

☐ NOT FOR CONSTRUCTION

☒ REVIEWED FOR CONSTRUCTION



SECTION 23, TOWNSHIP 47 N, RANGE 32 W.
IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI



TRACT OF LAND IN THE NORTHEAST QUARTER OF SECTION 23 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. 202014092 AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID NORTHEAST QUARTER; THENCE NORTH 02°46'08" EAST, ON THE EAST LINE OF SAID NORTHEAST QUARTER 1,323.83 FEET TO THE SOUTHEAST CORNER OF THE NORTH HALF OF SAID NORTHEAST QUARTER, ALSO BEING THE NORTHEAST CORNER OF EAGLE CREEK - FIFTH PLAT, A SUBDIVISION OF LAND IN SAID LEE'S SUMMIT RECORDED OCTOBER 9, 2001 AS INSTRUMENT NUMBER 200100082127 IN BOOK 70 AT PAGE 14; SAID OFFICE OF RECORDER OF DEEDS, JACKSON COUNTY, MISSOURI; THENCE LEAVING SAID EAST LINE, NORTH 88°13'31" WEST, 1,025.00 FEET TO THE SOUTHWEST CORNER OF SAID EAGLE CREEK - FIFTH PLAT, ALSO BEING THE NORTH LINE OF SAID SOUTHWEST CORNER OF EAGLE CREEK - SIXTH PLAT, TO THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED, THENCE NORTH 87°41'31" WEST ON SAID SOUTH LINE AND SAID NORTH LINE, 675.87 FEET TO THE NORTHWEST CORNER OF SAID EAGLE CREEK - FIFTH PLAT, ALSO BEING THE NORTHEAST CORNER OF EAGLE CREEK - SIXTH PLAT, A SUBDIVISION IN SAID LEE'S SUMMIT RECORDED OCTOBER 9, 2001 AS INSTRUMENT NUMBER 200100082129 IN BOOK 70 AT PAGE 15 IN SAID OFFICE OF RECORDER OF DEEDS, JACKSON COUNTY, MISSOURI; THENCE NORTH 87°41'31" WEST ON SAID SOUTH LINE, ALSO BEING THE NORTH LINE OF SAID EAGLE CREEK - SIXTH PLAT, 704.45 FEET TO THE NORTHWEST CORNER OF SAID EAGLE CREEK - SIXTH PLAT, ALSO BEING THE EASTERLY LINE OF TRACT C OF EAGLE CREEK - SEVENTH PLAT, LOTS 230 THRU 282, INCLUSIVE, AND TRACT C, A SUBDIVISION OF LAND IN SAID LEE'S SUMMIT RECORDED APRIL 25, 2003 AS INSTRUMENT NUMBER 2003030126 IN BOOK 76 AT PAGE 12 IN SAID OFFICE OF RECORDER OF DEEDS, JACKSON COUNTY, MISSOURI; THENCE LEAVING SAID EAST LINE, NORTH 87°41'31" WEST, 197.92 FEET TO SAID SOUTH LINE AND SAID EASTERLY LINE, 41 FEET, THEN THE EXISTING SOUTHERLY RIGHT-OF-WAY LINE, NORTH 02°46'08" EAST, ON SAID EASTERLY LINE, 197.92 FEET TO THE NORTHWEST CORNER OF SAID EAGLE CREEK - SIXTH PLAT, ALSO BEING A POINT ON THE EXISTING SOUTHERLY RIGHT-OF-WAY LINE SW EAGLE VIEW DRIVE, AS ESTABLISHED BY SAID EAGLE CREEK - SEVENTH PLAT, LOTS 230 THRU 282, INCLUSIVE, AND TRACT C; THENCE EASTERLY, ON SAID EXISTING SOUTHERLY RIGHT-OF-WAY LINE, ON A CURVE TO THE LEFT HAVING AN INITIAL TANGENT BEARING OF SOUTH 86°54'35" EAST WITH A RADIUS OF 830.00 FEET, A CENTRAL ANGLE OF 29°39'14" AND AN ARC DISTANCE OF 429.57 FEET; THENCE NORTH 63°26'11" EAST, ON SAID EXISTING SOUTHERLY RIGHT-OF-WAY LINE, 285.62 FEET; THENCE EASTERLY, ON SAID EXISTING SOUTHERLY RIGHT-OF-WAY LINE, ON A CURVE TO THE RIGHT BEING TANGENT TO THE LAST DESCRIBED COURSE WITH A RADIUS OF 1,270.00 FEET, A CENTRAL ANGLE OF 31°03'25" AND AN ARC DISTANCE OF 888.40 FEET; THENCE SOUTH 85°30'24" EAST, ON SAID EXISTING SOUTHERLY RIGHT-OF-WAY LINE, 109.10 FEET; THENCE SOUTHERLY, ON SAID EXISTING SOUTHERLY RIGHT-OF-WAY LINE, 109.10 FEET; THENCE SOUTH 02°46'08" WEST, 559.61 FEET; THENCE SOUTH 02°31'56" WEST, 1,025.00 FEET; THENCE WESTERLY ON A CURVE TO THE RIGHT HAVING AN INITIAL TANGENT BEARING OF NORTH 87°41'31" WEST WITH A RADIUS OF 1,025.00 FEET, A CENTRAL ANGLE OF 04°39'21" AND AN ARC DISTANCE OF 83.29 FEET; THENCE SOUTH 02°18'29" WEST, 123.38 FEET TO THE POINT OF BEGINNING, CONTAINING 669.406 SQUARE FEET OR 15.37 ACRES, MORE OR LESS.

BENCHMARK

BENCHMARK NO. 1
CHISELED SQUARE ON THE NORTHWEST CORNER OF 6' X 4' CURB INLET THAT IS ON THE SOUTH SIDE OF SW EAGLEVIEW DRIVE AND WEST OF SW BURNINGWOOD LANE, STRAIGHT SOUTH OF A 6' X 4' CURB INLET.
ELEVATION = 1002.10

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


STEPHEN SAYLOR, P.E.
CIVIL ENGINEER
MO#2018021248

4/2/2024

DATE

osion



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

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TITLE SHEET
STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

drawn by: _____ CW
checked by: _____ SS
approved by: _____ JS
QA/QC by: _____ JS
project no.: _____ A20-2467
drawing no.: C TTL01 A202467
date: _____ 02/23/2024

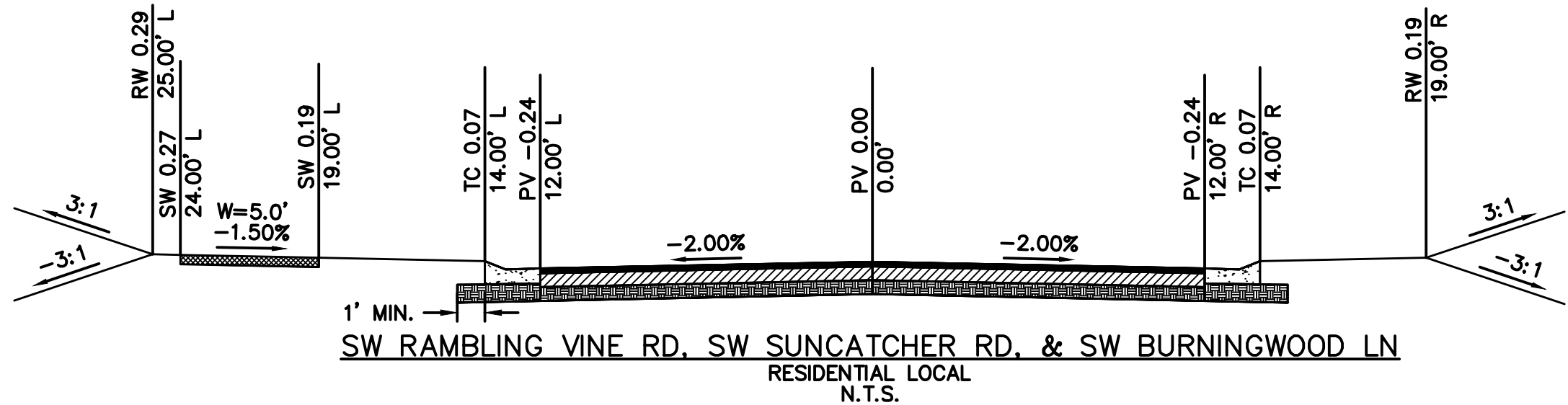
SHEET
C101

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.

POINT NUMBER	NORTHING	EASTING	POINT ELEVATION	DESCRIPTION
3	988896.2697	2811669.1312	975.106	3" IB RED CONTROL CAP SET ON THE NORTH SIDE OF THE INTERSECTION OF SW SUNCATCHER ROAD AND SW TIMBERTREE LANE. IT IS 2.30 FT NORTH OF THE BACK OF CURB, 4.40 FT EAST OF A NO PARKING SIGN, AND 2.10 FT SOUTH OF THE SIDEWALK.
1	988266.771	28811631.025	998.394	3" IB RED CONTROL CAP SET ON THE SOUTH SIDE OF EAGLE VIEW DRIVE, WEST OF SW SUNCATCHER ROAD AND EAST OF SW GOOSEBERRY LANE. IT IS 5.20 FT SOUTH OF THE BACK OF CURB, 32.00 FT NORTHEAST OF THE NORTHWEST CORNER OF A 6" X 6" VAULT, AND 77.00 FT WEST OF A NO PARKING SIGN
2	988263.9838	2812623.0498	1023.391	3" IB RED CONTROL CAP SET ON THE WEST SIDE OF PRYOR ROAD AND SOUTH OF SW EAGLEVIEW DRIVE. IT IS 9.00 FT SOUTH OF THE BACK OF CURB, 19.00 FT NORTHEAST TO THE NORTHEAST CORNER OF A 6" X 6" VAULT, AND 18.00 FT NORTHWEST TO A 4" TREE
4	988904.8351	2812800.168	1015.344	3" IB RED CONTROL CAP SET ON THE EAST SIDE OF PRYOR ROAD AND SOUTH OF DRIVEWAY #2041. IT IS 2.50 FT EAST OF THE EDGE OF ASPHALT, 55.00 FT SOUTH OF THE DRIVEWAY, AND 4.00 FT WEST OF THE TOP OF BANK

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
STREET				
	EXCAVATION	C.Y.	10606	
	EMBANKMENT	C.Y.	1038	
	6" ASPHALT PAVEMENT	S.Y.	6314.19	
	6" MODOT TYPE 5 STONE BASE	S.Y.	6314.19	
	8" CHEMICAL SUBGRADE STABILIZATION	S.Y.	6314.19	
	CONCRETE CURB & GUTTER (CG-2)	L.F.	4475.46	
	5' CONCRETE SIDEWALK	L.F.	3601.65	
	MILL & OVERLAY	S.Y.	13.33	
	ADA RAMP	EA.	12	
	STOP SIGNS	EA.	6	
	STREET NAME SIGNS	EA.	12	
	TYPE III OBJECT MARKER	EA.	4	
	TYPE IV OBJECT MARKER	EA.	2	
STORM				
	STD. CURB INLET (5'x3' INSIDE)	EA.	10	
	STD. CURB INLET (5'x4' INSIDE)	EA.	3	
	STD. CURB INLET (5'x5' INSIDE)	EA.	4	
	STD. CURB INLET (6'x3' INSIDE)	EA.	2	
	STD. CURB INLET (6'x5' INSIDE)	EA.	1	
	STD. CURB INLET (7'x5' INSIDE)	EA.	1	
	STD. STORM MANHOLE (4' DIA. INSIDE)	EA.	1	
	STD. FIELD INLET (4'x4' INSIDE)	EA.	7	
	15" HDPE	L.F.	1610.30	
	18" HDPE	L.F.	191.73	
	24" HDPE	L.F.	325.64	
	30" HDPE	L.F.	913.72	
	15" HDPE END SECTION	EA.	2	
	30" HDPE END SECTION	EA.	1	
	SWALE EXCAVATION	C.Y.	1743	
	SWALE EMBANKMENT	C.Y.	393	
	RIPRAP	S.Y.	26.74	
	TURF REINFORCEMENT MATTING	S.Y.	1572.61	

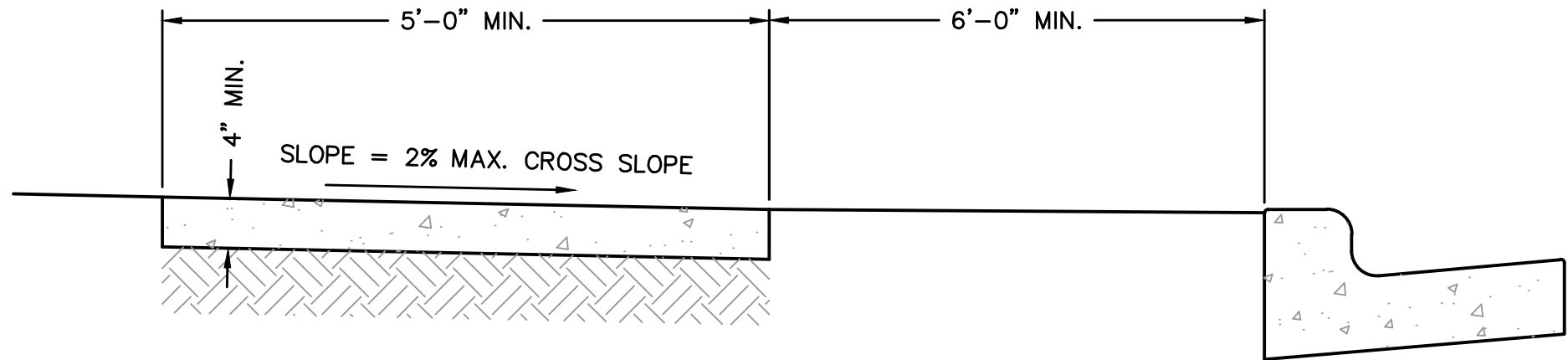
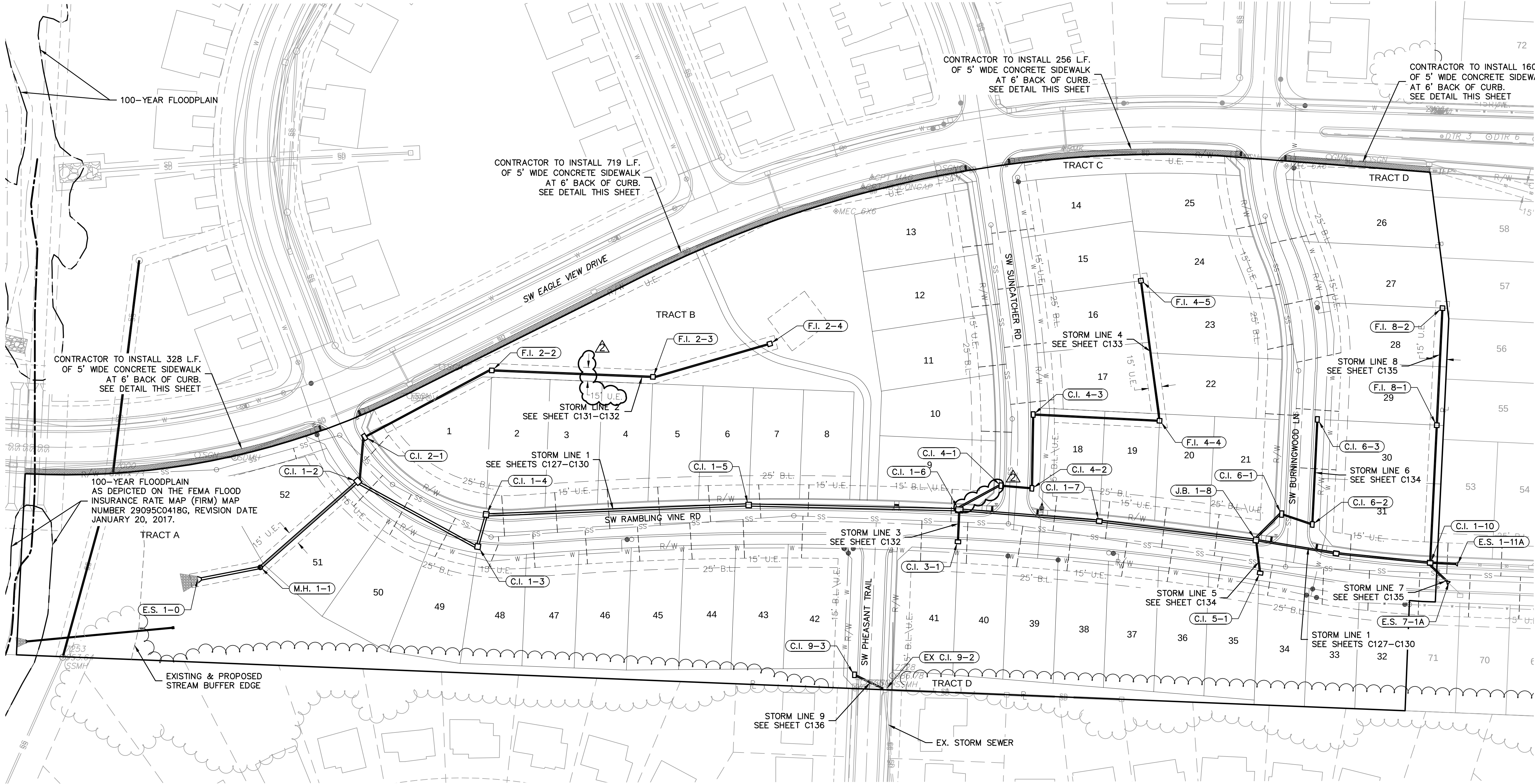
SUMMARY OF QUANTITIES AS INDICATED ABOVE AND ANY QUANTITIES AS SHOWN WITHIN THE PLANS HAVE BEEN PROVIDED FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR USE IN PREPARATION OF CONTRACT DOCUMENTS. QUANTITIES INTENDED FOR, BUT NOT LIMITED TO, THE PREPARATION OF PROPOSALS AND BID DOCUMENTS SHALL BE INDEPENDENTLY EVALUATED BY THE ESTIMATING PARTY BASED UPON THE CONTENTS OF THESE PLANS.



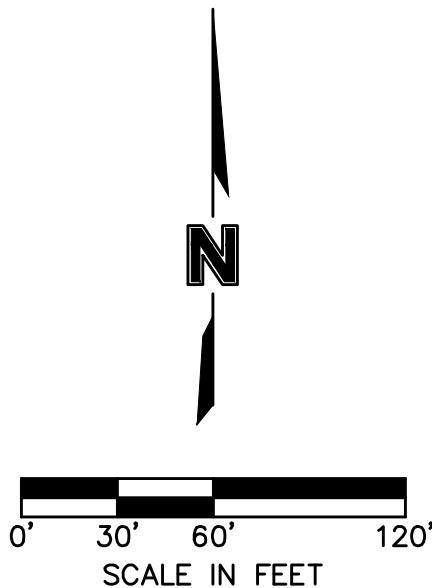
NOTE:
ALL ASPHALT MATERIALS SHALL CONFORM
TO THE KCMMB ASPHALT MATERIAL
SPECIFICATION, CURRENT EDITION.

2" TYPE 5 ASPHALTIC CONCRETE SURFACE
4" TYPE 5 ASPHALTIC CONCRETE BASE COURSE
6" MIN. MODOT TYPE 5 STONE BASE
8" CHEMICAL STABILIZED SUBGRADE
CG-2 CURB & GUTTER

DWG: F:\2020\2001-2500\020-2467-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\Street & Storm\GEN01_A202467.dwg USER: sso\or C_PSTRM_A202467
DATE: Apr 02, 2024 7:48am XREFS: C_PUTIL_A202467 C_PBASE_A202467 C_PIBLK_A202467 C_PIBLK_A202467



DETAIL 1: STANDARD CONCRETE WALK DETAIL
NOT TO SCALE



REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	02/23/2024	REVISED PER CITY COMMENTS	
2	04/02/2024	REVISED PER CITY COMMENTS	

GENERAL LAYOUT STREET & STORM SEWER PLANS EAGLE CREEK VILLAS FIRST PLAT LEE'S SUMMIT, MISSOURI	2023

drawn by: C.W.
checked by: J.S.
approved by: J.S.
QA/QC by: J.S.
project no.: A20-2467
drawing no.: C_GEN01_A202467
date: 02/23/2024

DWG: F:\2020\2001-2500\020-2467-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\Street & Storm\VC_GRD01_A202467.dwg USER: sso\lor C_PSTRM_A202467
DATE: Apr 02, 2024 7:49pm XREFS: C_PUTIL_A202467 C_PBASE_A202467 C_PBASE_A202467 C_PBTBLK_A202467 C_PBTBLK_A202467

LOT FILL INFORMATION			
LOT NUMBER	MAX DEPTH OF FILL (OVER 2' PLACED)	FILL PLACED ON EXISTING SLOPES > 5:1	PROPOSED SLOPES > 3:1
1			
2			
3			
4			
5		X	
6			
7			
8			
9			
10			
11			
12			
13	4.0	X	
14			
15			
16		X	
17	3.0	X	
18	3.0	X	
19	3.0	X	
20	3.0	X	
21	3.0	X	
22			
23		X	
24			
25			
26			
27			
28			
29			
30			
31			
32			
33		X	
34		X	
35	3.0	X	
36	3.0	X	
37	3.0	X	
38	7.0		
39	6.0		
40	6.0	X	
41	4.0	X	
42	3.0		
43	3.0		
44			
45			
46			
47			
48			
49			
50		X	
51	3.0	X	
52	3.0	X	
X Indicates condition applies to lot			

GENERAL NOTES:

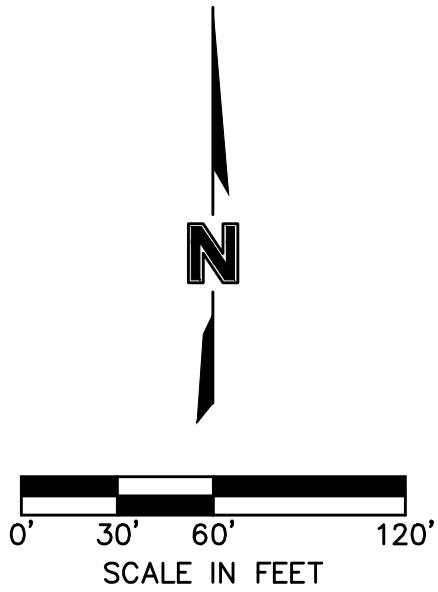
1. CONTRACTOR SHALL ADHERE TO THE "DESIGN AND CONSTRUCTION MANUAL" SECTION 2100 AS ADOPTED BY THE CITY OF LEE'S SUMMIT (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY.
2. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH 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	10,606	1,038
SWALE	1,743	393
SITE	67,079	40,131
TOTAL	79,428	41,562

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.

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



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

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	02/23/2024	REVISED PER CITY COMMENTS	

drawn by: _____
checked by: _____
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QA/QC by: _____
project no.: A20-2467
drawing no.: C_GRD01_A202467
date: 02/23/2024

SHEET
C104

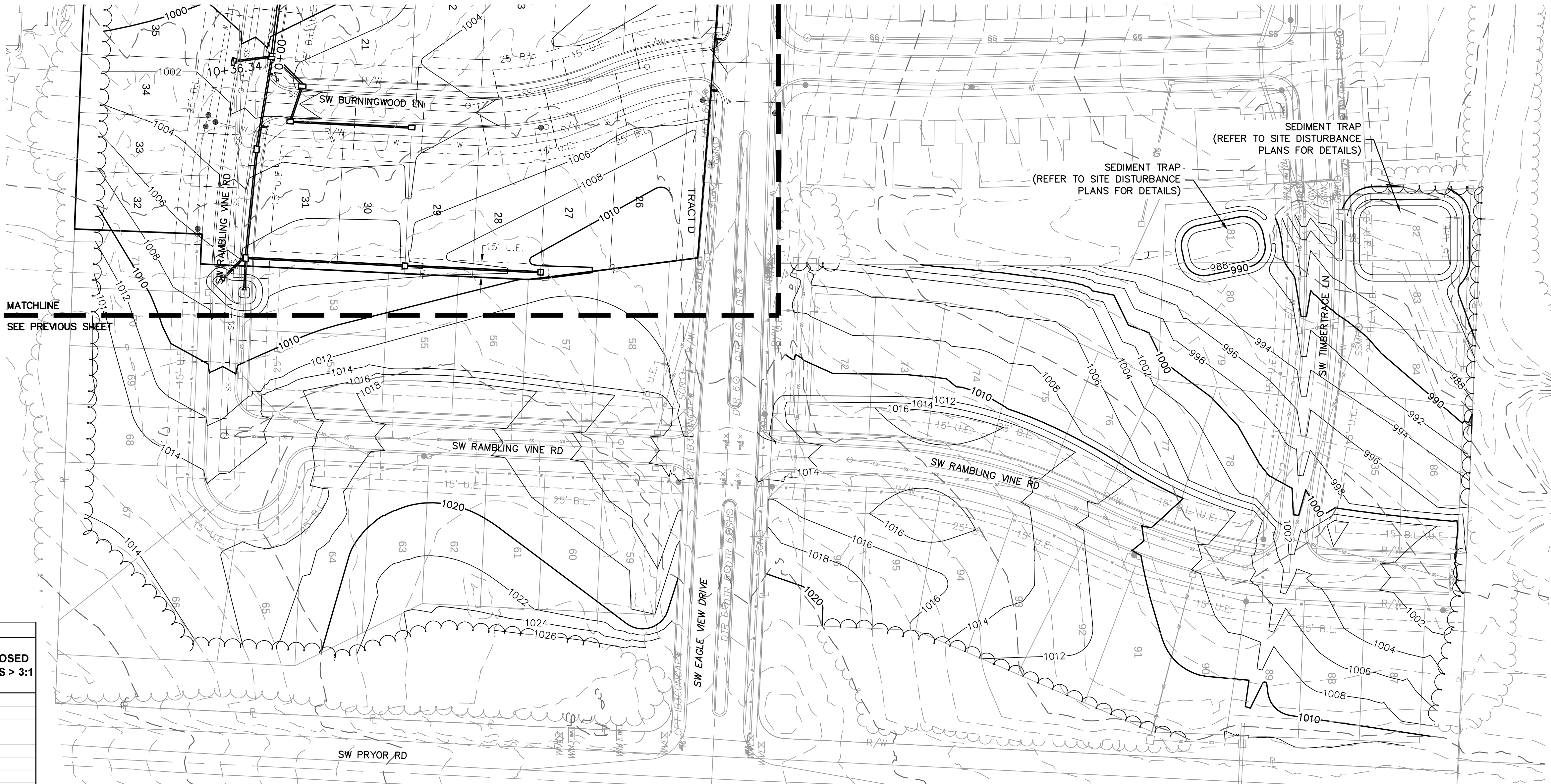


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 DWG: C_PUTIL_A202467 C_XBASE_A202467 C_FBASE_A202467 C_PBASE_A202467 C_PBNDR
 XREFS: USER: ssgvor
 DATE: Apr 02, 2024 7:49am

LOT FILL INFORMATION			
LOT NUMBER	MAX DEPTH OF FILL (OVER 2' PLACED)	FILL PLACED ON EXISTING SLOPES > 5:1	PROPOSED SLOPES > 3:1
53			
54			
55			
56			
57		X	
58			
59			
60			
61			
62			
63			
64			
65			
66			
67			
68			
69			
70			
71			
72			
73	8.0	X	
74	11.0		
75	12.0		
76	12.0		
77	11.0		
78	11.0		
79	11.0		
80	4.0	X	
81		X	
82	4.0		
83	5.0	X	
84		X	
85		X	
86	4.0		
87	5.0		
88	3.0	X	
89	4.0	X	
90	7.0	X	
91	8.0	X	
92	8.0	X	
93	7.0		
94	7.0		
95	7.0		
96	6.0	X	
X Indicates condition applies to lot			



GENERAL NOTES:

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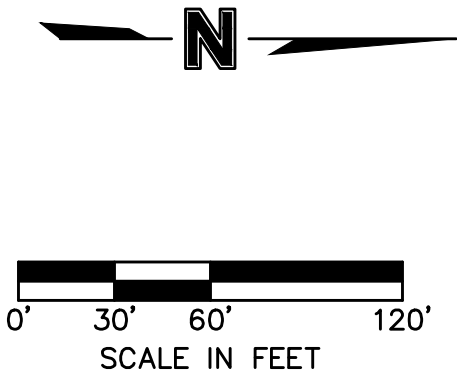
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SWALE	1,743	393
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EARTHWORK QUANTITIES NOTES:

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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.

