PUBLIC STREET PLANS FOR

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS AT NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

CITY OF LEE'S SUMMIT
JACKSON COUNTY, MISSOURI

LEGEND

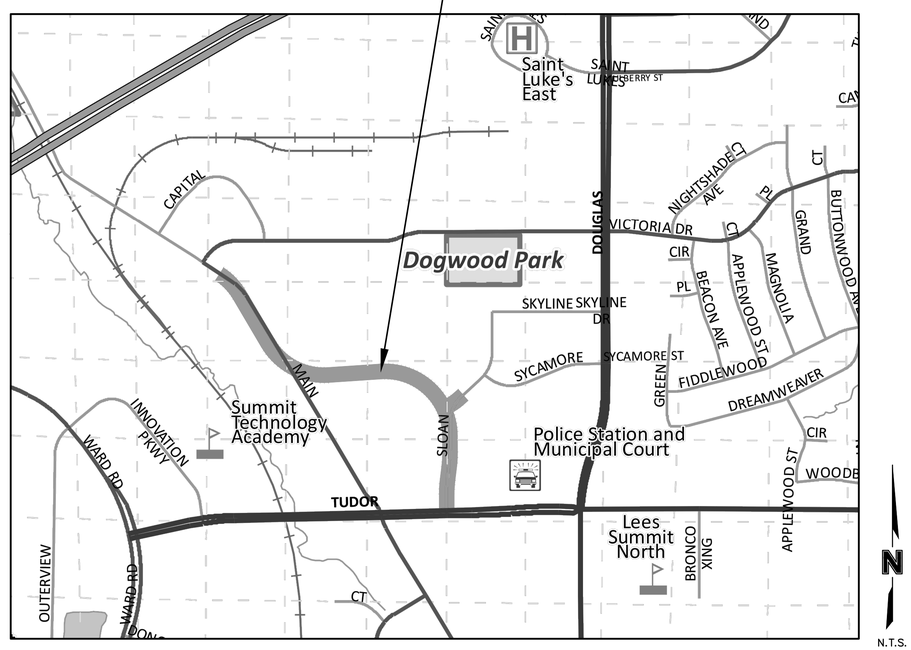
CPT	SURVEY CONTROL POINT	TB	TRAFFIC SIGNAL BOX
	SURVEY BENCHMARK		TRAFFIC SIGNAL MANHOLE
TBM	SURVEY TEMPORARY BENCHMARK		TRAFFIC SIGNAL POLE W/ ARM
GM	GAS METER		TRAFFIC SIGNAL POLE
GAR	GAS RISER	TC	TRAFFIC SIGNAL CONTROL BOX
	GAS MANHOLE	TS	TRAFFIC SIGNAL PEDESTAL
GR	GAS REGULATOR		ELECTRIC MANHOLE
TVP	TELEVISION PEDESTAL	EM	ELECTRIC METER
F	FIBER BOX	ER	ELECTRIC RISER
	FIBER PEDESTAL	E	ELECTRIC BOX
C	CABLE BOX		ELECTRIC CABINET
CV	CABLE VAULT	J	ELECTRIC JUNCTION BOX
TP	TELEPHONE PEDESTAL	SPH	SPRINKLER HEAD
	STORM MANHOLE	SCV	SPRINKLER CONTROL VALVE
	STORM GRATE		WATER METER PIT
	SANITARY MANHOLE		FIRE HYDRANT
YL	YARD LIGHT	WM	WATER METER
LTP	LIGHT POLE	WV	WATER VALVE
	POWER POLE	FP	FLAG POLE
LPPP	POWER POLE W/ LIGHT		SIGN
	GUY WIRE		BOLLARD
BU	STUMP		WOOD POST
	BUSH		STEEL POST
	EVERGREEN TREE	COL	COLUMN
	DECIDUOUS TREE		BORE HOLE
	MAILBOX	FOV	FIBER OPTIC VAULT

SECTION LINE
PROPERTY LINE
CENTER LINE
PROPOSED ROW LINE
EXISTING ROW LINE
UTILITY EASEMENT
EXISTING MAJOR CONTOUR (1371)
EXISTING MINOR CONTOUR (1371)
PROPOSED MAJOR CONTOUR (1371)
PROPOSED MINOR CONTOUR (1371)
EXISTING TELEPHONE LINE (TEL)
EXISTING SANITARY LINE
EXISTING STORM LINE
EXISTING GAS LINE (G)
EXISTING WATER LINE (W)
EXISTING CHAIN LINK FENCE
EXISTING OVERHEAD ELECTRIC (P-OH)
EXISTING UNDERGROUND ELECTRIC (P-UG)
GRADING LIMITS
TEMPORARY CONSTRUCTION EASEMENT
PROPOSED CHAIN LINK FENCE
PROPOSED WOOD PRIVACY FENCE
EXISTING TREELINE
EXISTING FIBER OPTIC LINE (FO)
EXISTING CATV LINE (CATV)
PROPOSED UNDERDRAIN

ABBREVIATION TABLE

M.G.	MATCH GRADE
P	PAVEMENT
TC	TOP OF CURB
BC	BACK OF CURB
EP	EDGE OF PAVEMENT
R/W	RIGHT-OF-WAY
TCE	TEMPORARY CONSTRUCTION EASEMENT
PROP.	PROPOSED
EXIST.	EXISTING
TYP.	TYPICAL
(R)	REMOVAL
CONST.	CONSTRUCT
TBM	TEMPORARY BENCHMARK
CPT	CONTROL POINT
D.N.D.	DO NOT DISTURB
U.I.P.	USE IN PLACE
ADJ.	ADJUST
EL.	ELEVATION
ESMT.	EASEMENT
B-B	BACK OF CURB TO BACK OF CURB DIMENSION
SP.	SPECIAL
DT.	DITCH
STD.	STANDARD
PERM.	PERMANENT

PROJECT LOCATION



N.T.S.

LOCATION MAP

NOT TO SCALE

DESIGN/POSTED SPEED:

MAIN STREET = 35 MPH
SLOAN STREET = 25 MPH

INDEX OF SHEETS

MISSOURI ONE CALL SYSTEM

1-800-DIG-RITE or 811

www.mo1call.com

THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY NOT INCLUDE ALL LINES PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL "1-800-DIG-RITE", AND COORDINATE FIELD LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING GRADING ACTIVITIES. !!STOP!! CALL BEFORE YOU DIG!!

UTILITY COMPANIES

WATER – LEE'S SUMMIT WATER UTILITIES
1200 SE HAMBLEN ROAD
LEE'S SUMMIT, MO 64081
(816) 969-1900

WASTEWATER – LEE'S SUMMIT WATER UTILITIES
1200 SE HAMBLEN ROAD
LEE'S SUMMIT, MO 64081
(816) 969-1900
1

ELECTRIC – EVERGY
1300 SE HAMBLEN ROAD
LEE'S SUMMIT, MO 66219
(888) 471-5275

GAS – SPIRE GAS
3025 SE CLOVER DR
LEE'S SUMMIT, MO 64082
(816) 969-2200

TELEPHONE – AT&T
1636 SE BLUE PKWY
LEE'S SUMMIT, MO 64063
(816) 600-5552

CABLE – SPECTRUM
188 NW OLDHAM PKWY
LEE'S SUMMIT, MO 64081
(866) 874-2389

FIBER OPTIC – GOOGLE FIBER
908 BROADWAY BLVD.
KANSAS CITY, MO 64105.
(913) 663-1900

PREPARED & SUBMITTED BY:

olsson
7301 W. 133RD STREET, SUITE 200
OVERLAND PARK, KANSAS 66213

Ryan B. Fleming — 11/16/21
RYAN B. FLEMING, P.E. — DATE
I CERTIFY THESE PLANS WERE PREPARED BY ME OR UNDER MY IMMEDIATE PERSONAL SUPERVISION. THE FOLLOWING DRAWINGS ARE INTENDED TO BE AUTHENTICATED BY MY SEAL: PE-2002003161

Shannon Jeffries — 11/16/21
SHANNON JEFFRIES, P.E. — DATE
I CERTIFY THESE PLANS WERE PREPARED BY ME OR UNDER MY IMMEDIATE PERSONAL SUPERVISION. THE FOLLOWING DRAWINGS ARE INTENDED TO BE AUTHENTICATED BY MY SEAL: PE-2008000069

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Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	11/16/2021	CITY COMMENTS	ARJ

REVISIONS

TITLE SHEET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

2021

LEE'S SUMMIT, MISSOURI

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_TTL01_02104157
DATE: 2021-10-12

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_TTL01_02104157.dwg USER: csaavedra
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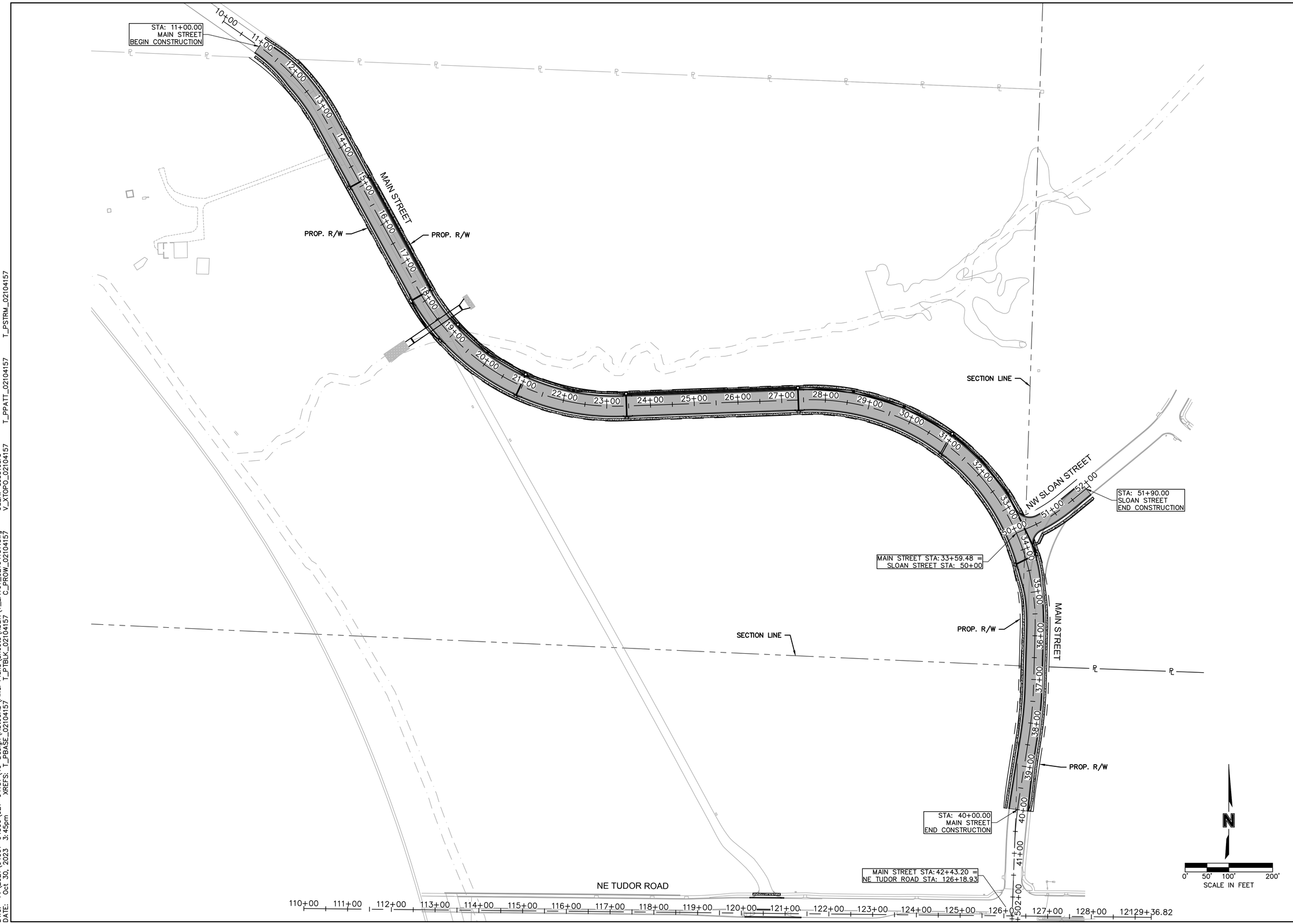

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REVISIONS

GENERAL LAYOUT

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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OLSSON CONTROL INFORMATION:
Basis of coordinates shown heron are based on Missouri state plane coordinate system, West Zone, and scaled to ground coordinates utilizing a combined adjustment factor of 0.99989908. Distances shown hereon are ground distances in US Survey Feet.

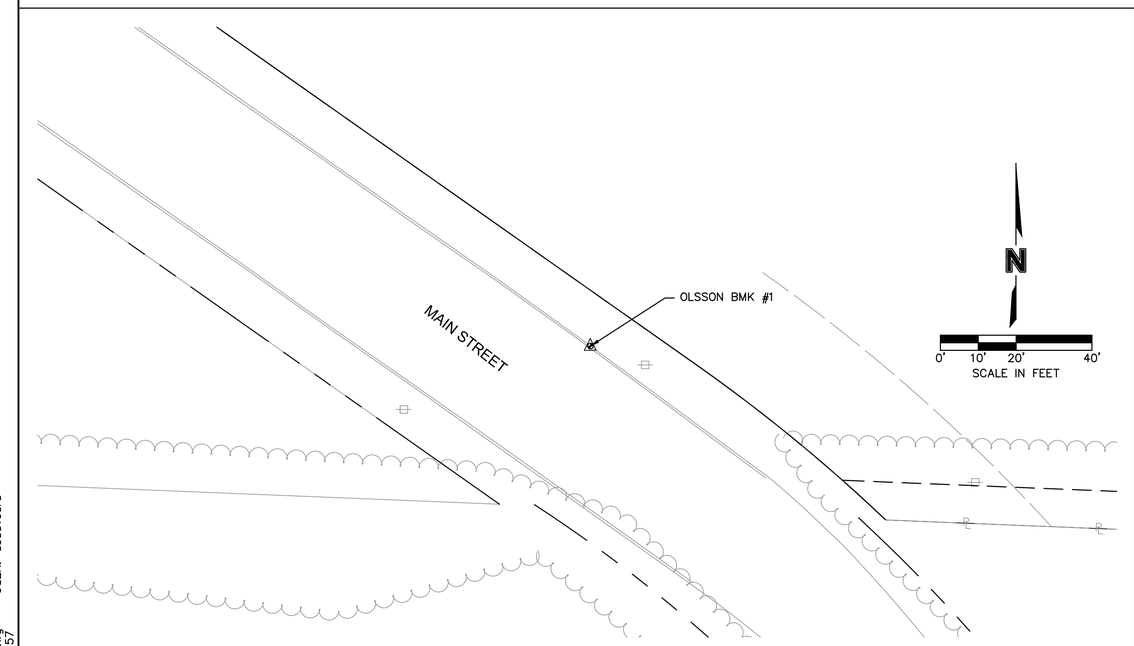
CTR Section 31–48–31
Found 1/2" Rebar with 2" Aluminum Cap. Flush 0.12' East of N/S barbed wire fence on West side of Sloan St. Shot X cut at center of cap.
Elevation: 1004.97
1. *E 83.90' to chainlink fence at end E side of Sloan St (set)*
2. *SE 33.73' to found X cut on top of curb*
3. *NE 31.77' to found X cut on top of curb*
4. *E 10.63' to back of curb*
5. *E 48.83' to found X cut on top of curb*

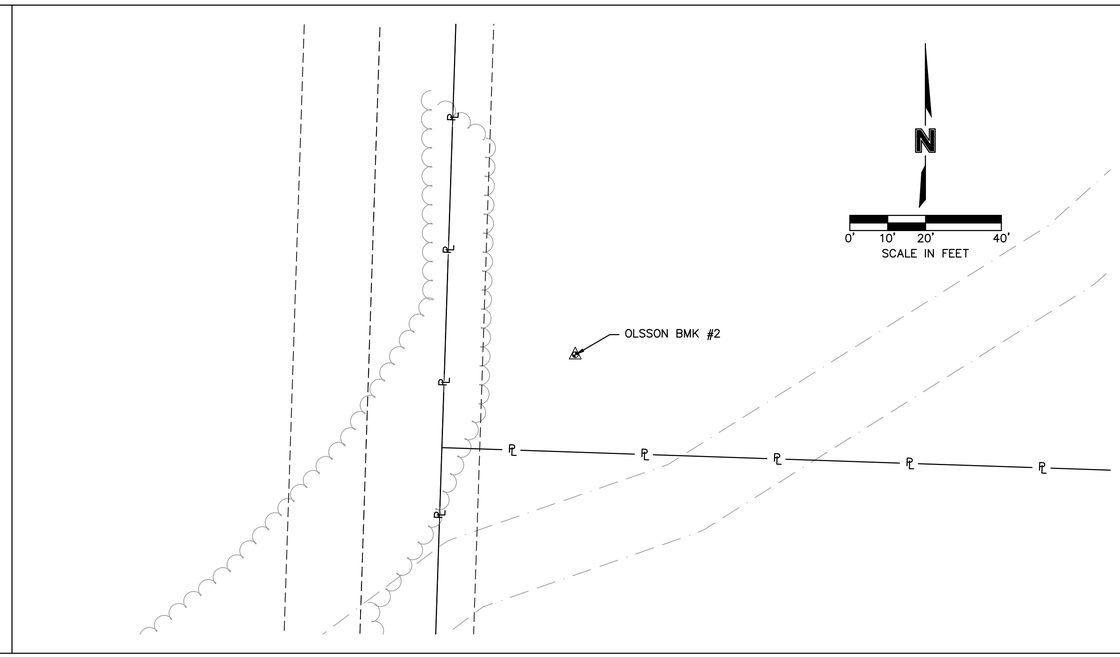
Olsson #101:
Set 1/2" Rebar with Olsson Control Cap. Set on top of berm East of Sloan St between asphalt path and sidewalk.
N: 52055.35
E: 56148.63
Elevation: 1019.79
Ties:
1. *NW 87.42' Northmost arrow turn signal at tip*
2. *W 52.80' to middle arrow turn signal at tip*
3. *SW 42.91' to center of curb inlet manhole*
4. *E 13.57' to P.C. of W edge of asphalt path*

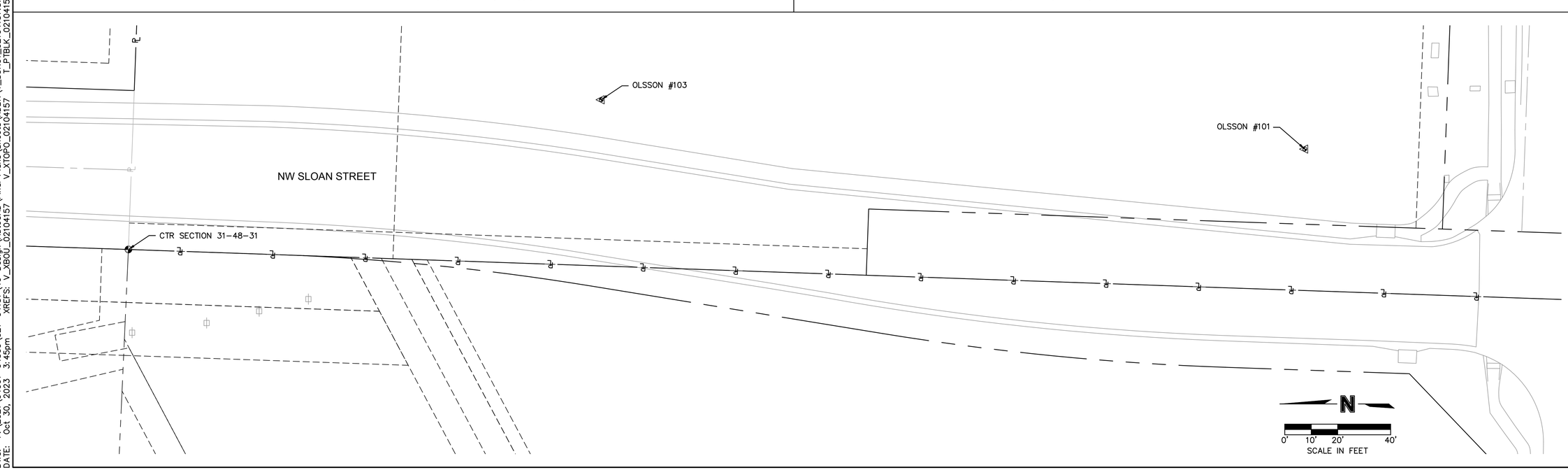
Olsson #103:
Set 1/2" Rebar with Olsson Control Cap. Set on top of berm on East side of Sloan St.
N: 52321.10
E: 56167.20
Elevation: 1014.85
Ties:
1. *SW 19.87' to back of curb at P.C.*
2. *W 13.90' to East edge of sidewalk at P.C.*
3. *E 14.00' to West Edge of asphalt path*
4. *S 264.21' to Olsson #101*

Olsson Benchmark #1:
Set chiseled square cut on top of curb 11' NW of power pole where power line splits to South and East. Also on East curb line of Main St.
Elevation: 978.11

Olsson Benchmark #2:
Set chiseled square cut on top of curb at flume in parking lot of 1292 Sloan St.
Elevation: 988.89







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SURVEY CONTROL

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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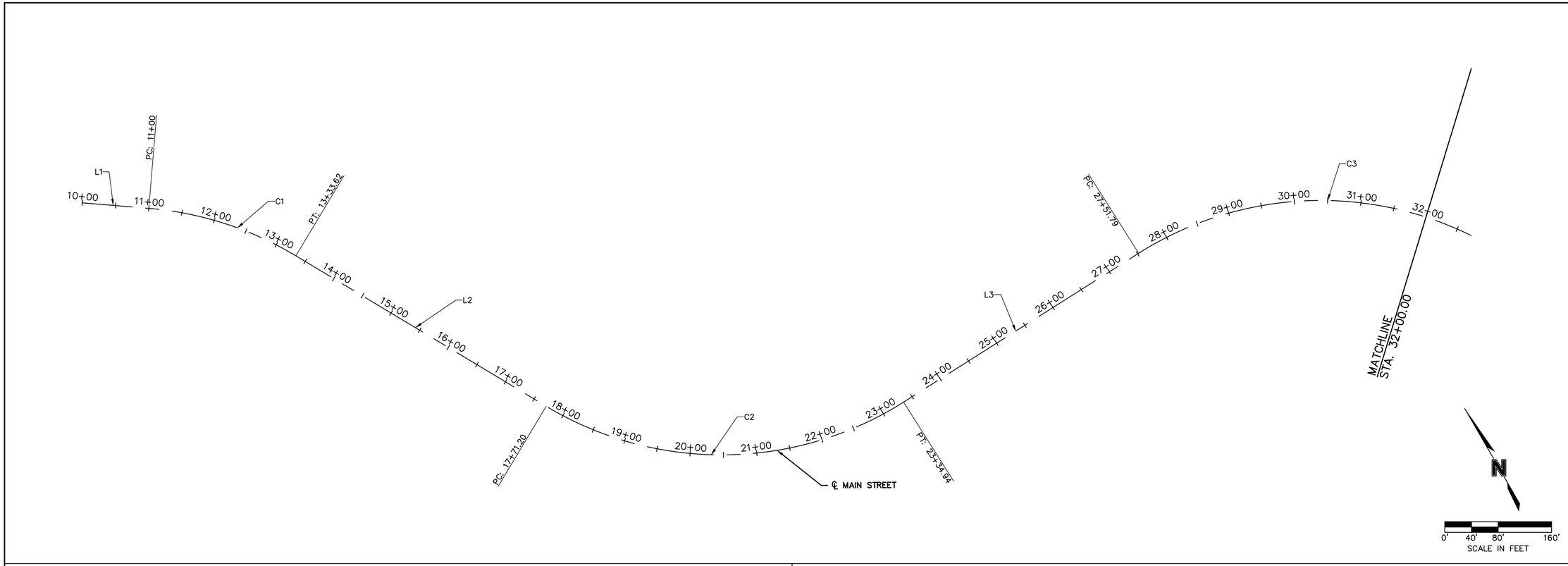

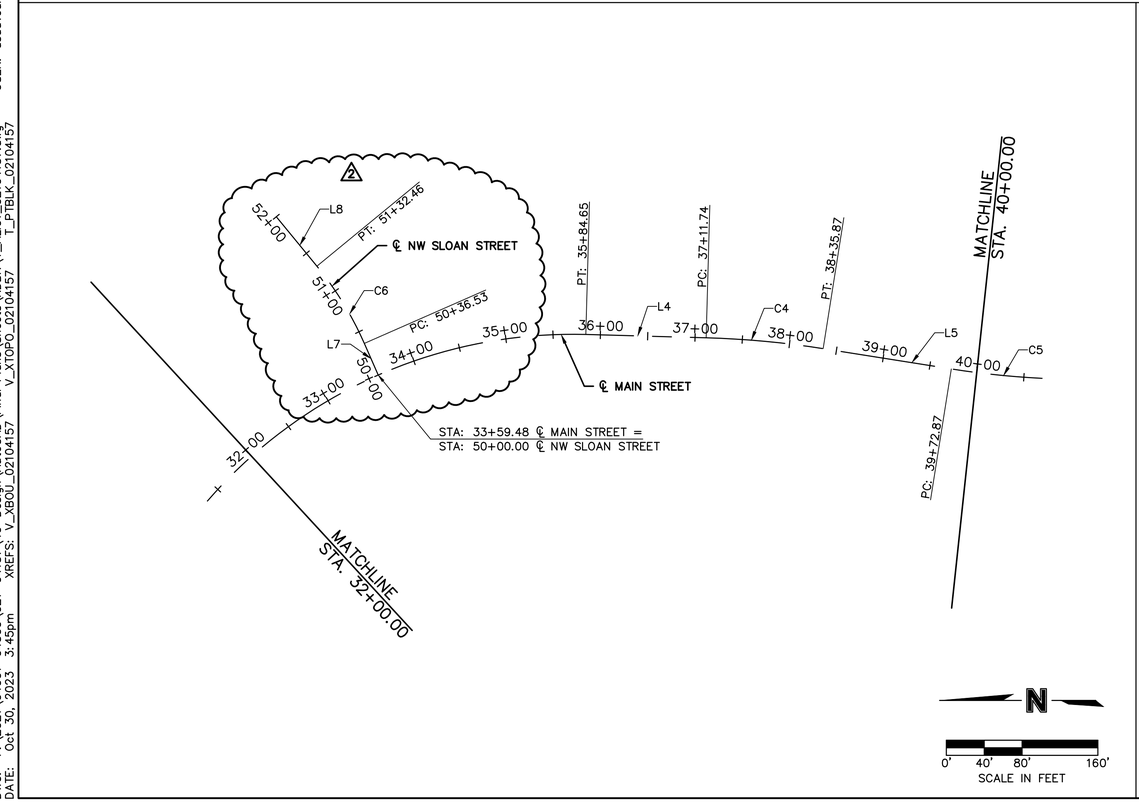

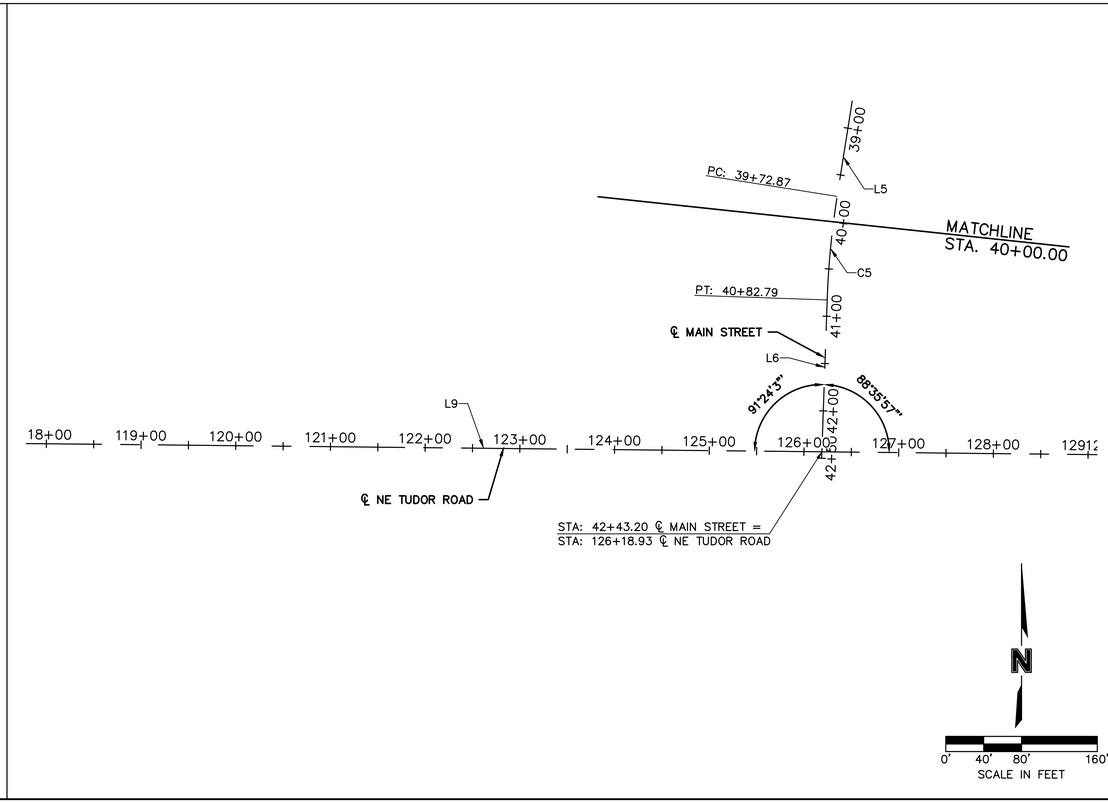

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2	01/05/2022	DESIGN REVIEW	ARJ

ALIGNMENT DATA

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NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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DATE: Oct 30, 2023 3:45pm XREFS: V_XB00_02104157 V_XTOP0_02104157 T_PTBLK_02104157

MAIN STREET

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L1		10+00.00 11+00.00	53972.7352 53915.2275	54288.1193 54369.9292	100.00'	S54°53'42"E			
C1	PC= PI= PT=	11+00.00 12+18.90 13+33.62	53915.2275 53846.8517 53742.5091	54369.9292 54467.1999 54524.2041	233.62'	S41°46'18"E	26°14'47"	118.90'	510.00'
L2		13+33.62 17+71.20	53742.5091 53358.4997	54524.2041 54733.9951	437.58'	S28°38'55"E			
C2	PC= PI= PT=	17+71.20 20+85.77 23+34.94	53358.4997 53082.4388 53093.3169	54733.9951 54884.8120 55199.1956	563.74'	S60°18'54"E	63°19'59"	314.57'	510.00'
L3		23+34.94 27+51.79	53093.3169 53107.7318	55199.1956 55615.7955	416.85'	N88°01'06"E			
C3	PC= PI= PT=	27+51.79 32+94.57 35+84.65	53107.7318 53126.5015 52583.9306	55615.7955 56158.2495 56143.2365	832.85'	S45°11'54"E	93°34'00"	542.78'	510.00'
L4		35+84.65 37+11.74	52583.9306 52456.8896	56143.2365 56139.7213	127.09'	S1°35'06"W			
C4	PC= PI= PT=	37+11.74 37+73.89 38+35.87	52456.8896 52394.7589 52333.3686	56139.7213 56138.0022 56128.2857	124.14'	S5°17'22"W	7°24'32"	62.15'	960.00'
L5		38+35.87 39+72.87	52333.3686 52198.0525	56128.2857 56106.8689	137.00'	S8°59'38"W			
C5	PC= PI= PT=	39+72.87 40+27.90 40+82.79	52198.0525 52143.7028 52088.7099	56106.8689 56098.2668 56096.3499	109.92'	S5°29'42"W	6°59'51"	55.03'	900.00'
L6		40+82.79 42+50.00	52088.7099 51921.5991	56096.3499 56090.5250	167.21'	S1°59'47"W			

2

NW SLOAN STREET

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L7		50+00.00 50+36.53	52803.1190 52817.8082	56100.3806 56133.8264	36.53'	N66°17'21"E			
C6	PC= PI= PT=	50+36.53 50+84.80 51+32.46	52817.8082 52837.2177 52867.8642	56133.8264 56178.0195 56215.3095	95.93'	N58°26'14"E	15°42'14"	48.27'	350.00'
L8		51+32.46 52+00.00	52867.8642 52910.7478	56215.3095 56267.4893	67.54'	N50°35'07"E			

NE TUDOR ROAD

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L9		110+00.00 129+36.82	51945.2172 51925.0900	54471.9213 56408.6330	1936.82'	S89°24'16"E			

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RECORD DRAWINGS

RYAN B. FLEMING
MO. NO. PE-2002003161

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
2	01/05/2022	DESIGN REVIEW	ARJ

ALIGNMENT DATA

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_ALI01_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:45pm XREFS: V_XB0U_02104157 V_XTOPO_02104157 T_PTBLK_02104157

GENERAL NOTES FOR CAPITAL IMPROVEMENTS PROJECTS
(REV. FEBRUARY 10, 2010)

1)PRELIMINARY INFORMATION:

a) CONSULT PARAGRAPH 6.12 OF THE EJCDC GENERAL CONDITIONS (C–700) FOR A COMPLETE LIST OF RECORD DOCUMENTS THAT THE CONTRACTOR SHALL MAINTAIN ON SITE.

b) PERMITS REQUIRED FOR THE WORK CAN BE FOUND IN SECTION 1010 OF THE GENERAL REQUIREMENTS (DIVISION 1).

c) CONSTRUCTION OF THE WORK SHOWN OR IMPLIED BY THIS SET OF DRAWINGS SHALL NOT BE INITIATED UNLESS ALL PRELIMINARY CONTRACT OBLIGATIONS ARE MET, AND THE OWNER IS NOTIFIED OF THE INTENT TO START THE WORK. SEE SECTION 1020 OF DIVISION 1.

d) ALL WORK SHALL BE CONFINED WITHIN THE CONSTRUCTION LIMITS OR AS OTHERWISE DIRECTED BY THE OWNER.

e) ANY WORK PERFORMED PRIOR TO ENGINEER'S REVIEW AND APPROVAL OF THE PERTINENT SUBMITTAL WILL BE AT THE SOLE EXPENSE AND RESPONSIBILITY OF CONTRACTOR. SUBMITTAL PROCEDURES AND REQUIREMENTS CAN BE FOUND IN PARAGRAPH 6.17 OF C–700 AND SECTIONS 1115 AND 1116 OF DIVISION 1.

f) OWNER IS DEFINED AS THE CITY OF LEE'S SUMMIT.

2) COORDINATION AND NOTIFICATIONS:

a) ANY TIME REFERENCES LISTED IN PARAGRAPH 2 ARE TYPICAL TIMELINES. CONSULT SECTION 1105 OF DIVISION 1 FOR PROJECT SPECIFIC TIMELINES, COORDINATION AND NOTIFICATION PROCESSES.

b) PRIOR TO ANY STREET CLOSURES, APPROPRIATE NOTIFICATIONS WILL BE DISTRIBUTED. THE CLOSURES OF ARTERIAL AND COLLECTOR STREETS WILL TYPICALLY CAUSE THE OWNER TO GENERATE A PRESS RELEASE AND DETOUR MAP. THIS IS TYPICALLY 14 CALENDAR DAYS.

c) THE REMOVAL OF TREES, SHEDS, FENCING OR OTHER ITEMS ON PRIVATE PROPERTY, NOT OTHERWISE SHOWN ON THESE PLANS, ARE NOT AUTHORIZED ON THIS PROJECT. CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF ANY SUCH WORK IS PROPOSED. THE OWNER REQUIRES AT LEAST 14 CALENDAR DAYS TO NOTIFY PROPERTY OWNER RESIDENT, IN ORDER TO GIVE THEM OPPORTUNITY TO SALVAGE THESE ITEMS.

d) PRIOR TO DRIVEWAY DEMOLITION AND RECONSTRUCTION, CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE PROPERTY OWNER OR RESIDENT. THIS IS TYPICALLY 2 WORKING DAYS.

e) PRIOR TO SHUTTING DOWN A WATER MAIN, CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE PROPERTY OWNER OR RESIDENT. THIS IS TYPICALLY 2 WORKING DAYS.

f) CONTRACTOR SHALL NOT BE ALLOWED TO WORK WEEKENDS OR HOLIDAYS WITHOUT REQUESTING PRIOR APPROVAL FROM OWNER THREE WORKING DAYS IN ADVANCE.

g) BY ORDINANCE 17–42, WORKING HOURS WITHIN THE CITY OF LEE'S SUMMIT ARE 7:00 A.M. TO 10:00 P.M. REQUESTS TO WORK BEYOND THESE HOURS MUST BE FILED WITH THE OWNER ONE WEEK IN ADVANCE.

3) SURVEY:

a) IN ACCORDANCE WITH PARAGRAPH 4.05 OF C–700, OWNER OR ENGINEER SHALL PROVIDE ENGINEERING SURVEYS TO ESTABLISH REFERENCE POINTS FOR CONSTRUCTION WHICH IN THEIR JUDGMENT ARE NECESSARY TO ENABLE CONTRACTOR TO PERFORM THE WORK. CONTRACTOR IS RESPONSIBLE FOR LAYING OUT THE WORK AND SHALL SET THOSE STAKES NECESSARY TO CONSTRUCT THIS PROJECT. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK, UNLESS LISTED IN THE BID TAB.

b) IN ACCORDANCE WITH PARAGRAPH 4.05 OF C–700, CONTRACTOR SHALL RESET ANY PERMANENT REFERENCE POINTS, PROPERTY CORNERS AND PROPERTY MONUMENTS THAT ARE DISTURBED DURING CONSTRUCTION. THESE POINTS AND MONUMENTS SHALL BE RESET BY A REGISTERED LAND SURVEYOR IN ACCORDANCE WITH STATE LAW. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK.

4) UNDERGROUND FACILITIES:

a) INFORMATION REGARDING UNDERGROUND FACILITIES IS APPROXIMATE AND WAS COMPILED USING INFORMATION PROVIDED BY THE FACILITY OWNER. CONSULT PARAGRAPH 4.04 OF C–700 FOR FURTHER INFORMATION.

b) UNLESS BORED, ALL UNDERGROUND UTILITIES (INCLUDING THE CONTRACTOR'S WORK) THAT CROSS UNDER PROPOSED STREET PAVEMENTS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF THE NEW PAVEMENT.

5) WATER, STORM & SANITARY SEWER:

a) WATER CAN BE PURCHASED FROM THE CITY'S WATER UTILITIES DEPARTMENT.

b) ALL MANHOLES, VALVE LIDS, METER LIDS, FIRE HYDRANTS AND AIR RELIEF ASSEMBLIES WITHIN THE CONSTRUCTION LIMITS SHALL BE RELOCATED OR ADJUSTED TO GRADE BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS. ALL VALVE RISERS IN PAVEMENT (WHETHER ADJUSTED, REPLACED OR PLACED) SHALL BE CAST IRON AND CONFORM TO THE SPECIFICATIONS. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK, UNLESS LISTED IN THE BID TAB.

c) CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE FLOWS AROUND EACH SEGMENT OF PIPE THAT IS TO BE REPLACED OR REFURBISHED. CONTRACTOR SHALL HAVE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO COMPLETE WORK ON THE PIPE SEGMENT PRIOR TO ISOLATING THE SEWER SEGMENT AND BEGINNING BYPASS PUMPING OPERATIONS. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK, UNLESS LISTED IN THE BID TAB.

6) ENVIRONMENTAL & SAFETY:

a) CONTRACTOR SHALL USE ADEQUATE DUST CONTROL MEASURES DURING ALL PHASES OF THE WORK. CONSULT SECTION 1145 IN DIVISION 1.

b) SILTATION AND EROSION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL SYSTEMS, REPLACING DAMAGED OR FAILED EROSION CONTROL DEVICES AND INSPECTING THE SITE IN ORDER TO REPAIR THE EROSION CONTROL SYSTEMS WITHIN 24 HOURS AFTER A SIGNIFICATION RAIN EVENT. GRADING ADJACENT TO PAVEMENTS SHALL BE LEFT THREE INCHES BELOW THE TOP OF PAVEMENT UNTIL IMMEDIATELY BEFORE SOD OR SEED IS PLACED. EROSION AND SEDIMENT CONTROL MUST BE IN PLACE PRIOR TO THE DISTURBANCE OF THE GROUND. FIELD ADJUSTMENTS TO EROSION AND SEDIMENT CONTROL MAY BE REQUIRED DEPENDING ON THE SITE CONDITIONS.

c) UNLESS WAIVED IN SECTION 1010, CONTRACTOR SHALL MAINTAIN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) ON SITE IN ACCORDANCE WITH DNR REGULATIONS.

d) PROPERTY MAINTENANCE INFORMATION CAN BE FOUND IN SECTION 1145 OF DIVISION 1.

7) GRADING, REMOVALS & DAMAGED ITEMS:

a) INFORMATION ON SALVAGED MATERIAL CAN BE FOUND IN SECTION 1150 OF DIVISION 1.

b) NO BURNING IS ALLOWED ON THE SITE.

c) DRIVEWAYS, PARKING LOTS, SIDEWALKS, FENCES, IRRIGATION SYSTEMS AND OTHER ITEMS DISTURBED OR DAMAGED BY THE CONTRACTOR SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO A CONDITION EQUAL TO OR BETTER THAN EXISTING BEFORE DAMAGE OCCURRED. UNLESS WAIVED BY OWNER, ALL ITEMS REQUIRING REPLACEMENT SHALL BE REPLACED WITH NEW MATERIALS, AND ALL MATERIALS ARE SUBJECT TO OWNER'S APPROVAL. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK, UNLESS LISTED IN THE BID TAB.

d) ALL FENCE REPLACEMENT SHOULD BE RELOCATED TO THE PROPERTY LINES, UNLESS THE EXISTING FENCE WAS LOCATED INSIDE OF THE PROPERTY LINES. FENCE INSIDE OF PROPERTY LINES SHOULD BE PLACED IN ITS ORIGINAL LOCATION. GATES AND FENCE CORNERS SHALL BE RE–ESTABLISHED AT THE ORIGINAL LOCATIONS, UNLESS INDICATED BY THE DRAWINGS. REMOVALS SHALL BE AS SHOWN ON THE DRAWINGS OR AS APPROVED BY OWNER. REMOVALS NOT APPROVED BY OWNER WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

e) ROOF DRAINS, UNDER DRAINS, SEPTIC LINES AND OTHER SMALL DRAINAGE LINES NOT SHOWN ON THE DRAWINGS THAT ARE UNCOVERED OR DAMAGED SHALL BE REPAIRED, AND THE POINT OF DISCHARGE SHALL BE PLACED NO CLOSER THAN FIVE FEET TO ANY ADJOINING PROPERTY LINE INCLUDING THE RIGHT–OF–WAY LINE (SECTION 16–413 OF THE CODE OF ORDINANCES). UNLESS DIRECTED BY THE CITY ENGINEER, NO DRAIN LINES SHALL BE CONNECTED TO THE STORM SEWER SYSTEM. MATERIALS AND LOCATION ARE SUBJECT TO OWNER'S APPROVAL. IF NO UNIT PRICE IS IN THE BID, THEN PAYMENT WILL BE NEGOTIATED PER THE CONTRACT DOCUMENTS.

f) MATERIALS THAT MAY BE CLASSIFIED AS UNSUITABLE OR REQUIRE UNDERGRADING SHALL BE DETERMINED BY THE OWNER OR THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL NOT MAKE THIS DETERMINATION.

g) All WASTE MATERIAL SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. ALL MATERIALS SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE. SAWCUTTING SHALL BE SUBSIDIARY TO OTHER BID ITEMS.

8) TRAFFIC:

a) UNLESS DIRECTED IN THE CONTRACT DOCUMENTS OR DRAWINGS, CONTRACTOR SHALL MAINTAIN TRAFFIC AND PEDESTRIAN ACCESS AT ALL TIMES.

b) APPROPRIATE TRAFFIC CONTROL DEVICES, SIGNAGE AND PAVEMENT MARKINGS SHALL BE ESTABLISHED AND MAINTAINED THROUGHOUT THE PROJECT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE MUTCD.

ADDITIONAL GENERAL NOTES:

1) ALL TREES TO BE GRUBBED ARE MARKED THUS "X". SPARE ALL TREES THAT ARE MARKED DND (DO NOT DISTURB) OR ANY TREES NOT MARKED AT ALL. EXCEPTIONALLY GOOD TREES SHALL BE SPARED BY ADJUSTING BACKSLOPE LINES DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. ALL TREES WITHIN THE CONSTRUCTION LIMITS TO BE SAVED SHALL HAVE HEIR TRUNKS AND ROOT ZONE PHYSICALLY PROTECTED PRIOR TO CONSTRUCTION OPERATIONS BY METHODS APPROVED BY THE ENGINEER.

2) THE CONTRACTOR SHALL POTHOLE ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION OF ANY PORTION OF THE STORM SEWER, UNDERDRAINS, CONDUIT, AND ANY OTHER SUBSURFACE ELEMENTS OF THE PROJECT. THIS SURVEY INFORMATION SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW. THE CONTRACTOR SHALL NOT BEGIN CONSTRUCTION ON ANY SUBSURFACE ELEMENT ON THE PROJECT WITHOUT THE APPROVAL OF THE ENGINEER. THIS ITEM SHALL BE SUBSIDIARY TO OTHER BID ITEMS.

1 3) THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE–CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816)969–1200.

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RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE–2002003161

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	11/16/2021	CITY COMMENTS	ARJ

GENERAL NOTES

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET
LEE'S SUMMIT, MISSOURI
2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_GEN01_02104157
DATE: 2021-10-12

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_GEN01_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:46pm XREFS: T_PBASE_02104157 T_PTBLK_02104157

RECAPITULATION OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	
1	Mobilization	Lump Sum	1	
2	Clearing and Grubbing	Lump Sum	1	
3	Demolition and Removal	Lump Sum	1	
4	Unclassified Excavation	Cu. Yd.	12,563	
5	Embankment	Cu. Yd.	33,941	
6	Pavement, Asphaltic Surface (APWA Type 5-01) (2")	Sq. Yd.	14,304	
7	Pavement, Asphaltic Base (APWA RC Type 1-01) (7.5")	Sq. Yd.	14,304	
8	Aggregate Base (MoDOT Type 5) (12")	Sq. Yd.	16,329	
9	Aggregate Base (4")	Sq. Yd.	3,296	
10	Geogrid (Tensar TX140)	Sq. Yd.	16,504	
11	Curb & Gutter (Type CG-1)	Lin. Ft.	6,403	
12	Sidewalk (4")	Sq. Yd.	3,266	
13	Concrete ADA Ramps	Sq. Ft.	274	
14	Detectable Warning Surface	Sq. Ft.	35	
15	Manhole Rebuilding	Each	2	
16	Inlet (Curb) (8'x4')	Each	1	
17	Inlet (Curb) (6'x3')	Each	9	2
18	Inlet (Curb) (5'x5')	Each	5	
19	Inlet (Curb) (5'x3')	Each	1	2
20	Junction Box (4'x5') 2	Each	4	
21	Junction Box (4'x3')	Each	2	
22	15" Storm Sewer (RCP Class III)	Lin. Ft.	939	
23	18" Storm Sewer (RCP Class III)	Lin. Ft.	126	
24	36" Storm Sewer (RCP Class III)	Lin. Ft.	1,059	
25	42" Storm Sewer (RCP Class III)	Lin. Ft.	217	2
26	RCB (12'x8')	Lin. Ft.	135	
27	RCB Wingwall	Each	2	
28	Rip Rap Type 4	Sq. Yd.	175	1
29	Encasement (Concrete Sanitary Sewer)	Lin. Ft.	35	
30	Adjust Existing Sanitary Sewer Manhole	Each	2	
31	Pavement Marking (4" Solid White Line)	Lin. Ft.	4,285	
32	Pavement Marking (4" White Extension Line)	Lin. Ft.	50	
33	Pavement Marking (4" Solid Yellow Line)	Lin. Ft.	5,795	
34	Pavement Marking (4" Broken Yellow Line)	Lin. Ft.	1,210	
35	Pavement Marking (12" Solid Yellow Diagonal)	Lin. Ft.	30	
36	Pavement Marking (24" White Stop Line)	Lin. Ft.	20	
37	Pavement Marking (White Left Turn Arrow)	Each	22	
38	Permanent Signing	Sq. Ft.	43	
39	Sign Post	Each	4	
40	Street Light Pole (P30S)	Each	27	
41	10' Bracket Arm	Each	27	
42	B30 Screw-in Foundation	Each	27	
43	Cobra-Head Luminaire w/ 250 Watt H.P.S. Equivalent LED Lamp	Each	27	
44	Type II Junction Box	Each	3	
45	4-Circuit Power Supply Assembly	Each	1	
46	Power Supply Foundation	Each	1	
47	3" Schedule 40 P.V.C. Conduit (From Control Center to Power Pole)	Lin. Ft.	30	
48	2" High Density Polyethylene (HDPE) Conduit (Gray)	Lin. Ft.	3,300	
49	3c No. 2 Power Cable	Lin. Ft.	135	
50	3c No. 4 Distribution Cable	Lin. Ft.	3,500	
51	1c No. 10 Pole and Bracket Cable	Lin. Ft.	3,240	
52	Break-away Non-Fused Connector Kits	Each	27	
53	Break-away Fused Connector Kits	Each	54	
54	Traffic Control	Lump Sum	1	
55	Erosion Control Devices (Silt Fence)	Lin. Ft.	6,924	
56	Erosion Control Devices (Inlet Protection)	Each	20	
57	Erosion Control Devices (Construction Entrance)	Each	1	
58	Sod (Fescue)	Sq. Yd.	4,621	
59	Seed	Sq. Yd.	18,571	2
60	Temporary Diversion Berm	Lin. Ft.	360	
61	Rip Rap (MODOT Type 2)	Sq. Yd.	72	

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1	11/16/2021	CITY COMMENTS	ARJ
2	01/05/2022	DESIGN REVISION	ARJ

REVISIONS

RECAPITULATION OF QUANTITIES

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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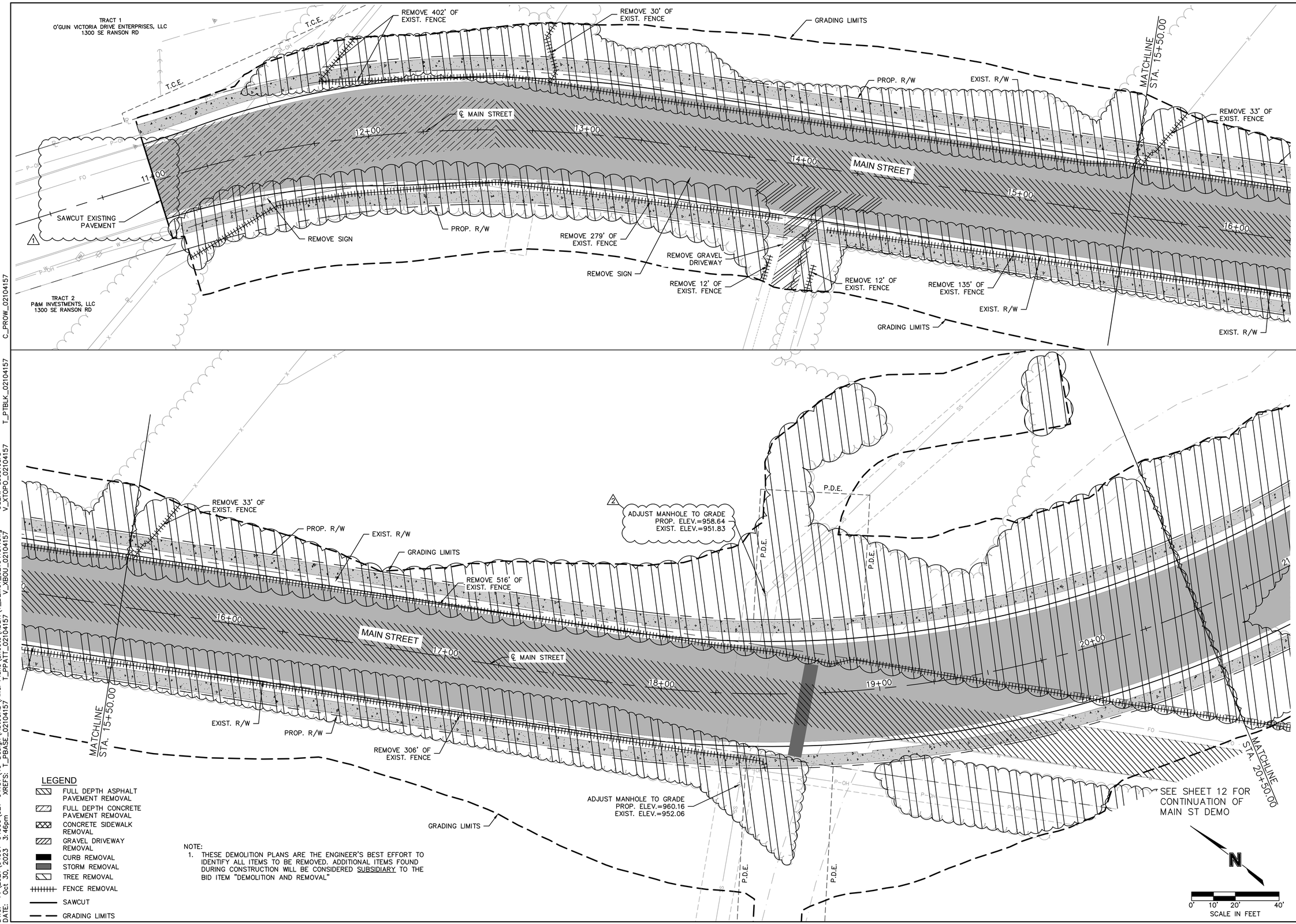

LEGEND

- FULL DEPTH ASPHALT PAVEMENT REMOVAL
- FULL DEPTH CONCRETE PAVEMENT REMOVAL
- CONCRETE SIDEWALK REMOVAL
- GRAVEL DRIVEWAY REMOVAL
- CURB REMOVAL
- STORM REMOVAL
- TREE REMOVAL
- FENCE REMOVAL
- SAWCUT
- GRADING LIMITS

NOTE:

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1	11/16/2021	CITY COMMENTS	ARJ
2	01/03/2023	RCB GRADING REVISION	AS

DEMOLITION & REMOVALS
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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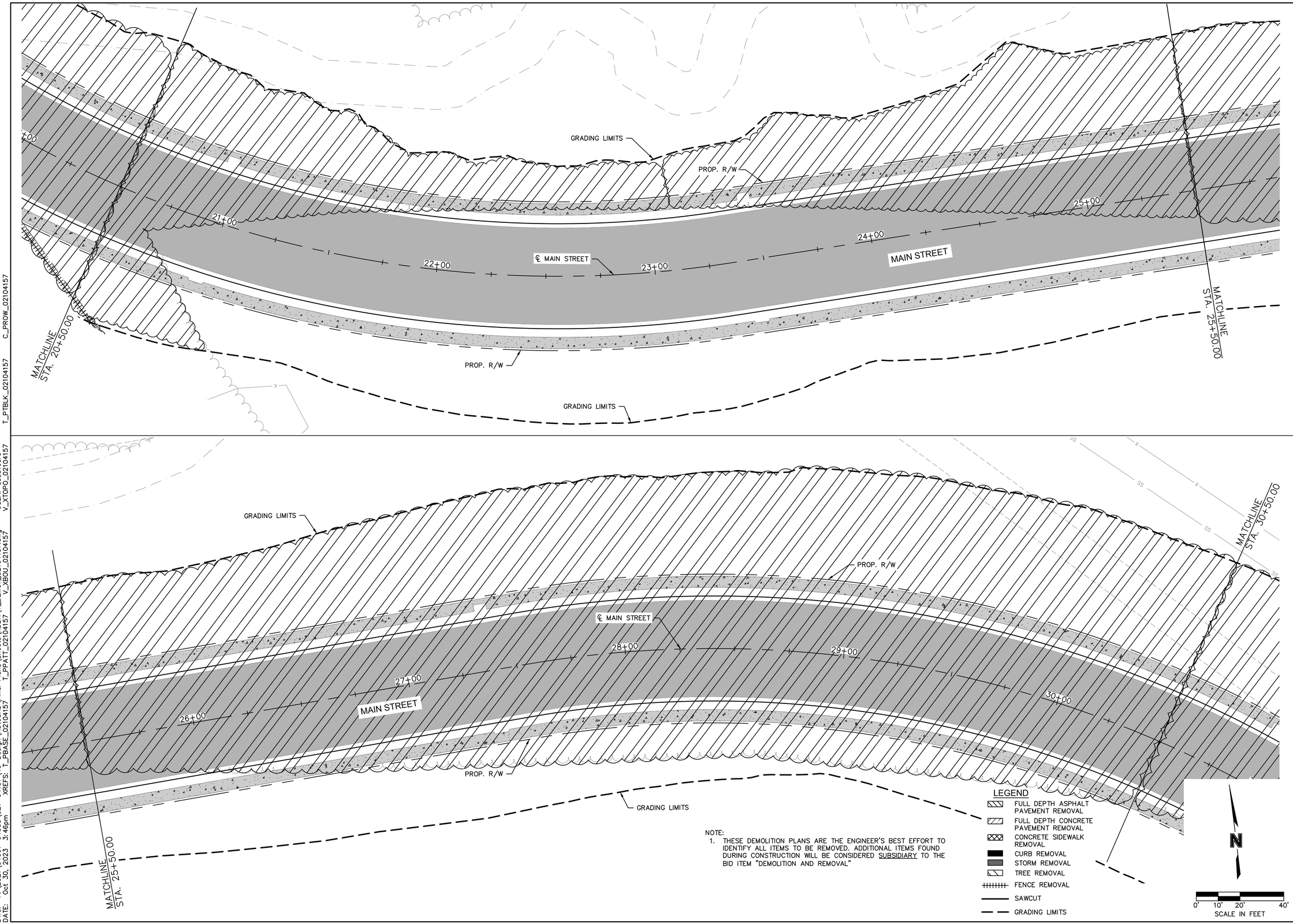

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DEMOLITION & REMOVALS
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

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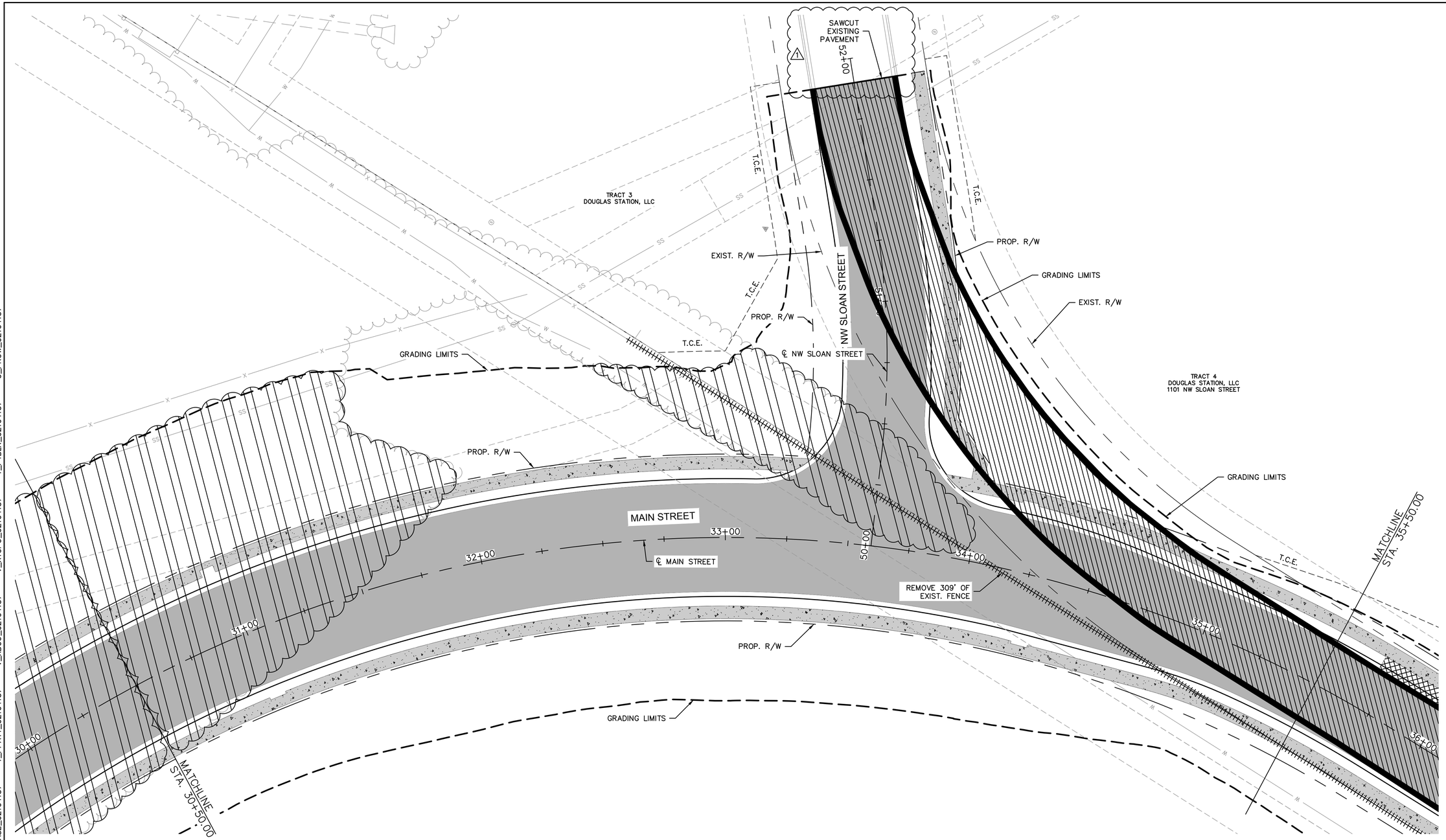

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- FULL DEPTH ASPHALT PAVEMENT REMOVAL
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- GRADING LIMITS

N

0' 10' 20' 40'
SCALE IN FEET

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REVISIONS

DEMOLITION & REMOVALS
MAIN STREET & NW SLOAN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

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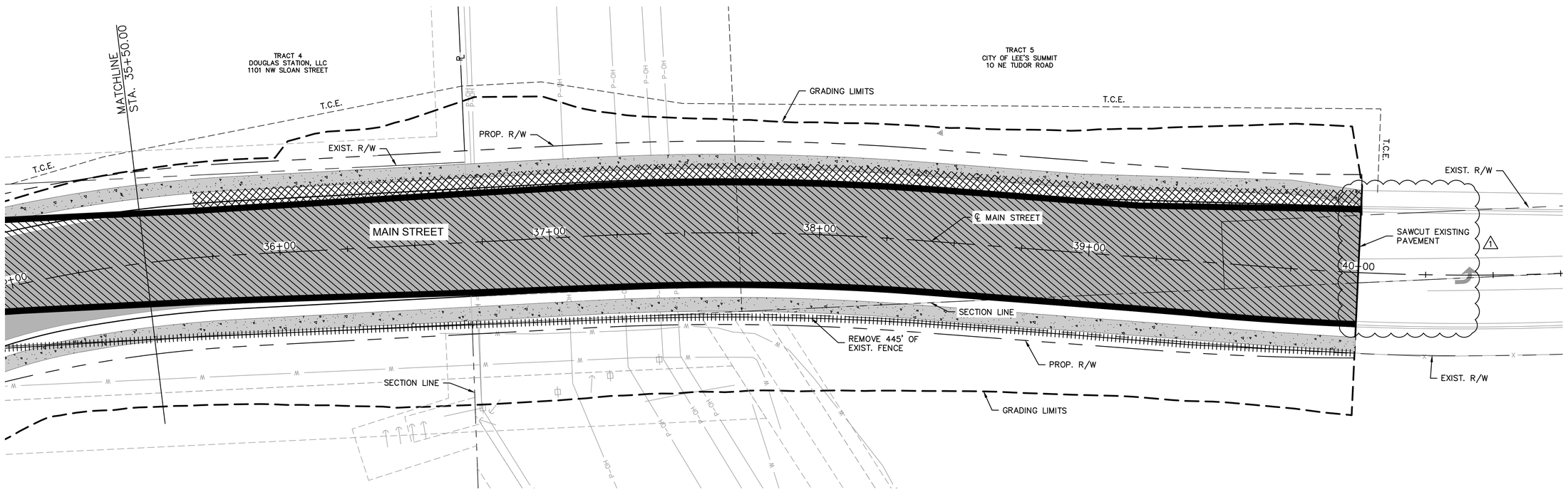

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DEMOLITION & REMOVALS
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

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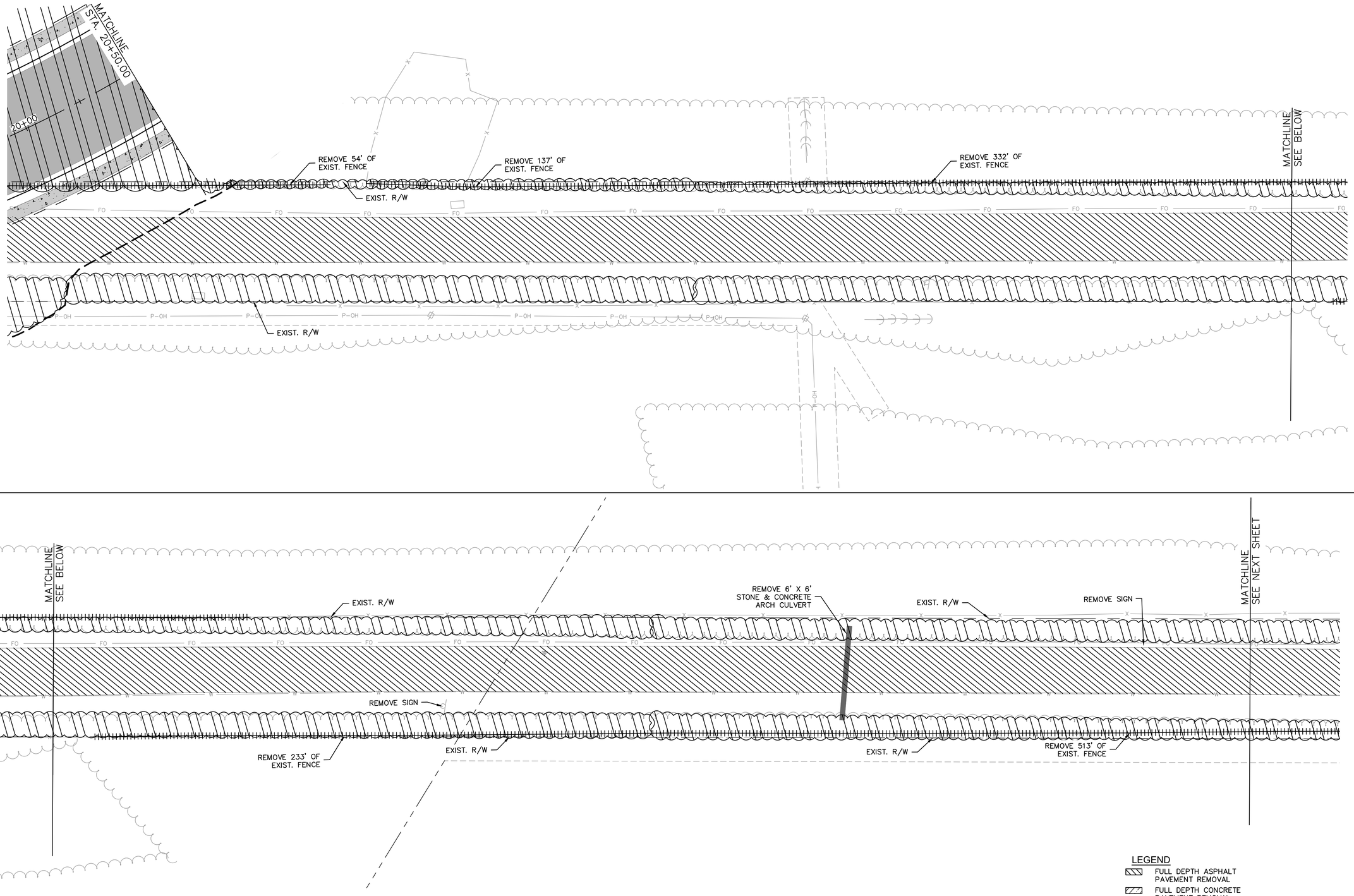

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DEMOLITION & REMOVALS
EXISTING MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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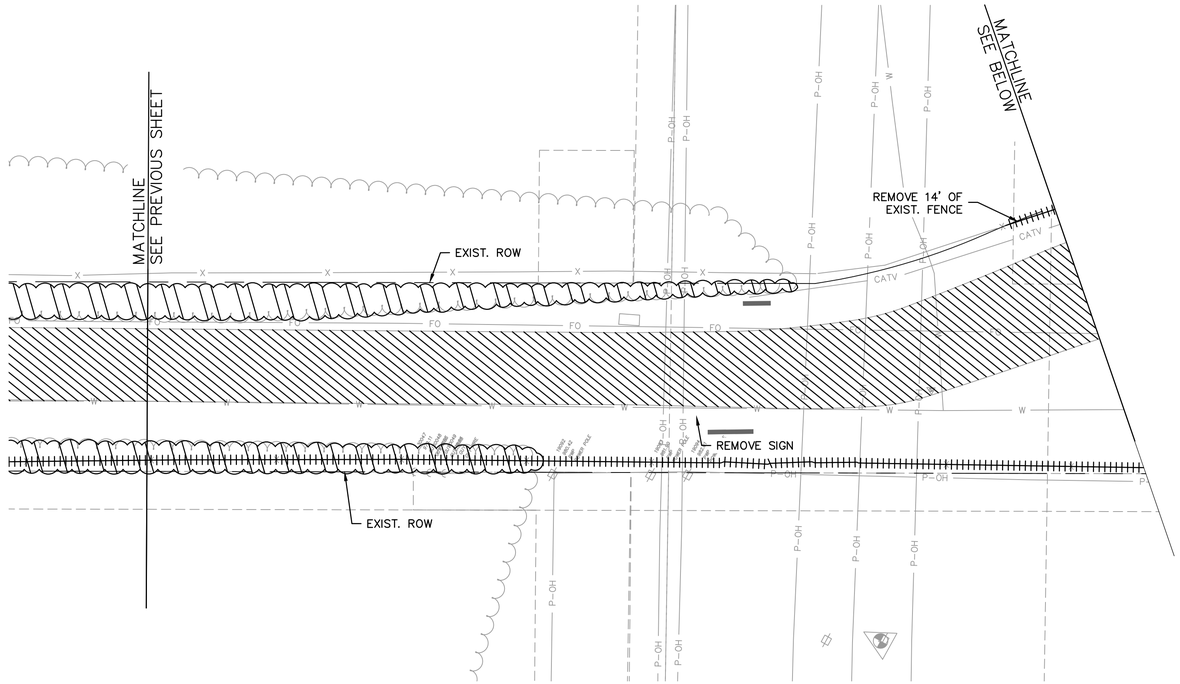

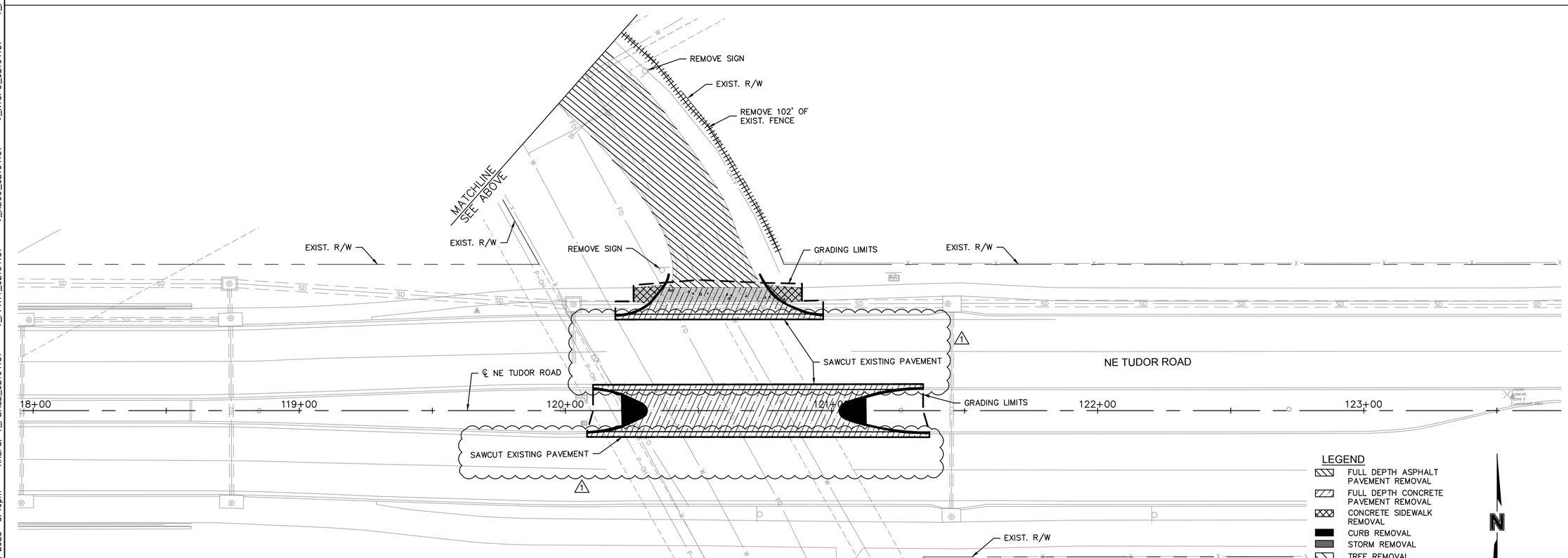

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REVISIONS

DEMOLITION & REMOVALS
EXISTING MAIN STREET & NE TUDOR ROAD

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

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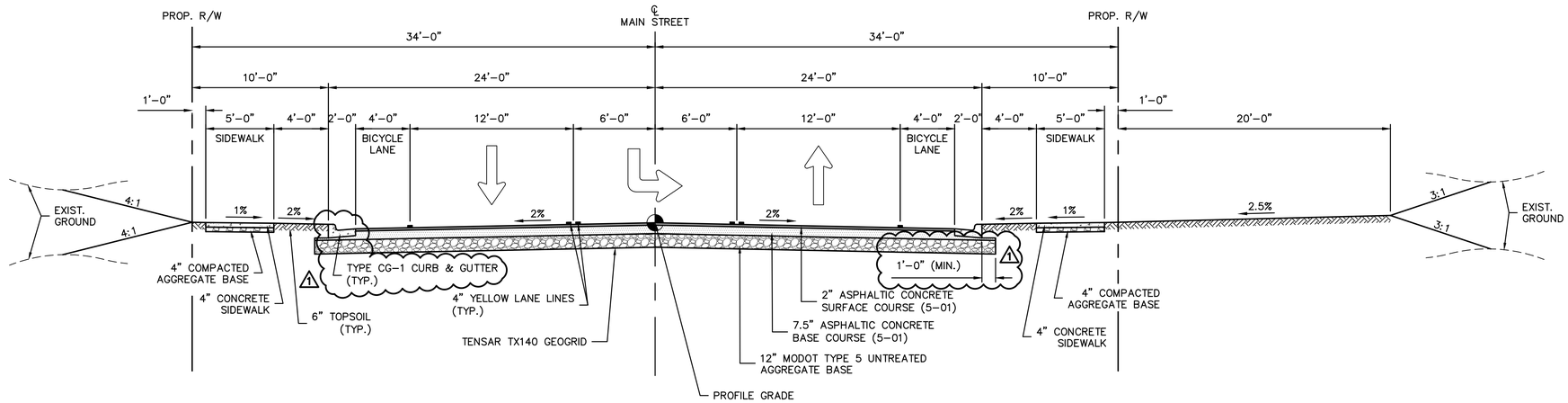
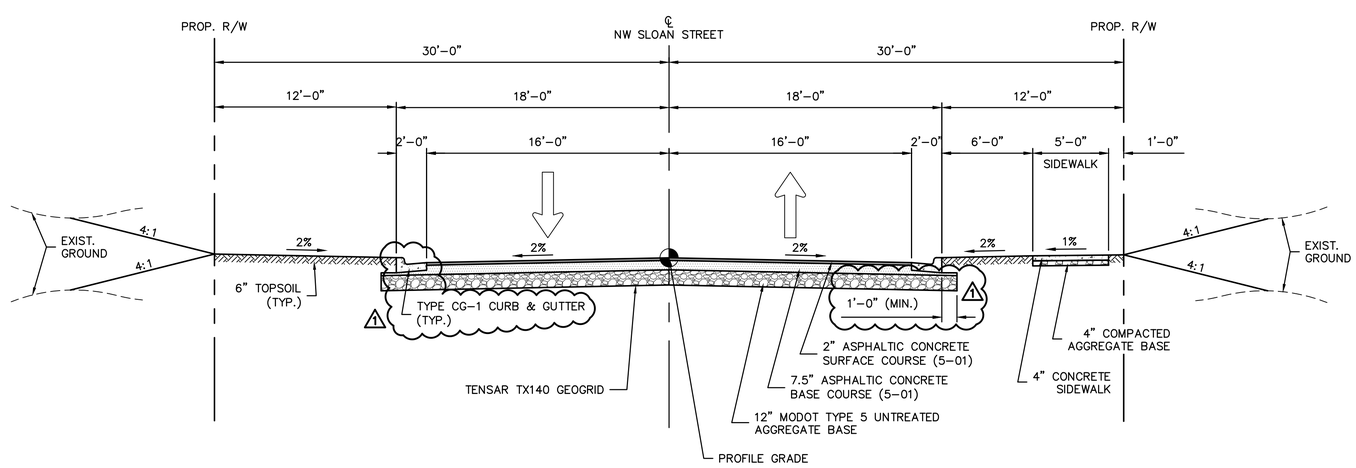


