

STREET, STORM, DRAINAGE,
EROSION & SEDIMENT CONTROL PLANS
FOR
WHISPERING WOOD 2ND PLAT
CITY OF LEE'S SUMMIT
JACKSON COUNTY, MISSOURI

LEGAL DESCRIPTION

PROPERTY DESCRIPTION-WHISPERING WOODS SECOND PLAT
CONTAINING 248,599 SQUARE FEET OR 5.71 ACRES

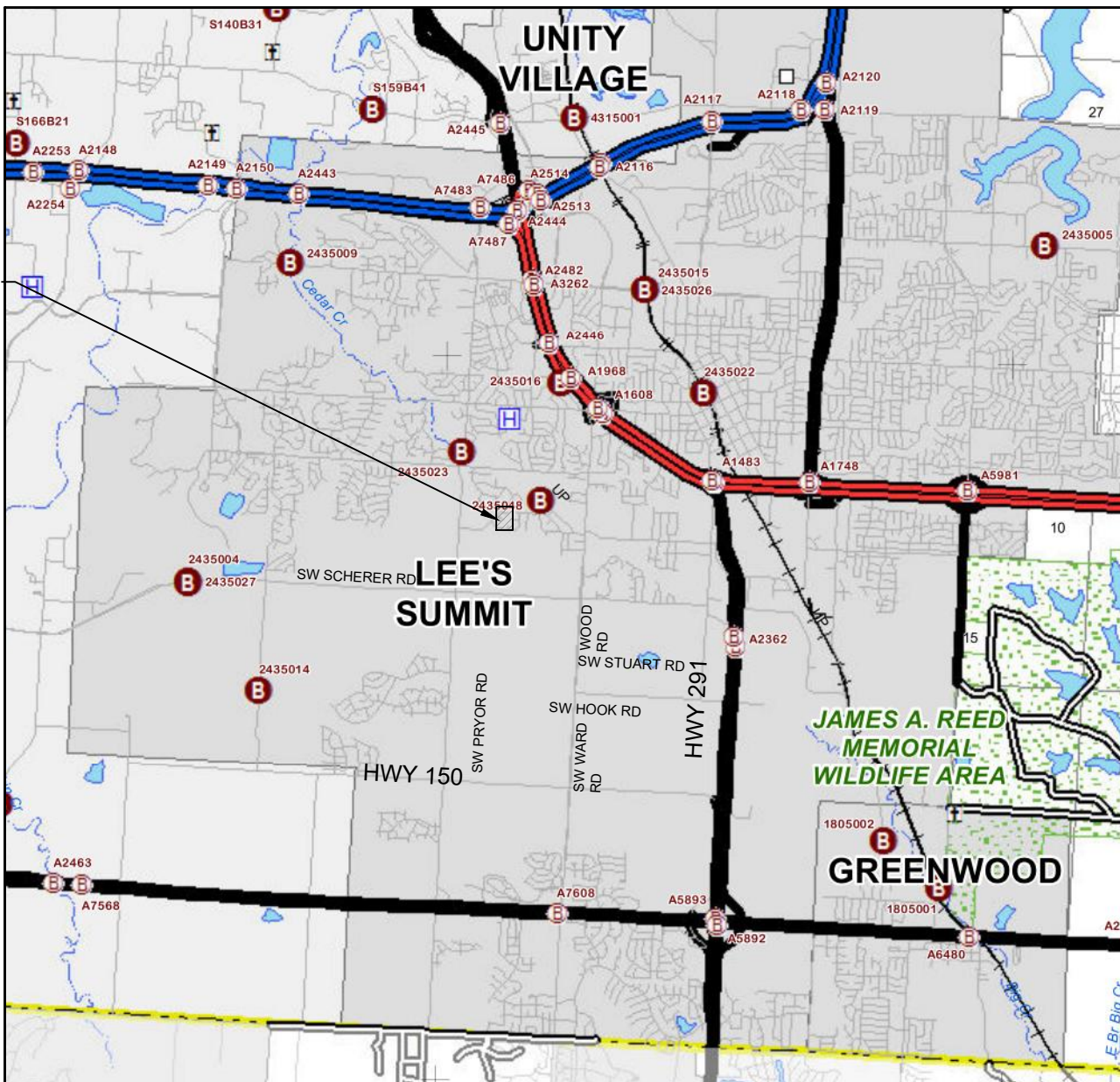
PART OF THE SOUTHWEST QUARTER OF SECTION 24, TOWNSHIP 47 NORTH,
RANGE 32 WEST, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, BEING
DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF
THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION
24; THENCE N87°38'05"W, ALONG THE SOUTH LINE OF THE NORTH HALF OF
SAID SOUTHWEST QUARTER, A DISTANCE OF 572.29 FEET TO THE POINT OF
BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE
N87°38'05"W, CONTINUING ALONG SAID LINE, A DISTANCE OF 819.48 FEET TO
THE SOUTHEAST CORNER OF TRACT D, WHISPERING WOODS FIRST PLAT, A
SUBDIVISION IN SAID LEE'S SUMMIT, JACKSON COUNTY, MISSOURI; THENCE
N02°21'55"E, ALONG THE EASTERLY LINE OF SAID PLAT OF WHISPERING
WOODS FIRST PLAT, A DISTANCE OF 180.00 FEET; THENCE N87°38'05"W,
CONTINUING ALONG SAID LINE, A DISTANCE OF 11.45 FEET; THENCE
N02°21'55"E, CONTINUING ALONG SAID LINE, A DISTANCE OF 120.00 FEET TO
THE NORTHEAST CORNER OF LOT 28, SAID PLAT OF WHISPERING WOODS
FIRST PLAT; THENCE S87°38'05"E, A DISTANCE OF 677.89 FEET; THENCE
S02°31'15"W, A DISTANCE OF 21.63 FEET; THENCE S87°40'43"E, A DISTANCE
OF 202.02 FEET; THENCE S02°19'17"W, A DISTANCE OF 73.39 FEET; THENCE
SOUTHWESTERLY, ALONG A CURVE TO THE RIGHT BEING TANGENT TO THE
LAST DESCRIBED COURSE, HAVING A RADIUS OF 25.00 FEET, AN ARC
DISTANCE OF 39.27 FEET; THENCE N87°40'43"W, A DISTANCE OF 24.00 FEET;
THENCE S02°21'55"W, A DISTANCE OF 180.09 FEET TO THE POINT OF
BEGINNING.

PROJECT BENCH MARK

ELEV. 1006.89 (NAVD 1988 DATUM)

MISSOURI DEPARTMENT OF NATURAL RESOURCES GRS
ALUMINUM DISK STAMPED "JA-47" LOCATED NEAR THE
INTERSECTION OF HWY 150 WITH REGGATA DRIVE AND HWY 291

PROJECT LOCATION



LOCATION MAP
N.T.S.

SUMMARY OF QUANTITIES

ITEM	UNIT	PLAN	AS-BUILT
Earthwork (CUT 7,915 CY / FILL 7,944 CY)	CY	7,944	
2" Asphaltic Concrete Surface	SY	3,390	
4" Type 5 Asphaltic Concrete Base	SY	2,300	
5.5" Type 5 Asphaltic Concrete Base	SY	1,090	
CG-2 Curb & Gutter	LF	2,128	
5'x3' Curb Inlet	EA	7	
4'x4' Field Inlet	EA	1	
24" HDPE	LF	334	
18" HDPE	LF	307	
15" HDPE	LF	224	
15" RCP	LF	112	
ADA Curb Ramps	EA	8	
Inlet Protection	EA	8	
Silt Fence	LF	1,540	
Temporary Construction Entrance	EA	1	
R1-1 Stop Signs	EA	4	
Street Name Signs	EA	4	

Summary of Quantities as indicated above and any quantities as shown within the plans have been provided for permitting purposes only and are not intended for use in preparation of contract documents. Quantities intended for, but not limited to, the preparation of proposals and bid documents shall be independently evaluated by the estimating party based upon the contents of these plans.

INDEX TO SHEETS

- 1 TITLE SHEET
- 2 GENERAL NOTES
- 3 SITE LAYOUT
- 4 PLAT (FOR REFERENCE ONLY)
- 5 GRADING PLAN
- 6 EROSION CONTROL PLAN
- 7-8 STREET PLAN AND PROFILE
- 9 INTERSECTION DETAILS
- 10-12 STORM SEWER PLAN AND PROFILES
- 13 DRAINAGE AREAS
- 14 DRAINAGE TABLES
- 15-18 DETAILS

APPROVED:

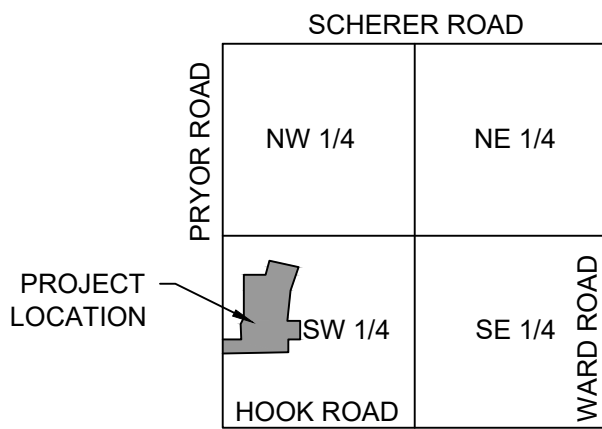
City Engineer

Date

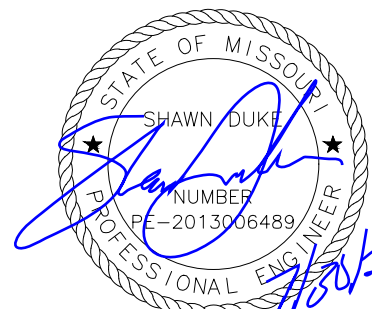
DEVELOPER:

WHISPERING WOODS LAND, L.L.C.
803 P.C.A. ROAD
WARRENSBURG, MO 64093
AGENT: RICK FRYE
PHONE: 816.564.2230
FAX: 660.429.1801

UTILITY SERVICE NUMBERS	
SPECTRUM	886-874-2389
EVERGY	816-220-5213
SPIRE GAS	816-399-9633
LEE'S SUMMIT PUBLIC WORKS	816-969-1800
CITY PLANNING & DEVELOPMENT	816-969-1600
FIRE DEPARTMENT	816-969-1300



VICINITY MAP
N.T.S.



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MO PE#2013006489

WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

TITLE SHEET

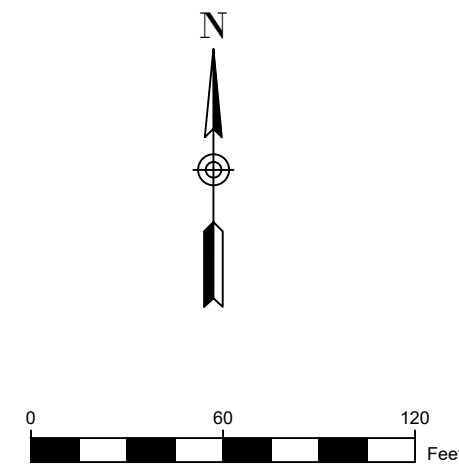
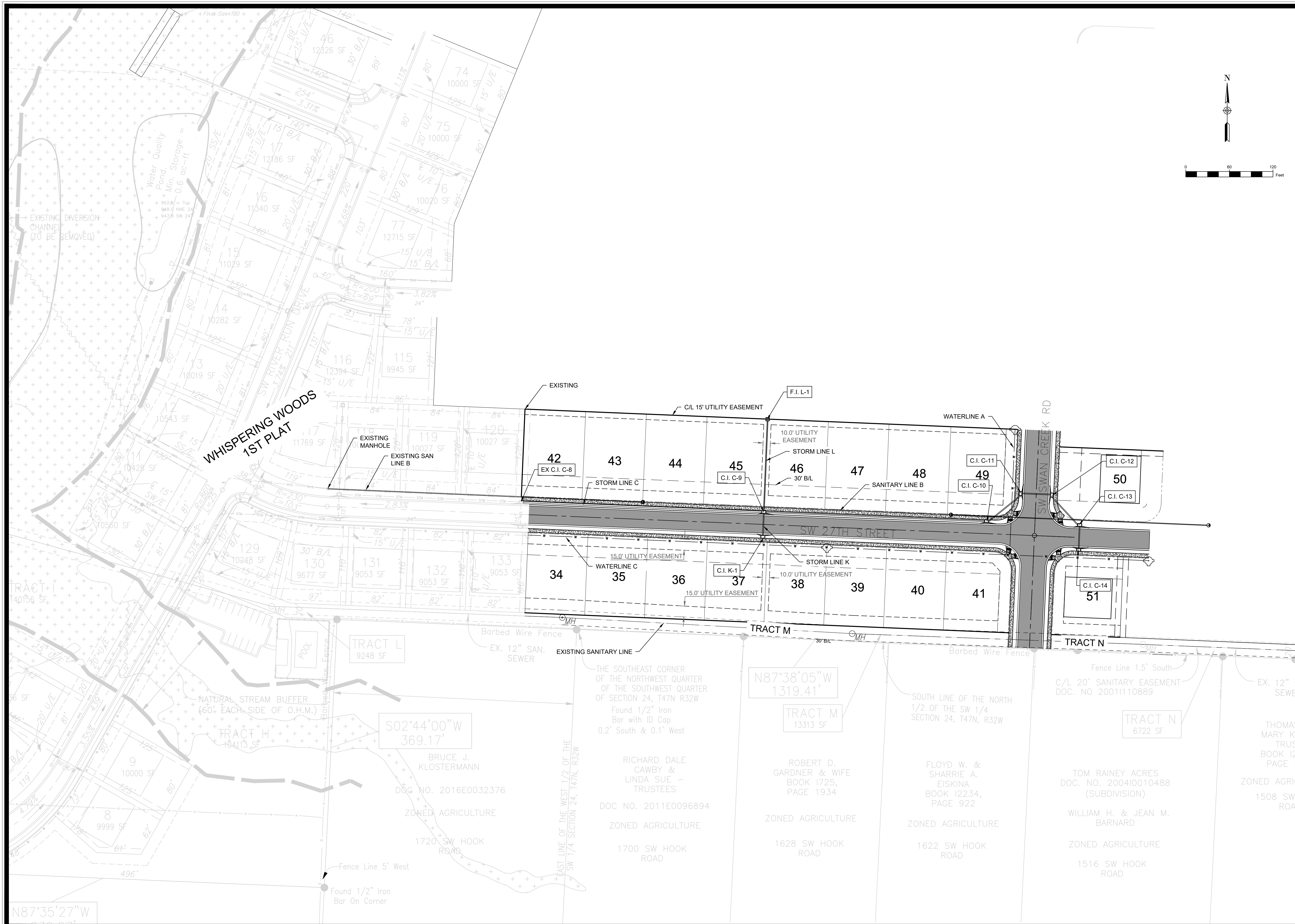
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Project No: 1200484.11

Sheet 1



MARK		REVISION		DATE	BY
Engineer:	SD	Checked By:	SD	Scale:	1"= 60'
Technician:	JS	Date:	7-28-20	Field Bk:	
Project No: 1200484.11				Sheet 3	

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WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

