

STREET, STORM, DRAINAGE
FOR
WHISPERING WOOD 2ND PLAT
CITY OF LEE'S SUMMIT
JACKSON COUNTY, MISSOURI

LEGAL DESCRIPTION

PROPERTY DESCRIPTION
CONTAINING 234,887 SQUARE FEET OR 5.39 ACRES

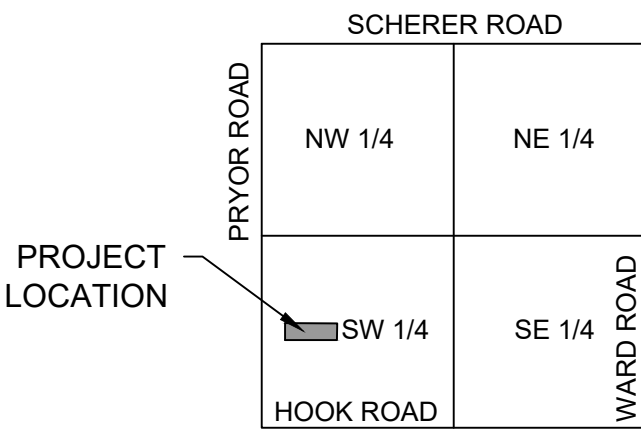
PART OF THE SOUTHWEST QUARTER OF SECTION 24, TOWNSHIP 47 NORTH, RANGE 32 WEST, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, BEING DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 24; THENCE N87°38'05"W, ALONG THE SOUTH LINE OF THE NORTH 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 60.00 FEET; THENCE S02°31'15"W, A DISTANCE OF 73.30 FEET; THENCE SOUTHEASTERLY, ALONG A CURVE TO THE LEFT BEING TANGENT TO THE LAST DESCRIBED COURSE, HAVING A RADIUS OF 25.00 FEET, AN ARC DISTANCE OF 39.36 FEET; THENCE S87°40'43"E, A DISTANCE OF 68.28 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)

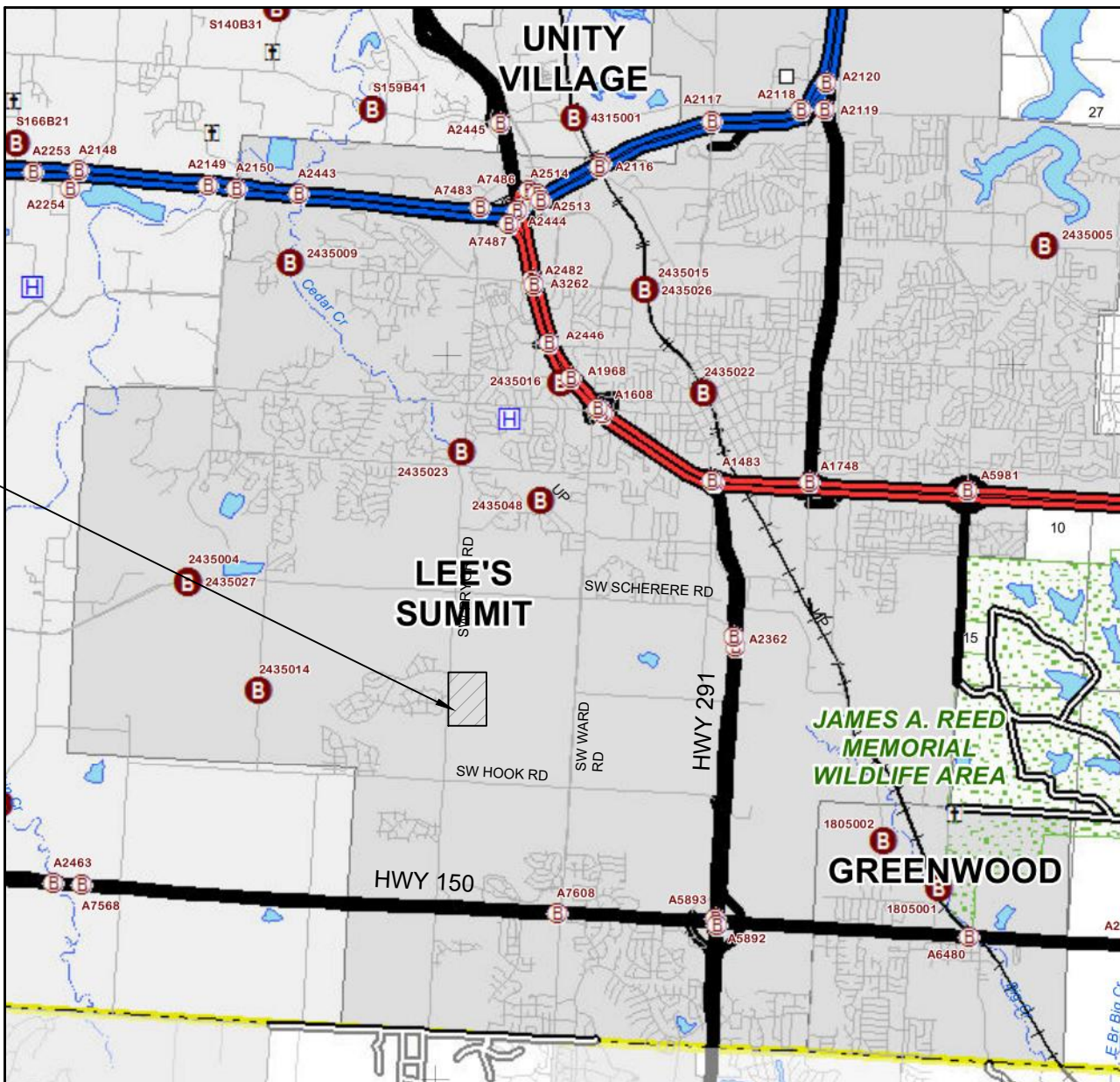
MISSOURI DEPARTMENT OF NATURAL RESOURCES GRS
ALUMINUM DISK STAMPED "JA-47" LOCATED NEAR THE
INTERSECTION OF HWY 150 WITH REGGATA DRIVE AND HWY 291

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.

PROJECT LOCATION



LOCATION MAP
N.T.S.

SUMMARY OF QUANTITIES			
ITEM	UNIT	PLAN	AS-BUILT
Public Earthwork (CUT 10,115 CY / FILL 6,500 CY)	CY	10,115	
2" Asphaltic Concrete Surface	SY	3,323	
4" Type 5 Asphaltic Concrete Base	SY	2,300	
5.5" Type 5 Asphaltic Concrete Base	SY	1,023	
CG-2 Curb & Gutter	LF	1,515	
CG-1 Curb & Gutter	LF	570	
5'x3' Curb Inlet	EA	9	
4'x4' Field Inlet	EA	1	
24" HDPE	LF	334	
18" HDPE	LF	307	
15" HDPE	LF	366	
15" RCP	LF	250	
15" F.E.S	EA	1	
Rip-Rap	SY	136	
ADA Curb Ramps	EA	8	
Type IV Object Markers	EA	12	
R1-1 Stop Signs	EA	2	
Street Name Signs	EA	2	

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.

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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

REVISION	DATE	BY
2	10/14/20	BY
1	9/4/20	BY
MARK	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1"= N/A
Technician: JS	Date: 7-28-20	Field Bk: Pg:
Snyder & Associates Engineers & Planners, Inc. Missouri State Certificate of Authority #2000006544		
Sheet 1		



SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

TITLE SHEET

LEE'S SUMMIT, MO

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.
802 FRANCIS STREET
ST. JOSEPH, MO 64501
816-364-5222
www.snyder-associates.com



Project No: 1200484.11

Sheet 1

EROSION CONTROL NOTES:

A MISSOURI STATE OPERATING PERMIT FOR STORM WATER DISCHARGE IS REQUIRED IF CONSTRUCTION ACTIVITY DISTURBS ONE ACRE OR MORE IN ACCORDANCE WITH THE MISSOURI DEPARTMENT OF NATURAL RESOURCES' REGULATION (10 CSR 20-6.200). COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED IN THIS INSTANCE. A CONSTRUCTION PERMIT FOR LAND DISTURBANCE WILL BE SECURED FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES AND PROVIDED TO THE CONTRACTOR.

SLOPES ARE TO BE LEFT IN A ROUGHENED CONDITION DURING GRADING.

CURB INLET SEDIMENTATION FILTERS ARE TO BE INSTALLED AROUND CURB INLETS WHERE SEDIMENTATION IS A CONCERN. (SEE SWPP FOR DETAILS)

INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF STORM INLETS & REMAIN IN PLACE UNTIL GROUND COVER HAS BEEN ESTABLISHED.

EROSION CONTROL MEASURES SHALL BE CONSTRUCTED PRIOR TO BEGINNING GRADING OPERATIONS WHERE POSSIBLE. ALL REMAINING EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IMMEDIATELY FOLLOWING GRADING OPERATIONS.

THE SITE IS TO BE SEEDED AND MULCHED AND TEMPORARY EROSION CONTROL MEASURES ARE TO REMAIN IN PLACE UNTIL GROUND COVER HAS BEEN ESTABLISHED.

SEDIMENT IS TO BE REMOVED FROM STORM WATER DRAINAGE SYSTEMS INCLUDING THE DETENTION BASIN.

ROCK LINING IS TO BE INSTALLED AT AREAS OF CONCENTRATED FLOW (I.E. CULVERT OUTLETS).

ROCK LINING SHALL BE TYPE 2 ROCK DITCH LINER ACCORDING TO MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SEC. 609.60. ALL NECESSARY STEPS SHALL BE TAKEN TO PREVENT SEDIMENT AND SOIL EROSION FROM BEING TRANSPORTED ONTO ADJACENT PROPERTY AND INTO STREAMS, LAKES, PONDS, OR OTHER AREAS.

CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY.

ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN EROSION PROBLEMS ARISE OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED.

A.
EROSION PROTECTION

1. CODE COMPLIANCE: THE CONTRACTOR SHALL COMPLY WITH SOIL EROSION CONTROL REQUIREMENTS OF THE MISSOURI CODE, THE MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES PERMIT, AND LOCAL ORDINANCE. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASUREMENTS TO PROTECT AGAINST EROSION AND DUST POLLUTION ON THIS PROJECT SITE AND ALL OFF-SITE BORROW OR DEPOSIT AREAS DURING PERFORMANCE OR AS A RESULT OF PERFORMANCE.

2. DAMAGE CLAIMS: THE CONTRACTOR WILL HOLD THE OWNER, ARCHITECT AND ENGINEER HARMLESS FROM ANY AND ALL CLAIMS OF ANY TYPE WHATSOEVER RESULTING FROM DAMAGES TO ADJOINING PUBLIC OR PRIVATE PROPERTY, INCLUDING REASONABLE ATTORNEY FEES INCURRED TO OWNER. FURTHER, IF THE CONTRACTOR FAILS TO TAKE NECESSARY STEPS TO PROMPTLY REMOVE EARTH SEDIMENTATION OR DEBRIS WHICH COMES ONTO ADJOINING PUBLIC OR PRIVATE PROPERTY, THE OWNER MAY, BUT NEED NOT, REMOVE SUCH ITEMS AND DEDUCT THE COST THEREOF FROM AMOUNTS DUE TO THE CONTRACTOR.

3. ALL AREAS DISTURBED BY CONSTRUCTION ON THIS PROJECT WILL BE SUBJECT TO CURRENT REGULATORY REQUIREMENTS AND THESE STANDARDS.

B.
STORM WATER DISCHARGE PERMIT:

1. THIS PROJECT REQUIRES A LAND DISTURBANCE PERMIT FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES, AS REQUIRED BY THE ENVIRONMENTAL PROTECTION COMMISSION (EPC). THE OWNER SHALL OBTAIN THE PERMIT. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE AND FULFILLING ALL REQUIREMENTS OF THE PERMIT INCLUDING THE STORM WATER POLLUTION PREVENTION PLAN.

2. ALL DOCUMENTS RELATED TO THE STORM WATER DISCHARGE PERMIT SHALL BE KEPT ON SITE AT ALL TIMES AND MUST BE PRESENTED TO THE MISSOURI DNR UPON REQUEST WHICH INCLUDE THE NOTICE OF INTENT, PROOF OF PUBLICATION, POLLUTION PREVENTION PLAN, PROJECT INSPECTION DIARY, AND OTHER ITEMS. FAILURE TO COMPLY WITH THE DISCHARGE REQUIREMENTS IS IN VIOLATION OF THE CLEAN WATER ACT AND THE CODE OF MISSOURI.

3. UPON FINAL STABILIZATION OF THE DISTURBED AREA, A"NOTICE OF DISCONTINUATION" MUST BE FILED BY THE OWNER WITH THE MISSOURI DNR. ALL PLANS, INSPECTION REPORTS, AND OTHER DOCUMENTS MUST BE RETAINED FOR A PERIOD OF THREE YEARS AFTER PROJECT COMPLETION. THE CONTRACTOR SHALL RETAIN RECORD COPY AND PROVIDE ORIGINAL DOCUMENTS TO THE OWNER UPON ISSUANCE OF THE NOTICE OF DISCONTINUATION.

POLLUTION PREVENTION PLAN:

1. SITE DESCRIPTION: THIS PROJECT IS FOR THE CONSTRUCTION OF ROUGH GRADING FOR COMMERCIAL DEVELOPMENT. THE ENTIRE PROJECT COVERS APPROXIMATELY 1.70 ACRES. THE ESTIMATED AVERAGE RUNOFF COEFFICIENT WILL BE 0.80 RUNOFF FROM THIS PROJECT SITE AND WILL BE ROUTED THROUGH THE EXISTING CITY STORM SEWER.

2. POTENTIAL SOURCES OF POLLUTION FOR THIS PROJECT RELATE TO SILTS, SEDIMENT, AND OTHER MATERIALS WHICH MAY BE TRANSPORTED FROM THE CONSTRUCTION SITE AS THE RESULT OF A STORM EVENT .

3. RESPONSIBILITY: THIS POLLUTION PREVENTION PLAN ILLUSTRATES GENERAL MEASURES TO BE TAKEN FOR COMPLIANCE WITH THE PERMIT. ALL MITIGATION MEASURES REQUIRED, AS A RESULT OF ACTIVITIES, ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL ACTIONS NECESSARY FOR INSTALLATION OF CONTROL MEASURES FOR COMPLIANCE WITH PERMIT REQUIREMENTS.

