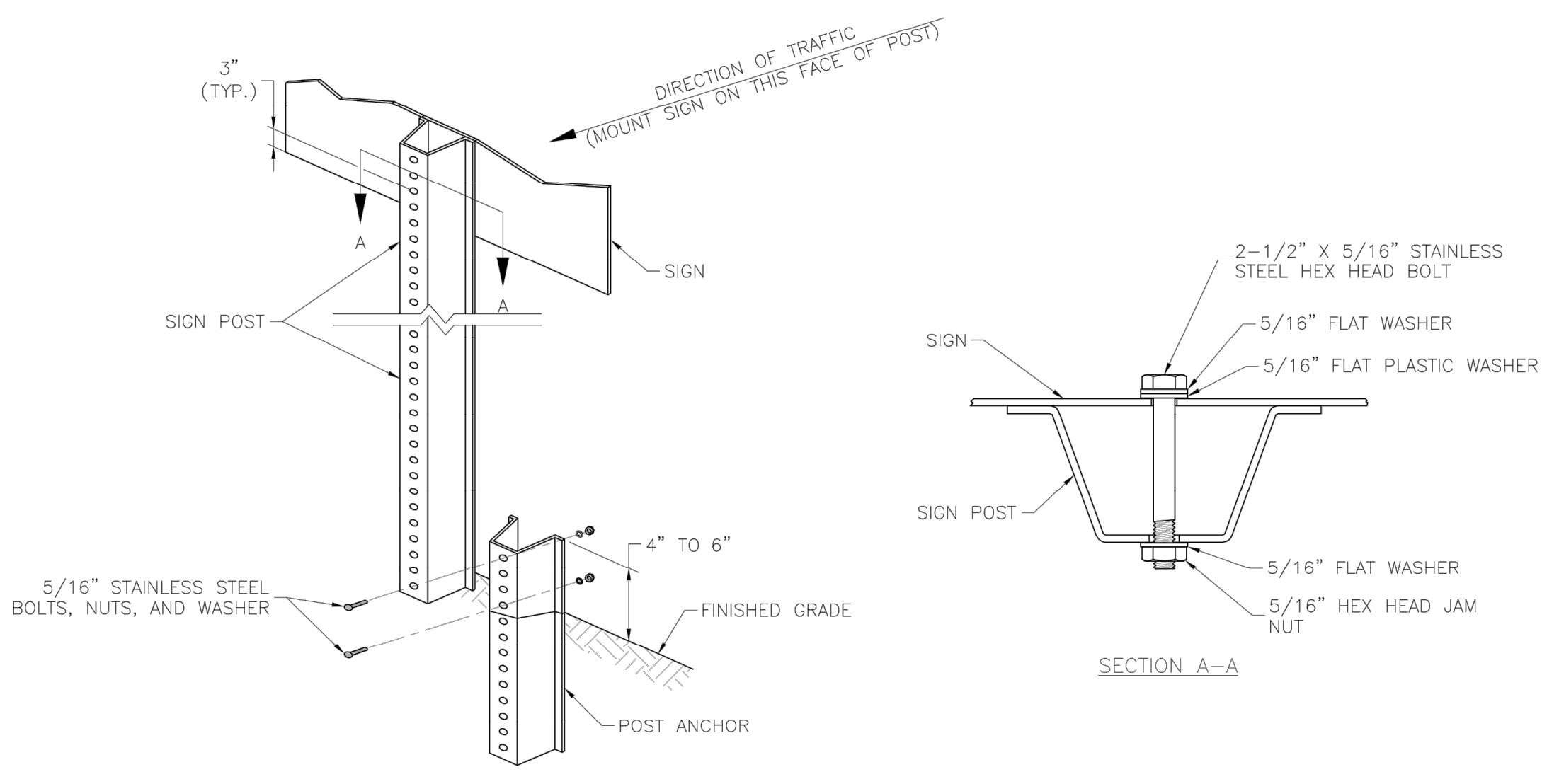
SIGNAGE PLAN

SHEET

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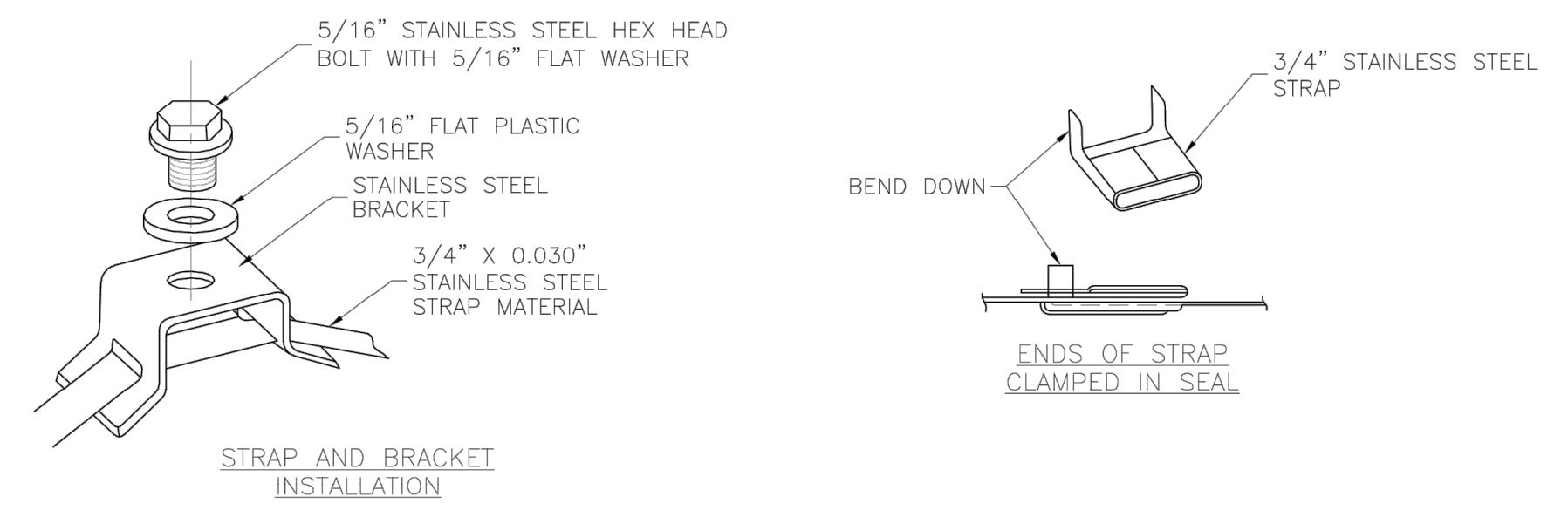
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Drawn By: BWC  
 Checked By: MKP  
 Date: 1/2020  
 Project# STD DETAILS



