

TOWN OF TROUTMAN

EB-5530 & 5532 GREENWAYS

IREDELL COUNTY, NORTH CAROLINA

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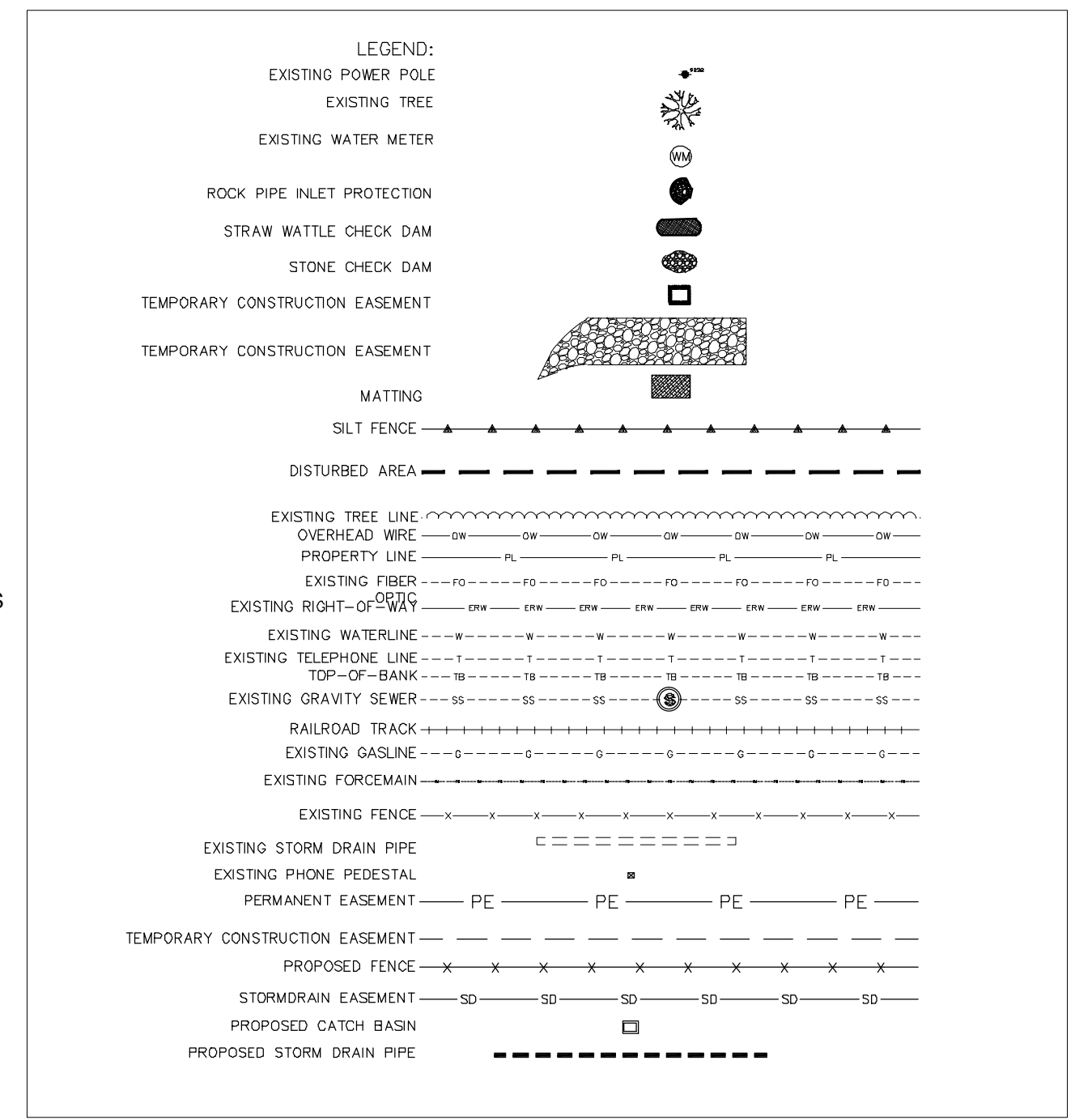
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ESTIMATED IMPORT SOIL VOLUMES AND CLEARING AND GRUBBING AREAS		
PROJECT	IMPORT	CLEARING/GRUBBING
EB-5530	280 CY	3.1 AC
EB-5532	50 CY	0.9 AC

1) GROUND STABILIZATION*		
SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HOW ZONES)

* "EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE." (SECTION II.B.(2)(B))

- 2) BUILDING WASTE HANDLING**
- NO PAINT OR LIQUID WASTES IN STREAM OR STORM DRAINS
 - DEDICATED AREAS FOR DEMOLITION, CONSTRUCTION AND OTHER WASTES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES AVAILABLE.
 - EARTHEN-MATERIAL STOCKPILES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES AVAILABLE.
 - CONCRETE MATERIALS MUST BE CONTROLLED TO AVOID CONTACT WITH SURFACE WATERS, WETLANDS, OR BUFFERS.
- 3) DISCHARGES TO FEDERALLY-LISTED WATERS**
- REQUIREMENTS ARE THE SAME AS IN PREVIOUS PERMIT.
 - THE PERMIT ALLOWS REDUCTION FROM THE 20 ACRE MINIMUM IF THE DIRECTOR OF DWQ DETERMINES THAT OTHER BMPs PROVIDE EQUIVALENT PROTECTION.
- 4) INSPECTIONS**
- SAME WEEKLY INSPECTION REQUIREMENTS
 - SAME RAIN GAUGE & INSPECTIONS AFTER 0.5" RAIN EVENT
 - INSPECTIONS ARE ONLY REQUIRED DURING "NORMAL BUSINESS HOURS"
 - INSPECTION REPORTS MUST BE AVAILABLE ON-SITE DURING BUSINESS HOURS UNLESS A SITE-SPECIFIC EXEMPTION IS APPROVED.
 - RECORDS MUST BE KEPT FOR 3 YEARS AND AVAILABLE UPON REQUEST
 - ELECTRONICALLY-AVAILABLE RECORDS MAY BE SUBSTITUTED UNDER CERTAIN CONDITIONS.

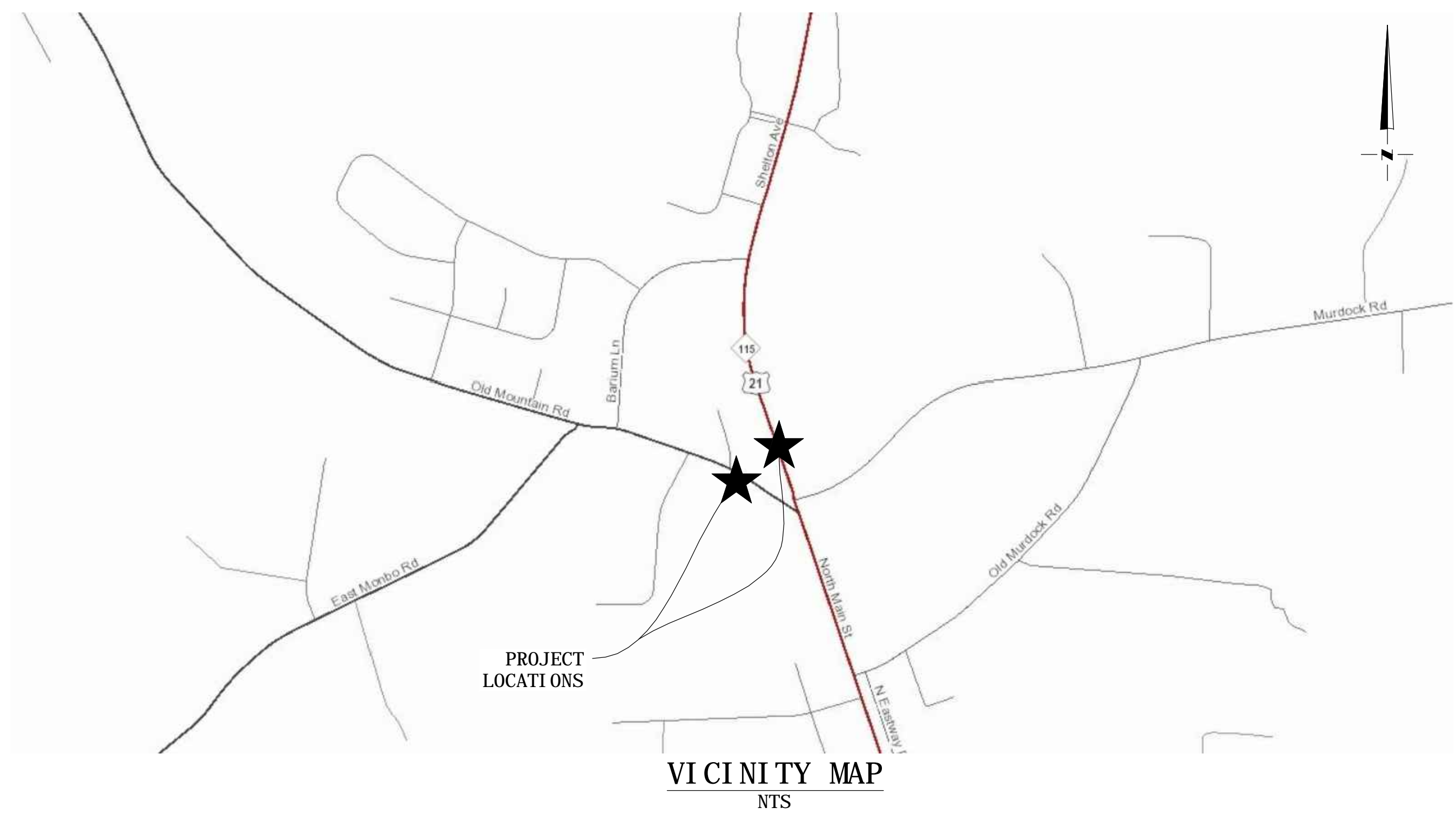
- 5) IMPLEMENTATION OF NEW PERMIT CONDITIONS**
- PROJECTS PERMITTED UNDER THE PREVIOUS PERMIT CAN CONTINUE TO FOLLOW THE PREVIOUSLY-PERMITTED CONDITIONS.
 - COMPLETE APPLICATIONS RECEIVED PRIOR TO AUGUST 3, 2011 CAN FOLLOW CONDITIONS OF APPROVED APPLICATION.
 - APPLICATIONS RECEIVED AFTER AUGUST 2, 2011 MUST COMPLY WITH NEW PERMIT CONDITIONS
- 6) CONDITIONS IN EROSION & SEDIMENTATION CONTROL PLANS***
- DESIGNATION ON THE PLANS WHERE THE 7 AND 14-DAY GROUND STABILIZATION REQUIREMENTS OF THE NPDES PERMIT APPLY
 - DESIGNATION ON THE PLANS WHERE BASINS THAT COMPLY WITH THE SURFACE-WITHDRAWAL REQUIREMENTS OF THE NPDES PERMIT ARE LOCATED.
- 7) BUILDING WASTES HANDLING**
- NO PAINT OR LIQUID WASTES IN STREAM OR STORM DRAINS
 - DEDICATED AREAS FOR DEMOLITION, CONSTRUCTION AND OTHER WASTES LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES ARE AVAILABLE.
 - EARTHEN-MATERIAL STOCKPILES LOCATED 50' FROM STORM DRAINS UNLESS NO REASONABLE ALTERNATIVES AVAILABLE.
 - CONCRETE MATERIALS MUST BE CONTROLLED TO AVOID CONTACT WITH SURFACE WATERS, WETLANDS, OR BUFFERS.
- 8) SEDIMENT BASINS**
- OUTLET STRUCTURES MUST WITHDRAW FROM BASIN SURFACE UNLESS DRAINAGE AREA IS LESS THAN 1 ACRE.
 - USE ONLY DWQ-APPROVED FLOCCULANTS.



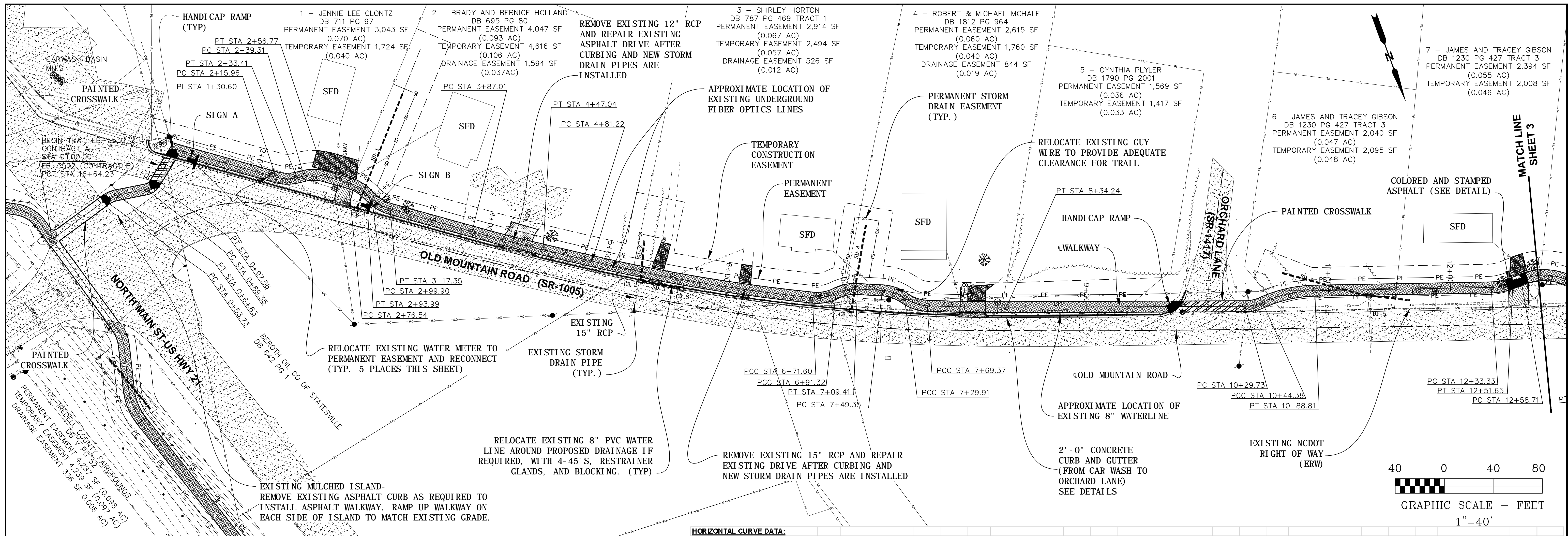
THE FOLLOWING ROADWAY ENGLISH STANDARDS APPEAR IN "ROADWAY STANDARD DRAWINGS"—ROADWAY DESIGN UNIT—N.C. DEPARTMENT OF TRANSPORTATION—RALEIGH, N.C., DATED JANUARY, 2012, AND THE LATEST REVISION THERE TO ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE ARE HEREBY CONSIDERED PART OF THE PLANS

NCDOT DRAWING STANDARDS

840.02	CONCRETE CATCH BASIN (CB)
840.03	FRAME, GRATES, AND HOOD
840.14	CONCRETE DROP INLET (DI)
840.16	DROP INLET FRAME AND GRATES
840.25	ANCHORAGE FOR FRAMES
840.31	CONCRETE JUNCTION BOX (JB)
840.45	PRECAST DRAINAGE STRUCTURE
840.46	TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE
840.54	MANHOLE FRAME AND COVER
840.66	DRAINAGE STRUCTURE STEPS
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848.01	CONCRETE SIDEWALK
848.02	DRI VEWAY TURNOUT
848.03	DRI VEWAY TURNOUT
848.05	CURB RAMP
848.06	CURB RAMP
904.50	MOUNTING OF TYPE D, E, AND F SIGNS ON "U" CHANNEL POST
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1205.01	PAVEMENT MARKINGS
1205.07	PAVEMENT MARKINGS (PEDESTRIAN CROSSWALKS)
1515.01	WATER METER
1605.01	TEMPORARY SILT FENCE
1607.01	GRAVEL CONSTRUCTION ENTRANCE
1631.01	MATTING INSTALLATION



NCDOT LEVEL III DESIGNER
 TODD J. POTEET, PE CERT. NUMBER: 3701
 EXPIRES: DECEMBER 31, 2017



LEGEND FOR HATCH AREAS

- CONCRETE DRIVEWAY TURNOUT
- ASPHALT EXISTING GRAVEL DRIVEWAY
- ABC DRIVEWAY
- RESURFACE ASPHALT DRIVEWAY
- EXISTING ASPHALT

STORM DRAIN PIPE SCHEDULE

NO.	(FT)	(IN)	SLOPE
SD-1	100	15	0.50%
EX 15" RCP	29	15	0.63%
SD-2	32	15	1.00%
SD-3	31	15	0.61%
SD-4	70	15	1.00%
EX 15" CMP	40	15	3.44%
SD-5	74	15	1.00%

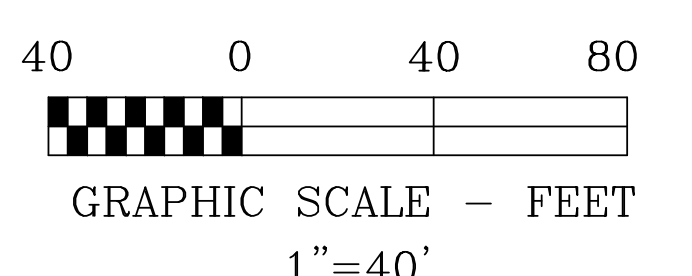
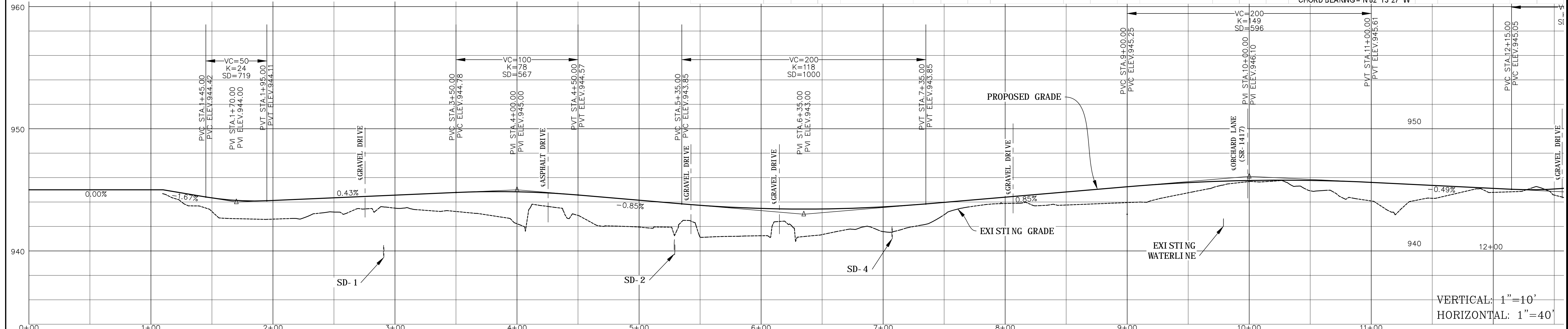
NOTE: PIPE SHALL BE RCP.

STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOP OF GRATE ELEV.	INVERT IN ELEV.	INVERT OUT ELEV.
CB-1	FRAME, GRATE, AND HOOD, TYPE E	943.44	-	940.44
CB-2	FRAME, GRATE, AND HOOD, TYPE G	942.84	939.47	939.37
CB-3	FRAME, GRATE, AND HOOD, TYPE E	942.63	-	939.63
CB-4	FRAME, GRATE, AND HOOD, TYPE F	943.35	-	940.35
JB-5	MANHOLE FRAME AND LID	945.60	942.60/943.52	942.50

HORIZONTAL CURVE DATA:

LINE	LENGTH (FT)	BEARING	RADIUS (FT)	ARC LENGTH (FT)	CHORD LENGTH (FT)	CHORD BEARING
LINE L1:	53.73	S 73°42'28" W				
LINE L4:	85.35	N 54°31'01" W				
CURVE C1:			25	10.89	10.81	S 86°11'27" W
CURVE C3:			35	17.45	17.27	N 68°48'11" W
LINE L2:	24.72	S 81°18'31" W				
LINE L5:	5.90	N 83°05'22" W				
CURVE C2:			10	6.21	7.98	S 75°08'55" W
CURVE C4:			35	17.45	17.27	N 68°48'11" W
LINE L3:	33.04	S 51°37'20" W				
LINE L6:	19.78	N 54°31'01" W				
CURVE C5:			35	17.45	17.27	N 40°13'51" W
LINE L7:	5.90	N 25°56'40" W				
CURVE C6:			35	17.45	17.27	N 40°13'51" W
LINE L8:	69.66	N 54°31'01" W				
CURVE C7:			1493	60.03	60.03	N 55°40'08" W
LINE L9:	34.18	N 56°49'14" W				
CURVE C8:			1493	190.38	190.25	N 60°28'25" W
CURVE C9:			35	19.72	19.46	N 80°16'12" W
LINE L10:	20.50	N 66°47'28" W				
CURVE C10:			35	18.10	17.89	N 81°36'08" W
CURVE C11:			35	19.44	19.19	N 50°52'43" W
CURVE C12:			35	20.02	19.75	N 51°21'17" W
CURVE C13:			1493	64.87	64.86	N 88°59'17" W
LINE L11:	185.49	N 70°13'58" W				
CURVE C14:			35	14.65	14.54	N 82°13'27" W
CURVE C15:			110.01	110.01	110.01	N 87°56'19" W
CURVE C16:			50	18.22	18.22	N 81°33'35" W
LINE L12:	144.52	N 71°04'14" W				
CURVE C17:			50	35.49	34.75	N 71°43'40" W



WEST CONSULTANTS, P.L.C.

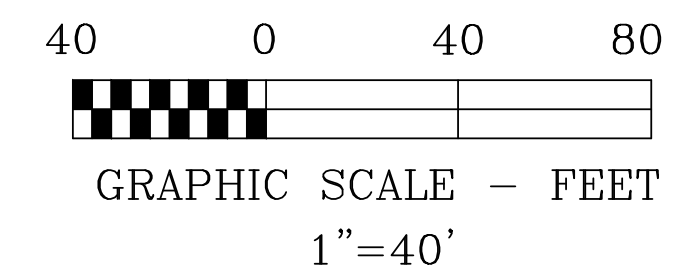
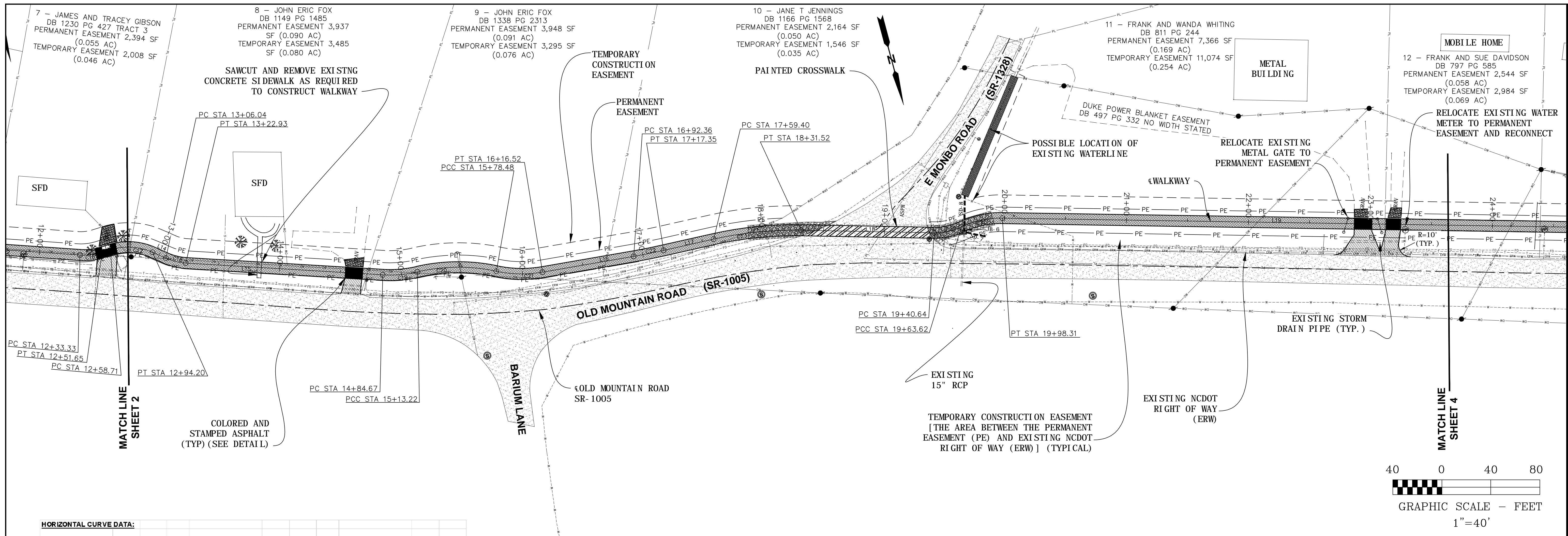
405 South Sterling Street
Morganton, NC 28655
Phone (828) 433-5661
Fax (828) 433-5662
NC License No. P-0210
www.west-consultants.com

PROJECT NO. 13103
SCALE: AS SHOWN
DATE: 8/21/2015
DRAWN BY:
REVISION:

TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

PLAN AND PROFILE
STATION 0+00 TO 12+50

SHEET
2 OF 41



HORIZONTAL CURVE DATA:

CURVE C17:	CURVE C20:	CURVE C23:
RADIUS = 50 Ft	RADIUS = 160 Ft	RADIUS = 300 Ft
ARC LENGTH = 35.49 Ft	ARC LENGTH = 65.26 Ft	ARC LENGTH = 72.12 Ft
CHORD LENGTH = 34.75 Ft	CHORD LENGTH = 64.75 Ft	CHORD LENGTH = 71.95 Ft
CHORD BEARING = N 71° 43' 40" W	CHORD BEARING = N 75° 29' 00" W	CHORD BEARING = N 80° 47' 36" W

LINE L14:	CURVE C21:	LINE L18:
LENGTH = 11.84 Ft	RADIUS = 100 Ft	LENGTH = 109.12 Ft
BEARING = N 51° 23' 39" W	ARC LENGTH = 38.04 Ft	BEARING = N 73° 54' 23" W
	CHORD LENGTH = 37.81 Ft	
	CHORD BEARING = N 73° 55' 04" W	

CURVE C18:	LINE L16:	CURVE C24:
RADIUS = 50 Ft	LENGTH = 75.94 Ft	RADIUS = 50 Ft
ARC LENGTH = 16.90 Ft	BEARING = N 84° 49' 58" W	ARC LENGTH = 22.98 Ft
CHORD LENGTH = 16.81 Ft		CHORD LENGTH = 22.78 Ft
CHORD BEARING = N 61° 04' 27" W		CHORD BEARING = N 87° 04' 30" W

LINE L15:	CURVE C22:	CURVE C25:
LENGTH = 181.74 Ft	RADIUS = 500 Ft	RADIUS = 76 Ft
BEARING = N 71° 35' 20" W	ARC LENGTH = 25.00 Ft	ARC LENGTH = 34.68 Ft
	CHORD LENGTH = 24.99 Ft	CHORD LENGTH = 34.38 Ft
	CHORD BEARING = N 86° 14' 54" W	CHORD BEARING = N 87° 10' 14" W

CURVE C19:	LINE L17:	LINE L19:
RADIUS = 100 Ft	LENGTH = 42.05 Ft	LENGTH = 632.24 Ft
ARC LENGTH = 28.55 Ft	BEARING = N 87° 40' 49" W	BEARING = N 74° 05' 51" W
CHORD LENGTH = 28.45 Ft		
CHORD BEARING = N 79° 48' 04" W		

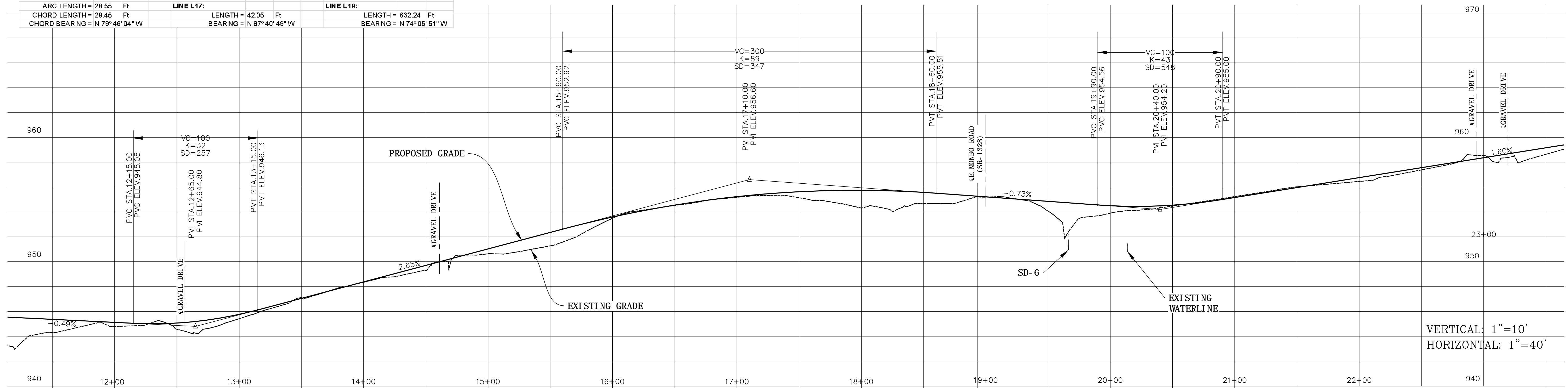
STORM DRAIN STRUCTURE SCHEDULE				
NO.	TYPE	GRATE	ELEV.	OUT
JB-6	MANHOLE FRAME AND LID	954.50	951.72	951.62

STORM DRAIN PIPE SCHEDULE			
NO.	(FT)	(IN)	SLOPE
SD-6	16	15	2.00%
SD-7	32	24	0.50%
EX 15" RCP	39.75	18	2.02%

NOTE:
PIPE SHALL BE RCP.

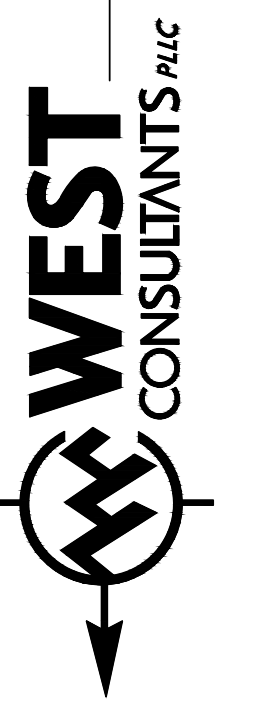
LEGEND FOR HATCH AREAS

- CONCRETE DRIVEWAY TURNOUT
- ASPHALT EXISTING GRAVEL DRIVEWAY
- ABC DRIVEWAY
- RESURFACE ASPHALT DRIVEWAY
- EXISTING ASPHALT



VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

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Morganton, NC 28655
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Fax (828) 433-5662
NC License No. P-0210
www.west-consultants.com

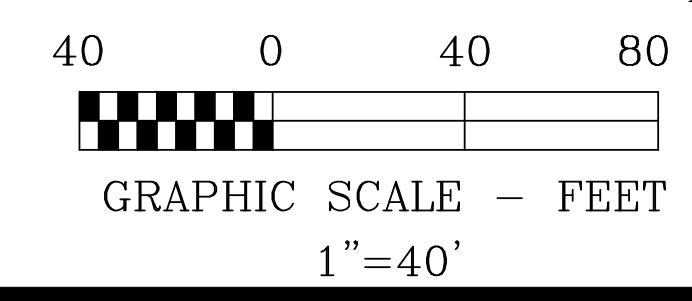
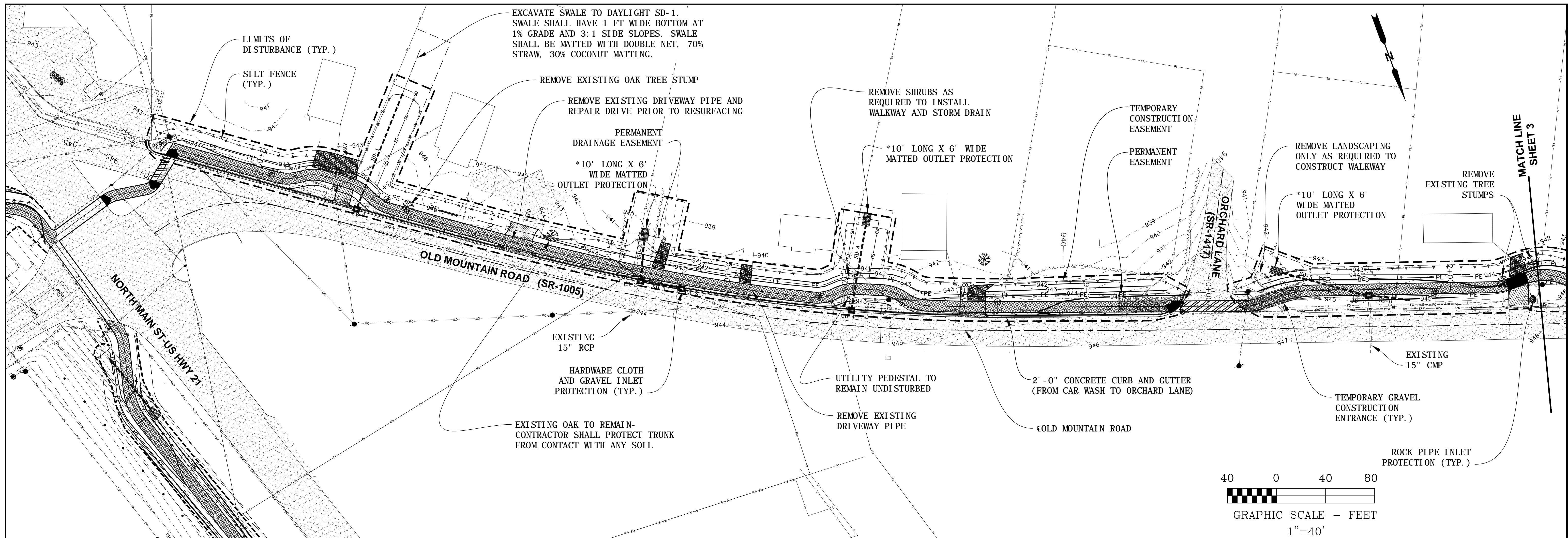


EB-5530
PLAN AND PROFILE
STATION 12+50 TO 23+50

PROJECT NO.: 13103
SCALE: AS MARKED
DATE: 8/21/2015
DRAWN BY:
REVISION:

TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

SHEET



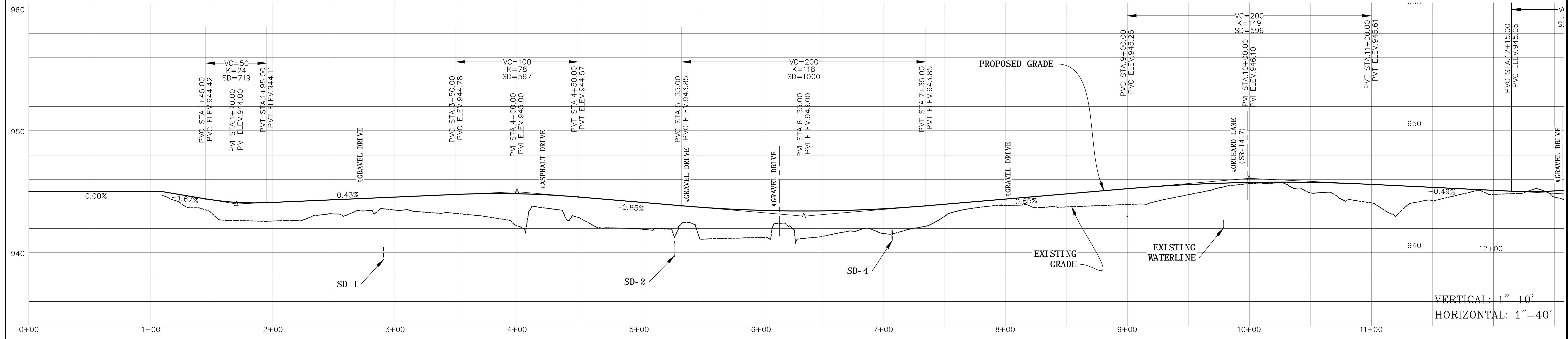
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CB-3	FRAME, GRATE, AND HOOD, TYPE E	942.63	-	939.63
CB-4	FRAME, GRATE, AND HOOD, TYPE F	943.35	-	940.35
JB-5	MANHOLE FRAME AND LID	945.60	942.60/943.52	942.50

NOTE: THE TOWN OF TROUTMAN CHECKED THE WATERLINE LOCATION AND DEPTH AT CATCH BASINS 1 AND 2 ON 11/20/14. AT CB-1 THE 8" DIP WATERLINE IS 5.6 FT DEEP AND 6.0 FT DEEP AT CB-2. THE CATCH BASINS MAY BE INSTALLED OVER THE EXISTING WATERLINE AS LONG AS A MINIMUM CLEARANCE OF 18" IS MAINTAINED.

*MATTING SHALL BE STRAW (70%) AND COCONUT (30%) MIX WITH DOUBLE NET. 10" LONG STAPLES SHALL BE AT 18" ON CENTER

NO.	(FT)	(IN)	SLOPE
SD-1	100	15	0.50%
EX 15" RCP	29	15	0.69%
SD-2	32	18	0.50%
SD-3	31	15	0.50%
SD-4	70	15	1.00%
EX 15" CMP	40	15	3.44%
SD-5	72	18	0.50%
SD-6	32	15	1.25%

NOTE:
PIPE SHALL BE RCP.



VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

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NC License No. P-0210
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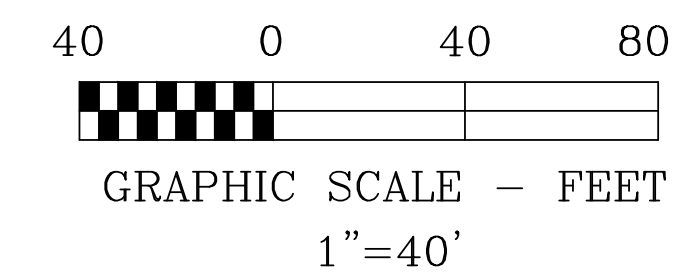
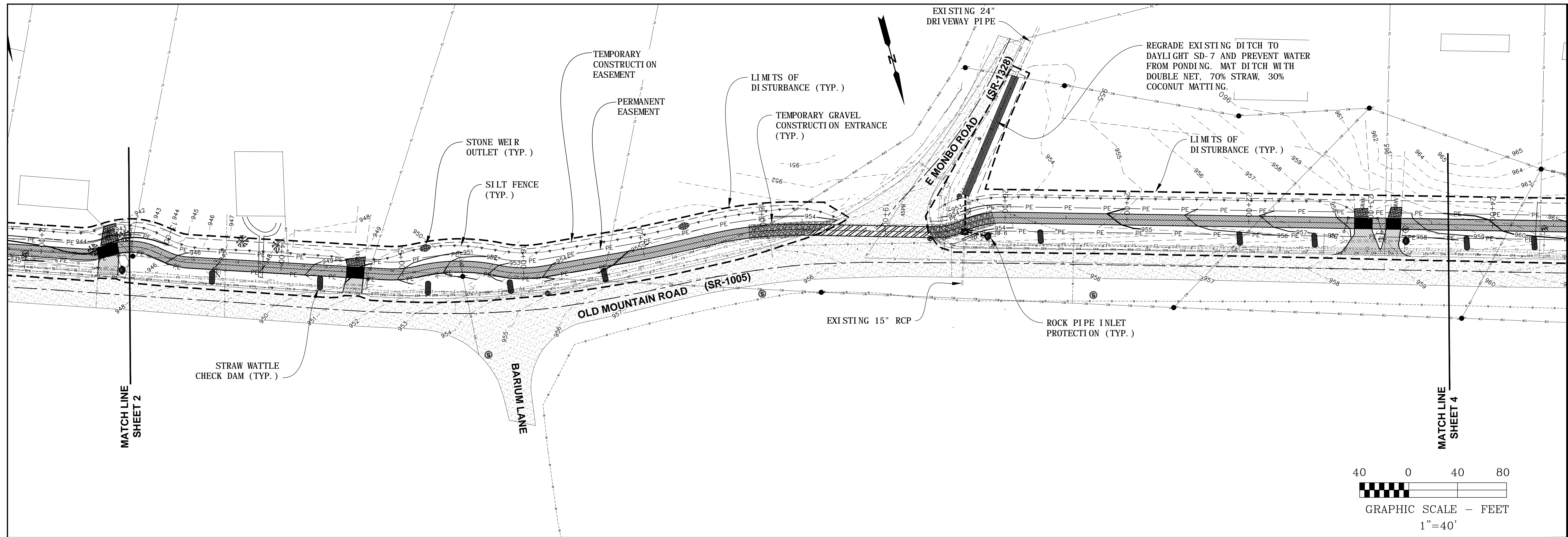


EB-5530
GRADING, DRAINAGE, & EROSION CONTROL
PLAN AND PROFILE
STATION 0+00 TO 12+50

PROJECT NO.: 13103
SCALE: AS SHOWN
DATE: 8/21/2015
DRAWN BY:
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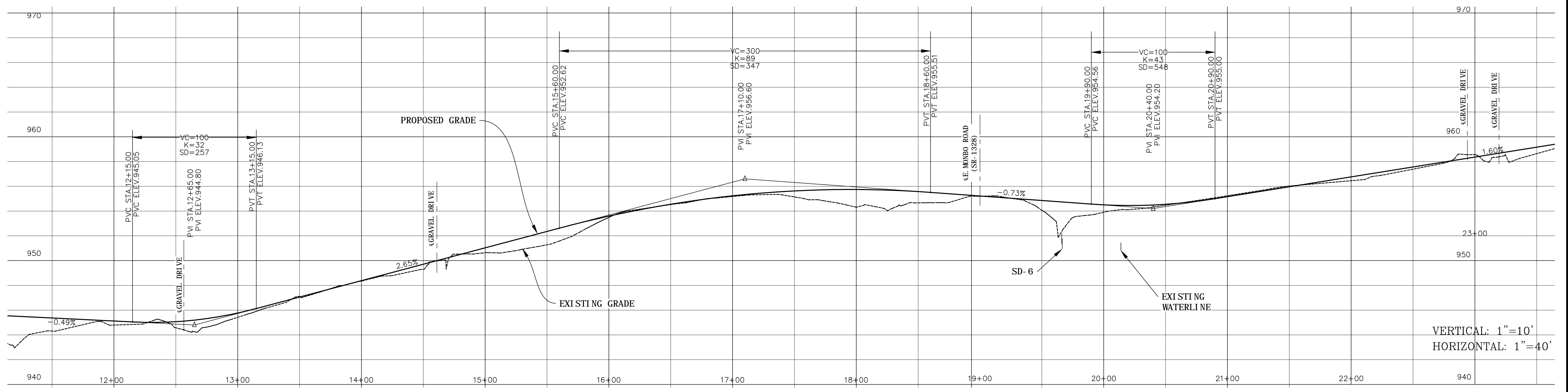
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STORM DRAIN STRUCTURE SCHEDULE				
NO.	TYPE	GRATE	ELEV.	OUT
JB-6	MANHOLE FRAME AND LID	954.65	951.63	951.60

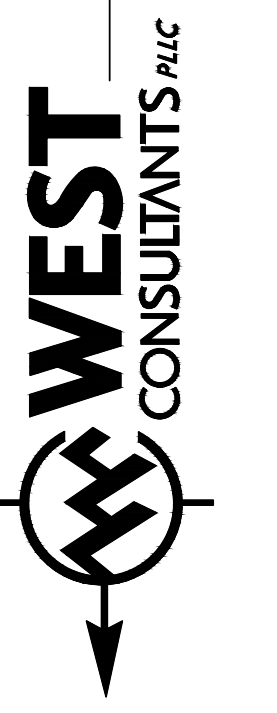
STORM DRAIN PIPE SCHEDULE			
NO.	(FT)	(IN)	SLOPE
SD-7	16	15	2.00%
SD-8	28	24	0.50%
EX 15\"/>			

NOTE:
PIPE SHALL BE RCP.



VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

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NC License No. P-0210
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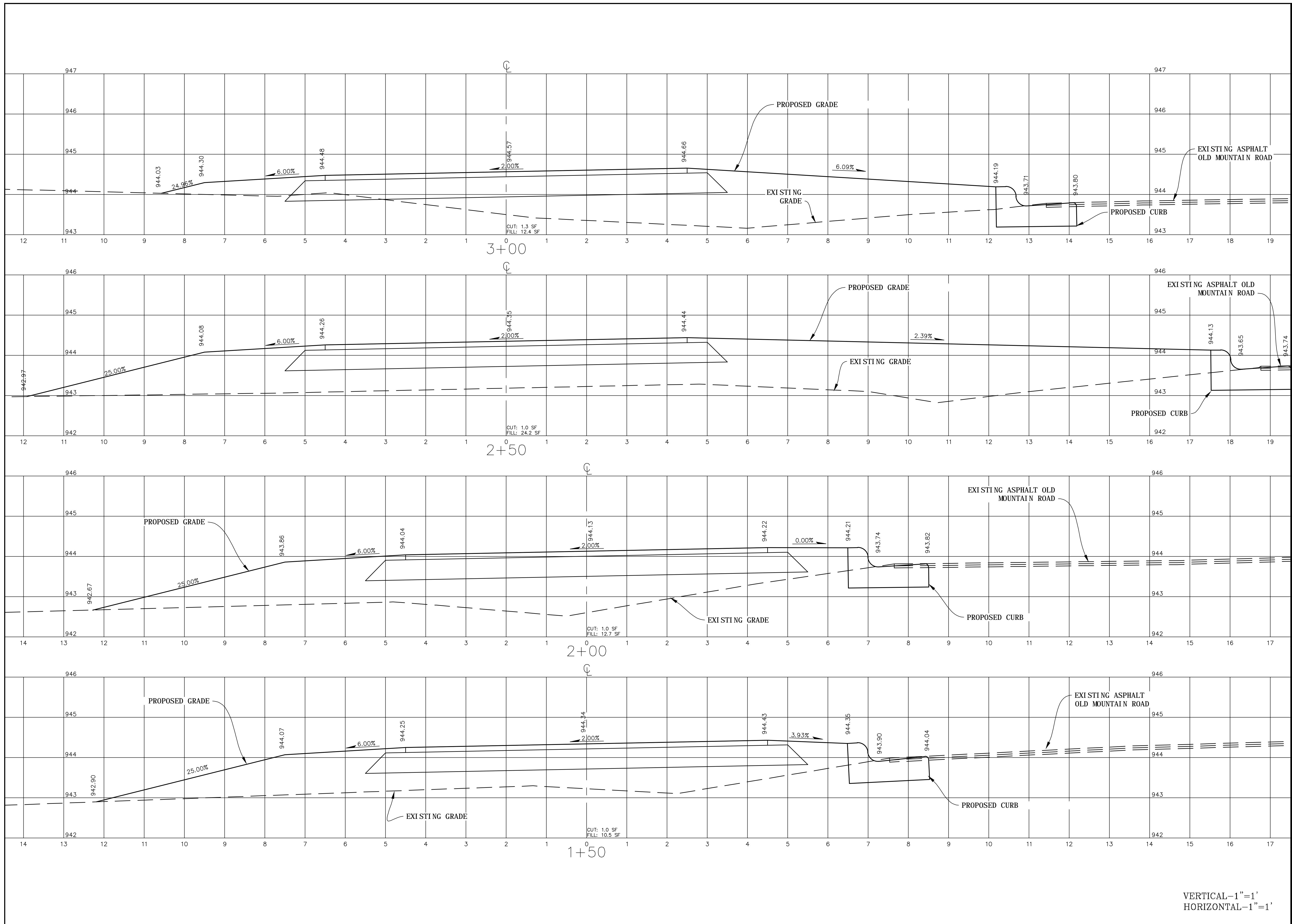


EB-5530
GRADING, DRAINAGE, & EROSION CONTROL
PLAN AND PROFILE
STATION 12+50 TO 23+50

PROJECT NO.: 13103
SCALE: AS SHOWN
DATE: 8/21/2015
DRAWN BY:
REVISION:

TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

SHEET

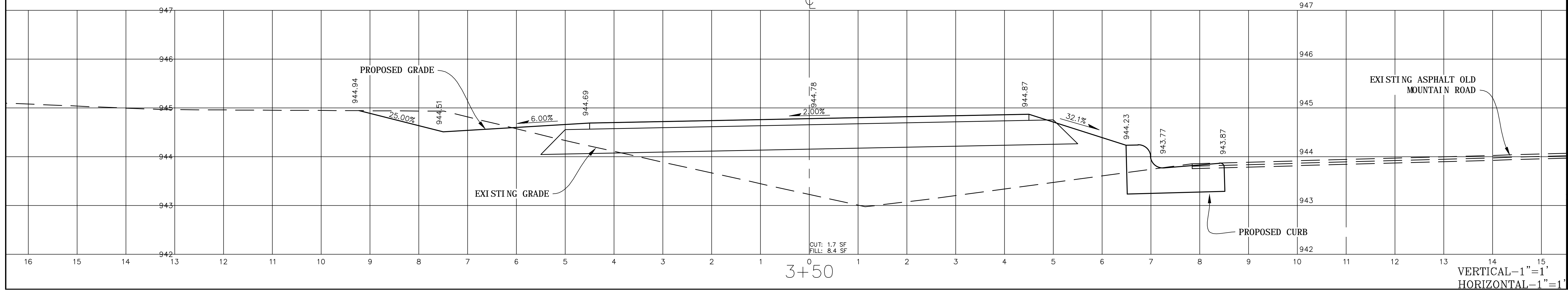
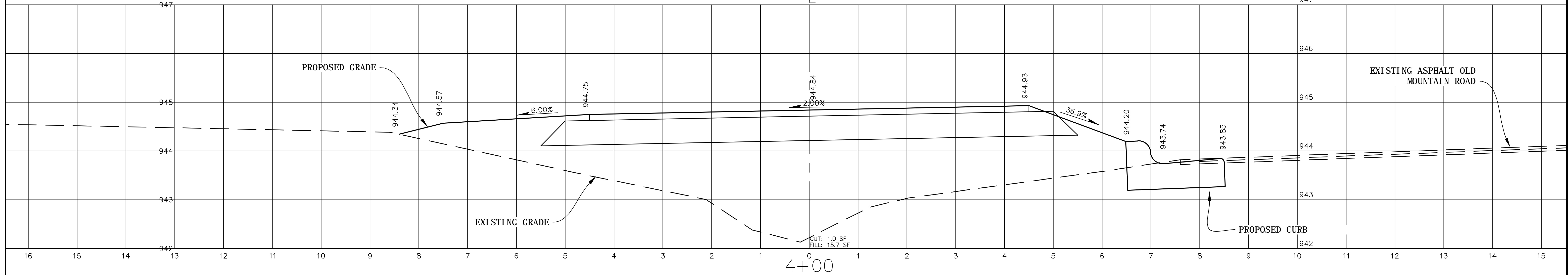
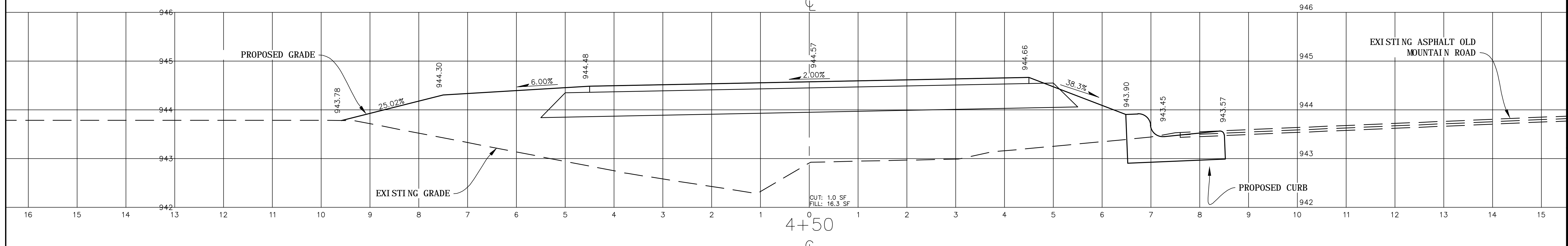
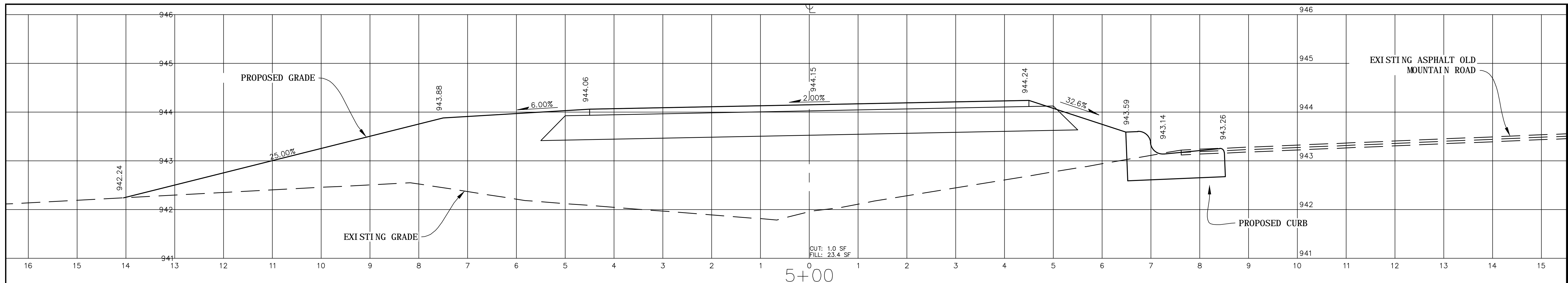


EB-5530
 CROSS SECTIONS
 STATION 1+50 TO 3+00

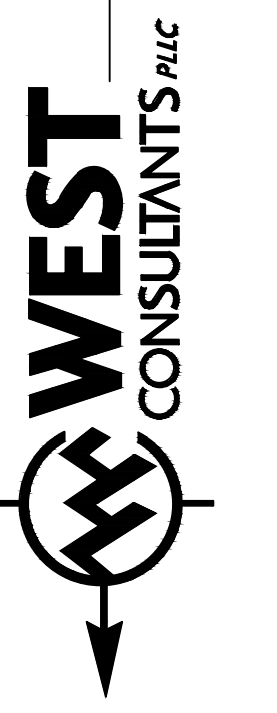
PROJECT NO.: 13103
 SCALE: AS SHOWN
 DATE: 8/21/2015
 DRAWN BY:
 REVISION:

TOWN OF TROUTMAN
 EB-5530 & 5532 GREENWAYS
 IREDELL COUNTY, NORTH CAROLINA

VERTICAL-1"=1'
 HORIZONTAL-1"=1'



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Fax (828) 433-5662
NC License No. P-0210
www.west-consultants.com



EB-5530
CROSS SECTIONS
STATION 3+50 TO 5+00

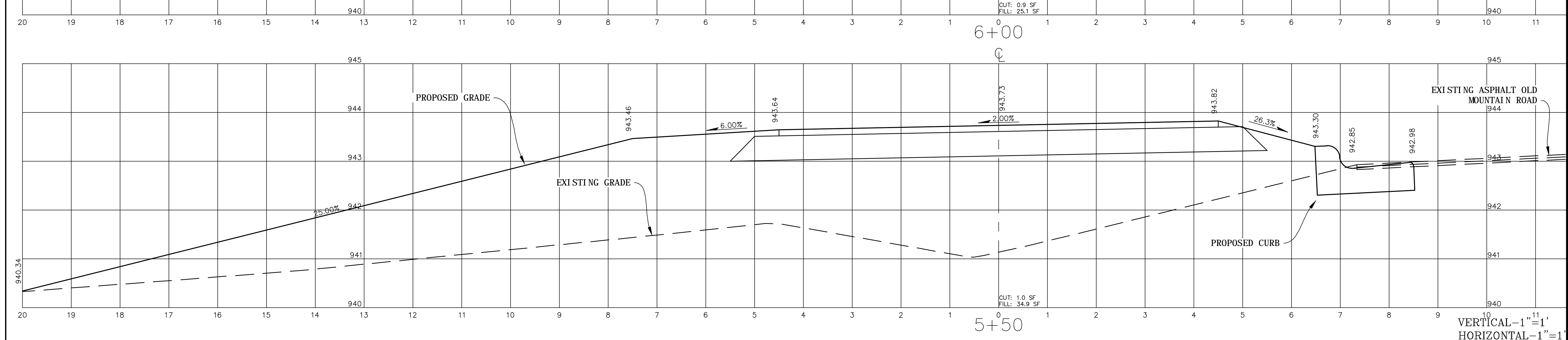
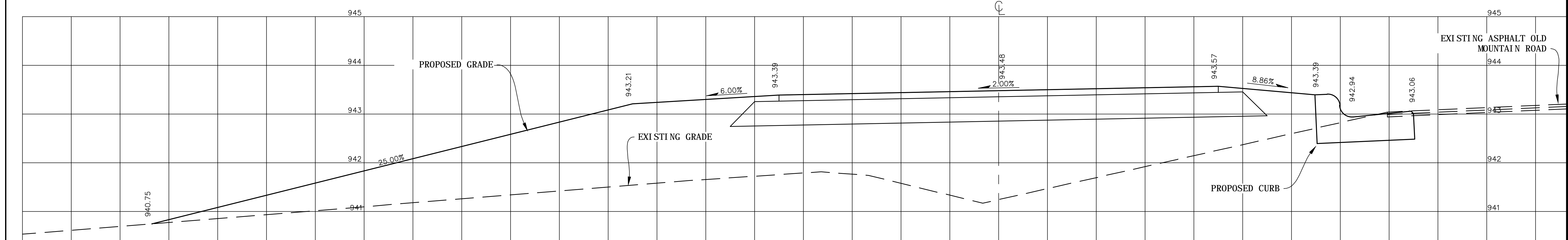
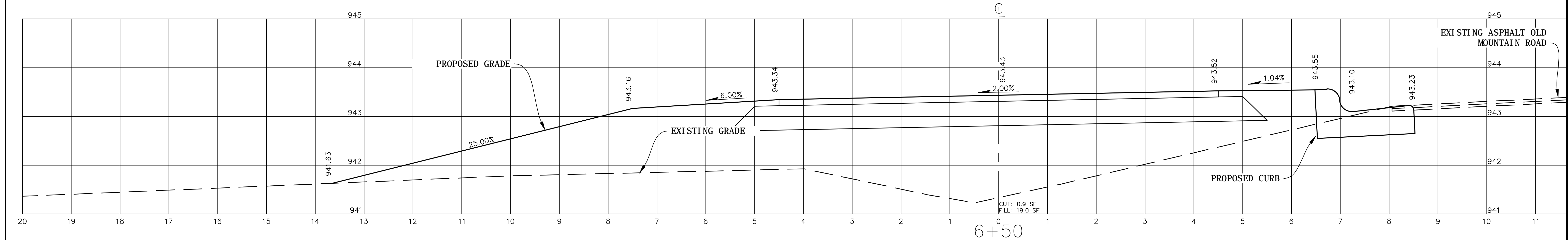
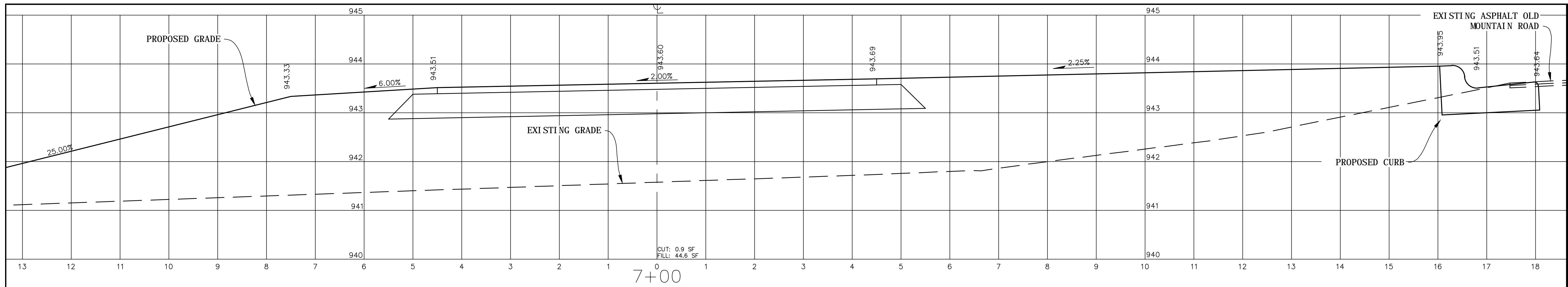
PROJECT NO.: 13103
SCALE: AS SHOWN
DATE: 8/21/2015
DRAWN BY:
REVISION:

TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

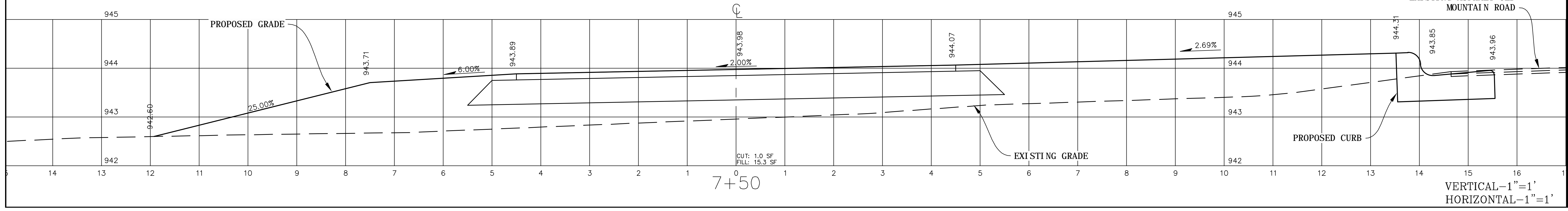
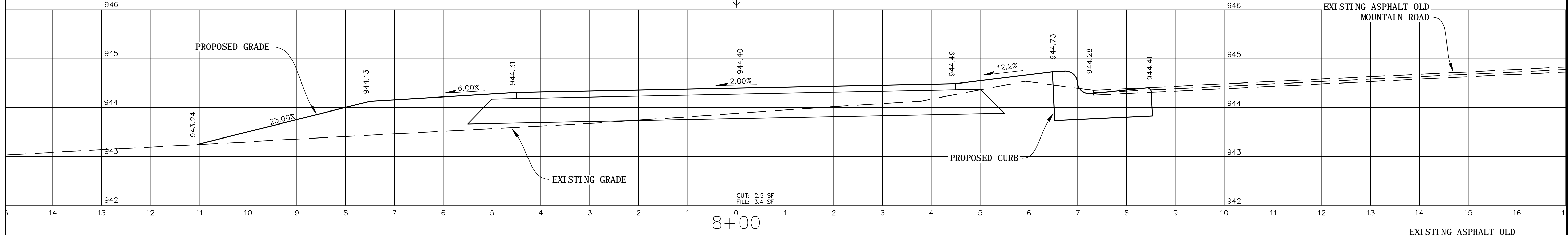
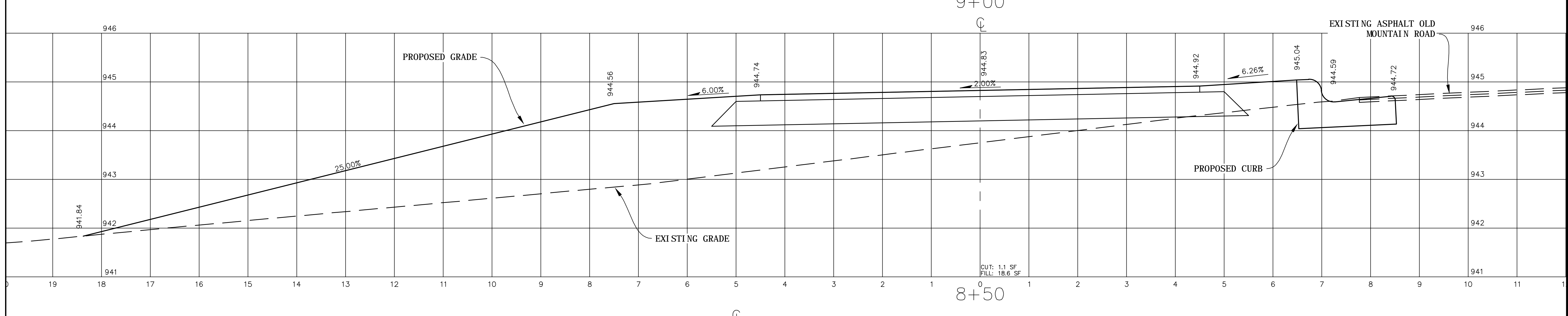
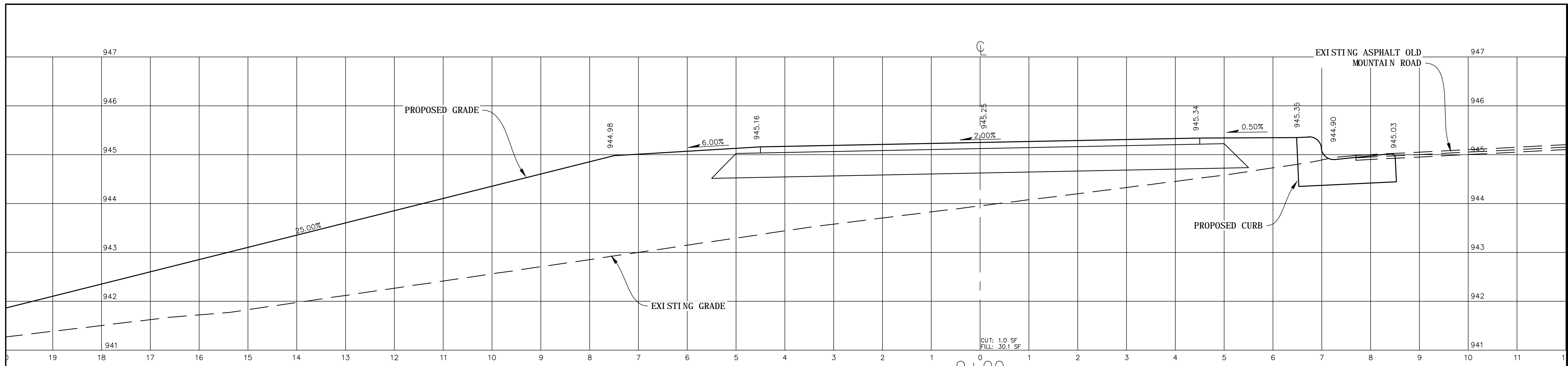
SHEET

9 OF 41

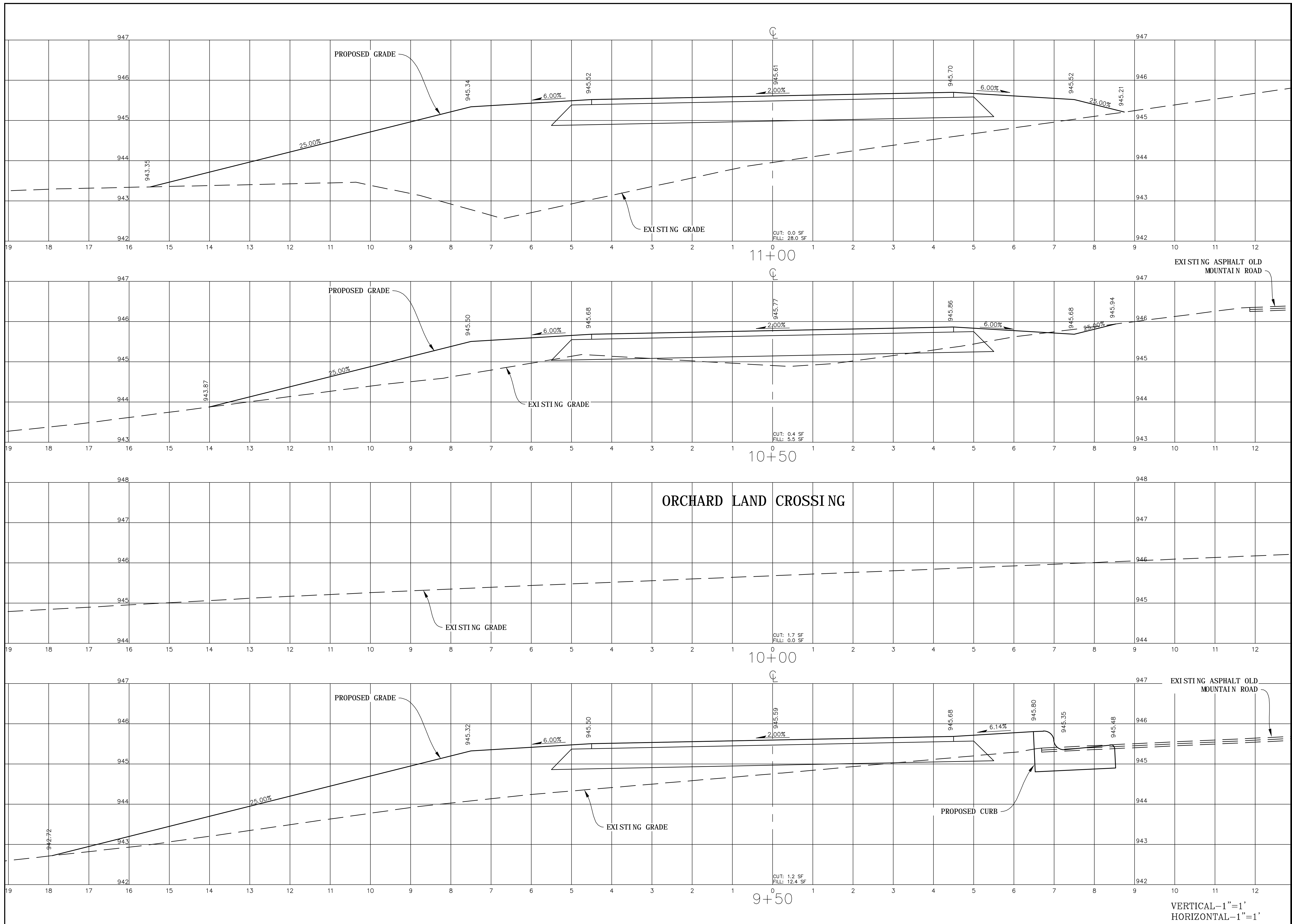
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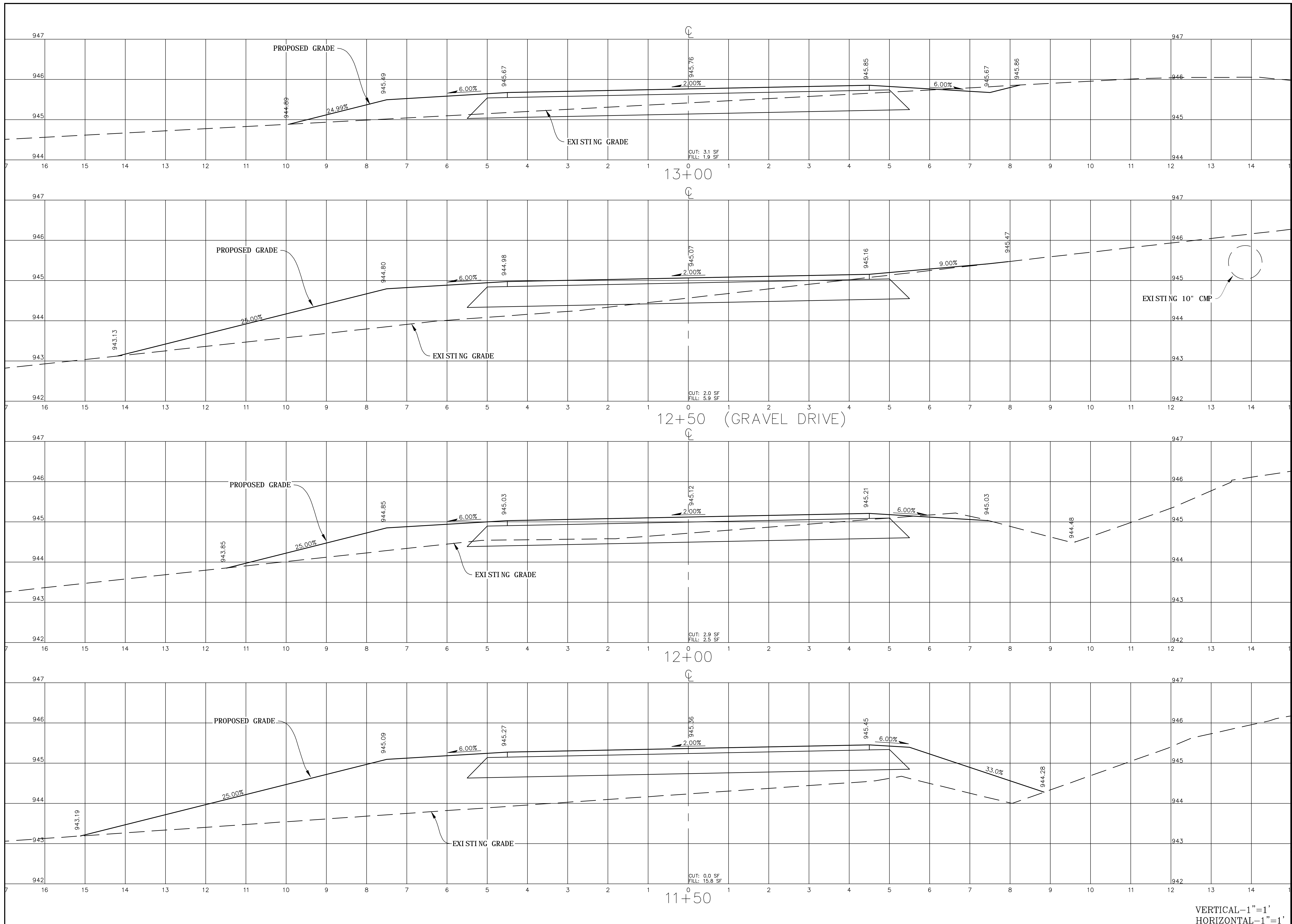
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VERTICAL-1"=1'
HORIZONTAL-1"=1'



VERTICAL-1"=1'
 HORIZONTAL-1"=1'



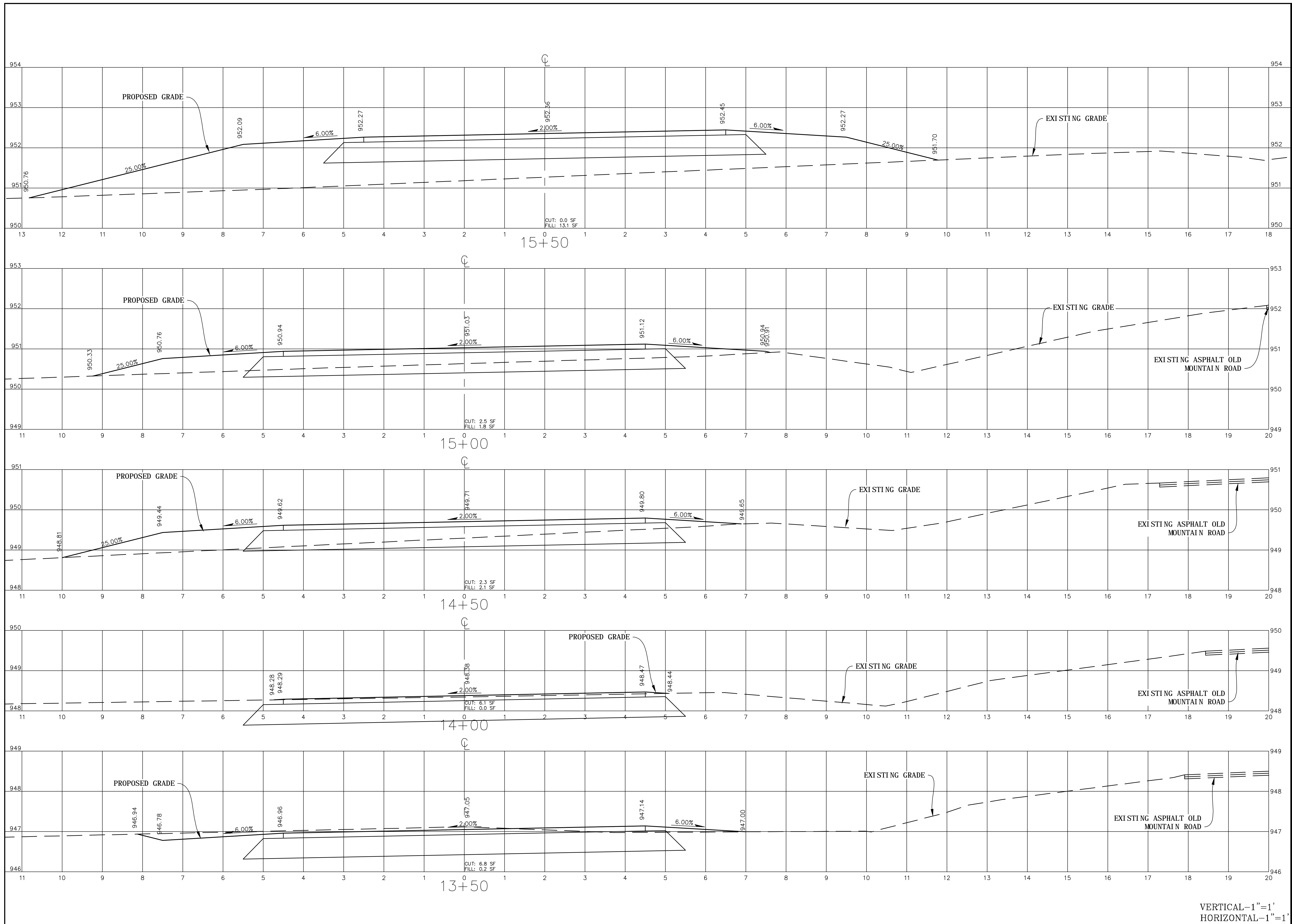
EB-5530
 CROSS SECTIONS
 STATION 11+50 TO 13+00

PROJECT NO.: 13103
 SCALE: AS SHOWN
 DATE: 8/21/2015
 DRAWN BY:
 REVISION:

TOWN OF TROUTMAN
 EB-5530 & 5532 GREENWAYS
 IREDELL COUNTY, NORTH CAROLINA

SHEET

VERTICAL-1"=1'
 HORIZONTAL-1"=1'

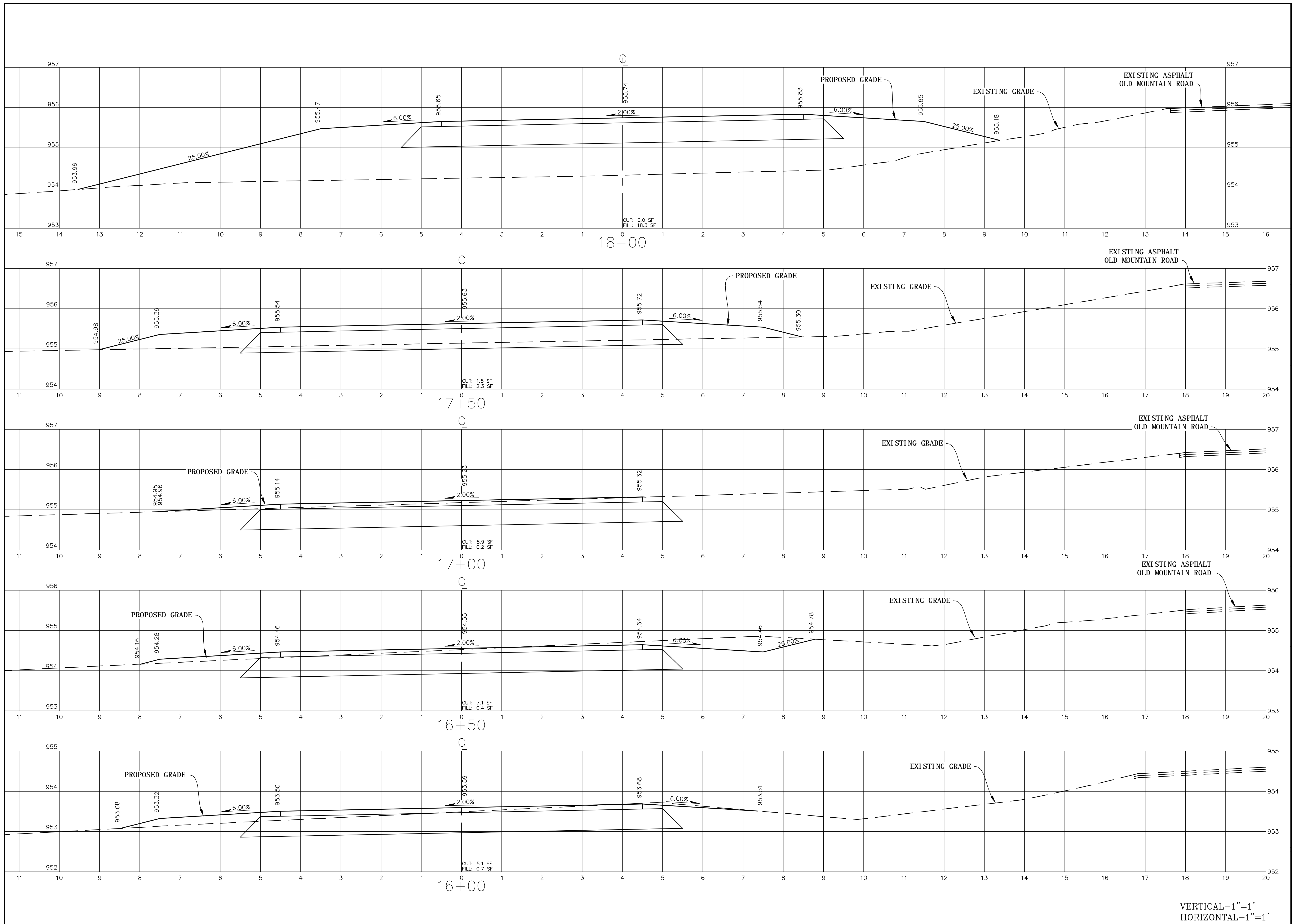


EB-5530
CROSS SECTIONS
STATION 13+50 TO 15+50

PROJECT NO.: 13103
SCALE: AS SHOWN
DATE: 8/21/2015
DRAWN BY:
REVISION:

TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

VERTICAL-1"=1'
HORIZONTAL-1"=1'

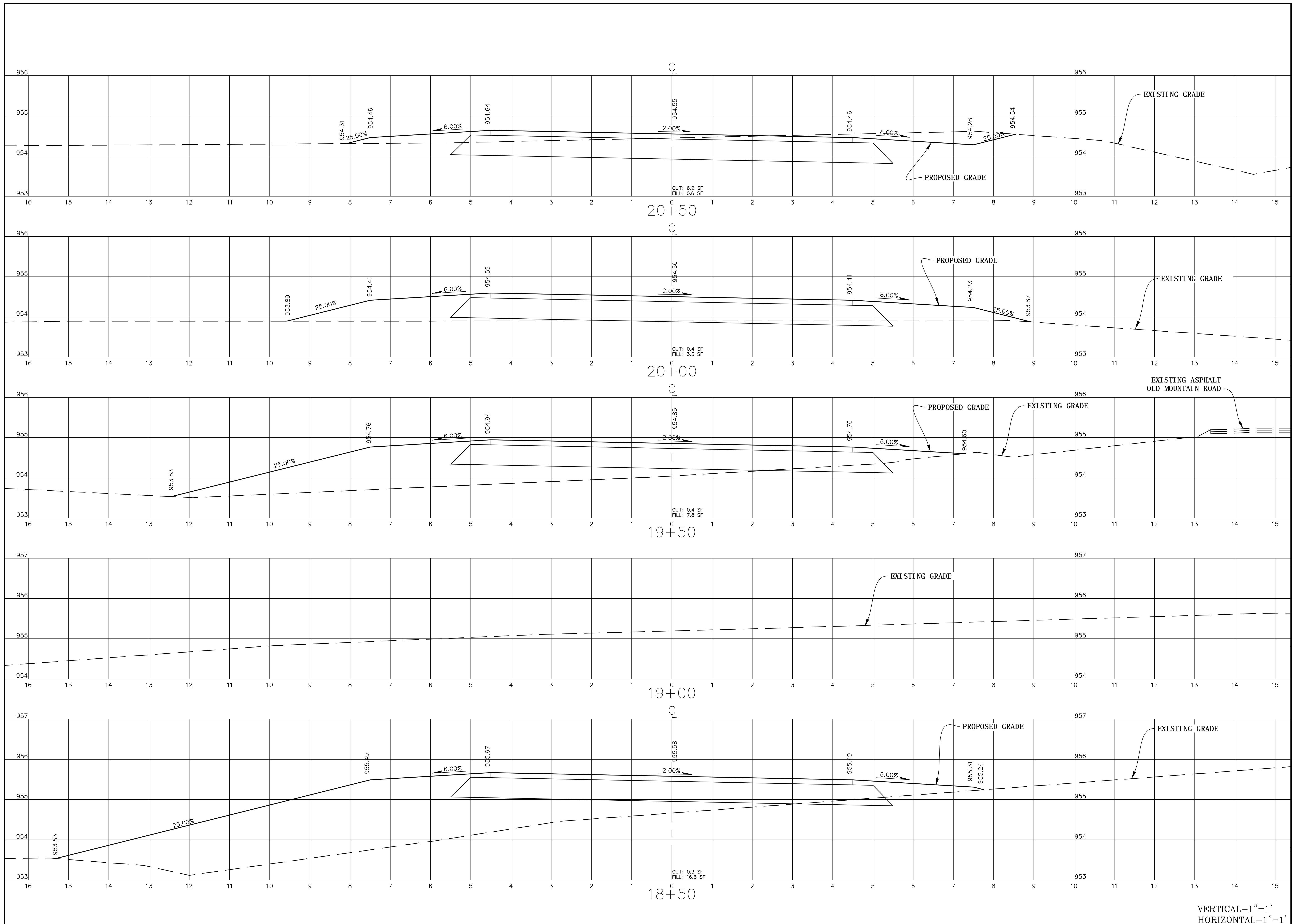


EB-5530
 CROSS SECTIONS
 STATION 16+00 TO 18+00

PROJECT NO.: 13103
 SCALE: AS SHOWN
 DATE: 8/21/2015
 DRAWN BY:
 REVISION:

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VERTICAL-1"=1'
 HORIZONTAL-1"=1'



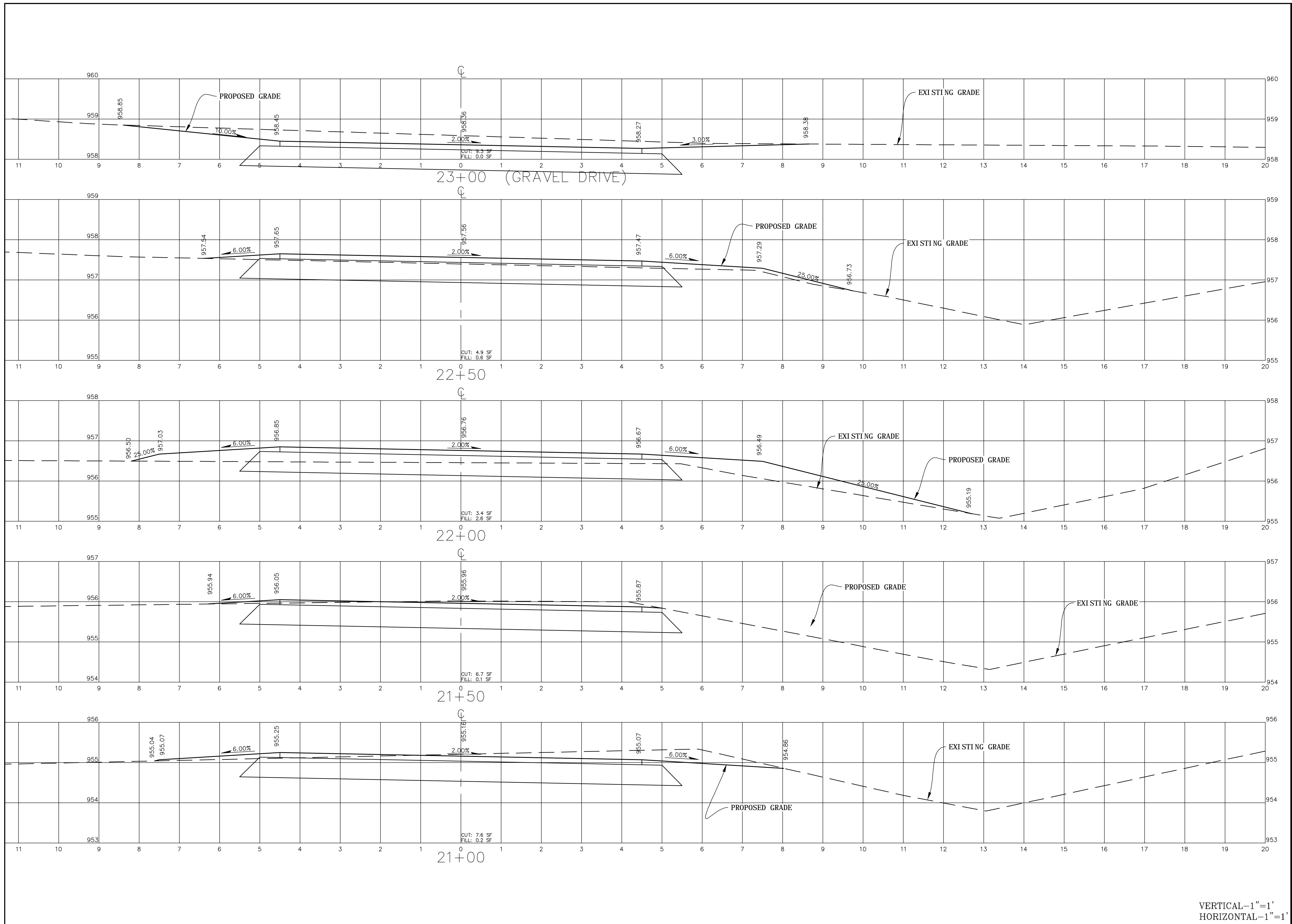
EB-5530
CROSS SECTIONS
STATION 18+50 TO 20+50

PROJECT NO.: 13103
SCALE: AS SHOWN
DATE: 8/21/2015
DRAWN BY:
REVISION:

TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

SHEET

VERTICAL-1"=1'
HORIZONTAL-1"=1'

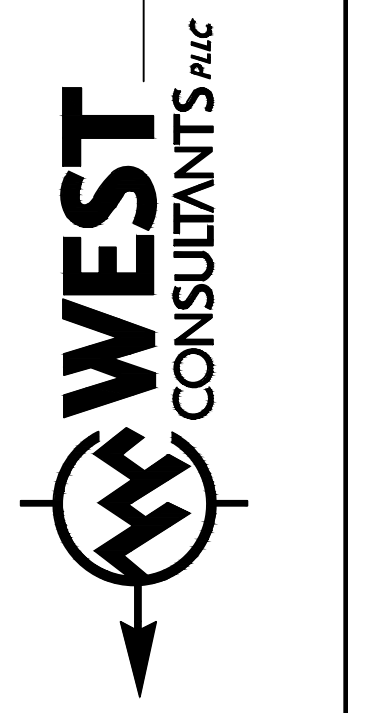
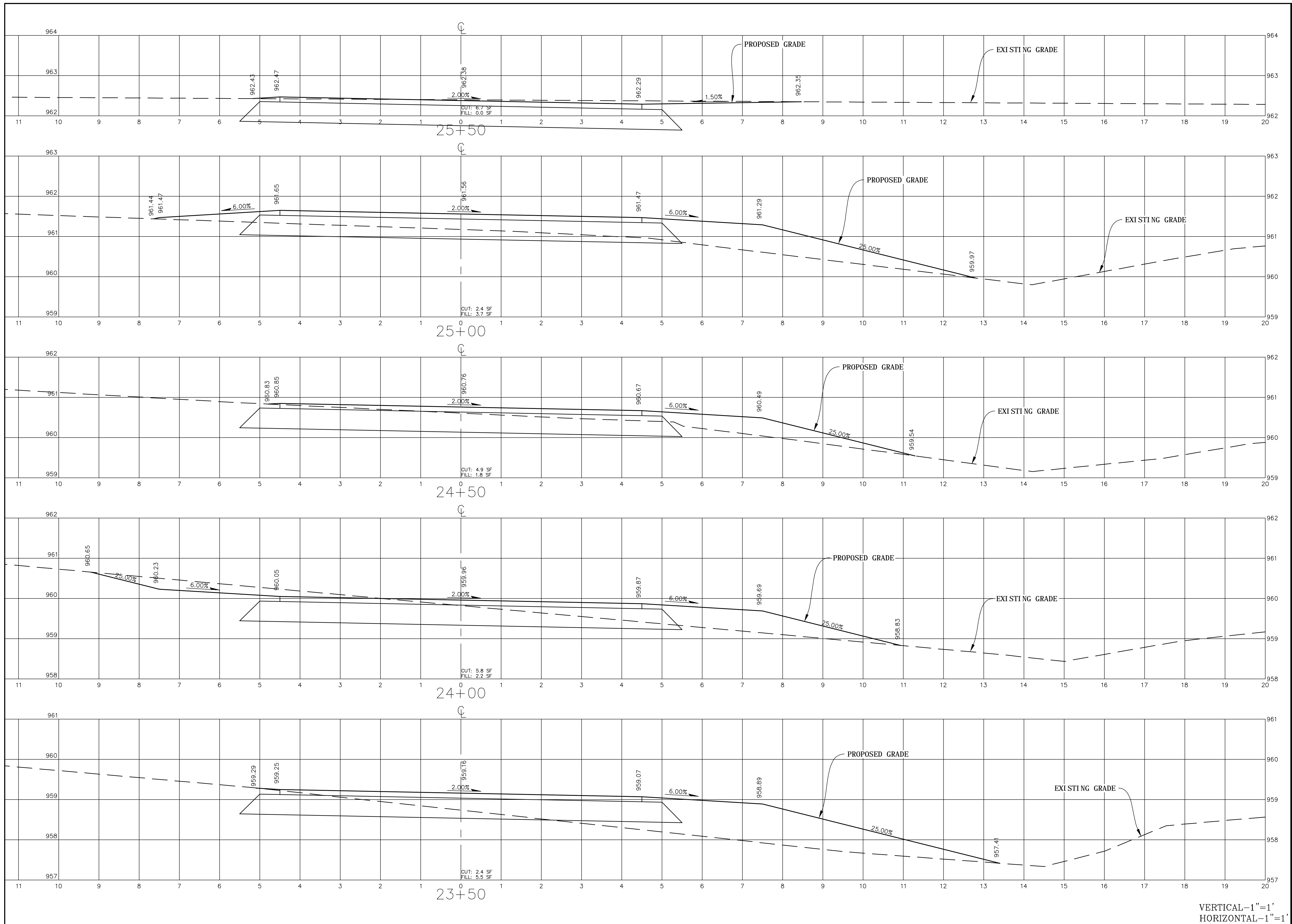


EB-5530
 CROSS SECTIONS
 STATION 21+00 TO 23+00

PROJECT NO.: 13103
 SCALE: AS SHOWN
 DATE: 8/21/2015
 DRAWN BY:
 REVISION:

TOWN OF TROUTMAN
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 IREDELL COUNTY, NORTH CAROLINA

VERTICAL-1"=1'
 HORIZONTAL-1"=1'



EB-5530
 CROSS SECTIONS
 STATION 23+50 TO 25+50

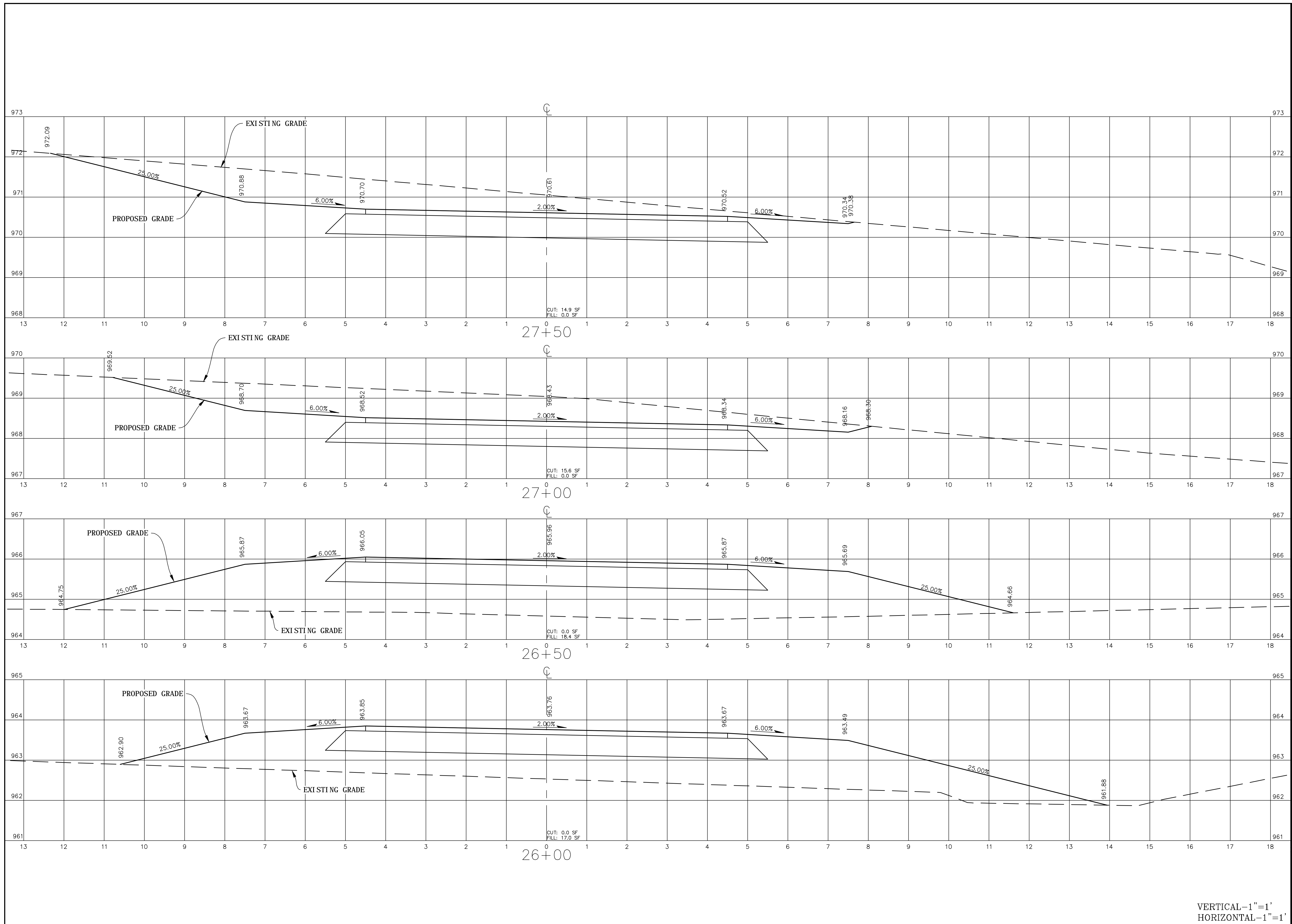
PROJECT NO.: 13103
 SCALE: AS SHOWN
 DATE: 8/21/2015
 DRAWN BY:
 REVISION:

TOWN OF TROUTMAN
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 IREDELL COUNTY, NORTH CAROLINA

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18 OF 41

VERTICAL-1"=1'
 HORIZONTAL-1"=1'

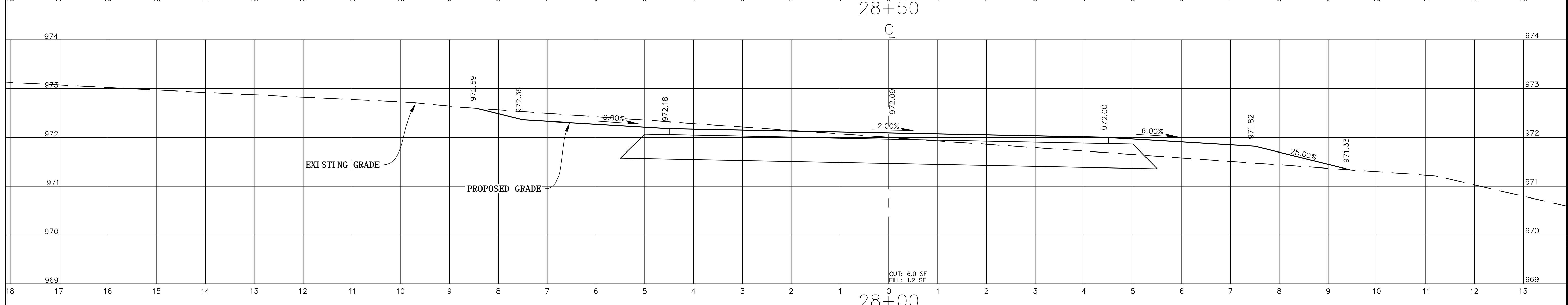
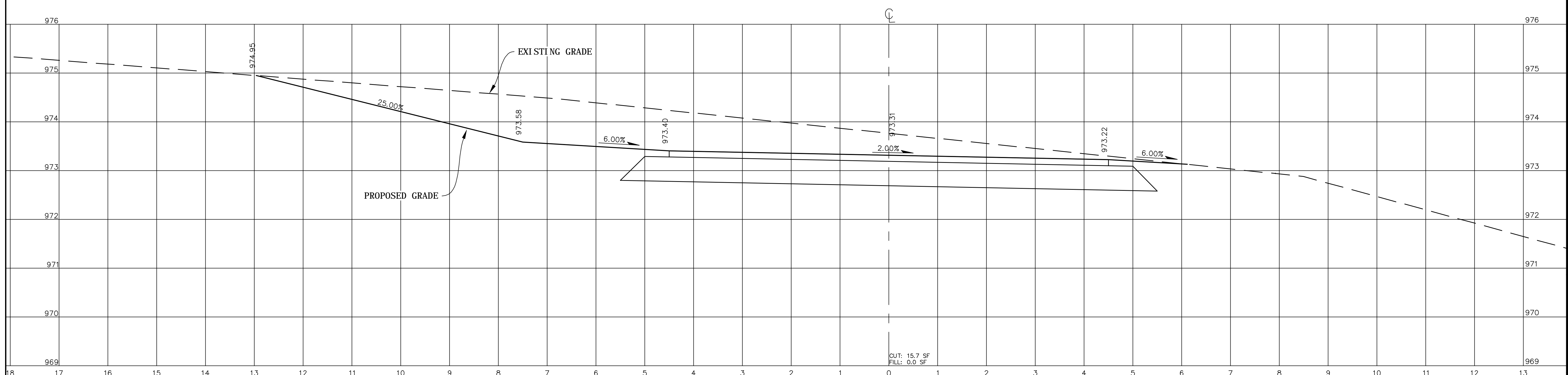
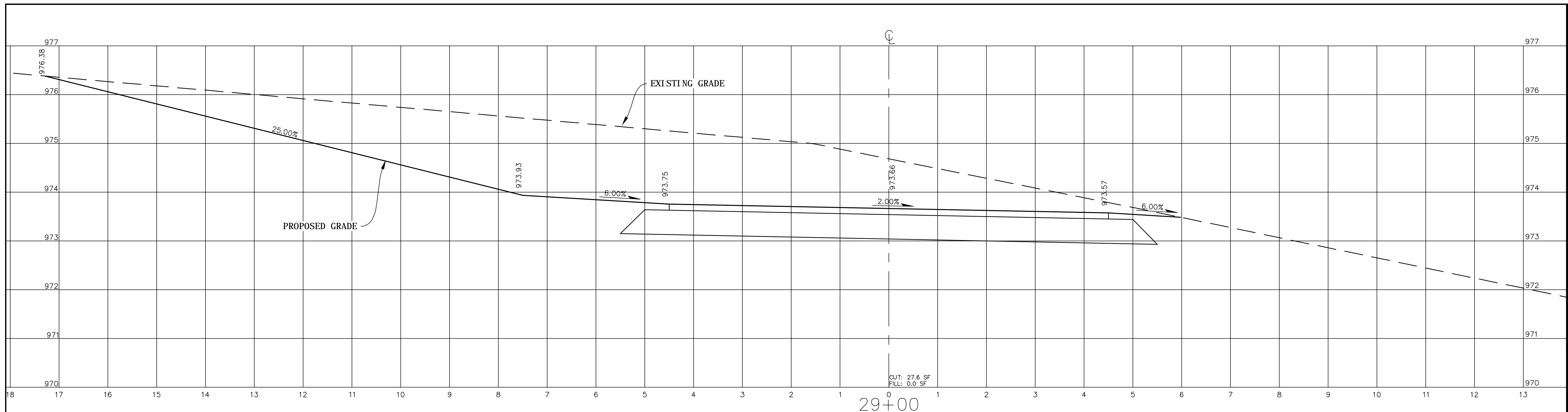


EB-5530
CROSS SECTIONS
STATION 26+00 TO 27+50

PROJECT NO.: 13103
SCALE: AS SHOWN
DATE: 8/21/2015
DRAWN BY:
REVISION:

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VERTICAL-1"=1'
HORIZONTAL-1"=1'



VERTICAL-1"=1'
HORIZONTAL-1"=1'

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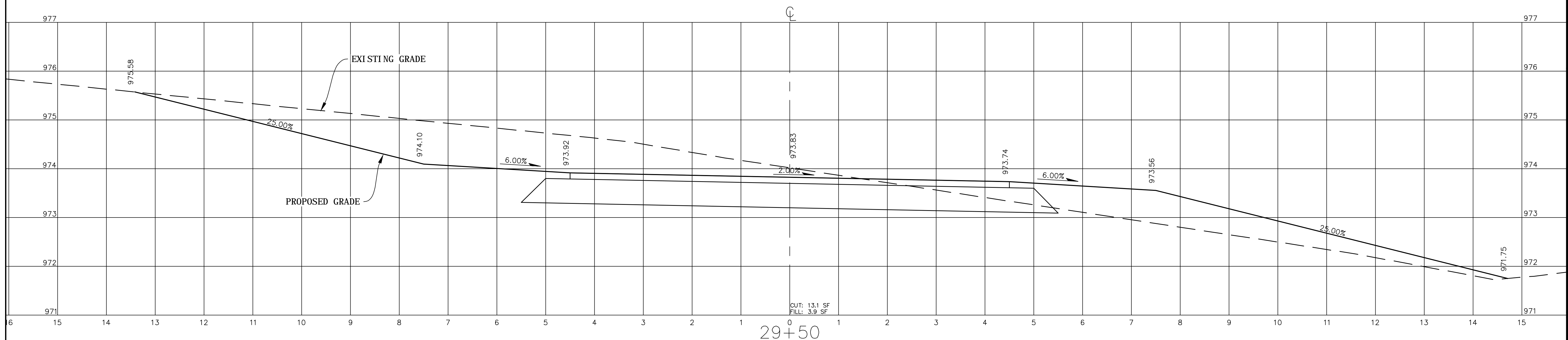
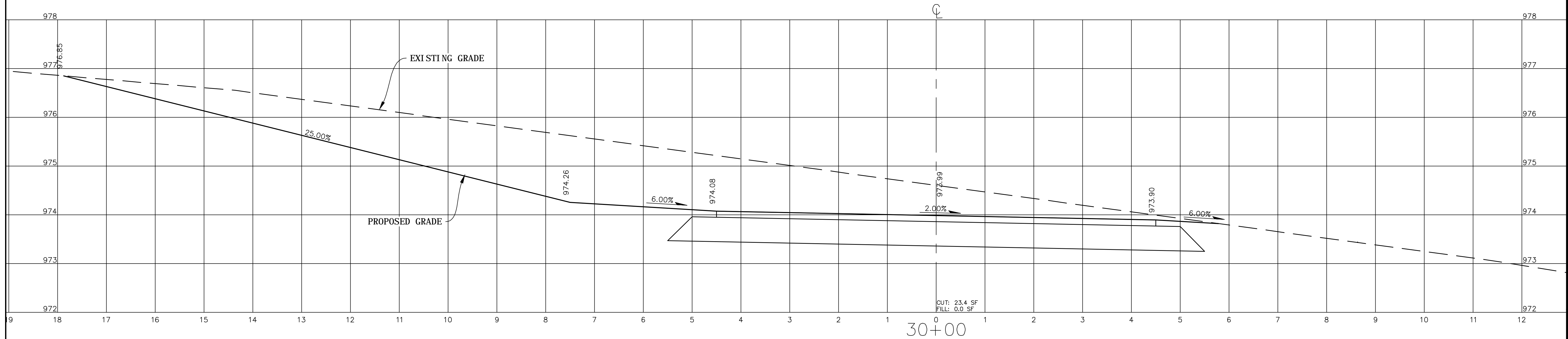
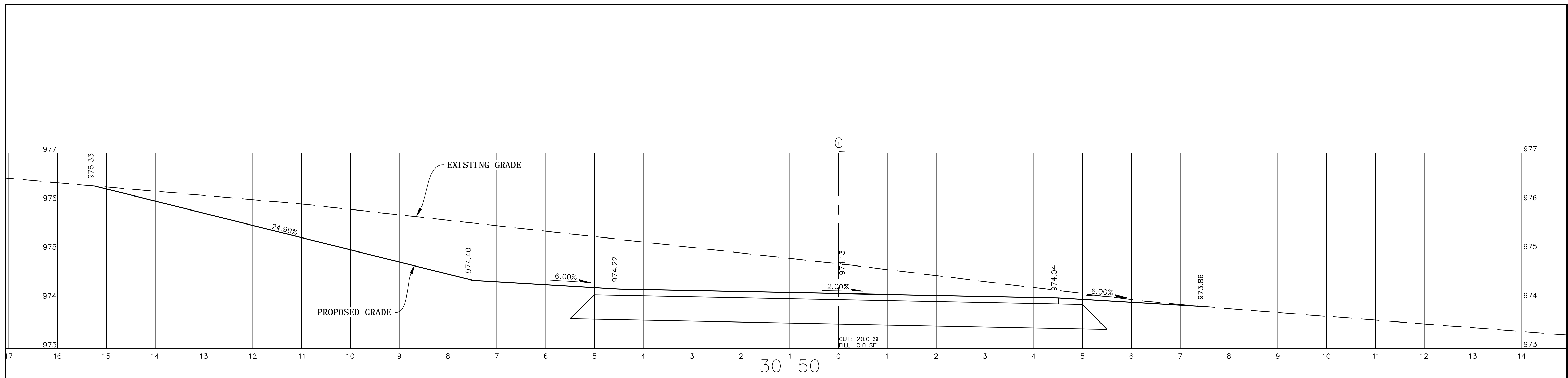
EB-5530
CROSS SECTIONS
STATION 28+00 TO 29+00

PROJECT NO.: 13103
SCALE: AS SHOWN
DATE: 8/21/2015
DRAWN BY:
REVISION:

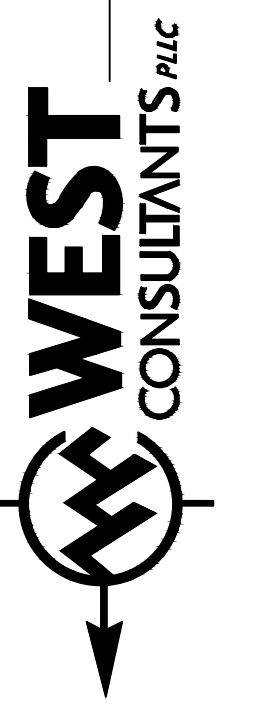
TOWN OF TROUTMAN
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IREDELL COUNTY, NORTH CAROLINA

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EB-5530
 CROSS SECTIONS
 STATION 29+50 TO 30+00

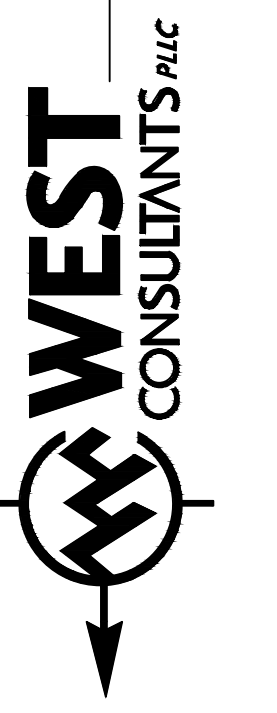
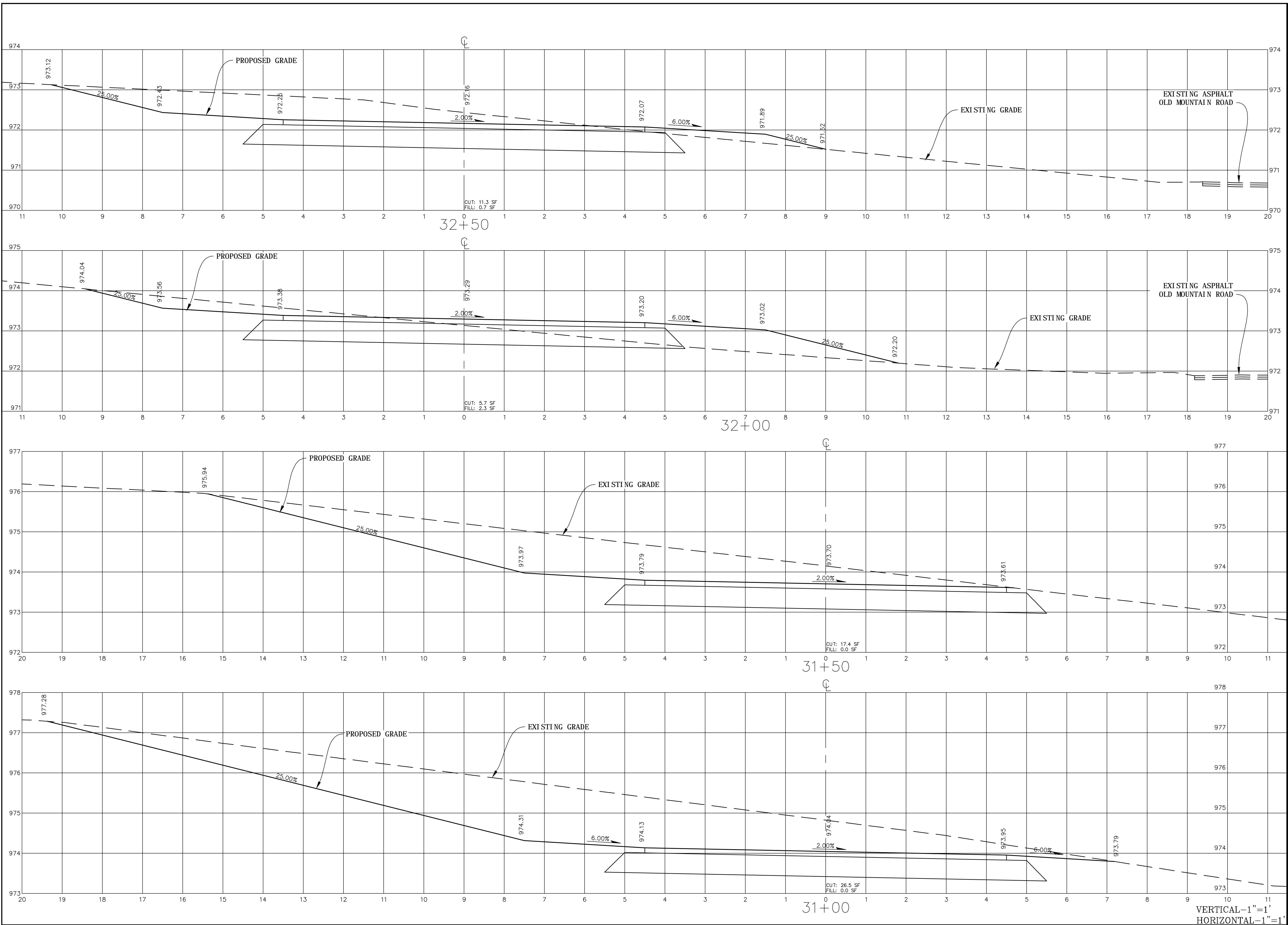
PROJECT NO.: 13103
 SCALE: AS SHOWN
 DATE: 8/21/2015
 DRAWN BY:
 REVISION:

TOWN OF TROUTMAN
 EB-5530 & 5532 GREENWAYS
 IREDELL COUNTY, NORTH CAROLINA

SHEET

21 OF 41

VERTICAL-1"=1'
 HORIZONTAL-1"=1'



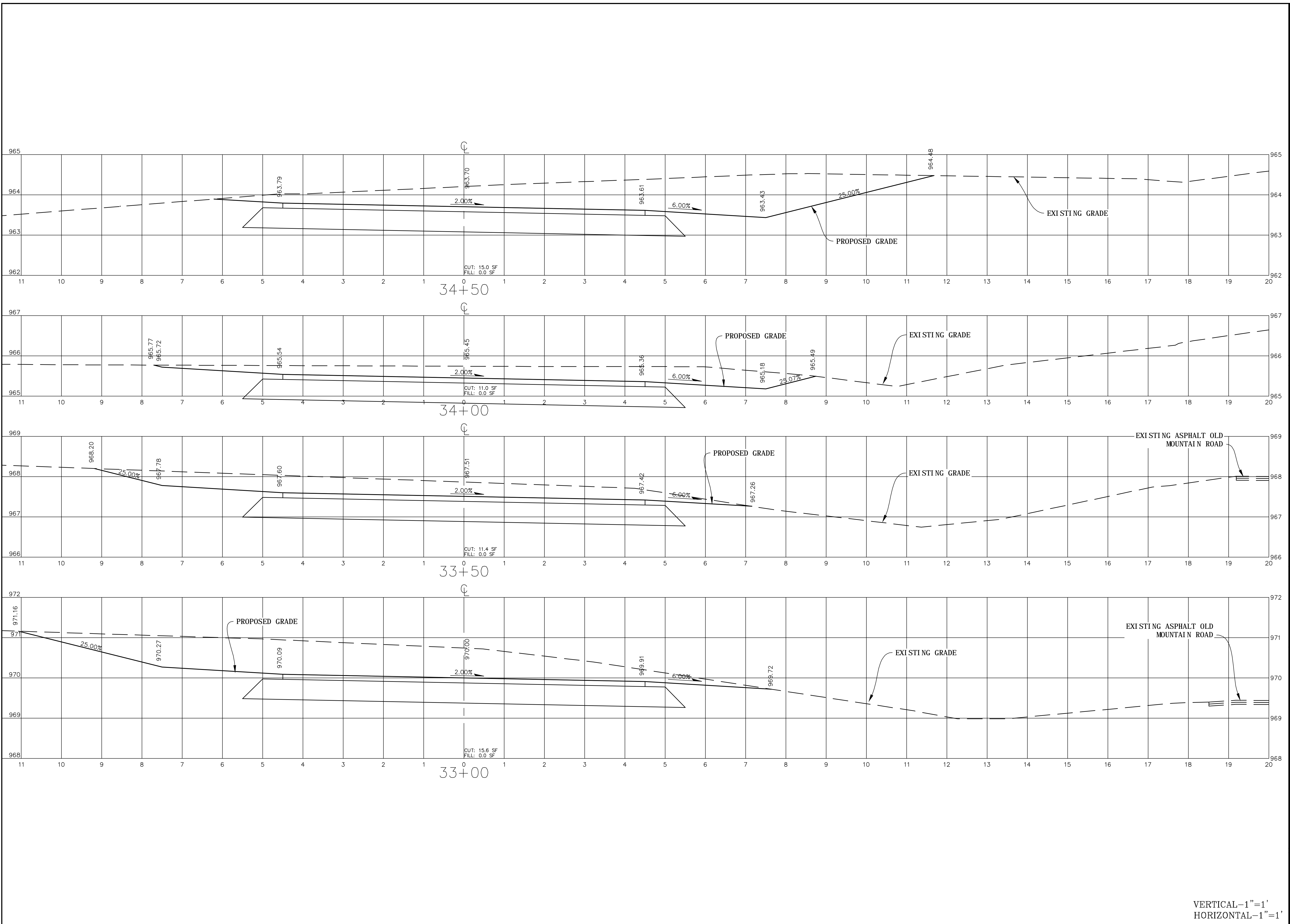
EB-5530
 CROSS SECTIONS
 STATION 31+00 TO 32+50

PROJECT NO.: 13103
 SCALE: AS SHOWN
 DATE: 8/21/2015
 DRAWN BY:
 REVISION:

TOWN OF TROUTMAN
 EB-5530 & 5532 GREENWAYS
 IREDELL COUNTY, NORTH CAROLINA

SHEET

VERTICAL-1"=1'
 HORIZONTAL-1"=1'



