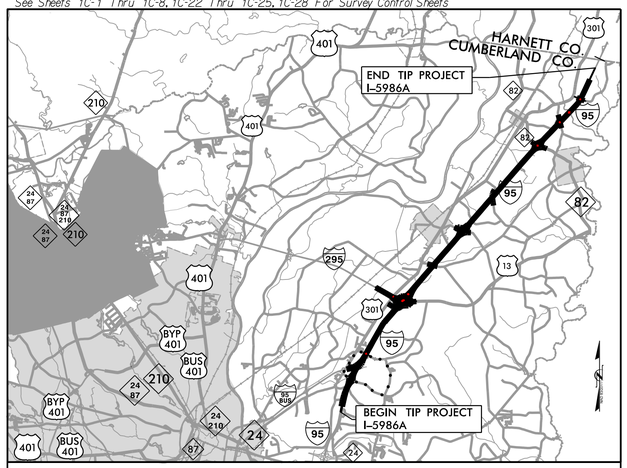
Submitted 9/2/2020

09/08/99

CONTRACT: C204283 TIP PROJECT: I-5986A

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheets 1C-1 Thru 1C-8, 1C-22 Thru 1C-25, 1C-28 For Survey Control Sheets



VICINITY MAP (NTS) OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5986A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
47532.2.2	NHP-0095(057)	R/W
47532.3.2	NHP-0095(057)	PE, UTIL., CONST.



LOCATION: I-95 WIDENING FROM SOUTH OF SR 1832 (MURPHY ROAD- EXIT 55) TO SOUTH OF SR 1811 (BUD HAWKINS ROAD-EXIT 70)

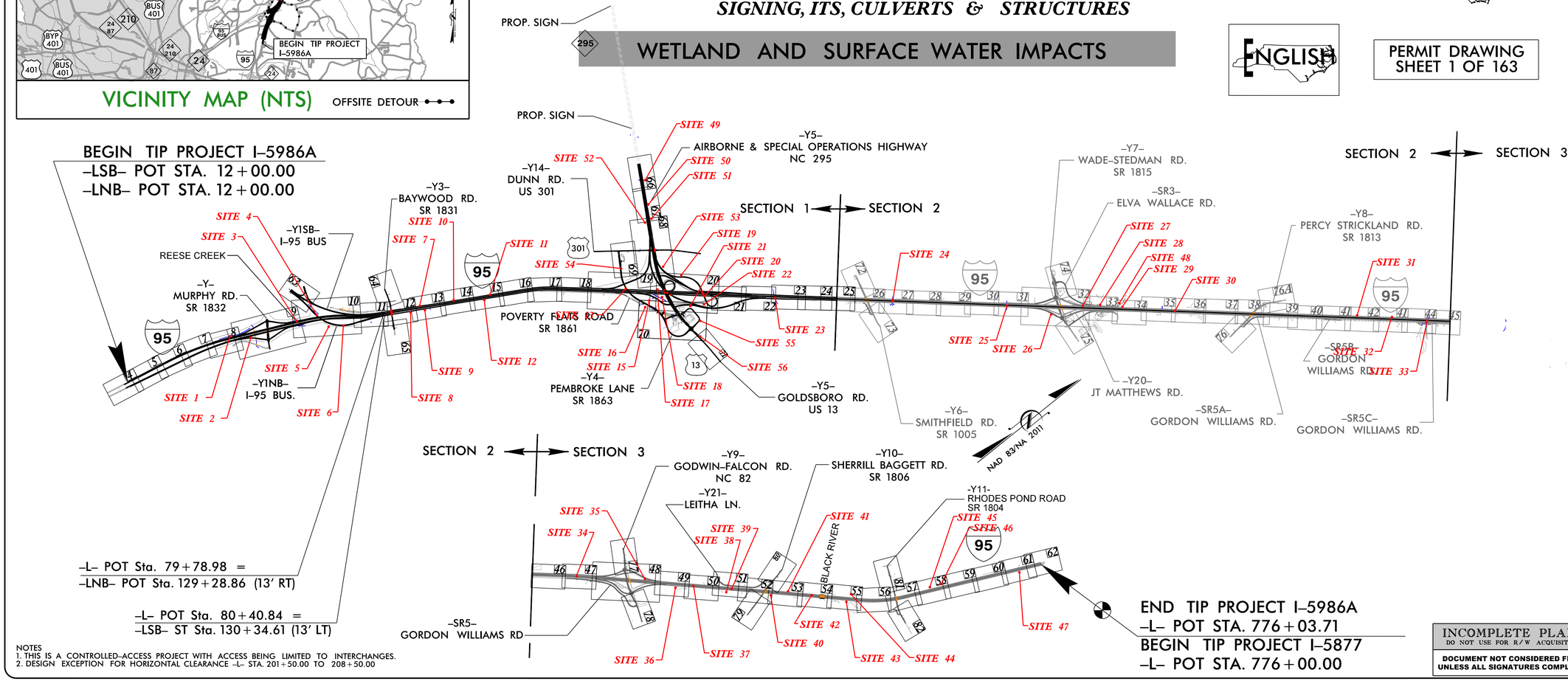
TYPE OF WORK: GRADING, DRAINAGE, PAVING, LIGHTING, SIGNING, ITS, CULVERTS & STRUCTURES

PROP. SIGN 295

WETLAND AND SURFACE WATER IMPACTS

ENGLISH

PERMIT DRAWING SHEET 1 OF 163



NOTES
1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
2. DESIGN EXCEPTION FOR HORIZONTAL CLEARANCE -L- STA. 201+50.00 TO 208+50.00

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 50 25 0 50 100
PROFILE (HORIZONTAL): 50 25 0 50 100
PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2018 = 56,700
ADT 2040 = 73,800
K = 55%
D = 7%
T = 18% *
V = 75 MPH

FUNC CLASS: INTERSTATE
* (TTST 13% + DUALS 5%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5986A.....15.368 MILES
LENGTH STRUCTURE TIP PROJECT I-5986A.....0.048 MILES
TOTAL LENGTH TIP PROJECT I-5986A.....15.416 MILES

NCDOT CONTACT

Michael Penney, PE
PROJECT ENGINEER - DESIGN-BUILD UNIT

PLANS PREPARED BY:

RK&K
RUMMEL, KLEPPER & KAHL, LLP
8601 SIX FORKS ROAD, FORUM 1, SUITE 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112

FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

S.T. WOOTEN

2018 STANDARD SPECIFICATIONS

Michael T. Merritt, PE
PROJECT ENGINEER

LETTING DATE:
AUGUST 20, 2019

Anthony A. Houser, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4B\I-5986A_Hyd_TSH.dgn
Fkeys

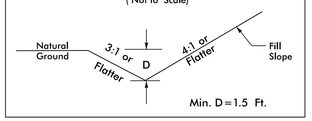
Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

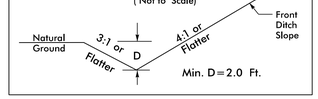
PERMIT DRAWING SHEET 2 OF 163

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



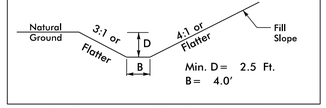
–Y1NB– STA. 44+50 TO STA. 47+00 RT
–L– STA. 210+50 TO STA. 212+25 RT
–Y5RPD– STA. 10+90 TO STA. 12+00 LT
–LSB– STA. 19+50 TO STA. 31+00 LT
–LSB– STA. 61+50 TO STA. 62+75 RT
–Y4– STA. 50+00 TO STA. 55+00 LT
–Y4– STA. 61+00 TO STA. 65+49 LT
–Y4A– STA. 10+54 TO STA. 13+50 RT
–Y5– STA. 65+00 TO STA. 68+00 RT
–Y5– STA. 85+50 TO STA. 86+50 LT
–Y5– STA. 85+00 TO STA. 89+00 RT
–Y5SPUR– STA. 19+49 TO STA. 22+03 LT
–SR5C_DET– STA. 12+70 TO STA. 13+10 RT
–SR5C_DET– STA. 15+00 TO STA. 16+32 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



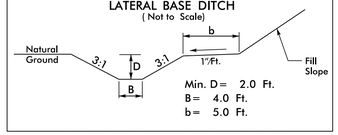
–Y1NB– STA. 47+00 TO STA. 59+00 RT
–L– STA. 103+00 TO STA. 107+72 LT
–L– STA. 138+50 TO STA. 186+00 RT
–L– STA. 232+00 TO STA. 239+00 LT
–L– STA. 256+00 TO STA. 269+00 LT
–L– STA. 232+50 TO STA. 241+50 RT
–L– STA. 245+00 TO STA. 249+00 RT
–Y5FLY– STA. 82+33 TO STA. 85+77 RT
–Y5SPURA– STA. 10+46 TO STA. 16+99 LT
–Y5RPA– STA. 36+85 TO STA. 37+50 LT
–Y5RPA– STA. 34+49 TO STA. 36+85 RT
–L– STA. 227+00 TO STA. 232+50 RT
–Y5LPD– STA. 12+79 TO STA. 14+50 LT
–Y5C– STA. 25+00 TO STA. 26+65 RT
–Y5C– STA. 24+50 TO STA. 25+92 LT
–LSB– STA. 68+50 TO STA. 76+50 LT
–L– STA. 221+58 TO STA. 232+00 LT

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



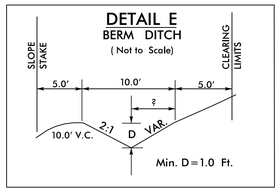
–LSB– STA. 112+50 TO STA. 129+00 LT
–L– STA. 212+25 TO STA. 220+00 RT
–L– STA. 208+50 TO STA. 215+00 LT
–Y5B– STA. 10+44 TO STA. 12+50 RT
–Y5FLY– STA. 66+80 TO STA. 70+00 LT
–Y5FLY– STA. 63+50 TO STA. 66+80 RT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



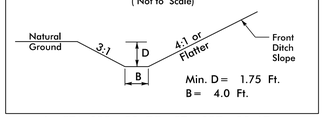
–L– STA. 90+50 TO STA. 100+28 RT
–L– STA. 162+00 TO STA. 165+50 LT
–L– STA. 247+00 TO STA. 251+50 LT
–L– STA. 252+00 TO STA. 256+00 LT
–L– STA. 253+00 TO STA. 255+00 RT
–Y5LPD– STA. 26+50 TO STA. 30+65 RT

DETAIL E
BERM DITCH
(Not to Scale)



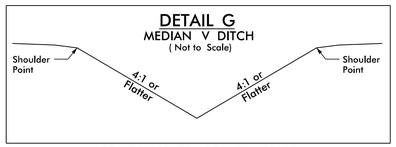
DETAIL NOT USED IN SECTION 1

DETAIL F
SPECIAL CUT BASE DITCH
(Not to Scale)



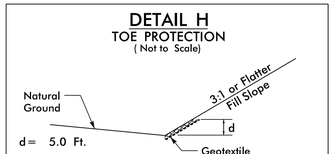
–L– STA. 132+50 TO STA. 137+00 LT
–L– STA. 159+00 TO STA. 162+00 LT
–L– STA. 165+50 TO STA. 167+00 LT
–L– STA. 223+11 TO STA. 226+23 RT
–L– STA. 239+00 TO STA. 247+00 LT
–L– STA. 255+00 TO STA. 269+00 RT
–Y5B– STA. 12+50 TO STA. 17+50 RT

DETAIL G
MEDIAN V DITCH
(Not to Scale)



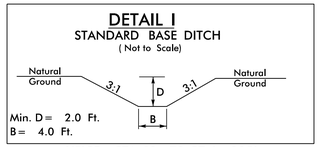
–LSB– 84+00 TO STA. 86+00 LT
–LSB– STA. 105+00 TO STA. 113+50 RT
–L– STA. 215+00 TO STA. 217+50 LT
–Y5– STA. 83+50 TO STA. 85+50 LT
–Y5RPA– STA. 45+00 TO STA. 49+00 LT

DETAIL H
TOE PROTECTION
(Not to Scale)



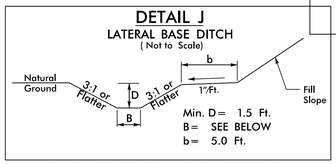
–L– STA. 121+50 TO STA. 127+90 RT
–L– STA. 186+71 TO STA. 187+92 LT
–L– STA. 198+60 TO STA. 203+00 RT
–L– STA. 199+36 TO STA. 202+57 LT
–Y4– STA. 40+82 TO STA. 43+12 LT
–Y4– STA. 40+38 TO STA. 41+90 RT
–Y5LPD– STA. 19+00 TO STA. 21+00 RT
–Y5LPD– STA. 20+21 TO STA. 24+50 LT
–Y5FLY– STA. 57+07 TO STA. 62+59 LT
–Y5RPD– STA. 15+00 TO STA. 24+34 RT
–Y5C– STA. 12+83 TO STA. 17+66 LT
–Y5C– STA. 12+64 TO STA. 17+88 RT
–Y5B– STA. 13+20 TO STA. 17+18 LT
–Y5RPC– STA. 13+37 TO STA. 21+33 RT
–Y5LPD– STA. 38+47 TO STA. 39+75 LT
–Y5LPD– STA. 37+76 TO STA. 39+18 RT
–Y5RPA– STA. 42+36 TO STA. 44+00 RT
–Y5– STA. 47+87 TO STA. 50+88 LT
–Y5– STA. 55+85 TO STA. 65+25 LT
–Y5– STA. 64+30 TO STA. 64+55 RT
–Y5– STA. 107+80 TO STA. 109+51 RT
–Y5LPD– STA. 44+31 TO STA. 48+12 RT
–YRPA– STA. 11+88 TO STA. 13+93 RT
–LSB– STA. 88+50 TO STA. 90+48 RT
–LSB– STA. 90+97 TO STA. 95+38 RT

DETAIL I
STANDARD BASE DITCH
(Not to Scale)



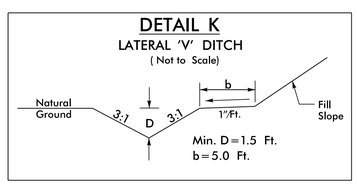
–Y5LPD– STA. 13+78 RT, L=285',
BEG. ELEV=131.67', END ELEV=130.90', S=0.3%
–LNB– STA. 60+18 TO 61+15 RT, D=1.25'
BEG. ELEV=114.10' END ELEV=111.40', S=2.8%
–LNB– STA. 61+15 TO 62+18 RT, D=1.25'
BEG. ELEV=111.40 END ELEV=113.10, S=1.7%

DETAIL J
LATERAL BASE DITCH
(Not to Scale)



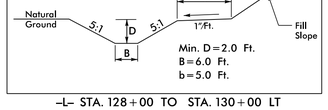
–L– STA. 90+50 TO STA. 94+00 LT, B=4'
–L– STA. 118+50 TO STA. 121+12 LT, B=4'
–L– STA. 130+00 TO STA. 132+50 LT, B=4'
–L– STA. 137+00 TO STA. 138+00 LT, B=4'
–L– STA. 138+50 TO STA. 147+00 LT, B=4'
–L– STA. 147+00 TO STA. 154+50 LT, B=4'

DETAIL K
LATERAL 'V' DITCH
(Not to Scale)



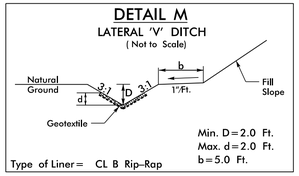
–L– STA. 89+00 TO STA. 90+50 RT
–L– STA. 112+50 TO STA. 113+81 RT
–L– STA. 129+00 TO STA. 131+50 RT
–L– STA. 138+00 TO STA. 138+50 LT
–L– STA. 154+50 TO STA. 158+87 LT
–L– STA. 249+00 TO STA. 253+00 RT
–Y5C– STA. 19+38 TO STA. 24+50 LT
–Y5– STA. 42+00 TO STA. 45+51 LT
–Y5– STA. 64+50 TO STA. 68+50 LT
–Y5– STA. 70+02 TO STA. 76+21 LT
–Y5– STA. 70+00 TO STA. 73+64 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



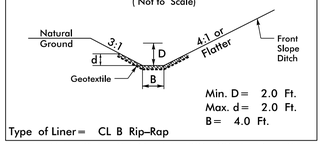
–L– STA. 128+00 TO STA. 130+00 LT

DETAIL M
LATERAL 'V' DITCH
(Not to Scale)



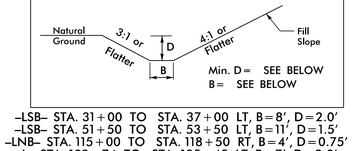
–Y5RPD– STA. 12+93 TO STA. 15+40 RT

DETAIL N
SPECIAL CUT BASE DITCH
(Not to Scale)



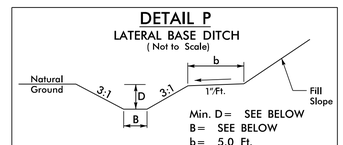
–L– STA. 107+72 TO STA. 109+00 LT, D=1.0'

DETAIL O
SPECIAL LATERAL BASE DITCH
(Not to Scale)



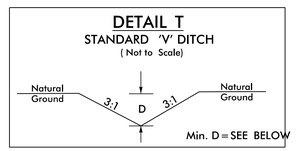
–LSB– STA. 31+00 TO STA. 37+00 LT, B=8', D=2.0'
–LSB– STA. 51+50 TO STA. 53+50 LT, B=11', D=1.5'
–LNB– STA. 115+00 TO STA. 118+50 RT, B=4', D=0.75'
–L– STA. 192+74 TO STA. 195+45 LT, B=7', D=2.0'
–Y4– STA. 42+00 TO STA. 61+50 RT, B=4', D=3.5'
–Y4– STA. 61+50 TO STA. 64+64 RT, B=4', D=2.75'

DETAIL P
LATERAL BASE DITCH
(Not to Scale)



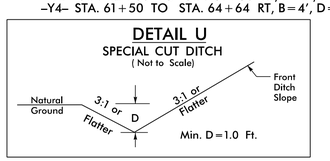
–Y3– STA. 18+50 TO STA. 19+15 LT, B=4', D=1.00'
–Y3– STA. 22+50 TO STA. 24+12 LT, B=4', D=2.00'
–L– STA. 128+00 TO STA. 129+00 RT, B=4', D=1.00'
–Y5– STA. 65+00 TO STA. 68+50 LT, B=4', D=1.00'

DETAIL T
STANDARD 'V' DITCH
(Not to Scale)



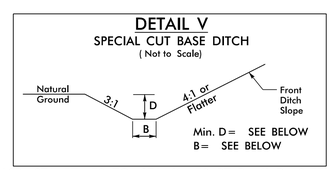
–Y1NB– STA. 44+50, L=53', S=0.8%, D=1.5'
BEG. ELEV=119.98, END ELEV=119.56, M=3.5
–Y5LPA– STA. 18+75, L=50', S=4.8%, D=1.0'
BEG. ELEV=144.45, END ELEV=142.05, M=3
–L– STA. 186+00 RT, L=200', S=0.3%, D=2.5'
BEG. ELEV=125.00, END ELEV=124.40'
–SR5C_DET– STA. 13+10 TO STA. 14+00, L=90', S=0.02%, D=1.0'
BEG. ELEV=140.43, END ELEV=140.41

DETAIL U
SPECIAL CUT DITCH
(Not to Scale)



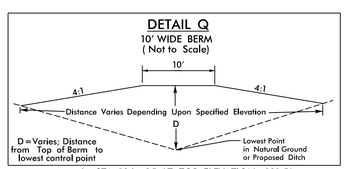
–LSB– STA. 81+00 TO STA. 84+00 LT
–LSB– STA. 128+50 TO STA. 129+00 LT
–LNB– STA. 45+20 TO STA. 48+00 LT
–LNB– STA. 118+50 TO STA. 120+52 RT
–L– STA. 102+12 TO STA. 103+00 LT
–L– STA. 111+00 TO STA. 112+50 RT
–L– STA. 113+81 TO STA. 118+50 LT
–L– STA. 131+50 TO STA. 132+50 RT
–L– STA. 169+00 TO STA. 173+00 LT
–L– STA. 232+50 TO STA. 241+50 RT

DETAIL V
SPECIAL CUT BASE DITCH
(Not to Scale)



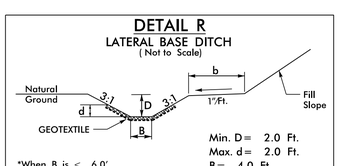
–LSB– STA. 57+50 TO STA. 61+50 RT, B=4', D=0.75'
–LSB– STA. 75+50 TO STA. 84+48 RT, B=4', D=0.75'
–LSB– STA. 94+00 TO STA. 96+00 RT, B=4', D=1.0'
–L– STA. 86+50 TO STA. 90+50 LT, B=4', D=1.5'
–L– STA. 94+00 TO STA. 100+28 LT, B=4', D=2.0'
–L– STA. 100+28 TO STA. 102+12 LT, B=4', D=1.0'
–L– STA. 109+00 TO STA. 113+81 LT, B=4', D=1.5'
–L– STA. 195+45 TO STA. 199+55 LT, B=7', D=1.0'

DETAIL Q
10' WIDE BERM
(Not to Scale)



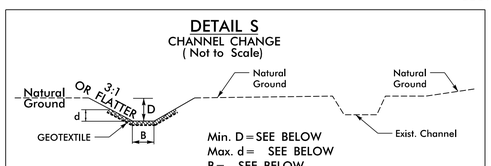
–L– STA. 126+25 LT; TOP ELEVATION=121.5'
–L– STA. 138+00 LT; TOP ELEVATION=128.5'
–L– STA. 154+50 LT; TOP ELEVATION=132.0'

DETAIL R
LATERAL BASE DITCH
(Not to Scale)



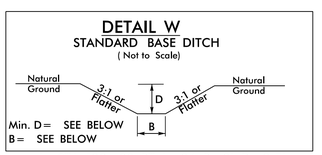
–L– STA. 158+87 TO STA. 159+00 LT, D=1.5'

DETAIL S
CHANNEL CHANGE
(Not to Scale)



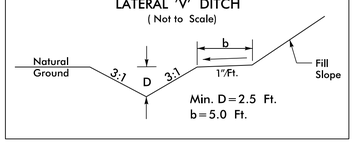
DETAIL NOT USED IN SECTION 1

DETAIL W
STANDARD BASE DITCH
(Not to Scale)



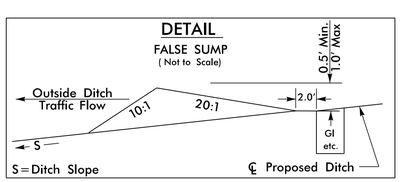
–L– STA. 128+00 RT, L=94 B=8', D=2.5'
BEG. ELEV=117.39 END ELEV=117.15, S=0.26%, M=6.0
–L– STA. 138+50 RT, L=41, B=6', D=2.0'
BEG. ELEV=122.78 END ELEV=122.45, S=0.80%, M=6.0
–L– STA. 113+81 RT, L=35, B=3', D=2.0'
BEG. ELEV=122.50 END ELEV=122.36, S=0.40%, M=3.0
–L– STA. 100+28 RT, L=22, B=6', D=2.5'
BEG. ELEV=121.50 END ELEV=121.43, S=0.33%, M=6.0
–L– STA. 107+72 RT, L= 70, B=3', D=2.0'
BEG. ELEV=120.09 END ELEV=120.30, S=0.30%, M=6.0
–L– STA. 121+12 RT, L=54', B=3', D=3.0'
BEG. ELEV=115.95 END ELEV=115.80, S=0.28%, M=5.5
–L– STA. 160+29 RT, L= 69, B=12', D=3.0',
BEG. ELEV=124.74 END ELEV=124.63, S=0.16%, M=3.0
–Y5– STA. 104+47 TO STA. 106+50 LT, B=10', D=2.25'
BEG. ELEV=126.60, END ELEV=127.08, S=0.24%, M=3.0
–L– STA. 215+50 LT, L=76', B=4', D=1.25'
BEG. ELEV–=127.55, END ELEV=127.30, S=0.33%, M=3.0
–LNB– STA. 106+25 TO STA. 107+70 RT, B=4', D=1.0'
BEG. ELEV=113.08, END ELEV=112.80, S=0.19%, M=3.0
–LNB– STA. 107+70 TO STA. 108+54 RT, B=4', D=1.0'
BEG. ELEV=112.80, END ELEV=115.21, S=2.9%, M=3.0
–LNB– STA. 115+00 RT, L=107', B=4', D=1.0'
BEG. ELEV=120.50, END ELEV=119.6, S=0.8%, M=3.0

DETAIL X
LATERAL 'V' DITCH
(Not to Scale)

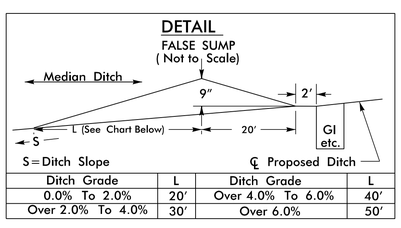


DETAIL NOT USED IN SECTION 1

DETAIL
FALSE SUMP
(Not to Scale)

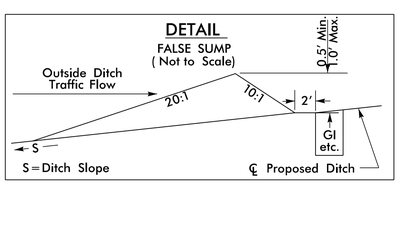


DETAIL
FALSE SUMP
(Not to Scale)



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

DETAIL
FALSE SUMP
(Not to Scale)



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/2/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\48\I-5986A_HYD_Ditch Detail_Sec1.dgn
FKeys

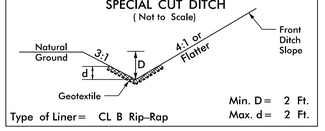
Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 3 OF 163

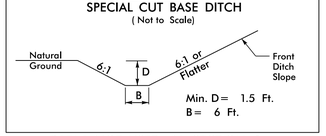
DETAIL Y
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 2 Ft.
Max. d = 2 Ft.
Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 1

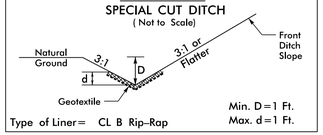
DETAIL Z
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 6 Ft.

DETAIL NOT USED IN SECTION 1

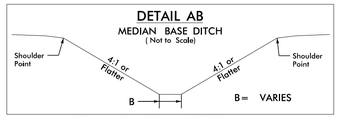
DETAIL AA
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.
Max. d = 1 Ft.
Type of Liner = CL B Rip–Rap

–Y5FLY– STA. 80+14.68 TO STA. 82+33.14

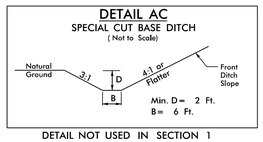
DETAIL AB
MEDIAN BASE DITCH
(Not to Scale)



B = VARIES

DETAIL NOT USED IN SECTION 1

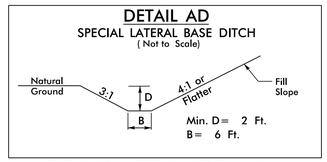
DETAIL AC
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.

DETAIL NOT USED IN SECTION 1

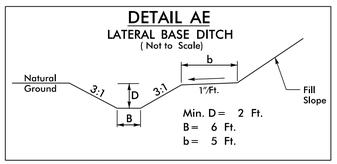
DETAIL AD
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.

DETAIL NOT USED IN SECTION 1

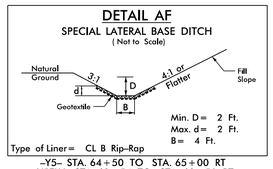
DETAIL AE
LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.
b = 5 Ft.

DETAIL NOT USED IN SECTION 1

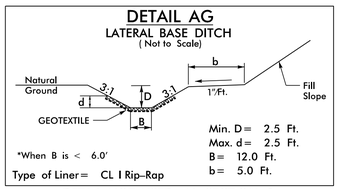
DETAIL AF
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
Max. d = 2 Ft.
B = 4 Ft.
Type of Liner = CL B Rip–Rap

–Y5– STA. 64+50 TO STA. 65+00 RT
–Y5FLY– STA. 62+54 TO STA. 63+50 RT

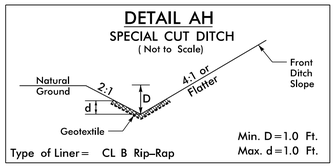
DETAIL AG
LATERAL BASE DITCH
(Not to Scale)



Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 12.0 Ft.
b = 5.0 Ft.
*When B is < 6.0'
Type of Liner = CL I Rip–Rap

DETAIL NOT USED IN SECTION 1

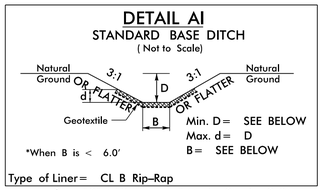
DETAIL AH
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 1

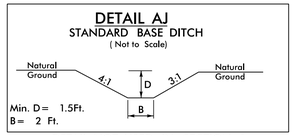
DETAIL AI
STANDARD BASE DITCH
(Not to Scale)



Min. D = SEE BELOW
Max. d = D
B = SEE BELOW
*When B is < 6.0'
Type of Liner = CL B Rip–Rap

–L– STA. 121+12 RT, L=54', B=3', D=3.0'
BEG. ELEV=115.95 END ELEV=115.80, S=0.28%, M=5.5
–Y1SB– STA. 18+58 TO 21+90 RT, B=4', D=2.5'
BEG. ELEV=119.34 END ELEV=115.4, S=1.7% M=3.0

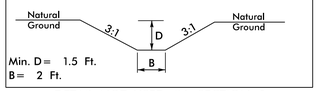
DETAIL AJ
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.5Ft.
B = 2 Ft.

DETAIL NOT USED IN SECTION 1

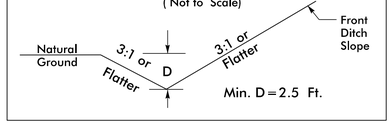
DETAIL AK
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 2 Ft.

DETAIL NOT USED IN SECTION 1

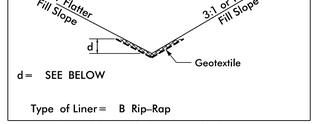
DETAIL AL
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 2.5 Ft.

DETAIL NOT USED IN SECTION 1

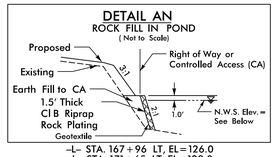
DETAIL AM
TOE PROTECTION
(Not to Scale)



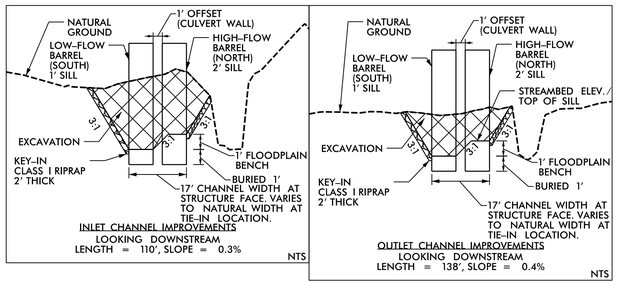
d = SEE BELOW
Type of Liner = B Rip–Rap

DETAIL NOT USED IN SECTION 1

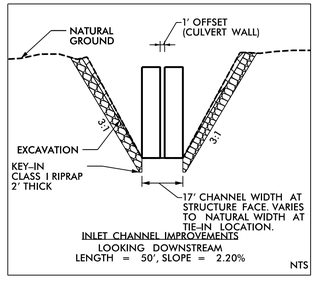
DETAIL AN
ROCK FILL IN POND
(Not to Scale)



–L– STA. 167+96 LT, EL=126.0
–L– STA. 171+65 LT, EL=128.0



CULVERT INLET AND OUTLET DETAILS
–L– STA 252+34.5



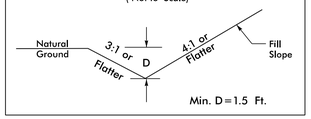
CULVERT INLET DETAIL
–Y5– STA 45+24

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4B\I-5986A_HYD_Ditch Detail_Sect.dgn
Fkeys

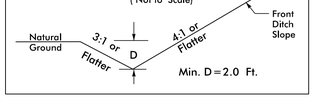
Submitted 9/2/2020

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



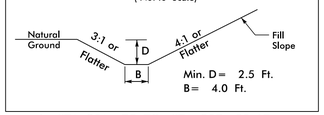
–L– STA. 333+00 TO STA. 340+50 RT
–L– STA. 341+00 TO STA. 345+00 LT
–L– STA. 499+65 TO STA. 500+00 LT
–SR5A– STA. 10+50 TO STA. 11+77 LT
–Y6– STA. 28+00 TO STA. 28+50 LT
–Y7A– STA. 15+00 TO STA. 16+00 LT
–Y8– STA. 16+00 TO STA. 16+50 RT
–Y8– STA. 29+50 TO STA. 34+50 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



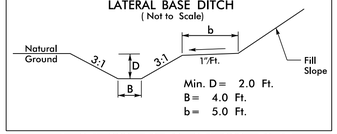
–L– STA. 280+00 TO STA. 280+50 LT
–L– STA. 313+50 TO STA. 320+00 RT
–L– STA. 322+00 TO STA. 324+00 RT
–L– STA. 379+00 TO STA. 381+00 LT
–L– STA. 379+50 TO STA. 385+00 RT
–L– STA. 401+00 TO STA. 403+00 LT
–L– STA. 401+50 TO STA. 402+50 RT
–L– STA. 407+50 TO STA. 409+00 RT
–L– STA. 406+50 TO STA. 421+50 LT
–L– STA. 448+50 TO STA. 453+50 LT
–L– STA. 474+50 TO STA. 485+00 LT
–L– STA. 475+00 TO STA. 489+50 RT
–L– STA. 500+00 TO STA. 518+00 RT
–L– STA. 541+00 TO STA. 550+00 RT
–Y20– STA. 10+35 TO STA. 12+00 LT
–Y20– STA. 10+35 TO STA. 12+00 RT
–Y20– STA. 17+50 TO STA. 19+00 LT
–Y20– STA. 20+87.64 TO STA. 22+44.57 RT
–Y6– STA. 11+00 TO STA. 13+50 LT
–Y6– STA. 11+00 TO STA. 13+00 RT
–Y6– STA. 29+50 TO STA. 32+00 LT
–Y6– STA. 29+00 TO STA. 32+00 RT
–Y7A– STA. 12+00 TO STA. 15+00 LT
–Y7A– STA. 12+00 TO STA. 14+50 RT
–Y7D– STA. 14+50 TO STA. 16+25 RT
–Y7RPA– STA. 11+40.19 TO STA. 15+43.19 RT
–Y7RPC– STA. 19+50 TO STA. 20+50 LT
–Y7RPD– STA. 11+84.98 TO STA. 17+96.54 LT

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



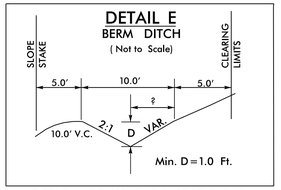
–L– STA. 306+75 TO STA. 307+00 LT
–L– STA. 339+00 TO STA. 341+00 LT
–L– STA. 422+20 TO STA. 427+50 RT
–L– STA. 496+50 TO STA. 499+65 LT
–L– STA. 504+50 TO STA. 508+50 LT
–L– STA. 529+50 TO STA. 538+77 LT
–L– STA. 541+75 TO STA. 550+50 LT
–L– STA. 425+58 TO STA. 435+00 LT
–L– STA. 440+50 TO STA. 448+50 LT
–L– STA. 510+00 TO STA. 513+00 LT
–L– STA. 539+70 TO STA. 540+58 LT
–SR3– STA. 32+78.79 TO STA. 34+17 LT
–Y8– STA. 33+50 TO STA. 36+00 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



–L– STA. 280+50 TO STA. 282+50 LT
–L– STA. 296+50 TO STA. 301+00 LT
–L– STA. 316+50 TO STA. 327+50 LT
–L– STA. 327+50 TO STA. 336+00 LT
–L– STA. 300+50 TO STA. 302+30 RT
–L– STA. 357+79 TO STA. 364+00 RT
–L– STA. 370+00 TO STA. 370+50 LT
–L– STA. 372+00 TO STA. 375+50 LT
–L– STA. 405+46 TO STA. 407+50 RT
–L– STA. 470+50 TO STA. 474+50 LT
–L– STA. 500+00 TO STA. 504+50 LT
–Y7RPB– STA. 18+29 TO STA. 24+32.14 LT
–Y7B– STA. 14+72 TO STA. 15+71.74 RT
–Y7D– STA. 11+50 TO STA. 14+13 LT

DETAIL E
BERM DITCH
(Not to Scale)



DETAIL NOT USED IN SECTION 2

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

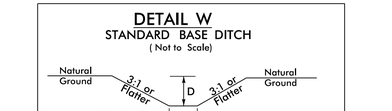
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 4 OF 163

DETAIL F
SPECIAL CUT BASE DITCH
(Not to Scale)

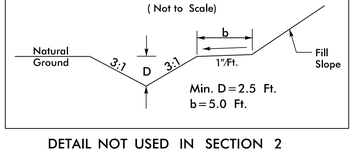
–L– STA. 282+50 TO STA. 288+50 LT
–L– STA. 307+00 TO STA. 316+50 LT
–L– STA. 296+50 TO STA. 300+50 RT
–L– STA. 307+50 TO STA. 308+50 RT
–L– STA. 336+00 TO STA. 339+00 LT
–L– STA. 361+00 TO STA. 362+00 LT
–L– STA. 364+00 TO STA. 364+50 RT
–L– STA. 370+50 TO STA. 372+00 LT
–L– STA. 371+50 TO STA. 372+50 RT
–L– STA. 453+50 TO STA. 461+50 LT
–L– STA. 465+00 TO STA. 470+50 LT
–L– STA. 438+00 TO STA. 460+00 RT
–L– STA. 435+00 TO STA. 440+50 LT
–L– STA. 493+00 TO STA. 496+50 LT
–Y7D– STA. 14+80 TO STA. 16+25 LT
–Y7RPB– STA. 10+18.97 TO STA. 18+29.27 LT
–Y7RPC– STA. 10+05.01 TO STA. 16+73.59 RT

DETAIL G
MEDIAN V DITCH
(Not to Scale)



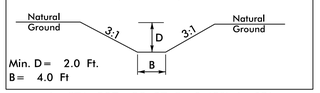
–L– STA. 390+50 TO STA. 392+50 LT
–Y20– STA. 21+93.18 TO STA. 22+44.57 LT
–Y7RPA– STA. 10+40.05 TO STA. 11+40.19 RT
–Y7RPD– STA. 10+84.95 TO STA. 11+84.98 LT

DETAIL H
TOE PROTECTION
(Not to Scale)



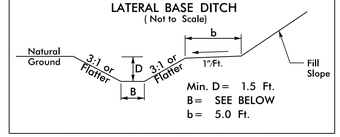
–L– STA. 300+78 TO STA. 303+84 LT
–L– STA. 423+10 TO STA. 425+20 LT
–L– STA. 508+50 TO STA. 509+52 LT
–L– STA. 522+75 TO STA. 525+40 LT
–L– STA. 435+00 TO STA. 437+00 RT
–SR3– STA. 34+16 TO STA. 35+78 LT
–Y7RPC– STA. 17+50 TO STA. 24+10 RT

DETAIL I
STANDARD BASE DITCH
(Not to Scale)



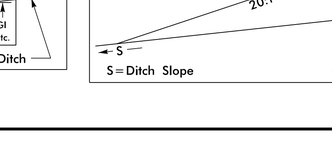
–L– STA. 307+38 RT, S=0.42%, L=12',
BEG EL=126.90', END EL=126.85'
–L– STA. 498+38 LT, S=0.02%, L=65',
BEG EL=169.73', END EL=169.72'
–SR3– STA. 23+79 LT, S=1.29%, L=35',
BEG EL=147.45', END EL=147.00'
–SR5A– STA. 17+00 LT, S=2.14%, L=65',
BEG EL=169.32', END EL=167.93'
–L– STA. 293+37 LT, S=0.30%, L=112',
BEG EL=135.23', END EL=134.89'
–Y7RPB– STA. 15+38 LT, S=0.00%, L=25',
BEG EL=136.50', END EL=136.50'

DETAIL J
LATERAL BASE DITCH
(Not to Scale)



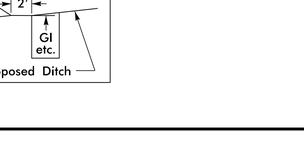
–L– STA. 340+50 TO STA. 355+00 RT, B=2'
–L– STA. 360+50 TO STA. 361+00 LT, B=4'
–L– STA. 372+50 TO STA. 376+50 RT, B=4'
–SR3– STA. 11+00 TO STA. 24+50 RT, B=4'
–Y7B– STA. 11+00 TO STA. 15+50 LT, B=4'
–Y7C– STA. 12+53 TO STA. 13+84 LT, B=4'
–Y7D– STA. 11+03 TO STA. 11+50 LT, B=4'
–Y7RPB– STA. 20+00 TO STA. 21+00 RT, B=4'
–Y7RPD– STA. 24+30 TO STA. 25+06 LT, B=4'

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



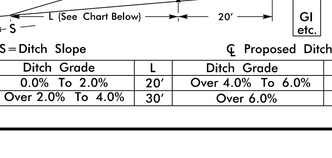
DETAIL NOT USED IN SECTION 2

DETAIL M
LATERAL 'V' DITCH
(Not to Scale)



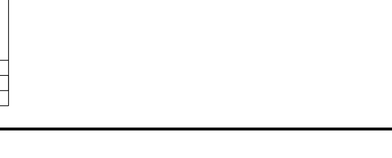
–Y7RPD– STA. 24+00 TO STA. 24+42 RT
–Y7C– STA. 11+00 TO STA. 12+53 LT

DETAIL N
SPECIAL CUT BASE DITCH
(Not to Scale)



–L– STA. 513+00 TO STA. 517+50 LT
–Y20– STA. 32+51.25 TO STA. 33+42 RT

DETAIL O
SPECIAL LATERAL BASE DITCH
(Not to Scale)



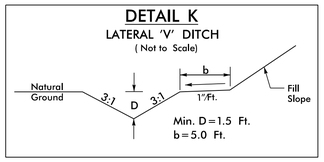
DETAIL NOT USED IN SECTION 2

DETAIL P
LATERAL BASE DITCH
(Not to Scale)



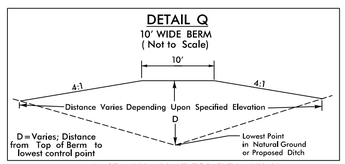
–SR3– STA. 18+50 TO 19+50 LT, B=6', D=1'
–Y8– STA. 33+00 TO 33+50 LT, B=6', D=1'
–L– STA. 355+00 TO STA. 360+50 LT, B=4', D=3'
–L– STA. 403+00 TO STA. 405+46 RT, B=4', D=4.5'
–Y20– STA. 22+95.34 TO STA. 24+46 RT, B=4', D=3'

DETAIL K
LATERAL 'V' DITCH
(Not to Scale)



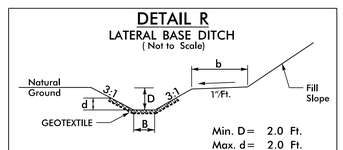
–L– STA. 280+00 TO STA. 289+00 RT
–L– STA. 320+00 TO STA. 322+00 RT
–L– STA. 324+00 TO STA. 333+00 RT
–L– STA. 345+00 TO STA. 351+00 LT
–L– STA. 353+00 TO STA. 355+00 LT
–L– STA. 402+50 TO STA. 403+00 RT
–L– STA. 403+00 TO STA. 406+50 LT
–SR3– STA. 24+50 TO STA. 28+00 LT
–Y20– STA. 19+00 TO STA. 21+93.18 LT
–Y20– STA. 22+44.57 TO STA. 22+95.34 RT
–Y6– STA. 13+50 TO STA. 15+50 LT
–Y6– STA. 23+00 TO STA. 28+50 RT
–Y6– STA. 28+50 TO STA. 29+50 LT
–Y7C– STA. 16+50 TO STA. 19+00 LT
–Y7D– STA. 11+00 TO STA. 14+50 RT
–Y7RPB– STA. 21+00 TO STA. 23+74 RT
–Y7RPC– STA. 17+13.38 TO STA. 19+00 LT
–Y7RPC– STA. 20+50 TO STA. 23+90 LT
–Y7RPD– STA. 22+00 TO STA. 24+00 RT
–Y8– STA. 26+19 TO STA. 29+50 RT

DETAIL Q
10' WIDE BERM
(Not to Scale)



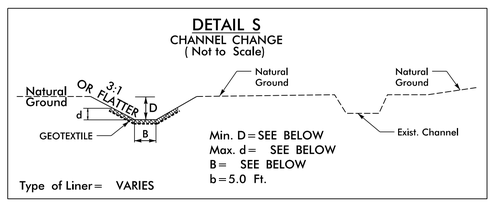
–L– STA. 500+00 LT, TOP ELEV.=173.0'
–L– STA. 500+00 RT, TOP ELEV.=172.3'
–SR3– STA. 20+50 RT, TOP ELEV.=151.0'
–SR3– STA. 24+50 RT, TOP ELEV.=150.0'

DETAIL R
LATERAL BASE DITCH
(Not to Scale)



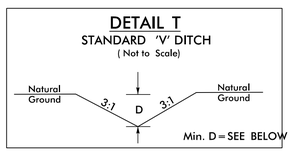
–L– STA. 517+50 TO STA. 521+00 LT

DETAIL S
CHANNEL CHANGE
(Not to Scale)



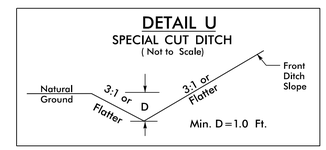
DETAIL NOT USED IN SECTION 2

DETAIL T
STANDARD 'V' DITCH
(Not to Scale)



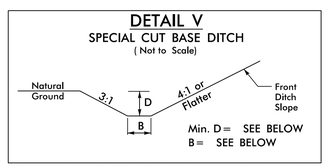
–Y9RPA– STA. 20+00, D=1'
BEG. ELEV=150.00 END ELEV=146.50, S=3.5%

DETAIL U
SPECIAL CUT DITCH
(Not to Scale)



–L– STA. 518+00 TO STA. 522+50 RT
–SR5A– STA. 11+76.57 TO STA. 12+27.18 LT
–SR5A– STA. 11+76.57 TO STA. 12+27.18 RT
–SR5A– STA. 13+79.06 TO STA. 19+00 LT
–SR5A– STA. 13+79.06 TO STA. 19+00 RT
–Y8– STA. 11+00 TO STA. 12+00 LT
–Y8– STA. 11+00 TO STA. 16+00 RT
–Y8– STA. 34+50 TO STA. 36+00 RT

DETAIL V
SPECIAL CUT BASE DITCH
(Not to Scale)



–Y20– STA. 24+45.78 TO STA. 32+51.25 RT, B=4', D=3.5'

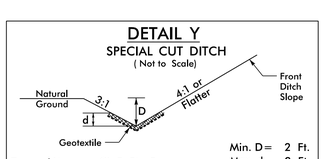
DETAIL W
STANDARD BASE DITCH
(Not to Scale)

–L– STA. 499+00 TO STA. 499+70 RT, B=4', D=3'
–SR5B– STA. 15+70 RT, B=4', D=3', M=3.0
BEG EL=168.57', END EL=168.33', S=0.30%, L=78'
–Y20– STA. 32+51 LT, B=4', D=4.0'
BEG. ELEV=141.11 END ELEV=141.06, S=0.1%, M=4.0
–L– STA. 405+64 LT, B=4', D=3.0'
BEG. ELEV=140.22 END ELEV=139.80, S=0.3%, M=4.0

DETAIL X
LATERAL 'V' DITCH
(Not to Scale)

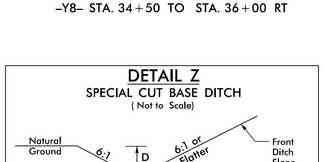
DETAIL NOT USED IN SECTION 2

DETAIL Y
SPECIAL CUT DITCH
(Not to Scale)



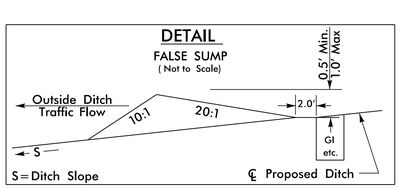
DETAIL NOT USED IN SECTION 2

DETAIL Z
SPECIAL CUT BASE DITCH
(Not to Scale)

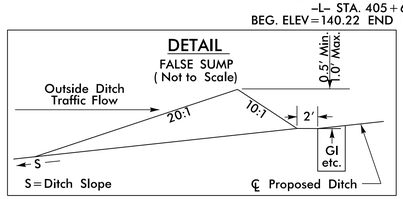


–L– STA. 437+00 TO STA. 438+00 RT

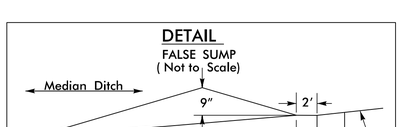
DETAIL
FALSE SUMP
(Not to Scale)



DETAIL
FALSE SUMP
(Not to Scale)



DETAIL
FALSE SUMP
(Not to Scale)



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/2/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4B\I-5986A_HYD_Ditch Detail_Sec2.dgn
FKeys

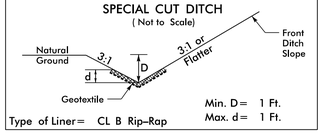
Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 5 OF 163

DETAIL AA
SPECIAL CUT DITCH
(Not to Scale)

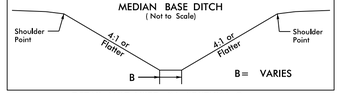


Min. D = 1 Ft.
Max. d = 1 Ft.

Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 2

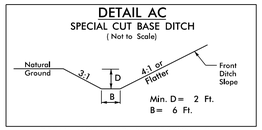
DETAIL AB
MEDIAN BASE DITCH
(Not to Scale)



B = VARIES

DETAIL NOT USED IN SECTION 2

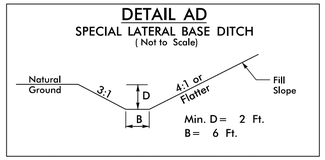
DETAIL AC
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.

DETAIL NOT USED IN SECTION 2

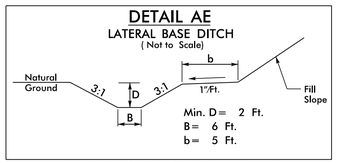
DETAIL AD
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.

DETAIL NOT USED IN SECTION 2

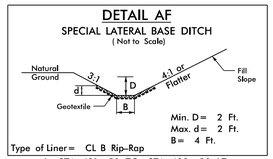
DETAIL AE
LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.
b = 5 Ft.

DETAIL NOT USED IN SECTION 2

DETAIL AF
SPECIAL LATERAL BASE DITCH
(Not to Scale)

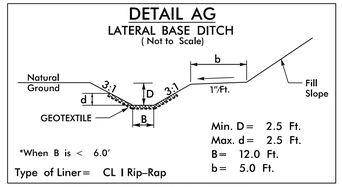


Min. D = 2 Ft.
Max. d = 2 Ft.
B = 4 Ft.

Type of Liner = CL B Rip–Rap

–L– STA. 421+50 TO STA. 422+80 LT
–L– STA. 521+00 TO STA. 522+90 LT

DETAIL AG
LATERAL BASE DITCH
(Not to Scale)



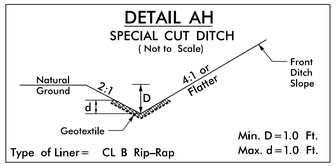
Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 12.0 Ft.
b = 5.0 Ft.

*When B is < 6.0'

Type of Liner = CL I Rip–Rap

DETAIL NOT USED IN SECTION 2

DETAIL AH
SPECIAL CUT DITCH
(Not to Scale)

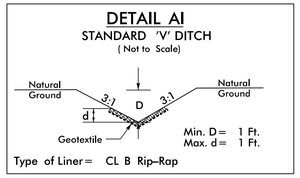


Min. D = 1.0 Ft.
Max. d = 1.0 Ft.

Type of Liner = CL B Rip–Rap

–L– STA. 296+00 TO STA. 296+50 LT

DETAIL AI
STANDARD 'V' DITCH
(Not to Scale)

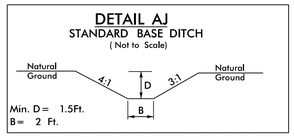


Min. D = 1 Ft.
Max. d = 1 Ft.

Type of Liner = CL B Rip–Rap

–Y9RPA– STA. 20+00, D=1'
BEG. ELEV=155.88 END ELEV=150.00, S=25.6%

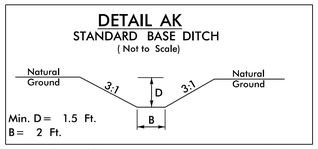
DETAIL AJ
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.5Ft.
B = 2 Ft.

–SR5C (L STA)– STA. 541+19 TO STA. 543+50 RT

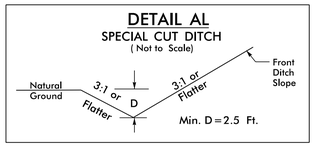
DETAIL AK
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 2 Ft.

–SR5C (L STA)– STA. 543+26 RT, S=1.00%, L=75',
BEG EL=142.50', END EL=141.75'

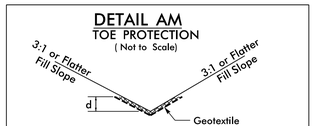
DETAIL AL
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 2.5 Ft.

–L– STA. 489+50 TO STA. 499+60 RT

DETAIL AM
TOE PROTECTION
(Not to Scale)

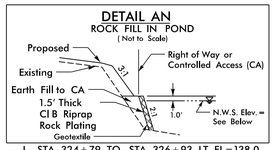


d = SEE BELOW

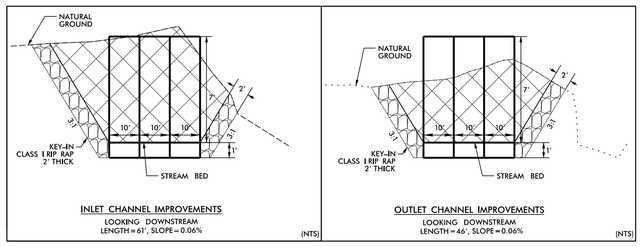
Type of Liner = B Rip–Rap

–L– STA. 522+00 TO STA. 540+00 RT, d=2.5

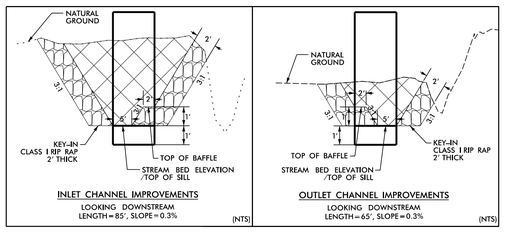
DETAIL AN
ROCK FILL IN POND
(Not to Scale)



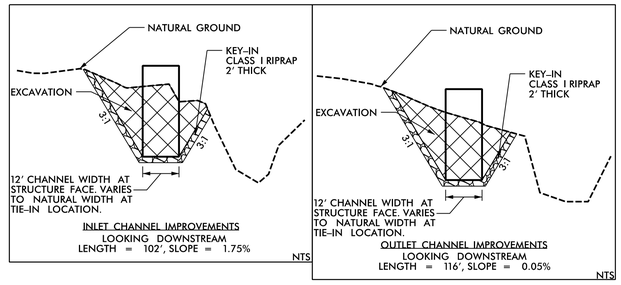
–L– STA 324+79 TO STA 326+93 LT, EL=138.0
–L– STA 452+12 TO STA 454+94 LT, EL=155.0
–L– STA 491+59 TO STA 492+86 LT, EL=170.0



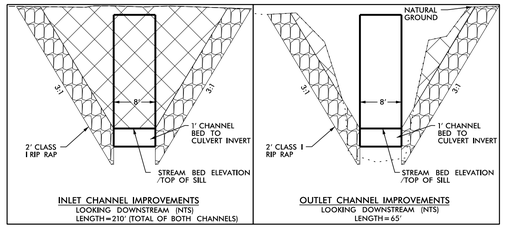
CULVERT INLET AND OUTLET DETAILS
–L– STA. 304+15



CULVERT INLET AND OUTLET DETAILS
–L– STA. 355+00



CULVERT INLET AND OUTLET DETAILS
–L– STA. 422+50.5



CULVERT INLET AND OUTLET DETAILS
–L– STA. 540+46

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4B\I-5986A_HYD_Ditch Detail_Sec2.dgn
Fkeys

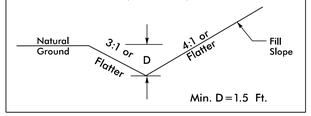
Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

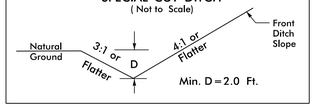
PERMIT DRAWING SHEET 6 OF 163

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



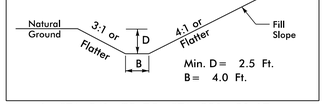
–L– STA. 626+93 TO STA. 629+50 LT
–L– STA. 627+50 TO STA. 629+00 RT
–L– STA. 735+00 TO STA. 735+85 LT
–L– STA. 740+00 TO STA. 742+50 LT
–L– STA. 761+00 TO STA. 761+35 LT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



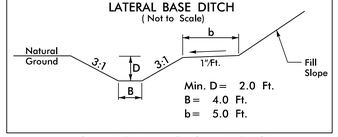
–L– STA. 582+00 TO STA. 585+00 LT
–L– STA. 595+00 TO STA. 599+50 LT
–L– STA. 599+00 TO STA. 600+00 RT
–L– STA. 609+50 TO STA. 610+50 LT
–L– STA. 620+00 TO STA. 620+50 LT
–L– STA. 629+50 TO STA. 635+00 LT
–L– STA. 629+00 TO STA. 637+00 RT
–L– STA. 647+00 TO STA. 649+00 LT
–L– STA. 646+00 TO STA. 650+50 RT
–L– STA. 653+00 TO STA. 659+00 RT
–L– STA. 696+00 TO STA. 709+00 LT
–L– STA. 711+50 TO STA. 715+00 RT
–L– STA. 711+50 TO STA. 735+00 LT
–L– STA. 725+50 TO STA. 726+50 RT
–L– STA. 731+50 TO STA. 732+50 RT
–L– STA. 742+50 TO STA. 753+00 LT
–L– STA. 758+50 TO STA. 759+00 LT
–L– STA. 760+00 TO STA. 761+00 LT
–SR5– STA. 14+00 TO STA. 17+96 RT
–SR5– STA. 20+92 TO STA. 22+92 RT
–SR5– STA. 33+47 TO STA. 37+00 RT
–SR5– STA. 37+50 TO STA. 41+50 LT
–Y9A– STA. 10+00 TO STA. 16+50 RT
–Y9A– STA. 10+00 TO STA. 16+00 LT
–Y9C– STA. 13+50 TO STA. 15+50 LT
–Y9C– STA. 13+00 TO STA. 15+50 RT
–Y9RPA– STA. 15+70 TO STA. 19+00 LT
–Y9RPA– STA. 14+73 TO STA. 18+50 RT
–Y9RPD– STA. 16+86 TO STA. 20+00 LT
–Y10– STA. 12+50 TO STA. 13+00 RT
–Y10– STA. 31+00 TO STA. 34+00 LT
–Y10– STA. 32+00 TO STA. 34+00 RT
–Y11– STA. 12+00 TO STA. 13+30 LT
–Y11– STA. 12+00 TO STA. 13+90 RT
–Y11– STA. 13+60 TO STA. 15+00 LT
–Y11– STA. 32+50 TO STA. 36+00 LT
–Y11DW– STA. 12+50 TO STA. 15+50 LT
–Y11DW– STA. 11+50 TO STA. 15+50 RT
–Y21– STA. 14+00 TO STA. 19+78 LT
Y21– STA. 14+50 TO STA. 16+82 RT

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



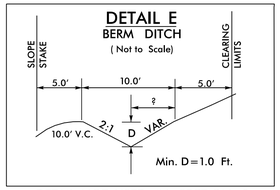
–L– STA. 541+75 TO STA. 550+50 LT
–L– STA. 620+50 TO STA. 622+47 LT
–L– STA. 756+50 TO STA. 758+50 LT
–Y9A– STA. 16+50 TO STA. 18+90 LT (3:1 FILL SLOPE)
–Y9C– STA. 13+50 TO STA. 15+50 LTT
–Y10– STA. 15+00 TO STA. 16+00 RT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



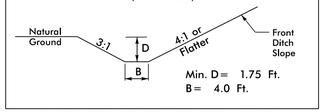
–L– STA. 573+00 TO STA. 573+60 LT
–L– STA. 639+50 TO STA. 640+35 RT
–L– STA. 642+70 TO STA. 646+00 RT
–L– STA. 656+00 TO STA. 660+10 LT
–L– STA. 666+00 TO STA. 667+00 LT
–L– STA. 694+80 TO STA. 696+50 RT
–L– STA. 699+50 TO STA. 704+40 RT
–L– STA. 732+50 TO STA. 742+00 RT
–L– STA. 748+00 TO STA. 756+40 RT
–L– STA. 753+00 TO STA. 756+40 LT
–L– STA. 764+00 TO STA. 776+50 LT
–SR5– STA. 17+96 TO STA. 19+55 RT
–SR5– STA. 19+65 TO STA. 20+92 RT
–Y9A– STA. 16+50 TO STA. 18+90 RT
–Y9C– STA. 11+40 TO STA. 13+00 RT
–Y9RPB– STA. 20+50 TO STA. 23+50 LT
–Y10– STA. 24+00 TO STA. 28+75 RT
–Y11– STA. 14+20 TO STA. 19+00 RT
–Y11– STA. 15+00 TO STA. 21+50 LT
–Y21– STA. 19+78 TO STA. 24+50 LT
–Y21– STA. 25+00 TO STA. 34+00 LT

DETAIL E
BERM DITCH
(Not to Scale)



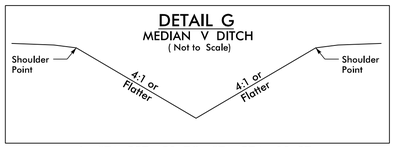
DETAIL NOT USED IN SECTION 3

DETAIL F
SPECIAL CUT BASE DITCH
(Not to Scale)



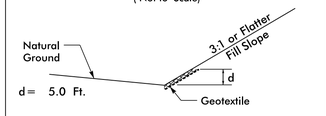
–L– STA. 550+50 TO STA. 573+00 LT
–L– STA. 585+00 TO STA. 590+15 LT
–L– STA. 585+00 TO STA. 590+50 RT
–L– STA. 594+50 TO STA. 599+00 RT
–L– STA. 637+50 TO STA. 639+50 RT
–L– STA. 654+50 TO STA. 656+00 LT
–L– STA. 659+00 TO STA. 660+10 RT
–L– STA. 660+10 TO STA. 666+00 LT
–L– STA. 696+50 TO STA. 699+50 RT
–L– STA. 742+00 TO STA. 748+00 RT
–Y9B– STA. 11+00 TO STA. 13+50 LT
–Y9B– STA. 16+00 TO STA. 19+50 LT
–Y9RPD– STA. 10+23 TO STA. 16+86 LT
–SR5– STA. 36+28 TO STA. 37+50 LT
–Y10– STA. 13+00 TO STA. 15+00 RT

DETAIL G
MEDIAN V DITCH
(Not to Scale)



–L– STA. 557+50 TO STA. 574+00 RT
–L– STA. 599+50 TO STA. 600+50 LT
–L– STA. 643+00 TO STA. 647+00 LT

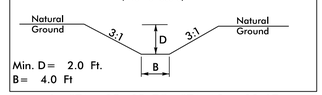
DETAIL H
TOE PROTECTION
(Not to Scale)



Type of Liner= CL B Rip–Rap

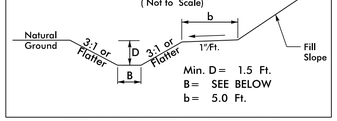
–L– STA. 605+75 TO STA. 606+83 LT
–L– STA. 622+50 TO STA. 627+00 LT
–L– STA. 625+75 TO STA. 627+50 RT
–L– STA. 674+70 TO STA. 677+10 RT
–L– STA. 678+75 TO STA. 684+10 RT
–L– STA. 692+30 TO STA. 694+76 RT
–L– STA. 735+85 TO STA. 736+10 LT
–Y9RPA– STA. 10+00 TO STA. 13+30 RT
–Y10– STA. 16+00 TO STA. 18+00 RT

DETAIL I
STANDARD BASE DITCH
(Not to Scale)



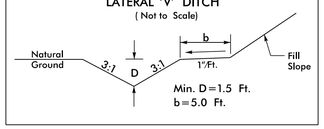
–L– STA. 695+15 TO STA. 696+00 LT,
BEG. EL=128.85', END EL=129.15', L=95', S=0.3%
–L– STA. 761+30 LT,
BEG. EL=145.03', END EL=144.20', L=28', S=3.0%
–L– STA. 593+50 LT,
BEG. EL=152.05', END EL=151.25', L=105', S=0.8%
–L– STA. 594+55 RT,
BEG. EL=152.60', END EL=151.20', L=53', S=2.6%
–Y9C– STA. 11+40 RT,
BEG. EL=153.80', END EL=151.00', L=300', S=0.9%
–Y9RPA– STA. 16+20 RT,
BEG. EL=150.32', END EL=150.15', L=54', S=0.3%

DETAIL J
LATERAL BASE DITCH
(Not to Scale)



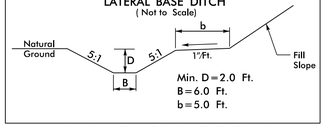
DETAIL NOT USED IN SECTION 3

DETAIL K
LATERAL 'V' DITCH
(Not to Scale)



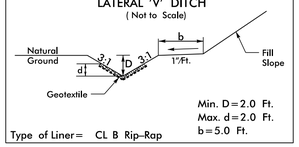
–Y9RPD– STA. 18+29 TO STA. 24+50 RT
–Y10– STA. 20+00 TO STA. 21+30 RT
–Y10– STA. 27+86 TO STA. 31+00 LT
–Y10– STA. 28+75 TO STA. 32+00 RT
–Y11– STA. 26+00 TO STA. 27+00 RT
–Y21– STA. 31+00 TO STA. 36+00 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



DETAIL NOT USED IN SECTION 3

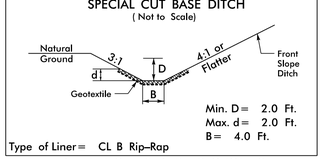
DETAIL M
LATERAL 'V' DITCH
(Not to Scale)



Type of Liner= CL B Rip–Rap

DETAIL NOT USED IN SECTION 3

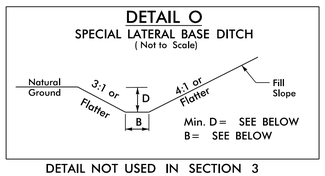
DETAIL N
SPECIAL CUT BASE DITCH
(Not to Scale)



Type of Liner= CL B Rip–Rap

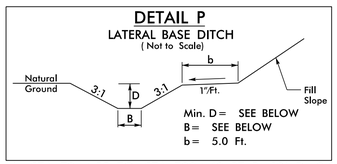
DETAIL NOT USED IN SECTION 3

DETAIL O
SPECIAL LATERAL BASE DITCH
(Not to Scale)



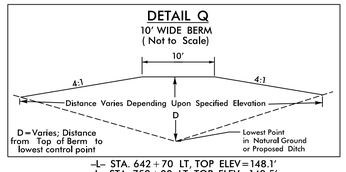
DETAIL NOT USED IN SECTION 3

DETAIL P
LATERAL BASE DITCH
(Not to Scale)



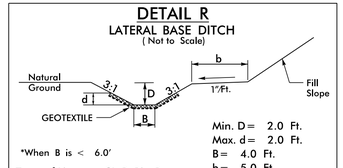
–L– STA. 704+55 TO STA. 709+40 RT, B=10', D=2.0'
–L– STA. 756+40 TO STA. 758+00 RT, B=12', D=2.5'
–Y11DW– STA. 11+00 TO STA. 11+50 LT, B=4', D=1.0'

DETAIL Q
10' WIDE BERM
(Not to Scale)



–L– STA. 642+70 LT, TOP ELEV=148.1'
–L– STA. 759+00 LT, TOP ELEV=148.5'
–L– STA. 762+00 LT, TOP ELEV=146.8'

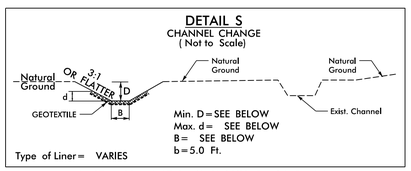
DETAIL R
LATERAL BASE DITCH
(Not to Scale)



*When B is < 6.0'
Type of Liner= CL B Rip–Rap

DETAIL NOT USED IN SECTION 3

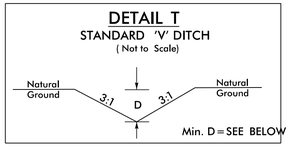
DETAIL S
CHANNEL CHANGE
(Not to Scale)



Type of Liner= VARIES

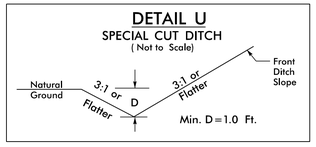
–L– STA. 766+40 LT, B=6', CL I RIPRAP, MIN D=3.0'
BEG. EL=138.55', END EL=137.85', L=55', S=1.3%
–L– STA. 766+40 RT, B=6', CL II RIPRAP, MIN D=3.0'
BEG. EL=134.80', END EL=134.35', L=48', S=0.9%

DETAIL T
STANDARD 'V' DITCH
(Not to Scale)



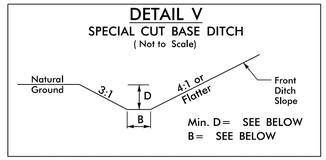
–L– STA. 735+85 LT,
BEG. EL=144.50', END EL=144.53', L=20', S=0.2%

DETAIL U
SPECIAL CUT DITCH
(Not to Scale)



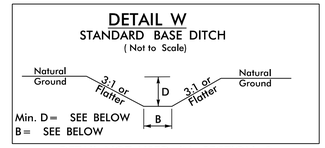
DETAIL NOT USED IN SECTION 3

DETAIL V
SPECIAL CUT BASE DITCH
(Not to Scale)



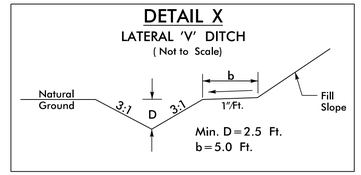
–Y9C– STA. 16+50 TO STA. 19+00 RT, MIN D=1.0', B=2'

DETAIL W
STANDARD BASE DITCH
(Not to Scale)



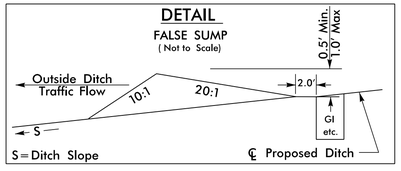
DETAIL NOT USED IN SECTION 3

DETAIL X
LATERAL 'V' DITCH
(Not to Scale)

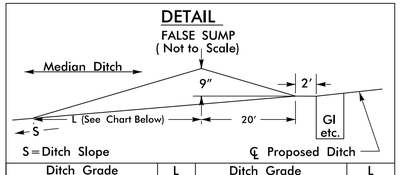


DETAIL NOT USED IN SECTION 3

DETAIL
FALSE SUMP
(Not to Scale)

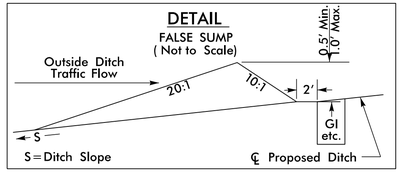


DETAIL
FALSE SUMP
(Not to Scale)

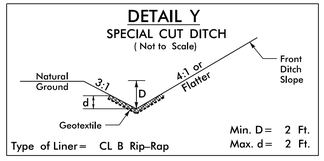


Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

DETAIL
FALSE SUMP
(Not to Scale)



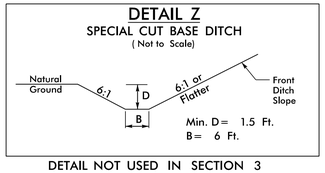
DETAIL Y
SPECIAL CUT DITCH
(Not to Scale)



Type of Liner= CL B Rip–Rap

–L– STA. 654+00 TO STA. 654+50 LT

DETAIL Z
SPECIAL CUT BASE DITCH
(Not to Scale)



DETAIL NOT USED IN SECTION 3

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4B\I-5986A_HYD_Ditch Detail_Sec3.dgn
Fkeys

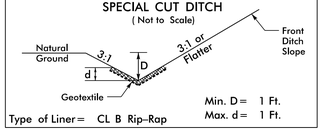
Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 7 OF 163

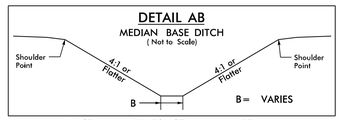
DETAIL AA
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.
Max. d = 1 Ft.
Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 3

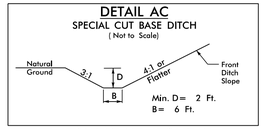
DETAIL AB
MEDIAN BASE DITCH
(Not to Scale)



B = VARIES

–L– STA. 575+00 TO STA. 577+75 RT
–L– STA. 635+00 TO STA. 642+50 LT
–Y9RPC– STA. 10+00 TO STA. 12+26 RT
–Y9RPC– STA. 17+50 TO STA. 24+00 RT

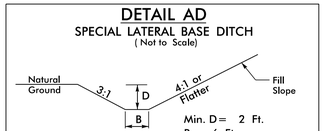
DETAIL AC
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.

–L– STA. 608+66 TO STA. 625+50 RT
–Y9RPB– STA. 11+19 TO STA. 20+50 LT

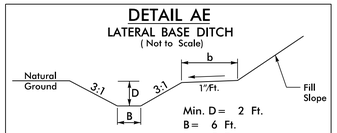
DETAIL AD
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.

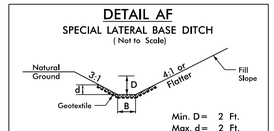
–L– STA. 625+50 TO STA. 625+90 RT

DETAIL AE
LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.
b = 5 Ft.

DETAIL AF
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
Max. d = 2 Ft.
B = 4 Ft.
Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 3

DETAIL AG
LATERAL BASE DITCH
(Not to Scale)

Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 12.0 Ft.
b = 5.0 Ft.
*When B is < 6.0'
Type of Liner = CL I Rip–Rap

–L– STA. 575+50 TO STA. 576+81 LT
–Y9RPB– STA. 10+00 TO STA. 11+19 LT

DETAIL AH
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 3

DETAIL AJ
STANDARD BASE DITCH
(Not to Scale)

Min. D = 1.5Ft.
B = 2 Ft.

DETAIL NOT USED IN SECTION 3

DETAIL AK
STANDARD BASE DITCH
(Not to Scale)

Min. D = 1.5 Ft.
B = 2 Ft.

DETAIL NOT USED IN SECTION 3

DETAIL AL
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 2.5 Ft.

DETAIL NOT USED IN SECTION 3

DETAIL AM
TOE PROTECTION
(Not to Scale)

d = SEE BELOW
Type of Liner = B Rip–Rap

DETAIL NOT USED IN SECTION 3

CULVERT INLET AND OUTLET DETAILS
–L– 574+71

CULVERT INLET AND OUTLET DETAILS
–L– 642+72

DETAIL AN
ROCK FILL IN POND
(Not to Scale)

DETAIL NOT USED IN SECTION 3

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4B\I-5986A_HYD_Ditch Detail_Sec3.dgn
Fkeys

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 8 OF 163

INSET A

NAD 83/NA 2011

SITE 1

DC

SEE INSET A

5 TONS CL B RIPRAP W/4 SY GEOTEXTILE ON BANKS ONLY

RETAIN EXISTING C/A FENCE

PROP. NOISE WALL NW1B

SPECIAL LATERAL 11' BASE DITCH SEE DETAIL O

WOODS

VAR BST

I-95 SBL VAR BST

3' BST

55+00

60+00

65+00

N 24° 58' 32.3" E

RETAIN DI

24" RCP III

SPECIAL CUT BASE DITCH SEE DETAIL V

2GID-WSS

SPECIAL LATERAL V DITCH SEE DETAIL A

FILL & TILL EXISTING DI

REMOVE DI

CONC

DI

STANDARD 4' BASE DITCH SEE DETAIL I

I-95 NBL 38' BST

10' BST

GRASS

RETAIN EXISTING C/A FENCE

EXISTING R/W

R/W MON

CITY OF EASTOVER

BILLBOARD

NON-IMPACTED BILLBOARD
-LNB- STATION 55+62 RT
MILEMARKER 54.1

SR 1833 SANDEROSA RD 27' BST

24" C&G

BST

24" C&G

EXISTING R/W

MATCHLINE -LSB- STA. 53+00.00 SEE SHEET 7

MATCHLINE -LNB- STA. 53+00.00 SEE SHEET 7

MATCHLINE -LSB- STA. 65+00.00 SEE SHEET 9

MATCHLINE -LNB- STA. 65+00.00 SEE SHEET 9

FOR –LNB– PROFILE SEE SHT. 86
FOR –LSB– PROFILE SEE SHT. 86
FOR –YRPB– PROFILE SEE SHT. 145

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
8:46:48 AM
ESTES
C:\Projects\PERMITS_Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh08.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 9 OF 163

INSET A

NAD 83/NA 2011

SITE 1

DC

SEE INSET A

5 TONS CL B RIPRAP W/14 SY GEOTEXTILE ON BANKS ONLY

PROP. NOISE WALL NW1B

RETAIN EXISTING C/A FENCE

SPECIAL LATERAL 11' BASE DITCH SEE DETAIL O

MATCHLINE -LSB- STA. 53+00.00 SEE SHEET 7

MATCHLINE -LNB- STA. 65+00.00 SEE SHEET 9

55+00

60+00

65+00

N 24° 58' 32.3" E

RETAIN DI

24" RCP III

SPECIAL CUT BASE DITCH SEE DETAIL V

SPECIAL LATERAL V DITCH SEE DETAIL A

2GID-WSS

FILL & PAVE OVER EXIST. DI W/FLOWABLE FILL

REMOVE DI

STANDARD 4' BASE DITCH SEE DETAIL I

RETAIN EXISTING C/A FENCE

NON-IMPACTED BILLBOARD
-LNB- STATION 55+62 RT
MILEMARKER 54.1

CITY OF EASTOVER

SR 1833 SANDEROSA RD 27' BST

24" C&G

FOR -LNB- PROFILE SEE SHT. 86
FOR -LSB- PROFILE SEE SHT. 86
FOR -YRPB- PROFILE SEE SHT. 145

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Projects\Hydraulics\PERMITS_Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh08_CON.dgn
ETeague

Submitted 9/2/2020

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 10 OF 163

INSET A

INSET B

BEGIN CONSTRUCTION
BEGIN OVERLAY
-Y- POT Sta. 10+05.90

END CONSTRUCTION
END OVERLAY
-Y- POC Sta. 19+83.13

MURPHY ROAD

WCC
WA
WB
WCA
WCB
SV-1
SV-2
SV-3
SITE 2
SITE 3
Reese Creek-1

SEE INSET A
SEE INSET B

MATCHLINE -LSB- STA. 65+00.00 SEE SHEET 8

MATCHLINE -LSB- STA. 91+00.00 SEE SHEET 10

MATCHLINE -LNB- STA. 65+00.00 SEE SHEET 8

MATCHLINE -LNB- STA. 91+00.00 SEE SHEET 10

RETAIN EXISTING C/A FENCE

PROP. NOISE WALL NW1B

-TRPB-

-LNB-

-LSB-

SCALE FOR INSET
50 25 0 50 100

SCALE
100 50 0 100 200

ENGLISH

T T DENOTES TEMPORARY FILL IN WETLAND

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

RKK
P: (919) 878-9560
5521 Six Forks Road, Forum 3, Suite 700
Raleigh, North Carolina 27609-5500
NC License No. C-0341
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsible People | Creative Solutions

Submitted 9/2/2020

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 11 OF 163

INSET A

INSET B

BEGIN CONSTRUCTION
BEGIN OVERLAY
-Y- POT Sta. 10+05.90

END CONSTRUCTION
END OVERLAY
-Y- POC Sta. 19+83.13

MURPHY ROAD

WCC

WA

WB

WCB

WCA

SV-1

SV-2

SV-3

SITE 2

SITE 3

Reese Creek-1

SEE INSET A

SEE INSET B

RETAIN EXISTING C/A FENCE

MATCHLINE -LSB- STA. 65+00.00 SEE SHEET 8

MATCHLINE -LNB- STA. 65+00.00 SEE SHEET 8

MATCHLINE -LSB- STA. 91+00.00 SEE SHEET 10

MATCHLINE -LNB- STA. 91+00.00 SEE SHEET 10

N 8°57'01.2" E

S 42°18'18.3" W

S 32°41'41.6" W

N 24°58'32.9" E

N 24°59'21.1" E

S 29°07'02.9" W

S 56°52'09.1" E

S 56°52'09.1" E

SCALE FOR INSET: 50 25 0 50 100

SCALE: 100 50 0 100 200

ENGLISH

T T DENOTES TEMPORARY FILL IN WETLAND

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83/NA 2011

RK&K
P: (919) 870-6700
8521 Six Forks Road, Forum 3, Suite 700
Raleigh, North Carolina 27615-2930
Corporate No. C-0341
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsible People | Creative Solutions

8/20/2020

Submitted 9/2/2020

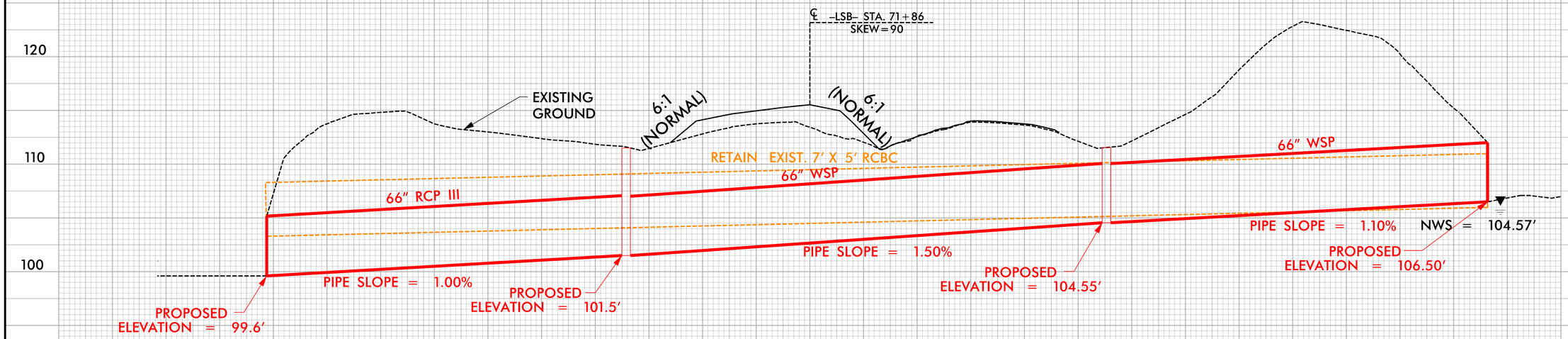
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 2
–LSB– STA. 71+86

PERMIT DRAWING
SHEET 12 OF 163

ENGLISH



TRENCHLESS INSTALLATION 66" WELDED STEEL AND 66" RCP–III
(not buried)
(length=569')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_PFL_SITE02.dgn

Submitted 9/2/2020

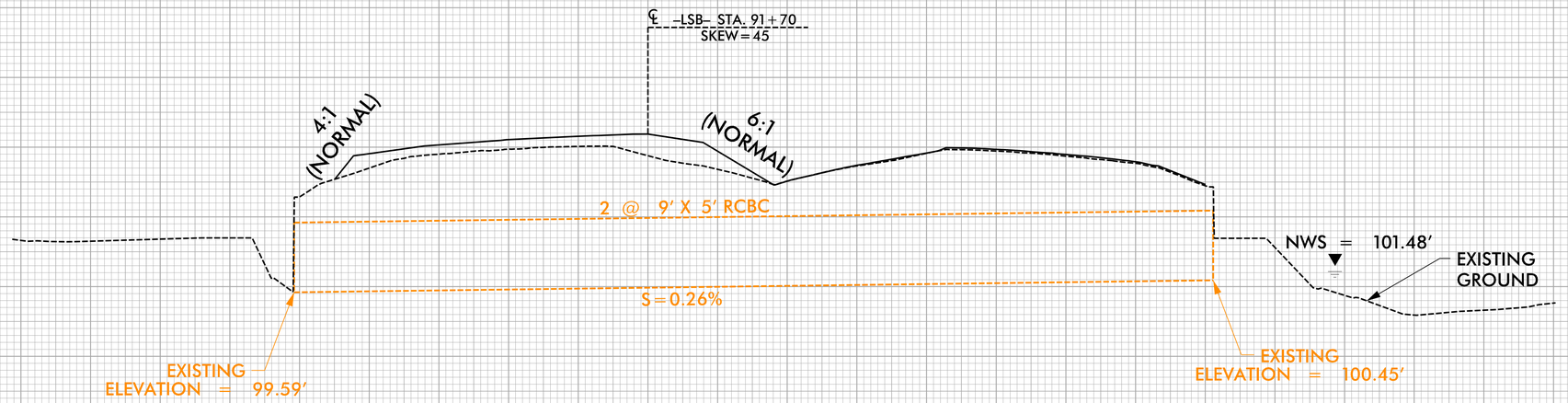
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 3
–LSB– STA. 91+70

PERMIT DRAWING
SHEET 13 OF 163

ENGLISH



RETAIN EXISTING 2 @ 9'x5' RCBC
(length = 330')

RKK
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-5960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd-prm_wet_PFL_SITE03.dgn

Submitted 9/2/2020

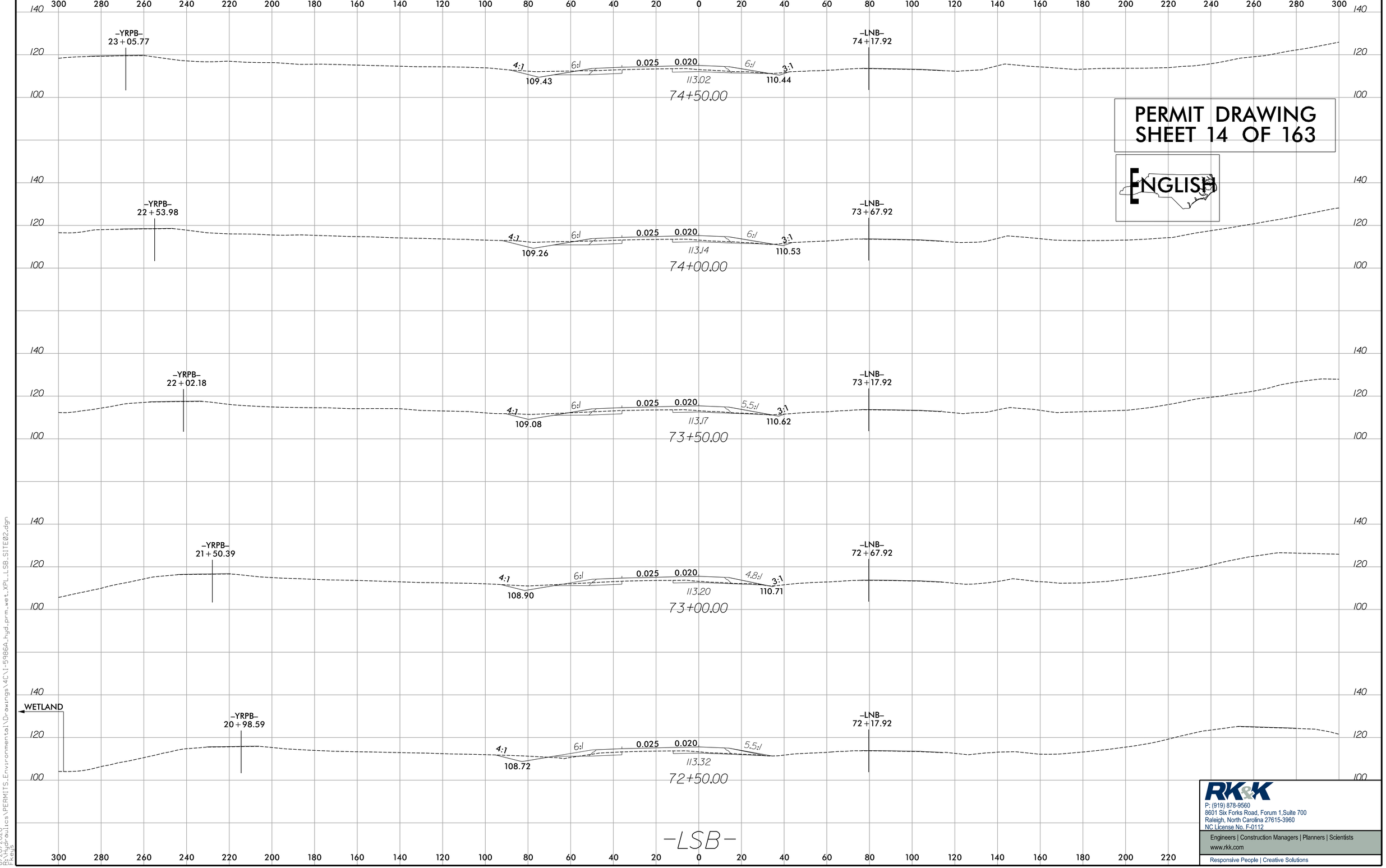
SITE 2

0 10 20

PROJ. REFERENCE NO.	SHEET NO.
I-5986A	S1 X-25

PERMIT DRAWING
SHEET 14 OF 163

ENGLISH



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

6/23/16
8/20/2020
K:\Highways\Projects\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_LSB_SITE02.dgn
F.Kopp

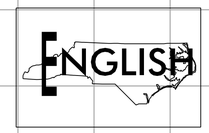
Submitted 9/2/2020

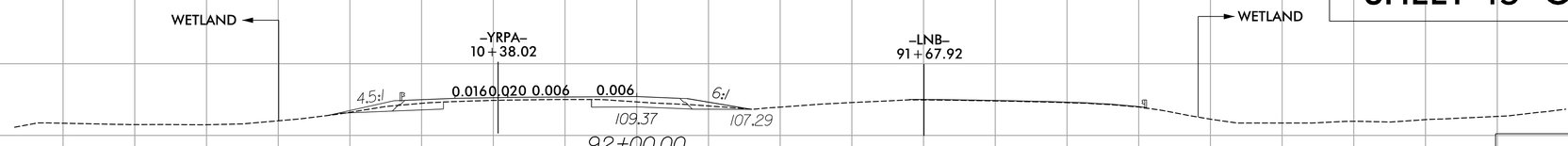
6/23/16

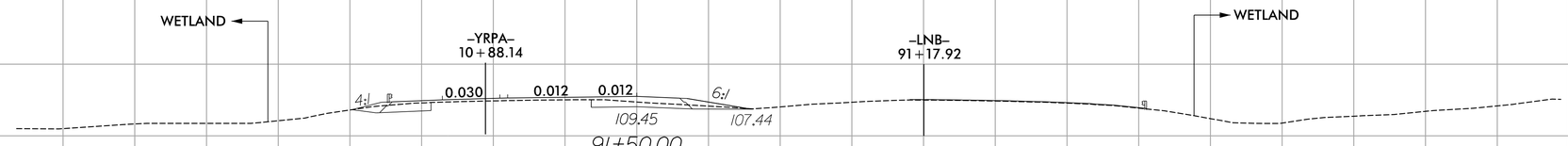
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-32

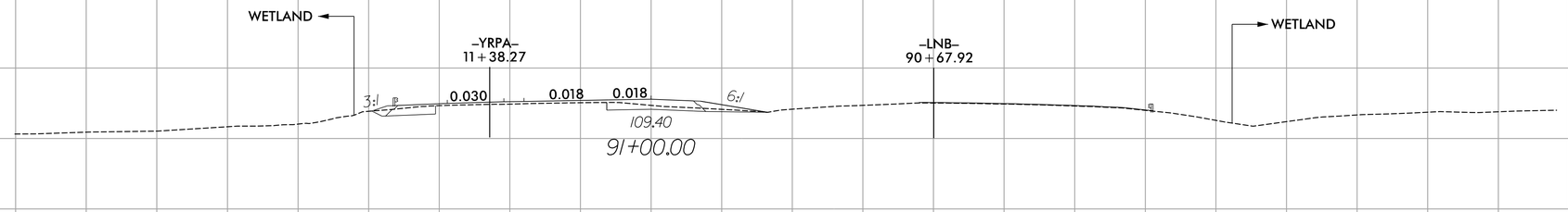
SITE 3

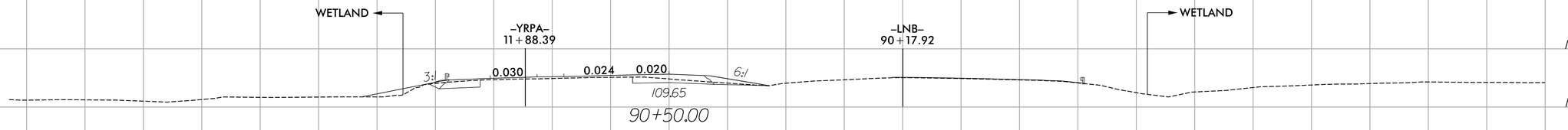
PERMIT DRAWING
SHEET 15 OF 163

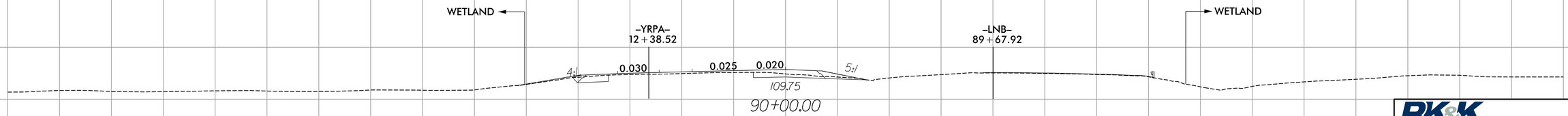












–LSB–

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_LSB_SITE03.dgn
rkapp

Submitted 9/2/2020

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
I-5985A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 16 OF 163

SCALE FOR INSET: 50 25 0 50 100

SCALE: 100 50 0 100 200

ENGLISH

- DENOTES MECHANIZED CLEARING
- F F DENOTES FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- S S DENOTES IMPACTS IN SURFACE WATER

NAD 83/NSRS 2011

MATCHLINE -Y1SB- STA. 35+00.00 SEE SHEET 63

MATCHLINE -Y1NB- STA. 20+00.00 SEE SHEET 63

INSET A — 3 TONS CL B RIPRAP W/10 SY GEOTEXTILE

INSET B — 6 SY GEOTEXTILE

INSET C — 24" CMP

I-95 BUS

RETAIN EXISTING C/A FENCE

SITE 3 — Reese Creek–1

SITE 4 — SA, WA, WC

SITE 5 — WB

SITE 6 — WD

SEE INSET A

SEE INSET B

SEE INSET C

SEE INSET D

SEE INSET E

SEE INSET F

MATCHLINE -LSB- STA. 91+00.00 SEE SHEET 9

MATCHLINE -LNB- STA. 91+00.00 SEE SHEET 9

MATCHLINE -LSB- 119+00.00 SEE SHEET 11

MATCHLINE -Y1NB- 46+50.00 SEE SHEET 11

INSET D — EXISTING 30" CMP; Q10 = 15.7 cfs, V10 = 1.43 fps; 48 LF CL I RIPRAP W/8 SY GEOTEXTILE

INSET E — RCP; TRAIN

INSET F — TRENCHES; Q10 = 2, V10 =

TRAFFIC DIAGRAM
ADT 2018
ADT 2040

9,900 / 12,000 — 9,900 / 12,000 — 44,500 / 50,500 — 54,500 / 69,000 — I-95

FOR –LNB– PROFILE SEE SHTS. 88 THRU 90
FOR –LSB– PROFILE SEE SHTS. 88 THRU 90
FOR –YRPA– PROFILE SEE SHT. 144
FOR –Y1NB– PROFILE SEE SHTS. 146 THRU 147
FOR –Y1SB– PROFILE SEE SHT. 148

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K — 11 STE. 870 STANDARD, 8601 Six Forks Road, Forum I, Suite 700, Raleigh, North Carolina 27615-6303, Phone: 919.790.1300, www.rkk.com — Engineers | Construction Managers | Planners | Scientists — Passionate People | Creative Solutions

8/20/2020
R:\Highways\I-5\PERMITS\Cross Sheets\Sheet 45\Section 11\I-5985A_Sht 45 plotSUB.dgn

Submitted 9/2/2020

REVISIONS

50 25 0 50 100
SCALE FOR INSET

100 50 0 100 200
SCALE

ENGLISH

DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND
DENOTES TEMPORARY FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER

NAD 83/NSRS 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5985A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 17 OF 163

MATCHLINE -Y1SB- STA. 35+00.00 SEE SHEET 63

MATCHLINE -Y1NB- STA. 20+00.00 SEE SHEET 63

INSET A — 3 TONS CL B RIPRAP W/10 SY GEOTEXTILE

INSET B — TONS CL B RIPRAP W/16 SY GEOTEXTILE; TRENCH; PLUG W/ RETAIN

INSET C — STEEL; 24" CMP

I-95 BUS

RETAIN EXISTING C/A FENCE

SITE 4 — SA

SITE 4 — WA

SITE 4 — WC

SEE INSET B

SEE INSET C

SITE 3 — Reese Creek–1

SEE INSET A

SITE 3 — Reese Creek–2

SITE 5 — WB

SEE INSET D

SITE 6 — WD

SEE INSET E

SITE 6

SEE INSET F

MATCHLINE -LSB- STA. 91+00.00 SEE SHEET 9

MATCHLINE -LNB- STA. 91+00.00 SEE SHEET 9

MATCHLINE -LSB- 119+50.00 SEE SHEET 11

MATCHLINE -YINB- 46+50.00 SEE SHEET 11

INSET D — REMOVE APPROX 70 LF EXISTING 30" CMP; Q10 = 152 cfs; V10 = 1.43 fps; 48" CMP; CL I RIPRAP W/8 SY GEOTEXTILE

INSET E

INSET F — WAY 10+00.0"; 16 TONS CL I RIPRAP W/24 SY GEOTEXTILE

TRAFFIC DIAGRAM
ADT 2018
ADT 2040

9,900 / 12,000 — I-95 BUS — 44,500 / 62,400 — 54,500 / 69,000

FOR –LNB– PROFILE SEE SHTS. 88 THRU 90
FOR –LSB– PROFILE SEE SHTS. 88 THRU 90
FOR –YRPA– PROFILE SEE SHT. 144
FOR –YINB– PROFILE SEE SHTS. 146 THRU 147
FOR –YISB– PROFILE SEE SHT. 148

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
11 STE STANNO
9601 Ble Flints Road, Forum I, Suite 700
Lenexa, Kansas 66214-2992
Phone: 913.492.5158
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsible People | Creative Solutions

8/20/2020
10:34:45
N:\Highway\Active\I-95\5985\15_Environmental\401\Sections\I-5985A_Typ1_KB_and_SB_CDN.dgn

Submitted 9/2/2020

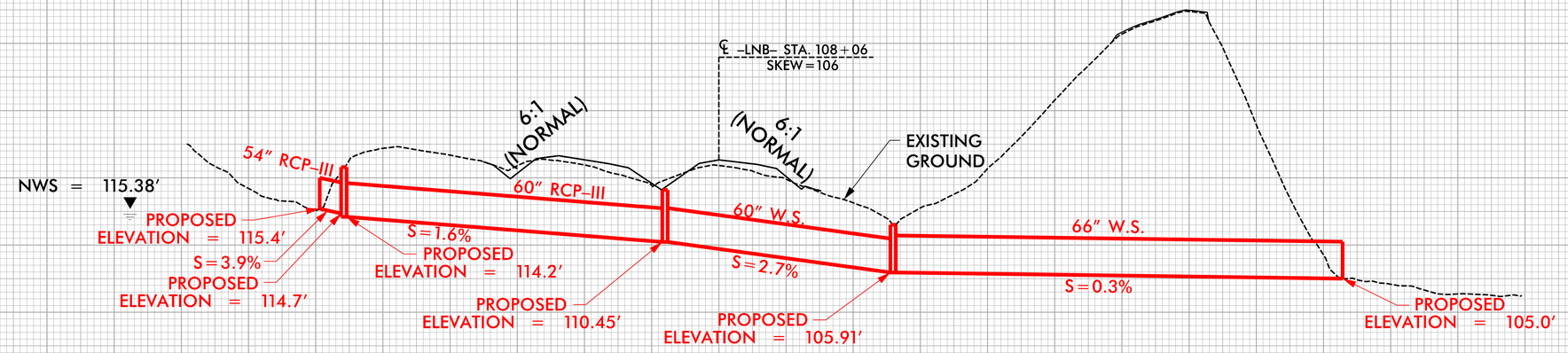
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 5
–LNB– STA. 108+06

PERMIT DRAWING
SHEET 18 OF 163

ENGLISH



54” RCP–III, 60” RCP–III, TRENCHLESS INSTALLATION 60” WELDED STEEL, & TRENCHLESS INSTALLATION 66” WELDED STEEL
(not buried)
(length=744’)

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Hydraulics\PERMITS_Environmental\Drawings\4CV\I-5986A_hyd_prm_wet_PFL_SITE05.dgn
Extents

Submitted 9/2/2020

6/23/16

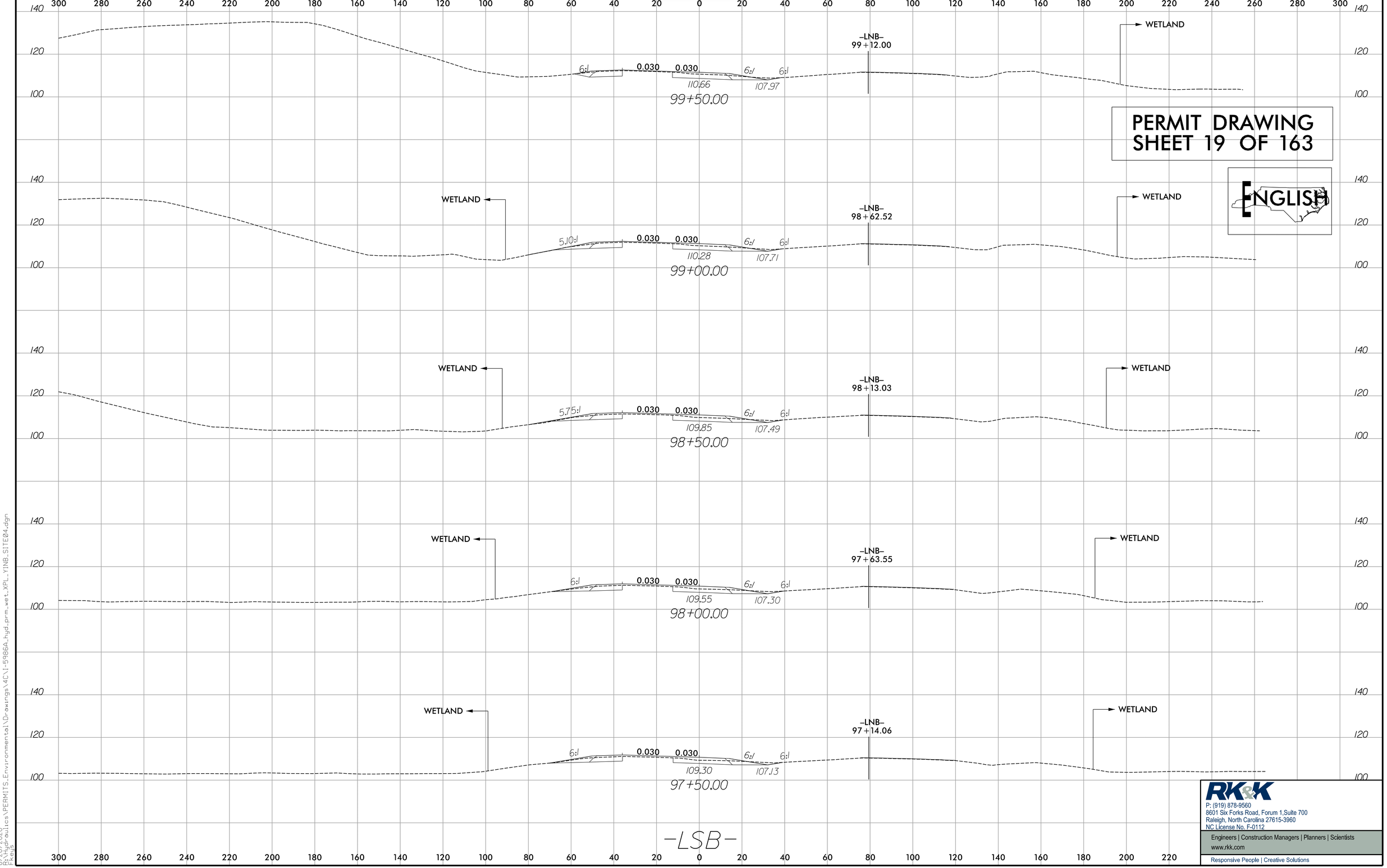
SITE 4

0 10 20

PROJ. REFERENCE NO.	SHEET NO.
I-5986A	S1 X-35

PERMIT DRAWING
SHEET 19 OF 163

ENGLISH



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_YINB_SITE04.dgn
FLeggett

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 20 OF 163

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -Y3- STA. 17+00.00 SEE SHEET 64

MATCHLINE -LSB- 130+00.00 SEE SHEET 11

MATCHLINE -L- STA. 93+00.00 SEE SHEET 13

MATCHLINE -Y3- STA. 25+00.00 SEE SHEET 65

SITE 7

SITE 8

WH

WE

BAYWOOD RD

RETAIN EXISTING C/A FENCE

ACCESS AND UTILITY EASEMENT PB 124 PG 127

N 29°29'55.2" E

S 60°34'27.6" E

N 29°33'04" E 724.67'

N 27°25'56" W 327.79'

N 27°25'56" W 327.79'

N 29°05'25" W 347.25'

NON-IMPACTED BILLBOARD -L- STATION 86+50 LT MILEMARKER 55.6

NON-IMPACTED BILLBOARD -L- STATION 92+00 LT MILEMARKER 55.7

NON-IMPACTED BILLBOARD -L- STATION 92+50 RT MILEMARKER 55.7

LATERAL 4' BASE DITCH SEE DETAIL P

10' DITCH TAPER TO 30" INLET

2 TONS CL B RIPRAP W/7 SY GEO FAB

8 TONS CL B RIPRAP W/21 SY GEO FAB

2 TONS CL B RIPRAP W/7 SY GEO FAB

LATERAL 4' BASE DITCH SEE DETAIL J

SPECIAL CUT 4' BASE DITCH SEE DETAIL V

LATERAL 'V' DITCH SEE DETAIL K

LATERAL 4' BASE DITCH SEE DETAIL D

2 TONS CL W/7 SY GE

REMOVE PIPE

REMOVE CB

REMOVE JB

REMOVE DI

PLUG & FILL WITH FLOWABLE FILL

2GIB-NSF

2GIB-WSF

15" RCP-IV

30" RCP-IV

15" CSP 2 ELBOWS

STRUCTURE BURIED STRUCTURE AND PIPES DRAWN IN APPROXIMATE LOCATION FROM PROJECT: 8.1347412

POSSIBLE JB

POSSIBLE STRUCTURE BURIED STRUCTURE AND PIPES DRAWN IN APPROXIMATE LOCATION FROM PROJECT: 8.1347412

GREU TL-3

PROP. SBG

EXISTING R/W

WOODS

SOIL

POND

BILLBOARD

48" WW & ISBW

105' BST

10' BST

4' BST

3' BST

12" BST

24" BST

MTL

CONC

VAR BST

NBL

SBL

I-95

50 25 0 50 100
SCALE

ENGLISH

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

FOR –LSB– PROFILE SEE SHT. 91
FOR –LLT SEC1– PROFILE SEE SHT. 92
FOR –LRT SEC1– PROFILE SEE SHT. 92
FOR –Y1NB– PROFILE SEE SHT. 147
FOR –Y3– PROFILE SEE SHT. 149

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
12:16:58 PM
E:\projects\PERMITS_Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh12.dgn
kevin

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 21 OF 163

NAD 83/NA 2011

MATCHLINE -Y3- STA. 17+00.00 SEE SHEET 64

MATCHLINE -LSB- 130+00.00 SEE SHEET 11

MATCHLINE -L- STA. 93+00.00 SEE SHEET 13

MATCHLINE -Y3- STA. 25+00.00 SEE SHEET 65

SITE 7

SITE 8

BAYWOOD RD

RETAIN EXISTING C/A FENCE

ACCESS AND UTILITY EASEMENT
DB 124 PG 129

N 29°29'55.2" E

N 29°33'04" E
724.67'

S 60°34'27.6" E

N 27°58'58" W
313.85'

N 27°56'56" W
327.56'

N 39°00'25" W
347.25'

LATERAL 4' BASE DITCH SEE DETAIL P

10' DITCH TAPER TO 30" INLET

2 TONS CL B RIPRAP W/7 SY GEO FAB

8 TONS CL B RIPRAP W/21 SY GEO FAB

2 TONS CL B RIPRAP W/7 SY GEO FAB

NON-IMPACTED BILLBOARD -L- STATION B6+50 LT MILEMARKER 55.6

NON-IMPACTED BILLBOARD -L- STATION 92+00 LT MILEMARKER 55.7

NON-IMPACTED BILLBOARD -L- STATION 92+50 RT MILEMARKER 55.7

LATERAL 4' BASE DITCH SEE DETAIL J

SPECIAL CUT 4' BASE DITCH SEE DETAIL V

LATERAL 'V' DITCH SEE DETAIL K

LATERAL 4' BASE DITCH SEE DETAIL D

WH

WE

REMOVE PIPE

REMOVE CB

REMOVE JB

REMOVE DI

PLUG & FILL WITH FLOWABLE FILL

2GIB-NSF

2GIB-WSF

15" RCP-IV

18" RCP-IV

24" RCP-IV

30" RCP-IV

15" RCP-III

15" CSP 2 ELBOWS

STRUCTURE BURIED STRUCTURE AND PIPES DRAWN IN APPROXIMATE LOCATION FROM PROJECT: 8.1347412

STRUCTURE BURIED STRUCTURE AND PIPES DRAWN IN APPROXIMATE LOCATION FROM PROJECT: 8.1347412

POSSIBLE STRUCTURE BURIED STRUCTURE AND PIPES DRAWN IN APPROXIMATE LOCATION FROM PROJECT: 8.1347412

PROP. SBG

PROP. SBR

GREU TL-3

130+00

85+00

90+00

60+00

50 25 0 50 100
SCALE

ENGLISH

DENOTES FILL IN WETLAND

DENOTES EXCAVATION IN WETLAND

FOR –LSB– PROFILE SEE SHT. 91
FOR –LLT SEC1– PROFILE SEE SHT. 92
FOR –LRT SEC1– PROFILE SEE SHT. 92
FOR –Y1NB– PROFILE SEE SHT. 147
FOR –Y3– PROFILE SEE SHT. 149

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

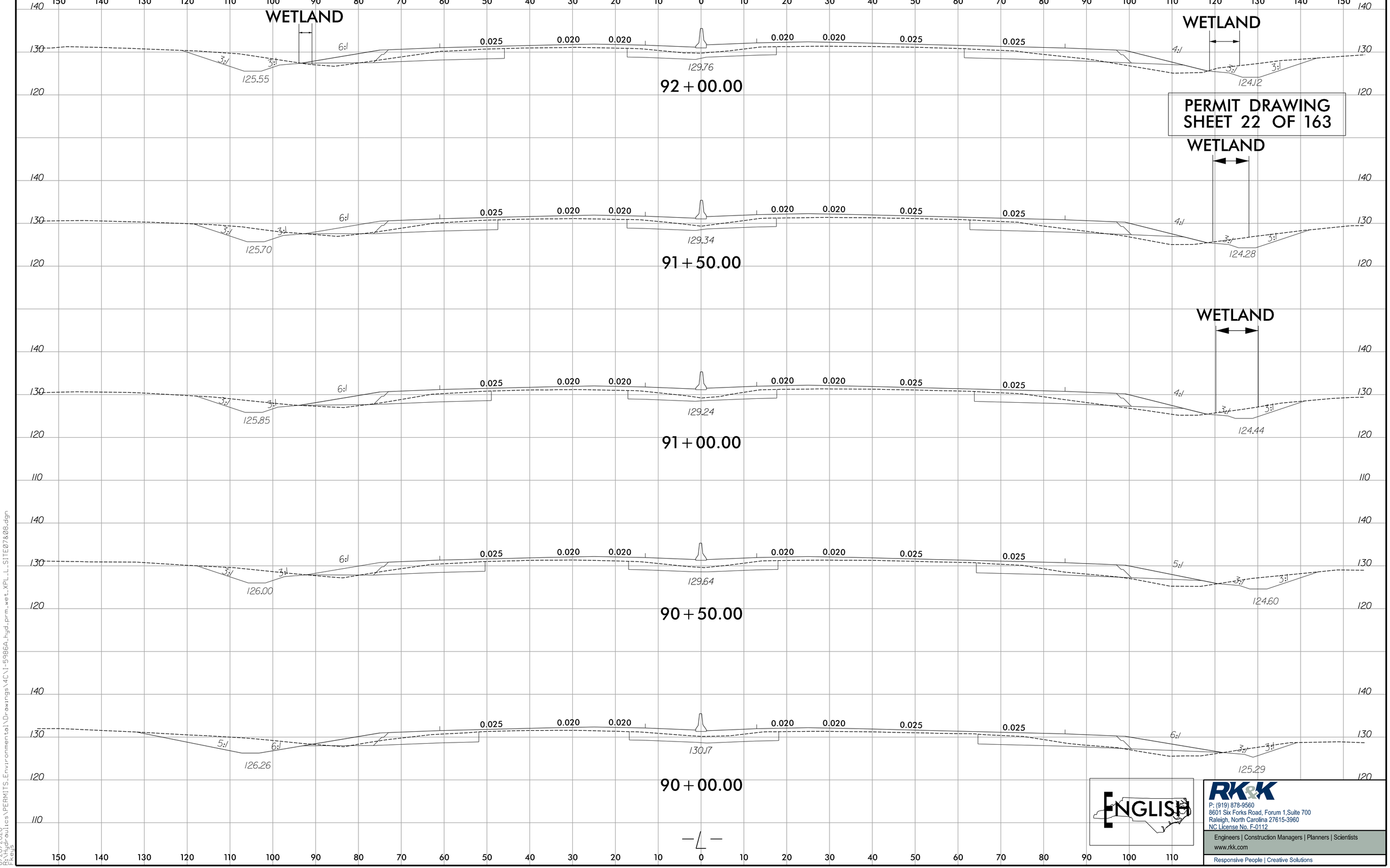
8/21/2020
21:16:58
K:\pw_pwidot\ics\PERMITS_Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh12_CON.dgn