LEGEND	
	EXISTING INDEX CONTOURS
	EXISTING INTERMEDIATE CONTOURS
	PROPOSED INDEX CONTOURS
	PROPOSED INTERMEDIATE CONTOURS



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

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2023

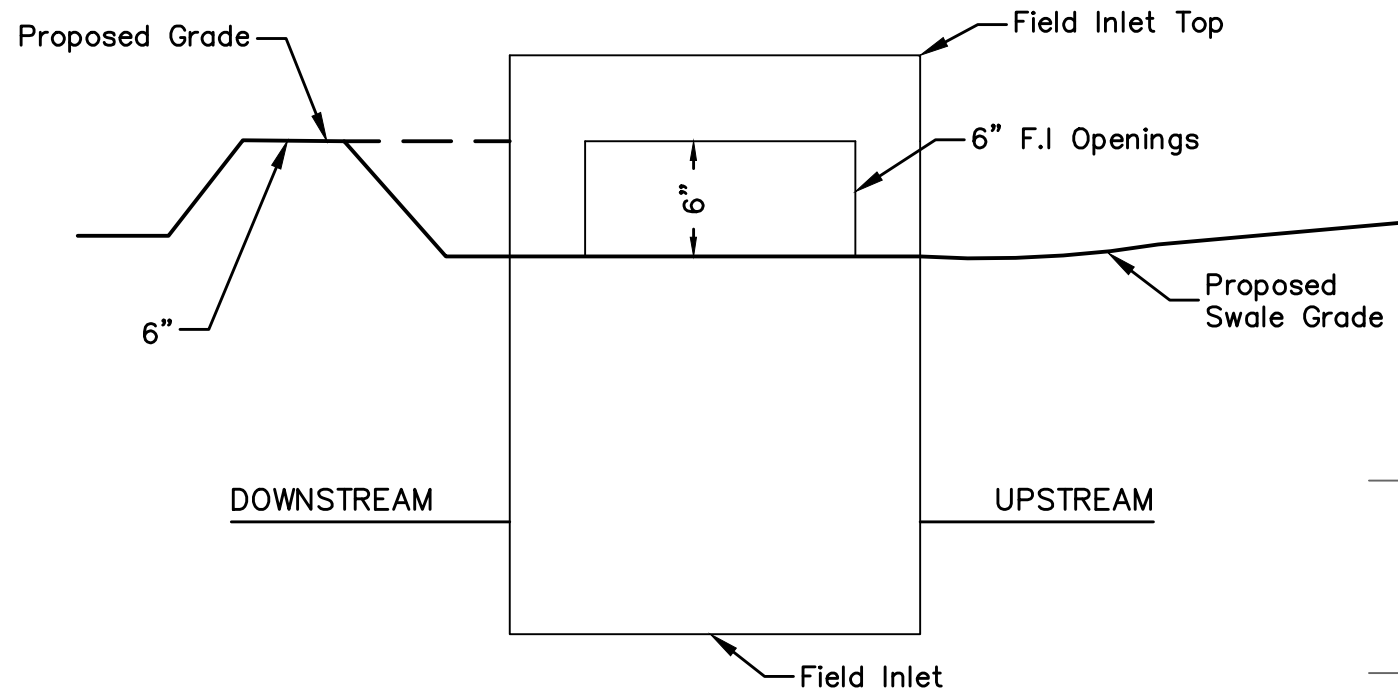
REVISIONS

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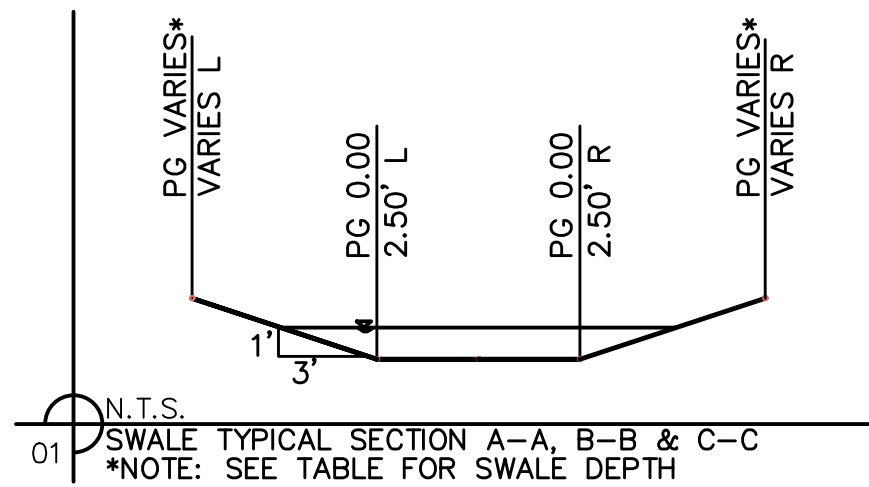
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DWG: F:\2020\2001-2500\020-2467-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\Street & Storm\C_SWL01_A202467.dwg
DATE: Apr 02, 2024 7:50am
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USER: ssaylor

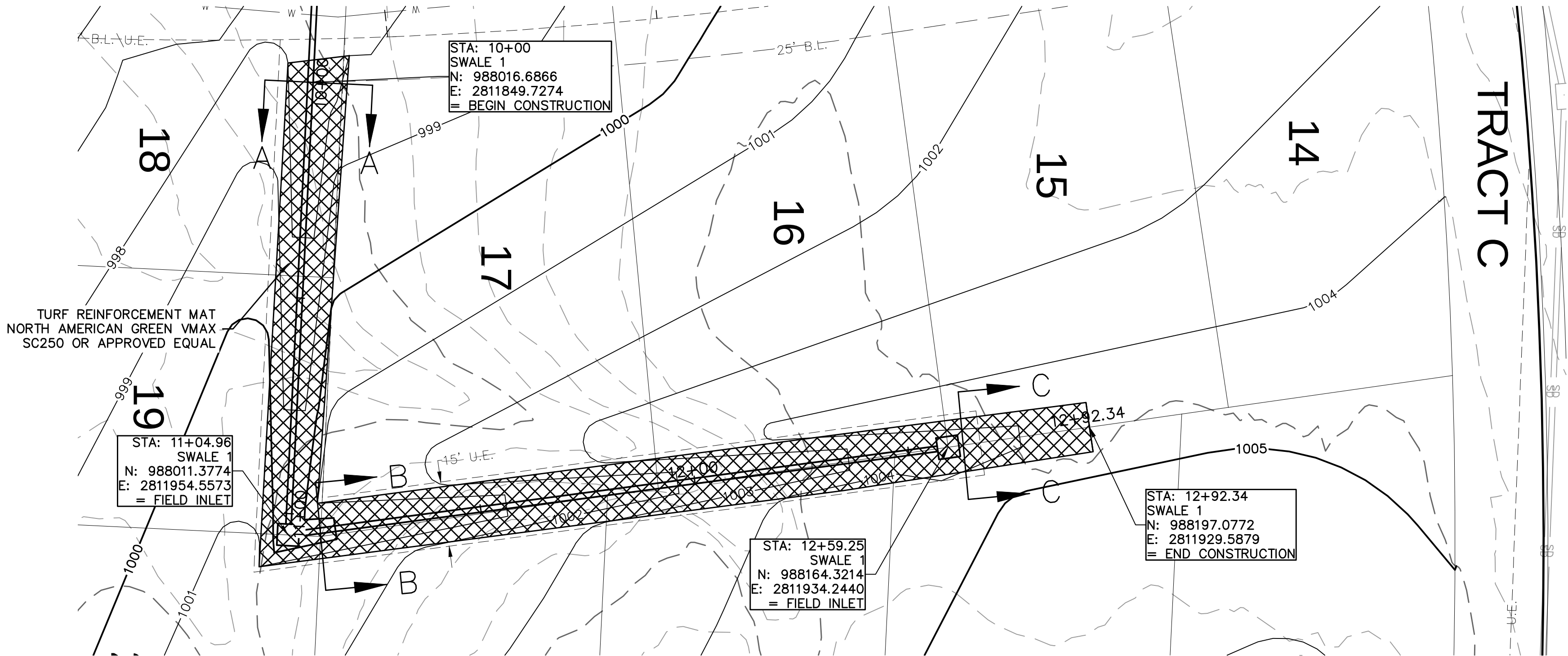


SUMP DETAIL
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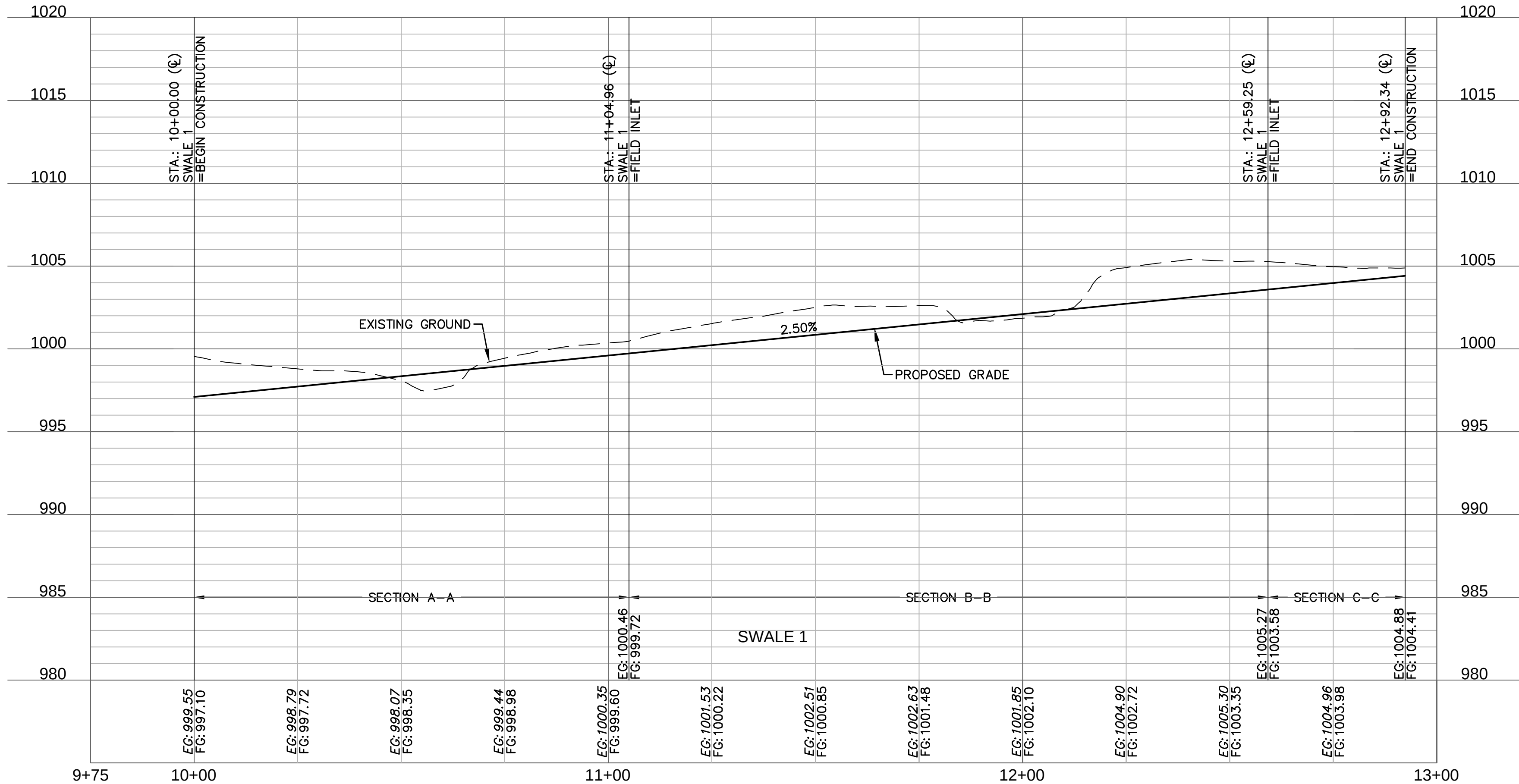


SWALE GRADING NOTES:

- CONTRACTOR SHALL CONSTRUCT SWALES WITH MINIMUM SLOPE, WIDTH AND DEPTH AS SHOWN IN THE SWALE DESIGN TABLES.
- 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)	Shear Stress (lbs/ft²)	
A-A	0.03	2.50%	1.10	3:1	3:1	5.00	0.72	0.10	0.53	1.36	5.63	5.60	0.13	0.15	
B-B	0.03	2.50%	1.21	3:1	3:1	5.00	2.83	0.21	1.18	2.39	6.33	6.26	0.30	0.29	
C-C	0.03	2.50%	1.05	3:1	3:1	5.00	0.20	0.05	0.26	0.78	5.32	5.30	0.06	0.08	



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STATE OF MISSOURI
STEPHEN M. SAYLOR
NUMBER
PE-2018021248
4/2/2024
PROFESSIONAL ENGINEER

BY

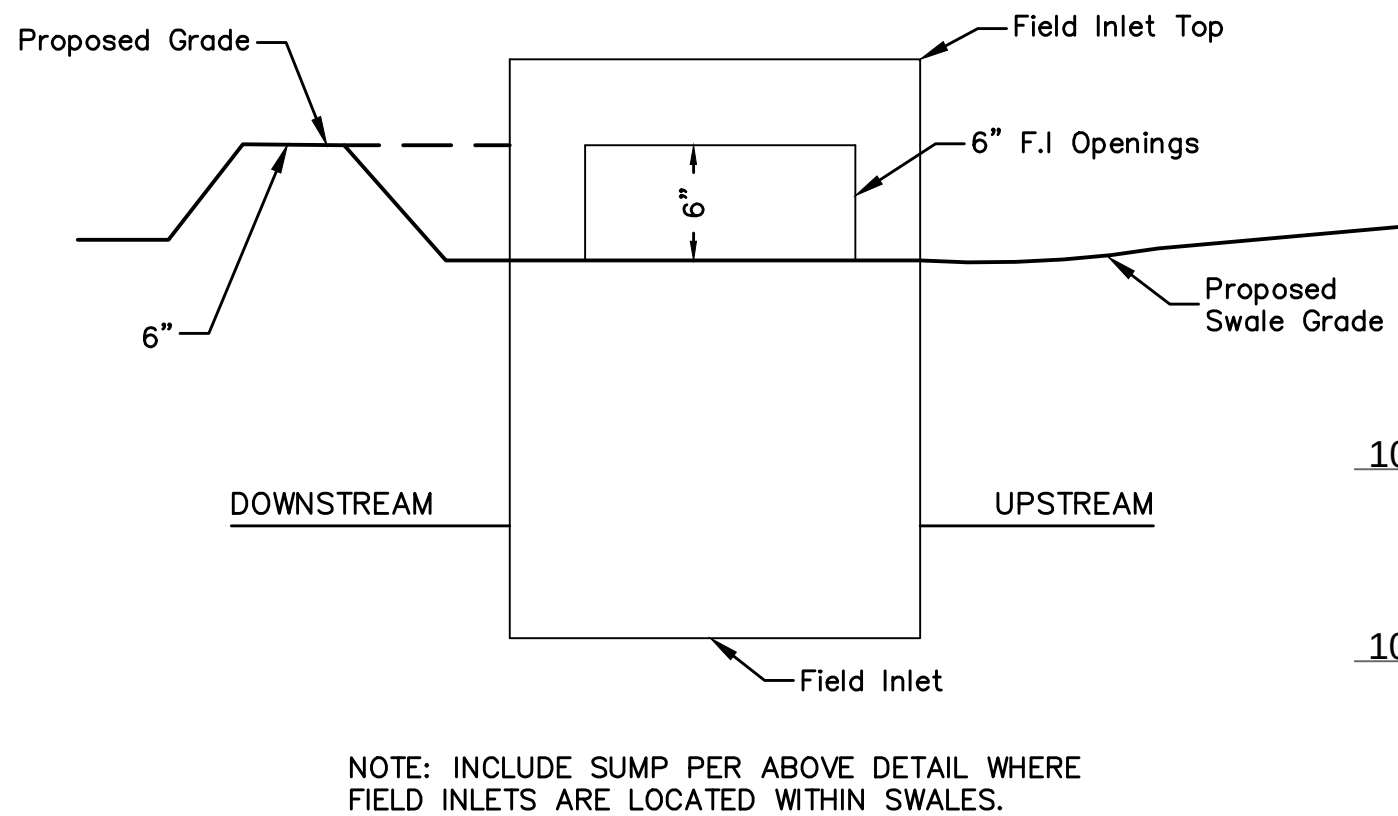
REVISIONS

2023

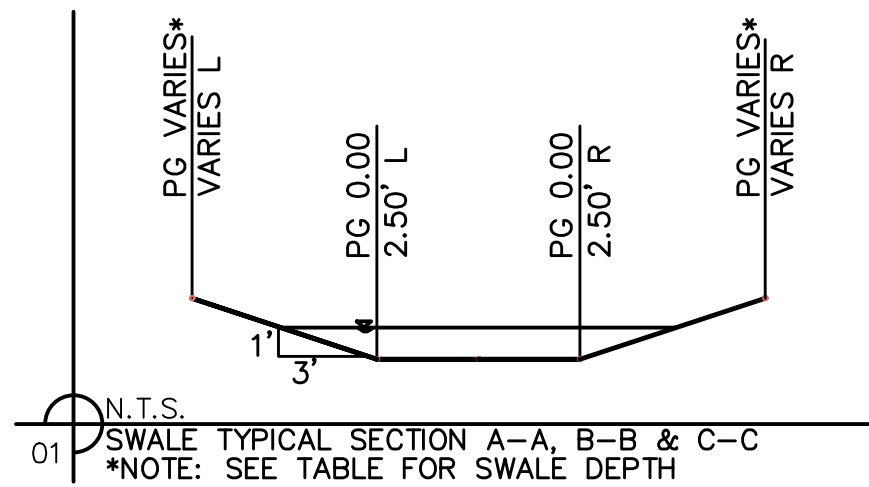
SWALE 1 PLAN & PROFILE
STREET & STORM SEWER PLANS
EAGLE CREEK VILLAS
FIRST PLAT
LEE'S SUMMIT, MISSOURI

drawn by: _____
checked by: _____
approved by: _____
QA/QC by: _____
project no.: A20-2467
drawing no.: C_SWL01_A202467
date: 02/23/2024

SHEET
C106

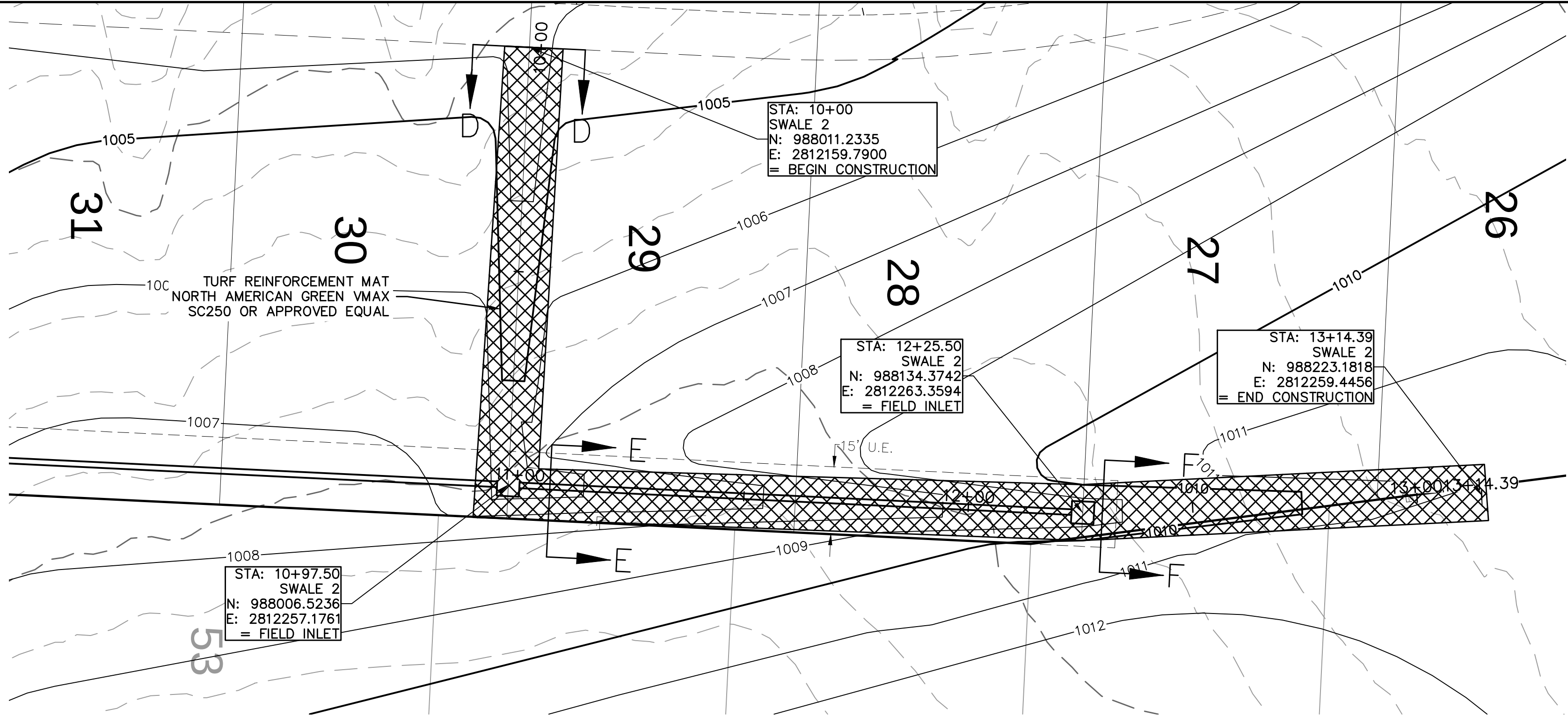
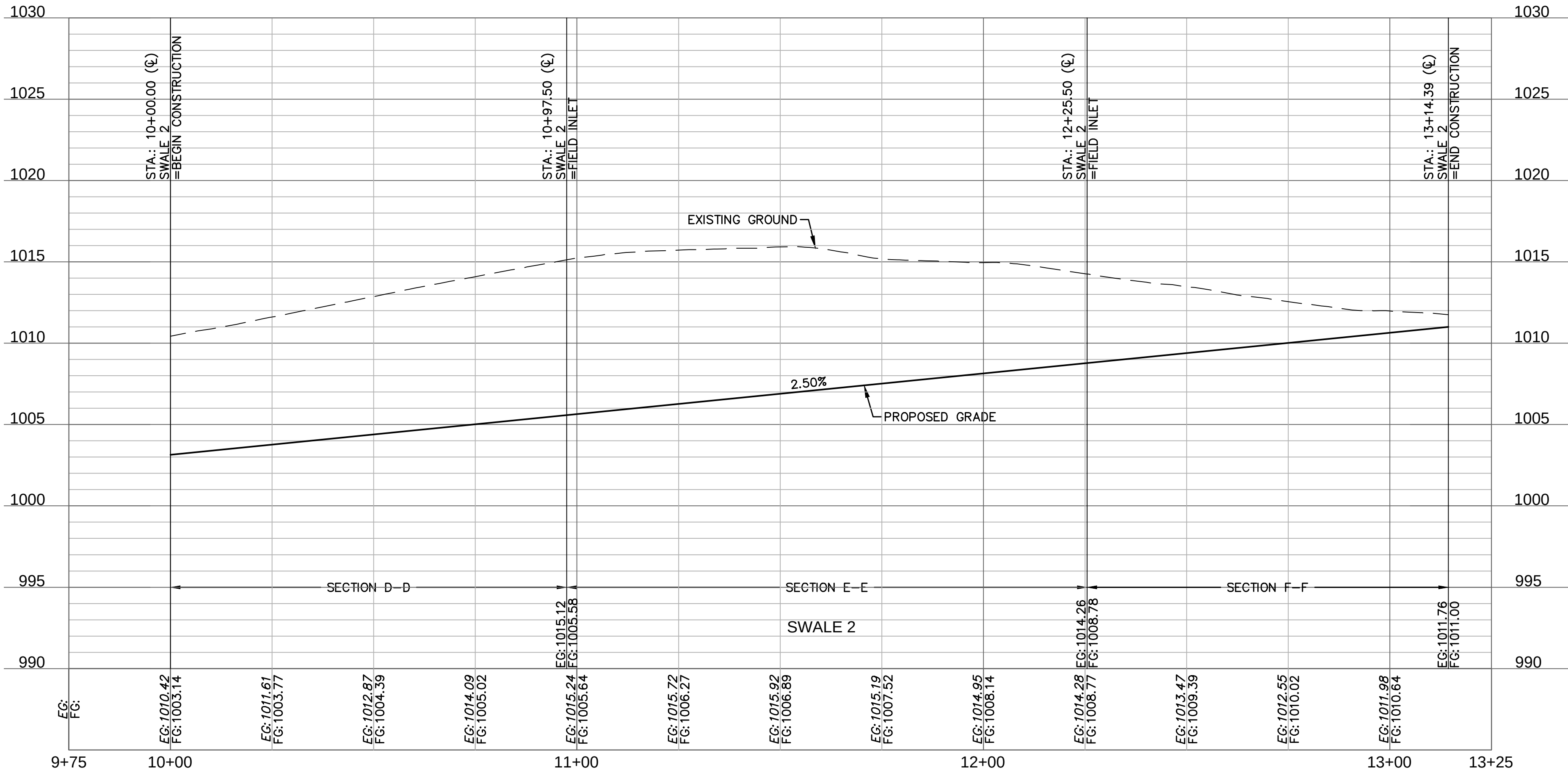


SUMP DETAIL
N.T.S.