EB-5530
 CROSS SECTIONS
 STATION 33+00 TO 34+50

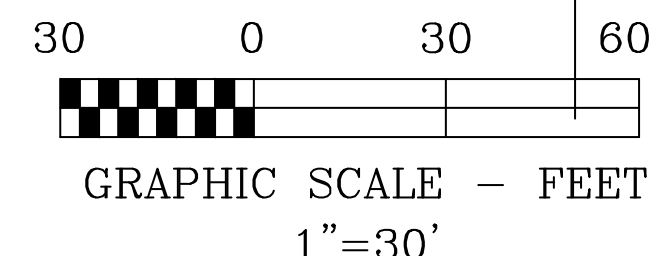
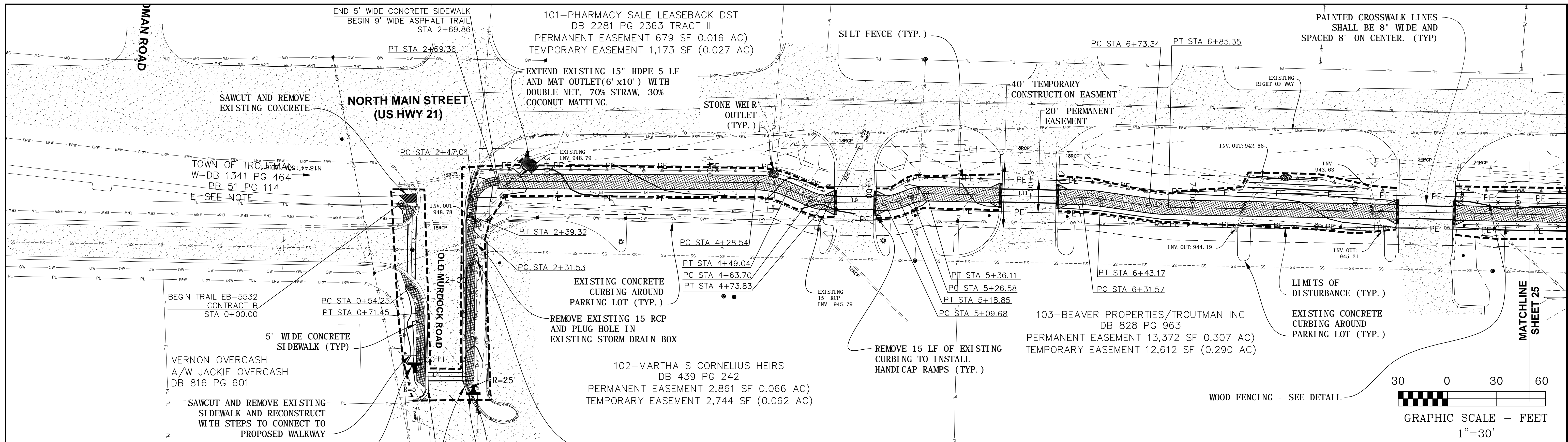
PROJECT NO.: 13103
 SCALE: AS SHOWN
 DATE: 8/21/2015
 DRAWN BY:
 REVISION:

TOWN OF TROUTMAN
 EB-5530 & 5532 GREENWAYS
 IREDELL COUNTY, NORTH CAROLINA

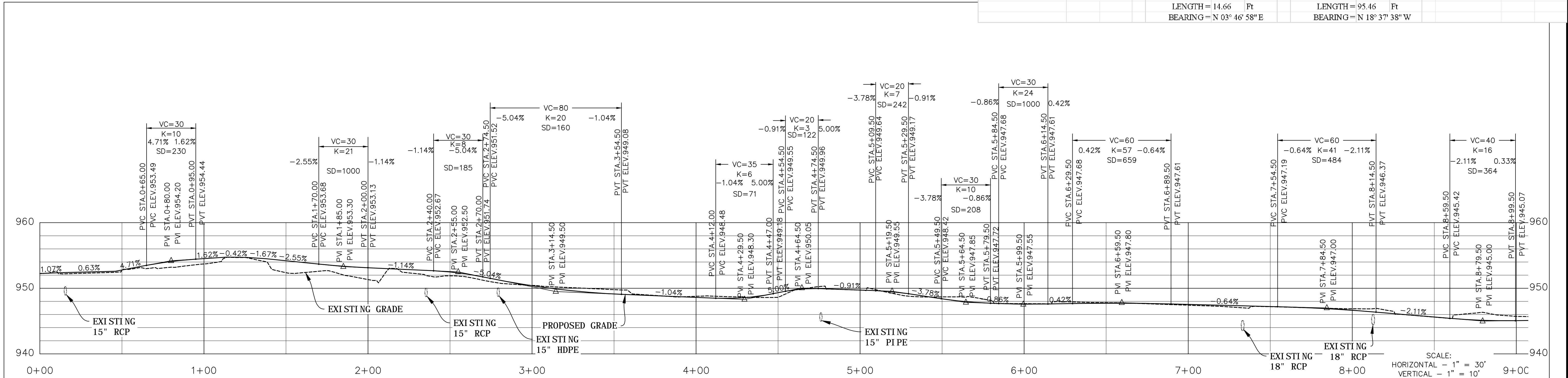
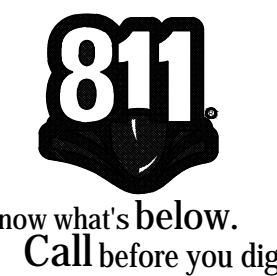
SHEET

23 OF 41

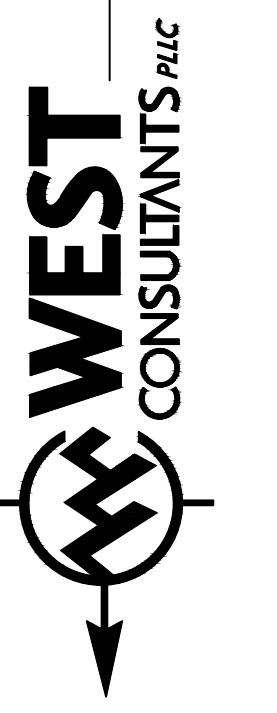
VERTICAL-1"=1'
 HORIZONTAL-1"=1'



HORIZONTAL DATA:			
LINE L1:	LENGTH = 10.13 Ft BEARING = N 27° 12' 31" E	CURVE C2: RADIUS = 96.5 Ft ARC LENGTH = 7.79 Ft CHORD LENGTH = 7.79 Ft CHORD BEARING = S 72° 45' 00" W	CURVE C5: RADIUS = 25 Ft ARC LENGTH = 10.13 Ft CHORD LENGTH = 10.07 Ft CHORD BEARING = N 07° 49' 50" W
LINE L2:	LENGTH = 44.12 Ft BEARING = N 71° 10' 49" E	LINE L6: LENGTH = 7.72 Ft BEARING = S 75° 03' 50" W	LINE L9: LENGTH = 35.84 Ft BEARING = N 19° 26' 38" W
CURVE C1:	RADIUS = 27.27 Ft ARC LENGTH = 17.2 Ft CHORD LENGTH = 16.92 Ft CHORD BEARING = N 51° 07' 17" E	CURVE C3: RADIUS = 15 Ft ARC LENGTH = 22.31 Ft CHORD LENGTH = 20.31 Ft CHORD BEARING = N 62° 19' 21" W	CURVE C6: RADIUS = 25 Ft ARC LENGTH = 9.17 Ft CHORD LENGTH = 9.12 Ft CHORD BEARING = N 29° 57' 16" W
LINE L3:	LENGTH = 39.1 Ft BEARING = N 69° 05' 44" E	LINE L7: LENGTH = 159.18 Ft BEARING = N 19° 42' 32" W	LINE L10: LENGTH = 7.73 Ft BEARING = N 40° 27' 54" W
LINE L4:	LENGTH = 30.22 Ft BEARING = N 20° 20' 22" W	CURVE C4: RADIUS = 50 Ft ARC LENGTH = 20.50 Ft CHORD LENGTH = 20.36 Ft CHORD BEARING = N 07° 57' 47" W	CURVE C7: RADIUS = 25 Ft ARC LENGTH = 9.53 Ft CHORD LENGTH = 9.47 Ft CHORD BEARING = N 29° 32' 46" W
LINE L5:	LENGTH = 90.77 Ft BEARING = S 70° 26' 10" W	LINE L8: LENGTH = 14.66 Ft BEARING = N 03° 46' 58" E	LINE L11: LENGTH = 95.46 Ft BEARING = N 18° 37' 38" W
		CURVE C8: RADIUS = 100 Ft ARC LENGTH = 11.60 Ft CHORD LENGTH = 11.59 Ft CHORD BEARING = N 15° 18' 15" W	LINE L12: LENGTH = 30.17 Ft BEARING = N 11° 58' 52" W
		CURVE C9: RADIUS = 100 Ft ARC LENGTH = 12.02 Ft CHORD LENGTH = 12.01 Ft CHORD BEARING = N 15° 25' 23" W	LINE L13: LENGTH = 392.58 Ft BEARING = N 18° 51' 54" W



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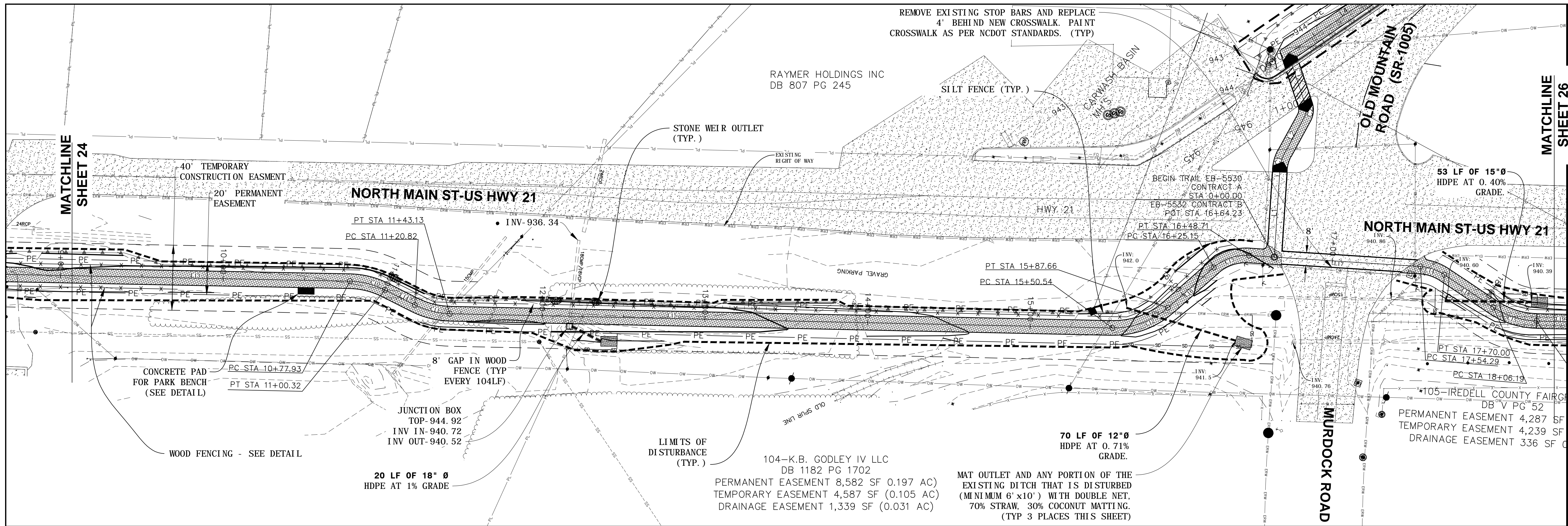


EB-5532
PLAN & PROFILE
STA. 0+00 - 9+00

PROJECT NO.: 09127
SCALE: 1" = 30'
DATE: 5-26-2014
DRAWN BY: BMS
REVISION:

TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

SHEET



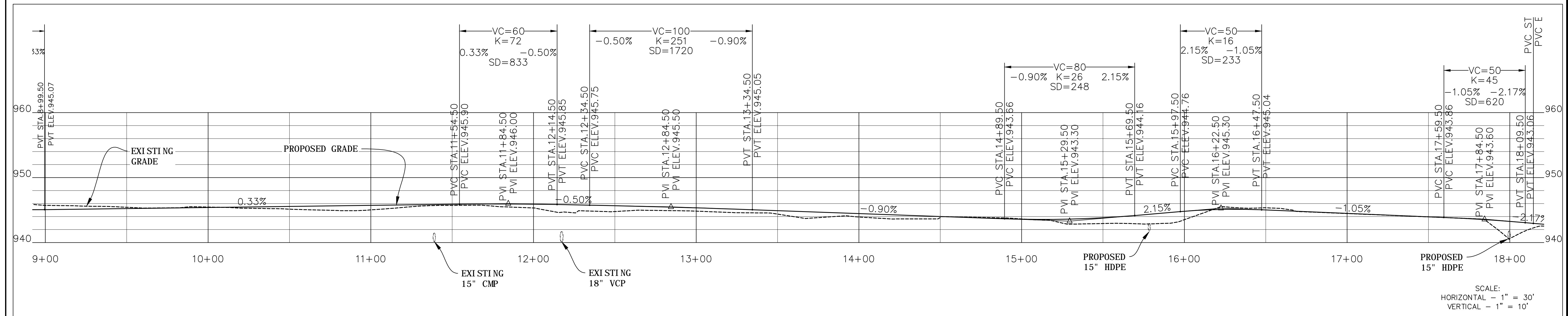
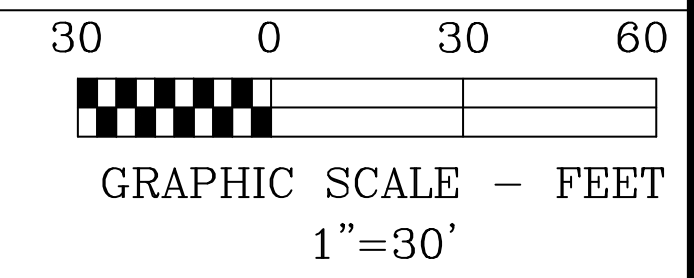
HORIZONTAL DATA:

LINE L13:	LINE L15:	LINE L17:
LENGTH = 392.58 Ft	LENGTH = 407.41 Ft	LENGTH = 105.58 Ft
BEARING = N 18° 31' 54" W	BEARING = N 18° 45' 54" W	BEARING = N 16° 17' 34" W

CURVE C10:	CURVE C12:	CURVE C14:
RADIUS = 50 Ft	RADIUS = 50 Ft	RADIUS = 30 Ft
ARC LENGTH = 22.40 Ft	ARC LENGTH = 37.11 Ft	ARC LENGTH = 15.71 Ft
CHORD LENGTH = 22.21 Ft	CHORD LENGTH = 36.27 Ft	CHORD LENGTH = 15.53 Ft
CHORD BEARING = N 06° 01' 58" W	CHORD BEARING = N 40° 01' 44" W	CHORD BEARING = N 01° 17' 34" W

LINE L14:	LINE L16:	LINE L18:
LENGTH = 20.5 Ft	LENGTH = 37.49 Ft	LENGTH = 36.19 Ft
BEARING = N 06° 47' 58" E	BEARING = N 61° 17' 34" W	BEARING = N 13° 42' 26" E

CURVE C11:	CURVE C13:	CURVE C15:
RADIUS = 50 Ft	RADIUS = 30 Ft	RADIUS = 50 Ft
ARC LENGTH = 22.31 Ft	ARC LENGTH = 23.56 Ft	ARC LENGTH = 28.31 Ft
CHORD LENGTH = 22.12 Ft	CHORD LENGTH = 22.96 Ft	CHORD LENGTH = 27.93 Ft
CHORD BEARING = N 05° 58' 58" W	CHORD BEARING = N 38° 47' 34" W	CHORD BEARING = N 02° 30' 47" W



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CONSULTANTS *PLC*

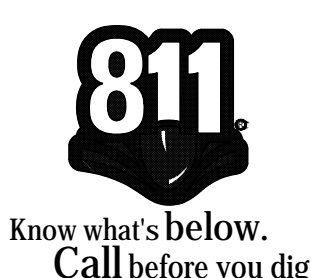
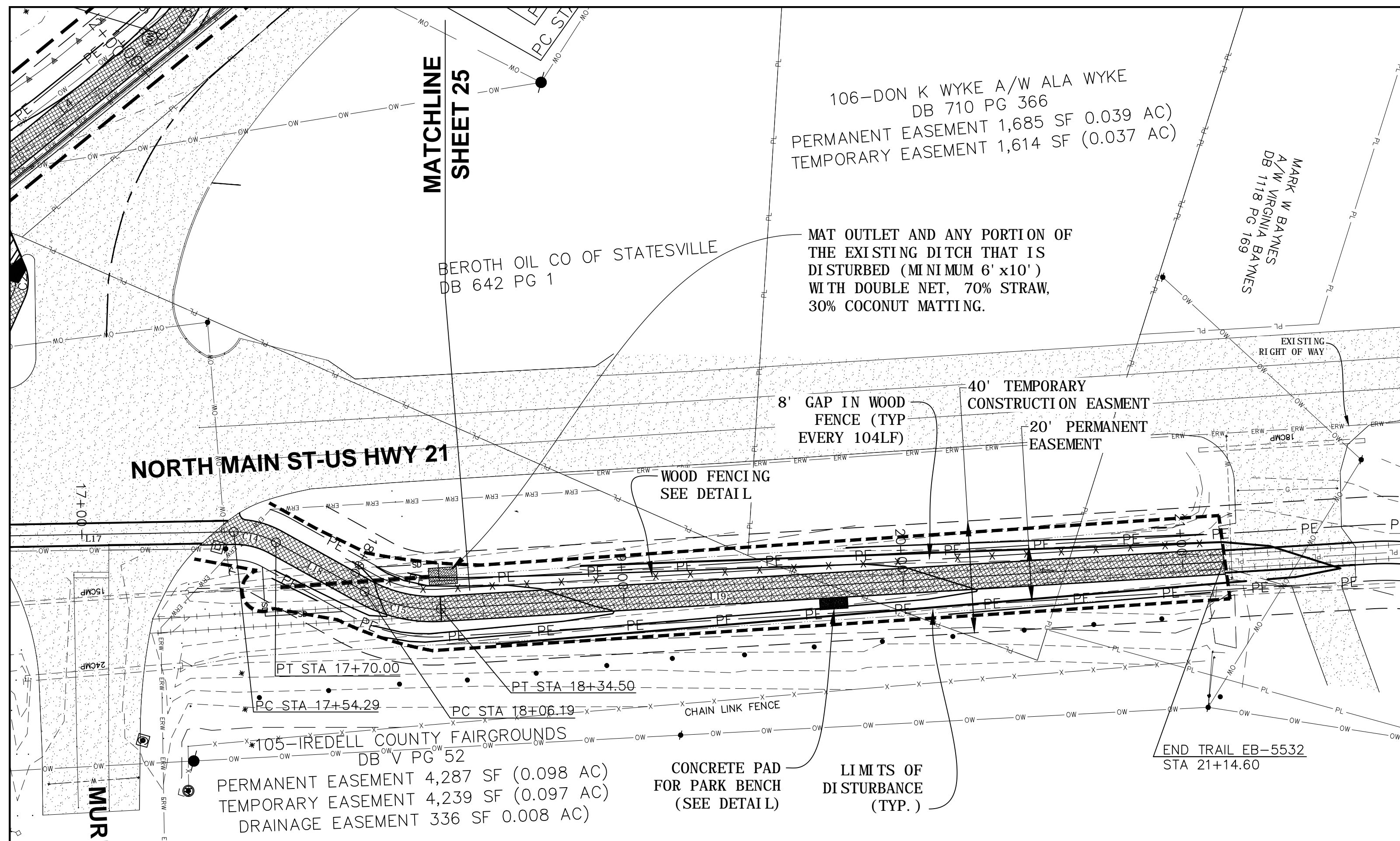
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EB-5532
 PLAN & PROFILE
 STA. 9+00 - 18+00

PROJECT NO.: 09127
 SCALE: 1" = 30'
 DATE: 5-26-2014
 DRAWN BY: BMS
 REVISION:

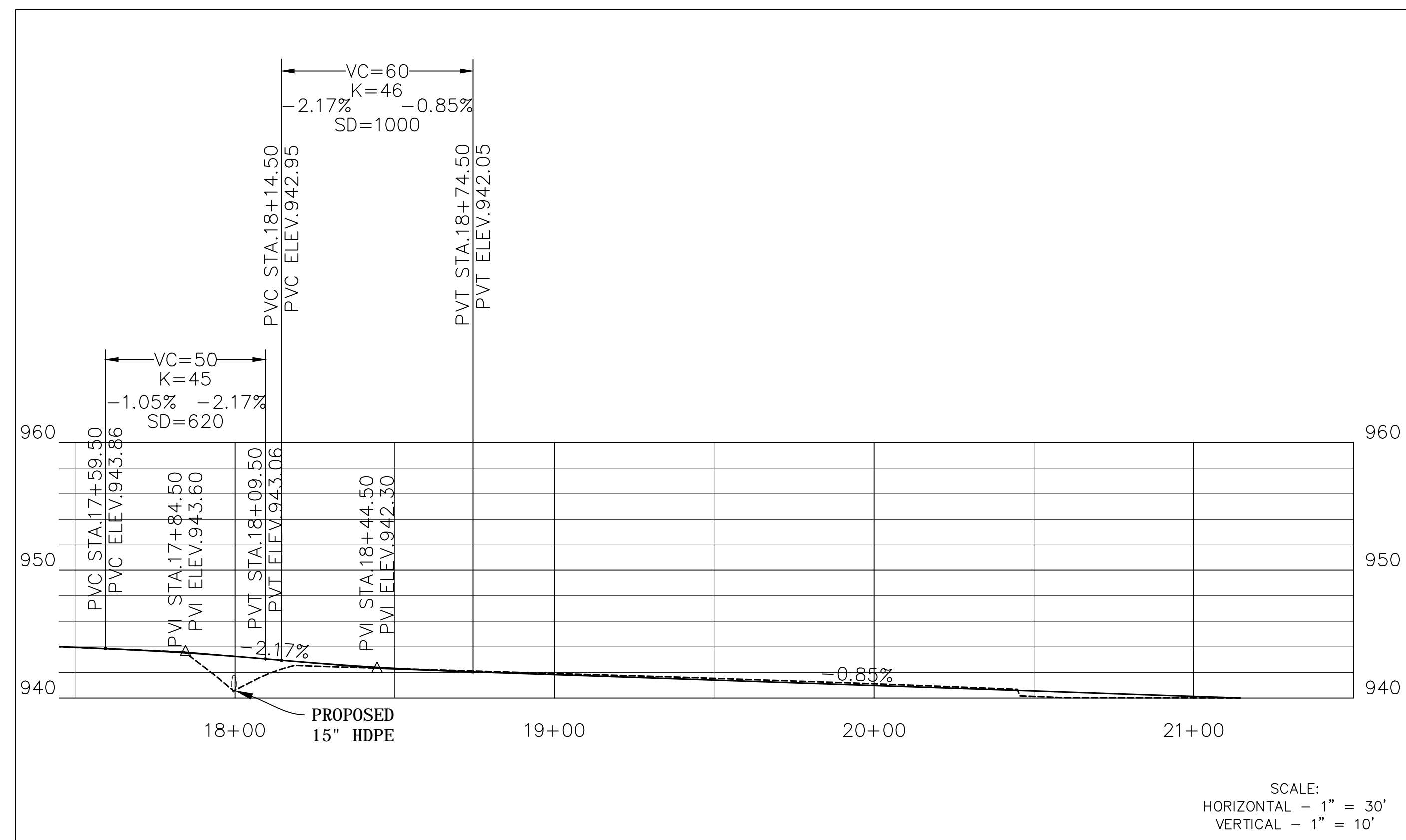
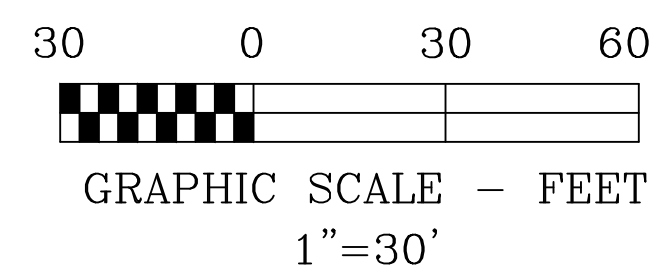
TOWN OF TROUTMAN
 EB-5530 & 5532 GREENWAYS
 IREDELL COUNTY, NORTH CAROLINA

SHEET
 25 OF 41

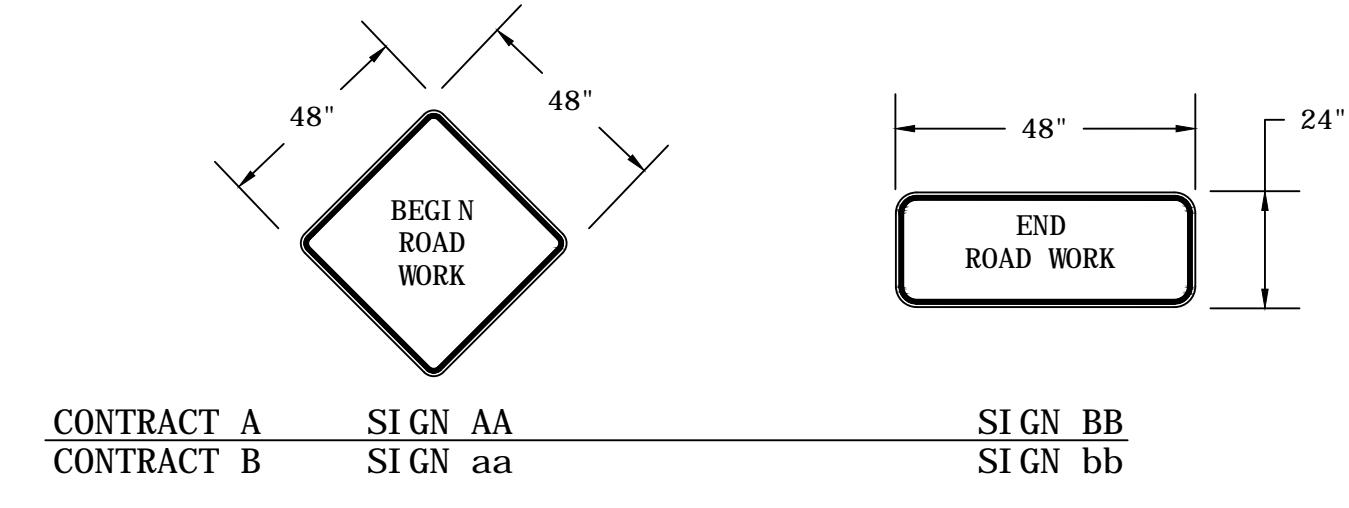


HORIZONTAL DATA:

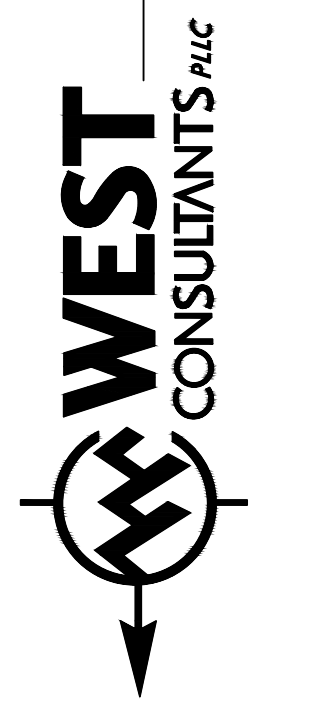
CURVE C15:	RADIUS = 50	Ft
	ARC LENGTH = 28.31	Ft
	CHORD LENGTH = 27.93	Ft
	CHORD BEARING = N 02° 30' 47" W	
LINE L19:	LENGTH = 280.10	Ft
	BEARING = N 18° 44' 00" W	



SIGNAGE PLACEMENT MAP
NTS



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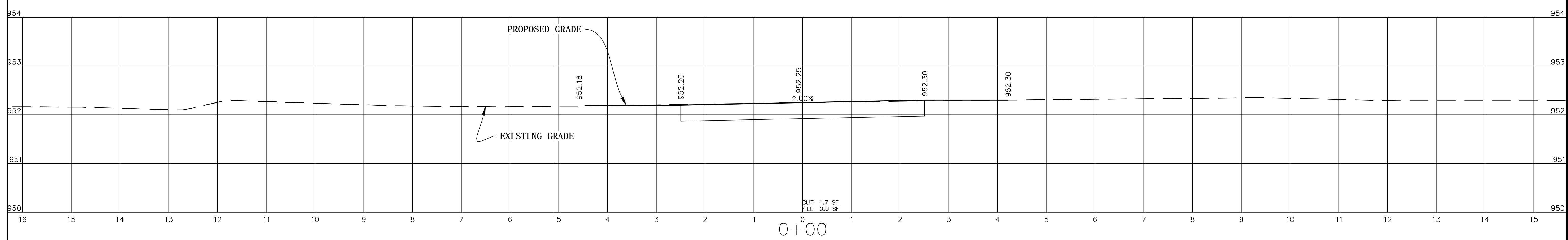
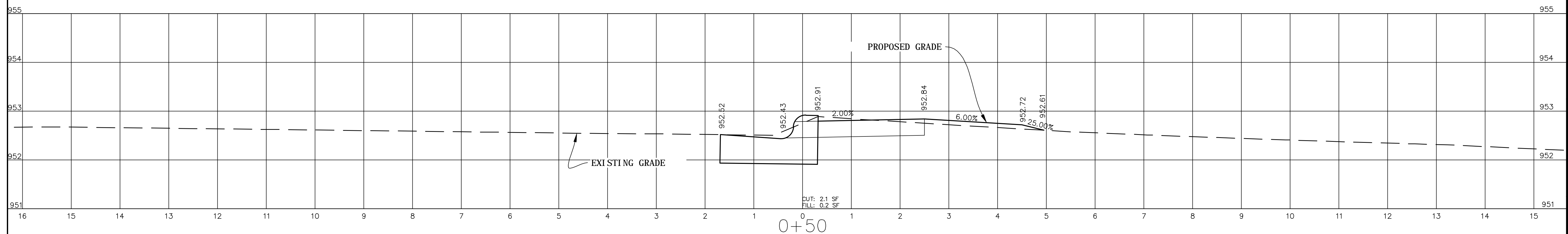
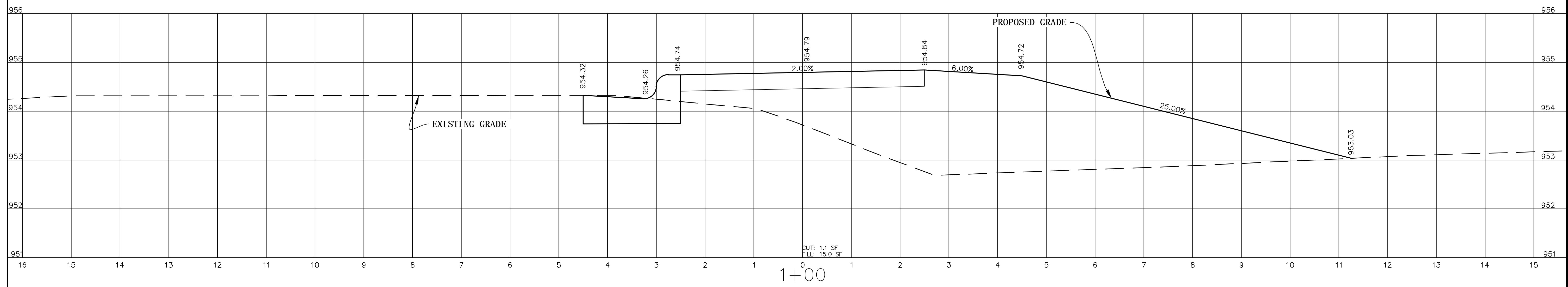
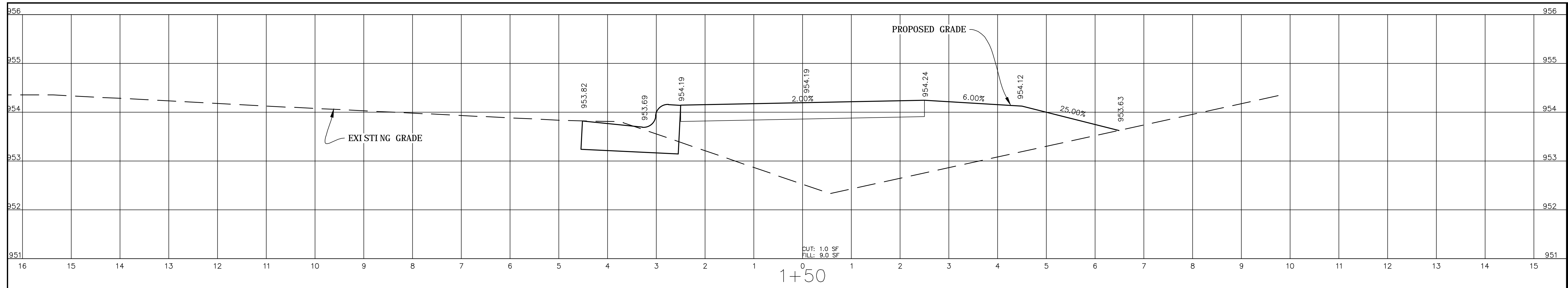


EB-5532
PLAN & PROFILE
STA. 18+00 - 21+00

PROJECT NO.: 09127
SCALE: 1" = 30'
DATE: 5-26-2014
DRAWN BY: BMS
REVISION:

TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

SHEET

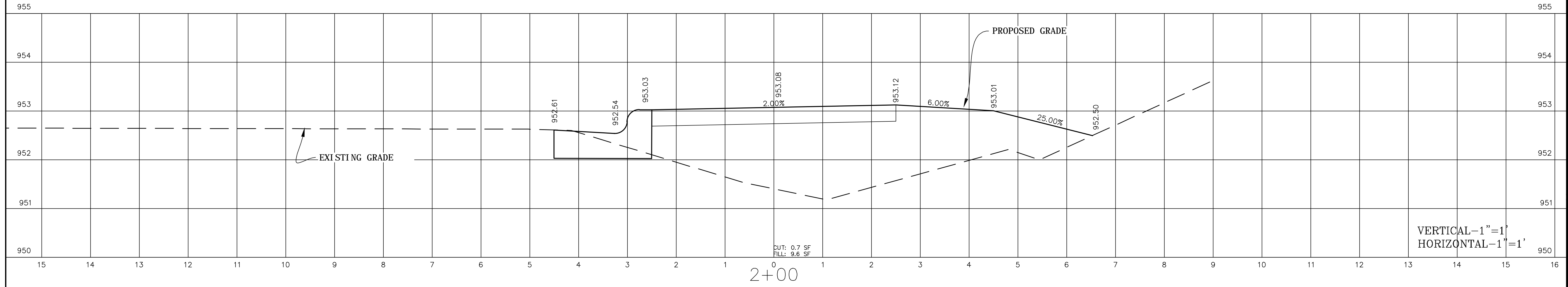
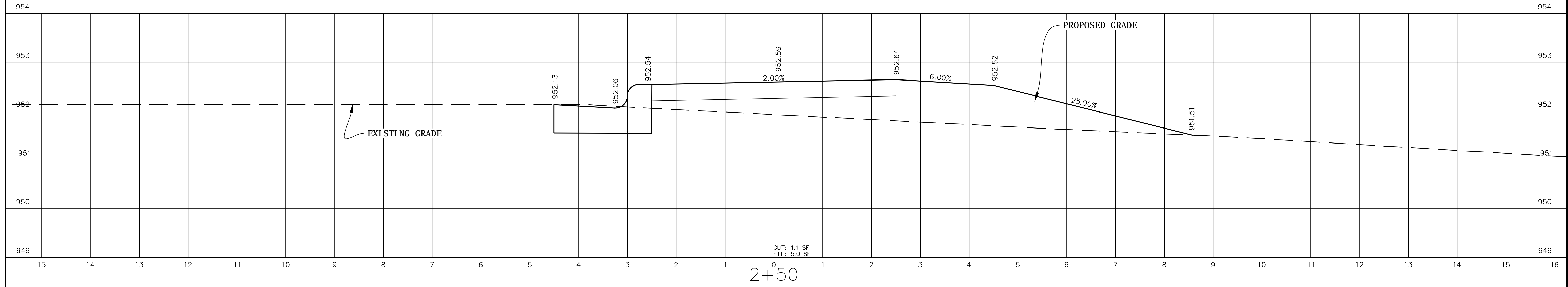
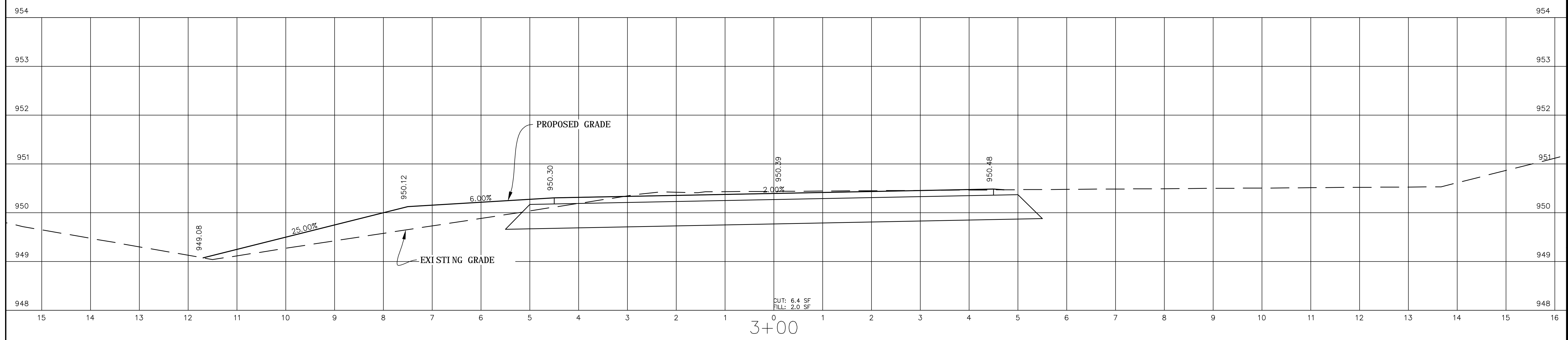
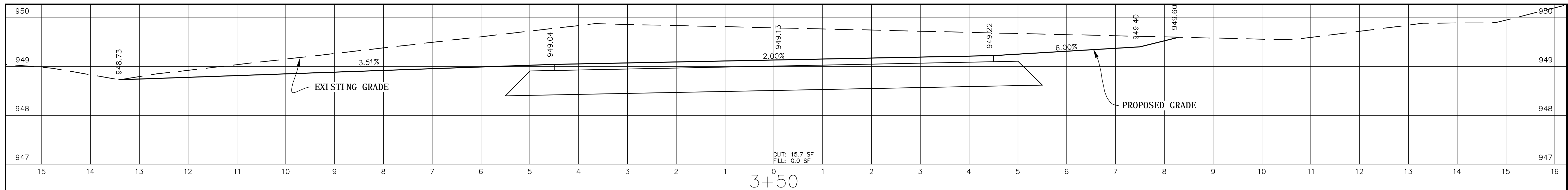


EB-5532
 CROSS SECTIONS
 STATION 0+00 TO 1+50

PROJECT NO.: 13103
 SCALE: AS SHOWN
 DATE: 8/21/2015
 DRAWN BY:
 REVISION:

TOWN OF TROUTMAN
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 IREDELL COUNTY, NORTH CAROLINA

VERTICAL-1"=1'
 HORIZONTAL-1"=1'



VERTICAL-1"=1'
HORIZONTAL-1"=1'

