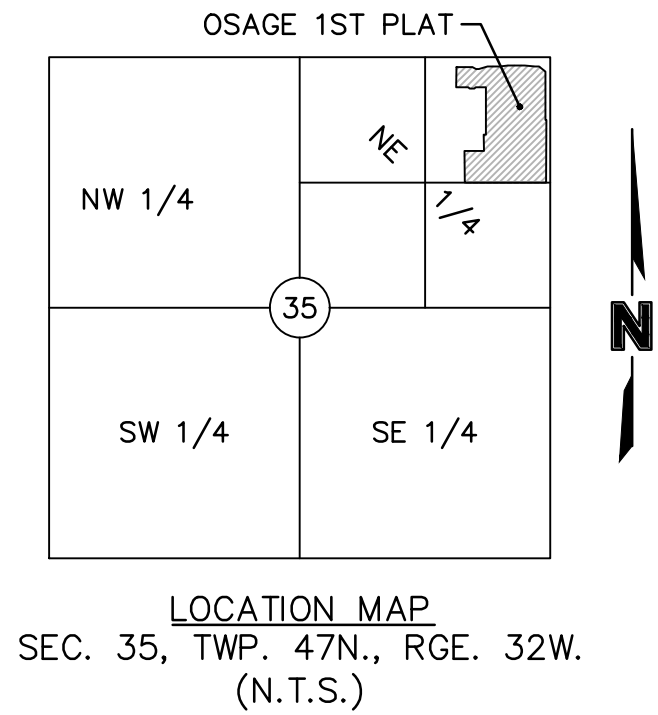


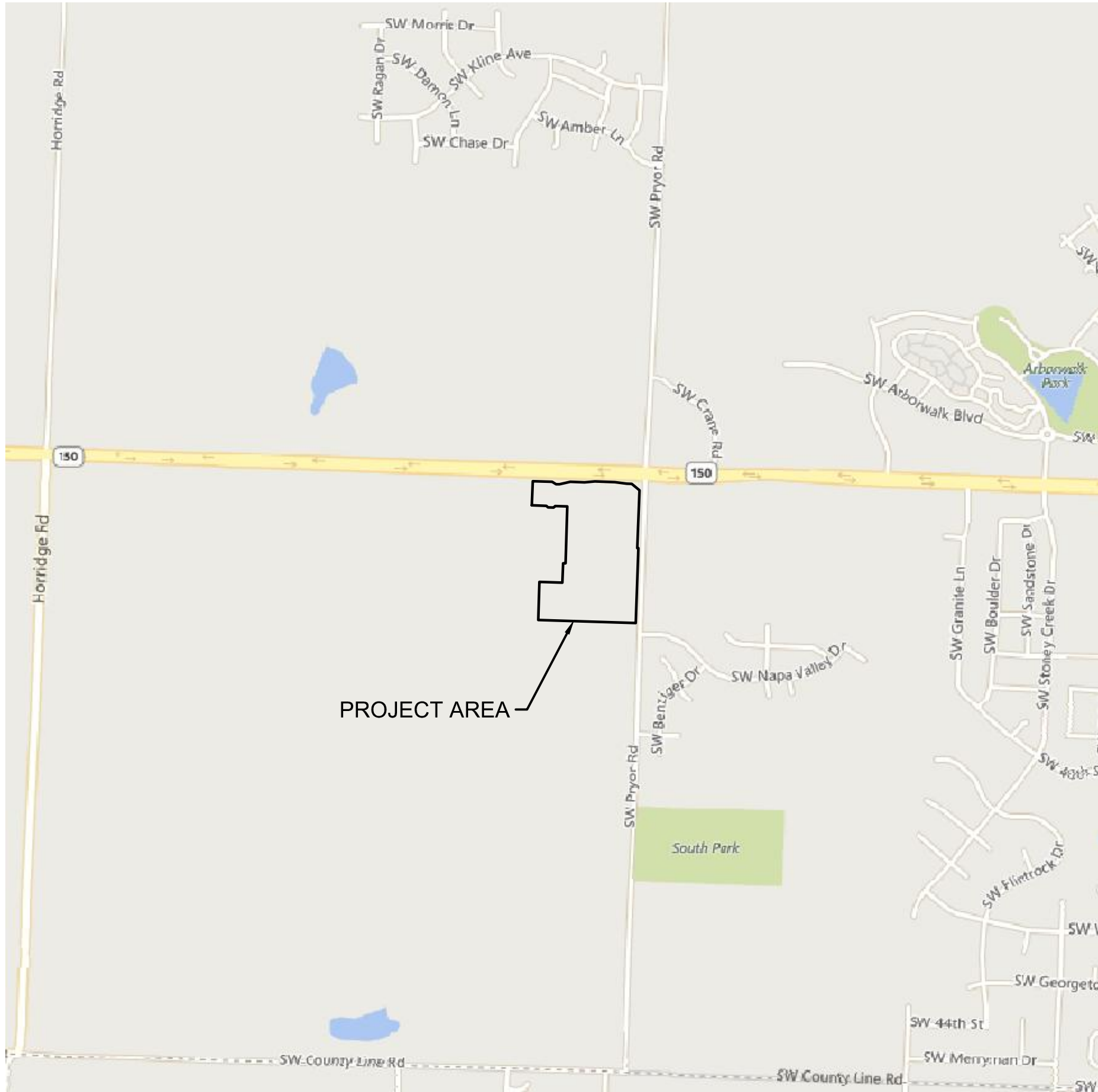
OSAGE FIRST PLAT STREET & STORM SEWER PLANS

NE 1/4 SECTION 35, TOWNSHIP 47 N, RANGE 32 W.
IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI



PROJECT TEAM & UTILITY CONTACT LIST	
OWNER / DEVELOPER CLAYTON PROPERTIES GROUP, INC. D.B.A. SUMMIT HOMES 120 SE 30TH STREET CONTACT: VINCENT WALKER LEE'S SUMMIT, MO 64082 PHONE: 816.246.6700 EMAIL: VINCENT@SUMMITHOMESKC.COM	UTILITY SERVICE NUMBERS NAME: LEE'S SUMMIT PUBLIC WORKS PHONE: 816-969-1800 NAME: LEE'S SUMMIT WATER & SERVICES DEPARTMENT PHONE: 816-969-1940 NAME: SPIRE (MGE) PHONE: 314-342-0500 NAME: AT&T PHONE: 800-286-8313 NAME: KCP&L PHONE: 816-471-5275 NAME: SPECTRUM (TWC) PHONE: 877-772-2253 NAME: GOOGLE FIBER PHONE: 877-454-6959
ENGINEER OLSSON 1301 BURLINGTON ST. SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: BROCK WORTHLEY PHONE: 816.361.1177 EMAIL: BWORTHLEY@OLSSON.COM	
SURVEYOR OLSSON 1301 BURLINGTON ST. SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUBEUSH PHONE: 816.361.1177 EMAIL: JROUBEUSH@OLSSON.COM	

- ☐ NOT FOR CONSTRUCTION
- ☒ REVIEWED FOR CONSTRUCTION



DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\NCR\A STREET & STORM\C_TTL01_A192339.dwg
DATE: Jun 15, 2020 6:47pm
USER: bworthley
C_PBDY_A192339
XREFS: C_PTBK_A192339

GENERAL NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES. CURRENT PLANS PREPARED BY OLSSON MAY BE OBTAINED AT THE DIRECTION OF OLSSON'S CLIENT. DIRECT REQUESTS TO OLSSON MAY REQUIRE ADDITIONAL AUTHORIZATIONS, AGREEMENTS, AND/OR FEES. PLEASE CONTACT THE ENGINEER FOR INFORMATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.
- ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
- ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
- THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENROACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
- PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.
- PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.

REFERENCES

- UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY:
 - ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.
 - ALL CONSTRUCTION IN MODOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MODOT.
 - ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES..
 - ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI AND THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DELIVERY MANAGER AND COORDINATING ANY MAILBOXES THAT MAY BE DISTURBED. FAILURE TO DO SO MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.

EXISTING CONDITIONS

- THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKING THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDES THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
- EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

CONSTRUCTION

- THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS. IF PLANS ARE NOT PROVIDED, CONTRACTOR SHALL COORDINATE AND PROVIDE CONTROLS TO THE SATISFACTION OF THE RIGHT-OF-WAY OWNER.
- THE CONTRACTOR SHALL PROTECT ALL TREES OVER 3" CALIPER FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE ON THESE PLANS.
- THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
- ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
- THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

SHOP DRAWINGS

- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES IN CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAINED ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:
 - ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
 - ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
 - ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
 - CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
 - ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
- SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
 - ALL STORM SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
 - ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

STORM SEWER GENERAL NOTES:

- STORM STRUCTURES SHALL BE PER CURRENT CITY DETAILS. IF CITY DOES NOT HAVE PUBLISHED DETAILS STRUCTURES SHALL BE PER CURRENT APWA SPECIFICATIONS.
- PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH CITY OF LEE'S SUMMIT, MISSOURI.
- ALL PIPE LENGTHS AND ELEVATIONS ARE CALCULATED LINEARLY FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
- ALL STRUCTURE DIMENSIONS ARE TO INSIDE FACE OF STRUCTURE.
- COORDINATES ARE PROVIDED AT THE CENTER OF STRUCTURE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING THE BOX DURING INSTALLATION.
- THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF STORM SEWER.
- STORM SEWER TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
- STRUCTURE INVERT CHANNELS SHALL BE SMOOTH, CIRCULAR, AND CONFORMING TO ½ THE ADJACENT PIPE SECTION (INVERT TO CENTER). CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE AND MAINTAIN SHAPE THROUGHOUT. CHANGES IN GRADE OF ADJACENT PIPES SHALL BE TRANSITIONED SMOOTHLY AND EVENLY THROUGH THE STRUCTURE.
- PIPE PENETRATIONS SHALL BE GROUTED TO ENSURE WATERTIGHT SEALS.
- MAINTAIN MINIMUM DEPTH OF COVER PER APWA 5606.06

CONTROL POINT TABLE				
POINT NUMBER	NORTHING	EASTING	POINT ELEVATION	DESCRIPTION
11	978424.224	2811650.442	1030.85	3" IB/CAP SET IN THE CENTER MEDIAN OF ROUTE 150. IT IS DUE NORTH OF THE CENTER LINE OF THE DRIVEWAY TO PROPERTY ADDRESS 2025 ROUTE 150. IT IS 12.15 FT WEST OF A LIGHT POLE, 8.5 FT SOUTH OF THE BACK OF CURB, AND 8.1 FT NORTH OF THE BACK OF CURB.
12	978340.573	2812332.280	1036.11	3" IB/CAP SET ON THE EAST SIDE OF SW PRYOR RD AT THE SOUTHEAST CORNER OF THE INTERSECTION OF ROUTE 150 AND SW PRYOR RD. IT IS 2.15 FT EAST OF THE BACK OF CURB, 19 FT WEST OF THE TRAFFIC SIGNAL POLE, AND 9.6 FT WEST OF A VAULT.
13	977064.448	2812265.992	1012.10	3" IB/CAP SET ON THE NORTHEAST CORNER OF THE INTERSECTION OF SW PRYOR RD AND SW NAPA VALLEY DR. IT IS 6 FT EAST OF THE BACK OF CURB, 10.2 FT NORTH OF THE CORNER OF THE SIDEWALK, AND 7.25 FT WEST OF ROCK LANDSCAPE BORDER.
14	977092.478	2810924.856	1040.93	3" IB/CAP SET IN THE NORTHWEST CORNER OF THE SOUTH ADJOINING PROPERTY. IT IS 7.5 FT EAST OF THE FENCE LINE, AND 45 FT SOUTH OF OF THE TREE LINE.
18	978446.811	2810956.695	1050.47	3" IB/CAP SET IN THE CENTER MEDIAN OF ROUTE 150. THE POINT IS DIRECTLY SOUTH OF A WHITE MAILBOX ON AN ORANGE POST FOR HOUSE ADDRESS 2144 ROUTE 150. IT IS 6.6 FT SOUTH OF THE BACK OF CURB, 5.8 FT NORTH OF THE BACK OF CURB, AND 31 FT EAST OF A LIGHT POLE.
BENCHMARK				
BMK1	977045.350	2812211.924	1014.83	CHISELED PLUS ON THE EAST FLANGED BOLT OF THE FIRE HYDRANT ON THE WEST SIDE OF SW PRYOR ROAD ON ADJOINING PROPERTY SOUTH OF THE SOUTHWEST CORNER OF SUBJECT PROPERTY.
BMK2	978357.416	2811627.737	1031.31	RAILROAD SPIKE IN THE NORTH FACE OF POWER POLE LOCATED ON THE SOUTH SIDE MISSOURI STATE HIGHWAY 150 AT THE WEST SIDE OF THE DRIVEWAY TO 2025 MISSOURI STATE HIGHWAY 150, LEE'S SUMMIT, MO.

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
STREET				
1	6" ASPHALT PAVEMENT	S.Y.	10747	
2	SUBGRADE STABILIZATION (6" FLYASH TREATMENT)	S.Y.	13095	
3	CONCRETE CURB & GUTTER (CG-2)	L.F.	6840	
4	CONCRETE CURB & GUTTER (CG-2 DRY)	L.F.	232	
5	5' CONCRETE SIDEWALK	L.F.	161	
6	ADA RAMP	EA.	20	
7	STOP SIGNS	EA.	9	
8	STREET NAME SIGNS	EA.	14	
9	TYPE IV OBJECT MARKERS	EA.	16	
STORM				
10	STD. CURB INLET (5'x3' INSIDE)	EA.	29	
11	STD. CURB INLET (5'x4' INSIDE)	EA.	4	
12	STD. CURB INLET (5'x5' INSIDE)	EA.	1	
13	STD. CURB INLET (7'x3' INSIDE)	EA.	1	
14	STD. FIELD INLET (4'x4' INSIDE)	EA.	6	
15	STD. FIELD INLET (5'x5' INSIDE)	EA.	1	
16	STD. FIELD INLET (6'x6' INSIDE)	EA.	1	
17	STD. MANHOLE (4' DIA. INSIDE)	EA.	1	
18	STD. MANHOLE (5' DIA. INSIDE)	EA.	5	
19	DETENTION BASIN OUTLET STRUCTURE (6'x6' INSIDE)	EA.	1	
20	6" UNDERDRAIN PIPE	L.F.	171.50	
21	15" HDPE	L.F.	1524.36	
22	18" HDPE	L.F.	360.09	
23	24" HDPE	L.F.	1312.18	
24	24" RCP	L.F.	34.00	
25	30" HDPE	L.F.	563.98	
26	36" HDPE	L.F.	240.35	
27	42" HDPE	L.F.	281.17	
28	48" HDPE	L.F.	9.46	
29	48" RCP	L.F.	55.36	
30	30" HDPE END SECTION	EA.	2	
31	42" HDPE END SECTION	EA.	1	
32	48" RCP END SECTION	EA.	1	
33	15" HDPE PLUG	EA.	1	
34	24" HDPE PLUG	EA.	1	
35	RIPRAP	S.Y.	127.45	
36	SWALE TURF REINFORCEMENT MAT	S.Y.	343	
37	CONNECTION TO EXISTING	EA.	1	

GENERAL NOTES
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

2020

LEE'S SUMMIT, MISSOURI

drawn by: _____ GS
checked by: _____ SS
designed by: _____ BMW
QA/QC by: _____ JES
project no.: A19-2339
drawing no.: C_TTL01_A192339
date: 3/17/2020

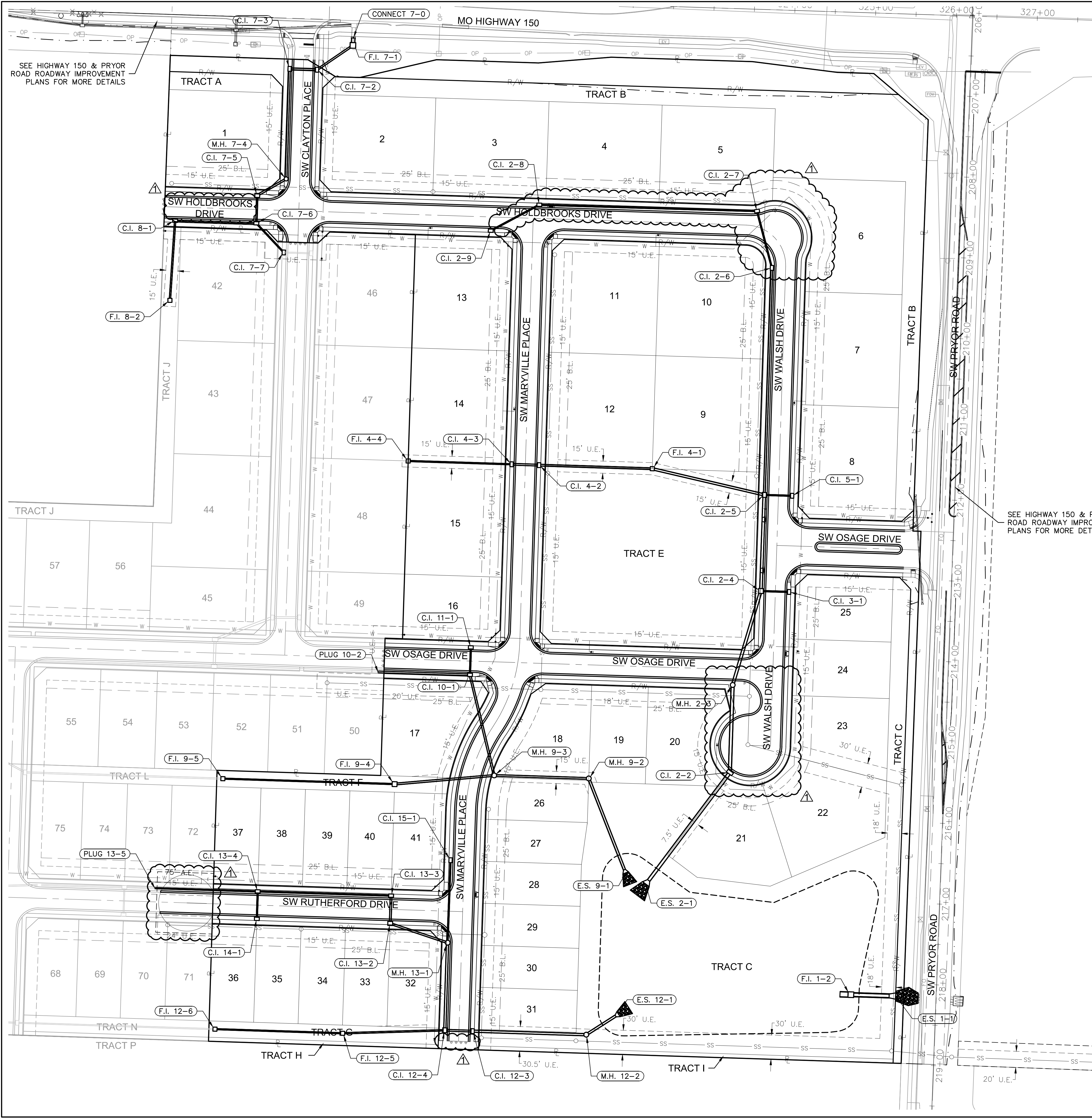
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REVISIONS	
REV. NO.	DESCRIPTION
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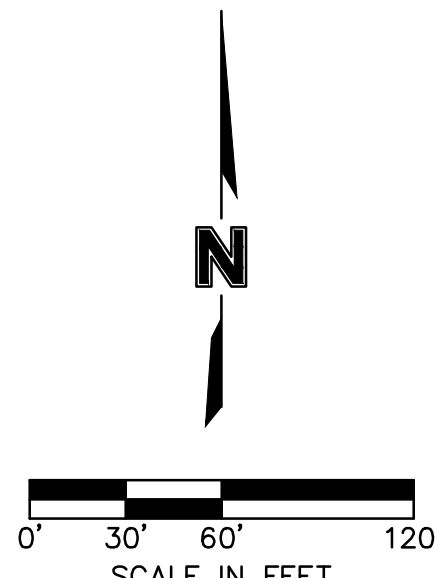
olsson
Olsson - Civil Engineering
Missouri Certificate of Authority # 001692
1301 Burlington Street
North Kansas City, MO 64116
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www.olsson.com

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STRUCTURES		
STRUCTURE ID	NORTHING	EASTING
C.I. 2-2	977467.8986	2811988.0157
C.I. 2-4	977692.4187	2812026.3213
C.I. 2-5	977811.3432	2812030.5897
C.I. 2-6	978092.1864	2812039.9885
C.I. 2-7	978162.5469	2812021.6235
C.I. 2-8	978170.3359	2811752.3191
C.I. 2-9	978138.2214	2811692.2720
C.I. 3-1	977691.3103	2812061.3037
C.I. 4-2	977848.1807	2811752.1166
C.I. 4-3	977849.2574	2811718.1337
C.I. 5-1	977810.2506	2812065.0724
C.I. 7-2	978337.3681	2811477.4711
C.I. 7-3	978338.4239	2811443.4875
C.I. 7-5	978181.8882	2811403.5100
C.I. 7-6	978147.4055	2811402.4174
C.I. 7-7	978111.3146	2811436.2915
C.I. 8-1	978150.5883	2811301.9679
C.I. 10-1	977588.7590	2811666.5942
C.I. 11-1	977622.7420	2811667.6676
C.I. 12-3	977147.9332	2811669.8990
C.I. 12-4	977149.0136	2811635.4159
C.I. 13-2	977281.0969	2811567.9474
C.I. 13-3	977315.5796	2811569.0400
C.I. 13-4	977320.8051	2811404.1227
C.I. 14-1	977286.8221	2811403.0460

STRUCTURES		
STRUCTURE ID	NORTHING	EASTING
C.I. 15-1	977359.4044	2811642.5825
CONNECT 7-0	978376.9050	2811522.3190
E.S. 1-1	977191.3061	2812193.0089
E.S. 2-1	977329.8018	2811884.1121
E.S. 9-1	977343.7014	2811859.1483
E.S. 12-1	977168.9630	2811850.2767
F.I. 1-2	977193.0635	2812137.6738
F.I. 4-1	977843.7470	2811892.0464
F.I. 4-4	977853.3111	2811590.1979
F.I. 7-1	978367.4601	2811521.8275
F.I. 8-2	978052.0411	2811295.4838
F.I. 9-4	977453.5763	2811573.4124
F.I. 9-5	977460.3060	2811361.0190
F.I. 12-5	977145.2863	2811509.1437
F.I. 12-6	977150.3910	2811351.1993
M.H. 2-3	977576.1928	2811991.4471
M.H. 7-4	978202.2690	2811439.1734
M.H. 9-2	977460.5422	2811813.5020
M.H. 9-3	977464.2507	2811696.4606
M.H. 12-2	977143.4837	2811810.3285
M.H. 13-1	977257.3396	2811638.8487
PLUG 10-2	977592.3647	2811552.7975
PLUG 13-5	977324.8415	2811276.7301



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STATE OF MISSOURI
BROCK M. WORTHLEY
PE-2019000237
Professional Engineer
6/15/2020

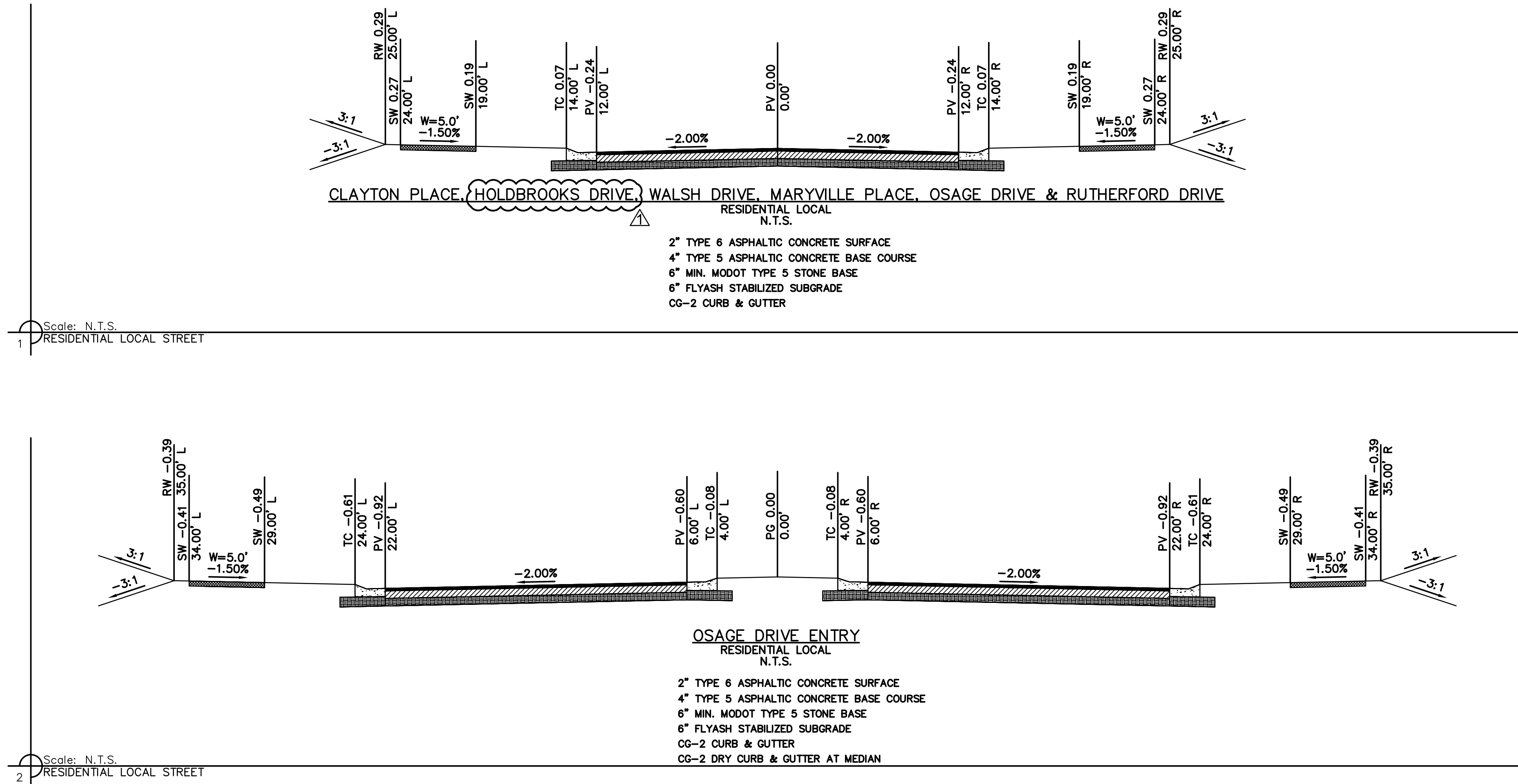
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DATE
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WALSH CUL-DE-SAC REVISED, MARYVILLE DEAD END SHORTENED
RUTHERFORD TEMPORARY CUL-DE-SAC ADDED

GENERAL LAYOUT
STREET & STORM SEWER PLANS
OSAGE
FIRST PLAT
LEE'S SUMMIT, MISSOURI
2020

drawn by: SS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_GEN01_A192339
date: 3/17/2020

SHEET
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drawn by: _____ GS
checked by: _____ SS
designed by: _____ BMW
QA/QC by: _____ JES
project no.: _____ A19-2339
drawing no.: C TYP01 A192339
date: _____ 3/17/2020

SHEET
C104

TYPICAL SECTIONS STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

REV. NO.	DATE	REVISIONS DESCRIPTION
1	6/15/2020	STREET NAME CHANGED

REVISIONS



Olsson - Civil Engineering
Missouri Certificate of Authority #: 001592
1301 Burlington Street
North Kansas City, MO 64116

olson

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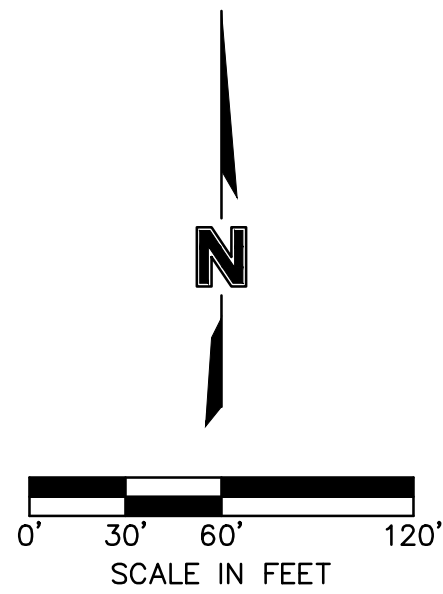
GENERAL NOTES:

1. CONTRACTOR SHALL ADHERE TO THE "DESIGN AND CONSTRUCTION MANUAL" SECTION 2100 AS ADOPTED BY THE CITY OF LEE'S SUMMIT (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY.
2. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH AS RECOMMENDED BY GEOTECHNICAL ENGINEER AND OR TESTING AGENCY. SOILS REMOVED DURING SITE STRIPPING SHOULD BE EVALUATED TO DETERMINE IF PORTIONS OF THE TOPSOIL STRATUM MAY BE UTILIZED AS STRUCTURAL FILL WITHIN PAVEMENT AREAS. ANY MATERIAL NOT DEEMED AS SUITABLE FILL MATERIAL BY THE GEOTECHNICAL ENGINEER AND OR TESTING AGENCY SHALL BE REMOVED FROM THE JOB SITE BY THE CONTRACTOR AT HIS EXPENSE.
3. ALL EMBANKMENT OUTSIDE OF RIGHT-OF-WAY SHOULD BE PLACED IN CONTROLLED LIFTS HAVING A MAXIMUM LOOSE LIFT THICKNESS OF 8". EMBANKMENT SHOULD BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR COMPACTION). MOISTURE CONTENT OF THE FILL AT THE TIME OF COMPACTION SHALL BE WITHIN A RANGE OF -0 TO +4 PERCENT OF OPTIMUM MOISTURE CONTENT.

Ownership
Sherrard Lawrence III & Mary
Parcel 69-800-01-20-00-00-000
14501 Missouri State 150 Hwy,
Lee's Summit, MO. 64082

Ownership
Salento Corbis & Corbis
Parcel 69-800-01-20-00-00-000

Ownership



LEGEND

-100-	EXISTING INDEX CONTOURS
-100-	EXISTING INTERMEDIATE CONTOURS
-100-	PROPOSED INDEX CONTOURS
-100-	PROPOSED INTERMEDIATE CONTOURS

EARTHWORK QUANTITIES

LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	5,625	9,615
SITE	27,711	33,974
TOTAL	33,336	43,589

EARTHWORK QUANTITIES NOTES:

1. EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.
2. EARTHWORK QUANTITIES DO NOT TAKE INTO CONSIDERATION EXCAVATION, REMOVAL AND DISPOSAL OF MATERIAL DEEMED UNSUITABLE BY A GEOTECHNICAL ENGINEER. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR EXCAVATION, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL AND FOR REPLACING IT WITH SUITABLE MATERIAL.