Submitted 9/2/2020

6/23/16

SITE 7 & 8

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-54



ENGLISH

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
H:\Highways\Projects\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_LL_SITE07&08.dgn
F. Kyle

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

E E DENOTES EXCAVATION IN WETLAND
F F DENOTES FILL IN WETLAND
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 23 OF 163

NAD 83/NA 2011

Oak Hill Drive

Attica Drive

SITE 7

SITE 9

SEE INSET A

INSET A

MATCHLINE -L- STA. 93+00.00 SEE SHEET 12

MATCHLINE -L- STA. 106+00.00 SEE SHEET 14

LATERAL 4' BASE DITCH SEE DETAIL J

LATERAL 4' BASE DITCH SEE DETAIL D

SPECIAL CUT 4' BASE DITCH SEE DETAIL V

SPECIAL CUT 4' BASE DITCH SEE DETAIL V

SPECIAL CUT DITCH SEE DETAIL U

SPECIAL CUT DITCH SEE DETAIL B

STANDARD 6' BASE DITCH SEE DETAIL W

PROP. WOVEN WIRE FENCE

RETAIN EXISTING C/A FENCE

PLUG & FILL WITH FLOWABLE FILL

REMOVE DI

2GIB-WSF

15" RCP-IV

36" RCP-IV

30 TONS CL I RIPRAP W/60 SY GEO FAB

Q10 = 78.84 cfs
V10 = 2.05 ft/s

FS MIN ELEV. 128.0

WH

WF

SB

WG

CAT-1

GREU TL-3

72' CLF & 3' SBW

30' ACCESS AND UTILITY EASEMENT PB 124 PG 188

20' ACCESS EASEMENT PB 124 PG 188

EASEMENT TO POND ON LOT 1

WATER TOWER

I-95 SBL VAR BST

I-95 NBL VAR BST

I-95 SBL 37' BST

I-95 NBL 59' BST

FOR -LLT SEC1- PROFILE SEE SHT. 93
FOR -LRT SEC1- PROFILE SEE SHT. 93

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\TPDProjects\PERMITS\Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh13.dgn
ESwaim

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

F F DENOTES EXCAVATION IN WETLAND
F F DENOTES FILL IN WETLAND
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 24 OF 163

NAD 83/NA 2011

Oak Hill Drive

Attica Drive

SITE 7

SITE 9

WH

WF

WG

SB

PUE

LATERAL 4' BASE DITCH SEE DETAIL J

SPECIAL CUT 4' BASE DITCH SEE DETAIL V

SPECIAL CUT 4' BASE DITCH SEE DETAIL V

SPECIAL CUT DITCH SEE DETAIL U

SPECIAL CUT DITCH SEE DETAIL B

FS MIN ELEV. 128.0

PROP. WOVEN WIRE FENCE

BILLBOARD

I S F D

CAR PORT

WOODS

HW

PLUG & FILL WITH FLOWABLE FILL

REMOVE DI

2GIB-WSF 2GIB-WSF

15" RCP-IV

15" RCP-IV

36" RCP-IV

2GIB-WSF

PLUG & FILL WITH FLOWABLE FILL

2GIB-WSF

Q10=78.84 cfs
V10=2.05 ft/s

STANDARD 6' BASE DITCH SEE DETAIL W

30 TONS CL I RIPRAP W/60 SY GEO FAB

LATERAL 4' BASE DITCH SEE DETAIL D

RETAIN EXISTING C/A FENCE

PROP. WOVEN WIRE FENCE

SEE INSET A

INSET A

20' ACCESS AND UTILITY EASEMENT PB 124 PG 188

EASEMENT TO POND ON LOT 1

20' ACCESS EASEMENT PB 124 PG 188

WATER TOWER

CONC

GREU TL-3

CAT-1

I-95 SBL VAR BST

I-95 NBL VAR BST

I-95 SBL 37' BST

I-95 NBL 59' BST

95+00

100+00

105+00

165'

140'

MATCHLINE -L- STA. 93+00.00 SEE SHEET 12

MATCHLINE -L- STA. 106+00.00 SEE SHEET 14

N 29° 29' 55.2" E -/-

N 17°02'12" E 103.83'

N 73°36'55" W 111.80'

S 72°49'16" E 194.35'

N 72°40'59" W 278.90'

S 72°40'59" E 306.13'

S 63°45'59" E 306.88'

N 63°57'08" W 236.81'

N 62°56'13" W 88.49'

N 65°23'50" W 26.70'

N 28°42'26" E 312.12'

N 28°42'26" E 137.93'

N 65°23'50" W 57.80'

N 28°39'59" E 211.61'

N 28°24'57" E 111.19'

S 73°22'29" E 33.45'

N 22°36'07" E 509.78'

N 77°23'57" W 214.19'

S 72°40'59" E 7.86'

S 69°59'50" E 125.53'

N 73°02'45" W 124.83'

S 30°10'05" W 200.40'

N 73°06'25" W 54.96'

N 73°00'26" W 128.74'

N 24°54'22" E 398.74'

S 72°51'56" E 342.34'

N 21°03'53" E 426.13'

S 12°55'56" E 335.20'

S 22°29'44" W

FOR -LLT SEC1- PROFILE SEE SHT. 93
FOR -LRT SEC1- PROFILE SEE SHT. 93

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Highways\Projects\PERMITS.Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh13_CON.dgn
ESwann

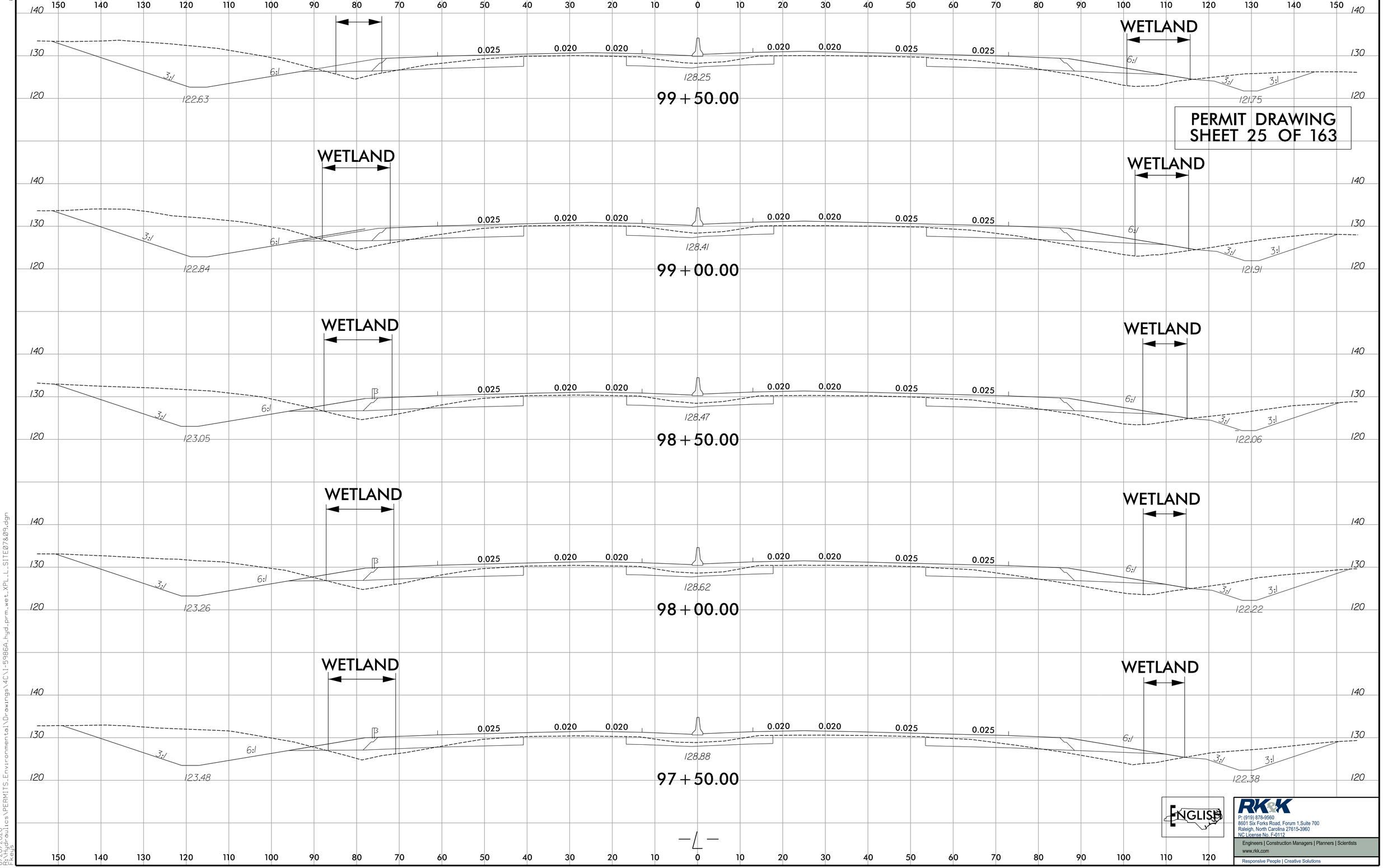
Submitted 9/2/2020

6/23/16

SITE 7 & 9

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-57

PERMIT DRAWING
SHEET 25 OF 163



ENGLISH

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020

Engineers

C:\Projects\PERMITS_Environmental\Drawings\4CV\I-5986A_hyd_prm_wet_XPL_L_SITE07&09.dgn

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 26 OF 163

50 25 0 50 100
SCALE

ENGLISH

F F DENOTES FILL IN WETLAND

NAD 83/NA 2011

SITE 10

MATCHLINE -L- STA. 106+00.00 SEE SHEET 13

MATCHLINE -L- STA. 119+00.00 SEE SHEET 15

PROP.WOVEN WIRE FENCE

SPECIAL CUT 4' BASE DITCH W/CL B RIPRAP SEE DETAIL N

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT 4' BASE DITCH SEE DETAIL V

SPECIAL CUT DITCH SEE DETAIL U

LATERAL 4' BASE DITCH SEE DETAIL J

HW

165'

FS MIN ELEV. 127.0'

PLUG & FILL WITH FLOWABLE FILL

36" RCP-IV

REMOVE DI

2GIB-WSF

15" RCP-IV

140'

11 TONS CL B RIPRAP W/28 SY GEO FAB

LATERAL 'V' DITCH SEE DETAIL K

STD. 3' BASE DITCH SEE DETAIL W

STANDARD 3' BASE DITCH SEE DETAIL W

PDE

110+00

115+00

-L-

N 29° 29' 55.2" E

WOODS

R/W MON

CITY OF EASTOVER

48" WW & 15BW

I-95 SBL 37' BST

I-95 NBL 37' BST

WI

N 72°24'45.4" W 218.09'

N 72°18'57" W 353.35'

S 00°48'11" E 5.98'

S 00°48'11" E 53.98'

S 80°39'49" W 330.98'

N 80°39'49" E 13.62'

S 80°39'49" W 348.81'

N 72°24'45.4" W 314.96'

N 72°18'57" W 332.09'

S 73°24'10" E 218.81'

N 02°35'12" W 36.68'

S 73°24'10" E 131.88'

S 34°07'50" W 208.33'

S 46°39'56" W 914.74'

S 72°24'45.4" E 119.28'

FIP

FOR –LLT SEC1– PROFILE SEE SHTS. 93 THRU 94
FOR –LRT SEC1– PROFILE SEE SHTS. 93 THRU 94
FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
jgoodall
F:\gpaulics\PERMITS_Environmental\Drawings\48\Section 1\I-5986A_hyd_48_psh14.dgn

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 27 OF 163

50 25 0 50 100
SCALE

ENGLISH

DENOTES FILL IN WETLAND

NAD 83/NA 2011

SITE 10

MATCHLINE -L- STA. 106+00.00 SEE SHEET 13

MATCHLINE -L- STA. 119+00.00 SEE SHEET 15

PROP. WOVEN WIRE FENCE

SPECIAL CUT 4' BASE DITCH W/CL B RIPRAP SEE DETAIL N

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT 4' BASE DITCH SEE DETAIL V

SPECIAL CUT DITCH SEE DETAIL U

LATERAL 4' BASE DITCH SEE DETAIL J

HW

FS MIN ELEV. 127.0'

165'

PLUG & FILL WITH FLOWABLE FILL

36" RCP-IV

2GIB-WSF

REMOVE DI

15" RCP-IV

140'

11 TONS CL B RIPRAP W/28 SY GEO FAB

PLUG & FILL WITH FLOWABLE FILL CAT-1

STANDARD 3' BASE DITCH SEE DETAIL W

PDE

LATERAL 'V' DITCH SEE DETAIL K

STD. 3' BASE DITCH SEE DETAIL W

110+00

115+00

-L-

N 29° 29' 55.2" E

CITY OF EASTOVER

WOODS

R/W MON

I-95 SBL 37' BST

I-95 NBL 37' BST

FIP

FOR –LLT SEC1– PROFILE SEE SHTS. 93 THRU 94	
FOR –LRT SEC1– PROFILE SEE SHTS. 93 THRU 94	
FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2	

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
15:59:48
Eksel

C:\Projects\PERMITS_Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh14_CON.dgn

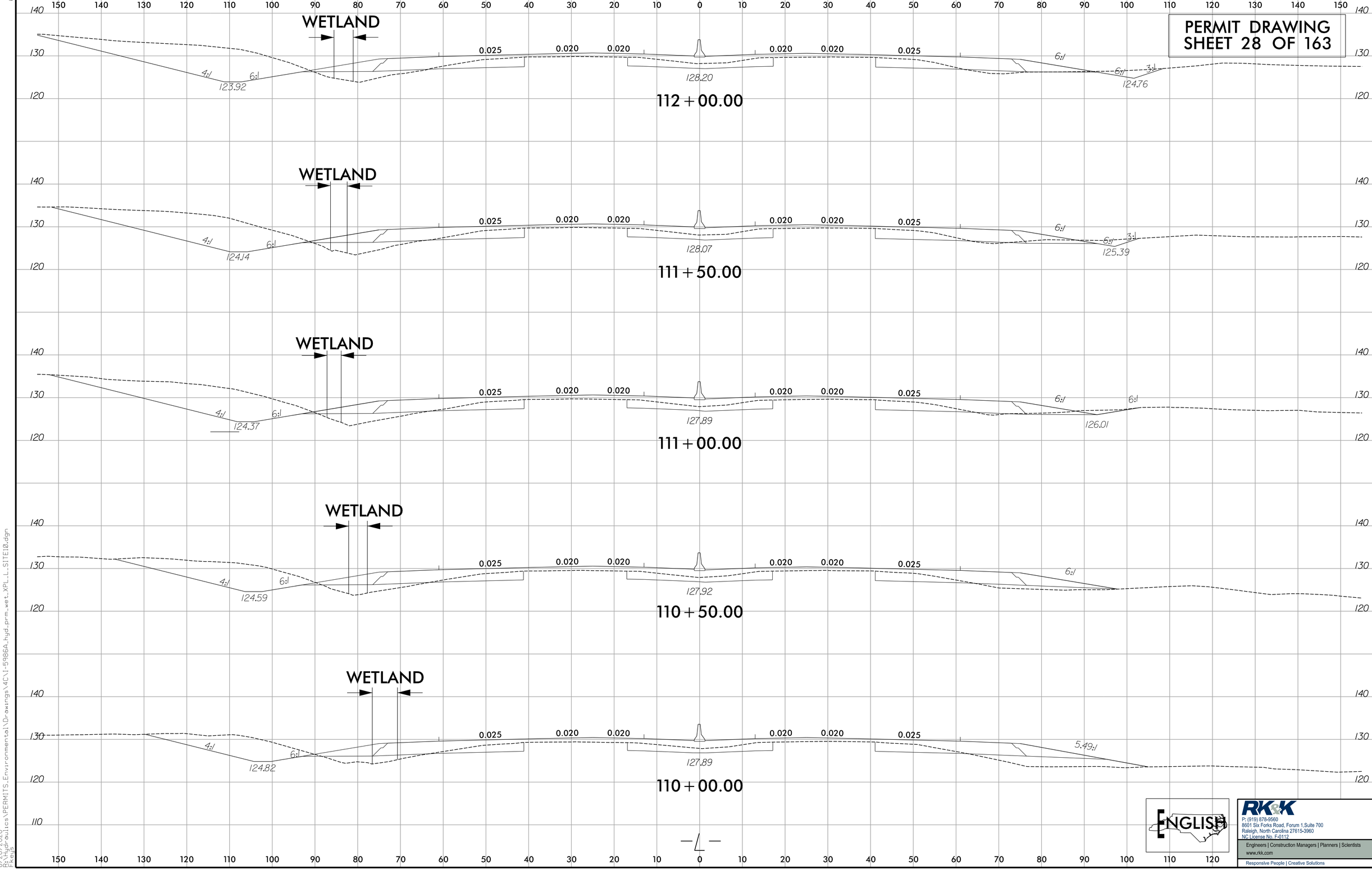
Submitted 9/2/2020

6/23/16

SITE 10

PROJ. REFERENCE NO.	SHEET NO.
I-5986A	S1 X-62

PERMIT DRAWING
SHEET 28 OF 163



ENGLISH

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/29/2020
Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE10.dgn
FKeigh

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 29 OF 163

NAD 83/NA 2011

MATCHLINE -L- STA. 119+00.00 SEE SHEET 14

MATCHLINE -L- STA. 132+00.00 SEE SHEET 16

SITE 11

SITE 12

WK

WJ

WL

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

LATERAL 4' BASE DITCH SEE DETAIL J

LATERAL 6' BASE DITCH SEE DETAIL L

LATERAL 4' BASE DITCH SEE DETAIL P

LATERAL V DITCH SEE DETAIL K

SPECIAL CUT DITCH SEE DETAIL U

STANDARD 8' BASE DITCH SEE DETAIL AI
Q10 = 116.4 cfs
V10 = 1.92 ft/s

STANDARD 8' BASE DITCH SEE DETAIL W

TOE PROTECTION W/CL B RIP RAP SEE DETAIL H

98 TONS CL I RIPRAP W/52 SY GEO FAB

PLUG & FILL WITH FLOWABLE FILL

REMOVE DI

EC Basin
Q10 = 99.48 cfs
V10 = 1.92 ft/s

+00.00
140.00', 175.00' RT

120+00 125+00 130+00

-L-

N 29° 29' 55.2" E

N 01°24'49" E 270.39'

N 01°24'49" E 246.73'

N 01°24'49" E 251.93'

N 01°24'49" E 184.65'

N 64°02'37" E 580.47'

S 88°23'38" E 393.76'

S 88°23'38" E 525.52'

140'

WOODS

HW

F

RW

CA

FOR –LLT SEC1– PROFILE SEE SHTS. 94 THRU 95
FOR –LRT SEC1– PROFILE SEE SHTS. 94 THRU 95

FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
ekeller
C:\Projects\PERMITS\Environmental\Drawings\48\Section 1\I-5986A_hyd_48_psh15.dgn

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 30 OF 163

NAD 83/NA 2011

MATCHLINE -L- STA. 119+00.00 SEE SHEET 14

MATCHLINE -L- STA. 132+00.00 SEE SHEET 16

SITE 11

SITE 12

WK

WJ

WL

LATERAL 4' BASE DITCH SEE DETAIL J

LATERAL 6' BASE DITCH SEE DETAIL L

REMOVE EXISTING FENCE

PROP. WOVEN WIRE FENCE

PLUG & FILL WITH FLOWABLE FILL

48" RCP-IV

REMOVE DI

2GIA-WSF

2GIB-WSF

15" RCP-IV

GREU TL-3

98 TONS CL I RIPRAP W/52 SY GEO FAB

TOE PROTECTION W/CL B RIP RAP SEE DETAIL H

STANDARD 8' BASE DITCH SEE DETAIL AI

Q10 = 116.4 cfs
V10 = 1.92 ft/s

LATERAL 4' BASE DITCH SEE DETAIL P

LATERAL V DITCH SEE DETAIL K

SPECIAL CUT DITCH SEE DETAIL U

Q10 = 99.48 cfs
V10 = 1.92 ft/s

EC Basin

+00.00
140.00', 175.00' RT

STANDARD 8' BASE DITCH SEE DETAIL W

JB W/MH

N 29° 29' 55.2" E

N 01°24'49" E 251.93'

N 01°24'49" E 184.65'

N 01°24'49" E 246.73'

N 01°24'49" E 270.39'

N 64°02'37" E 580.47'

S 88°35'06" E 525.52'

120+00

125+00

130+00

-L-

140'

FOR –LLT SEC1– PROFILE SEE SHTS. 94 THRU 95
FOR –LRT SEC1– PROFILE SEE SHTS. 94 THRU 95

FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Engineering Solutions
C:\Projects\PERMITS\Environmental\Drawings\48\Section 1\I-5986A_hyd_48_pshl5_CON.dgn

Submitted 9/2/2020

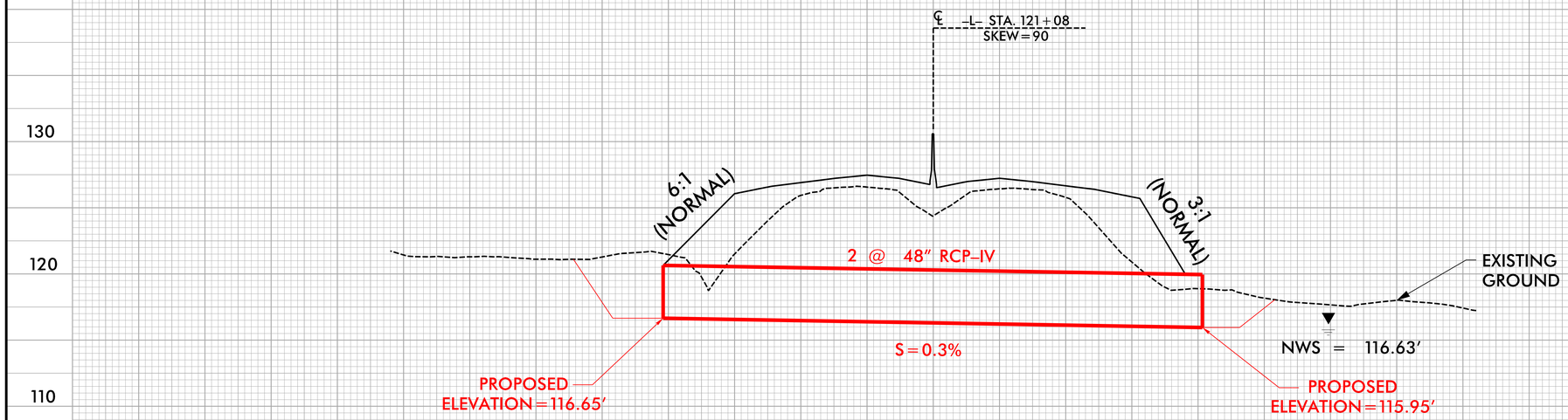
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 11 & 12
–L– STA. 121+08

PERMIT DRAWING
SHEET 31 OF 163

ENGLISH



2 @ 48" RCP–IV
(not buried)
(length = 204')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_PFL_SITE12.dgn

Submitted 9/2/2020

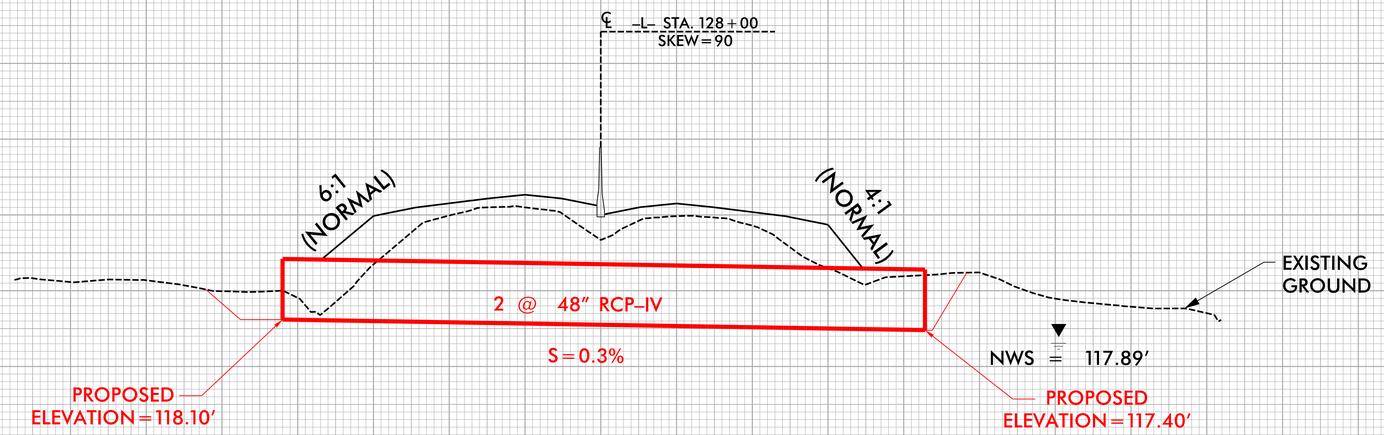
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 11 & 12
–L– STA. 128+00

PERMIT DRAWING
SHEET 32 OF 163

ENGLISH



2 @ 48" RCP–IV
(not buried)
(length=212')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Engineering\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_PFL_SITE11.dgn
ENGLISH

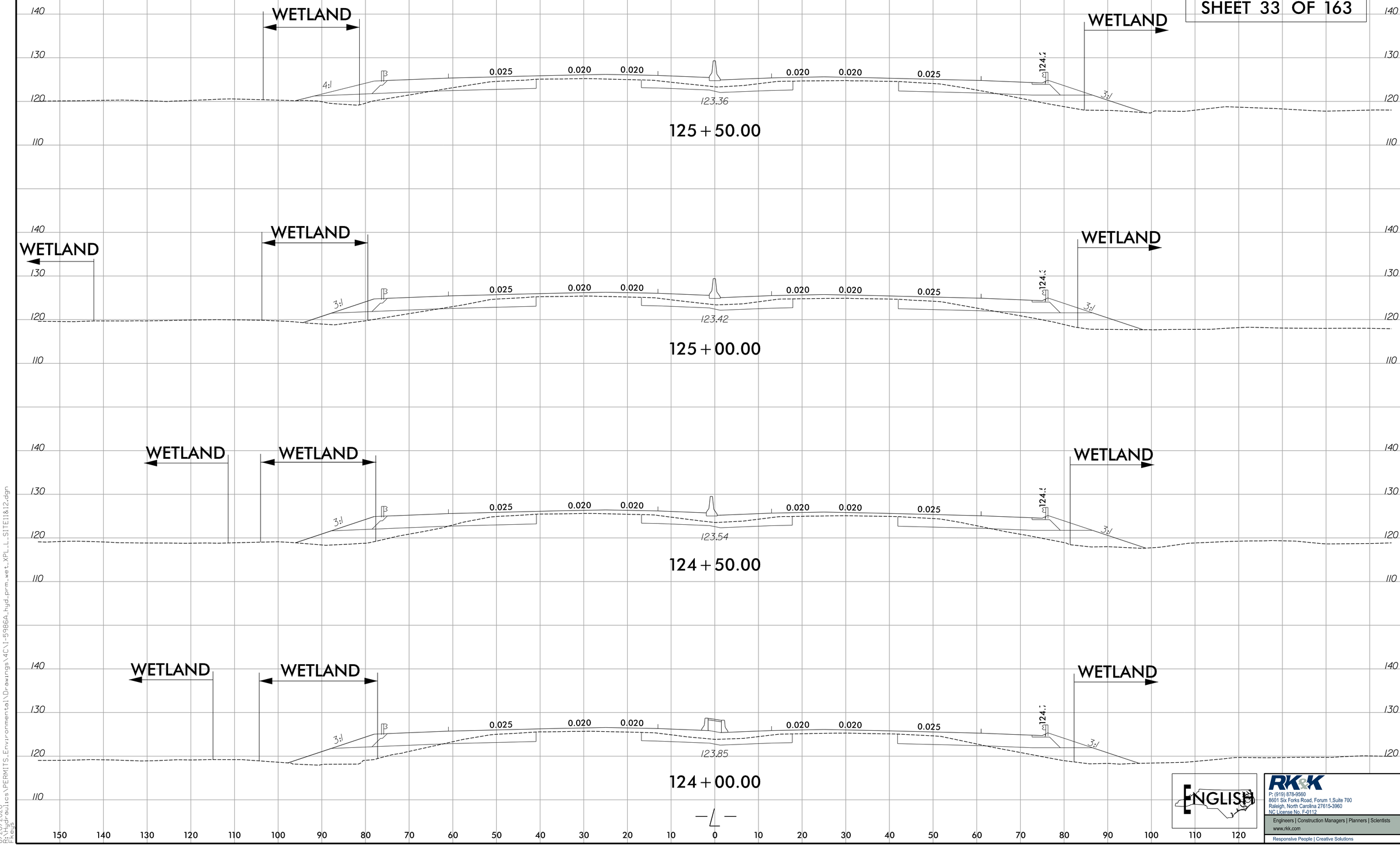
Submitted 9/2/2020

6/23/16

SITE 11 & 12

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-68

PERMIT DRAWING
SHEET 33 OF 163



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

ENGLISH

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE11&12.dgn
Fleig

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

F F DENOTES FILL IN WETLAND

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 34 OF 163

MILTON G EDWARDS, JR
GERALDINE G EDWARDS
DB 2350 PG 163

POND

POND

SITE 11

TEW FAMILY, LLC
C/O LACIE C TEW, MANAGER
DB 6151 PG 282
DB 3190 PG 598
PB 58 PG 87

BM #7

N 25°59'37" E
196.90'

BILLIE MCGIRT EVERETT COSTON
DB 2469 PG 564

MATCHLINE -L- STA. 132+00.00 SEE SHEET 15

MATCHLINE -L- STA. 145+00.00 SEE SHEET 17

PROP.WOVEN WIRE FENCE

LATERAL 4' BASE DITCH SEE DETAIL J

SPECIAL CUT 4' BASE DITCH SEE DETAIL F

LATERAL 'V' DITCH SEE DETAIL K

LATERAL 4' BASE DITCH SEE DETAIL J

LATERAL '4' BASE DITCH SEE DETAIL J

CHORD

WJ

165'

REMOVE EXISTING FENCE

BL-119

BL-120

INV (FES)=123.88

10' BST

I-95 SBL 37' BST

135+00

140+00

145+00

N 29° 29' 55.2" E

42" RCP-IV

PLUG & FILL WITH FLOWABLE FILL

REMOVE DI

2GIA-WSF

24" RCP-IV

2GIB-WSF

15" RCP-IV

I-95 NBL 37' BST

140'

9.5' BST

GREU TL-3

INV (FES)=122.48'

CAT-1

REMOVE EXISTING FENCE

R/W MON

SPECIAL CUT DITCH SEE DETAIL U

STANDARD 6' BASE DITCH SEE DETAIL W

WOODS

PDE

20 TONS CL I RIPRAP W/39 SY GEO FAB

SPECIAL CUT DITCH SEE DETAIL B

CHORD

PROP.WOVEN WIRE FENCE

CAROLYN R SPIVEY
LIFE ESTATE
DB 4883 PG 0202

N 52°57'29" W
42.13'

DEAN C BUIE
TRUSTEE FOR
KERI NICOLE BUIE
DB6266 PG 130
PB 58 PG 87

BILLIE MCGIRT EVERETT COSTON
DB 2469 PG 564

FOR –LLT SEC1– PROFILE SEE SHTS. 95 THRU 96
FOR –LRT SEC1– PROFILE SEE SHTS. 95 THRU 96

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Highways\PERMITS_Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh16.dgn
Features

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

F F DENOTES FILL IN WETLAND

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 35 OF 163

MILTON G EDWARDS, JR
GERALDINE G EDWARDS
DB 2350 PG 163

POND

POND

TEW FAMILY, LLC
C/O LACIE C TEW, MANAGER
DB 6151 PG 282
DB 3190 PG 598
PB 58 PG 87

N 25°59'37" E
196.90'

BILLIE MCGIRT EVERETT COSTON
DB 2469 PG 564

SITE 11

MATCHLINE -L- STA. 132+00.00 SEE SHEET 15

MATCHLINE -L- STA. 145+00.00 SEE SHEET 17

PROP.WOVEN WIRE FENCE

LATERAL 4' BASE DITCH SEE DETAIL J

SPECIAL CUT 4' BASE DITCH SEE DETAIL F

LATERAL 'V' DITCH SEE DETAIL K

HW

LATERAL 4' BASE DITCH SEE DETAIL J

LATERAL '4' BASE DITCH SEE DETAIL J

CHORD

WJ

165'

REMOVE EXISTING FENCE

BL-119

BL-120

INV (FES)=125.68

PLUG & FILL WITH FLOWABLE FILL

42" RCP-IV

135+00

N 29° 29' 55.2" E

140+00

145+00

2GIA-WSF

2GIB-WSF

REMOVE DI

24" RCP-IV

13" RCP-IV

140'

PLUG & FILL WITH FLOWABLE FILL

42" RCP-IV

GREU TL-3

INV (FES)=122.48

CAT-1

REMOVE EXISTING FENCE

SPECIAL CUT DITCH SEE DETAIL U

STANDARD 6' BASE DITCH SEE DETAIL W

PDE

PDE

20 TONS CL I RIPRAP W/39 SY GEO FAB

SPECIAL CUT DITCH SEE DETAIL B

CHORD

PROP.WOVEN WIRE FENCE

CAROLYN R SRIVEY
LIFE ESTATE
DB 4883 PG 0202

N 52°57'29" W
42.13'

DEAN C BUIE
TRUSTEE FOR
KERI NICOLE BUIE
DB6266 PG 130
PB 58 PG 87

BILLIE MCGIRT EVERETT COSTON
DB 2469 PG 564

FOR –LLT SEC1– PROFILE SEE SHTS. 95 THRU 96
FOR –LRT SEC1– PROFILE SEE SHTS. 95 THRU 96

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Highways\Hydraulics\PERMITS_Environmental\Drawings\48\Section 1\I-5986A_hyd_48_psh16_CON.dgn
Features

Submitted 9/2/2020

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
I-5986	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 36 OF 163

INSET A

INSET F

MATCHLINE -Y4- 21+00.00 SEE SHEET 69

MATCHLINE -Y5RPB- 22+00.00 SEE SHEET 68

MATCHLINE -L- STA. 171+00.00 SEE SHEET 18

MATCHLINE -L- STA. 198+50.00 SEE SHEET 20

MATCHLINE -Y4- STA. 39+00.00 SEE SHEET 70

SITE 54C

SITE 13

SITE 14

SITE 15

SITE 16

WS

WR

WM

WN

WO

B

C

RETAIN EXISTING C/A FENCE

RETAIN EXISTING FENCE

PROP.WOVEN WIRE FENCE

SEE INSET A

SEE INSET B

SEE INSET C

SEE INSET D

SEE INSET E

SEE INSET F

INSET E

INSET B

INSET C

INSET D

BAKER SWAMP 1

N 40° 50' 46.3" E

N 43° 45' 55" E

S 71° 05' 36.4" W

N 62° 12' 33" E

SCALE FOR INSET

50 0 50 100

SCALE

100 50 0 100 200

ENGLISH

- F F — DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- S S — DENOTES IMPACTS IN SURFACE WATER
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- T T — DENOTES TEMPORARY FILL IN WETLAND

FOR -LLT SEC1- PROFILE SEE SHTS. 98 THRU 100
FOR -LRT SEC1- PROFILE SEE SHTS. 98 THRU 100
FOR -Y4- PROFILE SEE SHTS. 150 THRU 151
FOR -YSRPB- PROFILE SEE SHTS. 164 THRU 165
FOR -YSRPC- PROFILE SEE SHTS. 166
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
(C-1016, 6/30/20)
900 W. Trade Street, Fourth Floor | Suite 700
Raleigh, North Carolina 27604-3000
Phone 919.878.9560
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Passionate People | Creative Solutions

8/20/2020
P:\Projects\5986\15 Environmental\Drawings\404 Sheets\sht 15 5986A.dgn 4B ppetrilli

Submitted 9/2/2020

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
I-5986	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 37 OF 163

NAD 83/NA 2011

MATCHLINE -Y4- 21+00.00 SEE SHEET 69

MATCHLINE -Y5RPB- 22+00.00 SEE SHEET 68

MATCHLINE -L- STA. 171+00.00 SEE SHEET 18

MATCHLINE -L- STA. 198+50.00 SEE SHEET 20

MATCHLINE -Y5RPC- STA. 16+50.00 SEE SHEET 20

MATCHLINE -Y4- STA. 33+00.00 SEE SHEET 70

SITE 54C

SITE 13

SITE 14

SITE 15

SITE 16

SEE INSET A

SEE INSET B

SEE INSET C

SEE INSET D

SEE INSET E

SEE INSET F

WS

WR

WM

WN

WO

B

C

RETAIN EXISTING C/A FENCE

RETAIN EXISTING FENCE

PROP.WOVEN WIRE FENCE

PROP. WOVEN WIRE FENCE

PROP.WOV.

S 71° 05' 36.4" W

N 40° 50' 46.3" E

N 43° 45' 55" E

N 43° 45' 55.5" E

74" PEMBROKE LN

BAKER SWAMP 1

TRENCHLESS

INSET A

INSET B

INSET C

INSET D

INSET E

INSET F

PIPE CLEAN OUT

20 TONS CL I RIPRAP W/39 SY GEOFAB

23 TONS CL I RIPRAP W/62 SY GEOFAB

48" RCP--III

TB JB w/MH

PLUG & FILL W/FLOWABLE FILL

SPECIAL CUT DITCH SEE DETAIL B

SP. CUT 7' BASE DITCH SEE DETAIL Q

SP. LAY 7' BASE DITCH SEE DETAIL Q

END GLARE SCREEN BEGIN WW FENCE

BEGIN WW FENCE

END WW FENCE

SCALE FOR INSET

50 0 50 100

SCALE

100 50 0 100 200

ENGLISH

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

T T DENOTES TEMPORARY FILL IN WETLAND

FOR -LLT SEC1- PROFILE SEE SHTS. 98 THRU 100
FOR -LRT SEC1- PROFILE SEE SHTS. 98 THRU 100
FOR -Y4- PROFILE SEE SHTS. 150 THRU 151
FOR -Y5RPB- PROFILE SEE SHTS. 164 THRU 165
FOR -Y5RPC- PROFILE SEE SHTS. 166
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
2020 KRAFT DRIVE
SUITE 2400 (27606)
Raleigh, North Carolina 27615-5000
Phone: 919.614.1000
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Pennsylvania | Florida | Carolina Solutions

8/20/2020
C:\Users\...\Desktop\...\Sheet 19.dgn

Submitted 9/2/2020

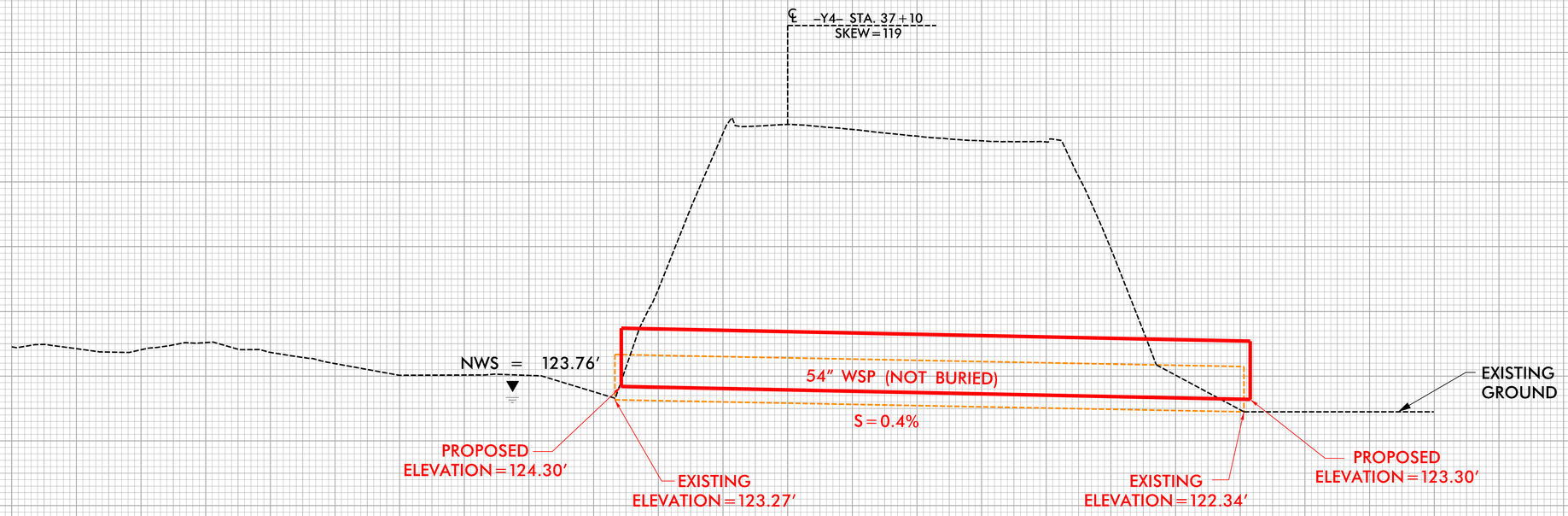
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 15 & 16
–Y4– STA. 37+10

PERMIT DRAWING
SHEET 38 OF 163

ENGLISH



TRENCHLESS INSTALLATION 54" WELDED STEEL
(not buried)
(length=243')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Hydraulics
Environmental\Drawings\4CV\I-5986A_hyd_prm_wet_PFL_SITE16.dgn

Submitted 9/2/2020

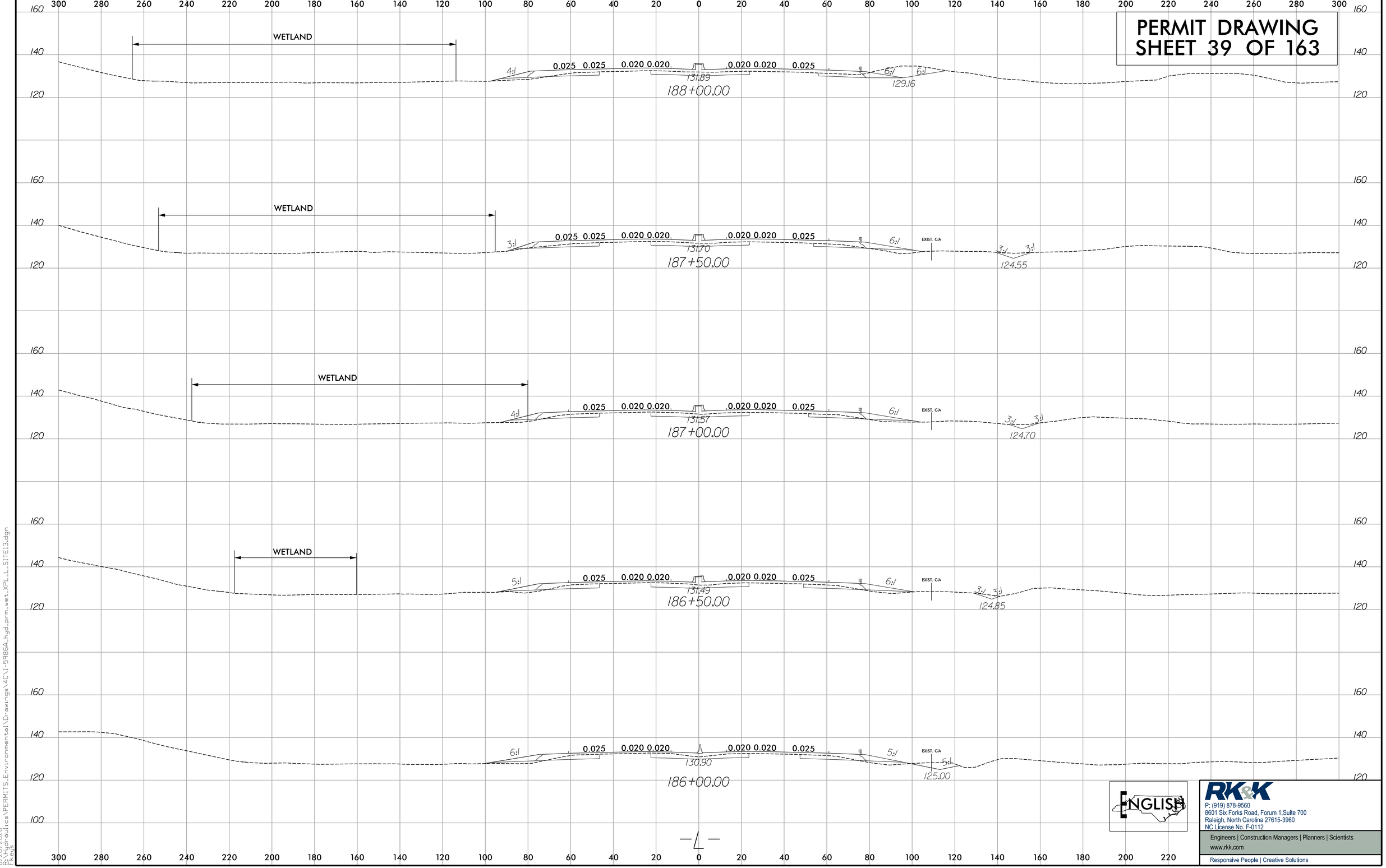
6/23/16

SITE 13

0 10 20

PROJ. REFERENCE NO.	SHEET NO.
I-5986A	S1 X-101

PERMIT DRAWING
SHEET 39 OF 163



ENGLISH

RK&K
P: (919) 878-9560
9601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE13.dgn
Plotted

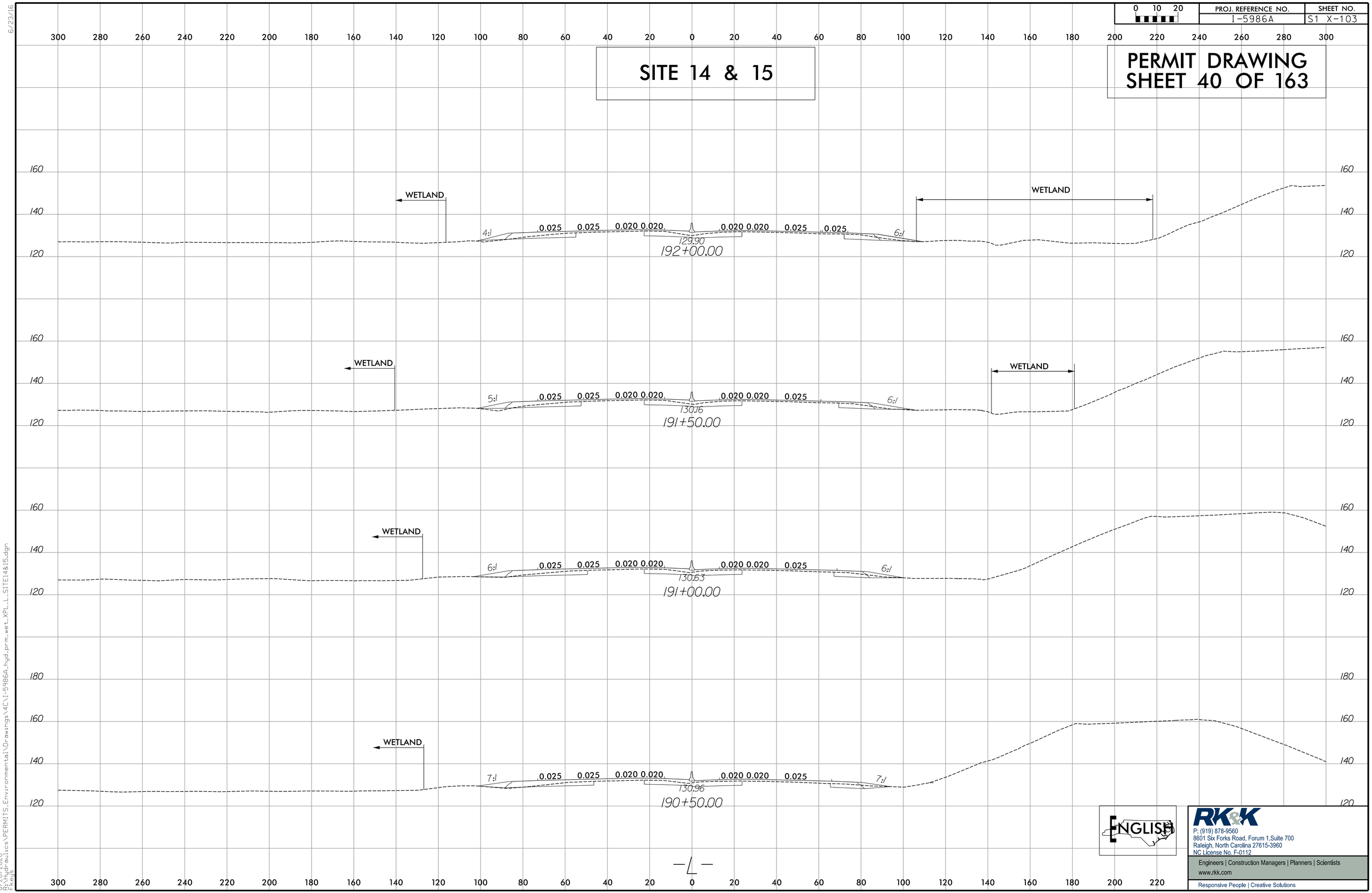
Submitted 9/2/2020

6/23/16

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-103

SITE 14 & 15

PERMIT DRAWING
SHEET 40 OF 163



ENGLISH

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE14&15.dgn
Fleig

Submitted 9/2/2020

6/23/16

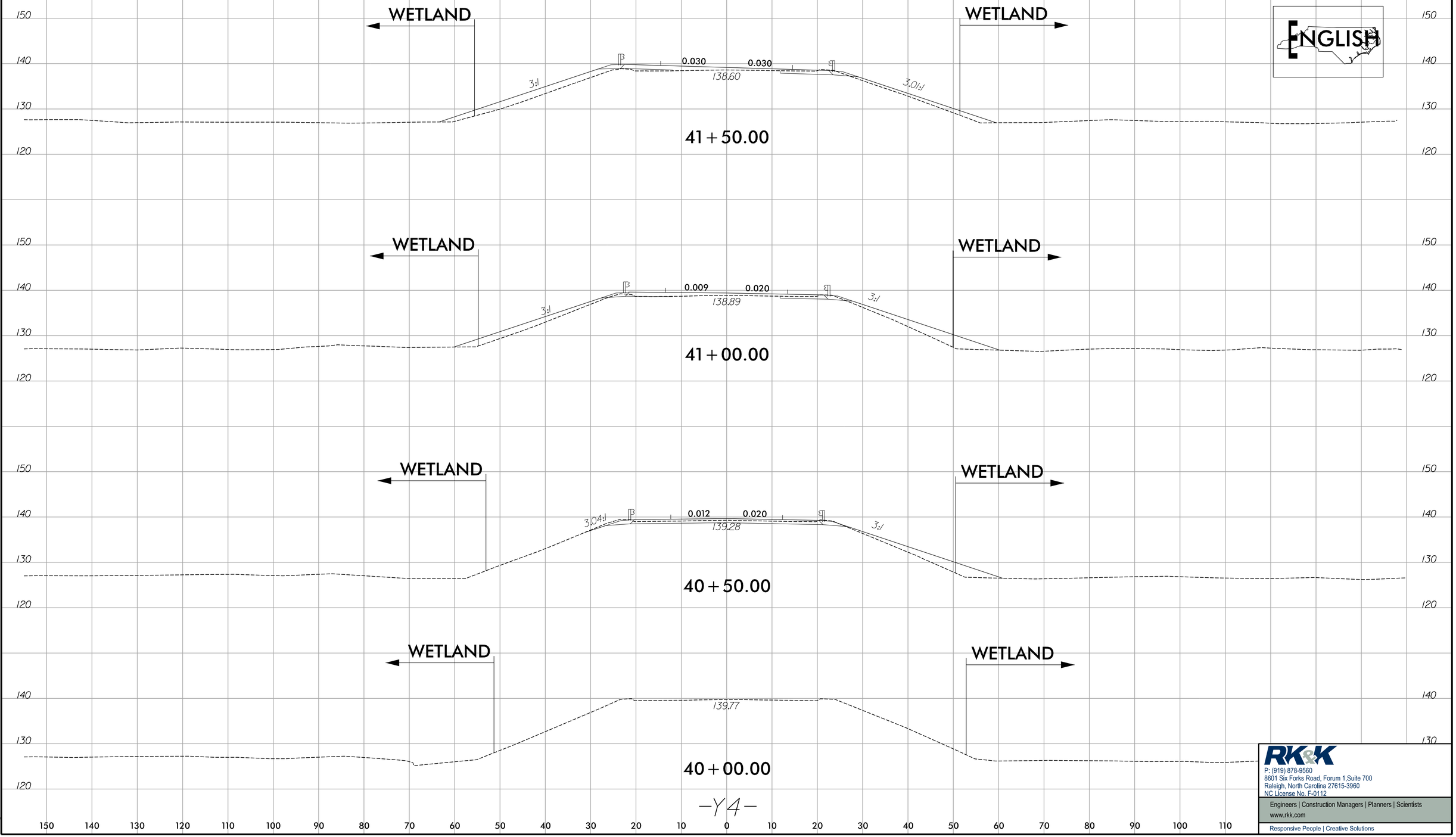
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-155

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SITE 15 & 16

PERMIT DRAWING
SHEET 41 OF 163

ENGLISH



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

-Y4-

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y4_SITE15&16.dgn
FLeigh

Submitted 9/2/2020

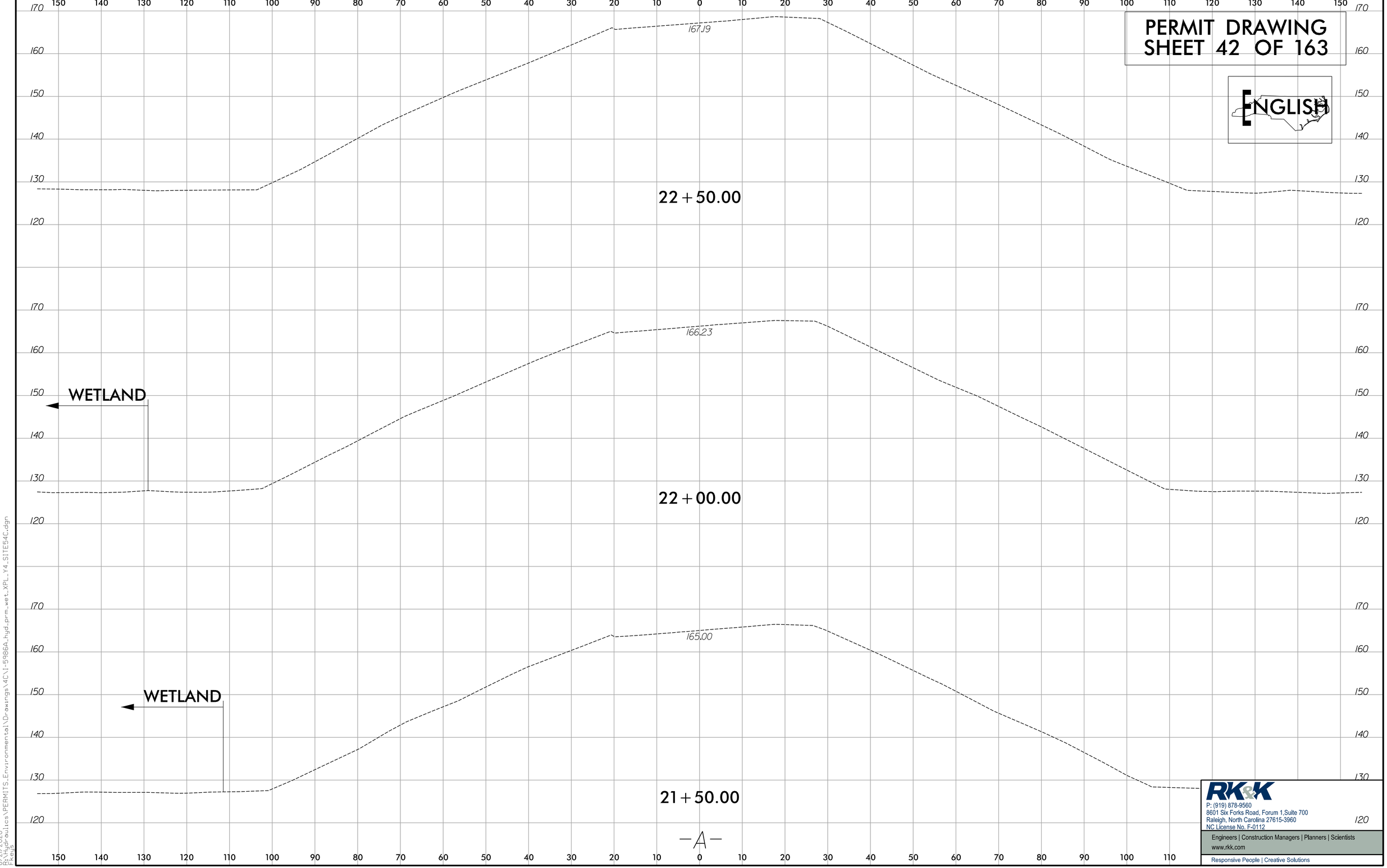
6/23/16

SITE 54C

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	X-2

PERMIT DRAWING
SHEET 42 OF 163

ENGLISH



RK&K
P: (919) 878-9560
9601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y4_SITE54C.dgn
Plotted By: Leigh

Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 43 OF 163

INSET A

INSET B

INSET C

INSET D

INSET E

SITE 15 — BAKER SWAMP 2

SITE 17

SITE 18 — BAKER SWAMP 3

SITE 19

SITE 20

SITE 21

SITE 22

WCG

WQ

WR

WP

WO

WX

WW

WV

A

B

C

D

MATCHLINE -Y5FLY- STA. 36+00.00 SEE SHEET 68

MATCHLINE -Y5RPA- STA. 47+50.00 SEE SHEET 68

MATCHLINE -Y5- STA. 90+00.00 SEE SHEET 68

MATCHLINE -L- STA. 198+50.00 SEE SHEET 19

MATCHLINE -Y5RPC- STA. 16+80.00 SEE SHEET 19

MATCHLINE -Y6- STA. 105+80.00 SEE SHEET 70

MATCHLINE -L- STA. 227+00.00 SEE SHEET 21

MATCHLINE -Y5FLY- STA. 67+00.00 SEE SHEET 21

SCALE FOR INSET

SCALE

ENGLISH

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR DETAILS SEE SHTS. 2D-1 THRU 2D-2

FOR SECTION FOR HORIZONTAL CLEARANCE SEE SHT. 24

PAVEMENT REMOVAL

FOR -Y5SPURA- PROFILE SEE SHT. 163
FOR -Y5LPA- PROFILE SEE SHT. 164
FOR -Y5RPC- PROFILE SEE SHTS. 166
FOR -Y5LPD- PROFILE SEE SHTS. 167 AND 168
FOR -Y5FLY- PROFILE SEES SHTS. 170 AND 171

FOR -LLT SEC\- PROFILE SEE SHTS. 100 THRU 102
FOR -LRT SEC\- PROFILE SEE SHTS. 100 THRU 102
FOR -Y5SLT- PROFILE SEE SHTS. 157 AND 158
FOR -Y5RT- PROFILE SEE SHTS. 157 AND 158
FOR -Y5RPA- PROFILE SEE SHTS. 161 AND 162
FOR -Y5RPD- PROFILE SEE SHTS. 166 AND 167

RK&K
(T) (919) 870-6550
3621 Ben Franklin Street | Forum 1, Suite 700
Raleigh, North Carolina 27613-5060
www.rkk.com
Engineers | Construction Managers | Planners | Scientists

8/21/2020 J:\projects\PERMITS\5_Environmental\401\Sheets\401Sht-Layout-1(1-PERMIT).dwg, 401-plot2D.dgn

Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 44 OF 163

INSET A

INSET B

INSET C

INSET D

INSET E

SITE 15 BAKER SWAMP 2

SITE 17

SITE 18 BAKER SWAMP 3

SITE 19

SITE 20

SITE 21

SITE 22

MATCHLINE -L- STA. 198+50.00 SEE SHEET 19

MATCHLINE -Y5- STA. 90+00.00 SEE SHEET 68

MATCHLINE -Y5FLY- STA. 38+00.00 SEE SHEET 68

MATCHLINE -Y5RPA- STA. 47+50.00 SEE SHEET 68

MATCHLINE -Y5RPC- STA. 16+50.00 SEE SHEET 19

MATCHLINE -L- STA. 227+00.00 SEE SHEET 21

MATCHLINE -Y5FLY- STA. 67+00.00 SEE SHEET 21

MATCHLINE -Y6- STA. 105+00.00 SEE SHEET 70

SCALE FOR INSET 100 0 100 200

SCALE 200 0 200 400

ENGLISH

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR DETAILS SEE SHTS. 2D-1 THRU 2D-2

DESIGN EXCEPTION FOR HORIZONTAL CLEARANCE -L- STA. 21

PAVEMENT REMOVAL

FOR -Y5SPURA- PROFILE SEE SHT. 163
FOR -Y5LPA- PROFILE SEE SHT. 164
FOR -Y5RPC- PROFILE SEE SHT. 166
FOR -Y5LPD- PROFILE SEE SHTS. 167 AND 168
FOR -Y5FLY- PROFILE SEE SHTS. 170 AND 171

FOR -LLT SEC\- PROFILE SEE SHTS. 100 THRU 102
FOR -LRT SEC\- PROFILE SEE SHTS. 100 THRU 102
FOR -Y5SLT- PROFILE SEE SHTS. 157 AND 158
FOR -Y5RT- PROFILE SEE SHTS. 157 AND 158
FOR -Y5RPA- PROFILE SEE SHTS. 161 AND 162
FOR -Y5RPD- PROFILE SEE SHTS. 166 AND 167

RK&K
(T) (919) 870-6550
8601 Six Forks Road | Forum 1, Suite 700
Raleigh, North Carolina 27615-2965
www.rkk.com
Engineers | Construction Managers | Planners | Scientists
Innovative People | Creative Solutions

Submitted 9/2/2020

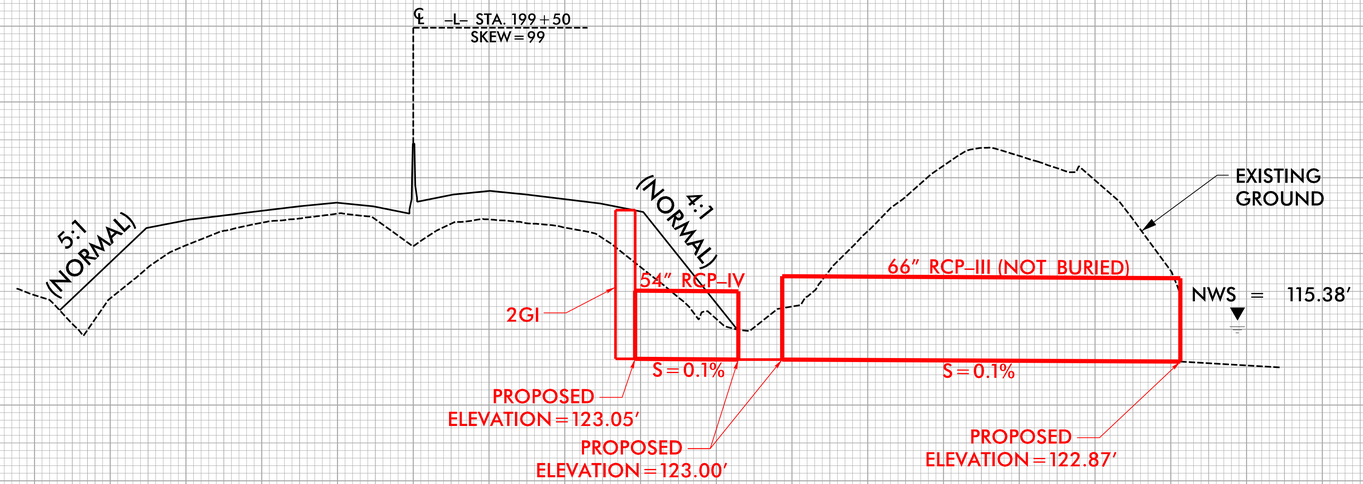
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 15/18
–L– STA. 199+50

PERMIT DRAWING
SHEET 45 OF 163

ENGLISH



150 140 130 120

250 200 150 100 50 0 50 100 150 200 250

54" RCP–IV (not buried) (length = 110')

66" RCP–III (not buried) (length = 131')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/30/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4CV\I-5986A_hyd_prm_wet_PFL_SITE15.dgn
ElizabethFlynn

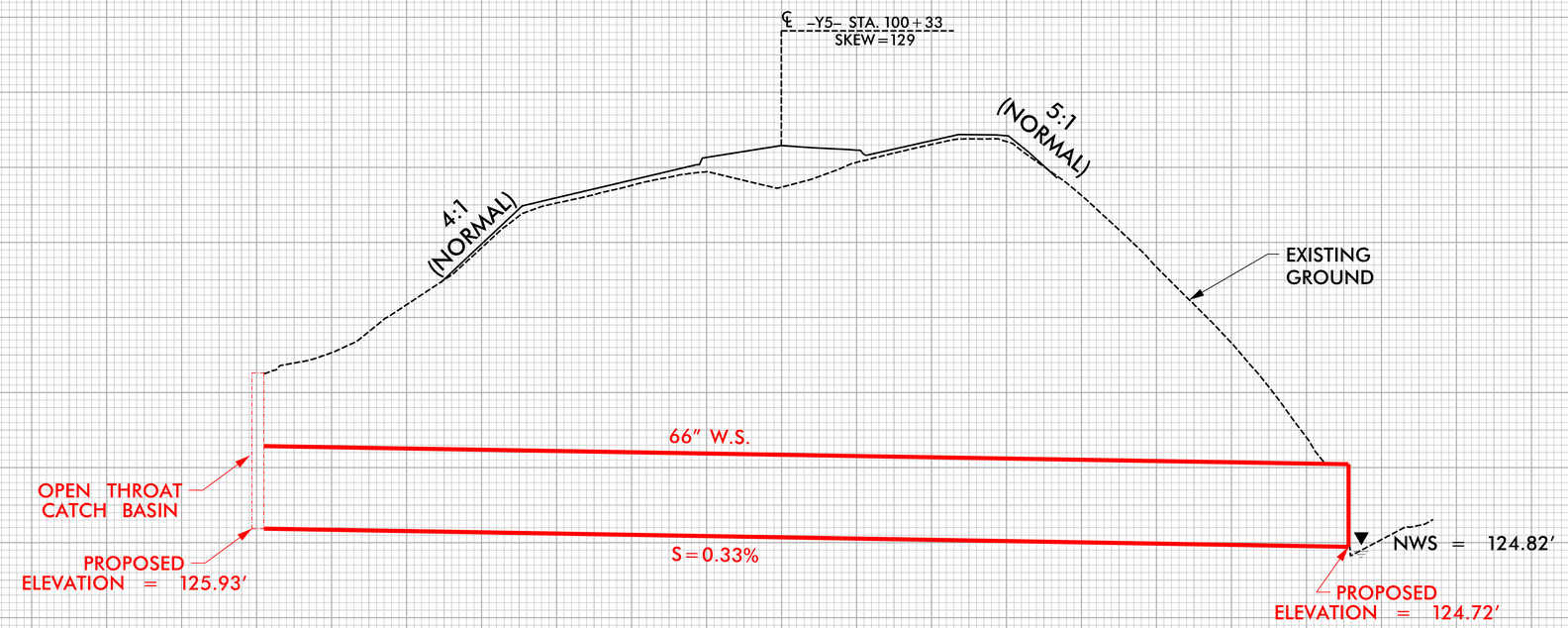
Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 18
–Y5– STA. 100+33

PERMIT DRAWING
SHEET 46 OF 163

ENGLISH



TRENCHLESS INSTALLATION 66" WELDED STEEL
(not buried)
(length=262')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

5/14/99
8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_PFL_SITE18.dgn
K. Hyatt

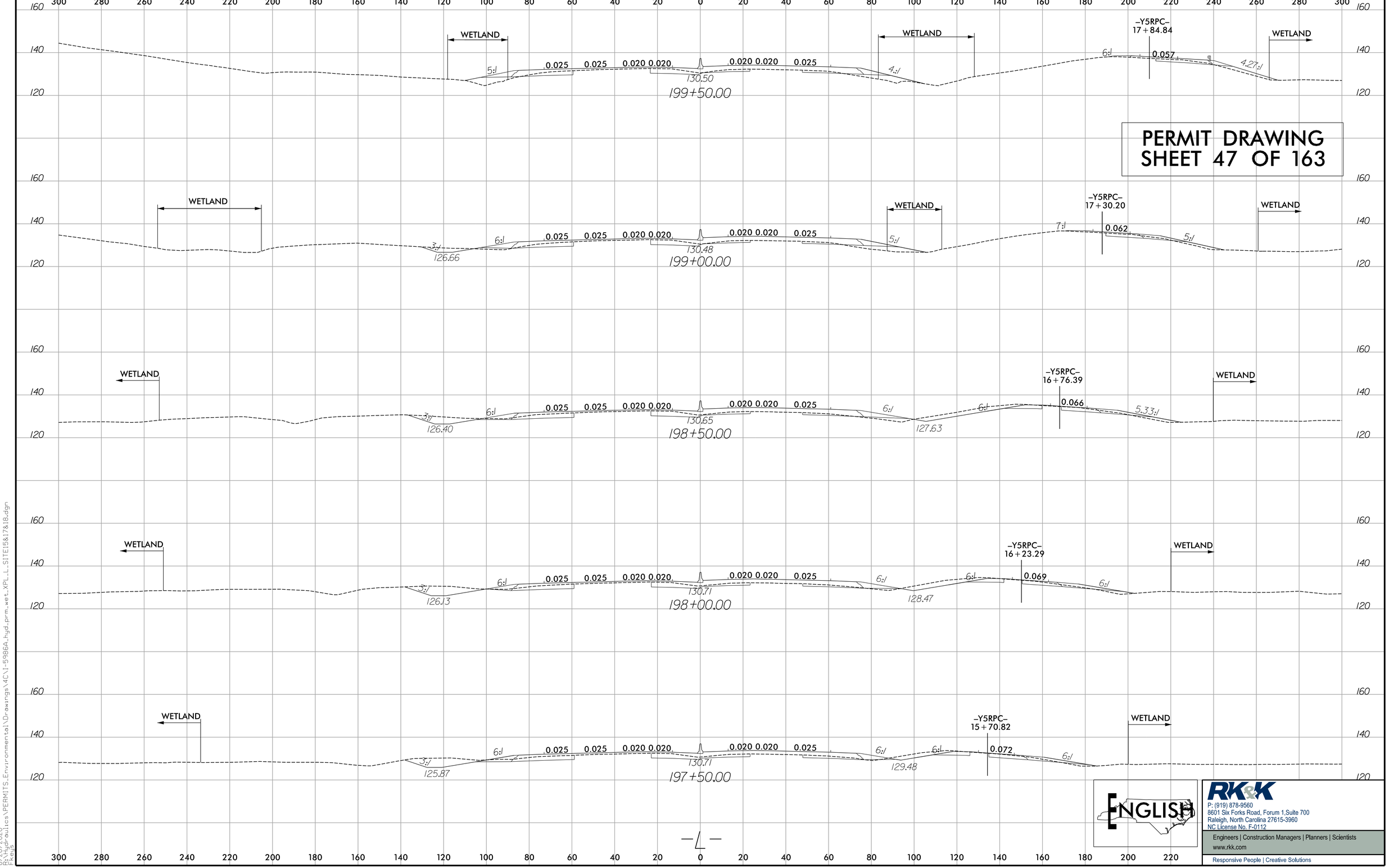
Submitted 9/2/2020

6/23/16

SITE 15, 17, & 18

0 10 20

PROJ. REFERENCE NO.	SHEET NO.
I-5986A	S1 X-106



PERMIT DRAWING
SHEET 47 OF 163

ENGLISH

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE15&17&18.dgn
R. Kelly

Submitted 9/2/2020

6/23/16

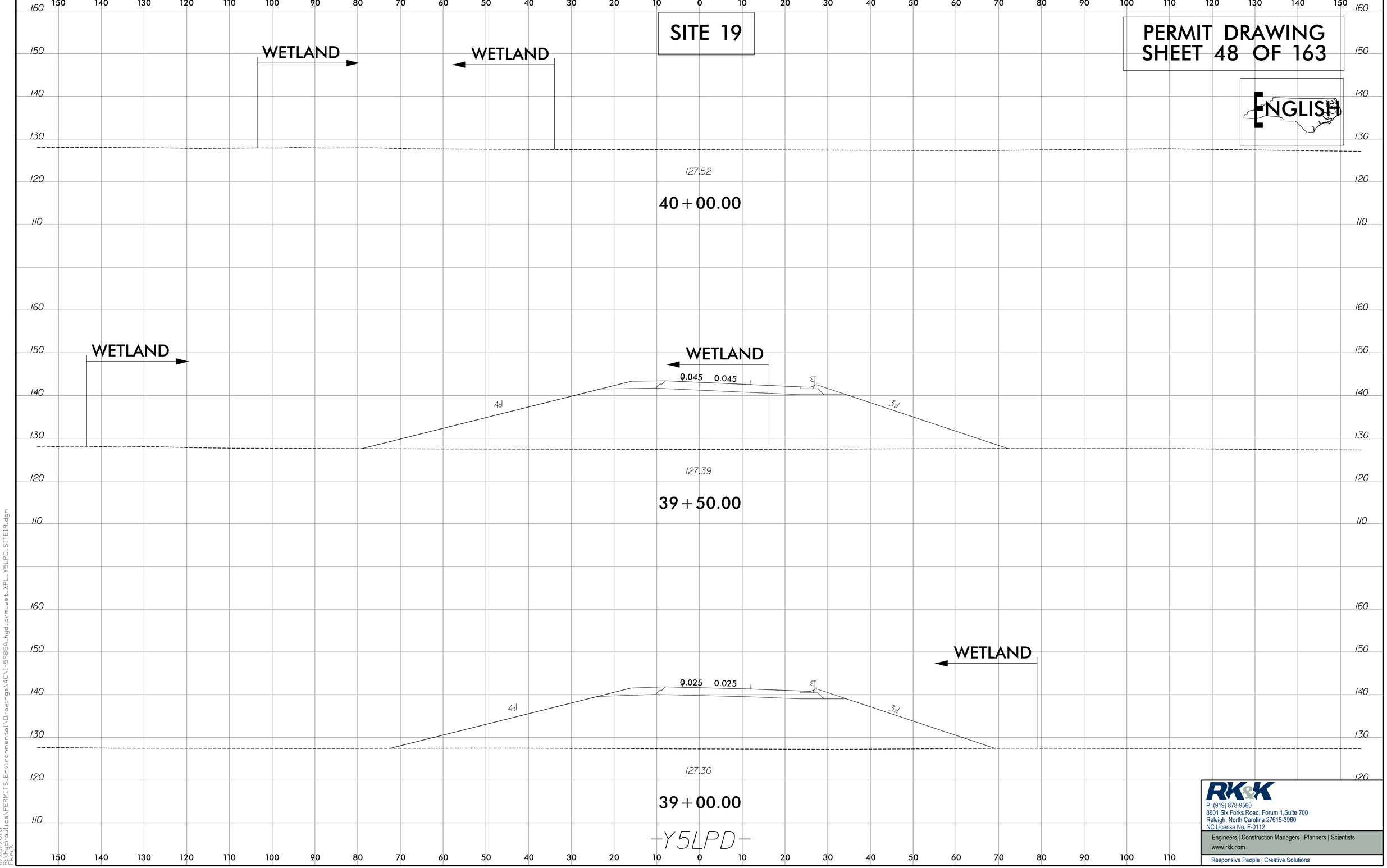
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
I-5986A	S1 X-263

SITE 19

PERMIT DRAWING
SHEET 48 OF 163

ENGLISH



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y5LPD_SITE19.dgn
FK hgs

Submitted 9/2/2020

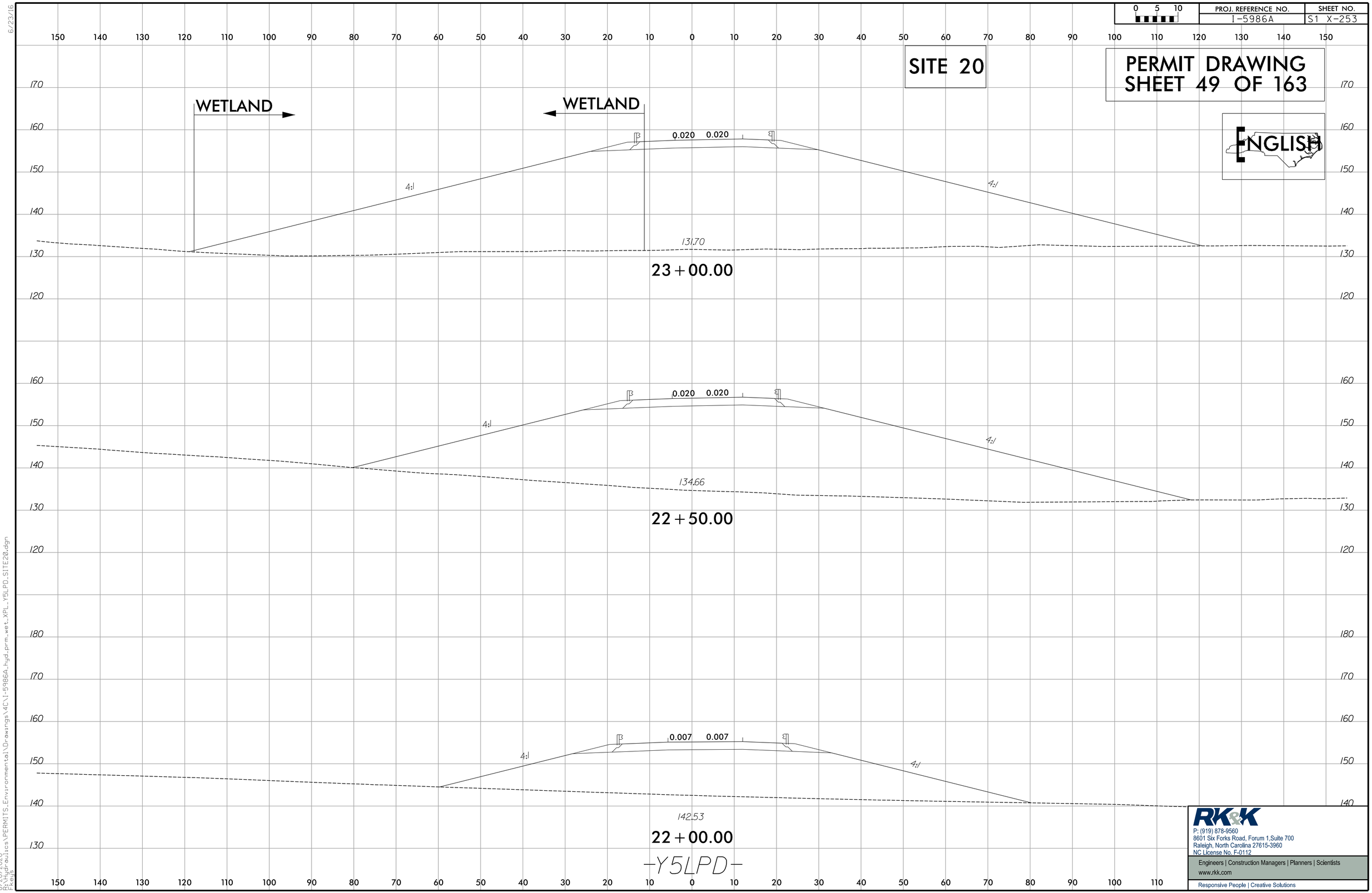
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-253

SITE 20

PERMIT DRAWING
SHEET 49 OF 163

ENGLISH



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Highways\PERMITS_Environmental\Drawings\4CV\I-5986A_hyd_prm_wet_XPL_Y5LPD_SITE20.dgn
Files

Submitted 9/2/2020

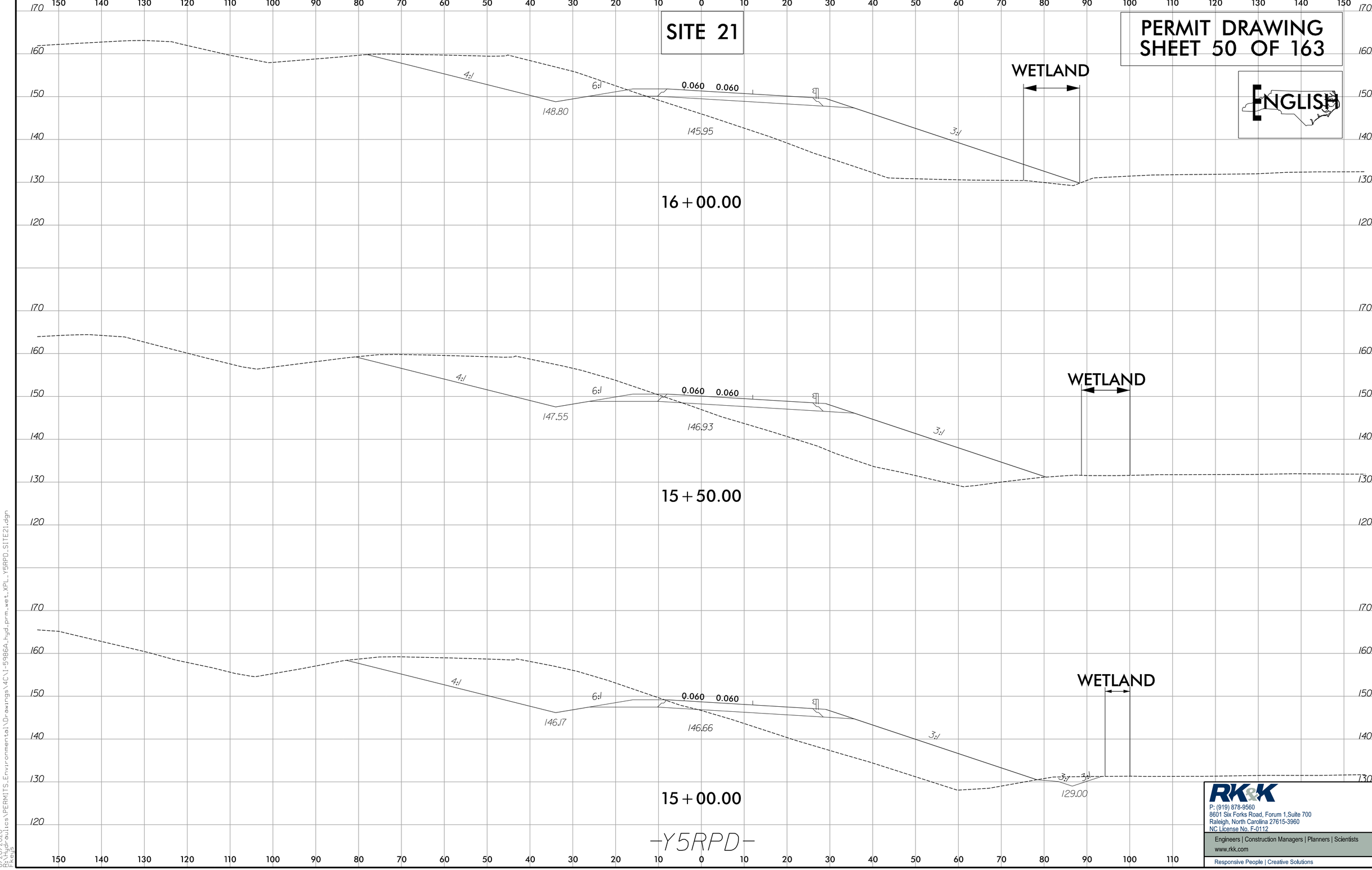
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-248

SITE 21

PERMIT DRAWING
SHEET 50 OF 163

ENGLISH



-Y5RPD-

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y5RPD_SITE21.dgn
Plotted

Submitted 9/2/2020

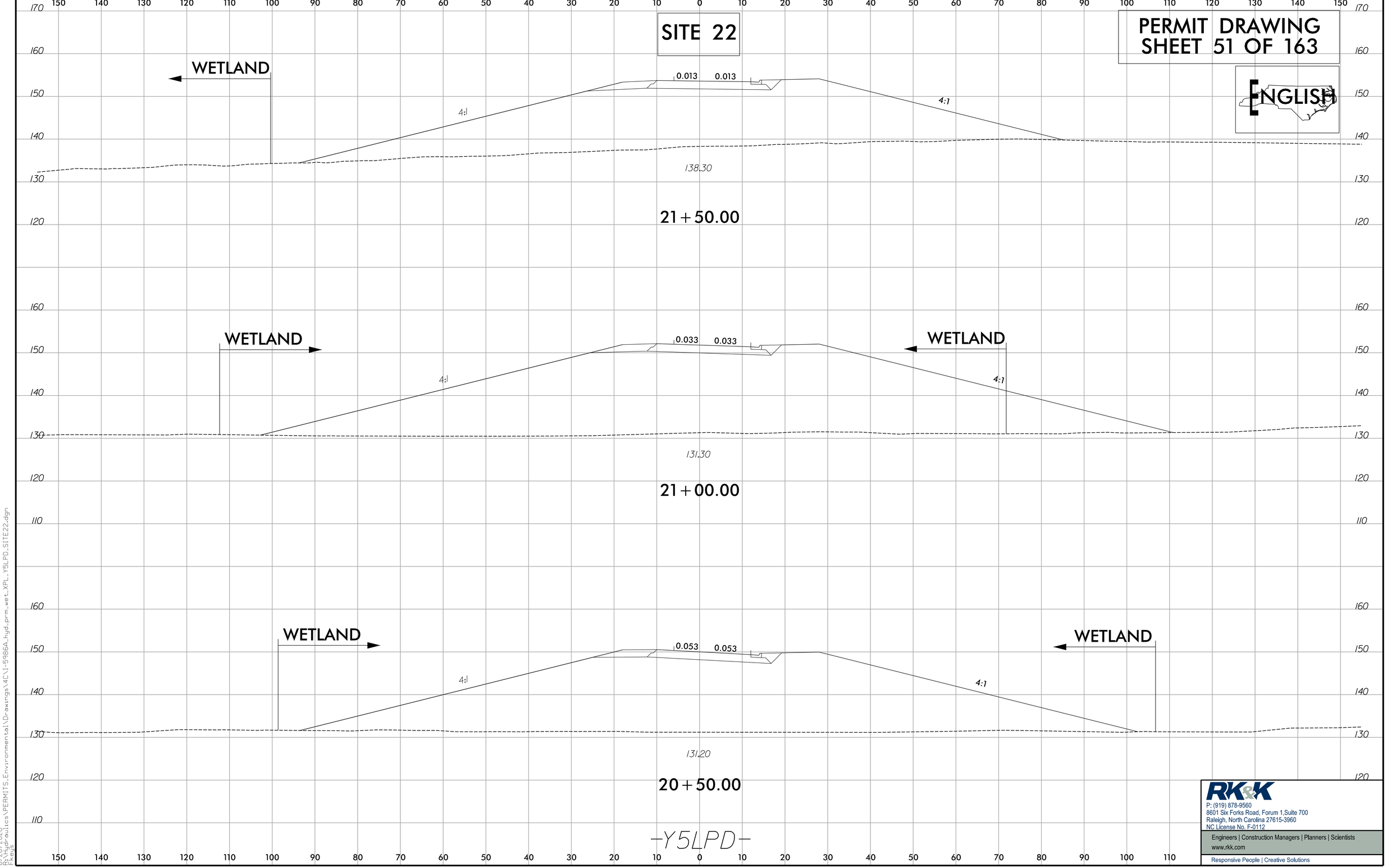
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-252

SITE 22

PERMIT DRAWING SHEET 51 OF 163

ENGLISH



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y5LPD_SITE22.dgn
Flegg

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 52 OF 163

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

S 68°39'04" E 132.00'

N 88°39'46" E 132.00'

SITE 23

MATCHLINE -L- STA. 239+00.00 SEE SHEET 21

MATCHLINE -L- STA. 252+00.00 SEE SHEET 23

MATCHLINE -Y5FLYREV- STA. 80+00.00 SEE SHEET 21

CHORD

PROP. WOVEN WIRE FENCE

2 TONS CL B RIPRAP W/7 SY GEO FAB

SPECIAL CUT 4' BASE DITCH SEE DETAIL F

LATERAL 4' BASE DITCH SEE DETAIL D

3 TONS CL B RI W/10 SY GEO

PDE

15" CONC

CAT-1

GREU TL-3

48" WW & ISBW

R/W MON

WOODS

PLUG & FILL W/ FLOWABLE FILL

15" RCP-IV

18" RCP-IV

I-95 SBL 46' BST

I-95 NBL VAR BST

12' BST

10' BST

9.5' BST

45' BST

MTL

240+00

245+00

250+00

-L-

N 40° 50' 46.3" E

2GIB-WSF

REMOVE DI 15" RCP-IV

REMOVE DI 18" RCP-IV

85+00

4OTCB

8 TONS CL B RIPRAP W/21 SY GEO FAB

SPECIAL CUT DITCH SEE DETAIL U

SPECIAL CUT DITCH SEE DETAIL AA

SPECIAL CUT DITCH SEE DETAIL B

2 TON CL B RIPRAP W/7 SY GEOFAB

LATERAL V DITCH SEE DETAIL K

PROP. SBG

RIP-RAP

PUE

50 25 0 50 100

SCALE

ENGLISH

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR –LLT SEC1– PROFILE SEE SHTS. 103 AND 104
FOR –LRT SEC1– PROFILE SEE SHTS. 103 AND 104
FOR –Y5RPA– PROFILE SEE SHT. 161
FOR –Y5FLY– PROFILE SEE SHT. 171

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Highways\Projects\PERMITS_Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh22.dgn
Features

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING SHEET 53 OF 163

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

S 68°39'04" E 132.00'

N 88°59'46" E 132.00'

SITE 23

PDE

PDE

MATCHLINE -L- STA. 239+00.00 SEE SHEET 21

MATCHLINE -L- STA. 252+00.00 SEE SHEET 23

MATCHLINE -Y5FLYREV- STA. 80+00.00 SEE SHEET 21

CHORD

CHORD

PROP. WOVEN WIRE FENCE

2 TONS CL B RIPRAP W/7 SY GEO FAB

SPECIAL CUT 4' BASE DITCH SEE DETAIL F

LATERAL 4' BASE DITCH SEE DETAIL D

3 TONS CL B RI W/10 SY GEO

48" WW & 1SBW

GREU TL-3

CAT-1

15" RCP-IV

PLUG & FILL W/ FLOWABLE FILL

I-95 SBL 46' BST

240+00

245+00

250+00

N 40° 50' 46.3" E

-L-

2GIB-WSF

REMOVE DI 15" RCP-IV

18" RCP-IV

REMOVE DI 18" RCP-IV

12' BST

10' BST

9.5' BST

I-95 NBL VAR BST

45' BST

MTL

RIP RAP

4OTCB

SPECIAL CUT DITCH SEE DETAIL U

8 TONS CL B RIPRAP W/21 SY GEO FAB

SPECIAL CUT DITCH SEE DETAIL AA

SPECIAL CUT DITCH SEE DETAIL B

WOODS

85+00

GREU TL-3

PROP. SBG

2 TON CL B RIPRAP W/7 SY GEOFAB

LATERAL V DITCH SEE DETAIL K

PUE

50 25 0 50 100

SCALE

ENGLISH

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR –LLT SEC1– PROFILE SEE SHTS. 103 AND 104
FOR –LRT SEC1– PROFILE SEE SHTS. 103 AND 104
FOR –Y5RPA– PROFILE SEE SHT. 161
FOR –Y5FLY– PROFILE SEE SHT. 171

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh22_CON.dgn
kfeezell

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

S S DENOTES IMPACTS IN SURFACE WATER

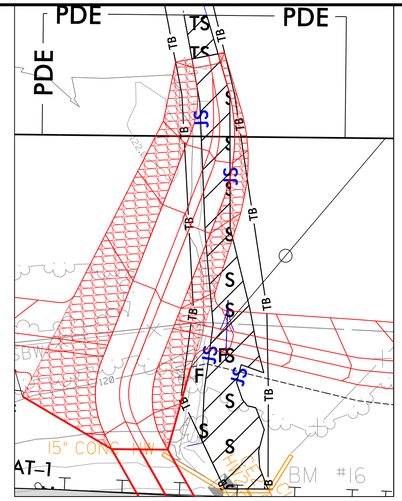
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 54 OF 163

INSET A



NAD 83/NA 2011

SEE INSET A

SITE 23

SC-2

MATCHLINE -L- STA. 252+00.00 SEE SHEET 22

MATCHLINE -L- STA. 266+00.00 SEE SHEET 24

PDE

LATERAL 4' BASE DITCH SEE DETAIL D

SPECIAL CUT DITCH SEE DETAIL B

2 TONS CL B RIPRAP W/7 SY GEO FAB

PROP.WOVEN WIRE FENCE

GREU TL-3

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

15" RCP-IV

2GIB-WSF

N 40° 50' 46.3" E

255+00

260+00

N 40° 44' 45.7" E

265+00

SPECIAL CUT 4' BASE DITCH SEE DETAIL F

CHORD

PUE

SEE INSET B

SITE 23

SC-1

INSET B

PROP. SBG

TIE FENCE TO CUVLERT WING WALL

TIE FENCE CUVLERT W WALL

FOR -LLT SEC1- PROFILE SEE SHTS. 104 AND 105	
FOR -LRT SEC1- PROFILE SEE SHTS. 104 AND 105	
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2	

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
I:\Projects\PERMITS\Environmental\Drawings\48\Section 1\I-5986A_hyd_48_psh23.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 55 OF 163

INSET A

NAD 83/NA 2011

SEE INSET A

MATCHLINE -L- STA. 252+00.00 SEE SHEET 22

MATCHLINE -L- STA. 266+00.00 SEE SHEET 24

SITE 23

SC-2

LATERAL 4' BASE DITCH SEE DETAIL D

SPECIAL CUT DITCH SEE DETAIL B

2 TONS CL B RIPRAP W/7 SY GEO FAB

PROP.WOVEN WIRE FENCE

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

2GIB-WSF 15" RCP-IV

SPECIAL CUT 4' BASE DITCH SEE DETAIL F

CHORD

SEE INSET B

SITE 23

SC-1

INSET B

PROP. SBG

TIE FENCE TO CUVLERT WING WALL

TIE FENCE CUVLERT W WALL

FOR -LLT SEC1- PROFILE SEE SHTS. 104 AND 105
FOR -LRT SEC1- PROFILE SEE SHTS. 104 AND 105
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Traditional\Roadways\Projects\PERMITS_Environmental\0-Dwgs\48\Section 1\I-5986A_hyd_48_psh23_CON.dgn

Submitted 9/2/2020

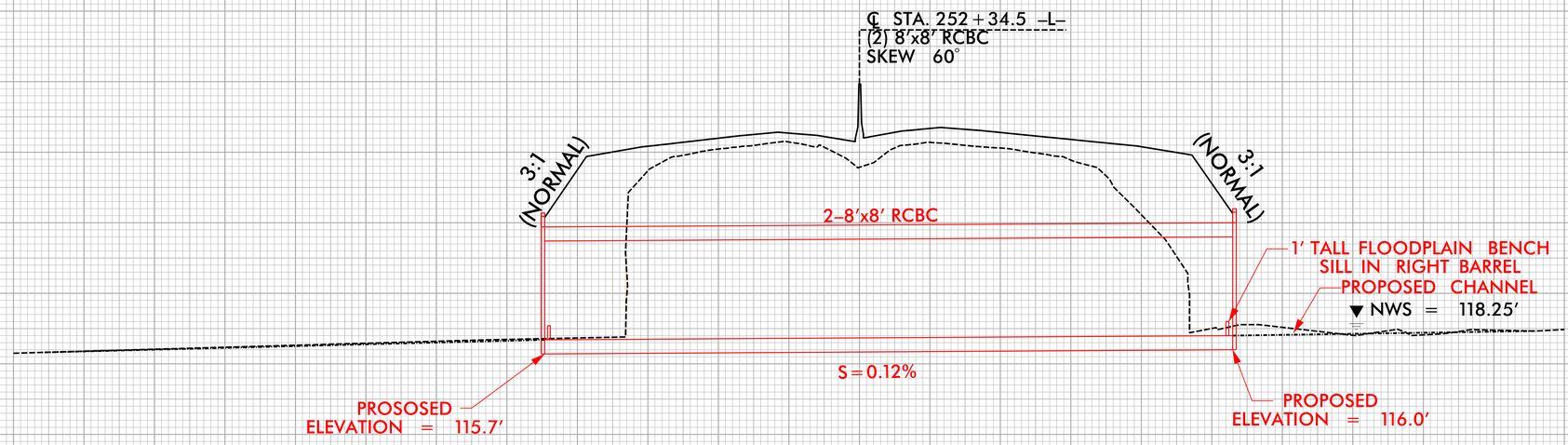
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 23
–L– STA. 252+34

PERMIT DRAWING
SHEET 56 OF 163

ENGLISH



150 140 130 120 110

250 200 150 100 50 0 50 100 150 200 250

2 – 8'X 8'RCBC
(buried 1.0')
(length=244')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_PFL_SITE23.dgn
Eckhoff, Kevin

Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 57 OF 163

8/17/99

TERAL 4' BASE DITCH SEE DETAIL D

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

160'

W/11 SY GEO FAB

2GIB-WSF

BEGIN WW FENCE

SP. LATERAL 4' BASE DITCH SEE DETAIL C

Q10 = 31.15 cfs
V10 = 1.91 ft/s

CAT-T

24" RCP-III

JB W/MH

15" RCP-III

PROP. SBG

18" RCP-III

2GIB-WSF

INSET A

N 41°32'49" E
618.73'

SITE 24

SEE INSET A

SD-2

WZ

Q10 = 7.95 cfs
V10 = 0.80 ft/s

Q10 = 61.9 cfs
V10 = 2.04 ft/s

3 TON CL B RIP RAP W/11 SY GEO FAB

2 TONS CL B RIP RAP W/7 SY GEO FAB

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

SP. CUT 4' BASE DITCH SEE DETAIL F

LATERAL 4' BASE DITCH SEE DETAIL D

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

15" RCP-IV

REMOVE DI

GREU_TL-3

MATCHLINE -L- STA. 300+50.00 SEE SHEET 26

MATCHLINE -L- STA. 312+00.00 SEE SHEET 28

305+00

310+00

N 40° 50' 03.2" E

I-95 SBL 37" BST

I-95 NBL VAR BST

PLUG & FILL W/ FLOWABLE FILL

1 TON CL B RIP RAP W/5 SY GEO FAB

STANDARD BASE DITCH SEE DETAIL I

SPECIAL CUT BASE DITCH SEE DETAIL F

RETAIN SYSTEM

Q10 = 35.35 cfs
V10 = 1.97 ft/s

Q10 = 17.79 cfs
V10 = 1.86 ft/s

LATERAL 4' BASE DITCH SEE DETAIL D

WY

SD-1

SEE INSET B

SITE 24

S 40°38'56" W
406.09'

6" CONC HW

PROP. SBG

1 TON CL B RIP RAP W/5 SY GEO FAB 2712

15" RCP-III

INV (FES)=25.43'

INSET B

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

E E DENOTES EXCAVATION IN WETLAND

T T DENOTES TEMPORARY FILL IN WETLAND

FOR –LLT SEC2– PROFILE SEE SHTS. 108 THRU 109
FOR –LRT SEC2– PROFILE SEE SHTS. 108 THRU 109
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
C:\pwworking\dgnfiles\PERMITS_Environmental\D-awings\4B\Section 2\I-5986A_hyd_4B_psh27.dgn
Eric.Hughes

Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 58 OF 163

INSET A

SITE 24

SEE INSET A

SEE INSET B

MATCHLINE -L- STA. 300+50.00 SEE SHEET 26

MATCHLINE -L- STA. 312+00.00 SEE SHEET 28

INSET B

SCALE FOR INSET 25 0 25 50

SCALE 50 25 0 50 100

ENGLISH

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

E E DENOTES EXCAVATION IN WETLAND

T T DENOTES TEMPORARY FILL IN WETLAND

FOR –LLT SEC2– PROFILE SEE SHTS. 108 THRU 109
FOR –LRT SEC2– PROFILE SEE SHTS. 108 THRU 109
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/17/99

8/24/2020
I:\Projects\PERMITS\Environmental\Drawings\48\Section 2\I-5986A_hyd_48_psh27_CON.dgn

Submitted 9/2/2020

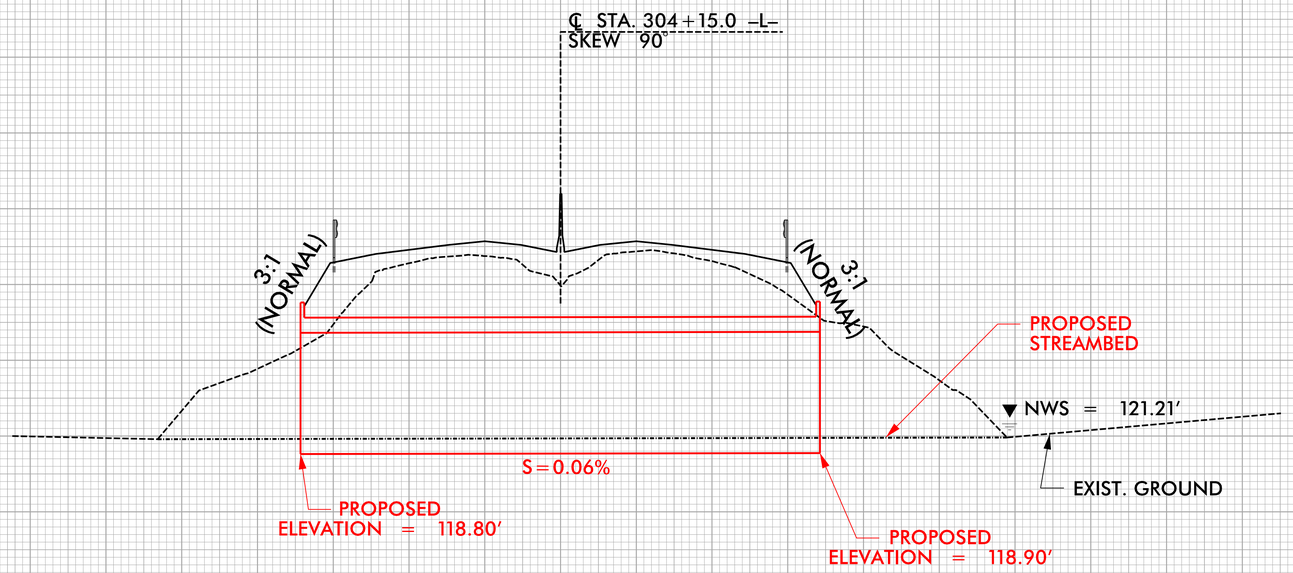
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 24
–L– STA. 304+15

PERMIT DRAWING
SHEET 59 OF 163

ENGLISH



3 @ 10′ X 8′ RCBC
(buried 1.0′)
(length=171′)

150 140 130 120 110

250 200 150 100 50 0 50 100 150 200 250

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_PFL_SITE24.dgn
ESchaffer

Submitted 9/2/2020

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

0 5 10

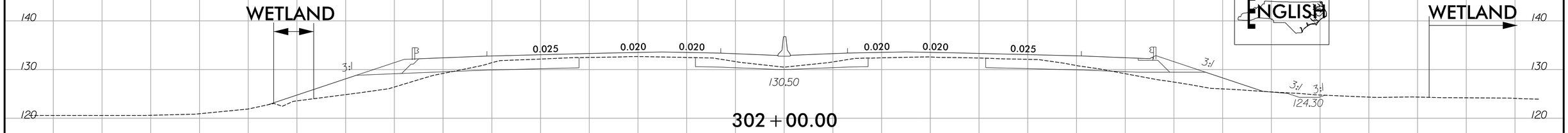
PROJ. REFERENCE NO.	SHEET NO.
I-5986A	S2 X-8

PERMIT DRAWING SHEET 59A OF 163

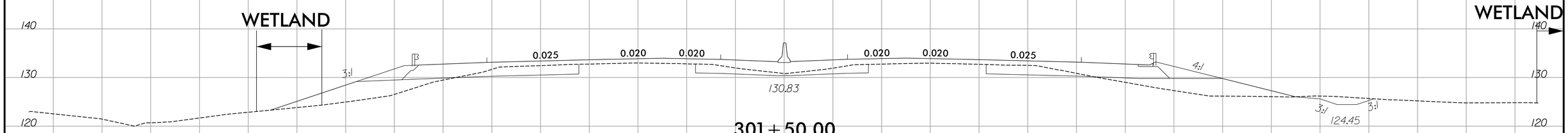
SITE 24

ENGLISH

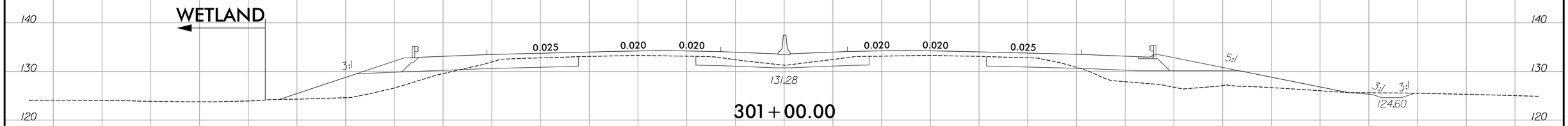
302 + 00.00



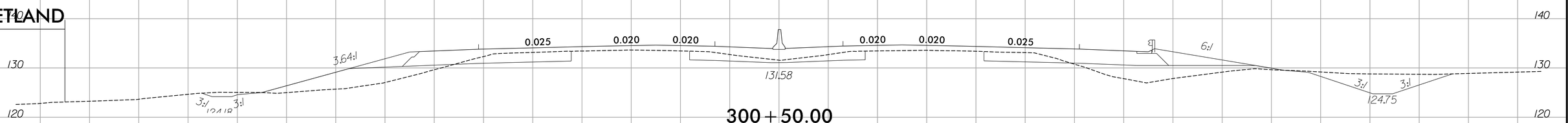
301 + 50.00



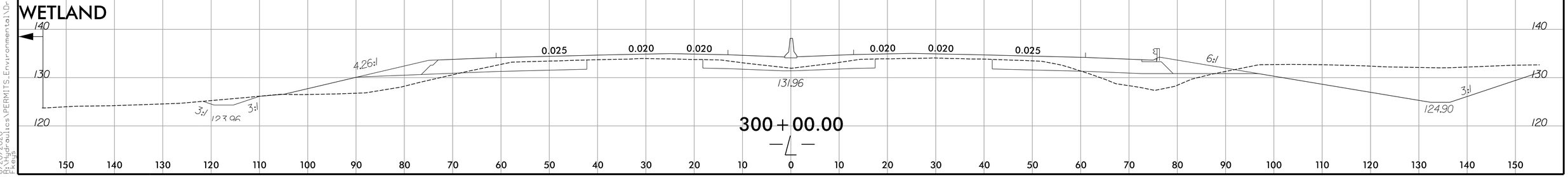
301 + 00.00



300 + 50.00



300 + 00.00



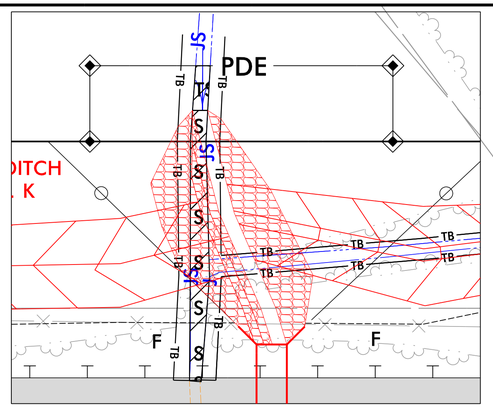
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

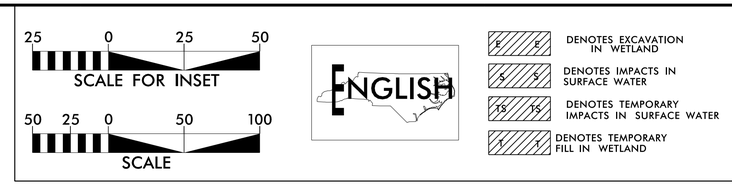
8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_SITE24.dgn
Plotted

Submitted 9/2/2020

8/17/99



INSET A

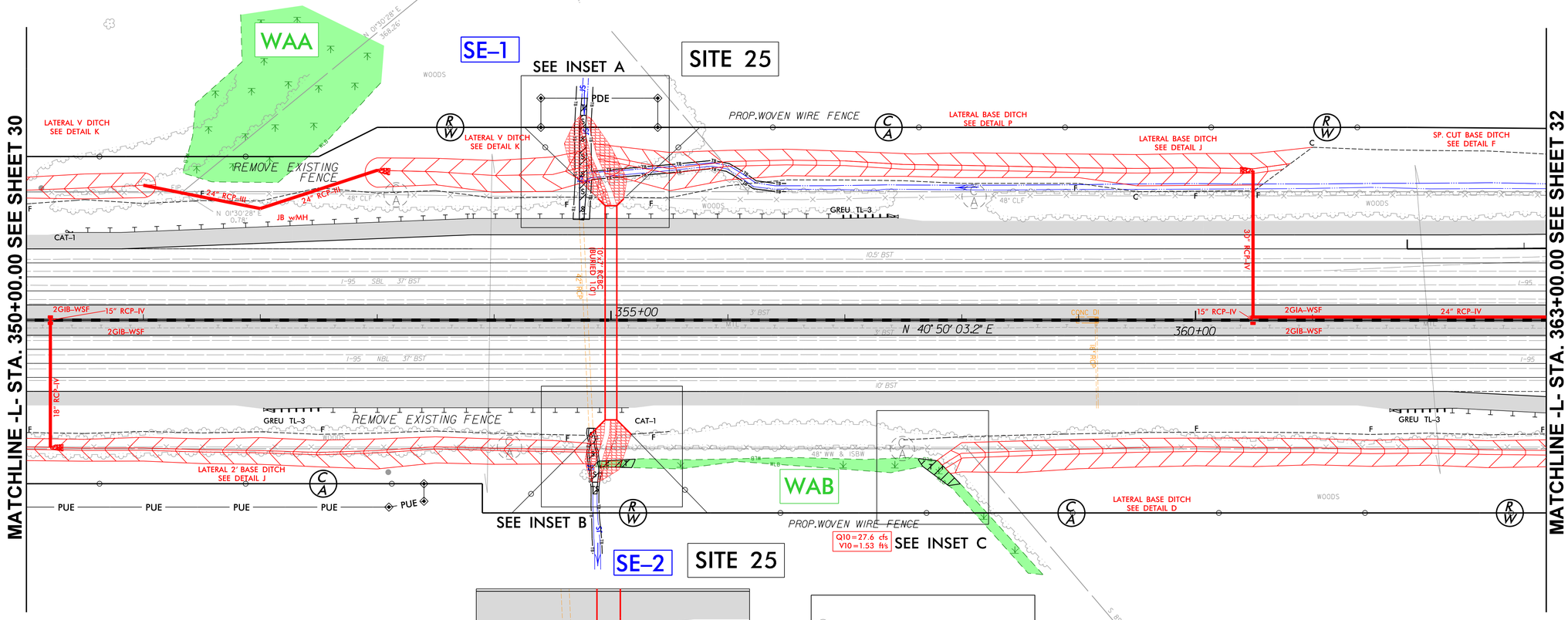


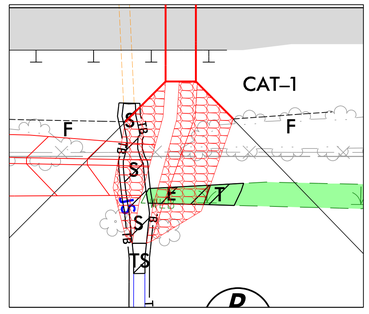
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	31
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

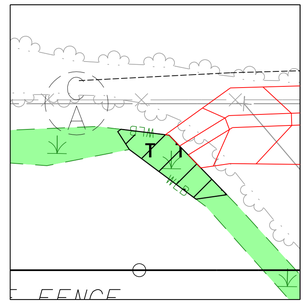
PERMIT DRAWING SHEET 60 OF 163







INSET B



INSET C

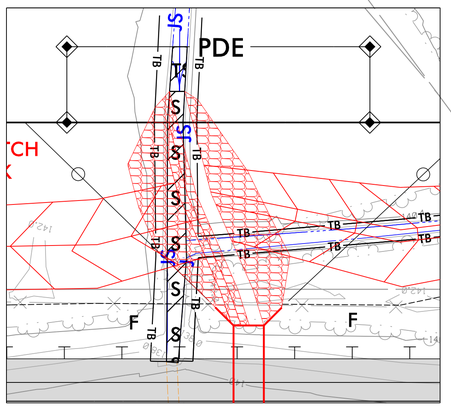
FOR –LLT SEC2– PROFILE SEE SHTS. 112 THRU 113
FOR –LRT SEC2– PROFILE SEE SHTS. 112 THRU 113
FOR –Y7RPB– PROFILE SEE SHT. 178
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

