

STREET, STORM, DRAINAGE  
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

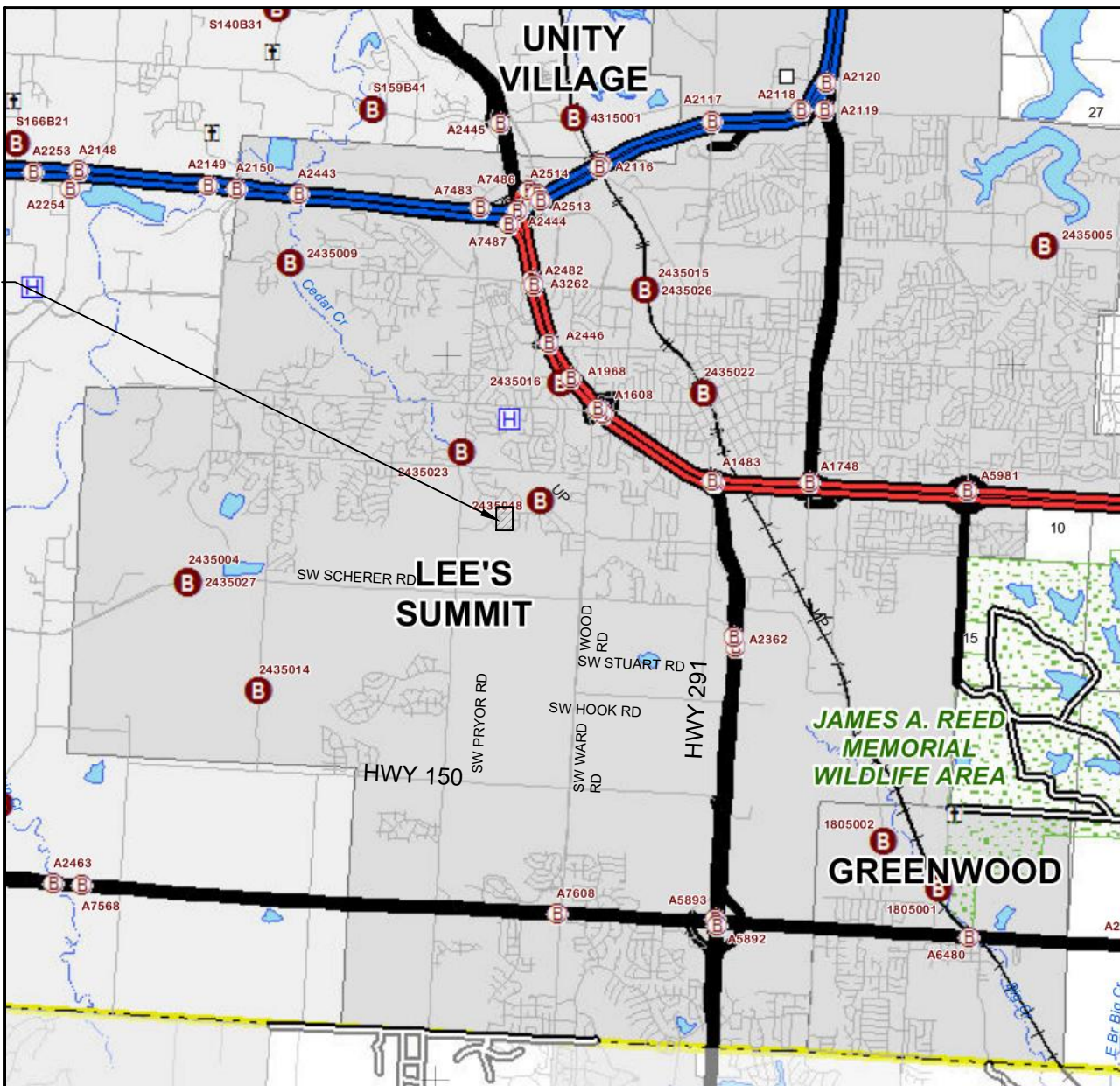
PART OF THE SOUTHWEST QUARTER OF SECTION 24, TOWNSHIP 47 NORTH,  
RANGE 32 WEST, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, BEING  
DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF  
THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION  
24; THENCE N87°38'05"W, ALONG THE SOUTH LINE 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 8,040 CY / FILL 8080 CY)	CY	8,080	
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	
Rip-Rap	SY	136	
ADA Curb Ramps	EA	8	
Type IV Object Markers	EA	9	
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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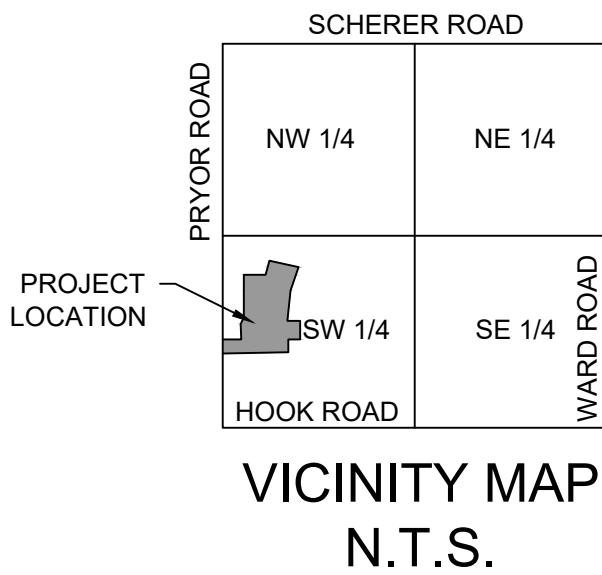
APPROVED:

City Engineer

Date

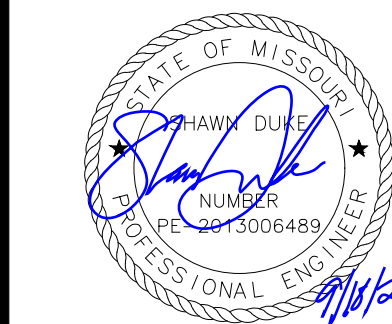
DEVELOPER:

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



VICINITY MAP  
N.T.S.

REVISION	DATE	BY
1	9/4/20	BY
2	10/1/20	BY
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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:

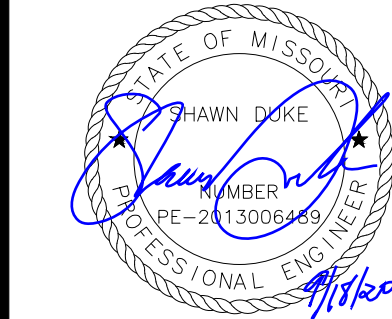
- REFER TO THE CURRENT VERSION OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION (D&C) MANUAL FOR CONSTRUCTION OF THESE PLANS.
- ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
- LINEAL FOOT MEASUREMENTS 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

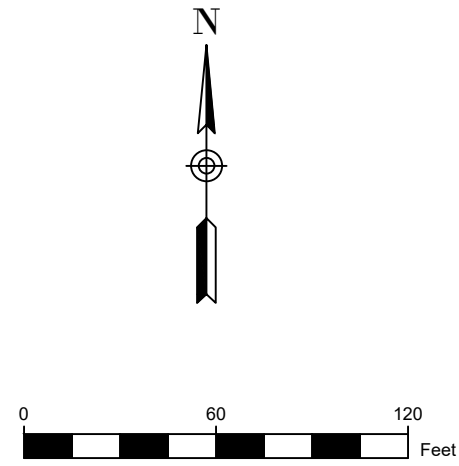
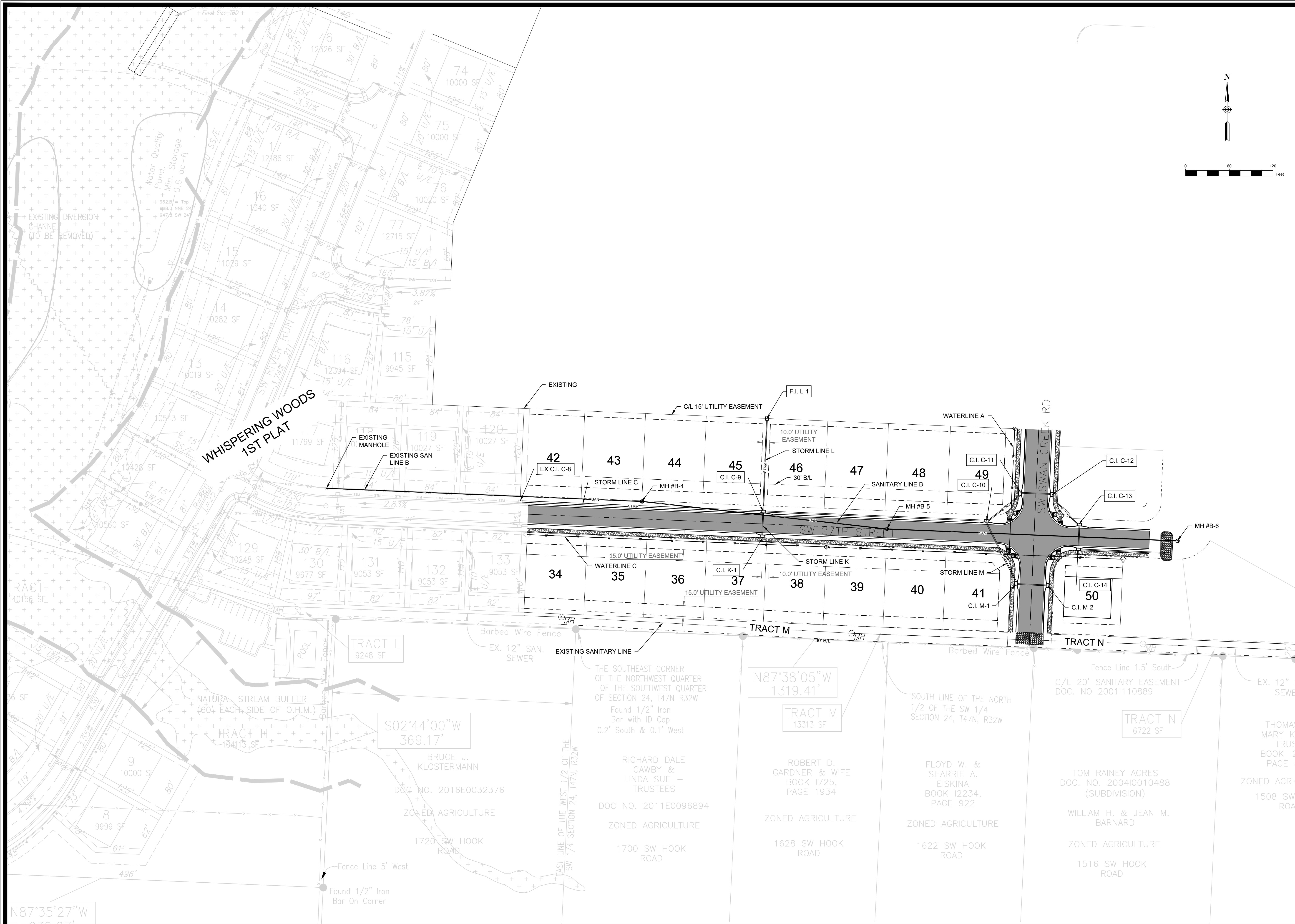
GENERAL NOTES

**SNYDER & ASSOCIATES**  
ENGINEERS & PLANNERS, INC.  
www.snyder-associates.com



Project No: 1200484.11

Sheet 2



MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1"= 60'	
Technician: JS	Date: 7-28-20	Field Bk:	
Snyder & Associates Engineers & Planners, Inc.			Sheet 3
Missouri State Certificate of Authority #200006544			

