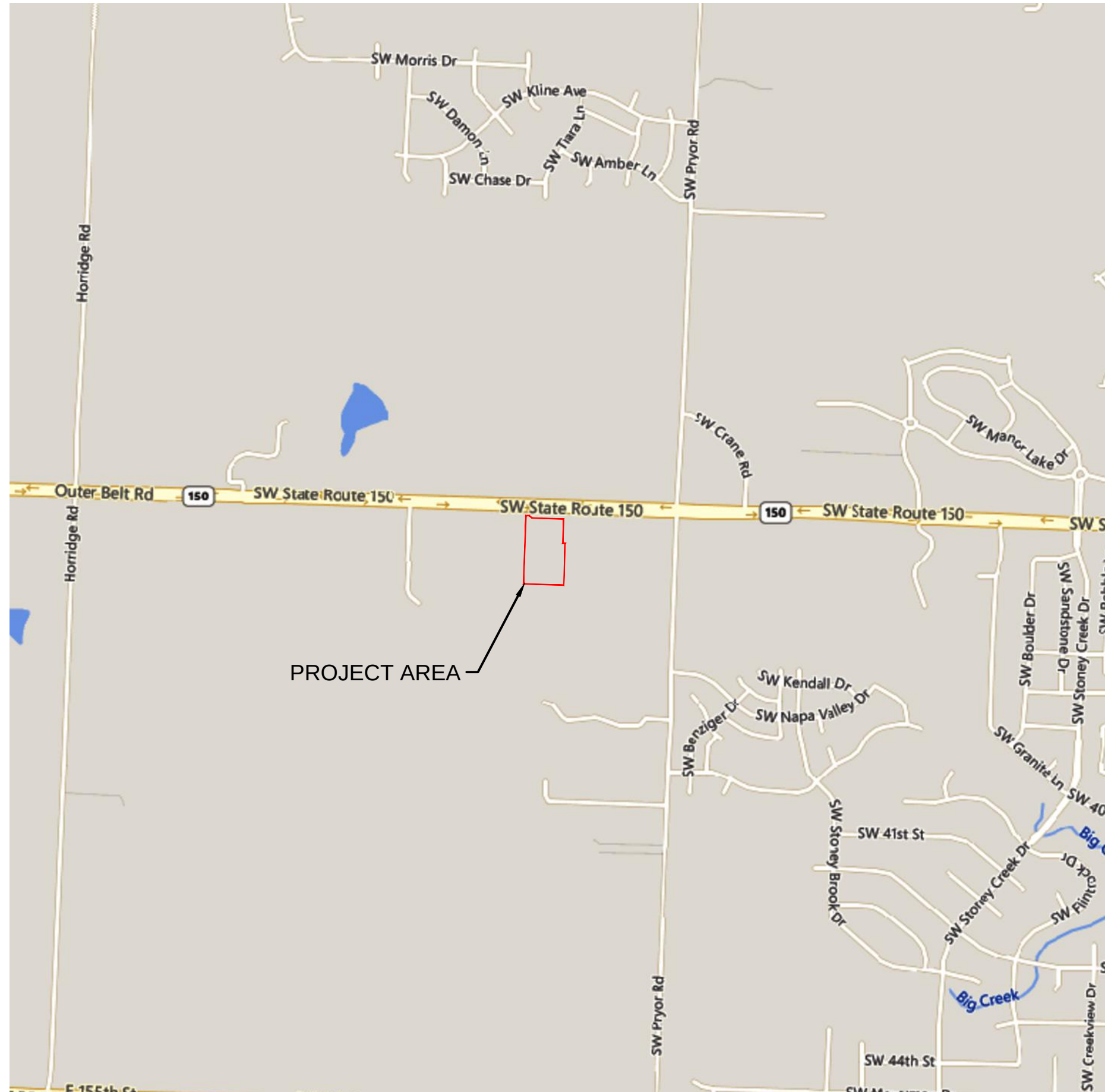


NE 1/4 SECTION 35, TOWNSHIP 47 N, RANGE 32 W.
IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI



☒ NOT FOR CONSTRUCTION
☐ REVIEWED FOR CONSTRUCTION



ALL OF THE WEST HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 47 NORTH, RANGE 32 WEST OF THE FIFTH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY MISSOURI EXCEPT THAT PART IN MISSOURI STATE HIGHWAY NO. 150 RIGHT-OF-WAY

ALSO

A TRACT OF LAND IN THE WEST HALF OF THE SOUTHWEST QUARTER AND EAST HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 47 NORTH, RANGE 32 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI BEING BOUNDED AND DESCRIBED BY OR UNDER THE DIRECT SUPERVISION OF JASON S. ROUDEBUSH, P.L.S. 2002014092, AS FOLLOWS: COMMENCING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE NORTH 88°07'14" WEST, ON THE NORTH LINE OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER, 1,319.40 FEET TO THE NORTHWEST CORNER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE NORTH 02°10'22" EAST, ALONG THE NORTH LINE OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER, 20.25 FEET TO THE POINT OF BEGINNING. CONTAINING 14,798 SQUARE FEET OR 0.34 ACRES, MORE OR LESS.

BENCHMARK NO. 1
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.
ELEVATION = 1014.830

BENCHMARK NO. 2
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.
ELEVATION = 1031.313

AS BUILT
08-22-2022

OLSSON HAS BEEN RETAINED TO PROVIDE AS-BUILT DRAWINGS FOR THIS PROJECT.


JULIE E. SELLERS, P.E.
CIVIL ENGINEER
MO# PE-2019000237

5/9/2023

DATE

olsson

Olsson • Civil Engineering
Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116 TEL 816-361-1177 www.olsson.com

[illegible]

TITLE SHEET
STREET & STORM SEWER PLANS

OSAGE 3RD PLAT

LEE'S SUMMIT, MO

drawn by: MJD
checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C TTL01 D192339
date: 3/14/2023

SHEET
C101

GENERAL NOTES

1. 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.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.

3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.

7. THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCROACH 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.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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

1. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY:

A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.

B. ALL CONSTRUCTION IN MODOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MODOT.

C. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

D. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES..

E. 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.

4. 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

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.

2. 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.

3. 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

1. 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.

2. 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.

3. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.

4. 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.

5. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.
- SHOP DRAWINGS

1. 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:

A. ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;

B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;

C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;

D. 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.

E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.

2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:

A. ALL STORM SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.

B. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

STORM SEWER GENERAL NOTES:

1. STORM STRUCTURES SHALL BE PER CURRENT CITY DETAILS. IF CITY DOES NOT HAVE PUBLISHED DETAILS STRUCTURES SHALL BE PER CURRENT APWA SPECIFICATIONS.

2. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH CITY OF LEE'S SUMMIT, MISSOURI.

3. ALL PIPE LENGTHS AND ELEVATIONS ARE CALCULATED LINEARLY FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

4. ALL STRUCTURE DIMENSIONS ARE TO INSIDE FACE OF STRUCTURE.

5. 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.

6. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF STORM SEWER.

7. 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.

8. 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.

9. PIPE PENETRATIONS SHALL BE GROUTED TO ENSURE WATERTIGHT SEALS.

10. MAINTAIN MINIMUM DEPTH OF COVER PER APWA 5606.06

ESTIMATE OF QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
STREET				
	EXCAVATION	C.Y.	1901	
	EMBANKMENT	C.Y.	147	
	SUBGRADE STABILIZATION (6" FLYASH TREATMENT)	S.Y.	2571	
	6" ASPHALT PAVEMENT	S.Y.	2122	
	CONCRETE CURB & GUTTER (CG-2)	L.F.	1347.64	
	5' CONCRETE SIDEWALK	L.F.	181.6	
	MILL & OVERLAY	S.Y.	13.4	
	ADA RAMP	EA.	3	
	STOP SIGNS	EA.	1	
	STREET NAME SIGNS	EA.	2	
	END OF ROAD TREATMENT	EA.	1	
STORM				
	STD. CURB INLET (5'x3' INSIDE)	EA.	7	7
	STD. CURB INLET (6'x3' INSIDE)	EA.	1	1
	STD. STORM MANHOLE (4' DIA. INSIDE)	EA.	1	1
	STD. FIELD INLET (4'x4' INSIDE)	EA.	2	2
	BASIN OUTLET STRUCTURE	EA.	1	1
	WATER QUALITY OUTLET STRUCTURE	EA.	1	1
	15" HDPE	L.F.	476.05	476.45
	18" HDPE	L.F.	272.06	270.81
	24" HDPE	L.F.	186.06	187.62
	6" PVC	L.F.	8	7.42
	24" HDPE END SECTION	EA.	1	1
	CONNECTION TO EXISTING STRUCTURE	EA.	1	1
	RIPRAP	S.Y.	10.4	10.4*
	TURF REINFORCEMENT MATTING	S.Y.	880.1	880.10*

AS PROVIDED BY CONTRACTOR*

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.

AS BUILT
08-22-2022

olsson

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North Kansas City, MO 64116
TEL 816.361.1177
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STATE OF MISSOURI
JULIE ELAINE
SELLERS
Professional Engineer
NUMBER
PE-2017000367
5/9/2023

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

1

08/11/2023

1

REVISED PER CITY COMMENTS

2021

GENERAL NOTES
STREET & STORM SEWER PLANS

OSAGE 3RD PLAT

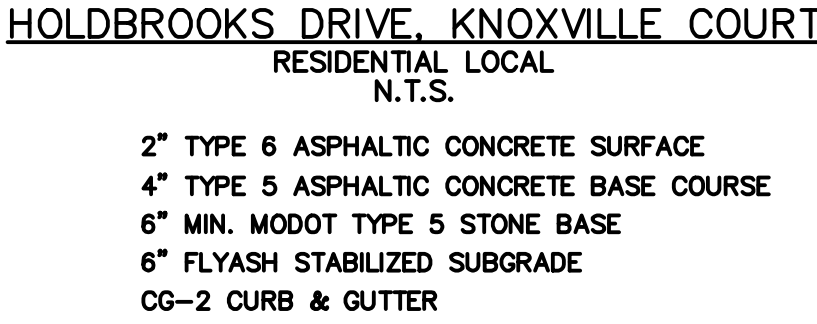
LEE'S SUMMIT, MO

drawn by: MJD
checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C_TTL01_D192339
date: 3/14/2023

SHEET
C102

339-D\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCV\Street & Storm Plans\C_TYP01_D192339.dwg
XREFS: C_PTBULK_D192339

USER: ssaylor



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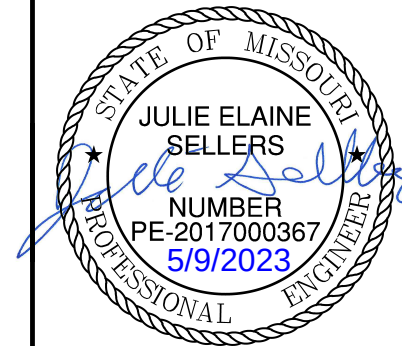
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TYPICAL SECTIONS STREET & STORM SEWER PLANS

OSAGE 3RD PLAT

LEE'S SUMMIT, MO

2021

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Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116

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DWG: F:\2019\2001-2500\019-2339-0\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\CONV\Street & Storm Plans\C_GRD01_D192339.dwg USER: ssaylor
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GENERAL NOTES:

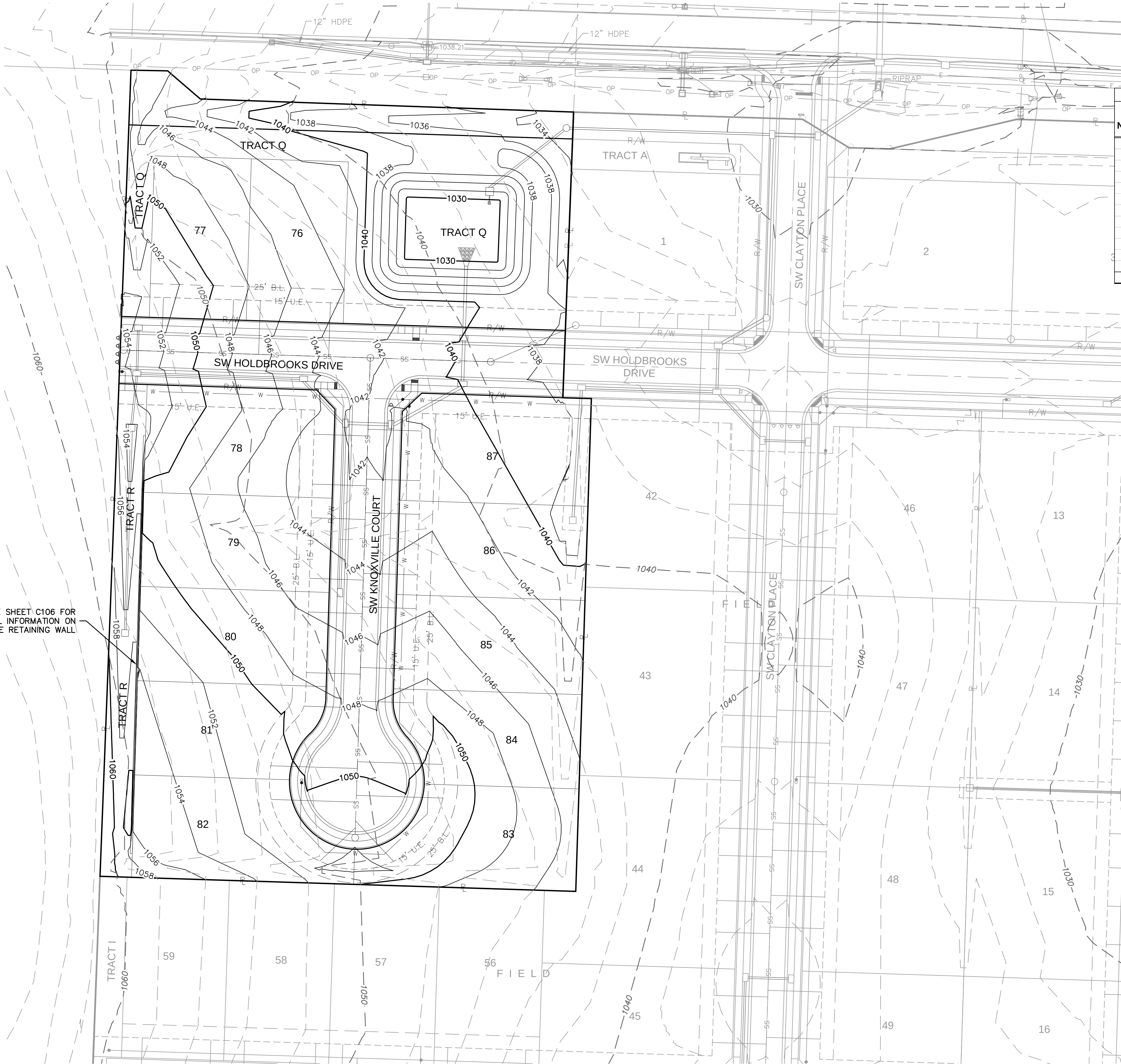
1. CONTRACTOR SHALL ADHERE TO THE "DESIGN AND CONSTRUCTION MANUAL" SECTION 2100 AS ADOPTED BY THE CITY OF LEE'S SUMMIT (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY.
2. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH 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.

EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	1901	147
SITE	9104	3610
TOTAL	11005	3757

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.

REFERENCE SHEET C106 FOR
ADDITIONAL INFORMATION ON
THE RETAINING WALL



USER: ssaylor C
192339

RETAINING WALL TO BE STRUCTURALLY DESIGNED BY OTHER.
PLAN AND PROFILE VIEW ARE SHOWN FOR REFERENCE ONLY.
REFER TO RETAINING WALL PLANS FOR MORE DETAILS.



08-22-2022

OSAGE 3RD PLAT

2021

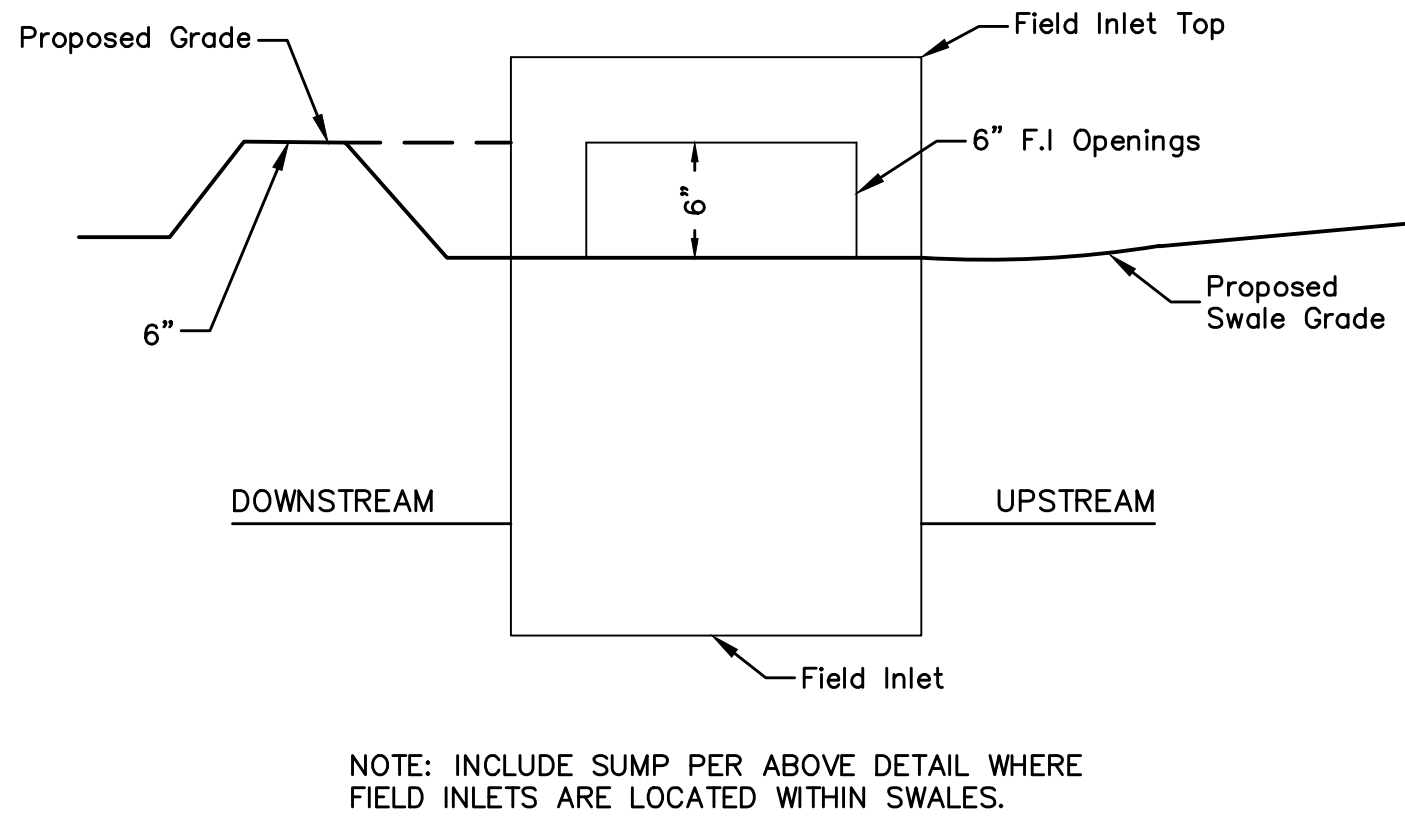
BY

LS

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Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116

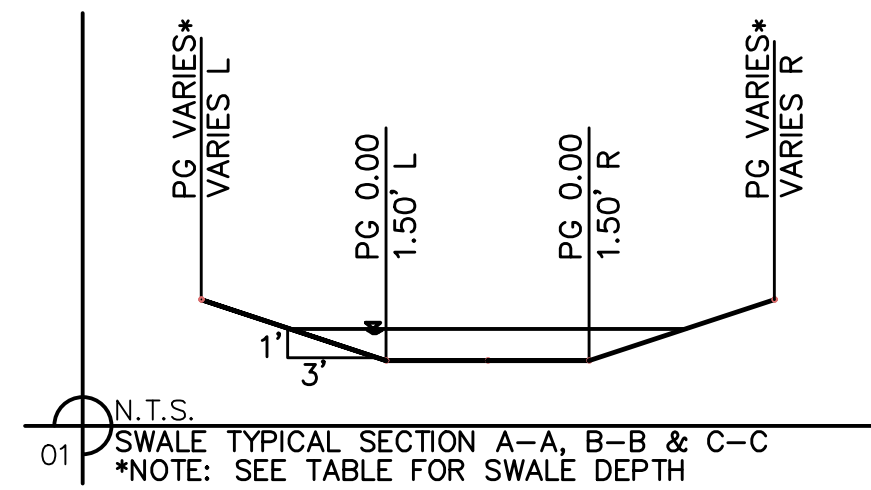
TEL 816.361.1177 www.olsson.com

DWG: F:\2019\2001-2500\019-2339-0140-Design\AutoCAD\Final Plans - Asbuilts\Sheets\CONV\Street & Storm Plans\C_SWL01_D192339.dwg USER: ssaylor C_PSRF_D192339
DATE: Mar 14, 2023 2:21pm XREFS: C_PTBK_D192339 C_XBASE_D192339 C_PBDY_D192339 C_PJTL_D192339