GRADING PLAN (FOR REFERENCE ONLY)
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

REV. NO.	DATE	REVISIONS DESCRIPTION
1	6/15/2020	GRADING REVISED

REVISIONS

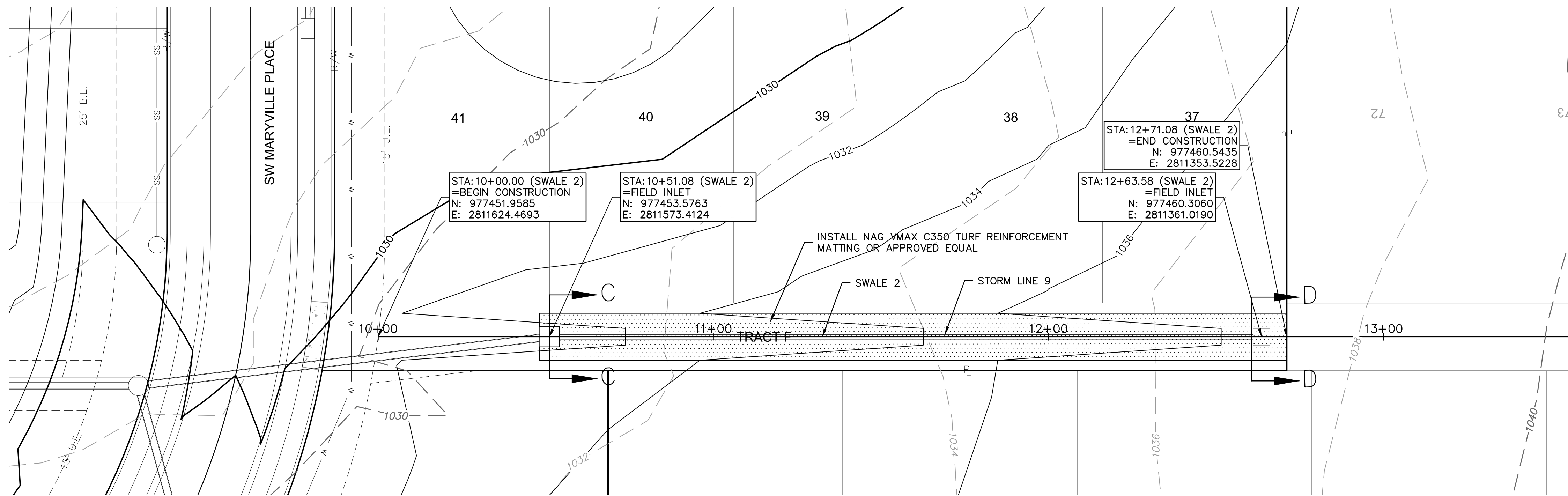


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drawn by: SS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_GRD01_A192339
date: 3/17/2020

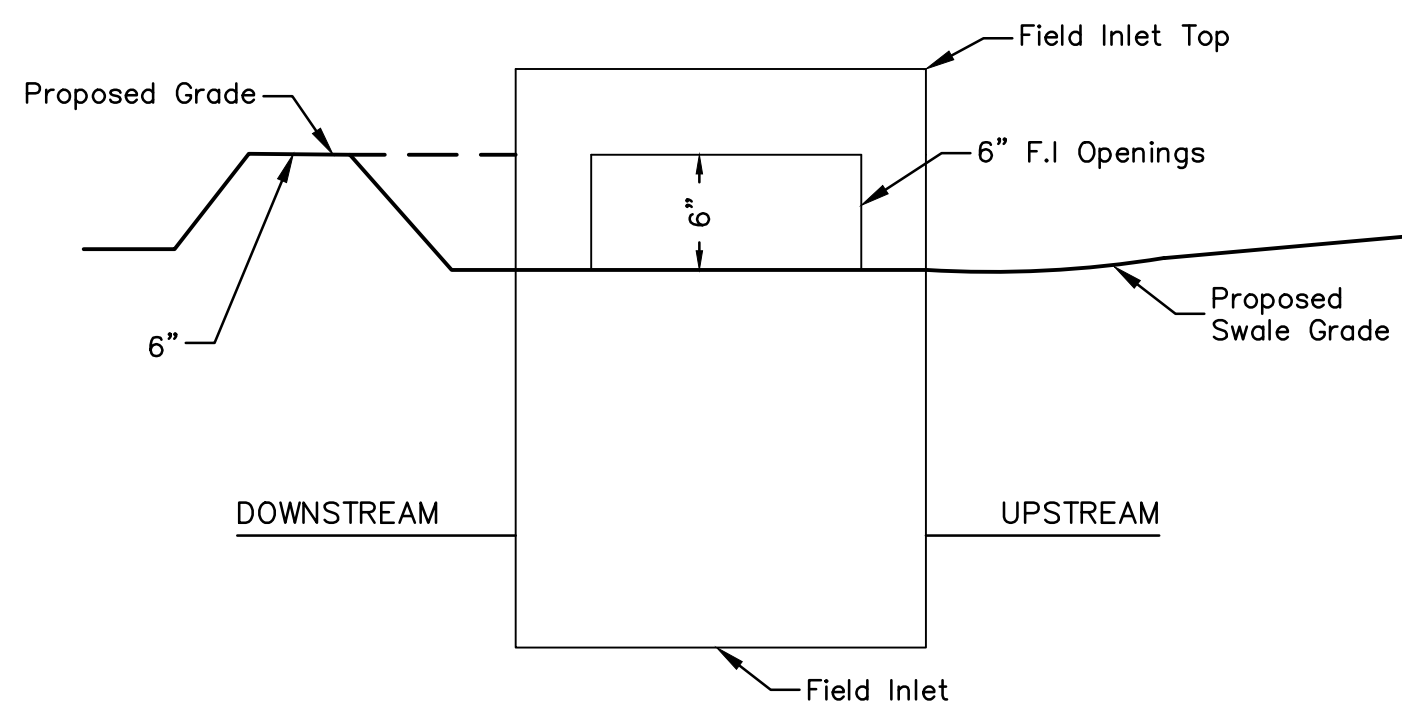
SHEET
C105



LEGEND	
	NAG VMAX C350 TURF REINFORCEMENT MAT OR APPROVED EQUAL

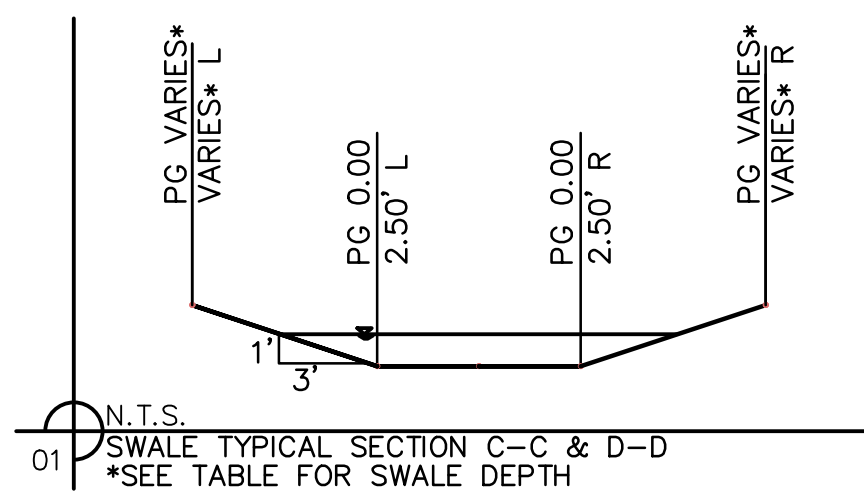
SWALE GRADING NOTES:

1. CONTRACTOR SHALL CONSTRUCT SWALES WITH MINIMUM SLOPE, WIDTH AND DEPTH AS SHOWN IN THE SWALE DESIGN TABLES.
2. AS-BUILT SURVEY IS REQUIRED/APPROVED BY CITY FOR ALL SWALES AND PRIOR TO APPROVAL FOR ANY BUILDING FOUNDATION PERMIT. CONTRACTOR SHALL BE REQUIRED TO REGRADE SWALES AT CONTRACTOR'S EXPENSE IF ABOVE REQUIREMENTS ARE NOT MET.



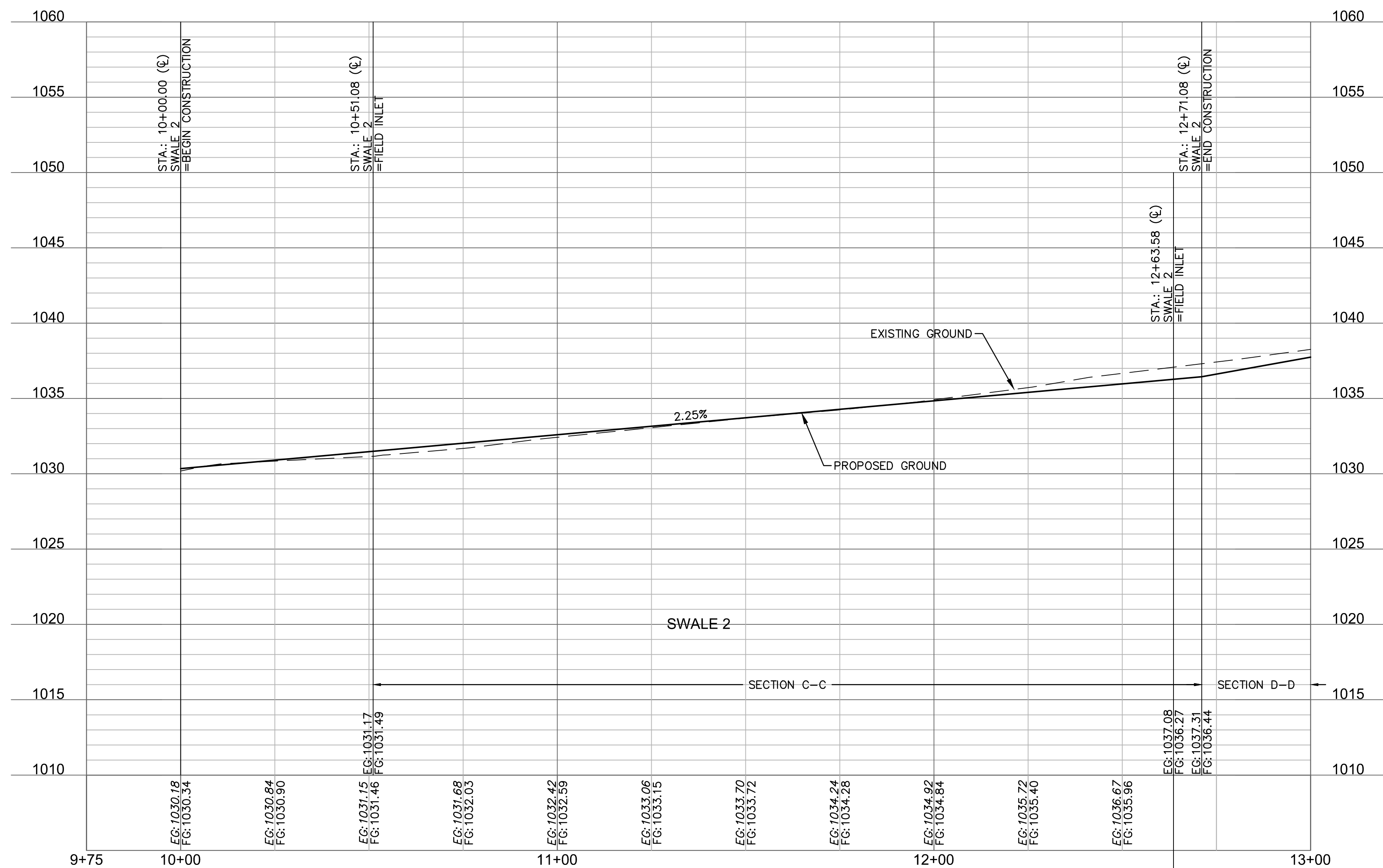
NOTE: INCLUDE SUMP PER ABOVE DETAIL WHERE
FIELD INLETS ARE LOCATED WITHIN SWALES.

SUMP DETAIL
N.T.S.



Swale Design Table (100 Year Return Frequency)														
Section Data							Flow Data							
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft ²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft ²)
C-C	0.03	2.25%	1.64	3:1	3:1	5.00	20.20	0.64	4.43	4.56	9.05	8.84	0.96	0.69
D-D	0.03	2.25%	1.50	3:1	3:1	5.00	3.22	0.23	1.31	2.46	6.45	6.38	0.32	0.28
C-C Future	0.03	2.25%	1.64	3:1	3:1	5.00	5.00	0.29	1.70	2.94	6.83	6.74	0.42	0.35
D-D Future	0.03	2.25%	1.50	3:1	3:1	5.00	1.78	0.16	0.88	2.03	6.01	5.96	0.22	0.20

Swale Drainage Area Table (100 year Return Frequency)						
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
C-C	3.83	0.51	12	8.27	1.25	20.20
D-D	0.49	0.51	4	10.32	1.25	3.22
C-C Future	0.76	0.51	5	5.73	2.25	5.00
D-D Future	0.27	0.51	5	10.32	1.25	1.78

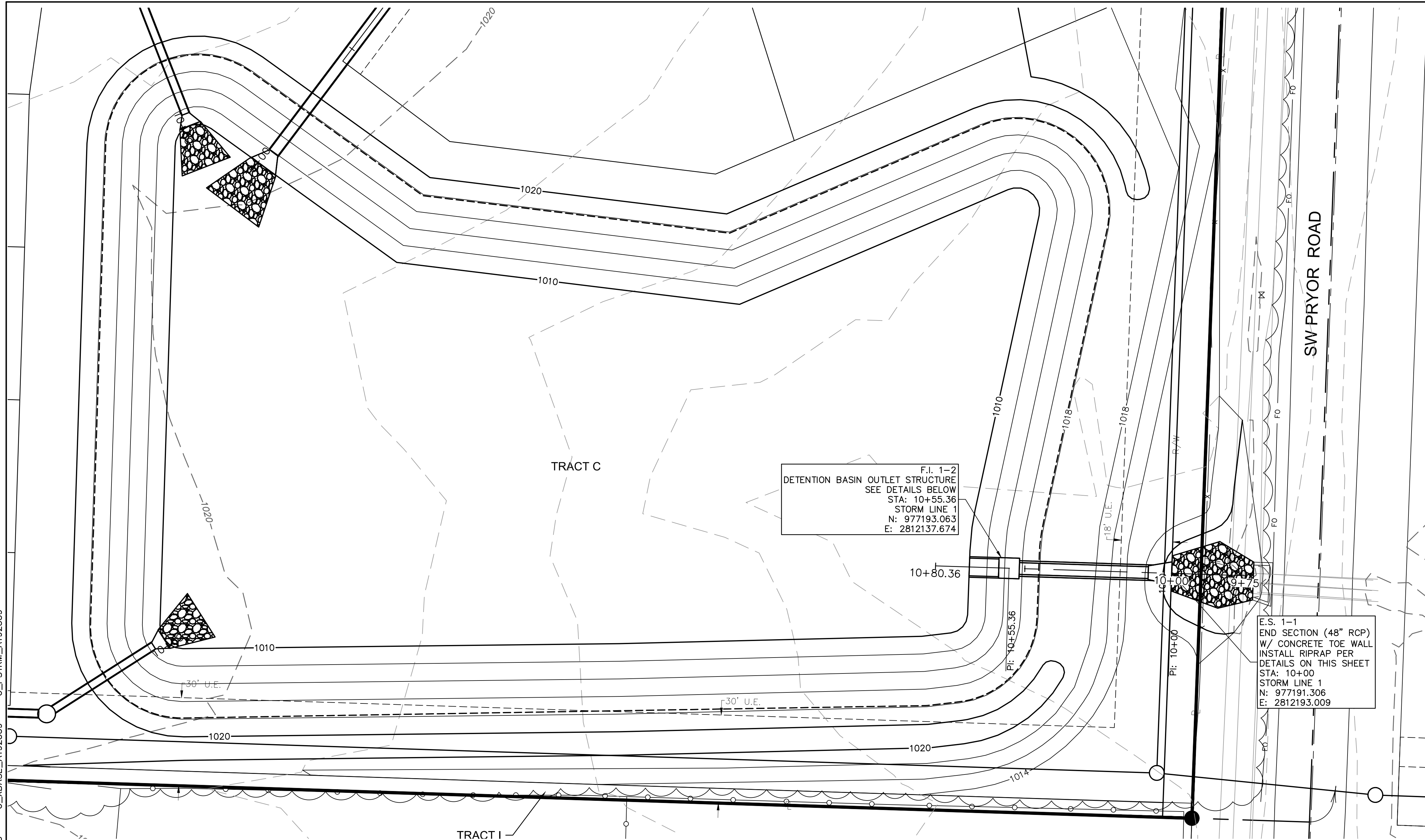
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SWALE 2 PLAN & PROFILE STREET & STORM SEWER PLANS	
OSAGE FIRST PLAT	
FIELD OFFICER: NEW & MAGGILL, INC.	0000

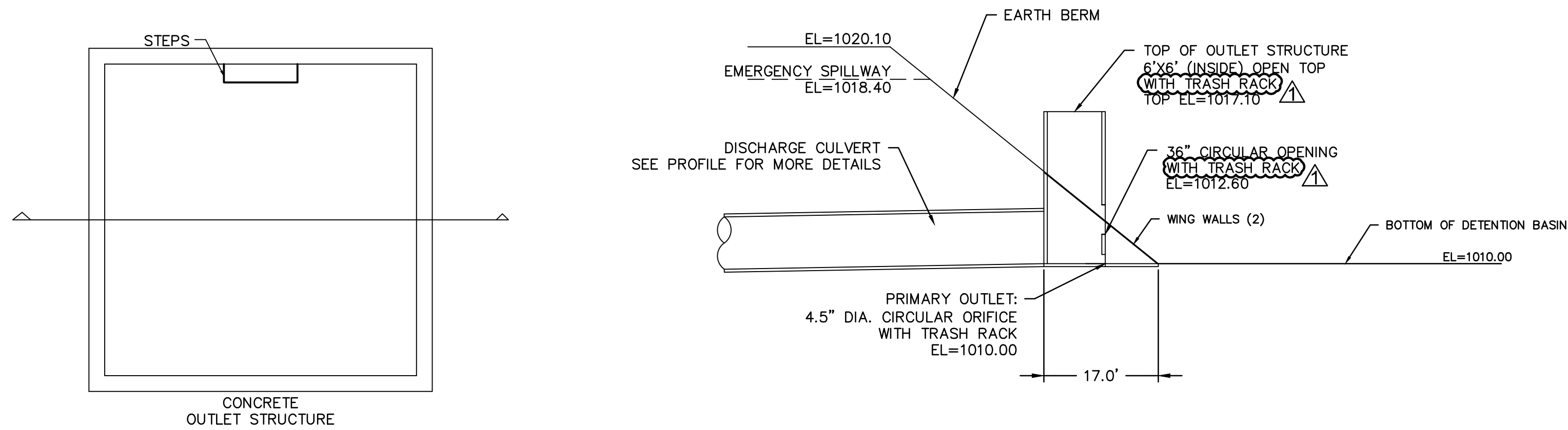
drawn by: _____ G
checked by: _____ S
designed by: _____ BM
QA/QC by: _____ JE
project no.: _____ A19-2333
drawing no.: C SWL01 A192333
date: _____ 3/17/202

SHEET
C107

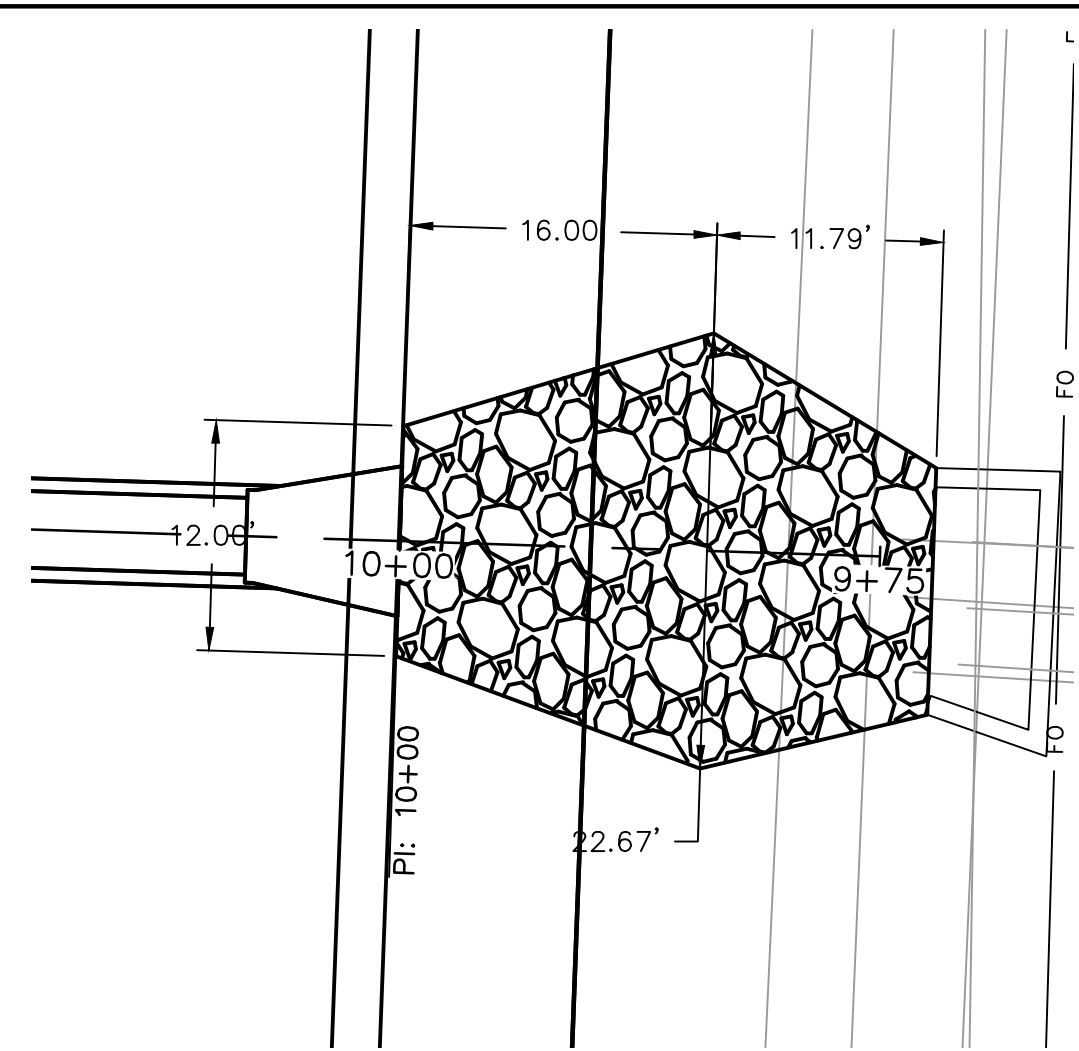
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DATE: Jun 15, 2020 6:19pm XREFS: C:\PBASE\A192339 C:\PBDY\A192339 C:\PSTRM\A192339 C:\XBASE_A192339



BASIN SPILLWAY DETAILS	
TYPE	RECTANGULAR BROAD CRESTED WEIR
LENGTH	160 FT
SPILLWAY ELEVATION	1018.40 FT
SPILLWAY DEPTH	1.70 FT
TOP ELEVATION	1020.10 FT
100-YR FLOW (AT 0.68' FLOW DEPTH)	233.27 CFS



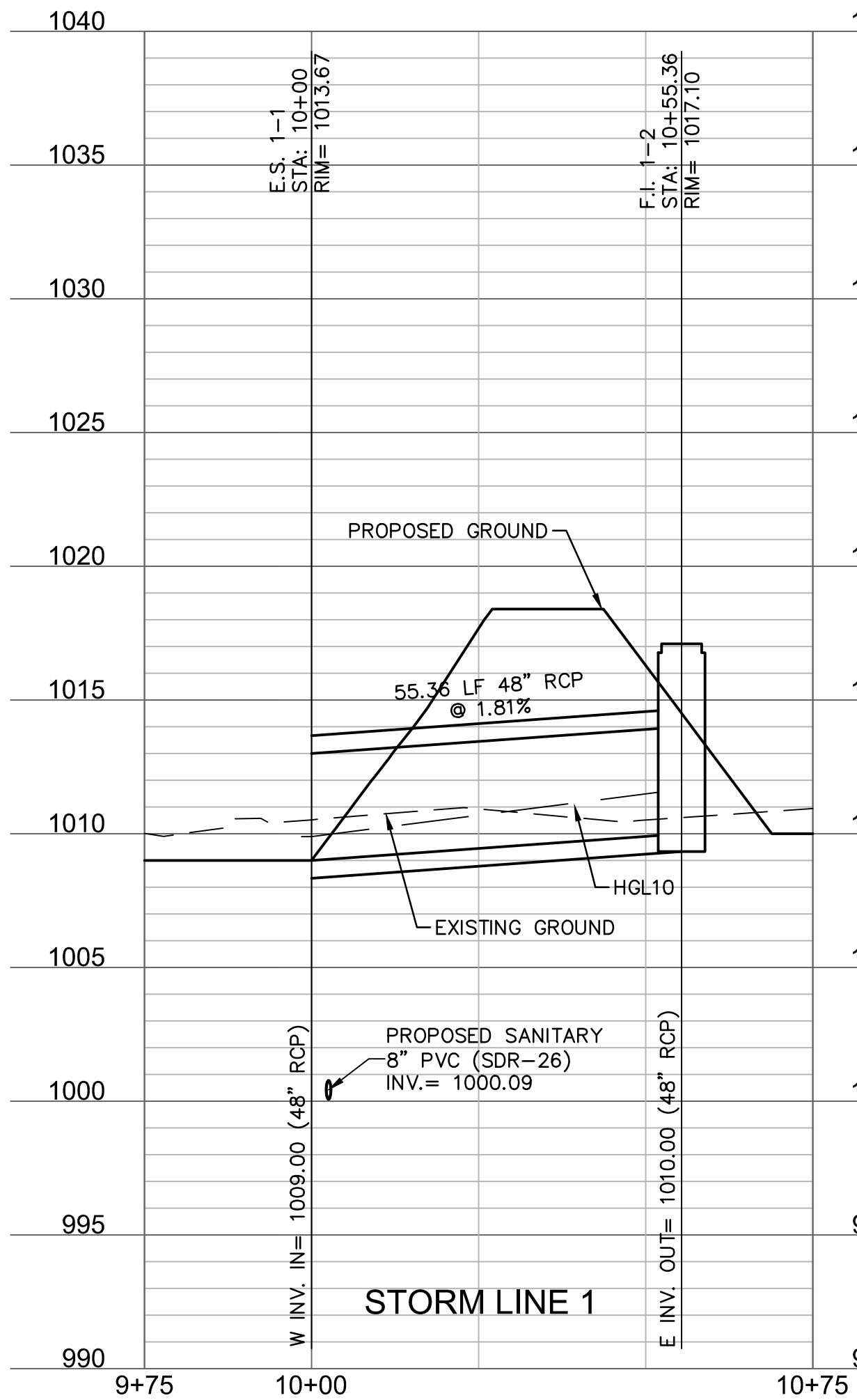
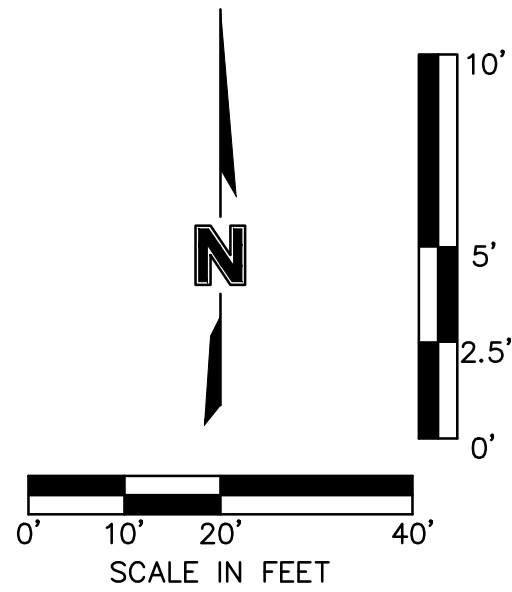
BASIN OUTLET STRUCTURE DETAIL
N.T.S.



RIP RAP DETAIL
1"=10'

Riprap Calculations							
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)	Minimum Area (SY)
E.S. 1-1	56.3	4	2	6	16	1.65	30.8

*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18

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REV. NO.	DATE
1	6/15/2020

DETENTION BASIN PLAN

STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

2020

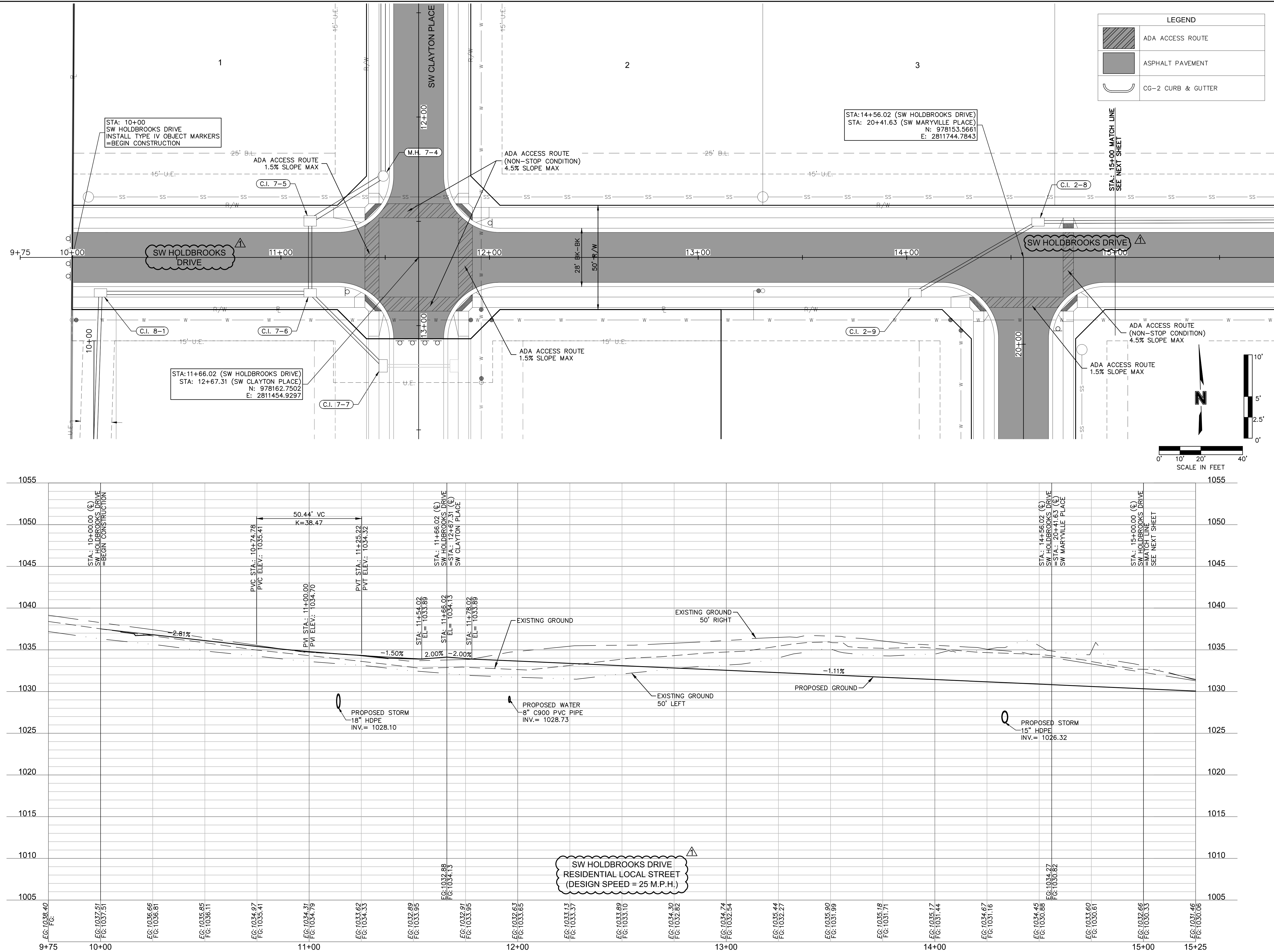
LEE'S SUMMIT, MISSOURI

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checked by: _____ SS
designed by: _____ BMW
QA/QC by: _____ JES
project no.: _____ A19-2339
drawing no.: C DBP01 A192339
date: _____ 3/17/2020

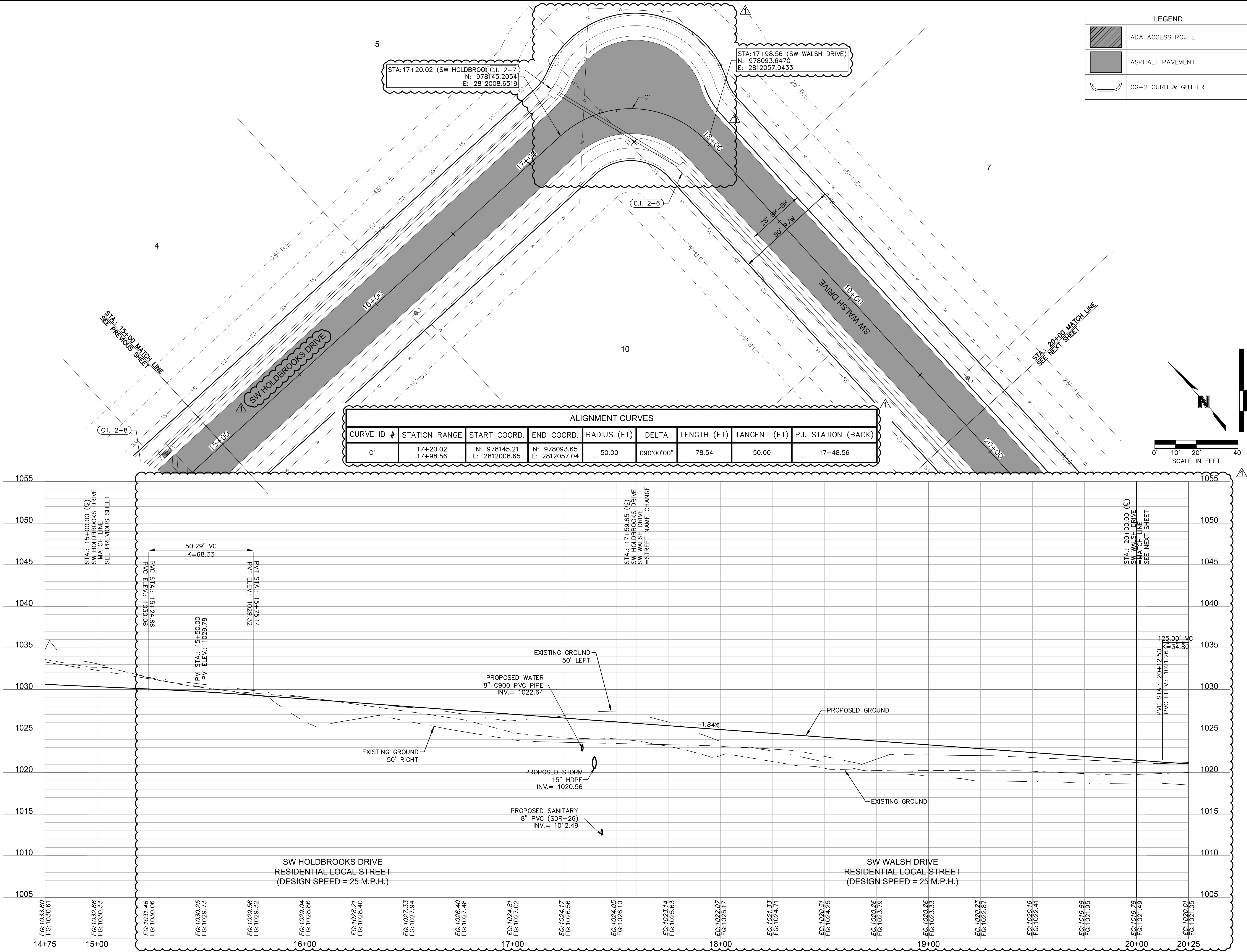
SHEET
C108

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USER: bworthley



ROADWAY PLAN & PROFILE (SW HOLDBROOKS DRIVE & SW WALSH DRIVE)
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

drawn by: SS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_RPP01_A192339
date: 8/17/2020

