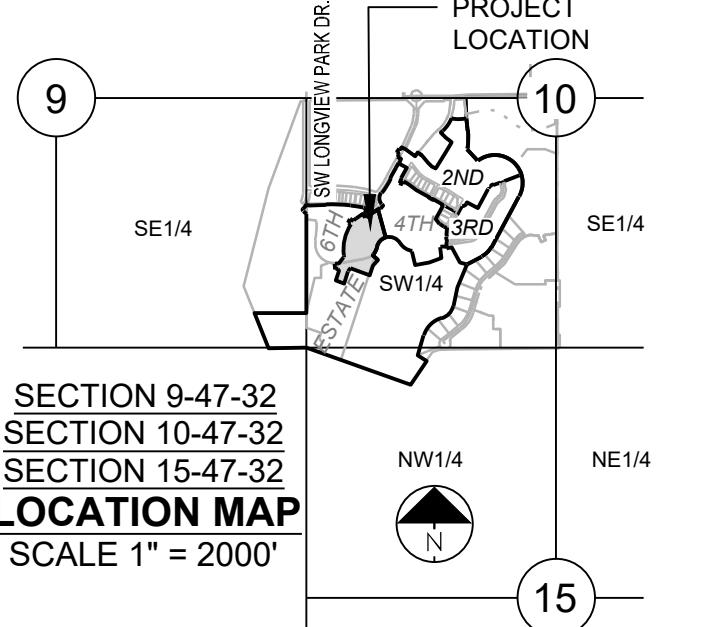


LEGEND:	
A/C	- ACCESS EASEMENT
B/C	- BACK OF CURB
B/B	- BACK TO BACK
BM	- BENCHMARK
BL or B.L.	- BUILDING LINE
CO	- CLEANOUT
TJB	- TELEPHONE JUNCTION BOX
C&G	- CURB AND GUTTER
D/E	- DRAINAGE EASEMENT
E/E	- ELECTRICAL EASEMENT
EL	- ELEVATION
FL	- FLOW LINE
G/E	- GAS LINE EASEMENT
HDPE	- HIGH-DENSITY POLYETHYLENE
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	
ROW	- RIGHT-OF-WAY
SANITARY SEWER MAIN	
SANITARY SEWER MAIN - EXIST.	
STO	- STORM SEWER
STORM SEWER	
STORM SEWER - EXISTING	
CABLE TV - EXISTING	
FOC	- FIBER OPTIC CABLE - EXISTING
T_x	- TELEPHONE LINE - EXIST.
E_x	- ELECTRIC LINE - EXISTING
OHP_x	- OVERHEAD POWER LINE - EXIST.
UOE_x	- UNDERGROUND ELECTRIC - EX.
G_x	- GAS LINE - EXISTING
W_x	- WATERLINE - EXISTING
L_x	- 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	



# STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSION AND SEDIMENT CONTROL FOR PERGOLA PARK 5TH PLAT

IN THE CITY OF LEE'S SUMMIT  
JACKSON COUNTY, MISSOURI

## 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@spireenergy.com

### EVERGY

Ron Dejamette  
1300 SE Hamlin Road  
Lee's Summit, MO 64081  
Office: (816) 347-4316  
Cell: (816) 810-5234  
ron.dejamette@evergy.com

### CITY OF LEE'S SUMMIT PUBLIC WORKS

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 Schaeffer  
1200 SE Hamlin 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 CLEANING, GRUBBING, AND DISPOSAL	1	L.S.	
2 GRADING	1	L.S.	
3 SUBGRADE STABILIZATION (PUBLIC STREETS)	6494	S.Y.	
4 6" ASPHALT	4770	S.Y.	
5 6" CONCRETE	1103	S.Y.	
6 DRIVEABLE PAVERS	162	SY	
7 TYPE CG-2 CURB	2256	L.F.	
8 TYPE CG-2 DRY CURB	267	L.F.	
9 TYPE CG-1 DRY CURB	342	L.F.	
10 TYPE C1 CURB	517	L.F.	
11 5' SIDEWALK	2504	L.F.	
12 SIDEWALK RAMPS	11	EA.	
13 15" HDPE	245	L.F.	
14 18" HDPE	179	L.F.	
15 24" HDPE	117	L.F.	
16 30" HDPE	643	L.F.	
17 36" HDPE	135	L.F.	
18 36" RCP	243	L.F.	
19 4'x4' GRATE INLET	5	EA.	
20 6'x4' CURB INLET	6	EA.	
21 6'x5' CURB INLET	5	EA.	
22 6'x6' CURB INLET	1	EA.	
23 7'x4' CURB INLET	1	EA.	
24 36" RCP END SECTION	1	EA.	
25 UNDERDRAIN	35	L.F.	
26 EROSION CONTROL	1	L.S.	
27 SEEDING/MULCHING	1	L.S.	
28 BONDS	1	L.S.	

## 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 DRAWINGS 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 PHASES 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 THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.
- 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).

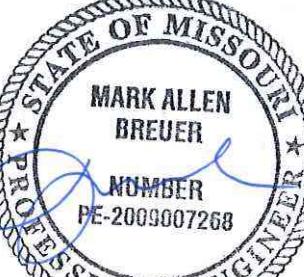
## EARTHWORK:

- 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 on the plans by contouring has been established by aerial photography and field verified by g.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 moveable 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 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 benchined.
- 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.
- 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 material, 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. Unstable 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.

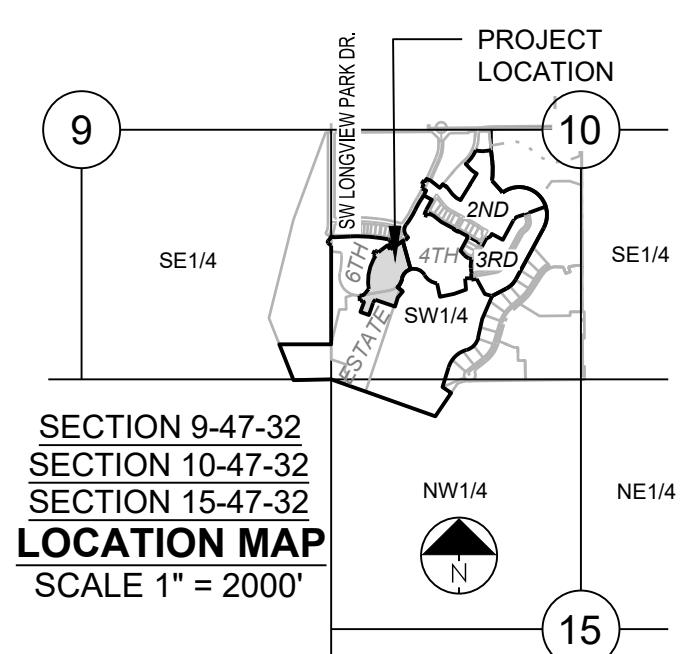
Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL LAYOUT
3	MASTER DRAINAGE PLAN - GRADING PLAN
4	MASTER DRAINAGE PLAN - LOT INFO
5	MASTER DRAINAGE PLAN - DRAINAGE MAP
6	MASTER DRAINAGE PLAN - DRAINAGE CALCS
7	MASTER DRAINAGE PLAN - DRAINAGE CALCS
8	PRE CONSTRUCTION EROSION CONTROL PLAN
9	EROSION CONTROL PLAN
10	POST CONSTRUCTION EROSION CONTROL
11	EROSION CONTROL DETAILS
12	PERGOLA PARK DR PLAN & PROFILE
13	SW MARY ST PLAN & PROFILE
14	ALLEY 11 PLAN & PROFILE
15	STREET A PLAN & PROFILE
16	ROUNDABOUT INTERSECTION DETAIL
17	ALLEY 11 INTERSECTION DETAIL
18	STREET A INTERSECTION DETAIL SHEET
19	STORM PLAN
20	STORM PROFILES
21	STORM PROFILES CONT
22	STREET DETAIL SHEET
23	STREET DETAIL SHEET CONT

PREPARED BY:  
  
MARK ALLEN BREUER  
NUMBER PE-2095007268  
04.01.22

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI



**MISSOURI GEOGRAPHIC REFERENCE SYSTEM  
BENCH MARK:**

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

**PROJECT BENCHMARK:**

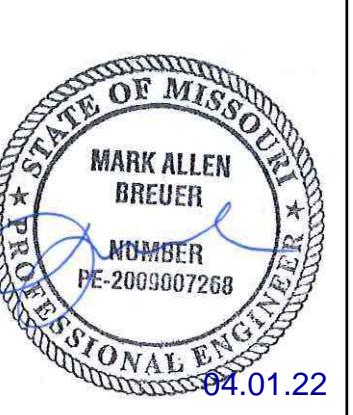
CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148  
EASTING: 2803318.5413  
ELEV. 1004.09

**SURVEY NOTES**

The bases of bearing and coordinates are base on the Missouri Coordinate System of 1983, West Zone (2003 Adjustment) with a Grid Factor of 0.9999020.

PREPARED BY:

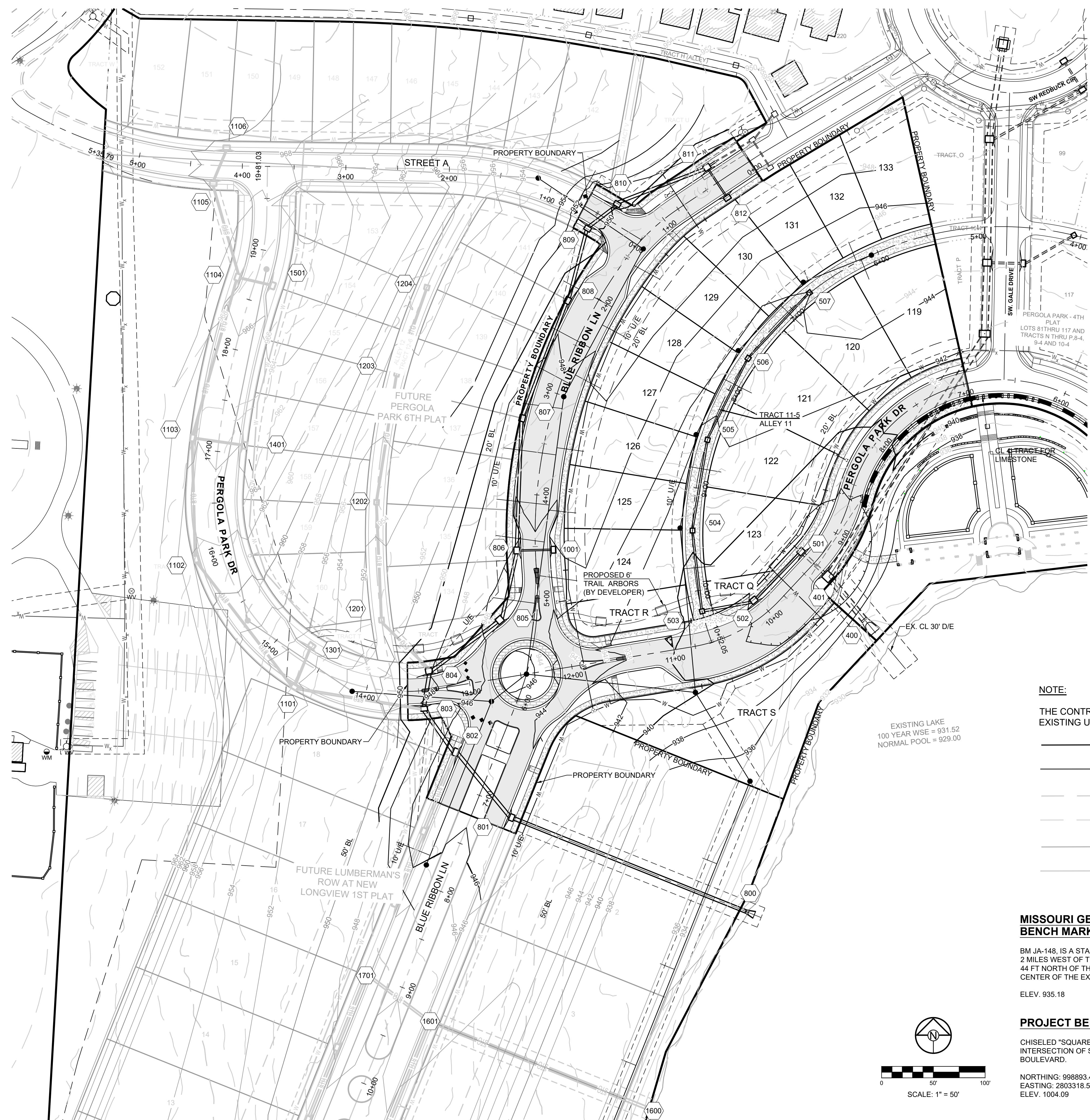


SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT  
 STREET, STORMWATER, MASTER DRAINAGE  
 PLAN & EROSION AND SEDIMENT CONTROL  
 - LEE'S SUMMIT, MISSOURI**

-

3



DRAWN BY:		REVISION DATE	DESCRIPTION
BAL		2-4-22	CITY COMMENTS
		3-30-22	CITY COMMENTS
			MAB
			DATE PREPARED
			11-1-2021
			PROJ. NUMBER
			20189

MASTER DRAINAGE PLAN - GRADING PLAN

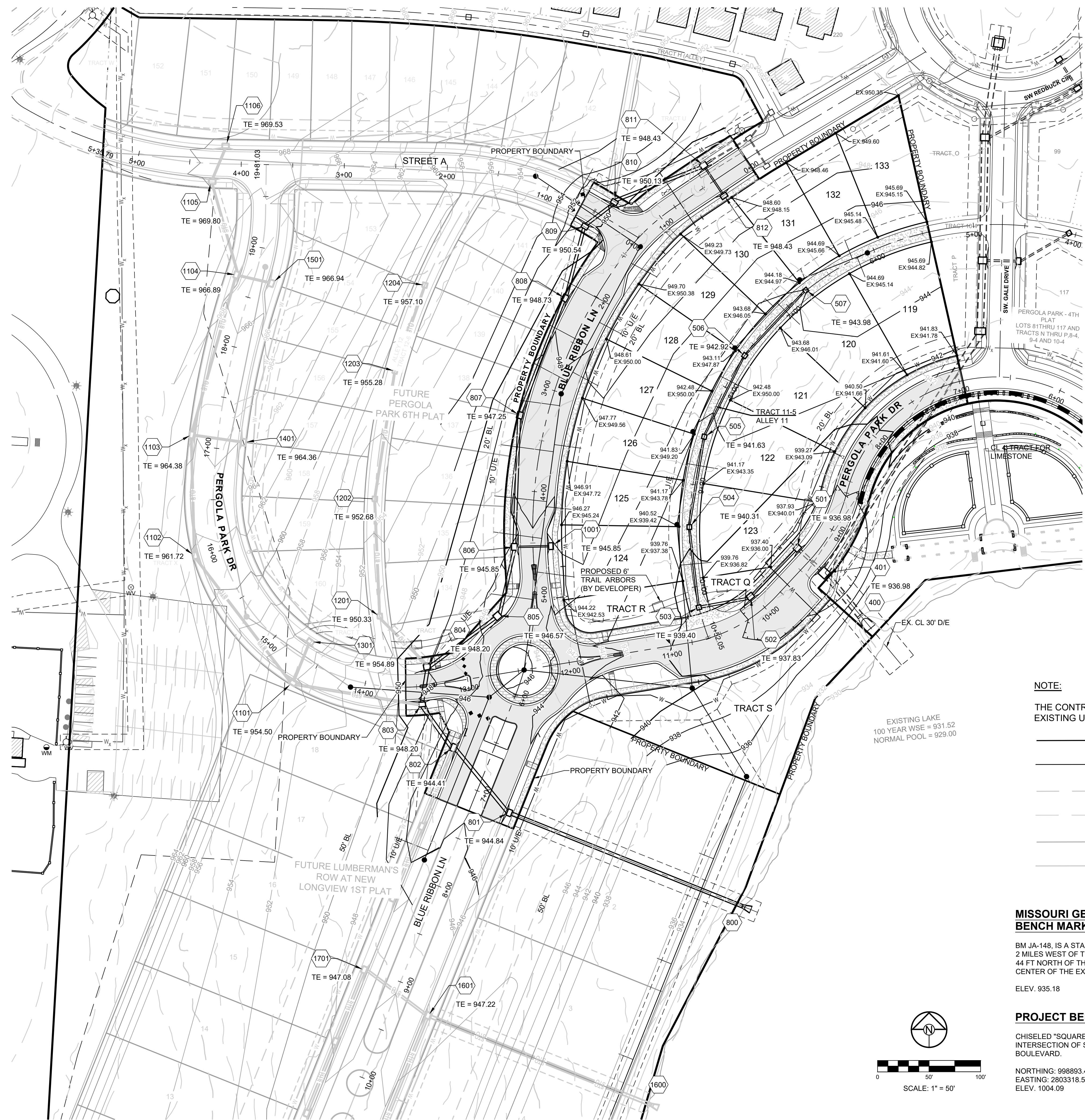
SHEET

PREPARED BY:  
MARK ALLEN BREUER  
NUMBER PE-200307268  
04.01.22

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT**  
**STREET, STORMWATER, MASTER DRAINAGE**  
**PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI



**NOTE:**

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

- DENOTES PROPOSED MAJOR CONTOUR
- DENOTES PROPOSED MINOR CONTOUR
- DENOTES EXISTING MAJOR CONTOUR
- DENOTES EXISTING MINOR CONTOUR
- DENOTES FUTURE MAJOR CONTOUR
- DENOTES FUTURE MINOR CONTOUR

**MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:**

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

**PROJECT BENCHMARK:**

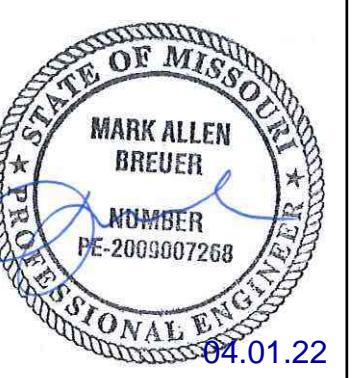
CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148  
EASTING: 2803318.5413  
ELEV. 1004.09

LOT TYPE TABLE			
LOT #	BASEMENT TYPE	FRONT MBOE	REAR MBOE
119	STANDARD	942.35	945.60
120	STANDARD	942.10	945.60
121	STANDARD	941.00	944.20
122	STANDARD	939.80	943.00
123	STANDARD	940.50	943.85
124	STANDARD	946.80	941.00
125	STANDARD	947.40	941.65
126	STANDARD	948.30	942.35
127	STANDARD	949.50	943.00
128	STANDARD	950.20	943.60
129	STANDARD	950.20	944.20
130	STANDARD	949.75	944.70
131	STANDARD	949.10	945.20
132	STANDARD	950.10	945.65
133	STANDARD	950.85	946.20

DRAWN BY:	REVISION DATE	DESCRIPTION
BAL	2-4-22	CITY COMMENTS
CHECKED BY:	3-30-22	CITY COMMENTS
MAB	4	
DATE PREPARED	5	
PROJ. NUMBER	6	
SHEET	7	
	8	
	9	
		MASTER DRAINAGE PLAN - LOT INFO
		20-189

PREPARED BY:



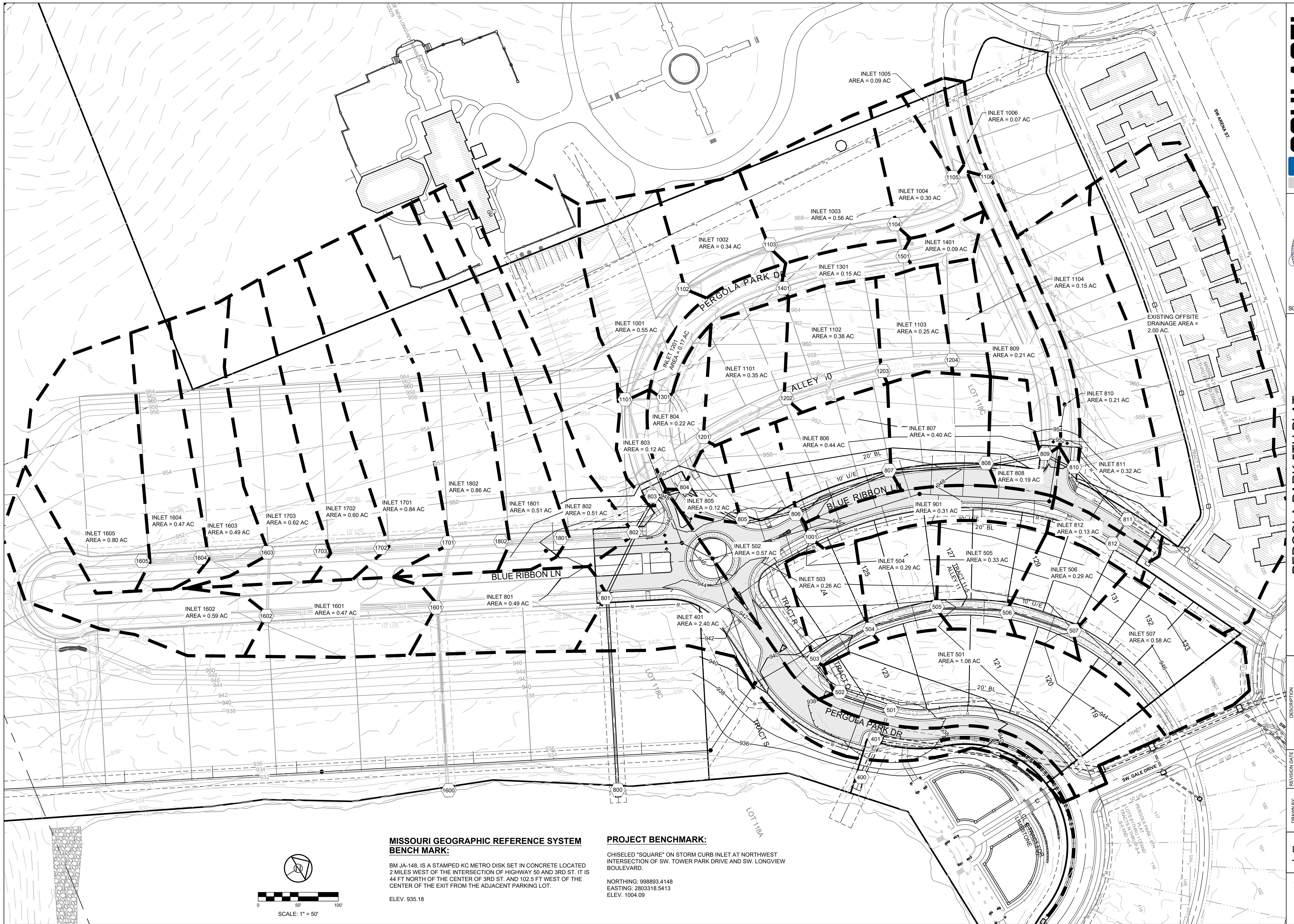
SCHLAGEL & ASSOCIATES, P.A.

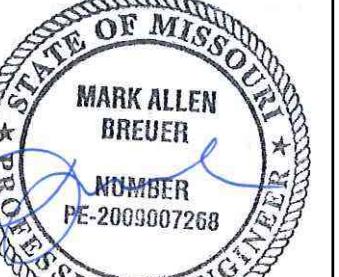
**PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI

MASTER DRAINAGE PLAN - DRAINAGE MAP	
DRAWN BY:	REVISION DATE:
BAL	2-4-22
CHECKED BY:	CITY COMMENTS:
MAB	3-30-22
DATE PREPARED:	PROJECT NUMBER:
11-1-2021	201-189
SHEET	

5



PREPARED BY:  
  
MARK ALLEN BREUER  
NUMBER PE-2009007268  
04.01.22

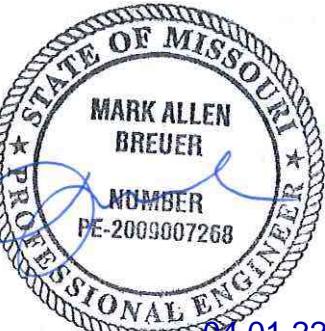
SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT**  
**STREET, STORMWATER, MASTER DRAINAGE**  
**PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI

10-YEAR RUNOFF CALCULATIONS		100-YEAR RUNOFF CALCULATIONS																											
Design Stom:	10	Design Stom:	100																										
"K" Value:	1.00	"K" Value:	1.25																										
"F" Factor:	1.00	"F" Factor:	1.00																										
<b>Runoff Calculations</b>																													
Inlet #	Area (acres)	"C" Value	Cumul. Area	Cumul. CxA	Tc	Intensity	To Inlet	Cumul. Runoff	Pipe Cap.	Pipe Vel.	Up Inlet 1	Up Piped	Up Inlet 2 (acres)	Up Cx A	Pipe Properties	Drop	Inlet	HGL	Elev.										
																Up Inlet	Down Inlet	Type	Value	Size	Length	%	Inlet	FL	Up	FL Down	Inlet Top	HGL Elev.	
<b>Pipe Properties</b>																													
<b>EXISTING LINE 400</b>																													
401	2.40	0.66	46.76	30.86	5.7	7.13	11.29	220.00	220.20	9.27	501	3.38	2.23	401	400	RCP	0.013	66	53.87	0.43	0.50	927.98	927.75	636.98	633.27				
402	0.04	0.66	49.98	27.05	5.4	7.24	0.19	195.88	286.92	12.08		0.00	0.00	402	401	RCP	0.013	66	27.93	0.73	0.50	930.42	928.38	641.97	638.86				
403	0.07	0.66	40.94	27.02	5.3	7.27	0.34	196.43	300.36	12.64	601	0.90	0.59	403	402	RCP	0.013	66	68.66	0.80	0.50	931.17	930.62	944.37	936.00				
404	0.06	0.66	39.97	26.38	5.1	7.32	0.29	193.18	270.74	11.40	701	1.41	0.93	404	403	RCP	0.013	66	119.40	0.65	1.00	932.35	931.57	948.40	937.14				
405	38.50	0.66	38.50	25.41	5.0	7.35	186.84	186.84	251.06	15.79		0.00	0.00	405	404	RCP	0.013	54	92.89	1.63	N/A	934.86	933.35	947.96	940.04				
<b>EXISTING LINE 600</b>																													
601	0.36	0.66	9.90	0.59	5.1	7.33	1.74	4.35	19.45	11.00		0.00	0.00	601	403	HDPE	0.012	18	36.00	2.92	0.50	936.02	934.97	944.39	937.04				
602	0.54	0.66	0.54	0.36	5.0	7.35	2.62	2.62	13.70	11.16		0.00	0.00	602	601	HDPE	0.012	15	55.86	3.83	N/A	938.53	936.39	946.23	939.31				
<b>EXISTING LINE 700</b>																													
701	1.14	0.66	1.41	0.93	5.1	7.32	5.51	6.82	9.26	7.54		0.00	0.00	701	404	PEP	0.012	15	102.48	1.75	0.50	941.69	939.90	949.19	943.04				
702	0.27	0.66	0.27	0.18	5.0	7.35	1.31	1.31	7.10	5.79		0.00	0.00	702	701	PEP	0.012	15	33.00	1.03	N/A	942.48	942.14	949.13	943.04				
<b>LINE 500</b>																													
501	1.06	0.66	3.38	2.23	6.2	7.01	4.90	16.64	28.10	5.73		0.00	0.00	501	401	PEP	0.012	30	35.50	0.40	0.45	931.12	930.98	936.98	933.39				
502	0.57	0.66	2.32	1.53	6.0	7.05	2.65	10.79	24.51	7.80		0.00	0.00	502	501	PEP	0.012	24	65.53	1.00	0.50	932.23	931.57	937.83	936.65				
503	0.26	0.66	1.75	1.16	5.9	7.08	1.22	8.18	24.51	7.80		0.00	0.00	503	502	PEP	0.012	24	51.05	1.00	0.50	933.24	932.73	934.46	933.46				
504	0.29	0.66	1.49	0.98	5.7	7.13	1.37	7.02	12.47	7.05		0.00	0.00	504	503	PEP	0.012	18	78.60	1.20	0.50	934.68	933.74	940.30	935.94				
505	0.33	0.66	1.20	0.79	5.5	7.20	1.57	5.70	11.38	6.44		0.00	0.00	505	504	PEP	0.012	18	88.86	1.00	0.50	936.07	935.18	941.62	937.19				
506	0.29	0.66	0.87	0.57	5.3	7.28	1.39	4.18	7.34	5.98		0.00	0.00	506	505	PEP	0.012	15	87.96	1.10	0.50	937.54	936.57	942.92	940.76				
507	0.58	0.66	0.58	0.30	5.0	7.35	2.81	2.81	7.00	5.70		0.00	0.00	507	506	PEP	0.012	15	86.70	1.00	N/A	938.90	938.04	943.98	939.71				
<b>LINE 800</b>																													
801	0.49	0.51	7.40	4.20	6.6	8.89	1.72	31.72	66.70	9.44		0.00	0.00	801	800	RCP	0.013	36	243.24	1.00	0.50	920.93	920.50	944.24	933.14				
802	1.38	0.51	6.01	4.35	6.5	6.93	4.88	30.17	68.55	9.70		0.00	0.00	802	801	PEP	0.012	36	63.38	0.90	0.50	934.18	933.43	944.41	936.33				
803	0.12	0.66	5.53	3.65	6.3	6.98	0.55	25.41	51.09	7.23	1101	2.32	1.53	803	802	PEP	0.012	36	51.75	0.50	0.50	934.94	934.68	948.20	936.90				
804	0.22	0.66	3.09	2.04	6.2	6.99	1.01	14.25	31.42	6.40	1201	1.13	0.75	804	803	PEP	0.012	30	36.23	0.50	0.50	935.62	935.44	948.20	937.14				
805	0.12	0.66	1.74	1.15	6.0	7.05	0.56	8.10	31.42	6.40		0.00	0.00	805	804	PEP	0.012	30	84.51	0.50	0.50	936.55	936.12	946.57	937.67				
806	0.40	0.66	1.62	1.07	5.8	7.10	1.88	7.59	31.42	6.40	1001	0.31	0.20	806	805	PEP	0.012	30	69.15	0.50	0.50	937.39	937.05	945.85	938.48				
807	0.40	0.66	0.91	0.65	5.5	7.20	1.90	4.32	31.42	6.40		0.00</td																	

PREPARED BY:



MARK ALLEN BREUER  
PE-2095007268

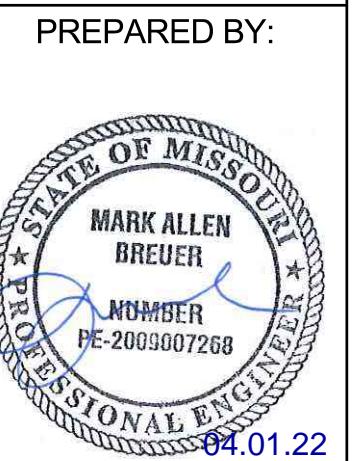
04.01.22

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT**  
**STREET, STORMWATER, MASTER DRAINAGE**  
**PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI