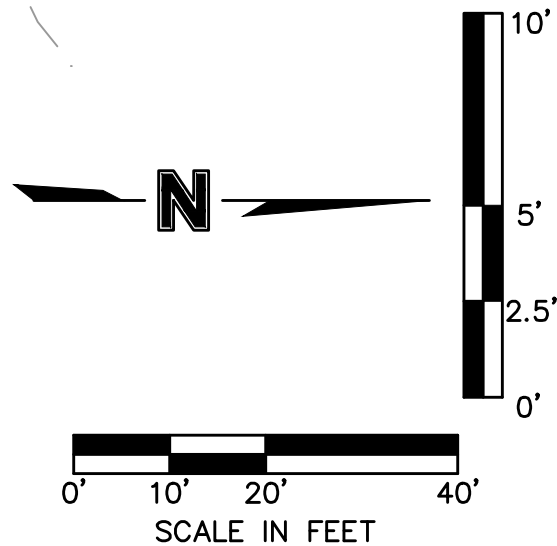


SWALE GRADING NOTES:

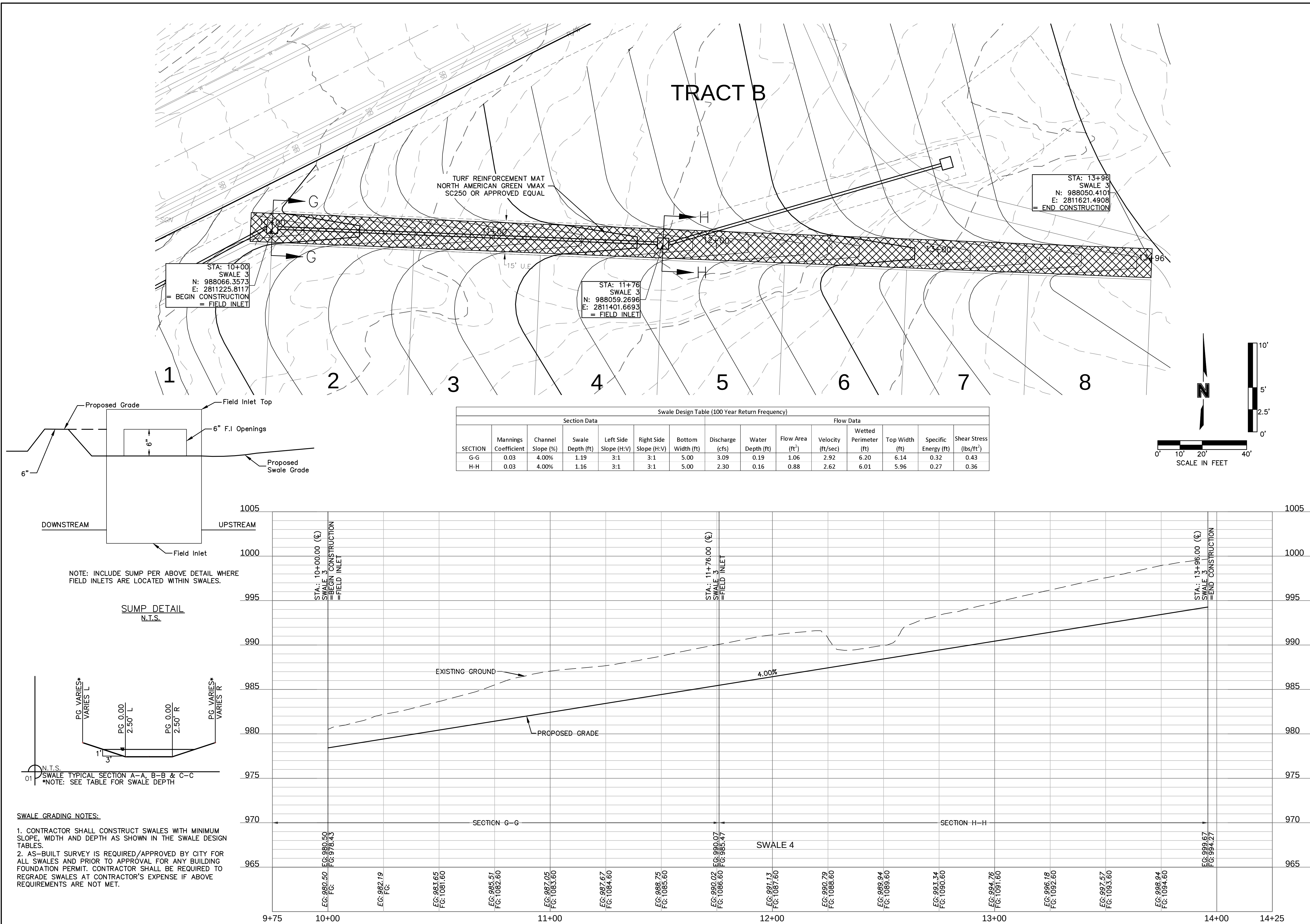
1. CONTRACTOR SHALL CONSTRUCT SWALES WITH MINIMUM SLOPE, WIDTH AND DEPTH AS SHOWN IN THE SWALE DESIGN TABLES.
2. AS-BUILT SURVEY IS REQUIRED/APPROVED BY CITY FOR ALL SWALES AND PRIOR TO APPROVAL FOR ANY BUILDING FOUNDATION PERMIT. CONTRACTOR SHALL BE REQUIRED TO REGRADE SWALES AT CONTRACTOR'S EXPENSE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

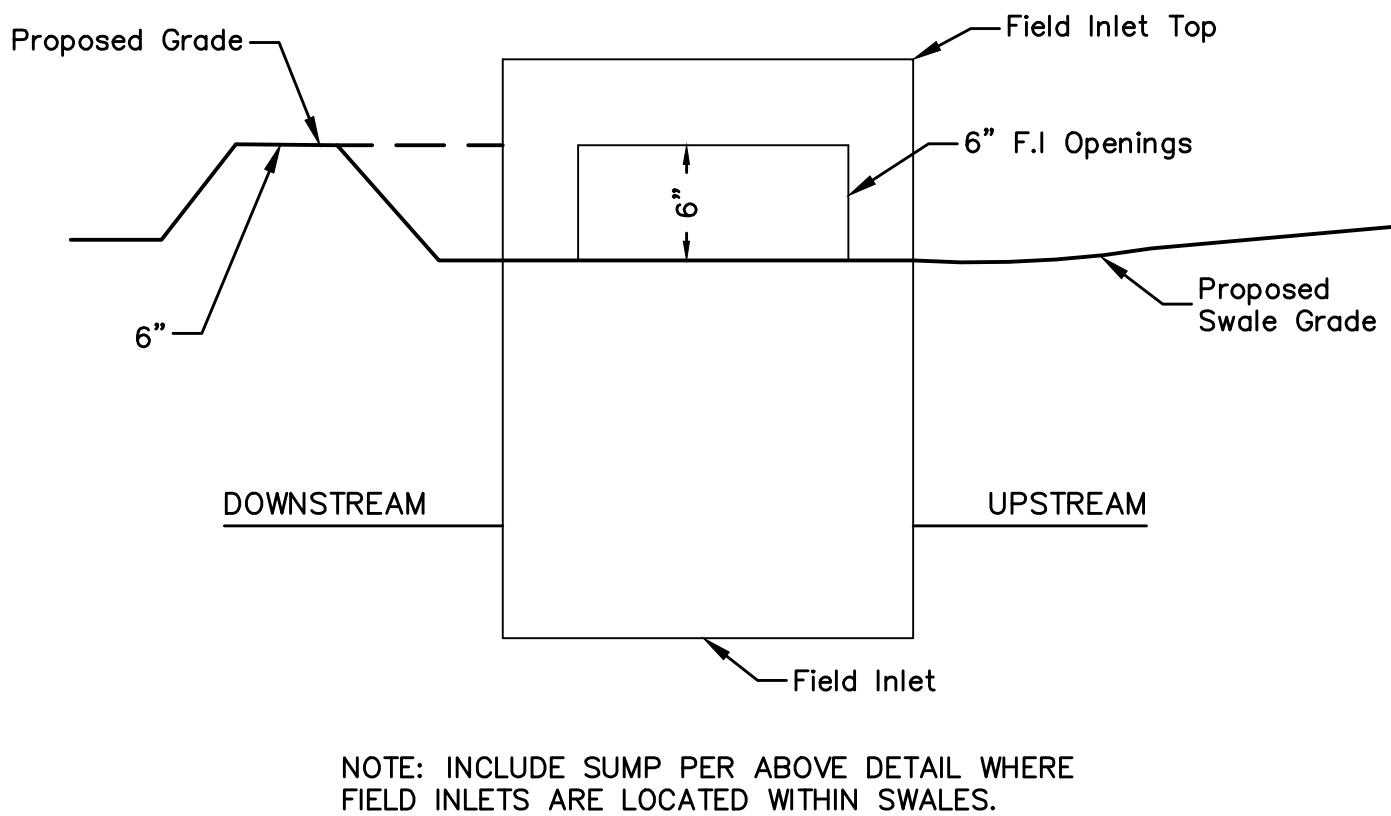


Swale Design Table (100 Year Return Frequency)															
Section Data							Flow Data								
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft²)	
D-D	0.03	2.50%	1.10	3:1	3:1	5.00	0.72	0.10	0.53	1.36	5.63	5.60	0.13	0.15	
E-E	0.03	2.50%	1.19	3:1	3:1	5.00	2.50	0.19	1.09	2.36	6.20	6.14	0.28	0.27	
F-F	0.03	2.50%	1.13	3:1	3:1	5.00	1.18	0.13	0.70	1.68	5.82	5.78	0.17	0.19	

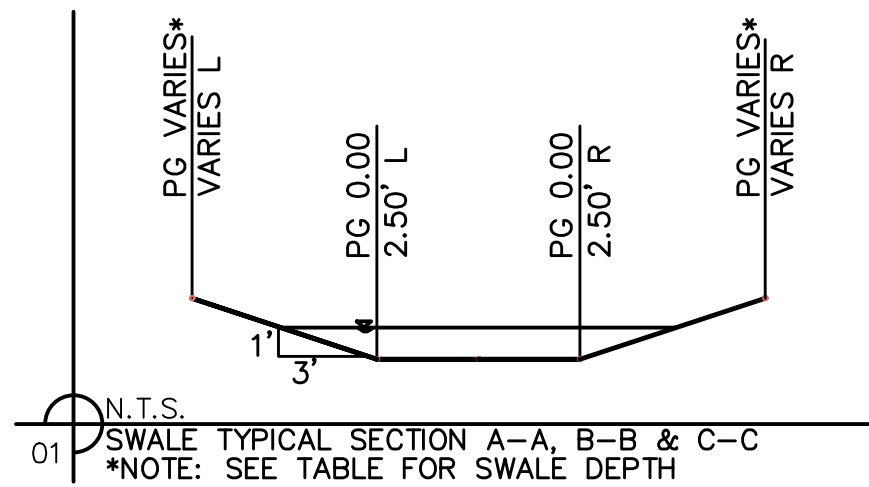


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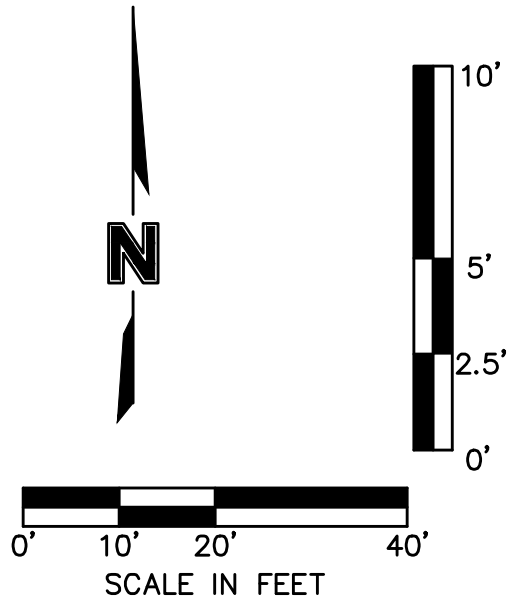
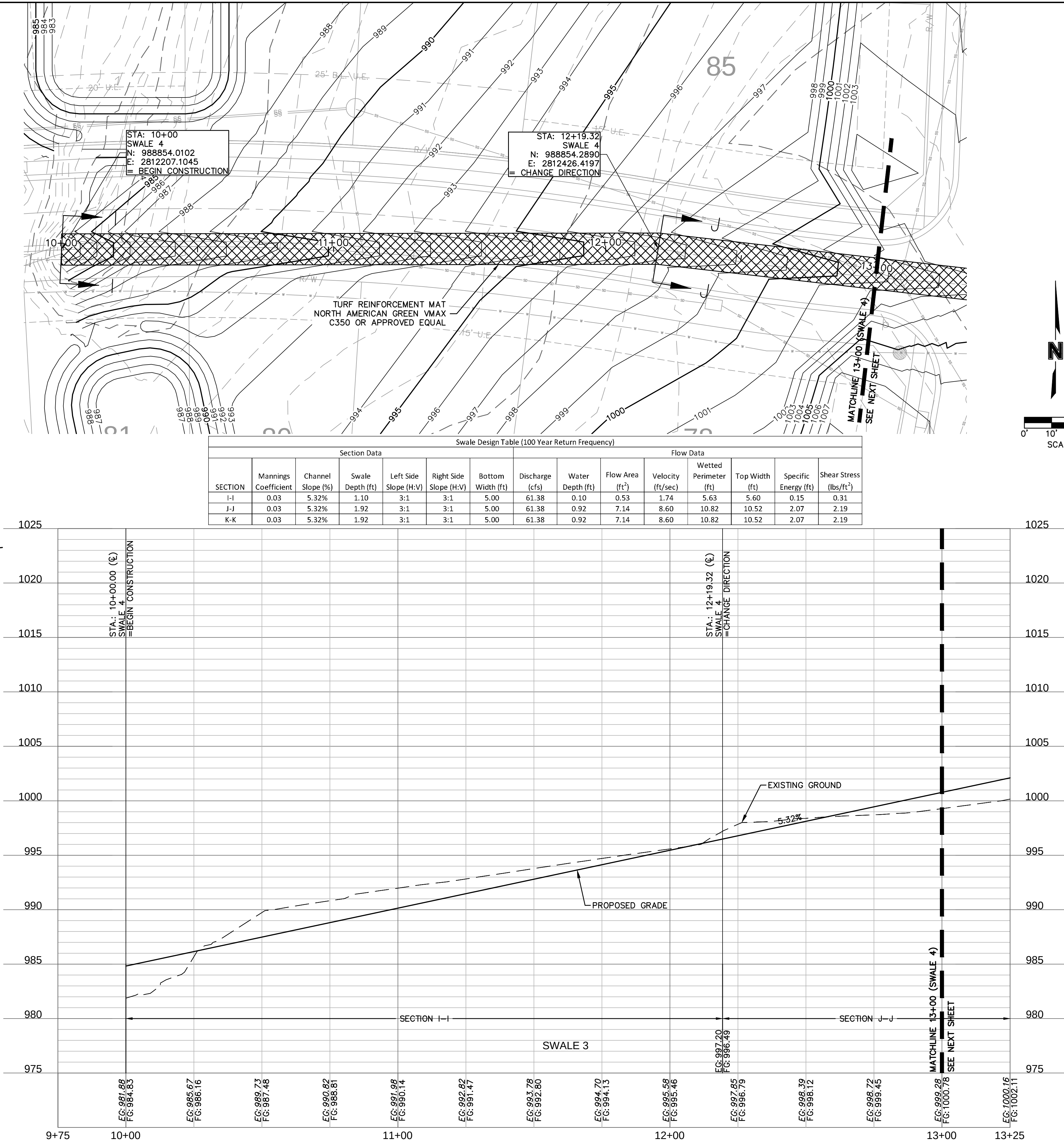


SUMP DETAIL
N.T.S.



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.



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

STATE OF MISSOURI

STEPHEN M. SAYLOR
NUMBER
PE-2018021248
4/2/2024
PROFESSIONAL ENGINEER

BY

REVISIONS

REV. NO.

DATE

REVISIONS DESCRIPTION

SWALE 4 PLAN & PROFILE
STREET & STORM SEWER PLANS

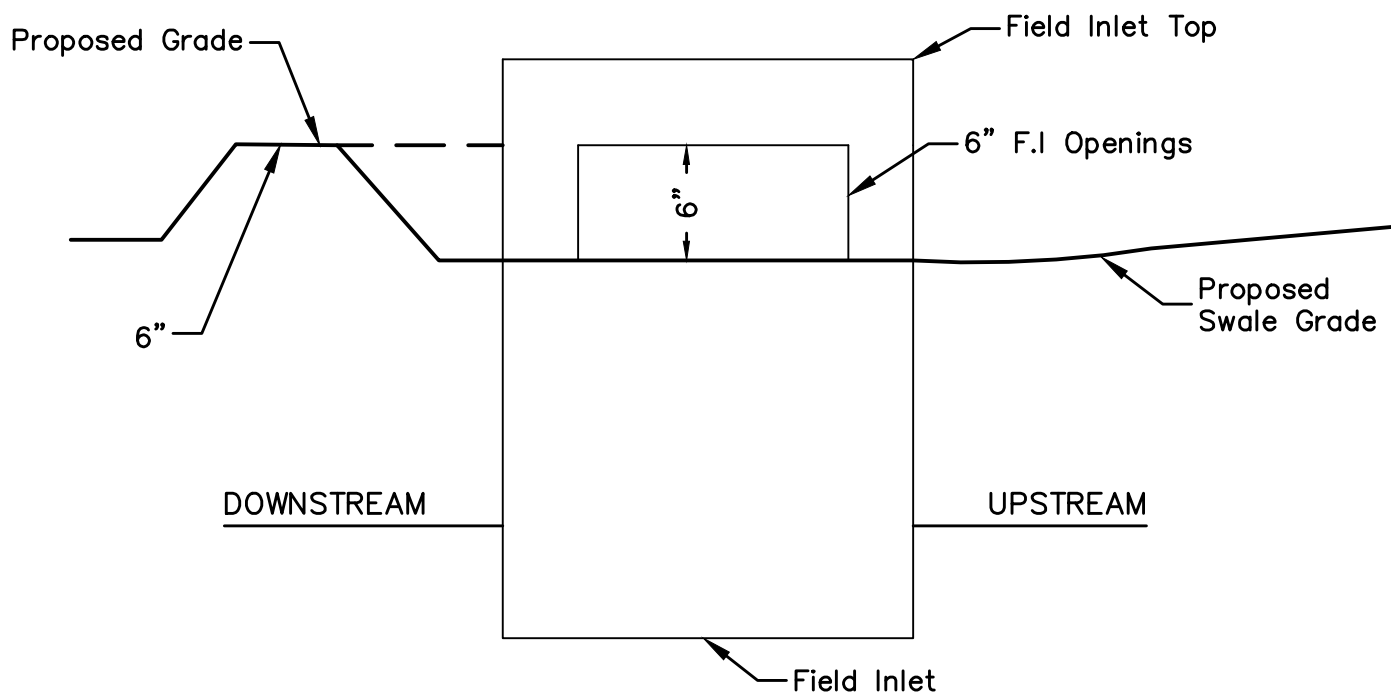
EAGLE CREEK VILLAS
FIRST PLAT

2023

drawn by: _____
checked by: _____
approved by: _____
QA/QC by: _____
project no.: A20-2467
drawing no.: C_SWL01_A202467
date: 02/23/2024

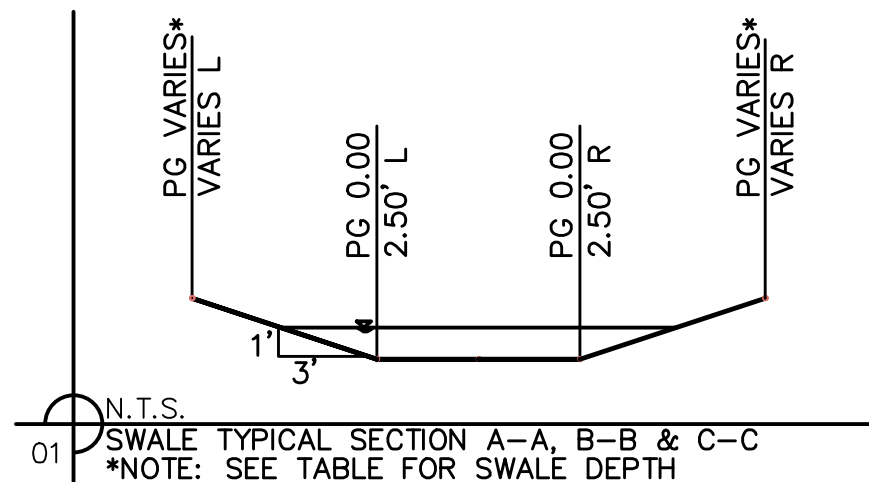
SHEET
C109

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USER: ssaylor



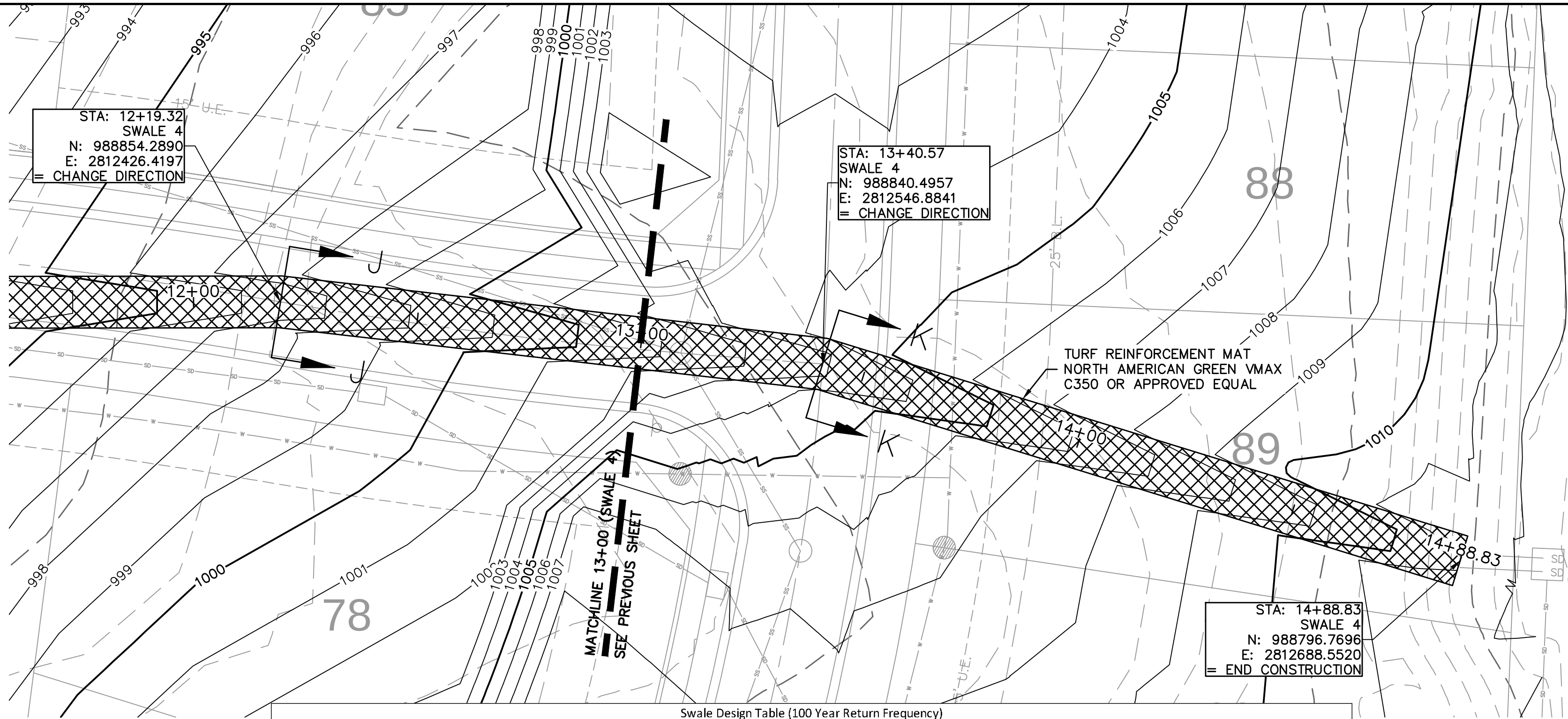
NOTE: INCLUDE SUMP PER ABOVE DETAIL WHERE FIELD INLETS ARE LOCATED WITHIN SWALES.

SUMP DETAIL
N.T.S.

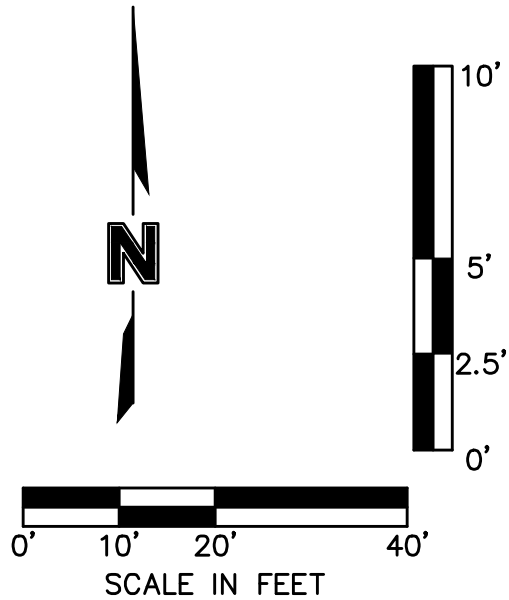
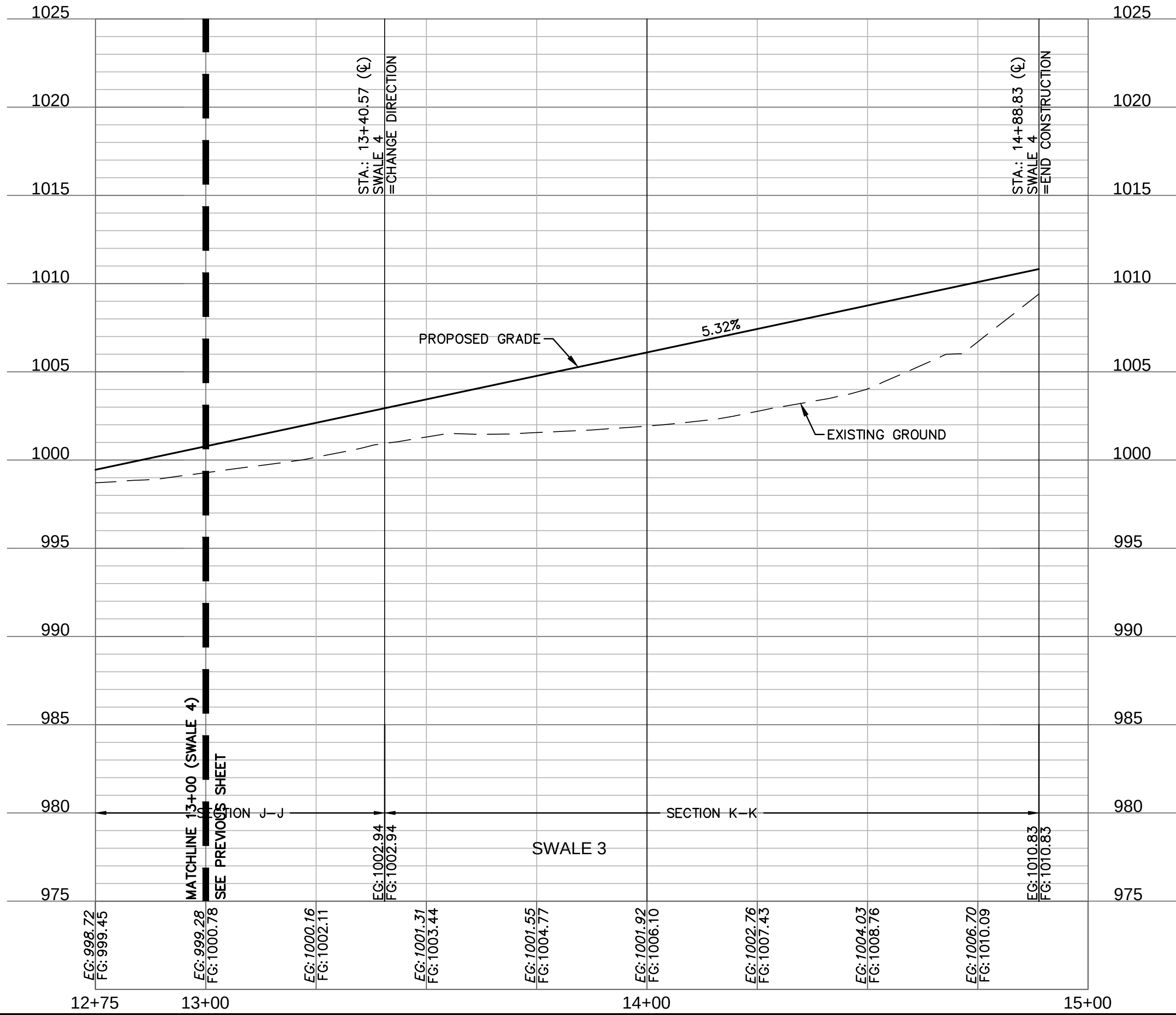


SWALE GRADING NOTES:

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)	Shear Stress (lbs/ft²)
I-I	0.03	5.32%	1.10	3:1	3:1	5.00	61.38	0.10	0.53	1.74	5.63	5.60	0.15	0.31
J-J	0.03	5.32%	1.92	3:1	3:1	5.00	61.38	0.92	7.14	8.60	10.82	10.52	2.07	2.19
K-K	0.03	5.32%	1.92	3:1	3:1	5.00	61.38	0.92	7.14	8.60	10.82	10.52	2.07	2.19



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STATE OF MISSOURI

STEPHEN M. SAYLOR
NUMBER
PE-2018021248
4/2/2024
PROFESSIONAL ENGINEER

SWALE 4 PLAN & PROFILE CONT.
STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