TYPICAL SECTION
MAIN STREET
NOT TO SCALE



TYPICAL SECTION
NW SLOAN STREET
NOT TO SCALE

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RYAN B. FLEMING
MO. NO. PE-2002003161

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	11/16/2021	CITY COMMENTS	ARJ

TYPICAL SECTIONS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_TYP_02104157
DATE: 2021-10-12

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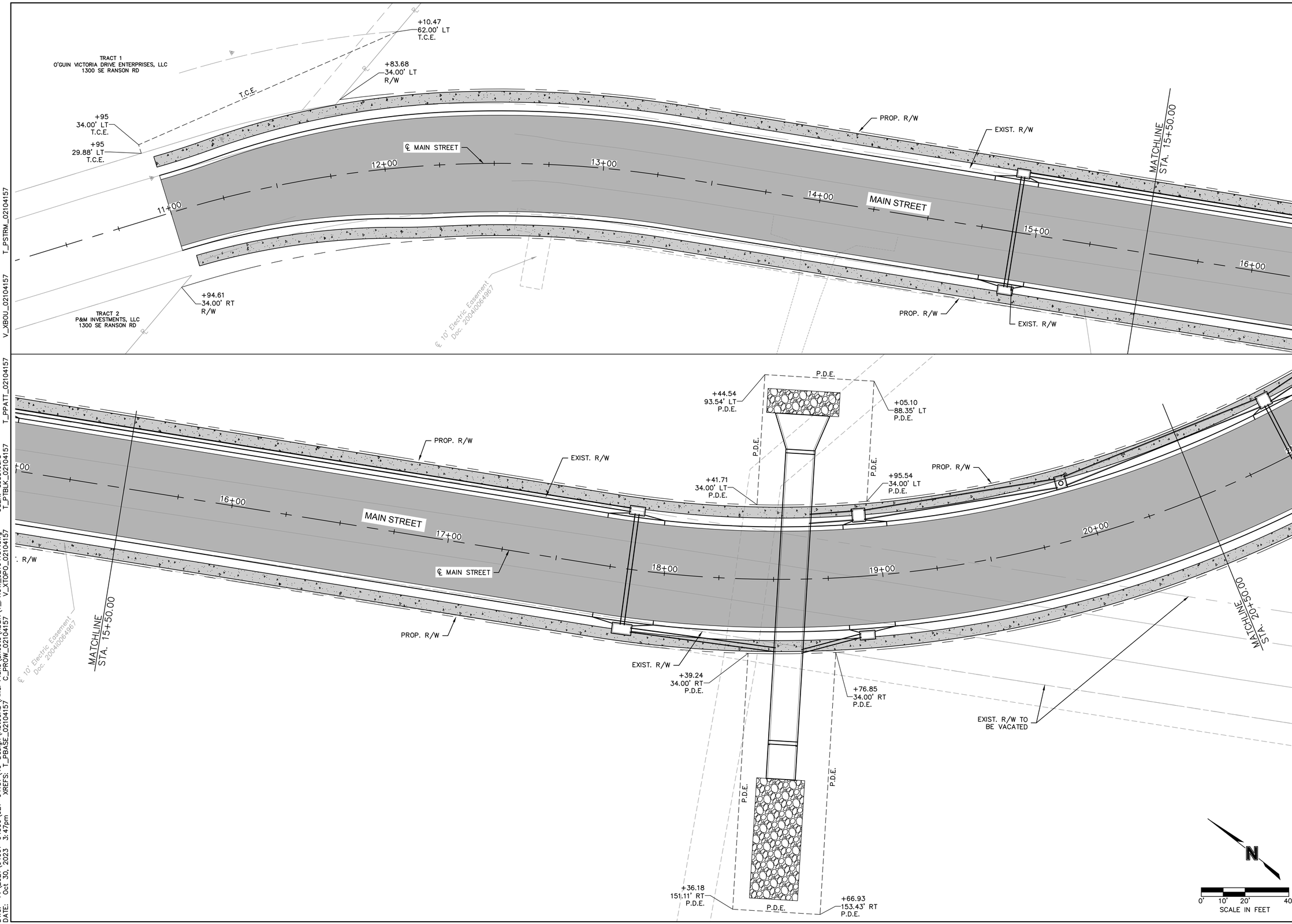

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USER: asaavedra T_PTBLK_02104157

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RECORD DRAWINGS

RYAN B. FLEMING
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REVISIONS

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RIGHT OF WAY PLANS
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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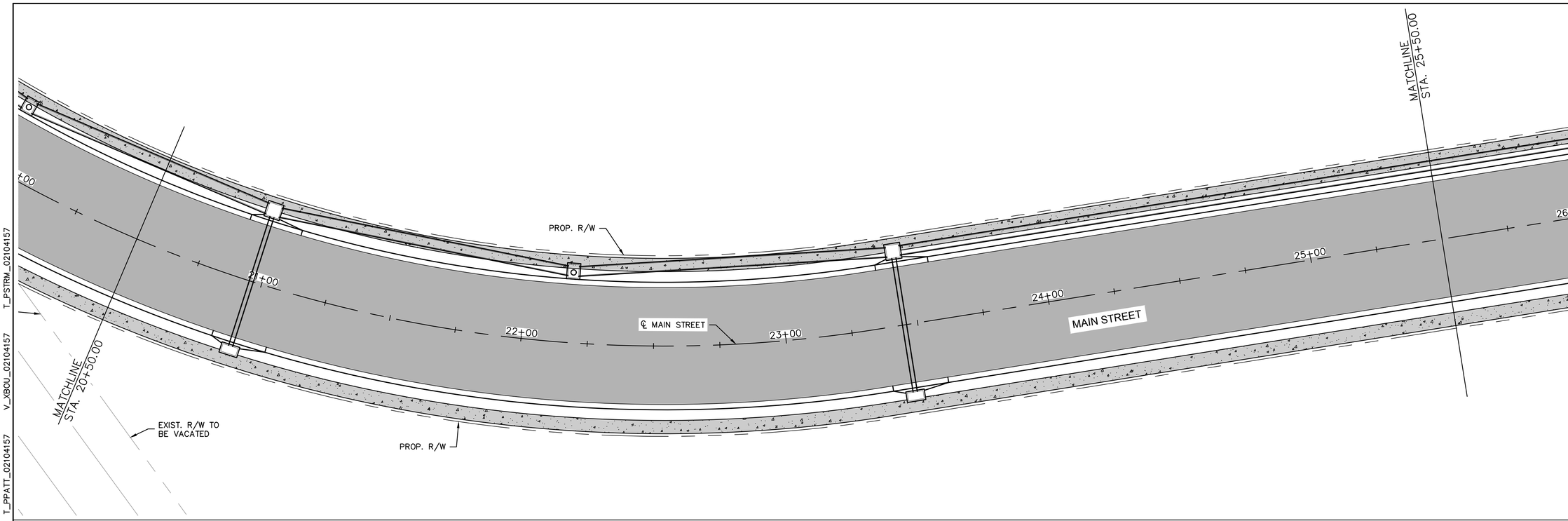

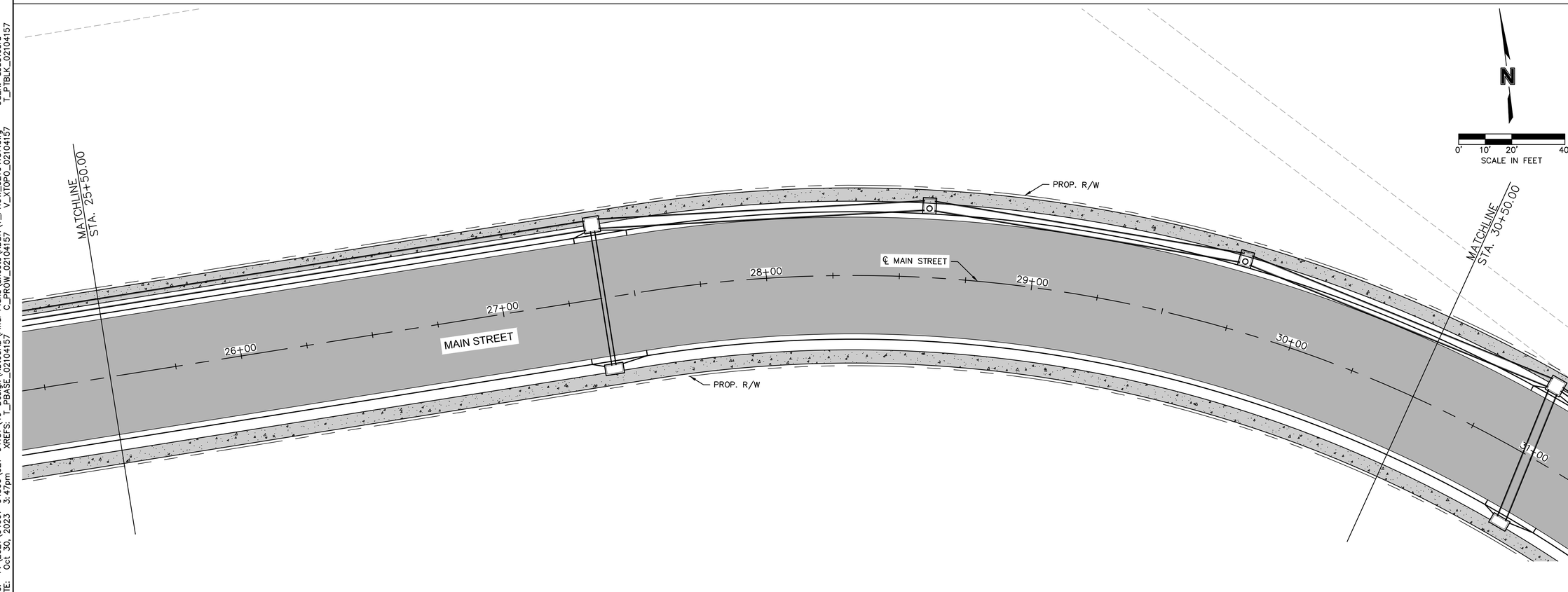

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V_XBOU_02104157 T_PSTRM_02104157 T_PPATT_02104157

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REVISIONS

RIGHT OF WAY PLANS
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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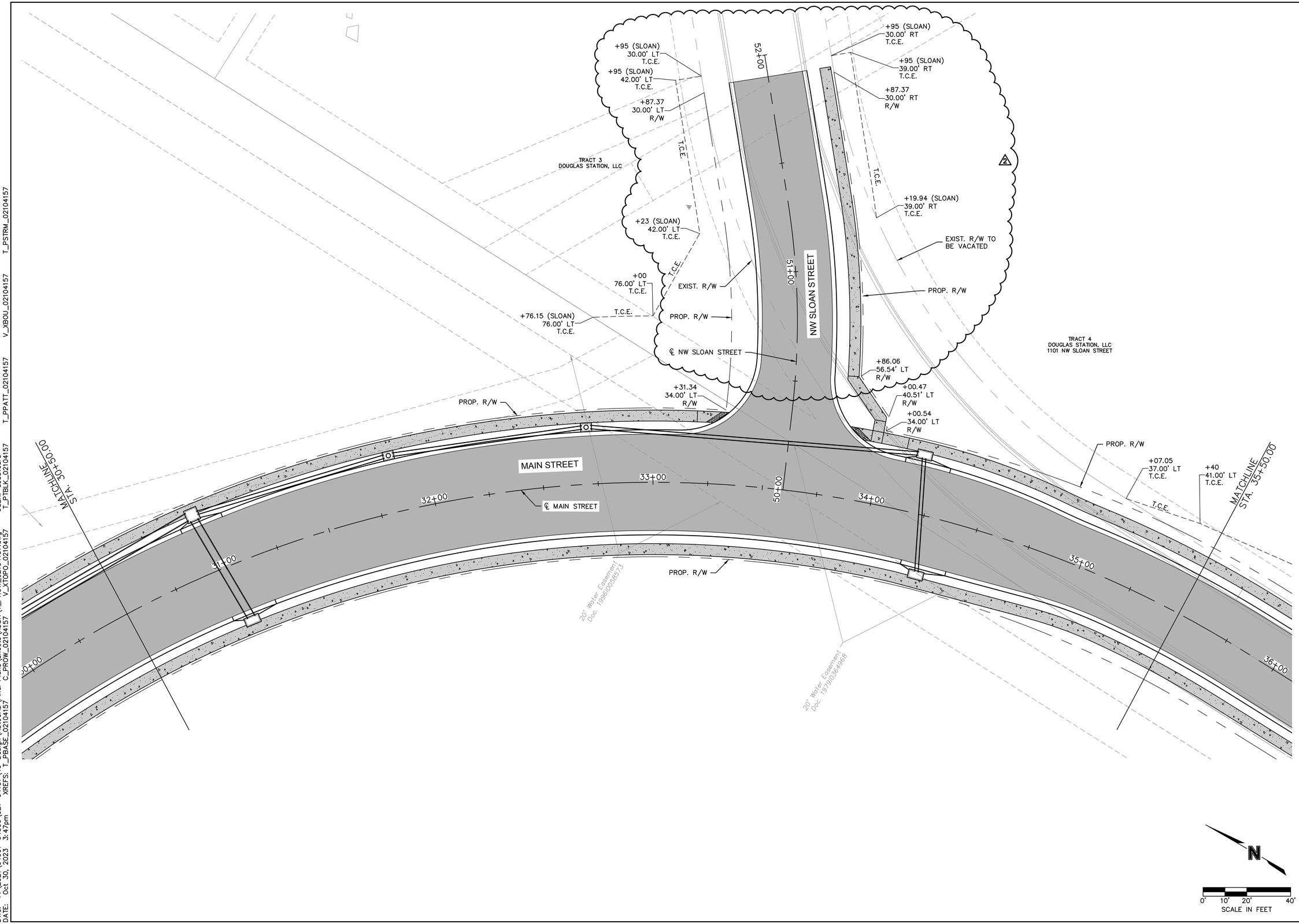

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2	01/05/2022	DESIGN REVIEW	ARJ

RIGHT OF WAY PLANS
MAIN STREET AND SLOAN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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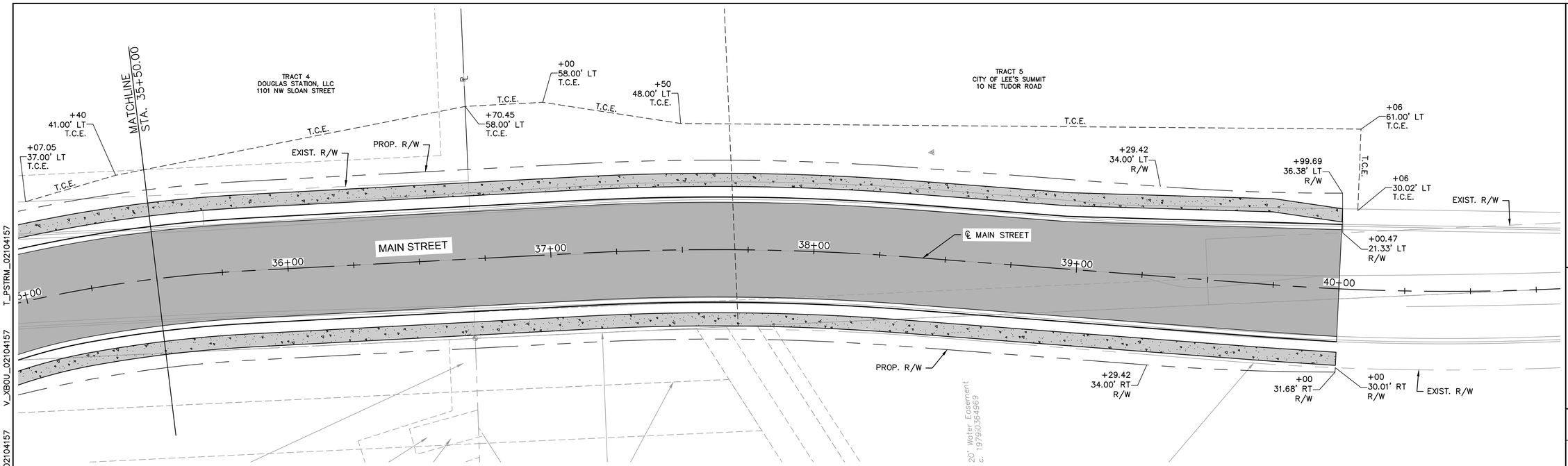

N

0' 10' 20' 40'
SCALE IN FEET

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_PROW_02104157.dwg USER: asaavedra
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REVISIONS

RIGHT OF WAY PLANS
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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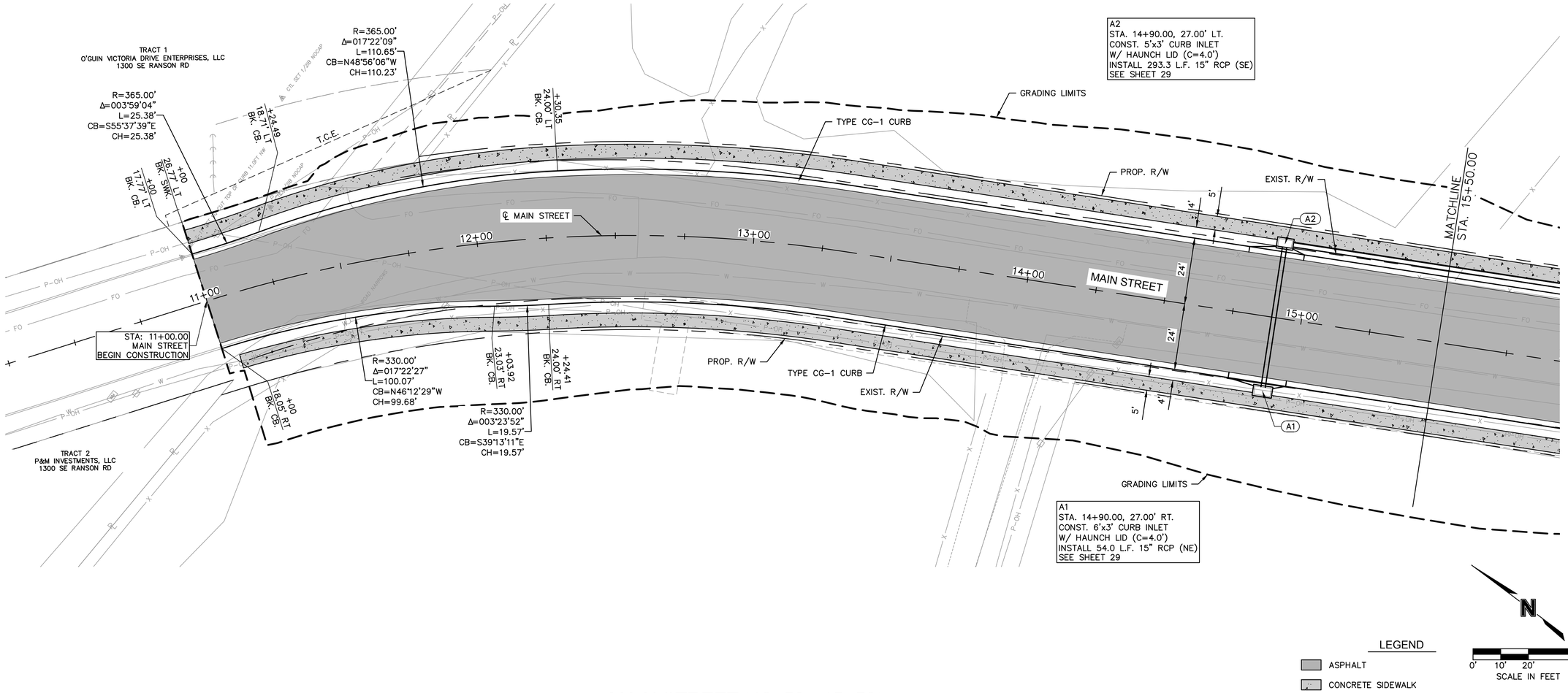
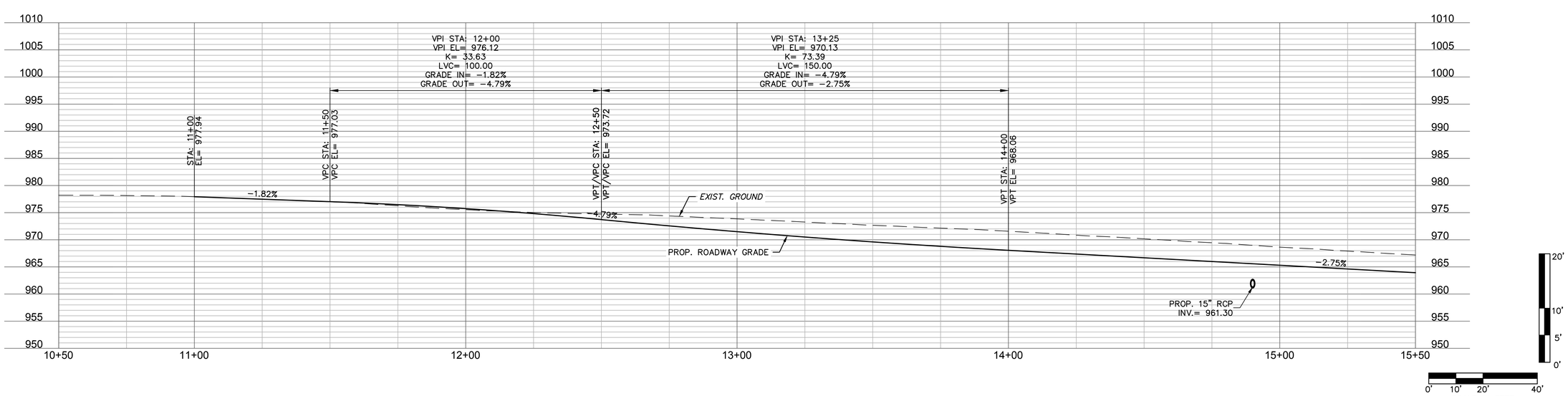


LEGEND

- ASPHALT
- CONCRETE SIDEWALK

MAIN STREET (10+50 - 15+50)



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PLAN AND PROFILE
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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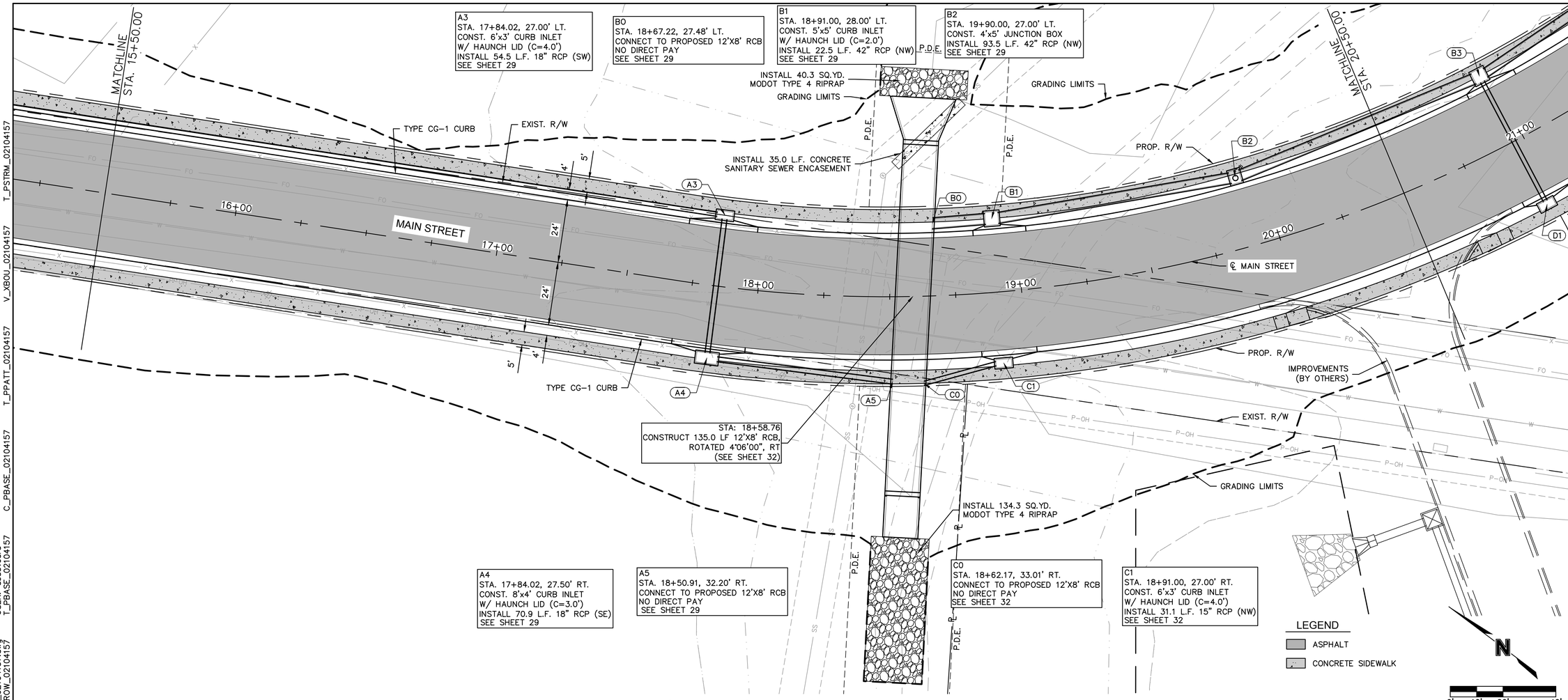
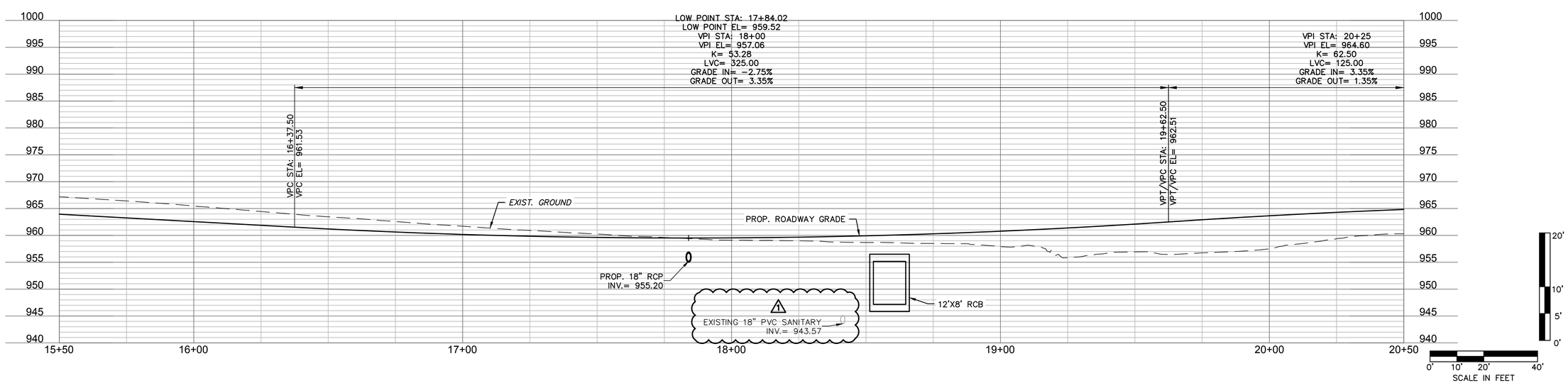


MAIN STREET (15+50 - 20+50)



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1	11/16/2021	CITY COMMENTS	ARJ

REVISIONS

PLAN AND PROFILE
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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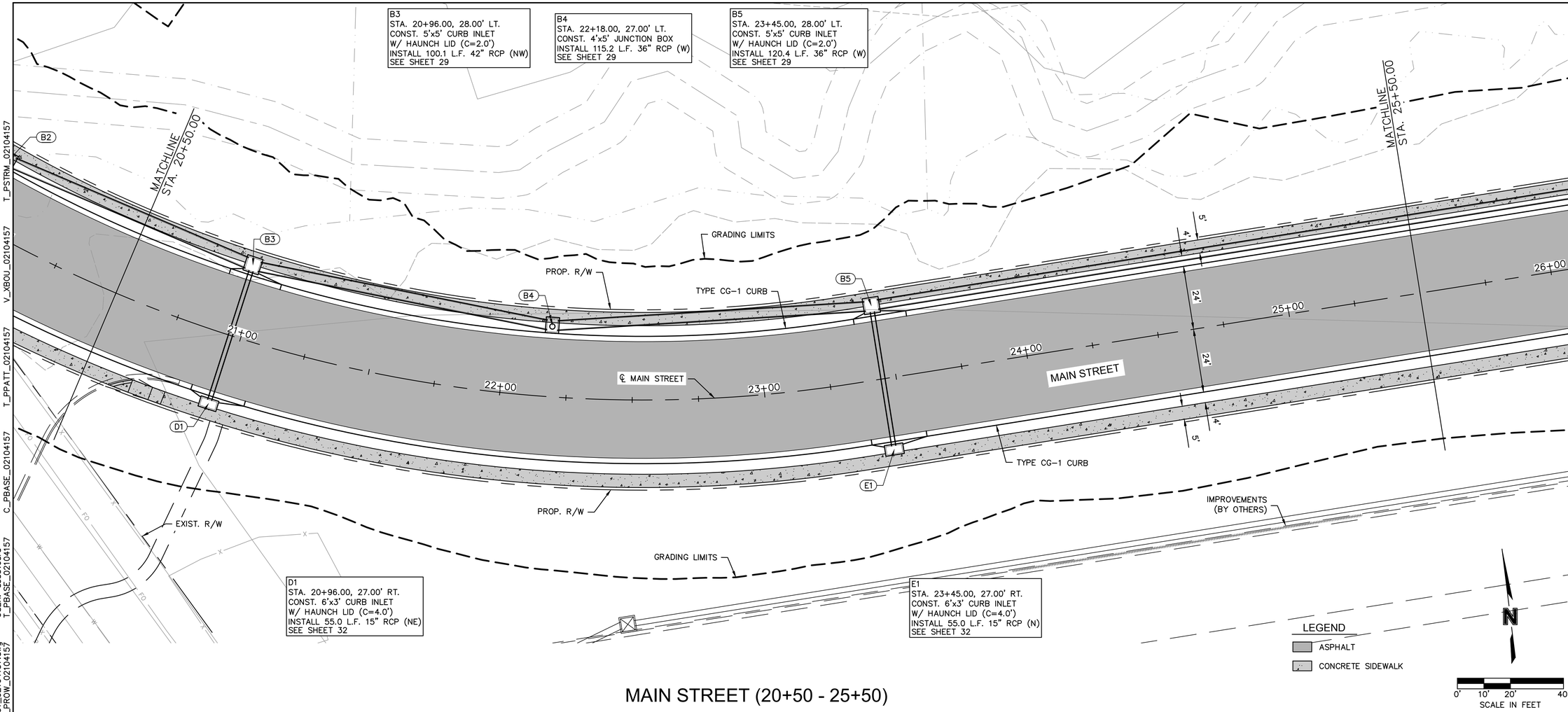
DATE: Oct 30, 2023 3:48pm XREFS: T_PTBLK_02104157 V_XTOPO_02104157 C_PROW_02104157 T_PBASE_02104157 V_XBOU_02104157 T_PPATT_02104157 C_PBASE_02104157 T_PSTRM_02104157
USER: asaavedra

B3
STA. 20+96.00, 28.00' LT.
CONST. 5'x5' CURB INLET
W/ HAUNCH LID (C=2.0')
INSTALL 100.1 L.F. 42" RCP (NW)
SEE SHEET 29

B4
STA. 22+18.00, 27.00' LT.
CONST. 4'x5' JUNCTION BOX
INSTALL 115.2 L.F. 36" RCP (W)
SEE SHEET 29

B5
STA. 23+45.00, 28.00' LT.
CONST. 5'x5' CURB INLET
W/ HAUNCH LID (C=2.0')
INSTALL 120.4 L.F. 36" RCP (W)
SEE SHEET 29



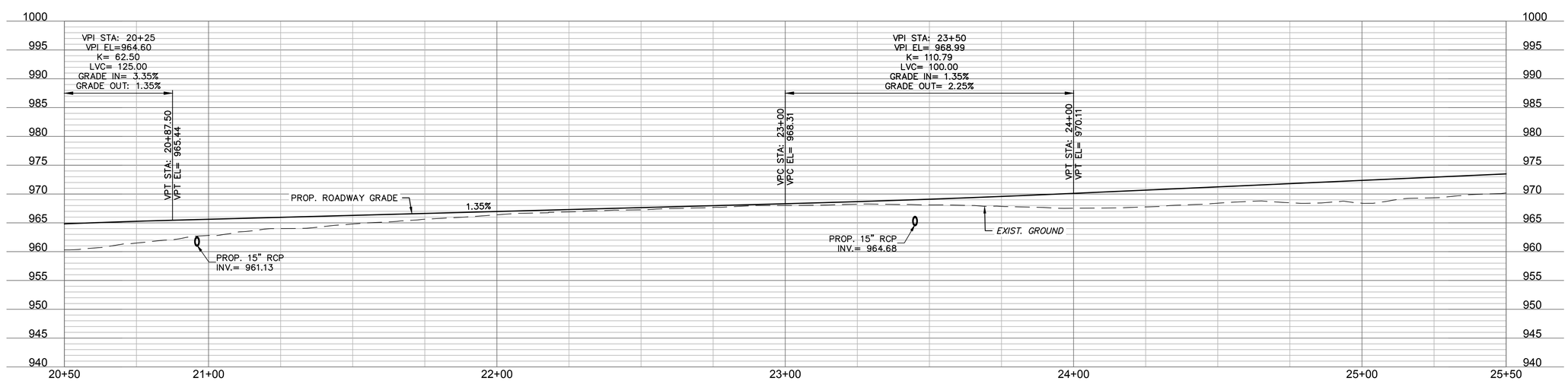
D1
STA. 20+96.00, 27.00' RT.
CONST. 6'x3' CURB INLET
W/ HAUNCH LID (C=4.0')
INSTALL 55.0 L.F. 15" RCP (NE)
SEE SHEET 32

E1
STA. 23+45.00, 27.00' RT.
CONST. 6'x3' CURB INLET
W/ HAUNCH LID (C=4.0')
INSTALL 55.0 L.F. 15" RCP (N)
SEE SHEET 32

LEGEND
ASPHALT
CONCRETE SIDEWALK

0' 10' 20' 40'
SCALE IN FEET

MAIN STREET (20+50 - 25+50)



20' 10' 5' 0'
0' 10' 20' 40'
SCALE IN FEET

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RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

PLAN AND PROFILE
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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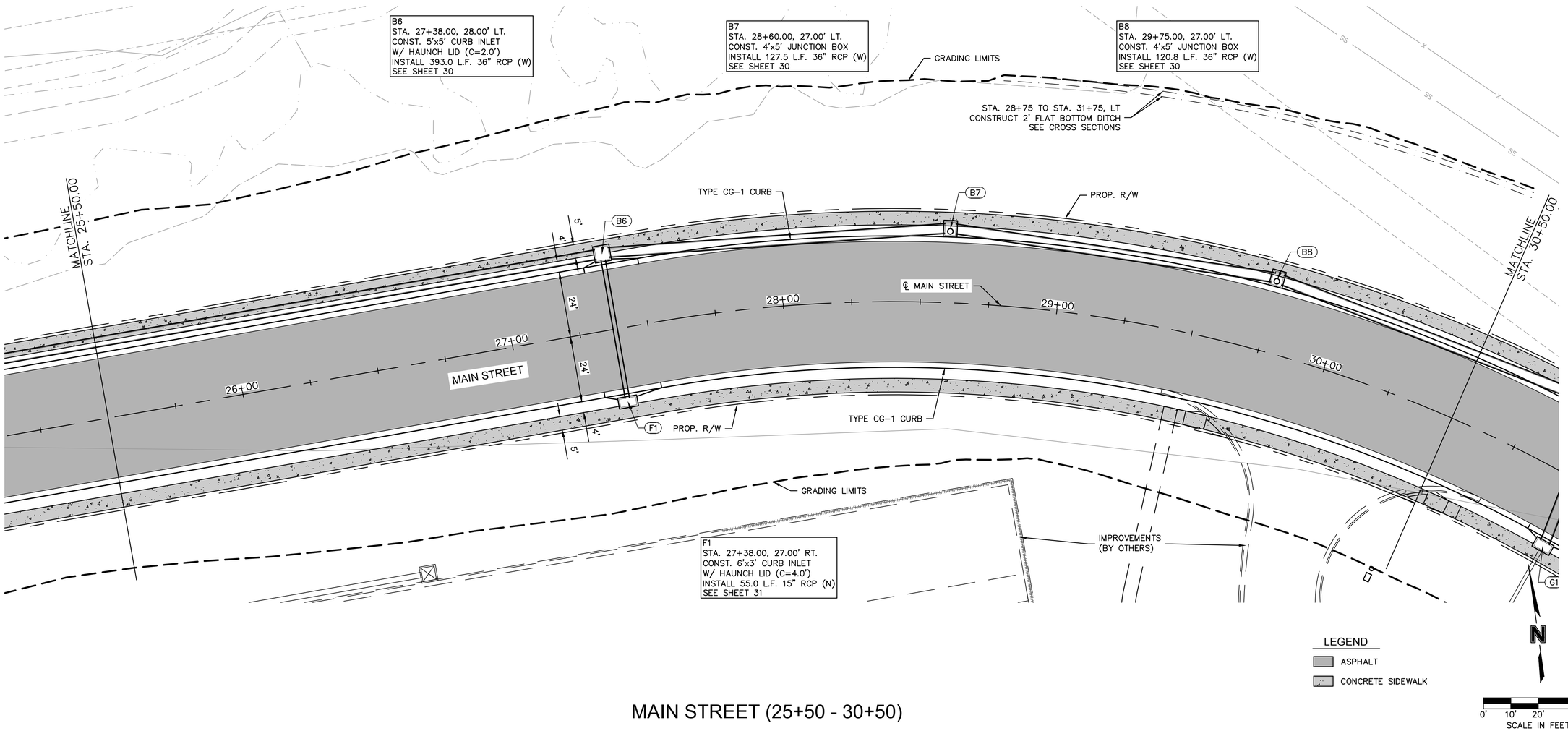
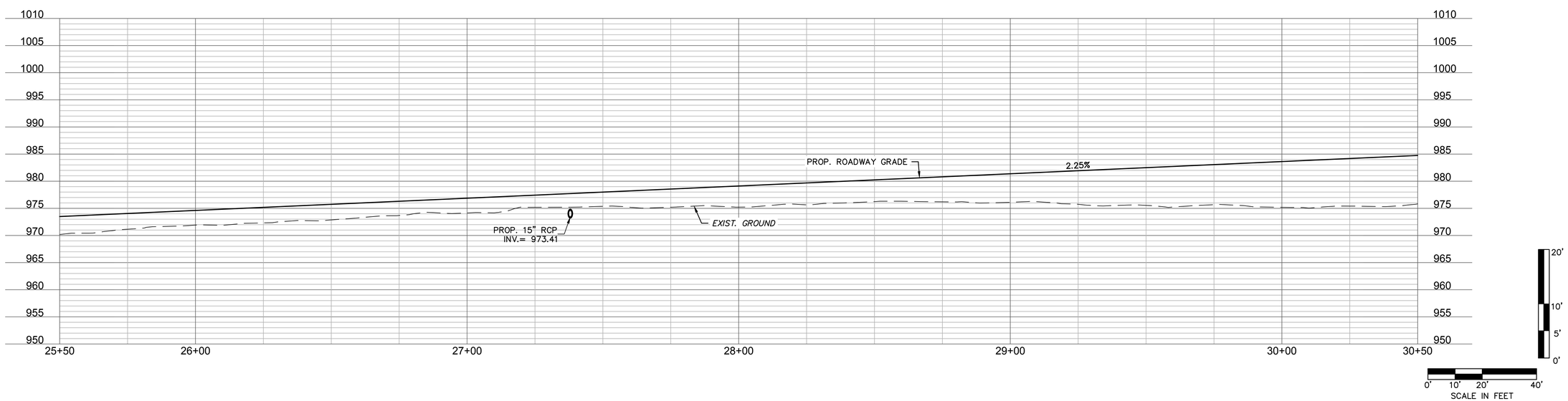


MAIN STREET (25+50 - 30+50)



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REVISIONS

PLAN AND PROFILE
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

2021

LEE'S SUMMIT, MISSOURI

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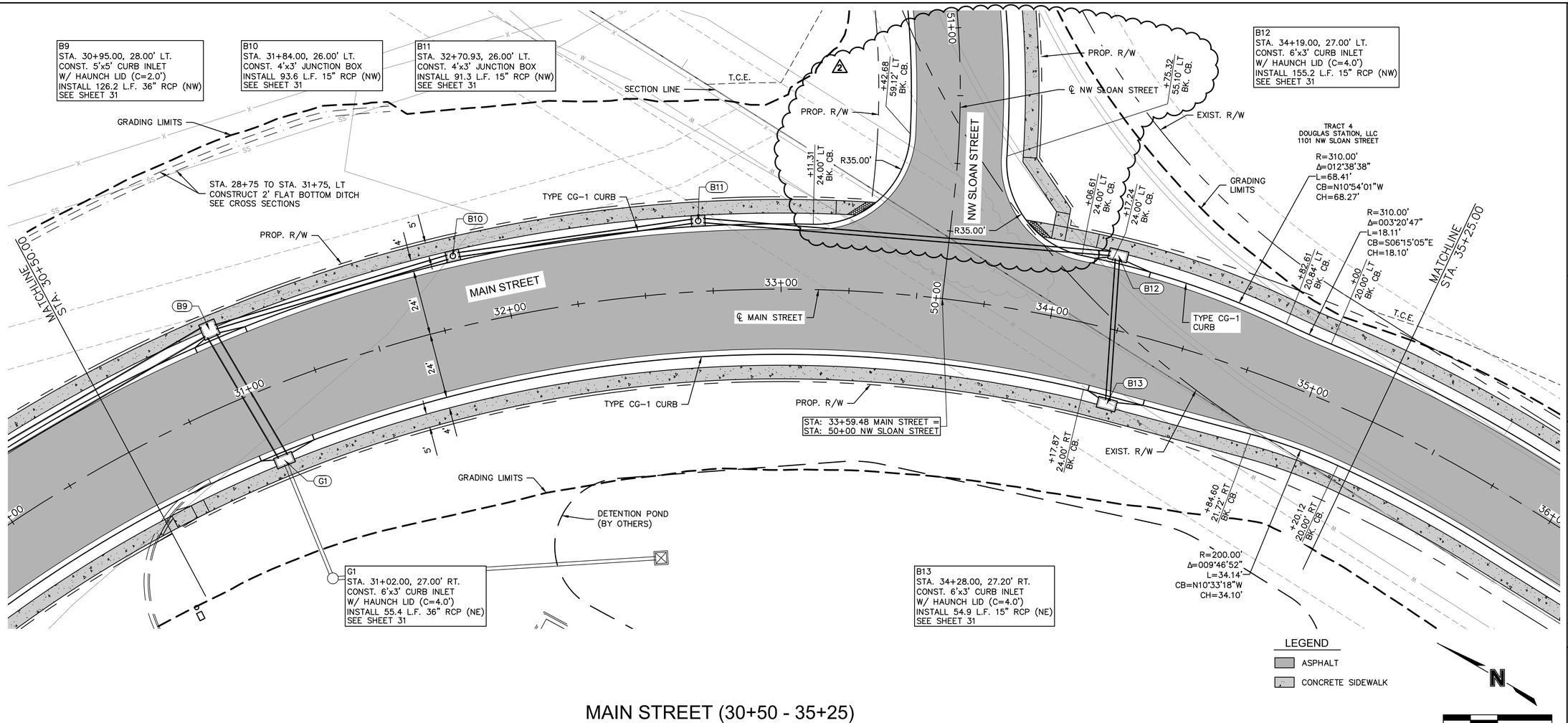
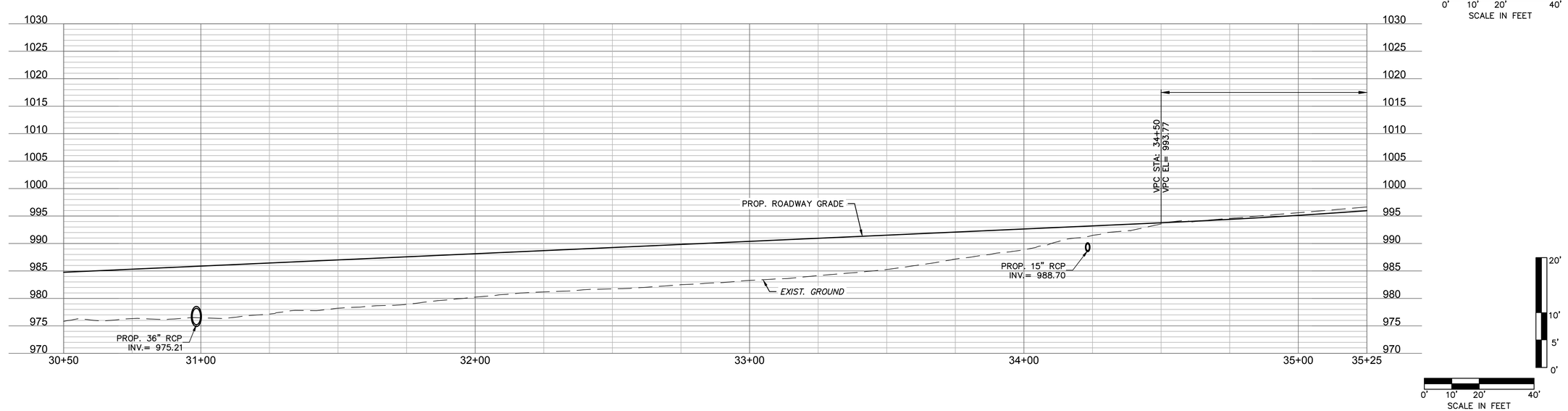


MAIN STREET (30+50 - 35+25)



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PLAN AND PROFILE
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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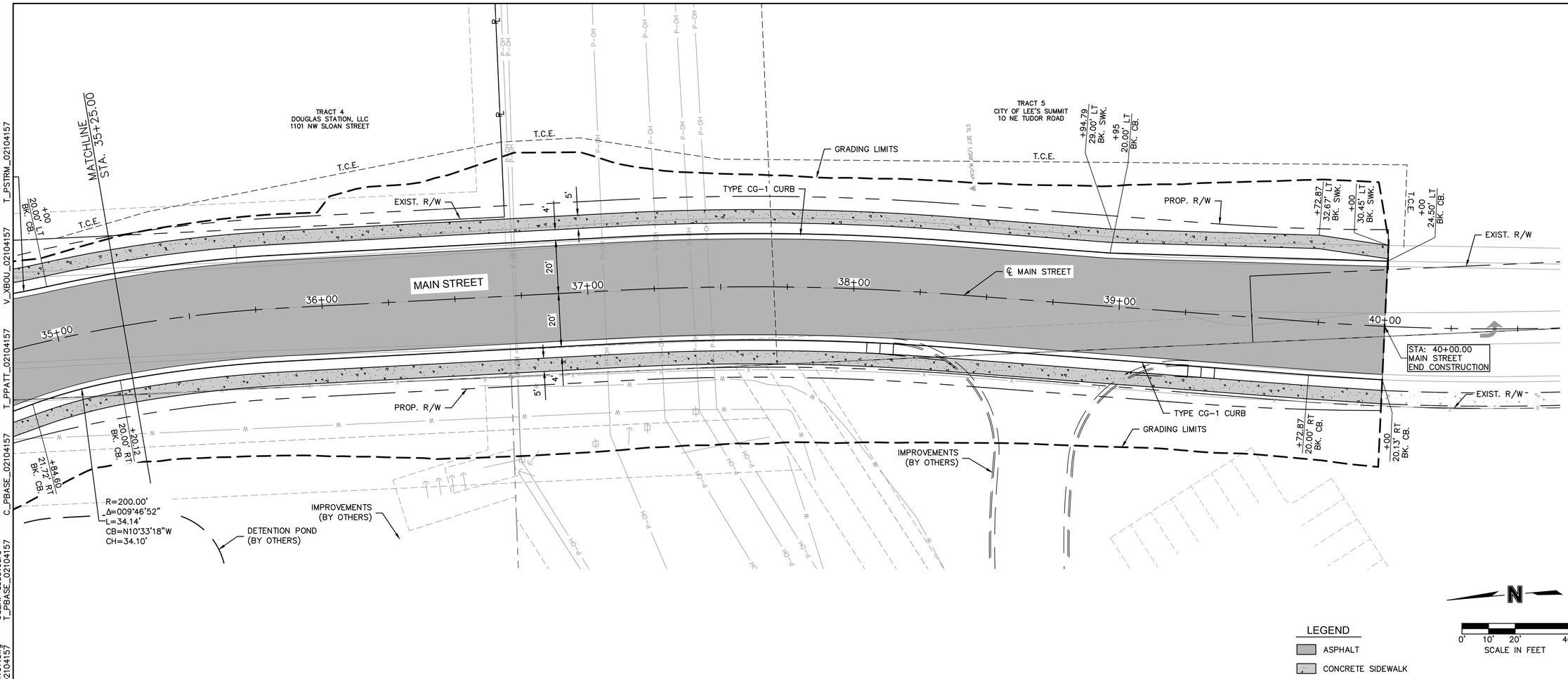


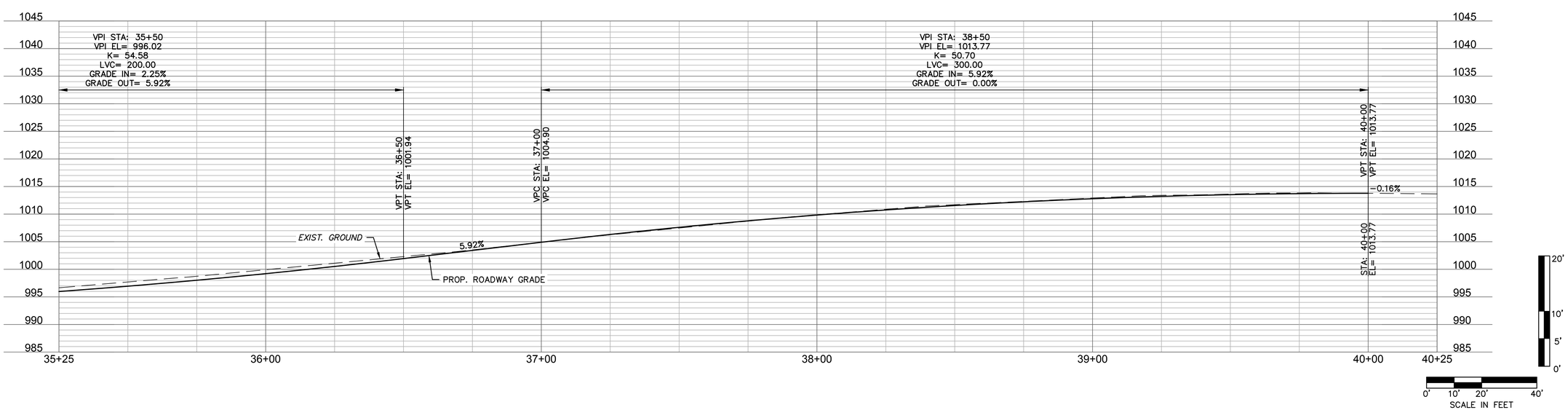
LEGEND

- ASPHALT
- CONCRETE SIDEWALK

N

0' 10' 20' 40'
SCALE IN FEET

MAIN STREET (35+25 - 40+25)



20' 10' 5' 0'

0' 10' 20' 40'
SCALE IN FEET

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MAIN STREET

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LEE'S SUMMIT, MISSOURI

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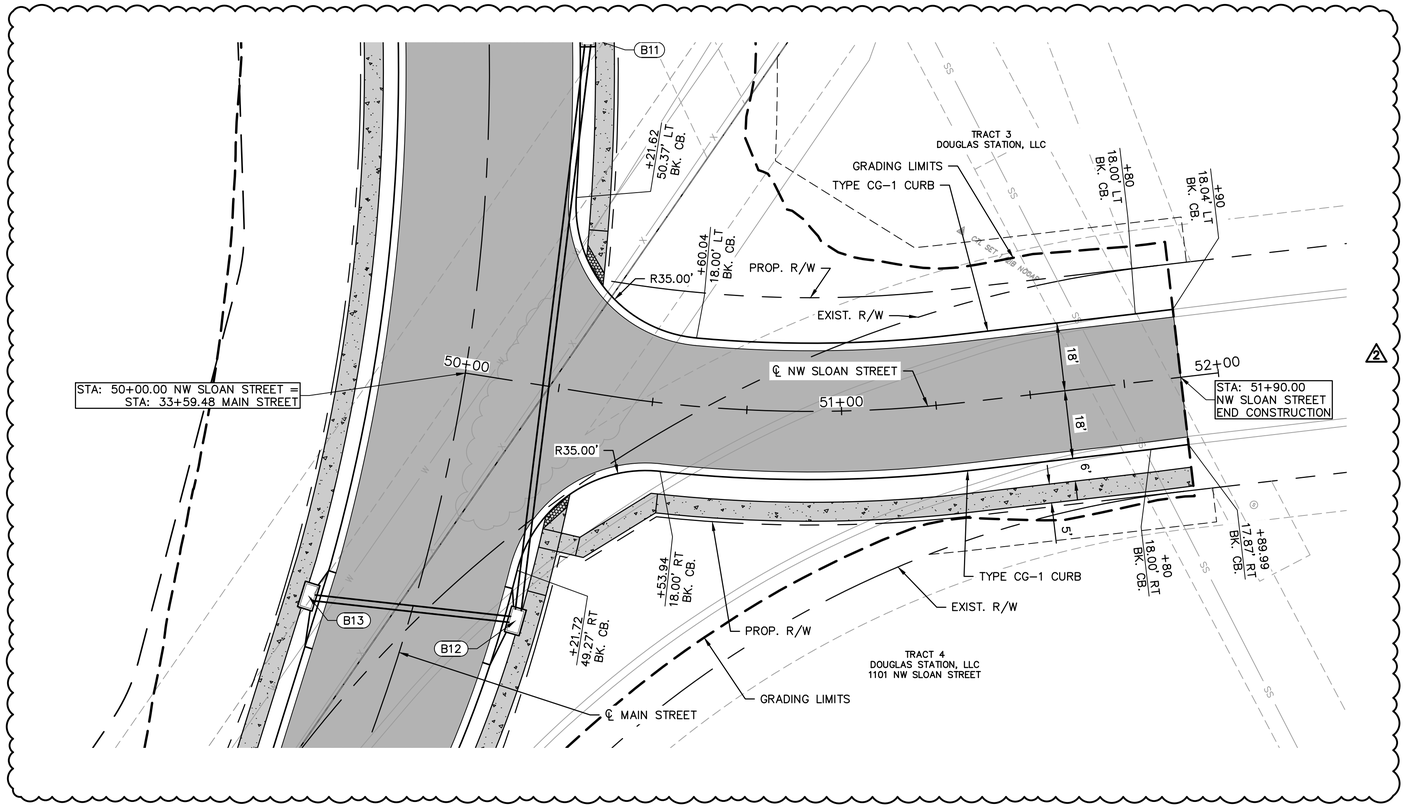


LEGEND

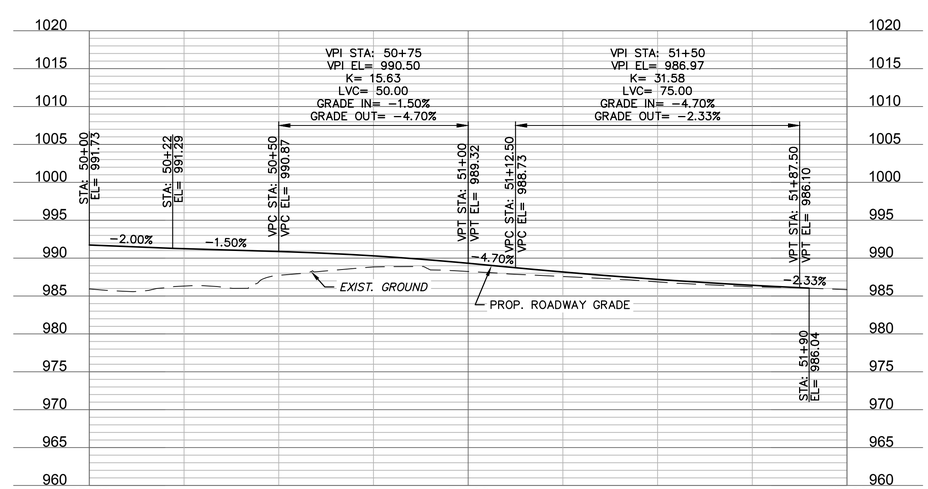
ASPHALT

CONCRETE SIDEWALK

N

0' 10' 20' 40'
SCALE IN FEET

NW SLOAN STREET



20' 10' 5' 0'

0' 10' 20' 40'
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PLAN AND PROFILE
NW SLOAN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_RPP01_02104157
DATE: 2021-10-12

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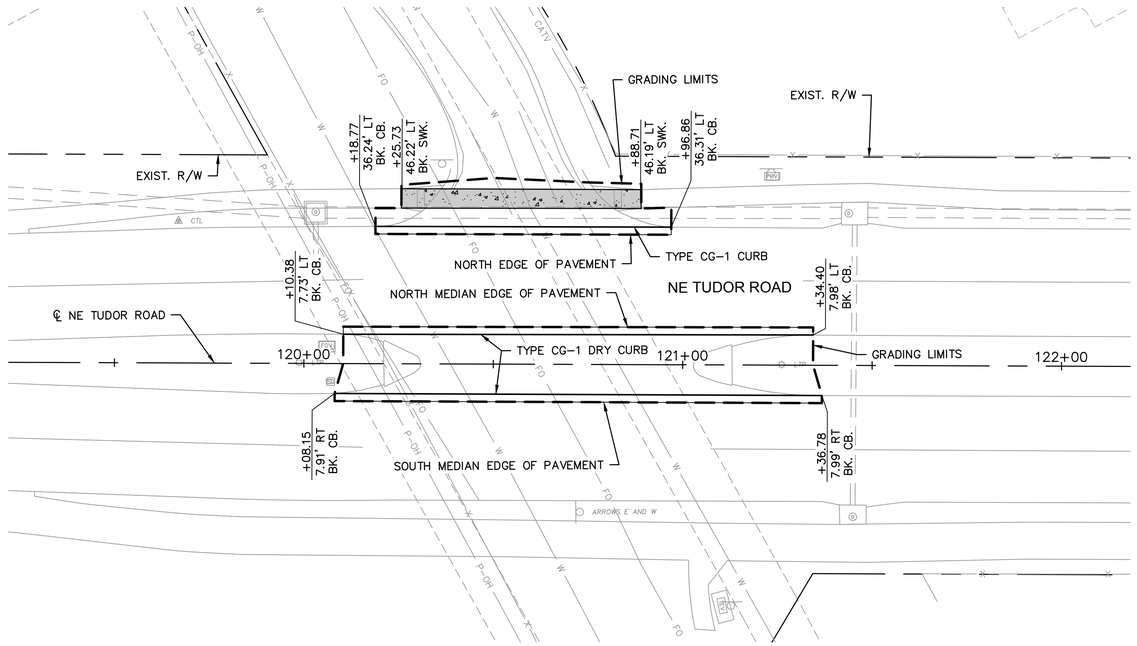
C_PBASE_02104157 T_PPATT_02104157 V_XBOU_02104157 T_PSTRM_02104157



LEGEND

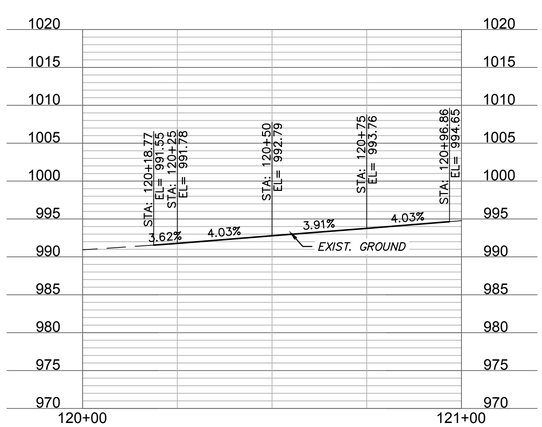
ASPHALT

CONCRETE SIDEWALK

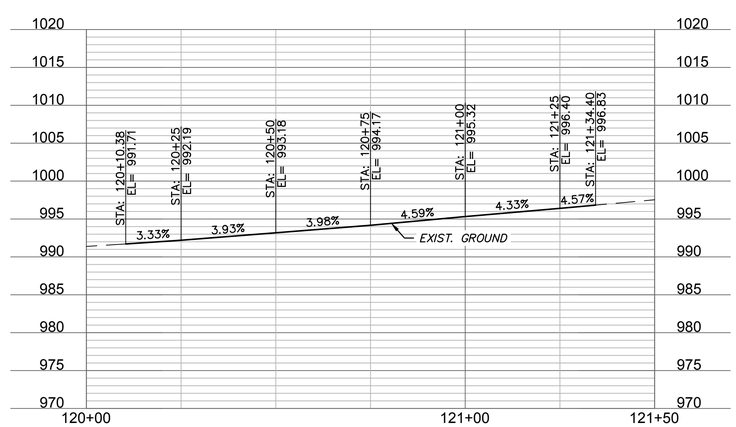
N

0' 10' 20' 40'
SCALE IN FEET

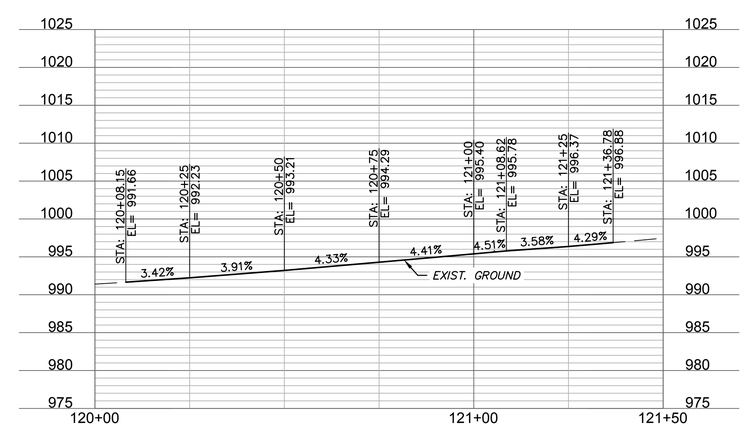
NE TUDOR ROAD
NORTH EDGE OF PAVEMENT



NE TUDOR ROAD
NORTH MEDIAN EDGE OF PAVEMENT



NE TUDOR ROAD
SOUTH MEDIAN EDGE OF PAVEMENT



20' 10' 5' 0'

0' 10' 20' 40'
SCALE IN FEET

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RECORD DRAWINGS

RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

PLAN AND PROFILE
NE TUDOR ROAD

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
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LEE'S SUMMIT, MISSOURI

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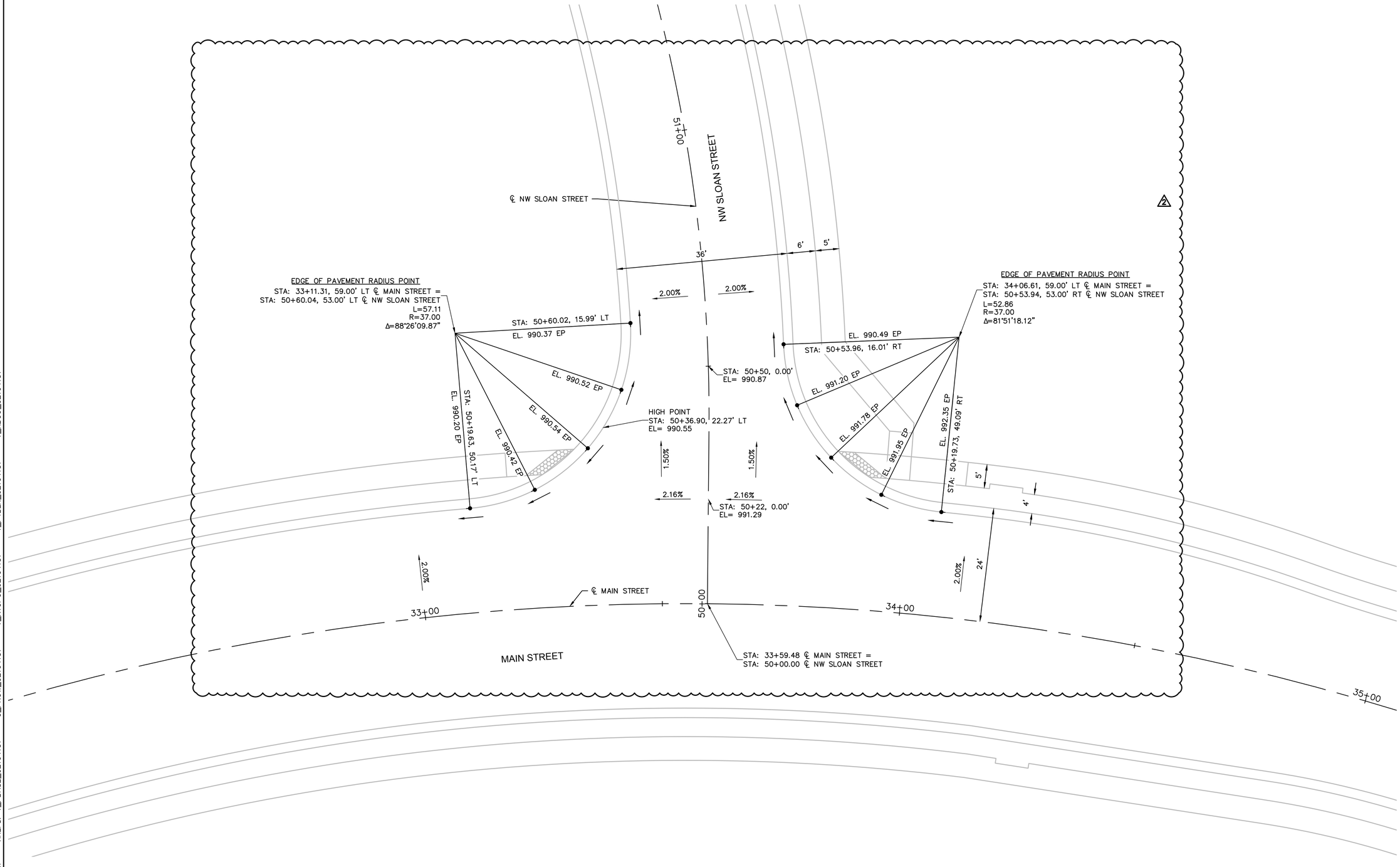

MAIN STREET AND NW SLOAN STREET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
2	01/05/2022	DESIGN REVIEW	ARJ

REVISIONS

INTERSECTION LAYOUT

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

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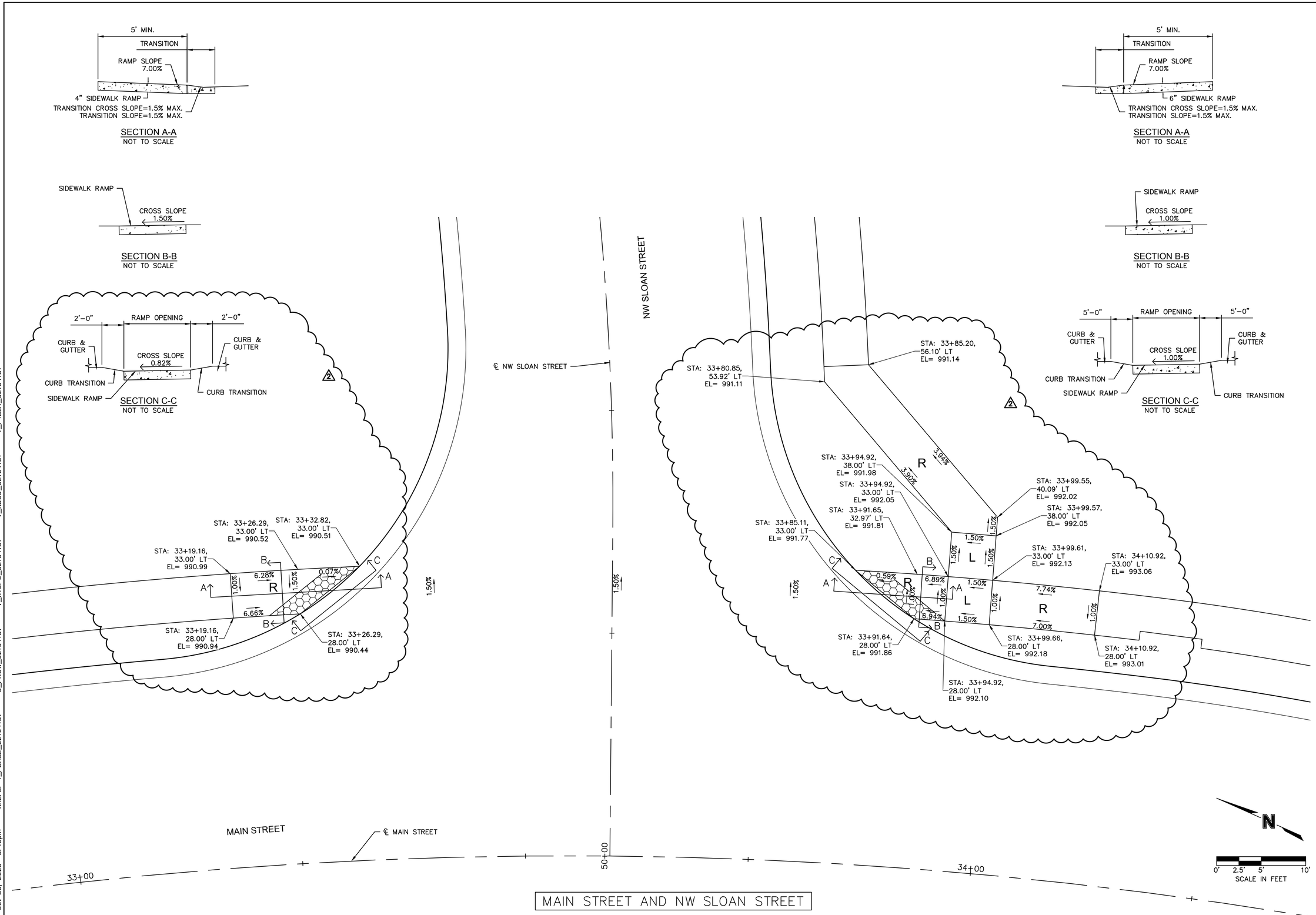

MAIN STREET AND NW SLOAN STREET

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2	01/05/2022	DESIGN REVIEW	ARJ

REVISIONS

SIDEWALK RAMP LAYOUT

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
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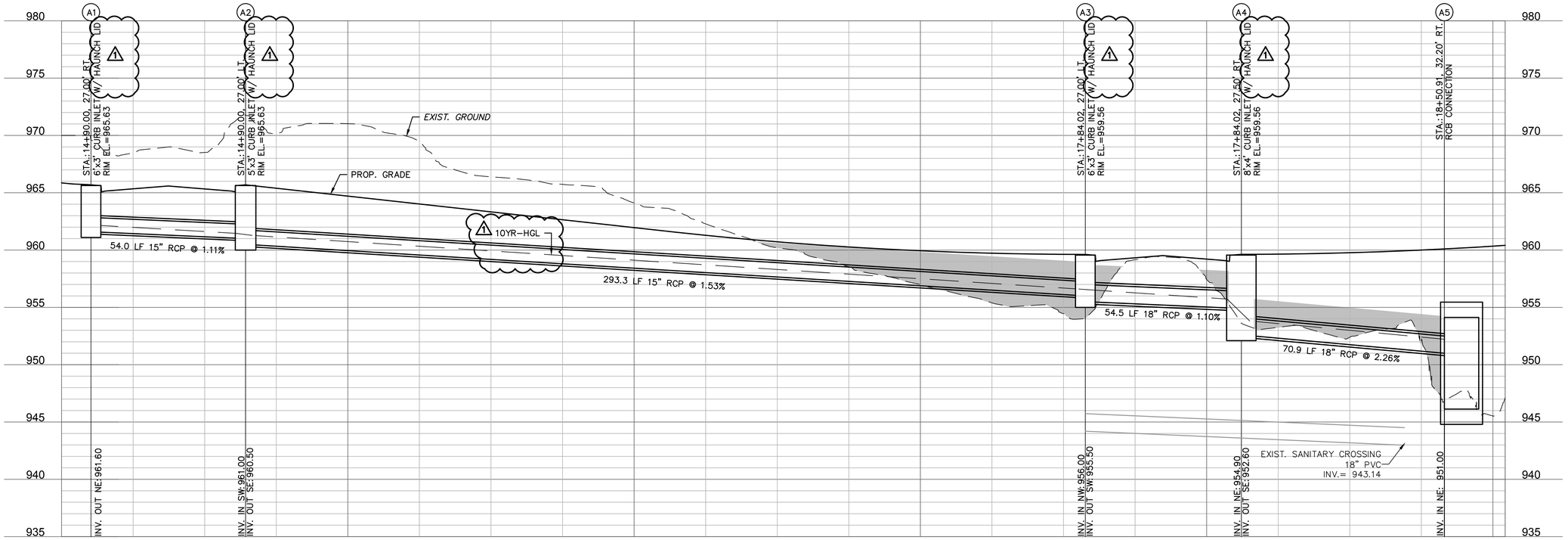
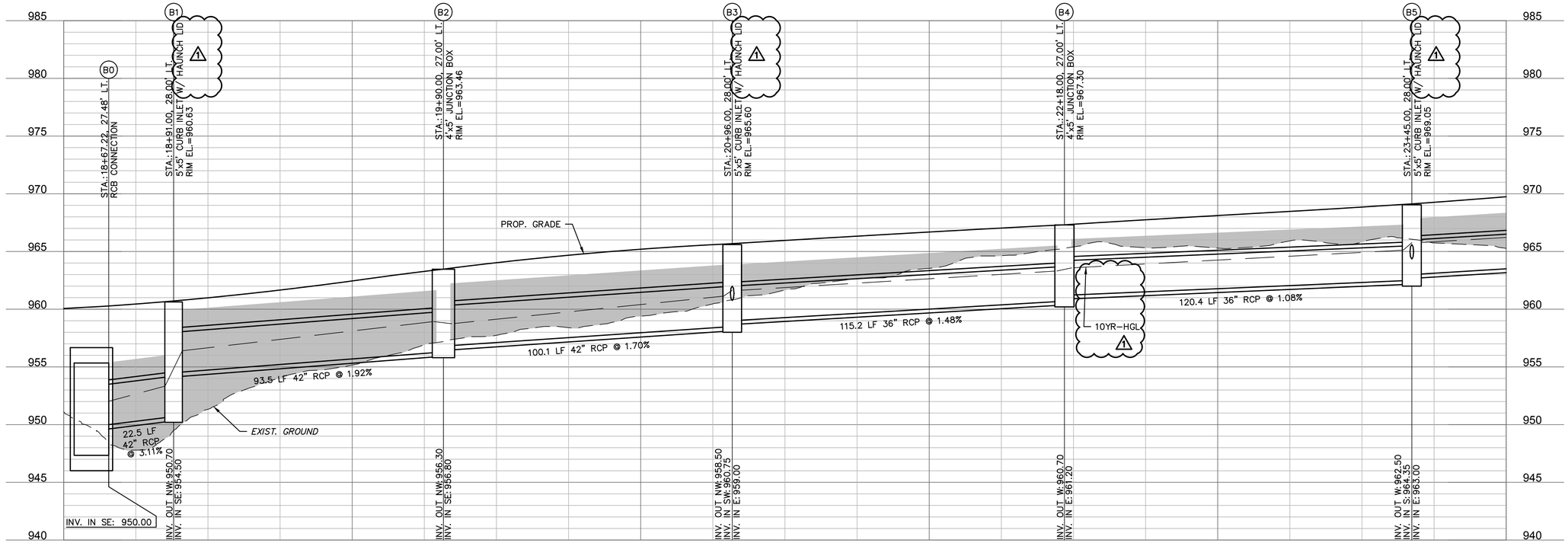


STORM LINE B



COMPACTED FILL SHALL BE PLACED TO A MINIMUM OF 18" ABOVE THE TOP OF THE PIPE PRIOR TO INSTALLATION.