SITE LAYOUT

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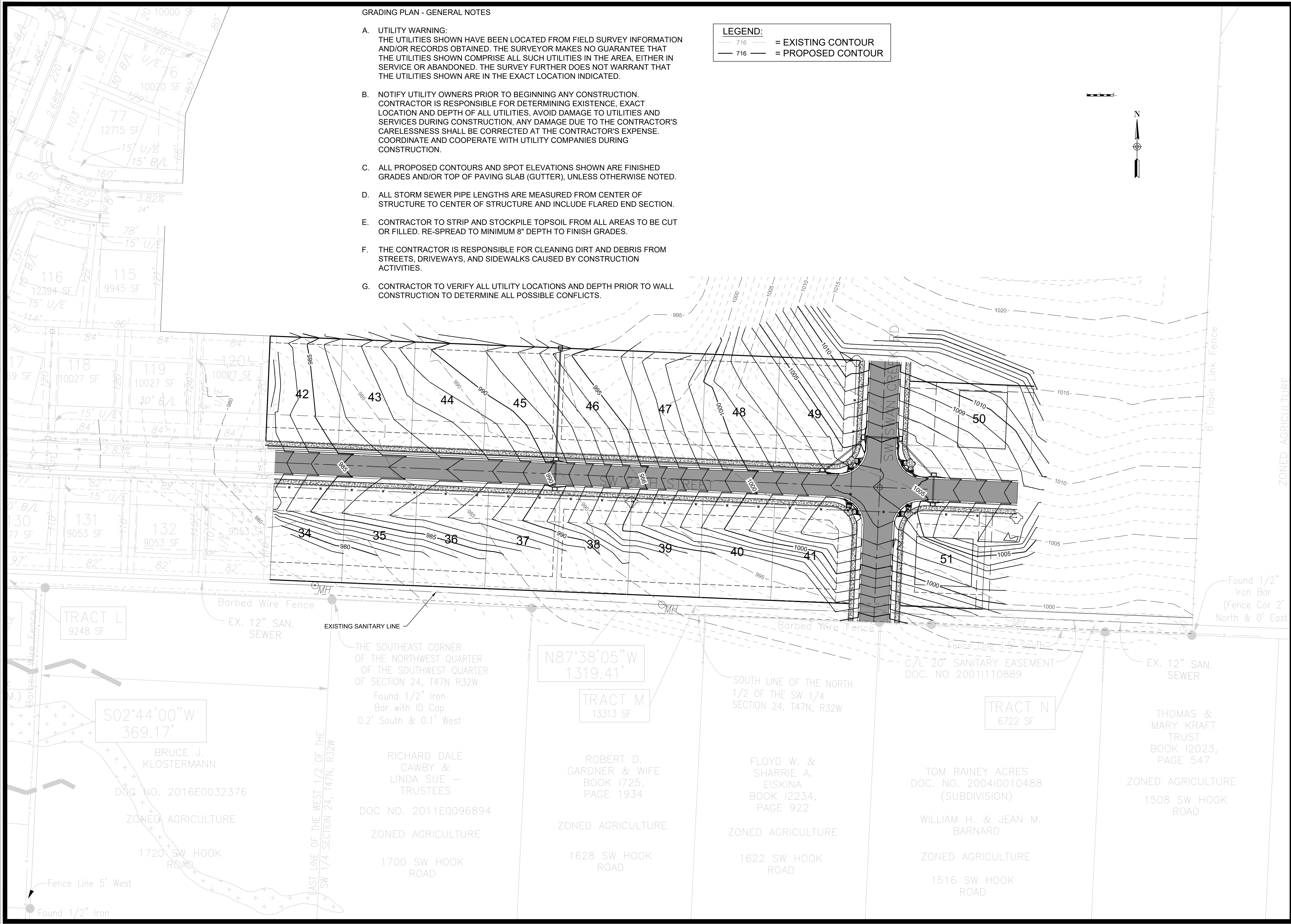
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Sheet 3



07/27/2020
DATE



GRADING PLAN - GENERAL NOTES

- A. UTILITY WARNING:
THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.
- B. NOTIFY UTILITY OWNERS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT LOCATION AND DEPTH OF ALL UTILITIES, AVOID DAMAGE TO UTILITIES AND SERVICES DURING CONSTRUCTION, ANY DAMAGE DUE TO THE CONTRACTOR'S CARELESSNESS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. COORDINATE AND COOPERATE WITH UTILITY COMPANIES DURING CONSTRUCTION.
- C. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN ARE FINISHED GRADES AND/OR TOP OF PAVING SLAB (GUTTER), UNLESS OTHERWISE NOTED.
- D. ALL STORM SEWER PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND INCLUDE FLARED END SECTION.
- E. CONTRACTOR TO STRIP AND STOCKPILE TOPSOIL FROM ALL AREAS TO BE CUT OR FILLED. RE-SPREAD TO MINIMUM 8" DEPTH TO FINISH GRADES.
- F. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING DIRT AND DEBRIS FROM STREETS, DRIVEWAYS, AND SIDEWALKS CAUSED BY CONSTRUCTION ACTIVITIES.
- G. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND DEPTH PRIOR TO WALL CONSTRUCTION TO DETERMINE ALL POSSIBLE CONFLICTS.

LEGEND:
716 = EXISTING CONTOUR
716 = PROPOSED CONTOUR

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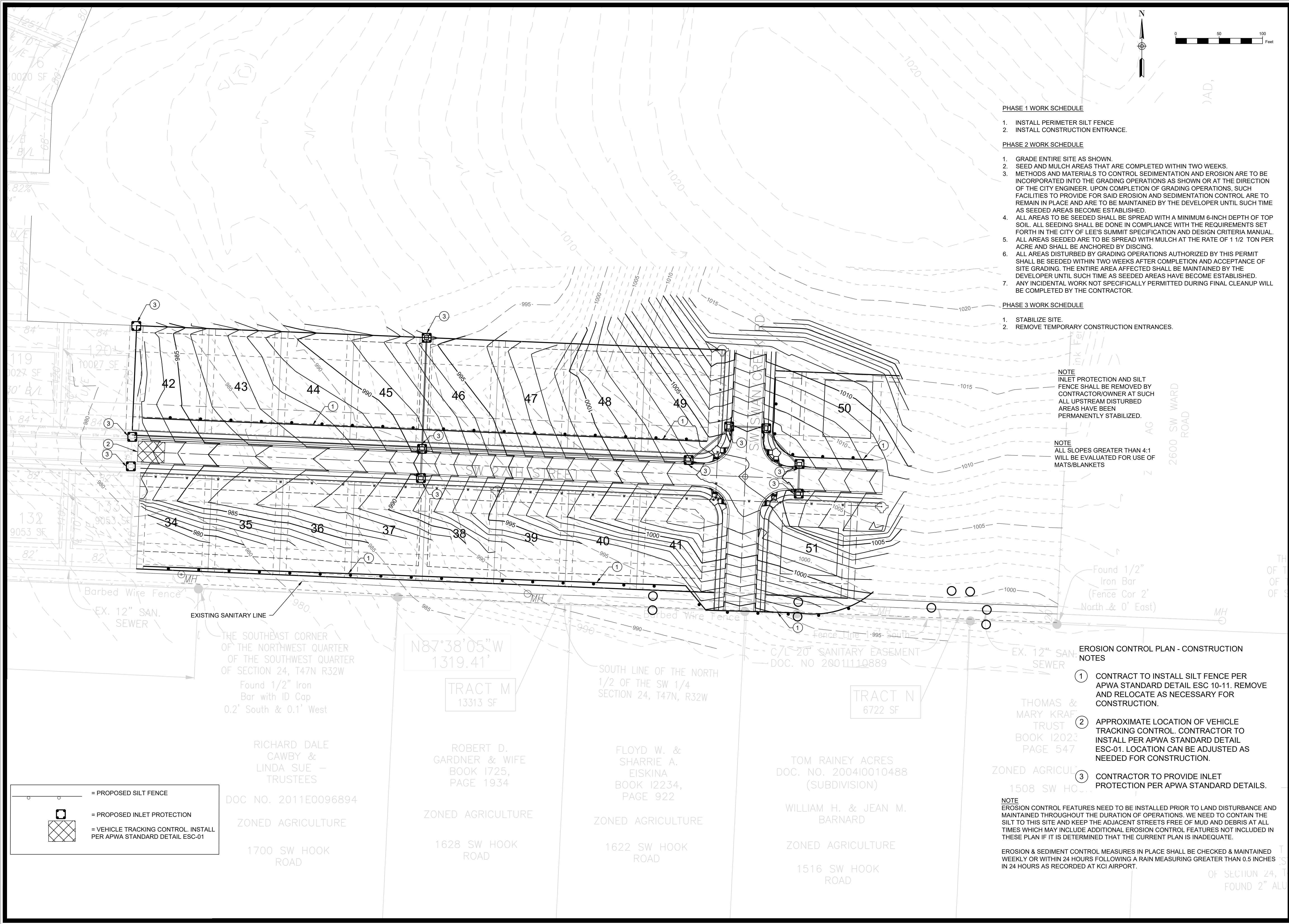
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WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS
GRADING PLAN
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Sheet 5



PHASE 1 WORK SCHEDULE

1. INSTALL PERIMETER SILT FENCE
2. INSTALL CONSTRUCTION ENTRANCE.

PHASE 2 WORK SCHEDULE

1. GRADE ENTIRE SITE AS SHOWN.
2. SEED AND MULCH AREAS THAT ARE COMPLETED WITHIN TWO WEEKS.
3. METHODS AND MATERIALS TO CONTROL SEDIMENTATION AND EROSION ARE TO BE INCORPORATED INTO THE GRADING OPERATIONS AS SHOWN OR AT THE DIRECTION OF THE CITY ENGINEER. UPON COMPLETION OF GRADING OPERATIONS, SUCH FACILITIES TO PROVIDE FOR SAID EROSION AND SEDIMENTATION CONTROL ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDED AREAS BECOME ESTABLISHED.
4. ALL AREAS TO BE SEEDED SHALL BE SPREAD WITH A MINIMUM 6-INCH DEPTH OF TOP SOIL. ALL SEEDING SHALL BE DONE IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN THE CITY OF LEE'S SUMMIT SPECIFICATION AND DESIGN CRITERIA MANUAL.
5. ALL AREAS SEEDED ARE TO BE SPREAD WITH MULCH AT THE RATE OF 1 1/2 TON PER ACRE AND SHALL BE ANCHORED BY DISCING.
6. ALL AREAS DISTURBED BY GRADING OPERATIONS AUTHORIZED BY THIS PERMIT SHALL BE SEEDED WITHIN TWO WEEKS AFTER COMPLETION AND ACCEPTANCE OF SITE GRADING. THE ENTIRE AREA AFFECTED SHALL BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDED AREAS HAVE BECOME ESTABLISHED.
7. ANY INCIDENTAL WORK NOT SPECIFICALLY PERMITTED DURING FINAL CLEANUP WILL BE COMPLETED BY THE CONTRACTOR.

PHASE 3 WORK SCHEDULE

1. STABILIZE SITE.
2. REMOVE TEMPORARY CONSTRUCTION ENTRANCES.

NOTE
INLET PROTECTION AND SILT FENCE SHALL BE REMOVED BY CONTRACTOR/OWNER AT SUCH ALL UPSTREAM DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

NOTE
ALL SLOPES GREATER THAN 4:1 WILL BE EVALUATED FOR USE OF MATS/BLANKETS

EROSION CONTROL PLAN - CONSTRUCTION NOTES

1. CONTRACT TO INSTALL SILT FENCE PER APWA STANDARD DETAIL ESC 10-11. REMOVE AND RELOCATE AS NECESSARY FOR CONSTRUCTION.
2. APPROXIMATE LOCATION OF VEHICLE TRACKING CONTROL. CONTRACTOR TO INSTALL PER APWA STANDARD DETAIL ESC-01. LOCATION CAN BE ADJUSTED AS NEEDED FOR CONSTRUCTION.
3. CONTRACTOR TO PROVIDE INLET PROTECTION PER APWA STANDARD DETAILS.

NOTE
EROSION CONTROL FEATURES NEED TO BE INSTALLED PRIOR TO LAND DISTURBANCE AND MAINTAINED THROUGHOUT THE DURATION OF OPERATIONS. WE NEED TO CONTAIN THE SILT TO THIS SITE AND KEEP THE ADJACENT STREETS FREE OF MUD AND DEBRIS AT ALL TIMES WHICH MAY INCLUDE ADDITIONAL EROSION CONTROL FEATURES NOT INCLUDED IN THESE PLAN IF IT IS DETERMINED THAT THE CURRENT PLAN IS INADEQUATE.

EROSION & SEDIMENT CONTROL MEASURES IN PLACE SHALL BE CHECKED & MAINTAINED WEEKLY OR WITHIN 24 HOURS FOLLOWING A RAIN MEASURING GREATER THAN 0.5 INCHES IN 24 HOURS AS RECORDED AT KCI AIRPORT.

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Sheet 6

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WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

EROSION CONTROL PLAN

LEE'S SUMMIT, MO

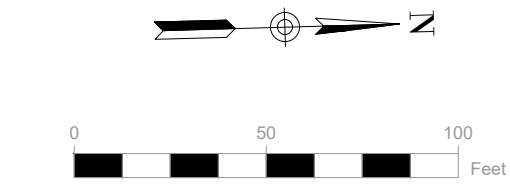
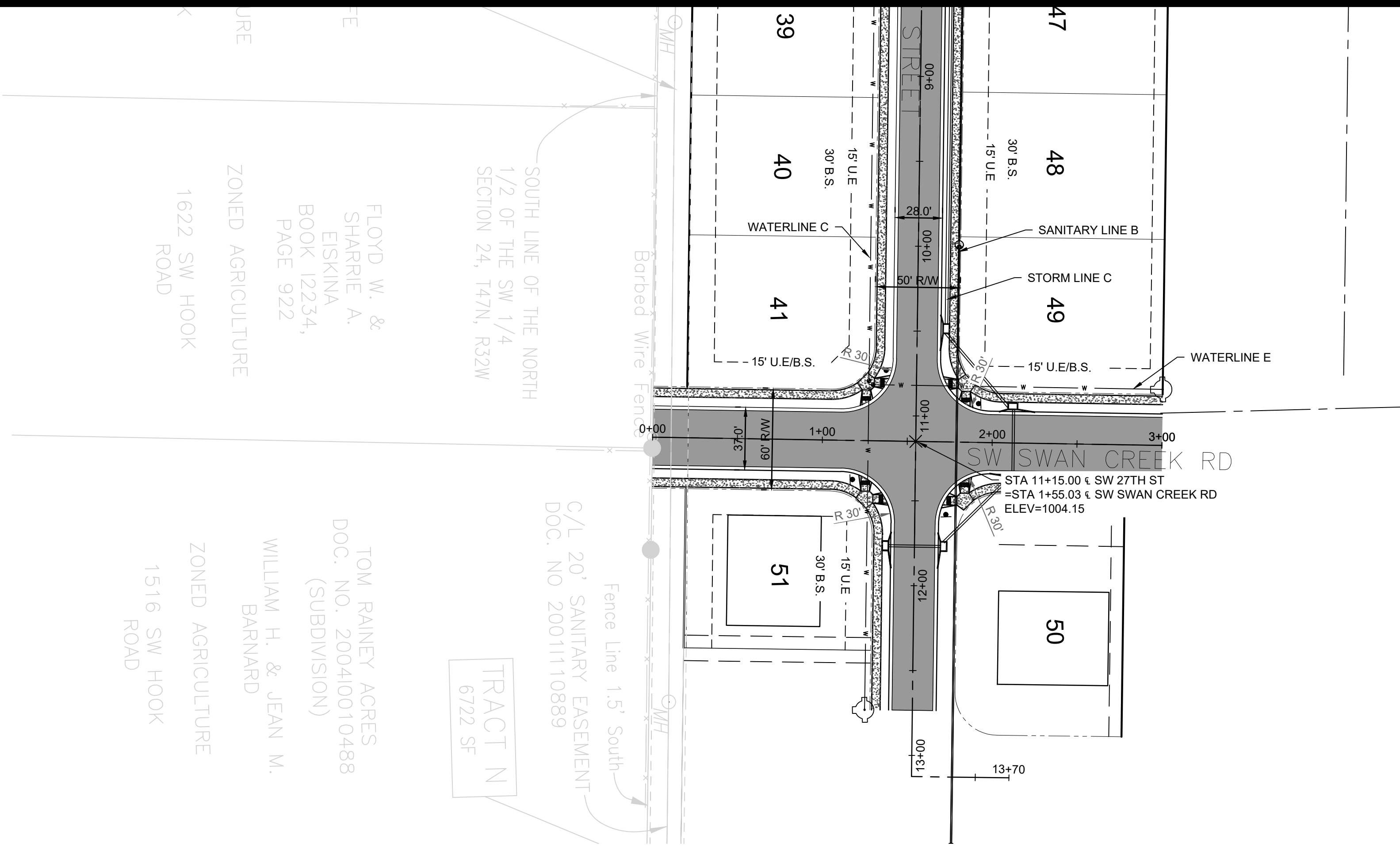
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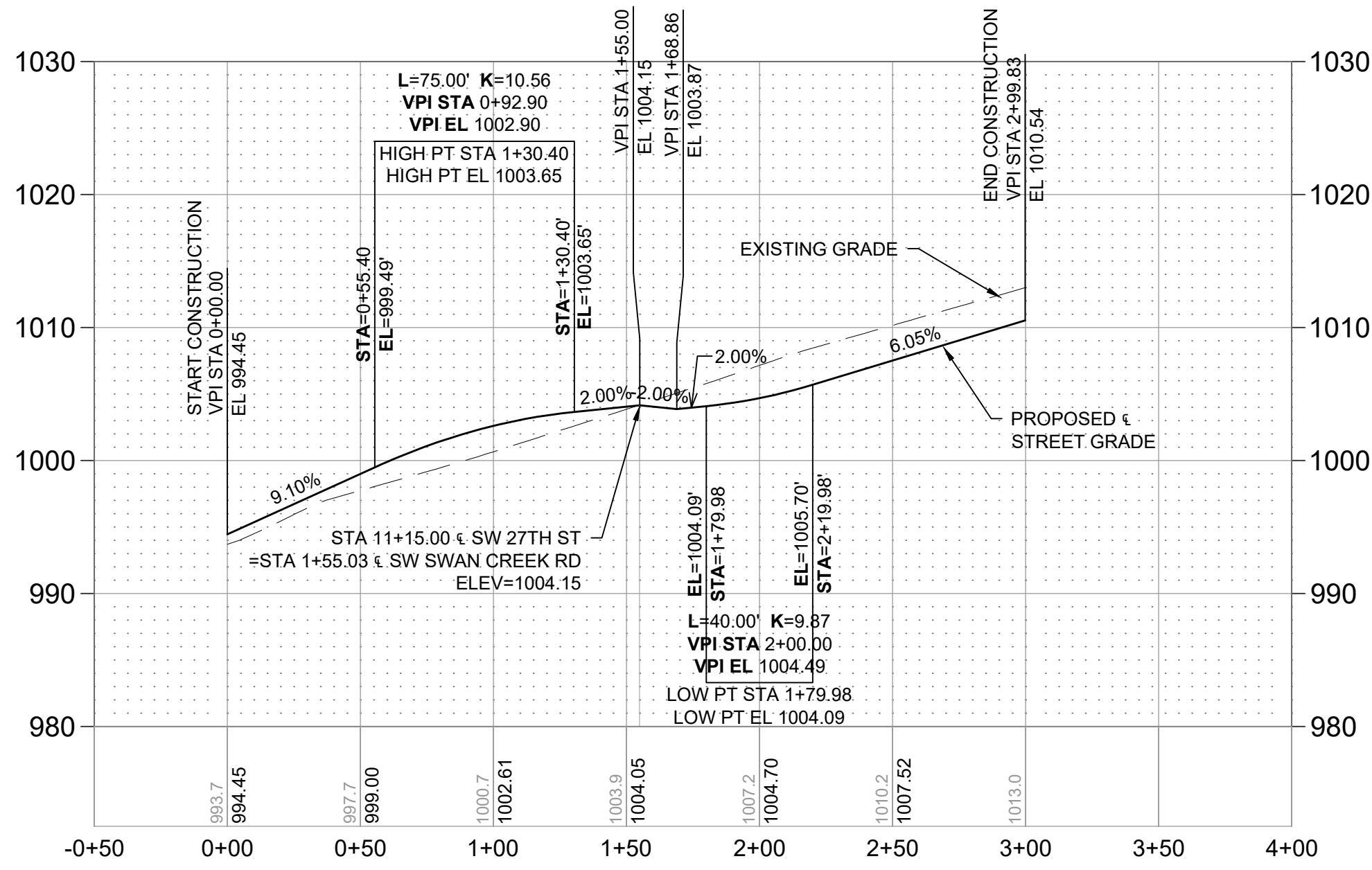
Sheet 6