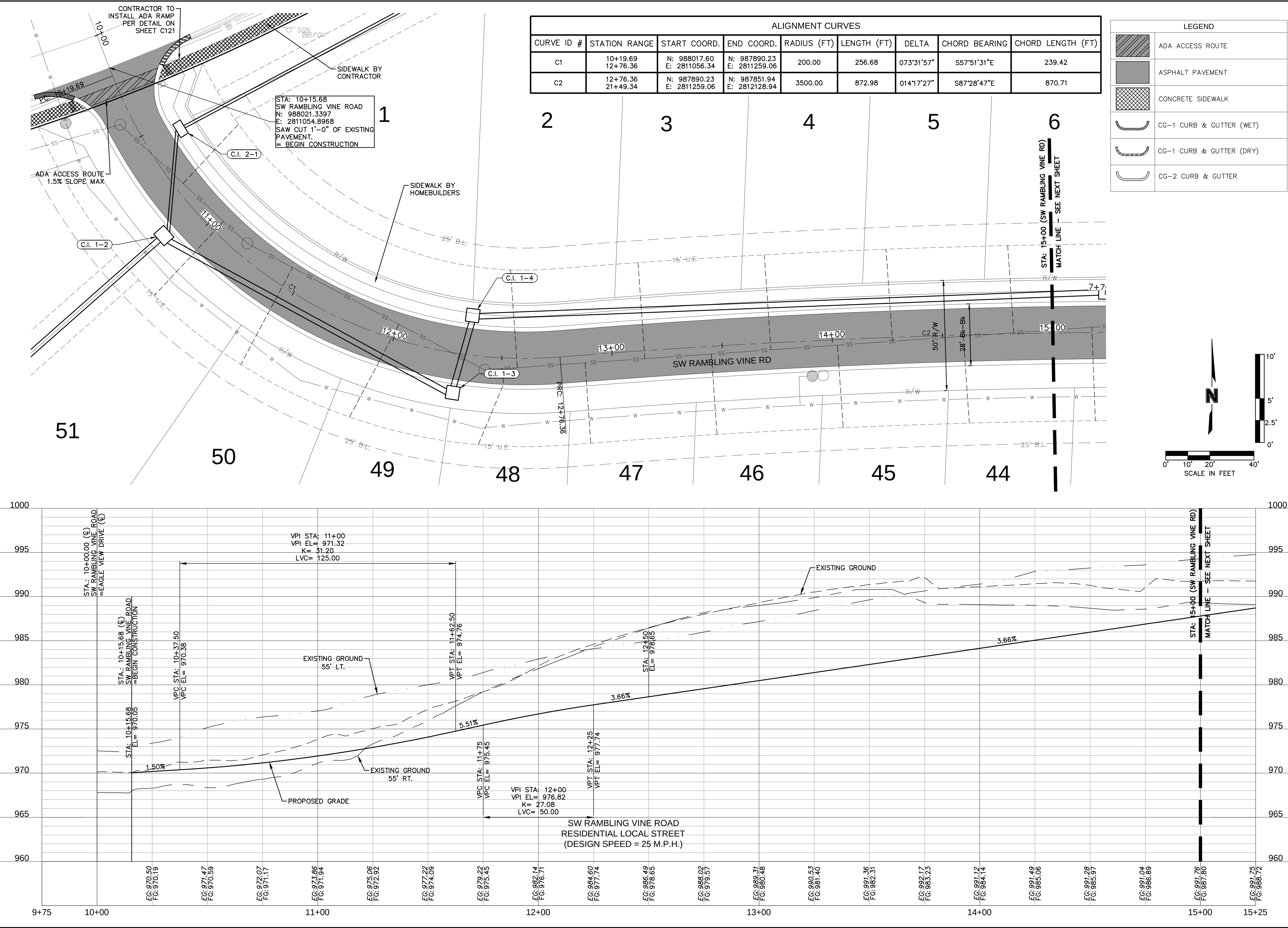
LEE'S SUMMIT, MISSOURI

2023

REVISIONS

drawn by: _____
checked by: _____
approved by: _____
QA/QC by: _____
project no.: A20-2467
drawing no.: C_SWL01_A202467
date: 02/23/2024

SHEET
C110



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STEPHEN M. SAYLOR
NUMBER
PE-2018021248
4/2/2024
PROFESSIONAL ENGINEER

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

2023

ROAD PLAN & PROFILE (SW RAMBLING VINE ROAD)
STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

drawn by: CQ

checked by: SS

approved by: LB

QA/QC by: LB

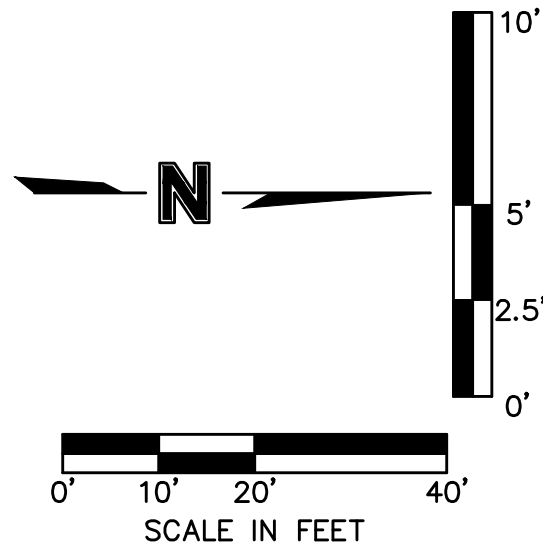
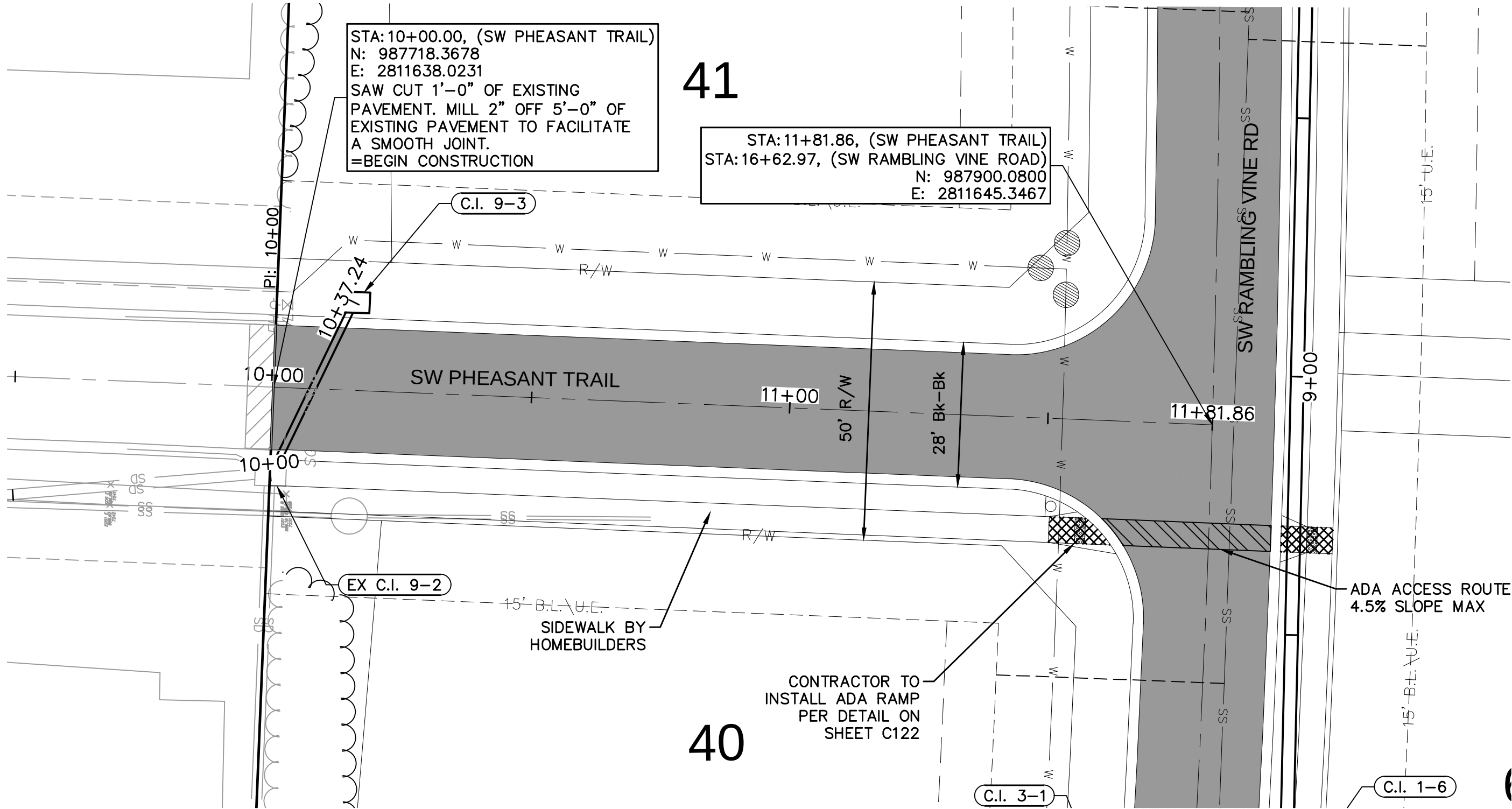
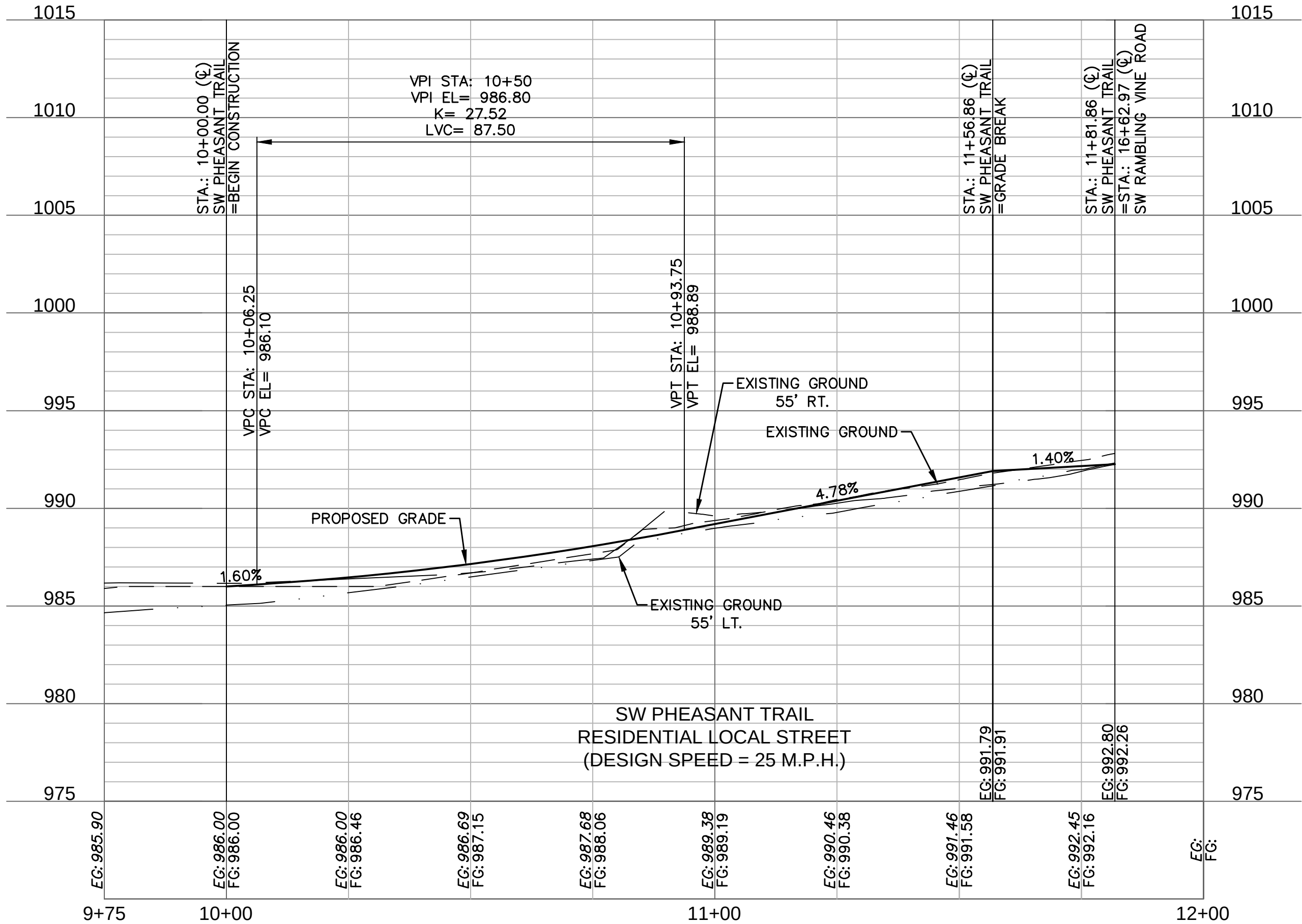
project no.: A20-2467

drawing no.: C_RPP01_A202467

date: 02/23/2024

SHEET
C111





LEGEND	
	ADA ACCESS ROUTE
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	CG-1 CURB & GUTTER (WET)
	CG-1 CURB & GUTTER (DRY)
	CG-2 CURB & GUTTER

ROAD PLAN & PROFILE (SW PHEASANT TRAIL)
STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2023

drawn by: _____
checked by: _____
approved by: _____
QA/QC by: _____
project no.: A20-2467
drawing no.: C_RPP02_A202467
date: 02/23/2024

OLSON

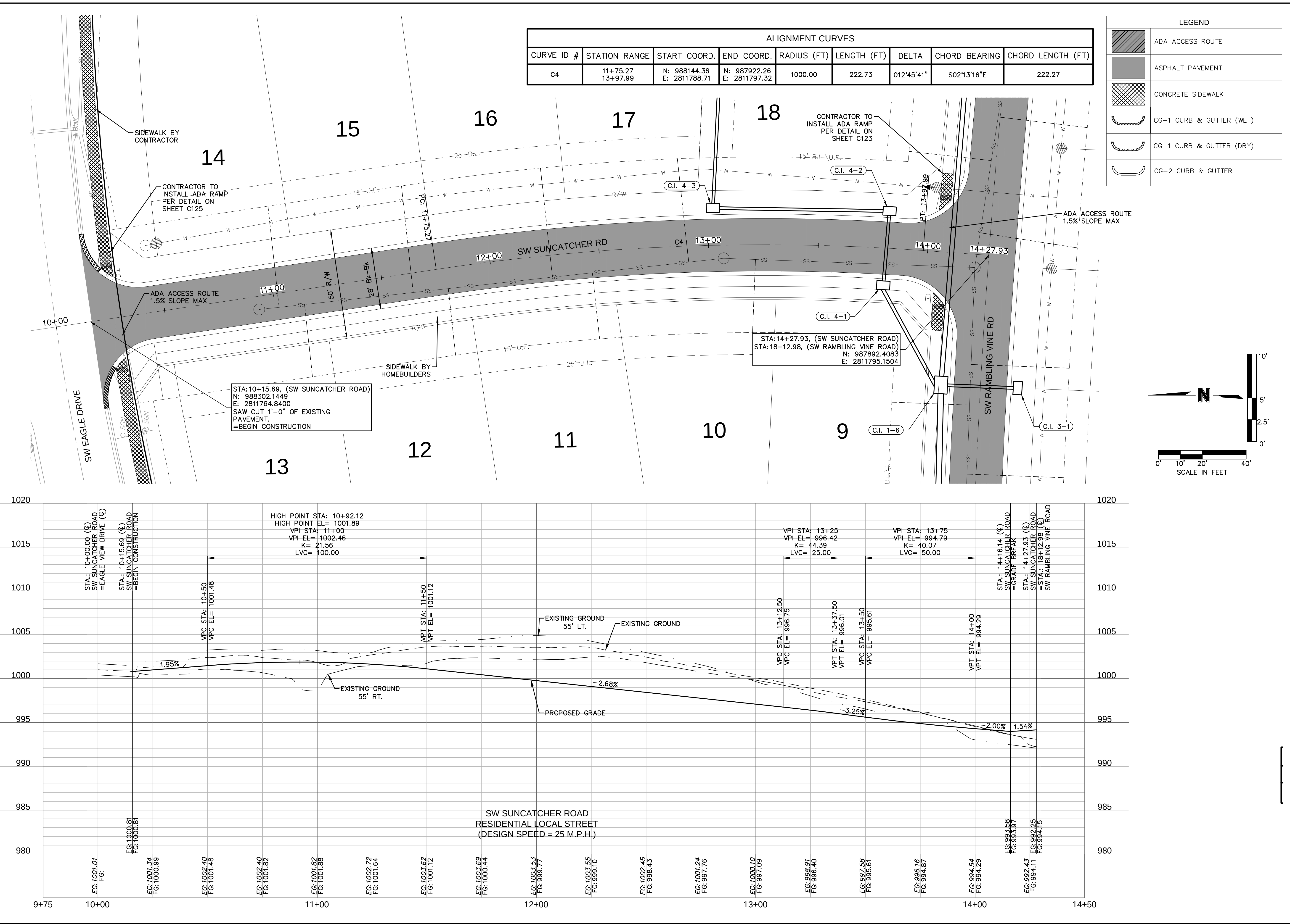
Olson - Civil Engineering
Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City MO 64116
TEL 816.361.1177
www.olson.com

BY
REVISIONS

REVISIONS

SHEET
C114

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STATE OF MISSOURI
STEPHEN M. SAYLOR
NUMBER
PE-2018021248
4/2/2024
PROFESSIONAL ENGINEER

REV.	NO.	DATE	REVISIONS DESCRIPTION

BY	REVISIONS

ROAD PLAN & PROFILE (SW SUNCATCHER ROAD)
STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

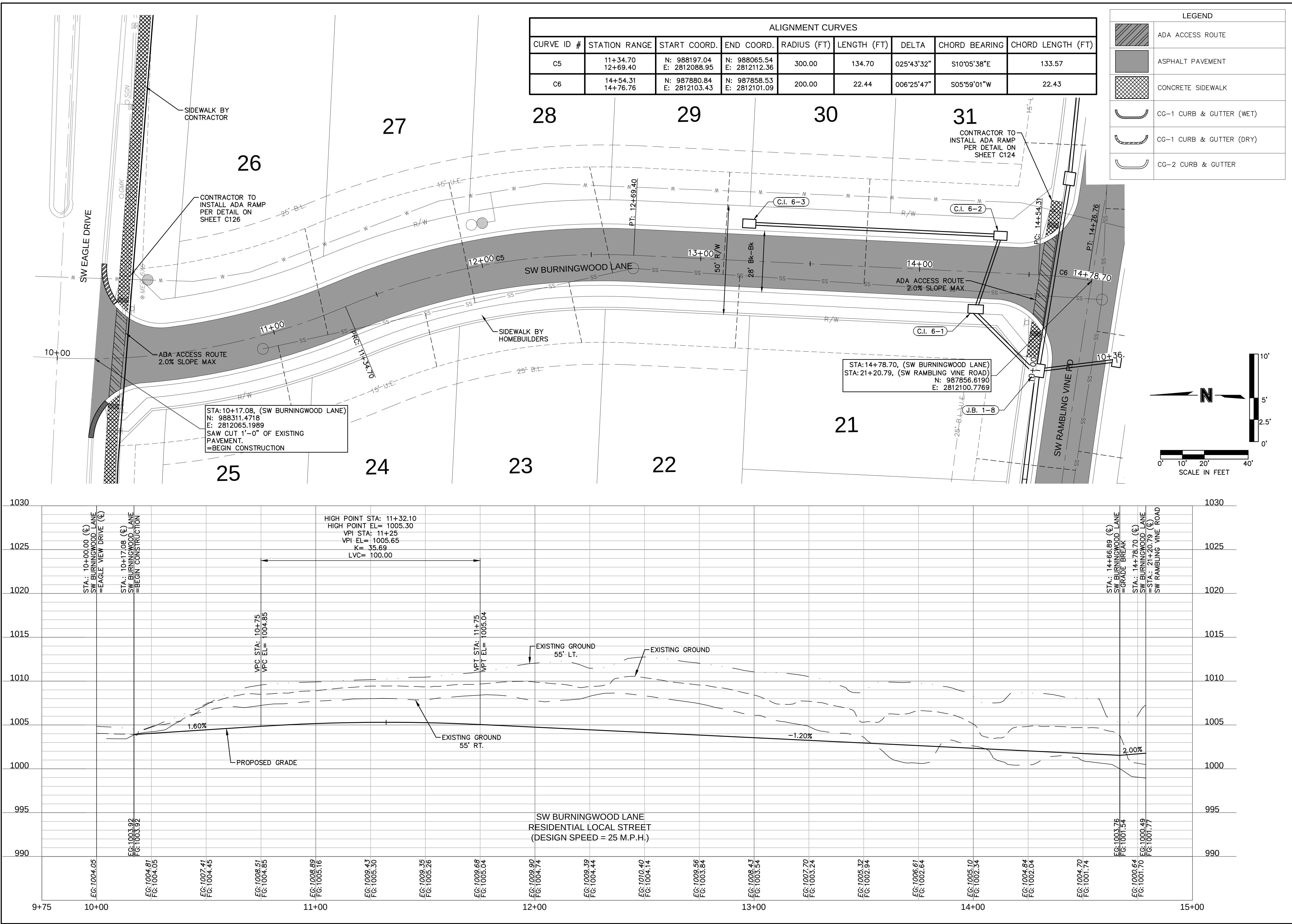
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date: 02/23/2024

CY
SS
JS
JS

SHEET
C115

2023

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USER: ssa\or C_PENDY_A202467



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TEL 816.361.1177 www.olsson.com

STATE OF MISSOURI

STEPHEN M. SAYLOR
NUMBER
PE-2018021248
4/2/2024
PROFESSIONAL ENGINEER

ROAD PLAN & PROFILE (SW BURNINGWOOD LANE)
STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

drawn by: CQ

checked by: SS

approved by: JS

QA/QC by: JS

project no.: A20-2467

drawing no.: C_RPP02_A202467

date: 02/23/2024

BY

REVISIONS DESCRIPTION

DATE

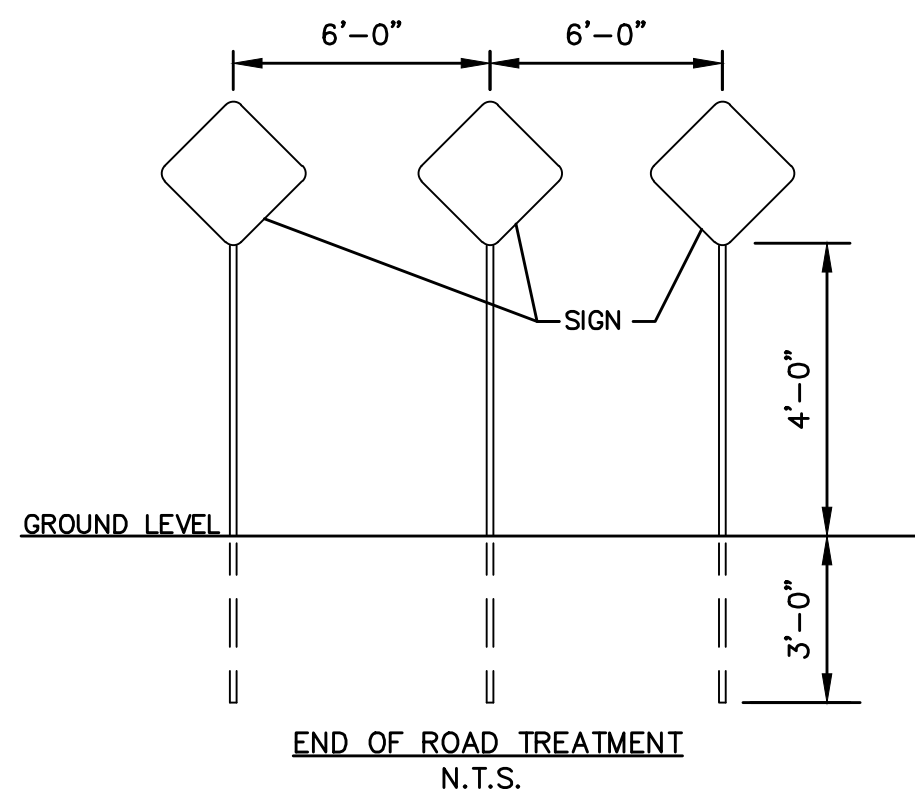
REV. NO.

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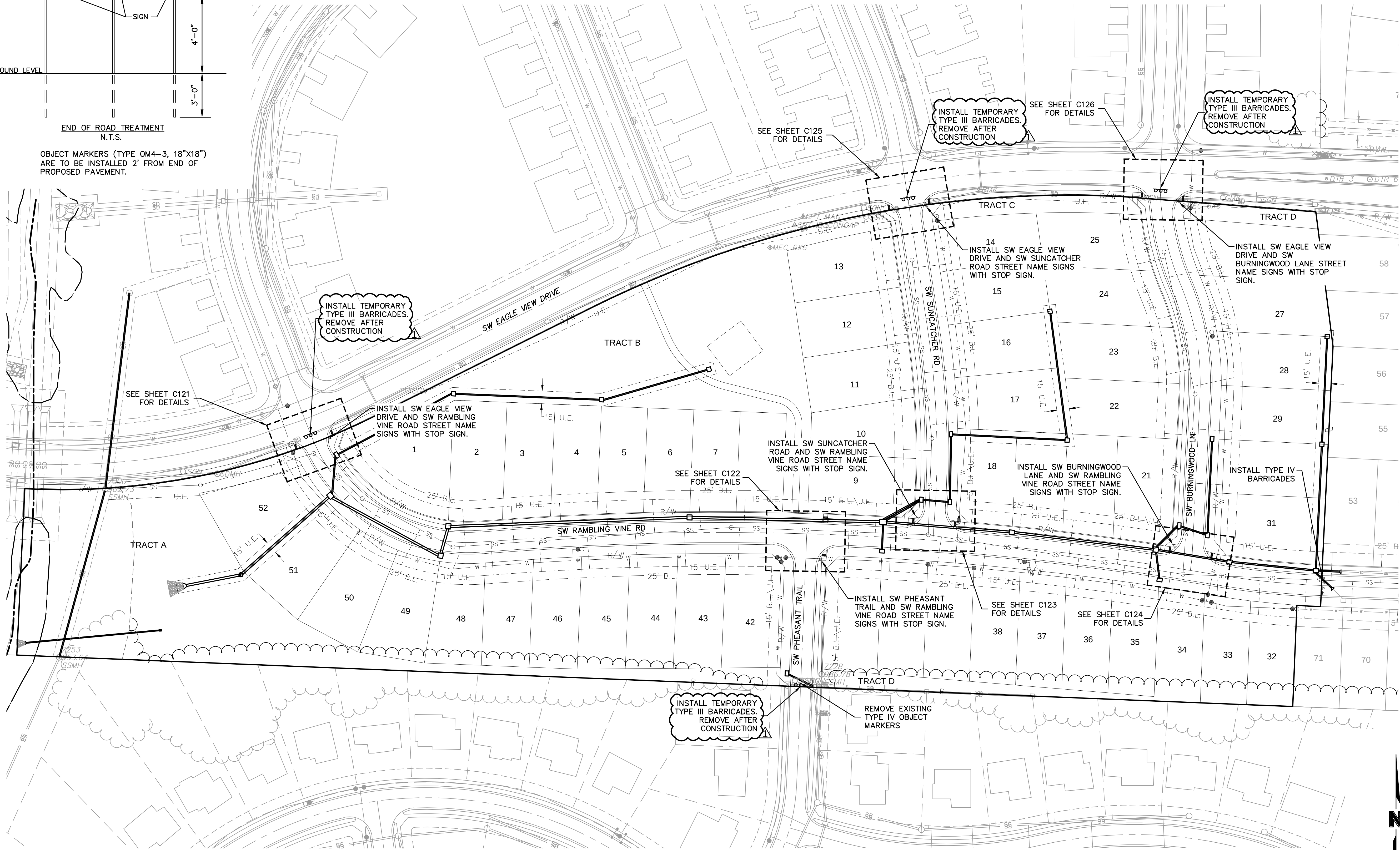
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USER: ssyfor



OBJECT MARKERS (TYPE OM4-3, 18"x18") ARE TO BE INSTALLED 2' FROM END OF PROPOSED PAVEMENT.