SHEET
C110

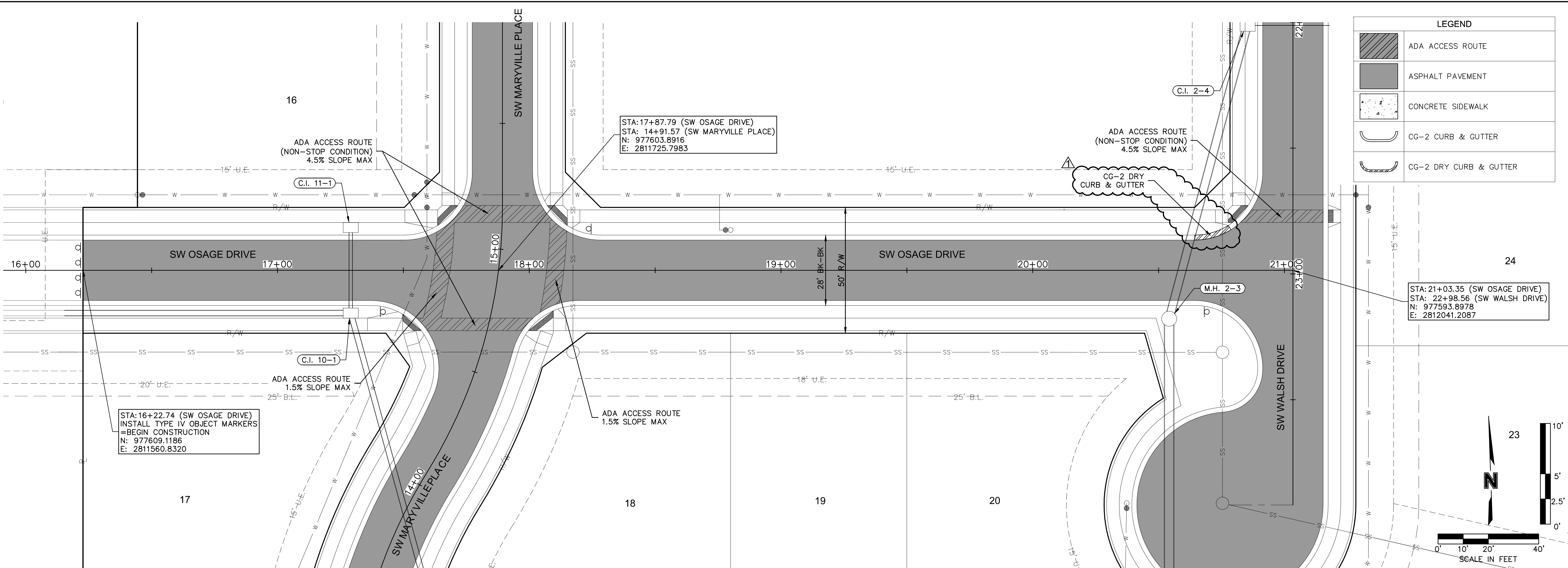
BROCK M. WORTHLEY
AUGUST 15, 2019
PROFESSIONAL ENGINEER

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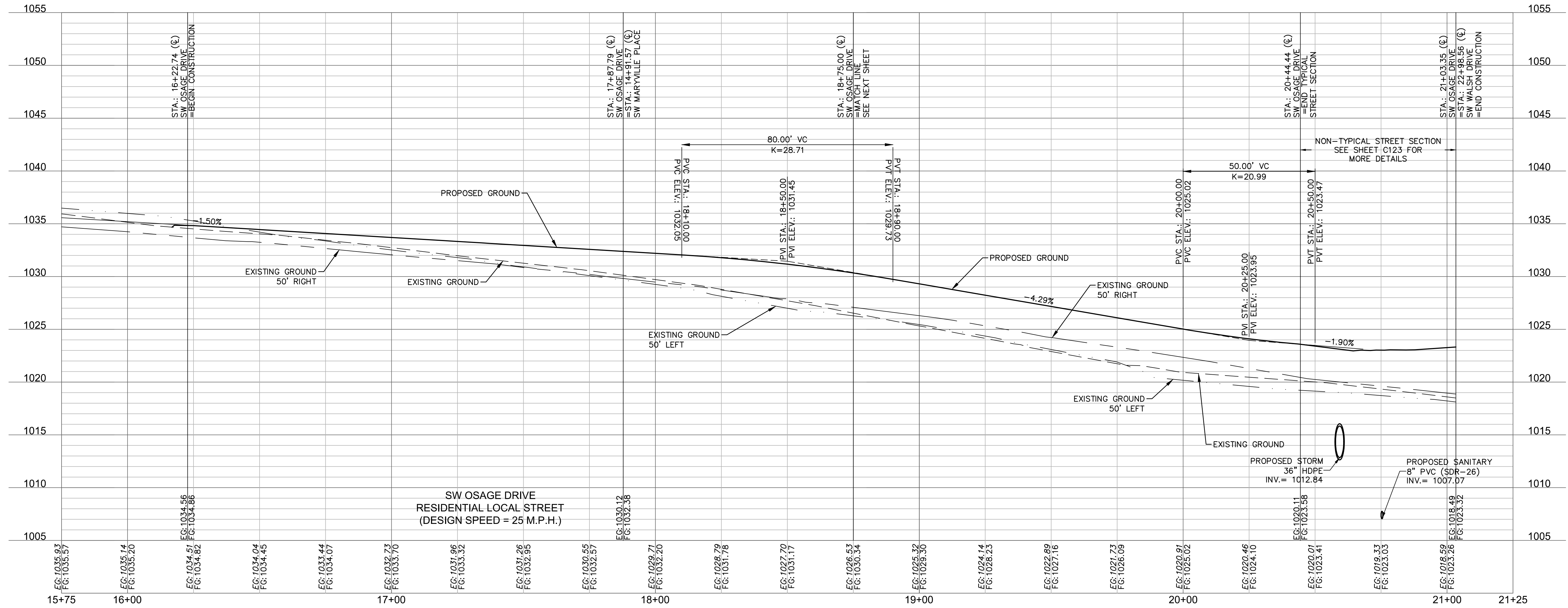
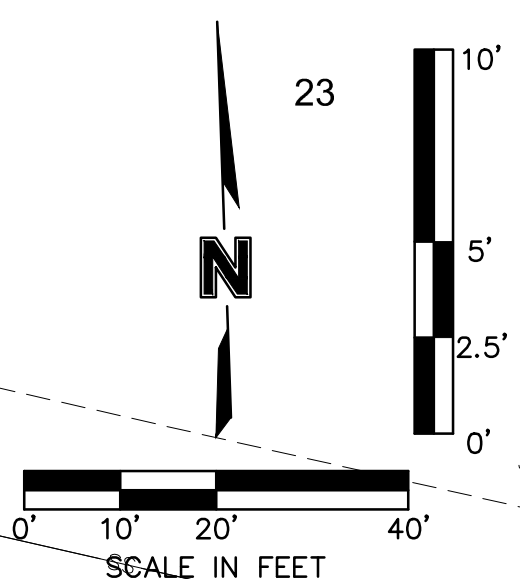
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REVISIONS

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LEGEND	
	ADA ACCESS ROUTE
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER
	CG-2 DRY CURB & GUTTER



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Professional Engineer
PE-2019000237
Exp. 12/31/2025

REV.	NO.	DATE	REVISIONS DESCRIPTION
1		6/15/2020	CG-2 DRY CURB & GUTTER ADDED

ROADWAY PLAN & PROFILE (SW OSAGE DRIVE)
STREET & STORM SEWER PLANS

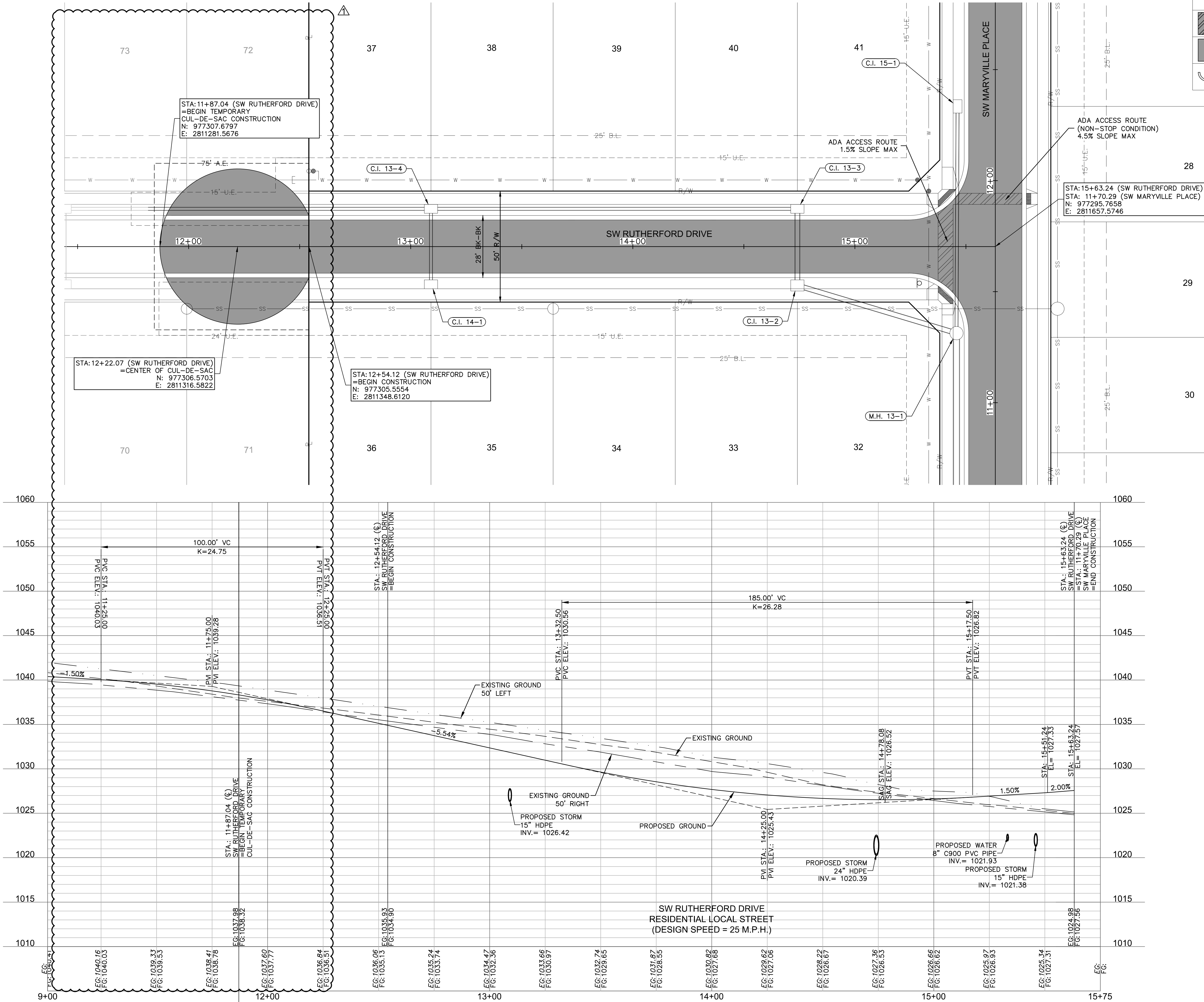
OSAGE
FIRST PLAT

2020

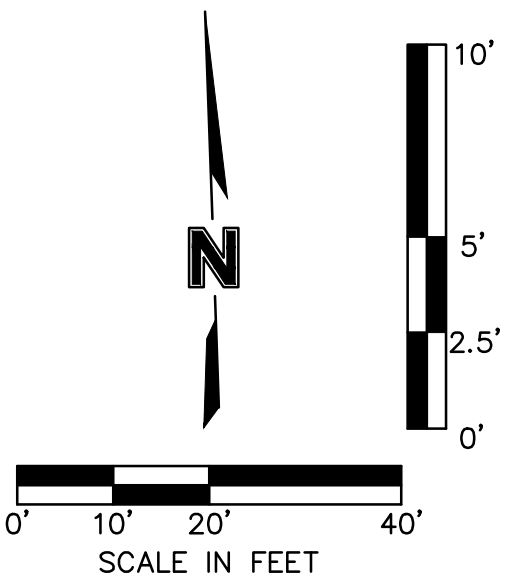
LEE'S SUMMIT, MISSOURI

drawn by: _____ SS
checked by: _____ SS
designed by: _____ BMW
QA/QC by: _____ JES
project no.: A19-2339
drawing no.: C_RP02_A192339
date: 3/17/2020

SHEET
C112



LEGEND	
	ADA ACCESS ROUTE
	ASPHALT PAVEMENT
	CG-2 CURB & GUTTER



ROADWAY PLAN & PROFILE (SW RUTHERFORD DRIVE)
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

drawn by: SS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_RPP02_A192339
date: 3/17/2020

SHEET
C113

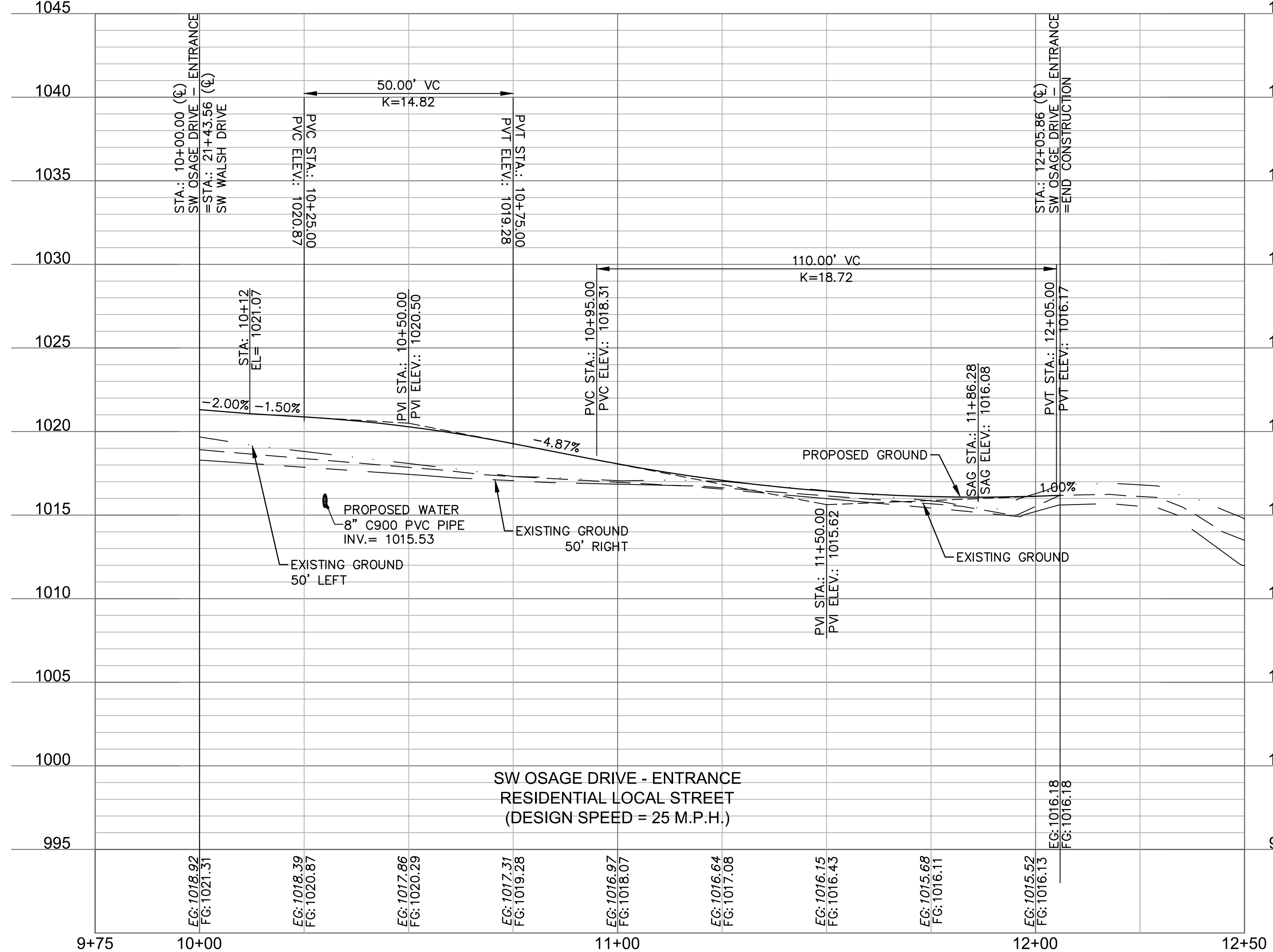
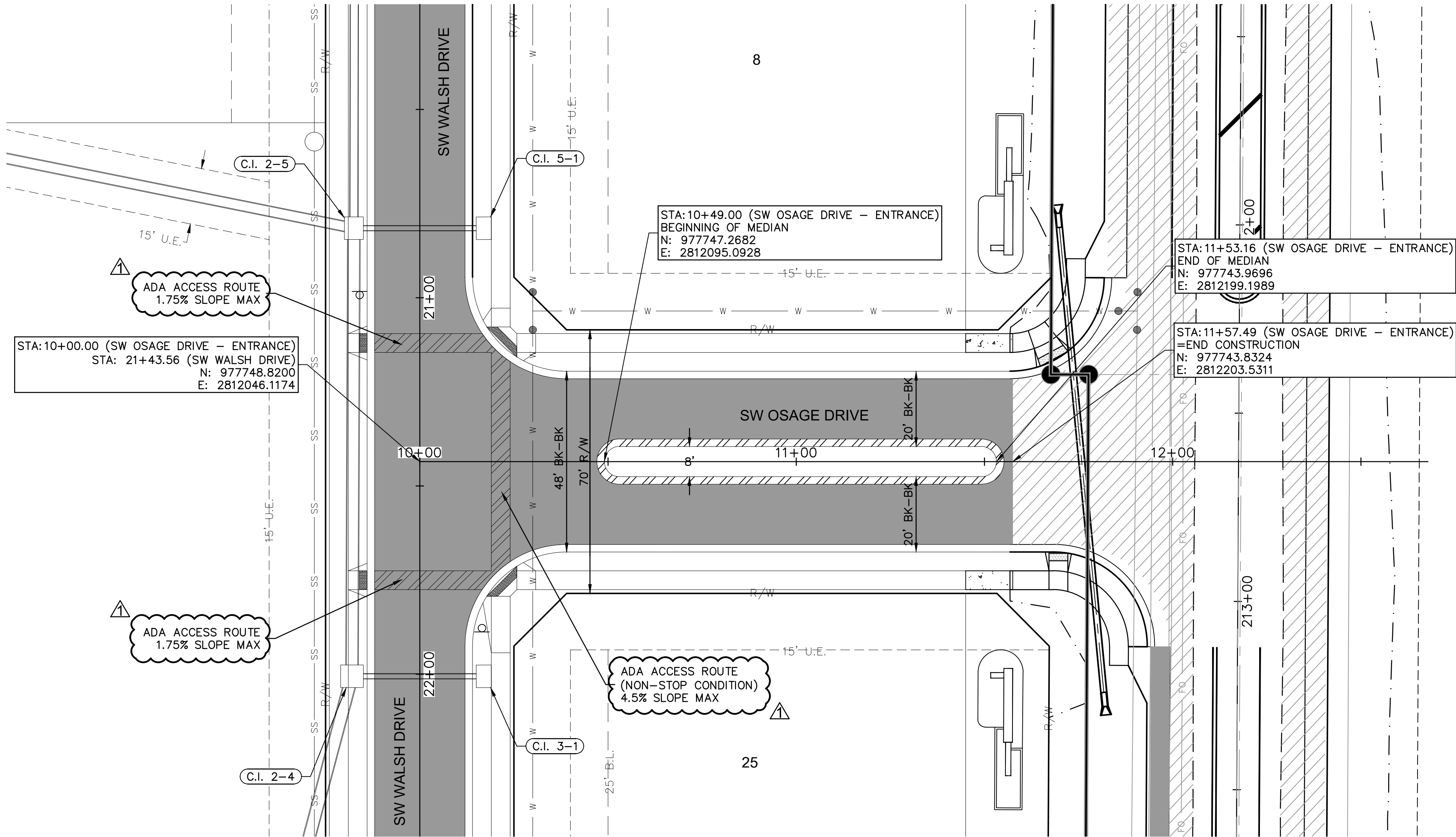


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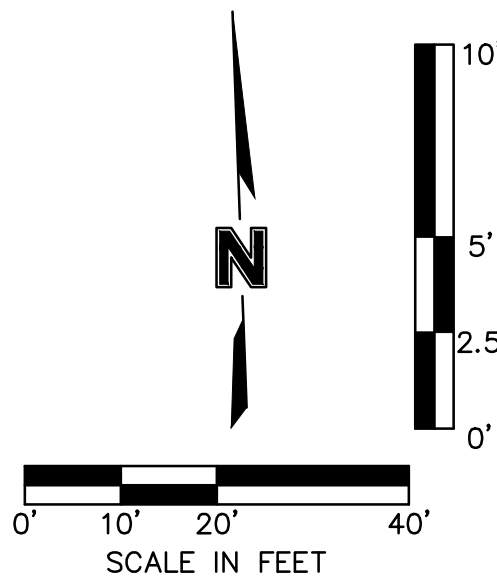
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LEGEND	
	ADA ACCESS ROUTE
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER
	CG-2 DRY CURB & GUTTER
	SEE HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENT PLANS



ROADWAY PLAN & PROFILE (SW OSAGE DRIVE - ENTRANCE)
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

drawn by: SS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_RPP02_A192339
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SHEET
C114

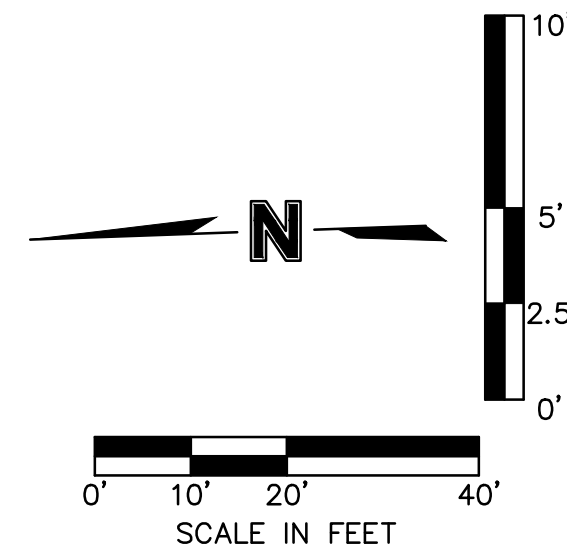


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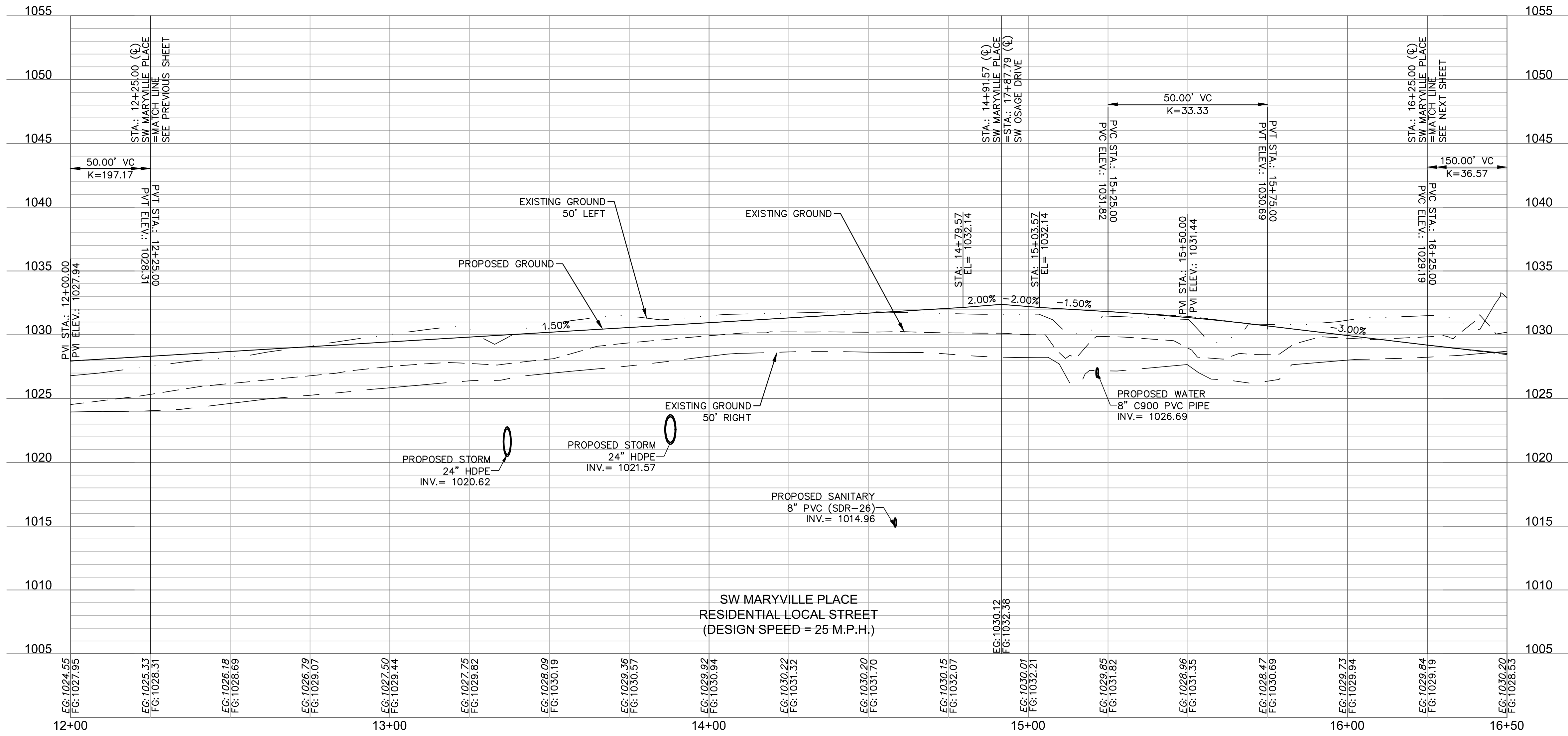
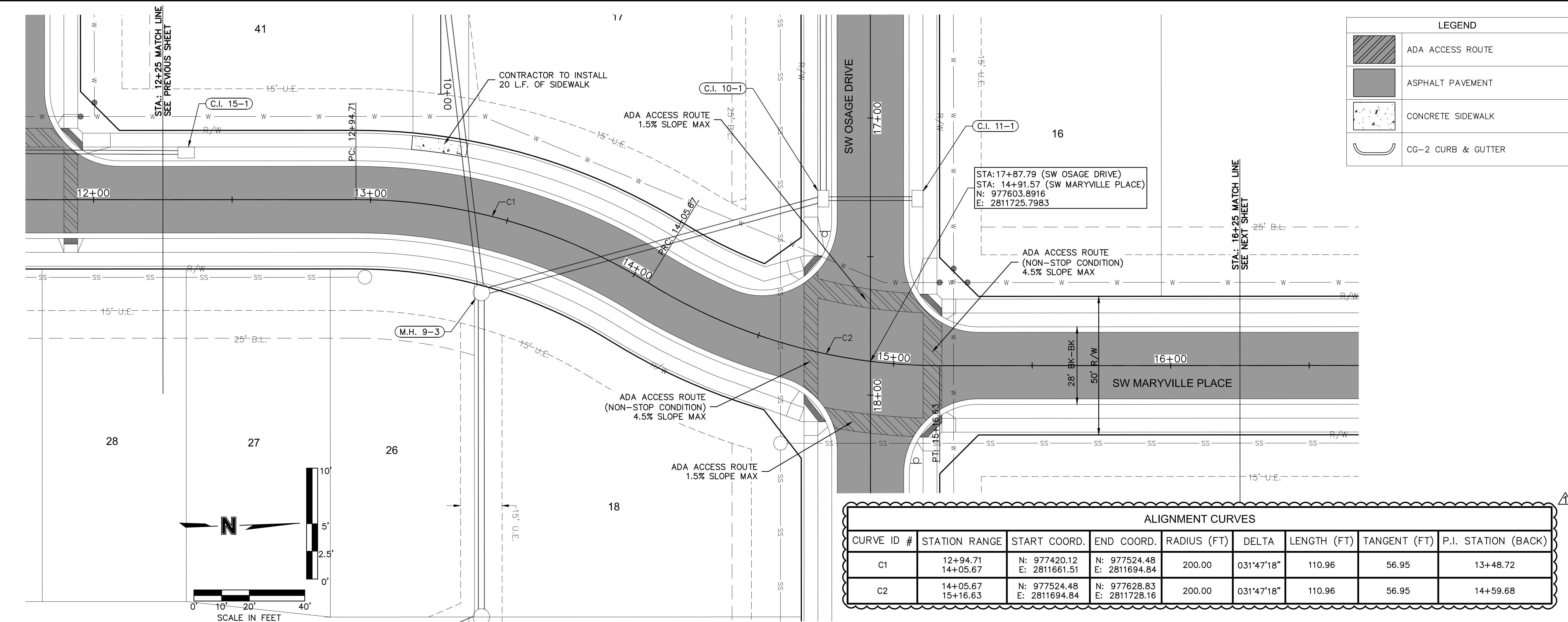
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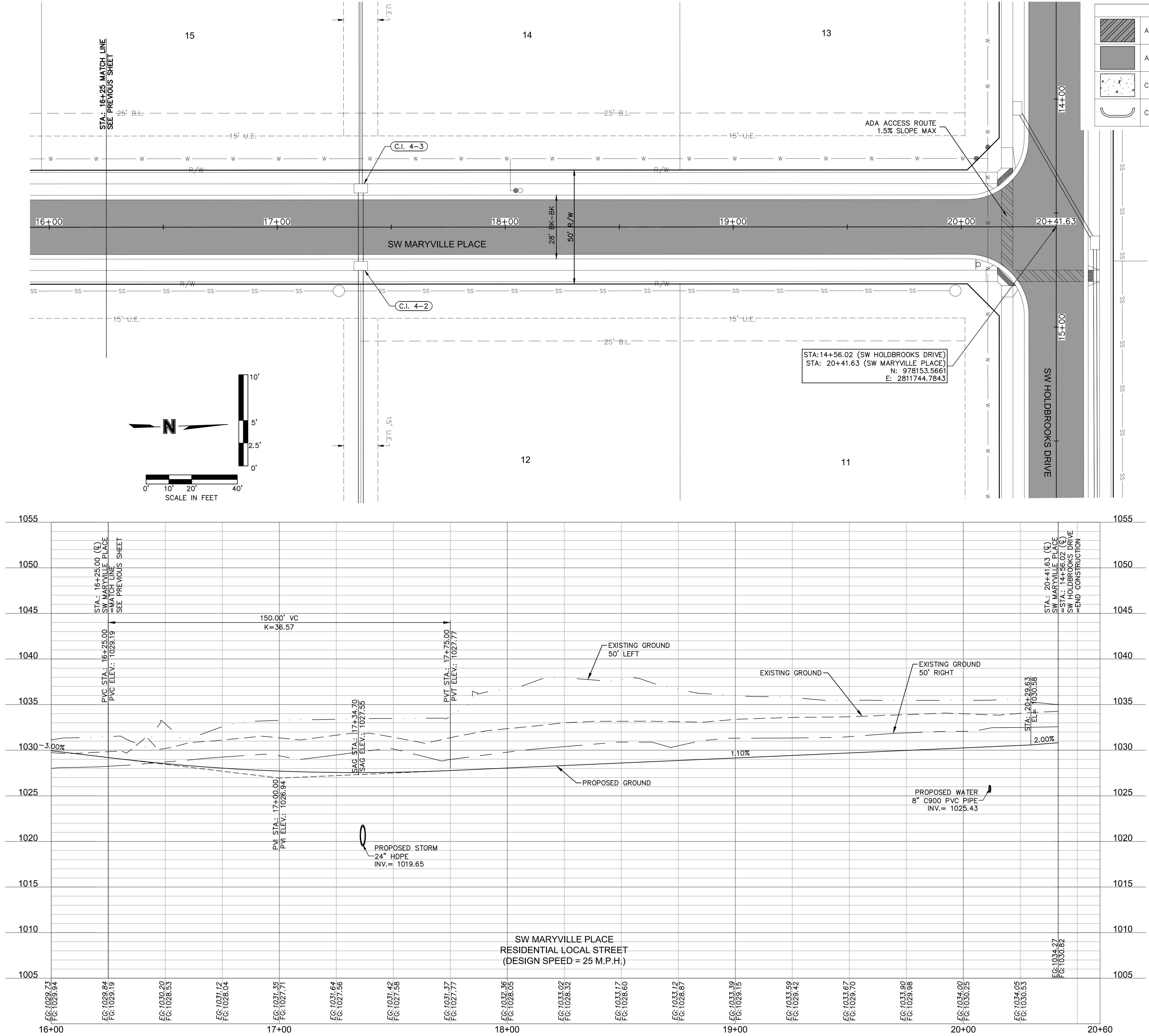
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drawn by: _____ GS checked by: _____ SS designed by: _____ BMW QA/QC by: _____ JES project no.: _____ A19-2329 drawing no.: C_RPP02 A19-2339 date: 3/17/2020		ROADWAY PLAN & PROFILE (SW CLAYTON PLACE) STREET & STORM SEWER PLANS		REV. NO.		DATE	REVISIONS DESCRIPTION			 Olsson - Civil Engineering www.olsson.com 1301 Burlington Street North Kansas City, MO 64116 TEL 816.361.1177	
OSAGE FIRST PLAT											
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SHEET C115											