0' 10' 20' 40'
SCALE IN FEET

10'
5'
2.5'
0'

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	11/16/2021	CITY COMMENTS	ARJ

REVISIONS

STORM SEWER PROFILES

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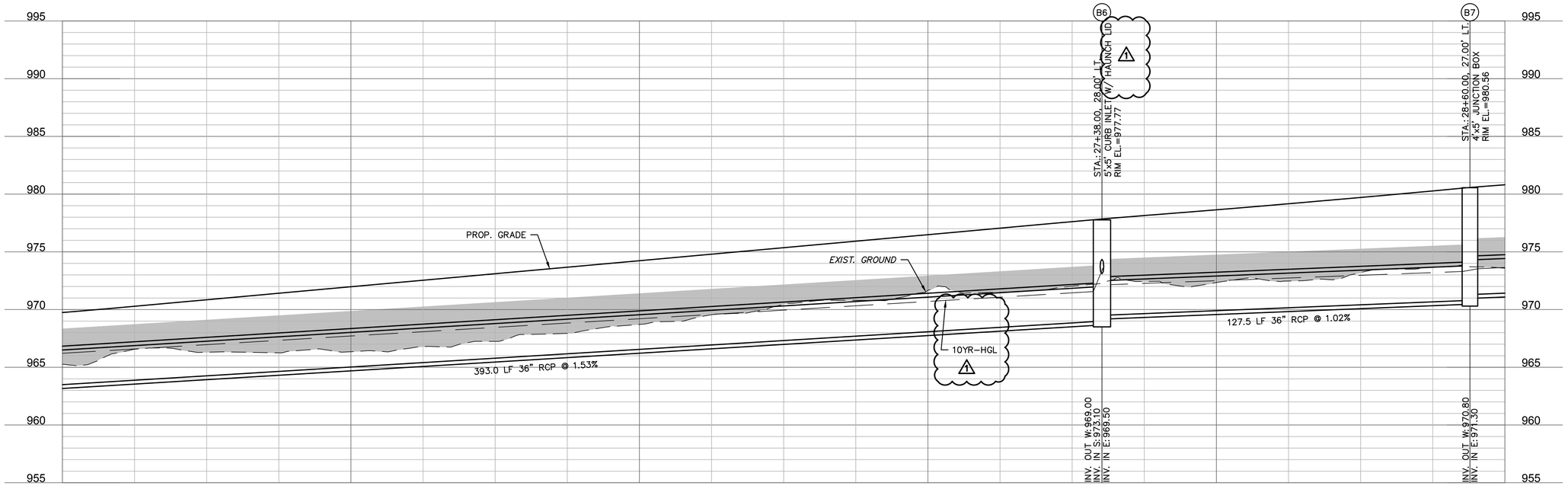
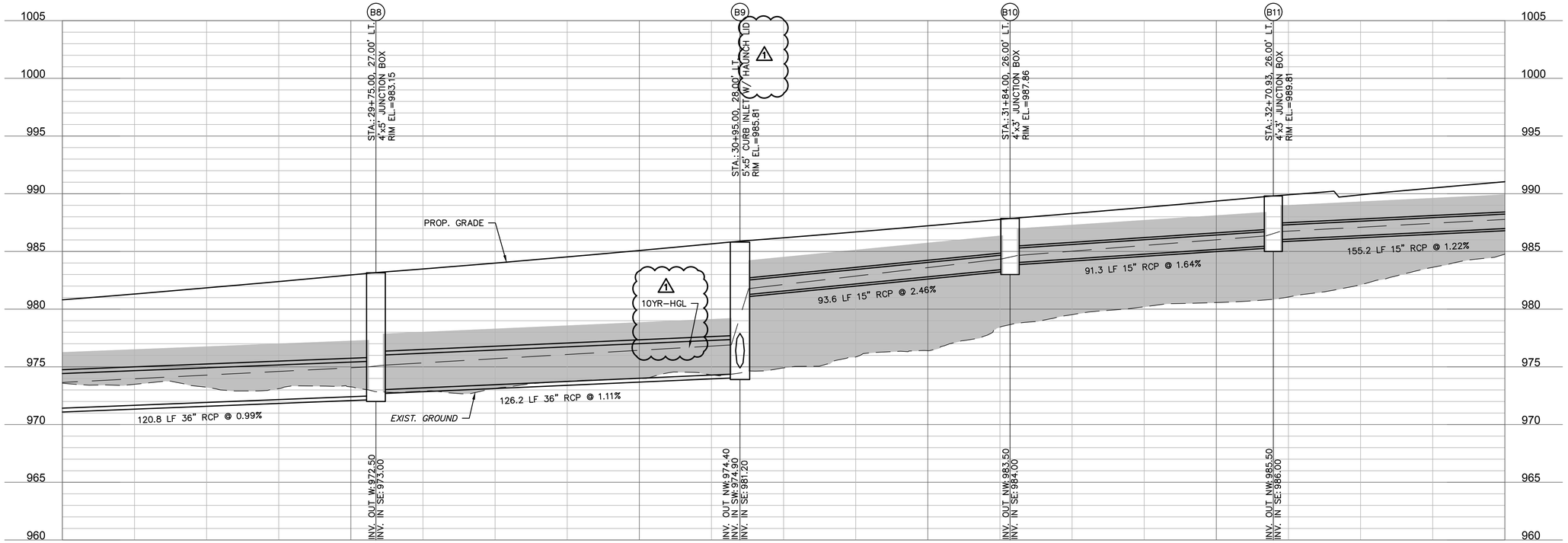


STORM LINE B



COMPACTED FILL SHALL BE PLACED TO A MINIMUM OF 18" ABOVE THE TOP OF THE PIPE PRIOR TO INSTALLATION. (1)

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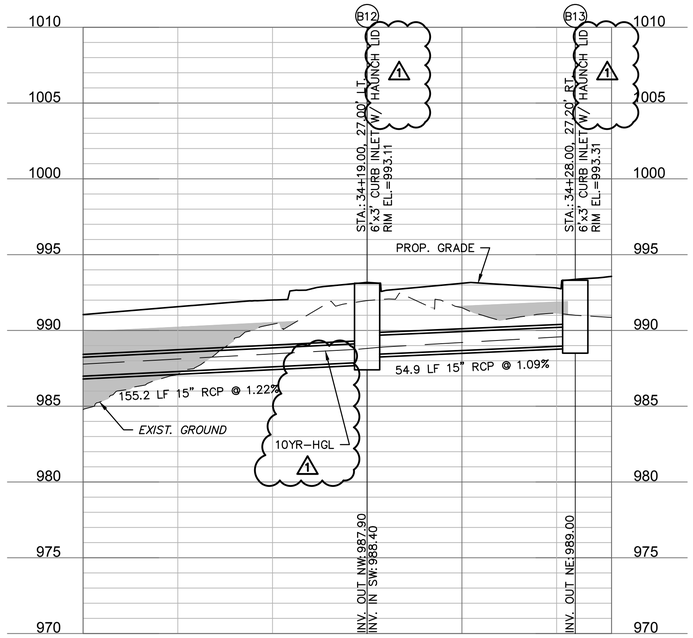
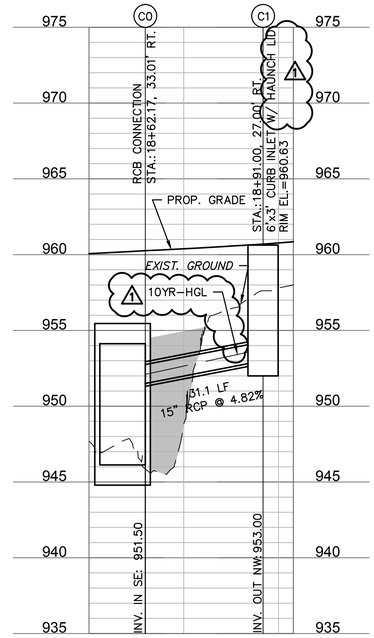
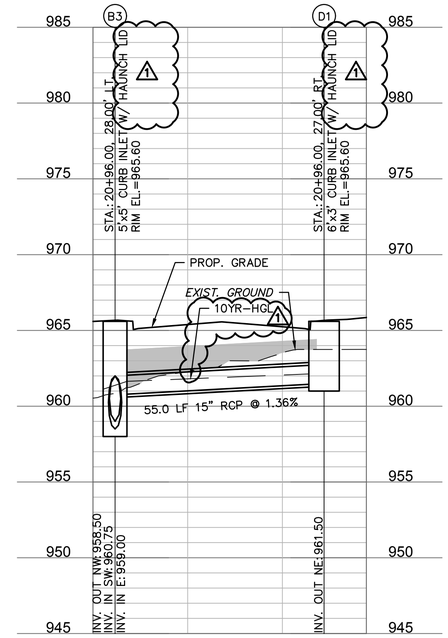
STORM LINE B



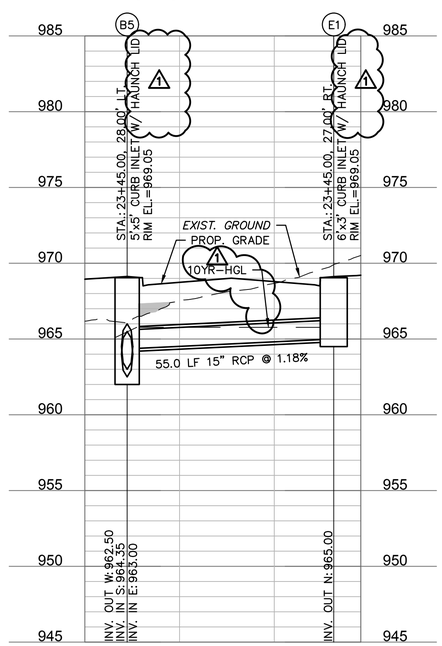
STORM LINE C



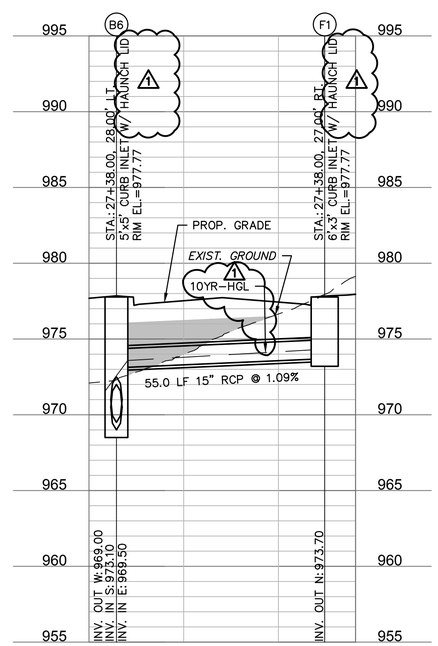
STORM LINE D



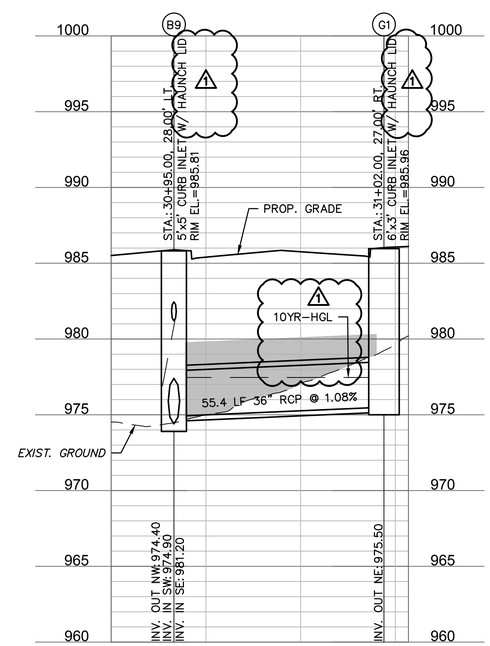
STORM LINE E



STORM LINE F



STORM LINE G



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0' 10' 20' 40'
SCALE IN FEET

10' 5' 2.5' 0'

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STORM SEWER PROFILES

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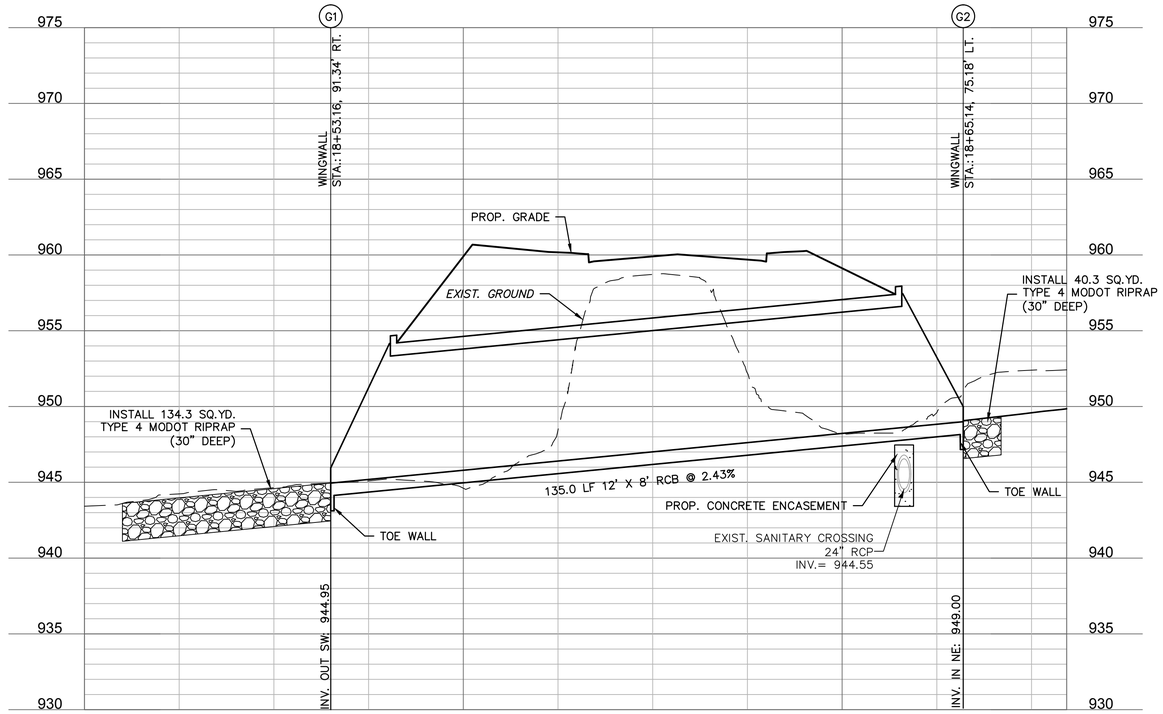
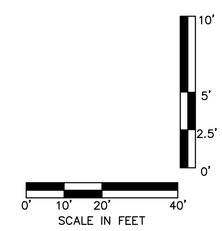
RCB CROSSING





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STORM SEWER PROFILES

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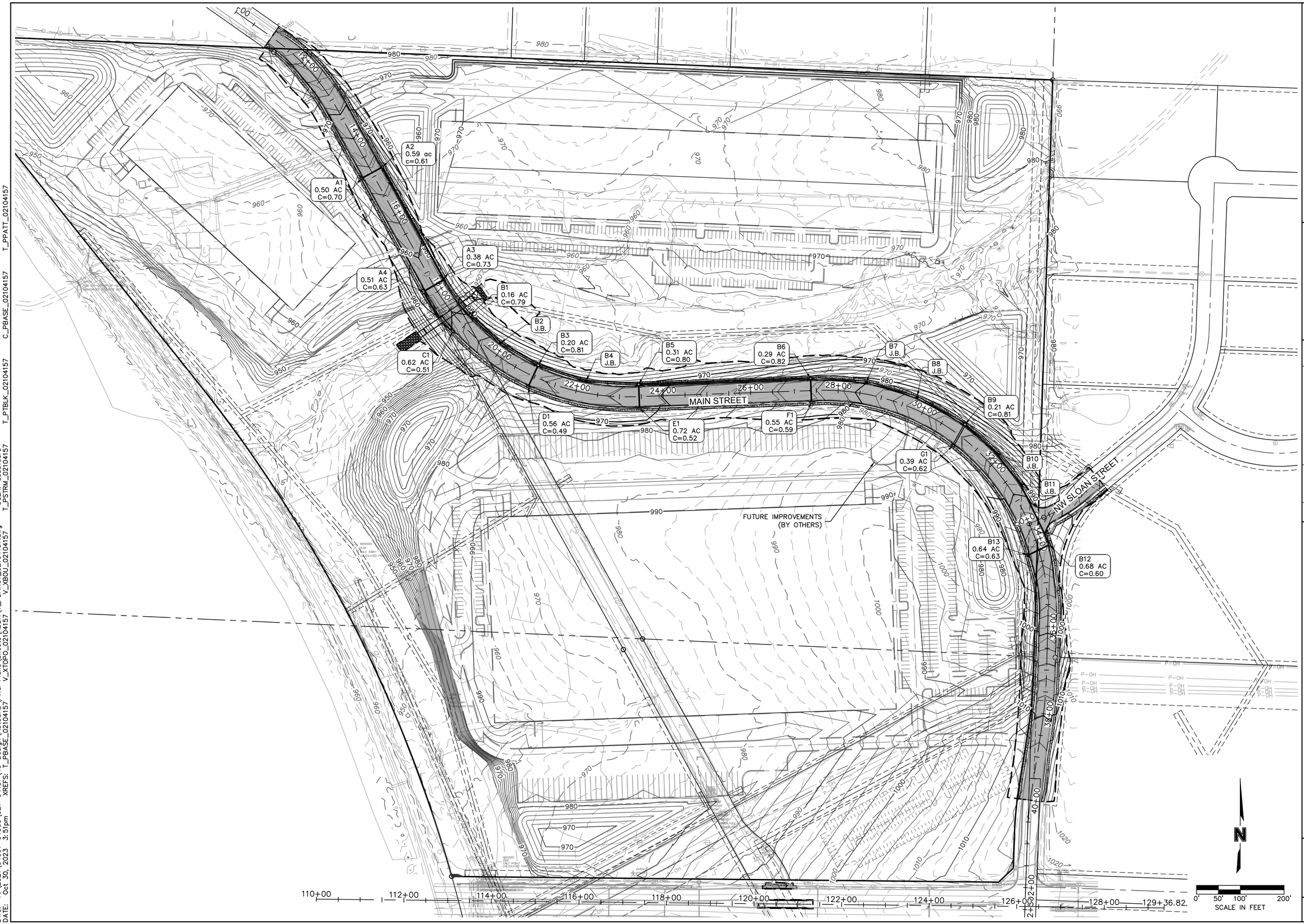

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REVISIONS

DRAINAGE MAP

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

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10-YEAR STORM SEWER CALCULATIONS

Label*	Inlet Area (acres)	System Drainage Area (acres)	Upstream Inlet C	System CA (acres)	Inlet Tc (min)	System Intensity (in/h)	Capacity (Design) (cfs)	Flow (cfs)	Diameter (in)	Length (Scaled) (ft)	Material	Manning's n	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (%)	Flow / Capacity (Design) (%)	Velocity (ft/s)	Spread / Top Width (ft)	Depth (Gutter) (in)	Flow (Total Bypassed) (cfs)	Bypass Target	Headloss Coefficient	Headloss (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Elevation (Rim) (ft)	Rim Elevation-HGL(In) (ft)	Notes
A1	0.50	0.50	0.70	0.27	5.00	7.35	6.81	1.98	15.00	54.00	Concrete	0.013	961.60	961.00	1.11	29.10	4.81	7.90	1.90	0.61	A4	1.00	0.70	962.16	961.46	965.63	3.47	
A2	0.59	1.10	0.61	0.51	5.00	7.30	8.00	3.72	15.00	293.30	Concrete	0.013	960.50	956.00	1.53	46.50	6.40	8.00	1.90	0.90	A3	0.40	4.68	961.28	956.60	965.63	4.35	
A3	0.38	1.50	0.73	0.92	5.00	7.07	11.02	6.55	18.00	54.50	Concrete	0.013	955.50	954.90	1.10	59.40	6.50	13.70	3.30	(N/A)	(N/A)	0.40	0.76	956.49	955.73	959.56	3.07	
A4	0.51	2.00	0.63	1.41	5.00	7.04	15.73	9.99	18.00	70.90	Concrete	0.013	952.60	951.00	2.26	63.50	9.42	13.80	3.31	(N/A)	(N/A)	0.40	1.60	953.82	952.22	959.56	5.74	
B1	0.16	4.70	0.79	2.88	5.00	6.61	174.31	71.22	42.00	22.50	Concrete	0.013	950.70	950.00	3.11	40.90	17.20	6.30	1.50	0.10	A3	0.40	1.31	953.33	952.02	960.63	7.30	
B2	(N/A)	4.60	(N/A)	2.73	0.00	6.64	139.57	70.30	42.00	93.50	Concrete	0.013	956.30	954.50	1.93	50.40	14.53	(N/A)	(N/A)	(N/A)	(N/A)	0.20	2.53	958.93	956.40	963.46	4.53	J.B.
B3	0.20	4.60	0.81	2.73	5.00	6.67	131.10	70.38	42.00	100.10	Concrete	0.013	958.50	956.80	1.70	53.70	13.87	7.80	1.90	0.28	B1	0.40	2.38	961.13	958.74	965.60	4.47	
B4	(N/A)	3.80	(N/A)	2.20	0.00	6.71	81.04	66.84	36.00	115.20	Concrete	0.013	960.70	959.00	1.48	82.50	12.81	(N/A)	(N/A)	(N/A)	(N/A)	0.20	1.67	963.31	961.64	967.30	3.99	J.B.
B5	0.31	3.80	0.80	2.20	5.00	6.75	69.30	66.94	36.00	120.40	Concrete	0.013	962.50	961.20	1.08	96.60	11.17	8.40	2.00	0.63	B3	0.40	1.53	965.11	963.58	969.05	3.94	
B6	0.29	2.70	0.82	1.61	5.00	6.89	82.41	63.19	36.00	393.00	Concrete	0.013	969.00	963.00	1.53	76.70	12.85	7.80	1.90	0.60	B5	0.40	5.79	971.56	965.77	977.77	6.21	
B7	(N/A)	1.90	(N/A)	1.10	0.00	6.95	67.33	59.70	36.00	127.50	Concrete	0.013	970.80	969.50	1.02	88.70	10.76	(N/A)	(N/A)	(N/A)	(N/A)	0.20	1.14	973.30	972.16	980.56	7.26	J.B.
B8	(N/A)	1.90	(N/A)	1.10	0.00	7.00	66.47	59.75	36.00	120.80	Concrete	0.013	972.50	971.30	0.99	89.90	10.64	(N/A)	(N/A)	(N/A)	(N/A)	0.20	1.46	975.00	973.53	983.15	8.15	J.B.
B9	0.21	1.90	0.81	1.10	5.00	7.05	70.25	59.81	36.00	126.20	Concrete	0.013	974.40	973.00	1.11	85.10	11.16	7.60	1.80	0.49	B6	0.40	1.75	976.90	975.15	985.81	8.91	
B10	(N/A)	1.30	(N/A)	0.61	0.00	7.11	10.12	4.39	15.00	93.60	Concrete	0.013	983.50	981.20	2.46	43.40	7.96	(N/A)	(N/A)	(N/A)	(N/A)	0.20	2.57	984.35	981.78	987.86	3.51	J.B.
B11	(N/A)	1.30	(N/A)	0.61	0.00	7.17	8.28	4.43	15.00	91.30	Concrete	0.013	985.50	984.00	1.64	53.50	6.86	(N/A)	(N/A)	(N/A)	(N/A)	0.20	1.70	986.35	984.65	989.81	3.46	J.B.
B12	0.69	1.30	0.61	0.61	5.00	7.30	7.15	4.51	15.00	155.20	Concrete	0.013	987.90	986.00	1.22	63.10	6.16	8.80	2.10	0.82	B9	0.40	2.04	988.76	986.72	993.11	4.35	
B13	0.65	0.60	0.63	0.30	5.00	7.35	6.75	2.24	15.00	54.90	Concrete	0.013	989.00	988.40	1.09	33.10	4.94	8.60	2.10	0.80	G1	1.00	0.70	989.60	988.90	993.31	3.71	
C1	0.61	0.60	0.51	0.30	5.00	7.35	14.09	2.25	15.00	31.10	Concrete	0.013	953.00	951.50	4.82	15.90	8.41	8.80	2.10	0.64	A4	0.40	1.50	953.60	952.10	960.63	7.03	
D1	0.58	0.60	0.49	0.33	5.00	7.35	7.54	2.44	15.00	55.00	Concrete	0.013	961.50	960.75	1.36	32.30	5.48	9.60	2.30	0.58	C1	1.00	0.48	962.13	961.64	965.60	3.47	
E1	0.72	0.70	0.52	0.34	5.00	7.35	7.02	2.52	15.00	55.00	Concrete	0.013	965.00	964.35	1.18	35.90	5.25	9.50	2.30	0.91	D1	1.00	0.00	965.77	965.77	969.05	3.28	
F1	0.52	0.50	0.59	0.29	5.00	7.35	6.75	2.14	15.00	55.00	Concrete	0.013	973.70	973.10	1.09	31.70	4.88	8.40	2.00	0.66	E1	1.00	0.70	974.28	973.58	977.77	3.49	
G1	0.38	0.40	0.62	0.27	5.00	7.35	69.38	54.02	36.00	55.40	Concrete	0.013	975.50	974.90	1.08	77.90	10.85	8.10	2.00	0.52	F1	1.00	0.43	977.89	977.46	985.96	8.07	

50-YEAR STORM SEWER CALCULATIONS

Label*	Inlet Area (acres)	System Drainage Area (acres)	Upstream Inlet C	System CA (acres)	Inlet Tc (min)	System Intensity (in/h)	Capacity (Design) (cfs)	Flow (cfs)	Diameter (in)	Length (Scaled) (ft)	Material	Manning's n	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (%)	Flow / Capacity (Design) (%)	Velocity (ft/s)	Spread / Top Width (ft)	Depth (Gutter) (in)	Flow (Total Bypassed) (cfs)	Bypass Target	Headloss Coefficient	Headloss (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Elevation (Rim) (ft)	Rim Elevation-HGL(In) (ft)	Notes
A1	0.50	0.50	0.70	0.22	5.00	11.27	6.81	2.54	15.00	54.00	Concrete	0.013	961.60	961.00	1.11	37.40	5.15	9.30	2.20	1.43	A4	1.00	0.71	962.24	961.53	965.63	3.39	
A2	0.59	1.10	0.61	0.42	5.00	11.20	8.00	4.75	15.00	293.30	Concrete	0.013	960.50	956.00	1.53	59.30	6.80	9.40	2.20	1.86	A3	0.40	4.37	961.38	957.01	965.63	4.25	
A3	0.38	1.50	0.73	0.95	5.00	10.89	11.02	10.37	18.00	54.50	Concrete	0.013	955.50	954.90	1.10	94.10	7.09	21.30	5.10	(N/A)	(N/A)	0.40	0.68	956.74	956.06	959.56	2.82	
A4	0.51	2.00	0.63	1.62	5.00	10.83	15.73	17.64	18.00	70.90	Concrete	0.013	952.60	951.00	2.26	112.20	9.98	22.60	5.40	(N/A)	(N/A)	0.40	2.04	954.49	952.45	959.56	5.07	
B1	0.16	4.70	0.79	2.68	5.00	10.16	175.57	89.46	42.00	22.50	Concrete	0.013	950.70	950.00	3.11	51.00	18.33	8.70	2.10	0.96	A3	0.40	1.33	953.64	952.31	960.63	6.99	
B2	(N/A)	4.60	(N/A)	2.51	0.00	10.20	139.57	87.80	42.00	93.50	Concrete	0.013	956.30	954.50	1.93	62.90	15.33	(N/A)	(N/A)	(N/A)	(N/A)	0.20	2.53	959.21	956.68	963.46	4.25	J.B.
B3	0.20	4.60	0.81	2.51	5.00	10.24	131.10	87.91	42.00	100.10	Concrete	0.013	958.50	956.80	1.70	67.10	14.61	10.40	2.50	1.47	B1	0.40	2.38	961.41	959.04	965.60	4.19	
B4	(N/A)	3.80	(N/A)	1.97	0.00	10.30	81.04	82.48	36.00	115.20	Concrete	0.013	960.70	959.00	1.48	101.80	11.67	(N/A)	(N/A)	(N/A)	(N/A)	0.20	1.76	963.83	962.07	967.30	3.47	J.B.
B5	0.31	3.80	0.80	1.97	5.00	10.37	69.30	82.61	36.00	120.40	Concrete	0.013	962.50	961.20	1.08	119.20	11.69	10.70	2.60	2.09	B3	0.40	1.85	966.10	964.25	969.05	2.95	
B6	0.29	2.70	0.82	1.43	5.00	10.60	82.41	77.28	36.00	393.00	Concrete	0.013	969.00	963.00	1.53	93.80	10.93	9.80	2.40	1.88	B5	0.40	5.28	972.23	966.95	977.77	5.54	
B7	(N/A)	1.90	(N/A)	0.96	0.00	10.69	67.33	72.29	36.00	127.50	Concrete	0.013	970.80	969.50	1.02	107.40	10.23	(N/A)	(N/A)	(N/A)	(N/A)	0.20	1.50	974.47	972.97	980.56	6.09	J.B.
B8	(N/A)	1.90	(N/A)	0.96	0.00	10.77	66.47	72.36	36.00	120.80	Concrete	0.013	972.50	971.30	0.99	108.90	10.24	(N/A)	(N/A)	(N/A)	(N/A)	0.20	1.42	976.22	974.79	983.15	6.93	J.B.
B9	0.21	1.90	0.81	0.96	5.00	10.85	70.25	72.45	36.00	126.20	Concrete	0.013	974.40	973.00	1.11	103.10	10.25	9.50	2.30	1.54	B6	0.40	1.49	978.03	976.54	985.81	7.78	
B10	(N/A)	1.30	(N/A)	0.51	0.00	10.93	10.12	5.62	15.00	93.60	Concrete	0.013	983.50	981.20	2.46	55.50	8.47	(N/A)	(N/A)	(N/A)	(N/A)	0.20	2.60	984.46	981.87	987.86	3.40	J.B.
B11	(N/A)	1.30	(N/A)	0.51	0.00	11.02	8.28	5.67	15.00	91.30	Concrete	0.013	985.50	984.00	1.64	68.50	7.27	(N/A)	(N/A)	(N/A)	(N/A)	0.20	1.70	986.46	984.76	989.81	3.35	J.B.
B12	0.69	1.30	0.61	0.51	5.00	11.20	7.15	5.76	15.00	155.20	Concrete	0.013	987.90	986.00	1.22	80.60	6.48	10.40	2.50	1.84	B9	0.40	2.02	988.87	986.85	993.11	4.24	
B13	0.65	0.60	0.63	0.25	5.00	11.27	6.75	2.86	15.00	54.90	Concrete	0.013	989.00	988.40	1.09	42.30	5.27	10.10	2.40	1.79	G1	1.00	0.71	989.68	988.97	993.31	3.63	
C1	0.61	0.60	0.51	0.30	5.00	11.27	14.09	3.39	15.00	31.10	Concrete	0.013	953.00	951.50	4.82	24.00	9.44	11.60	2.80	2.53	A4	0.40	1.81	953.74	951.94	960.63	6.89	
D1	0.58	0.60	0.49	0.32	5.00	11.27	7.54	3.65	15.00	55.00	Concrete	0.013	961.50	960.75	1.36	48.30	6.10	12.50	3.00	2.39	C1	1.00	0.20	962.27	962.07	965.60	3.33	
E1	0.72	0.70	0.52	0.31	5.00	11.27	7.02	3.55	15.00	55.00	Concrete	0.013	965.00	964.35	1.18	50.60	2.90	12.00	2.90	2.81	D1	1.00	0.17	967.12	966.95	969.05	1.93	
F1	0.52	0.50	0.59	0.27	5.00	11.27	6.75	3.04	15.00	55.00	Concrete	0.013	973.70	973.10	1.09	45.00	5.35	10.60	2.50	2.11	E1	1.00	0.71	974.40	973.69	977.77	3.37	
G1	0.38	0.40	0.62	0.25	5.00	11.27	69.38	64.81	36.00	55.40	Concrete	0.013	975.50	974.90	1.08	93.40	9.17	10.00	2.40	1.66	F1	1.00	0.52	979.21	978.68	985.96	6.75	

100-YEAR STORM SEWER CALCULATIONS

Label*	Inlet Area (acres)	System Drainage Area (acres)	Upstream Inlet C	System CA (acres)	Inlet Tc (min)	System Intensity (in/h)	Capacity (Design) (cfs)	Flow (cfs)	Diameter (in)	Length (Scaled) (ft)	Material	Manning's n	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (%)	Flow / Capacity (Design) (%)	Velocity (ft/s)	Spread / Top Width (ft)	Depth (Gutter) (in)	Flow (Total Bypassed) (cfs)	Bypass Target	Headloss Coefficient	Headloss (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Elevation (Rim) (ft)	Rim Elevation-HGL(In) (ft)	Notes
A1	0.50	0.50	0.70	0.21	5.00	12.90	6.81	2.74	15.00	54.00	Concrete	0.013	961.60	961.00	1.11	40.30	5.25	9.70	2.30	1.81	A4	1.00	0.71	962.26	961.55	965.63	3.37	
A2	0.59	1.10	0.61	0.40	5.00	12.81	8.00	5.10	15.00	293.30	Concrete	0.013	960.50	956.00	1.53	63.80	6.91	9.80	2.40	2.28	A3	0.40	4.09	961.42	957.33	965.63	4.21	
A3	0.38	1.50	0.73	0.97	5.00	12.46	11.02	12.15	18.00	54.50	Concrete	0.013	955.50	954.90	1.10	110.20	6.88	24.70	5.90	(N/A)	(N/A)	0.40	0.70	957.04	956.34	959.56	2.52	
A4	0.51	2.00	0.63	1.71	5.00	12.40	15.73	21.32	18.00	70.90	Concrete	0.013	952.60	951.00	2.26	135.60	12.07	26.40	6.30	(N/A)	(N/A)	0.40	2.96	955.43	952.47	959.56	4.13	
B1	0.16	4.70	0.79	2.60	5.00	11.67	174.31	103.53	42.00	22.50	Concrete	0.013	950.70	950.00	3.11	59.40	18.89	9.60	2.30	1.55	A3	0.40	0.69	953.80	953.11	960.63	6.83	
B2	(N/A)	4.60	(N/A)	2.42	0.00	11.71	139.57	101.58	42.00	93.50	Concrete	0.013	956.30	954.50	1.93	72.80	15.82	(N/A)	(N/A)	(N/A)	(N/A)	0.20	2.49	959.39	956.90	963.46	4.07	J.B.
B3	0.20	4.60	0.81	2.42	5.00	11.76	131.10	101.70	42.00	100.10	Concrete	0.013	958.50	956.80	1.70	77.60	15.05	11.40	2.70	2.17	B1	0.40	2.32	961.59	959.26	965.60	4.01	
B4	(N/A)	3.80	(N/A)	1.89	0.00	11.82	81.04	95.54	36.00	115.20	Concrete	0.013	960.70	959.00	1.48	117.90	13.52	(N/A)	(N/A)	(N/A)	(N/A)	0.20	2.36	964.75	962.38	967.30	2.55	J.B.
B5	0.31	3.80	0.80	1.89	5.00	11.89	69.30	95.66	36.00	120.40	Concrete	0.013	962.50	961.20	1.08	138.00	13.53	11.60	2.80	2.86	B3	0.40	2.48	967.79	965.31	969.05	1.26	
B6	0.29	2.70	0.82	1.37	5.00	12.12	82.41	89.69	36.00	393.00	Concrete	0.013	969.00	963.00	1.53	108.80	12.69	10.60	2.50	2.54	B5	0.40	7.11	976.04	968.93	977.77	1.73	
B7	(N/A)	1.90	(N/A)	0.91	0.00	12.20	67.33	84.15	36.00	127.50	Concrete	0.013	970.80	969.50	1.02	125.00	11.90	(N/A)	(N/A)	(N/A)	(N/A)	0.20	2.03	979.07	977.04	980.56	1.49	J.B.
B8	(N/A)	1.90	(N/A)	0.91	0.00	12.28	66.47	84.22	36.00	120.80	Concrete	0.013	972.50	971.30	0.99	126.70	11.91	(N/A)	(N/A)	(N/A)	(N/A)	0.20	1.93	981.44	979.51	983.15	1.71	J.B.
B9	0.21	1.90	0.81	0.91	5.00	12.36	70.25	84.30	36.00	126.20	Concrete	0.013	974.40	973.00	1.11	120.00	11.93	10.20	2.40	2.06	B6	0.40	2.02	983.89	981.88	985.81	1.92	
B10	(N/A)	1.30	(N/A)	0.48	0.00	12.51	10.12	6.05	15.00	93.60	Concrete	0.013	983.50	981.20	2.46	59.80	4.93	(N/A)	(N/A)	(N/A)	(N/A)	0.20	0.82	985.60	984.78	987.86	2.26	J.B.
B11	(N/A)	1.30	(N/A)	0.48	0.00	12.62	8.28	6.10	15.00	91.30	Concrete	0.013	985.50	984.00	1.64	73.70	7.38	(N/A)	(N/A)	(N/A)	(N/A)	0.20	0.83	986.50	985.67	989.81	3.31	J.B.
B12	0.69	1.30	0.61	0.48	5.00	12.82	7.15	6.20	15.00	155.20	Concrete	0.013	987.90	986.00	1.22	86.70	6.56	10.90	2.60	2.31	B9	0.40	2.01	988.91	986.90	993.11	4.20	
B13	0.65	0.60	0.63	0.24	5.00	12.90	6.75	3.07	15.00	54.90	Concrete	0.013	989.00	988.40	1.09	45.50	5.37	10.70	2.60	2.25	G1	1.00	0.59	989.71	989.12	993.31	3.60	
C1	0.61	0.60	0.51	0.29	5.00	12.90	14.09	3.82	15.00	31.10	Concrete	0.013	953.00	951.50	4.82	27.10	9.76	12.60	3.00	3.63	A4	0.40	1.82	953.79	951.97	960.63	6.84	
D1	0.58	0.60	0.49	0.31	5.00	12.90	7.54	4.09	15.00	55.00	Concrete	0.013	961.50	960.75	1.36	54.20	6.27	13.50	3.20	3.40	C1	1.00	0.18	962.56	962.38	965.60	3.04	
E1	0.72	0.70	0.52	0.30	5.00	12.90	7.02	3.93	15.00	55.00	Concrete	0.013	965.00	964.35	1.18	56.00	3.20	12.90	3.10	3.79	D1	1.00	0.20	969.13	968.93	969.05	-0.08	
F1	0.52	0.50	0.59	0.26	5.00	12.90	6.75	3.36	15.00	55.00	Concrete	0.013	973.70	973.10	1.09	49.80	2.74	11.40	2.70	2.86	E1	1.00	0.15	977.19	977.04	977.77	0.58	
G1	0.38	0.40	0.62	0.24	5.00	12.90	69.38	76.09	36.00	55.40	Concrete	0.013	975.50	974.90	1.08	109.70	10.76	10.70	2.60	2.22	F1	1.00	0.72	985.50	984.78	985.96	0.46	

* LABEL REPRESENTS STRUCTURE & DOWNSTREAM PIPES

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Overland Park, KS 66213-4750 FAX 913.381.1174

RECORD DRAWINGS

RYAN B. FLEMING
MO. NO. PE-2002003161

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	11/16/2021	CITY COMMENTS	ARJ

STORM SEWER CALCULATIONS

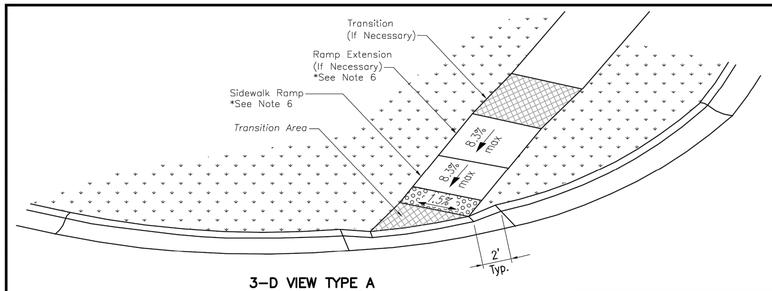
SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

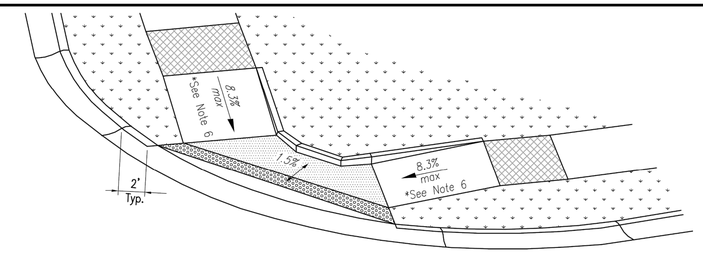
2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_CALCS_02104157
DATE: 2021-10-12

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_CALCS_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:51pm XREFS: T_PTBLK_02104157



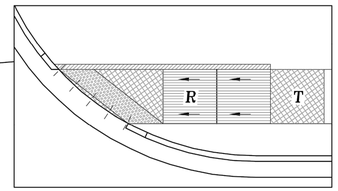
3-D VIEW TYPE A
SIDEWALK/SHARED-USE RAMP



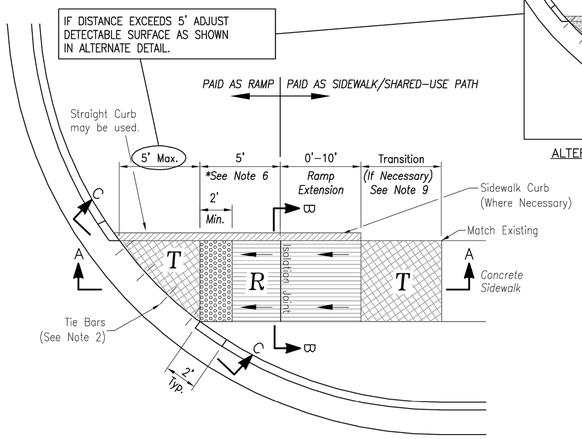
3-D VIEW TYPE B
SIDEWALK/SHARED-USE RAMP

LEGEND

- R — SIDEWALK RAMP
- TS — TURNING SPACE
- DETECTABLE WARNING SURFACE
- T — TRANSITION



ALTERNATE DETECTABLE SURFACE LAYOUT

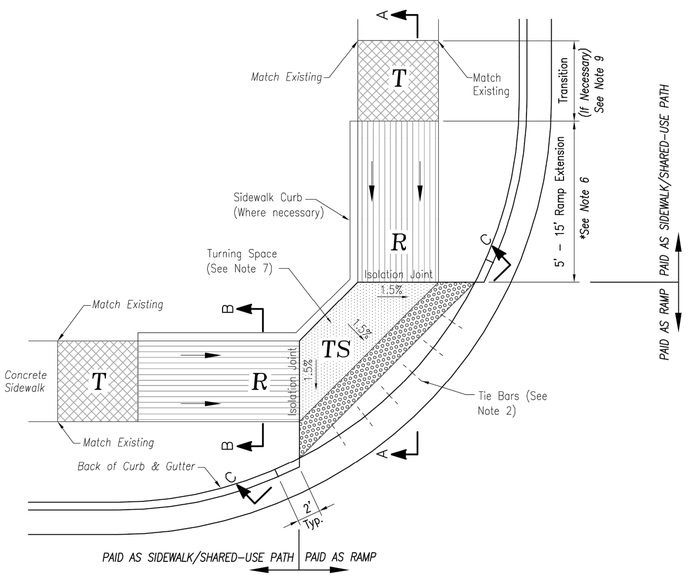


TYPE A SIDEWALK/SHARED-USE RAMP
Not to Scale

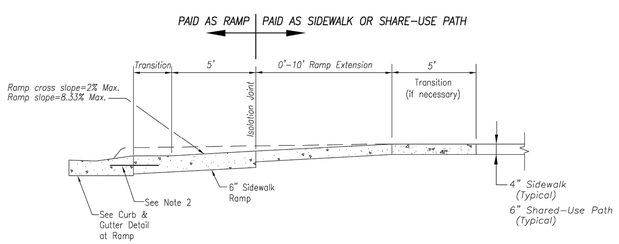
SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
   ADA MAXIMUM CROSS SLOPE = 2.0%

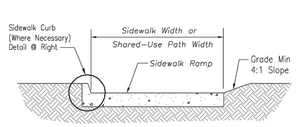
   *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5%, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).



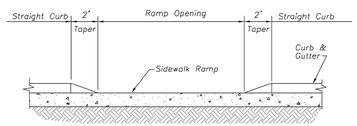
TYPE B SIDEWALK/SHARED-USE RAMP
Not to Scale



SECTION A-A

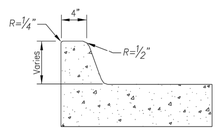


SECTION B-B

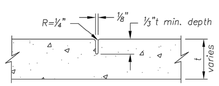


SECTION C-C

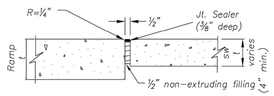
TYPE A & B SIDEWALK RAMP
Not to Scale



SIDEWALK CURB DETAIL
Not to Scale

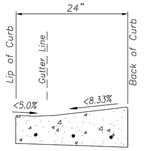


CONTRACTION JOINT



ISOLATION JOINT

JOINT DETAILS
Not to Scale



CURB & GUTTER DETAIL AT RAMP
Not to Scale

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: ADA RAMP RETROFIT DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-3A

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Olsson Engineering - MO State Certificate of Authority #001592
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Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

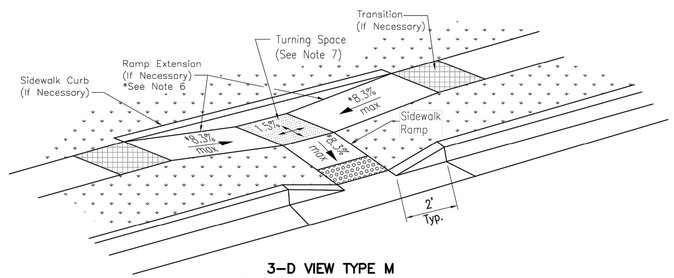
REVISIONS

STANDARD DETAILS

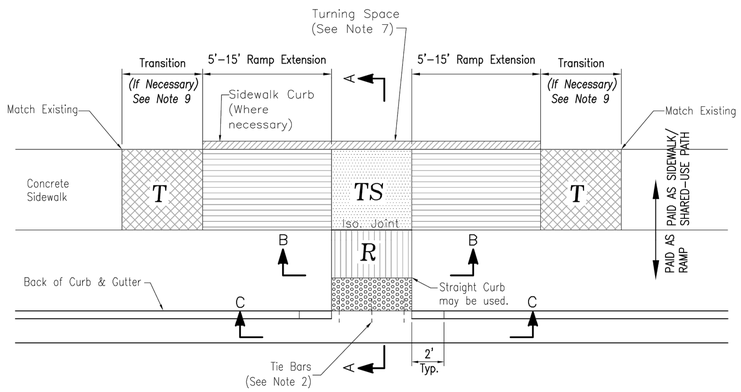
SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET
LEE'S SUMMIT, MISSOURI
2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_PDET_02104157
DATE: 2021-10-12

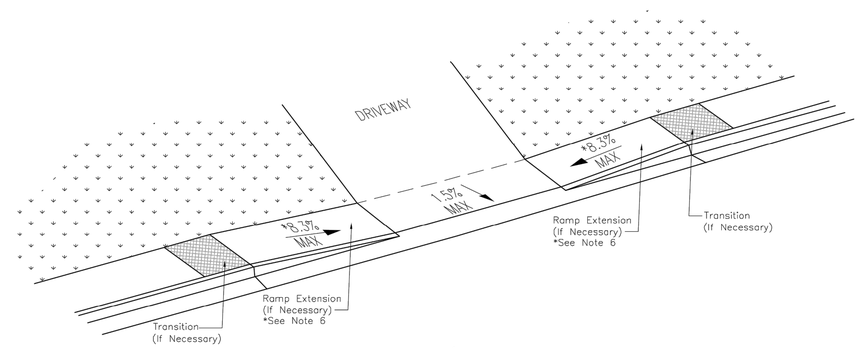
DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_PDET_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:52pm XREFS: T_PTBLK_02104157



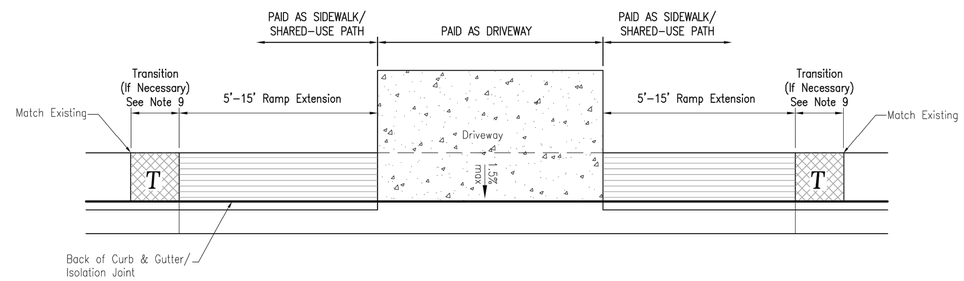
3-D VIEW TYPE M
SIDEWALK/SHARED-USE RAMP



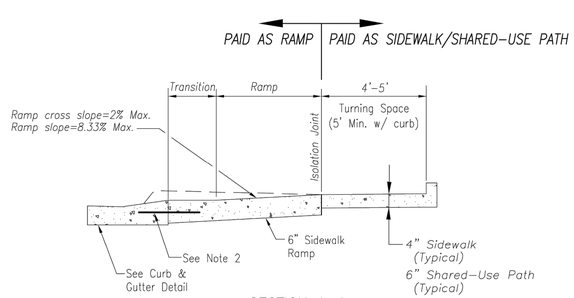
TYPE M SIDEWALK/SHARED-USE RAMP
Not to Scale



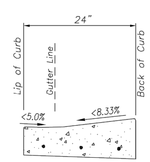
3-D VIEW SIDEWALK/SHARED-USE RAMP
AT DRIVEWAY



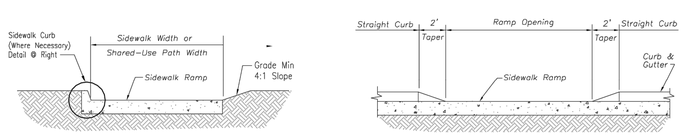
SIDEWALK/SHARED USE RAMP
AT DRIVEWAY WITH ADJOINING CURB



SECTION A–A



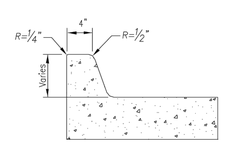
CURB & GUTTER DETAIL AT RAMP
Not to Scale



SECTION B–B

SECTION C–C

TYPE M SIDEWALK RAMP
*Not to Scale



SIDEWALK CURB DETAIL
Not to Scale

LEGEND

R	SIDEWALK RAMP
TS	TURNING SPACE
	DETECTABLE WARNING SURFACE
T	TRANSITION

SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
   ADA MAXIMUM CROSS SLOPE = 2.0%
   *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
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8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: ADA RAMP RETROFIT DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
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GEN-3B

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RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

STANDARD DETAILS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET
LEE'S SUMMIT, MISSOURI
2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_PDET_02104157
DATE: 2021-10-12

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_PDET_02104157.dwg USER: asaavedra
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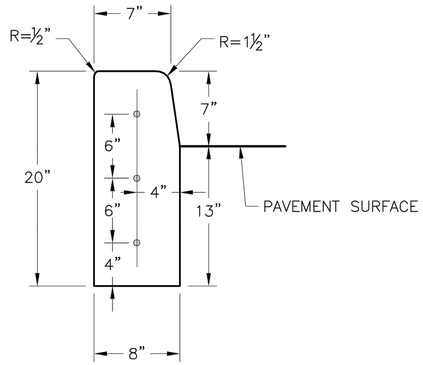
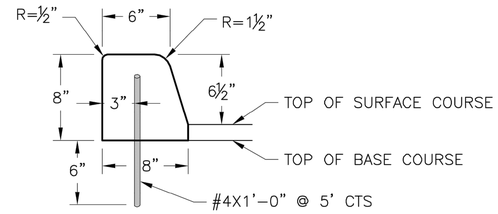
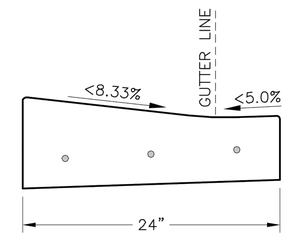


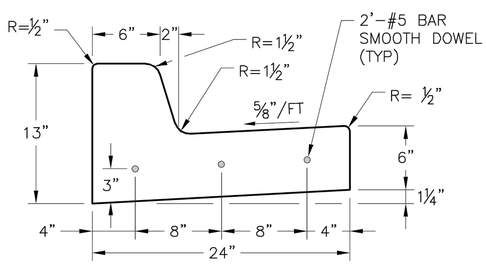
STRAIGHT CURB
(TYPE C–1)



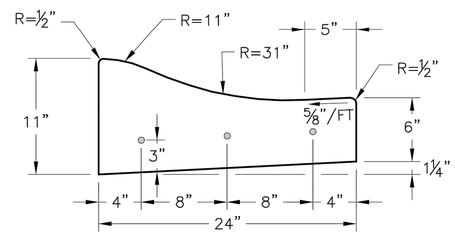
DOWELLED CURB
(TYPE DC)



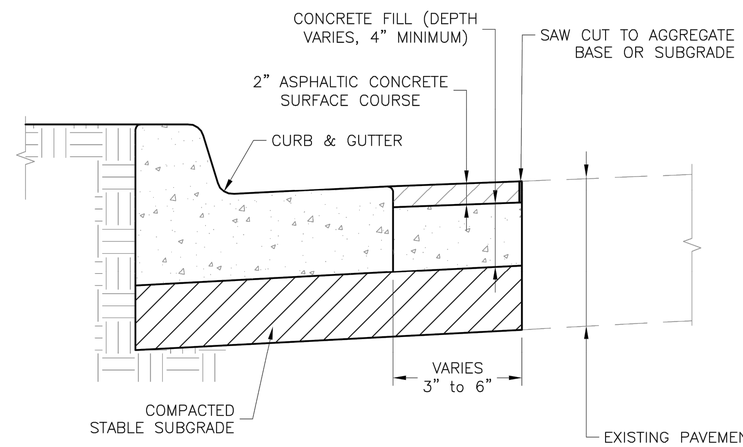
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



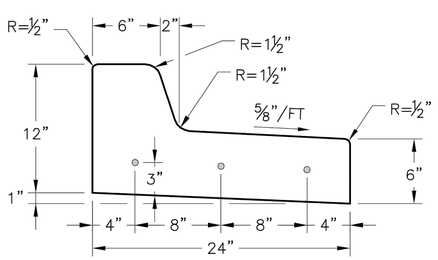
STRAIGHT BACK CURB &
GUTTER
(TYPE CG–1)



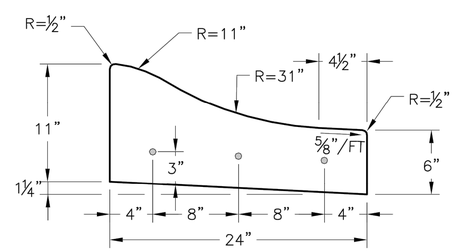
ROLL BACK CURB &
GUTTER
(TYPE CG–2)



CURB REPLACEMENT DETAIL



STRAIGHT BACK DRY CURB &
GUTTER
(TYPE CG–1 DRY)



ROLL BACK DRY CURB &
GUTTER
(TYPE CG–2 DRY)

GENERAL NOTES

1. ¾" ISOLATION JOINTS WITH 3 (2'–#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

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LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: CURB & GUTTER DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-4

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Olsson Engineering - MO State Certificate of Authority #001592
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Overland Park, KS 66213-4750 FAX 913.381.1174

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NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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CHECKED BY: XXX
APPROVED BY: RBF
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PROJECT NO.: 021-04157
DWG NO.: T_PDET_02104157
DATE: 2021-10-12

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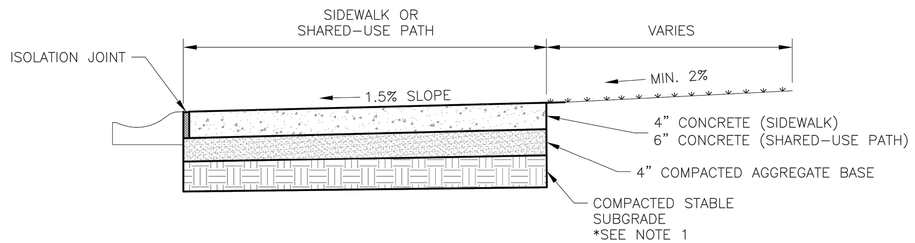
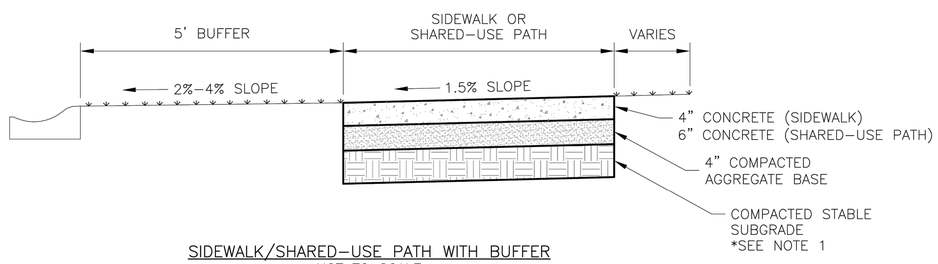


SIDEWALK/SHARED–USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED–USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

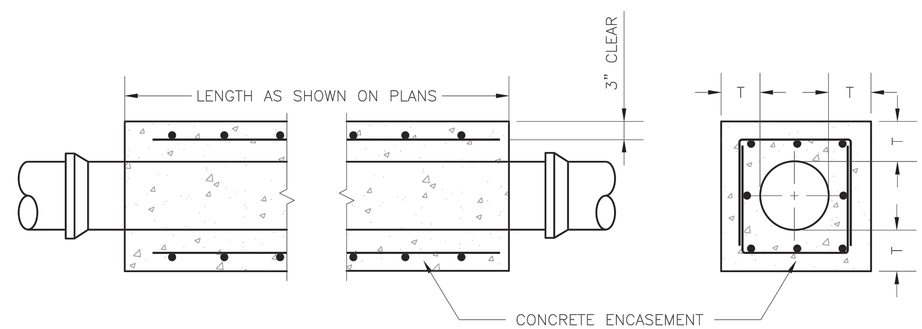
1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED–USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALK/SHARED–USE PATHS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. AN ISOLATION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK/SHARED–USE PATHS, BUT NO GREATER THAN 10 FT.
6. AN ISOLATION JOINT SHALL BE PLACED WHERE THE SIDEWALK/SHARED–USE PATHS MEETS A RESIDENTIAL DRIVEWAY.
7. SHARED–USE PATHS WIDTH SHALL BE 10 FT. WIDE.
8. SIDEWALK/SHARED–USE PATHS FINISHING SHALL BE FULL BROOM FINISH OR AS DIRECTED BY CITY INSPECTOR.
9. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

SIDEWALK/SHARED-USE PATH DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL

GEN-2



NOTES:

1. FOR PIPES LESS THAN 15", T = 6" MIN.
2. FOR PIPES 15" THRU 36", T = 8" MIN.
3. INTERMEDIATE BELLS SHALL BE ENCASED.
4. REINFORCING STEEL SHALL BE #4 @ 12" O.C. EACH WAY WITH A MINIMUM REBAR LAP OF 12".

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

PIPE ENCASEMENT DETAIL

Date: 01/2016
Drawn By: JN
Checked By: DL

SAN-7

olsson
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LEE'S SUMMIT, MISSOURI

2021

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DWG: F:\2021\04001–04500\021–04157\40–Design\AutoCAD\Final Plans\Sheets\RDBR\T_PDET_02104157.dwg USER: asaavedra
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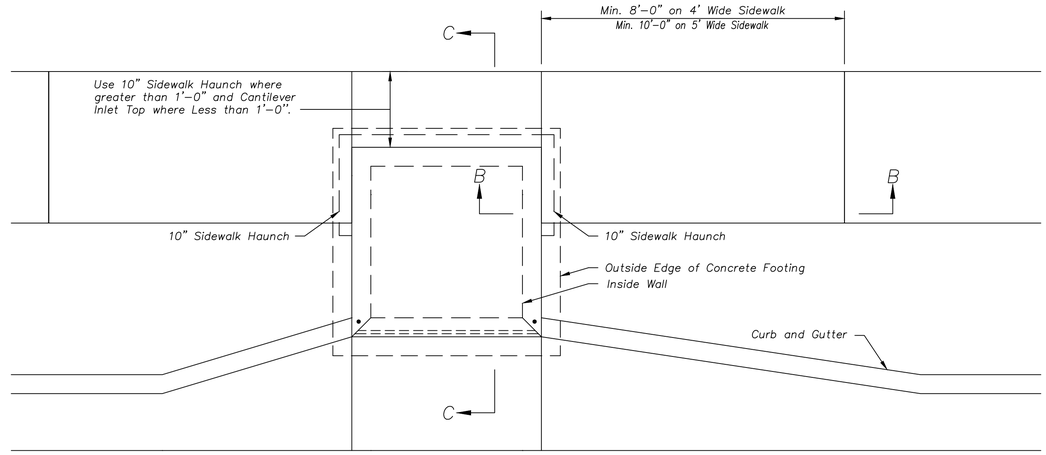
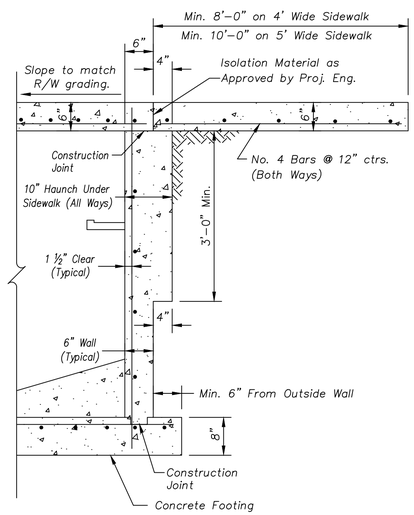


Plan

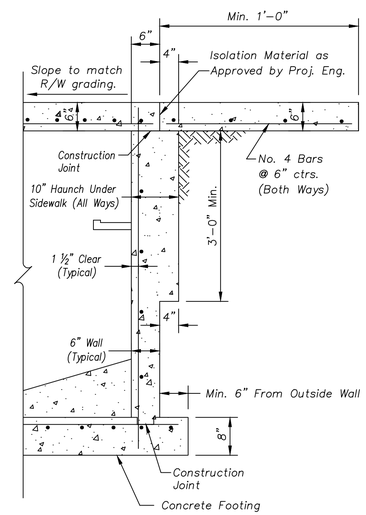
Not to Scale



Section B–B

With Sidewalk Haunch

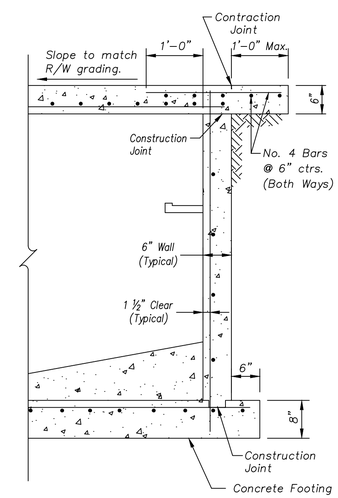
NOTE: Sidewalk Haunch is Subsidiary to the Curb Inlet Construction.



Section C–C

With Sidewalk Haunch Where Sidewalk Width > 1' Along Back of Inlet

NOTE: Sidewalk Haunch is Subsidiary to the Curb Inlet Construction.



Section C–C

With Cantilever Inlet Top Where Sidewalk Width < 1' Along Back of Inlet

NOTE: Sidewalk Haunch is Subsidiary to the Curb Inlet Construction.

CURB INLET WITH ADJOINING SIDEWALK

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RECORD DRAWINGS

RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

STORM SEWER DETAILS

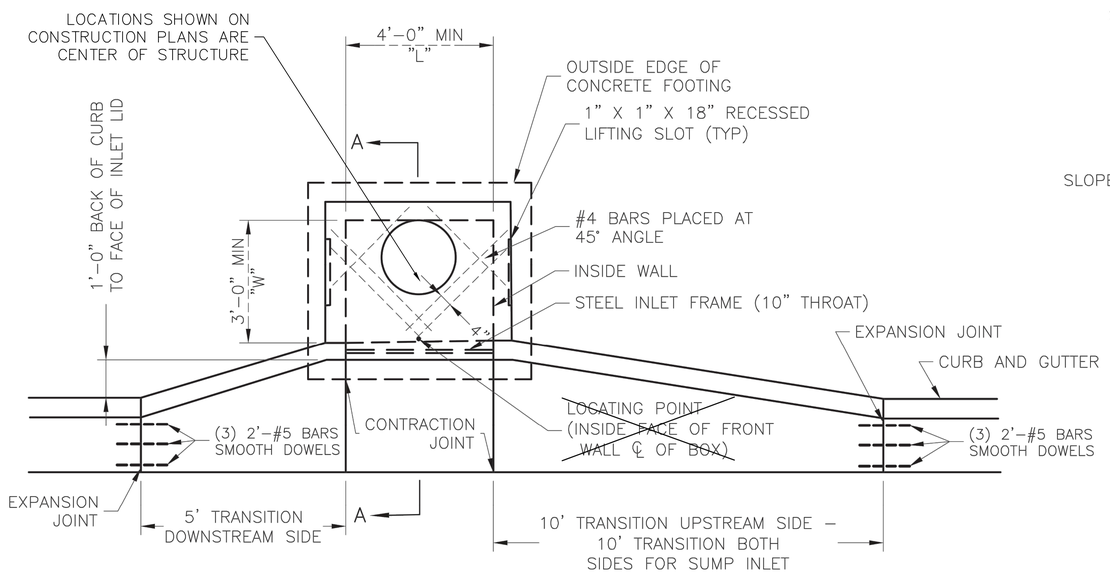
SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

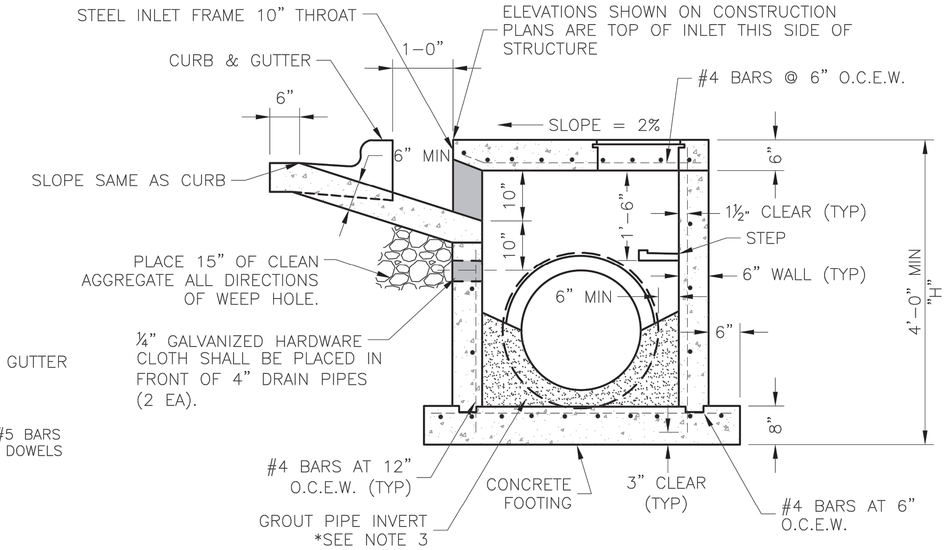
2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_DTL02_02104157
DATE: 2021-10-12

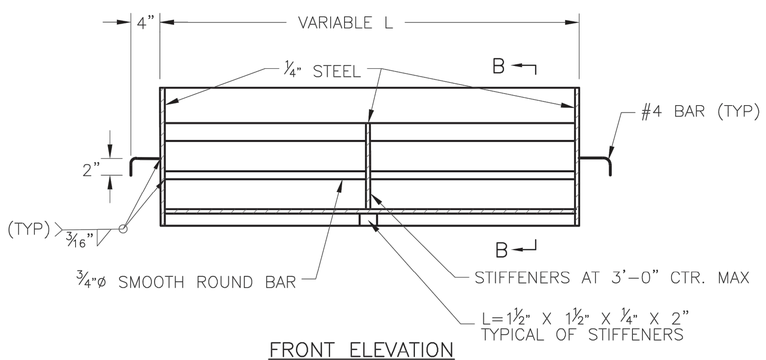
DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_DTL02_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:52pm XREFS: T_PTBLK_02104157



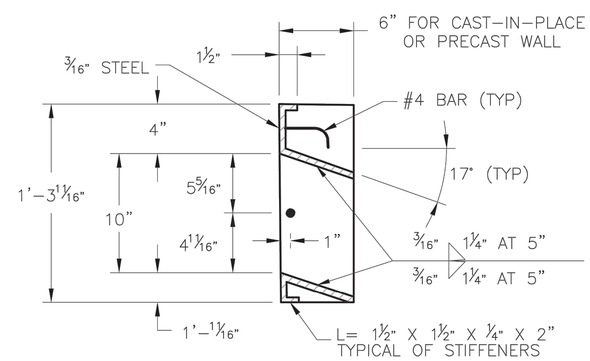
PLAN VIEW



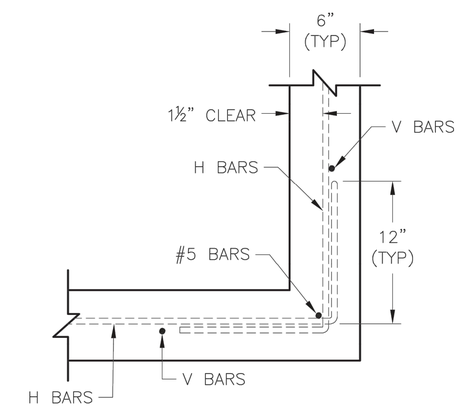
SECTION A–A



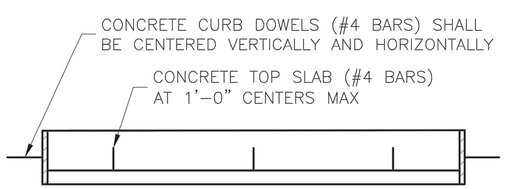
FRONT ELEVATION



SECTION B–B



WALL CORNER DETAIL



PLAN VIEW

STEEL FRAME NOTES:

1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
3. THE ENTIRE FRAME SHALL BE PAINTED A SINGLE COAT OF CHEM–PRIME #37H–78 PRIMER (GRAY) OR EQUAL.