LEGEND:

- [Solid Grey Box] = DENOTES ASPHALT PAVEMENT
- [Stippled Box] = DENOTES 4" PCC SIDEWALK
- [Double Line] = DENOTES CURB AND GUTTER

NOTE:
ONLY SIDEWALK RAMPS TO BE CONSTRUCTED WITH ROAD CONSTRUCTION.
REMAINING SIDEWALK TO BE CONSTRUCTED WITH HOUSE CONSTRUCTION.



SW SWAN CREEK ROAD PROFILE

FLOYD W. & SHARRIE A. EISKINA BOOK 12234, PAGE 922
ZONED AGRICULTURE
1622 SW HOOK ROAD

TOM RAINEY ACRES DOC. NO. 200410010488 (SUBDIVISION)
WILLIAM H. & JEAN M. BARNARD
ZONED AGRICULTURE
1516 SW HOOK ROAD

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WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLAN

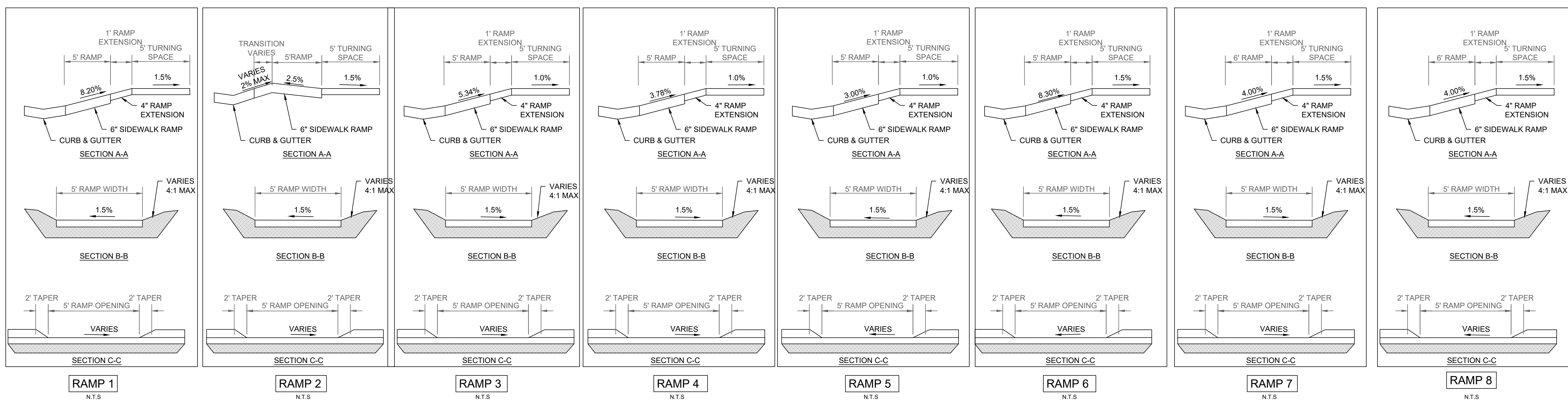
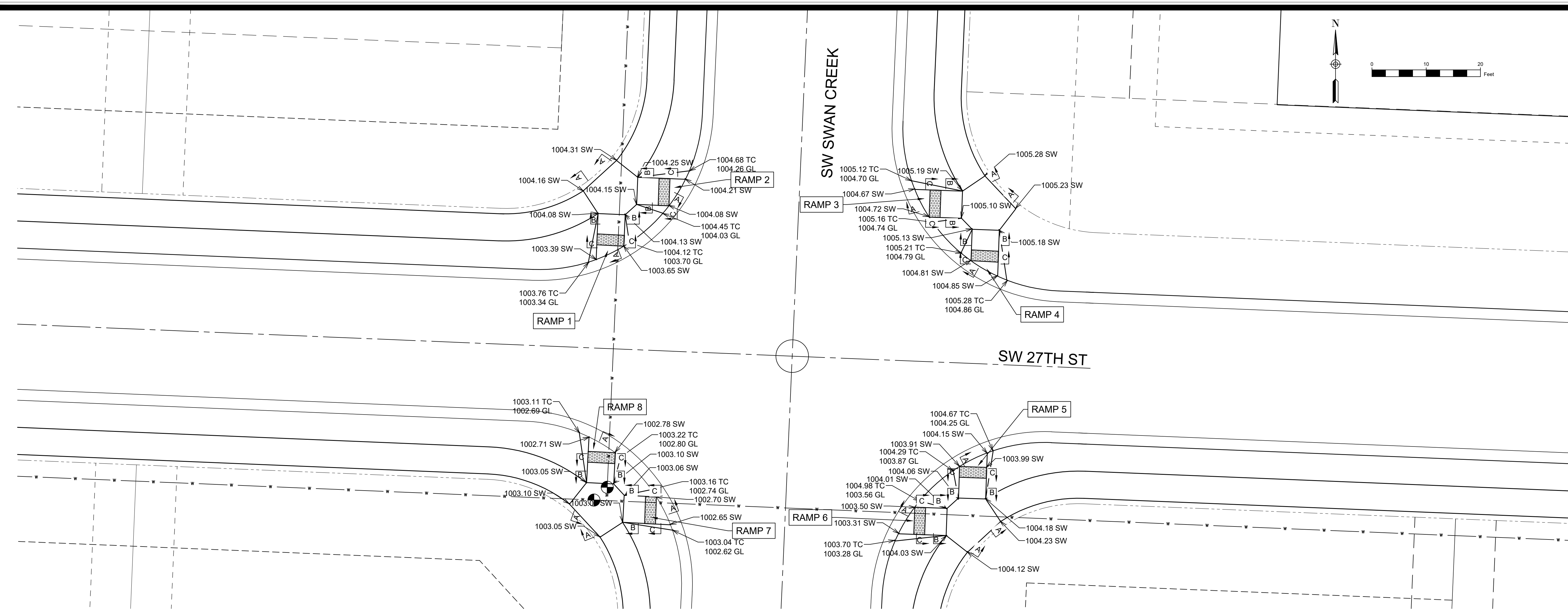
STREET PLAN & PROFILE

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SHAWN DUKE - ENGINEER
MO PE#2013006489

SHAWN DUKE
PROFESSIONAL ENGINEER
NUMBER
PE-2013006489

LEE'S SUMMIT, MO

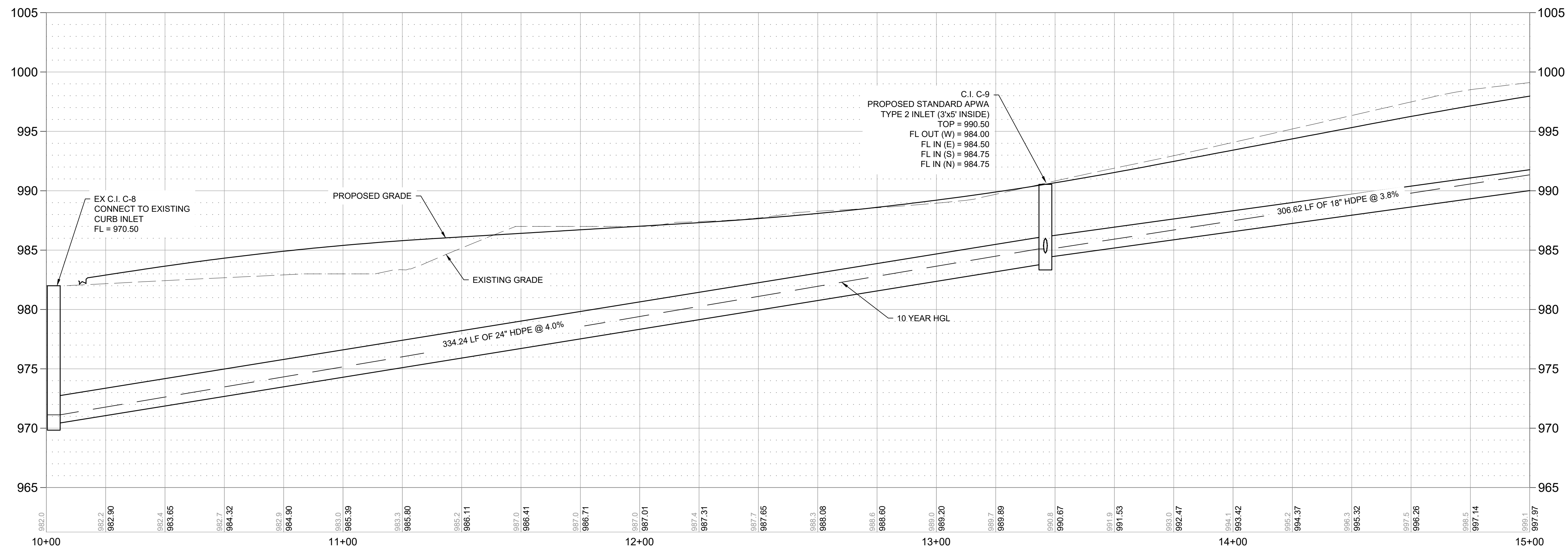
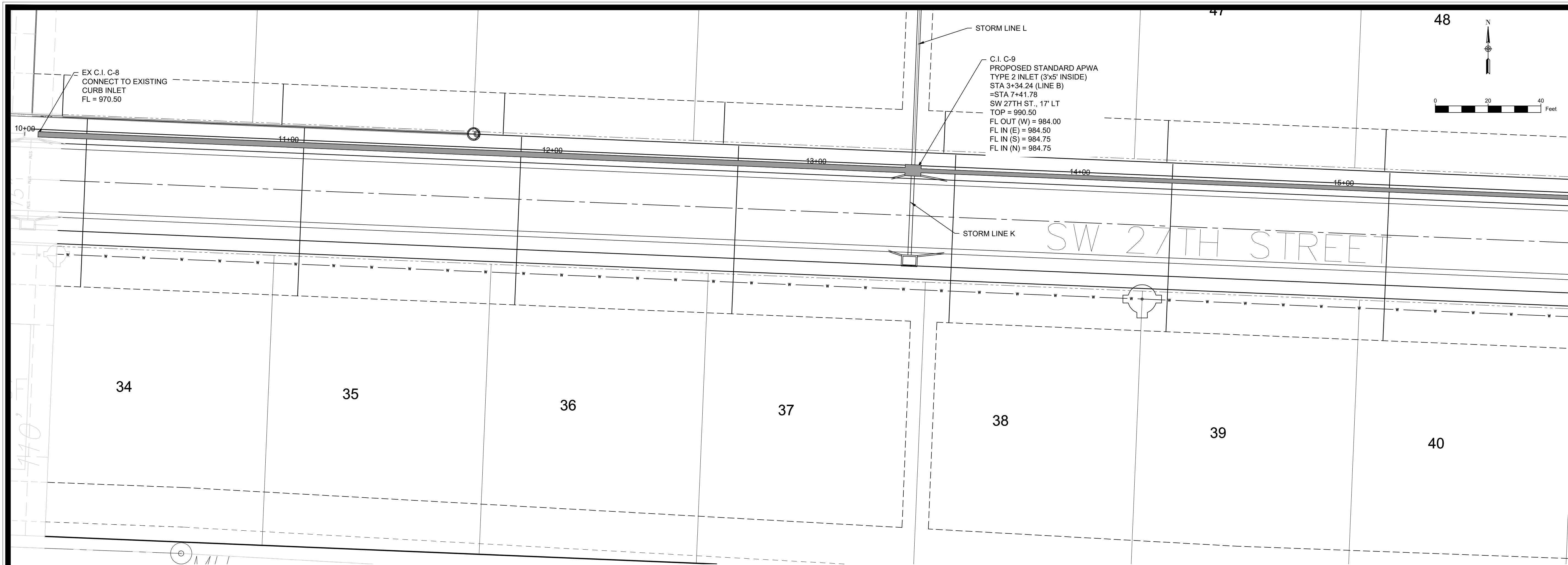
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STREET & STORM SEWER PLANS