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USER: bworthley C_PTELK_A192339



LEGEND	
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	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER



REV. NO.	DATE	REVISIONS DESCRIPTION

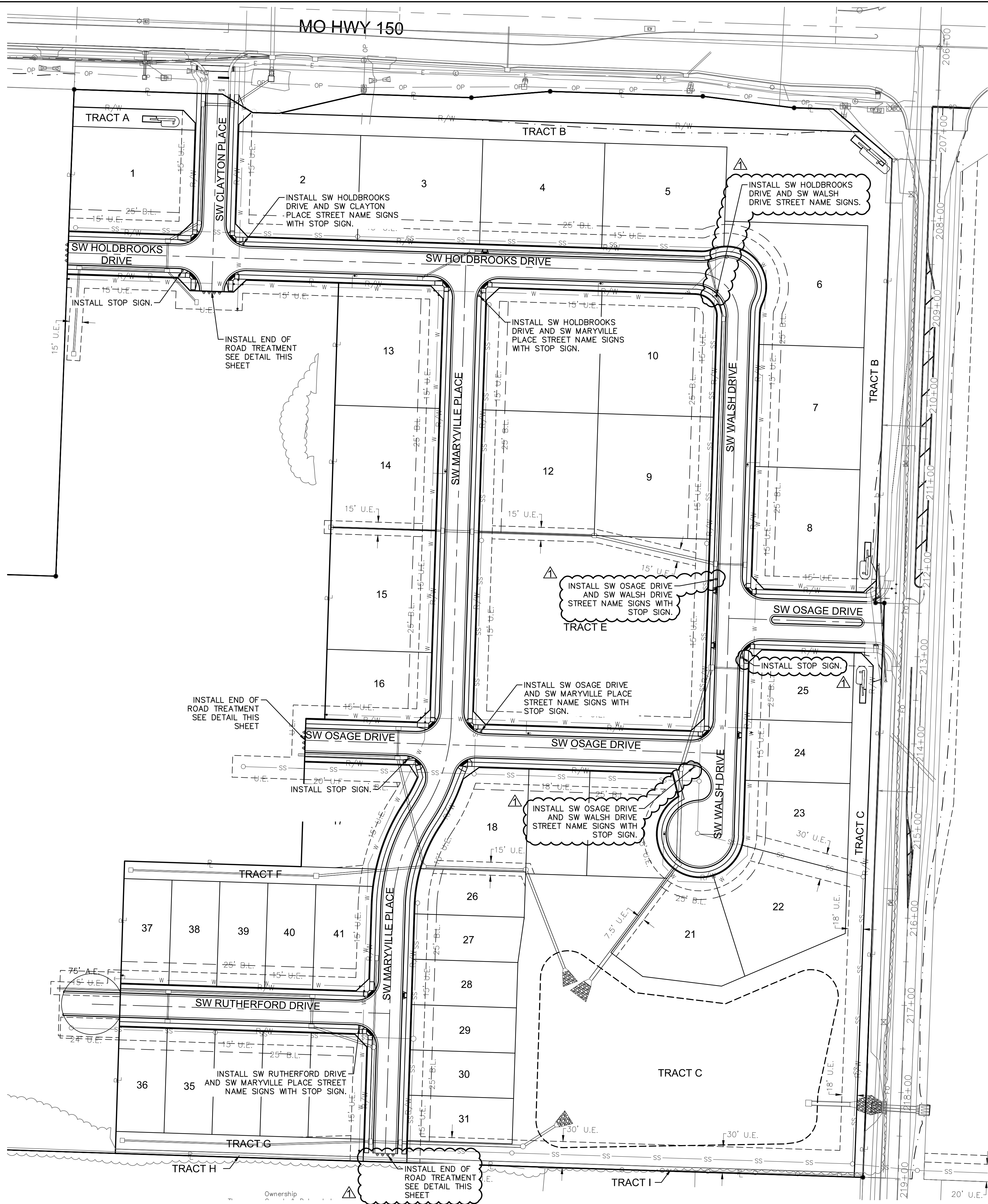
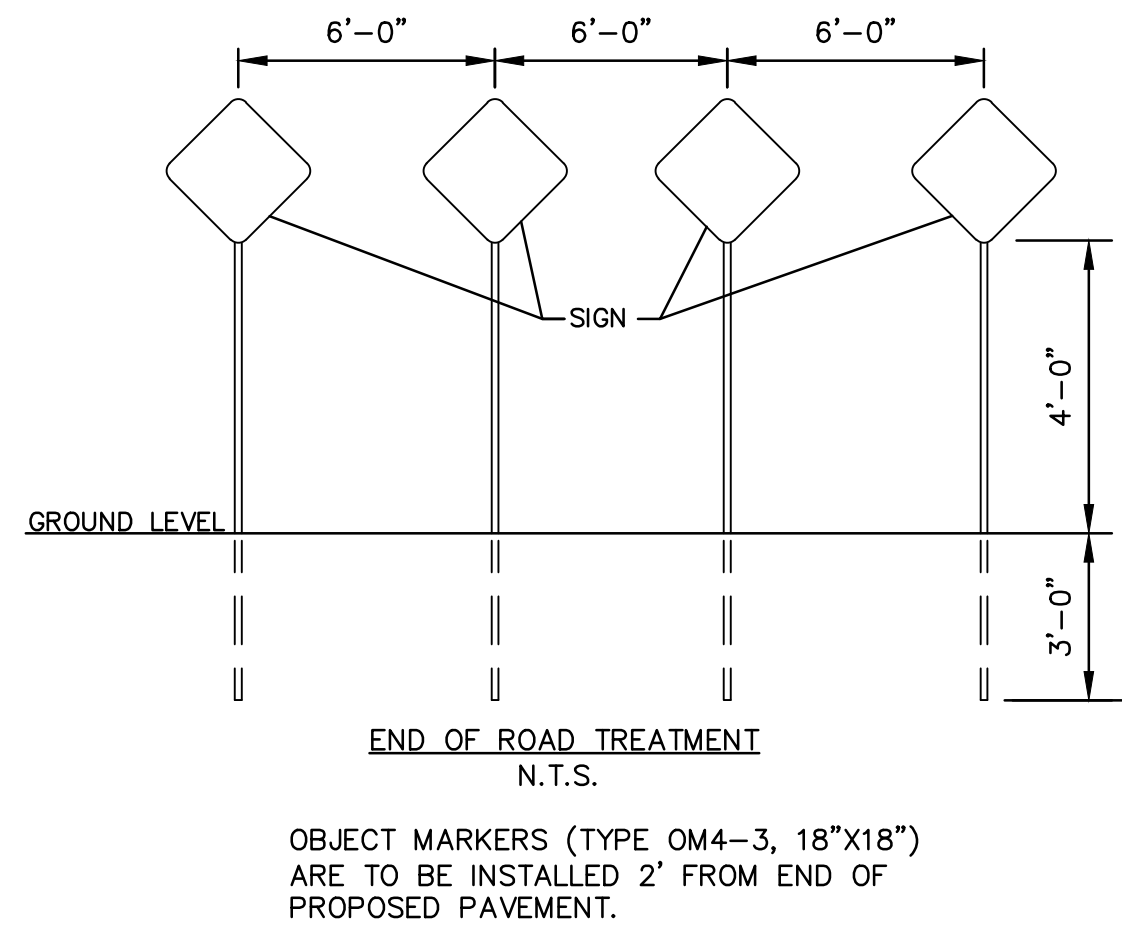
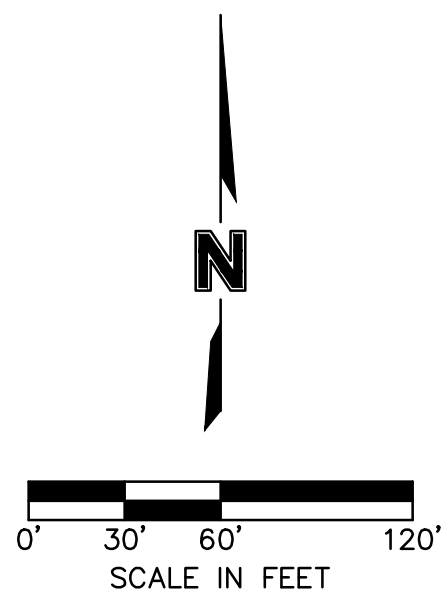
ROADWAY PLAN & PROFILE (SW MARYVILLE PLACE) STREET & STORM SEWER PLANS		2020
OSAGE FIRST PLAT		
LEE'S SUMMIT, MISSOURI		

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QA/QC by: JES
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drawing no.: C_RPP03_A192339
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SHEET
C118

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TRAFFIC CONTROL PLAN
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

REV. NO.	DATE	REVISIONS DESCRIPTION
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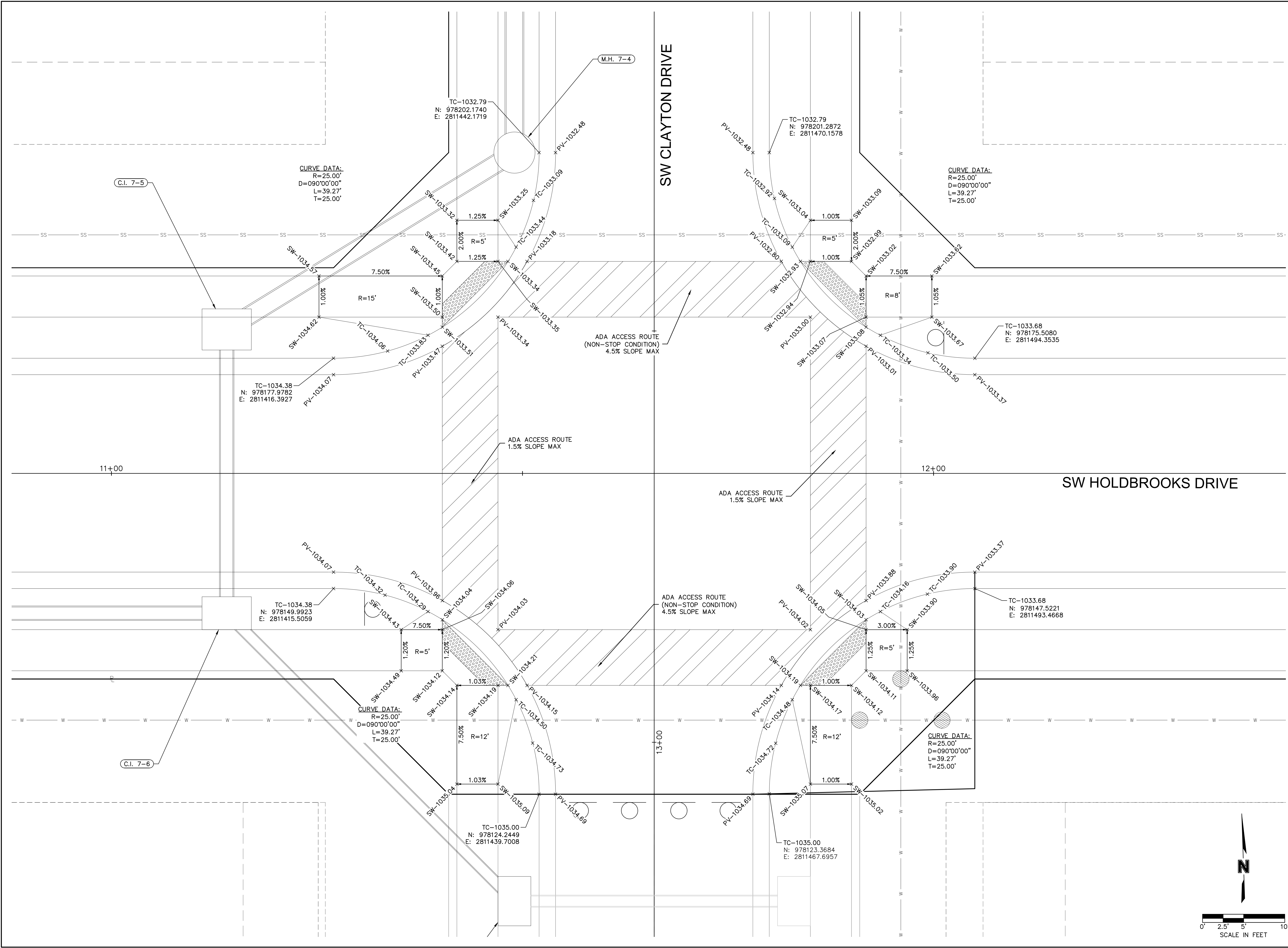
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QA/QC by: _____ JES
project no.: A19-2339
drawing no.: C TCP01_A192339
date: 3/17/2020

SHEET
C119

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PE-2019000237
Professional Engineer

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REVISIONS

SW HOLDBROOKS DRIVE & SW CLAYTON PLACE INTERSECTION
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

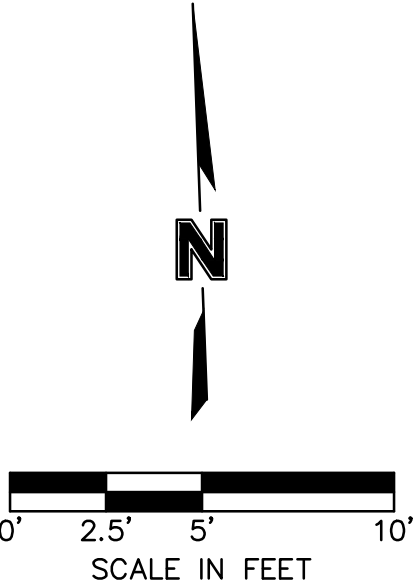
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C120

2020

USER: bworthley
C_PTBLK_

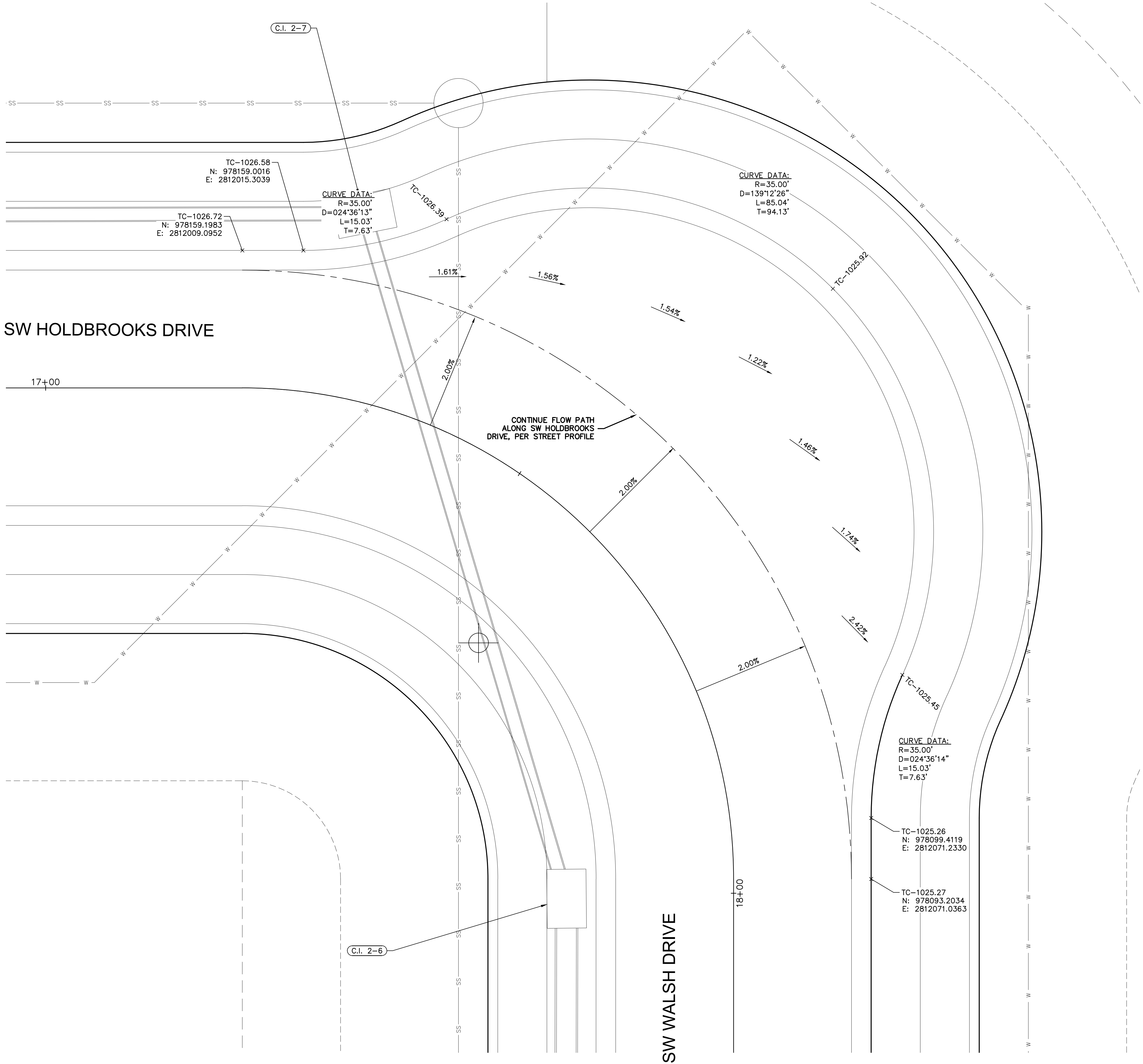
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checked by: _____ SS
designed by: _____ BMW
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project no.: _____ A19-2339
drawing no.: _____ C INT01 A192339
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SW HOLDBROOKS DRIVE & SW WALSH DRIVE INTERSECTION
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

REVISIONS

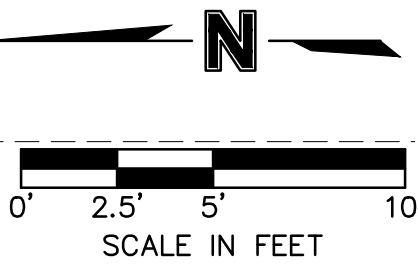
REV. NO.	DATE	REVISIONS DESCRIPTION
1	6/15/2020	CUL-DESIGN DETAILS ADDED

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checked by: SS
designed by: BMW
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drawing no.: C_INT01_A192339
date: 3/17/2020

SHEET
C122

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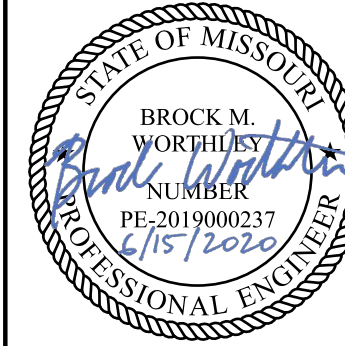
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USER: bworthley
9 C_PTBLK_OSAGE
FIRST PLAT

2020

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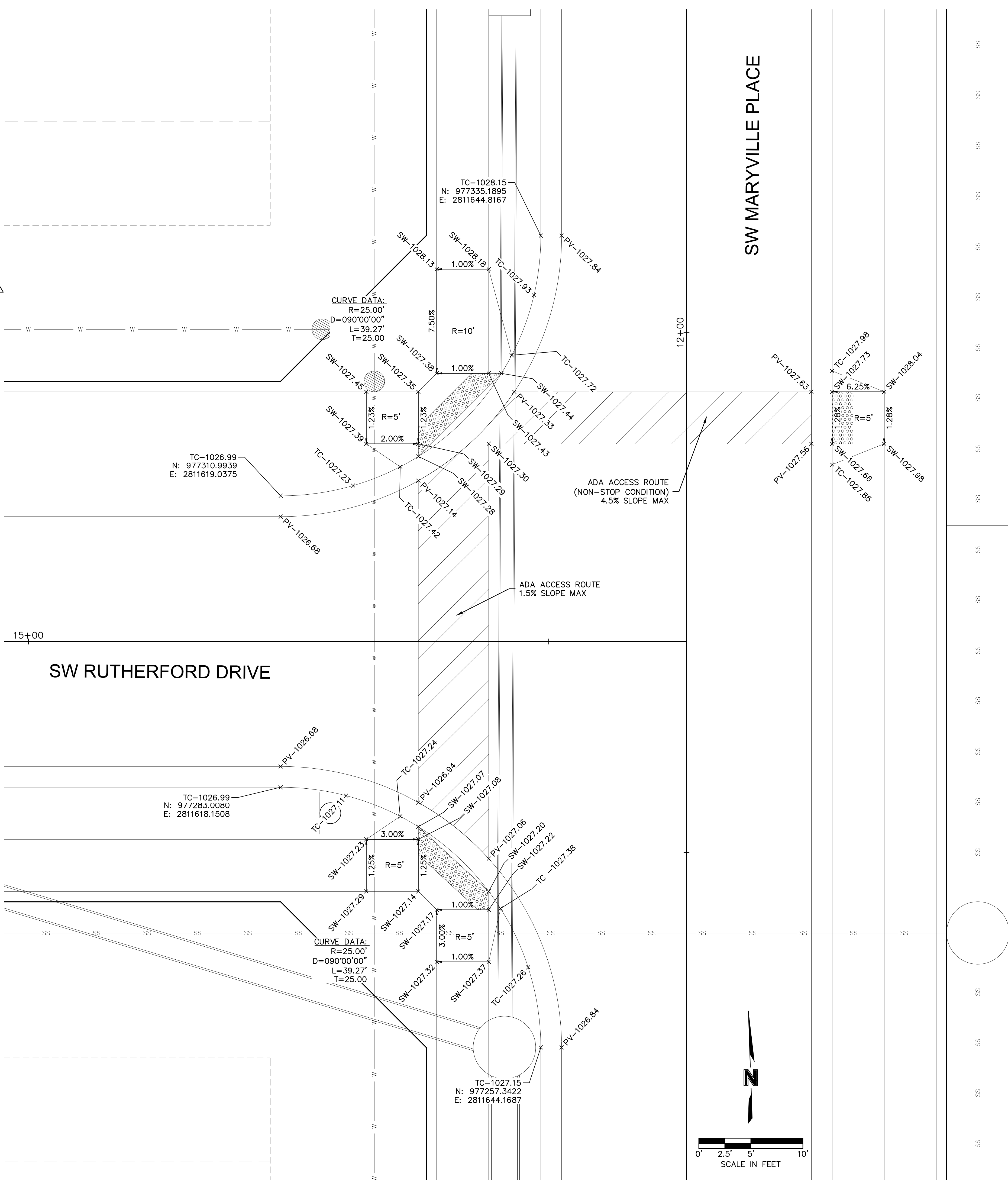
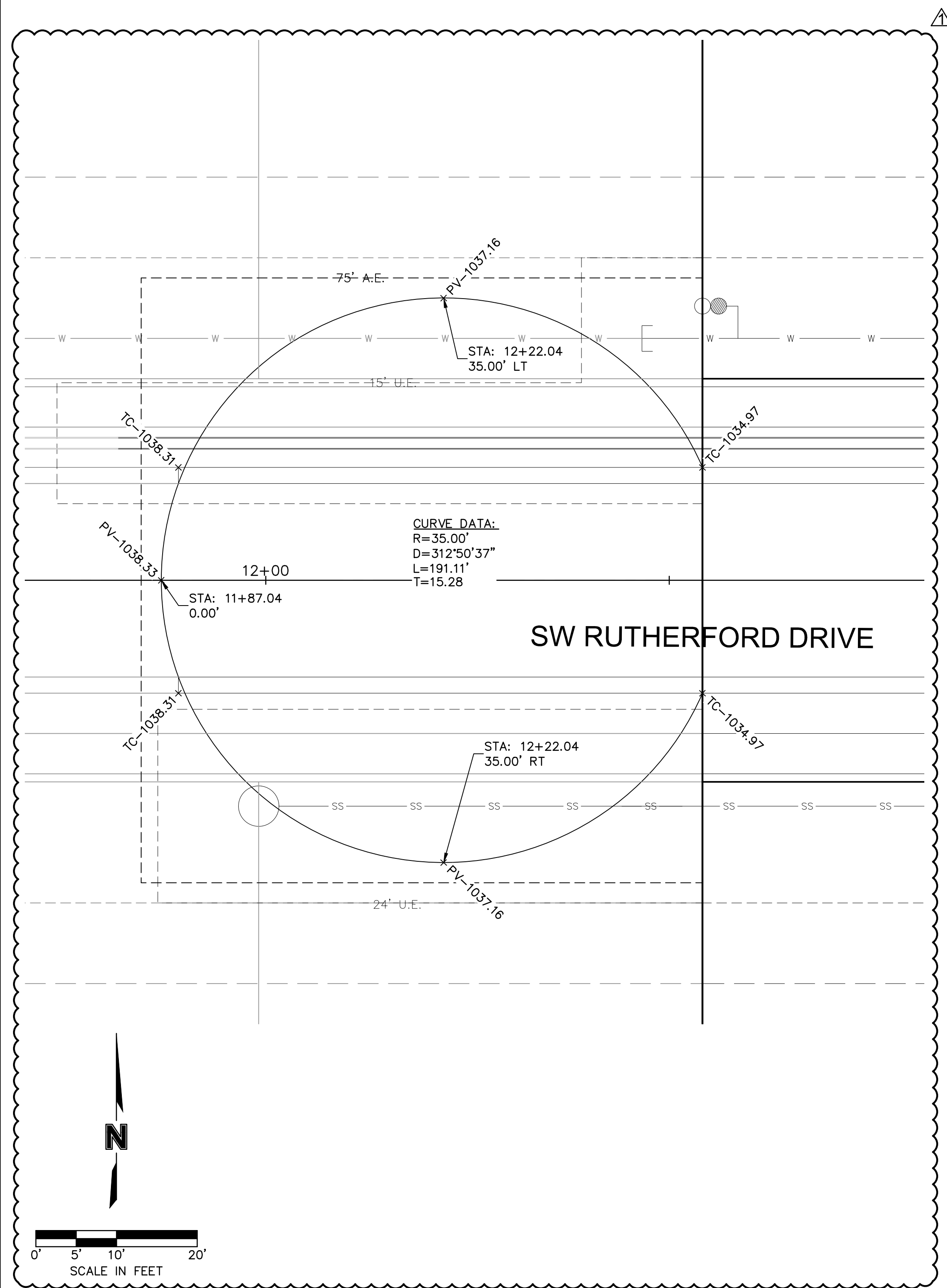
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by:	GS
by:	SS
by:	BMW
by:	JES
no.:	A19-2339
no.:	C INT01 A192339
	3/17/2020

SHEET
C123

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SW RUTHERFORD DRIVE & SW MARYVILLE PLACE INTERSECTION
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

REVISIONS

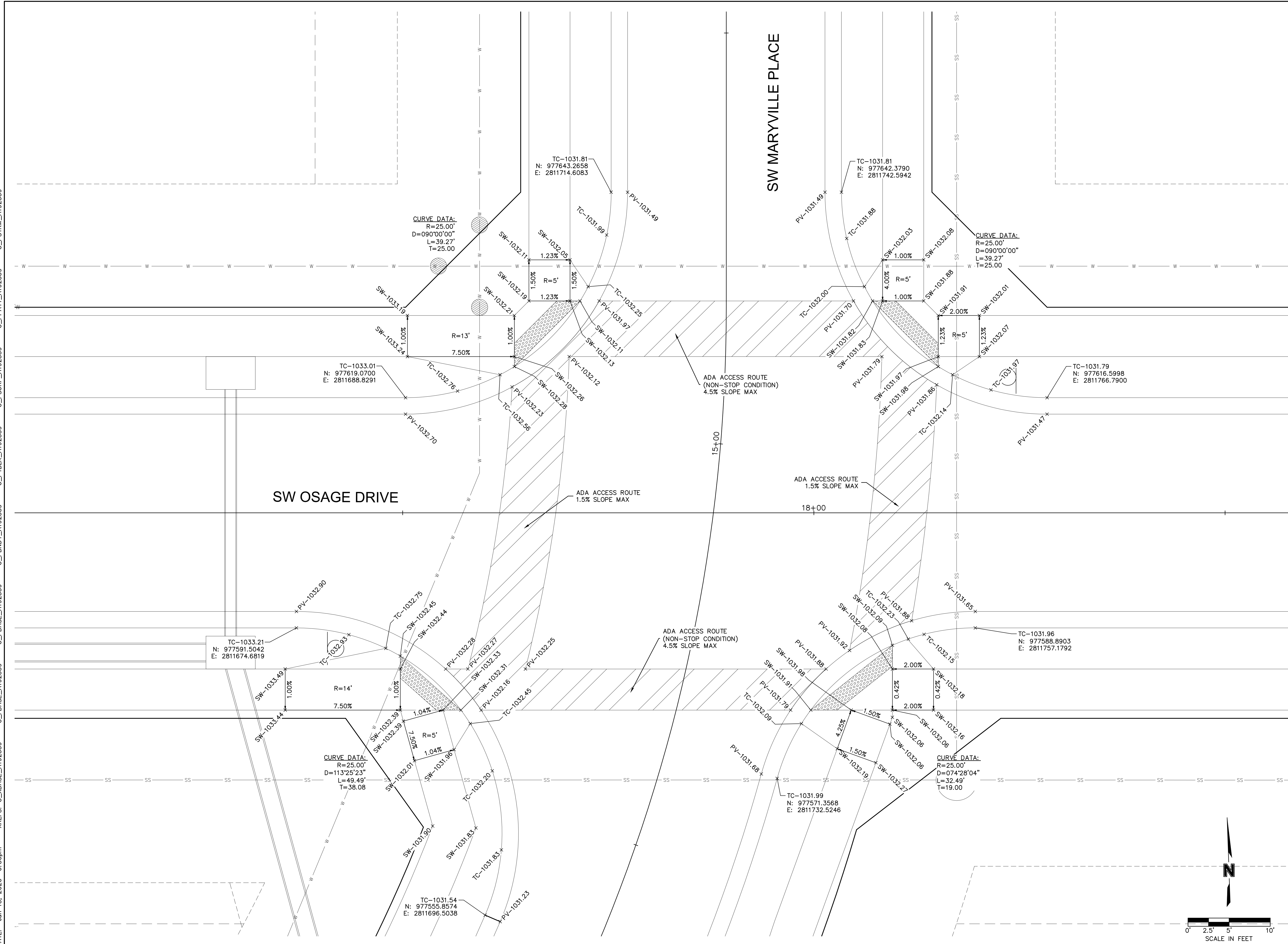
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SHEET
C124

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SW OSAGE DRIVE & SW MARYVILLE PLACE INTERSECTION
STREET & STORM SEWER PLANSOSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

