AIKEN COUNTY
DEPARTMENT OF ENGINEERING

UTILITIES

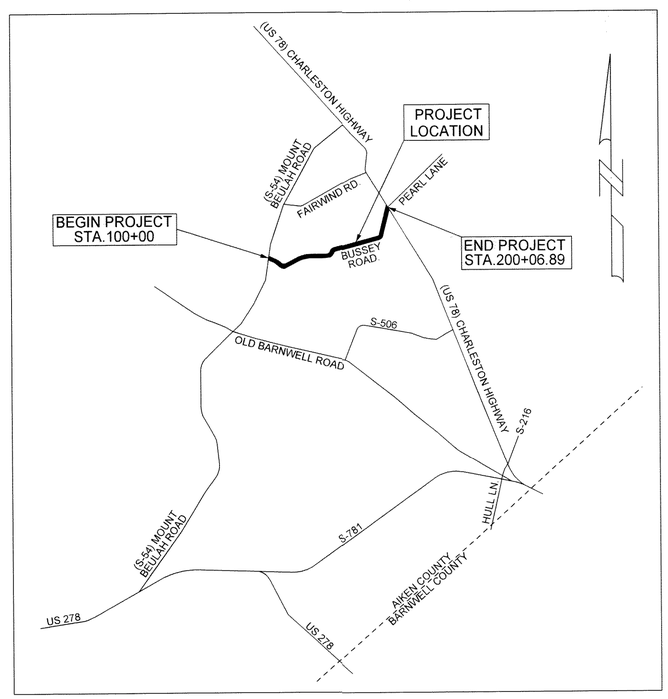
WATER AND SEWER:
None

TELEPHONE:
AT&T
CONTACT:
TEL: 803-401-2504

ELECTRICAL:
AIKEN ELECTRIC COOPERATIVE
CONTACT: WARREN SMITH
TEL: (803) 649-6245

GAS:
NONE

ROADWAY IMPROVEMENTS TO BUSSEY ROAD AIKEN, SC



VICINITY MAP
NOT TO SCALE

LOCATION MAP

SHEET NUMBER	SHEET INDEX
1	COVER SHEET
2	TYPICAL SECTIONS
3	GENERAL NOTES & QUANTITIES
3A	EROSION CONTROL DATA SHEET
4	CONSTRUCTION LAYOUT PLAN
5-12	BUSSEY ROAD PLANS AND PROFILES
13-16	CONSTRUCTION DETAILS
X1 - X25	BUSSEY ROAD CROSS SECTIONS

NPDES PERMIT INFORMATION

NPDES Disturbed
Area = 8.81 Acre(s)

Approximate Location of Roadway is

Begin
Latitude 33°27'23" N
Longitude 81°31'42" W

End
Latitude 33°27'56" N
Longitude 81°30'09" W

RAILROAD INVOLVEMENT?
YES / (NO)

APPROVED FOR CONSTRUCTION

DATE

JOE BERRY, PE
COUNTY ENGINEER

3 DAYS BEFORE DIGGING IN
SOUTH CAROLINA

CALL 811

SOUTH CAROLINA 811 (SC811)
WWW.SC811.COM
ALL UTILITIES MAY NOT BE A MEMBER OF SC811

SOUTH CAROLINA REGISTERED No. 21399 PROFESSIONAL ENGINEER MAUREEN K. O'BRIEN-FITTS

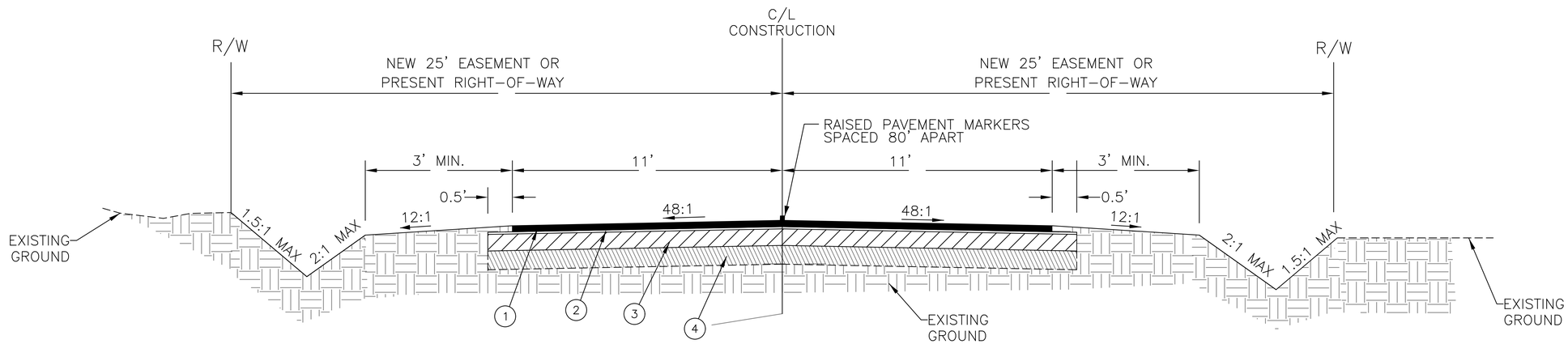
NOT VALID UNLESS SIGNED
6/12/2015

SOUTH CAROLINA HUSSEY, GAY, BELL & DeYOUNG INC. No. C00539 CERTIFICATE OF AUTHORIZATION

PREPARED BY:

CONSULTING ENGINEERING FIRM
HGBD
A Bell Company

P:\PROJ\000000000 - AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT01 Cover.dgn



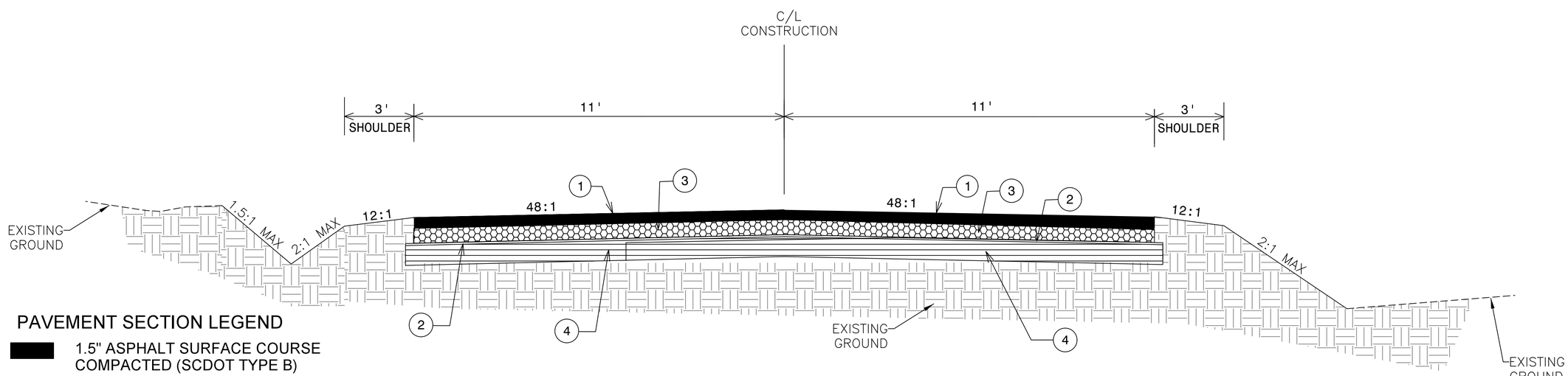
PAVEMENT SECTION LEGEND

1. 1.5" ASPHALT SURFACE COURSE COMPACTED (SCDOT TYPE C)
2. PRIME COAT @ 0.25 gal/SY
3. 6" SAND CLAY BASE (100% COMPACTION)
4. EXISTING SUBGRADE (100% COMPACTION)

TYPICAL SECTION NO. 1 – SHOULDER AND DITCH SECTION
BUSSEY ROAD
STA.100+33.54 TO STA.199+54.45

N.T.S.

NOTE:
SEE CROSS SECTIONS FOR SUPERELEVATION



PAVEMENT SECTION LEGEND

1. 1.5" ASPHALT SURFACE COURSE COMPACTED (SCDOT TYPE B)
2. PRIME COAT @ 0.25 gal/SY
3. 2.5" ASPHALT INTERMEDIATE COURSE COMPACTED (SCDOT TYPE C)
4. 8" GRADED AGGREGATE BASE COURSE COMPACTED

TYPICAL SECTION NO. 2 – INSIDE SCDOT R/W
BUSSEY ROAD
STA.100+00.00 TO STA.100+33.54
STA.199+54.45 TO STA.200+06.89

N.T.S.

DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: N.T.S.

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

HBJ A Bell Company Engineers Architects

TYPICAL SECTIONS

SHEET NO. 2

P:\PROJ\000000000 - AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT02 - Typical Section.dgn

GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF PIPE FLOW LINES AND SIDE ROAD TIE-INS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY APPARENT DISCREPANCIES OR CONFLICTS IN THE CONSTRUCTION PLANS PRIOR TO COMMENCING CONSTRUCTION.

2. RELOCATION AND/OR ADJUSTMENT OF ANY UTILITY IS TO BE COMPLETED BY OWNER OF UTILITY. CONTRACTOR TO COORDINATE WITH UTILITY OWNER.

3. CHANGES INVOLVING INCREASED COST OF PROJECT OR CHANGES IN ALIGNMENT MUST BE SPECIFICALLY AUTHORIZED BY AIKEN COUNTY ENGINEER.

4. PIPE LENGTHS THAT ARE SHOWN ON THE PLANS ARE APPROXIMATE HORIZONTAL DISTANCES. FIELD ADJUSTMENTS OF THE ACTUAL PIPE LENGTHS MAY BE NECESSARY.

5. ALL HORIZONTAL AND VERTICAL DATUMS ARE BASED ON A SURVEY BY HUSSEY, GAY, BELL & DEYOUNG, INC, 1219 ASSEMBLY ST COLUMBIA, S.C. 29209 (803.799.0444).

6. THE CONTRACTOR SHALL STAGE CLEARING AND GRUBBING WORK ALONG WITH ROADWAY CONSTRUCTION WORK TO MINIMIZE THE AMOUNT OF EROSION AND SEDIMENTATION.

7. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION SIGNING AND MAINTENANCE OF EXISTING PERMANENT SIGNS DURING CONSTRUCTION. ALL SIGNAGE TO BE PROVIDED BY AIKEN COUNTY AT THE CONTRACTOR'S EXPENSE.

8. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR IN AN EXPEDIENT MANNER ANY DAMAGE THAT OCCURS TO THE CROSS ROADS DUE TO THESE ROADS BEING USED IN THE CONSTRUCTION PROCESS.

9. THE LOCATION OF THE UTILITIES ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES BEFORE BEGINNING THE PROJECT.

10. ALL CURVE RADII ARE SHOWN TO THE EDGE OF PAVEMENT.

11. ALL DRAINAGE STRUCTURES AND PIPE TO BE IN ACCORDANCE WITH THE SCDOT STANDARD DRAWINGS FOR ROAD CONSTRUCTION AND 2007 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

12. COORDINATE REMOVAL AND REPLACEMENT OF ANY FENCE, IF NECESSARY WITH AIKEN COUNTY ENGINEER.

13. CONTRACTOR TO PREPARE A TRAFFIC CONTROL PLAN AND A WORK ZONE SAFETY PLAN WHICH ARE TO BE SUBMITTED TO THE AIKEN COUNTY ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. THE WORK ZONE SAFETY PLAN IS TO BE IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION AND OTHER REQUIREMENTS AS MAY BE DIRECTED BY THE AIKEN COUNTY ENGINEER.

14. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE CONCURRENCE OF THE AIKEN COUNTY ENGINEER IN REGARDS TO LOCATING THE LIMITS OF CLEARING AND GRUBBING.

15. RIGHT-OF-WAY INFORMATION PROVIDED BY AIKEN COUNTY. SHOWN LOCATION OF RIGHT-OF-WAY IS CENTERLINE OF DIRT ROAD. OFFSET FROM CENTERLINE OF DIRT ROAD MAY OR MAY NOT BE COINCIDENT WITH CENTERLINE OF CONSTRUCTION. THE SHOWN LOCATION OF THE BUSSEY ROAD ROAD RIGHT-OF-WAY IS BASED UPON INFORMATION PROVIDED BY AIKEN COUNTY TO THE ENGINEER. PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR IS ADVISED TO REQUEST FROM AIKEN COUNTY, CONFIRMATION OF THE SHOWN RIGHT-OF-WAY AND ANY CHANGES THERETO, AS WELL AS RECEIVE DELIVERY OF PERTINENT EASEMENTS AND PERMISSIONS TO ENTER PRIVATE PROPERTY.

16. THE SHOWN LOCATION OF SILT FENCE IS FOR CLARIFICATION. ERECT SILT FENCE IN ACCORDANCE WITH THE CONSTRUCTION DETAILS TO THE MAXIMUM EXTENT POSSIBLE AND ERECT SILT FENCE WITHIN THE LIMITS OF THE RIGHT-OF-WAY. SECURE THE PERMISSION OF THE OWNER PRIOR TO PLACING SILT FENCE ON PRIVATE PROPERTY.

17. ALL INFILTRATION TRENCHES SHALL BE EXCAVATED TO ELEVATIONS SHOWN IN CROSS SECTIONS WITH NO COMPACTION TO MAXIMIZE INFILTRATION.

18. CONTRACTOR TO PROVIDE CONSTRUCTION ENTRANCE/EXIT PER DETAIL ON SHEET WHERE CONSTRUCTION ACTIVITY ENTERS A PAVED ROADWAY

SEDIMENT AND EROSION CONTROL

1. IF NECESSARY, SLOPES WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.

2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW. WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.

3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.

4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION.

5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE PAVED ROADWAY CONSTRUCTION AREAS. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.

7. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.

8. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50–FOOT BUFF CAN*T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10–FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.

9. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORMWATER DISCHARGES.

10. A COPY OF THE SWPPP, INSPECTIONS RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.

11. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND–DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.

12. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.

13. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE;

14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.).

15. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:

    * WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
    * WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
    * FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
    * SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.

16. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.

17. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC*S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.

18. A PRE–CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON–SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON–LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON–SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

SUMMARY OF ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNITS
1	MOBILIZATION	1	LS
2	CLEARING & GRUBBING	4	ACRE
3	UNCLASSIFIED EXCAVATION	1	LS
4	SAND-CLAY BASE COURSE (6" UNIFORM)	28122	SY
5	GRADED AGGREGATE BASE COURSE (8" UNIFORM)	425	SY
6	1 ½ -INCH (165-lb/sy) HOT MIX ASPHALT SURFACE COURSE - SCDOT TYPE B	404	SY
7	2 ½-INCH (265-lb/sy) COMPACTED ASPH CONC SURFACE CRS– SCDOT TYPE C	404	SY
8	1 ½ -INCH (165-lb/sy) HOT MIX ASPHALT SURFACE CRS - SCDOT TYPE C	25600	SY
9	PRIME COAT 0.25 GAL/SY @ $3.75/gal	28122	SY
10	TRAFFIC CONTROL	1	LS
11	ROADWAY SIGNAGE	10	EA
12	4" WHITE SOLID LINES (PVT. EDGE LINES) THERMO.- 90 MIL.	121	LF
13	24" WHITE SOLID LINES (STOP/DIAG LINE)-THERMO.-125 MIL	51	LF
14	PERM.YELLOW PAV.MARK BI-DIR 4"X4"	141	EA
15	15"RC PIPE CUL.-CLASS V	1436	LF
16	RESET FENCE	3400	LF
17	PERMANENT COVER	4	ACRE
18	TEMPORARY EROSION CONTROL BLANKET (CLASS A)	13	MSY
19	SEDIMENT TUBES FOR DITCH CHECKS	258	LF
20	SILT FENCE	270	LF
21	EROSION CONTROL MAINTENANCE	1	LS
22	STABILIZED CONSTRUCTION ENTRANCE	534	SY
23	INFILTRATION TRENCH	1710	LF
24	CONTINGENT - UNSUITABLE MATERIAL EXCAVATION	20	CY
25	CONTINGENT - AGGREGATE UNDERDRAIN (AGGR.NO. 57)	100	TON
26	CONTINGENT - 6" PERFORATED PIPE UNDERDRAIN	300	LF
27	CONTINGENT - RIP RAP (6-8 INCH DIAMETER)	100	SY

SEQUENCE OF CONSTRUCTION OPERATIONS

1. CLEAR AND GRUB THOSE AREAS NECESSARY FOR CONSTRUCTION
2. INSTALL EROSION CONTROL MEASURES
3. ROAD GRADING
4. INSTALL STORM DRAINAGE PIPES & CONSTRUCT INFILTRATION TRENCHES
5. FINAL GRADING AND PAVING
6. REMOVAL OF SEDIMENT CONTROLS
7. FINALIZE INSTALLATION OF INFILTRATION TRENCHES
8. FINAL STABILIZATION

DATE	REVISION

PROJECT NO:
DATE: 02–25–15
DRAWN BY: LDM
CHECKED BY: MGB
SCALE: N.T.S.

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

HSY A Bell Company Engineers Architects

GENERAL NOTES

SHEET NO. 3

P:\PROJ\000000000 – AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT03 – General Notes.dgn

TEMPORARY EROSION CONTROL BLANKET

ROAD / ROUTE	STATION TO STATION		SIDE	DEPTH OF BLANKET (FT)	SLOPES X : 1 FRONT	SLOPES X : 1 BACK	DITCH BOTTOM WIDTH (FT)	MSY
Bussey Road	100+28	108+00	RT	2	2	1.5	0	0.693
Bussey Road	100+28	108+00	LT	1.75	2	1.5	0	0.606
Bussey Road	108+00	110+00	RT	1.25	2	1.5	0	0.112
Bussey Road	110+00	112+00	LT	1.25	2	1.5	0	0.112
Bussey Road	113+00	119+00	RT	1.5	2	1.5	0	0.404
Bussey Road	112+00	119+00	LT	1.75	2	1.5	0	0.550
Bussey Road	119+60	126+25	RT	1.75	2	1.5	0	0.522
Bussey Road	119+40	126+25	LT	1.5	2	1.5	0	0.461
Bussey Road	126+75	131+00	RT	1.75	2	1.5	0	0.334
Bussey Road	131+55	134+75	RT	1.25	2	1.5	0	0.180
Bussey Road	126+75	134+80	LT	1.75	2	1.5	0	0.632
Bussey Road	135+25	139+00	RT	1.25	2	1.5	0	0.210
Bussey Road	135+20	140+00	LT	1.75	2	1.5	0	0.377
Bussey Road	139+00	149+50	RT	1.25	2	1.5	0	0.589
Bussey Road	140+00	149+20	LT	1.5	2	1.5	0	0.619
Bussey Road	150+35	151+50	RT	1.25	2	1.5	0	0.065
Bussey Road	149+80	151+50	LT	1	2	1.5	0	0.076
Bussey Road	151+50	157+50	RT	1.75	2	1.5	0	0.471
Bussey Road	151+50	157+00	LT	1.5	2	1.5	0	0.370
Bussey Road	158+50	163+00	RT	1.5	2	1.5	0	0.303
Bussey Road	158+45	163+00	LT	1.5	2	1.5	0	0.306
Bussey Road	164+90	168+30	RT	1.25	2	1.5	0	0.191
Bussey Road	164+90	170+00	LT	1.25	2	1.5	0	0.286
Bussey Road	170+30	178+50	RT	2	2	1.5	0	0.736
Bussey Road	170+00	178+50	LT	2	2	1.5	0	0.763
Bussey Road	178+50	183+50	RT	2	2	1.5	0	0.449
Bussey Road	178+50	183+60	LT	2	2	1.5	0	0.458
Bussey Road	183+90	187+75	RT	1.5	2	1.5	0	0.259
Bussey Road	184+00	187+75	LT	1.75	2	1.5	0	0.294
Bussey Road	188+25	190+00	RT	1.25	2	1.5	0	0.098
Bussey Road	188+25	190+00	LT	1.5	2	1.5	0	0.118
Bussey Road	190+00	192+70	RT	1.25	2	1.5	0	0.151
Bussey Road	190+00	192+80	LT	1.5	2	1.5	0	0.188
Bussey Road	193+15	199+50	RT	1.75	2	1.5	0	0.499
Bussey Road	193+20	199+50	LT	1.75	2	1.5	0	0.495
							TOTALS	12.978

SEDIMENT TUBES IN DITCHES

ROAD / ROUTE	STATION TO STATION		SIDE	AVERAGE LENGTH	SPACING (FT)	TOTAL	COMMENTS
Bussey Rd	100+28	108+00	RT	7	150	7	
Bussey Rd	100+28	108+00	LT	7	150	7	
Bussey Rd	108+00	110+00	RT	5	150	5	
Bussey Rd	110+00	112+00	LT	8	150	8	
Bussey Rd	113+00	119+00	RT	5	150	5	
Bussey Rd	112+00	119+00	LT	5	150	5	
Bussey Rd	119+60	126+25	RT	7	150	7	
Bussey Rd	119+40	126+25	LT	6	150	6	
Bussey Rd	126+75	131+00	RT	9	150	9	
Bussey Rd	131+55	134+75	RT	8	150	8	
Bussey Rd	126+75	134+80	LT	8	150	8	
Bussey Rd	135+25	139+00	RT	7	150	7	
Bussey Rd	135+20	140+00	LT	8	150	8	
Bussey Rd	139+00	149+50	RT	10	150	10	
Bussey Rd	140+00	149+20	LT	8	150	8	
Bussey Rd	150+35	151+50	RT	7	150	7	
Bussey Rd	149+80	151+50	LT	7	150	7	
Bussey Rd	151+50	157+50	RT	7	150	7	
Bussey Rd	151+50	157+00	LT	7	150	7	
Bussey Rd	158+50	163+00	RT	7	150	7	
Bussey Rd	158+45	163+00	LT	7	150	7	
Bussey Rd	164+90	168+30	RT	5	150	5	
Bussey Rd	164+90	170+00	LT	8	150	8	
Bussey Rd	170+30	178+50	RT	8	150	8	
Bussey Rd	170+00	178+50	LT	10	150	10	
Bussey Rd	178+50	183+50	RT	7	150	7	
Bussey Rd	178+50	183+60	LT	7	150	7	
Bussey Rd	183+90	187+75	RT	7	150	7	
Bussey Rd	184+00	187+75	LT	10	150	10	
Bussey Rd	188+25	190+00	RT	5	150	5	
Bussey Rd	188+25	190+00	LT	7	150	7	
Bussey Rd	190+00	192+70	RT	7	150	7	
Bussey Rd	190+00	192+80	LT	7	150	7	
Bussey Rd	193+15	199+50	RT	10	150	10	
Bussey Rd	193+20	199+50	LT	10	150	10	
					GRAND TOTAL	258	

DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: N.T.S.

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

A Bell Company
Engineers Architects

EROSION CONTROL DATA SHEET

SHEET NO. 3A

P:\PROJ\000000000 – AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT03A –Erosion Control Data.dgn

NOTE:

1. ALL USERS OF THE CONTROL POINTS LISTED BELOW SHALL BE REQUIRED TO CHECK BETWEEN ANY THREE OF THEM, IN ORDER TO VERIFY THAT THEY HAVE NOT BEEN DISTURBED, AND THAT THE IDENTITIES OF THE OCCUPIED AND OBSERVED POINTS ARE CORRECT, BEFORE UTILIZING THESE POINTS FOR STAKING, CHECKING OR ANY OTHER PURPOSE.

DATUM DESCRIPTION:

THE GRID COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON NAD 83 (2011) SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM. A COMBINED SCALE FACTOR FOR EACH PRIMARY SURVEY CONTROL POINT IS GIVEN AND MUST BE APPLIED TO HORIZONTAL GROUND DISTANCES. ELEVATIONS FOR THIS PROJECT ARE BASED ON NAVD 88 VALUES FROM NGS MONUMENT AKGPS 55 UTILIZING RTK GPS.

PRIMARY SURVEY CONTROL (PSC)

POINT NUMBER: 4
STATION/OFFSET:
NORTHING: 594302.22
EASTING: 1846781.24
ELEVATION: 363.39
DESCRIPTION: 5/8" REBAR WITH PLASTIC CAP
COMBINED SCALE FACTOR: 0.99978647

POINT NUMBER: 6
STATION/OFFSET:
NORTHING: 594928.63
EASTING: 1846371.14
ELEVATION: 359.98
DESCRIPTION: 5/8" REBAR WITH PLASTIC CAP
COMBINED SCALE FACTOR: 0.99978647

POINT NUMBER: 8
STATION/OFFSET:
NORTHING: 592344.34
EASTING: 1846300.38
ELEVATION: 365.24
DESCRIPTION: 5/8" REBAR WITH PLASTIC CAP
COMBINED SCALE FACTOR: 0.99978647

POINT NUMBER: 10
STATION/OFFSET:
NORTHING: 592110.98
EASTING: 1845570.53
ELEVATION: 363.84
DESCRIPTION: 5/8" REBAR WITH PLASTIC CAP
COMBINED SCALE FACTOR: 0.99978647

POINT NUMBER: 12
STATION/OFFSET:
NORTHING: 591109.62
EASTING: 1841873.50
ELEVATION: 391.45
DESCRIPTION: 5/8" REBAR WITH PLASTIC CAP
COMBINED SCALE FACTOR: 0.99978647

POINT NUMBER: 14
STATION/OFFSET:
NORTHING: 591045.88
EASTING: 1841180.35
ELEVATION: 395.92
DESCRIPTION: 5/8" REBAR WITH PLASTIC CAP
COMBINED SCALE FACTOR: 0.99978647

POINT NUMBER: 16
STATION/OFFSET:
NORTHING: 590881.63
EASTING: 1838816.16
ELEVATION: 420.84
DESCRIPTION: 5/8" REBAR WITH PLASTIC CAP
COMBINED SCALE FACTOR: 0.99978647

POINT NUMBER: 18
STATION/OFFSET:
NORTHING: 590622.40
EASTING: 1838831.44
ELEVATION: 423.46
DESCRIPTION: 5/8" REBAR WITH PLASTIC CAP
COMBINED SCALE FACTOR: 0.99978647

MAIN SURVEY CONTROL (MSC)

POINT NUMBER: 24
STATION/OFFSET:
NORTHING: 593667.62
EASTING: 1846634.83
ELEVATION: 363.04
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 25
STATION/OFFSET:
NORTHING: 593001.76
EASTING: 1846471.50
ELEVATION: 362.64
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 28
STATION/OFFSET:
NORTHING: 591926.80
EASTING: 1844929.84
ELEVATION: 366.47
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 29
STATION/OFFSET:
NORTHING: 591739.69
EASTING: 1844234.88
ELEVATION: 372.14
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 30
STATION/OFFSET:
NORTHING: 591589.15
EASTING: 1843674.72
ELEVATION: 377.47
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 31
STATION/OFFSET:
NORTHING: 591487.40
EASTING: 1843119.29
ELEVATION: 378.32
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 32
STATION/OFFSET:
NORTHING: 591140.00
EASTING: 1842953.48
ELEVATION: 386.61
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 33
STATION/OFFSET:
NORTHING: 591065.30
EASTING: 1842274.28
ELEVATION: 389.77
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 35
STATION/OFFSET:
NORTHING: 591037.58
EASTING: 1841510.82
ELEVATION: 396.54
DESCRIPTION: 5/8" REBAR WITH PLASTIC CAP

MAIN SURVEY CONTROL (MSC)

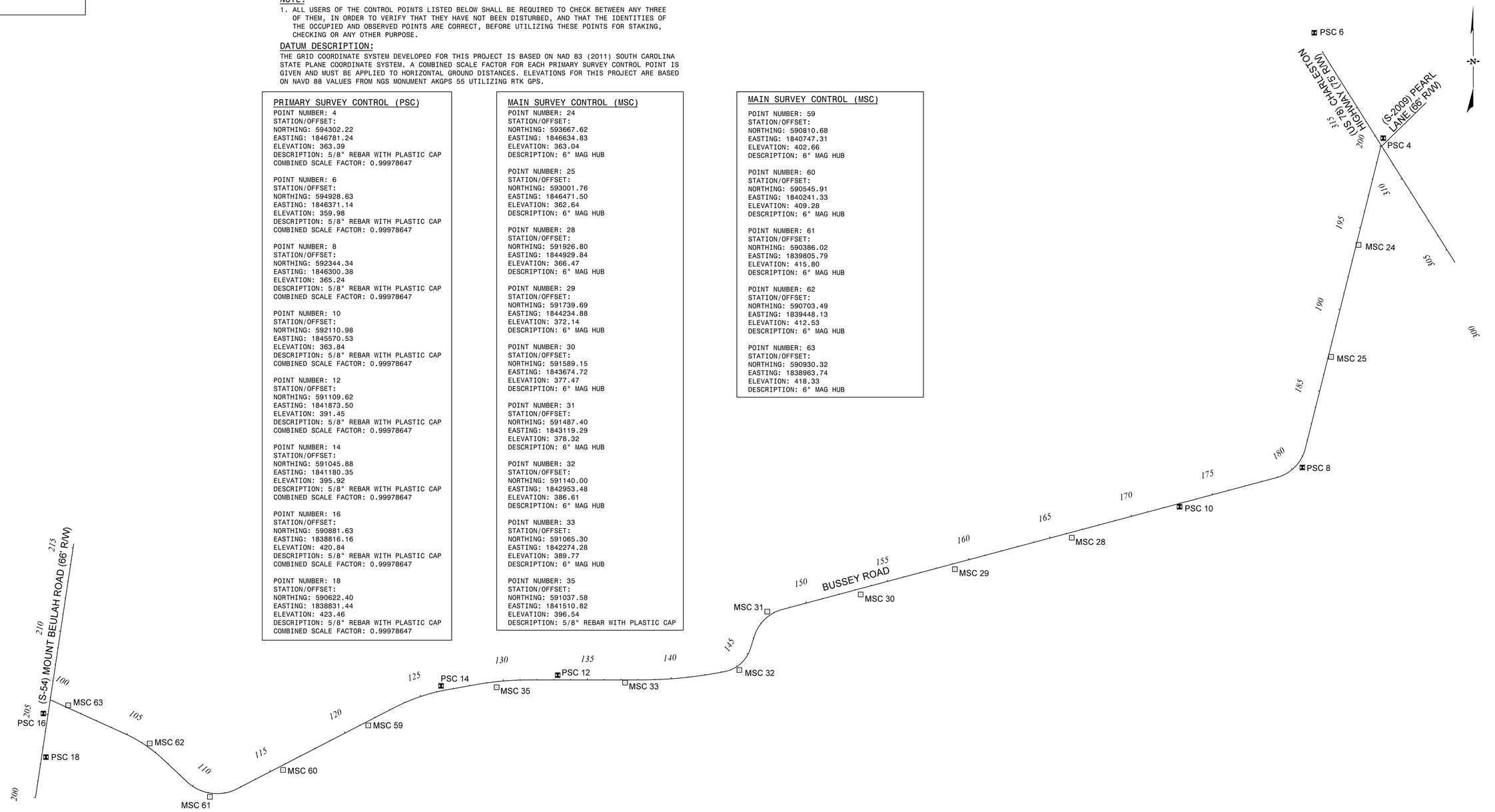
POINT NUMBER: 59
STATION/OFFSET:
NORTHING: 590810.68
EASTING: 1840747.31
ELEVATION: 402.66
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 60
STATION/OFFSET:
NORTHING: 590545.91
EASTING: 1840241.33
ELEVATION: 409.28
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 61
STATION/OFFSET:
NORTHING: 590386.02
EASTING: 1839805.79
ELEVATION: 415.80
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 62
STATION/OFFSET:
NORTHING: 590703.49
EASTING: 1839448.13
ELEVATION: 412.53
DESCRIPTION: 6" MAG HUB

POINT NUMBER: 63
STATION/OFFSET:
NORTHING: 590930.32
EASTING: 1838963.74
ELEVATION: 418.33
DESCRIPTION: 6" MAG HUB



DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: 1" = 300'

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

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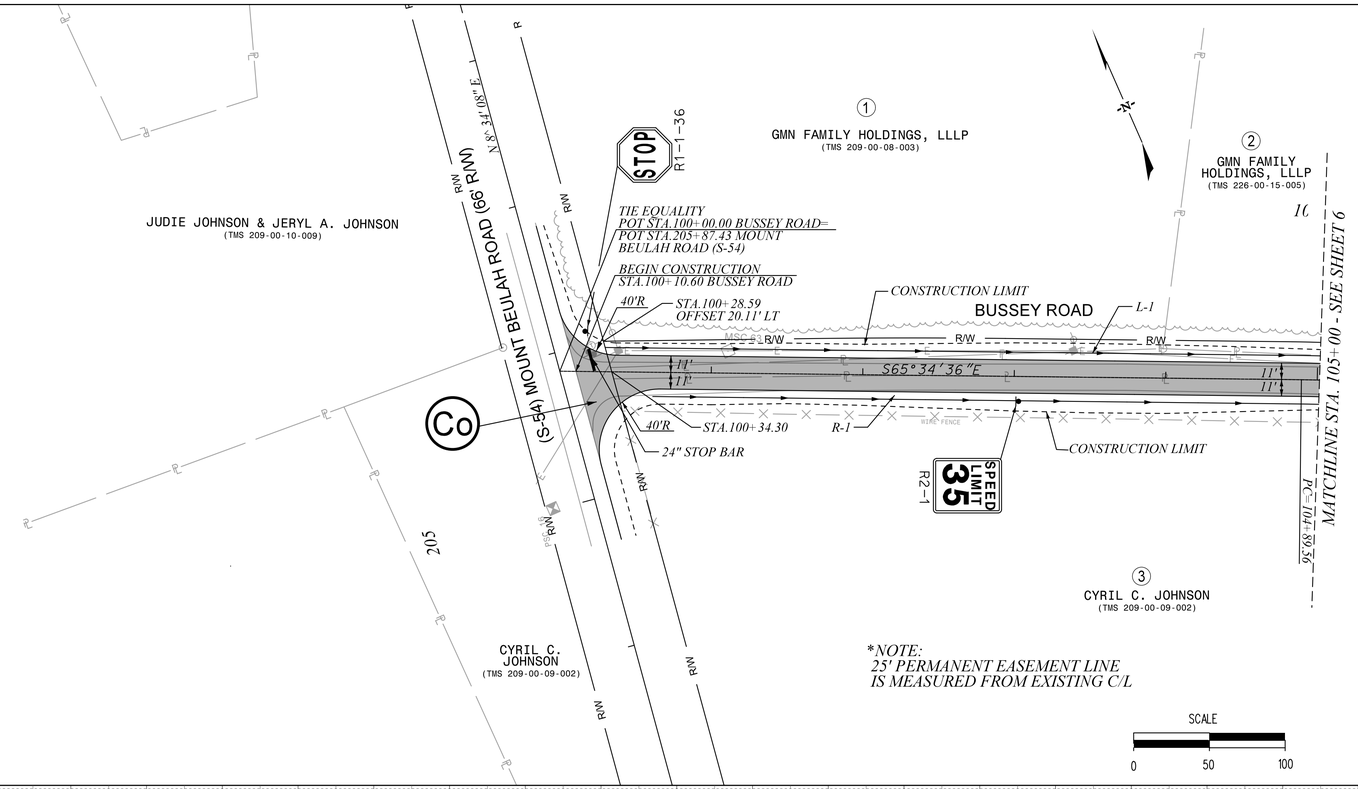
CONSTRUCTION LAYOUT PLAN