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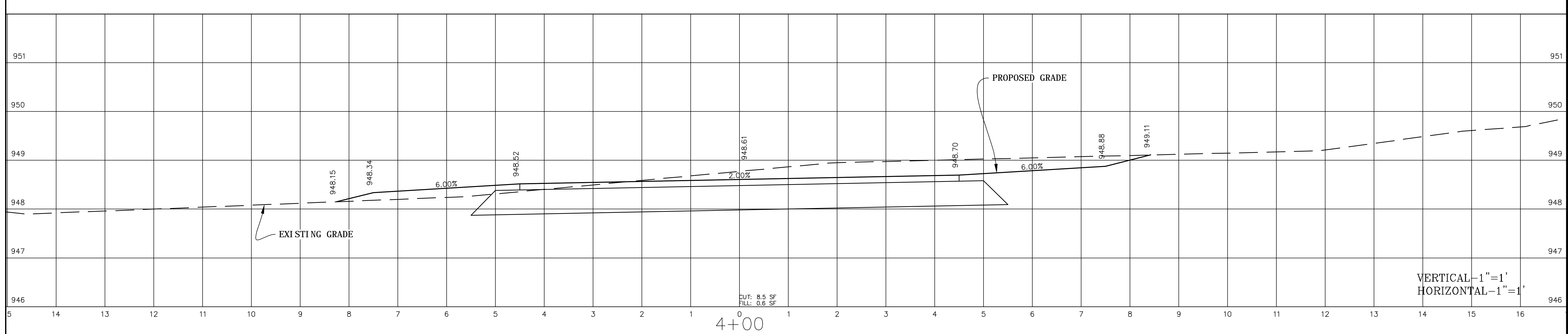
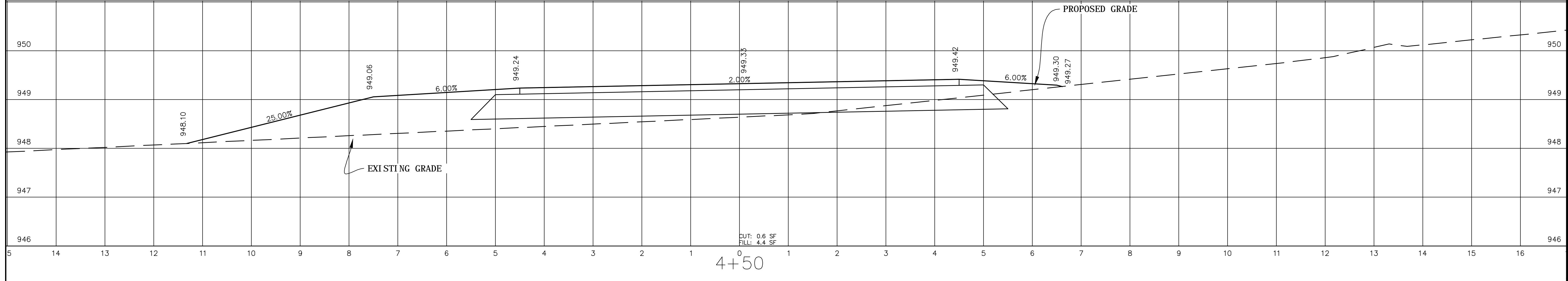
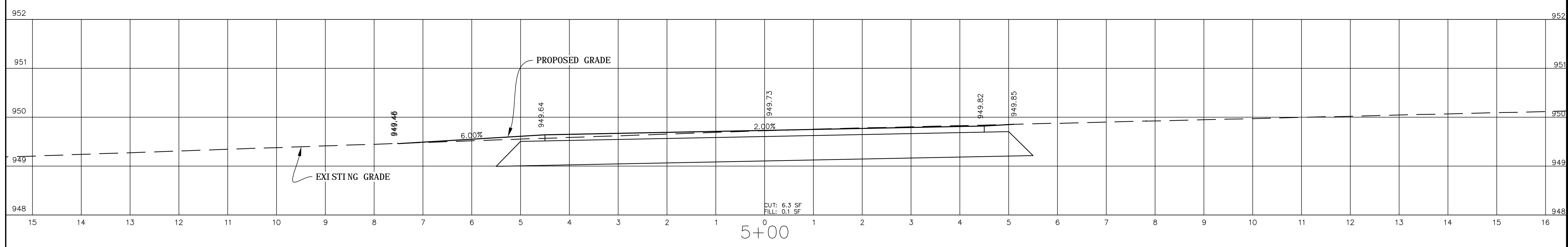
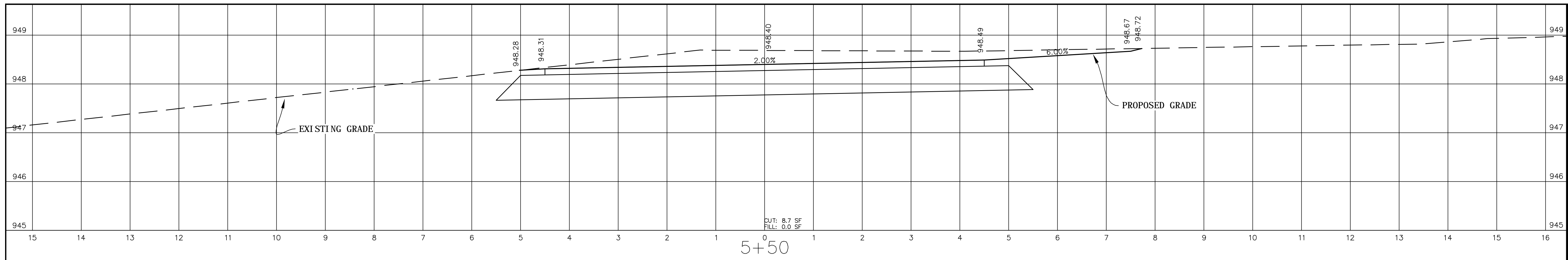
EB-5532
CROSS SECTIONS
STATION 2+00 TO 3+50

PROJECT NO.: 13103
SCALE: AS SHOWN
DATE: 8/21/2015
DRAWN BY:
REVISION:

TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

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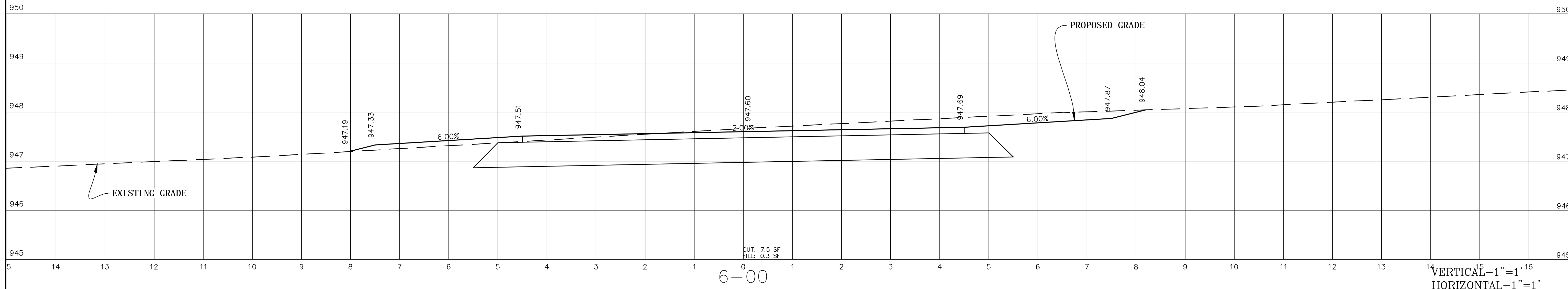
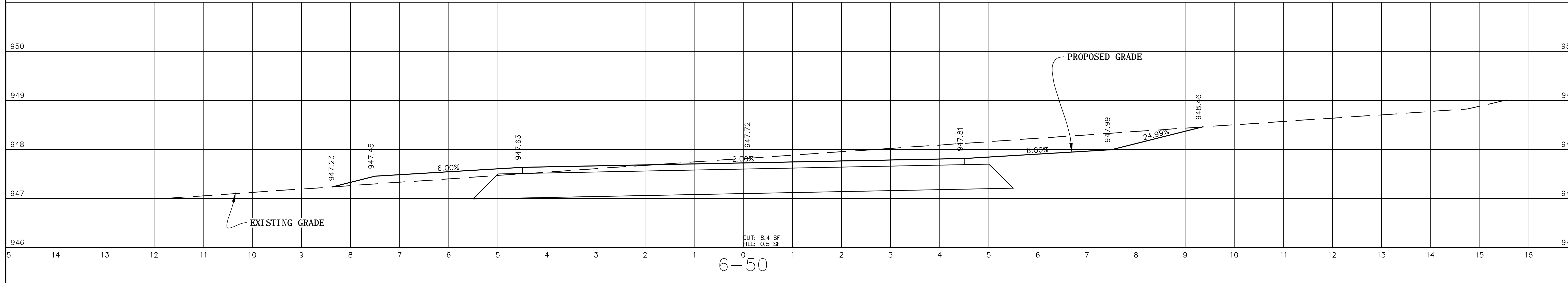
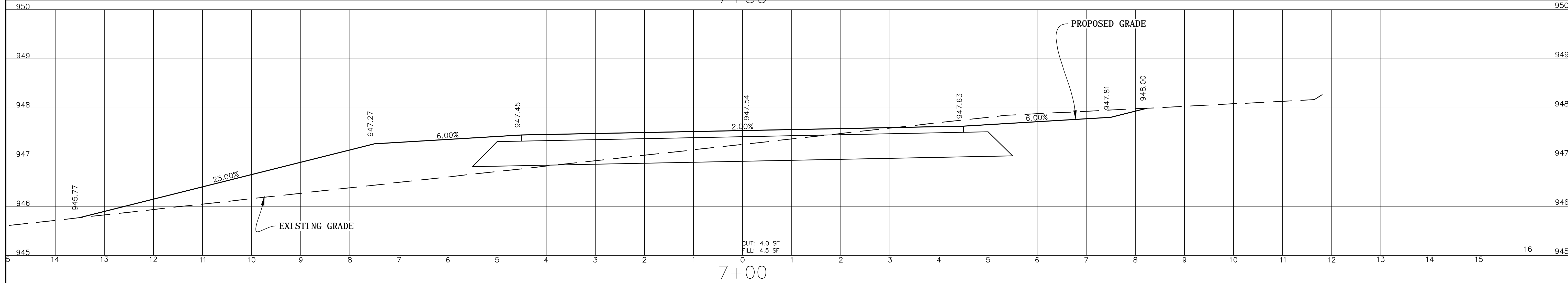
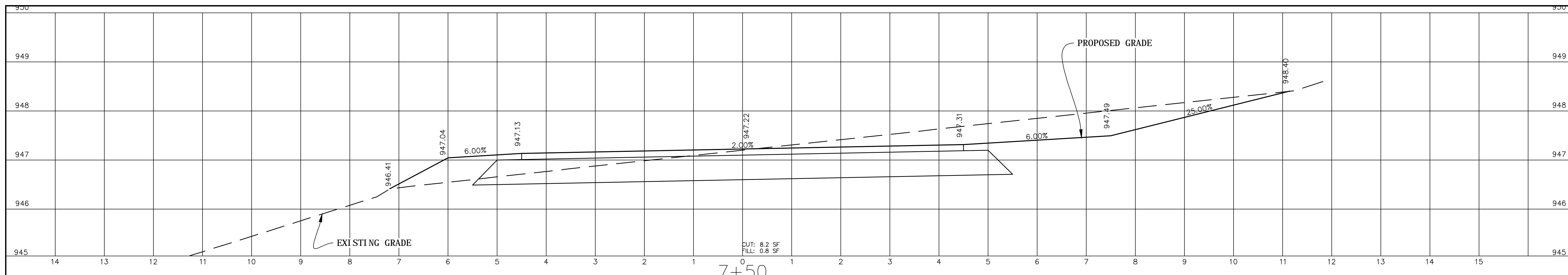
VERTICAL-1"=1'
HORIZONTAL-1"=1'

EB-5532
CROSS SECTIONS
STATION 4+00 TO 5+50

PROJECT NO.: 13103
SCALE: AS SHOWN
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IREDELL COUNTY, NORTH CAROLINA

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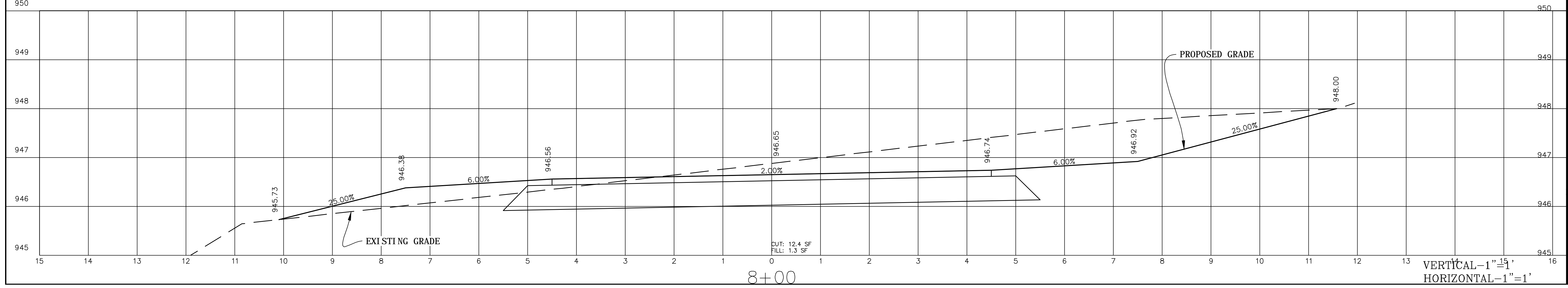
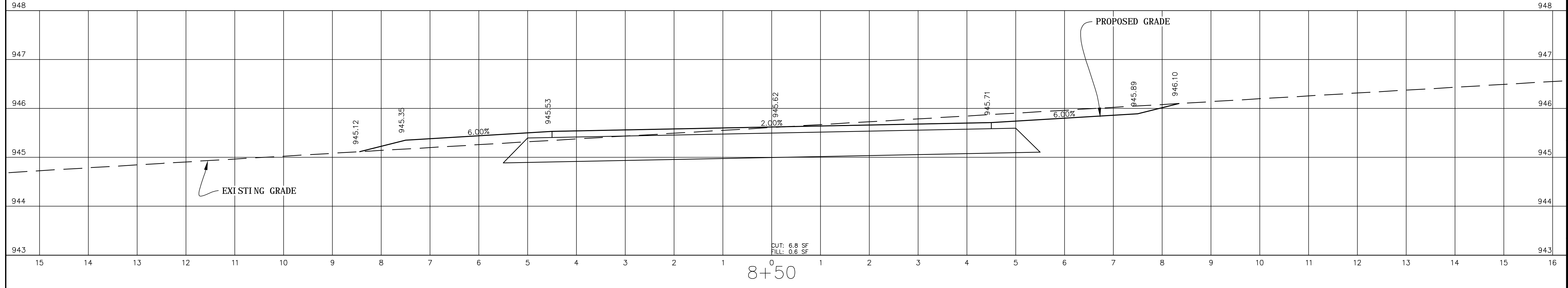
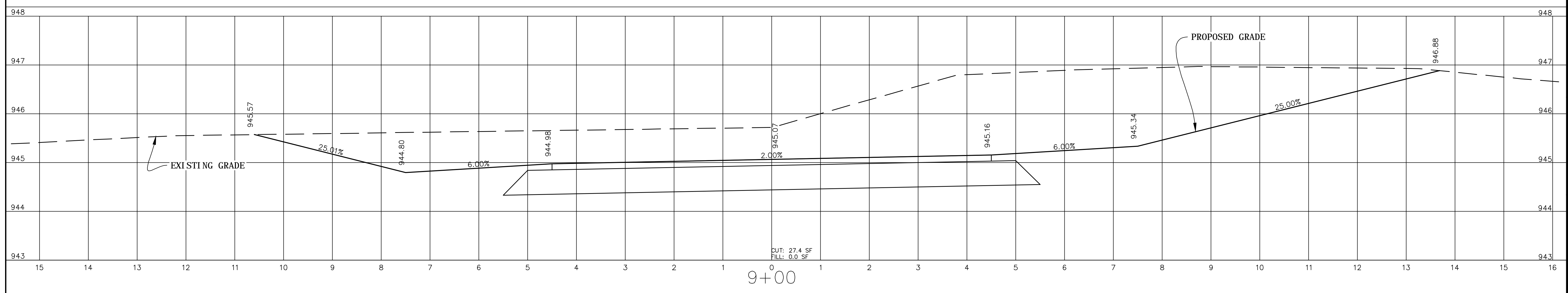
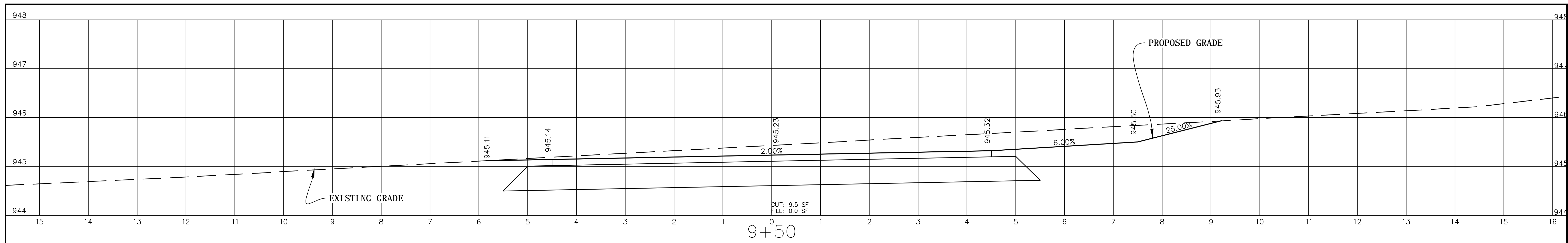


EB-5532
CROSS SECTIONS
STATION 6+00 TO 7+50

PROJECT NO.: 13103
SCALE: AS SHOWN
DATE: 8/21/2015
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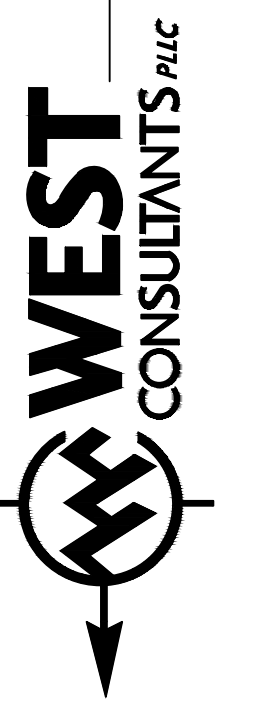
TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

VERTICAL - 1" = 1'
HORIZONTAL - 1" = 1'



VERTICAL - 1" = 1'
HORIZONTAL - 1" = 1'

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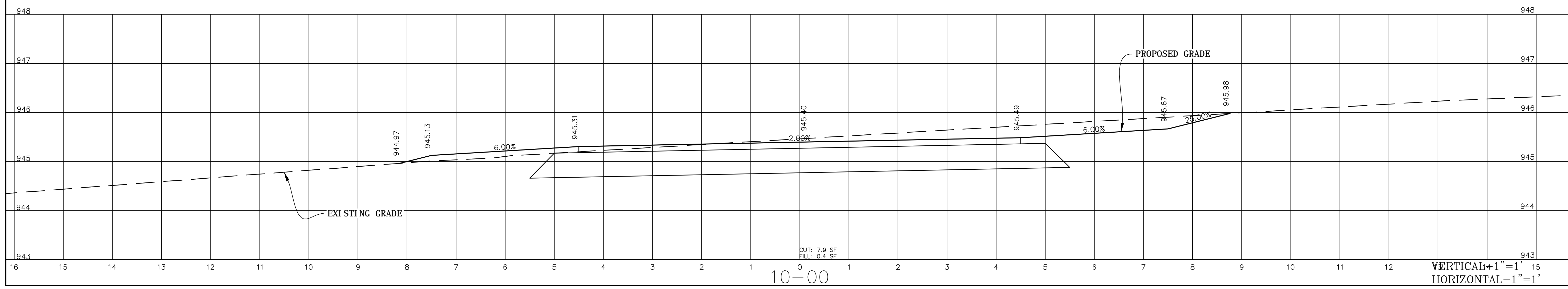
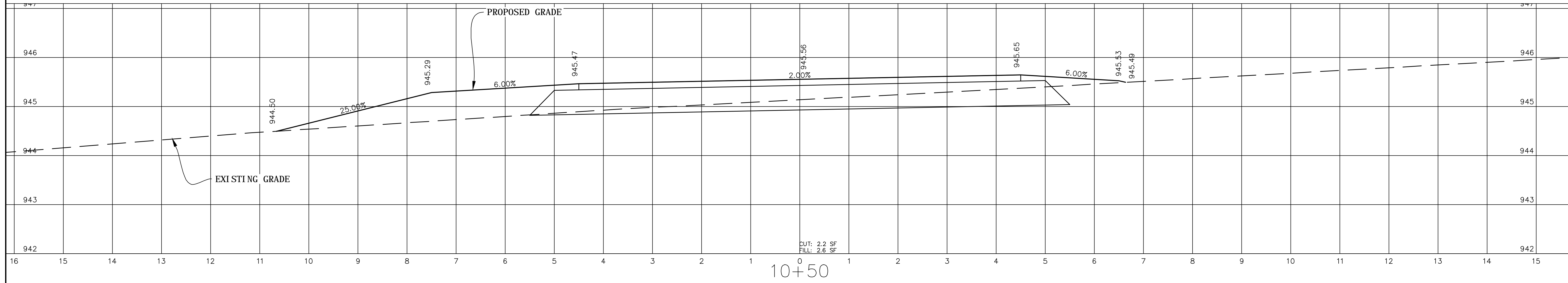
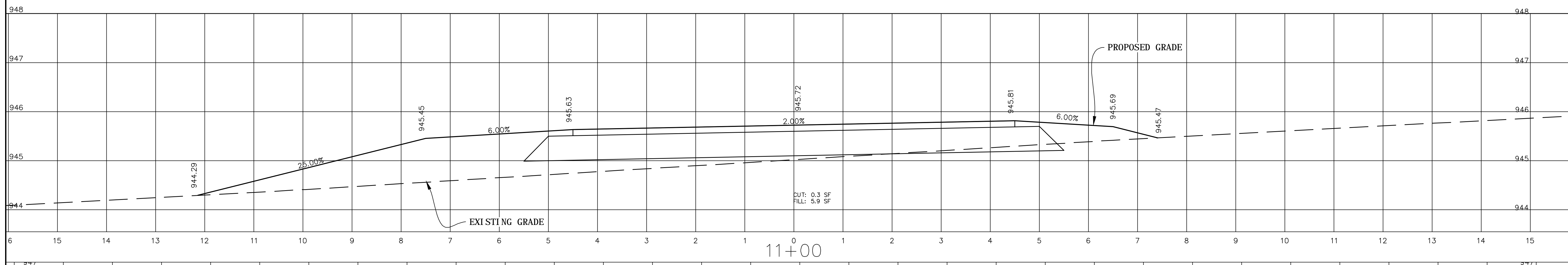
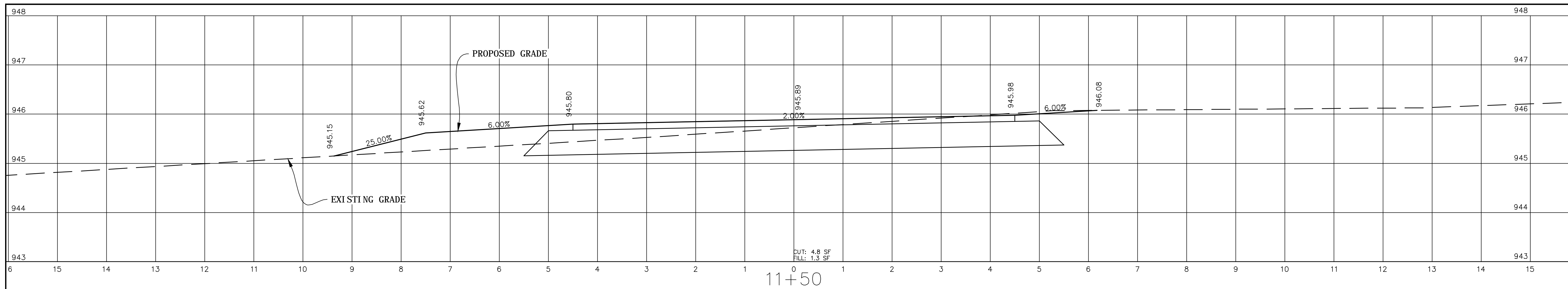
EB-5532
CROSS SECTIONS
STATION 8+00 TO 9+50

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TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
IREDELL COUNTY, NORTH CAROLINA

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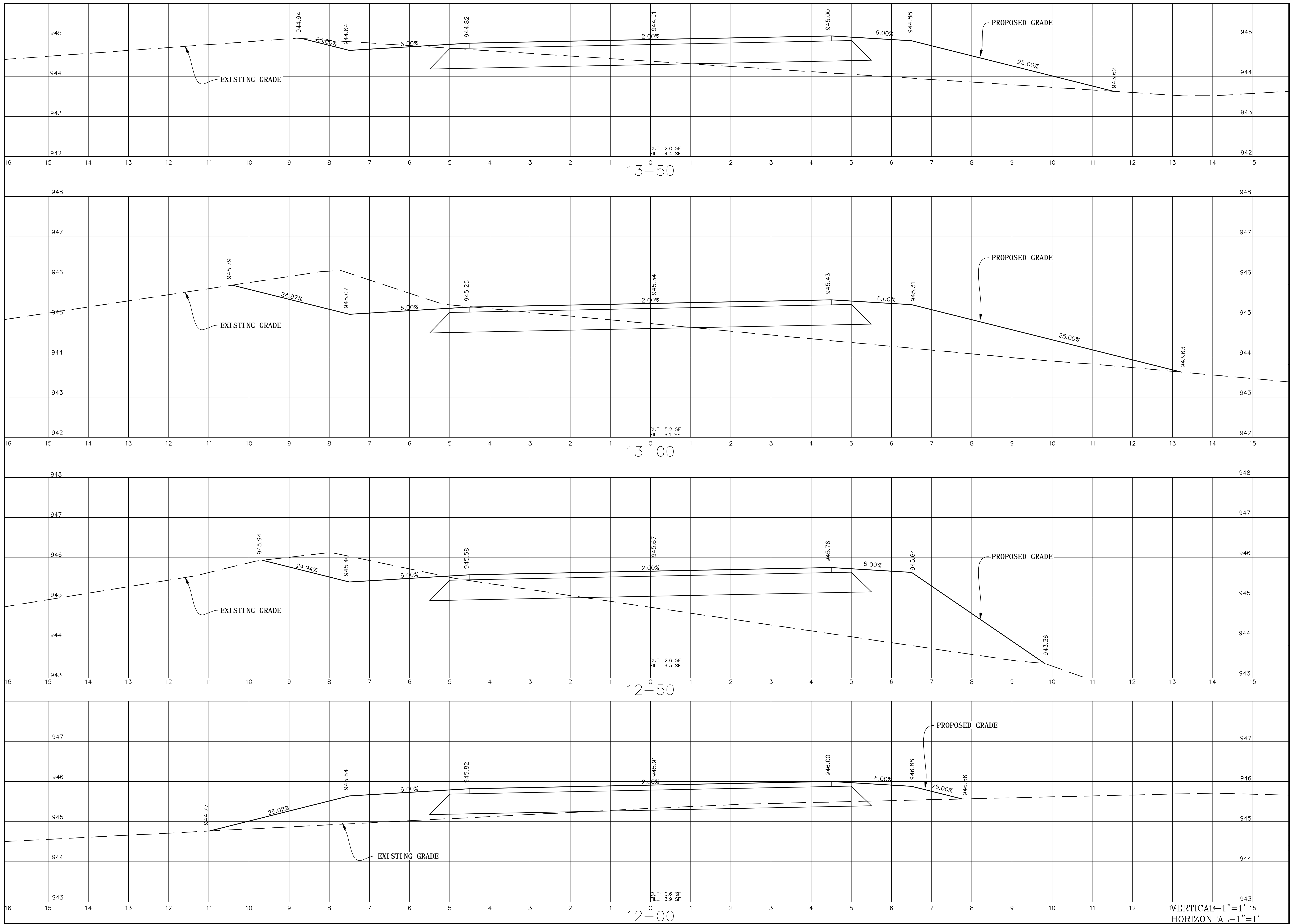
VERTICAL+1"=1'
HORIZONTAL-1"=1'

EB-5532
CROSS SECTIONS
STATION 10+00 TO 11+50

PROJECT NO.: 13103
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EB-5532
 CROSS SECTIONS
 STATION 12+00 TO 13+50

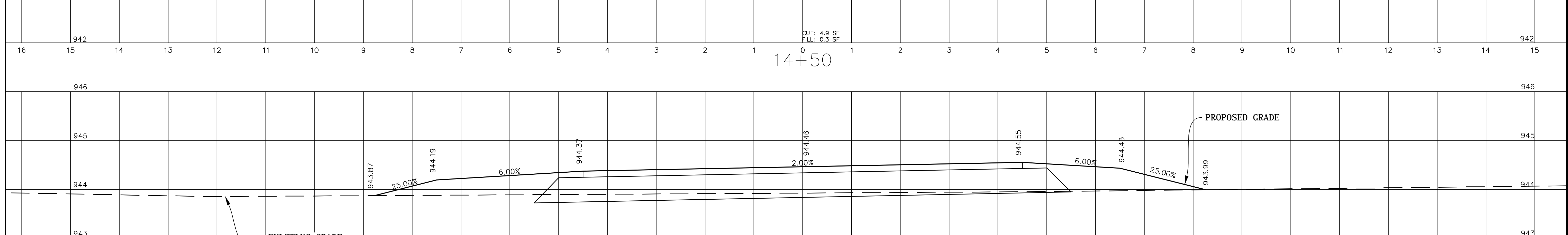
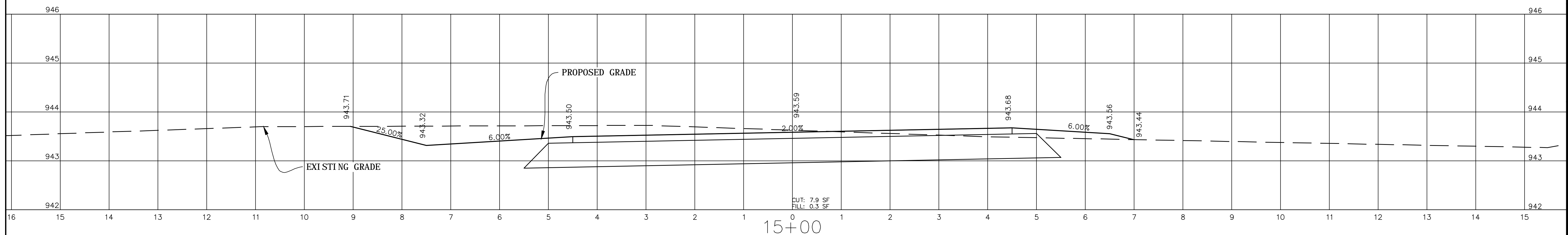
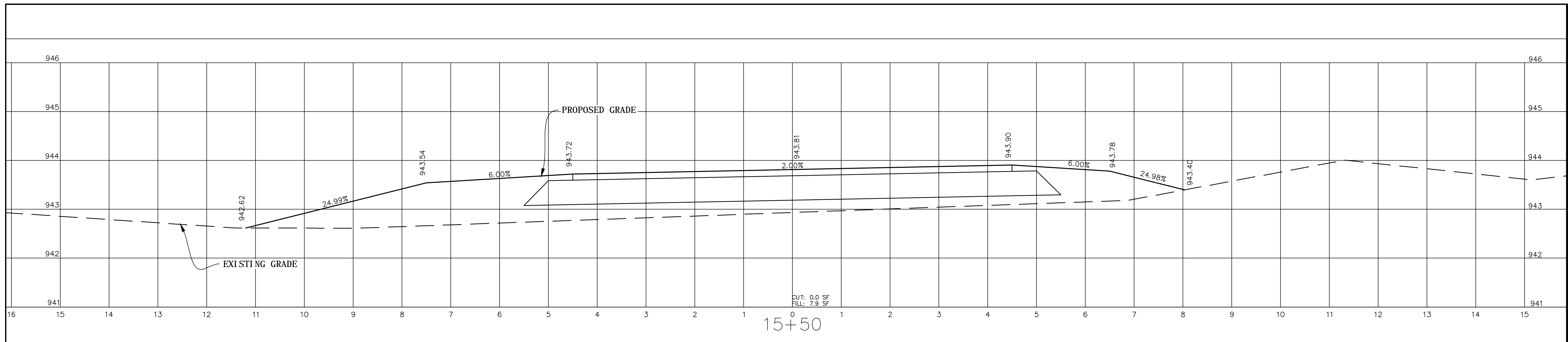
PROJECT NO.: 13103
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TOWN OF TROUTMAN
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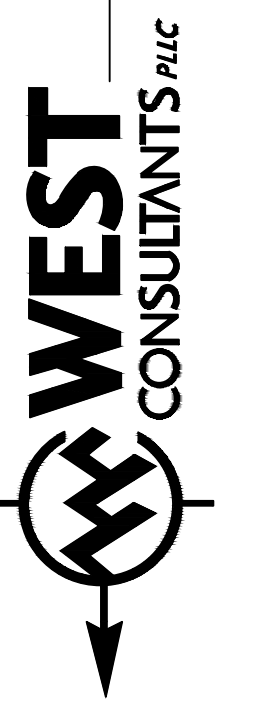
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VERTICAL-1"=1'
 HORIZONTAL-1"=1'



VERTICAL - 1" = 1'
HORIZONTAL - 1" = 1'

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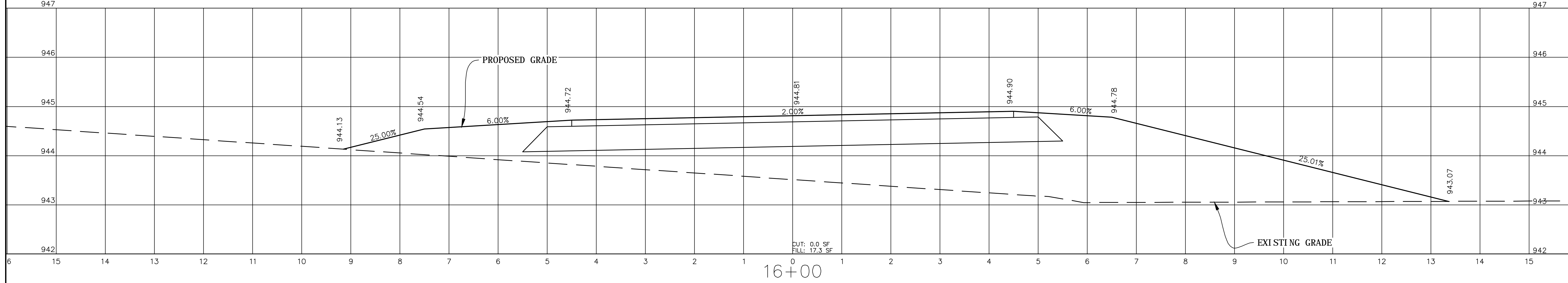
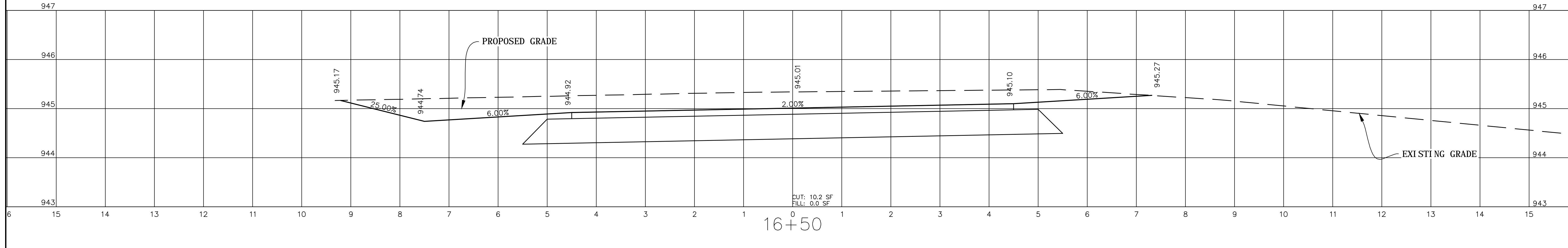
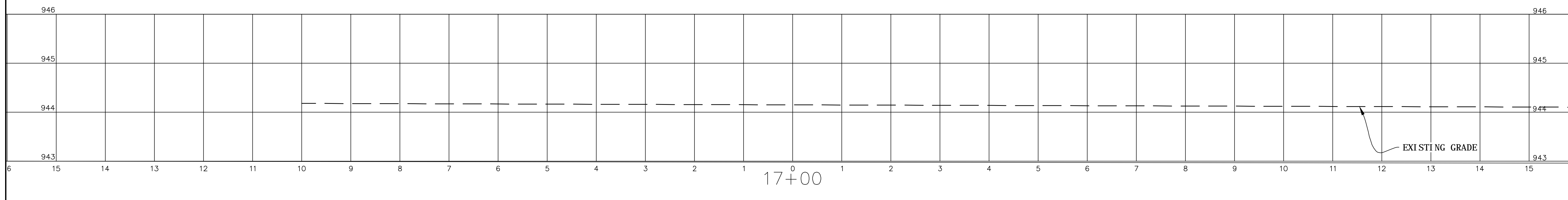
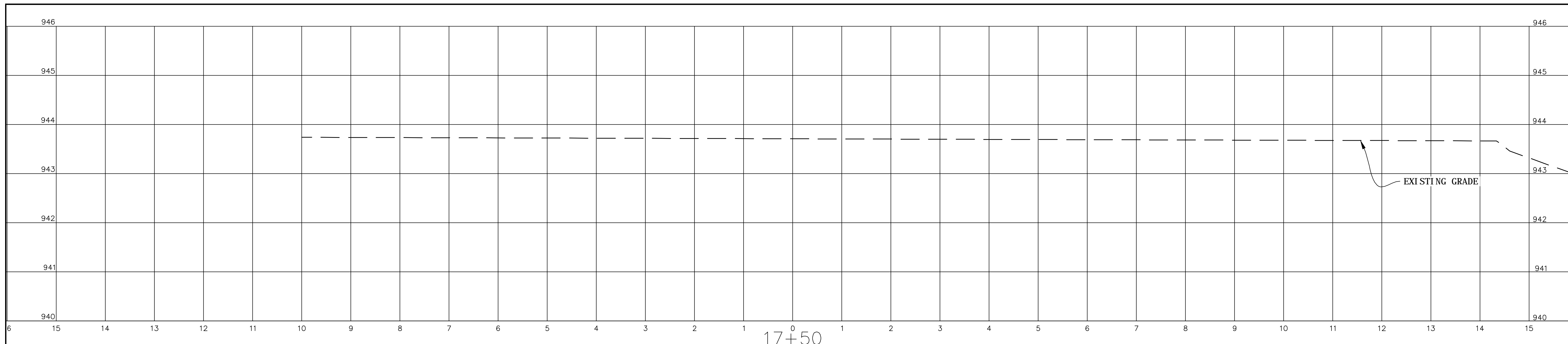
EB-5532
CROSS SECTIONS
STATION 14+00 TO 15+50