GENERAL NOTES:

1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'–4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED EDGES WITH ¾"CHAMFER OR ½" TOOLED EDGE.
7. ON–GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON–SHRINKABLE GROUT
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

LEE'S SUMMIT MISSOURI
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RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

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REVISIONS

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: CURB INLET DETAIL

STORM SEWER DETAILS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:

STM-1

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
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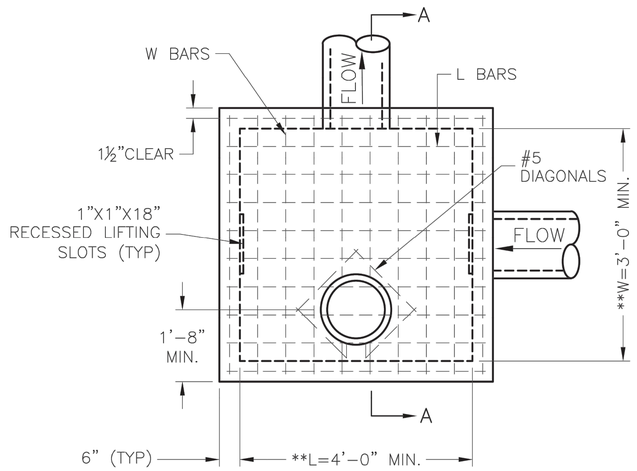
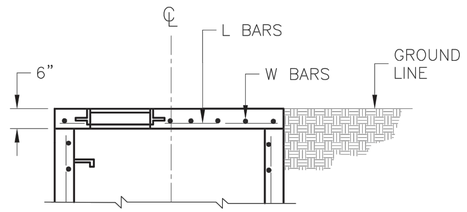


PLAN

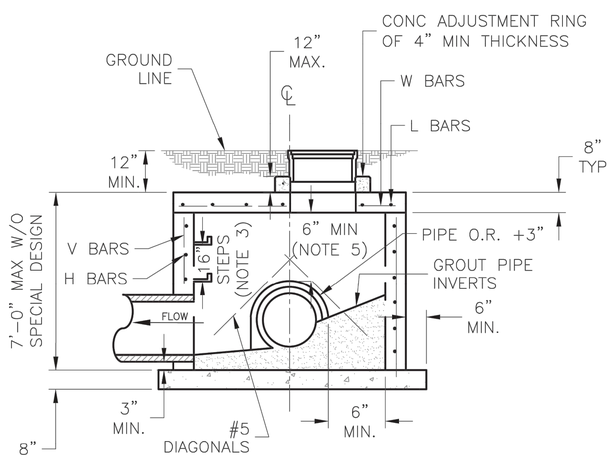


SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

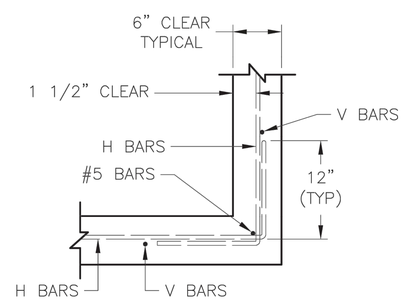
** INCREASE IN MULTIPLES OF 6" (7'-0") MAX WITHOUT SPECIAL DESIGN. (SEE PROJECT PLANS FOR DETAILS)

REINFORCING

BARS	BAR SIZE	SPACING (IN.)
H	4	12
V	4	12
L	5	6
W	5	6



SECTION A-A



WALL CORNER DETAIL

GENERAL NOTES:

1. LOCATE RING AND COVER ON BLANK WALL.
2. USE ¾" CHAMFER STRIP OR ½" R EDGER TOOL ON ALL EXPOSED CONCRETE CORNERS.
3. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 4' ON BLANK WALL IF POSSIBLE.
4. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE AND THE MINIMUM DISTANCE BETWEEN BOXOUTS IS 6".
5. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOXOUT.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: JUNCTION BOX DETAIL

Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:

STM-3

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RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REVISIONS

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STORM SEWER DETAILS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET
LEE'S SUMMIT, MISSOURI
2021

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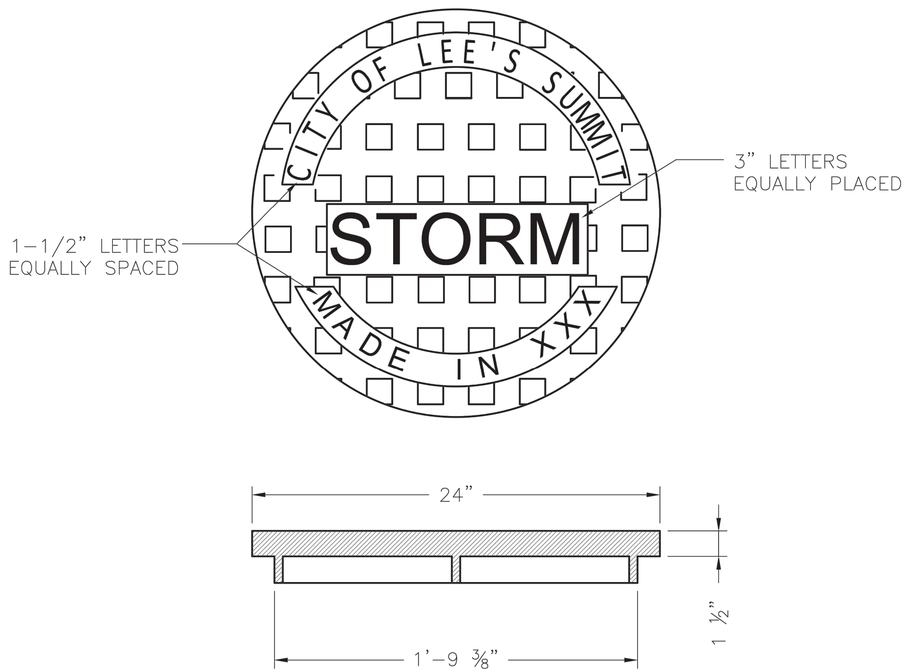

STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

LEE'S SUMMIT
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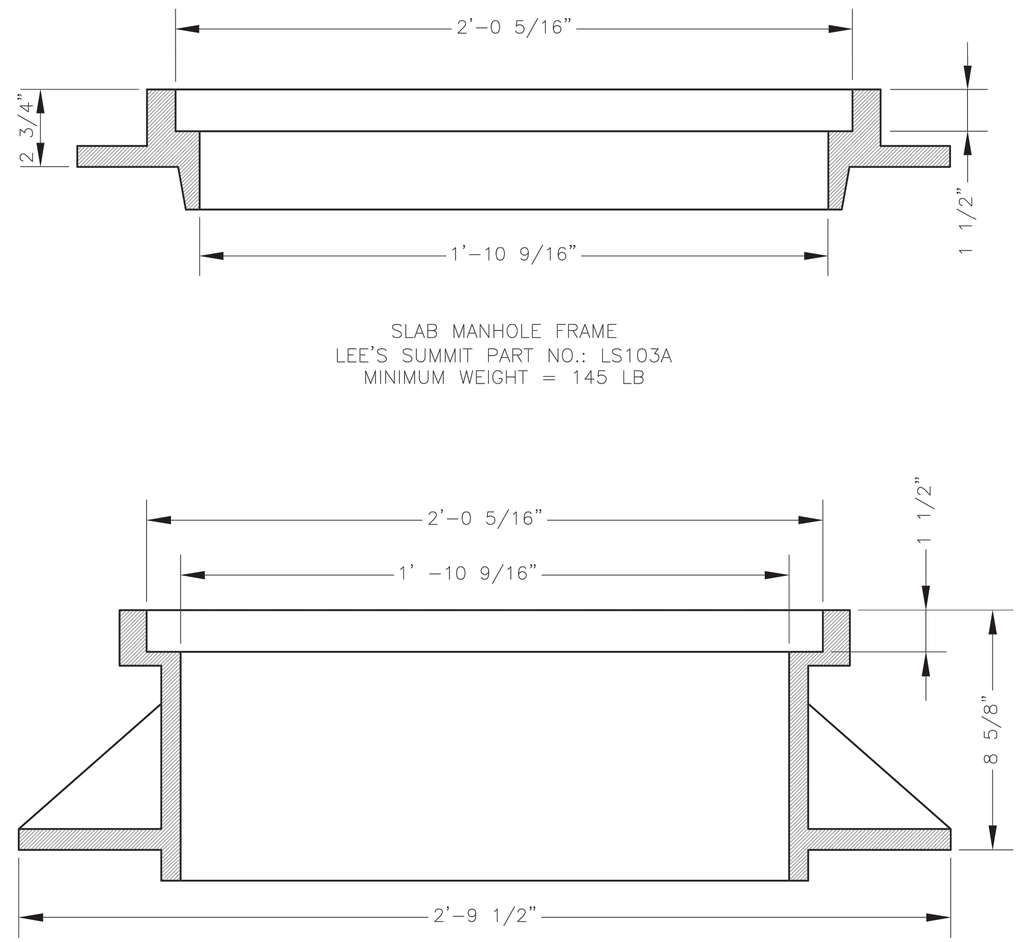
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE COVER DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: DL

STM-6



SLAB MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS103A
MINIMUM WEIGHT = 145 LB

STANDARD 24" MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS101A
MINIMUM WEIGHT = 250 LB

*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

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STORM MANHOLE FRAME DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: DL

DWG-7

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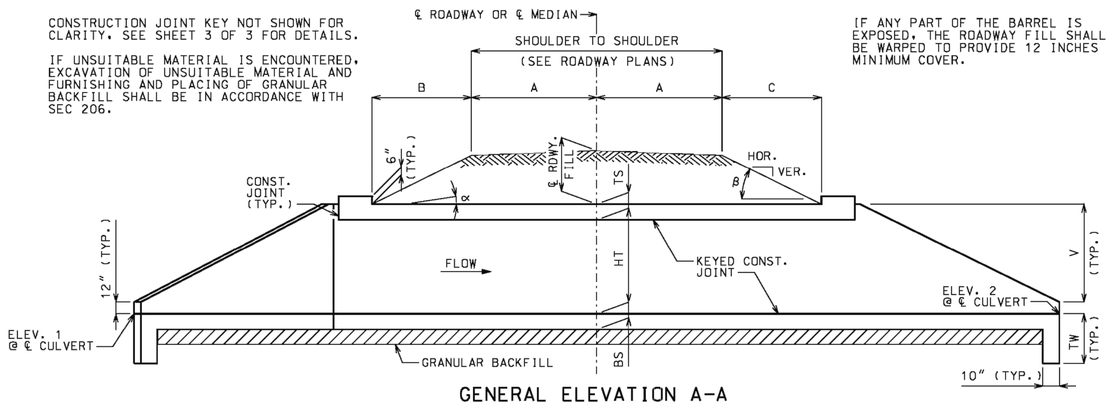
CONSTRUCTION JOINT KEY NOT SHOWN FOR CLARITY. SEE SHEET 3 OF 3 FOR DETAILS.

IF UNSUITABLE MATERIAL IS ENCOUNTERED, EXCAVATION OF UNSUITABLE MATERIAL AND FURNISHING AND PLACING OF GRANULAR BACKFILL SHALL BE IN ACCORDANCE WITH SEC 206.

IF ANY PART OF THE BARREL IS EXPOSED, THE ROADWAY FILL SHALL BE WARPED TO PROVIDE 12 INCHES MINIMUM COVER.



GENERAL ELEVATION A-A

CHANNEL BOTTOM SHALL BE GRADED WITHIN RIGHT OF WAY FOR TRANSITION OF CHANNEL BED TO CULVERT OPENINGS. CHANNEL BANKS SHALL BE TAPERED TO MATCH CULVERT OPENINGS.

EQUATIONS FOR COMPUTING α, β, B AND C

α = ANGLE OF BARREL SLOPE WITH HORIZONTAL NORMAL TO ℄ ROADWAY OR ℄ MEDIAN $= \text{ARCTAN}\left(\frac{\text{ELEV. 1} - \text{ELEV. 2}}{W}\right)$

β = ANGLE OF FILL SLOPE WITH HORIZONTAL NORMAL TO ℄ ROADWAY OR ℄ MEDIAN $= \text{ARCTAN}\left(\frac{\text{VER.}}{\text{HOR.}}\right)$

B = HORIZONTAL DISTANCE FROM UPSTREAM EDGE OF SHOULDER TO UPSTREAM HEADWALL NORMAL TO ℄ ROADWAY OR ℄ MEDIAN $= \frac{\text{℄ RDWY. FILL} + A(CS) - A(\text{TAN}\alpha)}{\text{TAN}\beta + \text{TAN}\alpha}$

C = HORIZONTAL DISTANCE FROM DOWNSTREAM EDGE OF SHOULDER TO DOWNSTREAM HEADWALL NORMAL TO ℄ ROADWAY OR ℄ MEDIAN $= \frac{\text{℄ RDWY. FILL} + A(CS) + A(\text{TAN}\alpha)}{\text{TAN}\beta - \text{TAN}\alpha}$

CS = CROSS SLOPE OF EACH PART OF ROADWAY INCLUDING CROWN, LANES AND SHOULDERS. CS IS POSITIVE IF RISING AND NEGATIVE IF FALLING AWAY FROM ℄ ROADWAY OR ℄ MEDIAN.

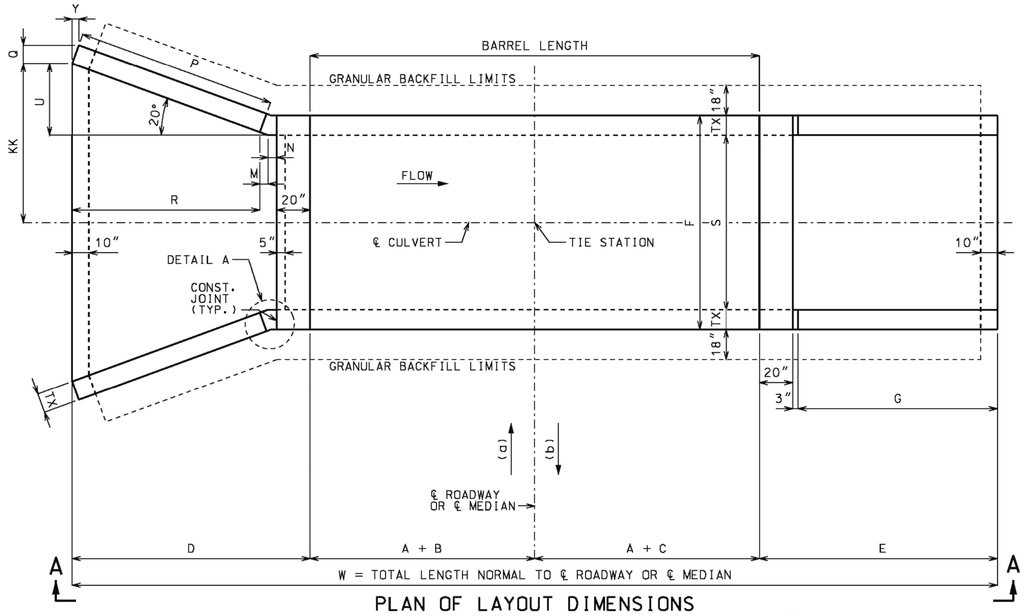
THE TERM "A(CS)" IS THE DIFFERENCE IN ELEVATION BETWEEN ℄ ROADWAY OR ℄ MEDIAN AND THE TOP OF THE FILL SLOPE NORMAL TO ℄ ROADWAY OR ℄ MEDIAN. THIS TERM SHALL BE ADJUSTED FOR UNSYMMETRICAL AND NONSTANDARD ROADWAYS.

TO ACCOUNT FOR A VARYING PROFILE GRADE THE ℄ ROADWAY FILL SHALL BE BASED ON STATIONS THAT CORRESPOND TO THE CORNERS OF THE INSIDE FACE OF THE HEADWALLS THAT PRODUCE MAXIMUM VALUES FOR B AND C.

SEE ROADWAY PLANS FOR SLOPES, ℄ ROADWAY FILL AND ELEVATIONS 1 AND 2. ELEVATIONS 1 AND 2 CORRESPOND TO UPPER AND LOWER FLOW LINE ELEVATIONS AND MAY BE BELOW THE NATURAL STREAM BOTTOM DUE TO ENVIRONMENTAL REQUIREMENTS.

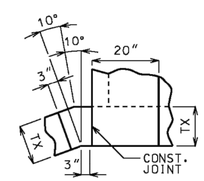
LAYOUT DIMENSIONS

VARIABLE	DIMENSION	VARIABLE	DIMENSION
α	SEE EQUATIONS	P	2V(SEC 20°)
β	SEE EQUATIONS	Q	TX(COS 20°)
B	SEE EQUATIONS	R	P(COS 20°)
C	SEE EQUATIONS	U	(R + M)(TAN 20°)
D	R + M + N + 20"	V	HT + TS − 12"
E	G + 23"	W	2A + B + C + D + E
F	S + 2TX	Y	TX(SIN 20°)
G	2V	KK	S/2 + U
M	N(COS 20°)	TW	MAX{3'-4" OR (BS + 12")}
N	3" + TX(TAN 10°)		



PLAN OF LAYOUT DIMENSIONS

(a) AHEAD STATION WHERE STREAM FLOWS LEFT TO RIGHT. (b) AHEAD STATION WHERE STREAM FLOWS RIGHT TO LEFT.



DETAIL A

GENERAL NOTES:

DESIGN SPECIFICATIONS:
2010 AASHTO LRFD BRIDGE DESIGN SPECFICATIONS AND 2010 INTERIM REVISIONS

DESIGN LOADING:
VEHICULAR = HL-93 MINUS LANE LOAD, EARTH = 120 LB/CF
EQUIVALENT FLUID PRESSURE = 30 LB/CF (MIN.), 60 LB/CF (MAX.)

DESIGN UNIT STRESSES:
CLASS B-1 CONCRETE (BOX CULVERT) f'c = 4,000 PSI
REINFORCING STEEL (GRADE 60) fy = 60,000 PSI

MISCELLANEOUS:
FOR REINFORCEMENT DETAILS, SEE SHEET 2 OF 3. FOR SECTION DETAILS, SEE SHEET 3 OF 3. FOR MEMBER THICKNESS, SEE 703.17.

DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

WHEN ALTERNATE PRECAST CONCRETE BOX CULVERT SECTIONS ARE USED, THE MINIMUM DISTANCE FROM INSIDE FACE OF HEADWALLS TO PRECAST SECTIONS MEASURED ALONG THE SHORTEST WALL SHALL BE 3 FEET. REINFORCEMENT AND DIMENSIONS FOR WINGS AND HEADWALLS SHALL BE IN ACCORDANCE WITH MISSOURI STANDARD PLANS.

MoDOT

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER PE-27141
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

CONCRETE SINGLE BOX CULVERT

SKEW: SQUARED
WINGS: FLARED

LAYOUT

DATE EFFECTIVE: 07/01/2015
DATE PREPARED: 5/13/2015

703.11J

SHEET NO. 1 OF 3

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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REINFORCED CONCRETE BOX DETAILS

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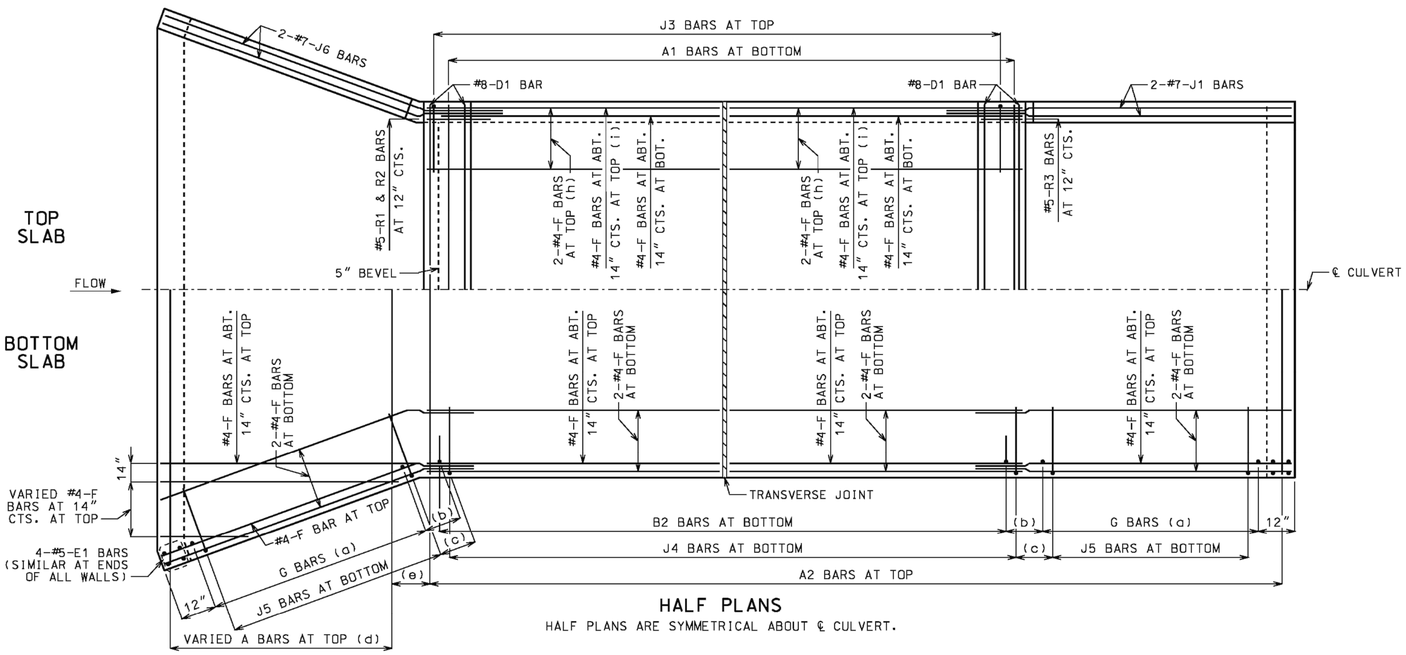
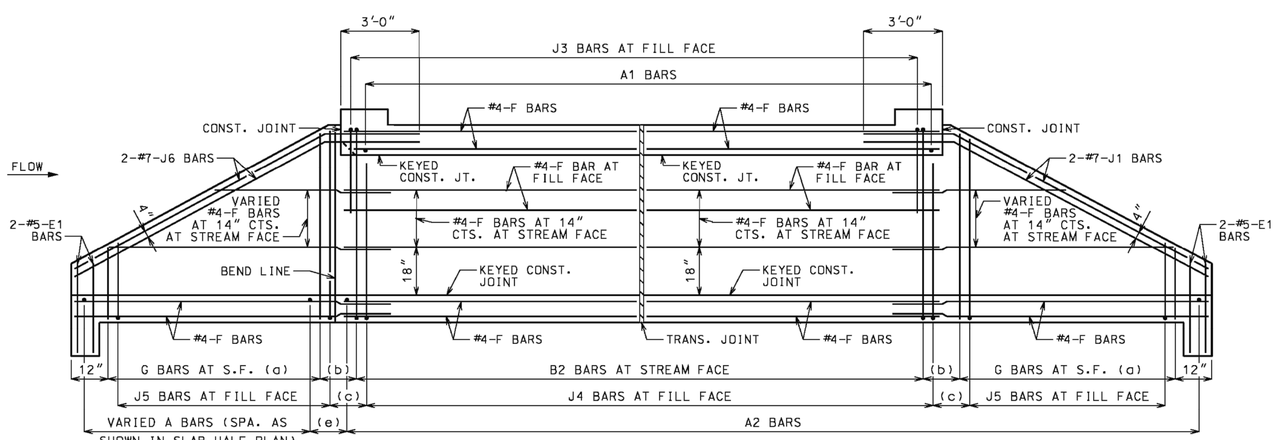


HALF PLANS

HALF PLANS ARE SYMMETRICAL ABOUT ℄ CULVERT.



DEVELOPED ELEVATION

J1 AND J6 BARS MAY BE BENT IN FIELD OR SHOP.

LAYING OUT TRANVERSE JOINTS

UNLESS SHOWN ON ROADWAY OR BRIDGE PLANS

USE A TRANSVERSE JOINT WHEN BARREL LENGTH IS OVER 80 FEET. USE ADDITIONAL JOINTS TO LIMIT CUT SECTION LENGTH AND END SECTION BARREL LENGTH MEASURED ALONG CENTERLINE OF CULVERT TO 50 FEET.

MINIMUM END SECTION LENGTH SHALL BE 3 FEET MEASURED ALONG THE SHORTEST WALL FROM THE INSIDE FACE OF HEADWALL TO THE TRANSVERSE JOINT.

TO AVOID LOCATING TRANSVERSE JOINTS UNDER A TRAVELED WAY WITH DESIGN FILLS 2 FEET OR LESS THE FOLLOWING SHALL APPLY:

BARREL LENGTH UP TO 90 FEET WITHOUT A TRANSVERSE JOINT

CUT SECTION LENGTHS UP TO 60 FEET

WHEN BARREL AND CUT SECTION LENGTH RESTRICTIONS REQUIRE TRANSVERSE JOINTS TO BE LOCATED UNDER A TRAVELED WAY WITH DESIGN FILLS 2 FEET OR LESS. THE JOINTS SHALL BE LOCATED TO MINIMIZE THE LENGTH OF JOINT UNDER THE TRAVELED WAY.

TRAVELED WAY IS THE ROADWAY WIDTH MINUS SHOULDER WIDTHS.

FOR CUT SECTION DETAILS, SEE 703.16.

GENERAL NOTES:

FOR SECTIONS THRU BARREL, WINGS AND HEADWALLS, SEE SHEET 3 OF 3. FOR BAR SIZES, SPACING AND DIMENSIONS OF ALL REINFORCEMENT EXCEPT J5 BARS, SEE 703.17. FOR J5 BARS, SEE 703.37.

CONSTRUCTION JOINT KEY NOT SHOWN FOR CLARITY IN HALF PLANS AND ELEVATION. SEE SHEET 3 OF 3 FOR DETAILS.

DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE $1\frac{1}{2}$".

LAP LONGITUDINAL BARS A MINIMUM OF 23" AT SPLICES.

BEVELED HEADWALL SHALL BE LOCATED AT UPSTREAM END.

(a) SAME SIZE AND SPACING AS B2 BARS
(b) VARIES, 12" MAXIMUM
(c) J4 BAR SPACING
(d) SAME SIZE AND SPACING AS B2 BARS
(e) A2 BAR SPACING
(f) NOT SPECIFIED ON THIS SHEET
(g) NOT SPECIFIED ON THIS SHEET
(h) FOR DESIGN FILLS OVER 2'-0"
(i) FOR DESIGN FILLS 2'-0" OR LESS

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER PE-27141
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

CONCRETE SINGLE BOX CULVERT

SKEW: SQUARED
WINGS: FLARED

REINFORCEMENT

DATE EFFECTIVE: 07/01/2015
DATE PREPARED: 5/13/2015

703.11J

SHEET NO. 2 OF 3

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

olsson
Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

REINFORCED CONCRETE BOX DETAILS

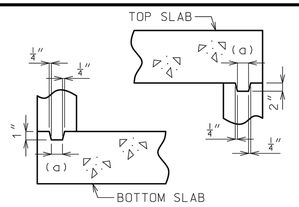
SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

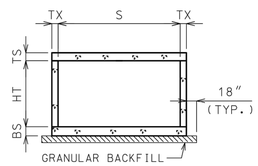
C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_DTL03_02104157
DATE: 2021-10-12

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_DTL03_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:53pm XREFS: T_PTBLK_02104157

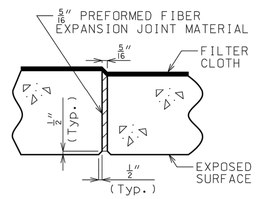


KEYED CONSTRUCTION JOINT

(a) APPROXIMATELY ONE-THIRD OF WALL THICKNESS



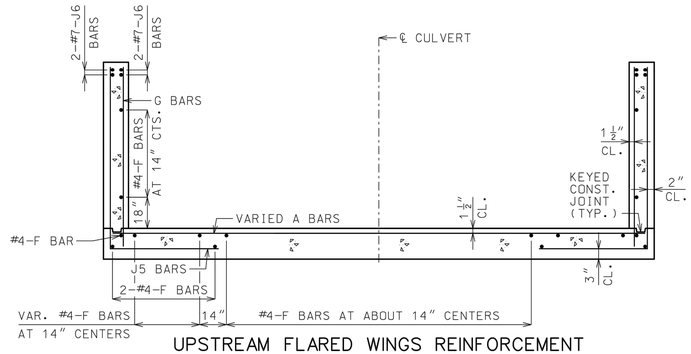
GRANULAR BACKFILL LIMITS AND MEMBER DIMENSIONS



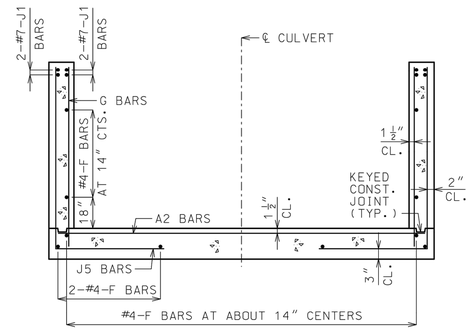
TRANSVERSE JOINT THRU BARREL

PREFORMED FIBER EXPANSION JOINT MATERIAL IN ACCORDANCE WITH SEC 1057 SHALL BE SECURELY STITCHED TO ONE FACE OF THE CONCRETE WITH 10 GAGE COPPER WIRE OR 12 GAGE SOFT DRAWN GALVANIZED STEEL WIRE.

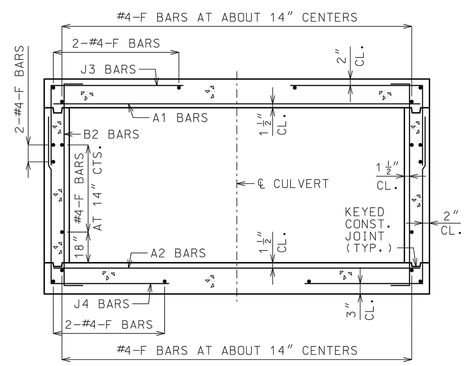
FILTER CLOTH 3 FEET IN WIDTH AND DOUBLE THICKNESS SHALL BE CENTERED ON TRANSVERSE JOINTS IN TOP SLAB AND SIDEWALLS WITH EDGES SEALED WITH MASTIC OR TWO SIDED TAPE. FILTER CLOTH SHALL BE A SEPARATION GEOTEXTILE IN ACCORDANCE WITH SEC 1011. COST OF FURNISHING AND INSTALLING FILTER CLOTH WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR OTHER ITEMS.



UPSTREAM FLARED WINGS REINFORCEMENT

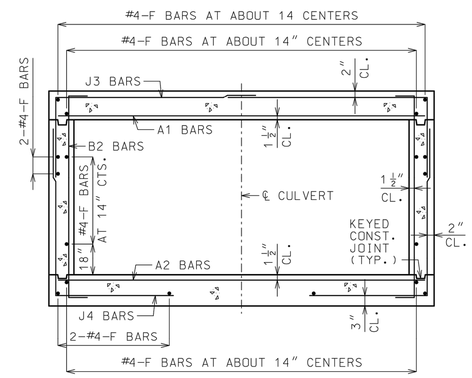


DOWNSTREAM WINGS REINFORCEMENT



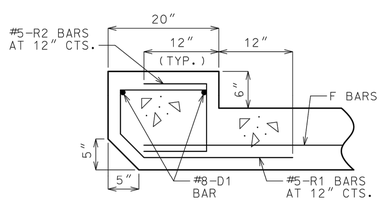
BARREL REINFORCEMENT

FOR DESIGN FILLS OVER 2'-0"

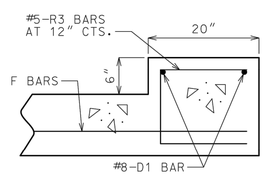


BARREL REINFORCEMENT

FOR DESIGN FILLS 2'-0" OR LESS



UPSTREAM HEADWALL REINFORCEMENT



DOWNSTREAM HEADWALL REINFORCEMENT

GENERAL NOTES:

FOR MEMBER THICKNESS AND FOR BAR SIZES, SPACING AND DIMENSIONS OF ALL REINFORCEMENT EXCEPT J5 BARS, SEE 703.17. FOR J5 BARS, SEE 703.37.

BARREL AND WINGS SECTIONS ARE SYMMETRICAL ABOUT AND NORMAL TO ℄ CULVERT. HEADWALL SECTIONS ARE NORMAL TO LONG DIRECTION OF HEADWALL.

DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2".

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER PE-27141
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

CONCRETE SINGLE BOX CULVERT

SKEW: SQUARED
WINGS: FLARED

SECTIONS

DATE EFFECTIVE: 01/01/2021
DATE PREPARED: 10/14/2020

703.11J

SHEET NO. 3 OF 3

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

olsson
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Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

REINFORCED CONCRETE BOX DETAILS

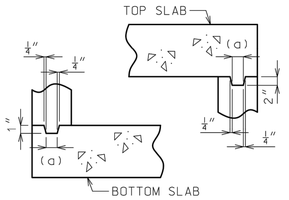
SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

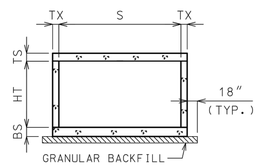
C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_DTL03_02104157
DATE: 2021-10-12

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_DTL03_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:53pm XREFS: T_PTBLK_02104157

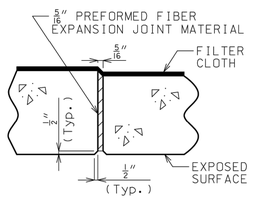


KEYED CONSTRUCTION JOINT

(a) APPROXIMATELY ONE-THIRD OF WALL THICKNESS



GRANULAR BACKFILL LIMITS AND MEMBER DIMENSIONS



TRANSVERSE JOINT THRU BARREL

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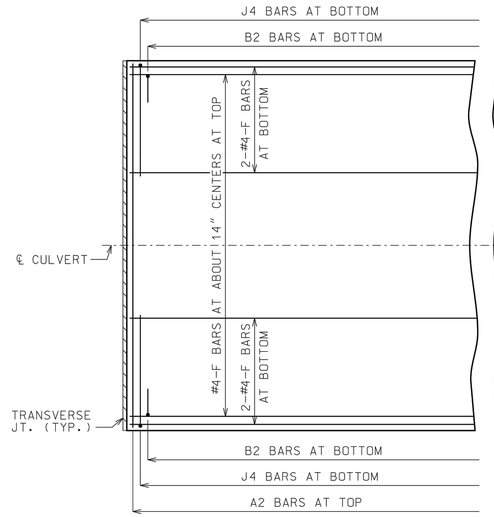
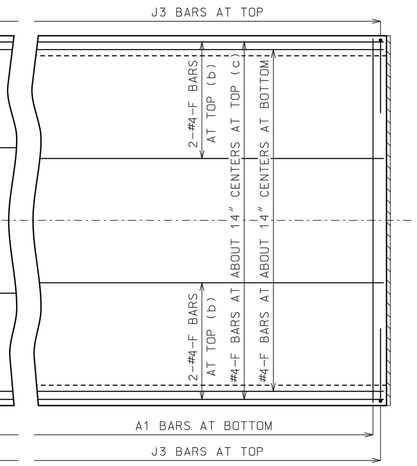
FILTER CLOTH 3 FEET IN WIDTH AND DOUBLE THICKNESS SHALL BE CENTERED ON TRANSVERSE JOINTS IN TOP SLAB AND SIDEWALLS WITH EDGES SEALED WITH MASTIC OR TWO SIDED TAPE. FILTER CLOTH SHALL BE A SEPARATION GEOTEXTILE IN ACCORDANCE WITH SEC 1011. COST OF FURNISHING AND INSTALLING FILTER CLOTH WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR OTHER ITEMS.

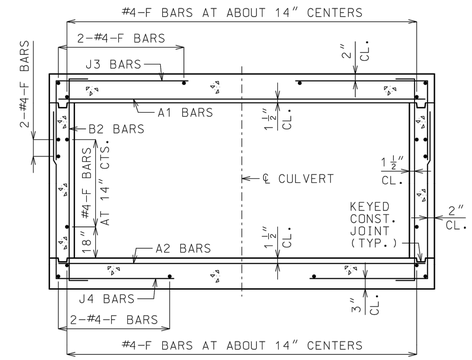


PART PLAN OF BOTTOM SLAB REINFORCEMENT



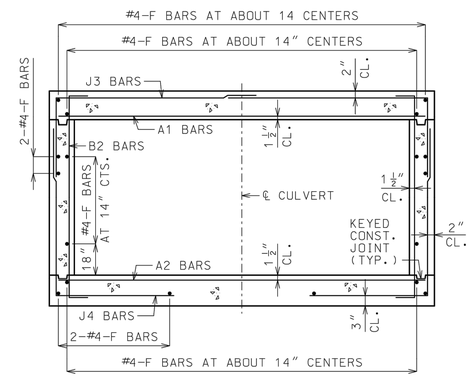
PART PLAN OF TOP SLAB REINFORCEMENT

(b) FOR DESIGN FILLS OVER 2'-0"
(c) FOR DESIGN FILLS 2'-0" OR LESS



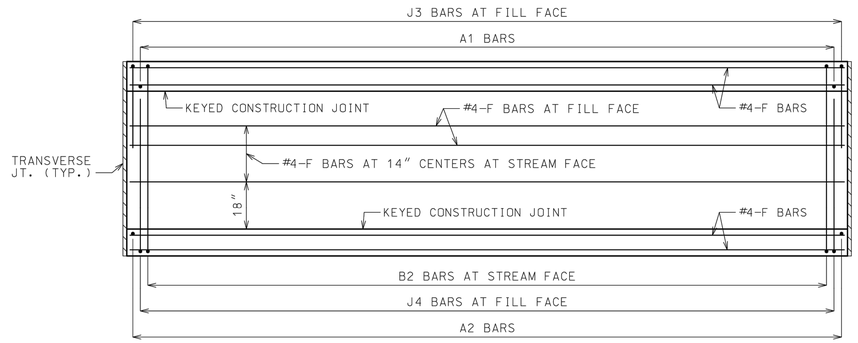
BARREL REINFORCEMENT

FOR DESIGN FILLS OVER 2'-0"
SYMMETRICAL ABOUT AND NORMAL TO ℄ CULVERT.



BARREL REINFORCEMENT

FOR DESIGN FILLS 2'-0" OR LESS
SYMMETRICAL ABOUT AND NORMAL TO ℄ CULVERT.



ELEVATION OF WALL REINFORCEMENT

GENERAL NOTES

DESIGN SPECIFICATIONS:
2010 AASHTO LRFD BRIDGE DESIGN SPECFICATIONS AND 2010 INTERIM REVISIONS

DESIGN LOADING:
VEHICULAR = HL-93 MINUS LANE LOAD, EARTH = 120 LB/CF
EQUIVALENT FLUID PRESSURE = 30 LB/CF (MIN.), 60 LB/CF (MAX.)

DESIGN UNIT STRESSES:
CLASS B-1 CONCRETE (BOX CULVERT) f'c = 4,000 PSI
REINFORCING STEEL (GRADE 60) fy = 60,000 PSI

MISCELLANEOUS:
FOR MEMBER THICKNESS AND FOR BAR SIZES, SPACING AND DIMENSIONS, SEE 703.17.

CONSTRUCTION JOINT KEY NOT SHOWN FOR CLARITY IN PART PLANS AND ELEVATION.

DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2".

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER PE-27141
PROFESSIONAL ENGINEER
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CONCRETE SINGLE BOX CULVERT

CUT SECTION

DATE EFFECTIVE: 01/01/2021
DATE PREPARED: 10/14/2020

703.16

SHEET NO. 1 OF 1

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

olsson
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RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

REINFORCED CONCRETE BOX DETAILS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET
LEE'S SUMMIT, MISSOURI
2021

C.O.A. NO.: -
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DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_DTL03_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:53pm XREFS: T_PTBLK_02104157

SPAN (S) = 12 FT HEIGHT (HT) = 6 FT OR 7 FT OR 8 FT

DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS		
				A1 BARS		J3 BARS			K2			A2 BARS		J4 BARS			K3			B2 BARS		
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	HT=6′	HT=7′	HT=8′	SIZE	SPA.	SIZE	SPA.	C4	HT=6′	HT=7′	HT=8′	SIZE	SPA.	G1
1 FT	13	10	8	6	7.5	5	8.5	89.6	33.3	37.8	42.1	6	7.5	6	6.5	57.8	78	90	102	5	12	12
2 FT	14	10	8	6	7	5	8.5	89.6	34.6	39.1	43.8	6	7	6	6	51.6	78	90	102	5	12	12
4 FT	10	11	8	6	6.5	6	6.5	47.1	30.8	35.0	39.3	6	6.5	5	6.5	42.5	79	91	103	5	12	0
6 FT	10	11	8	6	6.5	6	6.5	44.1	30.8	35.0	39.3	6	6	5	6	39.5	79	91	103	5	12	0
8 FT	10	11	8	6	6	6	6.5	41.0	30.8	35.0	39.3	7	7.5	6	6.5	39.5	79	91	103	5	12	0
10 FT	10	11	8	7	7	7	6	42.5	34.4	39.0	43.6	7	6.5	6	6	38.0	79	91	103	5	12	0
12 FT	11	12	8	7	7	6	6	38.0	35.1	39.8	44.5	7	6.5	6	6.5	36.5	80	92	104	5	12	0
14 FT	11	13	8	7	7	6	6	36.5	31.9	36.0	40.3	7	6.5	5	7	30.4	81	93	105	5	12	0
16 FT	12	14	8	7	6.5	6	6	35.0	32.5	36.8	41.0	7	6.5	5	7	30.4	82	94	106	5	12	0
18 FT	13	15	8	7	6	6	6.5	33.5	33.3	37.5	41.6	7	6	5	6.5	30.4	83	95	107	5	12	0
20 FT	15	17	8	7	6	6	7	39.5	35.6	40.0	44.3	7	6.5	5	7	30.4	85	97	109	5	12	0
22 FT	16	18	8	7	6	6	7	39.5	36.4	40.6	45.0	7	6	5	6.5	30.4	86	98	110	5	12	0
24 FT	17	19	8	8	7.5	6	7	39.5	37.1	41.4	45.8	7	6	5	6.5	30.4	87	99	111	5	11	0
26 FT	18	20	8	8	7	6	7	39.5	38.9	43.3	47.8	7	6	5	6	30.4	88	100	112	5	9.5	0
28 FT	19	21	8	8	7	6	7	39.5	39.6	44.0	48.5	7	6	6	7.5	33.5	89	101	113	5	9.5	0
30 FT	20	21	8	8	7	6	6.5	39.5	44.3	49.3	54.1	8	7	6	7.5	33.5	89	101	113	5	9.5	0
32 FT	21	23	9	8	7	6	7.5	39.8	41.1	45.5	50.0	8	7.5	5	6	30.6	91	103	115	5	8.5	0
34 FT	22	23	9	8	6.5	6	7.5	39.8	42.5	47.1	51.6	8	7	5	6	30.6	91	103	115	5	8.5	0
36 FT	23	24	9	8	6.5	6	7	39.8	47.9	52.9	58.0	8	7	6	7	33.6	92	104	116	5	8.5	0
38 FT	24	25	9	8	6.5	6	6.5	39.8	48.8	53.8	58.8	8	7	6	7	33.6	93	105	117	5	8.5	0
40 FT	24	26	10	8	6	6	7	40.0	44.5	49.0	53.6	8	7	5	6	30.8	94	106	118	5	8	0
42 FT	25	27	10	8	6	6	7	40.0	45.3	49.8	54.4	8	7	6	7	33.9	95	107	119	5	8	0
44 FT	26	27	10	8	6	6	7	40.0	50.4	55.5	60.5	8	6.5	6	7	33.9	95	107	119	5	8	0
46 FT	27	28	10	8	6	6	7	40.0	51.3	56.3	61.4	8	6.5	6	7	33.9	96	108	120	5	7.5	0
48 FT	28	29	11	8	6	6	7.5	40.3	52.1	57.1	62.1	8	6.5	6	7.5	34.1	97	109	121	5	7.5	0
50 FT	28	30	11	8	6	6	7.5	40.3	52.5	57.5	62.6	8	6.5	6	7	34.1	98	110	122	5	7.5	0

SPAN (S) = 12 FT HEIGHT (HT) = 9 FT OR 10 FT OR 11 FT

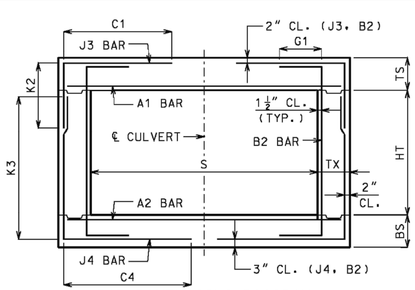
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS		
				A1 BARS		J3 BARS			K2			A2 BARS		J4 BARS			K3			B2 BARS		
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	HT=9′	HT=10′	HT=11′	SIZE	SPA.	SIZE	SPA.	C4	HT=9′	HT=10′	HT=11′	SIZE	SPA.	G1
1 FT	11	12	8	6	6.5	6	7	91.3	31.5	34.5	37.5	6	7.5	6	7	91.3	116	128	140	5	10	12
2 FT	11	12	8	6	6	6	6.5	91.3	31.5	34.5	37.5	6	7	6	6.5	91.3	116	128	140	5	9.5	12
4 FT	10	12	8	6	6	6	6	69.9	30.0	32.9	35.8	6	6.5	6	6.5	83.6	116	128	140	5	9.5	0
6 FT	10	12	8	6	6.5	6	6	57.8	31.3	34.3	37.3	6	6	6	6	62.4	116	128	140	5	9.5	0
8 FT	10	12	9	6	6	6	6	52.0	31.3	34.3	37.3	7	8	6	6	55.1	116	128	140	5	10	0
10 FT	10	12	9	7	7.5	7	6	52.0	35.0	38.4	41.8	7	7	6	6	50.5	116	128	140	5	9.5	0
12 FT	11	13	10	7	7.5	6	6	49.3	33.0	36.1	39.3	7	7	6	6.5	49.3	117	129	141	5	10	0
14 FT	11	13	10	7	7.5	6	6	46.3	31.8	34.8	37.8	7	7	6	6.5	46.3	117	129	141	5	12	0
16 FT	12	14	10	7	7	6	6.5	46.3	32.3	35.3	38.3	7	6.5	6	7	44.6	118	130	142	5	11	0
18 FT	13	15	10	7	6.5	6	6	44.6	38.0	41.5	45.0	7	6	6	7	44.6	119	131	143	5	9.5	0
20 FT	14	16	10	7	6	7	7.5	47.8	38.6	42.0	45.5	7	6	6	6.5	44.6	120	132	144	5	8.5	0
22 FT	16	18	11	7	6.5	6	6.5	51.1	37.0	40.3	43.5	7	6.5	6	7.5	45.0	122	134	146	5	8.5	0
24 FT	17	19	11	7	6	6	6	49.6	37.5	40.8	44.0	7	6	6	7.5	45.0	123	135	147	5	7.5	0
26 FT	18	20	12	7	6	6	6.5	49.9	38.1	41.3	44.5	7	6	6	7.5	45.3	124	136	148	5	8	0
28 FT	19	21	12	7	6	6	6	49.9	40.0	43.4	46.8	7	6	6	7.5	45.3	125	137	149	5	7	0
30 FT	20	22	13	8	7.5	6	6.5	51.8	40.6	44.0	47.4	7	6	6	8	45.5	126	138	150	5	7.5	0
32 FT	21	23	13	8	7.5	6	6	50.3	41.1	44.5	47.9	8	7.5	6	7.5	45.5	127	139	151	5	7	0
34 FT	21	23	13	8	7	6	6	50.3	45.6	49.3	53.0	8	7	6	7	45.5	127	139	151	5	6.5	0
36 FT	22	24	14	8	7	6	6	52.1	43.3	46.8	50.1	8	7	6	7.5	45.9	128	140	152	5	7	0
38 FT	23	25	14	8	6.5	6	6	50.5	43.8	47.3	50.8	8	7	6	7.5	45.9	129	141	153	5	6	0
40 FT	24	26	14	8	6.5	6	6	50.5	44.4	47.9	51.4	8	7	6	7	45.9	130	142	154	5	6	0
42 FT	25	27	15	8	6.5	6	6	52.5	49.6	53.5	57.3	8	7	6	7.5	46.1	131	143	155	5	6	0
44 FT	26	28	15	8	6.5	6	6	52.5	50.3	54.1	57.9	8	6.5	6	7.5	47.8	132	144	156	6	8	0
46 FT	27	28	15	8	6.5	6	6	50.9	52.1	56.1	60.0	8	6.5	6	7	47.8	132	144	156	6	8	0
48 FT	27	29	15	8	6	6	6	52.5	52.5	56.4	60.4	8	6.5	6	7	47.8	133	145	157	6	8	0
50 FT	28	30	16	8	6	6	6	52.8	53.1	57.1	61.0	8	6.5	6	7.5	48.0	134	146	158	6	8	0

SPAN (S) = 12 FT HEIGHT (HT) = 12 FT OR 13 FT

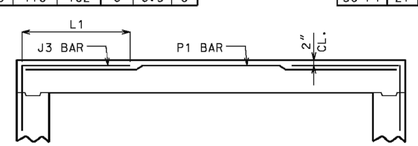
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS		
				A1 BARS		J3 BARS			K2			A2 BARS		J4 BARS			K3			B2 BARS		
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	HT=12′	HT=13′		SIZE	SPA.	SIZE	SPA.	C4	HT=12′	HT=13′		SIZE	SPA.	G1
1 FT	12	11	9	6	6.5	5	6	90.3	32.4	34.8		6	6.5	6	6	91.8	151	163		5	8.5	12
2 FT	12	11	9	6	6.5	6	7	91.8	34.0	36.5		6	6.5	6	6	91.8	151	163		5	8.5	12
4 FT	10	12	9	6	6.5	6	6	91.8	35.4	38.0		6	6.5	6	6	91.8	152	164		5	8.5	0
6 FT	10	12	9	6	6.5	7	6.5	81.1	35.4	38.0		6	6	6	6	91.8	152	164		5	8	0
8 FT	10	12	10	6	6.5	6	6	64.6	35.4	38.0		7	7.5	6	6	73.9	152	164		5	8	0
10 FT	11	13	10	6	6	6	6	61.6	35.9	38.5		7	7.5	6	6	69.3	153	165		5	8	0
12 FT	12	13	11	6	6	6	7	58.9	36.1	38.8		7	7	6	6	62.0	153	165		5	7.5	0
14 FT	12	13	11	6	6	6	7	54.3	36.1	38.8		7	7	6	6	55.8	153	165		5	7.5	0
16 FT	12	14	11	7	7	6	6	52.8	36.3	39.0		7	6.5	6	6.5	55.8	154	166		5	7.5	0
18 FT	13	16	12	7	7	6	6	53.0	38.6	41.4		7	6.5	6	7	56.1	156	168		5	7	0
20 FT	14	16	12	7	6.5	6	6	53.0	38.9	41.6		7	6	6	6	54.6	156	168		5	7	0
22 FT	16	18	13	7	6.5	6	6	59.6	41.5	44.4		7	6.5	6	7	55.0	158	170		5	6.5	0
24 FT	16	19	13	7	6	7	7	64.4	40.0	42.8		7	6	6	6.5	55.0	159	171		5	6.5	0
26 FT	18	20	14	7	6.5	6	6	58.5	42.5	45.4		7	6	6	6.5	55.3	160	172		5	6	0
28 FT	18	21	14	7	6	7	7	63.3	42.8	45.6		7	6	6	6.5	55.3	161	173		5	6	0
30 FT	19	22	14	8	7.5	7	6.5	63.3	43.3	46.1		7	6	6	6	55.3	162	174		5	6	0
32 FT	20	23	15	8	7.5	7	7.5	63.6	45.5	48.5		8	7.5	6	6.5	55.6	163	175		6	8	0
34 FT	21	23	15	8	7	7	7	63.6	45.8	48.8		8	7	6	6	55.6	163	175		6	8	0
36 FT	22	24	16	8	7	7	7.5	64.0	46.3	49.3		8	7	6	6.5	56.0	164	176		6	8	0
38 FT	23	25	16	8	7	7	7	64.0	48.6	51.8		8	7	6	6	56.0	165	177		6	8	0
40 FT	24	26	17	8	7	7	7.5	64.4	49.1	52.3		8	7	6	6.5	56.4	166	178		6	7.5	0
42 FT	24	27	17	8	6.5	7	6.5	64.4	49.4	52.5		8	7	6	6	56.4	167	179		6	7.5	0
44 FT	25	28	18	8	6.5	7	7	66.4	49.9	53.0		8	7	6	6.5	56.8	168	180		6	7	0
46 FT	26	28	18	8	6.5	7	7	66.4	50.1	53.3		8	6.5	6	6	56.8	168	180		6	7	0
48 FT	27	29	19	8	6.5	7	7.5	66.9	52.6	55.9		8	6.5	6	6.5	57.0	169	181		6	6.5	0
50 FT	28	30	19	8	6.5	7	7	66.9	53.3	56.4		8	6.5	6	6	57.0	170	182		6	6.5	0

SPAN (S) = 12 FT HEIGHT (HT) = 14 FT OR 15 FT

DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS		
				A1 BARS		J3 BARS			K2			A2 BARS		J4 BARS			K3			B2 BARS		
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	HT=14′	HT=15′		SIZE	SPA.	SIZE	SPA.	C4	HT=14′	HT=15′		SIZE	SPA.	G1
1 FT	12	12	10	6	7	6	7.5	94.0	35.5	37.8		6	7	6	6.5	94.0	176	188		5	7.5	12
2 FT	12	12	10	6	6.5	6	7	94.0	37.4	39.8		6	6.5	6	6	94.0	176	188		5	7.5	12
4 FT	10	13	10	6	6.5	6	6	94.0	35.4	37.6		6	6.5	6	6	94.0	177	189		5	6.5	0
6 FT	10	13	11	6	7	6	6.5	94.5	35.4	37.6		6	6.5	6	6.5	94.5	177	189		5	6.5	0
8 FT	10	13	11	6	6.5	6	6	85.3	35.4	37.6		6	6	6	6	94.5	177	189		5	6	0
10 FT	11	13	12	6	6.5	6	6.5	74.9	35.5	37.8		7	7.5	6	6	95.1	177	189		5	6	0
12 FT	12	14	13	6	6.5	6	7	70.6	37.8	40.3		7	7.5	6	6.5	83.3	178	190		5	6	0
14 FT	12	14	13	6	6.5	6	7	62.8	37.8	40.3		7	7.5	6	6.5	69.1	178	190		5	6.5	0
16 FT	13	15	13	6	6	6	6.5	64.4	38.3	40.6		7	7	6	6.5	70.6	179	191		5	6.5	0
18 FT	14	16	14	7	7.5	6	6.5	63.3	38.6	41.0		7	7	6	6.5	68.0	180	192		5	6	0
20 FT	15	17	14	7	7	6	6	69.5	39.0	41.4		7	6.5	6	6	68.0	181	193		5	6	0
22 FT	16	18	15	7	7	6	6	70.0	41.4	43.9		7	6.5	6	6.5	68.4	182	194		6	8	0
24 FT	16	19	15	7	6.5	7	7	73.1	41.6	44.1		7	6	6	6	68.4	183	195		6	8	0
26 FT	17	20	16	7	6.5	7	7	73.6	42.0	44.5		7	6	6	6	67.3	184	196		6	8	0
28 FT	18	21	16	7	6	7	7	75.3	46.5	49.3		7	6	7	7.5	72.0	185	197		6	8	0
30 FT	19	22	17	7	6	7	7	74.0	46.9	49.6		7	6	7	7.5	70.9	186	198		6	7.5	0
32 FT	20	23	17	7	6	7	6.5	75.6	47.4	50.1		7	6	7	7	70.9	187	199		6	7.5	0
34 FT	21	23	18	8	7.5	7	7	74.5	51.8	54.8		8	7.5	7	6.5	71.3	187	199		6	7	0
36 FT	22	24	19	8	7.5	7	7.5	75.0	52.3	55.3		8	7.5	7	7	70.1	188	200		6	6.5	0
38 FT	23	25	19	8	7.5	7	6.5	76.6	50.6	53.5		8	7	7	7	71.8	189	201		6	6.5	0
40 FT	24	26	20	8	7	7	7	75.5	51.1	54.0		8	7	7	7.5	70.5	190	202		6	6.5	0
42 FT	25	27	20	8	7	7	6.5	77.1	53.8	56.8		8	7	7	7	72.1	191	203		6	6.5	0
44 FT	25	28	21	8	7	7	6.5	75.9	54.0	57.0		8	7	7	7.5	72.6	192	204		6	6	0
46 FT	26	28	22	8	6.5	7	7	76.4	56.4	59.5		8	6.5	7	7	71.4	192	204		6	6	0
48 FT	27	29	22	8	6.5	7	6.5	76.4	59.1	62.4		8	6.5	7	6.5	71.4	193	205		6	6	0
50 FT	27	30	23	8	6.5	7	6.5	76.9	57.3	60.4		8	6.5	7	7	71.8	194	206		7	7.5	0



BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT ℄ CULVERT.



ALTERNATE J3 BAR

AT CONTRACTOR'S OPTION, ALTERNATE J3 BARS MAY BE USED WHEN THE DISTANCE BETWEEN THE ENDS OF J3 BARS IN THE TOP SLAB IS LESS THAN 2′-0″. DIMENSION L1 (NOT C1) SHALL BE USED WITH ALTERNATE J3 BARS, WHERE L1 IS EQUAL TO 18″, 22″ AND 28″ FOR #4, #5 AND #6 BARS, RESPECTIVELY. ADDITIONAL P1 BARS ARE REQUIRED WITH ALTERNATE J3 BARS WITH A LENGTH EQUAL TO A1 BARS, AND SIZE AND SPACING EQUAL TO J3 BARS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.

GENERAL NOTES:

IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE GREATER MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2 FEET AND 4 FEET TABULATED DESIGN FILLS. AREA OF REINFORCEMENT EQUALS BAR AREA PER FOOT SPACING.

SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.

CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER PE-27141
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

CONCRETE SINGLE BOX CULVERT

MEMBER THICKNESS
BAR SIZE, SPACING & DIMENSIONS

SPAN (S): 12 FEET
HEIGHT (HT): 6 THRU 15 FEET

DATE EFFECTIVE: 04/01/2011
DATE PREPARED: 4/18/2011

703.17

SHEET NO.
10 OF 14

olsson
Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

REINFORCED CONCRETE BOX
DETAILS

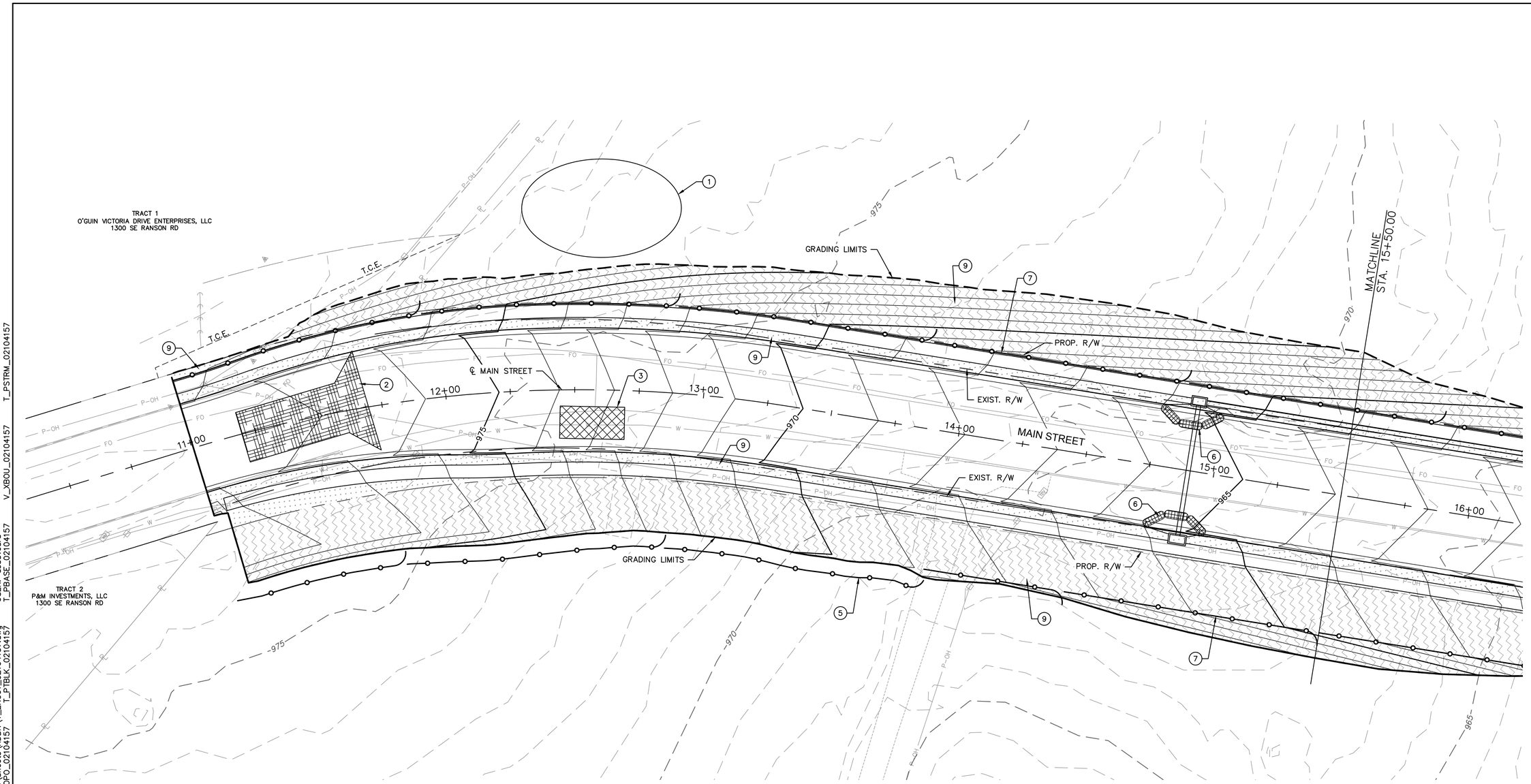
SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_DTL03_02104157
DATE: 2021-10-12

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_DTL03_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:53pm XREFS: T_PTBLK_02104157



LEGEND

- SILT FENCE
- INLET PROTECTION
- TEMPORARY ROCK DITCH CHECKS
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- SOD
- SEED

N

0' 10' 20' 40'
SCALE IN FEET

EROSION AND SEDIMENT CONTROL STAGING CHART

PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
I – STORM SEWER AND RCP INSTALLATION PRIOR TO ROADWAY GRADING	1	STAGING AREA	III	
	2	TEMPORARY CONSTRUCTION ENTRANCE	III	
	3	CONCRETE WASHOUT	III	
	4	DIVERSION BERM	IV	INSTALL BEFORE RCB INSTALLATION (SEE SHEET 58)
	5	SILT FENCE/OR BIODEGRADABLE LOGS (9")	IV	
	6	CURB INLET PROTECTION	III	PER CURB INLET DETAIL
II – ROADWAY GRADING & SWALE GRADING	7	SILT FENCE/OR BIODEGRADABLE LOGS (9")	IV	
III – PAVING	8	CURB INLET/AREA INLET PROTECTION	IV	GRAVEL FILTER BAGS
IV – STABILIZE SITE	9	SOD/SEED	N/A	

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Overland Park, KS 66213-4750 FAX 913.381.1174

RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	11/16/2021	CITY COMMENTS	ARJ

EROSION CONTROL PLAN

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_ERC01_02104157
DATE: 2021-10-12

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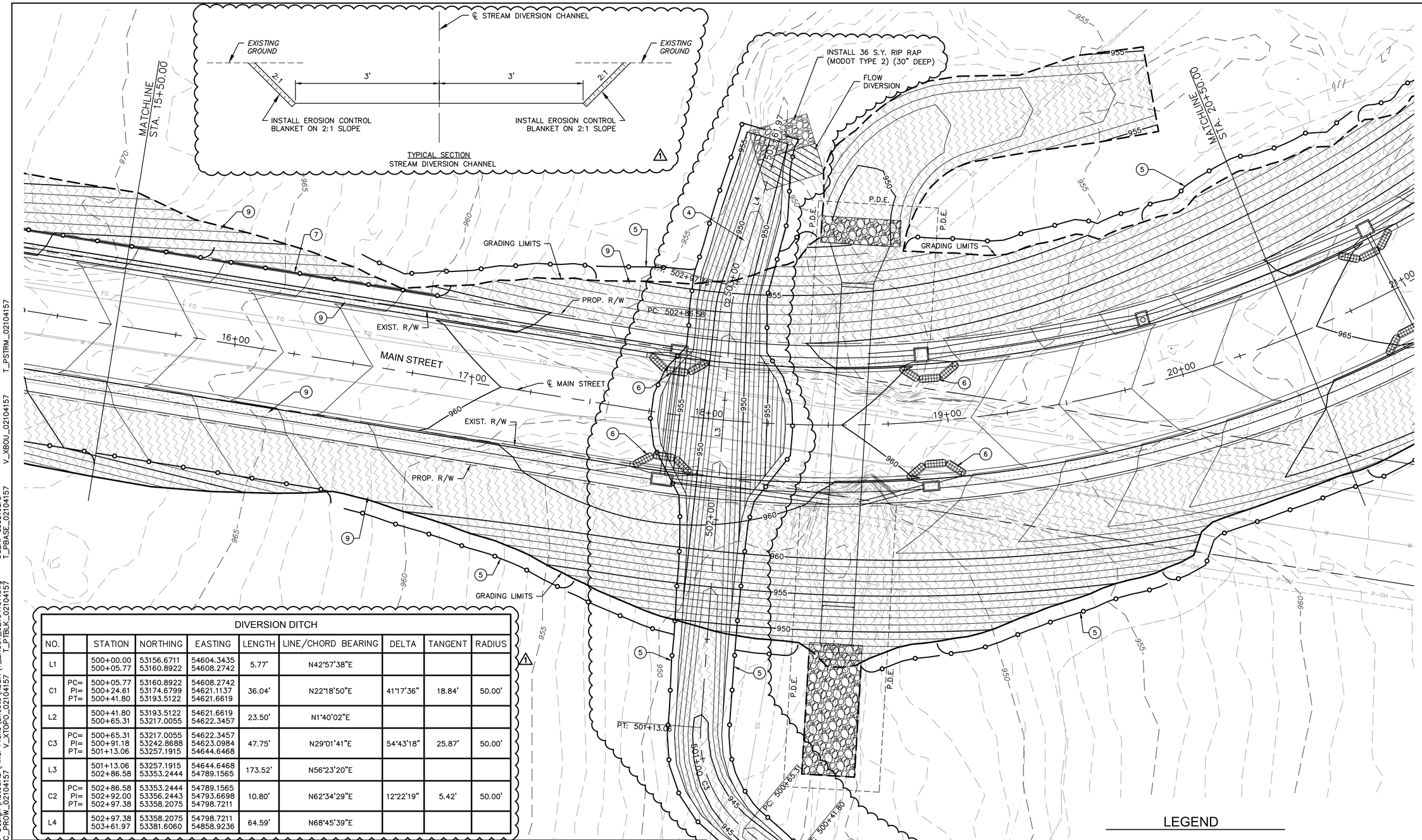

DIVERSION DITCH

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L1		500+00.00 500+05.77	53156.6711 53160.8922	54604.3435 54608.2742	5.77'	N42°57'38"E			
C1	PC= PI= PT=	500+05.77 500+24.61 500+41.80	53160.8922 53174.6799 53193.5122	54608.2742 54621.1137 54621.6619	36.04'	N22°18'50"E	41°17'36"	18.84'	50.00'
L2		500+41.80 500+65.31	53193.5122 53217.0055	54621.6619 54622.3457	23.50'	N1°40'02"E			
C3	PC= PI= PT=	500+65.31 500+91.18 501+13.06	53217.0055 53242.8688 53257.1915	54622.3457 54623.0984 54644.6468	47.75'	N29°01'41"E	54°43'18"	25.87'	50.00'
L3		501+13.06 502+86.58	53257.1915 53353.2444	54644.6468 54789.1565	173.52'	N56°23'20"E			
C2	PC= PI= PT=	502+86.58 502+92.00 502+97.38	53353.2444 53356.2443 53358.2075	54789.1565 54793.6698 54798.7211	10.80'	N62°34'29"E	12°22'19"	5.42'	50.00'
L4		502+97.38 503+61.97	53358.2075 53381.6060	54798.7211 54858.9236	64.59'	N68°45'39"E			

EROSION AND SEDIMENT CONTROL STAGING CHART

PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
I – STORM SEWER AND RCP INSTALLATION PRIOR TO ROADWAY GRADING	1	STAGING AREA	III	
	2	TEMPORARY CONSTRUCTION ENTRANCE	III	
	3	CONCRETE WASHOUT	III	
	4	DIVERSION BERM	IV	INSTALL BEFORE RCB INSTALLATION (SEE THIS SHEET AND SHEET 58)
	5	SILT FENCE/OR BIODEGRADABLE LOGS (9")	IV	
	6	CURB INLET PROTECTION	III	PER CURB INLET DETAIL
II – ROADWAY GRADING & SWALE GRADING	7	SILT FENCE/OR BIODEGRADABLE LOGS (9")	IV	
III – PAVING	8	CURB INLET/AREA INLET PROTECTION	IV	GRAVEL FILTER BAGS
IV – STABILIZE SITE	9	SOD/SEED	N/A	

LEGEND

- SILT FENCE
- INLET PROTECTION
- TEMPORARY ROCK DITCH CHECKS
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- SOD
- SEED

N

0' 10' 20' 40'
SCALE IN FEET

olsson
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7301 West 133rd Street, Suite 200 TEL 913.381.1170 www.olsson.com
Overland Park, KS 66213-4750 FAX 913.381.1174

RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REVISIONS

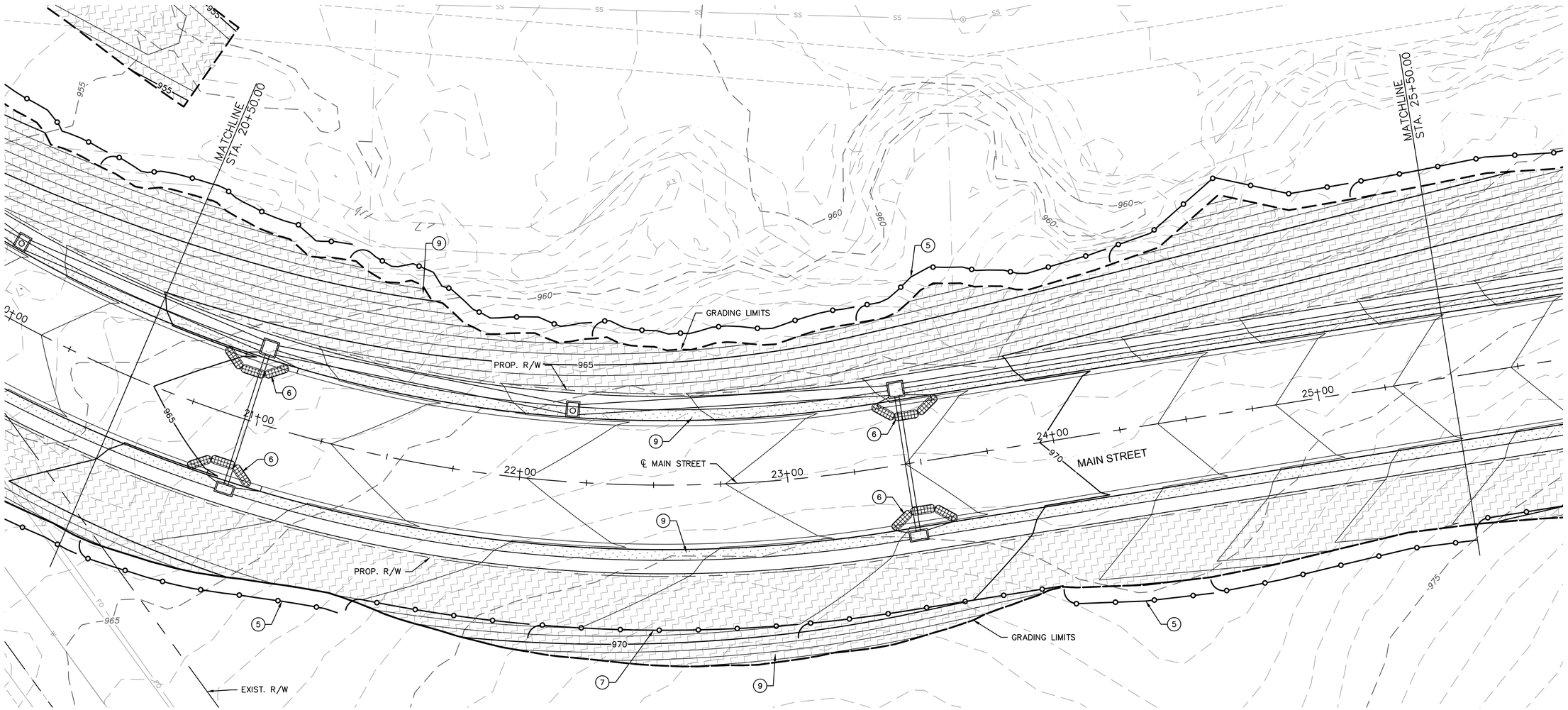
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	11/16/2021	CITY COMMENTS	ARJ

EROSION CONTROL PLAN

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET
LEE'S SUMMIT, MISSOURI
2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_ERC01_02104157
DATE: 2021-10-12

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_ERC01_02104157.dwg USER: ssaavedra
DATE: Oct 30, 2023 3:53pm XREFS: C_PROW_02104157 V_XTOPO_02104157 T_PTBLK_02104157 V_XBOU_02104157 T_PSTRM_02104157 T_PBASE_02104157



LEGEND

- SILT FENCE
- INLET PROTECTION
- TEMPORARY ROCK DITCH CHECKS
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- SOD
- SEED

N

0' 10' 20' 40'
SCALE IN FEET

EROSION AND SEDIMENT CONTROL STAGING CHART

PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
I – STORM SEWER AND RCP INSTALLATION PRIOR TO ROADWAY GRADING	1	STAGING AREA	III	
	2	TEMPORARY CONSTRUCTION ENTRANCE	III	
	3	CONCRETE WASHOUT	III	
	4	DIVERSION BERM	IV	INSTALL BEFORE RCB INSTALLATION (SEE SHEET 58)
	5	SILT FENCE/OR BIODEGRADABLE LOGS (9")	IV	
	6	CURB INLET PROTECTION	III	PER CURB INLET DETAIL
II – ROADWAY GRADING & SWALE GRADING	7	SILT FENCE/OR BIODEGRADABLE LOGS (9")	IV	
III – PAVING	8	CURB INLET/AREA INLET PROTECTION	IV	GRAVEL FILTER BAGS
IV – STABILIZE SITE	9	SOD/SEED	N/A	

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RYAN B. FLEMING
MO. NO. PE-2002003161

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1	11/16/2021	CITY COMMENTS	ARJ

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EROSION CONTROL PLAN

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_ERC01_02104157
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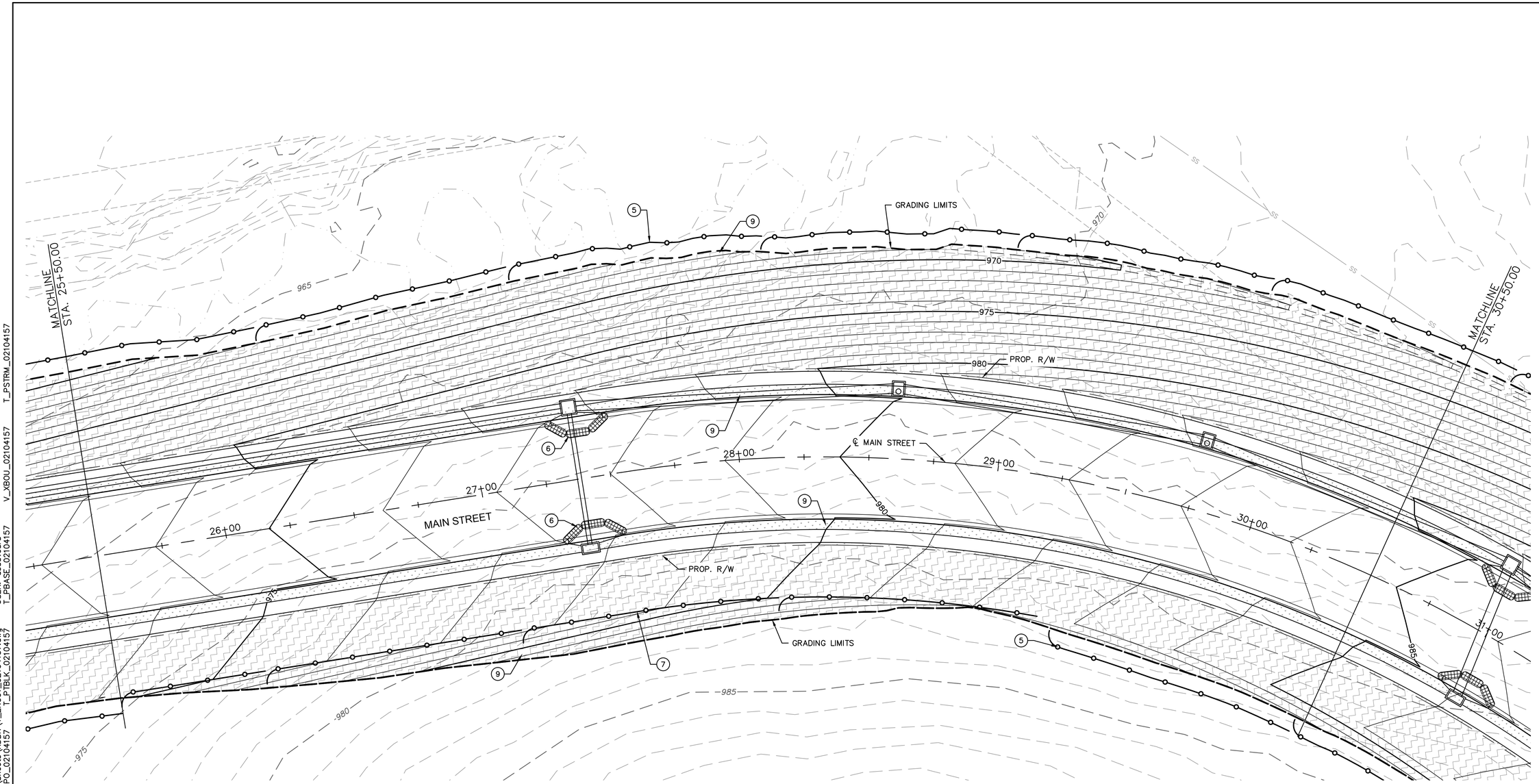

LEGEND

- SILT FENCE
- INLET PROTECTION
- TEMPORARY ROCK DITCH CHECKS
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- SOD
- SEED

N

0' 10' 20' 40'
SCALE IN FEET

EROSION AND SEDIMENT CONTROL STAGING CHART

PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
I – STORM SEWER AND RCP INSTALLATION PRIOR TO ROADWAY GRADING	1	STAGING AREA	III	
	2	TEMPORARY CONSTRUCTION ENTRANCE	III	
	3	CONCRETE WASHOUT	III	
	4	DIVERSION BERM	IV	INSTALL BEFORE RCB INSTALLATION (SEE SHEET 58)
	5	SILT FENCE/OR BIODEGRADABLE LOGS (9")	IV	
	6	CURB INLET PROTECTION	III	PER CURB INLET DETAIL
II – ROADWAY GRADING & SWALE GRADING	7	SILT FENCE/OR BIODEGRADABLE LOGS (9")	IV	
III – PAVING	8	CURB INLET/AREA INLET PROTECTION	IV	GRAVEL FILTER BAGS
IV – STABILIZE SITE	9	SOD/SEED	N/A	

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LEE'S SUMMIT, MISSOURI

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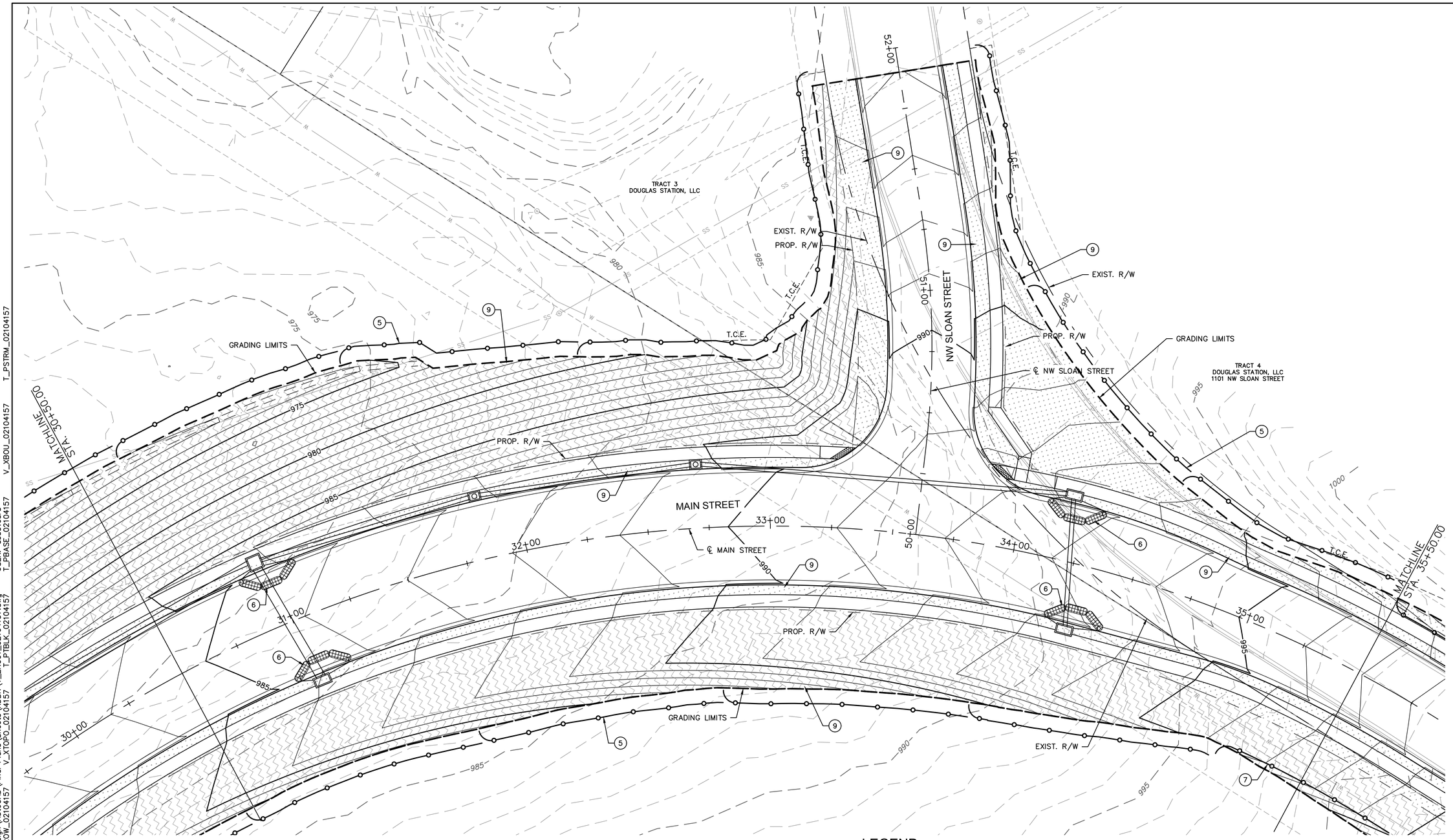

LEGEND

- SILT FENCE
- INLET PROTECTION
- TEMPORARY ROCK DITCH CHECKS
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- SOD
- SEED

N

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SCALE IN FEET

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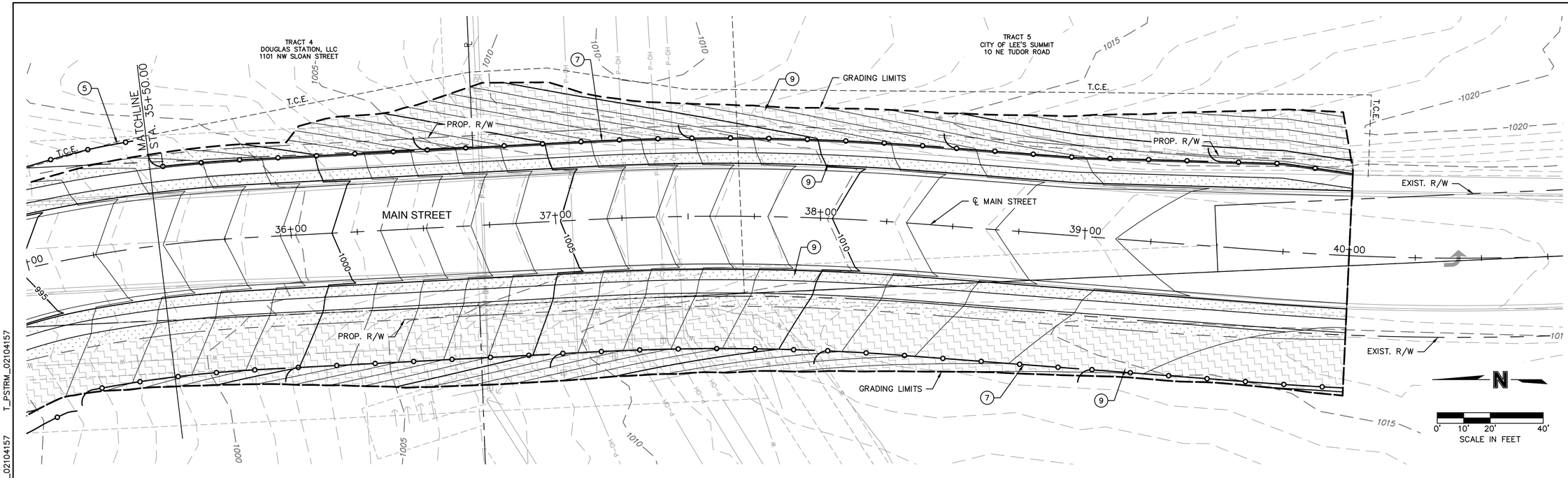

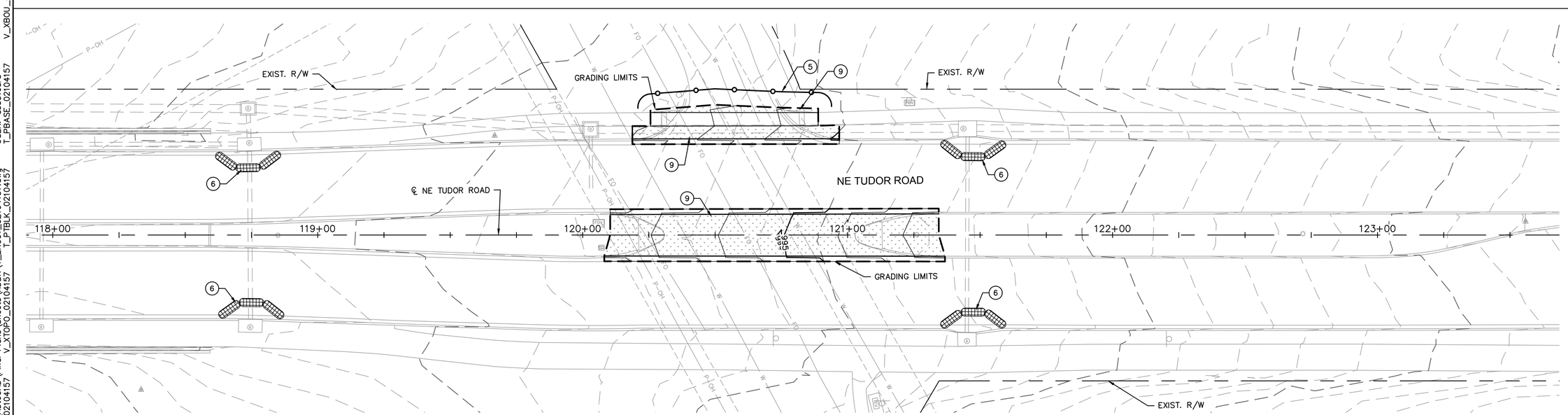

EROSION AND SEDIMENT CONTROL STAGING CHART				
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LEGEND

- SILT FENCE
- INLET PROTECTION
- TEMPORARY ROCK DITCH CHECKS
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- SOD
- SEED

N

0' 10' 20' 40'
SCALE IN FEET

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EROSION CONTROL PLAN

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

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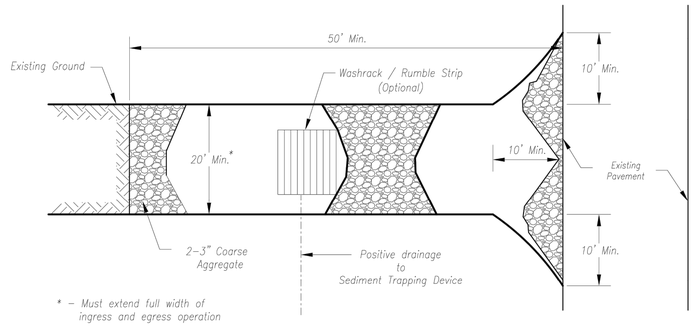
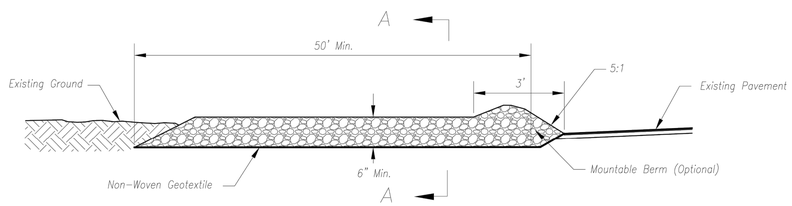


Plan View

Not to Scale



Side Elevation

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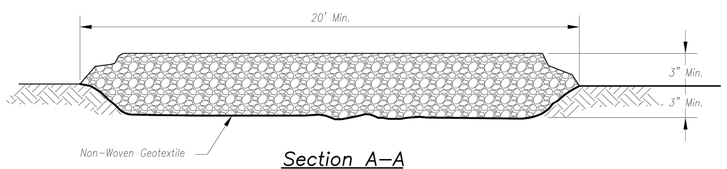


Section A-A

Not to Scale

Notes for Construction Entrance:

1. Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed area.
2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
3. If slope towards the public road exceeds 2%, construct a 6- to 8-inch high ridge with 3H:1V side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
6. Divert all surface runoff and drainage from the entrance to a sediment control device.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

1. Reshape entrance as needed to maintain function and integrity of Installation. Top dress with clean aggregate as needed.