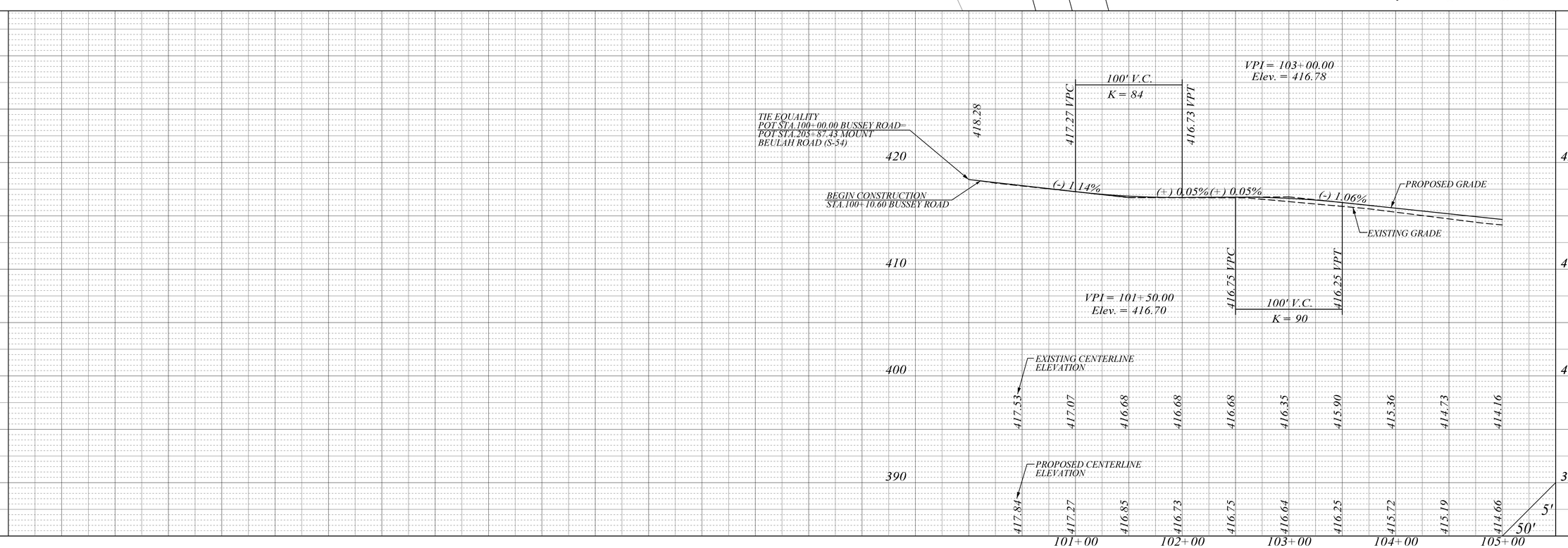
SHEET NO. 4

P:\PROJ\00000000 - AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT04 Construction Layout.dgn

LEGEND

- EXISTING TREE LINE
- DIRT ROAD
- SIGN
- MAILBOX
- POWER POLE W/GUY
- OVERHEAD POWER LINE
- FENCE
- PROPERTY LINE
- PERMANENT EASEMENT LINE — R/W
- STORM DRAIN PIPE — 18"RCP
- PROPOSED STORM DRAIN PIPE
- PROPOSED ASPHALT PAVEMENT
- PROPOSED INFILTRATION TRENCH
- PROPOSED SILT FENCE — SF
- PROPOSED DITCH FLOW
- CONSTRUCTION ENTRANCE — Co





DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: 1" = 50'

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

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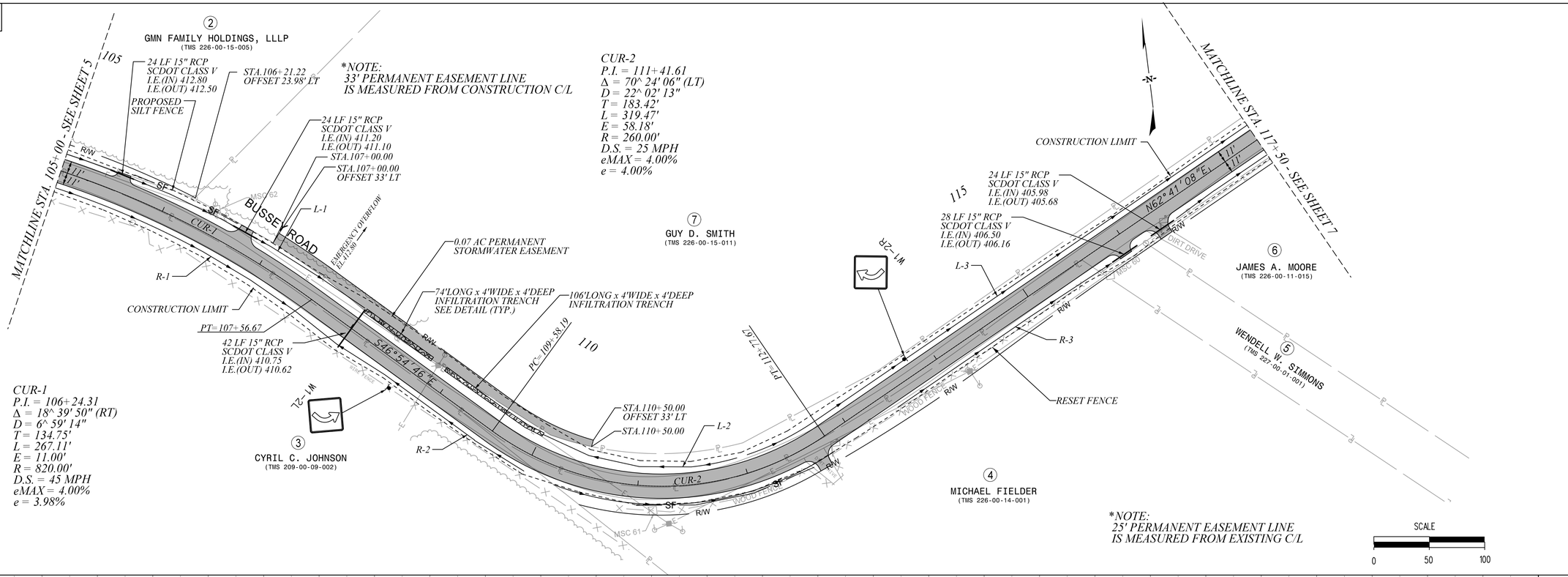
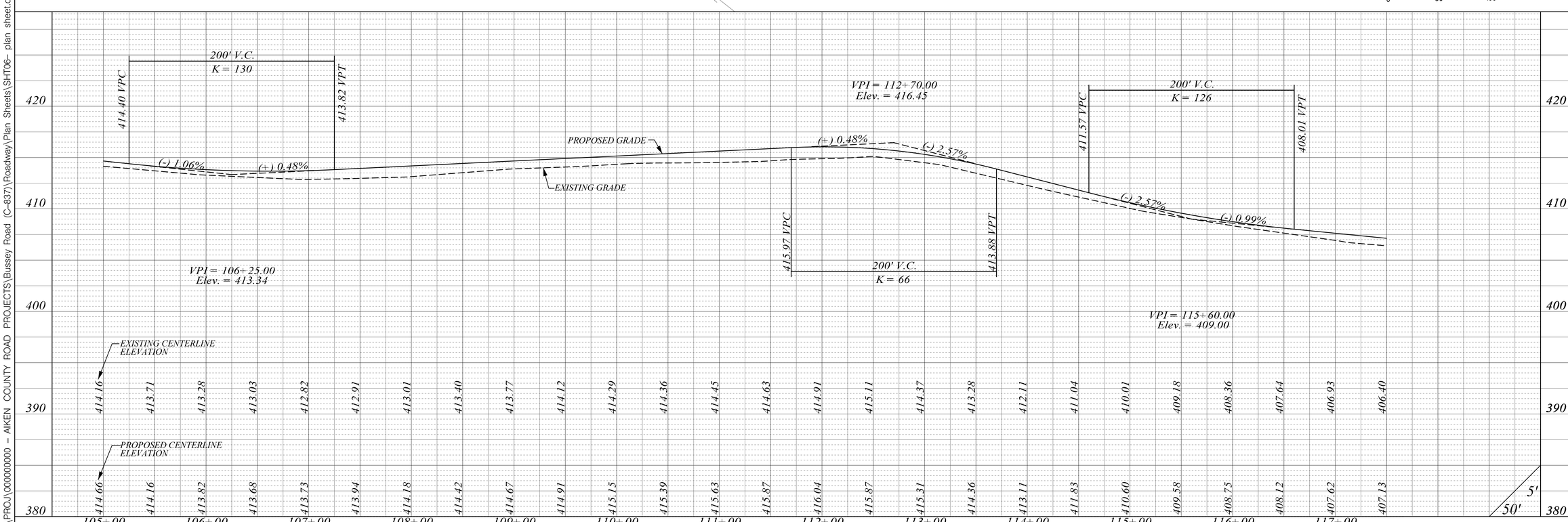
PLAN AND PROFILE

SHEET NO. 5

P:\PROJ\000000000 - AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT05- plan sheet.dgn





DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: 1" = 50'

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

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PLAN AND PROFILE

SHEET NO. 6

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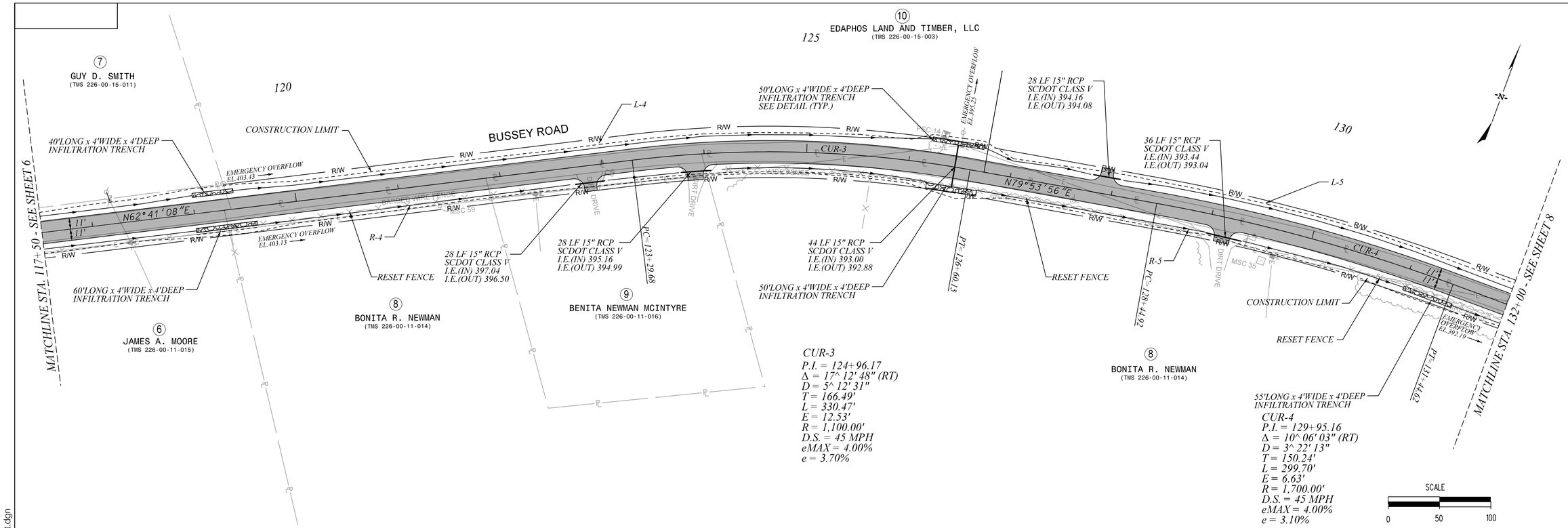

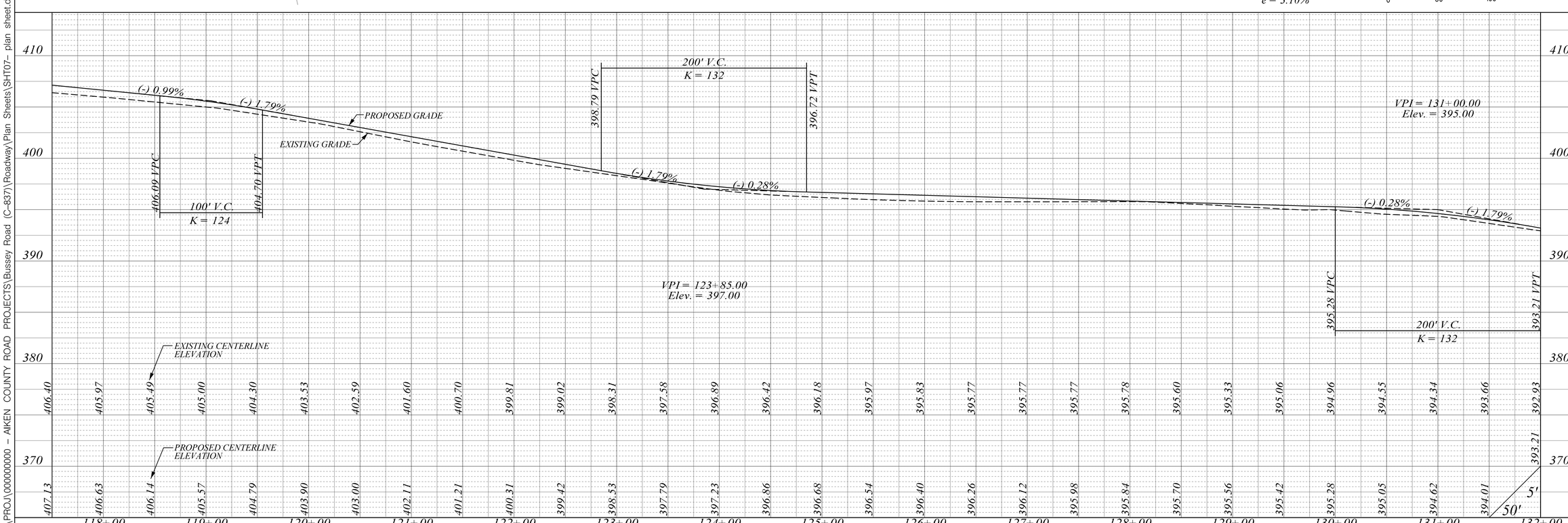

DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: 1" = 50'

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

AIKEN COUNTY SOUTH CAROLINA 1871

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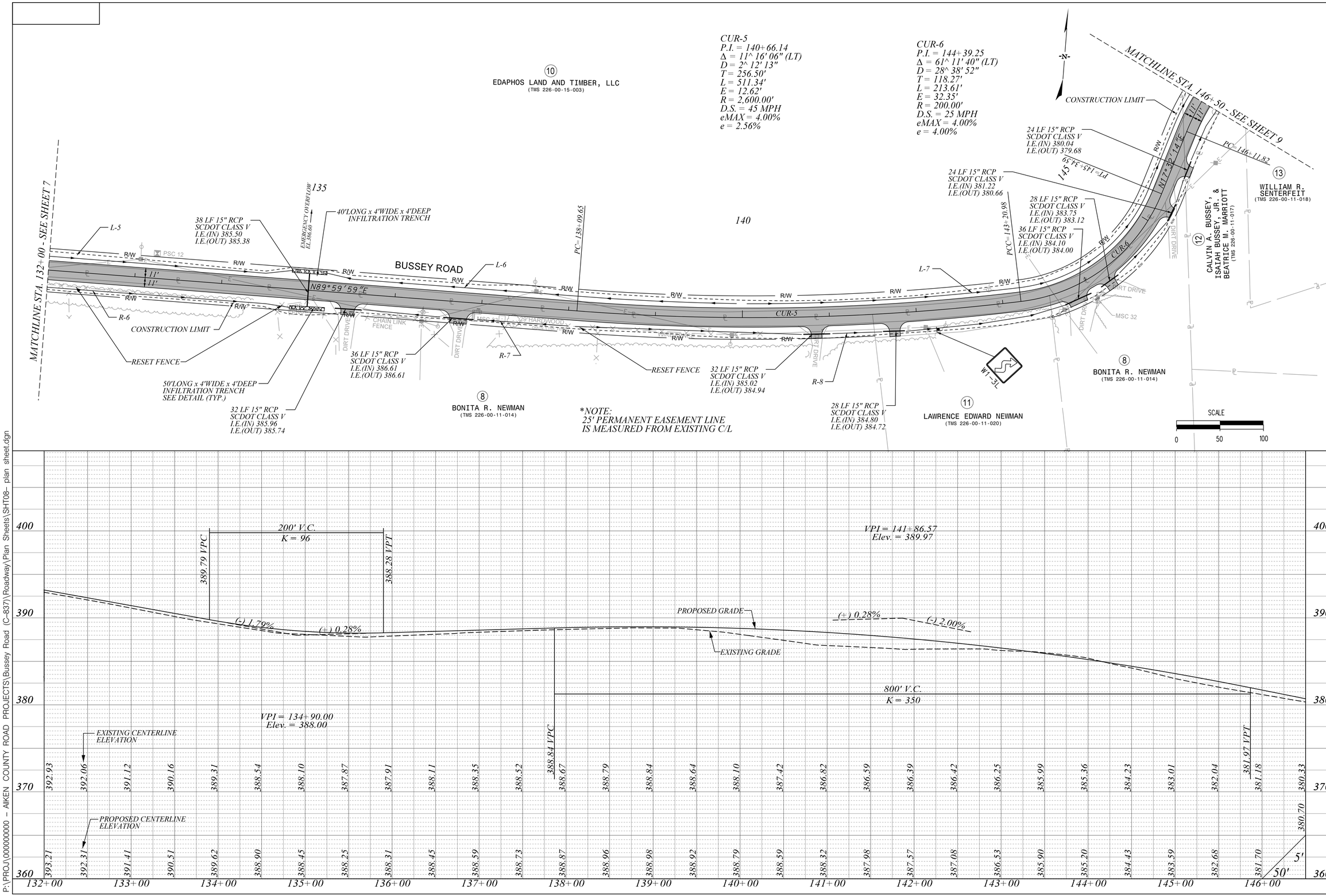
PLAN AND PROFILE

SHEET NO. 7

P:\PROJ\000000000 – AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT07– plan sheet.dgn



P:\PROJ\000000000 - AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT08- plan sheet.dgn

DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MGB
SCALE: 1" = 50'

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

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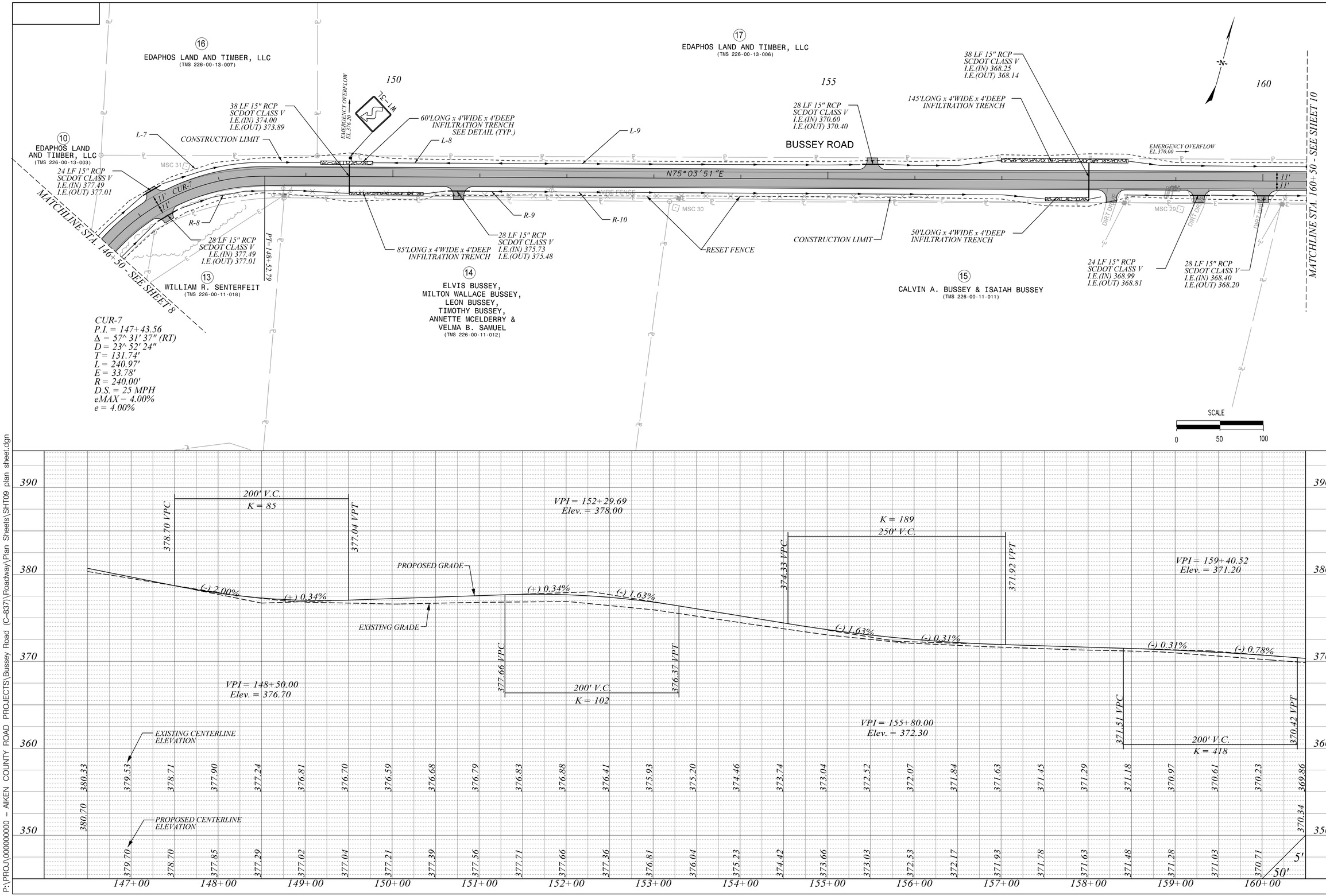
PLAN AND PROFILE

SHEET NO. 8



DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: 1" = 50'

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
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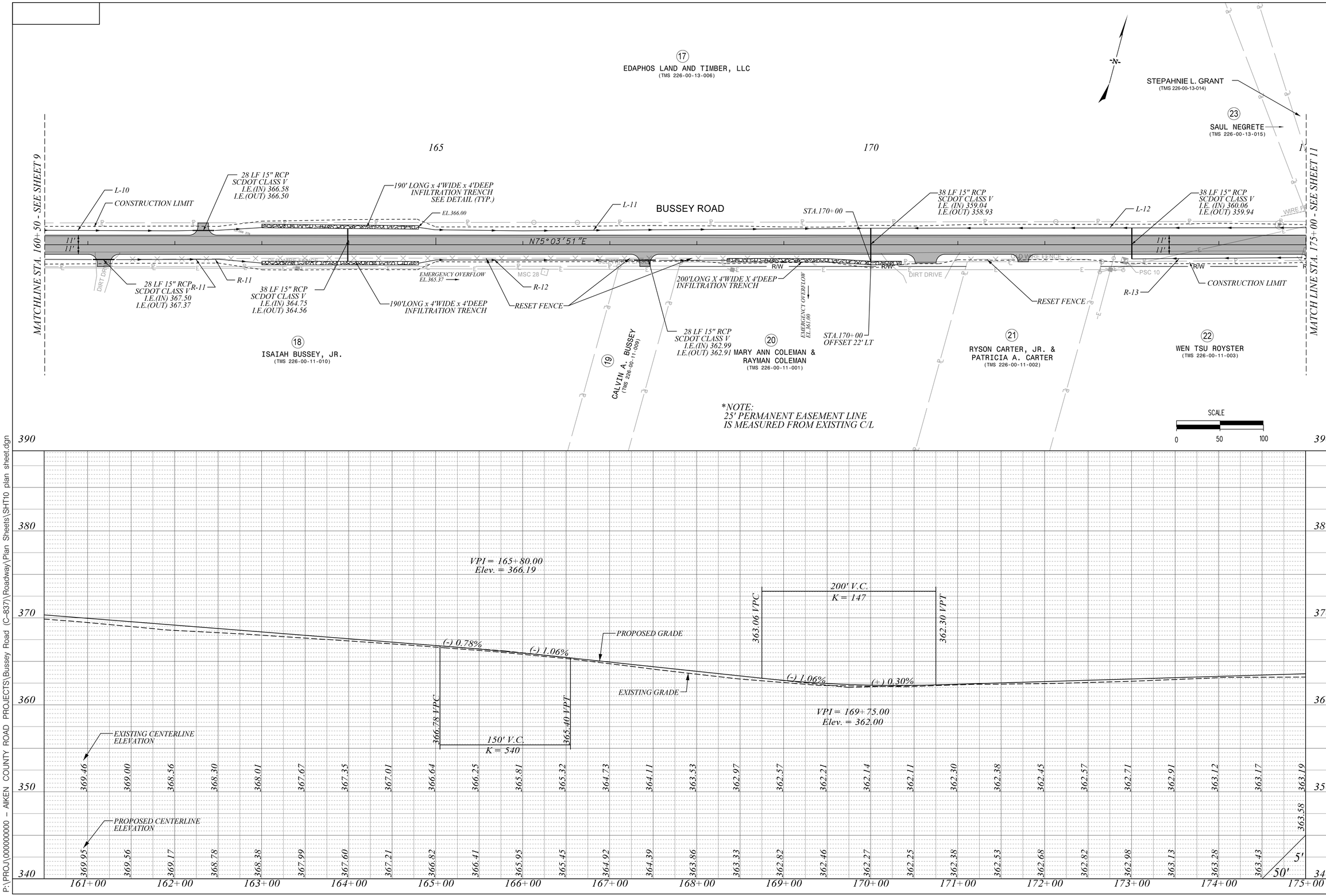
PLAN AND PROFILE

SHEET NO. 9

P:\PROJ\000000000 - AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT09 plan sheet.dgn



P:\PROJ\000000000 – AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT10 plan sheet.dgn

DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: 1" = 50'

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SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

AIKEN COUNTY SOUTH CAROLINA 1871

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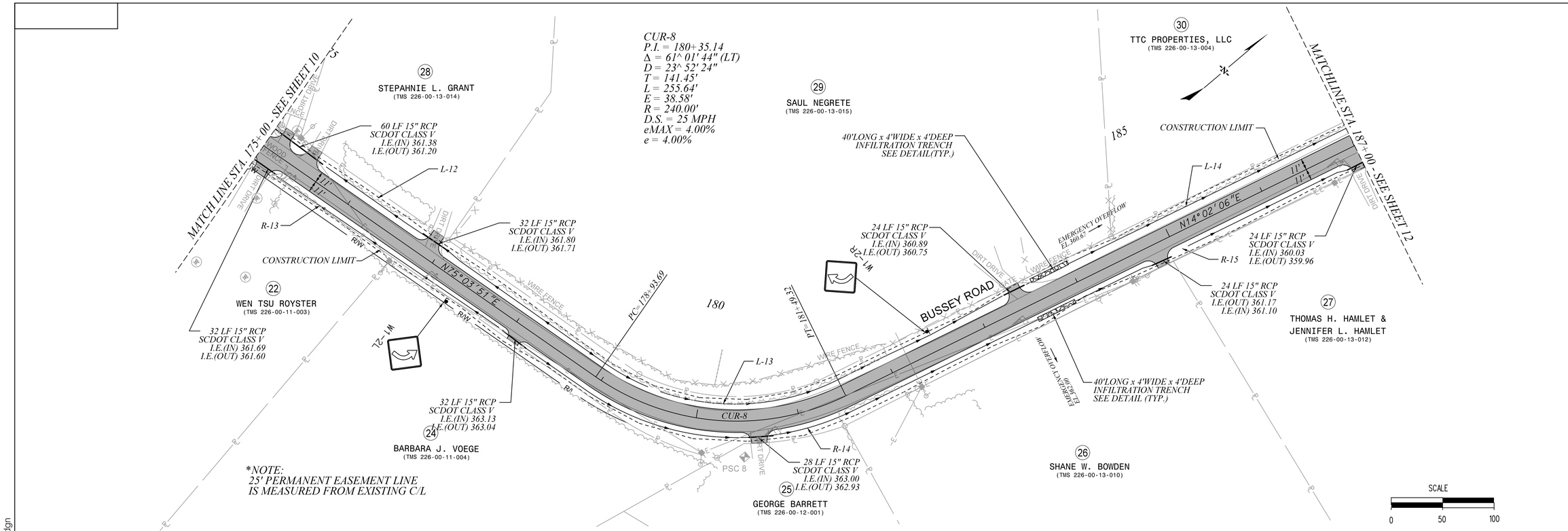
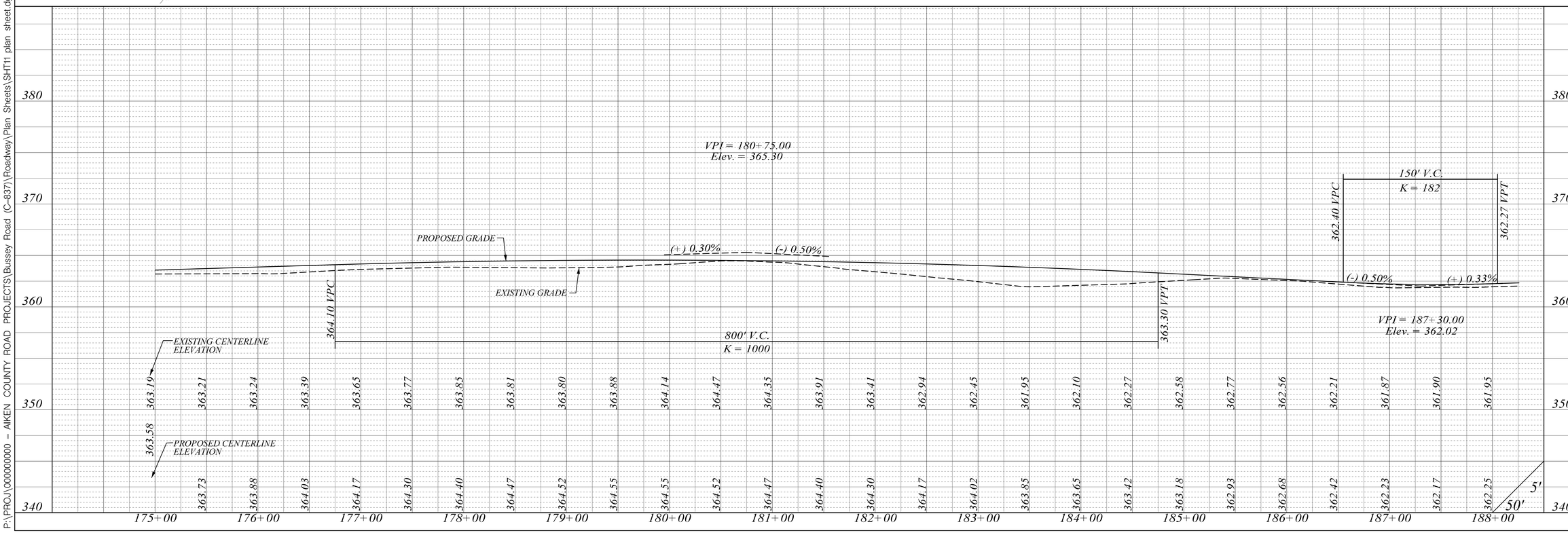
PLAN AND PROFILE

SHEET NO. 10





DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: 1" = 50'

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

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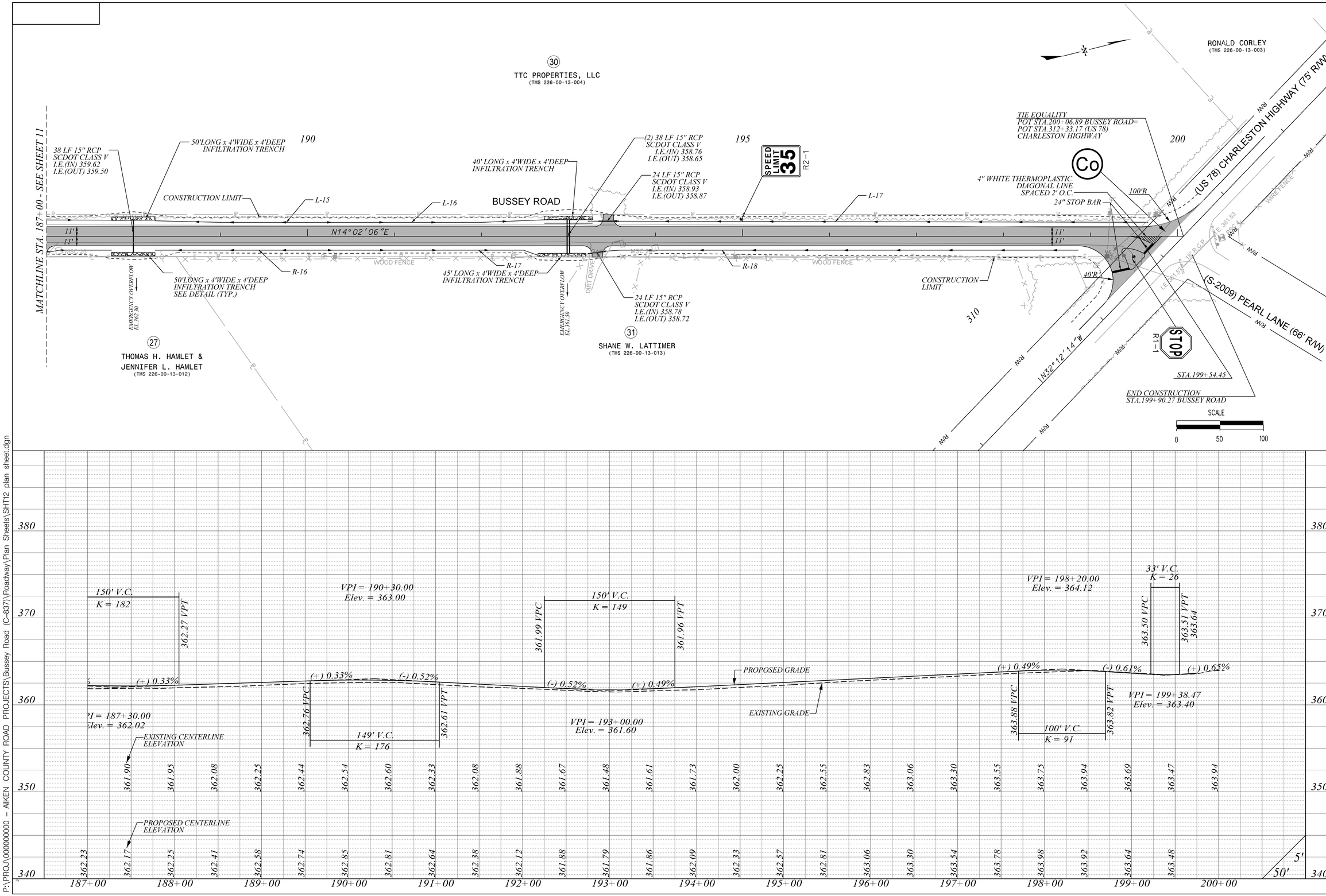
PLAN AND PROFILE

SHEET NO. 11

P:\PROJ\000000000 – AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT11 plan sheet.dgn



DATE	REVISION

PROJECT NO:
DATE: 02-25-15
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: 1" = 50'

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DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

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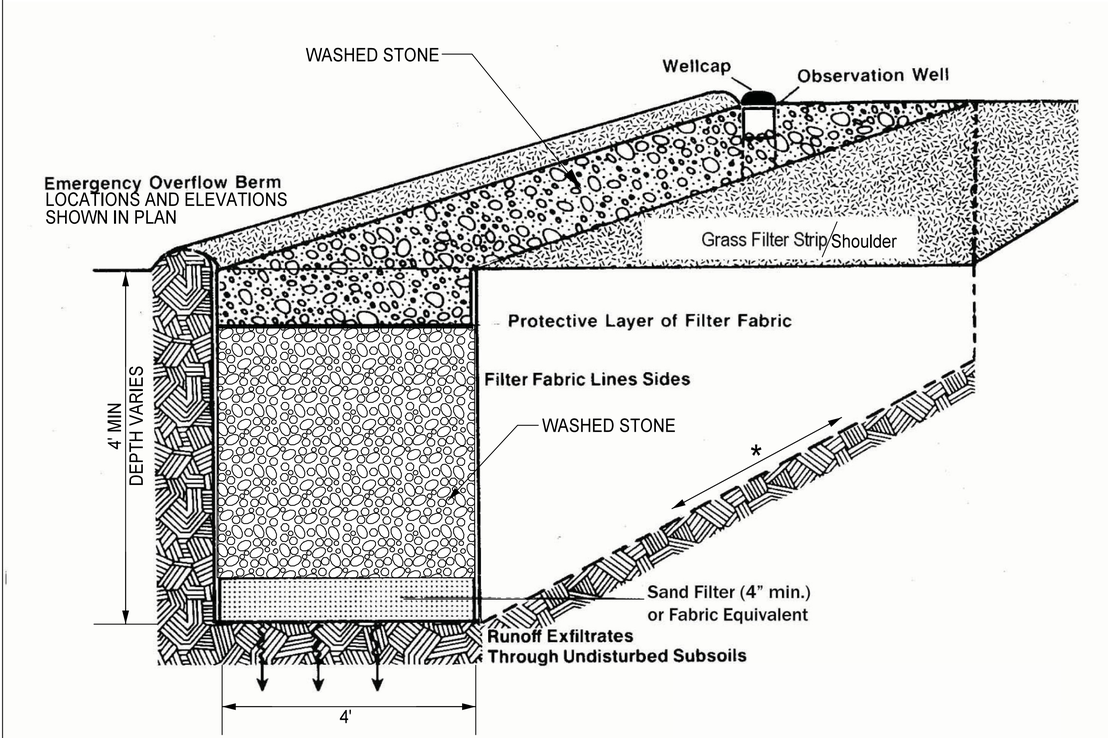
PLAN AND PROFILE

SHEET NO. 12

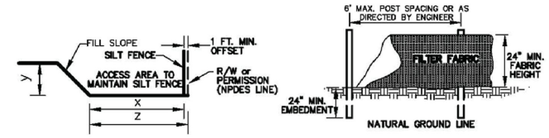
P:\PROJ\000000000 - AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT12 plan sheet.dgn



* BOTTOM OF TRENCH GRADE SHALL NOT EXCEED 0.05%

INFILTRATION TRENCH CONSTRUCTION DETAIL

N.T.S.