4. CONTROLS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE AND FULFILLING ALL THE REQUIREMENTS OF THE GENERAL PERMIT INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

a. THE CONTRACTOR SHALL PROTECT ADJOINING PROPERTY INCLUDING PUBLIC UTILITIES, SANITARY AND STORM DRAINAGE SYSTEMS, AND STREETS FROM ANY DAMAGE RESULTING FROM MOVEMENT OF EARTH OR OTHER DEBRIS FROM PROJECT SITE. REPAIR ANY DAMAGE IMMEDIATELY AT NO ADDITIONAL COST.

b. THE CONTRACTOR SHALL PREVENT ACCUMULATION OF EARTH, SILTATION, OR DEBRIS ON ADJOINING PUBLIC OR PRIVATE PROPERTY FROM PROJECT SITE. REMOVE ANY ACCUMULATION OF EARTH OR DEBRIS IMMEDIATELY AND TAKE REMEDIAL ACTIONS FOR PREVENTION.

c. PRIOR TO SITE CLEARING AND GRADING OPERATIONS, CONTRACTOR SHALL INSTALL SILT FENCE ALONG THE PERIMETER OF THE PROJECT DOWNSTREAM OF DISTURBING ACTIVITIES AS REQUIRED AND AS SHOWN ON THE PLANS.

d. THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION.

GENERAL NOTES:

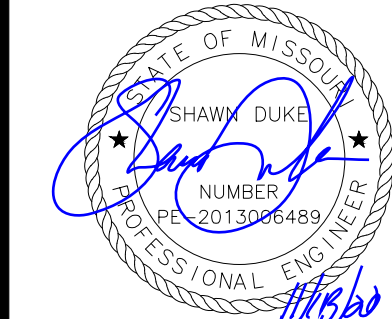
- REFER TO THE CURRENT VERSION OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION (D&C) MANUAL FOR CONSTRUCTION OF THESE PLANS.
- ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
- LINEAL FOOT MEASUREMENTS SHOWN ON THESE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
- NO GEOLOGICAL INVESTIGATION WAS PERFORMED ON THIS PROJECT.
- THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND ARE APPROXIMATE ONLY. THEY DO NOT CONSTITUTE ACTUAL FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES.
- ALL WASTE MATERIAL SHALL BE DISPOSED OF AT A LOCATION TO BE SELECTED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, SUCH LOCATION TO BE ON THE SITE.
- THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION, HE SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS AND FOLLOW THE EROSION CONTROL PLAN PREPARED BY THE DESIGN ENGINEER.
- ALL EXISTING MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
- SUBGRADE SOIL FOR ALL CONCRETE STRUCTURES, REGARDLESS OF THE TYPE OR LOCATION, SHALL BE FIRM, DENSE AND THOROUGHLY COMPACTED AND CONSOLIDATED; SHALL BE FROM MUCH AND MUD; AND SHALL BE SUFFICIENTLY STABLE TO REMAIN FIRM AND INTACT UNDER THE FEET OF THE WORKMAN OR MACHINERY ENGAGED IN SUBGRADE, LAYING REINFORCING STEEL, AND DEPOSITING CONCRETE THEREON. IN ALL CASES WHERE SUBSOIL IS MUCKY OR WORKS INTO MUD OR MUCK DURING SUCH OPERATION, A SEAL COURSE OF EITHER CONCRETE OR ROCK SHALL BE PLACED BELOW SUBGRADE TO PROVIDE A FIRM BASE FOR WORKING AND FOR PLACING THE FLOOR SLAB.

- A MINIMUM HORIZONTAL DISTANCE OF TEN (10') SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. AT ANY POINT WHERE SANITARY SEWER LINES CROSS WATER MAIN, THE SANITARY SEWER SHALL BE CONSTRUCTED OF CAST IRON PIPE OR PIPE ENCASED IN CONCRETE FOR A DISTANCE OF TEN FEET (10') IN EACH DIRECTION FROM THE CROSSING UNLESS THE WATER IS A MINIMUM OF EIGHTEEN INCHES (18") ABOVE THE TOP OF THE SANITARY SEWER LINE.
- CONTRACTOR SHALL PROVIDE TESTING AND INSPECTION PER SECTION 2200 - PAVING MAINS CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
- DEVELOPMENT PLANS ARE APPROVED INITIALLY FOR ONE (1) YEAR, AFTER WHICH THEY AUTOMATICALLY BECOME VOID AND MUST BE UPDATED AND APPROVED BY THE CITY ENGINEER BEFORE ANY CONSTRUCTION WILL BE PERMITTED.
- ALL SANITARY SEWER STUBS SHALL BE SURVEYED AND STAKED ON SITE BEFORE THE CONSTRUCTION OF SANITARY SERVICE STUBS.
- THE CITY OF LEE'S SUMMIT PLAN REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE CITY OF LEE'S SUMMIT DESIGN CRITERIA AND THE CITY CODE. THE CITY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, OR DIMENSIONS AND ELEVATIONS WHICH SHALL BE CONFINED AND CORRELATED AT THE JOB SITE. THE CITY OF LEE'S SUMMIT THROUGH APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY OTHER THAN AS STATED ABOVE FOR THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.
- THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE PLANS (APPROVED BY THE CITY OF LEE'S SUMMIT) AND ONE (1) COPY OF THE APPROPRIATE CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES.
- CONSTRUCTION OF THE IMPROVEMENTS SHOWN OR IMPLIED BY THIS SET OF DRAWINGS SHALL NOT BE INITIATED OR ANY PART THEREOF UNDERTAKEN UNTIL THE CITY ENGINEER IS NOTIFIED OF SUCH INTENT AND ALL REQUIRED AND PROPERLY EXECUTED BONDS AND PERMIT FEES ARE RECEIVED AND APPROVED BY THE CITY ENGINEER.
- ALL STUB LINES SHALL BE LAID ON 2.00% MINIMUM GRADE UNLESS APPROVED OTHERWISE.
- CONTRACTOR SHALL NOT BE ALLOWED TO WORK ON SATURDAYS, SUNDAYS, OR HOLIDAYS WITHOUT PRIOR APPROVAL OF THE CITY ENGINEER.
- RELOCATION OF ANY WATER LINE, SEWER LINE OR SERVICE LINE THEREOF REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT HIS EXPENSE.
- THE CONTRACTOR SHALL INSTALL AND PROPERLY MAINTAIN A MECHANICAL PLUG AT ALL CONNECTION POINTS WITH EXISTING LINES UNTIL SUCH TIME THAT THE NEW LINE IS TESTED AND APPROVED.
- THE CONTRACTOR SHALL CONSTRUCT MANHOLES PLACING ECCENTRIC CONE SECTION IN SUCH A MANNER THAT MANHOLE COVERS ARE ADJACENT TO THE PROPOSED SIDEWALKS. IN LOCATIONS WHERE MANHOLES ARE NOT NEAR PROPOSED SIDEWALKS THE MANHOLE COVERS SHALL GENERALLY BE PLACED ON THE UPSTREAM SIDE OF THE MANHOLES WHENEVER POSSIBLE.
- STUB LINES, LOCATIONS, AND MINIMUM BASEMENT FLOOR ELEVATIONS ARE LOCATED IN THE TABLE LABELED "TABLE OF SERVICE LOCATIONS".
- CONSTRUCTION PERMITS WILL NOT BE ISSUED UNTIL THE CITY OF LEE'S SUMMIT RECEIVES A SEWER EXENTION PERMIT FROM MDMR.
- ALL AREAS WHERE UTILITIES ARE TO BE INSTALLED IN FILL SHALL BE COMPACTED TO 95% TO 18 INCHES ABOVE THE LINE THEN EXCAVATED FOR CONSTRUCTION OF THE LINE.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR TESTING OF MANHOLES AND PIPES TO THE CITY OF LEE'S SUMMIT DESIGN & CONSTRUCTION MANUAL REQUIREMENTS.
- THE DEVELOPER WILL BE RESPONSIBLE FOR PERFORMING PRESSURE TESTING ON EVERY SECTION OF THE SANITARY LINES, PRESSURE TESTING ON EVERY MANHOLE, AND RUNNING A MANDREL THROUGH EVERY SECTION OF SANITARY SEWER LINE TO TEST FOR ALIGNMENT. TESTING CRITERIA WILL BE IN ACCORDANCE WITH CITY OF LEE'S SUMMIT DESIGN & CONSTRUCTION MANUAL SPECIFICATIONS.
- ALL UTILITY STREET CROSSINGS SHALL BE BACKFILLED WITH FLOWABLE FILL, OR AB-3. IF CONTRACTOR CHOOSES TO USE OTHER SUITABLE MATERIALS, EXTENSIVE SOIL TESTING REQUIREMENTS WILL BE REQUIRED.

- THE SPECIAL FLOW HAZARD AREA (SFHA) AND REGULATORY FLOOD WAY DEPICTED IN THESE PLANS ARE PER FEMA'S NATURAL FLOOD HAZARD LAYER (NFHL) OBTAINED FROM WWW.FEMA.GOV. NFIP INFORMATION SHOWN ARE REPRESENTATIVE OF FEMA'S FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 29095C0531G; EFFECTIVE DATE JANUARY 20, 2017.
- NO FILL MATERIAL SHALL BE PLACED WITHIN THE FEMA IDENTIFIED FLOODWAY. NO CONSTRUCTION SHALL BE PERFORMED WITHIN THE FLOODWAY UNLESS DEPICTED ON THESE PLANS OR OTHER PLANS APPROVED BY THE CITY OF LEE'S SUMMIT, MO.

PROJECT NOTES:

- GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION.
- PRIOR TO ORDERING PRECAST STRUCTURES: SHOP DRAWINGS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. UPON APPROVAL THESE SHALL BE SUBMITTED TO THE CITY OF LEE'S SUMMIT FOR REVIEW.
- MANHOLE TOP ELEVATIONS DESIGNATED AS "FIELD VERIFY" (F.V.) ARE LOCATED OUTSIDE THE STREET RIGHT-OF-WAY OR IN AREAS OF UNDETERMINED GRADING. CONTRACTORS ORDERING PRECAST MANHOLES SHALL BE RESPONSIBLE FOR ADJUSTMENT REQUIRED IN THE FIELD AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL FIELD VERIFY THE TOP ELEVATIONS PRIOR TO ORDERING PRECAST MANHOLES.
- ALL WATER LINES, SANITARY SEWER LINES, AND STORM WATER DRAINAGE CROSSINGS SHALL BE IN PLACE OR A CASING PIPE PROVIDED FOR FUTURE INSTALLATION PRIOR TO BASE AND SURFACE ASPHALT COURSES.
- SIDEWALKS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY UNLESS OTHERWISE NOTES. HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR HANDICAP RAMP CONSTRUCTION IN CURBS.
- SITE TOPOGRAPHY TAKEN FROM SURVEY COMPLETED BY R.L BUFORD & ASSOCIATES. CONTRACTOR TO VERIFY EXISTING CONDITIONS OF THE SITE THAT MAY NOT BE REPRESENTATIVE OF CONSTRUCTION PLANS.



SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

GENERAL NOTES

LEE'S SUMMIT, MO

802 FRANCIS STREET
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SNYDER & ASSOCIATES
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Project No: 1200484.11

Sheet 2

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.

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.

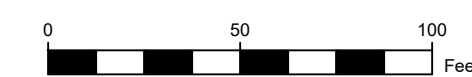
E. CONTRACTOR TO STRIP AND STOCKPILE TOPSOIL FROM ALL AREAS TO BE CUT OR FILLED. RE-SPREAD TO MINIMUM 8" DEPTH TO FINISH GRADES.

F. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING DIRT AND DEBRIS FROM STREETS, DRIVEWAYS, AND SIDEWALKS CAUSED BY CONSTRUCTION ACTIVITIES.

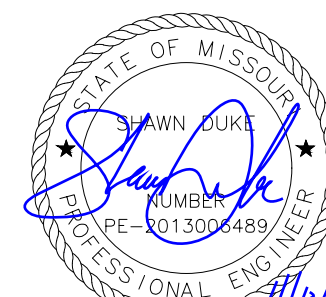
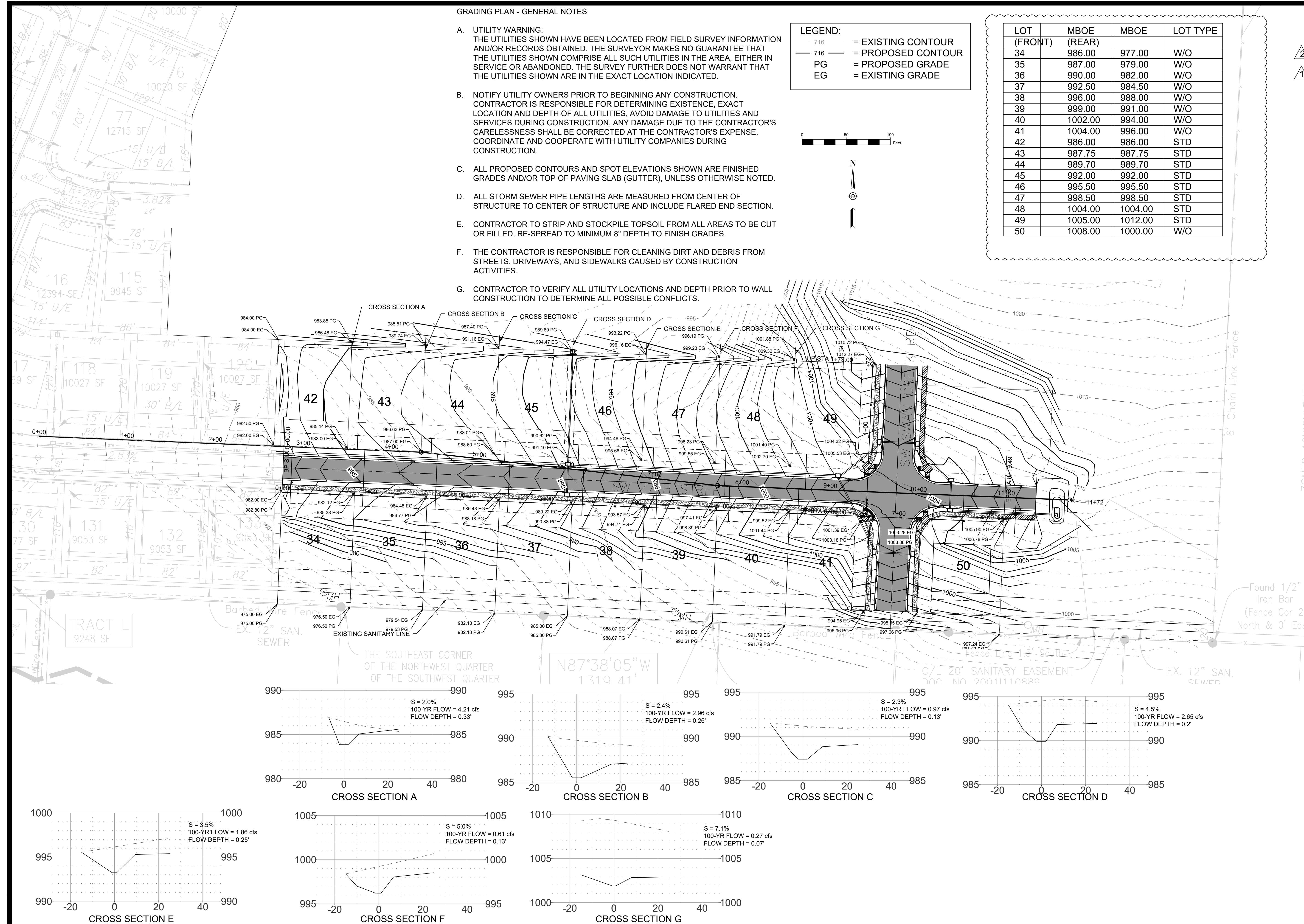
G. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND DEPTH PRIOR TO WALL CONSTRUCTION TO DETERMINE ALL POSSIBLE CONFLICTS.