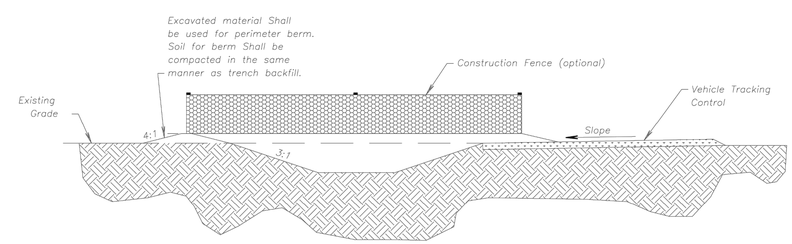
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

1. Concrete washout areas shall be installed prior to any concrete placement on site.
2. Concrete washout area shall include a flat subsurface pit sized relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking pad shall be sloped towards the concrete washout area.
3. Vehicle tracking control is required at the access point to all concrete washout areas.
4. Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and pump rigs.
5. A one-piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

Maintenance for Concrete Washout:

1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a water-tight container and disposed of properly.
4. Concrete washout areas shall remain in place until all concrete for the project is placed.
5. When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and topsoil, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.



CONCRETE WASHOUT

Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

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Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY
METRO CHAPTER

CONSTRUCTION ENTRANCE
AND CONCRETE WASHOUT

STANDARD DRAWING
NUMBER ESC-01

ADOPTED:
10/24/2016

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EROSION CONTROL
DETAILS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

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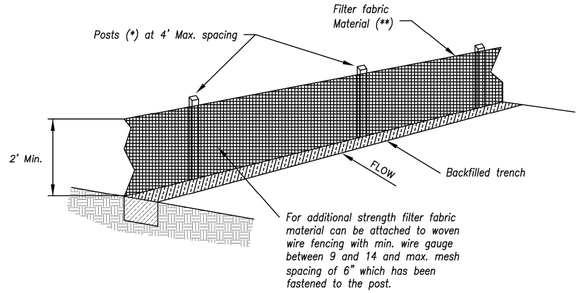
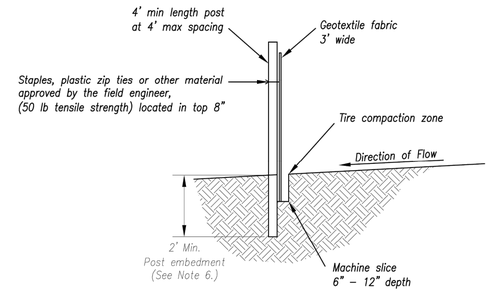




(*) POSTS

- MIN, LENGTH 4'
- HARDWOOD 1 3/16" x 1 3/16"
- NO.2 SOUTHERN PINE 2 5/8" x 2 5/8"
- STEEL 1.33 LB/FT

(**) – Geotextile Fabric shall meet the requirements of AASHTO M288

SILT FENCE DETAILS

Not to Scale

Notes:

1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2' into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ⅓ the height of silt fence.
2. Repair as necessary to maintain function and structure.

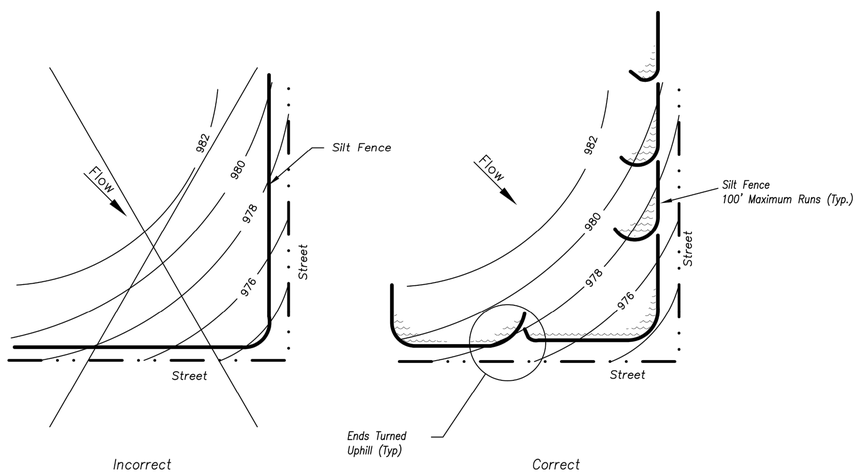
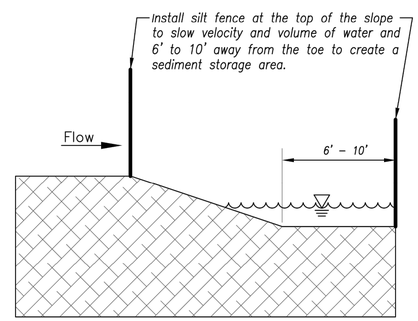
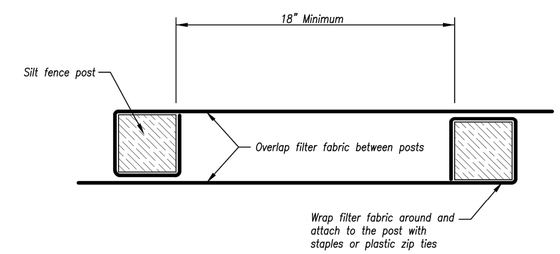


Figure A

SILT FENCE LAYOUT

Not to Scale





JOINING FENCE SECTIONS

Not to Scale

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

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KANSAS CITY METRO CHAPTER

SILT FENCE

STANDARD DRAWING NUMBER ESC-03

ADOPTED: 10/24/2016

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LEE'S SUMMIT, MISSOURI

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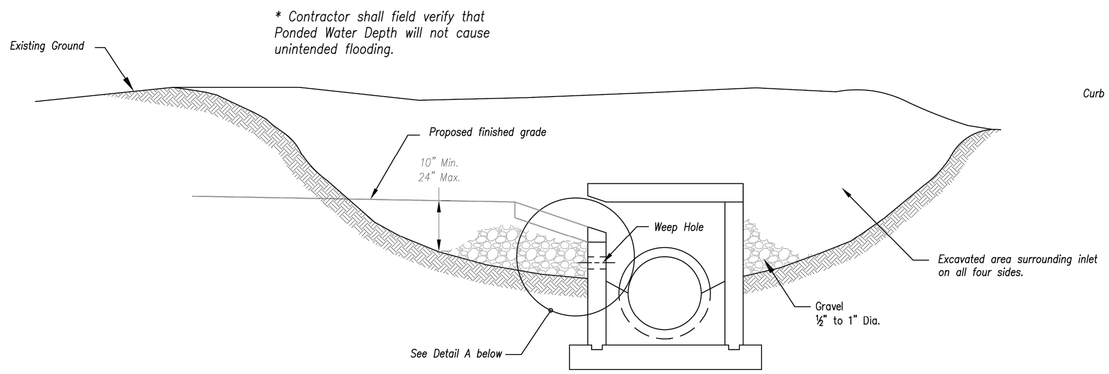
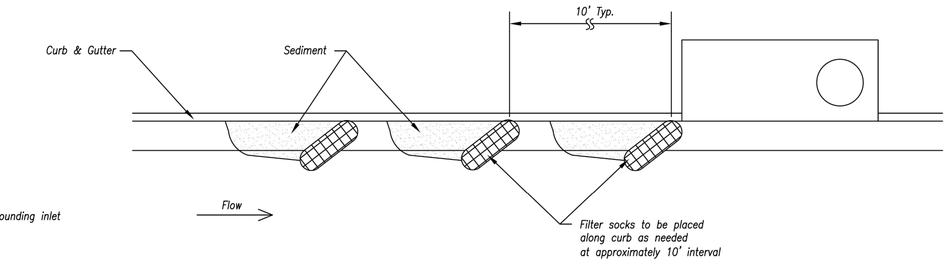
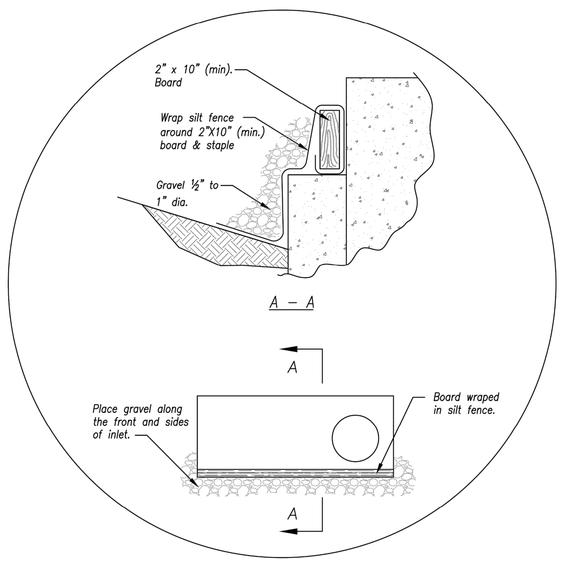




On Grade Curb Inlet Protection



Detail A

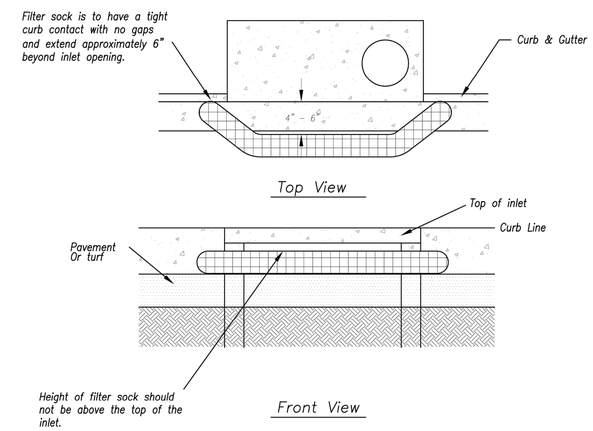
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When inlet is completed and curb poured, filter socks or approved equal should be used (Late Stage Curb Inlet). Straw wattles are not approved for curb inlet use.
3. Contractor to field verify ponding water shall not create a traffic hazard.

Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.



Sump Inlet Sediment Filter

LATE STAGE CURB INLET
(After Pouring Curb and Inlet Throat)

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

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CURB INLET PROTECTION

STANDARD DRAWING NUMBER ESC-06
ADOPTED: 10/24/2016

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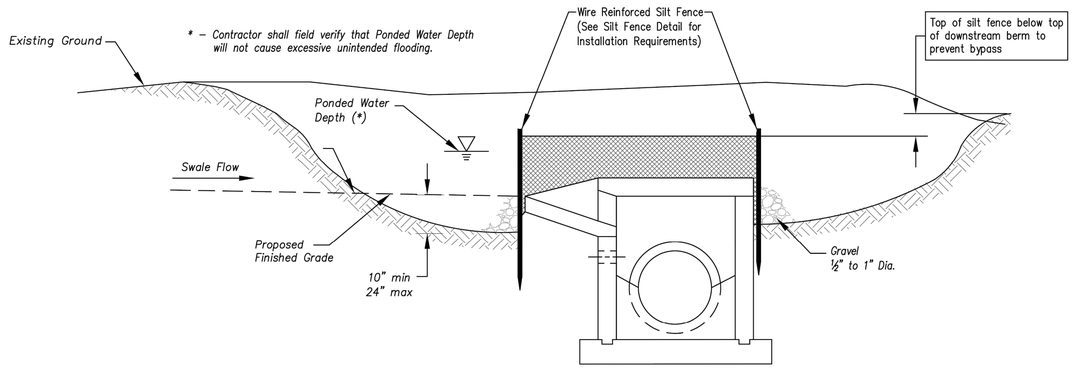

Section A–A

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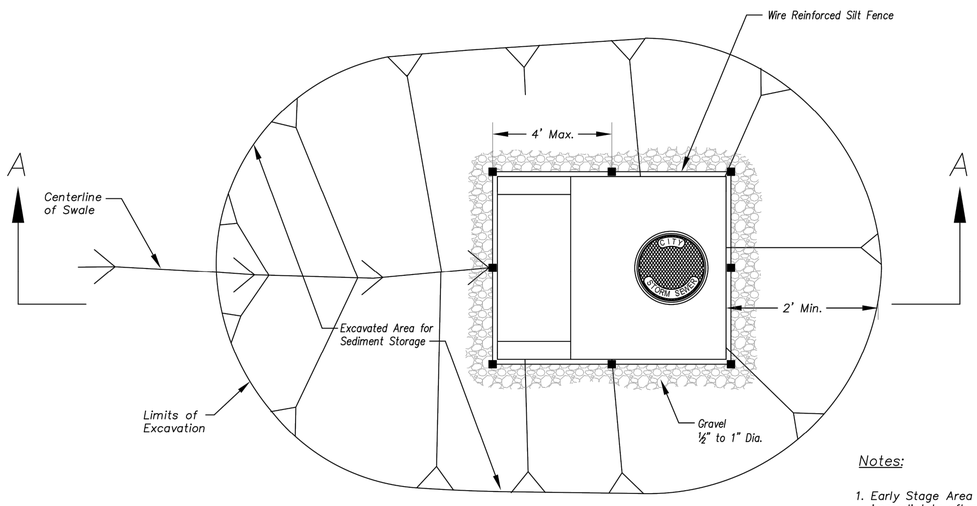
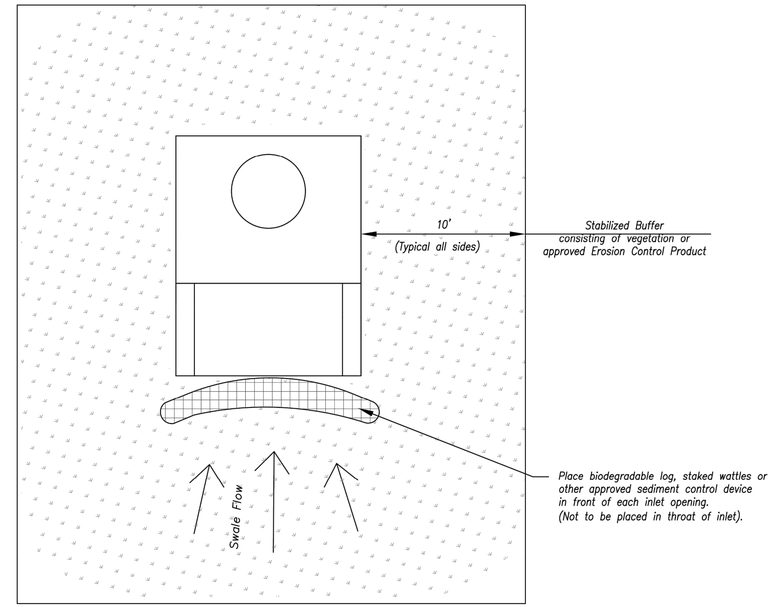


Plan

Not to Scale

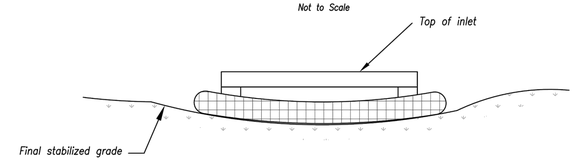
EARLY STAGE AREA INLET

(All open boxes and inlets not at final grade)



Plan

Not to Scale



Front View

LATE STAGE AREA INLET

(Area inlets at final grade and existing inlets)

Notes:

1. Early Stage Area Inlet Sediment Barrier to be installed immediately after inlet or junction box is constructed.
2. Silt fence shall remain in place until excavated area is removed and Late Stage Area Inlet is being installed.
3. Backfill excavated area ONLY after final grading of the site. Stabilization of the site is to immediately follow.
4. Wire reinforced silt fence may be used in place of silt fence attached to wood frame.

Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION

Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY METRO CHAPTER

AREA INLET AND JUNCTION BOX PROTECTION

STANDARD DRAWING NUMBER ESC-07

ADOPTED: 10/24/2016

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RECORD DRAWINGS

RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

EROSION CONTROL DETAILS

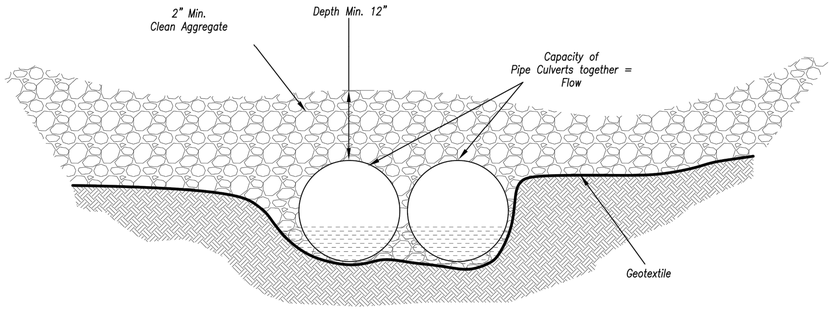
SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_ERCD_02104157
DATE: 2021-10-12

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_ERCD_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:54pm XREFS: T_PTBLK_02104157



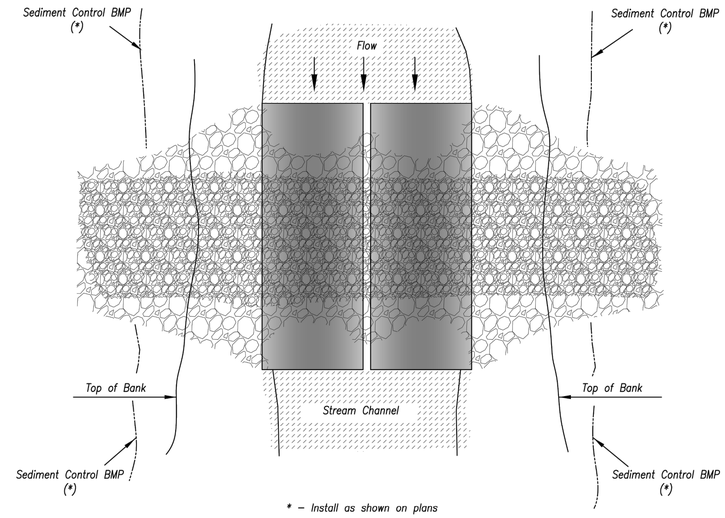
ELEVATION

Maintenance:

1. Repair stream bank erosion by stabilizing with erosion control BMPs such as erosion control blankets.
2. For in-stream degradation, armor the culvert outlet(s) with riprap to dissipate energy.
3. If sediment or debris is accumulating upstream of the crossing, remove as needed to maintain the functionality of the crossing.
4. If a temporary crossing is requiring excessive maintenance, replacement with a larger culvert or alternate design may be necessary.

Notes for Temporary Stream Crossing:

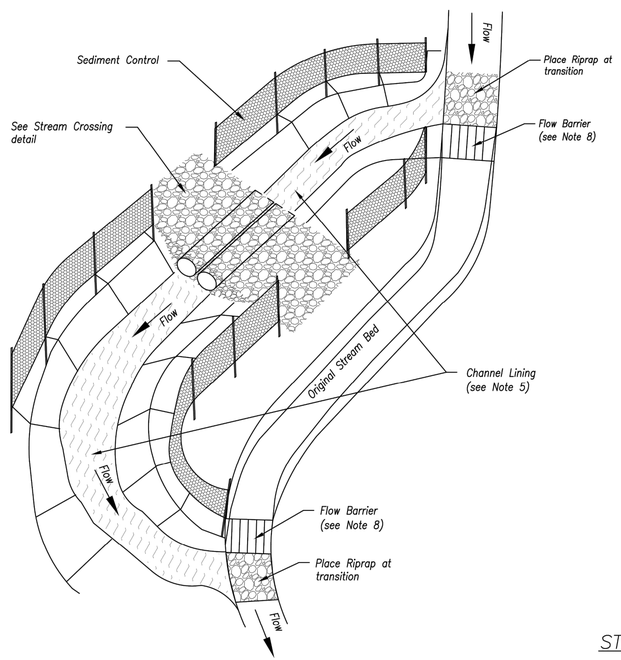
1. Clearing and excavation of the stream bed and banks shall be kept to a minimum.
2. Place one pipe, buried 6" into the stream bottom, at the lowest point of the channel to allow the passage of aquatic organisms. Additional pipes shall be placed along the remainder of the stream channel bottom such that ordinary high water (OHW) flows designated in the Contract Documents shall flow through the pipes without overtopping the crossing. (See Specification for more information).
3. Geotextile shall be placed on the streambed and streambanks prior to placement of the pipe culvert and aggregate. The geotextile shall cover the streambed and extend a minimum of 6 inches and a maximum of 1 foot beyond the end of culvert and bedding material. Filter cloth reduces settlement and improves crossing stability.
4. The culvert shall extend a minimum of 1 foot beyond the upstream and downstream toe of the aggregate placed around the culvert. In no case shall the culvert exceed 40 feet in length.
5. The culvert shall be covered with a minimum of 1 foot of aggregate. If multiple culverts are used, they shall be separated by at least 12" of compacted aggregate fill.
6. As soon as crossing no longer needed, all structures including culverts, bedding and geotextile materials shall be removed. Removal of the structure and clean-up of the area shall be accomplished without construction equipment working in the channel.
7. Upon removal of the structure, the stream and banks shall immediately be shaped to its original cross-section and properly stabilized. Take care to minimize the amount of sediment lost into the stream.



* – Install as shown on plans

PLAN VIEW

TEMPORARY STREAM CROSSING



Notes for Temporary Diversion Channel:

1. The diversion channel crossing must be operational before work is done in the stream. Construction will be performed in the dry.
2. Minimum width of bottom shall be 6 feet or equal to bottom width of existing streambed, whichever is less.
3. Maximum steepness of side slopes shall be 2H:1V. Depth and grade may be variable, dependent on site conditions, but shal be sufficient to ensure continuous flow of water in diversion.
4. Channel must be lined with riprap or turf reinforcement mat depending on the expected velocity and shear stress in the channel.
5. Stream diversion liners shall be secured at the upstream and downstream sides with non-erodible weights such as riprap. These weights shall allow normal flow of the stream. Soil shall not be mixed with stream diversion weights. Weights may also be needed along the diversion's length to secure liner.
6. Stream diversion liners shall be entrenched at the top of slopes along with a sediment control BMP.
7. Non-erodible materials such as riprap, Jersey barriers. sand bags, plywood, or sheet piling shall be used as flow barriers to divert the stream away from it's original channel and prevent or reduce water backup into the construction area.
8. Stream should be re-diverted only after backfilling and re-stabilization of original streambed and banks is completed.

STREAM DIVERSION CHANNEL

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

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Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY METRO CHAPTER

STREAM CROSSINGS AND DIVERSION CHANNELS

STANDARD DRAWING NUMBER ESC-13

ADOPTED: 10/24/2016

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RECORD DRAWINGS

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EROSION CONTROL DETAILS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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GENERAL NOTES:

1. The contractor shall have one (1) signed copy of the plans (approved by the City of Lee's Summit) and one (1) copy of the appropriate Design and Construction Standards and Specification at the job site at all times.
2. Construction of the improvements shown or implied by this set of drawings shall not be initiated or any part thereof undertaken until the Director of Public works or his designee is notified of such intent, and all required and properly executed bonds and contract agreements are received and approved by the City. The Contractor shall notify the inspector of the exact construction schedule so that inspections of the street light installation can be made.
3. The Construction covered by these plans shall conform to all applicable standards and specifications of the Public Works Department of the City of Lee's Summit, Missouri, in current use. Specifically, but not exclusive to: Street Lighting Specification: Section 2800. Street Lighting Standard Drawings: SL-1 through SL-5.
4. All workmanship and materials shall be subject to the inspection and approval of the Public Works Department of the City of Lee's Summit, Missouri.
5. All traffic control in conjunction with the street lighting construction shall be in conformance with the Manual on Uniform Traffic Control Devices (MUTCD) and the City's Standard Drawings sheet "Typical Traffic Control for Street Lighting Construction".
6. The Contractor shall, by his own investigation, and prior to commencing work, satisfy himself as to the surface and subsurface conditions to be encountered. No additional payments will be made for excavation of rock and backfill materials.
7. Existing underground (U/G), overhead (O.H.) utilities, and drainage structures have been plotted from available information and therefore their locations must be considered approximate only. It is the responsibility of the individual Contractor to exactly locate each utility before actual construction, and be fully responsible for any and all damages, which might be occasioned by the Contractor's failure to exactly locate and preserve any and all utilities. In addition, the Contractor shall avoid disruption of services provided by the utilities and shall insure that proper clearances (overhead and underground) are maintained for the duration of construction. See cover sheet for utility company contact information.
8. The Contractor shall stake the location of all street lighting poles, power supplies, and junction or pull boxes to be installed. The Engineer or his designee shall inspect the staking prior to any excavation and/or construction. Minor relocation of equipment to avoid conflicts may be allowed with the approval of the Engineer or his designee.
9. All street light poles, conduit, junction or pull boxes, and power supplies shall be located within the City's right-of-way or general utility easements.
10. Screw-in anchor foundations have been assumed for all areas, unless otherwise noted in the plans. In the event a screw-in anchor may not be installed, then the Contractor may, at his own option, install the screw-in anchor within a pre-drilled hole, or pour a concrete foundation. No change in payment shall be made for foundation substitutions. All pre-drilled holes shall be backfilled with flowable backfill. All conduit trenches shall be backfilled with earth or AB-3 and properly compacted in accordance with the Specifications. The top 4" to 6" of backfill shall be topsoil.
11. Factory conduit bends (PVC 90-degree elbows) shall be installed into all pole bases, junction boxes, pull boxes, and power supplies. Couplings shall be used to transition between HDPE and PVC conduits.
12. Galvanized Rigid Steel (GRS) conduit is to be used if conduit is to be installed on a structure. All GRS conduits that are to be used shall be cleaned by the Contractor with a mandrel prior to installation of cable.
13. Contractor shall install a 2-1/2" PVC (Schedule 40) conduit with pull string to the base of the secondary service point. Contractor shall coordinate secondary service hook-up with the electrical utility company.
14. Bracket arms shall be oriented perpendicular to the roadway unless otherwise indicated on the plans.
15. All splices to the distribution cable shall be made with junction boxes, pull boxes, or pole bases using required connectors. Splices will only be allowed in junction or pull boxes where a circuit branches. All splices in boxes shall be protected with a waterproof resin splice kit.
16. All distribution cables in junction boxes, pull boxes, and power supplies shall be labeled with round aluminum identification tags attached to the cables with copper wire. The power supply and circuit number shall be stamped or engraved on each tag.
17. All grounding requirements and National Electric Code requirements shall be met for the street lighting installation to prevent any hazards to the public.
18. All existing street lighting equipment to be used in place (U.I.P.) unless otherwise noted. Damage to any existing street lighting equipment due to the construction shall be the responsibility of the Contractor. The equipment shall be replaced or repaired (as directed by the City) with materials equal or better than the existing material.
19. The Contractor shall be responsible for coordinating the removal of existing equipment with the respective owner(s). The Contractor shall remove, disassemble, and deliver salvageable equipment per the instructions in the special provisions or as discussed at the pre-construction meeting. The Contractor shall be responsible for any damage or loss of salvageable equipment.
20. The Contractor shall take all precautions necessary to minimize the downtime of the existing street lighting systems to be modified.
21. All existing curb and gutter, sidewalk, pavement, drainage structures, and irrigation systems damaged during the street lighting construction shall be replaced to meet or exceed the original condition. Unless otherwise directed, grassy areas which were originally sodded shall be re-sodded. All restoration work will be at the Contractor's expense, and shall be acceptable to the Engineer or his designee.
22. Any equipment damaged during construction shall be replaced at the contractor's expense.
23. The Contractor shall be required to provide and attach street addresses and identification numbers on the power supply cabinets, provide and attach the identification and pole numbers on each street light pole as indicated in the City's Standard Drawings. The address and identification labels/stickers are subsidiary to other items, not separate payment.
24. Substantial completion of the street light system shall be defined as all components of the system fully operational. Substantial completion shall allow for testing of the system.
25. Final acceptance of the street light system shall be defined as final written approval and acceptance by the City, including completion or correction of all punch list items and the street light system fully operational for a time period of fifteen (15) days, without any problem, as noted in the Specifications. Contractor shall provide marked up as-built plans prior to final acceptance by the City.

PROJECT SPECIFICATION NOTES:

1. The center of all pole foundations shall be located 3 feet behind the back of the curb, unless otherwise noted in the plans.
2. The center of all pole foundations within the median shall be centered in the median, unless otherwise noted in the plans.
3. All power supplies shall be 4-circuit power supplies.

RECAPITULATION OF QUANTITIES

BILL OF MATERIALS (1)

ITEM	UNIT	QUANTITY
STREET LIGHT POLE (P30S)	EACH	27
STREET LIGHT POLE (P25S)	EACH	–
STREET LIGHT POLE (P30D)	EACH	–
10' BRACKET ARMS	EACH	27
B30 SCREW-IN FOUNDATION	EACH	27
COBRA-HEAD LUMINAIRE w/250 WATT H.P.S. EQUIVALENT LED LAMP	EACH	27
TYPE I JUNCTION BOX	EACH	–
TYPE II JUNCTION BOX	EACH	3
4-CIRCUIT POWER SUPPLY ASSEMBLY	EACH	1
POWER SUPPLY FOUNDATION	EACH	1
3" SCHEDULE 40 P.V.C. CONDUIT (FROM CONTROL CENTER TO POWER POLE)	LN. FT.	30
2" HIGH DENSITY POLYETHYLENE (HDPE) CONDUIT (GRAY) (2)	LN. FT.	3,320 (2)
3c No. 2 DISTRIBUTION CABLE	LN. FT.	135
3c No. 4 DISTRIBUTION CABLE	LN. FT.	3,520 (2)
1-1c#4 TRACER WIRE AND PULL STRING	LN. FT.	–
1c No. 10 POLE AND BRACKET CABLE	LN. FT.	3,240
BREAK-AWAY NON-FUSED CONNECTOR KITS	EACH	27
BREAK-AWAY FUSED CONNECTOR KITS	EACH	54

NOTES:

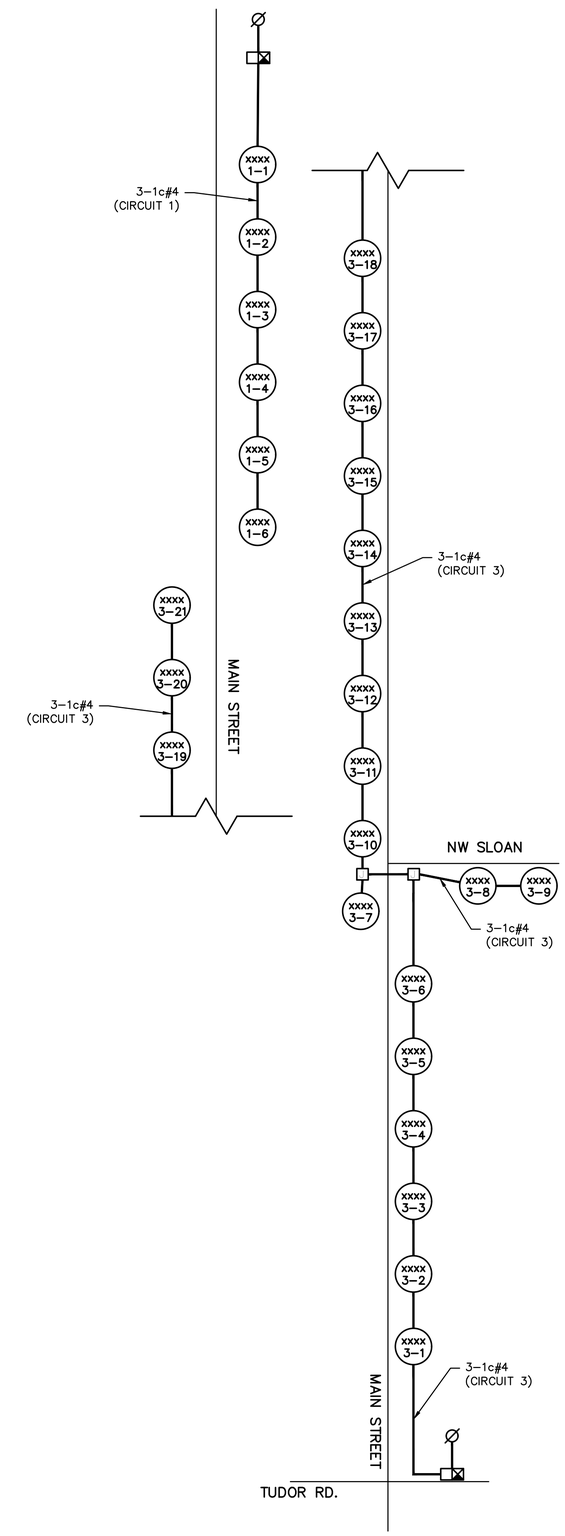
(1) THESE APPROXIMATE QUANTITIES WERE PREPARED SOLELY FOR THE CONTRACTOR'S CONVENIENCE. IT IS NOT GUARANTEED THAT THIS LIST OF MATERIALS CONSTITUTES ALL ITEMS REQUIRED FOR THE COMPLETION OF THE WORK.

STREET LIGHT LEGEND

- 250W HPS EQUIVALENT LED COBRA-HEAD LUMINAIRE W/ 30' POLE
- TYPE 2 JUNCTION BOX
- CLASS 1 PULL BOX
- PAD MOUNTED POWER SUPPLY (SHADED AREA INDICATES PHOTOCELL ORIENTATION) (NORTH OR EAST)
- STREET LIGHTING CONDUIT
- CONSTRUCTION NOTE NUMBER
- STEEL POLE
- WOOD POLE
- SIGNAL MAST ARM POLE
- SIGNAL PEDESTAL
- TRAFFIC SIGNAL CONTROLLER CABINET
- SECONDARY SERVICE POINT
- BOX NUMBER

5L01 1-5 — POLE NUMBER; POLE; CIRCUIT; POWER SUPPLY ID

WIRING DIAGRAM



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
2	2-16-2023	LIGHTING UPDATE	

REVISIONS

STREET LIGHTING GENERAL NOTES
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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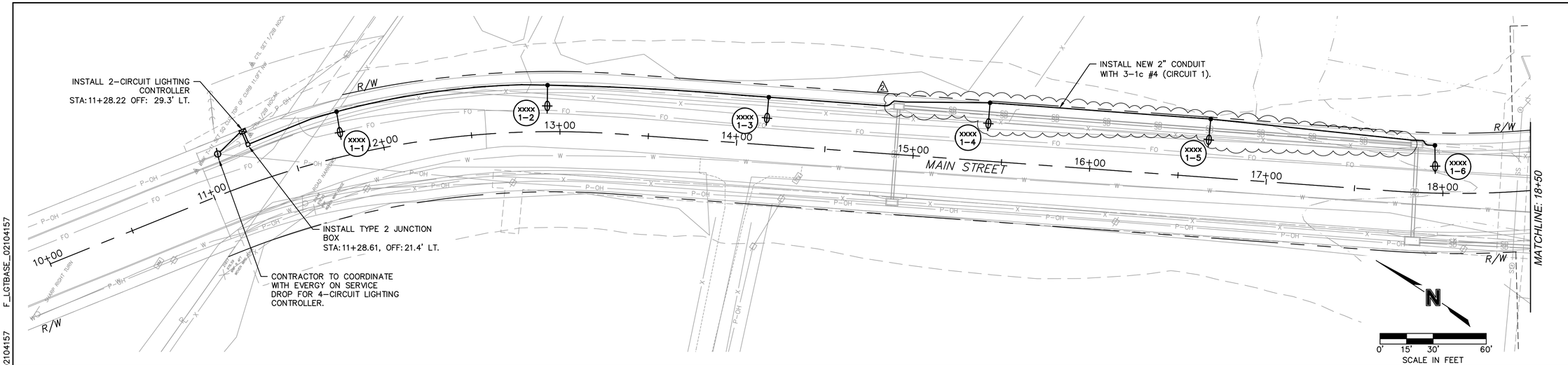

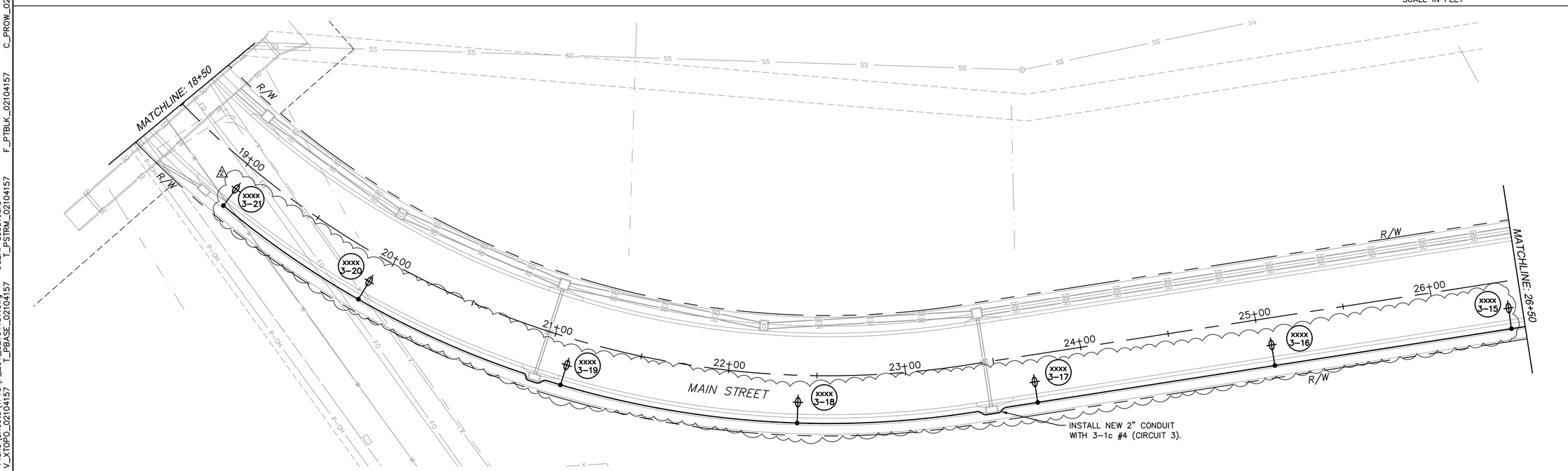

LIGHTING POLE SCHEDULE							
POLE NO	STATION	OFFSET	POLE TYPE	BRACKET ARM	LED LUMINAIRE	DISTRIBUTION	BASE
1-1	11+78.55	25.4' LT.	P30S	10'	250W EQ	TYPE III	B30
1-2	12+96.14	26.2' LT.	P30S	10'	250W EQ	TYPE III	B30
1-3	14+16.25	27.0' LT.	P30S	10'	250W EQ	TYPE III	B30
1-4	15+41.15	33.0' LT.	P30S	10'	250W EQ	TYPE III	B30
1-5	16+66.15	33.0' LT.	P30S	10'	250W EQ	TYPE III	B30
1-6	17+94.80	27.0' LT.	P30S	10'	250W EQ	TYPE III	B30
3-15	26+42.09	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-16	25+06.85	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-17	23+71.25	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-18	22+39.65	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-19	21+10.68	26.9' RT.	P30S	10'	250W EQ	TYPE III	B30
3-20	19+92.64	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-21	19+04.35	26.6' RT.	P30S	10'	250W EQ	TYPE III	B30

NOTE: COORDINATE WITH CITY OF LEE'S SUMMIT FOR POLE ADDRESS INFORMATION.

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REVISIONS

STREET LIGHTING PLAN
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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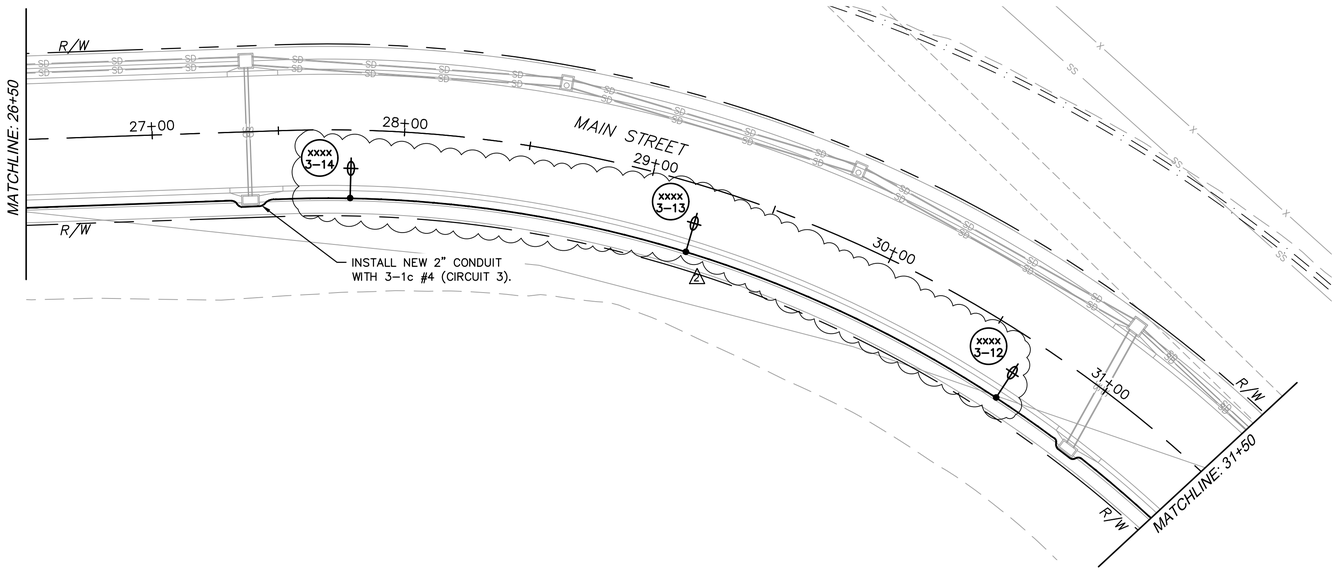

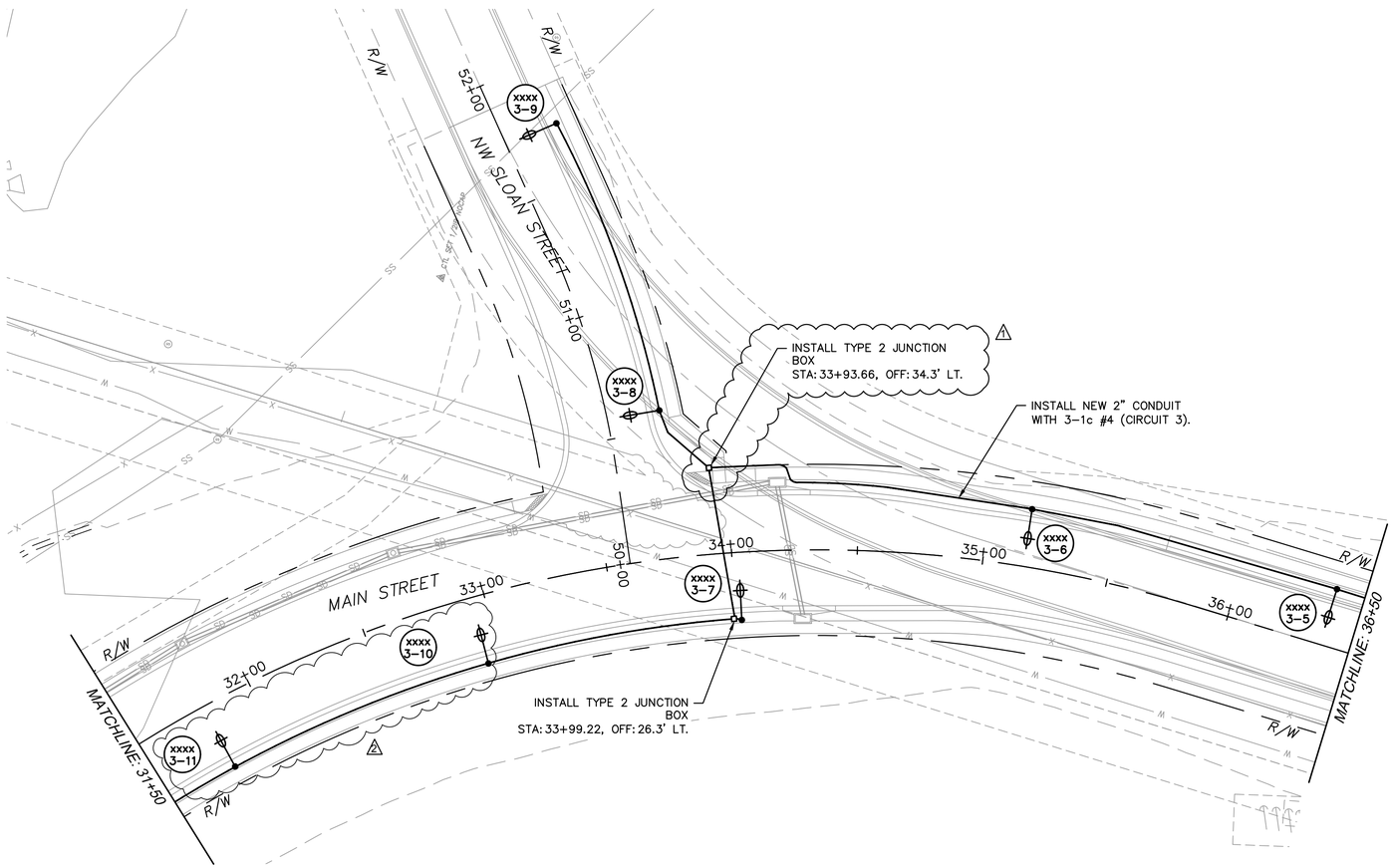

LIGHTING POLE SCHEDULE

POLE NO	STATION	OFFSET	POLE TYPE	BRACKET ARM	LED LUMINAIRE	DISTRIBUTION	BASE
3-14 △2	27+78.89	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-13	29+21.51	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-12	30+65.30	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-11	31+79.34	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-10	32+94.32	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-9	51+74.22	21.7' RT.	P30S	10'	250W EQ	TYPE III	B30
3-8	50+57.31	20.9' RT.	P30S	10'	250W EQ	TYPE III	B30
3-7	34+00.40	27.0' RT.	P30S	10'	250W EQ	TYPE III	B30
3-6	35+16.15	23.0' LT.	P30S	10'	250W EQ	TYPE III	B30
3-5	33+39.40	23.0' LT.	P30S	10'	250W EQ	TYPE III	B30

NOTE: COORDINATE WITH CITY OF LEE'S SUMMIT FOR POLE ADDRESS INFORMATION.

N
0' 15' 30' 60'
SCALE IN FEET

N
0' 15' 30' 60'
SCALE IN FEET

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STREET LIGHTING PLAN
MAIN STREET AND SLOAN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

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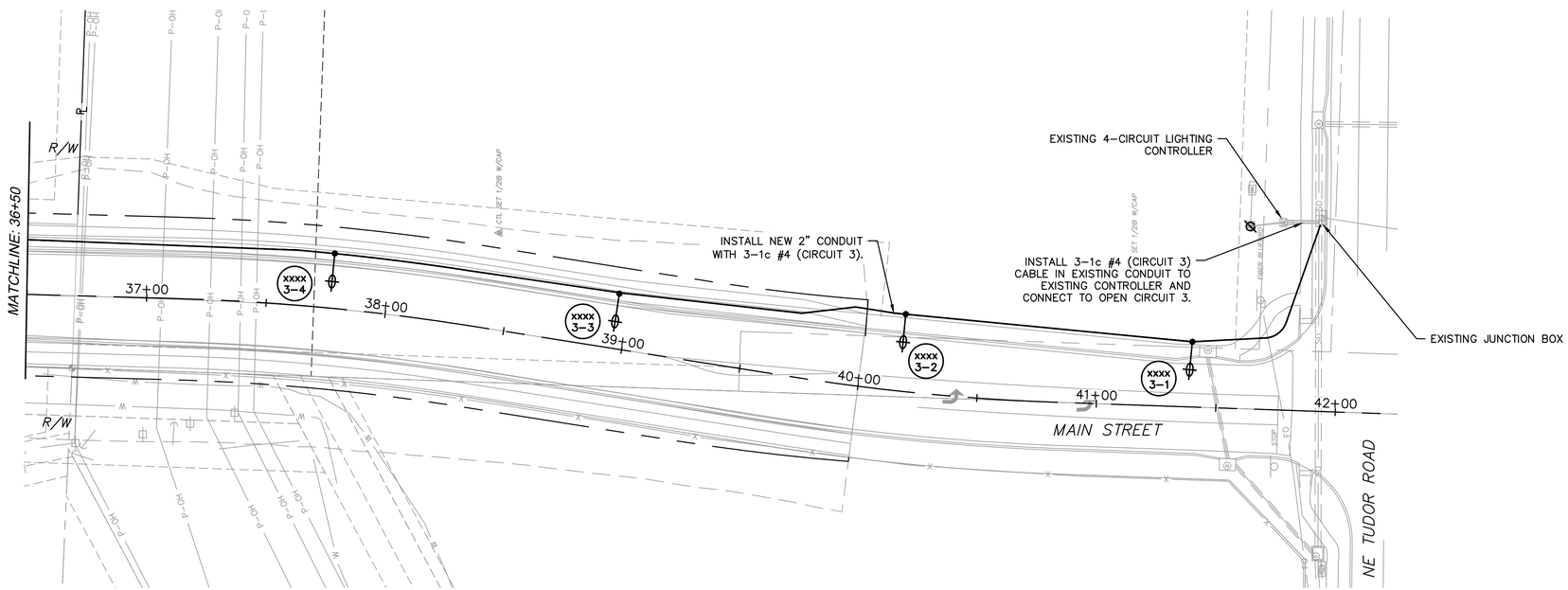

LIGHTING POLE SCHEDULE							
POLE NO	STATION	OFFSET	POLE TYPE	BRACKET ARM	LED LUMINAIRE	DISTRIBUTION	BASE
3-4	37+76.62	23.0' LT.	P30S	10'	250W EQ	TYPE III	B30
3-3	38+95.44	23.0' LT.	P30S	10'	250W EQ	TYPE III	B30
3-2	40+16.64	32.3' LT.	P30S	10'	250W EQ	TYPE III	B30
3-1	41+39.25	27.3' LT.	P30S	10'	250W EQ	TYPE III	B30

NOTE: COORDINATE WITH CITY OF LEE'S SUMMIT FOR POLE ADDRESS INFORMATION.

N

0' 15' 30' 60'
SCALE IN FEET

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STREET LIGHTING PLAN
MAIN STREET AND TUDOR ROAD

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

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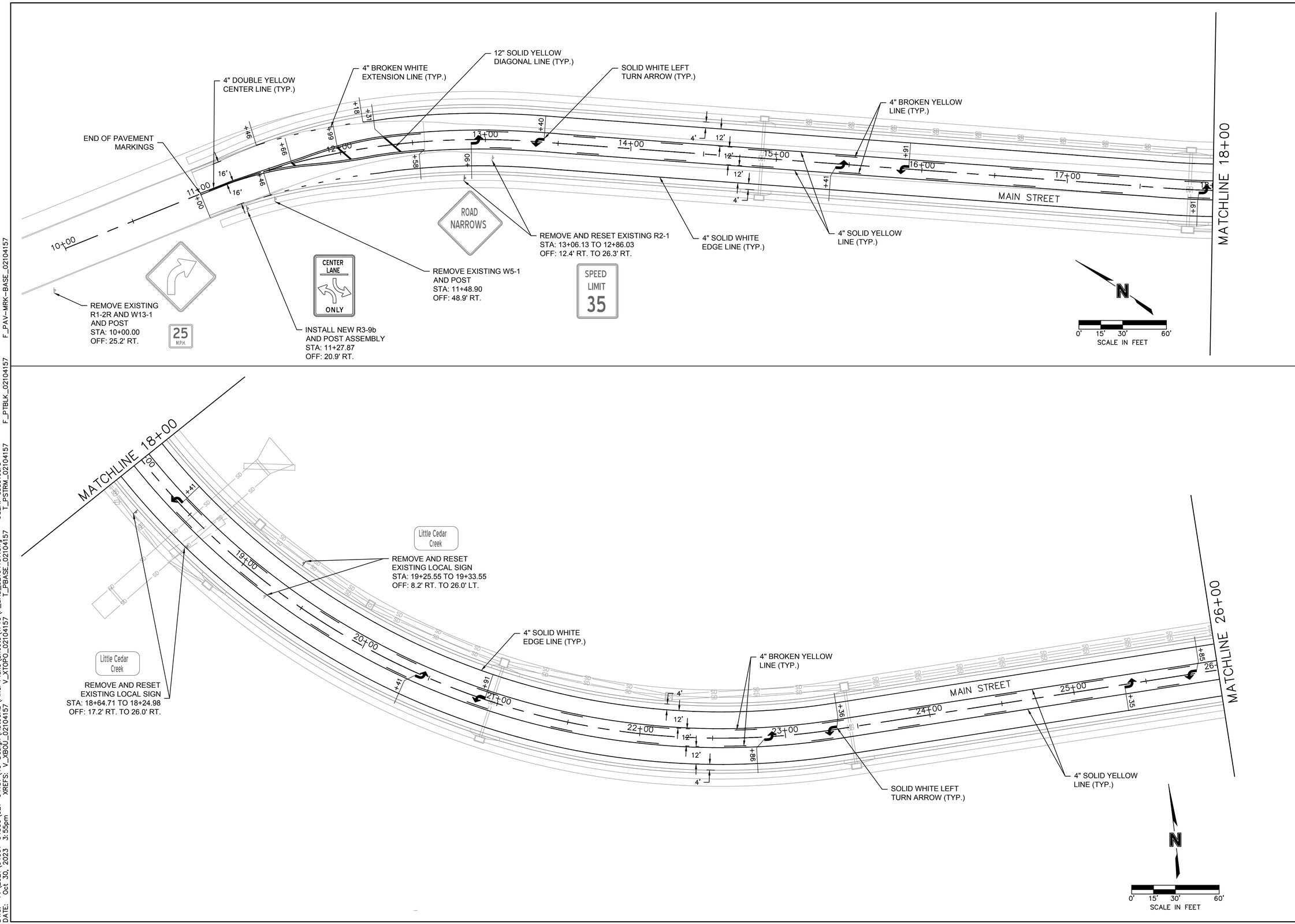

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7301 West 133rd Street, Suite 200 TEL 913.381.1170 www.olsson.com
Overland Park, KS 66213-4750 FAX 913.381.1174

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	11-16-2021	CITY COMMENTS	

REVISIONS

PAVEMENT MARKING AND SIGNING PLAN
MAIN STREET

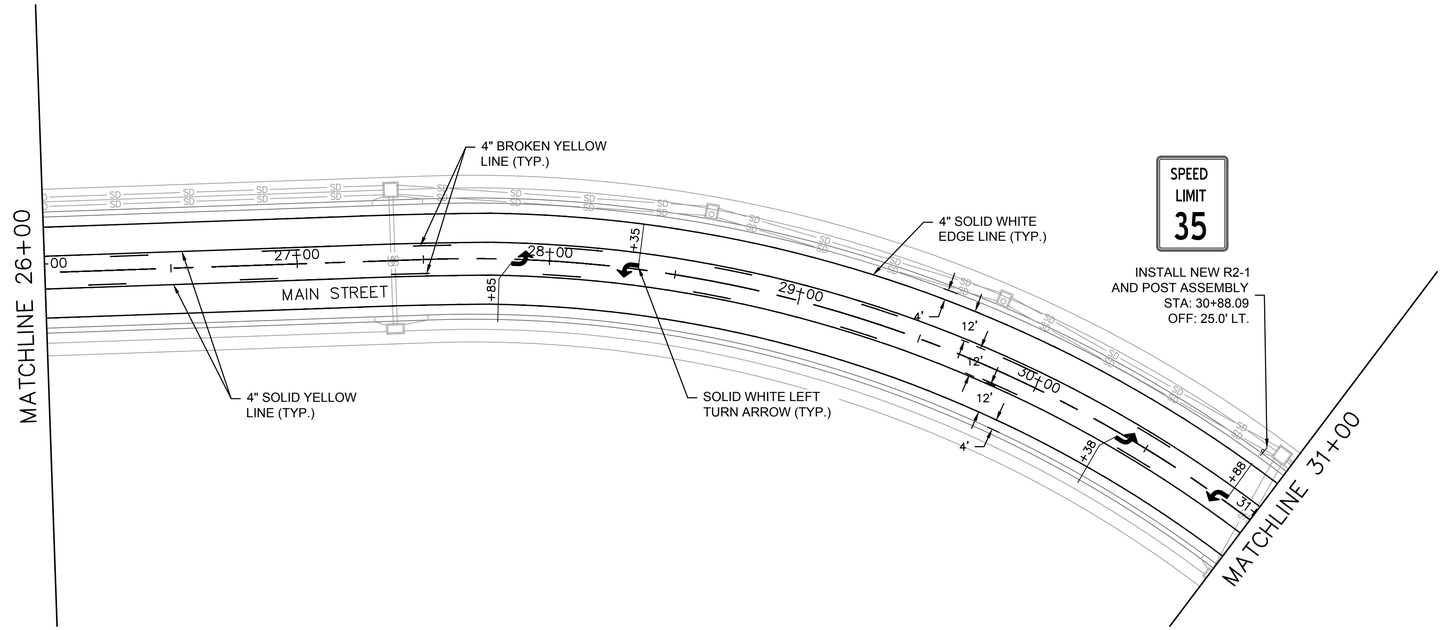
SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

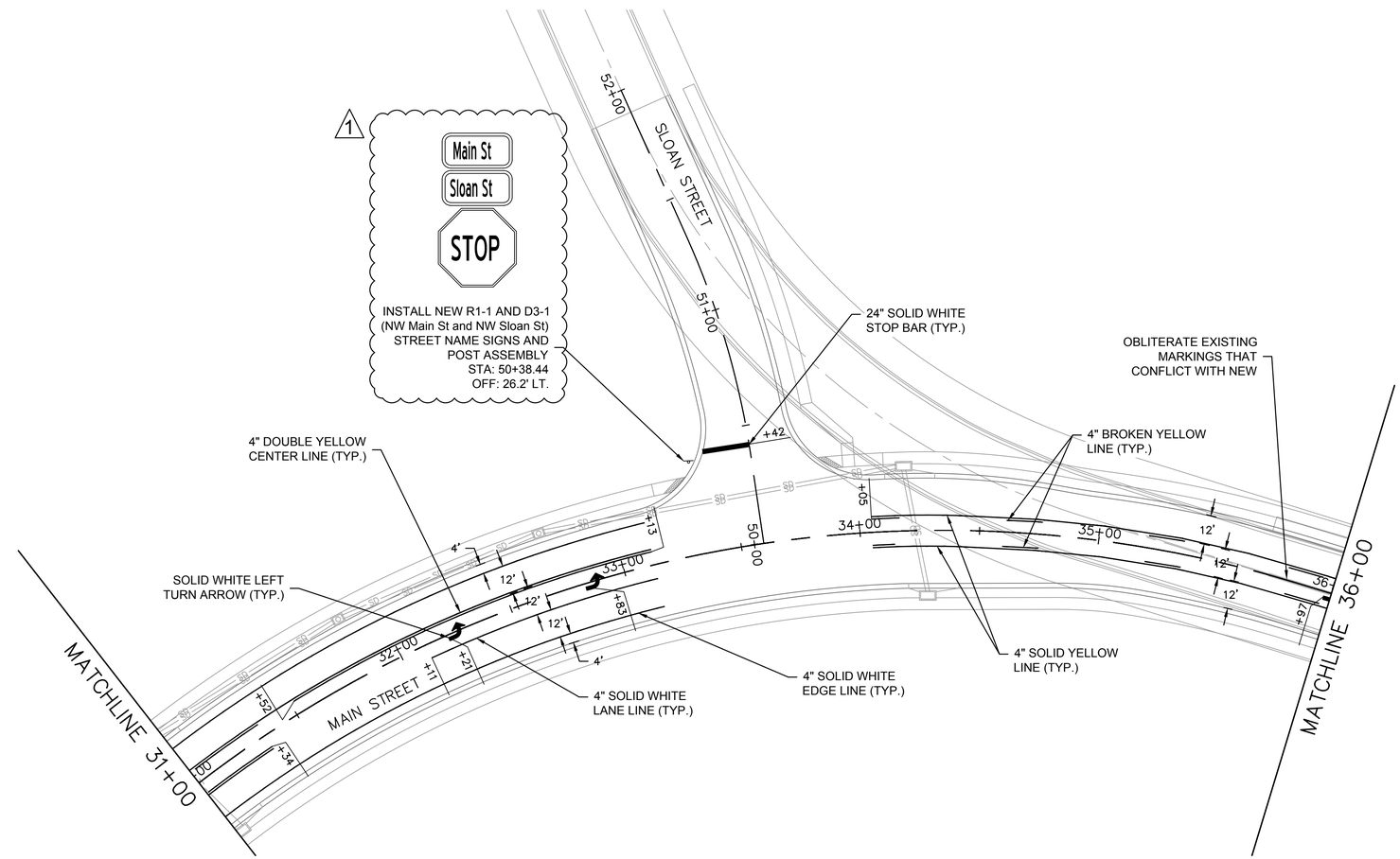
LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: 001592
DRAWN BY: JRC
CHECKED BY: JAP
APPROVED BY: JSS
QA/QC BY: SLJ
PROJECT NO.: 021-04157
DWG NO.: F_SAS_02104157
DATE: 2023-02-16

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\TFTC\F_SAS_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:55pm XREFS: V_XBOU_02104157 V_XTOPO_02104157 T_PBASE_02104157 T_PSTRM_02104157 F_PTBLK_02104157 F_PAV-MRK-BASE_02104157





N

0' 15' 30' 60'
SCALE IN FEET

N

0' 15' 30' 60'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	11-16-2021	CITY COMMENTS	

REVISIONS

PAVEMENT MARKING AND SIGNING PLAN
MAIN STREET AND SLOAN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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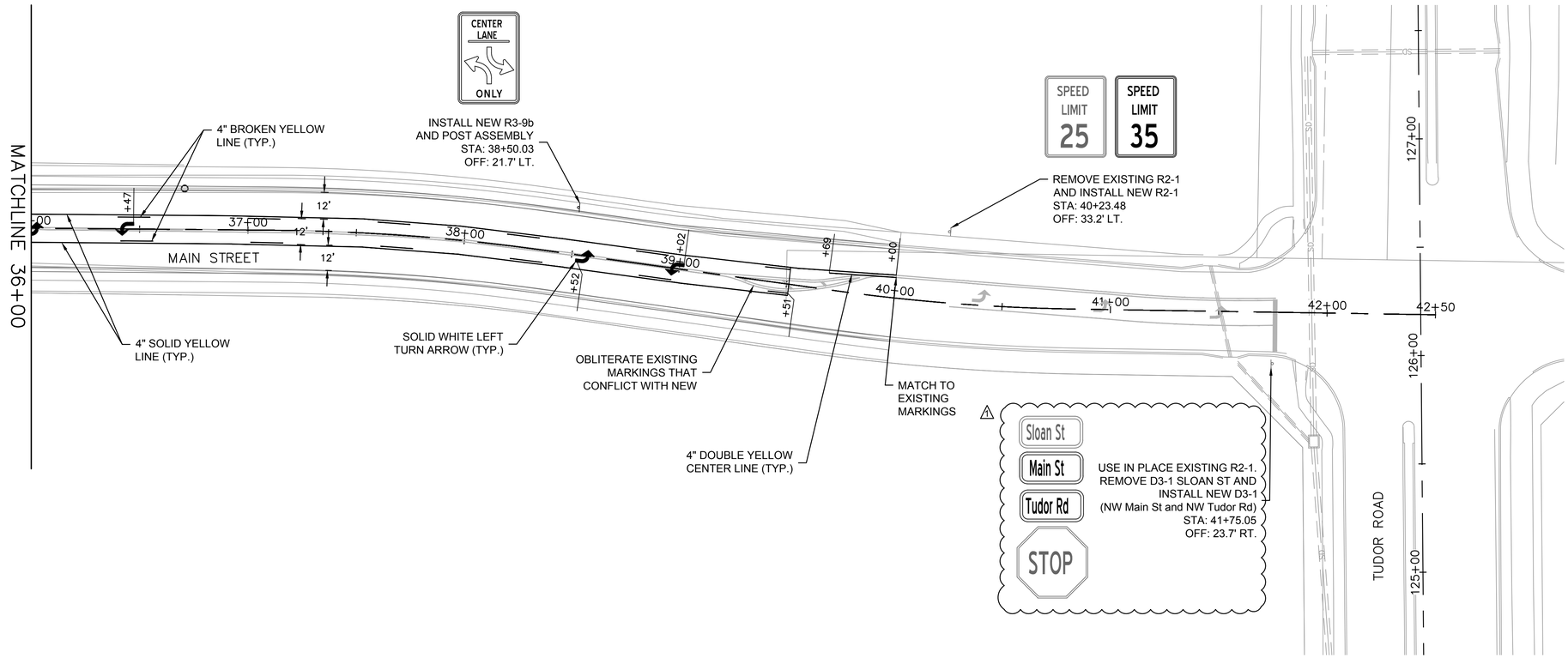
DATE: Oct 30, 2023 3:55pm XREFS: V_XBOU_02104157 V_XTOPO_02104157 T_PBASE_02104157 T_PSTRM_02104157
F_PTBLK_02104157 F_PAV-MRK-BASE_02104157



SUMMARY OF PAVEMENT MARKING QUANTITIES			
ITEM	ITEM DESCRIPTION	UNITS	QUANTITY
1.	4" SOLID WHITE LANE LINE (THERMOPLASTIC)	LF	100'
2.	4" SOLID WHITE EDGE LINE (THERMOPLASTIC)	LF	4,185'
3.	4" SOLID WHITE EXTENSION LINE (THERMOPLASTIC)	LF	50'
4.	4" BROKEN YELLOW CENTERLINE (THERMOPLASTIC)	LF	1,210'
5.	4" SOLID YELLOW CENTERLINE (THERMOPLASTIC)	LF	4,875'
6.	4" DOUBLE YELLOW CENTERLINE (THERMOPLASTIC)	LF	920'
7.	12" SOLID YELLOW CROSSHATCH LINE (THERMOPLASTIC)	LF	30'
8.	24" SOLID WHITE STOP BAR (THERMOPLASTIC)	LF	20'
9.	SOLID WHITE LEFT-TURN ARROW (PRE-FORMED THERMOPLASTIC)	EA	22

SUMMARY OF SIGN QUANTITIES						
ITEM	QUANTITY	MUTCD SIGN NUMBER	SIZE (INCHES)	AREA (SQ. FT.)	TOTAL AREA EACH SIGN (SQ. FT.)	SIGN POST (EA.)
1.	2	R3-9b	24x36	6.0	12.0	2
2.	2	R2-1	30x36	7.5	15.0	1
3.	1	R1-1	30x30	6.25	6.25	1
4.	8	D3-1	9x18	1.125	9.0	0
TOTAL					42.25	4

1

N

0' 15' 30' 60'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
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REVISIONS

PAVEMENT MARKING AND SIGNING PLAN
MAIN STREET

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: 001592
DRAWN BY: JRC
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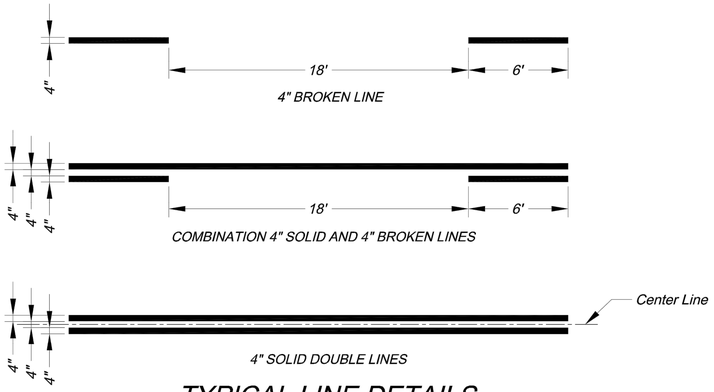
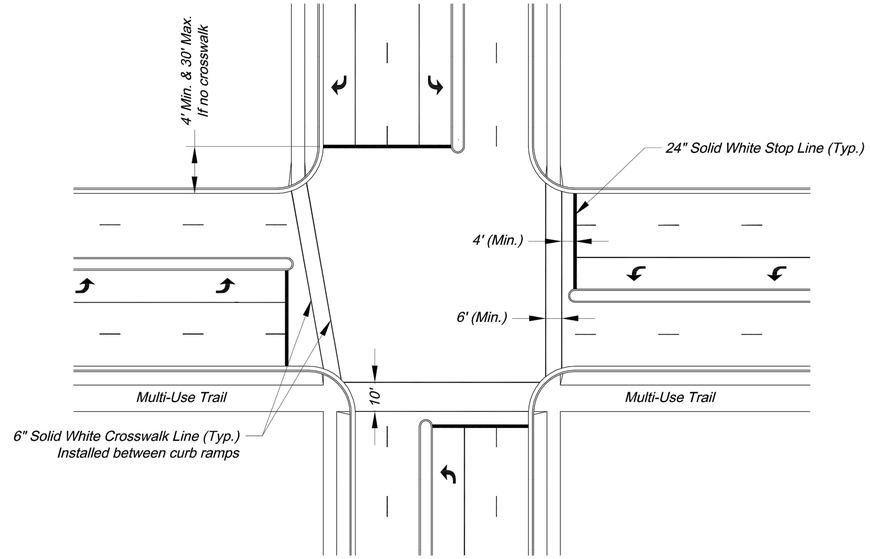


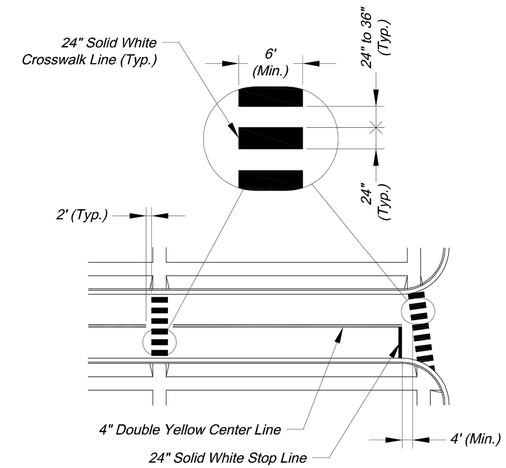
TYPICAL LINE DETAILS

NOTES:
1. All edge line, center line, and lane line pavement markings shall be 4" wide unless otherwise noted.
2. Edge lines shall be continuous solid white or yellow lines. Right side edge lines shall be solid white. Median or left side edge lines on divided roadways are to be solid yellow. Edge lines and center lines shall be continuous across driveways.