NOTES:

1. SILT FENCE CHECKS MUST BE LOCATED EVERY 100 FT. MAXIMUM AND AT LOW POINTS. FILTER FABRICS SHALL CONFORM TO SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).

2. STEEL POST MAY BE USED. POSTS SHALL BE A MINIMUM OF 5 FEET LONG AND INSTALLED TO A MINIMUM DEPTH OF 24 INCHES WITH NO MORE THAN 3 FEET OF THE POST ABOVE GROUND. AT LEAST 1 TO 2 INCHES OF THE POSTS SHALL EXTEND ABOVE THE TOP OF THE FABRIC. POST SPACING WILL BE A MAXIMUM OF 6 FEET ON CENTER WHICH DOES NOT REQUIRE WIRE BACKING UNLESS DIRECTED BY ENGINEER.

3. STEEL POSTS SHALL BE 5 FEET AND WEIGH A MINIMUM OF 1.25 POUNDS PER FOOT AND HAVE PROJECTIONS FOR FASTENING THE FABRIC TO THE POST. STEEL POSTS SHALL ALSO HAVE A SOIL PLATE WELDED NEAR THE BOTTOM OF THE POST.

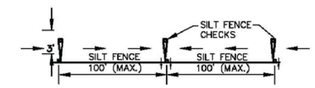
4. SILT SHALL BE REMOVED AND DISPOSED OF WHEN SILT ACCUMULATES TO 1/3 THE HEIGHT OF THE FENCE. MAINTENANCE OF SILT FENCE WILL BE MEASURED AND PAID FOR BY THE ITEM OF SILT BASIN.

5. THE PAY ITEMS SHALL BE: SILT FENCE_____L.F.
SILT BASIN_____C.Y.

HEIGHT OF FILL (y) IN FEET	FILL SLOPE	MINIMUM SILT FENCE OFFSET FROM TOE OF SLOPE (x) IN FEET	MINIMUM RIGHT OF WAY OFFSET FROM TOE OF SLOPE (NPDES LINE) (z) IN FEET	CHECK LENGTH IN FEET**
<6	2:1 4:1 6:1	2	3	2
6–10	2:1	12*	13*	5
	4:1 6:1	3	4	3
>10	2:1	12*	13*	5
	4:1 6:1	4	5	4

* THESE MINIMUM OFFSETS MAY BE REDUCED WHEN CURB AND GUTTER OR SOME OTHER FEATURE REDUCES THE FLOW OF WATER DOWN THE SLOPE. THE SMALL OFFSETS OF EACH GROUP OF HEIGHT OF FILL CANNOT BE REDUCED.

** SILT FENCE CHECKS WILL HAVE A MAXIMUM LENGTH OF FIVE (5) FEET OR UNTIL THEY TIE BACK INTO THE SLOPE.

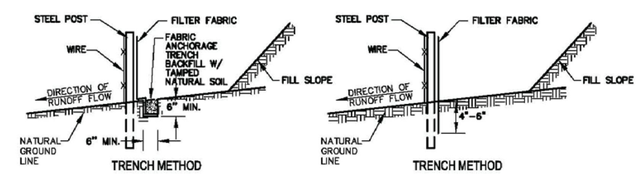


SILT FENCE CHECKS

NOTES:

1. TYPICAL SILT FENCE APPLICATIONS REQUIRE 24 INCHES OF THE FABRIC TO BE ABOVE GROUND ,WHEN NEEDED, THE HEIGHT OF SILT FENCE FABRIC ABOVE THE GROUND MAY BE GREATER THAN 24". SEE PLANS FOR APPLICATION OF HIGHER SILT FENCE, PAY ITEMS AND INSTALLATION METHODS.

2. IN TIDAL AREAS, SILT FENCE EXTRA HEIGHT MAY BE REQUIRED.THE LENGTH OF POST WILL BE TWICE THE EXPOSED POST HEIGHT. POST SPACING AND BURIED DEPTHS WILL REMAIN AS SHOWN HEREON. EXTRA HEIGHT FABRIC WILL BE 4, 5 OR 6 FEET TOTAL WIDTH.



NOTE:
THE FABRIC SHALL BE BURIED REGARDLESS, IF PLACED PNEUMATICALLY OR BY HAND WITH A TRENCHER. BOTH METHODS SHOWN HERE ON.

SILT FENCE CONSTRUCTION DETAIL

N.T.S.

DATE

REVISION

PROJECT NO:

DATE: 12-05-2014

DRAWN BY: LDM

CHECKED BY: MOB

SCALE: N.T.S.

AIKEN COUNTY

DEPARTMENT OF ENGINEERING

SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

AIKEN COUNTY SOUTH CAROLINA 1871

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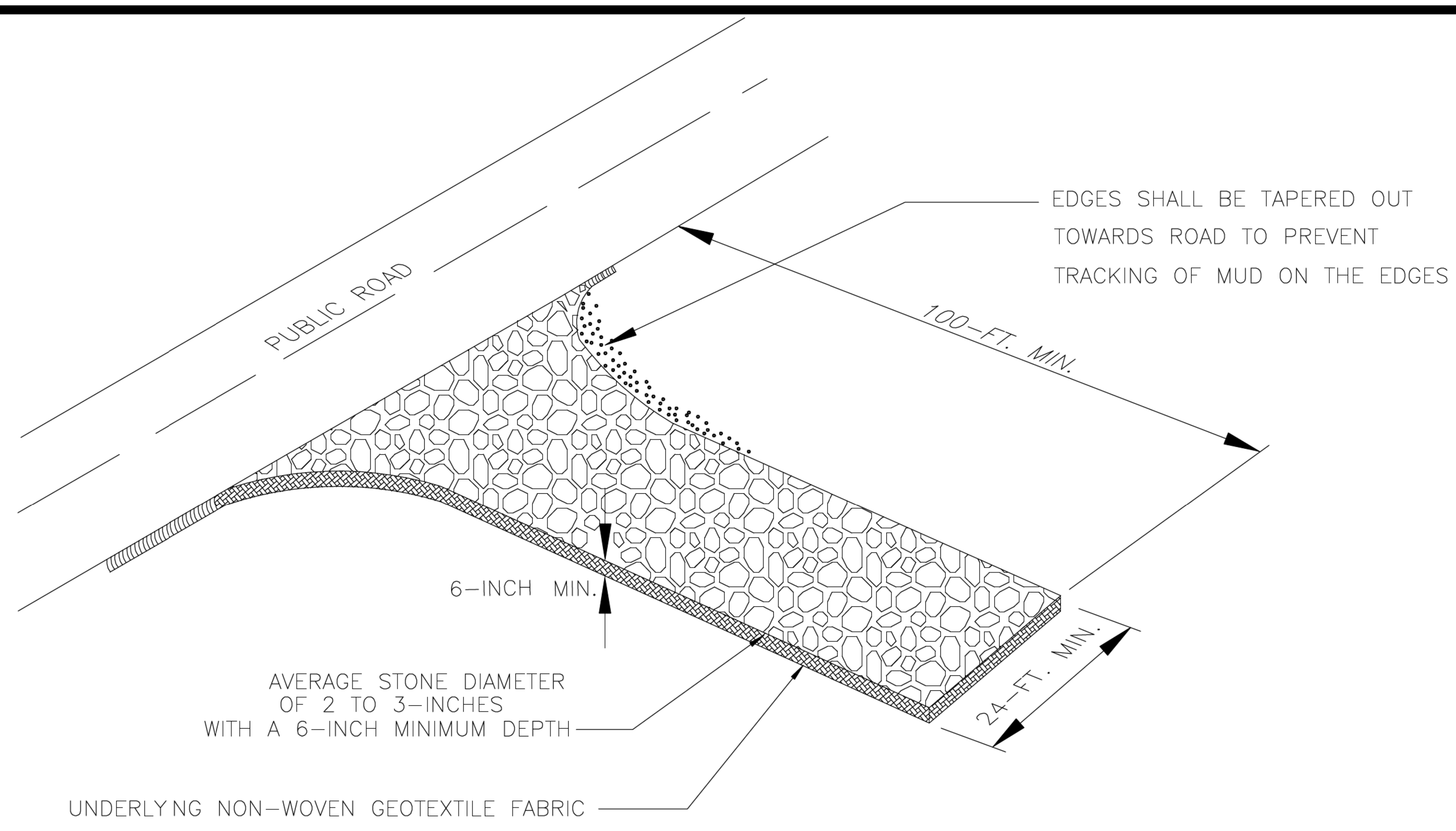
CONSTRUCTION DETAILS

SHEET NO. 13

P:\PROJ\000000000 – AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT13 Details.dgn



SPECIFICATION	SIZE
ROCK PAD THICKNESS	6 INCHES
ROCK PAD WIDTH	24 FEET
ROCK PAD LENGTH	100 FEET
ROCK PAD STONE SIZE	D = 2-3 INCHES

South Carolina Department of Health and Environmental Control

CONSTRUCTION ENTRANCE

STANDARD DRAWING NO. SC-06 PAGE 1 of 2

NOT TO SCALE FEBRUARY 2014 DATE

CONSTRUCTION ENTRANCE – GENERAL NOTES

1. Stabilized construction entrances should be used at all points where traffic will egress/ingress a construction site onto a public road or any impervious surfaces, such as parking lots.
2. Install a non-woven geotextile fabric prior to placing any stone.
3. Install a culvert pipe across the entrance when needed to provide positive drainage.
4. The entrance shall consist of 2-inch to 3-inch D50 stone placed at a minimum depth of 6-inches.
5. Minimum dimensions of the entrance shall be 24-feet wide by 100-feet long, and may be modified as necessary to accommodate site constraints.
6. The edges of the entrance shall be tapered out towards the road to prevent tracking at the edge of the entrance.
7. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin or other sediment trapping structure.
8. Limestone may not be used for the stone pad.

CONSTR. ENTRANCE – INSPECTION & MAINTENANCE

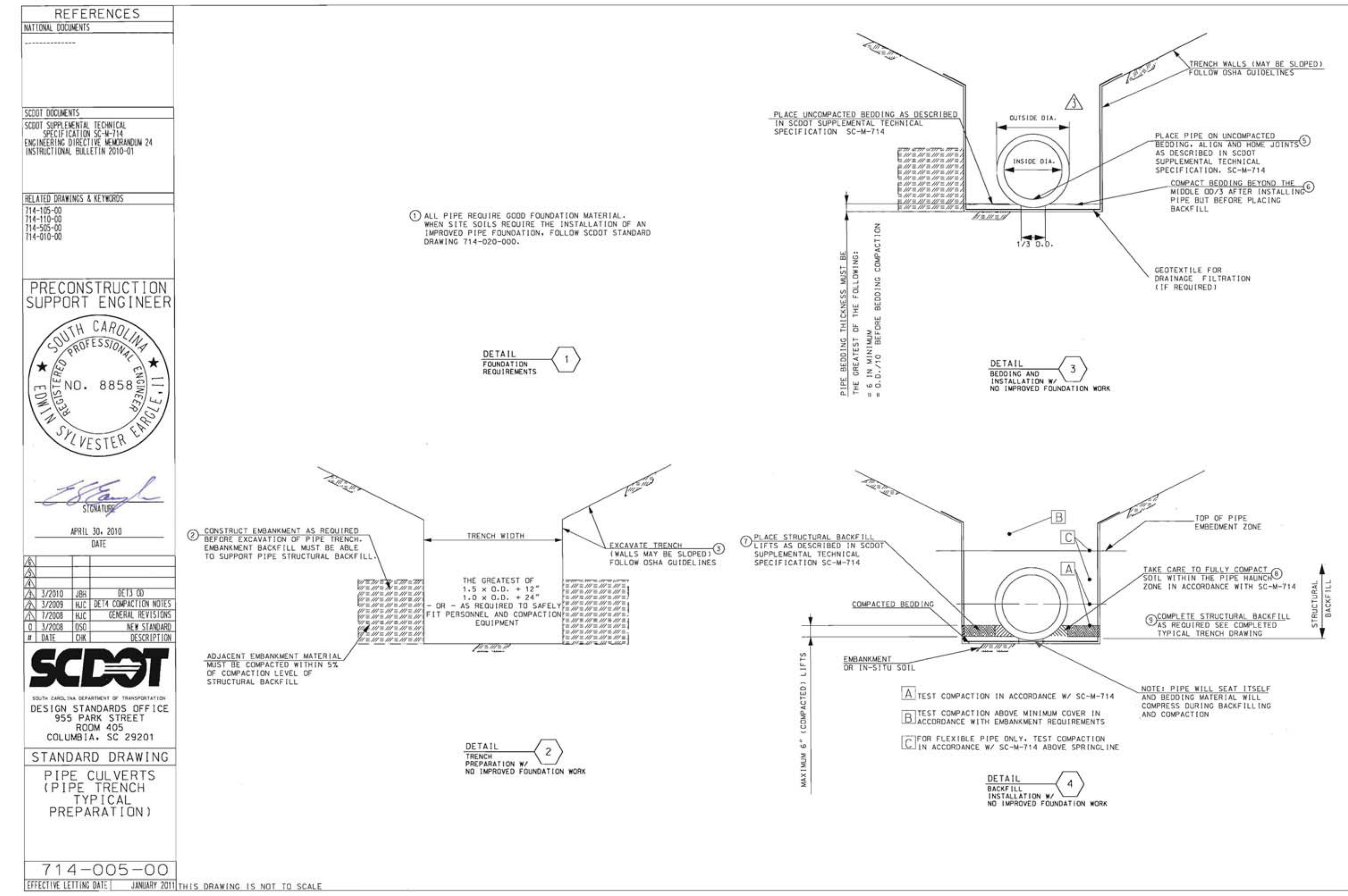
1. The key to functional construction entrances is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of construction entrances shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
3. During regular inspections, check for mud and sediment buildup and pad integrity. Inspection frequencies may need to be more frequent during long periods of wet weather.
4. Reshape the stone pad as necessary for drainage and runoff control.
5. Wash or replace stones as needed and as directed by site inspector. The stone in the entrance should be washed or replaced whenever the entrance fails to reduce the amount of mud being carried off-site by vehicles. Frequent washing will extend the useful life of stone pad.
6. Immediately remove mud and sediment tracked or washed onto adjacent impervious surfaces by brushing or sweeping. Flushing should only be used when the water can be discharged to a sediment trap or basin.
7. During maintenance activities, any broken pavement should be repaired immediately.
8. Construction entrances should be removed after the site has reached final stabilization. Permanent vegetation should replace areas from which construction entrances have been removed, unless area will be converted to an impervious surface to serve post-construction.

South Carolina Department of Health and Environmental Control

CONSTRUCTION ENTRANCE

STANDARD DRAWING NO. SC-06 PAGE 2 of 2

GENERAL NOTES FEBRUARY 2014 DATE



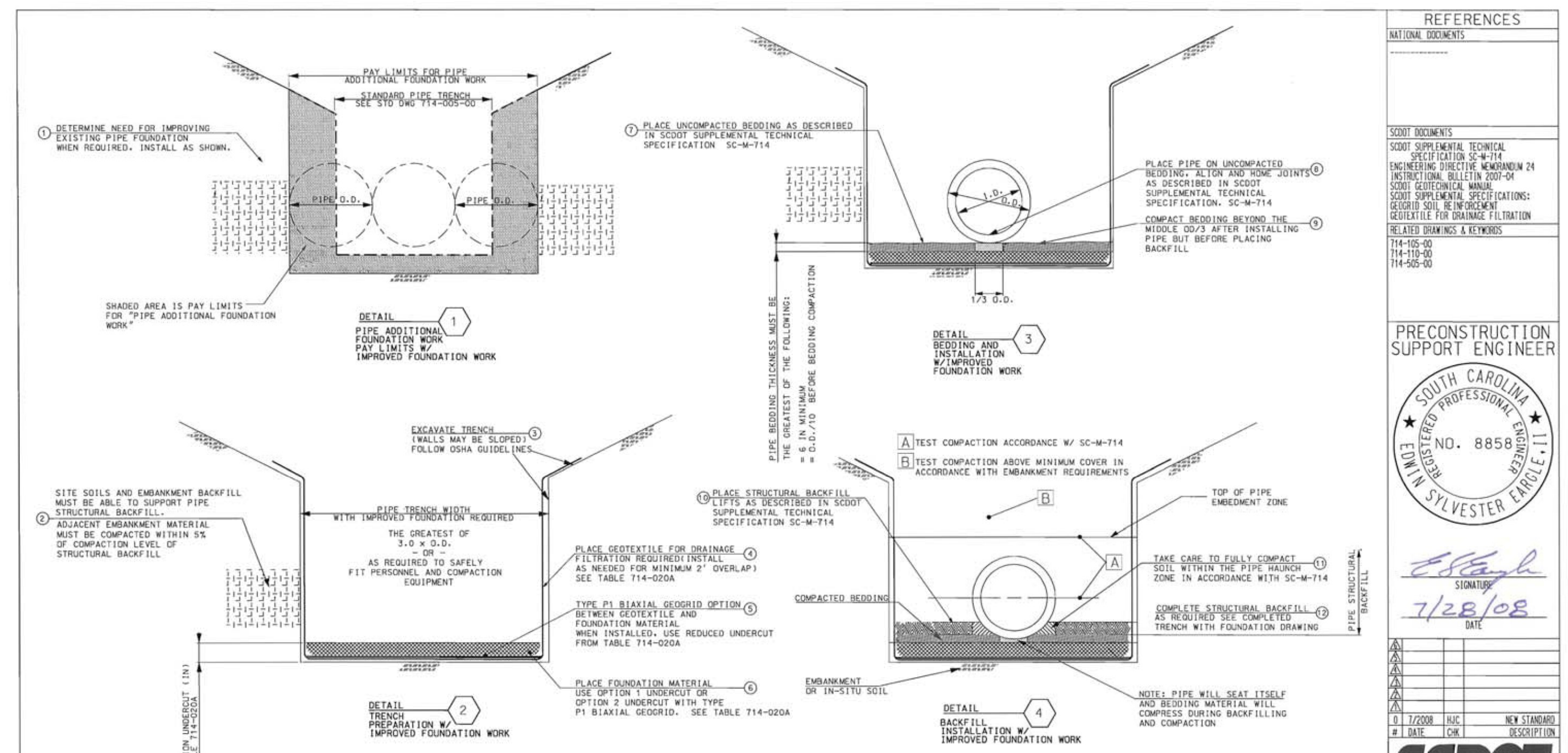


TABLE 714-020A FOUNDATION UNDERCUT

STANDARD PENETRATION TEST	OPTION 1 REQUIRED UNDERCUT BELOW BEDDING (INCHES) (WHEN FOUNDATION MATERIAL IS INSTALLED WITHOUT GEOGRID)			OPTION 2 REQUIRED REDUCED UNDERCUT BELOW BEDDING (INCHES) (WHEN FOUNDATION MATERIAL IS INSTALLED WITH TYPE P1 BIAXIAL GEOGRID)		
SPT "N"	LESS THAN 60" DIA.	60" DIA. TO 84" DIA.	96" DIA. OR LARGER	LESS THAN 60" DIA.	60" DIA. TO 84" DIA.	96" DIA. OR LARGER
LESS THAN 1	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM
1-2	27	25	23	12	10	8
3-4	20	18	16	6	4	2
5-8	16	14	12	3	GEOGRID ONLY NO UNDERCUT	GEOGRID ONLY NO UNDERCUT
9-15	8	6	4	GEOGRID ONLY NO UNDERCUT	GEOGRID ONLY NO UNDERCUT	GEOGRID ONLY NO UNDERCUT
GREATER THAN 15	NONE SEE 714-005-00	NONE SEE 714-005-00	NONE SEE 714-005-00	NONE SEE 714-005-00	NONE SEE 714-005-00	NONE SEE 714-005-00
SEE PLANS, CONTRACT DOCUMENTS, OR GEOTECHNICAL ENGINEER FOR SPT "N" VALUES.						

NOTES:
1. DETAILS ON THIS SHEET CORRESPOND ONLY TO LOCATIONS WHERE IMPROVED FOUNDATIONS ARE SPECIFIED IN THE PLANS OR REQUIRED BY THE ENGINEER. FOR LOCATIONS WHERE EXISTING POOR SOILS BELOW THE PIPE ARE BEING IMPROVED FOR THE ROADWAY EMBANKMENT, USE PIPE TRENCH AS INDICATED ON SCDOT STANDARD DRAWING 714-005-00.
2. SPT "N" IS THE STANDARD PENETRATION TEST BLOW COUNT NUMBER MEASURED AT CROSS LINE PIPE LOCATIONS OR THE NEAREST STATION TO THE PIPE INSTALLATION WHERE EMBANKMENT BORINGS WERE TAKEN. THE LOWEST SPT "N" VALUE WITHIN 5 FEET BELOW THE PIPE INVERT ELEVATION IS INDICATED IN THE PLANS IN ACCORDANCE WITH THE SCDOT GEOTECHNICAL MANUAL. IF POOR SOIL IS ENCOUNTERED (BUT WAS NOT INDICATED IN THE PLANS) PREPARE PIPE IMPROVED FOUNDATION AS DIRECTED BY THE RESIDENT ENGINEER.
3. IMPROVED FOUNDATION MAY CONSIST OF UNDERCUT WRAPPED WITH GEOTEXTILE FOR DRAINAGE FILTRATION OR REDUCED UNDERCUT, TYPE P1 BIAXIAL GEOGRID AND GEOTEXTILE FOR DRAINAGE FILTRATION AS SHOWN IN TABLE 714-020A.
4. ALL WORK AND MATERIALS REQUIRED TO INSTALL THE PIPE IMPROVED FOUNDATION AND WIDER TRENCH (INCLUDING GEOGRID AND ADDITIONAL BEDDING, BACKFILL, GEOTEXTILE, AND EXCAVATION) WILL BE PAID FOR AS "PIPE ADDITIONAL FOUNDATION WORK."

PAY ITEM:
__ DIA. PIPE ADDITIONAL FOUNDATION WORK.....LF

THIS DRAWING IS NOT TO SCALE.

REFERENCES

PRECONSTRUCTION SUPPORT ENGINEER

SCDOT DESIGN STANDARDS OFFICE 955 PARK STREET ROOM 405 COLUMBIA, SC 29201

STANDARD DRAWING

PIPE CULVERTS (PIPE TRENCH PREPARATION WHEN IMPROVED FOUNDATION IS REQUIRED)

714-020-00

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

PROJECT NO:
DATE: 12-05-2014
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: N.T.S.

REVISION | DATE

CONSTRUCTION DETAILS

SHEET NO. 14

P:\PROJ\000000000 – AIKEN COUNTY ROAD PROJECTS\Bussey Road (C-837)\Roadway\Plan Sheets\SHT13-A Details.dgn

TEMPORARY VEGETATION
NOTES & SCHEDULE

TABLE 3.12 TEMPORARY VEGETATION SCHEDULE			
Species	Rates (lbs/acr)	Optimum Dates to Plant	Remarks
Browntop Millet (Alone)	40	April 20 – August 15	Quick, Dense Cover
Browntop Millet (Mix)*	10	April 20 – August 15	Quick, Dense Cover
Rye Grain (Alone)	56	February – March, August 15 – November 20	Quick Cover
Rye Grain (Mix)*	10	February – March, August 15 – November 20	Quick Cover
Rye Grass (Alone)	50	August 10 – October 10	Competitive, Dense
Rye Grass (Mix)*	8	August 10 – October 10	Competitive, Dense

TABLE 3.13 TEMPORARY VEGETATION FOR STEEP SLOPES/CUT SLOPES			
Species	Rates (lbs/acr)	Optimum Dates to Plant	Remarks
Weeping Lovegrass (Alone)	4	April – July 20	Quick cover, deep roots, likes dry sites, seldom used alone, clumps
Weeping Lovegrass (Mix)*	2	April – July 20	Quick cover, deep roots, likes dry sites, seldom used alone, clumps

Plant Selection
Plant seed selection should be based on the type of soil and the season of the year in which the planting is to be done. Tables 3.12 and 3.13 should be used if you plan to use conventional tillage methods (plowing, seedbed preparation, hydroseeding, etc). If you need a fast growing crop to nurse your permanent specie or species, then use the mix rate. Failure to carefully follow agronomic recommendations often result in an inadequate stand of temporary vegetation that provides little or no erosion control.

Tillage
If the area has been recently plowed, no tillage is required other than raking or surface roughening to break any crust that has formed and to leave a textured surface. If the soil is compacted less than 6–inches, it should be disked for optimal germination.

Soil Testing
Information and test provider is available from the PW/SWD and the Soil and Water Conservation District Office.

Lime
Lime is not required for temporary seeding unless a soil test shows that the soil pH is below 5.0. It may be desirable to apply lime during the temporary seeding operation to benefit the long–term permanent seeding. Apply a minimum of 1.5 tons of Lime/acre (70 pounds per 1000 square feet) if it is to be used.

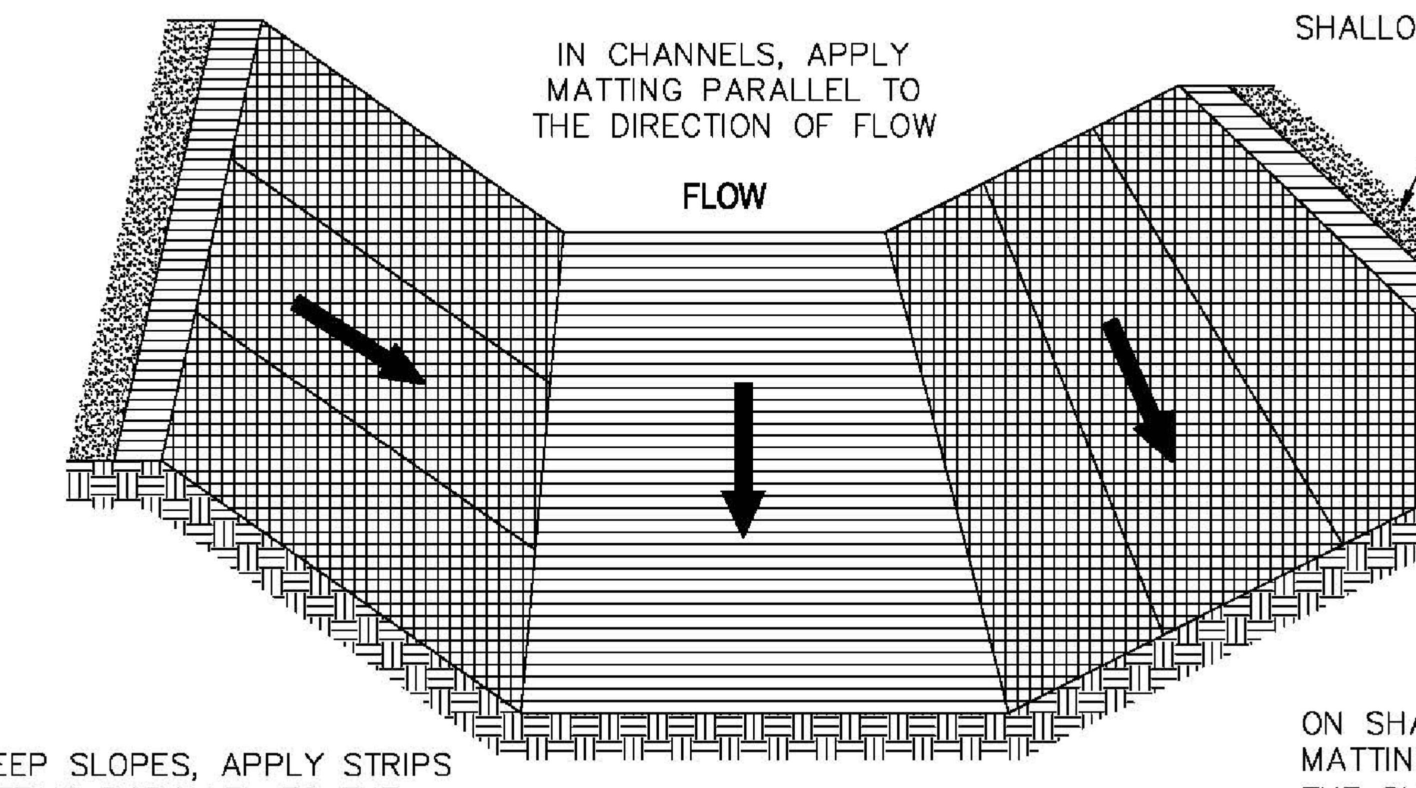
Fertilizer
A minimum of 500 pounds per acre of 10–10–10 fertilizer (11.5 pounds per 1000 square feet) or equivalent should be applied during temporary seeding unless a soil test indicates a different requirement. Fertilizer and lime (if used) should be incorporated into the top 4–6 inches of the soil by disking or other means where conditions allow.

Seeding
The surface of the soil should be loosened just before broadcasting the seed. Seed should be applied evenly by the most convenient method available for the type of seed to be used and the location of the temporary seeding. Typical application methods include but are not limited to cyclone seeders, rotary spreaders, drop spreaders, broadcast spreaders, hand spreaders, cultipacker seeder, and hydro–seeders. Cover applied seed by raking or dragging a chain, and then lightly firm the area with a roller or cultipacker.