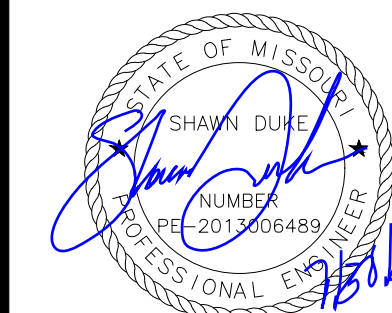
INTERSECTION DETAILS

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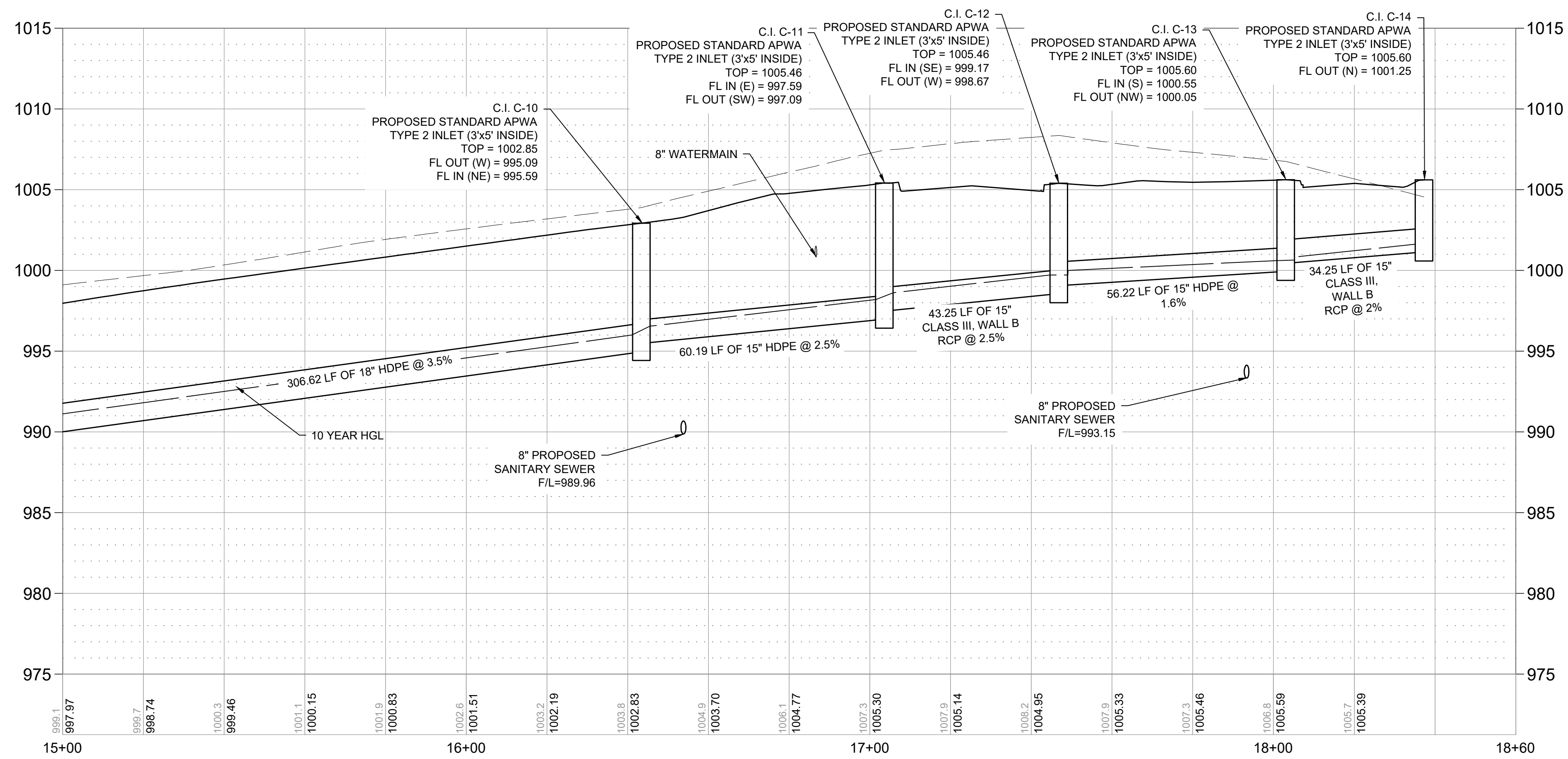
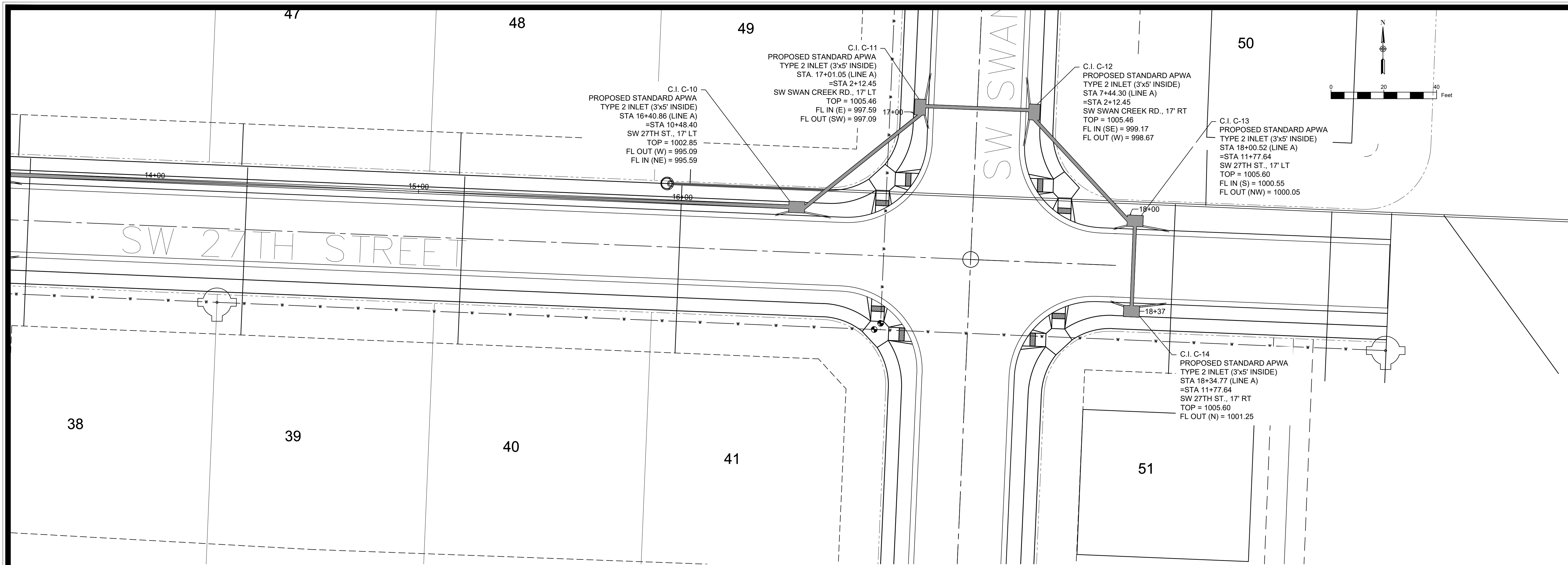
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WHISPERING WOODS 2ND PLAT
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STORM PLAN & PROFILE
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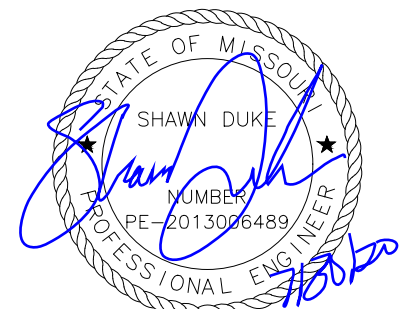


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Sheet 10



STORM LINE C



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LEE'S SUMMIT, MO

WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

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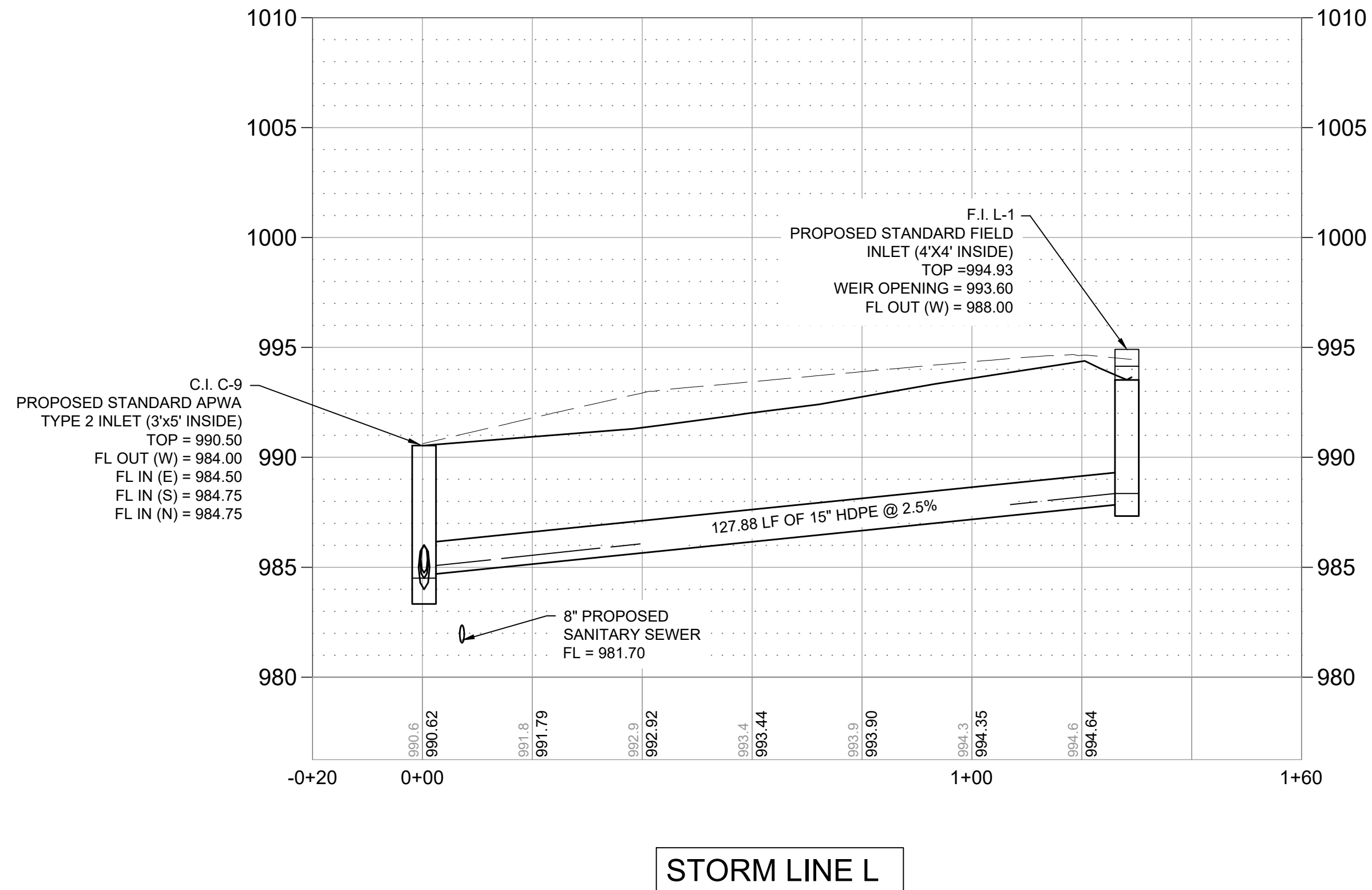
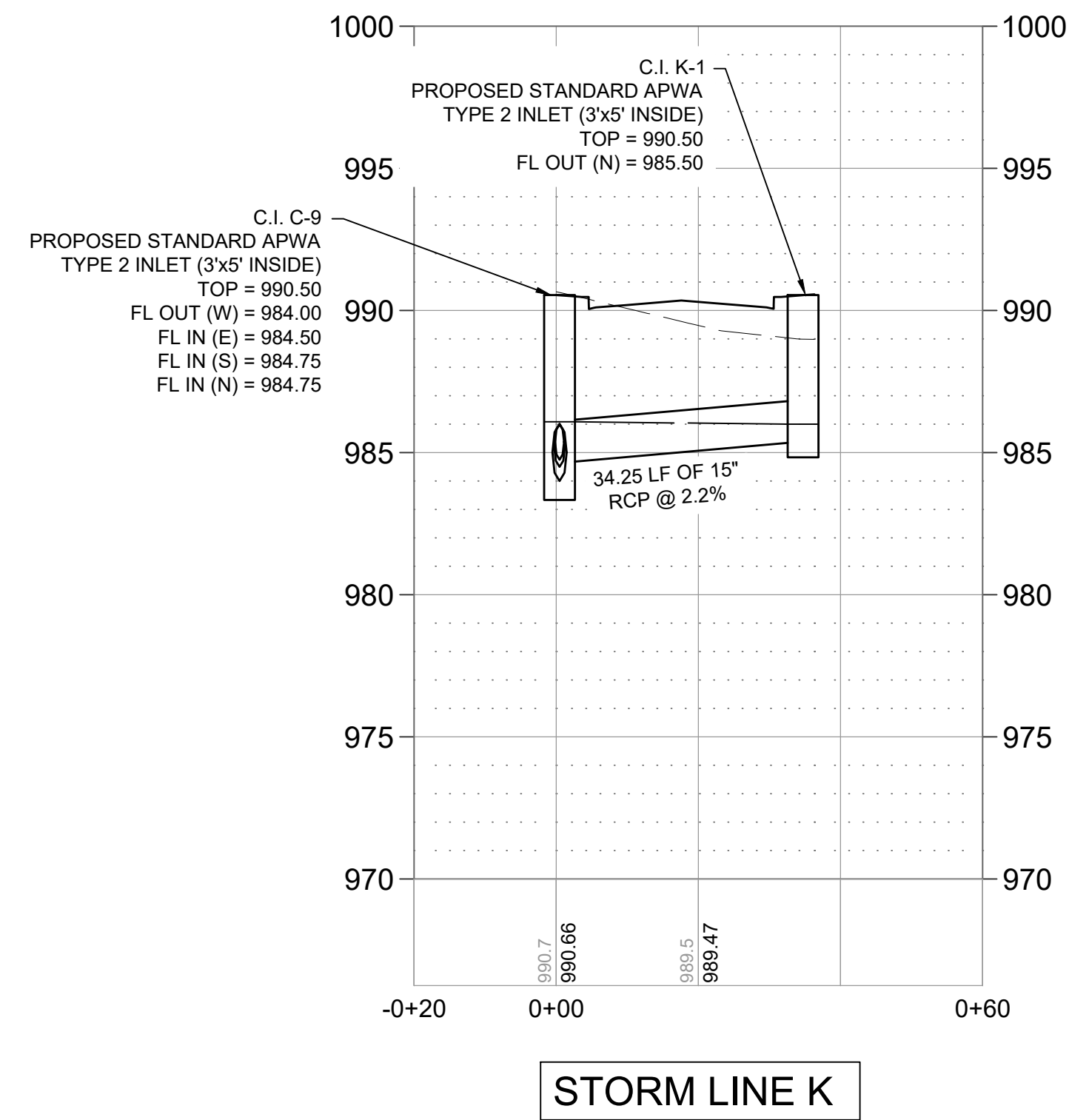
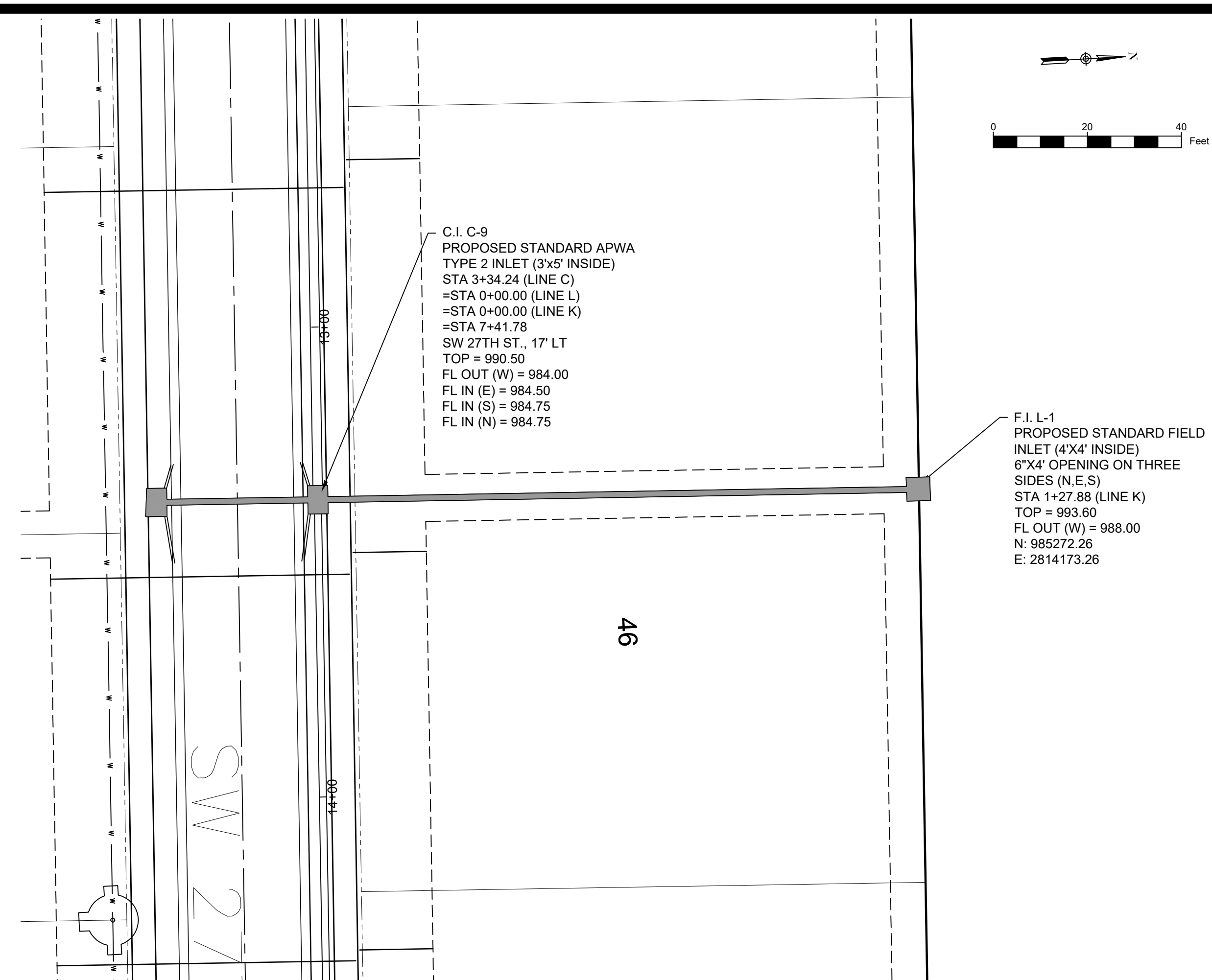
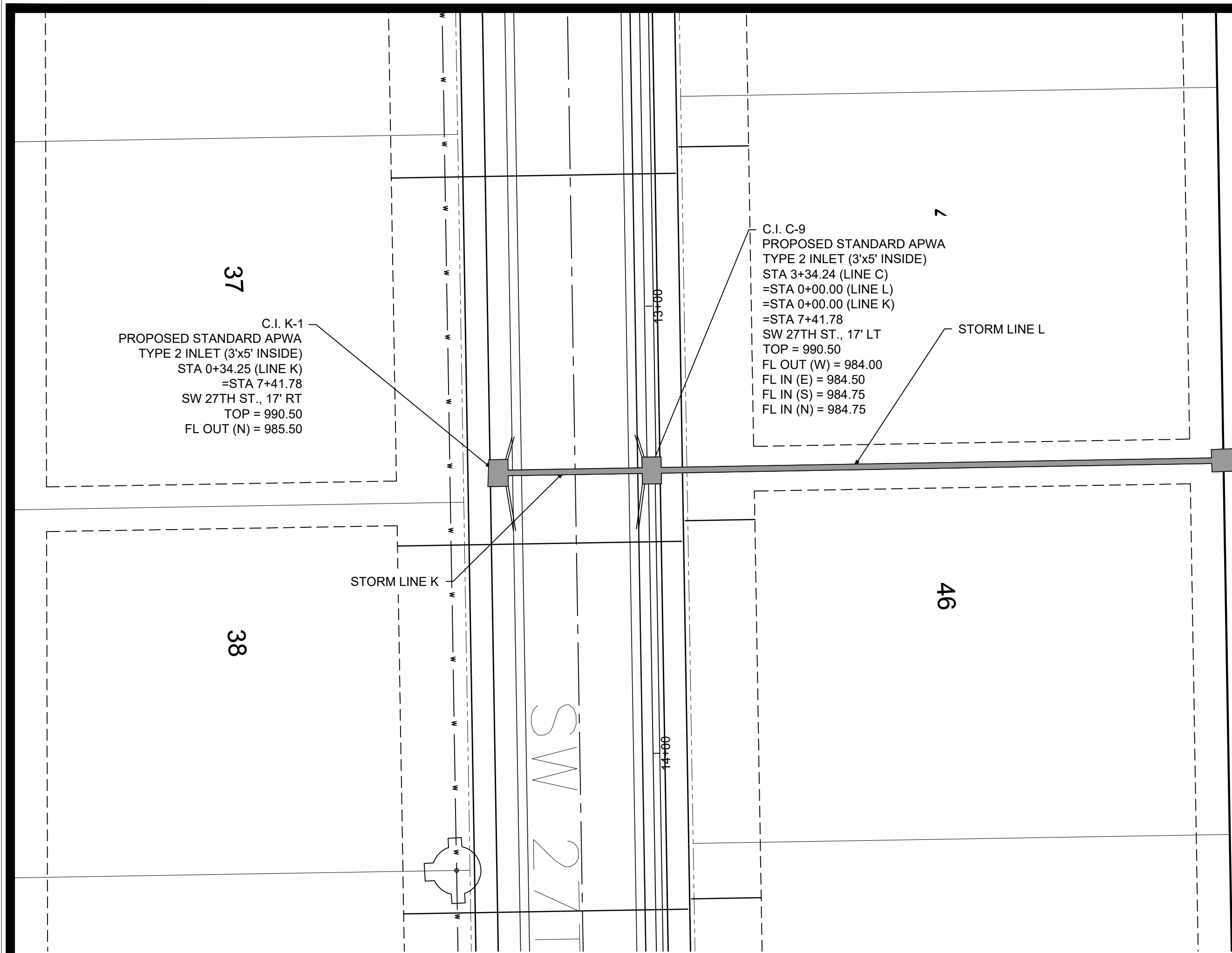