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

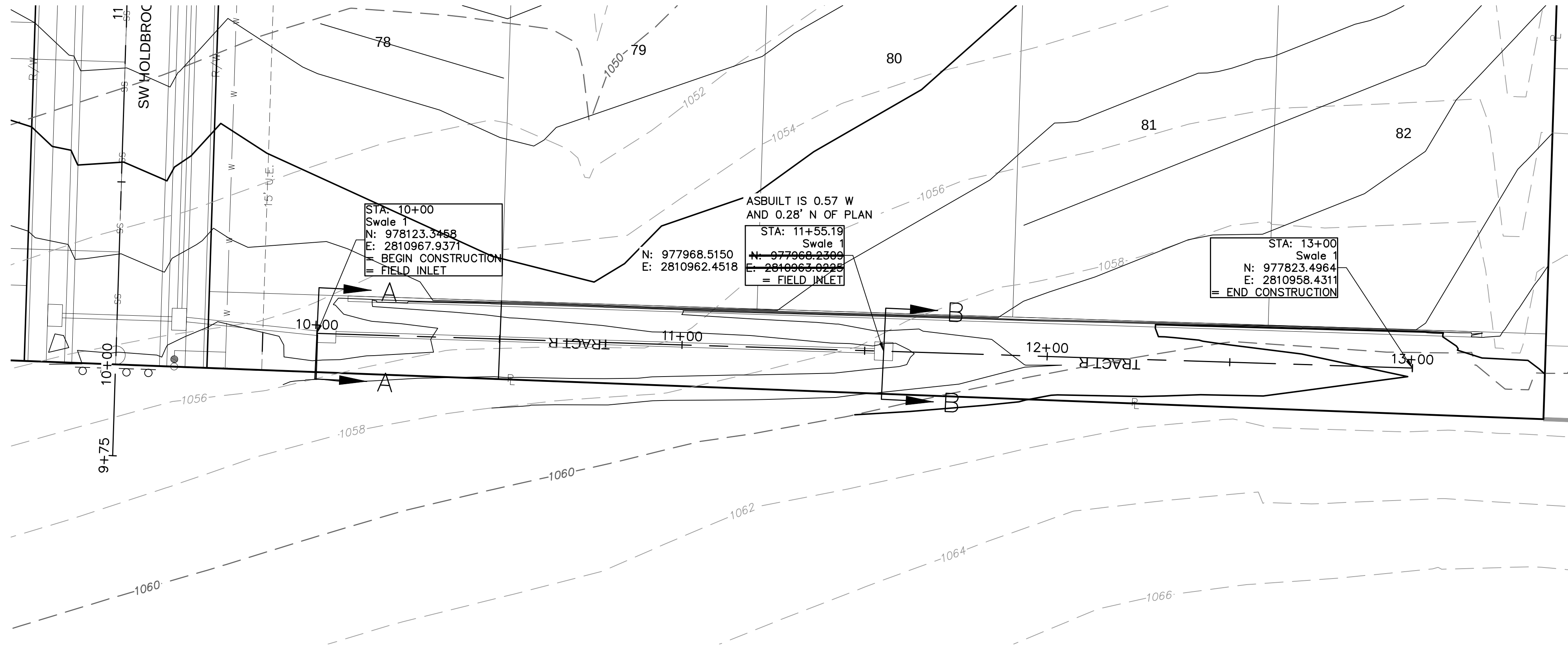
SUMP DETAIL
N.T.S.



*NOTE: SEE TABLE FOR SWALE DEPTH

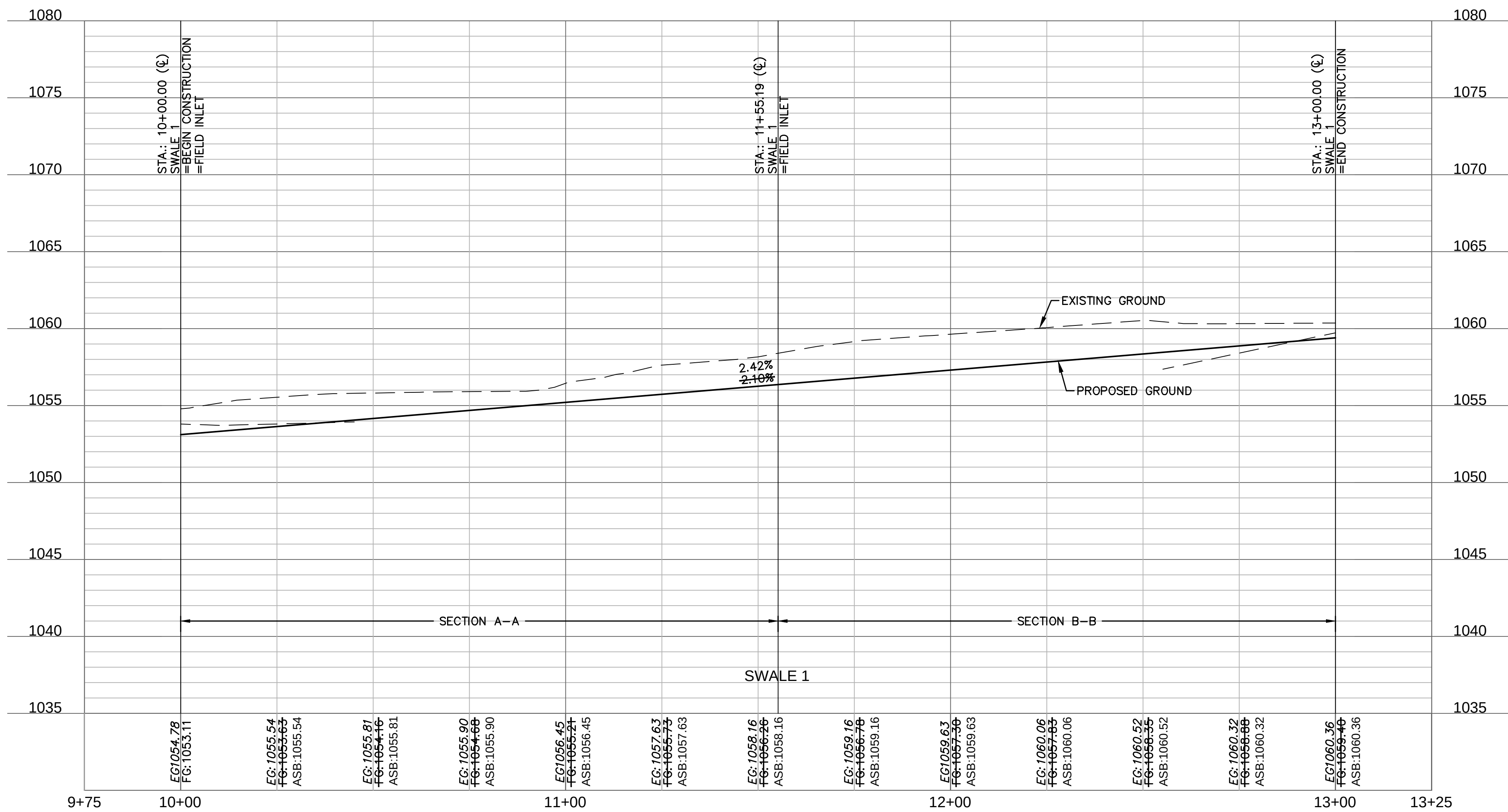
SWALE GRADING NOTES:

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.

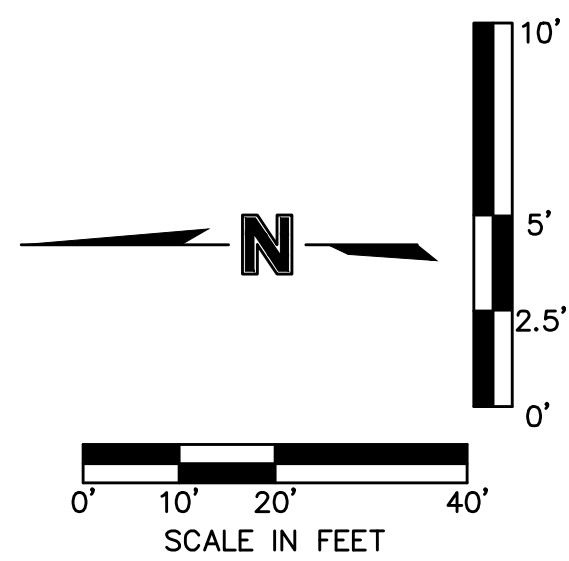


Swale Design Table (100 Year Return Frequency)													
Section Data							Flow Data						
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)
A-A	0.03	2.10%	1.39	3:1	3:1	3.00	5.03	0.39	1.63	3.09	5.47	5.34	0.54
B-B	0.03	2.10%	1.39	3:1	3:1	3.00	5.03	0.39	1.63	3.09	5.47	5.34	0.54

Swale Drainage Area Table (100 year Return Frequency)					
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K
A-A	1.3	0.3	5	10.32	1.25
B-B	1.3	0.3	5	10.32	1.25



AS BUILT
08-22-2022



olsson

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1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
www.olson.com

STATE OF MISSOURI
JULIE ELAINE SELLERS
Professional Engineer
NUMBER
PE 2017000367
5/9/2023

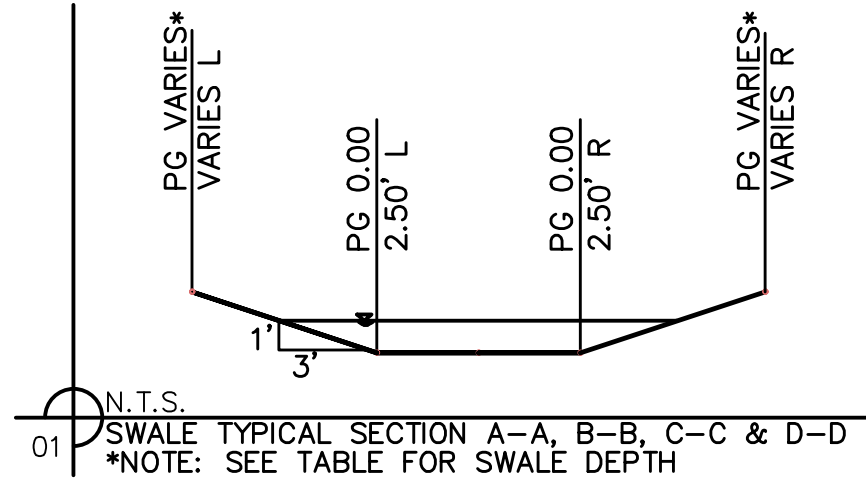
BY
REVISIONS DESCRIPTION
REV. NO. DATE
1 08/11/2021
REVISED PER CITY COMMENTS

SWALE 1 PLAN & PROFILE
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT
LEE'S SUMMIT, MO
2021

drawn by: MJD
checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C_SWL01_D192339
date: 3/14/2023

SHEET
C107

DWG: F:\2019\2001-2500\019-2339-D\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\CONV\Street & Storm Plans\C_SWL01_D192339.dwg USER: ssoylor C_PSRUF_D192339
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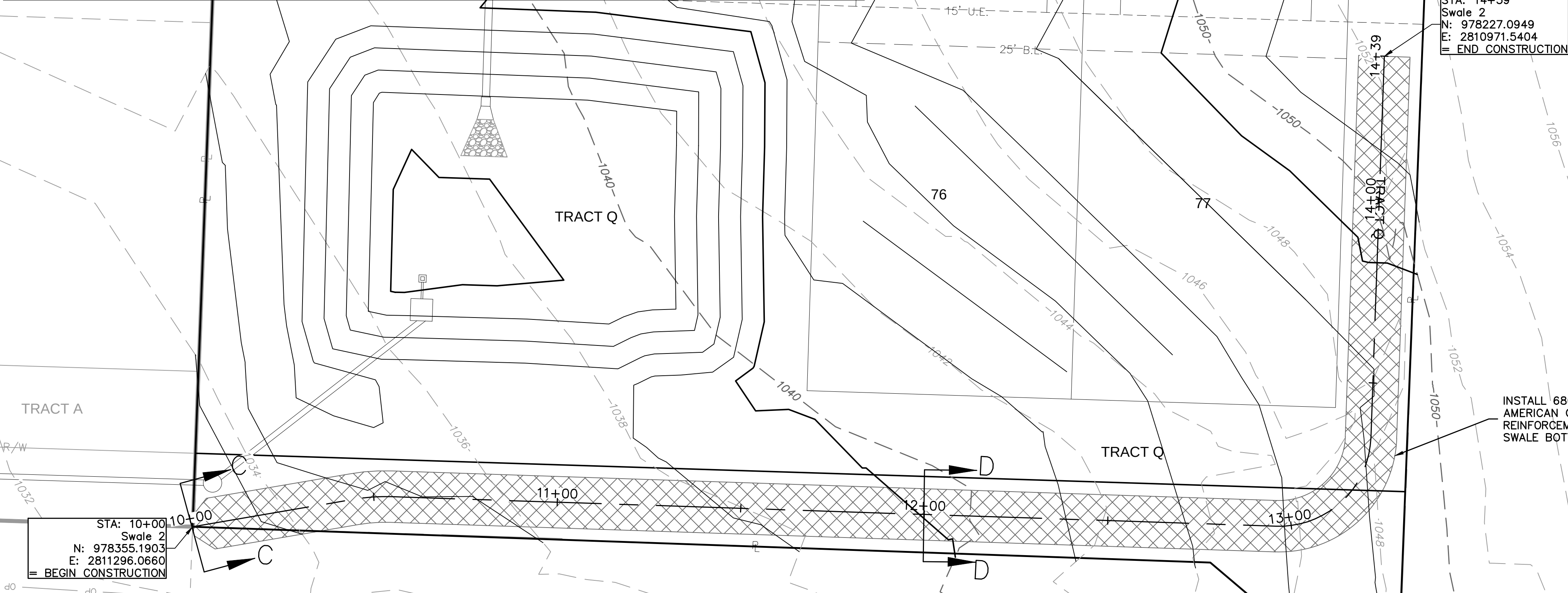


SWALE GRADING NOTES:

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.



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 (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)
A-A	0.03	2.42%	1.37	3:1	3:1	3.00	5.03	0.37	1.52	3.31	5.34	5.22	0.54
B-B	0.03	2.42%	1.37	3:1	3:1	3.00	5.03	0.37	1.52	3.31	5.34	5.22	0.54

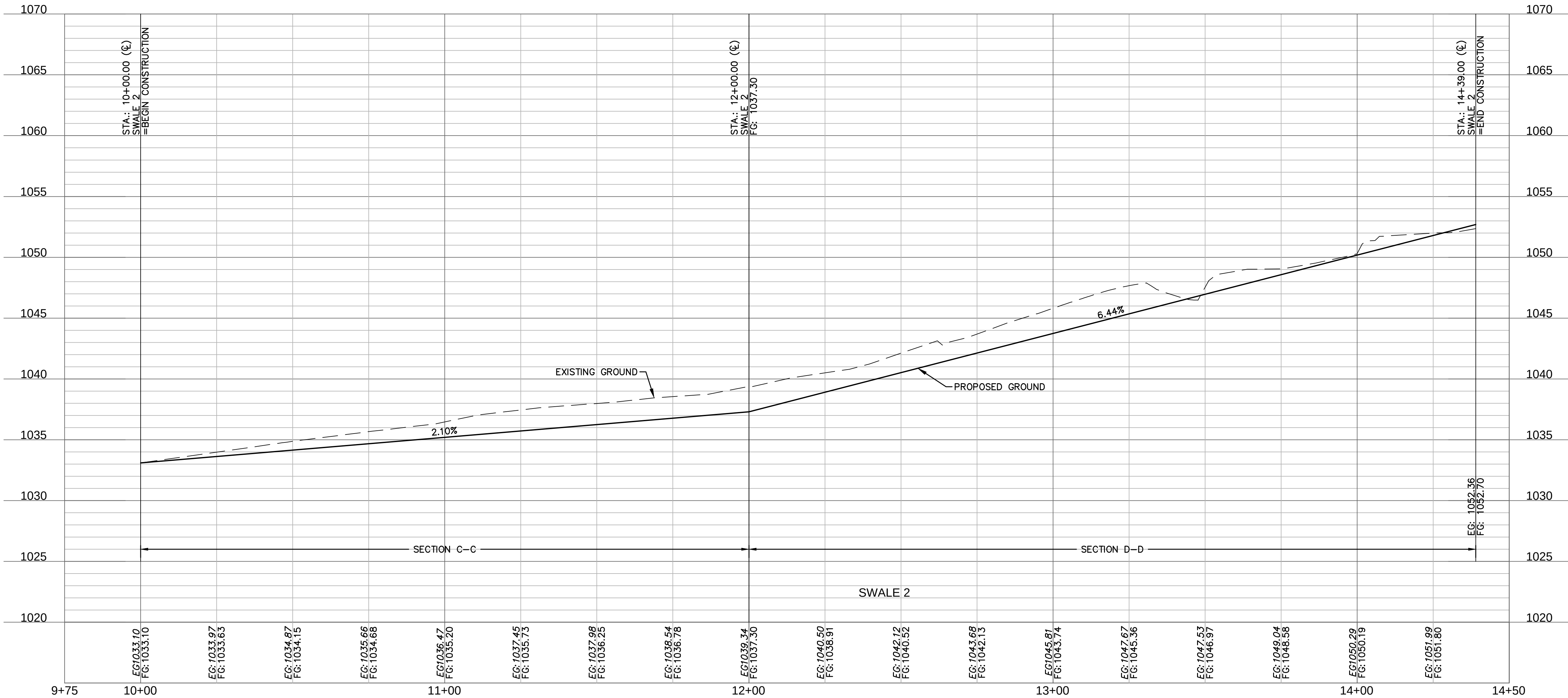
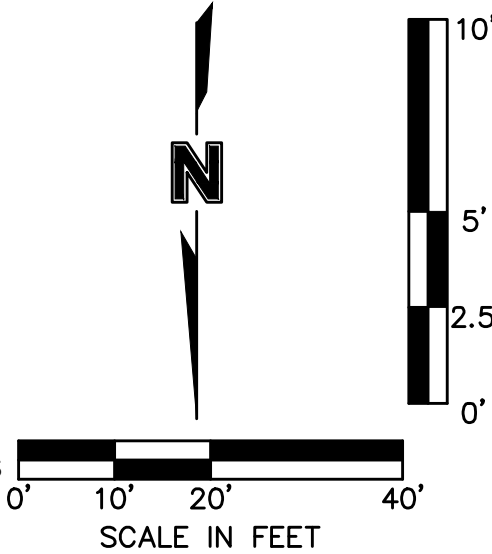


Swale Design Table (100 Year Return Frequency)													
Section Data							Flow Data						
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)
C-C	0.03	2.10%	1.37	3:1	3:1	5.00	7.22	0.37	2.26	3.19	7.34	7.22	0.53
D-D	0.03	6.44%	1.24	3:1	3:1	5.00	5.93	0.24	1.37	4.32	6.52	6.44	0.59

Swale Drainage Area Table (100 year Return Frequency)						
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
C-C	1.4	0.4	5	10.32	1.25	7.22
D-D	1.15	0.4	5	10.32	1.25	5.93

NOT AS BUILT

PROPOSED SWALE WAS ELIMINATED DUE TO EXISTING SWALE ADEQUATELY CONVEYING WATER AROUND LOTS 76 & 77 AND DETENTION BASIN.