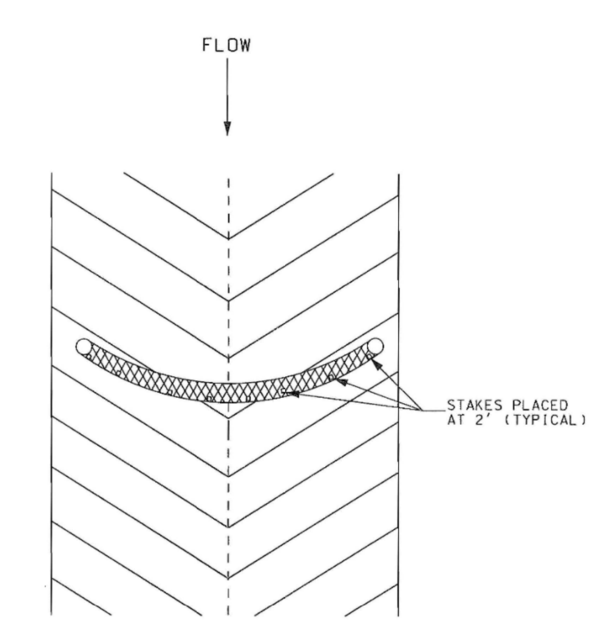
Mulching
Mulch should be used in all permanently seeded areas to retain soil moisture and reduce erosion during establishment of vegetation. The mulch should be applied evenly in such a manner that it provides a minimum of 75% coverage. Typical mulch applications include straw, wood chips, bark, wood fibers, compost much or hydro–mulches. The most commonly accepted mulch used in conjunction with temporary seeding is small grain straw. This straw should be dry and free from mold damage and noxious weeds. The straw may need to be anchored with netting or emulsions to prevent it from being blown or washed away. The straw mulch may be applied by hand or machine at the rate 1.5 – 2 tons per acre (90 pounds per 1000 square feet). Frequent inspections are necessary to check that conditions for growth are good.

Irrigation
Seeded areas should be kept adequately moist. Irrigate the seeded area if normal rainfall is not adequate for the germination and growth of seedlings. Water seeded areas at controlled rates that are less than the rate at which the soil can absorb water to prevent runoff. Runoff of irrigation water wastes water and can cause erosion.

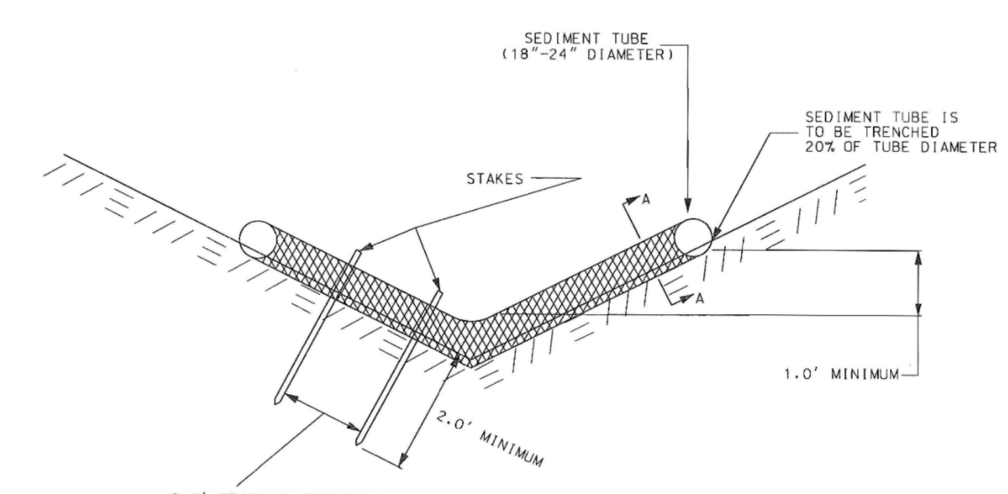
Re–seeding
Areas where the plants do not grow quickly, thick enough, or adequately to prevent erosion should be re–seeded with temporary grasses as soon as such areas are identified.



MATTING DETAIL
CHANNEL INSTALLATION



TOP VIEW
OF DITCH



END VIEW
OF DITCH

THIS DRAWING IS NOT TO SCALE

NOTES:

1. SEDIMENT TUBE SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 815 OF THE SCDOT STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION (LATEST EDITION). AND MUST BE LISTED ON SCDOT QUALIFIED PRODUCT LIST NUMBER 57. SEDIMENT TUBES MUST MEET THE CRITERIA OUTLINED IN THE SUPPLEMENTAL SPECIFICATIONS BEFORE BEING LISTED ON QPL. AND BE FREE FROM DEFECTS OR TRANSPORTATION DAMAGE.

2. PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE SEDIMENT TUBES ARE IN COMPLETE CONTACT WITH UNDERLYING SOIL. SEDIMENT TUBES ARE TO BE 18–24 INCHES IN DIAMETER AND ARE TO BE TRENCHED TO A DEPTH OF 20% OF TUBE DIAMETER. LAY THE SEDIMENT TUBE FLAT IN THE U-SHAPED TRENCH AND COMPACT THE UPSTREAM SEDIMENT TUBER SOIL INTERFACE. PLACE AND ANCHOR THE SEDIMENT TUBE ENDS SO THEY ARE POSITIONED UPSTREAM OF THE SEDIMENT TUBE CENTER POINT. SEDIMENT TUBES FOR DITCH CHECKS WEIGHING MORE THAN 18 POUNDS PER FOOT DO NOT REQUIRE TRENCHING.

3. SEDIMENT TUBE SHALL BE INSTALLED IMMEDIATELY AFTER GRADING AND CONSTRUCTION. SEDIMENT TUBE SHALL BE MAINTAINED DURING SUBGRADE AND BASE PREPERATION UNTIL BASE COURSE IS COMPLETE. SEDIMENT TUBES MAY BE TEMPORARILY MOVED DURING CONSTRUCTION.

4. SEDIMENT TUBES ARE TO BE INSTALLED PERPENDICULAR TO WATER FLOW AND EXTEND UP SIDE SLOPES A MINIMUM OF 1 FOOT ABOVE DESIGN FLOW DEPTH. SPACE TUBES ACCORDING TO THE FOLLOWING TABLE:

SLOPE	MAXIMUM SEDIMENT TUBE SPACING
LESS THAN 2%	150 FEET
2%	100 FEET
3%	75 FEET
4%	50 FEET
5%	40 FEET
6%	30 FEET
GREATER THAN 6%	25 FEET

5. STAKE SEDIMENT TUBES FOR DITCH CHECKS USING STAKES WITH A MINIMUM MEASURED DIMENSION OF 3/4" X 3/4" AND A MAXIMUM MEASURED DIMENSION OF 2" X 2", OR USING STEEL POSTS(1.25lbs/linear foot)A MINIMUM OF 4' IN LENGTH. USE STEEL POSTS WITHOUT A KICK PLATE AND PAINTING IS NOT REQUIRED. SPACE POSTS OR STAKES ON 2' CENTERS AND DRIVE THEM INTO THE GROUND TO A DEPTH OF 2' OR TO THE MAXIMUM EXTENT PRACTIBLE. INSTALL THE STAKES ON THE DOWNSTREAM THIRD OF THE SEDIMENT TUBE. SEDIMENT TUBES FOR DITCH CHECKS WEIGHING MOR THEN 18 POUNDS PER FOOT DO NOT REQUIRE STAKING.

6. SELECT PROPER LENGTH OF TUBE TO MINIMIZE THE NUMBER NEEDED TO SPAN THE WIDTH OF DRAINAGE AREA. ONE CONTINUOUS LENGTH IS PREFERRED COMPARED TO TWO OVERLAPPING TUBES. IF NECESSARY, SEDIMENT TUBES CAN BE LAPPED A MINIMUM OF 6 INCHES TO PREVENT PASSAGE OF FLOW AND SEDIMENT THROUGH FIELD JOINT.

7. INSTALL SEDIMENT TUBES FOR DITCH CHECKS OVER BARE SOIL, MULCHED AREAS, OR EROSION CONTROL BLANKETS. KEEP SEDIMENT TUBES FOR DITCH CHECKS IN PLACE UNTIL FULLY ESTABLISHED VEGETATION AND ROOT SYSTEMS HAVE COMPLETELY DEVELOPED AND CAN SURVIVE ON THEIR OWN.

8. INSPECT SEDIMENT TUBES AFTER INSTALLATION FOR GAPS UNDER THE SEDIMENT TUBES AND FOR GAPS BETWEEN THE JOINTS OF ADJACENT ENDS OF SEDIMENT TUBES. INSPECT SEDIMENT TUBES EVERY 7 DAYS. REPAIR ALL RILLS, GULLIES, AND UNDERCUTTING NEAR SEDIMENT TUBES. REMOVE ALL SEDIMENT DEPOSITS THAT IMPAIR THE FILTRATION CAPABILITY OF SEDIMENT TUBES WHEN THE SEDIMENT REACHES 1/3 THE HEIGHT OF THE EXPOSED SEDIMENT TUBE.

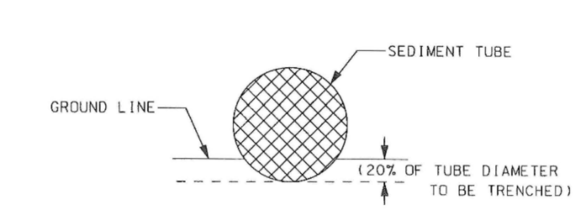
9. REMOVE AND/OR REPLACE INSTALLED SEDIMENT TUBES AS REQUIRED TO ADAPT TO CHANGING CONSTRUCTION SITE CONDITIONS. REMOVE SEDIMENT TUBES WHEN THE FUNCTIONAL LONGEVITY IS EXCEEDED AS DETERMINED BY THE ENGINEER, INSPECTOR, OR MANFACTURER'S REPRESENTATIVE. GATHER SEDIMENT TUBES AND DISPOSE OF THEM IN REGULAR MEANS AS NON-HAZARDOUS, INERT MATERIAL.

10. PRIOR TO FINAL STABILIZATION, BACKFILL ALL TRENCHES, DEPRESSIONS, AND OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF SEDIMENT TUBES.

11. CLEAN OUT OF TUBES WILL BE PAID FOR AS SILT BASIN IN C.Y.

12. PAYMENT SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, MAINTENANCE, AND INCEDENTALS NECESSARY TO COMPLETE WORK.

13. PAY ITEM SHALL BE:
SEDIMENT TUBE .... LF



SECTION A-A

REFERENCES
NATIONAL DOCUMENTS

SCDOT DOCUMENTS
QUALIFIED PRODUCT LIST 57, SC-M-815-12
RELATED DRAWINGS & KEYWORDS

PRECONSTRUCTION SUPPORT ENGINEER
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 21242 JAMES W. KENDALL, JR.
SIGNATURE
AUGUST 23, 2012
DATE

#	DATE	CHK	DESCRIPTION
5			
4			
3			
2			
1	8/2012	DSO	UPDATED NOTES, WOOD TEXT REMOVED
0	3/2008	DSQ	GENERAL REVISIONS

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING
SEDIMENT TUBE DITCH APPLICATION
815-205-00
EFFECTIVE LETTING DATE JAN 2013

DATE	REVISION

PROJECT NO:
DATE: 12-05-2014
DRAWN BY: LDM
CHECKED BY: MOB
SCALE: N.T.S.

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

A Bell Company
Engineers
Architects

CONSTRUCTION DETAILS

SHEET NO. 15

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PERMANENT VEGETATION NOTES & SCHEDULE

TABLE 3.14 PERMANENT VEGETATION SCHEDULE

Species	Rates (lbs/acr)	Optimum Dates to Plant	Remarks
Bahia Grass (Alone)	40	March 20 – June 15	Slow to become established
Bahia Grass (Mix)*	30	March 20 – June 15	Slow to become established
Bermuda Grass (Hulled) (Alone)	8–12	April – July 15	Quick cover, Sod forming, partial winter kill
Bermuda Grass (Hulled) (Mix)*	4–6	April – July 15	Quick cover, Sod forming, partial winter kill
Fescue, Tall (KY31) Alone	40	August 15 – October	Seldom seeded alone, not for dry or wet sites
Fescue, Tall (KY31) Mix*	20	August 15 – October	Seldom seeded alone, not for dry or wet sites
Sericea Lespedeza (Scarified) Alone or Mix*, (Innoculate with EL Innoculant)	40	April –June	Good for slopes, cuts, and fills that require low maintenance
Ladino Clover (Mix* only), (Innoculate with AB Innoculant)	2	August 20 – October	Naturally adds nitrogen

* For details on mixes consult the Lexington Soil and Water Conservation District, (803) 359–3165 ext. 3.

TABLE 3.15 PERMANENT VEGETATION SCHEDULE FOR STEEP SLOPES/CUT SLOPES

Species	Rates (lbs/acr)	Optimum Dates to Plant	Remarks
Weeping Lovegrass (Alone)	4	April – July 20	Quick cover, deep roots, likes dry sites, seldom used alone, clumps
Weeping Lovegrass (Mix)*	2	April – July 20	Quick cover, deep roots, likes dry sites, seldom used alone, clumps

TABLE 3.16 NATIVE SPECIES THAT CAN BE USED ON NON-CRITICAL, LEVEL SITES IN LEXINGTON COUNTY, SC

Species	Rates (lbs/acr)	Optimum Dates to Plant	Remarks
Switchgrass (Mix* with Legumes)	10, PLS**	February 10 – April 20	Mix with Serecia at 30 lbs/acre
Indian Grass (Mix)*	8, PLS**	February – April 20	Mix with Serecia at 30 lbs/acre
Little Bluestem, (Mix*)	8, PLS**	February 10 – April	

* Pure Live Seed

Plant Selection
Plant seed selection should be based on the type of soil, the season of the year in which the planting is to be done, and the needs and desires of the permanent land user. Tables 3.14 and 3.15 should be used to select the desired species to be planted. Failure to carefully follow agronomic recommendations often result in an inadequate stand of permanent vegetation that provides little or no erosion control. The rates in Tables 3.14 and 3.15 are based on purity and germination standards required for certification.

The following notes apply to Tables 3.14 and 3.15.

1. In mixtures with temporary cover, the full seeding rate of permanent cover shall be used.
2. Mix means 2 or more long term species plus short term species. For dates other than optimum, call the Lexington Soil and Water Conservation District, (803) 359–3165 ext. 3.
3. A legume, such as a clover, crown vetch, and serecia should be used where it is possible.
4. The appropriate inoculants should be used.

Topsoil
If the surface soil of the seedbed is not adequate for plant growth, topsoil should be applied.

Tillage
If the area has been recently plowed, no tillage is required other than raking or Surface Roughening to break any crust that has formed and to leave a textured surface. If the soil is compacted less than 6–inches, it should be disked for optimal germination. If the soil is compacted more than 6–inches, it should be sub–soiled and disked.

Soil Testing
Information and test provider is available from the PW/SWD and the Soil and Water Conservation District Office.

Lime
Unless a specific soil test indicates otherwise, apply 1½ tons of ground course textured agricultural limestone per acre (70 pounds per 1000 square feet).

Fertilizer
A minimum of 1000 pounds per acre of a complete 10–10–10 fertilizer (23 pounds per 1000 square feet) or equivalent should be applied during permanent seeding of grasses unless a soil test indicates a different requirement. Fertilizer and lime (if used) should be incorporated into the top 4–6 inches of the soil by disking or other means where conditions allow. Do not mix the lime and the fertilizer prior to the field application.

Seeding
The surface of the soil should be loosened just before broadcasting the seed. Seed should be evenly applied by the most convenient method available for the type of seed to be applied. Typical application methods include but are not limited to cyclone seeders, rotary spreaders, drop spreaders, broadcast spreaders, hand spreaders, cultipacker seeder, and hydro–seeders. Cover applied seed by raking or dragging a chain or brush mat, and then lightly firm the area with a roller or cultipacker. Do not roll seed that is applied with a hydro–seeder and hydro–mulch.

Mulching
All permanent seeded areas should be covered with mulch immediately upon completion of the seeding application to retain soil moisture and reduce erosion during establishment of vegetation. The mulch should be applied evenly in such a manner that it provides a minimum of 75% coverage. Typical mulch applications include straw, wood chips, bark, wood fiber, and compost mulch. The most commonly accepted mulch used in conjunction with permanent seeding is small grain straw. This straw should be dry and free from mold damage and noxious weeds. The straw may need to be anchored with netting or asphalt emulsions to prevent it from being blown or washed away. The straw mulch may be applied by hand or machine at the rate 2 tons per acre (90 pounds per 1000 square feet). Frequent inspections are necessary to check that conditions for growth are good.

Irrigation
Permanent seeded areas should be kept adequately moist, especially late in the specific growing season. Irrigate the seeded area if normal rainfall is not adequate for the germination and growth of seedlings. Water seeded areas at controlled rates that are less than the rate at which the soil can absorb water to prevent runoff. Runoff of irrigation water wastes water and can cause erosion.

Re–seeding
Inspect permanently seeded areas for failure, make necessary repairs and re–seed or overseed within the same growing season if possible. If the grass cover is sparse or patchy, re–evaluate the choice of grass and quantities of lime and fertilizer applied. If the permanent seeding has less than 40% cover, have the soil tested to determine any acidity or nutrient deficiency problems. Final stabilization by permanent seeding of the site requires that it be covered by a 70% coverage rate.

Post–Stabilization
Once areas are stabilized they can be converted to native species or for establishing on non–critical, level sites.

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DATE	REVISION

PROJECT NO:
DATE: 12-05-2014
DRAWN BY: LDM
CHECKED BY: MGB
SCALE: N.T.S.

AIKEN COUNTY
DEPARTMENT OF ENGINEERING
SUITE 3400, 1930 UNIVERSITY PARKWAY, AIKEN, SC 29801

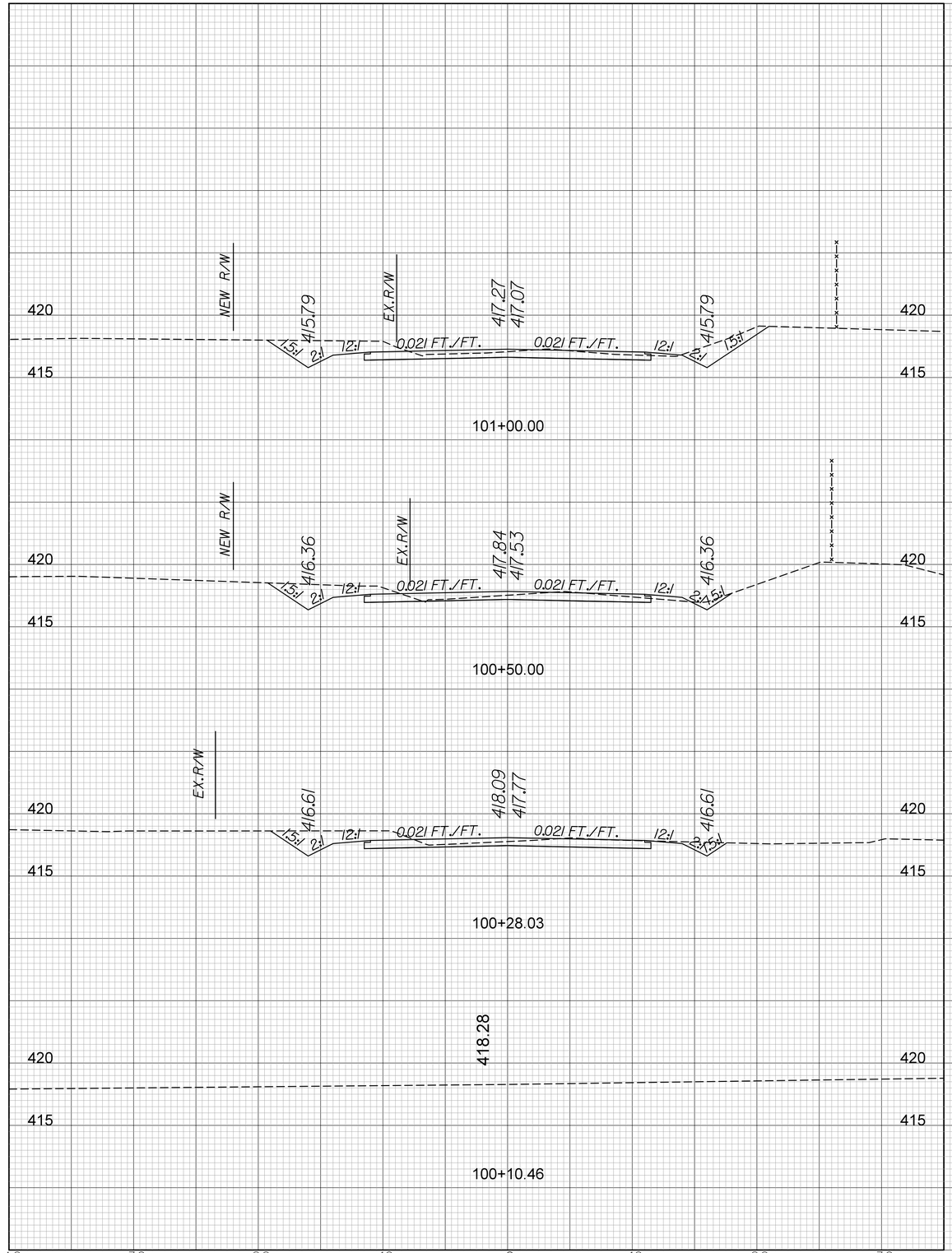
HBA A Bell Company Engineers Architects

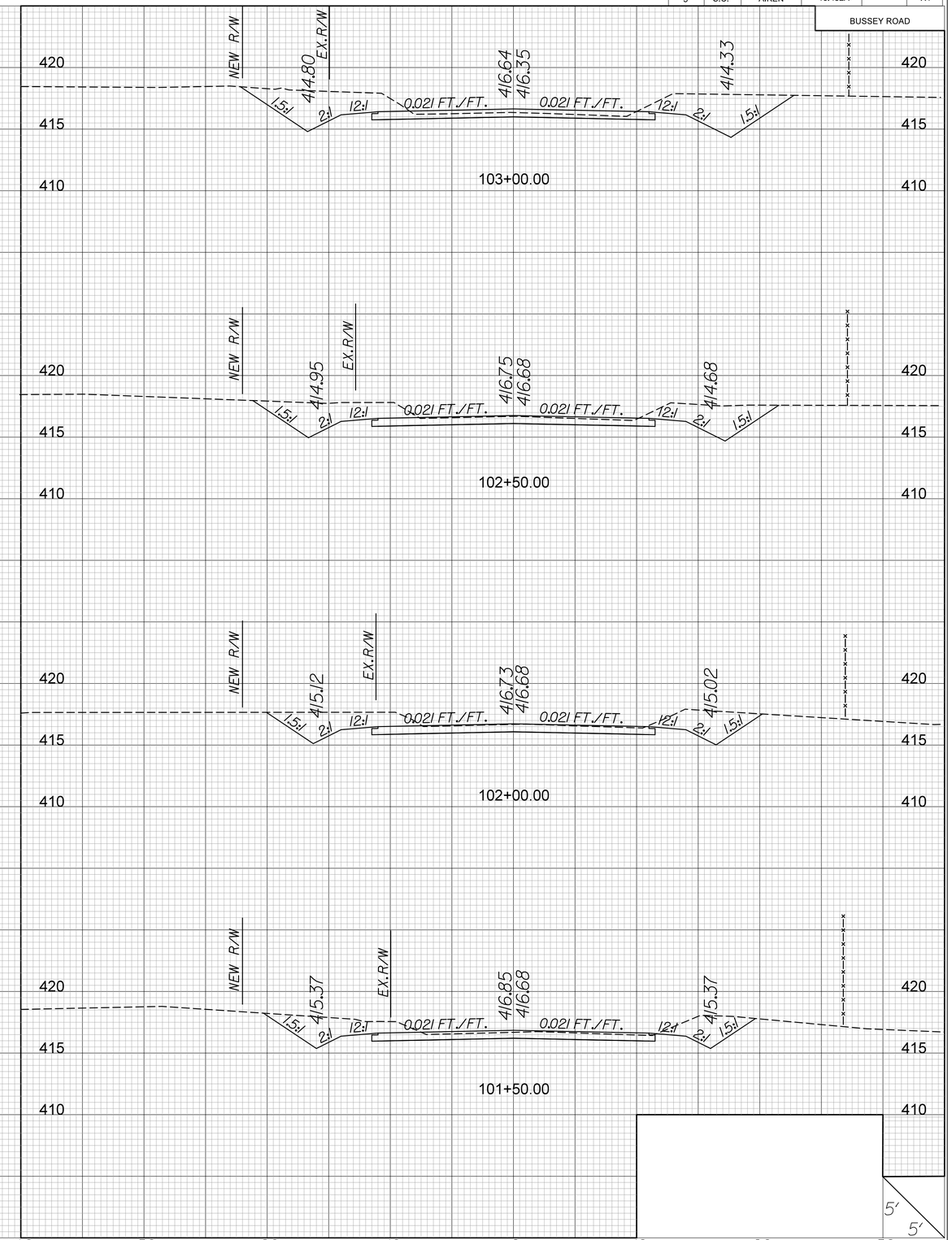
CONSTRUCTION DETAILS

SHEET NO. 16

FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X1

BUSSEY ROAD





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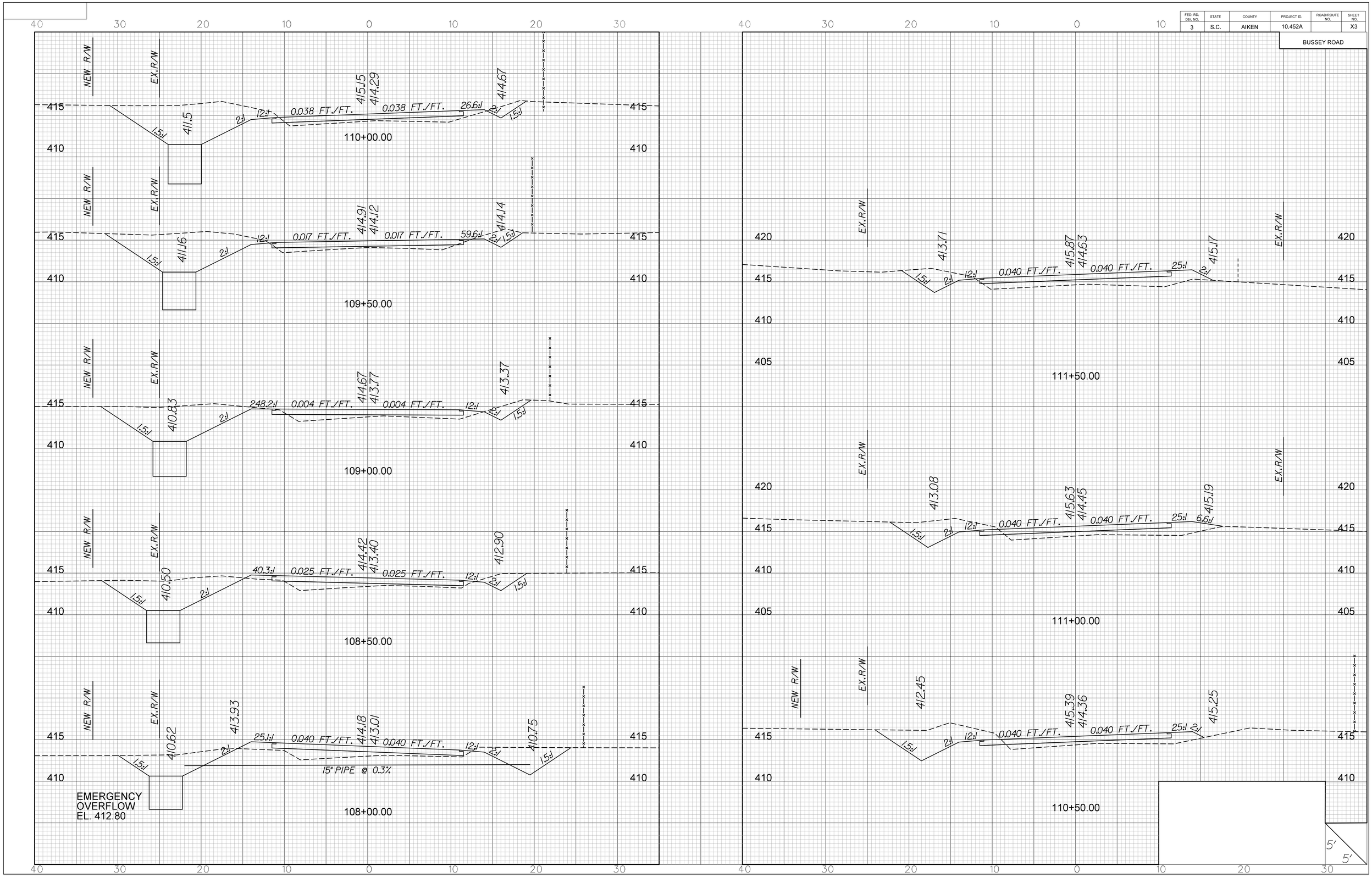
BUSSEY ROAD



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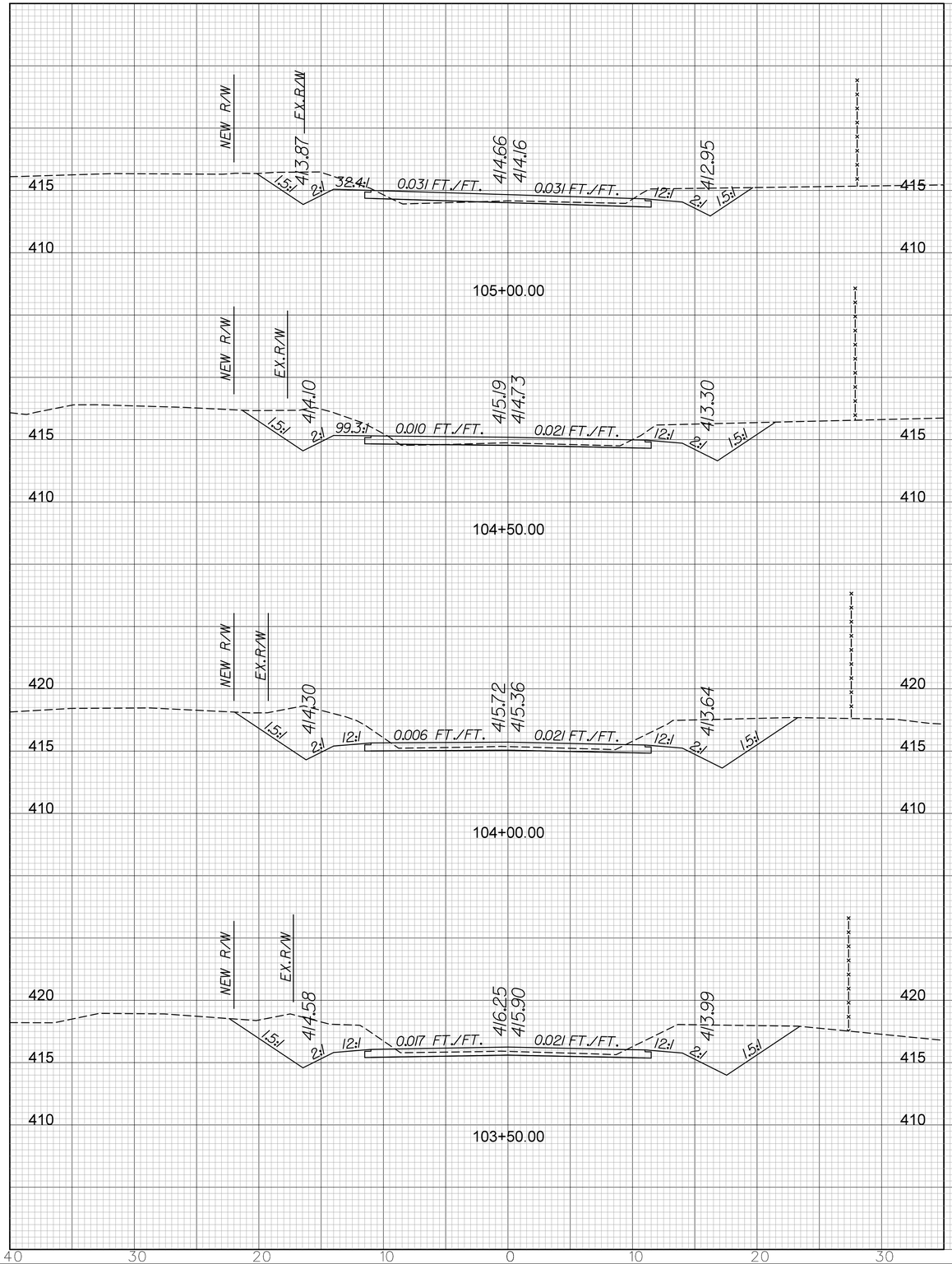
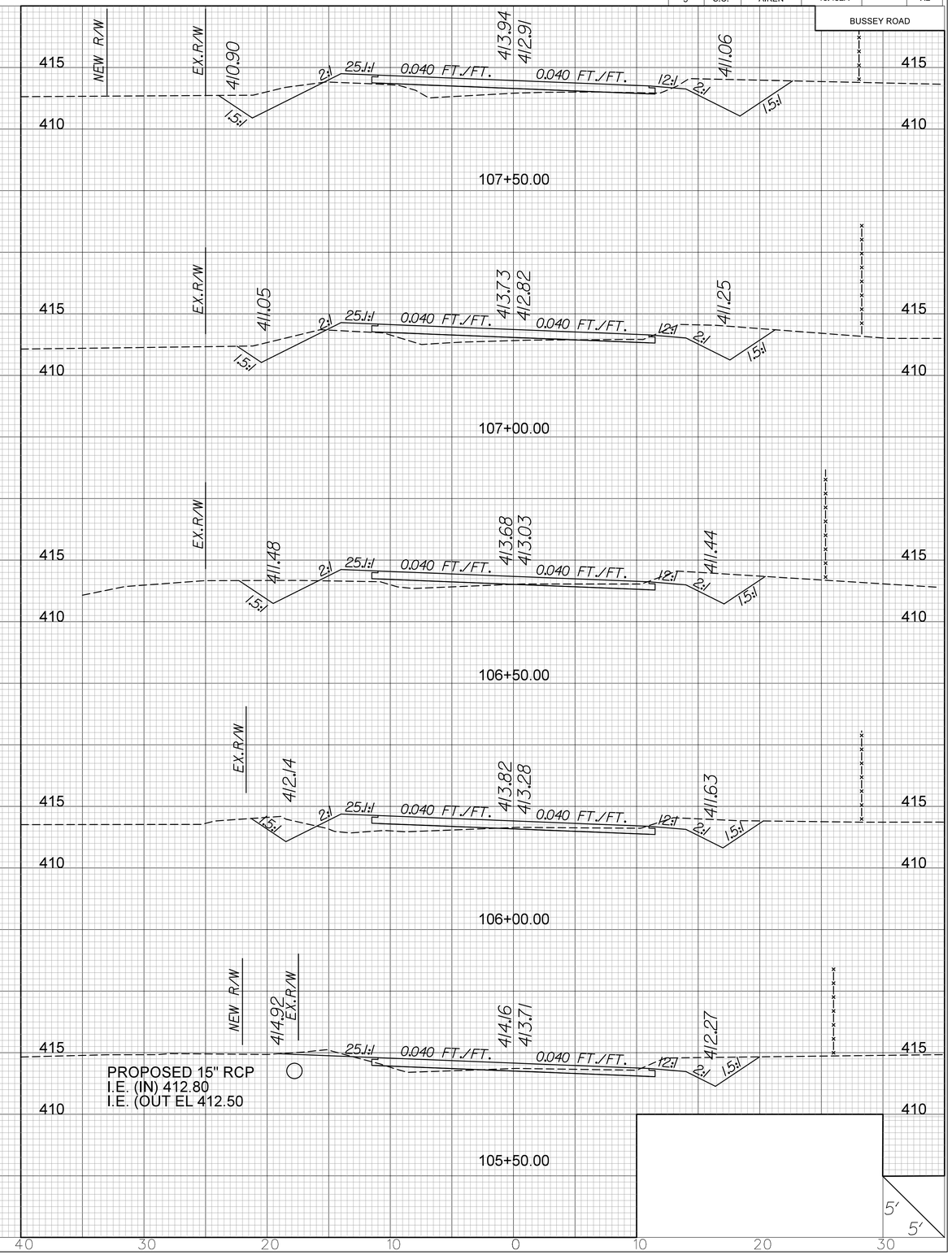
BUSSEY ROAD