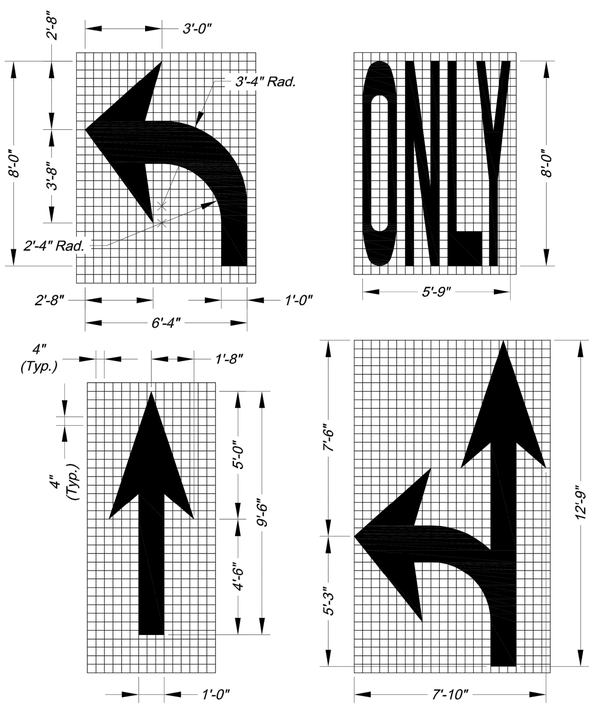


TYPICAL INTERSECTION MARKINGS

NOTES:
1. Transverse crosswalk lines shall be installed such that the distance between lines is at least 6 or 10 feet.
2. Stop lines are required at signalized intersections, on multi-lane stop controlled approaches, or in front of crosswalks at controlled intersections.

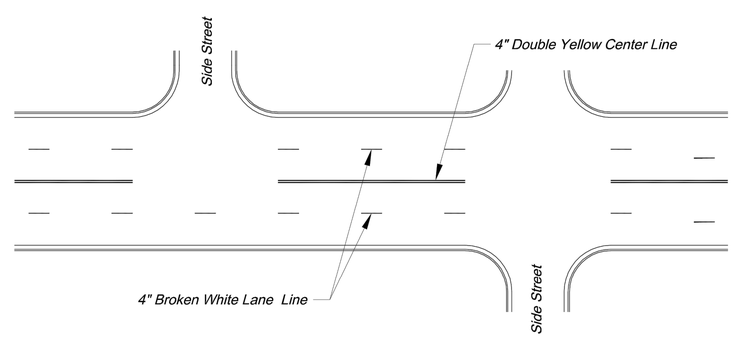


TYPICAL MIDBLOCK OR SCHOOL CROSS WALK

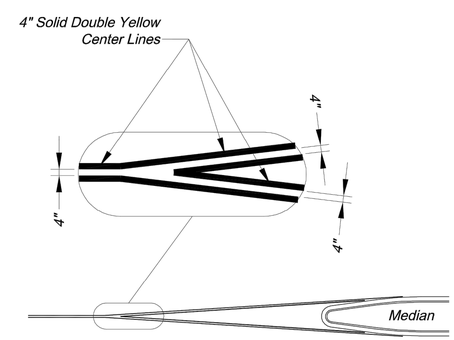


ARROW AND SYMBOL DETAILS

NOTES:
1. All arrow and symbol markings shall be white, and shall be centered in their respective traffic lanes.
2. Right-turn and combination right-turn/straight arrows are reverse of arrows shown.



TYPICAL MARKINGS FOR FOUR-LANE UNDIVIDED ROADWAY



TYPICAL MEDIAN NOSE CENTER LINE DETAIL

PAVEMENT MARKING GENERAL NOTES:
1. All pavement markings shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. All words and symbols shall conform to the latest edition of Standard Alphabets for Highway Signs and Pavement Markings printed by the U.S. Department of Transportation, Federal Highway Administration.
3. Pavement markings, either temporary or permanent are required at all times if the roadway is open to traffic.
4. All pavement markings that conflict with the desired markings shall be completely removed. Removals shall not leave the road surface scarred with an image that misleads traffic. Any excess damage or scarring of pavement shall be repaired at the Contractor's expense.
5. The proposed permanent markings shall be laid out by the Contractor in advance of the marking installation. Markings shall not be applied until the layout has been approved by the City Traffic Engineer.
6. Center lines shall be marked on all undivided arterial streets, and any other undivided street with more than two lanes and/or a speed limit of 30 mph or more.
7. Edge lines shall be marked on all non-curbed streets.

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PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
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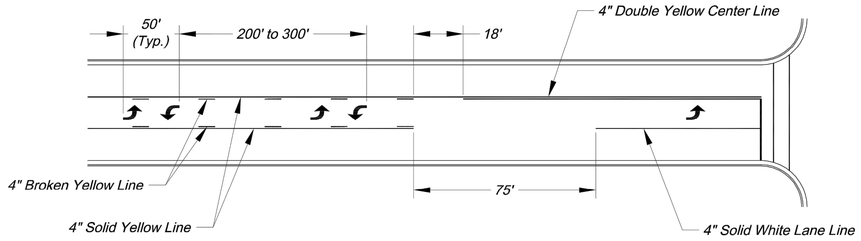
Project:

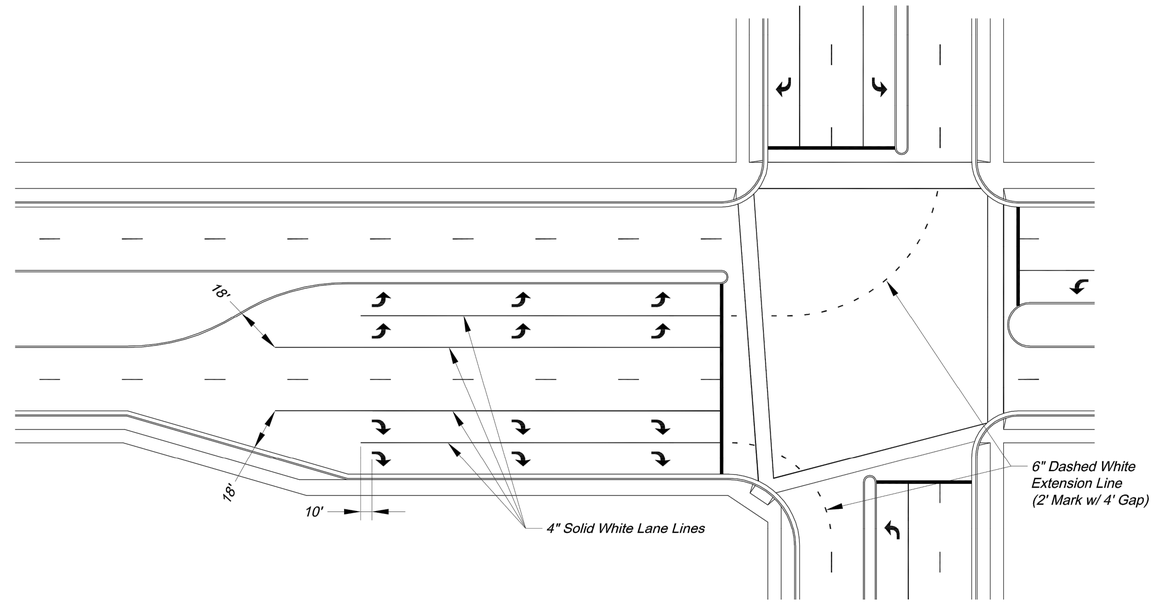
ROADWAY MARKING DETAILS

Sheet Name: STANDARD DRAWING PM-1

Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#

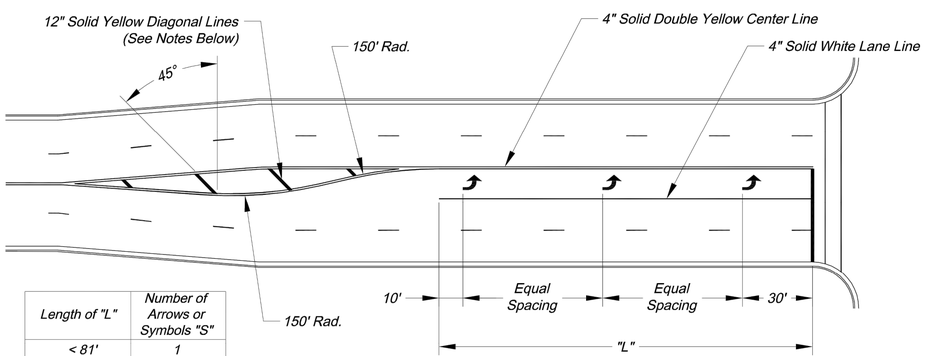


TYPICAL MARKINGS FOR TWO-WAY LEFT-TURN LANE



TYPICAL DUAL TURN LANE MARKINGS

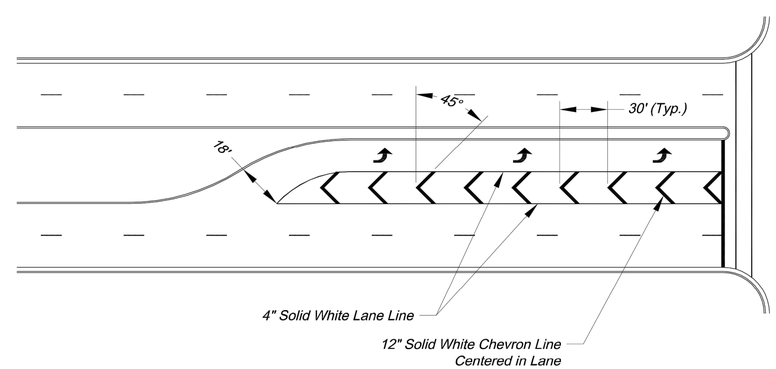
NOTE:
1. Dashed extension lines shall not extend through crosswalks.



Length of "L"	Number of Arrows or Symbols "S"
< 81'	1
81' - 120'	2
121' - 200'	3
201' - 280'	4
281' - 360'	5
361' - 440'	6

TYPICAL TURN LANE MARKINGS

NOTES:
1. Diagonal lines are required between centerlines if the width of the area between the center lines is greater than 12' and/or the length of the area between center lines is greater than 250'.
2. Diagonal lines should be spaced at 5' increments, equal to the posted speed limit.
3. Equal Spacing is calculated as (L - 40) / (S - 1).
4. When a through lane of traffic terminates as a mandatory turn lane, Arrow and "ONLY" symbols should be marked in the turn lane, in alternating order. The first and last symbols should be Arrows.



TYPICAL STRIPED OUT TURN LANE MARKINGS

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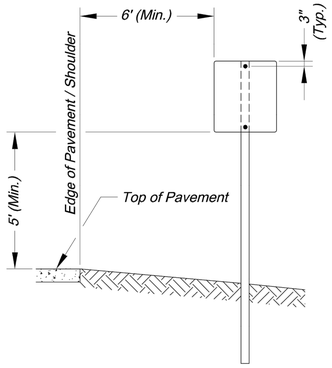
Project:

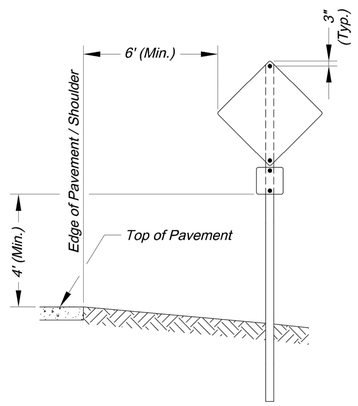
INTERSECTION MARKING DETAILS

Sheet Name: STANDARD DRAWING PM-2

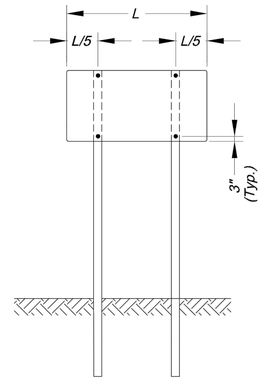
Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#



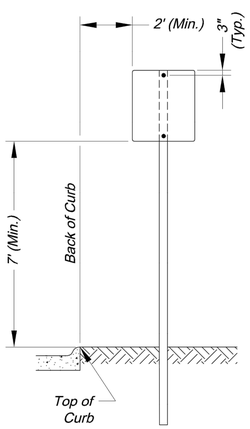
SIGN INSTALLATION FOR NON-CURBED STREET



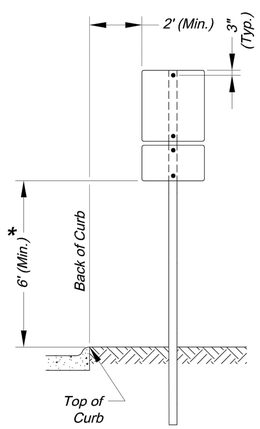
SIGN INSTALLATION WITH AUXILARY SIGN FOR NON-CURBED STREET



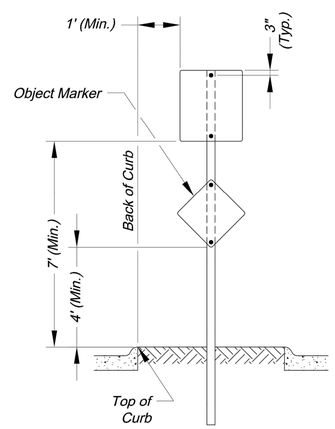
SIGN INSTALLATION WITH TWO SIGN POSTS



SIGN INSTALLATION FOR CURBED STREET



SIGN INSTALLATION WITH AUXILARY SIGN FOR CURBED STREET

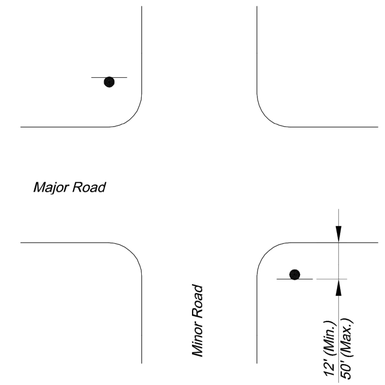


SIGN INSTALLATION FOR RAISED MEDIANS

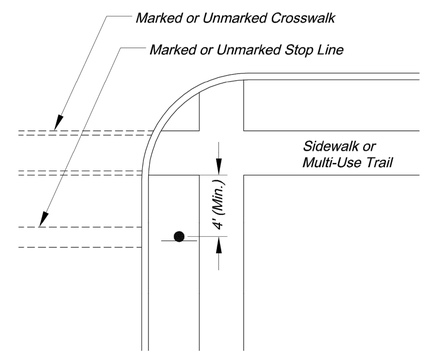
SIGN MOUNTING DETAILS

* The height to the bottom of a sign when it is located in a pedestrian walkway or extends into a walkway shall be a minimum of 80 inches above the walkway.

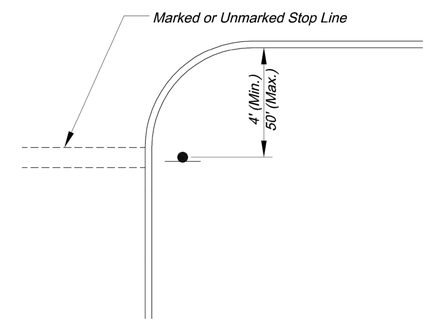
NOTE:
1. Generally, the sign mounting height should not be more than 1' greater than the minimum mounting height.



NON-CURBED INTERSECTION INSTALLATION

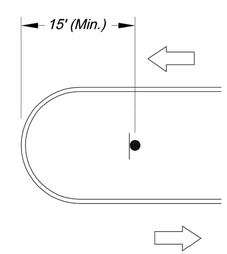


INTERSECTION WITH SIDEWALK / MULTI-USE TRAIL INSTALLATION



CURBED INTERSECTION INSTALLATION

CONTROL SIGN LOCATION



TYPICAL MEDIAN SIGN LOCATION

MEDIAN SIGN LOCATION

NOTES:
1. A 4" P.V.C. sleeve shall be installed in new concrete medians at each location where a sign is to be installed.
2. For existing concrete medians, a 4" hole shall be cored into the concrete.

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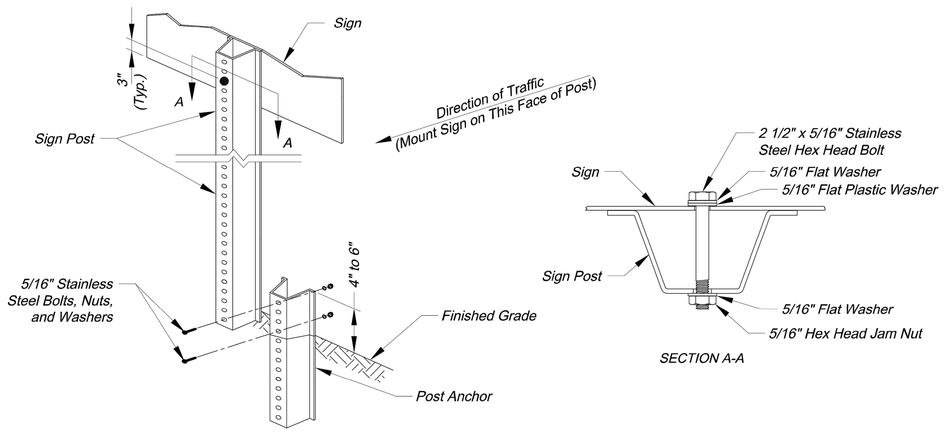
Project:

SIGN MOUNTING DETAILS

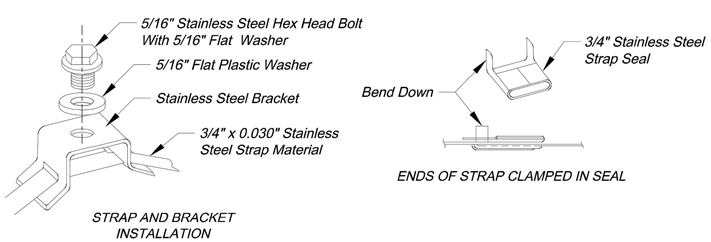
Sheet Name: STANDARD DRAWING SN-1

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#



U-STEEL POST DETAILS

U-STEEL POST NOTES:
1. Splice shall be positioned entirely between finished grade line and 18" above finished grade line. Only one splice will be allowed per post.
2. U-Steel post shall be 3 lb./ft., galvanized according to ASTM A123.
3. U-Steel post can be used for installation of signs with an area of less than 2.5 square feet.
4. All posts shall be embedded a minimum of 3 feet.

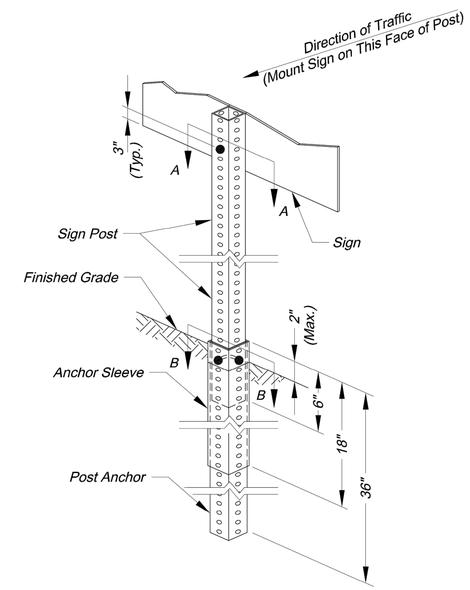


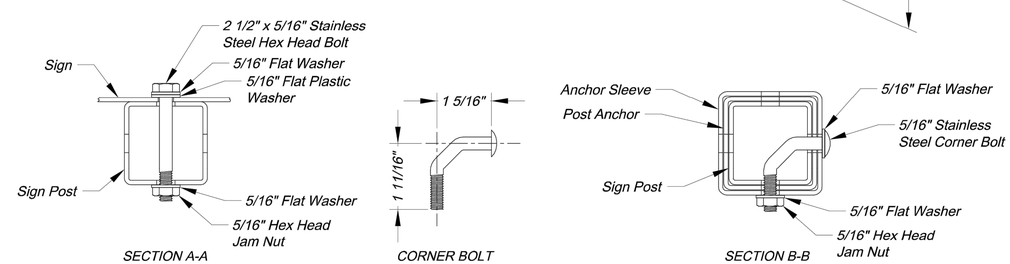
STRAP TYPE SIGN SUPPORT DETAILS

METAL POLE SIGN MOUNTING NOTES:
1. Signs on metal poles shall be attached with two brackets and stainless steel bands.
2. Holes in sign for attachment to the mounting brackets shall be offset a minimum of 2 inches from the edge of the sign.
3. Holes in sign shall be located such that the sign is level.
4. All strap, bracket, and seal materials should be Type 201 stainless steel.

PERMANENT SIGNING GENERAL NOTES:
1. All signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. The Contractor is responsible for avoiding any and all utilities when installing sign posts, whether the utility is indicated on the plans or not.
3. All workmanship and materials shall be subject to the inspection and approval of the Public Works Department of the City of Lee's Summit.
4. The Contractor shall stake the location of all sign posts to be installed. The City Inspector shall inspect the staking prior to installation. Minor relocation to avoid conflicts may be allowed with the approval of the City Traffic Engineer or designee.
5. Signs shown to be installed on the side of metal poles shall be mounted with stainless steel straps or wing brackets as detailed. No signs are to be installed on wood poles. See Traffic Signal Standard Drawings for the installation of signs on mast arms.
6. All post mounted signs shall be installed with breakaway anchors according to the Standard Drawings.
7. All existing signs will be used in place during construction and protected from damage unless otherwise indicated in the plans. If the Contractor damages any existing sign or posts during construction, the Contractor will be required to replace the damaged materials with new signs or posts of the same type and size at the Contractor's expense. The Contractor shall be responsible for removing and storing any signs that are to be reinstalled on the project. All equipment shall be reinstalled in good condition.
8. Existing permanent signs and posts removed by the Contractor for construction purposes which are not to be reinstalled shall be delivered to the City's Public Works Maintenance Facility (1971 SE Hamblen Road). The Contractor shall be responsible for removing and storing equipment in good condition and is fully responsible for the equipment until it is delivered.
9. All Stop, Yield, or street name signs shall be maintained in a conspicuous location for the driving public. All Stop and Yield signs removed for construction purposes can be temporarily erected in reflectorized drums (no less than 7 feet above the pavement surface) until they can be reinstalled. Any temporary Stop or Yield sign installation to be left in place overnight will require prior approval from the City Inspector.

SQUARE STEEL POST INSTALLATION SEQUENCE:
1. Sign post anchor driven partially into the ground using a drive cap with a sledge or power equipment.
2. Anchor sleeve slipped over anchor and drive into the ground together with the sign post anchor.
3. Insert sign post into the post anchor and bolt in place.





SQUARE STEEL POST DETAILS

SQUARE STEEL POST NOTES:
1. Square steel sign posts and break-away anchor shall consist of the following materials:
   - Sign Post - 14 Ga. 2" x 2" Square Steel Post
   - Post Anchor - 12 Ga. 2 ¼" x 2 ¼" x 36" Square Steel Post
   - Anchor Sleeve - 12 Ga. 2 ½" x 2 ½" x 18" Square Steel Post
2. 14 Gauge posts must meet a certified minimum yield strength of 60,000 psi.
3. In all installations the first hole above the finished grade line on the sign post, anchor, and anchor sleeve must be in line for the insertion of the corner bolt.
4. The maximum area for one sign post is 9.0 square feet. A sign or combination of signs with an area greater than 9.0 square feet will require two posts. Also, signs with a width greater than 36" (not including 36" x 36" diamond shaped signs) will require two posts.

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Project:

SIGN POST DETAILS

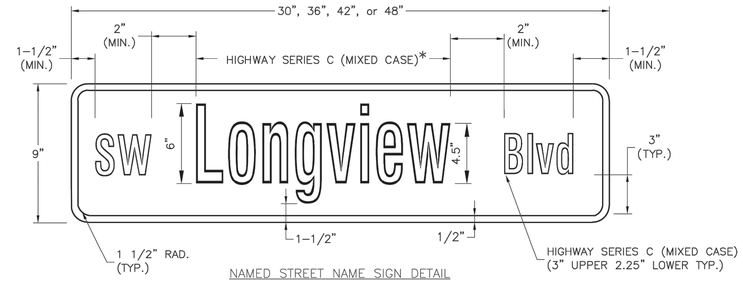
Sheet Name: STANDARD DRAWING SN-2

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#

STANDARD ABBREVIATION LISTS

NAMED STREETS	
AVENUE	Ave
BOULEVARD	Blvd
CIRCLE	Cir
CREEK	Cr
COURT	Ct
CROSSING	Xing
DRIVE	Dr
HIGHWAY	Hwy
LANE	Ln
PARKWAY	Pkwy
PLACE	Pl
ROAD	Rd
STREET	St
TERRACE	Ter
TRAIL	Trl
WAY	Way

NUMBERED STREETS	
FIRST	ST
SECOND	ND
THIRD	RD
FOURTH TO TENTH	TH

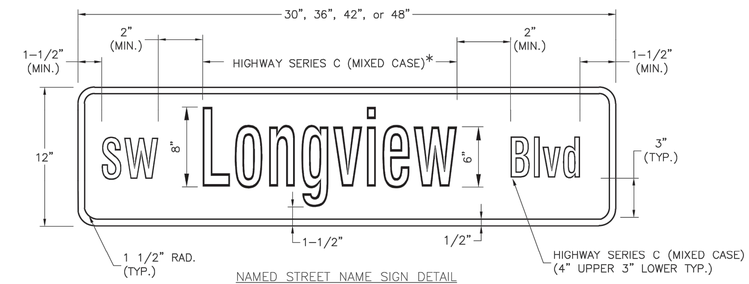


NAMED STREET NAME SIGN DETAIL

* USE HIGHWAY SERIES B (MIXED CASE) IN LIEU OF SERIES C IF NECESSARY TO FIT TEXT ON A 36" SIGN BLANK.

STREET NAME SIGN FACE DETAILS

POST MOUNTED 2-LANE ALL SPEEDS AND MULTI-LANE UNDER 40 MPH

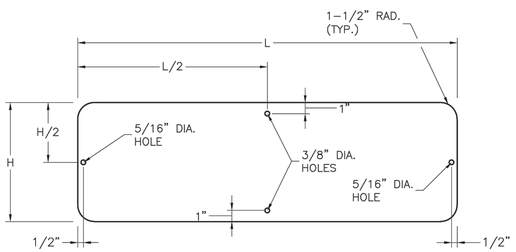


NAMED STREET NAME SIGN DETAIL

* USE HIGHWAY SERIES B (MIXED CASE) IN LIEU OF SERIES C IF NECESSARY TO FIT TEXT ON A 36" SIGN BLANK.

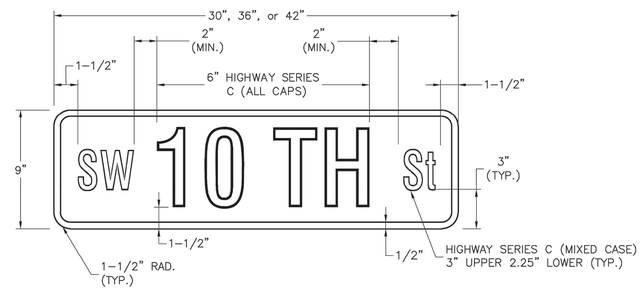
STREET NAME SIGN FACE DETAILS

POST MOUNTED MULTI-LANE GREATER THAN 40 MPH



STREET NAME SIGN BLANK DETAILS

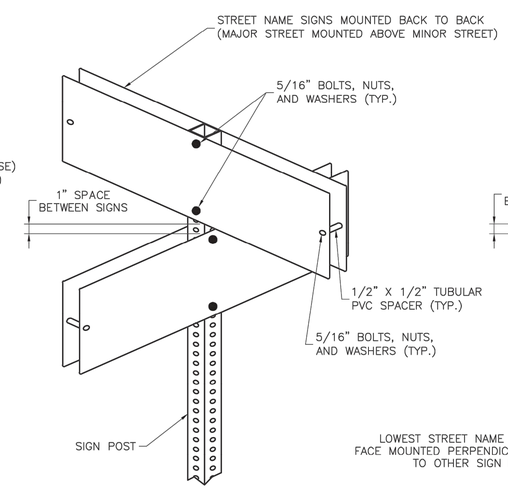
FOR MOUNTING ON SQUARE STEEL POSTS



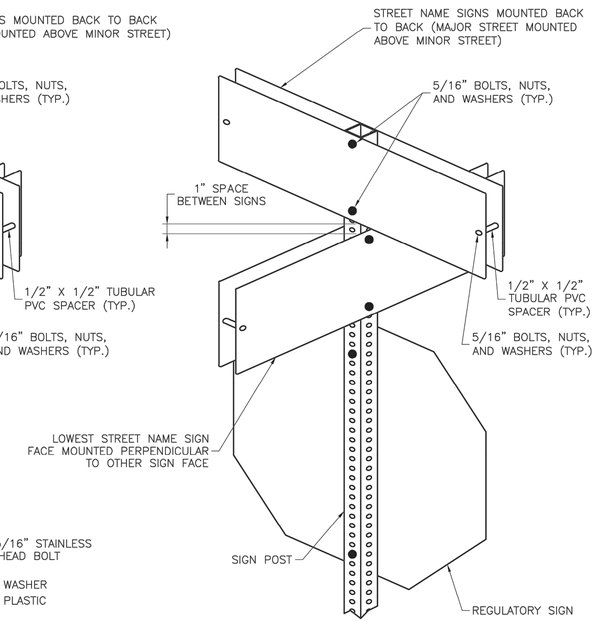
NUMBERED STREET NAME SIGN DETAIL

STREET NAME SIGN FACE DETAILS

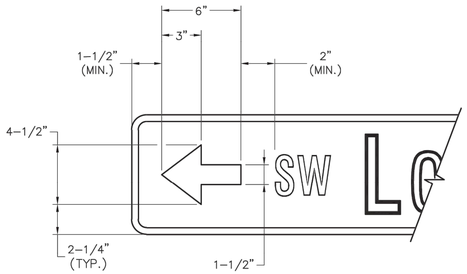
POST MOUNTED 2-LANE ALL SPEEDS AND MULTI-LANE UNDER 40 MPH



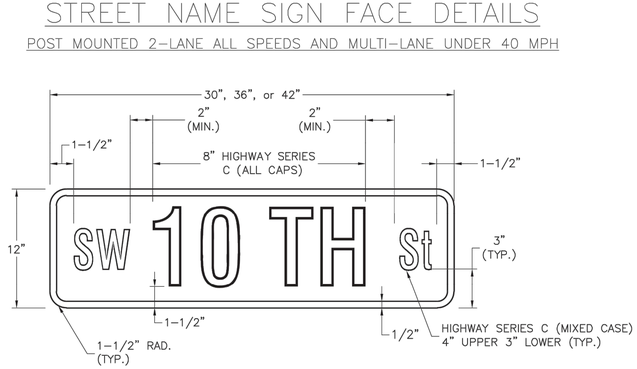
SIGNS INSTALLED SEPARATELY



SIGNS INSTALLED WITH OTHER SIGNS



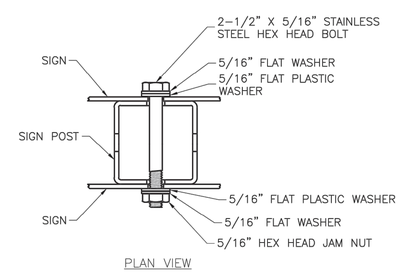
ARROW DETAIL



NUMBERED STREET NAME SIGN DETAIL

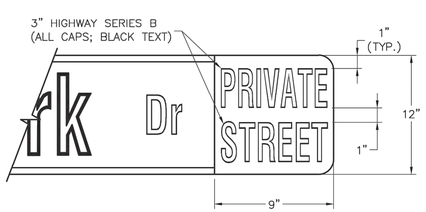
STREET NAME SIGN FACE DETAILS

POST MOUNTED MULTI-LANE GREATER THAN 40 MPH



PLAN VIEW

SQUARE STEEL POST MOUNTING DETAILS



PRIVATE STREET TAG DETAIL

NOTES:

1. FOR ALL STREET NAME SIGNS, THE LEGEND SHALL BE WHITE AND THE BACKGROUND SHALL BE GREEN.
2. ARROWS SHALL BE ADDED TO STREET NAME SIGNS WHERE THE NAME OF A STREET CHANGES AT AN INTERSECTION. STREET NAME SIGNS WITH ARROWS ARE TO BE INSTALLED ON EACH SIDE OF THE INTERSECTION TO INDICATE THE CHANGE IN NAMES. ARROWS SHALL BE WHITE.
3. THE "PRIVATE STREET" TAG SHOULD BE ADDED TO THE END OF STREET NAME SIGNS TO INDICATE WHERE A STREET THAT IS OUTSIDE THE RIGHT-OF-WAY INTERSECTS A PUBLIC STREET. THE BACKGROUND FOR THE "PRIVATE STREET" TAG SHALL BE YELLOW.
4. MULTI-LANE IS DEFINED AS HAVING 2 LANES OR MORE IN EACH DIRECTION, EXCLUDING TURN LANES.
5. OVERHEAD SIGN DETAILS MAY BE FOUND ON THE SIGNAL HEAD MOUNTING DETAIL.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

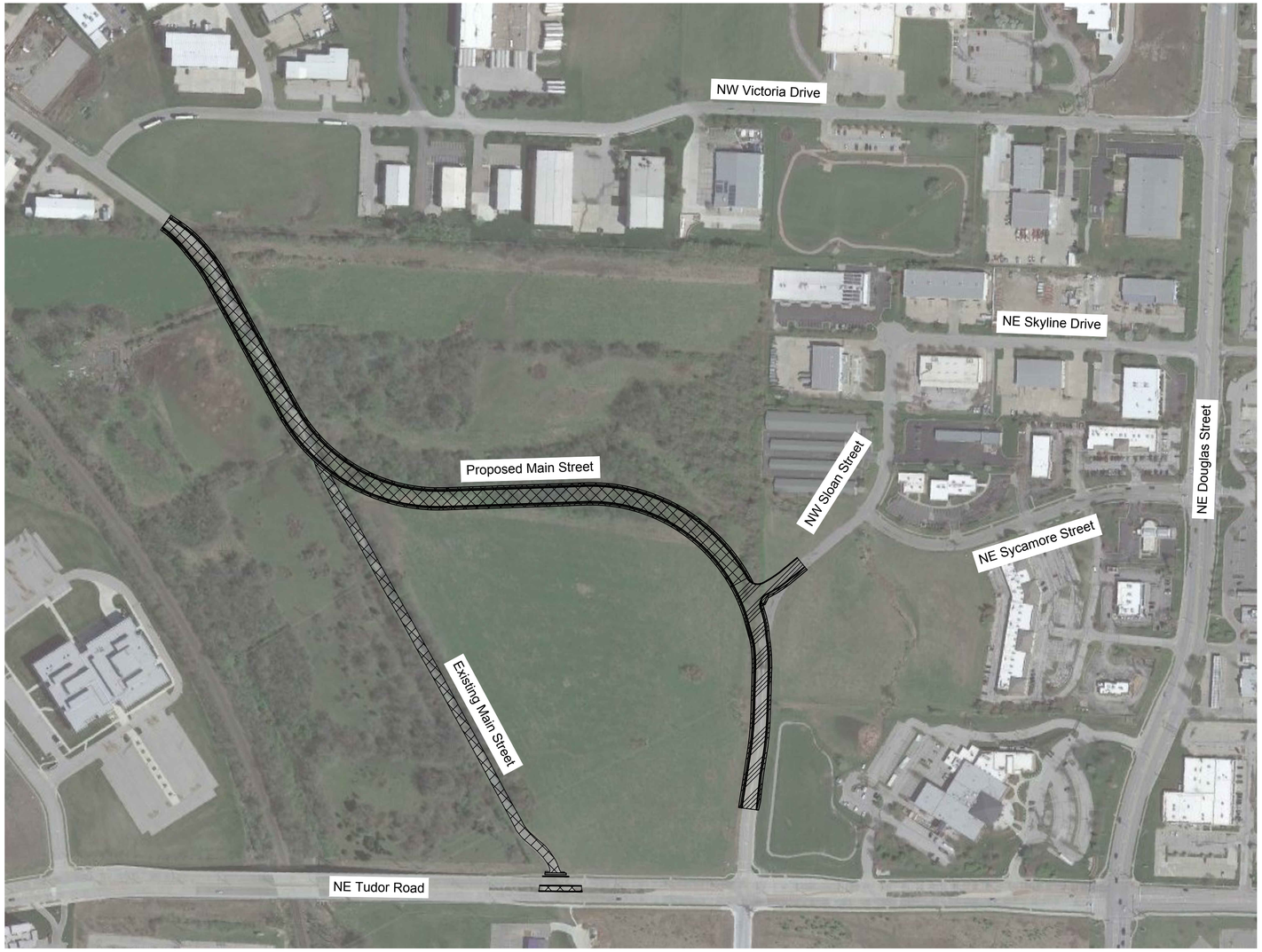
Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: STREET NAME SIGN DETAILS

Drawn By: BWC
Checked By: MP
Date: 01/2020
Proj. #:

SN-3

CONSTRUCTION PHASING:



GENERAL NOTES:

1) AS WITH ALL CONSTRUCTION ACTIVITIES, TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), SEE SHEET 75 FOR MINIMUM TAPER LENGTHS, TEMPORARY SIGNAGE, AND OTHER TRAFFIC CONTROL REQUIREMENTS.

2) ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.

PHASE 1:
CLOSE TRAFFIC ON EXISTING MAIN STREET BETWEEN NW VICTORIA DRIVE AND NE TUDOR ROAD. DETOUR TRAFFIC ON NE DOUGLAS STREET AND NW VICTORIA DRIVE. CONSTRUCT NEW MAIN STREET FROM SOUTH OF NW VICTORIA DRIVE TO THE NORTH RETURN OF REALIGNED NW SLOAN STREET. REMOVAL OF EXISTING MAIN STREET BETWEEN TUDOR ROAD AND TIE-IN SOUTH OF VICTORIA DRIVE. CLOSE MEDIAN AT EXISTING MAIN STREET ALONG TUDOR ROAD. SEE SHEET 75 FOR TEMPORARY TRAFFIC CONTROL REQUIREMENTS.

PHASES 2:
CLOSE TRAFFIC ON NW SLOAN STREET BETWEEN NE SYCAMORE STREET AND TUDOR ROAD. DETOUR TRAFFIC ON NE DOUGLAS STREET. CONSTRUCT REALIGNED MAIN STREET AND NW SLOAN STREET. SEE SHEET 75 FOR TEMPORARY TRAFFIC CONTROL REQUIREMENTS.

PHASING LEGEND

- PHASE 1 WORK AREA
- PHASE 2 WORK AREA

N

0' 100' 200' 400'
SCALE IN FEET

olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

RECORD DRAWINGS

RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAFFIC CONTROL PLAN
TRAFFIC CONTROL PHASING

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_PTC_02104157
DATE: 2021-10-12

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\RDBR\T_PTC_02104157.dwg USER: asaavedra
DATE: Oct 30, 2023 3:57pm XREFS: T_PTBLK_02104157 V_XTOPO_02104157 C_PROW_02104157 T_PBASE_02104157
C_PBASE_02104157 T_PPATT_02104157 V_XBOU_02104157 T_PSTRM_02104157 T_AERL_02104157

SIGN LEGEND

- (1) W20-1 — ROAD WORK AHEAD
- (2) W20-2 — DETOUR AHEAD
- (3) L M4-9(L), (3) R M4-9(R), (3) S M4-9(S) — DETOUR
- (4) R11-2 — ROAD CLOSED
- (5) G20-2 — END ROAD WORK
- (6) M4-8a — END DETOUR
- (7) L R3-1, (7) R R3-1
- (8) W20-3 — ROAD CLOSED AHEAD
- (9) SP-1 — MAIN STREET
- (10) SP-2 — SLOAN STREET
- (11) L R9-11(L), (11) R R9-11(R) — SIDEWALK CLOSED AHEAD / CROSS HERE
- (12) R9-9 — SIDEWALK CLOSED
- (13) L M4-9b(L), (13) R M4-9b(R) — DETOUR
- (14) SP-3 — MAIN ST CLOSED NORTH OF TUDOR FOLLOW DETOUR
- (15) L W1-6(L), (15) R W1-6(R)

GENERAL NOTES:

1) CURB WORK AT EXISTING MAIN STREET AND TUDOR ROAD TO BE CONDUCTED SEPARATELY FROM MEDIAN CLOSURE WORK AT EXISTING MAIN STREET AND TUDOR ROAD. WORK NOT TO BE CONDUCTED AT THE SAME TIME. REFERENCE LEE'S SUMMIT STANDARD DETAIL TC-1 FOR TYPICAL LANE CLOSURE DETAIL. ONE LANE OF THROUGH TRAFFIC IN EACH DIRECTION TO BE MAINTAINED ALONG TUDOR ROAD.

2) REFERENCE LEE'S SUMMIT STANDARD DETAIL TC-1 FOR TYPICAL SIGN SPACING FOR DETOUR ROUTE.

LEGEND

- Sign
- Type III Barricade
- Phase 1 Work Area

N

0' 100' 200' 400'
SCALE IN FEET

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Overland Park, KS 66213-4750 FAX 913.381.1174

RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAFFIC CONTROL PLAN
PHASE 1 DETOUR PLAN

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_PTC_02104157
DATE: 2021-10-12

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C_PBASE_02104157 T_PPATT_02104157 V_XBOU_02104157 T_PSTRM_02104157 T_AERL_02104157

SIGN LEGEND

- (1) W20-1 — ROAD WORK AHEAD
- (2) W20-2 — DETOUR AHEAD
- (3)L M4-9(L), (3)R M4-9(R), (3)S M4-9(S) — DETOUR
- (4) R11-2 — ROAD CLOSED
- (5) G20-2 — END ROAD WORK
- (6) M4-8a — END DETOUR
- (7)L R3-1, (7)R R3-1
- (8) W20-3 — ROAD CLOSED AHEAD
- (9) SP-1 — MAIN STREET
- (10) SP-2 — SLOAN STREET
- (11)L R9-11(L), (11)R R9-11(R) — SIDEWALK CLOSED AHEAD / CROSS HERE
- (12) R9-9 — SIDEWALK CLOSED
- (13)L M4-9b(L), (13)R M4-9b(R) — DETOUR
- (14) SP-3 — MAIN ST CLOSED NORTH OF TUDOR FOLLOW DETOUR
- (15)L W1-6(L), (15)R W1-6(R)

GENERAL NOTES:

1) REFERENCE LEE'S SUMMIT STANDARD DETAIL TC-1 FOR TYPICAL SIGN SPACING FOR DETOUR ROUTE.

LEGEND

- Sign
- Type III Barricade
- Phase 2 Work Area

N

0' 100' 200' 400'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAFFIC CONTROL PLAN
PHASE 2 DETOUR PLAN

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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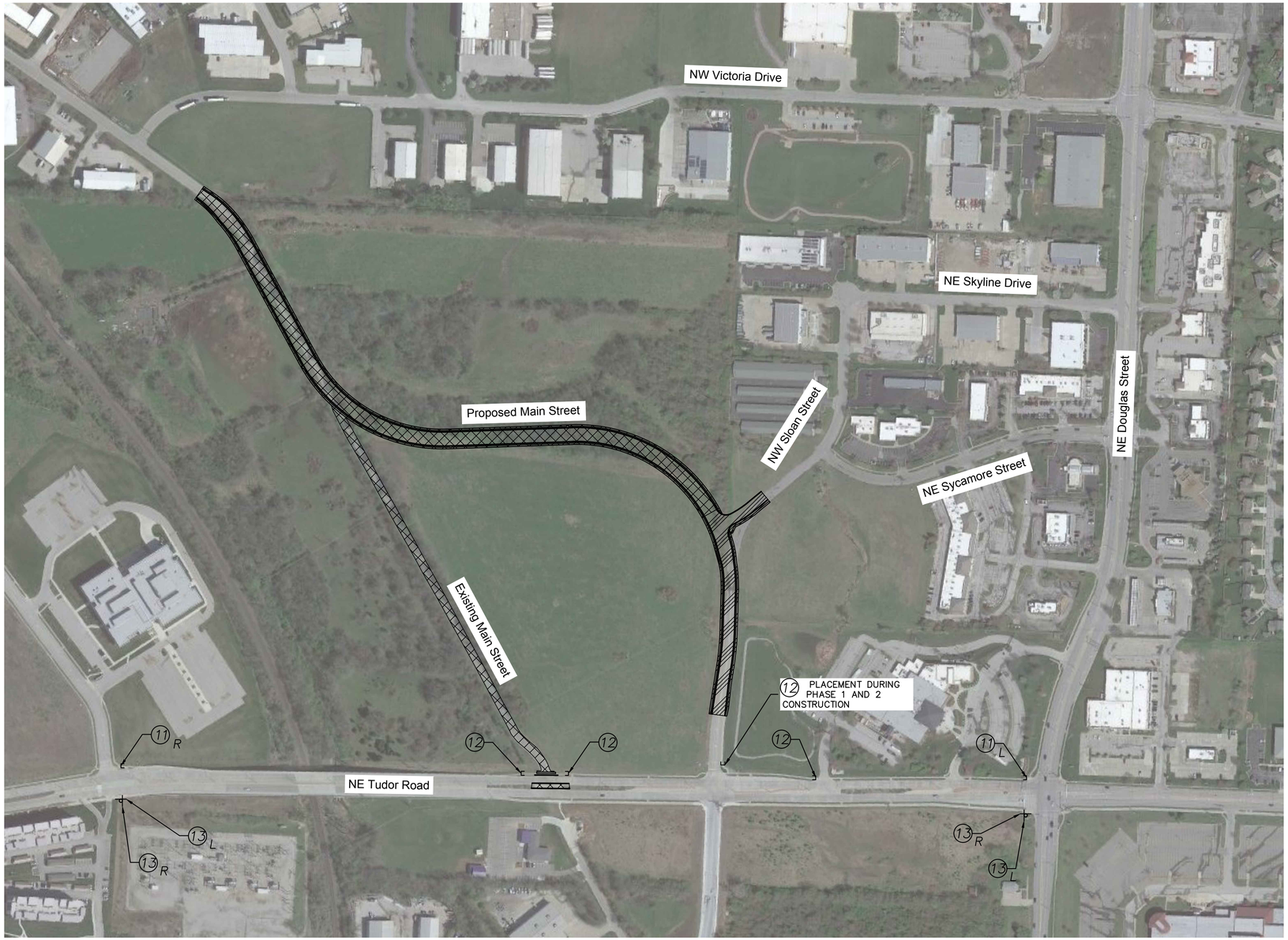
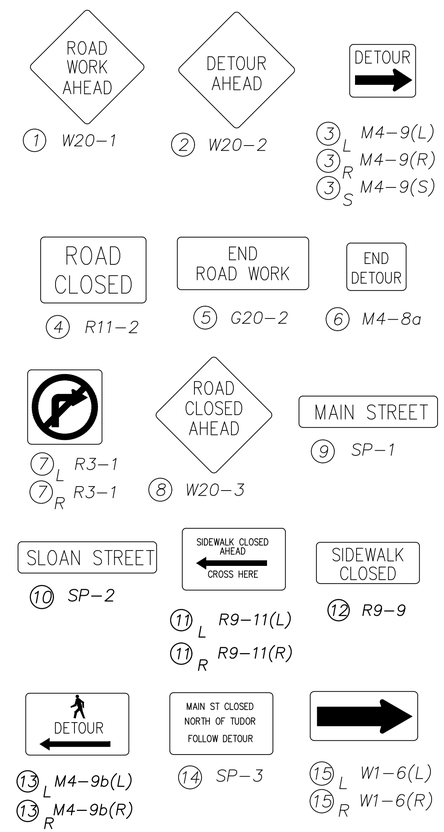
USER: asaavedra



SIGN LEGEND



GENERAL NOTES:

1) PHASE 1 DETOUR FOR PEDESTRIAN TRAFFIC ALONG THE NORTH SIDE OF TUDOR ROAD AT EXISTING MAIN STREET. DETOUR TO BE IN PLACE UNTIL CONTINUOUS SIDEWALK SECTION IS PROVIDED ALONG THE NORTH SIDE OF TUDOR ROAD AT EXISTING MAIN STREET. WHEN SIDEWALK NETWORK IS COMPLETE AND WORK ZONE DOES NOT INTERFERE WITH PEDESTRIAN ROUTE, PEDESTRIAN DETOUR CAN BE REMOVED.

2) SIDEWALK CLOSED SIGNAGE TO BE PROVIDED IN NORTHEAST QUADRANT OF TUDOR ROAD AND SLOAN STREET DURING PHASE 1 AND 2 CONSTRUCTION.

LEGEND

- Sign
- Type II Barricade
- Phase 1 Work Area
- Phase 2 Work Area

N

0' 100' 200' 400'
SCALE IN FEET

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RECORD DRAWINGS
RYAN B. FLEMING
MO. NO. PE-2002003161

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAFFIC CONTROL PLAN
PEDESTRIAN DETOUR PLAN

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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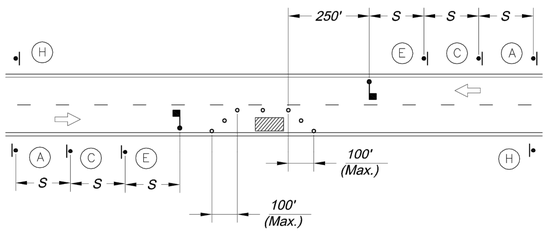
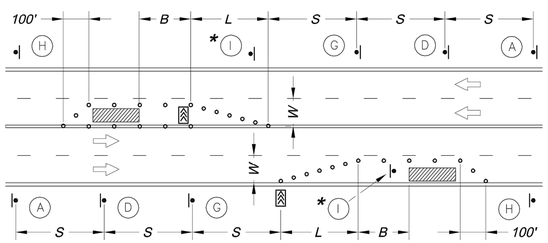
SYMBOL LEGEND

- Work Area
- Sign
- Barricade
- Direction of Travel
- Channelizer
- Arrow Panel
- Flagger

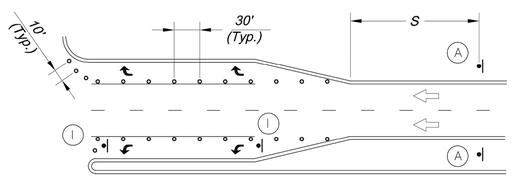


LANE CLOSURE - TWO LANE STREET



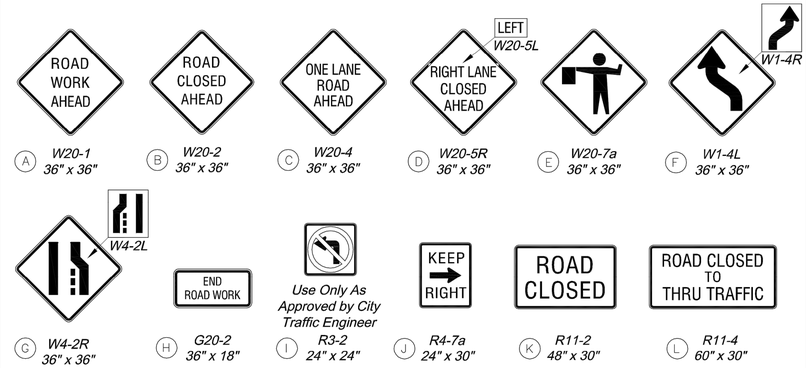
LANE CLOSURE - FOUR LANE STREET

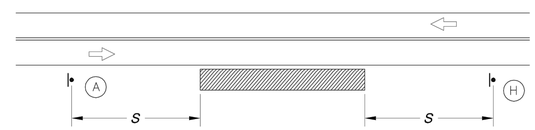
* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed



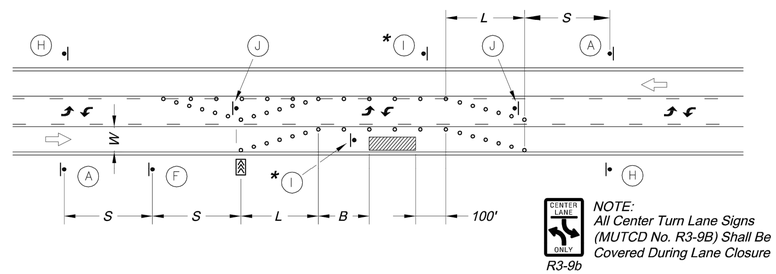
TURN LANE CLOSURE

SIGN LEGEND





TYPICAL SIGNING FOR WORK ADJACENT TO THE STREET



NOTE:
All Center Turn Lane Signs (MUTCD No. R3-9B) Shall Be Covered During Lane Closure

LANE CLOSURE - THREE LANE STREET

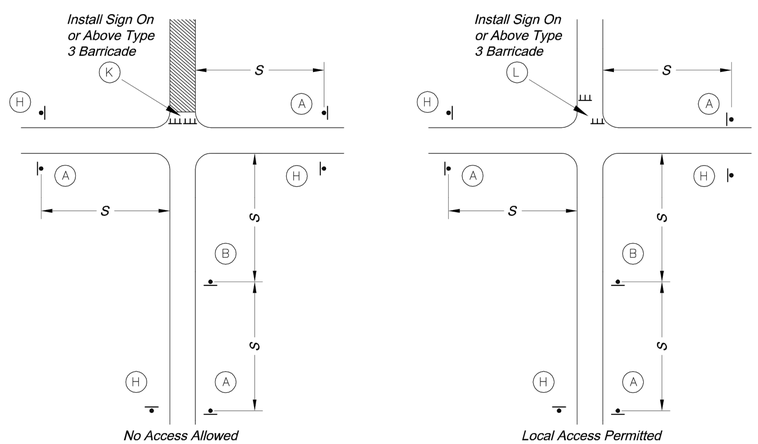
* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed

Sign Spacing "S"	
Speed Limit (mph)	Spacing (Feet)
25	100
30 - 35	250
≥ 40	350

Taper Dimensions (Feet)				
Speed Limit (mph)	Minimum Taper Length "L", per Lane Width "W"			Minimum Number of Channelizers
	10	11	12	
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13

Guidelines for Length of Longitudinal Buffer Space "B"	
Speed Limit (mph)	Length (Feet)
25	35
30	55
35	85
40	120
45	170

Maximum Channelizer Spacing		
Speed Limit (mph)	Within Taper (Feet)	Outside Taper (Feet)
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90



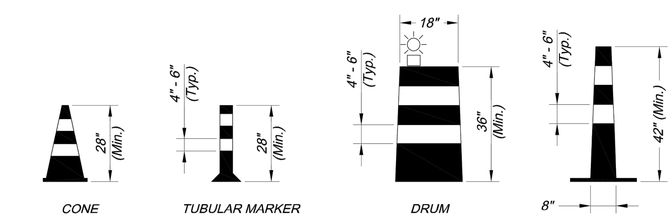
No Access Allowed

Local Access Permitted

TYPICAL STREET CLOSURE

GENERAL NOTES:

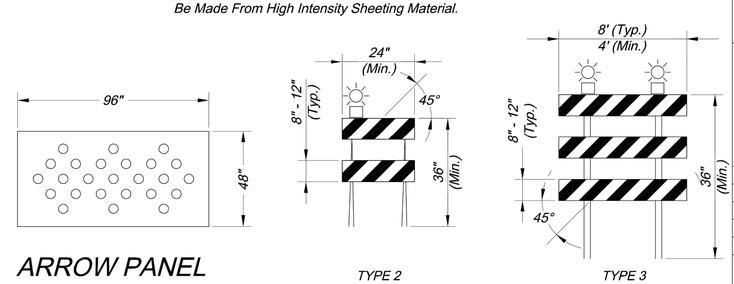
1. All signs, barricades, channelizers, markings and other traffic control devices shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. All traffic control devices shall be standard in size, shape, color, and message, in good condition, and retro-reflectorized. All signs shall be securely mounted with height and lateral location as described in the MUTCD.
3. Warning lights shall be used on barricades in place at night and on warning signs which alert drivers about a change in alignment, traffic control, lane closure, or road closure.
4. Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic, or where construction activities impose a restriction on traffic, as directed by the City Traffic Engineer. Where flaggers are used, advance signing shall be erected as shown in the details or as specified in the MUTCD. Flaggers shall meet the requirements in the MUTCD in regard to character, training, attire, and behavior.
5. Trim-lines are the City's preferred channelizing device. Cones may not be used at nighttime.
6. Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
7. The Contractor shall use barricades, street plates, or fencing as needed to effectively shield pedestrian and vehicular traffic from exposed objects, excavations, and construction activities.
8. Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
9. No street shall be closed without the approval of the City Traffic Engineer. The Contractor shall notify the City Traffic Engineer at least 7 days in advance of any street closure. If a detour route around the closure is to be provided, all detour signing shall be as shown on a plan approved by the City Traffic Engineer.
10. Construction vehicles parked along streets shall be located within the work area (traffic control) or where otherwise normally permitted. Construction materials, including traffic control and vehicles shall not restrict sight distance for vehicles exiting at streets or drives.
11. Construction materials shall be kept off of sidewalks, consolidated in one location within City right-of-way, and removed daily unless otherwise approved by the Inspector. Dirt, mud, and other construction debris on streets and sidewalks shall be removed immediately.
12. The Contractor shall not perform any work that will restrict vehicular traffic in any way between the hours of 7:00 a.m. and 9:00 a.m. or 4:00 p.m. and 6:00 p.m. Monday through Friday unless otherwise indicated in the specifications.
13. All travel lanes should be at least 11 feet wide unless otherwise authorized by the City Traffic Engineer. A "Narrow Lanes" sign shall be installed in advance of a lane width reduction to less than 11 feet.
14. All edge drop-offs of more than 2 inches and less than 4 inches should be protected by a wedge or barrier and all edge drop-offs greater than 4 inches shall have edge protection (see Traffic Control Specifications for edge treatment requirements).
15. The "Workers" symbolic sign (MUTCD No. W21-1a) may be used instead of the "Road Work Ahead" sign for work with a duration of 12 hours or less. The "End Road Work" sign is not required to be installed after the "Workers" sign.
16. No traffic signal shall be altered or modified in any way without a plan approved by the City Traffic Engineer.
17. The Contractor shall be responsible for maintaining all traffic control devices on an around-the-clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
18. The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the Contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of drivers, pedestrians, and workers at all times.
19. Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the City Traffic Engineer or representative, the City may take one or more of the following actions:
    - A) Employ another agency to correct deficiencies in traffic control devices and deduct the cost from the Contractor's pay estimate,
    - B) Stop the work until deficiencies are corrected,
    - C) Suspend all pay estimates until deficiencies are corrected, or
    - D) Place the Contractor in default.



CONE (Daytime Use Only) | TUBULAR MARKER | DRUM | TRIM-LINE

CHANNELIZERS

NOTE: White Bands On Barricades and Channelizers Shall Be Made From High Intensity Sheeting Material.



ARROW PANEL

TYPE 2 | TYPE 3

BARRICADES

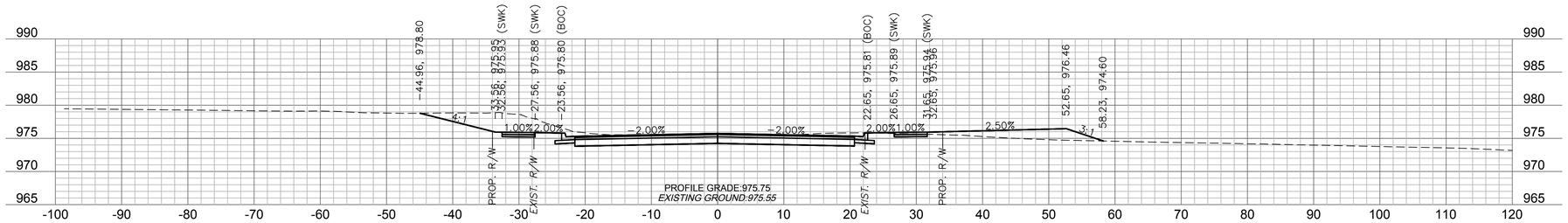
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project: MAIN STREET/NW SLOAN/NE TUDOR ROAD

TRAFFIC CONTROL DETAILS

Sheet Name: STANDARD DRAWING TC-1

Drawn By: JJW
Checked By: MP
Date: 12-10-2008
Project No.: X



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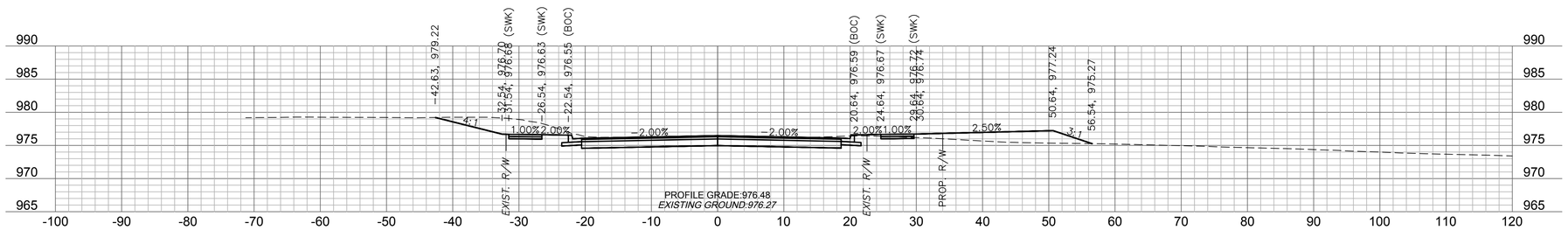

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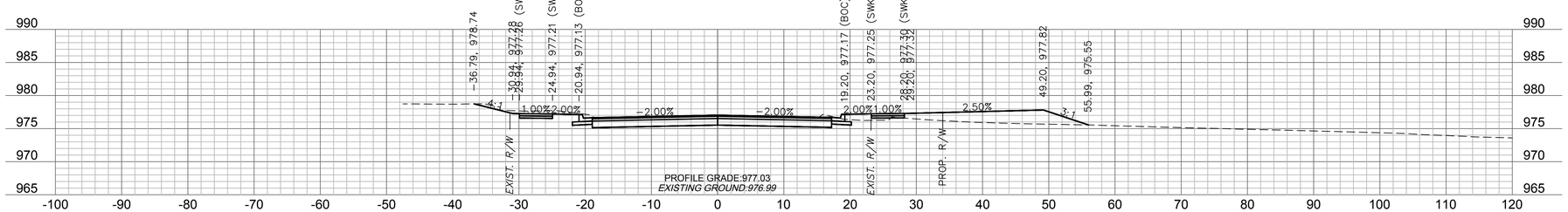

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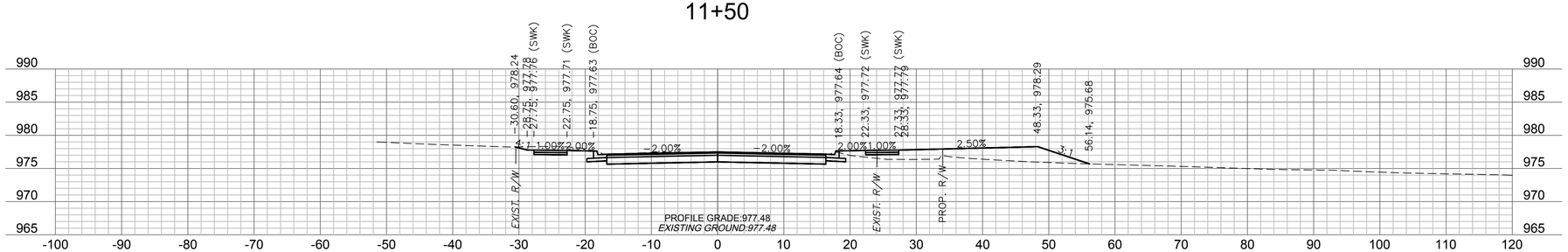

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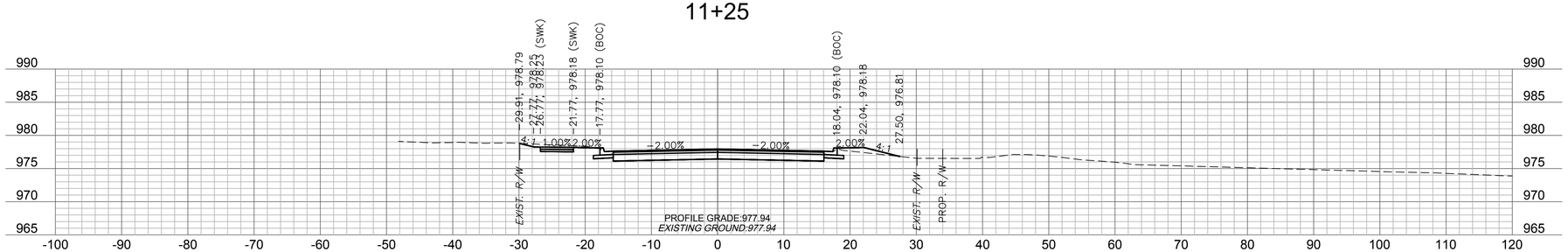

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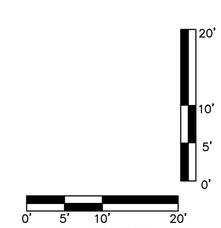

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MO. NO. PE-2002003161

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LEE'S SUMMIT, MISSOURI

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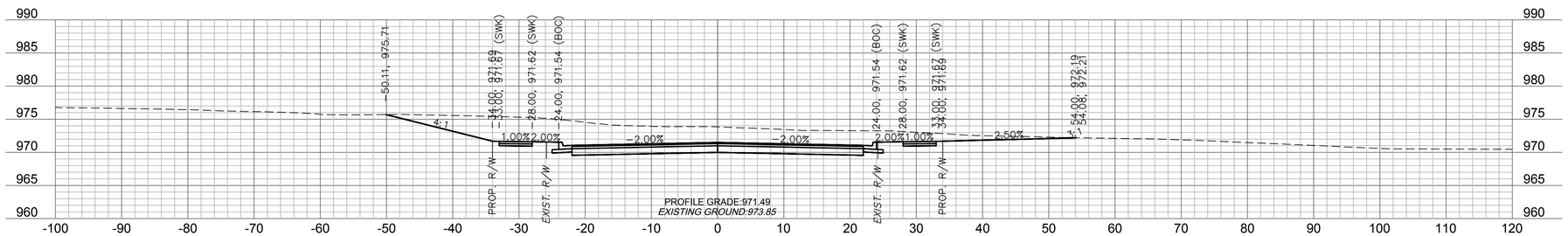

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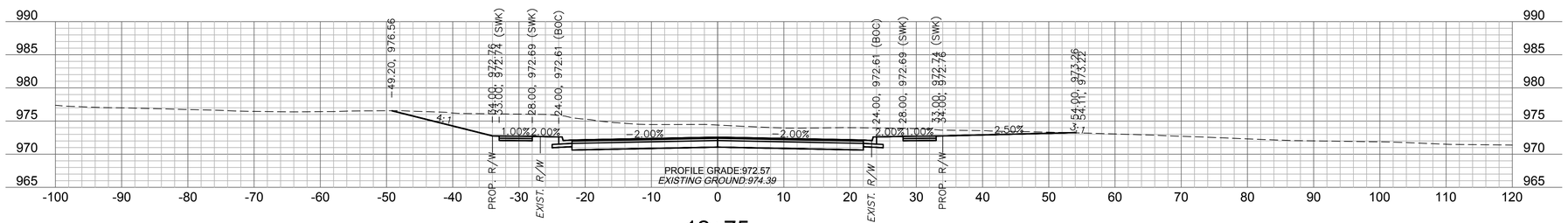

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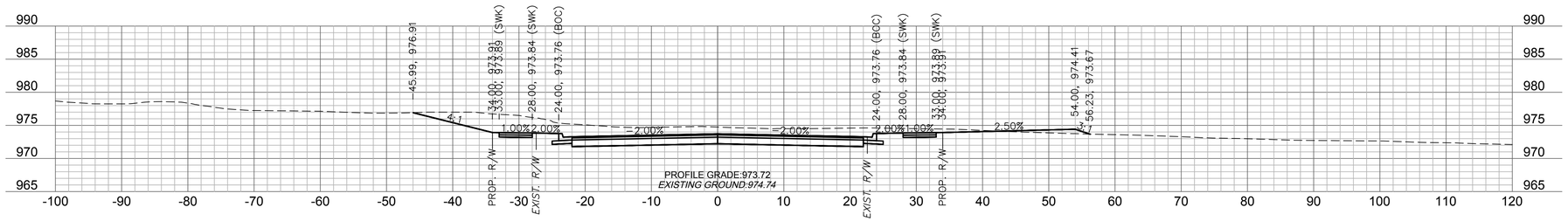

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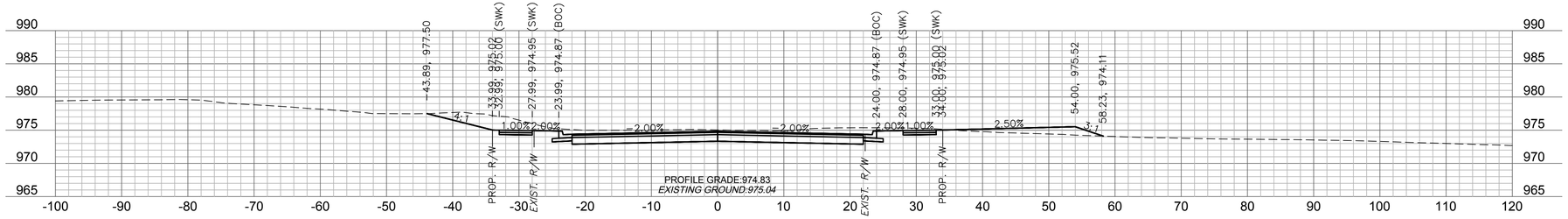

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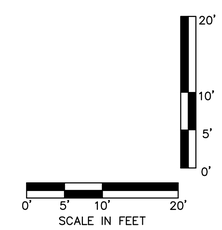

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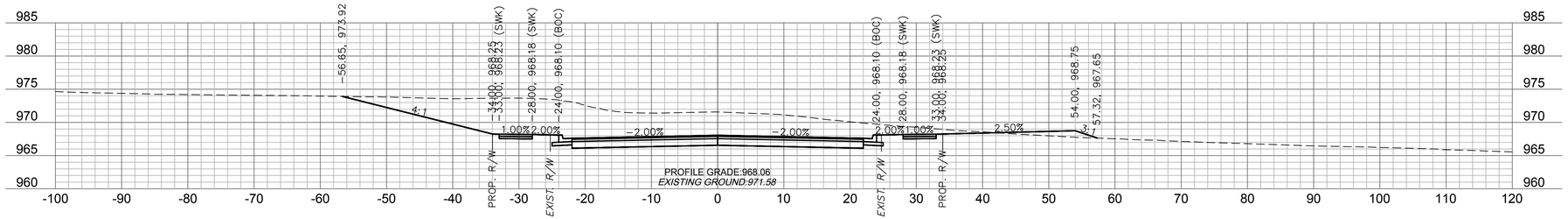