PROJECT NO.: 13103
SCALE: AS SHOWN
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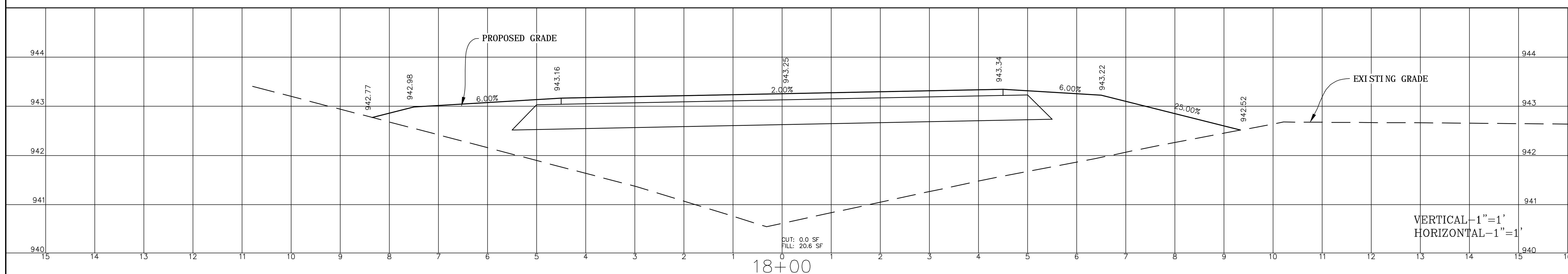
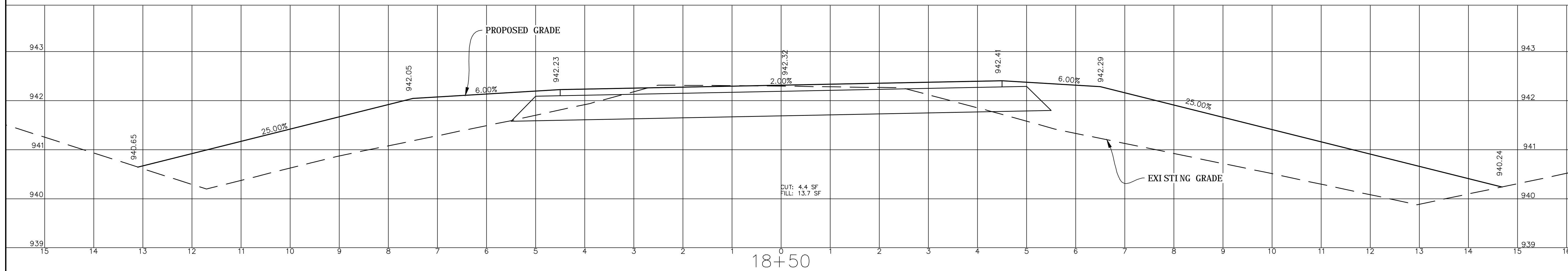
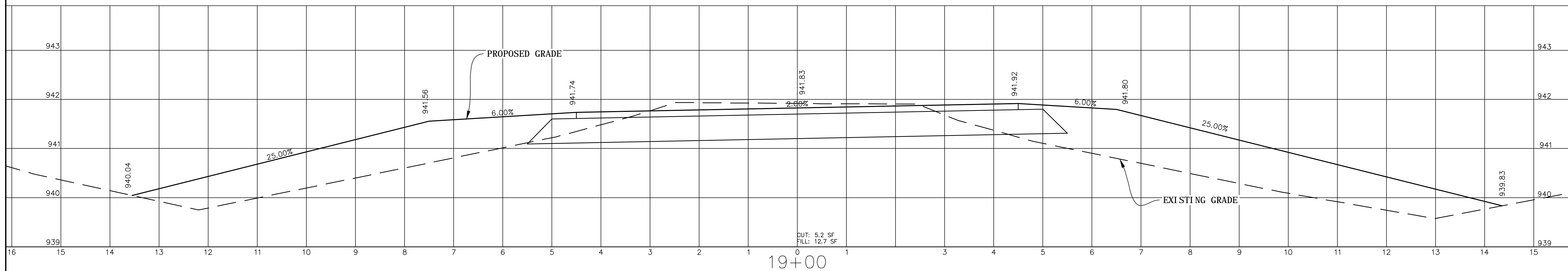
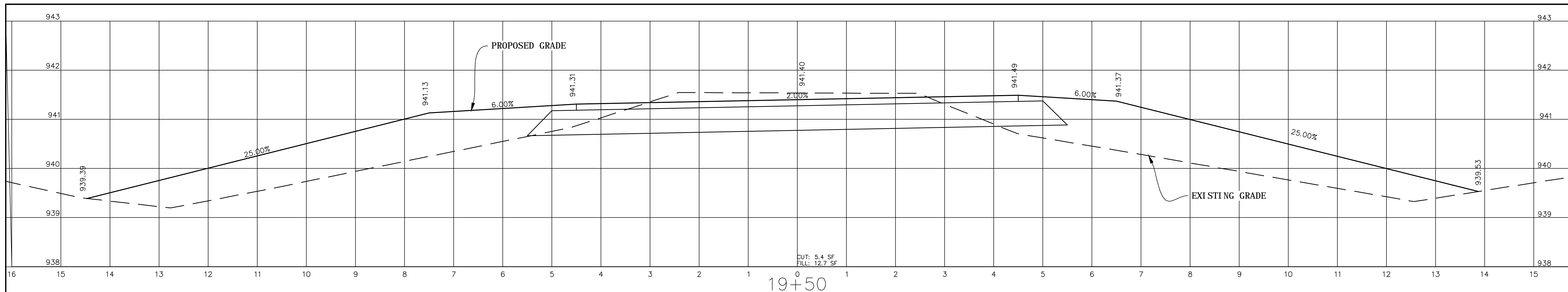
TOWN OF TROUTMAN
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IREDELL COUNTY, NORTH CAROLINA

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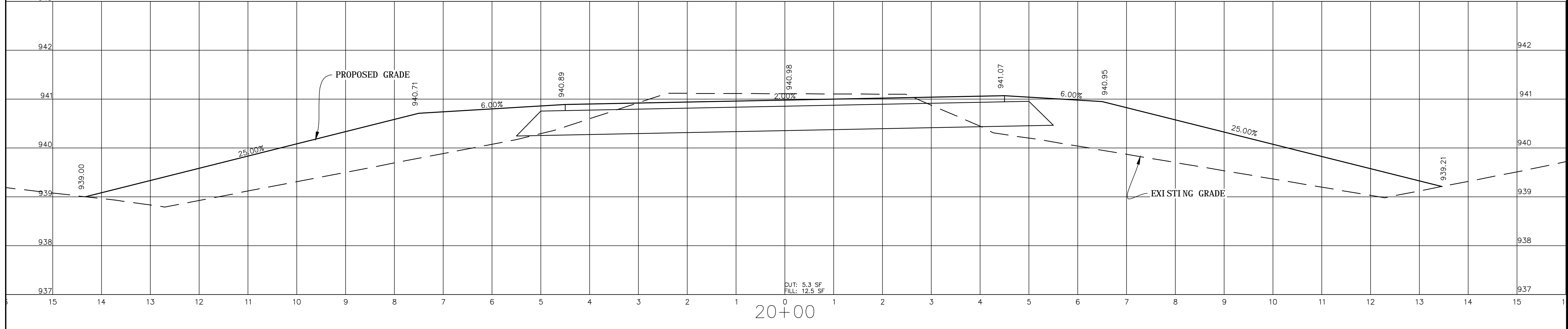
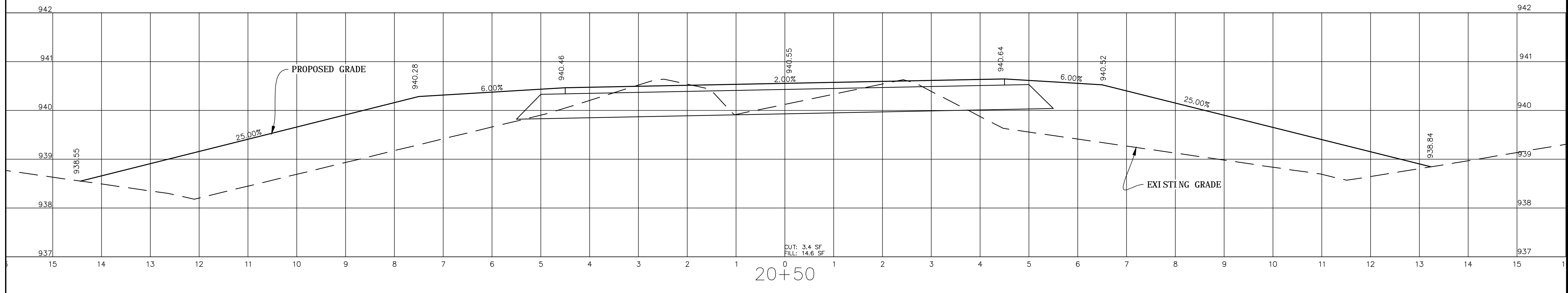
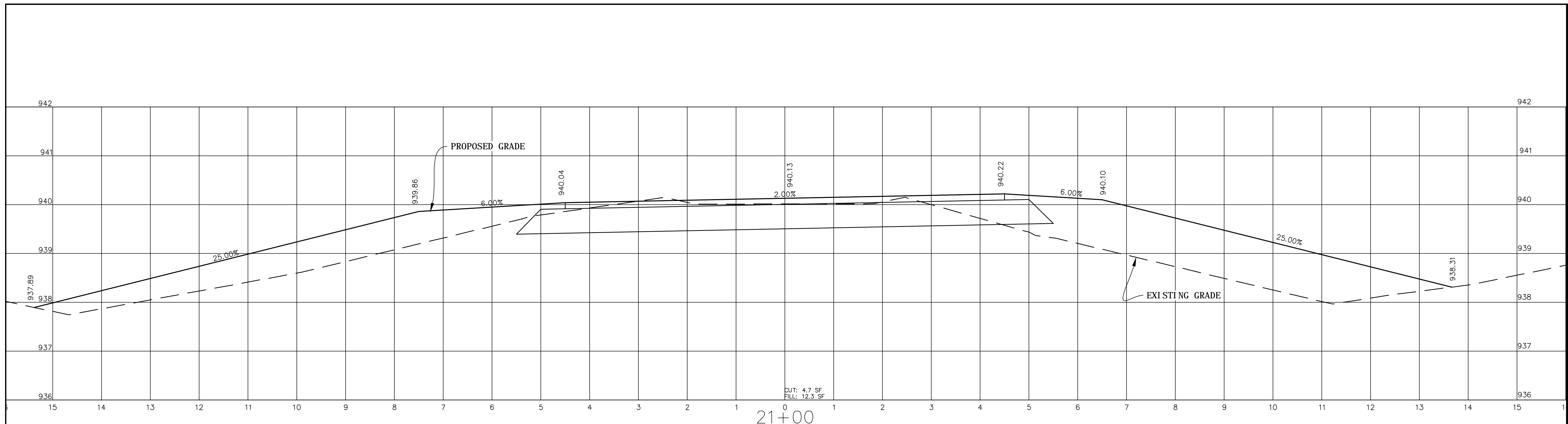
34 OF 41



VERTICAL-1"=1'
HORIZONTAL-1"=1'



VERTICAL-1"=1'
HORIZONTAL-1"=1'

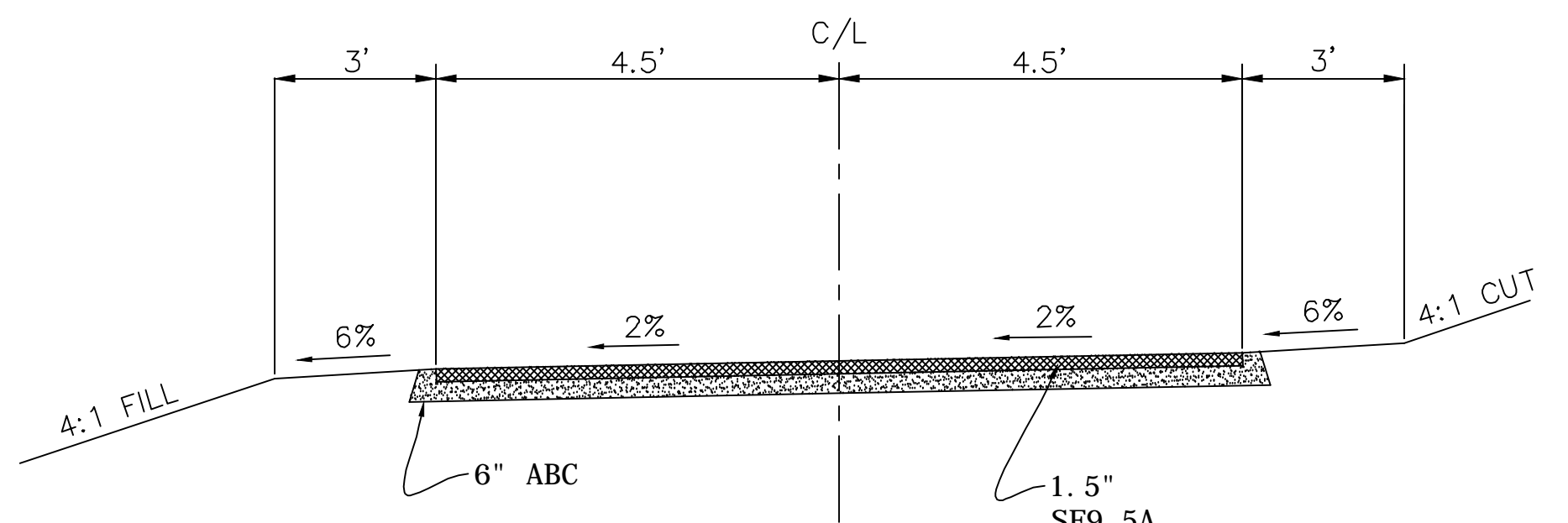


EB-5532
CROSS SECTIONS
STATION 20+00 TO 21+00

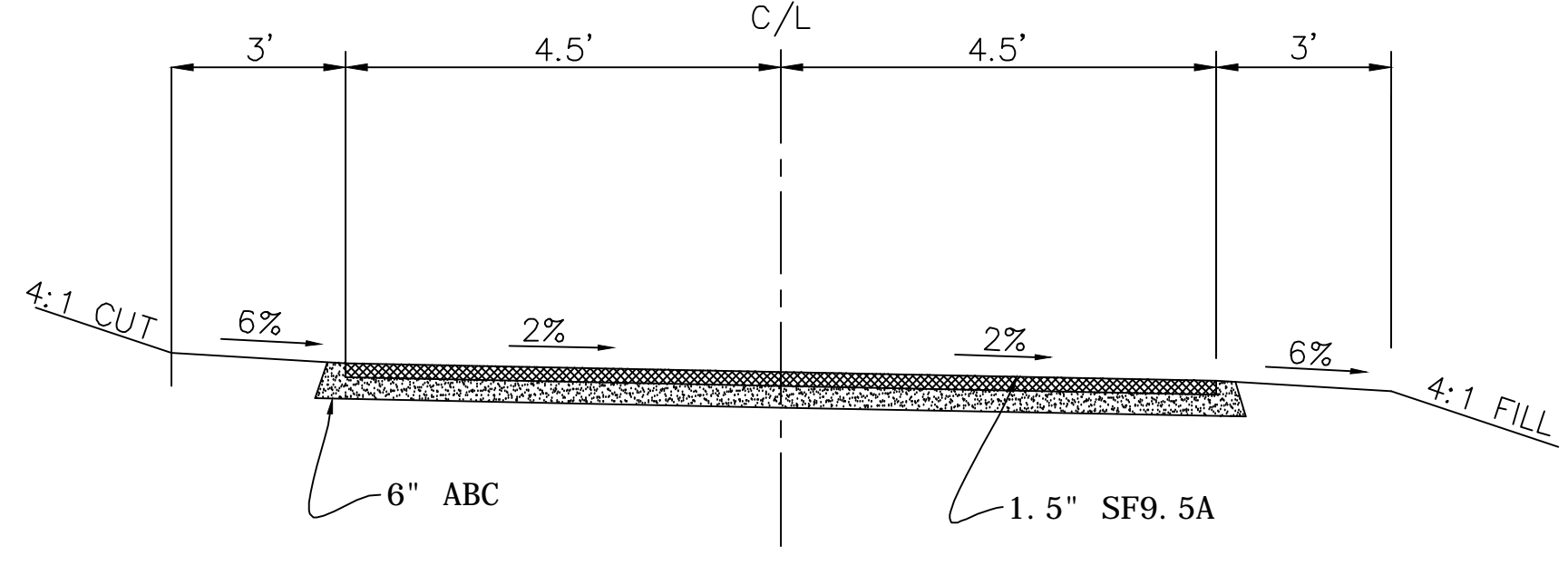
PROJECT NO.: 13103
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TOWN OF TROUTMAN
EB-5530 & 5532 GREENWAYS
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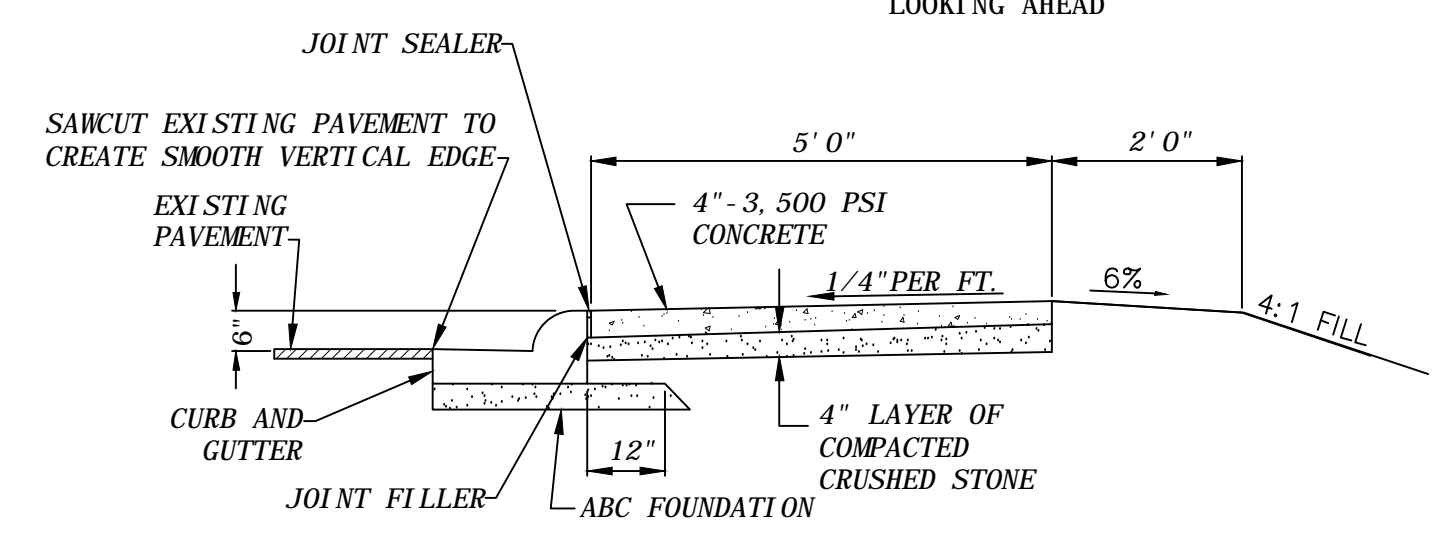
VERTICAL-1"=1'
HORIZONTAL-1"=1'



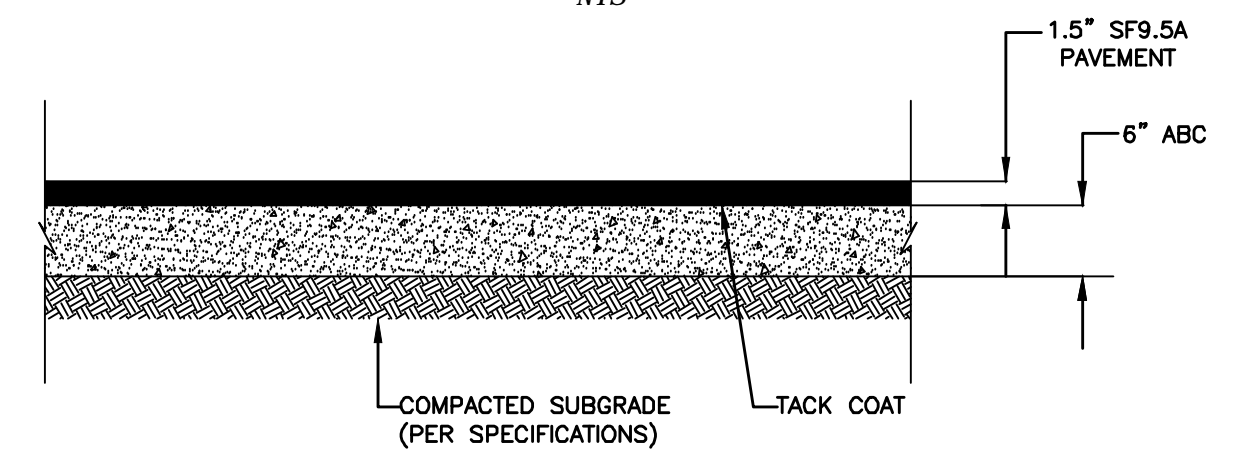
TYPICAL SECTION
STATION 0+00 TO 19+00 (EB-5530)
STATION 2+69.86 TO END (EB-5532)
NTS
LOOKING AHEAD



TYPICAL SECTION
STATION 19+00 TO END
NTS
LOOKING AHEAD



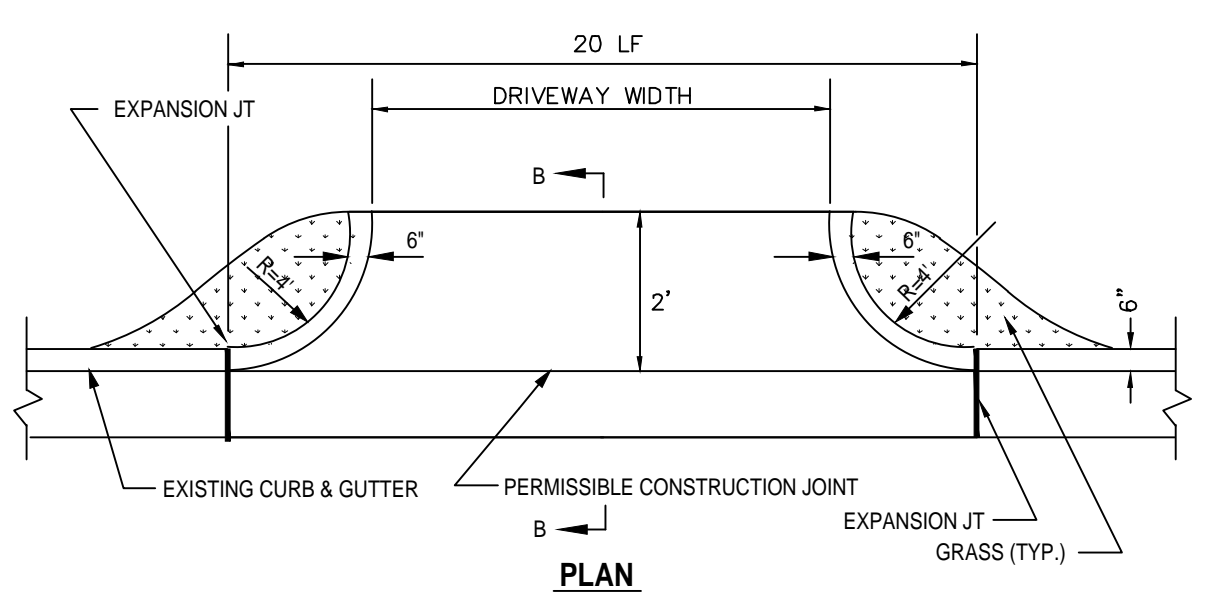
TYP. CROSS-SECTION OF SIDEWALK AGAINST CURB
STATION 0+00 TO 2+69.86 (EB-5532)
NTS



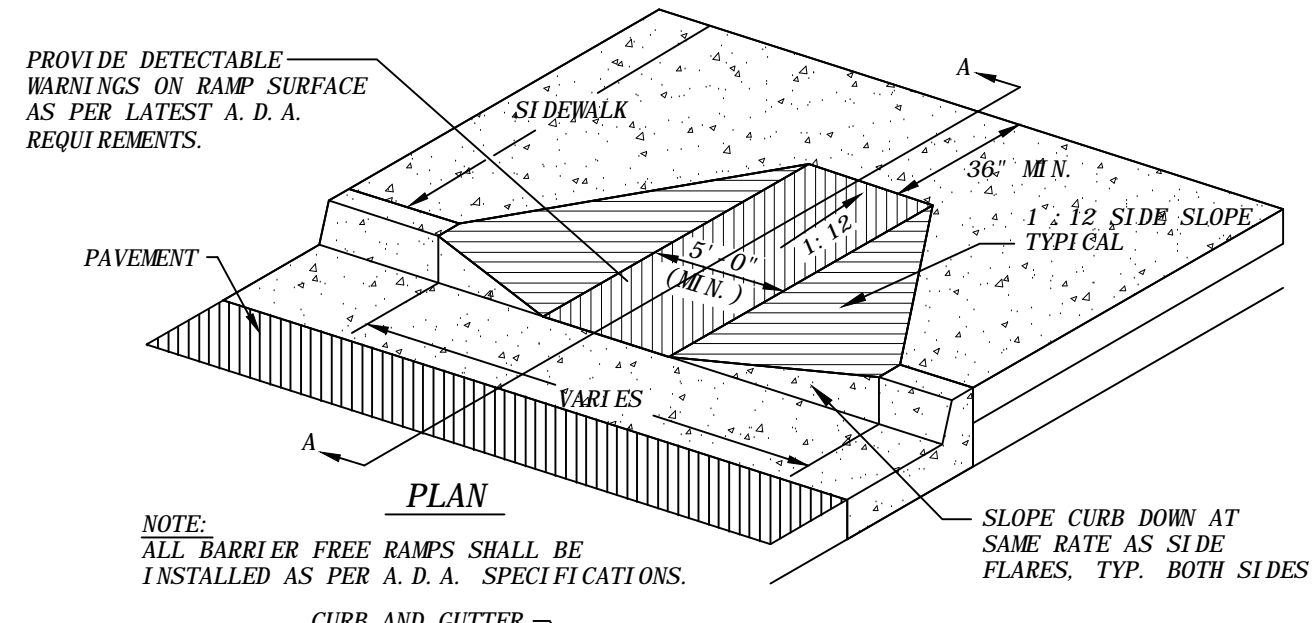
STANDARD ASPHALT PAVING
NTS

MIX TYPE	LIFT DEPTH (IN)	RATE (LBS/SY/INCH)
SF 9.5A	1.0 - 1.5	110
S 9.5B	1.5 - 2.0	112
I 19.0B*	2.5 - 4.0	114

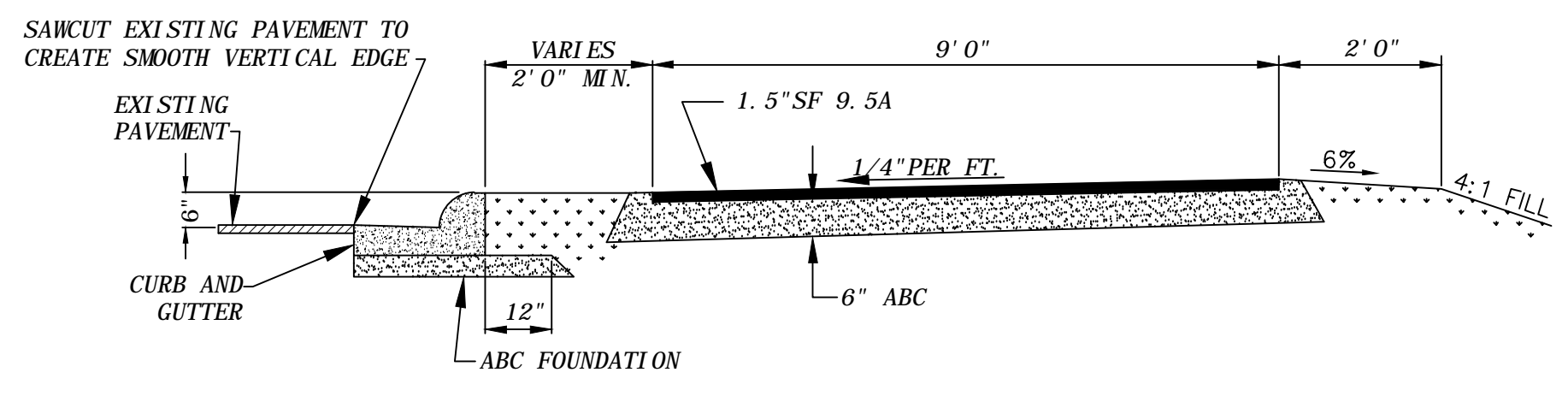
*EXCEPT FOR 5.5 IN MAX DEPTH FOR CURB SECTION.



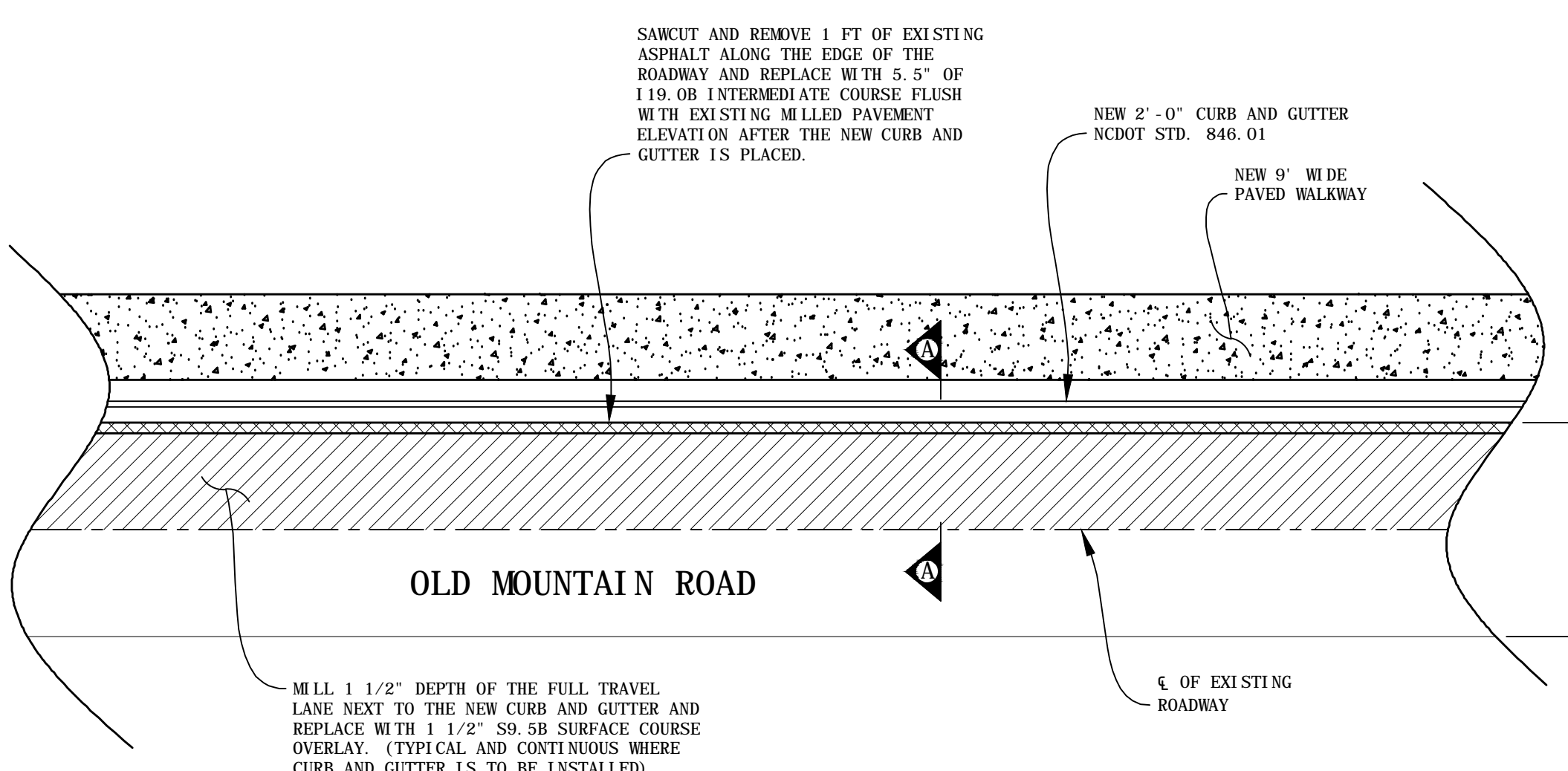
NOTES:
1) ALL CONCRETE SHALL BE 4000 PSI AND 6" DEEP, MINIMUM.
2) THE DRIVEWAY RAMP MUST RISE 4 INCHES ABOVE THE FLOW LINE OF THE GUTTER AT A POINT NO CLOSER THAN TWO FEET FROM THE GUTTER.



BARRIER FREE RAMP DETAIL
NTS

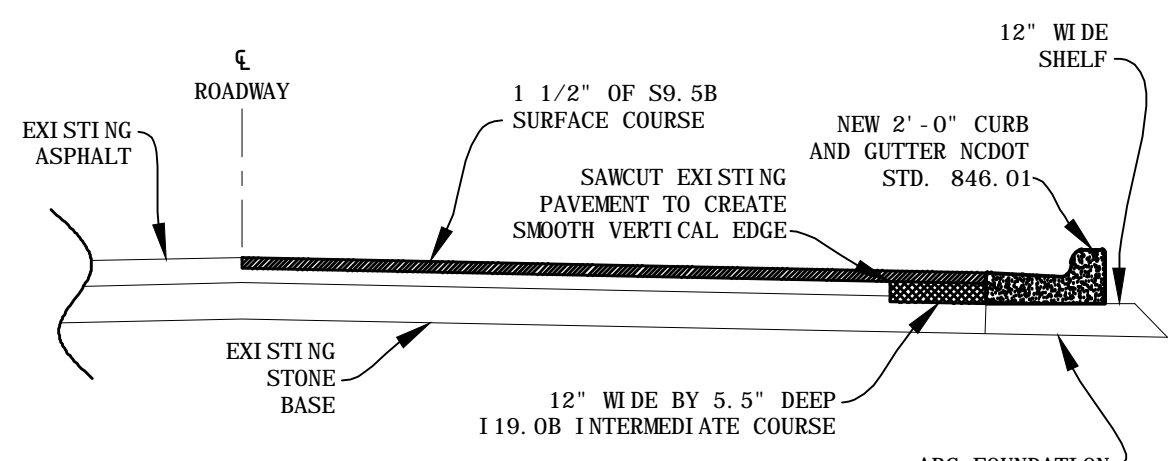


TYP. CROSS-SECTION OF WALKWAY AGAINST CURB
STATION 1+30 TO 9+75 (EB-5530)
NTS

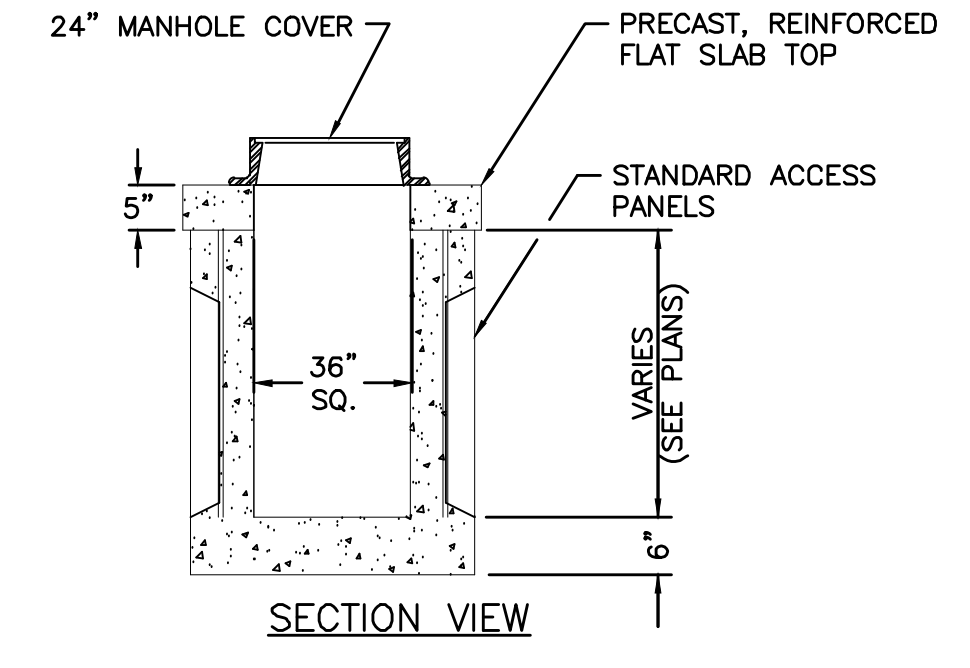


ALTERNATE DETAIL FOR WALKWAY AGAINST CURB
NTS

NOTES:
1. THE NCDOT RESERVES THE RIGHT TO REQUIRE THE USE OF THIS DETAIL INSTEAD OF THE "WALKWAY AGAINST CURB" DETAIL IF THE SAWCUT ASPHALT EDGE IS NOT STABLE.
2. THIS DETAIL SHALL BE USED WHERE CURB AND GUTTER IS SHOWN TO BE INSTALLED ALONG OLD MOUNTAIN ROAD.
3. LANE STRIPING SHALL BE REPLACED AS NECESSARY PER NCDOT STANDARD 1205.01.

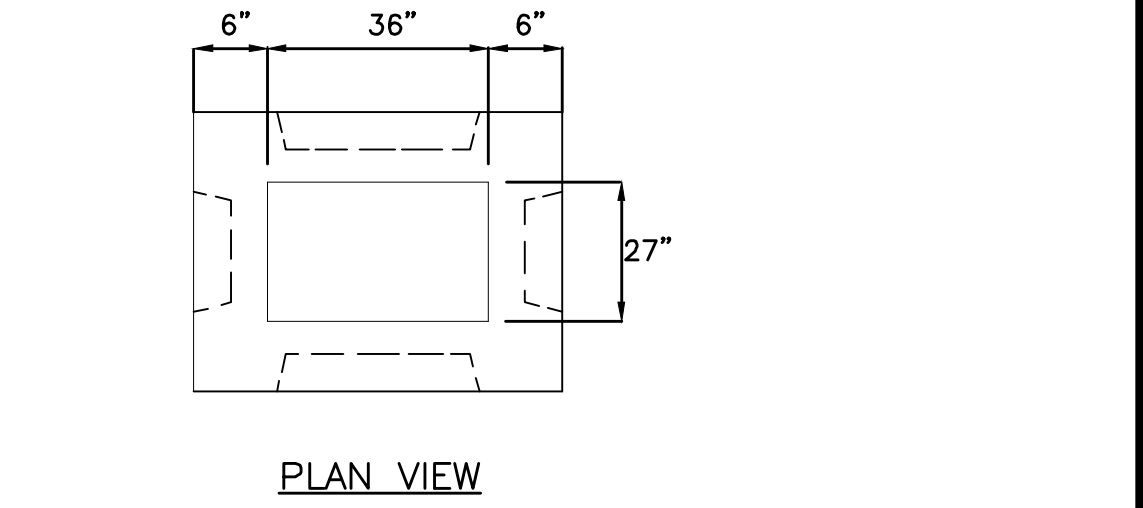


SECTION A-A
NTS

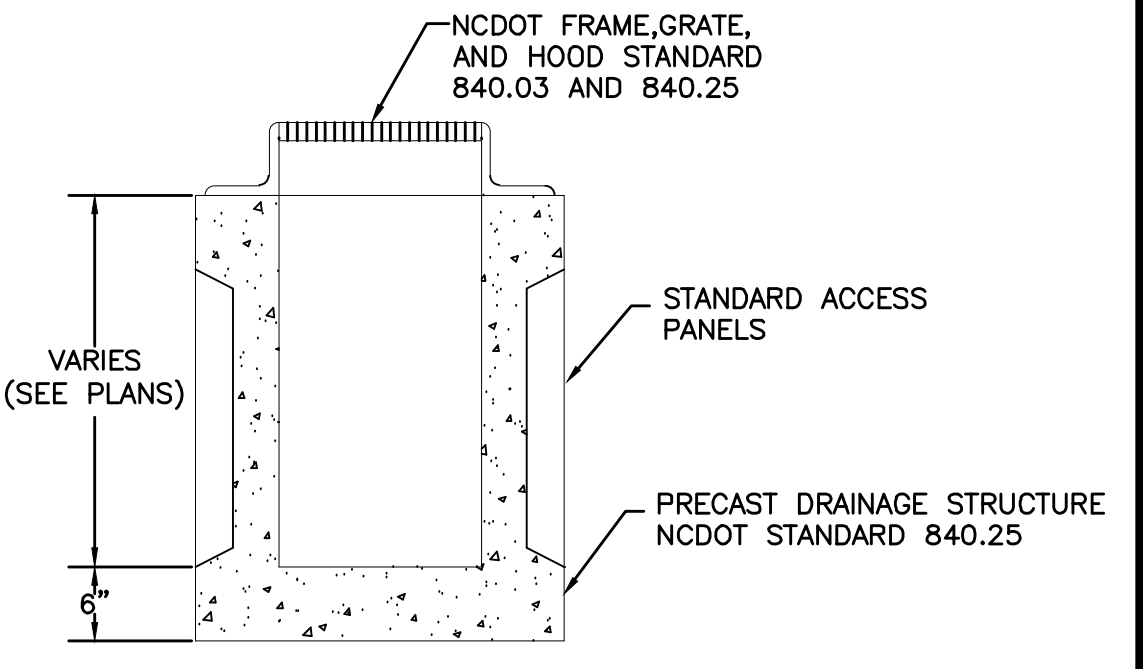


STANDARD PRECAST JUNCTION BOX DETAIL
NTS

NOTE: ALL JUNCTION BOXES SHALL MEET NCDOT STANDARD DRAWINGS 840.31 AND 840.45.