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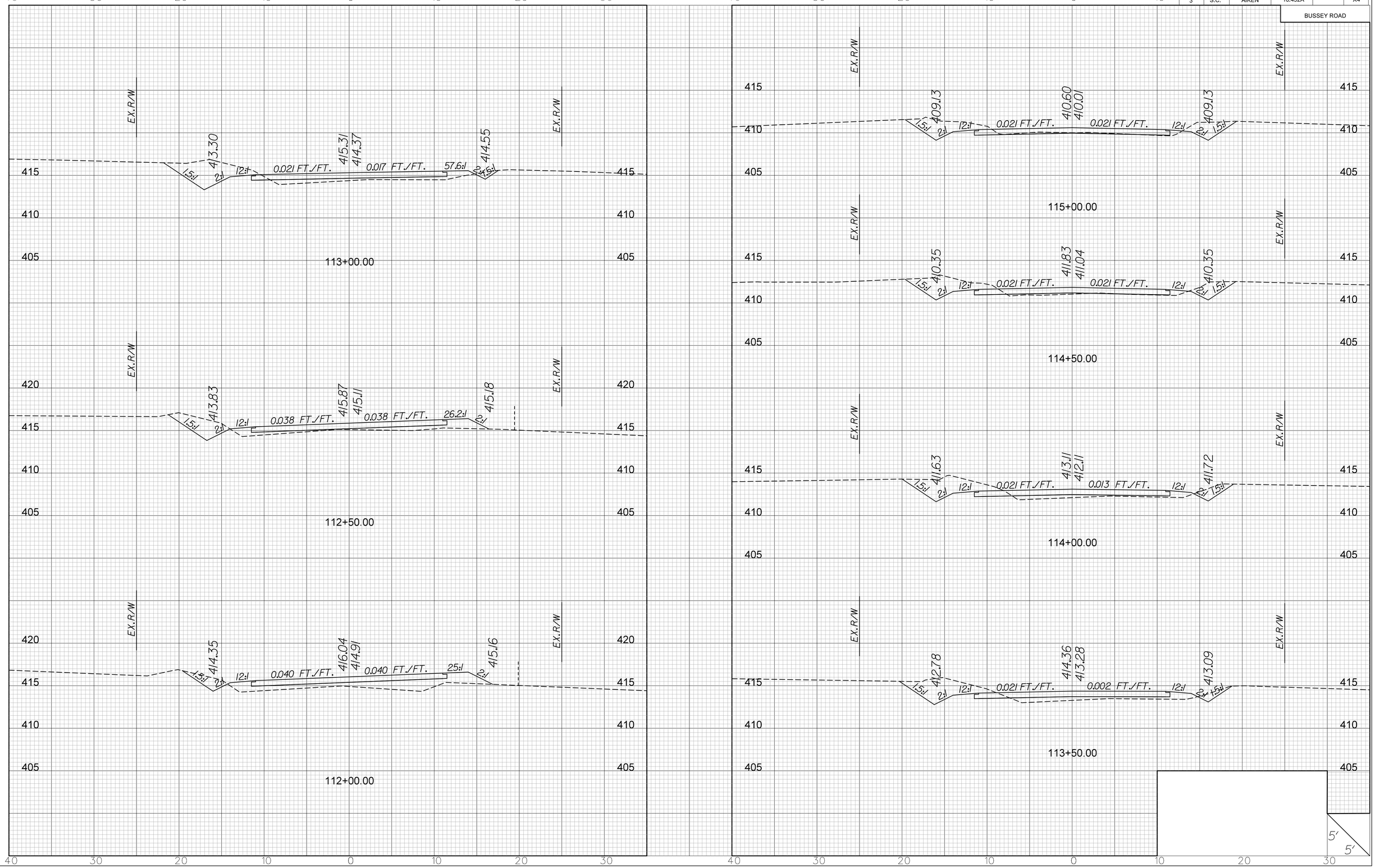
BUSSEY ROAD



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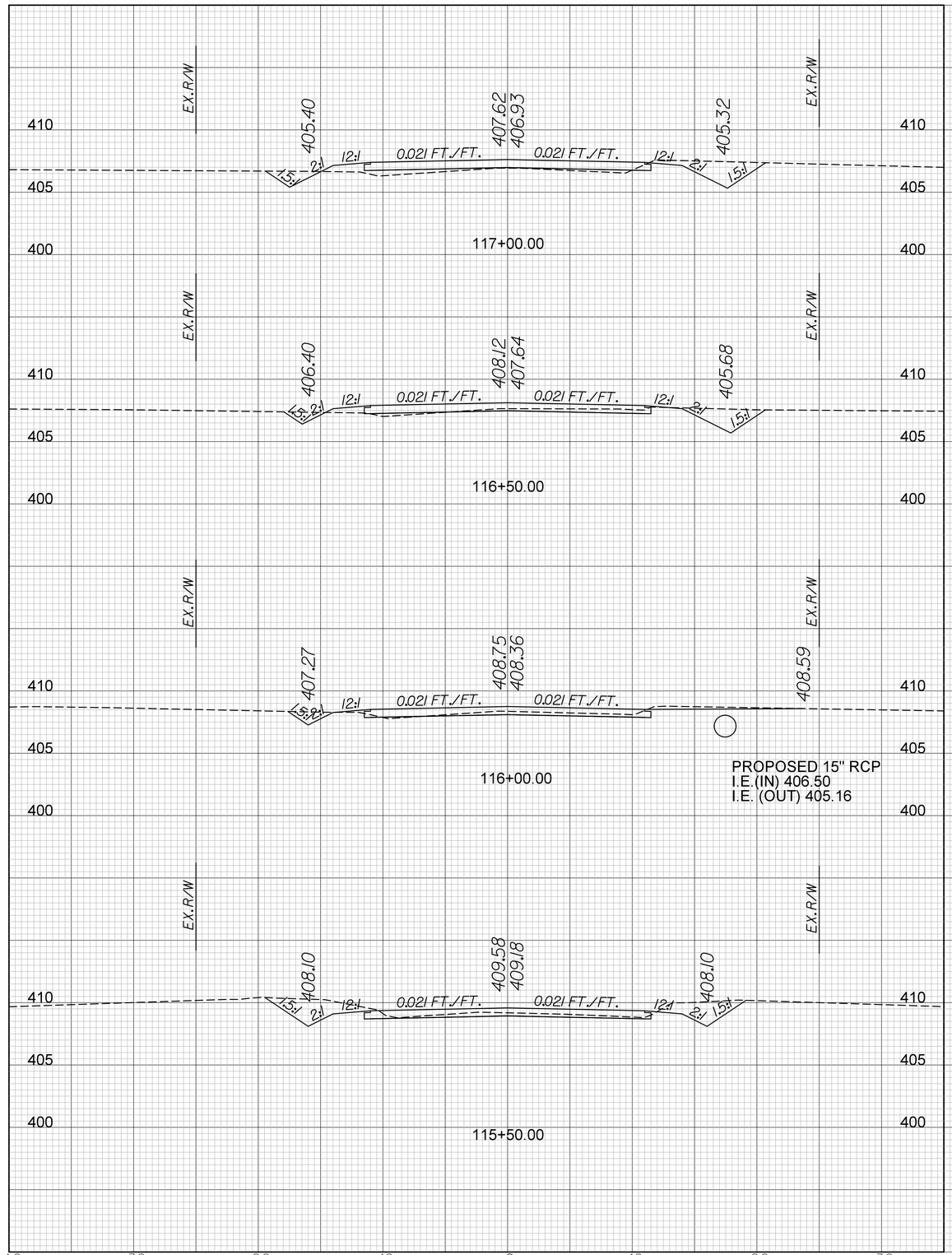
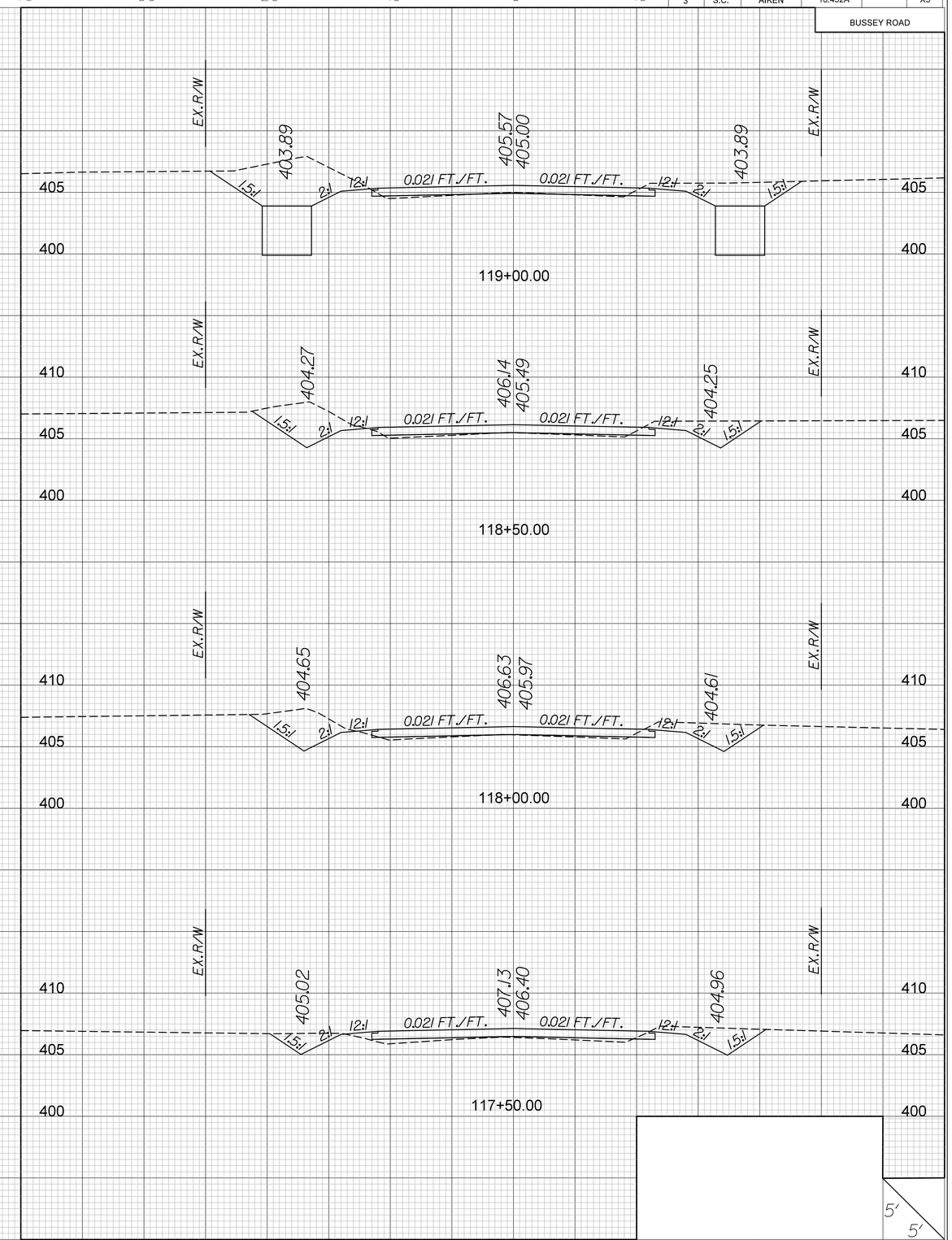
BUSSEY ROAD





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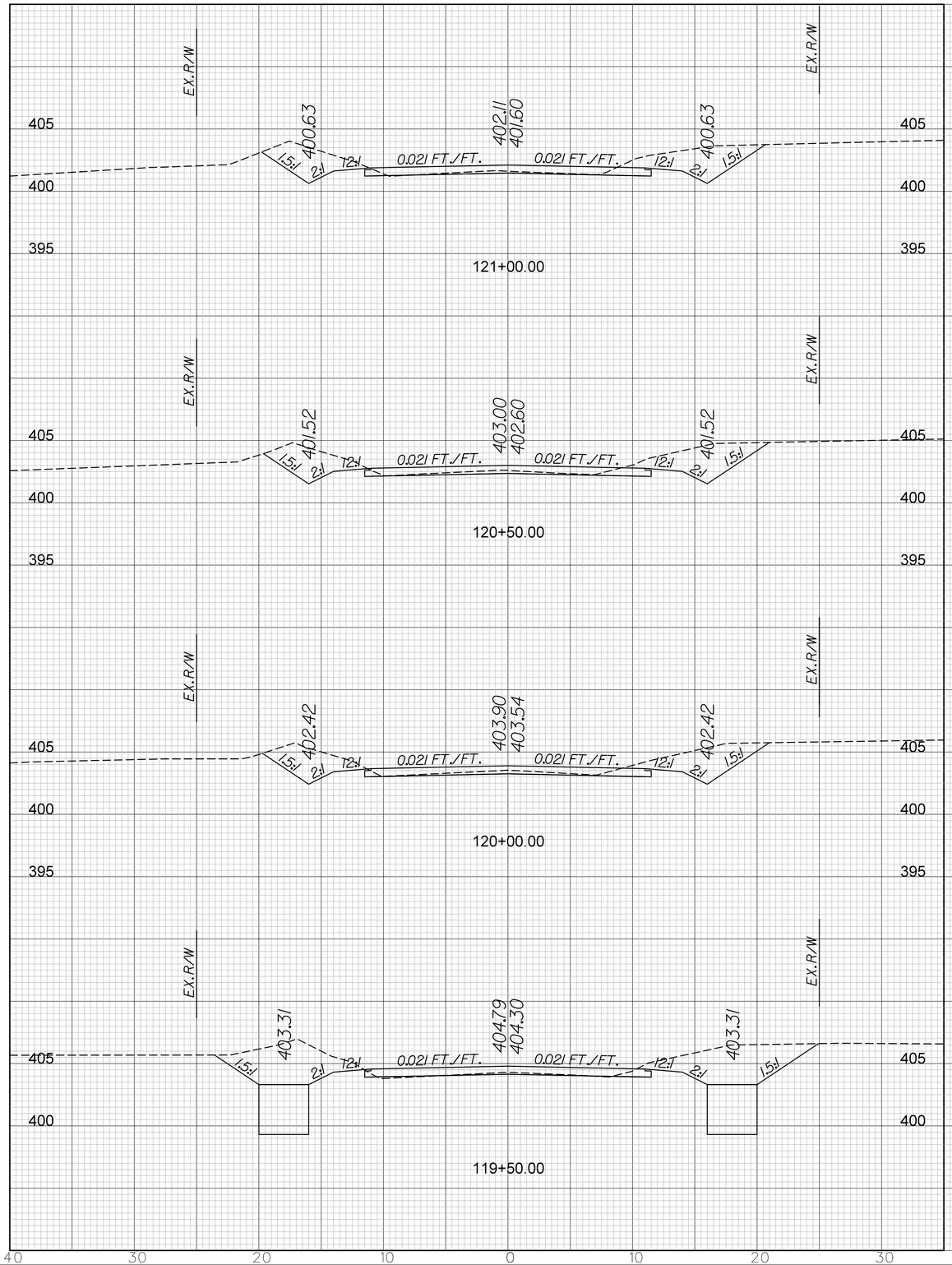
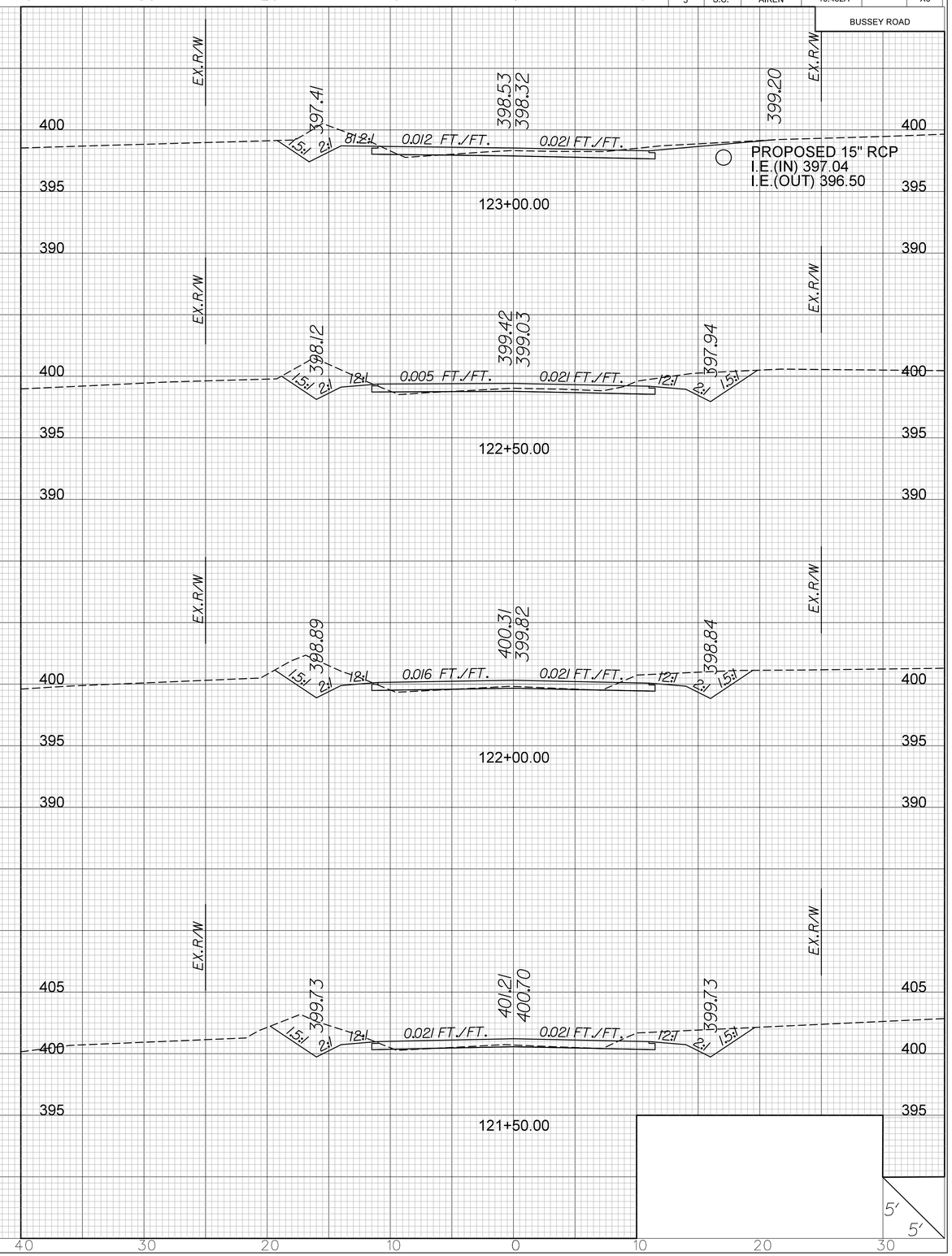
BUSSEY ROAD





FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
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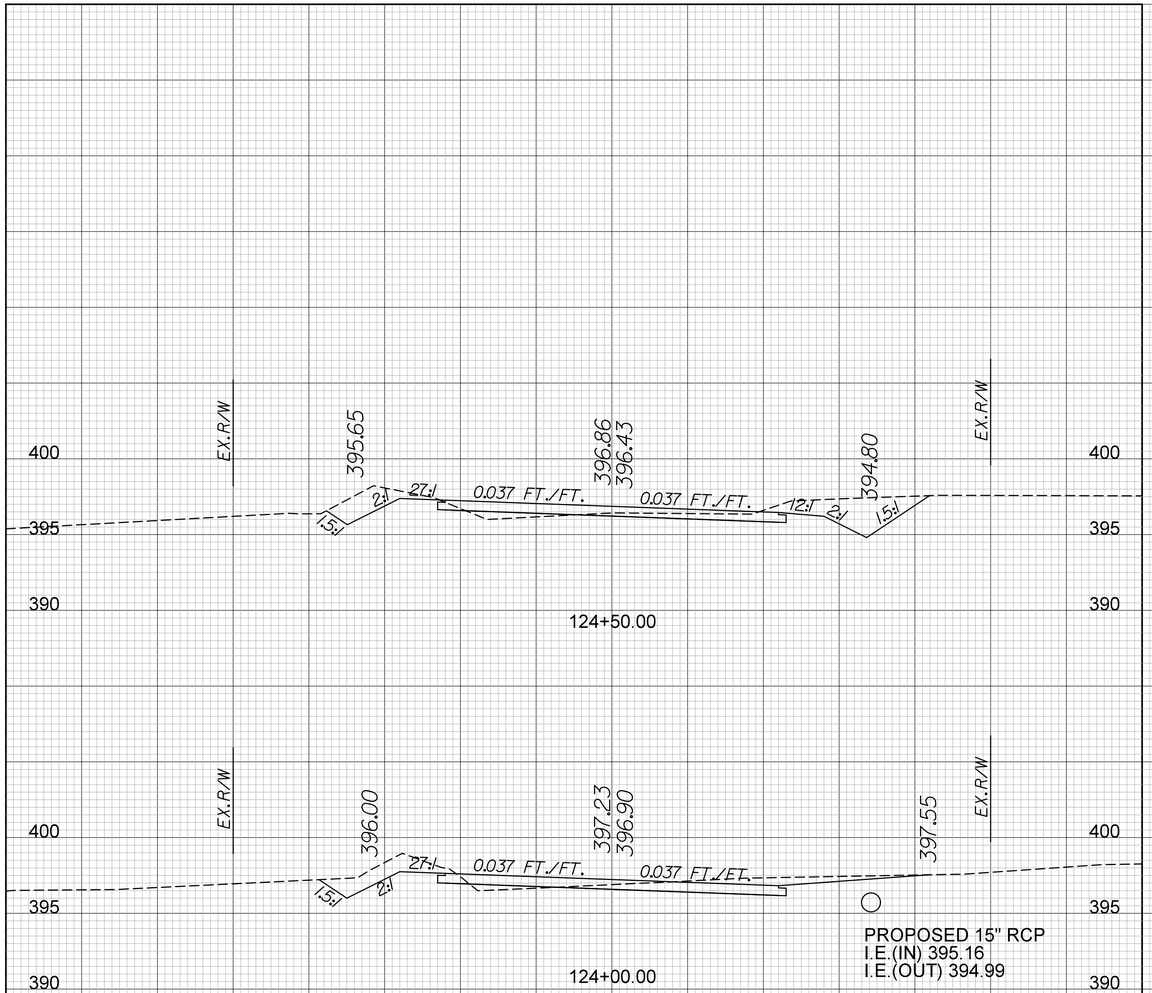
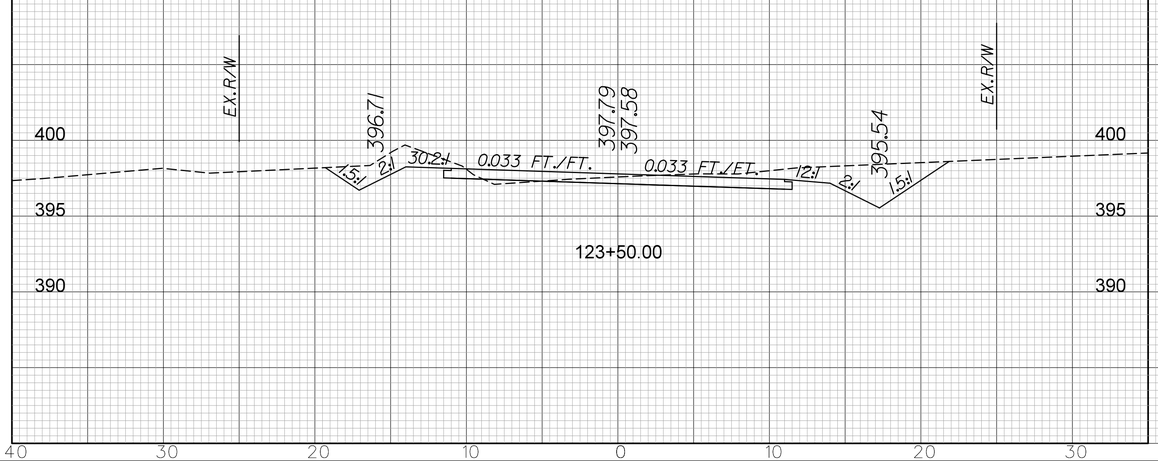
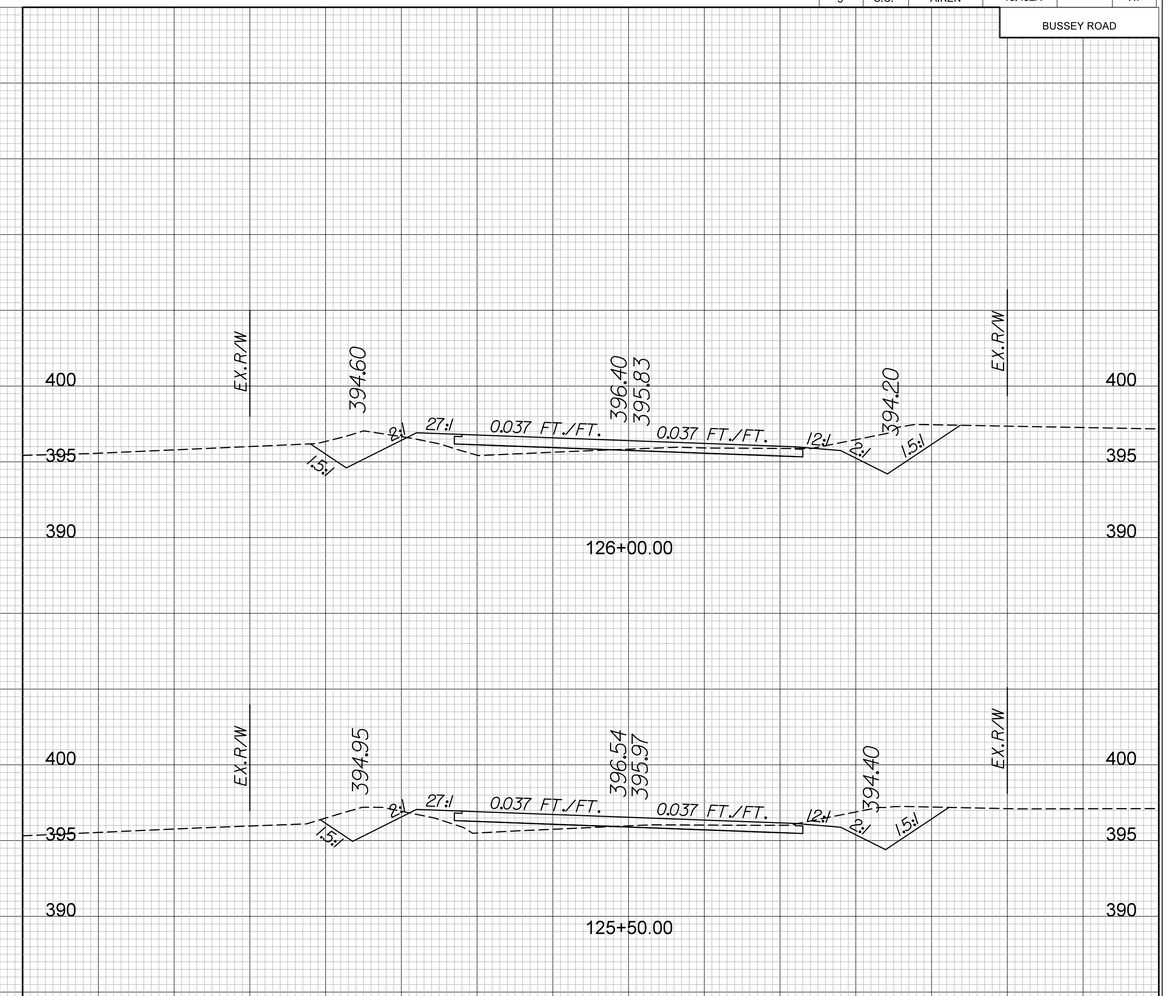
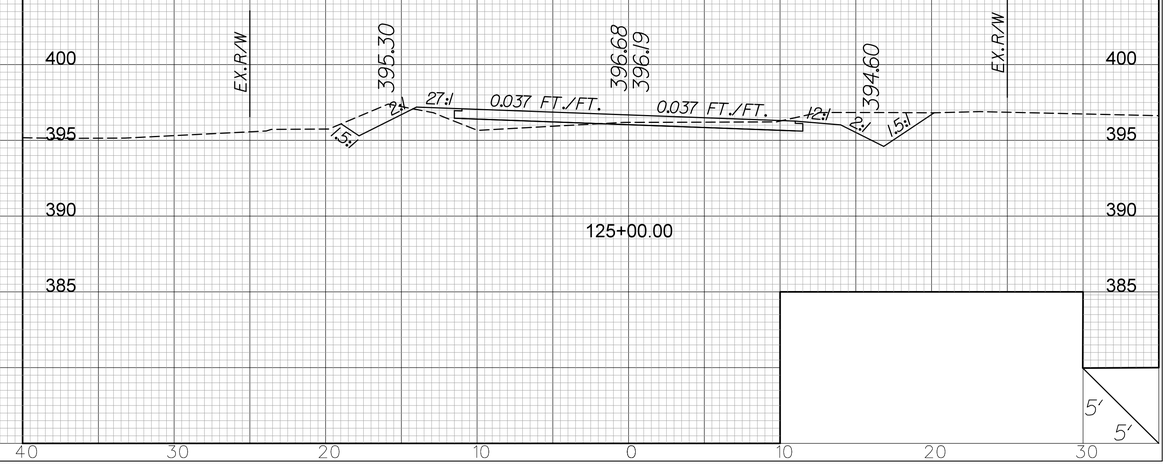
BUSSEY ROAD