**U-STEEL POST DETAILS**

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



**STRAP TYPE SIGN SUPPORT DETAILS**

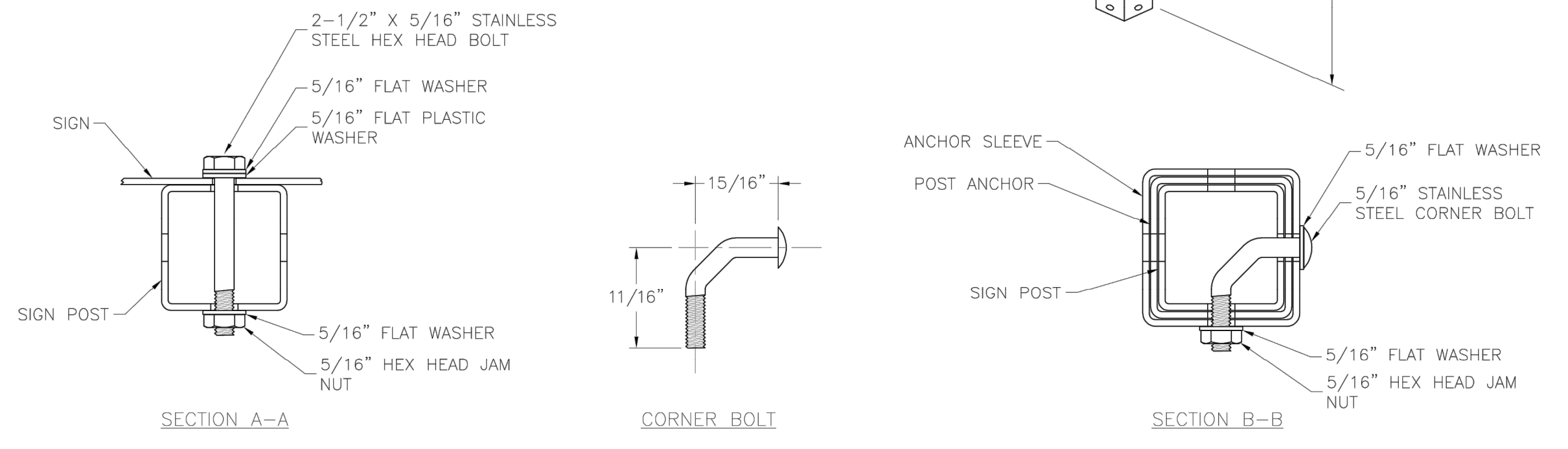
- NOTES:
1. SIGNS ON METAL POLES SHALL BE ATTACHED WITH TWO BRACKETS AND STAINLESS STEEL BANDS.
  2. HOLES IN SIGN FOR ATTACHMENT TO THE MOUNTING BRACKETS SHALL BE OFFSET A MINIMUM OF 2 INCHES FROM THE EDGE OF THE SIGN.
  3. HOLES IN SIGN SHALL BE LOCATED SUCH THAT THE SIGN IS LEVEL.
  4. ALL STRAP,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

**PERMANENT SIGNING GENERAL NOTES:**

1. ALL SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. THE CONTRACTOR IS RESPONSIBLE FOR AVOIDING ANY AND ALL UTILITIES WHEN INSTALLING SIGN POSTS, WHETHER THE UTILITY IS INDICATED ON THE PLANS OR NOT.
3. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE PUBLIC WORKS DEPARTMENT OF THE CITY OF LEE'S SUMMIT.
4. 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.
5. 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.
6. ALL POST MOUNTED SIGNS SHALL BE INSTALLED WITH BREAKAWAY ANCHORS ACCORDING TO THE STANDARD DRAWINGS.
7. 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.
8. 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 HAMBLEN 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.
9. 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:**

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

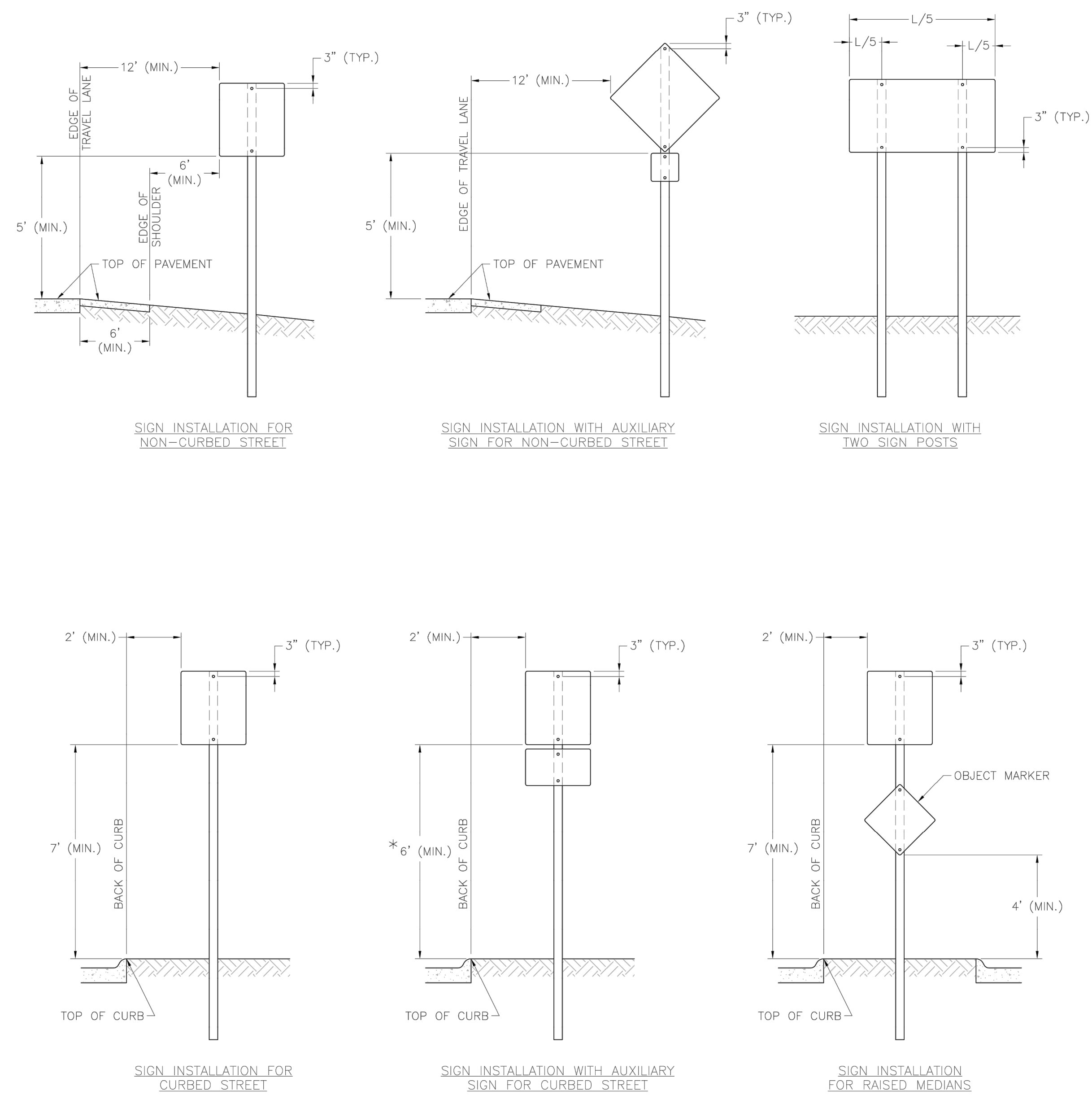


**SQUARE STEEL POST DETAILS**

- NOTES:
1. 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.
  3. 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.
  4. 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.