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SELLERS
Professional Engineer
NUMBER
PE 2017000367
5/9/2023

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

1

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SWALE 2 PLAN & PROFILE
STREET & STORM SEWER PLANS

OSAGE 3RD PLAT

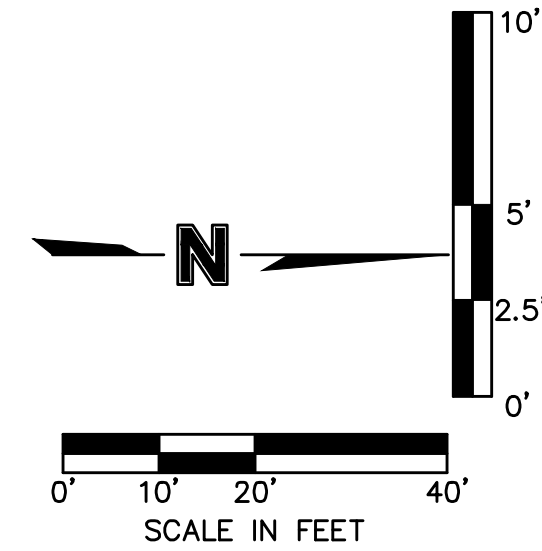
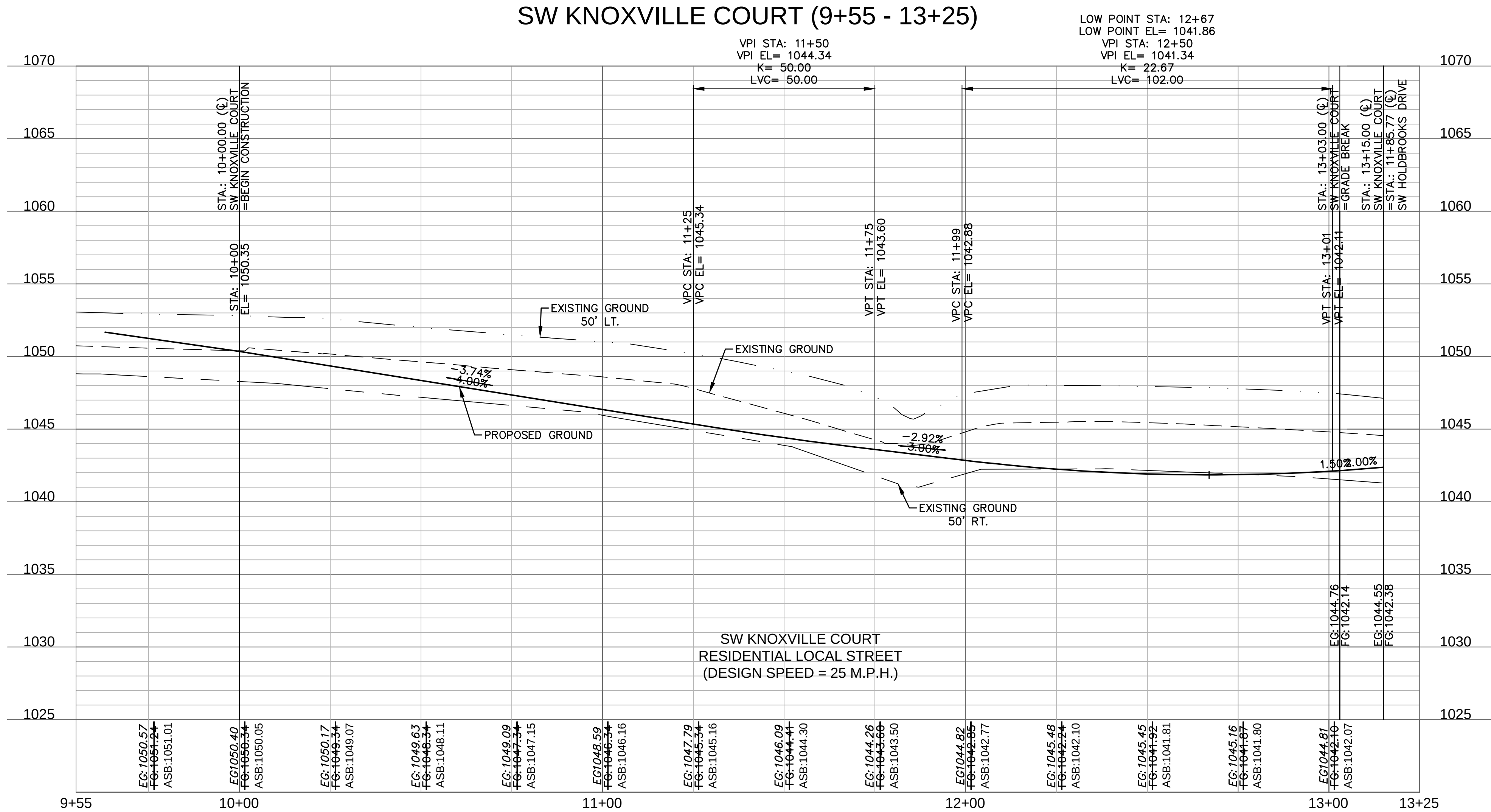
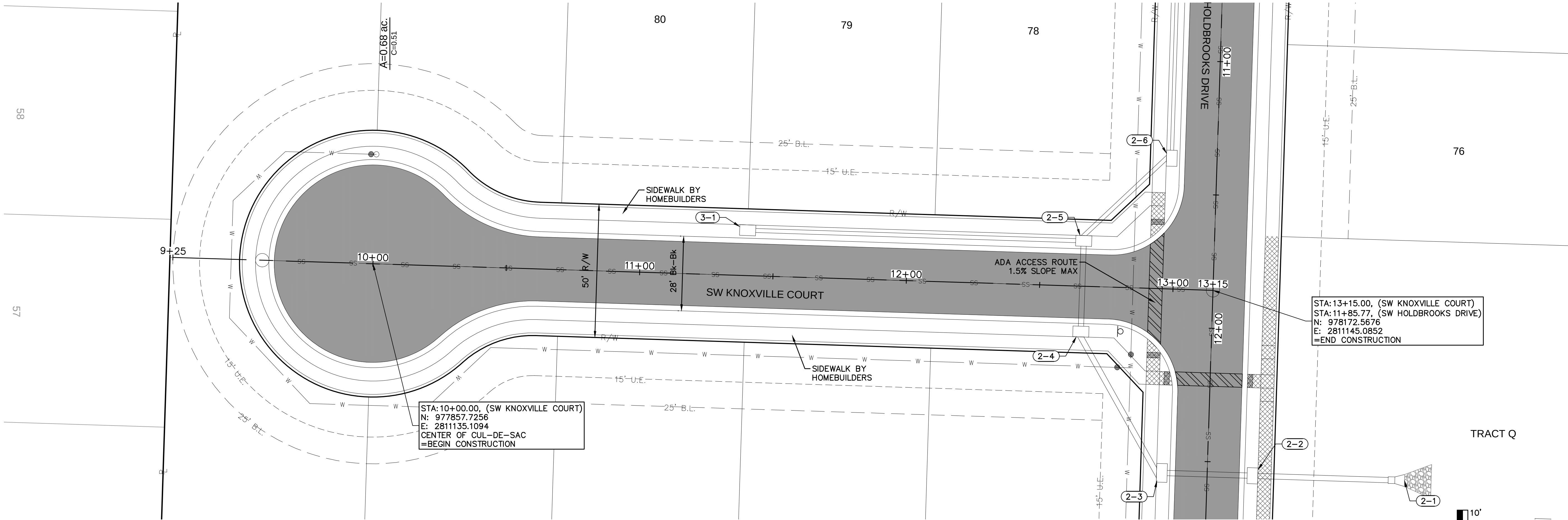
2021

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drawing no.: C_SWL01_D192339
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SHEET
C108

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

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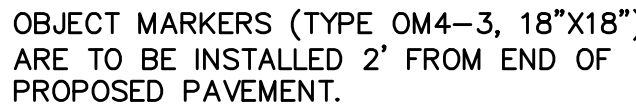
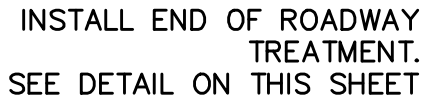
ROADWAY PLAN & PROFILE (SW KNOXVILLE COURT)
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT

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C110

USER: ssaylor



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TRAFFIC CONTROL PLAN
STREET & STORM SEWER PLANS

OSAGE 3RD PLAT

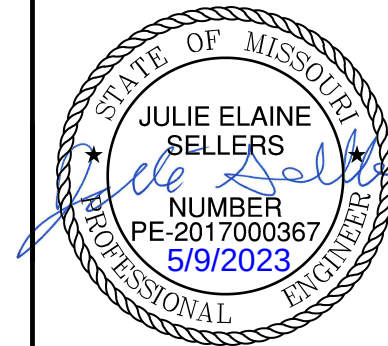
LEE'S SUMMIT. MO

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2021

SHEET
C111



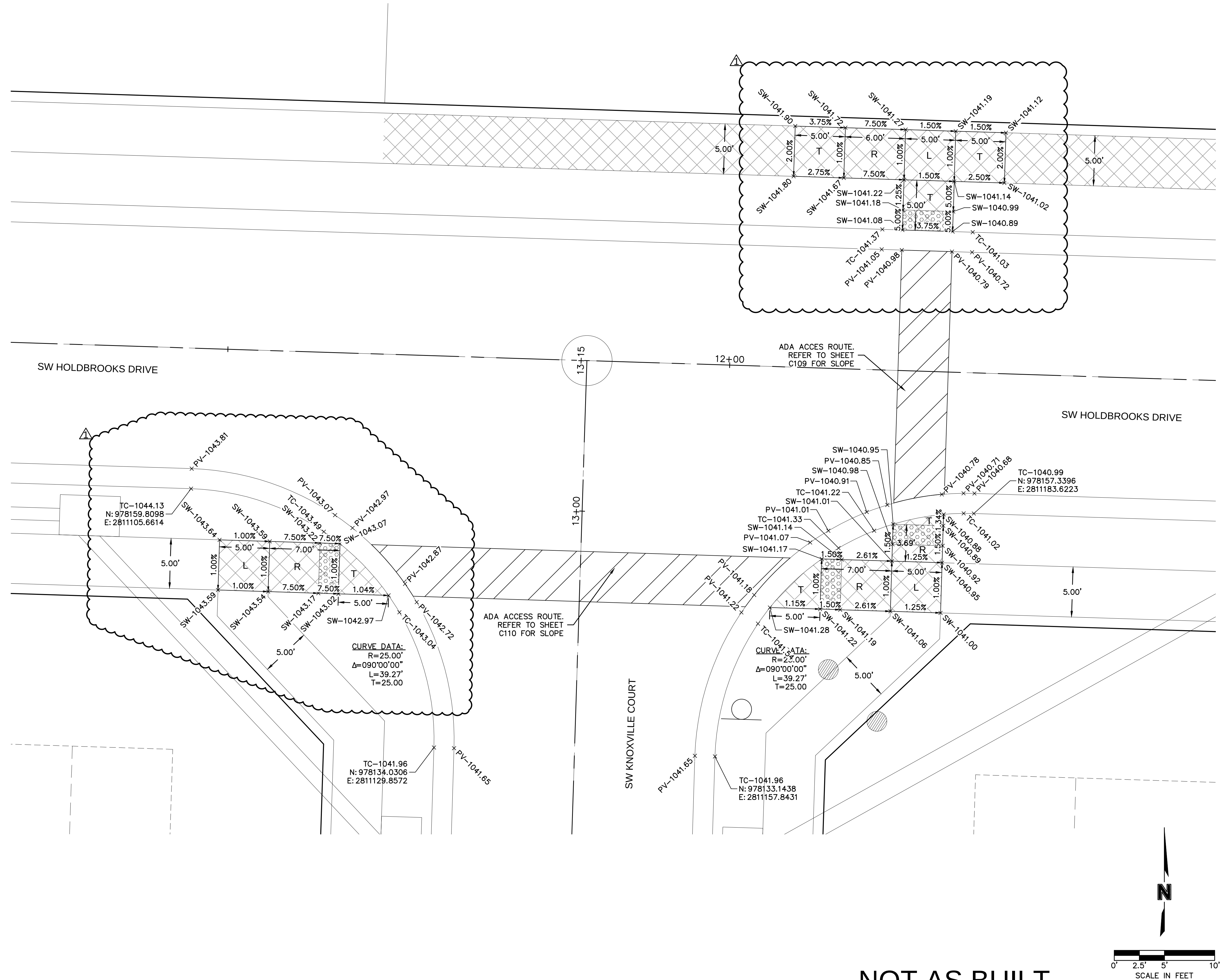
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1. ALL ADA CURB RAMPS SHALL BE BUILT PER CURRENT MUNICIPALITY ADOPTED ADA STANDARDS.
2. CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10 MAX SLOPES.
3. LANDING SHALL BE PROVIDED WHERE INDICATED ON PLAN SHEET OR BY PROWAG STANDARDS. LANDING SHALL BE 4'x4' MINIMUM.
4. RAMP RUNS SHALL HAVE A MAXIMUM RUNNING SLOPE OF 1:12 UNLESS THE RAMP LENGTH IS OVER 15 FEET, THEN THE SLOPE CAN BE GREATER AS INDICATED IN DETAILS TO REACH STREET GRADES.
5. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
6. CROSS SLOPE FOR RAMPS AND SIDEWALK SHALL NOT EXCEED 2%.
7. AFTER CURBS HAVE BEEN CONSTRUCTED, AND BEFORE ASPHALT OR CONCRETE PAVEMENT IS POURED, CURBS SHOULD BE MEASURED WITH A LEVEL TO ENSURE CURB ALONG ADA RAMPS AND LANDINGS WILL MEET ADA REQUIREMENTS.
8. ADA RAMP CONSTRUCTION WILL BE INSPECTED THOROUGHLY BY THE CITY INSPECTOR. CONTRACTOR SHALL BE REQUIRED TO RECONSTRUCT RAMPS, CURBS AND/OR PAVEMENT AT CONTRACTOR'S EXPENSE IF ADA RAMPS AND LANDINGS CANNOT MEET THE ADA REQUIREMENTS, PER APPROVED PLAN OR APPROVED ALTERNATIVE.
9. CURVE DATA IS FOR BACK OF CURB.

LEGEND	
TC-	TOP OF CURB
PV-	TOP OF PAVEMENT
SW-	SIDEWALK
L	LANDING AREA
R	RAMP AREA
T	TRANSITION AREA
	ADA ACCESS ROUTE
	CG-2 CURB & GUTTER
	CONCRETE SIDEWALK (CONSTRUCTED BY CONTRACTOR)



NOT AS BUILT

0' 2.5' 5' 10'

SCALE IN FEET

SW HOLDBROOKS DRIVE & SW KNOXVILLE COURT INTERSECTION
STREET & STORM SEWER PLANS

OSAGE 3RD PLAT

LEE'S SUMMIT, MO

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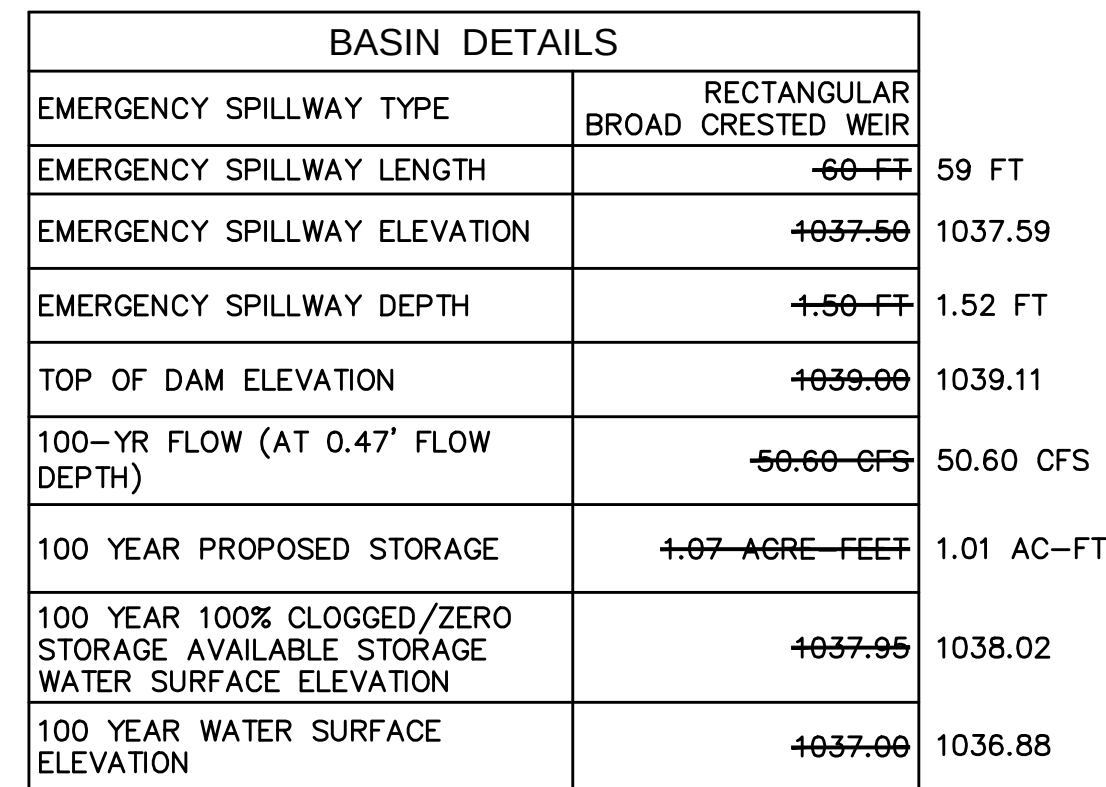
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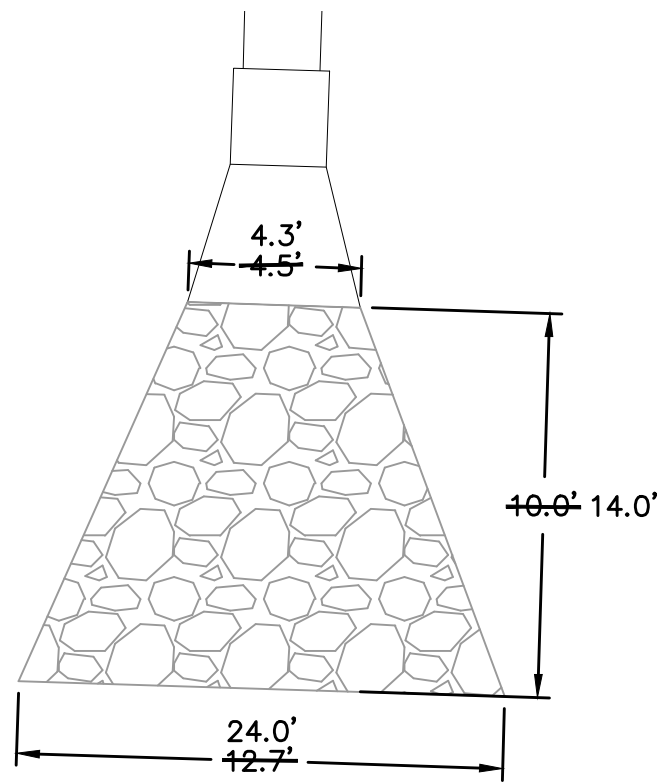
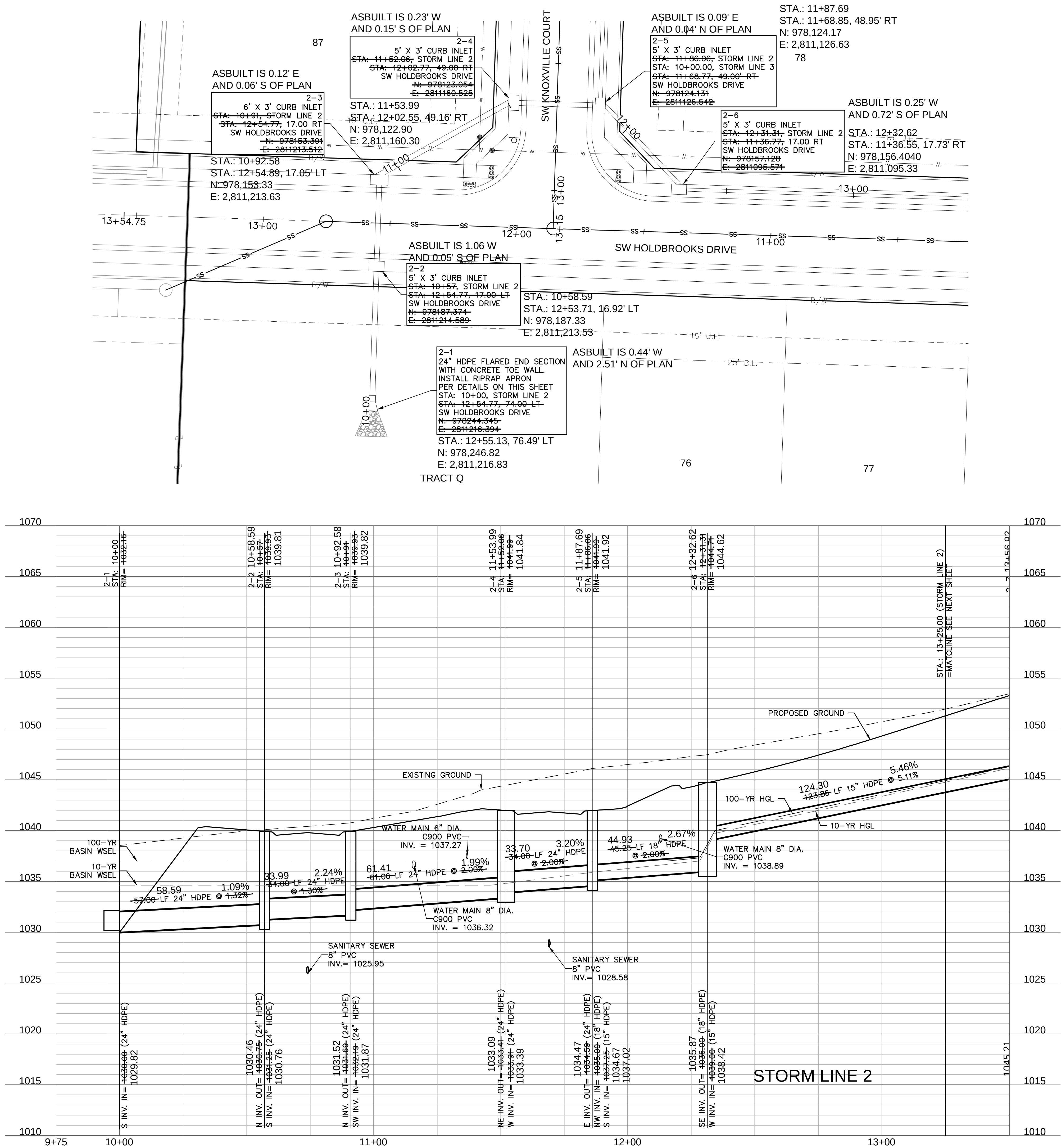
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drawing no.: C INT01 D192339
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SHEET
C112