GUTTER SPREAD AND INLET CAPACITY CALCULATIONS - PERGOLA PARK 4TH PLAT																											
DESIGN STORM		10		CURB TYPE "A" = LAZY BACK CURB TYPE "B" = HIGH BACK																							
"K" FACTOR		1.00																									
<b>RUNOFF CALCULATIONS</b>																											
<b>INLET DESIGN</b>																											
INLET #	COMPOSITE "C"	AREA	Tc	INLET INTENSITY	RUNOFF	UPSTREAM INLET	UPSTREAM INLET	UPSTREAM INLET	BYPASS FROM UPSTREAM INLET	TOTAL RUNOFF	STREET GRADE	CROSS SLOPE	CURB TYPE	INLET LENGTH	EFFECTIVE LENGTH 80% CAP	BYPASS TO INLET	DOWNTREAM INLET	STREET GRADE	CROSS SLOPE	DEPTH AT CURB	SPREAD OF FLOW						
<b>GUTTER DESIGN</b>																											
EXISTING LINE 4																											
401	0.66	2.40	5	7.35	11.64	801	802	803		0.93	12.57	SUMP	2.08	A	8	6.4	17.92	0.00	SUMP	2.08	< 0.21	< 10.50					
402	0.66	0.04	5	7.35	0.19	403				0.02	0.21	3.24	2.08	A	6	4.8	0.20	0.00	3.24	2.08	0.06	3.48					
403	0.66	0.07	5	7.35	0.34	404				0.01	0.35	3.24	2.08	A	6	4.8	0.33	0.02	3.24	2.08	0.08	4.12					
404	0.66	0.06	5	7.35	0.29					0.00	0.29	3.24	2.08	A	6	4.8	0.28	0.01	3.24	2.08	0.07	3.68					
LINE 5																											
501	0.66	1.06	5	7.35	5.14	402	502			1.09	6.24	SUMP	2.08	A	6	4.8	13.44	0.00	SUMP	2.08	< 0.21	< 10.50					
502	0.66	0.57	5	7.35	2.77	804	503	806	901	0.84	3.61	1.95	2.08	A	6	4.8	2.52	1.09	1.95	2.08	0.20	10.05					
503	0.66	0.26	5	7.35	1.26	504				0.33	1.59	1.49	2.08	A	4	3.2	1.33	0.26	1.49	2.08	0.15	7.89					
504	0.66	0.29	5	7.35	1.41	505				0.40	1.81	1.49	2.08	A	4	3.2	1.48	0.33	1.49	2.08	0.16	8.25					
505	0.66	0.33	5	7.35	1.60	506				0.41	2.01	1.49	2.08	A	4	3.2	1.61	0.40	1.49	2.08	0.17	8.57					
506	0.66	0.29	5	7.35	1.41	507				0.63	2.03	1.49	2.08	A	4	3.2	1.63	0.41	1.49	2.08	0.17	8.60					
507	0.66	0.58	5	7.35	2.81					0.00	2.81	1.13	2.08	A	4	3.2	2.19	0.63	1.13	2.08	0.20	10.14					
LINE 8																											
801	0.51	0.49	5	7.35	1.84	1601				0.12	1.96	1.12	2.08	A	6	4.8	1.77	0.20	1.12	2.08	0.18	8.93					
802	0.51	0.51	5	7.35	1.91	1701	1801			0.25	2.16	1.12	2.08	A	6	4.8	1.92	0.24	1.12	2.08	0.18	9.24					
803	0.66	0.12	5	7.35	0.58	1101				1.61	2.19	3.00	2.08	A	6	4.8	1.70	0.49	3.00	2.08	0.15	7.81					
804	0.66	0.22	5	7.35	1.07	1301	1201			0.67	1.74	3.00	2.08	A	6	4.8	1.43	0.31	3.00	2.08	0.14	7.20					
805	0.66	0.12	5	7.35	0.58					0.00	0.58	3.00	2.08	A	6	4.8	0.55	0.03	3.00	2.08	0.09	4.94					
806	0.66	0.40	5	7.35	1.94	807				0.23	2.17	1.28	2.08	A	6	4.8	1.90	0.27	1.28	2.08	0.18	9.04					
807	0.66	0.40	5	7.35	1.94	808				0.07	2.01	1.28	2.08	A	6	4.8	1.78	0.23	1.28	2.08	0.17	8.80					
808	0.66	0.19	5	7.35	0.92	809				0.24	1.16	1.28	2.08	A	6	4.8	1.09	0.07	1.28	2.08	0.14	7.25					
809	0.66	0.32	5	7.35	1.55					0.00	1.55	2.75	2.08	A	6	4.8	1.32	0.24	2.75	2.08	0.14	7.03					
810	0.66	0.21	5	7.35	1.02	1106				0.00	1.02	2.75	2.08	A	6	4.8	0.92	0.10	2.75	2.08	0.12	6.08					
811	0.66	2.32	5	7.35	11.25	810				0.10	11.35	SUMP	2.08	A	6	4.8	16.80	0.00	SUMP	2.08	< 0.21	< 10.50					
812	0.66	0.13	5	7.35	0.63					0.00	0.63	SUMP	2.08	A	6	4.8	16.80	0.00	SUMP	2.08	< 0.21	< 10.50					
LINE 1000																											
1001	0.66	0.31	5	7.35	1.50					0.00	1.50	1.28	2.08	A	6	4.8	1.38	0.12	1.28	2.08	0.15	7.94					
LINE 1100																											
1101	0.66	0.55	5	7.35	2.67	1102				0.77	3.44	6.02	2.08	A	6	4.8	1.83	1.61	6.02	2.08	0.16	8.09					
1102	0.66	0.34	5	7.35	1.65	1103				0.59	2.24	6.02	2.08	A	6	4.8	1.47	0.77	6.02	2.08	0.13	6.97					
1103	0.66	0.56	5	7.35	2.72	1104				0.15	2.87	1.8															



SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI



**EROSION AND SEDIMENT CONTROL STAGING CHART**

PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE & STAGING AREA	D	Maintain, repair, or replace as necessary
	2	SILT FENCE WITH WOVEN WIRE FENCING	E	Place where indicated, repair or replace as necessary and remove only when graded areas have sufficient ground cover established
	3	EXISTING INLET PROTECTION	E	Place where indicated, repair or replace as necessary and remove only when graded areas have sufficient ground cover established
B - MASS GRADING	4	SILT FENCE (DURING CONSTRUCTION)	E	Place where indicated, repair or replace as necessary and remove only when graded areas have sufficient ground cover established
	5	CONCRETE WASHOUT AREA	E	Maintain, repair, or replace as necessary
C - UTILITY CONSTRUCTION	6	INLET PROTECTION (SILT FENCE)	D/E	Place silt fence around all storm sewer structures / yard area storm structures to have silt fence removed only when graded areas have sufficient ground cover established
	7	INLET PROTECTION (GRAVEL FILTER BAGS)	E	Boards shall be placed in front of inlet opening from the time silt fence is removed until such time that the curb / throat is poured. Place gravel filter bags at the opening of all curb inlets immediately after the inlet throats are poured
D - AFTER PAVING OPERATIONS	8	SEEDING AND MULCHING	E	All disturbed areas after 14 days of construction inactivity
				Additional sediment and erosion control measures may be required any time current measures are found to be ineffective.
E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				

**LEGEND**

TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA		SILT FENCE WITH WOVEN WIRE FENCING
CONCRETE WASHOUT AREA		SILT FENCE (PRIOR TO LAND DISTURBANCE)
SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS		SILT FENCE (DURING CONSTRUCTION)
LIMITS OF DISTURBANCE		LIMITS OF DISTURBANCE
EXISTING CONTOURS		EXISTING CONTOURS
PROPOSED CONTOURS		PROPOSED CONTOURS
GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY		GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY

**DISTURBED AREA = 6.27 A.C.**

**SITE SPECIFIC NOTES:**

- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
- THERE ARE NO WETLANDS, NATURAL OR ARTIFICIAL WATER STORAGE DETENTION AREAS IN THE PROJECT AREA.
- NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0414G DATED JANUARY 20TH, 2017.
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART.
- ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE CITY ENGINEER AT ANY TIME EXISTING MEASURES ARE FOUND TO BE INEFFECTIVE OR PROBLEMATIC AREAS ARE NOTED IN THE FIELD.
- STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER AN CLEARING, GRADING, EXCAVATING OR OTHER SOIL DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE SOIL STABILIZING BMPs. INITIAL STABILIZATION ACTIVITIES MUST BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES CEASE.
- ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION ENTRANCES WILL BE INSTALLED BEFORE GRADED OPERATIONS BEGIN.
- SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADED BEGINS WILL BE MAINTAINED BY THE GRADED CONTRACTOR.
- AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

**MISSOURI GEOGRAPHIC REFERENCE SYSTEM  
BENCH MARK:**

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

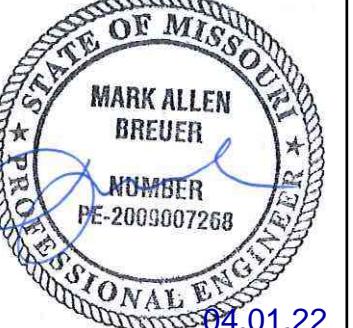
**PROJECT BENCHMARK:**

CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148  
EASTING: 2803318.5413  
ELEV. 1004.09

DRAWN BY: BAL	REVISION DATE: 2-4-22	DESCRIPTION: CITY COMMENTS
CHECKED BY: MAB	3-30-22	CITY COMMENTS
MAB		
DATE PREPARED: 11-15-2021		
PROJ. NUMBER: 6		
20189		

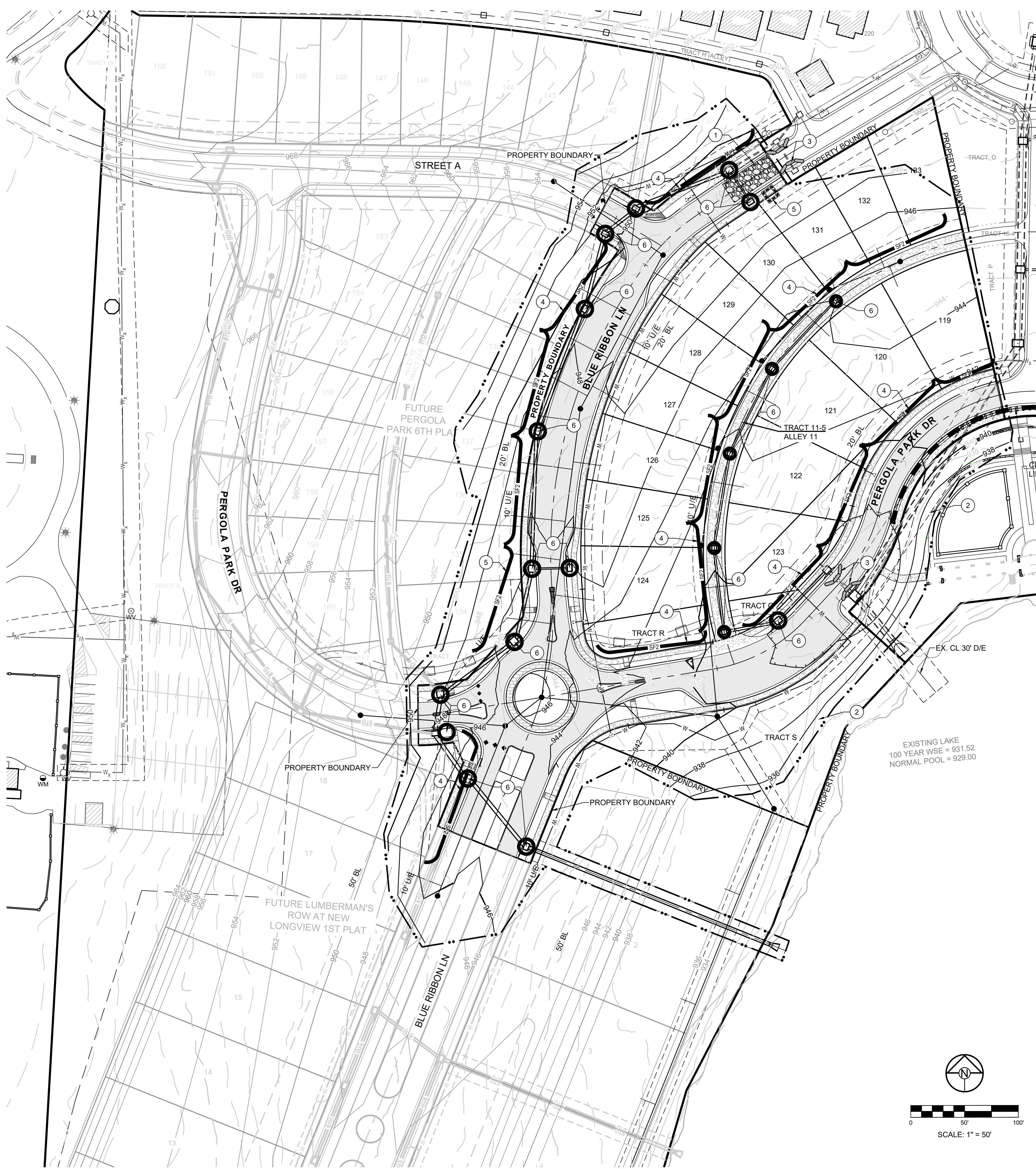
PRE CONSTRUCTION EROSION CONTROL PLAN SHEET

PREPARED BY:  
  
MARK ALLEN BREUER  
PE-2009007268  
04.01.22

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI



EROSION AND SEDIMENT CONTROL STAGING CHART				
PROJECT STAGE	BMP PLAN REF. NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE & STAGING AREA	D	Maintain, repair, or replace as necessary
	2	SILT FENCE WITH WOVEN WIRE FENCING	E	Place where indicated. Repair or replace as necessary and remove only when graded areas have sufficient ground cover established
	3	EXISTING INLET PROTECTION	E	Place where indicated. Repair or replace as necessary and remove only when graded areas have sufficient ground cover established
B - MASS GRADING	4	SILT FENCE (DURING CONSTRUCTION)	E	Place where indicated. Repair or replace as necessary and remove only when graded areas have sufficient ground cover established
	5	CONCRETE WASHOUT AREA	E	Maintain, repair, or replace as necessary
C - UTILITY CONSTRUCTION	6	INLET PROTECTION (SILT FENCE)	D/E	Place silt fence around all storm sewer structures / yard area storm structures to have silt fence removed only when graded areas have sufficient ground cover established
	7	INLET PROTECTION (GRAVEL FILTER BAGS)	E	Boards shall be placed in front of inlet opening from the time silt fence is removed until such time that the curb / throat is poured. Place gravel filter bags at the opening of all curb inlets immediately after the inlet throats are poured
D - AFTER PAVING OPERATIONS	8	SEEDING AND MULCHING	E	All disturbed areas after 14 days of construction inactivity
				Additional sediment and erosion control measures may be required any time current measures are found to be ineffective.
E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				

LEGEND	
TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA	SUPER SEDIMENT SILT FENCE (PRIOR TO LAND DISTURBANCE)
CONCRETE WASHOUT AREA	SILT FENCE (PRIOR TO LAND DISTURBANCE)
SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS	SILT FENCE (DURING CONSTRUCTION)
LIMITS OF DISTURBANCE	EXISTING CONTOURS
BMP PLAN REF. NO.	PROPOSED CONTOURS
SILT FENCE FOR INLET PROTECTION PRIOR TO STRUCTURE TOP	GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY

**DISTURBED AREA = 6.27 A.C.**

**SITE SPECIFIC NOTES:**

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- STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER AN CLEARING, GRADING, EXCAVATING OR OTHER SOIL DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE SOIL STABILIZING BMPs. INITIAL STABILIZATION ACTIVITIES MUST BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES CEASE.
- ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION ENTRANCES WILL BE INSTALLED BEFORE GRADED OPERATIONS BEGIN.
- SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADED BEGINS WILL BE MAINTAINED BY THE GRADED CONTRACTOR.
- AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

**MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:**

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

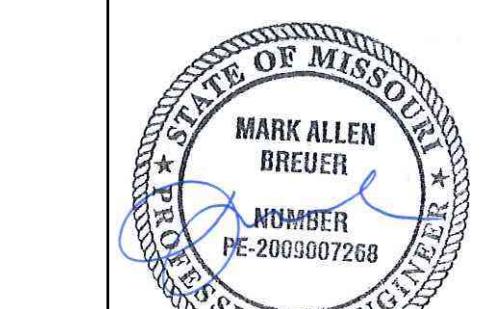
**PROJECT BENCHMARK:**

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NORTHING: 998893.4148  
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DRAWN BY: BAL	REVISION DATE: 2-4-22	DESCRIPTION: CITY COMMENTS
CHECKED BY: MAB	3-30-22	CITY COMMENTS
DATE PREPARED: 11-15-2021	PROJ. NUMBER: 6	EROSION CONTROL PLAN
SHEET 9		

PREPARED BY:



**PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI



**EROSION AND SEDIMENT CONTROL STAGING CHART**

PROJECT STAGE	BMP PLAN REF. NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE & STAGING AREA	D	Maintain, repair, or replace as necessary
	2	SILT FENCE WITH WOVEN WIRE FENCING	E	Place where indicated. Repair or replace as necessary and remove only when graded areas have sufficient ground cover established
	3	EXISTING INLET PROTECTION	E	Place where indicated. Repair or replace as necessary and remove only when graded areas have sufficient ground cover established
B - MASS GRADING	4	SILT FENCE (DURING CONSTRUCTION)	E	Place where indicated. Repair or replace as necessary and remove only when graded areas have sufficient ground cover established
	5	CONCRETE WASHOUT AREA	E	Maintain, repair, or replace as necessary
C - UTILITY CONSTRUCTION	6	INLET PROTECTION (SILT FENCE)	D/E	Place silt fence around all storm sewer structures / yard area storm structures to have silt fence removed only when graded areas have sufficient ground cover established
	7	INLET PROTECTION (GRAVEL FILTER BAGS)	E	Boards shall be placed in front of inlet opening from the time silt fence is removed until such time that the curb / throat is poured. Place gravel filter bags at the opening of all curb inlets immediately after the inlet throats are poured
D - AFTER PAVING OPERATIONS	8	SEEDING AND MULCHING	E	All disturbed areas after 14 days of construction inactivity
				Additional sediment and erosion control measures may be required any time current measures are found to be ineffective.
E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				

<b>LEGEND</b>	
TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA	SUPER SEDIMENT SILT FENCE (PRIOR TO LAND DISTURBANCE)
CONCRETE WASHOUT AREA	SILT FENCE (PRIOR TO LAND DISTURBANCE)
SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS	SILT FENCE (DURING CONSTRUCTION)
BMP PLAN REF. NO.	LIMITS OF DISTURBANCE
1	EXISTING CONTOURS
	PROPOSED CONTOURS
	GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY

**DISTURBED AREA = 6.27 A.C.**

**SITE SPECIFIC NOTES:**

- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
- THERE ARE NO WETLANDS, NATURAL OR ARTIFICIAL WATER STORAGE DETENTION AREAS IN THE PROJECT AREA.
- NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0414G DATED JANUARY 20TH, 2017.
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART.
- ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE CITY ENGINEER AT ANY TIME EXISTING MEASURES ARE FOUND TO BE INEFFECTIVE OR PROBLEMATIC AREAS ARE NOTED IN THE FIELD.
- STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER AN CLEARING, GRADING, EXCAVATING OR OTHER SOIL DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE SOIL STABILIZING BMPs. INITIAL STABILIZATION ACTIVITIES MUST BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES CEASE.
- ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION ENTRANCES WILL BE INSTALLED BEFORE GRADED OPERATIONS BEGIN.
- SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADED BEGINS WILL BE MAINTAINED BY THE GRADED CONTRACTOR.
- AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

**MISSOURI GEOGRAPHIC REFERENCE SYSTEM  
BENCH MARK:**

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

**PROJECT BENCHMARK:**

CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148  
EASTING: 2803318.5413  
ELEV. 1004.09

DRAWN BY:	REVISION DATE	DESCRIPTION
BAL	2-4-22	CITY COMMENTS
CHECKED BY:	3-30-22	CITY COMMENTS
MAB		
DATE PREPARED		
11-15-2021		
PROJ. NUMBER		
20189		

**POST CONSTRUCTION EROSION CONTROL**

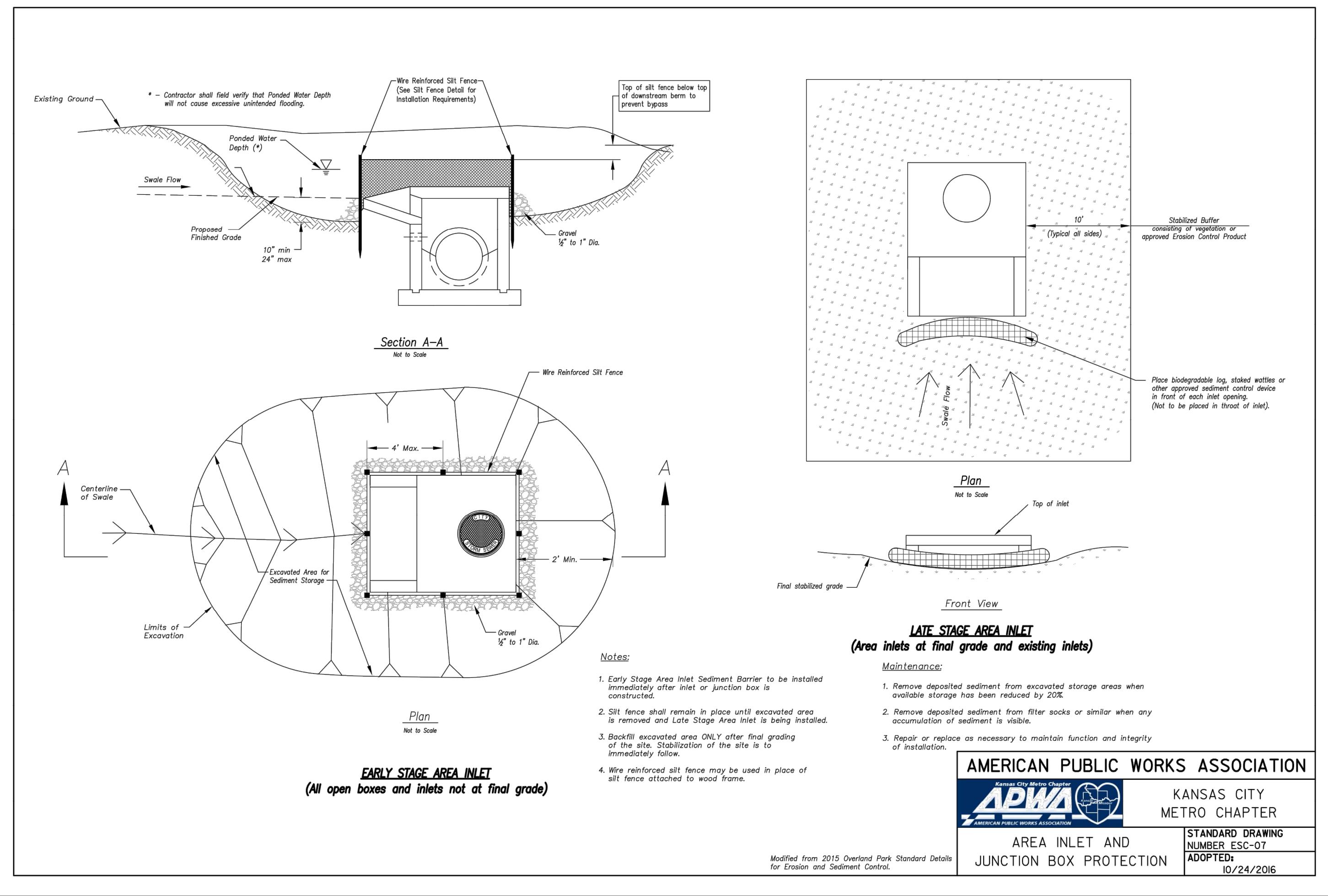
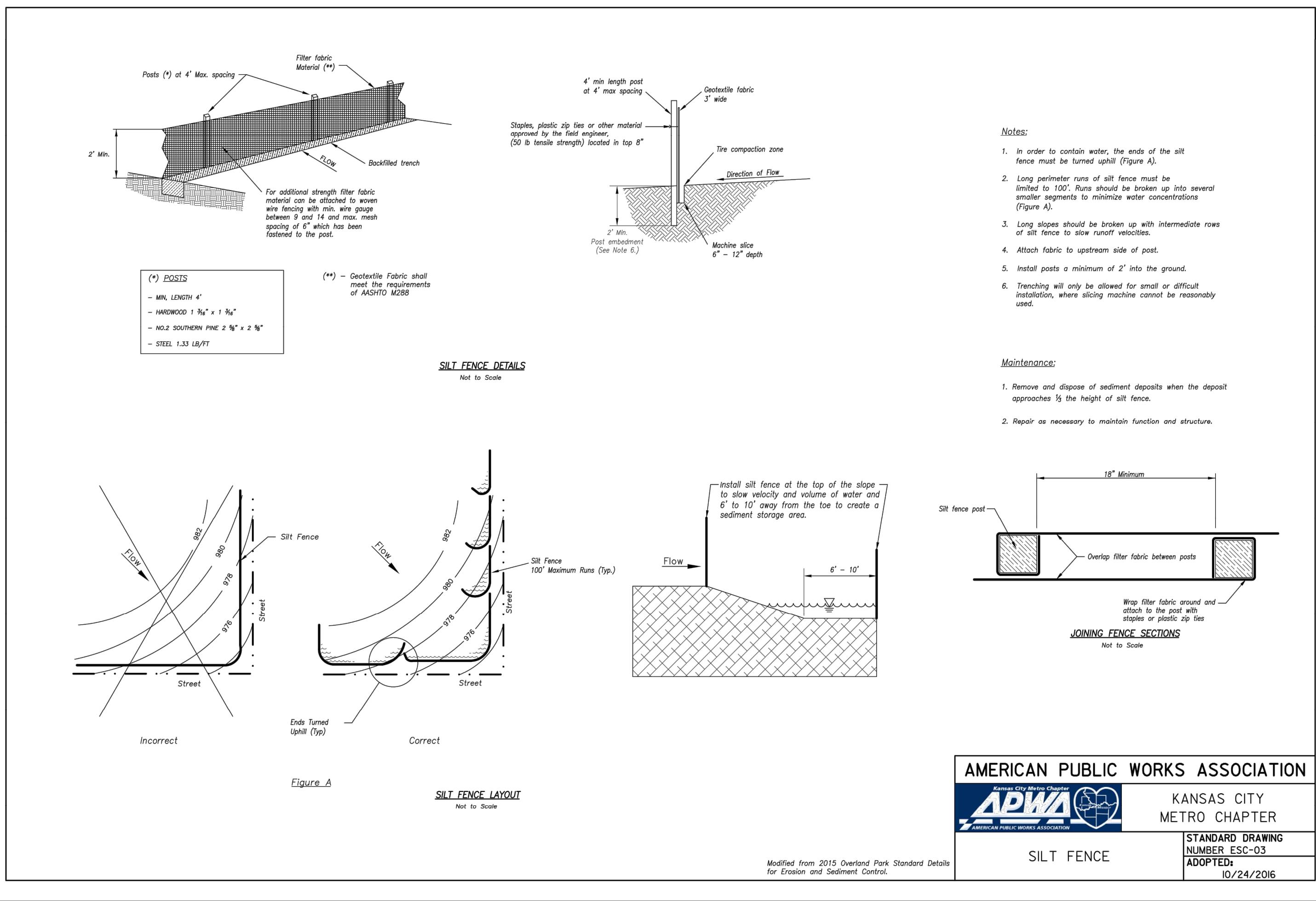
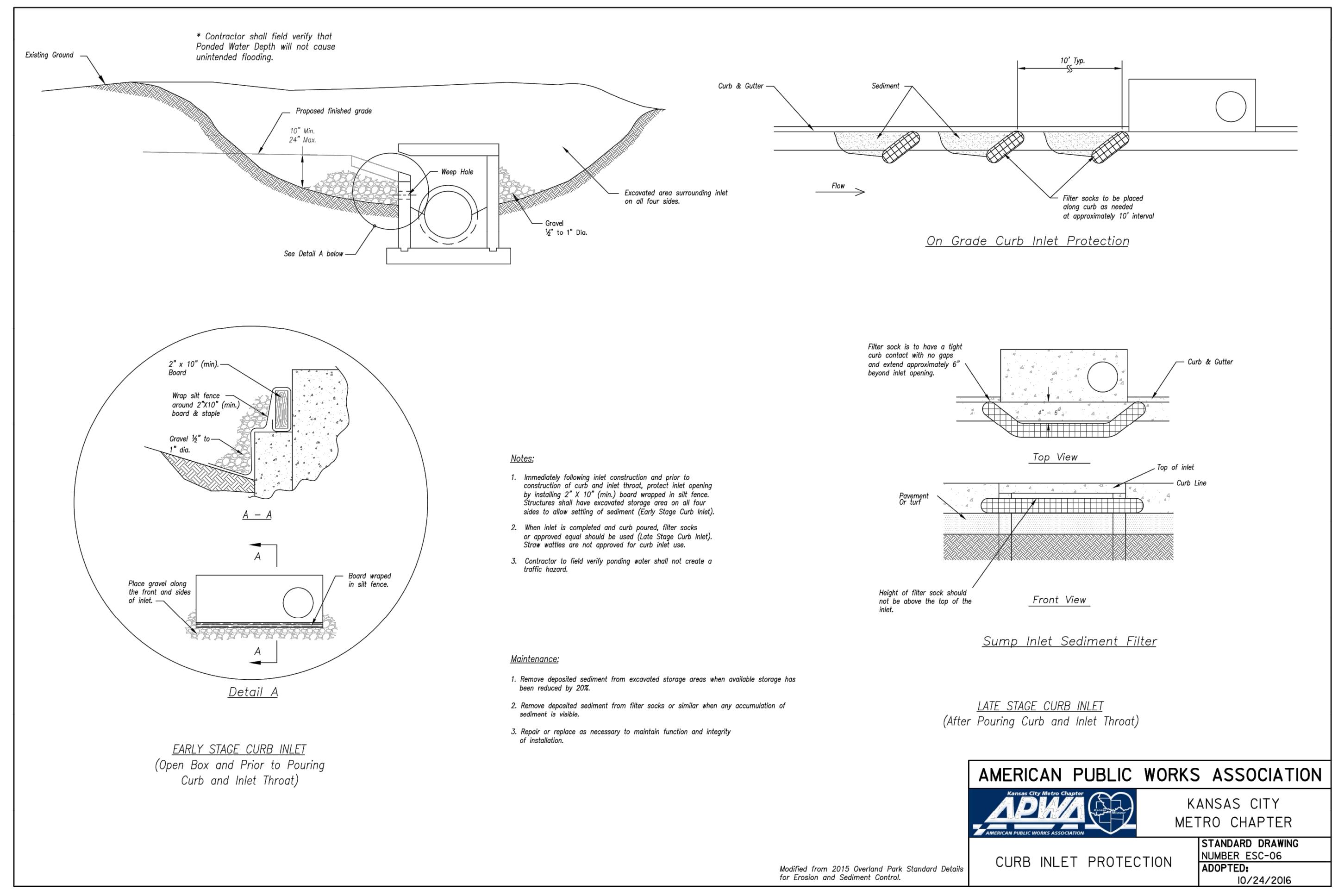
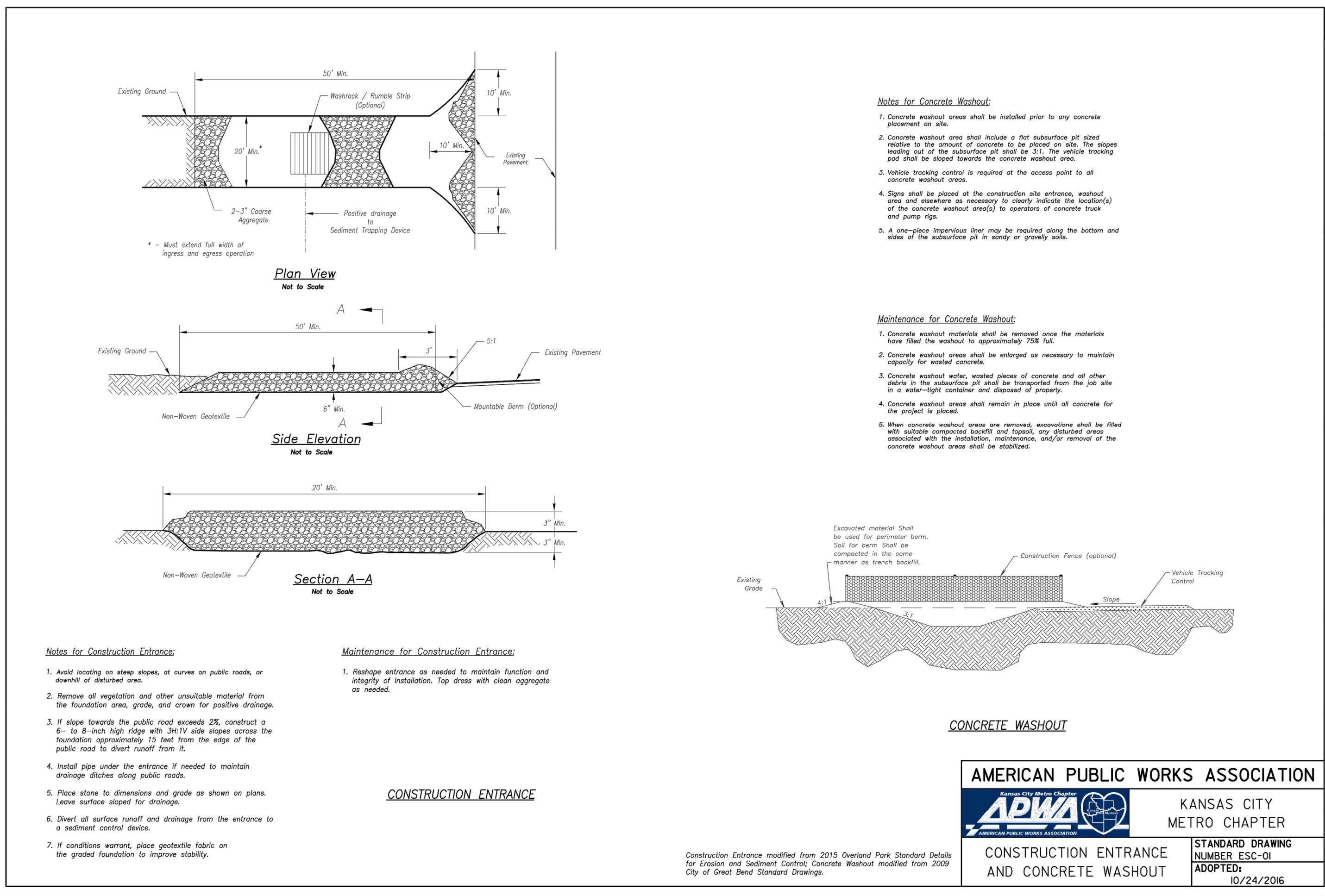
**10**