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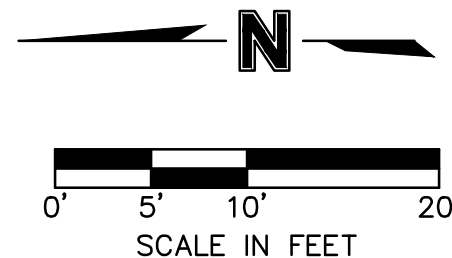
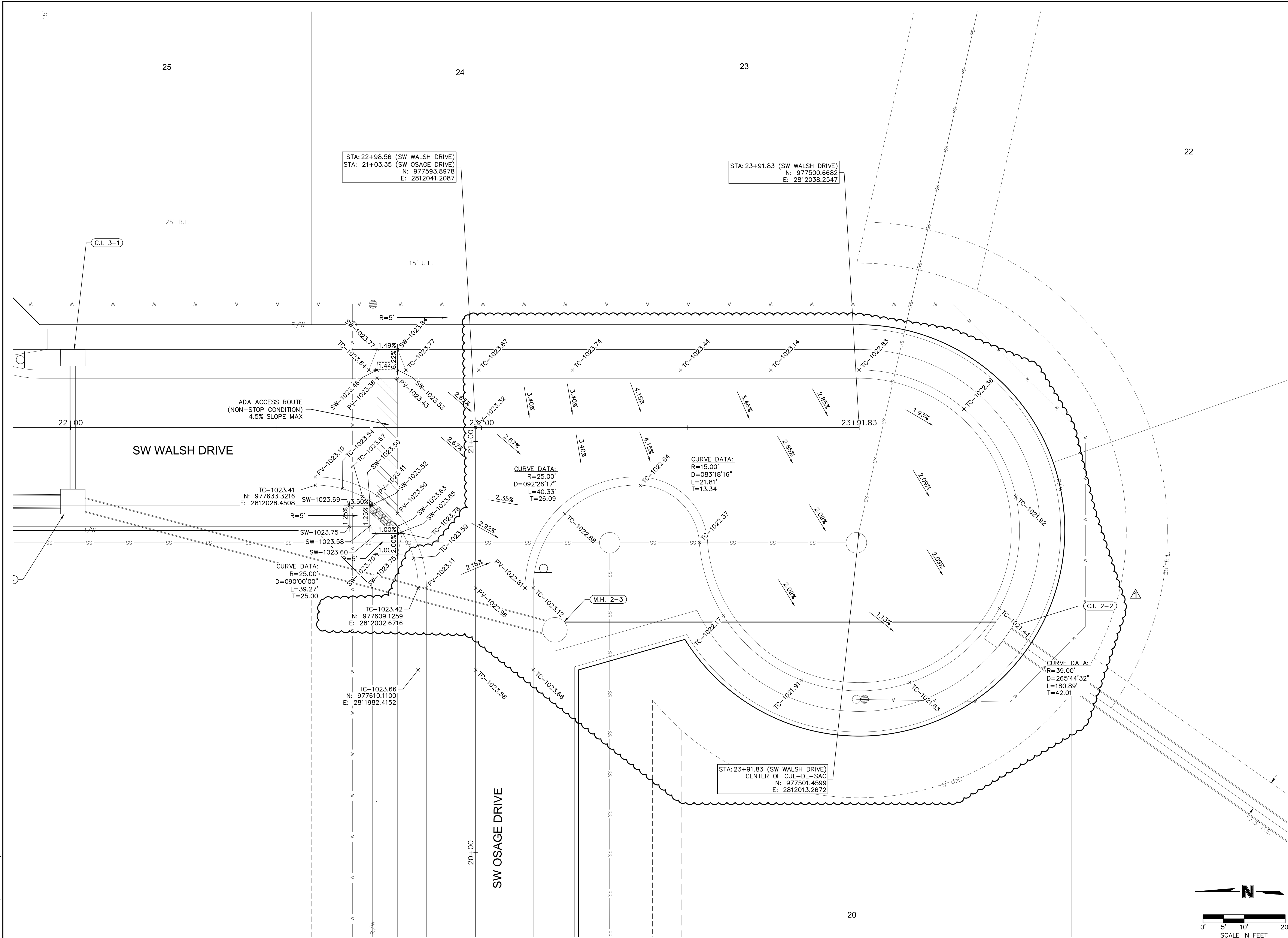
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SW WALSH DRIVE & SW OSAGE DRIVE INTERSECTION
STREET & STORM SEWER PLANSOSAGE
FIRST PLAT

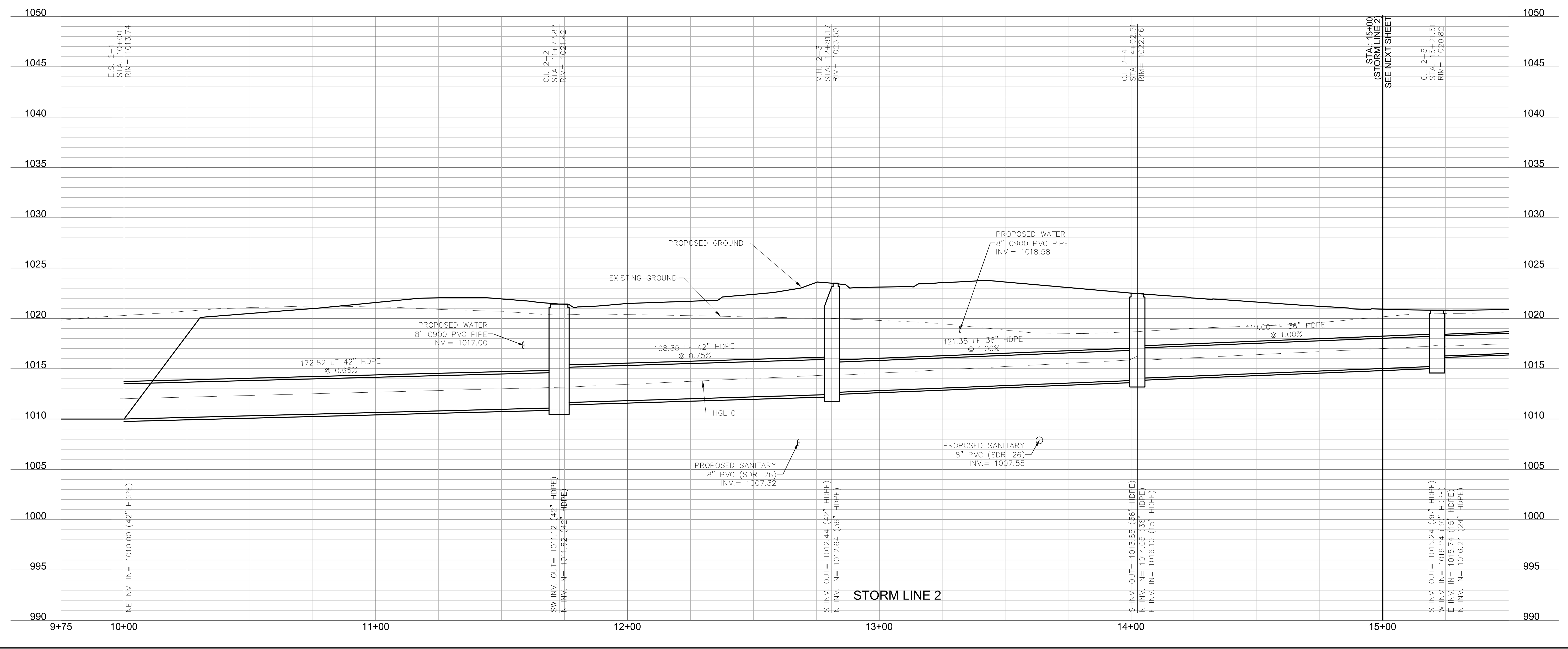
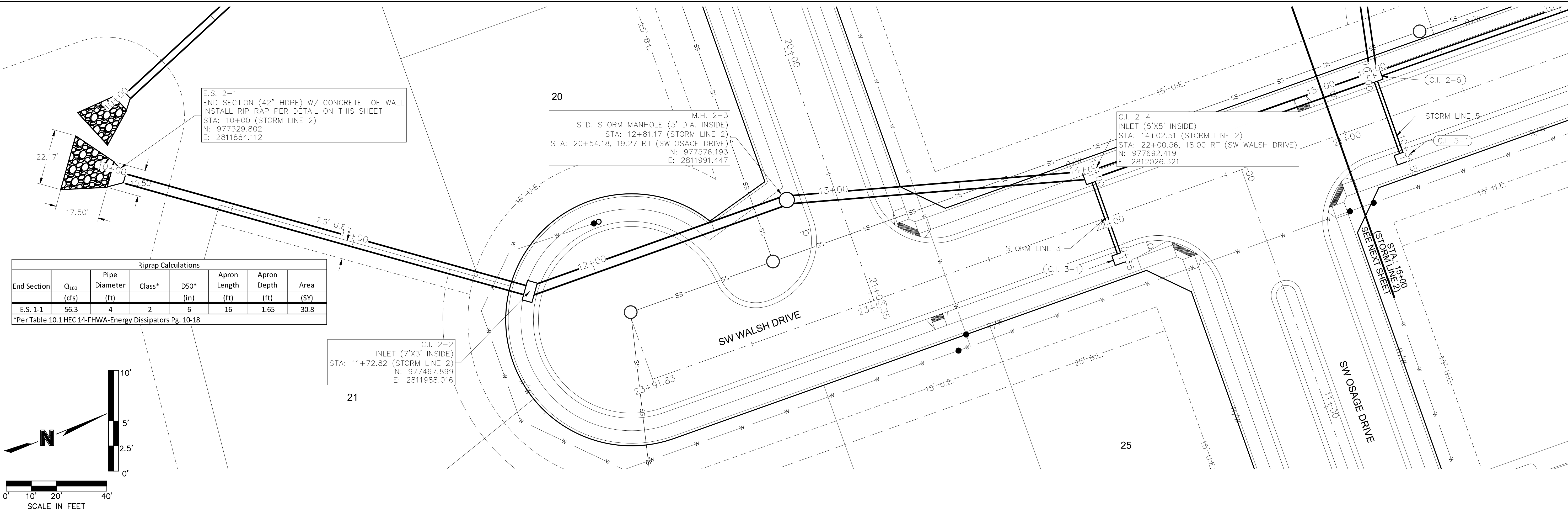
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[illegible]

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DWG: F:\2019\2001-2500\019-2339-A\10-Design\AutoCAD\Final Plans\Sheets\NCG\A\STREET & STORM\C_STM01_A192339.dwg
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BROCK M. WORTHLEY
KANSAS CITY
PE-2019000237
6/15/2020
PROFESSIONAL ENGINEER

STORM SEWER PLAN & PROFILE
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

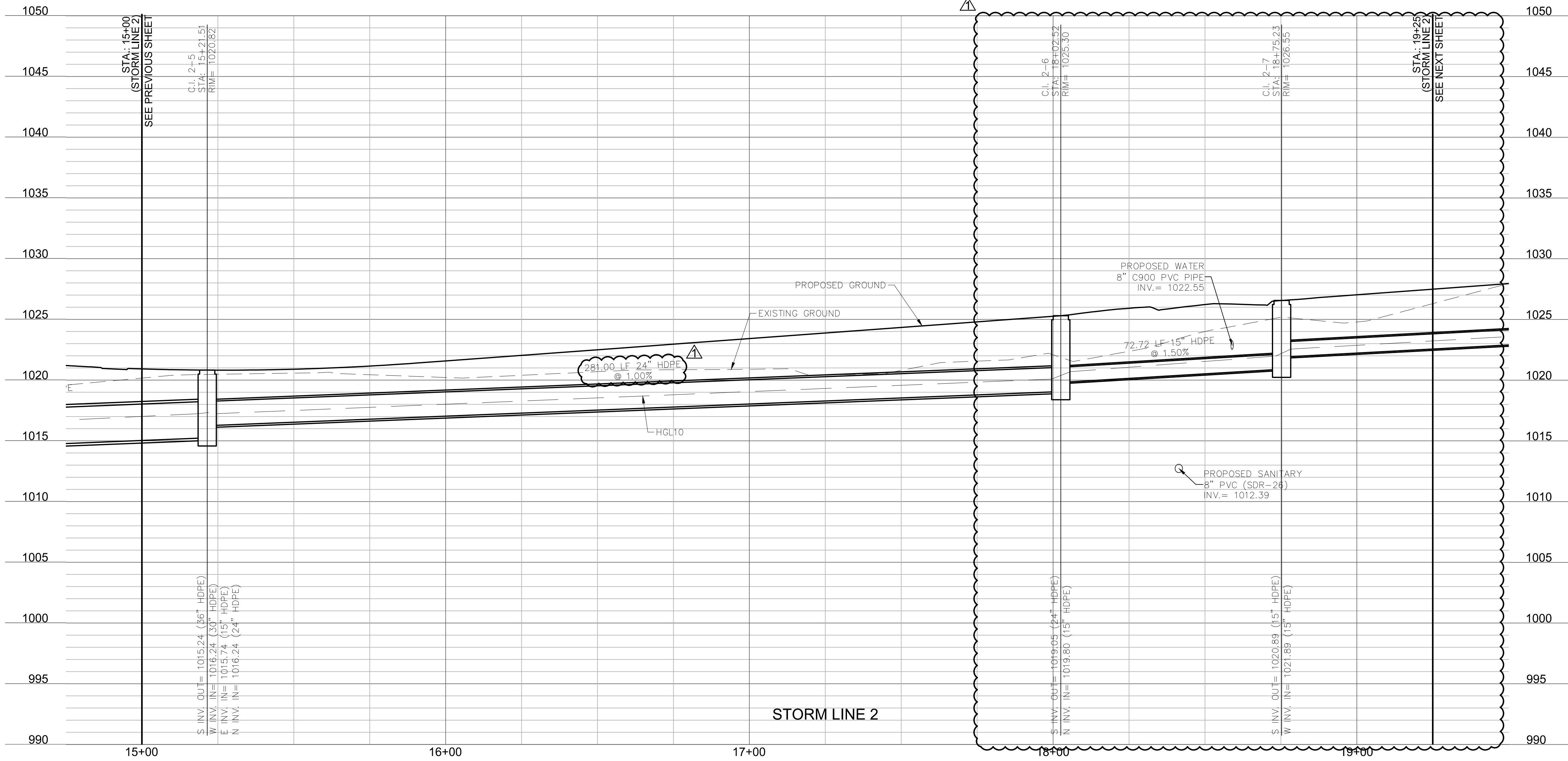
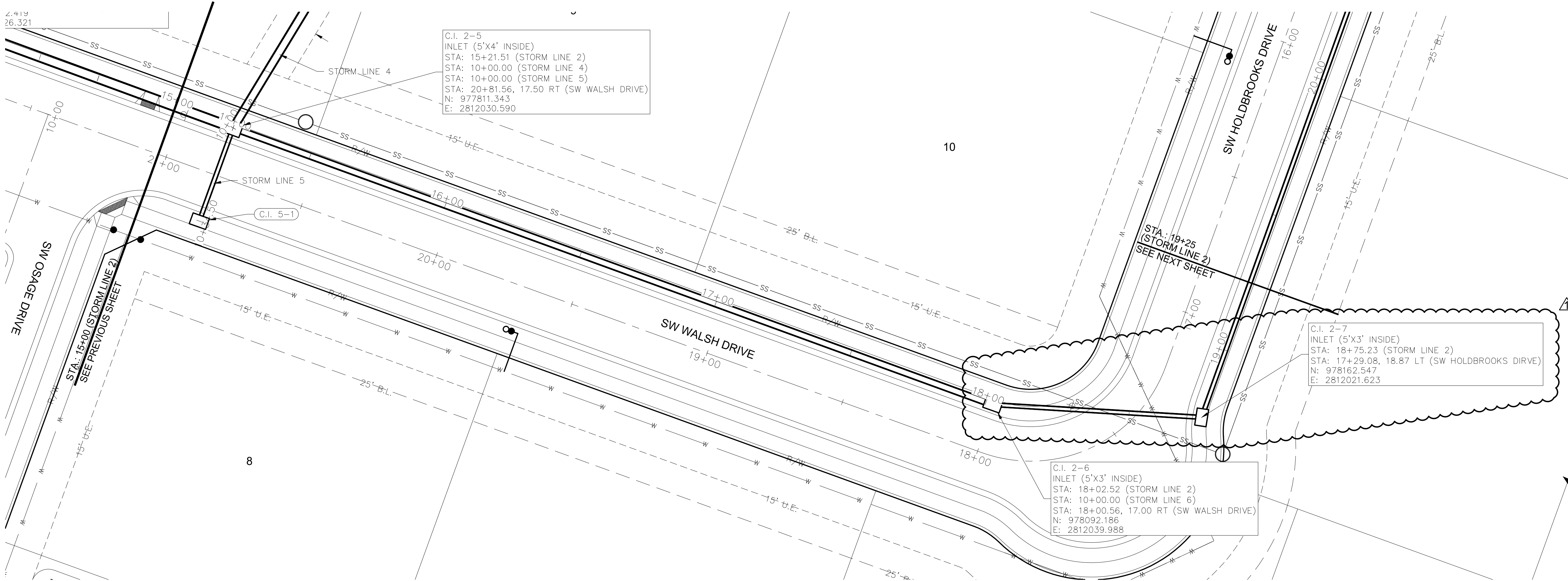
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checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_STM01_A192339
date: 3/17/2020

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

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SHEET
C127



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BROCK M. WORTHLEY
Professional Engineer
No. 2019000237
Exp. 12/31/2025

STORM SEWER PLAN & PROFILE
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

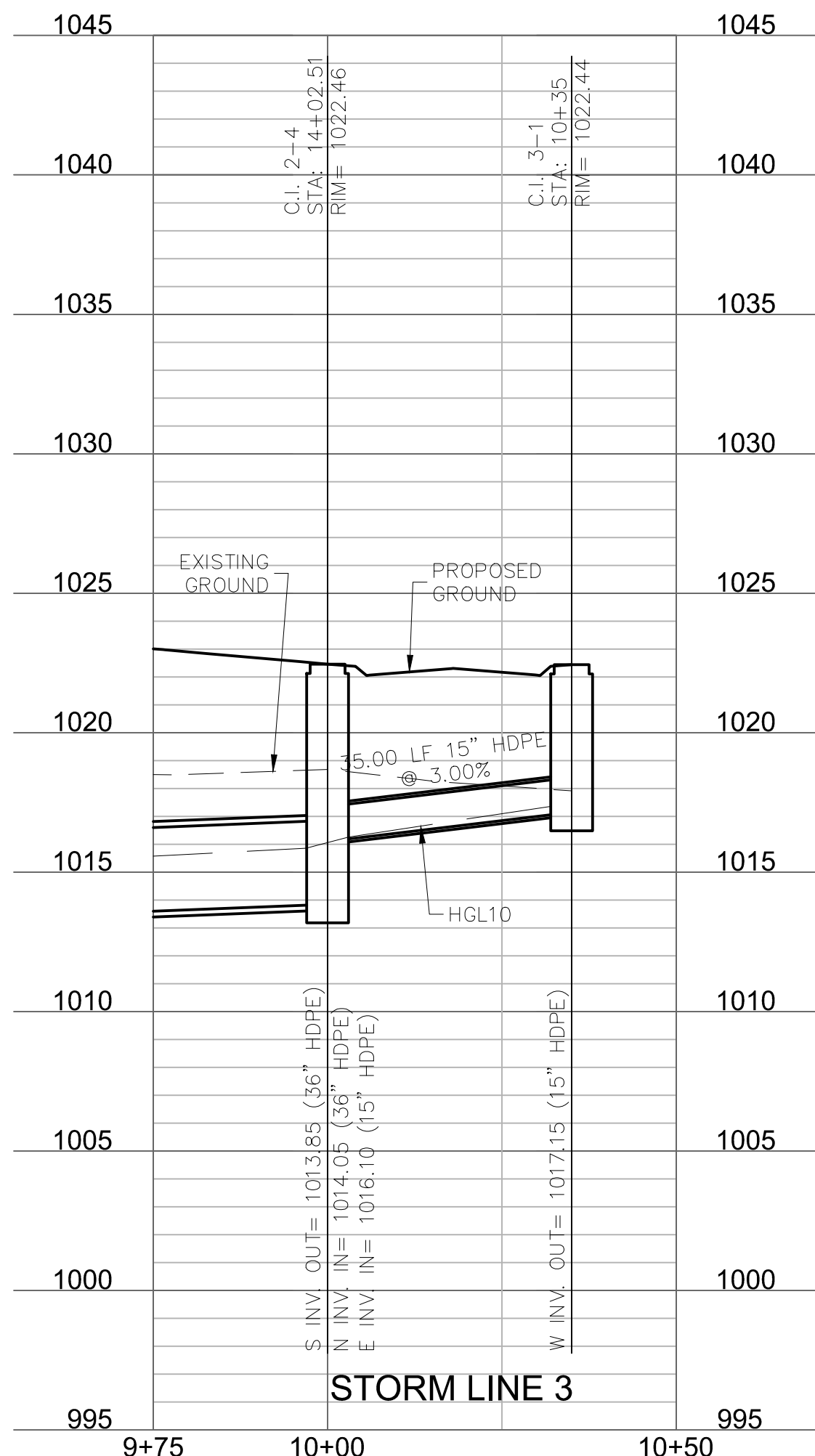
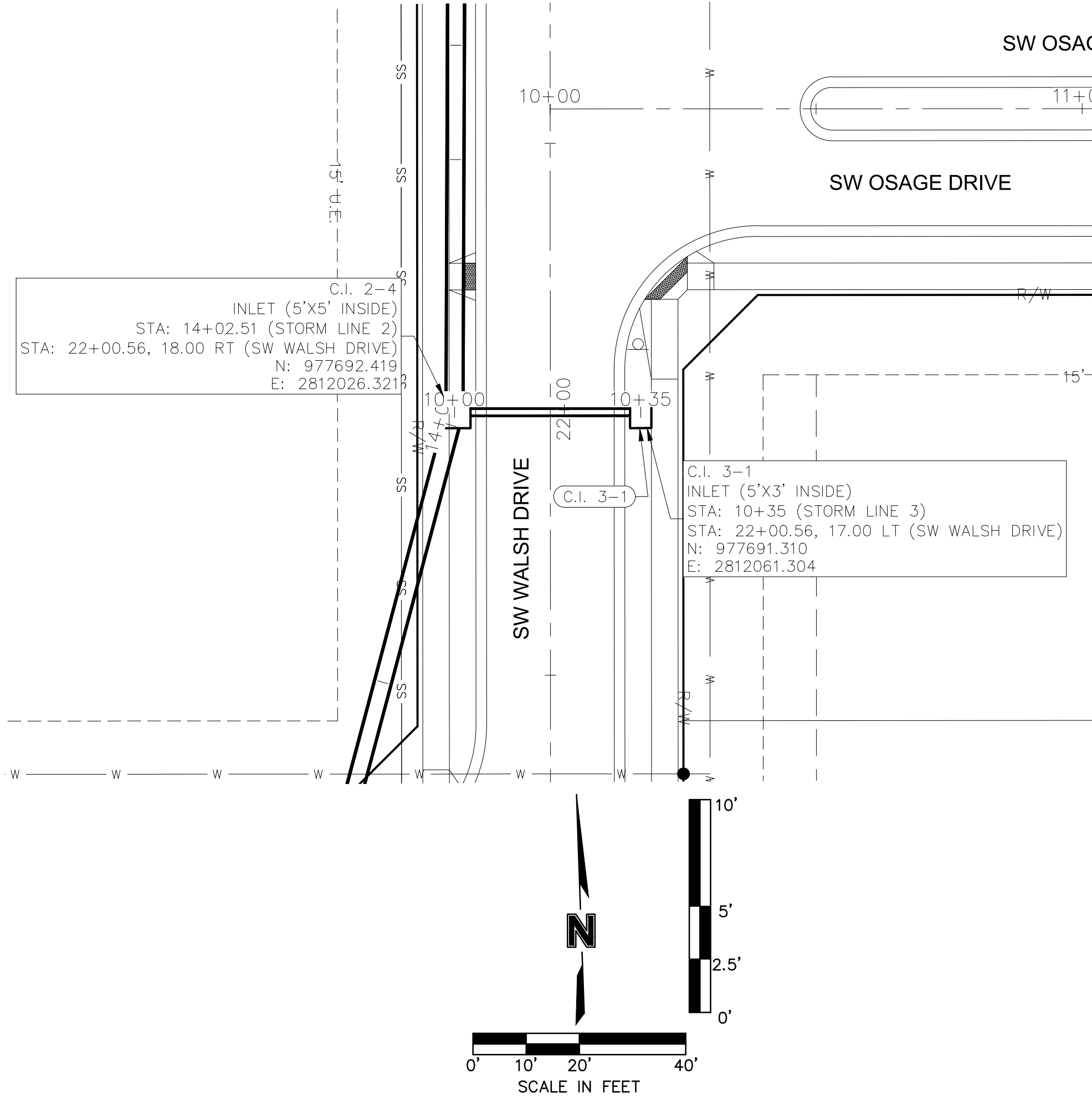
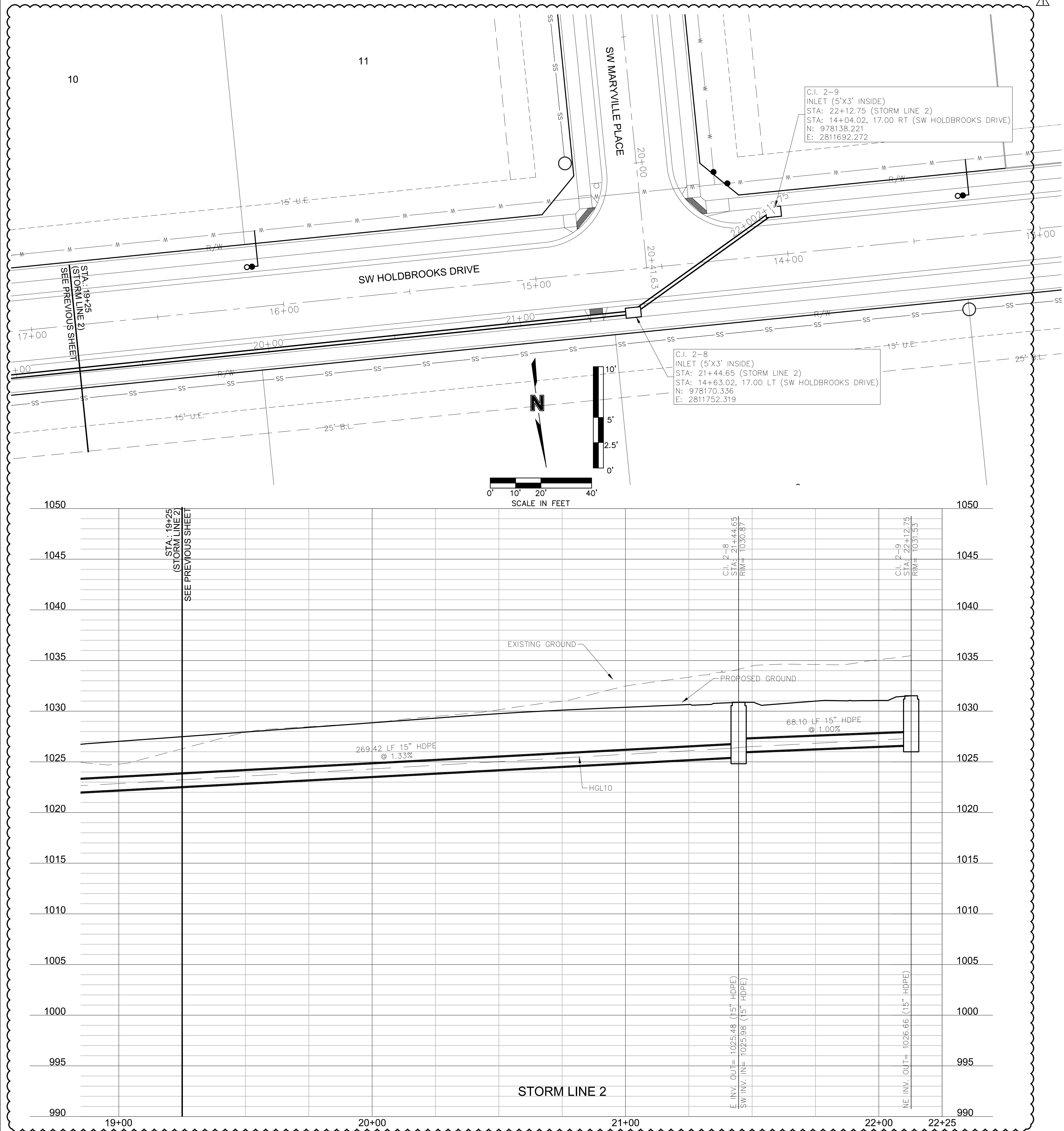
REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
1	6/15/2020	C.I. 2-7 MOVED AND PIPE SLOPES CHANGED

drawn by: SS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_STM01_A192339
date: 3/17/2020

SHEET
C128

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USER: bworthley



STORM SEWER PLAN & PROFILE
STREET & STORM SEWER PLANS

OSAGE
FIRST PLAT

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2020

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checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_STM01_A192339
date: 3/17/2020

SHEET
C129

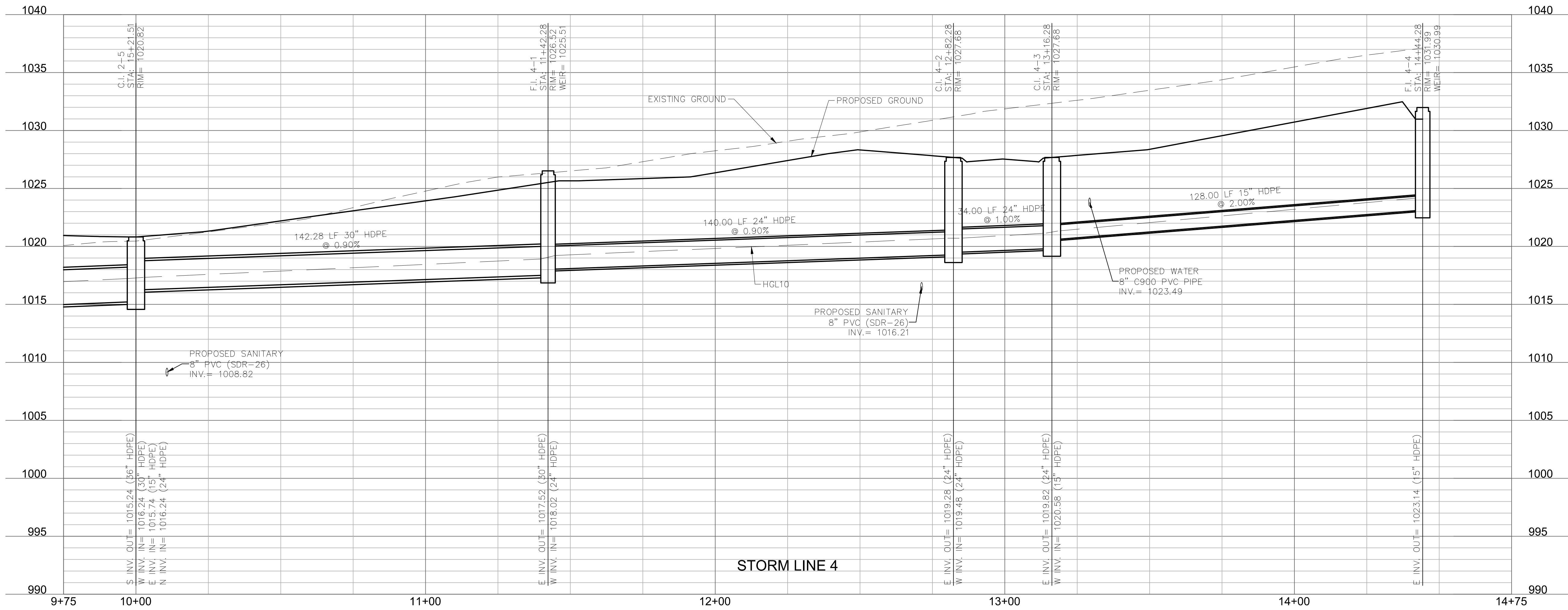
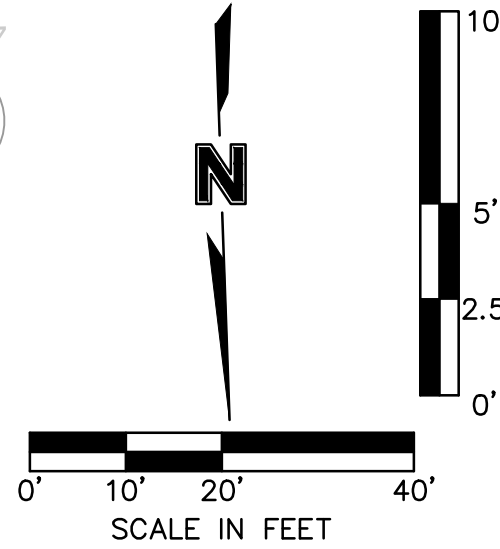
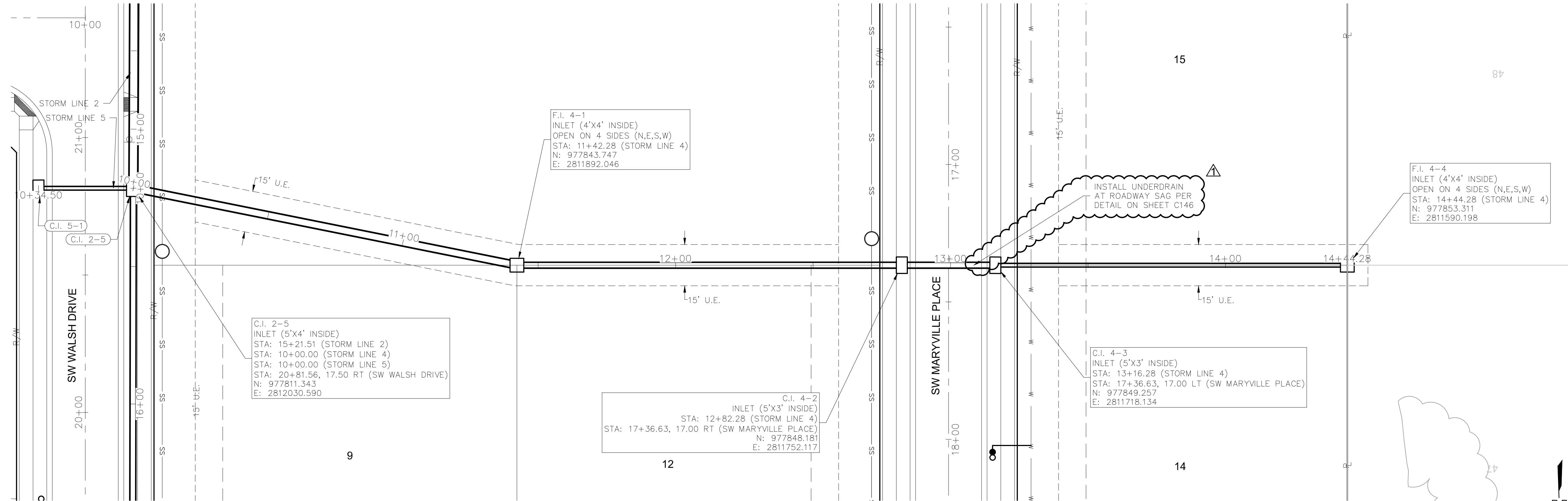
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REV. NO.	DATE	REVISIONS DESCRIPTION
1	6/15/2020	C.I. 2-8 MOVED AND PIPE SLOPES CHANGED