SHAWN DUKE - ENGINEER  
MO PE#2013006489

WHISPERING WOODS 2ND PLAT  
STREET & STORM SEWER PLANS

SITE LAYOUT

LEE'S SUMMIT, MO

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

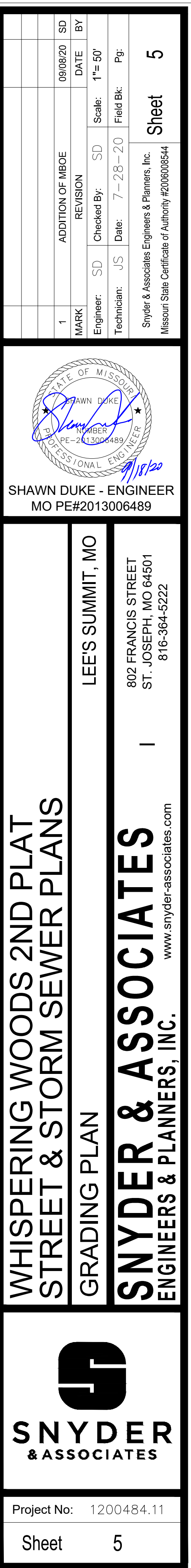
www.snyder-associates.com

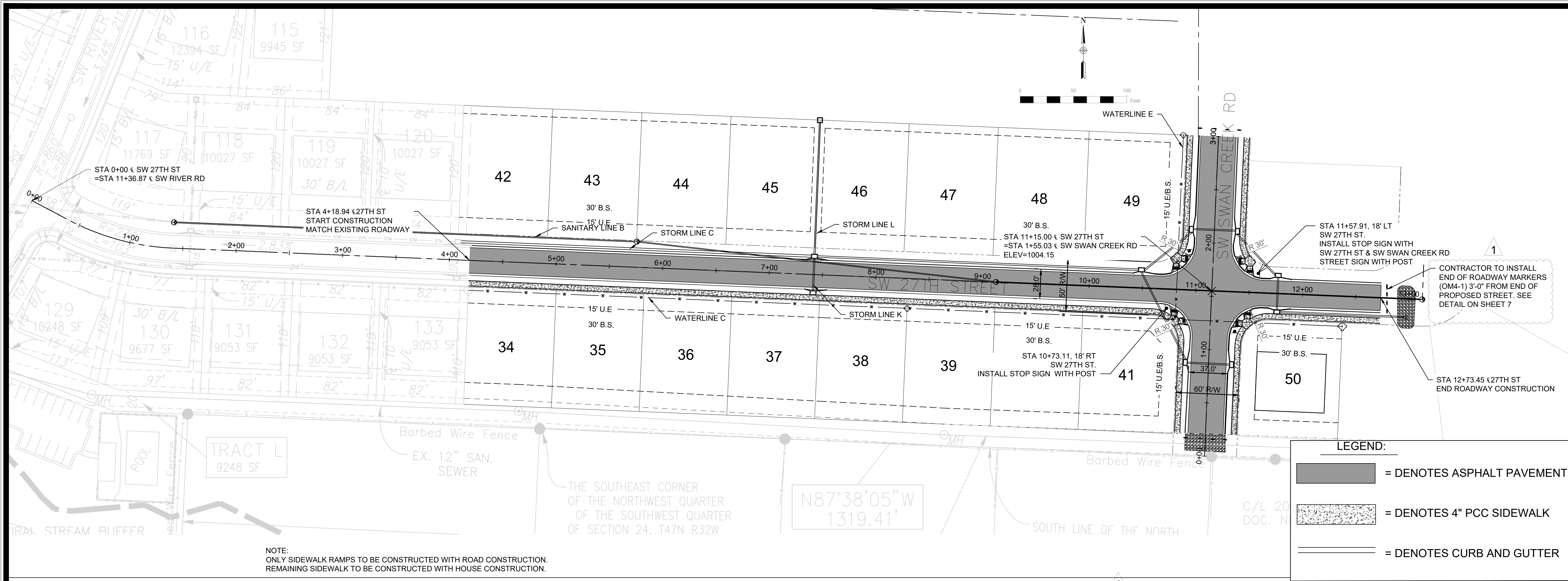
**SNYDER & ASSOCIATES**  
ENGINEERS & PLANNERS, INC.

Project No: 1200484.11

Sheet 3



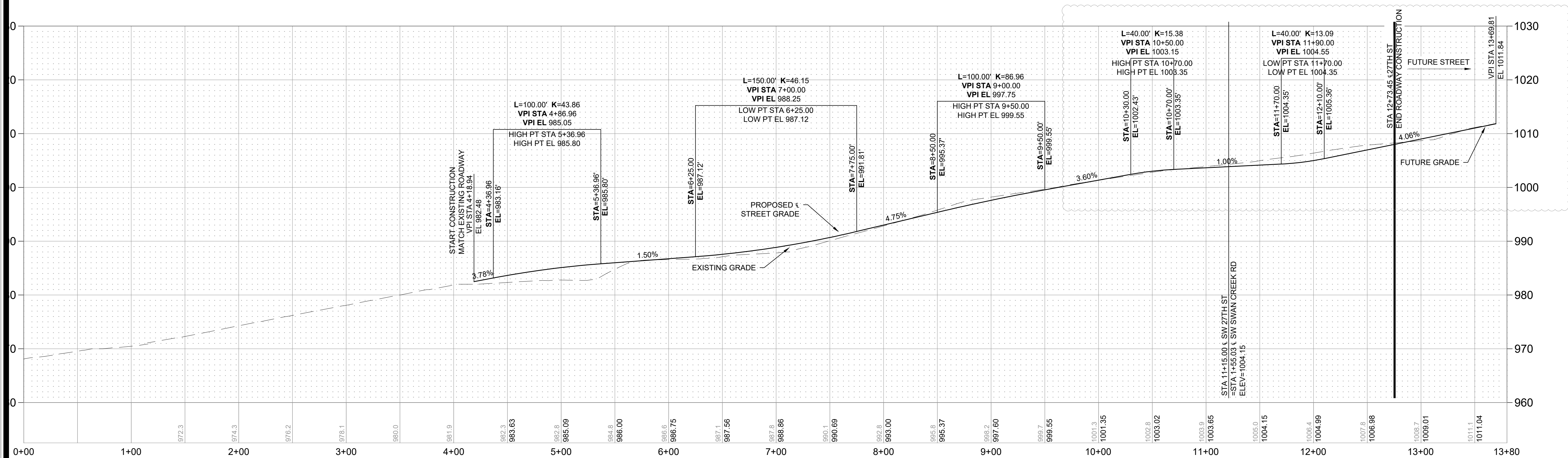




NOTE:  
ONLY SIDEWALK RAMPS TO BE CONSTRUCTED WITH ROAD CONSTRUCTION.  
REMAINING SIDEWALK TO BE CONSTRUCTED WITH HOUSE CONSTRUCTION.

LEGEND:

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



SW 27TH ST PROFILE  
(DESIGN SPEED=25MPH)

REVISIONS PER CITY COMMENTS	SD	BY
1	09/08/20	DATE
MARK	REVISION	DATE
Engineer: SD	Checked By: SD	Scale: 1"= 50'
Technician: JS	Date: 7-28-20	Field Bk: Pg:
Snyder & Associates Engineers & Planners, Inc. Missouri State Certificate of Authority #200006544		
Sheet 6		

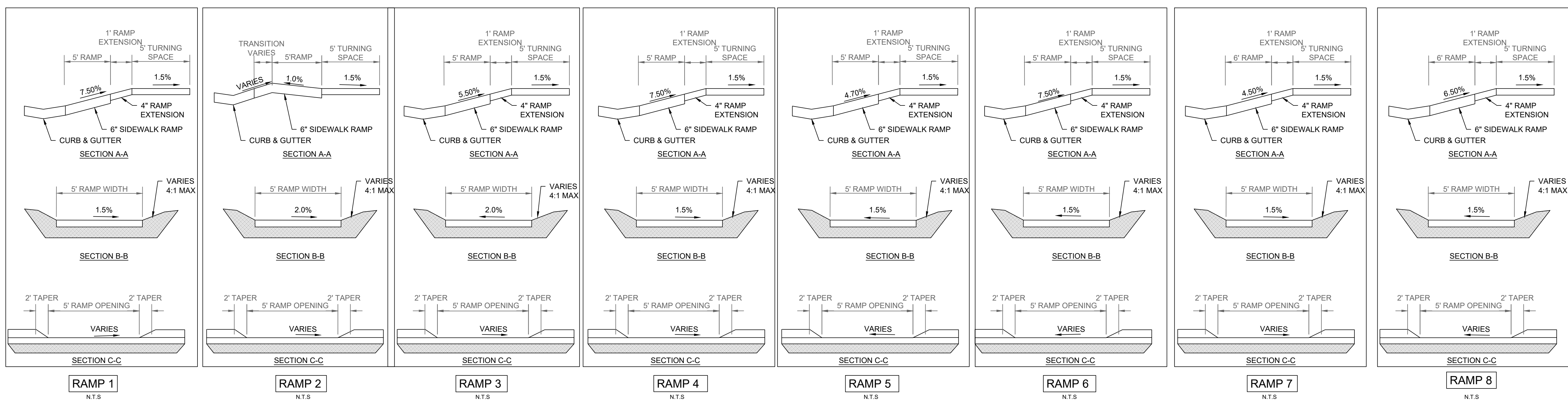
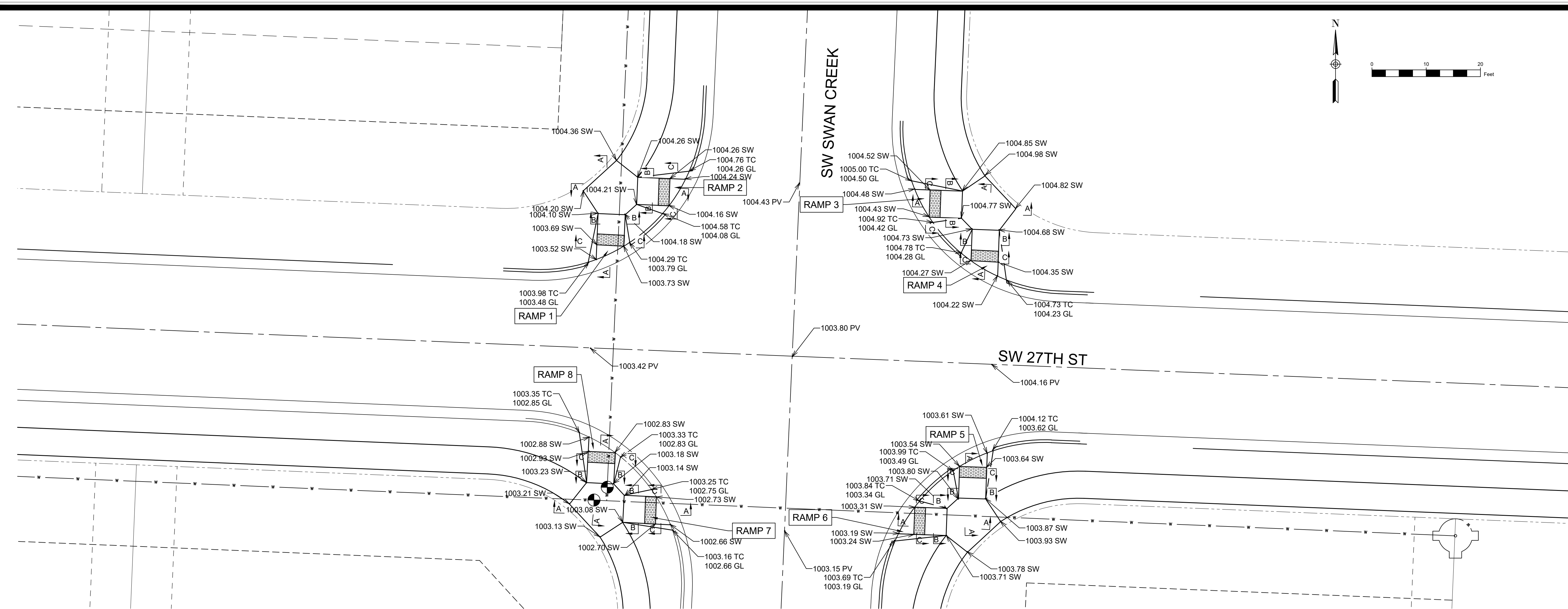
SHAWN DUKE - ENGINEER  
MO PE#2013006489

LEE'S SUMMIT, MO  
802 FRANCIS STREET  
ST. JOSEPH, MO 64501  
816-364-5222

WHISPERING WOODS 2ND PLAT  
STREET & STORM SEWER PLAN  
STREET PLAN & PROFILE  
**SNYDER & ASSOCIATES**  
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MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1"= 10'	
Technician: JS	Date: 7-28-20	Field Bk:	

Shaw Duke  
Professional Engineer  
Missouri State Certificate of Authority #20006489

