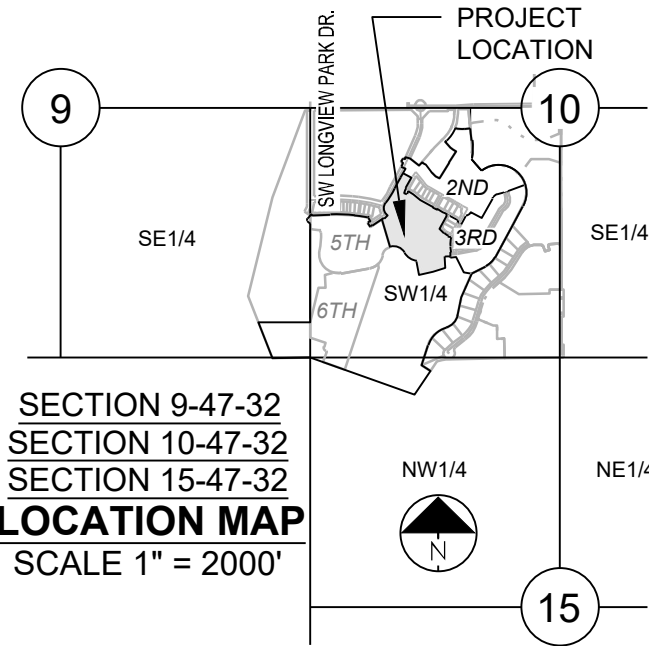
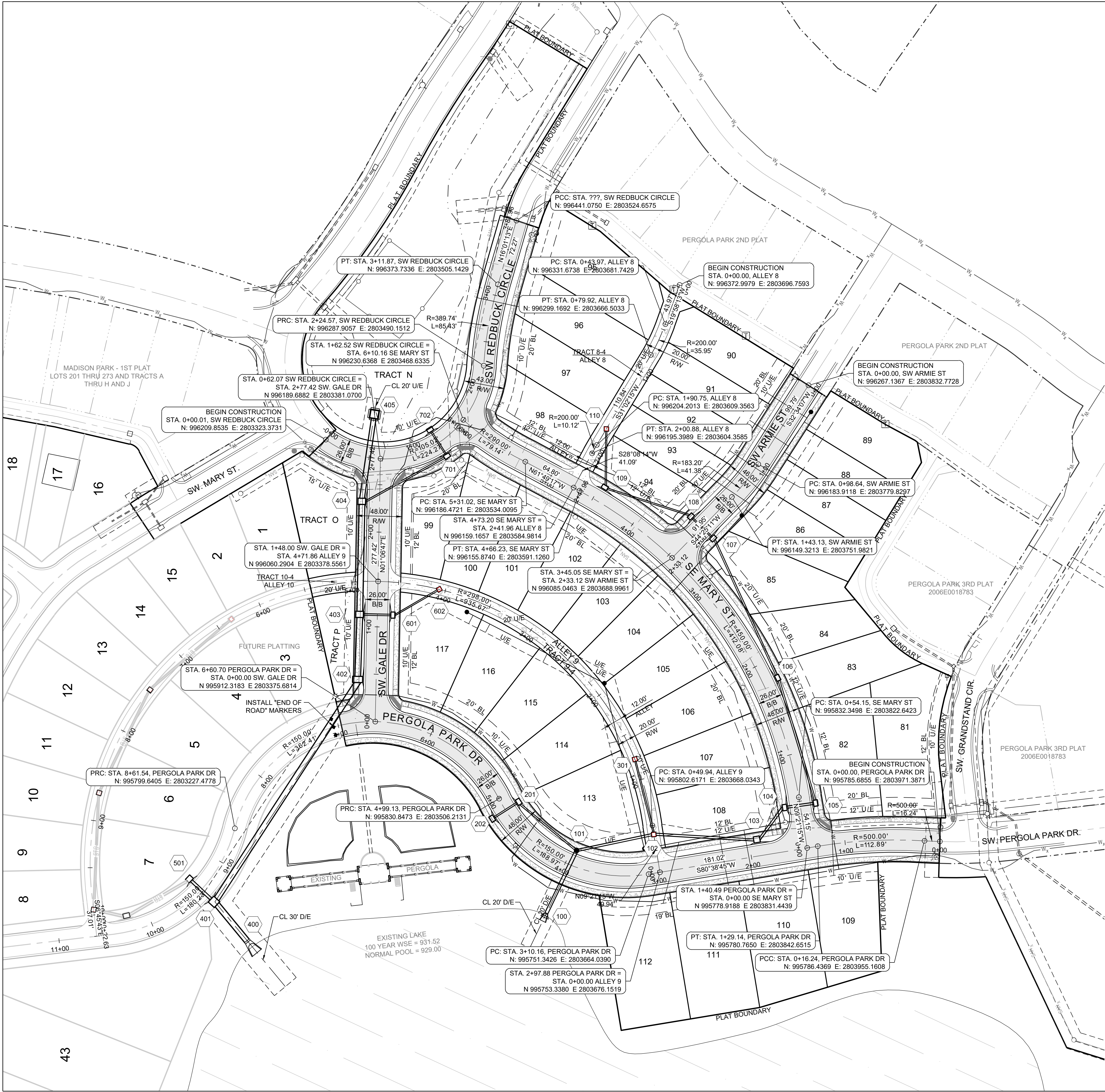


I:\PROJECTS\2019\19-0023\0 DWG Plans\6 0 SS\19-002-SS-GEN.dwg, 7/30/2019 4:22:27 PM, 11



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

REVISION DATE

DESCRIPTION

6-26-19

CITY COMMENTS

7-30-19

CITY COMMENTS

8-15-19

CITY COMMENTS

9-10-19

CITY COMMENTS

10-02-19

CITY COMMENTS

DRAWN BY:

BAL

CHECKED BY:

MAB

DATE PREPARED:

4-15-19

PROJ. NUMBER:

19-002

GENERAL LAYOUT

SHEET

2

OF 28

SCHLAGEL & ASSOCIATES, P.A.

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

#E2002003600-F #LAC20100237 #LS200200859-F

STATE OF MISSOURI

MARK ALLEN BREUER

NUMBER

PE-2003007268

PERSONAL ENGINEER

07-31-19

PERGOLA PARK 4TH PLAT

STREET, STORMWATER, MASTER DRAINAGE

PLAN AND EROSION AND SEDIMENT

- LEE'S SUMMIT, MISSOURI

I:\PROJECTS\2019\19-0023\0 DWG Plans\6 0 SS\19-002-SS-GRAD.dwg, 7/30/2019 4:23:00 PM, 1:1



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

- ** --- DENOTES LIMITS OF DISTURBANCE
- DENOTES PROPOSED MAJOR CONTOUR
- DENOTES PROPOSED MINOR CONTOUR
- DENOTES EXISTING MAJOR CONTOUR
- DENOTES EXISTING 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

PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
- LEE'S SUMMIT, MISSOURI

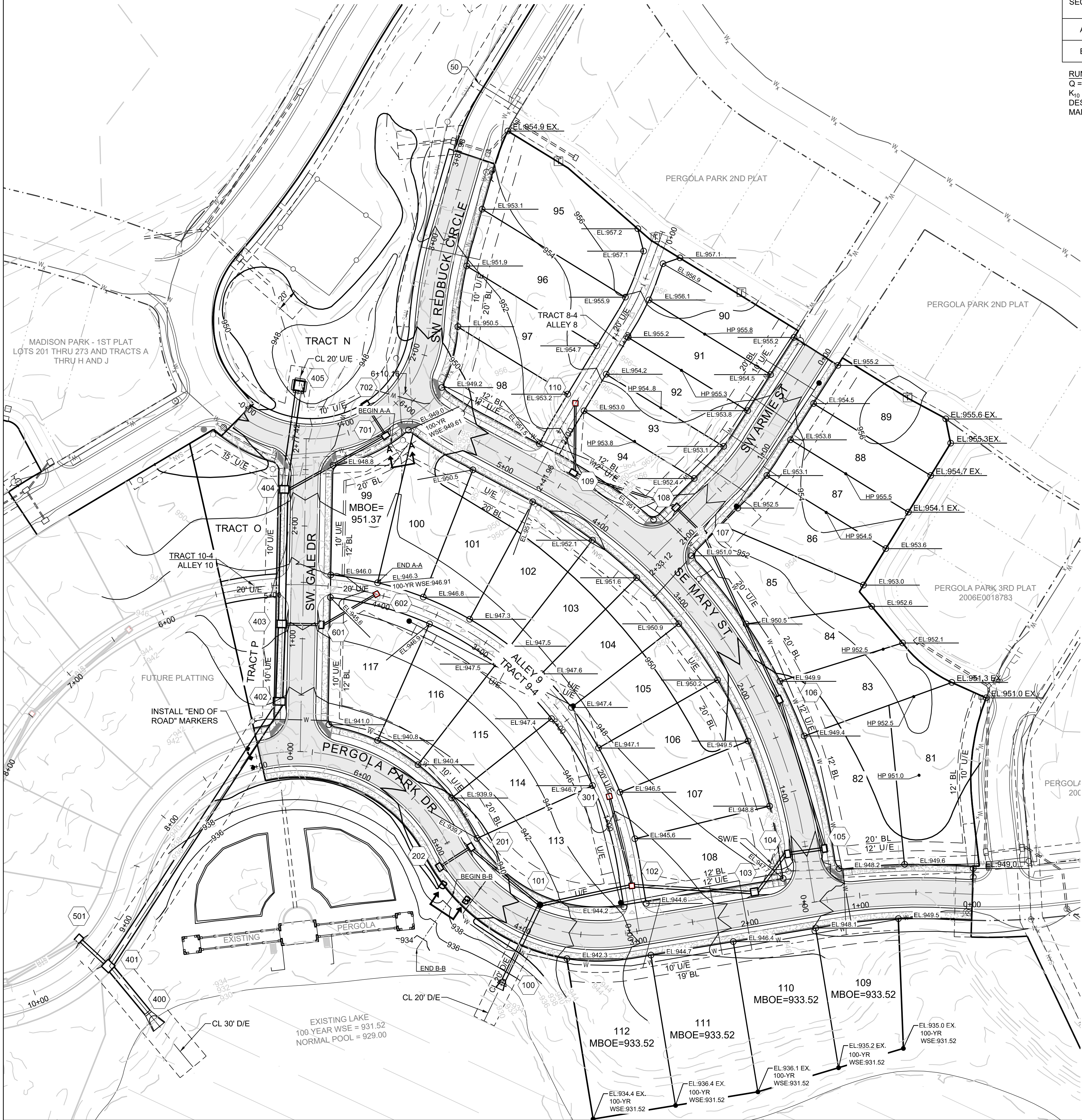
REVISION DATE	DESCRIPTION
1 6-26-19	CITY COMMENTS
2 7-30-19	CITY COMMENTS
3	
4	
5	
6	
7	
8	
9	
10	

DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	4-15-19
PROJ. NUMBER:	19-002

MASTER DRAINAGE PLAN - GRADING PLAN

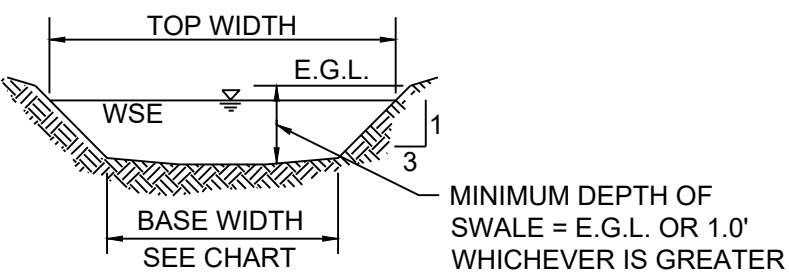
SHEET

I:\PROJECTS\2019\19-0023\0 DWG Plans\6 0 SS\19-002-SS-GRAD.dwg, 7/30/2019 4:23:08 PM, 1:1



NOTES:

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



100 YR OVERFLOW SWALE SECTIONS
SECTION 1-2

100 YEAR OVERFLOW SWALES												
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	BED SLOPE (%)	BASE WIDTH (FT.)	SIDE SLOPE	TOP WIDTH (FT.)	NORMAL DEPTH (FT.)	VELOCITY (FPS)	VELOCITY HEAD (FT.)	EGL (FT.)
A-A	2.16	18.39	-	18.3900	2.13	5	3:1	8.68	0.61	4.39	0.30	0.91
B-B	6.93	59.00	-	59.0000	7.25	10	3:1	13.55	0.59	8.48	1.12	1.71

RUNOFF CALCULATIONS:

$Q = K \cdot C \cdot I \cdot A$
 $K_{10} = 1.0$ $K_{100} = 1.25$ $C = 0.51$ $I =$ INTENSITY
 $DESIGN\ OVERFLOW = Q_{OVERFLOW} = Q_{100} - Q_{10}$
MANNINGS "n" = .030 FOR SWALES

LOT TYPE TABLE		
LOT #	BASEMENT TYPE	MBOE
81	STANDARD	953.00
82	STANDARD	952.50
83	STANDARD	953.00
84	STANDARD	953.00
85	STANDARD	954.00
86	STANDARD	955.00
87	STANDARD	956.00
88	STANDARD	957.00
89	STANDARD	957.00
90	STANDARD	958.00
91	STANDARD	957.50
92	STANDARD	957.00
93	STANDARD	956.50
94	STANDARD	955.50
95	STANDARD	957.50
96	STANDARD	957.00
97	STANDARD	955.00
98	STANDARD	953.50
99	STANDARD	951.37
100	STANDARD	951.50
101	STANDARD	952.00
102	STANDARD	952.00
103	STANDARD	952.00
104	STANDARD	952.00
105	STANDARD	952.00
106	STANDARD	951.50
107	STANDARD	950.50
108	STANDARD	949.50
109	WALKOUT	933.52
110	WALKOUT	933.52
111	WALKOUT	933.52
112	DAYLIGHT	933.52
113	STANDARD	947.50
114	STANDARD	948.50
115	STANDARD	949.00
116	STANDARD	948.50
117	STANDARD	948.00

- DENOTES OVERFLOW SWALE
- EL:000.00 DENOTES FINISHED GRADE ELEVATION
- EL:000.00 (EX.) DENOTES EXISTING GRADE ELEVATION
- HP 000.00 DENOTES LOT HIGH POINT ELEVATION
- DENOTES RETAINING WALL

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

SCHLAGEL & ASSOCIATES, P.A.
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
#E2002003600-F #LAC201003237 #LS200200859-F



PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
6-26-19	CITY COMMENTS
7-30-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-1-19	CITY COMMENTS

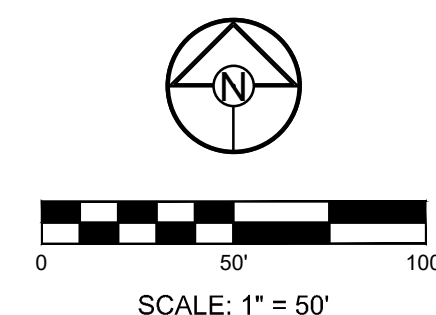
DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	4-15-19
PROJ. NUMBER:	19-002

MASTER
DRAINAGE PLAN
- LOT INFO

SHEET

4

OF 28



I:\PROJECTS\2019\19-0023\0 Design\3.0 DWG Plans\6.0 SS\19-002-SS-DRAINAGE-AREA.dwg, 7/30/2019 4:23:36 PM, 1:1

GUTTER SPREAD AND INLET CAPACITY CALCULATIONS - PERGOLA PARK 4TH PLAT

DESIGN STORM 10
"K" FACTOR 1.00

CURB TYPE "A" = LAZY BACK
CURB TYPE "B" = HIGH BACK

RUNOFF CALCULATIONS

INLET #	COMPOSITE "C"	AREA	INLET Tc	INTENSITY	RUNOFF	UPSTREAM INLET	UPSTREAM INLET	UPSTREAM INLET	UPSTREAM INLET	BYPASS FROM UPSTREAM INLET	TOTAL RUNOFF	STREET GRADE	STREET CROSS SLOPE	CURB TYPE	INLET LENGTH	EFFECTIVE LENGTH 80% CAP	INLET INTERCEPTION	BYPASS TO DOWNSTREAM INLET	STREET GRADE	STREET CROSS SLOPE	DEPTH AT CURB	SPREAD OF FLOW
LINE 1																						
102	0.66	0.22	5	7.35	1.07	301				0.22	1.29	1.56	2.08	A	4	3.2	1.11	0.18	1.56	2.08	0.14	7.27
103	0.66	0.21	5	7.35	1.02	104				0.09	1.10	2.18	2.08	A	6	4.8	0.98	0.12	2.18	2.08	0.12	6.50
104	0.66	0.28	5	7.35	1.36					0.00	1.36	1.10	2.08	A	6	4.8	1.27	0.09	1.10	2.08	0.15	7.87
105	0.66	0.43	5	7.35	2.09	106				0.22	2.30	1.10	2.08	A	6	4.8	1.98	0.33	1.10	2.08	0.19	9.49
106	0.66	0.39	5	7.35	1.89	107				0.19	2.08	1.10	2.08	A	6	4.8	1.86	0.22	1.10	2.08	0.18	9.15
107	0.66	0.31	5	7.35	1.50					0.00	1.50	1.71	2.08	A	6	4.8	1.31	0.19	1.71	2.08	0.15	7.55
108	0.66	0.36	5	7.35	1.75					0.00	1.75	1.71	2.08	A	6	4.8	1.49	0.26	1.71	2.08	0.16	7.96
109	0.66	0.18	5	7.35	0.87	108				0.26	1.13	4.00	2.08	A	6	4.8	0.97	0.16	4.00	2.08	0.11	5.90
110	0.66	0.21	5	7.35	1.02					0.00	1.02	4.00	2.08	A	4	3.2	0.81	0.20	4.00	2.08	0.11	5.69
LINE 2																						
201	0.66	1.22	5	7.35	5.92	102	103	601		0.84	6.76	SUMP	2.08	A	6	4.8	16.80	0.00	SUMP	2.08	< 0.21	< 10.50
202	0.66	0.32	5	7.35	1.55					0.00	1.55	SUMP	2.08	A	6	4.8	16.80	0.00	SUMP	2.08	< 0.21	< 10.50
LINE 3																						
301	0.66	0.32	5	7.35	1.55					0.00	1.55	1.56	2.08	A	4	3.2	1.33	0.22	1.56	2.08	0.15	7.76
LINE 4																						
401	0.66	0.34	5	7.35	1.65					0.00	1.65	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	3.88
LINE 5																						
501	0.66	1.08	5	7.35	5.24	402	FUT 502			0.19	5.42	SUMP	2.08	A	6	4.8	13.44	0.00	SUMP	2.08	< 0.21	< 10.50
FUT 502	0.66	0.10	5	7.35	0.49	FUT 503				0.87	1.36	2.12	2.08	A	6	4.8	1.18	0.18	2.12	2.08	0.14	7.01
FUT 503	0.66	0.49	5	7.35	2.38	FUT 504				0.73	3.11	1.49	2.08	A	4	3.2	2.24	0.87	1.49	2.08	0.20	10.00
FUT 504	0.66	0.45	5	7.35	2.18	FUT 505				0.63	2.81	1.49	2.08	A	4	3.2	2.08	0.73	1.49	2.08	0.19	9.65
FUT 505	0.66	0.46	5	7.35	2.23	FUT 506				0.35	2.58	1.49	2.08	A	4	3.2	1.95	0.63	1.49	2.08	0.18	9.36
FUT 506	0.66	0.42	5	7.35	2.04					0.00	2.04	1.12	2.08	A	4	3.2	1.69	0.35	1.12	2.08	0.18	9.05
LINE 6																						
601	0.66	0.36	5	7.35	1.75	602				0.48	2.23	3.24	2.08	A	6	4.8	1.70	0.53	3.24	2.08	0.15	7.75
602	0.66	0.54	5	7.35	2.62					0.00	2.62	1.12	2.08	A	4	3.2	2.14	0.48	1.12	2.08	0.20	9.90
LINE 7																						
701	0.66	1.14	5	7.35	5.53					0.00	5.53	SUMP	2.08	A	6	4.8	16.80	0.00	SUMP	2.08	< 0.21	< 10.50
702	0.66	0.27	5	7.35	1.31					0.00	1.31	SUMP	2.08	A	6	4.8	16.80	0.00	SUMP	2.08	< 0.21	< 10.50

NOTES:

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

STRUCTURE 405 INLET CAPACITY:

9' X 9' AREA INLET WITH OPENINGS ON ALL FOUR SIDES. TOP ELEVATION IS 948.00 AND MAX PONDING ELEVATION IS 949.50.