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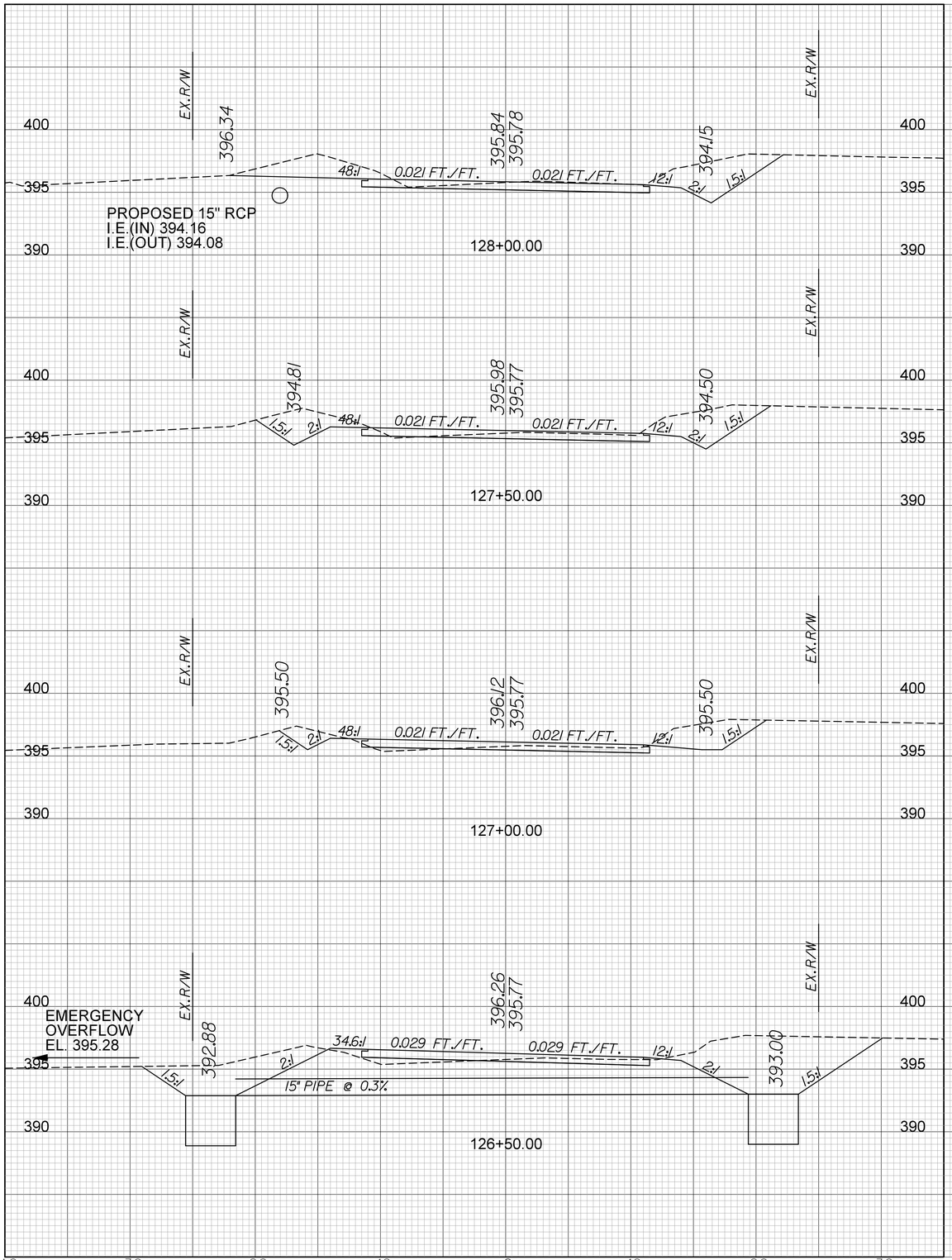
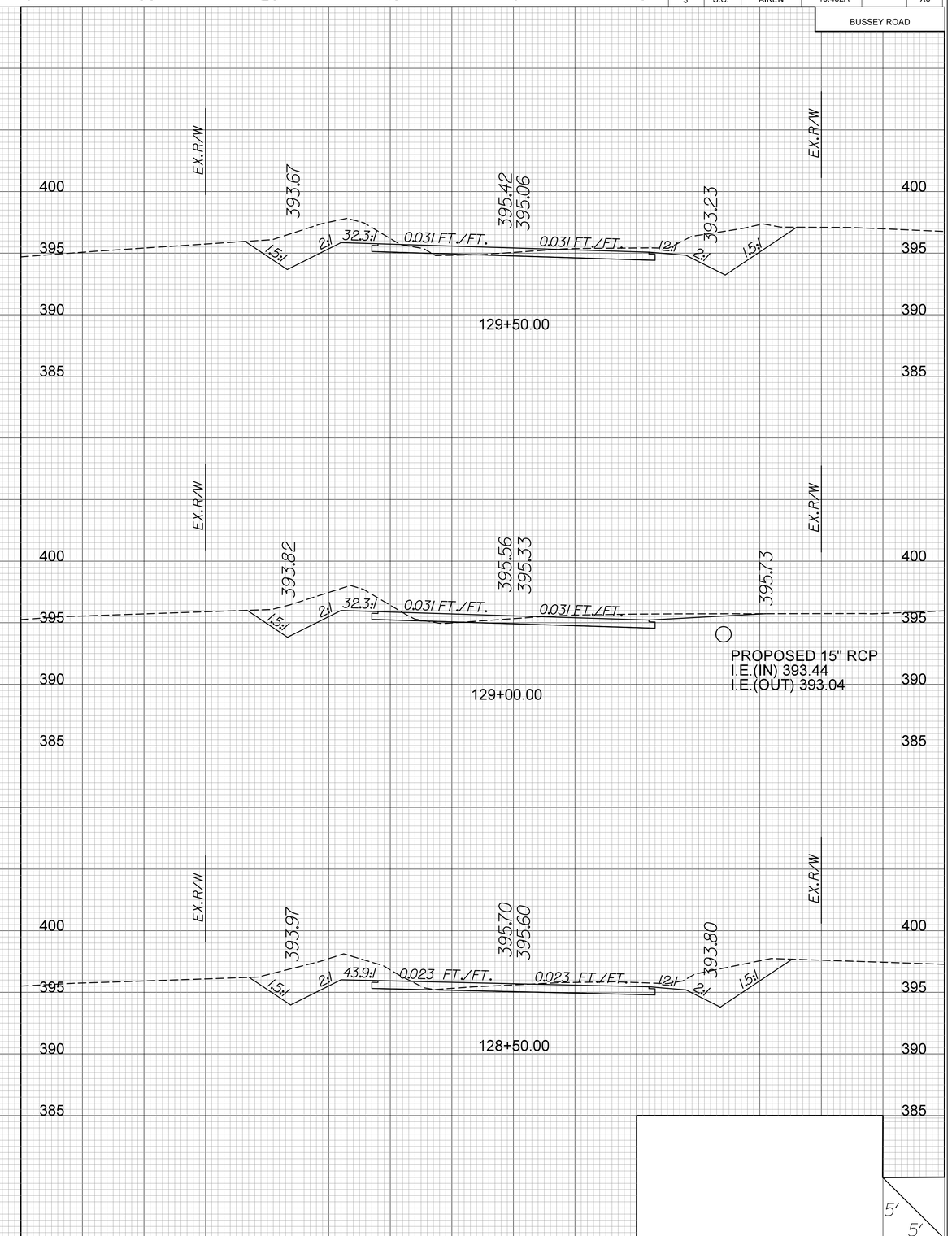
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X8

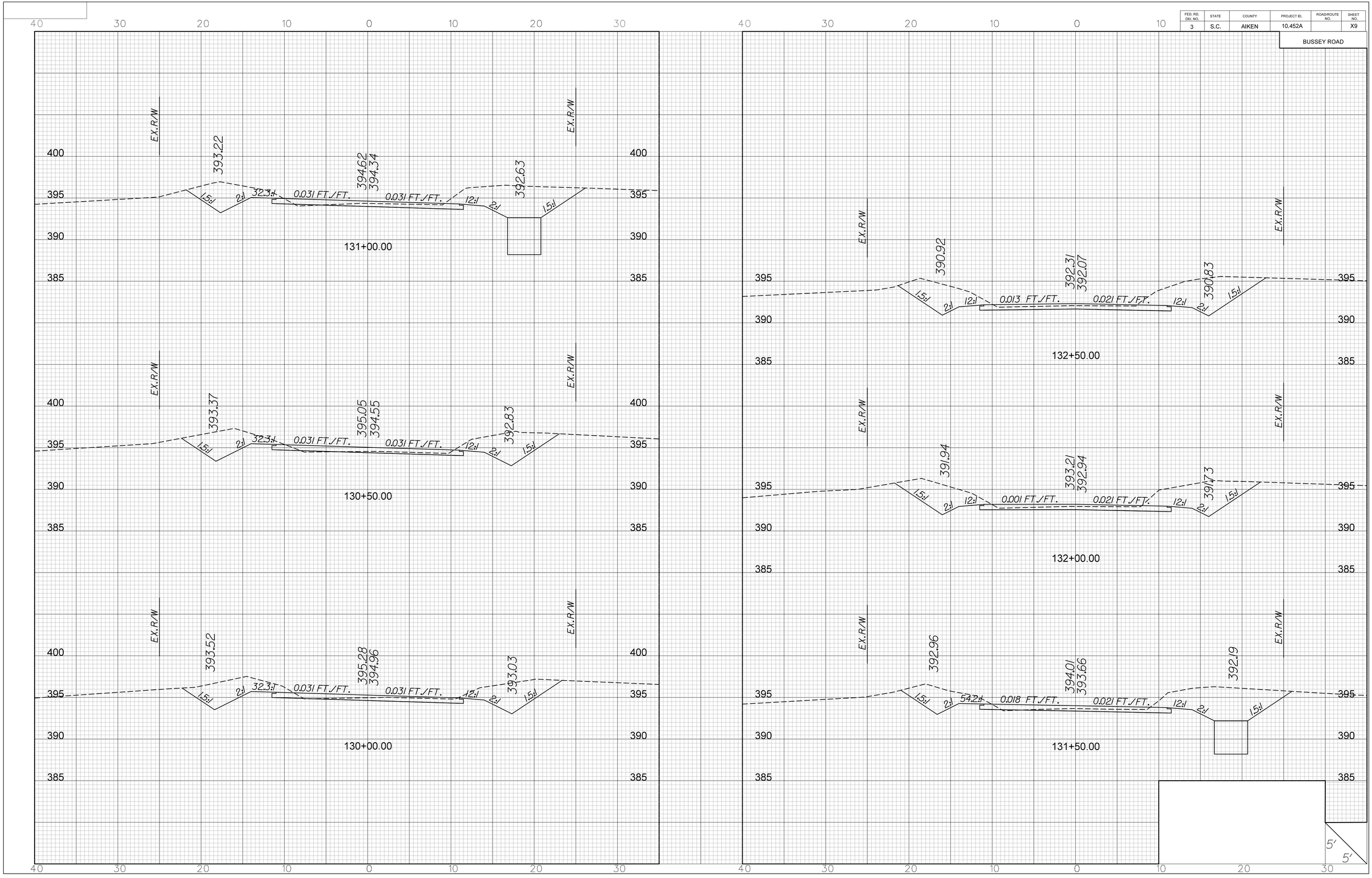
BUSSEY ROAD





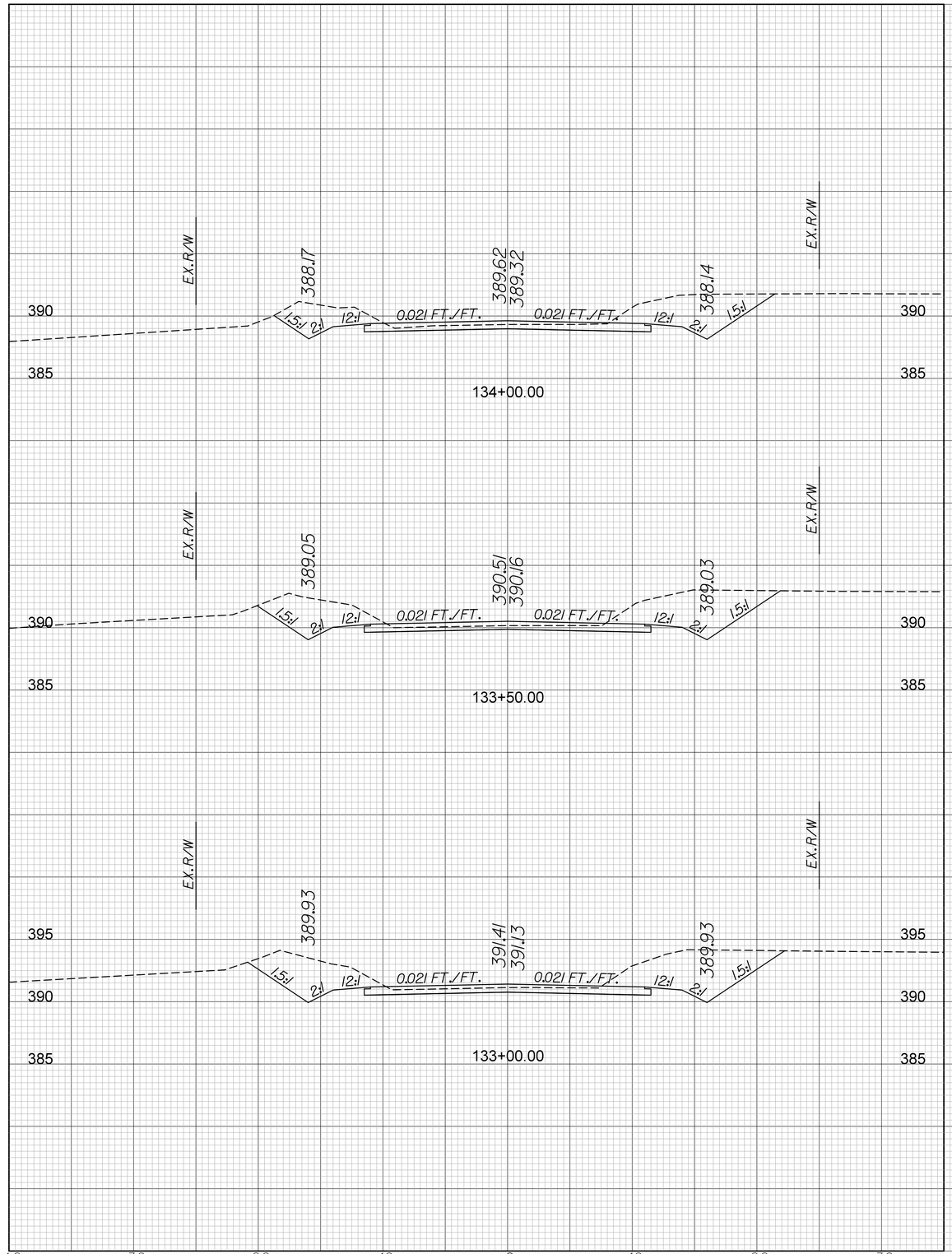
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X9