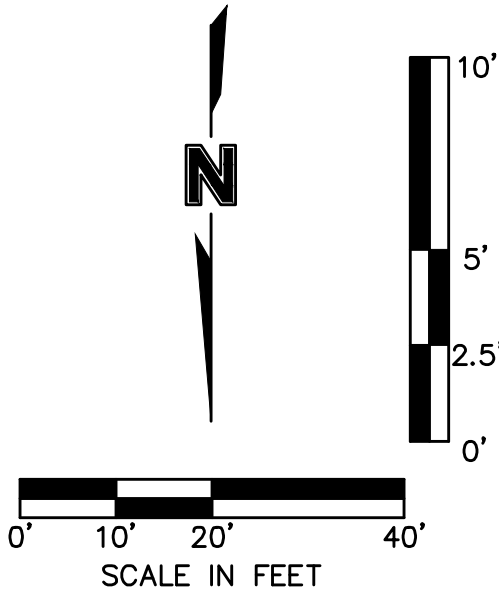


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Riprap Calculations						
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50*	Apron Length (ft)	Apron Depth (ft)
E.S. 2-1	28.19	2	3	10	10	2.00
Area (SY)						
						10.4

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



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STORM SEWER PLAN & PROFILE (LINE 2)
STREET & STORM SEWER PLANS

OSAGE 3RD PLAT

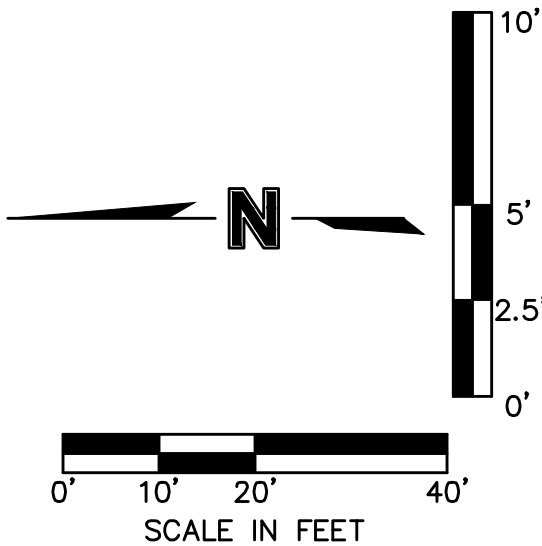
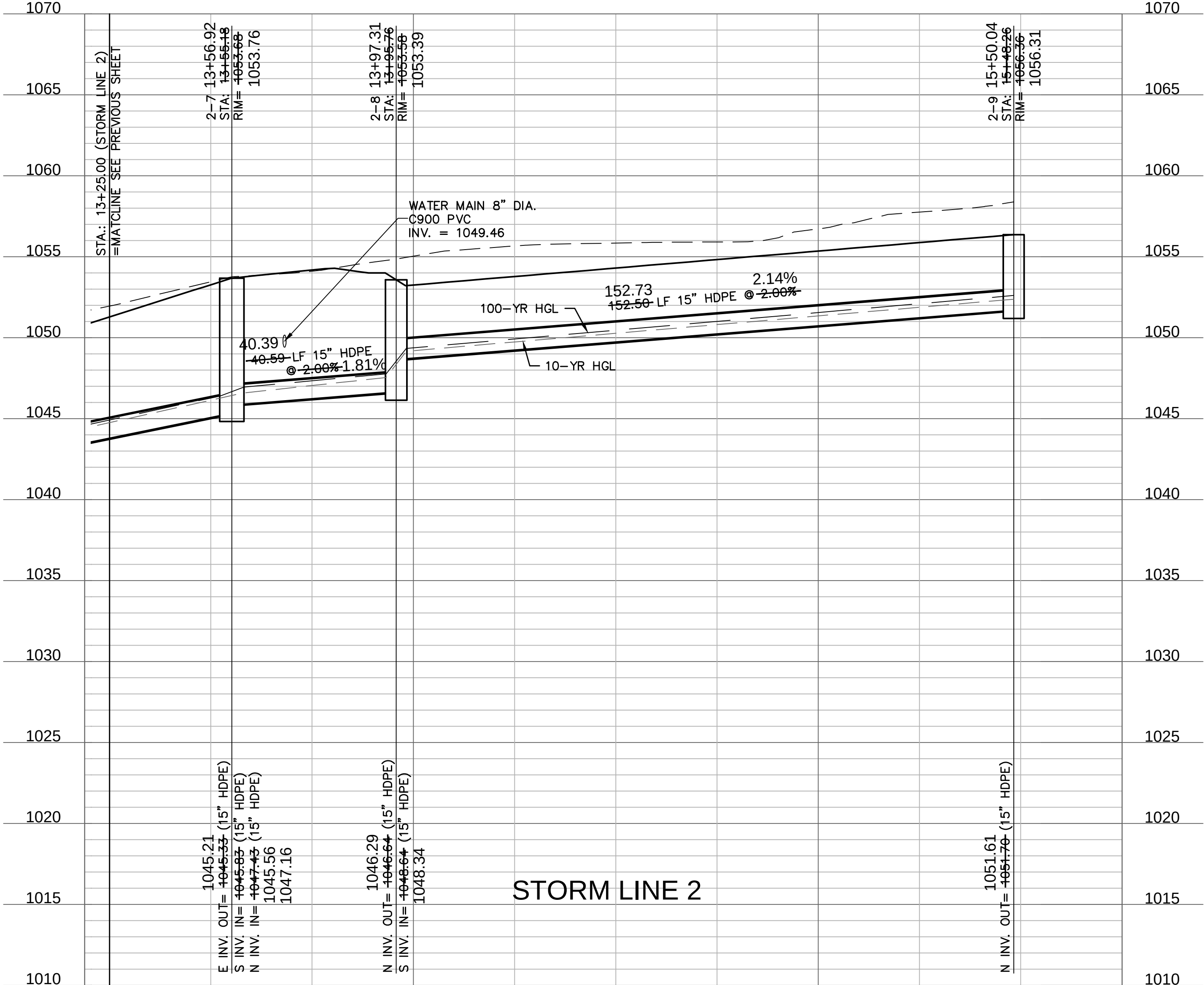
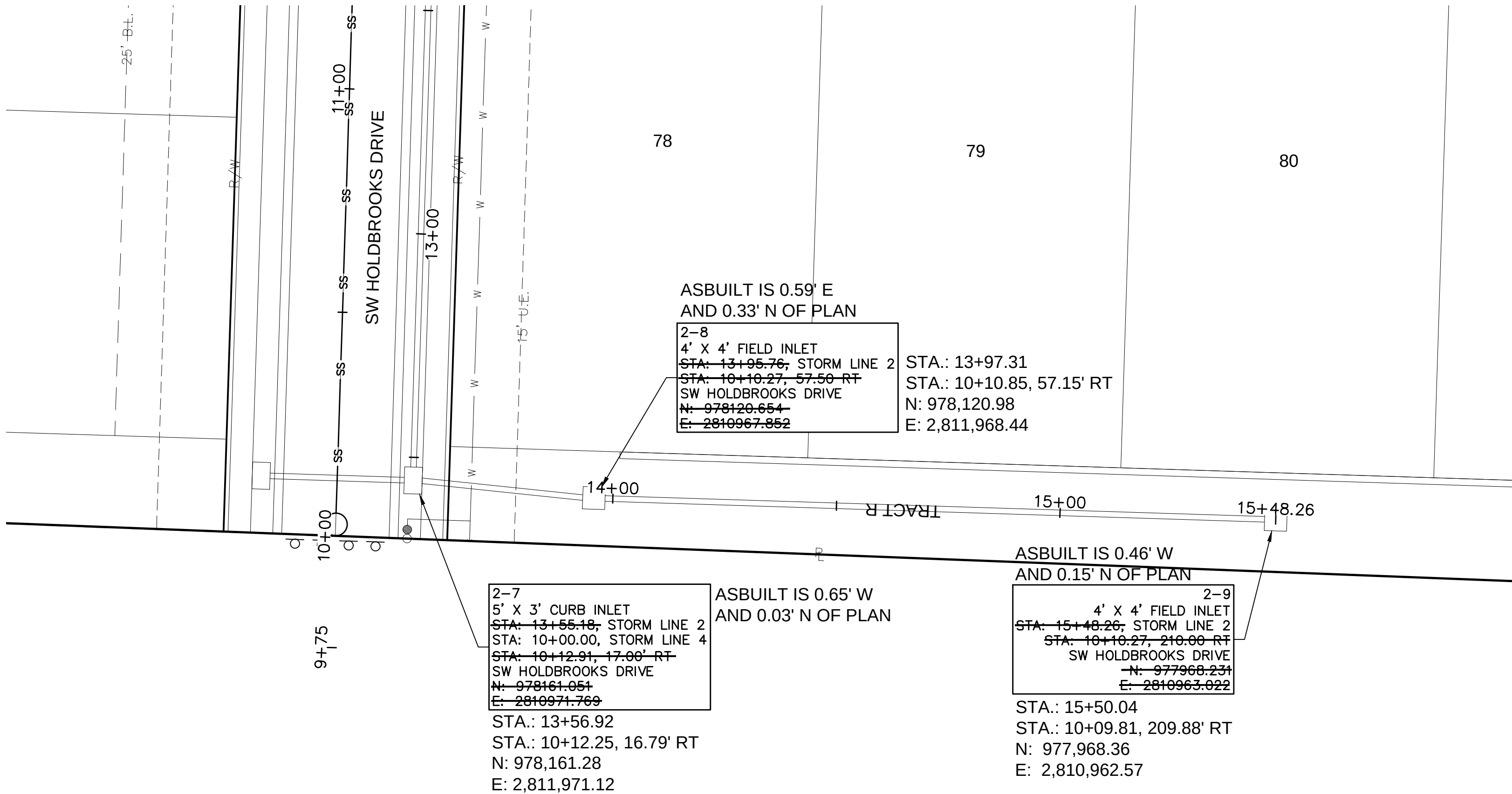
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SHEET
C114

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JULIE ELAINE SELLERS
Professional Engineer
NUMBER
PE-2017000367
5/9/2023

BY
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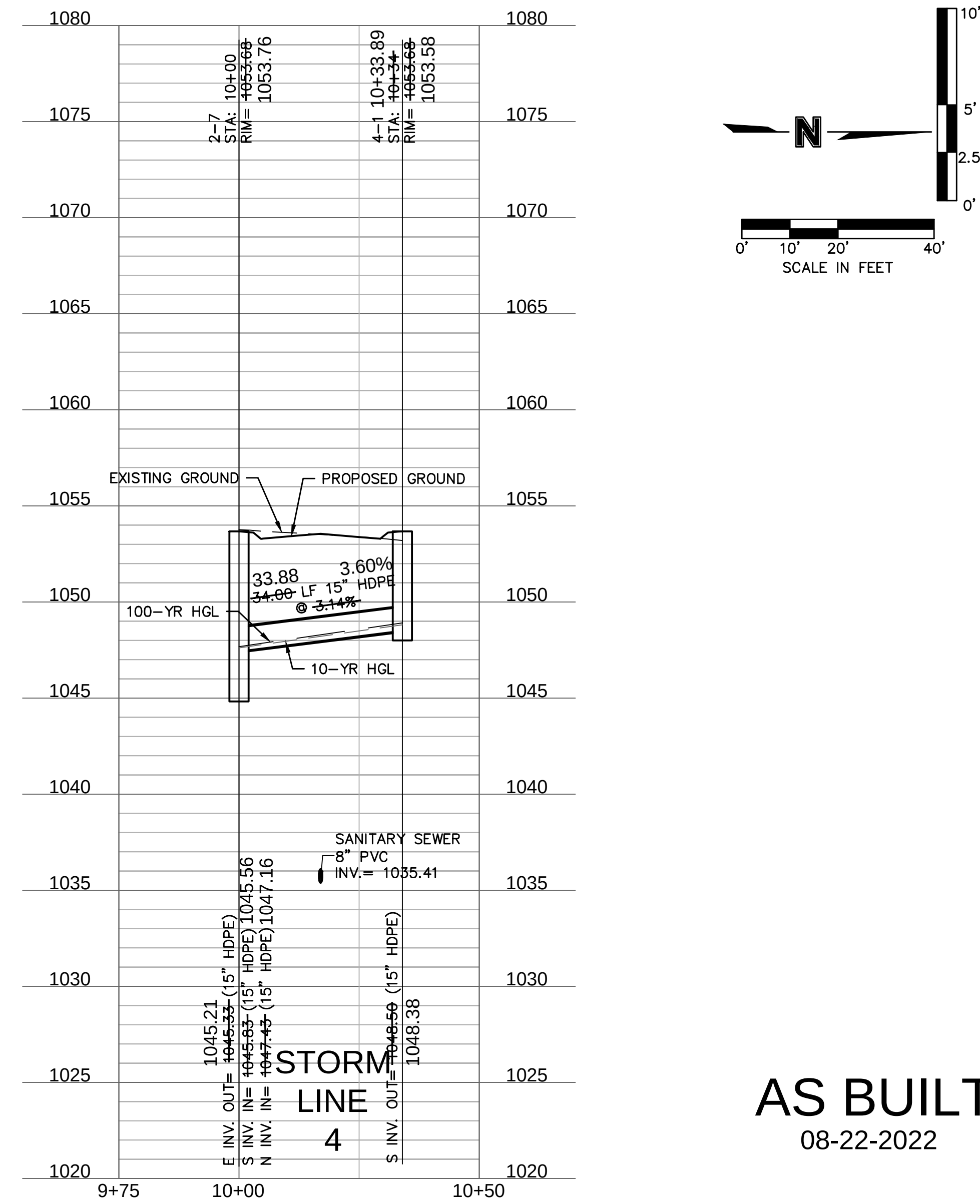
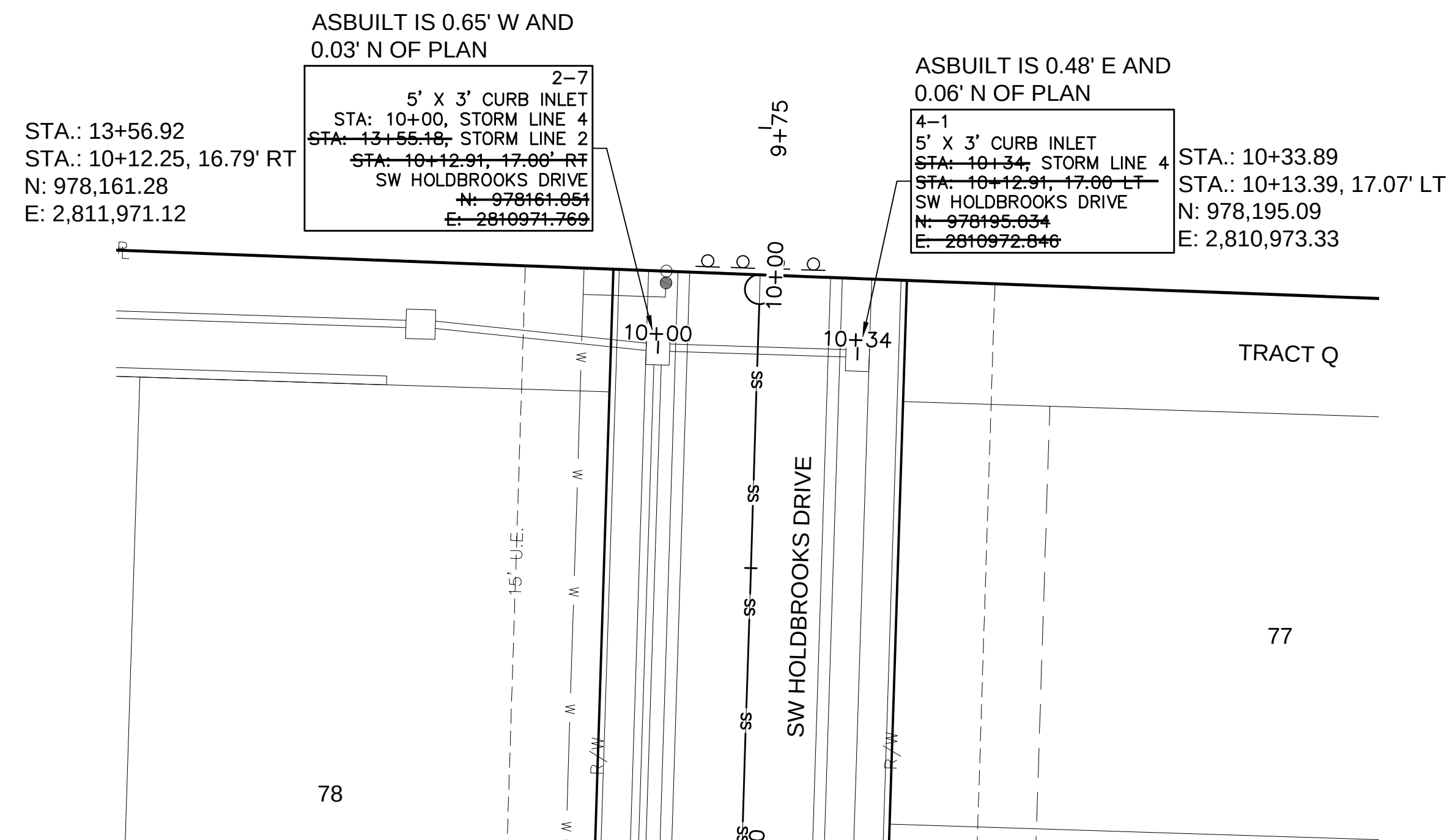
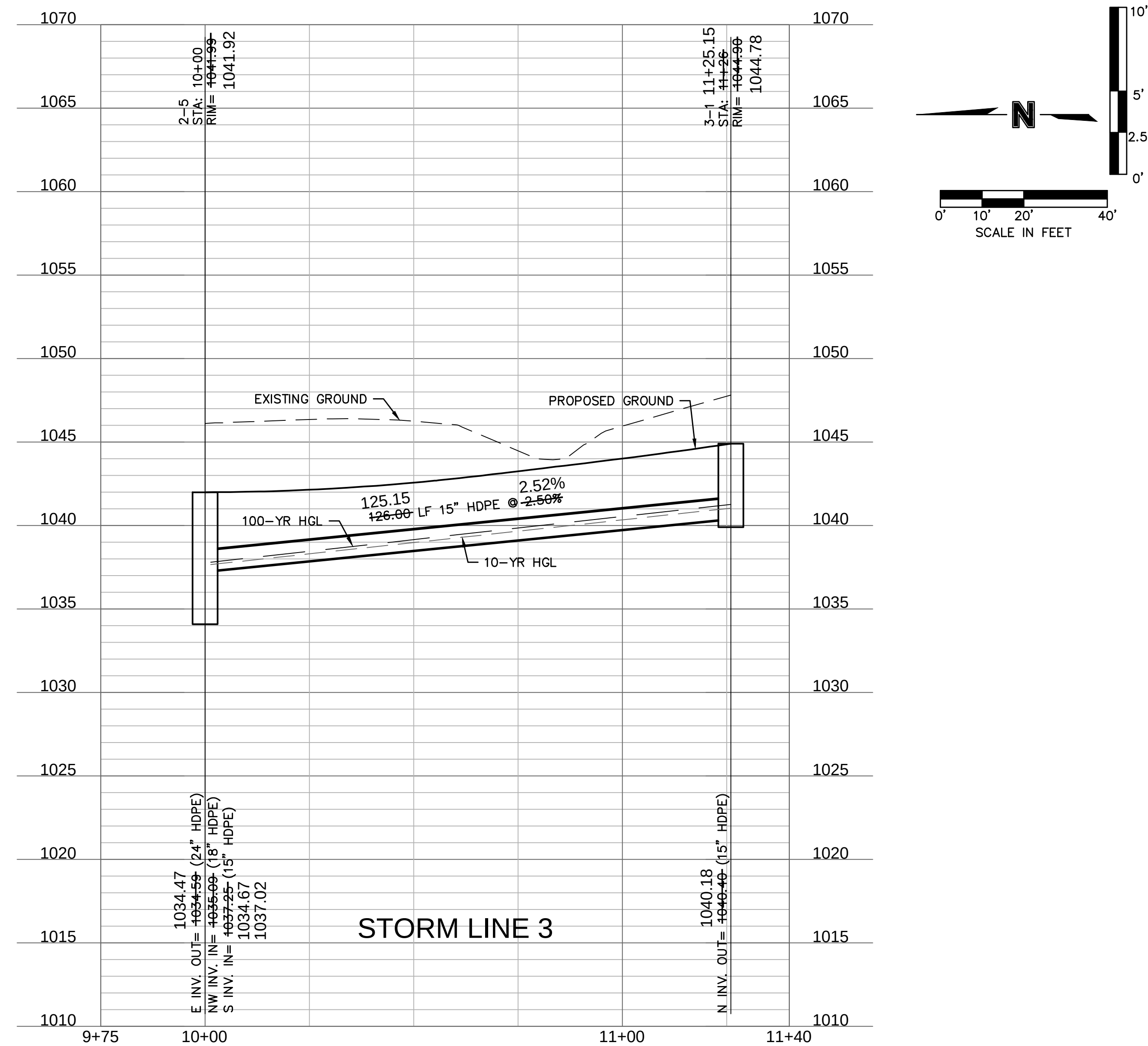
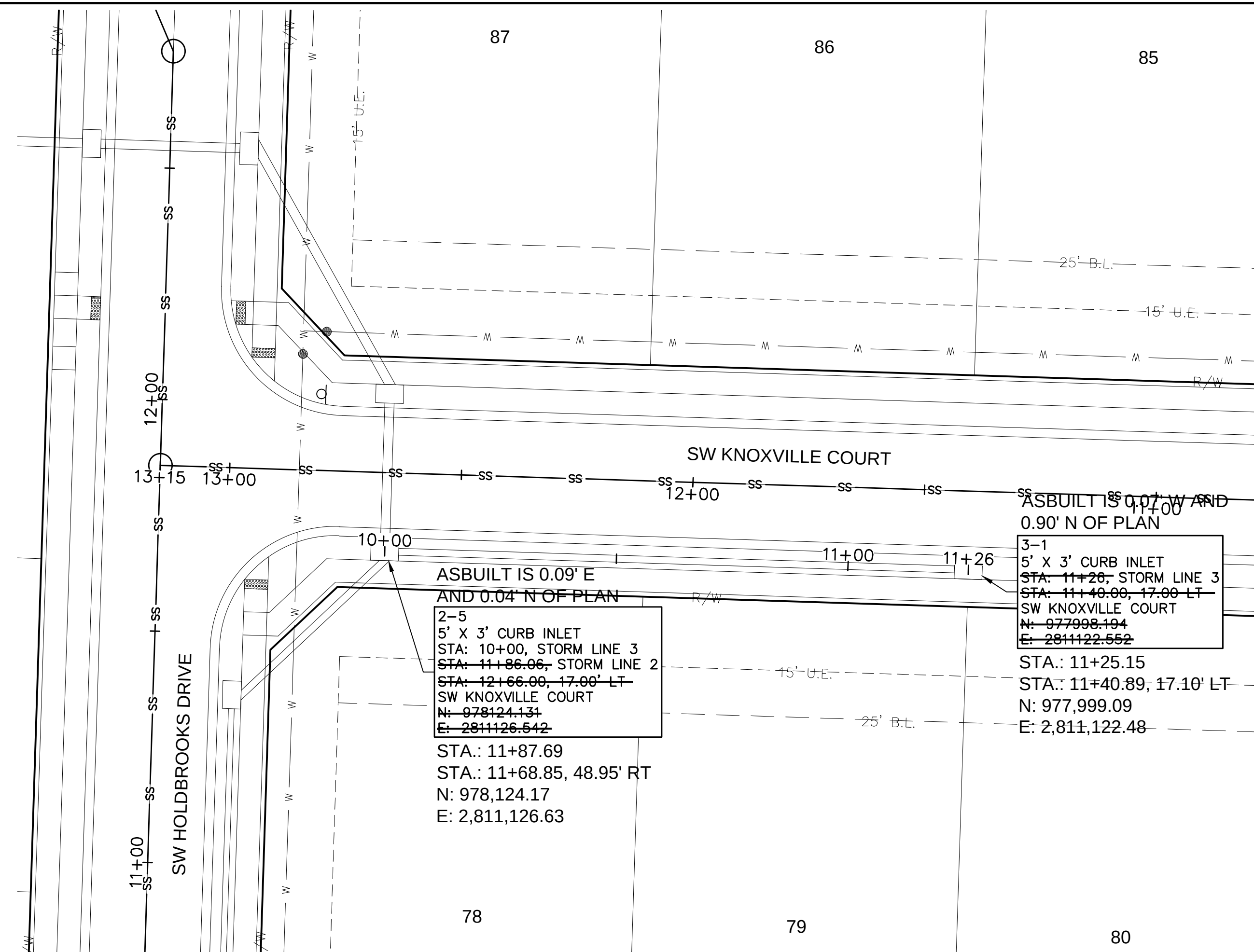
2021