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REV. NO.	DATE	REVISIONS DESCRIPTION
1	6/15/2020	UNDERDRAIN NOTE ADDED

REVISIONS

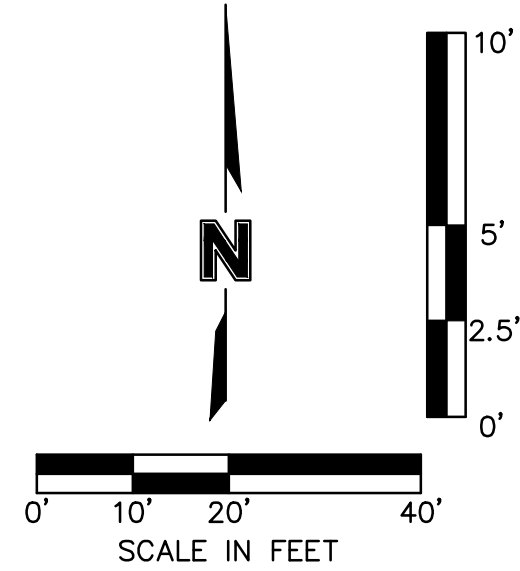
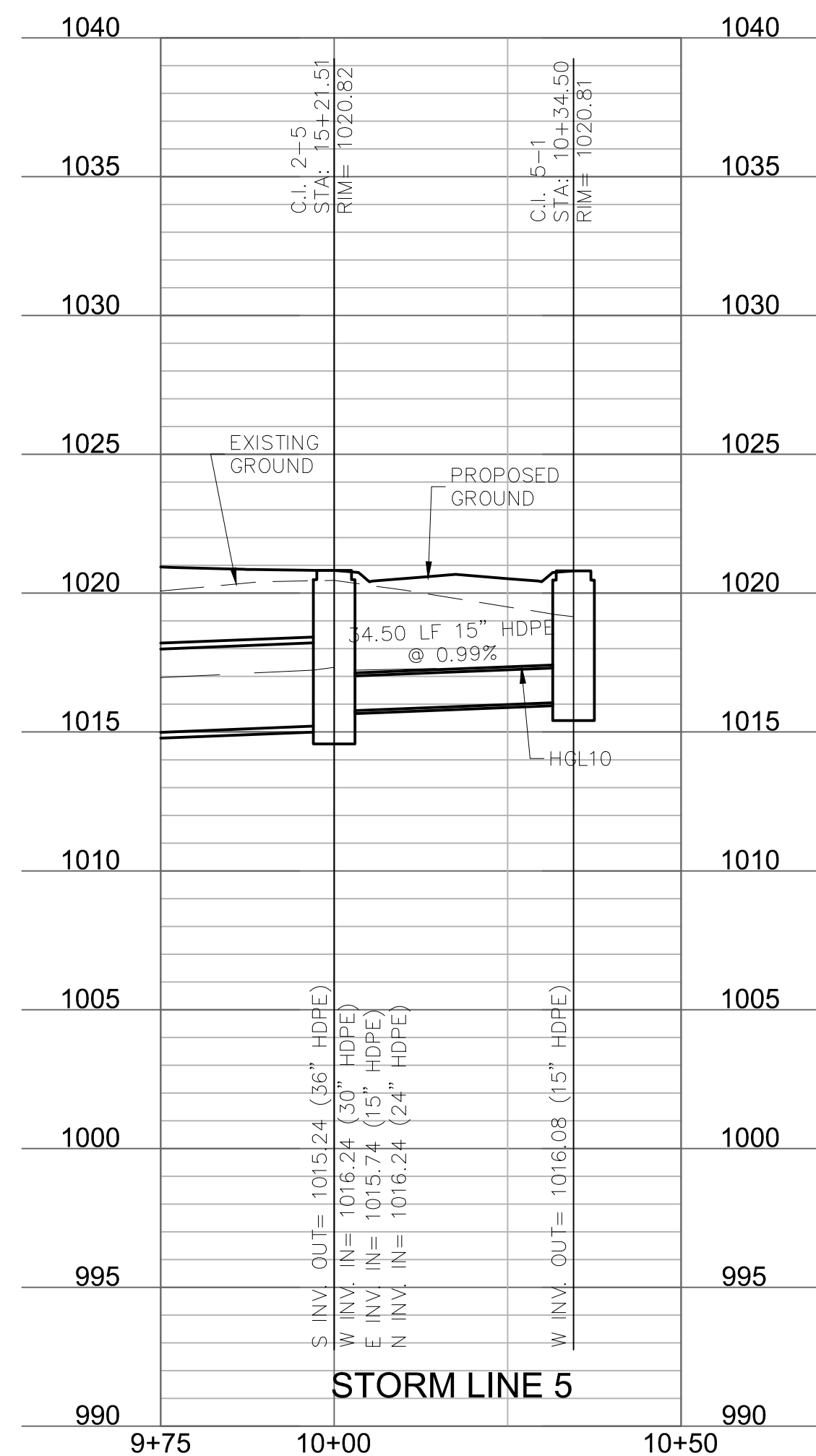
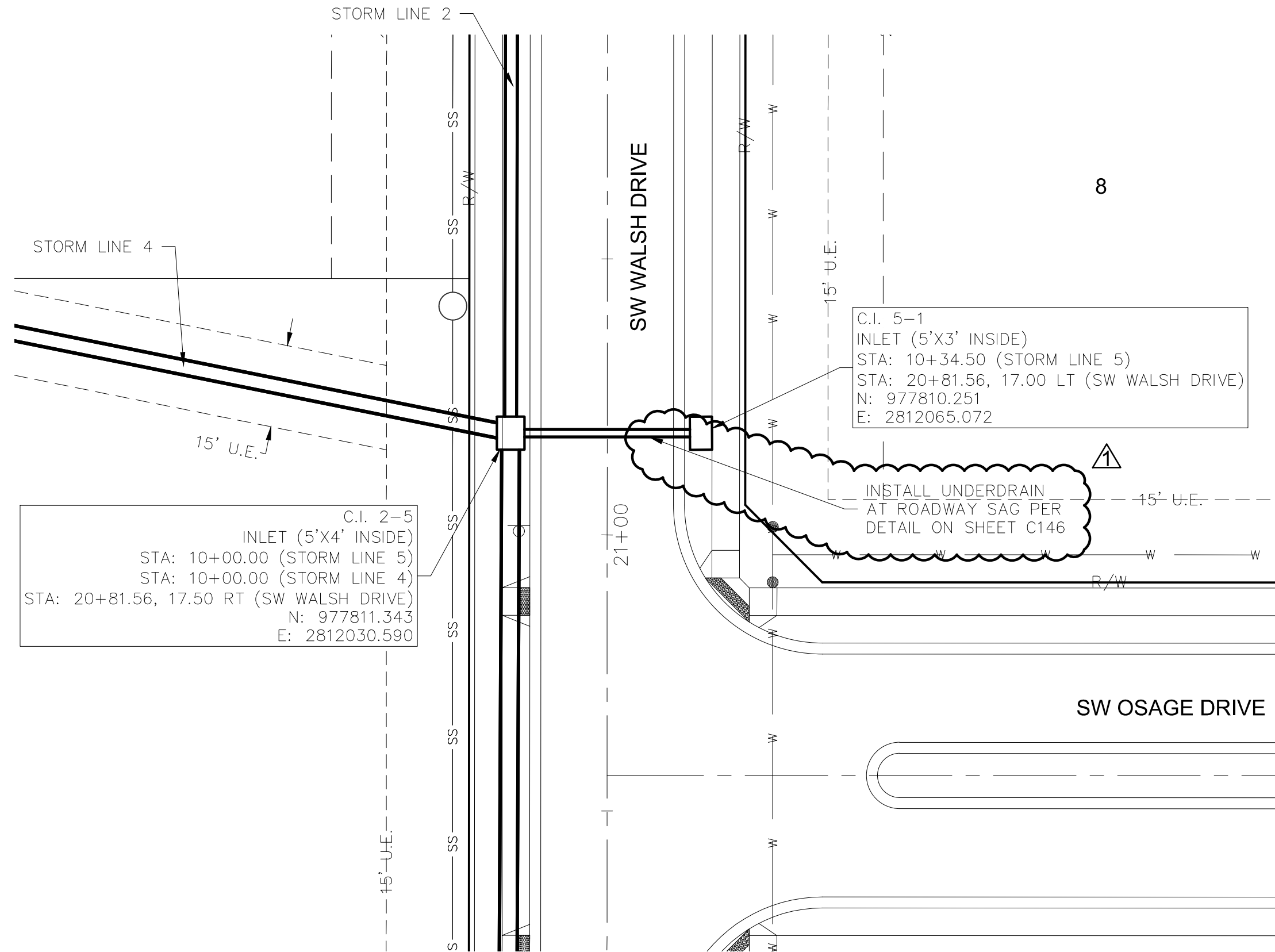
2020

STORM SEWER PLAN & PROFILE
STREET & STORM SEWER PLANS
OSAGE
FIRST PLAT

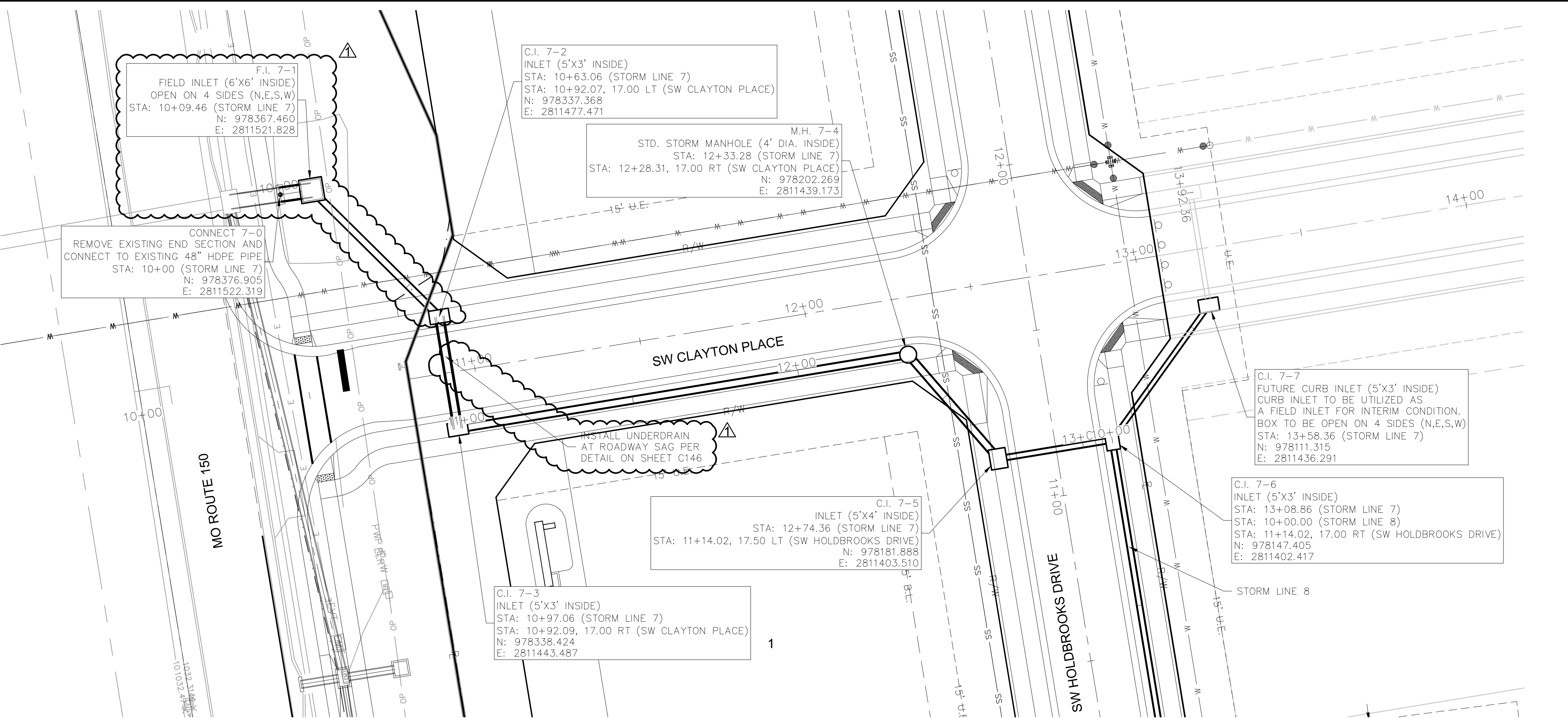
LEE'S SUMMIT, MISSOURI

SHEET
C130

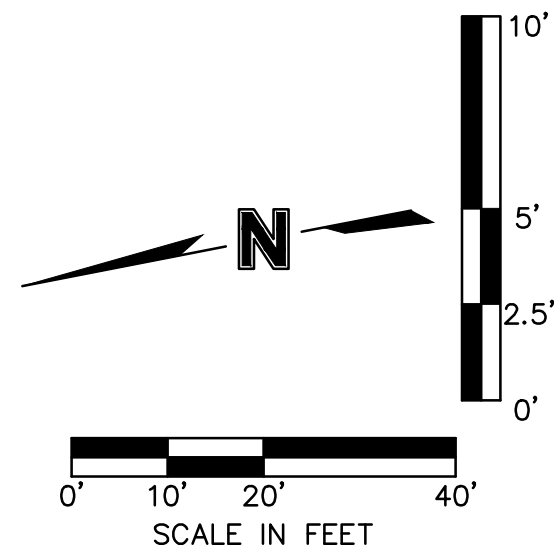
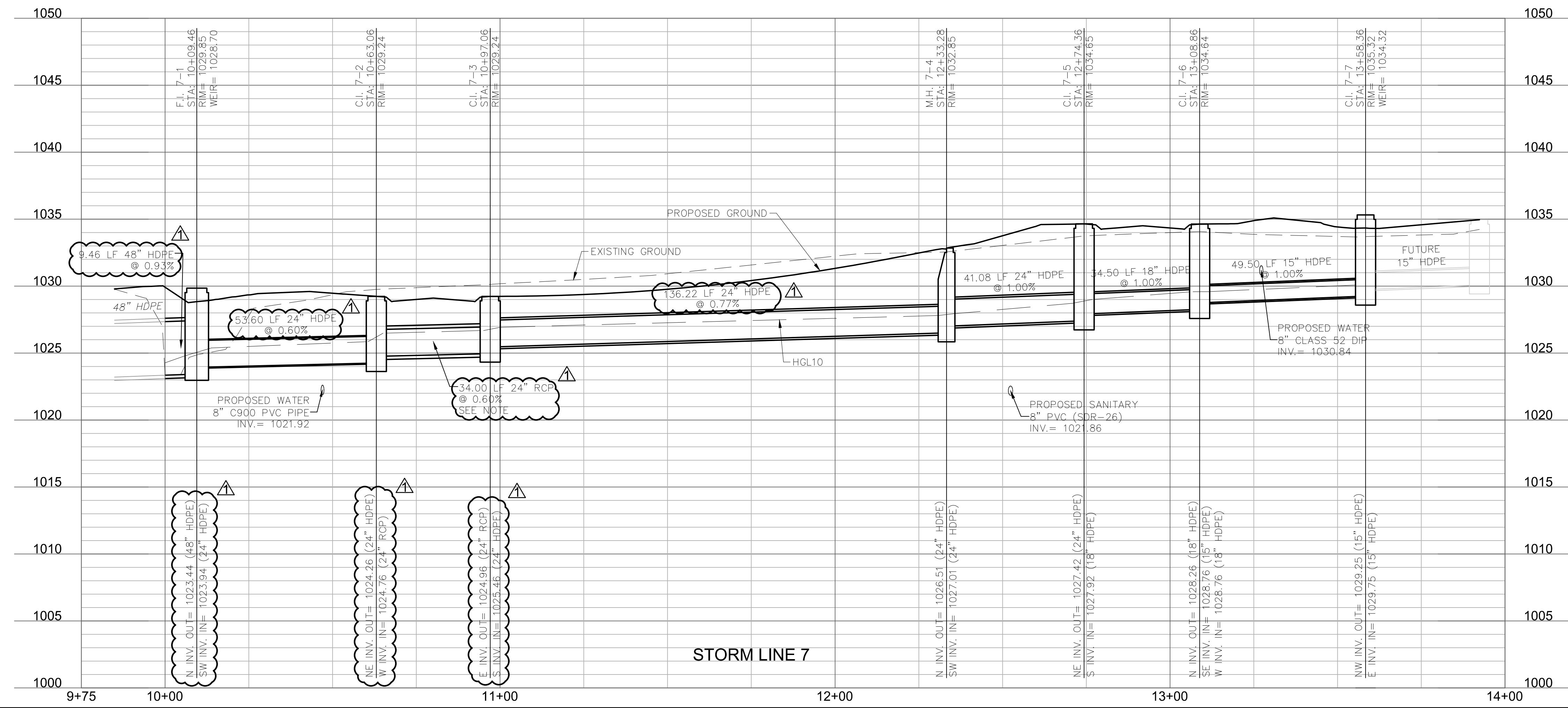
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checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_STM01_A192339
date: 3/17/2020



drawn by: _____ GS		STORM SEWER PLAN & PROFILE STREET & STORM SEWER PLANS	REV. NO.	DATE	REVISIONS DESCRIPTION
checked by: _____ SS			1	8/12/2020	UNDERDRAIN NOTE ADDED. STORM LINE 8 REMOVED
designed by: _____ BMW					
QA/QC by: _____ JES					
project no.: _____ A19-2339					
drawing no.: _____ C_STM02_A12339					
date: _____ 3/17/2020					
		OSAGE FIRST PLAT			
		LEE'S SUMMIT, MISSOURI	2020	REVISIONS	

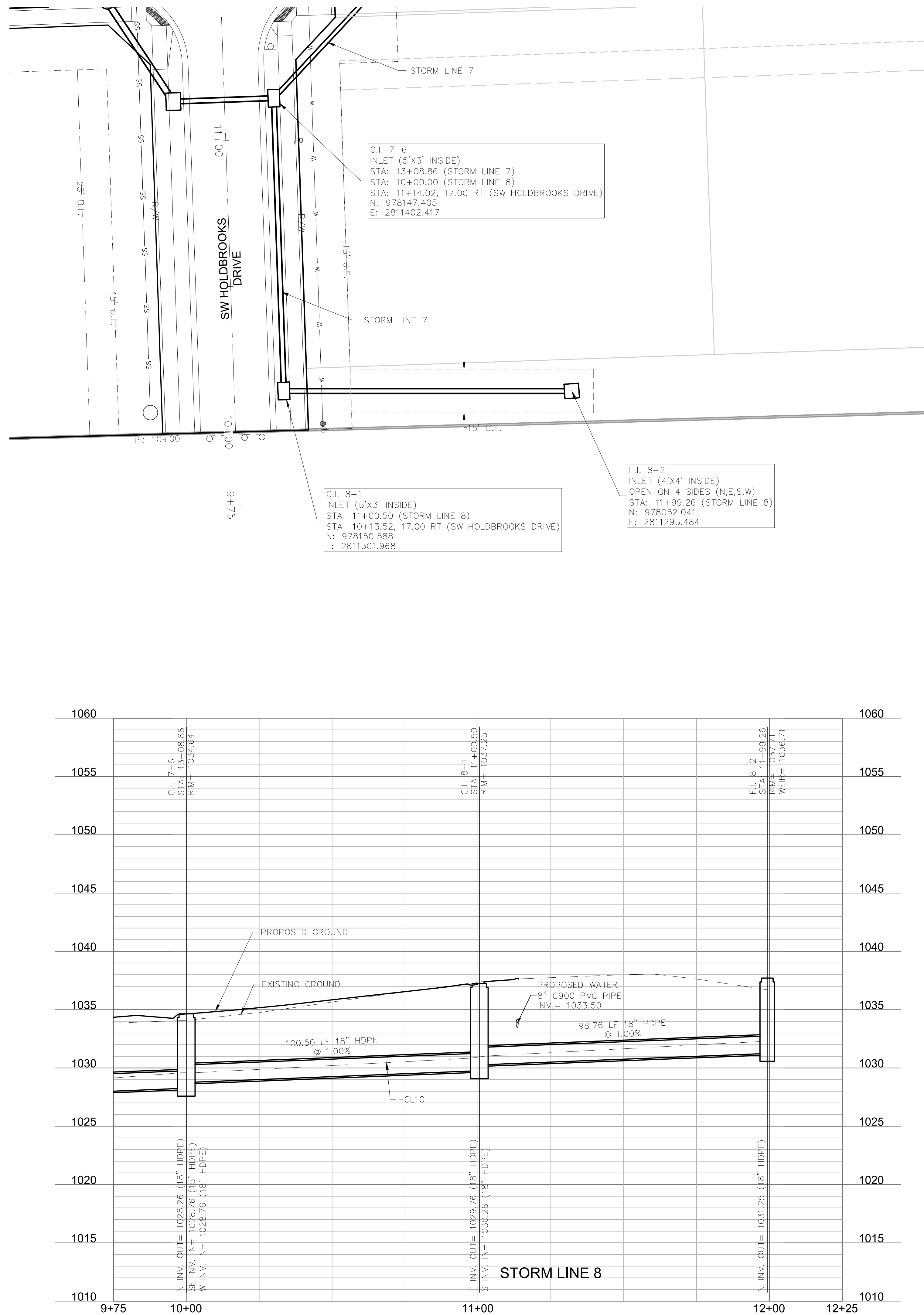


NOTE:
ADS POLYPROPYLENE PIPE MAY BE USED
INSTEAD OF REINFORCED CONCRETE PIPE



STORM SEWER PLAN & PROFILE STREET & STORM SEWER PLANS		OSAGE FIRST PLAT		LEE'S SUMMIT, MISSOURI		2020	
REV. NO.	DATE	REVISIONS DESCRIPTION					
1	6/15/2020	UNDERDRAIN & ALTERNATE PIPE MATERIAL NOTE ADDED FLOWLINES BETWEEN CONNECT 7-0 AND M.H. 7-4 REVISED					
olsson Olsson - Civil Engineering Missouri Certificate of Authority # 001592 1301 Burlington Street North Kansas City, MO 64116 TEL 816.361.1177 www.olsson.com STATE OF MISSOURI BROCK M. WORTHLEY NUMBER PE-2019000237 6/15/2020 PROFESSIONAL ENGINEER drawn by: SS checked by: SS designed by: BMW QA/QC by: JES project no.: A19-2339 drawing no.: C_STM02_A12339 date: 3/17/2020 SHEET C132							

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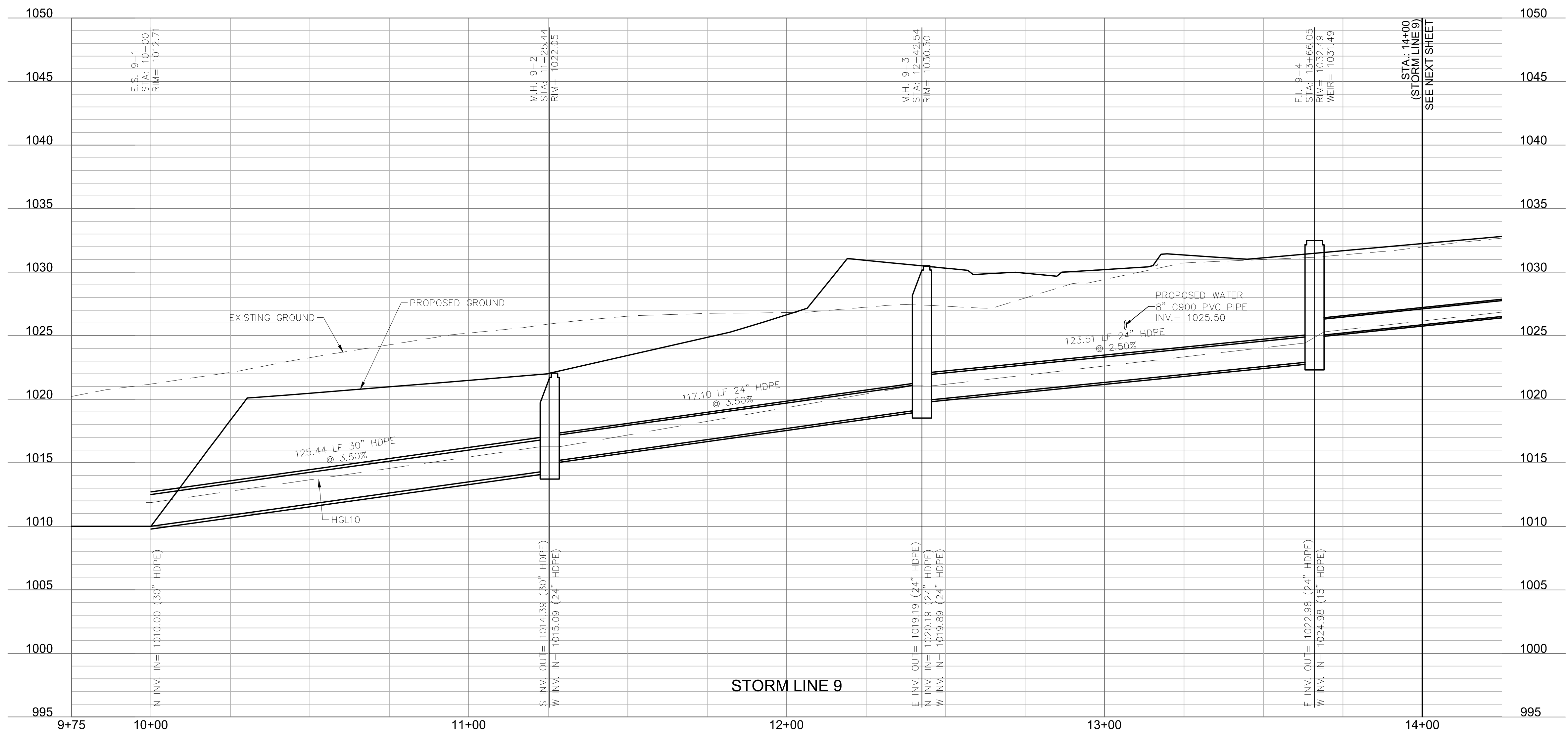
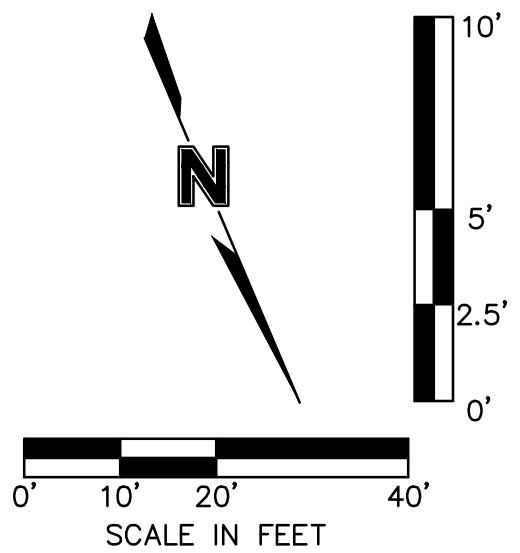
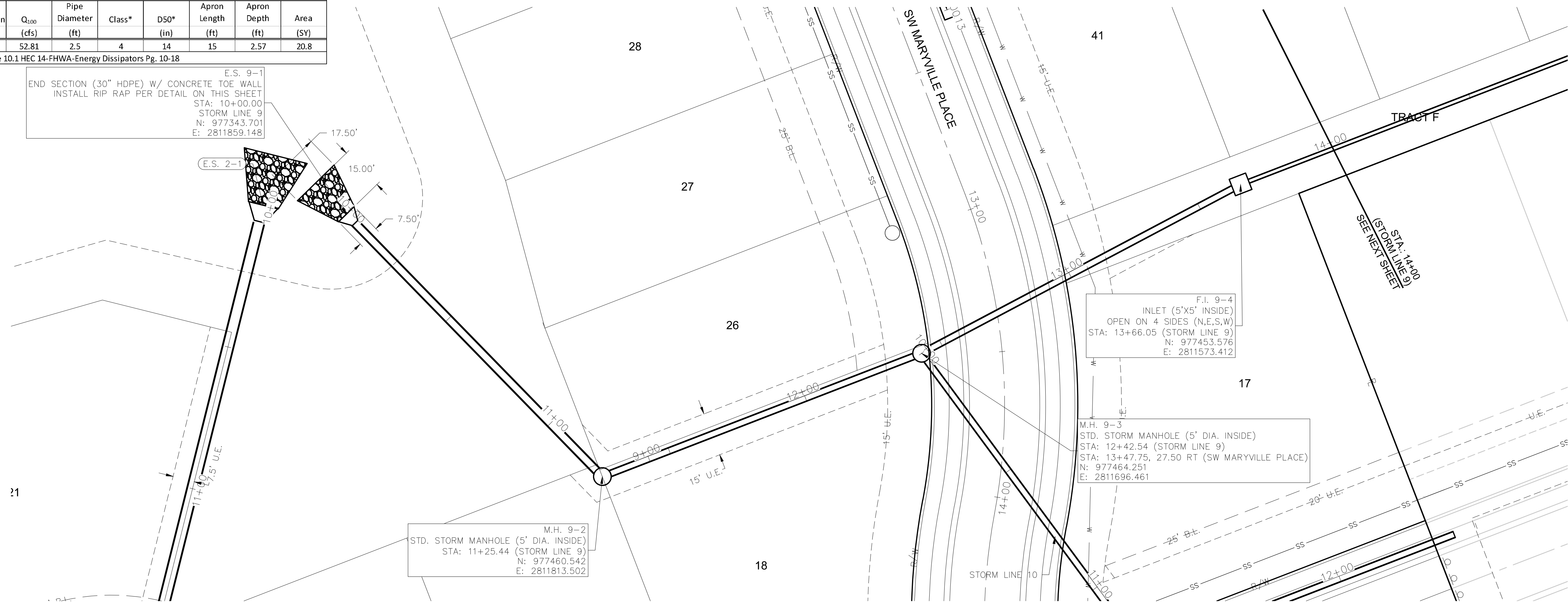


drawn by: _____ GS checked by: _____ SS designed by: _____ BMW QA/QC by: _____ JES project no.: A18-2339 drawing no.: C_STM02_AT2339 date: 3/17/2020		STORM SEWER PLAN & PROFILE STREET & STORM SEWER PLANS		REV. NO.	DATE	REVISIONS DESCRIPTION
		OSAGE FIRST PLAT				
LEE'S SUMMIT, MISSOURI						REVISIONS
2020						

Riprap Calculations							
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)	Area (SY)
E.S. 9-1	52.81	2.5	4	14	15	2.57	20.8

*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18

END SECTION (30" HDPE) W/ CONCRETE TOE WALL INSTALL RIP RAP PER DETAIL ON THIS SHEET	E.S. 9-1 STA: 10+00.00 STORM LINE 9 N: 977343.701 E: 2811859.148
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USER: bworthley