PREPARED BY:  
  
MARK ALLEN BREUER  
NUMBER PE-2095007268  
04.01.22

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT**  
**STREET, STORMWATER, MASTER DRAINAGE**  
**PLAN & EROSION AND SEDIMENT CONTROL**

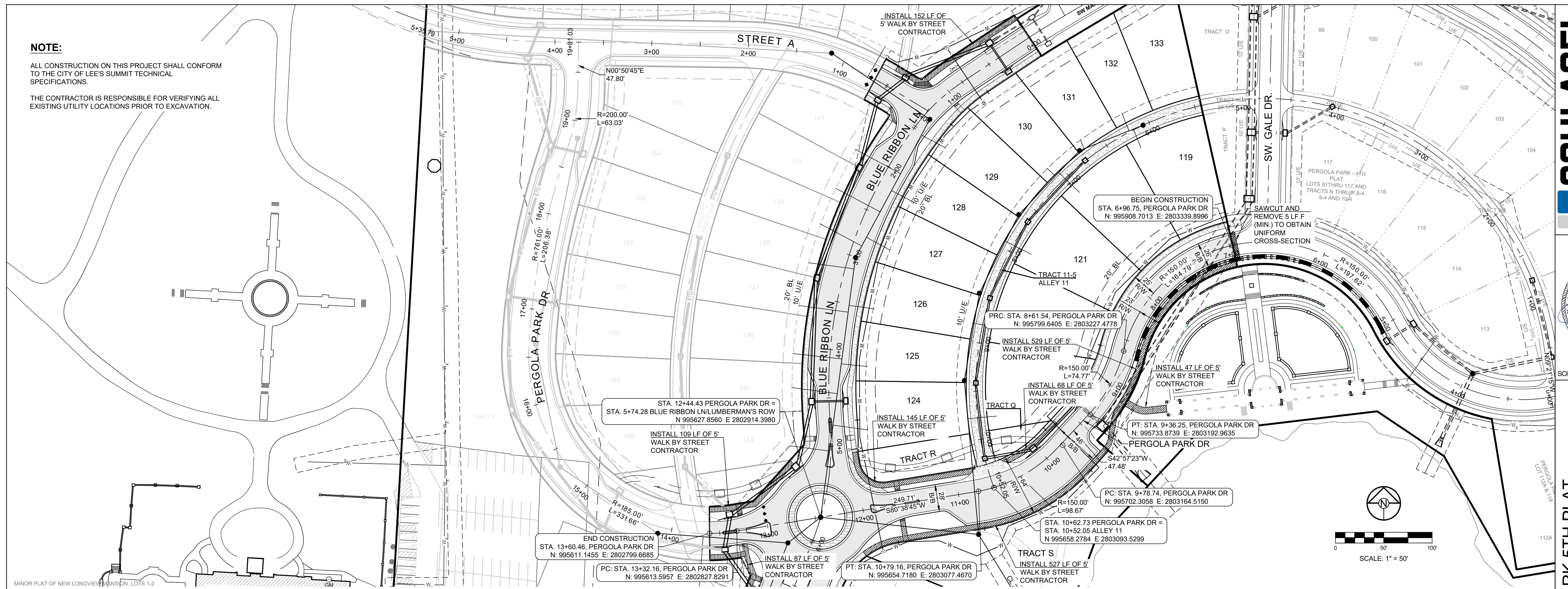
- LEE'S SUMMIT, MISSOURI



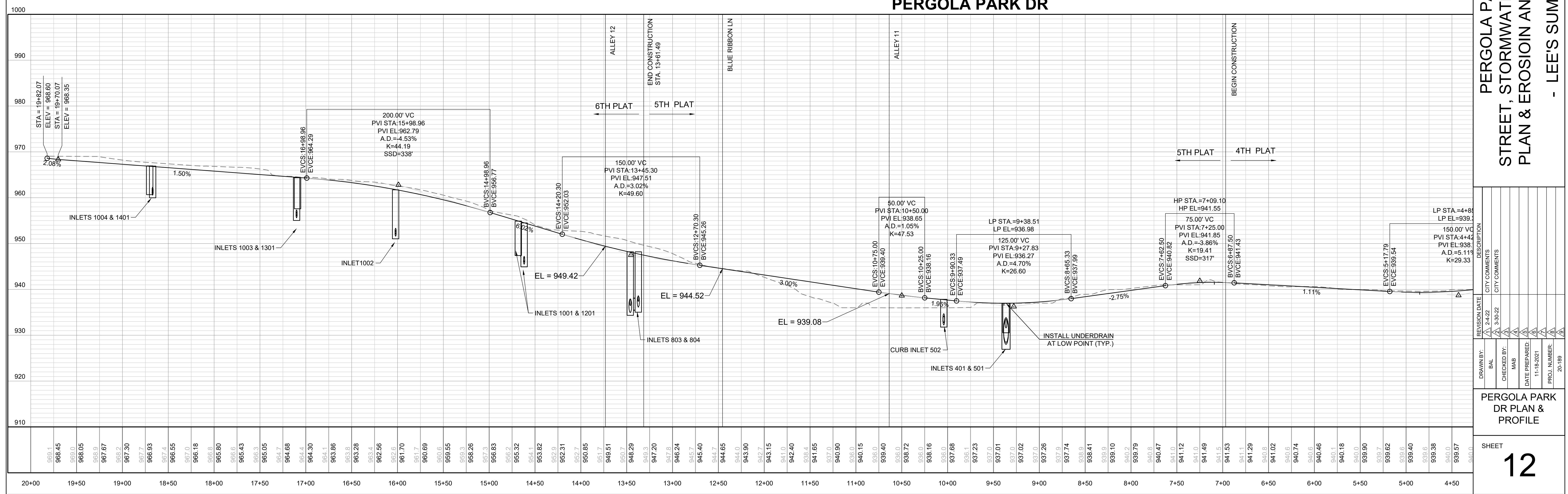
**NOTE:**

ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM  
TO THE CITY OF LEE'S SUMMIT TECHNICAL  
SPECIFICATIONS.

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



# PERGOLA PARK DR

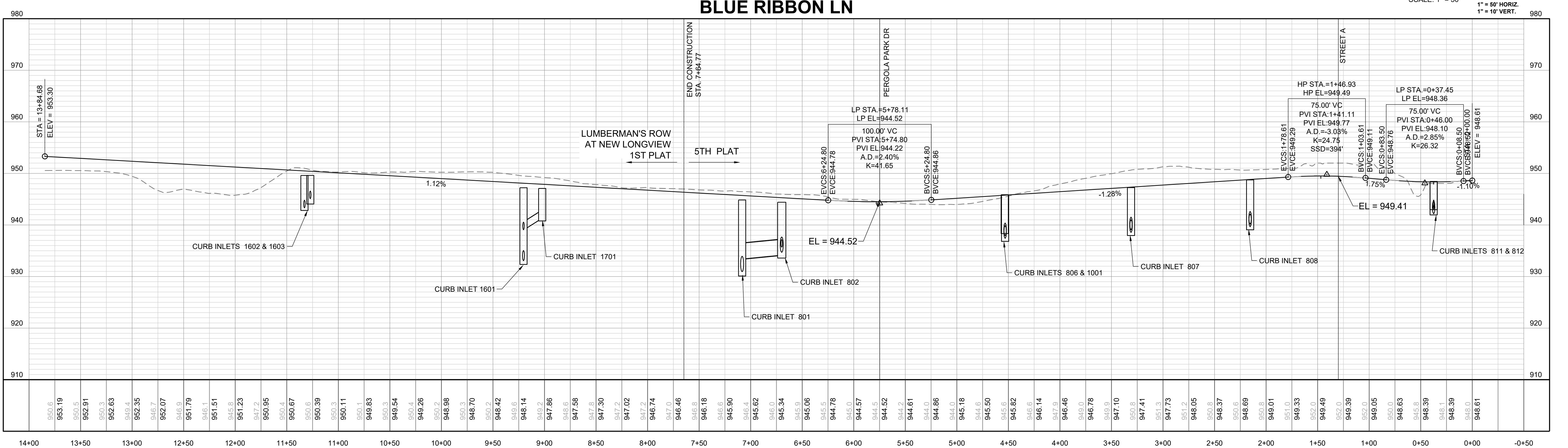
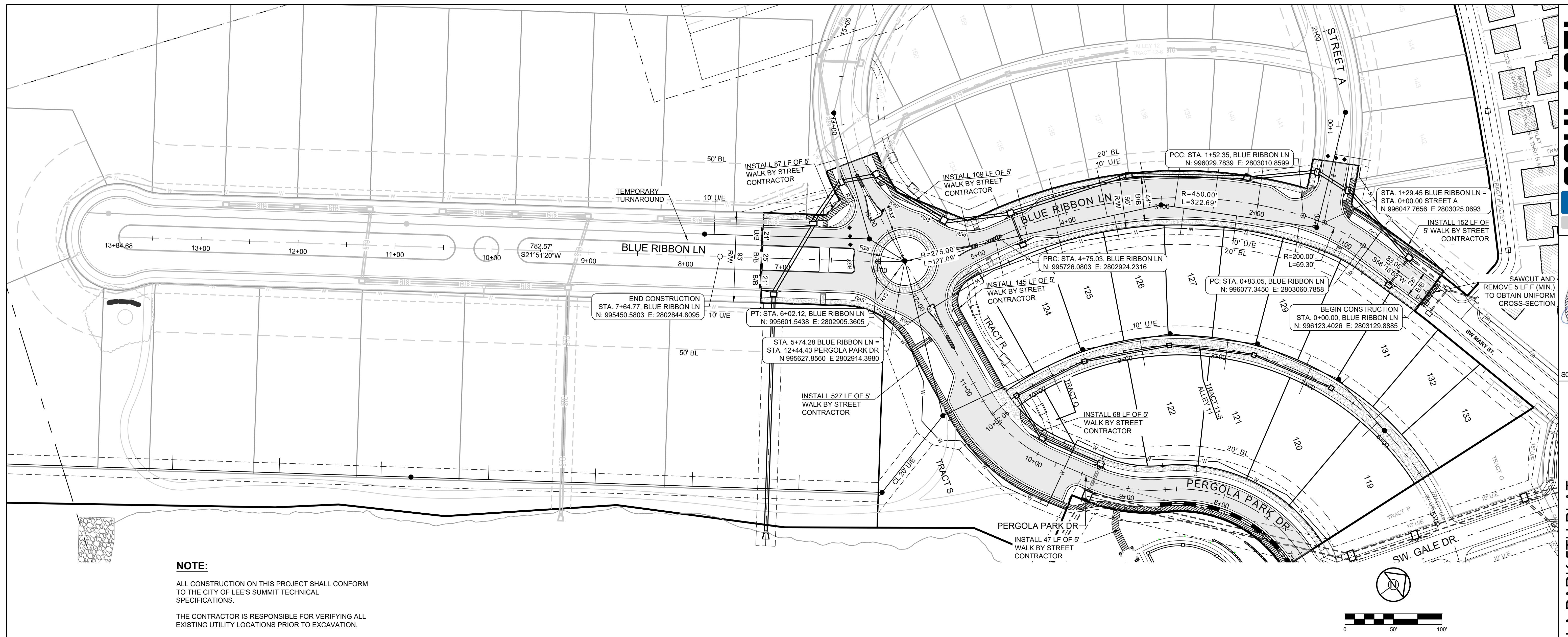


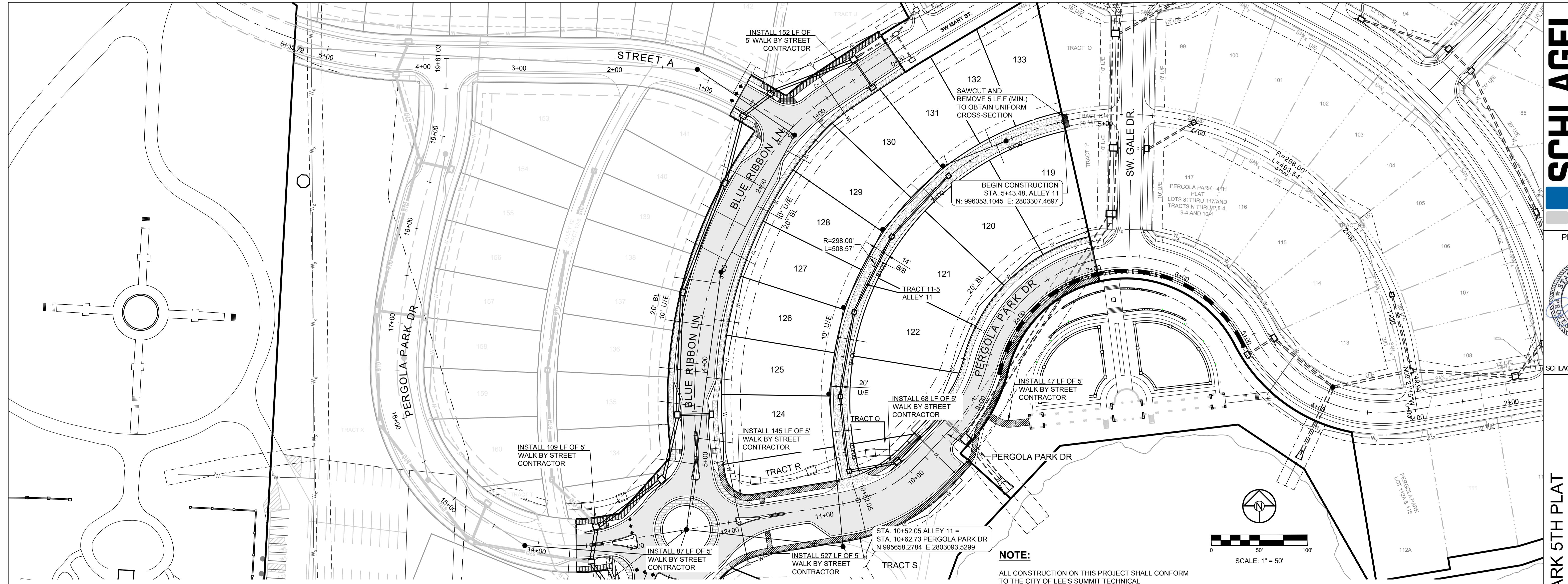
PREPARED BY:  
MARK ALLEN BREUER  
NUMBER PE-2095007268  
04.01.22

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI

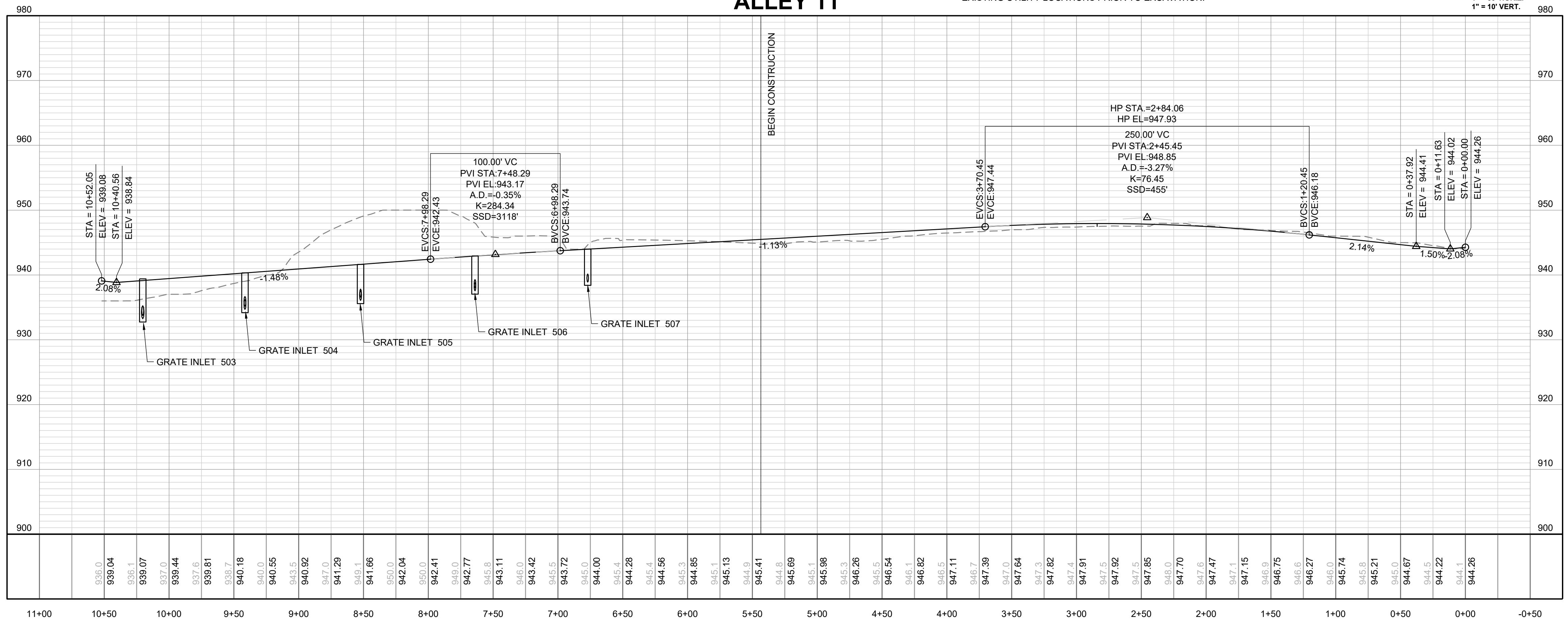




**ALLEY 11**

**ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM  
TO THE CITY OF LEE'S SUMMIT TECHNICAL  
SPECIFICATIONS.**

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

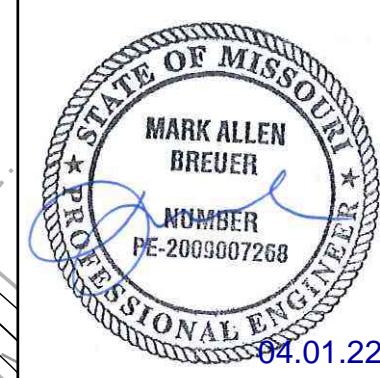


# PERGOLA PARK 5TH PLAT STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSION AND SEDIMENT CONTROL

# EE'S SPLIT MISSOURI

14

PREPARED BY:

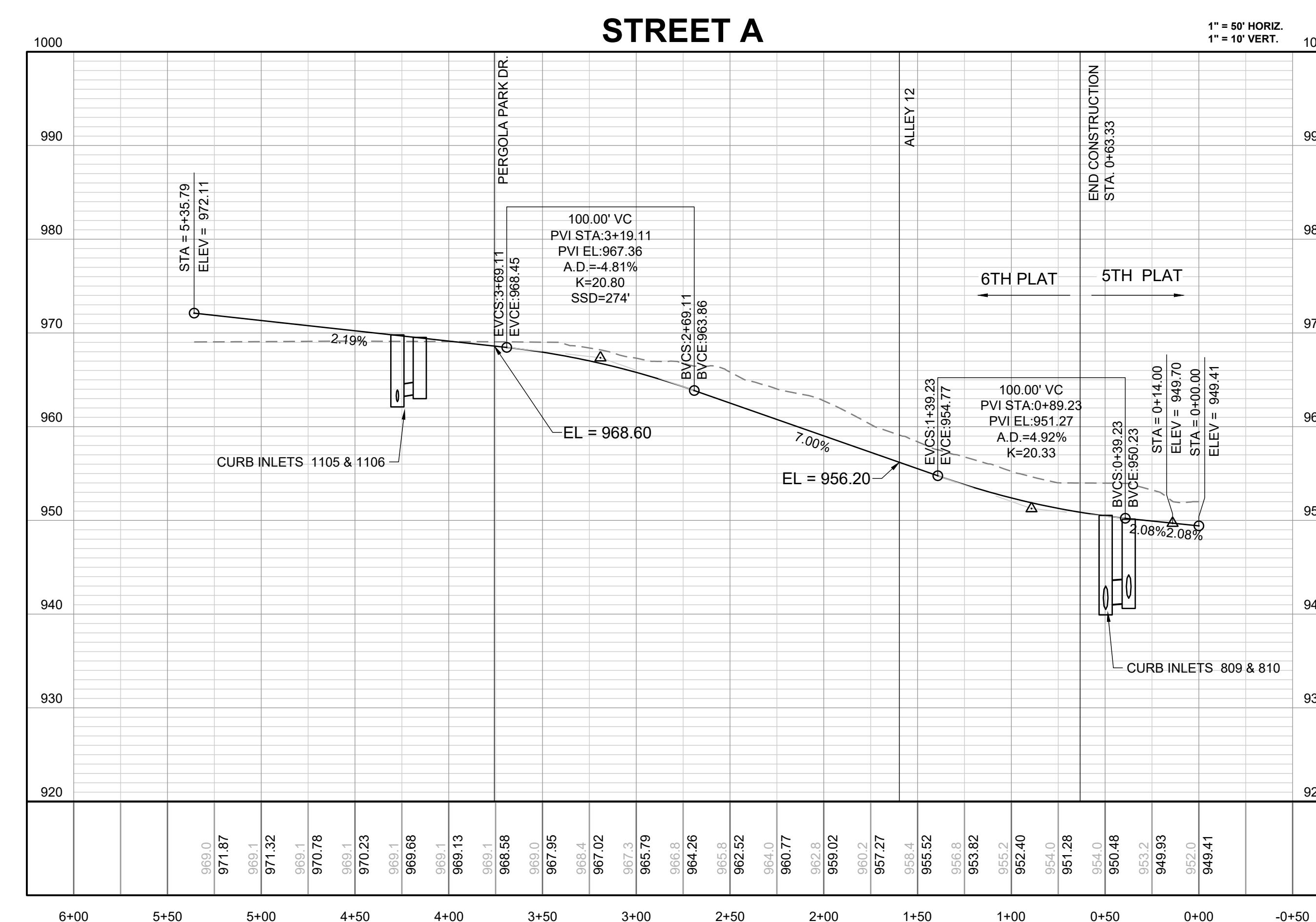
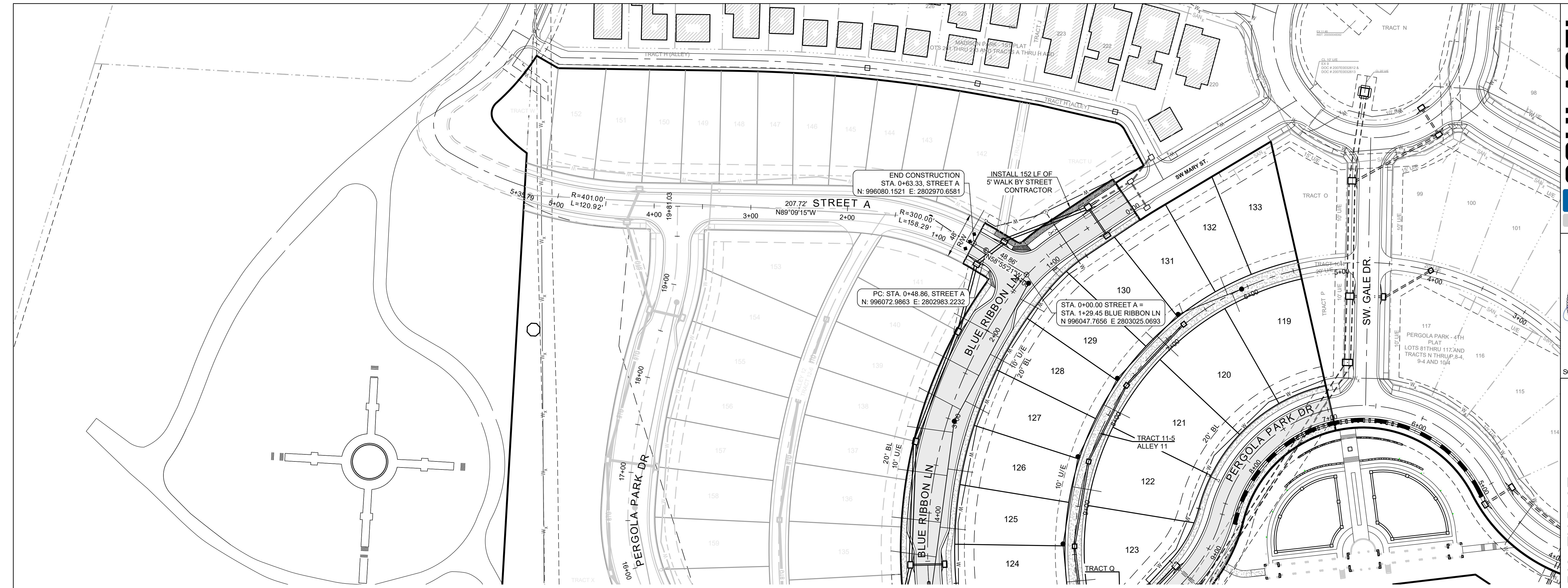


MARK ALLEN BREUER  
NUMBER PE-2009007268  
04.01.22

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI



STREET A PLAN & PROFILE		DESCRIPTION
SHEET	DRAWN BY: BAL	REVISION DATE: 2-4-22
	CHECKED BY: 3-30-22	CITY COMMENTS
	MAB	CITY COMMENTS
	DATE PREPARED: 5/11-1-2021	
	PROJ. NUMBER: 6	
		20-189

PREPARED BY:  
MARK ALLEN BREUER  
NUMBER PE-2059007268  
04.01.22

SCHLAGEL & ASSOCIATES, P.A.