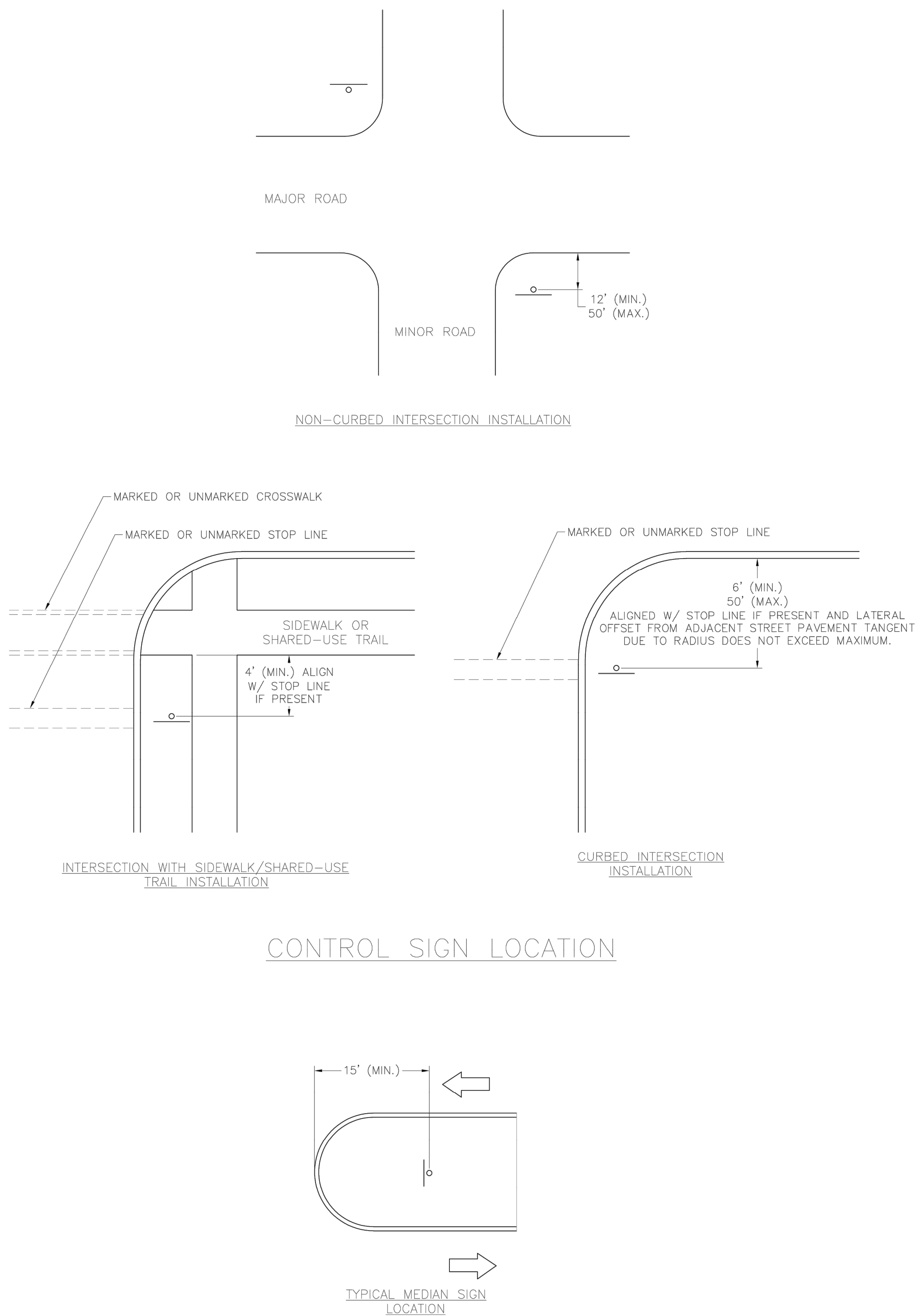
2 OF 3  
**SN-2**





**SIGN MOUNTING DETAILS**

- 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.



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

No.	DATE	DESCRIPTION

**LEE'S SUMMIT MISSOURI**

PROJECT: RETREAT AT BAILEY FARMS, FIRST PLAT STREET, STORMWATER, AND MASTER DRAINAGE PLAN  
 SHEET: SN-1  
 DATE: 1/2020  
 DRAWN BY: JRL  
 CHECKED BY: JLL  
 DATE PREPARED: 02/09/2022  
 PROJ. NUMBER: 21-133

SIGNING STANDARD DETAILS	
SIGN MOUNTING DETAILS	
Project:	Sheet Name:
Drawn By: BWC	Checked By: MKP
Date: 1/2020	Project# STD DETAILS
1 OF 3	
<b>SN-1</b>	

PREPARED BY:

**JAMES L. LONG**  
 NUMBER PE-201401035  
 PROFESSIONAL ENGINEER  
 9/8/2022  
 SCHLAGEL & ASSOCIATES, P.A.

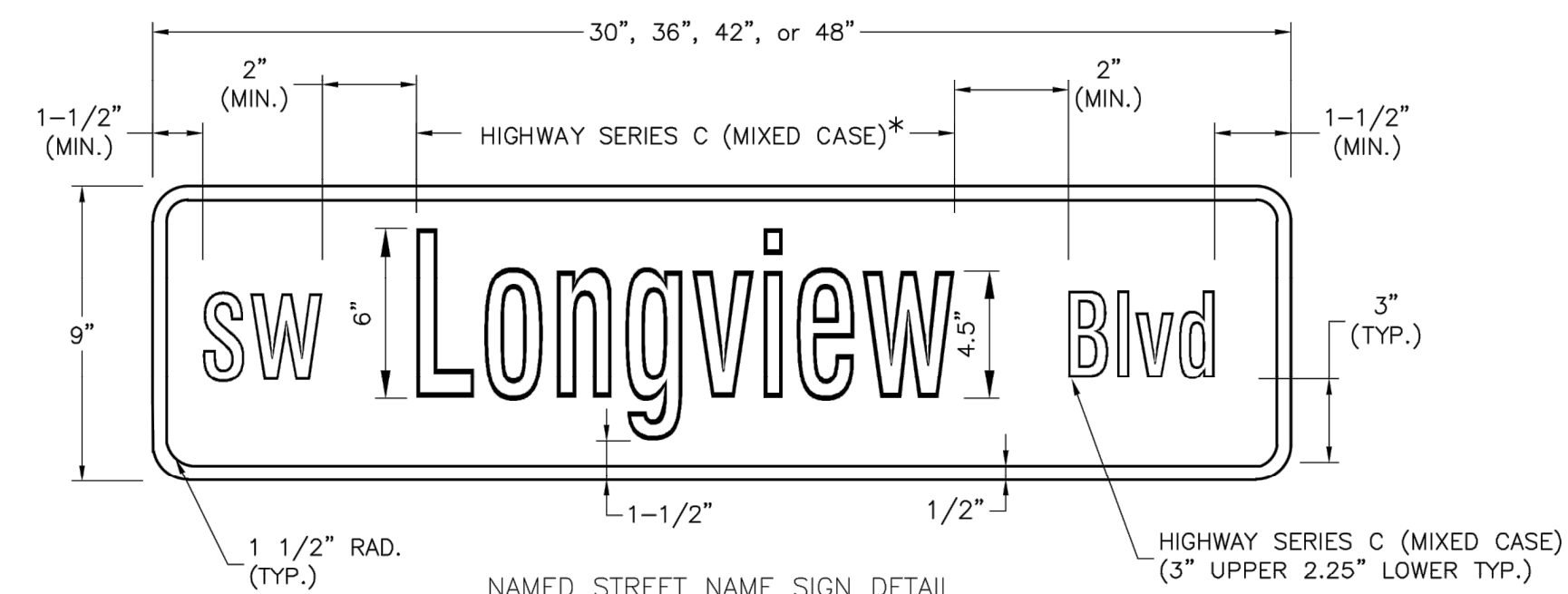
RETREAT AT BAILEY FARMS, FIRST PLAT STREET, STORMWATER, AND MASTER DRAINAGE PLAN  
 SE BAILEY ROAD AND SE RANSON ROAD  
 LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
03/21/2022	PER CITY COMMENTS
04/20/2022	PER CITY COMMENTS DATED 02/25/2022
08/25/2022	ADD FIELD INLET
09/08/2022	REVISE FIELD INLET

**SIGN MOUNTING DETAILS**

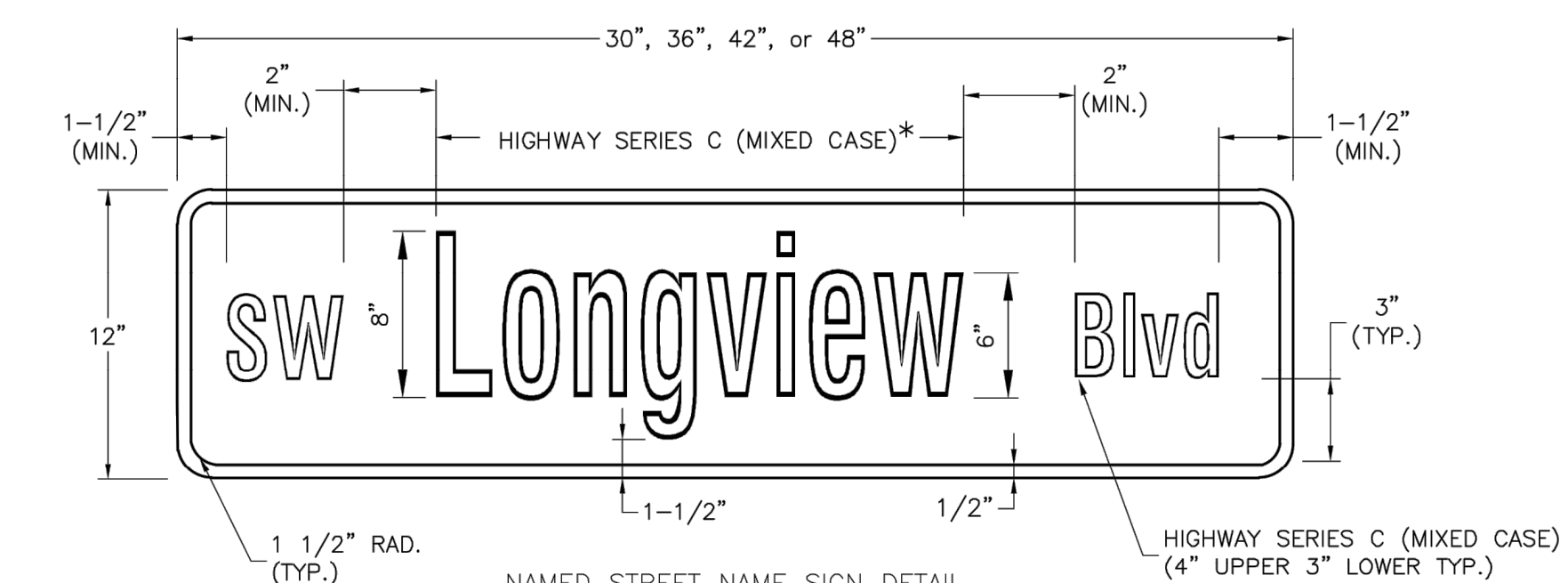
STANDARD ABBREVIATION LISTS

NAMED STREETS		NUMBERED STREETS	
AVENUE	Ave	FIRST	ST
BOULEVARD	Blvd	SECOND	ND
CIRCLE	Cir	THIRD	RD
CREEK	Cr	FOURTH TO TENTH	TH
COURT	Ct		
CROSSING	Xing		
DRIVE	Dr		
HIGHWAY	Hwy		
LANE	Ln		
PARKWAY	Pkwy		
PLACE	Pl		
ROAD	Rd		
STREET	St		
TERRACE	Ter		
TRAIL	Trl		
WAY	Way		