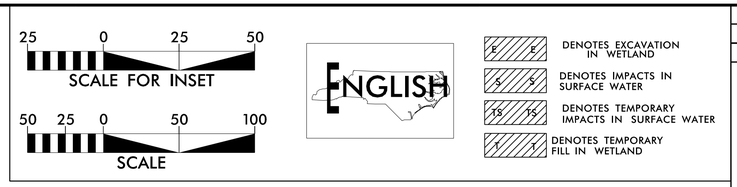
8/21/2020
K:\Projects\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_psh31.dgn
Ekelley

Submitted 9/2/2020

8/17/99



INSET A

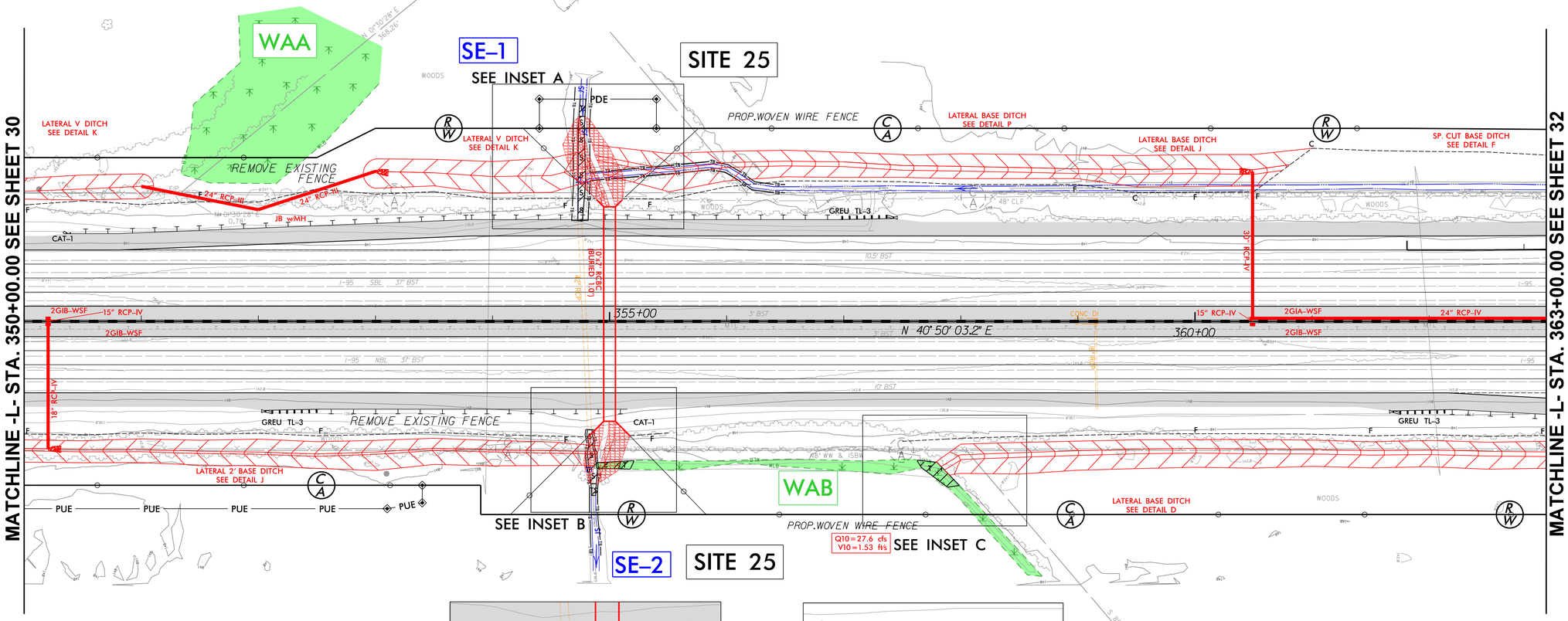


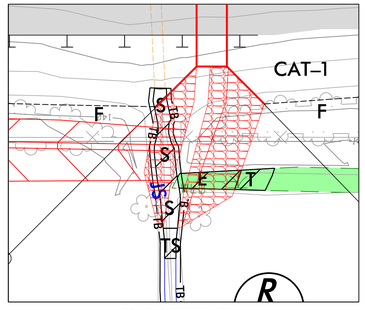
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	31
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

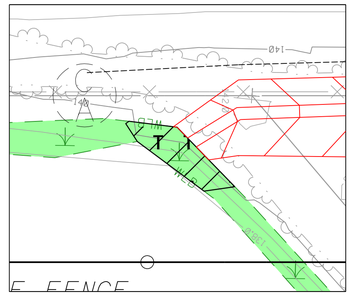


PERMIT DRAWING SHEET 61 OF 163





INSET B



INSET C

FOR –LLT SEC2– PROFILE SEE SHTS. 112 THRU 113
FOR –LRT SEC2– PROFILE SEE SHTS. 112 THRU 113
FOR –Y7RPB– PROFILE SEE SHT. 178

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
I-5986A_Roadways\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_psh31_CON.dgn
Ekelley

Submitted 9/2/2020

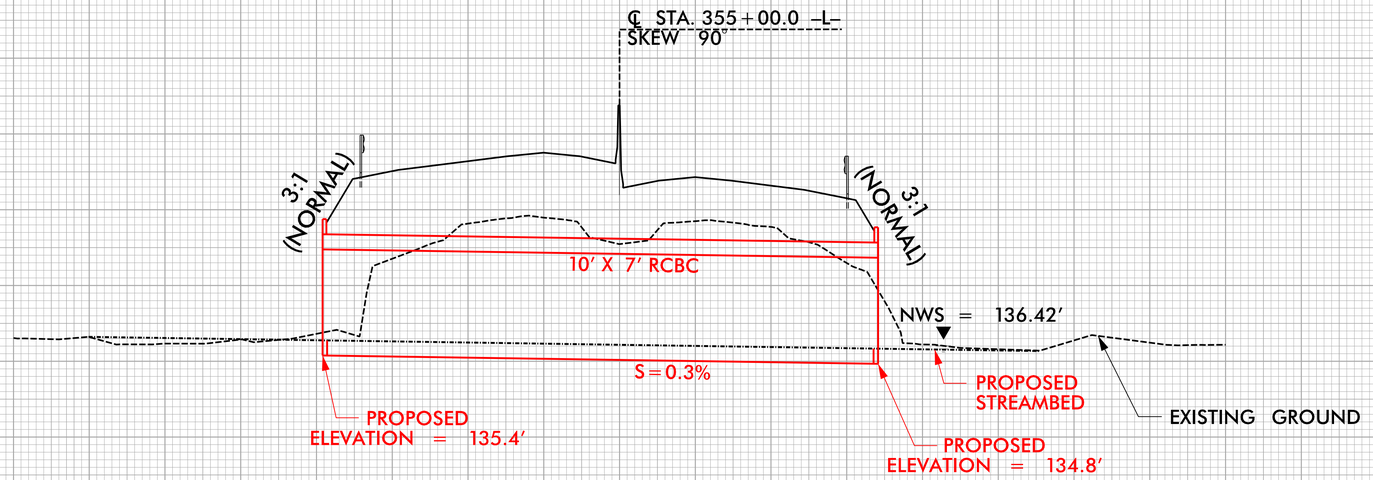
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 25
–L– STA. 355+00

PERMIT DRAWING
SHEET 62 OF 163

ENGLISH



160 150 140 130 120

250 200 150 100 50 0 50 100 150 200 250

10' X 7' RCBC
(buried 1.0' with alternating 1.0' tall, 5.0' wide baffles)
(length=183')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
2:41:49 PM
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd-prm_wet_PFL_SITE25.dgn

Submitted 9/2/2020

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-26

SITE 25

PERMIT DRAWING SHEET 62A OF 163

ENGLISH

WETLAND

355+50.00

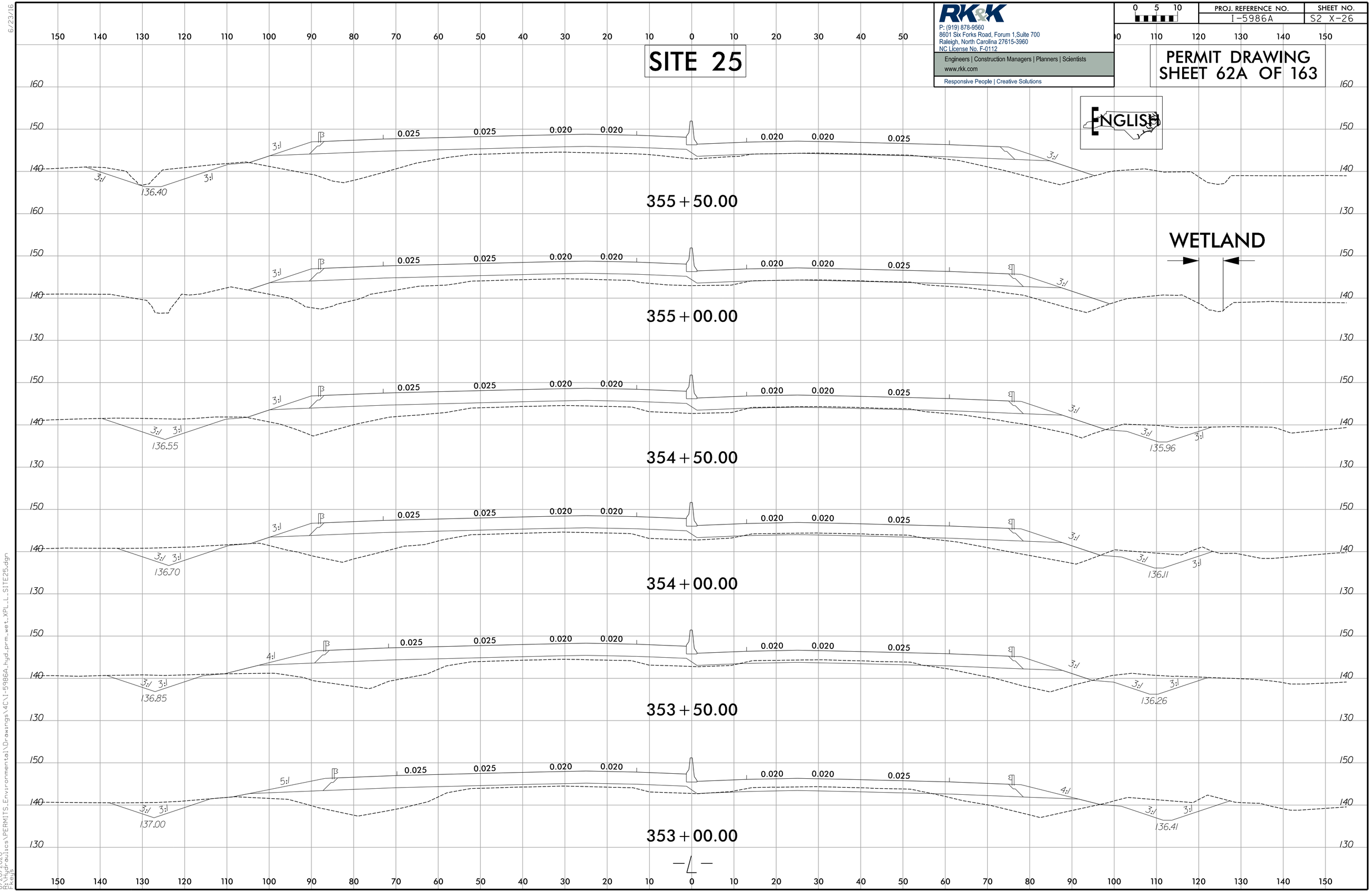
355+00.00

354+50.00

354+00.00

353+50.00

353+00.00



6/23/16

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE25.dgn
Plotted

Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 63 OF 163

50 0 50 100
SCALE FOR INSET

100 50 0 100 200
SCALE

ENGLISH

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES TEMPORARY FILL IN WETLAND

NAD 83/NSRS 2011

MATCHLINE -SR3- STA. 18+25.00 SEE SHEET 74

MATCHLINE -Y7B- STA. 14+50.00 SEE SHEET 74

MATCHLINE -SR3- STA. 29+50.00 SEE SHEET 33

MATCHLINE -L- STA. 363+00.00 SEE SHEET 31

MATCHLINE -L- STA. 390+00.00 SEE SHEET 33

MATCHLINE -Y7D- STA. 12+50.00 SEE SHEET 75

MATCHLINE -Y7D- STA. 14+00.00 SEE SHEET 75

MATCHLINE -Y7C- STA. 20+20.00 SEE SHEET 33

A

B

C

D

SITE 27

SITE 26

WAF

WAC

SEE INSET A

SEE INSET B

INSET A

INSET B

REMOVE EXISTING FENCE

PROP. WOVEN WIRE FENCE

GRADE TO DRAIN

2GID-WSS

2GIB-WSF

15" RCP-III

1 TON CL B RIP RAP
5 SY GEOTEXTILE

FOR BRIDGE SKETCH SEE SHT. 2A-5
FOR CROSS SECTION LAYOUT SEE SHT. 2B-2
FOR -LLT_SEC2- PROFILE SEE SHTS. 113 THRU 115
FOR -LRT_SEC2- PROFILE SEE SHTS. 113 THRU 115
FOR -Y7B- PROFILE SEE SHT. 175
FOR -Y7C- PROFILE SEE SHT. 175
FOR -Y7D- PROFILE SEE SHT. 176
FOR -Y7RPA- PROFILE SEE SHT. 177
FOR -Y7RPB- PROFILE SEE SHT. 178
Y7RPC- PROFILE SEE SHTS. 178 THRU 179
Y7RPD- PROFILE SEE SHT. 179
Y7RAB2- PROFILE SEE SHT. 176
Y7RAB3- PROFILE SEE SHT. 176
Y20- PROFILE SEE SHT. 181
SR3- PROFILE SEE SHT. 182

ITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
9801 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0152
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
C:\Projects\I-5986A\PERMITS\Environmental\Cl-Sheets\405-Sketch.dgn 2:1, 0.9980, Layer: 405, Layout: 2D_Index

Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 64 OF 163

50 0 50 100
SCALE FOR INSET

100 50 0 100 200
SCALE

ENGLISH

DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY FILL IN WETLAND

NAD 83/NSRS 2011

MATCHLINE -SR3- STA. 18+25.00 SEE SHEET 74

MATCHLINE -Y7B- STA. 14+50.00 SEE SHEET 74

MATCHLINE -SR3- STA. 29+50.00 SEE SHEET 33

MATCHLINE -L- STA. 363+00.00 SEE SHEET 31

MATCHLINE -L- STA. 390+00.00 SEE SHEET 33

MATCHLINE -Y7D- STA. 12+50.00 SEE SHEET 75

MATCHLINE -Y7B- STA. 14+00.00 SEE SHEET 75

MATCHLINE -Y7A- STA. 20+20.00 SEE SHEET 33

A

B

C

D

SITE 27

SITE 26

WAF

WAC

SEE INSET A

SEE INSET B

INSET A

INSET B

REMOVE EXISTING FENCE

PROP. WOVEN WIRE FENCE

EXISTING FENCE

GRADE TO DRAIN

S 43° 50' 03.2" W

N 43° 50' 03.2" E

N 40° 50' 03.2" E

S 6° 50' 47.6" W

S 6° 50' 47.6" E

N 6° 50' 47.6" E

FOR BRIDGE SKETCH SEE SHT. 2A-5
FOR CROSS SECTION LAYOUT SEE SHT. 2B-2
FOR –LLT_SEC2– PROFILE SEE SHTS. 113 THRU 115
FOR –LRT_SEC2– PROFILE SEE SHTS. 113 THRU 115
FOR –Y7B– PROFILE SEE SHT. 175
FOR –Y7C– PROFILE SEE SHT. 175
FOR –Y7D– PROFILE SEE SHT. 176
FOR –Y7RPA– PROFILE SEE SHT. 177
FOR –Y7RPB– PROFILE SEE SHT. 178
Y7RPC– PROFILE SEE SHTS. 178 THRU 179
Y7RPD– PROFILE SEE SHT. 179
Y7RAB2– PROFILE SEE SHT. 176
Y7RAB3– PROFILE SEE SHT. 176
Y20– PROFILE SEE SHT. 181
SR3– PROFILE SEE SHT. 182

ITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-0560
9801 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0152
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
C:\Projects\PROJECTS_Environmental\Cad\Drawings\MS Exercises - 2-1\I-5986A_Sht 4B_pw2D_DGN.dgn

Submitted 9/2/2020

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-135

SITE 26

PERMIT DRAWING
SHEET 65 OF 163

ENGLISH

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

160 / 150 / 140

WETLAND

3:1 3:1 6:1 0.070 0.070 3:1

145.13

142.92

21 + 00.00

WETLAND

150 / 140

6:1 0.070 0.070 3:1

142.41

20 + 50.00

WETLAND

150 / 140

3:1 6:1 0.070 0.070 3:1

144.57

142.56

20 + 00.00

WETLAND

150 / 140

3:1 6:1 0.069 0.069 3:1

144.29

142.20

19 + 50.00

WETLAND

150 / 140

3:1 3:1 5:1 0.070 0.070 4:1

142.28

141.59

19 + 00.00

WETLAND

150 / 140

3:1 3:1 4:1 0.070 0.070 4:1

141.55

141.81

18 + 50.00

130

-Y7RPC-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y7RPC_SITE26.dgn
F.Kopp

Submitted 9/2/2020

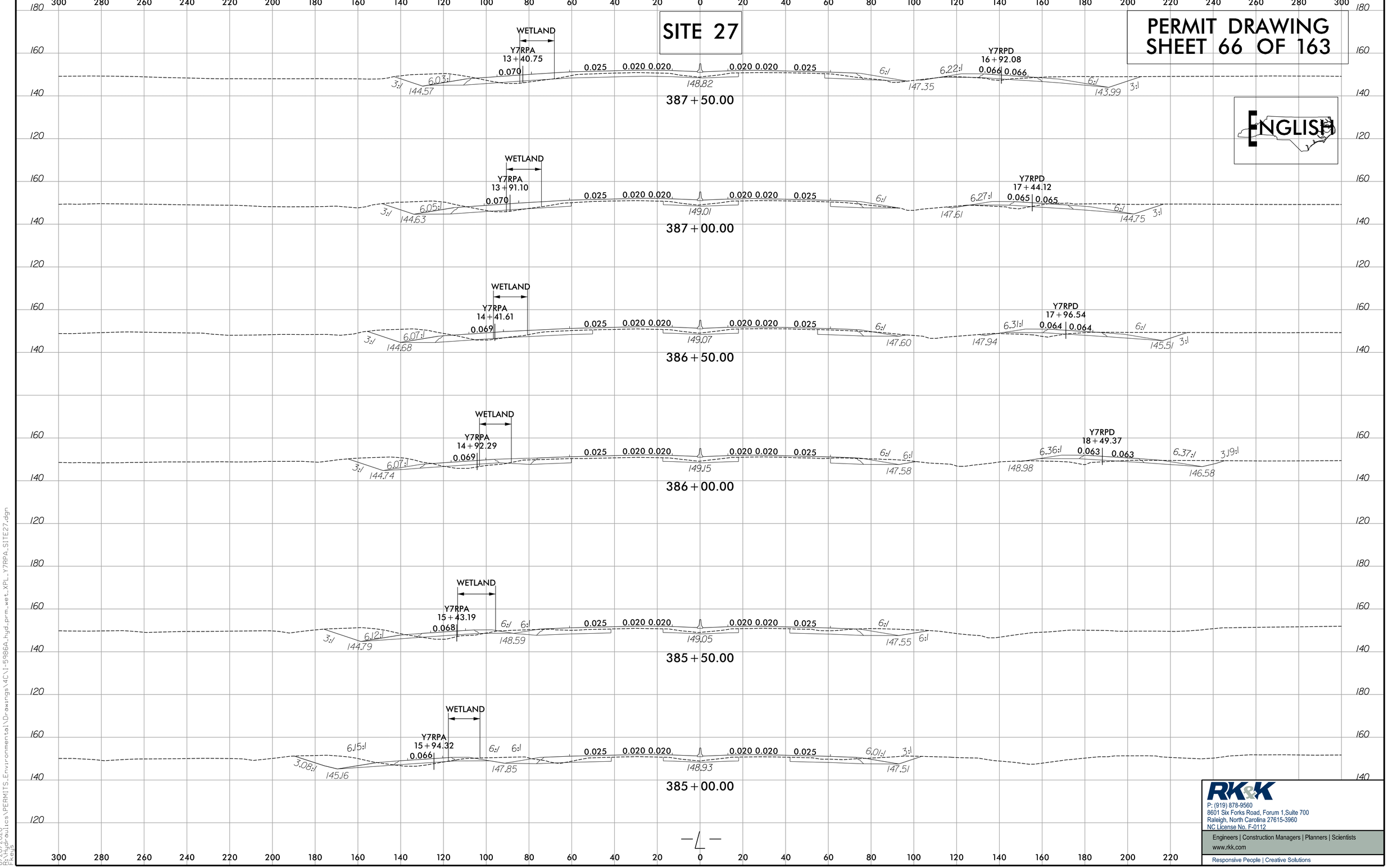
6/23/16

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-37

SITE 27

PERMIT DRAWING SHEET 66 OF 163

ENGLISH



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Highways\PERMITS_Environmental\Drawings\4CN\I-5986A_hyd_prm_wet_XPL_Y7RPA_SITE27.dgn
F. Kopp

Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING SHEET 67 OF 163

8/17/99

MATCHLINE -L- STA. 390+00.00 SEE SHEET 32

MATCHLINE -SR3- STA. 29+50.00 SEE SHEET 32

MATCHLINE -Y20- STA. 20+00.00 SEE SHEET 32

MATCHLINE -L- STA. 402+00.00 SEE SHEET 34

MATCHLINE -Y20- STA. 32+00.00 SEE SHEET 34

INSET A

Q10=17.0 cfs
V10=1.06 ft/s

SEE INSET A

Q10=3.43 cfs
V10=0.99 ft/s

Q10=17.0 cfs
V10=1.06 ft/s

END CONSTRUCTION –SR3– Sta. 36+00.00

PG

WAF

WAG

SITE 27

SITE 28

SP. LATERAL BASE DITCH SEE DETAIL C

5 TONS CL B RIP RAP 16 SY GEOTEXTILE

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

REMOVE 2 TONS CL B RIP RAP 7 SY GEOTEXTILE

MEDIAN DITCH SEE DETAIL G

PLUG & FILL W/FLOWABLE FILL

REMOVE DI

2GIB-WSF

15" RCP-IV

18" RCP-IV

24" RCP-IV

N 40° 50' 03.2" E

N 40° 50' 05.0" E

N 44° 42' 08.4" E

N 41° 05' 13.6" E

REMOVE EXISTING FENCE

PROP. CHAIN LINK FENCE

SPECIAL CUT DITCH SEE DETAIL B

LATERAL V DITCH SEE DETAIL K

LATERAL BASE DITCH SEE DETAIL P

8 TONS CL B RIP RAP 21 SY GEOTEXTILE

3 TONS CL B RIP RAP 10 SY GEOTEXTILE

REMOVE 75' PIPE

SP. CUT BASE DITCH SEE DETAIL V

JB W/MH

30" RCP-III

18" RCP-III

15" RCP-III

30" RCP-IV

24" RCP-IV

RETAIN

REMOVE

NAD 83/NA 2011

SCALE FOR INSET: 25 0 25 50

SCALE: 50 25 0 50 100

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

FOR –LLT_SEC2– PROFILE SEE SHTS. 115 THRU 116
FOR –LRT_SEC2– PROFILE SEE SHTS. 115 THRU 116
FOR –Y7RPA– PROFILE SEE SHT. 177
FOR –Y7RPD– PROFILE SEE SHT. 179
FOR –Y20– PROFILE SEE SHT. 181

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112

(c) 2020 ...ics\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_pst33.dgn

Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING SHEET 68 OF 163

8/17/99

MATCHLINE -SR3- STA. 29+50.00 SEE SHEET 32

MATCHLINE -L- STA. 390+00.00 SEE SHEET 32

MATCHLINE -Y20- STA. 20+00.00 SEE SHEET 32

MATCHLINE -L- STA. 402+00.00 SEE SHEET 34

MATCHLINE -Y20- STA. 32+00.00 SEE SHEET 34

INSET A

Q10 = 17.0 cfs
V10 = 1.06 ft/s

END CONSTRUCTION –SR3– Sta. 36+00.00

SEE INSET A

SITE 27

SITE 28

PG

WAF

WAG

NAD 83/NA 2011

SP. LATERAL BASE DITCH SEE DETAIL C
Q10 = 3.43 cfs
V10 = 0.99 ft/s

5 TONS CL B RIP RAP
16 SY GEOTEXTILE

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

REMOVE 2 TONS CL B RIP RAP
7 SY GEOTEXTILE

MEDIAN DITCH SEE DETAIL G

PLUG & FILL W/FLOWABLE FILL

REMOVE DI

REMOVE EXISTING FENCE

PROP. CHAIN LINK FENCE

SPECIAL CUT DITCH SEE DETAIL B

LATERAL V DITCH SEE DETAIL K

LATERAL BASE DITCH SEE DETAIL P

8 TONS CL B RIP RAP
21 SY GEOTEXTILE

3 TONS CL B RIP RAP
10 SY GEOTEXTILE

REMOVE 75' PIPE

SP. CUT BASE DITCH SEE DETAIL V

N 44° 42' 08.4" E

N 41° 05' 13.6" E

N 40° 50' 03.2" E

N 40° 50' 05.0" E

395+00

400+00

25+00

30+00

20+00

35+00

15" RCP-III

18" RCP-III

30" RCP-III

15" RCP-IV

18" RCP-IV

24" RCP-IV

2GIB-WSF

2GIA-WSF

JB w/MH

HOT BOX

SCALE FOR INSET: 25 0 25 50

SCALE: 50 25 0 50 100

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

FOR –LLT_SEC2– PROFILE SEE SHTS. 115 THRU 116
FOR –LRT_SEC2– PROFILE SEE SHTS. 115 THRU 116
FOR –Y7RPA– PROFILE SEE SHT. 177
FOR –Y7RPD– PROFILE SEE SHT. 179
FOR –Y20– PROFILE SEE SHT. 181

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112

...2020)
...olics\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_pst33_CON.dgn

Submitted 9/2/2020

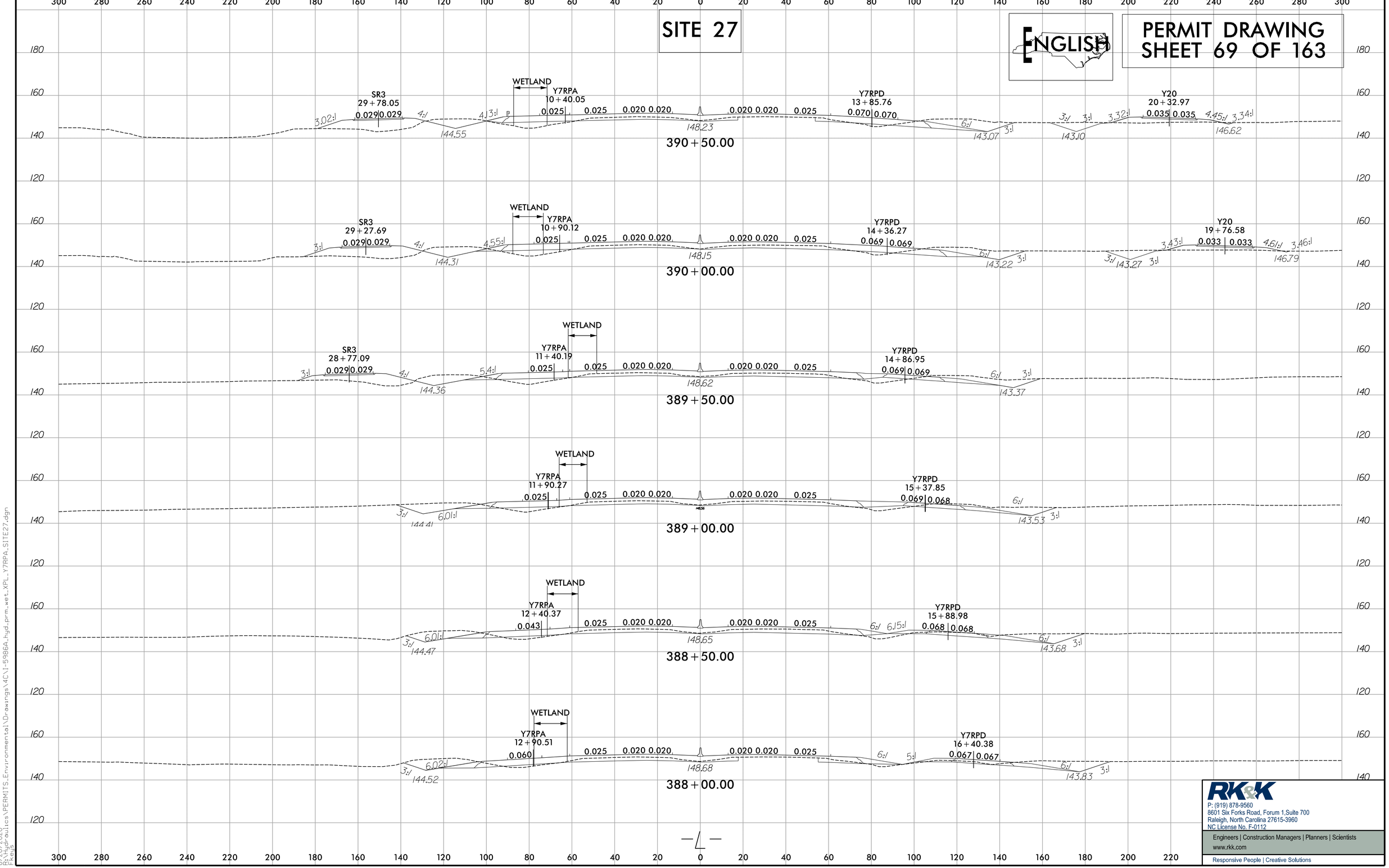
6/23/16

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-38

SITE 27

ENGLISH

PERMIT DRAWING SHEET 69 OF 163



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y7RPA_SITE27.dgn
Plotted

Submitted 9/2/2020

6/23/16

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-40

SITE 28

ENGLISH

PERMIT DRAWING SHEET 70 OF 163

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

180 160 140 120

WETLAND

SR3
35+79.03
0.024 0.010
4:1 5:1
144.79

0.025 0.020 0.020 0.020 0.020 0.025 0.025
146.91

6:1 3.66:1
Y20
26+45.78
0.020 0.020
1.00 % (DRIVEWAY)

396+50.00

WETLAND

SR3
35+29.03
0.020 0.020
3:1 4:1 4:1
144.59

0.025 0.020 0.020 0.020 0.020 0.025 0.025
147.03

6:1 3.56:1
Y20
25+95.78
0.020 0.020
4:1 3:1

396+00.00

WETLAND WETLAND

SR3
34+79.02
0.020 0.020
4:1 4:1 3:1
144.19

0.025 0.020 0.020 0.020 0.020 0.025 0.025
146.95

6:1 3.45:1
Y20
25+45.78
0.020 0.020
4:1 3:1

395+50.00

WETLAND

13:1 DRIVEWAY 4:1

SR3
34+29.00
0.020 0.020
3:1 3:1
143.57

0.025 0.020 0.020 0.020 0.020 0.025 0.025
147.21

6:1 3.36:1
Y20
24+95.78
0.020 0.020
4:1 3:1

395+00.00

SR3
33+78.95
0.020 0.020
3:1 5:1 3.17:1 3.3:1
143.36 143.28

0.025 0.020 0.020 0.020 0.020 0.025 0.025
147.46

6:1 3.27:1
Y20
24+45.78
0.020 0.020
4:1 3:1

394+50.00

SR3
33+28.88
0.020 0.020
3:1 5:1 3.2:1
143.51 3.34:1

0.025 0.020 0.020 0.020 0.020 0.025 0.025
147.56

Y7RPD
10+34.95

6:1 3.12:1
Y20
23+95.77
0.039 0.039
3:1 3:1

394+00.00

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_SR3_SITE28.dgn
FLeigh

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	34
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING SHEET 71 OF 163

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

WAG

WAH

Q10=130.0 cfs
V10=1.76 fl/s

SITE 48

SITE 29

STANDARD BASE DITCH SEE DETAIL W

SEE INSET A

SEE INSET B

SEE INSET C

INSET B

INSET A

INSET C

MATCHLINE -L- STA. 402+00.00 SEE SHEET 33

MATCHLINE -L- STA. 415+00.00 SEE SHEET 35

MATCHLINE -Y20- STA. 32+00.00 SEE SHEET 33

END CONSTRUCTION –Y20– Sta. 33+42.00

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

LATERAL V DITCH SEE DETAIL K

LATERAL BASE DITCH SEE DETAIL P

LATERAL BASE DITCH SEE DETAIL D

SPECIAL CUT DITCH SEE DETAIL B

SP. CUT DITCH SEE DETAIL B

SP. CUT BASE DITCH SEE DETAIL V

SP. CUT BASE DITCH SEE DETAIL N

48 TONS CL I RIP RAP 89 SY GEOTEXTILE

40 TONS CL I RIP RAP 75 SY GEOTEXTILE

PLUG & FILL W/FLOWABLE FILL

REMOVE DI & 10' PIPE

REMOVE DI & 11' PIPE

REMOVE DI

2GIB–WSF

2GIA–WSF

15" RCP–IV

24" RCP–IV

48" RCP–IV

405+00

410+00

415+00

N 40° 50' 03.2" E

N 15°00'00" E 12.58'

SCALE FOR INSET

SCALE

ENGLISH

DENOTES EXCAVATION IN WETLAND

DENOTES TEMPORARY FILL IN WETLAND

FOR –LLT_SEC2– PROFILE SEE SHT. 116
FOR –LRT_SEC2– PROFILE SEE SHT. 116
FOR –Y20– PROFILE SEE SHT. 181

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
2:56:58 PM
EKelly

C:\Projects\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_psh34.dgn

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	34
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING SHEET 72 OF 163

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- STA. 402+00.00 SEE SHEET 33

MATCHLINE -L- STA. 415+00.00 SEE SHEET 35

MATCHLINE -Y20- STA. 32+00.00 SEE SHEET 33

WAG

WAH

Q10=130.0 cfs
V10=1.76 f/s

SITE 48

SITE 29

STANDARD BASE DITCH SEE DETAIL W

SEE INSET A

SEE INSET B

SEE INSET C

INSET A

INSET B

INSET C

NAD 83/NA 2011

LATERAL V DITCH SEE DETAIL K

48 TONS CL I RIP RAP 89 SY GEOTEXTILE

SPECIAL CUT DITCH SEE DETAIL B

PROP.WOVEN WIRE FENCE

REMOVE EXISTING FENCE

SP. CUT DITCH SEE DETAIL B

PLUG & FILL W/FLOWABLE FILL

2GIB-WSF

15" RCP-IV

24" RCP-IV 2GIA-WSF

REMOVE DI & 10' PIPE

REMOVE DI & 11' PIPE

2GIA-WSF

48" RCP-IV

405+00

N 40° 50' 03.2" E

410+00

415+00

REMOVE DI

LATERAL BASE DITCH SEE DETAIL P

40 TONS CL I RIP RAP 75 SY GEOTEXTILE

LATERAL BASE DITCH SEE DETAIL D

SP. CUT BASE DITCH SEE DETAIL V

SP. CUT BASE DITCH SEE DETAIL N

HW

PUE

END CONSTRUCTION –Y20– Sta. 33+42.00

SCALE FOR INSET: 25 0 25 50

SCALE: 50 25 0 50 100

ENGLISH

DENOTES EXCAVATION IN WETLAND

DENOTES TEMPORARY FILL IN WETLAND

FOR –LLT_SEC2– PROFILE SEE SHT. 116
FOR –LRT_SEC2– PROFILE SEE SHT. 116
FOR –Y20– PROFILE SEE SHT. 181

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
J:\Projects\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_psh34_CON.dgn
EKeen

Submitted 9/2/2020

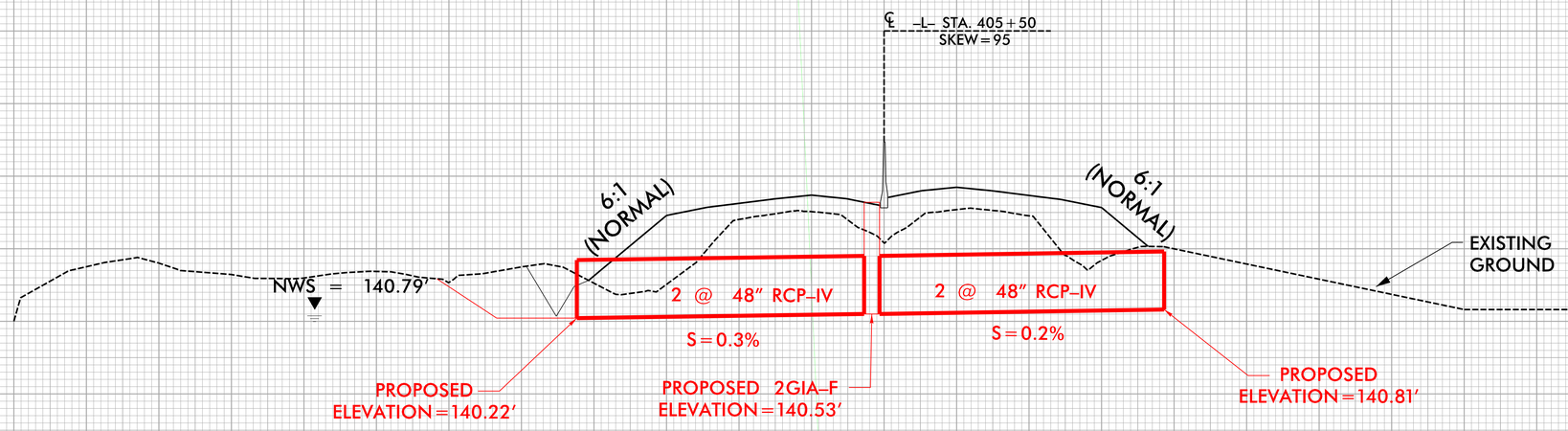
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 29
–L– STA. 405 + 50

PERMIT DRAWING
SHEET 73 OF 163

ENGLISH



2 @ 48" RCP–IV
(not buried)
(length = 200')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
2:19:47 PM
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_PFL_SITE29.dgn

Submitted 9/2/2020

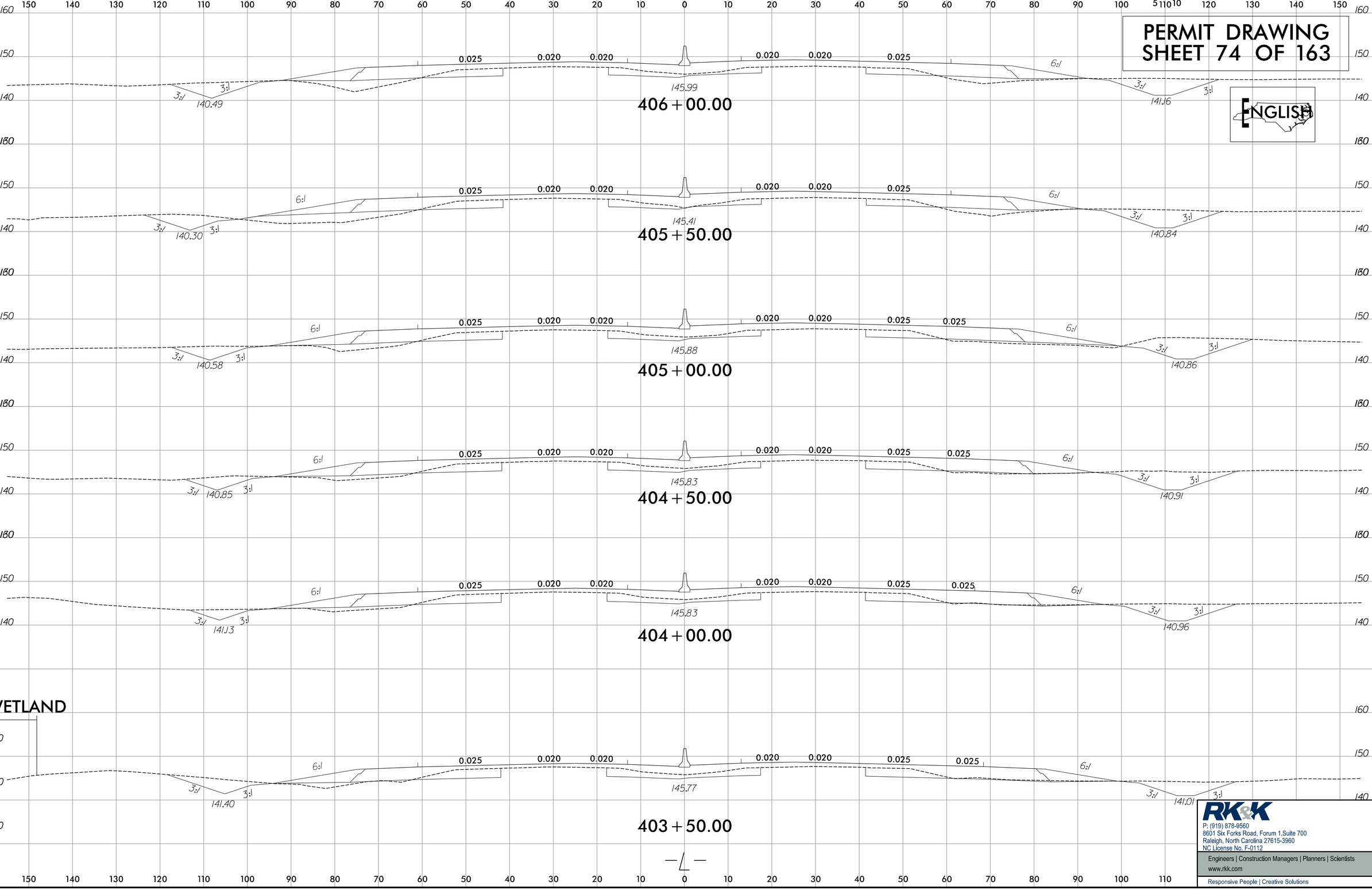
6/23/16

SITE 29

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-44

PERMIT DRAWING
SHEET 74 OF 163

ENGLISH



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE29.dgn
F.Knight

Submitted 9/2/2020

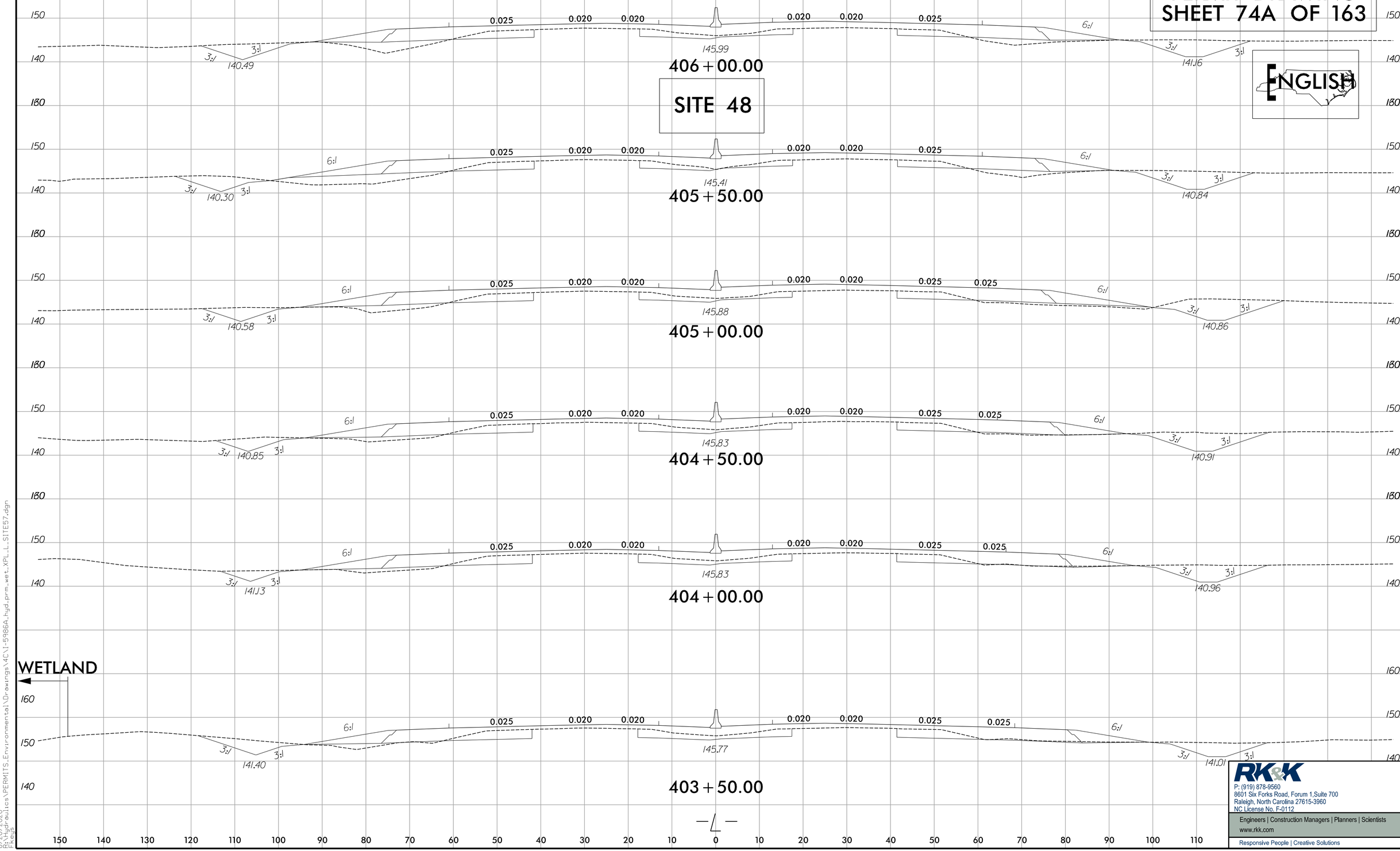
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-44

PERMIT DRAWING SHEET 74A OF 163

ENGLISH

SITE 48



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Highways\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE57.dgn
F.Knight

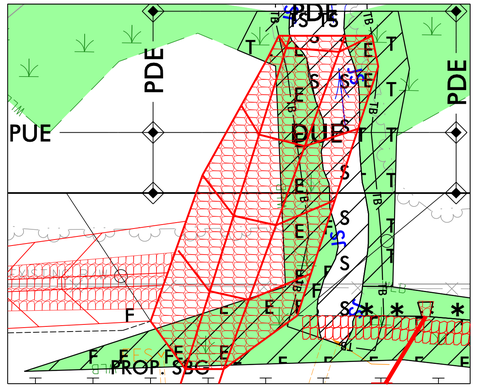
Submitted 9/2/2020

8/17/99

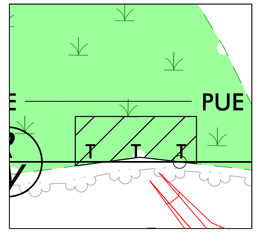
50 25 0 50 100
SCALE

ENGLISH

- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES EXCAVATION IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND



INSET B



INSET C

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	35
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 75 OF 163

SITE 30

1 TON CL B RIP RAP W/5 SY GEO FAB

SEE INSET B

SEE INSET C

Q10=23.6 cfs
V10=1.69 ft/s

SP. LAT BASE DITCH SEE DETAIL C

3 TON CL B RIP RAP 10 SY GEOTEXTILE

SP. CUT DITCH SEE DETAIL B

TOE PROTECTION SEE DETAIL H

SP. LAT. BASE DITCH SEE DETAIL AF

MATCHLINE -L- STA. 415+00.00 SEE SHEET 34

MATCHLINE -L- STA. 428+00.00 SEE SHEET 36

PROP.WOVEN WIRE FENCE

REMOVE EXISTING FENCE

PROP. SBC

REMOVE

15" RCP-III

2GIB-WSF

PLUG & FILL W/FLOWABLE FILL

REMOVE 10' OF 18" RCP

CONC PAVED DITCH

18" RCP-V

12"x8" RCHC

15" RCP-IV

24" RCP-IV

2GIA-WSF

REMOVE DI

REMOVE 10' OF 24" RCP

420+00

425+00

N 40° 50' 03.2" E

I-95 SBL 37' BST

I-95 NBL 37' BST

10.5' BST

10' BST

GREU TL-3

CAT-1

LINE CUT/FILL TRANSITION 2 TONS CL B RIPRAP W/7 SY GEOTEXTILE

1 TON CL B RIP RAP W/5 SY GEO FAB

SEE INSET A

WAK

WAI

SITE 30

WAI

INSET A

FOR -LLT_SEC2- PROFILE SEE SHT. 117
FOR -LRT_SEC2- PROFILE SEE SHT. 117

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
E:\SUP\Projects\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_psh35.dgn

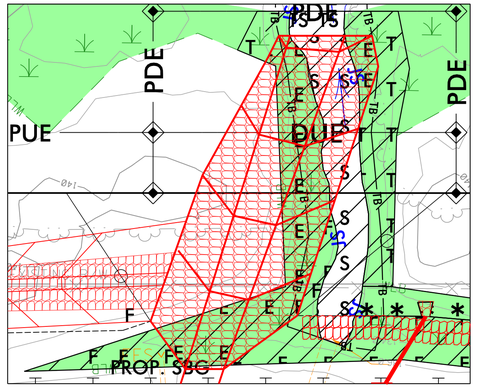
Submitted 9/2/2020

8/17/99

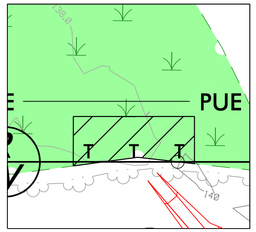
50 25 0 50 100
SCALE

ENGLISH

- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES EXCAVATION IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND



INSET B



INSET C

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	35
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 76 OF 163

SITE 30

MATCHLINE -L- STA. 415+00.00 SEE SHEET 34

MATCHLINE -L- STA. 428+00.00 SEE SHEET 36

1 TON CL B RIP RAP W/5 SY GEO FAB

SEE INSET B

SEE INSET C

Q10=23.6 cfs
V10=1.69 ft/s

SP. LAT BASE DITCH SEE DETAIL C

3 TON CL B RIP RAP 10 SY GEOTEXTILE

PROP.WOVEN WIRE FENCE

REMOVE EXISTING FENCE

SP. CUT DITCH SEE DETAIL B

TOE PROTECTION SEE DETAIL H

SP. LAT. BASE DITCH SEE DETAIL AF

PLUG & FILL W/FLOWABLE FILL

REMOVE 10' OF 18" RCP

CONC PAVED DITCH

REMOVE DI

15" RCP-IV

18" RCP-IV

12"x8" RCP/C

2GIB-WSF

2GIA-WSF

24" RCP-IV

REMOVE 10' OF 24" RCP

420+00

425+00

N 40° 50' 03.2" E

PROP. SBC

CAT-1

GREU TL-3

15" RCP-III

LINE CUT/FILL TRANSITION 2 TONS CL B RIPRAP W/7 SY GEOTEXTILE

1 TON CL B RIP RAP W/5 SY GEO FAB

SEE INSET A

WAK

WAI

SITE 30

INSET A

FOR -LLT_SEC2- PROFILE SEE SHT. 117
FOR -LRT_SEC2- PROFILE SEE SHT. 117
FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
E:\Projects\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_psh35_CON.dgn

Submitted 9/2/2020

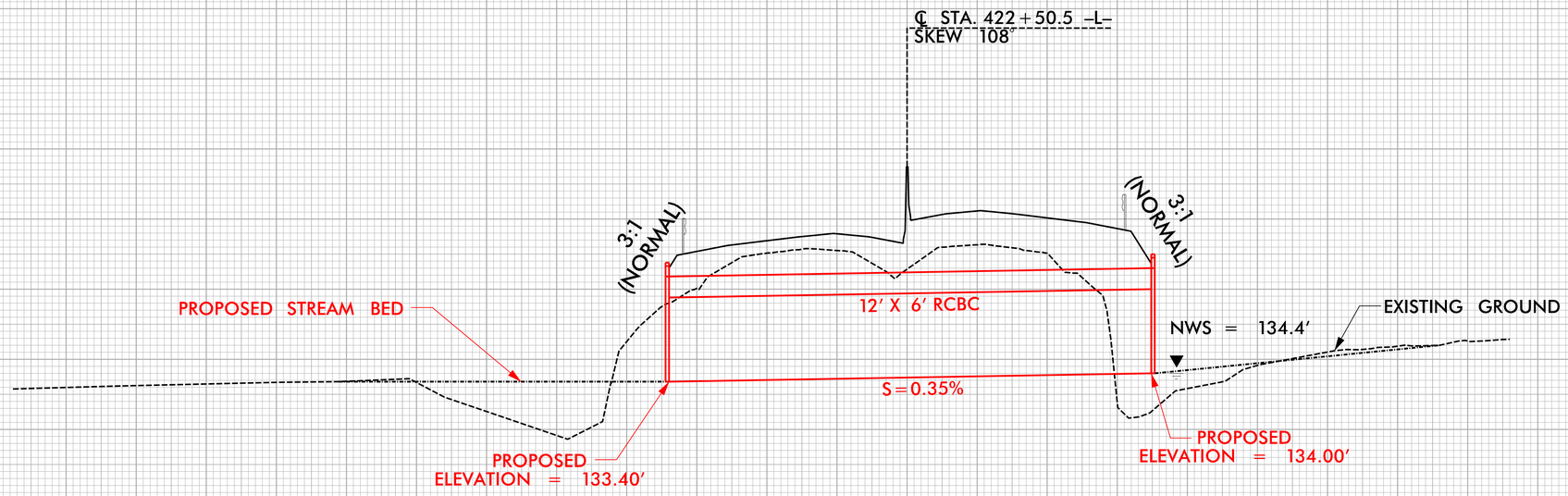
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 30
–L– STA. 422+50

PERMIT DRAWING
SHEET 77 OF 163

ENGLISH



12' X 6' RCBC
(not buried)
(length=183')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4CY\I-5986A_hyd_prm_wet_PFL_SITE30.dgn
Kevin

Submitted 9/2/2020

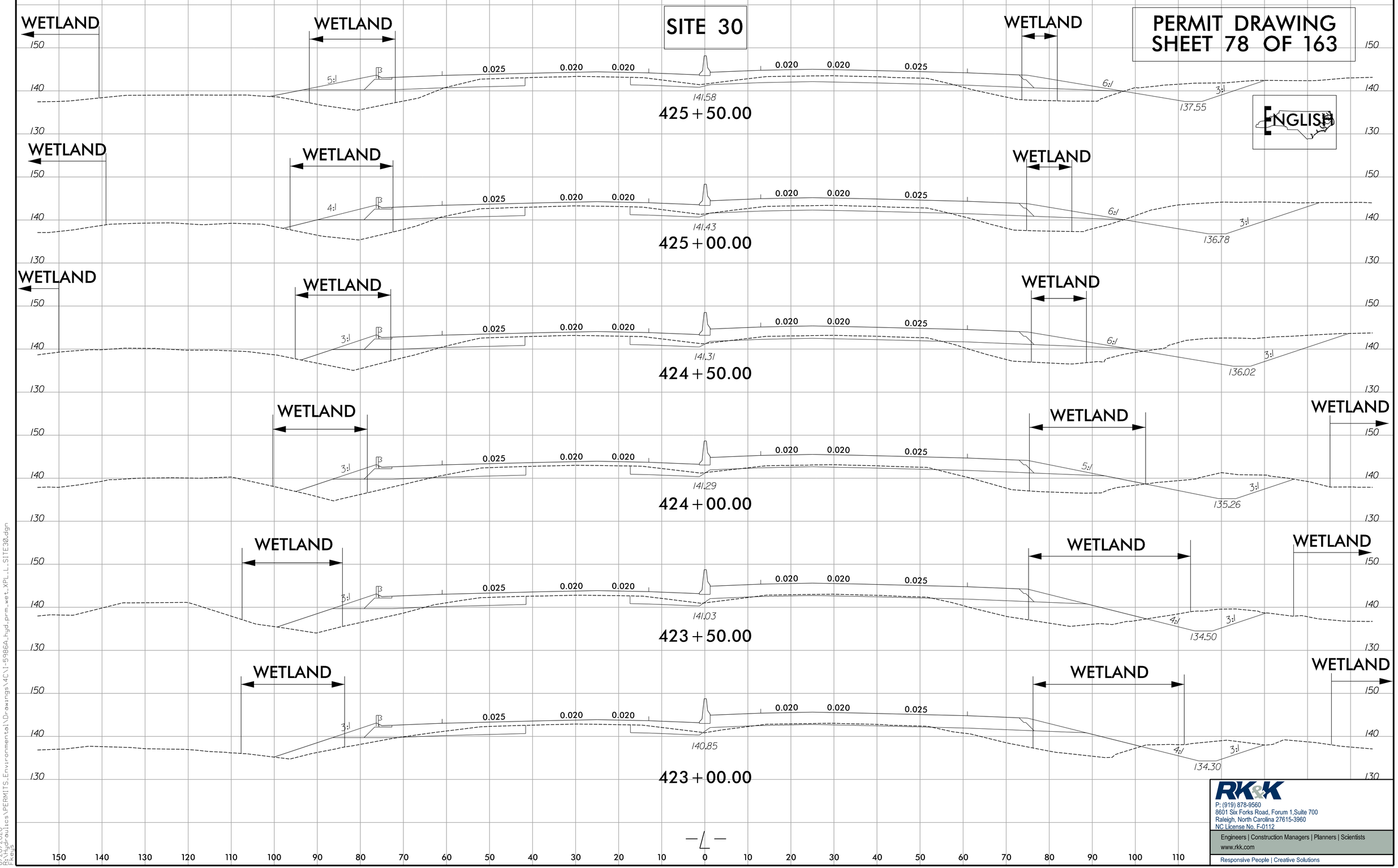
6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986A	S2 X-51

0 5 10

PERMIT DRAWING
SHEET 78 OF 163

SITE 30



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE30.dgn
FKeigh

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	36
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 79 OF 163

NAD 83/NA 2011

MATCHLINE -L- STA. 428+00.00 SEE SHEET 35

MATCHLINE -L- STA. 442+00.00 SEE SHEET 37

SITE 30

WAL

PH

WAK

WAI

WAJ

PI

PUE

PROP.WOVEN WIRE FENCE

REMOVE EXISTING FENCE

SP. LAT BASE DITCH SEE DETAIL C

SP. CUT BASE DITCH SEE DETAIL F

SP. CUT BASE DITCH SEE DETAIL Z

SP. CUT BASE DITCH SEE DETAIL H

POND

BILLBOARD

EXISTING R/W

48" WW W/ISBW

48" WW W/15BW

PLUG & FILL W/FLOWABLE FILL

REMOVE DI

CONC PAVED DITCH

24" RCP-IV

18" RCP-IV

15" RCP-IV

2GIA-WSF

2GIB-WSF

REMOVE 10' OF 24" RCP

REMOVE 10' OF 18" RCP

I-95 SBL 37' BST

I-95 NBL 37' BST

430+00

435+00

440+00

N 40° 50' 03.2" E

Q10 = 33.8 cfs
V10 = 2.00 fps

FOR -LLT_SEC2- PROFILE SEE SHTS. 117 THRU 118
FOR -LRT_SEC2- PROFILE SEE SHTS. 117 THRU 118

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Projects\PERMITS_Environmental\Drawings\48\Section 2\I-5986A_hyd_48_pst36.dgn
FLeaf

Submitted 9/2/2020

8/17/99

SCALE 50 25 0 50 100

ENGLISH

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	36
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 80 OF 163

NAD 83/NA 2011

MATCHLINE -L- STA. 428+00.00 SEE SHEET 35

MATCHLINE -L- STA. 442+00.00 SEE SHEET 37

WAL WAK WAI WAJ PH PI

SITE 30 SITE 30 SITE 30

PUE PROP.WOVEN WIRE FENCE REMOVE EXISTING FENCE

SP. LAT BASE DITCH SEE DETAIL C

SP. CUT BASE DITCH SEE DETAIL F

SP. CUT BASE DITCH SEE DETAIL Z

SP. CUT BASE DITCH SEE DETAIL H

PLUG & FILL W/FLOWABLE FILL

REMOVE 10' OF 24" RCP

REMOVE 10' OF 18" RCP

REMOVE DI

24" RCP-IV 18" RCP-IV 15" RCP-IV

2GIA-WSF 2GIB-WSF

CONC PAVED DITCH

430+00 435+00 440+00

N 40° 50' 03.2" E

Q10 = 33.8 cfs
V10 = 2.00 ft/s

FOR -LLT_SEC2- PROFILE SEE SHTS. 117 THRU 118
FOR -LRT_SEC2- PROFILE SEE SHTS. 117 THRU 118

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Projects\PERMITS_Environmental\Drawings\48\Section 2\I-5986A_hyd_48_pst36_CON.dgn
FLeak

Submitted 9/2/2020

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-52

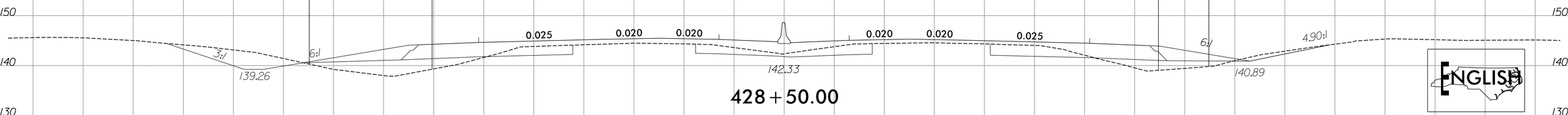
SITE 30

PERMIT DRAWING
SHEET 81 OF 163

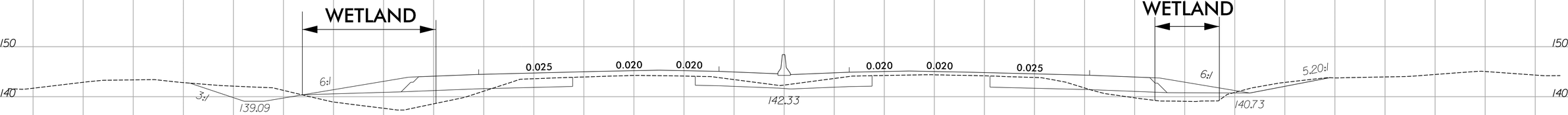
ENGLISH

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

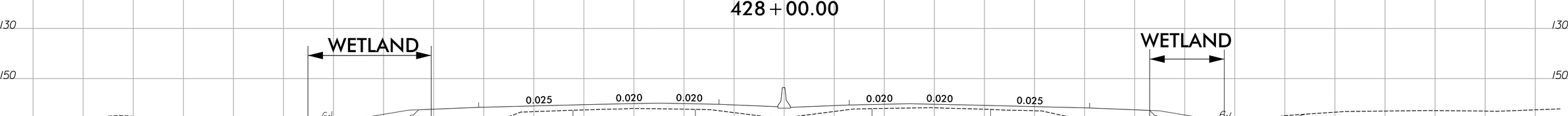
428+50.00



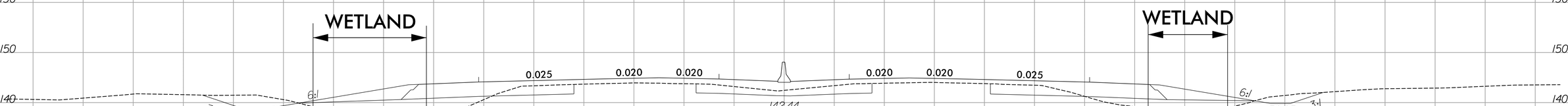
428+00.00



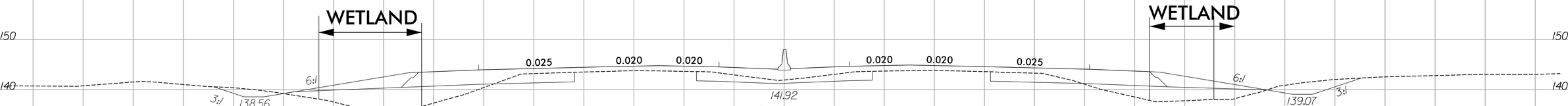
427+50.00



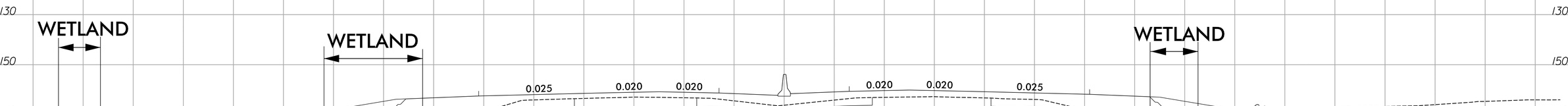
427+00.00



426+50.00



426+00.00



RK&K
P: (919) 878-9560
9601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

6/23/16
8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE30.dgn
Plotted By: Kelly

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	42
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 82 OF 163

NAD 83/NA 2011

N 85°50'00" W
178.11'

N 53°01'45" W
215.25'

SITE 31

WAM

TOE PROTECTION
SEE DETAIL H

Q10=23.4 cfs
V10=1.97 fps

LAT. BASE DITCH
SEE DETAIL C

REMOVE EXISTING FENCE

APPROX 48' WW W/ISBW

PROP.WOVEN WIRE FENCE

LAT. BASE DITCH
SEE DETAIL C

SP. CUT BASE DITCH
SEE DETAIL N

EXISTING R/W

APPROX 48' WW W/ISBW

15" RCP-IV
REMOVE DI

2GIB-WSF

CONC PAVED DITCH

DI

505+00

510+00

515+00

N 40° 50' 03.2" E

18" RCP-IV

15" RCP-IV

2GIB-WSF 18" RCP-IV PAVED DITCH

2GIB-WSF

I-95 SBL 37' BST

I-95 NBL 37' BST

REMOVE 10' OF 18" RCP

PLUG & FILL W/FLOWABLE FILL

FES

RETAIN EXISTING FENCE

± 30.00
EX R/W
115.00'

± 30.00
EX R/W
115.00'

SP. CUT DITCH
SEE DETAIL B

8' GR

49' WW W/ISBW

WOODS

GROUND BOARD OF DOOR

S 51°29' 02" E
2456.65'

MATCHLINE -L- STA. 505+00.00 SEE SHEET 41

MATCHLINE -L- STA. 517+00.00 SEE SHEET 43

FOR –LLT_SEC2– PROFILE SEE SHTS. 123 THRU 124
FOR –LRT_SEC2– PROFILE SEE SHTS. 123 THRU 124
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS.Environmental\Drawings\48\Section 2\I-5986A_hyd_48_psh42.dgn
ekaye

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	42
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 83 OF 163

NAD 83/NA 2011

N 85°50'00" W 178.11'

N 53°01'01" W 154.25'

SITE 31

WAM

TOE PROTECTION SEE DETAIL H

Q10=23.4 cfs
V10=1.97 fps

LAT. BASE DITCH SEE DETAIL C

REMOVE EXISTING FENCE

APPROX 48" WW W/ISBW

PROP. WOVEN WIRE FENCE

LAT. BASE DITCH SEE DETAIL C

SP. CUT BASE DITCH SEE DETAIL N

EXISTING R/W

15" RCP-IV

REMOVE DI

CONC PAVED DITCH

DI

2GIB-WSF

505+00

510+00

N 40° 50' 03.2" E

18" RCP-IV

515+00

2GIB-WSF 18" RCP-IV PAVED DITCH

I-95 SBL 37' BST

I-95 NBL 37' BST

REMOVE 10' OF 18" RCP

PLUG & FILL W/FLOWABLE FILL

FES

RETAIN EXISTING FENCE

+30.00 EX.R/W 115.00'

8' GR

GEOGRID REQUIRED

S 53°29'02" E 2456.65'

SP. CUT DITCH SEE DETAIL B

MATCHLINE -L- STA. 505+00.00 SEE SHEET 41

MATCHLINE -L- STA. 517+00.00 SEE SHEET 43

FOR –LLT_SEC2– PROFILE SEE SHTS. 123 THRU 124
FOR –LRT_SEC2– PROFILE SEE SHTS. 123 THRU 124

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Hydraulics
File: C:\Projects\PERMITS_Environmental\Drawings\48\Section 2\I-5986A_hyd_48_pst42_CON.dgn

Submitted 9/2/2020

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-81

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SITE 31

PERMIT DRAWING
SHEET 84 OF 163

ENGLISH

180 / 170 / 160

3:1 164.00 — 6:1 — 0.025 — 0.020 — 0.020 — 166.64 — 0.020 — 0.020 — 0.025 — 4:1 — 163.88 — 3:1

510 + 00.00

WETLAND

6:1 — 0.025 — 0.020 — 0.020 — 166.95 — 0.020 — 0.020 — 0.025 — 4:1 — 164.38 — 3:1

509 + 50.00

WETLAND

6:1 — 6:1 — 165.93 — 0.025 — 0.020 — 0.020 — 167.89 — 0.020 — 0.020 — 0.025 — 4:1 — 164.86 — 3:1

509 + 00.00

WETLAND

3:1 — 166.00 — 6:1 — 0.025 — 0.020 — 0.020 — 168.59 — 0.020 — 0.020 — 0.025 — 4:1 — 165.33 — 3:1

508 + 50.00

3:1 — 166.20 — 6:1 — 0.025 — 0.020 — 0.020 — 169.10 — 0.020 — 0.020 — 0.025 — 4:1 — 165.78 — 3:1

508 + 00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Highways\PERMITS_Environmental\Drawings\4CV\I-5986A_hyd_prm_wet_XPL_L_SITE31.dgn
Field

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	43
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 85 OF 163

SITE 32

MATCHLINE -L- STA. 517+00.00 SEE SHEET 42

MATCHLINE -L- STA. 530+00.00 SEE SHEET 44

LAT. BASE DITCH SEE DETAIL R

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

SP. LAT. BASE DITCH SEE DETAIL AF

Q10 = 49.1 cfs
V10 = 1.83 ft/s

TOE PROTECTION SEE DETAIL H

SP. LAT BASE DITCH SEE DETAIL C

WOODS

APPROX 48" WW W/ISBW

EXISTING R/W

ELECTRIC METER

TRAFFIC CONTROL BOX

GUY ANCHOR

POLE

10' BST

I-95 SBL 37' BST

I-95 NBL 37' BST

18" RCP-IV

REMOVE DI

REMOVE 10' OF 18" RCP

PLUG & FILL W/FLOWABLE FILL

15" RCP-IV

2GIA-WSF

2GIB-WSF

520+00

24" RCP-IV

CONC. PAVED DITCH

N 40° 50' 03.2" E

525+00

15" RCP-III

24" RCP-III

530+00

FES

GREU TL-3

CAT-1

CAMERA POLE

RETAIN EXISTING FENCE

RETAIN EXIST. FENCE

8' GR

TOE PROTECTION SEE DETAIL AM

RETAIN, CLEANOUT BOTH PIPES

TDE

TDE

+65.00 EX.R/W 150.00'

+10.00 EX.R/W 150.00'

11' GR

SP. CUT DITCH SEE DETAIL U

8 TON CL B RIP RAP
21 SY GEOTEXTILE
CUT/FILL TRANSITION

WAO

WAN

FOR –LLT_SEC2– PROFILE SEE SHTS. 124 THRU 125
FOR –LRT_SEC2– PROFILE SEE SHTS. 124 THRU 125

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_psh43.dgn
ESwanson

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	43
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 86 OF 163

SITE 32

MATCHLINE -L- STA. 517+00.00 SEE SHEET 42

MATCHLINE -L- STA. 530+00.00 SEE SHEET 44

LAT. BASE DITCH SEE DETAIL R

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

SP. LAT. BASE DITCH SEE DETAIL AF

Q10 = 49.1 cfs
V10 = 1.83 ft/s

TOE PROTECTION SEE DETAIL H

WAN

SP. LAT BASE DITCH SEE DETAIL C

WOODS

APPROX 48" WW W/ISBW

EXISTING R/W

ELECTRIC METER

TRAFFIC CONTROL BOX

CAMERA POLE

18" RCP–IV

REMOVE DI

REMOVE 10' OF 18" RCP

PLUG & FILL W/FLOWABLE FILL

FES

15" RCP–IV

2GIA–WSF

2GIB–WSF

520+00

24" RCP–IV

CONC. PAVED DITCH

N 40° 50' 03.2" E

525+00

15" RCP–III

24" RCP–III

530+00

10' BST

5' BST

37' BST

I–95 SBL

I–95 NBL

MTL

GREU TL–3

CAT–1

RETAIN EXISTING FENCE

8' GR

RETAIN CLEANOUT BOTH PIPES

TOE PROTECTION SEE DETAIL AM

8 TON CL B RIP RAP
21 SY GEOTEXTILE
CUT/FILL TRANSITION

SP. CUT DITCH SEE DETAIL U

WAO

TDE

+65.00
EX.R/W
150.00'

+10.00
EX.R/W
150.00'

FOR –LLT_SEC2– PROFILE SEE SHTS. 124 THRU 125
FOR –LRT_SEC2– PROFILE SEE SHTS. 124 THRU 125

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_psh43_CON.dgn
ESwanson

Submitted 9/2/2020

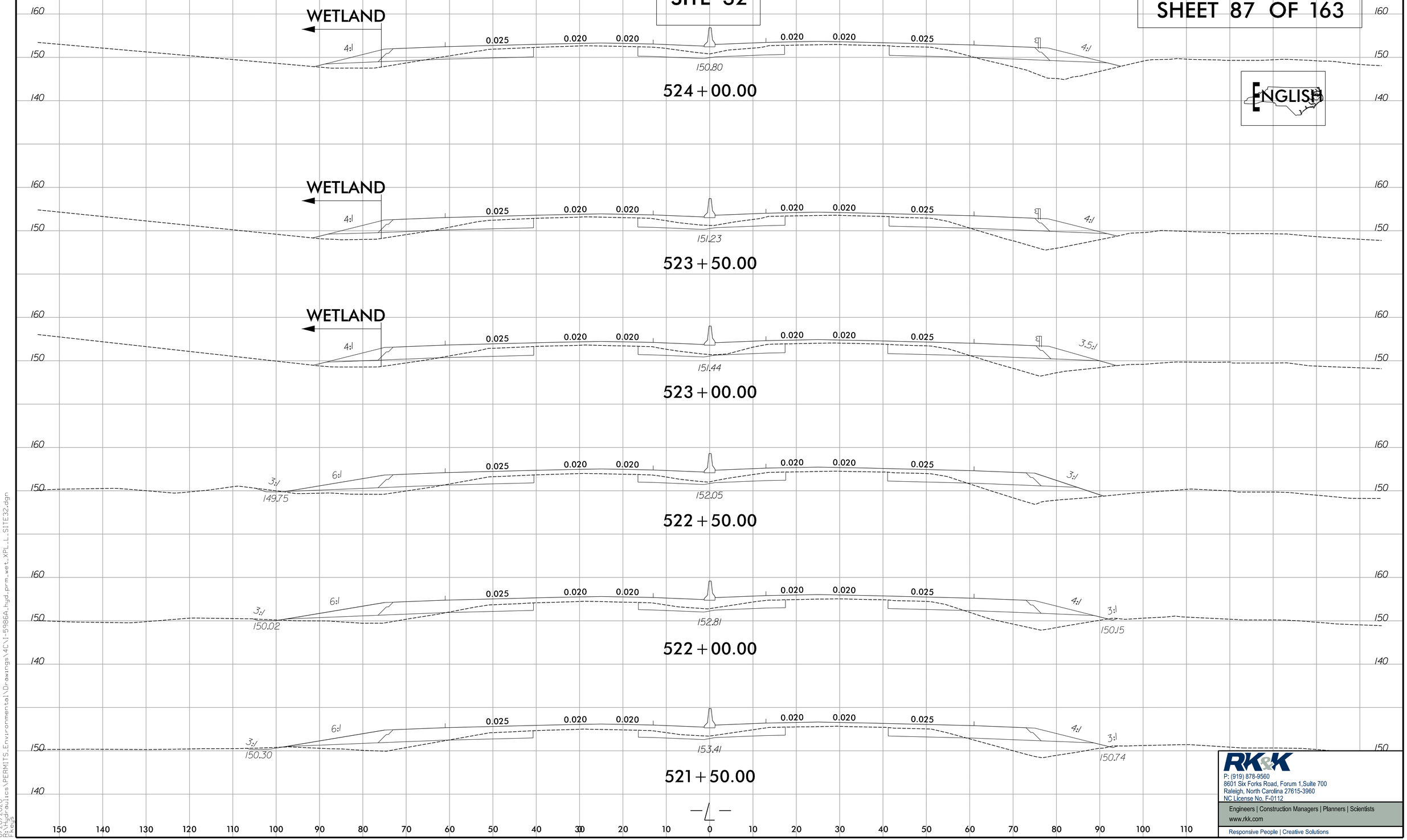
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-86

SITE 32

PERMIT DRAWING
SHEET 87 OF 163

ENGLISH



RK&K
P: (919) 878-9560
9601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE32.dgn
Plotted By: Kelly Lee

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	44
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 88 OF 163

INSET A

8 TON CL B RIP RAP
21 SY GEOTEXTILE

SP. LAT BASE DITCH
SEE DETAIL C

48" WW W/ISBW

CONC CAT-1 FES

SITE 33

WAP

WAQ

SG-3

Q10=13.9 cfs
V10=1.63 fps

MATCHLINE -L- STA. 530+00.00 SEE SHEET 43

MATCHLINE -L- STA. 542+00.00 SEE SHEET 45

REMOVE EXISTING FENCE

PROP. WOVEN WIRE FENCE

SEE INSET A

535+00

N 40° 50' 03.2" E

540+00

24" RCP-III

15" RCP-III

30" RCP-III

2GIA-WSF

2GIB-WSF

REMOVE 10' OF 18" RCP

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/FLOWABLE FILL

1-9'x8' RCBC (BURIED 1')

I-95 SBL 37' BST

I-95 NBL 37' BST

SR 1960 GORDON WILLIAMS RD 19.5' BST

14.5' GR

10' BST

TOE PROTECTION
SEE DETAIL AM

RETAIN EXISTING FENCE

10+00

N 41° 25' 55.9" F

15+00

SG-2

SG-1

PK

POND

STANDARD BASE DITCH
SEE DETAIL AJ

SEE INSET B

SITE 35

N 40° 16' 52.1" E

INSET B

4GI

CONC HW

PDE

TDE

PUE

FOR -LLT_SEC2- PROFILE SEE SHTS. 125 THRU 126
FOR -LRT_SEC2- PROFILE SEE SHTS. 125 THRU 126
FOR -SR5C- PROFILE SEE SHT. 184
FOR -SR5C_DET- PROFILE SEE SHT. 2B-8

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_psh44.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

T T DENOTES TEMPORARY FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	44
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 89 OF 163

INSET A

8 TON CL B RIP RAP
21 SY GEOTEXTILE

SP. LAT BASE DITCH
SEE DETAIL C

CONC CAT-1 FES

48" WW W/ISBW

SITE 33

WAP

WAQ

SG-3

Q10=13.9 cfs
V10=1.63 fps

MATCHLINE -L- STA. 530+00.00 SEE SHEET 43

MATCHLINE -L- STA. 542+00.00 SEE SHEET 45

REMOVE EXISTING FENCE

PROP. WOVEN WIRE FENCE

SP. LAT BASE DITCH
SEE DETAIL C

535+00

N 40° 50' 03.2" E

540+00

24" RCP-III

15" RCP-III

30" RCP-III

2GIA-WSF

2GIB-WSF

REMOVE 10' OF 18" RCP

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/FLOWABLE FILL

I-95 SBL 37' BST

I-95 NBL 37' BST

SEE INSET A

SEE INSET B

SG-1

SG-2

PK

4GI

CONC HW

TOE PROTECTION
SEE DETAIL AM

RETAIN EXISTING FENCE

10+00

N 41° 25' 55.9" E

15+00

N 40° 16' 52.1" E

POND

STANDARD BASE DITCH
SEE DETAIL AJ

SR 1960 GORDON WILLIAMS RD 19.5' BST

SITE 35

INSET B

FOR -LLT_SEC2- PROFILE SEE SHTS. 125 THRU 126
FOR -LRT_SEC2- PROFILE SEE SHTS. 125 THRU 126
FOR -SR5C- PROFILE SEE SHT. 184
FOR -SR5C_DET- PROFILE SEE SHT. 2B-8

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS.Environmental\Drawings\4B\Section 2\I-5986A_hyd_4B_psh44_CON.dgn

Submitted 9/2/2020

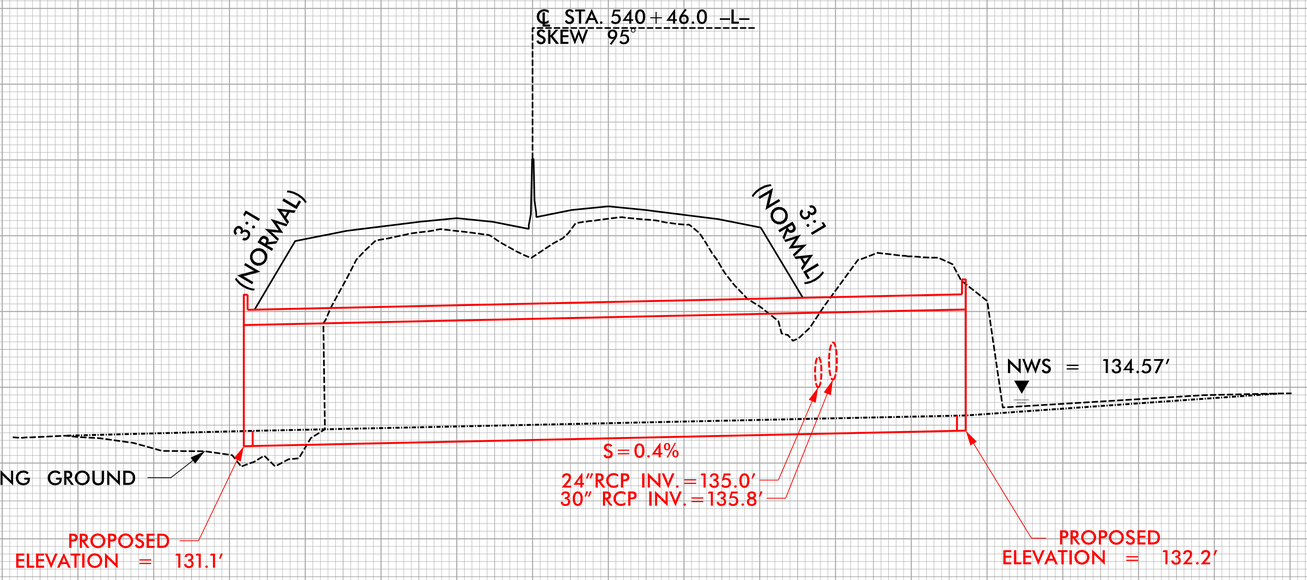
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 33
–L– STA. 540+46

PERMIT DRAWING
SHEET 90 OF 163

ENGLISH



8′ X 8′ RCBC
(buried 1.0′)
(length=238′)

160 150 140 130 120

250 200 150 100 50 0 50 100 150 200 250

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_PFL_SITE33.dgn
Engineer

Submitted 9/2/2020

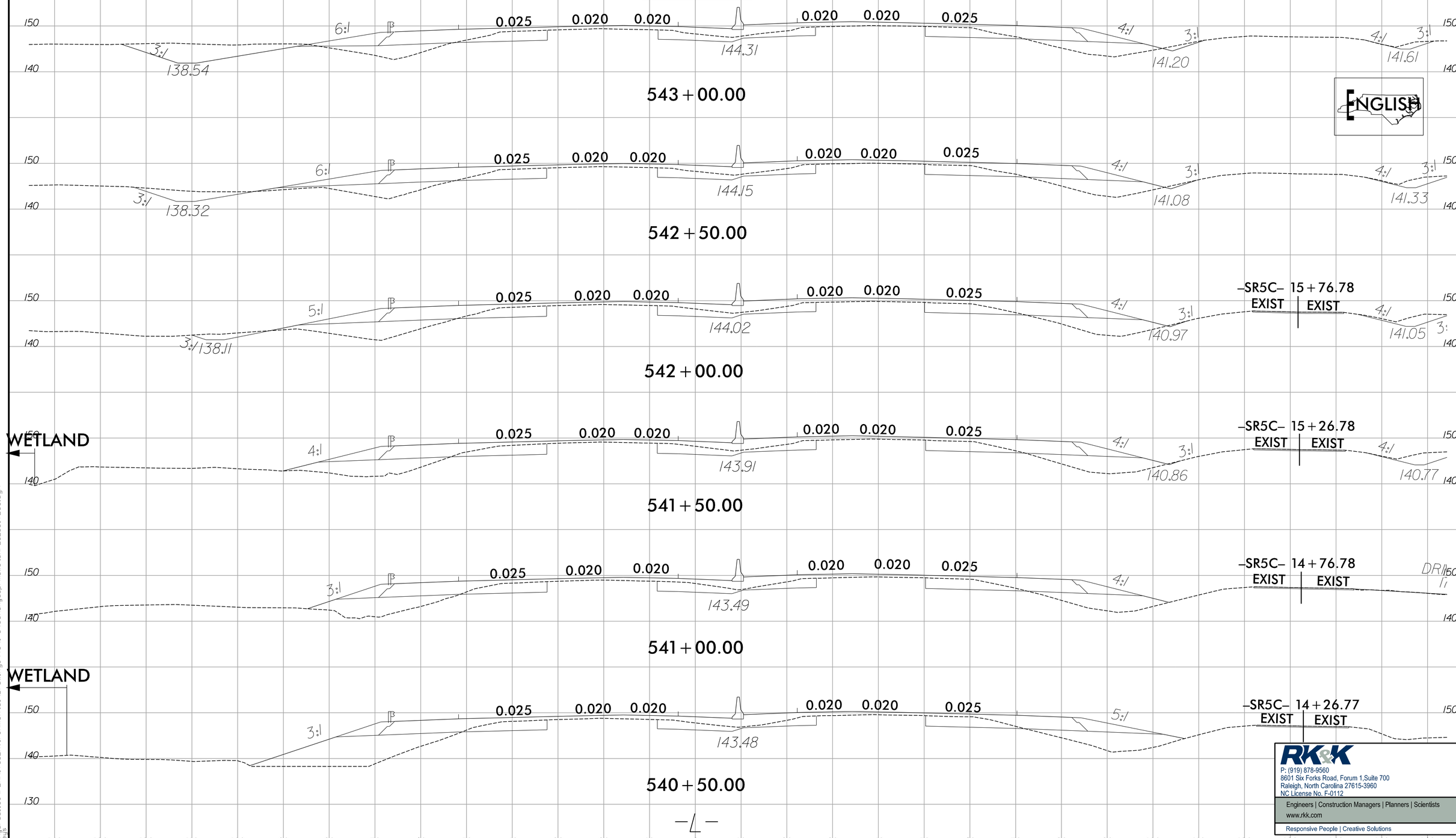
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S2 X-93

SITE 33

PERMIT DRAWING
SHEET 91 OF 163

ENGLISH



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4CV1-5986A_hyd_prm_wet_XPL_L_SITE33.dgn
Fields

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	47
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 92 OF 163

NAD 83/NA 2011

INSET A

WAR
SH-2
SITE 34
WAS
SEE INSET A
Q10=79.8 cfs
V10=1.73 fps
Q10=18.8 cfs
V10=1.73 fps
392 TON CL I RIP RAP
LATERAL RIPRAP BASE DITCH SEE DETAIL AG
LATERAL BASE DITCH SEE DETAIL D
SPECIAL CUT BASE DITCH SEE DETAIL F
3 TON CL B RIP RAP 10 SY GEOTEXTILE
PROP.WOVEN WIRE FENCE
PDE
N 53°14'25" W 653.83'
N 53°14'30" W 288.89'
N 36°05'09" E 1346.00'
N 29°39'15" E 1423.60'
N 43° 34' 33.6" E
N 47° 34' 30.5" E
N 41° 24' 22.0" E
MATCHLINE -L- STA. 564+00.00 SEE SHEET 46
MATCHLINE -L- STA. 577+00.00 SEE SHEET 48
MATCHLINE -SR5- STA 21+95.00 SEE SHEET 48
565+00
570+00
575+00
15+00
20+00
10+00
PLUG & FILL W/ FLOWABLE FILL
REMOVE DI
REMOVE 10' 18" RCP
REMOVE 80' 66" RCP
REMOVE 72" CMP
18" RCP-IV
15" RCP-IV
24" RCP-IV
30" RCP-III
10'X7' RCBC (BURIED 1.0)
2GIB-WSF
4GI
CONC PAVED DITCH
MEDIAN V DITCH SEE DETAIL G
MEDIAN BASE DITCH SEE DETAIL AB
REPLACE EXISTING FENCE -L- 568+50.00
RETAIN EXISTING C/A FENCE
SPECIAL CUT DITCH SEE DETAIL B
262 TON CL I RIP RAP
GREU TL-2
GREU TL-3
CAT-1
SEE INSET B
INSET B
SITE 34
FOR -L- PROFILES SEE SHTS. 128 & 129
FOR -Y9RPB- PROFILE SEE SHT. 190
FOR -SR5- PROFILE SEE SHT. 196
FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
K:\Highways\Projects\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_pst47.dgn
FLeng

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 93 OF 163

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	47
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

INSET A

MATCHLINE -L- STA. 564+00.00 SEE SHEET 46

MATCHLINE -L- STA. 577+00.00 SEE SHEET 48

WAR

SH–2

SITE 34

WAS

SEE INSET A

SH–1

SITE 34

SEE INSET B

INSET B

SPECIAL CUT BASE DITCH SEE DETAIL F

3 TON CL B RIP RAP 10 SY GEOTEXTILE

PROP. WOVEN WIRE FENCE

LATERAL BASE DITCH SEE DETAIL D

Q10=18.8 cfs
V10=1.73 ft/s
392 TON CL I RIP RAP

Q10=79.8 cfs
V10=1.73 ft/s

LATERAL RIPRAP BASE DITCH SEE DETAIL AG

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

18" RCP-IV

15" RCP-IV

2GIB-WSF

REMOVE 10' 18" RCP

REMOVE 80' 66" RCP

24" RCP-IV

REMOVE 72" CMP

30" RCP-III

MEDIAN V DITCH SEE DETAIL G

REPLACE EXISTING FENCE -L- 568+50.00

RETAIN EXISTING C/A FENCE

N 41° 24' 22.0" E

MEDIAN BASE DITCH SEE DETAIL AB

262 TON CL I RIP RAP

N 43° 34' 33.6" E

N 47° 34' 30.5" E

565+00

570+00

575+00

15+00

20+00

10+00

FOR –L– PROFILES SEE SHTS. 128 & 129
FOR –Y9RPB– PROFILE SEE SHT. 190
FOR –SR5– PROFILE SEE SHT. 196

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
K:\Highways\Projects\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_pst47_CON.dgn

Submitted 9/2/2020

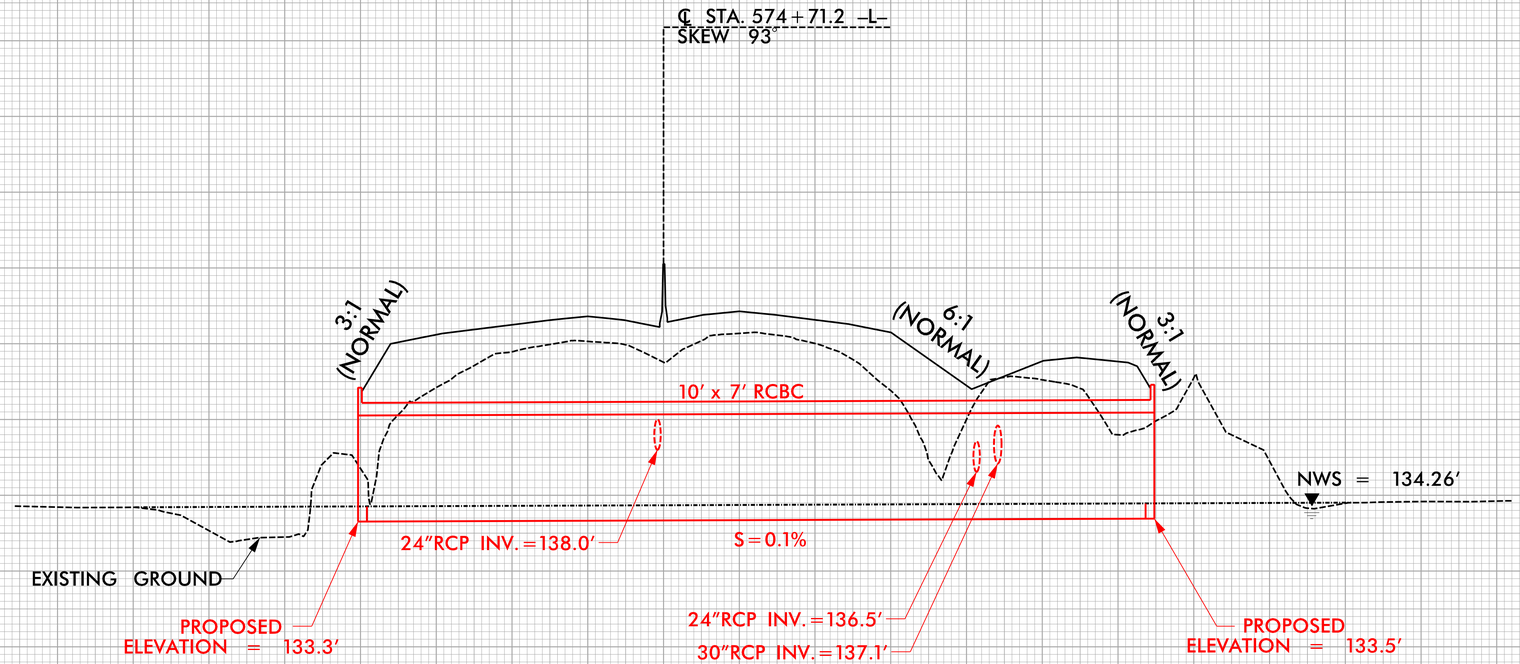
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 34
–L– STA. 574+71

PERMIT DRAWING
SHEET 94 OF 163

ENGLISH



10′ X 7′ RCBC
(buried 1.0′ alternating 1.0′ tall, 3.0′ wide baffles)
(length=263′)

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\VC\I-5986A_hyd_prm_wet_PFL_SITE34.dgn
ERIC.GUTHRIE

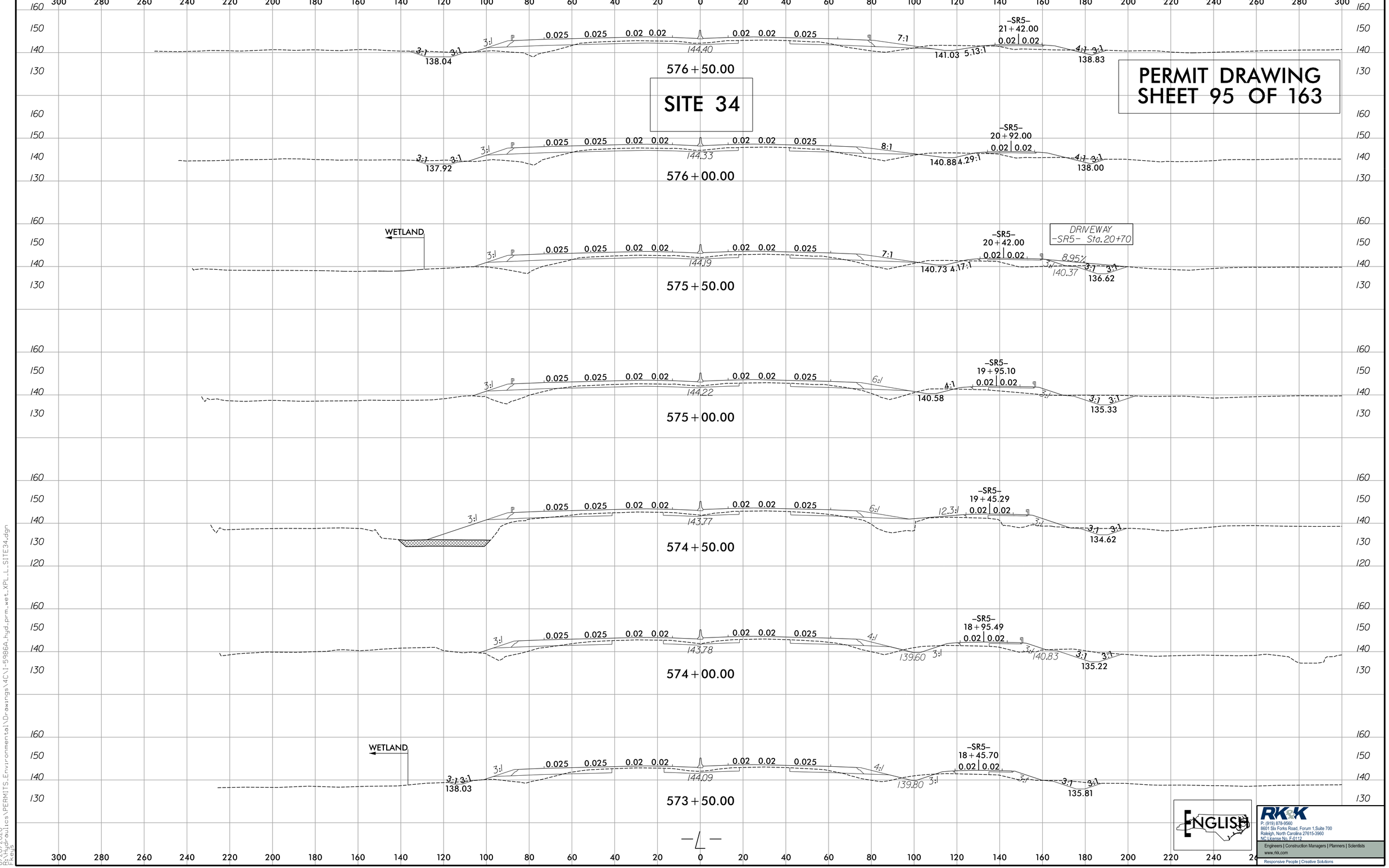
Submitted 9/2/2020

6/23/16

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A SECTION 3	X-10

PERMIT DRAWING SHEET 95 OF 163

SITE 34



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE34.dgn
Plotted

Submitted 9/2/2020

REVISIONS

ERWISE LABELED.