A = 38.50 AC.

Tc = 14.30

"C" VALUE = 0.66

100 YEAR DESIGN STORM

"K" = 1.25

INTENSITY (in/hr) = 7.51

h = 10"

H = 2.25'

L = 36'

QActual = KCIA

Qcap = Co h L (2 g H)^{1/2} , WHERE Co =0.67 AND g = 32.2 FT/ST

QActual = (1.25)(0.66)(7.51)(38.50) = 238.54 cfs

Qcap = (0.67)(.83)(36)(2*32.2*2.25)^{1/2} = 241.98 cfs

80% Qcap = 192.79 cfs

SINCE 80%Qcap < QActual

TRASH RACK IS UTILIZED TO MAKE UP FOR MISSING FLOW

Qtrash = CA(2gH)^{1/2}

C = 0.6

A = 81'

G = 32.2 (ft/s)

H = 1.50'

Qtrash = (0.6)(81)(2*32.2*1.50)^{1/2} = 477.67 cfs

80%Qtrash = 382.13 cfs

80%Qtrash + 80% Qcap = 382.13 + 192.79 = 574.92 cfs > QActual

10 YEAR RUNOFF CALCULATIONS

Design Storm: 10		"K" Value: 1.00		"F" Factor: 1.00																							
Runoff Calculations																											

I:\PROJECTS\2019\19-0023\0 DWG Plans\6 0 SS\19-002-SS-EROS.dwg, 7/30/2019 4:23:57 PM, 1:1



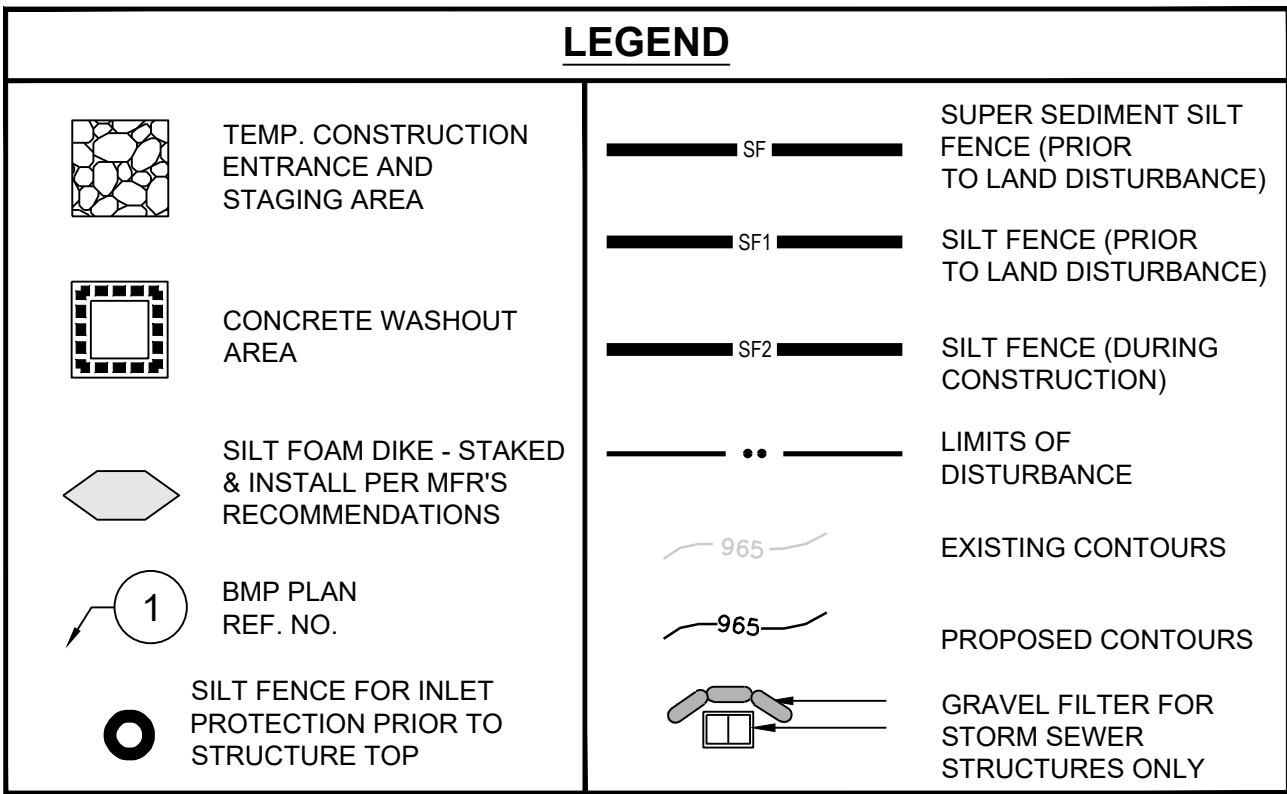
LEGEND	
	TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA
	CONCRETE WASHOUT AREA
	SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS
	BMP PLAN REF. NO.
	SILT FENCE FOR INLET PROTECTION PRIOR TO STRUCTURE TOP
	SUPER SEDIMENT SILT FENCE (PRIOR TO LAND DISTURBANCE)
	SILT FENCE (PRIOR TO LAND DISTURBANCE)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

DISTURBED AREA = 9.01 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 ANY 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 GRADING OPERATIONS BEGIN.
- SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADING BEGINS WILL BE MAINTAINED BY THE GRADING CONTRACTOR.
- AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

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	SUPER SEDIMENT FENCE	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	3	SILT FENCE (PRIOR TO LAND DISTURBANCE)	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	SILT FENCE (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	9	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.



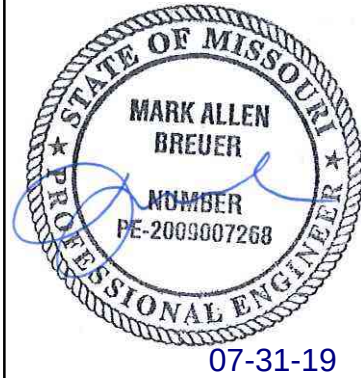
SITE SPECIFIC NOTES:

- | | | |
|----|--|---|
| 1. | THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION. | 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. |
| 2. | THERE ARE NO WETLANDS, NATURAL OR ARTIFICIAL WATER STORAGE DETENTION AREAS IN THE PROJECT AREA. | |
| 3. | NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0414G DATED JANUARY 20TH, 2017. | 7. |
| 4. | ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART. | ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION RETAINMENTS WILL BE INSTALLED BEFORE GRADING OPERATIONS BEGIN. |
| 5. | 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. | 8. |
| | | SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADING BEGINS WILL BE MAINTAINED BY THE GRADING CONTRACTOR. |
| | | 9. |
| | | AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE. |

EROSION AND SEDIMENT CONTROL STAGING CHART					
	PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
PRE-CLEARING PHASE	A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE & STAGING AREA	D	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		2	SUPER SEDIMENT FENCE	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		3	SILT FENCE (PRIOR TO LAND DISTURBANCE)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
CONSTRUCTION PHASE	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
	C - UTILITY CONSTRUCTION	5	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		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
FINAL STABILIZATION PHASE	D - AFTER PAVING OPERATIONS	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
		8	SILT FENCE (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		9	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
	E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.



SCHLAGEL & ASSOCIATES, P.A.
Engineers • Planners • Surveyors • Landscape Architects
14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Council of Authority
#E20002003800-F #LAC2000100537 #LS2000200859-F



PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
CONTROL
- LEE'S SUMMIT, MISSOURI

DRAWN BY:	REVISION DATE	DESCRIPTION
BAL	6-28-19	CITY COMMENTS
	7-30-19	CITY COMMENTS
CHECKED BY:		
MAB		
DATE PREPARED:		
4-15-19		
PROJ NUMBER:		

EROSION CONTROL PLAN

SHEET

I:\PROJECTS\2019\19-0023\0 DWG Plans\6 0 SS\19-002-SS-EROS.dwg, 7/30/2019 4:24:04 PM, 1:1



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)
	BMP PLAN REF. NO.	LIMITS OF DISTURBANCE
	SILT FENCE FOR INLET PROTECTION PRIOR TO STRUCTURE TOP	EXISTING CONTOURS
		PROPOSED CONTOURS
		GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY

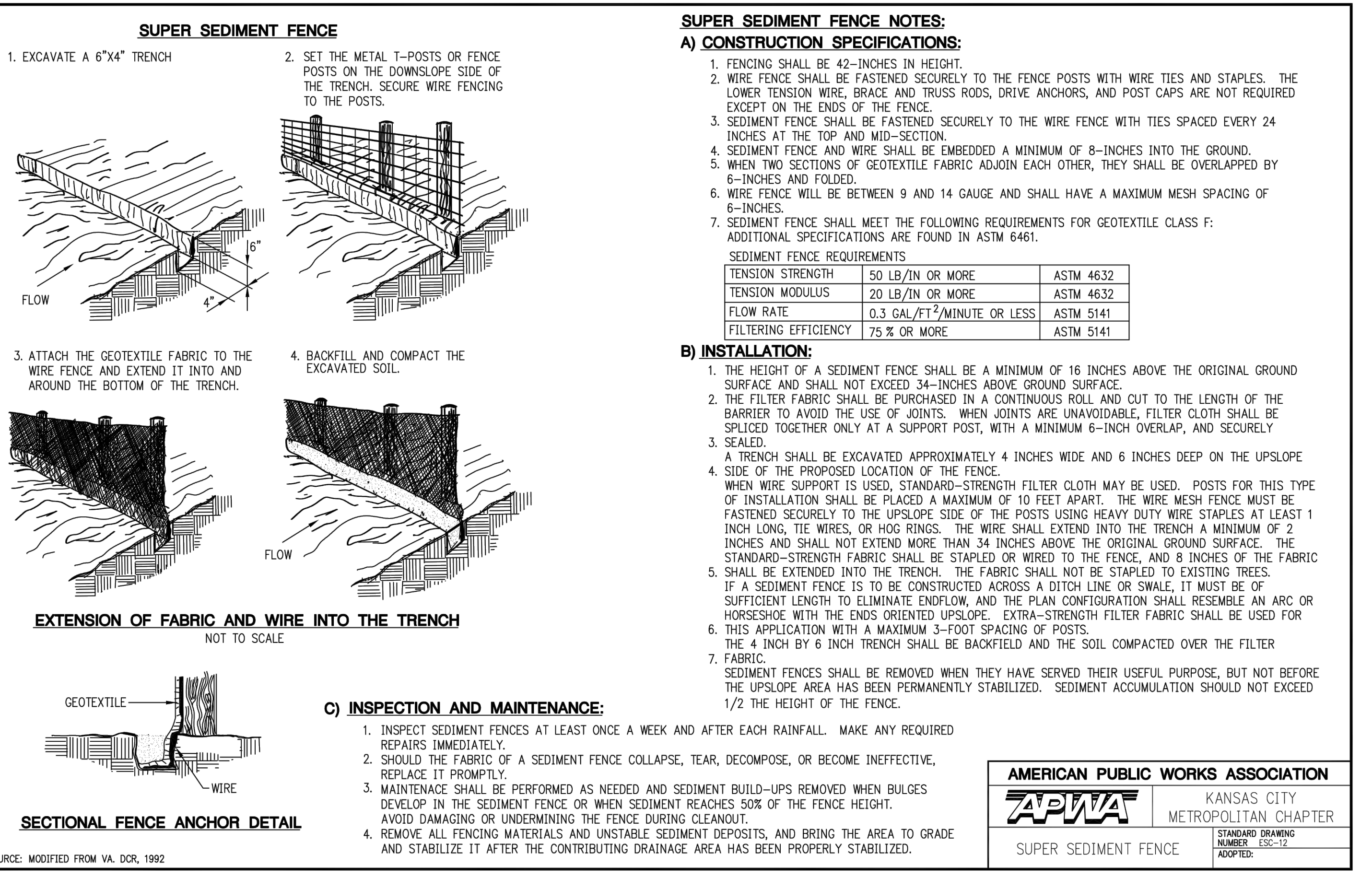
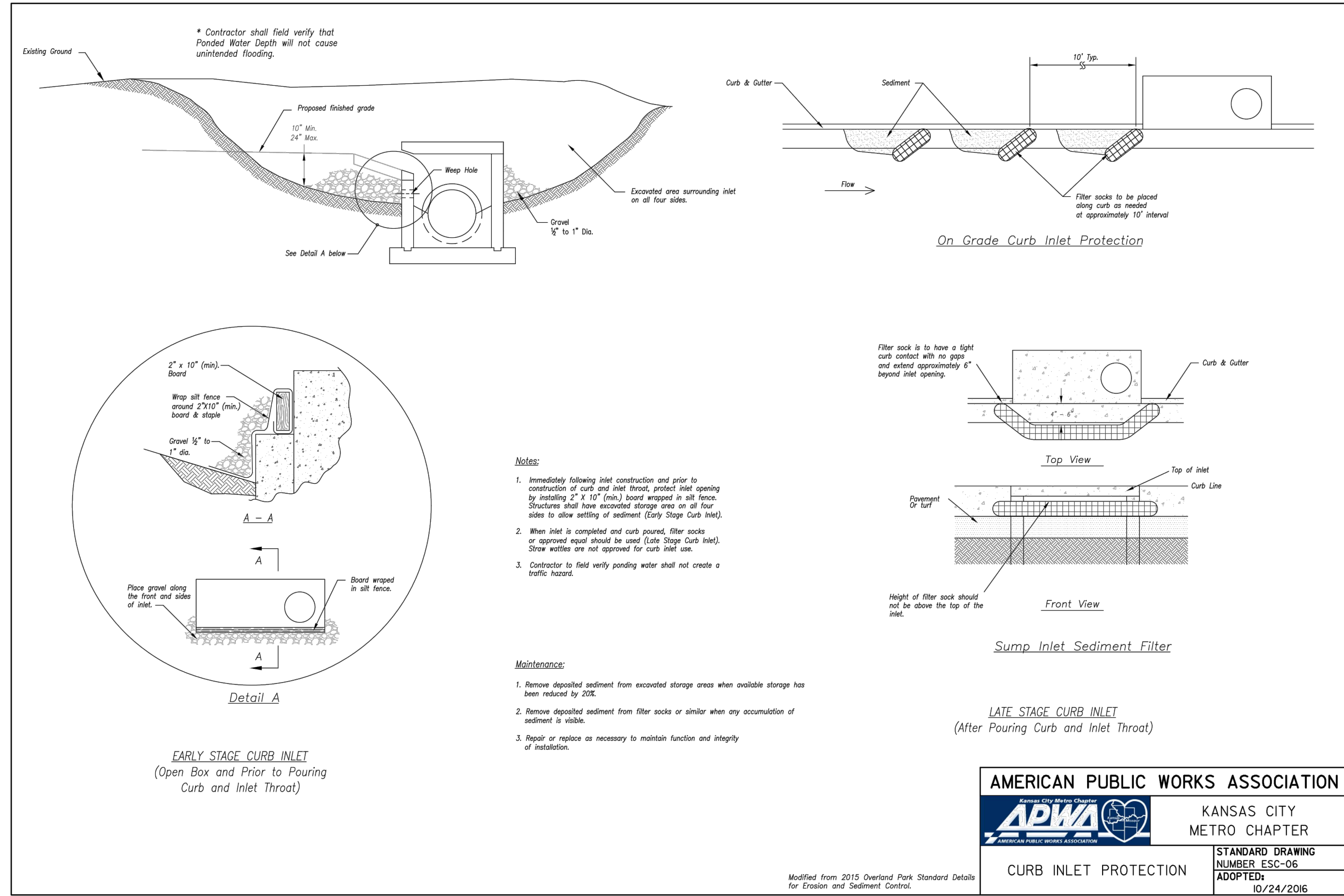
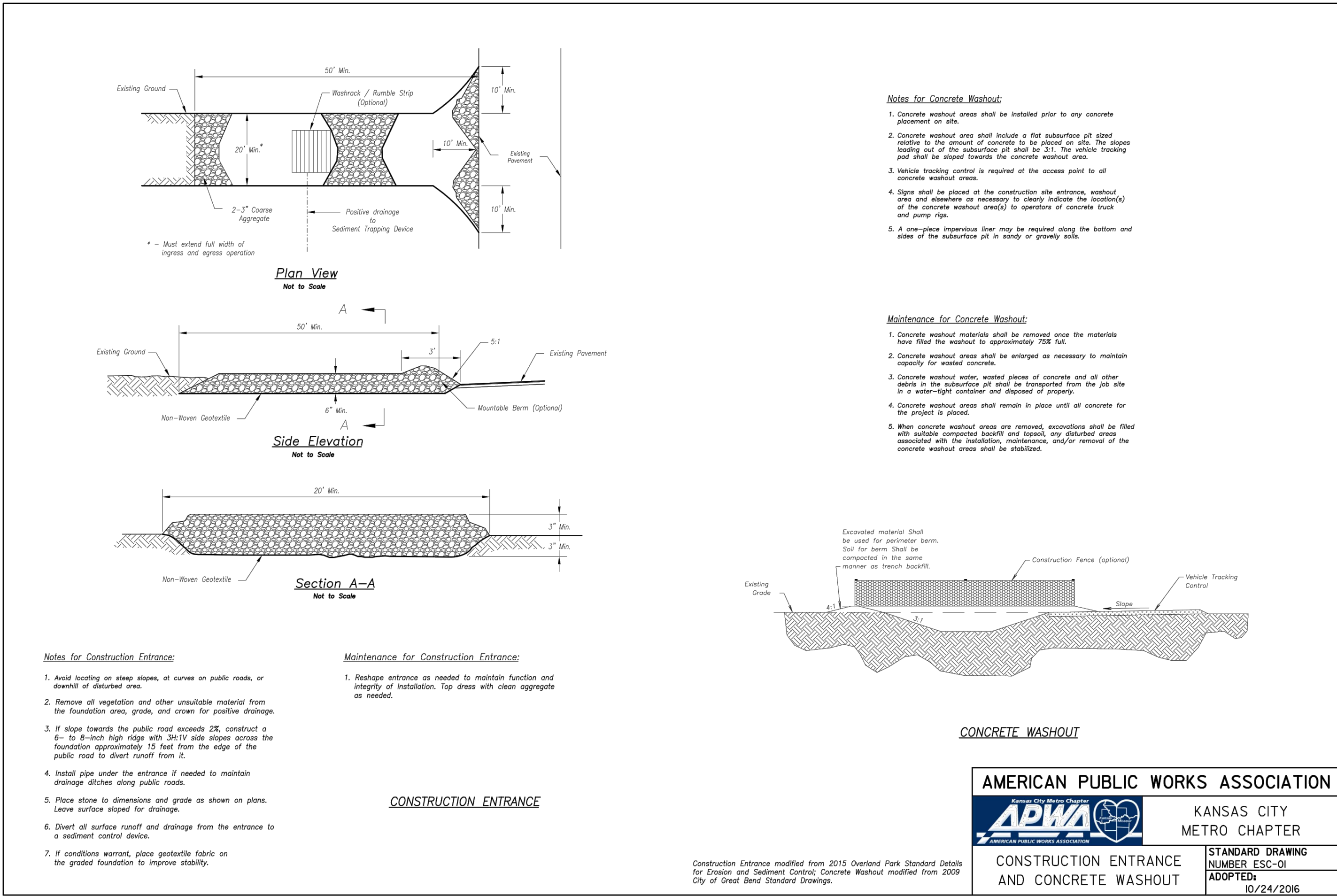
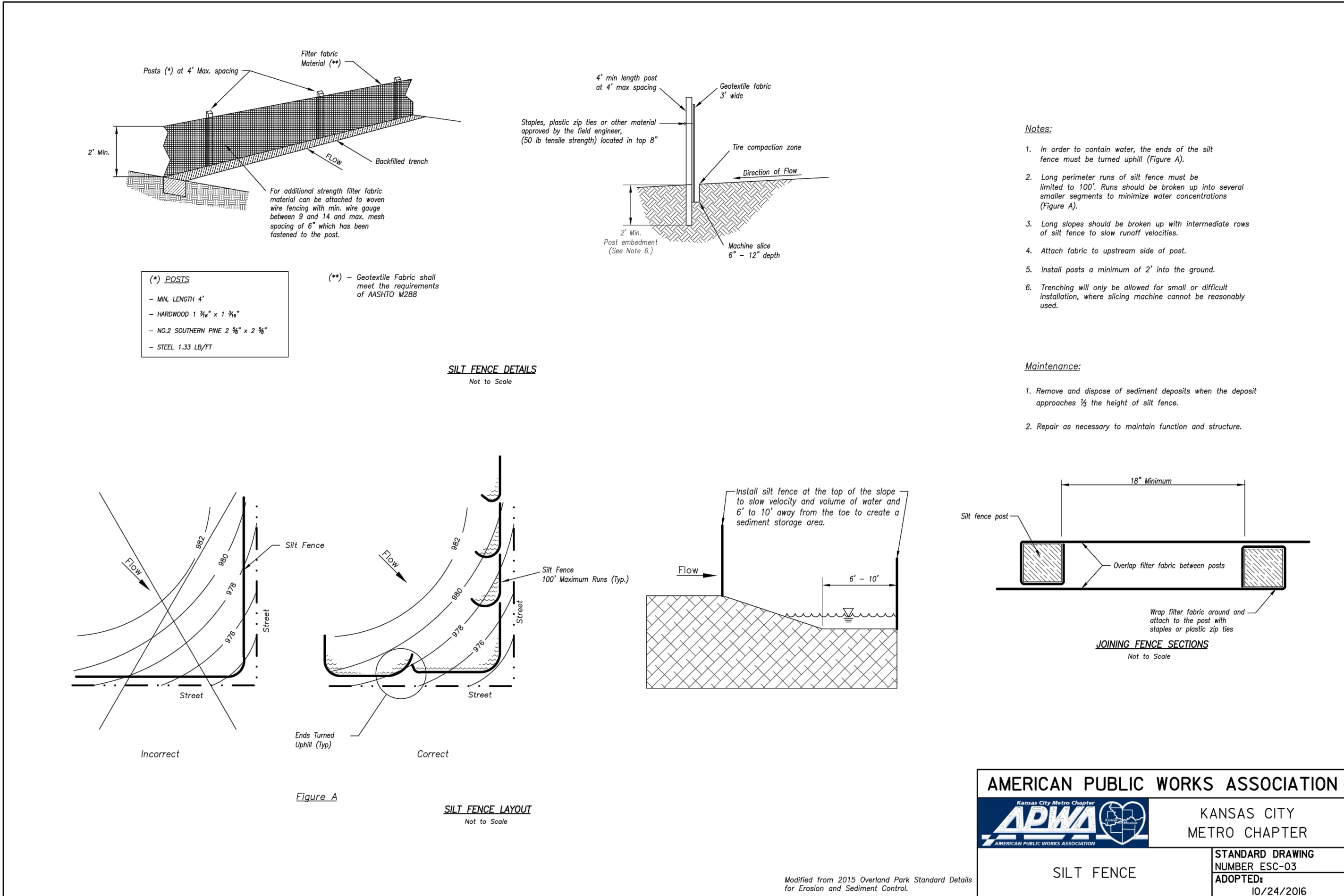
DISTURBED AREA = 9.01 A.C.