LEGEND:

 716	= EXISTING CONTOUR
 716	= PROPOSED CONTOUR
PG	= PROPOSED GRADE
EG	= EXISTING GRADE



LOT (FRONT)	MBOE (REAR)	MBOE	LOT TYPE
34	986.00	977.00	W/O
35	987.00	979.00	W/O
36	990.00	982.00	W/O
37	992.50	984.50	W/O
38	996.00	988.00	W/O
39	999.00	991.00	W/O
40	1002.00	994.00	W/O
41	1004.00	996.00	W/O
42	986.00	986.00	STD
43	987.75	987.75	STD
44	989.70	989.70	STD
45	992.00	992.00	STD
46	995.50	995.50	STD
47	998.50	998.50	STD
48	1004.00	1004.00	STD
49	1005.00	1012.00	STD
50	1008.00	1000.00	W/O



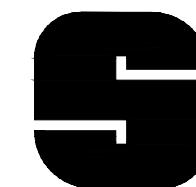
SHAWN DUKE - ENGINEER
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LEE'S SUMMIT, MO

WHISPERING WOODS 2ND PLAT STREET & STORM SEWER PLANS

MASTER DRAINAGE PLAN

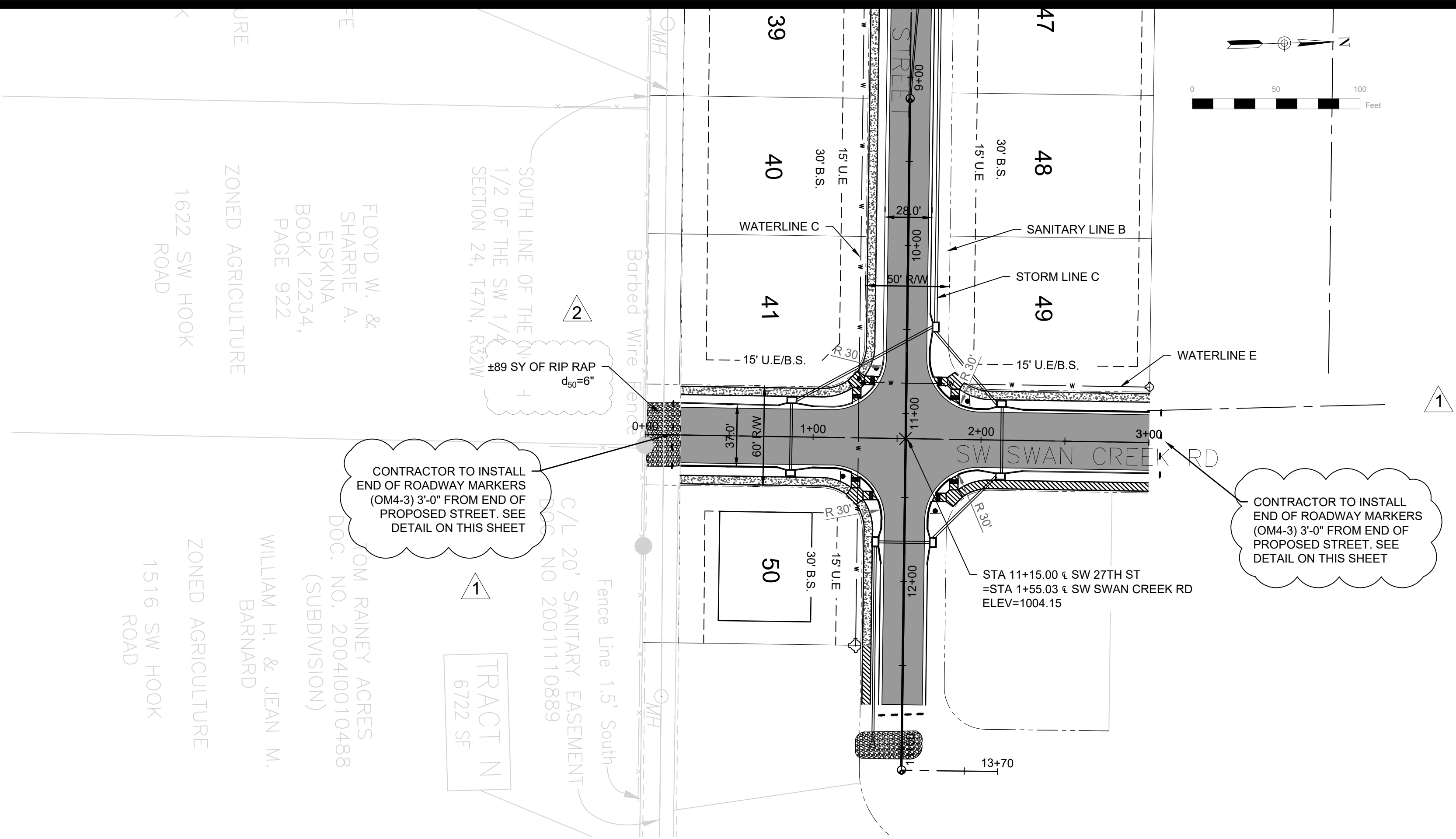
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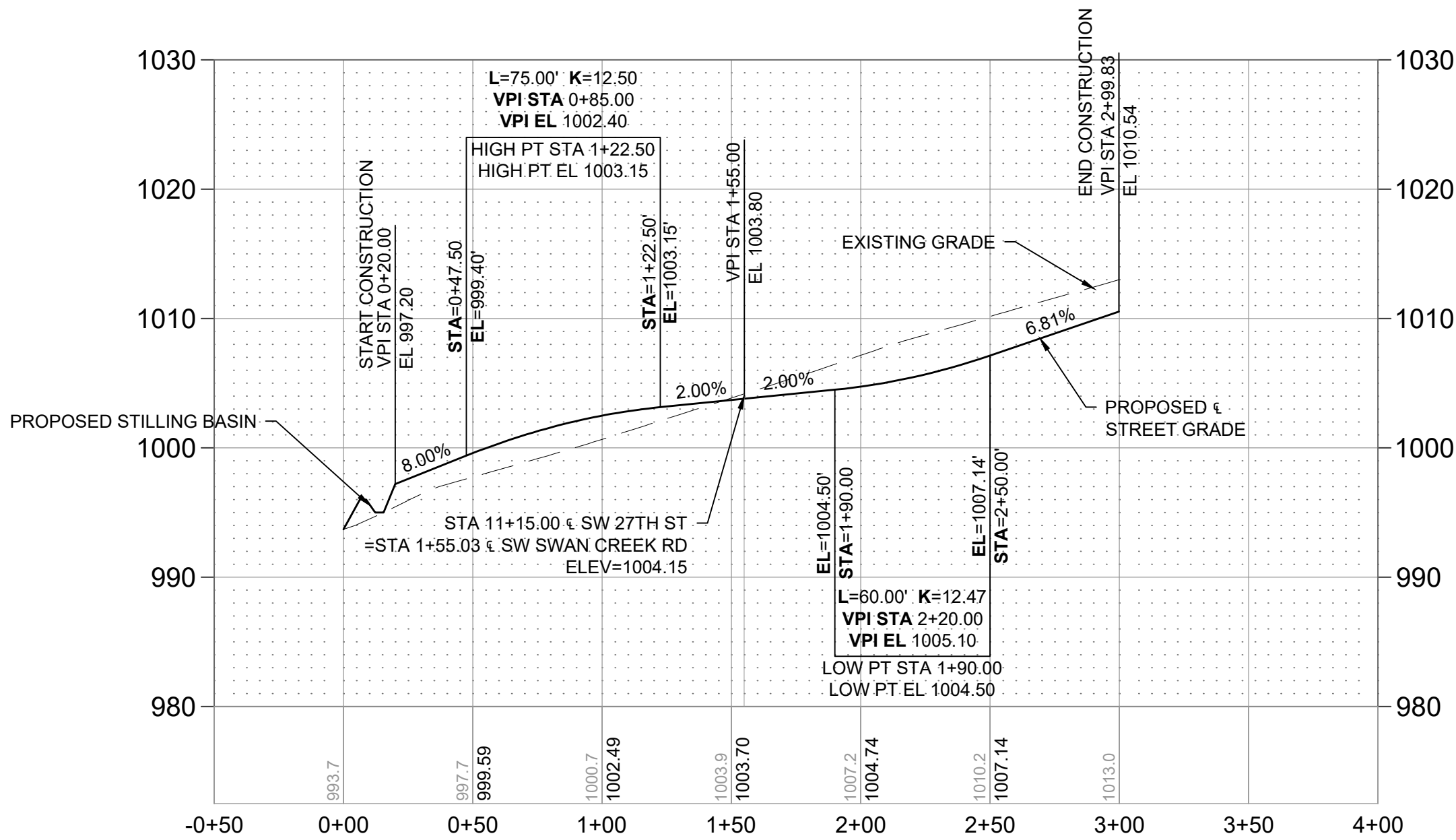
SNYDER
& ASSOCIATES

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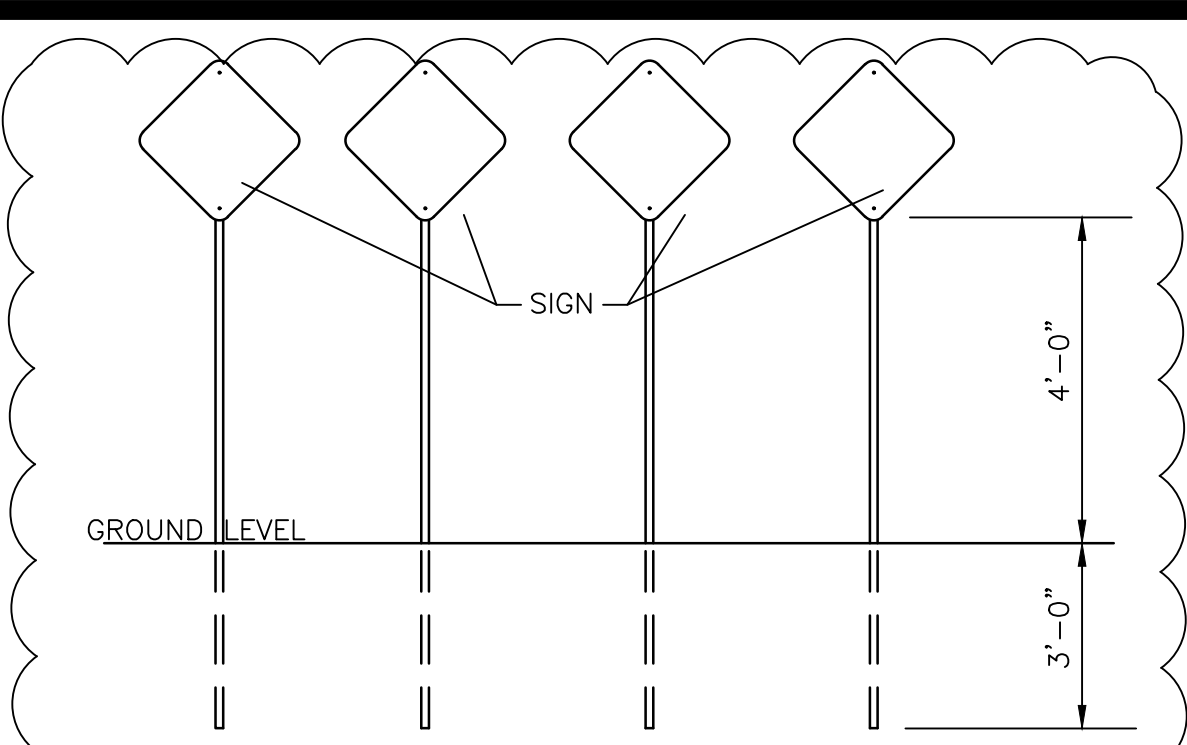
Sheet 5



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



SW SWAN CREEK ROAD PROFILE



NOTES:
THICKNESS OF FLAT SHEET FOR TYPE IV OBJECT MARKERS
SHALL BE 0.063" ON RED BACKGROUND.
4 REQUIRED AT 8" SPACING.

END OF ROAD SIGNAGE
N.T.S.

- LEGEND:
- [Solid Gray Box] = DENOTES ASPHALT PAVEMENT
 - [Hatched Box] = DENOTES 4" PCC SIDEWALK TO BE CONSTRUCTED
 - [Dotted Box] = DENOTES 4" PCC SIDEWALK TO BE CONSTRUCTED BY OTHERS
 - [Double Line] = DENOTES CURB AND GUTTER

REVISIONS TO SIDEWALK	SD	10/08/20
REVISIONS PER CITY COMMENTS	SD	09/08/20
MARK	REVISION	DATE
Engineer:	SD	Checked By: SD
Technician:	JS	Date: 7-28-20
Scale:	Field Bk:	1"= 50'
Snyder & Associates Engineers & Planners, Inc.	Missouri State Certificate of Authority #200008544	7