LED.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	48
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 96 OF 163

INSET A

MATCHLINE -Y9A- STA. 18+00.00 SEE SHEET 77

MATCHLINE -L- STA. 577+00.00 SEE SHEET 47

MATCHLINE -SR5- STA 21+95.00 SEE SHEET 47

MATCHLINE -L- STA. 605+00.00 SEE SHEET 49

MATCHLINE -SR5- STA 38+50.00 SEE SHEET 78

MATCHLINE -Y9C- STA. 12+00.00 SEE SHEET 78

SEE INSET A

SITE 35

A

B

C

D

OVERHILL FALCON ROAD (NC 82)

PROP. FENCE WOVEN WIRE

LATERAL BASE DITCH SEE DETAIL G

STANDARD BASE DITCH SEE DETAIL I

SPECIAL CUT BASE DITCH SEE DETAIL F

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL MEDIAN DITCH SEE DETAIL C

GRADE TO DRAIN

WOODS

WAT

SCALE FOR INSET

SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

DENOTES MECHANIZED CLEARING

FOR BRIDGE SKETCH SEE SHT. 2A–6

FOR CROSS–SECTION LAYOUT SEE SHTS. 2B–1 THRU 2B–3

TRUCK APRON

PAVEMENT REMOVAL

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

FOR –L– PROFILES SEE SHTS. 129 THRU 131
FOR –Y9A– PROFILE SEE SHT. 187
FOR –Y9B– PROFILE SEE SHT. 187
FOR –Y9C– PROFILE SEE SHT. 188
FOR –Y9RPA– PROFILE SEE SHT. 189
FOR –Y9RPB– PROFILE SEE SHT. 190
FOR –Y9RPC– PROFILE SEE SHT. 191
FOR –Y9RPD– PROFILE SEE SHT. 192
FOR –RAB_Y9AB– PROFILE SEE SHT. 188
FOR –RAB_Y9BC– PROFILE SEE SHT. 188
FOR –SR5– PROFILE SEE SHTS. 196 & 197

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

Submitted 9/2/2020

REVISIONS

ISE LABELED.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	48
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 97 OF 163

INSET A

MATCHLINE -Y9A- STA. 18+00.00 SEE SHEET 77

MATCHLINE -L- STA. 577+00.00 SEE SHEET 47

MATCHLINE -SR5- STA 21+95.00 SEE SHEET 47

MATCHLINE -L- STA. 605+00.00 SEE SHEET 49

MATCHLINE -SR5- STA. 38+50.00 SEE SHEET 78

MATCHLINE -Y9C- STA. 12+00.00 SEE SHEET 78

SEE INSET A

SITE 35

A

B

C

D

SCALE FOR INSET

SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

DENOTES MECHANIZED CLEARING

FOR BRIDGE SKETCH SEE SHT. 2A–6

FOR CROSS–SECTION LAYOUT SEE SHTS. 2B–1 THRU 2B–3

TRUCK APRON

PAVEMENT REMOVAL

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

FOR –L– PROFILES SEE SHTS. 129 THRU 131
FOR –Y9A– PROFILE SEE SHT. 187
FOR –Y9B– PROFILE SEE SHT. 187
FOR –Y9C– PROFILE SEE SHT. 188
FOR –Y9RPA– PROFILE SEE SHT. 189
FOR –Y9RPB– PROFILE SEE SHT. 190
FOR –Y9RPC– PROFILE SEE SHT. 191
FOR –Y9RPD– PROFILE SEE SHT. 192
FOR –RAB_Y9AB– PROFILE SEE SHT. 188
FOR –RAB_Y9BC– PROFILE SEE SHT. 188
FOR –SR5– PROFILE SEE SHTS. 196 & 197

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

Submitted 9/2/2020

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A SECTION 3	X-23

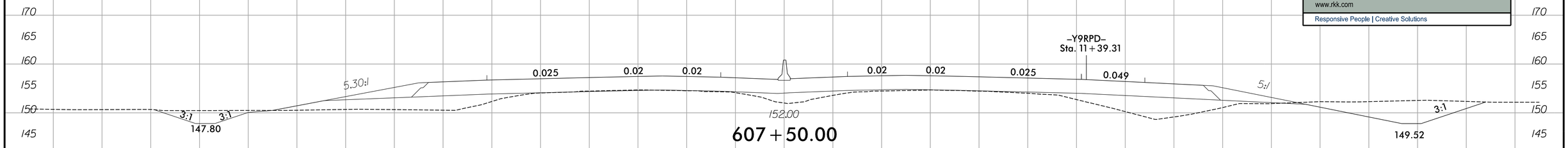
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

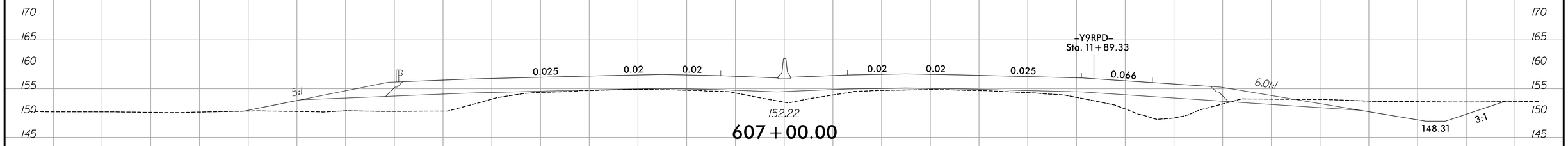
SITE 35

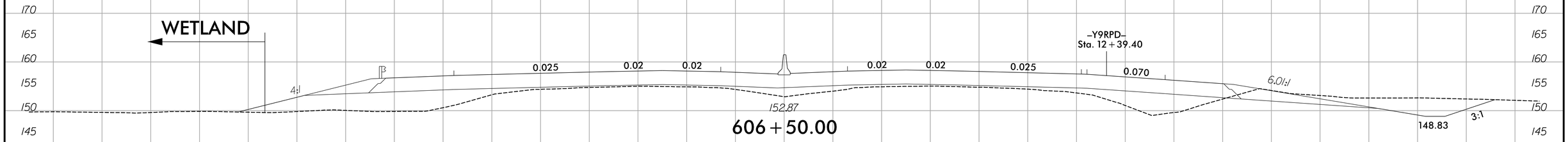
ENGLISH

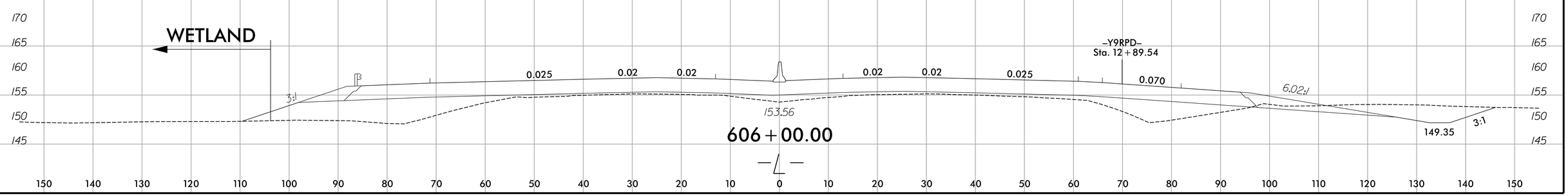
PERMIT DRAWING
SHEET 98 OF 163

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions









8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE35.dgn
FLeigh

Submitted 9/2/2020

8/17/99

SCALE 50 25 0 50 100

ENGLISH

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

PERMIT DRAWING SHEET 99 OF 163

PROJECT REFERENCE NO.	SHEET NO.
I-5986	49
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA. 605+00.00 SEE SHEET 48

MATCHLINE -L- STA. 618+00.00 SEE SHEET 50

S 47° 28' 33.7" W

-Y9RPA- POT Sta. 10+00.00=
-L- POT Sta.605+75.00 (61.0' LT)

SITE 35

WAT

WAU

DAWKINS, CHARLES FRANKLIN & WIFE JUANITA W
DB 10083 PG 228

MCINTYRE JR, DONALD M
DB 8486 PG 385
BK DB 298 PG 255

N 70°10'07" W
406.93'

N 67°47'00" W
653.38'

MCINTYRE JR, DONALD M
DB 8486 PG 383
BK DB 298 PG 255

STOP SIGN

LAT. BASE DITCH SEE DETAIL AE

TOE PROTECTION SEE DETAIL H

GREU TL-3

PLUG & FILL W/ W/FLOWABLE

REMOVE 20' 30" RCP

REMOVE DI

CONC PAVED DITCH

2GI-WSF

610+00

N 43° 28' 33.7" E

-L-

PROP.TYPE T BARRIER

615+00

CONC PAVED DITCH

REMOVE DI

15" RCP-IV

REMOVE 10' 18" RCP

PLUG & FILL W/ W/FLOWABLE

15" RCP-IV

2GI-WSF

-Y9RPD-

10+00

28.57' (TYP)

SPECIAL CUT BASE DITCH SEE DETAIL F

SPECIAL CUT BASE DITCH SEE DETAIL AC

52 TON CL I RIP RAP
100 SY GEOTEXTILE

2 TON CL B RIP RAP
7 SY GEOTEXTILE

PROP.FENCE WOVEN WIRE

EXISTING R/W

800' ACCELERATION LANE

300' TAPER

+89.30

-Y9RPD- SC Sta. 12+00.00

-Y9RPD- ST Sta. 10+00.00=
-L- POT Sta.608+89.30 (61.0' RT)

TURPIN JR, CLIFTON L
DB 2923 PG 481

TURPIN JR, CLIFTON L
DB 3462 PG 223
PB 35 PG 63

ALLEN, BEULAH M
DB 2454 PG 13
PB 38 PG 66

S 70°23'19" E
400.00'

S 70°49'37" E
353.35'

MCINTYRE JR, DONALD M
DB 8486 PG 385
BK DB 298 PG 255

-Y9RPD-	
PIs Sta 11+33.35	PI Sta 18+49.09
Θs = 2° 36' 15.7"	Δ = 32° 52' 34.4" (LT)
Ls = 200.00'	D = 2° 36' 15.7"
LT = 133.35'	L = 1,262.36'
ST = 66.68'	T = 649.09'
	R = 2,200.00'
	SE = 0.07
	DS = 65 MPH

FOR CROSS-SECTION LAYOUT SEE SHTS. 2B-1 THRU 2B-3

FOR -L- PROFILES SEE SHTS. 131 & 132
FOR -Y9RPA- PROFILE SEE SHT. 189
FOR -Y9RPD- PROFILE SEE SHT. 192

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
RLHughes
K:\Hydraulics\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_psh49.dgn

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

PERMIT DRAWING SHEET 100 OF 163

PROJECT REFERENCE NO.	SHEET NO.
I-5986	49
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA. 605+00.00 SEE SHEET 48

MATCHLINE -L- STA. 618+00.00 SEE SHEET 50

S 47° 28' 33.7" W

-Y9RPA- POT Sta. 10+00.00=
-L- POT Sta.605+75.00 (61.0' LT)

SITE 35

WAT

WAU

LAT. BASE DITCH SEE DETAIL AE

PROP SIGN

TOE PROTECTION SEE DETAIL H

GREU TL-3

10+00

PLUG & FILL W/ W/FLOWABLE

REMOVE 20' 30" RCP

REMOVE DI

CONC PAVED DITCH

REMOVE 20' 30" RCP

PLUG & FILL W/ W/FLOWABLE

2GIA-WSF

610+00

N 43° 28' 33.7" E

-L-

PROP.TYPE T BARRIER

615+00

CONC PAVED DITCH

REMOVE DI

15" RCP-IV

REMOVE 10' 18" RCP

PLUG & FILL W/ W/FLOWABLE

15" RCP-IV

2GI-WSF

15" RCP-IV

-Y9RPD-

10+00

28.57' (TYP)

SPECIAL CUT BASE DITCH SEE DETAIL F

SPECIAL CUT BASE DITCH SEE DETAIL AC

52 TON CL I RIP RAP 100 SY GEOTEXTILE

2 TON CL B RIP RAP 7 SY GEOTEXTILE

PROP.FENCE WOVEN WIRE

800' ACCELERATION LANE

300' TAPER

-Y9RPD- SC Sta. 12+00.00

-Y9RPD- ST Sta. 10+00.00=
-L- POT Sta.608+89.30 (61.0' RT)

WOODS

EXISTING R/W

-Y9RPD-	
PIs Sta 11+33.35	PI Sta 18+49.09
Θs = 2° 36' 15.7"	Δ = 32° 52' 34.4" (LT)
Ls = 200.00'	D = 2° 36' 15.7"
LT = 133.35'	L = 1,262.36'
ST = 66.68'	T = 649.09'
	R = 2,200.00'
	SE = 0.07
	DS = 65 MPH

FOR CROSS-SECTION LAYOUT SEE SHTS. 2B-1 THRU 2B-3

FOR -L- PROFILES SEE SHTS. 131 & 132
FOR -Y9RPA- PROFILE SEE SHT. 189
FOR -Y9RPD- PROFILE SEE SHT. 192

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Highways\Roadways\Projects\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd-4B_psh49_CON.dgn
Keith

Submitted 9/2/2020

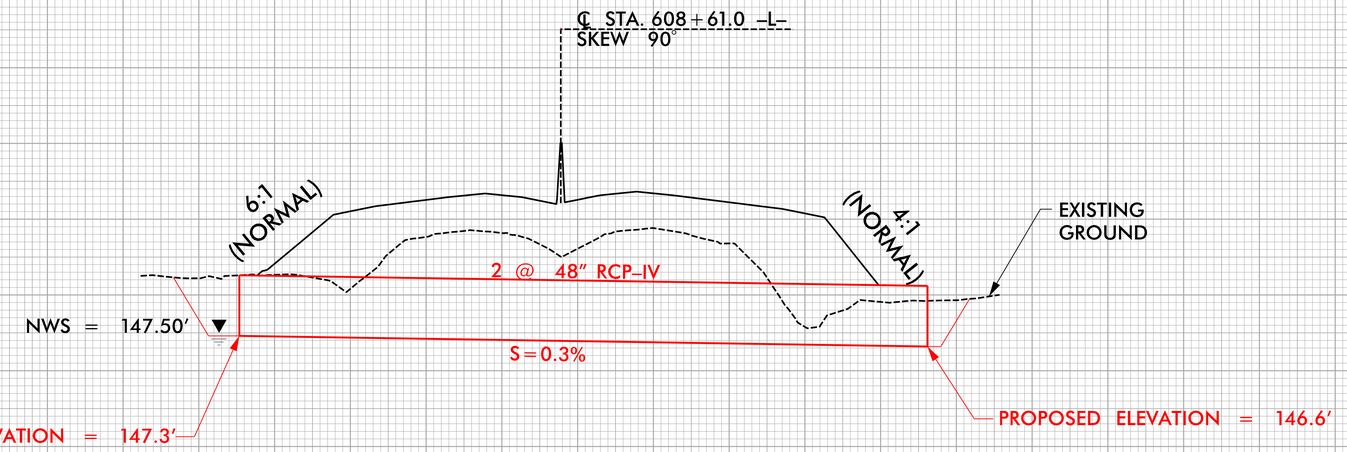
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 35
–L– STA. 608+65

PERMIT DRAWING
SHEET 100A OF 163

ENGLISH



160
150
140
130
120

2 @ 48" RCP–IV
(not buried)
(length=229')

250 200 150 100 50 0 50 100 150 200 250

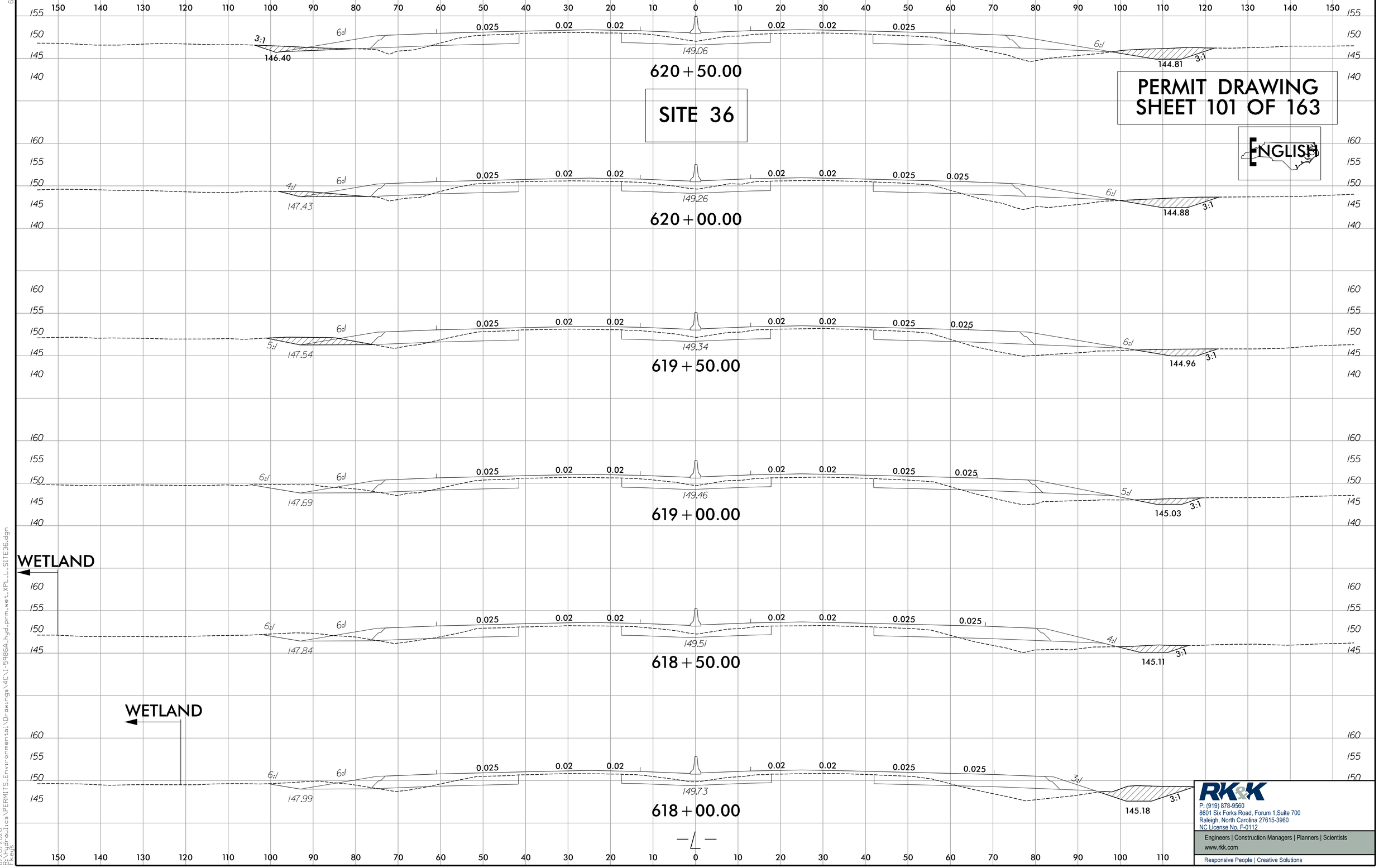
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Projects\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_PFL_SITE35A.dgn
default

Submitted 9/2/2020

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A SECTION 3	X-28



RK&K
P: (919) 878-9560
9601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE36.dgn
Fleig

Submitted 9/2/2020

8/17/99

PERMIT DRAWING SHEET 102 OF 163

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	50
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

INSET A

EXISTING R/W
TOE PROTECTION SEE DETAIL H
REMOVE
REMOVE JB
SI-2
WLB

SITE 37

WAW

Q10 = 20.59 cfs
V10 = 1.68 ft/s

Q10 = 7.77 cfs
V10 = 1.33 ft/s

INV. OUT = 145.8'
PROP. WOVEN WIRE FENCE
SPECIAL LAT. BASE DITCH SEE DETAIL C
3 TON CL B RIP RAP 10 SY GEOTEXTILE
SPECIAL CUT DITCH SEE DETAIL B
INV. IN = 141.8'
PIPE IN = 140.8'
SPECIAL LAT. V DITCH SEE DETAIL A
SEE INSET A
WOODS
18" RCP-IV
REMOVE JB
REMOVE 10' 36" RCP
PLUG & FILL W/ W/FLOWABLE
2GI-WSF
15" RCP-IV
620+00
625+00
630+00
CONC PAVED DITCH
REMOVE DI
2GIA-WSF
2" RCP-IV BURIED 1.0'
30" RCP
N 43° 28' 33.7" E
I-95 SBL 37' BST
I-95 NBL 37' BST
9' BST
10' BST

MATCHLINE -L- STA. 618+00.00 SEE SHEET 49

MATCHLINE -L- STA. 631+00.00 SEE SHEET 51

SPECIAL CUT BASE DITCH SEE DETAIL AC
EXISTING DITCH RUNS BETWEEN 0.1% TO 0.2%
PROP. WOVEN WIRE FENCE
DITCH TIES INTO WETLAND AND LOW POINT OF EXISTING GROUND
WAU
SITE 36
Q10 = 1.95 cfs
V10 = 1.95 ft/s
WAV
SPECIAL LAT. BASE DITCH SEE DETAIL AD
38 TON CL II RIP RAP 78 SY GEOTEXTILE
SEE INSET B
INV. OUT = 141.56'
PIPE OUT = 140.56'
SP. LAT. V DITCH SEE DETAIL A
Q10 = 5.29 cfs
V10 = 1.33 ft/s
SI-1
SITE 37

INSET B

TOE PROTECTION SEE DETAIL H
AT. BASE DITCH DETAIL AD
38 TON CL II
78 SY GEOT

FOR -L- PROFILES SEE SHTS. 132 & 133
FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

SCALE FOR INSET: 25 0 25 50
SCALE: 50 25 0 50 100

ENGLISH

TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
T T	DENOTES TEMPORARY FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING
F F	DENOTES FILL IN WETLAND

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
I:\Projects\PERMITS_Environmental\Drawings\48\Section 3\I-5986A_hyd_48_psh50.dgn
kelly

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	50
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING SHEET 103 OF 163

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

INSET A

EXISTING R/W
TOE PROTECTION SEE DETAIL H
REMOVE
REMOVE JB
WLB

-L- STA. 618+00.00 SEE SHEET 49

-L- STA. 631+00.00 SEE SHEET 51

SITE 37
SI–2
WAW
Q10 = 20.59 cfs
V10 = 1.68 ft/s
INV. OUT = 145.8'
PROP. WOVEN WIRE FENCE
SPECIAL LAT. BASE DITCH SEE DETAIL C
3 TON CL B RIP RAP
10 SY GEOTEXTILE
SPECIAL CUT DITCH SEE DETAIL B
INV. IN = 141.8'
PIPE IN = 140.8
Q10 = 7.77 cfs
V10 = 1.33 ft/s
SPECIAL LAT. V DITCH SEE DETAIL A
SEE INSET A
REMOVE JB
PLUG & FILL W/ W/FLOWABLE
18" RCP-IV
2" RCP-IV BURIED 1.0'
REMOVE 10' 36" RCP
REMOVE 10' 30" RCP
REMOVE DI
CONC. LINED DITCH
2GI-WSF
2GIA-WSF
15" RCP-IV
620+00
625+00
630+00
N 43° 28' 33.7" E
WOODS
I-95 SBL 37' BST
I-95 NBL 37' BST
9' BST
10' BST
15' BST

SPECIAL CUT BASE DITCH SEE DETAIL AC
EXISTING DITCH RUNS BETWEEN 0.1% TO 0.2%
DITCH TIES INTO WETLAND AND LOW POINT OF EXISTING GROUND
WAU
SITE 36
Q10 = 1.95 cfs
V10 = 1.95 ft/s
SPECIAL LAT. BASE DITCH SEE DETAIL AD
WAV
SI–1
SITE 37
38 TON CL II RIP RAP
78 SY GEOTEXTILE
Q10 = 5.29 cfs
V10 = 1.33 ft/s
SEE INSET B
INV. OUT = 141.56'
PIPE OUT = 140.56'
SP. LAT. V DITCH SEE DETAIL A
SPECIAL CUT DITCH SEE DETAIL B
10' WW W/ISBW

INSET B

TOE PROTECTION SEE DETAIL H
AT. BASE DITCH DETAIL AD
38 TON CL II
78 SY GEOT

SCALE FOR INSET: 25 0 25 50
SCALE: 50 25 0 50 100

ENGLISH

TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
T T	DENOTES TEMPORARY FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING
F F	DENOTES FILL IN WETLAND

FOR –L– PROFILES SEE SHTS. 132 & 133
FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
K:\Projects\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_psh50_CON.dgn
Ekeller

Submitted 9/2/2020

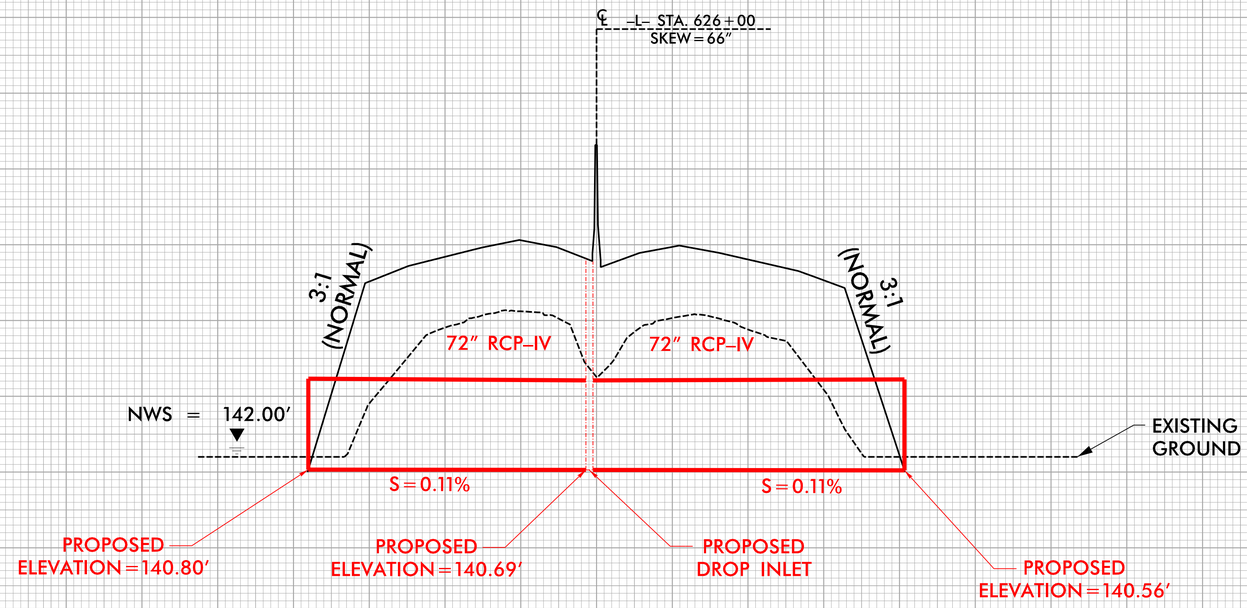
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 37
–L– STA. 626+00

PERMIT DRAWING
SHEET 104 OF 163

ENGLISH



72" RCP–IV
(buried 1.0')
(total length=206')

170 160 150 140 130

250 200 150 100 50 0 50 100 150 200 250

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd-prm_wet_PFL_SITE37.dgn

Submitted 9/2/2020

6/23/16

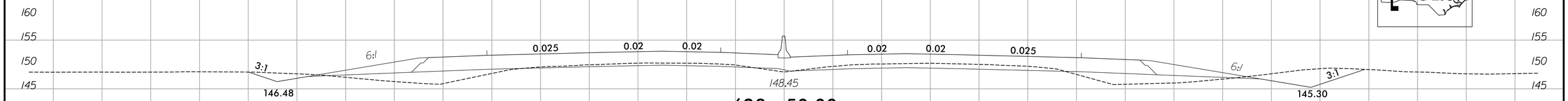
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A SECTION 3	X-31

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

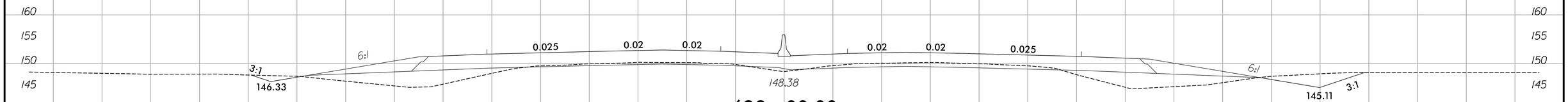
SITE 37

PERMIT DRAWING
SHEET 105 OF 163

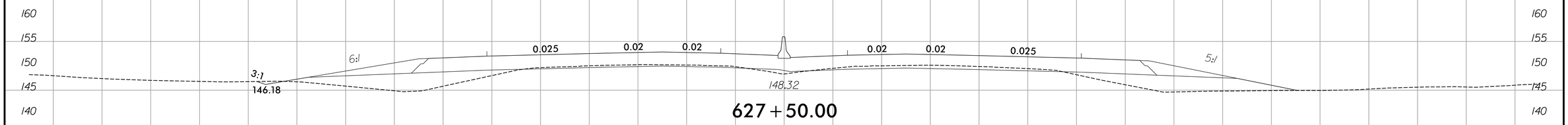
ENGLISH



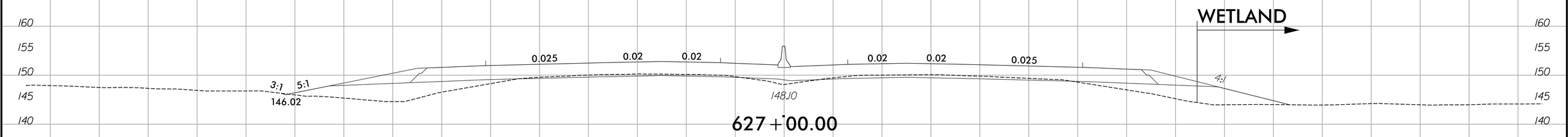
628+50.00



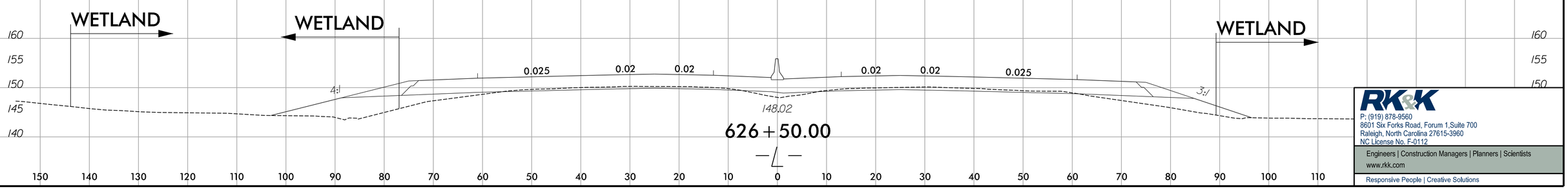
628+00.00



627+50.00



627+00.00



626+50.00

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE37.dgn
Plotted

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	51
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 106 OF 163

NAD 83/NA 2011

MATCHLINE -L- STA. 631+00.00 SEE SHEET 50

MATCHLINE -L- STA. 642+00.00 SEE SHEET 52

10+00

S 66° 59' 47.1" E

BEGIN CONSTRUCTION
-Y21- Sta.13+55.00

BEGIN GRADE
-Y21- POC Sta.14+05.00

15+00

20+00

N 43° 28' 33.7" E

635+00

640+00

SPECIAL CUT DITCH SEE DETAIL B

LATERAL BASE DITCH SEE DETAIL D

MEDIAN BASE DITCH SEE DETAIL AB

PROP.CHAIN LINK FENCE

PROP.WOVEN WIRE FENCE

15" RCP-IV

18" RCP-IV

24" RCP-IV

2GI-WSF

2GIA-WSF

5 TON CL B RIP RAP
14 SY GEOTEXTILE

REMOVE 10' OF 18" RCP

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/ W/FLOWABLE

BROKEN

SPECIAL CUT BASE DITCH SEE DETAIL F

PROP.FENCE WOVEN WIRE

SEE INSET A

Q10 = 13.1 cfs
V10 = 1.40 fps

SITE 38

INSET A

LATERAL BASE DITCH SEE DETAIL D

WAX

FOR CROSS-SECTION LAYOUT SEE SHT. 2B-4

FOR -L- PROFILES SEE SHTS. 133 & 134
FOR -Y21- PROFILE SEE SHT. 195

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
Highways\Hydraulics\PERMITS_Environmental\Drawings\48\Section 3\I-5986A_hyd_48_psh51.dgn
Users\tkeay

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	51
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 107 OF 163

NAD 83/NA 2011

MATCHLINE -L- STA. 631+00.00 SEE SHEET 50

MATCHLINE -L- STA. 642+00.00 SEE SHEET 52

BEGIN CONSTRUCTION
-Y21- Sta.13+55.00

BEGIN GRADE
-Y21- POC Sta.14+05.00

10+00

S 66° 59' 47.1" E

15+00

20+00

N 43° 28' 33.7" E

635+00

640+00

N 43° 28' 33.7" E

SPECIAL CUT DITCH SEE DETAIL B

PROP.CHAIN LINK FENCE

PROP.WOVEN WIRE FENCE

MEDIAN BASE DITCH SEE DETAIL AB

LATERAL BASE DITCH SEE DETAIL D

SPECIAL CUT BASE DITCH SEE DETAIL F

2GI-WSF

2GIA-WSF

15" RCP-IV

18" RCP-IV

24" RCP-IV

5 TON CL B RIP RAP
14 SY GEOTEXTILE

PROP.FENCE WOVEN WIRE

REMOVE 10' OF 18" RCP

PLUG & FILL W/ W/FLOWABLE

CONC PAVED DITCH

GREU TL-3

CAT-1

ES = 148.8'

SR 1807 BEGIN OF RIVER RD

SITE 38

SEE INSET A

WAX

INSET A

LATERAL BASE DITCH SEE DETAIL D

FOR CROSS-SECTION LAYOUT SEE SHT. 2B-4

FOR -L- PROFILES SEE SHTS. 133 & 134
FOR -Y21- PROFILE SEE SHT. 195

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
J:\Highways\Projects\PERMITS_Environmental\Drawings\48\Section 3\I-5986A_hyd_48_psh51_CON.dgn
Ekeup

Submitted 9/2/2020

6/23/16

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A SECTION 3	X-36

SITE 38

PERMIT DRAWING SHEET 108 OF 163

ENGLISH

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

170 160 150 140 130

–Y21–
Sta. 24+78.10
0.02 | 0.02
3:1 3:1 5:1
0.025 0.02 0.02 0.02 0.02 0.025
3:1 3:1 3:1
144.77
146.66
138.41
643+00.00

–Y21–
Sta. 24+28.10
0.02 | 0.02
3:1 3:1 4:1 6:1
0.025 0.02 0.02 0.02 0.02 0.025
3:1
3:1 3:1
139.34
146.08
146.77
WETLAND
642+50.00

–Y21–
Sta. 23+78.10
0.02 | 0.02
3:1 3:1 4:1 5:1
0.025 0.02 0.02 0.02 0.02 0.025
3:1
3:1 3:1
139.65
145.55
146.81
WETLAND
642+00.00

–Y21–
Sta. 23+28.10
0.02 | 0.02
3:1 3:1 4:1 4:1
0.025 0.02 0.02 0.02 0.02 0.025
3:1
3:1 3:1
139.96
145.01
146.81
WETLAND
641+50.00

–Y21–
Sta. 22+78.10
0.02 | 0.02
3:1 3:1 4:1 4:1
0.025 0.02 0.02 0.02 0.02 0.025
3:1
3:1 3:1
140.27
144.48
146.98
WETLAND
641+00.00

–Y21–
Sta. 22+28.10
0.02 | 0.02
3:1 3:1 4:1 4:1
0.025 0.02 0.02 0.02 0.02 0.025
3:1
3:1 3:1
140.58
144.63
147.07
WETLAND
WETLAND
640+50.00

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
RKaufman
C:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE38.dgn

Submitted 9/2/2020

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

5 5 DENOTES IMPACTS IN SURFACE WATER

13 13 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	52
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 109 OF 163

NAD 83/NA 2011

MATCHLINE -Y21- STA. 35+00.00 SEE SHEET 80

MATCHLINE -Y10- STA. 25+00.00 SEE SHEET 80

MATCHLINE -L- STA. 642+00.00 SEE SHEET 51

MATCHLINE -L- STA. 655+00.00 SEE SHEET 53

MATCHLINE -Y10- STA. 18+00.00 SEE SHEET 79

SITE 39

SEE INSET A SJ–2

INSET A

150 TON CL I RIP RAP

LATERAL BASE DITCH SEE DETAIL D

10' WIDE BERM TOP ELEV.=148.1' SEE DETAIL Q

PDE

REMOVE 75' 54" RCP

25+00

5 TON CL B RIP RAP 14 SY GEOTEXTILE

24" RCP–III

LATERAL BASE DITCH SEE DETAIL D

LATERAL V DITCH SEE DETAIL K

30+00

N 43° 28' 33.7" E

OEP

PROP.WOVEN WIRE FENCE

MEDIAN V DITCH SEE DETAIL G

2GIB–WSS

18" RCP–III

PLUG & FILL W/ FLOWABLE FILL

645+00

REMOVE DI

CONC PAVED DITCH

2GIB–WSF

15" RCP–IV

650+00

N 43° 28' 33.7" E

PLUG & FILL W/ FLOWABLE FILL

655+00

N 17° 03' 54.0" W

REMOVE

LATERAL BASE DITCH SEE DETAIL D

54" RCP

54 TON CL A RIP RAP

SEE INSET B SJ–1

SPECIAL CUT DITCH SEE DETAIL B

2 TON CL B RIP RAP 7 SY GEOTEXTILE

20+00

LAT. V DITCH SEE DETAIL K

15" CSP 2 ELBOWS

1 TON CL B RIP RAP 5 SY GEOTEXTILE

SITE 39

WAX

INSET B

CL A AP

REMO

SPECIAL CUT BASE DITCH SEE DETAIL F

+91.00

140.00

10 TON CL B RIP RAP 28 SY GEOTEXTILE

SPECIAL CUT DITCH SEE DETAIL Y

30" RCP–III

2GIA–WSF

4GI

JB W/MH

FOR BRIDGE SKETCH SEE SHT. 2A–6

FOR CROSS–SECTION LAYOUT SEE SHT. 2B–5

PAVEMENT REMOVAL

FOR –L– PROFILES SEE SHTS. 134 & 135
FOR –Y10– PROFILE SEE SHT. 193
FOR –Y21– PROFILE SEE SHT. 195

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Projects\PERMITS.Environmental\Drawings\4B\Section 3\I-5986A_hgd_4B_psht52.dgn

Submitted 9/2/2020

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 110 OF 163

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	52
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -Y21- STA. 35+00.00 SEE SHEET 80

MATCHLINE -Y10- STA. 25+00.00 SEE SHEET 80

MATCHLINE -L- STA. 642+00.00 SEE SHEET 51

MATCHLINE -L- STA. 655+00.00 SEE SHEET 53

MATCHLINE -Y10- STA. 18+00.00 SEE SHEET 79

INSET A

150 TON CL I RIP RAP

E DITCH
AIL D

DE BERM
EV. =148.1'
ETAIL Q

PDE

REMOVE 75'
54" RCP
25+00

SITE 39

SEE INSET A SJ–2

LATERAL BASE DITCH SEE DETAIL D

10' WIDE BERM TOP ELEV. =148.1' SEE DETAIL Q

150 TON CL I RIP RAP

5 TON CL B RIP RAP
14 SY GEOTEXTILE

LATERAL V DITCH SEE DETAIL K

SPECIAL CUT BASE DITCH SEE DETAIL F

12" CSP 2 ELBOWS

10 TON CL B RIP RAP 28 SY GEOTEXTILE

SPECIAL CUT DITCH SEE DETAIL Y

2GIA–WSF

JB W/MH

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

2GIB–WSF

15" RCP–IV

SPECIAL CUT DITCH SEE DETAIL B

18" RCP REMOVE

2 TON CL B RIP RAP 7 SY GEOTEXTILE

1 TON CL B RIP RAP 5 SY GEOTEXTILE

LAT. V DITCH SEE DETAIL K

54" RCP–III

24" RCP–III

18" RCP–III

7'-7" RCBC (BURIED 1.0')

2GIB–WSS

MEDIAN V DITCH SEE DETAIL G

PROP. WOVEN WIRE FENCE

SEE INSET B SJ–1

SITE 39

WAX

INSET B

CL A

AP

EXISTING R

REMO

FOR BRIDGE SKETCH SEE SHT. 2A–6

FOR CROSS–SECTION LAYOUT SEE SHT. 2B–5

PAVEMENT REMOVAL

FOR –L– PROFILES SEE SHTS. 134 & 135
FOR –Y10– PROFILE SEE SHT. 193
FOR –Y21– PROFILE SEE SHT. 195

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Projects\Highways\Projects\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_pst52_CON.dgn

Submitted 9/2/2020

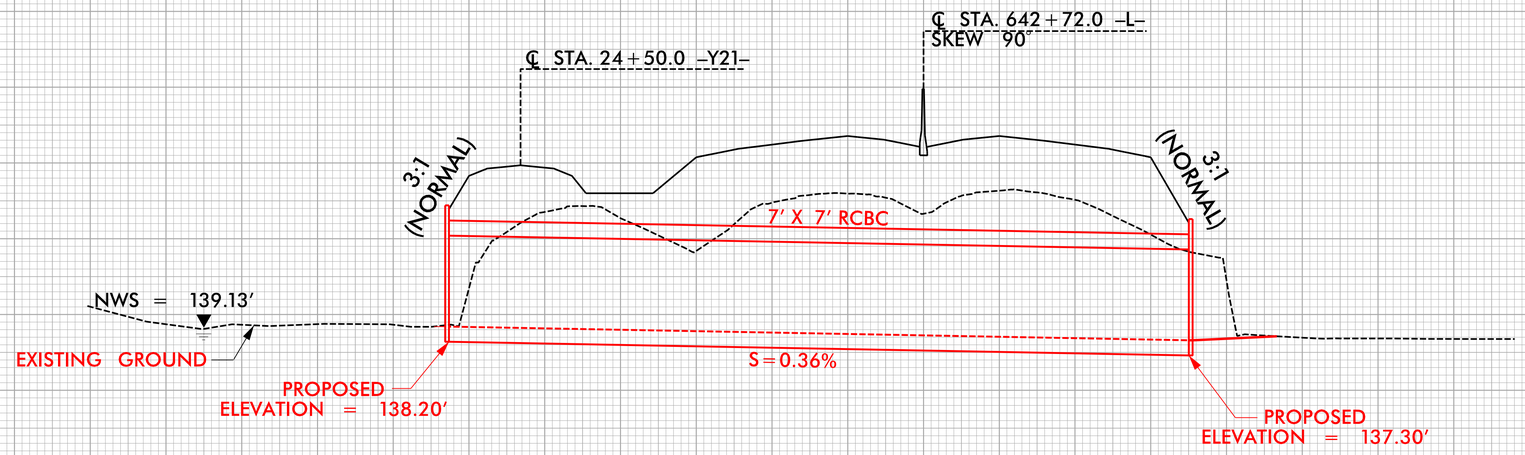
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 39
–L– STA. 642 + 72

PERMIT DRAWING
SHEET 111 OF 163

ENGLISH



160 150 140 130 120

250 200 150 100 50 0 50 100 150 200 250

7'X 7'RCBC
(buried 1.0')
(length = 244')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4CV\I-5986A_hyd_prm_wet_PFL_SITE39.dgn
ElizabethMcCarthy

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

T T DENOTES TEMPORARY FILL IN WETLAND

F F DENOTES FILL IN WETLAND

INSET B

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	53
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 112 OF 163

WAZ

SITE 41

MATCHLINE -L- STA. 655+00.00 SEE SHEET 52

MATCHLINE -L- STA. 668+00.00 SEE SHEET 54

SEE INSET B

Q10 = 7.0 cfs
V10 = 1.53 ft/s

LATERAL BASE DITCH SEE DETAIL D

PROP. WOVEN WIRE FENCE

SPECIAL CUT BASE DITCH SEE DETAIL F

SPECIAL CUT DITCH SEE DETAIL B

FS MINIMUM ELEV. = 138.00'

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

CONC PAVED DITCH

2GIB-WSF

660+00

665+00

N 43° 56' 54.7" E

I-95 SBL 37' BST

I-95 NBL 37' BST

REMOVE DI

PLUG & FILL W/ FLOWABLE FILL

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT BASE DITCH SEE DETAIL F

15 TON CL B RIP RAP
37 SY GEOTEXTILE

Q10 = 36.3 cfs
V10 = 1.39 ft/s

CUT FILL TRANSITION
1 TON CL B RIP RAP
5 SY GEOTEXTILE

PROP. WOVEN WIRE FENCE

SEE INSET A

WAY

SITE 40

S 73°08'53" E
55.18'

736.98'
S 85°10'53" W

INSET A

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR –L– PROFILES SEE SHTS. 135 & 136

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
K:\Highways\Projects\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_psh53.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

T T DENOTES TEMPORARY FILL IN WETLAND

F F DENOTES FILL IN WETLAND

INSET B

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	53
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 113 OF 163

WAZ

SITE 41

MATCHLINE -L- STA. 655+00.00 SEE SHEET 52

MATCHLINE -L- STA. 668+00.00 SEE SHEET 54

SEE INSET B

Q10 = 7.0 cfs
V10 = 1.53 ft/s

LATERAL BASE DITCH SEE DETAIL D

PROP. WOVEN WIRE FENCE

SPECIAL CUT BASE DITCH SEE DETAIL F

SPECIAL CUT DITCH SEE DETAIL B

FS MINIMUM ELEV. = 138.00'

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

CONC PAVED DITCH

2GIB-WSF

660+00

665+00

655+00

N 43° 56' 54.7" E

30' RCP

CAT-1

SPECIAL CUT DITCH SEE DETAIL B

REMOVE DI

SPECIAL CUT BASE DITCH SEE DETAIL F

15 TON CL B RIP RAP
37 SY GEOTEXTILE

Q10 = 36.3 cfs
V10 = 1.39 ft/s

SEE INSET A

CUT FILL TRANSITION
1 TON CL B RIP RAP
5 SY GEOTEXTILE

PLUG & FILL W/ FLOWABLE FILL

WAY

SITE 40

INSET A

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

FOR –L– PROFILES SEE SHTS. 135 & 136

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

8/21/2020
K:\Highways\Projects\I-5986A\Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_psh53_CON.dgn
Ekeng

Submitted 9/2/2020

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A SECTION 3	X-43

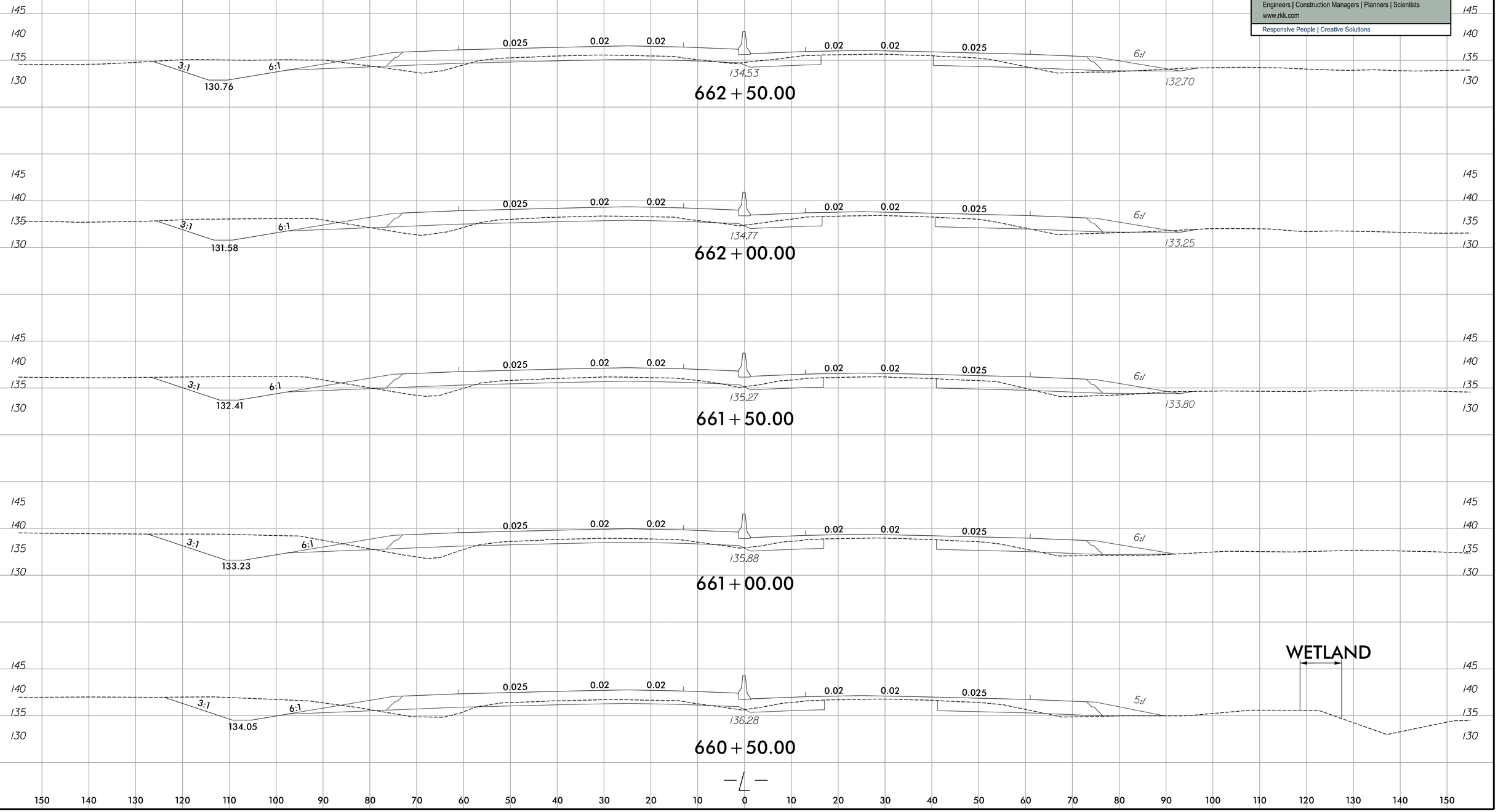
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SITE 40

ENGLISH

PERMIT DRAWING SHEET 114 OF 163

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions



8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE40.dgn
Plotted

Submitted 9/2/2020

6/23/16

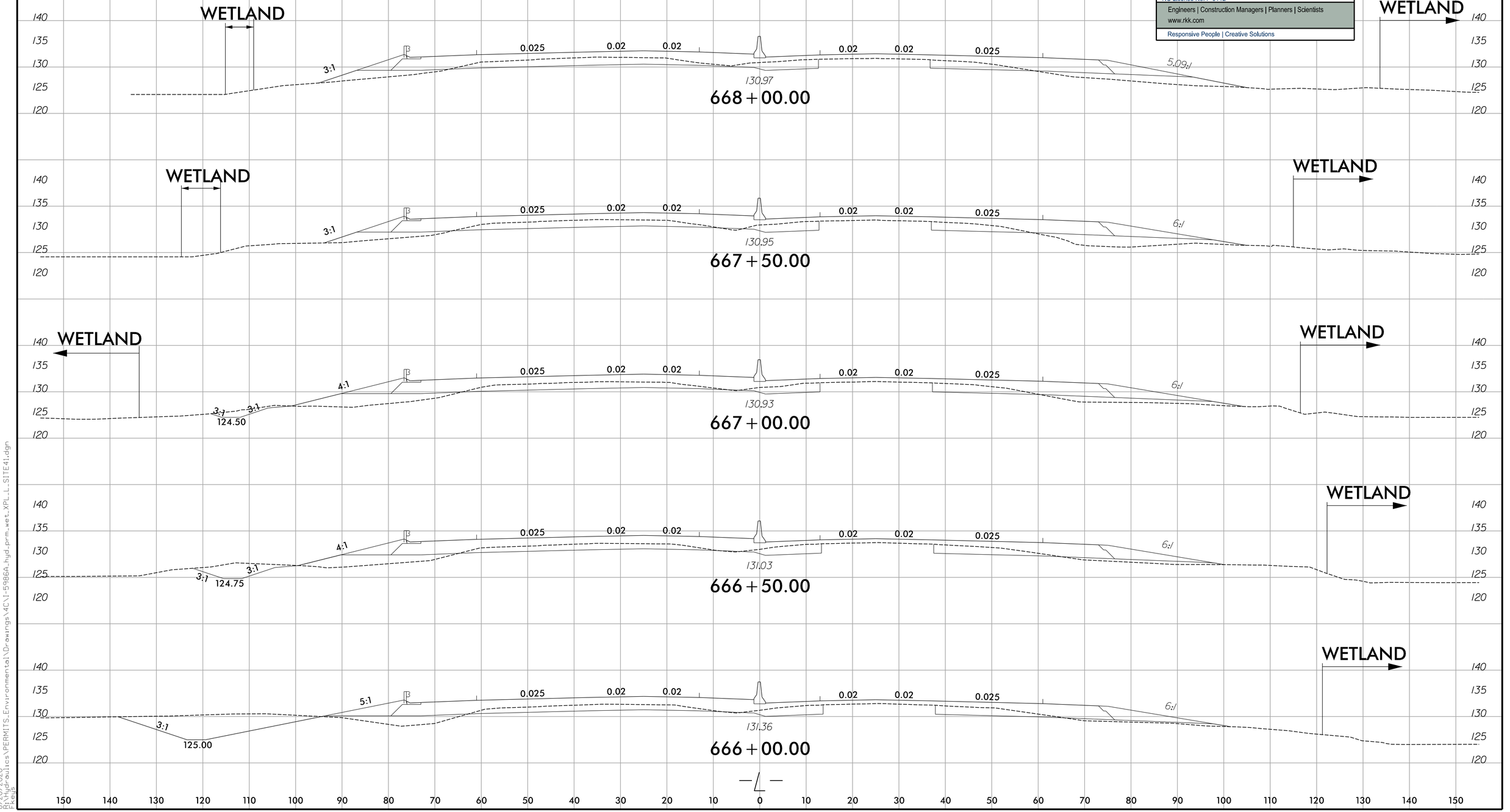
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A SECTION 3	X-45

PERMIT DRAWING
SHEET 115 OF 163

SITE 41

ENGLISH

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions



8/20/2020
K:\Highways\Projects\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE41.dgn

Submitted 9/2/2020

8/17/99

SCALE FOR INSET: 25 0 25 50

SCALE: 50 25 0 50 100

ENGLISH

- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES HAND CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	54
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 116 OF 163

NAD 83/NA 2011

BLACK RIVER

SITE 41

SITE 42

MATCHLINE -L- STA. 668+00.00 SEE SHEET 53

MATCHLINE -L- STA. 681+00.00 SEE SHEET 55

WAZ

1 TON CL B RIP RAP
5 SY GEOTEXTILE

PROP.WOVEN WIRE FENCE

Q10 = 1.7 cfs
V10 = 0.76 ft/s

Q10 = 0.6 cfs
V10 = 0.64 ft/s

2 TON CL B RIP RAP
7 SY GEOTEXTILE

+00.00
140.00' LT

GREU TL-3

2GIB-WSF

15" RCP-IV

24" RCP-IV

2GIA-WSF

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/ FLOWABLE FILL

-L-

N 43° 56' 54.7" E

670+00

675+00

680+00

PROP. SBG

B-77

CAT-1

15" RCP-III

TOE PROTECTION
SEE DETAIL H

3 TON CL B RIP RAP
Q10 = 15.2 cfs
V10 = 1.99 ft/s
GEOTEXTILE

Q10 = 2.7 cfs
V10 = 0.68 ft/s

SEE INSET A

SEE INSET B

+00.00
140.00' RT

INSET A

INSET B

FOR BRIDGE SKETCH SEE SHT. 2A-7

FOR -L- PROFILES SEE SHT. 136

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
I-5986A_sht_plotted
EKeller

C:\pwworking\dot\ekeller\d0346986\PERMITS_Environmental\D-awings\4B\Section 3\I-5986A_hyd_4B_psh54.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

HC HC DENOTES HAND CLEARING

T T DENOTES TEMPORARY FILL IN WETLAND
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
S S DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
F F DENOTES FILL IN WETLAND
E E DENOTES EXCAVATION IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	54
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 117 OF 163

NAD 83/NA 2011

BLACK RIVER

SITE 41

SITE 42

WAZ

MATCHLINE -L- STA. 668+00.00 SEE SHEET 53

MATCHLINE -L- STA. 681+00.00 SEE SHEET 55

1 TON CL B RIP RAP
5 SY GEOTEXTILE

2 TON CL B RIP RAP
7 SY GEOTEXTILE

3 TON CL B RIP RAP
GEOTEXTILE

PROP.WOVEN WIRE FENCE

Q10 = 1.7 cfs
V10 = 0.76 ft/s

Q10 = 0.6 cfs
V10 = 0.64 ft/s

Q10 = 15.2 cfs
V10 = 1.99 ft/s

Q10 = 2.7 cfs
V10 = 0.68 ft/s

Q10 = 0.6 cfs
V10 = 0.76 ft/s

+00.00
140.00' LT

+00.00
140.00' RT

GREU TL-3

2GIB-WSF

2GIA-WSF

15" RCP-IV

24" RCP-IV

15" RCP-III

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/ FLOWABLE FILL

TOE PROTECTION
SEE DETAIL H

PROP. SBG

B-77

CAT-1

-L-
N 43° 56' 54.7" E

670+00

675+00

680+00

SEE INSET A

SEE INSET B

INSET A

INSET B

SITE 42

FOR BRIDGE SKETCH SEE SHT. 2A-7

FOR -L- PROFILES SEE SHT. 136

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
I:\5986A\Roadway\Plotting\PERMITS.Environmental\D-awings\4B\Section 3\I-5986A_hyd_4B_psh54_CON.dgn
ekeller

Submitted 9/2/2020

5/28/99

PROJECT REFERENCE NO.	SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

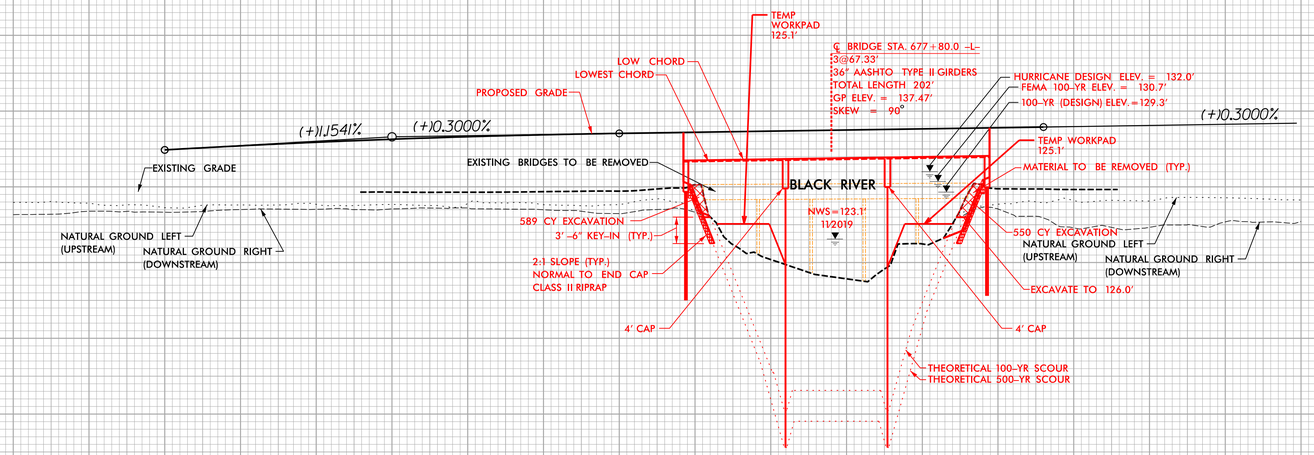
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 118 OF 163

ENGLISH

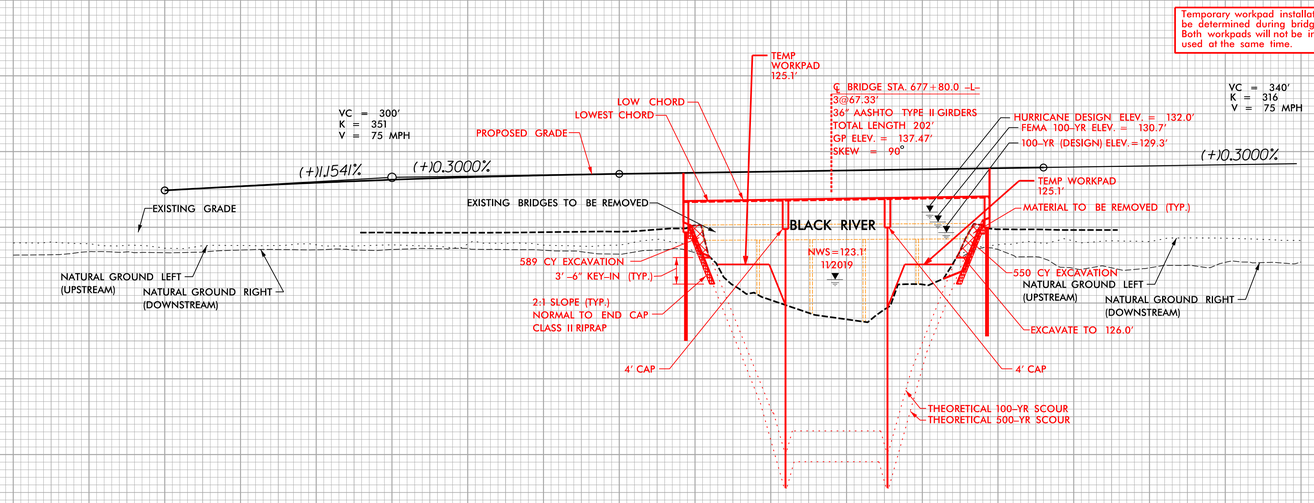
SITE 42
–L– STA. 677+80 LT

Temporary workpad installation to be determined during bridge construction. Both workpads will not be installed or used at the same time.



SITE 42
–L– STA. 677+80 RT

Temporary workpad installation to be determined during bridge construction. Both workpads will not be installed or used at the same time.



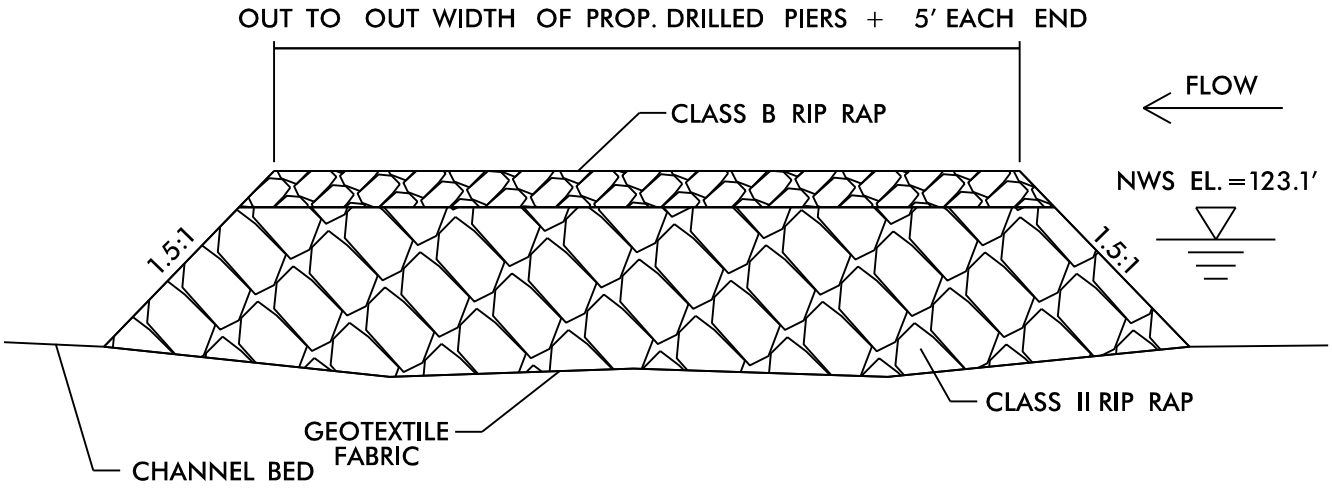
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

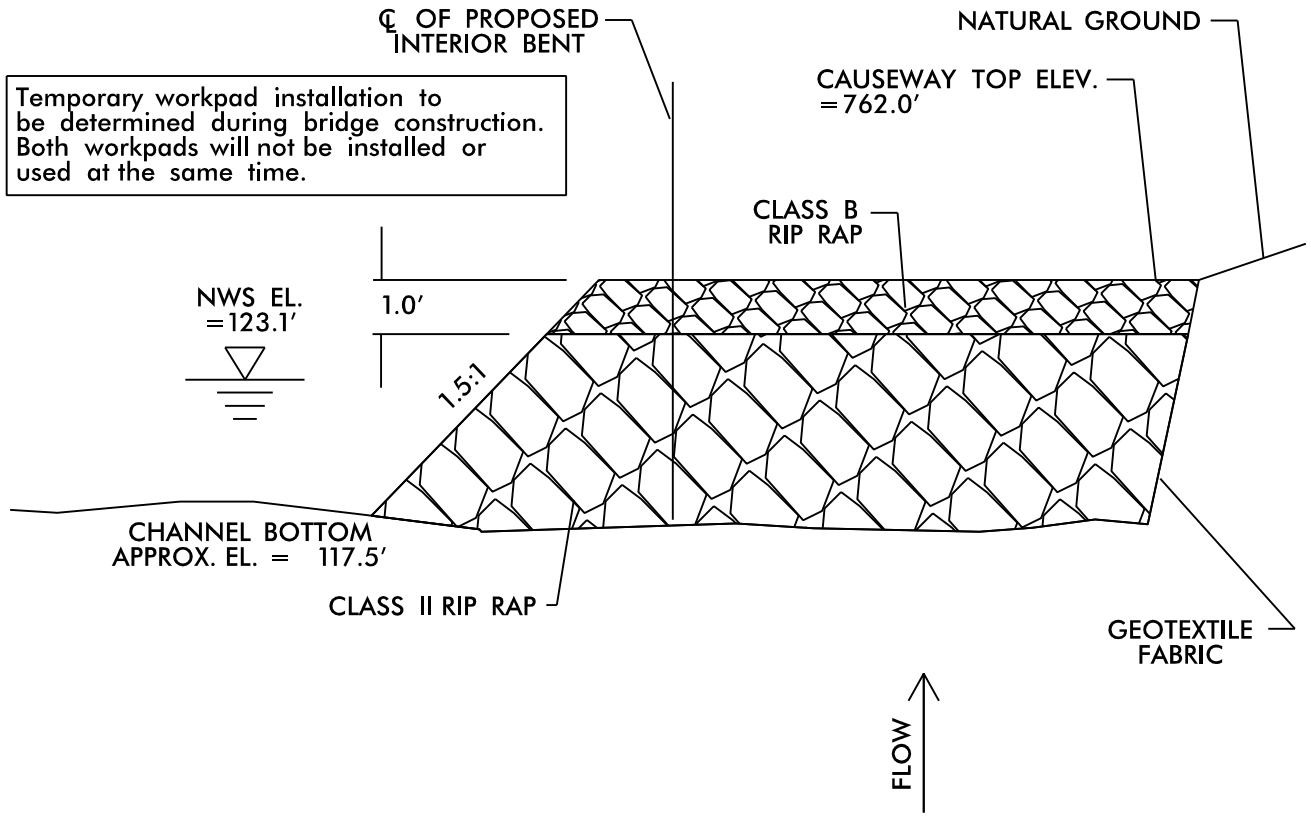
8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4CN\I-5986A_hyd_prm_wet_PFL_SITE42.dgn
Plotted: 8/20/2020 10:47 AM

Submitted 9/2/2020

TEMPORARY WORK PAD DETAIL

NOT TO SCALE





STREAM CROSS SECTION TAKEN ALONG UPSTREAM TOE OF CAUSEWAY (MOST RESTRICTIVE LOCATION)

1. CHANNEL FLOW AREA BELOW NWS = 111.5 SF
2. PERCENT OF NWS FLOW AREA REMAINING WHILE CAUSEWAY IS IN PLACE = 54%

NCDOT

DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

PROJECT: I-5986A / I-5877

BRIDGE OVER BLACK RIVER ON I-95

Submitted 9/2/2020

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A SECTION 3	X-51

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

145 140 135 130 125 120

WETLAND

3:1

0.025 0.02 0.02 0.02 0.02 0.025

WETLAND

3:1

131.73

682+00.00

SITE 42

PERMIT DRAWING
SHEET 120 OF 163

ENGLISH

WETLAND

3:1

0.025 0.02 0.02 0.02 0.02 0.025

WETLAND

3:1

131.77

681+50.00

WETLAND

3:1

0.025 0.02 0.02 0.02 0.02 0.025

WETLAND

3:1

131.74

681+00.00

WETLAND

3:1

0.025 0.02 0.02 0.02 0.02 0.025

WETLAND

3:1

131.56

680+50.00

WETLAND

3:1

0.025 0.02 0.02 0.02 0.02 0.025

WETLAND

3:1

131.41

680+00.00

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Plotted By: Hydraulics
File: S:\Projects\PERMITS_Environmental\Drawings\4CV\I-5986A_hyd_prm_wet_XPL_LL_SITE42.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

F F DENOTES TEMPORARY FILL IN WETLAND
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
F F DENOTES FILL IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	55
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 121 OF 163

NAD 83/NA 2011

MATCHLINE -L- STA. 681+00.00 SEE SHEET 54

MATCHLINE -L- STA. 694+00.00 SEE SHEET 56

WAZ

WOODS

Q10 = 2.1 cfs
V10 = 0.54 ft/s

PROP. WOVEN WIRE FENCE

1 TON CL B RIP RAP
5 SY GEOTEXTILE

15" CSP
2 ELBOWS

15" RCP-IV

GREU TL-3

2GIB-WSF

PROP. SBG

I-95 SBL 37' BST

685+00

N 43° 56' 54.7" E

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

CONC PAVED DITCH

15" RCP-III

CAT-1

TOE PROTECTION SEE DETAIL H

2 TON CL B RIP RAP
7 SY GEOTEXTILE

SEE INSET A

Q10 = 2.5 cfs
V10 = 0.48 ft/s

SITE 42

690+00

3 TON CL B RIP RAP
11 SY GEOTEXTILE

(CHORD)

SITE 43

N 21°22'06" E
801.70'

S 21°22'06" W
75.55'

EXISTING R/W

INSET A

FOR –L– PROFILES SEE SHT. 137

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_psh55.dgn
kfeaster

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

F F DENOTES TEMPORARY FILL IN WETLAND
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
F F DENOTES FILL IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	55
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 122 OF 163

NAD 83/NA 2011

MATCHLINE -L- STA. 681+00.00 SEE SHEET 54

MATCHLINE -L- STA. 694+00.00 SEE SHEET 56

WAZ

PROP. WOVEN WIRE FENCE

Q10 = 2.1 cfs
V10 = 0.54 fps

1 TON CL B RIP RAP
5 SY GEOTEXTILE

15" CSP
2 ELBOWS

15" RCP-IV

GREU TL-3

2GIB-WSF

PROP. SBG

685+00

690+00

N 43° 56' 54.7" E

N 21°22'06" E
801.70'

S 21°02'09" W
1552.70'

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

CONC PAVED DITCH

15" RCP-III

CAT-1

TOE PROTECTION SEE DETAIL H

2 TON CL B RIP RAP
7 SY GEOTEXTILE

3 TON CL B RIP RAP
11 SY GEOTEXTILE

Q10 = 2.5 cfs
V10 = 0.48 fps

SEE INSET A

SITE 42

SITE 43

(CHORD)

EXISTING R/W

WOODS

INSET A

FOR -L- PROFILES SEE SHT. 137

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
K:\Projects\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_psh55_CON.dgn
ESwanson

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	56
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 123 OF 163

S 27°18'02" W 482.52'

N 5°08'38" W 60.89'

N 27°10'48" E 498.69'

N 27°18'55" E 574.93'

NAD 83/NA 2011

SITE 44

WAZ

Q10=10.4 cfs
V10=1.45 ft/s

MATCHLINE -L- STA. 694+00.00 SEE SHEET 55

(CHORD)

PDE

STANDARD BASE DITCH SEE DETAIL I

5 TON CL B RIP RAP 14 SY GEOTEXTILE

PROP.WOVEN WIRE FENCE

WOODS

PLUG & FILL W/ FLOWABLE FILL

FES

REMOVE DI

CONC PAVED DITCH

2GIB-WSF

15" RCP-IV

24" RCP-IV

695+00

700+00

705+00

SPECIAL CUT DITCH SEE DETAIL B

FS MINIMUM ELEV.= 139.5'

HW

I-95 NBL 37' BST

I-95 SBL 37' BST

10' BST

35' BST

18" RCP-IV

30" RCP-IV

REMOVE 10' 24" RCP

JB W/MH

REMOVE

48" WW W/ISBW

LATERAL BASE DITCH SEE DETAIL P

8 TON CL B RIP RAP 21 SY GEOTEXTILE

TOE PROTECTION SEE DETAIL H

LATERAL BASE DITCH SEE DETAIL D

EXISTING R/W

SPECIAL CUT BASE DITCH SEE DETAIL F

BILLBOARD

PUE

MATCHLINE -L- STA. 707+00.00 SEE SHEET 57

SITE 43

WAZ

Q10=3.6 cfs
V10=1.60 ft/s

FOR –L– PROFILES SEE SHTS. 137 & 138

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
E:\Highways\Projects\PERMITS_Environmental\Drawings\48\Section 3\I-5986A_hyd_48_psh56.dgn
kevans

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	56
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 124 OF 163

S 27°18'02" W 482.52'

N 5°08'39" W 60.89'

N 27°18'55" E 574.93'

N 27°10'48" E 498.69'

NAD 83/NA 2011

SITE 44

WAZ

Q10=10.4 cfs
V10=1.45 ft/s

MATCHLINE -L- STA. 694+00.00 SEE SHEET 55

(CHORD)

PDE

PDE

STANDARD BASE DITCH SEE DETAIL I

5 TON CL B RIP RAP 14 SY GEOTEXTILE

PROP.WOVEN WIRE FENCE

WOODS

FES

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

CONC PAVED DITCH

2GIB-WSF

15" RCP-IV

695+00

700+00

705+00

SPECIAL CUT DITCH SEE DETAIL B

FS MINIMUM ELEV. = 139.5'

HW

18" RCP-IV

24" RCP-IV

REMOVE 10' 24" RCP

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

CONC PAVED DITCH

2GIB-WSF

15" RCP-IV

24" RCP-IV

REMOVE 10' 24" RCP

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

CONC PAVED DITCH

REMOVE

JB W/MH

48" WW W/ISBW

LATERAL BASE DITCH SEE DETAIL P

8 TON CL B RIP RAP 21 SY GEOTEXTILE

PROP.WOVEN WIRE FENCE

MATCHLINE -L- STA. 707+00.00 SEE SHEET 57

TOE PROTECTION SEE DETAIL H

LATERAL BASE DITCH SEE DETAIL D

SPECIAL CUT BASE DITCH SEE DETAIL F

LATERAL BASE DITCH SEE DETAIL D

PROP.WOVEN WIRE FENCE

(CHORD)

WAZ

Q10=3.6 cfs
V10=1.60 ft/s

SITE 43

PUE

PUE

PUE

FOR –L– PROFILES SEE SHTS. 137 & 138

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-8560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Highways\Public\PERMITS_Environmental\Drawings\48\Section 3\I-5986A_hyd_48_psh56_CON.dgn
Keith

Submitted 9/2/2020

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

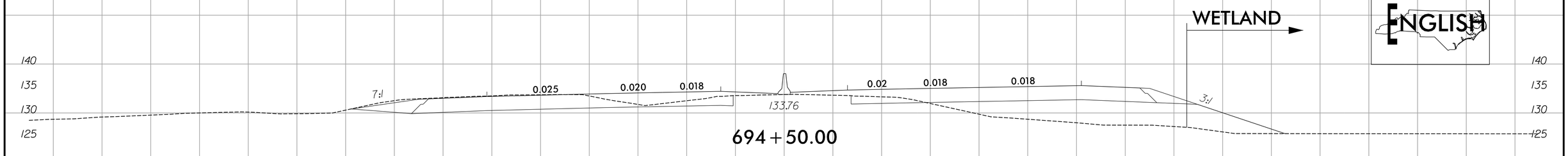
0 5 10

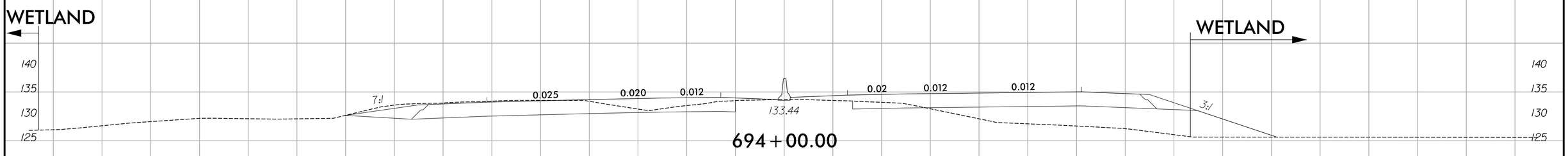
PROJ. REFERENCE NO.	SHEET NO.
I-5986A SECTION 3	X-56

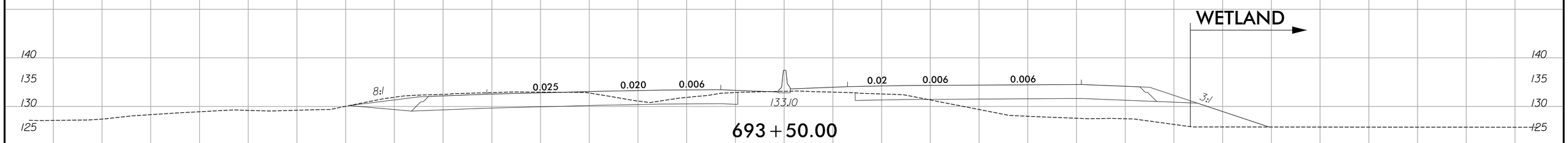
PERMIT DRAWING
SHEET 125 OF 163

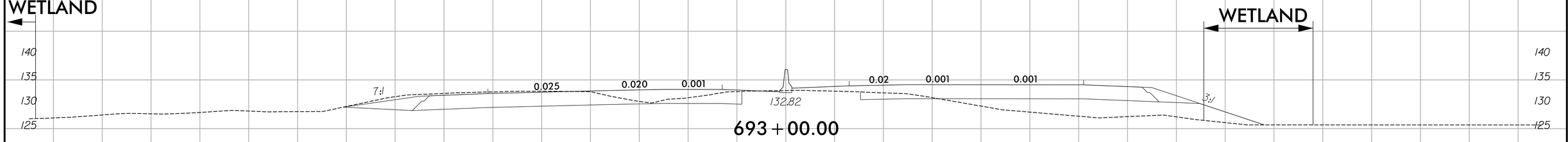
ENGLISH

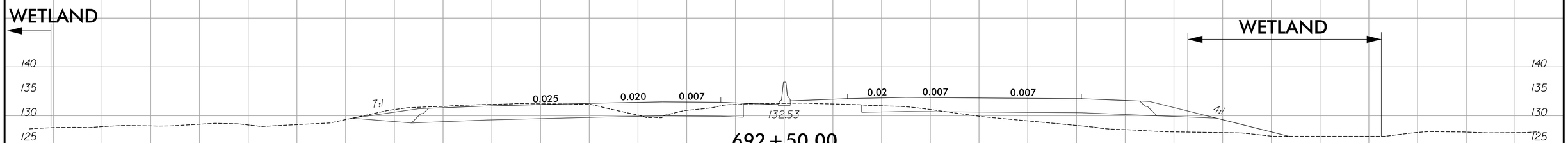
SITE 43 & 44











6/23/16
8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_LL_SITE43&44.dgn
Plotted

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES MECHANIZED CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	58
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 126 OF 163

NAD 83/NA 2011

N 25°28'35" E
555.99'

N 17°46'25" W
1116.66'

N 51°46'28" W
247.27'

SITE 45

WBA

WBA

WBB

+00.00
140.00' LT

PROP. WOVEN WIRE FENCE

SPECIAL CUT DITCH
SEE DETAIL B

SPECIAL CUT DITCH
SEE DETAIL B

SPECIAL CUT DITCH
SEE DETAIL B

EXISTING R/W

WOODS

48" WW W/SBW

MATCHLINE -L- STA. 720+00.00 SEE SHEET 57

MATCHLINE -L- STA. 733+00.00 SEE SHEET 59

I-95 SBL 37' BST

I-95 NBL 37' BST

725+00

-L-

N 25° 08' 46.4" E

730+00

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/
FLOWABLE FILL

2GIB-WSF

15" RCP-IV

2GIB-WSF

15" RCP-IV

2GIB-WSF

18" RCP-IV

3 TON CL B RIP RAP
10 SY GEOTEXTILE F

LATERAL BASE DITCH
SEE DETAIL D

PUE

+95.00
140.00'
158.00'

+00.00
140.00' RT

N 57°06'31" E
206.43'

S 42°14'13" E
180.00'

N 00°25'
S 42°01'54" E

FOR –L– PROFILES SEE SHTS. 139 & 140

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
12:56:58 PM
EKing

C:\pwworking\dot\ncdot\eking\d0888\PERMITS_Environmental\Drawings\48\Section 3\I-5986A_hyd_48_psh58.dgn

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES MECHANIZED CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	58
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 127 OF 163

NAD 83/NA 2011

N 25°28'35" E
555.99'

SITE 45

WBA

WBA

WBB

+00.00
140.00' LT

PROP. WOVEN WIRE FENCE

SPECIAL CUT DITCH
SEE DETAIL B

SPECIAL CUT DITCH
SEE DETAIL B

SPECIAL CUT DITCH
SEE DETAIL B

WOODS

EXISTING R/W

-L-

725+00

N 25° 08' 46.4" E

730+00

I-95 SBL 37' BST

I-95 NBL 37' BST

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/
FLOWABLE FILL

2GIB-WSF

15" RCP-IV

2GIB-WSF

15" RCP-IV

2GIB-WSF

18" RCP-IV

3 TON CL B RIP RAP
10 SY GEOTEXTILE

LATERAL BASE DITCH
SEE DETAIL D

48" WW W/SBW

PUE

+95.00
140.00'
158.00'

+00.00
140.00' RT

MATCHLINE -L- STA. 720+00.00 SEE SHEET 57

MATCHLINE -L- STA. 733+00.00 SEE SHEET 59

FOR –L– PROFILES SEE SHTS. 139 & 140

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
12:16:58 PM
E:\cadd\projects\PERMITS_Environmental\Drawings\48\Section 3\I-5986A_hyd_48_psh58_CON.dgn
rkeller

Submitted 9/2/2020

6/23/16

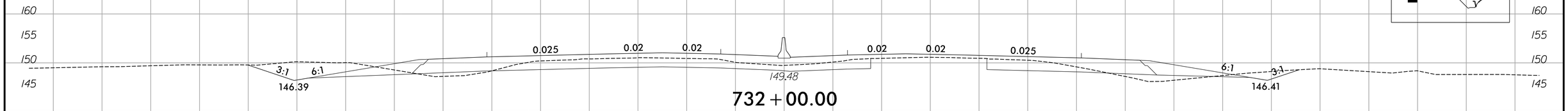
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A SECTION 3	X-69

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PERMIT DRAWING
SHEET 128 OF 163

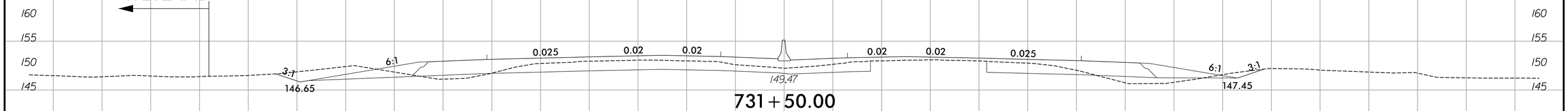
SITE 45

ENGLISH



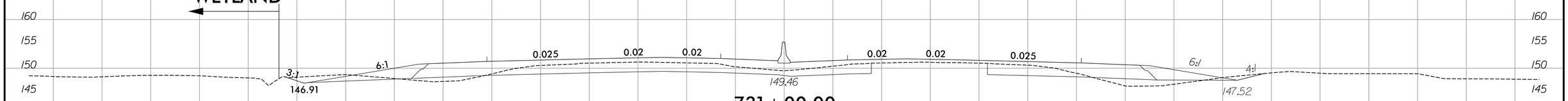
732 + 00.00

WETLAND



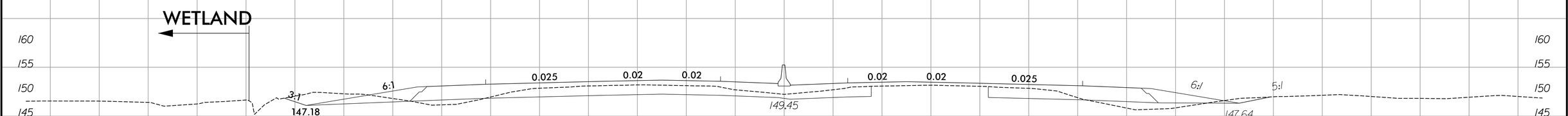
731 + 50.00

WETLAND



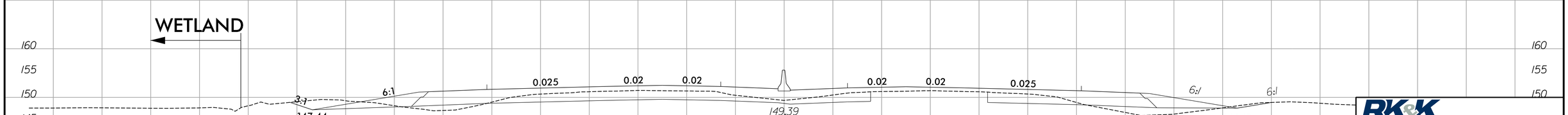
731 + 00.00

WETLAND



730 + 50.00

WETLAND



730 + 00.00

—⊿—

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

RK&K
P: (919) 878-9560
9601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE45.dgn
Fleig

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	59
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 129 OF 163

SITE 46

WBC

MATCHLINE -L- STA. 733+00.00 SEE SHEET 58

MATCHLINE -L- STA. 746+50.00 SEE SHEET 60

SPECIAL LATERAL V DITCH SEE DETAIL A

Q10 = 26.9 cfs
V10 = 1.70 ft/s

STANDARD V DITCH SEE DETAIL T

HOE PROTECTION SEE SHEET 4

Q10 = 2.2 cfs
V10 = 0.92 ft/s

PROP. WOVEN WIRE FENCE

+00.00
140.00' LT

SPECIAL CUT DITCH SEE DETAIL B

WOODS

EXISTING R/W

SPECIAL LATERAL V DITCH SEE DETAIL A

SPECIAL CUT DITCH SEE DETAIL B

12" P.S.

BL-228

10' BST

I-95 SBL 37' BST

I-95 NBL 37' BST

42" RCP-IV

PLUG & FILL W/ FLOWABLE FILL

2GIA-WSF

3.5% 42" RCP-IV

CONC PAVED DITCH

N 25° 08' 46.4" E

-L-

735+00

740+00

745+00

REMOVE DI

CONC PAVED DITCH

PROP. TYPE T BARRIER

24" RCP-IV

26'

48"

.02

.025

LATERAL BASE DITCH SEE DETAIL D

SPECIAL CUT BASE DITCH SEE DETAIL F

48" WW W/SBW

20 TON CL B RIP RAP
56 SY GEOTEXTILE

5 TON CL B RIP RAP
14 SY GEOTEXTILE

+00.00
140.00' RT

PUE

E

FES

483.37'
N 48°00'32" W

FOR –L– PROFILES SEE SHTS. 140 & 141

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Projects\PERMITS_Environmental\Drawings\48\Section 3\I-5986A_hyd_48_psh59.dgn
tkeen

Submitted 9/2/2020

8/17/99

50 25 0 50 100
SCALE

ENGLISH

E E DENOTES EXCAVATION IN WETLAND

DENOTES MECHANIZED CLEARING

F F DENOTES FILL IN WETLAND

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	59
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 130 OF 163

SITE 46

WBC

MATCHLINE -L- STA. 733+00.00 SEE SHEET 58

MATCHLINE -L- STA. 746+50.00 SEE SHEET 60

SPECIAL LATERAL V DITCH SEE DETAIL A

Q10 = 26.9 cfs
V10 = 1.70 ft/s

STANDARD V DITCH SEE DETAIL T

HOE PROTECTION SEE SHEET A

SPECIAL CUT DITCH SEE DETAIL B

Q10 = 2.2 cfs
V10 = 0.92 ft/s

PROP. WOVEN WIRE FENCE

+00.00
140.00' LT

SPECIAL LATERAL V DITCH SEE DETAIL A

SPECIAL CUT DITCH SEE DETAIL B

-L-

735+00

740+00

745+00

N 25° 08' 46.4" E

42" RCP-IV

2GIA-WSF

REMOVE DI

PLUG & FILL W/ FLOWABLE FILL

CONC PAVED DITCH

PROP. TYPE T BARRIER

24" RCP-IV

LATERAL BASE DITCH SEE DETAIL D

20 TON CL B RIP RAP
56 SY GEOTEXTILE

SPECIAL CUT BASE DITCH SEE DETAIL F

5 TON CL B RIP RAP
14 SY GEOTEXTILE

+00.00
140.00' RT

PUE

FOR –L– PROFILES SEE SHTS. 140 & 141

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
15:58:48
Ekeys
C:\Projects\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_psh59_CON.dgn

Submitted 9/2/2020

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

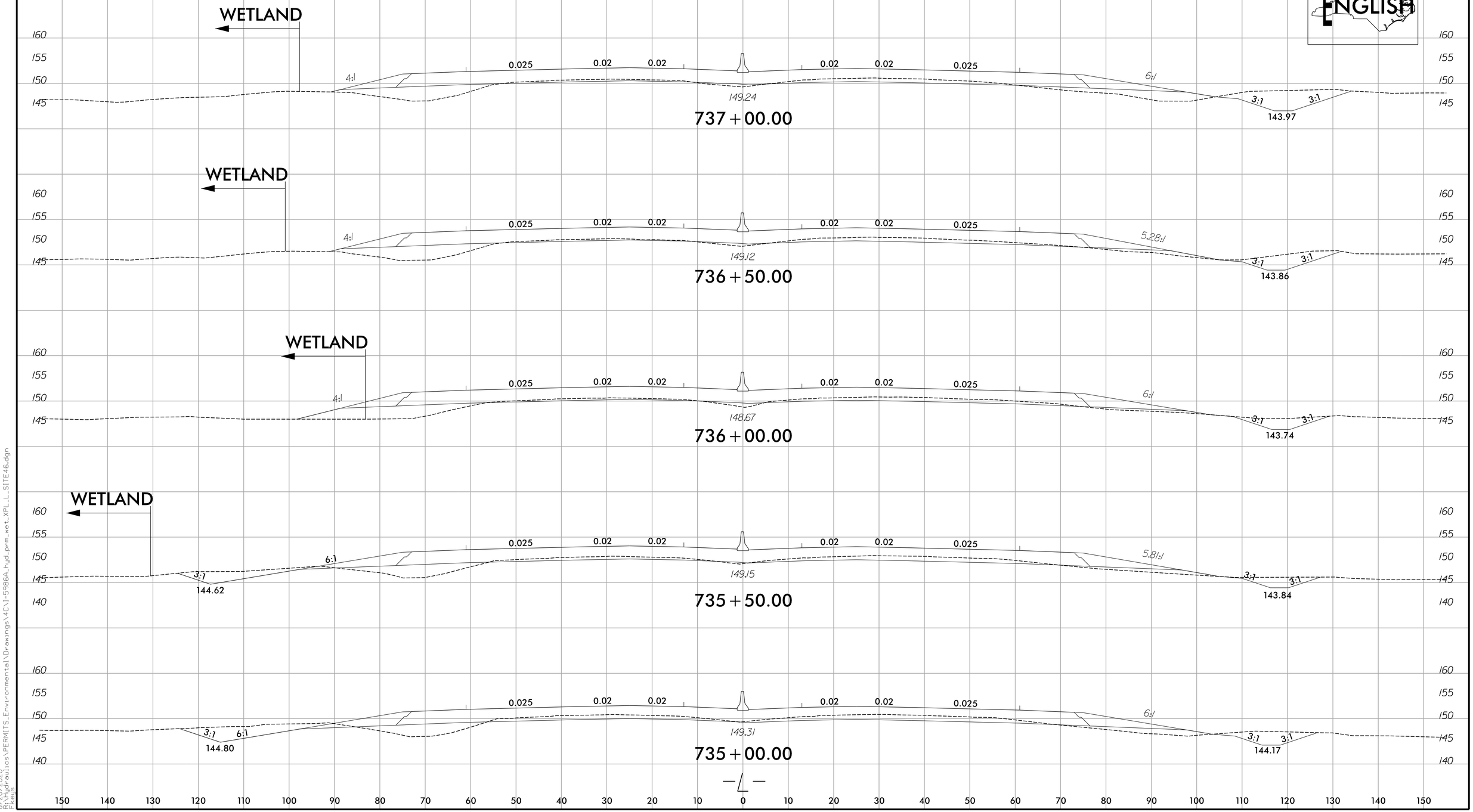
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
I-5986A SECTION 3	X-71

PERMIT DRAWING SHEET 131 OF 163

ENGLISH

SITE 46



8/20/2020
K:\Highways\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_L_SITE46.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

S S DENOTES IMPACTS IN SURFACE WATER

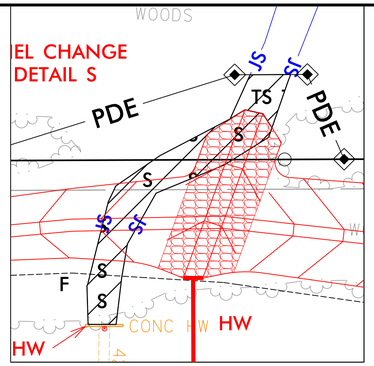
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	61
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

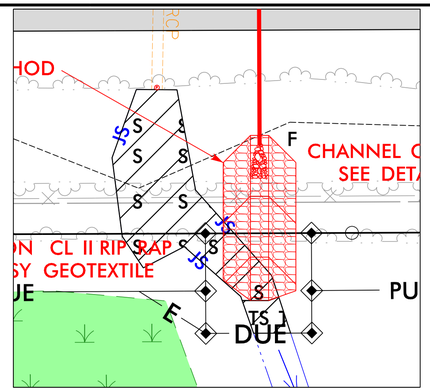
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

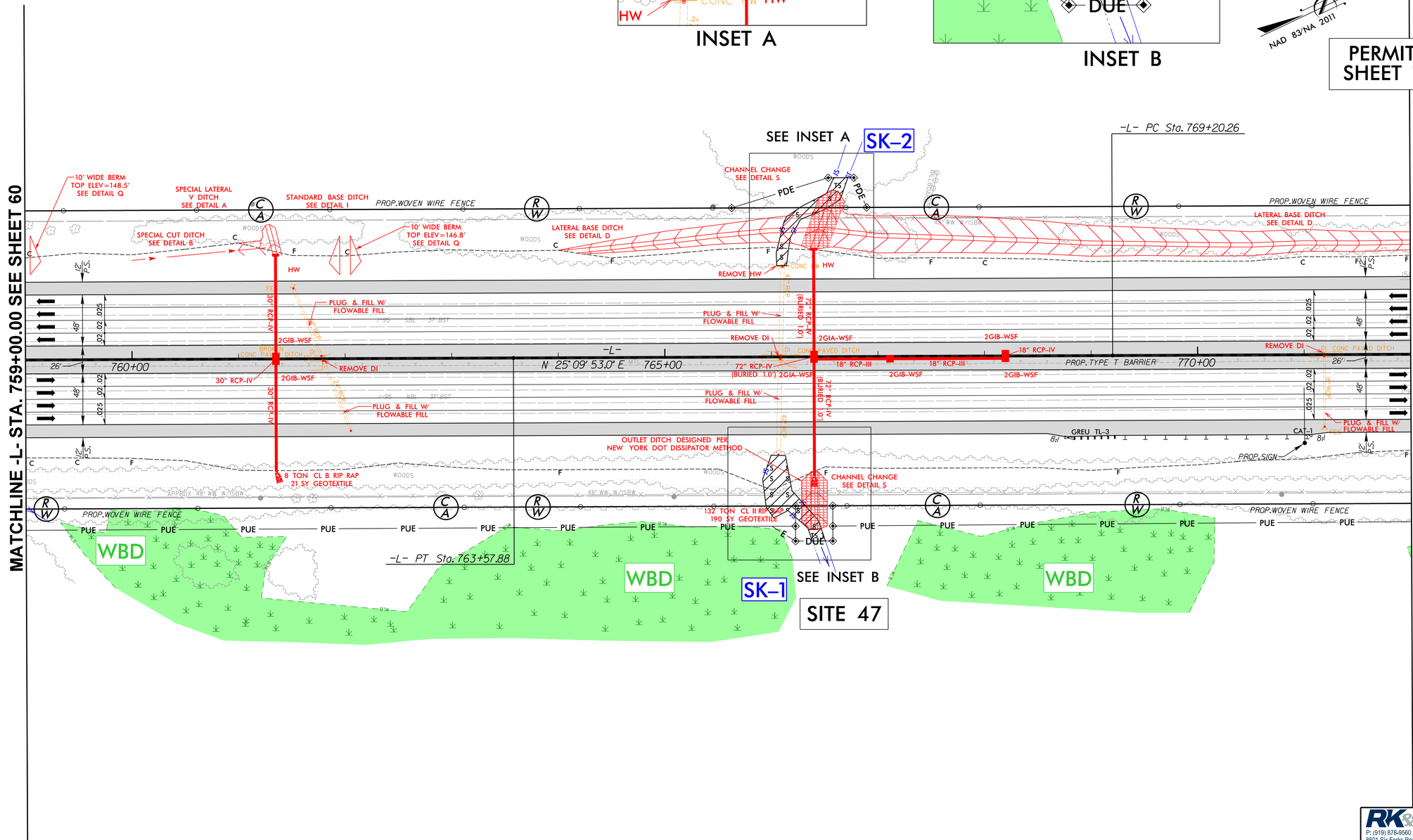
PERMIT DRAWING SHEET 132 OF 163



INSET A



INSET B



FOR -L- PROFILES SEE SHTS. 142 & 143

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Rhyan Faulks
K:\Env_Projects\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_psh61.dgn

Submitted 9/2/2020

8/17/99

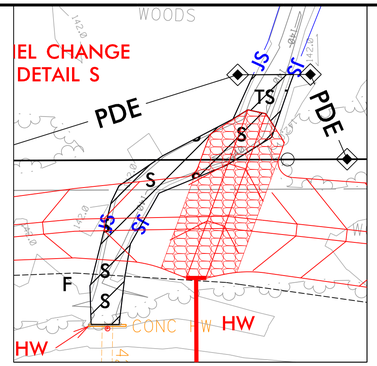
25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

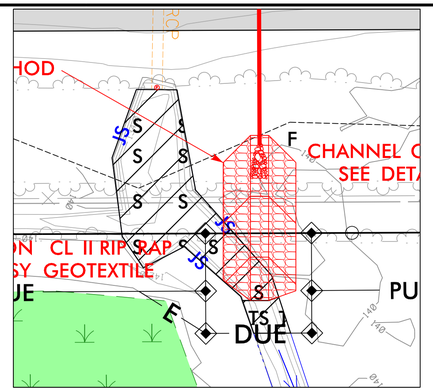
ENGLISH

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER



INSET A



INSET B

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	61
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 133 OF 163

MATCHLINE -L- STA. 759+00.00 SEE SHEET 60

MATCHLINE -L- STA. 772+00.00 SEE SHEET 62

SEE INSET A SK-2

-L- PC Sta. 769+20.26

10' WIDE BERM TOP ELEV=148.5' SEE DETAIL Q

SPECIAL LATERAL V DITCH SEE DETAIL A

STANDARD BASE DITCH SEE DETAIL I

PROP.WOVEN WIRE FENCE

SPECIAL CUT DITCH SEE DETAIL B

10' WIDE BERM TOP ELEV=148.8' SEE DETAIL Q

LATERAL BASE DITCH SEE DETAIL D

CHANNEL CHANGE SEE DETAIL S

REMOVE HW

PLUG & FILL W/ FLOWABLE FILL

72" RCP-IV (BURIED 1.0') 2GIA-WSF

2GIB-WSF

18" RCP-IV

18" RCP-III

PROP.TYPE T BARRIER

REMOVE DI

DI CONC PAVED DITCH

30" RCP-IV

REMOVE DI

PLUG & FILL W/ FLOWABLE FILL

760+00

N 25° 09' 53.0" E

765+00

770+00

GREU TL-3

CAT-1

PROP.SIGN

OUTLET DITCH DESIGNED PER NEW YORK DOT DISSIPATOR METHOD

8 TON CL B RIP RAP 21 SY GEOTEXTILE

132 TON CL II RIP RAP 190 SY GEOTEXTILE

CHANNEL CHANGE SEE DETAIL S

PUE

WBD

-L- PT Sta. 763+57.88

SEE INSET B SK-1

SITE 47

FOR -L- PROFILES SEE SHTS. 142 & 143

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Rhall
K:\Raleigh\Projects\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_psh61_CON.dgn

Submitted 9/2/2020

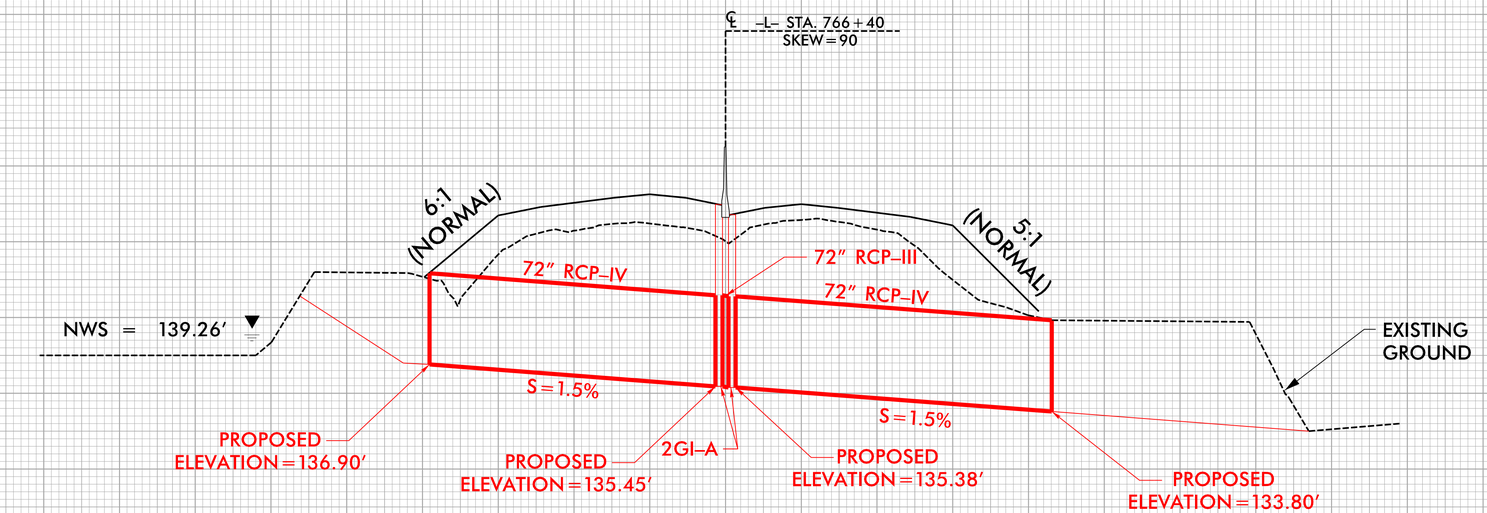
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 47
–L– STA. 766+40

PERMIT DRAWING
SHEET 134 OF 163

ENGLISH



PROPOSED 72" RCP–IV
(buried 1.0')
(length=208')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-5960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_PFL_SITE47.dgn

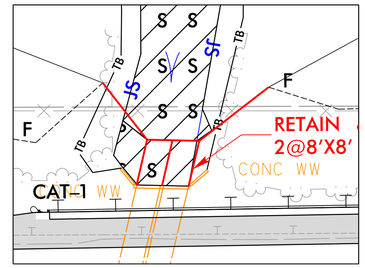
Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	66
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 135 OF 163



INSET A

NAD 83/NA 2011

BEGIN CONSTRUCTION
-Y5- POT Sta. 38+00.00

WCK

WCM

WCL

Q10=6.0 cfs
V10=0.75 f/s

SITE 49

SY-2

SY-1

PROP. WOVEN WIRE FENCE

RETAIN EXISTING C/A FENCE

REMOVE EXISTING GUIDERAIL

SEE INSET A

CHORD

LATERAL V DITCH
SEE DETAIL K

TOE PROTECTION
W/CL B RIPRAP
SEE DETAIL H

RETAIN & EXTEND
2@8'X8' RCBC

CONC WW

CAT-1 WW

PROP. SB-2

GREU TL-3

2GIB-WSF

15" RCP

Adj. DI

S 60° 46' 48.1" E

NCDOT IRON/CAP

I-295 WBL/GOLDSBORO RD 24' BST

I-295 EBL/GOLDSBORO RD 24' BST

48" WW & ISBW

36" C&G

MTL

CABLE

EXISTING R/W

35+00

40+00

45+00

MATCHLINE -Y5- STA. 49+00.00 SEE SHEET 67

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
S S	DENOTES IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING
F F	DENOTES FILL IN WETLAND

FOR -Y5LT- PROFILE SEE SHTS. 153 AND 154
FOR -Y5RT- PROFILE SEE SHTS. 153 AND 154

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Projects\Hydraulics\PERMITS_Environmental\Drawings\48\Section 1\I-5986A_hyd_48_pst66.dgn
FLeach

Submitted 9/2/2020

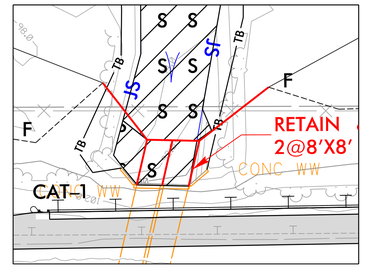
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	66
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 136 OF 163

NAD 83/NA 2011



INSET A

BEGIN CONSTRUCTION
-Y5- POT Sta. 38+00.00

WCK

WCM

WCL

SY-2

SY-1

SITE 49

Q10 = 6.0 cfs
V10 = 0.75 ft/s

PROP. WOVEN WIRE FENCE

SEE INSET A

CHORD

LATERAL V DITCH
SEE DETAIL K

TOE PROTECTION
W/CL B RIPRAP
SEE DETAIL H

RETAIN & EXTEND
2@8'X8' RCBC
CONC WW

15" RCP

PROP. SB-2

2GIB-WSF

GREU TL-3

CAT-1

CONC WW

EXISTING R/W

48" WW & ISBW

I-295 WBL/GOLDSBORO RD 24' BST

I-295 EBL/GOLDSBORO RD 24' BST

36" C&G

24' BST

4' BST

11' BST

35+00

40+00

45+00

CABLE

Adj. DI

S 60° 46' 48.1" E

REMOVE EXISTING GUIDERAIL

RETAIN EXISTING C/A FENCE

NCDOT IRON/CAP

MATCHLINE -Y5- STA. 49+00.00 SEE SHEET 67

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
S S	DENOTES IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING
F F	DENOTES FILL IN WETLAND

FOR –Y5LT– PROFILE SEE SHTS. 153 AND 154
FOR –Y5RT– PROFILE SEE SHTS. 153 AND 154

FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\48\Section 1\I-5986A_hyd_48_pst66_CON.dgn
Plotted: 8/20/2020

Submitted 9/2/2020

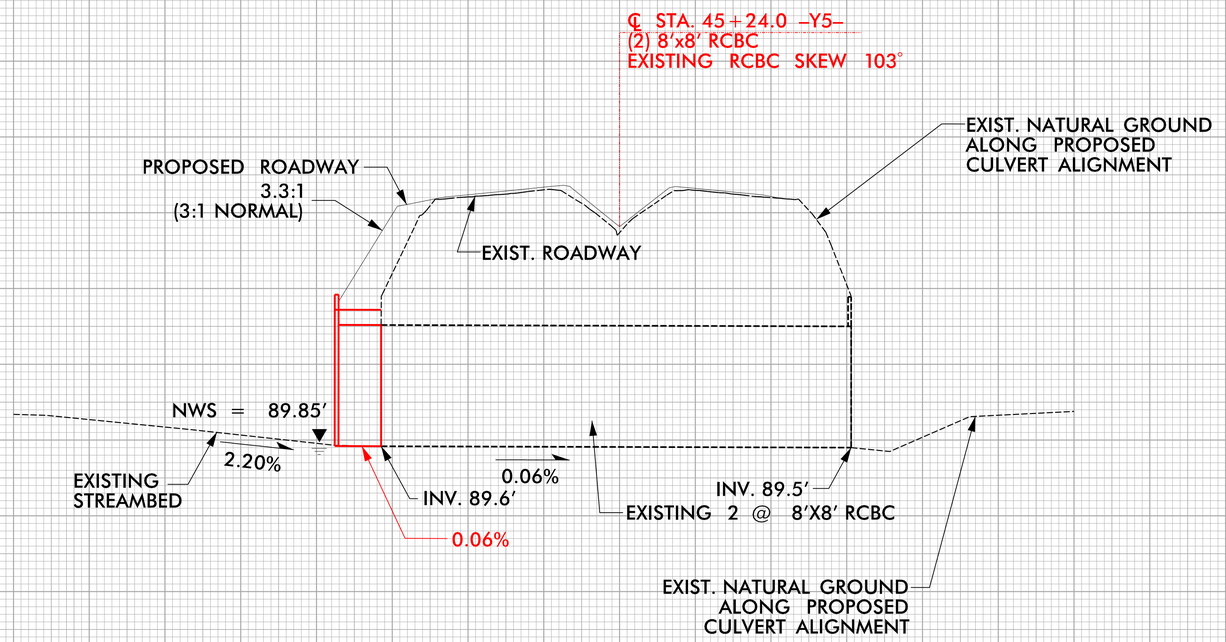
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 49
–Y5– STA. 45+24

PERMIT DRAWING
SHEET 136A OF 163

ENGLISH



2 @ 8'X 8' RCBC EXTENSION
(not buried)
(length=170')

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Hydraulics\PERMITS_Environmental\Drawings\4CV\I-5986A_hyd_prm_wet_PFL_SITE49.dgn

Submitted 9/2/2020

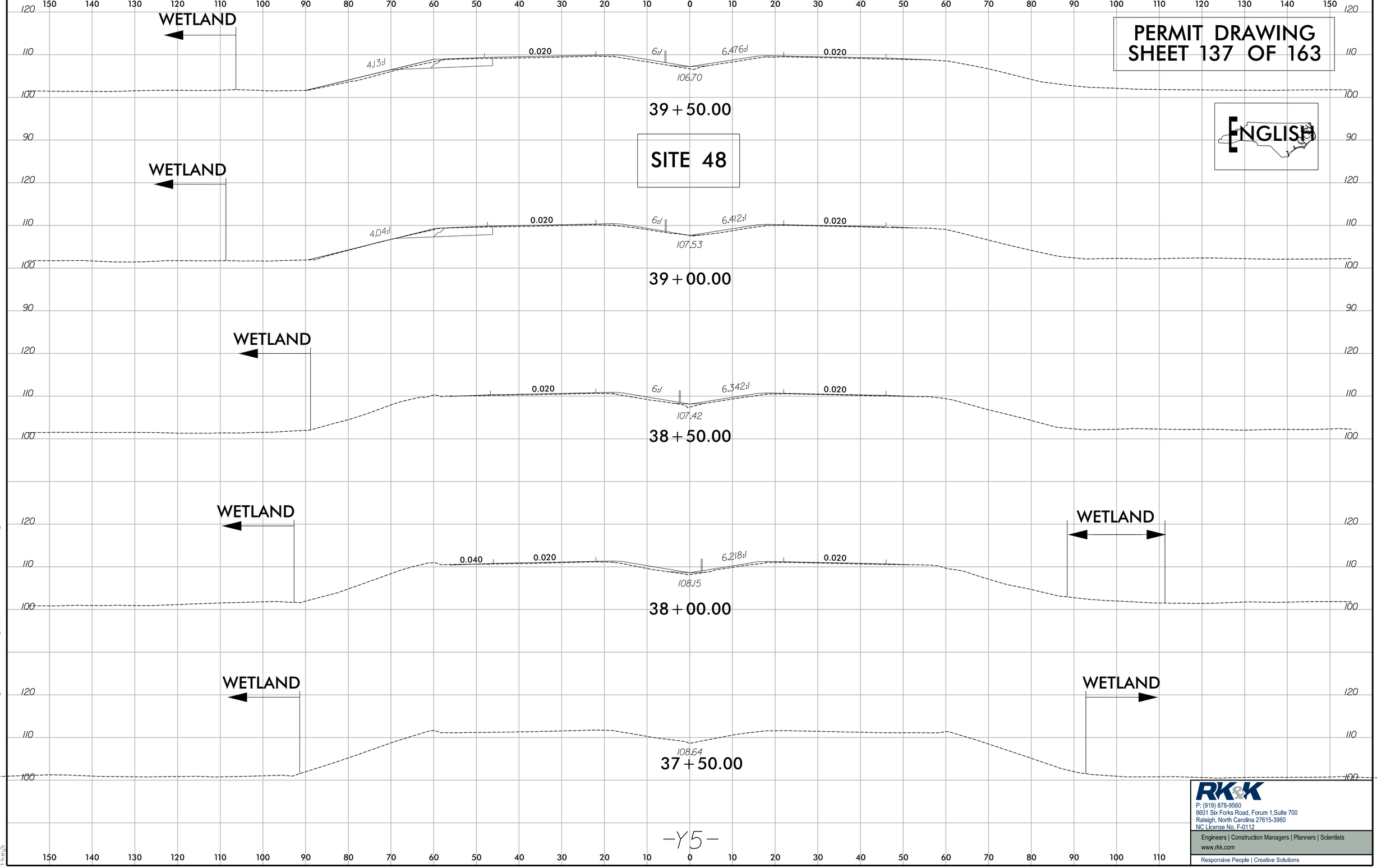
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-169

PERMIT DRAWING
SHEET 137 OF 163

ENGLISH

SITE 48



-Y5-

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Highways\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y5_SITE48.dgn
RKK

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	67
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 138 OF 163

NAD 83/NA 2011

INSET A

INSET B

SITE 50

SITE 51

WCJ

WCI

WT

WT

WT

SEE INSET A

SEE INSET B

CHORD

PROP. WOVEN WIRE FENCE

RETAIN EXISTING C/A FENCE

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

1 TON CL B RIPRAP W/5 SY GEOFAB

15" CSP 2 ELBOWS

15" RCP-IV

2GIB-WSF

CAT-1

REMOVE SYSTEM

PROP. SBG

COLLAR AND EXTEND 24" RCP-III

24" RCP EQUALIZER PIPE

RETAIN EX. 24" EQUALIZER PIPE

RETAIN EX. 21" EQUALIZER PIPE

RETAIN CB

GREU TL-3

RETAIN EXISTING SBG

STANDING WATER

WOODS

R/W MON R&C

48" WW & 1SDW

EXISTING R/W

CABLE

WLB

Q10 = 3.2 cfs
V10 = 0.64 fps

Q10 = 3.0 cfs
V10 = 0.63 fps

MATCHLINE -Y5- STA. 49+00.00 SEE SHEET 66

MATCHLINE -Y5- STA. 63+00.00 SEE SHEET 68

50+00 55+00 60+00

NC 295

S 60° 51' 51.1" E

I-295 WBL/GOLDSBORO RD 24' BST

I-295 EBL/GOLDSBORO RD 24' BST

I-295 WBL/GOLDSBORO RD 38' BST

I-295 EBL/GOLDSBORO RD 38' BST

N 42°02'22" W 2893.11'

FOR -Y5LT- PROFILE SEE SHTS. 154 AND 155
FOR -Y5RT- PROFILE SEE SHTS. 154 AND 155
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
Z:\Highways\Projects\PERMITS_Environmental\Drawings\48\Section 1\I-5986A_hyd_48_psh67.dgn
Ekeng

Submitted 9/2/2020

8/17/99

SCALE FOR INSET: 25 0 25 50

SCALE: 50 25 0 50 100

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	67
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 139 OF 163

NAD 83/NA 2011

INSET A

INSET B

MATCHLINE -Y5- STA. 49+00.00 SEE SHEET 66

MATCHLINE -Y5- STA. 63+00.00 SEE SHEET 68

SITE 50

SITE 51

WCJ

WCI

WT

WT

WT

SEE INSET A

SEE INSET B

PROP. WOVEN WIRE FENCE

RETAIN EXISTING C/A FENCE

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

1 TON CL B RIPRAP W/5 SY GEOFAB

Q10=3.2 cfs
V10=0.64 ft/s

Q10=3.0 cfs
V10=0.63 ft/s

15" CSP 2 ELBOWS

15" RCP-IV

2GIB-WSF

CAT-1

REMOVE SYSTEM

PROP. SBG

COLLAR AND EXTEND 24" RCP-III

24" RCP EQUALIZER PIPE

EX. 21" EQUALIZER PIPE

EX. 24" EQUALIZER PIPE

RETAIN

RETAIN CB

GREU TL-3

RETAIN EXISTING SBG

STANDING WATER

CHORD

NC 295

S 60° 51' 51.1" E

I-295 WBL/GOLDSBORO RD 24' BST

I-295 EBL/GOLDSBORO RD 24' BST

I-295 WBL/GOLDSBORO RD 38' BST

I-295 EBL/GOLDSBORO RD 38' BST

50+00

55+00

60+00

Adj. DI

FS

CABLE

WOODS

EXISTING R/W

R/W MON R&C

48" WW & 15"SSW

WLB

4' BST

11' BST

10' BST

N 42°02'22" W
2893.11'

FOR –Y5LT– PROFILE SEE SHTS. 154 AND 155
FOR –Y5RT– PROFILE SEE SHTS. 154 AND 155
FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
K:\Highways\Roadways\PERMITS_Environmental\Drawings\48\Section 1\I-5986A_hyd_48_psh67_CON.dgn
Ekeng

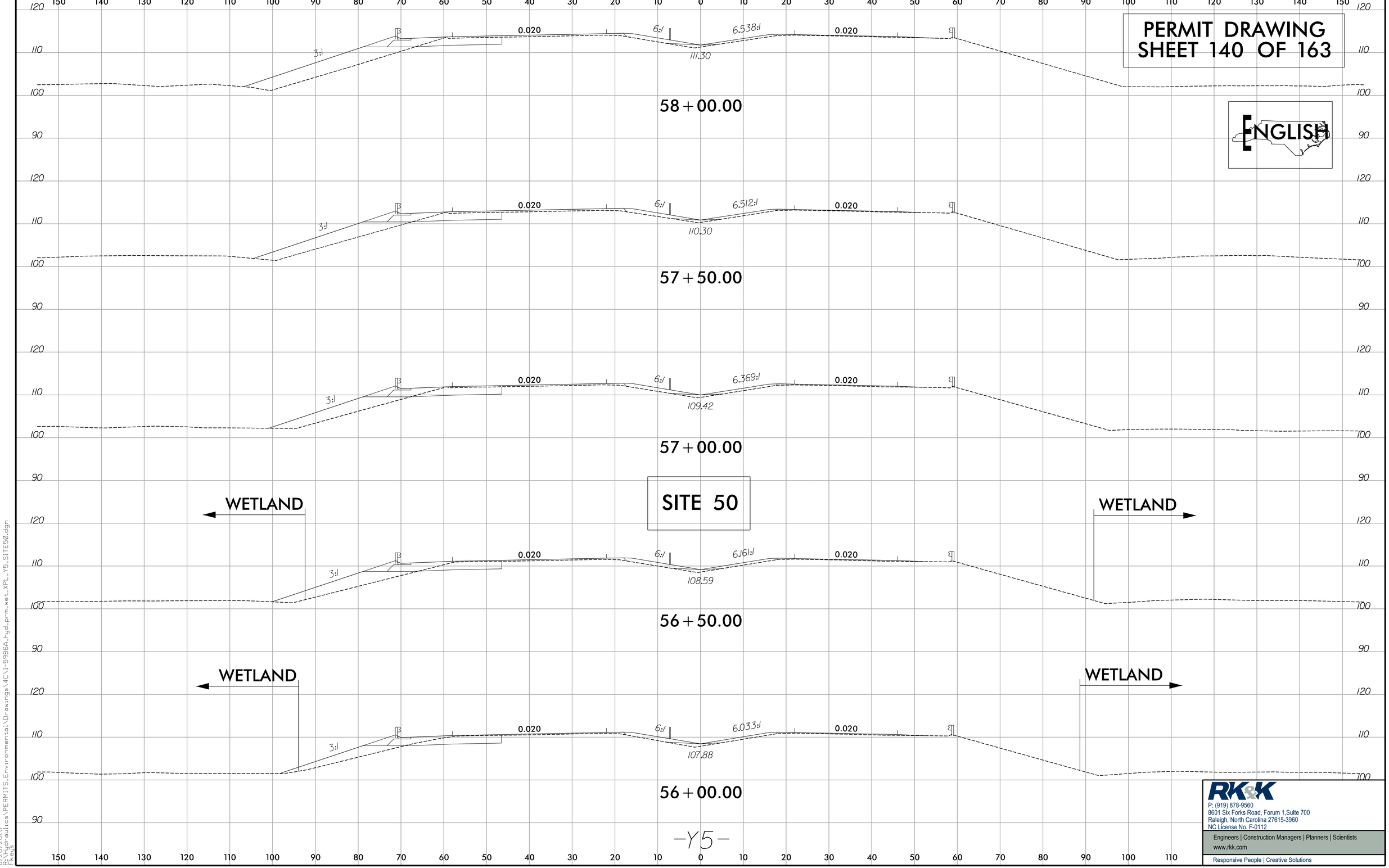
Submitted 9/2/2020

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-176

PERMIT DRAWING SHEET 140 OF 163

ENGLISH



-Y5-

RK&K
P: (919) 878-9560
9601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y5_SITE50.dgn
Plotted

Submitted 9/2/2020

SCALE FOR INSET
50 25 0 50 100
SCALE
100 50 0 100 200

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND

INSET A
INSET B
INSET C

PROJECT REFERENCE NO. 7-5986A | SHEET NO. 68
R/W SHEET NO.
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 141 OF 163

DUNN RD.
SITE 51
SITE 52
SITE 53
WCI
WT
WU
WR
WS
SEE INSET A
SEE INSET B
SEE INSET C
PROP.WOVEN WIRE FENCE
RETAIN EXISTING C/A FENCE
REMOVE EXISTING GUIDERAIL
MATCHLINE -Y6- STA. 63+00.00 SEE SHEET 67
MATCHLINE -Y6RPA- STA. 47+50.00 SEE SHEET 20
MATCHLINE -Y6- STA. 90+00.00 SEE SHEET 20
MATCHLINE -Y6FLY- STA. 38+00.00 SEE SHEET 20
MATCHLINE -Y5RPB- 22+00.00 SEE SHEET 19

FOR -Y14- PROFILE SEE SHT. 152
FOR -Y5LT- PROFILE SEE SHTS. 155 THRU 157
FOR -Y5RT- PROFILE SEE SHTS. 155 THRU 157
FOR -Y5RPA- PROFILE SEE SHT. 162
FOR -Y5SPURA- PROFILE SEE SHT. 163
FOR -Y5RPB- PROFILE SEE SHT. 164
FOR -Y5LPD- PROFILE SEE SHT. 168
FOR -Y5FLY- PROFILE SEE SHTS. 169 AND 170
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

GRAPHIC SCALE
50 25 0 50
PLANS

RK&K
(C) 2015 RK&K
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-2980
www.rkk.com
Engineers | Construction Managers | Planners | Scientists
Responsible People | Creative Solutions

8/20/2020

Submitted 9/2/2020

SCALE FOR INSET

50 25 0 50 100

100 50 0 100 200

SCALE FOR INSET

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	68
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 142 OF 163

INSET A

INSET B

INSET C

DUNN RD.

SITE 51

SITE 52

SITE 53

WCI

WT

WU

WR

WS

MATCHLINE -Y6- STA. 63+00.00 SEE SHEET 67

MATCHLINE -Y6- STA. 90+00.00 SEE SHEET 20

MATCHLINE -Y6FLY- STA. 38+00.00 SEE SHEET 20

MATCHLINE -Y5RPA- STA. 47+50.00 SEE SHEET 20

MATCHLINE -Y5RPB- 22+00.00 SEE SHEET 19

PROP. WOVEN WIRE FENCE

RETAIN EXISTING C/A FENCE

REMOVE EXISTING GUIDERAIL

S 67° 54' 54" E

S 57° 14' 29" E

S 48° 43' 27" E

S 69° 59' 57" E

S 28° 47' 13.5" W

S 71° 25' 13.5" W

N 47° 31' 55.5" E

FOR –Y14– PROFILE SEE SHT. 152	
FOR –Y5LT– PROFILE SEE SHTS. 155 THRU 157	
FOR –Y5RT– PROFILE SEE SHTS. 155 THRU 157	
FOR –Y5RPA– PROFILE SEE SHT. 162	
FOR –Y5SPURA– PROFILE SEE SHT. 163	
FOR –Y5RPB– PROFILE SEE SHT. 164	
FOR –Y5LPD– PROFILE SEE SHT. 168	
FOR –Y5FLY– PROFILE SEE SHTS. 169 AND 170	
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2	

GRAPHIC SCALE
50 25 0 50
PLANS

RK&K
(C) 2015 RK&K
8601 Six Forks Road, Forum 1 Suite 700
Raleigh, North Carolina 27615-2965
www.rkk.com
Engineers | Construction Managers | Planners | Scientists
Responsible People | Creative Solutions

8/20/2020

Submitted 9/2/2020

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-178

SITE 51

PERMIT DRAWING
SHEET 143 OF 163

ENGLISH

62 + 00.00

WETLAND

3:1 | 0.020 | 6:1 | 6.116:1 | 0.020 | 0.020

119.51

61 + 50.00

WETLAND

3:1 | 0.020 | 6:1 | 6.174:1 | 0.020 | 0.020

118.35

61 + 00.00

WETLAND

3:1 | 0.020 | 6:1 | 6.253:1 | 0.020

117.00

60 + 50.00

3:1 | 0.020 | 6:1 | 6.345:1 | 0.020

116.11

-Y5-

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
RKK\dpullies
C:\pw_workdir\dpullies\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y5_SITE51&52.dgn

Submitted 9/2/2020

6/23/16

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-230

PERMIT DRAWING
SHEET 144 OF 163

ENGLISH

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

160 140 120 180

S.S.152.16 6:1 6:1 150.11 0.080 0.080 0.080 151.45 3:1 WETLAND S.S.127.45

52+00.00

SITE 53

–Y5LPD–
47+12.60

S.S.151.88 6:1 6:1 149.86 0.080 0.080 0.080 151.42 3:1 WETLAND S.S.127.43

51+50.00

–Y5LPD–
46+63.10

S.S.151.70 6:1 6:1 149.61 0.080 0.080 151.05 3:1 WETLAND S.S.127.30

51+00.00

–Y5LPD–
46+13.61

S.S.151.60 6:1 6:1 149.37 0.080 0.080 0.080 148.63 150.74 3:1 WETLAND S.S.127.48

50+50.00

–Y5RPA–

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y5RPA_SITE53.dgn
Plotted

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

PERMIT DRAWING
SHEET 145 OF 163

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	69
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

BEGIN CONSTRUCTION
BEGIN OVERLAY
–Y4– POT Sta. 10+28.01

SITE 54 WS

SITE 54A

SITE 54B

PIPE CLEAN OUT

PIPE CLEAN OUT

RETAIN EXISTING SBG

PEMBROKE LN.

SR 1863 PEMBROKE LN

S 58°10'55.0" E

S 57°47'48.1" E

N 37°31'59.5" E

25+00

15+00

20+00

–Y4–

–Y14–

GREU TL-3

GREU TL-2

TO FLEA HILL RD (SR 1835)

S 37°02'26" W 206.56'

N 52°57'34" W 193.22'

MATCHLINE -Y4- 21+00.00 SEE SHEET 19

FOR –Y4– PROFILE SEE SHT. 150

FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
K:\Traditional Projects\PERMITS\Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh69.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES TEMPORARY FILL IN WETLAND

PERMIT DRAWING
SHEET 146 OF 163

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	69
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

BEGIN CONSTRUCTION
BEGIN OVERLAY
–Y4– POT Sta. 10+28.01

SITE 54 WS

SITE 54A

SITE 54B

PEMBROKE LN.