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Sheet 11

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	Technician:	JS	Date:	7-28-20	Field Bk:
					Pg:
					Sheet
					11

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Technician: JS	Date: 7-28-20	Field Bk:	Pg:
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Missouri State Certificate of Authority #200006544			

SHAWN DUKE - ENGINEER
MO PE#2013006489

SHAWN DUKE
PE #2013006489
PROFESSIONAL ENGINEER

WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

STORM PLAN & PROFILE

LEE'S SUMMIT, MO

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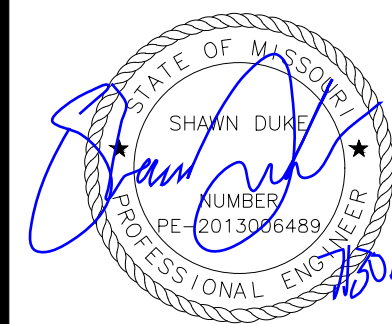
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Label	Start Node	Stop Node	Length (Unified) (ft)	System Intensity (in/h)	Upstream Inlet Area (acres)	Upstream Structure Flow (Total Surface) (cfs)	System CA (acres)	System Intensity (in/h)	System Rational Flow (cfs)	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (ft/ft)	Hydraulic Grade Line (In) (ft)
C9-EXC8	CI C-9	CI C8	334.2	7.072	1.13	4.29	2.354	7.072	16.78	16.78	49.25	14.19	984	970.5	0.04	985.48
C10-C9	CI C-10	CI C-9	306.6	7.24	0.11	0.42	1.448	7.24	10.57	10.57	21.15	11.97	995.09	984.5	0.035	996.34
C11-C10	CI C-11	CI C-10	60.2	7.278	0.22	0.84	1.29	7.278	9.46	9.46	11.05	10.12	997.09	995.59	0.025	998.26
C12-C11	CI C-12	CI C-11	43.3	7.309	1.05	3.99	1.178	7.309	8.68	8.68	10.21	9.33	998.67	997.59	0.025	999.81
C13-C12	CI C-13	CI C-12	56.2	7.358	1.12	4.26	0.723	7.358	5.36	5.36	8.75	7.49	1000.05	999.17	0.016	1000.99
C14-C13	CI C-14	CI C-13	34.3	7.392	0.34	1.29	0.173	7.392	1.29	1.29	9.23	5.3	1001.25	1000.55	0.02	1001.7
K1-C9	CI K-1	CI C-9	34.3	7.392	0.4	1.52	0.204	7.392	1.52	1.52	9.56	5.7	985.5	984.75	0.022	985.99
L1-C9	L-1	CI C-9	127.9	7.392	0.34	1.29	0.173	7.392	1.29	1.29	11.16	6.07	988	984.75	0.025	988.45

Label	Start Node	Stop Node	Length (Unified) (ft)	System Intensity (in/h)	Upstream Inlet Area (acres)	Upstream Structure Flow (Total Surface) (cfs)	System CA (acres)	System Intensity (in/h)	System Rational Flow (cfs)	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (ft/ft)	Hydraulic Grade Line (In) (ft)
C9-EXC8	CI C-9	CI C8	334.2	10.038	1.13	5.93	2.317	10.038	23.44	23.44	49.25	15.48	984	970.5	0.04	985.72
C10-C9	CI C-10	CI C-9	306.6	10.116	0.11	0.58	1.448	10.116	14.77	14.77	21.15	12.94	995.09	984.5	0.035	996.49
C11-C10	CI C-11	CI C-10	60.2	10.136	0.22	1.15	1.221	10.136	12.47	12.47	11.05	10.16	997.09	995.59	0.025	998.98
C12-C11	CI C-12	CI C-11	43.3	10.152	1.05	5.51	1.109	10.152	11.34	11.34	10.21	9.24	998.67	997.59	0.025	1001.11
C13-C12	CI C-13	CI C-12	56.2	10.184	1.12	5.87	0.691	10.184	7.09	7.09	8.75	5.78	1000.05	999.17	0.016	1001.69
C14-C13	CI C-14	CI C-13	34.3	10.2	0.34	1.78	0.173	10.2	1.78	1.78	9.23	5.82	1001.25	1000.55	0.02	1001.78
K1-C9	CI K-1	CI C-9	34.3	10.2	0.4	2.1	0.204	10.2	2.1	2.1	9.56	6.24	984.75	984.75	0.022	986.18
L1-C9	L-1	CI C-9	127.9	10.2	0.34	1.78	0.173	10.2	1.78	1.78	11.16	6.66	988	984.75	0.025	988.53

Inlet	Drainage	Inlet C	Intensity	Q	Ku	n	SX	SL	T= Spread
	Area								
	Ac		in/h	cfs			ft/ft	ft/ft	ft
EX C-8	0.95	0.66	7.35	4.6	0.56	0.012	2	1.5	10.69
C-9	1.13	0.66	7.35	5.5	0.56	0.012	2	3.9	9.54
C-10	0.11	0.66	7.35	0.5	0.56	0.012	2	2	4.51
C-11	0.22	0.66	7.35	1.1	0.56	0.012	2	5.3	4.87
C-12	1.05	0.66	7.35	5.1	0.56	0.012	2	5.3	8.76
C-13	1.12	0.66	7.35	5.4	0.56	0.012	2	2.21	10.57
C-14	0.34	0.66	7.35	1.6	0.56	0.012	2	2.21	6.76
K-1	0.40	0.66	7.35	1.9	0.56	0.012	2	5	6.17

[illegible]

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 2ND PLAT SANITARY SEWER PLANS

DRAINAGE TABLES

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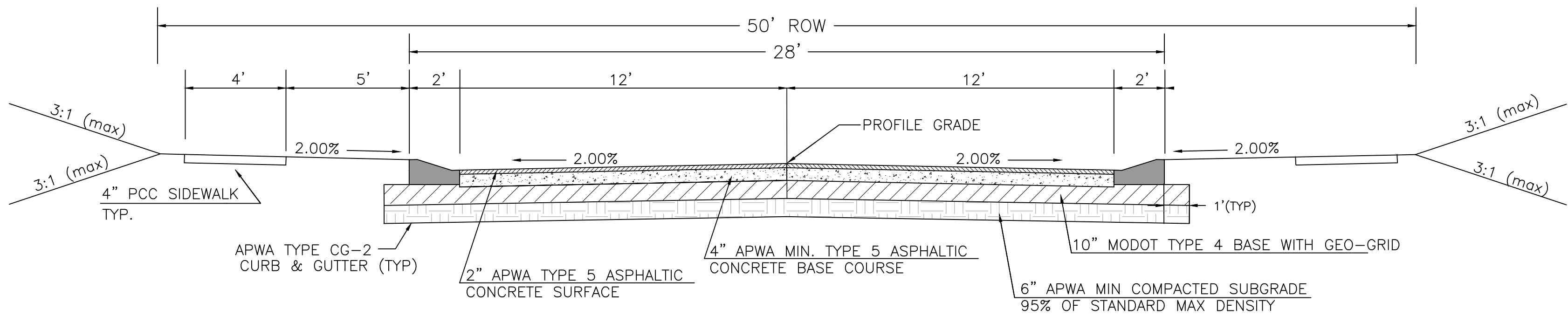
LEE'S SUMMIT, MO

802 FRANCIS STREET
ST. JOSEPH, MO 64501
816-364-5222

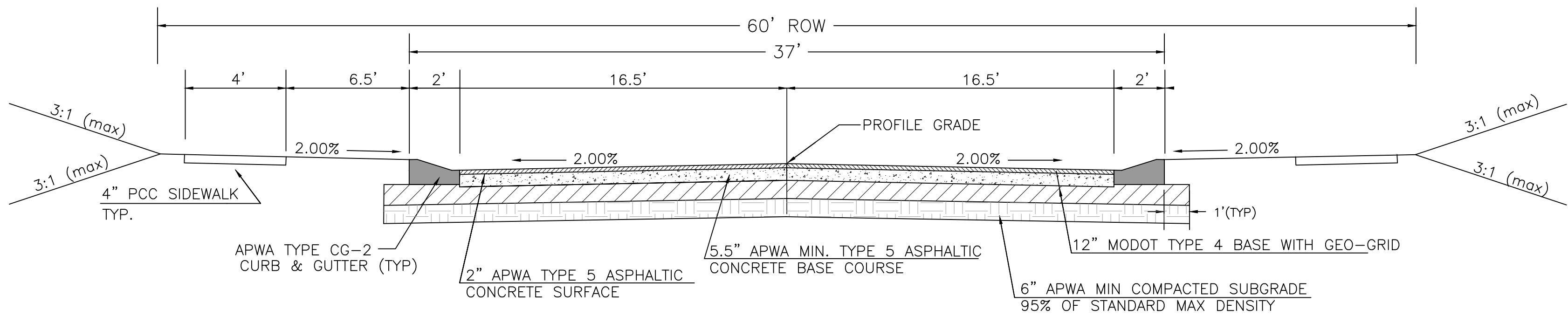


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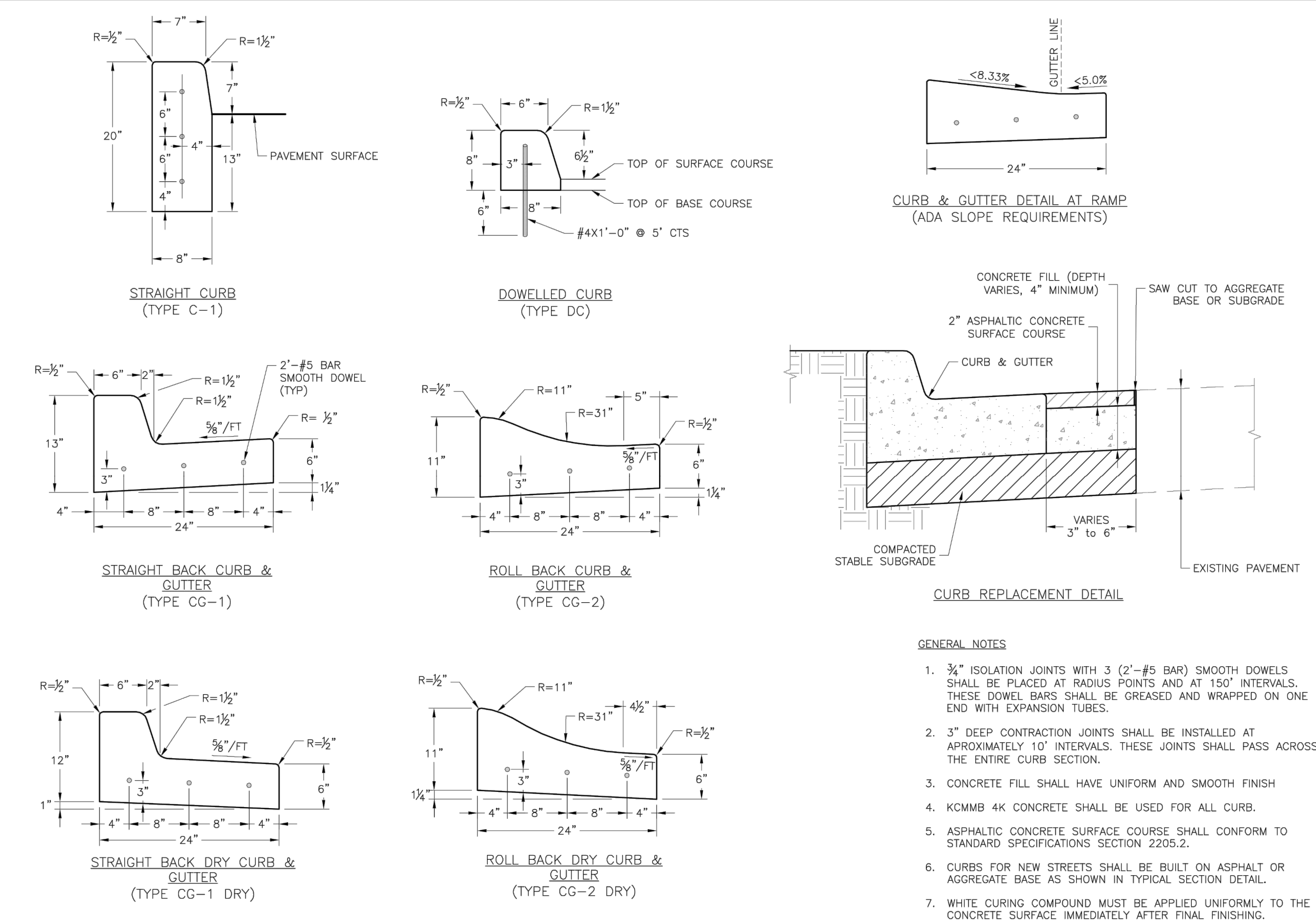
Sheet 14