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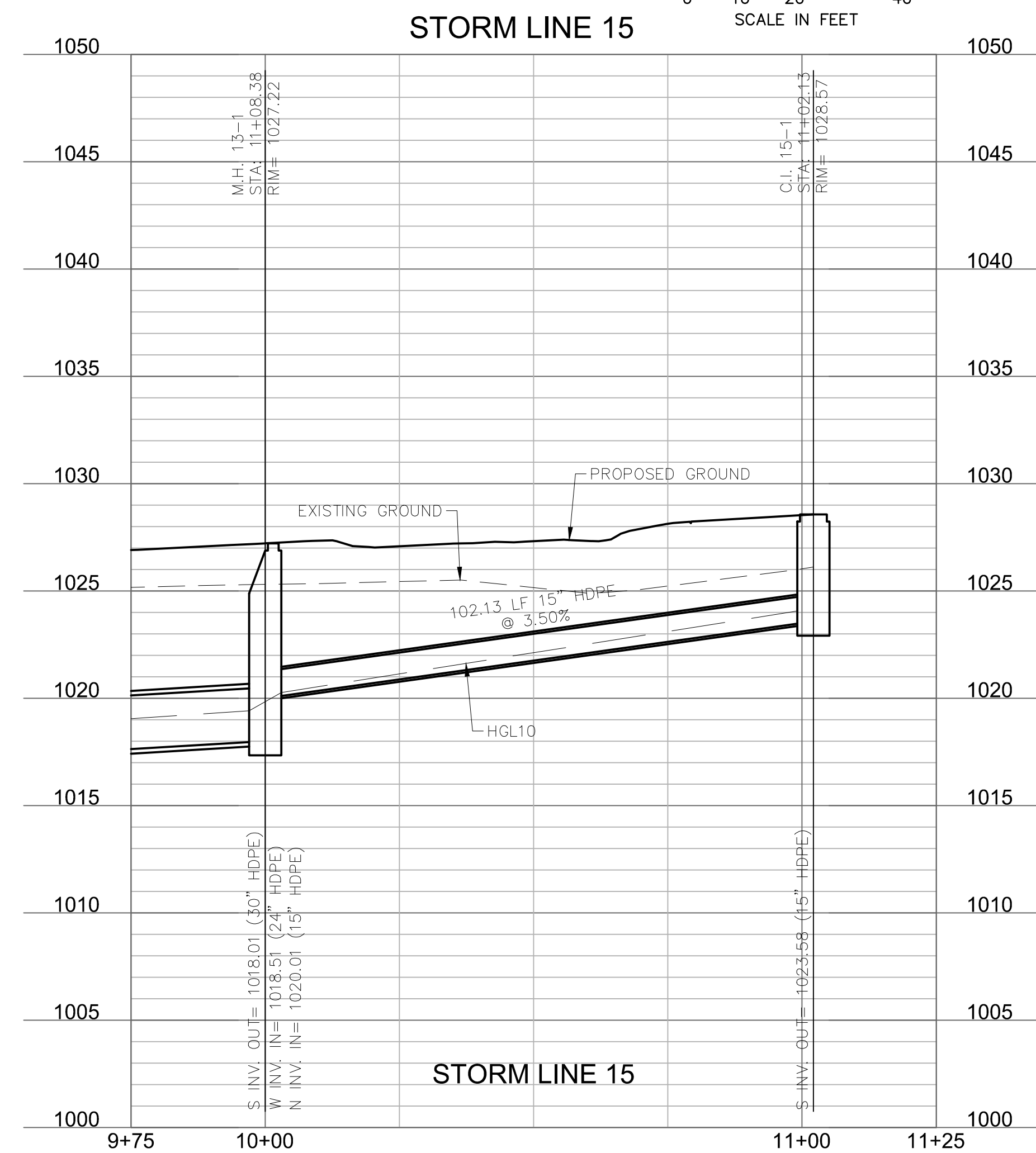
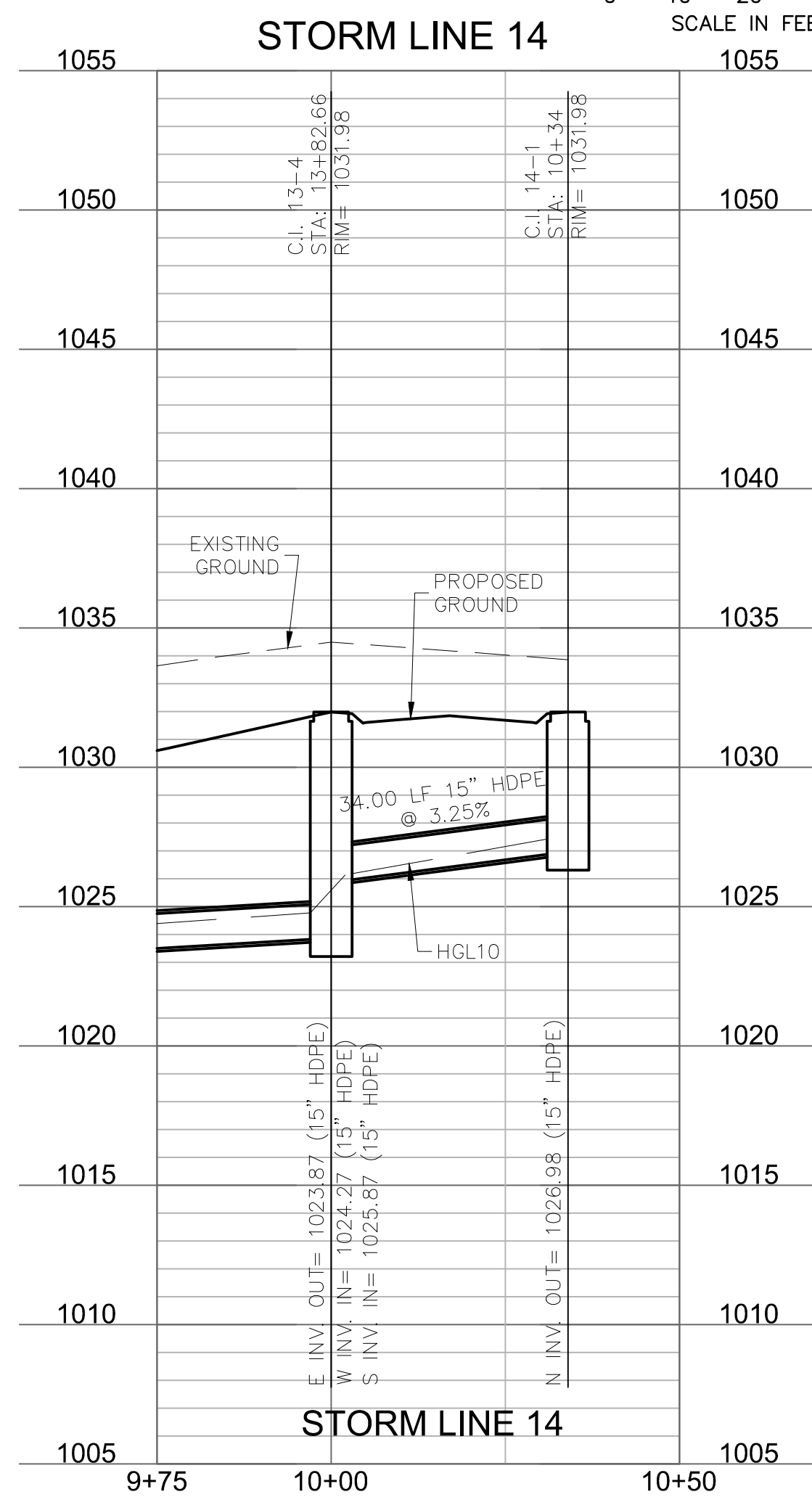
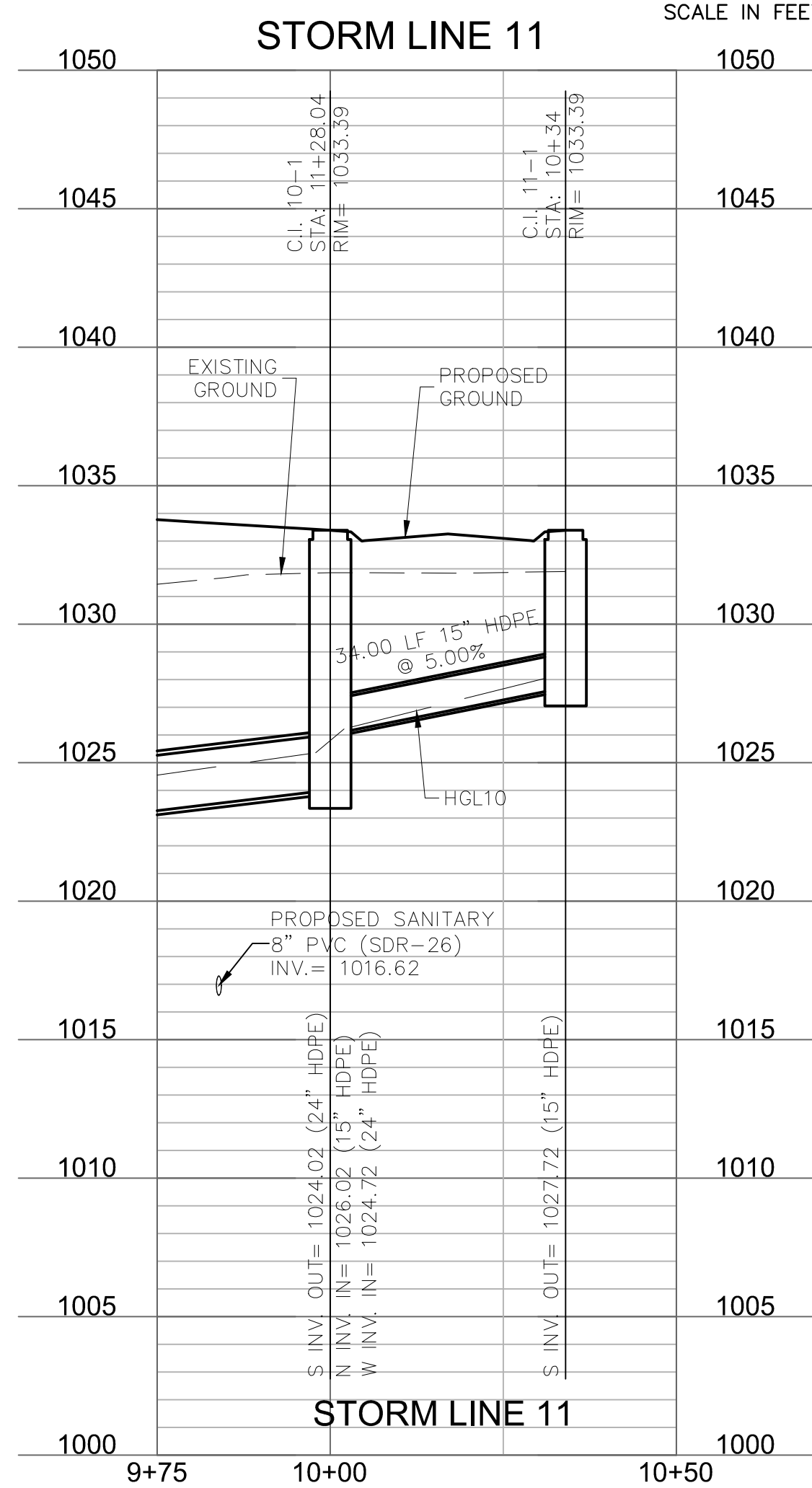
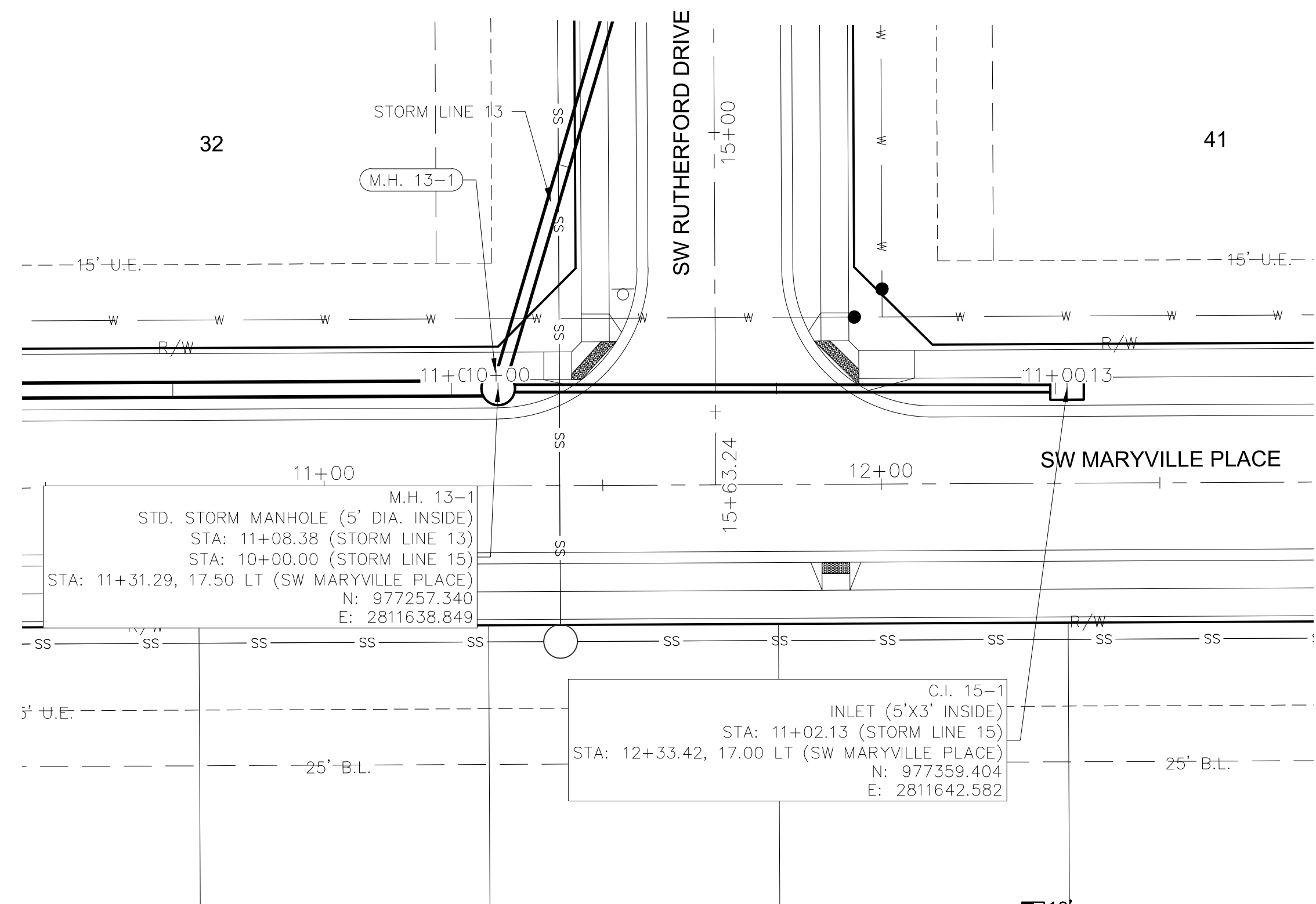
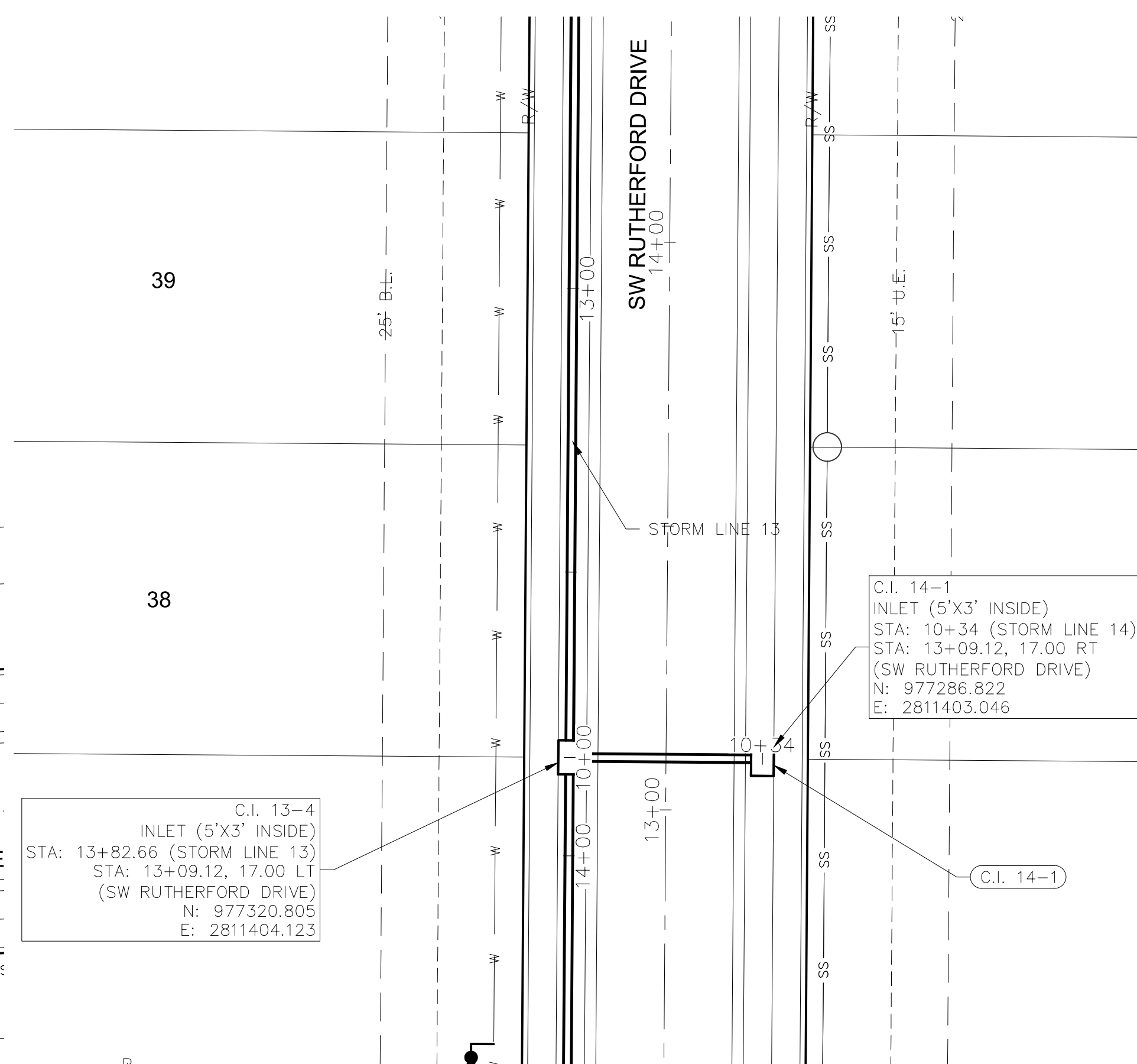
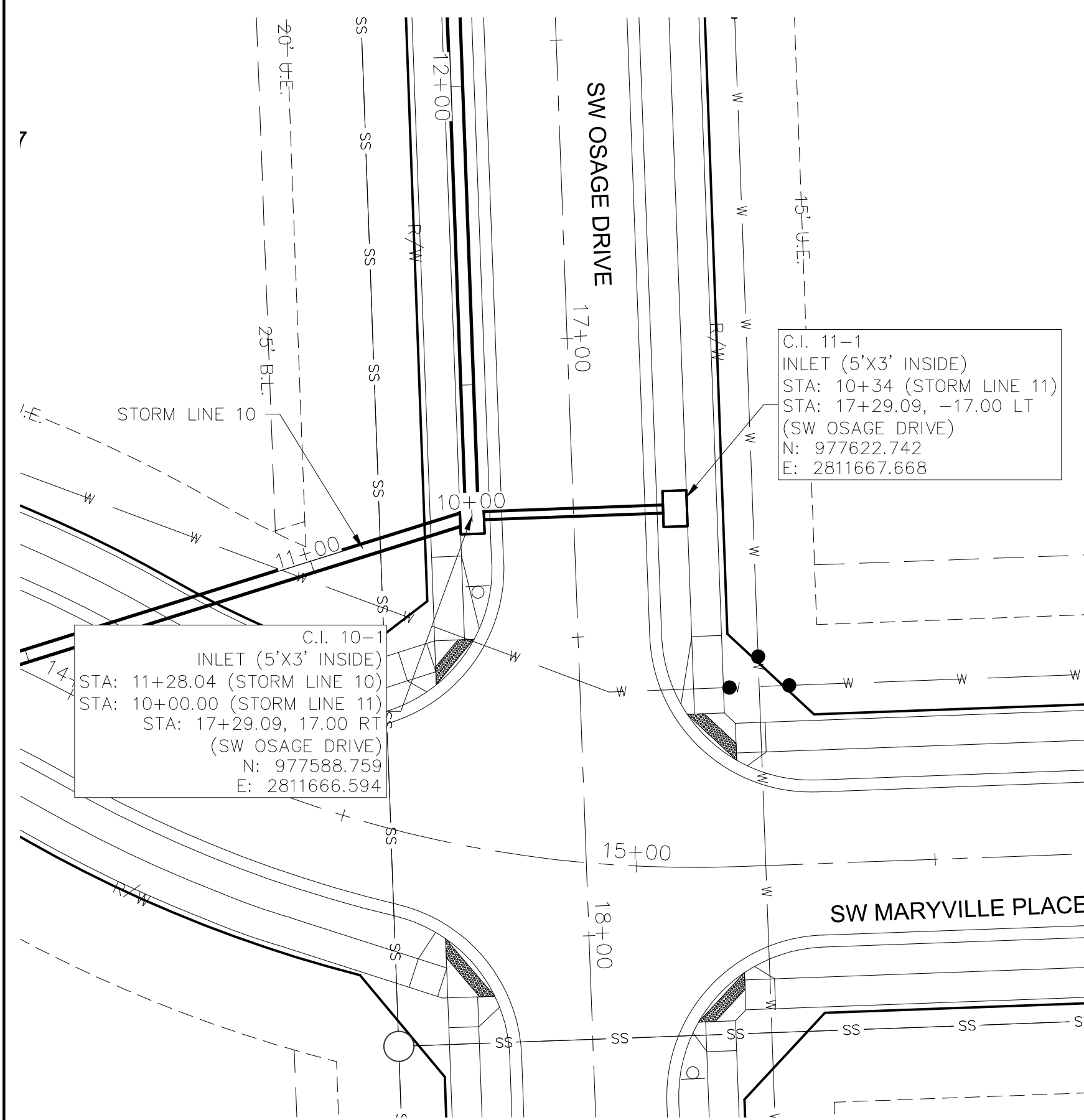
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STORM SEWER PLAN & PROFILE STREET & STORM SEWER PLANS	
OSAGE FIRST PLAT	
LEE'S SUMMIT, MISSOURI	2020

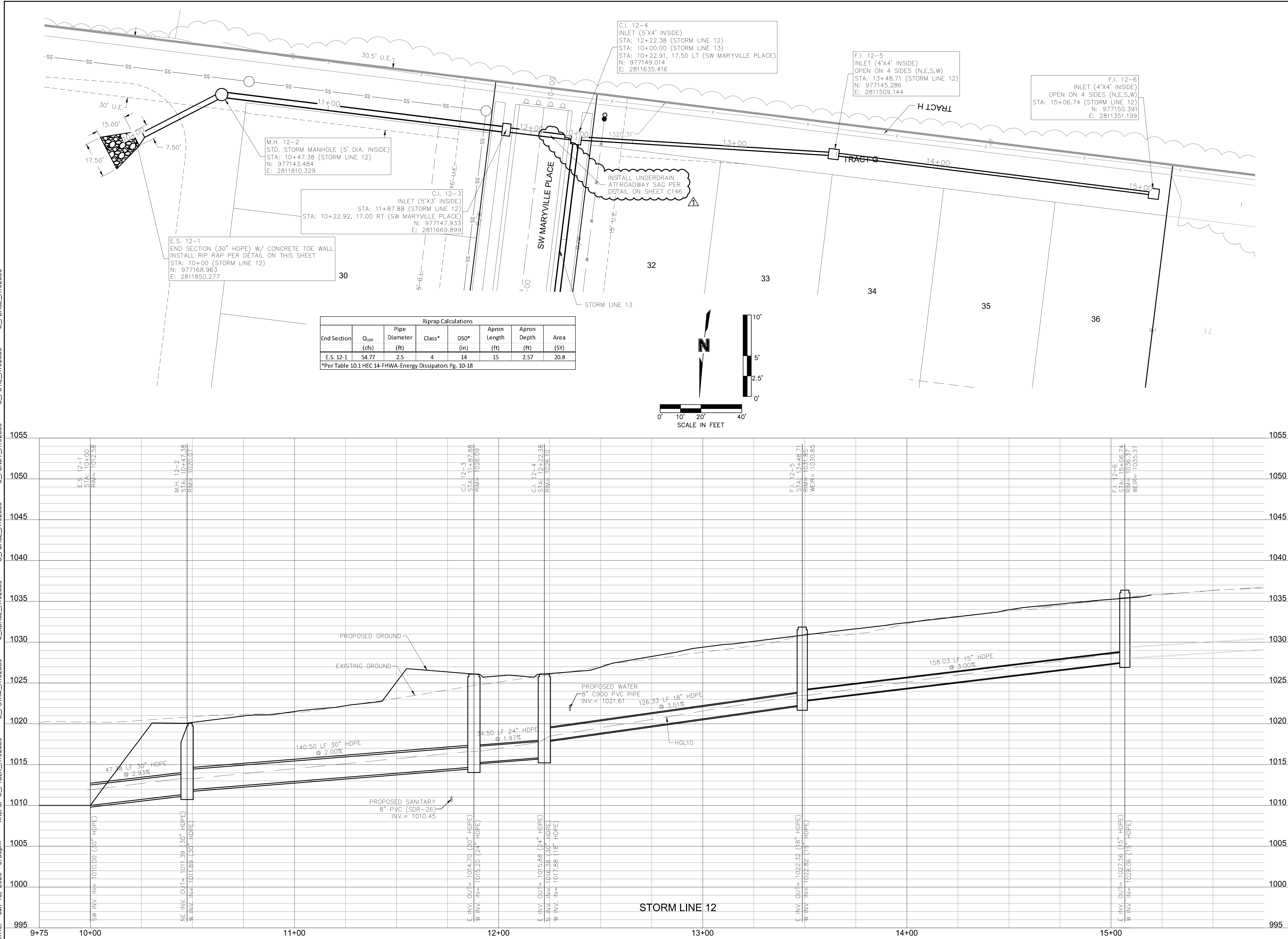
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checked by: _____ SS
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project no.: _____ A19-2339
drawing no.: C STM02 A12339
date: 3/17/2020

SHEET
C134

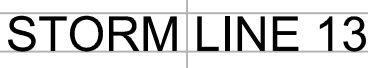
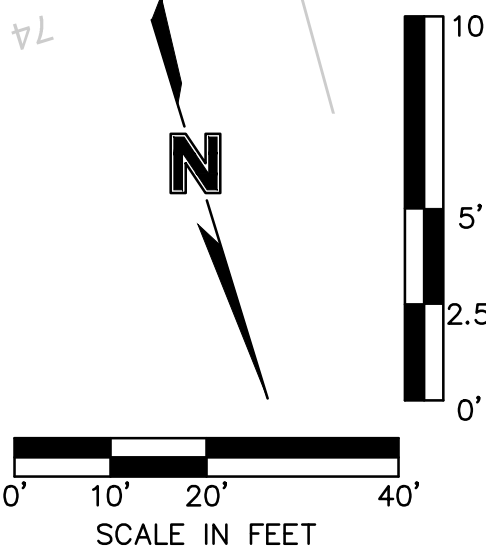
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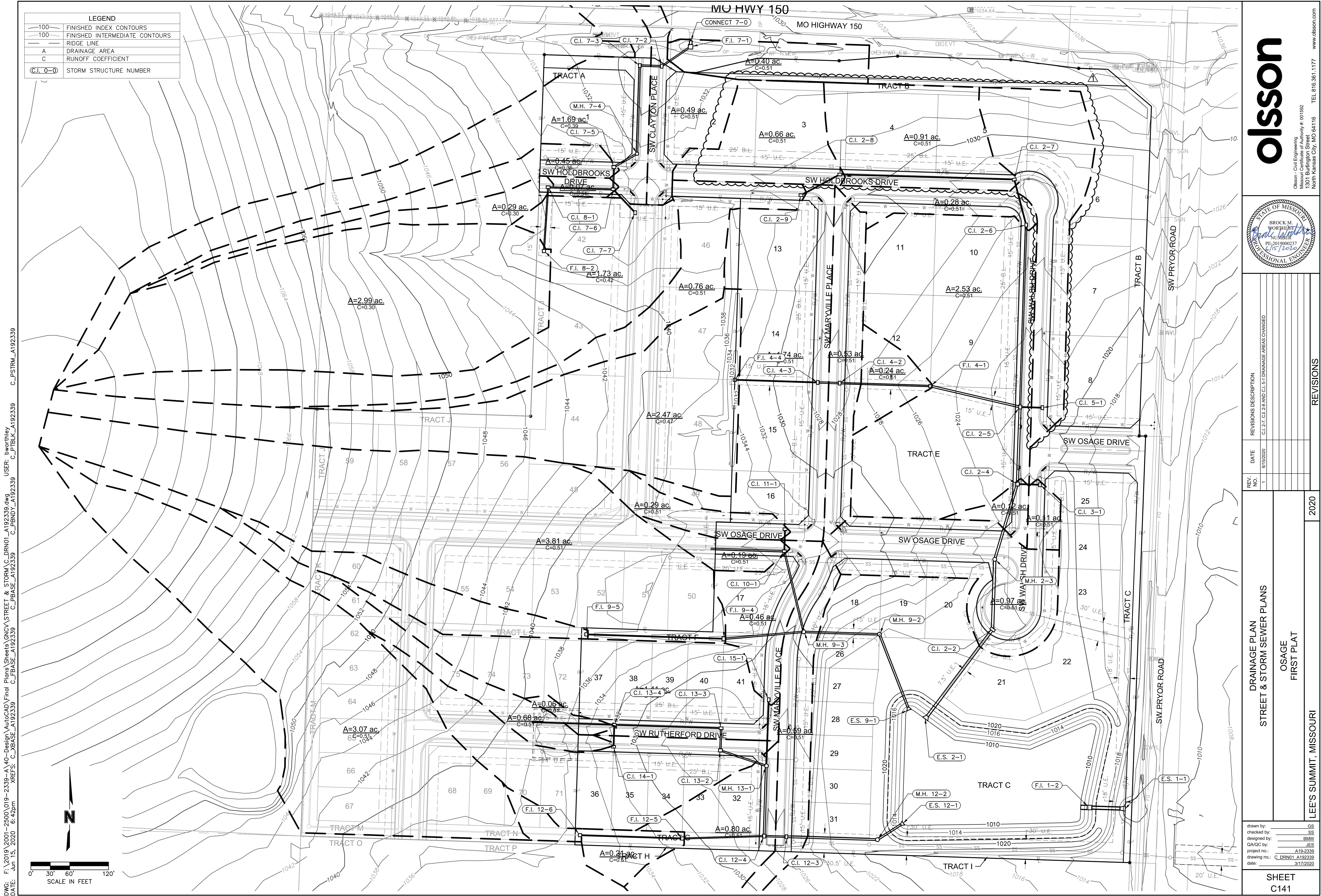