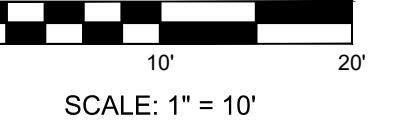
**PERGOLA PARK 5TH PLAT**  
**STREET, STORMWATER, MASTER DRAINAGE**  
**PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI

ROUNDABOUT INTERSECTION DETAIL

SHEET

16

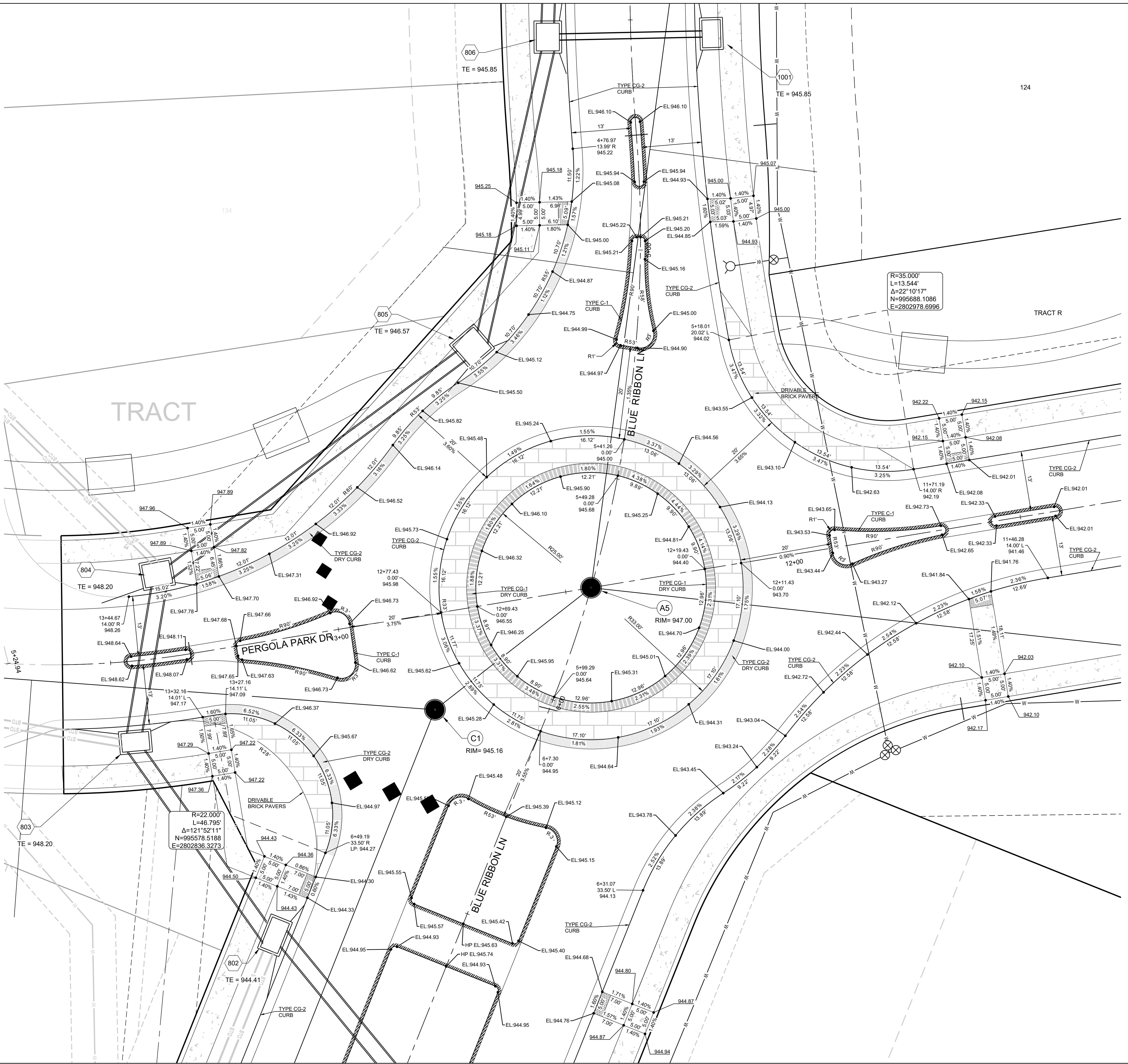


SCALE: 1" = 10'



CURB LEGEND

- TYPE "CG-2" CURB & GUTTER
- TYPE "CG-2" DRY CURB & GUTTER
- TYPE "CG-1" DRY CURB AND GUTTER
- TYPE C-1 CURB
- DRIVABLE BRICK PAVERS

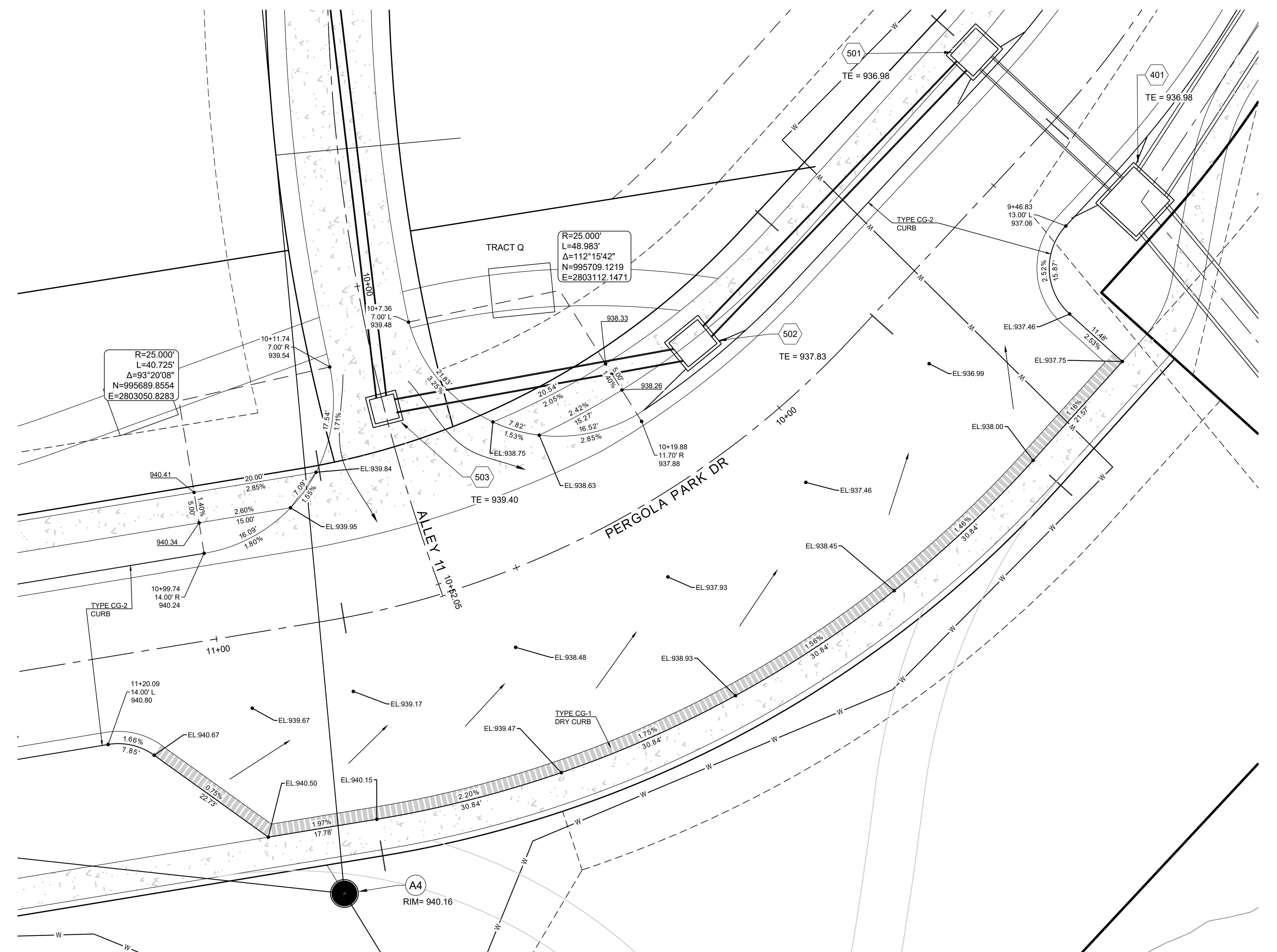


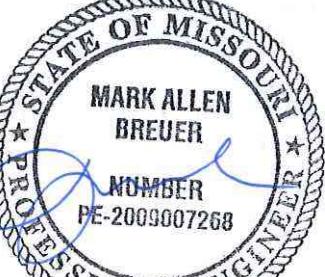
PREPARED BY:  
 STATE OF MISSOURI  
 MARK ALLEN BREUER  
 NUMBER PE-2009007268  
 04.01.22

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT**  
**STREET, STORMWATER, MASTER DRAINAGE**  
**PLAN & EROSION AND SEDIMENT CONTROL**  
 - LEE'S SUMMIT, MISSOURI

CURB LEGEND	
Type "CG-2" CURB & GUTTER	
Type "CG-2" DRY CURB & GUTTER	
Type "CG-1" DRY CURB AND GUTTER	
Type C-1 CURB	
DRIVABLE BRICK PAVERS	

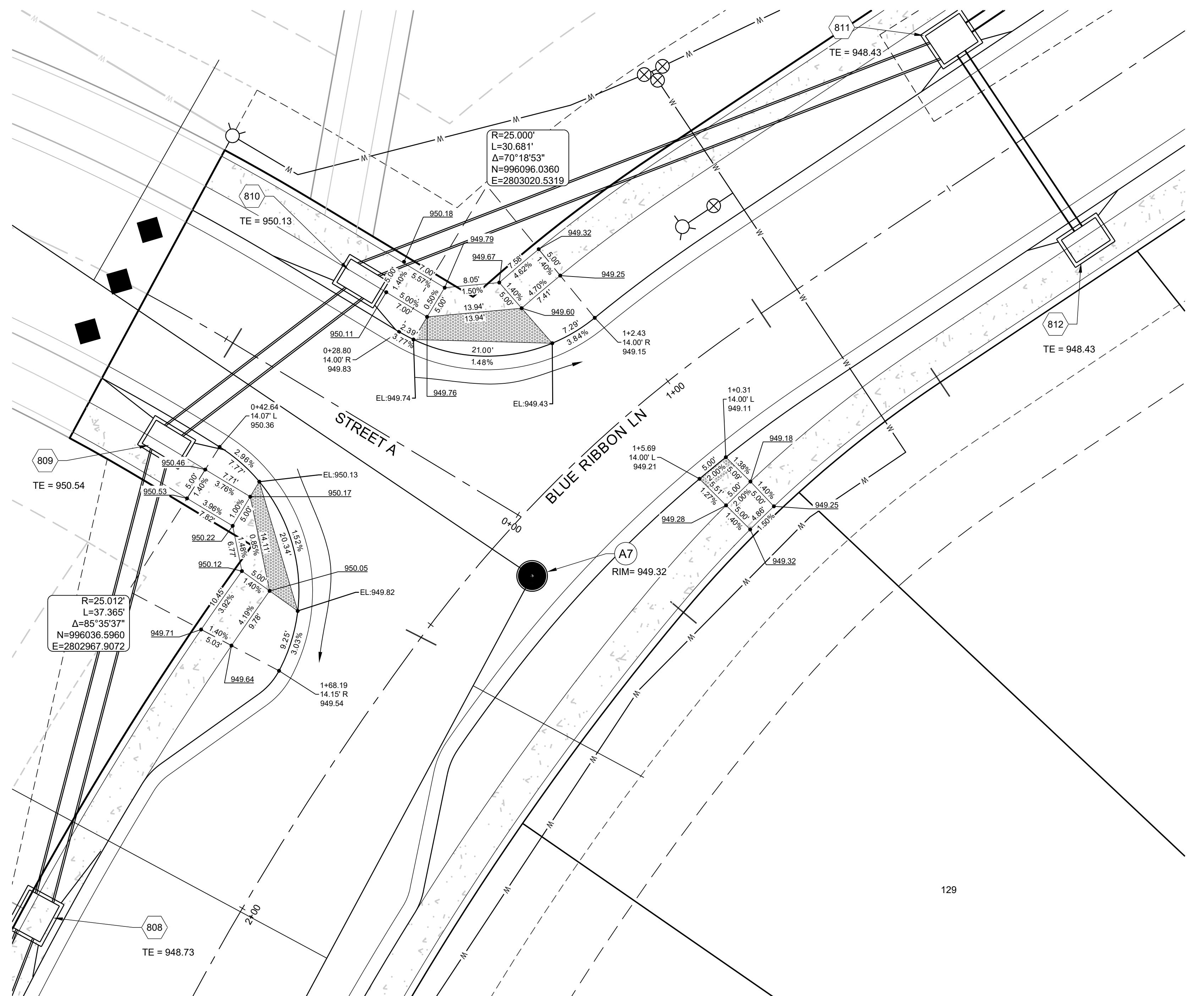


PREPARED BY:  
  
 MARK ALLEN BREUER  
 NUMBER PE-2009007268  
 04.01.22

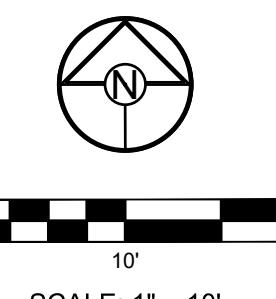
SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL**  
- LEE'S SUMMIT, MISSOURI

-

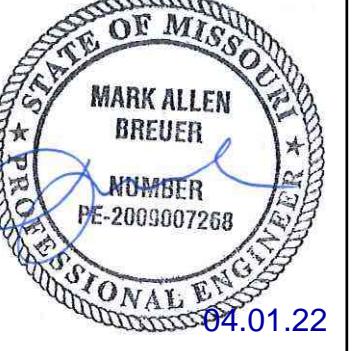


129



SCALE: 1" = 10'

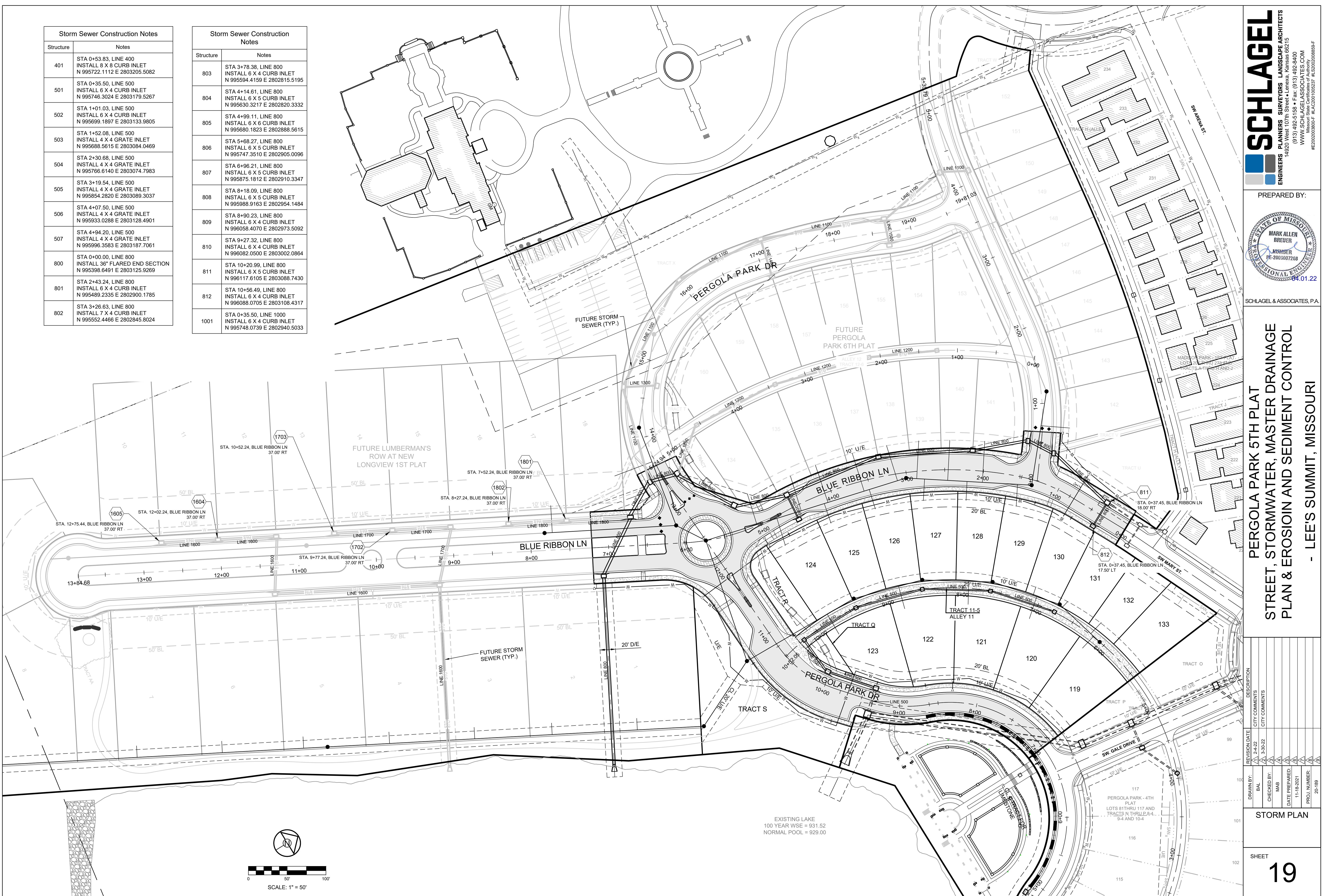
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BAL		2-4-22	CITY COMMENTS
		3-30-22	CITY COMMENTS
CHECKED BY:			
MAB			
DATE PREPARED			
11-1-2021			
PROJ. NUMBER:			
20-189			

PREPARED BY:  
  
 MARK ALLEN BREUER  
 NUMBER PE-2009007268  
 04.01.22

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT  
 STREET, STORMWATER, MASTER DRAINAGE  
 PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI

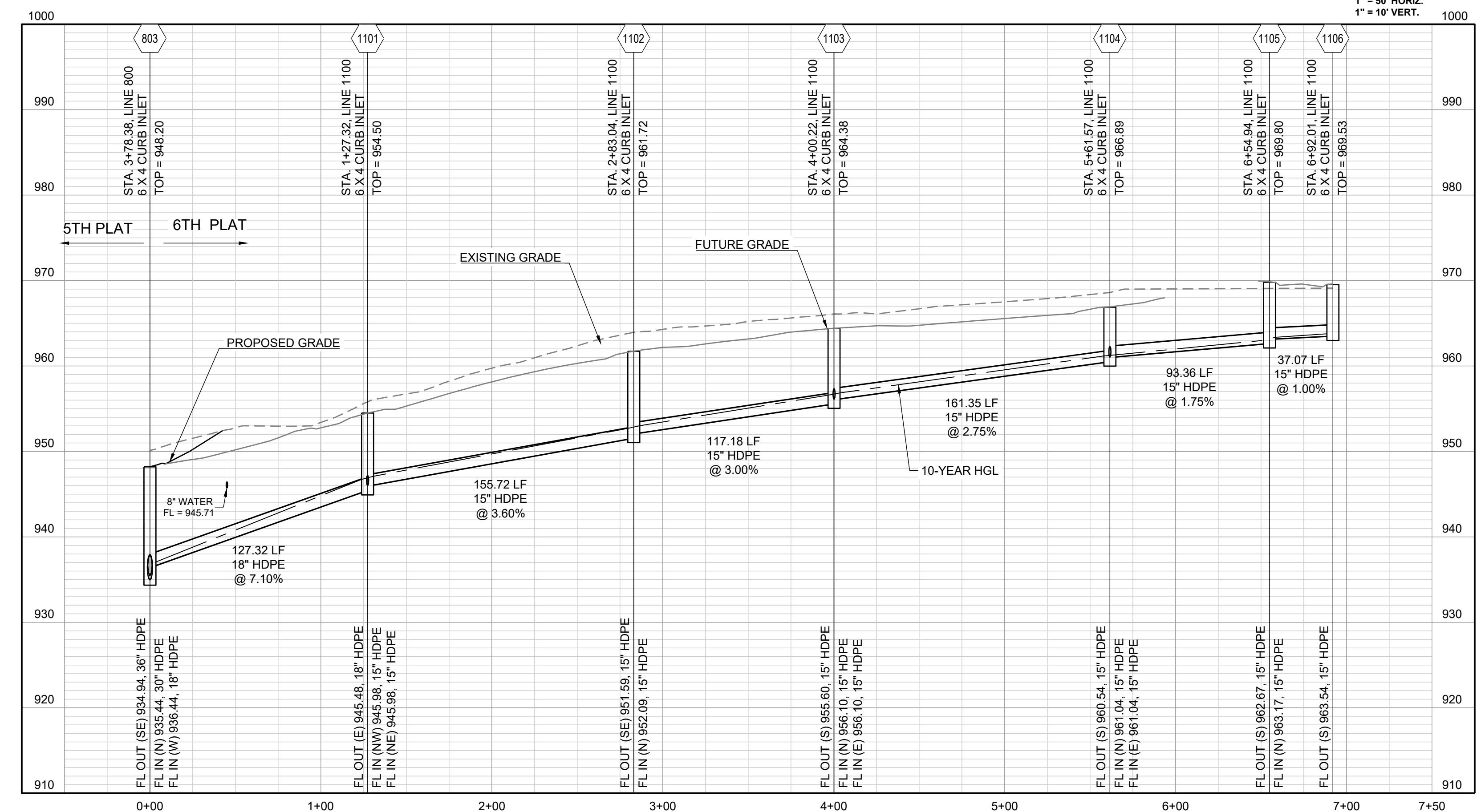


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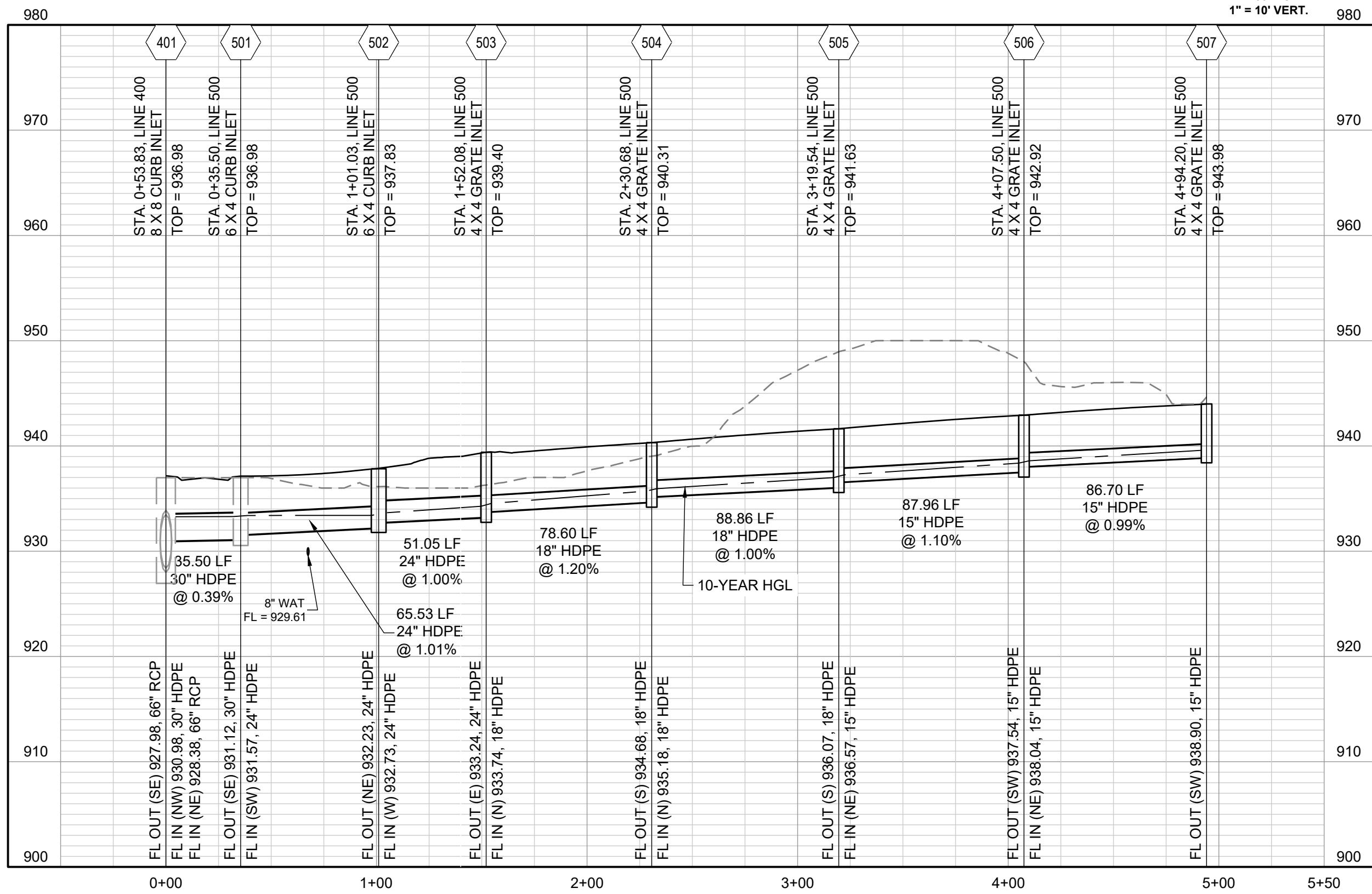
SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT**  
**STREET, STORMWATER, MASTER DRAINAGE**  
**PLAN & EROSION AND SEDIMENT CONTROL**  
**- LEE'S SUMMIT, MISSOURI**

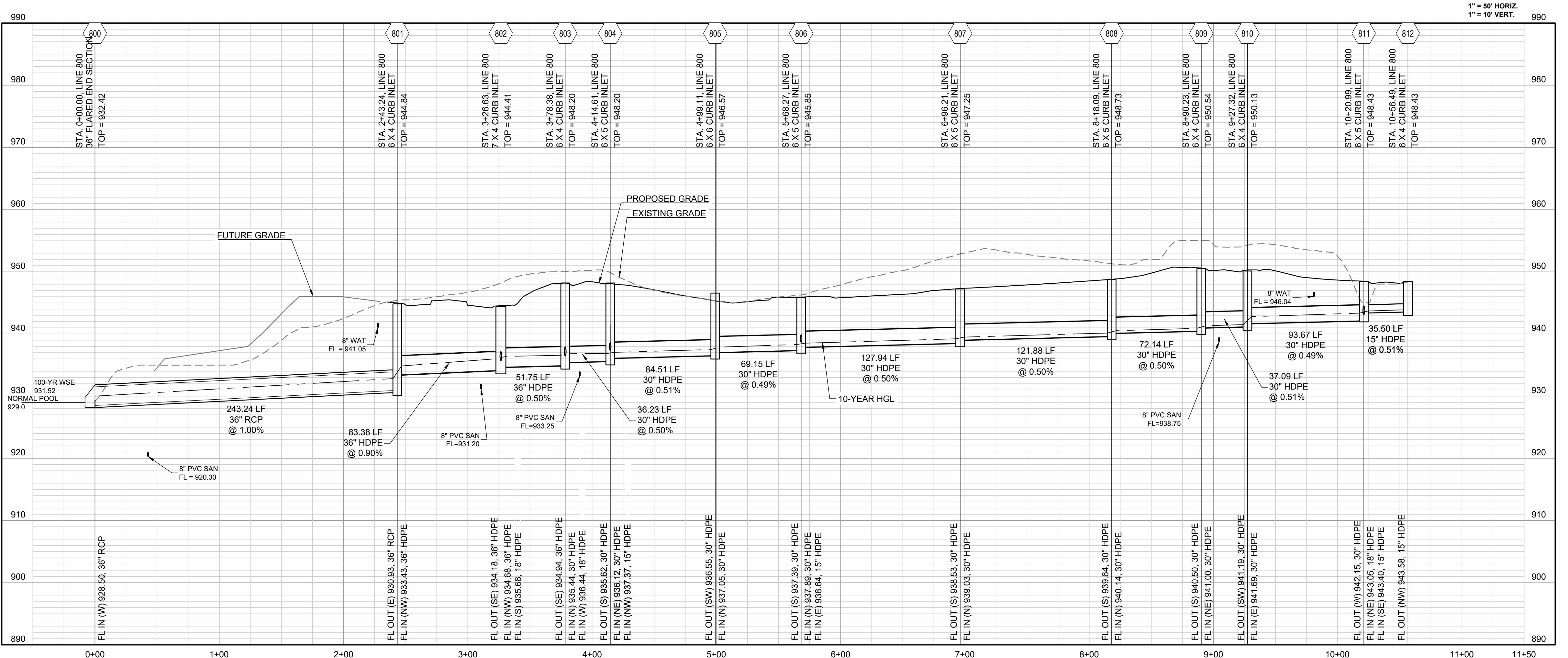
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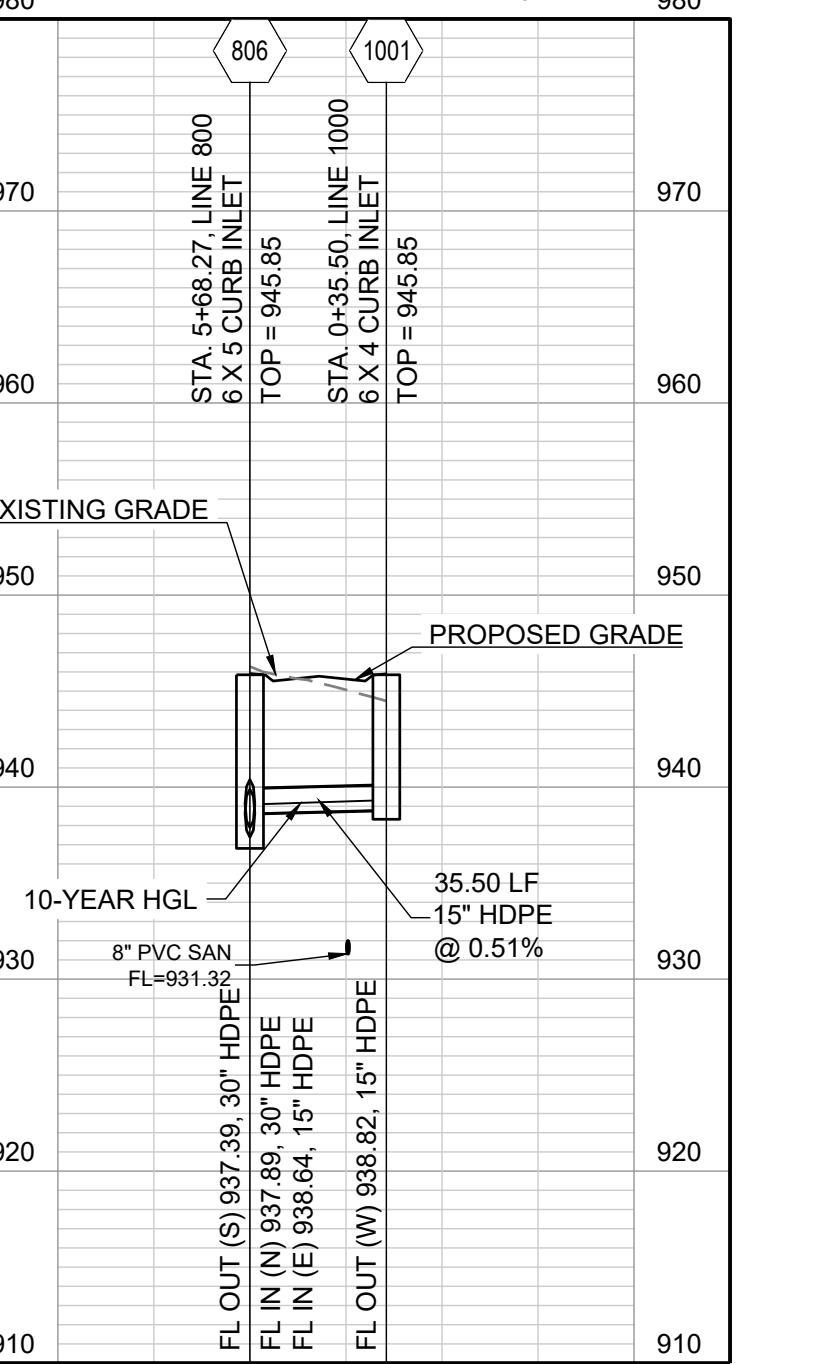
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### LINE 800