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 ANY 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 GRADING OPERATIONS BEGIN.
- SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADING BEGINS WILL BE MAINTAINED BY THE GRADING CONTRACTOR.
- AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

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	SUPER SEDIMENT FENCE	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	3	SILT FENCE (PRIOR TO LAND DISTURBANCE)	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
C - UTILITY CONSTRUCTION	5	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
	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
D - AFTER PAVING OPERATIONS	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
	8	SILT FENCE (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	9	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.

I:\PROJECTS\2019\19-0023-0 Design\3.0 DWG Plans\6.0 SS\19-002-SS-EROS.dwg, 7/30/2019 4:24:07 PM, 1:1





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

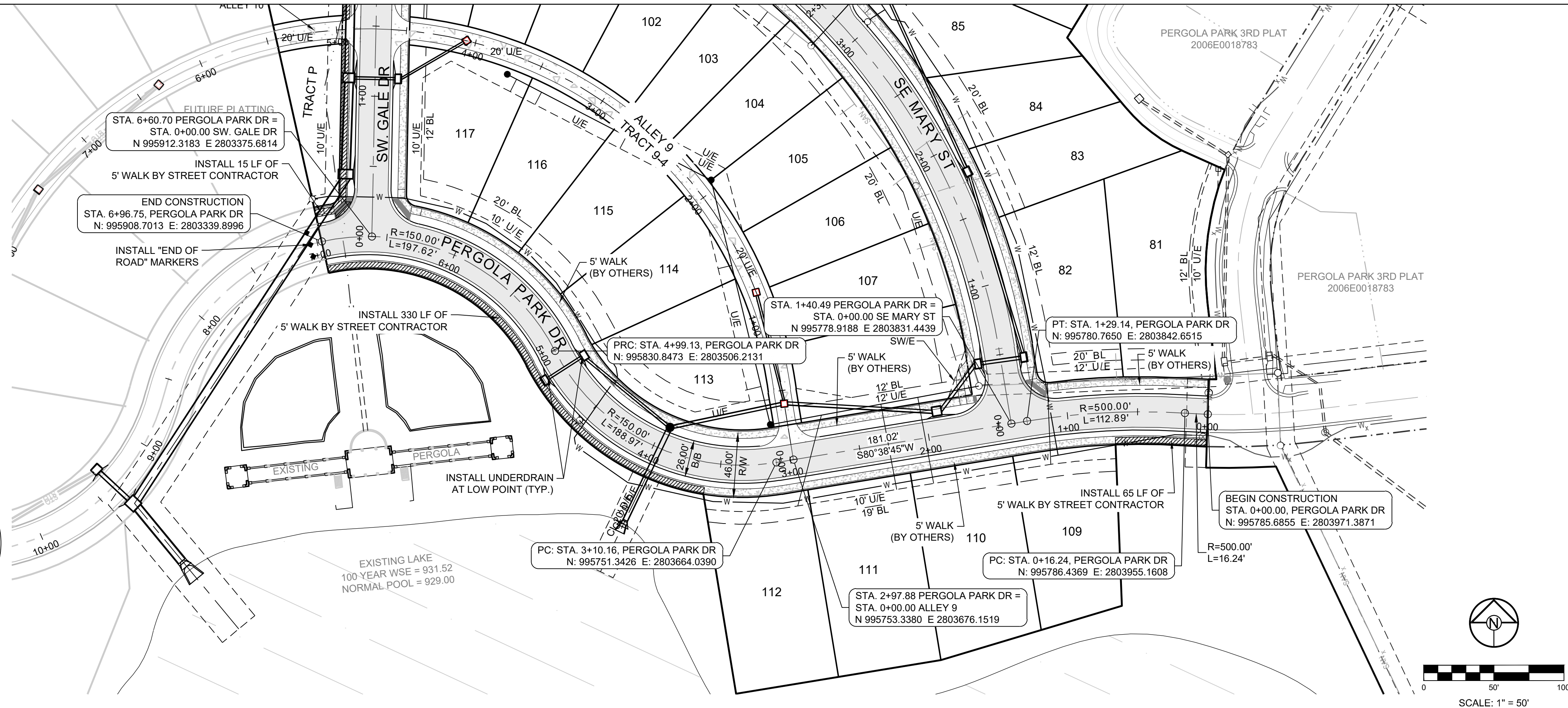
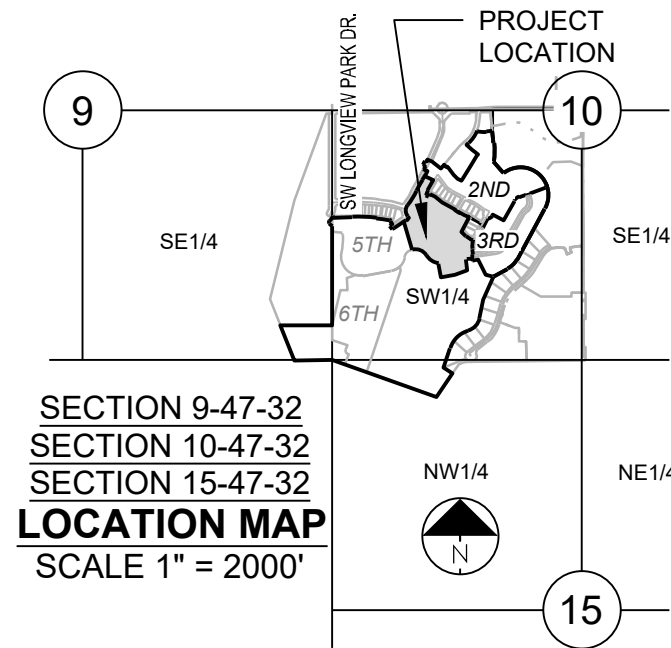
MISSOURI GEOGRAPHIC REFERENCE SYSTEM
BENCH MARK:

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.

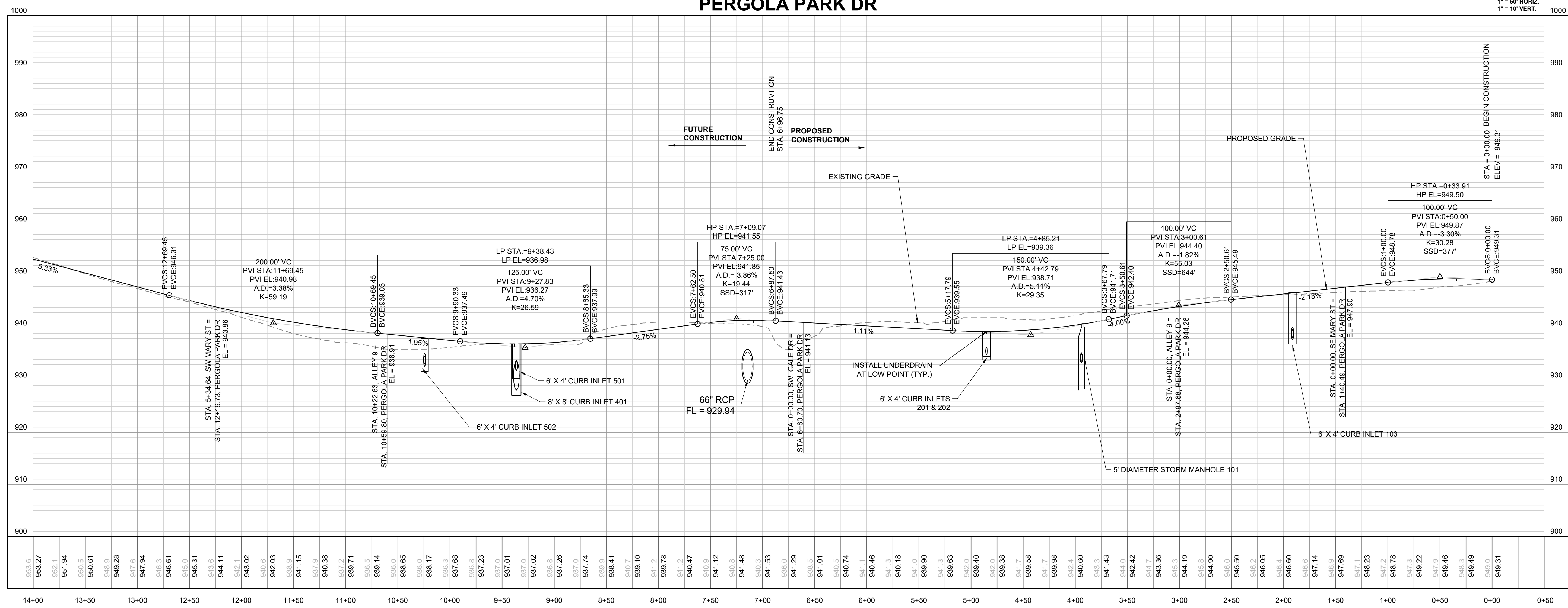
PROJECT BENCHMARK:

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



PERGOLA PARK DR



SCHLAGEL & ASSOCIATES, P.A.
Engineers-Planners-Surveyors-Landscape Architects
14920 West 10th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority
#E2002003600-F #LAC200100237 #LS200200859-F

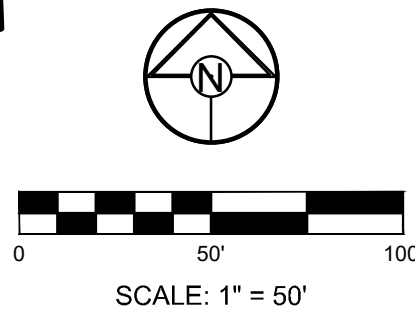
STATE OF MISSOURI
MARK ALLEN BREUER
Professional Engineer
07-31-19

PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION	CITY COMMENTS
6-26-19	1	
7-30-19	2	
8-15-19	3	
9-10-19	4	
10-02-19	5	
11-02-19	6	
12-02-19	7	
13-02-19	8	
14-02-19	9	
15-02-19	10	
16-02-19	11	
17-02-19	12	
18-02-19	13	
19-02-19	14	

PERGOLA PARK DR

SHEET
12
OF 28



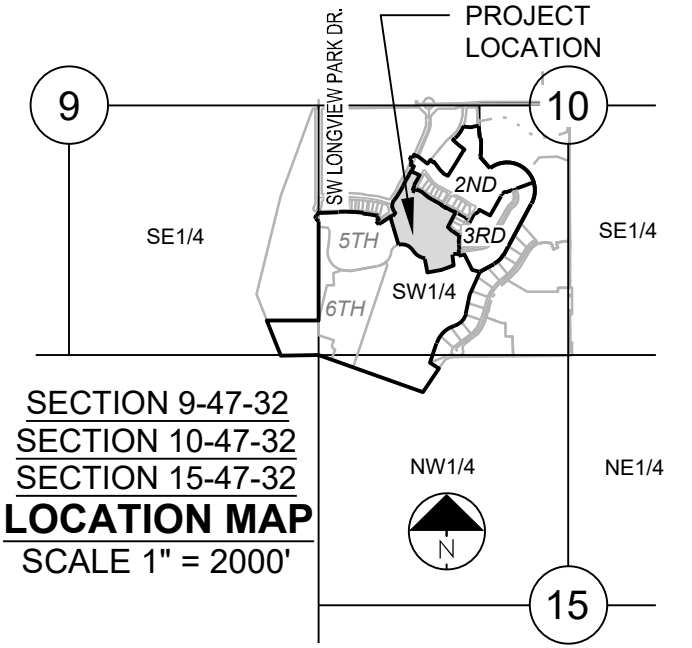
MISSOURI GEOGRAPHIC REFERENCE SYSTEM
BENCH MARK:

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.

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



SCHLAGEL & ASSOCIATES, P.A.
Engineers • Planners • Surveyors • Landscape Architects
 14920 West 107th Street • Lenexa, Kansas 66215
 (913) 492-5158 • Fax: (913) 492-9400
WWW.SCHLAGELANDASSOCIATES.COM
 Missouri State Certificate of Authority
 #E20000038000 • ILLAC2001100527
 MISS2002008590-F



PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION	REVISION DATE	DESCRIPTION
1	6-28-19	CITY COMMENTS
2	7-30-19	CITY COMMENTS
3		
4		
5		
6		
7		
8		
9		

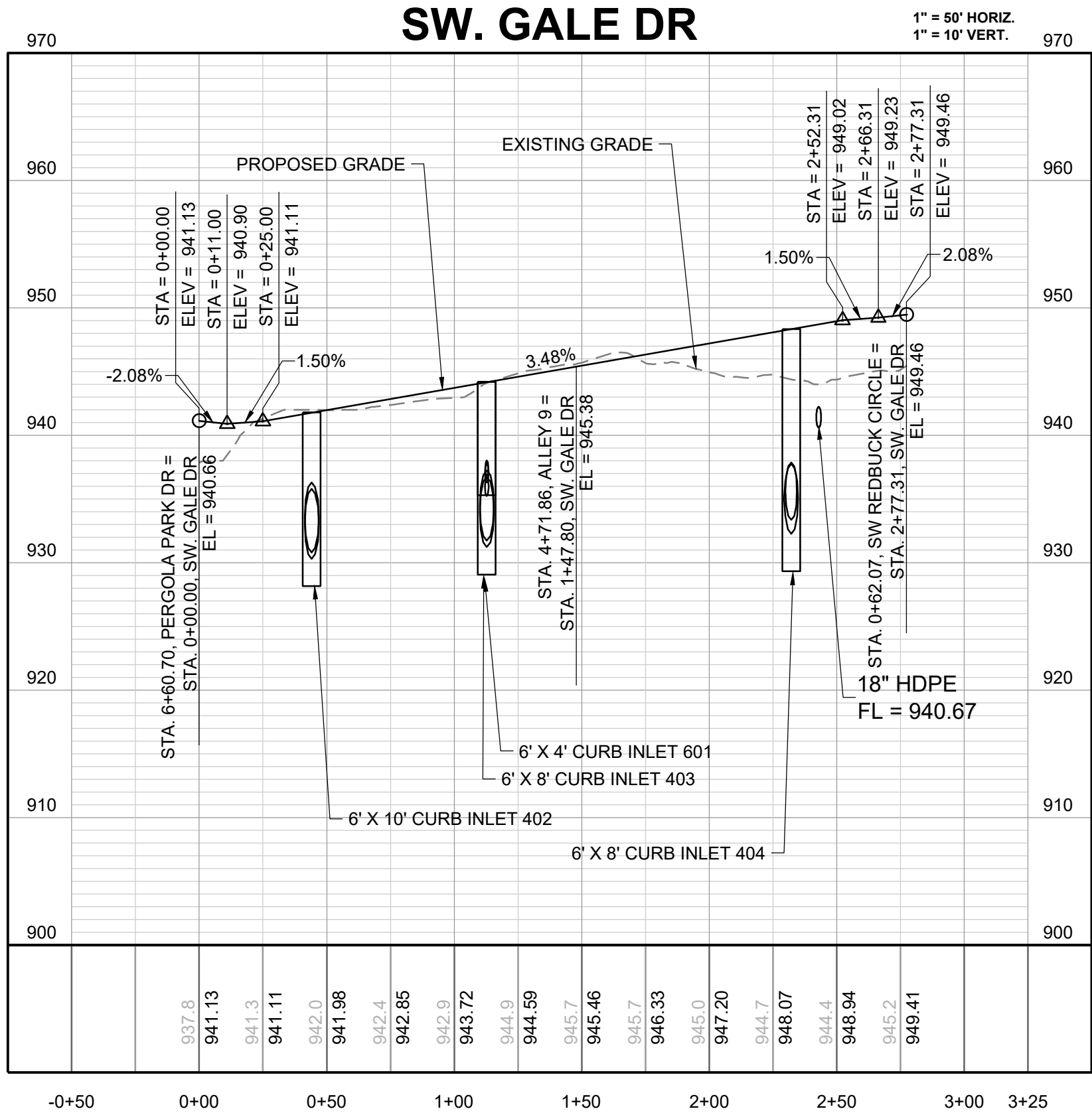
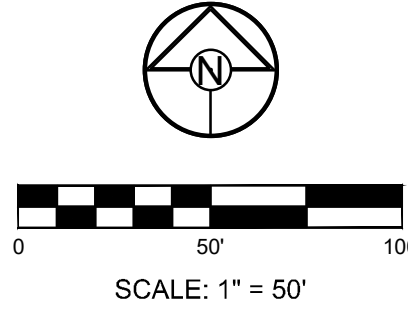
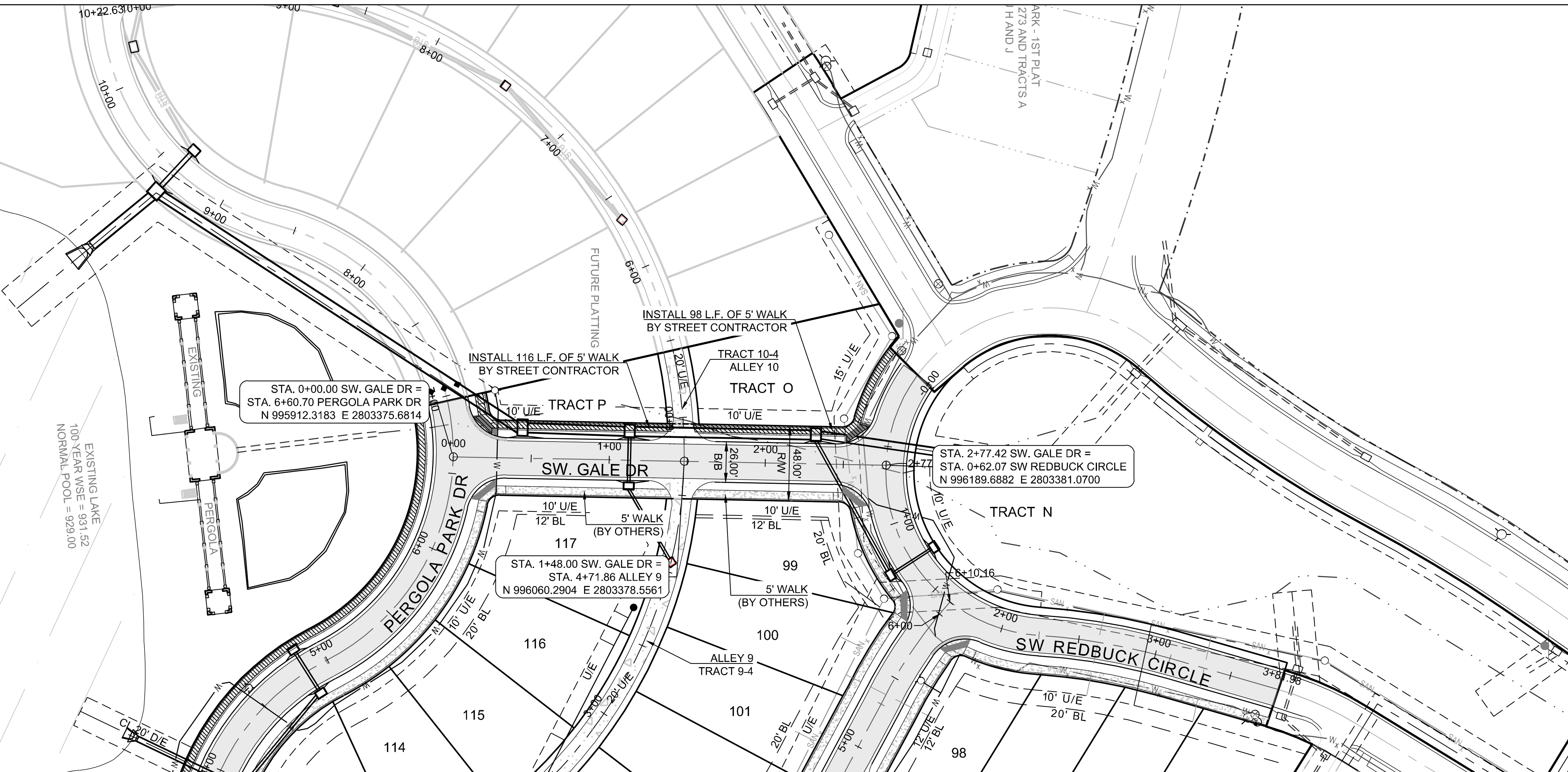
ALLEY 9