TYPICAL SECTION RESIDENTIAL LOCAL
NOT TO SCALE
SW 27TH STREET



TYPICAL SECTION RESIDENTIAL LOCAL
NOT TO SCALE
SW SWAN CREEK RD



LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION 1220 S. GREEN STREET, LEE'S SUMMIT, MO 64086

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

CURB & GUTTER DETAIL

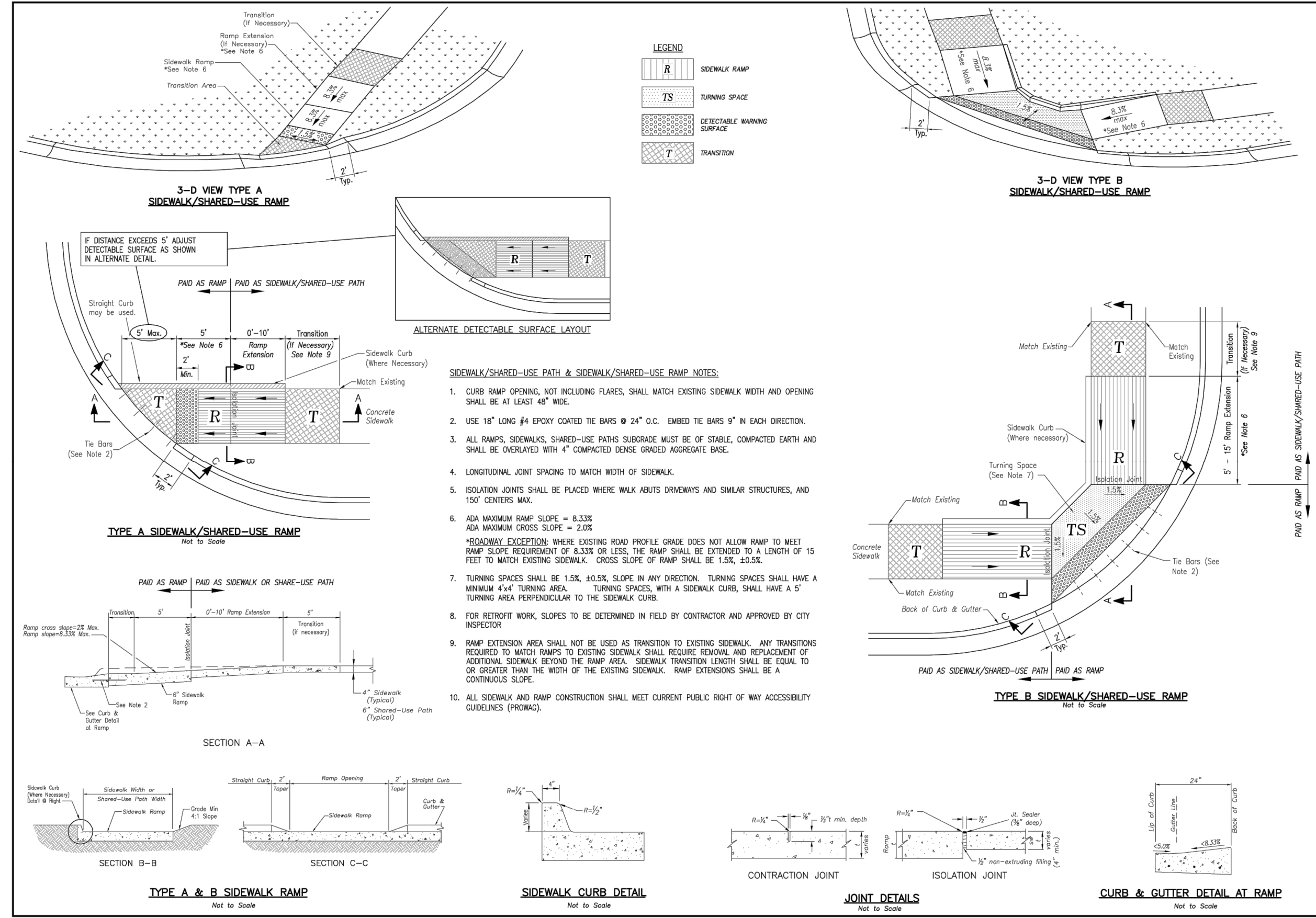
Project: GEN-4

Drawn By: MJP

Checked By: JLS

Date: 04/15

Proj. #: 1200484.11



LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION 1220 S. GREEN STREET, LEE'S SUMMIT, MO 64086

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

ADA RAMP RETROFIT DETAIL

Project: GEN-3A

Drawn By: MJP

Checked By: JLS

Date: 04/15

Proj. #: 1200484.11

WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

STREET & STORM DETAILS

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Project No: 1200484.11

SHAWN DUKE - ENGINEER
MO PE#2013006489

LEE'S SUMMIT, MO

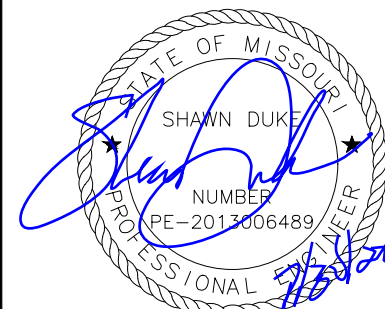
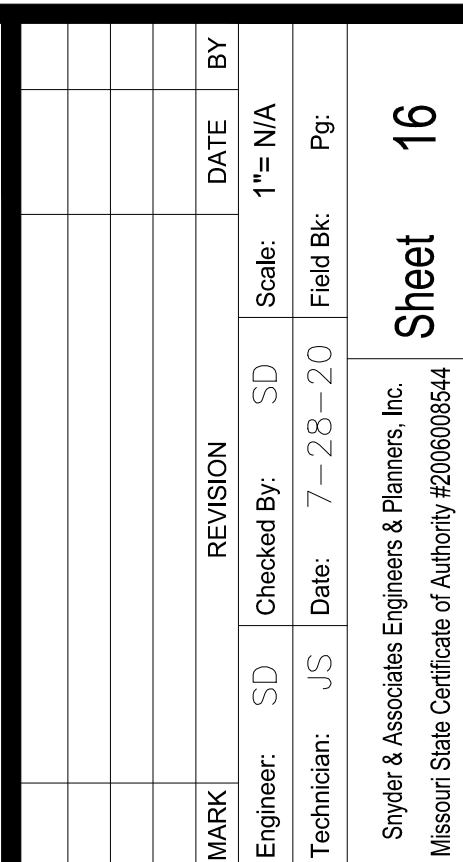
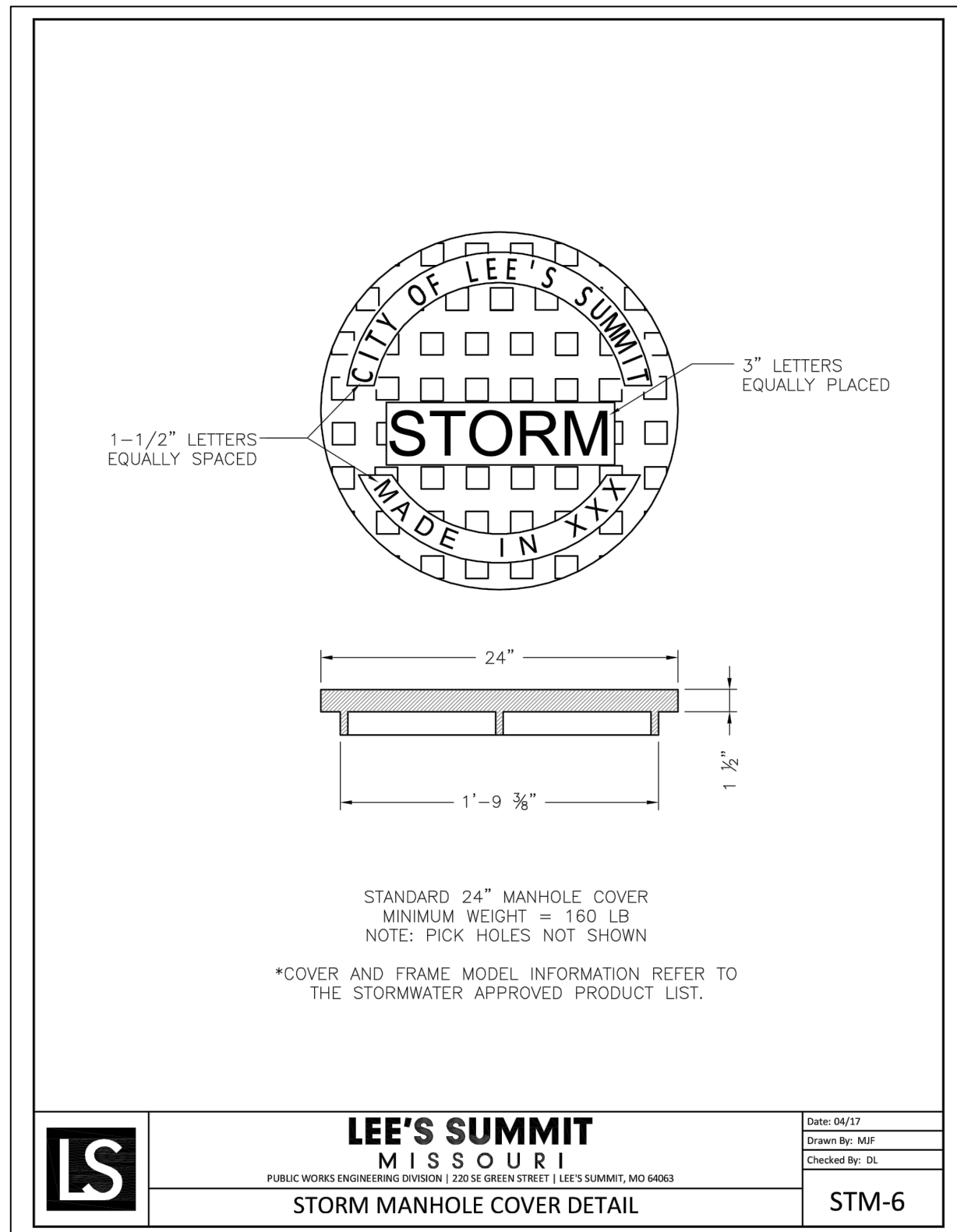
802 FRANCIS STREET
ST. JOSEPH, MO 64501
816-364-5222

MARK	REVISION	DATE	BY
	1	7-28-20	JS

Engineer: SD
Checked By: SD
Scale: 1"= N/A
Field Bk:
Pg:
Technician: JS
Date: 7-28-20

Snyder & Associates Engineers & Planners, Inc.
Missouri State Certificate of Authority #200008544