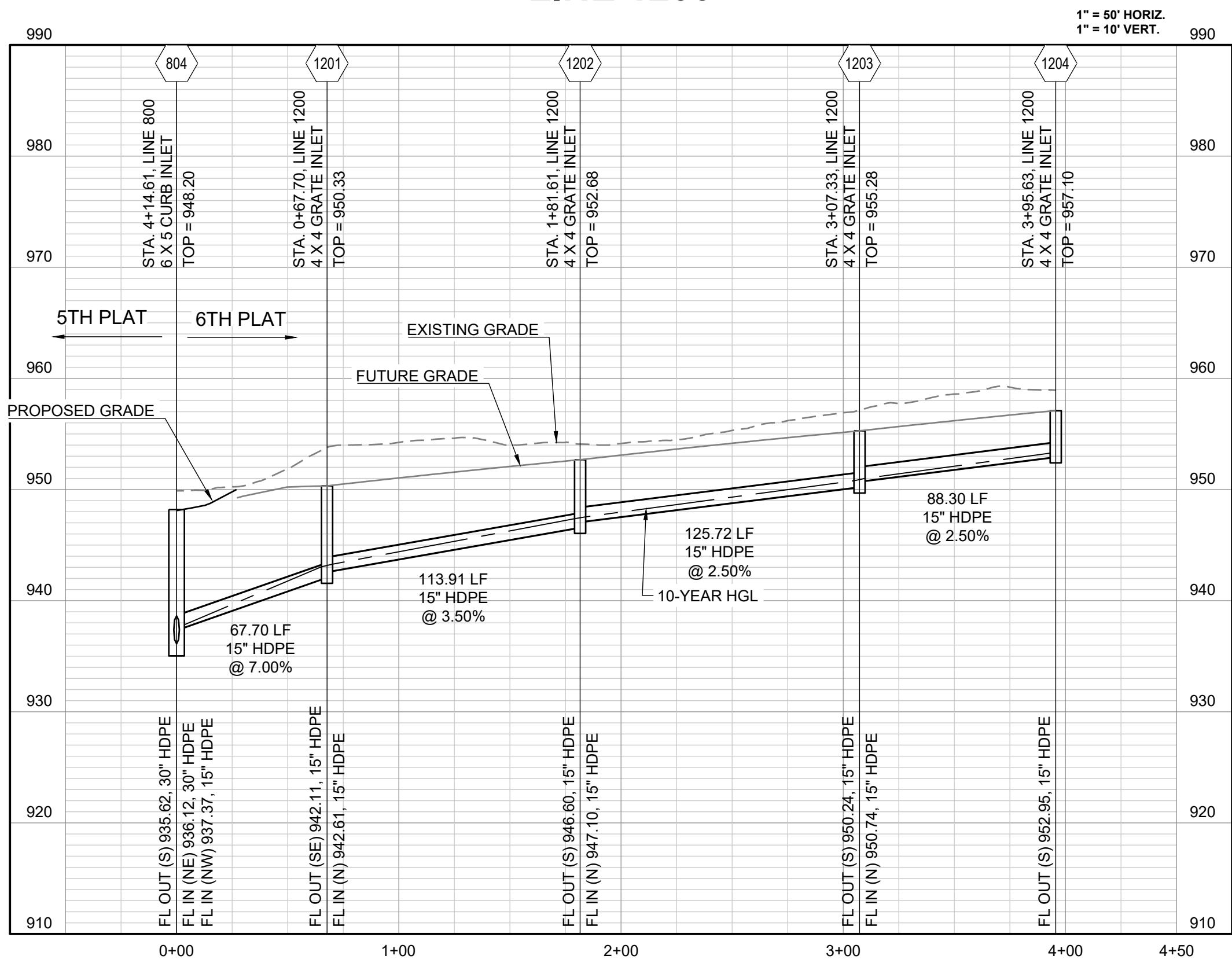


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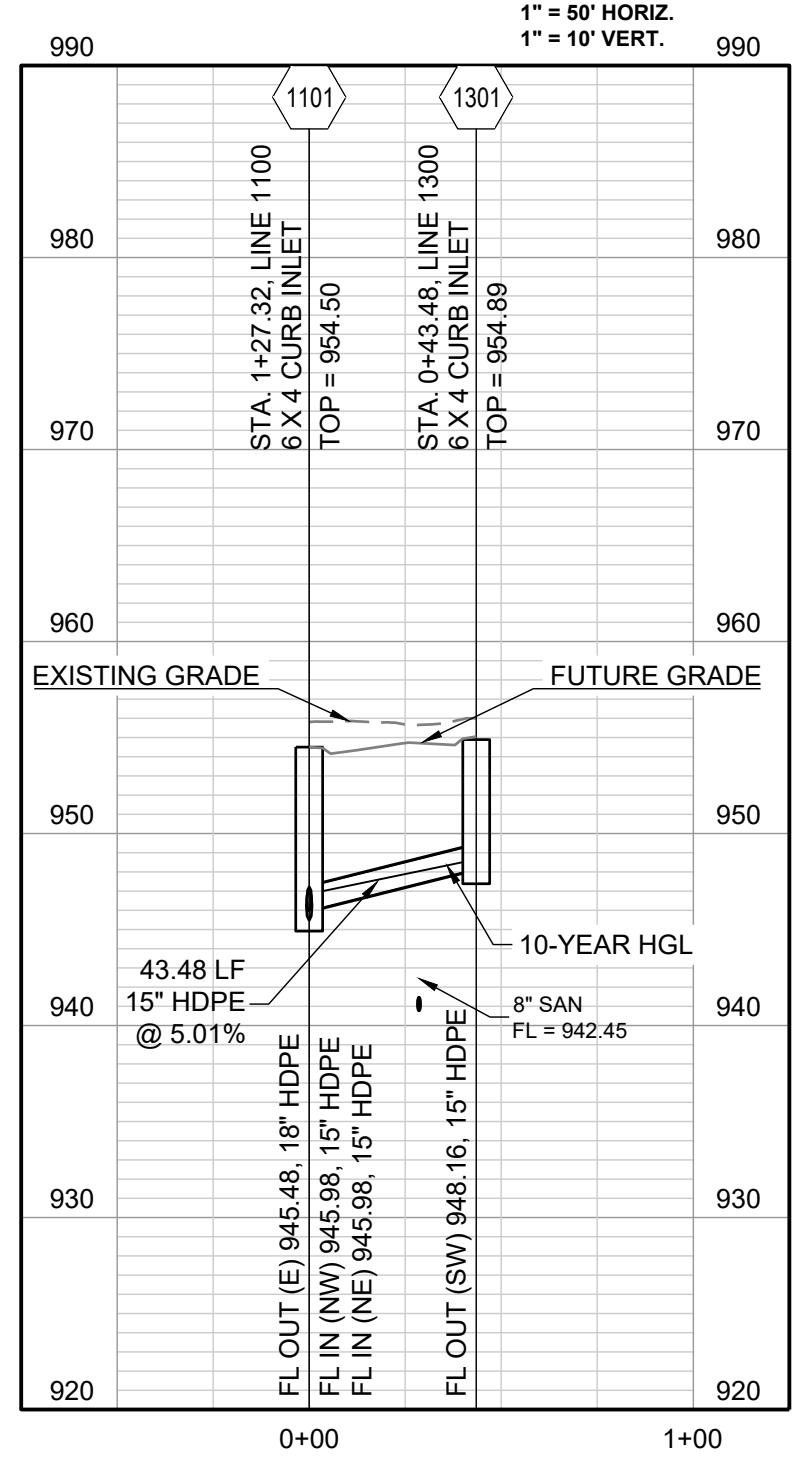


SHEET	STORM PROFILES	DESCRIPTION	
		DRAWN BY:	REVISION DATE
		BAL	2-4-22
		CHECKED BY:	3-30-22
		MAB	
		DATE PREPARED:	5/11/2021
		PROJ. NUMBER:	6
		FILE NUMBER:	20-189

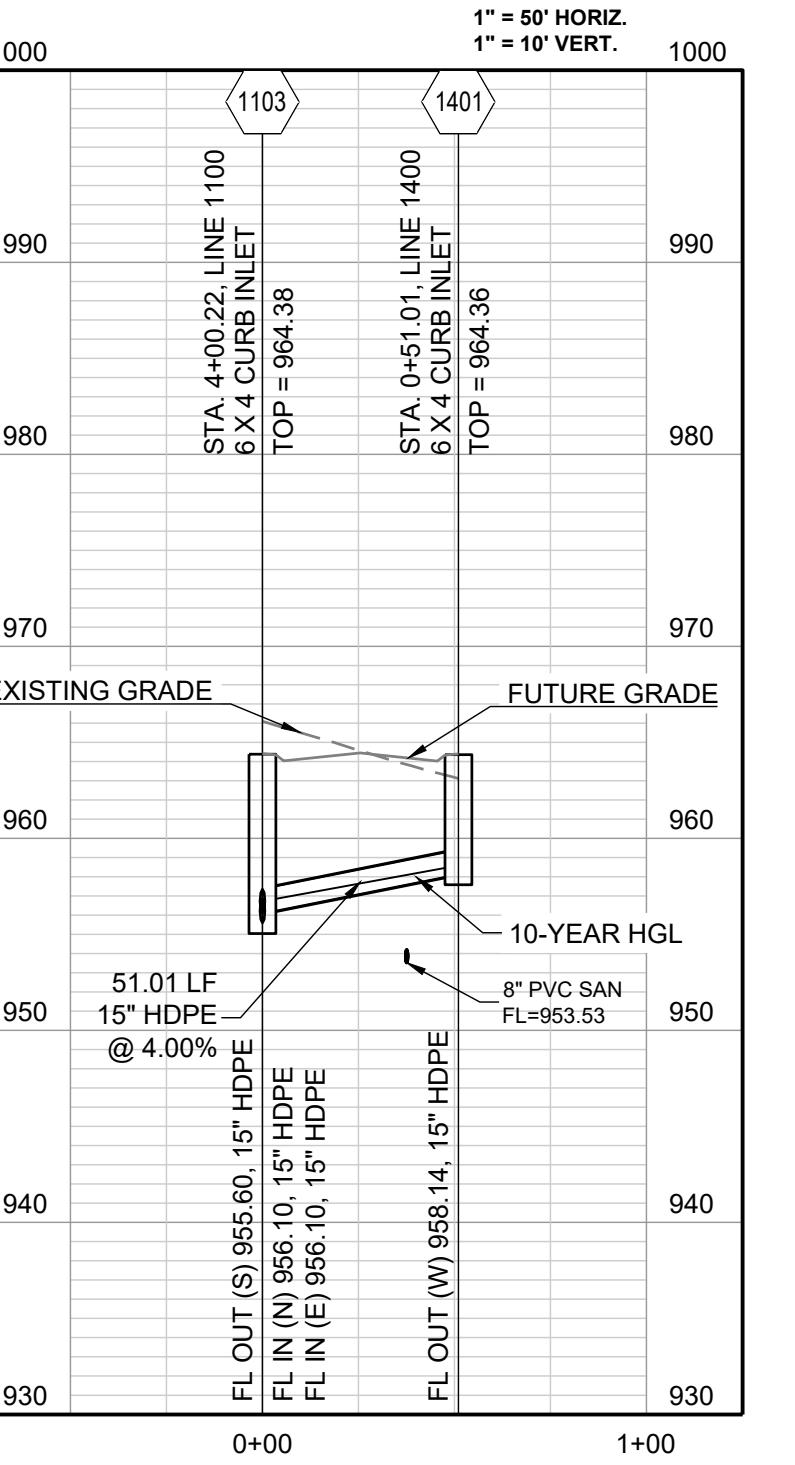
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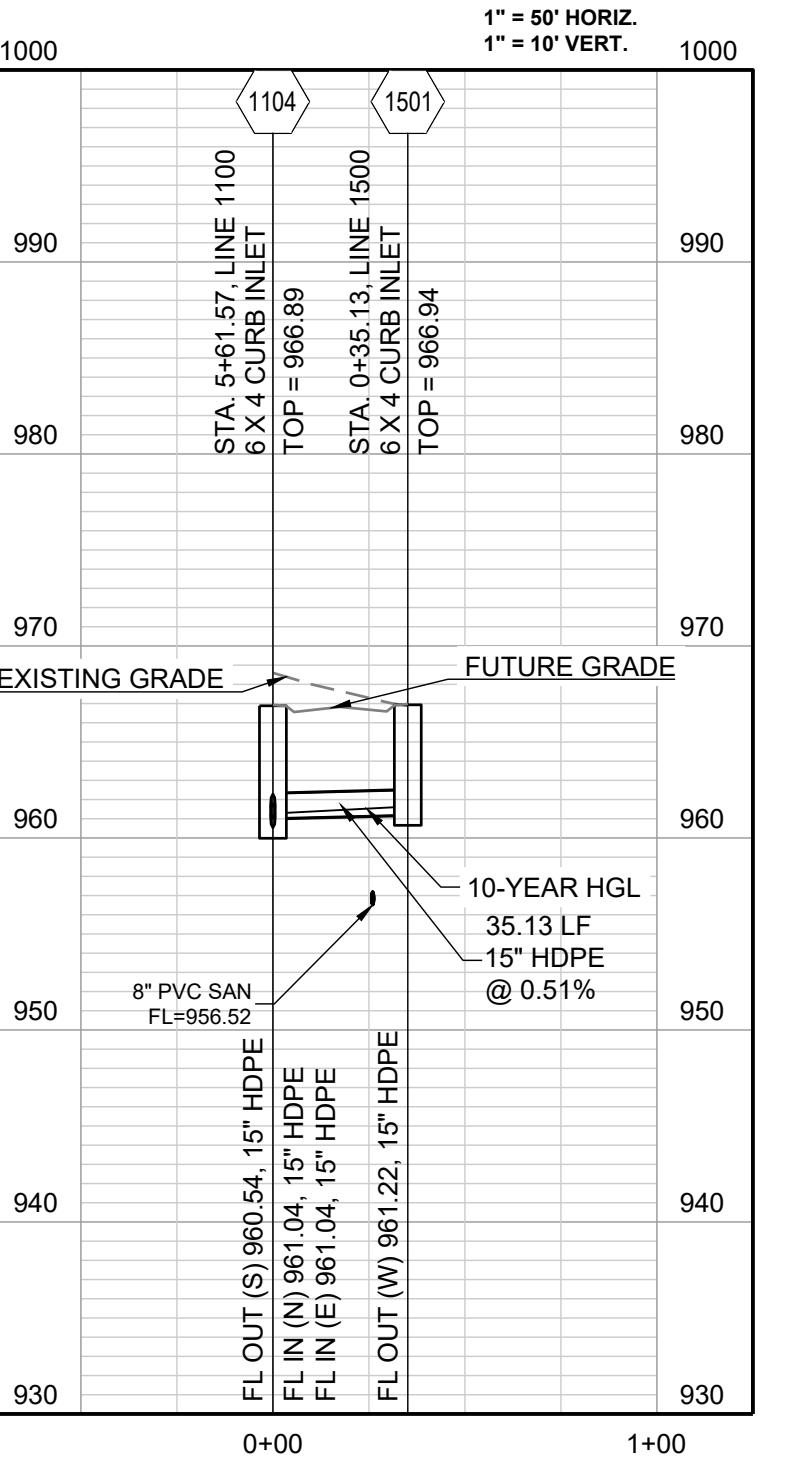
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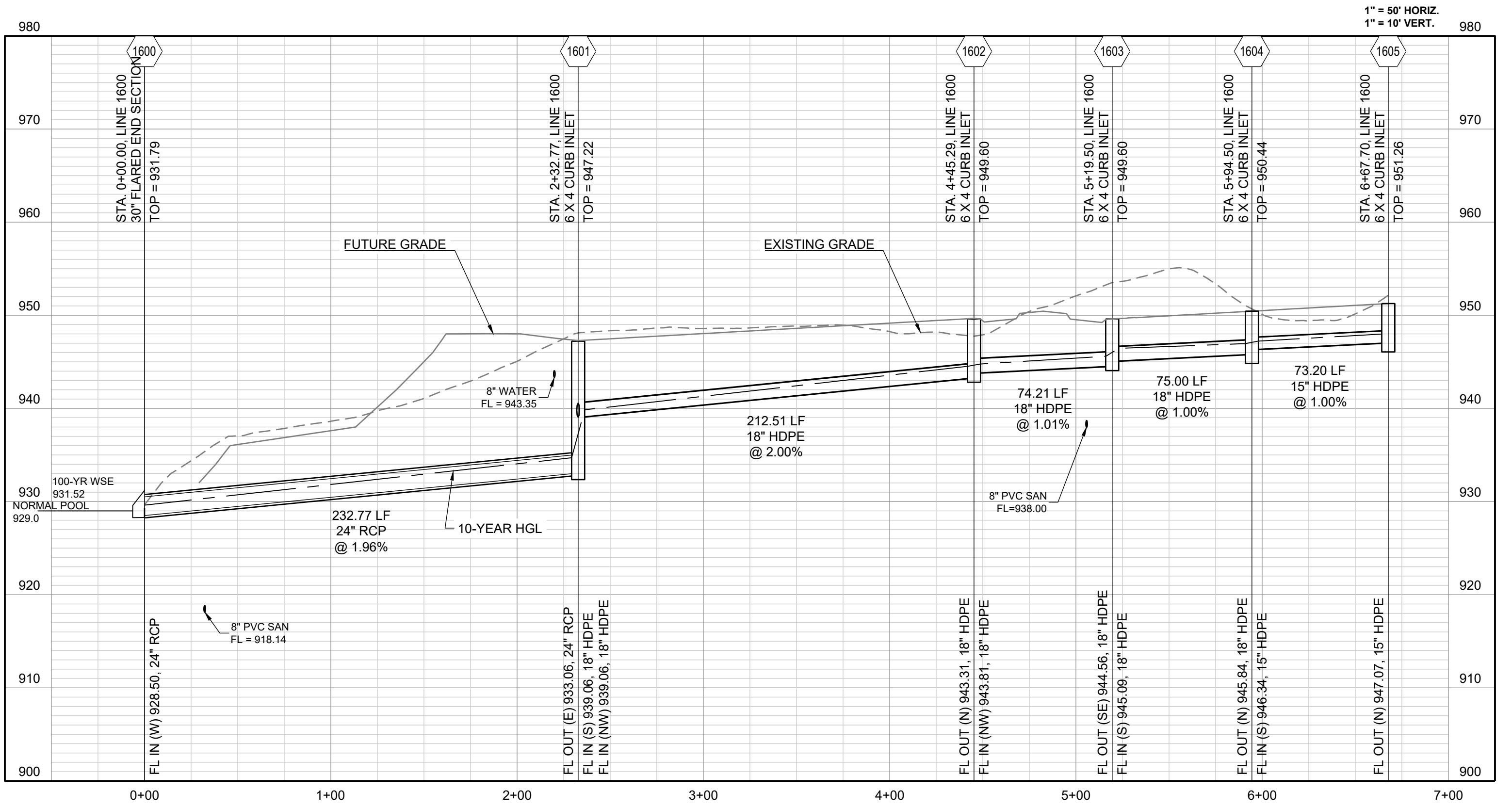
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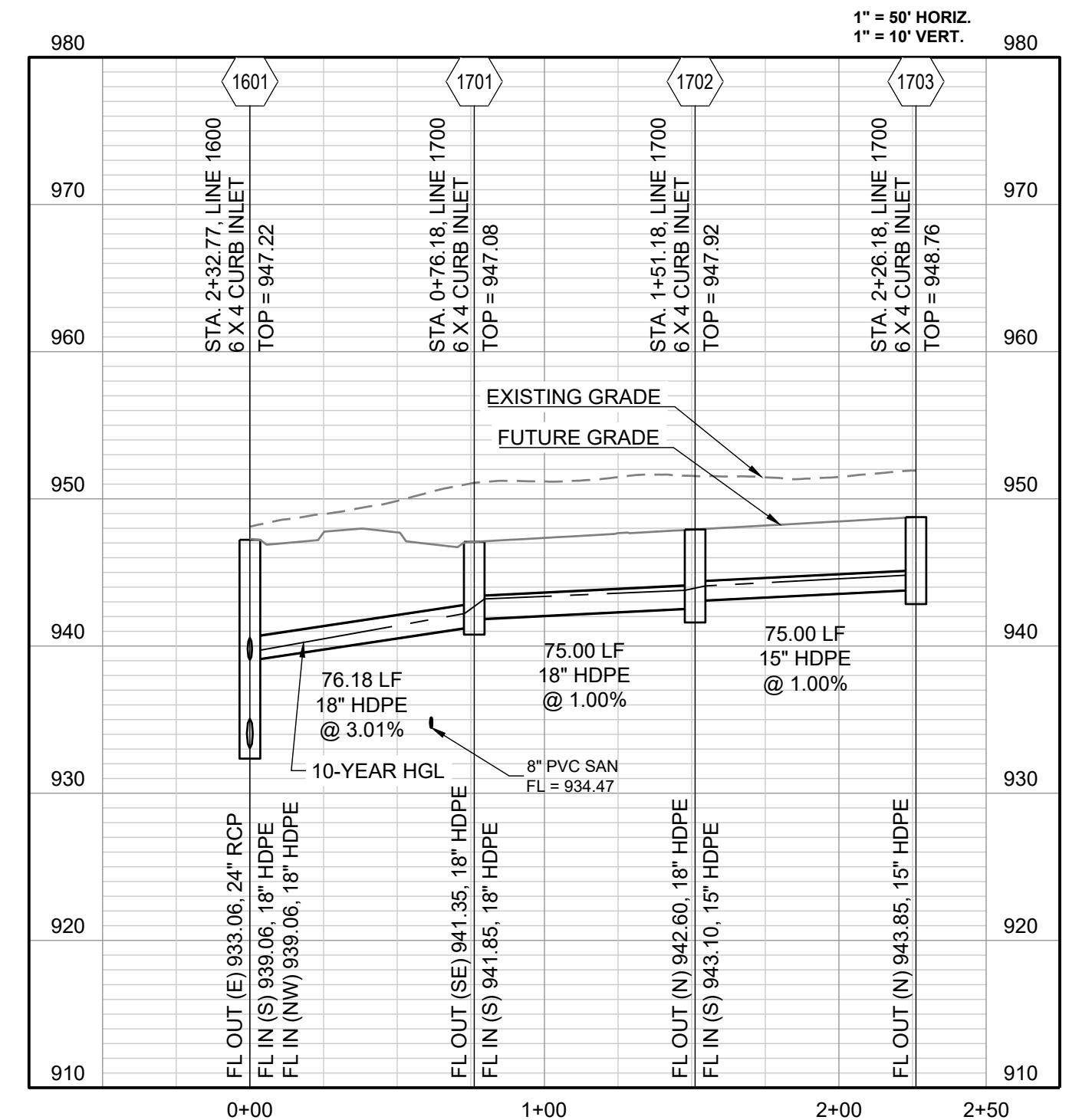
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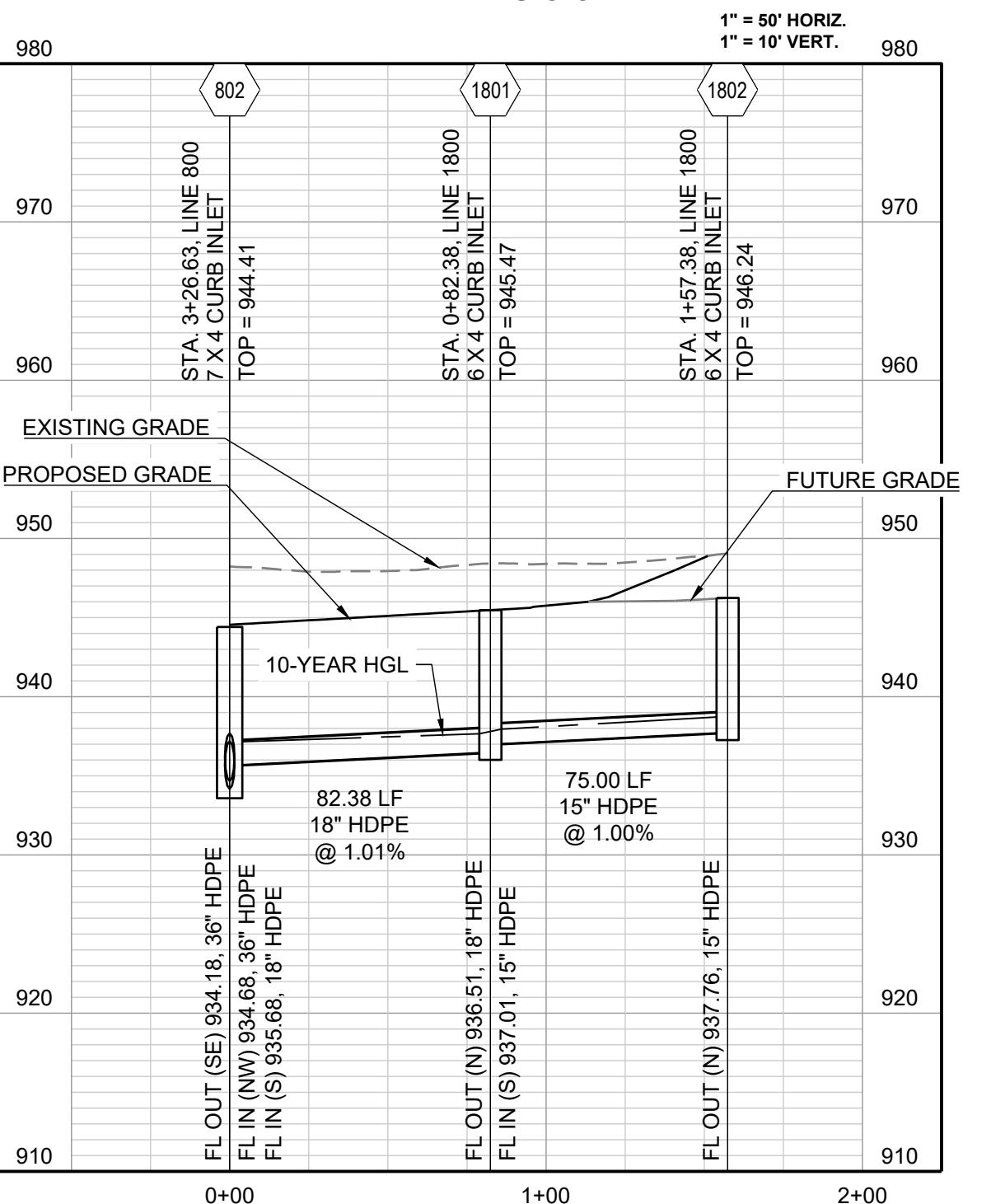
LINE 1600