SHAWN DUKE - ENGINEER  
MO PE#2013006489

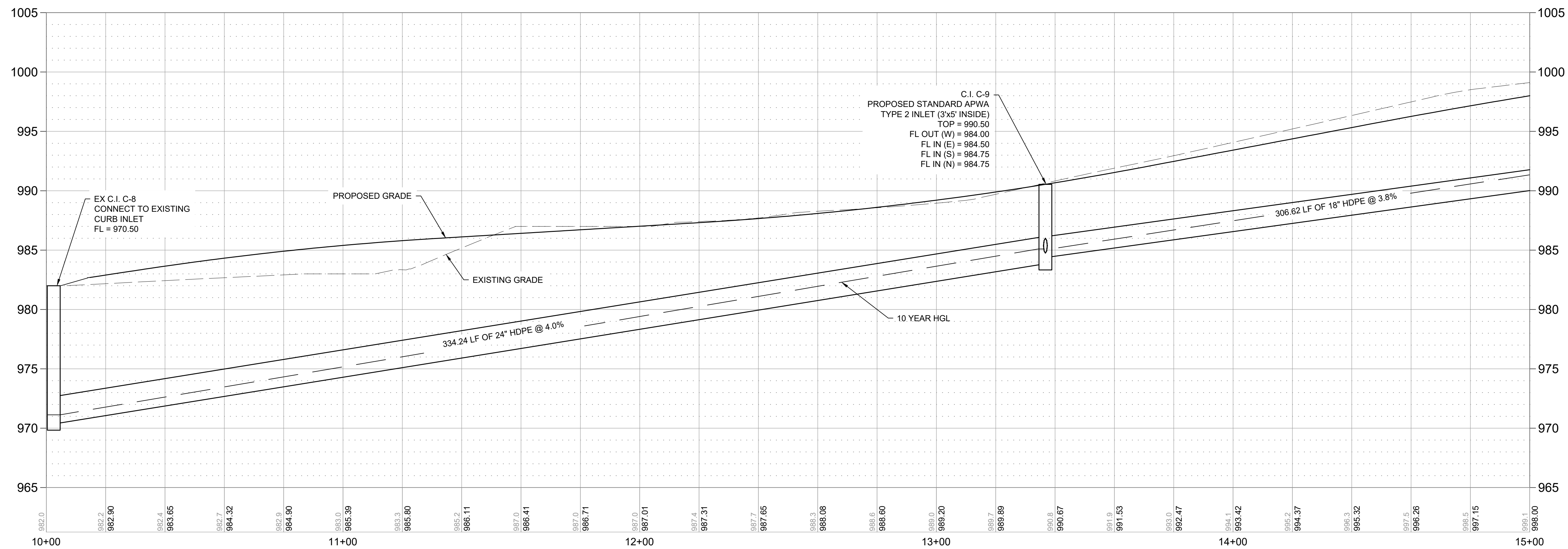
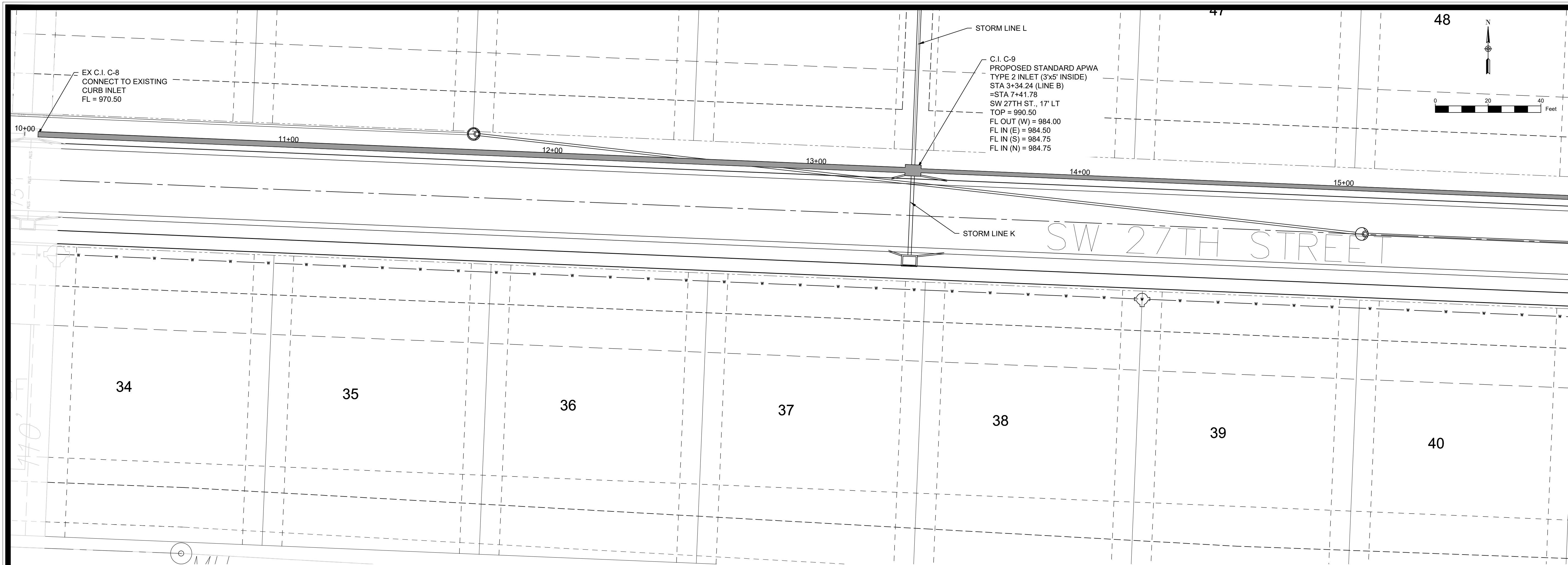
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816-364-5222  
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**SNYDER & ASSOCIATES**  
ENGINEERS & PLANNERS, INC.

Project No: 1200484.11

Sheet 8



MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1"= 20'	
Technician: JS	Date: 7-28-20	Field Bk:	Pg:

Shawm Duke  
Professional Engineer  
MO PE#2013006489

SHAWN DUKE - ENGINEER  
MO PE#2013006489

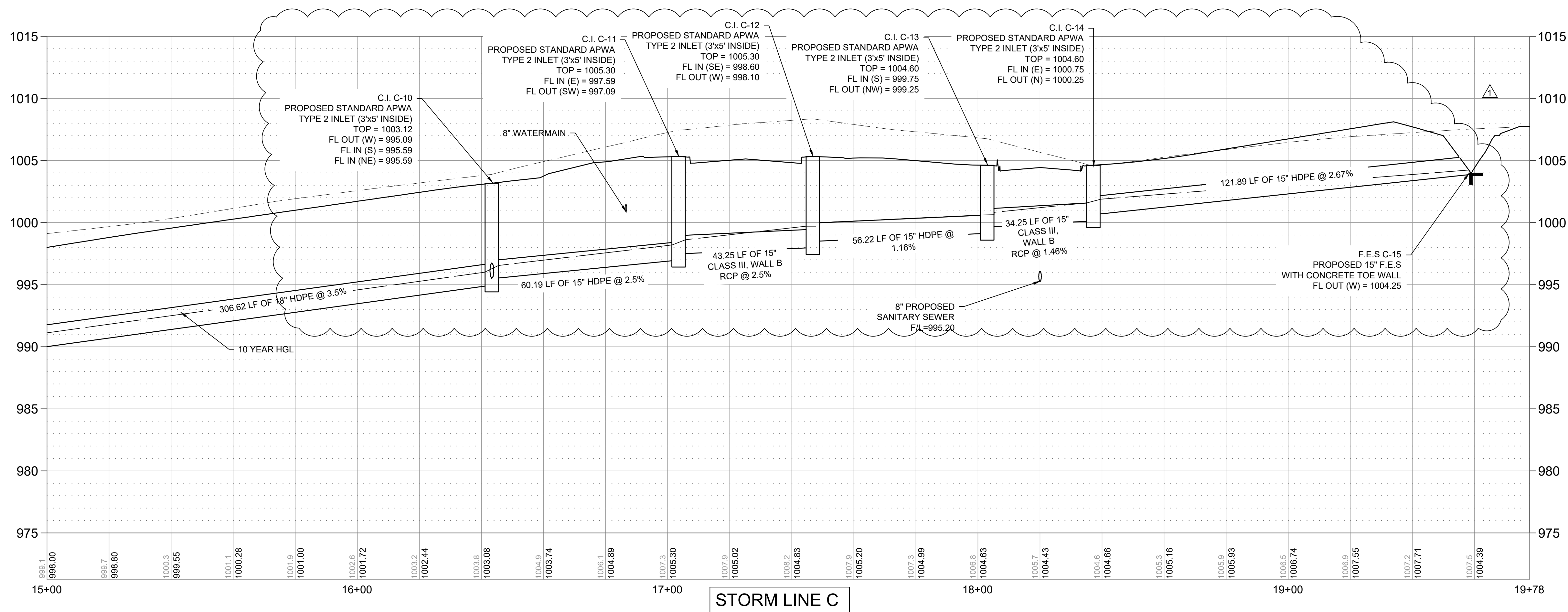
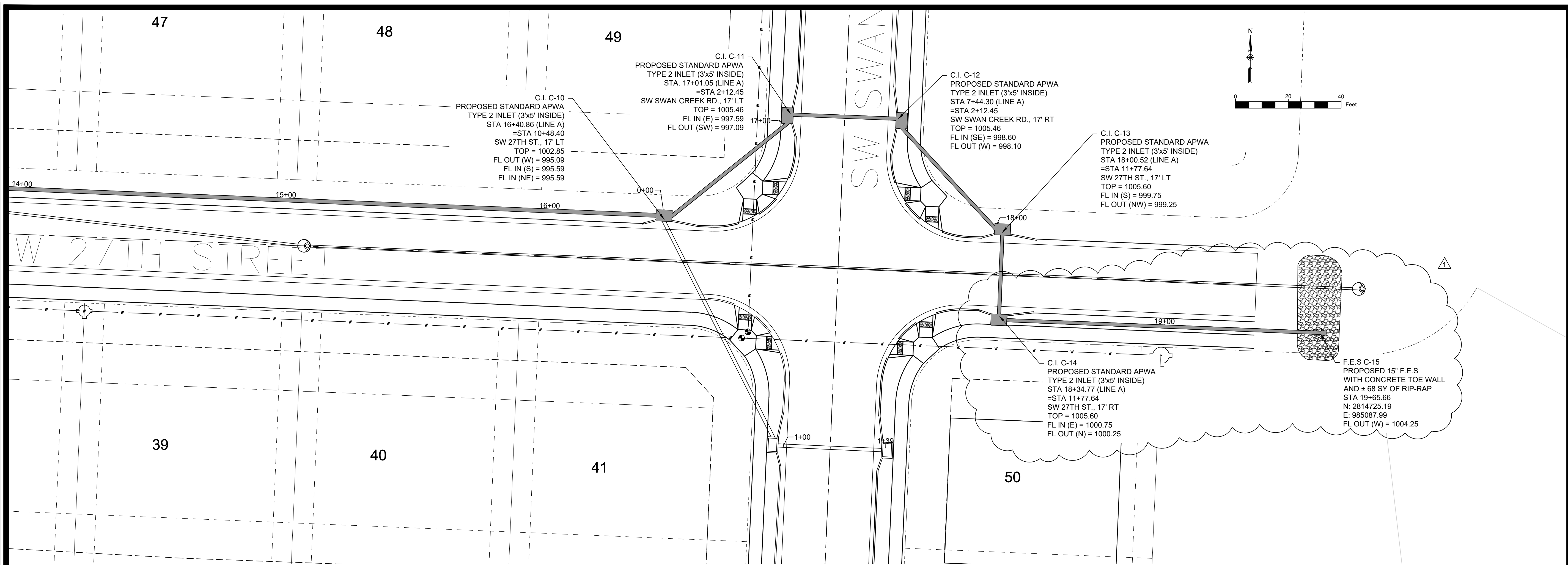
LEE'S SUMMIT, MO

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ST. JOSEPH, MO 64501  
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**SNYDER & ASSOCIATES**  
ENGINEERS & PLANNERS, INC.