SHEET

13

OF 28

I:\PROJECTS\2019\19-0023\0 Design\3.0 DWG Plans\6.0 SS\19-002-SS-P&P.dwg, 7/30/2019 4:25:07 PM, 1:1



NOTE:

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

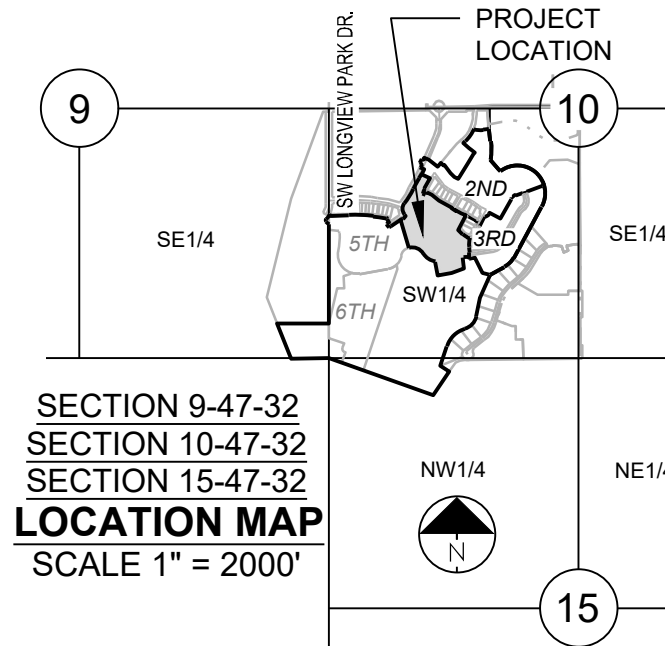
MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:

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.

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



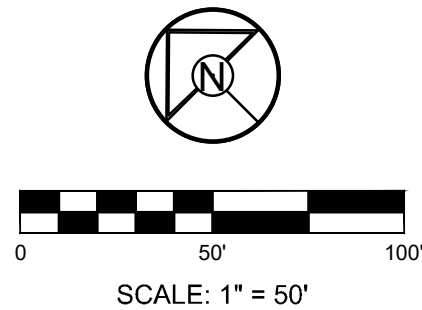
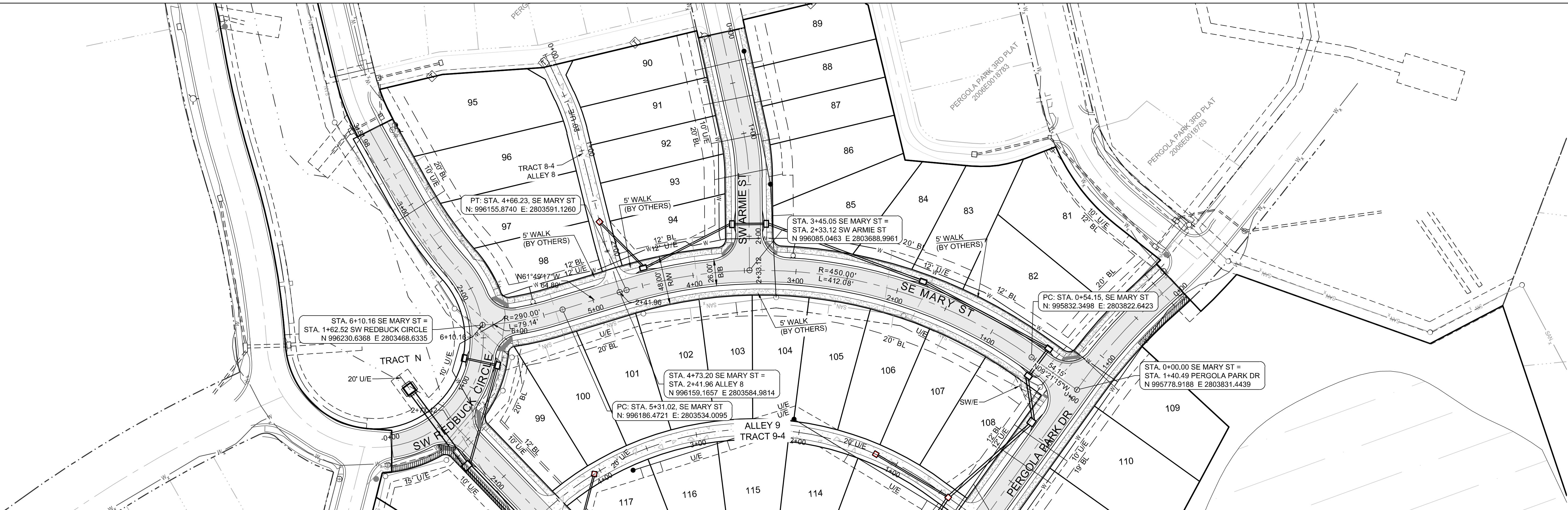
**PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
- LEE'S SUMMIT, MISSOURI**

REVISION DATE	DESCRIPTION
1 6-26-19	CITY COMMENTS
2 7-30-19	CITY COMMENTS
3	
4	
5	
6	
7	
8	
9	
10	

DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	4-15-19
PROJ. NUMBER:	19-002

GALE DR.

I:\PROJECTS\2019\19-0023\0 DWG Plans\6 0 SS\19-002-SS-P&P.dwg, 7/30/2019 4:25:18 PM, 1:1

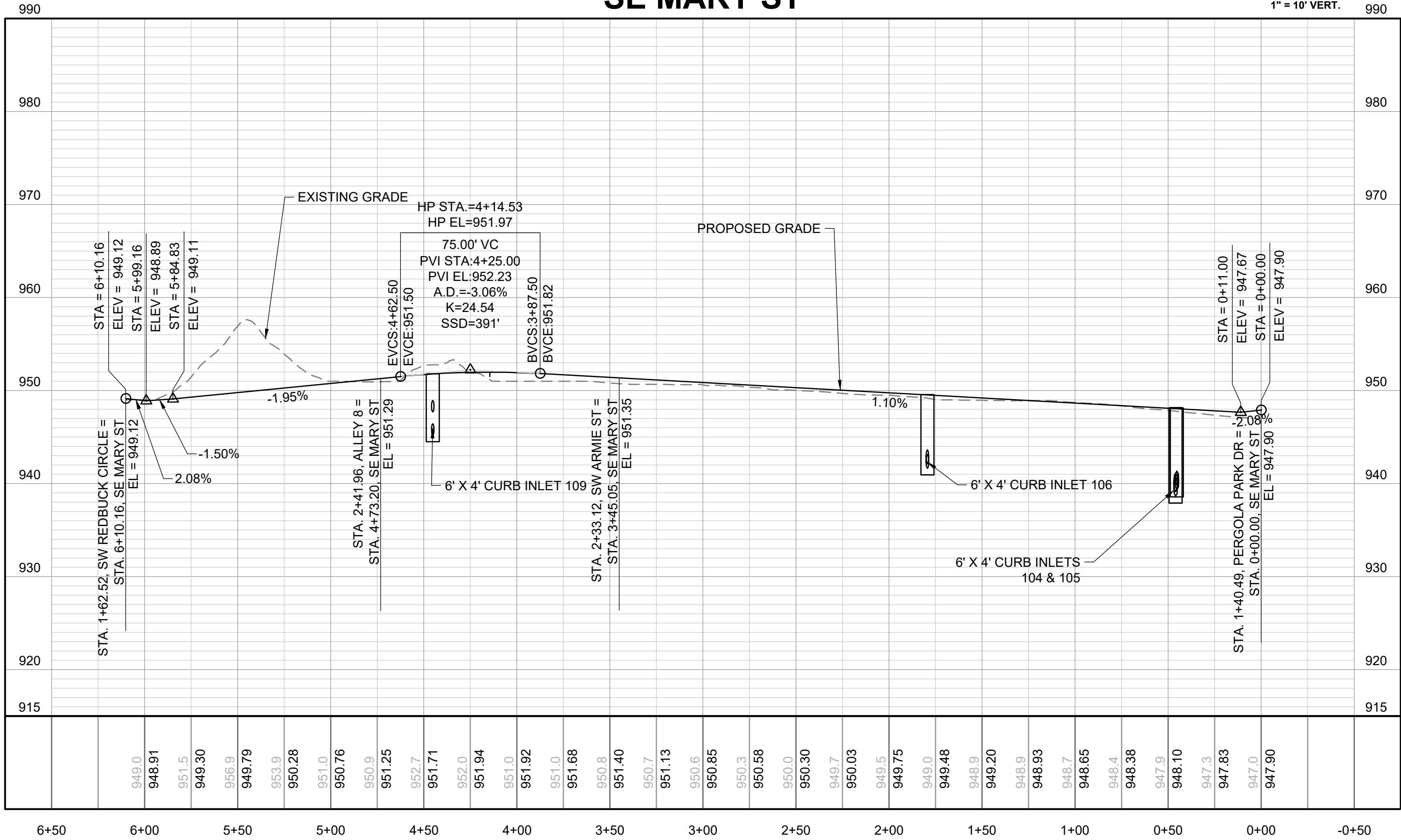


NOTE:

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

SE MARY ST

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



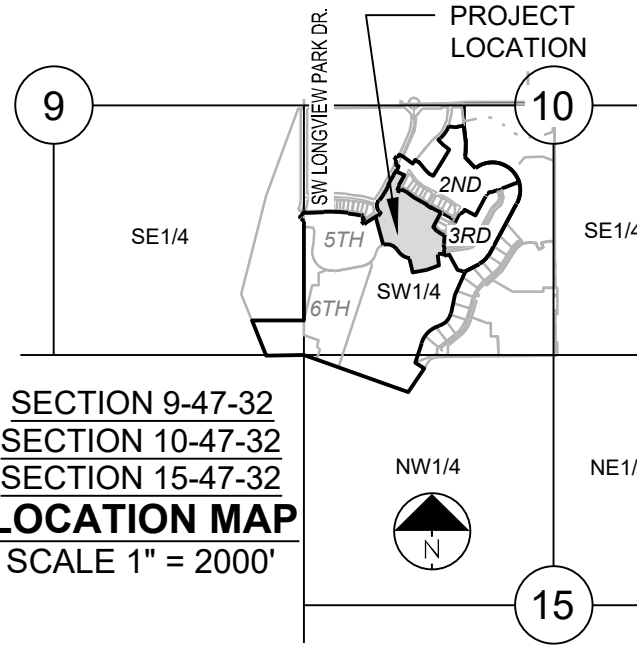
MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:

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.

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



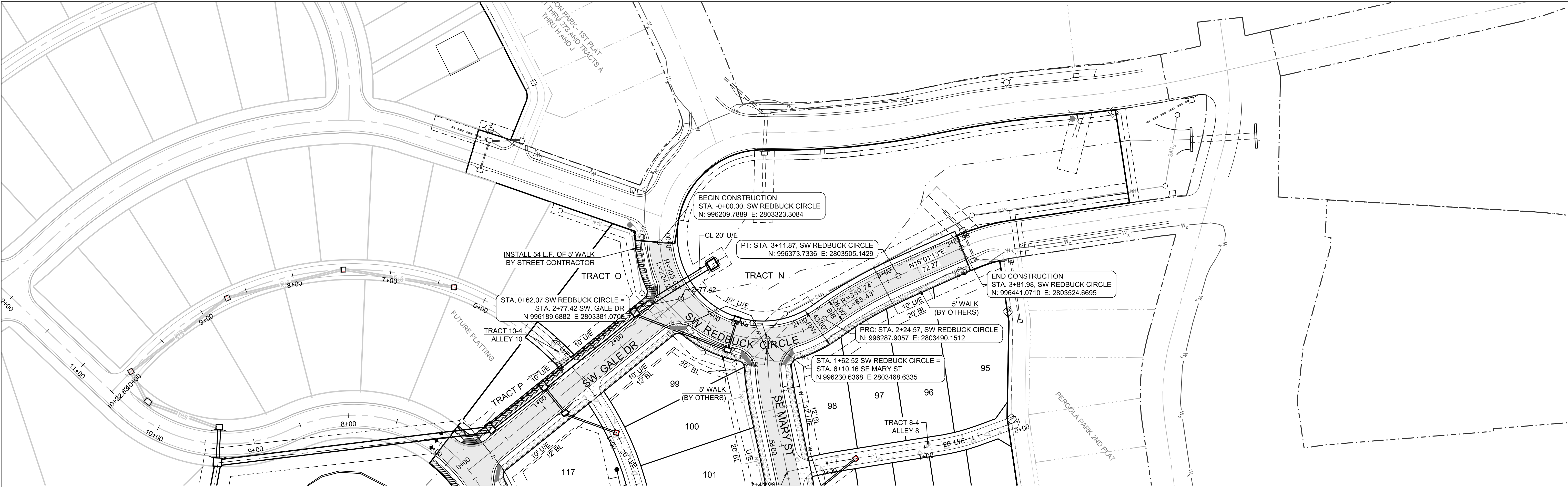
**PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
- LEE'S SUMMIT, MISSOURI**

REVISION DATE	DESCRIPTION
1 6-26-19	CITY COMMENTS
2 7-30-19	CITY COMMENTS
3	
4	
5	
6	
7	
8	
9	

DRAWN BY: BAL	CHECKED BY: MAB	DATE PREPARED: 4-15-19	PROJ. NUMBER: 19-002
------------------	--------------------	---------------------------	-------------------------

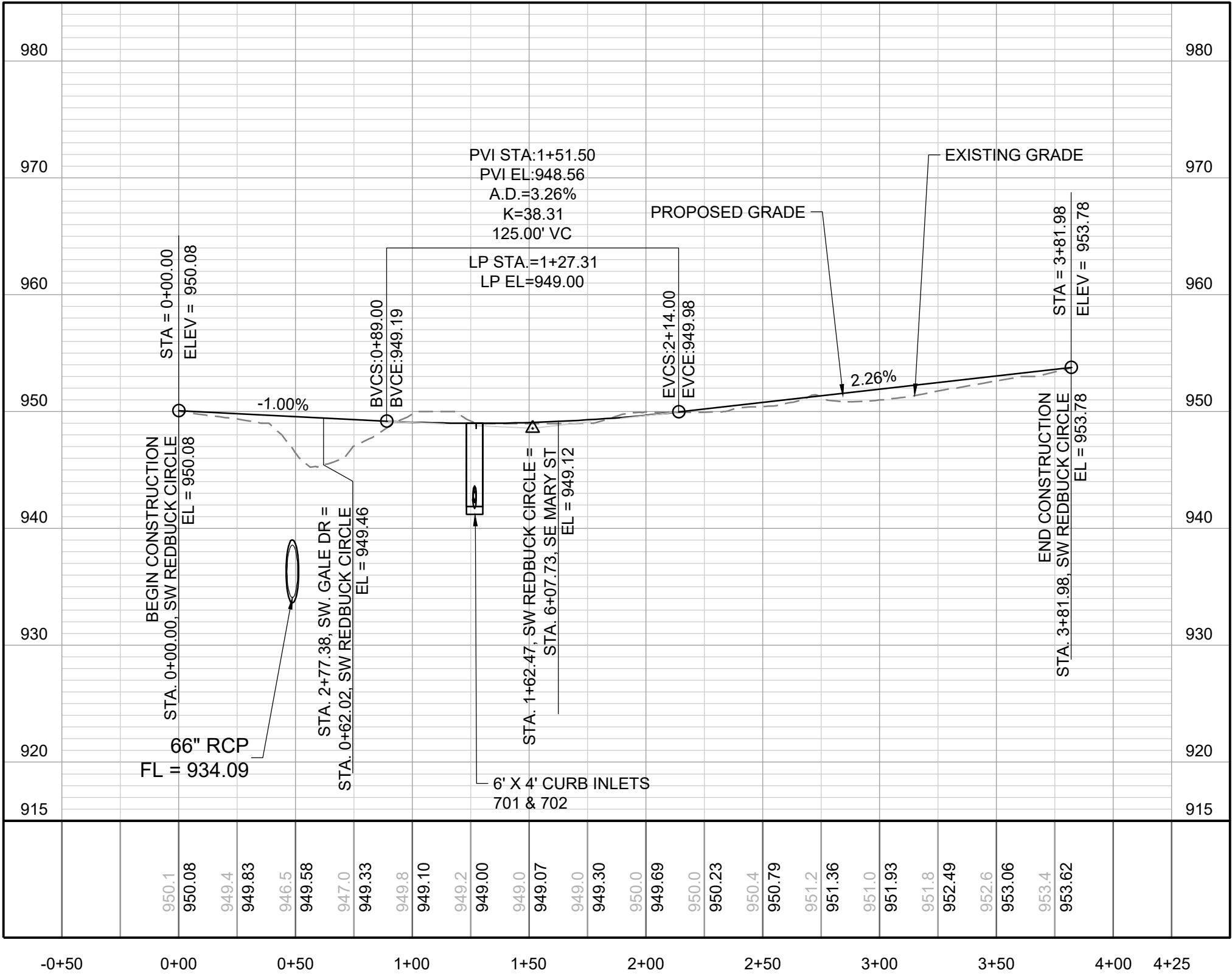
SE MARY ST

I:\PROJECTS\2019\19-0023\0 DWG Plans\6 0 SS\19-002-SS-P&P.dwg, 7/30/2019 4:25:34 PM, 1:1



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

SW REDBUCK CIRCLE



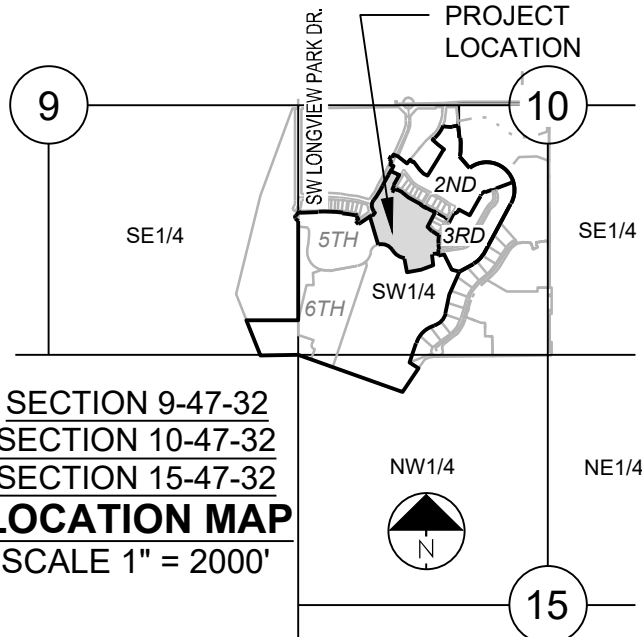
MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:

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.