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLAN

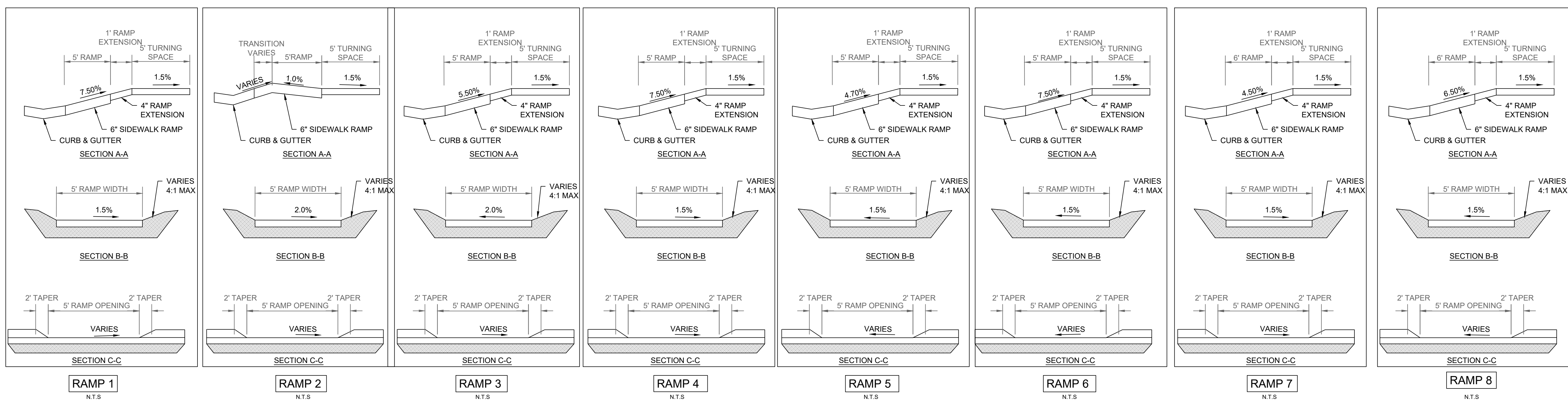
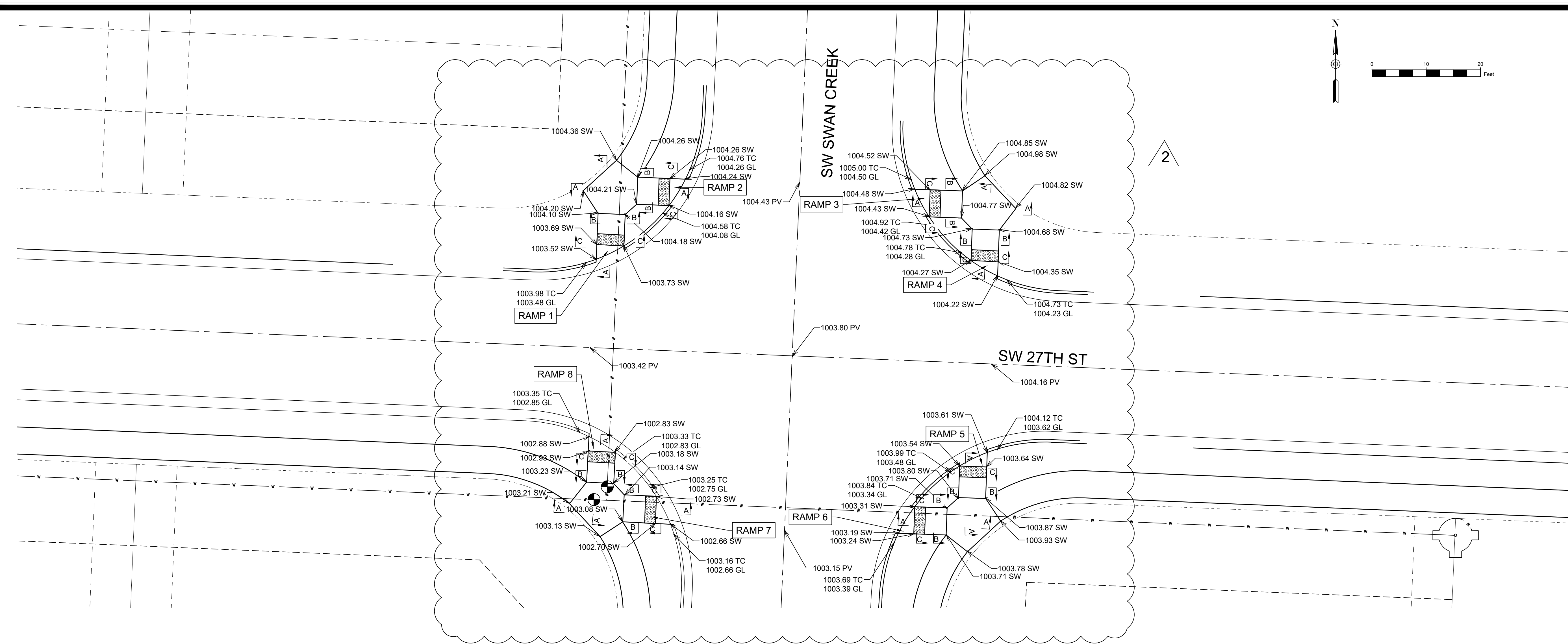
STREET PLAN & PROFILE

LEE'S SUMMIT, MO

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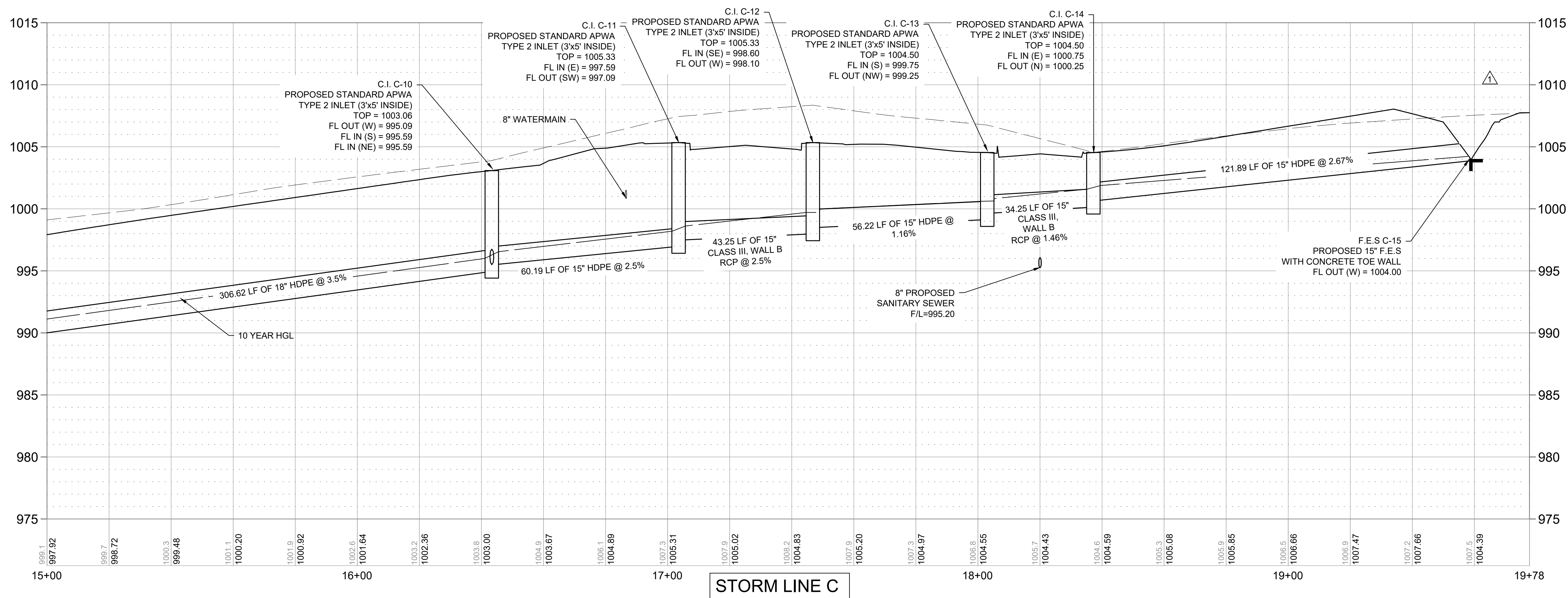
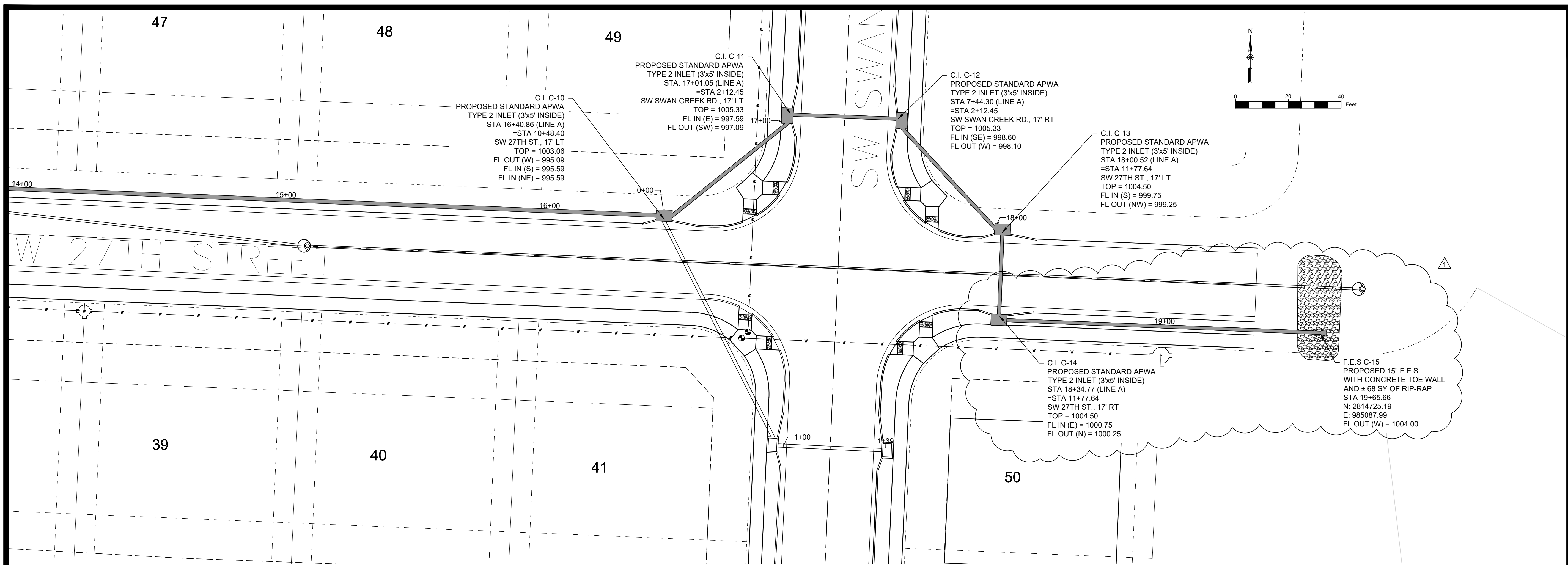
REVISION TO CURB WINGS	SD	BY
2	10/14/20	DATE
REVISION	SD	BY
Engineer: JS	Checked By: SD	Scale: 1"= 10'
Technician: JS	Date: 7-28-20	Field Bk: Pg: 8

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MARK	REVISION	DATE	BY
1	REVISED STORM PIPE NETWORK	DATE	BY
2	REVISION	DATE	BY
3	REVISION	DATE	BY
4	REVISION	DATE	BY
5	REVISION	DATE	BY
6	REVISION	DATE	BY
7	REVISION	DATE	BY
8	REVISION	DATE	BY
9	REVISION	DATE	BY
10	REVISION	DATE	BY