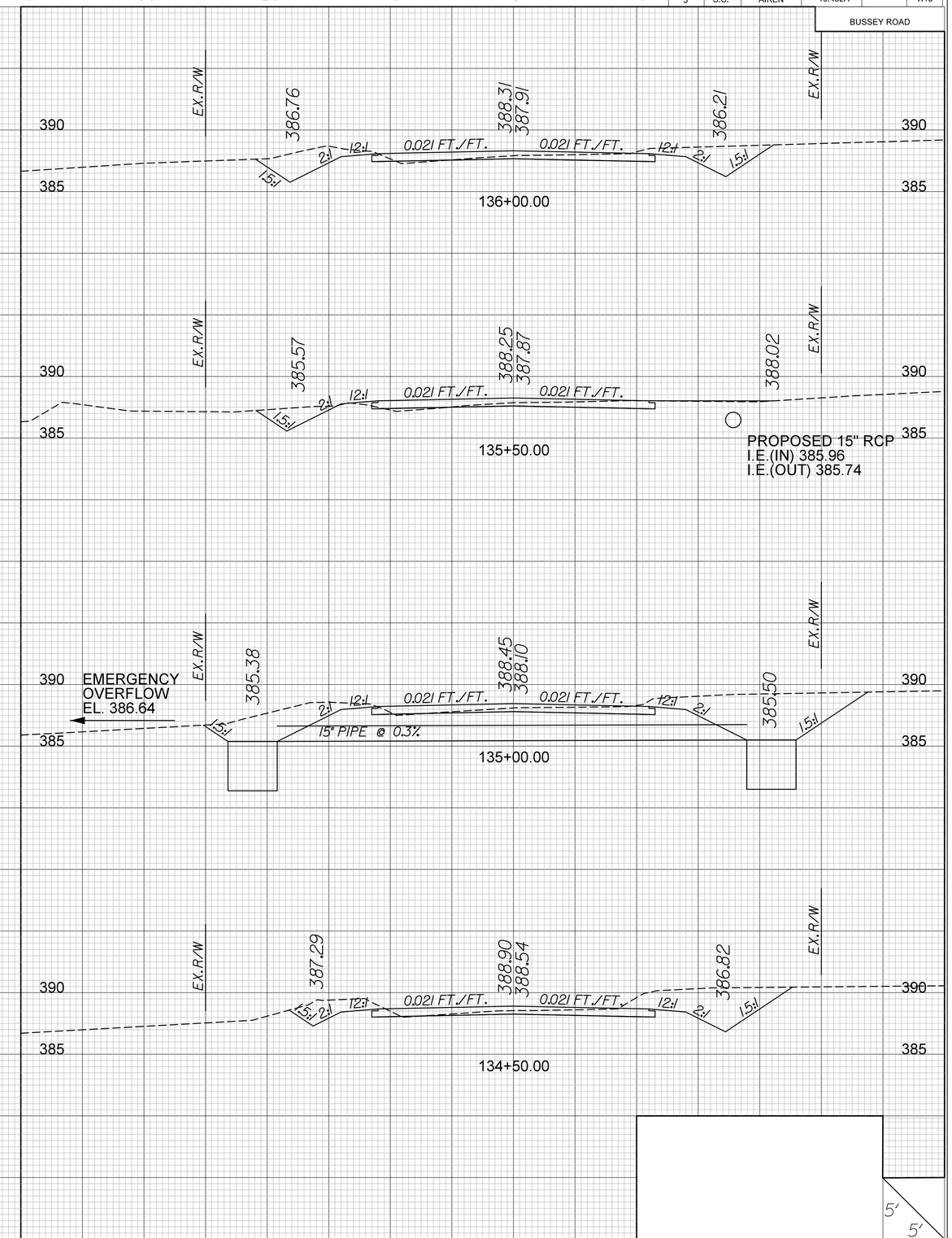
BUSSEY ROAD



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X10

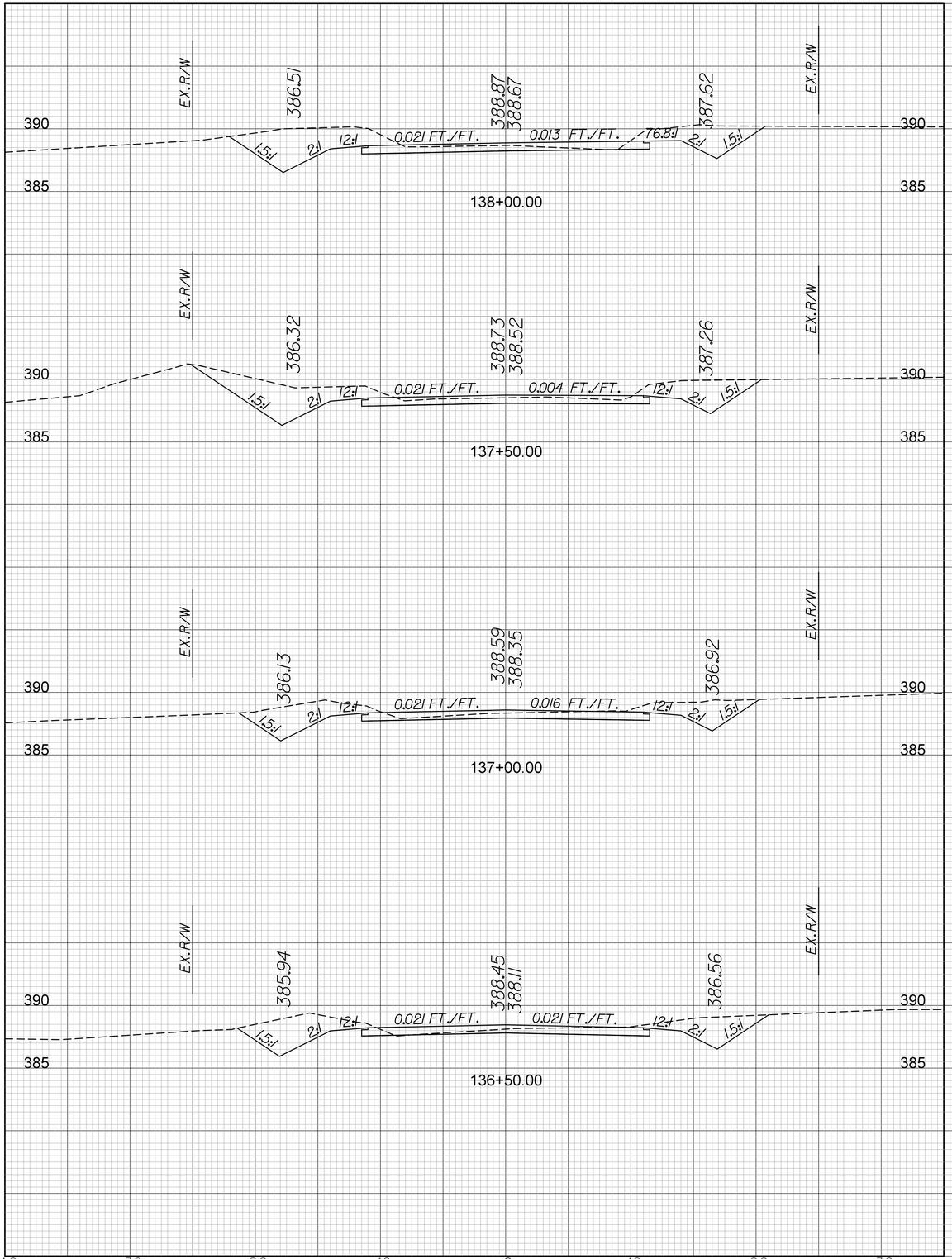
BUSSEY ROAD

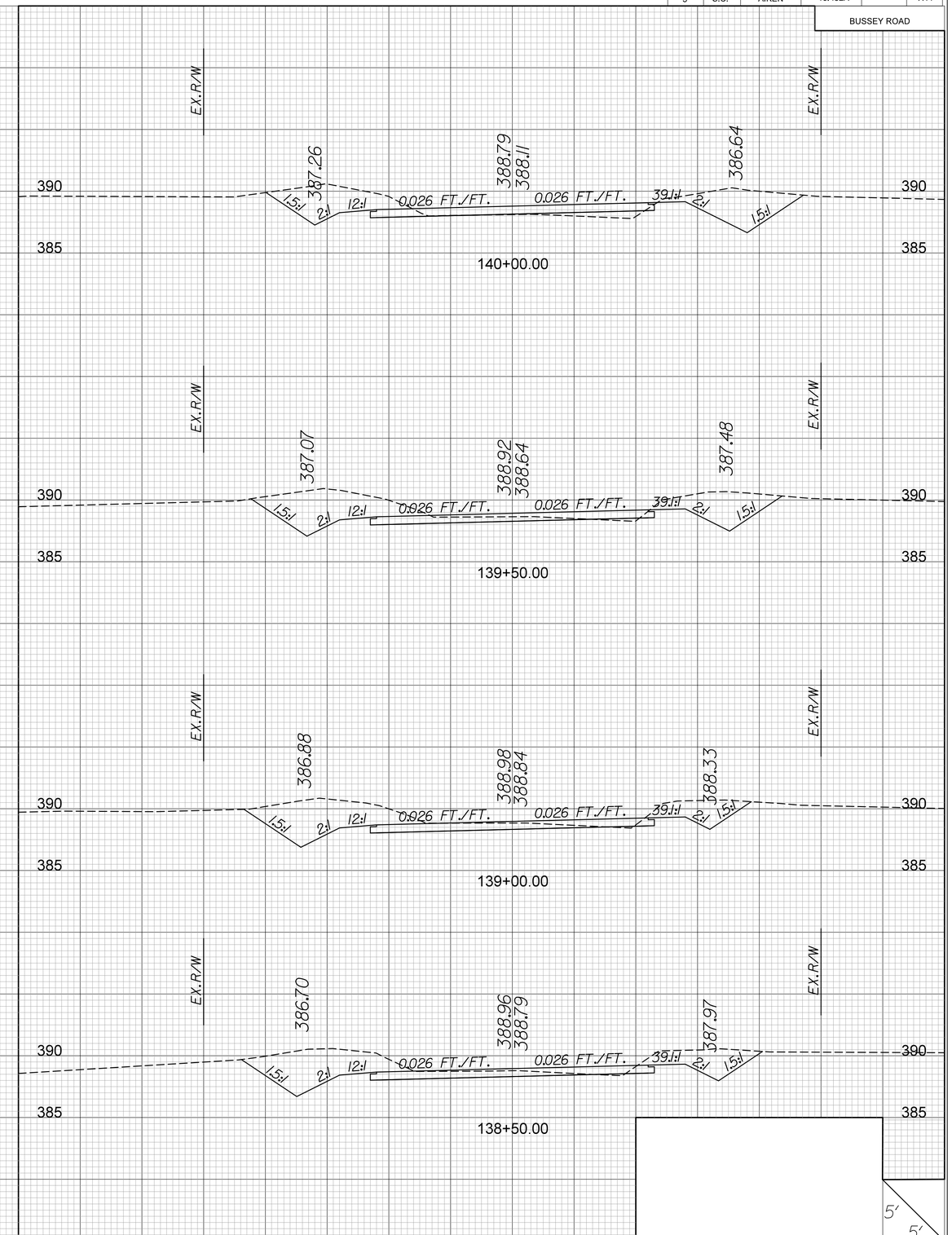




FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X11

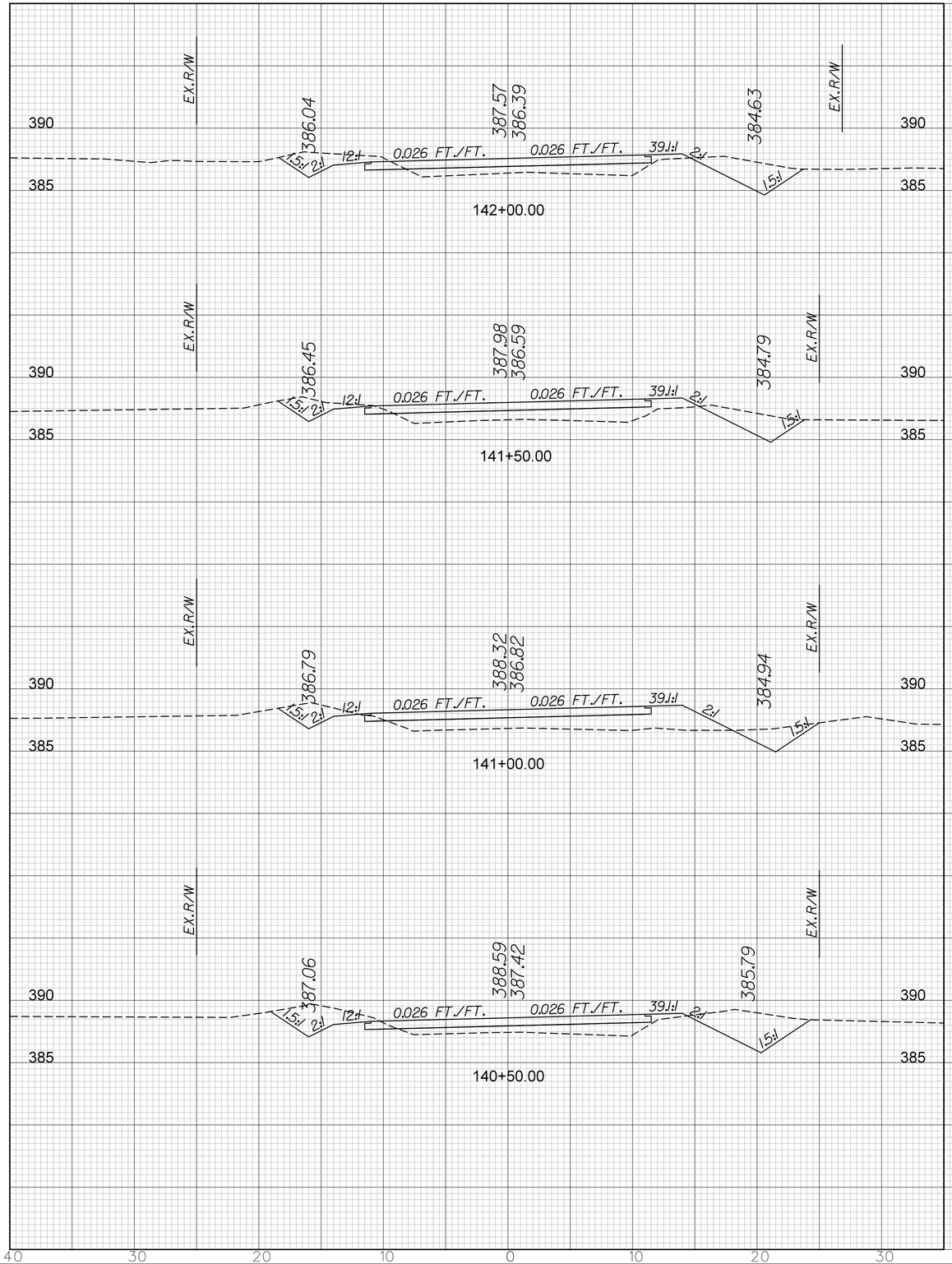
BUSSEY ROAD

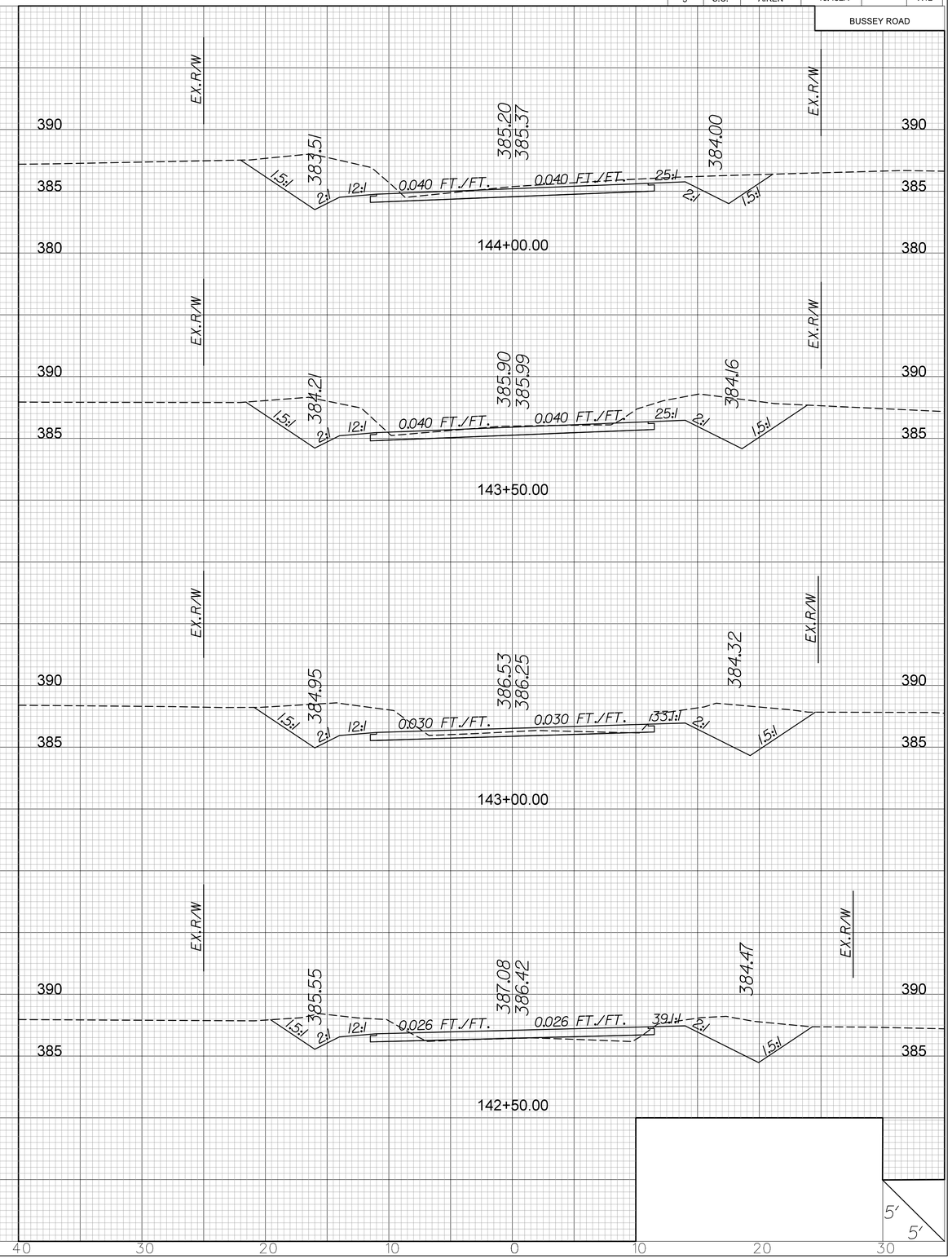




FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X12

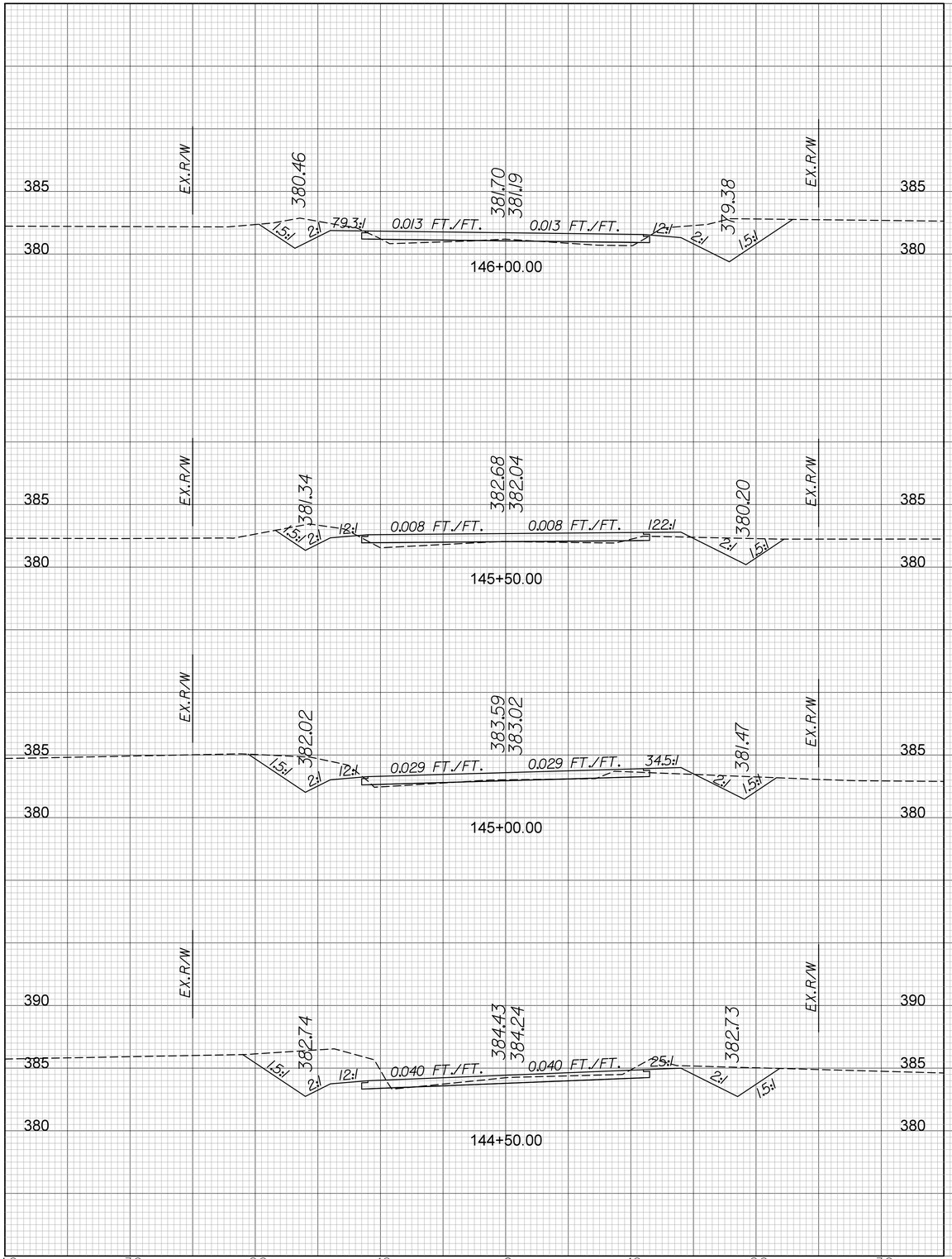
BUSSEY ROAD

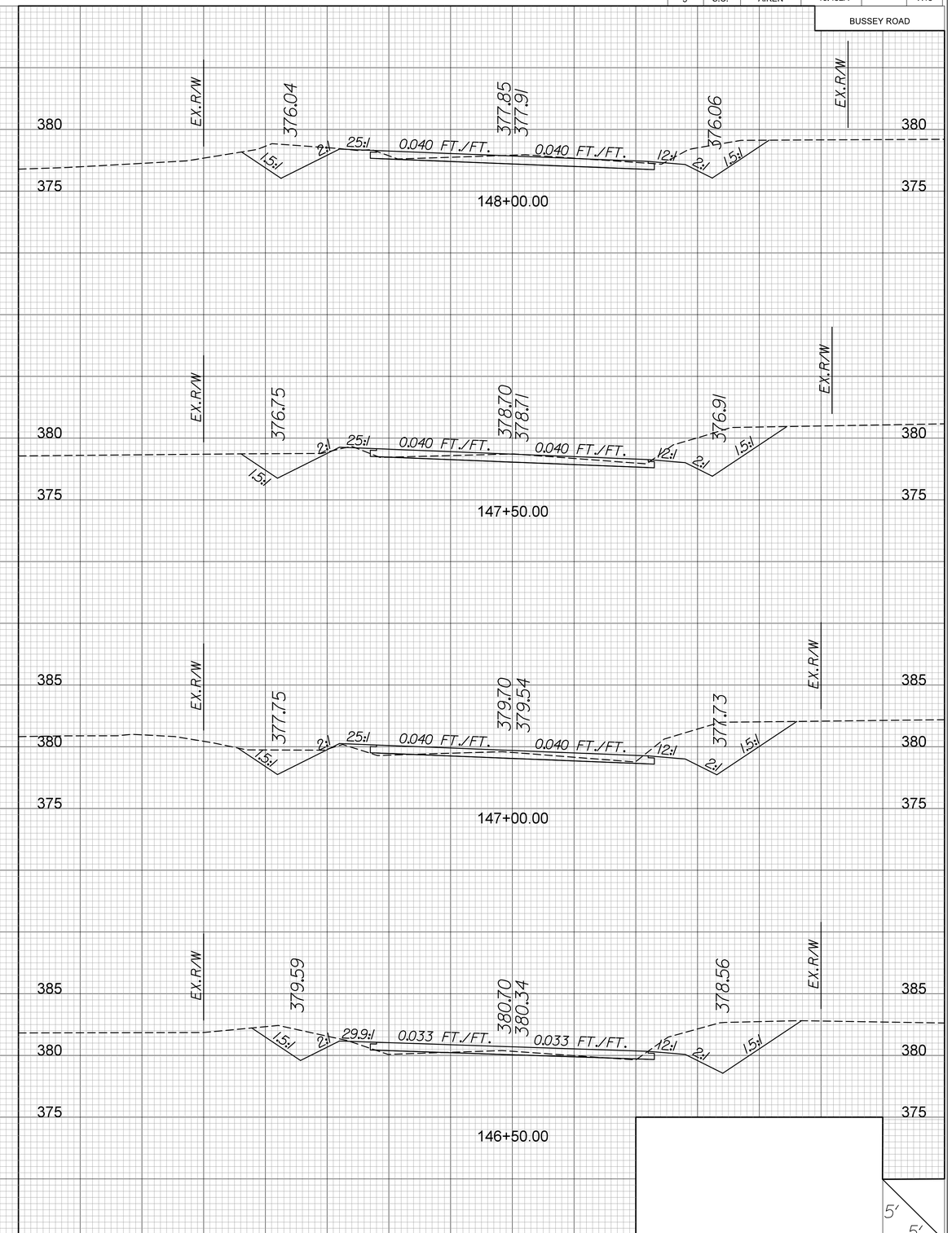




FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X13

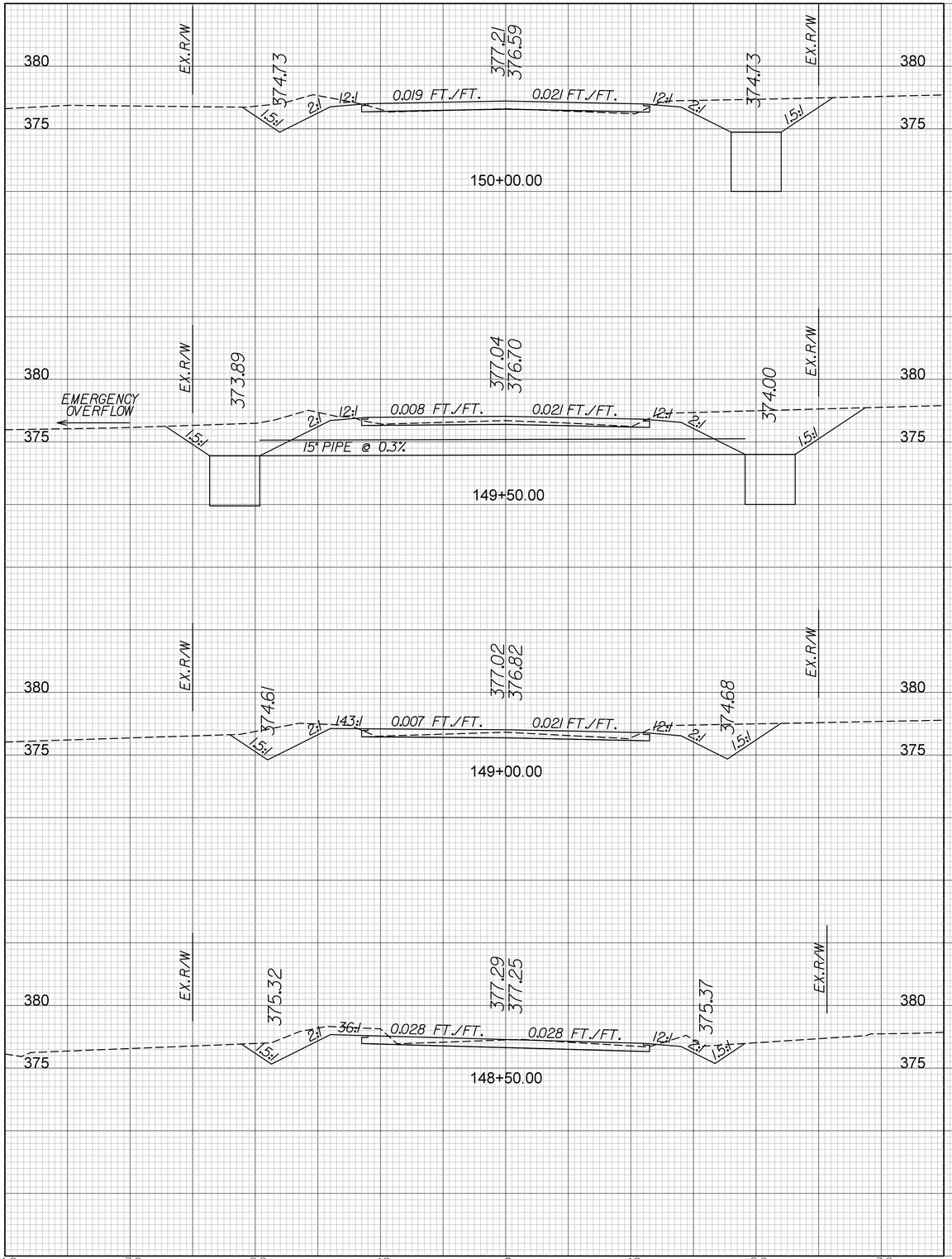
BUSSEY ROAD





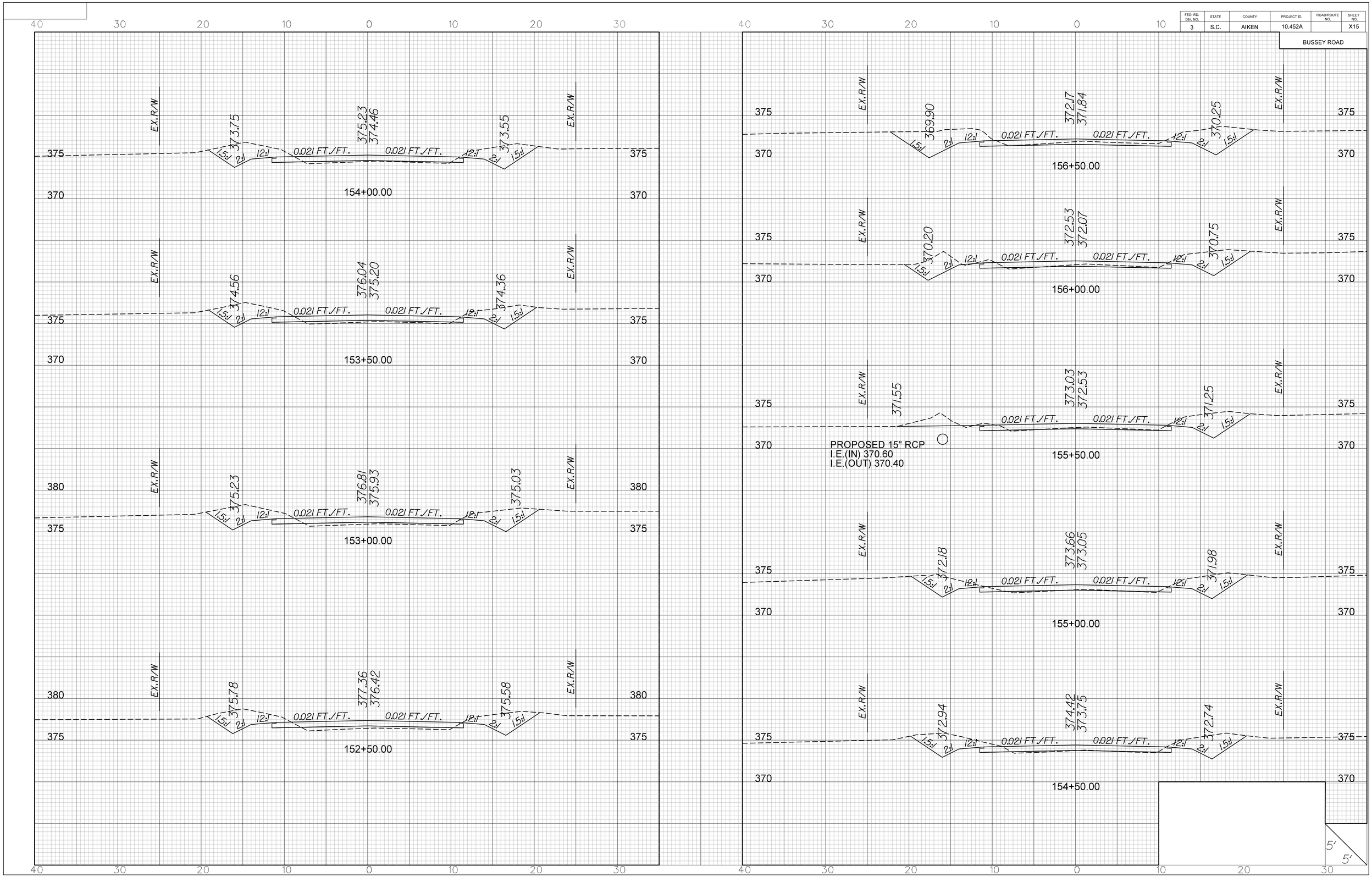
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X14

BUSSEY ROAD



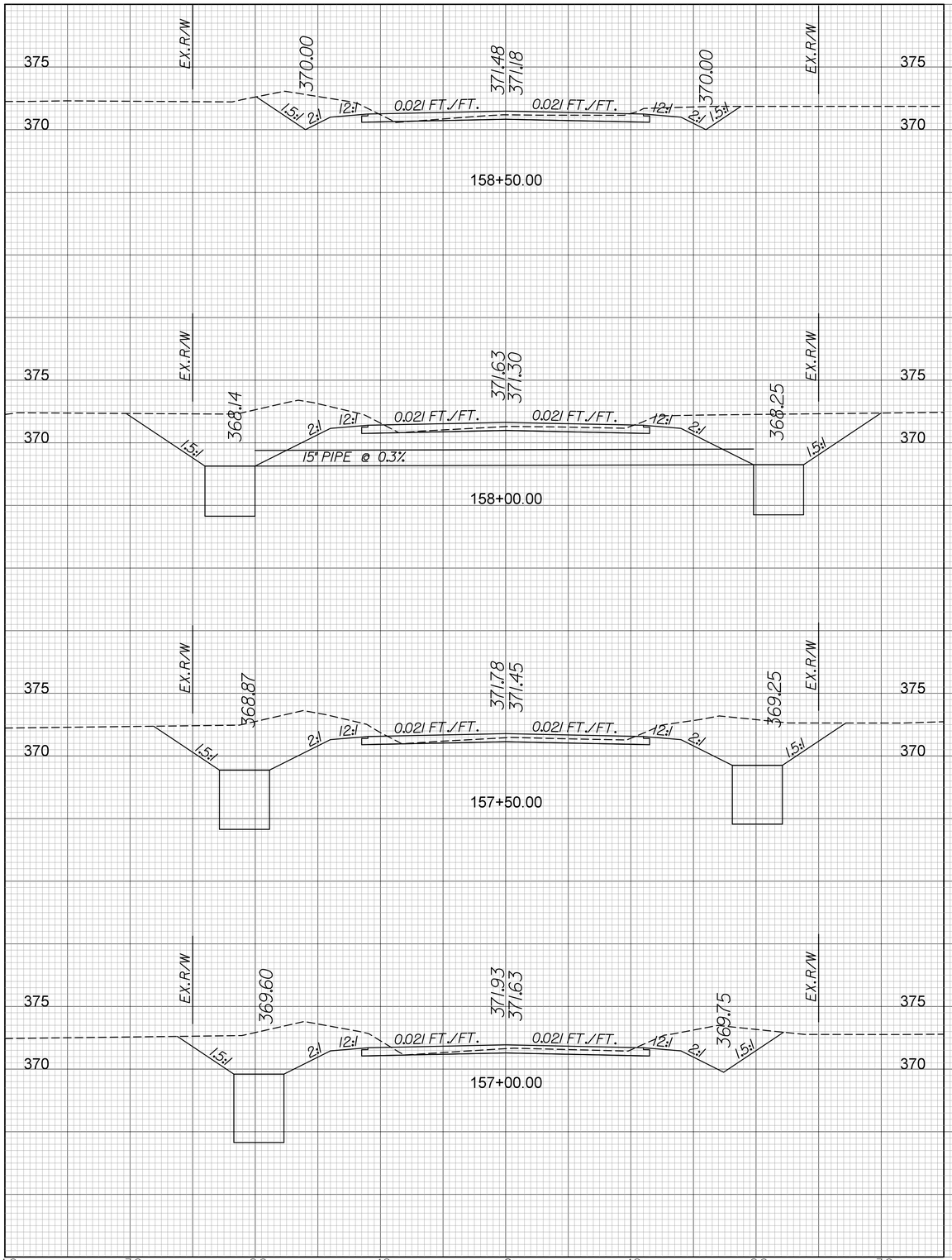
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X15