PROJECT BENCHMARK:

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

NORTHING: 988893.4148
EASTING: 2803318.5413
ELEV. 1004.09

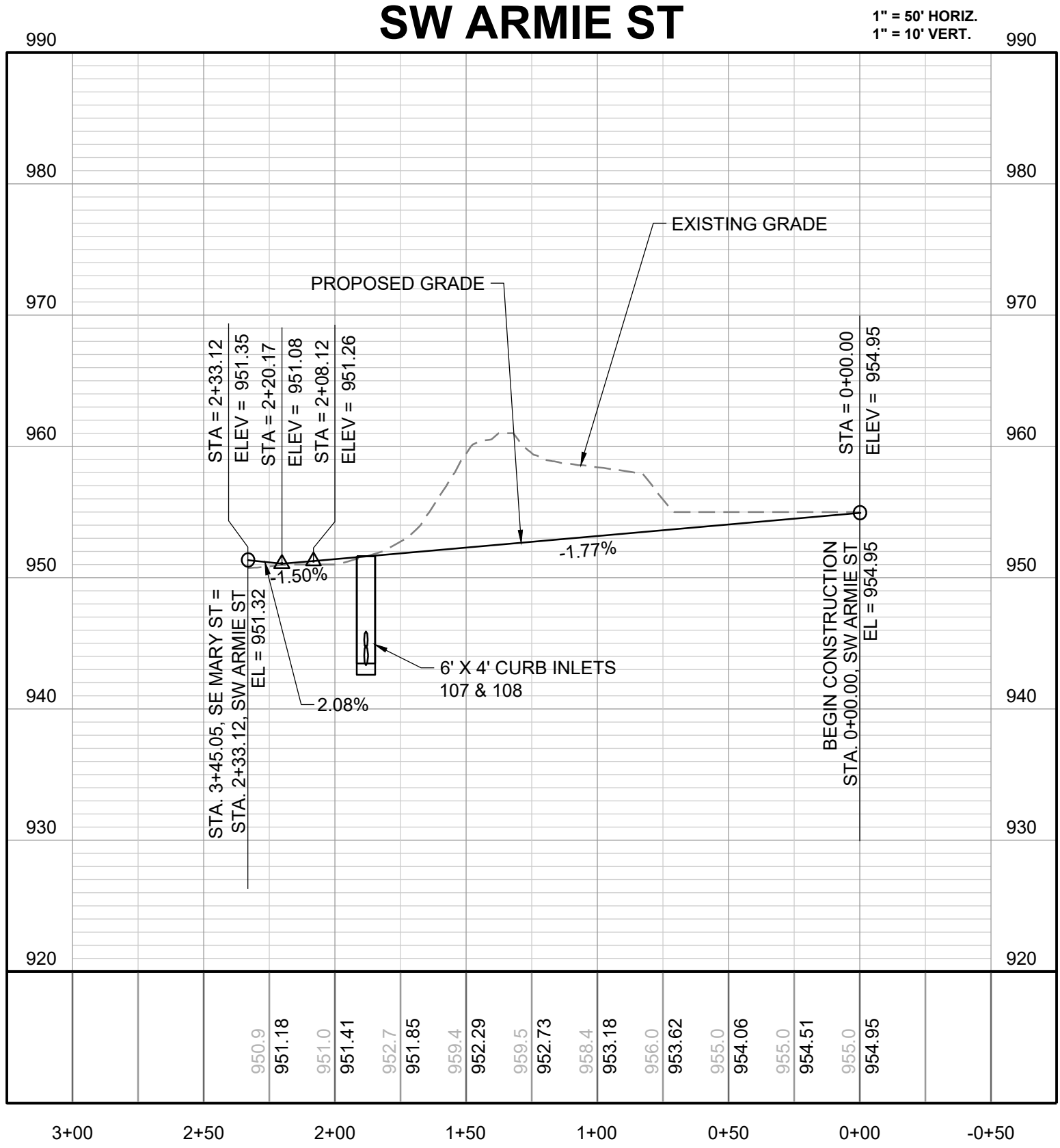
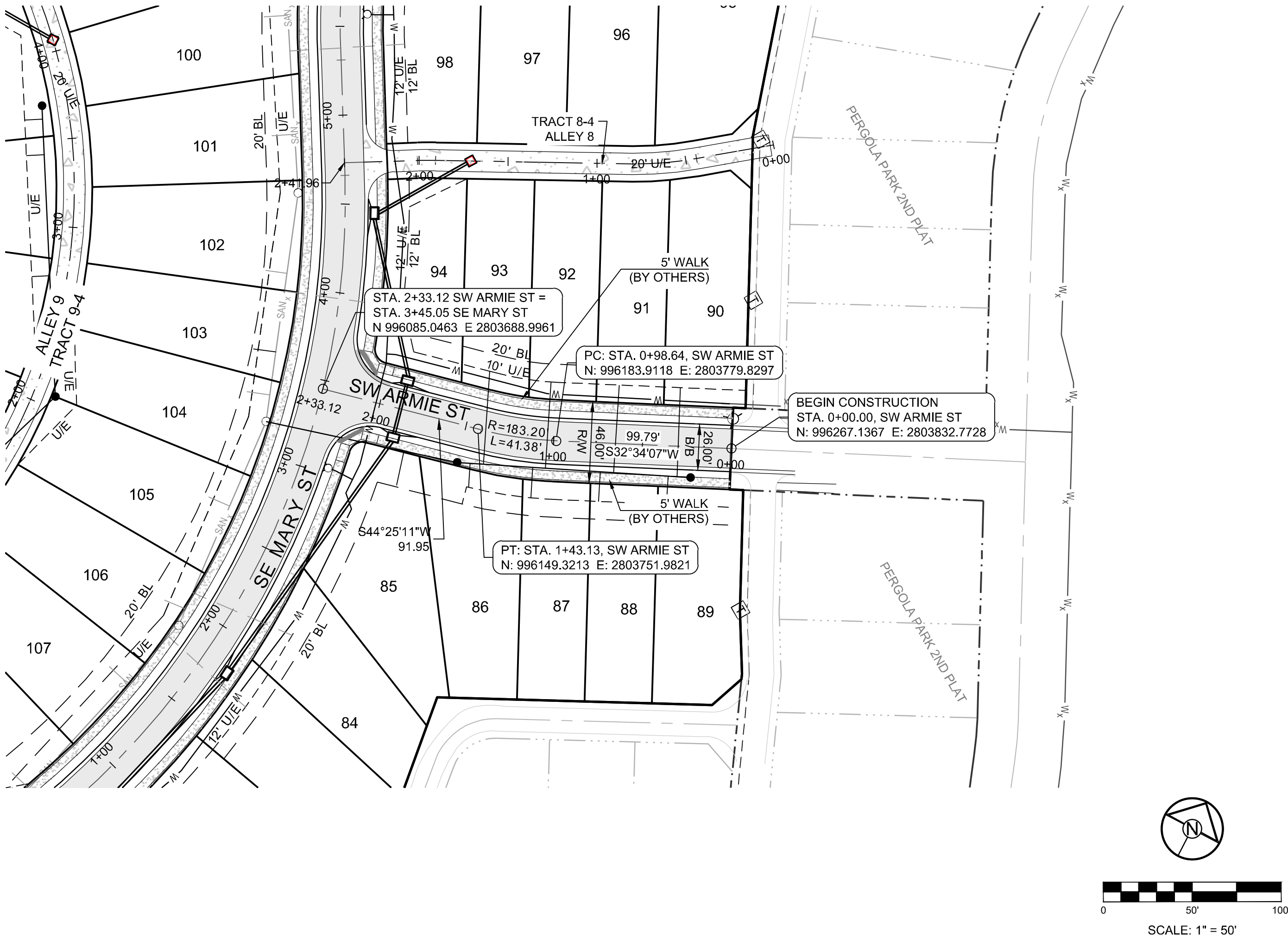


**PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
CONTROL - LEE'S SUMMIT, MISSOURI**

REVISION DATE	DESCRIPTION
1 6-26-19	CITY COMMENTS
2 7-30-19	CITY COMMENTS
3	
4	
5	
6	
7	
8	
9	

DRAWN BY: BAL	CHECKED BY: MAB	DATE PREPARED: 4-15-19	PROJ. NUMBER: 19-002
------------------	--------------------	---------------------------	-------------------------

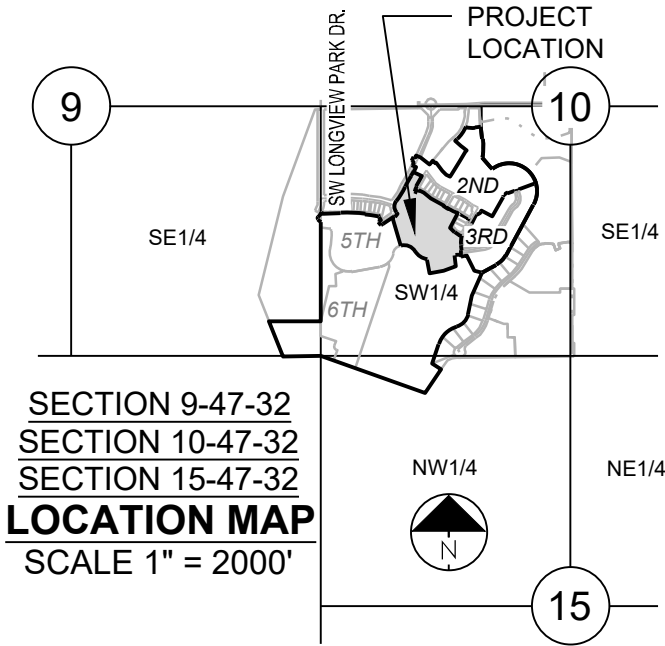
SW REDBUCK CR



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

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.

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



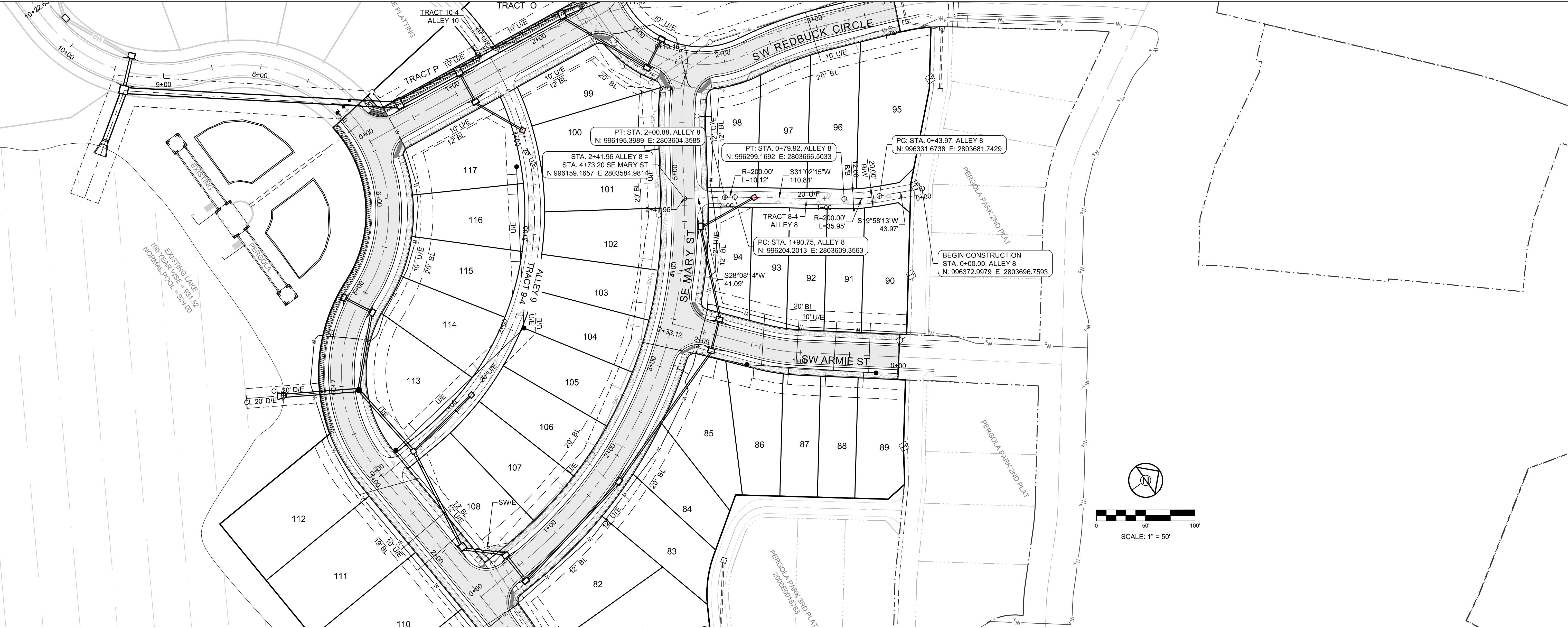
**PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
- LEE'S SUMMIT, MISSOURI**

REVISION DATE	DESCRIPTION
1. 6-26-19	CITY COMMENTS
2. 7-30-19	CITY COMMENTS
3. 8-1-19	
4. 8-1-19	
5. 8-1-19	
6. 8-1-19	
7. 8-1-19	
8. 8-1-19	

DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	4-15-19
PROJ. NUMBER:	19-002

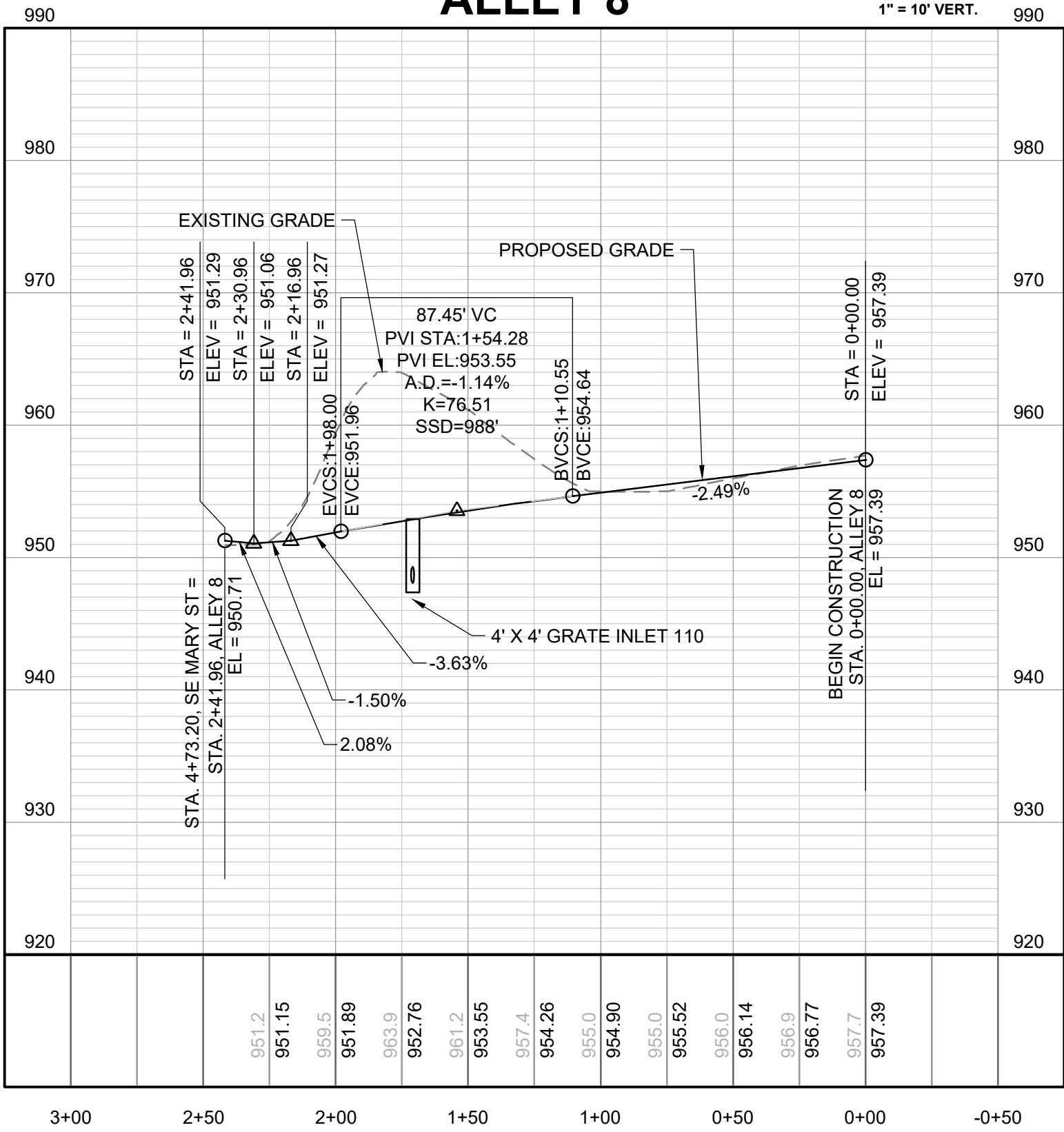
SW.ARMIE ST

I:\PROJECTS\2019\19-0023\0 DWG Plans\6 0 SS\19-002-SS-P&P.dwg, 7/30/2019 4:25:58 PM, 1:1



ALLEY 8

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



NOTE:

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

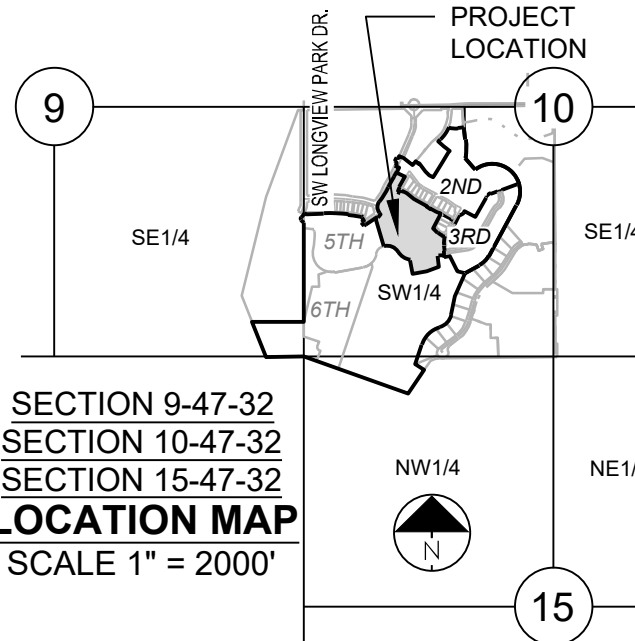
MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:

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.