SR 1863 PEMBROKE LN VAR WID VAR BST

S 58° 10' 55.0" E

S 57° 47' 48.1" E

N 37° 31' 59.5" E

25+00

15+00

20+00

–Y4–

–Y14–

GREU TL-3

GREU TL-2

RETAIN EXISTING SBG

RETAIN EXISTING SWALE

RETAIN EXISTING CURB

PIPE CLEAN OUT

RETAIN 24" RCP

RETAIN 18" RCP

RETAIN 15" RCP

RETAIN 42" RCP

RETAIN 36" RCP

RETAIN 30" RCP

RETAIN 24" RCP

RETAIN 18" RCP

RETAIN 15" RCP

RETAIN 12" RCP

RETAIN 8" RCP

RETAIN 6" RCP

RETAIN 4" RCP

RETAIN 2" RCP

RETAIN 1" RCP

RETAIN 0.5" RCP

RETAIN 0.25" RCP

RETAIN 0.125" RCP

RETAIN 0.0625" RCP

RETAIN 0.03125" RCP

RETAIN 0.015625" RCP

RETAIN 0.0078125" RCP

RETAIN 0.00390625" RCP

RETAIN 0.001953125" RCP

RETAIN 0.0009765625" RCP

RETAIN 0.00048828125" RCP

RETAIN 0.000244140625" RCP

RETAIN 0.0001220703125" RCP

RETAIN 0.00006103515625" RCP

RETAIN 0.000030517578125" RCP

RETAIN 0.0000152587890625" RCP

RETAIN 0.00000762939453125" RCP

RETAIN 0.000003814697265625" RCP

RETAIN 0.0000019073486328125" RCP

RETAIN 0.00000095367431640625" RCP

RETAIN 0.000000476837158203125" RCP

RETAIN 0.0000002384185791015625" RCP

RETAIN 0.00000011920928955078125" RCP

RETAIN 0.000000059604644775390625" RCP

RETAIN 0.0000000298023223876953125" RCP

RETAIN 0.00000001490116119384765625" RCP

RETAIN 0.000000007450580596923828125" RCP

RETAIN 0.0000000037252902984619140625" RCP

RETAIN 0.00000000186264514923095703125" RCP

RETAIN 0.000000000931322574615478515625" RCP

RETAIN 0.0000000004656612873077392578125" RCP

RETAIN 0.00000000023283064365386962890625" RCP

RETAIN 0.000000000116415321826934814453125" RCP

RETAIN 0.0000000000582076609134674072265625" RCP

RETAIN 0.00000000002910383045673370361328125" RCP

RETAIN 0.000000000014551915228366851806640625" RCP

RETAIN 0.0000000000072759576141834259033203125" RCP

RETAIN 0.00000000000363797880709171295166015625" RCP

RETAIN 0.000000000001818989403545856475830078125" RCP

RETAIN 0.0000000000009094947017729282379150390625" RCP

RETAIN 0.00000000000045474735088646411895751953125" RCP

RETAIN 0.000000000000227373675443232059478759765625" RCP

RETAIN 0.0000000000001136868377216160297393798828125" RCP

RETAIN 0.00000000000005684341886080801486968994140625" RCP

RETAIN 0.000000000000028421709430404007434844970703125" RCP

RETAIN 0.0000000000000142108547152020037174224853515625" RCP

RETAIN 0.00000000000000710542735760100185871124267578125" RCP

RETAIN 0.000000000000003552713678800500929355621337890625" RCP

RETAIN 0.0000000000000017763568394002504646778106689453125" RCP

RETAIN 0.00000000000000088817841970012523233890533447265625" RCP

RETAIN 0.000000000000000444089209850062616169452667236328125" RCP

RETAIN 0.0000000000000002220446049250313080847263336181640625" RCP

RETAIN 0.00000000000000011102230246251565404236316680908203125" RCP

RETAIN 0.000000000000000055511151231257827021181583404541015625" RCP

RETAIN 0.0000000000000000277555756156289135105907917022705078125" RCP

RETAIN 0.00000000000000001387778780781445675529539585113525390625" RCP

RETAIN 0.000000000000000006938893903907228377647697925567626953125" RCP

RETAIN 0.0000000000000000034694469519536141888238489627838134765625" RCP

RETAIN 0.00000000000000000173472347597680709441192448139190673828125" RCP

RETAIN 0.000000000000000000867361737988403547205962240695953369140625" RCP

RETAIN 0.0000000000000000004336808689942017736029811203479766845703125" RCP

RETAIN 0.00000000000000000021684043449710088680149056017398834228515625" RCP

RETAIN 0.000000000000000000108420217248550443400745280086994171142578125" RCP

RETAIN 0.0000000000000000000542101086242752217003726400434970855712890625" RCP

RETAIN 0.00000000000000000002710505431213761085018632002174854278564453125" RCP

RETAIN 0.000000000000000000013552527156068805425093160010874271392822265625" RCP

RETAIN 0.0000000000000000000067762635780344027125465800054371356964111328125" RCP

RETAIN 0.00000000000000000000338813178901720135627329000271856784820556640625" RCP

RETAIN 0.000000000000000000001694065894508600678136645001359283924102783203125" RCP

RETAIN 0.0000000000000000000008470329472543003390683225006796419620513916015625" RCP

RETAIN 0.00000000000000000000042351647362715016953416125033982098102569580078125" RCP

RETAIN 0.000000000000000000000211758236813575084767080625169910490512847900390625" RCP

RETAIN 0.0000000000000000000001058791184067875423835403125849552452564239501953125" RCP

RETAIN 0.00000000000000000000005293955920339377119177015629247762262821197509765625" RCP

RETAIN 0.000000000000000000000026469779601696885595885078146238811314105987548828125" RCP

RETAIN 0.0000000000000000000000132348898008484427979425390731194056556529998779296875" RCP

RETAIN 0.00000000000000000000000661744490042422139897126953655970282782649993896484375" RCP

RETAIN 0.000000000000000000000003308722450212110699485634768279851413913249969482421875" RCP

RETAIN 0.0000000000000000000000016543612251060553497428173841399257069566249847412109375" RCP

RETAIN 0.00000000000000000000000082718061255302767487140869206996285347831249237060546875" RCP

RETAIN 0.000000000000000000000000413590306276513837435704346034981426739156246185302734375" RCP

RETAIN 0.0000000000000000000000002067951531382569187178521730174907133695781230926513671875" RCP

RETAIN 0.00000000000000000000000010339757656912845935892608650874535668478906154632568359375" RCP

RETAIN 0.000000000000000000000000051698788284564229679463043254372678342394530773162841796875" RCP

RETAIN 0.0000000000000000000000000258493941422821148397315216271863391711972653865814208984375" RCP

RETAIN 0.00000000000000000000000001292469707114105741986576081359316958559863269329071044921875" RCP

RETAIN 0.000000000000000000000000006462348535570528709932880406796584792799316346645355224609375" RCP

RETAIN 0.0000000000000000000000000032311742677852643549664402033982923963996581733226776123046875" RCP

RETAIN 0.00000000000000000000000000161558713389263217748322010169914619819982908666133880615234375" RCP

RETAIN 0.000000000000000000000000000807793566946316088741610050849573099099914543330669403076171875" RCP

RETAIN 0.0000000000000000000000000004038967834731580443708050254247865495499572716653347015380859375" RCP

RETAIN 0.00000000000000000000000000020194839173657902218540251271239327477497863583266735076904296875" RCP

RETAIN 0.000000000000000000000000000100974195868289511092701256356196637387489317916333675384521484375" RCP

RETAIN 0.0000000000000000000000000000504870979341447555463506281780983186937446589581668376922607421875" RCP

RETAIN 0.00000000000000000000000000002524354896707237777317531408904915934687232947908341884613037109375" RCP

RETAIN 0.000000000000000000000000000012621774483536188886587657044524579673436164739541709423065185546875" RCP

RETAIN 0.0000000000000000000000000000063108872417680944432938285222622898367180823697708547115325927734375" RCP

RETAIN 0.00000000000000000000000000000315544362088404722164691426113114491835904118488542735576629638671875" RCP

RETAIN 0.000000000000000000000000000001577721810442023610823457130565572459179520592442713677883148193359375" RCP

RETAIN 0.0000000000000000000000000000007888609052210118054117285652827862295897602962213568389415740966796875" RCP

RETAIN 0.00000000000000000000000000000039443045261050590270586428264139311479488014811067841947078704833984375" RCP

RETAIN 0.000000000000000000000000000000197215226305252951352932141320696557397440074055339209735393524169921875" RCP

RETAIN 0.0000000000000000000000000000000986076131526264756764660706603482786987200370276696048676967620849609375" RCP

RETAIN 0.00000000000000000000000000000004930380657631323783823303533017413934936001851383480243384838104248046875" RCP

RETAIN 0.000000000000000000000000000000024651903288156618919116517665087069674680009256917401216924190521240234375" RCP

RETAIN 0.0000000000000000000000000000000123259516440783094595582588325435348373400046284587006084620952606201171875" RCP

RETAIN 0.00000000000000000000000000000000616297582203915472977912941627176741867000231422935030423104763031005859375" RCP

RETAIN 0.000000000000000000000000000000003081487911019577364889564708135883709335001157114675151521552371978759765625" RCP

RETAIN 0.0000000000000000000000000000000154074395550978868244478235406794185467500578557337575760777485370635986328125" RCP

RETAIN 0.00000000000000000000000000000000770371977754894341222391177033970927337502892786687878803887426853179931640625" RCP

RETAIN 0.000000000000000000000000000000003851859888774471706111955885169854636687514463933439394019437134265899658203125" RCP

RETAIN 0.0000000000000000000000000000000192592994438723585305597794258492731834375723196671969700971871334314346313476562" RCP

RETAIN 0.00000000000000000000000000000000962964972193617926527988971292463659171878615983359848504859356671571731567382812" RCP

RETAIN 0.000000000000000000000000000000004814824860968089632639944856462318295859393079916799242524296783357858657836914062" RCP

RETAIN 0.0000000000000000000000000000000240741243048404481631997242823115914792969653995839962121262148391678929328918457031" RCP

RETAIN 0.00000000000000000000000000000001203706215242022408159986212411557957396484826997919981060631074195839464664459228515" RCP

RETAIN 0.000000000000000000000000000000006018531076210112040799931062057789786982424134989599905303155370979197323322296142578" RCP

RETAIN 0.0000000000000000000000000000000300926553810505602039996553102889489349121206749479995265157768548959866166114807128906" RCP

RETAIN 0.00000000000000000000000000000001504632769052528010199982765514447446745606033747399976325788842744799330830574035644" RCP

RETAIN 0.000000000000000000000000000000007523163845262640050999913827572237233728030168736999881628944213723996654152870178222" RCP

RETAIN 0.0000000000000000000000000000000376158192263132002549995691378611861686401508436849994081447210686199832707643508911" RCP

RETAIN 0.00000000000000000000000000000001880790961315660012749978456893059308432007542184249970407236053430999163538217544555" RCP

RETAIN 0.000000000000000000000000000000009403954806578300063749892284465296542160037710921249852036180267154995817691087722777" RCP

RETAIN 0.0000000000000000000000000000000470197740328915003187494614223264827108001885546062492601809013357749790884554386138" RCP

RETAIN 0.00000000000000000000000000000002350988701644575015937473071116324135540009427730312463009045066788748954422771930694" RCP

RETAIN 0.000000000000000000000000000000011754943508222875079687365355581620677700047138651562315045225333943744772113859653469" RCP

RETAIN 0.0000000000000000000000000000000587747175411143753984368267779081033885002356932578115752261266697187238860569298267" RCP

RETAIN 0.00000000000000000000000000000002938735877055718769921841338895405169425011784662890578761306333485936194302846491335" RCP

RETAIN 0.000000000000000000000000000000014693679385278593849609206694477025847125058923314452893806531667429680971514232456675" RCP

RETAIN 0.0000000000000000000000000000000734683969263929692480460334723851292356252946165722644690326583371484048575711622833" RCP

RETAIN 0.00000000000000000000000000000003673419846319648462402301673619256461781264730828613223451632916857420242878558114167" RCP

RETAIN 0.000000000000000000000000000000018367099231598242312011508368096282308906323654143066117258164584287101214392790570835" RCP

RETAIN 0.0000000000000000000000000000000918354961579912115600575418404814115445316182707153302955862908214355060719639528541" RCP

RETAIN 0.00000000000000000000000000000004591774807899560578002877092024070577226580913535766514779314541071775303598197642705" RCP

RETAIN 0.000000000000000000000000000000022958874039497802890014385460120352886132904567678832573896572705358876517990988213525" RCP

RETAIN 0.0000000000000000000000000000000114794370197489014450071927300601764430664522838394162869482863526794382589954941067627" RCP

RETAIN 0.00000000000000000000000000000000573971850987445072250359636503008822153322614191970814347414317633971912949774705338135" RCP

RETAIN 0.000000000000000000000000000000002869859254937225361251798182515044110766613070959854071737071588169859564748873526690675" RCP

RETAIN 0.0000000000000000000000000000000143492962746861268062589909125752205538330653547992703586868579408492978237437443676334" RCP

RETAIN 0.00000000000000000000000000000000717464813734306340312949545628761027691653267739963517934342897042464891187187218381675" RCP

RETAIN 0.000000000000000000000000000000003587324068671531701564747728143805138458266338699817589671714485212324455935936091908375" RCP

RETAIN 0.0000000000000000000000000000000179366203433576585078237386407190256922913316934990879483585742606162227796796804595418" RCP

RETAIN 0.00000000000000000000000000000000896831017167882925391186932035951284614566584674954397417928713030811138983984022977091" RCP

RETAIN 0.000000000000000000000000000000004484155085839414626955934660179756423072832923374772198708964356515405694919920114885455" RCP

RETAIN 0.0000000000000000000000000000000224207754291970731347796733008987821153641646168738609935448217825770284745996005744272" RCP

RETAIN 0.00000000000000000000000000000001121038771459853656738983665044939105768208230843693049677241089128851423729980028721363" RCP

RETAIN 0.000000000000000000000000000000005605193857299268283694918325224695528841041154215346524838620544564257118649900143606815" RCP

RETAIN 0.0000000000000000000000000000000280259692864963414184745916261234776442052057710767326241931027228212855932495007180340" RCP

RETAIN 0.00000000000000000000000000000001401298464324817070923729581306173882210260288553836631209655136141064279662475035901703" RCP

RETAIN 0.000000000000000000000000000000007006492321624085354618647906530869411051301442769183163104827568070532139831237517950851" RCP

RETAIN 0.0000000000000000000000000000000350324616081204267730932395326543470552565072138459158155241378403526699156618758975425" RCP

RETAIN 0.00000000000000000000000000000001751623080406021338654661976632717352762825360692295790776206892017633495783093794877127" RCP

RETAIN 0.000000000000000000000000000000008758115402030106693273309883163586763814126803461478953881034460088167478915465474385635" RCP

RETAIN 0.0000000000000000000000000000000437905770101505334663665494158179381907063401730739476940517230044083739457732737192817" RCP

RETAIN 0.00000000000000000000000000000002189528850507526673318327470790896909535317008653697384702586150220418697288663685964085" RCP

RETAIN 0.000000000000000000000000000000010947644252537633366591637353954484547676585043268486923512930751101209348644331829820425" RCP

RETAIN 0.0000000000000000000000000000000547382212626881668329581867697724227383829252163424346176175646555060467432216591491021" RCP

RETAIN 0.00000000000000000000000000000002736911063134408341647909338488621136919146260817121730880878232775302337161082957455105" RCP

RETAIN 0.000000000000000000000000000000013684555315672041708239546692443105684595731304085608654404391163876511685805414787275525" RCP

RETAIN 0.0000000000000000000000000000000684227765783602085411977334622155284229786565204280432732720219581938255842902739363776" RCP

RETAIN 0.00000000000000000000000000000003421138828918010427059886673110776421148932826021402163663601097909691279214513696818881" RCP

RETAIN 0.000000000000000000000000000000017105694144590052135299433365553882105744664130107010818318005489548456396072568484094405" RCP

RETAIN 0.0000000000000000000000000000000855284707229502606764971668277694105287233206505350540915900274477422819803628424204720" RCP

RETAIN 0.00000000000000000000000000000004276423536147513033824858341388470526436166032526752704579501372387114099018142121023601" RCP

RETAIN 0.000000000000000000000000000000021382117680737565169124291706942352632180830162633763522897506861935570495090710605118005" RCP

RETAIN 0.0000000000000000000000000000000106910588403687825845621458534711763160904150813168817614487534309677852475453553025590025" RCP

RETAIN 0.00000000000000000000000000000000534552942018439129228107292673558815804520754065844088072437671548389262377267765127950125" RCP

RETAIN 0.000000000000000000000000000000002672764710092195646140536463367794079022603770329220440362188357741946311886338825639750625" RCP

RETAIN 0.0000000000000000000000000000000133638235504609782307026823168389703951130188516461022018109417887097315594316941281987531250" RCP

RETAIN 0.00000000000000000000000000000000668191177523048911535134115841948519755650942582305110090545894435486577971584706409937656250" RCP

RETAIN 0.000000000000000000000000000000003340955887615244557675670579209742598778254712911525550452729472177432889857923532049688281250" RCP

RETAIN 0.0000000000000000000000000000000167047794380762227883783528960487129938912713564557627752636473608871644492896176602484414062500" RCP

RETAIN 0.00000000000000000000000000000000835238971903811139418917644802435649694563567822788138763182368044358222464480883012422070312500" RCP

RETAIN 0.000000000000000000000000000000004176194859519055697094588224012178248472817839113940693815911840221791112322404415062110351562500" RCP

RETAIN 0.0000000000000000000000000000000208809742975952784854729411200608912423640891955697034690795592011089555616120220753105517578125" RCP

RETAIN 0.00000000000000000000000000000001044048714879763924273647056003044562118204459778485173453977960055447778080601103765527587890625" RCP

RETAIN 0.000000000000000000000000000000005220243574398819621368235280015222810591022298892425867269889800277238890403005518827637939453125" RCP

RETAIN 0.0000000000000000000000000000000261012178719940981068411764000761140529551114944621293363449494001386194452015027594138196972656250" RCP

RETAIN 0.00000000000000000000000000000001305060893599704905342058820003805702647755574723106466817474970006930972260075137970690984863281250" RCP

RETAIN 0.000000000000000000000000000000006525304467998524526710294100019028513238777873615532334087374850034654861300375689853454924316406250" RCP

RETAIN 0.0000000000000000000000000000000326265223399926226335514705000951425661938893680776616704368742501732743065018784492672746215820312500" RCP

RETAIN 0.00000000000000000000000000000001631326116999631131677573525004757128309694468403883083521843712508663715325093922463363731079101562500" RCP

RETAIN 0.000000000000000000000000000000008156630584998155658387867625023785641548472342019415417609218562543318576625469612316818655395507812500" RCP

RETAIN 0.0000000000000000000000000000000407831529249907782919393381251189282077423617100970770870880460928127165831281230615840932769775390625" RCP

RETAIN 0.00000000000000000000000000000002039157646249538914596966906255946410387118085504853854354402304640635829156406153079204663848876953125" RCP

RETAIN 0.000000000000000000000000000000010195788231247694572984834531279732051935590427524269271772011523203179145782030765396023319244384765625" RCP

RETAIN 0.0000000000000000000000000000000509789411562384728649241726563986602596779521376213463588600576160158957289101538269801165962219238281250" RCP

RETAIN 0.00000000000000000000000000000002548947057811923643246208632819933012983897606881067317943002880800794786445507691349005829811096191406250" RCP

RETAIN 0.000000000000000000000000000000012744735289059618216231043164099665064919488034405336589715014404003973932227538456745029149055480957031250" RCP

RETAIN 0.0000000000000000000000000000000637236764452980910811552158204983253245974401720266829485750720200198696611376922837252457452774047851562500" RCP

RETAIN 0.00000000000000000000000000000003186183822264904554057760791024916266229872008601334147428753601000993483056884614186262287263870239257812500" RCP

RETAIN 0.000000000000000000000000000000015930919111324522770288803955124581331149360043006670737143768005004967415284423070931311436935119628906250" RCP

RETAIN 0.0000000000000000000000000000000796545955566226138514440197756229066557468002150333536857188400250248370764221153546565571846755980957031250" RCP

RETAIN 0.00000000000000000000000000000003982729777831130692572200988781145332787340010751667684285942001251241853821105767732785923379904785156250" RCP

RETAIN 0.000000000000000000000000000000019913648889155653462861004943905726663936700053758338421429710006206209269105288386639292966899523925781250" RCP

RETAIN 0.0000000000000000000000000000000995682444457782673143050247195286333196835002687916921071485500310310463455264419331963146483494976196289062500" RCP

RETAIN 0.00000000000000000000000000000004978412222288913365715251235976431665984175013439584605357427501551552317276322096659815732417488098144531250" RCP

RETAIN 0.000000000000000000000000000000024892061111444566828576256179882158329920875067197923026787137507757761586381610483299078662087440490722656250" RCP

RETAIN 0.0000000000000000000000000000000124460305557222834142881280899410791649604375335989615133935687537788807931908052416495393310437202453613281250" RCP

RETAIN 0.00000000000000000000000000000000622301527786114170714406404497053958248021876679948075669678437688944039659540262082476966552186012268066406250" RCP

RETAIN 0.000000000000000000000000000000003111507638930570853572032022485269791240109383399740378348392188444720198297701310412384832760930061340332031250" RCP

RETAIN 0.0000000000000000000000000000000155575381946528542678601601124263489562005469169987018917419609422236009914885065520619241638046503067016601562500" RCP

RETAIN 0.00000000000000000000000000000000777876909732642713393008005621317447810027345849935094587098047111180049574425327603096208190232515335083007812500" RCP

RETAIN 0.000000000000000000000000000000003889384548663213566965040028106587239050136729249675472935490235555900247872126638015481040950581257675170898437500" RCP

RETAIN 0.0000000000000000000000000000000194469227433160678348252001405329361952506836462483773646774511777950123936063319007740520475290628837585449218750" RCP

RETAIN 0.00000000000000000000000000000000972346137165803391741260007026646809762534182312418868823387255888975061968031659503870237645144187927246093750" RCP

RETAIN 0.000000000000000000000000000000004861730685829016958706300035133234048812670911562094344116936279444875309840158297519351188225720935440063476562500" RCP

RETAIN 0.0000000000000000000000000000000243086534291450847935315001756661702440633545578104717205846813972243765492007914875967559411286046791839599609375" RCP

RETAIN 0.00000000000000000000000000000001215432671457254239676575008783308512203167727890523586029234069861218827460039574379837797056430233959197998046875" RCP

RETAIN 0.000000000000000000000000000000006077163357286271198382875043916542561015838639452617930146170349306094137300197871899188985282151169795989990234375" RCP

RETAIN 0.0000000000000000000000000000000303858167864313559919143752195827128050791931972630896507308517465304706865009893594959449264107558489799499511718750" RCP

RETAIN 0.00000000000000000000000000000001519290839321567799595718760979135640253959659863154482536542587326523534325049467974724632053787792449997558593750" RCP

RETAIN 0.000000000000000000000000000000007596454196607838997978593804895678201269798299315772412682712936632617671625247339873623160268938962249987792968750" RCP

RETAIN 0.0000000000000000000000000000000379822709830391949898929690244783910063489914965788620634135646831630883581262366993681158013446948112493896484375" RCP

RETAIN 0.00000000000000000000000000000001899113549151959749494648451223919550317449574828943103170678234158154417907906183496840579006723474056246948242187500" RCP

RETAIN 0.000000000000000000000000000000009495567745759798747473242256119597751587247874144715515853391170790772089539530917484202895033617370281234741210937500" RCP

RETAIN 0.0000000000000000000000000000000474778387287989937373662112805979887579362393707235775792669558539538604476976545874210144751680868514061737060546875" RCP

RETAIN 0.00000000000000000000000000000002373891936439949686868310564029899437896811968536178878963347792697693022384882729371050723758404342570308685302734375" RCP

RETAIN 0.000000000000000000000000000000011869459682199748434341552820149497189484059842680894394816738963488465111924413646855253618792021712851543426513671875" RCP

RETAIN 0.0000000000000000000000000000000593472984109987421717077641007474859474202992134044719740840948174423255596220682342762680939601085642577171325683593750" RCP

RETAIN 0.00000000000000000000000000000002967364920549937108585388205037374297371014960670223598704204740872116277981103411713813404698005428212885856628417968750" RCP

RETAIN 0.000000000000000000000000000000014836824602749685542926941025186871486855074803351117993521023704360581389905517058569067023490027141064429283142089843750" RCP

RETAIN 0.0000000000000000000000000000000741841230137484277146347051259343574342753740167555899649676185218029069495275852928453351174501357053221464157104492187500" RCP

RETAIN 0.00000000000000000000000000000003709206150687421385731735256296717871713768700837779498248380926090145347476379264642266755872508678526107320785522460937500" RCP

RETAIN 0.000000000000000000000000000000018546030753437106928658676281483589358568843504188897491241904630450726737381896323211333877542533926305366039276123046875" RCP

RETAIN 0.0000000000000000000000000000000927301537671855346432933814074179467928442175209444874562095231522536336869094816160566693877126696315268301963806152343750" RCP

RETAIN 0.00000000000000000000000000000004636507688359276732164669070370897339642210876047224372810476157612681684345474080802833469385633481576341509819030761718750" RCP

RETAIN 0.000000000000000000000000000000023182538441796383660823345351854486698211054380236121864052380788063408421727370404014167346928167407881707549095153808593750" RCP

RETAIN 0.0000000000000000000000000000000115912692208981918304116726759272433491055271901180609320261903940317042108636852020070836734640837039408537745475769042968750" RCP

RETAIN 0.00000000000000000000000000000000579563461044909591520583633796362167455276359505903046601309519701585210543184260100354183673204185197042688727378845214843750" RCP

RETAIN 0.000000000000000000000000000000002897817305224547957602918168981810837276381797529515233006547598507926052715921300501770918366020925985213443639422607421875" RCP

RETAIN 0.0000000000000000000000000000000144890865261227397880145908449090541863819089876475761650327379925396302635796065025088545918301046299260672181971132755279541015625" RCP

RETAIN 0.00000000000000000000000000000000724454326306136989400729542245452709319095449382378808251636689962698151317898032512544272959150523149630336098565663776397705078125" RCP

RETAIN 0.000000000000000000000000000000003622271631530684947003647711227263546595477246911894041258183449813490756589490162562721364795752615748151680492828318881988525390625" RCP

RETAIN 0.0000000000000000000000000000000181113581576534247350182385561363177329773862345594702062909172490674537829474508128136068239787630787407584024641415944099426269531250" RCP

RETAIN 0.00000000000000000000000000000000905567907882671236750911927806815886648869311727973510314545862453372689147372540640680341198938153937037920123207079720497131347656250" RCP

RETAIN 0.000000000000000000000000000000004527839539413356183754559639034079433244346558639867551572729312266863445736862703203401705994690769685189600616035398602485656738281250" RCP

RETAIN 0.0000000000000000000000000000000226391976970667809187727981951703971662217327931993377578636465613343172286843135160170085299734538484259480030801769930124282836914062500" RCP

RETAIN 0.00000000000000000000000000000001131959884853339045938639909758519858311086639659966887893182328066715861434215675800850426498672692421297400154008849650621414184570312500" RCP

RETAIN 0.000000000000000000000000000000005659799424266695229693199548792599291555433198299834439465911640333579307171078379004252132493363462106487000770044248253107070922851562500" RCP

RETAIN 0.0000000000000000000000000000000282989971213334761484659977439629964577771659914991721973295582016678965358553918950212606624668173105324350038502212412655353546142578125" RCP

RETAIN 0.00000000000000000000000000000001414949856066673807423299887198149822888858299574958609865647910083394826792769594751063033123340865526621750192511062063276767730712890625" RCP

RETAIN 0.000000000000000000000000000000007074749280333369037116499435990749114444291497874793049328239550416974133963847973755315165616704327633108750962555310316383838653564453125" RCP

RETAIN 0.0000000000000000000000000000000353737464016668451855824971799537455722214574893739652466411977520848706698192398687765758280835216381655437548127765515819191932678222656250" RCP

RETAIN 0.00000000000000000000000000000001768687320083342259279124858997687278611072874468698262332059887604243533490961993438828791404176081908277187406380775909595966339111328125" RCP

RETAIN 0.000000000000000000000000000000008843436600416711296395624294988436393055362872343491311660299438021217667454809967194143957020880409541385937032038879547979831695556640625" RCP

RETAIN 0.0000000000000000000000000000000442171830020835564819781214749421819652768143617174565583014971901060883372740498359709707197851044020477069296851601943977398991584777832031250" RCP

RETAIN 0.00000000000000000000000000000002210859150104177824098906073747109098263840718085872827915074859505304416863702491798548598925522102385346484258008097198869949957923889160156250" RCP

RETAIN 0.000000000000000000000000000000011054295750520889120494530368735545491319203590429364139575374297526522084318512458992742994627610511926732421290040485994349749789619445800781250" RCP

RETAIN 0.0000000000000000000000000000000552714787526044456024726518436772745659601794821820697878768714876326042159256229496371497313805255963366210645020242996874874894809722900390625" RCP

RETAIN 0.00000000000000000000000000000002763573937630222280123632592183863728298008974109103489393843574381630210796281147481857486569026279816831053225101214984374374474049045145019531250" RCP

RETAIN 0.000000000000000000000000000000013817869688151111400618162960919318641490044870545517446969217871908151053981405737409287432845131399084155265125506074921871872370245225097656250" RCP

RETAIN 0.0000000000000000000000000000000690893484407555570030908148045965932074502243527275872348484360954075526990702868704643714216565699545420776263256275302537460936093618512754821777343750" RCP

RETAIN 0.00000000000000000000000000000003454467422037777850154540740229829660372511217636379361742421804770377634953514343523218571082828497727103881316281376268730468046809256274108886718750" RCP

RETAIN 0.000000000000000000000000000000017272337110188889250772703701149148301862556088181896808712109023851888174767571717616092855414142488635519406581406343652340234046281370540554433593750" RCP

RETAIN 0.0000000000000000000000000000000863616855509444462538635185057457415093127804409094840435605451192594408738378585880804642770707124431775970329070320171826617011702314068527027721679687500" RCP

RETAIN 0.00000000000000000000000000000004318084277547222312693175925287287075465639022045474202178027255962972043691892929404023853535620622158879851645160085913308505811570342635135108398437500" RCP

RETAIN 0.000000000000000000000000000000021590421387736111563465879626436435377328195110227371010890136279814860218459464647020119267678103110794399258225800429566542529057851713175675542199218750" RCP

RETAIN 0.0000000000000000000000000000000107952106938680557817329398132182176886640975551136855054450681399074301092297323235100596338390515553996291129029002147832712645289258565878377710996093750" RCP

RETAIN 0.00000000000000000000000000000000539760534693402789086646990660910884433204877755684275272253406995371505461486616175502981691952577769981455645145010739163563226446292829391888554980468750" RCP

RETAIN 0.000000000000000000000000000000002698802673467013945433234953304554422166024388778421376361267034976857527307433087751490845959762888849907275725250536958178131611462914695944277490234375" RCP

RETAIN 0.0000000000000000000000000000000134940133673350697271661747665227721108301219438921068818063351748842876365371654387574524542298144442495363786262526847908906580573145732972138874511718750" RCP

RETAIN 0.00000000000000000000000000000000674700668366753486358308738326136055415060971944605344090316758744214381826857719378762271229907222124768189313131263423954532902865728664860694372558593750" RCP

RETAIN 0.000000000000000000000000000000003373503341833767431791543691630680277075304859723026720451583793721071909134288596893811354953611062384094565656317119772664514328643324347186279296875" RCP

RETAIN 0.0000000000000000000000000000000168675167091688371589577184581534034013765242986151336022579189686053595456714429844690567747680553119204728282815855988633225716432166217359313964843750" RCP

RETAIN 0.00000000000000000000000000000000843375835458441857947885922907670170068826214930756680112895948430267977283572149223452838738403276559602364141079279943166128582160831086796569824218750" RCP

RETAIN 0.000000000000000000000000000000004216879177292209289739429614538350850344131074653783400564479742151339886417860746117264193691638279801182070539639719715830642910804154339828491210937500" RCP

RETAIN 0.0000000000000000000000000000000210843958864610464486971480726917542517206553732689170028223987107566994320893037305863209684581913990059103526981985957915321455402077169914142456054687500" RCP

RETAIN 0.00000000000000000000000000000001054219794323052322434857403634587712586032768663445850141119935537834971604465186529316048422909569950295517634909929789576607277010385849570712280273437500" RCP

RETAIN 0.000000000000000000000000000000005271098971615261612174287018172938562930163833317229250705599677689174858022325932646580242114547849751477588174549648947883036385051929247853561401367187500" RCP

RETAIN 0.0000000000000000000000000000000263554948580763080608714350908646928146508191665861462535279983884458742901116296632329012105727392487573879408727482447394151819252596462392678070068359375" RCP

RETAIN 0.00000000000000000000000000000001317774742903815403043571754543234640732540958329307312676399919422293714505581483161645060528636962437869397043637412236970759096262982311963390350341796875" RCP

RETAIN 0.000000000000000000000000000000006588873714519077015217858772716173203662704791646536563381999597111468572527907415808225302643184812189346985218187061184853795481314911559816951751708984375" RCP

RETAIN 0.0000000000000000000000000000000329443685725953850760892938635808660183135239582326828169099979855573428626395370790411265132159240609467349260909353059242689774065745577990847587585449218750" RCP

RETAIN 0.00000000000000000000000000000001647218428629769253804464693179043300915676197911634140845499899277867143131976853952056325660796203047336746304546765296213448870328727889954237937927246093750" RCP

RETAIN 0.000000000000000000000000000000008236092143148846269022323465895216504578380989558170704227249496389335715659884269760281628303981015236683731522733826481067244351636394449771189689636230468750" RCP

RETAIN 0.0000000000000000000000000000000411804607157442313451116173294760825228919049477908535211362474819466785782994213488014081415199050761834186576136691324053362217581819722488559484481811523437500" RCP

RETAIN 0.00000000000000000000000000000002059023035787211567255580866473804126144595247389542676056812374097333928914971067440070707599525380917091932880683456620266811087909098613622442797422409057617187500" RCP

RETAIN 0.000000000000000000000000000000010295115178936057836277904332369020630722976236947713380284061870486669644857355337200353537997626904585465964403417283101334055439545493068112213987112045288085937500" RCP

RETAIN 0.0000000000000000000000000000000514755758946802891813895216618451031536148811847385669014203093524333482242867766860017676899881345229273298220864155066702771977274653405605610699356022644042968750" RCP

RETAIN 0.00000000000000000000000000000002573778794734014459069476083092255157680744059236928345071015467621667411214338834300088384499406726146366491043207753335138863988633702802805349678011322021484375" RCP

RETAIN 0.000000000000000000000000000000012868893973670072295347380415461275788403720296184641725355077338108337056071694171500441922497033630731832455216038766675694319943168514014026748390055661010742187500" RCP

RETAIN 0.0000000000000000000000000000000643444698683503614767369020773063789420186014809232086267753866905416852803584708575022096124851681536591622760807538334784715997158425700700701337419502805371093750" RCP

RETAIN 0.00000000000000000000000000000003217223493417518073836845103865318947100930074046160431338769334527084264017923542875110480624258407682958113804037691673923579985792128503503506687097514028552734375" RCP

RETAIN 0.000000000000000000000000000000016086117467087590369184225519326594735504650370230802156693846672635421320089617714375552403121292038414790569020188458369617899928960642517517533435487570142763671875" RCP

RETAIN 0.0000000000000000000000000000000804305873354379518459211275966329736775232518511540107834692333631771066004480885718777620156064601920739528451009422918480894996448032125875876671771743785138381958770751953125" RCP

RETAIN 0.00000000000000000000000000000004021529366771897592296056379831648683876162592557700539173461668158855330022404428593888100780323009603697642255047114592404474982240160629379383358858718925690919542312622070312500" RCP

RETAIN 0.000000000000000000000000000000020107646833859487961480281899158243419380812962788502695867308340794276650112022142969440503901615048018488211275235572962023737491200803146896792944359462845459561538696289062500" RCP

RETAIN 0.0000000000000000000000000000000100538234169297439807401409495791217096904064814394251347933654170397138325500560110714847202519507740092441056376177864810118687456004015734483964721797314232297807693481445312500" RCP

RETAIN 0.00000000000000000000000000000000502691170846487199037007047478956085484520324071971256739668270851985691627800553573924236012597538700462205281888932405059343728120078674172419823598657161489039846740722656250" RCP

RETAIN 0.000000000000000000000000000000002513455854232435995185035237394780427422601620359856283698341354259928458139002767869621180062987693502311026409444662025296864060393370862099117991328580744519923373613281250" RCP

RETAIN 0.0000000000000000000000000000000125672792711621799759251761869739021371130081017992814184917067712996422906950138393481059031493846751155513204722233101264843203019685431049558995664290372259961686806640625" RCP

RETAIN 0.00000000000000000000000000000000628363963558108998796258809348695106855650405089964070924585338564982114534750691967405295157469233755777566023611165506324216015098427155247794978321451862979980843403320312500" RCP

RETAIN 0.000000000000000000000000000000003141819817790544993981294046743475534278252025449820354622926692824910572673753459837026475787346168778887830118055827531621080075492135776238974891607259899904216701660156250" RCP

RETAIN 0.0000000000000000000000000000000157090990889527249699064702337173776713912601272491017731146334641245528633687672991851323789367338944391505902791376581081003774606788811948744580725362994952108350830078125" RCP

RETAIN 0.00000000000000000000000000000000785454954447636248495323511685868883569563006362455088655731673206227643168438364959256618946836694721957529513956881905405018873033943405974372290362681497476054175415039062500" RCP

RETAIN 0.000000000000000000000000000

Submitted 9/2/2020

6/23/16

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
X-XXXX	X-1

SITE 54A

PERMIT DRAWING
SHEET 147 OF 163

ENGLISH

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

WETLAND

146.39

16 + 50.00

WETLAND

144.37

16 + 00.00

WETLAND

142.28

15 + 50.00

140.32

15 + 00.00

-Y4-

RK&K
P: (919) 878-9560
9601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
www.rkk.com
Engineers | Construction Managers | Planners | Scientists
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y4_SITE54A.dgn
Flesher

Submitted 9/2/2020

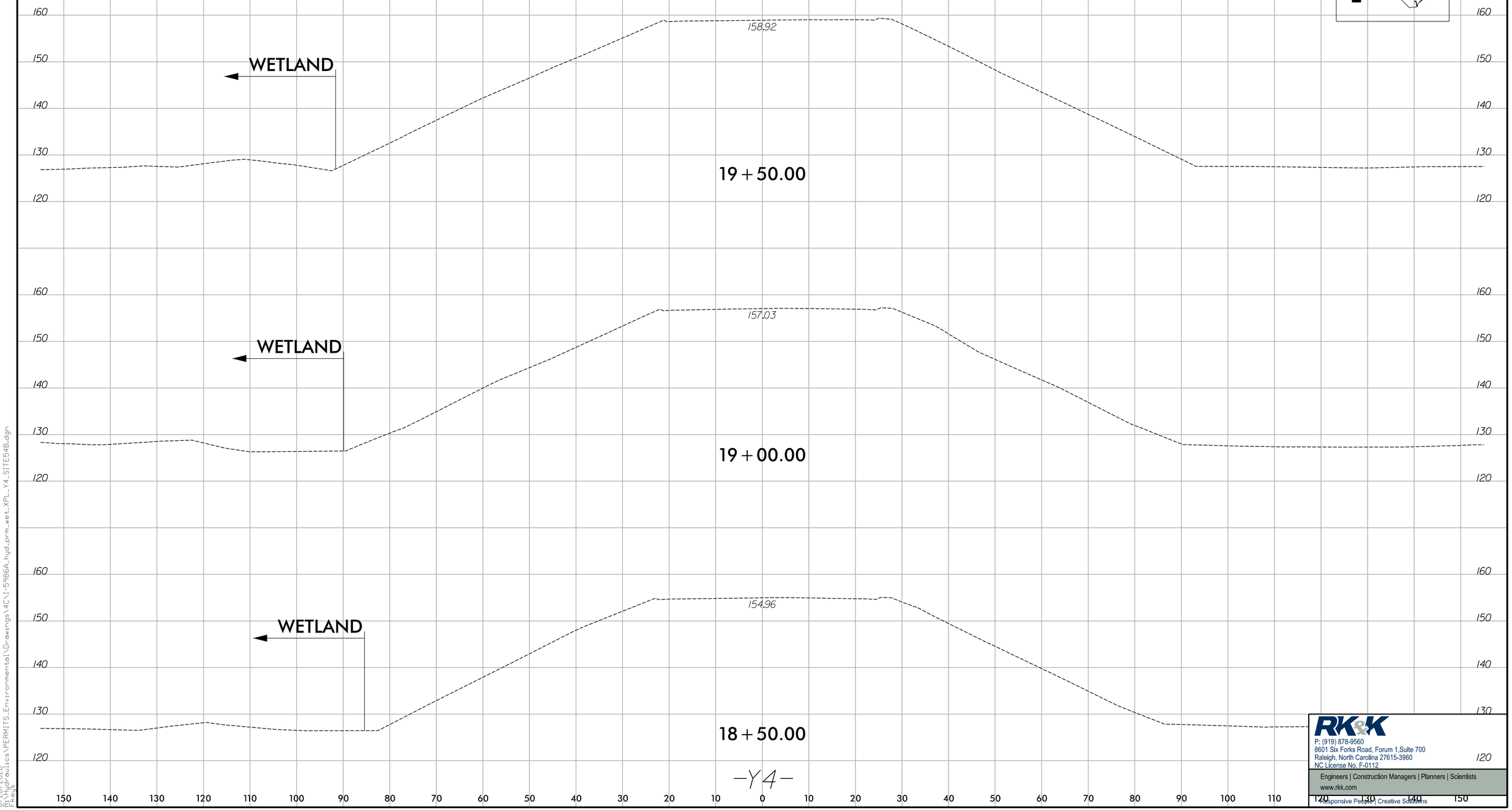
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	X-XXXX	X-3

SITE 54B

PERMIT DRAWING
SHEET 148 OF 163

ENGLISH



-Y4-

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
"Responsive People | Creative Solutions"

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y4_SITE54B.dgn
F. Kelly

Submitted 9/2/2020

REVISIONS

50 0 50 100
SCALE FOR INSET

100 0 100 200
SCALE

ENGLISH

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	70
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 149 OF 163

MATCHLINE -Y4- STA. 39+00.00 SEE SHEET 19

WO | SITE 15

WN | SITE 16

INSET A

PEMBROKE LN.

DESIGN SUBJECT TO CHANGE PENDING COORDINATION WITH THE DEVELOPER

MATCHLINE -Y5- STA. 105+00.00 SEE SHEET 20

WV

END CONSTRUCTION
-YSB- POT Sta. 26+66.96

WCE | SITE 55

WCE | SITE 56

NCDOT RIGHT OF WAY DB 9368 PG 365

RW DEED DB 5221 PG 0

MATCHLINE -Y5B- STA. 15+00.00 SEE SHEET 71

INSET A

EXISTING SBG

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

PLUG & FILL W/FLOWABLE FILL

REMOVE SYSTEM

GREU TL-3

PEMBROKE LN.

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

PAVEMENT REMOVAL

CONCRETE TRUCK APRON

FOR –DR3– PROFILE SEE SHT. 152
FOR –Y4– PROFILE SEE SHT. 151
FOR –Y4A– PROFILE SEE SHT. 152
FOR –YSLT– PROFILE SEE SHT. 158
FOR –YSRT– PROFILE SEE SHT. 158
FOR –YSA– PROFILE SEE SHT. 159
FOR –YSB– PROFILE SEE SHT. 159
FOR –YSC– PROFILE SEE SHT. 160
FOR –YSRAB– PROFILE SEE SHT. 160

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
2020 RK&K
600 Park Offices Drive
RKK 3 Parks Road, Mount 3 Suite 700
Raleigh, North Carolina 27615-2000
Fort Lauderdale, New Orleans
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Renaissance People | Creative Solutions

8/20/2020
J:\PROJECTS\PROJECTS_Environmental\2-Drawings\405-Elevation 1\I-5986A_Sht_405.dgn\2D-Sht

Submitted 9/2/2020

REVISIONS

50 0 50 100
SCALE FOR INSET

100 0 100 200
SCALE

ENGLISH

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	70
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 150 OF 163

MATCHLINE -Y4- STA. 39+00.00 SEE SHEET 19

WO SITE 15

WN SITE 16

INSET A

PEMBROKE LN.

DESIGN SUBJECT TO CHANGE PENDING COORDINATION WITH THE DEVELOPER

MATCHLINE -Y5- STA. 105+00.00 SEE SHEET 20

WV

WCE

SITE 55

SITE 56

END CONSTRUCTION
-YSB- POT Sta. 26+66.96

MATCHLINE -YSB- STA. 15+00.00 SEE SHEET 71

INSET A

EXISTING SBG

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

PLUG & FILL W/FLOWABLE FILL

REMOVE SYSTEM

PEMBROKE LN.

GREU TL-3

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

PAVEMENT REMOVAL

CONCRETE TRUCK APRON

FOR –DR3– PROFILE SEE SHT. 152
FOR –Y4– PROFILE SEE SHT. 151
FOR –Y4A– PROFILE SEE SHT. 152
FOR –YSLT– PROFILE SEE SHT. 158
FOR –YSRT– PROFILE SEE SHT. 158
FOR –YSA– PROFILE SEE SHT. 159
FOR –YSB– PROFILE SEE SHT. 159
FOR –YSC– PROFILE SEE SHT. 160
FOR –YSRAB– PROFILE SEE SHT. 160

FOR DITCH DETAILS SEE SHTS 2D-1 THRU 2D-2

RK&K
(919) 870-0090
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-5060
www.rkk.com
Engineers | Construction Managers | Planners | Scientists
Passionate People | Creative Solutions

12/9/2020
8:40:29 AM
C:\Projects\I-5986A\ENVIRONMENTAL\Environmental\Mapping\RDY\Section 131\I-5986A_Sht 4 (R-sht78-2D)sht.dgn

Submitted 9/2/2020

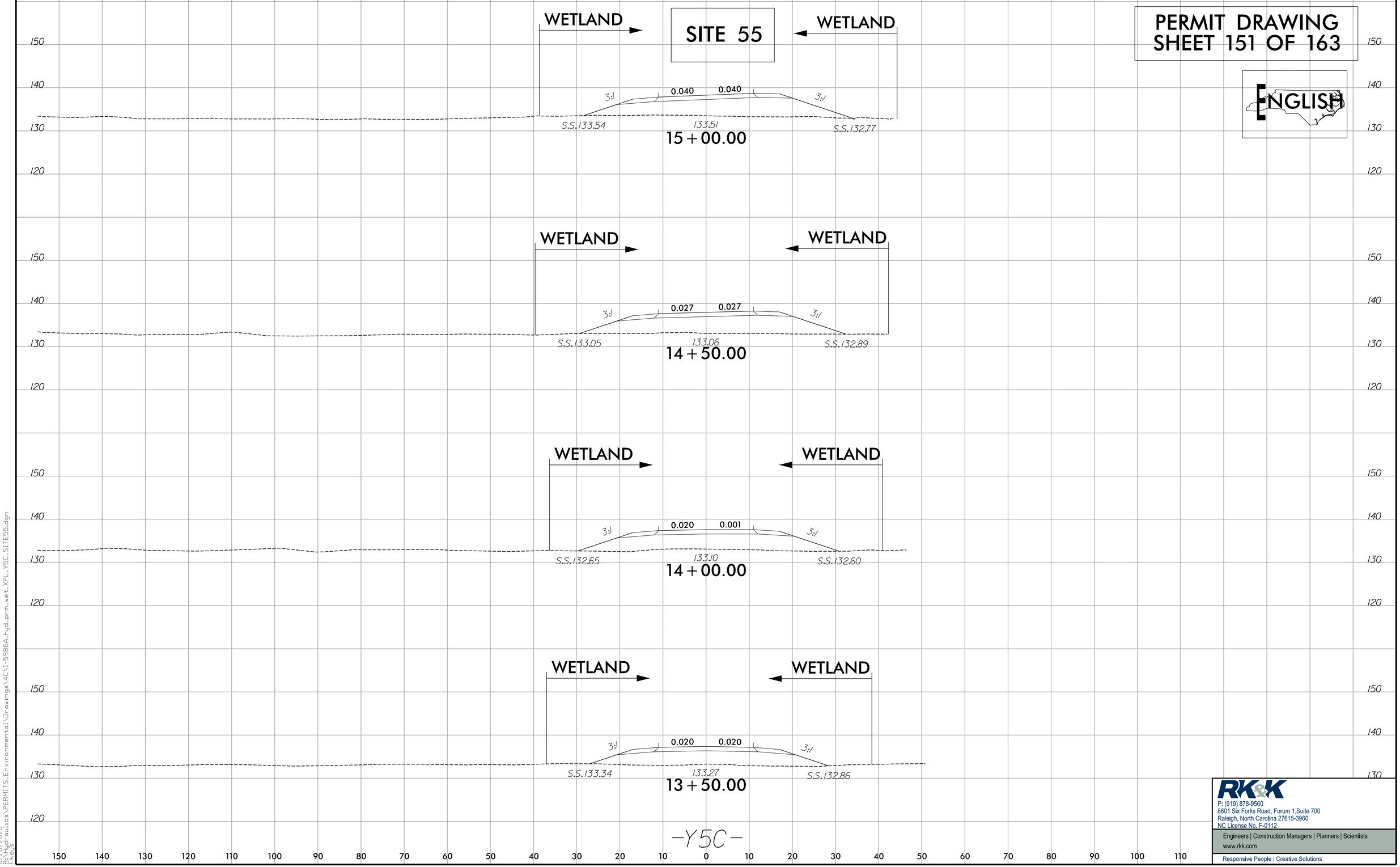
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-214

PERMIT DRAWING
SHEET 151 OF 163

ENGLISH

SITE 55



-Y5C-

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y5C_SITE55.dgn
Plotted

Submitted 9/2/2020

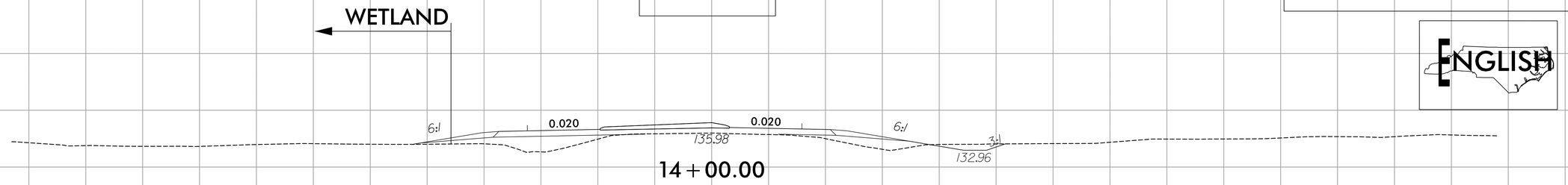
6/23/16

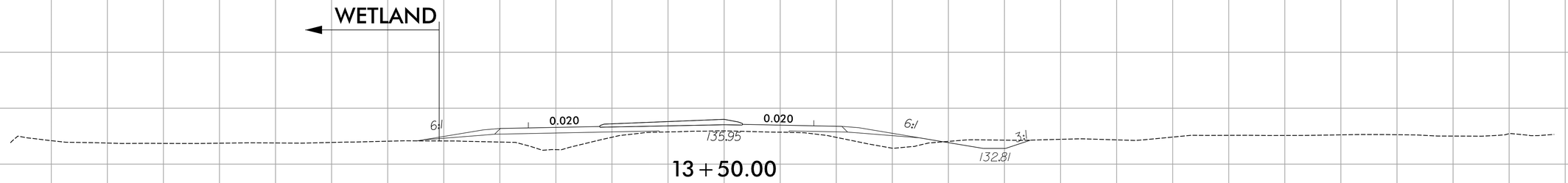
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986A	S1 X-210

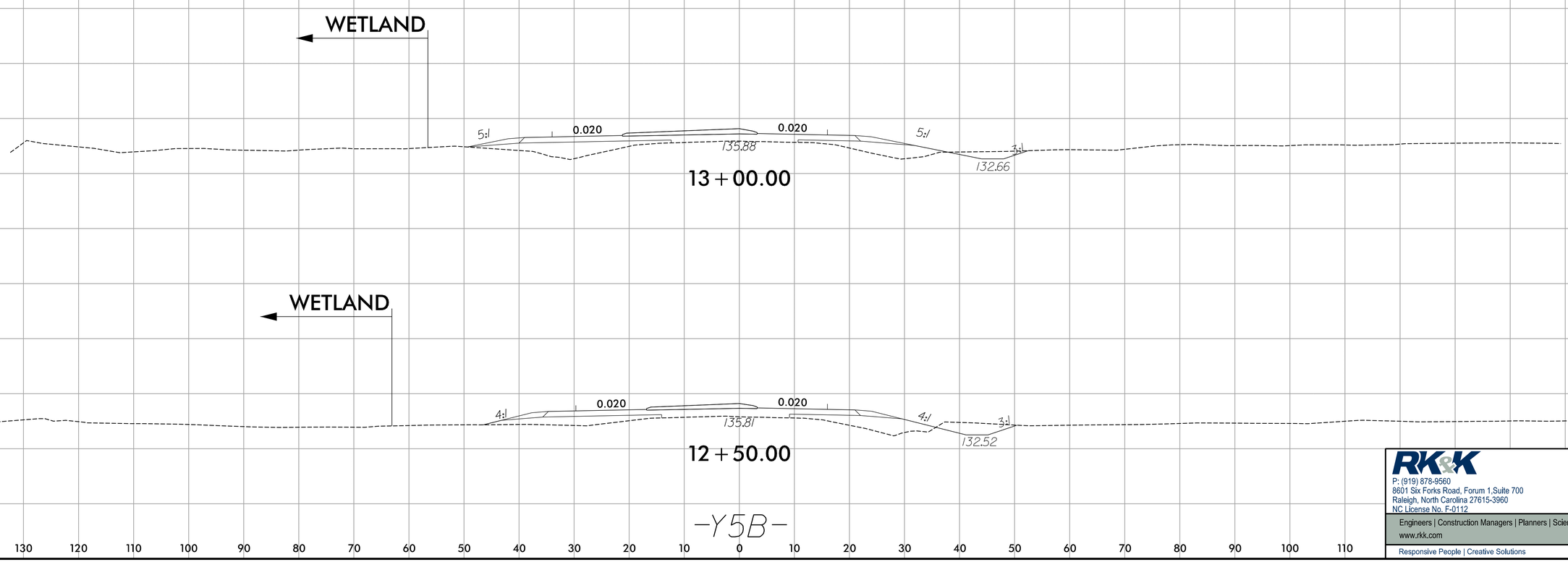
SITE 56

PERMIT DRAWING
SHEET 152 OF 163

ENGLISH







-Y5B-

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4C\I-5986A_hyd_prm_wet_XPL_Y5B_SITE56.dgn
FLeigh

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	

PERMIT DRAWING
SHEET 153 OF 163

SHEET INTENTIONALLY LEFT BLANK

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\4B\Section 3\I-5986A_hyd_4B_prm153.dgn
default

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	71
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 154 OF 163

NAD 83/NA 2011

END CONSTRUCTION –Y5B– POC Sta. 18+65.00

MATCHLINE -Y5B- STA. 15+00.00 SEE SHEET 70

NCDOT RIGHT OF WAY DB 9368 PG 365

WCE

SITE 56

PROP. WOVEN WIRE FENCE

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

CHORD

CUTOVER

RW

CA

PUE

15+00

-Y5B-

N 85° 24' 23.8" E

20+00

25+00

N 88° 56' 18.6" E

GOLDSBORO RD

28' BST

TO JAMES DAIL RD (SR 1828)

Century Link

Century Link, ET

T

Pvc, Town Of Eastover

BK STEPS

REMOVE

SP. CUT 4' BASE DITCH SEE DETAIL F

WOODS

ISF/BKD

WD DK

ASPHALT

ECM

15" RCP

OS

EIP

S 64°42'[illegible] 125.17'

N 0°42'27" W 368.41'

S 08°34'27" E 532.47'

S 37°17'29" E 517.88'

N 87°46'33" E 50.00'

N 1°58'40" W 104.53'

S 03° R/W-EIP

50 25 0 50 100

SCALE

ENGLISH

DENOTES MECHANIZED CLEARING

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR –Y5B– PROFILE SEE SHT. 159

FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
Kingsfolks\PERMITS_Environmental\Drawings\4B\Section 1\I-5986A_hyd_4B_psh71.dgn
Flea

Submitted 9/2/2020

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	71
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 155 OF 163

NAD 83/NA 2011

END CONSTRUCTION
–Y5B– POC Sta. 18+65.00

MATCHLINE -Y5B- STA. 15+00.00 SEE SHEET 70

NCDOT RIGHT OF WAY
DB 9368 PG 365

WCE

SITE 56

PROP. WOVEN WIRE FENCE

TOE PROTECTION
W/CL B RIPRAP
SEE DETAIL H

CHORD
CUTOVER

REMOVE

SP. CUT 4' BASE DITCH
SEE DETAIL F

PUE

–Y5B–

15+00

20+00

25+00

N 85° 24' 23.8" E

N 88° 56' 18.6" E

GOLDSBORO RD

TO JAMES DAIL RD (SR 1828)

Century Link Century Link

Town of Eastover

WOODS

BK STEPS

SFRD

S 64°46'33" E
125.17'

S 37°07'29" E
517.88'

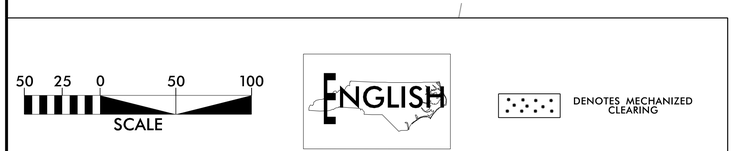
N 01°32'27" W
366.41'

S 08°34'27" E
532.47'

N 87°46'33" E
50.00'

N 01°32'27" W
1049.61'

S 03° R/W-EIP



NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR –Y5B– PROFILE SEE SHT. 159

FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/20/2020
NCDOT Roadway Design
Flex

8/20/2020
N:\Roadway\Projects\PERMITS_Environmental\Drawings\48\Section 1\I-5986A_hyd_4B_psh71_CON.dgn

Submitted 9/2/2020

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation in Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac)	WETLAND IMPACTS: Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	SURFACE WATER IMPACTS: Temp. SW impacts (ac)	SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft)	SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
1	-LSB- 61+50 LT	Bank Stabilization: DC						0.001	0.002	8	20	
2	-LSB- 72+00 RT	Headwall, 66" WSP: SV-2, WCB	0.003	0.038				0.001	0.007	6	41	
	-LNB- 71+75 LT	Bank Stabilization: SV-1						0.008	0.010	19	19	
3	-LNB- 89+16 LT & RT	Pipe clean out: WA, WB		0.006								
	-LSB- 88+37 - 95+69 LT	Roadway Fill, 18" RCP: WA	0.001	0.006		0.018						
4	-LSB- 101+16 LT	30" WSP: SA, WC	0.001	0.033				0.004	0.003	18	23	
	-LSB- 99+00 LT	30" WSP: WA	0.002	0.027								
5	-YINB- 32+80 RT	66" WSP: WB	0.009	0.034								
6	-YINB- 39+39 LT	36" WSP: WD	0.001	0.039								
	-YINB- 38+02 RT	36" WSP: WB	0.004	0.050								
7	-L- 92+02 - 100+05 LT	Roadway Fill: WH	0.231									
8	-L- 90+87 - 91+10 RT	Ditch: WE			0.024							
TOTALS*:			**0.252**	**0.232**	**0.024**	**0.018**	**0.000**	**0.01**	**0.02**	**51**	**103**	**0**

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
8/21/2020
Cumberland / Harnett Counties
I-5986A / I-5877

Submitted 9/2/2020

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation in Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac)	WETLAND IMPACTS: Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	SURFACE WATER IMPACTS: Temp. SW impacts (ac)	SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft)	SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
9	-L- 94+37 - 100+20 RT	Roadway Fill, Ditch: WF	0.135		0.021							
	-L- 100+28 RT	2 @ 36" RCP: SB						0.011	0.001	63	10	
10	-L- 108+26 - 114+34 LT	Roadway Fill: WI	0.076									
11	-L- 118+98 - 133+53 LT	Roadway Fill: WJ	0.531			0.045						
12	-L- 121+32 - 127+67 RT	Roadway Fill, Ditches: WL	0.204	0.066	0.020	0.143						
13	-L- 186+79 - 187+53 LT	Roadway Fill: WR	0.020			0.013						
14	-L- 192+15 - 193+26 LT	Ditch: WR		0.021		0.001						
15	-L- 190+05 RT	42" RCP: WO	0.004			0.006						
	-L- 192+05 RT	Roadway Fill: WO	0.001			0.006						
	-Y5RPC- 13+02 - 21+32 RT	Roadway Fill, 66" RCP: Baker Swamp 2, WO	0.136	0.034		0.165		0.018		60		
	-Y4- 37+50 LT	54" WSP: WO	0.001	0.037								
	-Y4- 40+69 to 43+01 LT	Prop Roadway Fill: WO	0.019			0.053						
TOTALS*:			**1.127**	**0.157**	**0.041**	**0.432**	**0.000**	**0.03**	**0.00**	**123**	**10**	**0**

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
8/21/2020
Cumberland / Harnett Counties
I-5986A / I-5877

Submitted 9/2/2020

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
16	-Y4- 36+25 RT	54" WSP: Baker Swamp 1, WN Structure Stabilization	0.006	0.025				0.004	0.013	15	34	
	-Y4- 40+32 to 42+06 RT	Roadway Fill: WN	0.035			0.042						
17	-L- 199+16 - 200+49 LT	Prop Roadway Fill - WQ	0.057			0.072						
	-L- 201+67 LT	Rip Rap Outlet Pad - WQ	0.002	0.009								
18	-L- 198+56 - 203+59 RT	Roadway Fill, 60" RCP, 66" RCP: Baker Swamp 3, WP	0.106	0.002		0.066		0.010	0.006	23	13	
	-Y5- 99+16 LT	66" WSP: Baker Swamp 3, WP Structure Stabilization	0.001	0.004				0.007	0.012	22	28	
19	-Y5LPD- 37+73 - 40+14 LT & RT	Roadway Fill: WCG*	0.857									
20	-Y5LPD- 22+86 - 24+53 LT & RT	Roadway Fill: WX	0.402			0.034						
21	-Y5RPD- 14+97 - 18+86 RT	Roadway Fill: WV	0.225			0.020						
22	-Y5FLY- 57+08 - 62+55 LT & RT & -Y5LPD- 18+96 - 21+42 LT & RT	Roadway Fill: WW**	2.663			0.176						
23	-L- 252+34	2 @ 8'x8' RCBC: SC-1, SC-2						0.063	0.006	270	38	
TOTALS*:			**4.353**	**0.040**	**0.000**	**0.411**	**0.000**	**0.08**	**0.04**	**330**	**113**	**0**

*Rounded totals are sum of actual impacts

NOTES:

* Site 19: Area shown in impact table is a total take. Actual impact area is 0.772 acres.

** Site 22: Area shown in impact table is a total take inside -Y5LPD-. Actual impact area is 2.610 acres.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
8/21/2020
Cumberland / Harnett Counties
I-5986A / I-5877

Submitted 9/2/2020

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
24	-L- 304+15	3 @ 10'x8' RCBC, Roadway Fill, Ditch: SD-1, SD-2, WZ, WY	0.056	0.047	0.089	0.080		0.128	0.058	197	26	
	-L- 302+20 RT	Roadway Fill, Ditch: WY		0.004		0.002						
	-L- 306+80 LT	Ditch: WZ		0.010								
	-L- 307+30 RT	Ditch: WY		0.005								
25	-L- 355+00	10'x7' RCBC: SE-1, SE-2, WAB		0.002	0.003			0.017	0.003	135	25	
	-L- 357+75 RT	Ditch: WAB		0.008								
26	-Y7RPC- 17+51 - 24+28 Lt & RT	Roadway Fill: WAC	0.654	0.017		0.151						
27	-Y7RPA 16+97 RT - -L- 392+99 LT	Roadway Fill: WAF	0.284									
28	-SR3 - 34+13 - 35+87 LT	Roadway Fill: WAG	0.047	0.005		0.039						
29	-L- 405+65 LT	2 @ 48" RCP, Ditch: WAH		0.009	0.027							
30	-L- 422+50	12'x6' RCBC: SF, WAK, WAI	0.008	0.074	0.090			0.030	0.003	103	8	
	'-L- 422+46 - 437+14 RT	Roadway Fill, Ditch: WAI	0.488		0.012	0.037						
	-L- 422+85 - 436+87 LT	Roadway Fill: WAK	0.624			0.015						
	-L- 425+50 LT	Ditch: WAK		0.014								
TOTALS*:			**2.161**	**0.192**	**0.221**	**0.322**	**0.000**	**0.17**	**0.06**	**435**	**59**	**0**

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
8/21/2020
Cumberland / Harnett Counties
I-5986A / I-5877

Submitted 9/2/2020

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation in Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac)	WETLAND IMPACTS: Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	SURFACE WATER IMPACTS: Temp. SW impacts (ac)	SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft)	SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
31	-L- 508+50 - 509+37 LT	Roadway Fill: WAM	0.042			0.019						
32	-L- 522+79 - 528+68 LT	Roadway Fill: WAN	0.081			0.080						
33	-L- 540+45	8'x8' Culvert: SG-1, SG-2, SG-3, WAP, WAQ		0.010				0.051	0.011	211	99	
34	-L- 574+64	10'x7' RCBC: SH-1, SH-2		0.025		0.002		0.031	0.004	174	30	
35	-L- 602+70 - 606+71 LT	Prop Roadway Fill: WAT	0.016			0.044						
	-Y9RPA- 15+85 RT	Ditch: WAT		0.005								
36	-L- 618+01 - 618+41 RT	Ditch: WAU				0.007						
37	-L- 622+64 to 626+94 LT	72" RCP, Roadway Fill: SI-1, SI-2, WAW, WAV	0.225	0.029		0.137		0.003	0.003	26	20	
		Structure Stabilization: SI-1						0.003		25		
38	-L- 640+26 to 640+69 RT	Ditch: WAX		0.006								
TOTALS*:			**0.363**	**0.076**	**0.000**	**0.290**	**0.000**	**0.09**	**0.02**	**436**	**149**	**0**

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
8/21/2020
Cumberland / Harnett Counties
I-5986A / I-5877

Submitted 9/2/2020

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation in Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac)	WETLAND IMPACTS: Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	SURFACE WATER IMPACTS: Temp. SW impacts (ac)	SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft)	SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
39	-L- 642+88	7'x7' RCBC: SJ-1, SJ-2						0.025	0.008	101	40	
40	-L- 660+20 RT	2 @ 30" RCP: WAY	0.001	0.001								
41	-L- 667+00 LT	Ditch: WAZ		0.011								
42	-L- 669+88 - 684+49 LT & RT	Bridge: Black River, WAZ *	0.385	0.020	0.043	0.207	0.038	0.0027	0.266	16	246	
43	-L- 692+28 - 694+59 RT	Roadway Fill: WAZ	0.090			0.053						
44	-L- 695+05 LT	Ditch: WAZ		0.006								
45	-L- 731+00 LT	Roadway Cut: WBB				0.017						
46	-L- 735+80 LT	2 @ 42" RCP: WBC	0.004		0.002	0.028						
47	-L- 766+40	72" RCP: SK-1, SK-2						0.063	0.007	180	24	
48	-L- 403+25 LT	Plug & Fill Exist. 18" RCP: WAG		0.002								
TOTALS*:			**0.480**	**0.040**	**0.044**	**0.304**	**0.038**	**0.09**	**0.28**	**297**	**310**	**0**

*Rounded totals are sum of actual impacts

NOTES:

* Black River bridge bents
  - 2 sets of interior bents in the water
  - 23 piles per bent
  - 20" diameter piles= 2.2sqft permanent surface water impact per pile
  - **Total: 101.2sqft permanent surface water impact (included in the Site 42 number above)**

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
8/21/2020
Cumberland / Harnett Counties
I-5986A / I-5877

Submitted 9/2/2020

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
49	-Y5- 45+24 LT	2 @ 8'x8' RCBC Ext: SY-2						0.009		15		
		Bank Stabilization						0.029	0.005	50	8	
50	-Y5- 51+81 - 56+63 LT	Roadway Fill: WCJ	0.011			0.043						
51	-Y5- 60+52 - 65+24 LT	Roadway Fill: WCI	0.114			0.109						
52	-Y5- 64+45 RT	Ditch: WT	0.002	0.006								
53	-Y5RPA- 44+43 - 54+38 LT	Roadway Fill: WU	0.267			0.108						
54A	-Y4- 16+88 LT	Pipe clean out: WS		0.008								
54B	-Y4- 19+00 LT	Pipe clean out: WS		0.005								
54C	-Y4- 21+67 LT	Pipe clean out: WS		0.005								
55	-Y5C- 12+74 - 17+83 LT & RT	Roadway Fill: WCE	0.635			0.220						
56	-Y5B- 12+86 - 16+54 LT	Roadway Fill: WCE	0.013			0.065						
TOTALS*:			**1.042**	**0.023**	**0.000**	**0.545**	**0.000**	**0.04**	**0.01**	**65**	**8**	**0**

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
8/21/2020
Cumberland / Harnett Counties
I-5986A / I-5877

Submitted 9/2/2020

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TOTALS for 156:			**0.252**	**0.232**	**0.024**	**0.018**	**0.000**	**0.015**	**0.021**	**51**	**103**	**0**
TOTALS for 157:			**1.127**	**0.157**	**0.041**	**0.432**	**0.000**	**0.029**	**0.001**	**123**	**10**	**0**
TOTALS for 158:			**4.353**	**0.040**	**0.000**	**0.411**	**0.000**	**0.084**	**0.037**	**330**	**113**	**0**
TOTALS for 159:			**2.161**	**0.192**	**0.221**	**0.322**	**0.000**	**0.174**	**0.064**	**435**	**59**	**0**
TOTALS for 160:			**0.363**	**0.076**	**0.000**	**0.290**	**0.000**	**0.088**	**0.017**	**436**	**149**	**0**
TOTALS for 161:			**0.480**	**0.040**	**0.044**	**0.304**	**0.038**	**0.091**	**0.281**	**297**	**310**	**0**
TOTALS for 162:			**1.042**	**0.023**	**0.000**	**0.545**	**0.000**	**0.037**	**0.005**	**65**	**8**	**0**
GRAND TOTAL FOR PROJECT:			**9.783**	**0.759**	**0.330**	**2.321**	**0.038**	**0.517**	**0.427**	**1737**	**752**	**0**

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
8/21/2020
Cumberland / Harnett Counties
I-5986A / I-5877

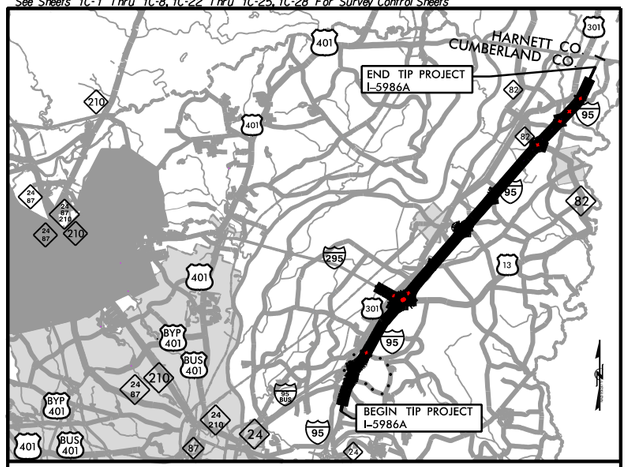
Submitted 9/2/2020

09/08/99

TIP PROJECT: I-5986A

CONTRACT: C204283

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheets 1C-1 Thru 1C-8, 1C-22 Thru 1C-25, 1C-28 For Survey Control Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5986A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
47532.2.2	NHP-0095(057)	R/W
47532.3.2	NHP-0095(057)	PE, UTIL., CONST.



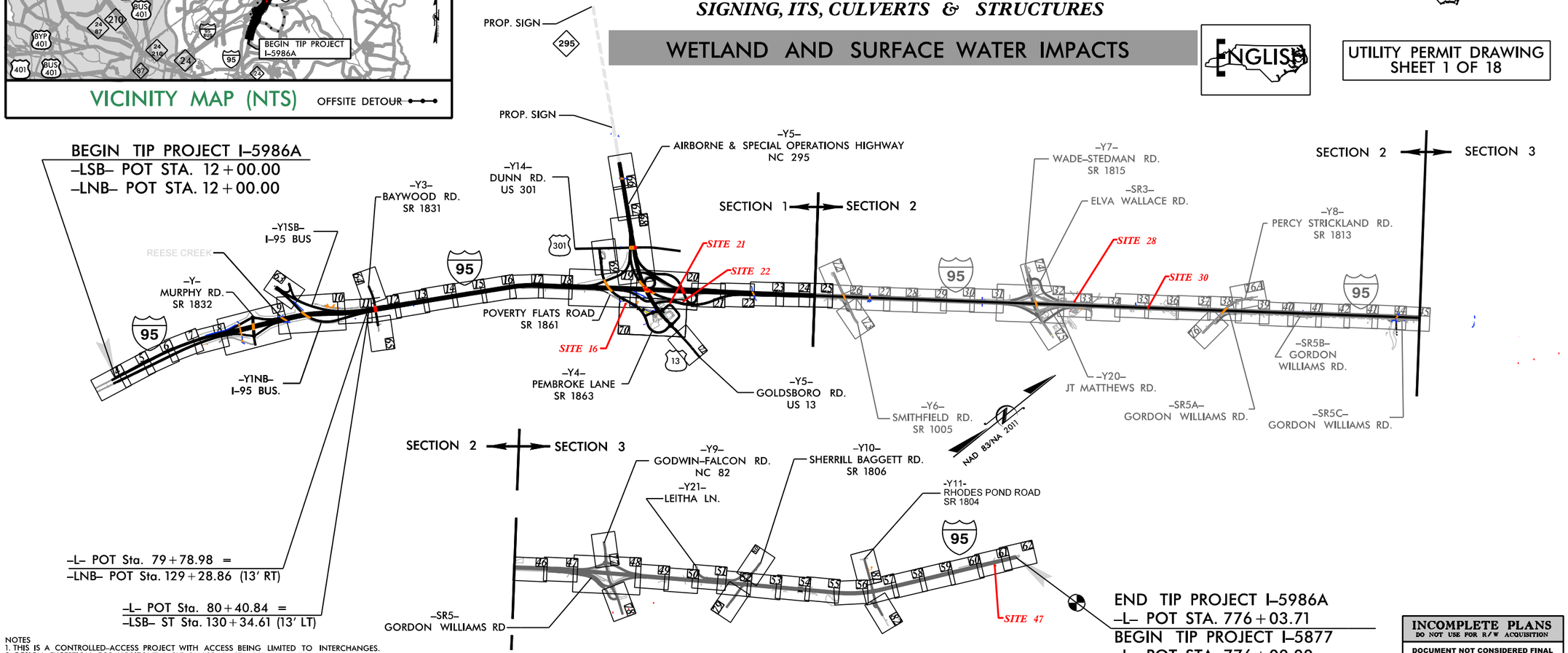
LOCATION: *I-95 WIDENING FROM SOUTH OF SR 1832 (MURPHY ROAD– EXIT 55) TO SOUTH OF SR 1811 (BUD HAWKINS ROAD–EXIT 70)*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, LIGHTING, SIGNING, ITS, CULVERTS & STRUCTURES*

WETLAND AND SURFACE WATER IMPACTS

ENGLISH

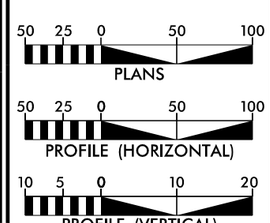
UTILITY PERMIT DRAWING
SHEET 1 OF 18



NOTES
1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
2. DESIGN EXCEPTION FOR HORIZONTAL CLEARANCE –L– STA. 201+50.00 TO 208+50.00

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2018 = 56,700
ADT 2040 = 73,800
K = 55%
D = 7%
T = 18% *
V = 75 MPH

FUNC CLASS: INTERSTATE
* (TTST 13% + DUALS 5%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5986A.....15.368 MILES
LENGTH STRUCTURE TIP PROJECT I-5986A.....0.048 MILES
TOTAL LENGTH TIP PROJECT I-5986A.....15.416 MILES

NCDOT CONTACT

Michael Penney, PE
PROJECT ENGINEER – DESIGN-BUILD UNIT

PLANS PREPARED BY:

RK&K
RUMMEL, KLEPPER & KAHL, LLP
8601 SIX FORKS ROAD, FORUM 1, SUITE 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112

FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

S.T. WOOTEN

2018 STANDARD SPECIFICATIONS

LETTING DATE:
AUGUST 20, 2019

Michael T. Merritt, PE
PROJECT ENGINEER

Anthony A. Houser, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER
P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

8/21/2020
R:\Hydraulics\PERMITS_Environmental\Drawings\Utilities\I-5986A_Hyd_UTL_TSH.dgn
FKeys

Submitted 9/2/2020

REVISIONS

PROJECT REFERENCE NO. I-5986 | SHEET NO. 19
R/W SHEET NO.
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

UTILITY PERMIT DRAWING
SHEET 2 OF 18

MATCHLINE -Y4- 21+00.00 SEE SHEET 69

MATCHLINE -Y5RRB- 22+00.00 SEE SHEET 68

MATCHLINE -L- STA. 171+00.00 SEE SHEET 18

MATCHLINE -L- STA. 198+50.00 SEE SHEET 20

MATCHLINE -Y6RPC- STA. 16+50.00 SEE SHEET 20

MATCHLINE -Y4- STA. 39+00.00 SEE SHEET 70

RETAIN EXISTING C/A FENCE

PROP WOVEN WIRE FENCE

EXISTING UNDERGROUND CENTURYLINK TELECOMMUNICATIONS TO REMAIN

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

SITE 16

EXISTING CENTURYLINK PEDESTAL

BEGIN GLARE SCREEN

END GLARE SCREEN

SEE INSET A

INSET A

B

C

50 0 50 100
SCALE FOR INSET

100 50 0 100 200
SCALE

ENGLISH

DENOTES HAND CLEARING

FOR -LLT SEC1- PROFILE SEE SHTS. 98 THRU 100
FOR -LRT SEC1- PROFILE SEE SHTS. 98 THRU 100
FOR -Y4- PROFILE SEE SHTS. 150 THRU 151
FOR -Y5RPB- PROFILE SEE SHTS. 164 THRU 165
FOR -Y5RPC- PROFILE SEE SHTS. 166
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K

8/20/2020

Submitted 9/2/2020

REVISIONS

PROJECT REFERENCE NO. I-5986 | SHEET NO. 19
R/W SHEET NO.
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

UTILITY PERMIT DRAWING SHEET 3 OF 18

MATCHLINE -Y4- 21+00.00 SEE SHEET 69

MATCHLINE -Y5RPB- 22+00.00 SEE SHEET 68

MATCHLINE -L- STA. 171+00.00 SEE SHEET 18

MATCHLINE -L- STA. 198+50.00 SEE SHEET 20

MATCHLINE -Y5RPC- STA. 16+50.00 SEE SHEET 20

MATCHLINE -L- STA. 199+00.00 SEE SHEET 70

RETAIN EXISTING C/A FENCE

RETAIN EXISTING FENCE

PROP. WOVEN WIRE FENCE

EXISTING UNDERGROUND CENTURYLINK TELECOMMUNICATIONS TO REMAIN

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

CENTURYLINK PEDESTAL

SITE 16

SEE INSET A

INSET A

B

C

WN

SCALE FOR INSET: 50 0 50 100

SCALE: 100 50 0 100 200

ENGLISH

DENOTES HAND CLEARING

FOR -LLT SEC1- PROFILE SEE SHTS. 98 THRU 100
FOR -LRT SEC1- PROFILE SEE SHTS. 98 THRU 100
FOR -Y4- PROFILE SEE SHTS. 150 THRU 151
FOR -Y5RPB- PROFILE SEE SHTS. 164 THRU 165
FOR -Y5RPC- PROFILE SEE SHTS. 166
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K

8/6/2020

Submitted 9/2/2020

PROJECT REFERENCE NO.	SHEET NO.
I-5358A	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

UTILITY PERMIT DRAWING
SHEET 4 OF 18

INSET A

SEE INSET C

SEE INSET A

MATCHLINE -Y5FLY- STA. 35+00.00 SEE SHEET 68

MATCHLINE -Y5RPA- STA. 47+50.00 SEE SHEET 68

MATCHLINE -Y5- STA. 90+00.00 SEE SHEET 68

MATCHLINE -L- STA. 198+50.00 SEE SHEET 19

MATCHLINE -L- STA. 227+00.00 SEE SHEET 21

MATCHLINE -Y5FLY- STA. 87+00.00 SEE SHEET 21

MATCHLINE -Y5RPC- STA. 16+50.00 SEE SHEET 19

MATCHLINE -Y5- STA. 105+00.00 SEE SHEET 70

-Y5LPD- SRS Sta. 21+73.43

-Y5LPD- SRS Sta. 38+37.09

-Y5LPD- SC Sta. 40+37.09

-Y5LPD- CS Sta. 36+37.09

-Y5LPD- TS Sta. 27+02.61

-Y5RPA- POC Sta. 3+74.85
-Y5LPD- POT Sta. 26+30.58

-Y5RPA- ST Sta. 39+34.37

END RETAINING WALL
-Y5RPA- STA.32+62.82

-Y5RPA- CS Sta. 37+04.37
-Y5SPURA- POT Sta. 10+00.00

BEGIN DOUBLE FACED CONCRETE BARRIER -L- Sta.220+25.00

-Y5RPA- SC Sta. 32+94.03

REMOVE EXISTING FENCE

-Y5LPD- SC Sta. 29+02.61

END APPROACH SLAB
-Y5LPD- Sta.19+19.19

END DROP
-Y5LPD- Sta.17+28

BEGIN RETAINING WALL
-Y5RPA- STA.31+35.29

FILL & CAP AREA BETWEEN BARRIERS

SPECIAL CUT DITCH SEE DETAIL B

PROP.WOVEN WIRE FENCE

-Y5RPA- TS Sta. 30+64.03

-Y5LPD- SC Sta. 12+00.00

-Y5LPD- TS Sta. 8+00.00
-L- POT Sta. 224+16.71 RET'D

-L- POT Sta. 221+14.86
PROP. RETAINING WALL SKEW ANGLE = 64° 55' 25"

END RETAINING WALL
-L- STA.222+27.26

PROP.SIGN

PROP.MEDIAN BARRIER

BEGIN RETAINING WALL
-L- STA.221+07.05

EXISTING UNDERGROUND CENTURYLINK TELECOMMUNICATIONS ABANDONED-IN-PLACE

BEGIN BRIDGE
-Y5LPD- 24+18.04

BEGIN APPROACH SLAB
-Y5LPD- 23+19.32

-Y5LPD- ST Sta. 21+83.19

-Y5LPD- CS Sta. 19+83.19

-Y5LT- TS Sta. 58+11.76

-Y5RPD- CS Sta. 19+73.43

-Y5LT- SC Sta. 60+11.76

-Y5RPC- SC Sta. 21+21.43

-Y5LT- POC Sta. 61+60.01 12° LT

-Y5RPC- ST Sta. 21+21.22

-Y5RPC- CS Sta. 18+69.22

-Y5RPC- PC Sta. 22+17.68

-Y5- POC Sta. 103+27.78
-Y5RPD- POT Sta. 10+00.00

-Y5RPD- PC Sta. 11+03.05

-Y5LT- ST Sta. 51+29.83

-Y5LT- CS Sta. 50+31.83
END DIRECT DESIGN GRADE

-Y5RPC- PT Sta. 25+01.68

-Y5RPC- POT Sta. 20+79.35

-Y5RPC- POC Sta. 19+17.46

-Y5RPC- SC Sta. 17+69.22

-Y5LT- POC Sta. 44+42.25
-L- POT Sta. 205+34.45

EXISTING UNDERGROUND CENTURYLINK TELECOMMUNICATIONS ABANDONED IN PLACE

-L- BASELINE

REMOVE EXISTING FENCE

RETAIN EXISTING C/A FENCE

PROP. GUARDRAIL DOUBLE FACED

RETAIN EXISTING BARRIER

BEGIN RETAINING WALL
BEGIN CONCRETE BARRIER
-L- STA.203+16.80

-Y5LY- POC Sta. 42+56.92
-Y5- POC Sta. 94+68.87

BEGIN RETAINING WALL
BEGIN CONCRETE BARRIER
-L- STA.203+97.45

END RETAINING WALL
END CONCRETE BARRIER
-L- STA.206+25.26

END RETAINING WALL
END CONCRETE BARRIER
-L- STA.205+50.04

-Y5RPA- CS Sta. 21+85.80

-Y5LPA- SC Sta. 21+85.80

-Y5LPA- SC Sta. 12+00.00

-Y5LPA- ST Sta. 10+00.00
-L- POT Sta. 203+34.35 (B-LT)

-Y5LPA- CS Sta. 8+85.80

-Y5LPA- TS Sta. 3+85.80

-Y5LPA- ST Sta. 1+85.80

-Y5LPA- SC Sta. 0+85.80

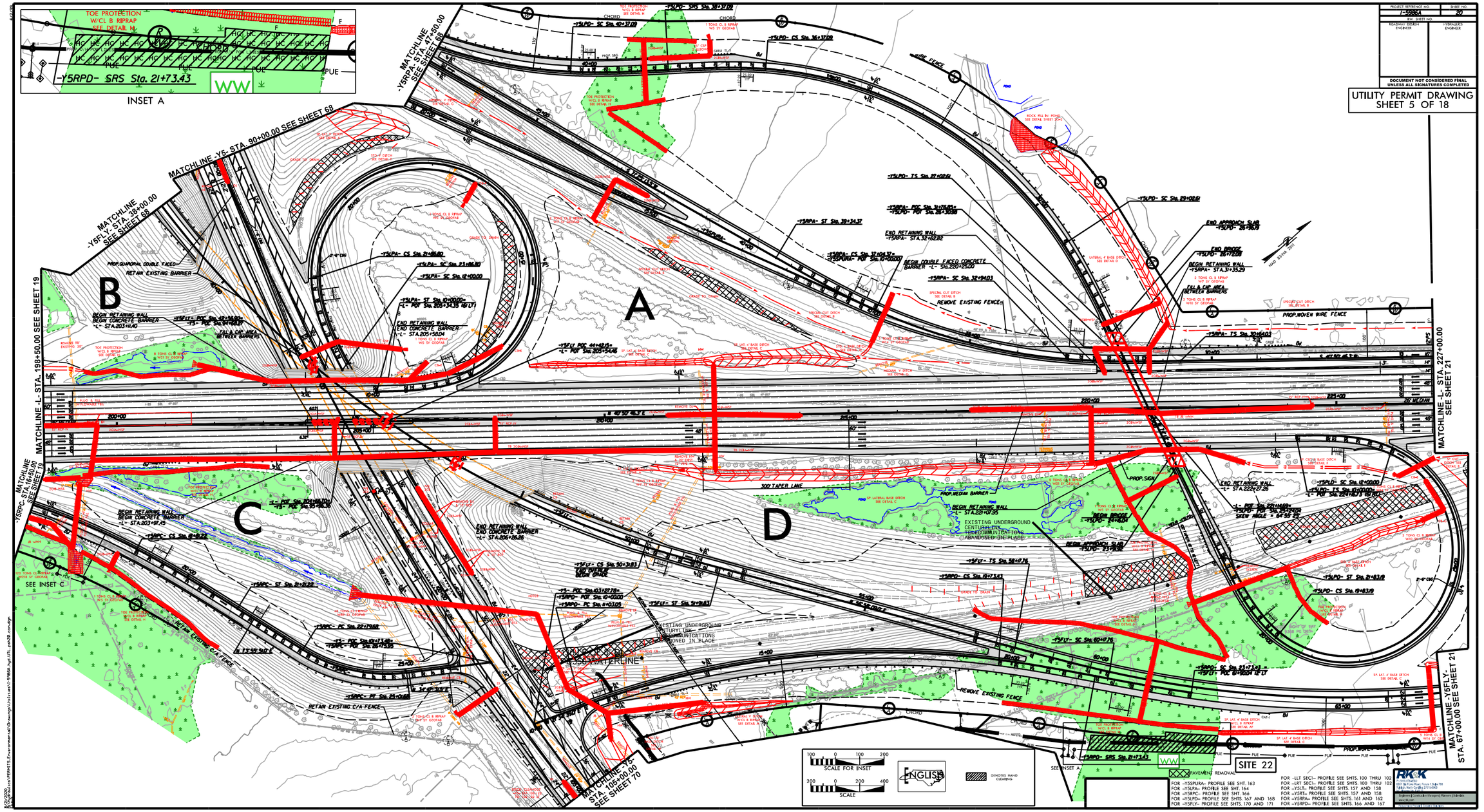
-Y5LPA- TS Sta. 0+00.00

-Y5LPA- CS Sta. 0+00.00

-Y5LPA- ST Sta. 0+00.00

-Y5LPA- SC Sta. 0+00.00

Submitted 9/2/2020



PROJECT REFERENCE NO. I-5986A
SHEET NO. 20
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

UTILITY PERMIT DRAWING
SHEET 5 OF 18

RKK

Submitted 9/2/2020

8/17/99

UTILITY PERMIT DRAWING
SHEET 6 OF 18

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- STA. 390+00.00 SEE SHEET 32

MATCHLINE -SR3- STA. 29+50.00 SEE SHEET 32

MATCHLINE -L- STA. 402+00.00 SEE SHEET 34

MATCHLINE -Y20- STA. 32+00.00 SEE SHEET 34

MATCHLINE -L- STA. 20+00.00 SEE SHEET 32

MATCHLINE -Y20- STA. 20+00.00 SEE SHEET 32

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

END CONSTRUCTION -SR3- Sta. 36+00.00

WAG

SITE 28

SEE INSET A

NAD 83/NA 2011

WATERLINE TO REMAIN

PROP. CHAIN LINK FENCE

REMOVE EXISTING FENCE

SPECIAL CUT DITCH SEE DETAIL B

SP. LATERAL BASE DITCH SEE DETAIL C

5 TONS CL B RIP RAP 16 SY GEOTEXTILE INV. OUT=143.0'

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

MEDIAN DITCH SEE DETAIL G

LATERAL V DITCH SEE DETAIL K

LATERAL BASE DITCH SEE DETAIL P

8 TONS CL B RIP RAP 21 SY GEOTEXTILE INV. OUT=142.2'

3 TONS CL B RIP RAP 10 SY GEOTEXTILE

SP. CUT BASE DITCH SEE DETAIL V

PLUG & FILL W/FLOWABLE FILL

REMOVE DI

REMOVE 2 TONS CL B RIP RAP 7 SY GEOTEXTILE

JB w/MH

WL-5

WL-6

-Y7RPD-

-Y7RPA-

-Y20-

-SR3-

-L-

SCALE FOR INSET: 25 0 25 50

SCALE: 50 25 0 50 100

ENGLISH

DENOTES HAND CLEARING

INSET A

FOR –LLT_SEC2– PROFILE SEE SHTS. 115 THRU 116
FOR –LRT_SEC2– PROFILE SEE SHTS. 115 THRU 116
FOR –Y7RPA– PROFILE SEE SHT. 177
FOR –Y7RPD– PROFILE SEE SHT. 179
FOR –Y20– PROFILE SEE SHT. 181
FOR –SR3– PROFILE SEE SHT. 182

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
R:\Highways\Utilities\PERMITS_Environmental\Drawings\Utilities\I-5986A_hyd_UTL_psh33.dgn
Engineer

Submitted 9/2/2020

8/17/99

UTILITY PERMIT DRAWING
SHEET 7 OF 18

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -SR3- STA. 29+50.00 SEE SHEET 32

MATCHLINE -L- STA. 390+00.00 SEE SHEET 32

MATCHLINE -L- STA. 20+00.00 SEE SHEET 32

MATCHLINE -L- STA. 402+00.00 SEE SHEET 34

MATCHLINE -Y20- STA. 32+00.00 SEE SHEET 34

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

END CONSTRUCTION -SR3- Sta. 36+00.00

WAG

NAD 83/NA 2011

SITE 28

SEE INSET A

WATERLINE TO REMAIN

PROP. CHAIN LINK FENCE

REMOVE EXISTING FENCE

PROP. CHAIN LINK FENCE

REMOVE EXISTING FENCE

SP. LATERAL BASE DITCH SEE DETAIL C

5 TONS CL B RIP RAP 16 SY GEOTEXTILE INV. OUT=143.0'

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

REMOVE 2 TONS CL B RIP RAP 7 SY GEOTEXTILE

MEDIAN DITCH SEE DETAIL G

INV. IN=143.4'

PLUG & FILL W/FLOWABLE FILL

CONC PAVED DITCH

REMOVE DI

INV. IN=142.5'

REMOVE 15" RCP

3 TONS CL B RIP RAP 10 SY GEOTEXTILE

REMOVE 75' PIPE

18" RCP-IV

30" RCP-III

HOT BOX

SP. CUT BASE DITCH SEE DETAIL V

LATERAL V DITCH SEE DETAIL K

LATERAL BASE DITCH SEE DETAIL P

8 TONS CL B RIP RAP 21 SY GEOTEXTILE INV. OUT=142.2'

JB w/MH

SPECIAL CUT DITCH SEE DETAIL B

RETAIN 30" RCP

2GIB-WSF

15" RCP-IV

18" RCP-IV

24" RCP-IV

2GIA-WSF

WL-5

WL-6

-Y7RPD-

-Y20-

-SR3-

-L-

-Y7RPA-

INSET A

SCALE FOR INSET: 25 0 25 50

SCALE: 50 25 0 50 100

ENGLISH

DENOTES HAND CLEARING

FOR –LLT_SEC2– PROFILE SEE SHTS. 115 THRU 116
FOR –LRT_SEC2– PROFILE SEE SHTS. 115 THRU 116
FOR –Y7RPA– PROFILE SEE SHT. 177
FOR –Y7RPD– PROFILE SEE SHT. 179
FOR –Y20– PROFILE SEE SHT. 181
FOR –SR3– PROFILE SEE SHT. 182

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
R:\Projects\PERMITS_Environmental\Drawings\Utilities\I-5986A_hyd_UTL_psh33_con.dgn
Plotted by: [illegible]

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES HAND CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	35
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

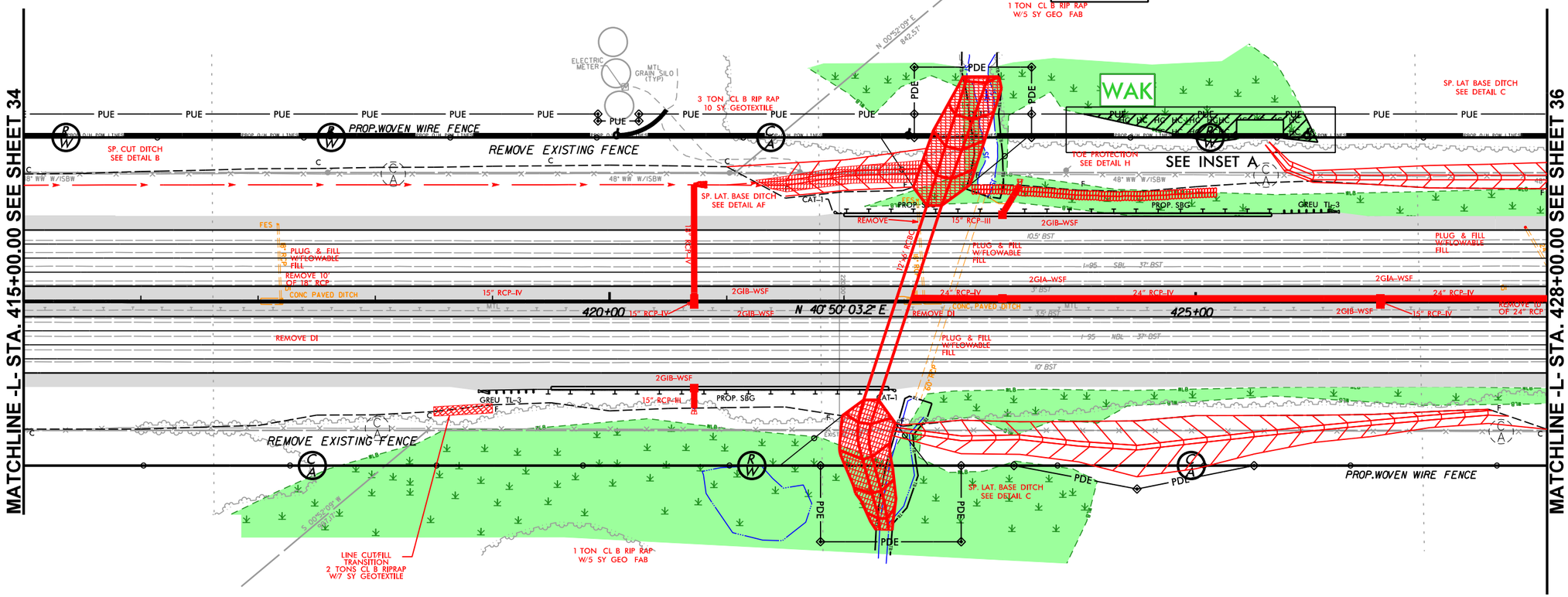
NAD 83/NA 2011

UTILITY PERMIT DRAWING
SHEET 8 OF 18



INSET A

SITE 30



FOR –LLT_SEC2– PROFILE SEE SHT. 117
FOR –LRT_SEC2– PROFILE SEE SHT. 117
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
E:\Engineering\Projects\PERMITS_Environmental\Drawings\Utilities\I-5986A_hyd_UTL_psh35.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES HAND CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	35
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

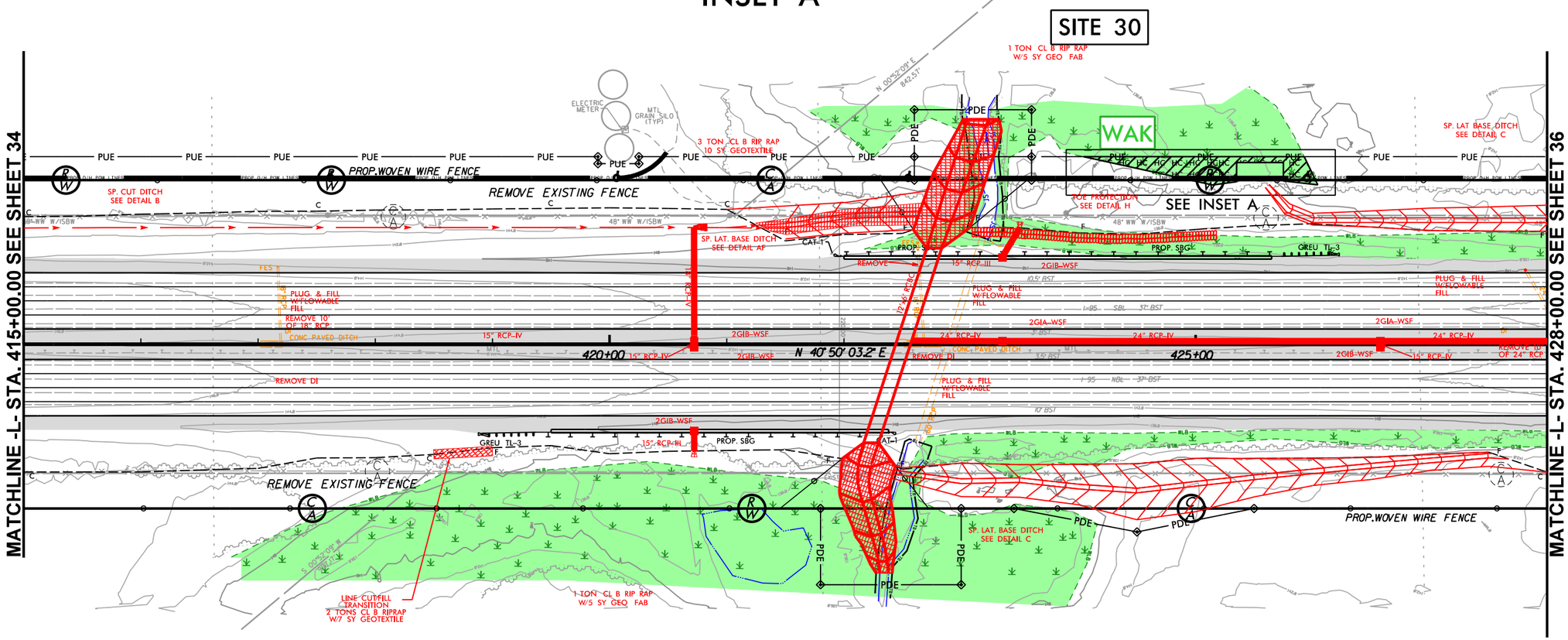
NAD 83/NA 2011

UTILITY PERMIT DRAWING
SHEET 9 OF 18



INSET A

SITE 30



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

FOR –LLT_SEC2– PROFILE SEE SHT. 117
FOR –LRT_SEC2– PROFILE SEE SHT. 117
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

8/21/2020
Plotted By: Jeffrey Hall
File: C:\Projects\PERMITS_Environmental\Drawings\Utilities\I-5986A_hyd_UTL_psh35_con.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES HAND CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	36
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

UTILITY PERMIT DRAWING SHEET 10 OF 18

SITE 30 WAL

MATCHLINE -L- STA. 428+00.00 SEE SHEET 35

MATCHLINE -L- STA. 442+00.00 SEE SHEET 37

SEE INSET A

PROP.WOVEN WIRE FENCE

REMOVE EXISTING FENCE

PROP.WOVEN WIRE FENCE

REMOVE EXISTING FENCE

PUE

PROP O/H POW LINES

EXISTING R/W

48" WW W/ISBW

SP. LAT BASE DITCH
SEE DETAIL C

SP. CUT BASE DITCH
SEE DETAIL F

SP. CUT BASE DITCH
SEE DETAIL Z

TCE PROTECTION
SEE DETAIL H

POND

FES

PLUG & FILL W/FLOWABLE FILL

REMOVE 10' OF 24" RCP

REMOVE 10' OF 18" RCP

15" RCP-IV

18" RCP-IV

24" RCP-IV

2GIA-WSF

2GIB-WSF

CONC. PAVED DITCH

REMOVE DI

I-95 SBL 37' BST

I-95 NBL 37' BST

430+00

435+00

N 40° 50' 03.2" E

440+00

139.60'

139.65'

140.24'

INSET A

PUE

PROP O/H POW LINES

PROP.WOVEN WIRE FENCE

SP. LAT BASE DITCH
SEE DETAIL C

FOR –LLT_SEC2– PROFILE SEE SHTS. 117 THRU 118
FOR –LRT_SEC2– PROFILE SEE SHTS. 117 THRU 118

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1 Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
K:\Projects\PERMITS_Environmental\Drawings\Utilities\I-5986A_hyd_UTL_psh36.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES HAND CLEARING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	36
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

UTILITY PERMIT DRAWING
SHEET 11 OF 18

SITE 30 WAL

MATCHLINE -L- STA. 428+00.00 SEE SHEET 35

MATCHLINE -L- STA. 442+00.00 SEE SHEET 37

SEE INSET A

PROP.WOVEN WIRE FENCE

REMOVE EXISTING FENCE

SP. LAT BASE DITCH SEE DETAIL C

SP. CUT BASE DITCH SEE DETAIL F

SP. CUT BASE DITCH SEE DETAIL Z

TOE PROTECTION SEE DETAIL H

PLUG & FILL W/FLOWABLE FILL

REMOVE 10' OF 24" RCP

REMOVE 10' OF 18" RCP

REMOVE DI

CONC. PAVED DITCH

2CIA-WSF

2CIB-WSF

24" RCP-IV

18" RCP-IV

15" RCP-IV

FES

CONC. HW

430+00

435+00

N 40° 50' 03.2" E

440+00

I-95 SBL 37' BST

I-95 NBL 37' BST

139.60'

139.65'

140.24'

POND

PUE

PROP O/H POW LINES

48" WW W/ISBW

EXISTING R/W

MLB

WLB

INSET A

PROP.WOVEN WIRE FENCE

SP. LAT BASE DITCH SEE DETAIL C

FOR –LLT_SEC2– PROFILE SEE SHTS. 117 THRU 118	
FOR –LRT_SEC2– PROFILE SEE SHTS. 117 THRU 118	
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4	

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
X:\Highways\Utilities\PERMITS.Environmental\Drawings\Utilities\I-5986A_hgd_UTL_psh36_con.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES HAND CLEARING

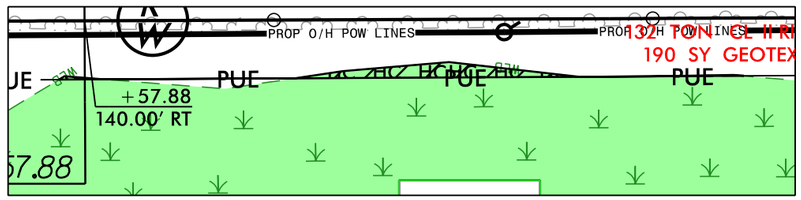
UTILITY PERMIT DRAWING
SHEET 12 OF 18

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	61
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

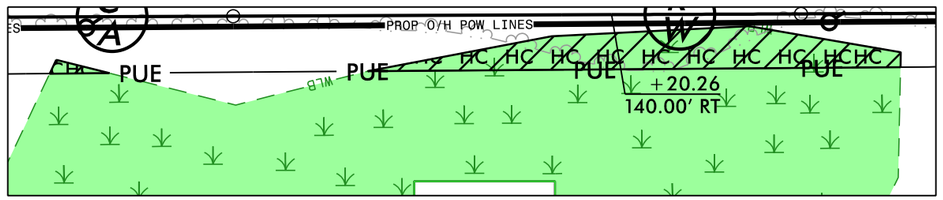
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

INSET B

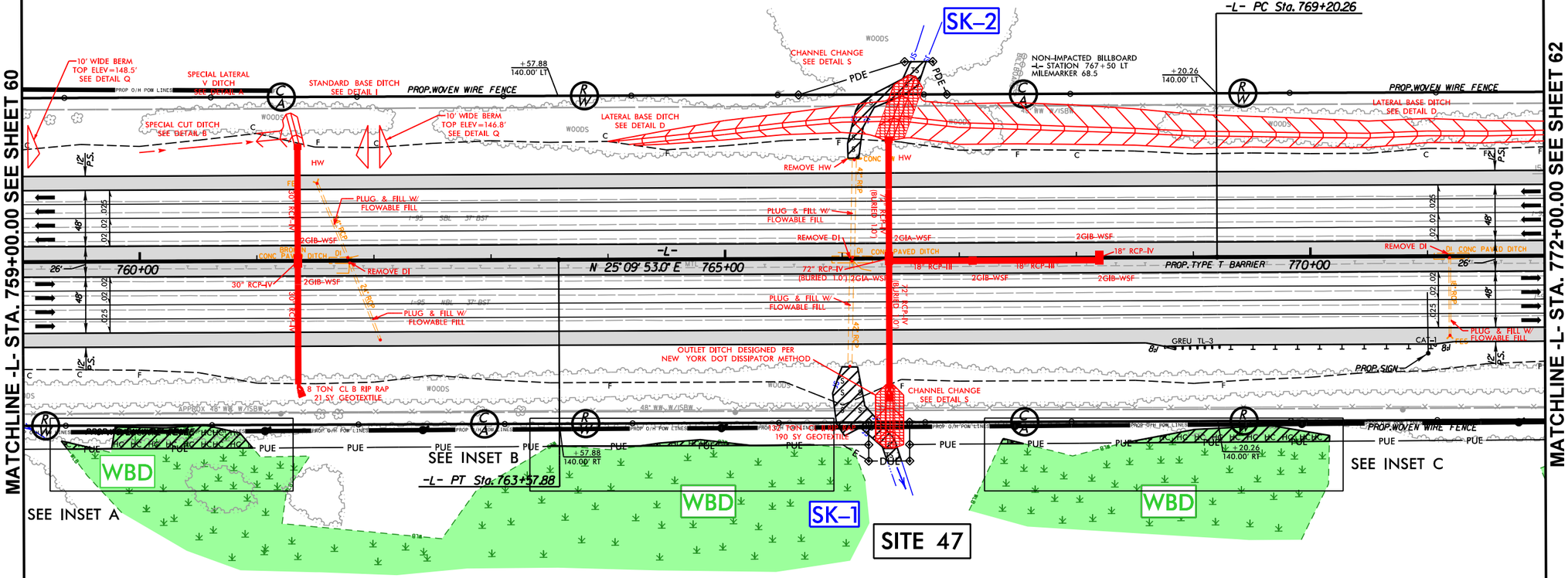


INSET C

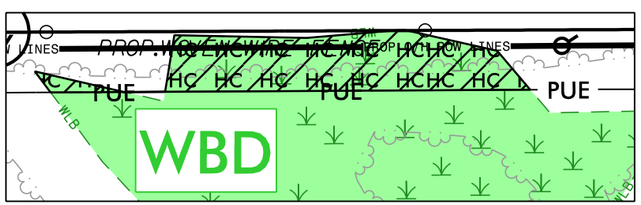


MATCHLINE -L- STA. 759+00.00 SEE SHEET 60

MATCHLINE -L- STA. 772+00.00 SEE SHEET 62



INSET A



-L-	
PI Sta 761+15.78	PI Sta 770+75.39
Δ = 0° 01' 06.6" (RT)	Δ = 0° 01' 31.4" (LT)
D = 0° 00' 13.8"	D = 0° 00' 29.5"
L = 484.20'	L = 310.28'
T = 242.10'	T = 155.14'
R = 1,500,000.00'	R = 700,000.00'
SE = NC	SE = NC
DS = 75 MPH	DS = 75 MPH

FOR -L- PROFILES SEE SHTS. 142 & 143

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
R:\Projects\PERMITS_Environmental\Drawings\Utilities\I-5986A_hyd_UTL_pshl61.dgn

Submitted 9/2/2020

8/17/99

SCALE FOR INSET: 25 0 25 50

SCALE: 50 25 0 50 100

ENGLISH

DENOTES HAND CLEARING

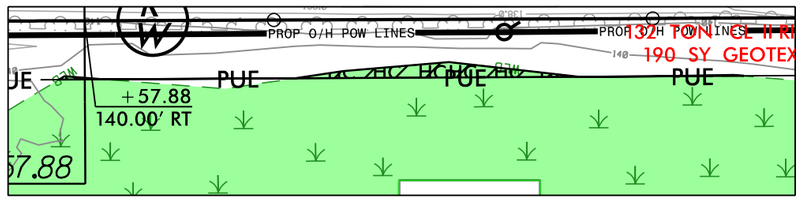
UTILITY PERMIT DRAWING
SHEET 13 OF 18

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	61
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

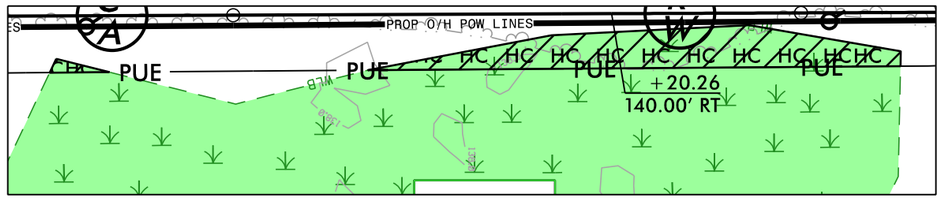
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

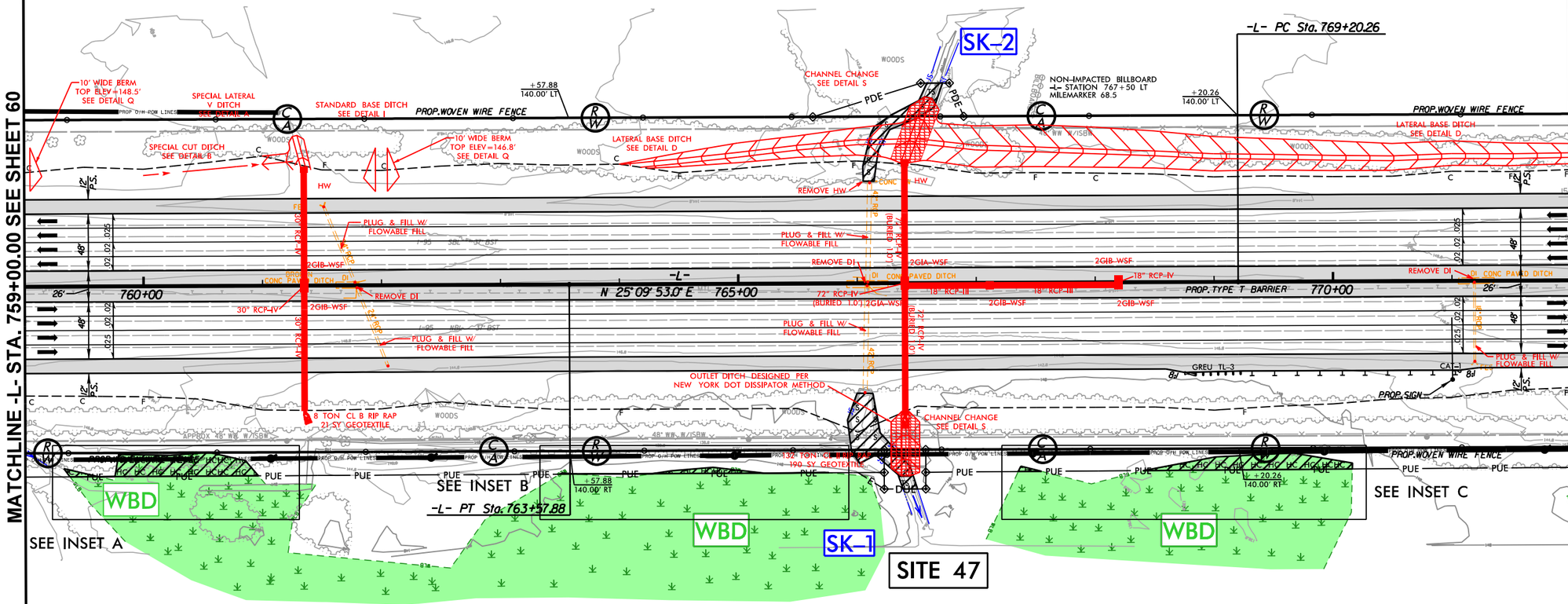
NAD 83/NA 2011

INSET B

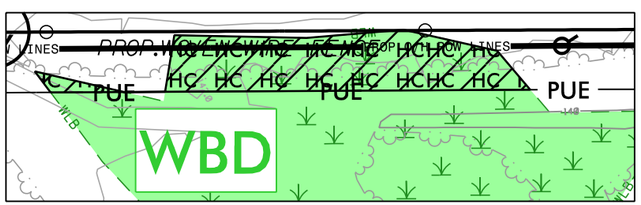


INSET C





INSET A



-L-	
PI Sta 761+15.78	PI Sta 770+75.39
Δ = 0° 01' 06.6" (RT)	Δ = 0° 01' 31.4" (LT)
D = 0° 00' 13.8"	D = 0° 00' 29.5"
L = 484.20'	L = 310.28'
T = 242.10'	T = 155.14'
R = 1,500,000.00'	R = 700,000.00'
SE = NC	SE = NC
DS = 75 MPH	DS = 75 MPH

FOR -L- PROFILES SEE SHTS. 142 & 143

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
Highways\Hydraulics\PERMITS_Environmental\Drawings\Utilities\I-5986A_hyd_UTL_pshl61.con.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES HAND CLEARING

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	62
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

UTILITY PERMIT DRAWING
SHEET 14 OF 18

MATCHLINE -L- STA. 772+00.00 SEE SHEET 61

PROP. WOVEN WIRE FENCE

LATERAL BASE DITCH SEE DETAIL D

WOODS

EXISTING R/W

FES

9.5' BST

I-95 SBL 37' BST

I-95 NBL 37' BST

10' BST

N 25°08'21.5" E

775+00

DI CONC PAVED DITCH

SEE INSET A

PUE

+42.00
156.00

+03.71
EX R/W RT
146.00'

48" WW W/ISBW

EXISTING R/W

WBE

SEE I-5877 PLANS

SITE 47

INSET A

PROP O/H R/W LINES

PUE

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -L- PROFILES SEE SHT. 143

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
11:09:08 AM
E:\Projects\PERMITS_Environmental\Drawings\Utilities\I-5986A_hyd_UTL_psh62.dgn

Submitted 9/2/2020

8/17/99

25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

ENGLISH

DENOTES HAND CLEARING

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	62
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

UTILITY PERMIT DRAWING
SHEET 15 OF 18

MATCHLINE -L- STA. 772+00.00 SEE SHEET 61

PROP.WOVEN WIRE FENCE

LATERAL BASE DITCH SEE DETAIL D

WOODS

EXISTING R/W

FES

95° BST

SBL 37° BST

I-95 SBL 37° BST

DI CONC PAVED DITCH

N 25°08'21.5" E

775+00

I-95 NBL 37° BST

SEE INSET A

48" WW W/ISBW

EXISTING R/W

PROP O/H POW LINES

PUE

HC

+03.71
42.00
156.00'
EX R/W RT
146.00'

WBE

SEE I-5877 PLANS

SITE 47

INSET A

PROP O/H POW LINES

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -L- PROFILES SEE SHT. 143

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/21/2020
K:\Projects\PERMITS_Environmental\Drawings\Utilities\I-5986A_hyd_UTL_psh62_con.dgn

Submitted 9/2/2020

REVISIONS

50 0 50 100
SCALE FOR INSET

100 0 100 200
SCALE

ENGLISH

DENOTES HAND CLEARING

NAD 83/NA 2011

PROJECT REFERENCE NO. 7-59864 | SHEET NO. 79
R/W SHEET NO.
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

UTILITY PERMIT DRAWING
SHEET 16 OF 18

MATCHLINE -Y4- STA. 39+00.00
SEE SHEET 19

SITE 16
WN

SEE INSET A

DESIGN SUBJECT TO CHANGE PENDING COORDINATION WITH THE DEVELOPER

MATCHLINE -Y5- STA. 105+00.00
SEE SHEET 20

SITE 21
WV

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW BORE CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW BORE CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

END CONSTRUCTION -YSB- POT Sta. 26+66.96

NEW SPECTRUM SPAN GUY

NEW AERIAL POWER DUKE ENERGY AND SPECTRUM CATV

NEW SPECTRUM CATV PEDESTAL

NEW UNDERGROUND SPECTRUM CATV

NEW AERIAL SPECTRUM CATV

NEW AERIAL POWER DUKE ENERGY AND SPECTRUM CATV

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW BORE CENTURYLINK TELECOMMUNICATIONS FIBER OPTICSCABLES

NEW AERIAL POWER DUKE ENERGY AND SPECTRUM CATV

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NCDOT RIGHT OF WAY DB 9368 PG 365

RW DEED DB 5221 PG 601

INSET A

RETAIN EXISTING SBG

N 67° 21' 53.5" E

40+00

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

22 TONS CL I RIPRAP W/25 SY GEOFAB

WN

SITE 16

MATCHLINE -Y6B- STA. 15+00.00 SEE SHEET 71

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

PAVEMENT REMOVAL

CONCRETE TRUCK APRON

FOR –DR3– PROFILE SEE SHT. 152
FOR –Y4– PROFILE SEE SHT. 151
FOR –Y4A– PROFILE SEE SHT. 152
FOR –YSLT– PROFILE SEE SHT. 158
FOR –YSRT– PROFILE SEE SHT. 158
FOR –YSA– PROFILE SEE SHT. 159
FOR –Y5B– PROFILE SEE SHT. 159
FOR –Y5C– PROFILE SEE SHT. 160
FOR –Y5RAL– PROFILE SEE SHT. 160

FOR DITCH DETAILS SEE SHTS 20-1 THRU 20-2

RK&K

Submitted 9/2/2020

REVISIONS

50 0 50 100
SCALE FOR INSET

100 0 100 200
SCALE

ENGLISH

DENOTES HAND CLEARING

PROJECT REFERENCE NO. I-5986A | SHEET NO. 70
R/W SHEET NO.
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NSA 2011

UTILITY PERMIT DRAWING
SHEET 17 OF 18

MATCHLINE -Y4- STA. 39+00.00
SEE SHEET 19

SITE 16
WN

SEE INSET A

PRAIRIEVINE LN

DESIGN SUBJECT TO CHANGE PENDING COORDINATION WITH THE DEVELOPER

MATCHLINE -Y5- STA. 105+00.00
SEE SHEET 20

SITE 21
WV

NEW BORE CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW BORE CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

END CONSTRUCTION -Y5B- POT Sta. 26+66.96

NEW SPECTRUM SPAN GUY

NEW AERIAL POWER DUKE ENERGY AND SPECTRUM CATV

NEW SPECTRUM CATV PEDESTAL

NEW UNDERGROUND SPECTRUM CATV

NEW AERIAL SPECTRUM CATV

NCDOT RIGHT OF WAY DB 9368 PG 365

NEW BORE CENTURYLINK TELECOMMUNICATIONS FIBER OPTICSCABLES

NEW AERIAL POWER DUKE ENERGY AND SPECTRUM CATV

NEW AERIAL POWER DUKE ENERGY AND SPECTRUM CATV

NEW UNDERGROUND CENTURYLINK TELECOMMUNICATIONS FIBER OPTIC CABLES

MATCHLINE -Y6B- STA. 15+00.00 SEE SHEET 71

INSET A

RETAIN EXISTING SBG

N 67° 21' 53" E

40+00

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

22 TONS CL I RIPRAP W/25 SY GEOFAB

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

PAVEMENT REMOVAL

CONCRETE TRUCK APRON

FOR –DR3– PROFILE SEE SHT. 152
FOR –Y4– PROFILE SEE SHT. 151
FOR –Y4A– PROFILE SEE SHT. 152
FOR –Y5LT– PROFILE SEE SHT. 158
FOR –Y5RT– PROFILE SEE SHT. 158
FOR –Y5A– PROFILE SEE SHT. 159
FOR –Y5B– PROFILE SEE SHT. 159
FOR –Y5C– PROFILE SEE SHT. 160
FOR –Y5RAL– PROFILE SEE SHT. 160

FOR DITCH DETAILS SEE SHTS 20-1 THRU 20-2

RK&K

Submitted 9/2/2020

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
16	-Y4- 32+97 - 33+91 RT & -Y4- 37+51 - 41+72 RT	Overhead power: WN*					0.373					
21	-Y5C- 23+55 - 24+62 RT	Overhead power: WV					0.072					
22	-Y5FLY- 60+09 - 62+54 RT	Overhead power: WW					0.204					
28	-L- 395+04 - 398+40 LT	Overhead power: WAG*					0.224					
30	-L- 424+05 - 426+04 LT	Overhead power: WAK*					0.058					
	-L- 430+62 - 435+09 LT	Overhead power: WAL*					0.196					
47	-L- 759+32 - 776+24 RT	Overhead power: WBD					0.092					
		Overhead power: WBE*					0.048					
TOTALS*:			**0.000**	**0.000**	**0.000**	**0.000**	**1.267**	**0.00**	**0.00**	**0**	**0**	**0**

*Rounded totals are sum of actual impacts

NOTES:

* Denotes proposed 2' diameter power pole will be used at 3.1sqft per pole, permanent fill in wetlands

Site 16: 4 poles= 12.4sqft

Site 28: 1 pole= 3.1sqft

Site 30: 2 poles= 6.2sqft

Site 47: 1 pole= 3.1sqft

Total= 25sqft permanent fill in wetlands

Revised 2018 Feb

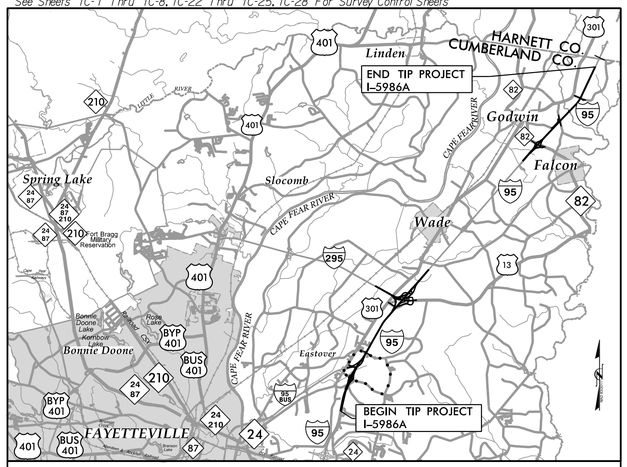
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
8/21/2020
Cumberland / Harnett Counties
I-5986A / I-5877

09/08/99

TIP PROJECT: I-5986A

CONTRACT: C204283

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheets 1C-1 Thru 1C-8, 1C-22 Thru 1C-25, 1C-28 For Survey Control Sheets



VICINITY MAP (NTS) OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

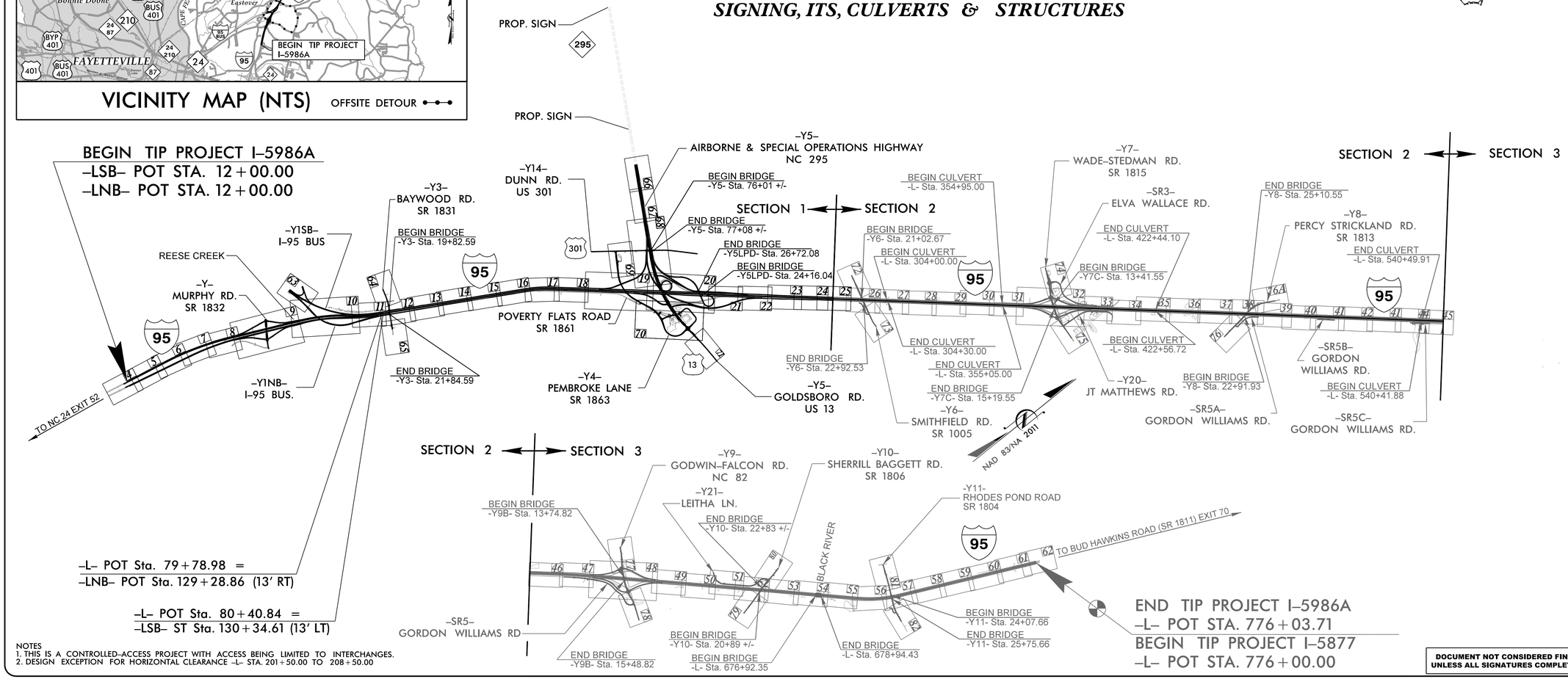
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5986A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
47532.2.2	NHP-0095(057)	R/W
47532.3.2	NHP-0095(057)	PE, UTIL., CONST.