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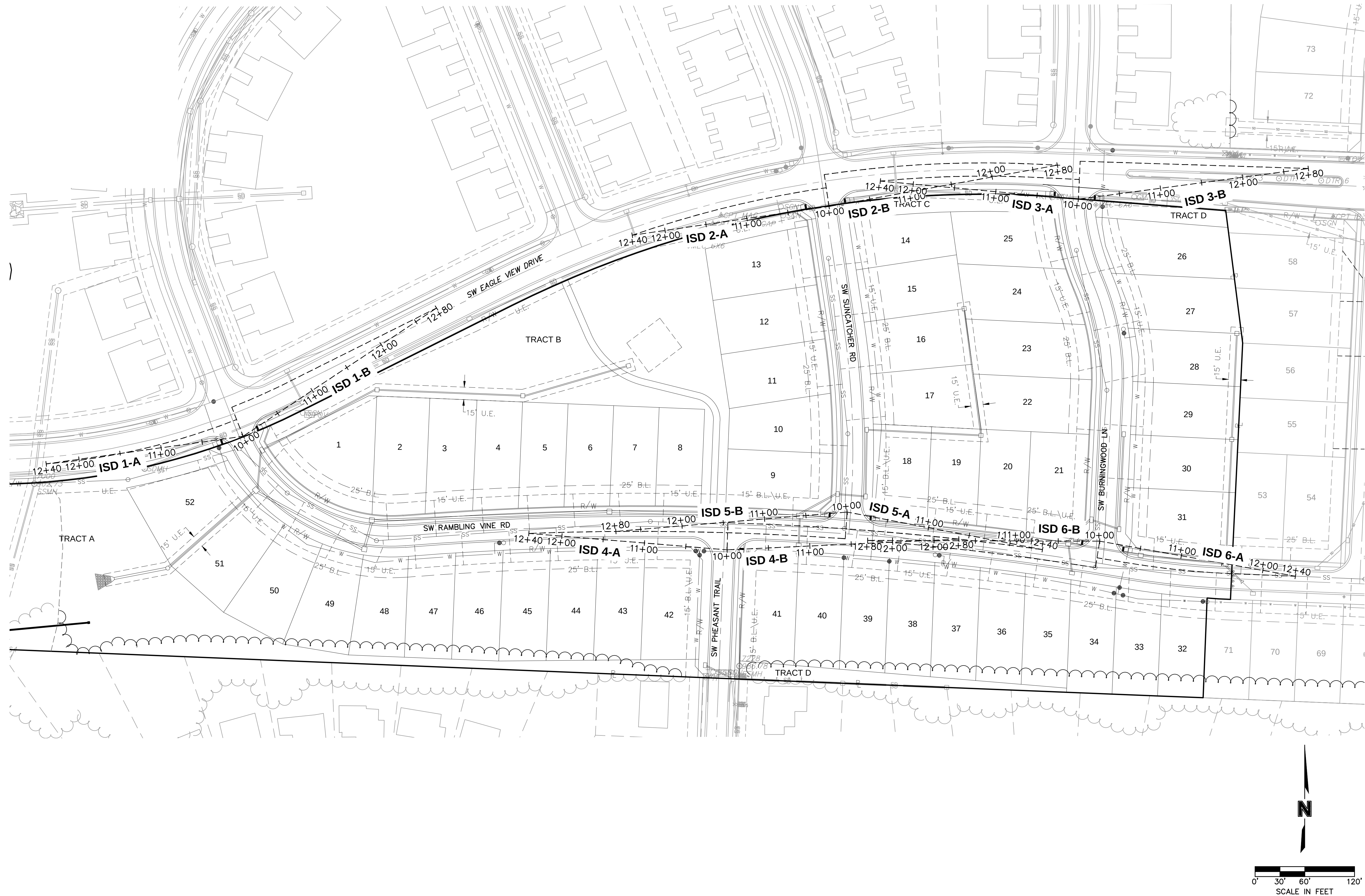
REVISIONS	
REV. NO.	REVISIONS DESCRIPTION
1	02/23/2024
	REVISED PER CITY COMMENTS

TRAFFIC CONTROL PLAN STREET & STORM SEWER PLANS	
EAGLE CREEK VILLAS FIRST PLAT	
LEE'S SUMMIT, MISSOURI	
2023	

drawn by: CW
checked by: SS
approved by: JS
QA/QC by: JS
project no.: A20-2467
drawing no.: C TCP01 A202467
date: 02/23/2024

SHEET
C117

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INTERSECTION SITE DISTANCE PLAN STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

drawn by: _____ CW
checked by: _____ SS
approved by: _____ JS
QA/QC by: _____ JS
project no.: _____ A20-2467
drawing no.: C TCP02 A202467
date: _____ 02/23/2024

SHEET
C118

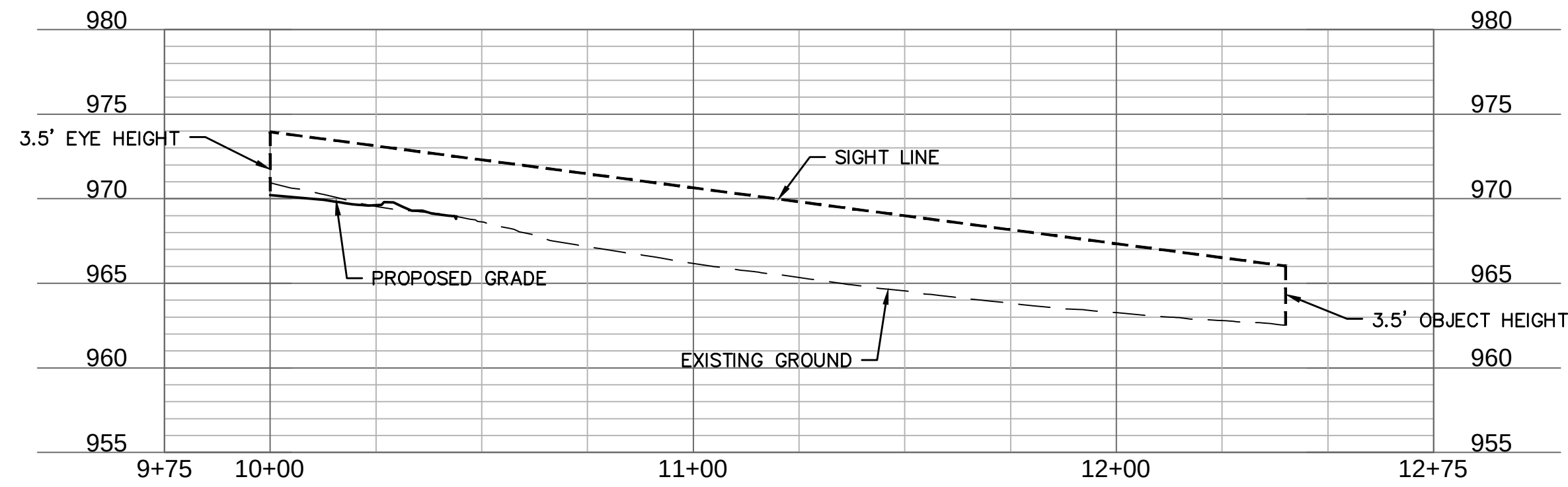
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1301 Burlington Street
North Kansas City, MO 64116

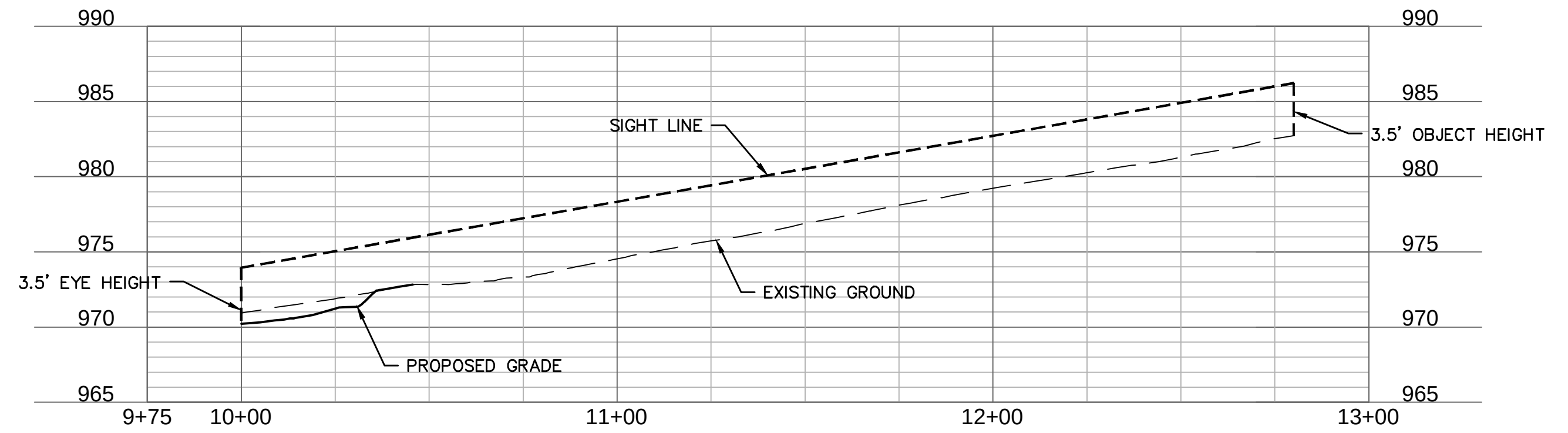
Olsson

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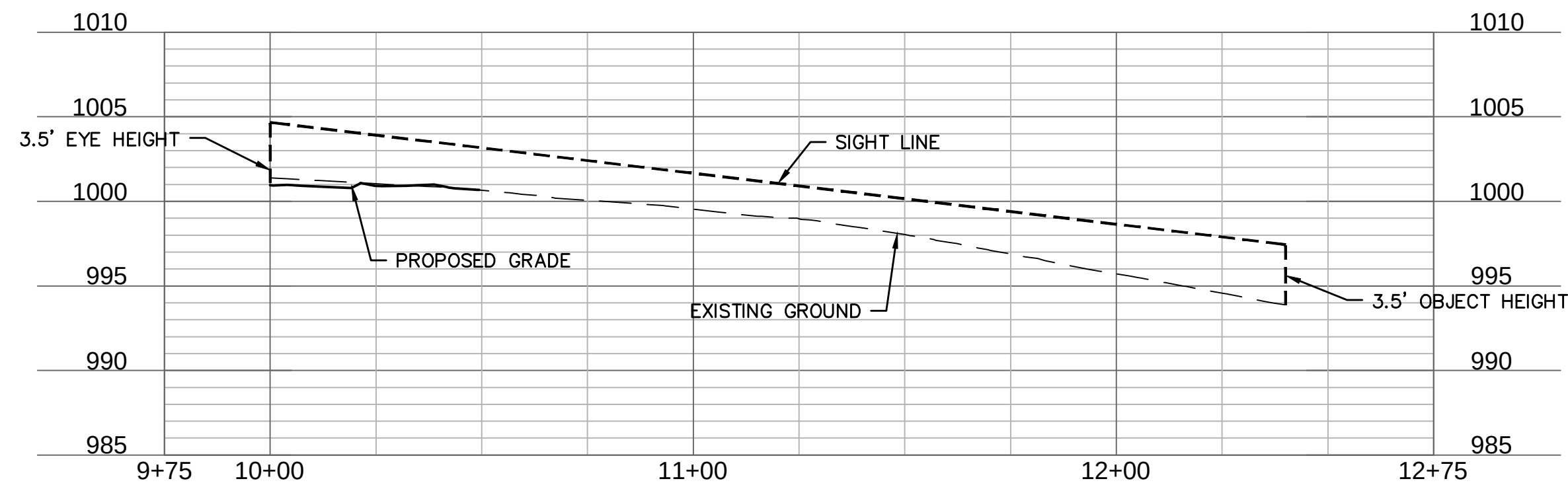
ISD 1-A (9+75 - 12+75)



ISD 1-B (9+75 - 13+00)



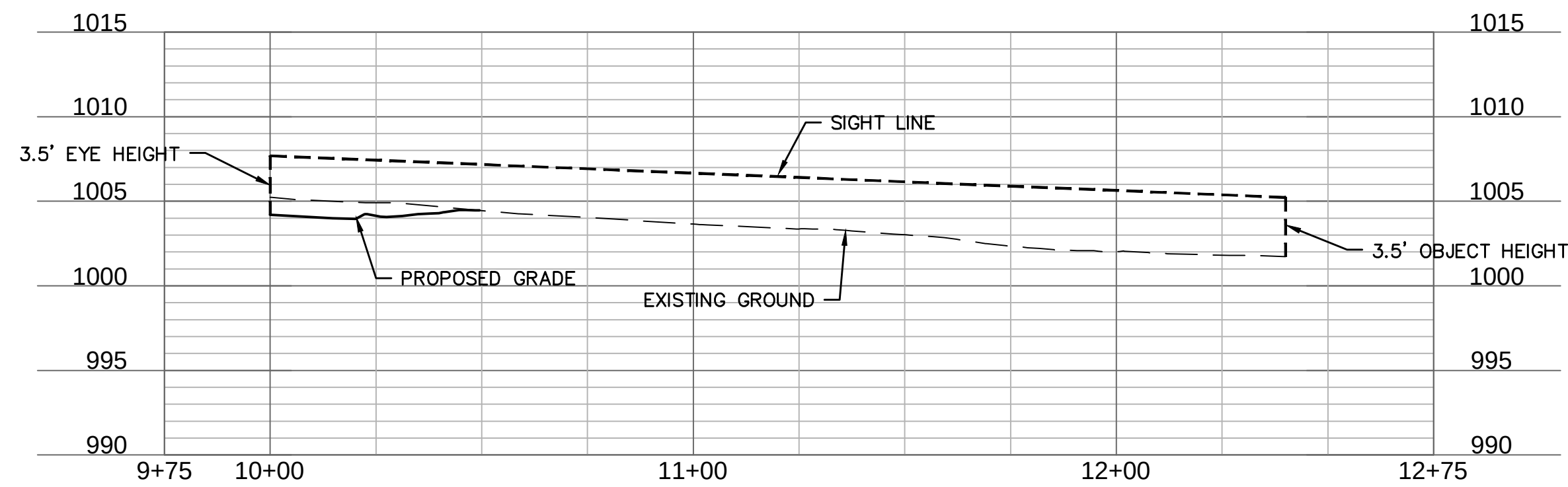
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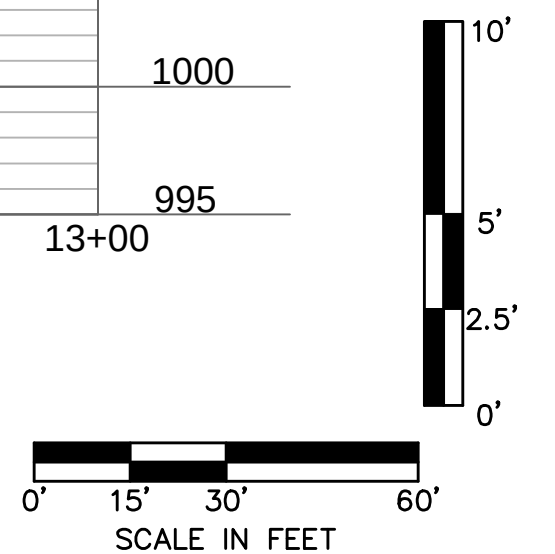
ISD 2-B (9+75 - 13+00)



ISD 3-A (9+75 - 12+75)



ISD 3-B (9+75 - 13+00)



INTERSECTION SITE DISTANCE PROFILES

STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

Drawn by: _____ CW
 Checked by: _____ SS
 Approved by: _____ JS
 A/QC by: _____ JS
 Project no.: _____ A20-2467
 Drawing no.: _____ C TCP02 A202467
 Date: _____ 02/23/2024

SHEET
C119

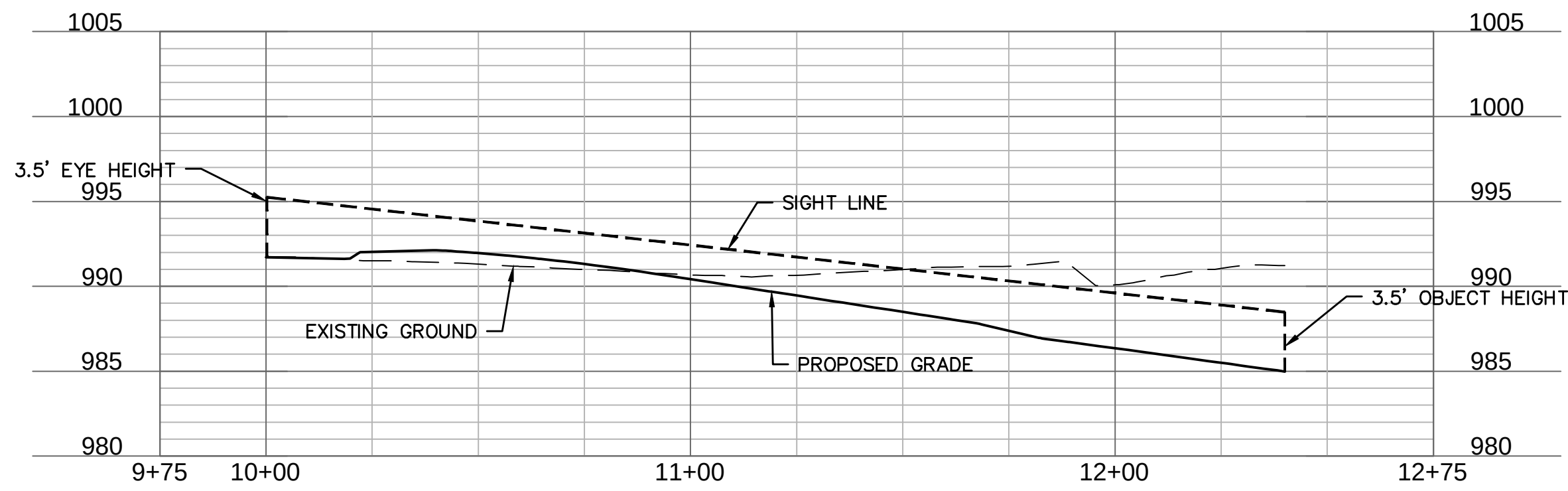
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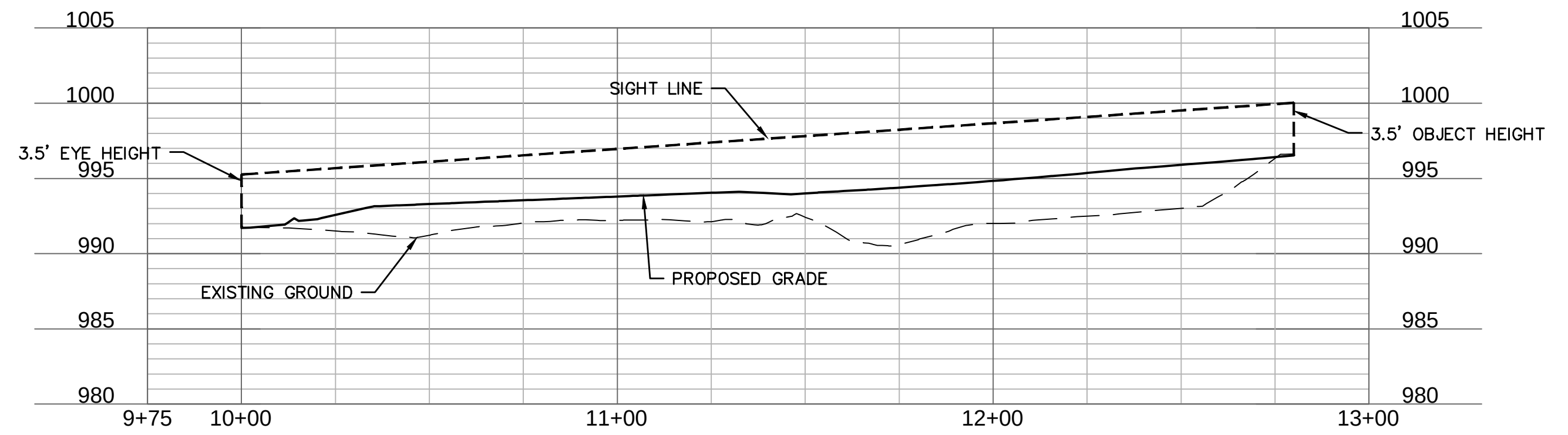
Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116

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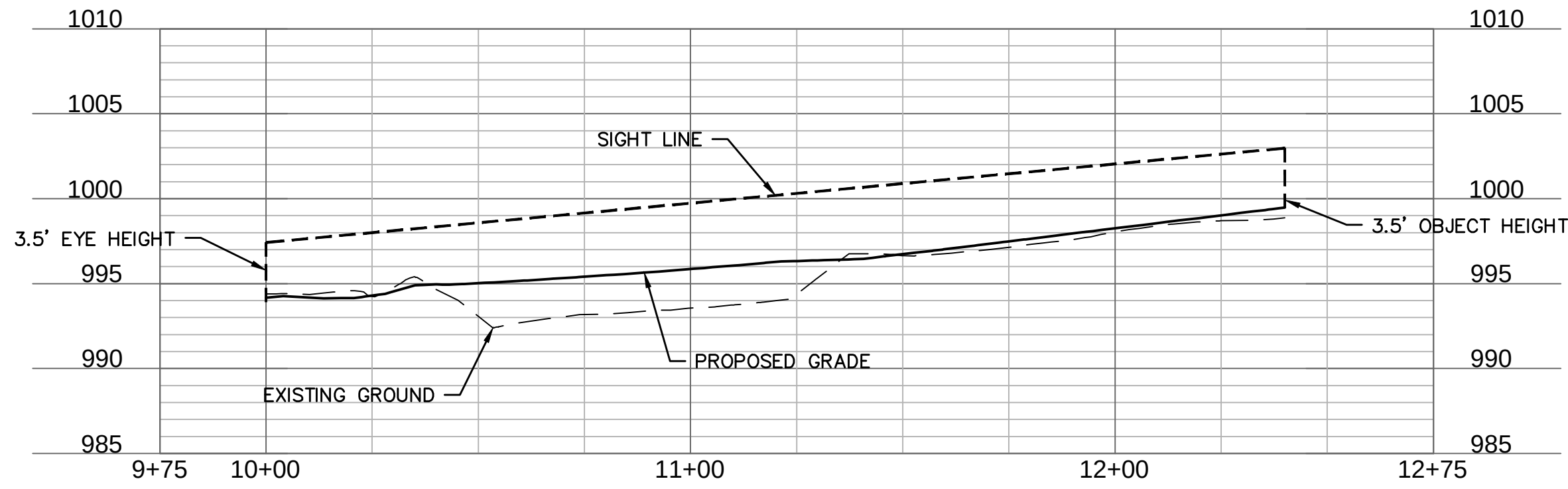
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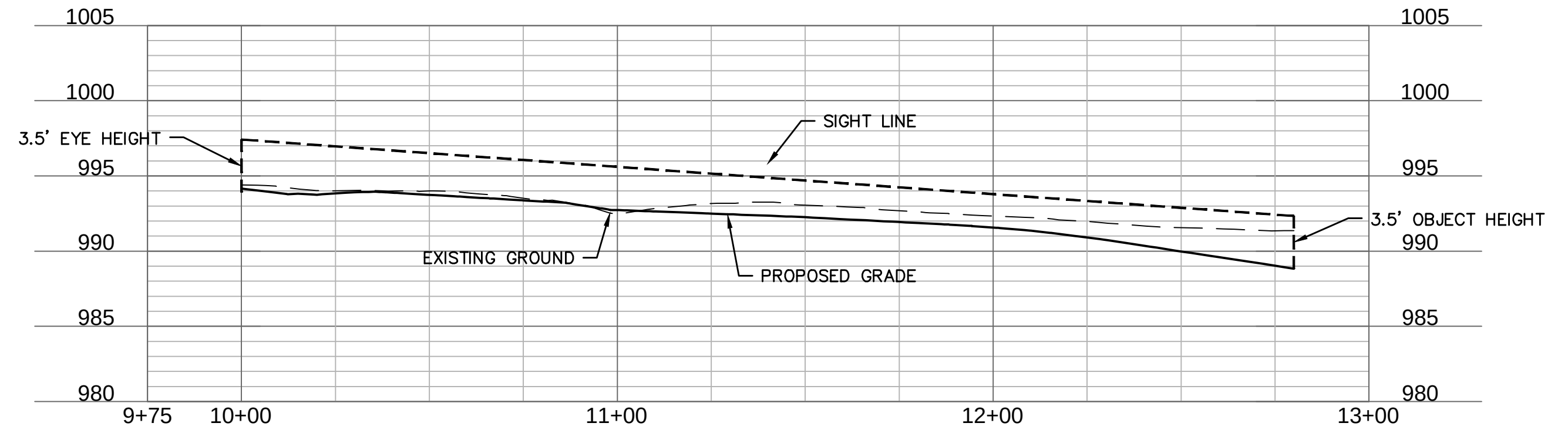
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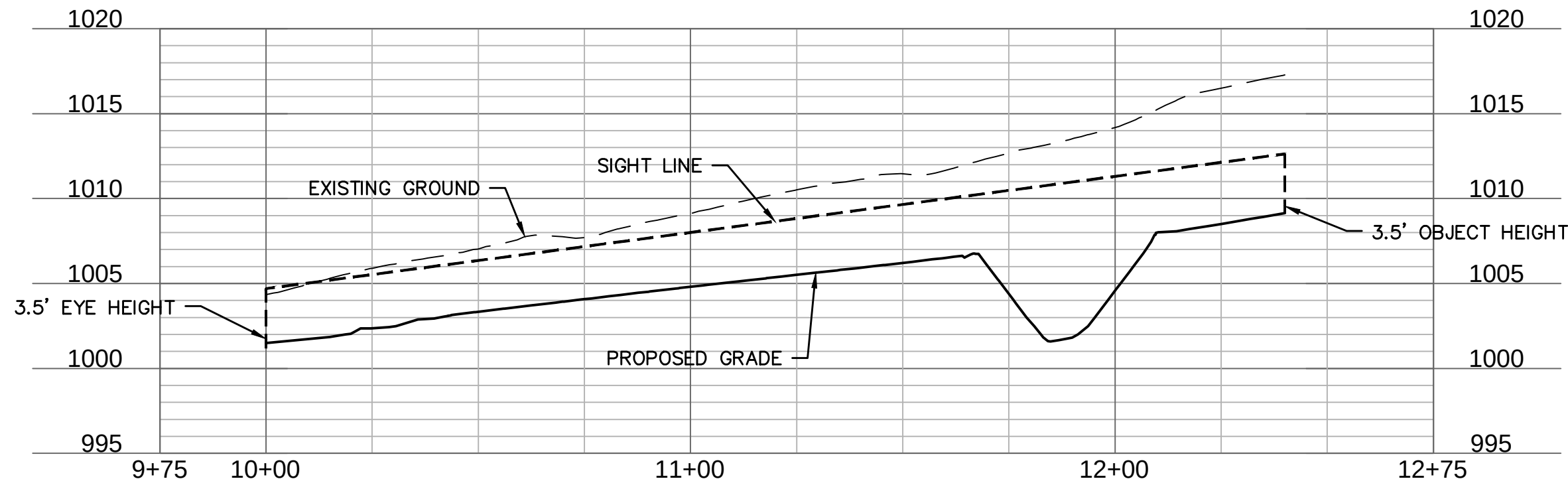
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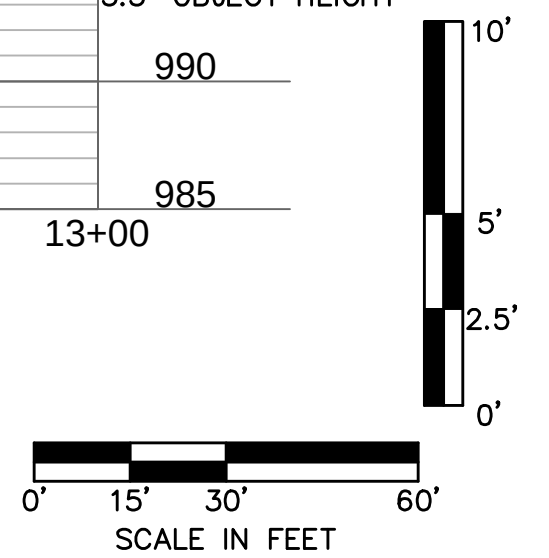
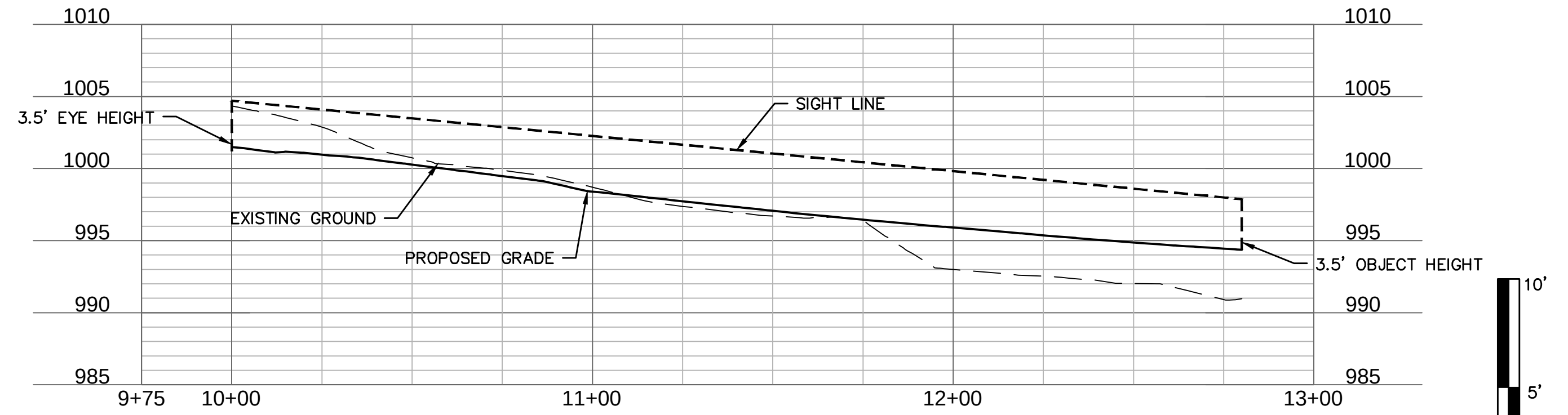
ISD 5-B (9+75 - 13+00)