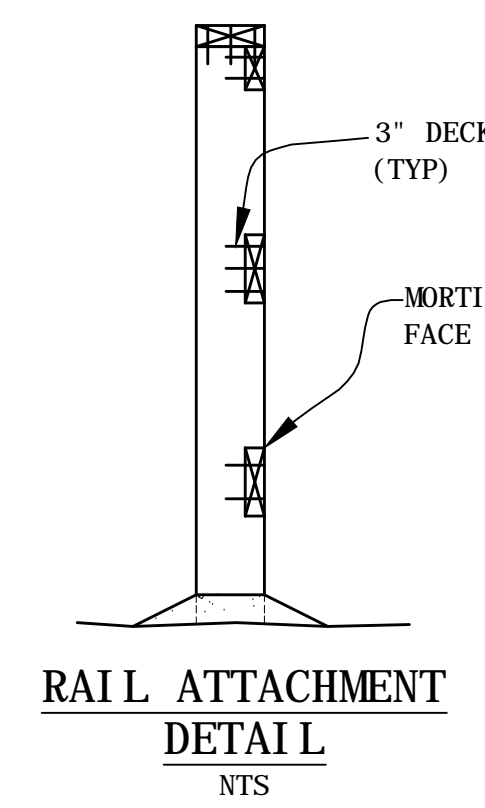


PLAN VIEW



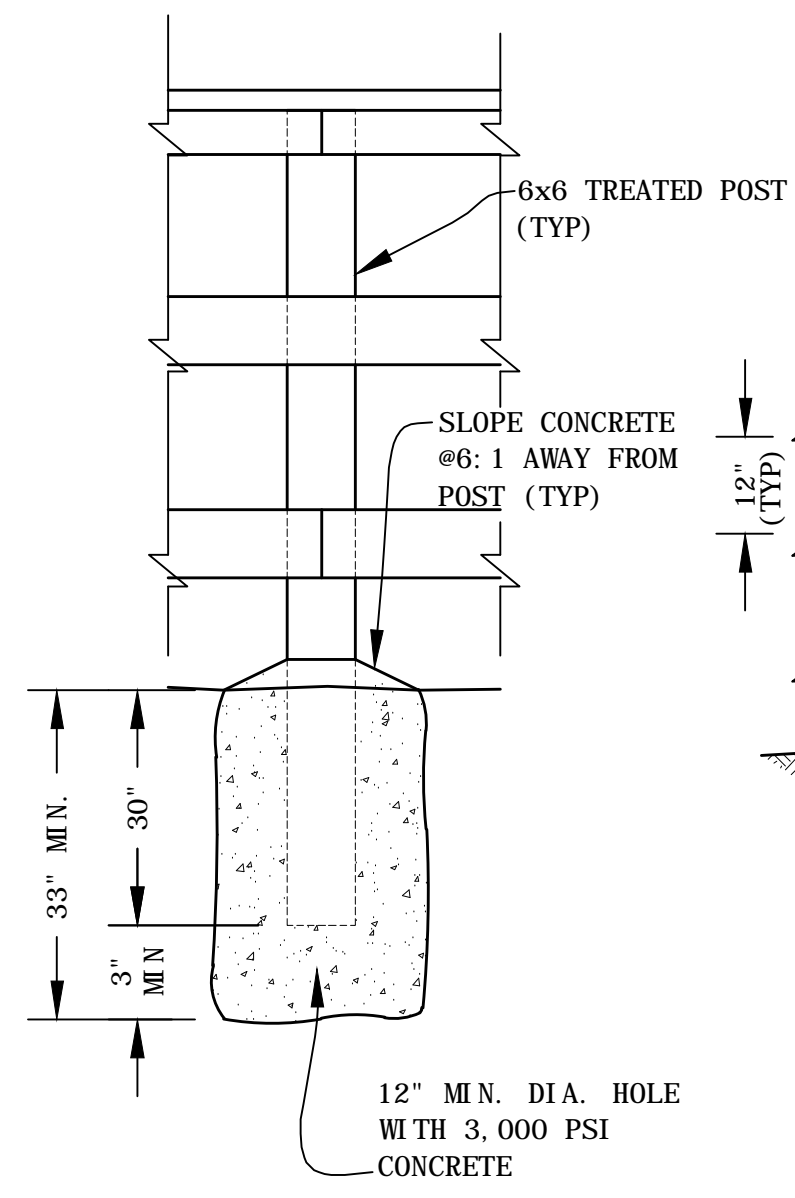
SECTION VIEW
CATCH BASIN
NTS

CATCH BASIN NOTES:
1. CONCRETE SHALL BE 4,000 PSI AT 28 DAYS.
2. REINFORCING SHALL BE WELDED WIRE MESH IN KNOCKOUTS AND #4 BARS IN FLOOR AND CORNERS IN ACCORDANCE WITH AASHTO STANDARDS FOR H-20 LOADING.
3. PRECASTER SHALL BE TINDALL CONCRETE, STAYRIGHT TANK, D&M CONCRETE, OR APPROVED EQUAL.
4. CATCH BASINS SHALL HAVE A STANDARD D.O.T. FRAME, GRATE, AND HOOD OR PARKING LOT GRATES AS REQUIRED.

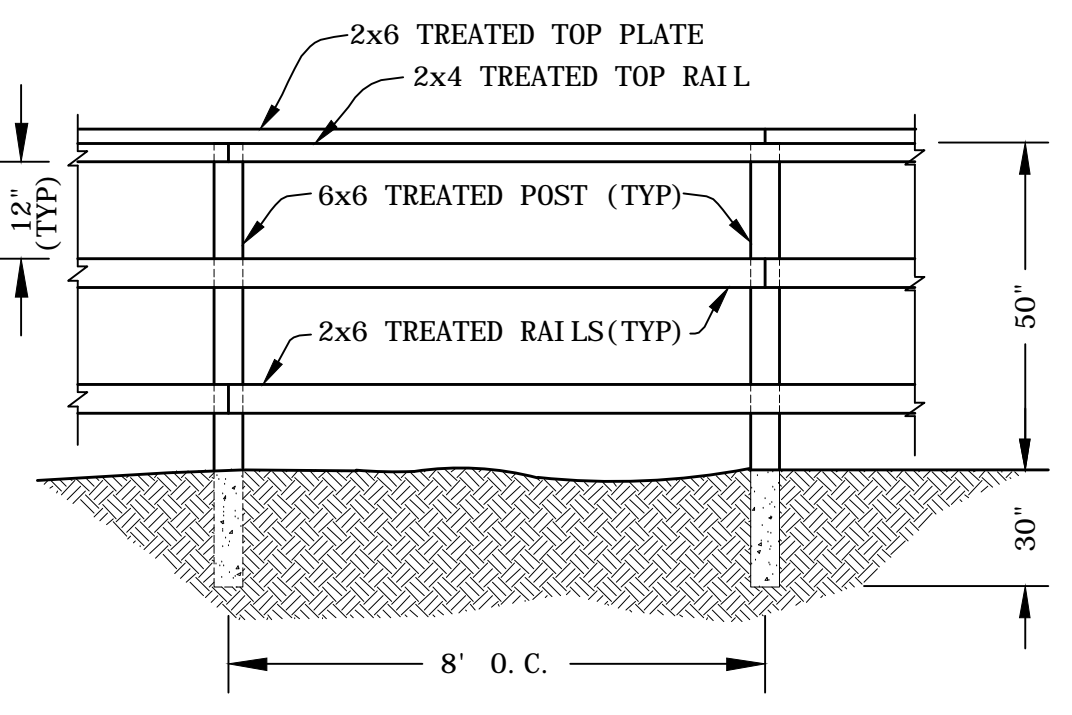


RAIL ATTACHMENT DETAIL
NTS

NOTE: DECK SCREWS SHALL BE APPROVED FOR USE WITH TREATED LUMBER.

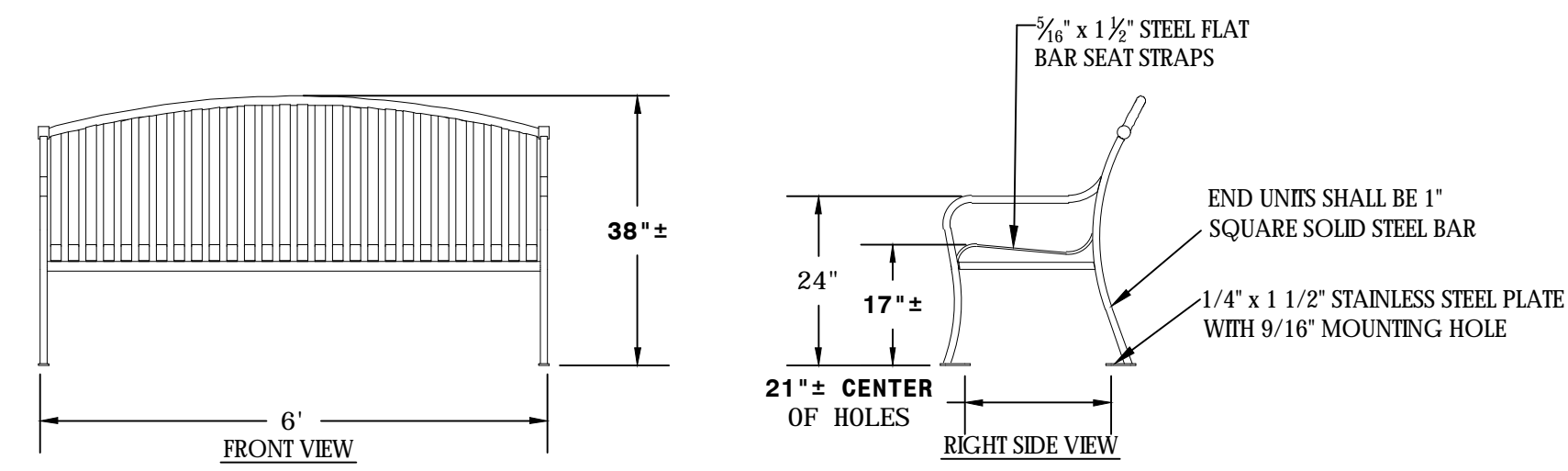


FENCE POST DETAIL
NTS



WOOD FENCE DETAIL
NTS

NOTES:
1. RAIL AND TOP PLATE JOINTS SHALL BE STAGGERED.
2. FENCING SHALL BE CONSTRUCTED IN 10' SEGMENTS WITH AN 8' GAP BETWEEN SEGMENTS.

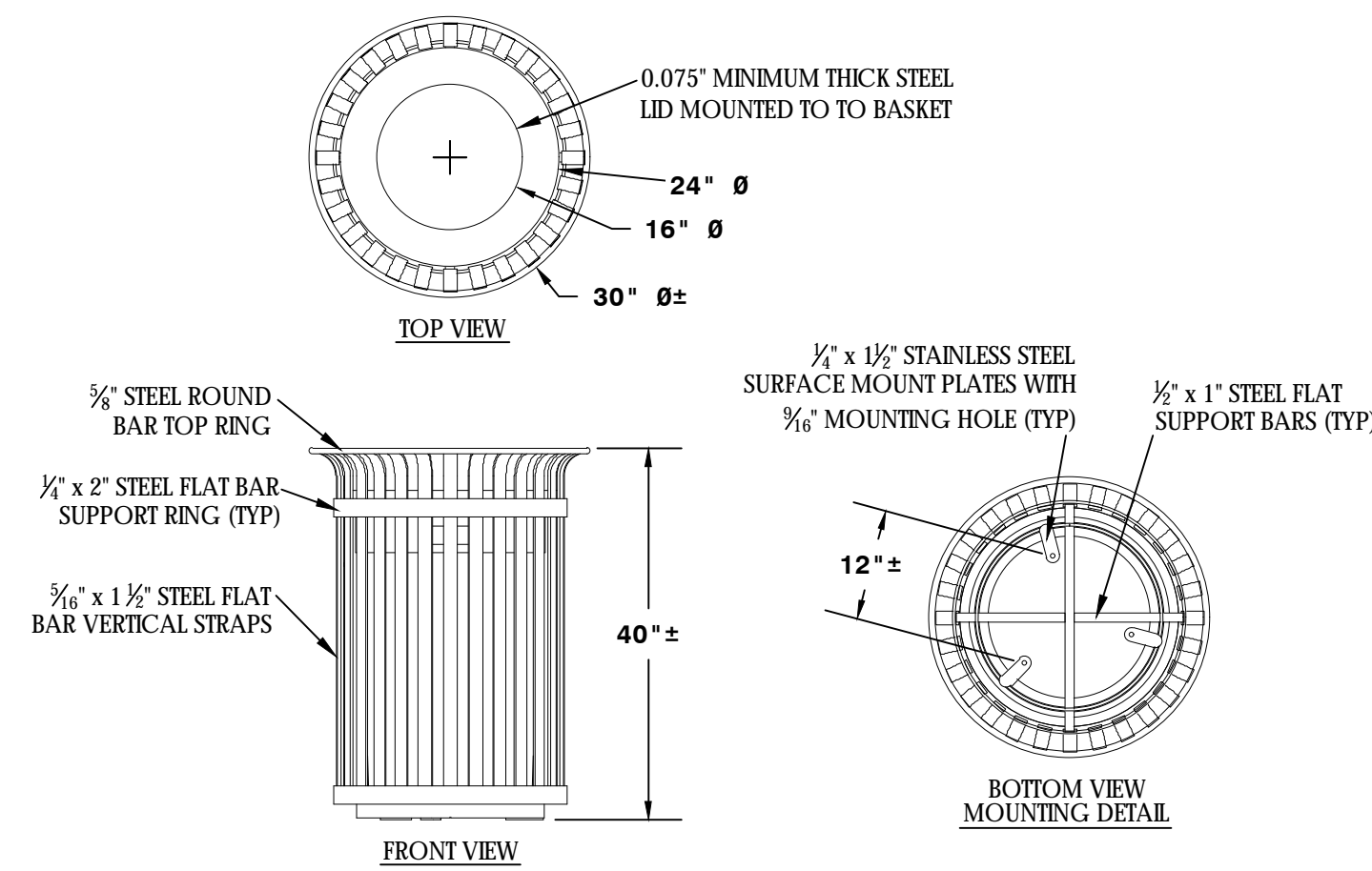


PARK BENCH DETAIL

NOTE:
PARK BENCH SHALL BE MOUNTED WITH 4-1/2" Ø x 4" LONG STAINLESS STEEL ANCHOR BOLTS.

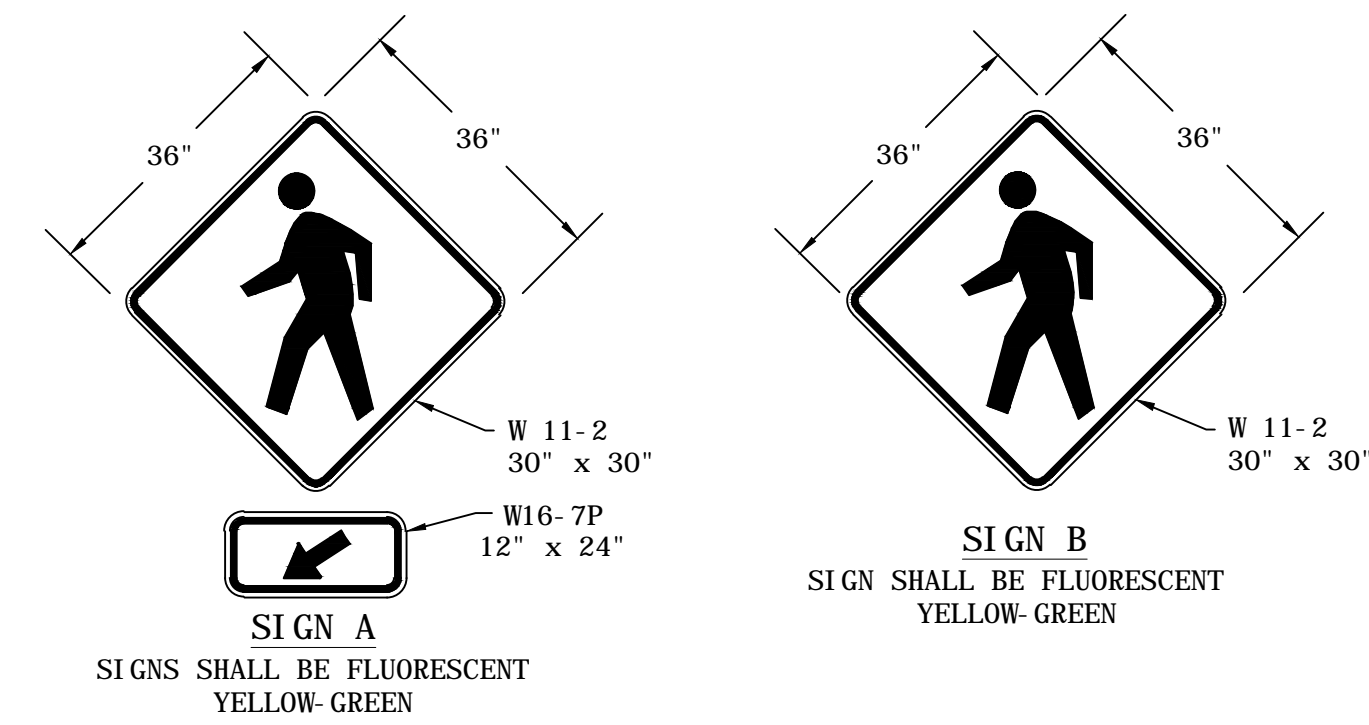
TRASH RECEPTACLE AND PARK BENCH SPECIFICATIONS:

POWDER COATING:
ALL PARTS, EXCEPT STAINLESS STEEL, SHALL BE UNDERCOATED WITH A CORROSION RESISTANT, ZINC RICH EPOXY AND THEN HAVE A POWDER COATING FINISH NOT LESS THAN 8 MIL MEETING ASTM D523-89 AND ASTM D3363-92a.



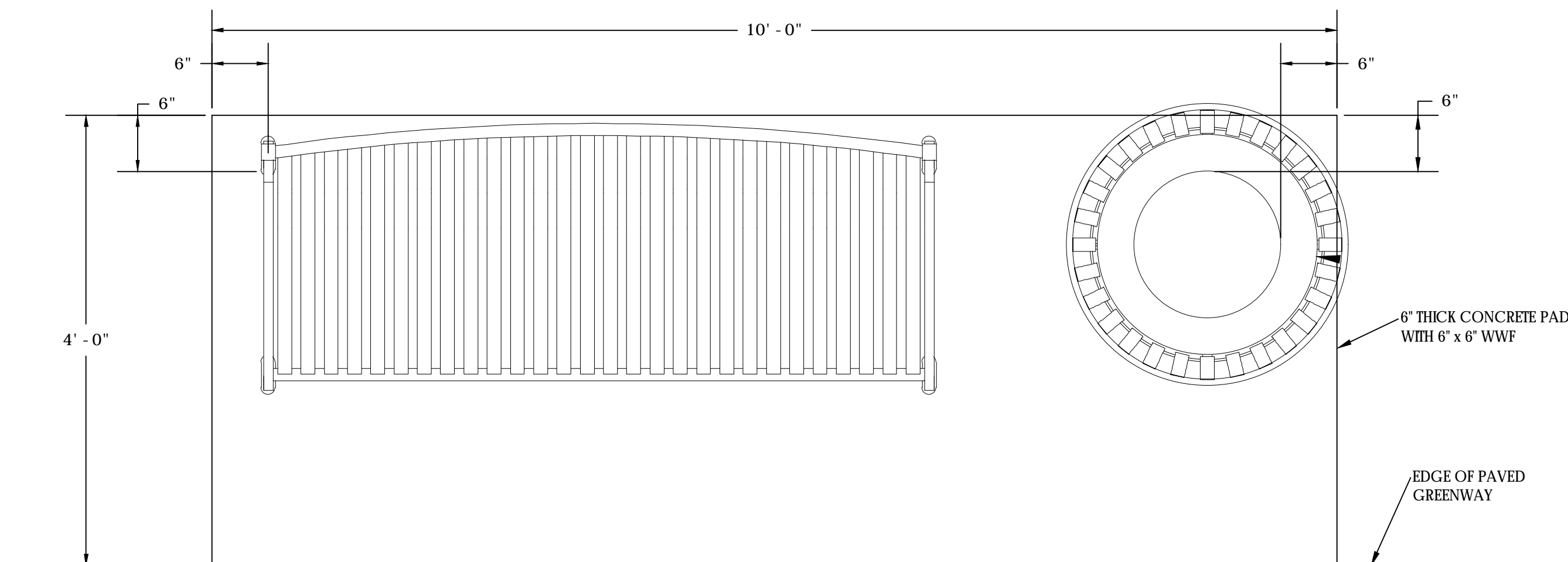
TRASH RECEPTACLE DETAIL

NOTES:
1. TRASH RECEPTACLE SHALL BE MOUNTED WITH 3-1/2" Ø x 4" LONG STAINLESS STEEL ANCHOR BOLTS.
2. TRASH RECEPTACLE SHALL HAVE A MINIMUM 40 GALLON RIGID PLASTIC LINER WITH HANDLES.

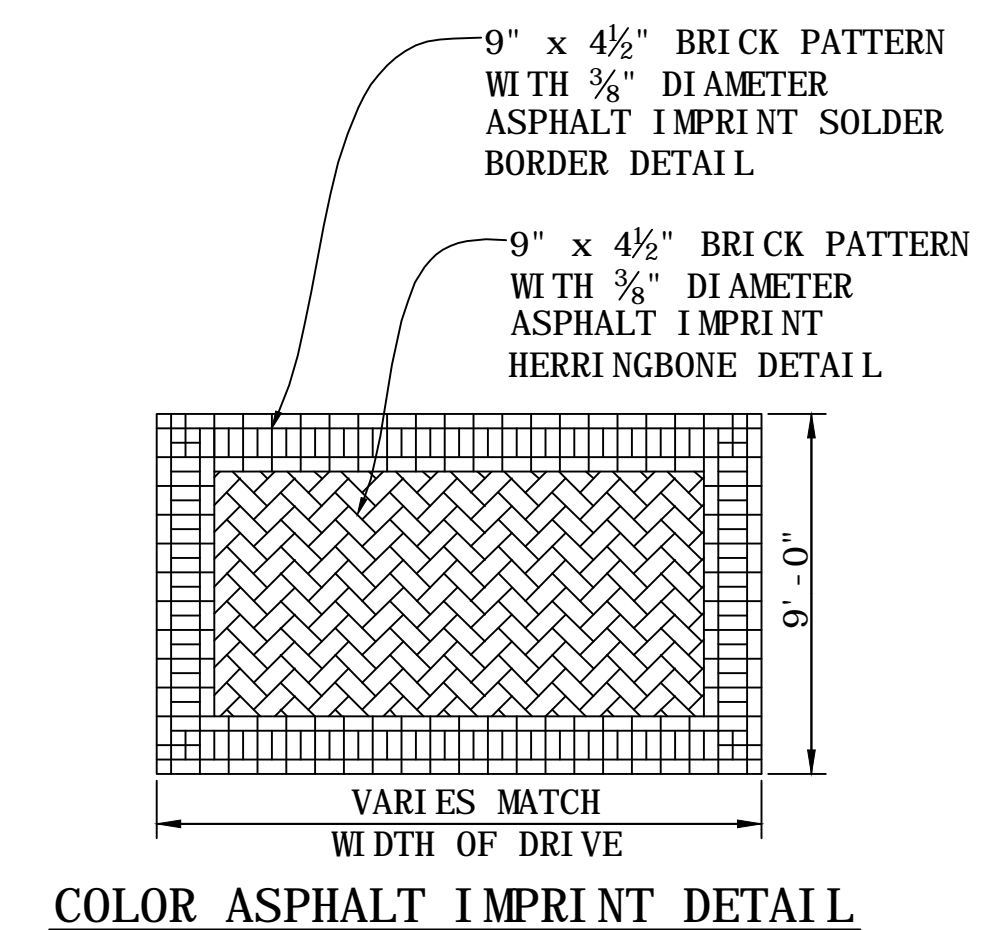
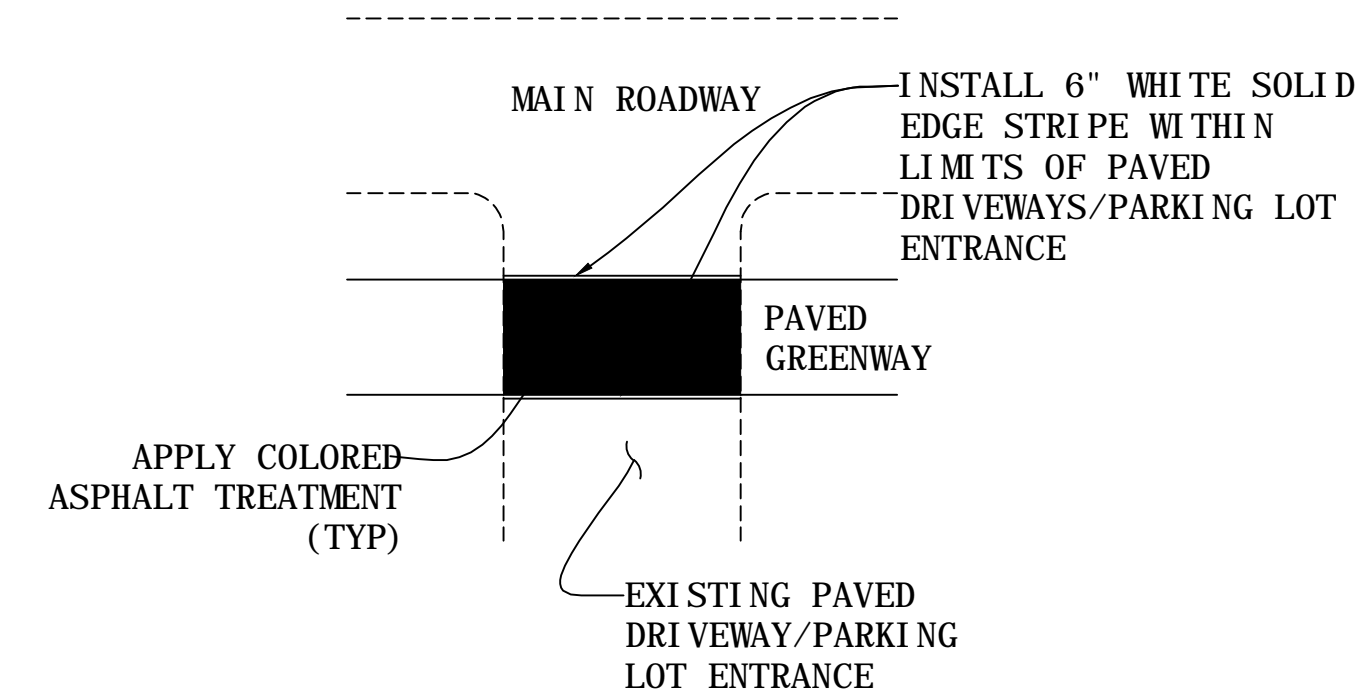


SIGN A
SIGNS SHALL BE FLUORESCENT YELLOW-GREEN

SIGN B
SIGN SHALL BE FLUORESCENT YELLOW-GREEN



TRAIL CROSSING OF DRIVEWAYS AND PARKING LOT ENTRANCE PAVEMENT MARKING AND TREATMENT DETAIL



COLOR ASPHALT IMPRINT DETAIL

NOTES:
1. BRICK PATTERN TO BE USED FOR DRIVEWAYS FOR CONTRACT A FROM STATION 10+00 TO THE END. 13 TOTAL LOCATIONS.
2. 6" SOLID EDGE STRIPING SHALL BE INSTALLED ALONG EACH SIDE OF THE STAMPED ASPHALT ACROSS THE DRIVEWAY.
3. ASPHALT SHALL BE COLORED BRICK RED AND COLORATION SHALL EXTEND FULL LENGTH OF DRIVEWAY AREA CROSSWALK.

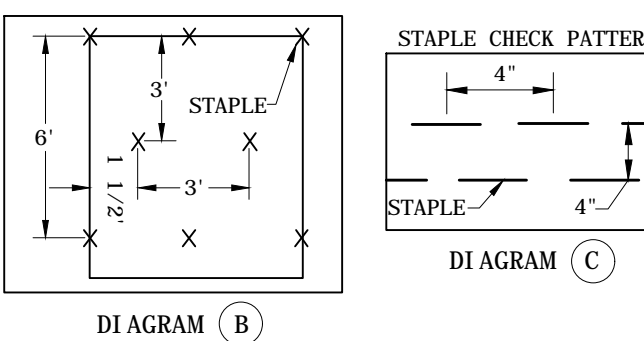
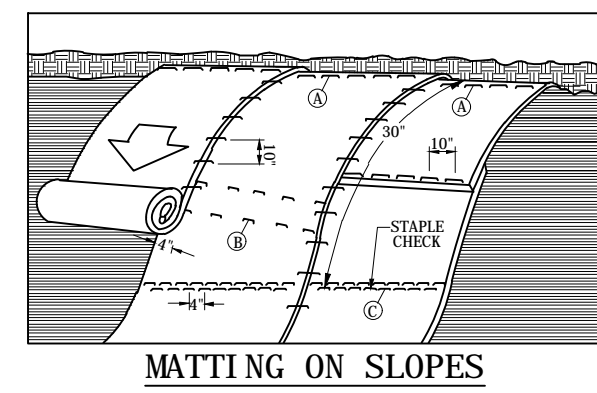
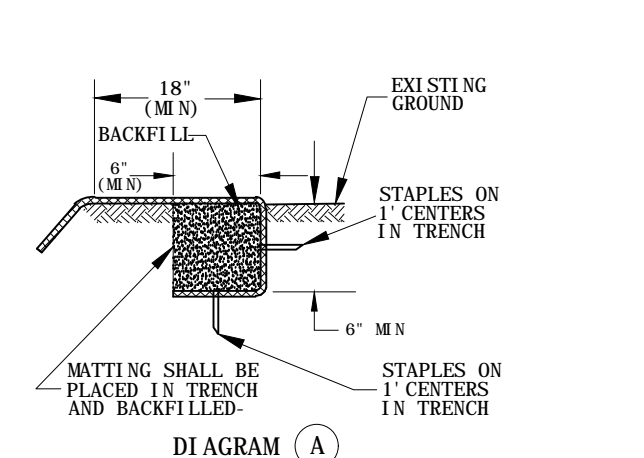
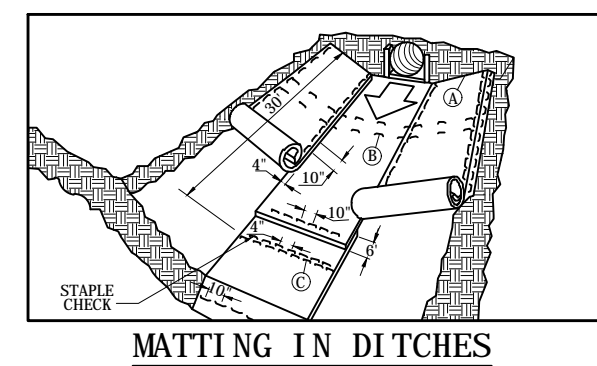


DETAILS

PROJECT NO.: 13103
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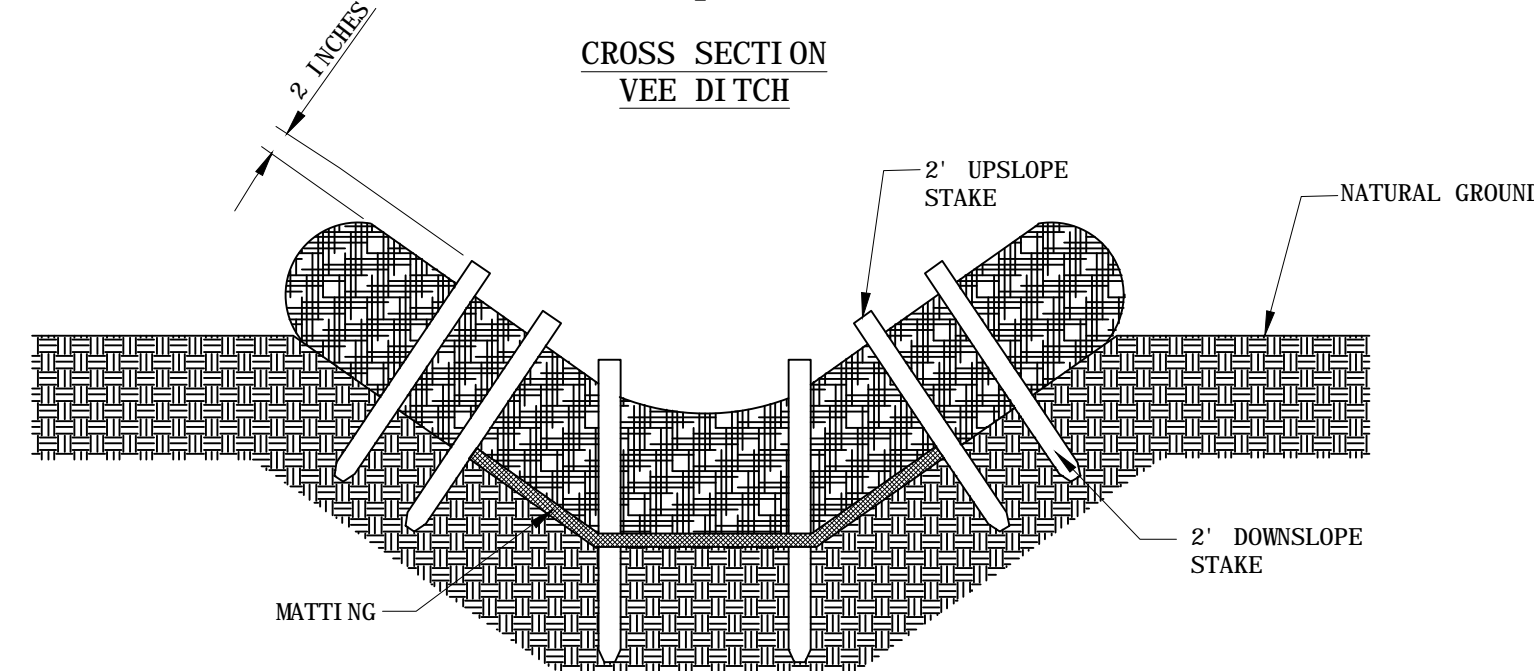
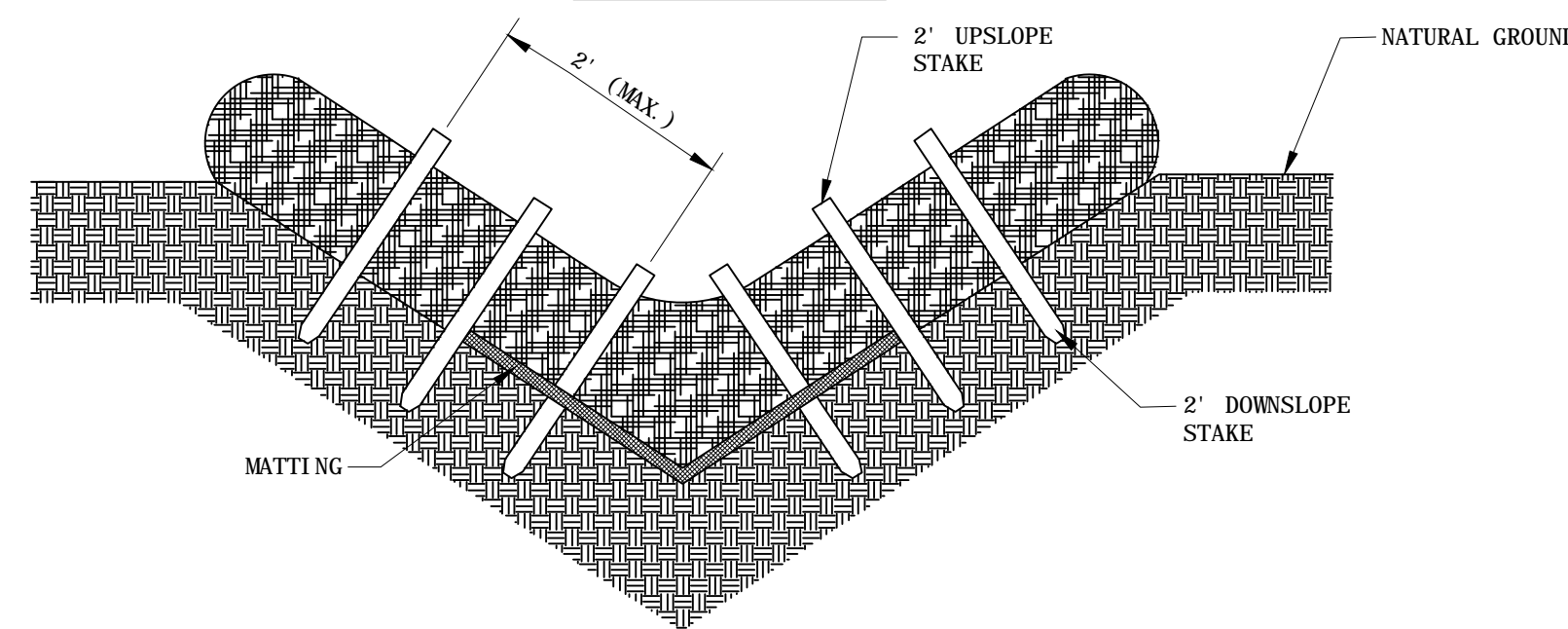
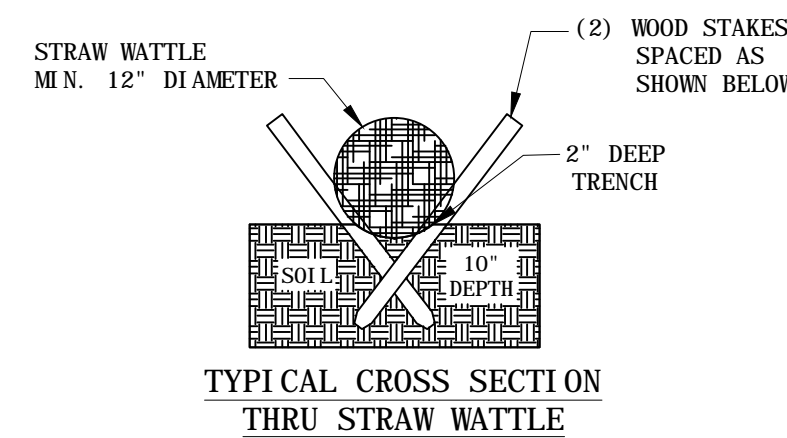
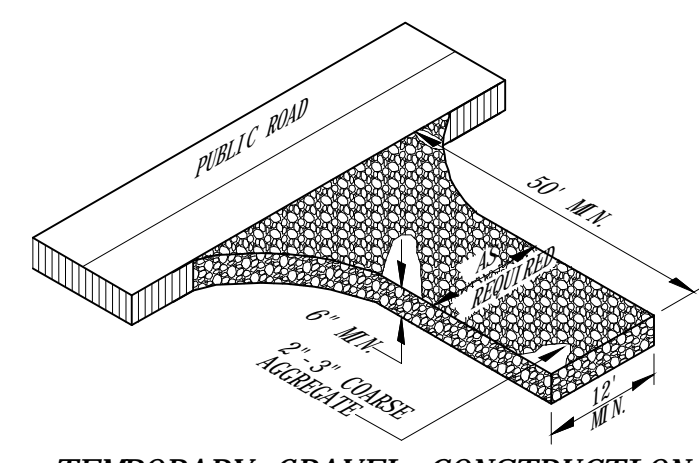
TOWN OF TROUTMAN
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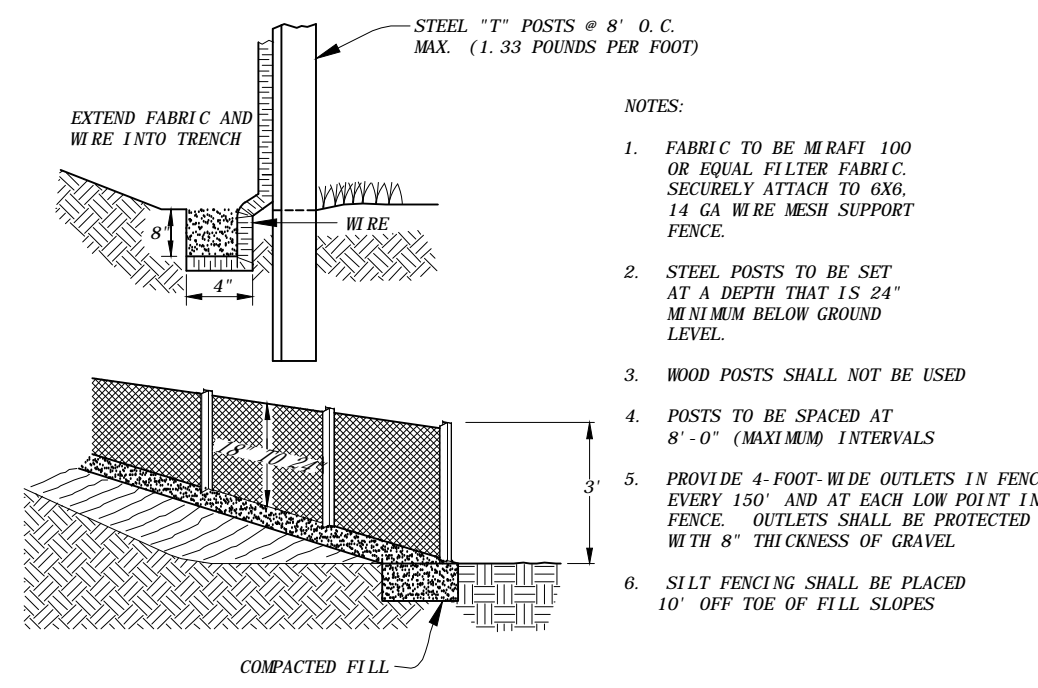
MATTING INSTALLATION DETAIL