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



18

OF 28

SHEET

ALLEY 8

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

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.

NOTE:

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

PERGOLA PARK 4TH PLAT

STREET, STORMWATER, MASTER DRAINAGE

PLAN AND EROSION AND SEDIMENT

- LEE'S SUMMIT, MISSOURI

STATE OF MISSOURI

MARK ALLEN BREUER

NUMBER PE-2003007268

PERSONAL ENGINEER

07-31-19

SCHLAGEL & ASSOCIATES, P.A.

Engineers-Planners-Surveyors-Landscape Architects

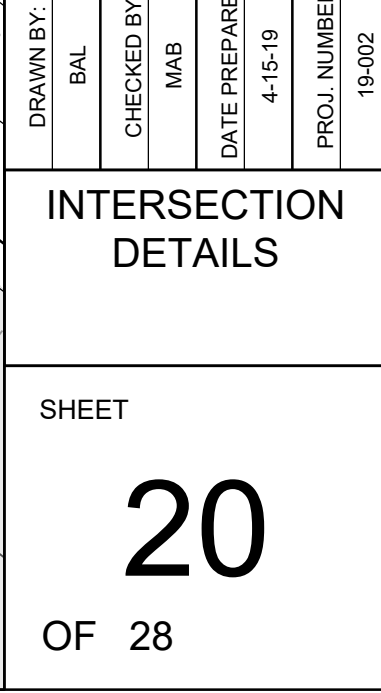
14920 West 10th Street • Lenexa, Kansas 66215

(913) 492-5158 • Fax: (913) 492-8400

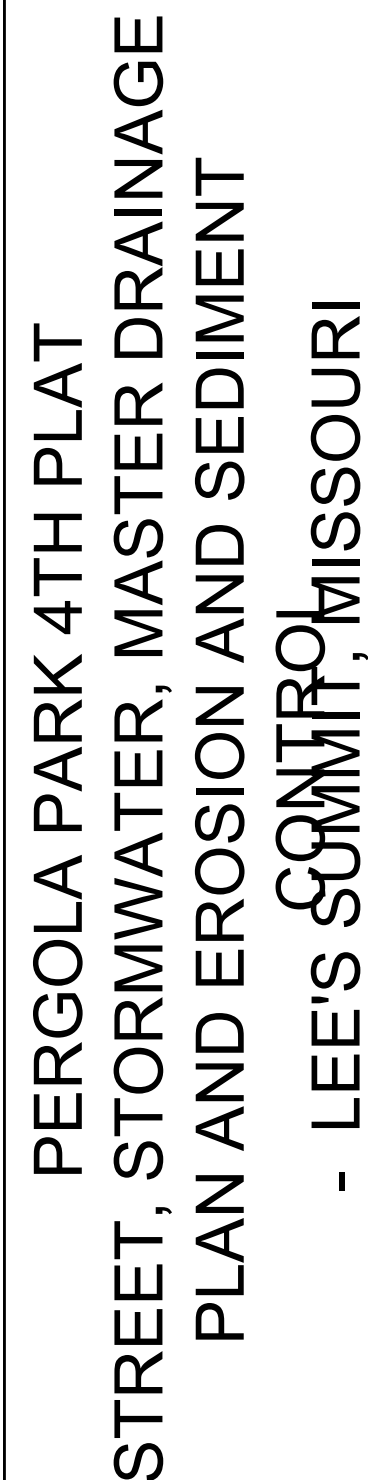
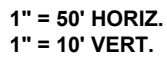
WWW.SCHLAGELASSOCIATES.COM

Missouri State Certificates of Authority

#E2002003600-F #LAC20100237 #LS200200859-F



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

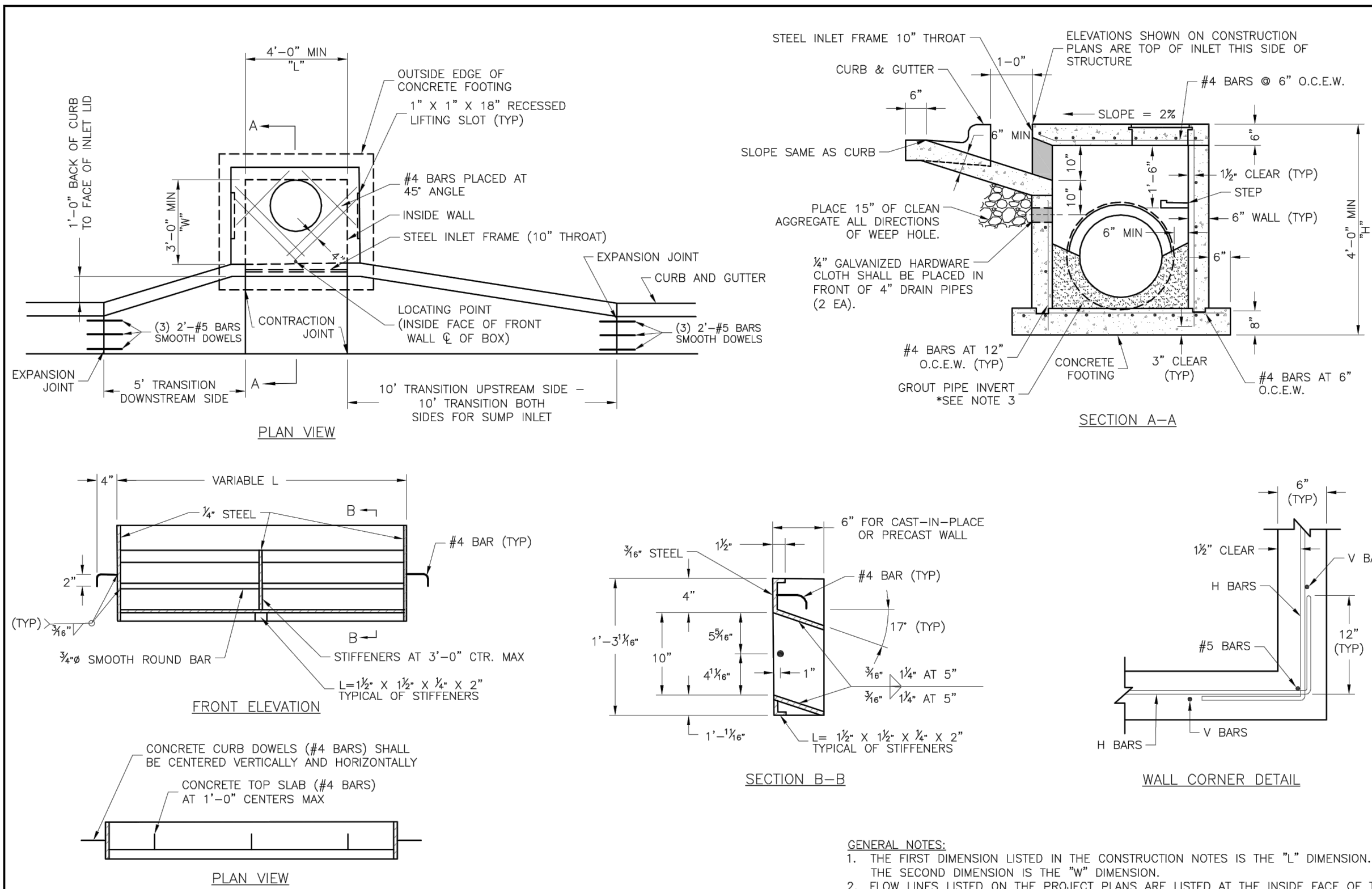


REVISION DATE		DESCRIPTION
1.	6-26-19	CITY COMMENTS
2.	7-30-19	CITY COMMENTS
3.		
4.		
5.		
6.		
7.		
8.		

STORM PROFILES

SHEET

I:\PROJECTS\2019\19-0023\0 Design\0.0 DWG Plans\6.0 SS\19-002-SS-DET.dwg, 7/30/2019 4:28:15 PM, 1:1



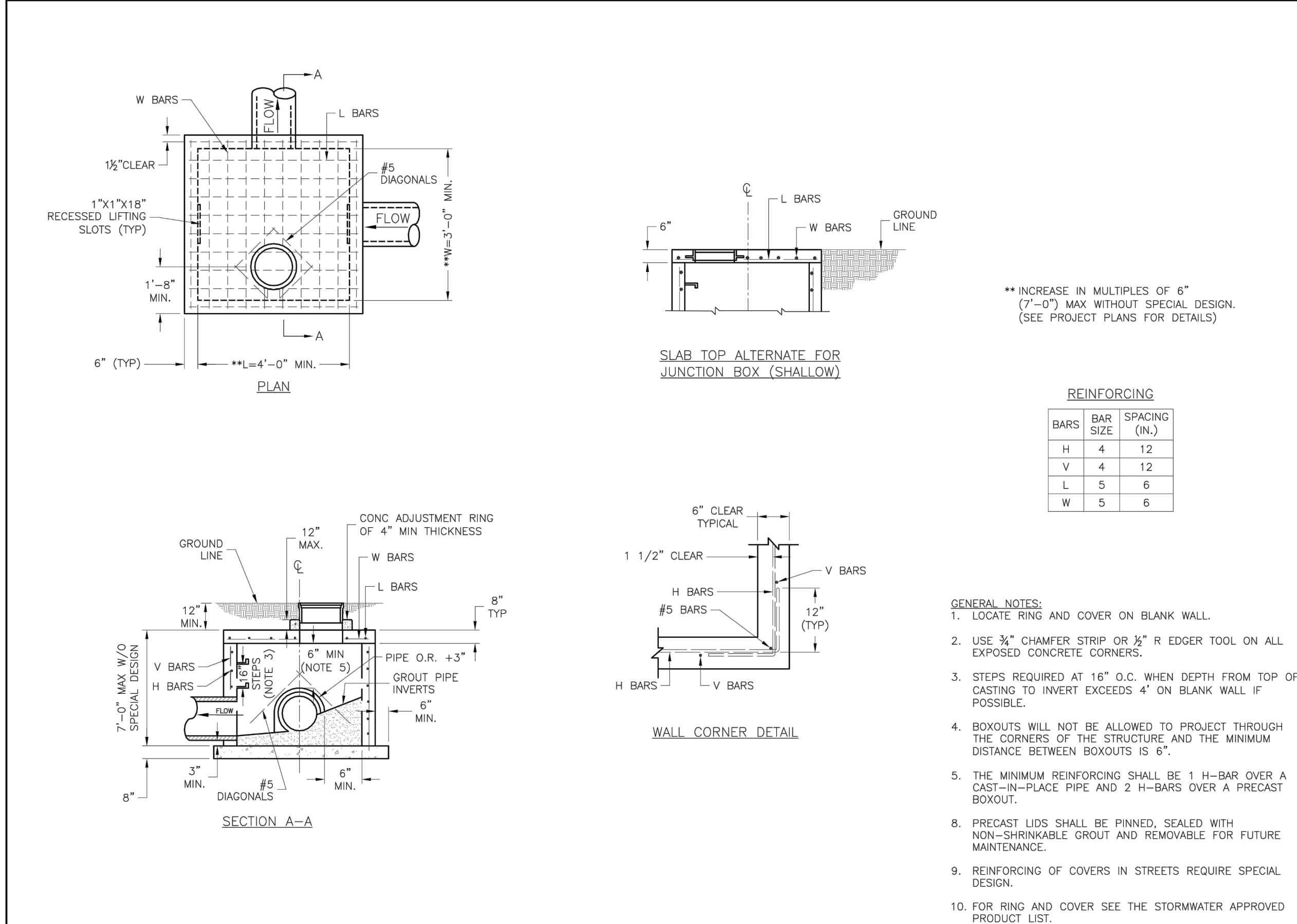
- STEEL FRAME NOTES:**
1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
 2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
 3. THE ENTIRE FRAME SHALL BE PAINTED A SINGLE COAT OF CHEM-PRIME #37H-78 PRIMER (GRAY) OR EQUAL.
- GENERAL NOTES:**
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
 2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
 3. FLOOR OF INLET GROUDED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
 4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
 5. STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
 6. BEVEL ALL EXPOSED EDGES WITH 3/4" CHAMFER OR 1/2" TOOLED EDGE.
 7. ON-GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
 8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
 9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON-SHRINKABLE GROUT
 10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

**LEE'S SUMMIT
MISSOURI**

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

Drawn By: MIF
Checked By: DL
Date: 04/17
Proj. #

STM-1



REINFORCING	BAR SIZE	SPACING (IN.)
H	4	12
V	4	12
L	5	6
W	5	6

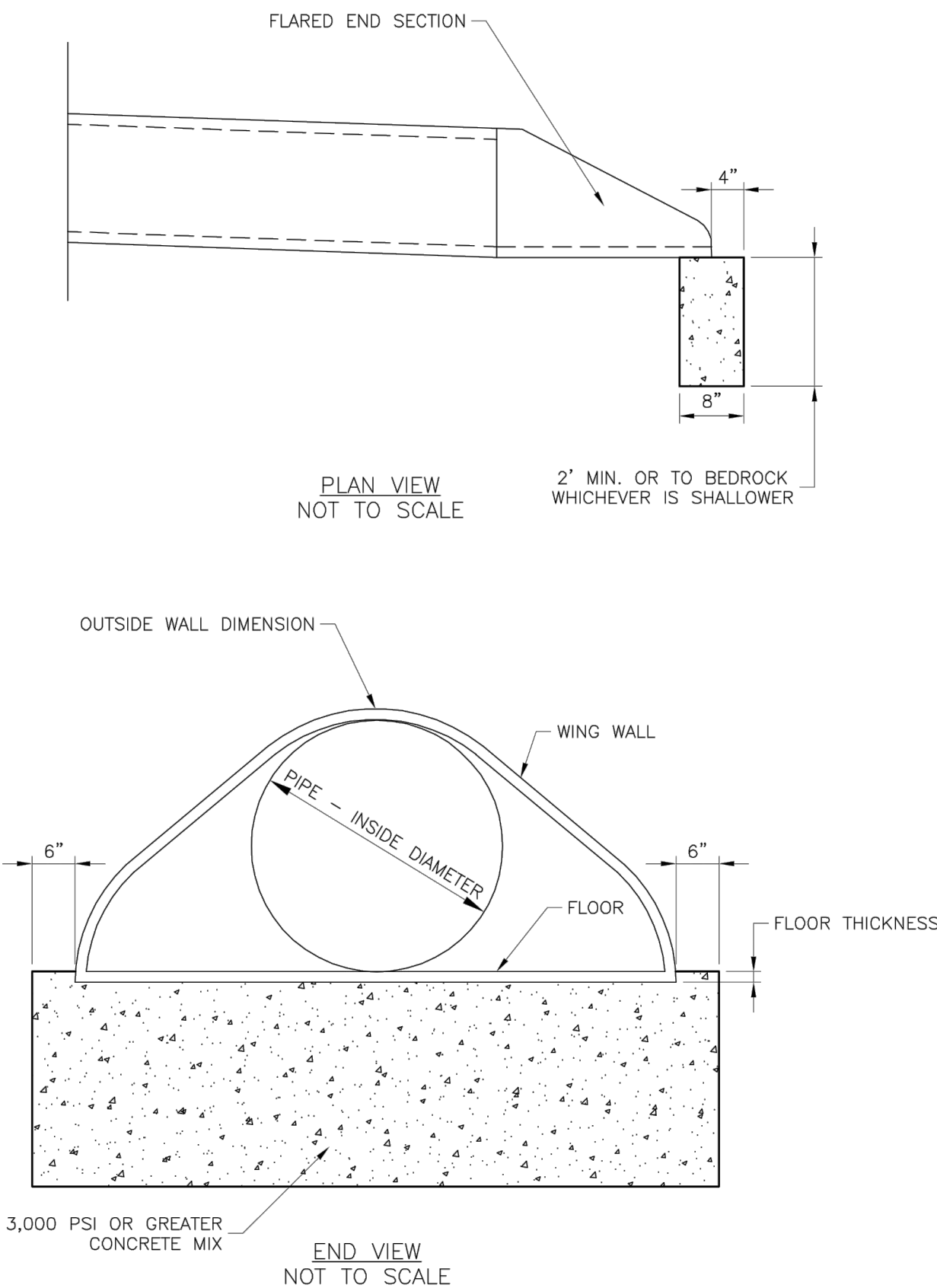
- GENERAL NOTES:**
1. LOCATE RING AND COVER ON BLANK WALL.
 2. USE 3/4" CHAMFER STRIP OR 1/2" R EDGER TOOL ON ALL EXPOSED CONCRETE CORNERS.
 3. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 4' ON BLANK WALL IF POSSIBLE.
 4. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE AND THE MINIMUM DISTANCE BETWEEN BOXOUTS IS 6".
 5. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOXOUT.
 6. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
 7. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
 8. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