LINE 1700



LINE 1800



**SCHLAGEL**  
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#E2020038005 F BLA/C2020038005 F

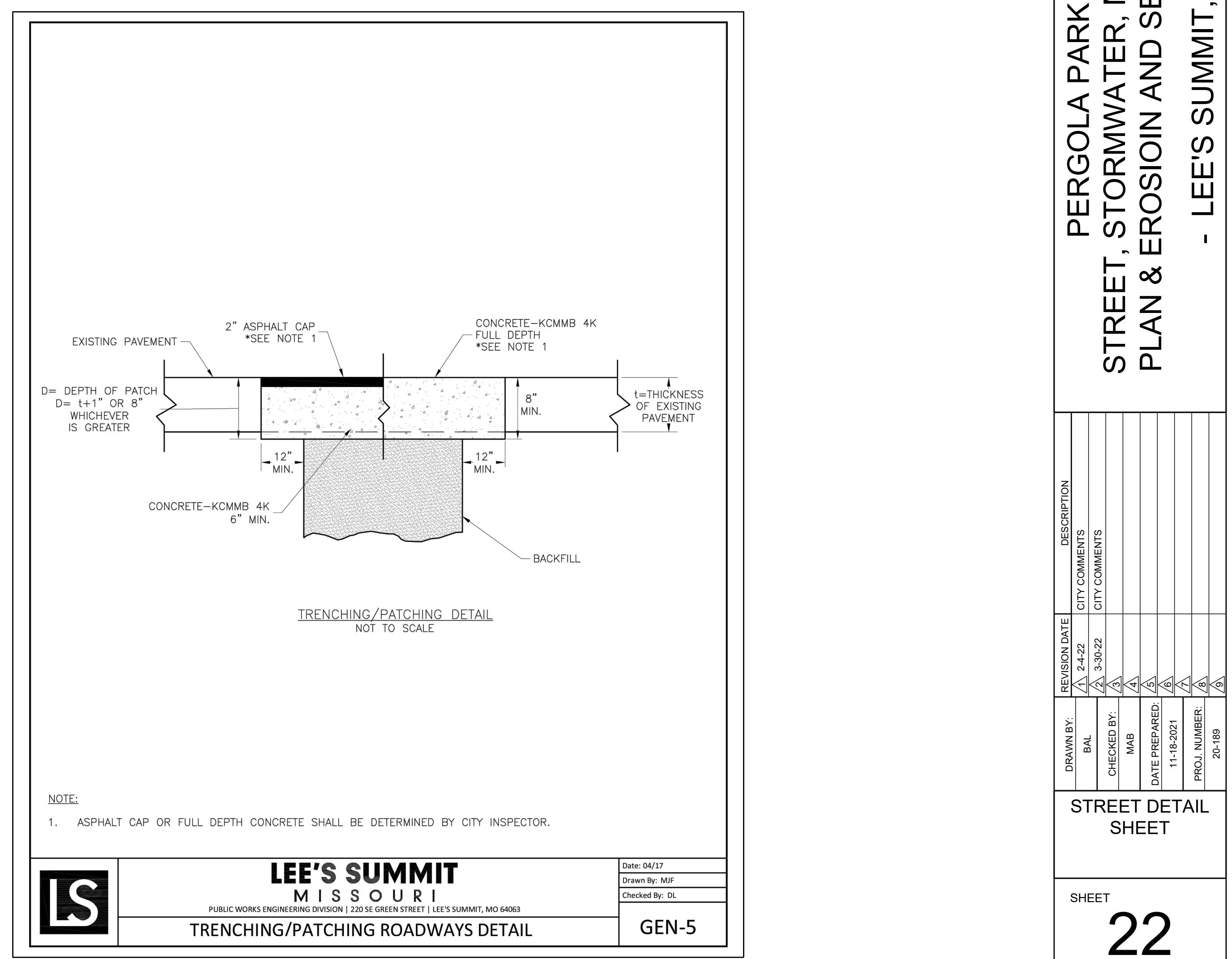
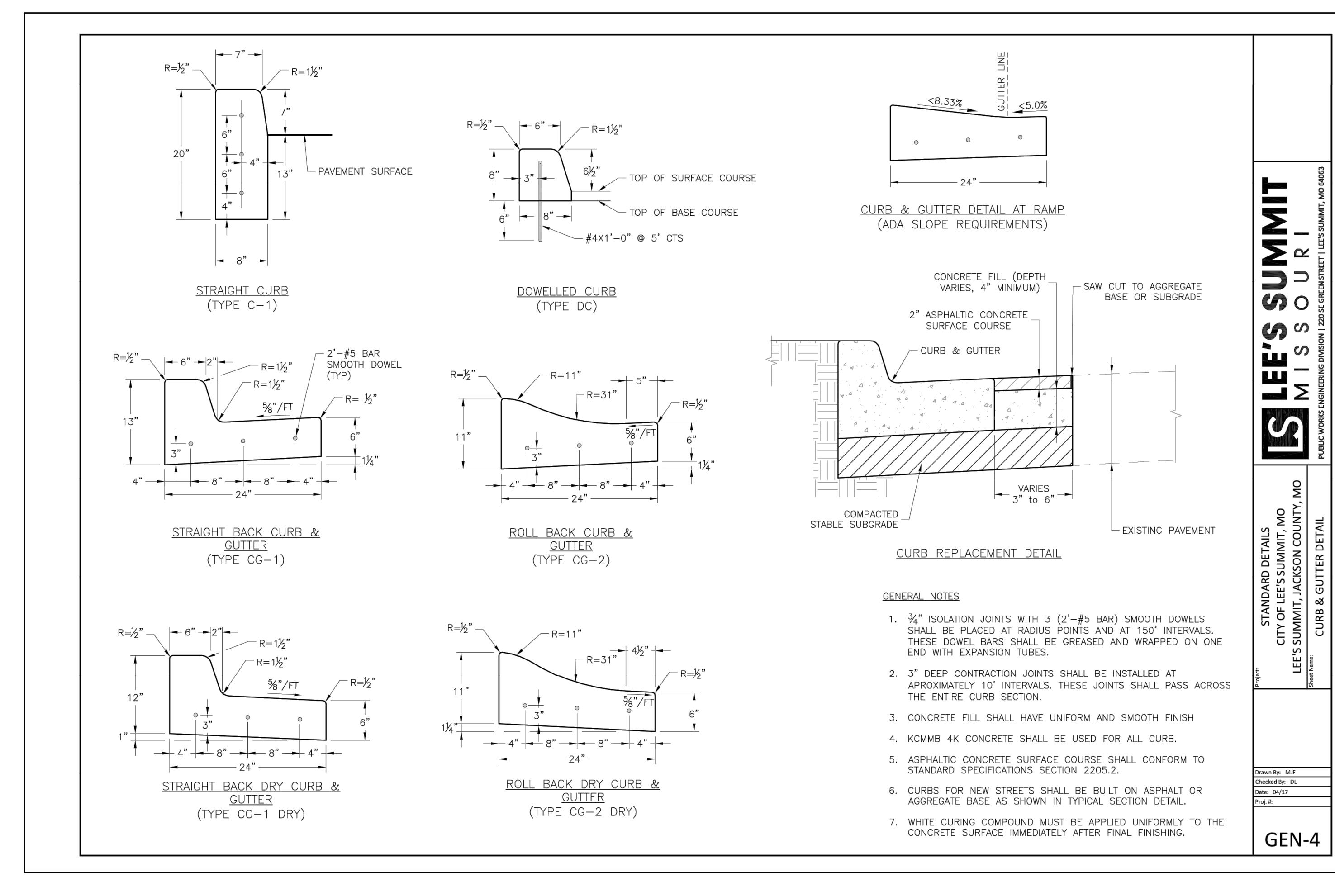
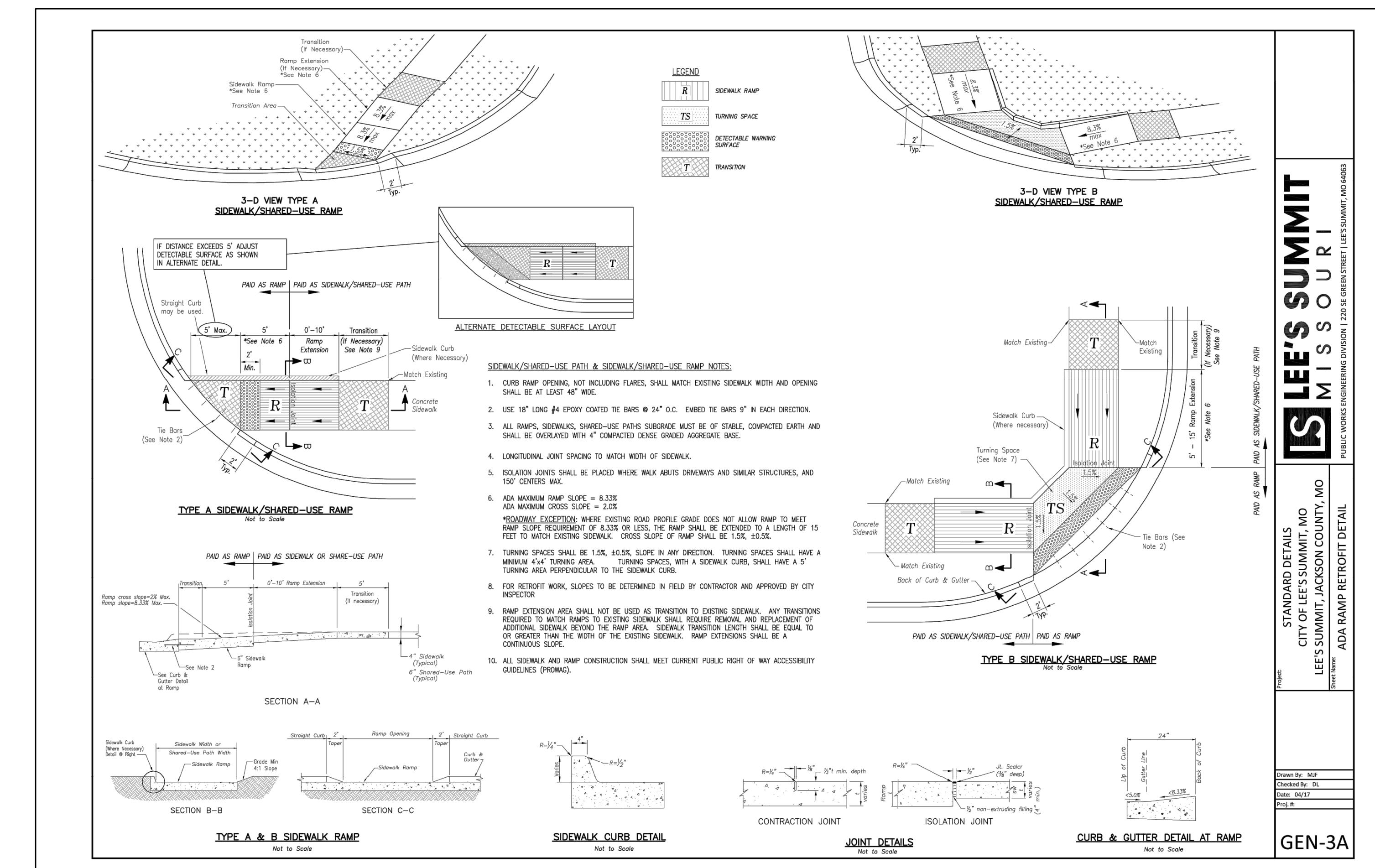
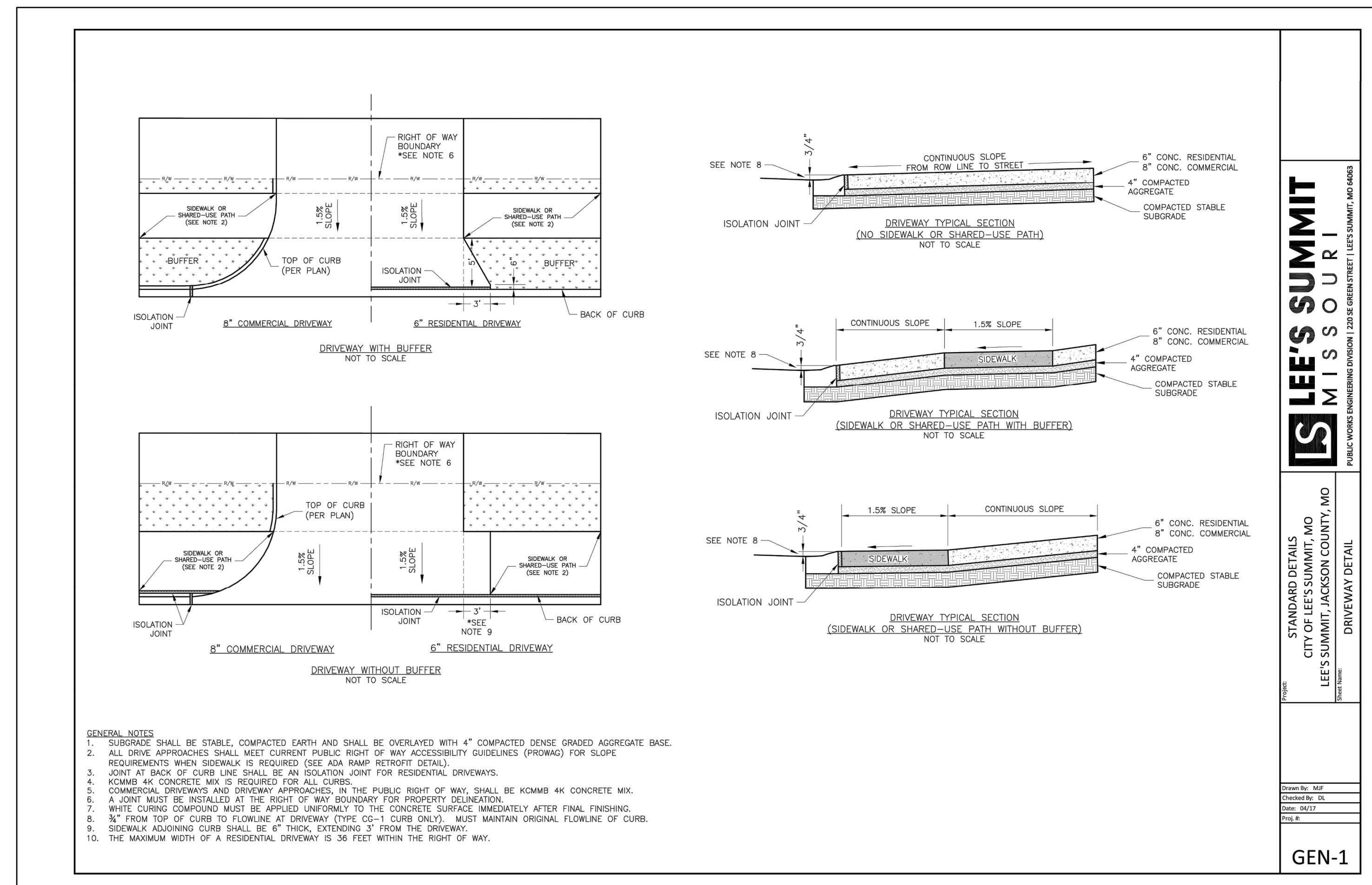
PREPARED BY:  
MARK ALLEN BREUER  
NUMBER: PE-2009007268  
04.01.22

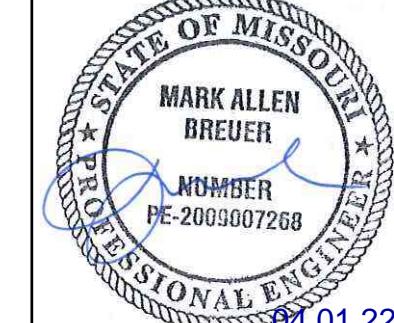
SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL  
- LEE'S SUMMIT, MISSOURI

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STORM PROFILES CONT	
DRAWN BY:	REVISION DATE
BAL	2-4-22
CHECKED BY:	3-30-22
MAB	4
DATE PREPARED:	5
11-1-2021	
PROJ. NUMBER:	6
20-189	

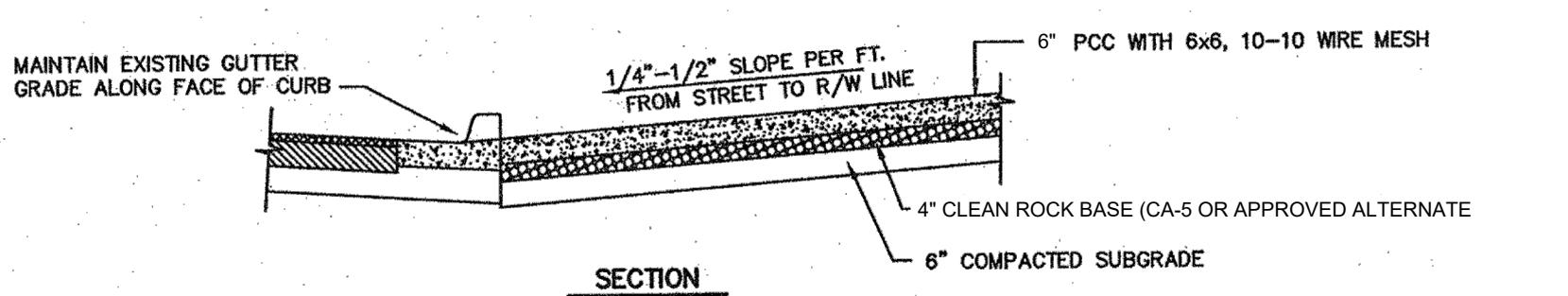
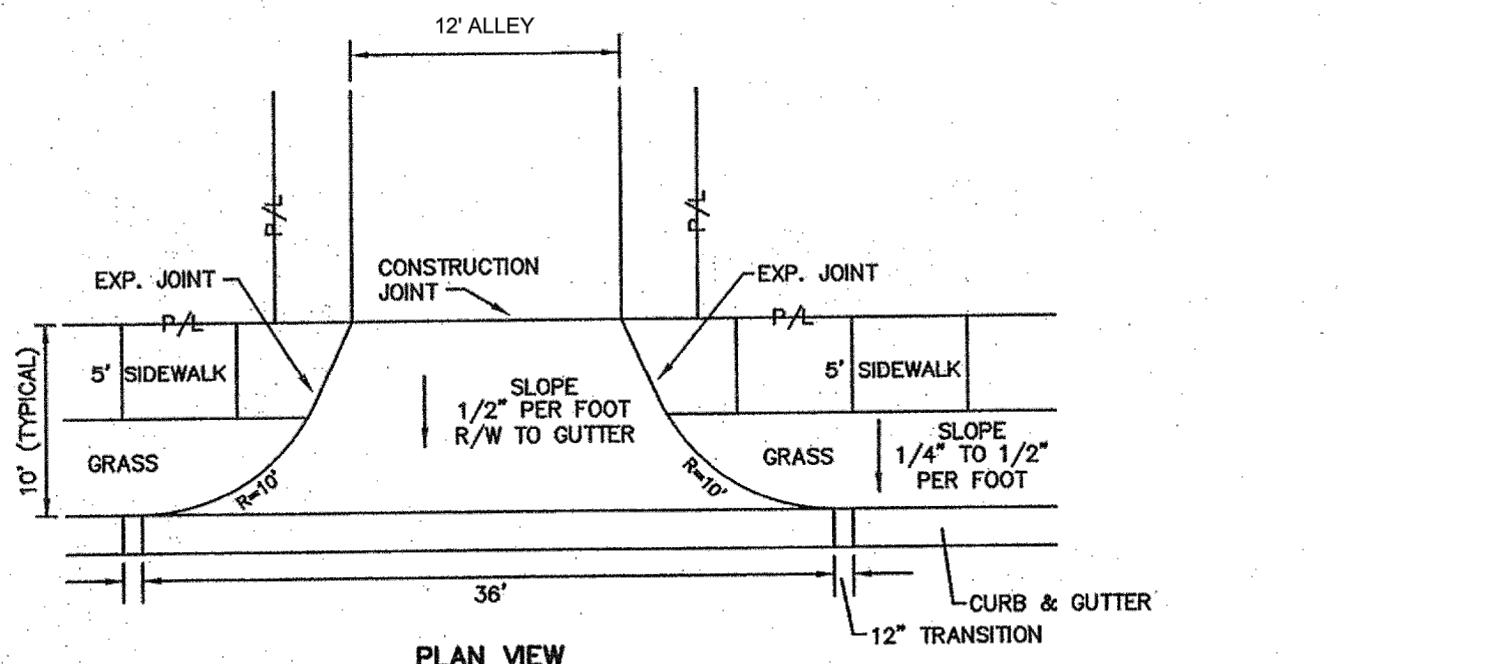
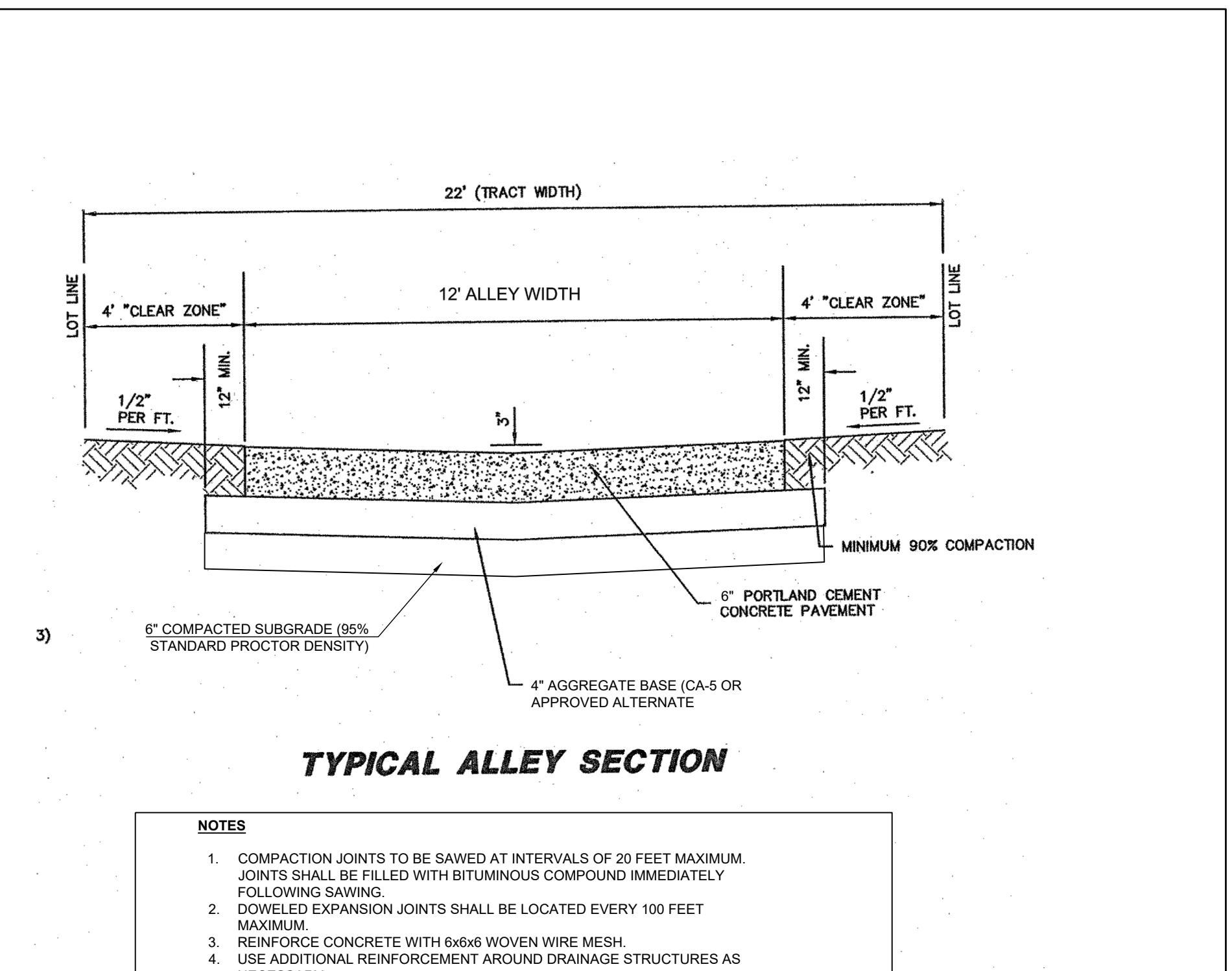
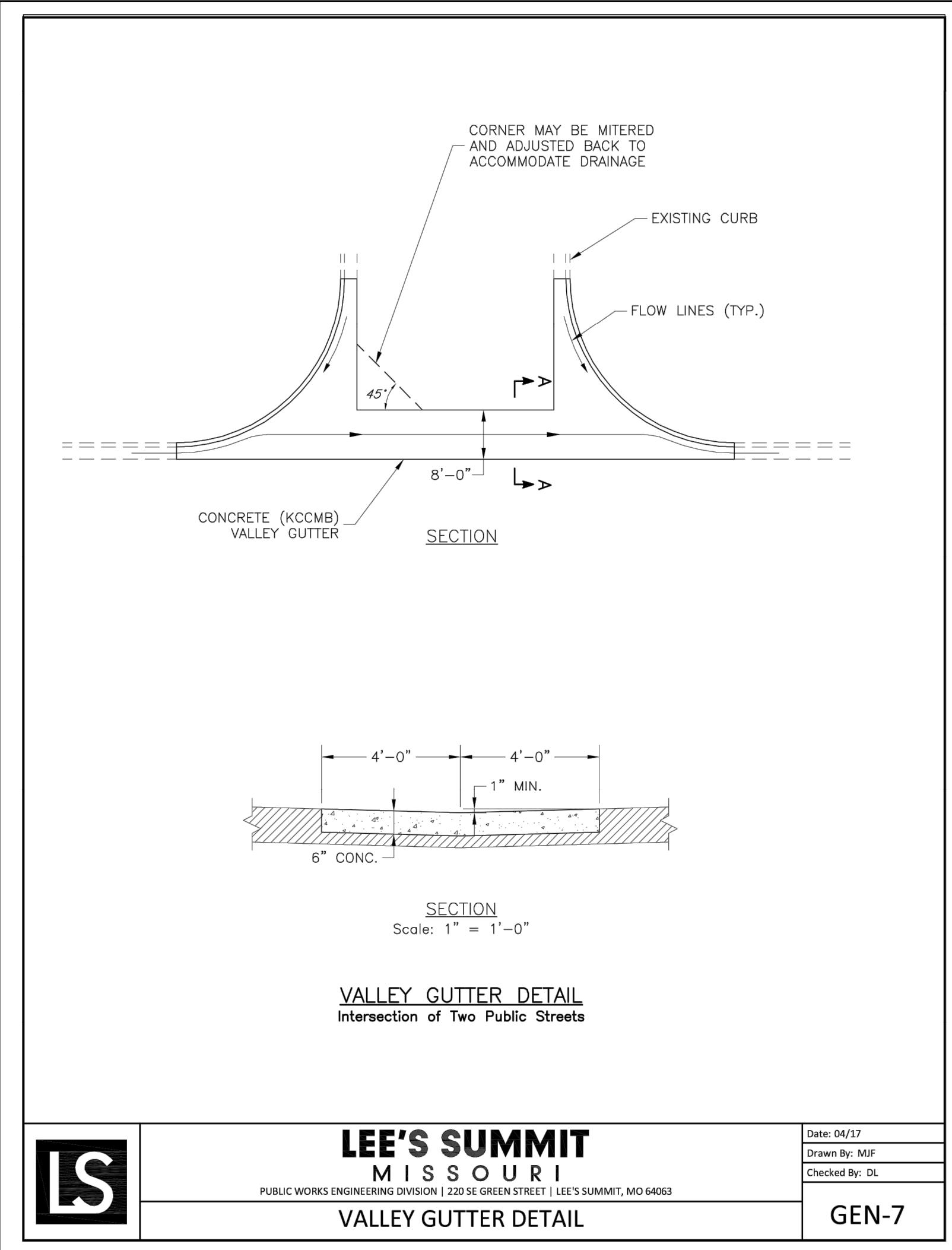


PREPARED BY:  
  
 MARK ALLEN BREUER  
 NUMBER PE-2095007268  
 04.01.22

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**PERGOLA PARK 5TH PLAT  
 STREET, STORMWATER, MASTER DRAINAGE  
 PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI



**ALLEY APRON**

TABLE LS-2: MINIMUM ASPHALT PAVEMENT THICKNESSES

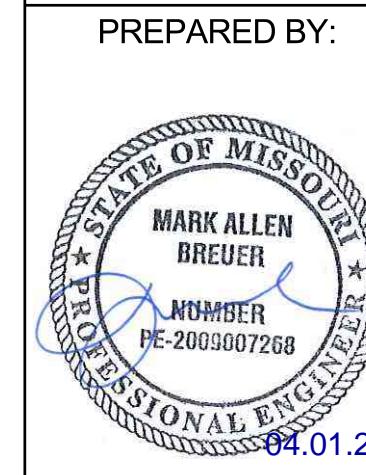
Street Classification	Pavement Option	AC Surface (in.)	AC Base (in.)	MoDOT Type 5 Base (in.)	Geogrid(1)	Chemical Subgrade Stabilization(2) (in.)
Residential Local/Access	A	2	4	6	--	6
	B	2	4	10	Geogrid	--
Residential Collector	A	2	5.5	6	--	9
	B	2	5.5	12	Geogrid	--
Commercial Industrial Local/Collector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