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USER: bworthley C:\PBASE_A192339



drawn by: _____ GS checked by: _____ SS designed by: _____ BMW QA/QC by: _____ JES project no.: _____ A19-2338 drawing no.: C STM03 A12339 date: _____ 3/17/2020		2020		LEE'S SUMMIT, MISSOURI	
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Inlet Design Table													
10 Year Return Frequency													
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)		(cfs)	(cfs)		(ft)	(ft)	(ft)
C.I. 2-2(L)	SAG	0.34	...	...	...	...	...	...	...	...	0.08	3.97	...
C.I. 2-2(R)	SAG	2.21	...	...	...	...	...	...	...	...	0.17	8.64	...
C.I. 2-2	SAG	3.64	0.00	3.64	0.80	27.16	21.73	3.64	0.00	100.00%	...	...	...
C.I. 2-4	GRADE	0.45	0.00	0.45	1.00	0.44	0.44	0.44	0.01	96.83%	0.09	4.45	...
C.I. 2-5(L)	SAG	1.31	...	...	...	...	...	...	...	...	0.14	6.76	...
C.I. 2-5(R)	SAG	3.75	...	...	...	...	...	...	...	...	0.21	10.42	...
C.I. 2-5	SAG	7.81	0.11	7.93	0.80	19.40	15.52	7.93	0.00	100.00%	...	...	...
C.I. 2-6	GRADE	1.05	0.00	1.05	1.00	0.95	0.95	0.95	0.10	90.63%	0.12	5.99	...
C.I. 2-7	GRADE	3.41	0.37	3.78	1.00	2.87	2.87	2.87	0.91	75.84%	0.21	10.47	...
C.I. 2-8	GRADE	2.48	0.00	2.48	1.00	2.11	2.11	2.11	0.37	85.10%	0.18	9.18	...
C.I. 2-9	GRADE	2.85	0.00	2.85	1.00	2.36	2.36	2.36	0.49	82.96%	0.19	9.68	...
C.I. 3-1	GRADE	0.41	0.00	0.41	1.00	0.40	0.40	0.40	0.01	97.18%	0.09	4.31	...
F.I. 4-1	SAG	0.90	0.00	0.90	0.80	18.67	14.93	0.90	0.00	100.00%	...	...	0.07
C.I. 4-2(L)	SAG	0.94	...	...	...	...	...	...	...	...	0.13	6.40	...
C.I. 4-2(R)	SAG	0.56	...	...	...	...	...	...	...	...	0.10	5.04	...
C.I. 4-2	SAG	1.99	0.00	1.99	0.80	19.40	15.52	1.99	0.00	100.00%	...	...	...
C.I. 4-3(L)	SAG	2.03	...	...	...	...	...	...	...	...	0.17	8.30	...
C.I. 4-3(R)	SAG	2.63	...	...	...	...	...	...	...	...	0.20	9.99	...
C.I. 4-3	SAG	6.53	0.57	7.10	0.80	19.40	15.52	7.10	0.00	100.00%	...	...	...
F.I. 4-4	SAG	6.60	0.00	6.60	0.80	18.67	14.93	6.60	0.00	100.00%	...	...	0.25
C.I. 5-1(L)	SAG	3.30	...	...	...	...	...	...	...	...	0.22	10.78	...
C.I. 5-1(R)	SAG	0.00	...	...	...	...	...	...	...	...	...	...	...
C.I. 5-1	SAG	3.75	0.91	4.66	0.80	19.40	15.52	4.66	0.00	100.00%	...	...	...
F.I. 7-1	SAG	1.50	0.00	1.50	0.80	23.33	18.67	1.50	0.00	100.00%	...	...	0.08
C.I. 7-2(L)	SAG	0.08	...	...	...	...	...	...	...	...	0.05	2.37	...
C.I. 7-2(R)	SAG	0.56	...	...	...	...	...	...	...	...	0.09	4.69	...
C.I. 7-2	SAG	1.84	0.00	1.84	0.80	19.40	15.52	1.84	0.00	100.00%	...	...	...
C.I. 7-3(L)	SAG	0.54	...	...	...	...	...	...	...	...	0.10	5.01	...
C.I. 7-3(R)	SAG	0.29	...	...	...	...	...	...	...	...	0.08	3.80	...
C.I. 7-3	SAG	4.85	0.13	4.97	0.80	19.40	15.52	4.97	0.00	100.00%	...	...	...
C.I. 7-5	GRADE	1.19	0.00	1.19	1.00	1.07	1.07	1.07	0.12	89.95%	0.13	6.38	...
C.I. 7-6	GRADE	0.26	0.05	0.31	1.00	0.30	0.30	0.30	0.01	98.09%	0.08	3.84	...
C.I. 7-7	SAG	4.17	0.00	4.17	0.80	18.67	14.93	4.17	0.00	100.00%	...	...	0.18
C.I. 8-1	GRADE	0.64	0.00	0.64	1.00	0.59	0.59	0.59	0.05	92.81%	0.09	4.65	...
F.I. 8-2	SAG	6.60	0.00	6.60	0.80	18.67	14.93	6.60	0.00	100.00%	...	...	0.25
F.I. 8-2 FTR	SAG	6.99	0.00	6.99	0.80	18.67	14.93	6.99	0.00	100.00%	...	...	0.26
F.I. 9-4	SAG	14.29	0.00	14.29	0.80	36.20	28.96	14.29	0.00	100.00%	...	...	0.36
F.I. 9-5	SAG	1.91	0.00	1.91	0.80	18.67	14.93	1.91	0.00	100.00%	...	...	0.11
F.I. 9-5 FTR	SAG	1.82	0.00	1.82	0.80	18.67	14.93	1.82	0.00	100.00%	...	...	0.11
C.I. 10-1	GRADE	0.71	0.00	0.71	1.00	0.68	0.68	0.68	0.04	95.08%	0.11	5.44	...
PLUG 10-2	GRADE	12.21	...	...	...	...	...	...	...	...	...	...	...
C.I. 11-1	GRADE	1.09	0.00	1.09	1.00	1.00	1.00	1.00	0.09	92.03%	0.13	6.38	...
C.I. 12-3(L)	SAG	1.54	...	...	...	...	...	...	...	...	0.15	7.51	...
C.I. 12-3(R)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 12-3	SAG	2.21	0.00	2.21	0.80	19.40	15.52	2.21	0.00	100.00%	...	...	...
C.I. 12-4(L)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 12-4(R)	SAG	0.79	...	...	...	...	...	...	...	...	0.12	5.85	...
C.I. 12-4	SAG	3.00	0.00	3.00	0.80	19.40	15.52	3.00	0.00	100.00%	...	...	...
F.I. 12-5	SAG	0.79	0.00	0.79	0.80	18.67	14.93	0.79	0.00	100.00%	...	...	0.06
F.I. 12-6	SAG	0.38	0.00	0.38	0.80	18.67	14.93	0.38	0.00	100.00%	...	...	0.04
F.I. 12-6 FTR	SAG	7.75	0.00	7.75	0.80	18.67	14.93	7.75	0.00	100.00%	...	...	0.28
C.I. 13-2(L)	SAG	0.04	...	...	...	...	...	...	...	...	0.03	1.72	...
C.I. 13-2(R)	SAG	2.51	...	...	...	...	...	...	...	...	0.18	9.22	...
C.I. 13-2	SAG	4.43	1.01	5.43	0.80	19.40	15.52	5.43	0.00	100.00%	...	...	...
C.I. 13-3(L)	SAG	3.00	...	...	...	...	...	...	...	...	0.16	8.03	...
C.I. 13-3(R)	SAG	0.19	...	...	...	...	...	...	...	...	0.08	4.15	...
C.I. 13-3	SAG	5.29	0.24	5.53	0.80	19.40	15.52	5.53	0.00	100.00%	...	...	...
C.I. 13-4	GRADE	0.23	0.00	0.23	1.00	0.22	0.22	0.22	0.01	96.33%	0.06	2.76	...
PLUG 13-5	GRADE	3.13	...	...	...	...	...	...	...	...	...	...	...
C.I. 14-1	GRADE	2.55	0.00	2.55	1.00	1.54	1.54	1.54	1.01	60.41%	0.14	6.87	...
C.I. 15-1	GRADE	1.73	0.04	1.76	1.00	1.53	1.53	1.53	0.23	86.88%	0.15	7.64	...

- Notes:
1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600. Both theoretical capacity and reduced capacity are shown.
2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual percentage of flow captured after the capacity has been reduced to 80% of theoretical capacity.

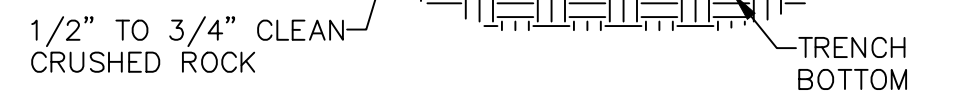
Drainage Area Design Table						
10 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
C.I. 2-2(L)	0.09	0.51	5.00	7.35	1.00	0.34
C.I. 2-2(R)	0.59	0.51	5.00	7.35	1.00	2.21
C.I. 2-2(B)	0.29	0.51	5.00	7.35	1.00	1.09
C.I. 2-2	0.97	0.51	5.00	7.35	1.00	3.64
C.I. 2-4	0.12	0.51	5.00	7.35	1.00	0.45
C.I. 2-5(L)	0.35	0.51	5.00	7.35	1.00	1.31
C.I. 2-5(R)	1.00	0.51	5.00	7.35	1.00	3.75
C.I. 2-5(B)	1.18	0.51	10.10	6.06	1.00	3.64
C.I. 2-5	2.53	0.51	10.10	6.06	1.00	7.81
C.I. 2-6	0.28	0.51	5.00	7.35	1.00	1.05
C.I. 2-7	0.91	0.51	5.00	7.35	1.00	3.41
C.I. 2-8	0.66	0.51	5.00	7.35	1.00	2.48
C.I. 2-9	0.76	0.51	5.00	7.35	1.00	2.85
C.I. 3-1	0.11	0.51	5.00	7.35	1.00	0.41
F.I. 4-1	0.24	0.51	5.00	7.35	1.00	0.90
C.I. 4-2(L)	0.25	0.51	5.00	7.35	1.00	0.94
C.I. 4-2(R)	0.15	0.51	5.00	7.35	1.00	0.56
C.I. 4-2(B)	0.13	0.51	5.00	7.35	1.00	0.49
C.I. 4-2	0.53	0.51	5.00	7.35	1.00	1.99
C.I. 4-3(L)	0.54	0.51	5.00	7.35	1.00	2.03
C.I. 4-3(R)	0.70	0.51	5.00	7.35	1.00	2.63
C.I. 4-3(B)	0.50	0.51	5.00	7.35	1.00	1.88
C.I. 4-3	1.74	0.51	5.00	7.35	1.00	6.53
F.I. 4-4	2.47	0.47	11.96	5.69	1.00	6.60
C.I. 5-1(L)	0.88	0.51	5.00	7.35	1.00	3.30
C.I. 5-1(R)	0.00	0.51	5.00	7.35	1.00	0.00
C.I. 5-1(B)	0.12	0.51	5.00	7.35	1.00	0.45
C.I. 5-1	1.00	0.51	5.00	7.35	1.00	3.75
F.I. 7-1	0.40	0.51	5.00	7.35	1.00	1.50
C.I. 7-2(L)	0.02	0.51	5.00	7.35	1.00	0.08
C.I. 7-2(R)	0.15	0.51	5.00	7.35	1.00	0.56
C.I. 7-2(B)	0.32	0.51	5.00	7.35	1.00	1.20
C.I. 7-2	0.49	0.51	5.00	7.35	1.00	1.84
C.I. 7-3(L)	0.19	0.39	5.00	7.35	1.00	0.54
C.I. 7-3(R)	0.10	0.39	5.00	7.35	1.00	0.29
C.I. 7-3(B)	1.40	0.39	5.00	7.35	1.00	4.01
C.I. 7-3	1.69	0.39	5.00	7.35	1.00	4.85
C.I. 7-5	0.45	0.36	5.00	7.35	1.00	1.19
C.I. 7-6	0.07	0.51	5.00	7.35	1.00	0.26
C.I. 7-7	1.73	0.42	11.70	5.74	1.00	4.17
C.I. 8-1	0.29	0.30	5.00	7.35	1.00	0.64
F.I. 8-2	2.99	0.30	5.00	7.35	1.00	6.60
F.I. 8-2 FTR	3.99	0.30	11.16	5.84	1.00	6.99
F.I. 9-4	3.81	0.51	5.00	7.35	1.00	14.29
F.I. 9-5	0.51	0.51	5.00	7.35	1.00	1.91
F.I. 9-5 FTR	0.48	0.51	5.00	7.35	1.00	1.82
C.I. 10-1	0.19	0.51	5.00	7.35	1.00	0.71
PLUG 10-2	4.71	0.45	11.57	5.76	1.00	12.21
C.I. 11-1	0.29	0.51	5.00	7.35	1.00	1.09
C.I. 12-3(L)	0.41	0.51	5.00	7.35	1.00	1.54
C.I. 12-3(R)	0.00	0.51	5.00	7.35	1.00	0.00
C.I. 12-3(B)	0.18	0.51	5.00	7.35	1.00	0.68
C.I. 12-3	0.59	0.51	5.00	7.35	1.00	2.21
C.I. 12-4(L)	0.00	0.51	5.00	7.35	1.00	0.00
C.I. 12-4(R)	0.21	0.51	5.00	7.35	1.00	0.79
C.I. 12-4(B)	0.59	0.51	5.00	7.35	1.00	2.21
C.I. 12-4	0.80	0.51	5.00	7.35	1.00	3.00
F.I. 12-5	0.21	0.51	5.00	7.35	1.00	0.79
F.I. 12-6	0.10	0.51	5.00	7.35	1.00	0.38
F.I. 12-6 FTR	3.29	0.41	11.67	5.74	1.00	7.75
C.I. 13-2(L)	0.01	0.51	5.00	7.35	1.00	0.04
C.I. 13-2(R)	0.67	0.51	5.00	7.35	1.00	2.51
C.I. 13-2(B)	0.50	0.51	5.00	7.35	1.00	1.88
C.I. 13-2	1.18	0.51	5.00	7.35	1.00	4.43
C.I. 13-3(L)	0.80	0.51	5.00	7.35	1.00	3.00
C.I. 13-3(R)	0.05	0.51	5.00	7.35	1.00	0.19
C.I. 13-3(B)	0.56	0.51	5.00	7.35	1.00	2.10
C.I. 13-3	1.41	0.51	5.00	7.35	1.00	5.29
C.I. 13-4	0.06	0.51	5.00	7.35	1.00	0.23
PLUG 13-5	0.83	0.51	5.00	7.35	1.00	3.13
C.I. 14-1	0.68	0.51	5.00	7.35	1.00	2.55
C.I. 15-1	0.46	0.51	5.00	7.35	1.00	1.73

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Find Plans\Sheets\NC(V)\STREET & STORM\C-DRN01_A192339.dwg USER: bworthley C_PSTRM_A192339
DATE: Jun 15, 2020 6:42pm XREFS: C_XBASE_A192339 C_PBASE_A192339 C_PBLK_A192339

Inlet Design Table													
100 Year Return Frequency													
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
C.I. 2-2(L)	SAG	0.59	...	...	...	...	...	...	...	...	0.10	4.91	...
C.I. 2-2(R)	SAG	3.88	...	...	...	...	...	...	...	...	0.21	10.67	...
C.I. 2-2	SAG	6.38	0.00	6.38	0.80	27.16	21.73	6.38	0.00	100.00%	...	...	...
C.I. 2-4	GRADE	0.79	0.00	0.79	1.00	0.74	0.74	0.74	0.05	93.71%	0.11	5.49	...
C.I. 2-5(L)	SAG	2.30	...	...	...	...	...	...	...	...	0.17	8.38	...
C.I. 2-5(R)	SAG	6.58	...	...	...	...	...	...	...	...	0.26	12.96	...
C.I. 2-5	SAG	13.81	0.35	14.16	0.80	19.40	15.52	14.16	0.00	100.00%	...	...	...
C.I. 2-6	GRADE	1.84	0.00	1.84	1.00	1.54	1.54	1.54	0.30	83.56%	0.15	7.39	...
C.I. 2-7	GRADE	5.99	1.08	7.07	1.00	4.27	4.27	4.27	2.80	60.43%	0.26	13.23	...
C.I. 2-8	GRADE	4.34	0.00	4.34	1.00	3.26	3.26	3.26	1.08	75.14%	0.23	11.34	...
C.I. 2-9	GRADE	5.00	0.00	5.00	1.00	3.60	3.60	3.60	1.40	72.02%	0.24	11.96	...
C.I. 3-1	GRADE	0.72	0.00	0.72	1.00	0.68	0.68	0.68	0.04	94.30%	0.11	5.32	...
F.I. 4-1	SAG	1.58	0.00	1.58	0.80	18.67	14.93	1.58	0.00	100.00%	...	...	0.10
C.I. 4-2(L)	SAG	1.65	...	...	...	...	...	...	...	...	0.16	7.91	...
C.I. 4-2(R)	SAG	0.99	...	...	...	...	...	...	...	...	0.12	6.22	...
C.I. 4-2	SAG	3.49	0.00	3.49	0.80	19.40	15.52	3.49	0.00	100.00%	...	...	...
C.I. 4-3(L)	SAG	3.55	...	...	...	...	...	...	...	...	0.21	10.37	...
C.I. 4-3(R)	SAG	4.61	...	...	...	...	...	...	...	...	0.26	12.78	...
C.I. 4-3	SAG	11.45	1.67	13.12	0.80	19.40	15.52	13.12	0.00	100.00%	...	...	...
F.I. 4-4	SAG	11.70	0.00	11.70	0.80	18.67	14.93	11.70	0.00	100.00%	...	...	0.37
C.I. 5-1(L)	SAG	5.79	...	...	...	...	...	...	...	...	0.28	14.08	...
C.I. 5-1(R)	SAG	0.00	...	...	...	...	...	...	...	...	...	...	...
C.I. 5-1	SAG	6.58	2.80	9.38	0.80	19.40	15.52	9.38	0.00	100.00%	...	...	...
F.I. 7-1	SAG	2.63	0.00	2.63	0.80	23.33	18.67	2.63	0.00	100.00%	...	...	0.12
C.I. 7-2(L)	SAG	0.13	...	...	...	...	...	...	...	...	0.06	2.93	...
C.I. 7-2(R)	SAG	0.99	...	...	...	...	...	...	...	...	0.12	5.79	...
C.I. 7-2	SAG	3.22	0.00	3.22	0.80	19.40	15.52	3.22	0.00	100.00%	...	...	...
C.I. 7-3(L)	SAG	0.96	...	...	...	...	...	...	...	...	0.13	6.51	...
C.I. 7-3(R)	SAG	0.50	...	...	...	...	...	...	...	...	0.09	4.69	...
C.I. 7-3	SAG	8.50	0.39	8.90	0.80	19.40	15.52	8.90	0.00	100.00%	...	...	...
C.I. 7-5	GRADE	2.09	0.00	2.09	1.00	1.72	1.72	1.72	0.37	82.50%	0.16	7.87	...
C.I. 7-6	GRADE	0.46	0.15	0.61	1.00	0.58	0.58	0.58	0.03	95.27%	0.10	4.95	...
C.I. 7-7	SAG	7.38	0.00	7.38	0.80	18.67	14.93	7.38	0.00	100.00%	...	...	0.27
C.I. 8-1	GRADE	1.12	0.00	1.12	1.00	0.98	0.98	0.98	0.15	87.05%	0.11	5.74	...
F.I. 8-2	SAG	11.57	0.00	11.57	0.80	18.67	14.93	11.57	0.00	100.00%	...	...	0.36
F.I. 8-2 FTR	SAG	12.36	0.00	12.36	0.80	18.67	14.93	12.36	0.00	100.00%	...	...	0.38
F.I. 9-4	SAG	25.07	0.00	25.07	0.80	36.20	28.96	25.07	0.00	100.00%	...	...	0.27
F.I. 9-5	SAG	3.36	0.00	3.36	0.80	18.67	14.93	3.36	0.00	100.00%	...	...	0.16
F.I. 9-5 FTR	SAG	3.19	0.00	3.19	0.80	18.67	14.93	3.19	0.00	100.00%	...	...	0.15
C.I. 10-1	GRADE	1.25	0.00	1.25	1.00	1.13	1.13	1.13	0.12	90.75%	0.13	6.72	...
PLUG 10-2	GRADE	21.62	...	...	...	...	...	...	...	...	...	...	...
C.I. 11-1	GRADE	1.91	0.00	1.91	1.00	1.64	1.64	1.64	0.27	85.80%	0.16	7.87	...
C.I. 12-3(L)	SAG	2.70	...	...	...	...	...	...	...	...	0.19	9.28	...
C.I. 12-3(R)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 12-3	SAG	3.88	0.00	3.88	0.80	19.40	15.52	3.88	0.00	100.00%	...	...	...
C.I. 12-4(L)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 12-4(R)	SAG	1.38	...	...	...	...	...	...	...	...	0.14	7.22	...
C.I. 12-4	SAG	5.26	0.00	5.26	0.80	19.40	15.52	5.26	0.00	100.00%	...	...	...
F.I. 12-5	SAG	1.38	0.00	1.38	0.80	18.67	14.93	1.38	0.00	100.00%	...	...	0.09
F.I. 12-6	SAG	0.66	0.00	0.66	0.80	18.67	14.93	0.66	0.00	100.00%	...	...	0.05
F.I. 12-6 FTR	SAG	13.72	0.00	13.72	0.80	18.67	14.93	13.72	0.00	100.00%	...	...	0.41
C.I. 13-2(L)	SAG	0.07	...	...	...	...	...	...	...	...	0.04	2.12	...
C.I. 13-2(R)	SAG	4.41	...	...	...	...	...	...	...	...	0.24	11.88	...
C.I. 13-2	SAG	7.77	2.52	10.28	0.80	19.40	15.52	10.28	0.00	100.00%	...	...	...
C.I. 13-3(L)	SAG	5.26	...	...	...	...	...	...	...	...	0.20	9.93	...
C.I. 13-3(R)	SAG	0.33	...	...	...	...	...	...	...	...	0.12	5.83	...
C.I. 13-3	SAG	9.28	0.74	10.02	0.80	19.40	15.52	10.02	0.00	100.00%	...	...	...
C.I. 13-4	GRADE	0.39	0.00	0.39	1.00	0.37	0.37	0.37	0.03	92.85%	0.07	3.41	...
PLUG 13-5	GRADE	5.48	...	...	...	...	...	...	...	...	...	...	...
C.I. 14-1	GRADE	4.47	0.00	4.47	1.00	1.96	1.96	1.96	2.52	43.75%	0.17	8.48	...
C.I. 15-1	GRADE	3.03	0.12	3.14	1.00	2.43	2.43	2.43	0.71	77.45%	0.19	9.49	...

Notes:
1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600. Both theoretical capacity and reduced capacity are shown.
2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual percentage of flow captured after the capacity has been reduced to 80% of theoretical capacity.

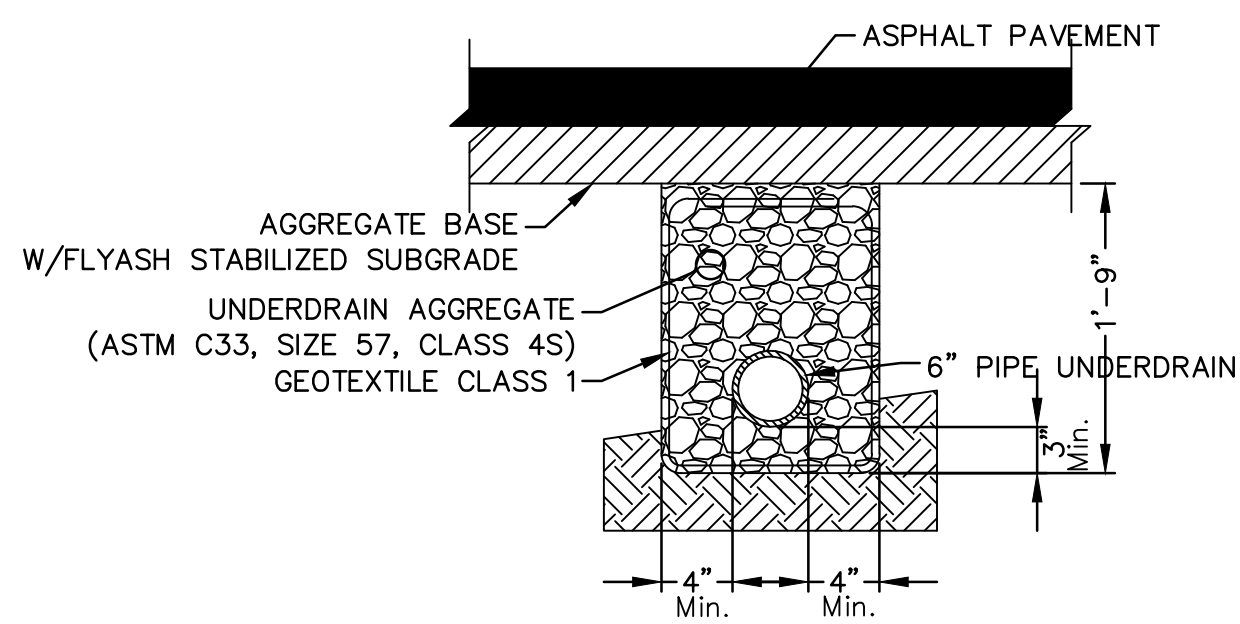
Drainage Area Design Table						
100 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
C.I. 2-2(L)	0.09	0.51	5.00	10.32	1.25	0.59
C.I. 2-2(R)	0.59	0.51	5.00	10.32	1.25	3.88
C.I. 2-2(B)	0.29	0.51	5.00	10.32	1.25	1.91
C.I. 2-2	0.97	0.51	5.00	10.32	1.25	6.38
C.I. 2-4	0.12	0.51	5.00	10.32	1.25	0.79
C.I. 2-5(L)	0.35	0.51	5.00	10.32	1.25	2.30
C.I. 2-5(R)	1.00	0.51	5.00	10.32	1.25	6.58
C.I. 2-5(B)	1.18	0.51	10.10	8.56	1.25	6.44
C.I. 2-5	2.53	0.51	10.10	8.56	1.25	13.81
C.I. 2-6	0.28	0.51	5.00	10.32	1.25	1.84
C.I. 2-7	0.91	0.51	5.00	10.32	1.25	5.99
C.I. 2-8	0.66	0.51	5.00	10.32	1.25	4.34
C.I. 2-9	0.76	0.51	5.00	10.32	1.25	5.00
C.I. 3-1	0.11	0.51	5.00	10.32	1.25	0.72
F.I. 4-1	0.24	0.51	5.00	10.32	1.25	1.58
C.I. 4-2(L)	0.25	0.51	5.00	10.32	1.25	1.65
C.I. 4-2(R)	0.15	0.51	5.00	10.32	1.25	0.99
C.I. 4-2(B)	0.13	0.51	5.00	10.32	1.25	0.86
C.I. 4-2	0.53	0.51	5.00	10.32	1.25	3.49
C.I. 4-3(L)	0.54	0.51	5.00	10.32	1.25	3.55
C.I. 4-3(R)	0.70	0.51	5.00	10.32	1.25	4.61
C.I. 4-3(B)	0.50	0.51	5.00	10.32	1.25	3.29
C.I. 4-3	1.74	0.51	5.00	10.32	1.25	11.45
F.I. 4-4	2.47	0.47	11.96	8.06	1.25	11.70
C.I. 5-1(L)	0.88	0.51	5.00	10.32	1.25	5.79
C.I. 5-1(R)	0.00	0.51	5.00	10.32	1.25	0.00
C.I. 5-1(B)	0.12	0.51	5.00	10.32	1.25	0.79
C.I. 5-1	1.00	0.51	5.00	10.32	1.25	6.58
F.I. 7-1	0.40	0.51	5.00	10.32	1.25	2.63
C.I. 7-2(L)	0.02	0.51	5.00	10.32	1.25	0.13
C.I. 7-2(R)	0.15	0.51	5.00	10.32	1.25	0.99
C.I. 7-2(B)	0.32	0.51	5.00	10.32	1.25	2.11
C.I. 7-2	0.49	0.51	5.00	10.32	1.25	3.22
C.I. 7-3(L)	0.19	0.39	5.00	10.32	1.25	0.96
C.I. 7-3(R)	0.10	0.39	5.00	10.32	1.25	0.50
C.I. 7-3(B)	1.40	0.39	5.00	10.32	1.25	7.05
C.I. 7-3	1.69	0.39	5.00	10.32	1.25	8.50
C.I. 7-5	0.45	0.36	5.00	10.32	1.25	2.09
C.I. 7-6	0.07	0.51	5.00	10.32	1.25	0.46
C.I. 7-7	1.73	0.42	11.70	8.13	1.25	7.38
C.I. 8-1	0.29	0.30	5.00	10.32	1.25	1.12
F.I. 8-2	2.99	0.30	5.00	10.32	1.25	11.57
F.I. 8-2 FTR	3.99	0.30	11.16	8.27	1.25	12.36
F.I. 9-4	3.81	0.51	5.00	10.32	1.25	25.07
F.I. 9-5	0.51	0.51	5.00	10.32	1.25	3.36
F.I. 9-5 FTR	0.48	0.51	5.00	10.32	1.25	3.19
C.I. 10-1	0.19	0.51	5.00	10.32	1.25	1.25
PLUG 10-2	4.71	0.45	11.57	8.16	1.25	21.62
C.I. 11-1	0.29	0.51	5.00	10.32	1.25	1.91
C.I. 12-3(L)	0.41	0.51	5.00	10.32	1.25	2.70
C.I. 12-3(R)	0.00	0.51	5.00	10.32	1.25	0.00
C.I. 12-3(B)	0.18	0.51	5.00	10.32	1.25	1.18
C.I. 12-3	0.59	0.51	5.00	10.32	1.25	3.88
C.I. 12-4(L)	0.00	0.51	5.00	10.32	1.25	0.00
C.I. 12-4(R)	0.21	0.51	5.00	10.32	1.25	1.38
C.I. 12-4(B)	0.59	0.51	5.00	10.32	1.25	3.88
C.I. 12-4	0.80	0.51	5.00	10.32	1.25	5.26
F.I. 12-5	0.21	0.51	5.00	10.32	1.25	1.38
F.I. 12-6	0.10	0.51	5.00	10.32	1.25	0.66
F.I. 12-6 FTR	3.29	0.41	11.67	8.14	1.25	13.72
C.I. 13-2(L)	0.01	0.51	5.00	10.32	1.25	0.07
C.I. 13-2(R)	0.67	0.51	5.00	10.32	1.25	4.41
C.I. 13-2(B)	0.50	0.51	5.00	10.32	1.25	3.29
C.I. 13-2	1.18	0.51	5.00	10.32	1.25	7.77
C.I. 13-3(L)	0.80	0.51	5.00	10.32	1.25	5.26
C.I. 13-3(R)	0.05	0.51	5.00	10.32	1.25	0.33
C.I. 13-3(B)	0.56	0.51	5.00	10.32	1.25	3.69
C.I. 13-3	1.41	0.51	5.00	10.32	1.25	9.28
C.I. 13-4	0.06	0.51	5.00	10.32	1.25	0.39
PLUG 13-5	0.83	0.51	5.00	10.32	1.25	5.48
C.I. 14-1	0.68	0.51	5.00	10.32	1.25	4.47
C.I. 15-1	0.46	0.51	5.00	10.32	1.25	3.03



UNDERGROUND PIPE INSTALLATION FOR STORM SEWER LINES

N.T.S.

1. BACKFILL SHALL BE JOE EXCAVATED MATERIAL FREE FROM DEBRIS AND STONES COMPACTED TO 90% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698. BACKFILL UNDER PAVEMENT (EXISTING OR PROPOSED), SHALL BE FLOWABLE FILL.
2. TRENCH BANKS MAY BE CUT BACK ON SLOPES IN ACCORDANCE WITH CURRENT OSHA REGULATIONS, BUT ONLY IN AREAS WHERE THE INCREASED TRENCH WIDTH WILL NOT INTERFERE WITH SURFACE FEATURES. SLOPES MUST NOT EXTEND BELOW TOP OF BEDDING.
3. MINIMUM AND MAXIMUM WIDTHS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATION AS APPROVED ON ENGINEERING PLANS.

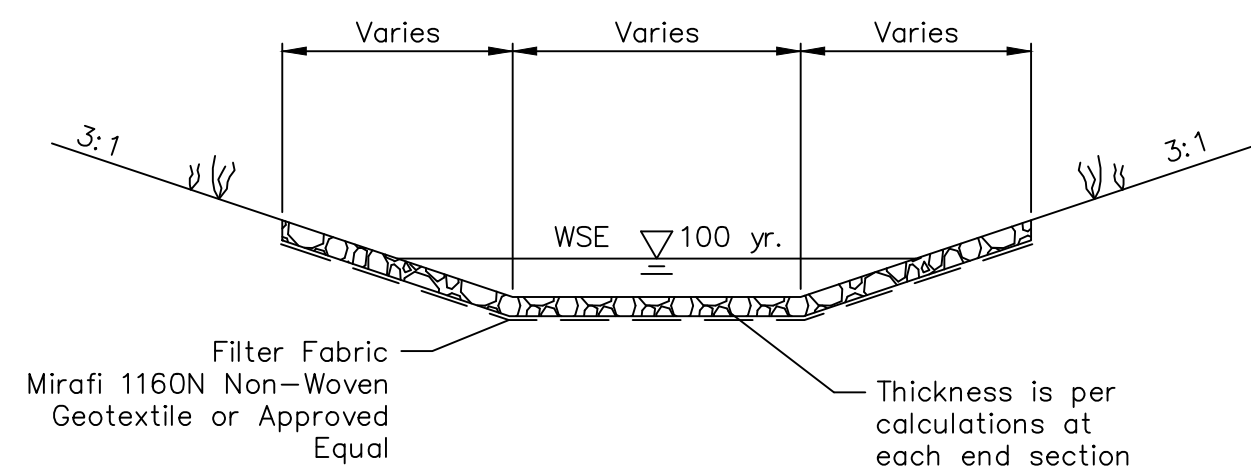


PIPE UNDERDRAIN LATERAL

N.T.S.

NOTES:

1. Where Pipe Underdrains are used, all Underdrain Outlet Pipes shall be solid wall with watertight joints. All Outlets Pipes shall be tied into the nearest storm sewer inlets at roadway sag locations as indicated on the Street Layout.
2. All Underdrain Pipes shall be installed at a minimum slope of 1%.
3. Underdrain Pipe shall be installed with the perforations placed down.
4. Blanket Underdrain Aggregate, Pipe Underdrain Aggregate, Pipe Underdrain Aggregate, Edge Underdrain and Outlet Pipe shall conform to City of Lee's Summit Specifications.
5. Overlap geotextile at top of trench a minimum of 12".



NOTE: DIMENSIONS ARE PER
CALCULATIONS AT EACH END SECTION

RIPRAP DETAIL

N.T.S.

[illegible]

STORM SEWER DETAILS (2) STREET & STORM SEWER PLANS	OSAGE FIRST PLAT	2020
LEE'S SUMMIT, MISSOURI		

drawn by: _____ GS
checked by: _____ SS
designed by: _____ BMW
QA/QC by: _____ JES
project no.: _____ A19-2339
drawing no.: C DTL01 A192339
date: _____ 3/17/2020