LOCATION: I-95 WIDENING FROM SOUTH OF SR 1832 (MURPHY ROAD- EXIT 55) TO SOUTH OF SR 1811 (BUD HAWKINS ROAD-EXIT 70)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, LIGHTING, SIGNING, ITS, CULVERTS & STRUCTURES



NOTES
1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
2. DESIGN EXCEPTION FOR HORIZONTAL CLEARANCE -L- STA. 201+50.00 TO 208+50.00

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS 50 25 0 50 100
PROFILE (HORIZONTAL) 50 25 0 50 100
PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

ADT 2018 = 56,700
ADT 2040 = 73,800
K = 55%
D = 7%
T = 18% *
V = 75 MPH

FUNC CLASS: INTERSTATE
* (TTST 13% + DUALS 5%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5986A.....15.368 MILES
LENGTH STRUCTURE TIP PROJECT I-5986A.....0.048 MILES
TOTAL LENGTH TIP PROJECT I-5986A.....15.416 MILES

NCDOT CONTACT

Michael Penney, PE
PROJECT ENGINEER - DESIGN-BUILD UNIT

PLANS PREPARED BY:

RK&K RUMMEL, KLEPPER & KAHL, LLP
8601 SIX FORKS ROAD, FORUM 1, SUITE 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112

FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

S.T. WOOTEN

2018 STANDARD SPECIFICATIONS

LETTING DATE:
AUGUST 20, 2019

Michael T. Merritt, PE
PROJECT ENGINEER

Anthony A. Houser, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

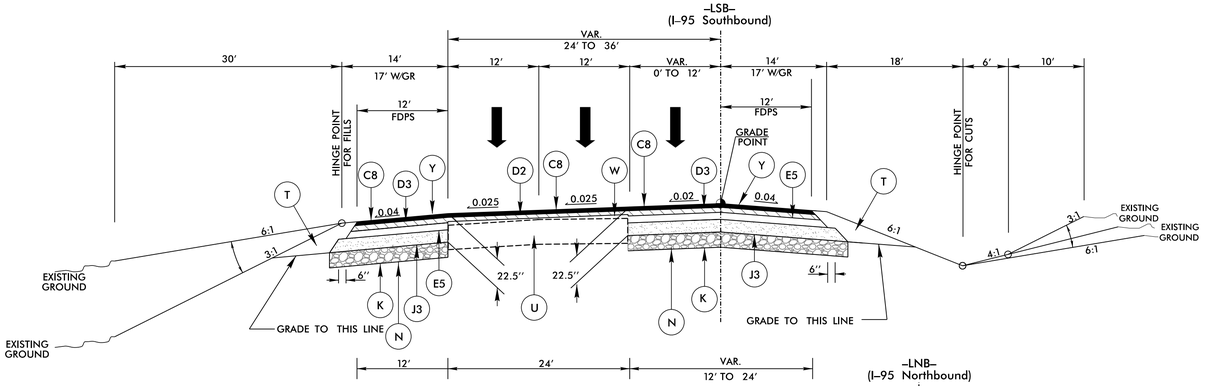
ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

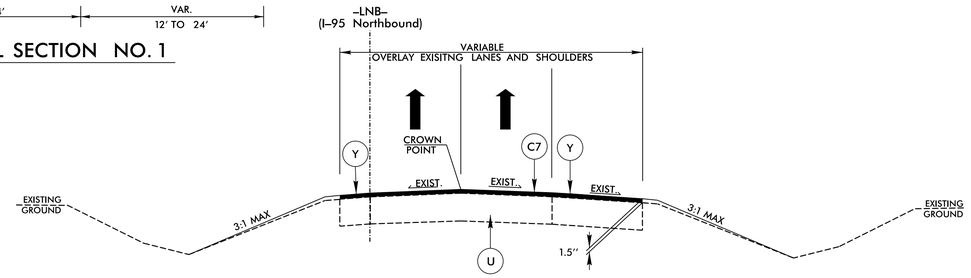
8/24/2020
R:\Roadway\Proj\I-5986A_Rdy_tsh_Sect.dgn
dhefler

C7	1.5" TYPE S9.5D
C8	3" TYPE S9.5D
D2	3" TYPE I19.0C
D3	4" TYPE I19.0C
E5	5.5" TYPE B25.0C
J3	10" ABC
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R4	TYPE T BARRIER
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING
Y	MILLED RUMBLE STRIPS



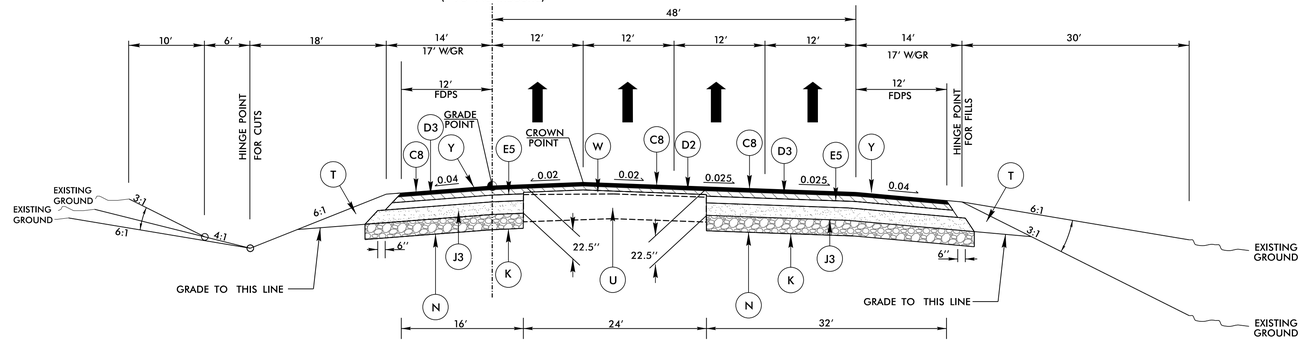
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
–LSB– STA. 12+00.00 TO 119+50.00



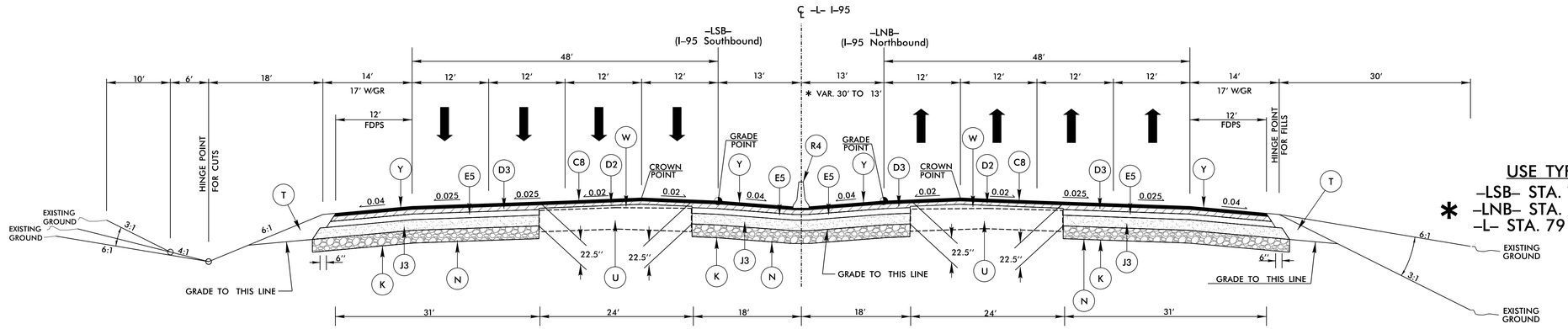
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
–LNB– STA. 12+00.00 TO 105+00.00



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
–LNB– STA. 105+00.00 TO 119+10.00



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
–LSB– STA. 119+50.00 TO 130+34.61
* –LNB– STA. 119+10.00 TO 129+28.86
–L– STA. 79+78.98 TO 80+40.84

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

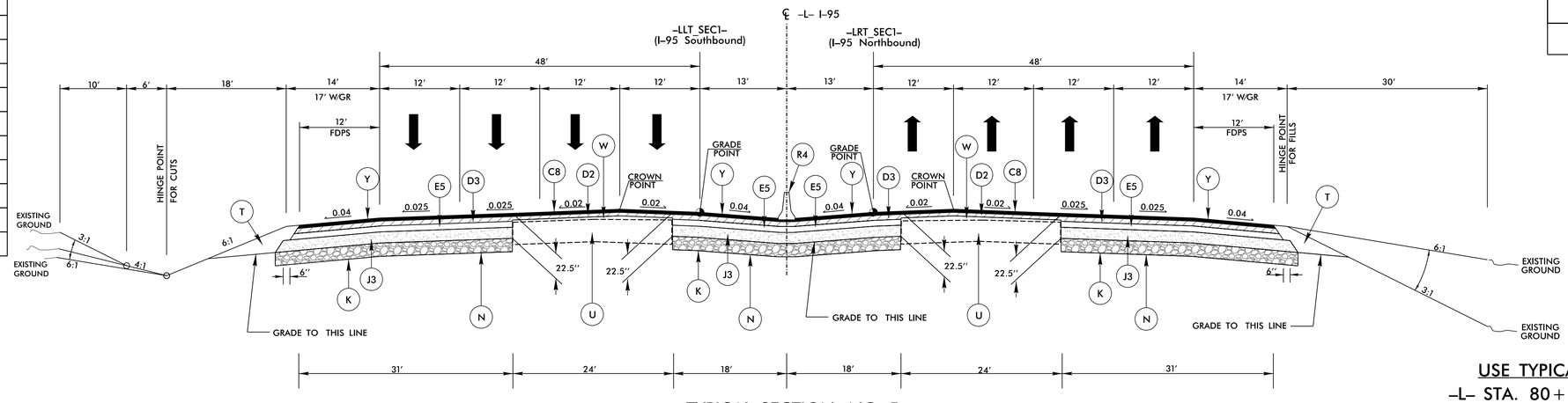
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sec1.dgn
mdot_ref.dgn

C1	1.5" TYPE S9.5B
C2	3" TYPE S9.5B
C7	1.5" TYPE S9.5D
C8	3" TYPE S9.5D
D2	3" TYPE I19.0C
D3	4" TYPE I19.0C
E5	5.5" TYPE B25.0C
J1	6" ABC
J3	10'' ABC
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R4	TYPE T BARRIER
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING
Y	MILLED RUMBLE STRIPS

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

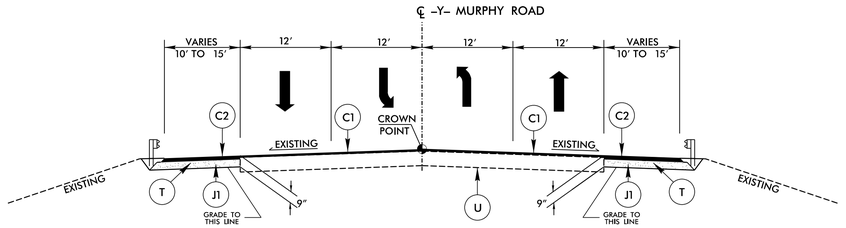
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 5

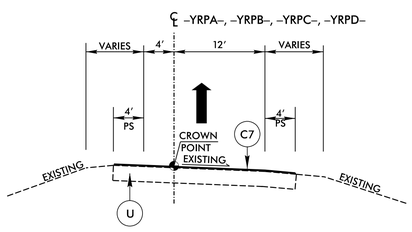
USE TYPICAL SECTION NO. 5
–L– STA. 80+40.84 TO 280+00.00

USE TYPICAL SECTION NO. 6
–Y– STA. 10+05.90 TO 13+61 +/– (EXISTING BRIDGE)
–Y– STA. 16+21 +/– (EXISTING BRIDGE) TO 19+83.13
SEE PLANS FOR PAVED SHOULDER WIDENING LOCATIONS

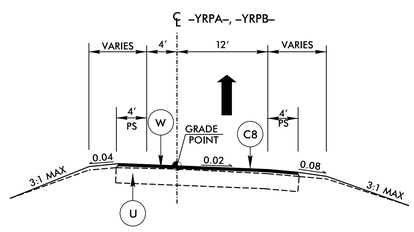


TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 7A
–YRPA– STA. 19+00.00 TO 24+03.77
–YRPB– STA. 18+00.00 TO 27+01.46
OVERLAY –YRPC– AND –YRPD– WITH 1.5" OF S9.5D (C7)



TYPICAL SECTION NO. 7A



TYPICAL SECTION NO. 7B

USE TYPICAL SECTION NO. 7B
–YRPA– STA. 14+65.00 TO 19+00.00
–YRPB– STA. 14+88.00 TO 18+00.00

NOTES:
1.SEE PLANS FOR LOCATION OF AUXILIARY LANES, AND TAPERS
2. USE 4:1 SLOPES INSIDE INTERCHANGE
3. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

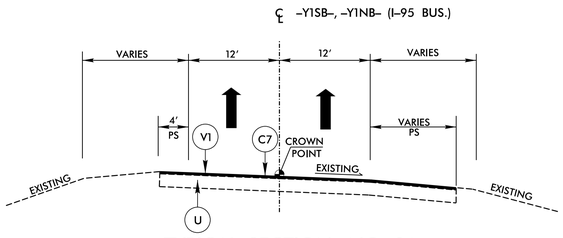
8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sec1.dgn
dgnlib

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

C2	3" TYPE S9.5B
C7	1.5" TYPE S9.5D
C8	3" TYPE S9.5D
D3	4" TYPE I19.0C
E1	3" B25.0C
E3	4.5" B25.0C
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R3	SINGLE FACED CONCRETE BARRIER
T	EARTH
U	EXISTING PAVEMENT
V1	1.5" MILLING
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

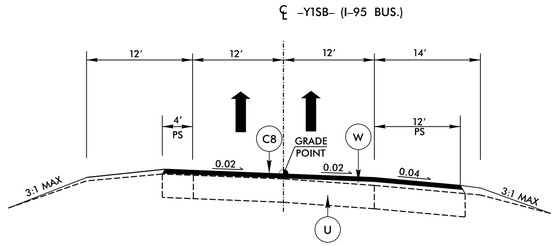
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 8A

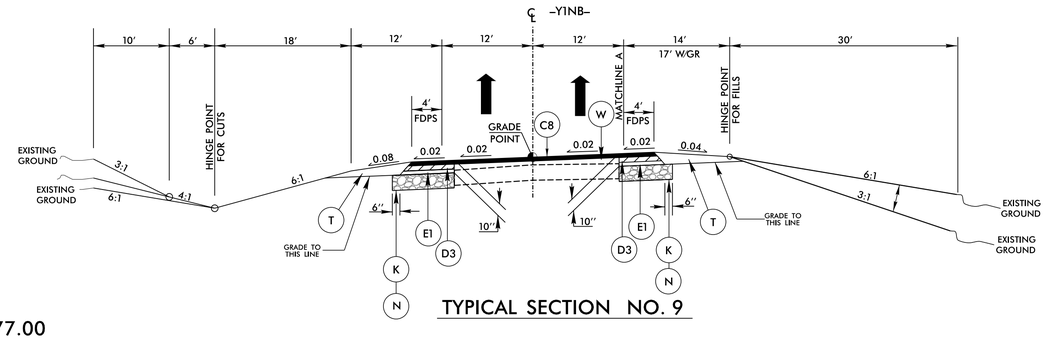
USE TYPICAL SECTION NO. 8A
–Y1SB– STA. 18+50.00 TO 44+74.96
(MILL & FILL I–95 BUS. EXIT RAMP /ENTRANCE LOOP AT DUNN ROAD)

–Y1NB– STA. 10+00.00 TO 26+20+/– (BEGIN EXISTING BRIDGE)
–Y1NB– STA. 30+30+/– (END EXISTING BRIDGE) TO 42+09.48



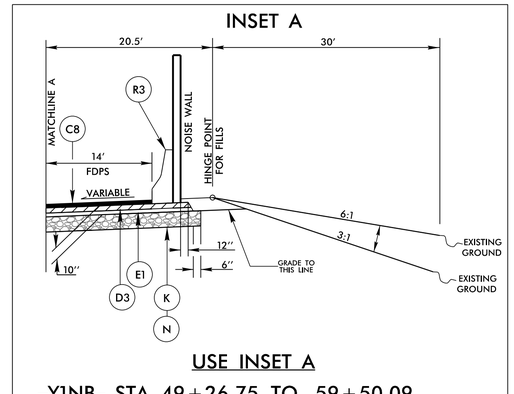
TYPICAL SECTION NO. 8B

USE TYPICAL SECTION NO. 8B
–Y1SB– STA. 17+77.00 TO 18+50.00



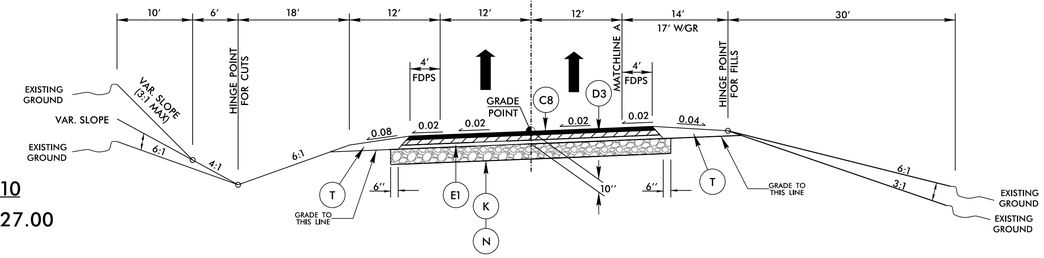
TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9
–Y1NB– STA 42+09.48 TO STA 48+77.00



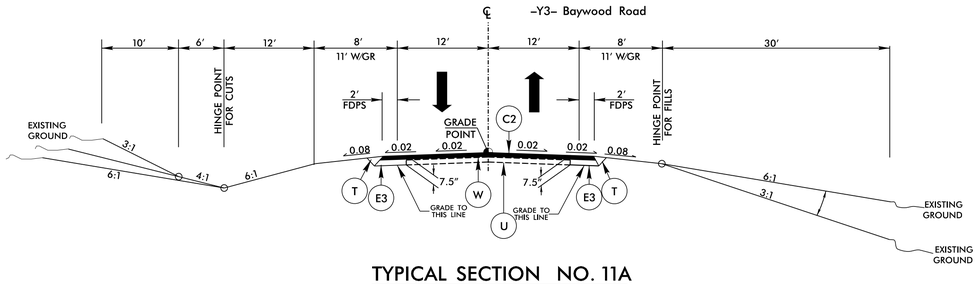
USE INSET A
–Y1NB– STA. 49+26.75 TO 59+50.09

USE –L– PAVEMENT DESIGN
–Y1NB– STA. 53+27.00 TO 59+50.09



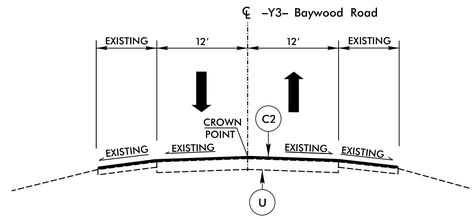
TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10
–Y1NB– STA. 48+77.00 TO 53+27.00



TYPICAL SECTION NO. 11A

USE TYPICAL SECTION NO. 11A
–Y3– STA. 16+00.00 TO 18+00.00
–Y3– STA. 24+00.00 TO 25+00.00



TYPICAL SECTION NO. 11B

USE TYPICAL SECTION NO. 11B
–Y3– STA. 15+00.00 TO 16+00.00
–Y3– STA. 25+00.00 TO 28+39.12

NOTES:
1.SEE PLANS FOR LOCATION OF AUXILIARY LANES, AND TAPERS
2. USE 4:1 SLOPES INSIDE INTERCHANGE
3. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

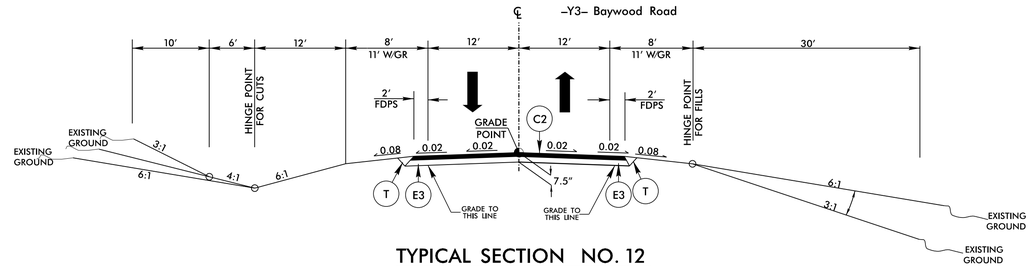
8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sec1.dgn

5/14/99

C2	3" TYPE S9.5B
C4	1.5" TYPE S9.5C
C5	3" TYPE S9.5C
C7	1.5" TYPE S9.5D
C8	3" TYPE S9.5D
D3	4" TYPE I19.0C
E3	4.5" B25.0C
E4	5" B25.0C
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R1	1'6" CONCRETE CURB AND GUTTER
T	EARTH
U	EXISTING PAVEMENT
V3	INCIDENTAL MILLING
W	WEDGING

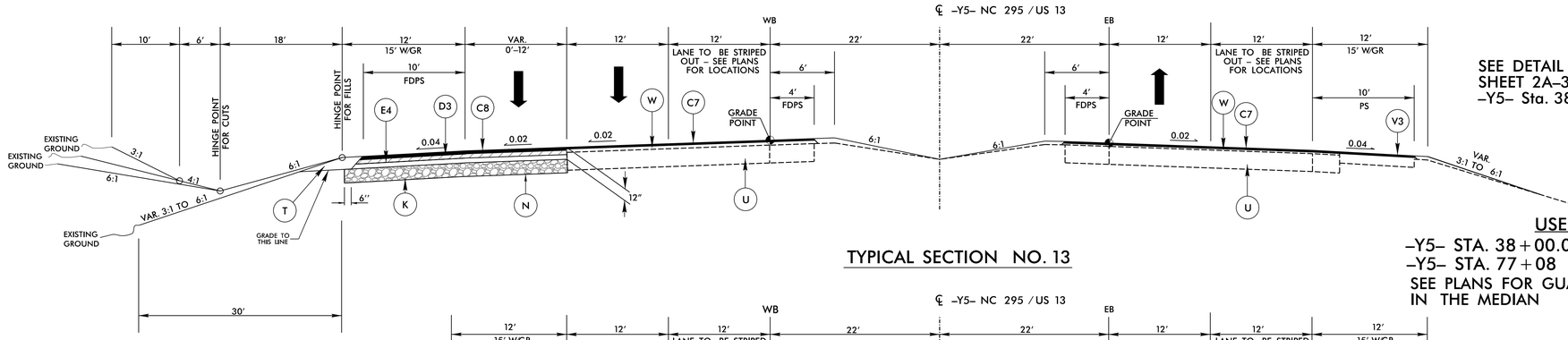
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 12

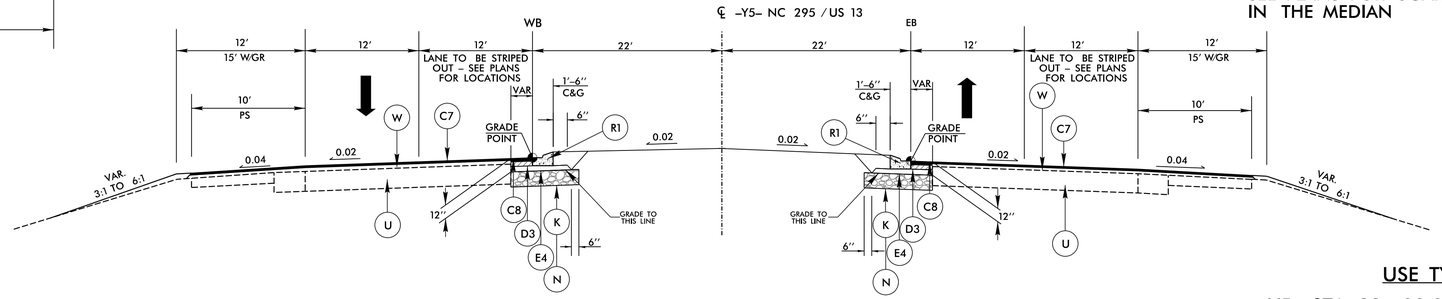
USE TYPICAL SECTION NO. 12
–Y3– STA. 18+00.00 TO 19+82.59 (BEGIN BRIDGE)
–Y3– STA. 21+84.59 (END BRIDGE) TO 24+00.00



TYPICAL SECTION NO. 13

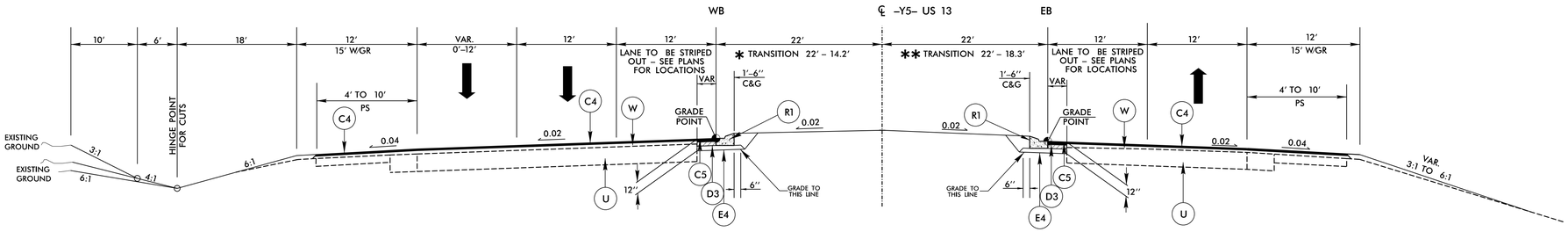
SEE DETAIL OF INCIDENTAL MILLING ON SHEET 2A–3 FOR PAVED SHOULDER MILLING
–Y5– Sta. 38+00.00 to 64+00.00 RT.

USE TYPICAL SECTION NO. 13
–Y5– STA. 38+00.00 TO 76+01 +/– (BEGIN BRIDGE)
–Y5– STA. 77+08 +/– (END BRIDGE) TO 88+00.00
SEE PLANS FOR GUARDRAIL\GUIDERAIL LOCATIONS IN THE MEDIAN



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14
–Y5– STA. 88+00.00 TO 94+74.74 (BEGIN BRIDGE)
SEE PLANS FOR GUARDRAIL\GUIDERAIL LOCATIONS IN THE MEDIAN



TYPICAL SECTION NO. 15

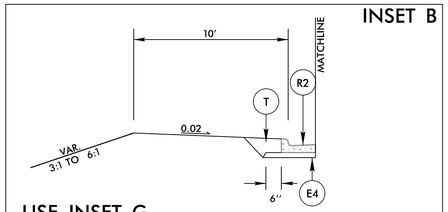
USE TYPICAL SECTION NO. 15
✱ –Y5– STA. 97+12.74 (END BRIDGE) TO 102+20.00 (WB)
✱✱ –Y5– STA. 97+12.74 (END BRIDGE) TO 104+60.00 (EB)
–Y5– STA. 102+20.00 TO 106+89.00 (WB)
–Y5– STA. 104+60.00 TO 106+89.00 (EB)

NOTES:
1.SEE PLANS FOR LOCATION OF AUXILIARY LANES, AND TAPERS
2. USE 4:1 SLOPES INSIDE INTERCHANGE
3. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

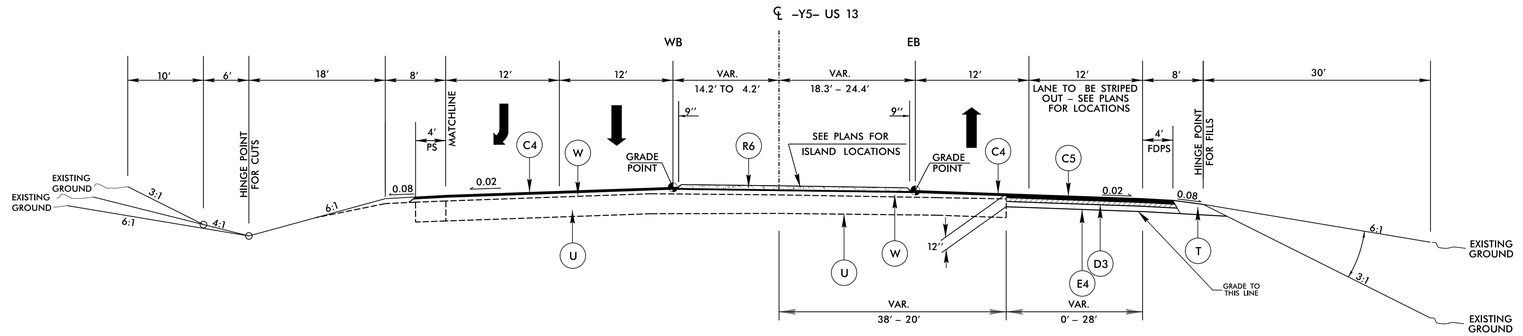
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\I-5986A_Rdy_typ_sec1.dgn
User:eric

C4	1.5" TYPE S9.5C
C5	3" TYPE S9.5C
C8	3" TYPE S9.5C
D2	3" TYPE I19.0C
D3	4" TYPE I19.0C
E1	3" B25.0C
E4	5" B25.0C
E5	5.5" B25.0C
J1	6" ABC
J3	10" ABC
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R	9" x 18" CONCRETE CURB
R1	1'-6" C&G
R2	2'-6" C&G
R4	TYPE T BARRIER
R6	5" MONOLITHIC ISLAND KEYED-IN
R7	12" TRUCK APRON W/ MESH
R8	12" TRUCK APRON
R9	4" CONCRETE COVER
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING
Y	MILLED RUMBLE STRIPS

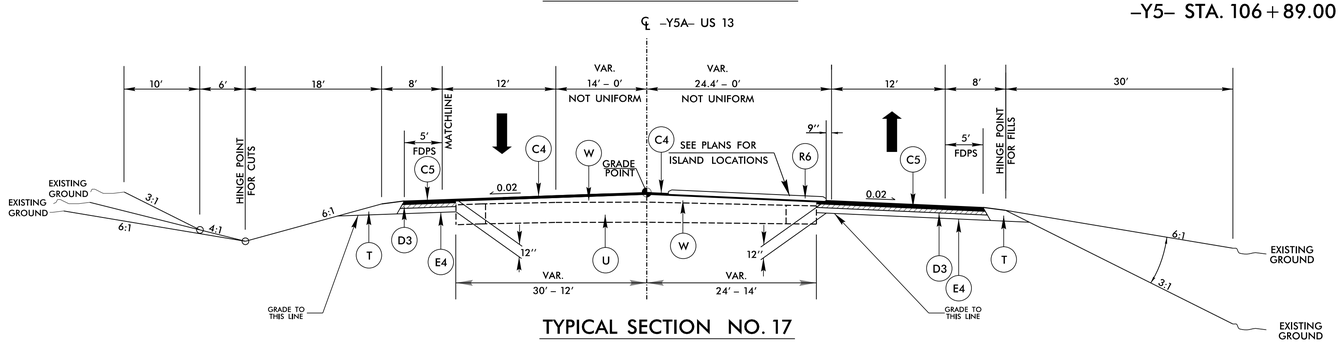


USE INSET G
–Y5– STA. 109 + 43.13 TO 109 + 51.53 (WB)
–Y5A– STA. 109 + 51.53 TO 114 + 10.28 (WB)



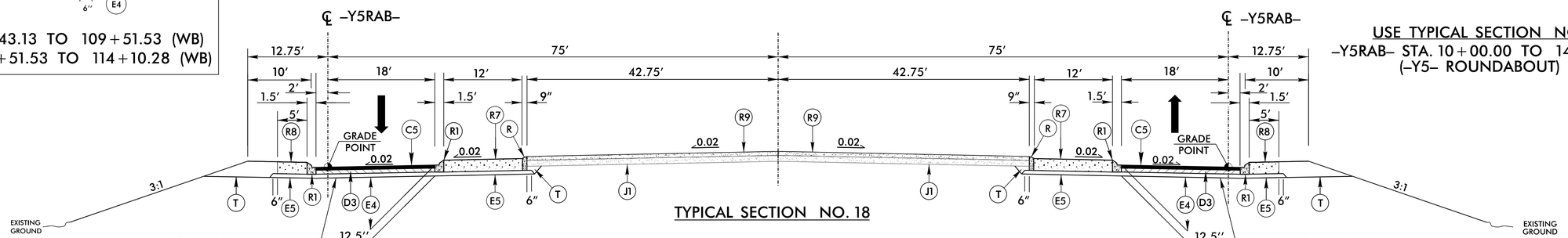
TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16
–Y5– STA. 106 + 89.00 TO 109 + 51.53 (WB & EB)



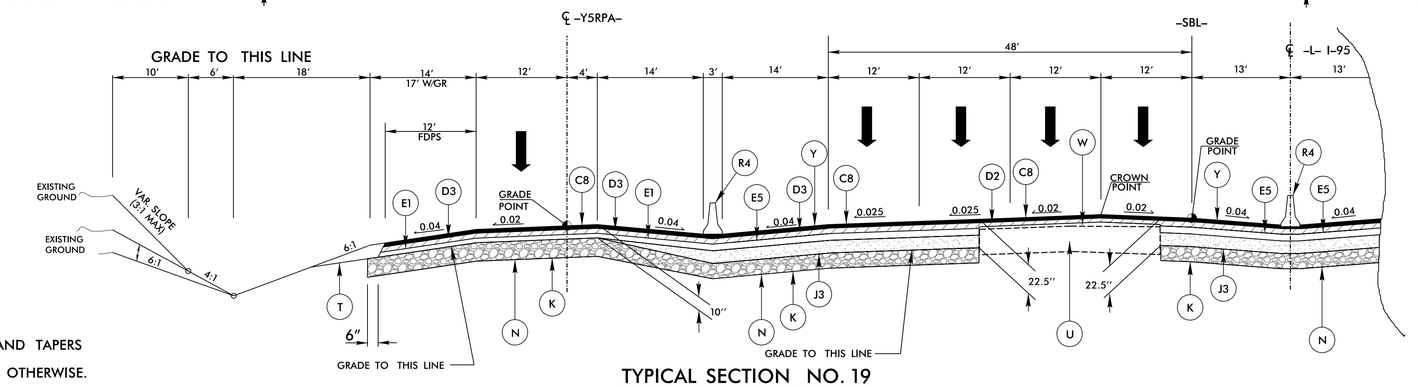
TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17
–Y5A– STA. 109 + 51.53 TO 114 + 74.89
–Y5B– STA. 10 + 74.36 TO 17 + 50.00



TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18
–Y5RAB– STA. 10 + 00.00 TO 14 + 71.24
(–Y5– ROUNDABOUT)



TYPICAL SECTION NO. 19

USE TYPICAL SECTION NO. 19
–Y5RPA– STA. 23 + 84.23 TO 32 + 50.00
USE MAINLINE PAVEMENT TO BACK OF GORE

NOTES:
1.SEE PLANS FOR LOCATION OF AUXILIARY LANES, AND TAPERS
2. USE 4:1 SLOPES INSIDE INTERCHANGE
3. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

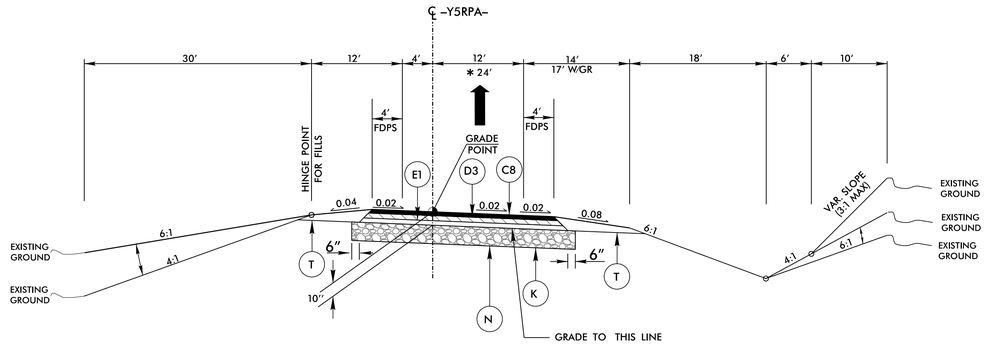
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sec1.dgn
User:RF

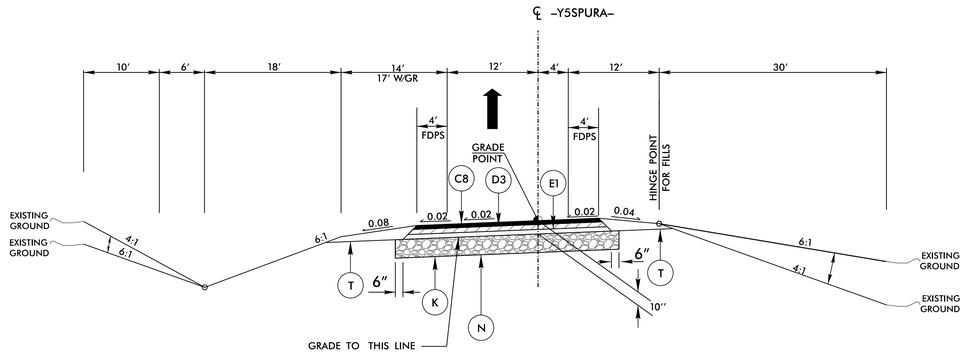
C7	1.5" TYPE S9.5D
C8	3" TYPE S9.5D
D3	4" TYPE I19.0C
E1	3" TYPE B25.0C
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 20

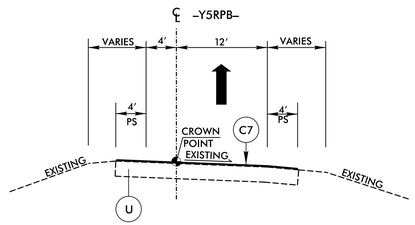
USE TYPICAL SECTION NO. 20

* –Y5RPA– STA. 32+50.00 TO 51+79.86
–Y5RPA– STA. 51+79.86 TO 56+04.41



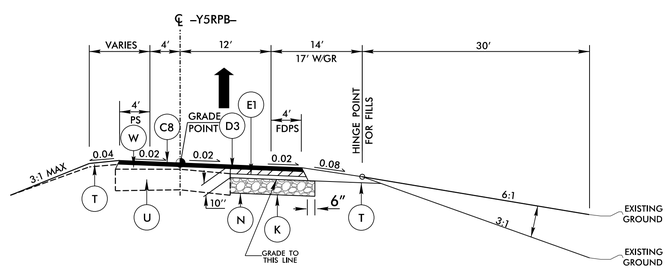
TYPICAL SECTION NO. 21A

USE TYPICAL SECTION NO. 21A
–Y5SPURA– STA. 14+80.94 TO 24+82.00



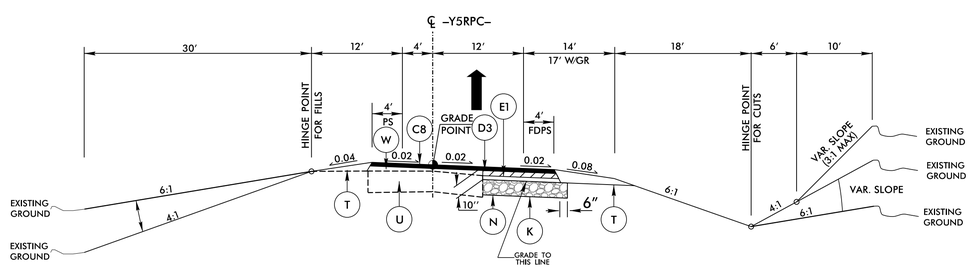
TYPICAL SECTION NO. 21B

USE TYPICAL SECTION NO. 21B
–Y5RPB– STA. 10+00.00 TO 31+54.22



TYPICAL SECTION NO. 21C

USE TYPICAL SECTION NO. 21C
–Y5RPB– STA. 31+54.22 TO 35+93.00



TYPICAL SECTION NO. 22

USE TYPICAL SECTION NO. 22
–Y5RPC– STA. 14+27.00 TO 26+24.00

NOTES:
1.SEE PLANS FOR LOCATION OF AUXILIARY LANES, AND TAPERS
2. USE 4:1 SLOPES INSIDE INTERCHANGE
3. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

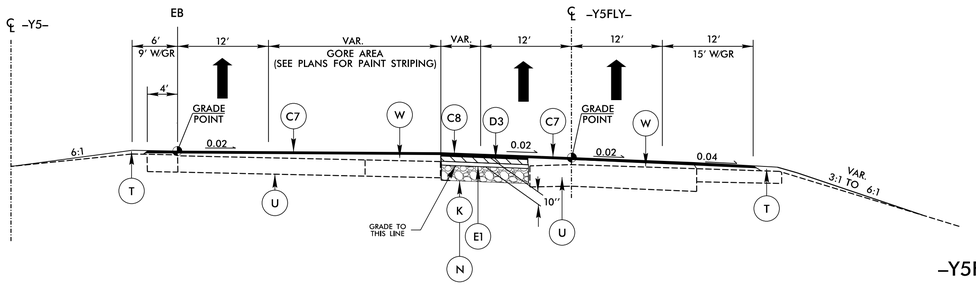
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Projects\I5986A_Rdy_typ_sect.dgn
default

C7	1.5" TYPE S9.5D
C8	3" TYPE S9.5D
D3	4" TYPE I19.0C
E1	3" TYPE B25.0C
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R2	2'-6" C&G
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

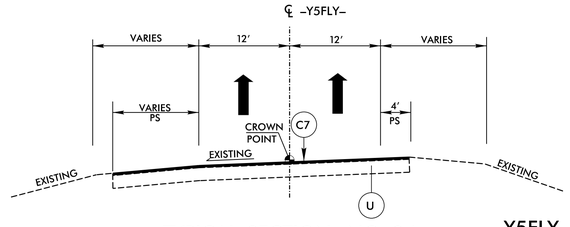
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 23

USE TYPICAL SECTION NO. 23

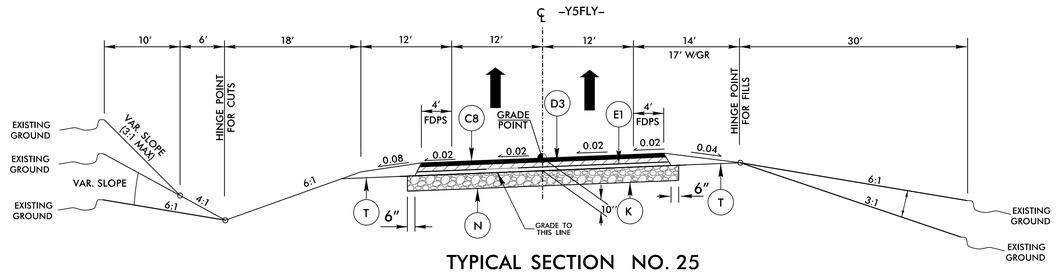
-Y5FLY- STA. 15+25.52 TO 22+80 +/- (BEGIN EXISTING BRIDGE)



TYPICAL SECTION NO. 24

USE TYPICAL SECTION NO. 24

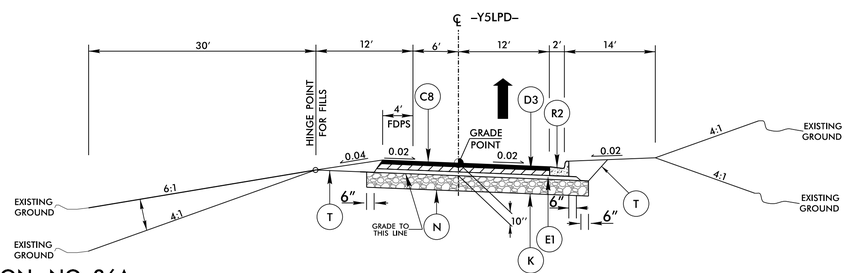
-Y5FLY- STA. 23+85 +/- (END EXISTING BRIDGE) TO 39+22 +/- (BEGIN EXISTING BRIDGE)
-Y5FLY- STA. 47+58 +/- (END EXISTING BRIDGE) TO 50+31.83



TYPICAL SECTION NO. 25

USE TYPICAL SECTION NO. 25

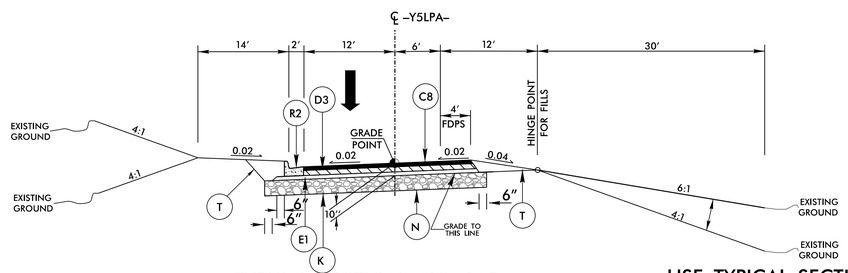
-Y5FLY- STA. 50+31.83 TO 84+70.00



TYPICAL SECTION NO. 26A

USE TYPICAL SECTION NO. 26A

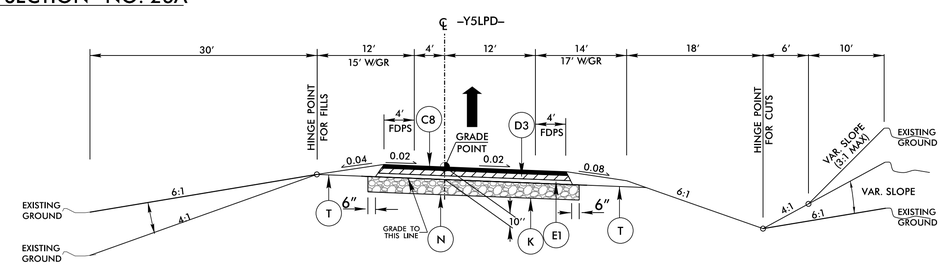
-Y5LPD- STA 12+27.66 TO STA 21+83.19



TYPICAL SECTION NO. 26B

USE TYPICAL SECTION NO. 26B

-Y5LPA- STA. 12+09.74 TO STA. 21+52.97



TYPICAL SECTION NO. 27

USE TYPICAL SECTION NO. 27

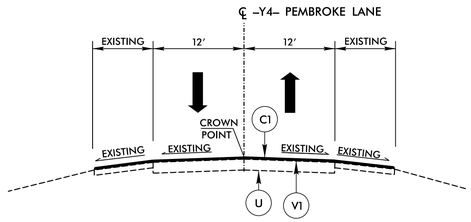
-Y5LPD- STA. 21+83.19 TO STA 24+16.04 (BEGIN BRIDGE)
-Y5LPD- STA. 26+72.08 (END BRIDGE) TO STA. 43+05.36

NOTES:
1.SEE PLANS FOR LOCATION OF AUXILIARY LANES, AND TAPERS
2. USE 4:1 SLOPES INSIDE INTERCHANGE
3. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sec1.dgn
User:

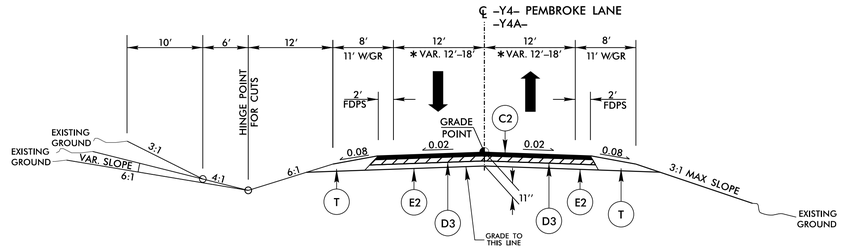
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

C1	1.5" TYPE S9.5B
C2	3" TYPE S9.5B
C5	3" TYPE S9.5C
D3	4" TYPE I19.0C
E2	4" TYPE B25.0C
E4	5" TYPE B25.0C
T	EARTH
U	EXISTING PAVEMENT
V1	1.5" MILLING



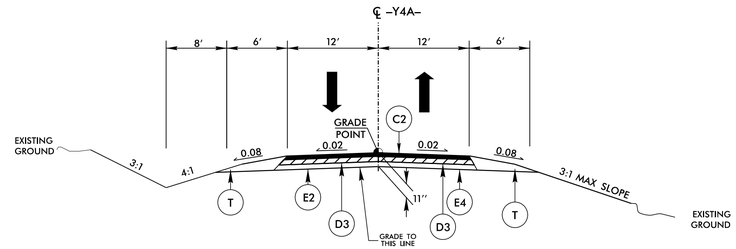
TYPICAL SECTION NO. 28

USE TYPICAL SECTION NO. 28
–Y4– STA. 10+28.01 TO 24+28 +/– (BEGIN EXISTING BRIDGE)
–Y4– STA. 30+25 +/– (END EXISTING BRIDGE) TO 40+20.00



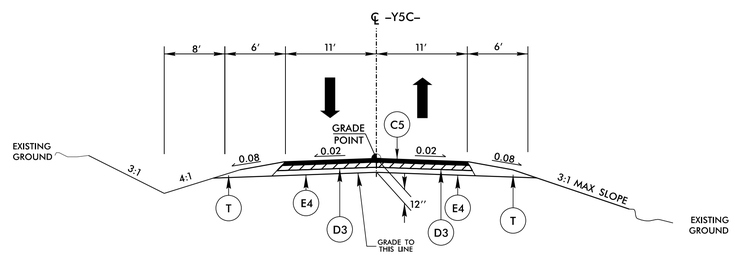
TYPICAL SECTION NO. 29

USE TYPICAL SECTION NO. 29
∗ –Y4– STA. 40+20.00 TO 53+40.00
–Y4– STA. 53+40.00 TO 65+18.18
–Y4A– STA. 10+20.00 TO 10+81.50



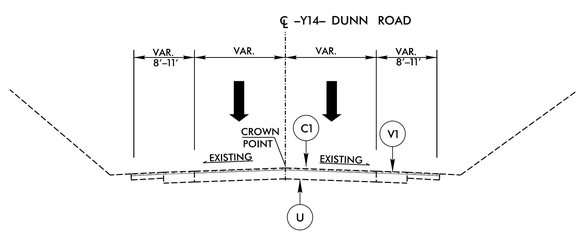
TYPICAL SECTION NO. 30

USE TYPICAL SECTION NO. 30
–Y4A– STA. 10+81.50 TO 16+43.03



TYPICAL SECTION NO. 31

USE TYPICAL SECTION NO. 31
–Y5C– STA. 10+90.82 TO 26+66.96



TYPICAL SECTION NO. 32

USE TYPICAL SECTION NO. 32
–Y14– STA. 34+00.00 TO 38+00.00

NOTES:
1.SEE PLANS FOR LOCATION OF AUXILIARY LANES, AND TAPERS
2. USE 4:1 SLOPES INSIDE INTERCHANGE
3. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

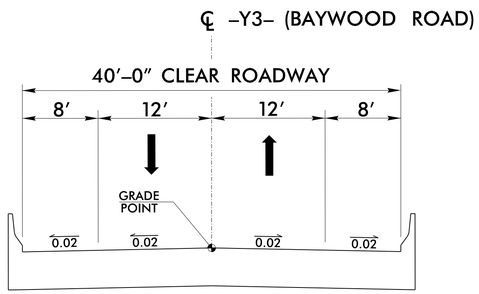
8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sect.dgn
dgn file

5/14/99

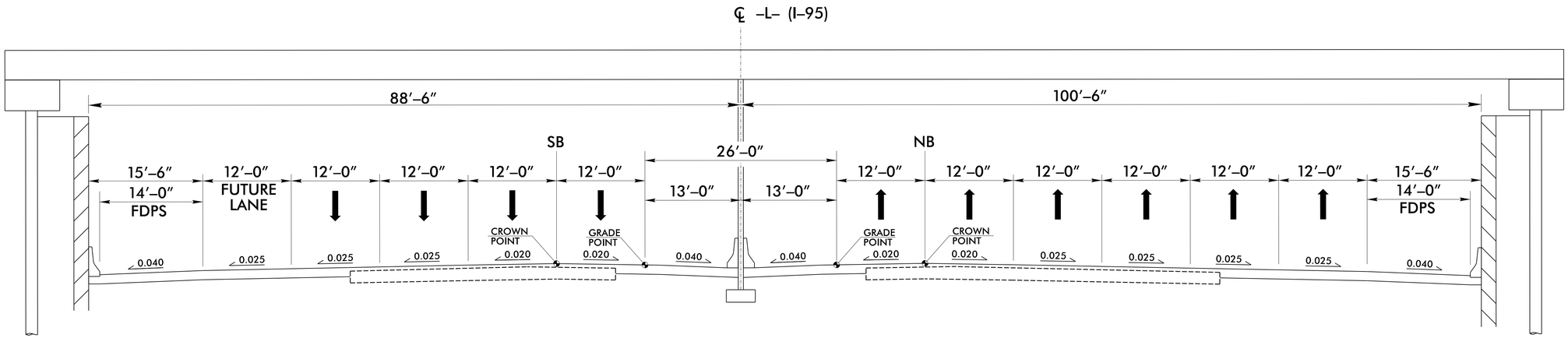
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BRIDGE AT –Y3– STATION 20+77.59 OVER –L– STATION 83+19.18



STRUCTURE TYPICAL SECTION



TYPICAL SECTION UNDER STRUCTURE

NOTES:
1. SEE SHEET 12 FOR PLAN VIEW.
2. SEE SHEET 149 FOR PROFILE VIEW.

8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sec1.dgn
dmyers

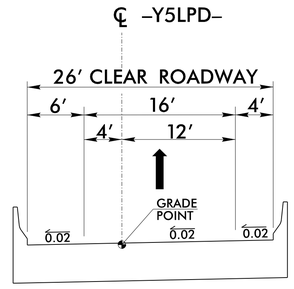
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

5/14/99

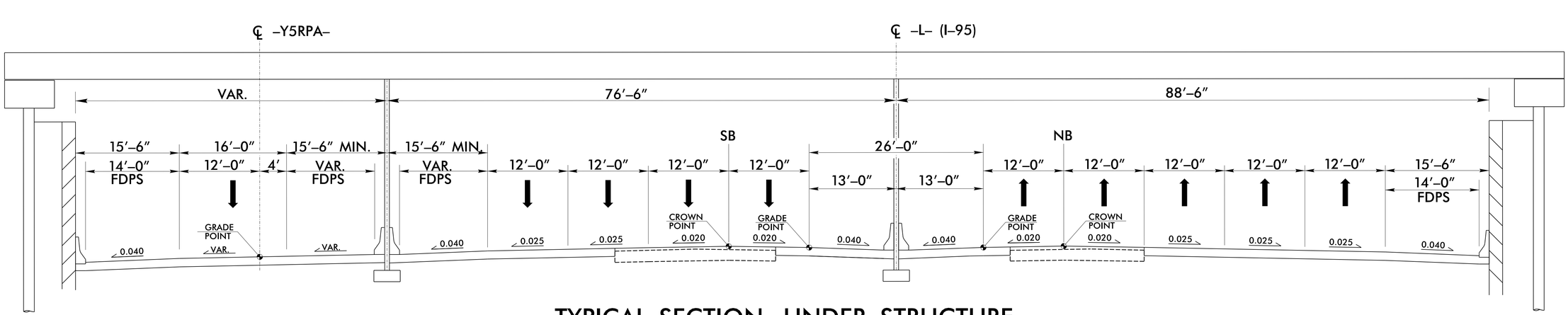
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BRIDGE AT –Y5LPD– STATION 25+24.04 OVER –L– STATION 221+14.69



STRUCTURE TYPICAL SECTION



TYPICAL SECTION UNDER STRUCTURE

NOTES:
1. SEE SHEET 20 FOR PLAN VIEW.
2. SEE SHEET 167 & 168 FOR PROFILE VIEW.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

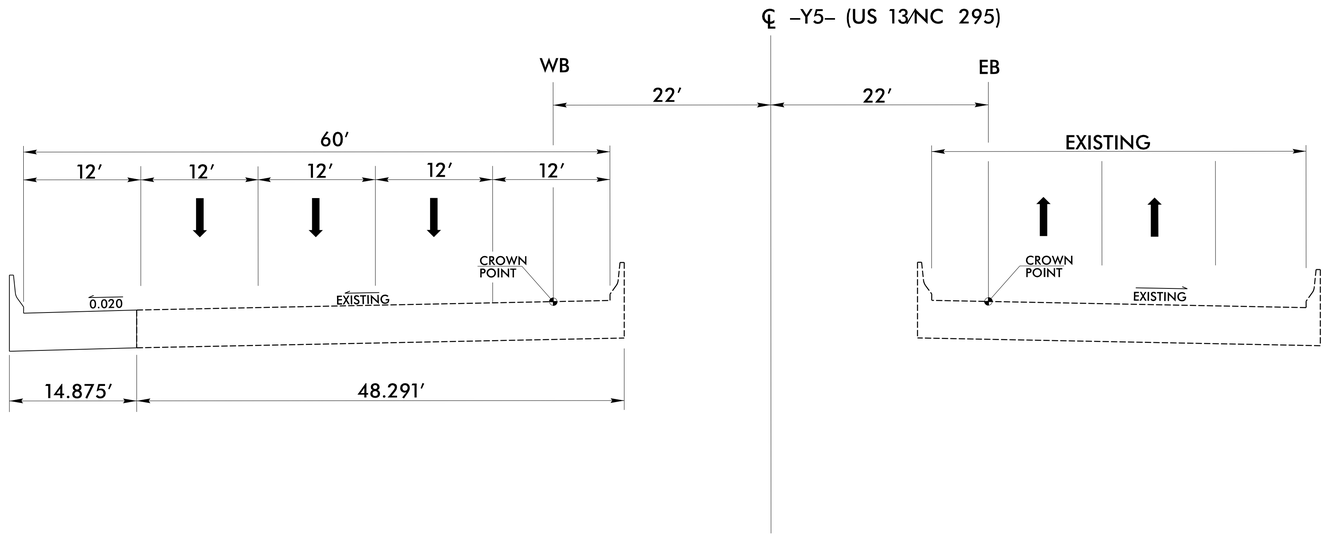
8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sec1.dgn

5/14/99

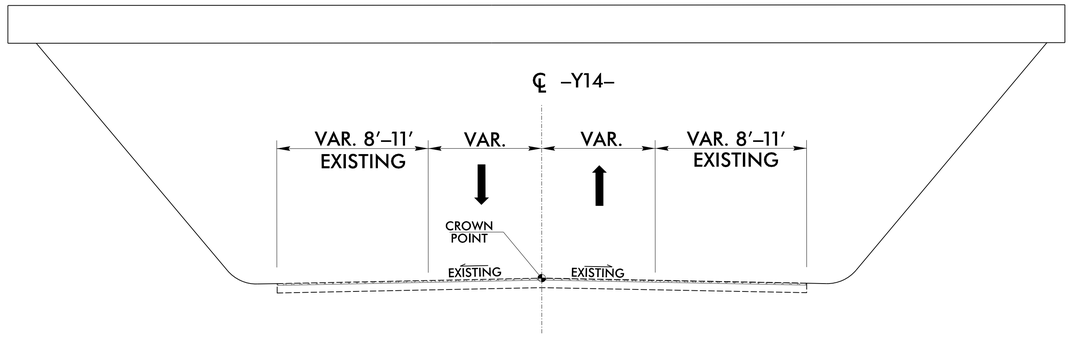
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BRIDGE AT –Y5– STATION 76+45.02 OVER –Y14– STATION 36+22.62



STRUCTURE TYPICAL SECTION



TYPICAL SECTION UNDER STRUCTURE

NOTES:
1. SEE SHEET 68 FOR PLAN VIEW.
2. SEE SHEET 156 FOR PROFILE VIEW.

8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sec1.dgn
dsmith

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

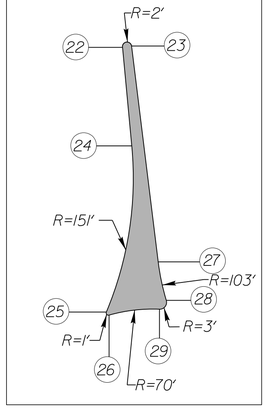
8/17/99

ROUNDABOUT LAYOUT

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

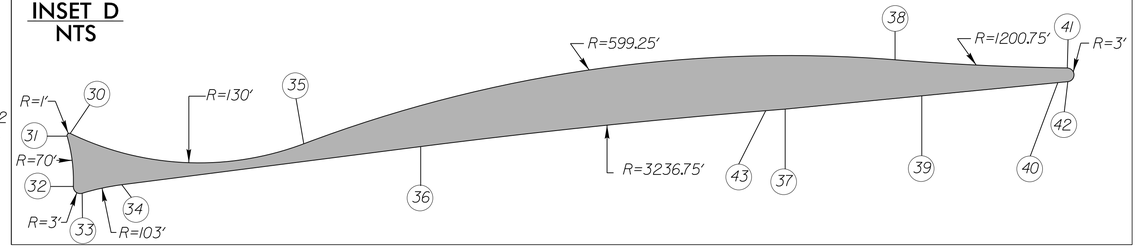
INSET C
NTS



POINT NUMBER	-Y5C-	OFFSET	LT / RT
22	11+93.64	1.00'	LT
23	11+93.64	3.00'	RT
24	11+50.17	3.19'	LT
25	10+79.93	24.61'	RT
26	10+78.42	23.63'	RT
27	10+98.44	1.02'	RT
28	10+81.20	2.11'	RT
29	10+77.81	1.41'	LT

POINT NUMBER	-Y5B-	OFFSET	LT / RT	POINT NUMBER	-Y5B-	OFFSET	LT / RT
30	10+79.93	24.61'	LT	37	13+91.62	3.25'	RT
31	10+78.42	23.63'	LT	38	14+41.34	14.42'	LT
32	10+77.81	1.55'	LT	39	14+51.62	3.00'	RT
33	10+81.20	2.11'	RT	40	15+11.61	1.25'	RT
34	10+98.73	1.03'	RT	41	15+16.22	4.81'	LT
35	11+80.45	4.86'	LT	42	15+15.99	1.18'	RT
36	12+30.96	3.25'	RT	43	13+83.06	3.25'	RT

INSET D
NTS



POINT NUMBER	-Y5A-	OFFSET	LT / RT	POINT NUMBER	-Y5A-	OFFSET	LT / RT
1	10+60.01	14.25'	RT	7	11+55.31	2.33'	LT
2	10+62.22	8.79'	RT	8	11+80.26	14.59'	RT
2A	11+24.72	9.83'	RT	9	11+48.55	0.21'	RT
2B	11+87.22	10.87'	RT	10	11+67.76	1.06'	LT
3	11+65.45	20.67'	RT	11	11+71.19	2.46'	RT
4	12+05.32	11.17'	RT	12	11+71.24	28.80'	RT
5	12+54.54	6.75'	RT	13	11+69.75	29.85'	RT
6	13+04.54	2.25'	RT				

INSET A
NTS

INSET B
NTS

POINT NUMBER	-Y4-	OFFSET	LT / RT
14	65+32.63	1.40'	RT
15	65+31.98	22.46'	RT
16	65+29.24	2.11	LT
17	65+30.44	23.41'	RT
18	65+12.01	1.02'	LT
19	64+61.52	1.93'	RT
20	64+16.81	3.00'	LT
21	64+16.81	1.00'	RT

MONOLITHIC ISLAND

CONCRETE APRON COVER

FOR –Y5A– PLAN SEE SHT. 70
FOR –Y5B– PLAN SEE SHT. 70
FOR –Y5C– PLAN SEE SHT. 70
FOR –Y4A– PLAN SEE SHT. 70
FOR –Y5A– PROFILE SEE SHT. 159
FOR –Y5B– PROFILE SEE SHT. 159
FOR –Y5C– PROFILE SEE SHT. 159
FOR –Y4A– PROFILE SEE SHT. 160

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

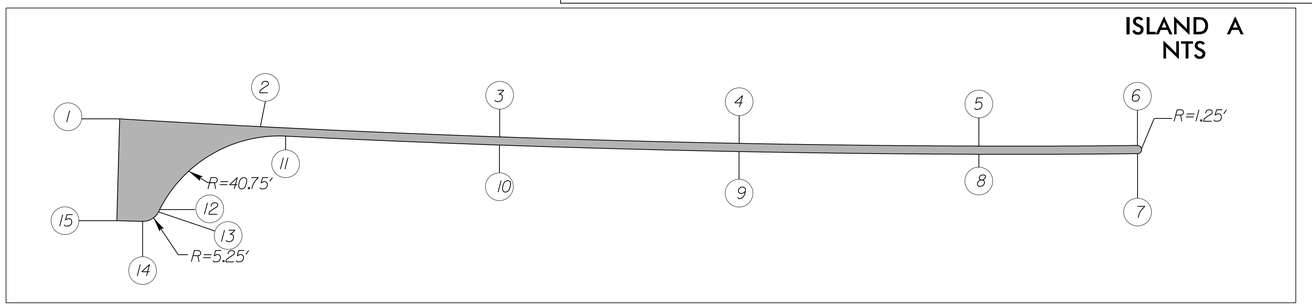
8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh2B-2_roundabout.dgn
dlhall

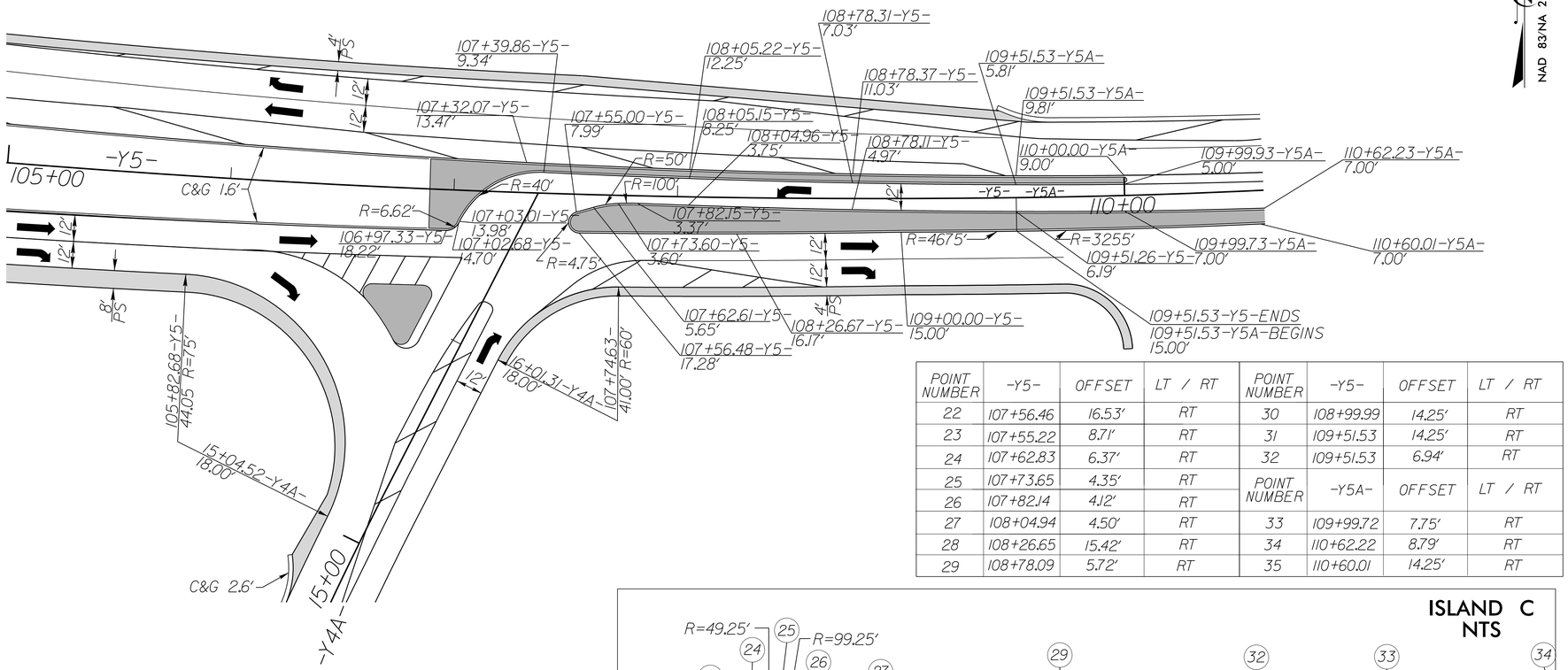
–Y4A– /–Y5– INTERSECTION DETAIL

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

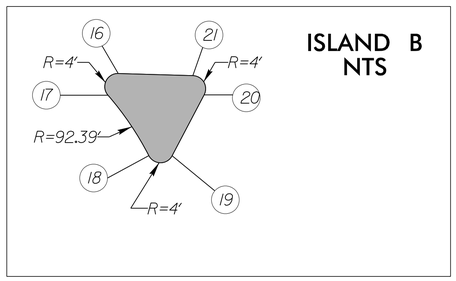
POINT NUMBER	–Y5–	–Y5A–	OFFSET	LT / RT
1	106+89.01		13.43′	LT
2	107+32.06		12.72′	LT
3	108+05.21		11.50′	LT
4	108+78.36		10.28′	LT
5		109+51.53	9.06′	LT
6		109+99.96	8.25′	LT
7		109+99.92	5.75′	LT
8		109+51.53	6.56′	LT
9	108+78.32		7.78′	LT
10	108+05.17		9.00′	LT
11	107+39.87		10.09′	LT
12	107+02.33		13.67′	RT
13	107+02.00		14.39′	RT
14	106+97.32		17.47′	RT
15	106+89.49		17.60′	RT

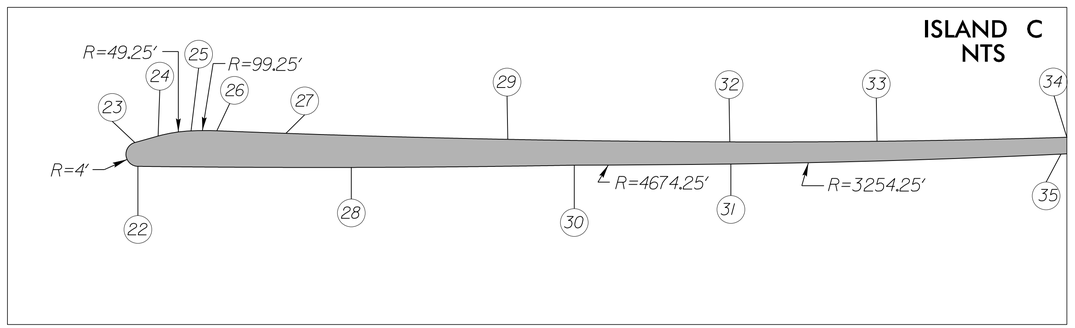




POINT NUMBER	–Y5–	OFFSET	LT / RT	POINT NUMBER	–Y5–	OFFSET	LT / RT
22	107+56.46	16.53′	RT	30	108+99.99	14.25′	RT
23	107+55.22	8.71′	RT	31	109+51.53	14.25′	RT
24	107+62.83	6.37′	RT	32	109+51.53	6.94′	RT
25	107+73.65	4.35′	RT	POINT NUMBER	–Y5A–	OFFSET	LT / RT
26	107+82.14	4.12′	RT				
27	108+04.94	4.50′	RT	33	109+99.72	7.75′	RT
28	108+26.65	15.42′	RT	34	110+62.22	8.79′	RT
29	108+78.09	5.72′	RT	35	110+60.01	14.25′	RT

POINT NUMBER	–Y4A–	OFFSET	LT / RT
16	16+06.01	47.58′	LT
17	15+98.68	47.35′	LT
18	15+87.99	27.88′	LT
19	15+91.20	21.55′	LT
20	16+12.14	21.33′	LT
21	16+15.79	27.06	LT





MONOLITHIC ISLAND
TYPICAL OFFSET TO ISLAND 0.75′

30 15 0 15 30
1′–30′ SCALE

FOR –Y5– PLAN SEE SHT. 70
FOR –Y5A– PLAN SEE SHT. 70
FOR –Y4A– PLAN SEE SHT. 70
FOR –Y5– PROFILE SEE SHT. 158
FOR –Y5A– PROFILE SEE SHT. 159
FOR –Y4A– PROFILE SEE SHT. 152

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

5/14/99
8/24/2020
...\Plan Sheets\PLAN SHEETS\I-5986A_Rdy_psh2B-3_Y4A_Y5.dgn
dhafler

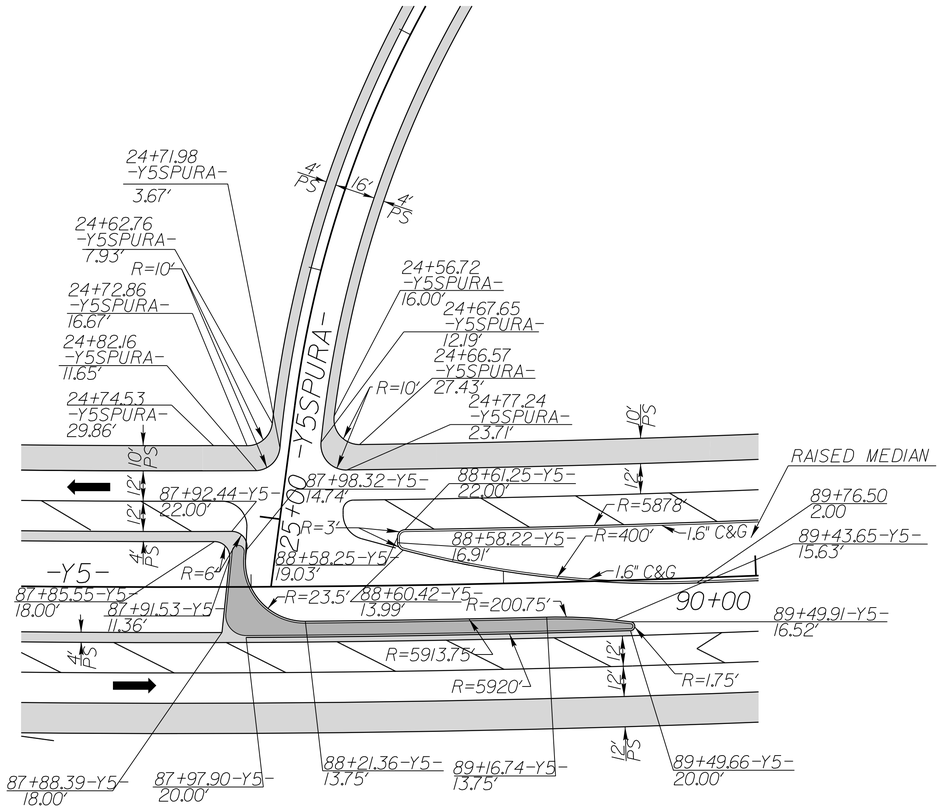
5/14/99

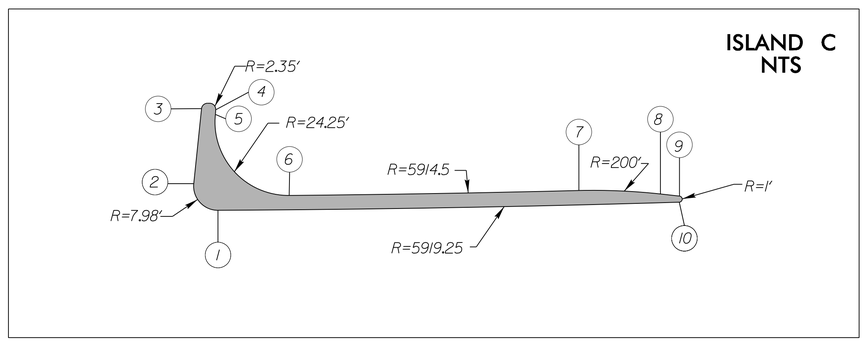
–Y5SPURA– /–Y5– INTERSECTION DETAIL

PROJECT REFERENCE NO.	SHEET NO.
I–5986A	2B–4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011





POINT NUMBER	–Y5–	OFFSET	LT / RT
1	87+97.89	19.25′	RT
2	87+89.95	10.43′	RT
3	87+92.60	14.32′	LT
4	87+97.30	13.93′	LT
5	87+97.18	12.41′	LT
6	88+21.36	14.50′	RT
7	89+16.74	14.50′	RT
8	89+43.55	16.38′	RT
9	89+49.81	17.26′	RT
10	89+49.67	19.25′	RT

MONOLITHIC ISLAND

30 15 0 15 30
1′–30′ SCALE

FOR –Y5– PLAN SEE SHT. 68
FOR –Y5SPURA– PLAN SEE SHT. 68
FOR –Y5– PROFILE SEE SHT. 157
FOR –Y5SPURA– PROFILE SEE SHT. 163

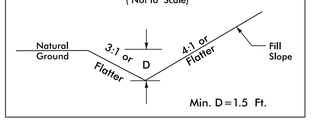
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
...Plan_Sheets\PLAN SHEETS\I-5986A_Rdy_psh2B-4_Y5_Y5Spur.dgn
default

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

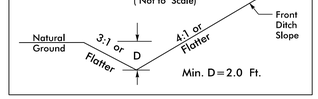
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



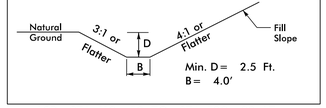
–Y1NB– STA. 44+50 TO STA. 47+00 RT
–L– STA. 210+50 TO STA. 212+25 RT
–Y5RPD– STA. 10+90 TO STA. 12+00 LT
–LSB– STA. 19+50 TO STA. 31+00 LT
–LSB– STA. 61+50 TO STA. 62+75 RT
–Y4– STA. 50+00 TO STA. 55+00 LT
–Y4– STA. 61+00 TO STA. 65+49 LT
–Y4A– STA. 10+54 TO STA. 13+50 RT
–Y5– STA. 65+00 TO STA. 68+00 RT
–Y5– STA. 85+50 TO STA. 86+50 LT
–Y5– STA. 85+00 TO STA. 89+00 RT
–Y5SPUR– STA. 19+49 TO STA. 22+03 LT
–SR5C_DET– STA. 12+70 TO STA. 13+10 RT
–SR5C_DET– STA. 15+00 TO STA. 16+32 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



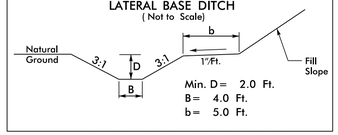
–Y1NB– STA. 47+00 TO STA. 59+00 RT
–L– STA. 103+00 TO STA. 107+72 LT
–L– STA. 138+50 TO STA. 186+00 RT
–L– STA. 232+00 TO STA. 239+00 LT
–L– STA. 256+00 TO STA. 269+00 LT
–L– STA. 232+50 TO STA. 241+50 RT
–L– STA. 245+00 TO STA. 249+00 RT
–Y5FLY– STA. 82+33 TO STA. 85+77 RT
–Y5SPURA– STA. 10+46 TO STA. 16+99 LT
–Y5RPA– STA. 36+85 TO STA. 37+50 LT
–Y5RPA– STA. 34+49 TO STA. 36+85 RT
–L– STA. 227+00 TO STA. 232+50 RT
–Y5LPD– STA. 12+79 TO STA. 14+50 LT
–Y5C– STA. 25+00 TO STA. 26+65 RT
–Y5C– STA. 24+50 TO STA. 25+92 LT
–LSB– STA. 68+50 TO STA. 76+50 LT
–L– STA. 221+58 TO STA. 232+00 LT

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



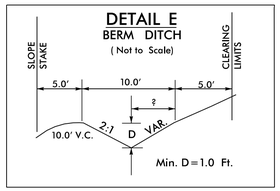
–LSB– STA. 112+50 TO STA. 129+00 LT
–L– STA. 212+25 TO STA. 220+00 RT
–L– STA. 208+50 TO STA. 215+00 LT
–Y5B– STA. 10+44 TO STA. 12+50 RT
–Y5FLY– STA. 66+80 TO STA. 70+00 LT
–Y5FLY– STA. 63+50 TO STA. 66+80 RT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



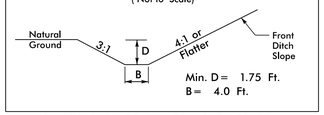
–L– STA. 90+50 TO STA. 100+28 RT
–L– STA. 162+00 TO STA. 165+50 LT
–L– STA. 247+00 TO STA. 251+50 LT
–L– STA. 252+00 TO STA. 256+00 LT
–L– STA. 253+00 TO STA. 255+00 RT
–Y5LPD– STA. 26+50 TO STA. 30+65 RT

DETAIL E
BERM DITCH
(Not to Scale)



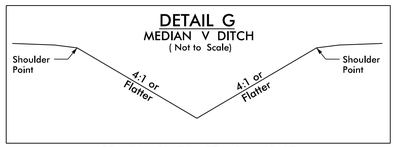
DETAIL NOT USED IN SECTION 1

DETAIL F
SPECIAL CUT BASE DITCH
(Not to Scale)



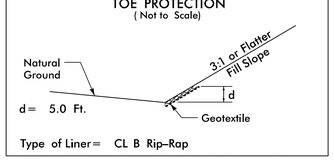
–L– STA. 132+50 TO STA. 137+00 LT
–L– STA. 159+00 TO STA. 162+00 LT
–L– STA. 165+50 TO STA. 167+00 LT
–L– STA. 223+11 TO STA. 226+23 RT
–L– STA. 239+00 TO STA. 247+00 LT
–L– STA. 255+00 TO STA. 269+00 RT
–Y5B– STA. 12+50 TO STA. 17+50 RT

DETAIL G
MEDIAN V DITCH
(Not to Scale)



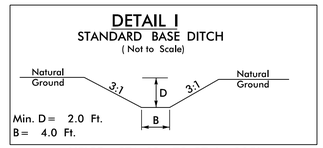
–LSB– 84+00 TO STA. 86+00 LT
–LSB– STA. 105+00 TO STA. 113+50 RT
–L– STA. 215+00 TO STA. 217+50 LT
–Y5– STA. 83+50 TO STA. 85+50 LT
–Y5RPA– STA. 45+00 TO STA. 49+00 LT

DETAIL H
TOE PROTECTION
(Not to Scale)



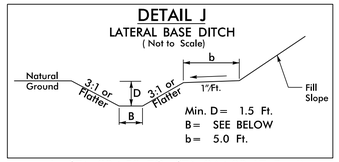
–L– STA. 121+50 TO STA. 127+90 RT
–L– STA. 186+71 TO STA. 187+92 LT
–L– STA. 198+60 TO STA. 203+00 RT
–L– STA. 199+36 TO STA. 202+57 LT
–Y4– STA. 40+82 TO STA. 43+12 LT
–Y4– STA. 40+38 TO STA. 41+90 RT
–Y5LPD– STA. 19+00 TO STA. 21+00 RT
–Y5LPD– STA. 20+21 TO STA. 24+50 LT
–Y5FLY– STA. 57+07 TO STA. 62+59 LT
–Y5RPD– STA. 15+00 TO STA. 24+34 RT
–Y5C– STA. 12+83 TO STA. 17+66 LT
–Y5C– STA. 12+64 TO STA. 17+88 RT
–Y5B– STA. 13+20 TO STA. 17+18 LT
–Y5RPC– STA. 13+37 TO STA. 21+33 RT
–Y5LPD– STA. 38+47 TO STA. 39+75 LT
–Y5LPD– STA. 37+76 TO STA. 39+18 RT
–Y5RPA– STA. 42+36 TO STA. 44+00 RT
–Y5– STA. 47+87 TO STA. 50+88 LT
–Y5– STA. 55+85 TO STA. 65+25 LT
–Y5– STA. 64+30 TO STA. 64+55 RT
–Y5– STA. 107+80 TO STA. 109+51 RT
–Y5LPD– STA. 44+31 TO STA. 48+12 RT
–YRPA– STA. 11+88 TO STA. 13+93 RT
–LSB– STA. 88+50 TO STA. 90+48 RT
–LSB– STA. 90+97 TO STA. 95+38 RT

DETAIL I
STANDARD BASE DITCH
(Not to Scale)



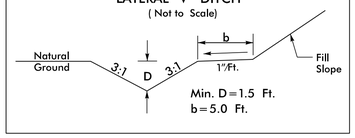
–Y5LPD– STA. 13+78 RT, L=285',
BEG. ELEV=131.67', END ELEV=130.90', S=0.3%
–LNB– STA. 60+18 TO 61+15 RT, D=1.25'
BEG. ELEV=114.10' END ELEV=111.40', S=2.8%
–LNB– STA. 61+15 TO 62+18 RT, D=1.25'
BEG. ELEV=111.40 END ELEV=113.10, S=1.7%

DETAIL J
LATERAL BASE DITCH
(Not to Scale)



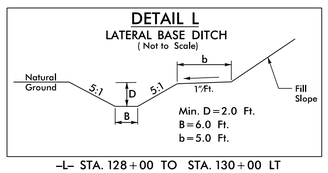
–L– STA. 90+50 TO STA. 94+00 LT, B=4'
–L– STA. 118+50 TO STA. 121+12 LT, B=4'
–L– STA. 130+00 TO STA. 132+50 LT, B=4'
–L– STA. 137+00 TO STA. 138+00 LT, B=4'
–L– STA. 138+50 TO STA. 147+00 LT, B=4'
–L– STA. 147+00 TO STA. 154+50 LT, B=4'

DETAIL K
LATERAL 'V' DITCH
(Not to Scale)



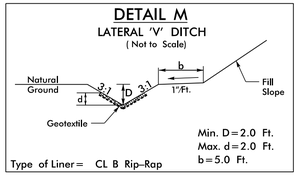
–L– STA. 89+00 TO STA. 90+50 RT
–L– STA. 112+50 TO STA. 113+81 RT
–L– STA. 129+00 TO STA. 131+50 RT
–L– STA. 138+00 TO STA. 138+50 LT
–L– STA. 154+50 TO STA. 158+87 LT
–L– STA. 249+00 TO STA. 253+00 RT
–Y5C– STA. 19+38 TO STA. 24+50 LT
–Y5– STA. 42+00 TO STA. 45+51 LT
–Y5– STA. 64+50 TO STA. 68+50 LT
–Y5– STA. 70+02 TO STA. 76+21 LT
–Y5– STA. 70+00 TO STA. 73+64 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



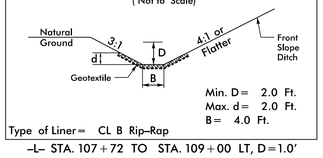
–L– STA. 128+00 TO STA. 130+00 LT

DETAIL M
LATERAL 'V' DITCH
(Not to Scale)



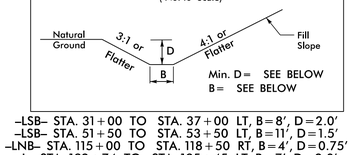
–Y5RPD– STA. 12+93 TO STA. 15+40 RT

DETAIL N
SPECIAL CUT BASE DITCH
(Not to Scale)



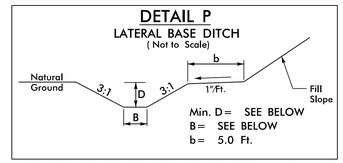
–L– STA. 107+72 TO STA. 109+00 LT, D=1.0'

DETAIL O
SPECIAL LATERAL BASE DITCH
(Not to Scale)



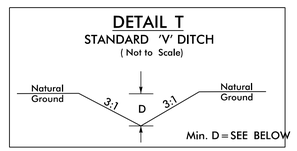
–LSB– STA. 31+00 TO STA. 37+00 LT, B=8', D=2.0'
–LSB– STA. 51+50 TO STA. 53+50 LT, B=11', D=1.5'
–LNB– STA. 115+00 TO STA. 118+50 RT, B=4', D=0.75'
–L– STA. 192+74 TO STA. 195+45 LT, B=7', D=2.0'
–Y4– STA. 42+00 TO STA. 61+50 RT, B=4', D=3.5'
–Y4– STA. 61+50 TO STA. 64+64 RT, B=4', D=2.75'

DETAIL P
LATERAL BASE DITCH
(Not to Scale)



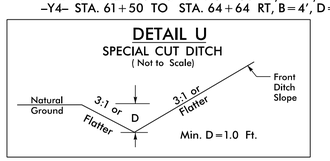
–Y3– STA. 18+50 TO STA. 19+15 LT, B=4', D=1.00'
–Y3– STA. 22+50 TO STA. 24+12 LT, B=4', D=2.00'
–L– STA. 128+00 TO STA. 129+00 RT, B=4', D=1.00'
–Y5– STA. 65+00 TO STA. 68+50 LT, B=4', D=1.00'

DETAIL T
STANDARD 'V' DITCH
(Not to Scale)



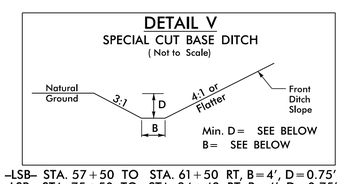
–Y1NB– STA. 44+50, L=53', S=0.8%, D=1.5'
BEG. ELEV=119.98, END ELEV=119.56, M=3.5
–Y5LPA– STA. 18+75, L=50', S=4.8%, D=1.0'
BEG. ELEV=144.45, END ELEV=142.05, M=3
–L– STA. 186+00 RT, L=200', S=0.3%, D=2.5'
BEG. ELEV=125.00, END ELEV=124.40'
–SR5C_DET– STA. 13+10 TO STA. 14+00, L=90', S=0.02%, D=1.0'
BEG. ELEV=140.43, END ELEV=140.41

DETAIL U
SPECIAL CUT DITCH
(Not to Scale)



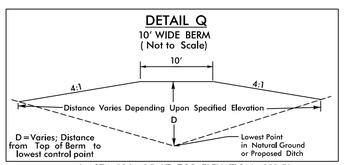
–LSB– STA. 81+00 TO STA. 84+00 LT
–LSB– STA. 128+50 TO STA. 129+00 LT
–LNB– STA. 45+20 TO STA. 48+00 LT
–LNB– STA. 118+50 TO STA. 120+52 RT
–L– STA. 102+12 TO STA. 103+00 LT
–L– STA. 111+00 TO STA. 112+50 RT
–L– STA. 113+81 TO STA. 118+50 LT
–L– STA. 131+50 TO STA. 132+50 RT
–L– STA. 169+00 TO STA. 173+00 LT
–L– STA. 232+50 TO STA. 241+50 RT

DETAIL V
SPECIAL CUT BASE DITCH
(Not to Scale)



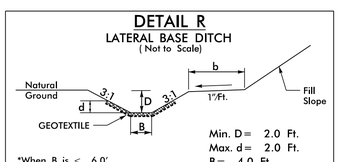
–LSB– STA. 57+50 TO STA. 61+50 RT, B=4', D=0.75'
–LSB– STA. 75+50 TO STA. 84+48 RT, B=4', D=0.75'
–LSB– STA. 94+00 TO STA. 96+00 RT, B=4', D=1.0'
–L– STA. 86+50 TO STA. 90+50 LT, B=4', D=1.5'
–L– STA. 94+00 TO STA. 100+28 LT, B=4', D=2.0'
–L– STA. 100+28 TO STA. 102+12 LT, B=4', D=1.0'
–L– STA. 109+00 TO STA. 113+81 LT, B=4', D=1.5'
–L– STA. 195+45 TO STA. 199+55 LT, B=7', D=1.0'

DETAIL Q
10' WIDE BERM
(Not to Scale)



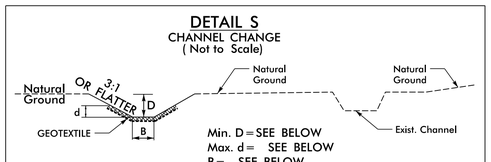
–L– STA. 126+25 LT; TOP ELEVATION=121.5'
–L– STA. 138+00 LT; TOP ELEVATION=128.5'
–L– STA. 154+50 LT; TOP ELEVATION=132.0'

DETAIL R
LATERAL BASE DITCH
(Not to Scale)



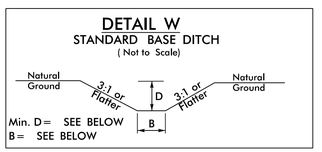
–L– STA. 158+87 TO STA. 159+00 LT, D=1.5'

DETAIL S
CHANNEL CHANGE
(Not to Scale)



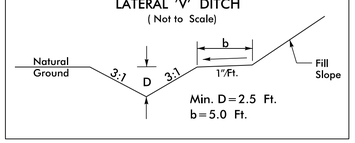
DETAIL NOT USED IN SECTION 1

DETAIL W
STANDARD BASE DITCH
(Not to Scale)



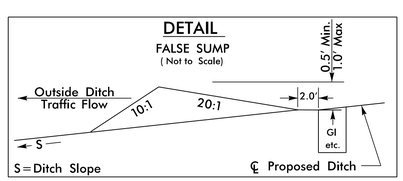
–L– STA. 128+00 RT, L=94 B=8', D=2.5'
BEG. ELEV=117.39 END ELEV=117.15, S=0.26%, M=6.0
–L– STA. 138+50 RT, L=41, B=6', D=2.0'
BEG. ELEV=122.78 END ELEV=122.45, S=0.80%, M=6.0
–L– STA. 113+81 RT, L=35, B=3', D=2.0'
BEG. ELEV=122.50 END ELEV=122.36, S=0.40%, M=3.0
–L– STA. 100+28 RT, L=22, B=6', D=2.5'
BEG. ELEV=121.50 END ELEV=121.43, S=0.33%, M=6.0
–L– STA. 107+72 RT, L= 70, B=3', D=2.0'
BEG. ELEV=120.09 END ELEV=120.30, S=0.30%, M=6.0
–L– STA. 121+12 RT, L=54', B=3', D=3.0'
BEG. ELEV=115.95 END ELEV=115.80, S=0.28%, M=5.5
–L– STA. 160+29 RT, L= 69, B=12', D=3.0',
BEG. ELEV=124.74 END ELEV=124.63, S=0.16%, M=3.0
–Y5– STA. 104+47 TO STA. 106+50 LT, B=10', D=2.25'
BEG. ELEV=126.60, END ELEV=127.08, S=0.24%, M=3.0
–L– STA. 215+50 LT, L=76', B=4', D=1.25'
BEG. ELEV–=127.55, END ELEV=127.30, S=0.33%, M=3.0
–LNB– STA. 106+25 TO STA. 107+70 RT, B=4', D=1.0'
BEG. ELEV=113.08, END ELEV=112.80, S=0.19%, M=3.0
–LNB– STA. 107+70 TO STA. 108+54 RT, B=4', D=1.0'
BEG. ELEV=112.80, END ELEV=115.21, S=2.9%, M=3.0
–LNB– STA. 115+00 RT, L=107', B=4', D=1.0'
BEG. ELEV=120.50, END ELEV=119.6, S=0.8%, M=3.0

DETAIL X
LATERAL 'V' DITCH
(Not to Scale)

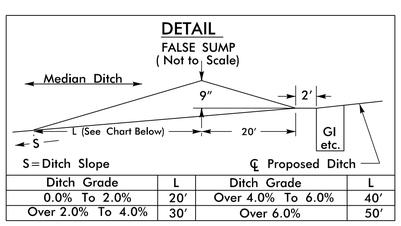


DETAIL NOT USED IN SECTION 1

DETAIL
FALSE SUMP
(Not to Scale)

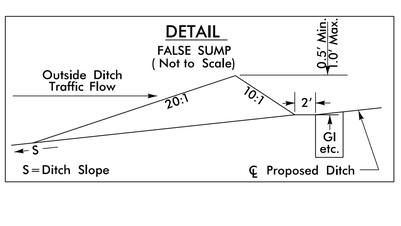


DETAIL
FALSE SUMP
(Not to Scale)



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

DETAIL
FALSE SUMP
(Not to Scale)



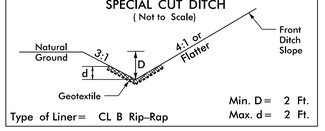
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Hydraulics\CADD\PSH\Redlines\I-5986A_HYD_Ditch Detail_Sec1.dgn
ahefler

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

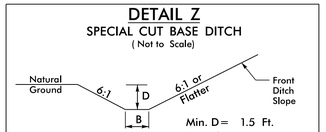
DETAIL Y
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 2 Ft.
Max. d = 2 Ft.
Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 1

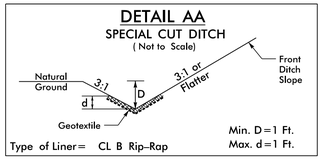
DETAIL Z
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 6 Ft.

DETAIL NOT USED IN SECTION 1

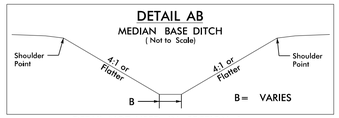
DETAIL AA
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.
Max. d = 1 Ft.
Type of Liner = CL B Rip–Rap

–Y5FLY– STA. 80+14.68 TO STA. 82+33.14

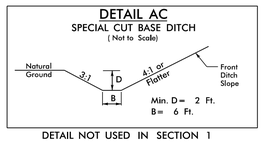
DETAIL AB
MEDIAN BASE DITCH
(Not to Scale)



B = VARIES

DETAIL NOT USED IN SECTION 1

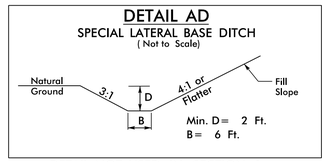
DETAIL AC
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.

DETAIL NOT USED IN SECTION 1

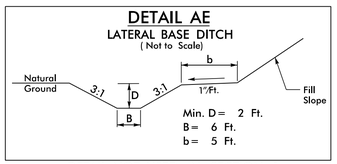
DETAIL AD
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.

DETAIL NOT USED IN SECTION 1

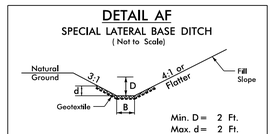
DETAIL AE
LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.
b = 5 Ft.

DETAIL NOT USED IN SECTION 1

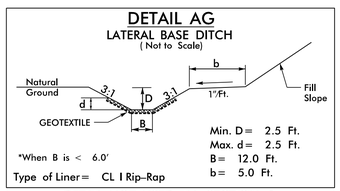
DETAIL AF
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
Max. d = 2 Ft.
B = 4 Ft.
Type of Liner = CL B Rip–Rap

–Y5– STA. 64+50 TO STA. 65+00 RT
–Y5FLY– STA. 62+54 TO STA. 63+50 RT

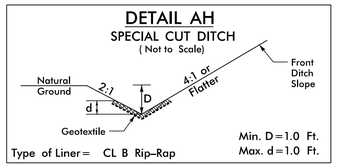
DETAIL AG
LATERAL BASE DITCH
(Not to Scale)



Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 12.0 Ft.
b = 5.0 Ft.
*When B is < 6.0'
Type of Liner = CL I Rip–Rap

DETAIL NOT USED IN SECTION 1

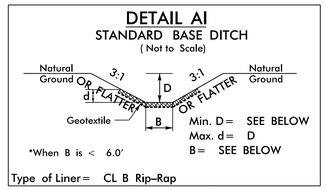
DETAIL AH
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 1

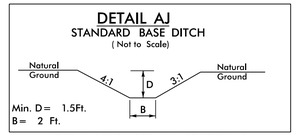
DETAIL AI
STANDARD BASE DITCH
(Not to Scale)



Min. D = SEE BELOW
Max. d = D
B = SEE BELOW
*When B is < 6.0'
Type of Liner = CL B Rip–Rap

–L– STA. 121+12 RT, L=54', B=3', D=3.0'
BEG. ELEV=115.95 END ELEV=115.80, S=0.28%, M=5.5
–Y1SB– STA. 18+58 TO 21+90 RT, B=4', D=2.5'
BEG. ELEV=119.34 END ELEV=115.4, S=1.7% M=3.0

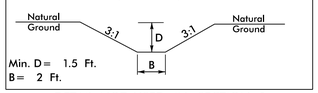
DETAIL AJ
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.5Ft.
B = 2 Ft.

DETAIL NOT USED IN SECTION 1

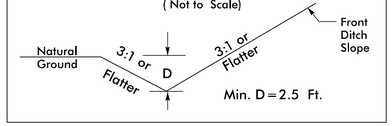
DETAIL AK
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 2 Ft.

DETAIL NOT USED IN SECTION 1

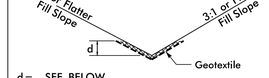
DETAIL AL
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 2.5 Ft.