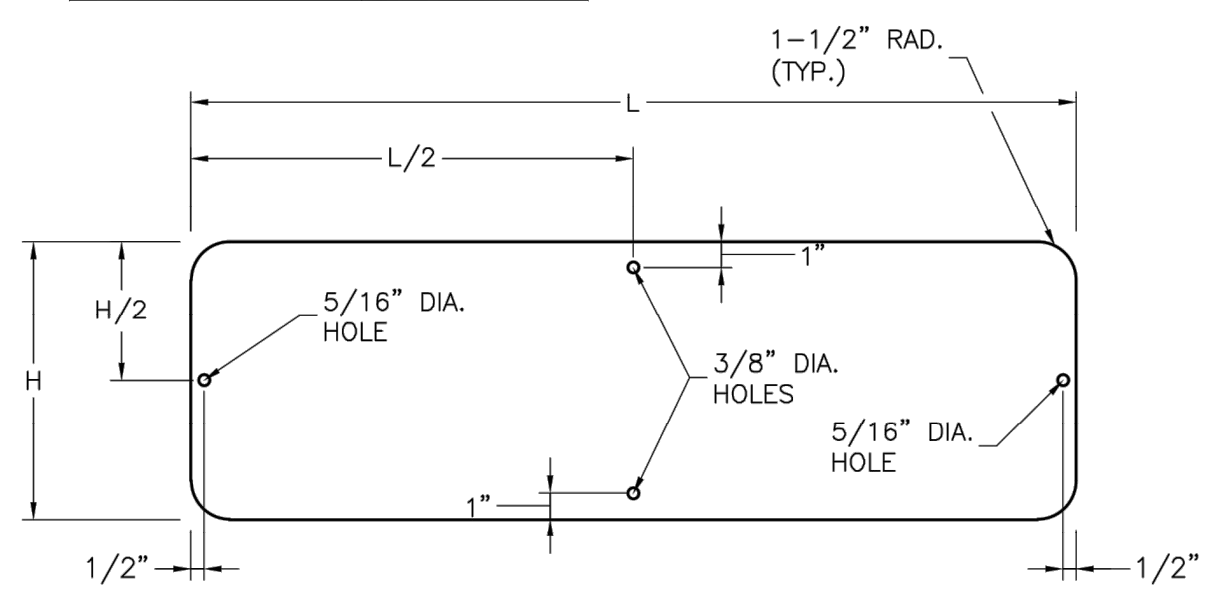
NAMED STREET NAME SIGN DETAIL  
 \* USE HIGHWAY SERIES B (MIXED CASE) IN LIEU OF SERIES C IF NECESSARY TO FIT TEXT ON A 36" SIGN BLANK.

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

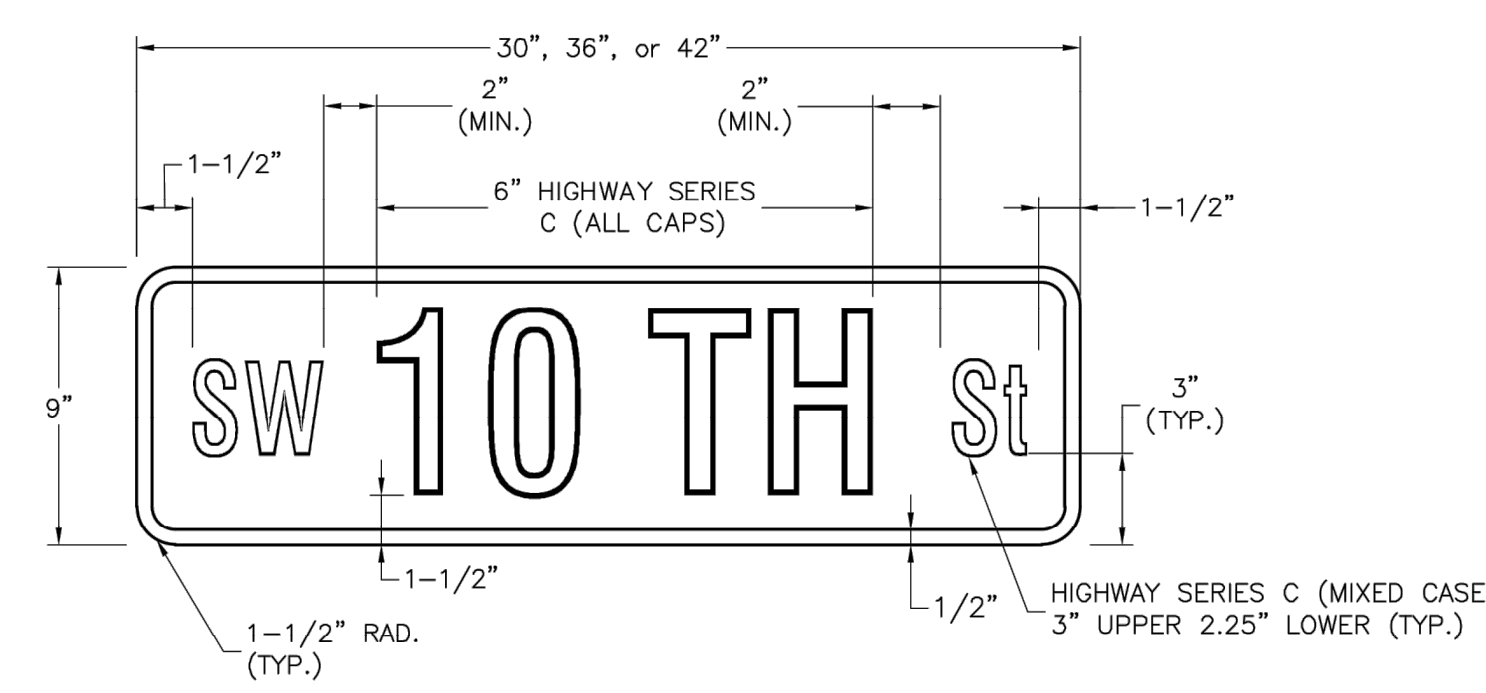


NAMED STREET NAME SIGN DETAIL  
 \* USE HIGHWAY SERIES B (MIXED CASE) IN LIEU OF SERIES C IF NECESSARY TO FIT TEXT ON A 36" SIGN BLANK.