ISD 6-A (9+75 - 12+75)



ISD 6-B (9+75 - 13+00)



INTERSECTION SITE DISTANCE PROFILES STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2023

DATE	REVISIONS DESCRIPTION
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BY



olson

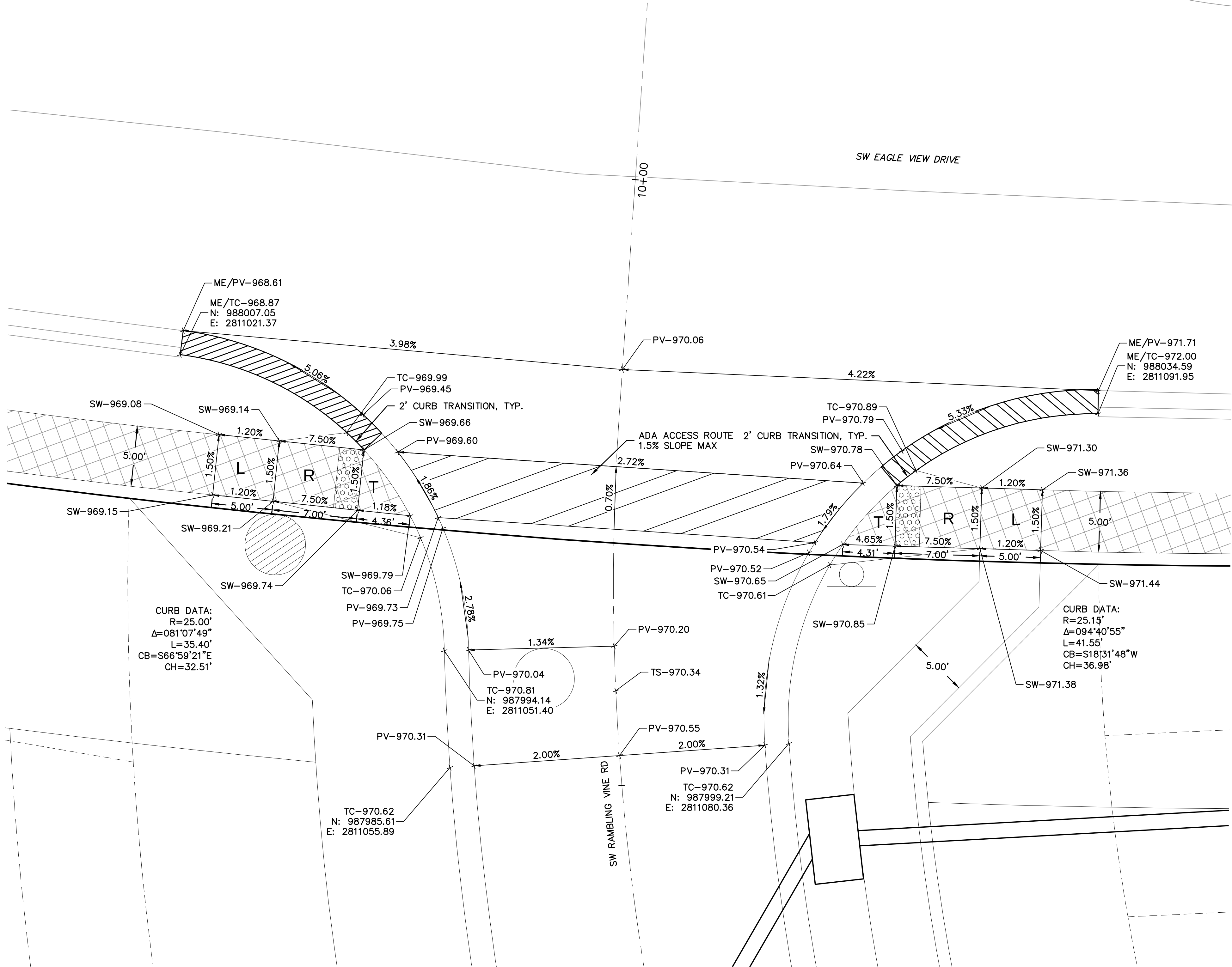
Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116

TEL 816.361.1177 www.olsson.com

Drawn by: _____ CW
 Checked by: _____ SS
 Approved by: _____ JS
 A/QC by: _____ JS
 Project no.: _____ A20-2467
 Drawing no.: C TCP02 A202467
 Date: _____ 02/23/2024

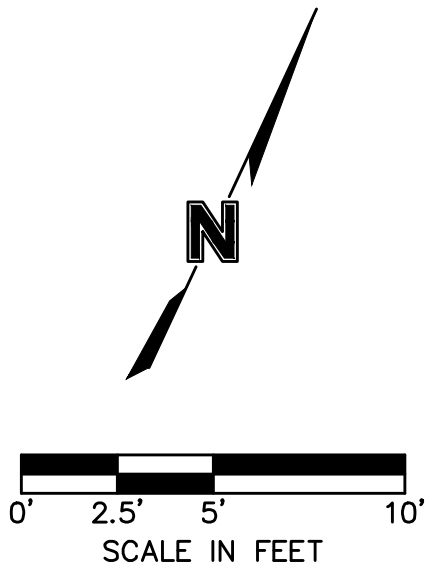
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- INTERSECTION AND ADA DETAIL NOTES:
1. ALL ADA CURB RAMP SHALL BE BUILT PER CURRENT MUNICIPALITY ADOPTED ADA STANDARDS.
 2. CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10 MAX SLOPES.
 3. LANDINGS SHALL BE PROVIDED WHERE INDICATED ON PLAN SHEET OR BY PROWAG STANDARDS. LANDING SHALL BE 4'X4' MINIMUM. 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%.
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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)
	CG-1 CURB & GUTTER (WET)
	CG-1 CURB & GUTTER (DRY)



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SW RAMBLING VINE RD & SW EAGLE VIEW DR STREET & STORM SEWER PLANS	EAGLE CREEK VILLAS FIRST PLAT	LEE'S SUMMIT, MISSOURI	REVISIONS				
			REV. NO.	DATE	REVISIONS DESCRIPTION		
			BY				
			2023				

drawn by: CW

checked by: SS

approved by: JS

QA/QC by: JS

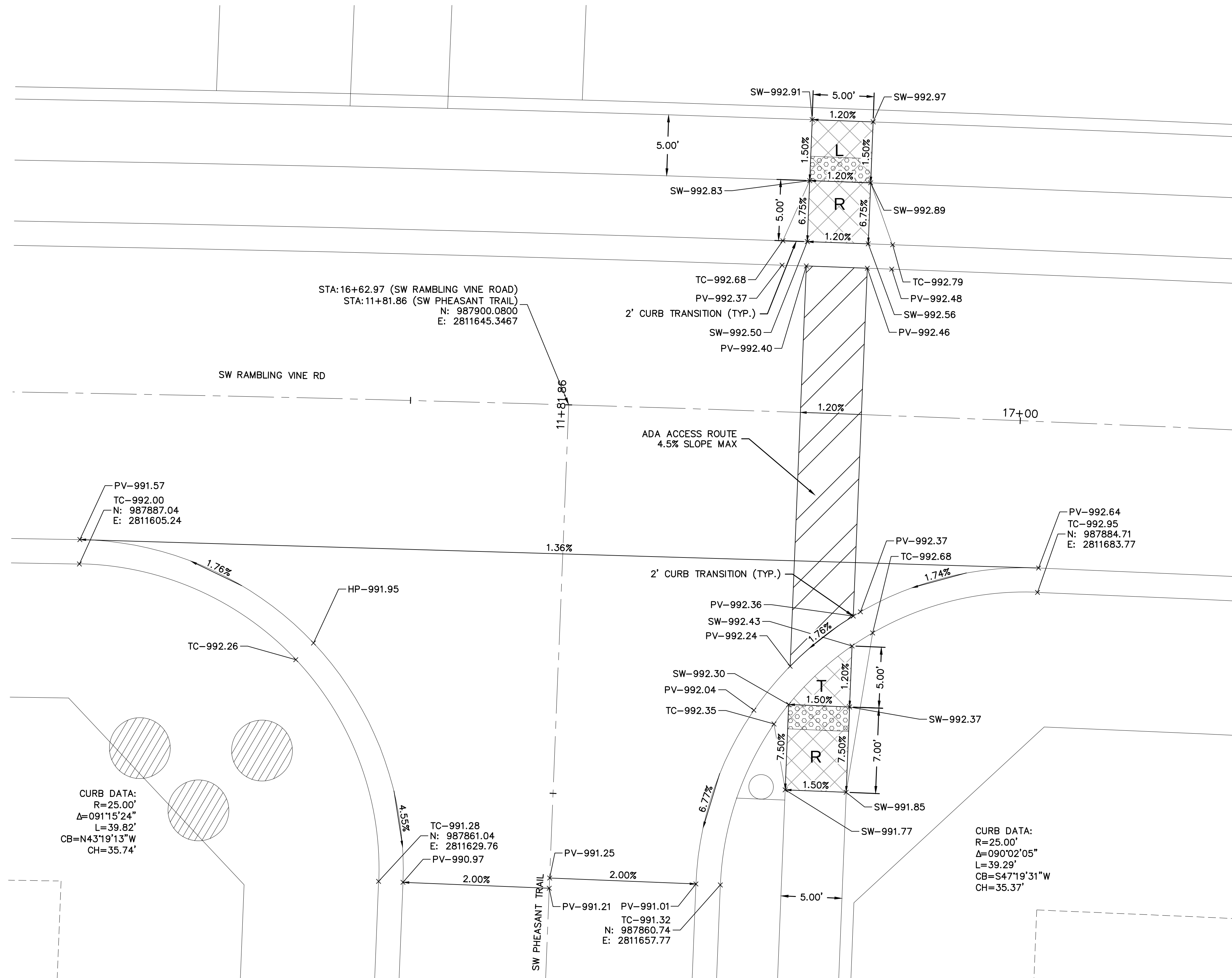
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drawing no.: C_INT01_A202467

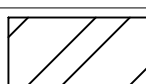
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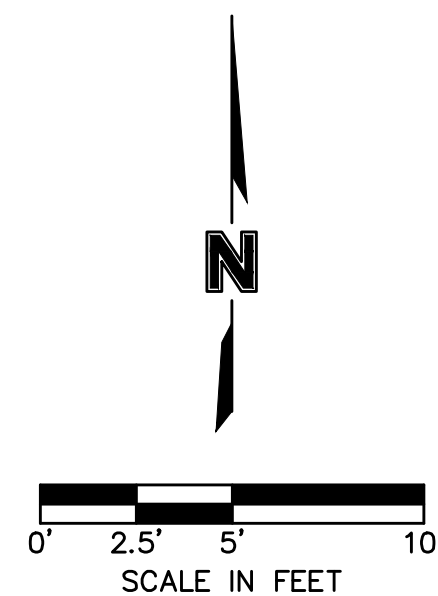
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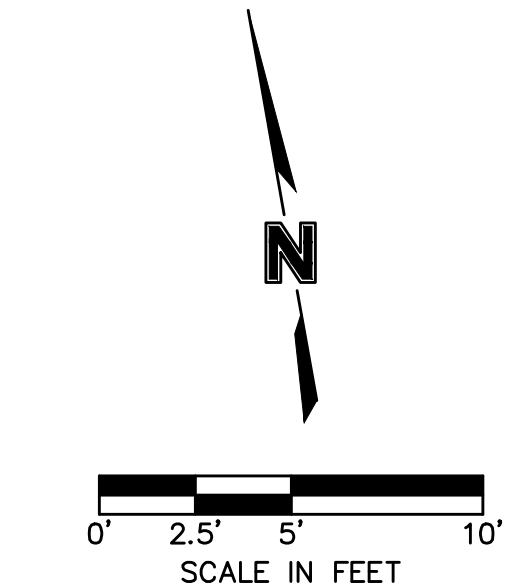
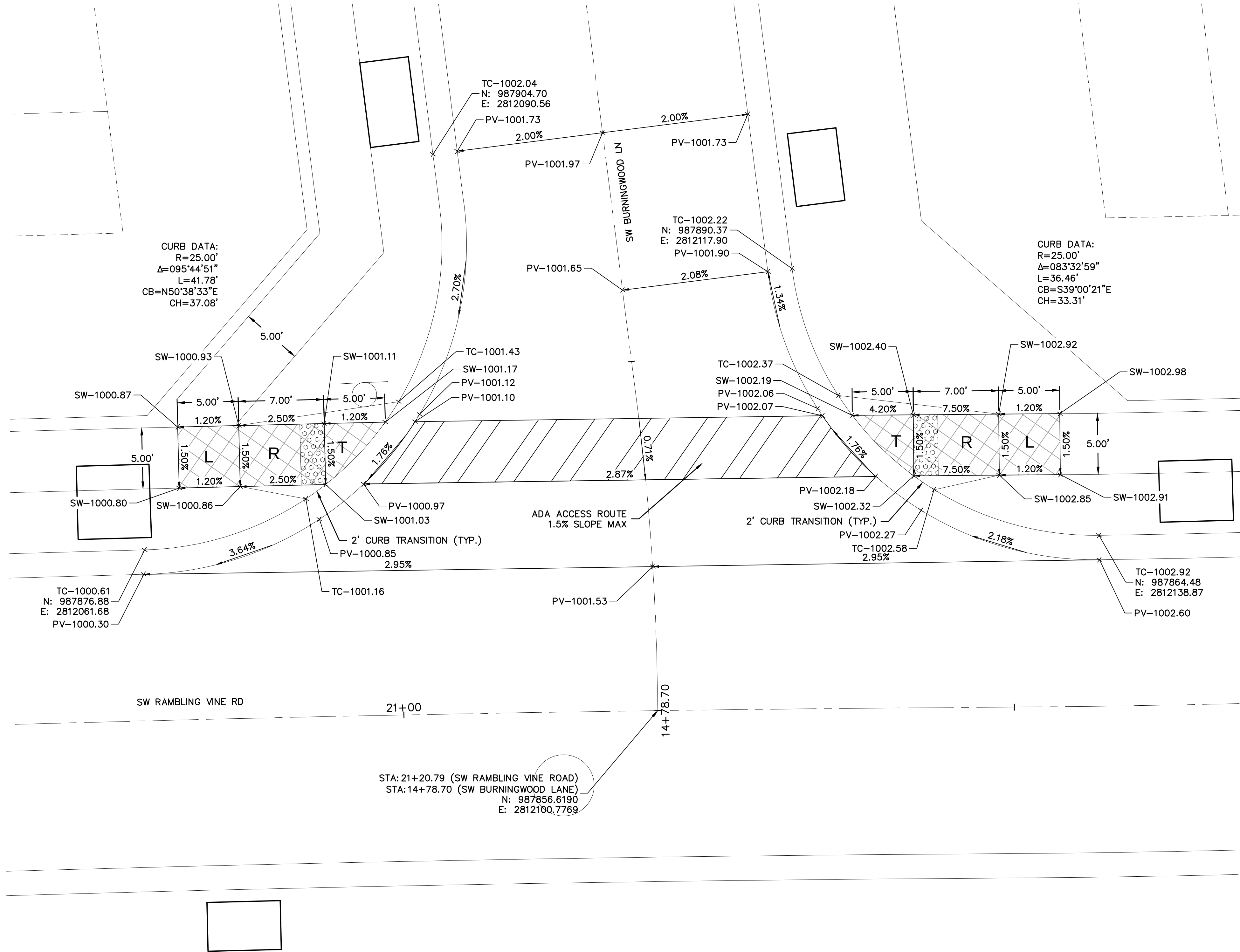


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	CG-2 CURB & GUTTER
	CONCRETE SIDEWALK (CONSTRUCTED BY CONTRACTOR)



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USER: ssaylor



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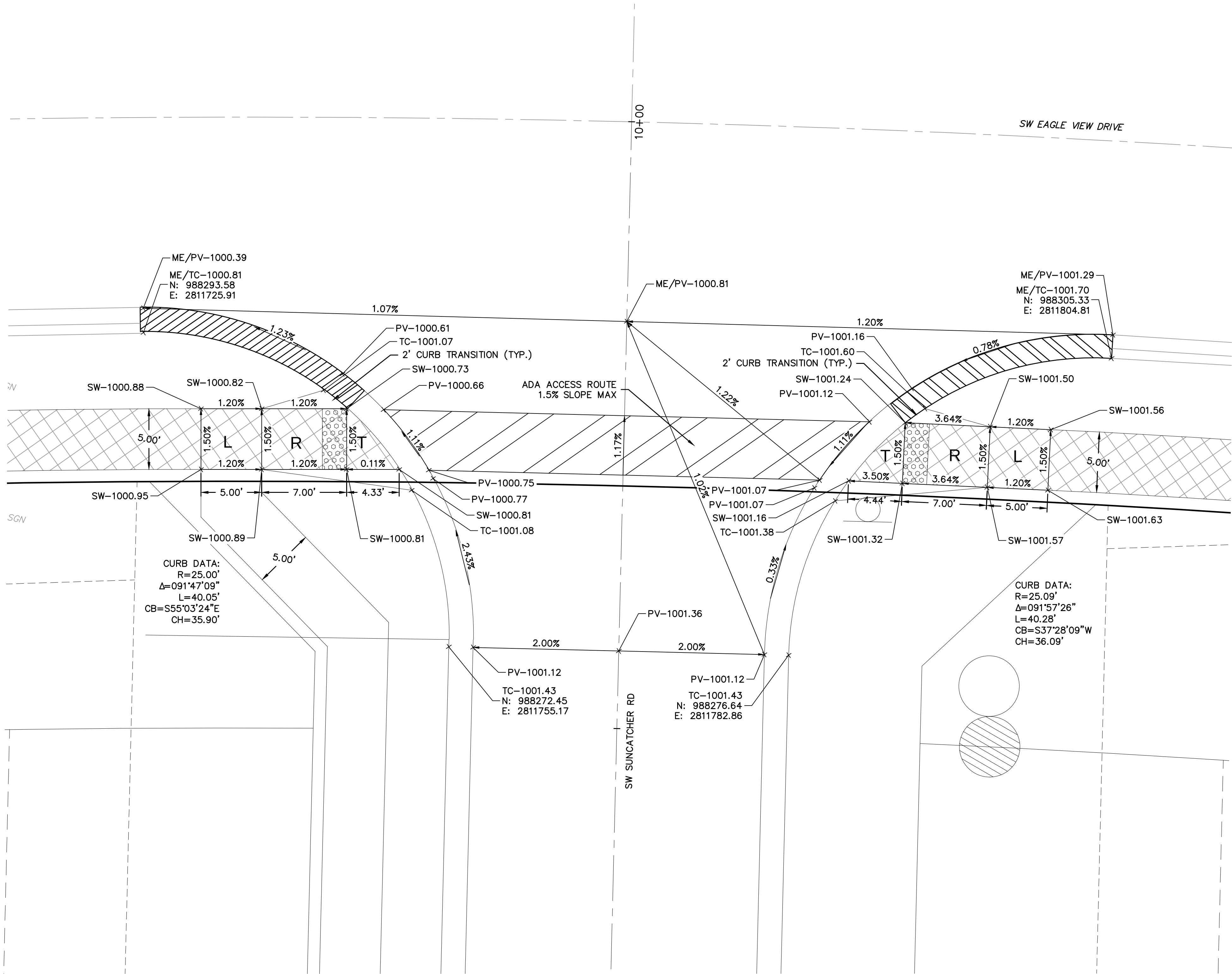
BY	
REVISIONS DESCRIPTION	
DATE	
REV. NO.	

SW RAMBLING VINE RD & SW BURNINGWOOD LN STREET & STORM SEWER PLANS	EAGLE CREEK VILLAS FIRST PLAT	2023
LEE'S SUMMIT, MISSOURI		

drawn by: _____	CW
checked by: _____	SS
approved by: _____	JS
QA/QC by: _____	JS
project no.: _____	A20-2467
drawing no.: _____	C_INT01_A202467
date: _____	02/23/2024

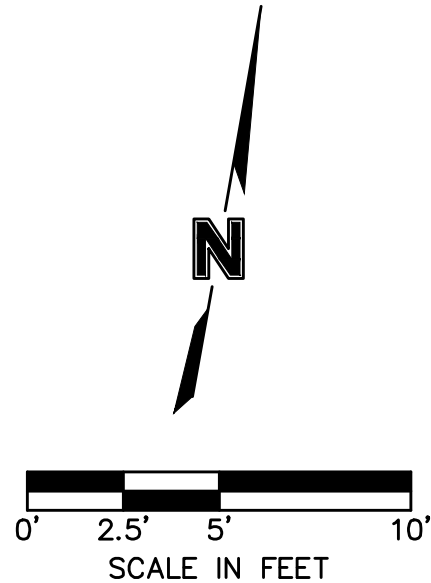
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USER: ssaylor



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	CG-1 CURB & GUTTER (DRY)



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STATE OF MISSOURI
STEPHEN M. SAYLOR
NUMBER
PE-2018021248
4/2/2024
PROFESSIONAL ENGINEER

SW SUNCATCHER RD & SW EAGLE VIEW DR
STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

drawn by: _____ CW
checked by: _____ SS
approved by: _____ JS
QA/QC by: _____ JS
project no.: A20-2467
drawing no.: C_INT01_A202467
date: 02/23/2024

SHEET
C125

BY

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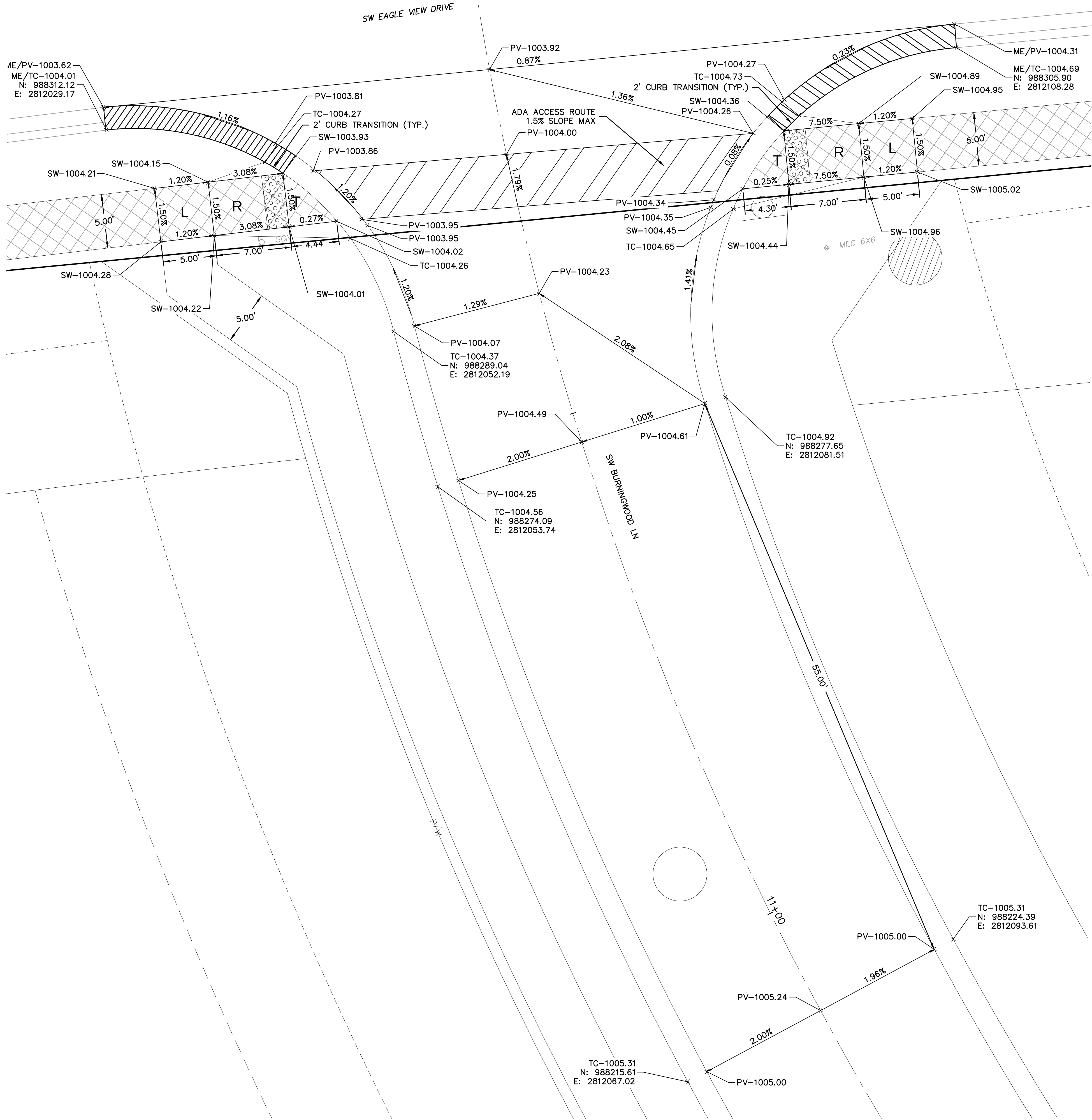
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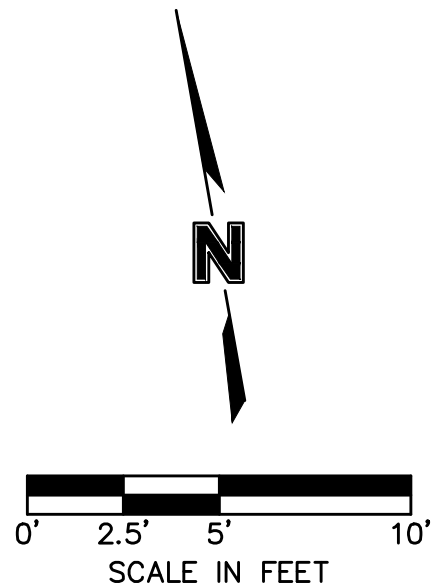
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	CG-1 CURB & GUTTER (DRY)



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STATE OF MISSOURI
STEPHEN M. SAYLOR
PE-2018021248
4/2/2024
PROFESSIONAL ENGINEER

SW BURNINGWOOD LN & SW EAGLE VEW DR
STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

drawn by: _____ CQ
checked by: _____ SS
approved by: _____ JS
QA/QC by: _____ JS
project no.: A20-2467
drawing no.: C_INT01_A202467
date: 02/23/2024