AGGREGATE SIZE: USE 2"-3" WASHED STONE.
DIMENSIONS OF GRAVEL PAD:
THICKNESS: 6" MINIMUM
WIDTH: 12" MINIMUM OR FULL WIDTH AT ALL POINTS OF THE VEHICULAR ENTRANCE AND EXIT AREA, WHICHEVER IS GREATER.
LENGTH: 50' MINIMUM



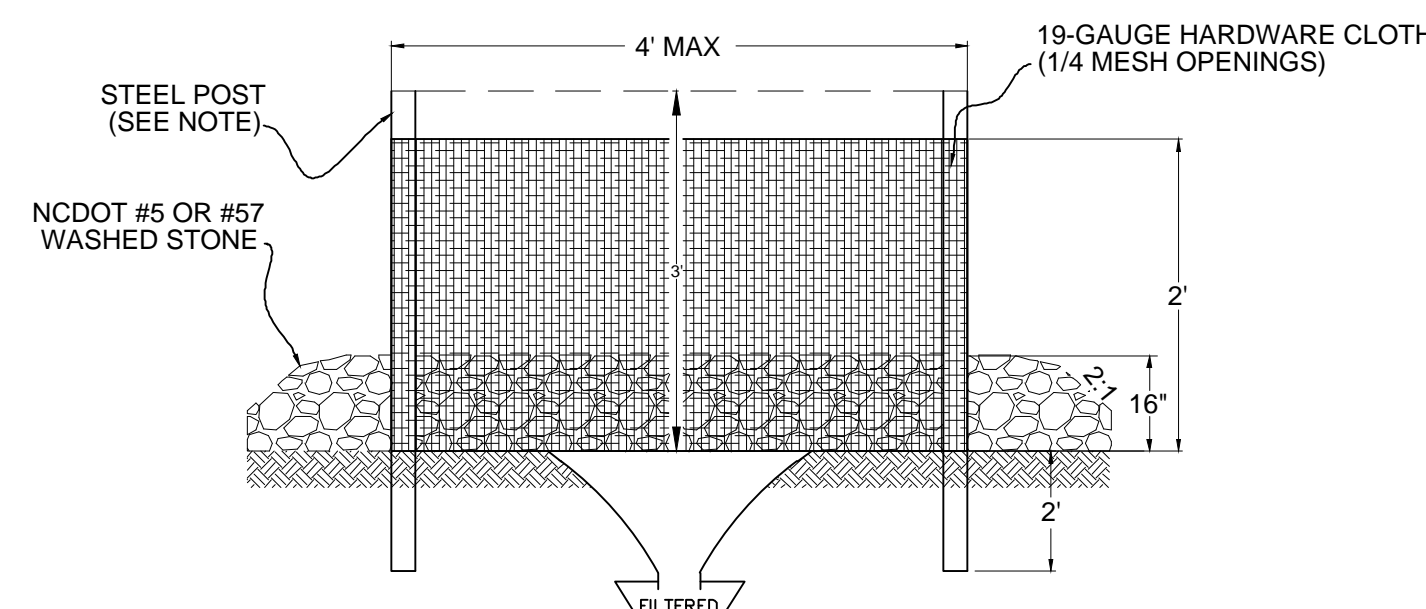
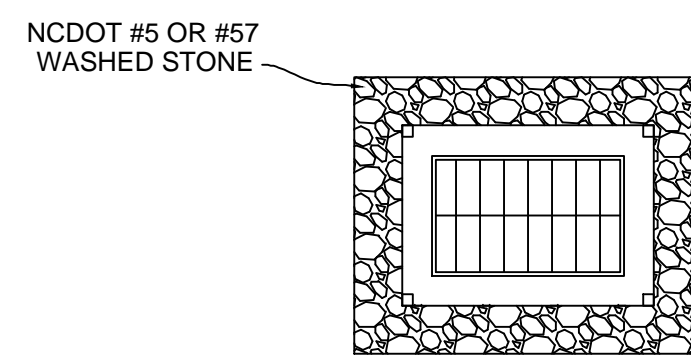
- NOTES:**
- DRAWINGS ARE NOT TO SCALE.
 - ENDS OF WATTLES SHALL BE TURNED SLIGHTLY UP SLOPE.
 - RECOMMENDED STAKES ARE 2" WIDE x 2" THICK x 24" LONG. STAKES SHALL NOT EXTEND ABOVE THE STRAW WATTLE MORE THAN 2".
 - INSTALL TEN (10) STAKES IN EACH STRAW WATTLE USE AS CHECK DAMS IN ROADSIDE CHANNEL.

STRAW WATTLE CHECK DAM FOR DITCHES DETAILS



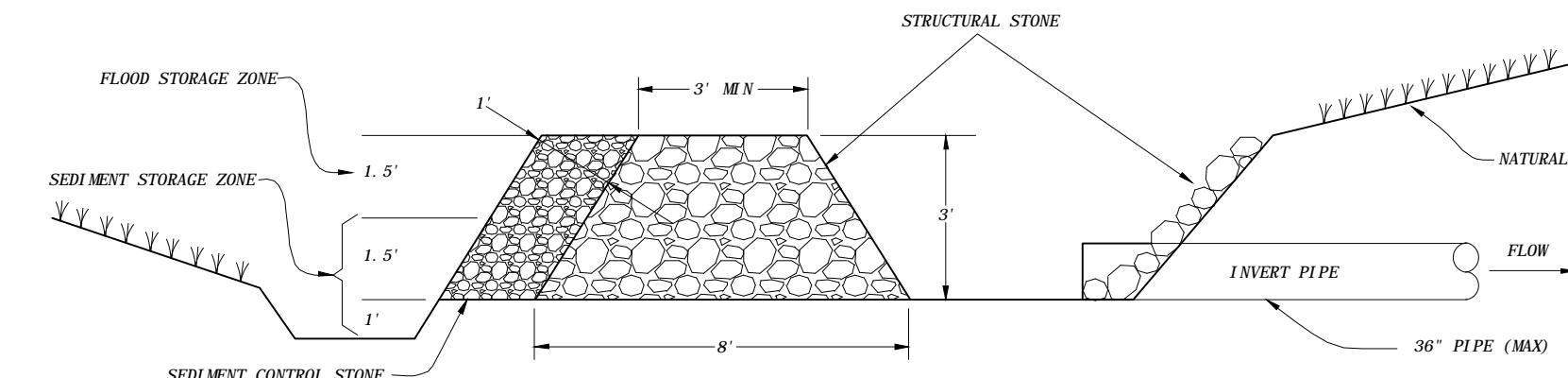
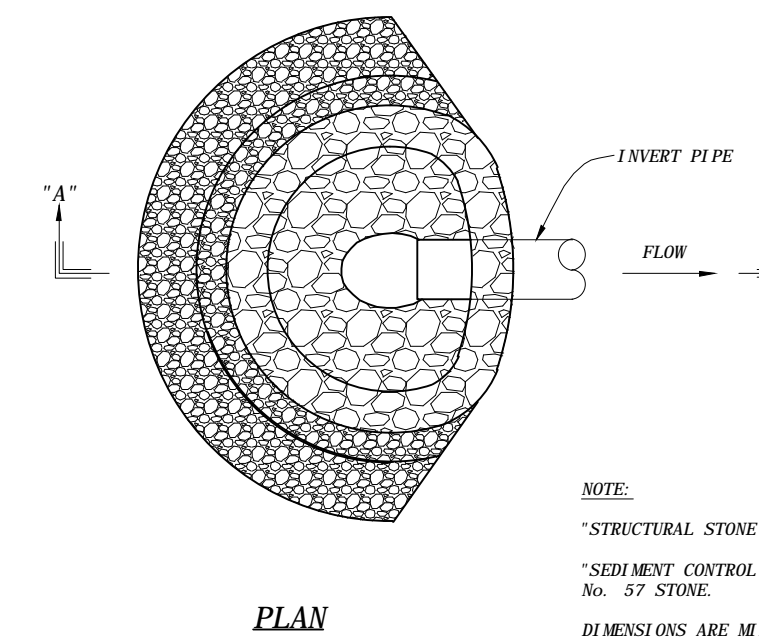
- NOTES:**
- FABRIC TO BE MESH 100 OR EQUAL FILTER FABRIC. SECURELY ATTACH TO 14 GA. WIRE MESH SUPPORT FENCE.
 - STEEL POSTS TO BE SET AT A DEPTH THAT IS 24" MINIMUM BELOW GROUND LEVEL.
 - WOOD POSTS SHALL NOT BE USED.
 - POSTS TO BE SPACED AT 8'-0" (MAXIMUM) INTERVALS.
 - PROVIDE 4-FOOT WIDE OUTLETS IN FENCE EVERY 150' AND AT EACH LOW POINT IN FENCE. OUTLETS SHALL BE PROTECTED WITH 8" THICKNESS OF GRAVEL.
 - SILT FENCING SHALL BE PLACED 10' OFF TOP OF FILL SLOPES.

SILT FENCE DETAIL

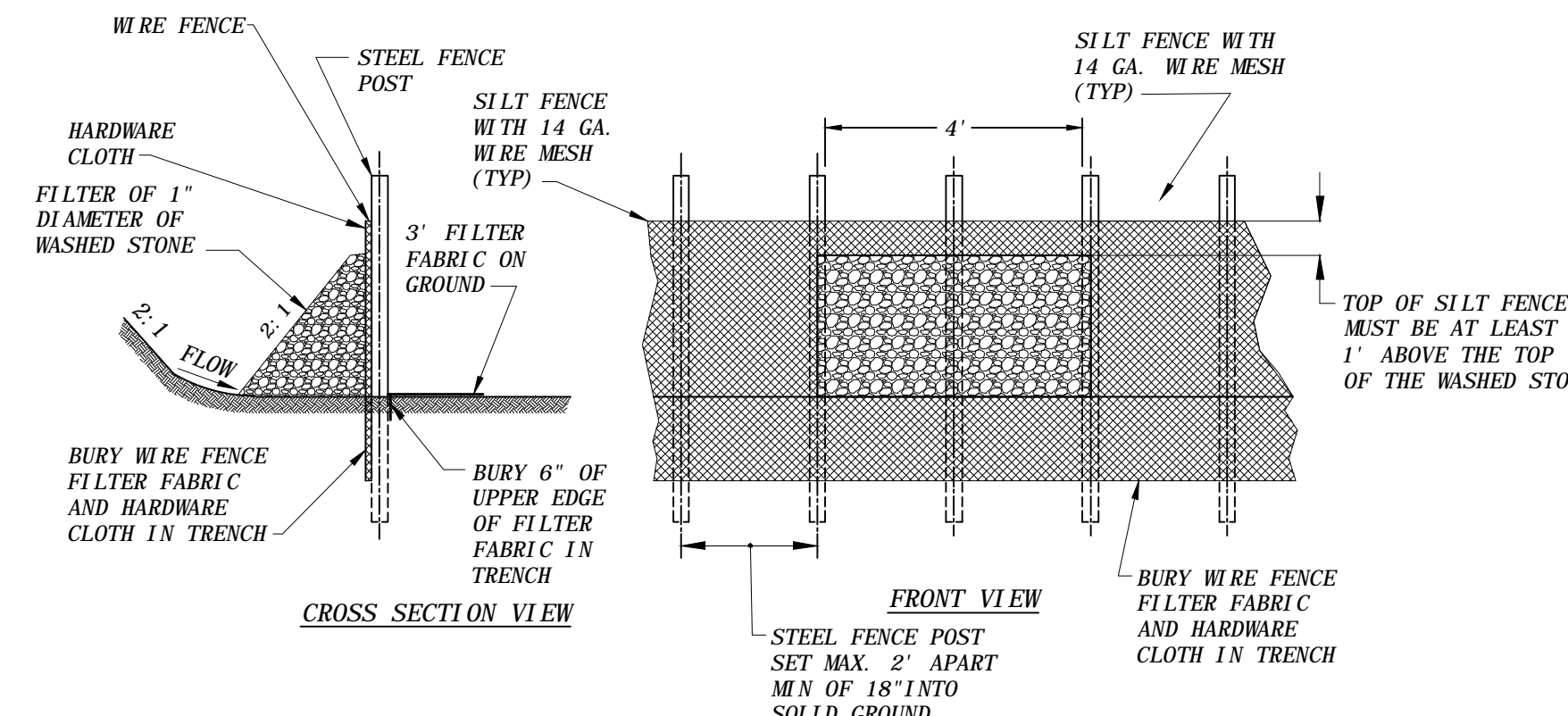


- CONSTRUCTION SPECIFICATIONS:**
- UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
 - DRIVE 6-FOOT, 1.33LB/LINEAR FOOT, STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
 - SURROUND THE POSTS WITH THE WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
 - PLACE CLEAN GRAVEL (NCDOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
 - ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENTATION, AND ESTABLISH FINAL GRADING ELEVATIONS.
 - COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUND COVER.

HARDWARE CLOTH & GRAVEL INLET PROTECTION DETAIL



STANDARD ROCK PIPE INLET PROTECTION



STONE OUTLET

PERMANENT SEEDING SCHEDULE (WEST)

GRADED AREAS:

- APPLY GROUND AGRICULTURAL LIMESTONE AND FERTILIZER IN ACCORDANCE WITH SOIL TEST RECOMMENDATIONS.
- IF SOIL TESTS RESULTS ARE NOT AVAILABLE, APPLY LIMESTONE AT THE RATE OF 2 TONS PER ACRE AND 10-20-20 GRADE FERTILIZER AT A RATE OF 500 LB/ACRE.
- INCORPORATE BOTH FERTILIZER AND LIME INTO THE TOP 4-6 INCHES OF SOIL.
- SHOULDER AND MEDIAN AREAS:

AUGUST 1 - JUNE 1		MAY 1 - SEPTEMBER 1	
20#	KENTUCKY BLUEGRASS	20#	KENTUCKY BLUEGRASS
75#	HARD FESCUE	75#	HARD FESCUE
25#	RYE GRAIN	10#	GERMAN OR BROWN TOP MILLET
500#	FERTILIZER	500#	FERTILIZER
4,000#	LIMESTONE	4,000#	LIMESTONE

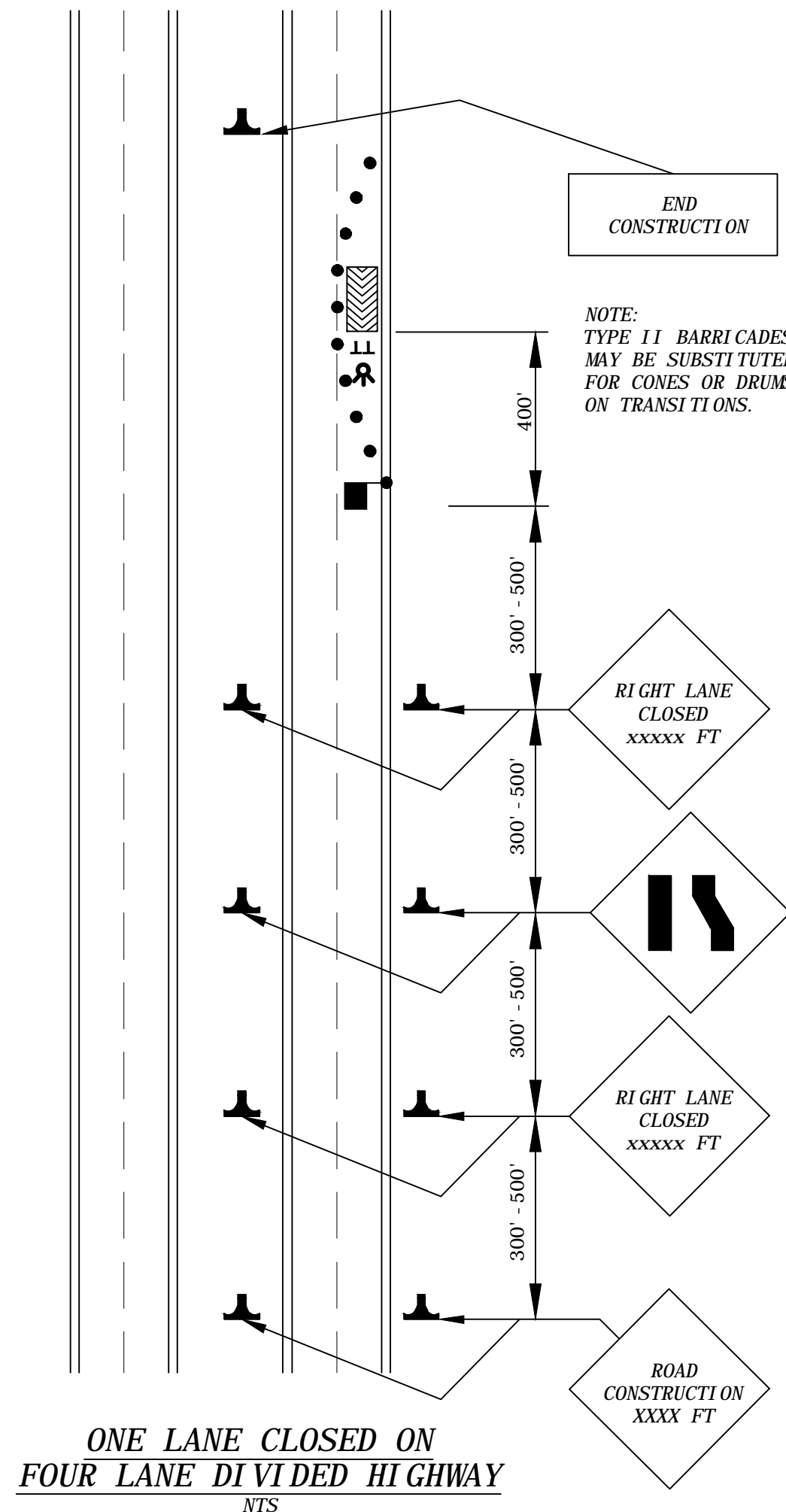
AUGUST 1 - JUNE 1		MAY 1 - SEPTEMBER 1	
100#	TALL FESCUE	100#	TALL FESCUE
15#	KENTUCKY BLUEGRASS	15#	KENTUCKY BLUEGRASS
30#	HARD FESCUE	30#	HARD FESCUE
25#	RYE GRAIN	10#	GERMAN OR BROWN TOP MILLET
500#	FERTILIZER	500#	FERTILIZER
4,000#	LIMESTONE	4,000#	LIMESTONE

SEEDBED PREPARATION:

- INSTALL SURFACE WATER CONTROLS IN ACCORDANCE WITH THE APPROVED PLAN.
- REMOVE ROCKS, ROOTS, AND DEBRIS THAT COULD INTERFERE WITH SEEDBED PREPARATION.
- AREA TO BE SEEDED SHALL BE LOOSENEED TO A DEPTH OF 4-6 INCHES USING A RIPPER, HARROW, OR CHISEL PLOW.
- SURFACE FOR FINAL SEEDBED SHALL BE TO GRADE, SMOOTH, AND UNIFORM. SLOPES SHALL BE GROOVED OR FURROWED ALONG THE CONTOUR.
- APPLY LIME AND FERTILIZER IN ACCORDANCE WITH THESE SEEDING SPECIFICATIONS.
- APPLY SEED AND MULCH IN ACCORDANCE WITH THESE SEEDING SPECIFICATIONS.
- RESEED AND MULCH AREAS WHERE COVER IS SPARSE OR WHERE EROSION HAS OCCURRED.

NOTES:

- MAXIMUM SLOPE ANGLES SHALL BE NO GREATER THAN THE ANGLE WHICH CAN BE ADEQUATELY RETAINED BY VEGETATIVE COVER OR EROSION CONTROL STRUCTURES.
- ALL PERIMETER DIKES, SWALES, DITCHES AND SLOPES SHALL HAVE GROUND COVER PROVIDED WITHIN 7 DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
- ALL SLOPES STEEPER THAN 3:1 SHALL HAVE GROUND COVER PROVIDED WITHIN 7 DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING. IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, GROUND COVER SHALL BE ESTABLISHED WITHIN 14 DAYS.
- ALL SLOPES 3:1 OR FLATTER SHALL HAVE GROUND COVER PROVIDED WITHIN 14 DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING. IF SLOPES ARE GREATER THAN 50 FEET IN LENGTH, GROUND COVER SHALL BE ESTABLISHED WITHIN 7 DAYS.
- ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 SHALL HAVE GROUND COVER ESTABLISHED WITHIN 14 DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING.



ONE LANE CLOSED ON FOUR LANE DIVIDED HIGHWAY
NTS

TABLE 1

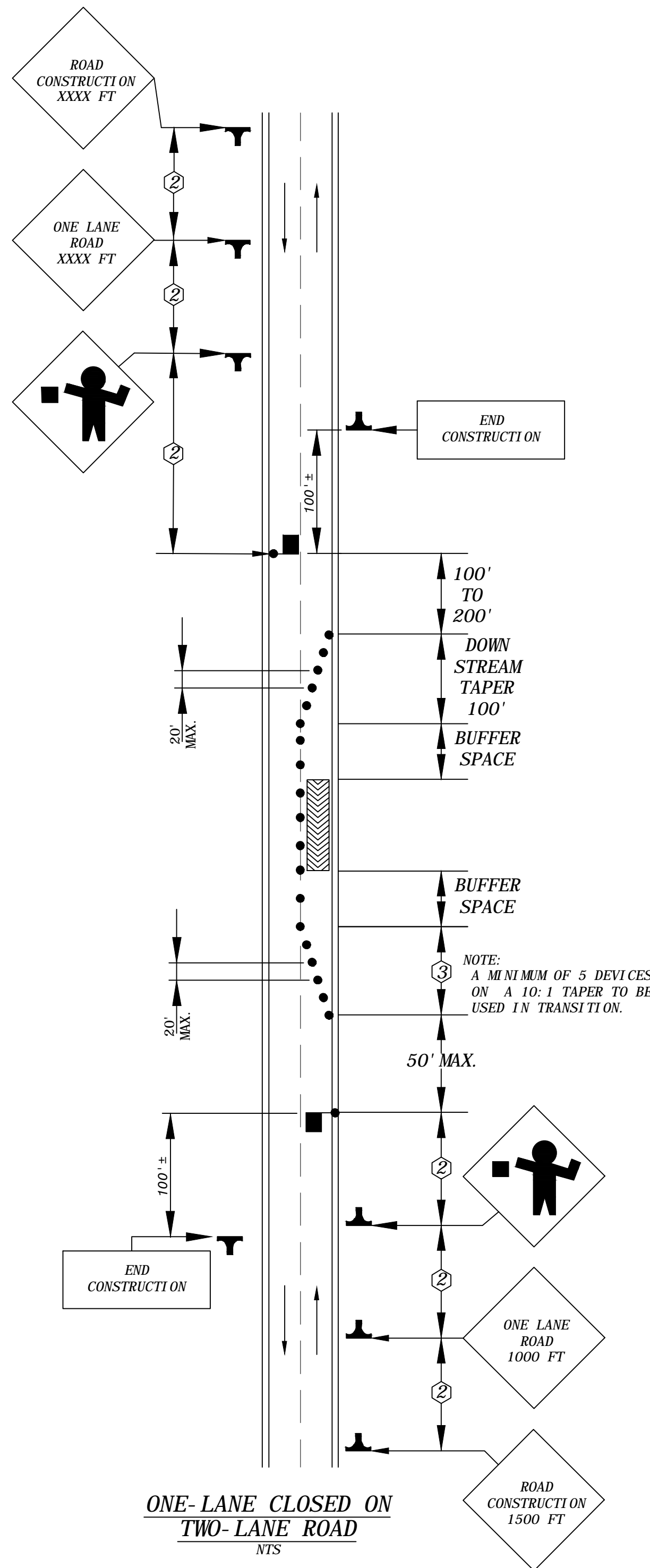
MINIMUM SIZE OF WARNING SIGNS

TYPE OF FACILITY	MINIMUM SIZE
RURAL TWO-LANE, TWO-WAY ROADWAY	36" x 36"
MULTILANE FACILITIES UP TO 45 MPH	48" x 48"
OVER 45 MPH	48" x 48"
EXPRESSWAYS AND FREEWAYS	48" x 48"

TABLE 2

MINIMUM DISTANCE BETWEEN ADVANCE WARNING SIGNS

SPEED OF TRAFFIC	DISTANCE BETWEEN SIGNS
UP TO 35 MPH	200 FT
35 TO 45 MPH	300 FT
45 TO 55 MPH	500 FT
EXPRESSWAYS	1000, 1500, 2700 FT



ONE-LANE CLOSED ON TWO-LANE ROAD
NTS

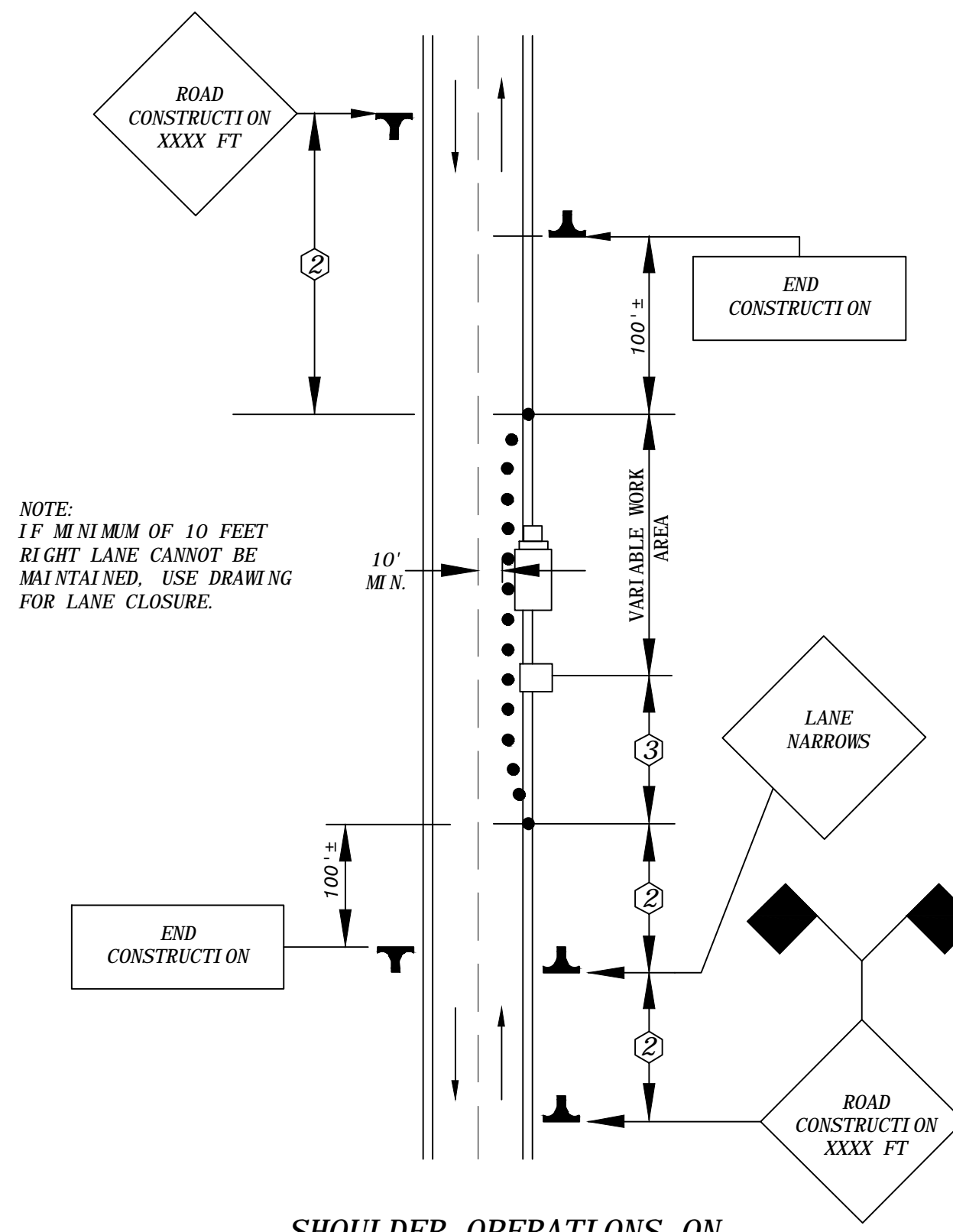
TABLE 3

LENGTH OF TAPER "L" TRANSITIONS

SPEED (MPH)	WIDTH (FT)											
	1	2	3	4	5	6	7	8	9	10	11	12
20	10	15	20	30	35	40	50	55	60	70	75	80
25	15	25	35	45	55	65	75	85	95	105	115	125
30	15	30	45	60	75	90	105	120	135	150	165	180
35	25	45	65	85	105	125	145	165	185	205	225	245
40	30	55	80	110	135	160	190	215	240	270	295	320
45	45	90	135	180	225	270	315	360	405	450	495	540
50	50	100	150	200	250	300	350	400	450	500	550	600
55	55	110	165	220	275	330	385	440	495	550	605	660
60	60	120	180	240	300	360	420	480	540	600	660	720
65	65	130	195	260	325	390	455	520	585	650	715	780
70	70	140	210	280	350	420	490	560	630	700	770	840

TAPER FORMULA: $L = WS$ FOR SPEEDS OF 45 OR MORE.
 $L = \frac{WS^2}{60}$ FOR SPEEDS OF LESS THAN 45.

WHERE L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
 W = WIDTH OF OFFSET.



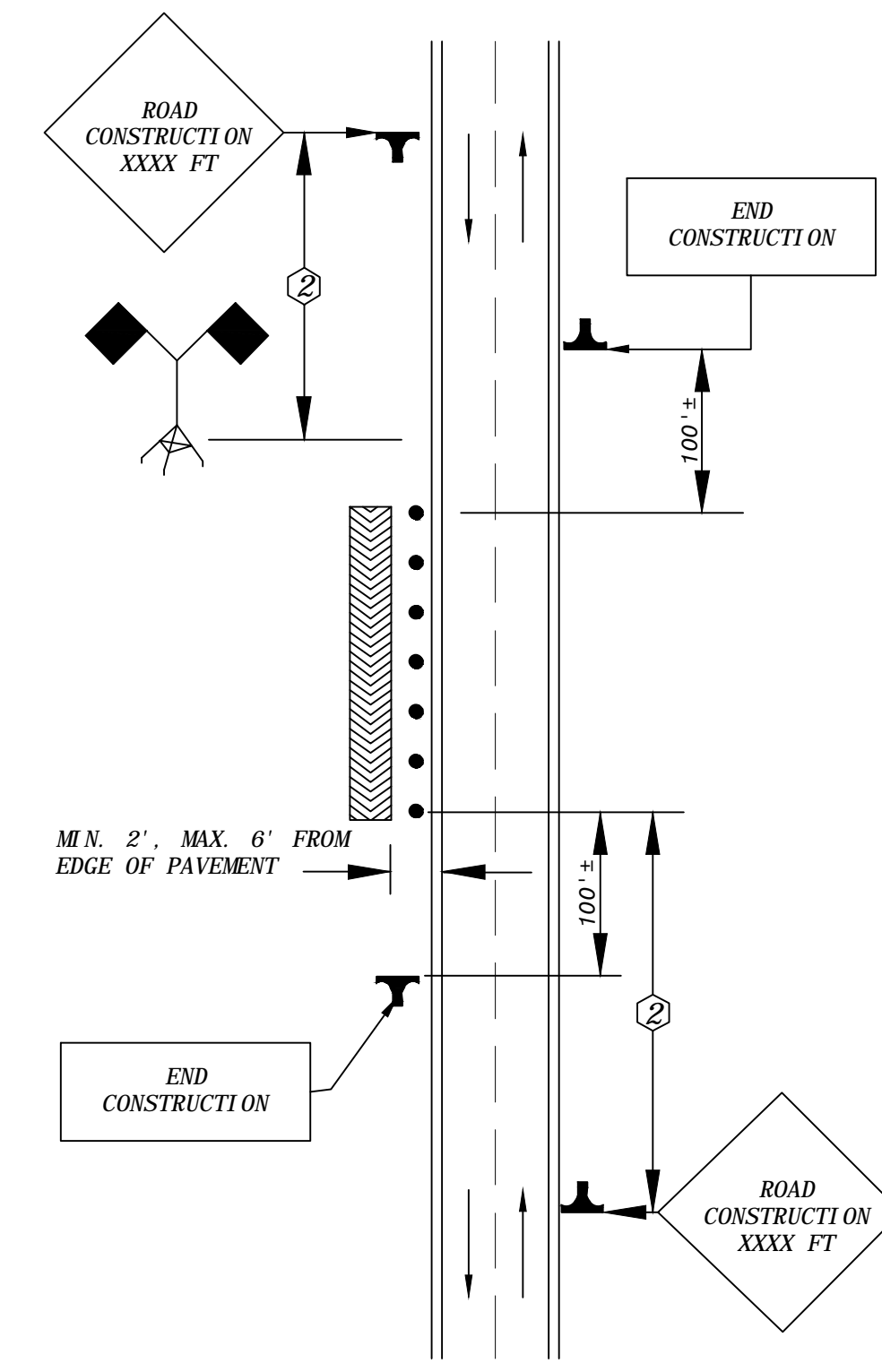
SHOULDER OPERATIONS ON TWO-LANE ROAD
(WITHIN TWO FEET OF EDGE OF PAVEMENT)
NTS

BUFFER SPACE & SIGHT DISTANCE TABLE

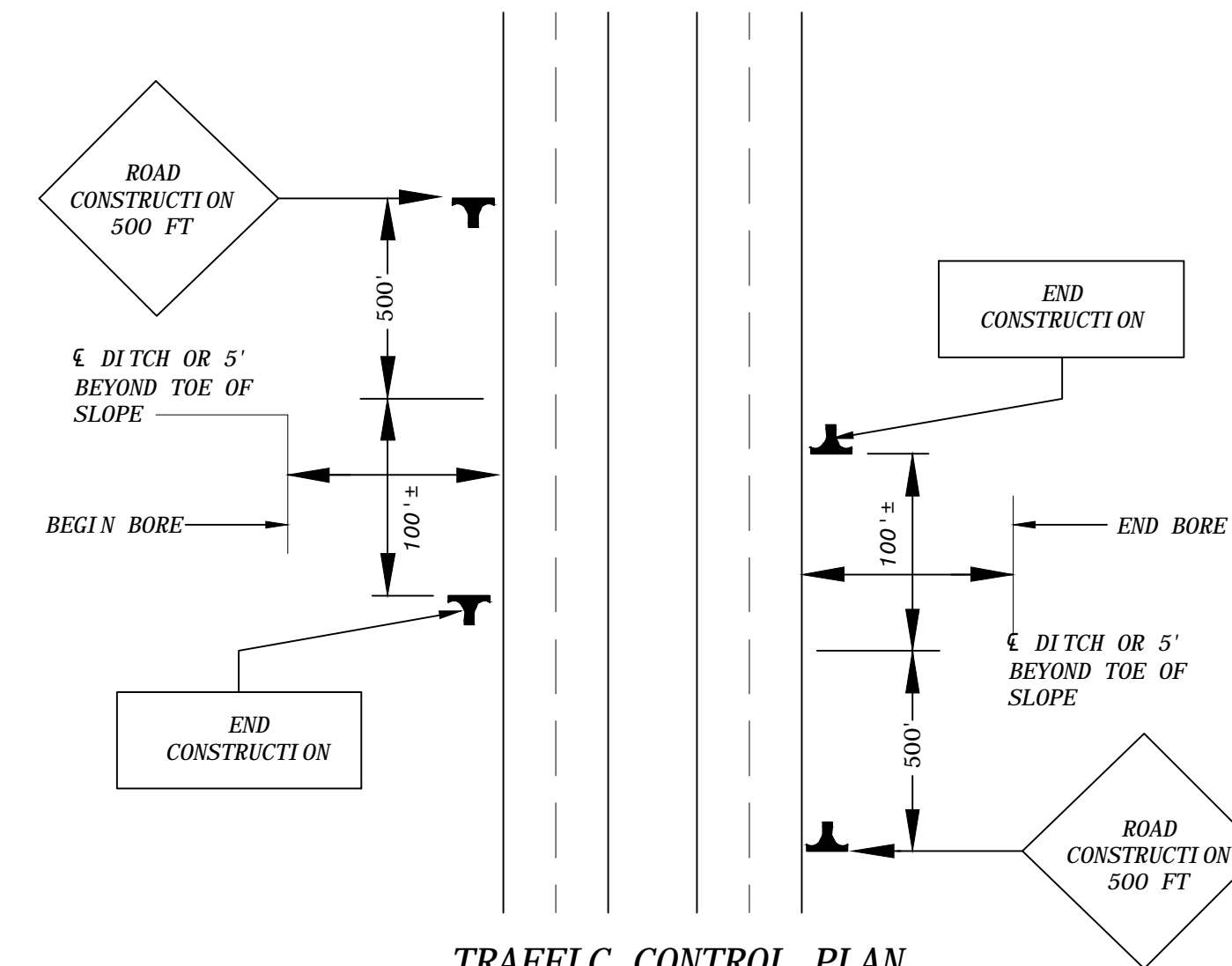
SPEED (MPH)	MINIMUM SIGHT DISTANCE (FT)		MINIMUM BUFFER SPACE (FT)
	STOPPING DIST.	PASSING DIST.	
30	200	1090	85
35	250	1280	120
40	305	1470	155
45	360	1625	195
50	425	1835	240
55	495	1985	290
60	570	2135	345
65	645	2285	405
70	730	2480	470
75	820	2580	540
80	910	2660	615

NOTE:

ALL TRAFFIC CONTROL AND TRAFFIC CONTROL DEVICES SHALL MEET THE NCDOT 2012 ROADWAY STANDARDS DIVISION 11.



OFF-ROAD SHOULDER OPERATIONS ON TWO-LANE ROAD
(2' 6" FROM EDGE OF PAVEMENT)
NTS



TRAFFIC CONTROL PLAN FOR BORING UNDER FOUR-LANE DIVIDED HIGHWAY
NTS

LEGEND

- INSTRUMENT
- RODMAN
- ⊥ TYPE I BARRICADE
- ⊥ TYPE 111 BARRICADE
- CONE
- DRUM
- ⚡ FLASHING ARROW PANEL
- ⊥ STATIONARY OR PORTABLE SIGN
- ⊥ STATIONARY SIGN
- ⊥ PORTABLE SIGN
- ▲ FLASHING WARNING LIGHT
- ▨ WORK AREA
- DIRECTION OF TRAFFIC
- ⚡ HIGH LEVEL WARNING DEVICE
- ⚡ WORK VEHICLE
- ⚡ RAILROAD FLASHING LIGHT SIGNAL AND AUTOMATIC GATE
- ⚡ RAILROAD TRACK
- ⊗ SPACING TABLE NUMBER
- ⊡ VEHICLE MOUNTED IMPACT ATTENUATOR
- ⊡ FLAGGER