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MO PE#2013006489

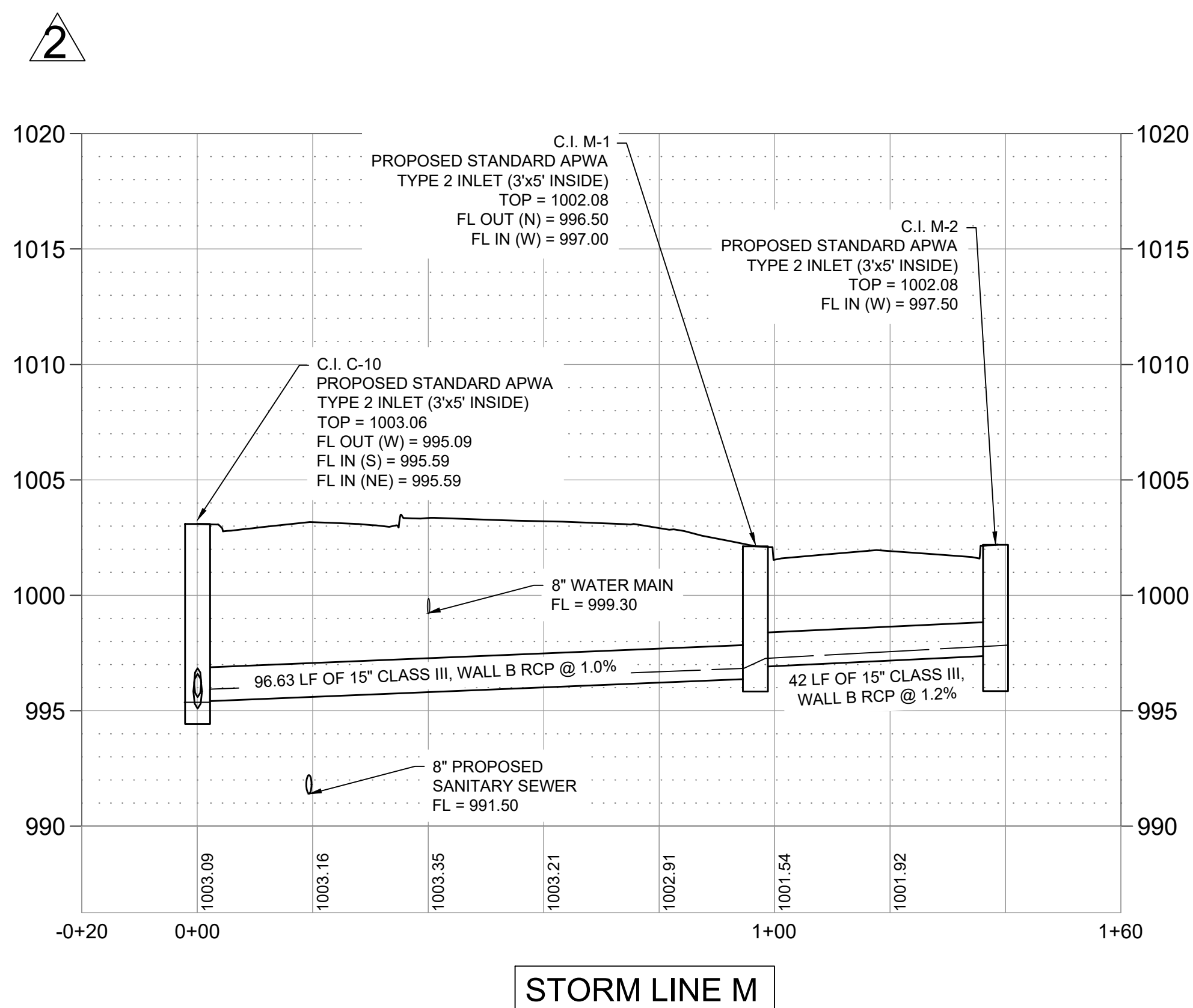
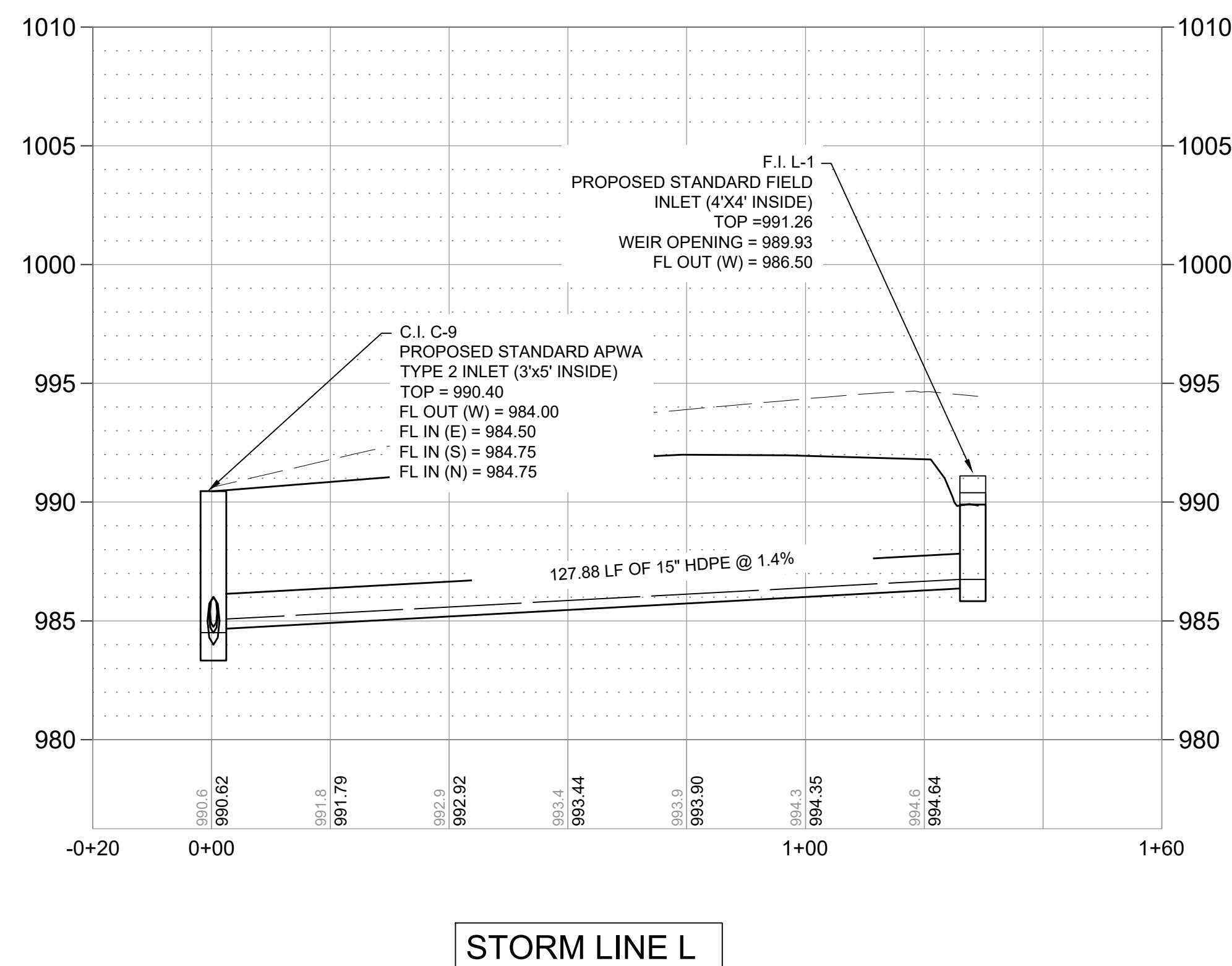
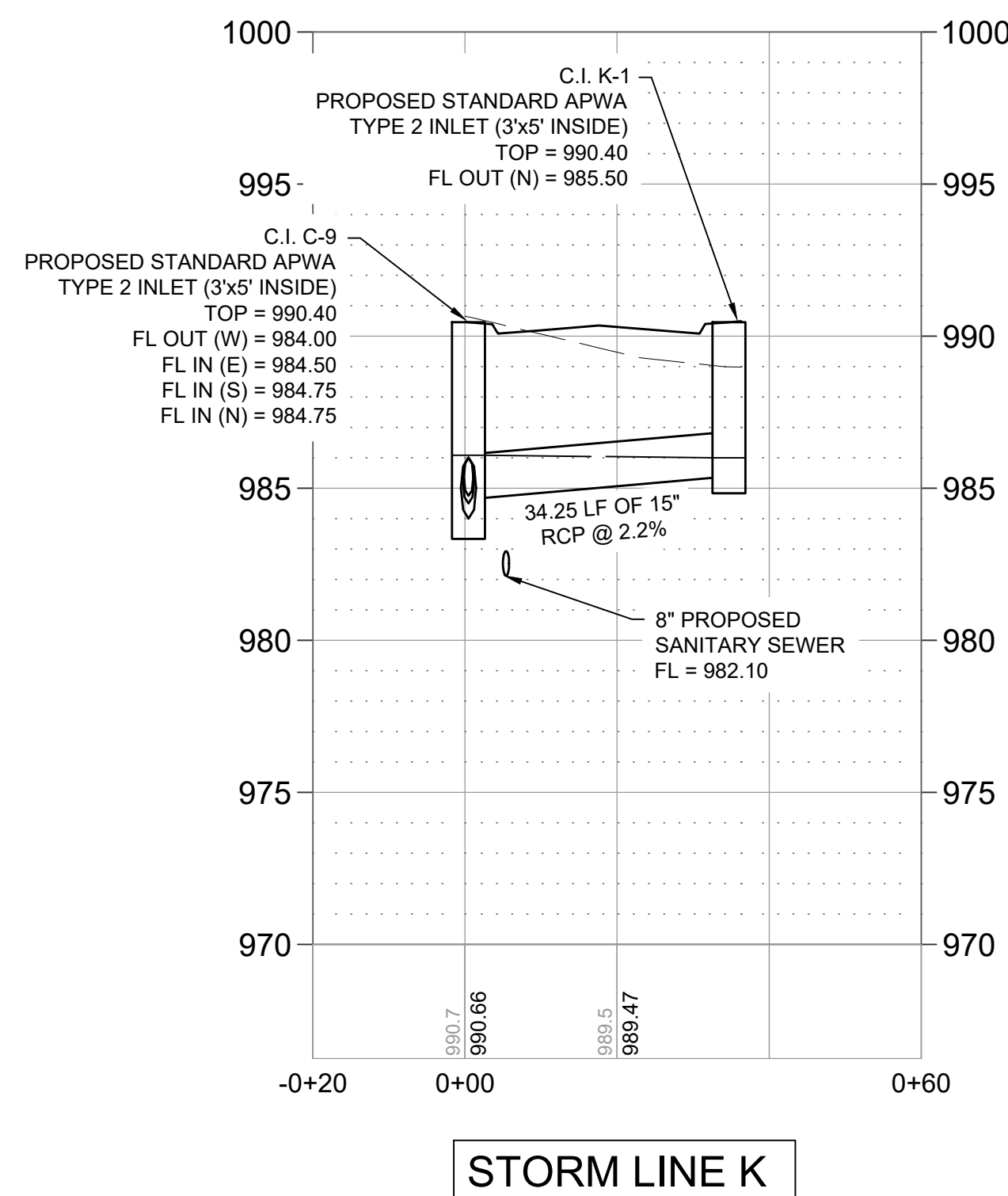
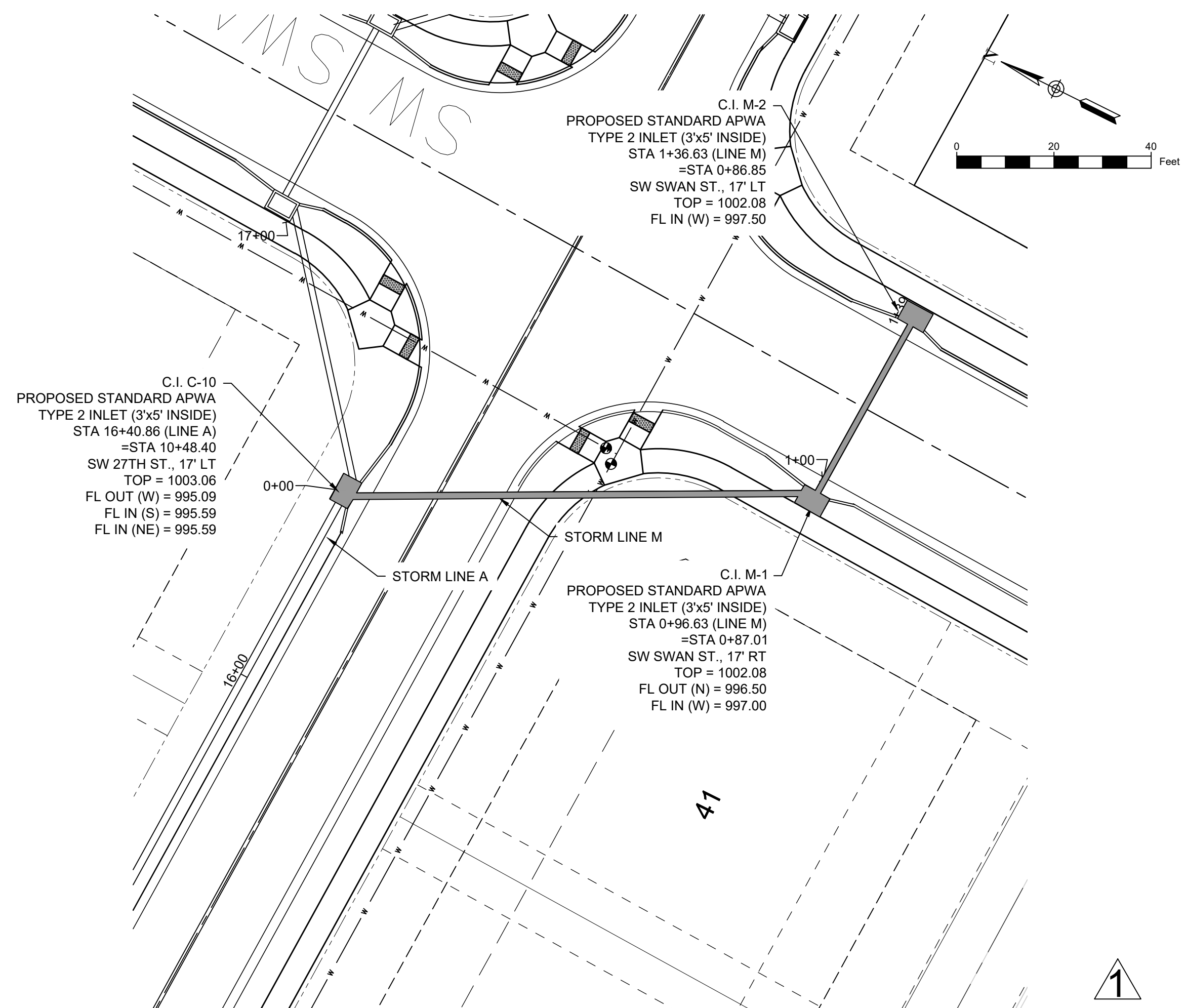
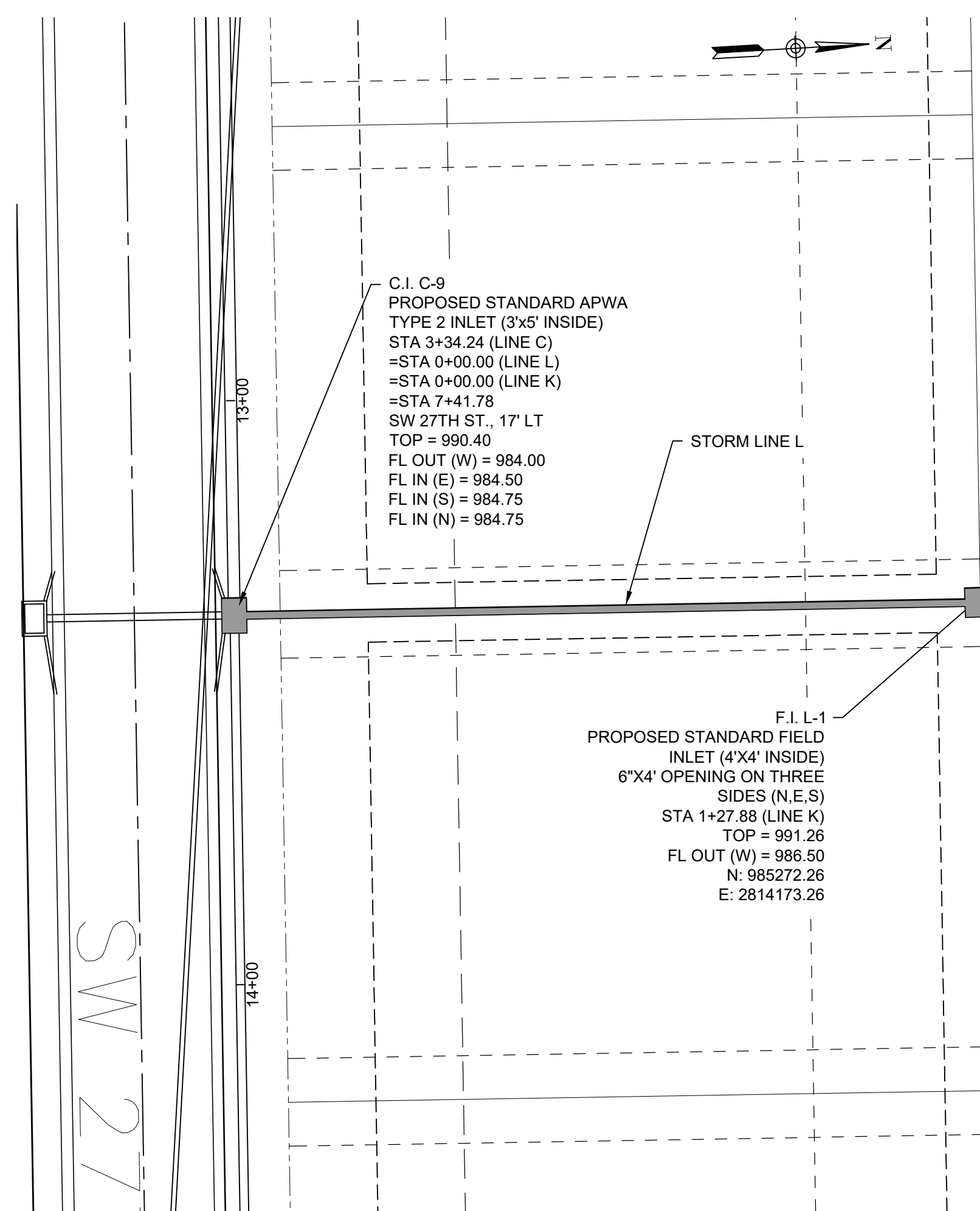
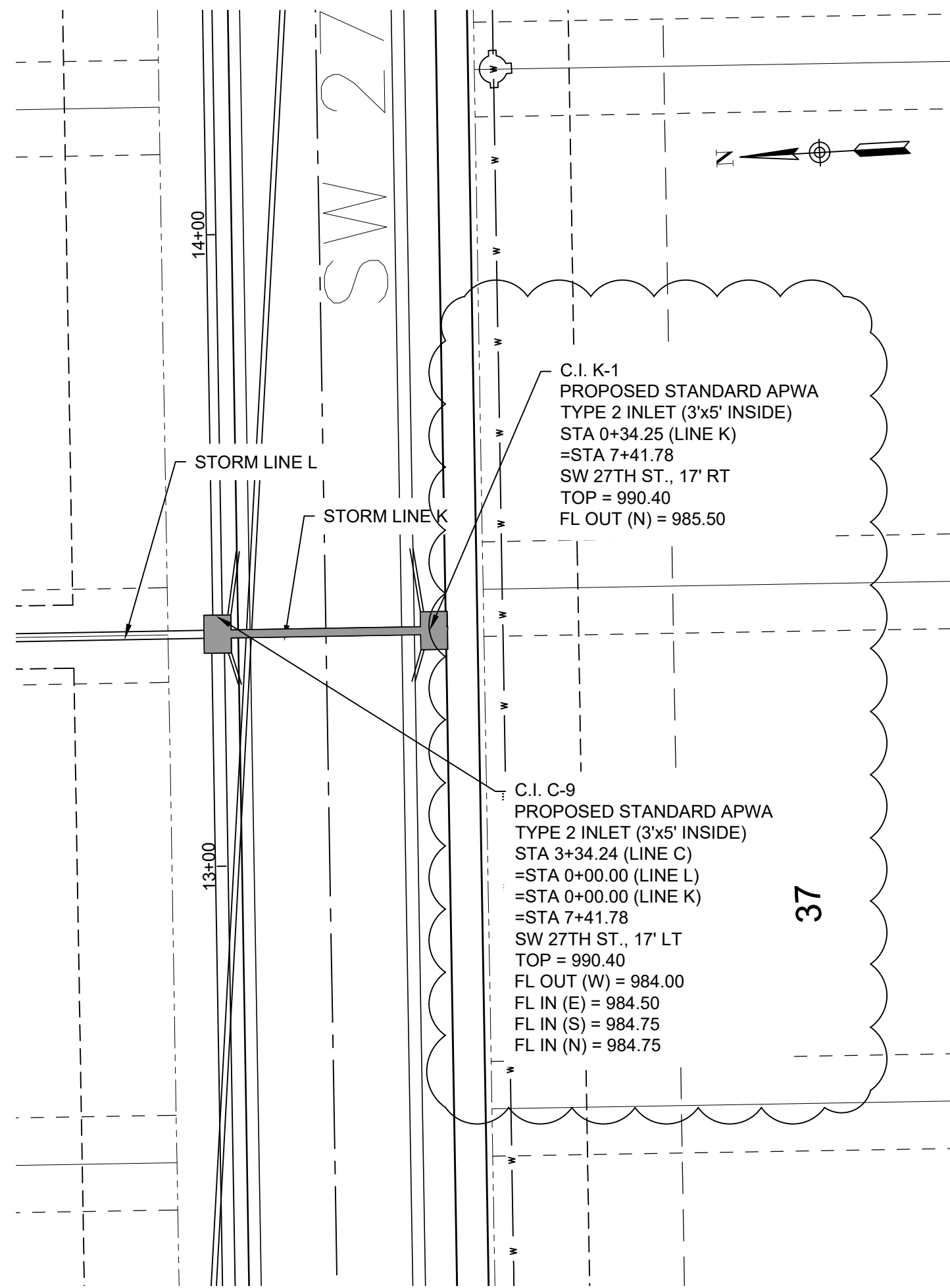
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WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS
STORM PLAN & PROFILE
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Project No: 1200484.11