TABLE LS-3: MINIMUM PCC PAVEMENT THICKNESSES

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

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

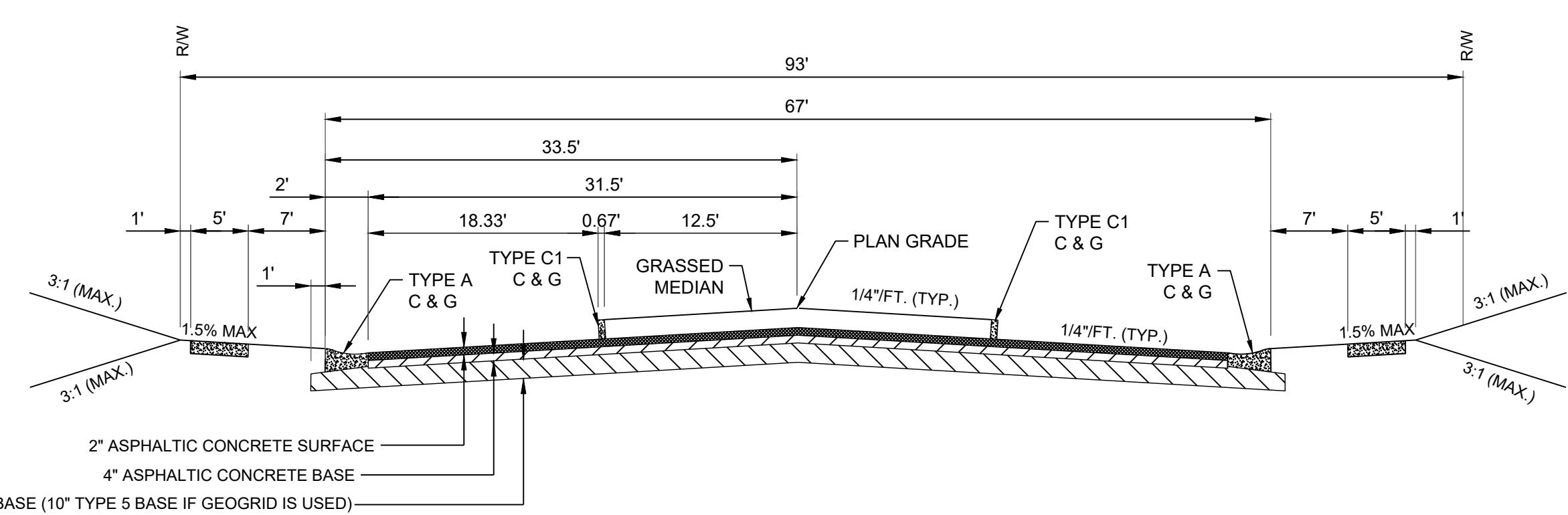
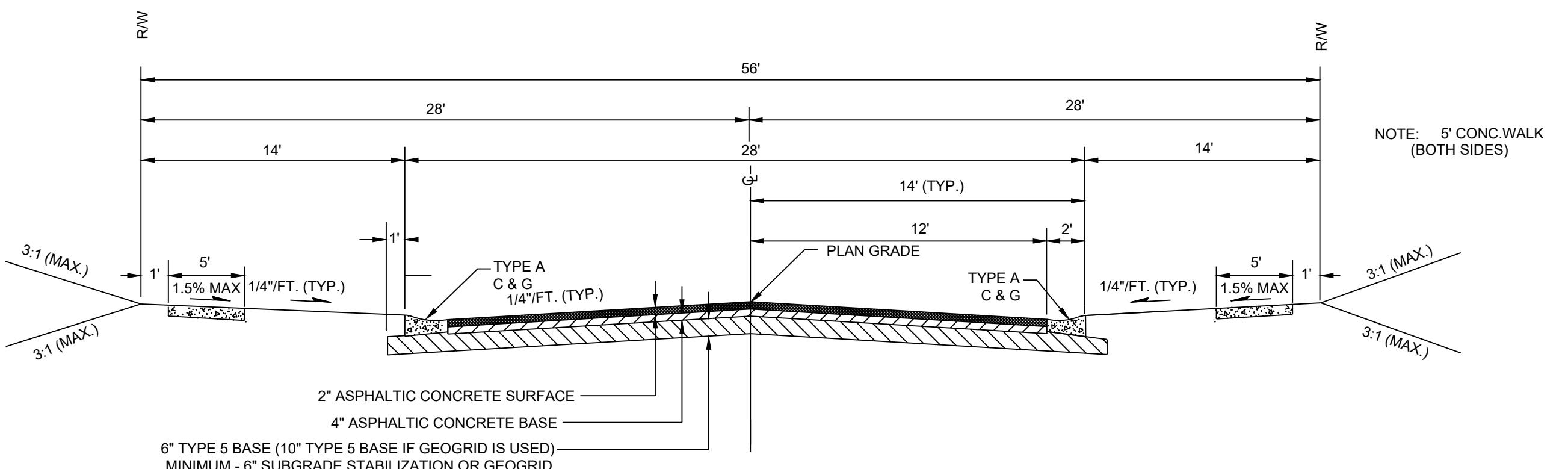
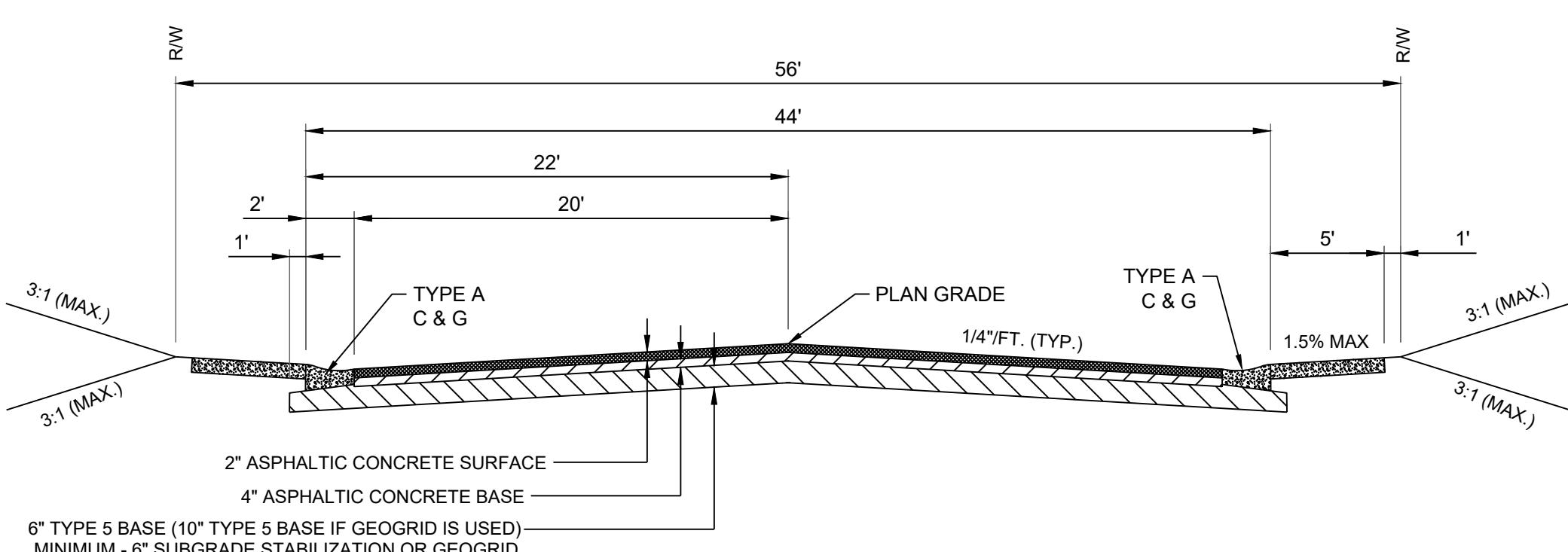
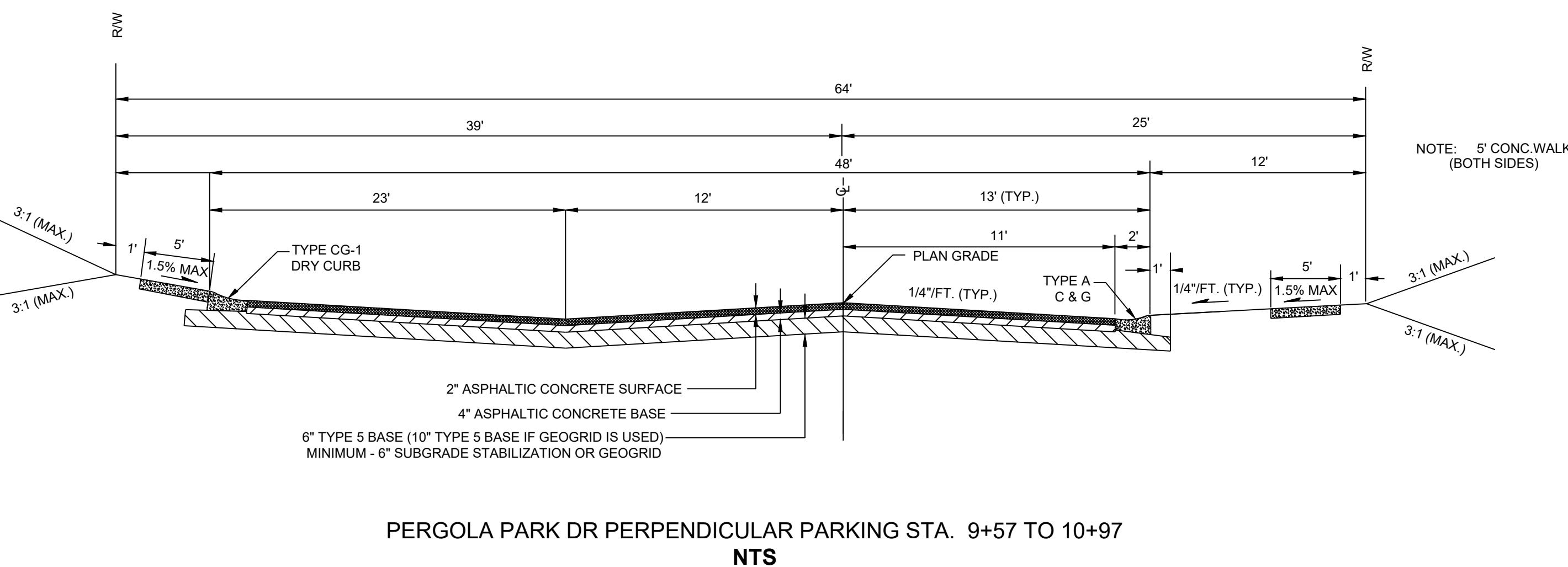
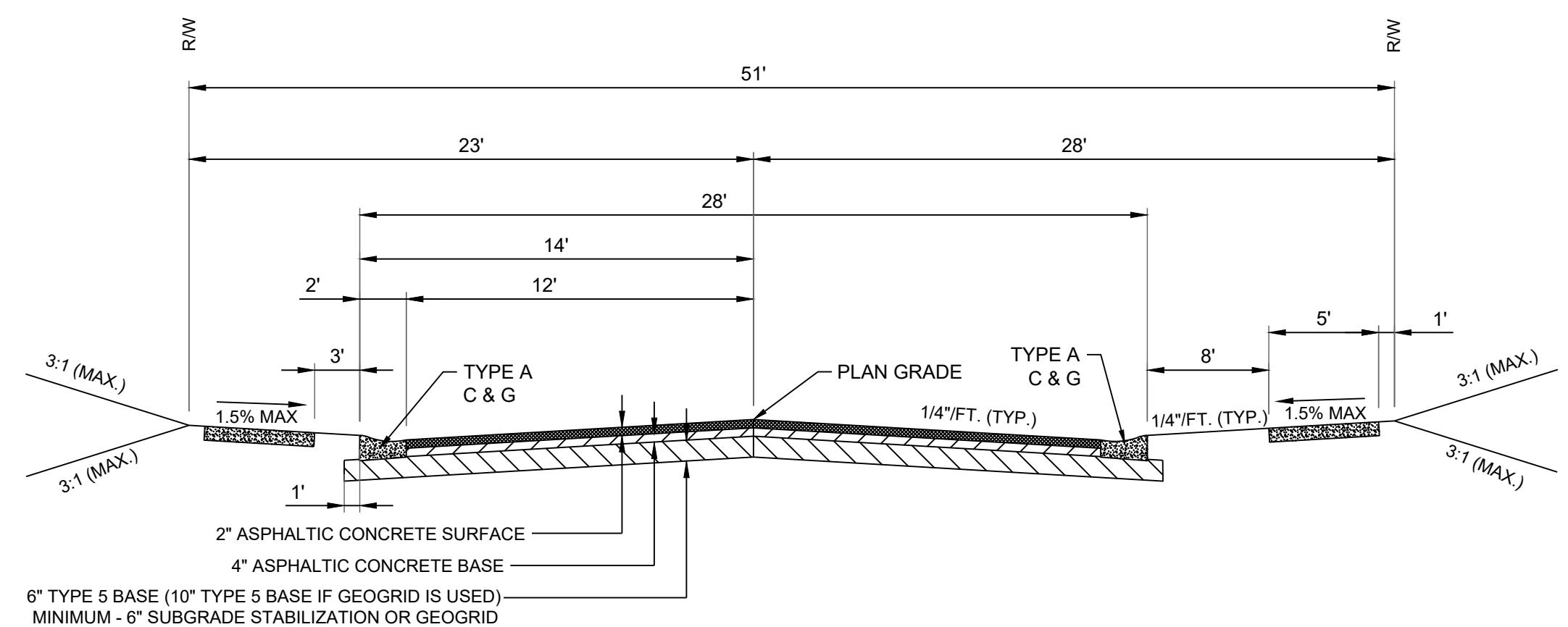
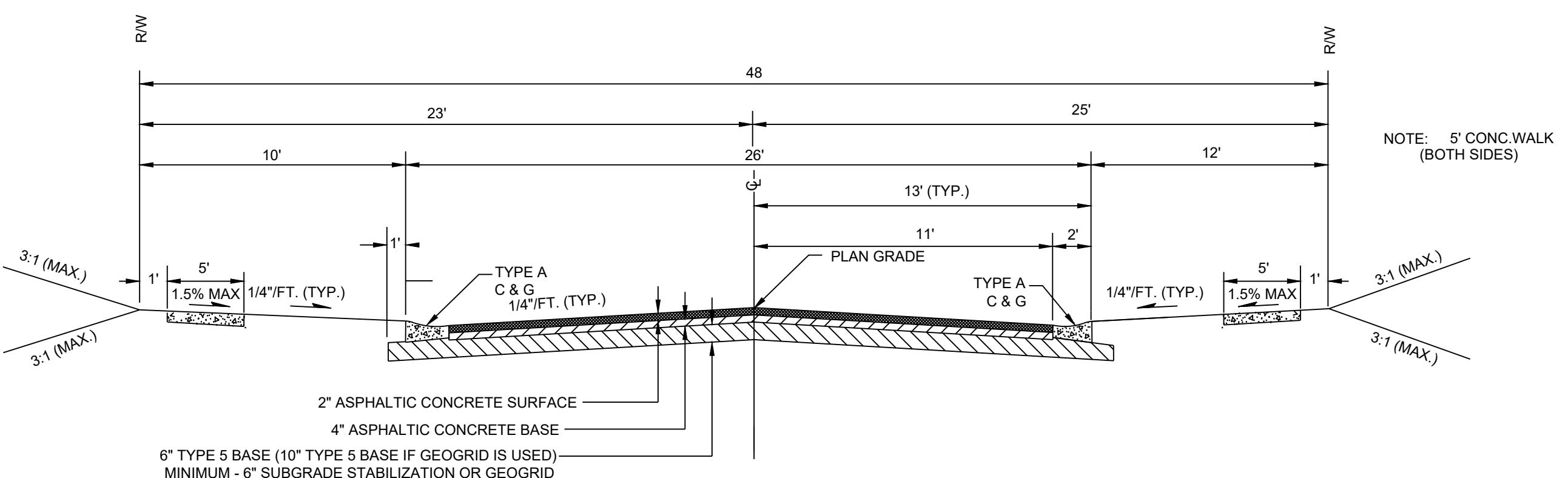
LSS200 16 October 2016



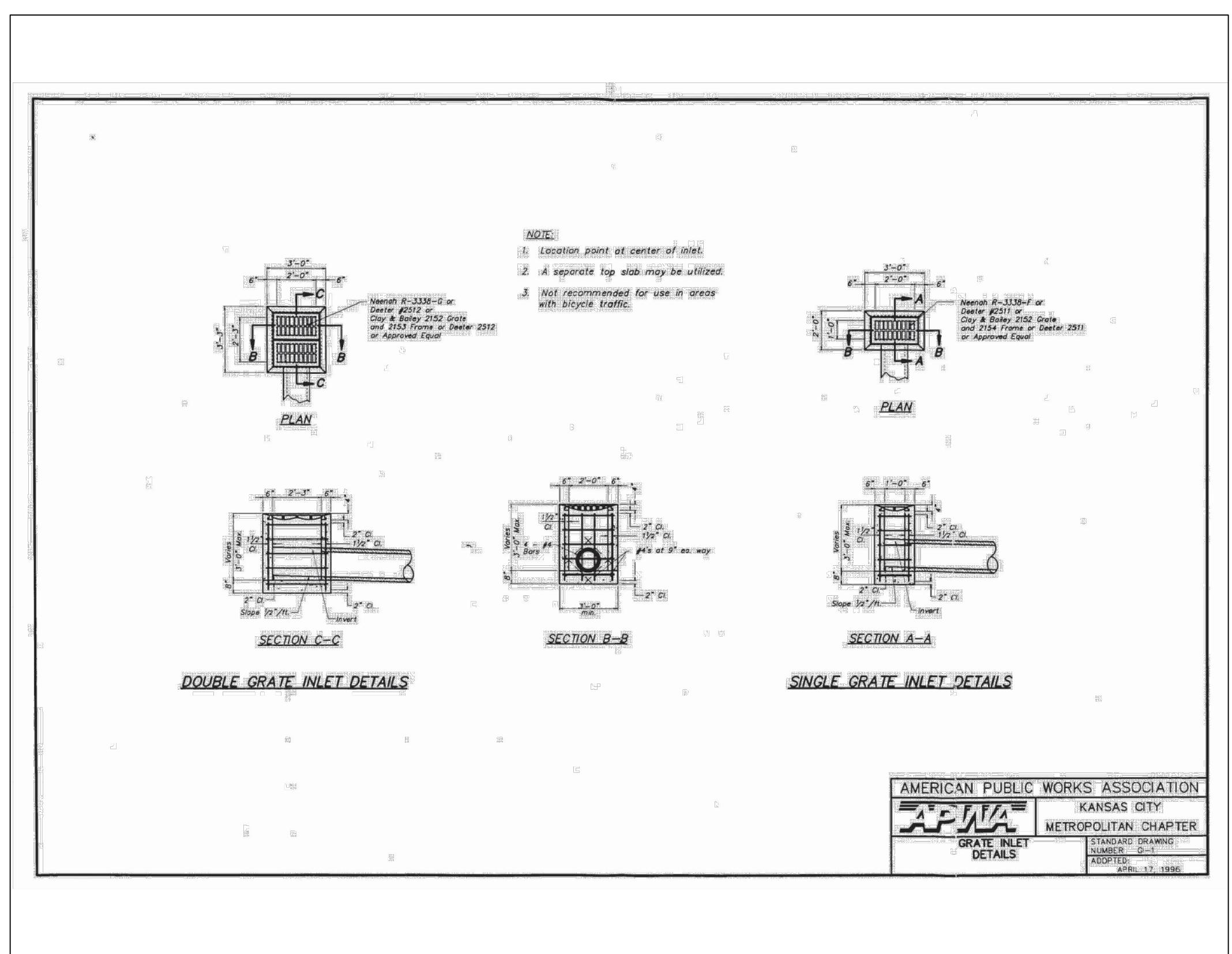
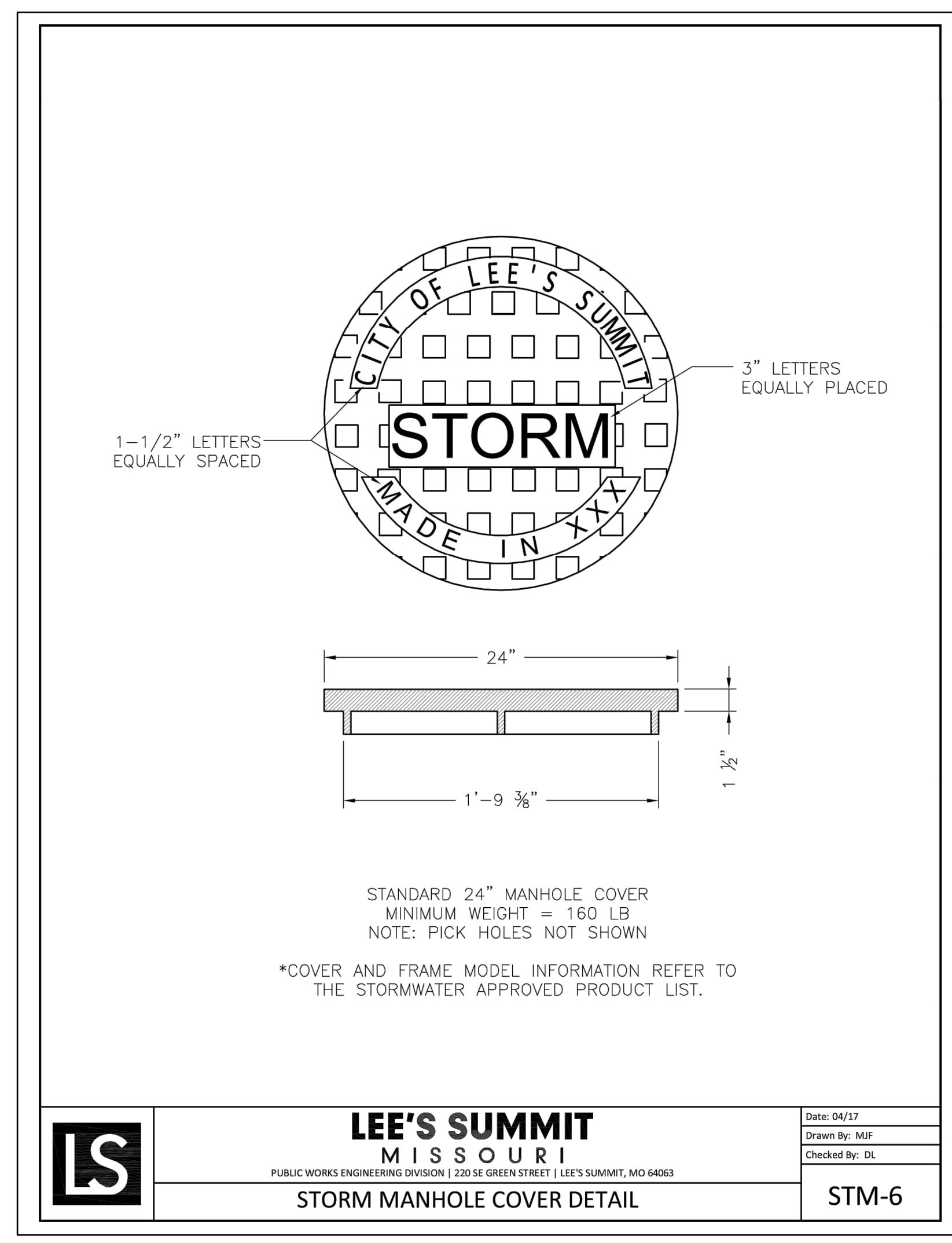
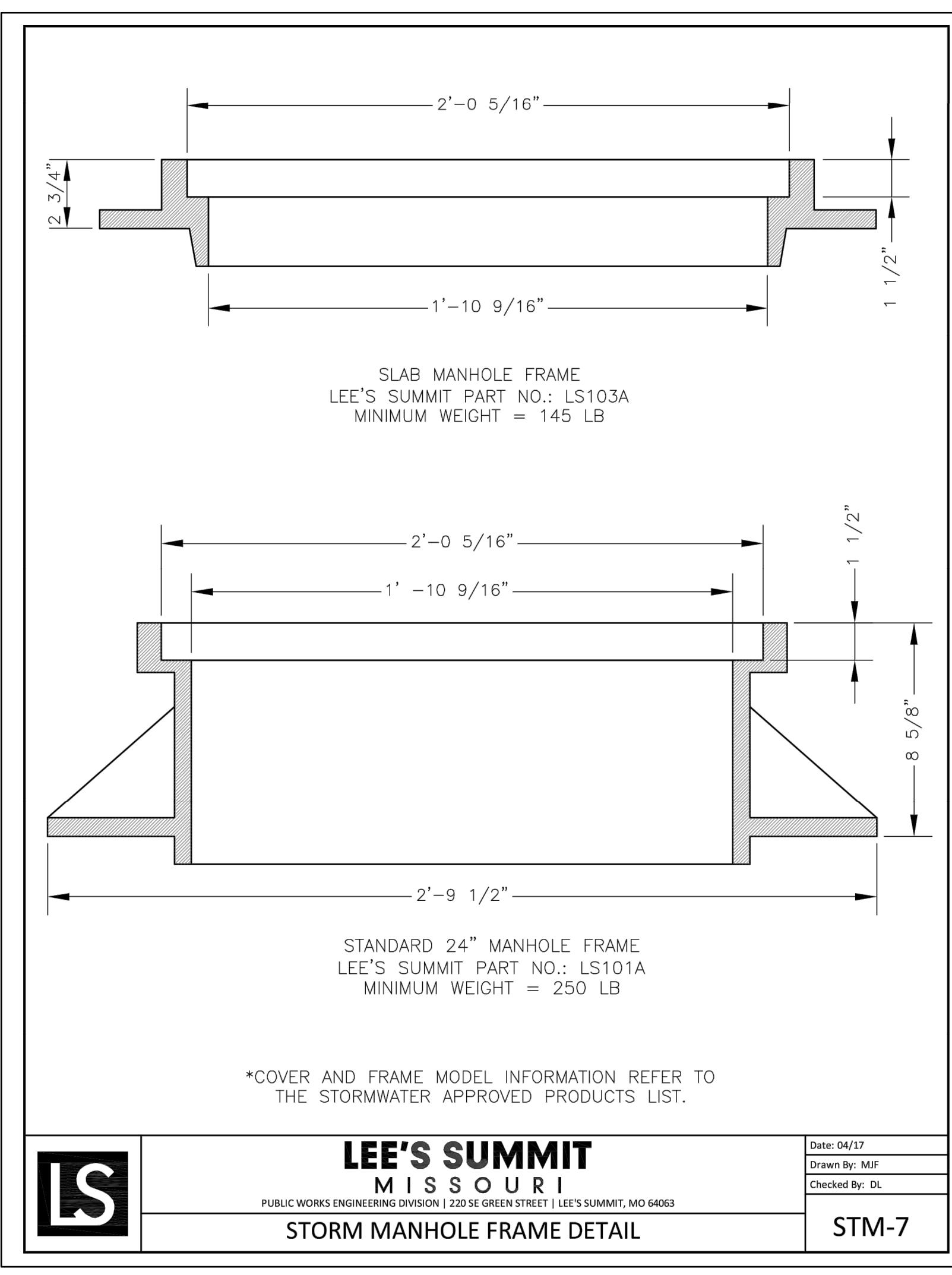
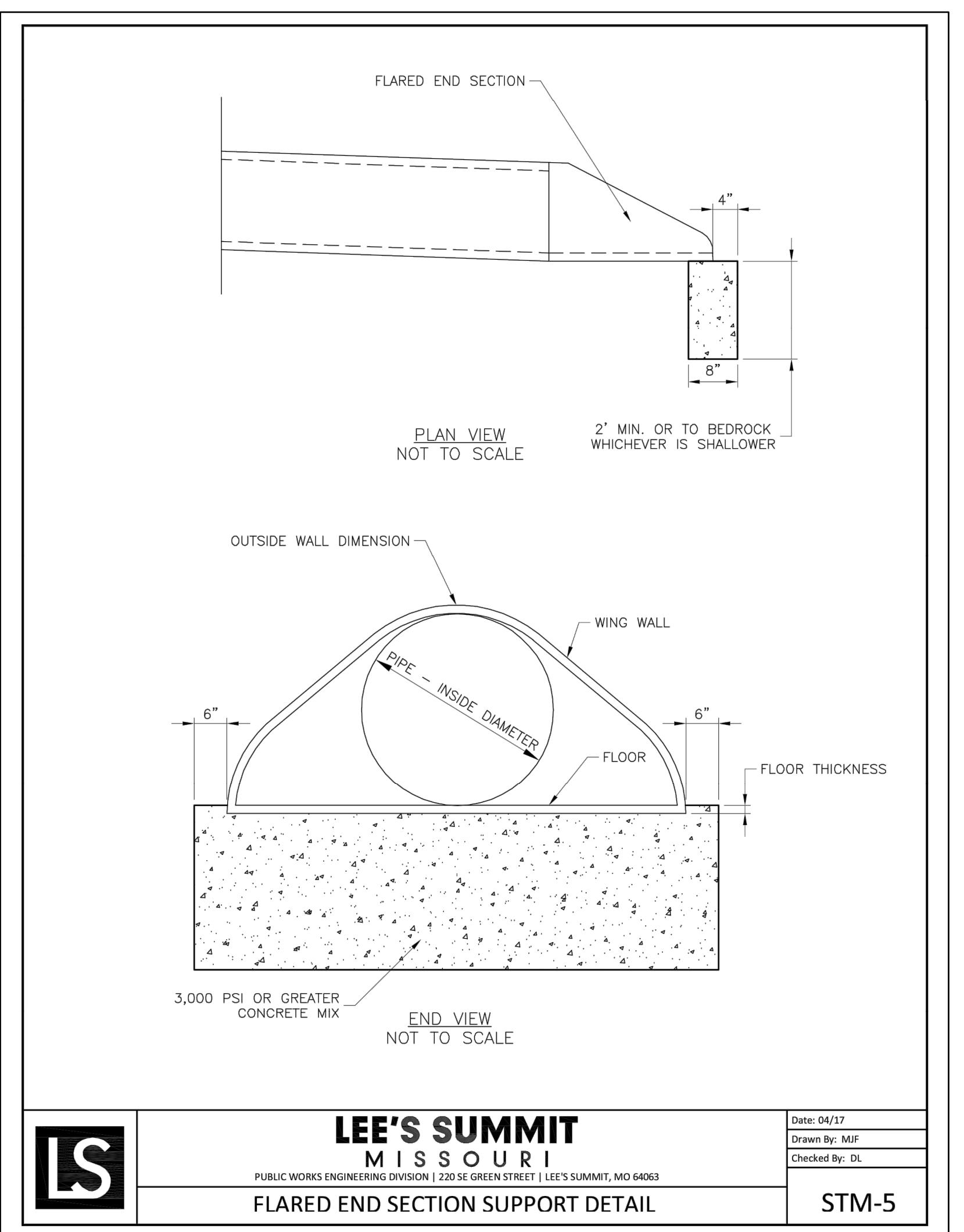
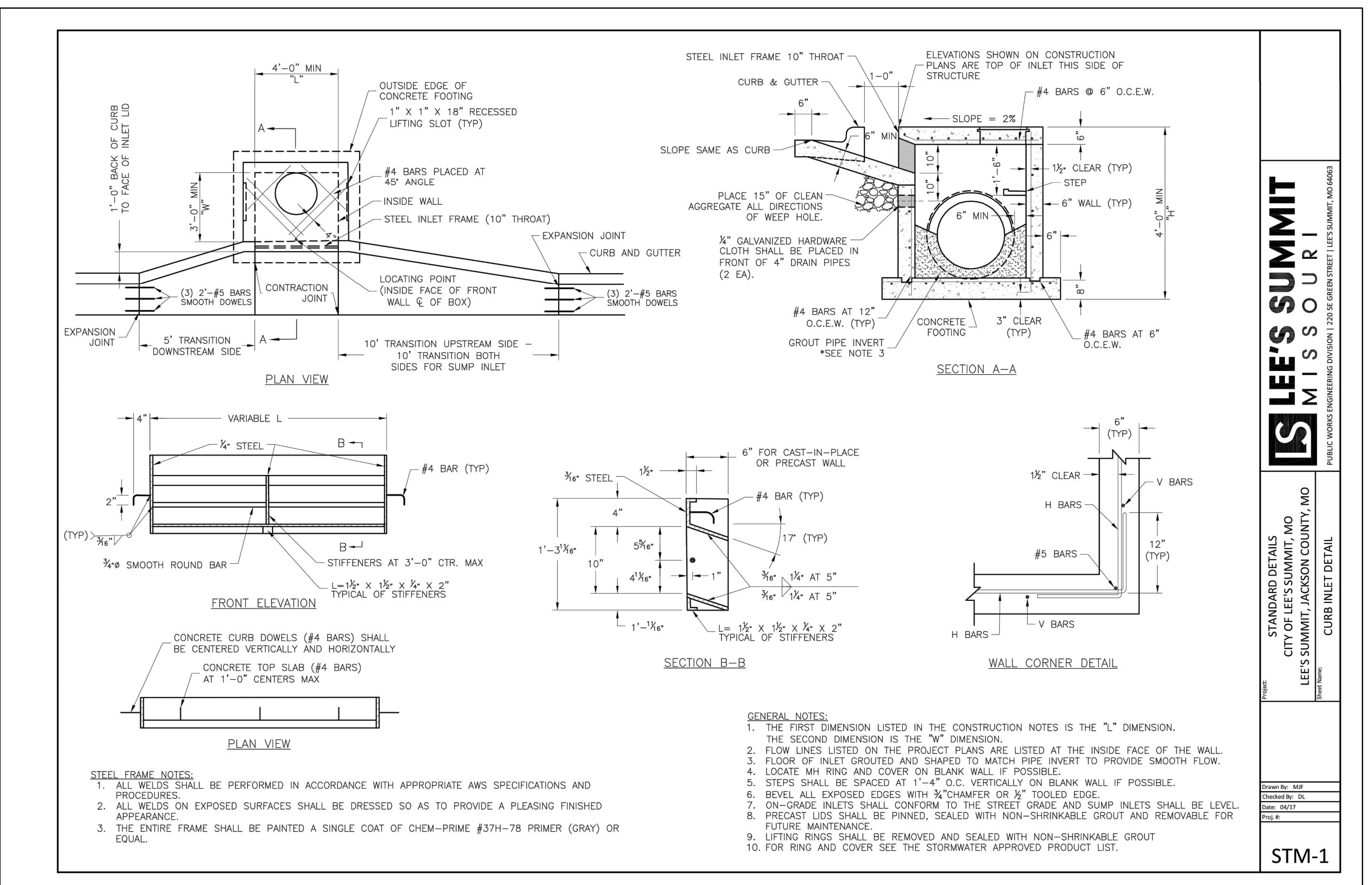
SCHLAGEL & ASSOCIATES, P.A.