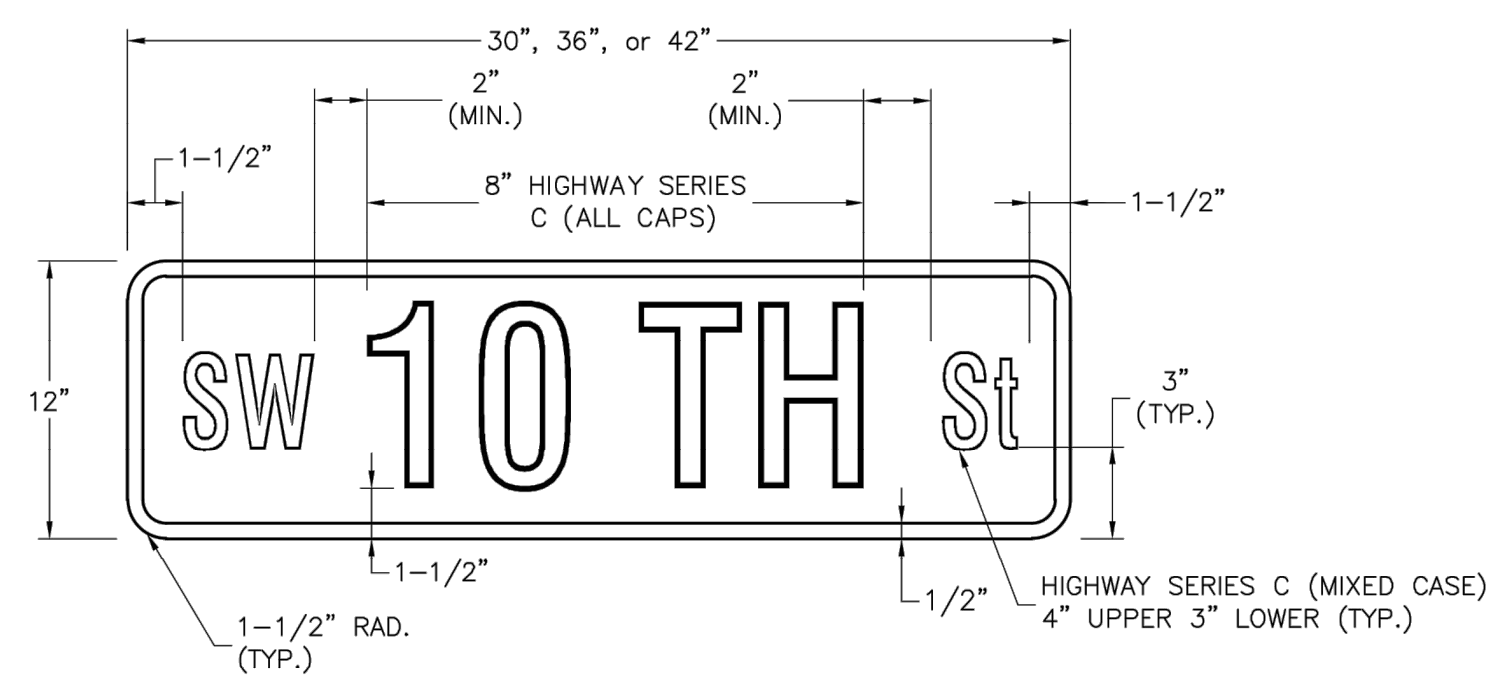
STREET NAME SIGN FACE DETAILS  
 POST MOUNTED MULTI-LANE GREATER THAN 40 MPH



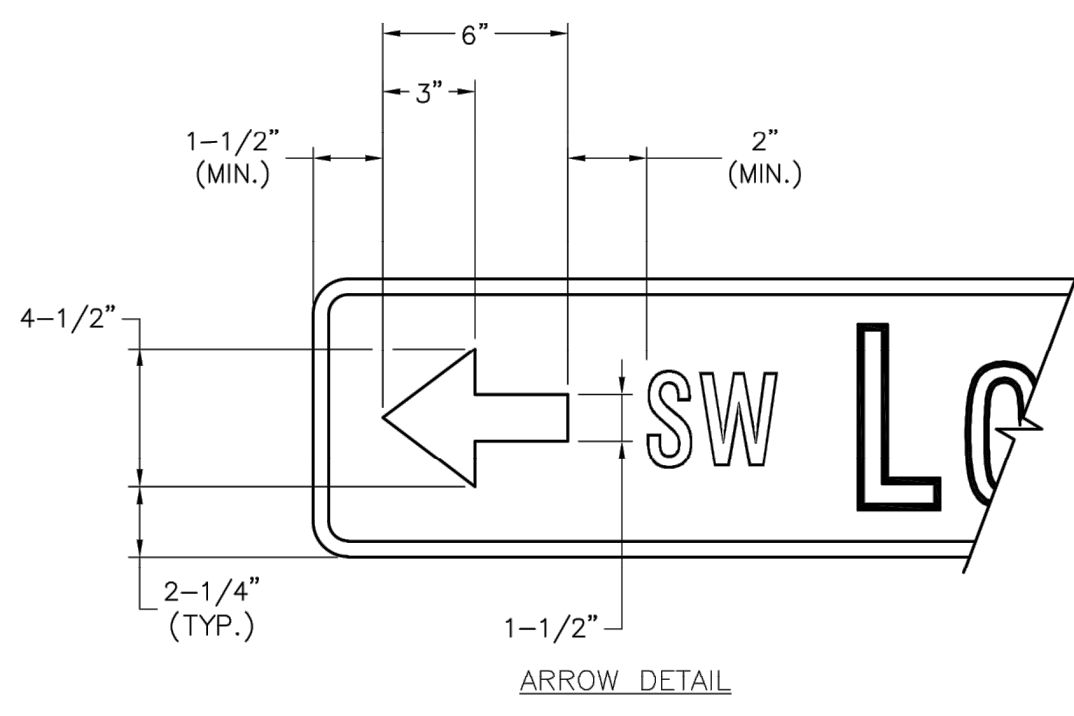
STREET NAME SIGN BLANK DETAILS  
 FOR MOUNTING ON SQUARE STEEL POSTS



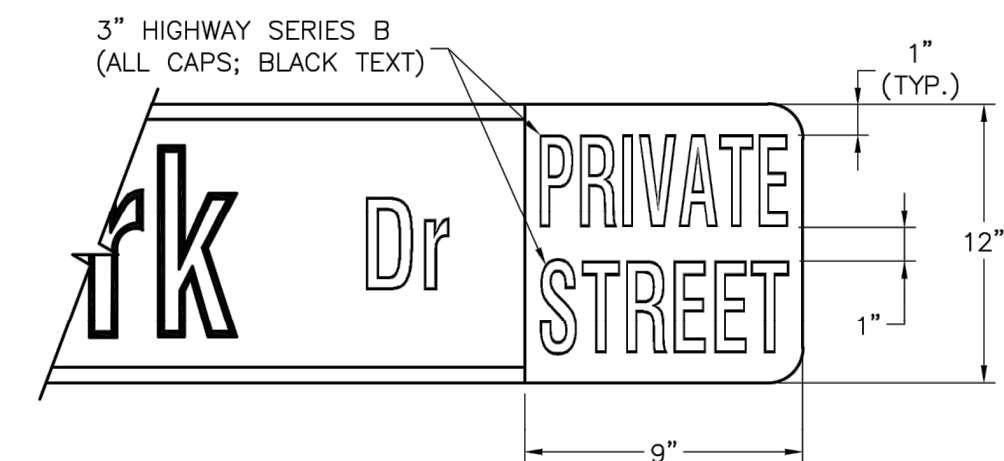
NUMBERED STREET NAME SIGN DETAIL  
 STREET NAME SIGN FACE DETAILS  
 POST MOUNTED 2-LANE ALL SPEEDS AND MULTI-LANE UNDER 40 MPH