Sheet 10



WHISPERING WOODS 2ND PLAT STREET & STORM SEWER PLANS

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Sheet 11

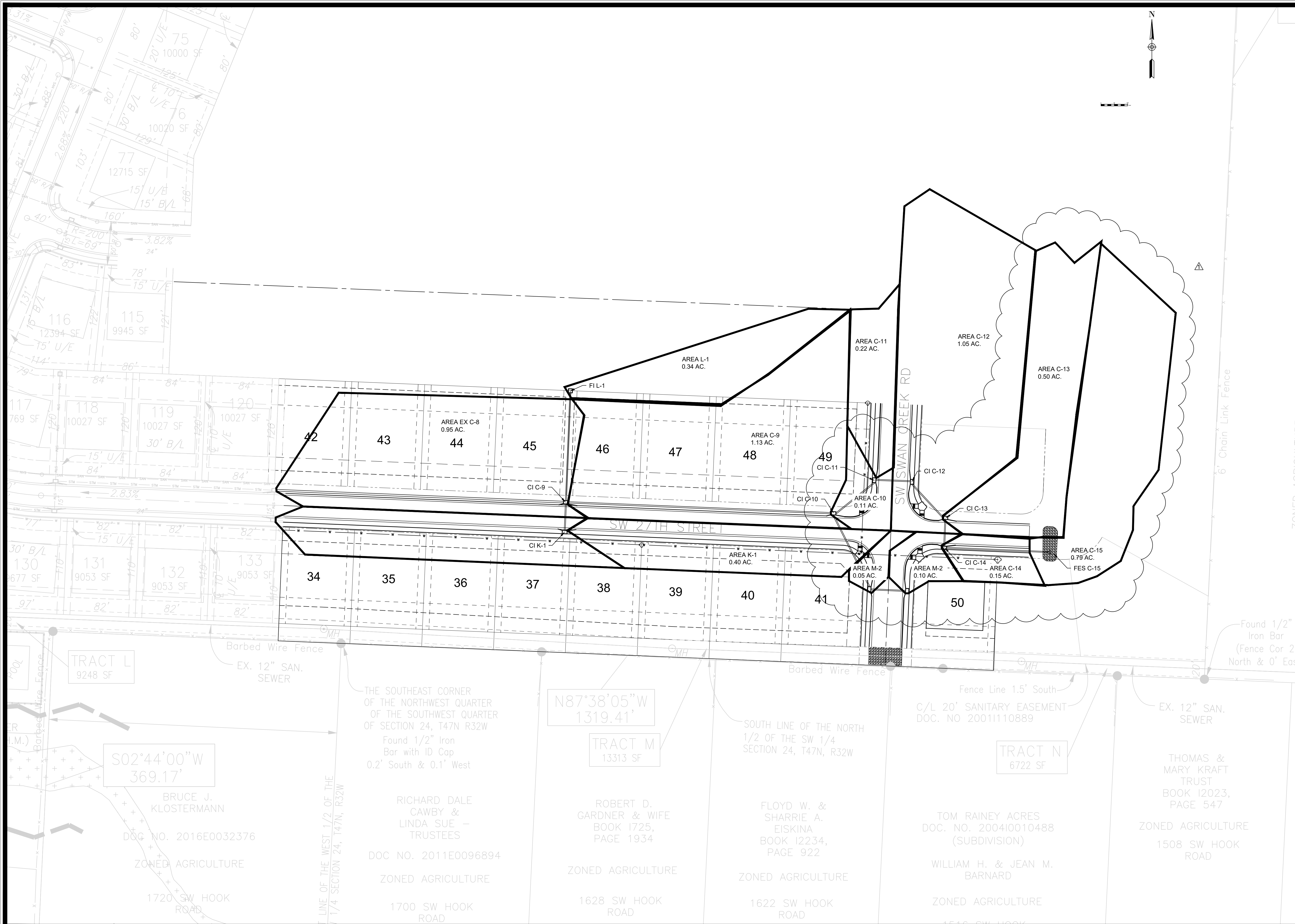
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MO PE#2013006489



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REVISIONS		DATE	BY
9/4/20		9/4/20	JS
REVISION		DATE	BY
SD		SD	JS
Engineer:	Checked By:	Date:	Field Bk:
JS	JS	7-28-20	
Technician:			Pg:
Snyder & Associates Engineers & Planners, Inc.			Sheet
Missouri State Certificate of Authority #200006544			12

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 2ND PHASE
SANITARY SEWER PLANS

DRAINAGE AREAS

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Project No: 1200484.11

Sheet 12

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	6.957	1.13	4.29	2.018	6.957	14.15	14.15	49.25	13.54	984	970.5	0.04	985.36
C10-C9	CI C-10	CI C-9	306.6	7.111	0.11	0.42	1.112	7.111	7.97	7.97	21.15	11.13	995.09	984.5	0.035	996.18
C11-C10	CI C-11	CI C-10	60.2	7.228	0.22	0.84	0.899	7.228	6.55	6.55	11.05	9.38	997.09	995.59	0.025	998.12
C12-C11	CI C-12	CI C-11	43.3	7.273	1.05	3.99	0.787	7.273	5.77	5.77	7.01	6.38	998.1	997.59	0.012	999.07
C13-C12	CI C-13	CI C-12	56.2	7.34	0.5	1.9	0.331	7.34	2.45	2.45	7.52	5.48	999.25	998.6	0.012	999.88
C14-C13	CI C-14	CI C-13	34.3	7.392	0.15	0.57	0.076	7.392	0.57	0.57	7.8	3.71	1000.25	999.75	0.015	1000.54
C15-C14	CI C-15	CI C-14	119	7.392	0.79	0	0	7.392	0	0	11.56	0	1004	1000.75	0.027	1004
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
M1-C10	CI M-1	CI C-10	96.6	7.31	0.05	0.19	0.076	7.31	0.56	0.56	6.27	3.17	996.5	995.59	0.009	996.79
M2-M1	CI M-2	CI M-1	42	7.392	0.1	0.38	0.051	7.392	0.38	0.38	7.05	3.06	997.5	997	0.012	997.74

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 C-8	334.2	9.972	1.13	5.93	1.98	9.972	19.91	19.91	49.25	14.84	984	970.5	0.04	985.6
C10-C9	CI C-10	CI C-9	306.6	10.07	0.11	0.58	1.112	10.07	11.29	11.29	21.15	12.16	995.09	984.5	0.035	996.37
C11-C10	CI C-11	CI C-10	60.2	10.121	0.22	1.15	0.861	10.121	8.79	8.79	11.05	9.99	997.09	995.59	0.025	998.24
C12-C11	CI C-12	CI C-11	43.3	10.144	1.05	5.51	0.749	10.144	7.66	7.66	7.01	6.24	998.1	997.59	0.012	999.29
C13-C12	CI C-13	CI C-12	56.2	10.176	0.5	2.62	0.331	10.176	3.4	3.4	7.52	5.98	999.25	998.6	0.012	999.99
C14-C13	CI C-14	CI C-13	34.3	10.2	0.15	0.79	0.076	10.2	0.79	0.79	7.8	4.08	1000.25	999.75	0.015	1000.6
C15-C14	CI C-15	CI C-14	119	10.2	0.79	0	0	10.2	0	0	11.56	0	1004	1000.75	0.027	1004
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	985.5	984.75	0.022	986.08
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
M1-C10	CI M-1	CI C-10	96.6	10.162	0.05	0.26	0.076	10.162	0.78	0.78	6.27	3.48	996.5	995.59	0.009	996.85
M2-M1	CI M-2	CI M-1	42	10.2	0.1	0.52	0.051	10.2	0.52	0.52	7.05	3.37	997.5	997	0.012	997.78

Inlet	Drainage Area	Inlet C	Intensity	Q	Ku	n	SX	SL	T= Spread
	Ac		in/h	cfs			ft/ft	ft/ft	ft
EX C-8	0.95	0.51	7.35	3.6	0.56	0.012	2	1.5	9.70
C-9	1.13	0.51	7.35	4.2	0.56	0.012	2	3.9	8.66
C-10	0.11	0.51	7.35	0.4	0.56	0.012	2	2	4.10
C-11	0.22	0.51	7.35	0.8	0.56	0.012	2	5.3	4.42
C-12	1.05	0.51	7.35	3.9	0.56	0.012	2	5.3	7.95
C-13	0.50	0.51	7.35	1.9	0.56	0.012	2	1	8.23
C-14	0.15	0.51	7.35	0.6	0.56	0.012	2	1	5.24
K-1	0.40	0.51	7.35	1.5	0.56	0.012	2	5	5.60
M-1	0.05	0.51	7.35	0.2	0.56	0.012	2	5	2.57
M-2	0.10	0.51	7.35	0.4	0.56	0.012	2	5	3.33

WHISPERING WOODS 2ND PLAT SANITARY SEWER PLANS

DRAINAGE TABLES

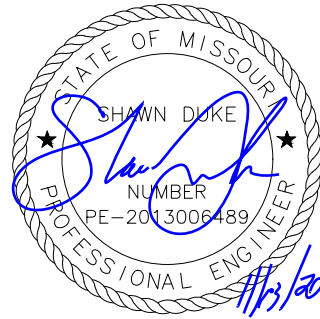
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816-364-5222

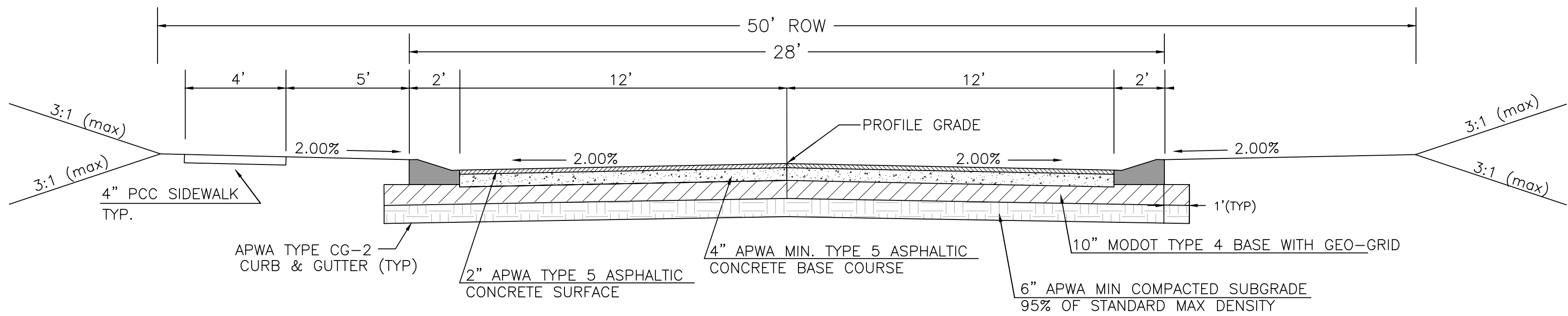
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MO PE#2013006489