Project No: 1200484.11

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REVISION	DATE	BY
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2	7-28-20	JS
3	7-28-20	JS
4	7-28-20	JS
5	7-28-20	JS
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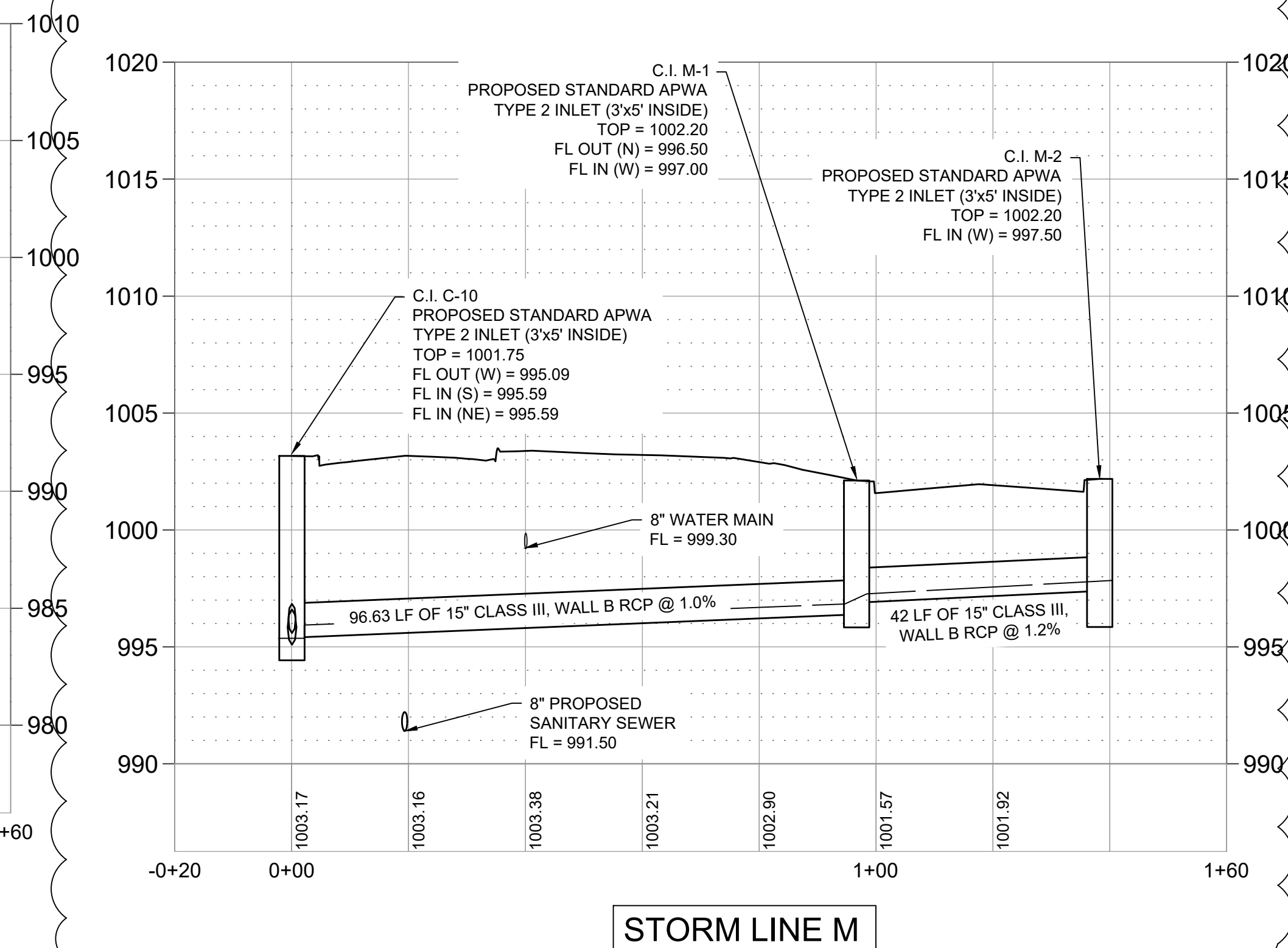
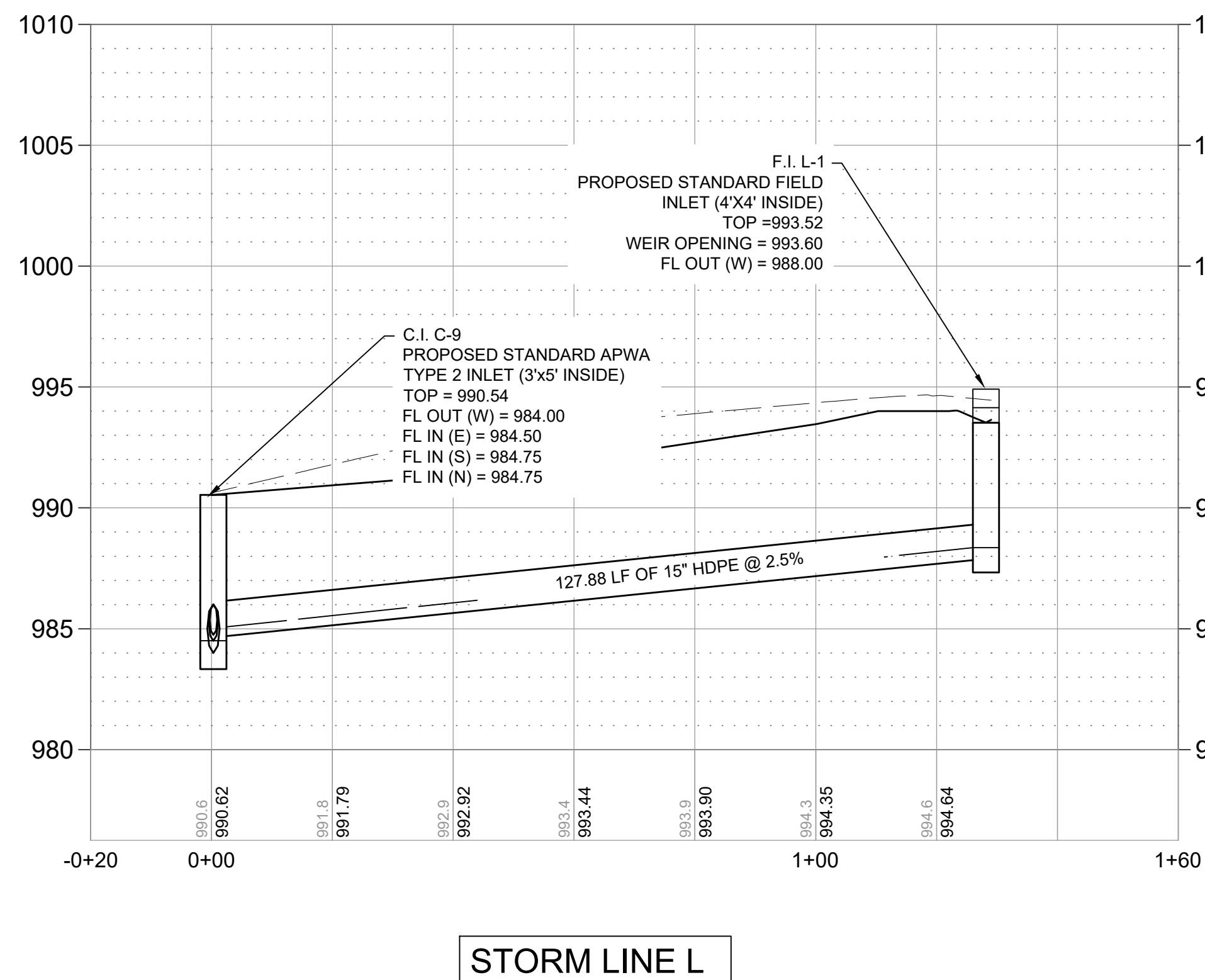
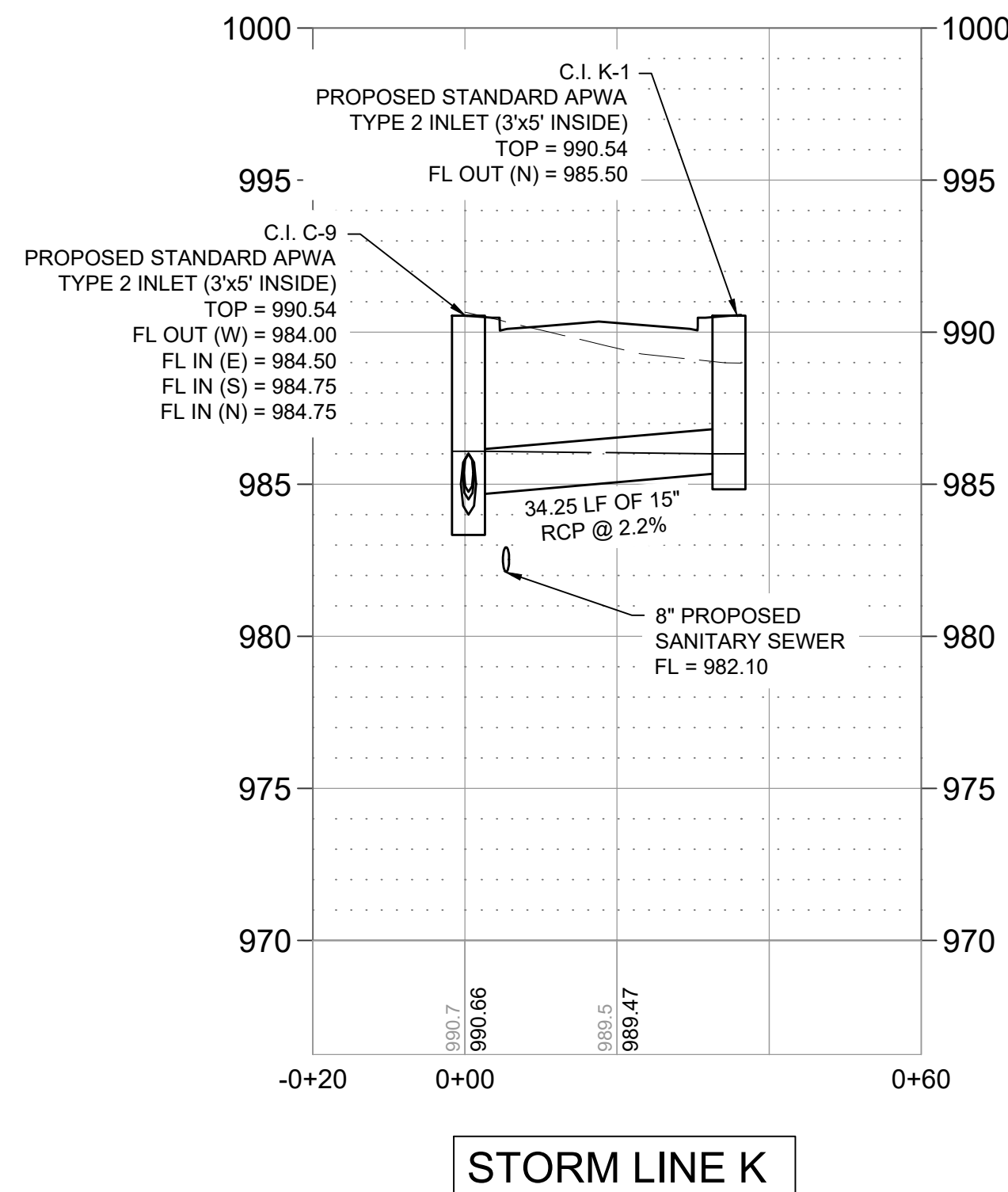
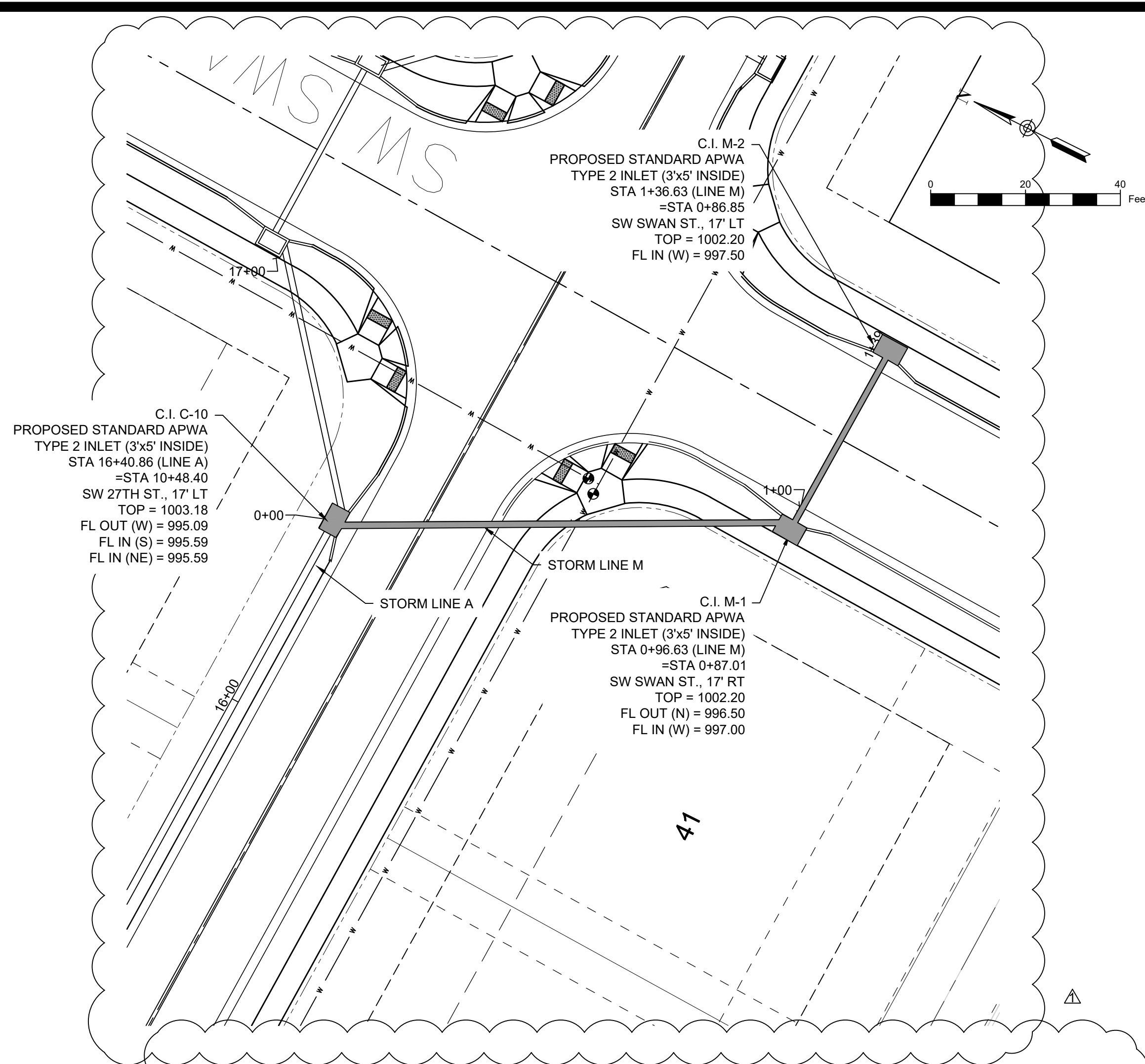
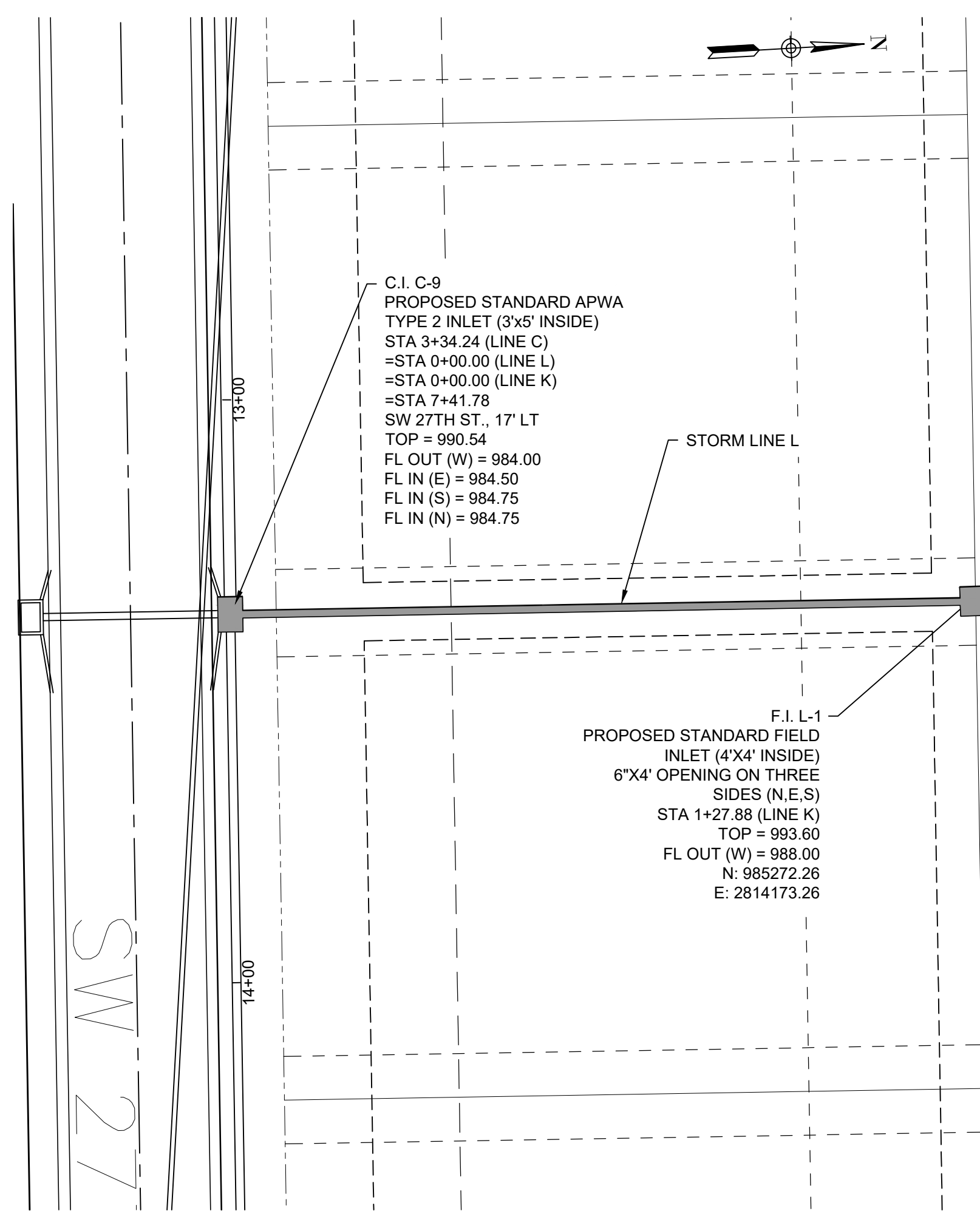
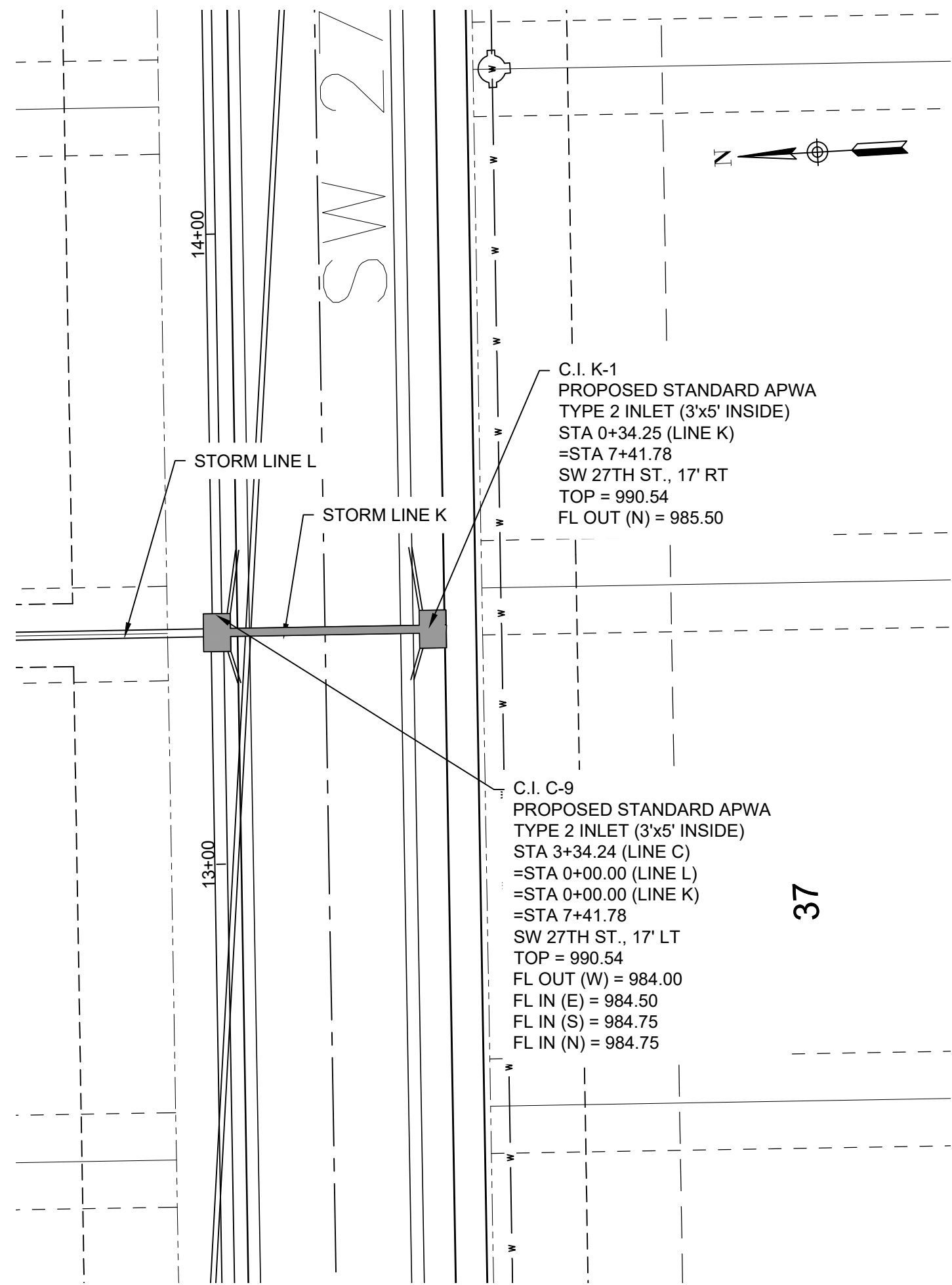
SHAWN DUKE - ENGINEER  
MO PE#2013006489