STORM SEWER PLAN & PROFILE (LINE 2 CONT.)
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT

LEE'S SUMMIT, MO

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designed by: MJD
QA/QC by: JES
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drawing no.: C_STM01_D192339
date: 8/14/2023

SHEET
C115



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08-22-2022

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NOTES:

MBOE - MINIMUM BUILDING OPENING ELEVATION
FG - FINISHED GRADE

LEGEND	
	FINISHED INDEX CONTOURS
	FINISHED INTERMEDIATE CONTOURS

BASEMENT TYPES

- (S) STANDARD
(D) DAYLIGHT

NOTES:

1. INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MATER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.

2. PLAT IS LOCATION IN ZONE X, "AREAS OUTSIDE THE 1-PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1-PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1-PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1-PERCENT ANNUAL CHANCE FLOOD BY LEVEES. NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"

3. PLAT IS LOCATED OUTSIDE OF ANY REQUIRED BUFFER ZONES FOR NATURAL STREAMS.

4. MBOE ELEVATIONS HAVE BEEN PROVIDED AT EACH LOT CORNER. INTERPOLATION WILL BE ALLOWED BETWEEN THE RIGHT AND LEFT SIDE MBOE'S SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.

5. REFER TO SHEET C107-C108 FOR SWALE GRADING DETAILS.

6. DRAINAGE PATHS TO BE CONSTRUCTED BETWEEN LOTS LABELED AS STANDARD AND/OR UPHILL LOTS.

7. NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS-GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.

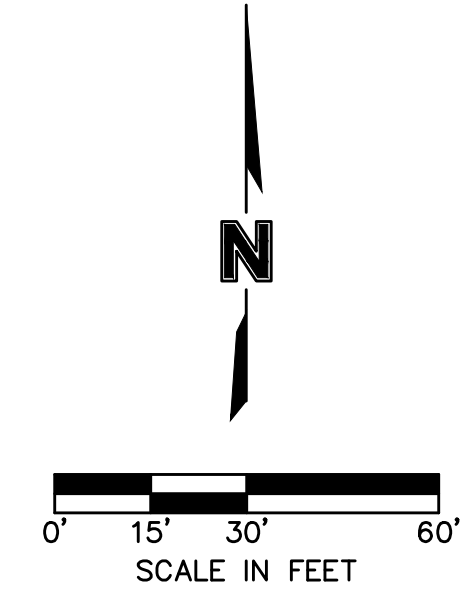
REFER TO SHEET C108
FOR SWALE DETAILS

REFER TO SHEET C107
FOR SWALE DETAILS

Osage Third Plat Minimum Building Opening Elevation			
Lot	Rear Left MBOE	Rear Right MBOE	As Built Plot Plan Required
76	1043.23	1040.91	Y
77	1047.97	1043.23	Y
83	1045.23	1045.46	Y
84	1043.44	1045.23	Y
85	1041.77	1043.44	Y
86	1038.00	1041.77	Y
87	1038.50	1038.00	Y

MBOE elevations have been provided per lot lines, facing the lot from the street. Interpolation will be allowed between the right and left side MBOE's provided, depending on the location of the lowest opening on the proposed structure.

AS BUILT
08-22-2022



MASTER DRAINAGE PLAN
STREET & STORM SEWER PLANS

OSAGE 3RD PLAT

LEE'S SUMMIT, MO

2021

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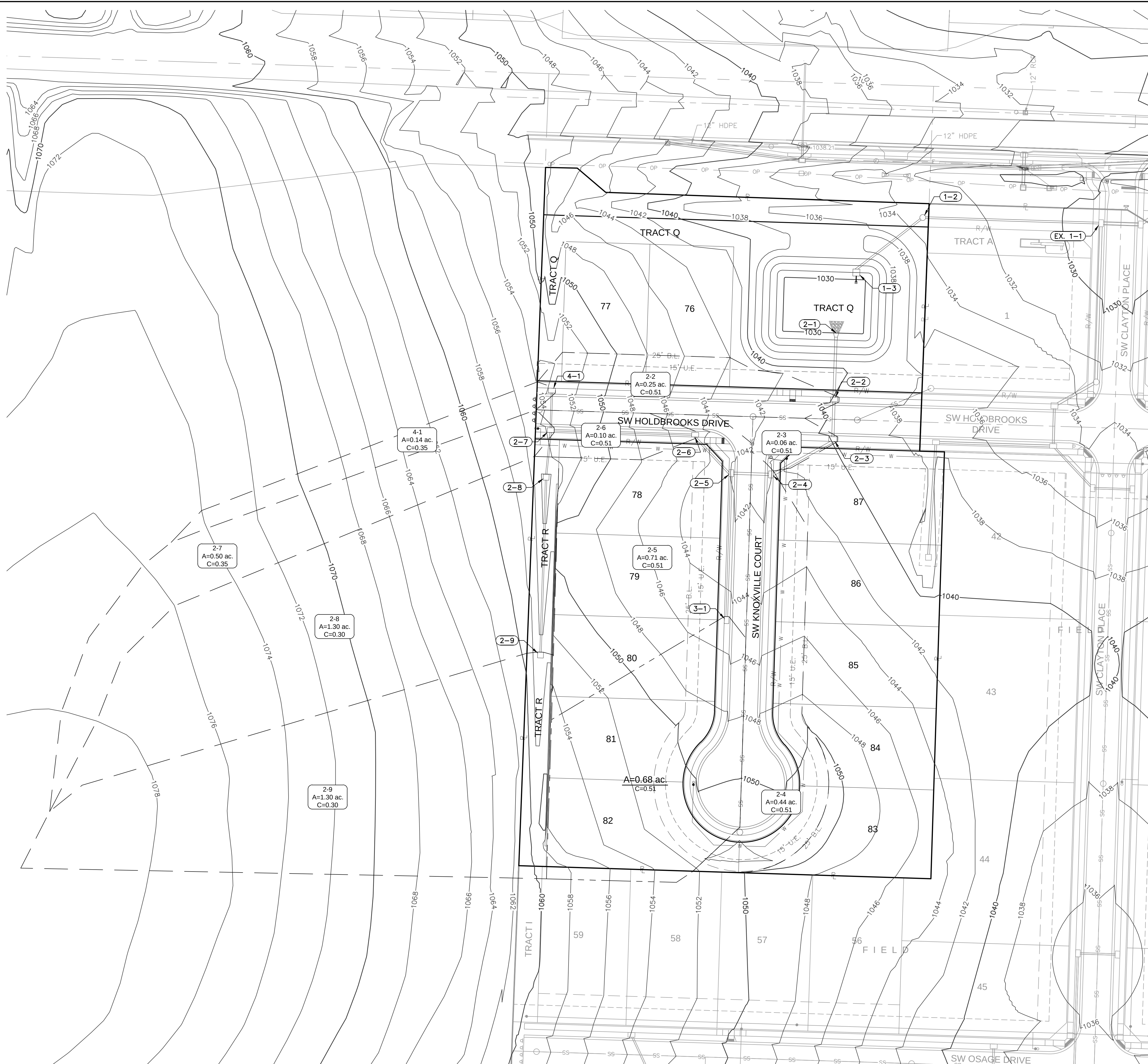
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drawing no.: C_DRN01_D192339
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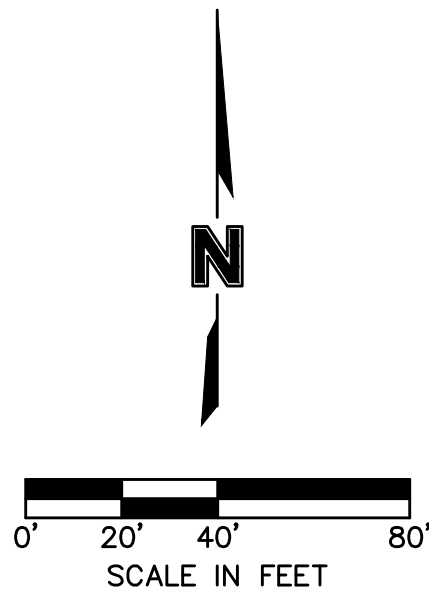
SHEET
C117

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LEGEND	
	FINISHED INDEX CONTOURS
	FINISHED INTERMEDIATE CONTOURS
	RIDGE LINE
A	DRAINAGE AREA
C	RUNOFF COEFFICIENT
C.I. 0-0	STORM STRUCTURE NUMBER

NOT AS BUILT



DRAINAGE PLAN
STREET & STORM SEWER PLANS

OSAGE 3RD PLAT

LEE'S SUMMIT, MO

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SHEET
C118

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	0.25	0.51	5.00	7.35	1.00	0.94
C.I. 2-3	0.06	0.51	5.00	7.35	1.00	0.23
C.I. 2-4	0.44	0.51	5.00	7.35	1.00	1.65
C.I. 2-5	0.71	0.51	5.00	7.35	1.00	2.66
C.I. 2-6	0.10	0.51	5.00	7.35	1.00	0.38
C.I. 2-7	0.50	0.35	5.00	7.35	1.00	1.29
F.I. 2-8	1.30	0.30	5.00	7.35	1.00	2.87
F.I. 2-9	1.30	0.30	5.00	7.35	1.00	2.87
C.I. 3-1	0.68	0.51	5.00	7.35	1.00	2.55
C.I. 4-1	0.25	0.35	5.00	7.35	1.00	0.64

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	0.25	0.51	5.00	10.32	1.25	1.65
C.I. 2-3	0.06	0.51	5.00	10.32	1.25	0.39
C.I. 2-4	0.44	0.51	5.00	10.32	1.25	2.90
C.I. 2-5	0.71	0.51	5.00	10.32	1.25	4.67
C.I. 2-6	0.10	0.51	5.00	10.32	1.25	0.66
C.I. 2-7	0.50	0.35	5.00	10.32	1.25	2.26
F.I. 2-8	1.30	0.30	5.00	10.32	1.25	5.03
F.I. 2-9	1.30	0.30	5.00	10.32	1.25	5.03
C.I. 3-1	0.68	0.51	5.00	10.32	1.25	4.47
C.I. 4-1	0.25	0.35	5.00	10.32	1.25	1.13

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)	(cfs)	(%)	(ft)	(ft)	(ft)
C.I. 2-2	GRADE	0.94	0.10	1.04	1.00	0.89	0.89	0.89	0.15	85.63%	0.11	5.30	...
C.I. 2-3	GRADE	0.23	0.10	0.33	1.00	0.31	0.31	0.31	0.01	95.94%	0.07	3.44	...
C.I. 2-4(L)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 2-4(R)	SAG	1.28	...	...	...	...	...	...	...	...	0.11	5.74	...
C.I. 2-4(B)	SAG	0.38	...	...	...	...	...	...	...	...	...	...	...
C.I. 2-4	SAG	1.65	0.00	1.65	0.80	19.40	15.52	1.65	0.00	100.00%	...	...	...
C.I. 2-5(L)	SAG	0.94	...	...	...	...	...	...	...	...	0.14	7.03	...
C.I. 2-5(R)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 2-5(B)	SAG	1.73	...	...	...	...	...	...	...	...	...	...	...
C.I. 2-5	SAG	2.66	0.00	2.66	0.80	19.40	15.52	2.66	0.00	100.00%	...	...	...
C.I. 2-6	GRADE	0.38	0.37	0.74	1.00	0.64	0.64	0.64	0.10	86.35%	0.09	4.34	...
C.I. 2-7	GRADE	1.29	0.00	1.29	1.00	0.92	0.92	0.92	0.37	71.44%	0.10	4.96	...
F.I. 2-8	SAG	2.87	0.00	2.87	0.80	14.00	11.20	2.87	0.00	100.00%	...	...	0.17
F.I. 2-9	SAG	2.87	0.00	2.87	0.80	14.00	11.20	2.87	0.00	100.00%	...	...	0.17
C.I. 3-1	GRADE	2.55	0.00	2.55	1.00	1.86	1.86	1.86	0.69	72.90%	0.16	7.83	...
C.I. 4-1	GRADE	0.64	0.00	0.64	1.00	0.54	0.54	0.54	0.10	84.59%	0.08	3.83	...

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.

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	GRADE	1.65	0.29	1.93	1.00	1.44	1.44	1.44	0.49	74.62%	0.13	6.70	...
C.I. 2-3	GRADE	0.39	0.46	0.85	1.00	0.75	0.75	0.75	0.10	88.15%	0.10	4.93	...
C.I. 2-4(L)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 2-4(R)	SAG	2.24	...	...	...	...	...	...	...	...	0.14	7.09	...
C.I. 2-4(B)	SAG	0.66	...	...	...	...	...	...	...	...	...	...	...
C.I. 2-4	SAG	2.90	0.00	2.90	0.80	19.40	15.52	2.90	0.00	100.00%	...	...	...
C.I. 2-5(L)	SAG	1.65	...	...	...	...	...	...	...	...	0.19	9.37	...
C.I. 2-5(R)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 2-5(B)	SAG	3.03	...	...	...	...	...	...	...	...	...	...	...
C.I. 2-5	SAG	4.67	0.00	4.67	0.80	19.40	15.52	4.67	0.00	100.00%	...	...	...
C.I. 2-6	GRADE	0.66	0.98	1.64	1.00	1.18	1.18	1.18	0.46	72.05%	0.12	5.84	...
C.I. 2-7	GRADE	2.26	0.00	2.26	1.00	1.28	1.28	1.28	0.98	56.53%	0.12	6.13	...
F.I. 2-8	SAG	5.03	0.00	5.03	0.80	14.00	11.20	5.03	0.00	100.00%	...	...	0.25
F.I. 2-9	SAG	5.03	0.00	5.03	0.80	14.00	11.20	5.03	0.00	100.00%	...	...	0.25
C.I. 3-1	GRADE	4.47	0.00	4.47	1.00	2.61	2.61	2.61	1.86	58.37%	0.19	9.67	...
C.I. 4-1	GRADE	1.13	0.00	1.13	1.00	0.84	0.84	0.84	0.29	74.38%	0.09	4.72	...