Sheet 15

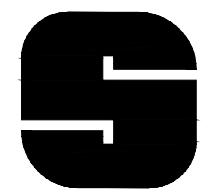


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MO PE#2013006489

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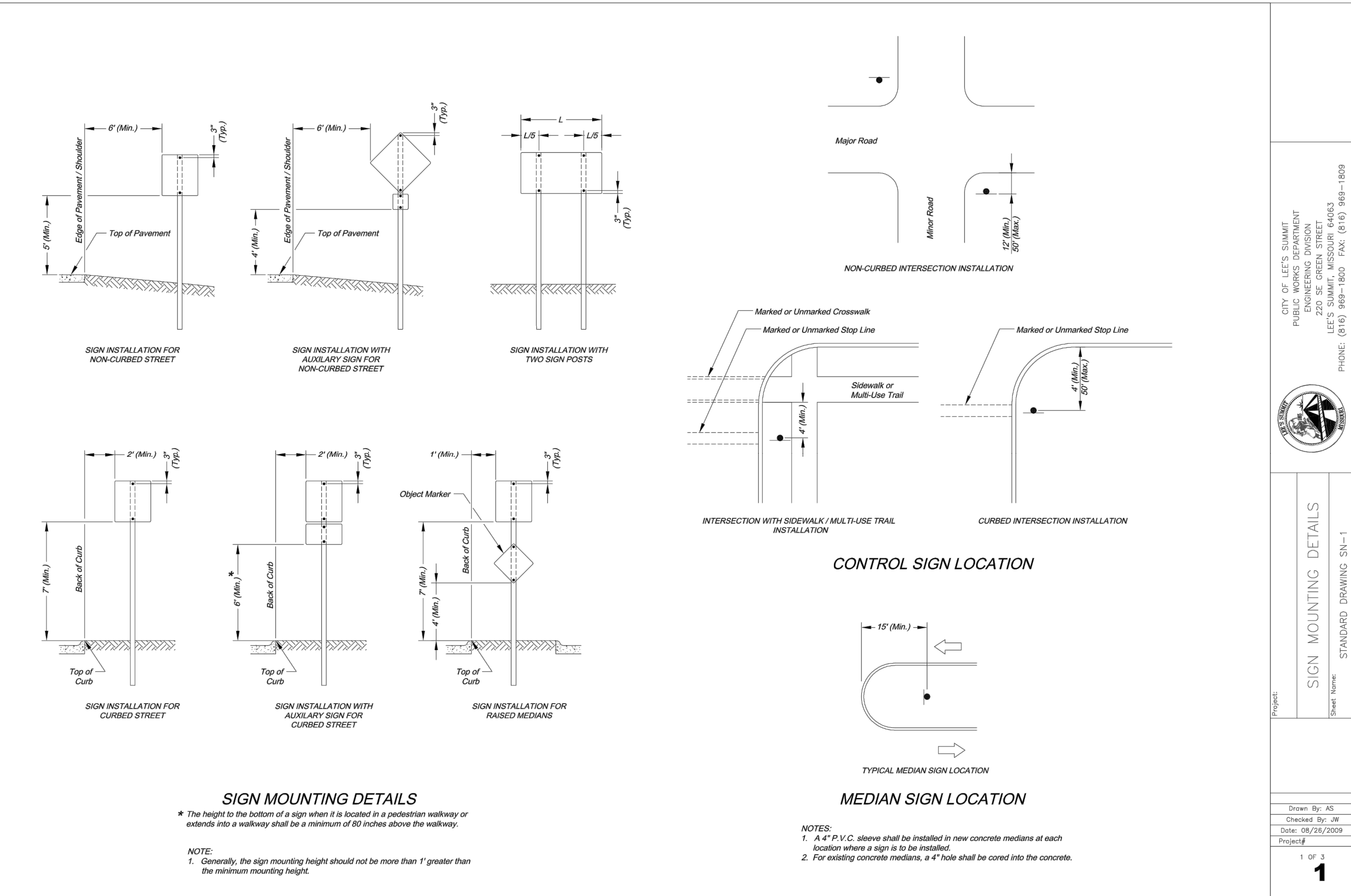
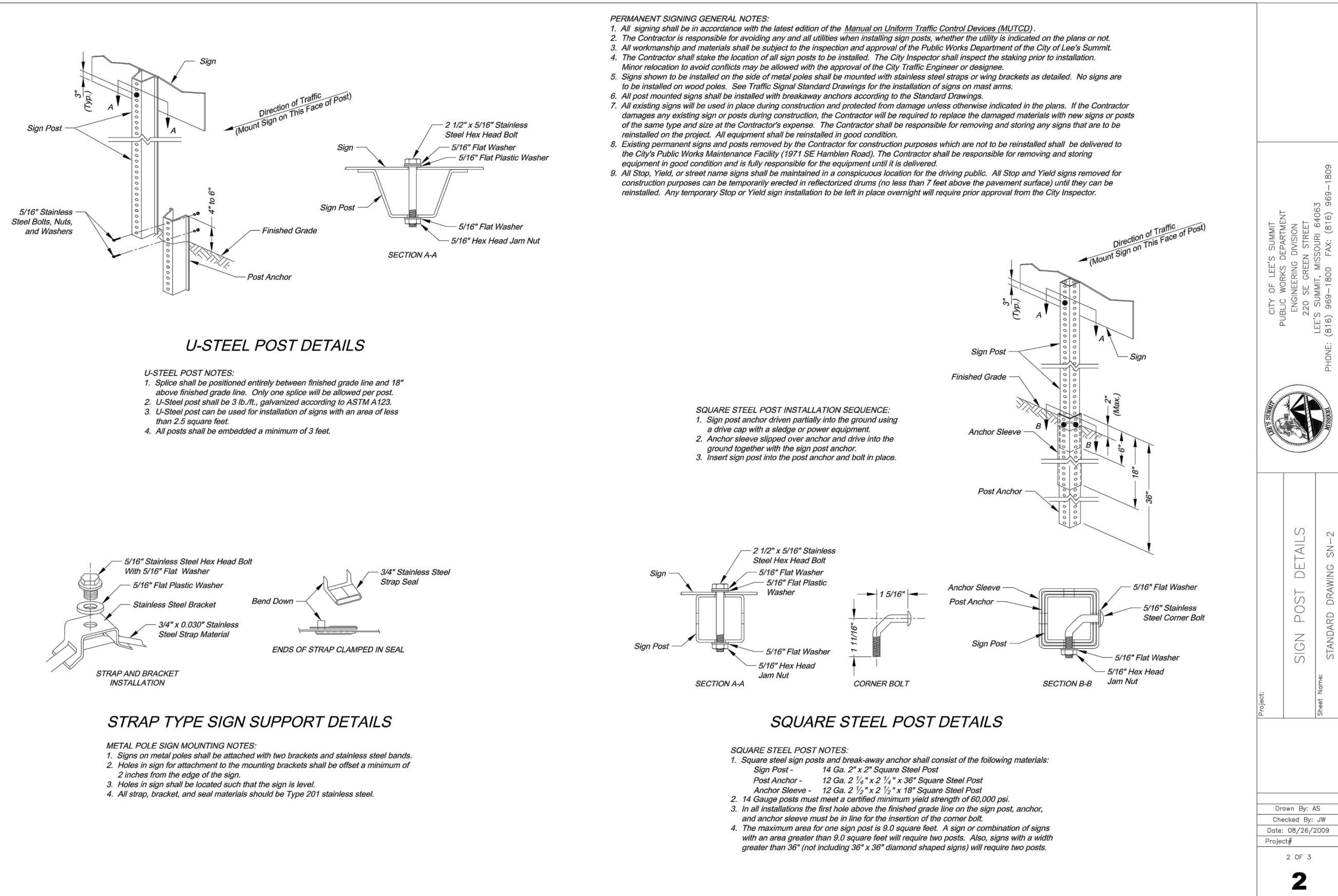


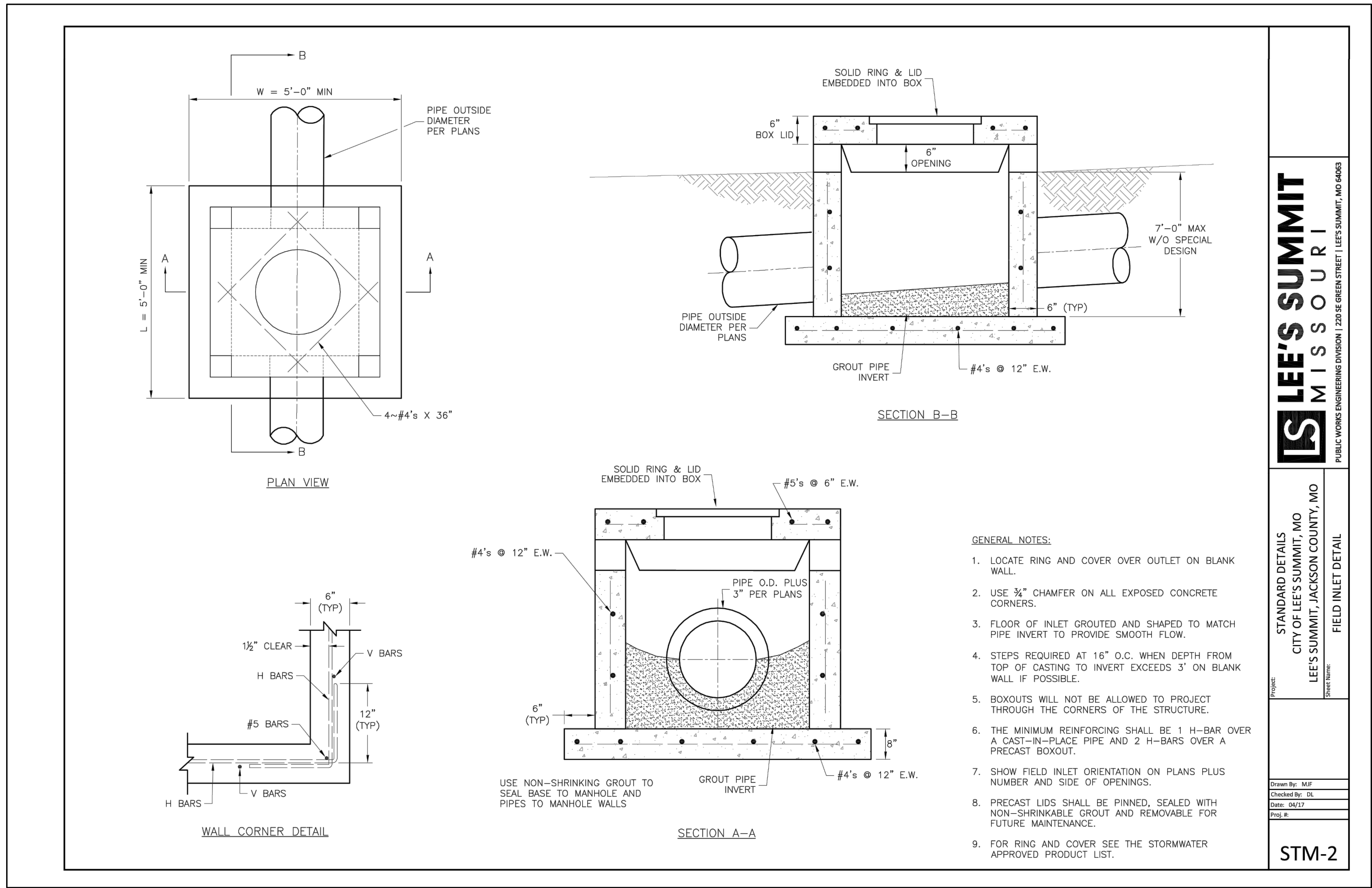
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Project No: 1200484.11

Sheet

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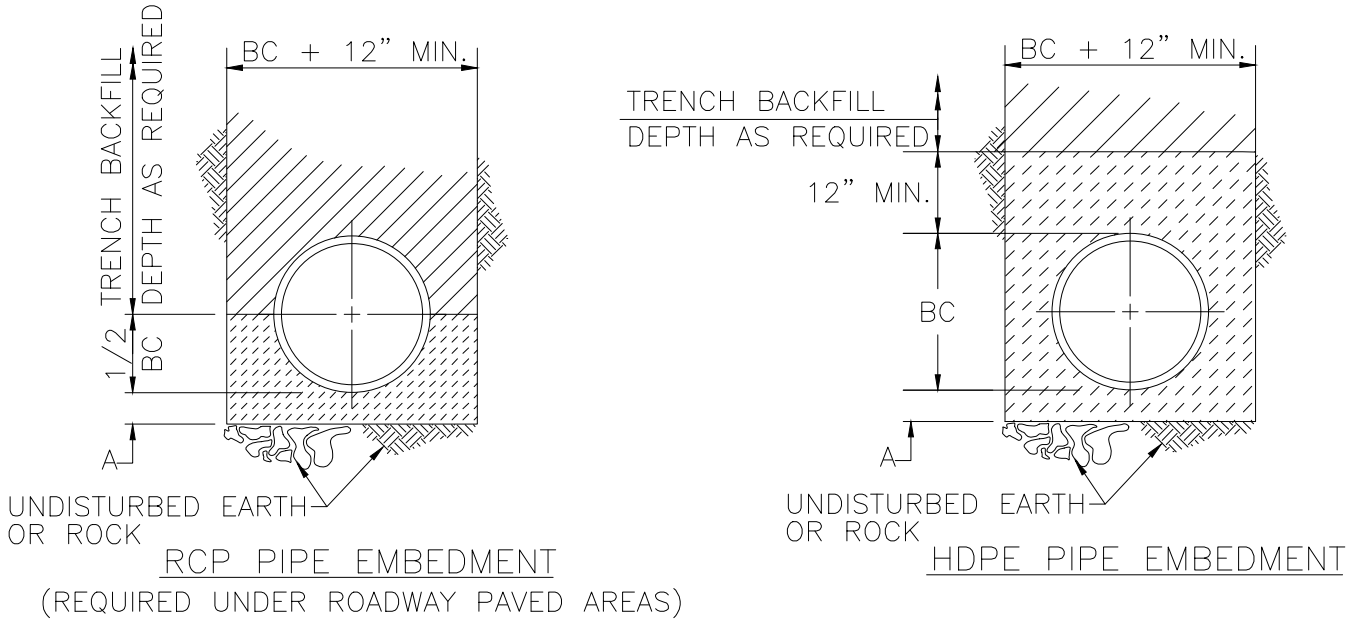


LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 E. GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Drawn By: MJP
Checked By: DL
Date: 04/22
Proj. #: STM-2

STM-2

TYPE OF PIPE	MATERIAL	USE	ALLOWABLE DEPTH OF FILL ABOVE TOP OF PIPE			
			TYPE C EMBED.	TYPE B EMBED.	CSE EMBED.	TYPE A-1 EMBEDMENT
RIGID	PIPE STIFFNESS >651 PSI	RCP; ASTM C 76 CLASS III; 12"-24"	UP TO 8'	UP TO 10'	UP TO 10'	UP TO 10'
		RCP; ASTM C 76 CLASS III; 27"-84"	UP TO 10'	UP TO 13'	UP TO 13'	UP TO 13'
		RCP; ASTM C 76 CLASS IV; 12"-24"	UP TO 12'	UP TO 16'	UP TO 16'	UP TO 16'
		RCP; ASTM C 76 CLASS IV; 24"-27"	UP TO 16'	UP TO 23'	UP TO 23'	UP TO 23'
		RCP; ASTM C 76 CLASS V; 12"-21"	UP TO 19'	UP TO 25'	UP TO 25'	UP TO 25'
		RCP; ASTM C 76 CLASS V; 24"-84"	UP TO 30'	UP TO 40'	UP TO 40'	UP TO 40'
		DUCTILE IRON; AWWA C151 (CLASS 52); 8"-54"	UP TO 50', NO BEDDING REQUIRED			
		DUCTILE IRON; AWWA C151 (CLASS 52); 4"-64"	UP TO 50', NO BEDDING REQUIRED			
		EXTRA STRENGTH, VCP; ASTM C 700 8"-10"	UP TO 16'	UP TO 20'	UP TO 24'	UP TO 24'
		EXTRA STRENGTH, VCP; ASTM C 700 12"-21"	UP TO 12'	UP TO 15'	UP TO 18'	UP TO 18'
SEMI-RIGID	PIPE STIFFNESS 151 PSI TO 650 PSI	PVC; ASTM D 3034 (SDR 23.5); 8"-15"			UP TO 30'	UP TO 30'
		PVC; ASTM D 2680 (TRUSS); 8"-15"			UP TO 30'	UP TO 30'
		PVC; AWWA C900 (DR18); 4"-12"	WATER UP TO 30', NO BEDDING REQUIRED			
FLEXIBLE	PIPE STIFFNESS 46 PSI TO 150 PSI	PVC; AWWA C905 (DR18); 14"-24"	UP TO 30', NO BEDDING REQUIRED			
		PVC; ASTM D 3034 (SDR 35 & 26); 8"-15"				UP TO 30'
		PVC; ASTM F 679 (T-1 WALL); 18"-27"				UP TO 30'
		PVC; ASTM F 949 ; 8"-36"				UP TO 30'
		PVC; ASTM F 1803 (CLOSED PROFILE); 21"-36"				UP TO 30'
		PVC; ASTM F 949 ; 12"-36"			UP TO 30'	UP TO 30'
		HDPE; AASHTO M 294				UP TO 11'
		HPSTORM: POLYPROPYLENE AASHTO M330				UP TO 11'

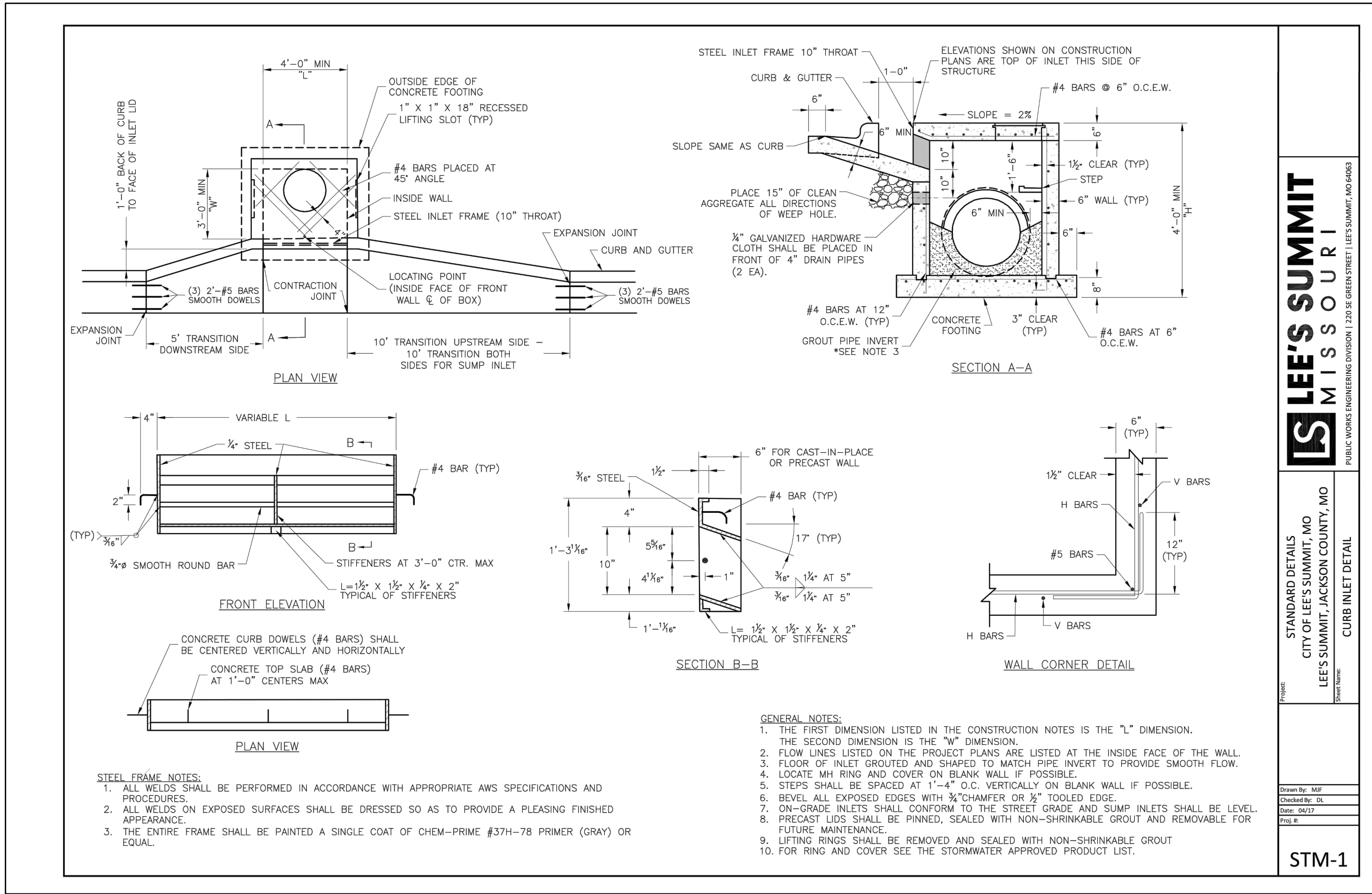


LEGEND	
BC	OUTSIDE DIA. OF PIPE
D	NOMINAL PIPE SIZE
A	EMBEDMENT BELOW PIPE
	TRENCH BACKFILL (TYPE 1)
	TAMPED GRANULAR BACKFILL (TYPE 3)
	GRANULAR BEDDING
	CONCRETE
	CLEAN CRUSHED STONE