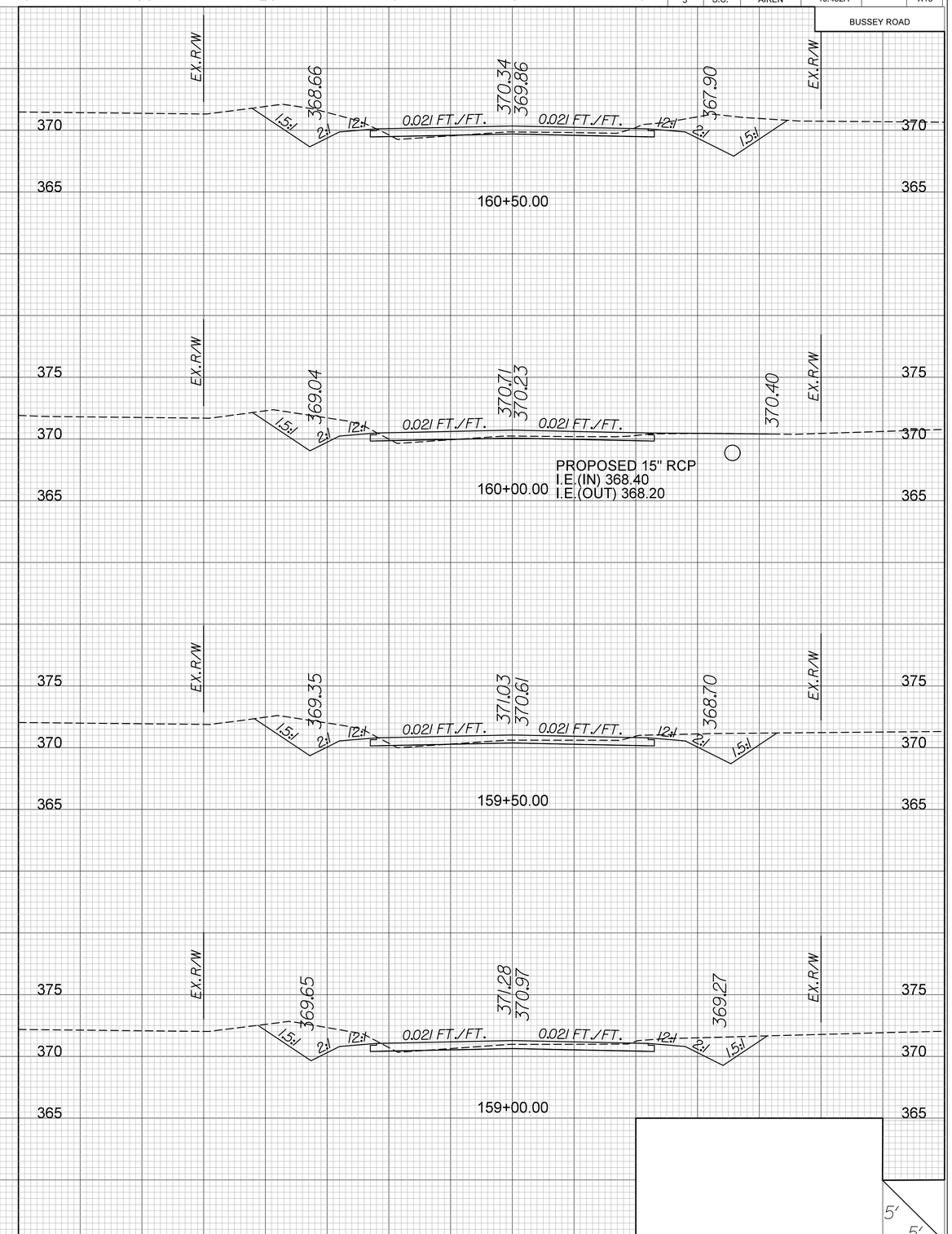
BUSSEY ROAD



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X16

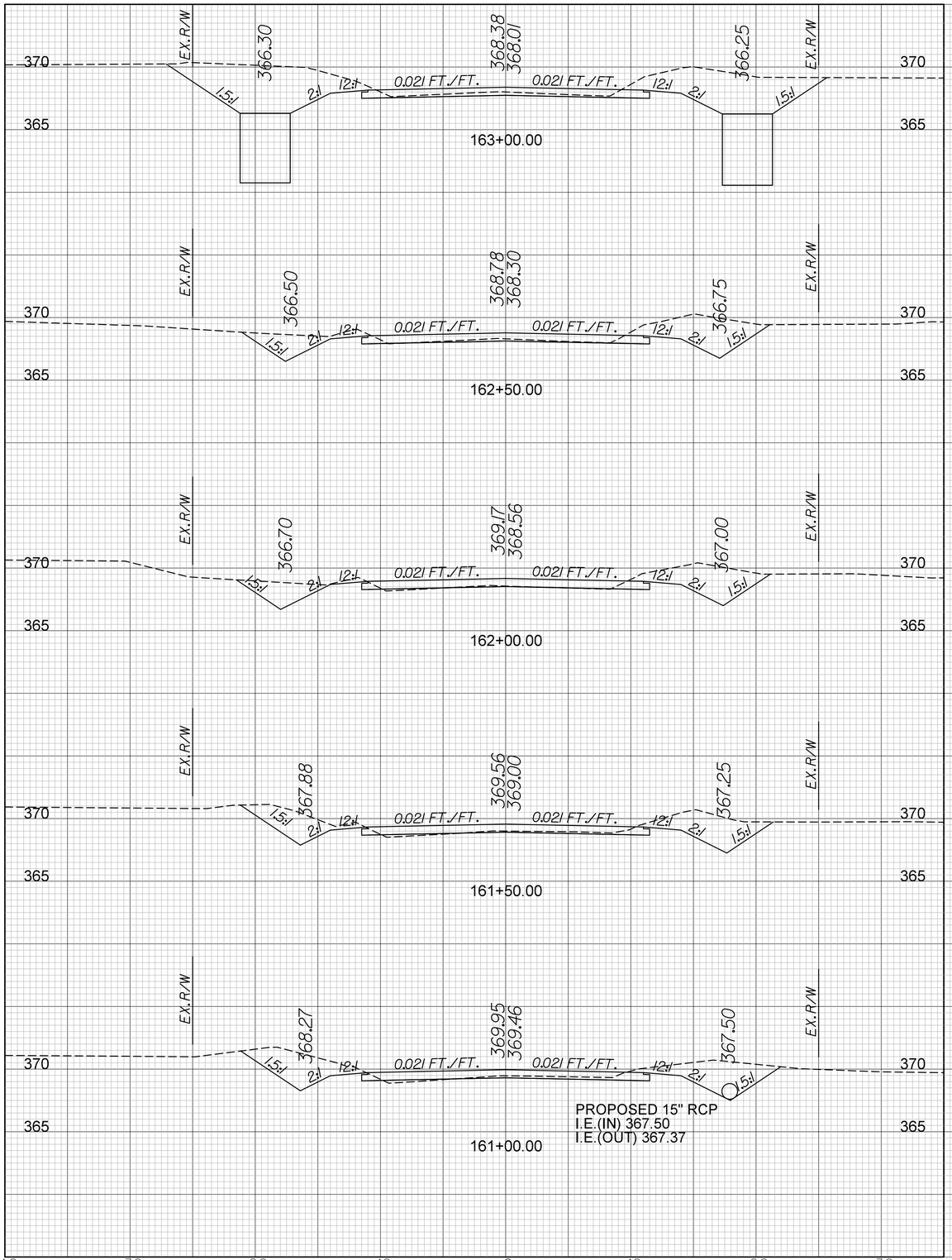
BUSSEY ROAD

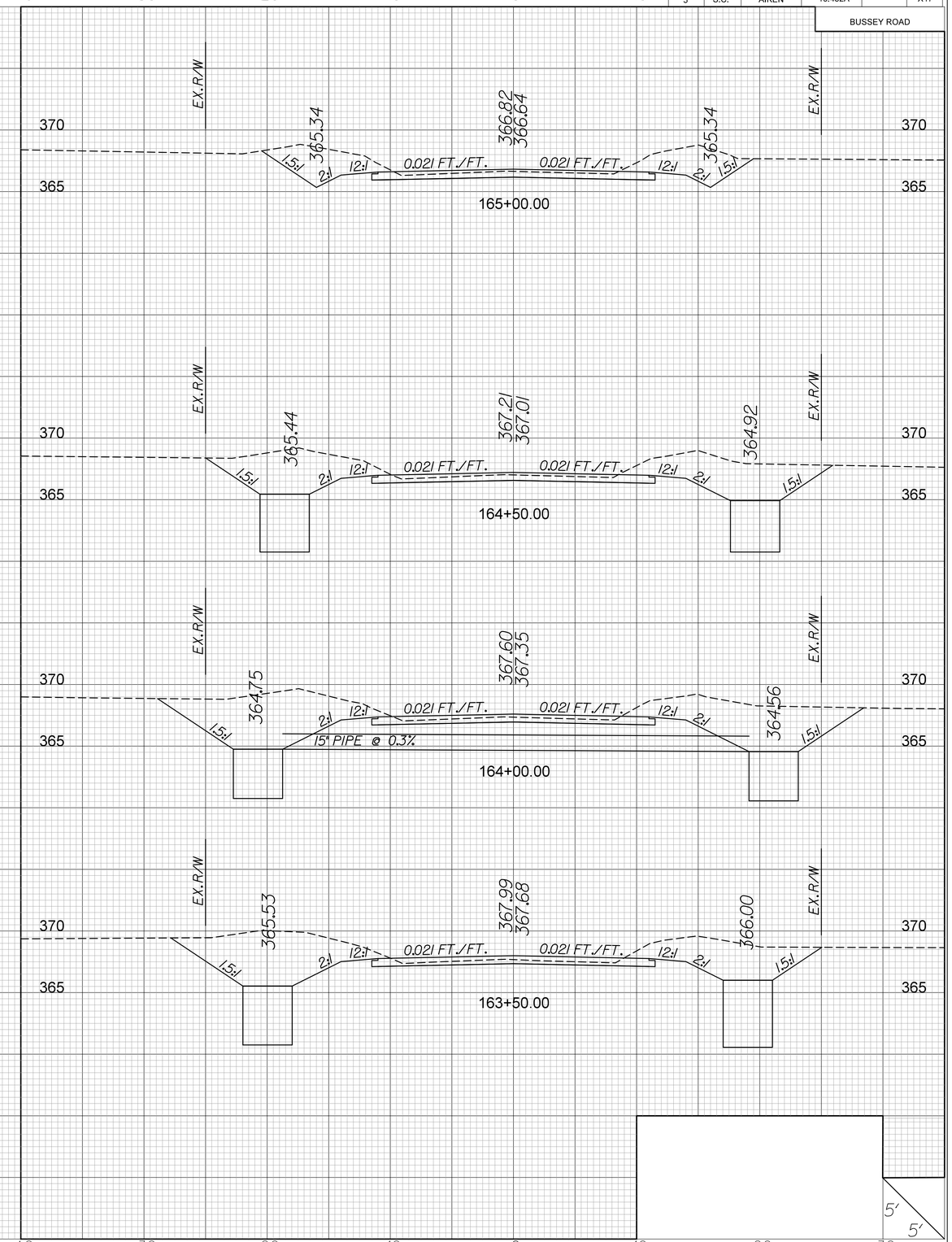




FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X17

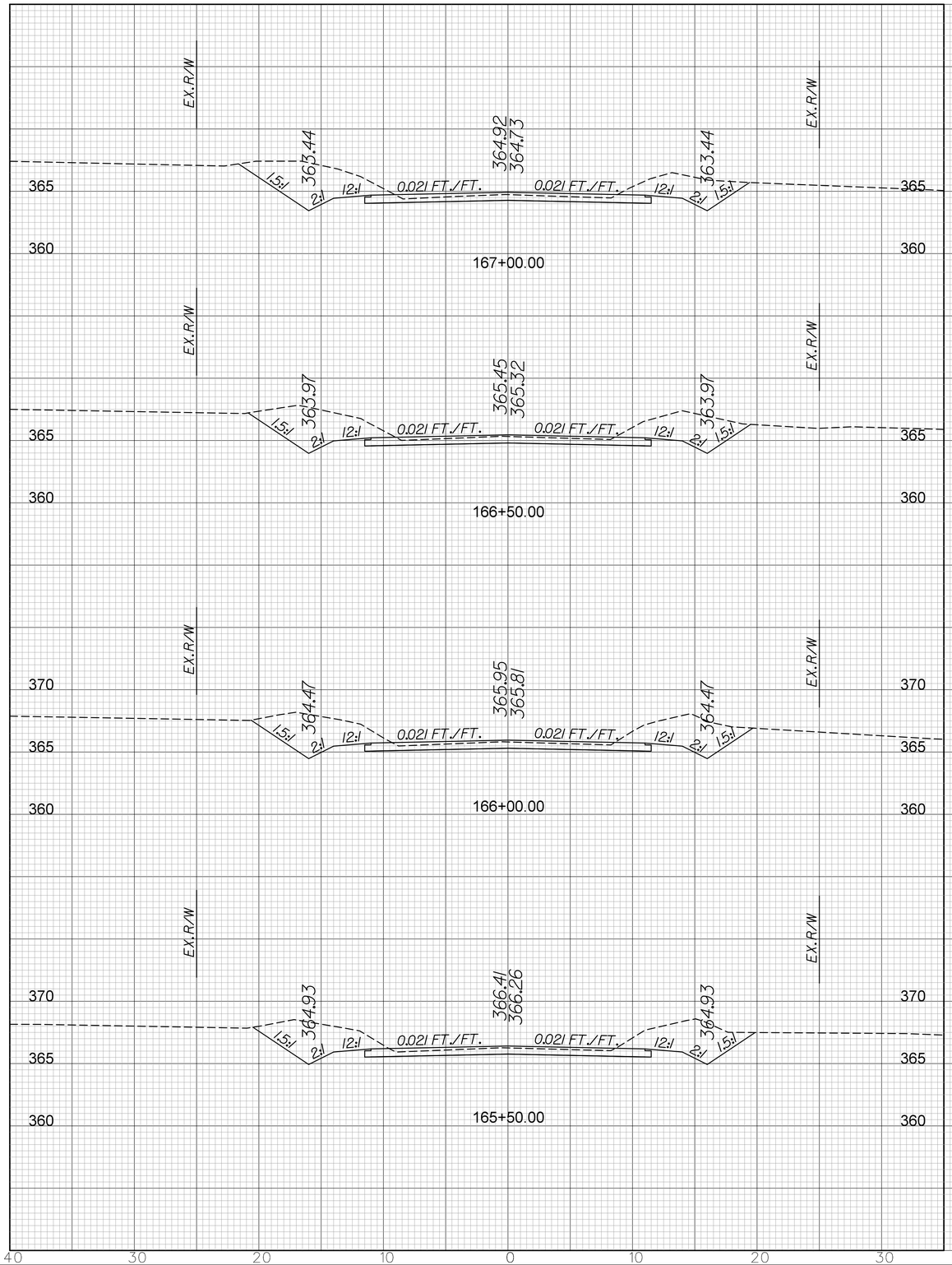
BUSSEY ROAD

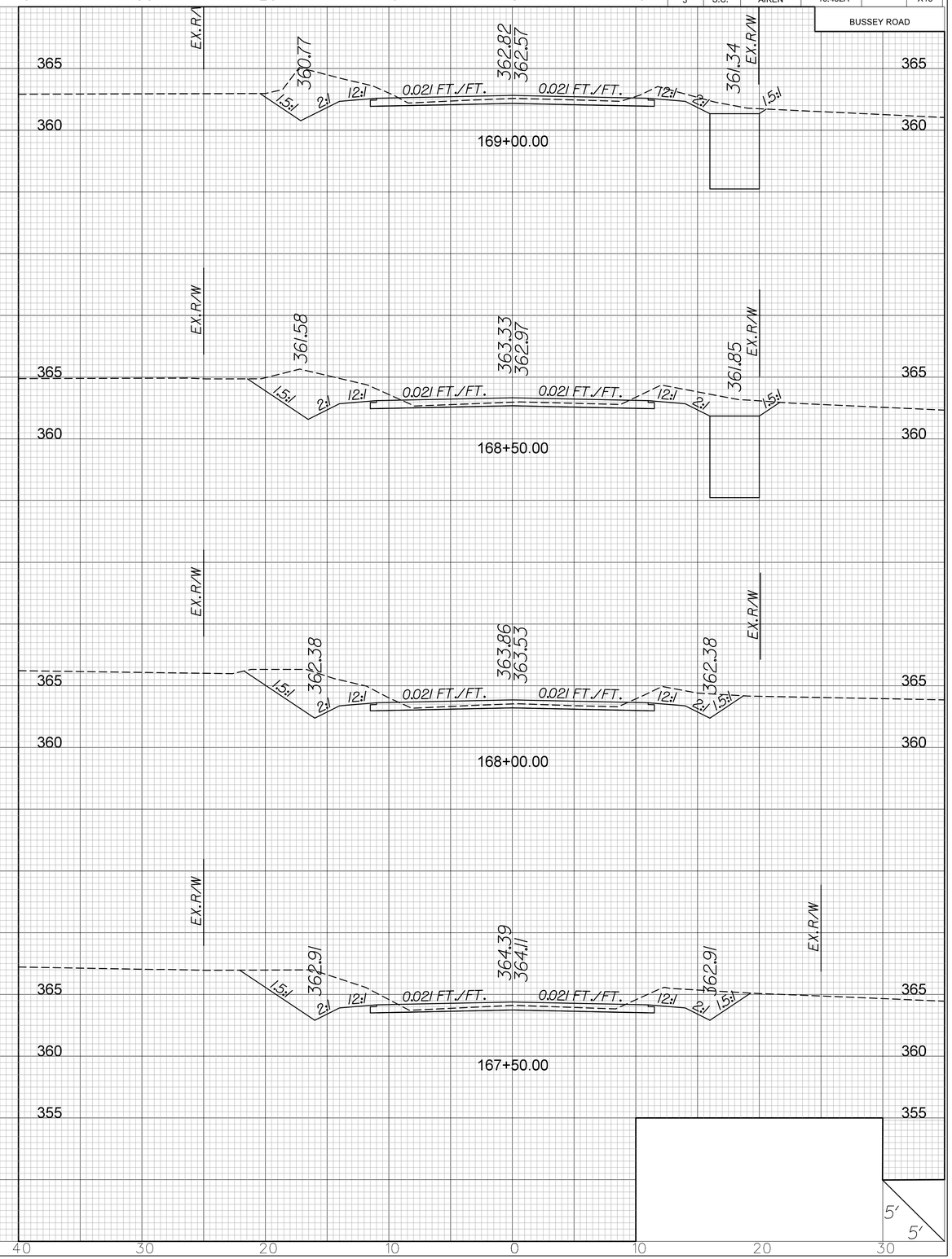




FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X18

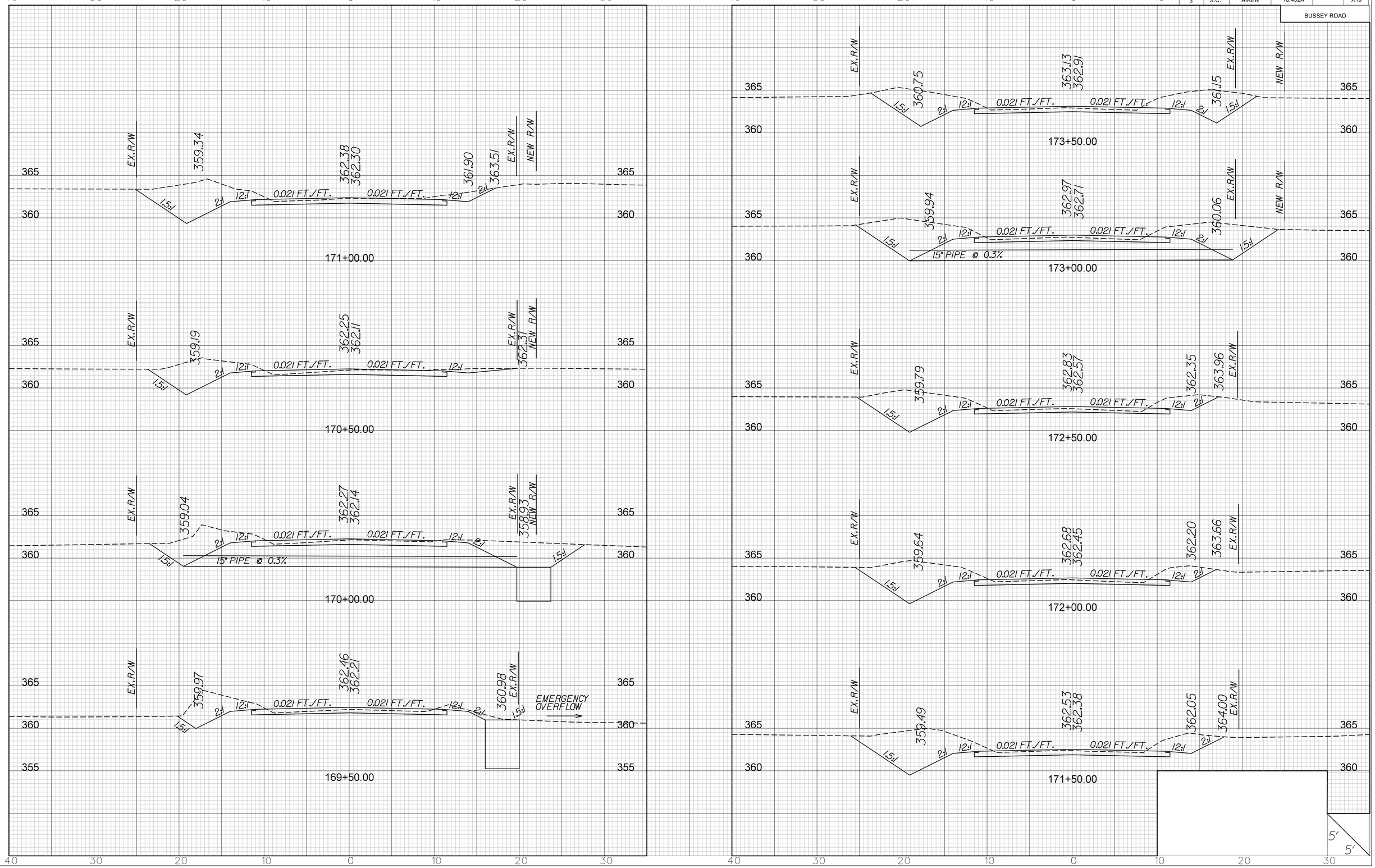
BUSSEY ROAD





FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X19

BUSSEY ROAD



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
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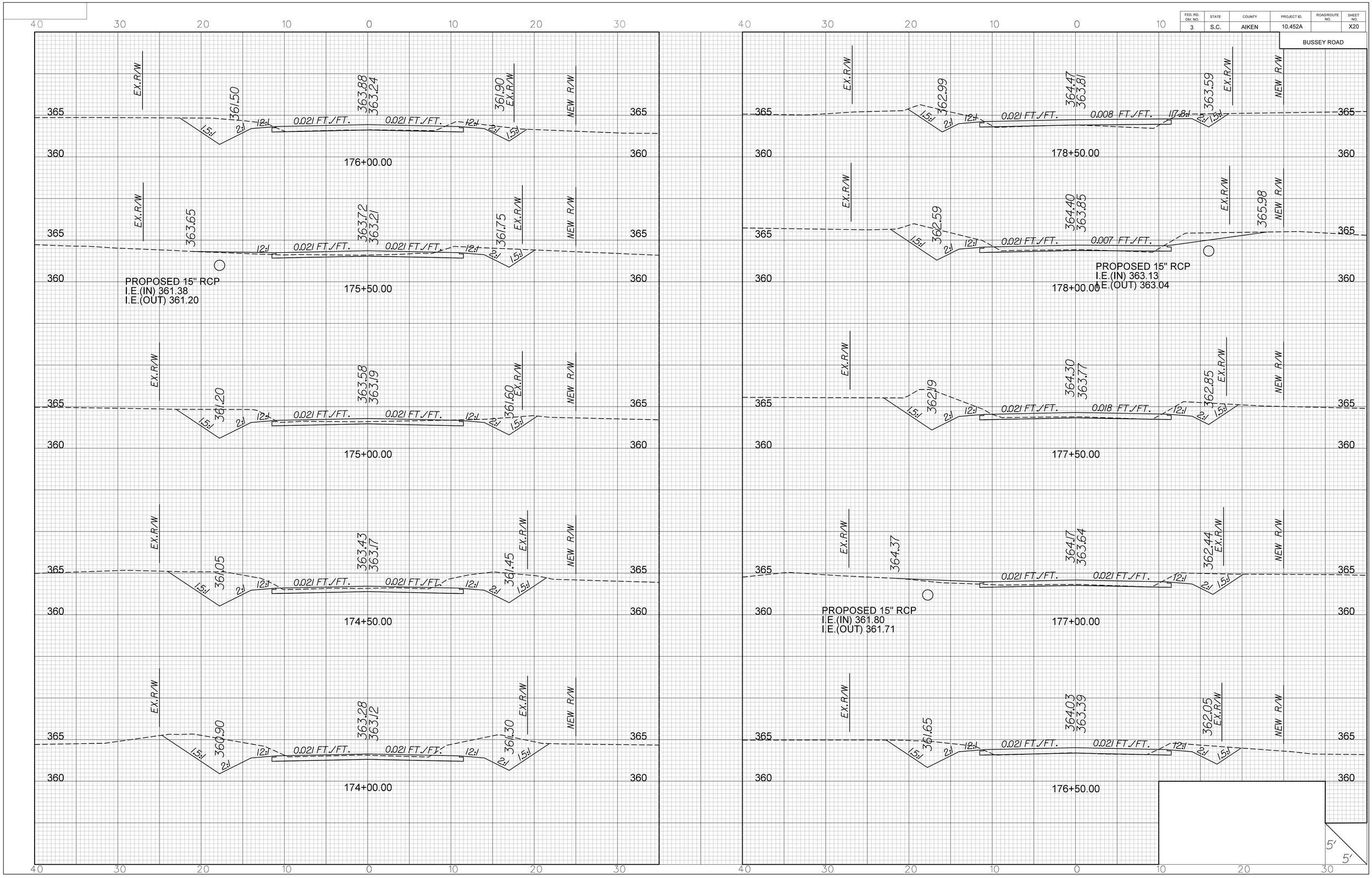
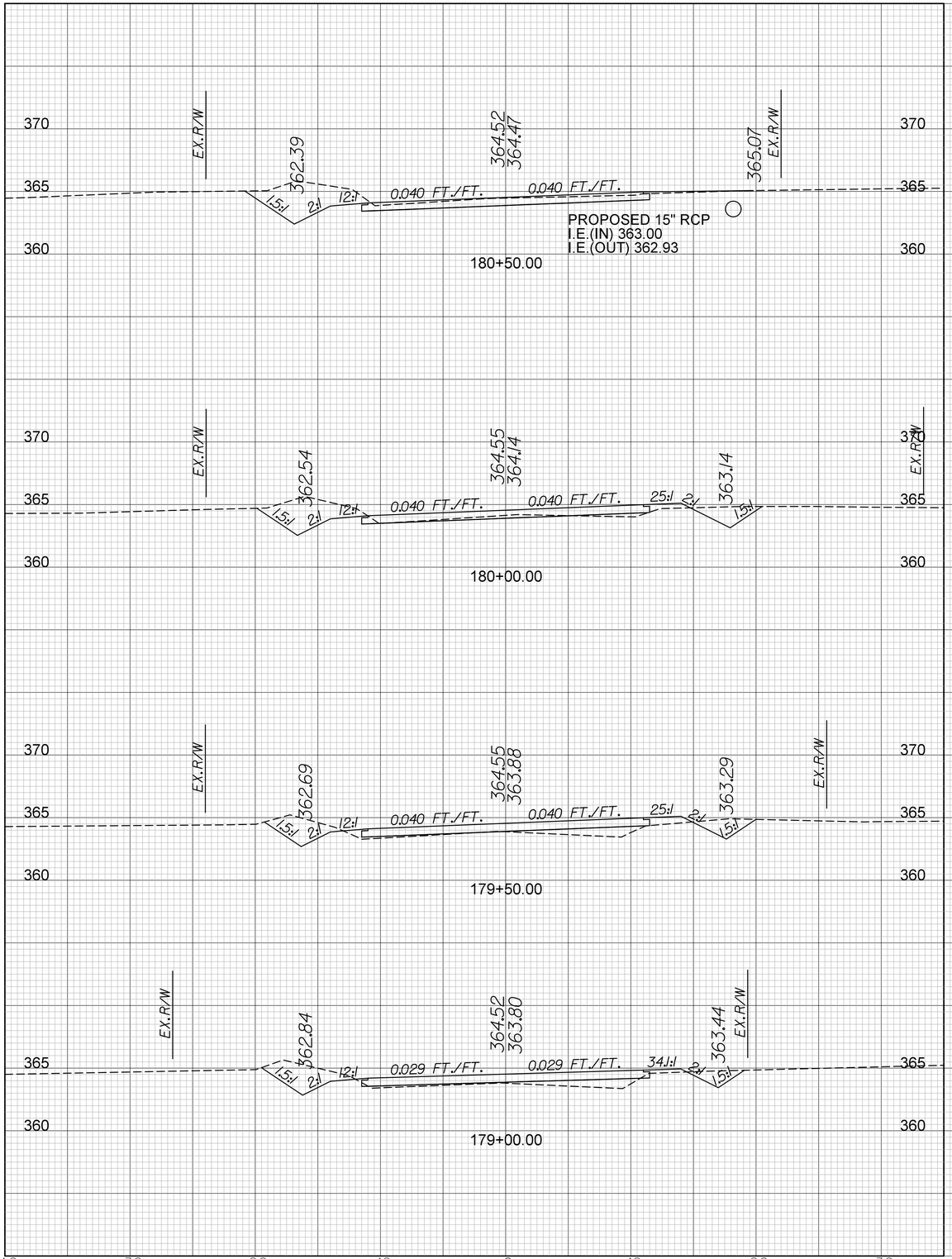
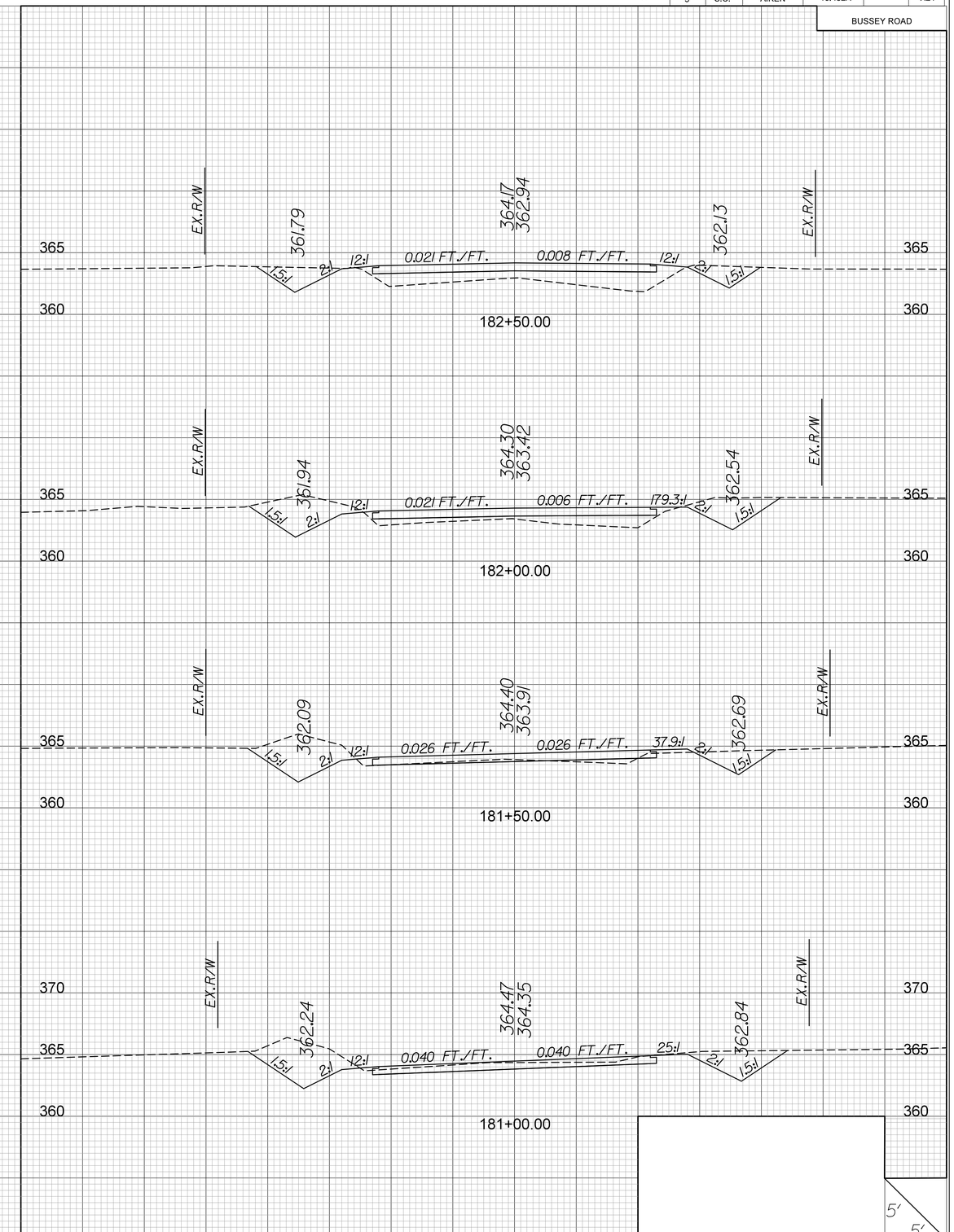
BUSSEY ROAD



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X21

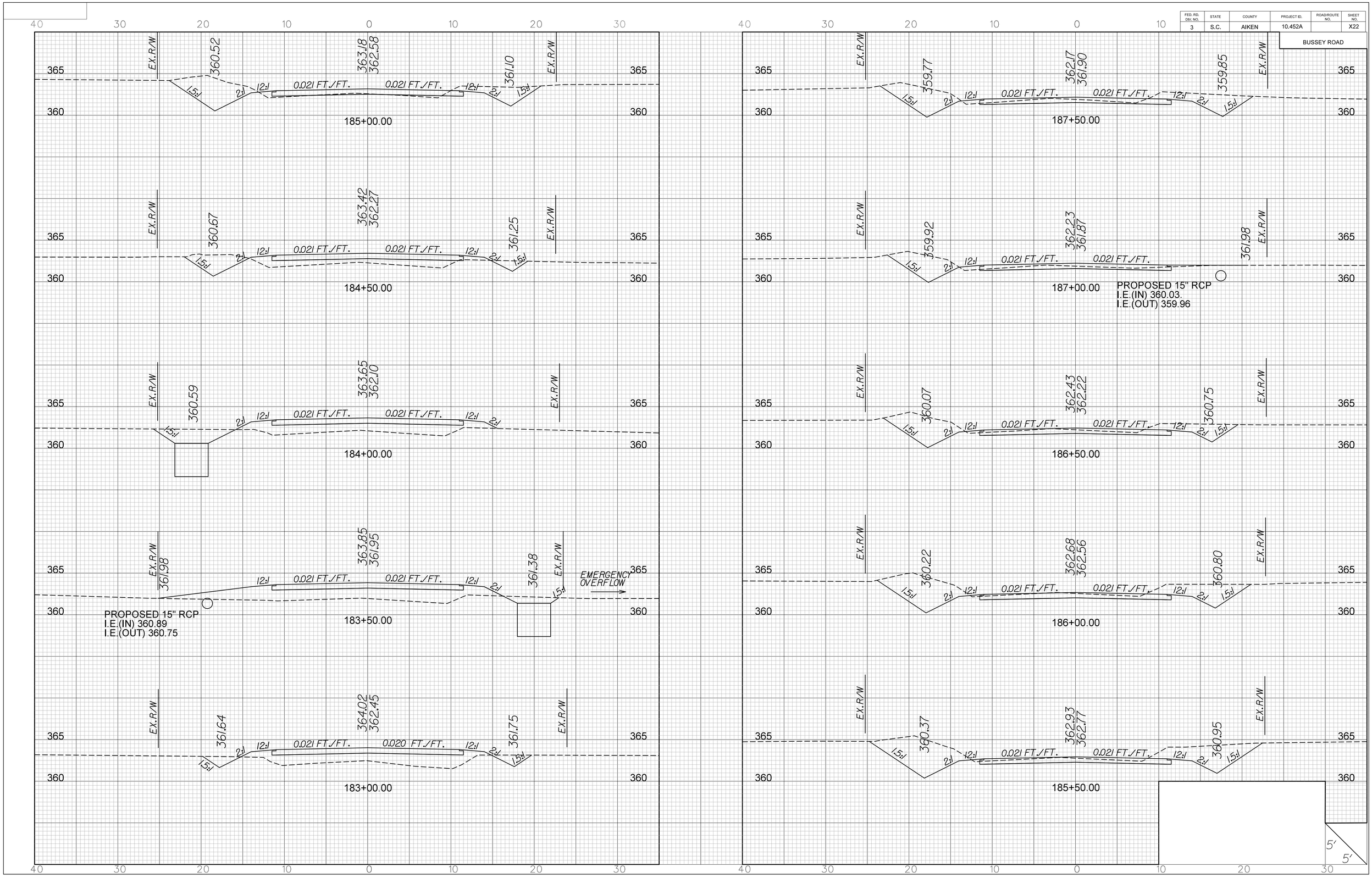
BUSSEY ROAD





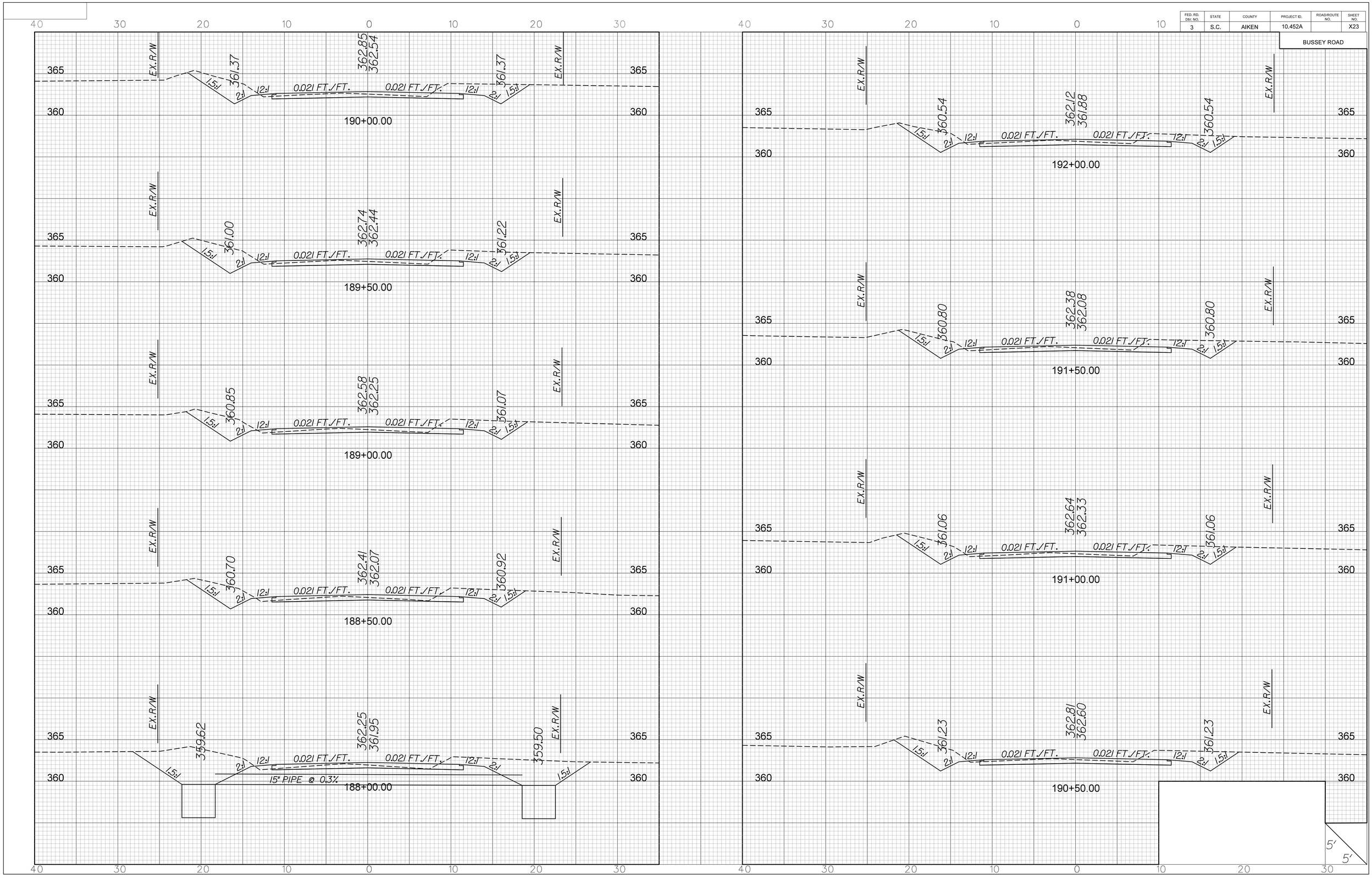
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X22

BUSSEY ROAD



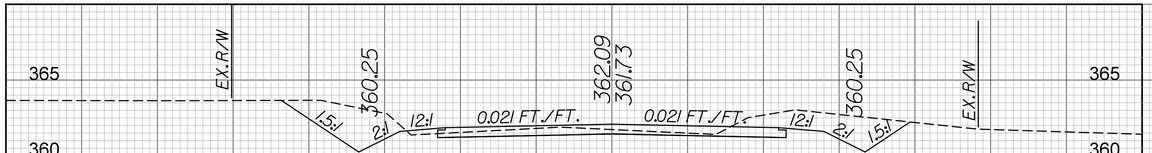
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X23

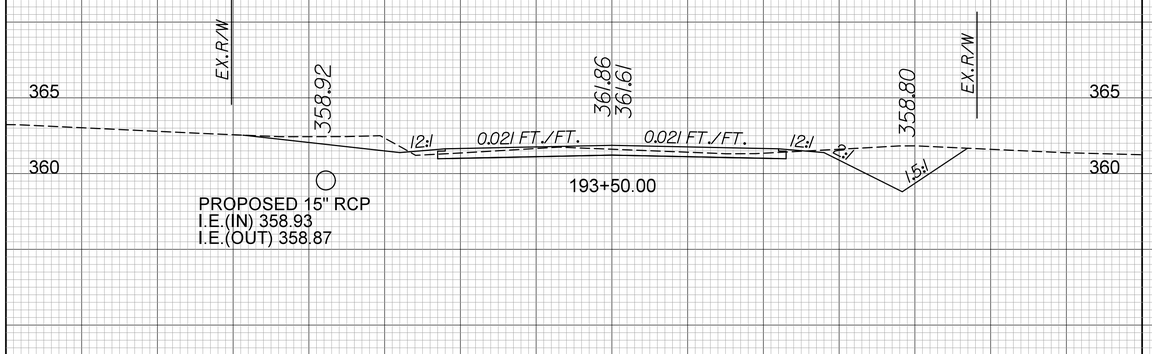
BUSSEY ROAD

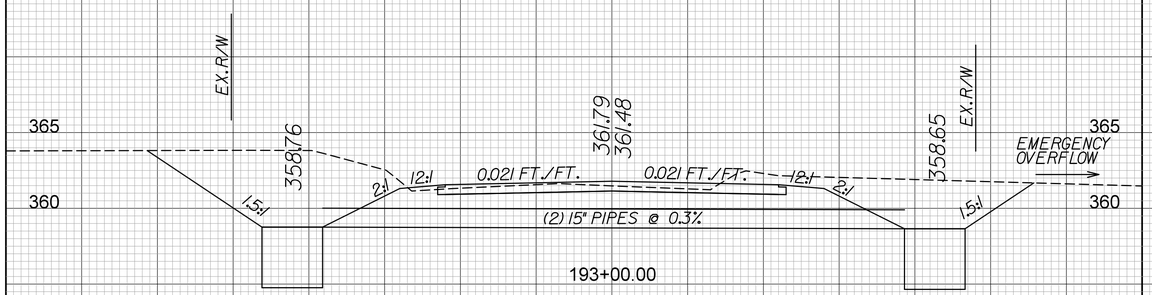


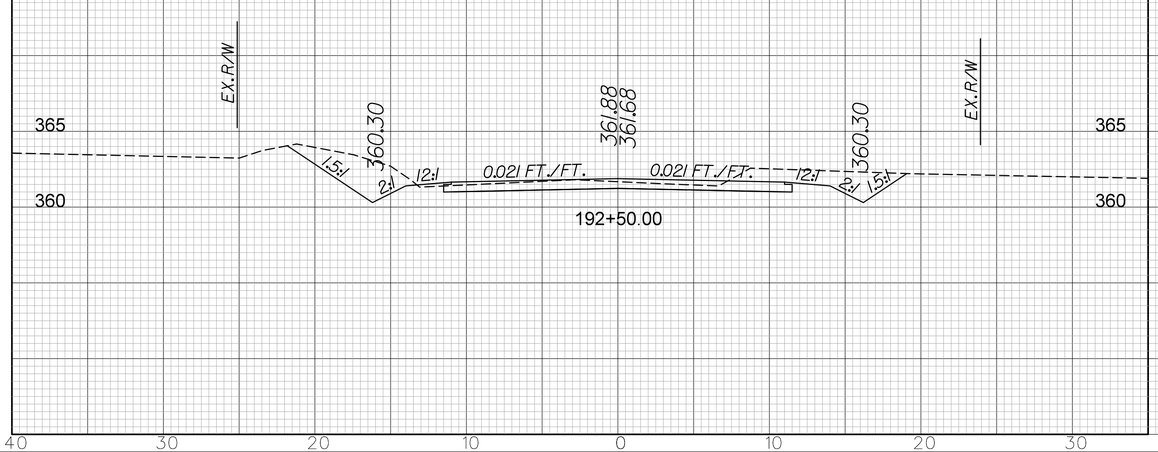
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X24

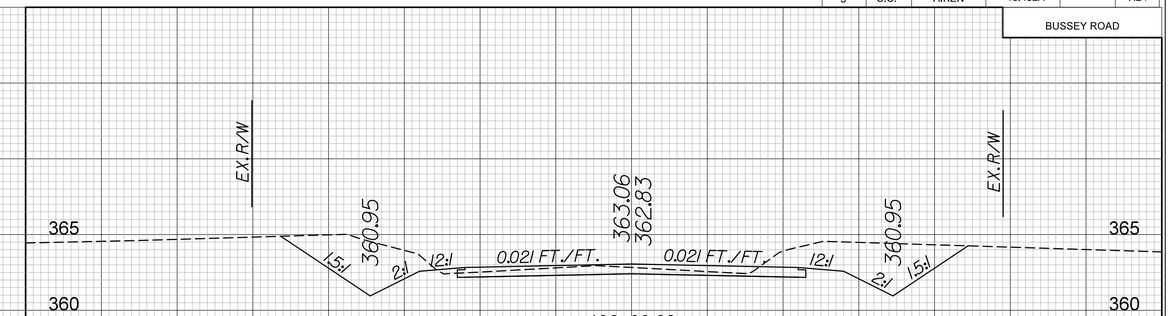
BUSSEY ROAD

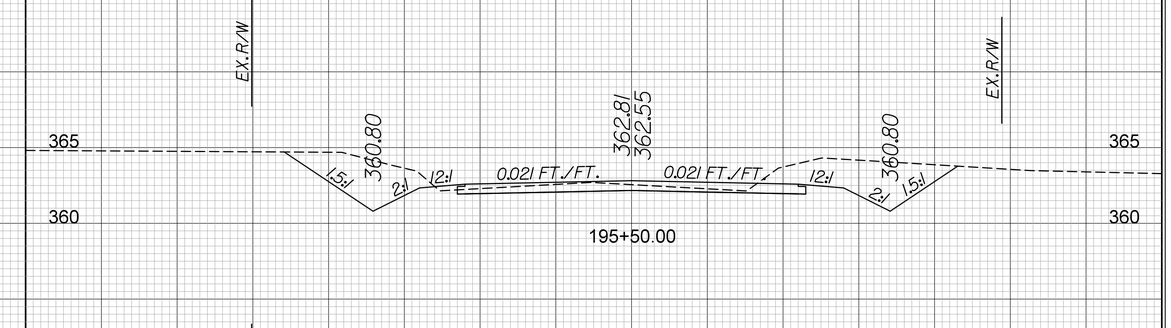


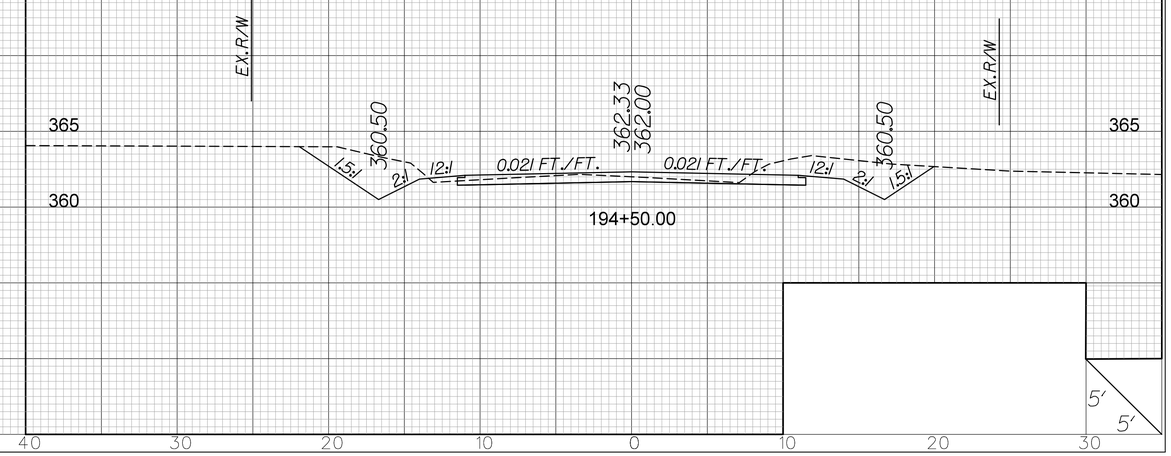




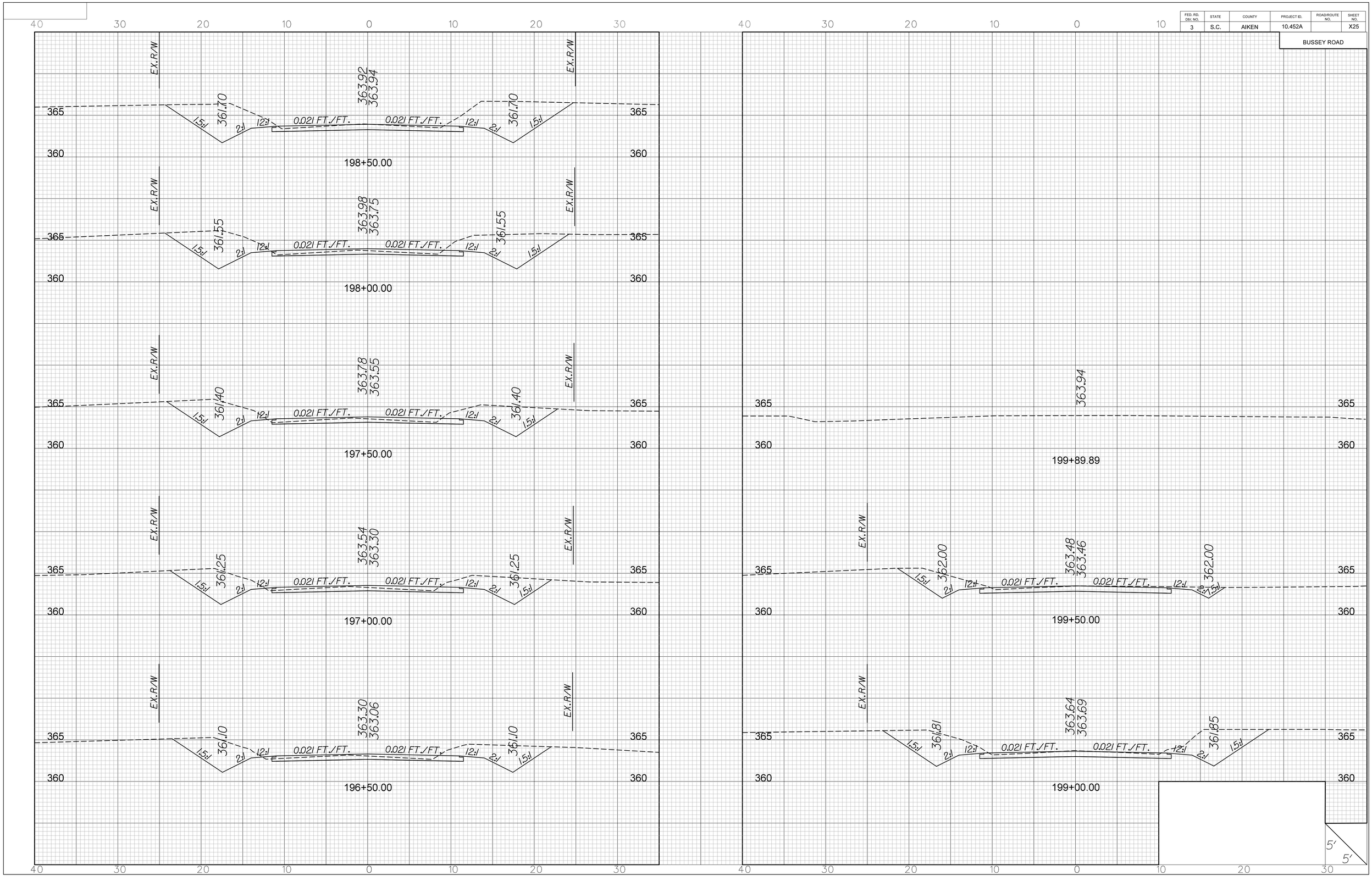








5'
5'

FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID.	ROAD/ROUTE NO.	SHEET NO.
3	S.C.	AIKEN	10.452A		X25

BUSSEY ROAD