Notes:

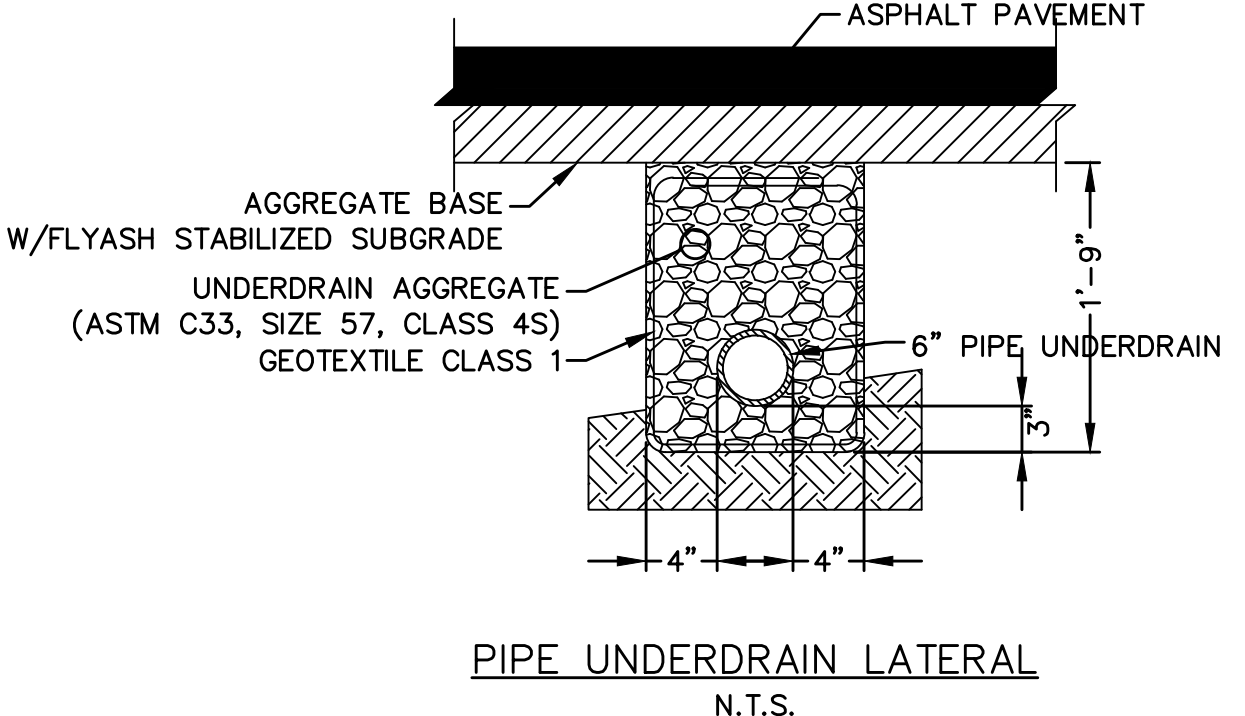
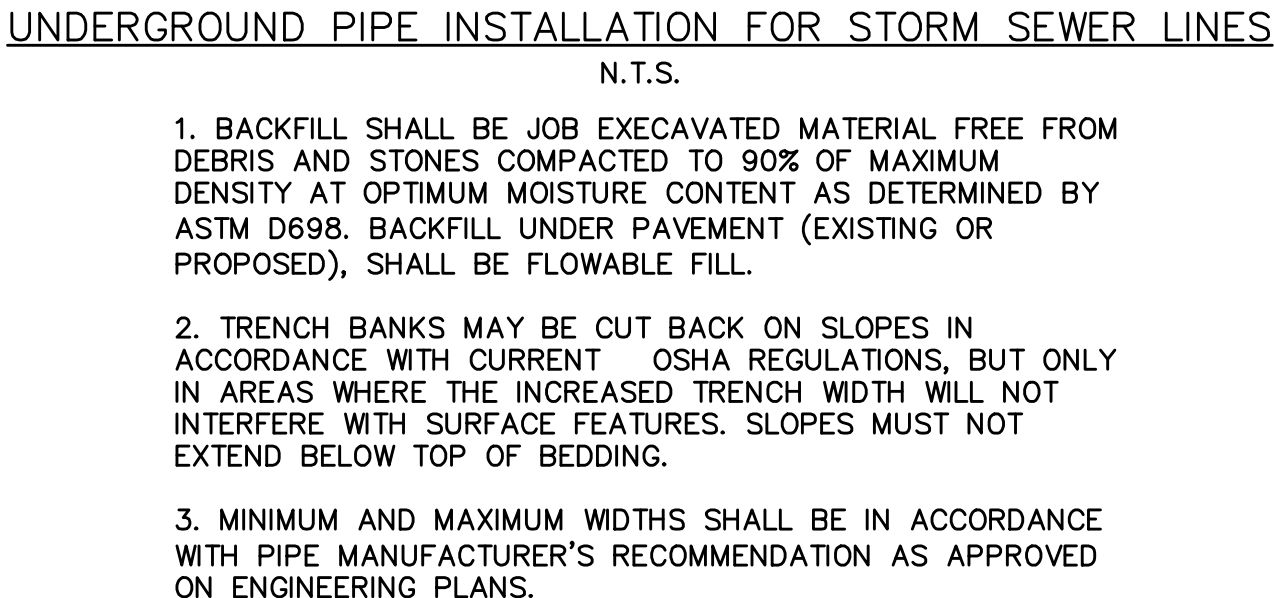
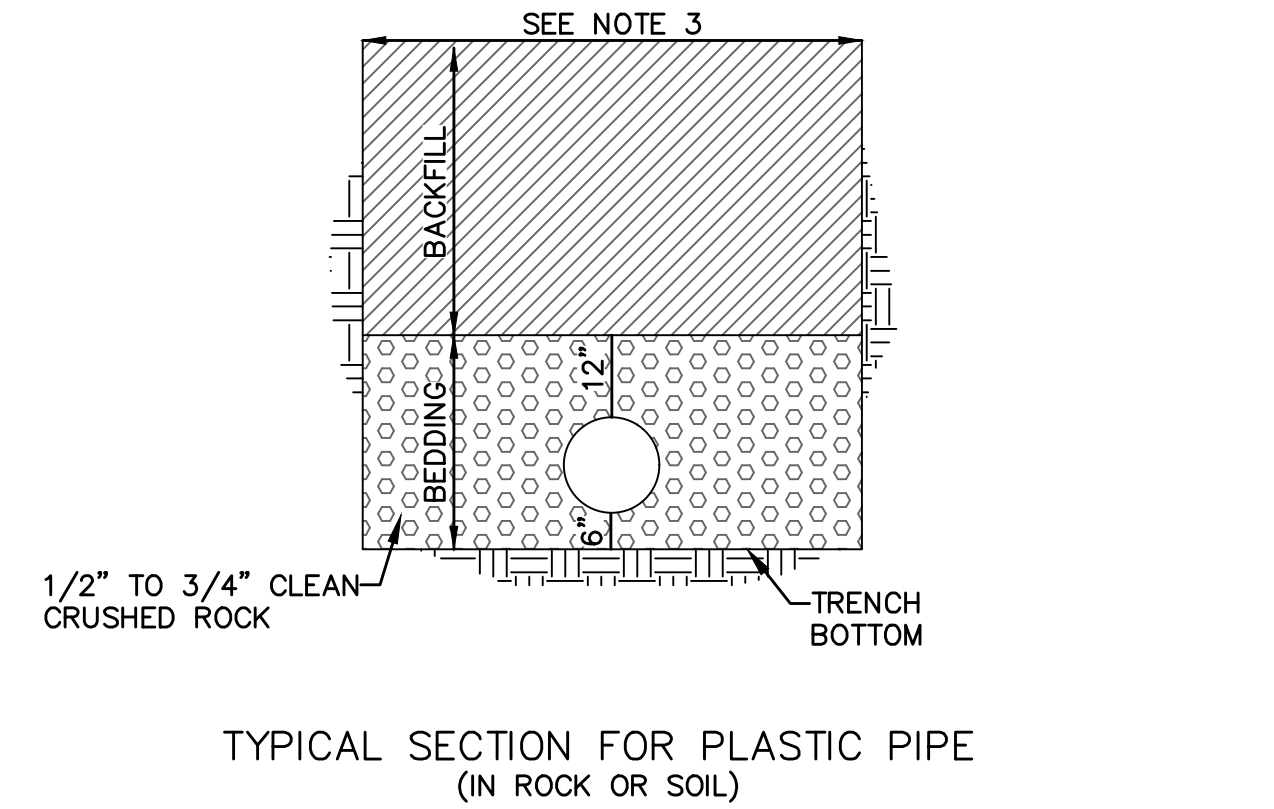
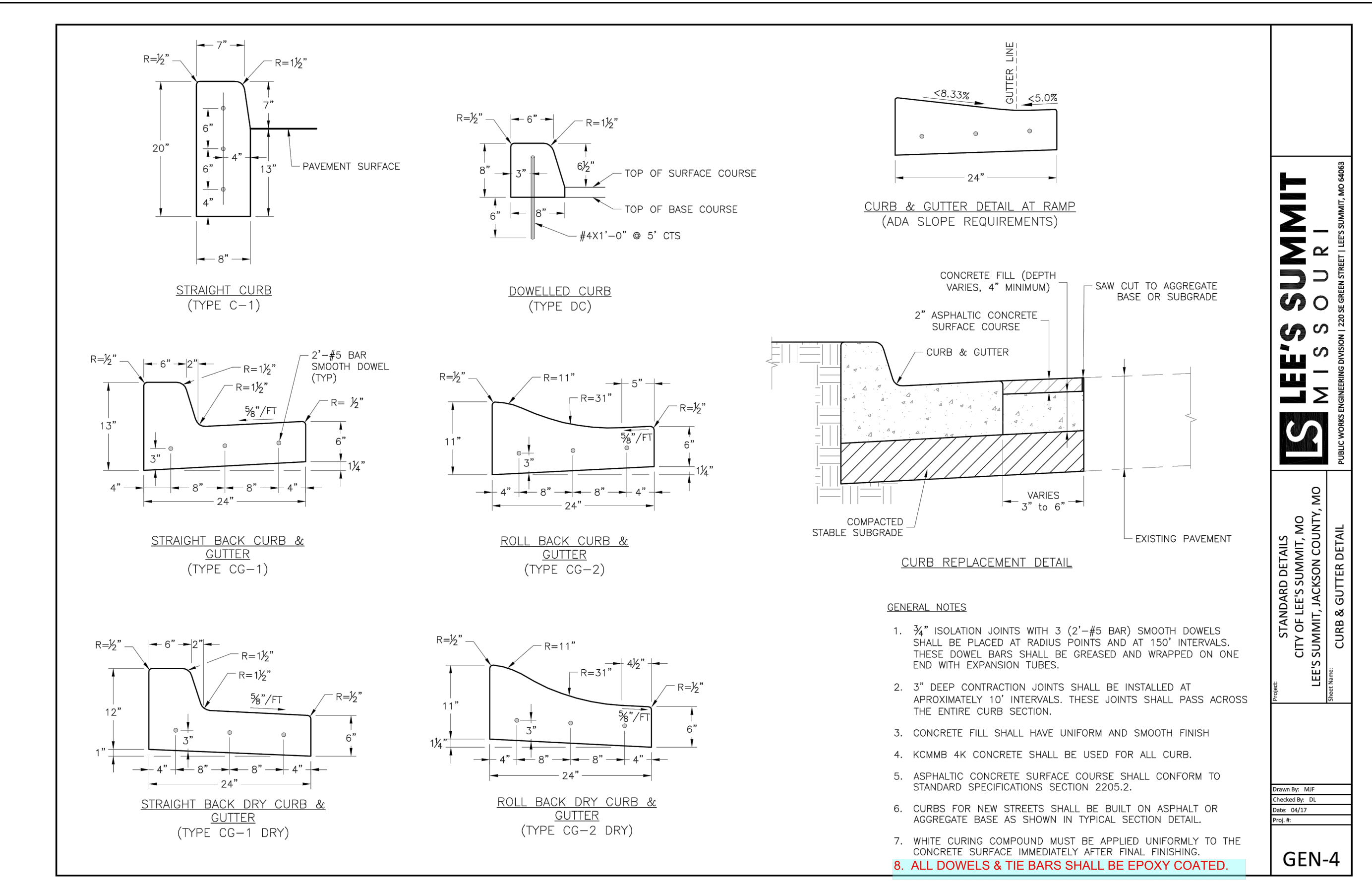
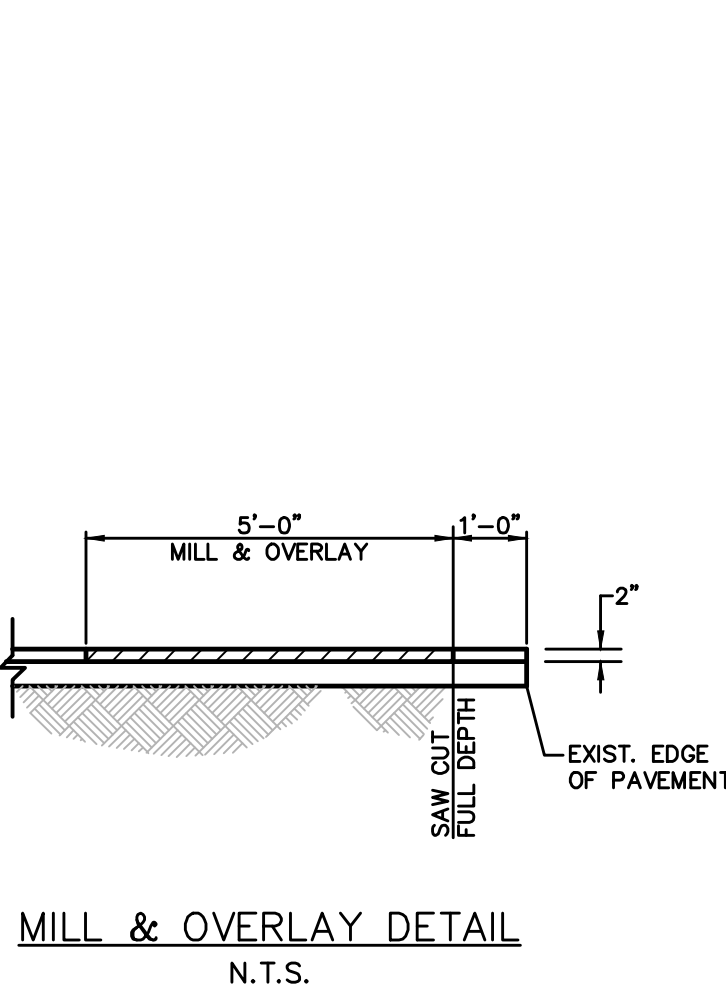
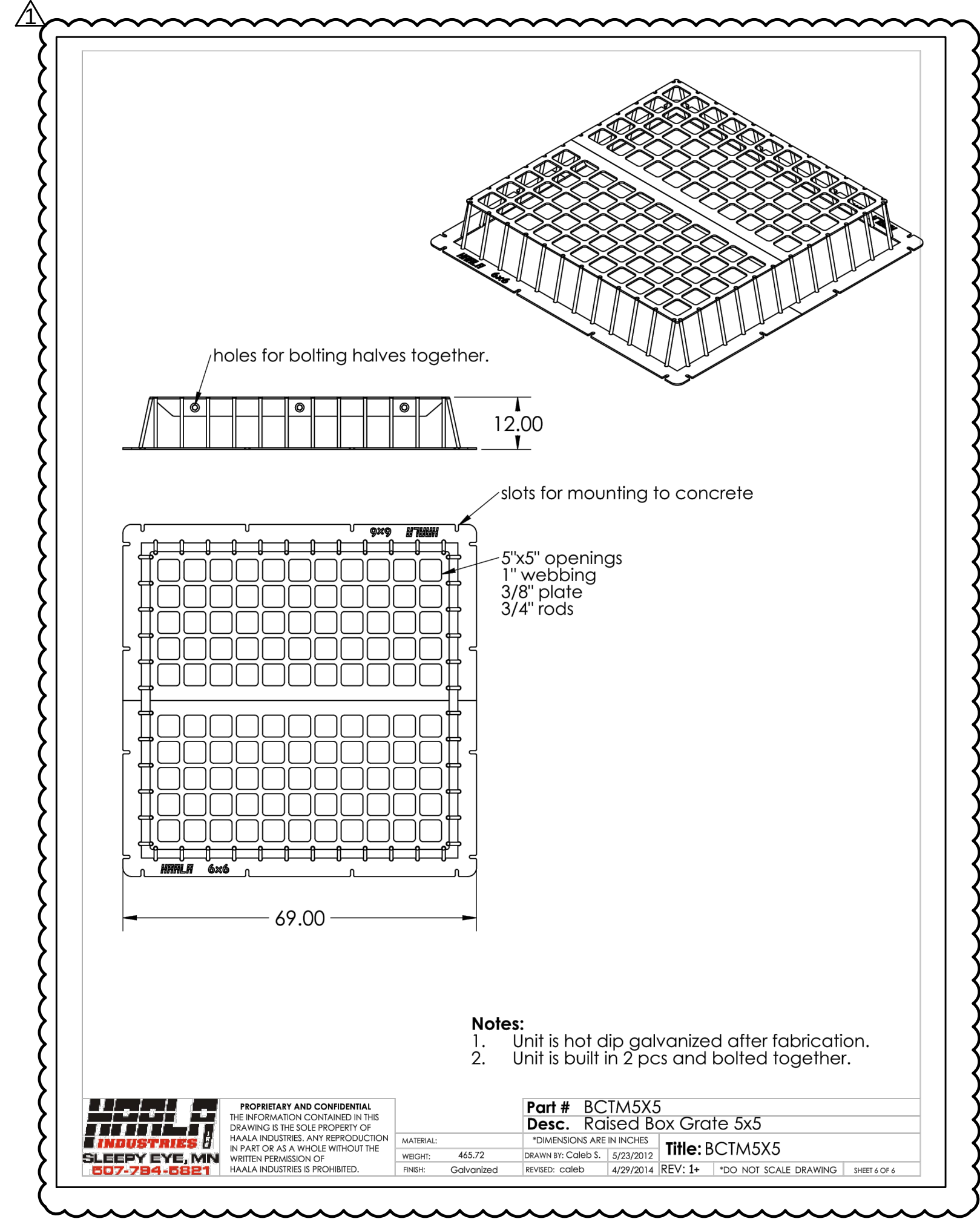
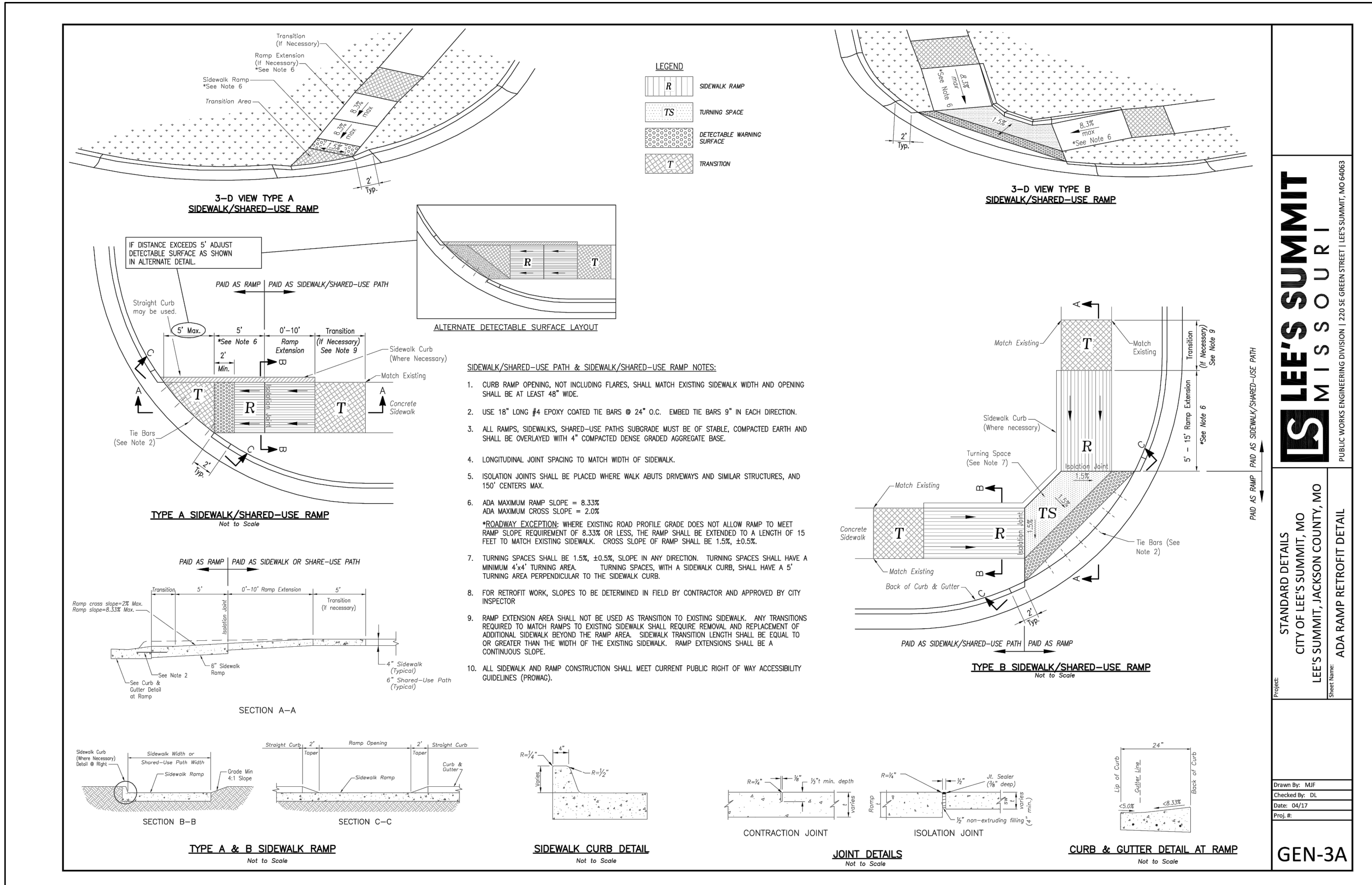
1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600. Both theoretical capacity and reduced capacity are shown.