DETAIL NOT USED IN SECTION 1

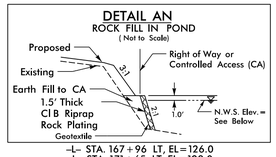
DETAIL AM
TOE PROTECTION
(Not to Scale)



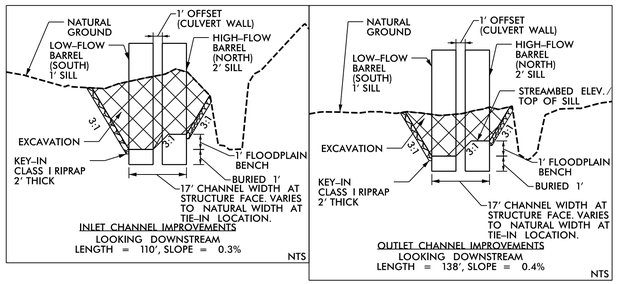
d = SEE BELOW
Type of Liner = B Rip–Rap

DETAIL NOT USED IN SECTION 1

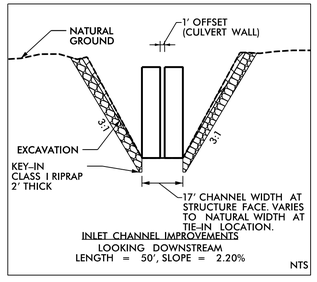
DETAIL AN
ROCK FILL IN POND
(Not to Scale)



–L– STA. 167+96 LT, EL=126.0
–L– STA. 171+65 LT, EL=128.0



CULVERT INLET AND OUTLET DETAILS
–L– STA 252+34.5



CULVERT INLET DETAIL
–Y5– STA 45+24

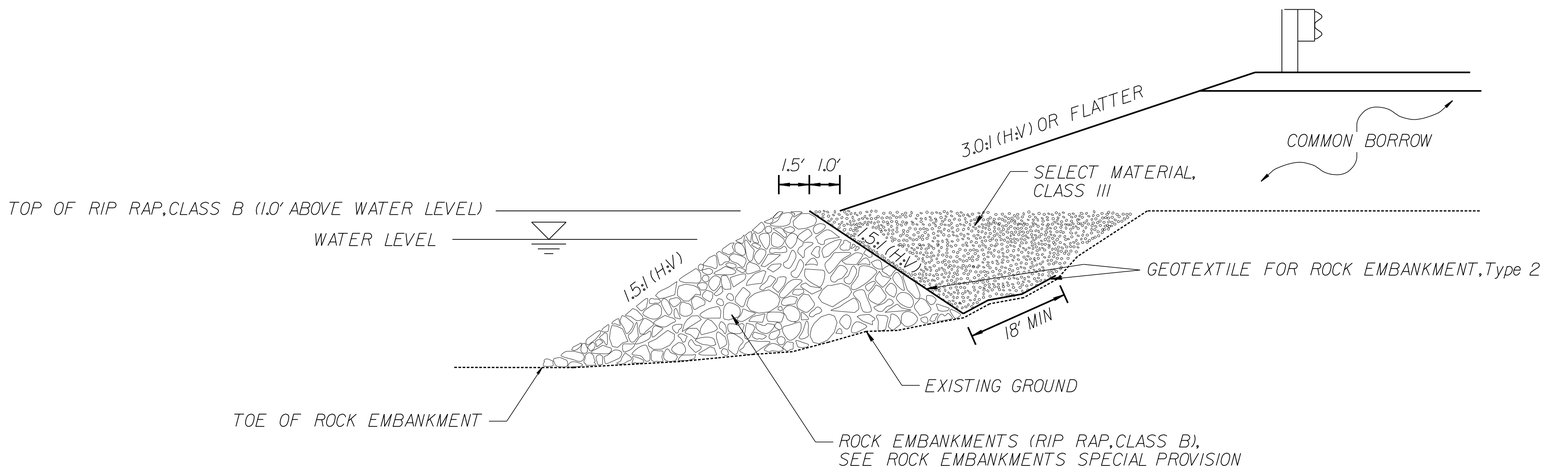
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Hydraulics\CADD\PSH\Redlines\I-5986A_HYD_Ditch Detail_Sec1.dgn
aheflier

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2G-2

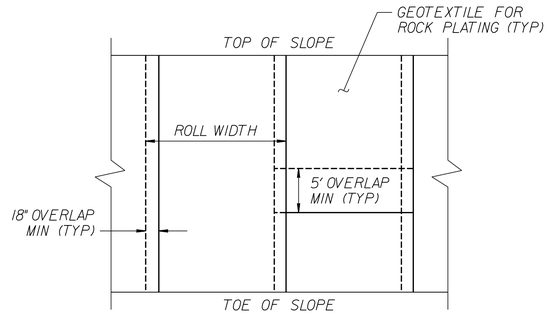
GEOTECHNICAL ENGINEER	ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 041709 ENGINEER GREGORY K. GOINS	
SIGNATURE DATE	SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



ROCK EMBANKMENT TYPICAL SECTION

(NOT TO SCALE)



GEOTEXTILE OVERLAP DETAIL

(PLAN VIEW)

ROCK EMBANKMENT LOCATIONS			
LINE	BEGIN	END	LOCATION
-Y5LPD-	30+80 +/-	31+38 +/-	RIGHT

NOTES

1. FOR ROCK EMBANKMENTS, SEE ROCK EMBANKMENTS SPECIAL PROVISION.
2. INSTALL ROCK EMBANKMENTS USING RIP RAP, CLASS B, AS SHOWN IN THE PLANS.
3. INSTALL GEOTEXTILE FOR ROCK EMBANKMENT AS SHOWN IN THE DETAIL.
4. FILL THE WEDGE BETWEEN THE RIP RAP AND THE EXISTING GROUND WITH SELECT MATERIAL, CLASS III.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

ROCK EMBANKMENTS DETAIL & NOTES

DATE: 04-30-20

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

BEGIN TIP PROJECT I-5986A
-LSB- POT STA. 12+00.00

-LSB- POT Sta. 10+00.00

900' LANE DROP

+91.17

◇404
5 TONS CL B RIPRAP
W/14 SY GEOTEXTILE

11' PS

12' PS

PLUG & FILL W/FLOWABLE FILL

24" RCP III

20'

24'

N 11° 24' 48.7" E

15+00

REMOVE APPROX. 8 LF OF 18" RCP

4' PS

12' PS

◇403
ADJ. 2GIB-WSS

200' PS TAPER

11' BST

I-95 SBL 24' BST

3' BST

RETAIN SYSTEM 18" RCP

WOODS

RETAIN DI

◇4EX

4' BST

I-95 NBL 24' BST

10.5' BST

15+00

N 12° 41' 50.7" E

RETAIN

EXIST

RETAIN DI

◇4EX

CONC

ROW FENCE WD POST/WIRE

OVERLAY EXISTING PAVEMENT

-LNB- POT Sta. 10+00.00

BEGIN TIP PROJECT I-5986A
-LNB- POT STA. 12+00.00

MATCHLINE -LSB- STA. 15+00.00 SEE SHEET 5

MATCHLINE -LNB- STA. 15+00.00 SEE SHEET 5

FOR -LNB- PROFILE SEE SHT. 83
FOR -LSB- PROFILE SEE SHT. 83

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh04.dgn
abeller

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-LSB-

PI Sta 18+02.99
△ = 0° 02' 23.7" (LT)
D = 0° 00' 58.9"
L = 243.85'
T = 121.93'
R = 350,000.00'
SE = NC
DS = 75 MPH

NAD 83/NA 2011

-LSB- PT Sta. 19+24.92

-LSB- PC Sta. 16+81.06

MATCHLINE
-LSB- STA. 15+00.00
SEE SHEET 4

MATCHLINE
-LSB- STA. 27+00.00
SEE SHEET 6

MATCHLINE
-LNB- STA. 15+00.00
SEE SHEET 4

MATCHLINE
-LNB- STA. 27+00.00
SEE SHEET 6

RETAIN EXISTING C/A FENCE

R/W MON

900' LANE DROP

WOODS

SPECIAL LATERAL
V DITCH
SEE DETAIL A

0503
INV=120.5'
2 TONS CL B RIPRAP
W/7 SY GEOTEXTILE

9.17'

12' PS

0502
COLLAR

15" RCP-III

11" BST

I-95 SBL 24" BST

3' BST

36'

02

15+00

20+00

25+00

N 11° 22' 25.0" E

RETAIN DI

05EX

12' PS

-BL-77

-BL-86

-BL-78

-BL-85

BM #561

TO ROCK HILL RD (SR 1835)
(EXIT 52)

3.5' BST

I-95 NBL 24" BST

11" BST

EXIST

N 12° 41' 50.7" E

FALLOW

OVERLAY EXISTING
PAVEMENT

FOR –LNB– PROFILE SEE SHTS. 83 THRU 84
FOR –LSB– PROFILE SEE SHTS. 83 THRU 84

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh05.dgn
sheiler

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-LSB-

PIs Sta 31+98.38	PI Sta 37+67.32
Θs = 0° 35' 48.6"	Δ = 4° 38' 04.8" (RT)
Ls = 250.00'	D = 0° 28' 38.9"
LT = 166.67'	L = 970.68'
ST = 83.33'	T = 485.61'
	R = 12,000.00'
	SE = 0.03
	DS = 75 MPH

NAD 83/NA 2011

-LSB- TS Sta. 30+31.71

-LSB- SC Sta. 32+81.71

RETAIN EXISTING C/A FENCE

EXISTING R/W

48" WW & ISEW

R/W MON

WOODS

SPECIAL LATERAL V DITCH SEE DETAIL A

SPECIAL LATERAL 8' BASE DITCH SEE DETAIL O

◇602◇ INV=118.3' 5 TONS CL B RIPRAP W/14 SY GEOTEXTILE

◇604◇ INV=116.2' 5 TONS CL B RIPRAP W/14 SY GEOTEXTILE

PLUG & FILL W/FLOWABLE FILL

24" RCP

83.34' TYP.

PROP. SIGN

CAT-1

GREU TL-3

8:1

12' PS

36'

I-95 SBL 38' BST

N 11° 22' 25.0" E

30+00

35+00

40+00

-LSB-

-BL-87

-BL-88

-BL-89

REMOVE DI

2GIB-WSS ◇060◇

REMOVE APPROX. 7 LF OF EX. 18" RCP

◇603◇ 2GIB-WSS

FS

CONC

RETAIN

RETAIN DI ◇6EX◇

-BL-82

-BL-83

-BL-84

-LNB-

N 12° 41' 50.7" E

I-95 NBL 38' BST

10' BST

EXIST

OVERLAY EXISTING PAVEMENT

388' WW & ISBW

MATCHLINE -LSB- STA. 27+00.00 SEE SHEET 5

MATCHLINE -LSB- STA. 40+00.00 SEE SHEET 7

MATCHLINE -LNB- STA. 27+00.00 SEE SHEET 5

MATCHLINE -LNB- STA. 40+00.00 SEE SHEET 7

FOR –LNB– PROFILE SEE SHTS. 84 THRU 85
FOR –LSB– PROFILE SEE SHTS. 84 THRU 85

FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh06.dgn
sheiler

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-LSB-			-LNB-	
PI Sta 37+67.32	PI Sta 47+30.54	PI Sta 55+59.06	PIs Sta 41+94.09	PI Sta 53+89.43
Δ = 4° 38' 04.8" (RT)	Δ = 4° 12' 46.1" (RT)	Δ = 3° 31' 43.7" (RT)	θs = 0° 37' 22.0"	Δ = 11° 02' 46.4" (RT)
D = 0° 28' 38.9"	D = 0° 26' 26.7"	D = 0° 30' 11.2"	Ls = 250.00'	D = 0° 29' 53.6"
L = 970.68'	L = 955.86'	L = 701.38'	LT = 166.67'	L = 2,217.12'
T = 485.61'	T = 478.14'	T = 350.80'	ST = 83.33'	T = 1,112.01'
R = 12,000.00'	R = 13,000.00'	R = 11,388.00'		R = 11,500.00'
SE = 0.03	SE = 0.03	SE = 0.03		SE = EXISTING
DS = 75 MPH	DS = 75 MPH	DS = 75 MPH		DS = 75 MPH

NAD 83/NA 2011

-LSB- PCC Sta. 42+52.40

-LSB- PCC Sta. 52+08.26

RETAIN EXISTING C/A FENCE

300' LANE TAPER

SPECIAL LATERAL 11' BASE DITCH SEE DETAIL 'O'

<0708> 5 TONS CL B RIPRAP W/14 SY GEOTEXTILE

<0704> INV=114.0' 5 TONS CL B RIPRAP W/14 SY GEOTEXTILE

INV=111.3'

24" RCP-III

PLUG & FILL W/FLOWABLE FILL

REMOVE DI

<0703> 2GID-WSS

REMOVE 12' 18" RCP

FS

<0707> 2GID-WSS

ADJ. 2GIB-WSS

<0706>

RETAIN DI

<07EX2>

<07EX1>

RETAIN

OVERLAY EXISTING PAVEMENT

-LNB- TS Sta. 40+27.43

-LNB- SC Sta. 42+77.43

-BL- 90

-BL- 91

-BL- 95

-BL- 80

-BL- 79

-BL- 81

N 12° 41' 50.7" E

-LSB-

-LNB-

40+00

45+00

50+00

WOODS

48" WW & 1SBW

EXISTING R/W

R/W MON

I-95 SBL 38" BST

I-95 SBL VAR BST

I-95 NBL 38" BST

11" BST

10" BST

3.5" BST

EXIST

+91.17

MATCHLINE -LSB- STA. 40+00.00 SEE SHEET 6

MATCHLINE -LSB- STA. 53+00.00 SEE SHEET 8

MATCHLINE -LNB- STA. 40+00.00 SEE SHEET 7

MATCHLINE -LNB- STA. 53+00.00 SEE SHEET 8

FOR –LNB– PROFILE SEE SHTS. 85 THRU 86

FOR –LSB– PROFILE SEE SHTS. 85 THRU 86

FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
K:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh07.dgn
dlilley

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-LSB- POT Sta. 61+71.17 =
-YRPB- TS Sta. 10+00.00
(36' LT)

-LSB- ST Sta. 61+59.64

-LSB- CS Sta. 59+09.64

NAD 83/NA 2011

BEGIN WW FENCE
-LSB- 54+20.00

BEGIN NOISE WALL
END WW FENCE
-LSB- STA. 54+81.05 (194.23' LT)

REMOVE EXISTING FENCE

RETAIN EXISTING C/A FENCE

PROP. NOISE WALL NW1B

300' LANE TAPER

680' ACCEL. LANE

CLEAR TO NOISE WALL

SPECIAL LATERAL
11' BASE DITCH
SEE DETAIL O

<0803>
INV = 107.9'

5 TONS CL B RIPRAP
W/14 SY GEOTEXTILE
ON BANKS ONLY

-YRPB- SC Sta. 12+00.00

<08EX>

WOODS

83.34'
TYP.

28.57'
TYP.

+27.05

+57.14

12' PS

48'

55+00

60+00

65+00

N 24° 58' 32.3" E

-LSB-

-BL- 96

-BL- 97

RETAIN DI
<08EX>

SPECIAL CUT BASE DITCH
SEE DETAIL V

<0802>
2GID-WSS

SPECIAL LATERAL V DITCH
SEE DETAIL A

RETAIN CONCRETE DITCH

24" RCP-III

PLUG & FILL W/FLOWABLE FILL

REMOVE DI

<0801>
INV = 111.4'
STANDARD 4'
BASE DITCH
SEE DETAIL I

-LNB-

OVERLAY EXISTING PAVEMENT

-LNB- CS Sta. 64+94.54

GRASS

RETAIN EXISTING C/A FENCE

CITY OF EASTOVER

NON-IMPACTED BILLBOARD
-LNB- STATION 55+62 RT
MILEMARKER 54.1

HUBERT ELLIS MCDONALD JR
DB 4399 PG 106

SR 1833 SANDEROSA RD. 27' BST

24" C&G

TEMPLE BAPTIST CHURCH
DB 5307 PG 668
PB 92 PG 15

MATCHLINE
-LSB- STA. 53+00.00
SEE SHEET 7

MATCHLINE
-LNB- STA. 53+00.00
SEE SHEET 7

MATCHLINE
-LSB- STA. 65+00.00
SEE SHEET 9

MATCHLINE
-LNB- STA. 65+00.00
SEE SHEET 9

-LSB-		-LNB-		-YRPB-	
PI Sta 55+59.06	PIs Sta 59+92.97	PI Sta 53+89.43	PIs Sta 65+77.88	PIs Sta 11+33.35	PI Sta 14+17.34
Δ = 3° 31' 43.7" (RT)	Θs = 0° 37' 44J"	Δ = 11° 02' 46.4" (RT)	Θs = 0° 37' 22.0"	Θs = 2° 23' 14.4"	Δ = 10° 20' 56.4" (LT)
D = 0° 30' 11.2"	Ls = 250.00'	D = 0° 29' 53.6"	Ls = 250.00'	Ls = 200.00'	D = 2° 23' 14.4"
L = 701.38'	LT = 166.67'	L = 2,217.12'	LT = 166.67'	LT = 133.35'	L = 433.50'
T = 350.80'	ST = 83.33'	T = 1,112.01'	ST = 83.33'	ST = 66.68'	T = 217.34'
R = 11,388.00'		R = 11,500.00'			R = 2,400.00'
SE = 0.03		SE = EXISTING			SE = 0.07
DS = 75 MPH		DS = 75 MPH			DS = 65 MPH

FOR –LNB– PROFILE SEE SHT. 86
FOR –LSB– PROFILE SEE SHT. 86
FOR –YRPB– PROFILE SEE SHT. 145

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
N:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh08.dgn
dhall

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-LNB-

PIs Sta 65+77.88	
Gs = 0° 37' 22.0"	
Ls = 250.00'	
LT = 166.67'	
ST = 83.33'	

-YRPB-

PI Sta 14+17.34	
Δ = 10° 20' 56.4" (LT)	
D = 2° 23' 14.4"	
L = 433.50'	
T = 217.54'	
R = 2,400.00'	
SE = 0.04	
DS = 65 MPH	

PIs Sta 17+00.18
Gs = 2° 23' 14.4"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

-YRPA-

PIs Sta 13+97.14	PI Sta 16+98.43
Gs = 2° 51' 53.2"	Δ = 12° 59' 14.8" (RT)
Ls = 200.00'	D = 2° 51' 53.2"
LT = 133.35'	L = 453.35'
ST = 66.68'	R = 2,000.00'
	SE = 0.09
	DS = 65 MPH

PIs Sta 19+83.81	
Gs = 2° 51' 53.2"	
Ls = 200.00'	
LT = 133.35'	
ST = 66.68'	

PI Sta 22+40.49	
Δ = 5° 24' 45.2" (LT)	
D = 7° 09' 43"	
L = 756.57'	
T = 378.61'	
R = 800.00'	
SE = EXISTING	
DS = 50 MPH	

-Y-

PI Sta 20+71.04	
Δ = 9° 34' 05.8" (LT)	
D = 3° 05' 49.4"	
L = 308.59'	
T = 154.81'	
R = 1,850.00'	
SE = EXIST.	
DS = 50 MPH	

TRAFFIC DIAGRAM
ADT 2018
ADT 2040
MURPHY ROAD (SR 1832)
4,100 / 7,100
1,600 / 1,900
400 / 700
44,500 / 58,600
1.5% 1.5%
44,600 / 58,400
400 / 1,000
1,200 / 1,800
6,400 / 7,900
MURPHY ROAD (SR 1832)

BEGIN CONSTRUCTION
BEGIN OVERLAY
-Y- POT Sta. 10+05.90

-Y- POT Sta. 10+00.00
-Y- POT Sta. 10+96.11=
-YRPA- POT Sta. 24+27.73
-YRPA- PT Sta. 22+78.25
-YRPA- PC Sta. 22+02.68
-YRPA- ST Sta. 21+17.13
-YRPA- CS Sta. 19+17.13
END GRADE
BEGIN OVERLAY
-YRPA- POC Sta. 19+00.00
-YRPA- SC Sta. 14+63.78
-YRPA- TS Sta. 12+63.78
-Y- POT Sta. 10+70.33=
-YRPB- POT Sta. 27+32.12
-YRPB- ST Sta. 18+33.50
END GRADE
BEGIN OVERLAY
-YRPB- CS Sta. 18+00.00
-YRPB- CS Sta. 16+33.50
REMOVE EXISTING FENCE
3" TOPSOIL CL B REPAIR W/ 10' GEOSYNTHETIC
END WW FENCE TIE TO EXISTING -LSB- STA.88+24.38 (27.47' LT)
BEGIN WW FENCE END NOISE WALL -LSB- STA.66+68.85 (23.88' LT)
PROP NOISE WALL NW1B
CLEAR TO NOISE WALL
RETAIN EXISTING C/A FENCE
OVERLAY EXISTING PAVEMENT
SEE DETAIL OF EXTENDING PAVED SHLD. TO FACE OF GUARDRAIL SHT. 2A-2
MILL EXISTING PAVEMENT UNDER BRIDGE STA.76+50.00 TO STA.80+00.00
-LSB- POT Sta.77+96.53=
-Y- POT Sta.14+55.55
-LNB- POT Sta.77+50.78=
-Y- POT Sta.15+36.41
-LNB- ST Sta.67+44.54
-Y- PC Sta.19+16.23
-Y- PT Sta.22+25.13
-Y- POT Sta.23+34.00
END CONSTRUCTION
END OVERLAY
-Y- POC Sta.19+83.13
MURPHY ROAD
MATCHLINE -LSB- STA. 65+00.00 SEE SHEET 8
MATCHLINE -LNB- STA. 65+00.00 SEE SHEET 8
MATCHLINE -LSB- STA. 91+00.00 SEE SHEET 10
MATCHLINE -LNB- STA. 91+00.00 SEE SHEET 10
REESE CREEK
WMMP INVESTMENTS LLC DB 5038 PG 406
WMMP INVESTMENTS LLC DB 5038 PG 46 PB 99 PG 8
JAMES MICHEAL PARKER DB 4427 PG 442 PB 90 PG 170
JAMES MICHAEL PARKER JOANN POWERS PARKER DB 4427 PG 442 PB 90 PG 170
TEMPLE BAPTIST CHURCH DB 5307 PG 668 PB 92 PG 16
MARTIN MANAGEMENT INVESTMENTS LP DB 6476 PG 659 PB 99 PG 32
PAUL LAVERNE MURPHY DB 3703 PG 394 PB 99 PG 14
MARY J SWANN DB 2836 PG 687
MARGARET MURPHY AUTRY HEIRS, C/O MARSHA AUTRY DB 2493 PG 59 PB 13 PG 172
KIRKPATRICK ASSOCIATES DB 2850 PG 241
NEIL F LESLIE HEIRS DB 3052 PG 523 PB 87 PG 13
NAD 83/NA 2011

GRAPHIC SCALE
50 25 0 50
PLANS

FOR -LNB- PROFILE SEE SHTS. 86 THRU 88
FOR -LSB- PROFILE SEE SHTS. 86 THRU 88
FOR -Y- PROFILE SEE SHT. 144
FOR -YRPA- PROFILE SEE SHT. 144
FOR -YRPB- PROFILE SEE SHT. 145
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
© 2020 RK&K
3201 Beechleaf Court, Suite 600
Raleigh, North Carolina 27604-1060
Tel: (919) 875-3091
Engineers | Construction Managers | Planners | Scientists
www.rkk.com

Responsible Penalty | Creative Solutions

8/24/2020
8:24:21 AM
C:\Users\kpruitt\Desktop\Projects\I-5986A_Murphy\Plans\SHEET 1 PLAN SHEETS\I-5986A_Plan_Sheet09.dgn

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
I-5985A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NSRS 2011

MATCHLINE -Y1NB- STA. 35+00.00 SEE SHEET 63

MATCHLINE -Y1NB- STA. 20+00.00 SEE SHEET 63

MATCHLINE -LSB- STA. 91+00.00 SEE SHEET 9

MATCHLINE -LNB- STA. 91+00.00 SEE SHEET 9

MATCHLINE -LNB- STA. 46+50.00 SEE SHEET 11

MATCHLINE -LSB- 119+50.00 SEE SHEET 11

MILL AND OVERLAY EXISTING PAVEMENT ON EXIT RAMP

JACTOM INC DB 2979 PG 812

I-95 BUS

RETAIN EXISTING C/A FENCE

OVERLAY EXISTING PAVEMENT

-YINB- CS Sta. 21+63.72

SEE DETAIL OF EXTENDING PAVED SHLD TO FACE OF GUARDRAIL SHT. 2A-2

KIRKPATRICK ASSOCIATES DB 2850 PG 241

MILL EXISTING PAVEMENT UNDER BRIDGE STA. 98+50.00 TO STA. 104+00.00

-YINB- ST Sta. 23+23.78

-LSB- SC Sta. 95+02.45

-LSB- POT Sta. 92+37.88= -YRPA- POT Sta. 10+00.00 (36' LT)

-LSB- TS Sta. 92+52.45

-YINB- TS Sta. 23+73.93

-YINB- SC Sta. 25+33.93

-LSB- POC Sta. 101+32.76= -YINB- POC Sta. 27+51.76

-LNB- POC Sta. 101+77.95= -YINB- POC Sta. 28+73.48

-LSB- CS Sta. 110+32.08

-LSB- PC Sta. 23+02.86

-LSB- PT Sta. 22+70.00

END WW FENCE PI TO EXISTING -YISB- STA. 23+87.00 (115.00' RT)

PB 124 PG 89 BEGIN WW FENCE PB 94 PC BEGIN NOISE WALL PB 68 PC -YISB- STA. 22+60.71 (118.82' RT)

CONCRETE DITCH

REMOVE EXISTING FENCE

CLEAR TO NOISE WALL

-LSB- ST Sta. 112+82.08

END GRADE

BEGIN OVERLAY -YISB- Sta. 18+50.00

-YISB- PCC Sta. 17+22.91

-YISB- SC Sta. 12+00.00

-LSB- TS Sta. 115+97.60

-LSB- SC Sta. 118+47.60

JOEL DAVID BRADT ELIZABETH J BRADT DB 9927 PG 112 PB 117 PG 104

LUCAS K SMITH DB 9646 PG 115 PB 117 PG 104

HANNAH C ROGERS ANTHONY T NICHOLSON DB 9707 PG 165 PB 117 PG 104

ANGELA M BARBOSA MARTIN A BARBOSA DB 10068 PG 215 PB 117 PG 104

SERGIO V BRADFORD DB 9752 PG 883 PB 117 PG 104

MORGAN L REITES DB 8757 PG 130 PB 117 PG 104

DAVID T GODSON ROBIN B GODSON DB 8451 PG 711 PB 117 PG 104

JENNIFER B LOGAN DB 9739 PG 525 PB 117 PG 104

BRAD L WARD HOLLY M WARD DB 10048 PG 424 PB 117 PG 104

DAVIDS DEVINE DB 9611 PG 168 PB 117 PG 104

REMOVE EXISTING FENCE

VAT TAPER

S 52 33' 25.5" W

PROP. SIGN

CLEAR TO NOISE WALL

-LSB-

-LNB-

-YINB-

-YISB-

PS TAPER (LT & RT)

END OVERLAY/BEGIN GRADE -LNB- POC Sta. 105+00.00

-LNB- CS Sta. 107+00.57

1350' TRANSITION

-LNB- ST Sta. 109+50.57

-LNB- TS Sta. 115+37.98

-LNB- SC Sta. 117+87.98

-YINB- ST Sta. 43+69.48

N 22° 25' 44.1" E

N 24° 58' 32.5" E

N 24° 59' 21.1" E

REESE CREEK

-LNB- TS Sta. 92+40.41

-LNB- SC Sta. 94+90.41

KIRKPATRICK ASSOCIATES DB 2850 PG 241

PLEASE NOTE: REESE CREEK STUDY IS UNDERWAY AND WILL LIKELY RESULT IN REVISIONS TO THE DESIGN IN THE VICINITY OF REESE CREEK

DOUBLE POST SPACING FOR GUARDRAIL AT EXISTING CULVERT

SEE DETAIL OF EXTENDING PAVED SHLD TO FACE OF GUARDRAIL SHT. 2A-2

MILL EXISTING PAVEMENT UNDER BRIDGE STA. 100+00.00 TO STA. 103+50.00

-YINB- CS Sta. 42+09.48 BEGIN CHANGE END OVERLAY

BRUCE CAIN DB 3062 PG 311 DB 3062 PG 309 DB 3062 PG 305

PATRICIA F LAWRENCE DB 8856 PG 276

PATRICIA DB 885

-LSB-

PI Sta 94+93.12	PI Sta 102+69.79	PI Sta 111+15.42	PI Sta 117+64.27	PI Sta 123+16.67
Gs = 0° 55' 48.5"	Δ = 1° 22' 55.3" (RT)	Gs = 0° 55' 48.5"	Gs = 0° 55' 05.5"	Δ = 6° 52' 58.3" (LT)
Ls = 250.00'	D = 0° 44' 38.8"	Ls = 250.00'	Ls = 250.00'	D = 0° 44' 04.4"
LT = 166.67'	L = 1529.63'	LT = 166.67'	LT = 166.67'	L = 537.00'
ST = 83.34'	T = 765.24'	ST = 83.34'	ST = 83.34'	T = 469.01'
	R = 7,700.00'			R = 7,820.00'
	SE = 0.03			SE = 0.03
	DS = 75 MPH			DS = 75 MPH

PI Sta 94+07.07	PI Sta 100+96.81
Gs = 0° 57' 17.7"	Δ = 9° 14' 42.11" (RT)
Ls = 250.00'	D = 0° 45' 50.2"
LT = 166.67'	L = 1,260.11'
ST = 83.34'	T = 606.40'
	R = 7,500.00'
	SE = 0.03
	DS = 75 MPH

-LNB-

PI Sta 107+83.91	PI Sta 117+04.65
Gs = 0° 57' 17.7"	Gs = 0° 44' 45.7"
Ls = 250.00'	Ls = 250.00'
LT = 166.67'	LT = 166.67'
ST = 83.34'	ST = 83.34'

PI Sta 122+20.00
Δ = 5° 09' 11.9" (LT)
D = 0° 35' 48.6"
L = 861.44'
T = 431.01'
R = 9,600.00'
SE = 0.03
DS = 75 MPH

-YINB-

PI Sta 17+56.04	PI Sta 22+17.05	PI Sta 24+80.61
Δ = 8° 04' 04.2" (RT)	Gs = 1° 41' 25.2"	Gs = 2° 46' 40.7"
D = 0° 59' 16.3"	Ls = 150.00'	Ls = 150.00'
L = 816.75'	LT = 166.67'	LT = 166.68'
T = 409.21'	ST = 53.33'	ST = 53.35'
R = 5,800.00'		
SE = 0.057'		
DS = 60 MPH		

PI Sta 34+51.99
Δ = 58° 10' 59.4" (LT)
D = 5° 09' 20.9"
L = 1,127.56'
T = 598.06'
R = 1,650.00'
SE = 0.06
DS = 60 MPH

PI Sta 42+62.83
Gs = 2° 46' 40.7"
Ls = 150.00'
LT = 106.68'
ST = 53.35'

-YISB-

PI Sta 11+12.43	PI Sta 14+60.93	PI Sta 19+96.73	PI Sta 33+04.95
Gs = 0° 44' 16.5"	Δ = 8° 26' 22.6" (RT)	Δ = 6° 11' 54.1" (RT)	Δ = 23° 30' 47.2" (RT)
Gs = 1° 36' 50.7"	D = 1° 36' 50.3"	D = 1° 09' 24.5"	D = 11° 23.8'
Ls = 200.00'	L = 522.91'	L = 547.09'	L = 197.59'
LT = 112.43'	R = 3,550.00'	T = 273.82'	T = 100.01'
ST = 87.60'	SE = 0.05 •	R = 4,976.82'	R = 485.00'
	DS = 65 MPH	SE = EXIST	SE = EXIST
		DS = 60 MPH	DS = 60 MPH

• TRANSITIONS TO EXISTING SUPERELEVATION 0.05 IS NOT ACHIEVED

TRAFFIC DIAGRAM
ADT 2018
ADT 2040

9,400 / 17,000 — I-95 BUS — 9,900 / 13,000 — I-95 — 44,600 / 69,000 — 54,500 / 89,000

GRAPHIC SCALE
50 25 0 50
PLANS

FOR -LNB- PROFILE SEE SHTS. 88 THRU 90
FOR -LSB- PROFILE SEE SHTS. 88 THRU 90
FOR -YXPA- PROFILE SEE SHT. 144
FOR -YINB- PROFILE SEE SHTS. 146 THRU 147
FOR -YISB- PROFILE SEE SHT. 148

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
Raleigh Knightdale
3125 Poplarwood Court, Forum 1, Suite 701
Raleigh, North Carolina 27615-3300
(919) 614-1183 FAX 614-2045
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsible People | Creative Solutions

C:\Projects\I-5985A\Roadway\Plans\Sheets\I-5985A_Sht10.dgn
8/24/2020 10:47:31 AM

8/17/99

-YISB-	-LSB-		-LNB-		-YINB-	
PIs Sta 11+12.43	PI Sta 123+16.67	PIs Sta 128+67.94	PI Sta 122+20.00	PIs Sta 127+34.76	PIs Sta 50+40.86	PI Sta 54+72.91
Θs = 0° 44' 16.5"	Δ = 6° 52' 58.3" (LT)	Θs = 0° 55' 05.5"	Δ = 5° 09' 11.9" (LT)	Θs = 0° 44' 45.7"	Θs = 0° 37' 00.9"	Δ = 5° 50' 09.3" (RT)
Θs = 1° 36' 50.5"	D = 0° 44' 04.4"	Ls = 250.00'	D = 0° 35' 48.6"	Ls = 250.00'	Ls = 160.00'	D = 0° 46' 16.1"
Ls = 200.00'	L = 937.00'	LT = 166.67'	L = 863.44'	LT = 166.67'	LT = 106.67'	L = 756.79'
LT = 112.43'	T = 469.07'	ST = 83.34'	T = 432.01'	ST = 83.33'	ST = 53.33'	T = 378.72'
ST = 87.60'	R = 7,800.00'		R = 9,600.00'			R = 7,430.00'
	SE = 0.03		SE = 0.03			SE = 0.02
	DS = 75 MPH		DS = 75 MPH			DS = 65 MPH

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

BEGIN PROP. MEDIAN BARRIER
-LSB- STA. 119+25.00

END NOISE WALL
END WW FENCE
-YISB- STA. 10+30.03 (94.56' LT)

-LSB- POC Sta. 120+96.96=
-YISB- CS Sta. 10+00.00
(36' LT)

-LSB- CS Sta. 127+84.61

FRANCES SNOW MOSLEY
CLAUDE STEVEN MOSLEY
DB 6411 PG 165

S.J. MCLAURIN, HEIRS
DB 4831 PG 521

N. 03°13'34" E. 606.45'

S. 28°37'05" E. 309.36'

N. 28°40'21" E. 87.60'

MATCHLINE -LSB- 119+50.00 SEE SHEET 10

MATCHLINE -LNB- 119+00.00 SEE SHEET 10

MATCHLINE -Y1NB- 46+50.00 SEE SHEET 10

MATCHLINE -LSB- 130+00.00 SEE SHEET 12

PROP. MEDIAN BARRIER

NON-IMPACTED BILLBOARD
-LSB- STATION 126+47.50 LT
MILEMARKER 55.4

BILLBOARD

RETAIN EXISTING C/A FENCE

BEGIN WW FENCE
TIE TO EXISTING

SPECIAL LATERAL
4' BASE DITCH
SEE DETAIL C

1104 5 TONS CL B RIPRAP
W/14 SY GEO FAB
INV=125.1'

PLUG & FILL
WITH FLOWABLE FILL

PROP. SIGN

GREU TL-3

CAT-1

-YISB-

-LSB-

-LNB-

-L-

120+00

125+00

130+00

48'

15" RCP-III

1101 2GIB-WSF 15" RCP-IV

1102 2GIB-WSF

1103 2GIB-WSF

1105 2GIB-WSF

REMOVE DI

VAR.

I-95 SBL 50' BST

I-95 NBL VAR BST

SPECIAL CUT DITCH
SEE DETAIL B

FILL & CAP AREA
BETWEEN BARRIERS

BY-172

PROP. NOISE WALL NW2

55+00

50+00

83.34' TYP.

1109 2GIB-WSF

1110 2 TONS CL B RIPRAP
W/7 SY GEO FAB
INV=125.9

1107 2GIB-WSF

1106 2GIB-WSF

B-77

1108 2 TONS CL B RIPRAP
W/7 SY GEO FAB
INV=123.5

-LNB- ST Sta. 129+01.43
N 29° 29' 55.2" E

-L- POT Sta. 79+78.98=
-LNB- POT Sta. 129+28.86
(13' RT)

N 22° 25' 44" E

THELBERT LEE ELLIOTT, JR
KERRY ANN ELLIOT
DB 7995 PG 459

JACQUELIN N CAHOON
CURTIS R CAHOON, III
DB 9790 PG 218
PB 45 PG 27

RONALD T PARKER
GLENDA SUR PARKER
DB 9234 PG 106
PB 45 PG 27

KERRY A ELLIOTT
THELBERT LEE ELLIOTTE, JR
DB 9657 PG 28

THE TAYLOR FAMILY TRUST
DB 5856 PG 437

ROBERT W. GUYNN
KAREN C. GUYNN
DB 7356 PG 667

BEGIN NOISE WALL
-YINB- STA. 49+26.75 (27.5'RT)

-YINB- TS Sta. 49+34.19

-YINB- SC Sta. 50+94.19

-LNB- CS Sta. 126+51.43

WOODS

RETAIN EXISTING C/A FENCE

FOR –LNB– PROFILE SEE SHTS. 90 THRU 91
FOR –LSB– PROFILE SEE SHTS. 90 THRU 91
FOR –Y1NB– PROFILE SEE SHT. 147
FOR –Y1SB– PROFILE SEE SHT. 148

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh11.dgn
sheetgc

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -YB- STA. 130+00.00 SEE SHEET 11

MATCHLINE -L- STA. 93+00.00 SEE SHEET 13

MATCHLINE -Y3- STA. 17+00.00 SEE SHEET 64

MATCHLINE -Y3- STA. 25+00.00 SEE SHEET 65

NAD 83/NA 2011

-L- POT Sta. 80+40.84=
-LSB- ST Sta. 130+34.61
(13' LT)

S.J. MCLAURIN, HEIRS
DB 4831 PG 521

-Y3- PT Sta. 18+12.00

BEGIN RETAINING WALL
-L- STA. 82+56.44

BEGIN WW FENCE
TIE TO EXIST FENCE

END WW FENCE

REMOVE PIPE

1210 2GIB-NSF

REMOVE CB

1226 2GIB-WSF

FILL & CAP AREA
BETWEEN BARRIERS

15" RCP-IV

REMOVE JB

PLUG & FILL
WITH FLOWABLE FILL

PROP SIGN

REMOVE DI

1221 2GIB-WSF

30" RCP-IV

1222 2GIB-WSF

PLUG & FILL
WITH FLOWABLE FILL

-YINB-

REMOVE JB

1225 2GIB-WSF

15" RCP-IV

83.34'
TYP.

PROP SIGN

BEGIN WW FENCE
TIE TO EXIST FENCE

1224 2GIB-WSF

END WW FENCE

REMOVE CB

REMOVE PIPE

PROP SBG

BAYWOOD RD

1219
8 TONS CL B RIPRAP
W/21 SY GEO FAB

-YINB- CS Sta. 58+50.98 GRADE TO DRAIN

END NOISE WALL
-YINB- STA. 59+50.09 (27.5' RT)

-YINB- ST Sta. Sta. 60+10.98=
-L- POT Sta. 82+61.09 (73'RT)

BEGIN RETAINING WALL
-L- STA. 82+55.68

CLIFF L EDWARDS
SOPHIA H EDWARDS
DB 3564 PG 597
PB 135 PG 155
PB 45 PG 27

1214 2GIB-NSF

15" RCP-IV

1215 2GIB-NSF

15" CSP
2 ELBOWS

1223
2 TONS CL B RIPRAP
W/7 SY GEO FAB

-Y3- PC Sta. 24+85.51

BEGIN APPROACH SLAB
-Y3- 19+58.42

BEGIN BRIDGE
-Y3- 19+82.59

END RETAINING WALL
-L- STA. 83+80.69

LATERAL 4' BASE DITCH
SEE DETAIL P

10' DITCH TAPER
TO 30" INLET

1220
2 TONS CL B RIPRAP
W/7 SY GEO FAB

END WW FENCE
TIE TO EXIST FENCE

-L- POT Sta. 83+19.18=
-Y3- POT Sta. 20+77.59
SKEW ANGLE = 89° 55' 37"

NON-IMPACTED BILLBOARD
-L- STATION 86+50 LT
MILEMARKER 55.6

1217

1213 2GIB-NSF

BEGIN WW FENCE

1227 2GIB-WSF

15" RCP-III

1216 2GIB-WSF

GREU TL-3

26' (FUTURE LANE)

26' MEDIAN

48'

72'

85+00

90+00

60+00

130+00

N 29° 29' 55.2" E

WILLIAM P BIZZELL
DB 2905 PG 189
PB 19 PG 44

MARY L GILLESPIE
LACY MCLAURIN HEIRS
DB 476 PG 83

N 72°58'58" W
30.67'

NON-IMPACTED BILLBOARD
-L- STATION 92+00 LT
MILEMARKER 55.7

RETAIN EXISTING C/A FENCE

LATERAL 4' BASE DITCH
SEE DETAIL J

SPECIAL CUT 4' BASE DITCH
SEE DETAIL V

1202 2GIB-WSF

1201 2GIB-WSF REMOVE DI

1203 2GIB-WSF

LATERAL 'V' DITCH
SEE DETAIL K

1204
2 TONS CL B RIPRAP
W/7 SY GEO FAB

LATERAL 4' BASE DITCH
SEE DETAIL D

ACCESS AND UTILITY EASEMENT
PB 124 PG 127

N 29°33'04" E
724.67'

PROP. MEDIAN BARRIER

CHARLES G MCLAURIN
SHIRLEY T MCLAURIN
DB 8175 PG 542
PB 124 PG 127

KENNETH A MCLAURIN
DB 8175 PG 544
PB 124 PG 127

END WW FENCE
TIE TO EXIST FENCE

END RETAINING WALL
-L- STA. 83+81.93

END BRIDGE
-Y3- 21+84.59

END APPROACH SLAB
-Y3- 22+08.76

NON-IMPACTED BILLBOARD
-L- STATION 92+50 RT
MILEMARKER 55.7

300' TAPER

TRAFFIC DIAGRAM

BAYWOOD ROAD
(SR 1828)

ADT 2018
ADT 2040

3,000
6,100

54,500
69,400

I-95

I-95

54,500
69,400

3,000
6,100

BAYWOOD ROAD
(SR 1828)

-YINB-	-LSB-	-Y3-	
PI Sta 54+72.91	PIs Sta 59+04.32	PIs Sta 128+67.94	PI Sta 15+82.98	PI Sta 26+62.32
Δ = 5° 50' 09.3" (RT)	Θs = 0° 37' 00.9"	Θs = 0° 55' 05.5"	Δ = 13° 10' 49.4" (RT)	Δ = 0° 24' 18.8" (RT)
D = 0° 46' 16.1"	Ls = 160.00'	Ls = 250.00'	D = 2° 51' 53.2"	D = 0° 06' 52.5"
L = 756.79'	LT = 106.67'	LT = 166.67'	L = 460.08'	L = 353.61'
T = 378.72'	ST = 53.33'	ST = 83.34'	T = 231.06'	T = 176.81'
R = 7,430.00'			R = 2,000.00'	R = 50,000.00'
SE = 0.02			SE = 0.06	SE = NC
DS = 65 MPH			DS = 60 MPH	DS = 60 MPH

FOR -LSB- PROFILE SEE SHT. 91
FOR -LLT SEC1- PROFILE SEE SHT. 92
FOR -LRT SEC1- PROFILE SEE SHT. 92
FOR -Y1NB- PROFILE SEE SHT. 147
FOR -Y3- PROFILE SEE SHT. 149

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh12.dgn
dmiller

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA. 93+00.00 SEE SHEET 12

MATCHLINE -L- STA. 106+00.00 SEE SHEET 14

Oak Hill Drive

Attica Drive

CMH HOMES, INC
DB 10113 PG 215

3 TINA P BELUSH
DB 7196 PG 108

4 ETHEL B MCLAURIN
DB 2590 PG 465

5 LAURICE DUANE CULBRETH
CYNTHIA W CULBRETH
DB 3966 PG 0117

5 LAURICE DUANE CULBRETH
DB 2846 PG 487

N 17°02'12" E 103.83'
N 17°19'01" E 103.00'
N 28°06'01" E 137.37'
S 72°40'59" E 7.86'
N 65°23'50" W 26.70'
N 28°42'26" E 312.12'
N 28°42'26" E 137.93'
N 65°23'50" W 57.80'
N 28°39'59" E 211.61'
N 28°24'57" E 111.19'
S 73°22'29" E 33.45'
N 22°36'07" E 509.78'
N 73°06'56" W 111.80'
S 72°49'14" E 194.33'
N 72°40'59" W 218.30'
S 72°40'59" E 300.37'
S 63°45'59" E 305.88'
N 63°57'08" W 238.08'
N 17°23'59" W 214.76'

BM #5

+65.46 165.00' LT
+90.00 165.00' LT, 189.00' LT
+50.00 185.00' LT
+57.00 201.00' LT
+77.00 194.00' LT
+68.00 165.00' LT

TIE TO EXISTING C/A FENCE

PUE

IMPACTED BILLBOARD
-L- STATION 97+00 LT
MILEMARKER 55.9

LATERAL 4' BASE DITCH SEE DETAIL J

SPECIAL CUT 4' BASE DITCH SEE DETAIL V

SPECIAL CUT DITCH SEE DETAIL U

FS MIN ELEV. 128.0

SPECIAL CUT DITCH SEE DETAIL B

PROP. WOVEN WIRE FENCE

PROP. SIGN

CAT-1

GREU TL-3

8:1

12' PS

14' PS

165'

140'

48'

26' MEDIAN

60'

95+00

100+00

105+00

N 29°29'55.2" E

REMOVE DI

REMOVE EXISTING FENCE

PLUG & FILL WITH FLOWABLE FILL

1301 HW

1307 2GIB-WSF

1302 2GIB-WSF

1308 2GIB-WSF

1303 2GIB-WSF

15" RCP-IV

36" RCP-IV

FILL & CAP AREA BETWEEN BARRIERS

PROP. MEDIAN BARRIER

STANDARD 6' BASE DITCH SEE DETAIL W

1309 30 TONS CL I RIPRAP W/60 SY GEO FAB

RETAIN EXISTING C/A FENCE

+58.03 140.00' RT

TIE TO EXISTING C/A FENCE

LATERAL 4' BASE DITCH SEE DETAIL D

20' ACCESS AND UTILITY EASEMENT PB 124 PG 188

20' ACCESS EASEMENT PB 124 PG 188

12' SBW

72" CLF & 3 SBW

WATER TOWER

CONC

BUFORD O MCDONALD JR
ERNA S MCDONALD
DB 8175 PG 546
PB 124 PG 127

EASTOVER SANITARY DISTRICT
DB 8404 PG 747
PB 124 PG 188

CHARLES G MCLAURIN
KENNETH A MCLAURIN
DB 4702 PG 213
PB 124 PG 188

1 KENNETH A MCLAURIN
DB 8175 PG 544
PB 124 PG 127

6 CHARLES G MCLAURIN
KENNETH A MCLAURIN
DB 4605 PG 674

N 73°10'45" W 124.83'
N 73°06'23" W 124.96'
N 73°00'22" W 126.74'
S 69°45'07" E 125.55'
S 30°10'05" W 200.40'
S 72°25'56" E 342.34'
S 72°25'56" E 333.20'
N 24°54'22" E 398.74'
N 21°03'53" E 426.13'
S 22°29'44" W

300' TAPER

900' ACCELERATION LANE

300' TAPER

FOR -LLT SEC1- PROFILE SEE SHT. 93
FOR -LRT SEC1- PROFILE SEE SHT. 93

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway Proj\Plan Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh13.dgn
dwetter

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA. 106+00.00 SEE SHEET 13

MATCHLINE -L- STA. 119+00.00 SEE SHEET 15

9
NORMAN T MCLAURIN
JENNIE C MCLAURIN
DB 3404 PG 449
DB 3132 PG 542

10
DONNA DEE HALL
DB 3517 PG 0776
PB 59 PG 16

11
STEPHEN C PATTERSON, JR
DONNA W PATTERSON
DB 3887 PG 531

W. ED TURNER
LORENE TURNER BYRD
DB 476 PG 83

5
LAURICE DUANE CULBRETH
DB 2846 PG 487

12
CLIFTON D MCLAURIN
KATHLEEN MCLAURIN
DB 2363 PG 525

6
CHARLES G MCLAURIN
KENNETH A MCLAURIN
DB 4605 PG 674

6
CHARLES G MCLAURIN
KENNETH A MCLAURIN
DB 2983 PG 235

7
DONNA DEE HALL
DB 3517 PG 0776
PB 59 PG 16

8
CLIFTON D MCLAURIN
KATHLEEN MCLAURIN
DB 2363 PG 525

BM #6

+00.00
165.00' LT

SPECIAL CUT 4' BASE DITCH W/CL B RIPRAP SEE DETAIL N

SPECIAL CUT DITCH SEE DETAIL B

1401 HW

FS MIN ELEV. 127.0'

SPECIAL CUT 4' BASE DITCH SEE DETAIL V

SPECIAL CUT DITCH SEE DETAIL U

REMOVE EXISTING FENCE

1411 HW

PROP.WOVEN WIRE FENCE

SPECIAL CUT DITCH SEE DETAIL U

LATERAL 4' BASE DITCH SEE DETAIL J

PLUG & FILL WITH FLOWABLE FILL

36" RCP-IV

48'

26' MEDIAN

REMOVE DI

110+00

115+00

1403 2GIB-WSF

1404 2GIB-WSF

1405 2GIB-WSF

1408 2GIB-WSF

1409 REMOVE DI

15" RCP-IV

2GIB-WSF

N 29° 29' 55.2" E

140'

PLUG & FILL WITH FLOWABLE FILL CAT-1

8:1

PROP.SIGN

1406 11 TONS CL B RIPRAP W/28 SY GEO FAB

PROP.MEDIAN BARRIER

STD. 3' BASE DITCH SEE DETAIL W

STANDARD 3' BASE DITCH SEE DETAIL W

+15.00
140.00', 185.00' RT

PDE

+85.00
140.00' RT

+60.00
185.00' RT

1407 11 TONS CL B RIPRAP W/28 SY GEO FAB

300' TAPER

I-95 SBL 37' BST

I-95 NBL 37' BST

WOODS

MTL

R/W MON

48' WW & 1SBW

N 74°06'42" W 411.65'

S 23°22' E 65.43'

N 72°19'57" W 333.35'

N 72°24'54" W 216.09'

S 80°39'49" W 348.81'

N 80°39'49" E 13.62'

S 00°48'11" E 533.98'

S 80°39'49" W 330.91'

N 72°24'54" W 314.91'

N 72°38'57" W 332.09'

S 13°24'10" E 208.87'

N 02°35'12" W 36.68'

S 13°24'10" E 131.88'

S 34°07'50" W 208.33'

S 46°39'56" W 314.74'

S 72°24'54" E 193.28'

FOR –LLT SEC1– PROFILE SEE SHTS. 93 THRU 94
FOR –LRT SEC1– PROFILE SEE SHTS. 93 THRU 94
FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh14.dgn
sheetgc

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- STA. 119+00.00 SEE SHEET 14

MATCHLINE -L- STA. 132+00.00 SEE SHEET 16

NAD 83/NA 2011

13
W. ED TURNER
LORENE TURNER BYRD
DB 476 PG 83

CLIFTON D MCLAURIN
KATHLEEN MCLAURIN
DB 2363 PG 525

12

CLIFTON D MCLAURIN
KATHLEEN MCLAURIN
DB 2363 PG 525

12

15
CAROLYN R SPIVEY
LIFE ESTATE
DB 4883 PG 0202

16
MILTON G EDWARDS, JR
GERALDINE G EDWARDS
DB 2350 PG 163

N 01°24'49" E 257.33'
N 01°24'49" E 194.65'
S 88°25'39" E 103.70'
N 01°24'49" E 246.13'
N 01°24'49" E 270.35'
N 64°50'37" E 582.47'

LATERAL 4' BASE DITCH SEE DETAIL J

LATERAL 6' BASE DITCH SEE DETAIL L

+00.00 165.00' LT

PROP. WOVEN WIRE FENCE

PROP. SIGN

REMOVE EXISTING FENCE

1502 HW

1510 HW

WOODS

EXISTING R/W

165'

12' PS

14' PS

CAT-1 8:1

GREU TL-3 8:1

PLUG & FILL WITH FLOWABLE FILL

48" RCP-IV

48' 02.02.025

120+00

125+00

130+00

26' MEDIAN

2GIA-WSF 1503

2GIA-WSF 1504

2GIB-WSF 1505

2GIB-WSF 1506

15" RCP-IV

REMOVE DI

N 29° 29' 55.2" E

-L-

1508 2GIA-WSF

1507 2GIA-WSF

140'

2GIB-WSF 1513

1514 JB W/MH

PROP. SBG

PROP. MEDIAN BARRIER

15" RCP-III

CAT-1

1509 98 TONS CL I RIPRAP W/52 SY GEO FAB

1512 98 TONS CL I RIPRAP W/52 SY GEO FAB

TOE PROTECTION W/CL B RIP RAP SEE DETAIL H

REMOVE EXISTING FENCE

FILL & CAP AREA BETWEEN BARRIERS

LATERAL 4' BASE DITCH SEE DETAIL P

LATERAL V DITCH SEE DETAIL K

SPECIAL CUT DITCH SEE DETAIL U

EC Basin

STANDARD 8' BASE DITCH SEE DETAIL AI

STANDARD 8' BASE DITCH SEE DETAIL W

PDE

+00.00 140.00' RT

+15.00 140.00' RT

+55.00 170.00' RT

+85.00 140.00', 170.00' RT

+95.00 140.00', 175.00' RT

+10.00 140.00', 175.00' RT

+00.00 140.00', 175.00' RT

14
CAROLYN R SPIVEY LIFE ESTATE
DB 4883 PG 0202

8
CLIFTON D MCLAURIN
KATHLEEN MCLAURIN
DB 2363 PG 525

S 88°25'39" E 525.52'

FOR –LLT SEC1– PROFILE SEE SHTS. 94 THRU 95
FOR –LRT SEC1– PROFILE SEE SHTS. 94 THRU 95

FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh15.dgn
pshelter

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-
PIs Sta 144+69.51
Θs = 1° 33' 29.0"
Ls = 310.00'
LT = 206.67'
ST = 103.34'

NAD 83/NA 2011

MATCHLINE -L- STA. 132+00.00 SEE SHEET 15

MATCHLINE -L- STA. 145+00.00 SEE SHEET 17

16
MILTON G EDWARDS, JR
GERALDINE G EDWARDS
DB 2350 PG 163

17
TEW FAMILY, LLC
C/O LACIE C TEW, MANAGER
DB 6151 PG 282
DB 3190 PG 598
PB 58 PG 87

19
BILLIE MCGIRT EVERETT COSTON
DB 2469 PG 564

14
CAROLYN R SPIVEY
LIFE ESTATE
DB 4883 PG 0202

18
DEAN C BUIE
TRUSTEE FOR
KERI NICOLE BUIE
DB6266 PG 130
PB 58 PG 87

20
BILLIE MCGIRT EVERETT COSTON
DB 2469 PG 564

N 62°57'23" W 424.37'

N 25°59'37" E 196.90'

S 85°58'23" E 200.00'

-L- TS Sta. 142+62.83

+00.00 165.00' LT

+62.83 140.00' LT

CHORD

NON-IMPACTED BILLBOARD
-L- STATION 144+00 LT
MILEMARKER 56.7

BILLBOARD

SOIL

PROP. WOVEN WIRE FENCE

LATERAL '4' BASE DITCH SEE DETAIL J

LATERAL 'V' DITCH SEE DETAIL K

SPECIAL CUT 4' BASE DITCH SEE DETAIL F

REMOVE EXISTING FENCE

PLUG & FILL WITH FLOWABLE FILL

42" RCP-IV

24" RCP-IV

REMOVE DI

PROP. MEDIAN BARRIER

PROP. SIGN

CAT-1

GREU TL-3

INV (FES)=122.48'

STANDARD 6' BASE DITCH SEE DETAIL W

SPECIAL CUT DITCH SEE DETAIL B

20 TONS CL I RIPRAP W/39 SY GEO FAB

+00.00 140.00' RT

+00.00 140.00', 185.00' RT

+00.00 155.00' RT

+80.00 140.00', 185.00' RT

+62.83 140.00' RT

77.50' TYP.

HW 1601

1602 2GIA-WSF

1603 2GIA-WSF

1604

1605 2GIB-WSF

1606 2GIA-WSF

135+00

140+00

145+00

26' MEDIAN

N 29° 29' 55.2" E

I-95 NBL 95' BST

I-95 SBL 95' BST

9.5' BST

10' BST

48'

165'

140'

12' PS

14' PS

8:1

PDE

WOODS

R/W MON

BL-118

BL-119

BL-120

INV. (FES)=123.88'

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

FOR -LLT SEC1- PROFILE SEE SHTS. 95 THRU 96
FOR -LRT SEC1- PROFILE SEE SHTS. 95 THRU 96

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh16.dgn
pwilder

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99 ROW REVISION - 07-09-2020 - PARCEL 23 REMOVED THE TEMPORARY CONSTRUCTION EASEMENT

NAD 83/NA 2011

19
BILLIE MCGIRT EVERETT COSTON
DB 2469 PG 564

21
JOAN D FOSTER,
TRUSTEE OF THE
JOAN D SUPPLEMENTAL
NEEDS TRUST
DB 9774 PG 158

22
ROBERT A SMITH
HELEN G SMITH
DB 10093 PG 475

20
BILLIE MCGIRT EVERETT COSTON
DB 2469 PG 564

23
JAMES B DARDEN, III
STEVEN BLAINE DARDEN
WILLIAM R DARDEN
DENISE T DARDEN MORGAN
TRUSTEES OF SALEM UNITED
METHODIST CHURCH
SALLIE WILLIAMS DARDEN
DB 5255 PG 833

MATCHLINE -L- STA. 145+00.00 SEE SHEET 16

MATCHLINE -L- STA. 158+00.00 SEE SHEET 18

-L- SC Sta. 145+72.83

-L- CS Sta. 153+91.73

-L- ST Sta. 157+01.73

+72.83 140.00'LT

+91.73 140.00' LT

+50.00 150.00' LT

+00.00 138.93' LT

+01.73 140.00' LT

CHORD

LATERAL 'V' DITCH SEE DETAIL K

10' WIDE BERM SEE DETAIL Q

NON-IMPACTED BILLBOARD -L- STATION 148+50 LT MILEMARKER 56.8

LATERAL 4' BASE DITCH SEE DETAIL J

NON-IMPACTED BILLBOARD -L- STATION 153+50 LT MILEMARKER 56.9

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

BL-121

BL-122

77.50' TYP.

146.73

145+00

150+00

155+00

-L-

26' MEDIAN

N 40° 50' 46.3" E

REMOVE DI

15" RCP-IV

2GIA-WSF

1705

1701 2GIB-WSF

1703 2GIB-WSF

1702 2GIB-WSF

18" RCP-IV

PLUG & FILL WITH FLOWABLE FILL

PROP. MEDIAN BARRIER

SPECIAL CUT DITCH SEE DETAIL B

TIE TO EXIST FENCE

TIE TO EXIST CA

+50.00 109.76' RT

+00.00 140.00' RT

DO NOT DISTURB BILLBOARD NON-IMPACTED BILLBOARD -L- STATION 148+50 RT MILEMARKER 56.8

1704 3 TONS CL B RIPRAP W/10 SY GEO FAB INV=127.6

RETAIN EXISTING C/A FENCE

NON-IMPACTED BILLBOARD -L- STATION 156+50 RT MILEMARKER 56.9

CITY OF EASTOVER

CITY OF EASTOVER

POND

WOODS

BILLBOARD

VINEYARD

BLOW OFF VALVE

SR 1861 POVERTY FLATS RD VAR

S 87°39'02" E 248.25'

N 38°52'26" W 358.64'

N 87°47'52" W 74.63'

N 26°03'45" E 711.01'

S 26°34'45" W 370.10'

-L-

PIs Sta 144+69.51	PI Sta 149+82.99	PIs Sta 154+95.07
Θs = 1° 33' 29.0"	Δ = 8° 13' 53.2" (RT)	Θs = 1° 33' 29.0"
Ls = 310.00'	D = 1° 00' 18.7"	Ls = 310.00'
LT = 206.67'	L = 818.90'	LT = 206.67'
ST = 103.34'	T = 410.15'	ST = 103.34'
	R = 5,700.00'	
	SE = 0.04	
	DS = 75 MPH	

FOR -LLT SEC1- PROFILE SEE SHTS. 96 THRU 97
FOR -LRT SEC1- PROFILE SEE SHTS. 96 THRU 97

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh17.dgn

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS

ROW REVISION - 08-17-2020 - PARCEL 25 - ADDED TDE

8/17/99

MATCHLINE -L- STA. 158+00.00 SEE SHEET 17

MATCHLINE -L- STA. 171+00.00 SEE SHEET 19

25

CATHRINE E. THOMPSON
ANN H THOMPSON
LOUISE T FUTRELL
JANE THOMPSON
DB 4159 PG 650

22

ROBERT A SMITH
HELEN G SMITH
DB 10093 PG 475

LATERAL 'V' DITCH SEE DETAIL K

+50.00 155.00' LT

SP. CUT 4' BASE DITCH SEE DETAIL F

+00.00 140.00' LT

LATERAL 4' BASE DITCH SEE DETAIL D

PROP. WOVEN WIRE FENCE

LATERAL 4' BASE DITCH SEE DETAIL R

SP. CUT 4' BASE DITCH SEE DETAIL F

IMPACTED BILLBOARD
-L- STATION 167+50 LT
MILEMARKER 57.1

300' TAPER LANE

+00.00

+70.00 140.00', 165.00' LT

ROCK FILL IN POND SEE DETAIL AN

SPECIAL CUT DITCH SEE DETAIL U

TDE

REMOVE EXISTING FENCE

I5986A-103

12" PS

BL-123

BL-124

140'

48"

60"

PLUG & FILL WITH FLOWABLE FILL

TRENCHLESS INSTALLATION 54" WELDED STEEL

160+00

165+00

170+00

26' MEDIAN

REMOVE DI

N 40° 50' 46.3" E

-L-

2GIB-WSF

15" RCP-IV

I-95 SBL 47" BST

I-95 NBL VAR. BST

W5 BST

8' BST

6' BST

10' BST

SPECIAL CUT DITCH SEE DETAIL B

40 TONS CL I RIPRAP W/75 SY GEO FAB

1803

1802

1801

SR 1861 POVERTY FLAT ROAD

EXISTING R/W

PROP. MEDIAN BARRIER

RETAIN EXISTING C/A FENCE

NON-IMPACTED BILLBOARD
-L- STATION 169+00 RT
MILEMARKER 57.2

+50.00 150.00', 165.00' RT

+75.00 165.00' RT

+30.00 250.00' RT

+20.00 150.00' RT

+80.00 250.00' RT

STD. 12.0' BASE DITCH SEE DETAIL W

DUE

MICHAEL DEAN WILLIAMS
MARRY W WILLIAMS
DB 9694 PG 409

BENJAMIN CHARLES LEASURE
ELIZABETH DENISE LEASURE
DB 8192 PG 33

BENJAMIN CHARLES LEASURE
ELIZABETH DENISE LEASURE
DB 7601 PG 499
PB 78 PG 6

DOUGLAS A. ANDRESS
DB 8308 PG 636
PB 125 PG 183

ERMA H BLACKMON
DB 4715 PG 50
PB 78 PG 6

LISA CLARK BLACKMON
DB 9776 PG 432
PB 78 PG 6

23A

24

N 63°57'17" E 632.49'

N 63°57'08" W 155.75' TO R/W

N 63°57'08" W 152.60'

N 26°03'45" E 60.00'

N 63°57'08" W 93.49'

N 63°52'45" W 286.51'

N 63°43'17" W 280.27'

S 58°02'07" E 398.27'

S 24°41'22" W 11.44'

S 43°56'16" W 226.77'

S 24°41'22" W

N 63°55'18" W 742.82'

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh18.dgn
abeiler

REVISIONS
FROM REVISION - 06-05-2020 - REVISED ALIGNMENT DESIGNATION ON FLAG AT 13+3.50, 600.07 RT FROM -Y4- TO -Y5RPC-
FROM REVISION - 06-05-2020 - ADDED FLAG AT -Y4- 30+49.54, 33.33' LT.
FROM REVISION - 08-11-2020 - PARCEL 25 - ADDED TIE

PROJECT REFERENCE NO.	SHEET NO.
I-5986	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -Y4- 21+00.00 SEE SHEET 69

MATCHLINE -Y5RPB- 22+00.00 SEE SHEET 68

MATCHLINE -L- STA. 171+00.00 SEE SHEET 18

MATCHLINE -L- STA. 198+50.00 SEE SHEET 20

MATCHLINE -Y5RPC- STA. 16+50.00 SEE SHEET 20

MATCHLINE -Y4- STA. 39+00.00 SEE SHEET 70

RAD 61.74' ΔRT

-Y5RPB- PI Sta 19+15.17 Δ = 57°53' 37.3" (RT) D = 6°58' 13.0" L = 744.50' T = 399.89' R = 822.00' SE = 0.10ft DS = 55 MPH

PI Sta 23+26.45 Δs = 6°58' 13.0" Ls = 200.00' LT = 133.44' ST = 66.76'

PI Sta 33+14.28 Δs = 4°35' 01.2" Ls = 240.00' LT = 160.05' ST = 80.05'

PI Sta 35+85.96 Δ = 14°34' 01.6" (RT) D = 3°49' 11.0" L = 384.41' T = 193.74' R = 1500.00' SE = 0.08 DS = 65 MPH

PI Sta 38+55.68 Δs = 4°35' 01.2" Ls = 240.00' LT = 160.05' ST = 80.05'

-Y4- PI Sta 27+97.58 Δ = 54°52' 18.3" (LT) D = 3°53' 51.6" L = 1406.95' T = 762.60' R = 1470.00' SE = EXIST. DS = 40 MPH

-Y5RPC- PI Sta 12+51.55 Δs = 4°35' 01.2" Ls = 240.00' LT = 160.05' ST = 80.05'

PI Sta 16+09.48 Δ = 20°59' 52.9" (RT) D = 3°49' 11.0" L = 549.23' T = 277.96' R = 1500.00' SE = 0.08 DS = 50 MPH

TRAFFIC DIAGRAM
ADT 2018
ADT 2040
PEMBROKE LANE (SR 1932)
1-000 1-000
100 1000
POVERTY FLATS ROAD (SR 1865)
100 1000
50 100
1-000 1-000
PEMBROKE LANE (SR 1932)

FOR -LLT SEC1- PROFILE SEE SHTS. 98 THRU 100
FOR -LRT SEC1- PROFILE SEE SHTS. 98 THRU 100
FOR -Y4- PROFILE SEE SHTS. 150 THRU 151
FOR -Y5RPB- PROFILE SEE SHTS. 164 THRU 165
FOR -Y5RPC- PROFILE SEE SHTS. 166
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

GRAPHIC SCALE
50 25 0 50
PLANS

RKK
2000 Regency Parkway
Suite 130 Cary, North Carolina 27518
919.653.1340
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsible People | Creative Solutions

8/24/2020
W:\Projects\I-5986\Plans\Sheets\SEC 1 PLAN SHEETS\I-5986A_Plan_pnt15.dgn

REVISIONS
ROW REVISION - 06-05-2020 - PARCEL 28 REVISED SPIRAL TO CHORD ON -Y5RPC- "B" FROM 4+85.23 TO 20+74.50
ROW REVISION - 06-05-2020 - PARCEL 44 REVISED ALIGNMENT REFERENCE FOR PIE AT -Y5RPD- 21+59.00
ROW REVISION - 06-05-2020 - PARCELS 44 & 49 REVISED ROW LINE FROM -Y5RPD- 19+47.63, 85.00' RT TO TIE CORRECTLY TO -Y5RPD- 19+47.543, 45.00' RT AND REVISED ROW LINE FROM -Y5RPD- 21+50.00 RT TO TIE CORRECTLY AT 45.00' RT
ROW REVISION - 06-17-2020 - PARCEL 29 REMOVED ROW

PROJECT REFERENCE NO.	SHEET NO.
I-5985A	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y5LPD-

Pt Sta 11+34.68	Pt Sta 19+35.17	Pt Sta 20+51.08	Pt Sta 28+36.05	Pt Sta 32+98.02	Pt Sta 37+03.85	Pt Sta 39+70.49	Pt Sta 42+95.13
Bs = 24°54'40.4"	Δ = 195°06'04.5" (RT)	Bs = 24°54'40.4"	Bs = 7°09'43.1"	Δ = 52°36'10.4" (LT)	Δ = 7°09'43.1"	Δ = 5°43'46.5"	Δ = 88°56'19.1" (RT)
Ls = 200.00'	D = 52°59'40.4"	Ls = 200.00'	Ls = 200.00'	D = 7°09'43.1"	D = 7°09'43.1"	D = 5°43'46.5"	D = 5°43'46.5"
L = 781.57'	L = 781.57'	LT = 134.68'	LT = 133.44'	L = 734.66'	L = 734.66'	Ls = 200.00'	L = 565.07'
T = 1,135.11'	T = 395.41'	ST = 67.89'	ST = 66.77'	T = 395.41'	T = 395.41'	LT = 133.40'	T = 258.05'
R = 2,530.00'	R = 800.00'			R = 800.00'	R = 800.00'	ST = 66.73'	R = 1,000.00'
SE = 0.08	SE = 0.08			SE = 0.08	SE = 0.08		SE = 0.04
DS = 30 MPH	DS = 50 MPH			DS = 50 MPH	DS = 50 MPH		DS = 50 MPH

-Y5RPA-

Pt Sta 32+17.44	Pt Sta 35+01.22	Pt Sta 37+80.11
Bs = 5°29'27.1"	Δ = 91°35'33.2" (RT)	Bs = 5°29'27.1"
Ls = 230.00'	D = 4°46'28.7"	Ls = 230.00'
LT = 153.44'	L = 410.35'	LT = 153.44'
ST = 76.73'	R = 1,200.00'	ST = 76.73'
	SE = 0.08	
	DS = 60 MPH	

-Y5PC-

Pt Sta 19+38.14
Δ = 21°03'11.15" (LT)
D = 9°58'16.3"
L = 2,161.95'
T = 1,096.54'
R = 575.00'

-Y5RPC-

Pt Sta 16+09.48	Pt Sta 19+16.27	Pt Sta 23+95.21
Δ = 20°59'52.9" (RT)	Δ = 4°35'01.2"	Δ = 19°08'19.5" (LT)
D = 3°45'11.0"	D = 3°45'11.0"	D = 11°37'45.2"
L = 549.73'	L = 277.08'	L = 222.04'
T = 277.08'	T = 138.60'	T = 112.04'
R = 1,500.00'	R = 1,500.00'	R = 493.00'
SE = 0.08	SE = 0.08	SE = 0.06
DS = 65 MPH	DS = 65 MPH	DS = 35 MPH

-Y5RPD-

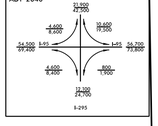
Pt Sta 11+34.68	Pt Sta 15+55.37	Pt Sta 22+57.36	Pt Sta 25+46.92	Pt Sta 29+40.12	Pt Sta 23+06.78
Bs = 24°54'40.4"	Δ = 245°49'22.2" (LT)	Δ = 17°58'43.5"	Δ = 17°40'18.5" (RT)	Δ = 3°47'59.2"	Δ = 3°35'24.8"
Ls = 200.00'	D = 24°54'40.4"	Ls = 200.00'	D = 9°47'59.2"	D = 9°47'59.2"	Ls = 200.00'
LT = 134.68'	L = 986.80'	LT = 132.32'	L = 870.58'	Ls = 200.00'	LT = 133.35'
ST = 67.89'	T = 355.37'	ST = 70.56'	T = 443.87'	LT = 133.35'	ST = 66.68'
	R = 230.00'		R = 1,800.00'	ST = 66.69'	
	SE = 0.08		SE = 0.04		
	DS = 30 MPH		DS = 60 MPH		

-Y5FLY-

Pt Sta 40+20.15	Pt Sta 50+85.17	Pt Sta 59+54.11	Pt Sta 67+17.13
Δ = 67°11'01.6" (LT)	Δ = 21°18'12.7"	Δ = 2°36'15.7"	Δ = 35°16'12.6" (LT)
D = 2°55'45.1"	Ls = 160.00'	Ls = 200.00'	D = 2°36'15.7"
L = 2,333.43'	LT = 106.68'	LT = 133.35'	L = 1,354.28'
T = 1,321.75'	ST = 53.34'	ST = 66.68'	T = 699.36'
R = 1,960.00'			R = 2,200.00'
SE = 0.04			SE = 0.05
DS = 60 MPH			DS = 60 MPH

TRAFFIC DIAGRAM

ADT 2018
ADT 2040



MATCHLINE -Y5RPA- STA. 47+50.00 SEE SHEET 68
MATCHLINE -Y5- STA. 90+00.00 SEE SHEET 68
MATCHLINE -Y5FLY- STA. 35+00.00 SEE SHEET 68
MATCHLINE -Y5RPC- STA. 198+50.00 SEE SHEET 19
MATCHLINE -L- STA. 227+00.00 SEE SHEET 21
MATCHLINE -Y5FLY- STA. 67+00.00 SEE SHEET 21
MATCHLINE -Y5- STA. 106+00.00 SEE SHEET 70
A
B
C
D
-Y5LPD- SRS Sta. 38+37.09
-Y5LPD- SC Sta. 40+37.09
-Y5LPD- CS Sta. 36+37.09
-Y5LPD- TS Sta. 27+02.61
-Y5RPA- POC Sta. 3+76.85=
-Y5LPD- POT Sta. 26+30.98
-Y5RPA- ST Sta. 39+34.37
-Y5RPA- CS Sta. 37+04.37=
-Y5SPURA- POT Sta. 10+00.00
-Y5LPD- SC Sta. 29+02.61
END APPROACH SLAB
-Y5LPD- 28+19.19
END BRIDGE
-Y5LPD- 28+17.08
BEGIN RETAINING WALL
-Y5RPA- STA. 31+35.29
FILL & CAP AREA BETWEEN BARRIERS
-Y5LPA- CS Sta. 21+86.80
-Y5LPA- SC Sta. 23+86.80
-Y5LPA- SC Sta. 12+00.00
-Y5LPA- ST Sta. 10+00.00=
-L- POT Sta. 205+34.35 (61 LT)
-Y5FLY- POC Sta. 42+56.90=
-Y5- POC Sta. 94+68.27
END RETAINING WALL
END CONCRETE BARRIER
-L- STA. 205+58.04
-Y5FLY POC 44+42.15=
-L- POT Sta. 205+54.46
-Y5RPC- CS Sta. 18+81.22
-Y5RPC- ST Sta. 21+21.22
-Y5RPC- PC Sta. 22+79.68
-Y5- POC Sta. 104+73.48=
-Y5RPC- POT Sta. 26+77.95
-Y5RPC- PT Sta. 25+01.68
-L- POT Sta. 204+66.70=
-Y5- POC Sta. 95+96.36
END RETAINING WALL
END CONCRETE BARRIER
-L- STA. 206+26.26
-Y5- POC Sta. 103+27.78=
-Y5RPD- POT Sta. 10+00.00
-Y5RPD- PC Sta. 11+03.05
-Y5FLY- CS Sta. 50+31.83
END OVERLAY
BEGIN GRADE
-Y5FLY- ST Sta. 51+91.83
-Y5FLY- TS Sta. 58+11.76
-Y5RPD- CS Sta. 19+73.43
-Y5FLY- SC Sta. 60+11.76
-Y5RPD- SC Sta. 23+73.43
-Y5FLY- POC 61+92.04 12' LT
-Y5RPD- SRS Sta. 21+73.43
-L- STA. 222+27.26
-L- POT Sta. 224+62.10 (RT)
-L- POT Sta. 221+44.62=
-Y5LPD- POT Sta. 25+24.04
SKEW ANGLE = 64° 55' 25"
-Y5LPD- ST Sta. 21+83.19
-Y5LPD- CS Sta. 19+83.19
-Y5LPD- SC Sta. 12+00.00
-Y5LPD- TS Sta. 10+00.00=
-L- POT Sta. 224+62.10 (RT)
-L- STA. 220+07.95
BEGIN BRIDGE
-Y5LPD- 24+16.04
BEGIN APPROACH SLAB
-Y5LPD- 23+19.32
-Y5RPA- TS Sta. 30+64.03
-Y5LPA- TS Sta. 29+14.03
-Y5FLY- TS Sta. 67+17.13
-Y5FLY- SC Sta. 65+17.13
-Y5FLY- PC Sta. 63+67.13
-Y5FLY- PT Sta. 62+67.13
-Y5RPC- TS Sta. 16+09.48
-Y5RPC- SC Sta. 17+09.48
-Y5RPC- PT Sta. 19+16.27
-Y5RPC- PC Sta. 21+16.27
-Y5RPC- SC Sta. 22+16.27
-Y5RPC- TS Sta. 23+16.27
-Y5RPD- TS Sta. 23+95.21
-Y5RPD- SC Sta. 24+95.21
-Y5RPD- PT Sta. 25+95.21
-Y5RPD- PC Sta. 26+95.21
-Y5RPD- SC Sta. 27+95.21
-Y5RPD- TS Sta. 28+95.21
-Y5RPA- SC Sta. 32+94.03
-Y5RPA- CS Sta. 34+94.03
-Y5RPA- ST Sta. 36+94.03
-Y5RPA- PT Sta. 38+94.03
-Y5RPA- PC Sta. 40+94.03
-Y5RPA- SC Sta. 41+94.03
-Y5RPA- TS Sta. 42+94.03
-Y5RPD- SC Sta. 29+40.12
-Y5RPD- TS Sta. 30+40.12
-Y5RPD- CS Sta. 31+40.12
-Y5RPD- ST Sta. 32+40.12
-Y5RPD- PT Sta. 33+40.12
-Y5RPD- PC Sta. 34+40.12
-Y5RPD- SC Sta. 35+40.12
-Y5RPD- TS Sta. 36+40.12
-Y5RPD- SC Sta. 37+40.12
-Y5RPD- TS Sta. 38+40.12
-Y5RPD- SC Sta. 39+40.12
-Y5RPD- TS Sta. 40+40.12
-Y5RPD- SC Sta. 41+40.12
-Y5RPD- TS Sta. 42+40.12
-Y5RPD- SC Sta. 43+40.12
-Y5RPD- TS Sta. 44+40.12
-Y5RPD- SC Sta. 45+40.12
-Y5RPD- TS Sta. 46+40.12
-Y5RPD- SC Sta. 47+40.12
-Y5RPD- TS Sta. 48+40.12
-Y5RPD- SC Sta. 49+40.12
-Y5RPD- TS Sta. 50+40.12
-Y5RPD- SC Sta. 51+40.12
-Y5RPD- TS Sta. 52+40.12
-Y5RPD- SC Sta. 53+40.12
-Y5RPD- TS Sta. 54+40.12
-Y5RPD- SC Sta. 55+40.12
-Y5RPD- TS Sta. 56+40.12
-Y5RPD- SC Sta. 57+40.12
-Y5RPD- TS Sta. 58+40.12
-Y5RPD- SC Sta. 59+40.12
-Y5RPD- TS Sta. 60+40.12
-Y5RPD- SC Sta. 61+40.12
-Y5RPD- TS Sta. 62+40.12
-Y5RPD- SC Sta. 63+40.12
-Y5RPD- TS Sta. 64+40.12
-Y5RPD- SC Sta. 65+40.12
-Y5RPD- TS Sta. 66+40.12
-Y5RPD- SC Sta. 67+40.12
-Y5RPD- TS Sta. 68+40.12
-Y5RPD- SC Sta. 69+40.12
-Y5RPD- TS Sta. 70+40.12
-Y5RPD- SC Sta. 71+40.12
-Y5RPD- TS Sta. 72+40.12
-Y5RPD- SC Sta. 73+40.12
-Y5RPD- TS Sta. 74+40.12
-Y5RPD- SC Sta. 75+40.12
-Y5RPD- TS Sta. 76+40.12
-Y5RPD- SC Sta. 77+40.12
-Y5RPD- TS Sta. 78+40.12
-Y5RPD- SC Sta. 79+40.12
-Y5RPD- TS Sta. 80+40.12
-Y5RPD- SC Sta. 81+40.12
-Y5RPD- TS Sta. 82+40.12
-Y5RPD- SC Sta. 83+40.12
-Y5RPD- TS Sta. 84+40.12
-Y5RPD- SC Sta. 85+40.12
-Y5RPD- TS Sta. 86+40.12
-Y5RPD- SC Sta. 87+40.12
-Y5RPD- TS Sta. 88+40.12
-Y5RPD- SC Sta. 89+40.12
-Y5RPD- TS Sta. 90+40.12
-Y5RPD- SC Sta. 91+40.12
-Y5RPD- TS Sta. 92+40.12
-Y5RPD- SC Sta. 93+40.12
-Y5RPD- TS Sta. 94+40.12
-Y5RPD- SC Sta. 95+40.12
-Y5RPD- TS Sta. 96+40.12
-Y5RPD- SC Sta. 97+40.12
-Y5RPD- TS Sta. 98+40.12
-Y5RPD- SC Sta. 99+40.12
-Y5RPD- TS Sta. 100+40.12
-Y5RPD- SC Sta. 101+40.12
-Y5RPD- TS Sta. 102+40.12
-Y5RPD- SC Sta. 103+40.12
-Y5RPD- TS Sta. 104+40.12
-Y5RPD- SC Sta. 105+40.12
-Y5RPD- TS Sta. 106+40.12
-Y5RPD- SC Sta. 107+40.12
-Y5RPD- TS Sta. 108+40.12
-Y5RPD- SC Sta. 109+40.12
-Y5RPD- TS Sta. 110+40.12
-Y5RPD- SC Sta. 111+40.12
-Y5RPD- TS Sta. 112+40.12
-Y5RPD- SC Sta. 113+40.12
-Y5RPD- TS Sta. 114+40.12
-Y5RPD- SC Sta. 115+40.12
-Y5RPD- TS Sta. 116+40.12
-Y5RPD- SC Sta. 117+40.12
-Y5RPD- TS Sta. 118+40.12
-Y5RPD- SC Sta. 119+40.12
-Y5RPD- TS Sta. 120+40.12
-Y5RPD- SC Sta. 121+40.12
-Y5RPD- TS Sta. 122+40.12
-Y5RPD- SC Sta. 123+40.12
-Y5RPD- TS Sta. 124+40.12
-Y5RPD- SC Sta. 125+40.12
-Y5RPD- TS Sta. 126+40.12
-Y5RPD- SC Sta. 127+40.12
-Y5RPD- TS Sta. 128+40.12
-Y5RPD- SC Sta. 129+40.12
-Y5RPD- TS Sta. 130+40.12
-Y5RPD- SC Sta. 131+40.12
-Y5RPD- TS Sta. 132+40.12
-Y5RPD- SC Sta. 133+40.12
-Y5RPD- TS Sta. 134+40.12
-Y5RPD- SC Sta. 135+40.12
-Y5RPD- TS Sta. 136+40.12
-Y5RPD- SC Sta. 137+40.12
-Y5RPD- TS Sta. 138+40.12
-Y5RPD- SC Sta. 139+40.12
-Y5RPD- TS Sta. 140+40.12
-Y5RPD- SC Sta. 141+40.12
-Y5RPD- TS Sta. 142+40.12
-Y5RPD- SC Sta. 143+40.12
-Y5RPD- TS Sta. 144+40.12
-Y5RPD- SC Sta. 145+40.12
-Y5RPD- TS Sta. 146+40.12
-Y5RPD- SC Sta. 147+40.12
-Y5RPD- TS Sta. 148+40.12
-Y5RPD- SC Sta. 149+40.12
-Y5RPD- TS Sta. 150+40.12
-Y5RPD- SC Sta. 151+40.12
-Y5RPD- TS Sta. 152+40.12
-Y5RPD- SC Sta. 153+40.12
-Y5RPD- TS Sta. 154+40.12
-Y5RPD- SC Sta. 155+40.12
-Y5RPD- TS Sta. 156+40.12
-Y5RPD- SC Sta. 157+40.12
-Y5RPD- TS Sta. 158+40.12
-Y5RPD- SC Sta. 159+40.12
-Y5RPD- TS Sta. 160+40.12
-Y5RPD- SC Sta. 161+40.12
-Y5RPD- TS Sta. 162+40.12
-Y5RPD- SC Sta. 163+40.12
-Y5RPD- TS Sta. 164+40.12
-Y5RPD- SC Sta. 165+40.12
-Y5RPD- TS Sta. 166+40.12
-Y5RPD- SC Sta. 167+40.12
-Y5RPD- TS Sta. 168+40.12
-Y5RPD- SC Sta. 169+40.12
-Y5RPD- TS Sta. 170+40.12
-Y5RPD- SC Sta. 171+40.12
-Y5RPD- TS Sta. 172+40.12
-Y5RPD- SC Sta. 173+40.12
-Y5RPD- TS Sta. 174+40.12
-Y5RPD- SC Sta. 175+40.12
-Y5RPD- TS Sta. 176+40.12
-Y5RPD- SC Sta. 177+40.12
-Y5RPD- TS Sta. 178+40.12
-Y5RPD- SC Sta. 179+40.12
-Y5RPD- TS Sta. 180+40.12
-Y5RPD- SC Sta. 181+40.12
-Y5RPD- TS Sta. 182+40.12
-Y5RPD- SC Sta. 183+40.12
-Y5RPD- TS Sta. 184+40.12
-Y5RPD- SC Sta. 185+40.12
-Y5RPD- TS Sta. 186+40.12
-Y5RPD- SC Sta. 187+40.12
-Y5RPD- TS Sta. 188+40.12
-Y5RPD- SC Sta. 189+40.12
-Y5RPD- TS Sta. 190+40.12
-Y5RPD- SC Sta. 191+40.12
-Y5RPD- TS Sta. 192+40.12
-Y5RPD- SC Sta. 193+40.12
-Y5RPD- TS Sta. 194+40.12
-Y5RPD- SC Sta. 195+40.12
-Y5RPD- TS Sta. 196+40.12
-Y5RPD- SC Sta. 197+40.12
-Y5RPD- TS Sta. 198+40.12
-Y5RPD- SC Sta. 199+40.12
-Y5RPD- TS Sta. 200+40.12
-Y5RPD- SC Sta. 201+40.12
-Y5RPD- TS Sta. 202+40.12
-Y5RPD- SC Sta. 203+40.12
-Y5RPD- TS Sta. 204+40.12
-Y5RPD- SC Sta. 205+40.12
-Y5RPD- TS Sta. 206+40.12
-Y5RPD- SC Sta. 207+40.12
-Y5RPD- TS Sta. 208+40.12
-Y5RPD- SC Sta. 209+40.12
-Y5RPD- TS Sta. 210+40.12
-Y5RPD- SC Sta. 211+40.12
-Y5RPD- TS Sta. 212+40.12
-Y5RPD- SC Sta. 213+40.12
-Y5RPD- TS Sta. 214+40.12
-Y5RPD- SC Sta. 215+40.12
-Y5RPD- TS Sta. 216+40.12
-Y5RPD- SC Sta. 217+40.12
-Y5RPD- TS Sta. 218+40.12
-Y5RPD- SC Sta. 219+40.12
-Y5RPD- TS Sta. 220+40.12
-Y5RPD- SC Sta. 221+40.12
-Y5RPD- TS Sta. 222+40.12
-Y5RPD- SC Sta. 223+40.12
-Y5RPD- TS Sta. 224+40.12
-Y5RPD- SC Sta. 225+40.12
-Y5RPD- TS Sta. 226+40.12
-Y5RPD- SC Sta. 227+40.12
-Y5RPD- TS Sta. 228+40.12
-Y5RPD- SC Sta. 229+40.12
-Y5RPD- TS Sta. 230+40.12
-Y5RPD- SC Sta. 231+40.12
-Y5RPD- TS Sta. 232+40.12
-Y5RPD- SC Sta. 233+40.12
-Y5RPD- TS Sta. 234+40.12
-Y5RPD- SC Sta. 235+40.12
-Y5RPD- TS Sta. 236+40.12
-Y5RPD- SC Sta. 237+40.12
-Y5RPD- TS Sta. 238+40.12
-Y5RPD- SC Sta. 239+40.12
-Y5RPD- TS Sta. 240+40.12
-Y5RPD- SC Sta. 241+40.12
-Y5RPD- TS Sta. 242+40.12
-Y5RPD- SC Sta. 243+40.12
-Y5RPD- TS Sta. 244+40.12
-Y5RPD- SC Sta. 245+40.12
-Y5RPD- TS Sta. 246+40.12
-Y5RPD- SC Sta. 247+40.12
-Y5RPD- TS Sta. 248+40.12
-Y5RPD- SC Sta. 249+40.12
-Y5RPD- TS Sta. 250+40.12
-Y5RPD- SC Sta. 251+40.12
-Y5RPD- TS Sta. 252+40.12
-Y5RPD- SC Sta. 253+40.12
-Y5RPD- TS Sta. 254+40.12
-Y5RPD- SC Sta. 255+40.12
-Y5RPD- TS Sta. 256+40.12
-Y5RPD- SC Sta. 257+40.12
-Y5RPD- TS Sta. 258+40.12
-Y5RPD- SC Sta. 259+40.12
-Y5RPD- TS Sta. 260+40.12
-Y5RPD- SC Sta. 261+40.12
-Y5RPD- TS Sta. 262+40.12
-Y5RPD- SC Sta. 263+40.12
-Y5RPD- TS Sta. 264+40.12
-Y5RPD- SC Sta. 265+40.12
-Y5RPD- TS Sta. 266+40.12
-Y5RPD- SC Sta. 267+40.12
-Y5RPD- TS Sta. 268+40.12
-Y5RPD- SC Sta. 269+40.12
-Y5RPD- TS Sta. 270+40.12
-Y5RPD- SC Sta. 271+40.12
-Y5RPD- TS Sta. 272+40.12
-Y5RPD- SC Sta. 273+40.12
-Y5RPD- TS Sta. 274+40.12
-Y5RPD- SC Sta. 275+40.12
-Y5RPD- TS Sta. 276+40.12
-Y5RPD- SC Sta. 277+40.12
-Y5RPD- TS Sta. 278+40.12
-Y5RPD- SC Sta. 279+40.12
-Y5RPD- TS Sta. 280+40.12
-Y5RPD- SC Sta. 281+40.12
-Y5RPD- TS Sta. 282+40.12
-Y5RPD- SC Sta. 283+40.12
-Y5RPD- TS Sta. 284+40.12
-Y5RPD- SC Sta. 285+40.12
-Y5RPD- TS Sta. 286+40.12
-Y5RPD- SC Sta. 287+40.12
-Y5RPD- TS Sta. 288+40.12
-Y5RPD- SC Sta. 289+40.12
-Y5RPD- TS Sta. 290+40.12
-Y5RPD- SC Sta. 291+40.12
-Y5RPD- TS Sta. 292+40.12
-Y5RPD- SC Sta. 293+40.12
-Y5RPD- TS Sta. 294+40.12
-Y5RPD- SC Sta. 295+40.12
-Y5RPD- TS Sta. 296+40.12
-Y5RPD- SC Sta. 297+40.12
-Y5RPD- TS Sta. 298+40.12
-Y5RPD- SC Sta. 299+40.12
-Y5RPD- TS Sta. 300+40.12
-Y5RPD- SC Sta. 301+40.12
-Y5RPD- TS Sta. 302+40.12
-Y5RPD- SC Sta. 303+40.12
-Y5RPD- TS Sta. 304+40.12
-Y5RPD- SC Sta. 305+40.12
-Y5RPD- TS Sta. 306+40.12
-Y5RPD- SC Sta. 307+40.12
-Y5RPD- TS Sta. 308+40.12
-Y5RPD- SC Sta. 309+40.12
-Y5RPD- TS Sta. 310+40.12
-Y5RPD- SC Sta. 311+40.12
-Y5RPD- TS Sta. 312+40.12
-Y5RPD- SC Sta. 313+40.12
-Y5RPD- TS Sta. 314+40.12
-Y5RPD- SC Sta. 315+40.12
-Y5RPD- TS Sta. 316+40.12
-Y5RPD- SC Sta. 317+40.12
-Y5RPD- TS Sta. 318+40.12
-Y5RPD- SC Sta. 319+40.12
-Y5RPD- TS Sta. 320+40.12
-Y5RPD- SC Sta. 321+40.12
-Y5RPD- TS Sta. 322+40.12
-Y5RPD- SC Sta. 323+40.12
-Y5RPD- TS Sta. 324+40.12
-Y5RPD- SC Sta. 325+40.12
-Y5RPD- TS Sta. 326+40.12
-Y5RPD- SC Sta. 327+40.12
-Y5RPD- TS Sta. 328+40.12
-Y5RPD- SC Sta. 329+40.12
-Y5RPD- TS Sta. 330+40.12
-Y5RPD- SC Sta. 331+40.12
-Y5RPD- TS Sta. 332+40.12
-Y5RPD- SC Sta. 333+40.12
-Y5RPD- TS Sta. 334+40.12
-Y5RPD- SC Sta. 335+40.12
-Y5RPD- TS Sta. 336+40.12
-Y5RPD- SC Sta. 337+40.12
-Y5RPD- TS Sta. 338+40.12
-Y5RPD- SC Sta. 339+40.12
-Y5RPD- TS Sta. 340+40.12
-Y5RPD- SC Sta. 341+40.12
-Y5RPD- TS Sta. 342+40.12
-Y5RPD- SC Sta. 343+40.12
-Y5RPD- TS Sta. 344+40.12
-Y5RPD- SC Sta. 345+40.12
-Y5RPD- TS Sta. 346+40.12
-Y5RPD- SC Sta. 347+40.12
-Y5RPD- TS Sta. 348+40.12
-Y5RPD- SC Sta. 349+40.12
-Y5RPD- TS Sta. 350+40.12
-Y5RPD- SC Sta. 351+40.12
-Y5RPD- TS Sta. 352+40.12
-Y5RPD- SC Sta. 353+40.12
-Y5RPD- TS Sta. 354+40.12
-Y5RPD- SC Sta. 355+40.12
-Y5RPD- TS Sta. 356+40.12
-Y5RPD- SC Sta. 357+40.12
-Y5RPD- TS Sta. 358+40.12
-Y5RPD- SC Sta. 359+40.12
-Y5RPD- TS Sta. 360+40.12
-Y5RPD- SC Sta. 361+40.12
-Y5RPD- TS Sta. 362+40.12
-Y5RPD- SC Sta. 363+40.12
-Y5RPD- TS Sta. 364+40.12
-Y5RPD- SC Sta. 365+40.12
-Y5RPD- TS Sta. 366+40.12
-Y5RPD- SC Sta. 367+40.12
-Y5RPD- TS Sta. 368+40.12
-Y5RPD- SC Sta. 369+40.12
-Y5RPD- TS Sta. 370+40.12
-Y5RPD- SC Sta. 371+40.12
-Y5RPD- TS Sta. 372+40.12
-Y5RPD- SC Sta. 373+40.12
-Y5RPD- TS Sta. 374+40.12
-Y5RPD- SC Sta. 375+40.12
-Y5RPD- TS Sta. 376+40.12
-Y5RPD- SC Sta. 377+40.12
-Y5RPD- TS Sta. 378+40.12
-Y5RPD- SC Sta. 379+40.12
-Y5RPD- TS Sta. 380+40.12
-Y5RPD- SC Sta. 381+40.12
-Y5RPD- TS Sta. 382+40.12
-Y5RPD- SC Sta. 383+40.12
-Y5RPD- TS Sta. 384+40.12
-Y5RPD- SC Sta. 385+40.12
-Y5RPD- TS Sta. 386+40.12
-Y5RPD- SC Sta. 387+40.12
-Y5RPD- TS Sta. 388+40.12
-Y5RPD- SC Sta. 389+40.12
-Y5RPD- TS Sta. 390+40.12
-Y5RPD- SC Sta. 391+40.12
-Y5RPD- TS Sta. 392+40.12
-Y5RPD- SC Sta. 393+40.12
-Y5RPD- TS Sta. 394+40.12
-Y5RPD- SC Sta. 395+40.12
-Y5RPD- TS Sta. 396+40.12
-Y5RPD- SC Sta. 397+40.12
-Y5RPD- TS Sta. 398+40.12
-Y5RPD- SC Sta. 399+40.12
-Y5RPD- TS Sta. 400+40.12
-Y5RPD- SC Sta. 401+40.12
-Y5RPD- TS Sta. 402+40.12
-Y5RPD- SC Sta. 403+40.12
-Y5RPD- TS Sta. 404+40.12
-Y5RPD- SC Sta. 405+40.12
-Y5RPD- TS Sta. 406+40.12
-Y5RPD- SC Sta. 407+40.12
-Y5RPD- TS Sta. 408+40.12
-Y5RPD- SC Sta. 409+40.12
-Y5RPD- TS Sta. 410+40.12
-Y5RPD- SC Sta. 411+40.12
-Y5RPD- TS Sta. 412+40.12
-Y5RPD- SC Sta. 413+40.12
-Y5RPD- TS Sta. 414+40.12
-Y5RPD- SC Sta. 415+40.12
-Y5RPD- TS Sta. 416+40.12
-Y5RPD- SC Sta. 417+40.12
-Y5RPD- TS Sta. 418+40.12
-Y5RPD- SC Sta. 419+40.12
-Y5RPD- TS Sta. 420+40.12
-Y5RPD- SC Sta. 421+40.12
-Y5RPD- TS Sta. 422+40.12
-Y5RPD- SC Sta. 423+40.12
-Y5RPD- TS Sta. 424+40.12
-Y5RPD- SC Sta. 425+40.12
-Y5RPD- TS Sta. 426+40.12
-Y5RPD- SC Sta. 427+40.12
-Y5RPD- TS Sta. 428+40.12
-Y5RPD- SC Sta. 429+40.12
-Y5RPD- TS Sta. 430+40.12
-Y5RPD- SC Sta. 431+40.12
-Y5RPD- TS Sta. 432+40.12
-Y5RPD- SC Sta. 433+40.12
-Y5RPD- TS Sta. 434+40.12
-Y5RPD- SC Sta. 435+40.12
-Y5RPD- TS Sta. 436+40.12
-Y5RPD- SC Sta. 437+40.12
-Y5RPD- TS Sta. 438+40.12
-Y5RPD- SC Sta. 439+40.12
-Y5RPD- TS Sta. 440+40.12
-Y5RPD- SC Sta. 441+40.12
-Y5RPD- TS Sta. 442+40.12
-Y5RPD- SC Sta. 443+40.12
-Y5RPD- TS Sta. 444+40.12
-Y5RPD- SC Sta. 445+40.12
-Y5RPD- TS Sta. 446+40.12
-Y5RPD- SC Sta. 447+40.12
-Y5RPD- TS Sta. 448+40.12
-Y5RPD- SC Sta. 449+40.12
-Y5RPD- TS Sta. 450+40.12
-Y5RPD- SC Sta. 451+40.12
-Y5RPD- TS Sta. 452+40.12
-Y5RPD- SC Sta. 453+40.12
-Y5RPD- TS Sta. 454+40.12
-Y5RPD- SC Sta. 455+40.12
-Y5RPD- TS Sta. 456+40.12
-Y5RPD- SC Sta. 457+40.12
-Y5RPD- TS Sta. 458+40.12
-Y5RPD- SC Sta. 459+40.12
-Y5RPD- TS Sta. 460+40.12
-Y5RPD- SC Sta. 461+40.12
-Y5RPD- TS Sta. 462+40.12
-Y5RPD- SC Sta. 463+40.12
-Y5RPD- TS Sta. 464+40.12
-Y5RPD- SC Sta. 465+40.12
-Y5RPD- TS Sta. 466+40.12
-Y5RPD- SC Sta. 467+40.12
-Y5RPD- TS Sta. 468+40.12
-Y5RPD- SC Sta. 469+40.12
-Y5RPD- TS Sta. 470+40.12
-Y5RPD- SC Sta. 471+40.12
-Y5RPD- TS Sta. 472+40.12
-Y5RPD- SC Sta. 473+40.12
-Y5RPD- TS Sta. 474+40.12
-Y5RPD- SC Sta. 475+40.12
-Y5RPD- TS Sta. 476+40.12
-Y5RPD- SC Sta. 477+40.12
-Y5RPD- TS Sta. 478+40.12
-Y5RPD- SC Sta. 479+40.12
-Y5RPD- TS Sta. 480+40.12
-Y5RPD- SC Sta. 481+40.12
-Y5RPD- TS Sta. 482+40.12
-Y5RPD- SC Sta. 483+40.12
-Y5RPD- TS Sta. 484+40.12
-Y5RPD- SC Sta. 485+40.12
-Y5RPD- TS Sta. 486+40.12
-Y5RPD- SC Sta. 487+40.12
-Y5RPD- TS Sta. 488+40.12
-Y5RPD- SC Sta. 489+40.12
-Y5RPD- TS Sta. 490+40.12
-Y5RPD- SC Sta. 491+40.12
-Y5RPD- TS Sta. 492+40.12
-Y5RPD- SC Sta. 493+40.12
-Y5RPD- TS Sta. 494+40.12
-Y5RPD- SC Sta. 495+40.12
-Y5RPD- TS Sta. 496+40.12
-Y5RPD- SC Sta. 497+40.12
-Y5RPD- TS Sta. 498+40.12
-Y5RPD- SC Sta. 499+40.12
-Y5RPD- TS Sta. 500+40.12
-Y5RPD- SC Sta. 501+40.12
-Y5RPD- TS Sta. 502+40.12
-Y5RPD- SC Sta. 503+40.12
-Y5RPD- TS Sta. 504+40.12
-Y5RPD- SC Sta. 505+40.12
-Y5RPD- TS Sta. 506+40.12
-Y5RPD- SC Sta. 507+40.12
-Y5RPD- TS Sta. 508+40.12
-Y5RPD- SC Sta. 509+40.12
-Y5RPD- TS Sta. 510+40.12
-Y5RPD- SC Sta. 511+40.12
-Y5RPD- TS Sta. 512+40.12
-Y5RPD- SC Sta. 513+40.12
-Y5RPD- TS Sta. 514+40.12
-Y5RPD- SC Sta. 515+40.12
-Y5RPD- TS Sta. 516+40.12
-Y5RPD- SC Sta. 517+40.12
-Y5RPD- TS Sta. 518+40.12
-Y5RPD- SC Sta. 519+40.12
-Y5RPD- TS Sta. 520+40.12
-Y5RPD- SC Sta. 521+40.12
-Y5RPD- TS Sta. 522+40.12
-Y5RPD- SC Sta. 523+40.12
-Y5RPD- TS Sta. 524+40.12
-Y5RPD- SC Sta. 525+40.12
-Y5RPD- TS Sta. 526+40.12
-Y5RPD- SC Sta. 527+40.12
-Y5RPD- TS Sta. 528+40.12
-Y5RPD- SC Sta. 529+40.12
-Y5RPD- TS Sta. 530+40.12
-Y5RPD- SC Sta. 531+40.12
-Y5RPD- TS Sta. 532+40.12
-Y5RPD- SC Sta. 533+40.12
-Y5RPD- TS Sta. 534+40.12
-Y5RPD- SC Sta. 535+40.12
-Y5RPD- TS Sta. 536+40.12
-Y5RPD- SC Sta. 537+40.12
-Y5RPD- TS Sta. 538+40.12
-Y5RPD- SC Sta. 539+40.12
-Y5RPD- TS Sta. 540+40.12
-Y5RPD- SC Sta. 541+40.12
-Y5RPD- TS Sta. 542+40.12
-Y5RPD- SC Sta. 543+40.12
-Y5RPD- TS Sta. 544+40.12
-Y5RPD- SC Sta. 545+40.12
-Y5RPD- TS Sta. 546+40.12
-Y5RPD- SC Sta. 547+40.12
-Y5RPD- TS Sta. 548+40.12
-Y5RPD- SC Sta. 549+40.12
-Y5RPD- TS Sta. 550+40.12
-Y5RPD- SC Sta. 551+40.12
-Y5RPD- TS Sta. 552+40.12
-Y5RPD- SC Sta. 553+40.12
-Y5RPD- TS Sta. 554+40.12
-Y5RPD- SC Sta. 555+40.12
-Y5RPD- TS Sta. 556+40.12
-Y5RPD- SC Sta. 557+40.12
-Y5RPD- TS Sta. 558+40.12
-Y5RPD- SC Sta. 559+40.12
-Y5RPD- TS Sta. 560+40.12
-Y5RPD- SC Sta. 561+40.12
-Y5R

8/17/99

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCHLINE -L- STA. 227+00.00 SEE SHEET 20

END DOUBLE FACED CONCRETE BARRIER -L- Sta. 228+61.95

-Y5RPA- PT Sta. 24+10.50

-Y5RPA- +10.50, 100.00' RT

50

JAMES D MCPHAIL
LARRY G MCPHAIL
DB 3261 PG 188

SPECIAL CUT DITCH SEE DETAIL B

S 38°34'47" E 83.06'

E.P.

4' WW x 15BW

S 38°24'47" E 137.09'

100'

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

25+00

S 40° 50' 46.3" W

16'

14' 3' 14'

ATTENUATOR

12' PS

22.5

48'

2% 2% 2% 2.5%

26' MEDIAN

MTL

230+00

N 40° 50' 46.3" E

I-95 SBL 47" BST

I-95 NBL VAR BST

SPECIAL CUT DITCH SEE DETAIL B

RETAIN & CLEAN OUT

GRADE TO DRAIN

PROP. MEDIAN BARRIER

R/W MON

WOODS

SPECIAL CUT DITCH SEE DETAIL B

REMOVE EXISTING FENCE

SPECIAL CUT DITCH SEE DETAIL B

4' PS

12' 12' 12'

SP. LAT. 4' BASE DITCH SEE DETAIL C

70+00

300' TAPER LANE

RIPRAP FAB

PUE

-Y5FLY- +48.00, 121.00', 137.00' RT

-Y5FLY- +27.00, 121.00', 137.00' RT

-Y5FLY- +67.00, 121.00', 137.00' RT

-Y5FLY- +87.00, 121.00', 137.00' RT

-Y5FLY- +10.00, 121.00', 137.00' RT

-Y5FLY- +30.00, 121.00', 137.00' RT

-Y5FLY- CS Sta. 73+72.04

44

THE CORPORATION OF MERCER UNIVERSITY
C/O KIRBY GODSEY

52

G. C. TAYLOR, III
LIFE ESTATE RESERVED TO
G. C. TAYLOR JR
RACHEL M TAYLOR

DB 3586 PG 390
PB 72 PG 46

40.00' TYP.

64.43

01 02 03 04 05

75+00

-Y5FLY-

-Y5FLY- +72.04, 100.00' RT

CHORD

-Y5FLY- SRS Sta. 75+72.04

-Y5FLY- +20.00, 121.00' RT

-Y5FLY- SC Sta. 77+72.04

37.04

01 02 04 05

51

G. C. TAYLOR, III
LIFE ESTATE RESERVED TO
G. C. TAYLOR JR
RACHEL M TAYLOR

DB 3586 PG 390
PB 72 PG 46

BM #15

NAD 83/NA 2011

-Y5RPA- PC Sta. 19+19.25

-Y5RPA- +19.25, 100.00' RT

SPECIAL CUT DITCH SEE DETAIL B

CHORD

-Y5RPA- PT Sta. 14+91.25

-Y5RPA- +91.25, 120.00' RT

WOODS

12' PS

20+00

-Y5RPA-

S 43° 01' 41.2" W

12'

BL-135

15+00

48'

2% 2% 2% 2.5%

26' MEDIAN

MTL

235+00

-L-

I-95 SBL 47" BST

I-95 NBL VAR BST

MATCHLINE -L- STA. 239+00.00 SEE SHEET 22

MATCHLINE -Y5FLY- STA. 67+00.00 SEE SHEET 20

MATCHLINE -Y5FLY- STA. 80+00.00 SEE SHEET 22

PAVEMENT REMOVAL

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2
FOR -LLT SEC1- PROFILE SEE SHTS. 102 AND 103
FOR -LRT SEC1- PROFILE SEE SHTS. 102 AND 103
FOR -Y5RPA- PROFILE SEE SHT. 161
FOR -Y5FLY- PROFILE SEE SHT. 171

-Y5RPA-

PI Sta 12+45.66	PI Sta 21+64.90
Δ = 2° 10' 54.9" (RT)	Δ = 2° 10' 54.9" (LT)
D = 0° 26' 39.0"	D = 0° 26' 39.0"
L = 491.25'	L = 491.25'
T = 245.66'	T = 245.66'
R = 12,900.00'	R = 12,900.00'
SE = NC	SE = NC
DS = 65 MPH	DS = 65 MPH

-Y5FLY-

PI Sta 67+17.13	PIs Sta 74+38.72	PIs Sta 77+05.38	PI Sta 82+72.40
Δ = 35° 16' 12.6" (LT)	Θs = 2° 36' 15.7"	Θs = 2° 02' 46.6"	Δ = 20° 15' 48.1" (RT)
D = 2° 36' 15.7"	Ls = 200.00'	Ls = 200.00'	D = 2° 02' 46.6"
L = 1,354.28'	LT = 133.35'	LT = 133.34'	L = 990.26'
T = 699.36'	ST = 66.68'	ST = 66.67'	T = 500.35'
R = 2,200.00'			R = 2,800.00'
SE = 0.05			SE = 0.05
DS = 60 MPH			DS = 65 MPH

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
11:16:56 AM
C:\Projects\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh21.dgn
mlee

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- STA. 239+00.00 SEE SHEET 21

MATCHLINE -Y5FLYREV- STA. 80+00.00 SEE SHEET 21

MATCHLINE -L- STA. 252+00.00 SEE SHEET 23

-Y5RPA- PC Sta. 10+00.00=
-L- POT Sta. 242+45.66 (61' LT)

51

G. C. TAYLOR, III
LIFE ESTATE RESERVED TO
G. C. TAYLOR JR
RACHEL M TAYLOR

DB 3586 PG 390
PB 72 PG 46

S 68°39'04" E
132.00'

NAD 83/NA 2011

+50.00

300' TAPER LANE

N 88°39'46" E
132.00'

TART AND TART, INC
DB 4490 PG 310

+45.00
200.00', 240.00' LT

53

PDE

-Y5RPA- +00.00
135.00' RT

+00.00
200.00' LT

CHORD

PROP. WOVEN WIRE FENCE

TIE FENCE TO CULVERT WING WALL

LATERAL 4' BASE DITCH
SEE DETAIL D

SPECIAL CUT 4' BASE DITCH
SEE DETAIL F

2 TONS CL B RIPRAP
W/7 SY GEO FAB 2203

3 TONS CL B RIPRAP
W/10 SY GEO FAB 2208

PROP. SIGN

REMOVE EXISTING FENCE

100' SHLD TAPER

12' PS

14' PS

CAT-1

GREU TL-3

8:1

-Y5RPA-

48' WW & ISBW

R/W MON

WOODS

BL-138

INV=121.36'

48'

60'

15" RCP-IV

18" RCP-IV

PLUG & FILL W/
FLOWABLE FILL

240+00

245+00

250+00

26' MEDIAN

-L-

2GIB-WSF 2201

2GIB-WSF 2202

N 40° 50' 46.3" E

REMOVE DI 15" RCP-IV

2GIB-WSF 2204

2GIB-WSF 2205

2GIB-WSF 2206

2GIB-WSF 2207

REMOVE DI 18" RCP-IV

I-95 SBL 46' BST

I-95 NBL VAR BST

12' BST

10' BST

9.5' BST

4.5' BST

MTL

RIP-RAP

200'

210'

72'

PROP. MEDIAN BARRIER 2209

4OTCB

SPECIAL CUT DITCH
SEE DETAIL U

8' CB W/ CG

2210

8 TONS CL B RIPRAP
W/21 SY GEO FAB

4' PS

12' PS

100'

C SPECIAL CUT DITCH
SEE DETAIL AA

-Y5FLY-

85+00

REMOVE EXISTING FENCE

SPECIAL CUT DITCH
SEE DETAIL B

40.00'
TYP.

+42.30

-Y5FLY- +62.30
125.00' RT

-Y5FLY- +62.30
137.00' RT

-Y5FLY- +62.30
158.00' RT

-Y5FLY- +62.30
156.00' RT

-Y5FLY- +00.00
100.00', 125.00' RT

-Y5FLY- +00.00
149.00' RT

-Y5FLY- +00.00
152.00' RT

-Y5FLY- +00.00
148.00' RT

PUE

52

G. C. TAYLOR, III
LIFE ESTATE RESERVED TO
G. C. TAYLOR JR
RACHEL M TAYLOR

DB 3586 PG 390
PB 72 PG 46

-Y5FLY- CS Sta. 87+62.30

-Y5FLY- ST Sta. 89+62.30=
-L- POT Sta. 248+84.70 (73' RT)

2GIB-WSF 2211

15" RCP-IV

PROP. SBG

2212

2 TON CL B RIPRAP
W/7 SY GEOFAB

LATERAL V DITCH
SEE DETAIL K

54

TART AND TART, INC
DB 4490 PG 310

-Y5RPA-		-Y5FLY-		
PI Sta 12+45.66		PI Sta 82+72.40		PIs Sta 88+28.97
△ = 2° 10' 54.9" (RT)		△ = 20° 15' 48.1" (RT)		Θs = 2° 02' 46.6"
D = 0° 26' 39.0"		D = 2° 02' 46.6"		Ls = 200.00'
L = 491.25'		L = 990.26'		LT = 133.34'
T = 245.66'		T = 500.35'		ST = 66.67'
R = 12,900.00'		R = 2,800.00'		
SE = NC		SE = 0.05		
DS = 65 MPH		DS = 65 MPH		

FOR –LLT SEC1– PROFILE SEE SHTS. 103 AND 104
FOR –LRT SEC1– PROFILE SEE SHTS. 103 AND 104
FOR –Y5RPA– PROFILE SEE SHT. 161
FOR –Y5FLY– PROFILE SEE SHT. 171

FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh22.dgn
dfetter

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

ROW REVISION - 06-05-2020 - PARCEL 54 ADDED MISSING PERMANENT EASEMENT MARKER -L- 259+08 231.00' RT.