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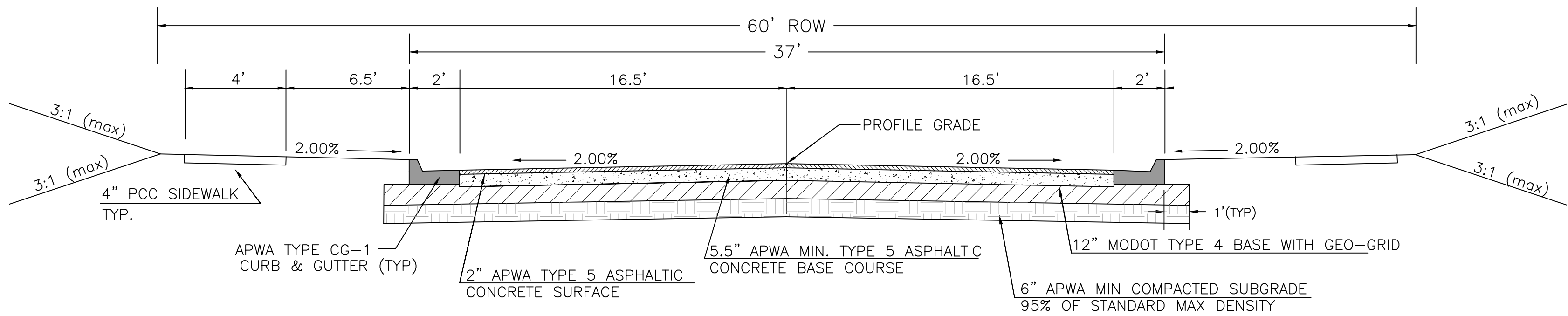
Project No: 1200484.11

Sheet 13



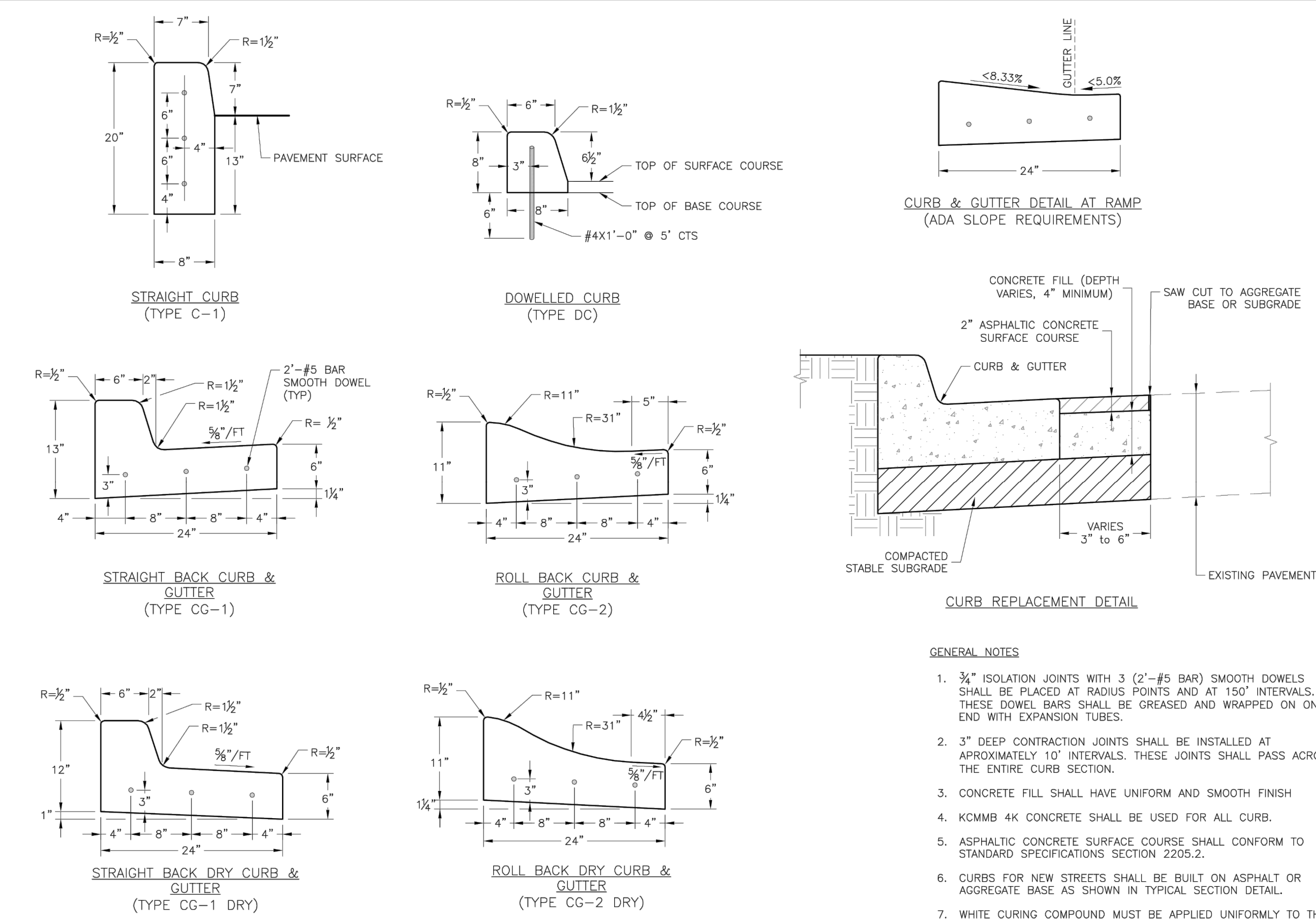
TYPICAL SECTION RESIDENTIAL LOCAL ACCESS

NOT TO SCALE
SW 27TH STREET



TYPICAL SECTION RESIDENTIAL COLLECTOR

NOT TO SCALE
SW SWAN CREEK RD



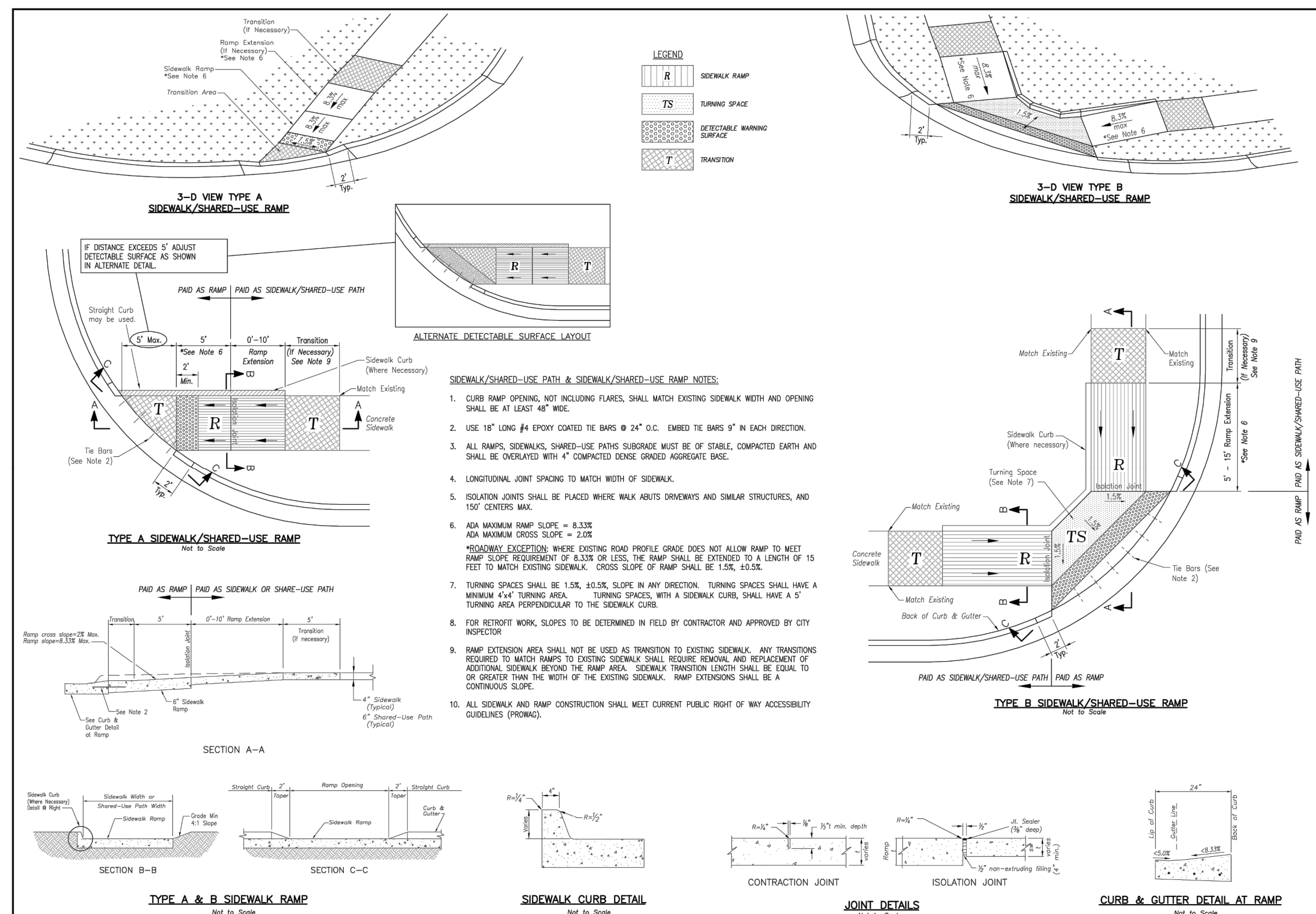
- GENERAL NOTES**
- 3/4" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
 - 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
 - CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
 - KCMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
 - ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
 - CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
 - WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

LEE'S SUMMIT
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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

Drawn By: MJP
Checked By: JLS
Date: 04/15
Proj. #: GEN-4

GEN-4



- SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:**
- CURB RAMP OPENINGS, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
 - USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED THE BARS 9" IN EACH DIRECTION.
 - ALL RAMP, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAPPED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
 - LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
 - ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTER MAX.
 - ADA MAXIMUM RAMP SLOPE = 8.33%
ADA MAXIMUM CROSS SLOPE = 2.0%
 - *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.0%, ±0.5%.
 - TURNING SPACES SHALL BE 1.0%, ±0.5% SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'-4" TURNING AREA. TURNING SPACES WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
 - FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
 - RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMP TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
 - ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (FROWAG).

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STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
ADA RAMP RETROFIT DETAIL