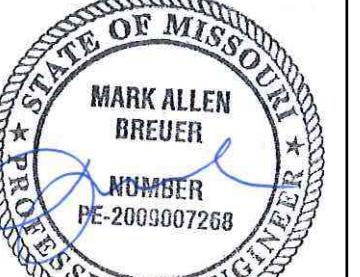
**PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI



BLUE RIBBON DIVIDED STREET STA. 6+30 TO 7+21  
**NTS**



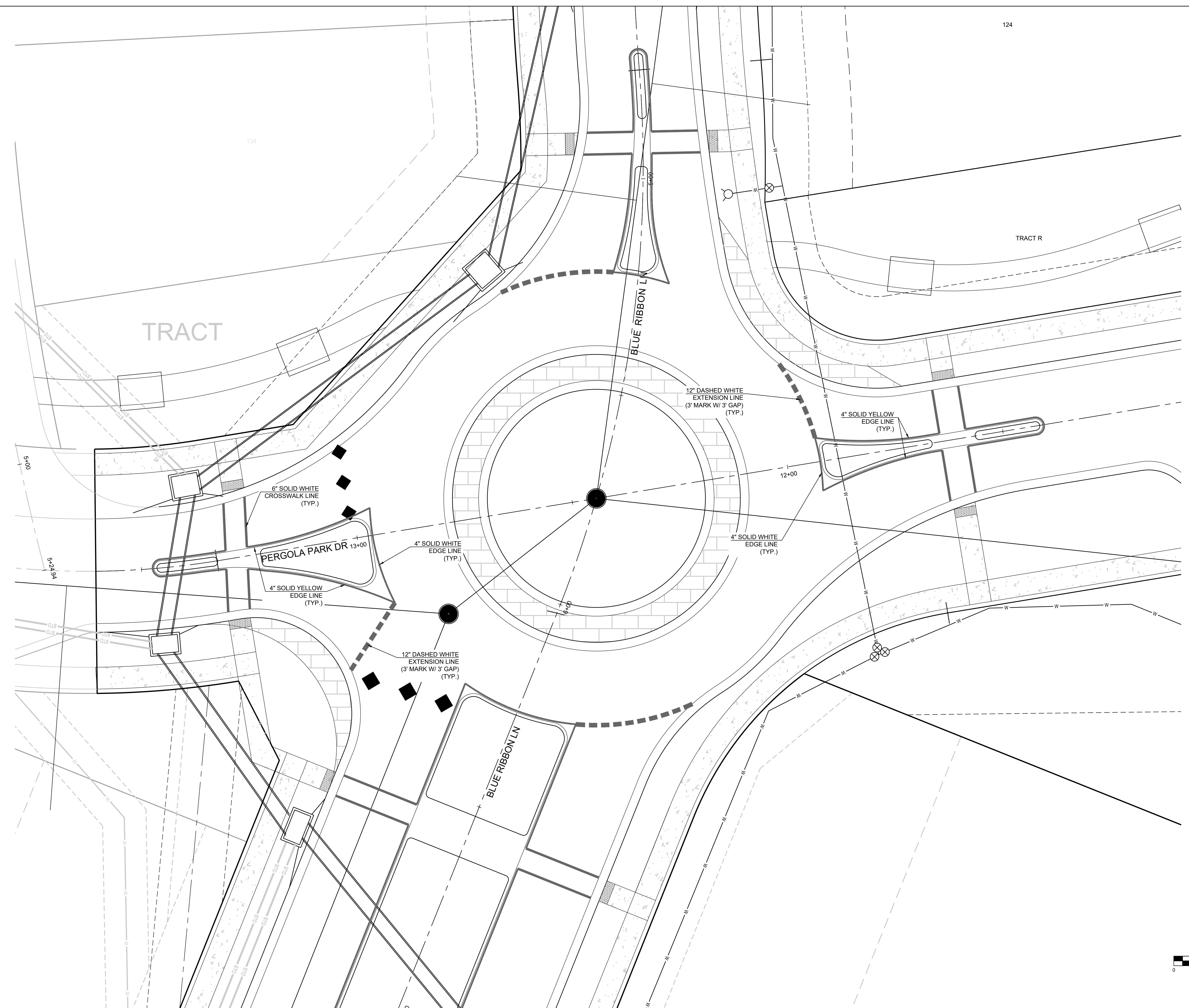
PREPARED BY:  
  
 MARK ALLEN BREUER  
 NUMBER PE-2009007268  
 04.01.22

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT**  
**STREET, STORMWATER, MASTER DRAINAGE**  
**PLAN & EROSION AND SEDIMENT CONTROL**

- LEE'S SUMMIT, MISSOURI

**26**



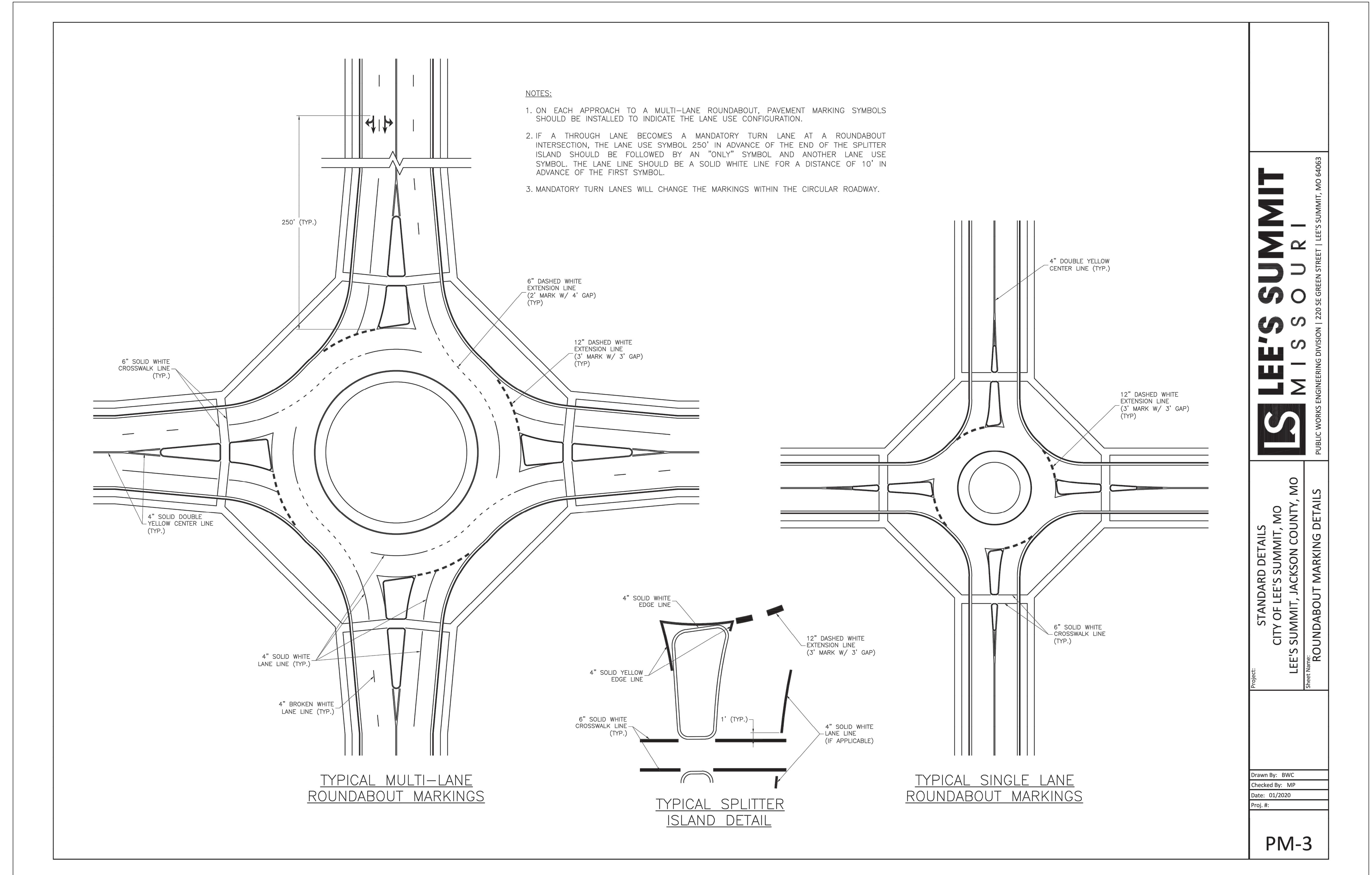
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		3-30-22	CITY COMMENTS
CHECKED BY:			
MAB			
DATE PREPARED			
		11-15-2021	
PROJ. NUMBER			
		20-189	

**ROUNDABOUT PAVEMENT MARKING**

**SHEET**

**1**

**26**

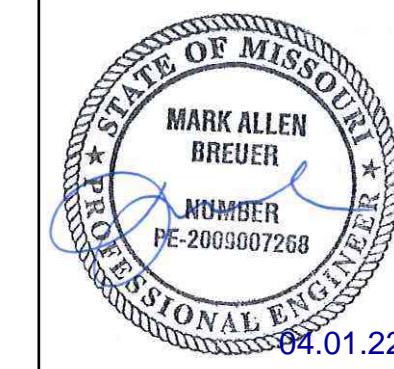


Project: STANDARD DETAILS CITY OF LEE'S SUMMIT, MO LEE'S SUMMIT, JACKSON COUNTY, MO	
Sheet Name: ROUNDABOUT MARKING DETAILS	
Drawn By: BWC	DESCRIPTION
Checked By: MP	CITY COMMENTS
Date: 01/2020	CITY COMMENTS
Proj. #: PM-3	Proj. #: PM-3

PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
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WWW.SCHLAGELASSOCIATES.COM  
Mark Allen BREUER PE-2059007268  
#E2020038005 F BLAC2010100237 4LS202008859-F

PREPARED BY:



MARK ALLEN BREUER  
NUMBER  
PE-2059007268  
04.01.22

A circular seal for a Missouri professional engineer. The outer ring contains the words "STATE OF MISSOURI" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by stars. The inner circle contains the name "MARK ALLEN BREUER" in the center, with "NUMBER" above it and "PE-2009007268" below it. A blue signature is overlaid across the center of the seal.

SCHLAGEL & ASSOCIATES, P.A.

**PERGOLA PARK 5TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL**

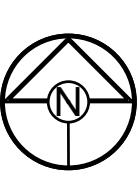
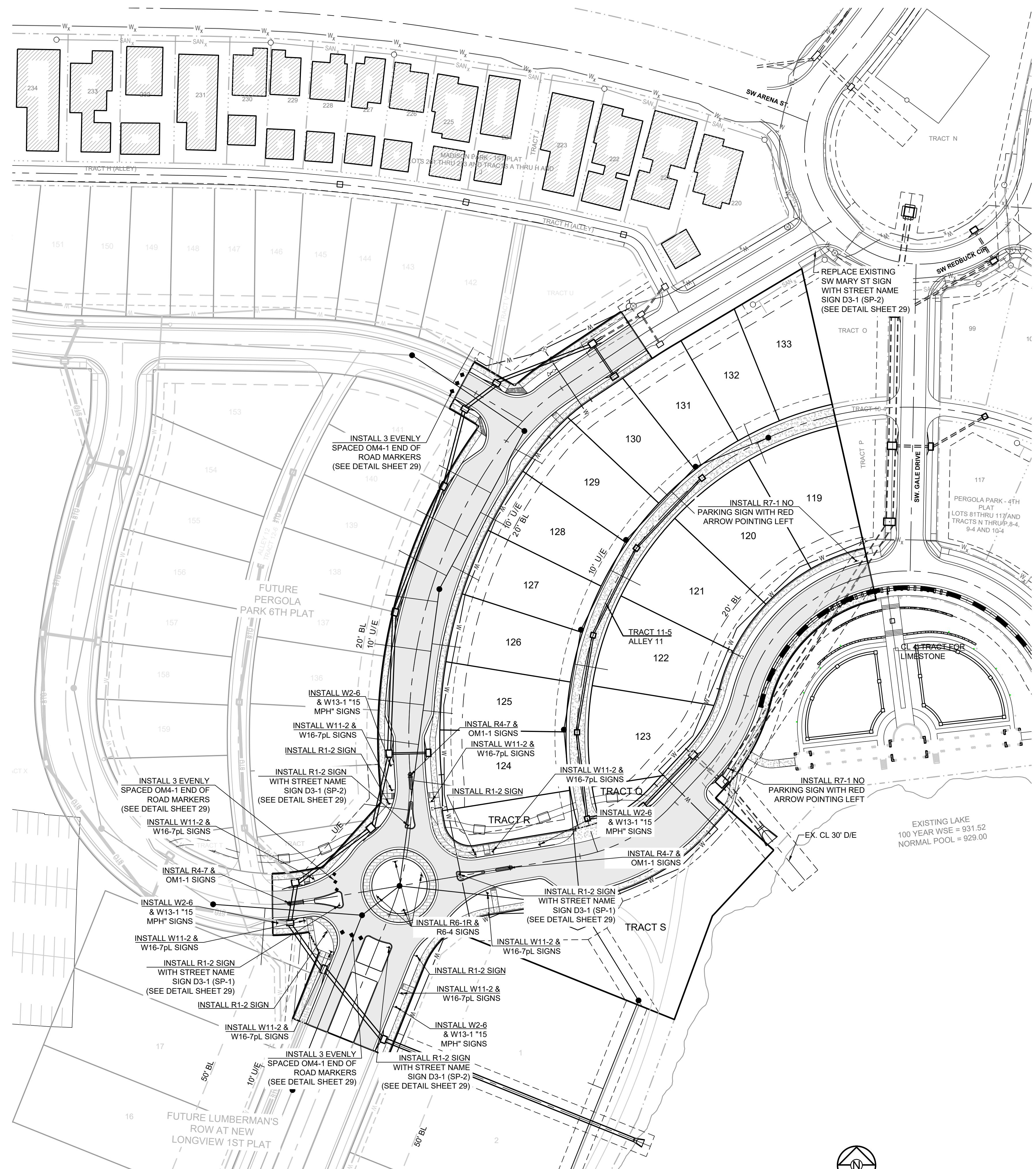
## - LEE'S SUMMIT, MISSOURI

DRAWN BY:	REVISION DATE	DESCRIPTION
BAL	1 2-4-22 2 3-30-22	CITY COMMENTS CITY COMMENTS
CHECKED BY:		
MAB	3 4	
DATE PREPARED:	5 6 7	
PROJ. NUMBER:	8	20 180

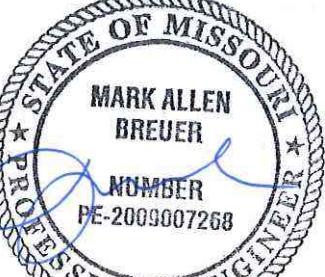
**STREET SIGN PLAN**

**SHEET**

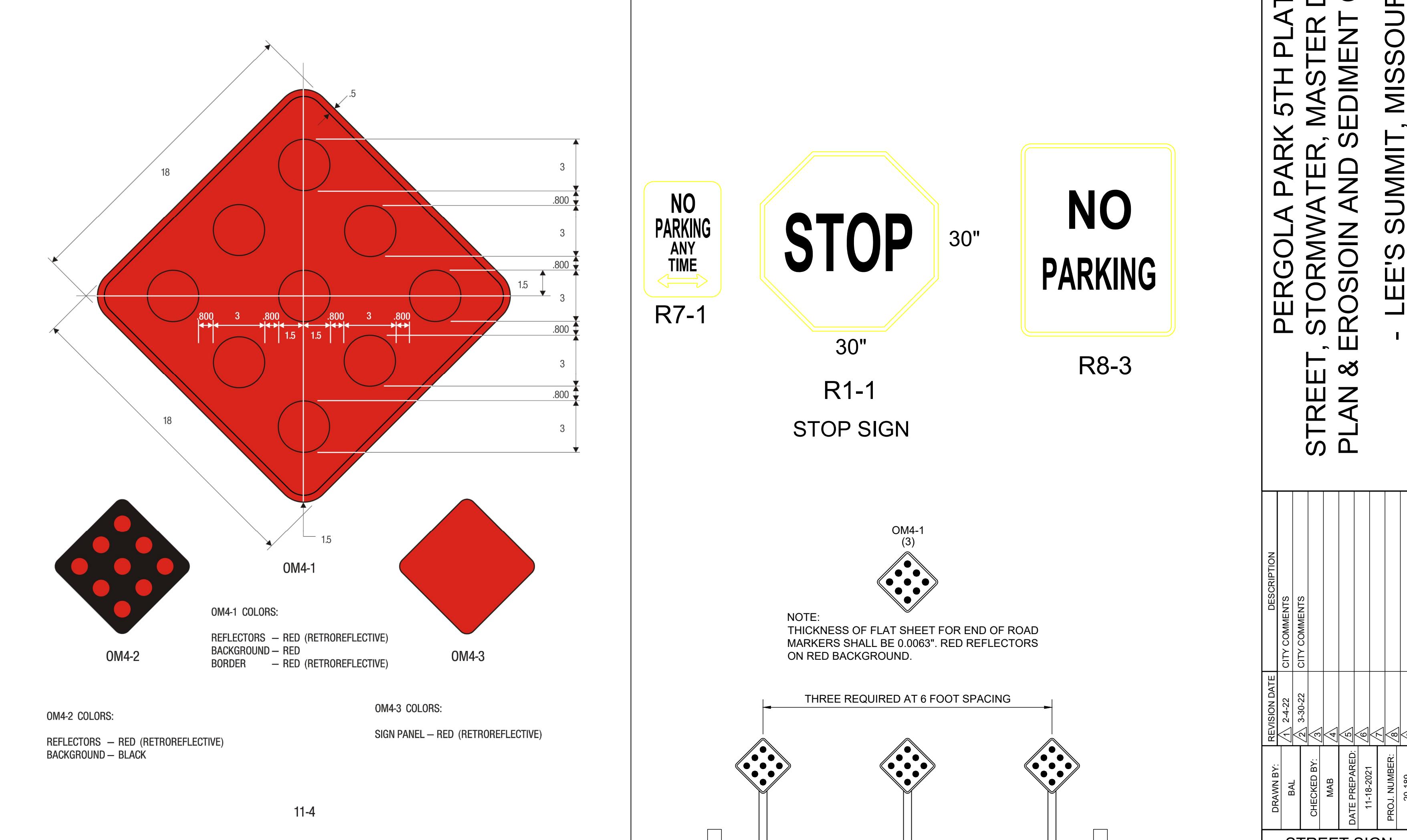
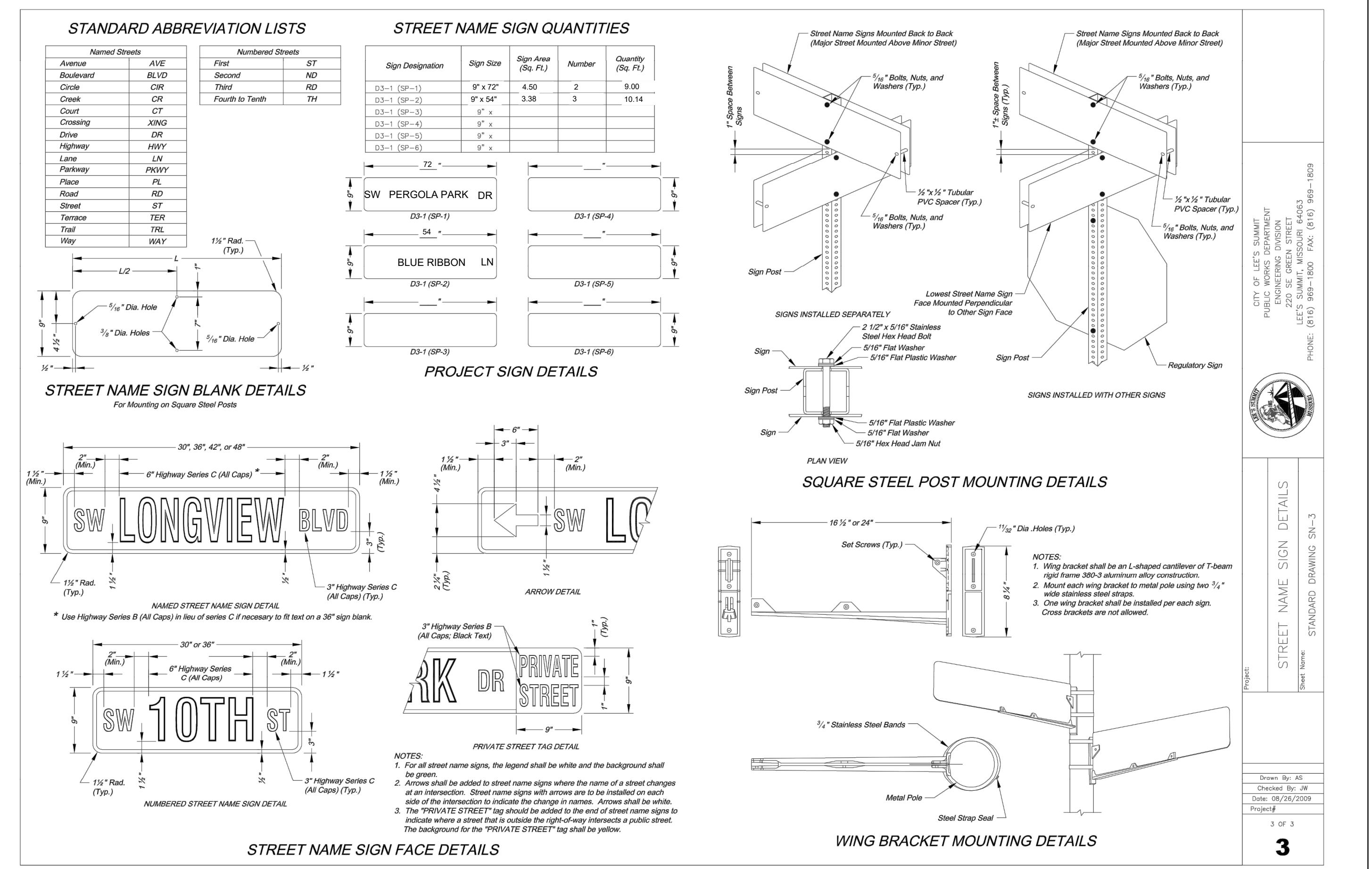
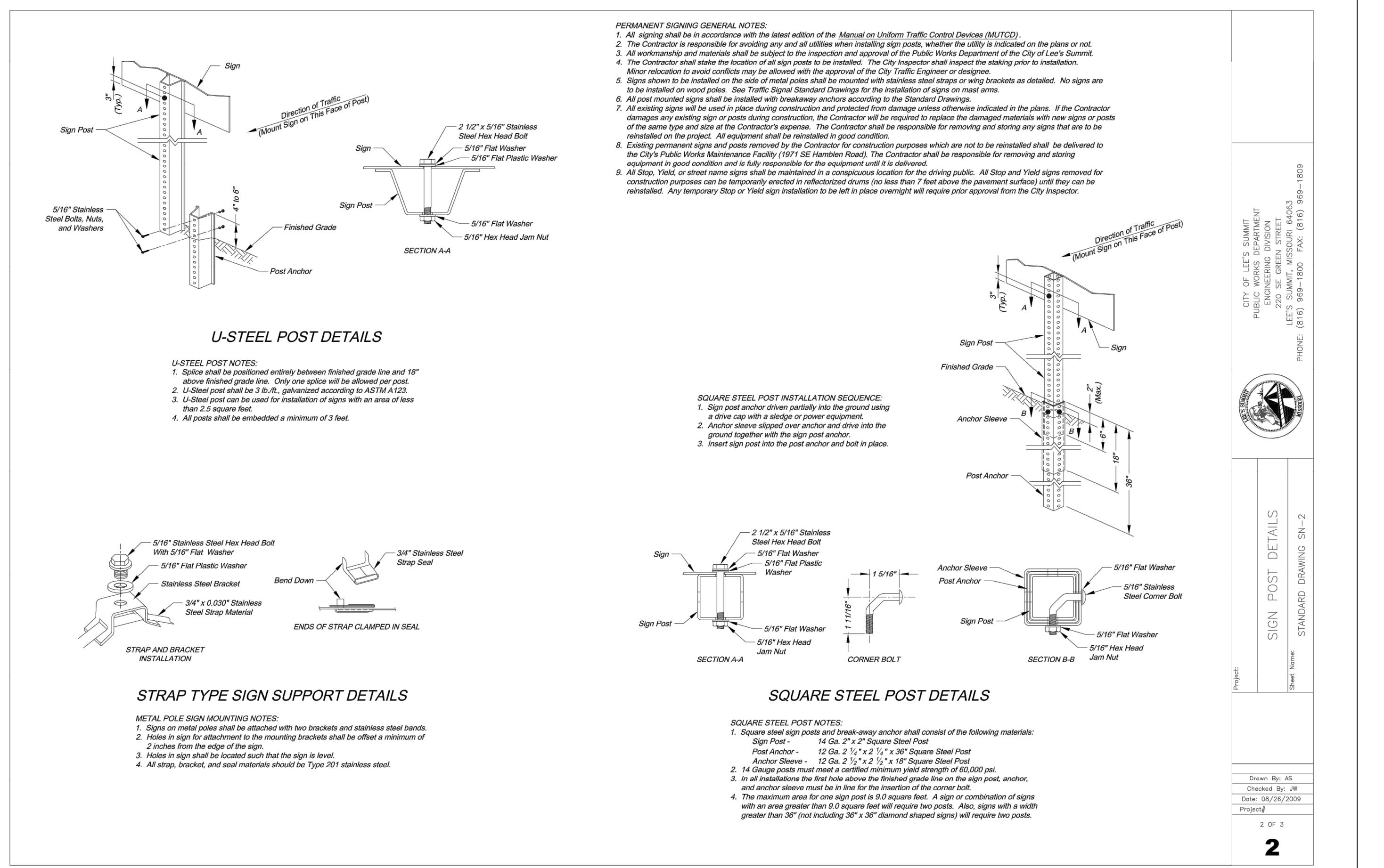
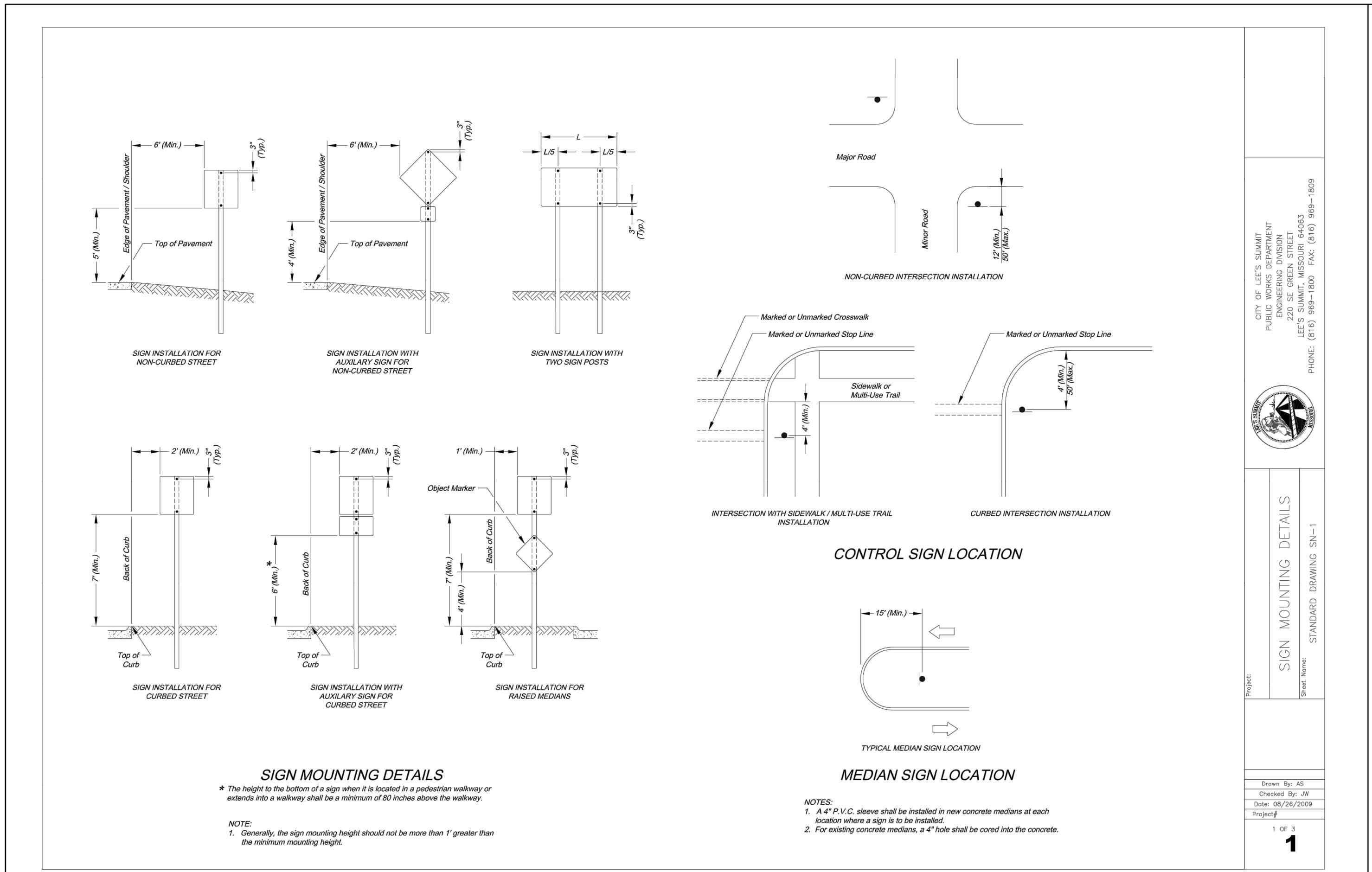
**28**



A scale bar consisting of a horizontal line with tick marks. The first tick mark is labeled '0'. The next two tick marks are black, representing 50 feet. The following three tick marks are white, representing another 50 feet, totaling 100 feet. Below the scale bar, the text 'SCALE: 1" = 50'' is written.

PREPARED BY:  
  
MARK ALLEN BREUER  
PE-2009007268  
04.01.22

SCHLAGEL & ASSOCIATES, P.A.



## PERGOLA PARK 5TH PLAT STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSION AND SEDIMENT CONTROL

- LEE'S SUMMIT, MISSOURI