**LEE'S SUMMIT
MISSOURI**

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

Drawn By: MIF
Checked By: DL
Date: 04/17
Proj. #

STM-3



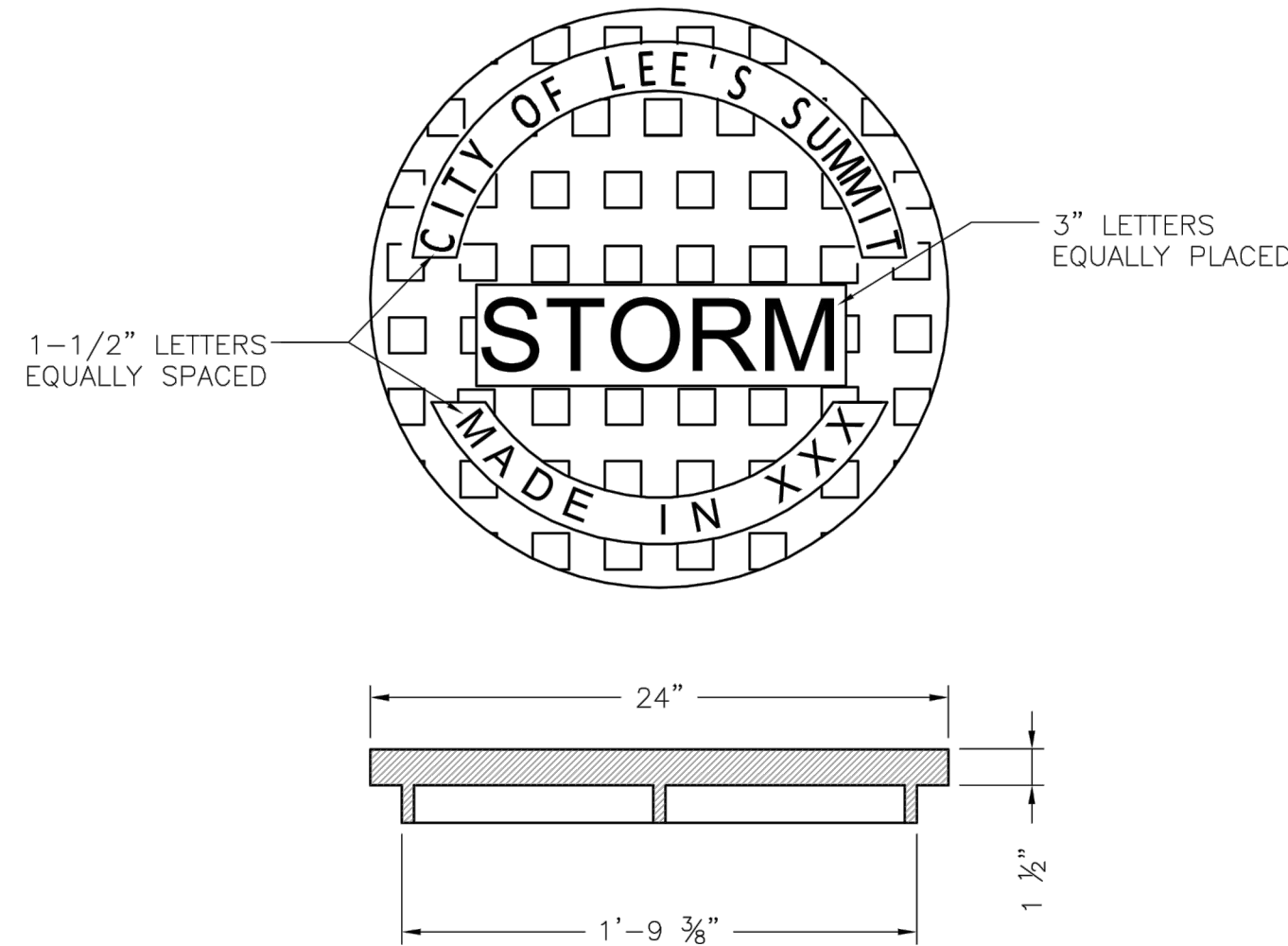
**LEE'S SUMMIT
MISSOURI**

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

FLARED END SECTION SUPPORT DETAIL

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

STM-5



STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

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



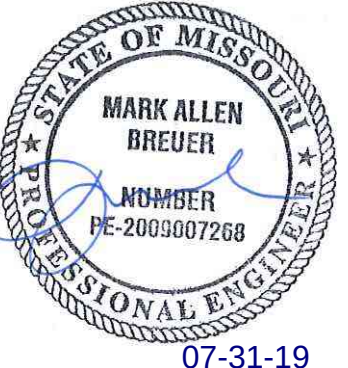
**LEE'S SUMMIT
MISSOURI**

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

STORM MANHOLE COVER DETAIL

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

STM-6



PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1 6-26-19	CITY COMMENTS
2 7-30-19	CITY COMMENTS
3	
4	
5	
6	
7	
8	
9	
10	

DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	4-15-19
PROJ. NUMBER:	19-002

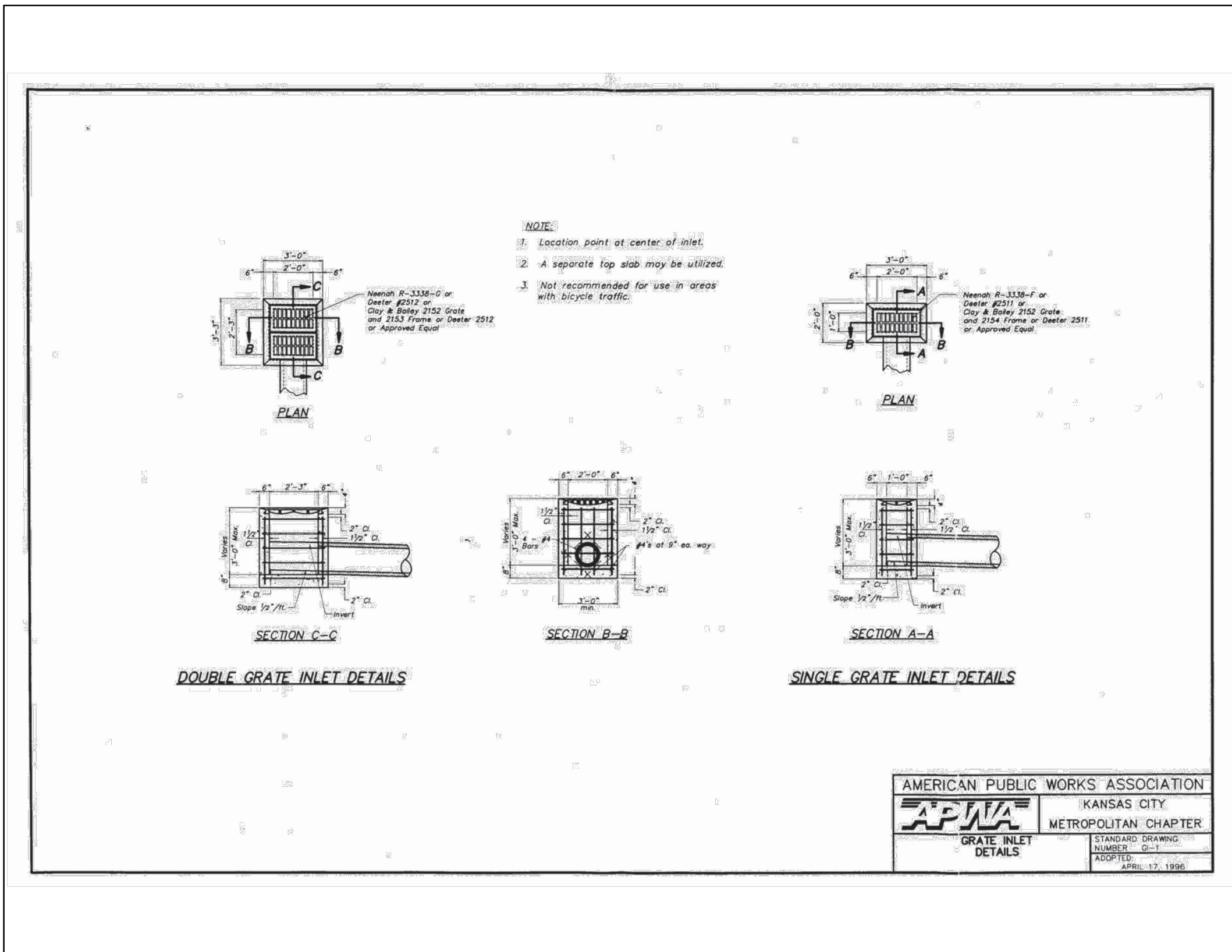
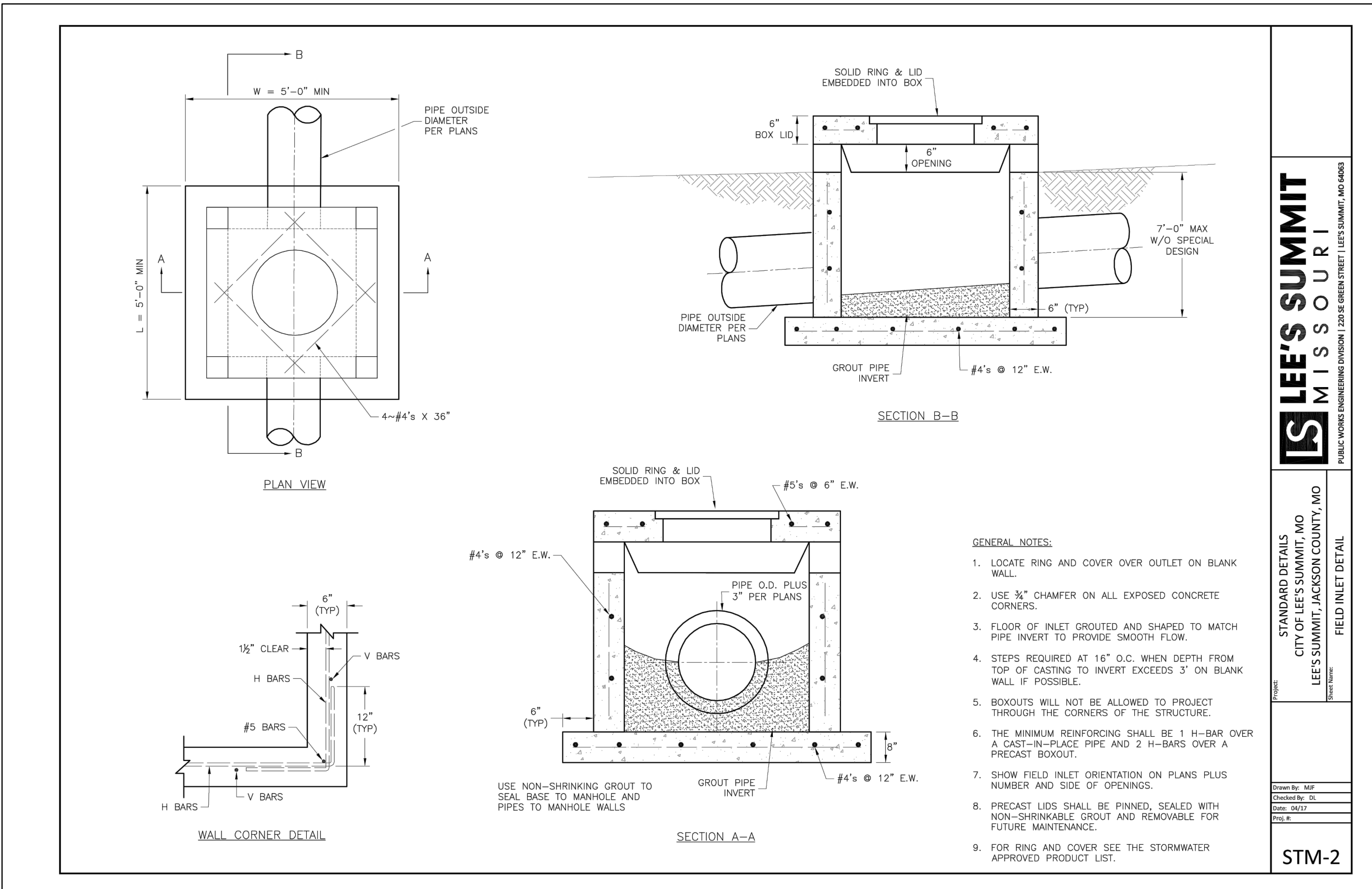
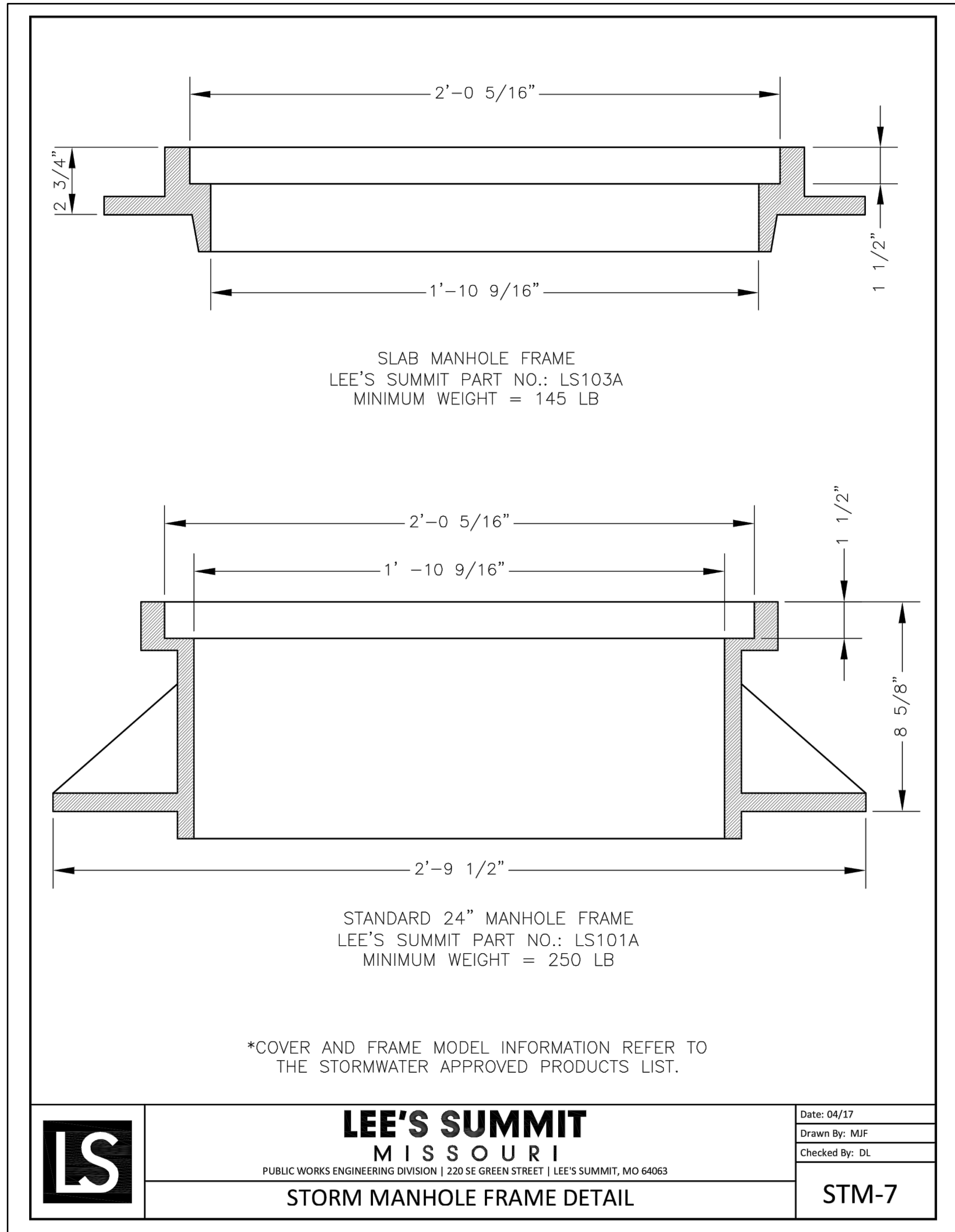
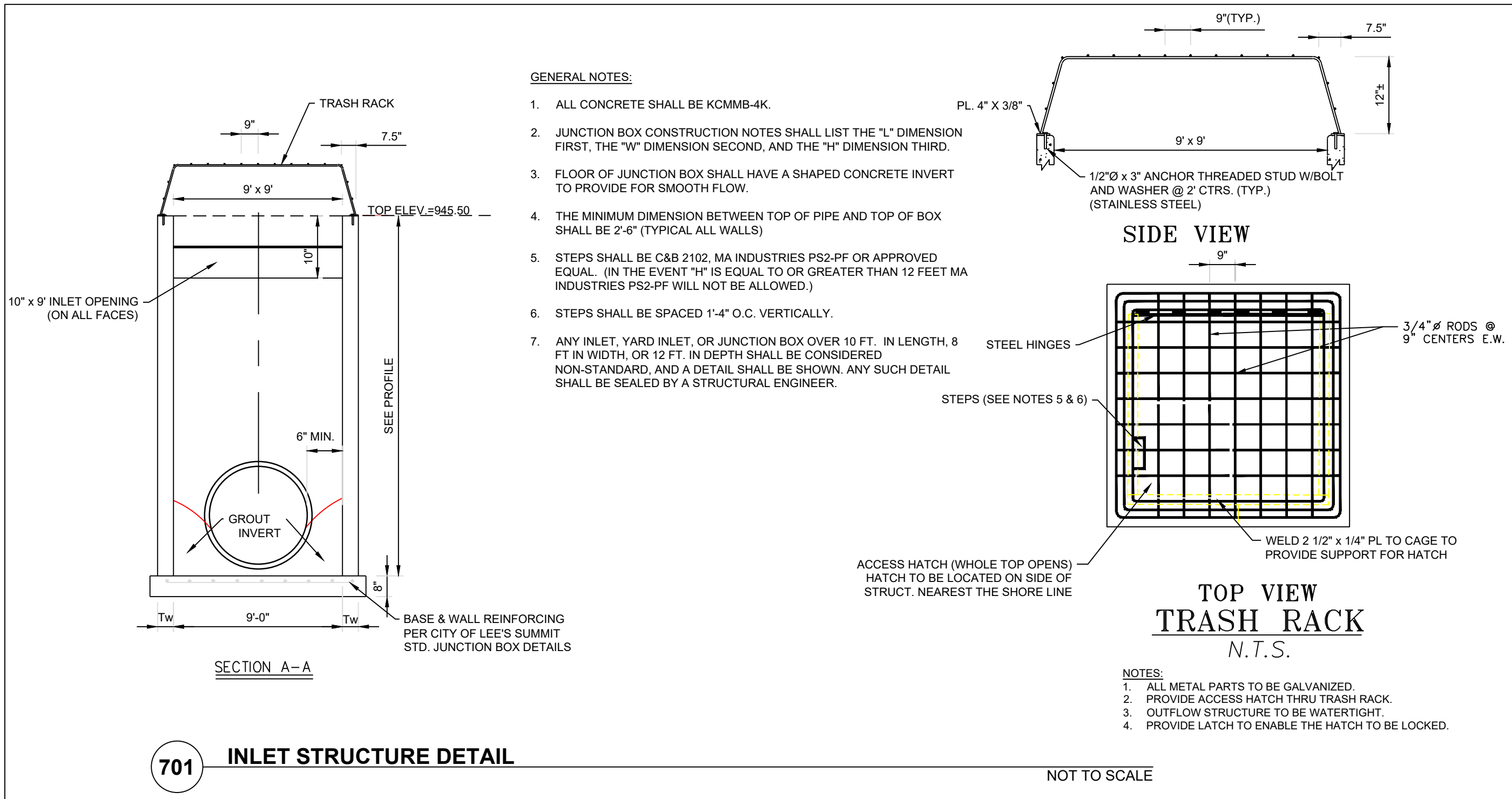
DETAIL SHEET

SHEET

23
OF 28

SCHLAGEL & ASSOCIATES, P.A.
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
#E2002003600-F #LAC201005237 #LS200200859-F

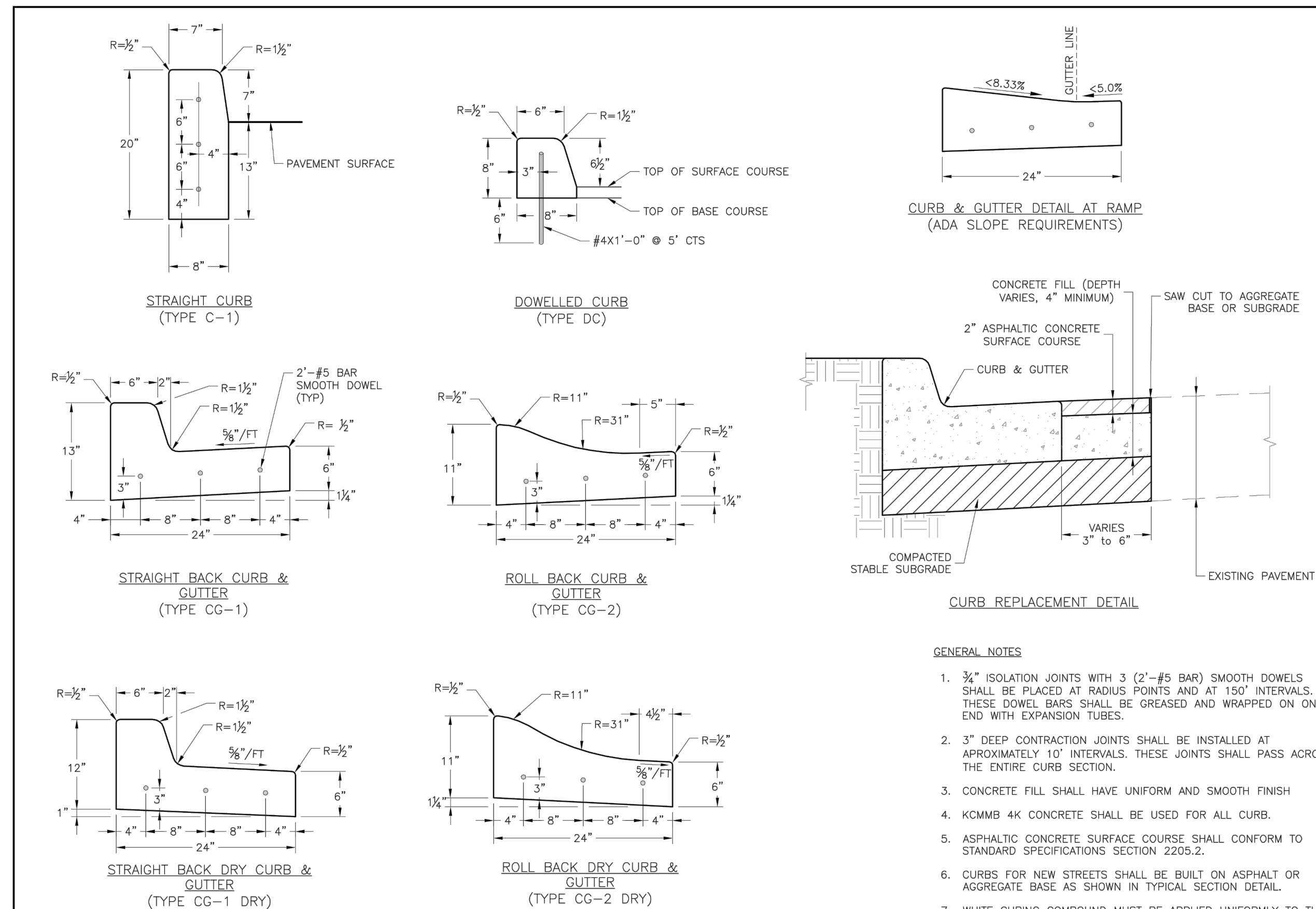
I:\PROJECTS\2019\19-0023\0 DWG Plans\6 0 SS\19-002-SS-DET.dwg, 7/30/2019 4:28:18 PM, 1:1