Drawn By: MJP
Checked By: JLS
Date: 04/15
Proj. #: GEN-3A

GEN-3A

WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

STREET & STORM DETAILS

LEE'S SUMMIT, MO

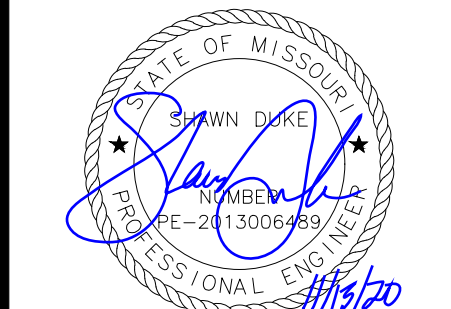
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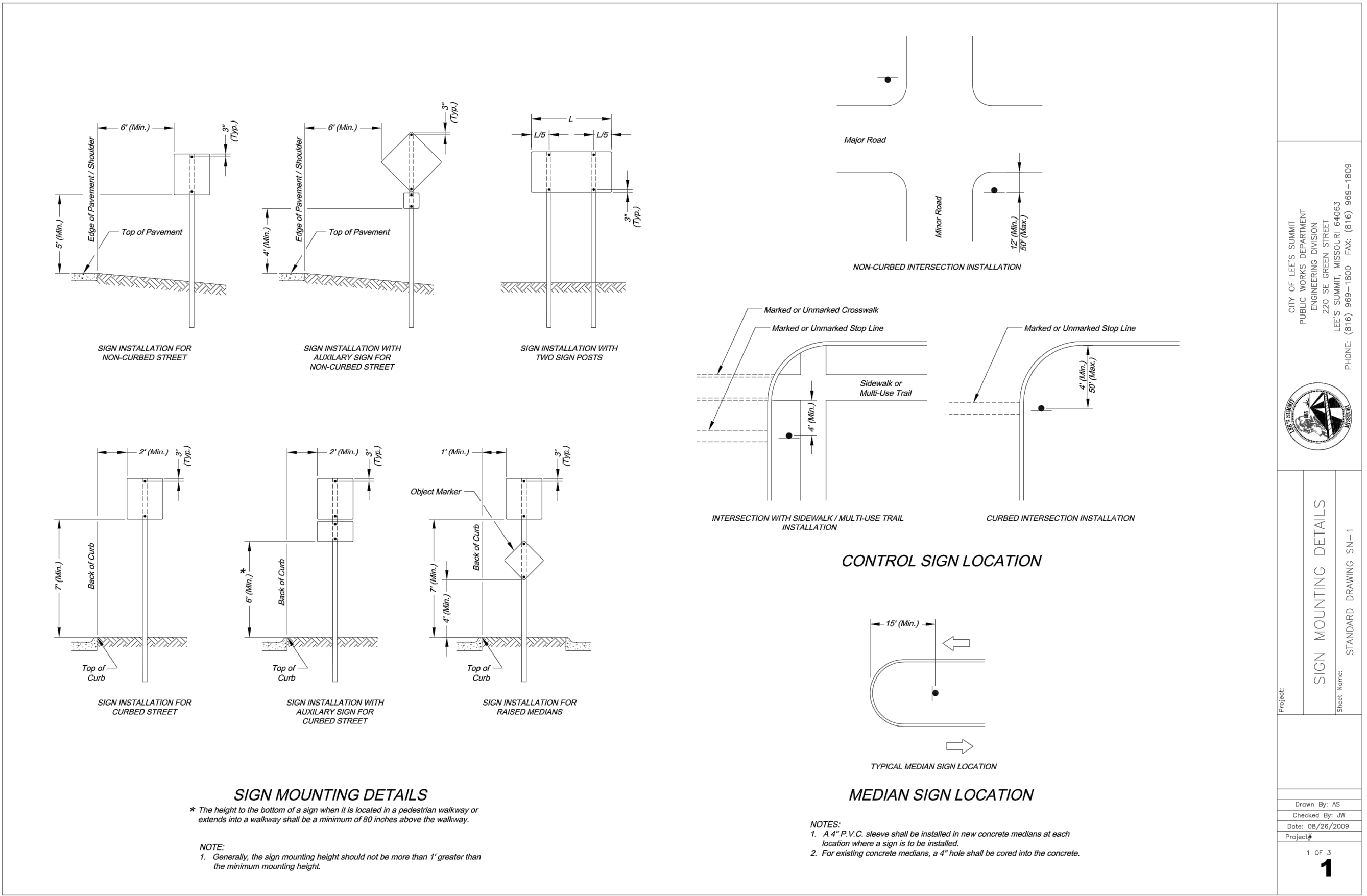
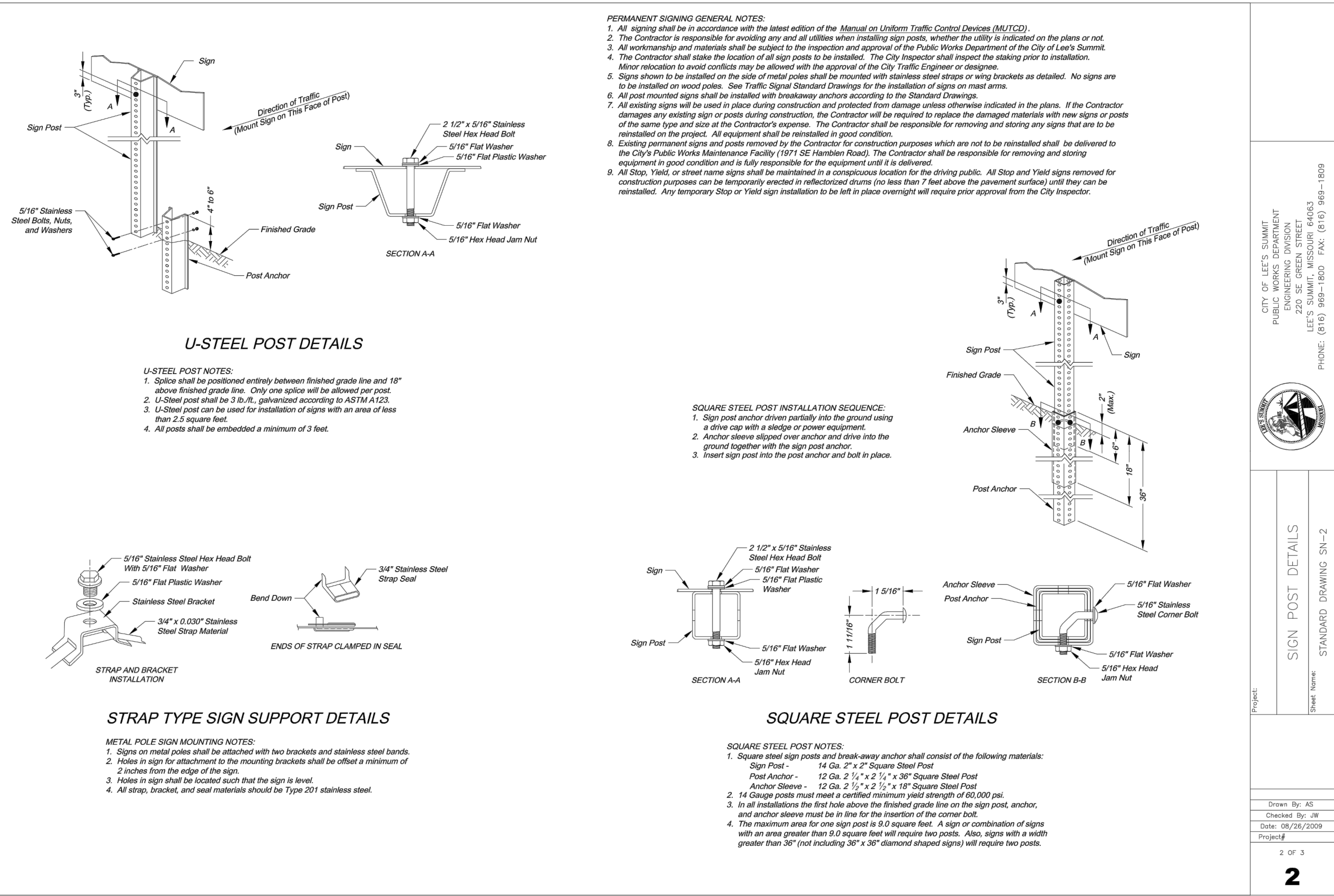
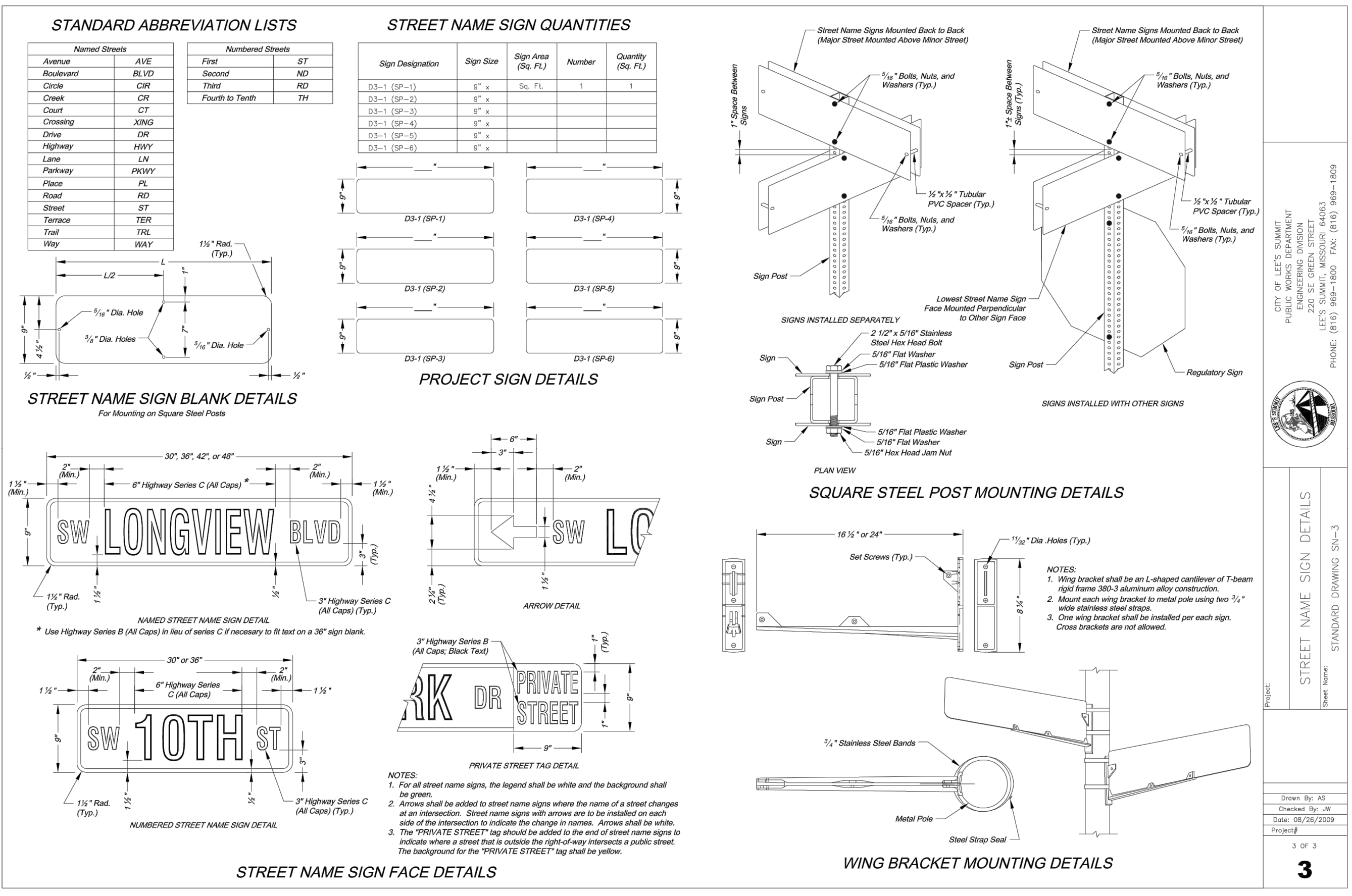
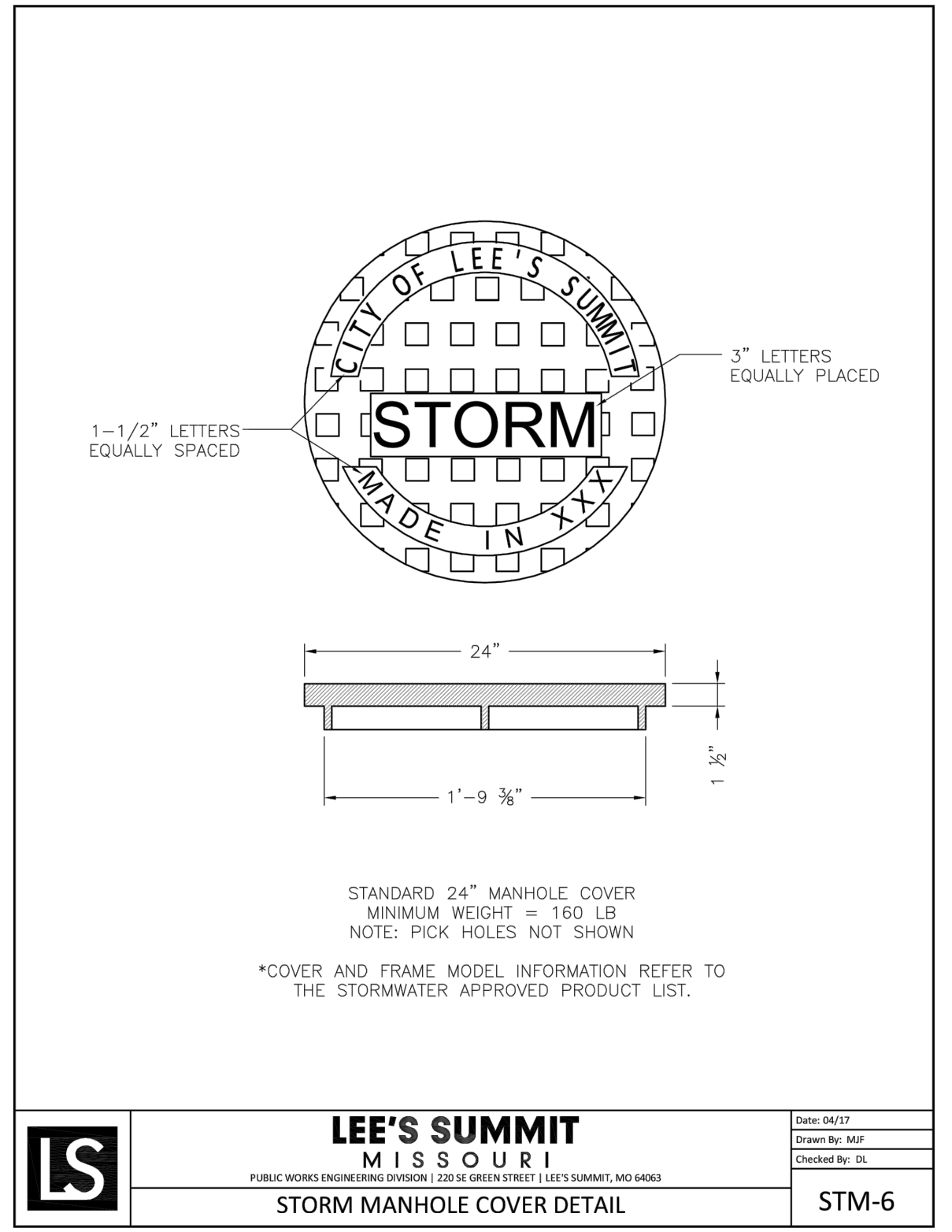
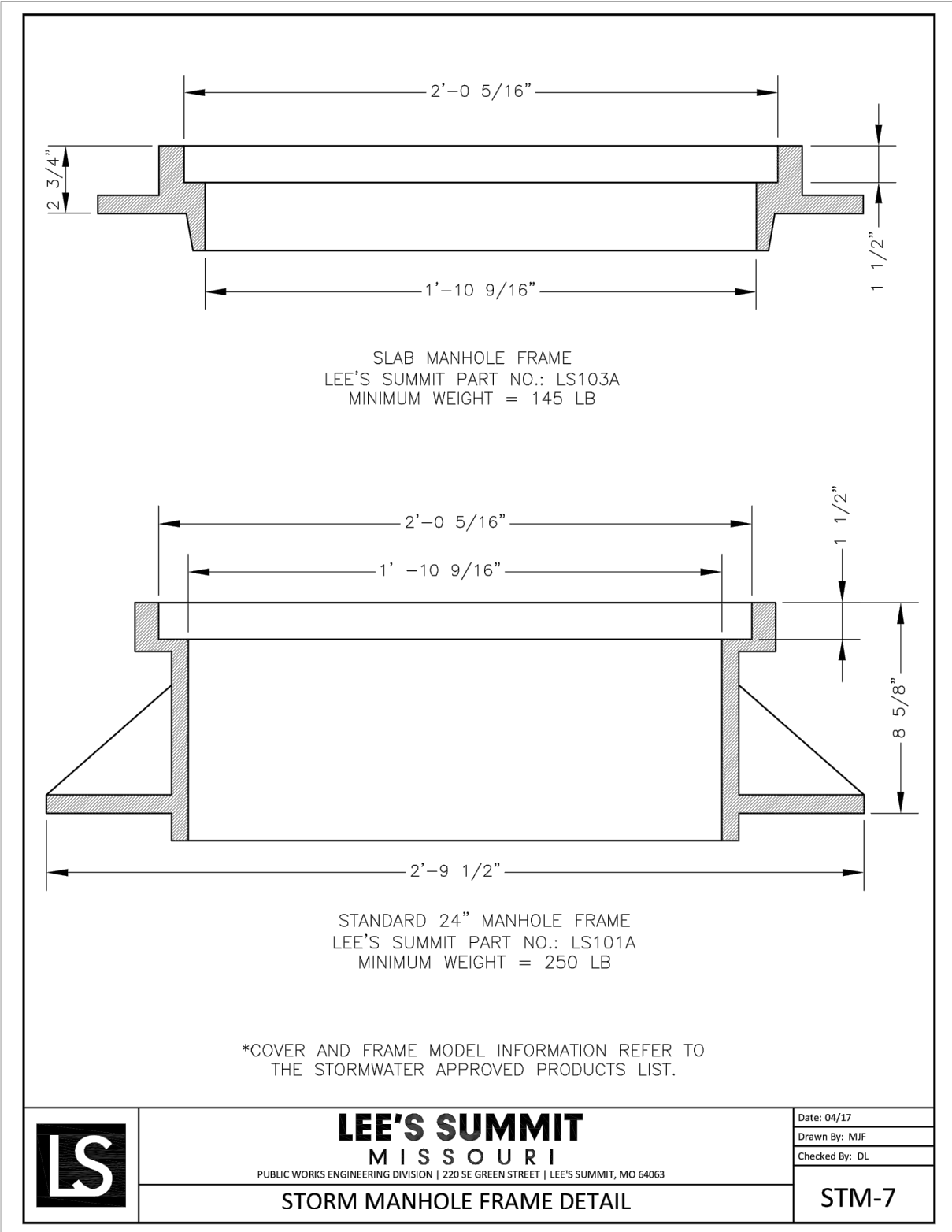
Project No: 1200484.11

Sheet 14



SHAWN DUKE - ENGINEER
MO PE#2013006489

REVISION TO TYPICAL SECTIONS	DATE	BY	SD
1	09/08/20	DATE	SD
MARK	REVISION	1"= N/A	
Engineer: SD	Checked By: SD	Scale:	
Technician: JS	Date: 7-28-20	Field Bk:	
Snyder & Associates Engineers & Planners, Inc. Missouri State Certificate of Authority #200000544			
Sheet 14			



WHISPERING WOODS 2ND PLAT
STREET & STORM SEWER PLANS

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