SHEET
C126

BY

REVISIONS DESCRIPTION

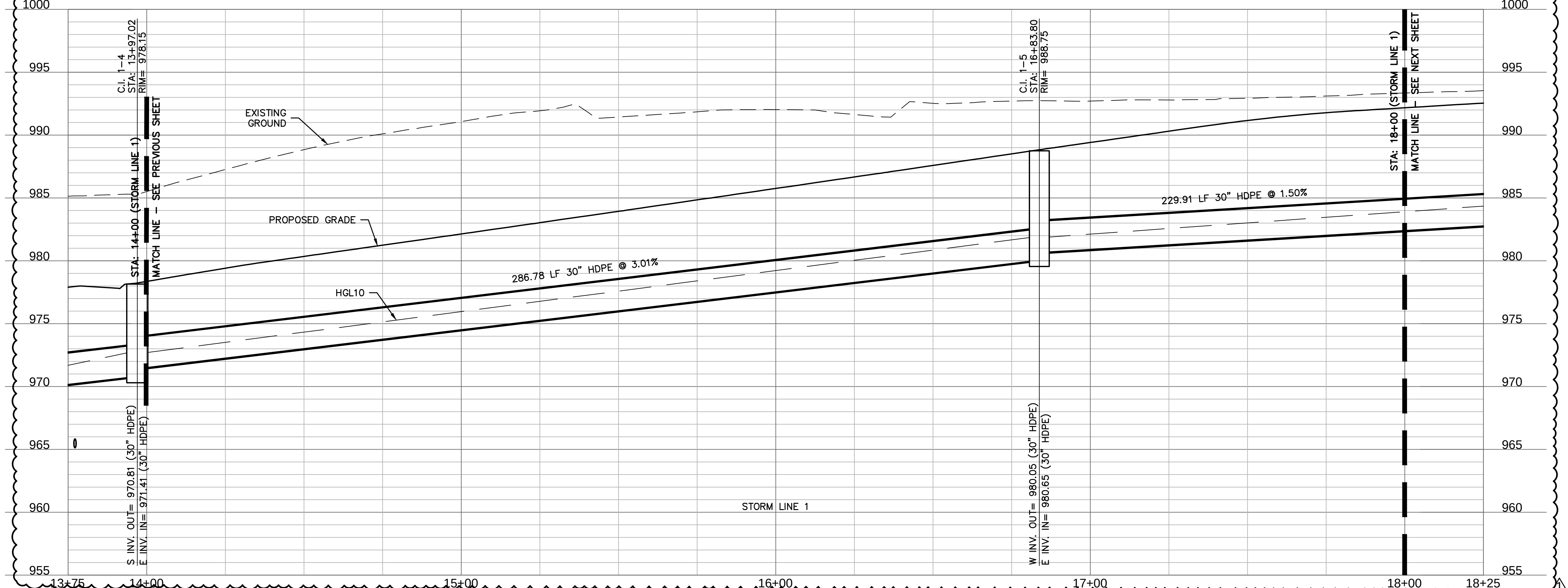
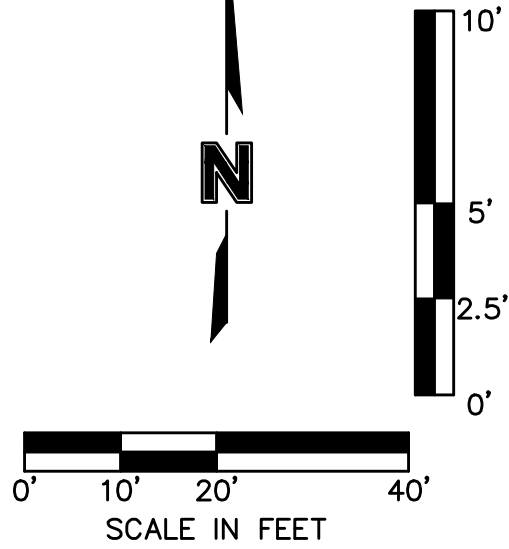
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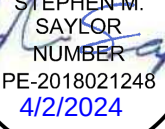
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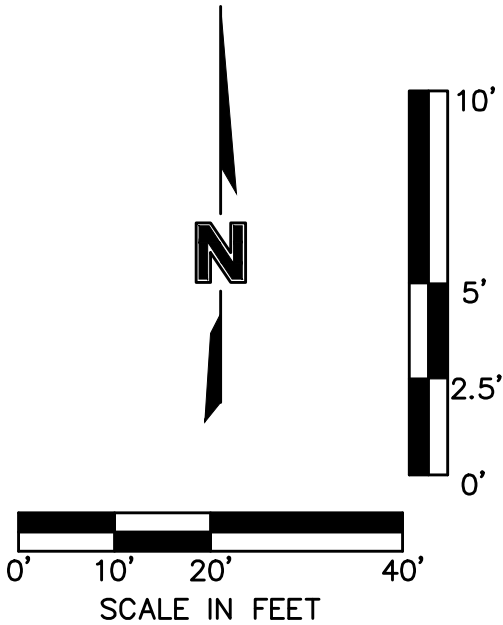
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LEE'S SUMMIT, MISSOURI

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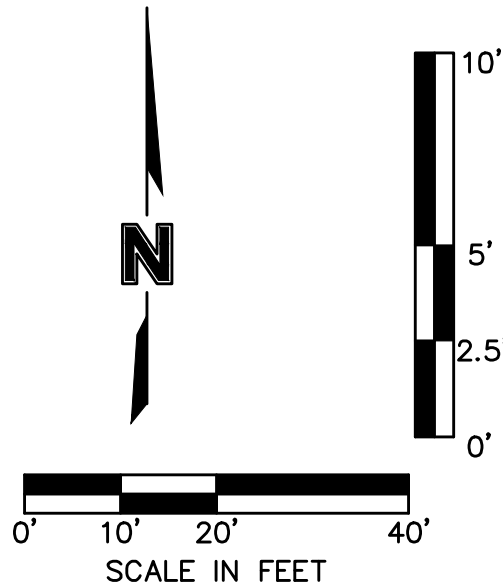
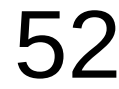
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7 USER: ssaylor
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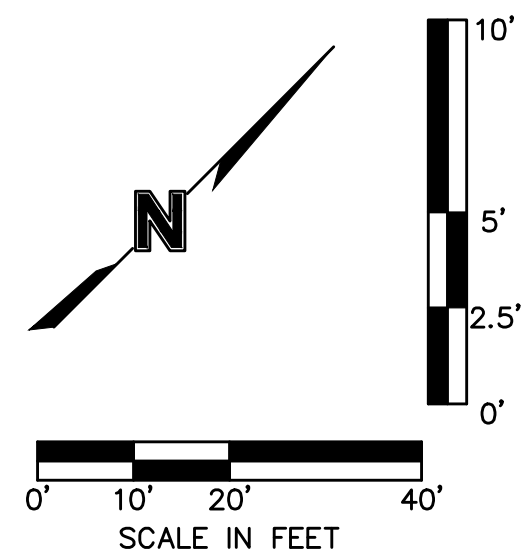
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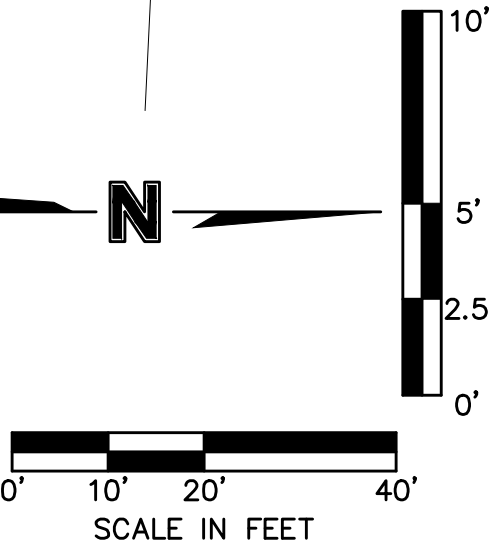
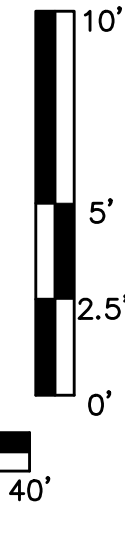
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Apr 02, 2020

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7 C_PTB

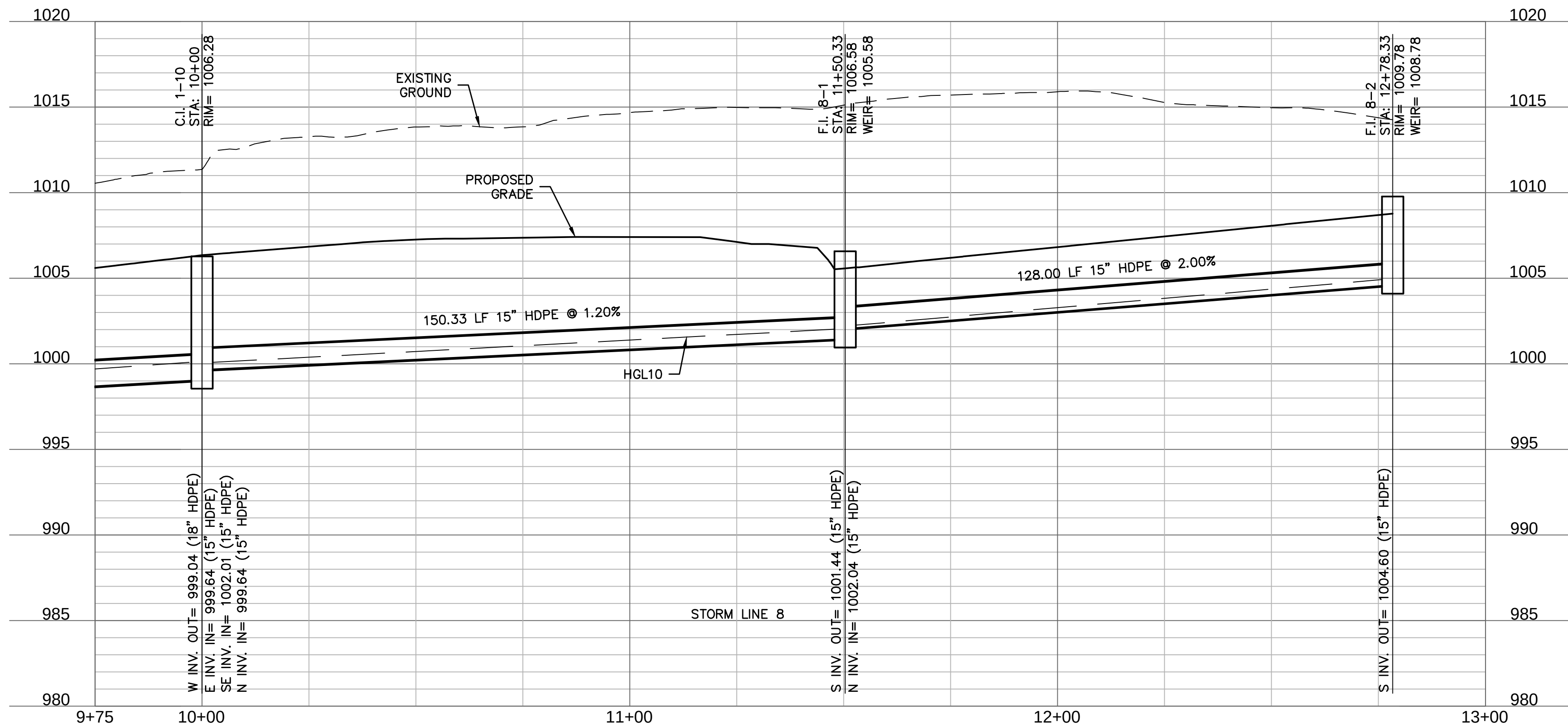
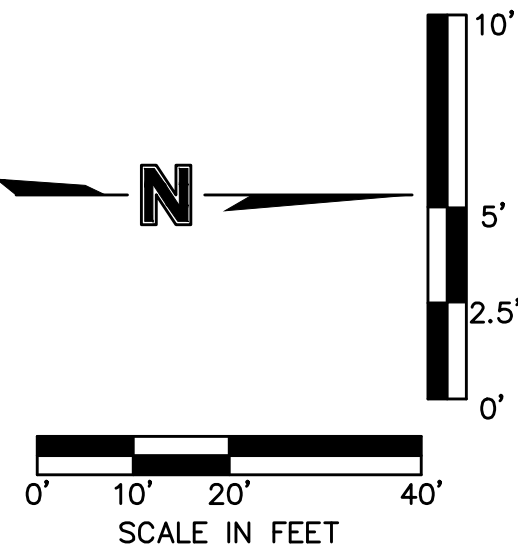
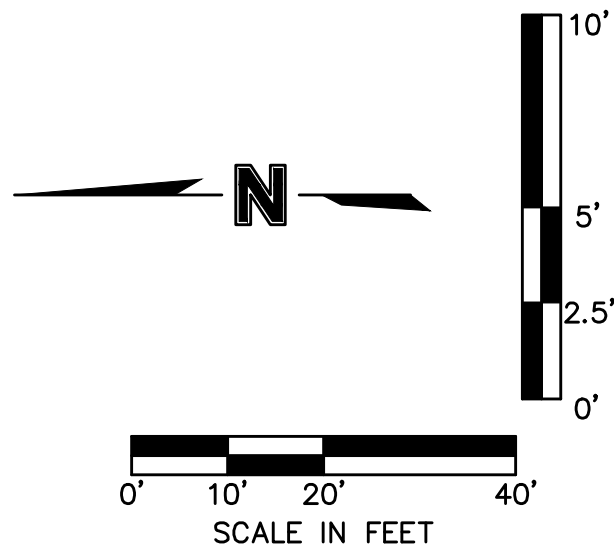
REVISIONS

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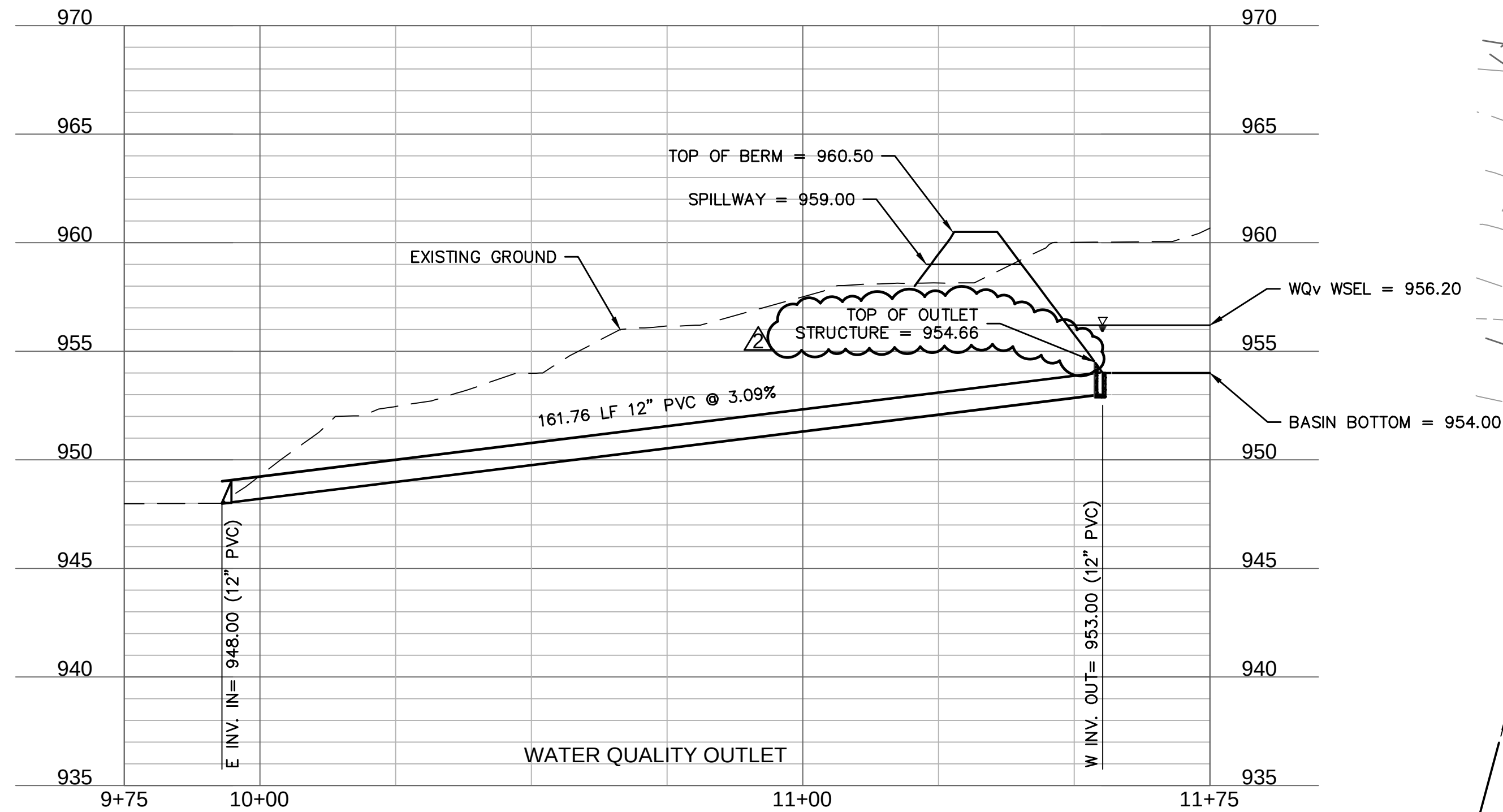
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	02/23/2024	REVISED PER CITY COMMENTS	
DEVISIONS			

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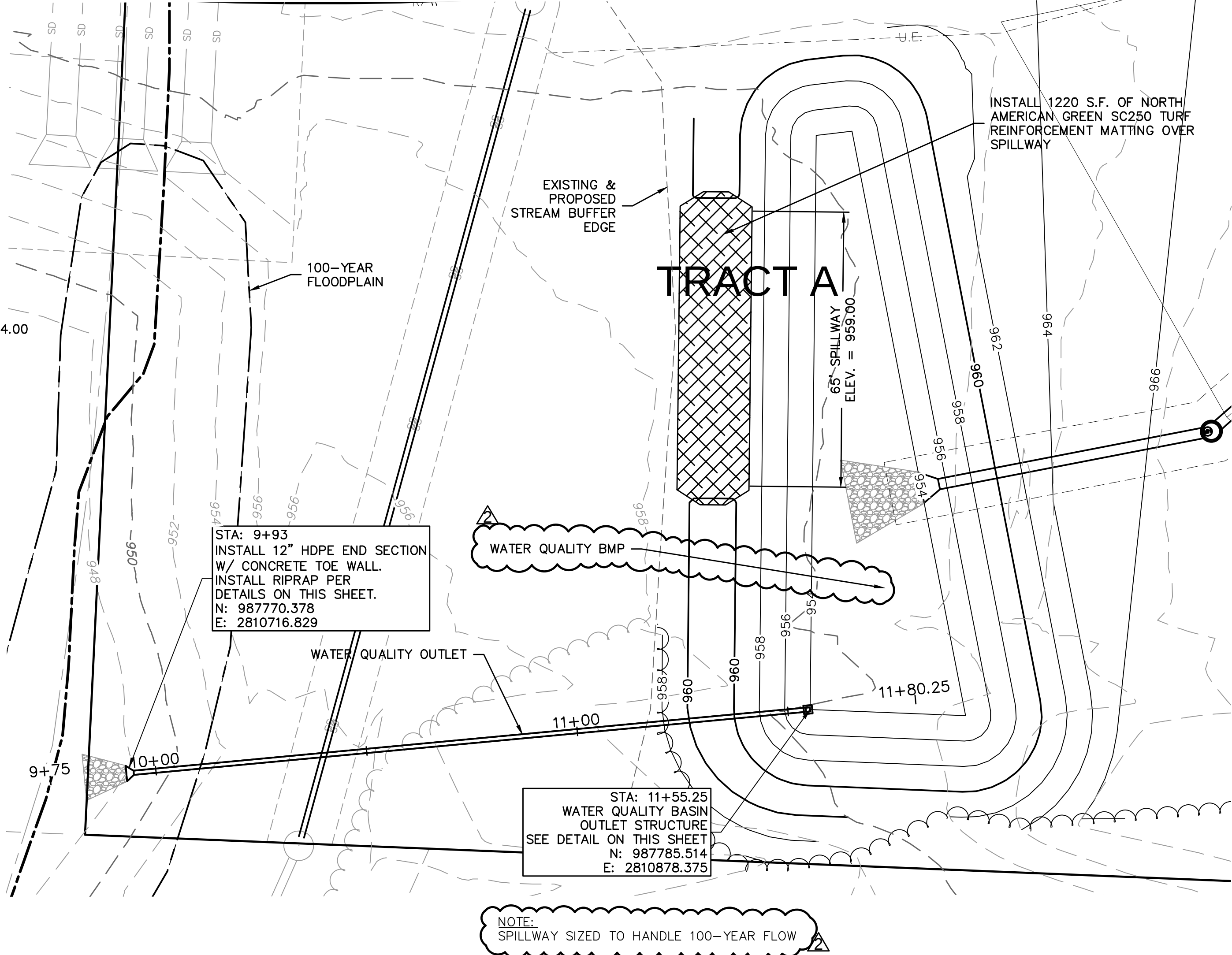
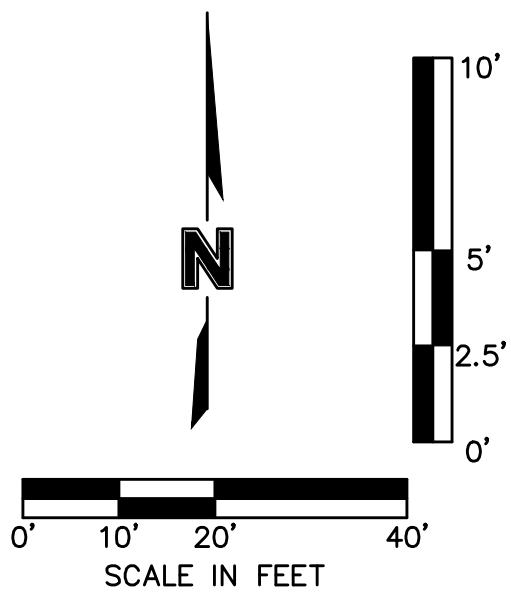
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USER: ssoyfor



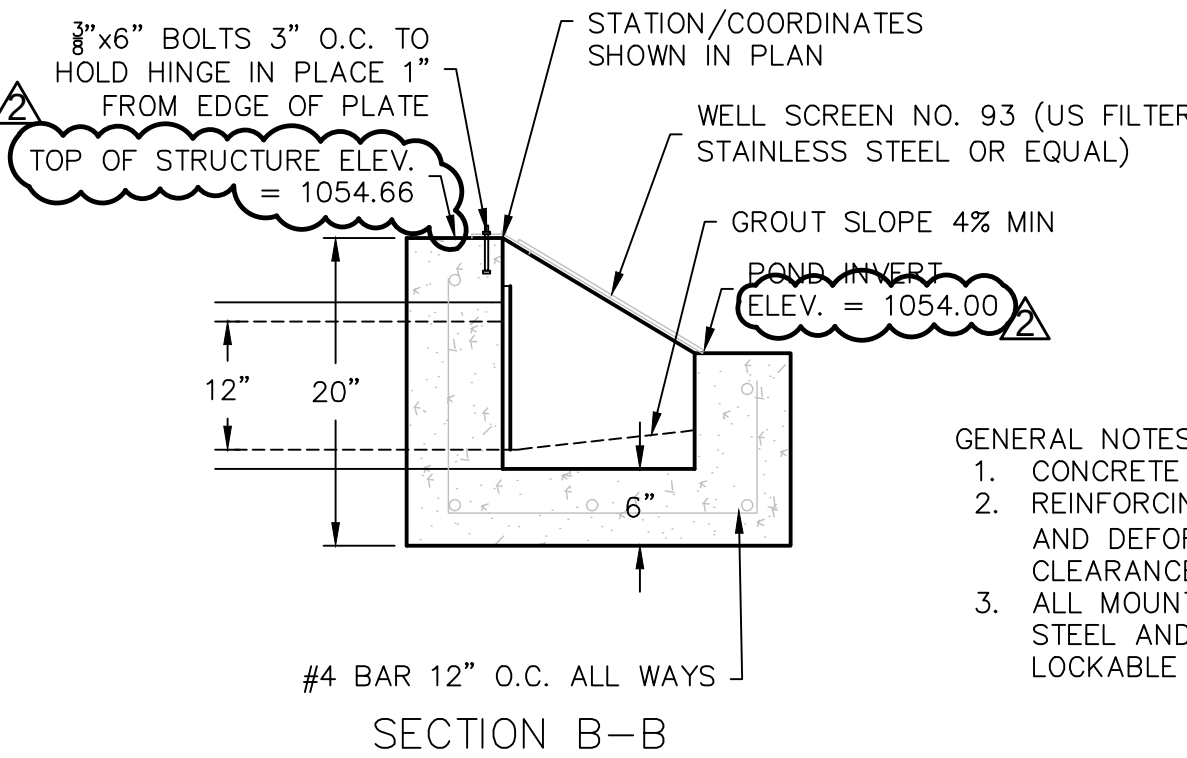
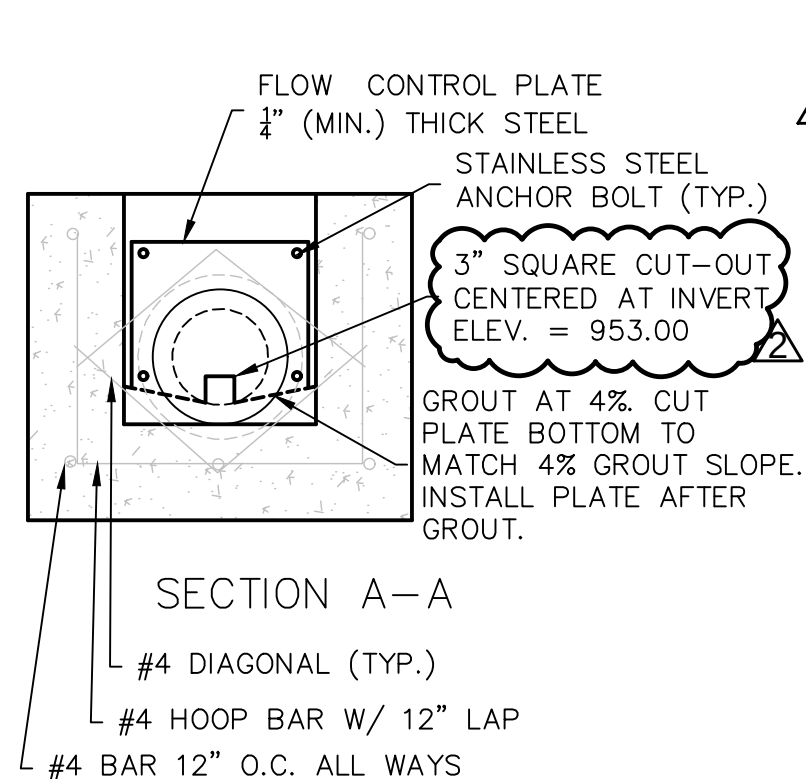
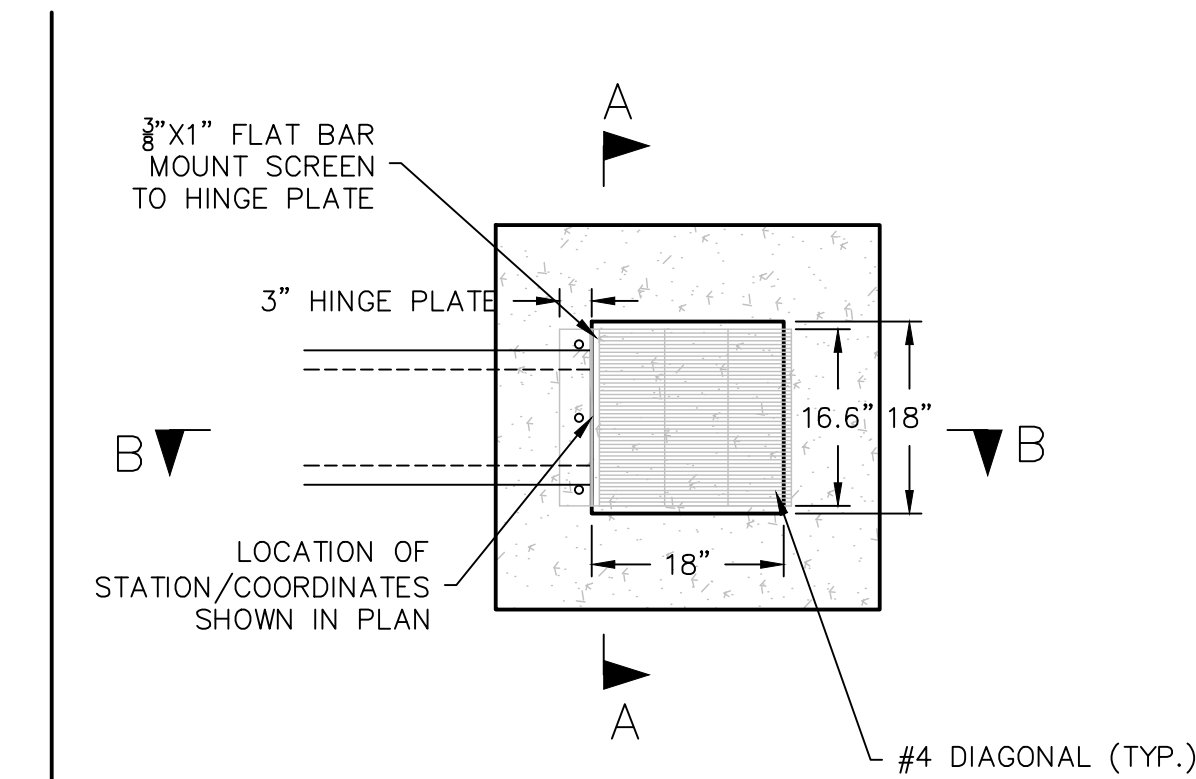
BASIN DETAILS	
SPILLWAY TYPE	BROAD CRESTED WEIR
SPILLWAY LENGTH	65 FT
SPILLWAY ELEVATION	959.00 FT
SPILLWAY DEPTH	1.50 FT
BAM ELEVATION	960.50 FT
BASIN BOTTOM ELEVATION	954.00 FT
WATER QUALITY STORM WATER SURFACE ELEVATION	956.20 FT
DESIGN STORAGE	28,703 CF



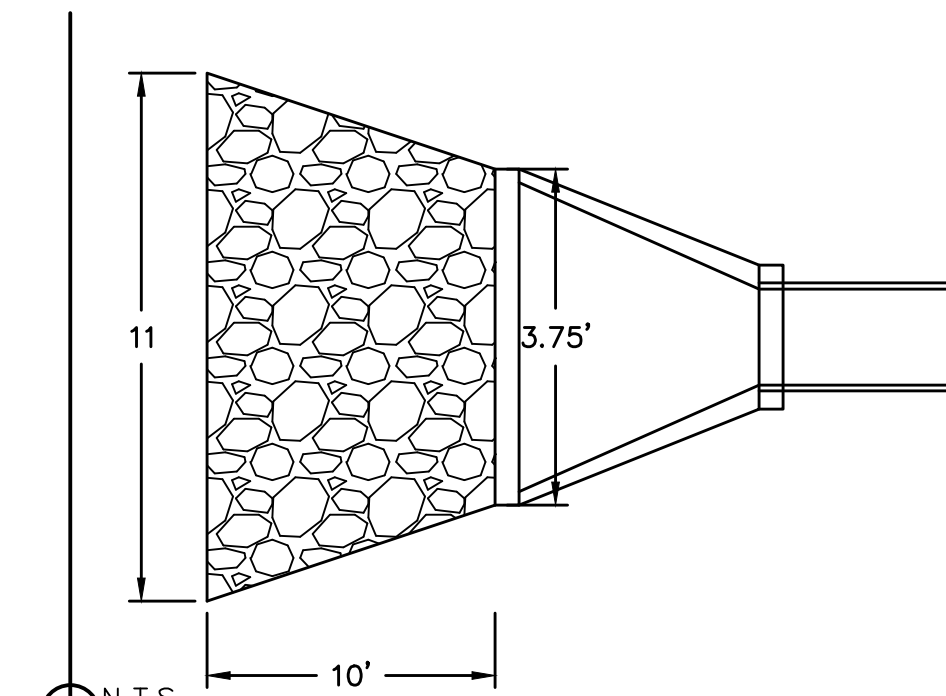
NOTE:
SPILLWAY SIZED TO HANDLE 100-YEAR FLOW

Riprap Calculations						
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class* (in)	D50* (in)	Apron Length (ft)	Apron Depth (ft)
WQy Outlet	12.97	1	5	20	7	3.33
Area (SY)						
						4.1

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



- GENERAL NOTES:
- CONCRETE SHALL BE CLASS B
 - REINFORCING BARS SHALL BE EPOXY COATED AND DEFORMED, AND SHALL HAVE MINIMUM 2" CLEARANCE.
 - ALL MOUNTING HARDWARE TO BE STAINLESS STEEL AND PROVIDED WITH HINGES AND LOCKABLE OR BOLTABLE ACCESS.