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

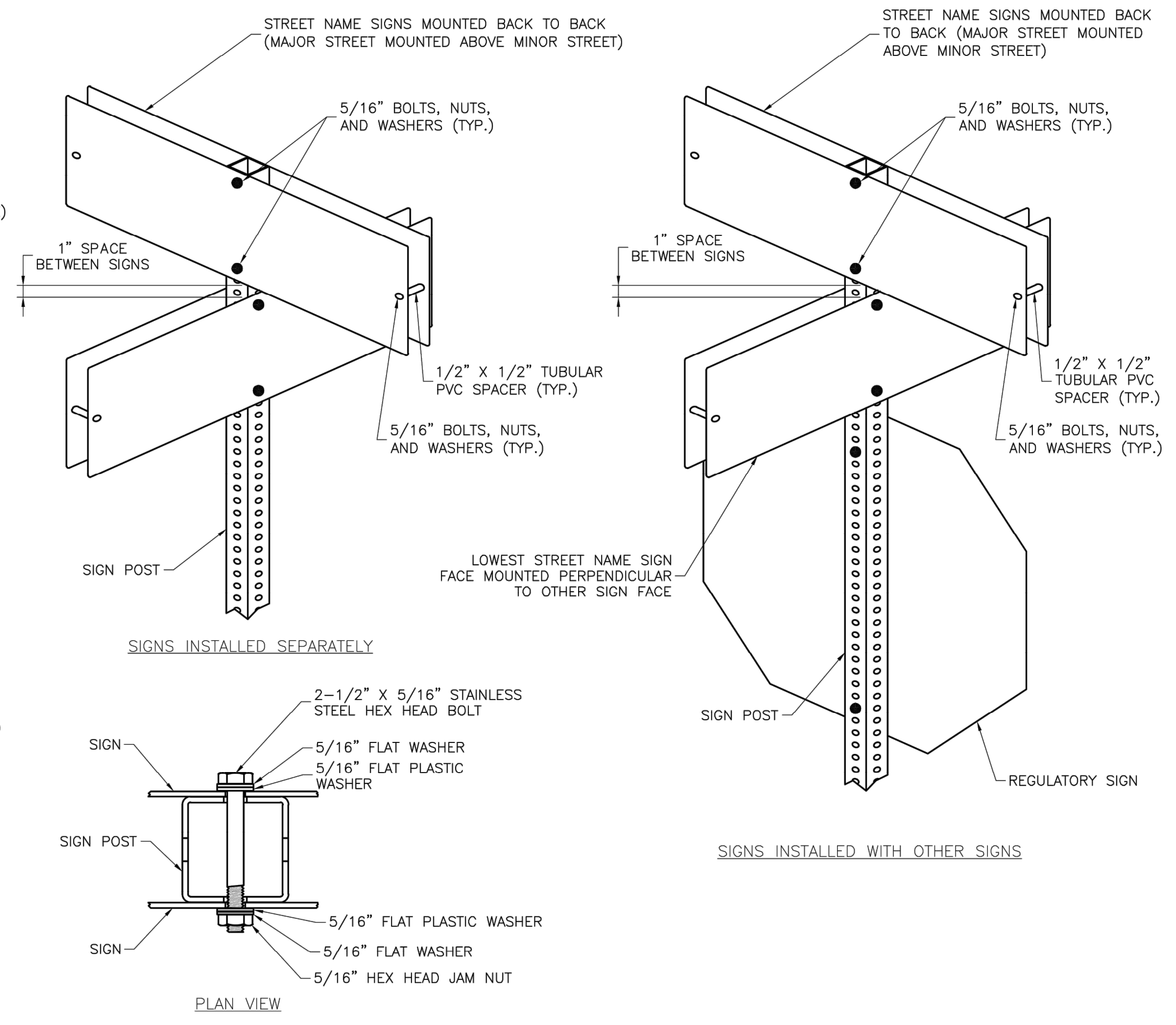


ARROW DETAIL



PRIVATE STREET TAG DETAIL

- 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.



SQUARE STEEL POST MOUNTING DETAILS

STREET NAME SIGN INVENTORY

SE Bailey Farms Pkwy	D3-1 (SP-1)
SE Vantage Point Dr	D3-1 (SP-1)
SE Windbreak Dr	D3-1 (SP-3)

NO.	DATE	DESCRIPTION
1		CONSTRUCTION PLANS

Project: **LEE'S SUMMIT MISSOURI**  
 SHEET NAME: **SN-3**  
 3 OF 3  
 Drawn By: BWC  
 Checked By: MKP  
 Date: 11/2019  
 Project# STD DETAILS

**SCHLAGEL**  
 ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS  
 14920 West 107th Street • Lenexa, Kansas 66215  
 (913) 492-5158 • Fax: (913) 492-8400  
 WWW.SCHLAGELASSOCIATES.COM  
 Missouri State Certificates of Authority  
 #E200200360F #LAC201005237 #LS200200869F

PREPARED BY:  
  
 JAMES L. LONG  
 PROFESSIONAL ENGINEER  
 9/8/2022  
 SCHLAGEL & ASSOCIATES, P.A.

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

REVISION DATE	DESCRIPTION
03/21/2022	PER CITY COMMENTS DATED 02/25/2022
04/20/2022	PER CITY COMMENTS DATED 02/25/2022
08/25/2022	ADD FIELD INLET
09/08/2022	REVISE FIELD INLET

DRAWN BY: JRJ  
 CHECKED BY: JLL  
 DATE PREPARED: 02/09/2022  
 PROJ. NUMBER: 21-133

STREET NAME SIGN DETAILS

SHEET

ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS  
14920 West 107th Street • Lenexa, Kansas 66215  
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WWW.SCHLAGELASSOCIATES.COM  
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PREPARED BY:



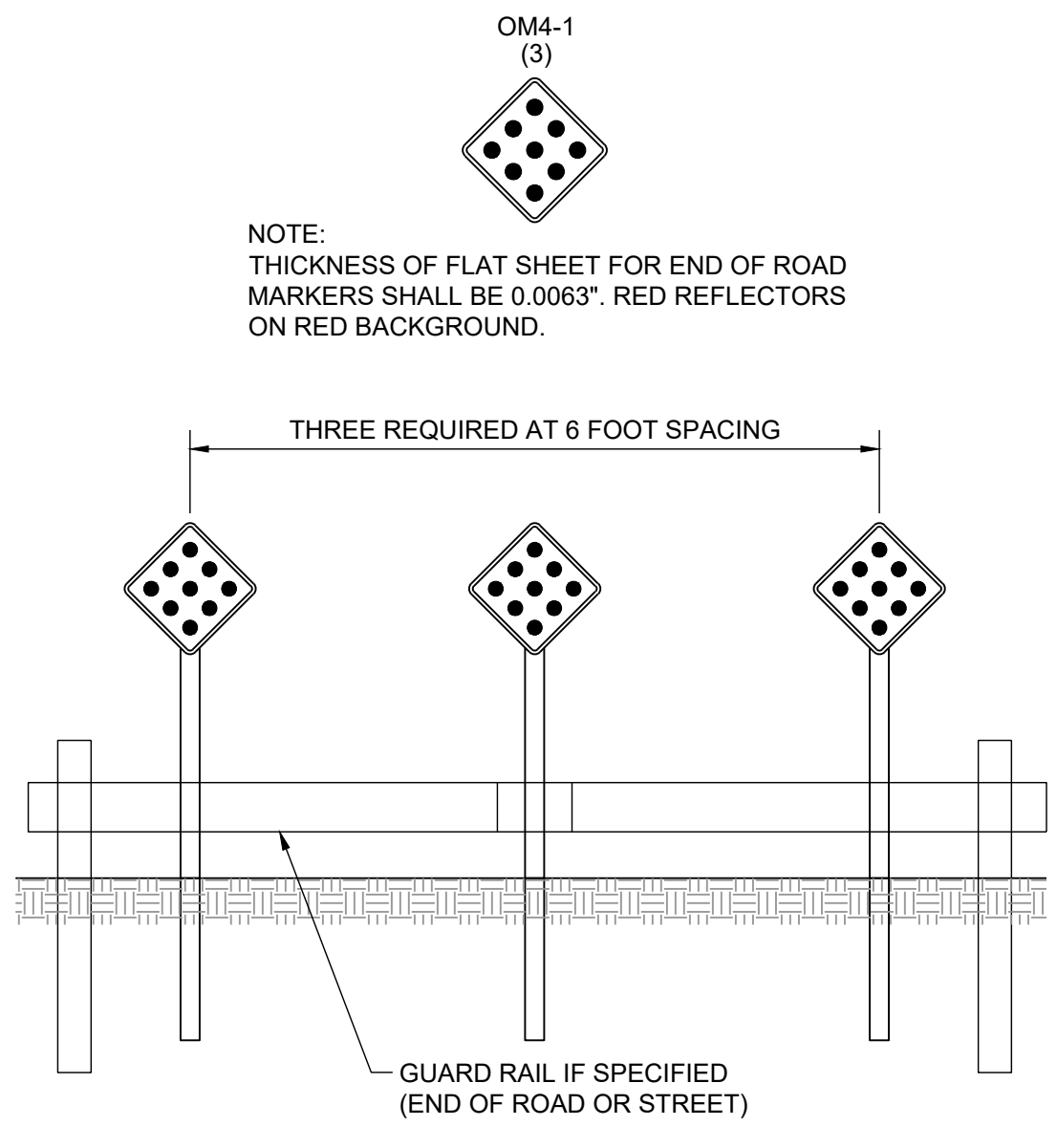
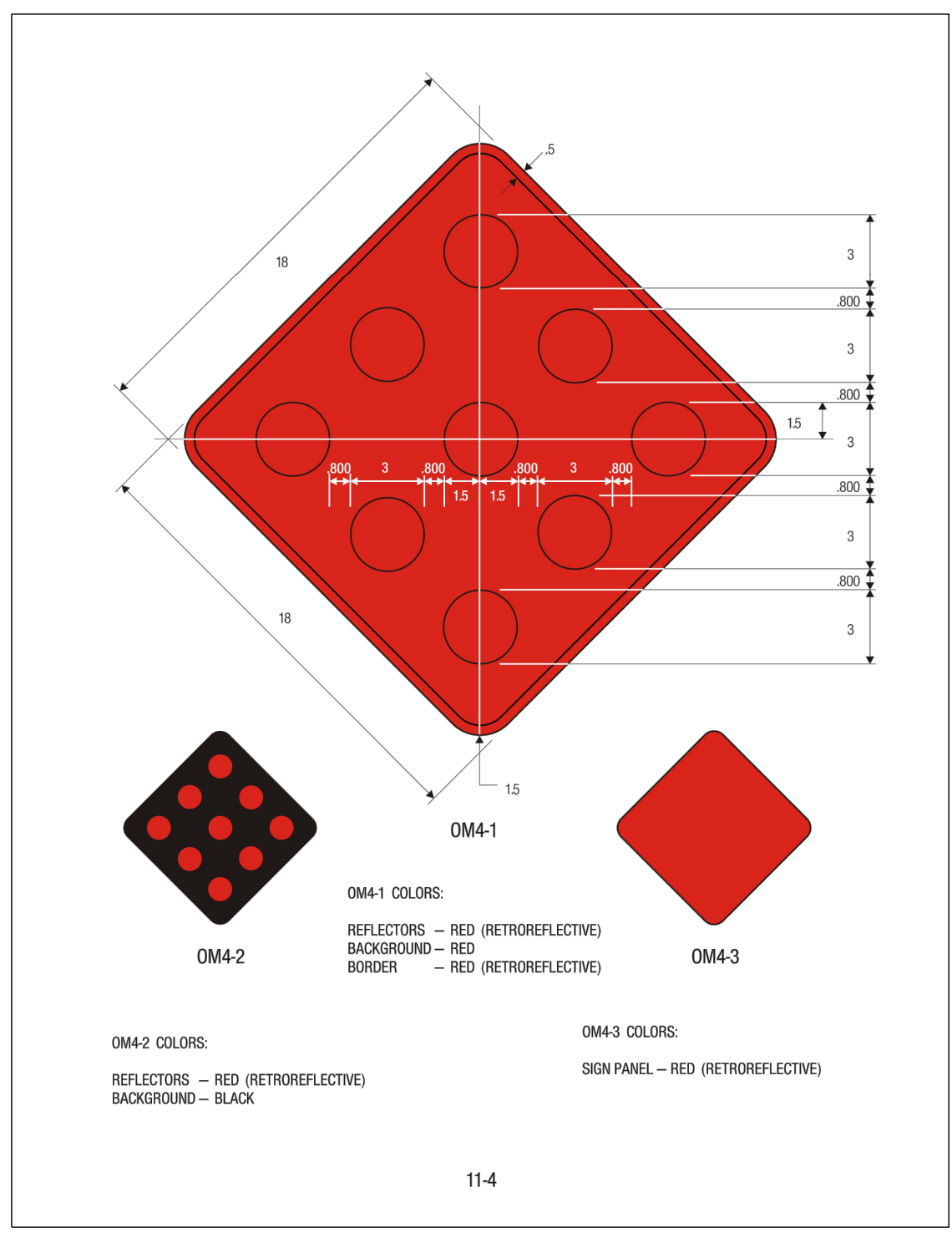
9/8/2022

SCHLAGEL & ASSOCIATES, P.A.

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



R1-1  
STOP SIGN



REVISION DATE	DESCRIPTION
03/21/2022	PER CITY COMMENTS
04/20/2022	PER CITY COMMENTS DATED 02/25/2022
08/25/2022	ADD FIELD INLET
09/08/2022	REVISE FIELD INLET
02/09/2022	DATE PREPARED
21-133	PROJ. NUMBER

OM-4 SIGN  
DETAILS

SHEET  
**19**