LEE'S SUMMIT, MO  
802 FRANCIS STREET  
ST. JOSEPH, MO 64501  
816-364-5222

WHISPERING WOODS 2ND PLAT  
STREET & STORM SEWER PLANS  
STORM PLAN & PROFILE  
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Project No: 1200484.11  
Sheet 10



REVISION	DATE	BY
1	9/4/20	JS

MARK	REVISION	DATE	BY
1	1	9/4/20	JS

Engineer	Checked By	Date	Field Bk.	Pg.
SD	SD	7-28-20		11

SHAWN DUKE - ENGINEER  
MO PE#2013006489

LEE'S SUMMIT, MO

WHISPERING WOODS 2ND PLAT  
STREET & STORM SEWER PLANS

STORM PLAN & PROFILE

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ST. JOSEPH, MO 64501  
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10 YEAR STORM

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		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

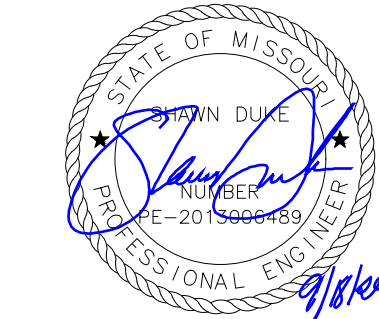
100 YEAR STORM

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	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 SPREAD TABLE