01 WATER QUALITY BASIN OUTLET STRUCTURE

02 RIPRAP OUTLET PROTECTION

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STATE OF MISSOURI
STEPHEN M. SAYLOR
NUMBER
PE-2018021248
4/2/2024
PROFESSIONAL ENGINEER

BY

REVISIONS

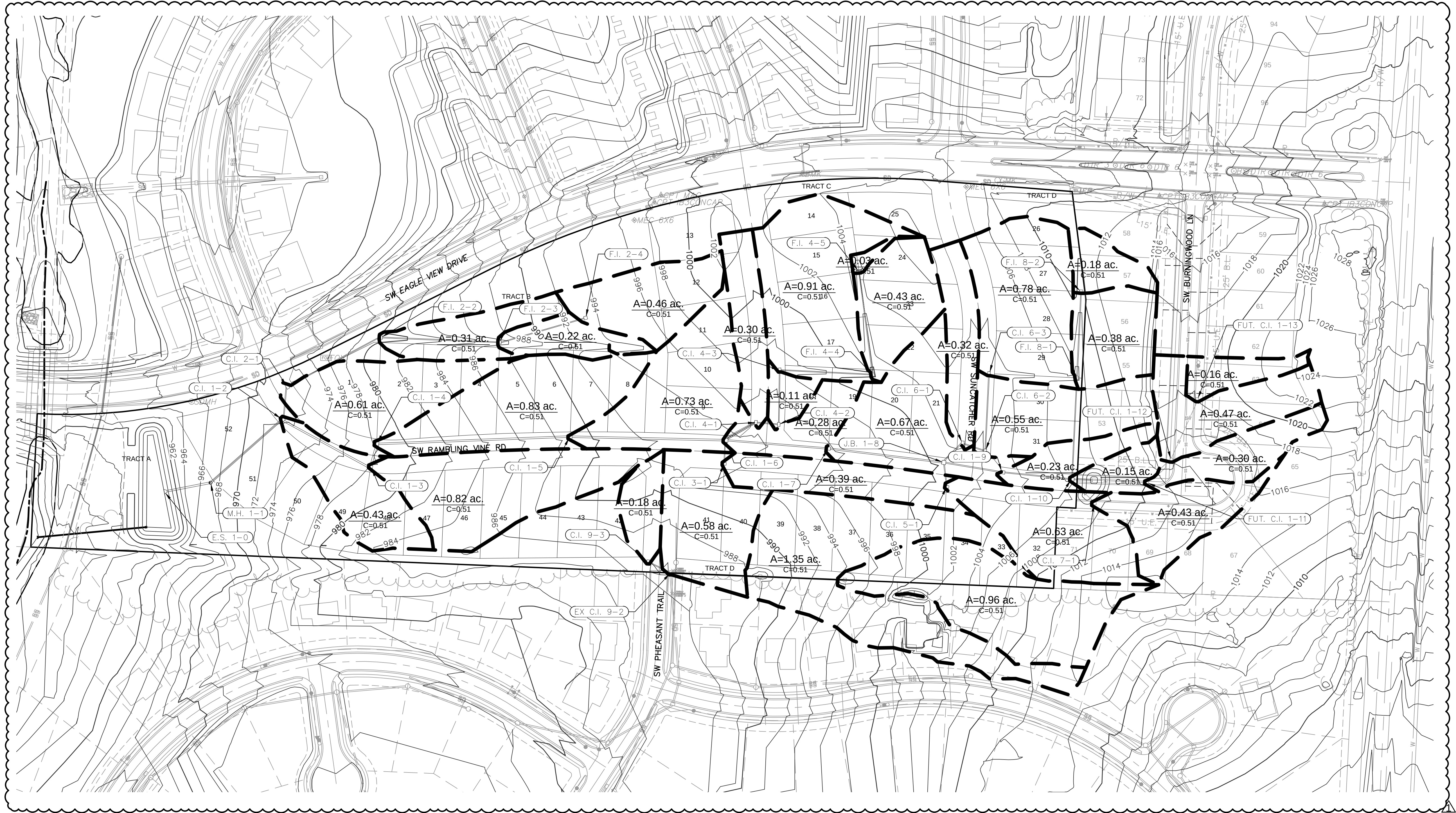
WATER QUALITY BASIN PLAN
STREET & STORM SEWER PLANS
EAGLE CREEK VILLAS
FIRST PLAT
LEE'S SUMMIT, MISSOURI

2023

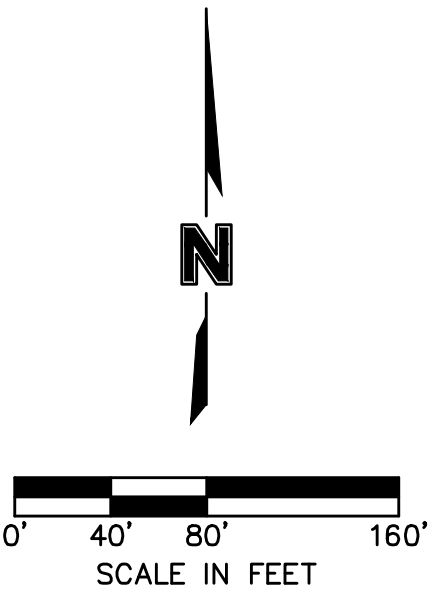
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checked by: _____
approved by: _____
QA/QC by: _____
project no.: A20-2467
drawing no.: C_DBP01_A202467
date: 02/23/2024

CW
SS
JS
JS

SHEET
C137



LEGEND	
	FINISHED INDEX CONTOURS
	FINISHED INTERMEDIATE CONTOURS
	RIDGE LINE
	DRAINAGE AREA
	RUNOFF COEFFICIENT
	STORM STRUCTURE NUMBER



REVISIONS	
REV. NO.	DATE
1	02/23/2024
BY	
REVISIONS DESCRIPTION	
REVISED PER CITY COMMENTS	
2023	

DRAINAGE PLAN	
STREET & STORM SEWER PLANS	
EAGLE CREEK VILLAS	
FIRST PLAT	
LEE'S SUMMIT, MISSOURI	

drawn by:	CW
checked by:	SS
approved by:	JS
QA/QC by:	JS
project no.:	A20-2467
drawing no.:	C_DRN02_A202467
date:	02/23/2024

SHEET
C139



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. 1-2	GRADE	1.51	0.94	2.45	1.00	1.69	1.69	1.69	0.76	69.13%	0.15	7.31	...
C.I. 1-3	GRADE	2.77	0.00	2.77	1.00	1.83	1.83	1.83	0.94	65.99%	0.15	7.66	...
C.I. 1-4	GRADE	2.66	0.87	3.53	1.00	2.10	2.10	1.43	59.42%	0.17	8.39	...	...
C.I. 1-5	GRADE	2.43	0.22	2.64	1.00	1.78	1.78	1.78	0.87	67.23%	0.15	7.53	...
C.I. 1-6	GRADE	1.05	0.79	1.84	1.00	1.62	1.62	1.62	0.22	88.27%	0.16	8.10	...
C.I. 1-7	GRADE	2.15	0.23	2.38	1.00	1.88	1.88	1.88	0.50	78.95%	0.16	8.10	...
C.I. 1-9	GRADE	0.83	0.56	1.39	1.00	1.16	1.16	1.16	0.23	83.50%	0.12	6.16	...
C.I. 1-10	GRADE	0.56	0.26	0.82	1.00	0.74	0.74	0.74	0.08	90.19%	0.10	5.06	...
C.I. 2-1	GRADE	2.02	0.00	2.02	1.00	1.49	1.49	1.49	0.53	73.64%	0.14	6.80	...
F.I. 2-2	GRADE	1.09	0.00	1.09	1.80	35.34	63.61	1.09	0.00	100.00%	...	...	0.09
F.I. 2-3	GRADE	0.83	0.00	0.83	2.80	45.64	127.80	0.83	0.00	100.00%	...	...	0.08
F.I. 2-4	GRADE	1.57	0.00	1.57	3.80	54.02	205.27	1.57	0.00	100.00%	...	...	0.12
C.I. 3-1	GRADE	1.46	0.71	2.17	1.00	1.87	1.87	1.87	0.30	86.17%	0.17	8.62	...
C.I. 4-1	GRADE	1.13	0.00	1.13	1.00	0.98	0.98	0.98	0.14	87.41%	0.12	5.79	...
C.I. 4-2	GRADE	0.41	0.74	1.15	1.00	1.00	1.00	1.00	0.15	87.15%	0.12	5.84	...
C.I. 4-3	GRADE	2.66	0.00	2.66	1.00	1.92	1.92	1.92	0.74	72.34%	0.16	8.00	...
F.I. 4-4	GRADE	1.61	0.00	1.61	4.80	61.26	294.04	1.61	0.00	100.00%	...	...	0.12
F.I. 4-5	GRADE	0.11	0.00	0.11	5.80	67.73	392.83	0.11	0.00	100.00%	...	...	0.02
C.I. 5-1	GRADE	2.22	0.31	2.53	1.00	1.82	1.82	1.82	0.71	71.98%	0.15	7.71	...
C.I. 6-1	GRADE	1.20	0.00	1.20	1.00	1.11	1.11	1.11	0.09	92.52%	0.14	6.90	...
C.I. 6-2	GRADE	2.01	0.47	2.48	1.00	2.09	2.09	2.09	0.39	84.30%	0.18	9.05	...
C.I. 6-3	GRADE	2.72	0.00	2.72	1.00	2.25	2.25	2.25	0.47	82.85%	0.19	9.37	...
C.I. 7-1	GRADE	1.61	0.00	1.61	1.00	1.31	1.31	1.31	0.31	81.05%	0.13	6.51	...
F.I. 8-1	GRADE	1.43	0.00	1.43	6.80	73.63	500.70	1.43	0.00	100.00%	...	...	0.11
F.I. 8-2	GRADE	0.68	0.00	0.68	7.80	79.10	616.96	0.68	0.00	100.00%	...	...	0.07
EX C.I. 9-2	GRADE	2.18	0.00	2.18	1.00	1.72	1.72	1.72	0.45	79.31%	0.15	7.69	...
C.I. 9-3	GRADE	0.68	0.00	0.68	1.00	0.63	0.63	0.63	0.04	93.66%	0.10	4.96	...
EX. F.I. 10-1	GRADE	5.06	0.00	5.06	8.80	84.21	741.03	5.06	0.00	100.00%	...	...	0.25
EX. F.I. 10-2	GRADE	3.60	0.00	3.60	9.80	89.03	872.46	3.60	0.00	100.00%	...	...	0.20

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. 1-2	0.43	0.51	6.68	6.87	1.00	1.51
C.I. 1-3	0.82	0.51	7.58	6.63	1.00	2.77
C.I. 1-4	0.83	0.51	9.01	6.29	1.00	2.66
C.I. 1-5	0.73	0.51	8.04	6.52	1.00	2.43
C.I. 1-6	0.28	0.51	5.00	7.35	1.00	1.05
C.I. 1-7	0.67	0.51	9.04	6.29	1.00	2.15
C.I. 1-9	0.23	0.51	5.92	7.08	1.00	0.83
C.I. 1-10	0.15	0.51	5.00	7.35	1.00	0.56
C.I. 2-1	0.61	0.51	8.16	6.49	1.00	2.02
F.I. 2-2	0.31	0.51	6.68	6.87	1.00	1.09
F.I. 2-3	0.22	0.51	5.00	7.35	1.00	0.83
F.I. 2-4	0.46	0.51	7.38	6.69	1.00	1.57
C.I. 3-1	0.39	0.51	5.00	7.35	1.00	1.46
C.I. 4-1	0.30	0.51	5.00	7.35	1.00	1.13
C.I. 4-2	0.11	0.51	5.00	7.35	1.00	0.41
C.I. 4-3	0.91	0.51	11.73	5.73	1.00	2.66
F.I. 4-4	0.43	0.51	5.00	7.35	1.00	1.61
F.I. 4-5	0.03	0.51	5.00	7.35	1.00	0.11
C.I. 5-1	0.63	0.51	6.51	6.91	1.00	2.22
C.I. 6-1	0.32	0.51	5.00	7.35	1.00	1.20
C.I. 6-2	0.55	0.51	5.63	7.16	1.00	2.01
C.I. 6-3	0.78	0.51	6.81	6.83	1.00	2.72
C.I. 7-1	0.43	0.51	5.00	7.35	1.00	1.61
F.I. 8-1	0.38	0.51	5.00	7.35	1.00	1.43
F.I. 8-2	0.18	0.51	5.00	7.35	1.00	0.68
EX C.I. 9-2	0.58	0.51	5.00	7.35	1.00	2.18
C.I. 9-3	0.18	0.51	5.00	7.35	1.00	0.68
EX. F.I. 10-1	1.35	0.51	5.00	7.35	1.00	5.06
EX. F.I. 10-2	0.96	0.51	5.00	7.35	1.00	3.60

Storm Sewer Design Calculation Table												
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)
M.H. 1-1	E.S. 1-0	69.78	955.74	954.00	2.49	30	0.012	39.18	11.74	70.16	1.34	957.85
C.I. 1-2	M.H. 1-1	142.00	964.10	956.34	5.46	30	0.012	39.18	10.76	103.86	1.51	966.21
C.I. 1-3	C.I. 1-2	149.01	969.15	964.70	2.99	30	0.012	32.51	9.22	76.78	1.51	971.09
C.I. 1-4	C.I. 1-3	36.24	970.81	969.75	2.93	30	0.012	30.68	9.59	75.99	1.34	972.7
C.I. 1-5	C.I. 1-4	286.78	980.04	971.41	3.01	30	0.012	28.58	9.35	77.07	1.29	981.86
C.I. 1-6	C.I. 1-5	229.91	984.10	980.65	1.50	30	0.012	26.8	9.14	54.43	1.24	985.86
C.I. 1-7	C.I. 1-6	153.32	987.77	984.70	2.00	24	0.012	17.69	8.13	34.67	1.16	989.28
J.B. 1-8	C.I. 1-7	172.32	994.40	988.37	3.50	24	0.012	15.81	8.93	45.84	0.91	995.83
C.I. 1-9	J.B. 1-8	88.64	996.98	995.00	2.23	18	0.012	8.54	7.23	17	0.83	998.11
C.I. 1-10	C.I. 1-9	103.10	999.04	997.58	1.42	18	0.012	7.38	6.7	13.54	0.79	1000.09
FUT. C.I. 1-11	C.I. 1-10	75.57	1003.42	999.64	5.00	15	0.012	3.22	6.22	15.65	0.45	1004.14
FUT. 1-12	FUT. C.I. 1-11	49.45	1007.65	1005.77	3.80	12	0.012	2.14	6.2	7.52	0.37	1008.28
FUT. C.I. 1-13	FUT. 1-12	97.39	1009.71	1008.25	1.50	12	0.012	0.58	3.4	4.72	0.24	1010.03
C.I. 2-1	C.I. 1-2	48.98	966.25	965.35	1.84	15	0.012	4.98	5.39	9.48	0.86	967.15
F.I. 2-2	C.I. 2-1	156.61	972.71	966.85	3.74	15	0.012	3.49	6.88	13.53	0.43	973.46
F.I. 2-3	F.I. 2-2	176.00	979.47	973.31	3.50	15	0.012	2.4	6.04	13.09	0.36	980.09
F.I. 2-4	F.I. 2-3	132.53	985.85	980.07	4.36	15	0.012	1.57	5.62	14.61	0.28	986.35
C.I. 3-1	C.I. 1-6	35.00	989.40	988.87	1.51	15	0.012	1.87	4.63	8.61	0.4	989.94
C.I. 4-1	C.I. 1-6	52.51	986.14	985.10	1.98	18	0.012	5.62	5.6	16.01	0.76	987.05
C.I. 4-2	C.I. 4-1	34.01	987.25	986.74	1.50	15	0.012	4.64	6.09	8.57	0.66	988.12
C.I. 4-3	C.I. 4-2	80.55	989.06	987.85	1.50	15	0.012	3.64	5.64	8.57	0.57	989.83
F.I. 4-4	C.I. 4-3	138.04	993.46	989.66	2.75	15	0.012	1.72	5.16	11.61	0.33	993.98
F.I. 4-5	F.I. 4-4	154.29	998.30	994.06	2.75	15	0.012	0.11	2.32	11.6	0.09	998.43
C.I. 5-1	J.B. 1-8	36.34	996.49	995.15	3.69	15	0.012	1.82	3.14	13.43	0.68	997.03 j
C.I. 6-1	J.B. 1-8	39.78	996.00	995.15	2.14	15	0.012	5.45	6.71	10.23	0.68	996.95
C.I. 6-2	C.I. 6-1	35.35	997.12	996.60	1.47	15	0.012	4.34	5.94	8.48	0.63	997.96
C.I. 6-3	C.I. 6-2	114.75	999.04	997.72	1.15	15	0.012	2.25	4.61	7.5	0.47	999.64
C.I. 7-1	C.I. 1-10	48.58	1003.15	1002.01	2.35	15	0.012	1.31	4.6	10.72	0.3	1003.6
F.I. 8-1	C.I. 1-10	150.33	1001.44	999.64	1.20	15	0.012	2.11	4.54	7.65	0.45	1002.02
F.I. 8-2	F.I. 8-1	128.00	1004.60	1002.04	2.00	15	0.012	0.68	3.67	9.89	0.22	1004.92
EX C.I. 9-2	EX C.I. 9-1	162.08	979.91	977.48	1.50	18	0.012	2.35	4.77	13.93	0.42	980.49
C.I. 9-3	EX C.I. 9-2	37.24	982.40	981.84	1.50	15	0.012	0.63	3.37	8.58	0.23	982.71

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4/2/2024
PROFESSIONAL ENGINEER

BY

REV. NO. 1

DATE 02/23/2024

REVISIONS DESCRIPTION
REVISED PER CITY COMMENTS

REVISIONS

DRAINAGE TABLES (10-YEAR)
STREET & STORM SEWER PLANS

EAGLE CREEK VILLAS
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2023

drawn by: _____
checked by: _____
approved by: _____
QA/QC by: _____
project no.: A20-2467
drawing no.: C_DRN02_A202467
date: 02/23/2024

CW
SS
JS
JS

SHEET
C140

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. 1-2	GRADE	2.65	2.45	5.10	1.00	2.48	2.48	2.48	2.62	48.56%	0.19	9.63	...
C.I. 1-3	GRADE	4.89	0.00	4.89	1.00	2.44	2.44	2.44	2.45	49.85%	0.19	9.48	...
C.I. 1-4	GRADE	4.70	3.17	7.87	1.00	2.81	2.81	2.81	5.06	35.67%	0.23	11.33	...
C.I. 1-5	GRADE	4.28	1.47	5.75	1.00	2.58	2.58	2.58	3.17	44.92%	0.20	10.08	...
C.I. 1-6	GRADE	1.84	3.18	5.02	1.00	3.55	3.55	3.55	1.47	70.64%	0.24	11.80	...
C.I. 1-7	GRADE	3.79	1.30	5.09	1.00	3.11	3.11	3.11	1.99	61.01%	0.22	10.78	...
C.I. 1-9	GRADE	1.46	2.10	3.56	1.00	2.25	2.25	2.25	1.30	63.40%	0.18	8.76	...
C.I. 1-10	GRADE	0.99	0.91	1.89	1.00	1.48	1.48	1.48	0.41	78.10%	0.14	6.92	...
C.I. 2-1	GRADE	3.56	0.00	3.56	1.00	2.11	2.11	2.11	1.45	59.18%	0.17	8.42	...
F.I. 2-2	GRADE	1.91	0.00	1.91	1.80	35.34	63.61	1.91	0.00	100.00%	...	...	0.13
F.I. 2-3	GRADE	1.45	0.00	1.45	2.80	45.64	127.80	1.45	0.00	100.00%	...	...	0.11
F.I. 2-4	GRADE	2.76	0.00	2.76	3.80	54.02	205.27	2.76	0.00	100.00%	...	...	0.17
C.I. 3-1	GRADE	2.57	2.15	4.71	1.00	3.40	3.40	3.40	1.31	72.12%	0.23	11.52	...
C.I. 4-1	GRADE	1.97	0.00	1.97	1.00	1.55	1.55	1.55	0.42	78.59%	0.14	7.15	...
C.I. 4-2	GRADE	0.72	2.01	2.73	1.00	1.96	1.96	1.96	0.77	71.75%	0.16	8.08	...
C.I. 4-3	GRADE	4.71	0.00	4.71	1.00	2.70	2.70	2.70	2.01	57.41%	0.20	9.91	...
F.I. 4-4	GRADE	2.83	0.00	2.83	4.80	61.26	294.04	2.83	0.00	100.00%	...	...	0.17
F.I. 4-5	GRADE	0.20	0.00	0.20	5.80	67.73	392.83	0.20	0.00	100.00%	...	...	0.03
C.I. 5-1	GRADE	3.91	0.87	4.78	1.00	2.63	2.63	2.63	2.15	55.04%	0.20	9.78	...
C.I. 6-1	GRADE	2.11	0.00	2.11	1.00	1.82	1.82	1.82	0.28	86.58%	0.17	8.52	...
C.I. 6-2	GRADE	3.53	1.35	4.88	1.00	3.48	3.48	3.48	1.40	71.32%	0.23	11.67	...
C.I. 6-3	GRADE	4.78	0.00	4.78	1.00	3.43	3.43	3.43	1.35	71.78%	0.23	11.59	...
C.I. 7-1	GRADE	2.83	0.00	2.83	1.00	1.96	1.96	1.96	0.87	69.29%	0.16	8.04	...
F.I. 8-1	GRADE	2.50	0.00	2.50	6.80	73.63	500.70	2.50	0.00	100.00%	...	...	0.16
F.I. 8-2	GRADE	1.18	0.00	1.18	7.80	79.10	616.96	1.18	0.00	100.00%	...	...	0.10
EX C.I. 9-2	GRADE	3.82	0.00	3.82	1.00	2.55	2.55	2.55	1.26	66.87%	0.19	9.49	...
C.I. 9-3	GRADE	1.18	0.00	1.18	1.00	1.05	1.05	1.05	0.14	88.42%	0.12	6.12	...
EX F.I. 10-1	GRADE	8.88	0.00	8.88	8.80	84.21	741.03	8.88	0.00	100.00%	...	...	0.37
EX F.I. 10-2	GRADE	6.32	0.00	6.32	9.80	89.03	872.46	6.32	0.00	100.00%	...	...	0.29

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.

100 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
C.I. 1-2	0.43	0.51	6.68	9.67	1.25	2.65
C.I. 1-3	0.82	0.51	7.58	9.35	1.25	4.89
C.I. 1-4	0.83	0.51	9.01	8.89	1.25	4.70
C.I. 1-5	0.73	0.51	8.04	9.20	1.25	4.28
C.I. 1-6	0.28	0.51	5.00	10.32	1.25	1.84
C.I. 1-7	0.67	0.51	9.04	8.88	1.25	3.79
C.I. 1-9	0.23	0.51	5.92	9.95	1.25	1.46
C.I. 1-10	0.15	0.51	5.00	10.32	1.25	0.99
C.I. 2-1	0.61	0.51	8.16	9.16	1.25	3.56
F.I. 2-2	0.31	0.51	6.68	9.67	1.25	1.91
F.I. 2-3	0.22	0.51	5.00	10.32	1.25	1.45
F.I. 2-4	0.46	0.51	7.38	9.42	1.25	2.76
C.I. 3-1	0.39	0.51	5.00	10.32	1.25	2.57
C.I. 4-1	0.30	0.51	5.00	10.32	1.25	1.97
C.I. 4-2	0.11	0.51	5.00	10.32	1.25	0.72
C.I. 4-3	0.91	0.51	11.73	8.12	1.25	4.71
F.I. 4-4	0.43	0.51	5.00	10.32	1.25	2.83
F.I. 4-5	0.03	0.51	5.00	10.32	1.25	0.20
C.I. 5-1	0.63	0.51	6.51	9.73	1.25	3.91
C.I. 6-1	0.32	0.51	5.00	10.32	1.25	2.11
C.I. 6-2	0.55	0.51	5.63	10.07	1.25	3.53
C.I. 6-3	0.78	0.51	6.81	9.62	1.25	4.78
C.I. 7-1	0.43	0.51	5.00	10.32	1.25	2.83
F.I. 8-1	0.38	0.51	5.00	10.32	1.25	2.50
F.I. 8-2	0.18	0.51	5.00	10.32	1.25	1.18
EX C.I. 9-2	0.58	0.51	5.00	10.32	1.25	3.82
C.I. 9-3	0.18	0.51	5.00	10.32	1.25	1.18
EX. F.I. 10-1	1.35	0.51	5.00	10.32	1.25	8.88
EX. F.I. 10-2	0.96	0.51	5.00	10.32	1.25	6.32