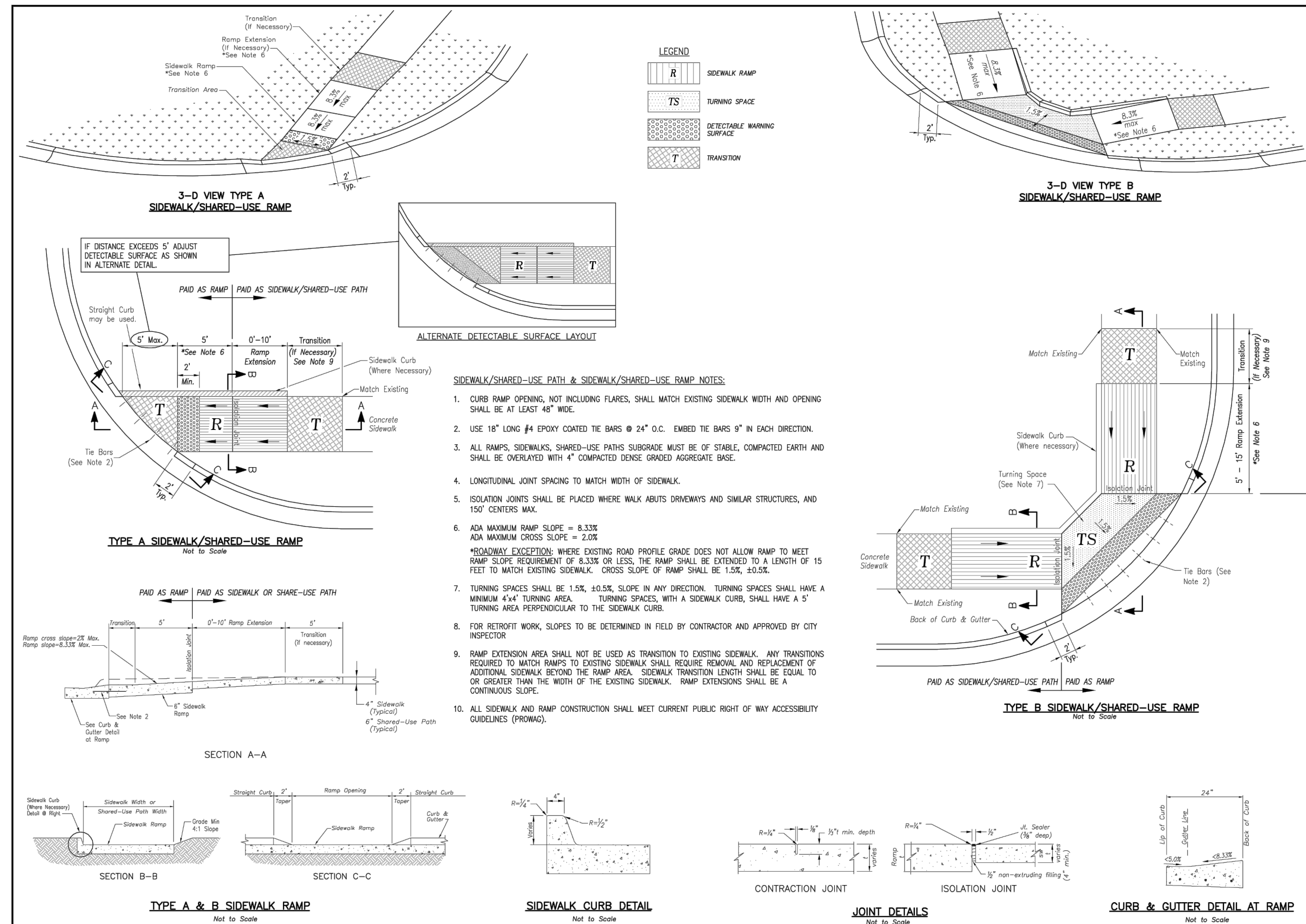
REVISION DATE	DESCRIPTION
1 6-26-19	CITY COMMENTS
2 7-30-19	CITY COMMENTS
3 8-1-19	CITY COMMENTS
4 8-1-19	CITY COMMENTS
5 8-1-19	CITY COMMENTS
6 8-1-19	CITY COMMENTS
7 8-1-19	CITY COMMENTS
8 8-1-19	CITY COMMENTS

DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	4-15-19
PROJ. NUMBER:	19-002

DETAIL SHEET

**LEE'S SUMMIT**
MISSOURISTANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
CURB & GUTTER DETAILDrawn By: MIF
Checked By: DL
Date: 04/17
File #

GEN-4

**LEE'S SUMMIT**
MISSOURISTANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
ADA RAMP RETROFIT DETAILDrawn By: MIF
Checked By: DL
Date: 04/17
File #

GEN-3A

PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
- LEE'S SUMMIT, MISSOURI

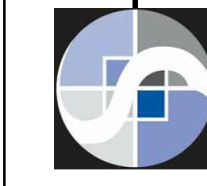
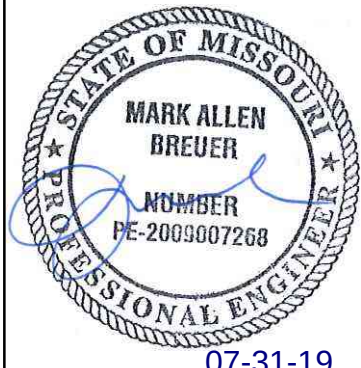
REVISION DATE	DESCRIPTION
1 6-26-19	CITY COMMENTS
2 7-30-19	CITY COMMENTS
3 8-1-19	CITY COMMENTS
4 8-1-19	CITY COMMENTS
5 8-1-19	CITY COMMENTS
6 8-1-19	CITY COMMENTS
7 8-1-19	CITY COMMENTS
8 8-1-19	CITY COMMENTS
9 8-1-19	CITY COMMENTS
10 8-1-19	CITY COMMENTS

DETAIL SHEET

SHEET

25

OF 28



SCHLAGEL & ASSOCIATES, P.A.
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
#E2002003600-F #LAC201005237 #LS200200859-F

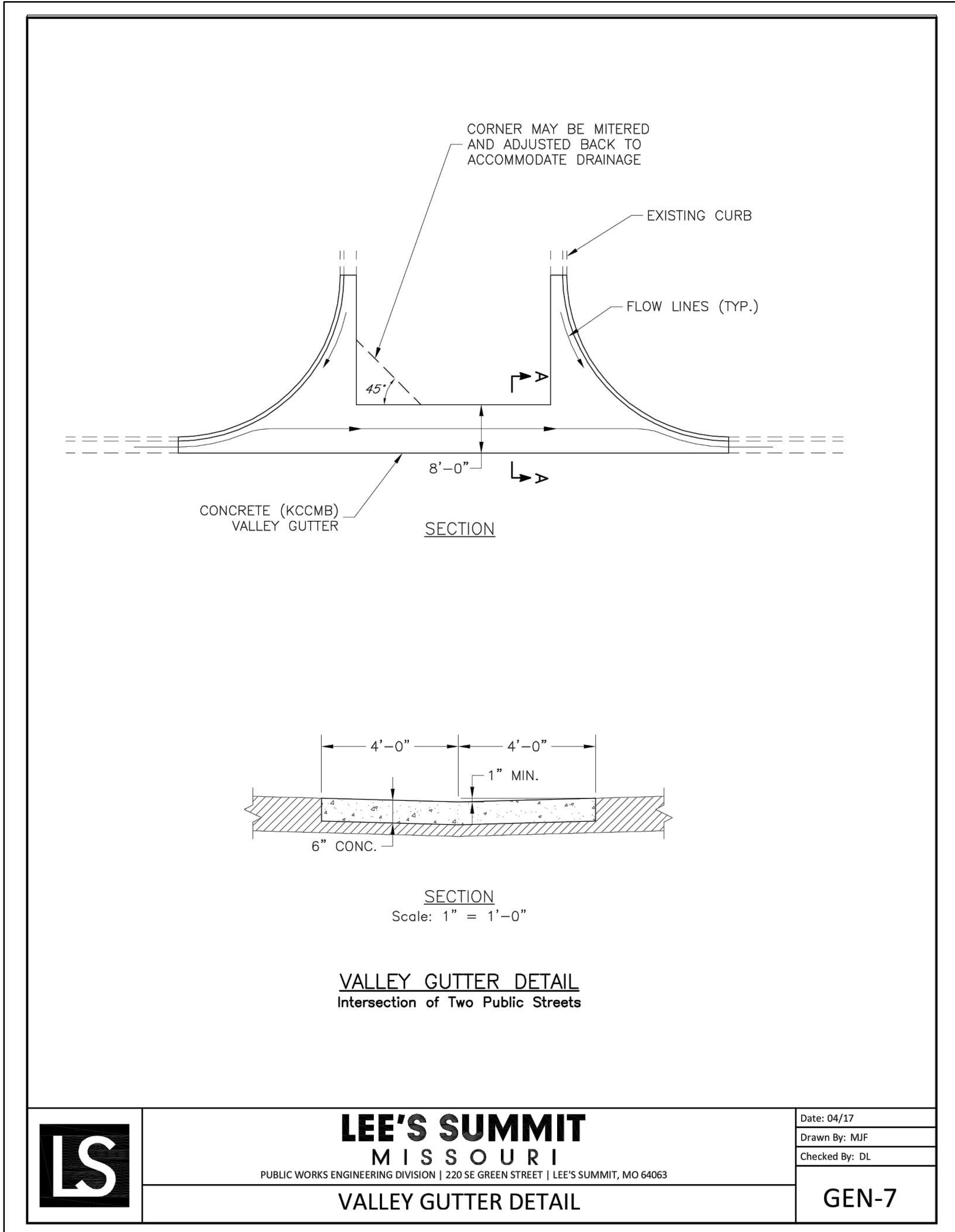
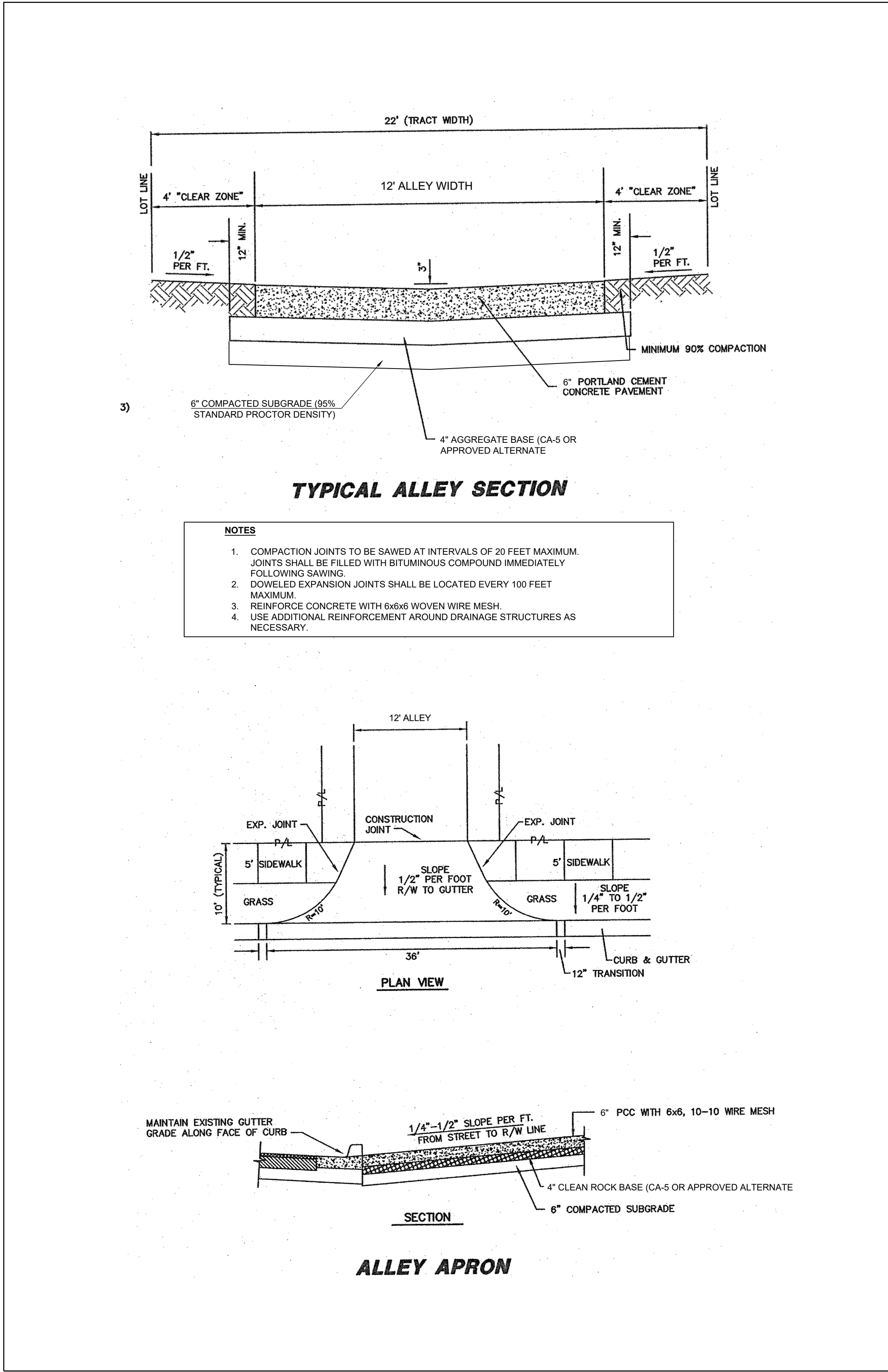
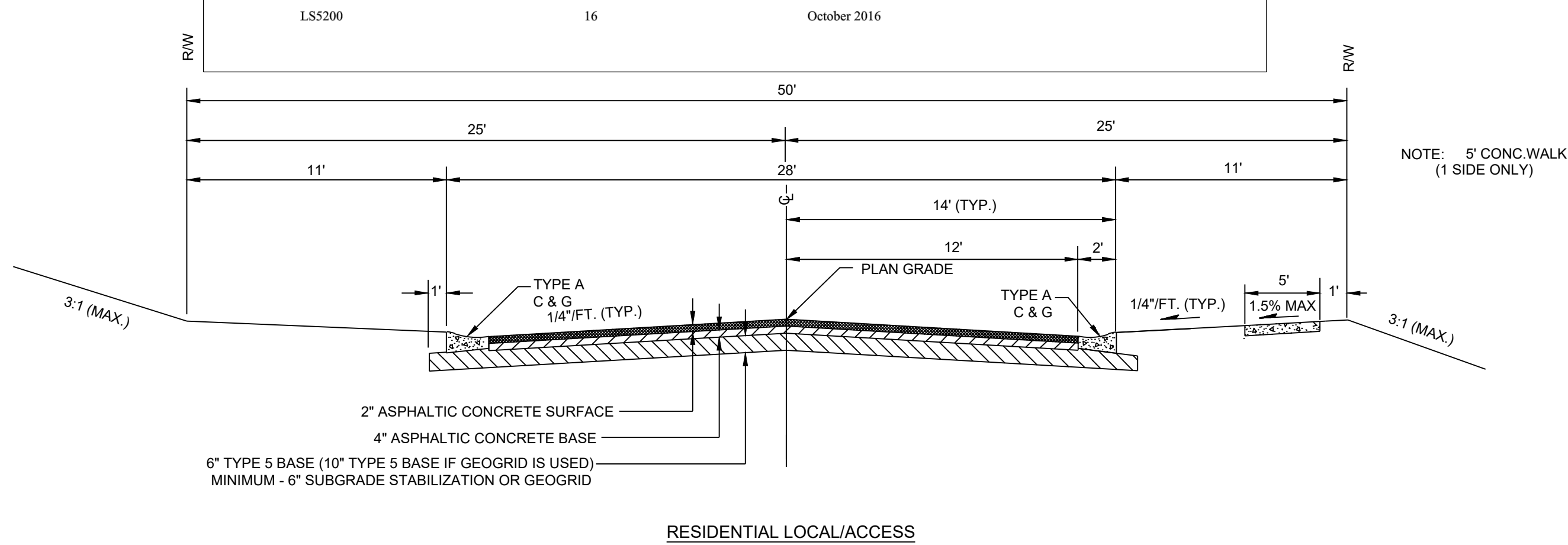


TABLE LS-2: MINIMUM ASPHALT PAVEMENT THICKNESSES						
Street Classification	Pavement Option	AC Surface (in.)	AC Base (in.)	MoDOT Type 5 Base (in.)	Geogrid(1)	Chemical Subgrade Stabilization(2) (in.)
Residential Local/Access	A	2	4	6	--	6
	B	2	4	10	Geogrid	--
Residential Collector	A	2	5.5	6	--	9
	B	2	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 ⁽¹⁾ (in.)
Residential Local/Access	6	4	--
Residential Collector	6	4	6
Commercial Industrial Local/Collector	8	4	9

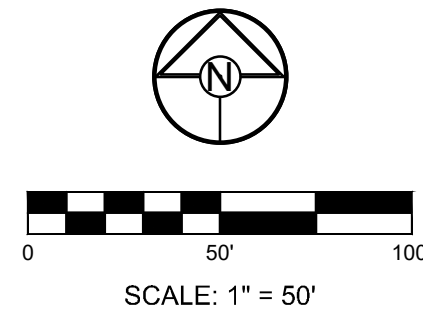
(1) Subgrade Stabilization and 4" aggregate base may be replaced by approved geogrid and 6" of aggregate base



REVISION DATE	DESCRIPTION
1. 6-26-19	CITY COMMENTS
2. 7-30-19	CITY COMMENTS
3. 8-1-19	CITY COMMENTS
4. 8-1-19	CITY COMMENTS
5. 8-1-19	CITY COMMENTS
6. 8-1-19	CITY COMMENTS
7. 8-1-19	CITY COMMENTS
8. 8-1-19	CITY COMMENTS

DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	4-15-19
PROJ. NUMBER:	19-002

DETAIL SHEET



PERGOLA PARK 4TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN AND EROSION AND SEDIMENT
CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
1	6-26-19	CITY COMMENTS
2	7-30-19	CITY COMMENTS
3		
4		
5		
6		
7		
8		
9		

STREET SIGN
PLAN