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

1



SHAWN DUKE - ENGINEER  
MO PE#2013006489

WHISPERING WOODS 2ND PLAT  
SANITARY SEWER PLANS

DRAINAGE TABLES

LEE'S SUMMIT, MO

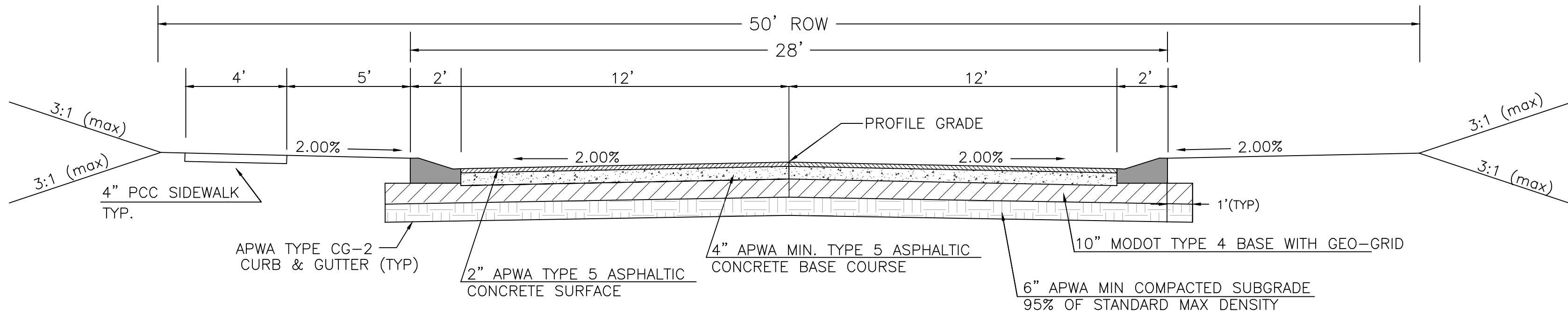
**SNYDER & ASSOCIATES**  
ENGINEERS & PLANNERS, INC.  
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ST. JOSEPH, MO 64501  
816-364-5222



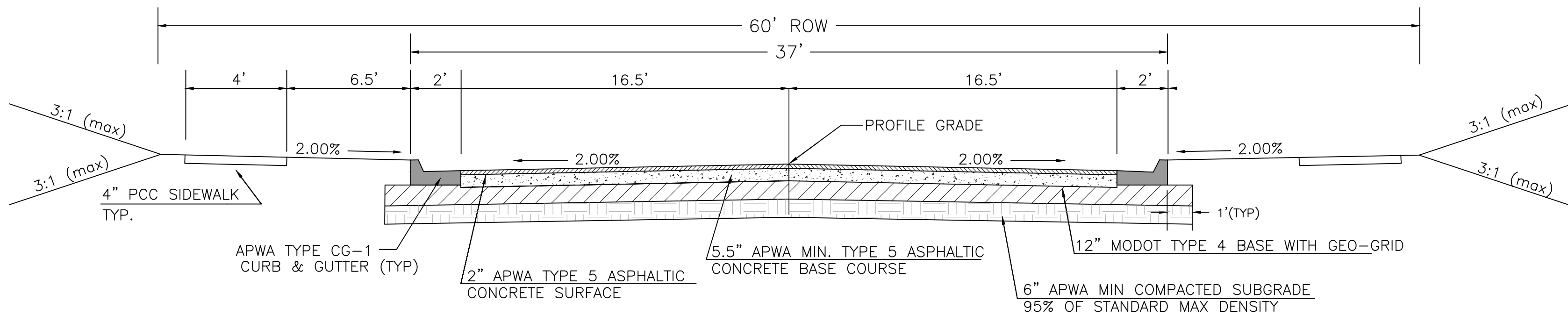
Project No: 1200484.11

REVISIONS TO STORM SEWER		SD	BY
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Engineer: SD	Checked By: SD	Date: 7-28-20	Field Bk:
Technician: JS			
Snyder & Associates Engineers & Planners, Inc. Missouri State Certificate of Authority #200006544			Sheet 13



### TYPICAL SECTION RESIDENTIAL LOCAL ACCESS

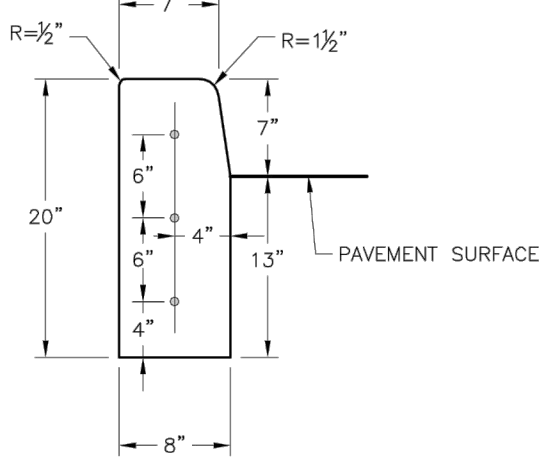
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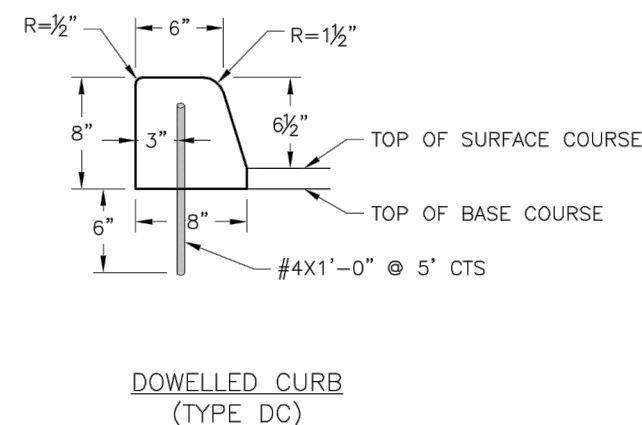
### TYPICAL SECTION RESIDENTIAL COLLECTOR

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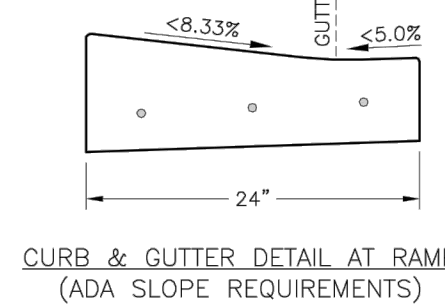
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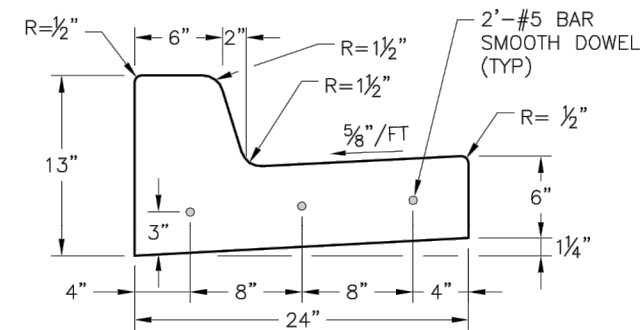
STRAIGHT CURB  
(TYPE C-1)



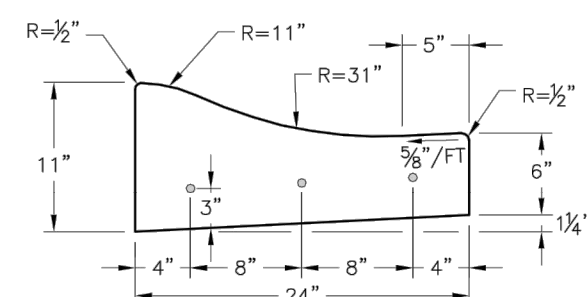
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(TYPE DC)



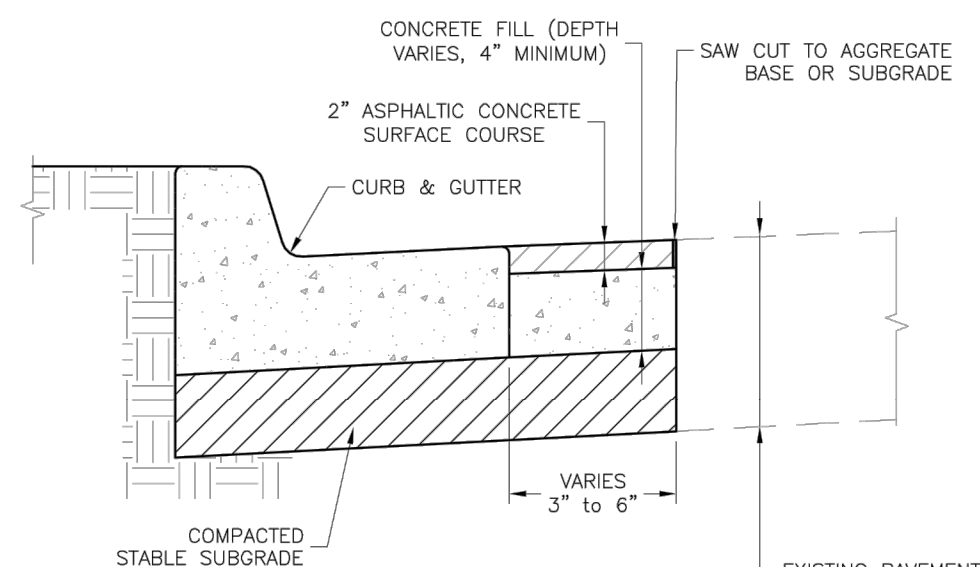
CURB & GUTTER DETAIL AT RAMP  
(ADA SLOPE REQUIREMENTS)



STRAIGHT BACK CURB & GUTTER  
(TYPE CG-1)



ROLL BACK CURB & GUTTER  
(TYPE CG-2)



CURB REPLACEMENT DETAIL

#### GENERAL NOTES

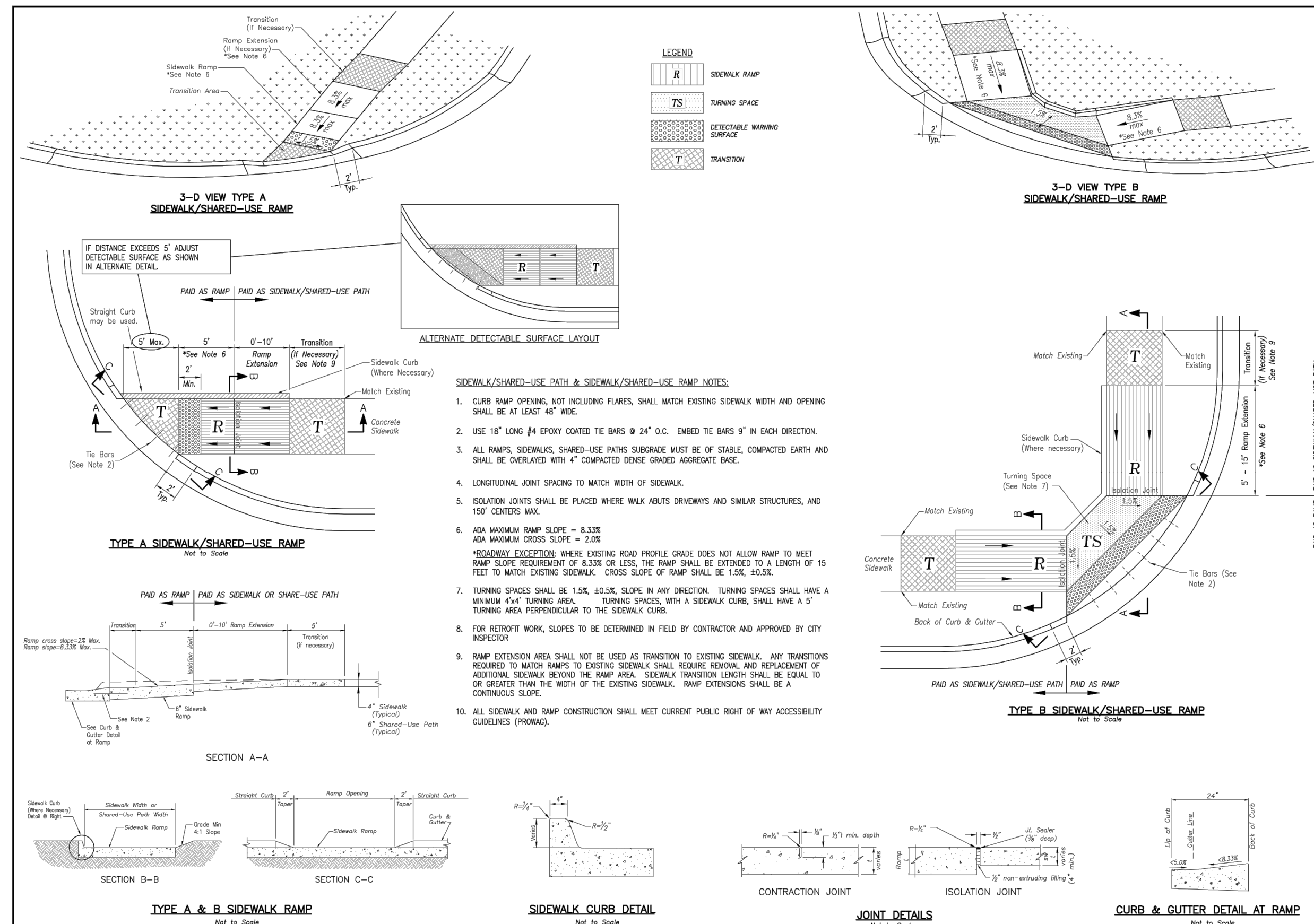
- 3/4" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
- 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS 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**  
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