TABLE OF EMBEDMENT DEPTHS BELOW PIPE		
D	A MIN SOIL	A MIN ROCK
0"-27"	4"	6"
30"-60"	6"	9"
66"-UP	8"	12"

- PIPE EMBEDMENT NOTES:**
1. GRANULAR BEDDING SHALL BE CRUSHED ROCK OR PEA GRAVEL WITH NOT LESS THAN 95% PASSING $\frac{3}{4}$ " (95% PASSING 1" FOR 30" AND LARGER PIPE) AND NOT LESS THAN 95% RETAINED ON A $\frac{3}{8}$ "; TO BE PLACED IN NOT MORE THAN 6" LAYERS AND COMPACTED BY SLICING WITH A SHOVEL OR VIBRATING.
 2. TAMPED GRANULAR BACKFILL (TYPE 3) SHALL BE GRANULAR MATERIAL CONFORMING TO THE REQUIREMENTS OF SECTION 1007.3.1 OF THE LATEST ISSUE OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
 3. TRENCH BACKFILL (TYPE 1) SHALL BE FINELY DIVIDED MATERIAL FREE FROM DEBRIS AND STONES, COMPACTED TO 95% MAXIMUM DENSITY.
 4. CLEAN CRUSHED STONE SHALL BE GRANULAR MATERIAL CONFORMING TO THE GRADATION REQUIREMENTS OF SECTION 1005.1.4.1 OF THE LATEST ISSUE OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
 5. WHEN PROPOSED MAIN IS UNDER PAVEMENT CONTRACTOR TO BACKFILL WITH COMPACTED AGGREGATE TO PAVEMENT SUBGRADE.

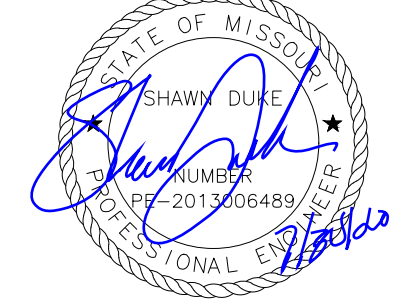
STORM PIPE EMBEDMENT DETAILS



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STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Drawn By: MJP
Checked By: DL
Date: 04/22
Proj. #: STM-1

STM-1



SHAWN DUKE - ENGINEER
MO PE#2013006489

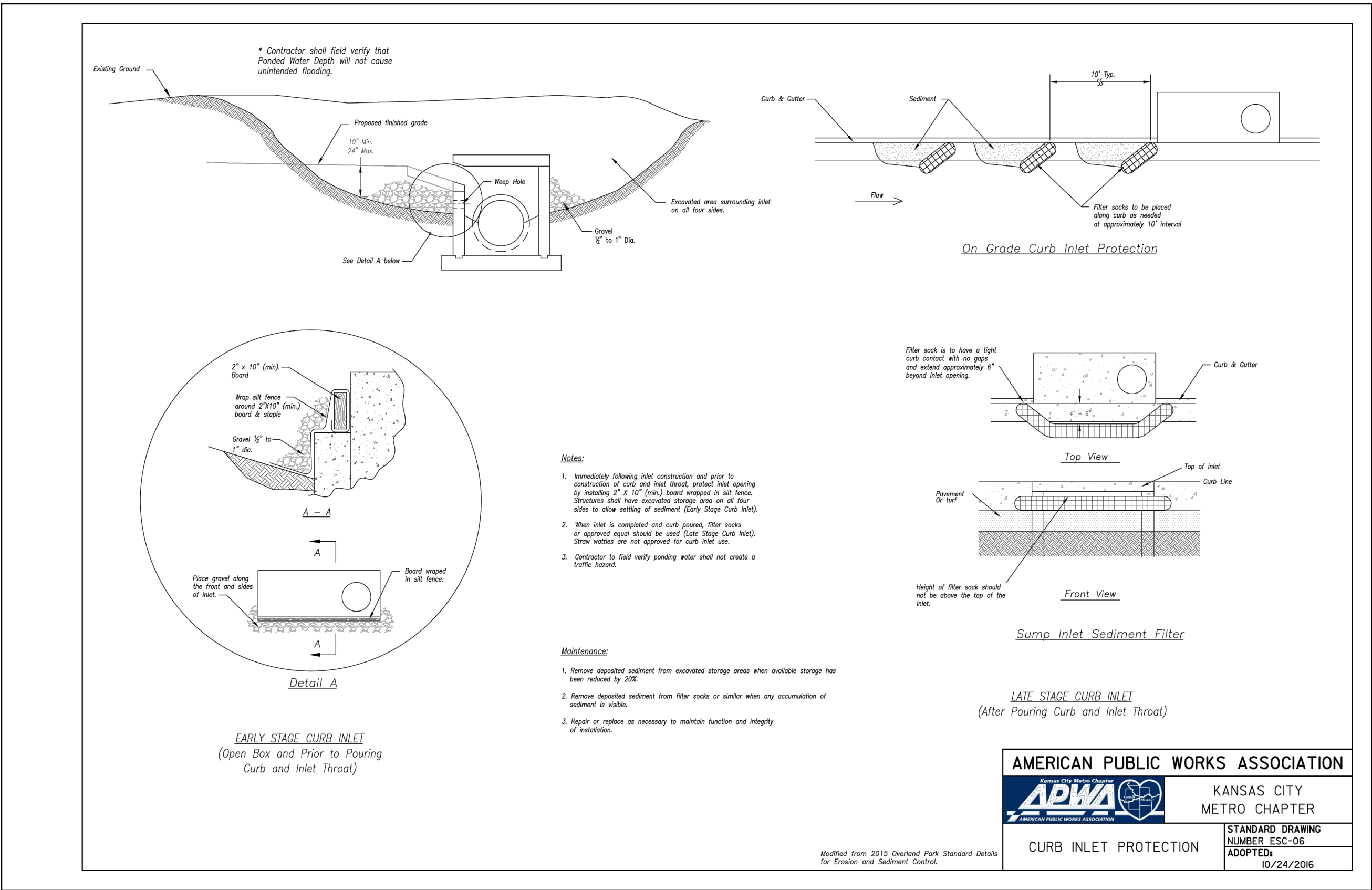
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WHISPERING WOODS 2ND PLAT STREET & STORM SEWER PLANS
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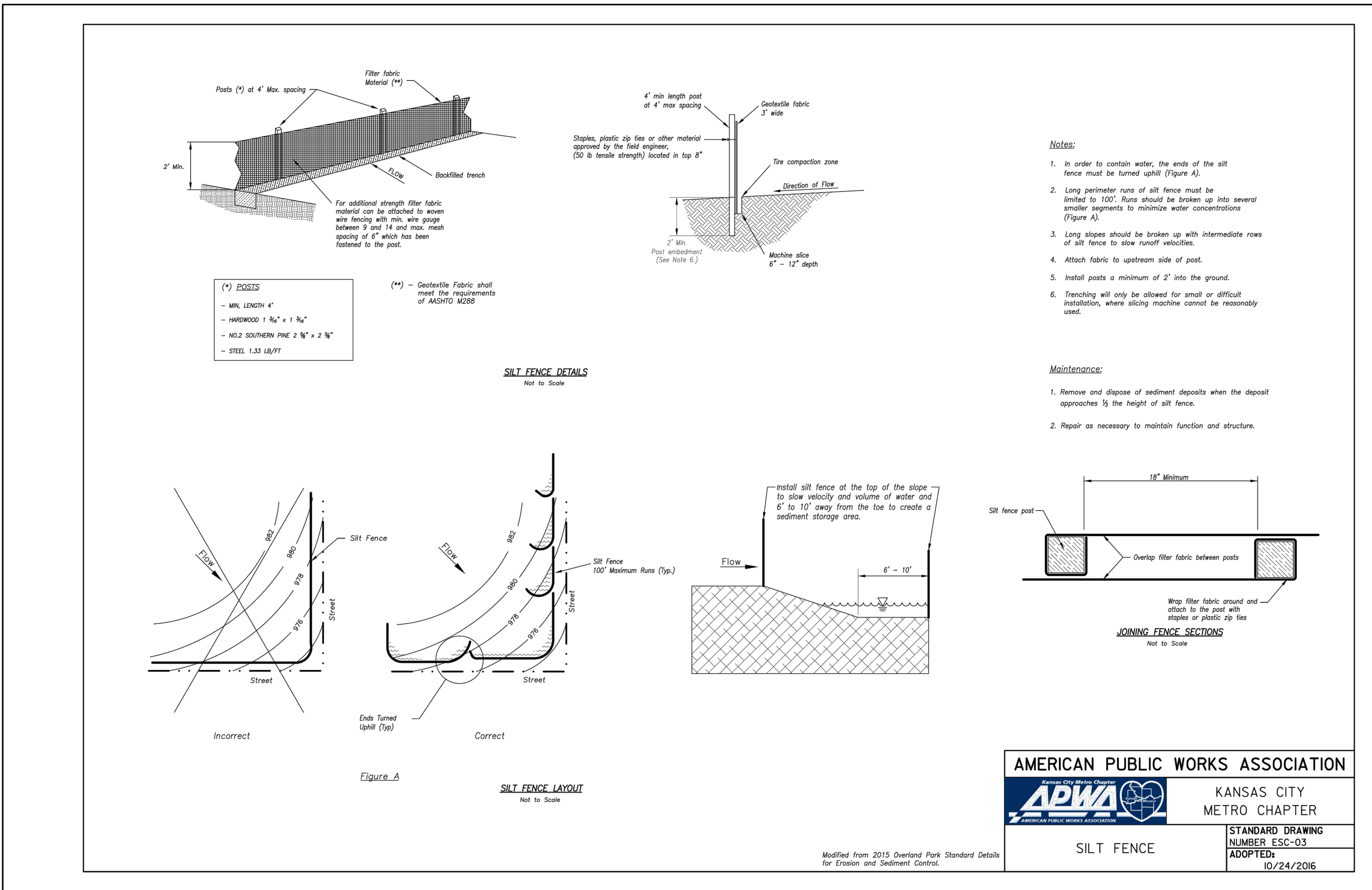


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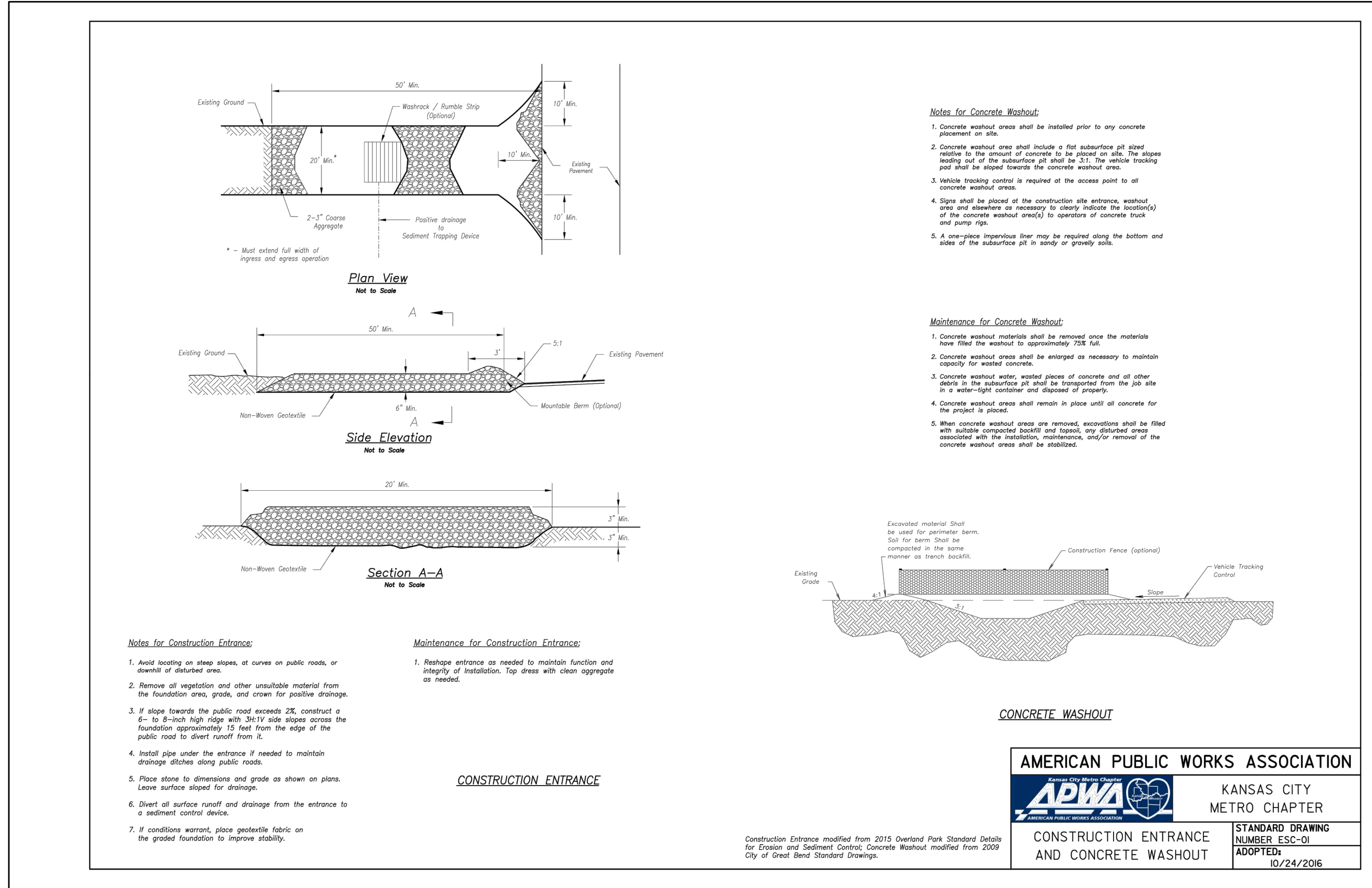
Sheet 17



AMERICAN PUBLIC WORKS ASSOCIATION	
APWA	KANSAS CITY METRO CHAPTER
STANDARD DRAWING NUMBER ESC-06 ADOPTED 10/24/2016	



AMERICAN PUBLIC WORKS ASSOCIATION	
APWA	KANSAS CITY METRO CHAPTER
STANDARD DRAWING NUMBER ESC-03 ADOPTED 10/24/2016	



AMERICAN PUBLIC WORKS ASSOCIATION	
APWA	KANSAS CITY METRO CHAPTER
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT	STANDARD DRAWING NUMBER ESC-01 ADOPTED 10/24/2016

MARK	REVISION	DATE	BY
		11/1/20	N/A
Engineer:	SD	Checked By:	SD
Technician:	JS	Date:	7-28-20
Field Bk:			Pg:
Missouri State Certificate of Authority #200000654			Sheet 18

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

EROSION CONTROL DETAILS

LEE'S SUMMIT, MO

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