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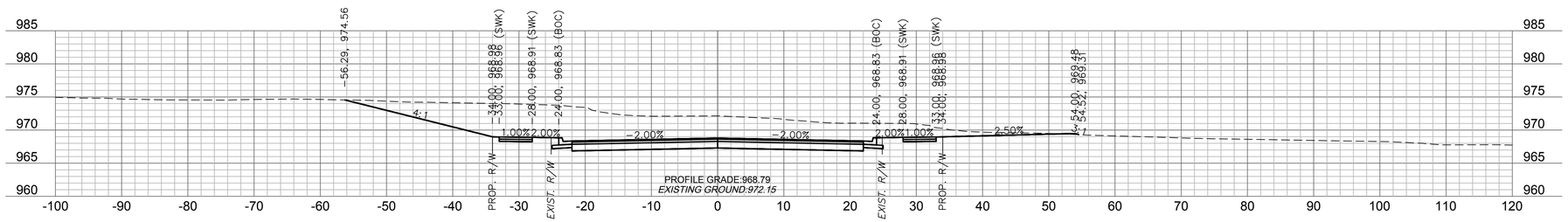

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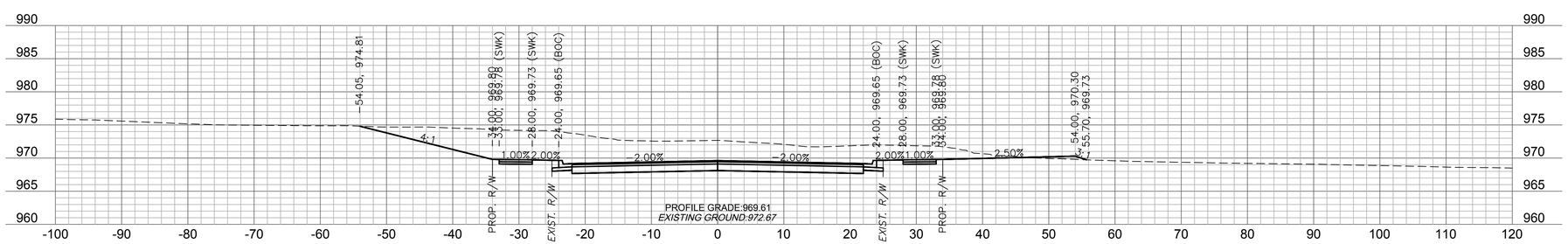

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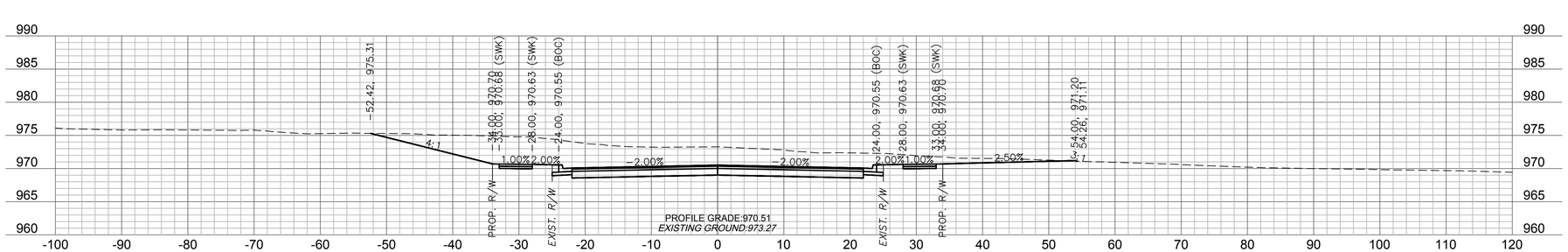

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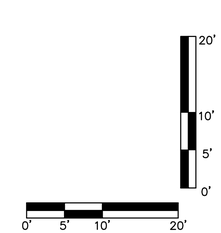

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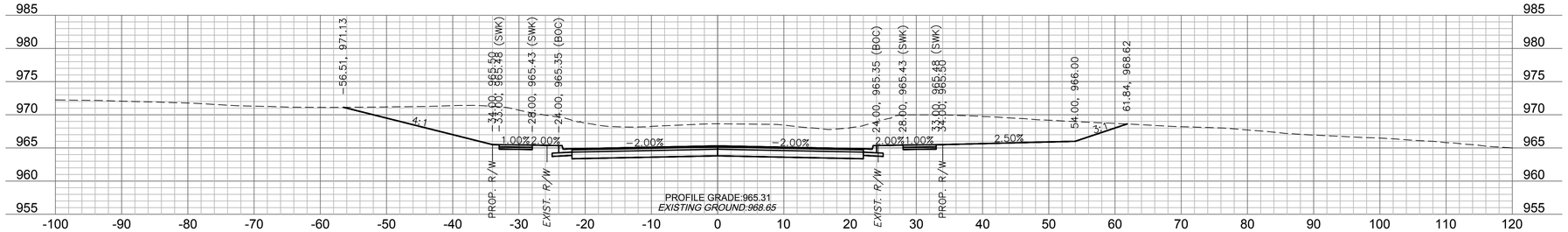

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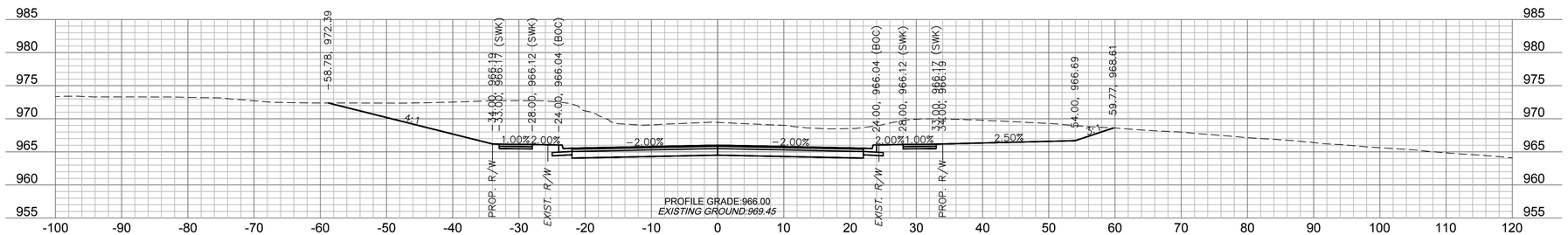

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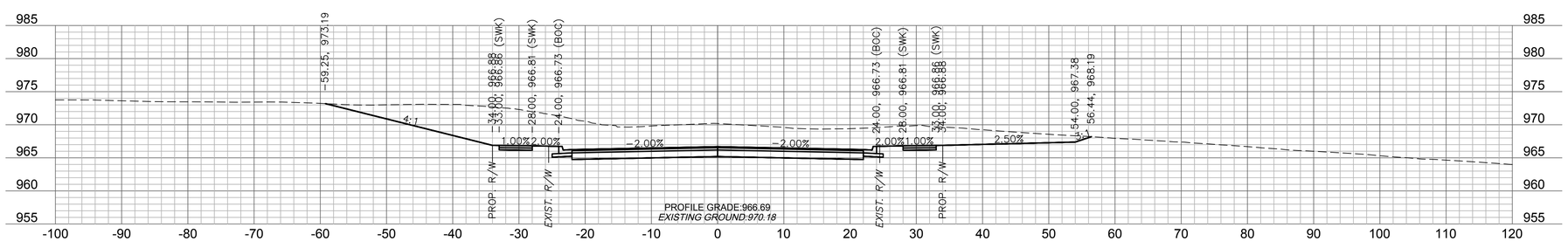

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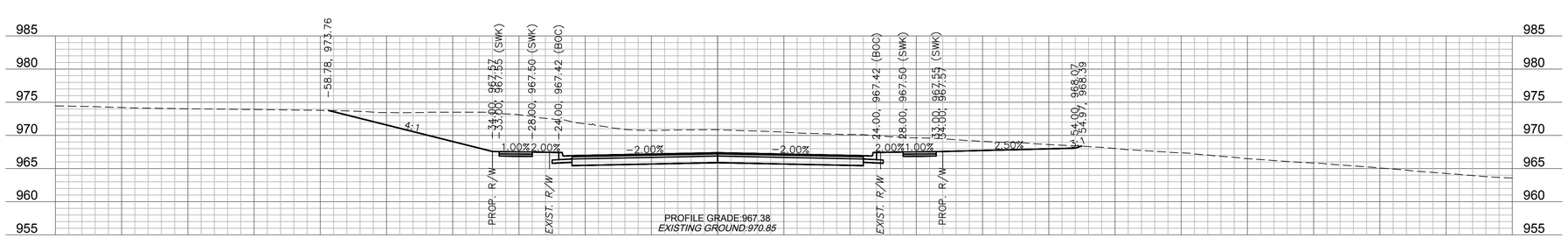

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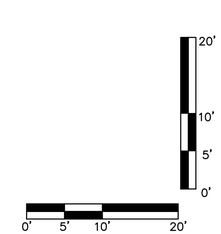

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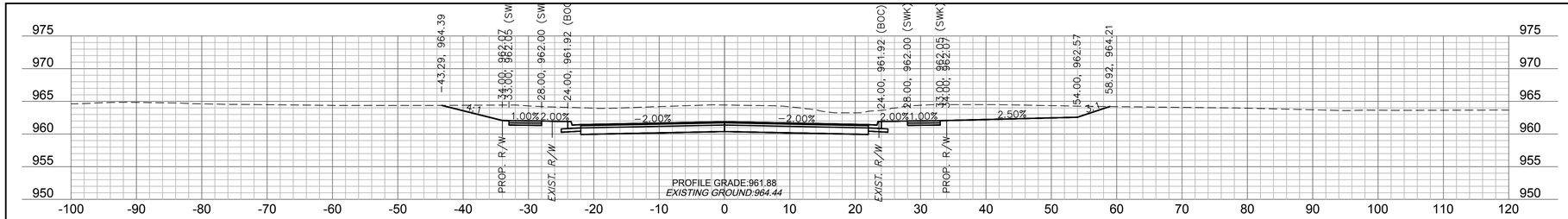

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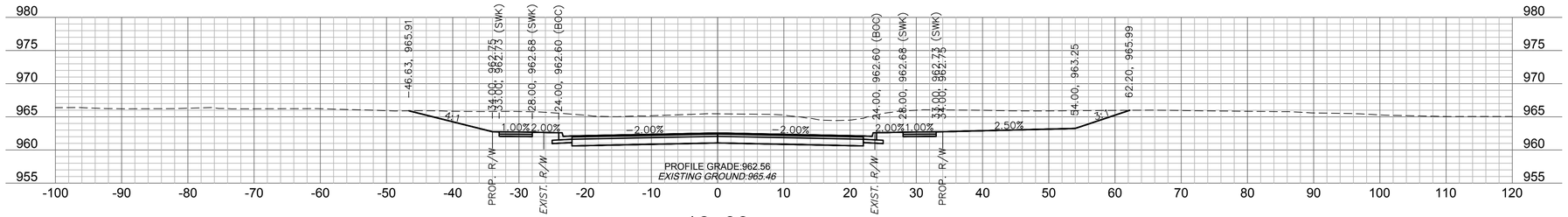

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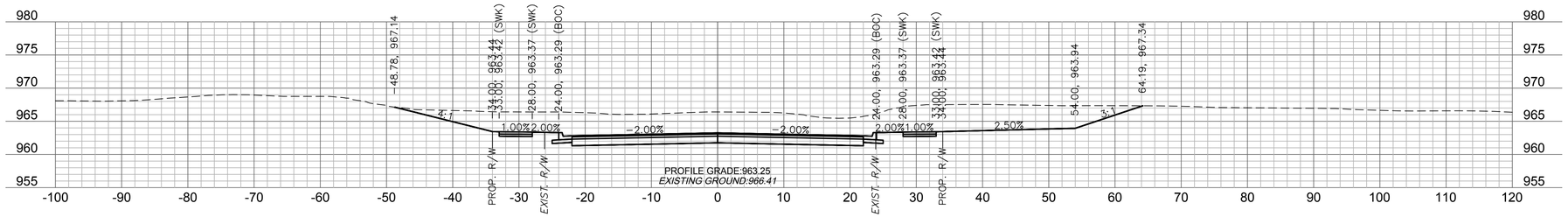

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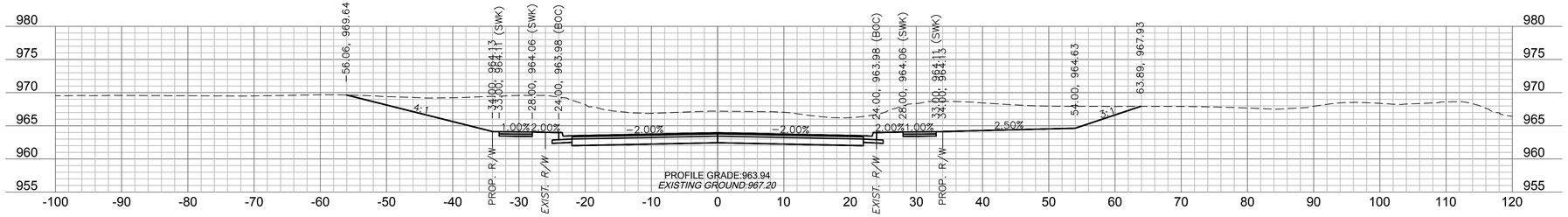

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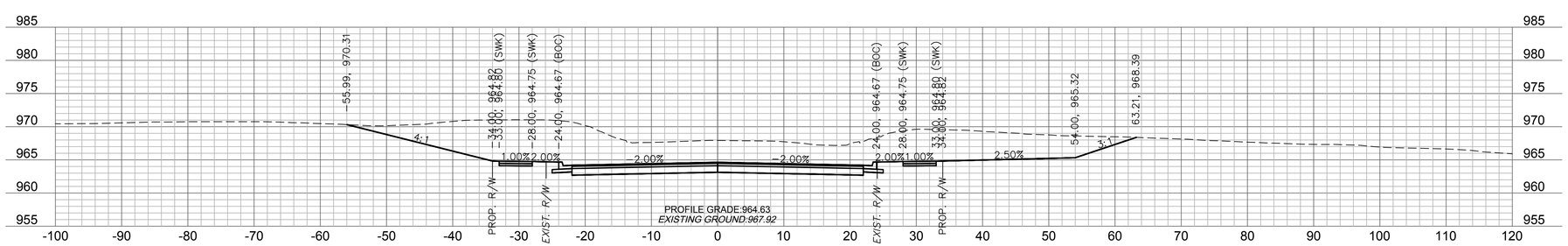

15+25

0' 5' 10' 20'
SCALE IN FEET

20' 10' 5' 0'

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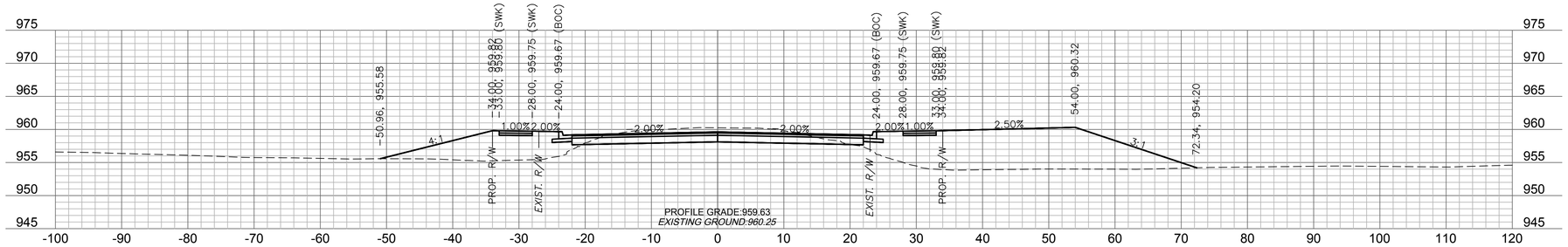

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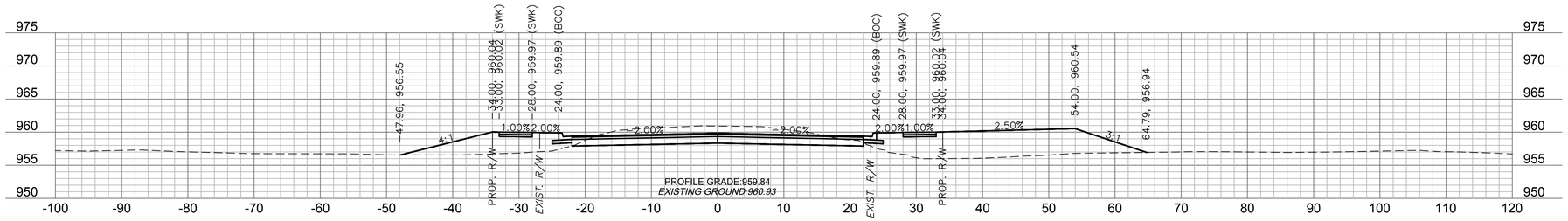

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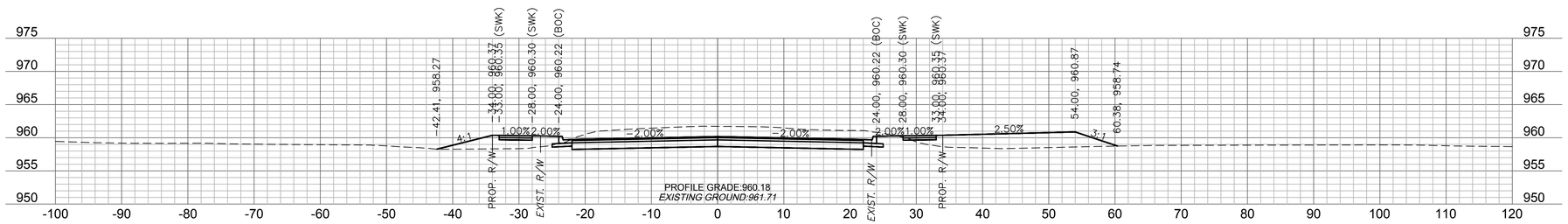

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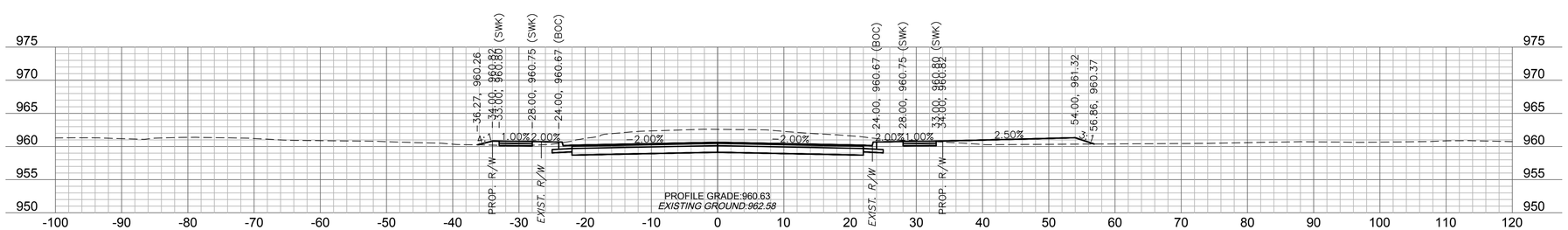

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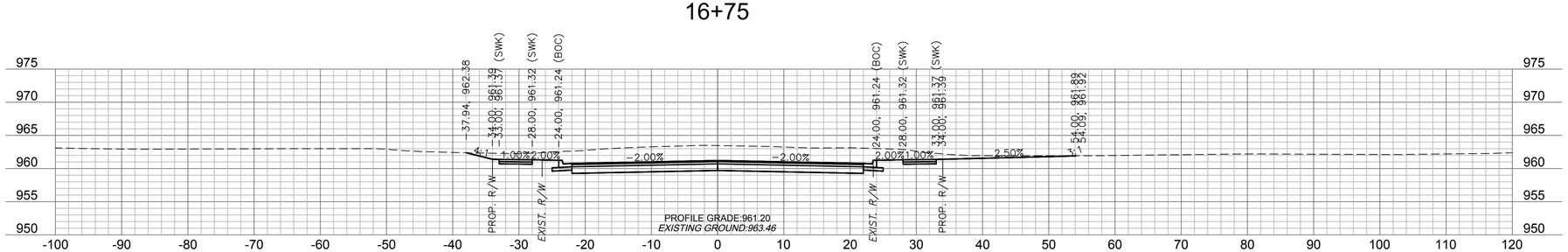

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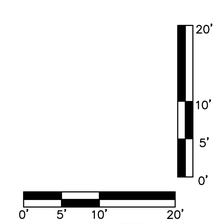

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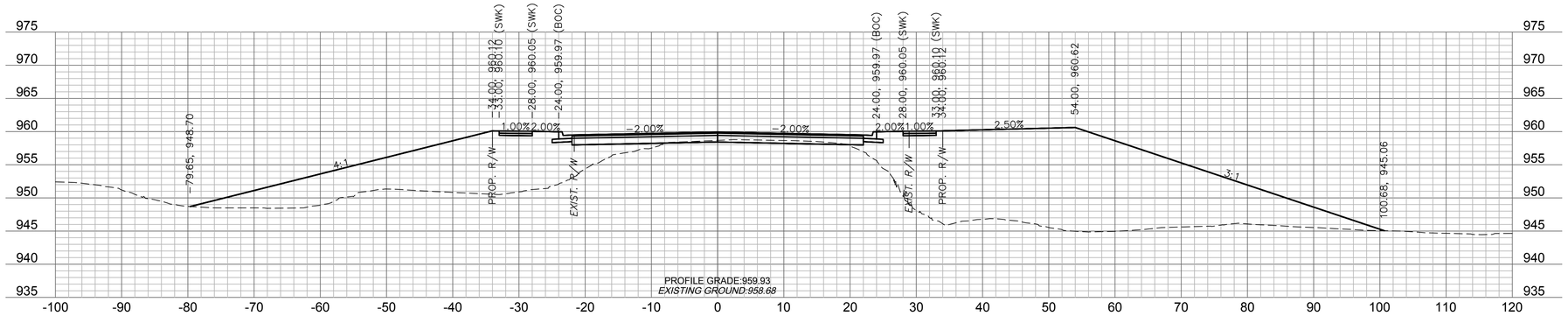

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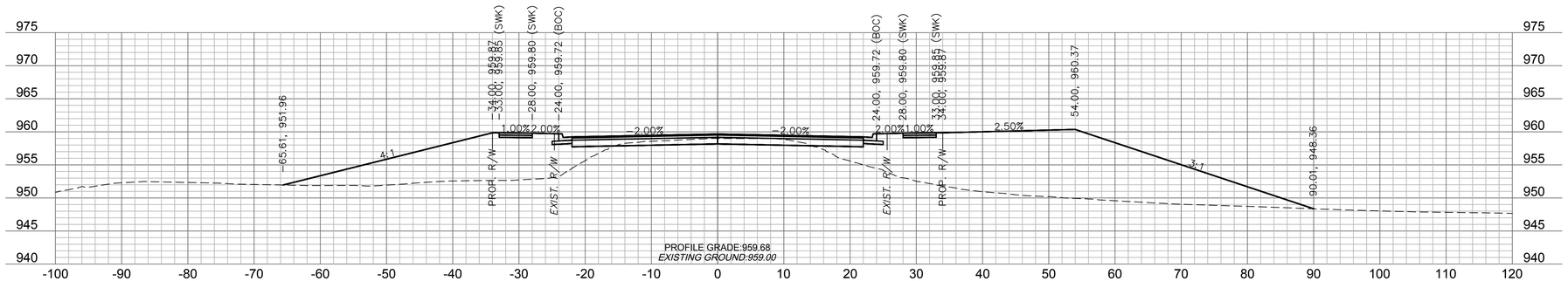

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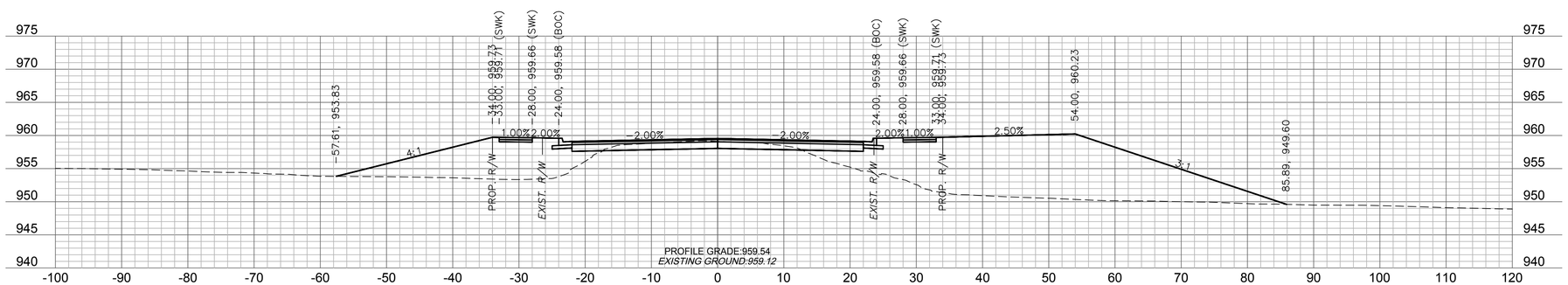

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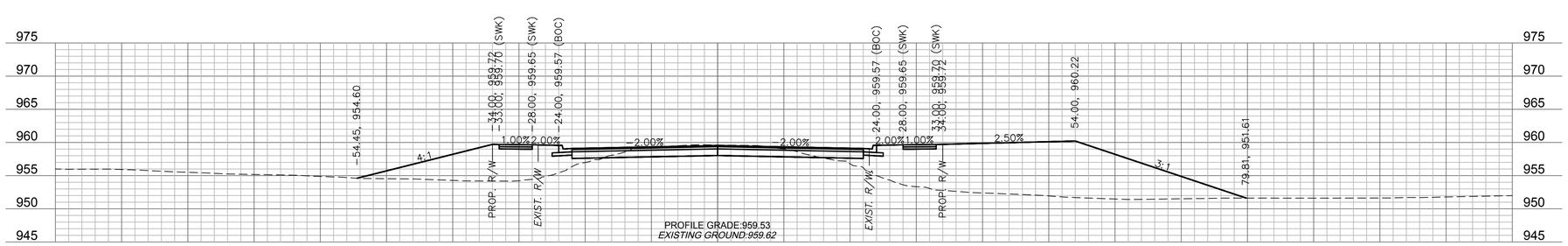

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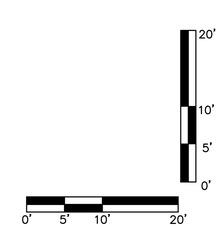

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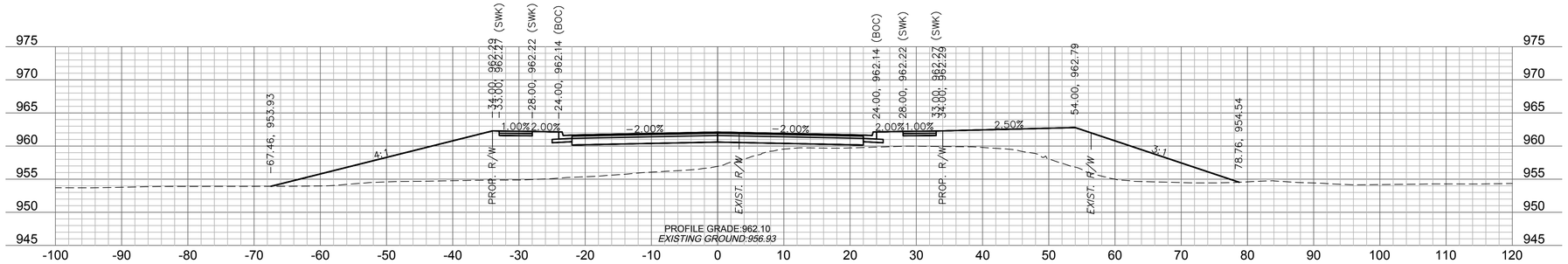

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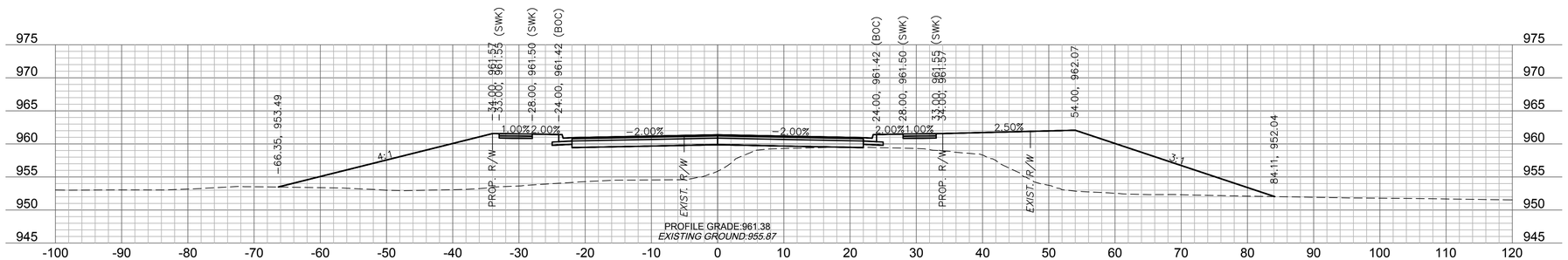

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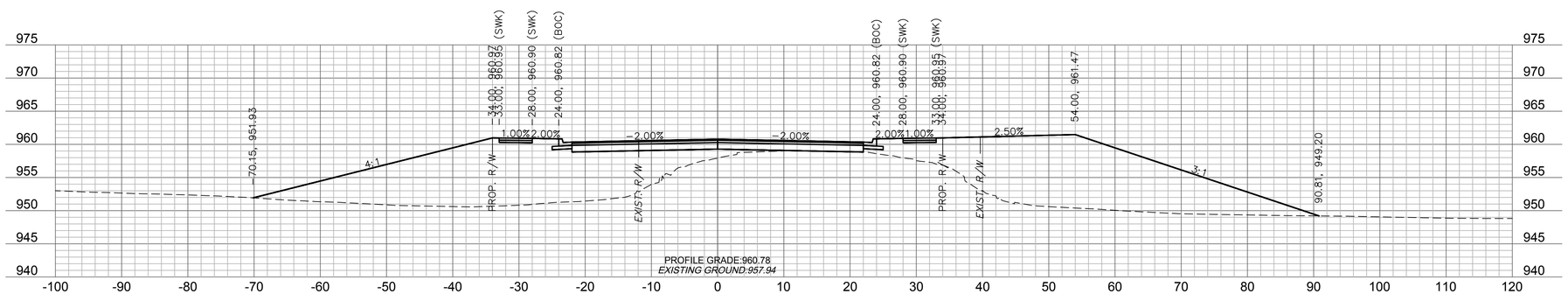

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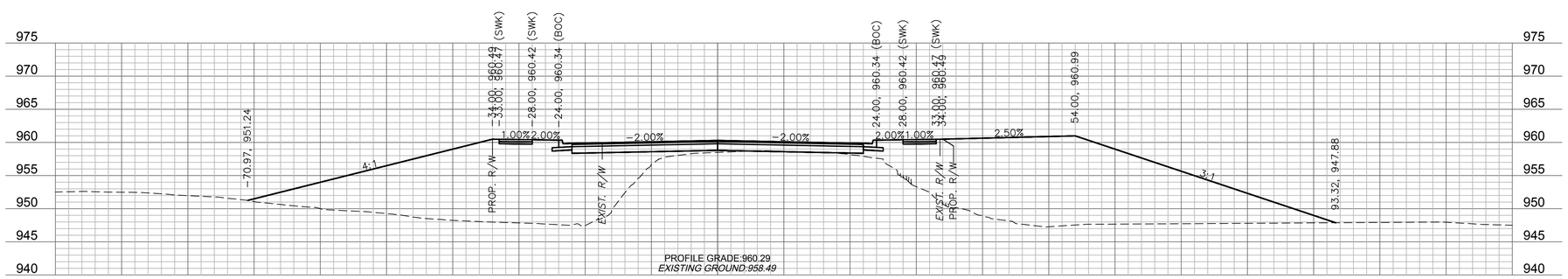

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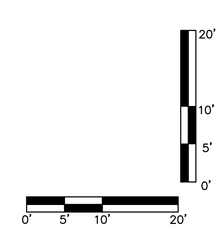

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LEE'S SUMMIT, MISSOURI

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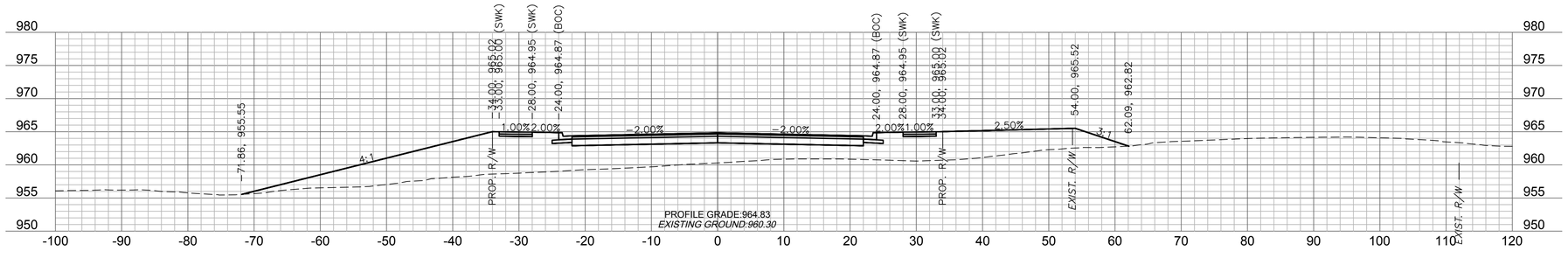

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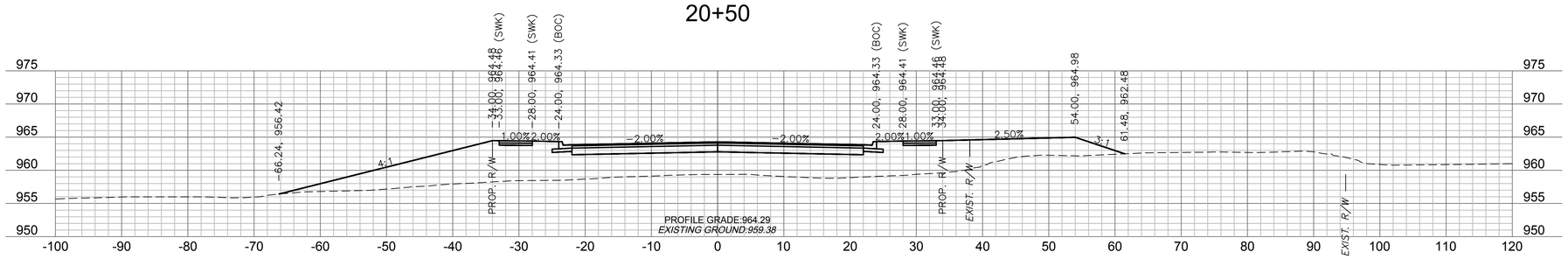

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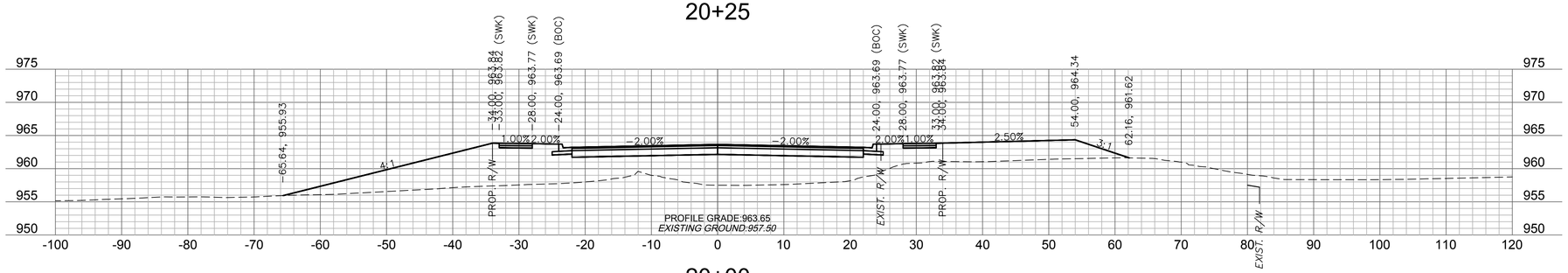

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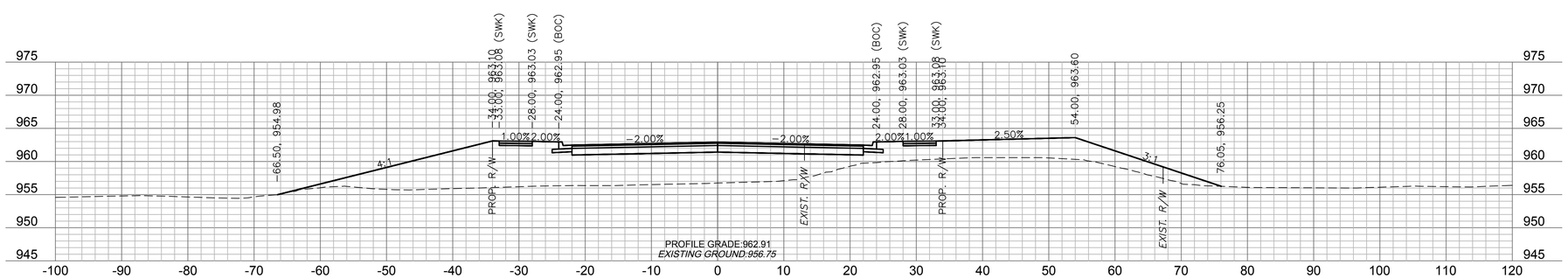

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SCALE IN FEET

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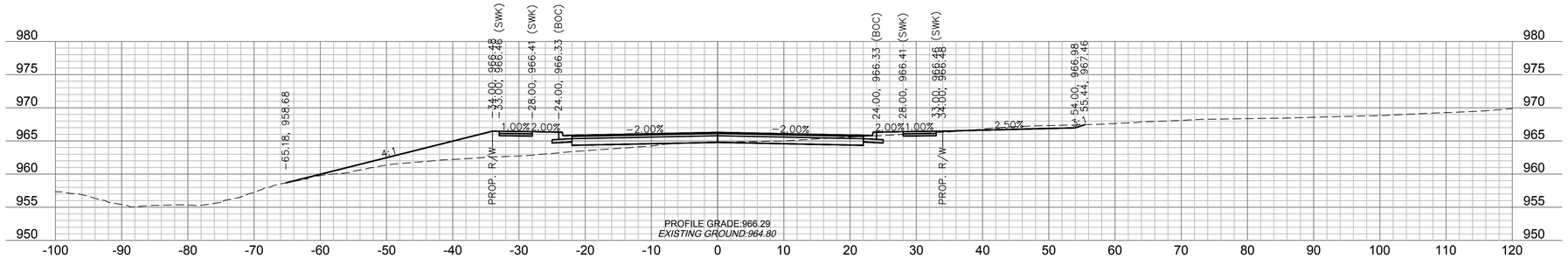

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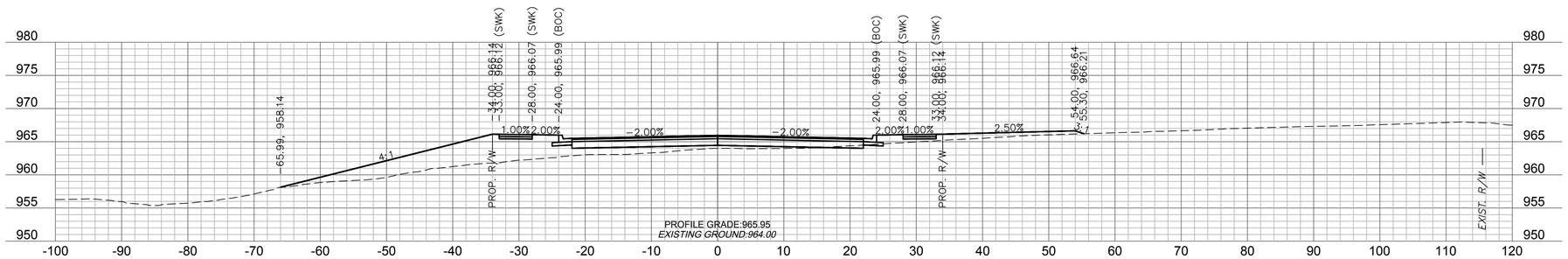

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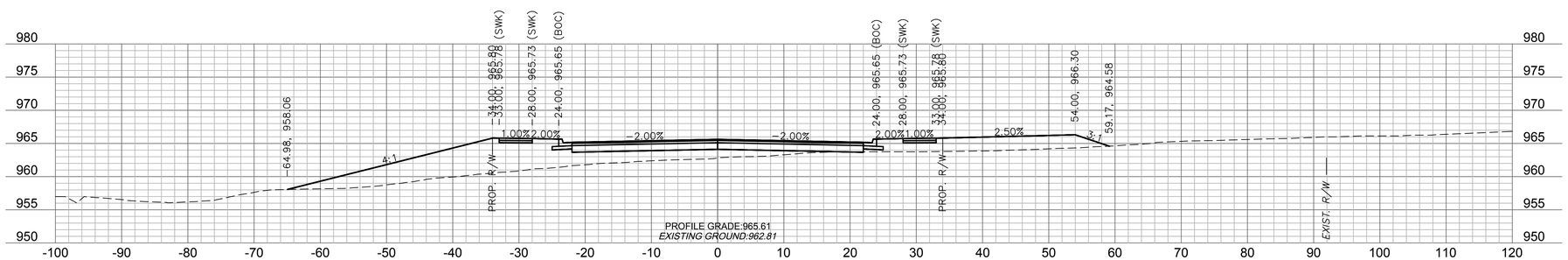

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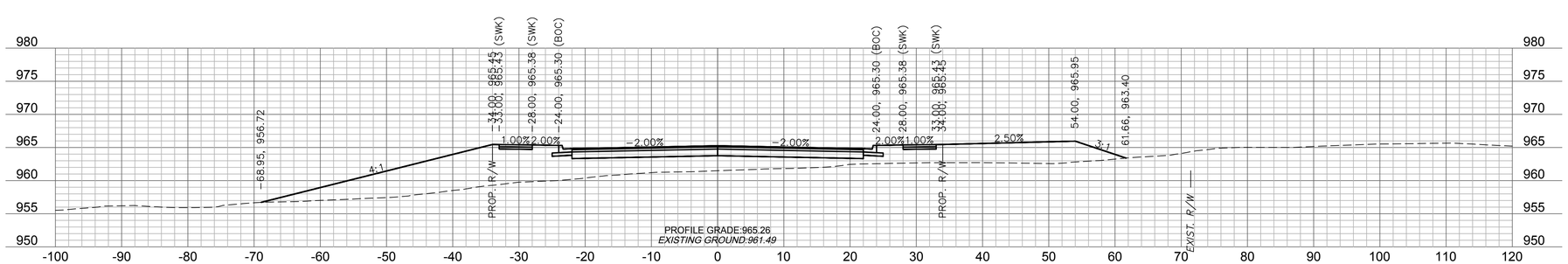

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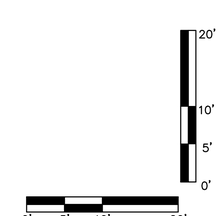

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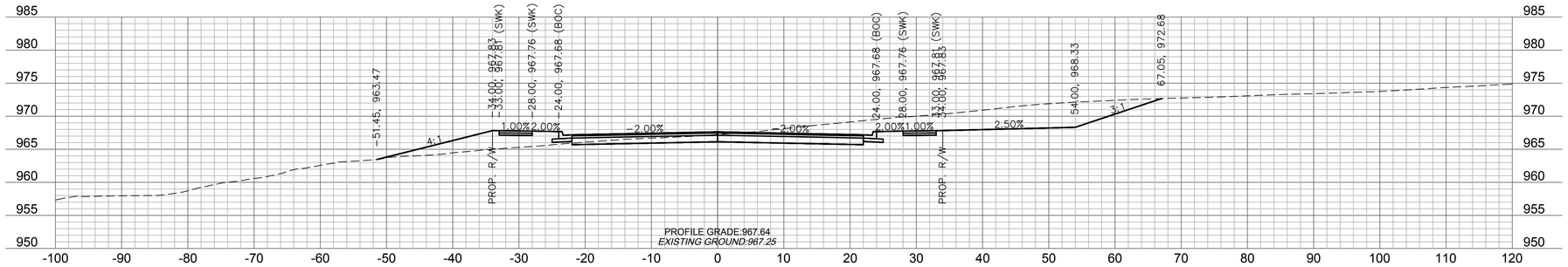

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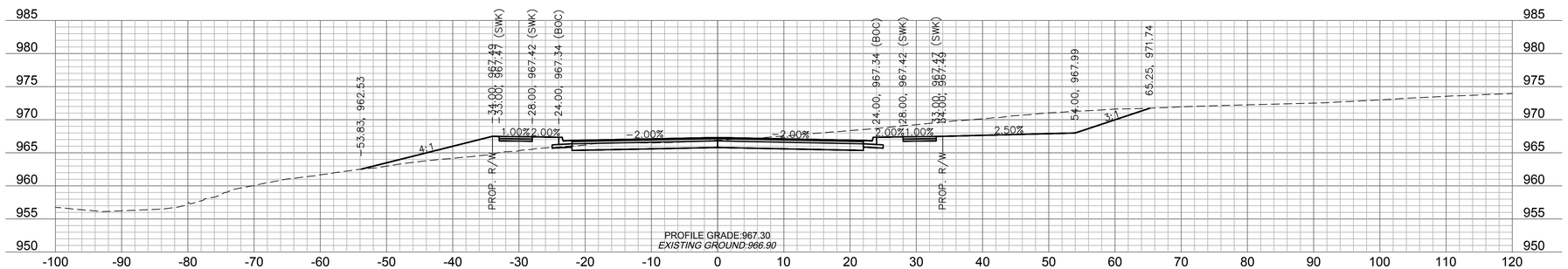

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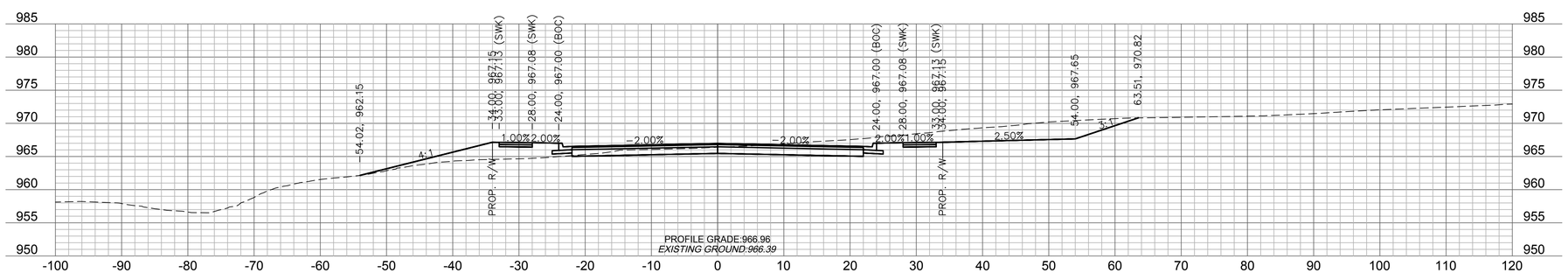

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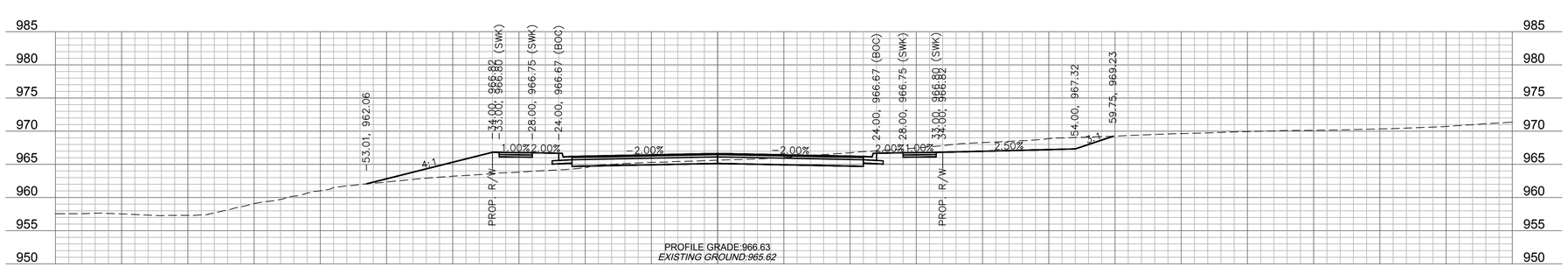

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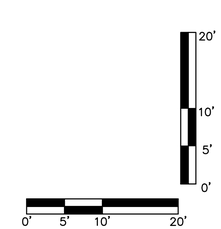

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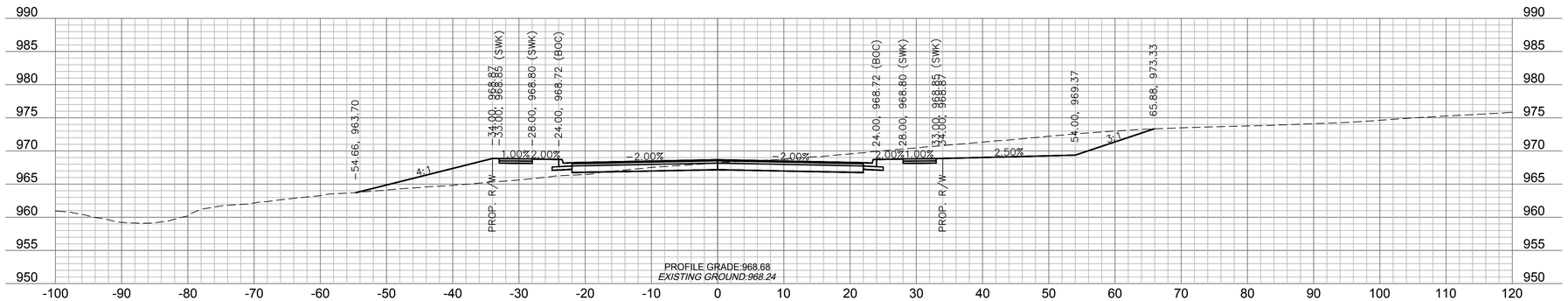

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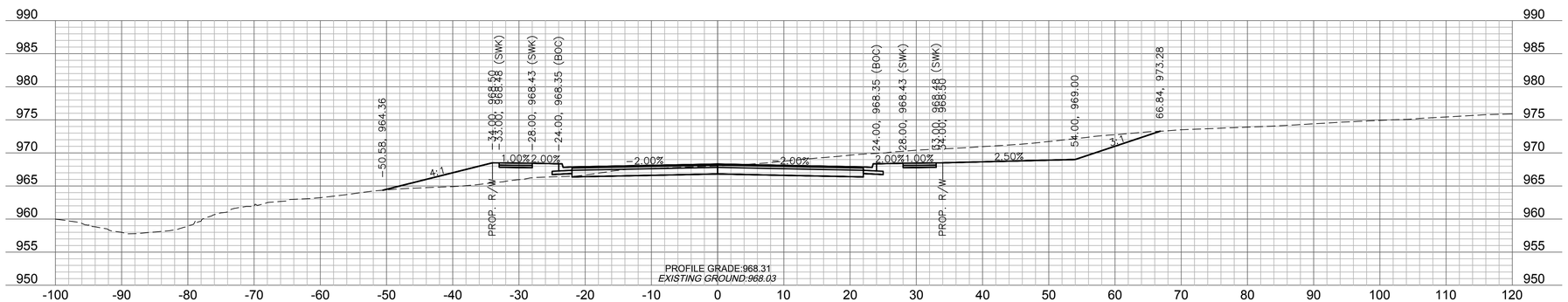

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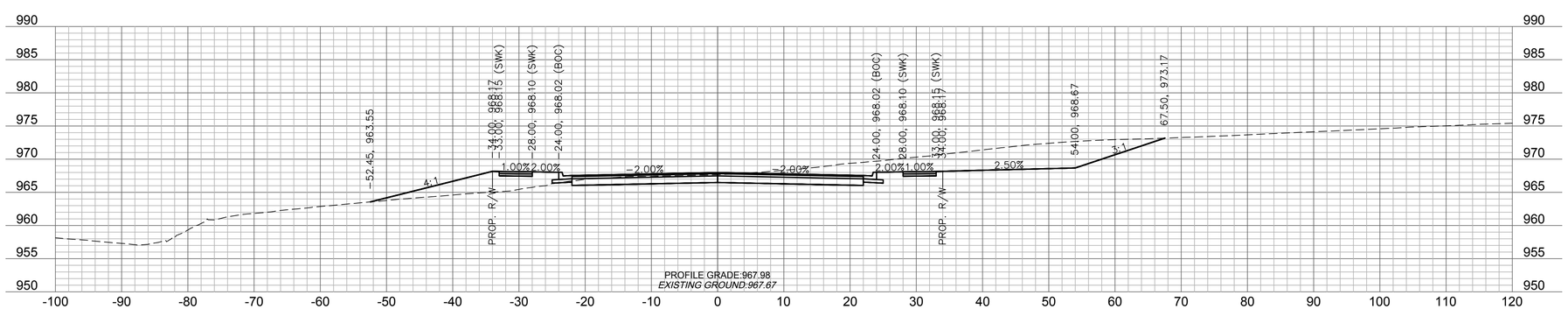

22+75

0' 5' 10' 20'
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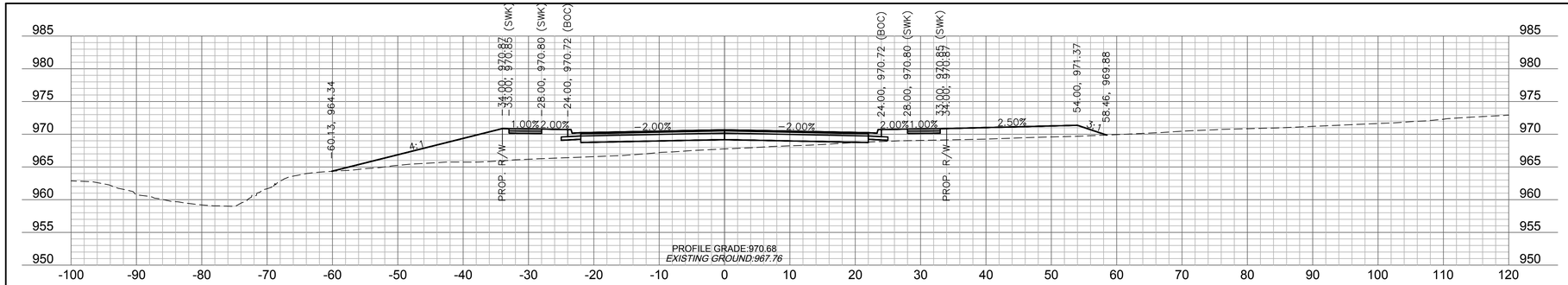

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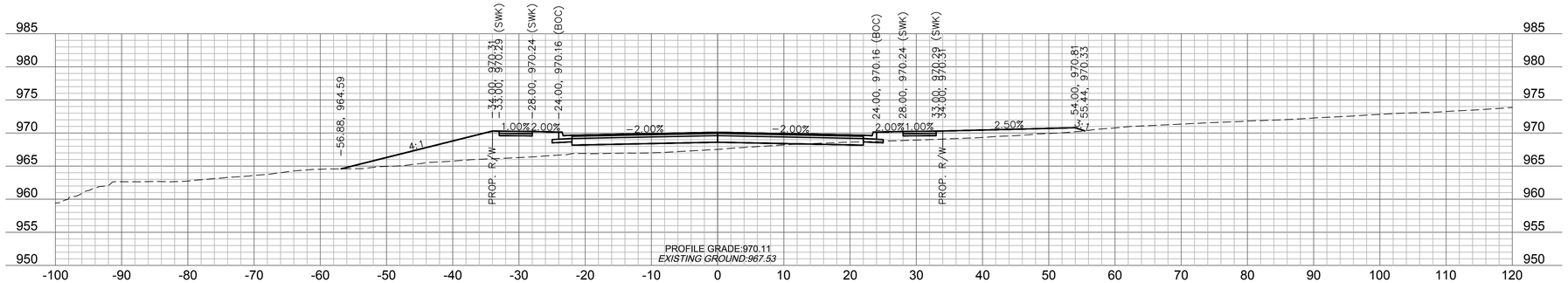

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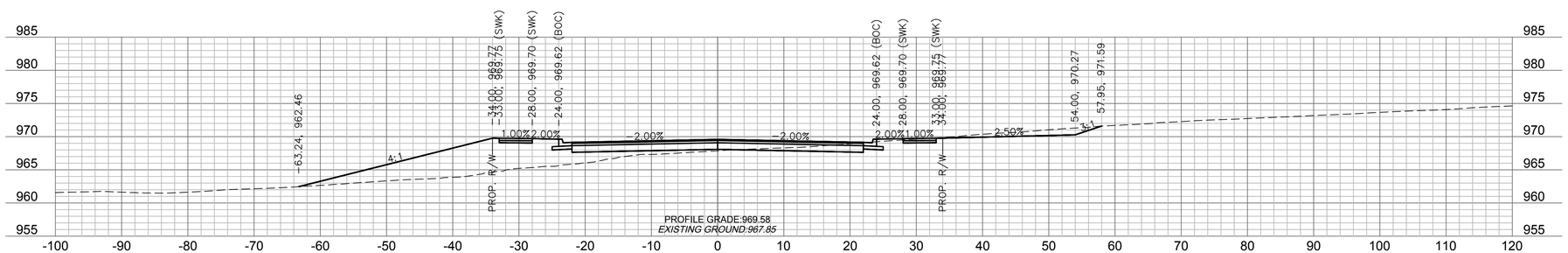

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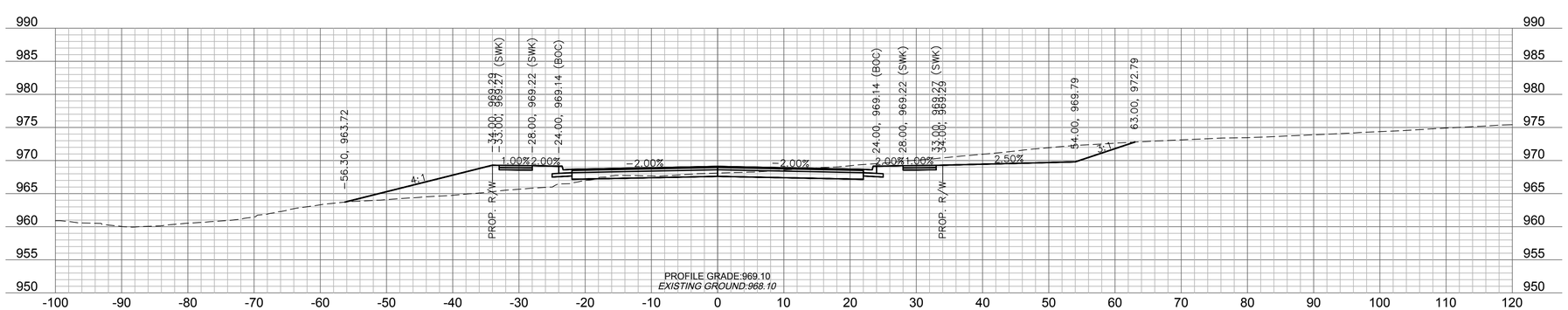

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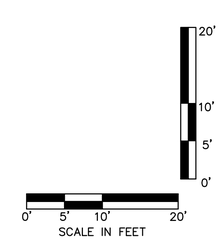

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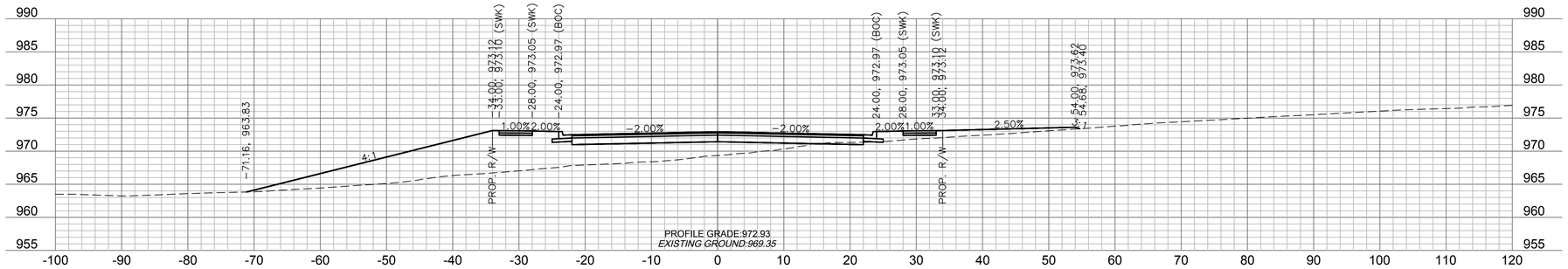

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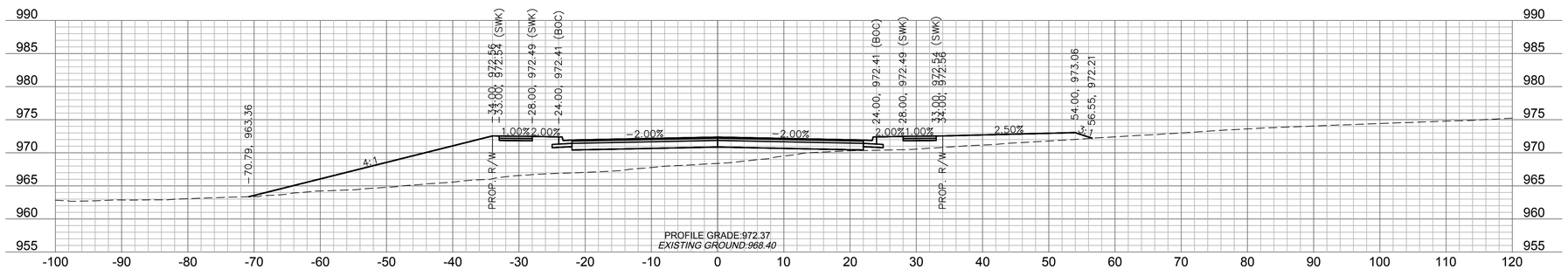

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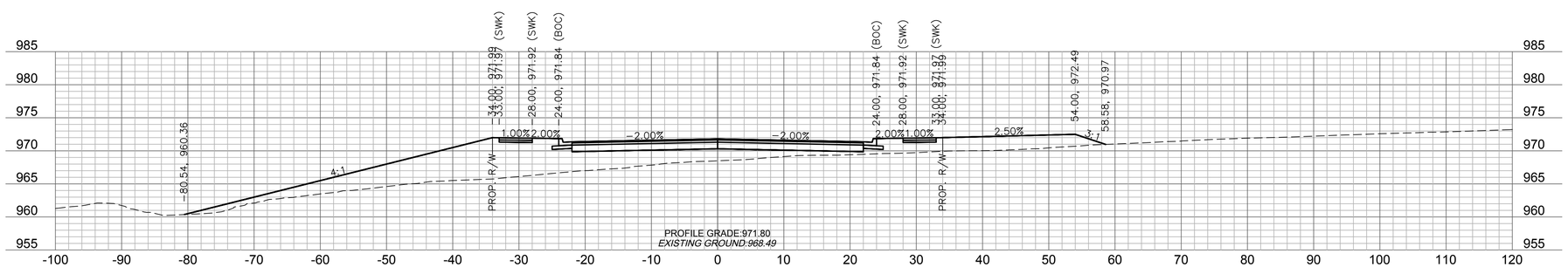

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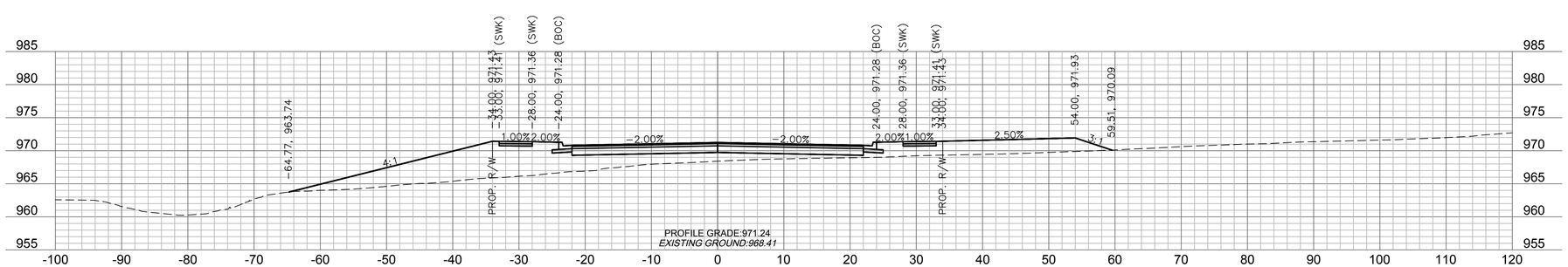

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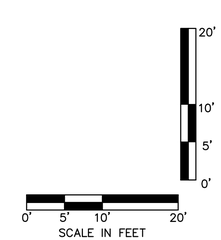

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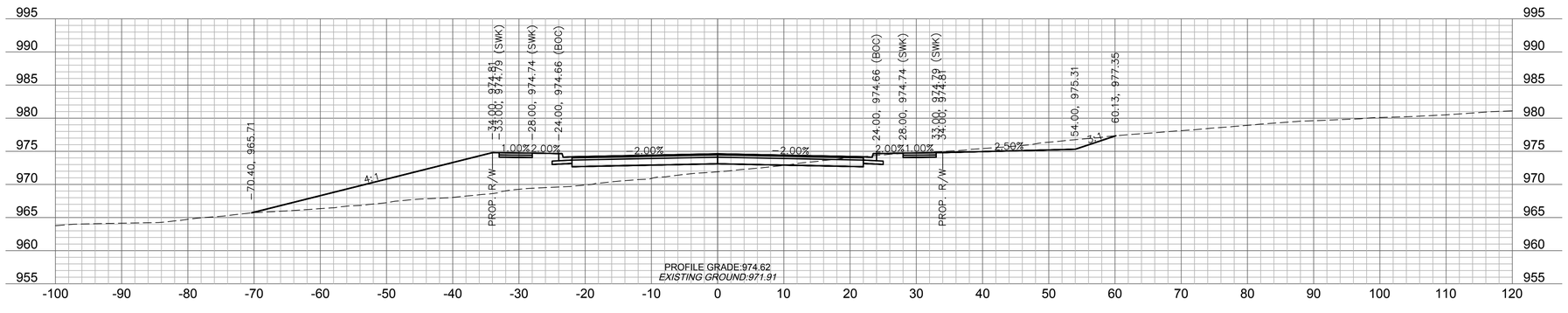

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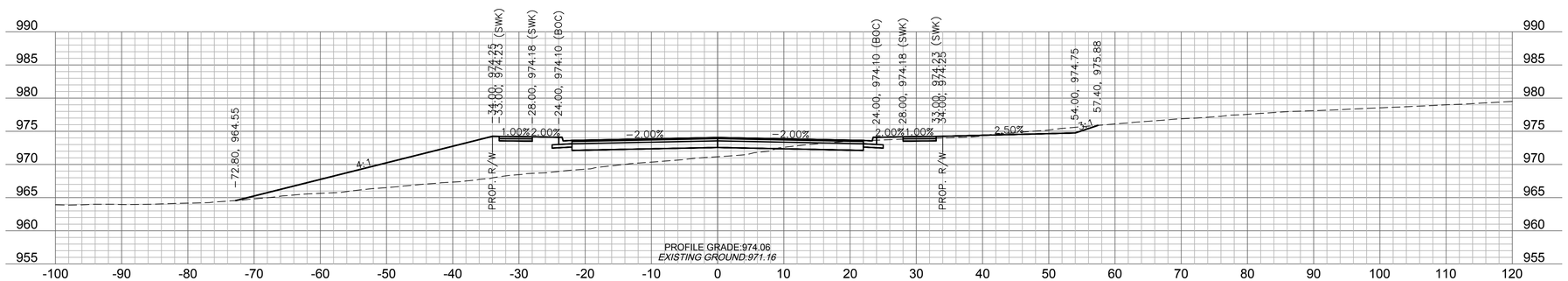

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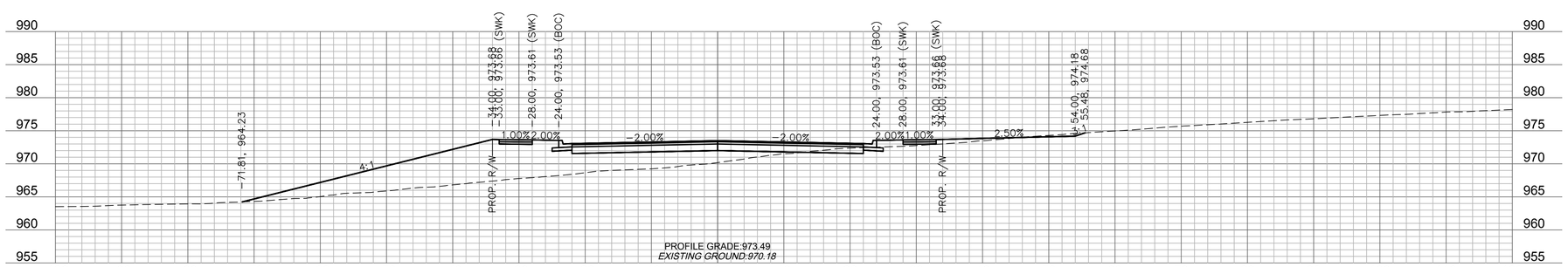

25+50

20'
10'
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0' 5' 10' 20'
SCALE IN FEET

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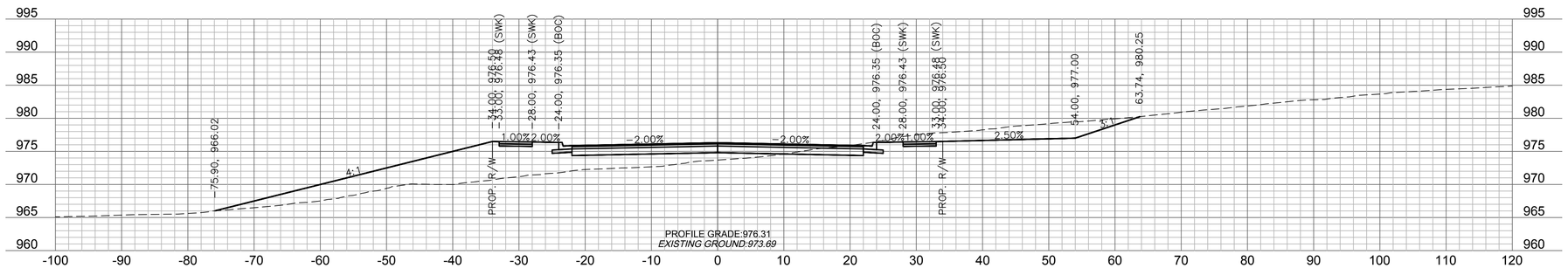

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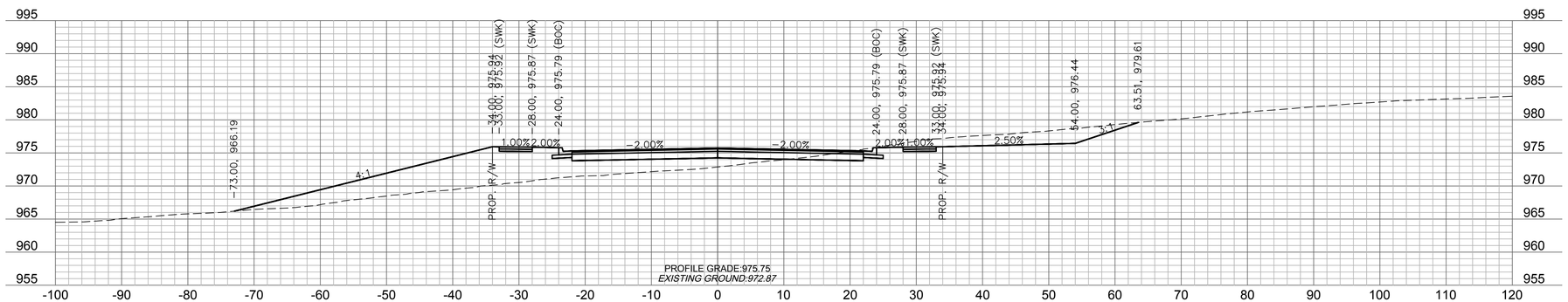

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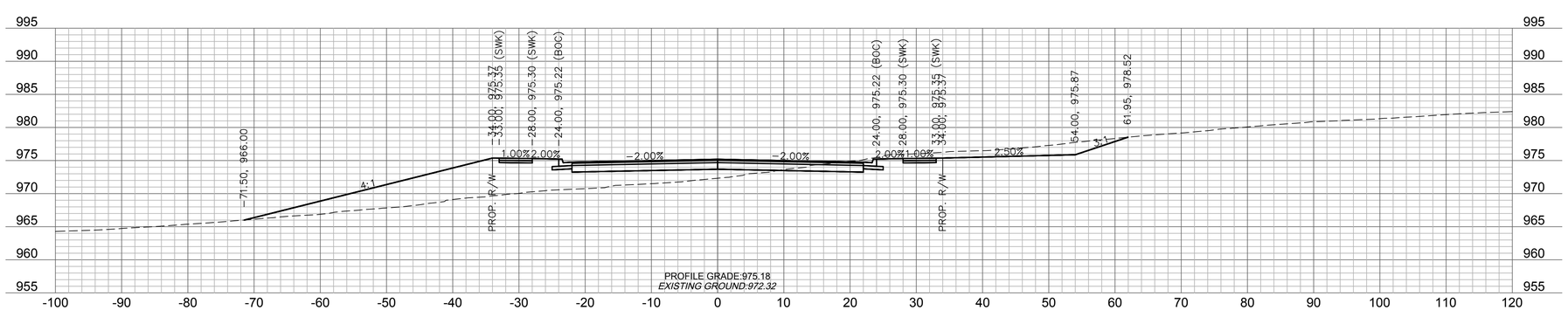

26+25

0' 5' 10' 20'
SCALE IN FEET

20'
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MO. NO. PE-2002003161

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SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_XSC01_02104157
DATE: 2021-10-12

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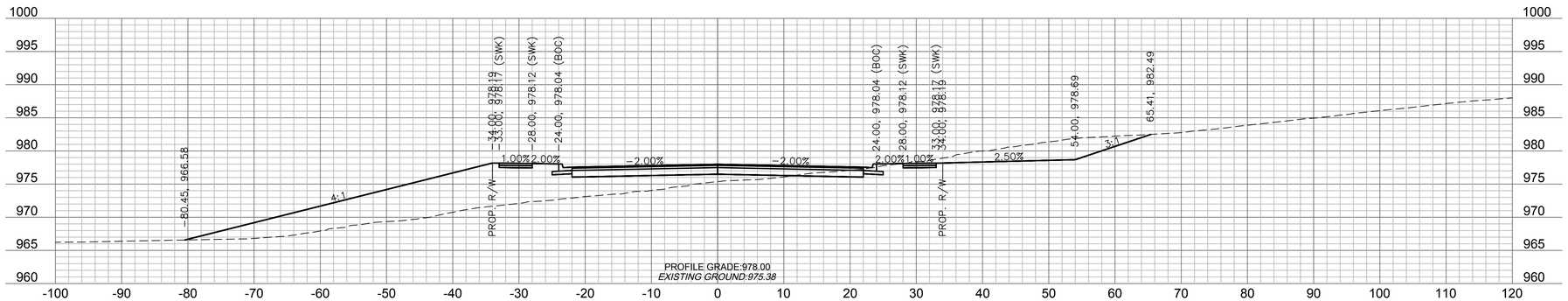