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

GEN-4



**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

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

GEN-3A

WHISPERING WOODS 2ND PLAT  
STREET & STORM SEWER PLANS

STREET & STORM DETAILS

LEE'S SUMMIT, MO

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**SNYDER & ASSOCIATES**

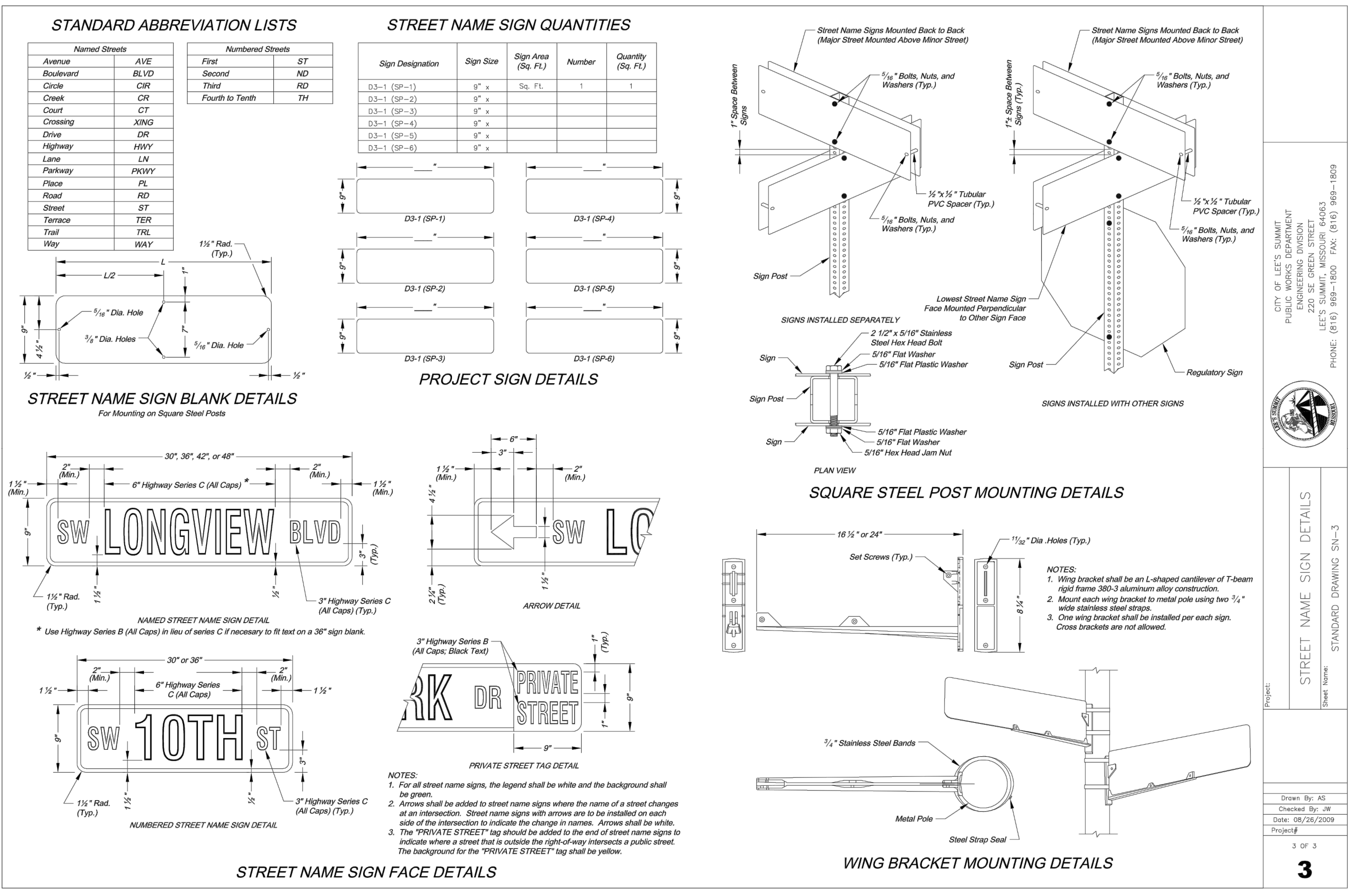
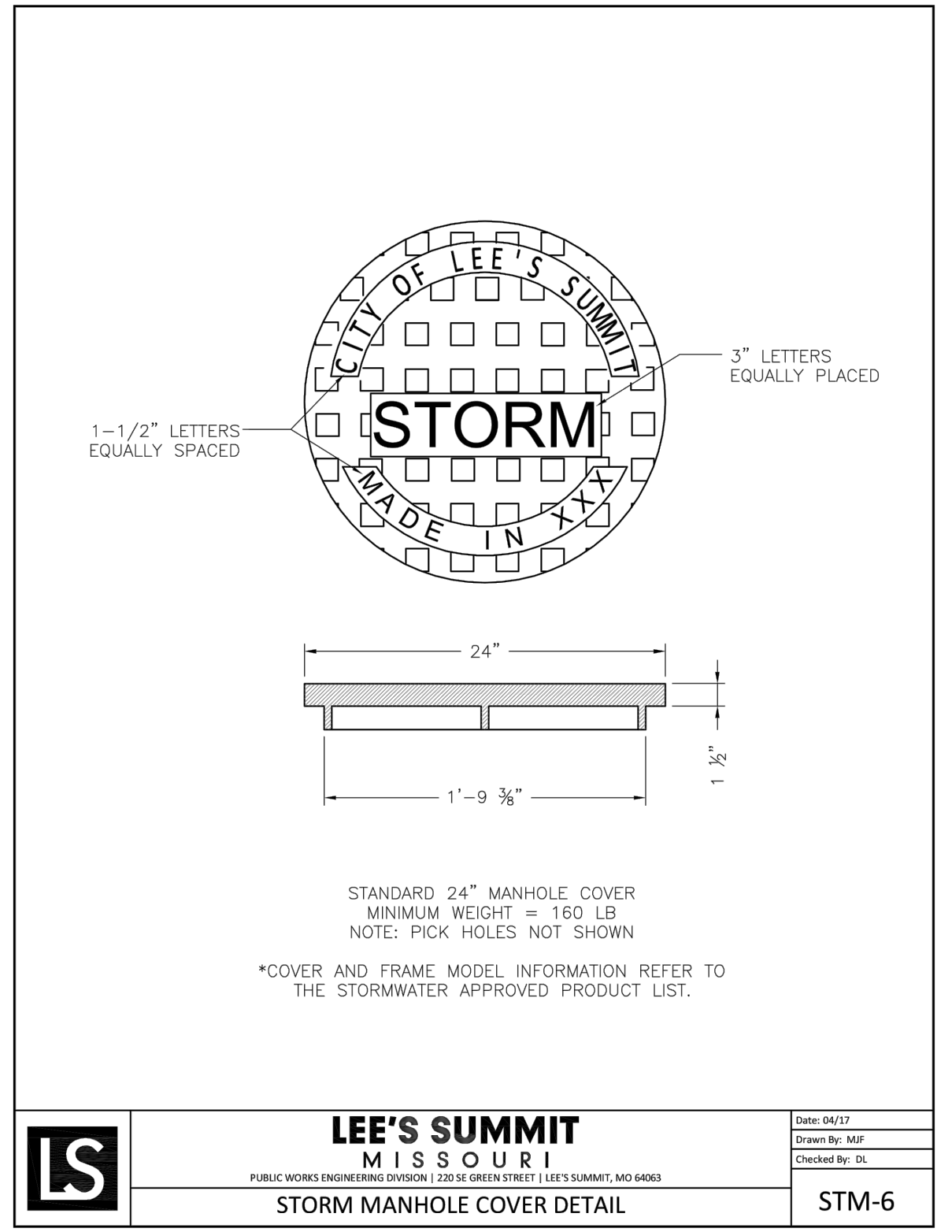
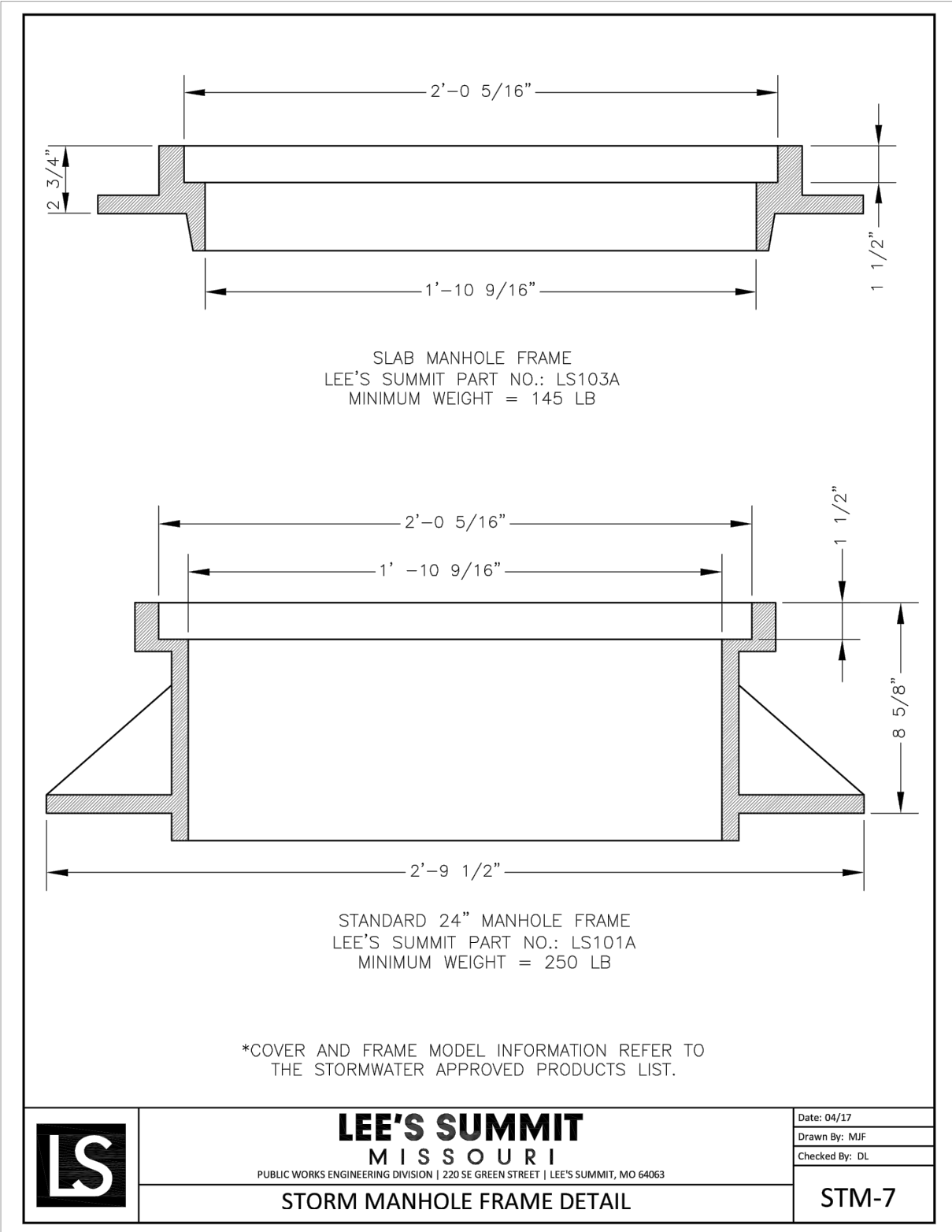
Project No: 1200484.11