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.

10 Year Return Frequency													
Upstream Structure	Downstream Structure	Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Slope (%)	Diameter (in)	Manning's n	Total Flow (cfs)	Velocity (ft/s)	Capacity (cfs)	Flow Depth (ft)	Upstream Struct. HGL (ft)	Upstream Top Elev. (ft)
1-2	EX. 1-1	152.90	1026.89	1024.76	1.39	18	0.012	16.66	9.43	13.43	1.50	1030.34	1033.41
1-3	1-2	73.91	1028.42	1027.39	1.39	18	0.012	16.66	9.43	13.43	1.50	1032.48	1033.50
2-2	2-1	57.00	1030.75	1030.00	1.32	24	0.012	16.08	6.10	28.11	1.72	1032.20	1039.93
2-3	2-2	34.00	1031.69	1031.25	1.29	24	0.012	15.14	7.75	27.87	1.05	1033.09	1039.93
2-4	2-3	61.06	1033.41	1032.19	2.00	24	0.012	14.91	8.50	34.64	0.92	1034.80	1041.90
2-5	2-4	34.00	1034.59	1033.51	2.00	24	0.012	13.26	7.94	34.65	0.89	1035.90	1041.90
2-6	2-5	45.26	1036.00	1035.10	1.99	18	0.012	8.05	7.11	16.04	0.80	1037.10	1044.71
2-7	2-6	123.87	1045.33	1039.01	5.10	15	0.012	7.67	9.75	15.80	0.61	1046.43	1053.79
2-8	2-7	40.59	1046.64	1045.83	2.00	15	0.012	5.74	6.99	9.88	0.68	1047.61	1053.72
2-9	2-8	152.50	1051.70	1048.65	2.00	15	0.012	2.87	5.59	9.89	0.46	1052.38	1056.36
3-1	2-5	126.00	1040.40	1037.25	2.50	15	0.012	2.55	5.68	11.06	0.41	1041.04	1055.44
4-1	2-7	34.00	1048.50	1047.43	3.15	15	0.012	0.64	3.99	12.41	0.19	1048.81	1045.44

100 Year Return Frequency													
Upstream Structure	Downstream Structure	Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Slope (%)	Diameter (in)	Manning's n	Total Flow (cfs)	Velocity (ft/s)	Capacity (cfs)	Flow Depth (ft)	Upstream Struct. HGL (ft)	Upstream Top Elev. (ft)
1-2	EX. 1-1	152.90	1026.89	1024.76	1.39	18	0.012	19.11	10.82	13.43	1.50	1032.44	1033.41
1-3	1-2	73.91	1028.42	1027.39	1.39	18	0.012	19.11	10.82	13.43	1.50	1035.26	1033.50
2-2	2-1	57.00	1030.75	1030.00	1.32	24	0.012	28.19	9.23	28.11	1.92	1032.58	1039.93
2-3	2-2	34.00	1031.69	1031.25	1.29	24	0.012	26.54	9.51	27.87	1.56	1033.49	1039.93
2-4	2-3	61.06	1033.41	1032.19	2.00	24	0.012	26.15	10.47	34.64	1.30	1035.20	1041.90
2-5	2-4	34.00	1034.59	1033.91	2.00	24	0.012	23.25	9.49	34.65	1.29	1036.30	1041.90
2-6	2-5	45.26	1036.00	1035.10	1.99	18	0.012	14.11	8.79	16.04	1.20	1037.38	1044.71
2-7	2-6	123.87	1045.33	1039.01	5.10	15	0.012	13.45	12.73	15.80	0.89	1046.56	1053.79
2-8	2-7	40.59	1046.64	1045.83	2.00	15	0.012	10.06	8.77	9.88	1.05	1047.83	1053.72
2-9	2-8	152.50	1051.70	1048.65	2.00	15	0.012	5.03	6.68	9.89	0.63	1052.61	1056.36
3-1	2-5	126.00	1040.40	1037.25	2.50	15	0.012	4.47	6.76	11.06	0.55	1041.26	1045.44
4-1	2-7	34.00	1048.50	1047.43	3.15	15	0.012	1.13	4.71	12.41	0.26	1048.92	1053.44

NOT AS BUILT



- NOTES:
- 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 in the street profile.
 - All Underdrain Pipes shall be installed at a minimum slope of 1%.
 - Underdrain Pipe shall be installed with the perforations placed down.
 - Blanket Underdrain Aggregate, Pipe Underdrain Aggregate, Pipe Underdrain, Edge Underdrain and Outlet Pipe shall conform to City of Lee's Summit Specifications.
 - Overlap geotextile at top of trench a minimum of 12".

NOT AS BUILT

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Olsson - Civil Engineering
Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
www.olsson.com

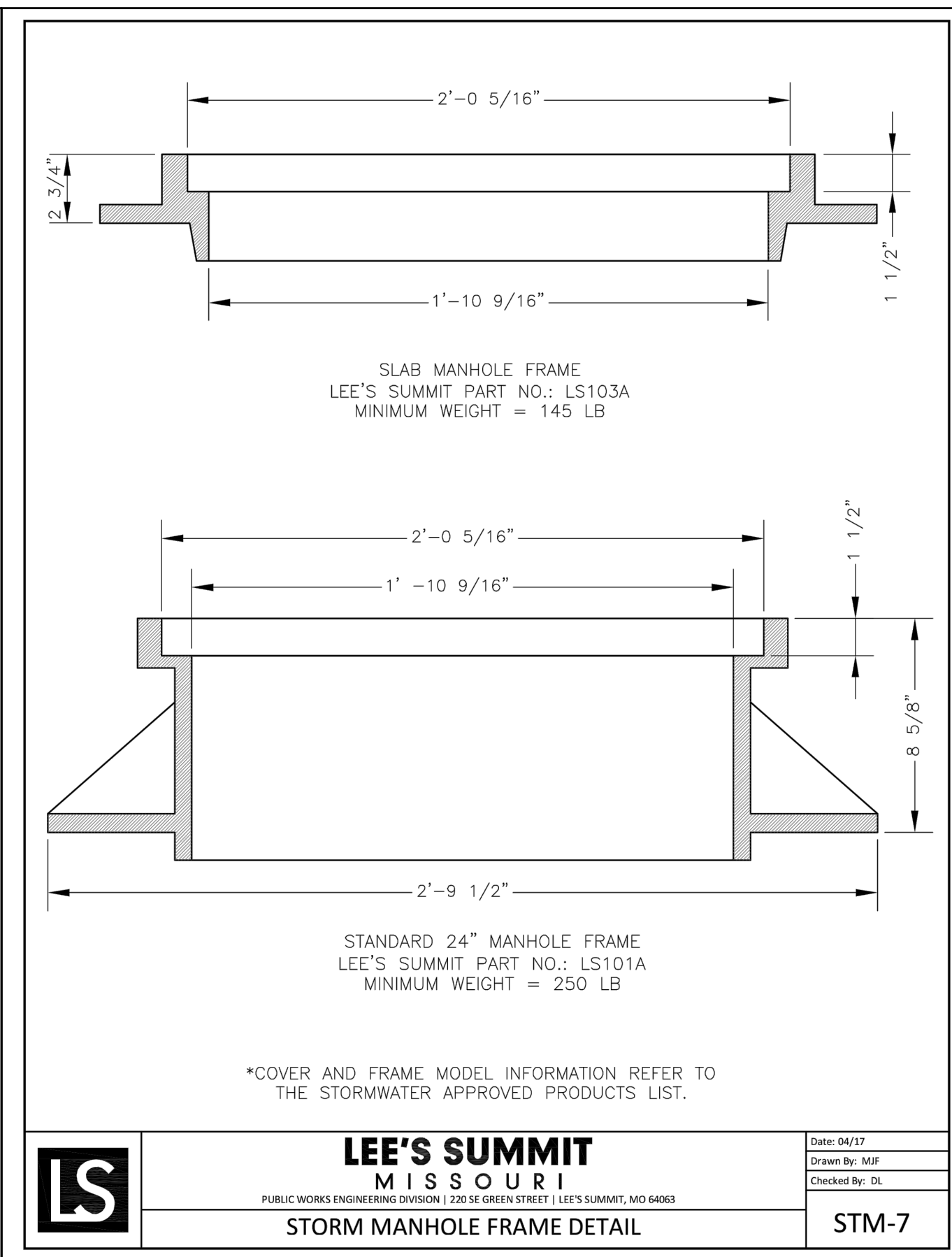
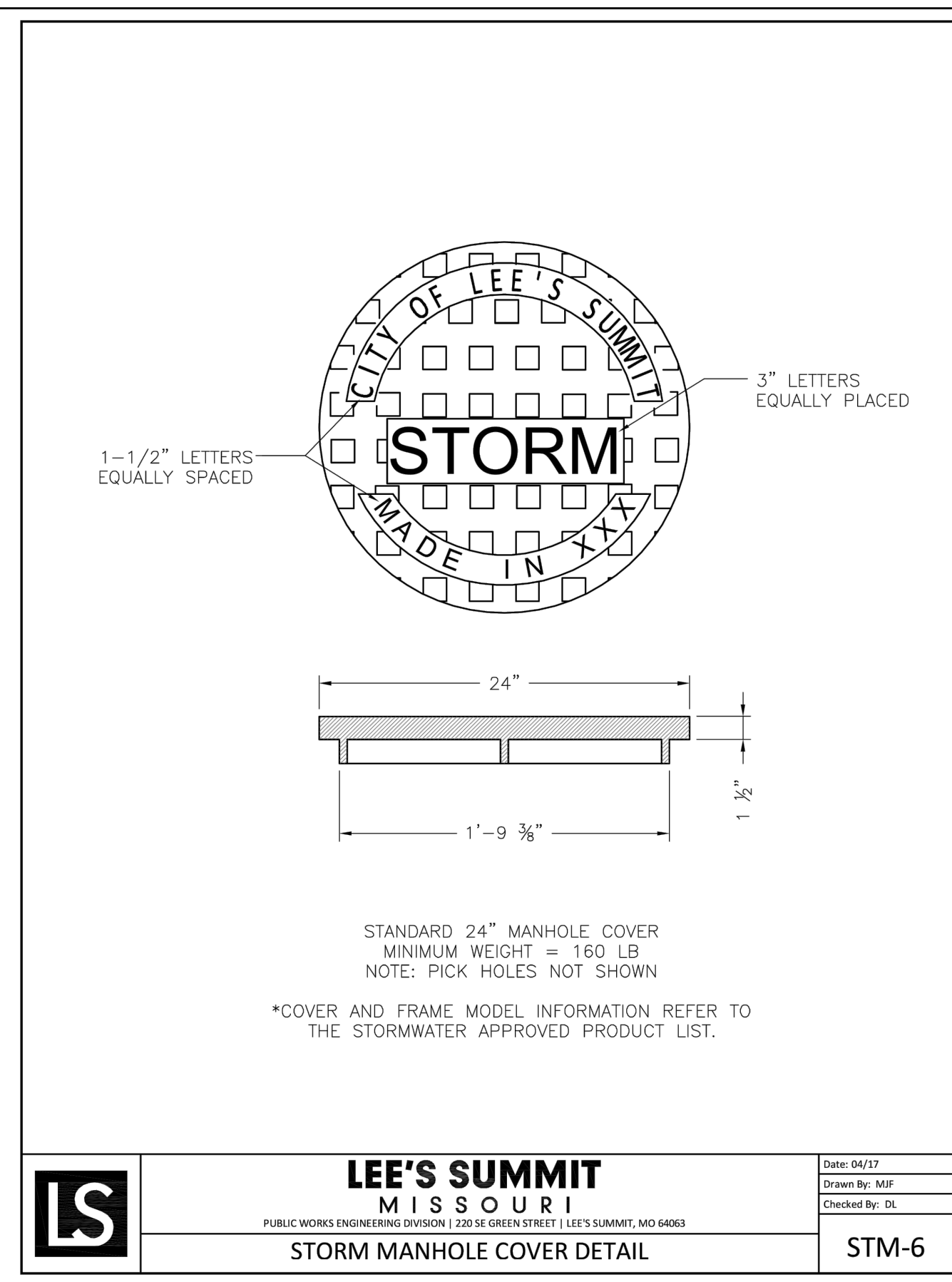
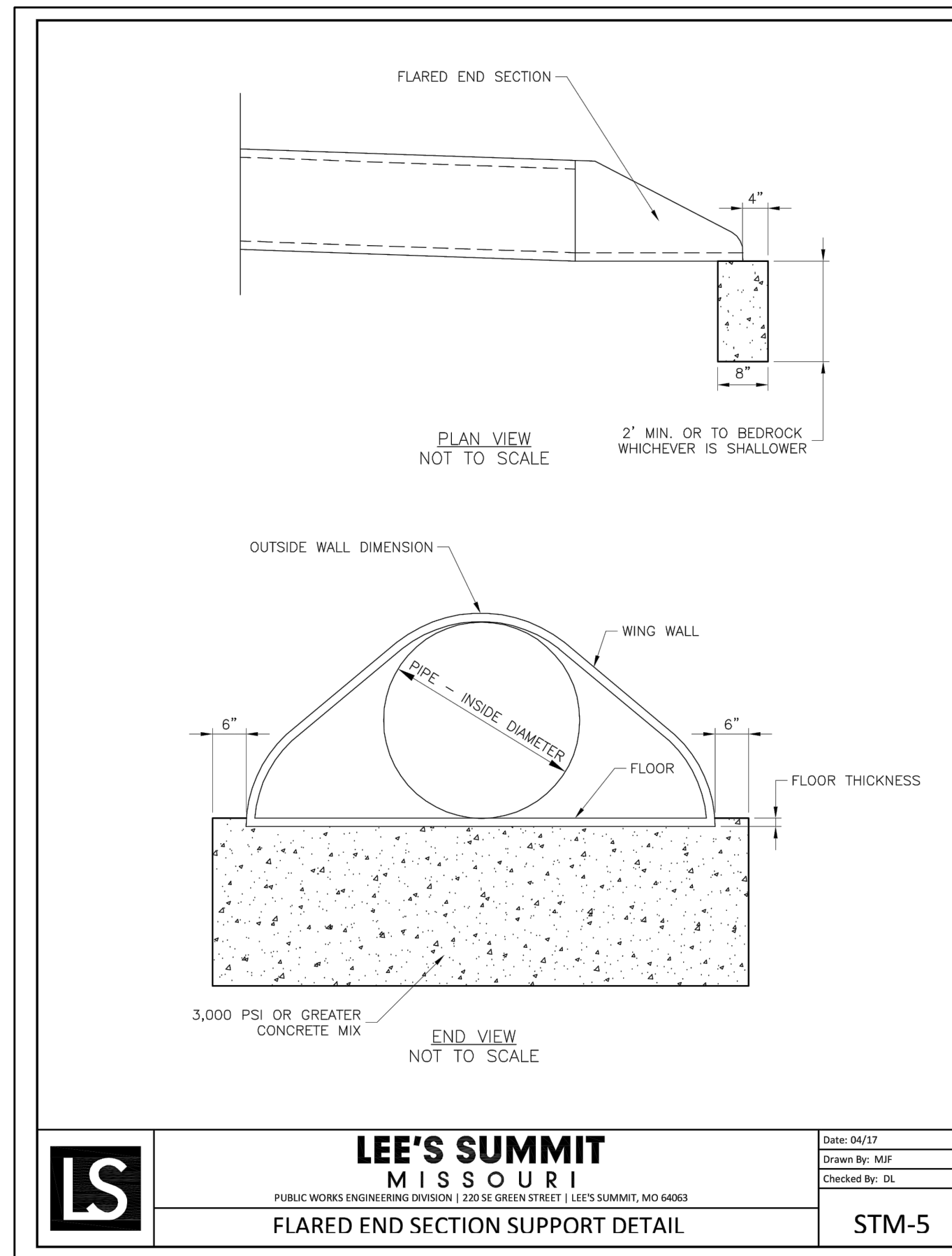
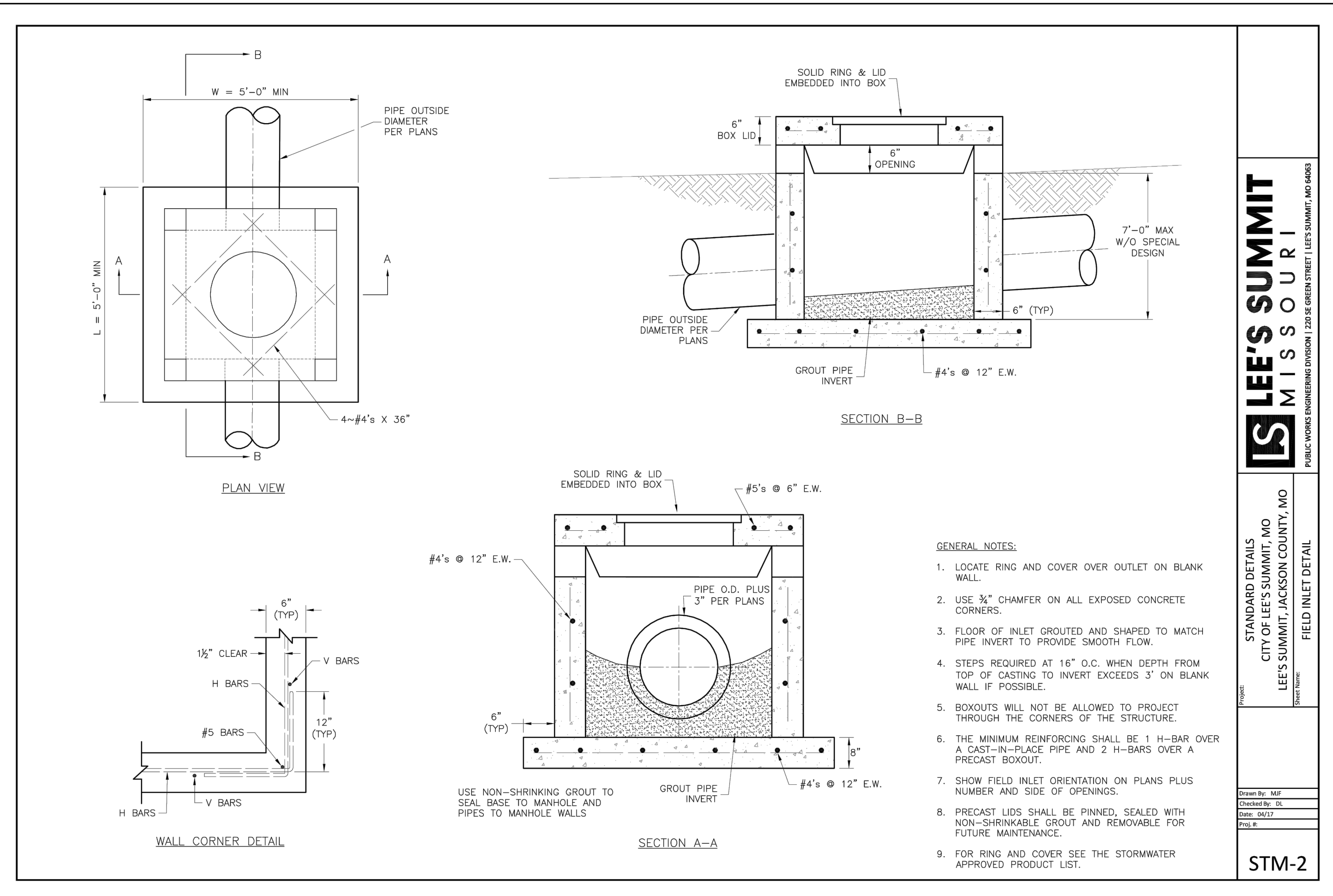
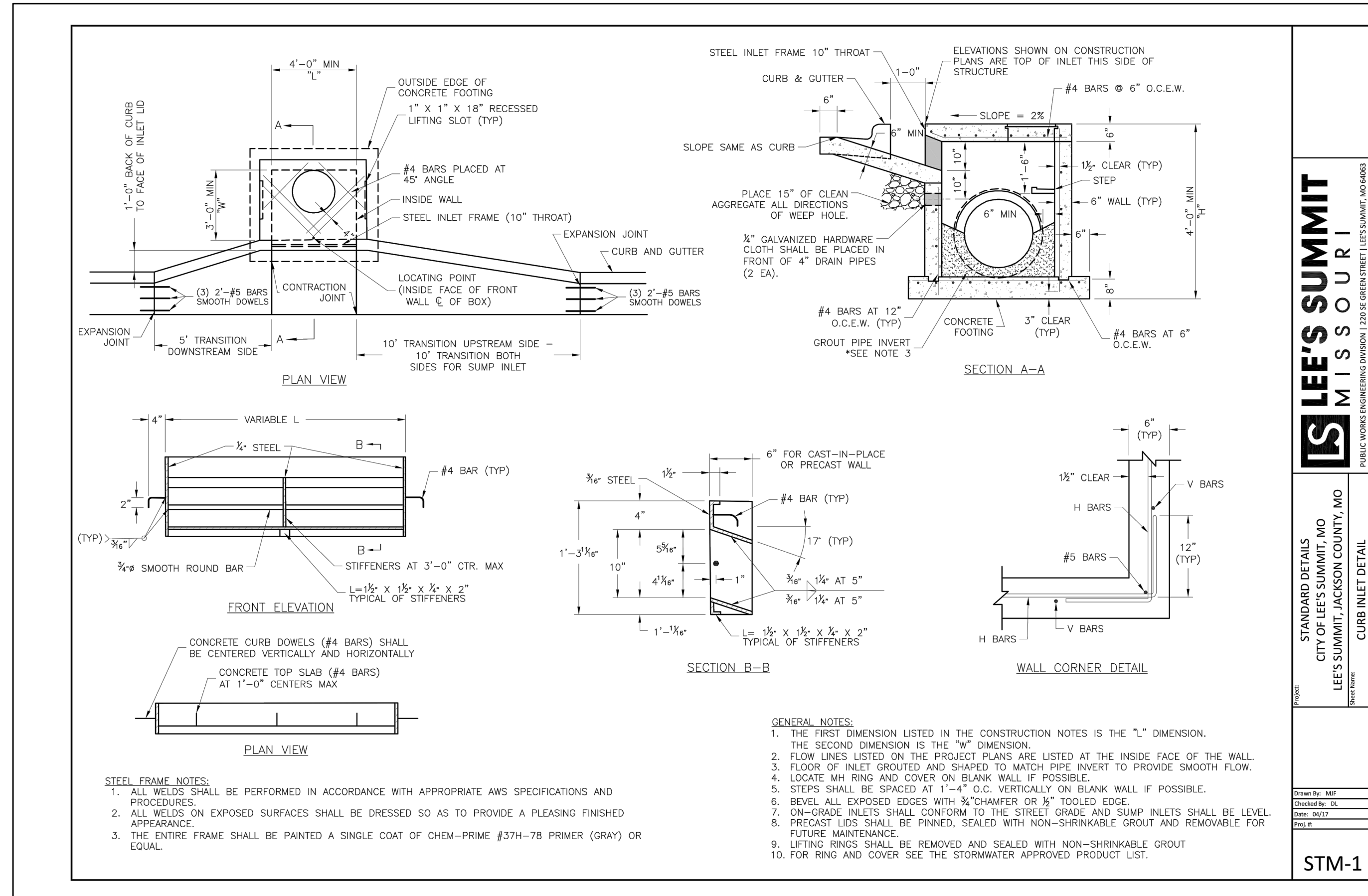
STATE OF MISSOURI
JULIE ELAINE SELLERS
Professional Engineer
NUMBER
PE 2017000367
5/9/2023