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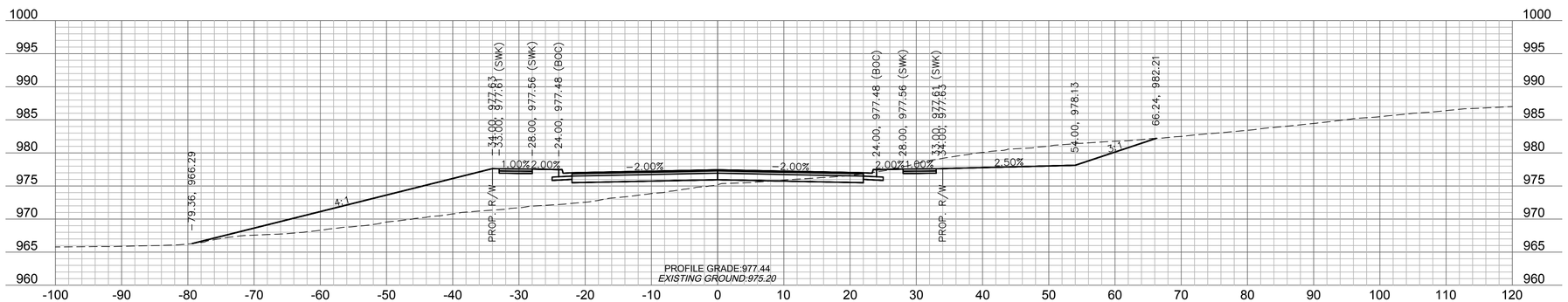

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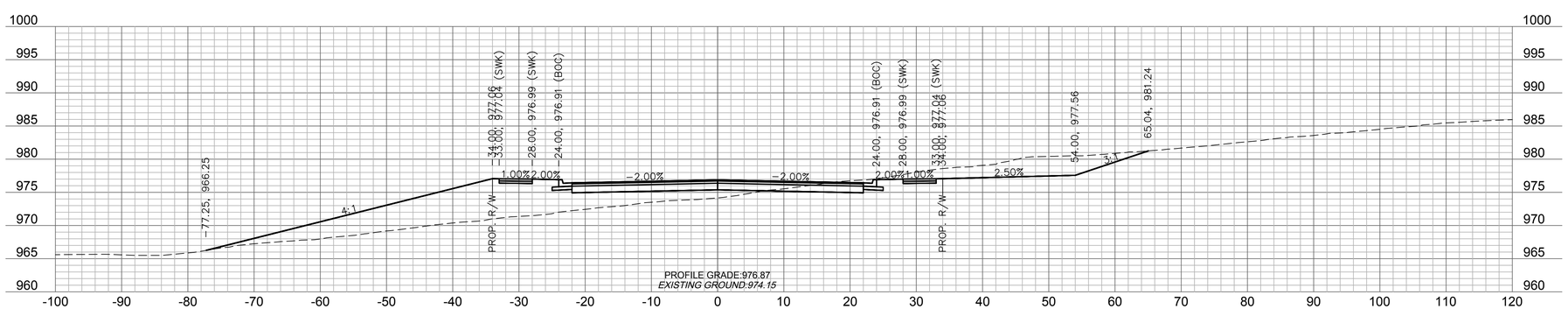

27+00

0' 5' 10' 20'
SCALE IN FEET

20'
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olsson
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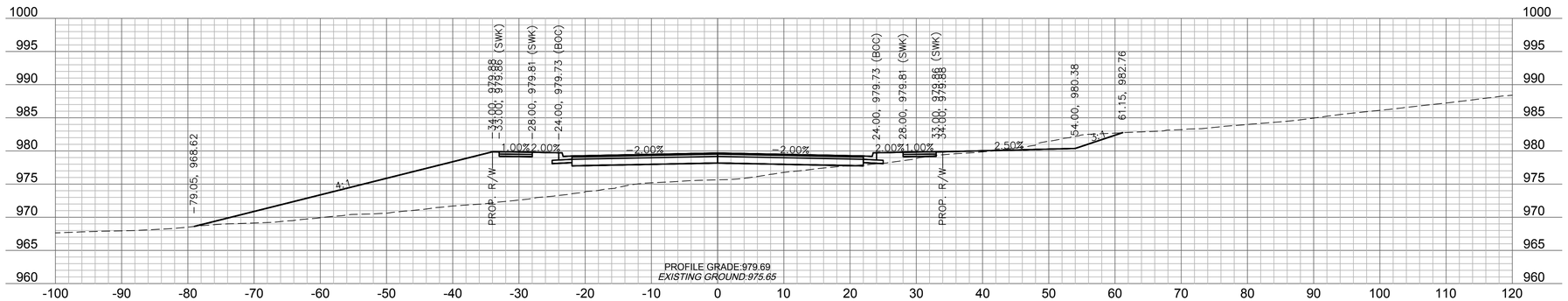

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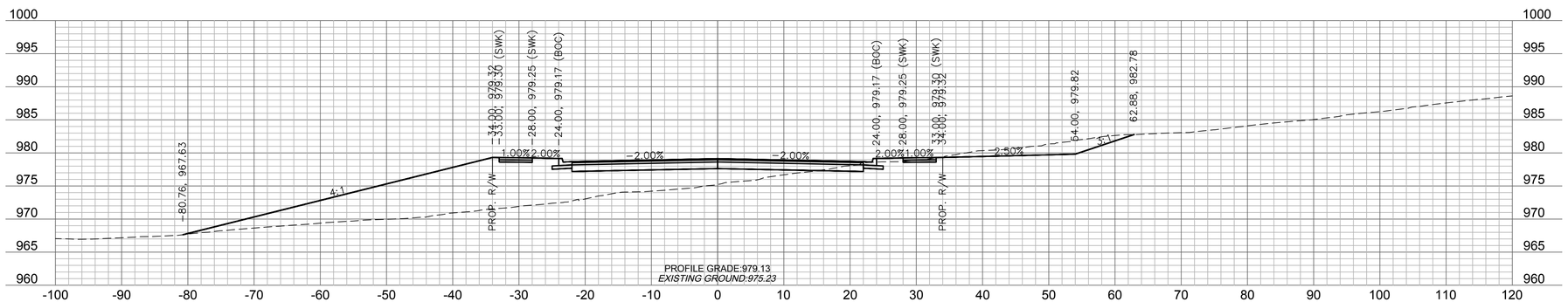

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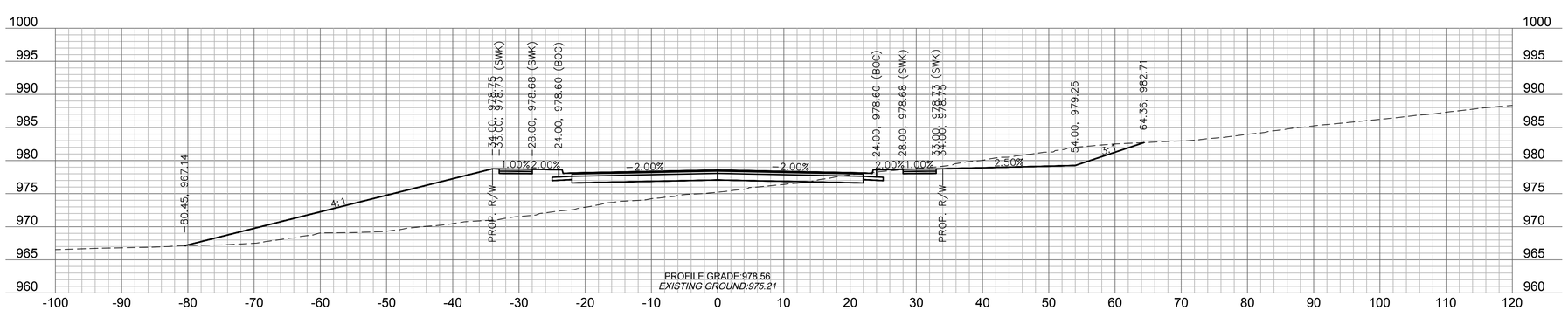

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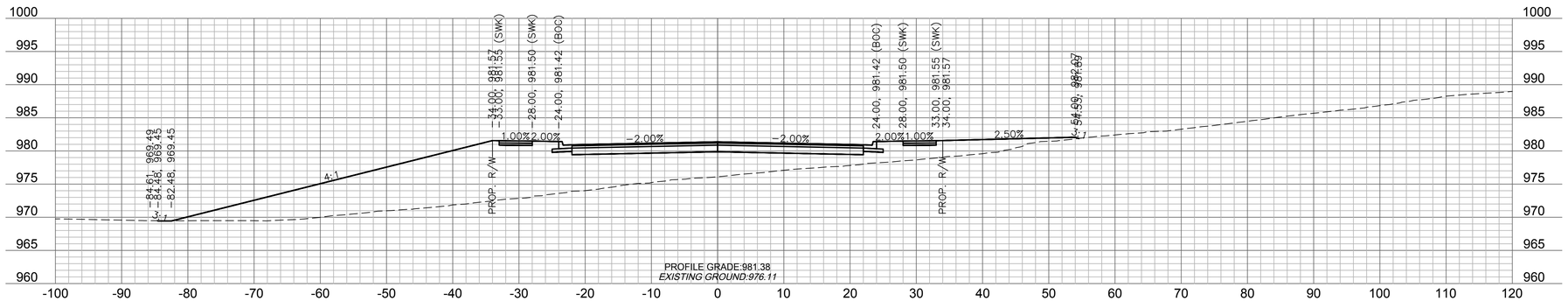

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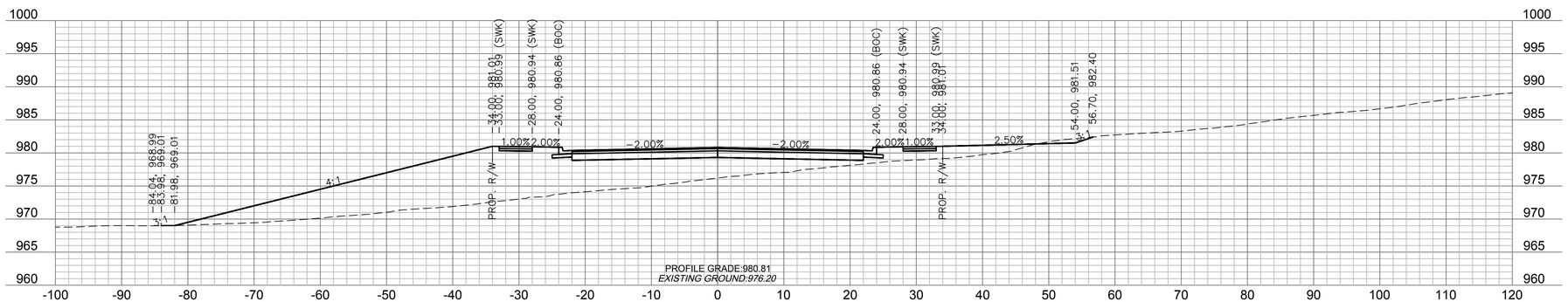

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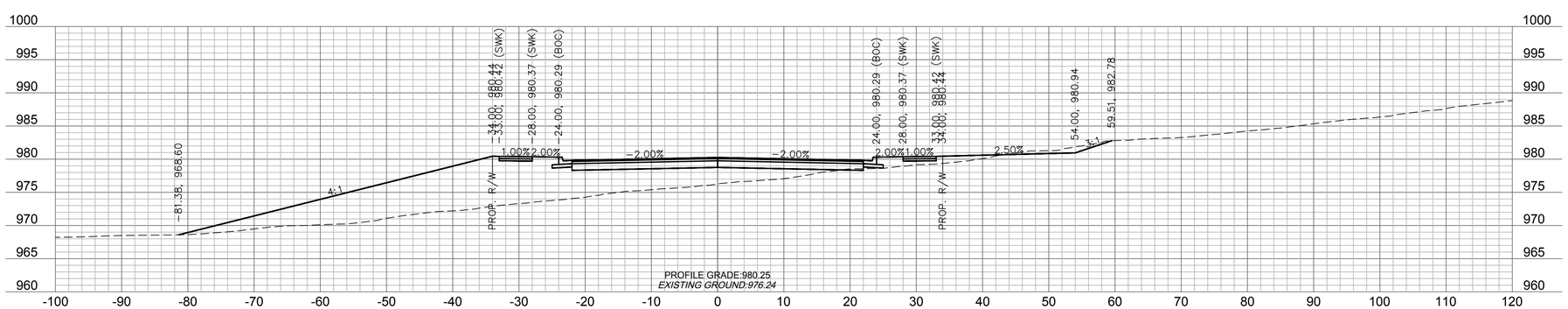

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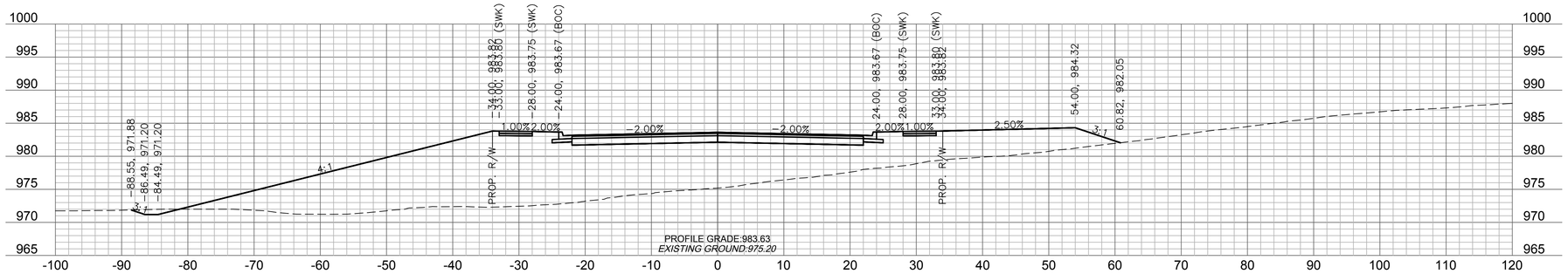

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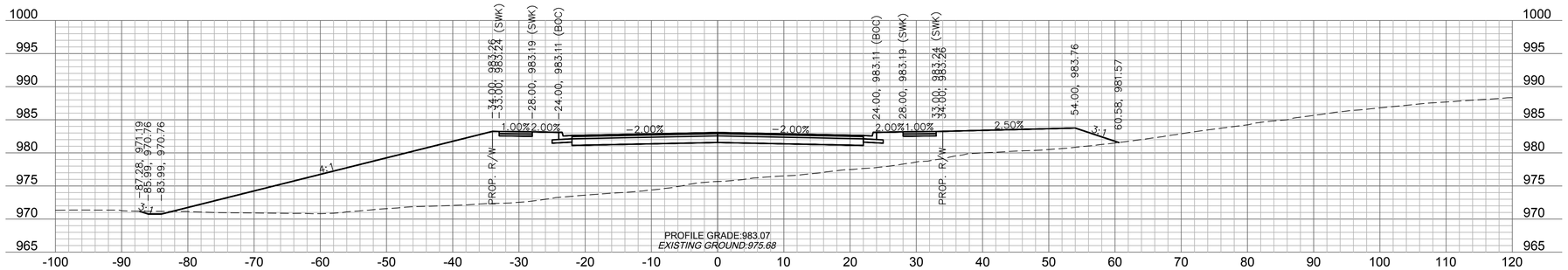

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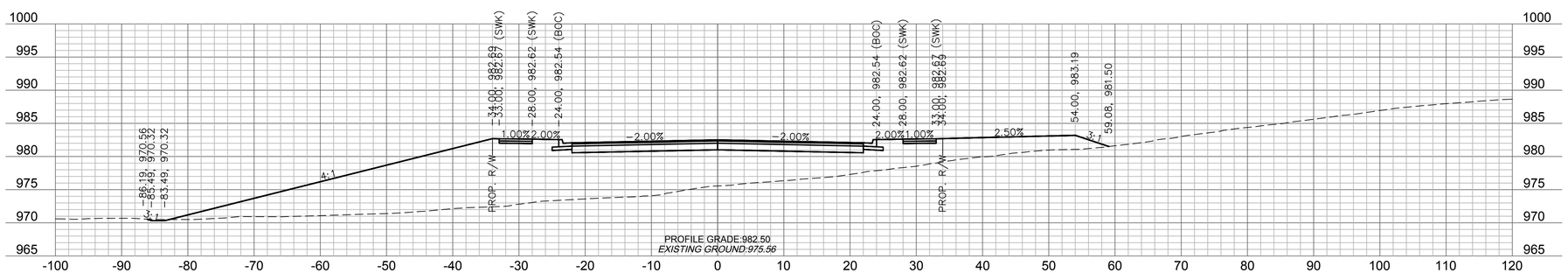

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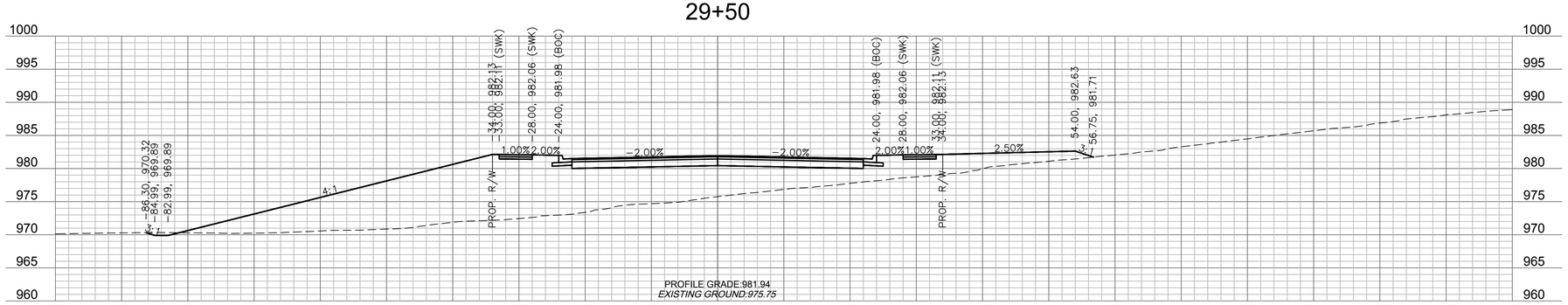

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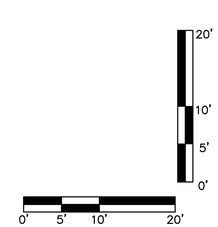

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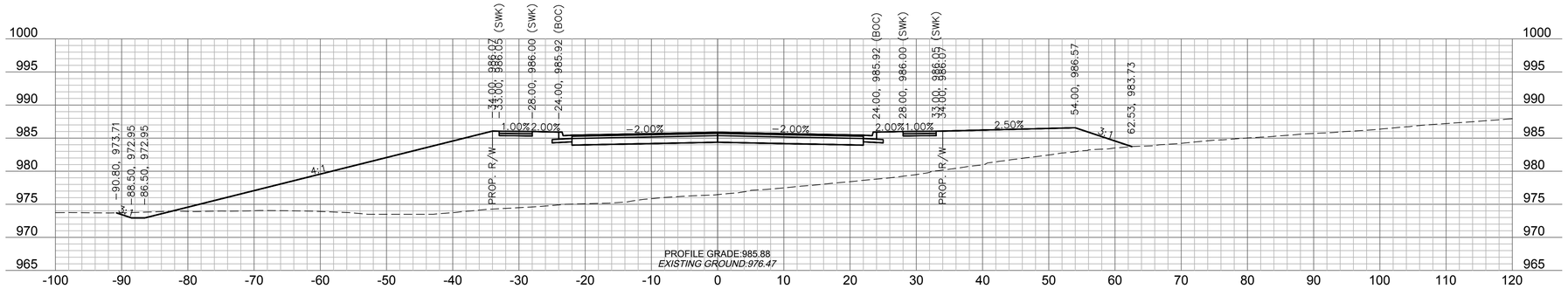

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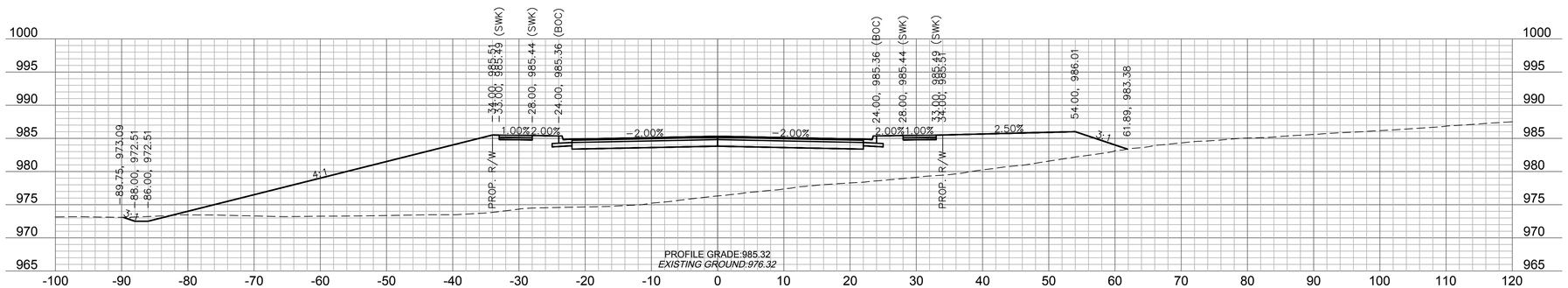

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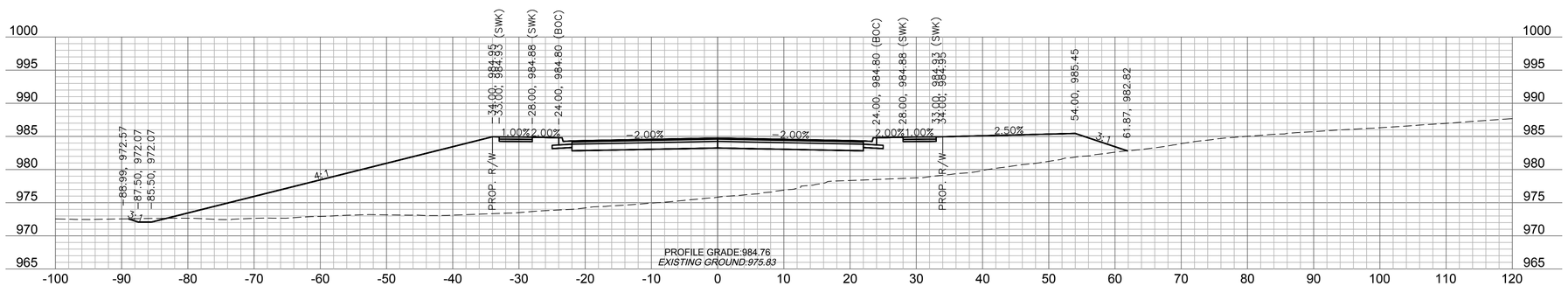

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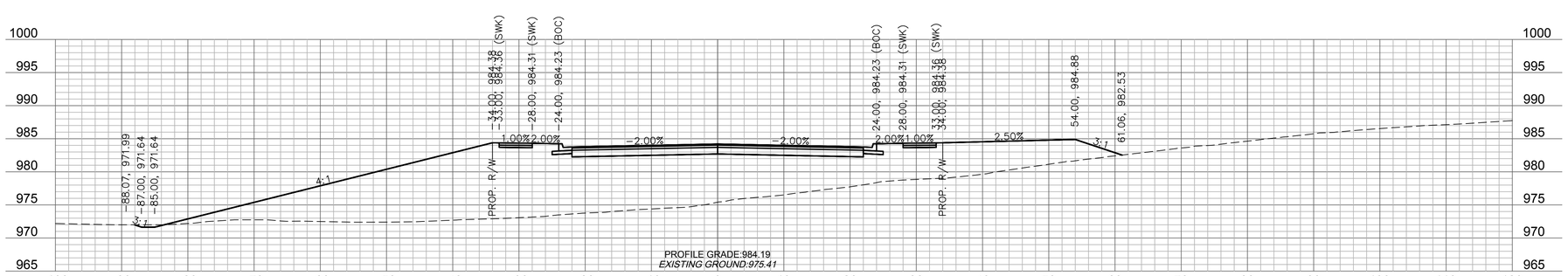

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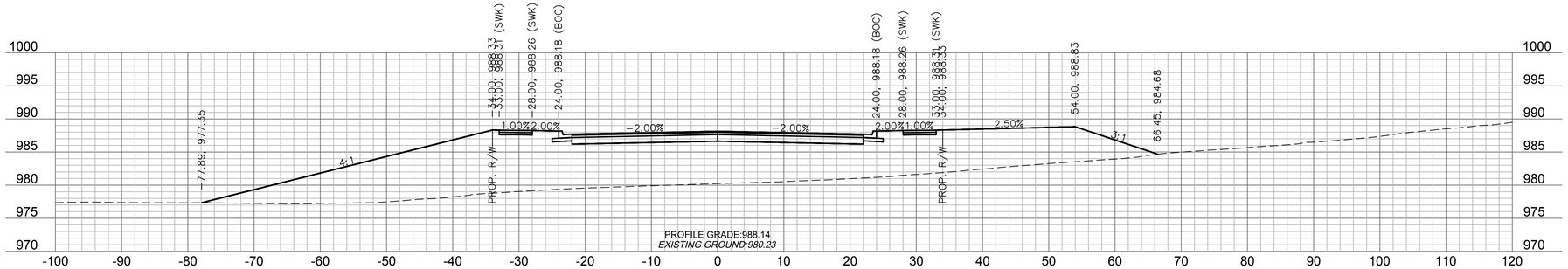

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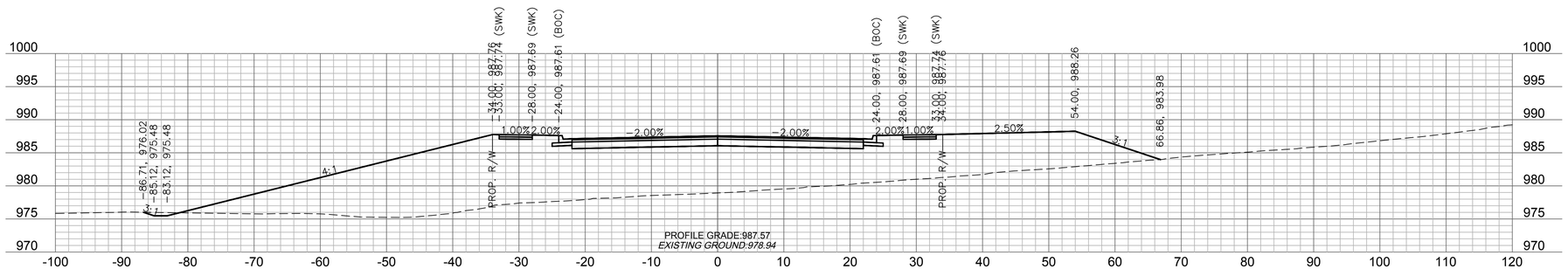

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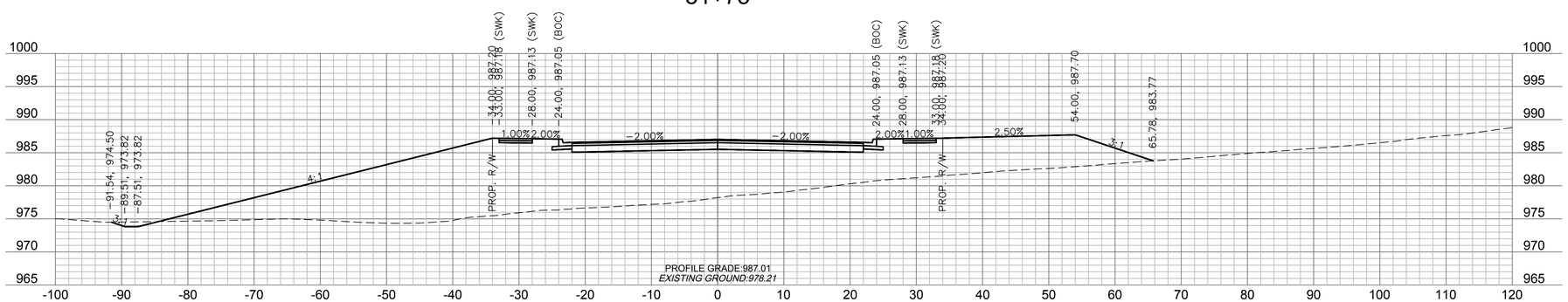

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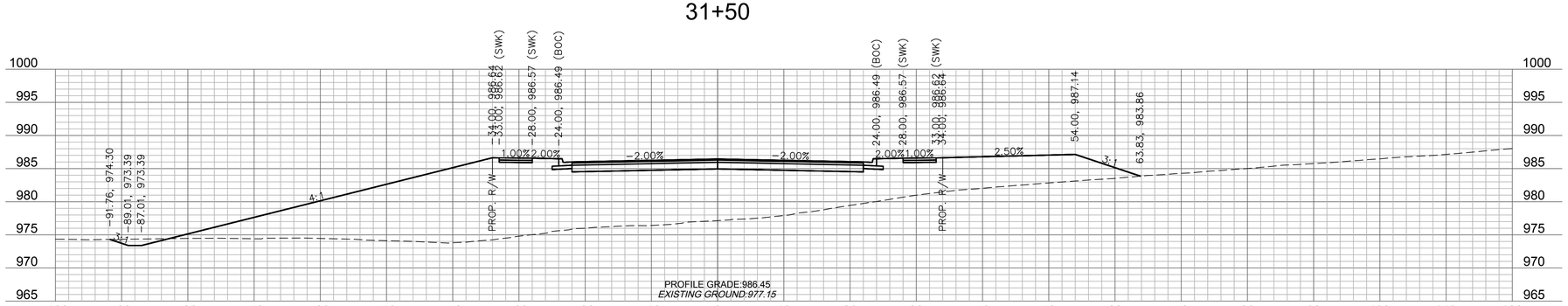

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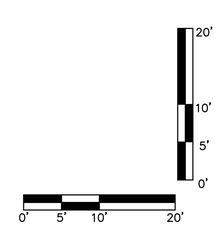

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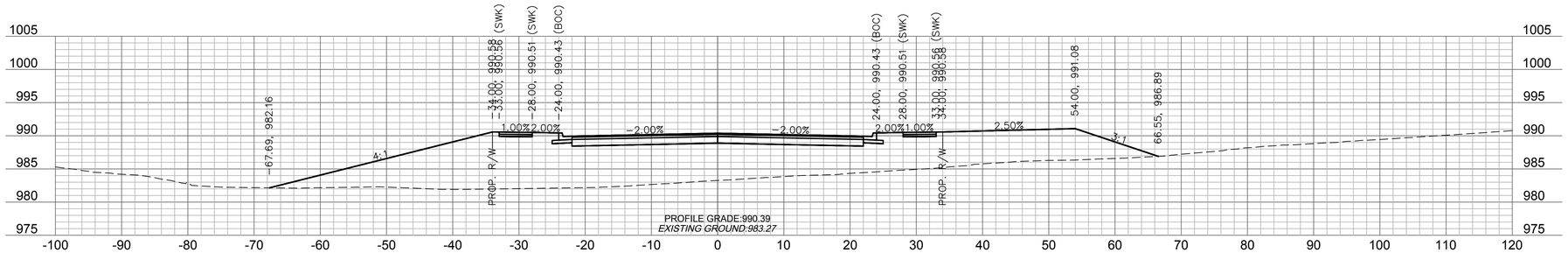

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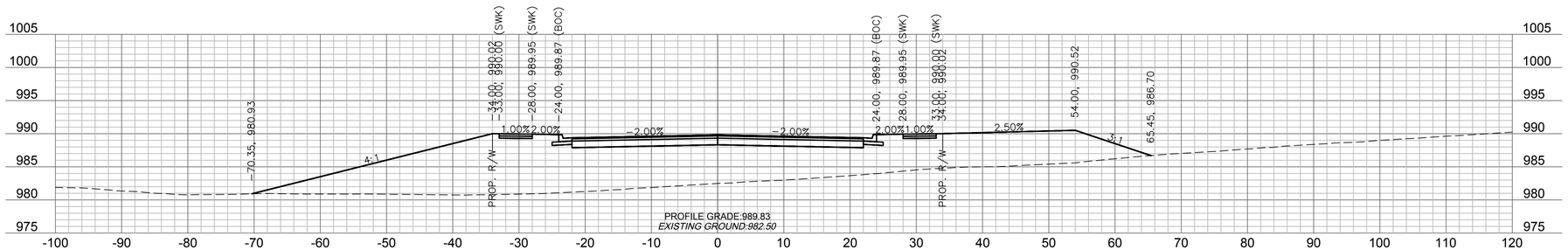

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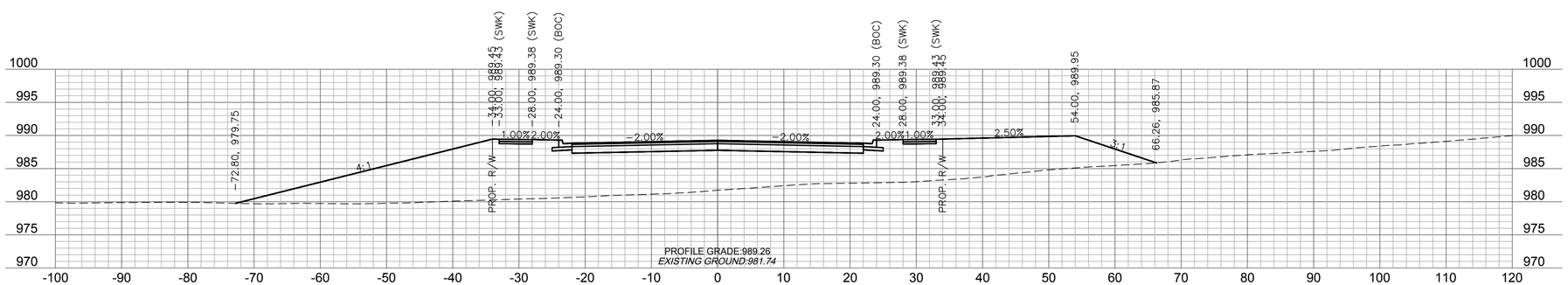

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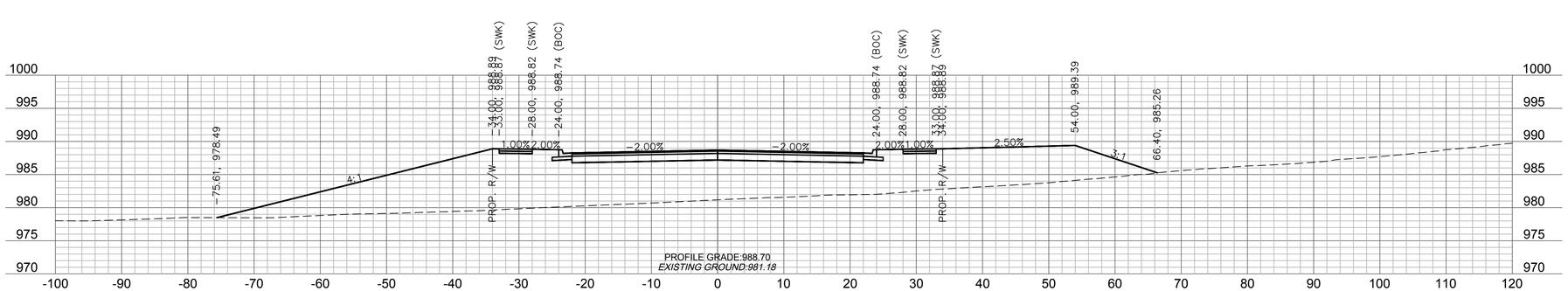

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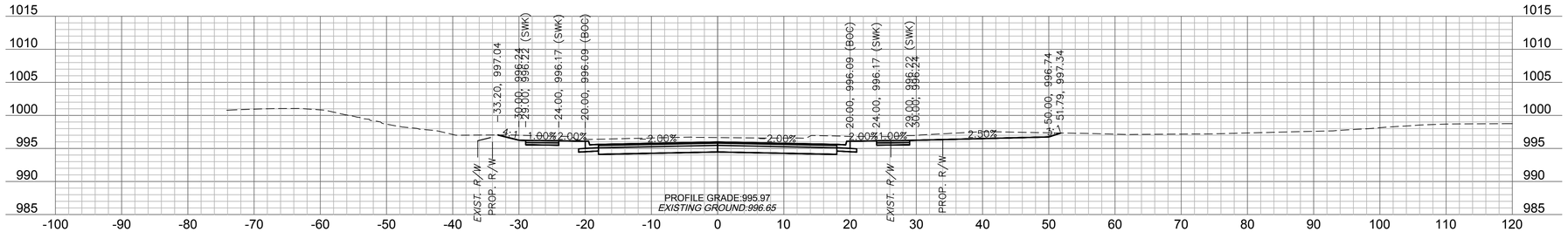

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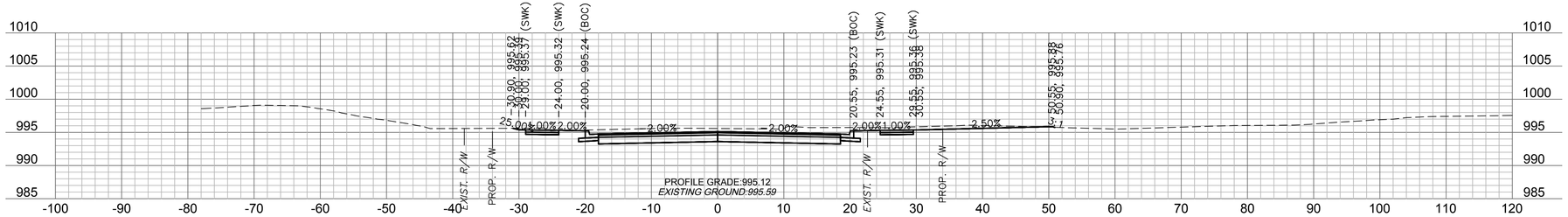

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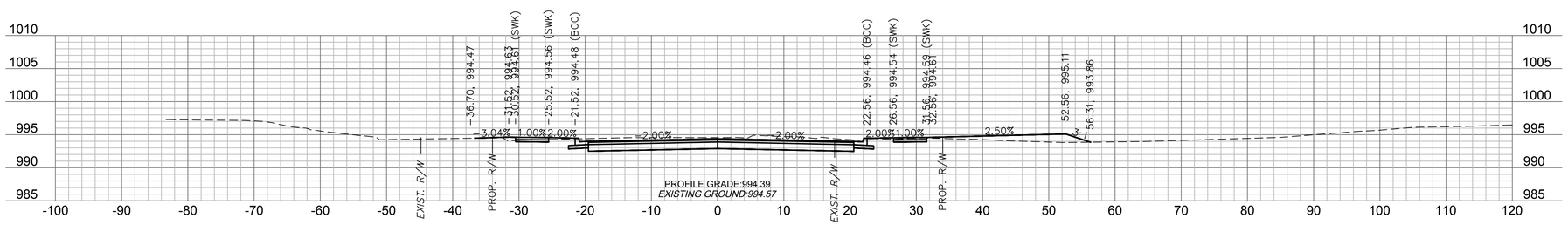

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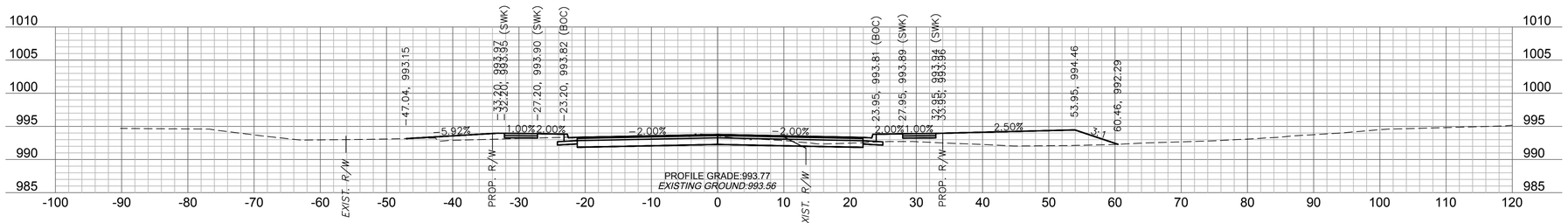

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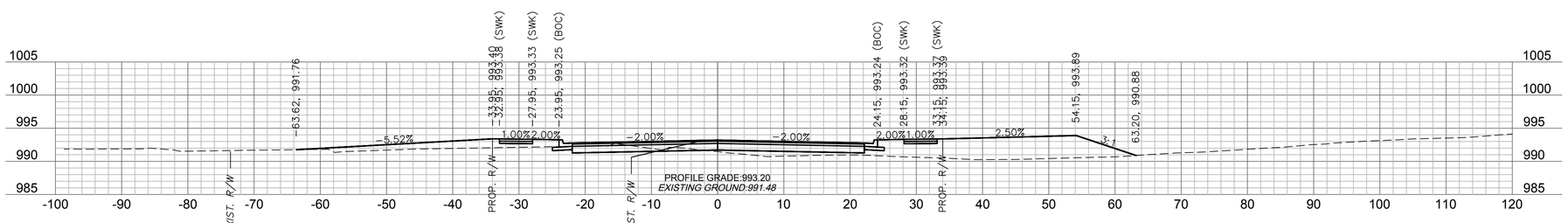

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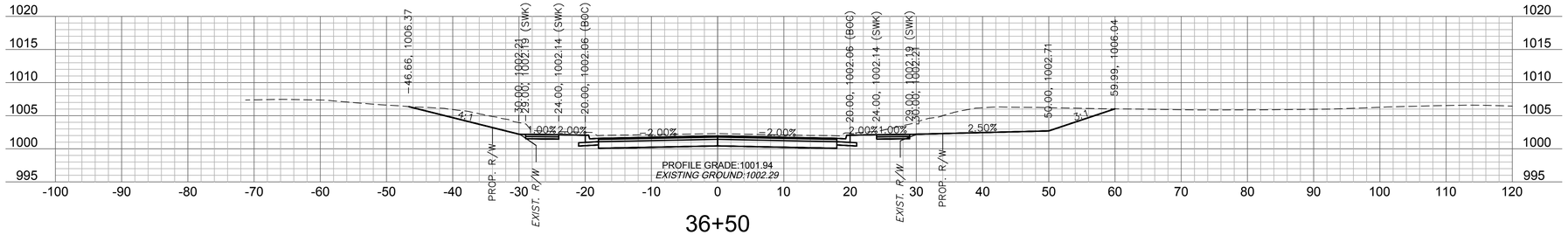

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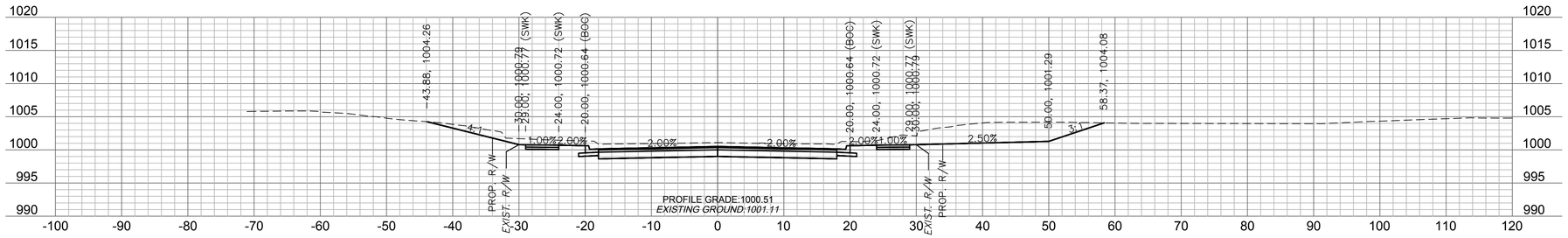

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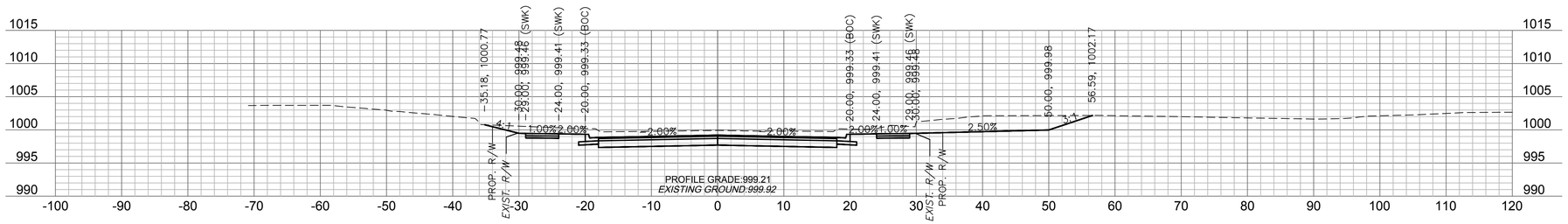

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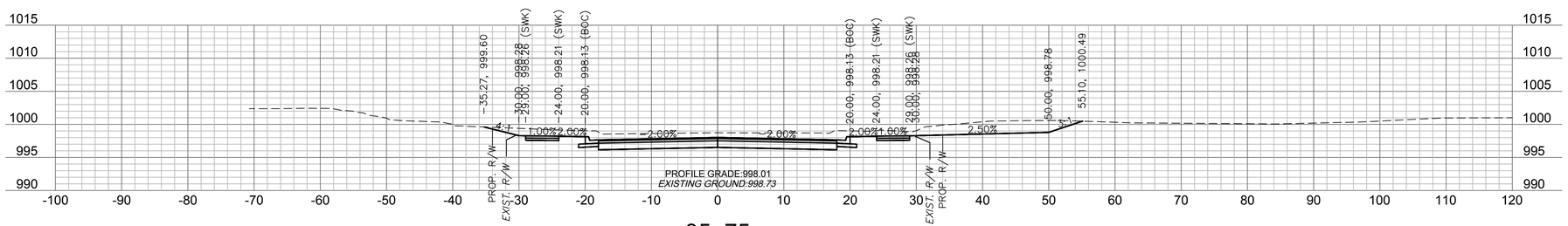

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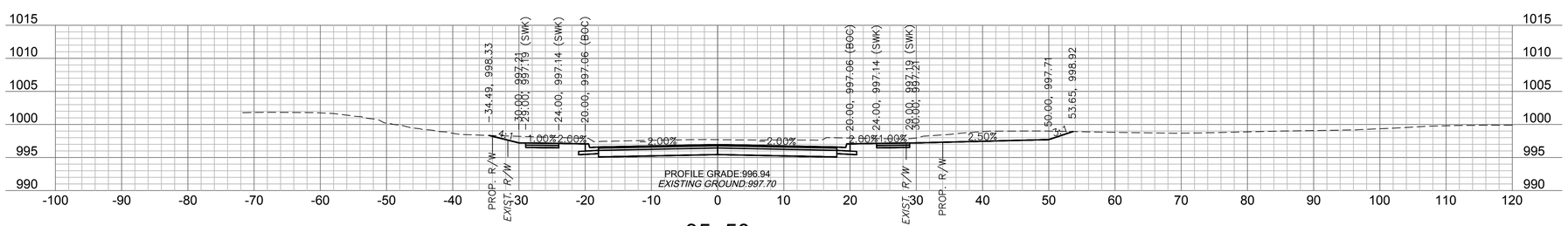

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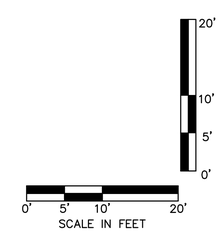

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MAIN STREET
CROSS SECTIONS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

C.O.A. NO.: -
DRAWN BY: ARJ/AMW
CHECKED BY: XXX
APPROVED BY: RBF
QA/QC BY: RBF
PROJECT NO.: 021-04157
DWG NO.: T_XSC01_02104157
DATE: 2021-10-12

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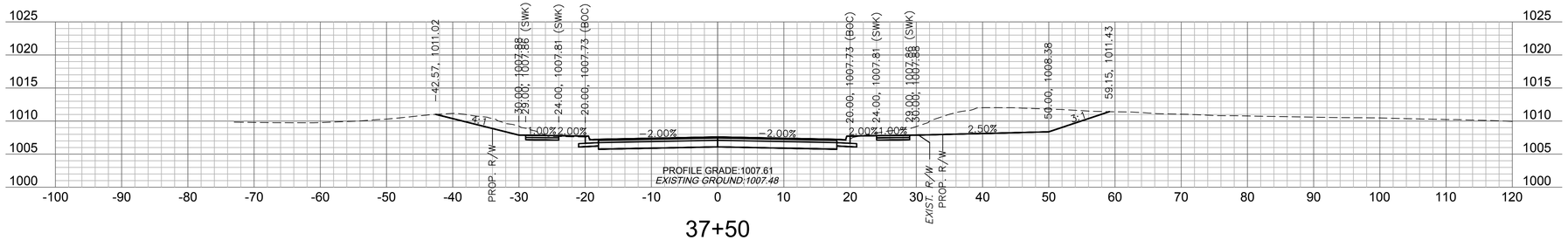

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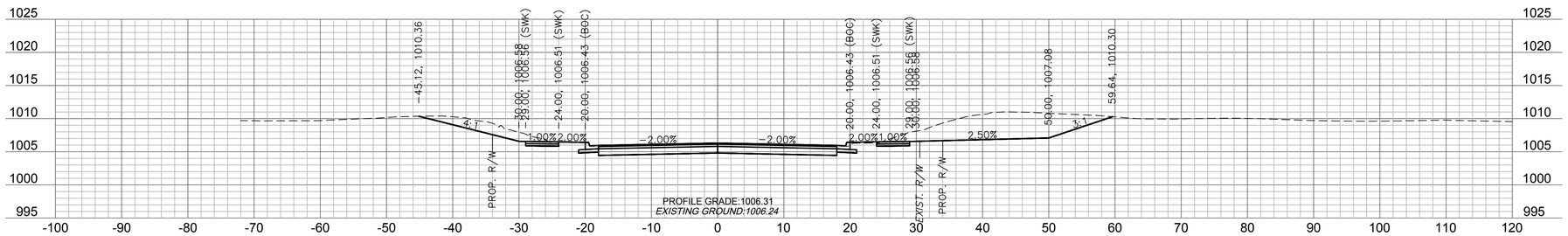

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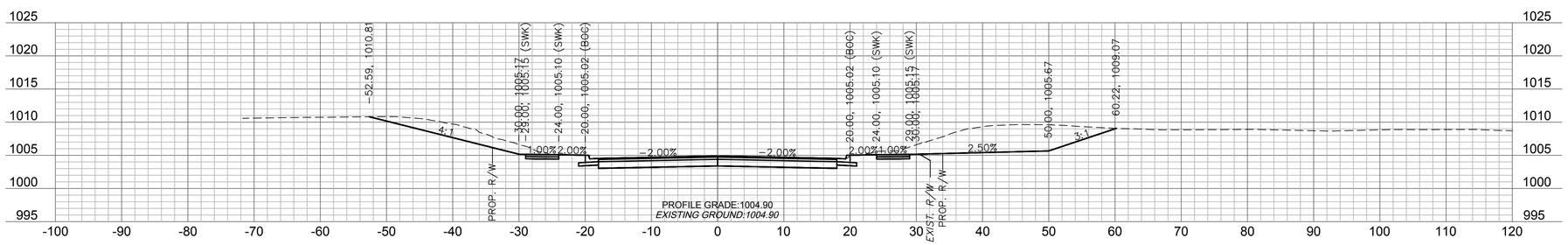

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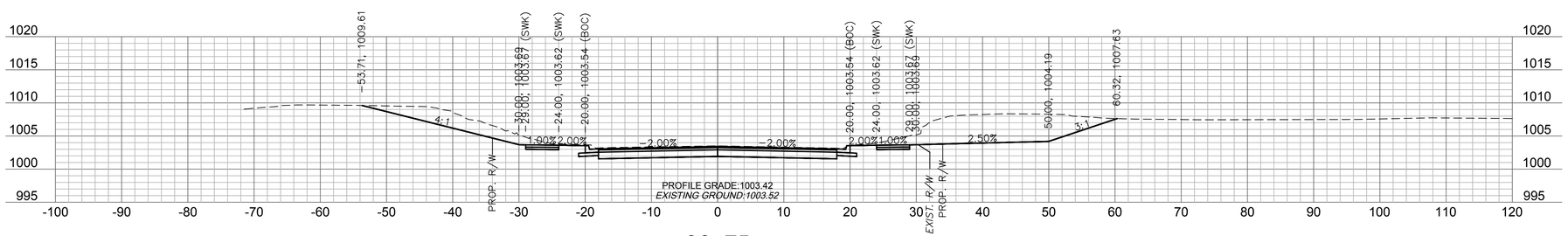

36+75

0' 5' 10' 20'
SCALE IN FEET

0' 5' 10' 20'

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NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

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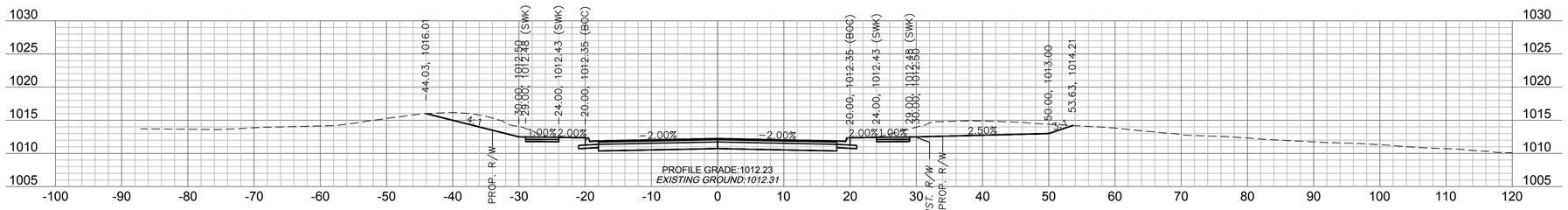

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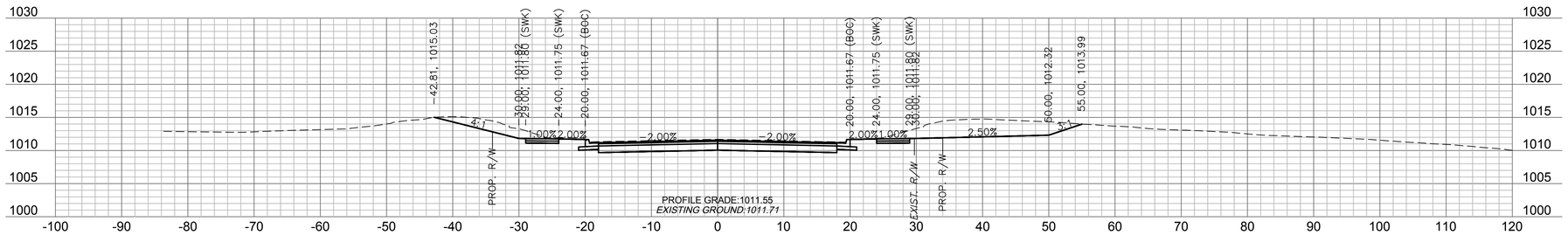

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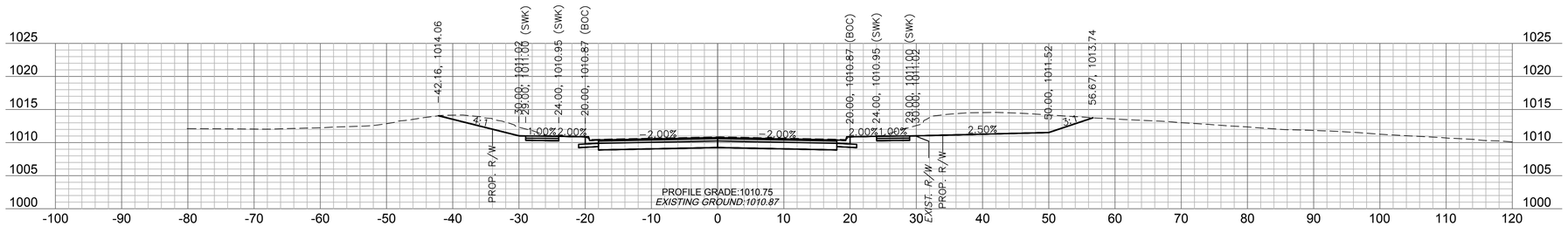

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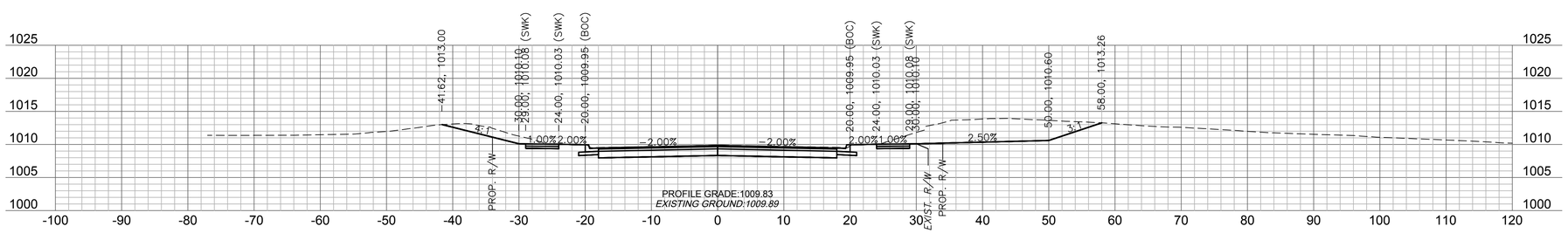

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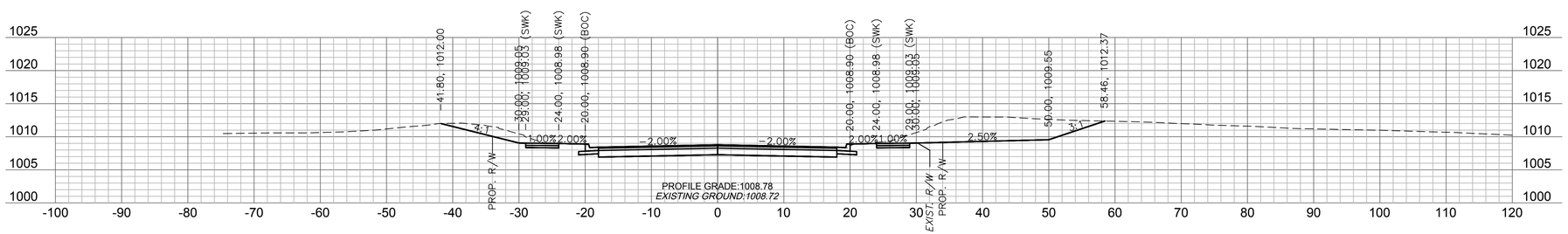

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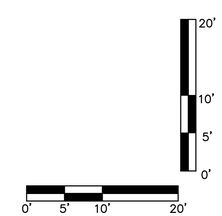

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SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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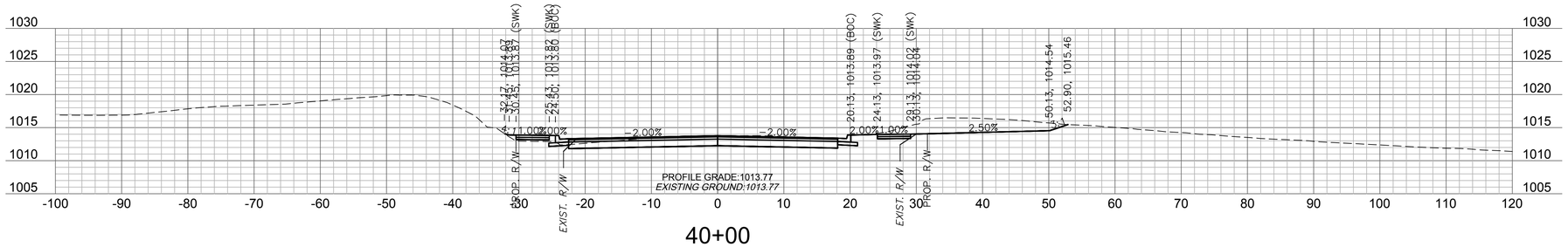

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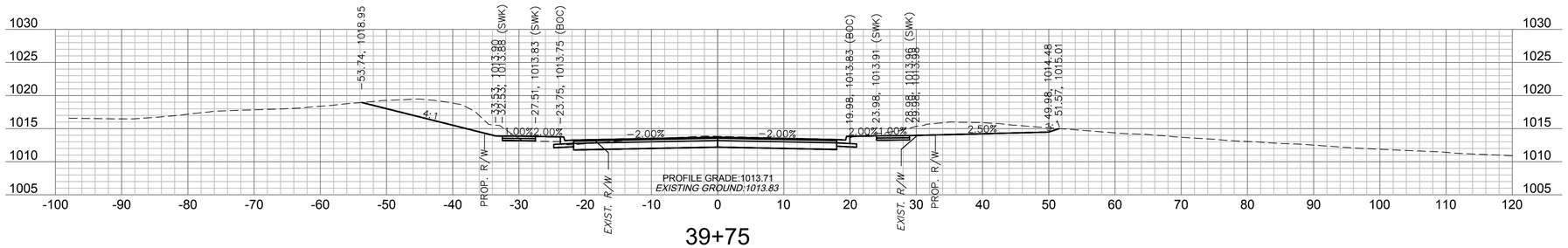

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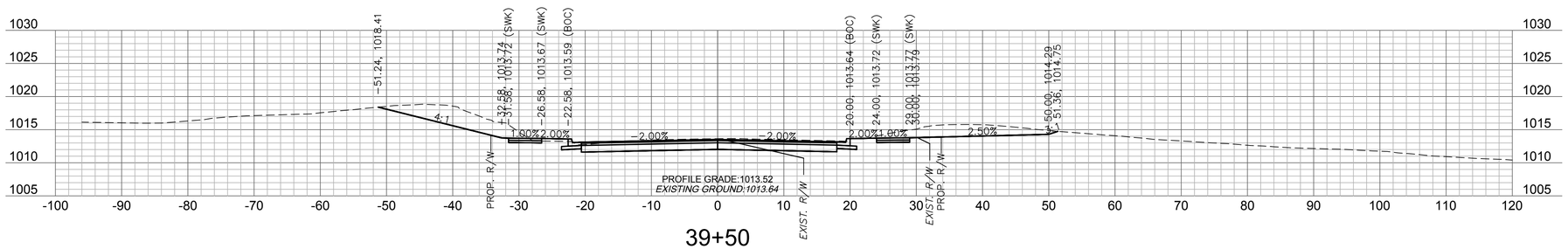

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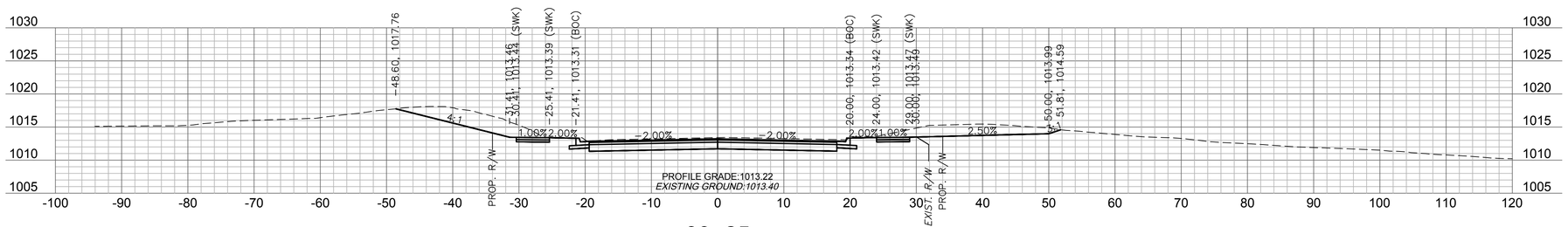

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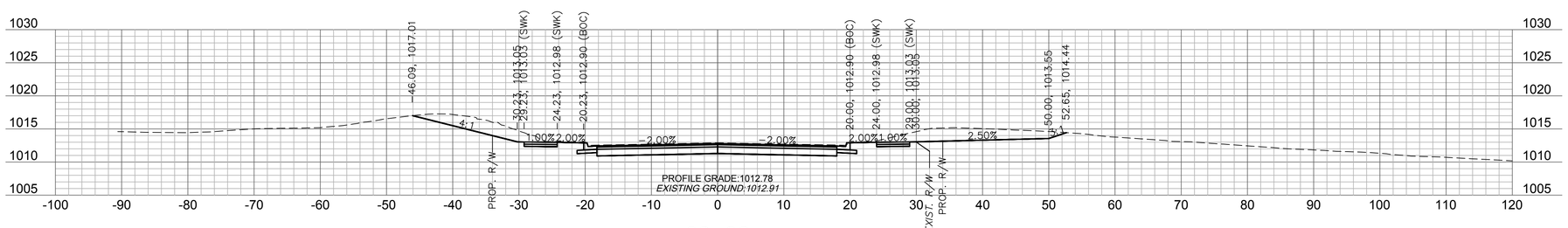

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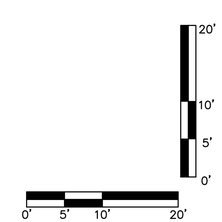

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SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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103 OF 105

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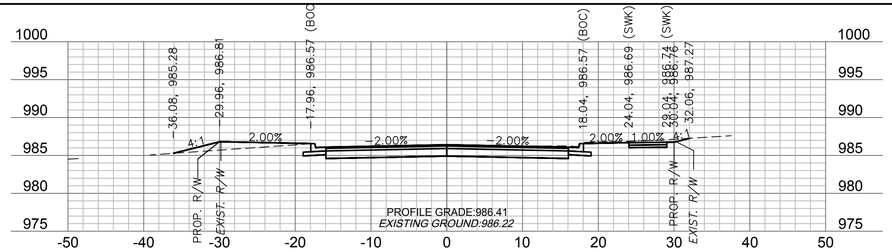

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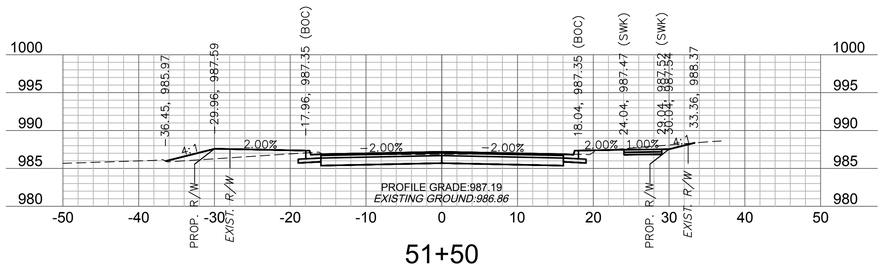

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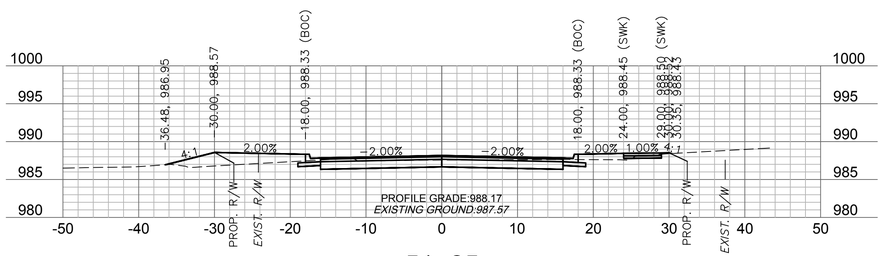

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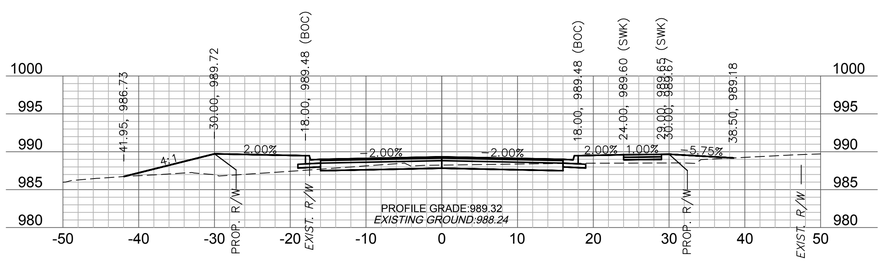

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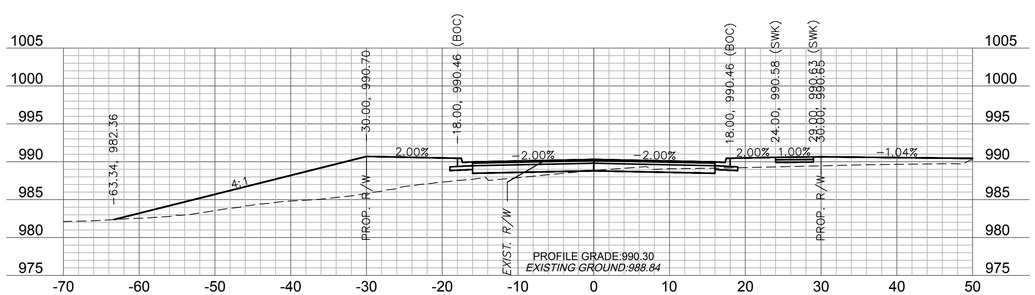

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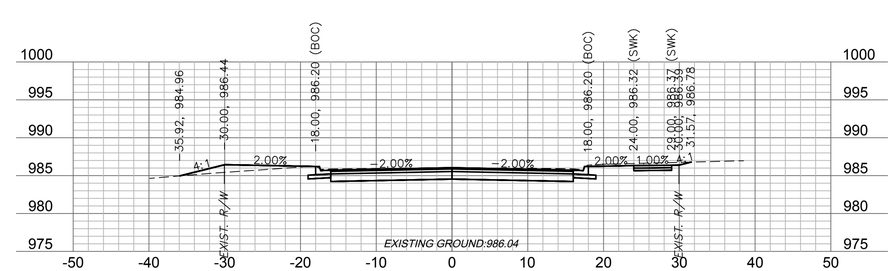

51+90

0' 5' 10' 20'
SCALE IN FEET

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NW SLOAN STREET
CROSS SECTIONS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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SHEET
104 OF 105

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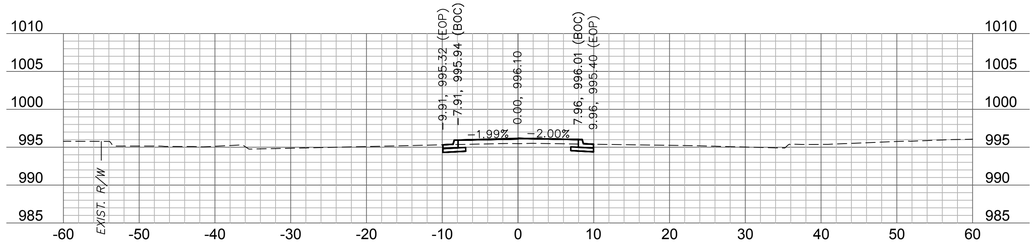

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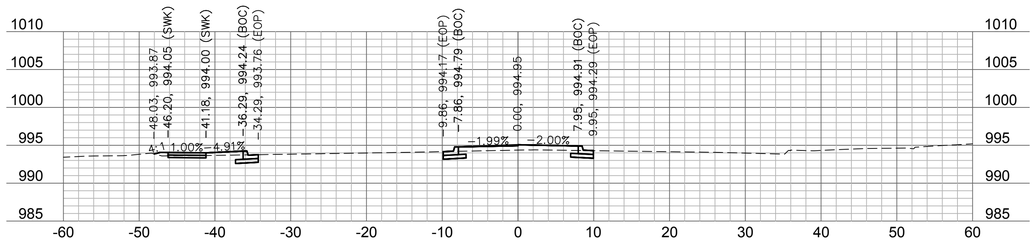

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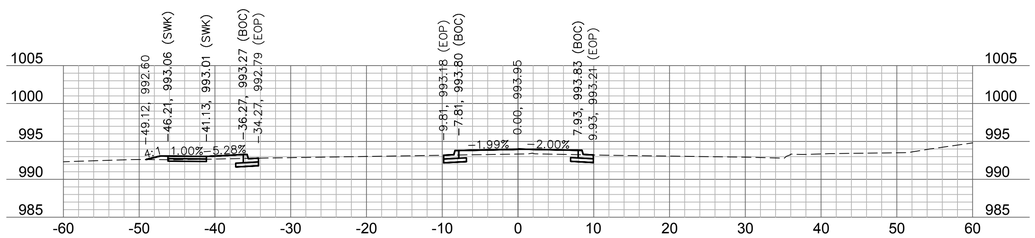

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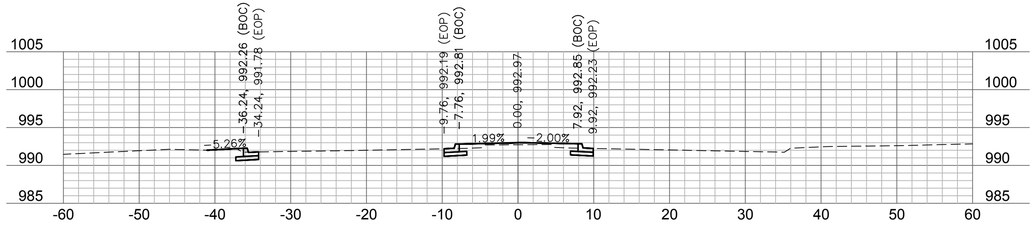

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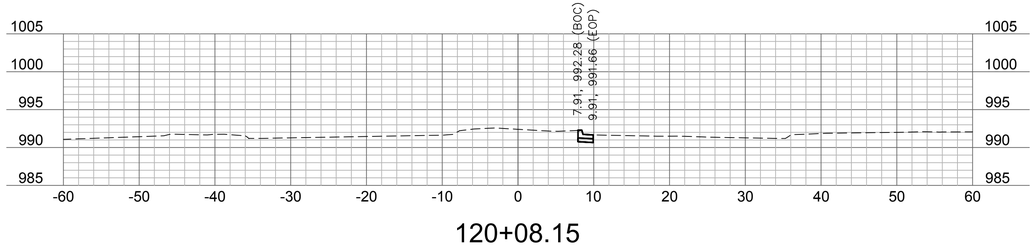

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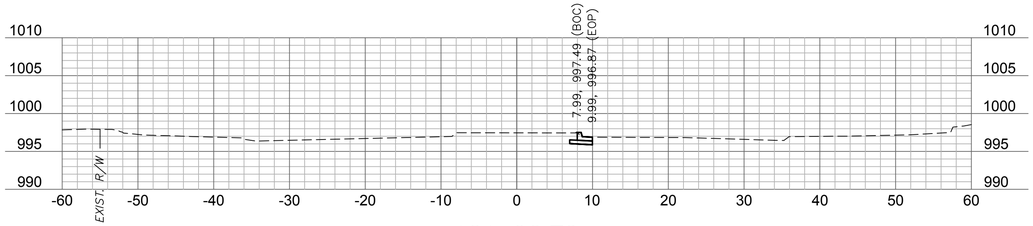

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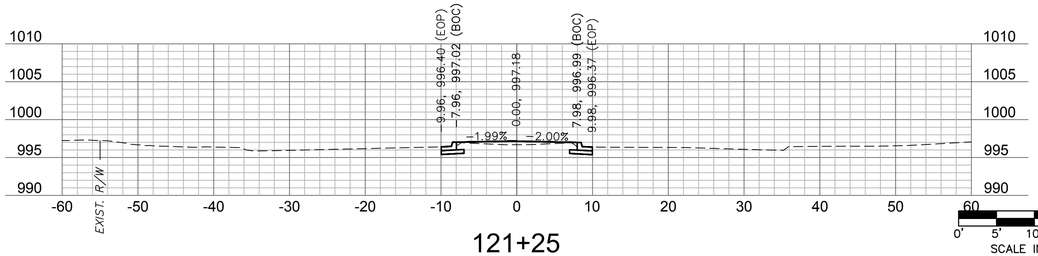

121+25

0' 5' 10' 20'
SCALE IN FEET

20'
10'
5'
0'

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NE TUDOR ROAD
CROSS SECTIONS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
NORTHWEST CORNER OF TUDOR ROAD AND MAIN STREET

LEE'S SUMMIT, MISSOURI

2021

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105 OF 105

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