Sheet 14

SHAWN DUKE - ENGINEER  
MO PE#2013006489



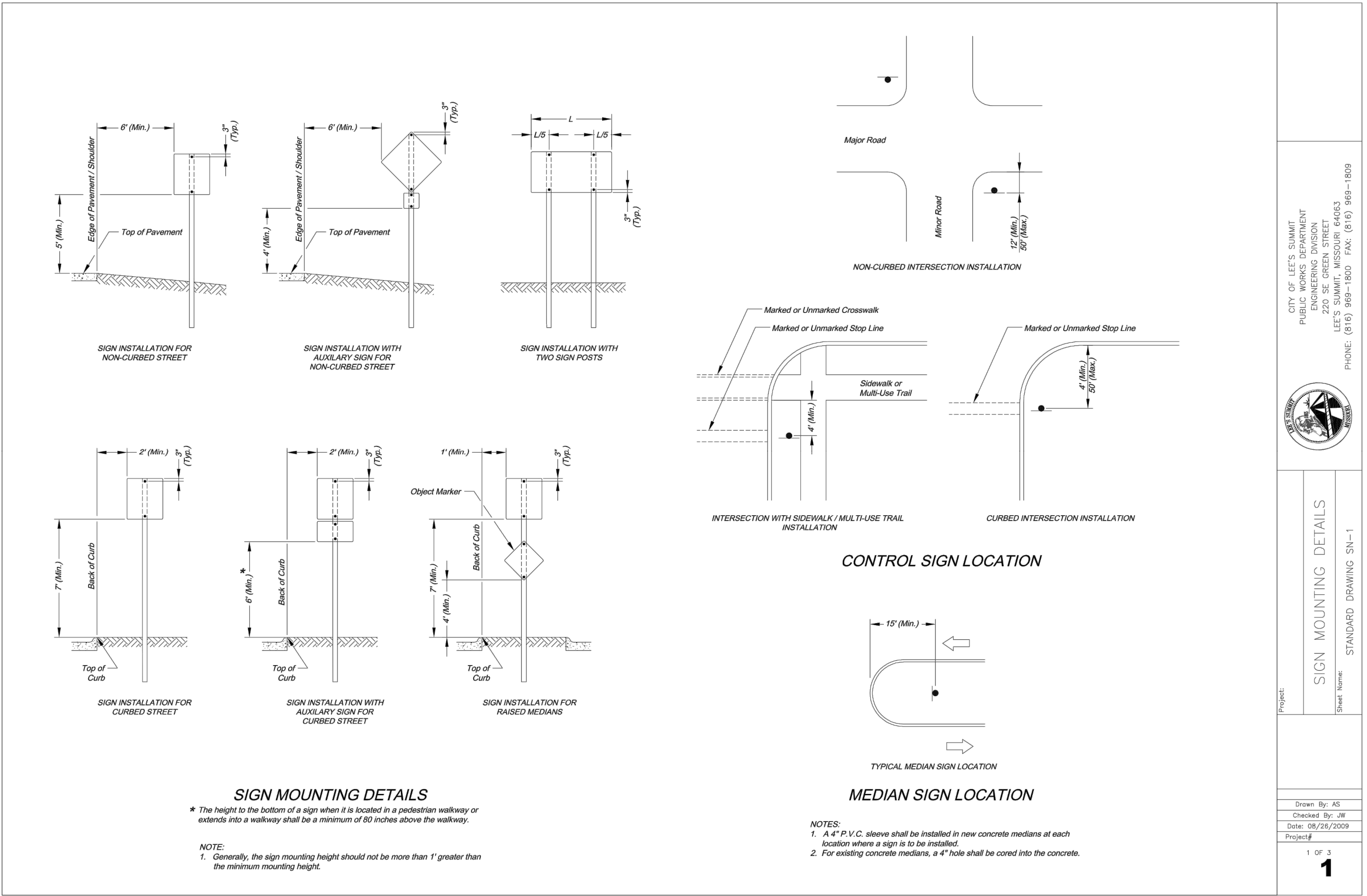
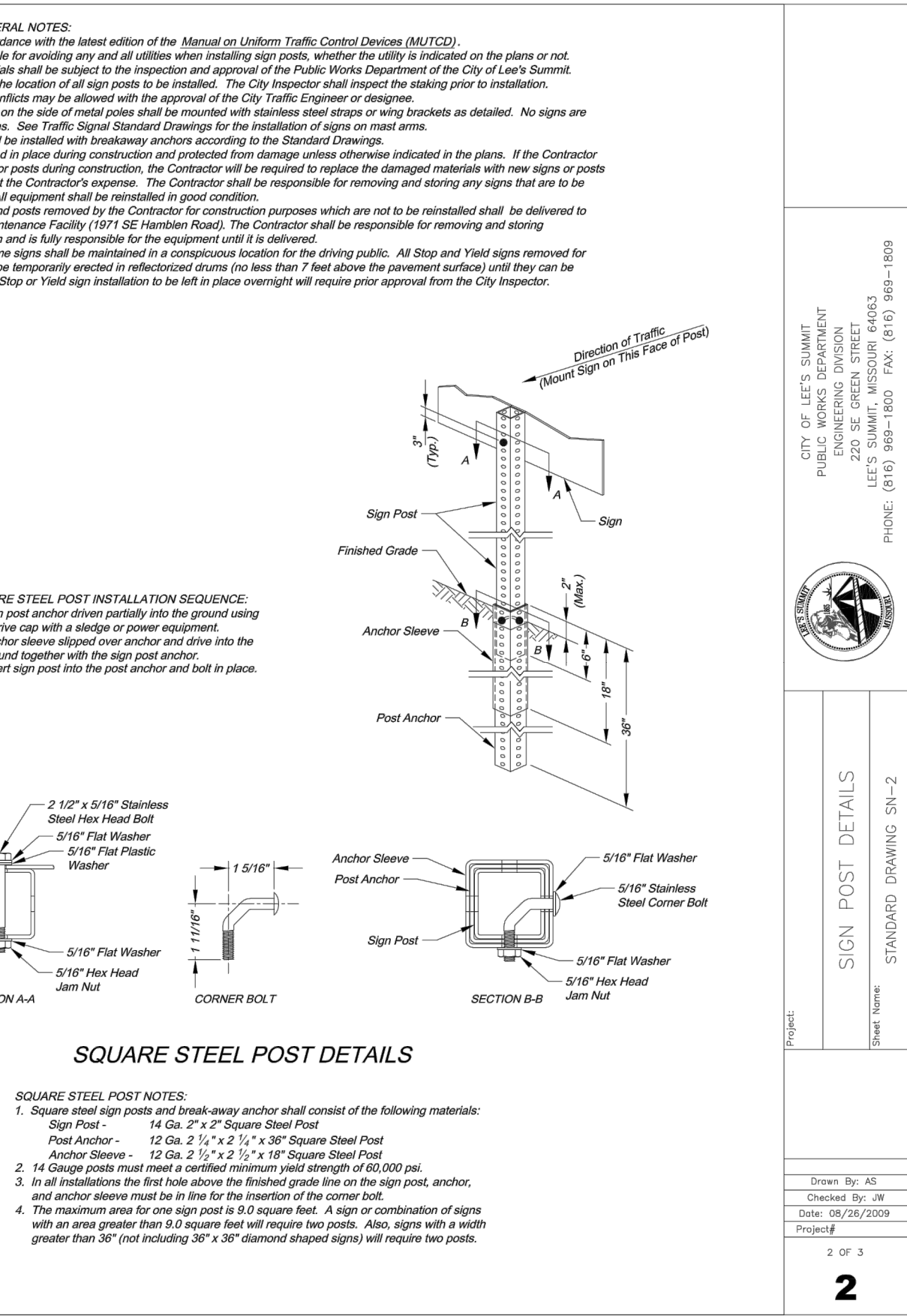
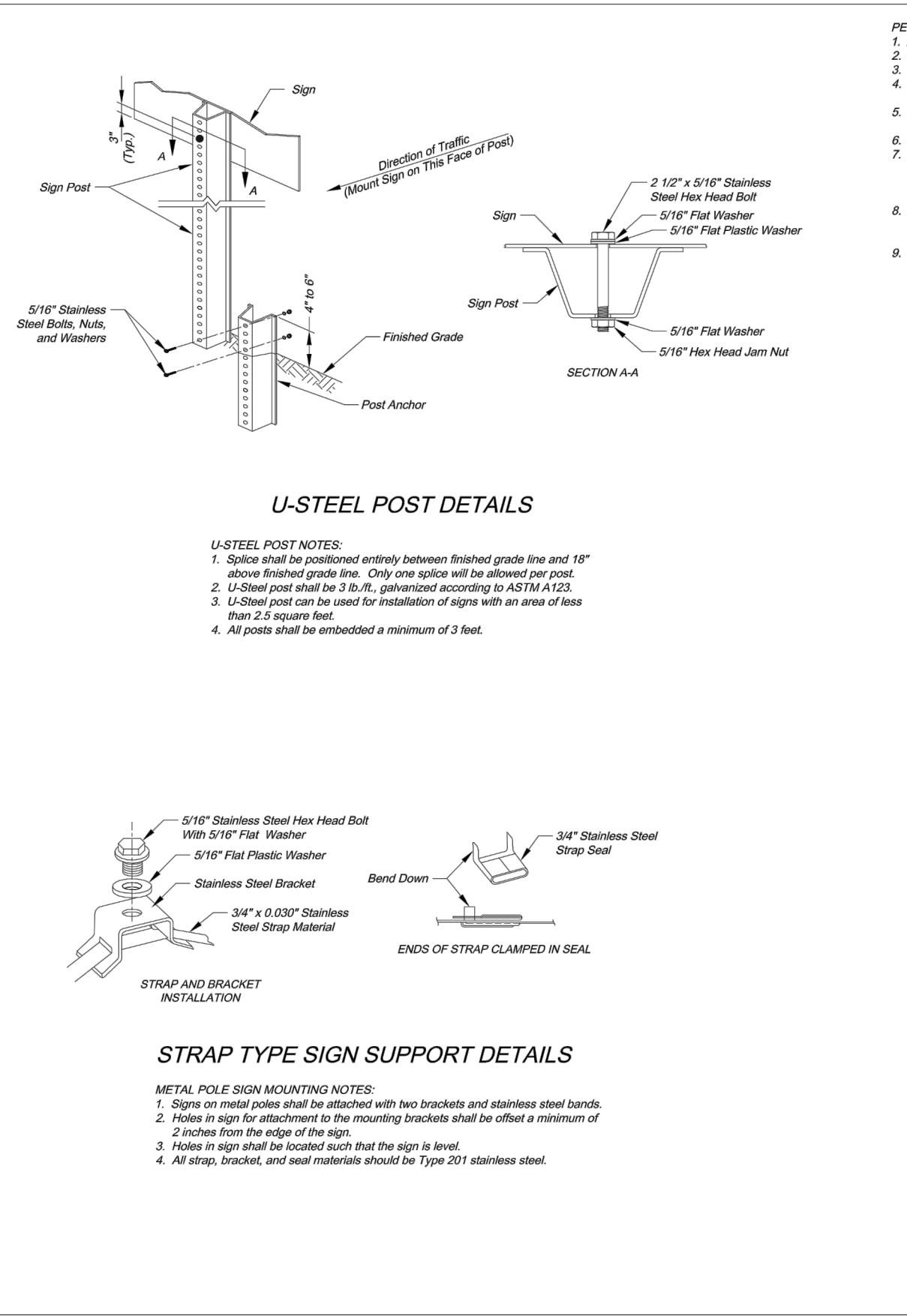
REVISION TO TYPICAL SECTIONS	DATE	BY	SD
1	09/08/20	DATE	SD
MARK	REVISION	Scale: 1"= N/A	Field Bk: Pg:
Engineer: SD	Checked By: SD	Date: 7-28-20	Field Bk: Pg:
Technician: JS	Date: 7-28-20	Field Bk: Pg:	
Snyder & Associates Engineers & Planners, Inc. Missouri State Certificate of Authority #200000544	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



MARK	REVISION	DATE	BY
		1"= N/A	
Engineer:	SD	Scale:	1"= N/A
Technician:	JS	Date:	7-28-20
		Field Bk:	
		Sheet	15

SHAWN DUKE - ENGINEER  
MO PE#2013006489

LEE'S SUMMIT, MO  
802 FRANCIS STREET  
ST. JOSEPH, MO 64501  
816-364-5222



WHISPERING WOODS 2ND PLAT  
STREET & STORM SEWER PLANS  
STREET & STORM DETAILS

**SNYDER & ASSOCIATES**  
ENGINEERS & PLANNERS, INC.

Project No: 1200484.11  
Sheet 15