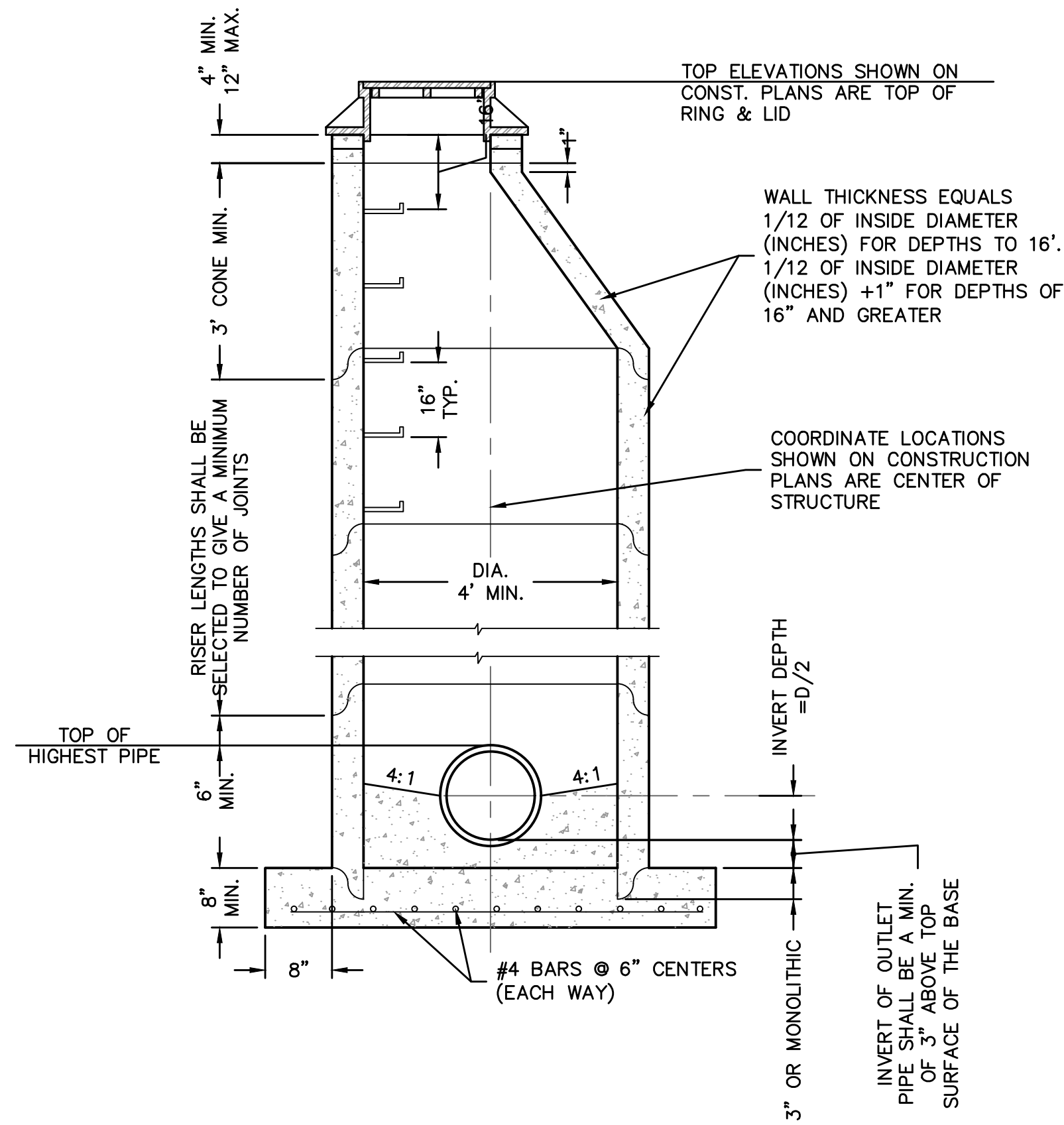
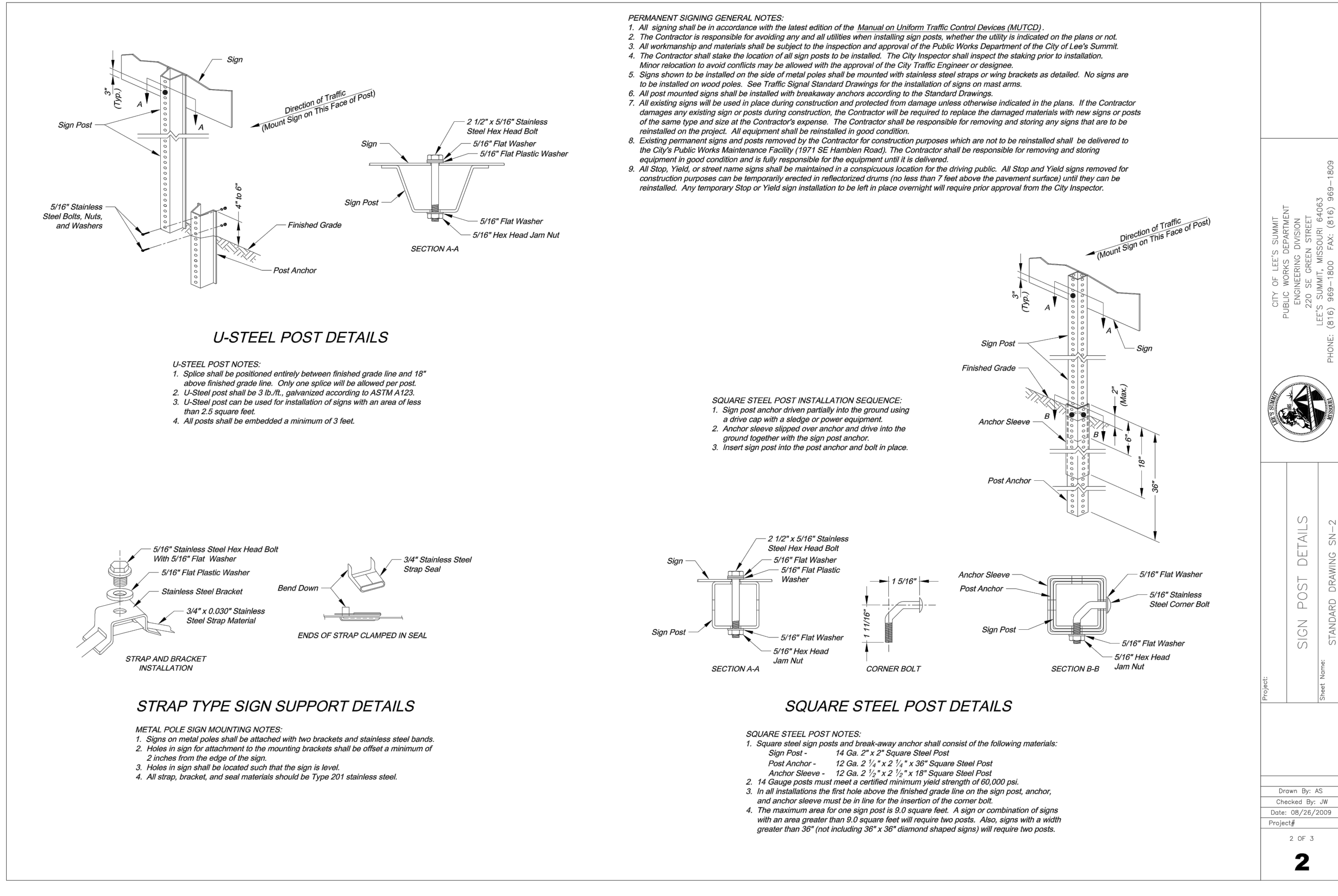
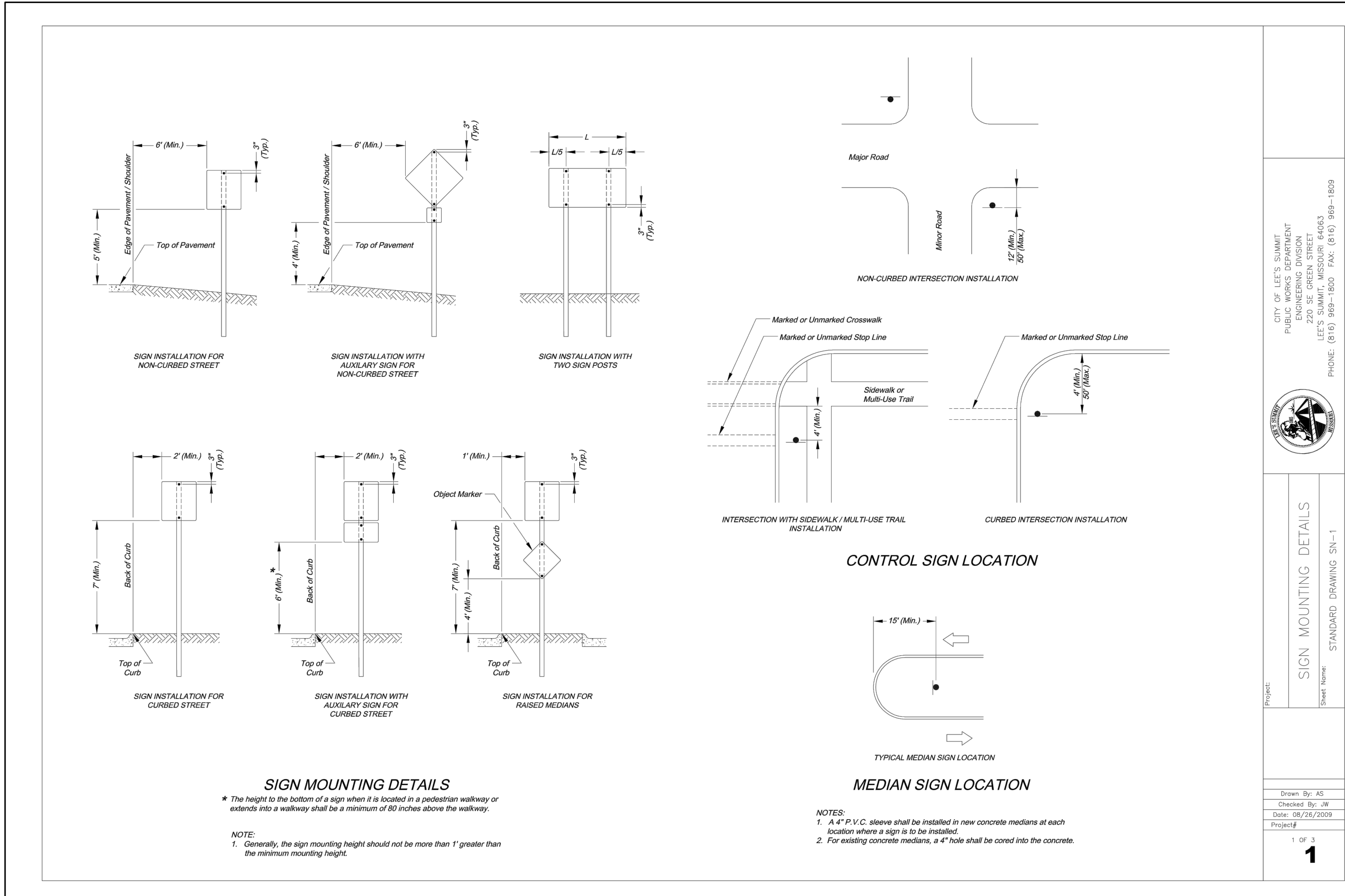
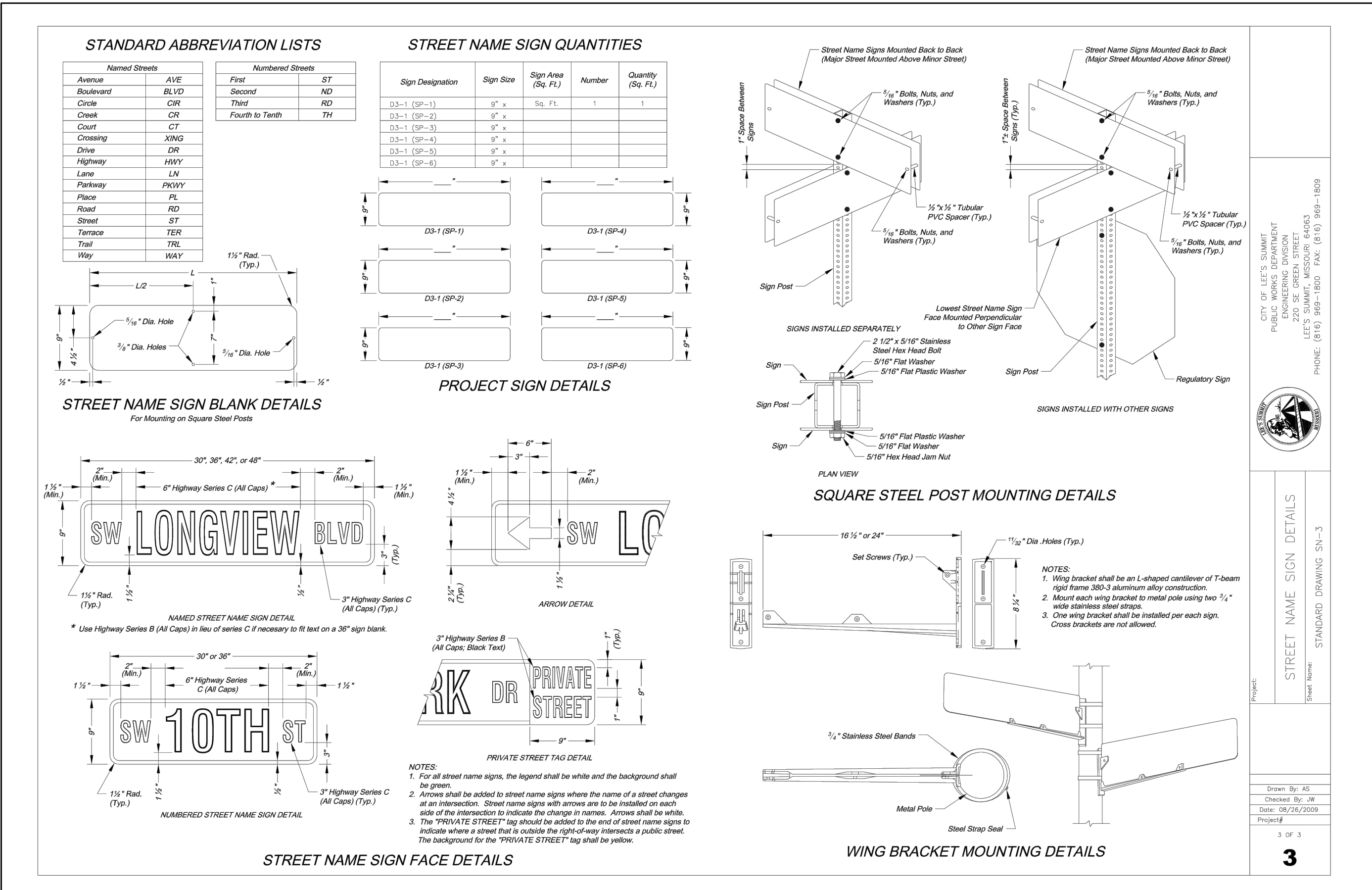
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REVISED PER CITY COMMENTS
DATE
08/11/2021
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REV. NO.

DETAIL SHEET
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT
LEE'S SUMMIT, MO
2021

drawn by: MJD
checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C_DTL01_D192339
date: 3/14/2023

SHEET
C120





STANDARD PRECAST STORM SEWER MANHOLE
NOT TO SCALE

NOT AS BUILT

olsson

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PUBLIC WORKS DEPARTMENT
220 SE GREEN STREET
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STATE OF MISSOURI
JULIE ELAINE SELLERS
Professional Engineer
NUMBER
PE 2017000367
5/9/2023

BY
REVISIONS DESCRIPTION
REV. NO. DATE
1 08/11/2021
REVISED PER CITY COMMENTS

2021

DETAIL SHEET
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT
LEE'S SUMMIT, MO

drawn by: MJD
checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C_DTL01_D192339
date: 3/14/2023

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