8/17/99

NAD 83/NA 2011

MATCHLINE -L- STA. 252+00.00 SEE SHEET 22

MATCHLINE -L- STA. 266+00.00 SEE SHEET 24

300' TAPER LANE

-L- PC Sta. 253+82.95

-L- PT Sta. 257+85.04

-L- PC Sta. 265+26.02

+45.00
200.00', 240.00' LT

PDE

+82.95
200.00'LT

+85.04
200.00' LT

+26.02
150.00' LT

53
TART AND TART, INC
DB 4490 PG 310

TIE FENCE TO CULVERT WING WALL

LATERAL 4' BASE DITCH SEE DETAIL D

REMOVE EXISTING FENCE

SHLD WIDENING FOR TMP

GREU TL-3 8:1

PROP.WOVEN WIRE FENCE

SPECIAL CUT DITCH SEE DETAIL B

2 TONS CL B RIPRAP W/7 SY GEO FAB

IMPACTED BILLBOARD -L- STATION 262+00 LT MILEMARKER 59.0

BILLBOARD

WOODS

48" WW & ISBW

R/W MON

BL-140

BL-141

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

15" RCP-IV

2GIB-WSF

N 40° 50' 46.3" E

26' MEDIAN

255+00

260+00

N 40° 44' 45.7" E

265+00

72'

60'

48'

26'

175'

150'

210'

I-95 SBL 45' BST

I-95 NBL VAR BST

I-95 SBL 37' BST

I-95 NBL 37' BST

5' BST

CONC

MTL

CAT-1

PROP. SBG

8:1

PROP.MEDIAN BARRIER

IMPACTED BILLBOARD -L- STATION 257+50 RT MILEMARKER 58.3

SPECIAL CUT 4' BASE DITCH SEE DETAIL F

+85.04
210.00' RT

+00.00
210.00' RT

+26.02
175.00' RT

CHORD

+82.95
210.00' RT

+82.95
231.00' RT

+85.04
231.00' RT

+59.08
231.00' RT

+27.00
228.00', 244.00' RT

+05.00
228.00', 244.00' RT

+26.02
195.00' RT

PUE

300' TAPER LANE

900' ACCELERATION LANE

54
TART AND TART, INC
DB 4490 PG 310

52
G. C. TAYLOR, III
LIFE ESTATE RESERVED
TO G. C. TAYLOR JR
RACHEL M TAYLOR

DB 3586 PG 390
PB 72 PG 46

S 59°04'19" E 1014.10'

N 74°59'46" E 153.78'

S 22°55'41" E 153.00'

-L-

PI Sta 255+83.99	PI Sta 267+26.13
Δ = 0° 06' 00.6" (LT)	Δ = 0° 05' 17.5" (RT)
D = 0° 01' 29.7"	D = 0° 01' 19.3"
L = 402.09'	L = 400.21'
T = 201.05'	T = 200.10'
R = 230,000.00'	R = 260,000.00'
SE = NC	SE = NC
DS = 75 MPH	DS = 75 MPH

FOR -LLT SEC1- PROFILE SEE SHTS. 104 AND 105
FOR -LRT SEC1- PROFILE SEE SHTS. 104 AND 105
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh23.dgn
dhefler

8/17/99

ROW REVISION - 06-05-2020 - PARCEL 55 ADDED MISSING PERMANENT EASEMENT REVISIONS -L- 280+00 161.00' RT.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA. 266+00.00 SEE SHEET 23

MATCHLINE -L- STA. 280+00.00 SEE SHEET 25

53
TART AND TART, INC
DB 4490 PG 310

56
JEAN W MCLAURIN
DB 859 PG 67

54
TART AND TART, INC
DB 4490 PG 310

55
TART AND TART INC
DB 8701 PG 123

CHORD

+26.23
140.00' LT
-L- PT Sta. 269+26.23

PROP.WOVEN WIRE FENCE

SPECIAL CUT DITCH
SEE DETAIL B

REMOVE EXISTING FENCE

<403> INV=136.5'
2 TONS CL B RIP RAP
W/7 SY GEO FAB

<406> INV=134.3'
3 TONS CL B RIPRAP
W/10 SY GEO FAB

END SECTION 1 &
BEGIN SECTION 2
-L- Sta. POT 280+00.00

BM #17

12' PS

48'

26' MEDIAN

60'

140'

02.02.025

PLUG & FILL W/
FLOWABLE FILL

15" RCP-IV

2GIB-WSF <402>

2GIB-WSF

<240> 275+00

15" RCP-III

REMOVE DI

<407>

2GIB-WSF <408>

15" RCP-IV <404>

<405>

270+00

N 40° 50' 03.2" E

I-95 NBL 37 BST

I-95 SBL 37 BST

TRAFFIC SIGNAL POLE

PROP.MEDIAN BARRIER

SPECIAL CUT 4' BASE DITCH
SEE DETAIL F

+26.23
161.00' RT

PUE

+00.00

+00.00
161.00' RT

900' ACCELERATION LANE

300' TAPER LANE

WOODS

N 71°52'54" W
520.48'

50' EASEMENT DB 0296 PG 689

-L-
PI Sta 267+26.13
Δ = 0° 05' 17.5" (RT)
D = 0° 01' 19.3"
L = 400.21'
T = 200.10'
R = 260,000.00'
SE = NC
DS = 75 MPH

FOR –LLT SEC1– PROFILE SEE SHTS. 105 AND 106
FOR –LRT SEC1– PROFILE SEE SHTS. 105 AND 106
FOR DITCH DETAILS SEE SHTS. 2D–1 THRU 2D–2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh24.dgn
dlefler

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	63
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y1SB-	-Y1NB-	
PI Sta 33+04.95	PIs Sta 12+93.67	PI Sta 17+56.04
△ = 23° 30' 47.2" (RT)	Θs = 0° 47' 25.0"	△ = 8° 04' 04.8" (RT)
D = 1° 11' 23.8"	Ls = 160.00'	D = 0° 59' 16.3"
L = 1,975.99'	LT = 106.67'	L = 816.72'
T = 1,002.10'	ST = 53.33'	T = 409.03'
R = 4,815.00'		R = 5,800.00'
SE = EXIST		SE = EXIST.
DS = 60 MPH		DS = 60 MPH

TIE TO NEW PAVEMENT COMPLETED BY PROJECT 41665.7A

DUNN ROAD

END CONSTRUCTION
END OVERLAY
-Y1SB- POT Sta. 44+75.84
TIE TO NEW PAVEMENT AND GUARDRAIL COMPLETED BY PROJECT 41665.7A

MILL AND OVERLAY EXISTING PAVEMENT ON EXIT RAMP AND ENTRANCE LOOP

-Y1SB- POT Sta. 44+75.84

-Y1SB- PT Sta. 42+78.84

SEE DETAIL OF EXTENDING PAVED SHLD. TO FACE OF GUARDRAIL SHT.2A-2

N 3°36'33" E 200.07'

N 68°01'28" W 260.22'

RETAIN EXISTING C/A FENCE

N 71°30'37" W 100.00'

N 81°12'37" W 100.00'

N 86°56'3 100.00'

SYLVIA C SCALLY,
SYLVIA C SCALLY
REVOCABLE LIVING TRUST
DB 9743 PG 263
PB 94 PG 11

NAD 83'NA 2011

RETAIN 63EXT

MATCHLINE -Y1SB- STA. 35+00.00 SEE SHEET 10

S 76° 04' 14.7" W

40+00

-Y1SB-

EXIST

OVERLAY EXISTING PAVEMENT

RETAIN EMERGENCY CROSS-OVER

10+00

N 76° 31' 10.0" E

15+00

-Y1NB- SC Sta. 13+47.00

-Y1NB- TS Sta. 11+87.00

-Y1NB-

MATCHLINE -Y1NB- STA. 20+00.00 SEE SHEET 10

BEGIN CONSTRUCTION
BEGIN OVERLAY
-Y1NB- POT Sta. 10+00.00
TIE TO NEW PAVEMENT AND GUARDRAIL COMPLETED BY PROJECT 41665.7A

RETAIN EXISTING C/A FENCE

N 62°35'39" W 199.43'

S 58°15'01" E 393.77'

N 30°08'04" E 26.47'

S 65°35'09" E 248.76'

S 42°36'47" W 395.52'

JASPER LEROY BAGGETT
MARY RUTH WILLIAMS BAGGETT
DB 3527 PG 139

FOR -Y1NB- PROFILE SEE SHT. 146
FOR -Y1SB- PROFILE SEE SHTS. 148 AND 149

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh63.dgn
phelfer

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	64
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y3-
PI Sta 15+82.98
△ = 13° 10' 49.4" (RT)
D = 2° 51' 53.2"
L = 460.08'
T = 231.06'
R = 2,000.00'
SE = 0.06
DS = 60 MPH

NAD 83/NA 2011

BEGIN CONSTRUCTION
BEGIN OVERLAY
-Y3- POC Sta. 15+00.00

-Y3- PC Sta.13+51.92

END OVERLAY/BEGIN GRADE
-Y3- POC Sta.16+00.00

WILLIAM P BIZZELL
DB 2905 PG 189
PB 19 PG 44

CHARLES T SINGLETON
ANNABELL L SINGLETON
DB 1149 PG 269
PB 19 PG 44

HEATHER L HOWELL
MARK ANTHONY HOWLL
DB 7877 PG 45
PB 117 PG 128

ANNABELL L SINGLETON
DB 3177 PG 792
PB 19 PG 44

CENTRAL FARMS, INC
DB 3002 PG 533

BETTY LIST-RICE
DB 6337 PG 128

S.J. MCLAURIN, HEIRS
DB 4831 PG 521

BM = 3'

S 74°32'51" E 198.20'
S 74°07'35" E 75.00'
S 74°07'35" E 25.00'
S 74°07'35" E 125.00'
S 74°07'35" E 202.03'
S 15°52'25" E 50.00'
S 15°52'25" W 124.03'
S 15°52'25" W 120.64'
S 15°52'25" W 110.70'
S 73°45'17.0" E
S 16°09'18" W 201.82'
N 16°06'26" E 603.31'
N 63°29'34" E 283.58'
S 63°24'26" W 363.59'

EXISTING R/W
EIP
60'
WOODS
R/W MON
IB BST
SR 1831 (OLD BAYWOOD RD)
SR 1831 BAYWOOD RD
24' BST
BAYWOOD RD
-Y3-
10+00
15+00
RETAIN
RETAIN SYSTEM
60' CLF
48' CLF
15" RCP
4A
4' EOI
ABAND
FO
TC
SS
8" PVC
48" PVC
RIP RAP
GR
BY2-175
BY2-176
VARIABLE WIDTH
I S F D
I S BK D
HTR
GREU TL-3
2GIB-NSF
15" RCP-IV
PROP-SBG
15" CSP
2 ELBOWS
RIGHT OF WAY
R/W BK PG 350
6401
6402
6403
2 TON CL B RIPRAP
W/7 SY GEO FAB

-Y3- POT Sta. 10+00.00

SEE DETAIL OF EXTENDING PAVED SHLD. TO FACE OF GUARDRAIL SHT.2A-2

MATCHLINE -Y3- STA. 17+00.00 SEE SHEET 12

FOR -Y3- PROFILE SEE SHT. 149
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh64.dgn
abeller

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	65
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

-Y3-
PI Sta 26+62.32
△ = 0° 24' 18.8" (RT)
D = 0° 06' 52.5"
L = 353.61'
T = 176.81'
R = 50,000.00'
SE = NC
DS = 60 MPH

MATCHLINE -Y3- STA. 25+00.00 SEE SHEET 12

CHARLES G MCLAURIN
SHIRLEY T MCLAURIN
DB 8175 PG 542
PB 124 PG 127

S 24°55'34" W
648.13'

END CONSTRUCTION
END OVERLAY
-Y3- PC Sta. 28+39.12

S 82°25'32" E
200.90'

ACCESS AND UTILITY EASEMENT
PB 124 PG 188

ACCESS AND UTILITY EASEMENT
PB 124 PG 127

S 36°01'06" E
170.34'

N 80°43'45" E
180.40'

N 35°33'15" W
63.60'

DONOVAN E MCLAURIN
DB 9773 PG 220

MARTIN GAINEY
DB 3779 PG 351
PB 75 PG 59

N 35°33'15" W
336.56'

S 59°45'15" E
54.69'

N 30°14'45" E
25.00'

6504
1 TON CL B RIPRAP
W/5 SY GEO FAB

15" CSP
2 ELBOWS

6502
2GIB-NSF

GREU TL-3

PROP. SBG

-Y3-

BAYWOOD RD

EXISTING R/W

BY2-179

BY2-180

BM #4

SR 1893 GOBBLER LN

48" IRON

END GRADE/BEGIN OVERLAY
-Y3- POC Sta. 25+00.00

SEE DETAIL OF EXTENDING PAVED SHLD. TO FACE OF GUARDRAIL SHT.2A-2

CLIFF L EDWARDS
SOPHIA H EDWARDS
DB 3564 PG 597
PB 135 PG 155
PB 45 PG 27

CHRIS J DIORIETES
SOPHIA S DIORIETES
DB 3669 PG 127
PB 45 PG 27

SCOTT M MCCAIG
MANA W MCCAIG
DB 9975 PG 335
PB 121 PG 35

N 25°11'06" E
272.52'

N 64°49'08" W
199.98'

S 36°31'52" W
573.35'

FOR -Y3- PROFILE SEE SHT. 149

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway_Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh65.dgn
sheffler

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	66
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y5-
PI Sta 49+24.54
△ = 0° 05' 03.0" (LT)
D = 0° 01' 43.1"
L = 293.78'
T = 146.89'
R = 200,000.00'
SE = NC
DS = 70 MPH

NAD 83/NA 2011

BEGIN CONSTRUCTION
-Y5- POT Sta. 38+00.00

NC DEPARTMENT OF TRANSPORTATION
DB 6092 PG 412
PB 49 PG 4

850' RIGHT LANE TAPER

-Y5- PC Sta. 47+77.66

-Y5- 00.00
104.15' LT

BEGIN WW FENCE
TIE TO EXIST. C/A FENCE

-Y5- 00.00
150.00' LT

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

TIE FENCE TO CULVERT WING WALL

TIE FENCE TO CULVERT WING WALL

-Y5- 77.66
150.00' LT

CHORD

LATERAL V DITCH
SEE DETAIL K

2 TON CL B RIPRAP
W/7 SY GEOFAB

TOE PROTECTION
W/CL B RIPRAP
SEE DETAIL H

RETAIN & EXTEND
2@8'X8' RCBC

PROP. SLOPE

GREU TL-3

CAT-1

2GIB-WSF

REMOVE EXISTING GUARDRAIL

RETAIN DI

RETAIN

EXIST.

I-295 WBL/GOLDSBORO RD 24' BST

I-295 EBL/GOLDSBORO RD 24' BST

35+00

40+00

45+00

Adj. DI 601 F3

S 60° 46' 48.1" E

-Y5-

REMOVE EXISTING GUIDERAIL

Adj. DI 602

GRADE TO DRAIN TO

RETAIN EXISTING C/A FENCE

TIE TO EXISTING CABLE GUIDERAIL

MILL EXISTING PAVED SHOULDER AND TIE PROPOSED PAVED SHOULDER FLUSH SHT.2A-3

RETAIN SYSTEM

BY4-202

BY4-203

NCDOT IRON/CAP

47
PEGGY M HILL
JOHN ADAMS CARTER
SUSAN CARTER CANADY
MICHAEL D CANADY

DB 9122 PG 856
PB 49 PG 4

JOHN ADAM CARTER
DB 9122 PG 856
PB 49 PG 4

MATCHLINE -Y5- STA. 49+00.00 SEE SHEET 67

FOR -Y5LT- PROFILE SEE SHTS. 153 AND 154
FOR -Y5RT- PROFILE SEE SHTS. 153 AND 154

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh66.dgn
dfetter

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	67
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y5-
PI Sta 49+24.54
△ = 0° 05' 03.0" (LT)
D = 0° 01' 43.1"
L = 293.78'
T = 146.89'
R = 200,000.00'
SE = NC
DS = 70 MPH

NAD 83/NA 2011

MATCHLINE -Y5- STA. 49+00.00 SEE SHEET 66

MATCHLINE -Y5- STA. 63+00.00 SEE SHEET 68

-Y5- PT Sta. 50+71.43

CHORD

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

-Y5-+71.43 125.00' LT

-Y5-+00.00 125.00' LT

-Y5-+00.00 160.00' LT

PROP.WOVEN WIRE FENCE

REMOVE EXISTING FENCE

1 TON CL B RIPRAP W/5 SY GEOFAB <6706>

15" CSP 2 ELBOWS

CAT-1

15" RCP-IV <6705>

2GIB-WSF <6704>

REMOVE SYSTEM

PROP. SBG

1 TON CL B RIPRAP W/5 SY GEOFAB <6711>

COLLAR AND EXTEND 24" RCP-III <6708>

2GIB-WSF <6710>

PROP. SIGN

<6702> COLLAR AND EXTEND 24" RCP-III

<6701>

<6707>

NC DEPARTMENT OF TRANSPORTATION
DB 6092 PG 412
PB 49 PG 4

ANITA WILLIAMS GRIFFIN
TIMOTHY LYNN GRIFFIN
DB 9699 PG 393
45

N 42°03'22" W 2893.71'

NC 295

S 60° 51' 51.1" E

I-295 WBL/GOLDSBORO RD 24' BST

I-295 EBL/GOLDSBORO RD 24' BST

I-295 WBL/GOLDSBORO RD 38' BST

I-295 EBL/GOLDSBORO RD 38' BST

-Y5-

Adj. DI <6703>

Adj. DI <6709>

FS

50+00

55+00

60+00

RETAIN EX. 24" EQUALIZER PIPE

RETAIN CB

RETAIN EXISTING SBG

GREU TL-3

8:1

RETAIN EXISTING C/A FENCE

END MILLING OF EXISTING PAVED SHOULDER STATION 55+76.98

MILL EXISTING PAVED SHOULDER AND TIE PROPOSED PAVED SHOULDER FLUSH SHT.2A-3

SEE DETAIL OF INCIDENTAL MILLING TO TIE TO EXISTING CURB SHT.2A-3

PROPERTY LINE TO BE VERIFIED

47
PEGGY M HILL
JOHN ADAMS CARTER
SUSAN CARTER CANADY
MICHAEL D CANADY
DB 9122 PG 856
PB 49 PG 4

BY4-204

BY4-186

BM #11

FOR -Y5LT- PROFILE SEE SHTS. 154 AND 155
FOR -Y5RT- PROFILE SEE SHTS. 154 AND 155

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh67.dgn
sheiler

REVISIONS
ROW REVISION - 06-05-2020 - PARCEL 45 ADDED PUE
ROW REVISION - 06-05-2020 - PARCEL 46 ADDED PUE AND REVISED ROW LINE FROM -Y5RPA- 60+29.40 ADDED 65' TO THE CORRECT10 TO -Y5RPA- 57+99.40 TO FOUND MONUMENT
ROW REVISION - 06-05-2020 - ADDED PARCEL 47 AS A RESULT OF THE ADDITION OF PUE

-Y5LPD-

Pis Sta 46+39.58	PI Sta 42+95.13
Gs = 4°49' 21.6"	Δ = 28°56' 19.0" (RT)
Gs = 5°43' 47.4"	D = 5°43' 46.5"
Ls = 200.00'	L = 505.07'
LT = 103.15'	T = 258.05'
ST = 97.42'	R = 1,000.00'
	SE = 0.09
	DS = 50 MPH

-Y5RPA-

Pis Sta 58+76.14	PI Sta 54+28.47	Pis Sta 49+53.46
Gs = 5°29' 27.0"	Δ = 36°44' 01.3" (RT)	Gs = 5°29' 27.0"
Ls = 230.00'	D = 4°46' 28.7"	Ls = 230.00'
LT = 153.34'	L = 769.35'	LT = 153.34'
ST = 76.73'	T = 398.42'	ST = 76.73'
	R = 1,200.00'	
	SE = 0.09	
	DS = 60 MPH	

-Y5SPURA-

PI Sta 23+14.19
Δ = 37°01' 59.8" (LT)
D = 12°43' 56.6"
L = 291.64'
T = 151.15'
R = 450.00'
SE = 0.09
DS = 30 MPH (STOP CONDITION)

-Y14-

Pis Sta 41+66.39	PI Sta 43+73.26
Gs = 1°44' 10.4"	Δ = 4°54' 57.2" (RT)
Ls = 200.00'	D = 1°44' 10.4"
LT = 133.34'	L = 280.25'
ST = 66.67'	T = 140.21'
	R = 3,300.00'
	SE = E.P.S.T.
	DS = 60 MPH

-Y5RPB-

Pis Sta 14+48.63	PI Sta 19+15.17	
Gs = 6°58' 13.0"	Δ = 56°53' 37.3" (RT)	
Ls = 200.00'	D = 6°58' 13.0"	
LT = 133.44'	L = 744.55'	
ST = 66.76'	T = 399.97'	
	R = 822.00'	
	SE = E.P.S.T.	
	DS = 55 MPH	

-Y4-

Pis Sta 80+74.64	PI Sta 82+95.84	PI Sta 95+38.31
Gs = 1°11' 21.0"	Δ = 3°20' 59.4" (LT)	Δ = 27°03' 11.9" (LT)
Ls = 225.00'	D = 1°08' 45.3"	D = 2°52' 15.0"
LT = 150.00'	L = 292.33'	L = 647.99'
ST = 75.00'	T = 146.23'	T = 1,096.34'
	R = 5,000.00'	R = 1,990.00'
	SE = 0.04	SE = 0.04
	DS = 70 MPH	DS = 70 MPH

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	60
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FOR -Y14- PROFILE SEE SHT. 152
FOR -Y5LT- PROFILE SEE SHTS. 155 THRU 157
FOR -Y5RT- PROFILE SEE SHTS. 155 THRU 157
FOR -Y5RPA- PROFILE SEE SHT. 162
FOR -Y5SPURA- PROFILE SEE SHT. 163
FOR -Y5RPB- PROFILE SEE SHT. 164
FOR -Y5LPD- PROFILE SEE SHT. 168
FOR -Y5FLY- PROFILE SEE SHTS. 169 AND 170
FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

GRAPHIC SCALE
50 25 0 50
PLANS

RKK
Raleigh Office
5121 Kingdom Way, Suite 100
Raleigh, North Carolina 27607-5080
Tel: 919.859.1282
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsible People | Creative Solutions

8/24/2020
R:\Projects\I-5986A\Roadway\Plan Sheets\SEC 1 PLAN SHEETS\I-5986A-Rdy_pw456.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	69
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y4-	
PI Sta 14+83.44	PI Sta 27+97.58
△ = 0° 23' 06.9" (RT)	△ = 54° 50' 18.3" (LT)
D = 0° 17' 11.3"	D = 3° 53' 51.6"
L = 134.48'	L = 1,406.95'
T = 67.24'	T = 762.60'
R = 20,000.00'	R = 1,470.00'
SE = EXIST.	SE = EXIST.
DS = 45 MPH	DS = 45 MPH

TRAFFIC DIAGRAM

ADT 2018
ADT 2040

DUNN ROAD

2,400 / 3,300

200 / 800

PEMBROKE LANE (SR 1933)

2,000 / 5,400

1,800 / 4,600

4,000 / 7,100

DUNN ROAD

BEGIN CONSTRUCTION
BEGIN OVERLAY
-Y4- POT Sta. 10+28.01

-Y4-

-Y14-

N 37° 31' 59.5" E

25+00

20+00

15+00

PEMBROKE LN.

S 58° 10' 55.0" E

S 57° 47' 48.1" E

-Y4- PC Sta. 14+16.21

-Y4- PT Sta. 15+50.68

-Y4- POT Sta. 10+00.00

-Y4- PC Sta. 20+34.98

SEE DETAIL OF EXTENDING PAVED SHLD. TO FACE OF GUARDRAIL SHT.2A-2

SEE DETAIL OF INCIDENTAL MILLING. TO TIE TO EXISTING CURB SHT.2A-2

MILL AND OVERLAY EXISTING PAVEMENT

SEE DETAIL OF EXTENDING PAVED SHLD. TO FACE OF GUARDRAIL SHT.2A-2

RETAIN EXISTING SBG

RETAIN

RETAIN SYSTEM

GREU TL-3

GREU TL-2

PIPE CLEAN OUT

EXIST

8:1

THE CUMBERLAND COUNTY BOARD OF EDUCATION
DB 8271 PG 876

COUNTY OF CUMBERLAND
DB 7182 PG 669
PB 116 PG 36

CHARLES YATES
JOYCE YATES PRICE
MOTT E PRICE
DB 406 PG 92

CATHRINE E THOMPSON
ANN H THOMPSON
LOUISE T FUTRELL
JANE THOMPSON
DB 4159 PG 650

BM #10

TO FLEA HILL RD (SR 1838)

DUNN RD (SR 1838)

N 52°57'34" W 193.22'

S 37°02'26" W 206.96'

NAD 83/NA 2011

MATCHLINE -Y4- 21+00.00 SEE SHEET 19

FOR -Y4- PROFILE SEE SHT. 150

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh69.dgn
sheffler

REVISIONS
ROW REVISION - 06-05-2020 - PARCEL 27 ADDED MISSING EASEMENT FLAG -Y4- 41+50.27 HOLD! BT
ROW REVISION - 06-05-2020 - PARCEL 42 ADDED PUE TO THE ORIGINAL PUE AND REVISED THE FLAGS FOR THE ORIGINAL PUE TO REFERENCE -Y5C- FOR FLAGS AT 20+82.60 LT
ROW REVISION - 06-05-2020 - PARCEL 43 ADDED PUE TO THE ORIGINAL PUE, ADDED ROW WIDENING AND TIED TO -Y5A- 113+50.00, ADDED FLAG REVISED ALIGNMENT REFERENCE FROM -Y5- TO -Y5A- FOR FLAGS AT 109+80.52 LT AND 110.00 LT
ROW REVISION - 06-05-2020 - PARCEL 44 REVISED ROW FROM -Y5RPO- 9+37.63, 100.89 RT TO TIE CORRECTLY TO EXISTING ROW AND ADDED -Y5SRP-
ROW REVISION - 06-12-2020 - PARCEL 28 REVISED ROW
ROW REVISION - 06-12-2020 - PARCEL 29 REVISED ROW AND REVISED PUE
ROW REVISION - 06-17-2020 - PARCEL 34 REVISED PUE
ROW REVISION - 08-14-2020 - PARCEL 35 REVISED PUE
ROW REVISION - 08-14-2020 - PARCEL 37 REVISED CA
ROW REVISION - 08-14-2020 - PARCEL 38 REVISED CA
ROW REVISION - 09-14-2020 - PARCELS 32 AND 43 ADDED ACCESS POINT LABEL

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	70
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NSRS 2011

MATCHLINE -Y4- STA. 39+00.00 SEE SHEET 19

-Y4- POT Sta. 40+20.00 END OVERLAY BEGIN GRADE

MILL AND OVERLAY EXISTING PAVEMENT

PEMBROKE LN.

-Y4- PC Sta. 41+52.73

-DR3- PT Sta. 11+63.25

-DR3- PT Sta. 11+08.70

-DR3- PC Sta. 10+50.71

-Y4- POC Sta. 46+54.66= -DR3- POT Sta. 10+00.00

-Y4- POC Sta. 49+10.95= -Y4A- POT Sta. 10+00.00

-Y4- PT Sta. 51+03.86

-Y4- PC Sta. 53+16.66

DESIGN SUBJECT TO CHANGE PENDING COORDINATION WITH THE DEVELOPER

MATCHLINE -Y5- STA. 105+00.00 SEE SHEET 20

-Y5- PCC Sta. 106+09.32

-Y5C- PC Sta. 20+82.60

-Y5C- PT Sta. 23+26.97

END GRADE -Y5C- Sta. 26+56.71

END CONSTRUCTION -Y5B- POT Sta. 26+66.96 -Y5C- POT Sta. 26+93.02

-Y5C- PT Sta. 16+73.45

-Y5A- PT Sta. 113+38.49

-Y5- POC Sta. 107+37.70= -Y4A- POT Sta. 16+75.39

-Y4A- PT Sta. 16+24.06

-Y4A- PC Sta. 10+86.52

-Y5- PCC Sta. 109+51.53= -Y5A- PCC Sta. 109+51.53

-Y5A- PT Sta. 115+49.24

-Y5C- PC Sta. 14+48.69

BEGIN -Y5RAB- PC Sta. 10+00.00 END -Y5RAB- PT Sta. 14+71.24

-Y5C- POT Sta. 10+00.00

-Y4- POT Sta. 66+10.45

-Y5B- PT Sta. 13+83.06

-Y5B- POT Sta. 10+00.00

-Y4- PT Sta. 63+49.71

MATCHLINE -Y5B- STA. 13+00.00 SEE SHEET 71

-Y4A-	-Y4-	-Y5-	-Y5A-	-Y5C-	-Y5RAB-	-DR3-	-Y5B-
PI Sta 13+06.66	PI Sta 46+54.27	PI Sta 61+55.06	PI Sta 107+80.80	PI Sta 111+45.24	PI Sta 15+86.02	PI Sta 10+80.07	PI Sta 12+68.73
Δ = 15° 40' 04.6" (RT)	Δ = 43° 21' 56.4" (RT)	Δ = 118° 23' 42.9" (LT)	Δ = 4° 12' 00.4" (LT)	Δ = 6° 52' 34.2" (LT)	Δ = 83° 05' 00.3" (LT)	Δ = 360° 00' 00.0" (LT)	Δ = 4° 02' 43.1" (RT)
D = 3° 34' 51.6"	D = 4° 35' 01.2"	D = 11° 27' 33.0"	D = 11° 13' 46.3"	D = 6° 46' 06.2"	D = 36° 57' 54.1"	D = 76° 23' 39.7"	D = 1° 46' 05.2"
L = 431.53'	L = 946.25'	L = 1033.09'	L = 340.51'	L = 1396.96'	L = 224.70'	L = 244.37'	L = 228.76'
T = 220.14'	T = 497.00'	T = 838.40'	T = 170.88'	T = 713.33'	T = 137.33'	T = 155.90'	T = 114.43'
R = 1,650.00'	R = 1,250.00'	R = 500.00'	R = 4,666.00'	R = 11,850.00'	R = 155.00'	R = 155.00'	R = 3,240.00'
SE = 0.03	SE = 0.06	SE = 0.06	SE = 0.04	SE = NC	SE = 0.04	SE = 0.04	SE = NC
DS = 40 MPH	DS = 45 MPH	DS = 30 MPH	DS = 60 MPH	DS = 30 MPH	DS = 25 MPH	DS = 25 MPH	DS = 60 MPH

-Y5RAB-	-DR3-	-Y5B-
PI Sta 10+80.00	PI Sta 10+80.07	PI Sta 12+68.73
Δ = 360° 00' 00.0" (LT)	Δ = 122° 09' 04.2" (LT)	Δ = 4° 02' 43.1" (RT)
D = 76° 23' 39.7"	D = 38° 11' 49.5"	D = 1° 46' 05.2"
L = 471.24'	L = 57.99'	L = 228.76'
T = 0.02'	T = 29.36'	T = 114.43'
R = 75.00'	R = 150.00'	R = 3,240.00'
SE = NC	SE = NC	SE = NC
DS = 30 MPH	DS = 15 MPH	DS = 60 MPH

TRAFFIC DIAGRAM

ADT 2018
ADT 2040

NORTH

12,100 / 29,700
PEMBROKE LANE
2,400 / 7,000
2,900 / 5,200
200 / 400
400 / 1,200
PEMBROKE LANE
400 / 500
100 / 100
10,000 / 29,000

GOLDSBORO RD.

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

PAVEMENT REMOVAL

CONCRETE TRUCK APRON

GRAPHIC SCALE
50 25 0 50

PLANS

FOR -DR3- PROFILE SEE SHT. 152
FOR -Y4A- PROFILE SEE SHT. 152
FOR -Y5LT- PROFILE SEE SHT. 158
FOR -Y5RT- PROFILE SEE SHT. 158
FOR -Y5A- PROFILE SEE SHT. 159
FOR -Y5B- PROFILE SEE SHT. 159
FOR -Y5C- PROFILE SEE SHT. 160
FOR -Y5RAB- PROFILE SEE SHT. 160

FOR DITCH DETAILS SEE SHTS 2D-1 THRU 2D-2

RK&K
P: (919) 875-6090
3621 Hillsborough Road, Forum 1, Suite 700
Durham, North Carolina 27705-2865
NC Firm No. C-0412
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsible People | Creative Solutions

C:\Projects\I-5986A_Dy_Sheets\SEC 1 PLAN SHEETS\I-5986A_Dy_sht70.dgn
7/6/2020
8:07:18 AM

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	71
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y5B-		
PIs Sta 17+67.98	PI Sta 20+86.05	PIs Sta 24+04.04
Θs = 0° 30' 09.3"	△ = 2° 31' 36.1" (RT)	Θs = 0° 30' 09.3"
Ls = 200.00'	D = 0° 30' 09.3"	Ls = 200.00'
LT = 133.33'	L = 502.73'	LT = 133.33'
ST = 66.67'	T = 251.41'	ST = 66.67'
	R = 11,400.00'	
	SE = RC	
	DS = 60 MPH	

NAD 83/NA 2011

ROW REVISION - 06-05-2020 - PARCELS 38 AND 44 REVISED SPIRALS TO CHORDS FROM -Y5B- 16+34.65 TO 17+50.00 LT AND RT
ROW REVISION - 08-11-2020 - PARCEL 38 REVISED CA
ROW REVISION - 08-11-2020 - PARCEL 44 REVISED CA

MATCHLINE -Y5B- STA. 15+00.00 SEE SHEET 70

44
THE CORPORATION OF MERCER UNIVERSITY C/O KIRBY GODSEY

NCDOT RIGHT OF WAY DB 9368 PG 365

DENNIS DAIL DB 2130 PG 391

DENNIS DAIL DB 2895 PG 474

GARY DAIL, JR. DB 10463 PG 592

S 64°48' 125.17'
S 31°51'29" E 517.65'
N 01°32'27" W 366.47'
S 08°34'27" E 532.47'
N 87°46'33" E 50.00'
N 37°58'07" W 124.27'

END CONSTRUCTION
-Y5B- POC Sta. 18+65.00

END OVERLAY
-Y5B- POS Sta. 17+50.00

END GRADE/BEGIN OVERLAY
-Y5B- POS Sta. 17+00.00

END CA
END FENCE
-Y5B- +50.00
27.83', 70.00' LT

-Y5B- +34.65
70.00' LT

-Y5B- +15.00
59.00' LT

-Y5B- +40.00
61.00' LT

-Y5B- +20.00
27.98' LT

-Y5B- +45.00
28.12' LT

PROP. WOVEN WIRE FENCE

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

CHORD

CUTOVER

PUE

WOODS

14" CPP

24" RCP

15" RCP

FCM

CMP

RIP-RAP

EIP

CS

ST

20+00

25+00

N 88° 56' 18.6" E

15+00 -Y5B-

N 85° 24' 23.8" E

GOLDSBORO RD

28' BST

TO JAMES DAIL RD (SR 1828)

Century Link Century Link

TOWN OF COSTON

REMOVE

50' TAPER TO EXIST.

SP. CUT 4' BASE DITCH SEE DETAIL F

Z101

END CA
END FENCE
-Y5B- +24.65
70.00' RT

ACCESS POINT

BEGIN CA
BEGIN FENCE
-Y5B- +84.65
70.04' RT

-Y5B- +55.00
30.33' RT

-Y5B- +63.00
76.00' RT

BK STEPS

RD OK

ISFBKD

-Y5B- +35.00
67.00' RT

-Y5B- +37.00
80.00' RT

-Y5B- +79.00
85.00' RT

-Y5B- +81.00
102.00' RT

-Y5B- +34.65
70.00' RT

END CA
END FENCE
-Y5B- +50.00
29.69', 70.00' RT

-Y5B- +58.00
88.00' RT

-Y5B- +60.00
103.00' RT

240' MEDIAN TAPER (RT. SIDE ONLY)

-Y5B- TS Sta. 16+34.65

-Y5B- SC Sta. 18+34.65

-Y5B- CS Sta. 23+37.37

-Y5B- ST Sta. 25+37.37

38
WILLIAM DAIL
DB 10431 PG 16

39
CHRISTOPHER McMILLAN
DB 3804 PG 162

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR -Y5B- PROFILE SEE SHT. 159

FOR DITCH DETAILS SEE SHTS. 2D-1 THRU 2D-2

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 1 PLAN SHEETS\I-5986A_Rdy_psh71.dgn
dhefner

09/08/99

TIP PROJECT: I-5986A

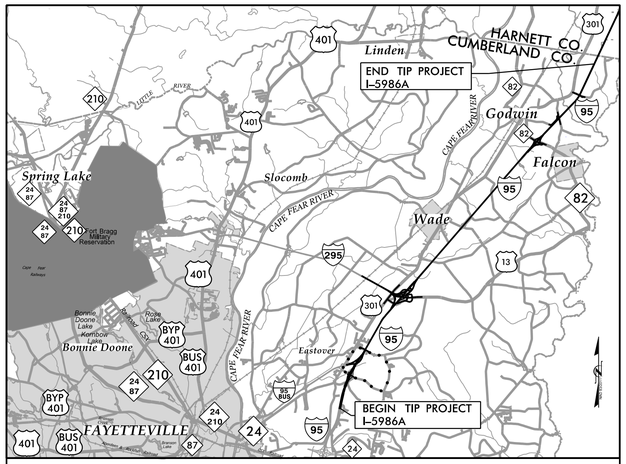
CONTRACT: C204283

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5986A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
47532.2.2		R/W
47532.3.2	NHP-0095(057)	PE, UTILITIES, CON

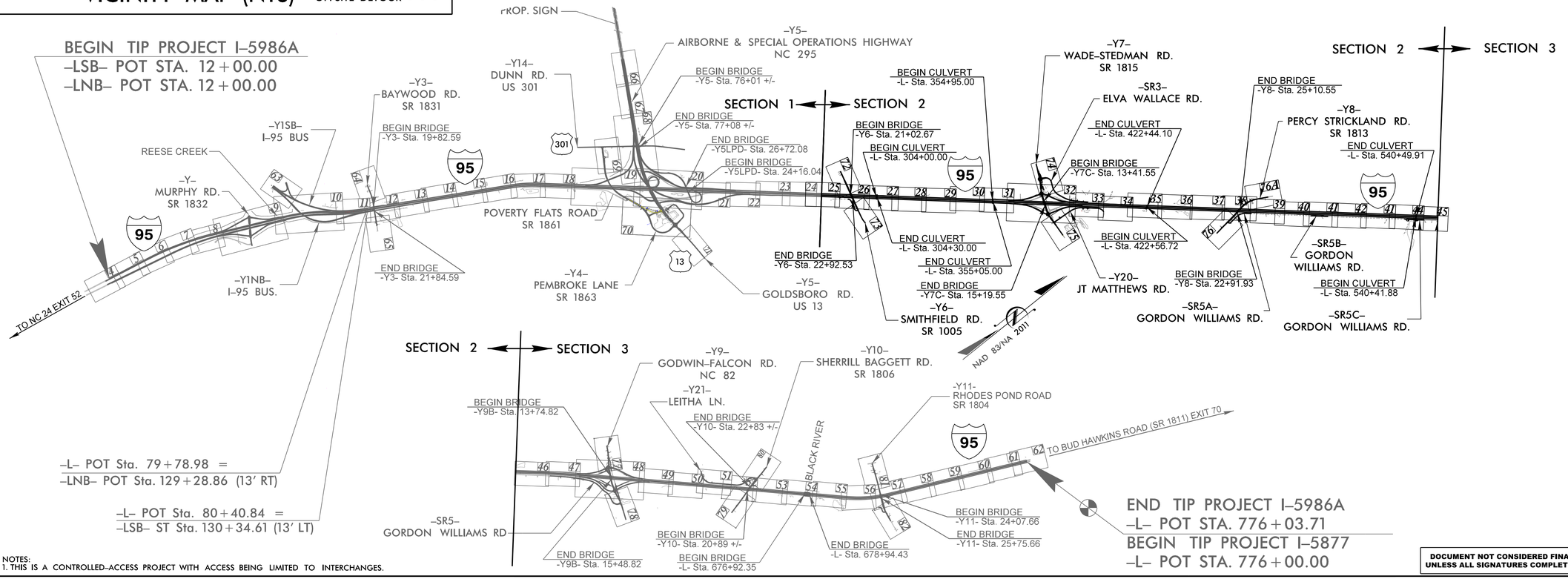


VICINITY MAP (NTS) OFFSITE DETOUR



LOCATION: *I-95 WIDENING FROM SOUTH OF SR 1832 (MURPHY ROAD- EXIT 55) TO SOUTH OF SR 1811 (BUD HAWKINS ROAD-EXIT 70)*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, LIGHTING, SIGNING, ITS, CULVERTS & STRUCTURES*



NOTES:
1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS 50 25 0 50 100

PROFILE (HORIZONTAL) 50 25 0 50 100

PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

ADT 2018 = 56,700
ADT 2040 = 73,800
K = 55%
D = 7%
T = 18% *
V = 75 MPH

FUNC CLASS: INTERSTATE
* (TTST 13% + DUALS 5%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5986A.....15.368 MILES
LENGTH STRUCTURE TIP PROJECT I-5986A.....0.048 MILES
TOTAL LENGTH TIP PROJECT I-5986A.....15.416 MILES

NCDOT CONTACT

Michael Penney, PE
PROJECT ENGINEER - DESIGN-BUILD UNIT

PLANS PREPARED BY:

RK&K RUMMEL, KLEPPER & KAHL, LLP
8601 SIX FORKS ROAD, FORUM 1, SUITE 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112

FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

S.T. WOOTEN

2018 STANDARD SPECIFICATIONS

LETTING DATE:
AUGUST 20, 2019

Michael T. Merritt, P.E.
PROJECT ENGINEER

Anthony A. Houser, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

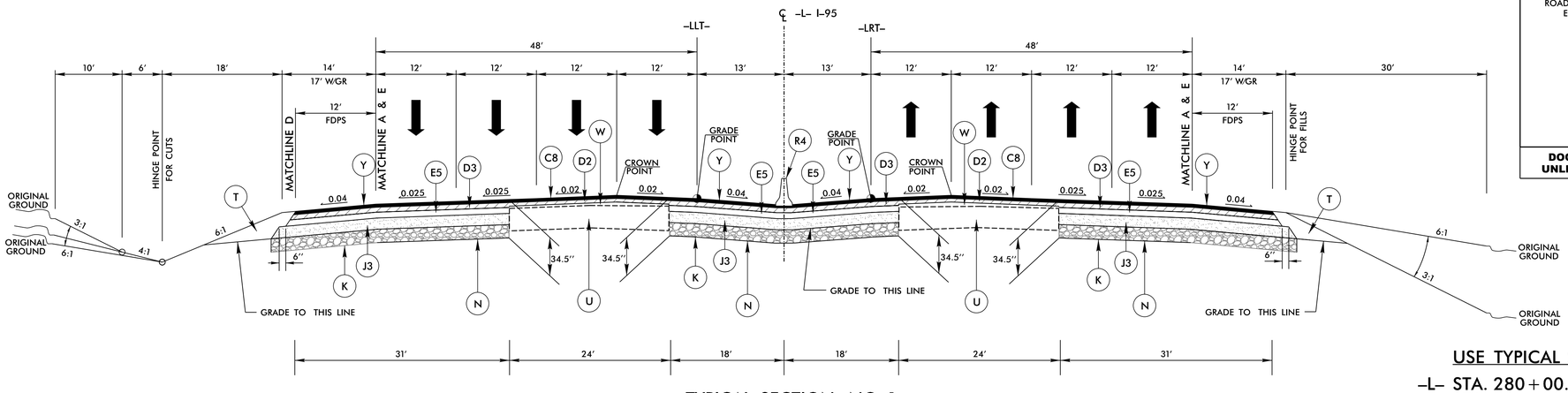
ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION *

8/24/2020
R:\Roadway\Proj\I-5986A_Rdy_tsh_Sec2.dgn
lkitchings

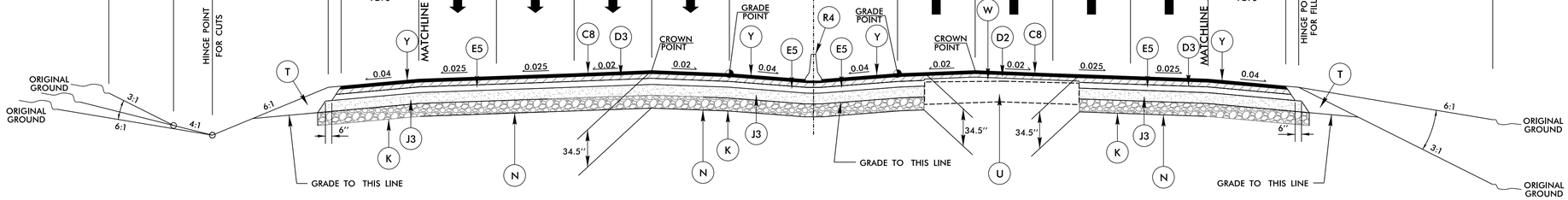
C2	3" TYPE S9.5B
C8	3" TYPE S9.5D
D1	2.5" TYPE I19.0C
D2	3" TYPE I19.0C
D3	4" TYPE I19.0C
E2	4" TYPE B25.0C
E5	5.5" TYPE B25.0C
J3	10'' ABC
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R3	SINGLE FACED CONCRETE BARRIER
R4	TYPE T CONCRETE BARRIER
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING
Y	MILLED RUMBLE STRIPS



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

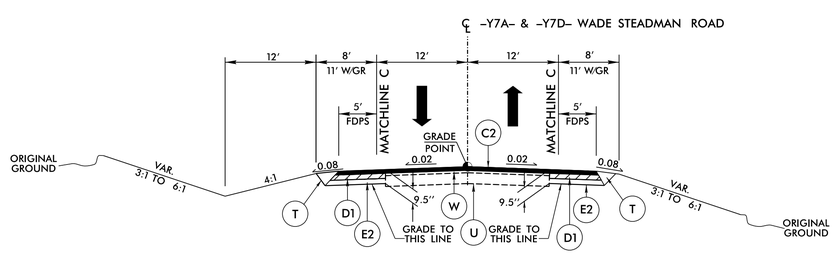
–L– STA. 280+00.00 TO STA. 349+00.00
–L– STA. 361+00.00 TO STA. 550+00.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

–L– STA. 349+00.00 TO STA. 361+00.00



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

–Y7A– STA. 12+35.00 TO STA. 15+50.00
–Y7D– STA. 14+42.33 TO STA. 16+25.00

NOTES:

SEE PLANS FOR LOCATION OF AUXILIARY LANES, TURN LANES, TAPERS, AND CONCRETE ISLANDS.
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

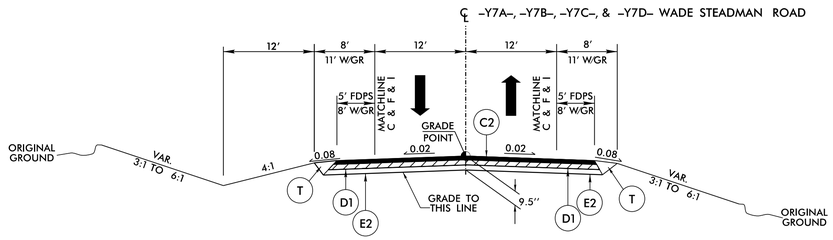
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

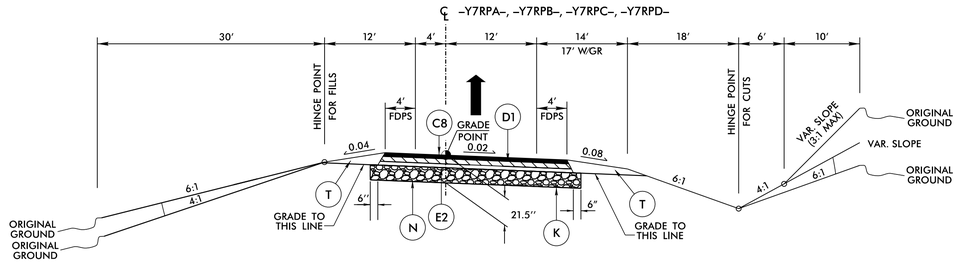
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\PROJ\I5986A_Rdy_typ_sec2.dgn

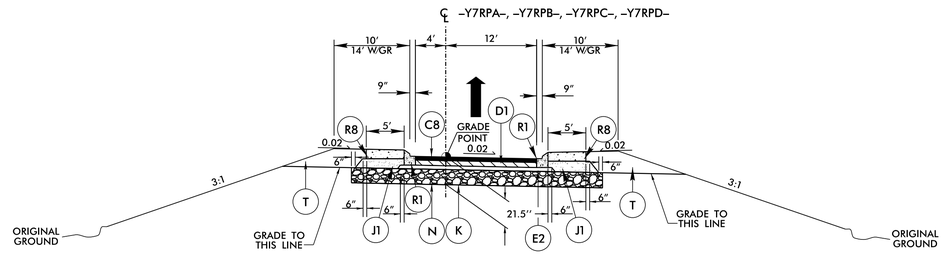
C2	3" TYPE S9.5B
C8	3" TYPE S9.5D
D1	2.5" TYPE I19.0C
D3	4" TYPE I19.0C
E2	4" TYPE B25.0C
J1	6" ABC
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R	9" X 18" CURB
R1	1'-6" C&G
R7	12" CONCRETE TRUCK APRON WITH WIRE MESH
R8	12" CONCRETE TRUCK APRON
R9	4" CONCRETE COVER
T	EARTH



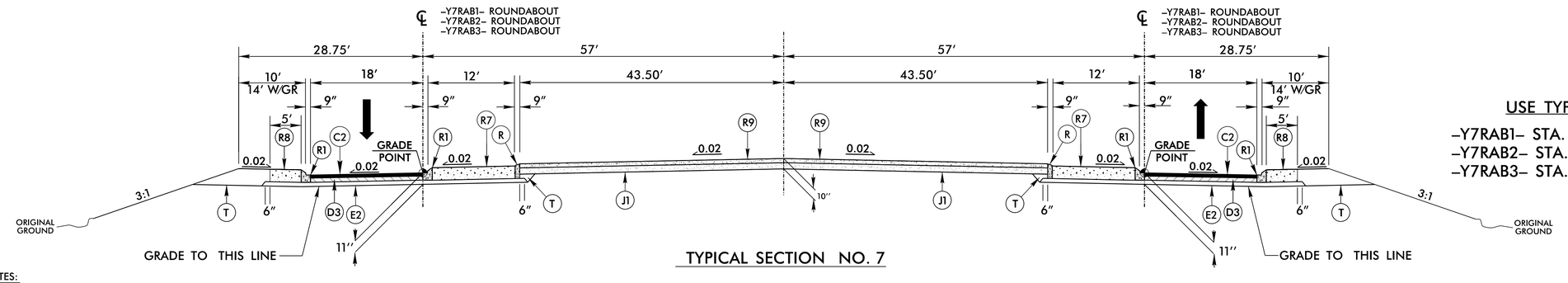
TYPICAL SECTION NO. 4



TYPICAL SECTION NO. 5



TYPICAL SECTION NO. 6



TYPICAL SECTION NO. 7

NOTES:
SEE PLANS FOR LOCATION OF AUXILARY LANES, TURN LANES, TAPERS, AND CONCRETE ISLANDS.
*4:1 MAXIMUM SLOPES WITHIN INTERCHANGES.
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

USE TYPICAL SECTION NO. 4
–Y7A– STA. 15+50.00 TO STA. 16+15.65
–Y7B– STA. 10+71.70 TO STA. 15+68.81
*–Y7C– STA. 10+71.70 TO STA. 13+41.55 (BEGIN BRIDGE)
*–Y7C– STA. 15+19.55 (END BRIDGE) TO STA. 18+60.38
–Y7D– STA. 10+71.70 TO STA. 14+42.33

PAVE TO THE FACE OF GUARDRAIL
*USE 4:1 OR FLATTER INSIDE INTERCHANGE AREA

USE TYPICAL SECTION NO. 5
–Y7RPA– STA. 10+00.00 TO STA. 23+30.00
–Y7RPC– STA. 10+00.00 TO STA. 23+62.06

USE REVERSE TYPICAL AND LANE ARROW
–Y7RPB– STA. 10+00.00 TO STA. 23+18.00
–Y7RPD– STA. 10+00.00 TO STA. 23+92.00

NOTE: USE –L– PAVEMENT DESIGN IN THE FOLLOWING LOCATIONS:
–Y7RPA– STA. 10+00.00 TO STA. 14+60.92
–Y7RPB– STA. 10+00.00 TO STA. 14+95.59
–Y7RPC– STA. 10+00.00 TO STA. 14+54.98
–Y7RPD– STA. 10+00.00 TO STA. 14+70.53

USE TYPICAL SECTION NO. 6
–Y7RPA– STA. 23+30.00 TO STA. 24+43.85
–Y7RPC– STA. 23+62.06 TO STA. 24+92.32

USE REVERSE TYPICAL AND LANE ARROW
–Y7RPB– STA. 23+18.00 TO STA. 24+32.14
–Y7RPD– STA. 23+92.00 TO STA. 25+06.13

USE TYPICAL SECTION NO. 7
–Y7RAB1– STA. 10+00.00 TO STA. 13+58.14
–Y7RAB2– STA. 10+00.00 TO STA. 13+58.14
–Y7RAB3– STA. 10+00.00 TO STA. 13+58.14

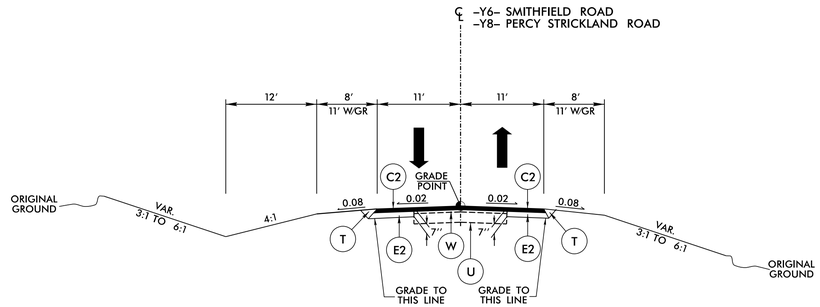
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Prod\I5986A_Rdy_typ_sec2.dgn
jlee

C2	3" TYPE S9.5B
E2	4" TYPE B25.0C
J2	8" ABC
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

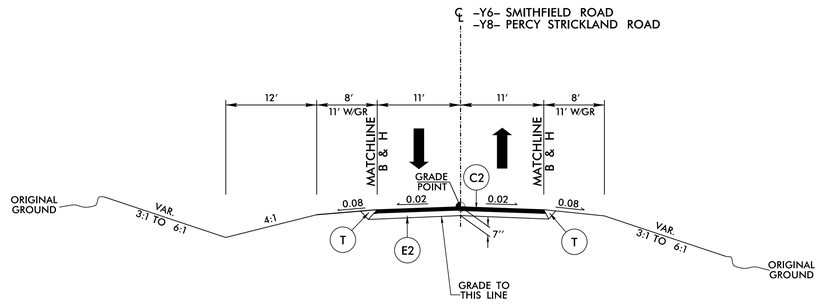
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
–Y6– STA. 11+00.00 TO STA. 11+82.74
–Y6– STA. 30+56.54 TO STA. 31+50.00
–Y8– STA. 11+10.00 TO STA. 15+75.00
–Y8– STA. 33+75.21 TO STA. 36+00.00

PAVE TO THE FACE OF GUARDRAIL

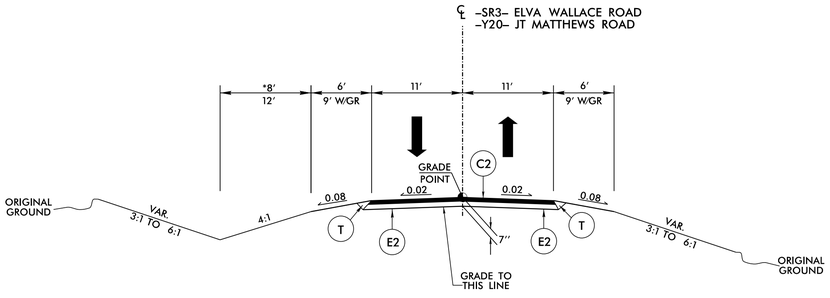


TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9
–Y6– STA. 11+82.74 TO STA. 21+02.67 (BEGIN BRIDGE)
–Y6– STA. 22+92.67 (END BRIDGE) TO STA. 30+56.54

–Y8– STA. 15+75.00 TO STA. 22+91.93 (BEGIN BRIDGE)
–Y8– STA. 25+10.55 (END BRIDGE) TO STA. 33+75.21

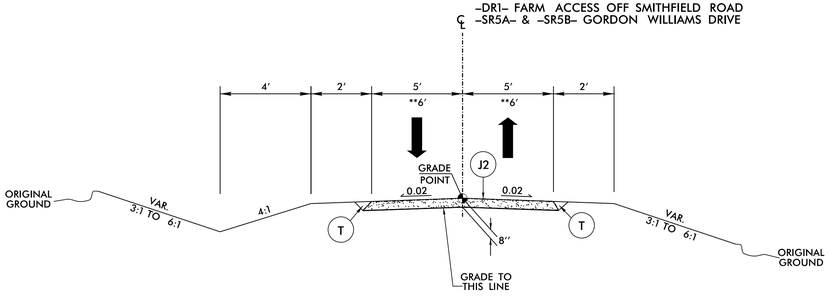
PAVE TO THE FACE OF GUARDRAIL



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10
–SR3– STA. 10+71.70 TO STA. 36+00.00
*–Y20– STA. 10+12.00 TO STA. 33+42.00

PAVE TO THE FACE OF GUARDRAIL



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11
–DR1– STA. 10+27.00 TO STA. 17+35.53
** –DR4– STA. 10+00.00 TO STA. 19+60.00
** –SR5A– STA. 10+11.00 TO STA. 20+60.00
** –SR5B– STA. 12+40.00 TO STA. 17+50.00

NOTES:
SEE PLANS FOR LOCATION OF AUXILARY LANES, TURN LANES, TAPERS, AND CONCRETE ISLANDS.
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

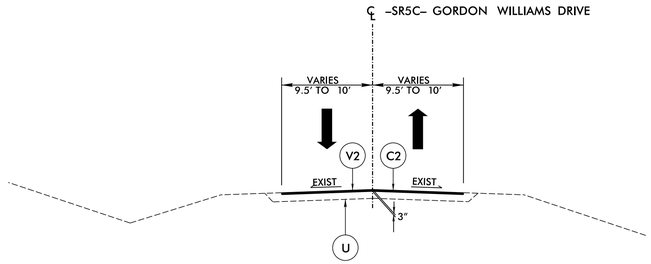
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

C2	3" TYPE S9.5B
C10	2" TYPE S9.5C
E2	4" B25.0C
T	EARTH
U	EXISTING PAVEMENT
V2	3" MILLING
U	EXISTING PAVEMENT

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-5
R/W SHEET NO.	

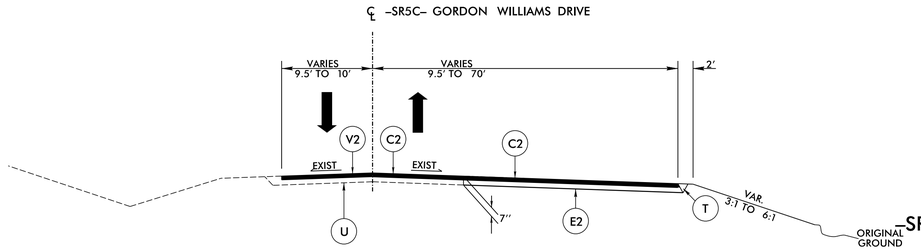
TEMPORARY PAVEMENT ENGINEER	ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



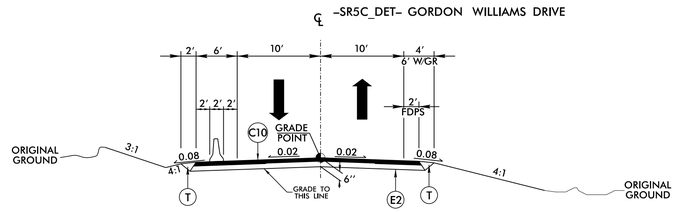
TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12
–SR5C– STA. 11+43.00 TO STA. 16+00.00



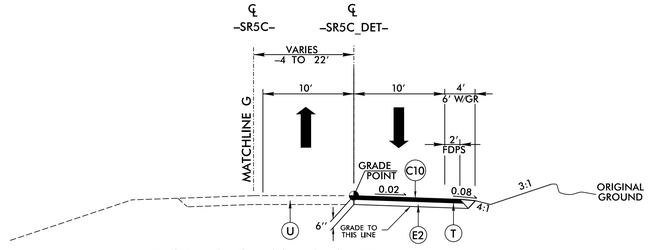
TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13
–SR5C– STA. 10+14.25 TO STA. 11+43.00



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14
–SR5C_DET– STA. 12+58.03 TO STA. 14+67.87



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15
–SR5C_DET– STA. 12+15.34 TO STA. 12+58.03
–SR5C_DET– STA. 14+67.87 TO STA. 15+75.60

NOTES:
SEE PLANS FOR LOCATION OF AUXILARY LANES, TURN LANES, TAPERS, AND CONCRETE ISLANDS.
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

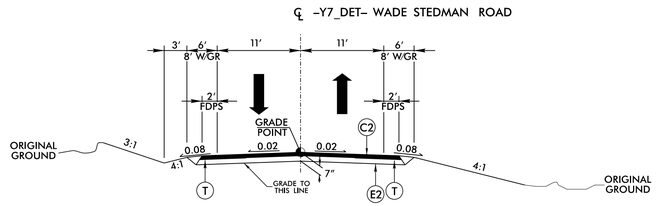
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

C2	3" TYPE S9.5B
C8	3" TYPE S9.5D
C10	2" TYPE S9.5C
D3	4" TYPE I19.0C
E2	4" B25.0C
E5	5.5" TYPE B25.0C
J3	10'' ABC
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R1	1'-6" CURB AND GUTTER
R2	2'-6" CURB AND GUTTER
R5	SHOULDER BERM GUTTER
R8	12" TRUCK APRON
T	EARTH
U	EXISTING PAVEMENT
Y	MILLED RUMBLE STRIPS

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-6
R/W SHEET NO.	

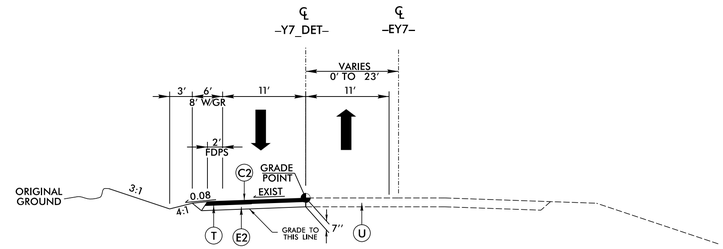
TEMPORARY PAVEMENT ENGINEER	ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 16

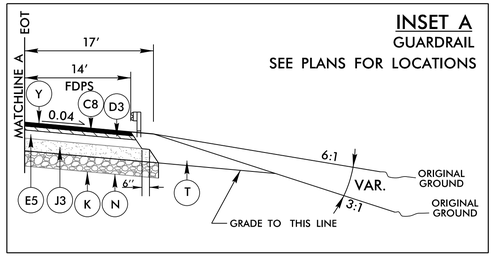
USE TYPICAL SECTION NO. 16
–Y7_DET– STA. 11+13.24 TO STA. 17+94.02



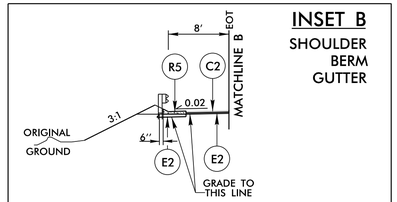
TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17
–Y7_DET– STA. 10+00.00 TO STA. 11+13.24
–Y7_DET– STA. 17+94.02 TO STA. 19+13.74

INSET A
GUARDRAIL
SEE PLANS FOR LOCATIONS

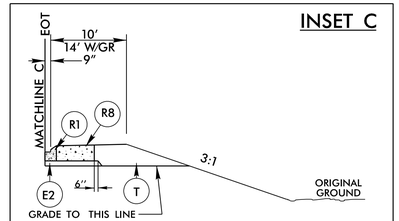


INSET B
SHOULDER BERM GUTTER



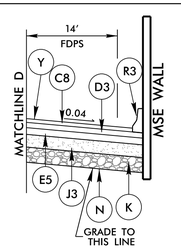
SEE PLANS FOR LOCATIONS

INSET C



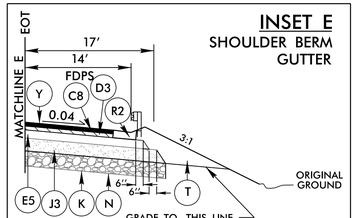
SEE PLANS FOR LOCATIONS

INSET D
MSE WALL



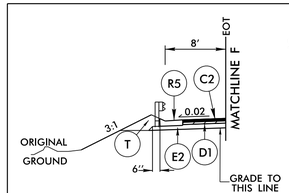
USE WITH TYP. NO. 1
–L– STA. 292+17.00 TO STA. 293+53.00 LT
–L– STA. 292+93.00 TO STA. 294+27.00 RT
–L– STA. 376+51.31 TO STA. 378+24.81 LT
–L– STA. 377+07.70 TO STA. 378+87.45 RT
–L– STA. 462+89.18 TO STA. 464+34.04 LT
–L– STA. 461+31.40 TO STA. 462+80.26 RT

INSET E
SHOULDER BERM GUTTER



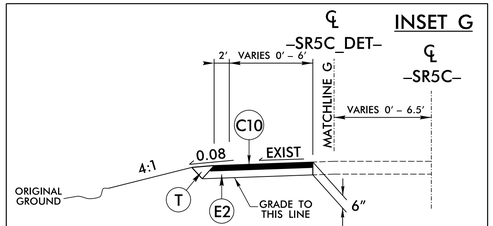
SEE PLANS FOR LOCATIONS

INSET F
SHOULDER BERM GUTTER



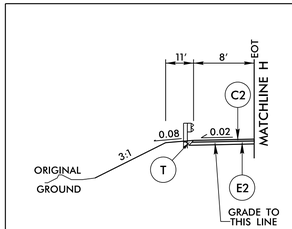
SEE PLANS FOR LOCATIONS

INSET G



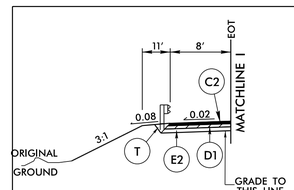
FOR TEMPORARY PAVEMENT SEE TMP PLANS FOR LOCATION

INSET H
PAVED SHOULDER



SEE PLANS FOR LOCATIONS

INSET I
PAVED SHOULDER



SEE PLANS FOR LOCATIONS

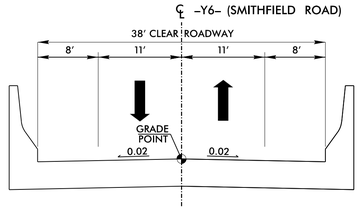
NOTES:
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

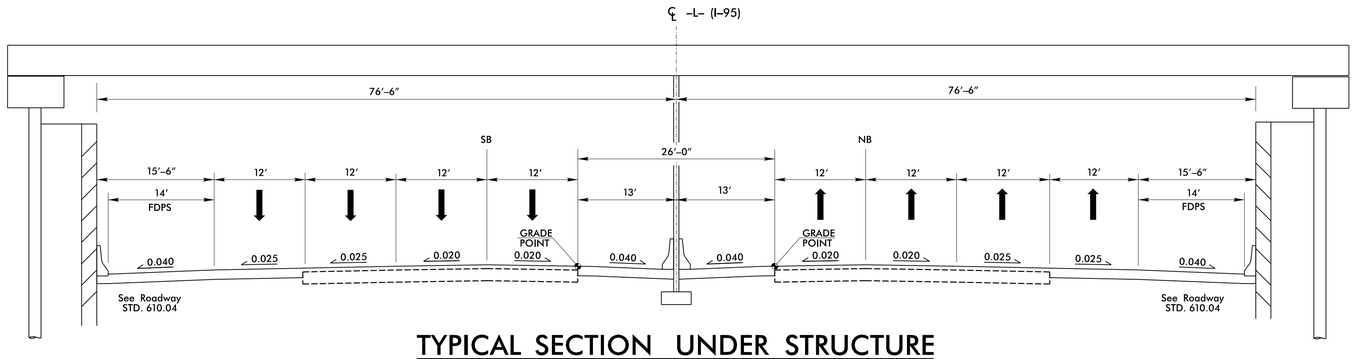
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BRIDGE AT –Y6– STATION 21+97.67 OVER –L– STATION 293+22.24



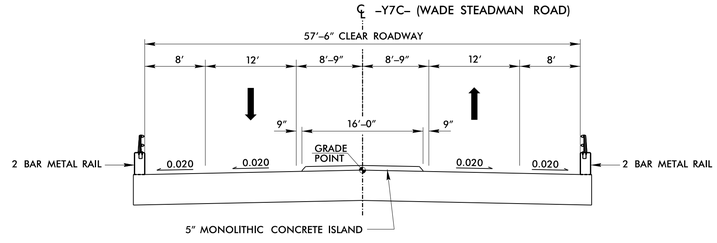
STRUCTURE TYPICAL SECTION



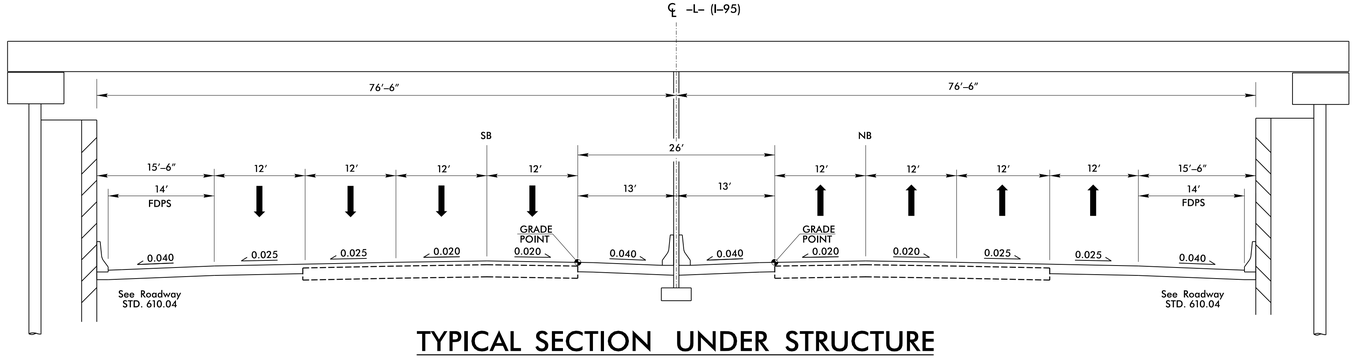
TYPICAL SECTION UNDER STRUCTURE

NOTES:
1. SEE SHEET 26 FOR PLAN VIEW.
2. SEE SHEET 174 FOR PROFILE VIEW.

BRIDGE AT –Y7C– STATION 14+30.55 OVER –L– STATION 377+68.88



STRUCTURE TYPICAL SECTION



TYPICAL SECTION UNDER STRUCTURE

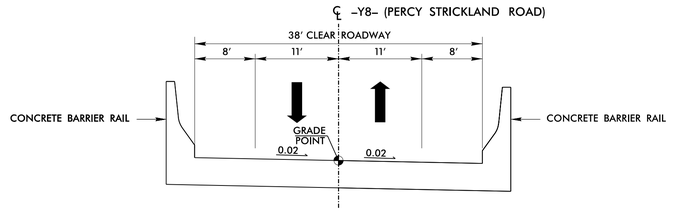
NOTES:
1. SEE SHEET 32 FOR PLAN VIEW.
2. SEE SHEET 175 FOR PROFILE VIEW.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

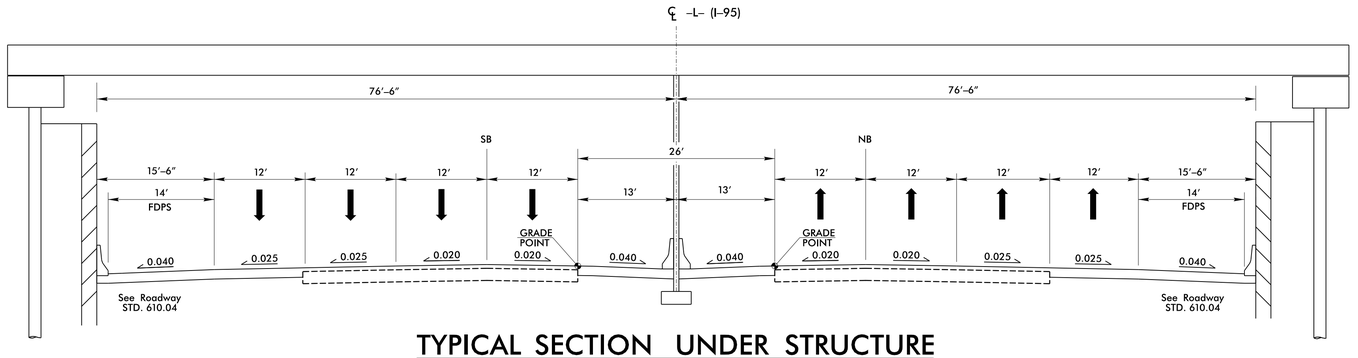
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BRIDGE AT –Y8– STATION 24+01.24 OVER –L– STATION 462+84.22



STRUCTURE TYPICAL SECTION



TYPICAL SECTION UNDER STRUCTURE

NOTES:
1. SEE SHEET 38 FOR PLAN VIEW.
2. SEE SHEET 180 FOR PROFILE VIEW.

RK&K
P: (919) 878-8560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112

Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

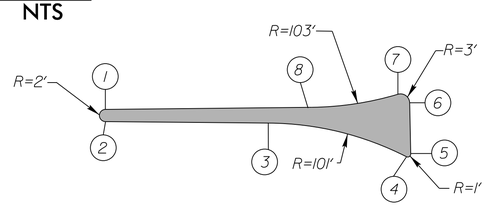
–Y7RAB1– ROUNDABOUT LAYOUT

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

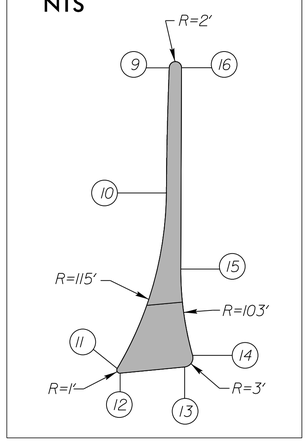
POINT NUMBER	–Y7A–	OFFSET	LT / RT
1	+13.23	3.00′	LT
2	+13.28	1.00′	RT
3	+66.95	3.18′	RT
4	+10.66	17.44′	RT
5	+12.17	16.66′	RT
6	+13.34	0.04′	RT
7	+09.76	3.24′	LT
8	+81.16	1.17′	LT

INSET A
NTS

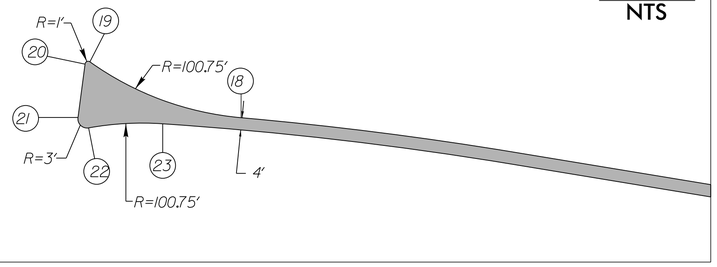


POINT NUMBER	–SR3–	OFFSET	LT / RT
9	+73.24	1.00′	LT
10	+32.20	2.64′	LT
11	+76.12	22.12′	LT
12	+74.57	21.30′	LT
13	+74.86	0.01′	LT
14	+78.44	2.88′	RT
15	+07.20	0.92′	RT
16	+73.24	3.00′	RT

INSERT B
NTS



INSET C
NTS



POINT NUMBER	–Y7B–	OFFSET	LT / RT
18	+27.06	2.00′	LT
19	+76.67	16.99′	LT
20	+75.15	16.23′	LT
21	+73.60	1.52′	RT
22	+77.25	4.71′	RT
23	+01.55	2.00′	RT

MONOLITHIC ISLAND
CONCRETE APRON COVER

FOR –Y7A SEC2– PLAN SEE SHT. 74
FOR –Y7B_SEC2– PLAN SEE SHT. 74
FOR –SR3_SEC2– PLAN SEE SHT. 74
FOR –Y7RAB1– PLAN SEE SHT. 74
FOR –Y7A– PROFILE SEE SHT. 175
FOR –Y7B– PROFILE SEE SHT. 175
FOR –SR3– PROFILE SEE SHT. 182
FOR –Y7RAB1– PRO SEE SHT. 176

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

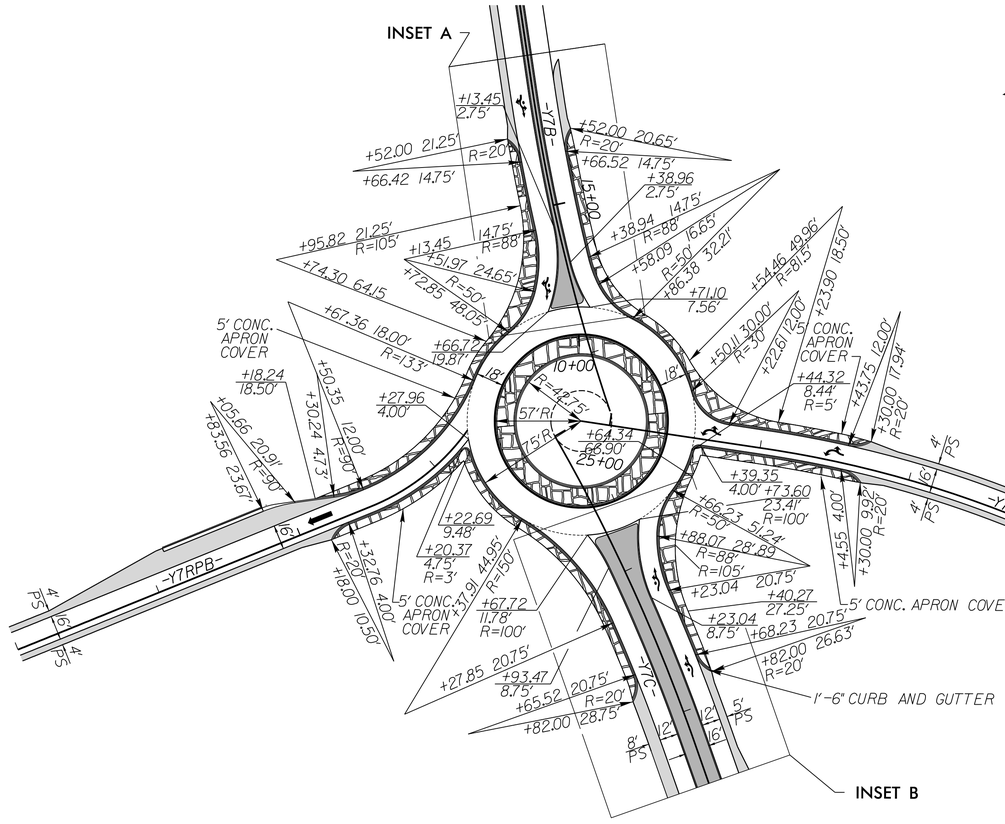
8/24/2020
...Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh2B_4.dgn
dlefler

–Y7RAB2– ROUNDABOUT LAYOUT

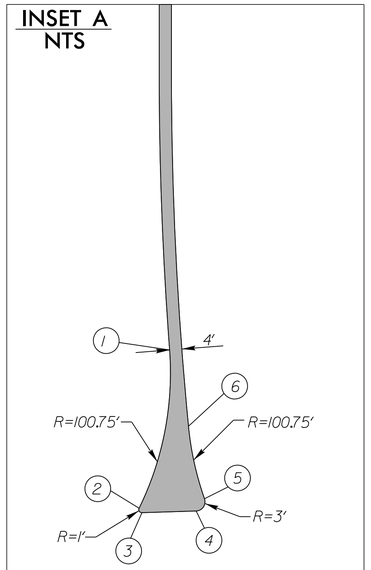
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

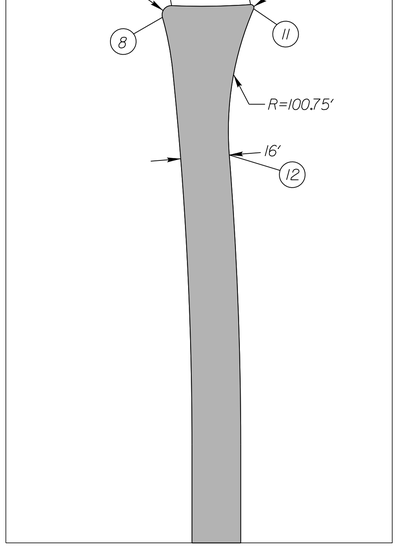


INSET A
NTS



POINT NUMBER	–Y7B–	OFFSET	LT / RT
1	+13.45	2.00'	RT
2	+63.84	16.99'	RT
3	+65.36	16.23'	RT
4	+66.91	1.52'	LT
5	+63.26	4.71'	LT
6	+38.96	2.00'	LT

INSET B
NTS



POINT NUMBER	–Y7C–	OFFSET	LT / RT
8	+75.85	9.40'	RT
9	+72.39	5.96'	RT
10	+75.12	19.86'	LT
11	+76.60	20.67'	LT
12	+23.04	8.00'	LT

MONOLITHIC ISLAND
CONCRETE APRON COVER

FOR –Y7B– PLAN SEE SHT. 32
FOR –Y7C– PLAN SEE SHT. 32
FOR –Y7RAB2– PLAN SEE SHT. 32
FOR –Y7B– PROFILE SEE SHT. 175
FOR –Y7C– PROFILE SEE SHT. 175
FOR –Y7RAB2– PROFILE SEE SHT. 176

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh2B_5.dgn
dlehr

8/17/99

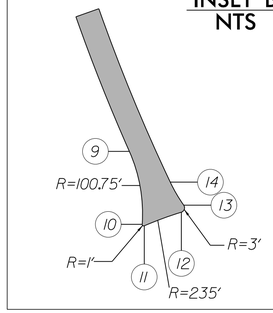
–Y7RAB3– ROUNDABOUT LAYOUT

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

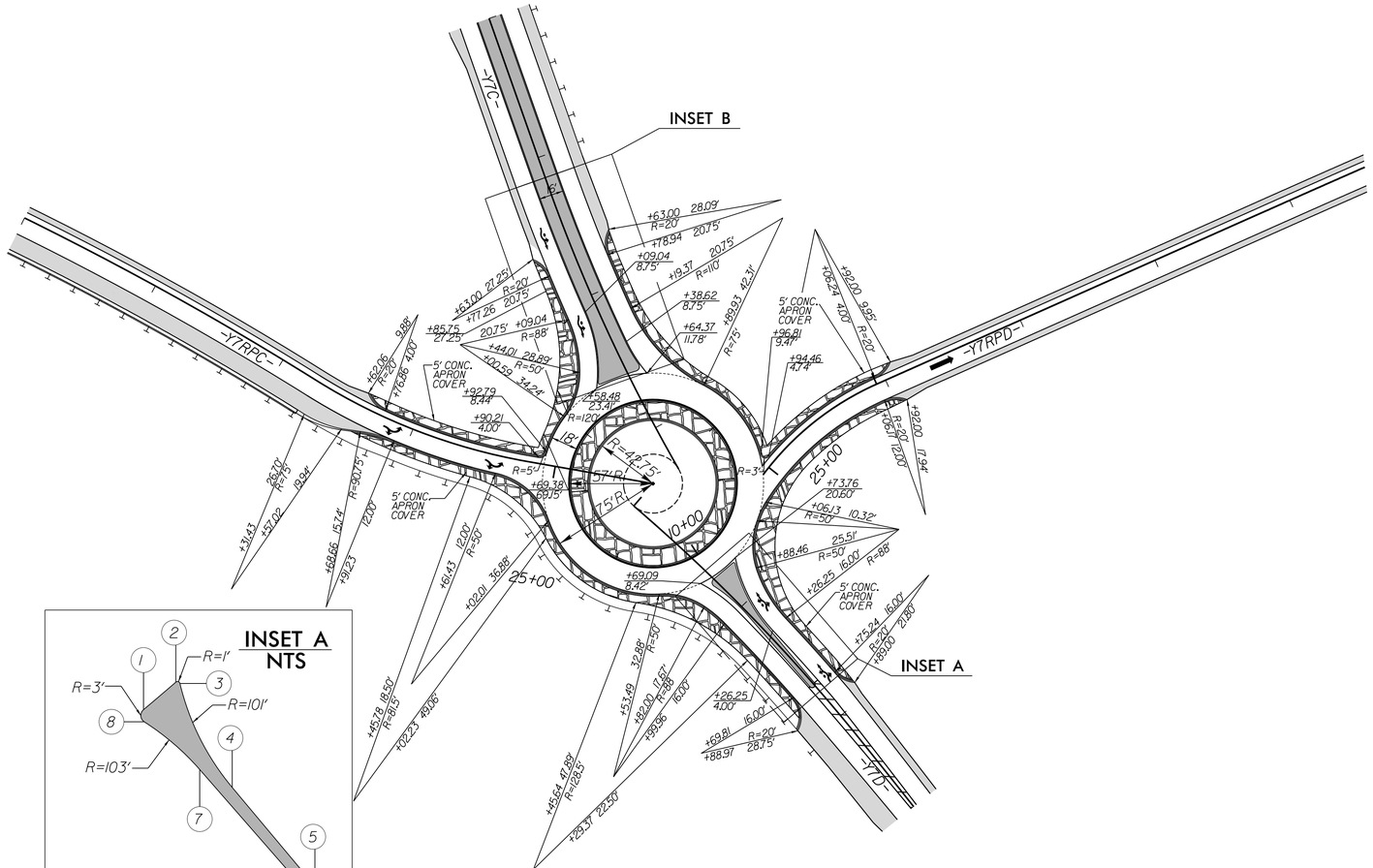
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

POINT NUMBER	–Y7C–	OFFSET	LT / RT
9	+09.04	8.00′	RT
10	+55.48	20.67′	RT
11	+56.96	19.86′	RT
12	+59.69	5.96′	LT
13	+56.23	9.40′	LT
14	+38.62	8.00′	LT

INSET B
NTS






INSET B
INSET A
–Y7C–
–Y7RPC–
–Y7RPD–
–Y7D–
25+00
10+00
5′ CONC. APRON COVER
+63.00 27.25′
R=20′
20.75′
+77.26
+85.75 27.25′
+09.04
R=88′
+44.01 28.89′
R=50′
+00.59 34.24′
+92.79 8.44′
+90.21 4.00′
+62.06 9.88′
R=20′
+76.86 4.00′
+31.43 157.02′
26.10′
R=15′
13.84′
+60.66 15.44′
R=90.75′
19.23′
12.00′
+16.43 12.00′
R=50′
+02.01 36.88′
+45.78 18.50′
R=86.5′
+02.23 49.06′
+69.38 69.15′
+69.09 8.42′
+63.00 28.09′
R=20′
+78.94 20.75′
+09.04 8.75′
+19.37 R=110′
+38.62 8.75′
+64.37 11.78′
+89.93 42.31′
R=75′
+55.64 41.89′
R=228.5′
+29.37 22.50′
+53.49 32.88′
+89.00 11.67′
R=88′
16.00′
+90.96
+92.00 9.95′
+06.24 4.00′
R=20′
+96.81 9.41′
+94.46 4.74′
+73.76 20.50′
+06.13 10.32′
R=50′
25.51′
+88.46 16.00′
+26.25 4.00′
+63.81 28.75′
+88.97
+92.00 17.94′
+06.11 12.00′
+75.24 15.00′
+85.00 21.80′
R=3′
R=4.75′
15′ R
R=5′
R=20′
R=40′
R=120′
23.41′
21.58.48′
INSET A
INSET B
–Y7D–

INSET A
NTS

POINT NUMBER	–Y7D–	OFFSET	LT / RT
1	+73.47	0.00′	LT
2	+75.04	16.76′	LT
3	+76.55	17.52′	LT
4	+20.30	3.19′	LT
5	+71.56	1.00′	LT
6	+71.47	3.00′	RT
7	+06.19	1.17′	RT
8	+77.05	3.35′	RT

MONOLITHIC ISLAND
CONCRETE APRON COVER

FOR –Y7C– PLAN SEE SHT. 32
FOR –Y7D– PLAN SEE SHT. 32
FOR –Y7RAB3– PLAN SEE SHT. 32
FOR –Y7C– PROFILE SEE SHT. 175
FOR –Y7D– PROFILE SEE SHT. 176
FOR –Y7RAB3– PROFILE SEE SHT. 176

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh2B_6.dgn
dlong

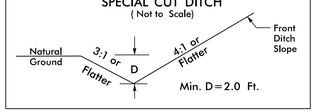
8/17/99

-Y7_DET-

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



-Y7_DET- STA. 10+00 TO STA. 10+77 LT
-Y7_DET- STA. 11+77 TO STA. 12+80 LT
-Y7_DET- STA. 15+50 TO STA. 17+86 LT
-Y7DET- STA. 12+80 TO STA. 14+15 RT
-Y7_DET- STA. 14+86 TO STA. 16+68 RT

BEGIN CONSTRUCTION
-Y7_DET- PC Sta. 10+00.00

A TEMPORARY ALIGNMENT SUBMITTAL HAS BEEN SUBMITTED SEPARATELY TO NCDOT FOR REVIEW.

-SR3- POC Sta.11+51.50
TIE TO PROPOSED -SR3-

-Y7_DET- PRC Sta. 12+00.85

-Y7_DET- PRC Sta. 16+88.24

BARNES JR, LUTHER CURTIS
DB 7616 PG 736
PB 117 PG 33

BARNES JR, LUTHER CURTIS
DB 7071 PG 797
PB 117 PG 33

75
SHIVA REAL ESTATE LLC
DB 9015 PG 281

126
DUKE ENERGY PROGRESS INC
DB 7616 PG 736
PB 117 PG 33

72
DUKE ENERGY PROGRESS INC
DB 7616 PG 736
PB 117 PG 33

73

74
BANSAL, SHIVRAJ KUMAR
DB 8365 PG 296

SR 1915 WADE STEADMAN RD 22' BST

2 TONS CL B RIP RAP
7 SY GEOTEXTILE

SPECIAL CUT DITCH
SEE DETAIL B

UTILIZE TEMP. 15" PIPE WHEN BUILDING UP Y7 ROUNDABOUT TO AVOID TRAPPING WATER. PLUG & FILL UPON REMOVAL OF DETOUR

RETAIN

REMOVE

JB w/Slab Lid

RETAIN SYSTEM

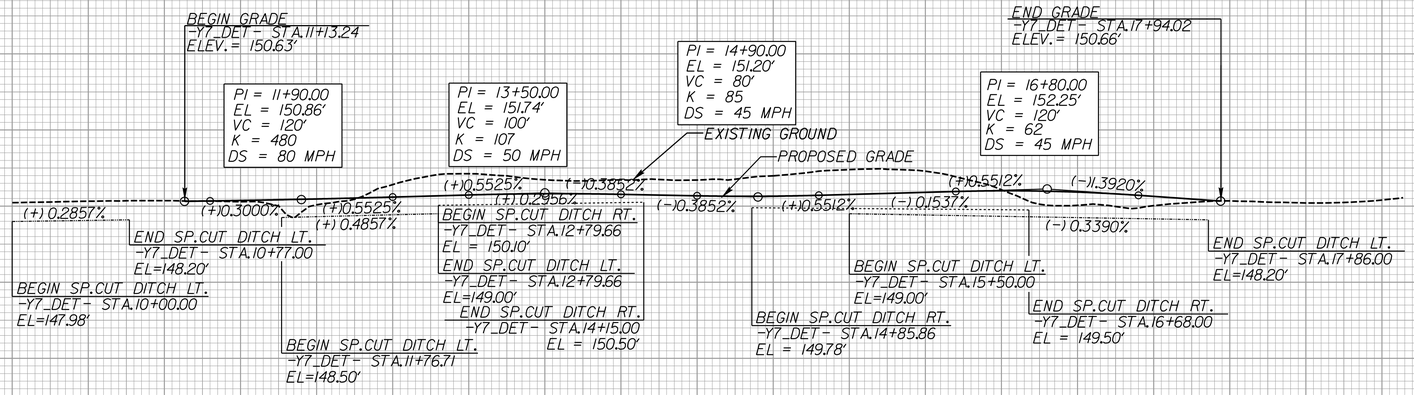
-Y7_DET-		
PI Sta 11+01.37	PI Sta 14+53.50	PI Sta 18+02.33
△ = 19° 10' 46.8" (LT)	△ = 37° 14' 01.2" (RT)	△ = 21° 32' 01.3" (LT)
D = 9° 32' 57.5"	D = 7° 38' 22.0"	D = 9° 32' 57.5"
L = 200.85'	L = 487.39'	L = 225.50'
T = 101.37'	T = 252.65'	T = 114.10'
R = 600.00'	R = 750.00'	R = 600.00'
SE = 0.04	SE = 0.04	SE = 0.04
DS = 40 MPH	DS = 40 MPH	DS = 40 MPH

NOTE: FORCE MAIN SEWER LINE NEEDS TO BE RELOCATED PRIOR TO DETOUR CONSTRUCTION TO AVOID CONFLICTS WITH TEMPORARY DRAINAGE.

END CONSTRUCTION
-Y7_DET- PT Sta. 19+13.74

NAD 83/NA 2011

FOR R/W ADN EASEMENT STATIONS AND OFFSET SEE SHT.74



LEFT DITCH .....
RIGHT DITCH .....

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh2B_7.dgn
dlee

8/17/99

-SR5C_DET-

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

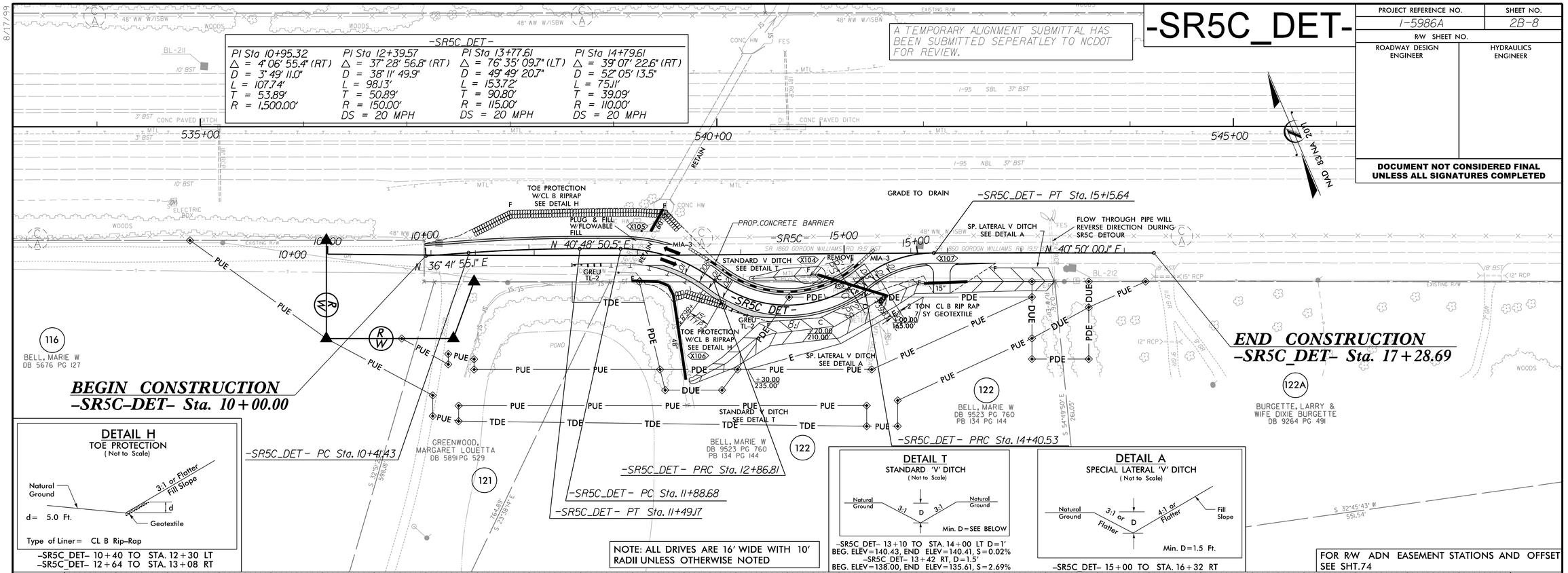
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

A TEMPORARY ALIGNMENT SUBMITTAL HAS BEEN SUBMITTED SEPERATLEY TO NCDOT FOR REVIEW.

-SR5C_DET-

PI Sta 10+95.32	PI Sta 12+39.57	PI Sta 13+77.61	PI Sta 14+79.61
Δ = 4° 06' 55.4" (RT)	Δ = 37° 28' 56.8" (RT)	Δ = 76° 35' 09.7" (LT)	Δ = 39° 07' 22.6" (RT)
D = 3° 49' 11.0"	D = 38° 11' 49.9"	D = 49° 49' 20.7"	D = 52° 05' 13.5"
L = 107.74'	L = 98.13'	L = 153.72'	L = 75.11'
T = 53.89'	T = 50.89'	T = 90.80'	T = 39.09'
R = 1,500.00'	R = 150.00'	R = 115.00'	R = 110.00'
	DS = 20 MPH	DS = 20 MPH	DS = 20 MPH

NAD 83/NA 2011



DETAIL H
TOE PROTECTION
(Not to Scale)

Type of Liner= CL B Rip-Rap

-SR5C_DET- 10+40 TO STA. 12+30 LT
-SR5C_DET- 12+64 TO STA. 13+08 RT

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

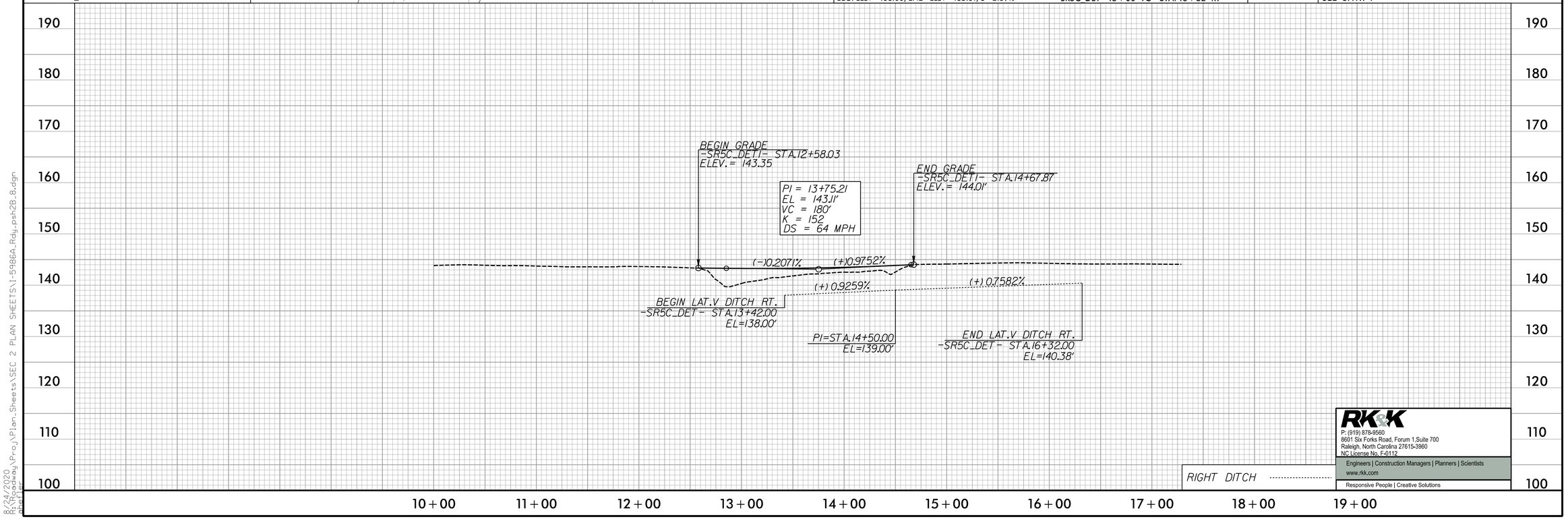
DETAIL T
STANDARD 'V' DITCH
(Not to Scale)

-SR5C_DET- 13+10 TO STA. 14+00 LT D=1'
BEG. ELEV=140.43, END ELEV=140.41, S=0.02%
-SR5C_DET- 13+42 RT, D=1.5'
BEG. ELEV=138.00, END ELEV=135.61, S=2.69%

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

-SR5C_DET- 15+00 TO STA. 16+32 RT

FOR R/W ADN EASEMENT STATIONS AND OFFSET SEE SHT.74



RIGHT DITCH .....

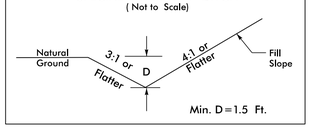
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
...\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh2B_8.dgn

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

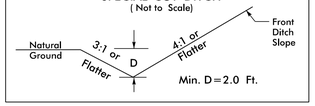
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



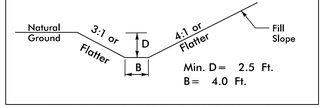
–L– STA. 333+00 TO STA. 340+50 RT
–L– STA. 341+00 TO STA. 345+00 LT
–L– STA. 499+65 TO STA. 500+00 LT
–SR5A– STA. 10+50 TO STA. 11+77 LT
–Y6– STA. 28+00 TO STA. 28+50 LT
–Y7A– STA. 15+00 TO STA. 16+00 LT
–Y8– STA. 16+00 TO STA. 16+50 RT
–Y8– STA. 29+50 TO STA. 34+50 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



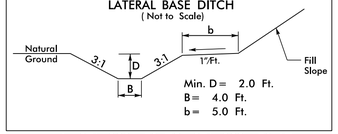
–L– STA. 280+00 TO STA. 280+50 LT
–L– STA. 313+50 TO STA. 320+00 RT
–L– STA. 322+00 TO STA. 324+00 RT
–L– STA. 379+00 TO STA. 381+00 LT
–L– STA. 379+50 TO STA. 385+00 RT
–L– STA. 401+00 TO STA. 403+00 LT
–L– STA. 401+50 TO STA. 402+50 RT
–L– STA. 407+50 TO STA. 409+00 RT
–L– STA. 406+50 TO STA. 421+50 LT
–L– STA. 448+50 TO STA. 453+50 LT
–L– STA. 474+50 TO STA. 485+00 RT
–L– STA. 475+00 TO STA. 489+50 RT
–L– STA. 500+00 TO STA. 518+00 RT
–L– STA. 541+00 TO STA. 550+00 RT
–Y20– STA. 10+35 TO STA. 12+00 LT
–Y20– STA. 10+35 TO STA. 12+00 RT
–Y20– STA. 17+50 TO STA. 19+00 LT
–Y20– STA. 20+87.64 TO STA. 22+44.57 RT
–Y6– STA. 11+00 TO STA. 13+50 LT
–Y6– STA. 11+00 TO STA. 13+00 RT
–Y6– STA. 29+50 TO STA. 32+00 LT
–Y6– STA. 29+00 TO STA. 32+00 RT
–Y7A– STA. 12+00 TO STA. 15+00 LT
–Y7A– STA. 12+00 TO STA. 14+50 RT
–Y7D– STA. 14+50 TO STA. 16+25 RT
–Y7RPA– STA. 11+40.19 TO STA. 15+43.19 RT
–Y7RPC– STA. 19+50 TO STA. 20+50 LT
–Y7RPD– STA. 11+84.98 TO STA. 17+96.54 LT

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



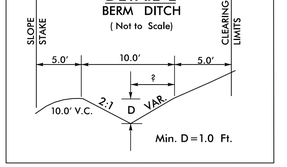
–L– STA. 306+75 TO STA. 307+00 LT
–L– STA. 339+00 TO STA. 341+00 LT
–L– STA. 422+20 TO STA. 427+50 RT
–L– STA. 496+50 TO STA. 499+65 RT
–L– STA. 504+50 TO STA. 508+50 LT
–L– STA. 529+50 TO STA. 538+77 LT
–L– STA. 541+75 TO STA. 550+50 LT
–L– STA. 425+58 TO STA. 435+00 LT
–L– STA. 440+50 TO STA. 448+50 LT
–L– STA. 510+00 TO STA. 513+00 LT
–L– STA. 539+70 TO STA. 540+58 LT
–SR3– STA. 32+78.79 TO STA. 34+17 LT
–Y8– STA. 33+50 TO STA. 36+00 LT

DETAIL D
LATERAL BASE DITCH
(Not to Scale)



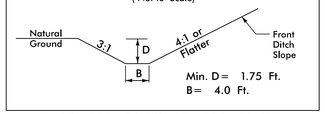
–L– STA. 280+50 TO STA. 282+50 LT
–L– STA. 296+50 TO STA. 301+00 LT
–L– STA. 316+50 TO STA. 327+50 LT
–L– STA. 327+50 TO STA. 336+00 LT
–L– STA. 300+50 TO STA. 302+30 RT
–L– STA. 357+79 TO STA. 364+00 RT
–L– STA. 370+00 TO STA. 370+50 LT
–L– STA. 372+00 TO STA. 375+50 LT
–L– STA. 405+46 TO STA. 407+50 RT
–L– STA. 470+50 TO STA. 474+50 LT
–L– STA. 500+00 TO STA. 504+50 LT
–Y7RPB– STA. 18+29 TO STA. 24+32.14 LT
–Y7B– STA. 14+72 TO STA. 15+71.74 RT
–Y7D– STA. 11+50 TO STA. 14+13 LT

DETAIL E
BERM DITCH
(Not to Scale)



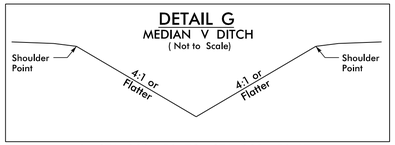
DETAIL NOT USED IN SECTION 2

DETAIL F
SPECIAL CUT BASE DITCH
(Not to Scale)



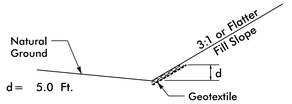
–L– STA. 282+50 TO STA. 288+50 LT
–L– STA. 307+00 TO STA. 316+50 LT
–L– STA. 296+50 TO STA. 300+50 RT
–L– STA. 307+50 TO STA. 308+50 RT
–L– STA. 336+00 TO STA. 339+00 LT
–L– STA. 361+00 TO STA. 362+00 LT
–L– STA. 364+00 TO STA. 364+50 RT
–L– STA. 370+50 TO STA. 372+00 LT
–L– STA. 371+50 TO STA. 372+50 RT
–L– STA. 453+50 TO STA. 461+50 LT
–L– STA. 465+00 TO STA. 470+50 LT
–L– STA. 438+00 TO STA. 460+00 RT
–L– STA. 435+00 TO STA. 440+50 LT
–L– STA. 493+00 TO STA. 496+50 LT
–Y7D– STA. 14+80 TO STA. 16+25 LT
–Y7RPB– STA. 10+18.97 TO STA. 18+29.27 LT
–Y7RPC– STA. 10+05.01 TO STA. 16+73.59 RT

DETAIL G
MEDIAN V DITCH
(Not to Scale)



–L– STA. 390+50 TO STA. 392+50 LT
–Y20– STA. 21+93.18 TO STA. 22+44.57 LT
–Y7RPA– STA. 10+40.05 TO STA. 11+40.19 RT
–Y7RPD– STA. 10+84.95 TO STA. 11+84.98 LT

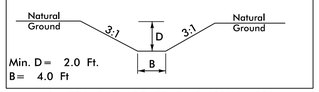
DETAIL H
TOE PROTECTION
(Not to Scale)



Type of Liner= CL B Rip–Rap

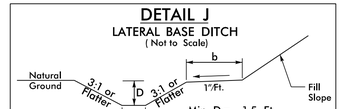
–L– STA. 300+78 TO STA. 303+84 LT
–L– STA. 423+10 TO STA. 425+20 LT
–L– STA. 508+50 TO STA. 509+52 LT
–L– STA. 522+75 TO STA. 525+40 LT
–L– STA. 435+00 TO STA. 437+00 RT
–SR3– STA. 34+16 TO STA. 35+78 LT
–Y7RPC– STA. 17+50 TO STA. 24+10 RT

DETAIL I
STANDARD BASE DITCH
(Not to Scale)



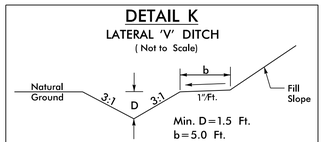
–L– STA. 307+38 RT, S=0.42%, L=12',
BEG EL=126.90', END EL=126.85'
–L– STA. 498+38 LT, S=0.02%, L=65',
BEG EL=169.73', END EL=169.72'
–SR3– STA. 23+79 LT, S=1.29%, L=35',
BEG EL=147.45', END EL=147.00'
–SR5A– STA. 17+00 LT, S=2.14%, L=65',
BEG EL=169.32', END EL=167.93'
–L– STA. 293+37 LT, S=0.30%, L=112',
BEG EL=135.23', END EL=134.89'
–Y7RPB– STA. 15+38 LT, S=0.00%, L=25',
BEG EL=136.50', END EL=136.50'

DETAIL J
LATERAL BASE DITCH
(Not to Scale)



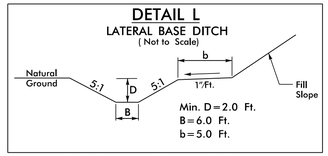
–L– STA. 340+50 TO STA. 355+00 RT, B=2'
–L– STA. 360+50 TO STA. 361+00 LT, B=4'
–L– STA. 372+50 TO STA. 376+50 RT, B=4'
–SR3– STA. 11+00 TO STA. 24+50 RT, B=4'
–Y7B– STA. 11+00 TO STA. 15+50 LT, B=4'
–Y7C– STA. 12+53 TO STA. 13+84 LT, B=4'
–Y7D– STA. 11+03 TO STA. 11+50 LT, B=4'
–Y7RPB– STA. 20+00 TO STA. 21+00 RT, B=4'
–Y7RPD– STA. 24+30 TO STA. 25+06 LT, B=4'

DETAIL K
LATERAL 'V' DITCH
(Not to Scale)



–L– STA. 280+00 TO STA. 289+00 RT
–L– STA. 320+00 TO STA. 322+00 RT
–L– STA. 324+00 TO STA. 333+00 RT
–L– STA. 345+00 TO STA. 351+00 LT
–L– STA. 353+00 TO STA. 355+00 LT
–L– STA. 402+50 TO STA. 403+00 RT
–L– STA. 403+00 TO STA. 406+50 LT
–SR3– STA. 24+50 TO STA. 28+00 LT
–Y20– STA. 19+00 TO STA. 21+93.18 LT
–Y20– STA. 22+44.57 TO STA. 22+95.34 RT
–Y6– STA. 13+50 TO STA. 15+50 LT
–Y6– STA. 23+00 TO STA. 28+50 RT
–Y6– STA. 28+50 TO STA. 29+50 LT
–Y7C– STA. 16+50 TO STA. 19+00 LT
–Y7D– STA. 11+00 TO STA. 14+50 RT
–Y7RPB– STA. 21+00 TO STA. 23+74 RT
–Y7RPC– STA. 17+13.38 TO STA. 19+00 LT
–Y7RPC– STA. 20+50 TO STA. 23+90 LT
–Y7RPD– STA. 22+00 TO STA. 24+00 RT
–Y8– STA. 26+19 TO STA. 29+50 RT

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



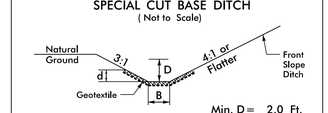
DETAIL NOT USED IN SECTION 2

DETAIL M
LATERAL 'V' DITCH
(Not to Scale)

Type of Liner= CL B Rip–Rap

–Y7RPD– STA. 24+00 TO STA. 24+42 RT
–Y7C– STA. 11+00 TO STA. 12+53 LT

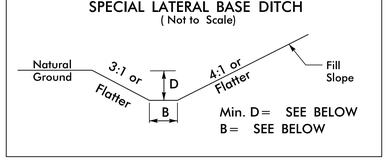
DETAIL N
SPECIAL CUT BASE DITCH
(Not to Scale)



Type of Liner= CL B Rip–Rap

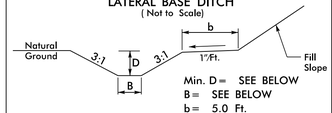
–L– STA. 513+00 TO STA. 517+50 LT
–Y20– STA. 32+51.25 TO STA. 33+42 RT

DETAIL O
SPECIAL LATERAL BASE DITCH
(Not to Scale)



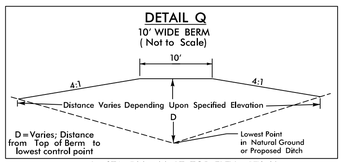
DETAIL NOT USED IN SECTION 2

DETAIL P
LATERAL BASE DITCH
(Not to Scale)



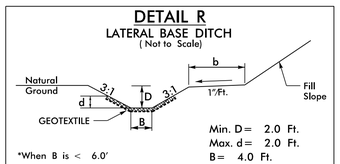
–SR3– STA. 18+50 TO 19+50 LT, B=6', D=1'
–Y8– STA. 33+00 TO 33+50 LT, B=6', D=1'
–L– STA. 355+00 TO STA. 360+50 LT, B=4', D=3'
–L– STA. 403+00 TO STA. 405+46 RT, B=4', D=4.5'
–Y20– STA. 22+95.34 TO STA. 24+46 RT, B=4', D=3'

DETAIL Q
10' WIDE BERM
(Not to Scale)



–L– STA. 500+00 LT, TOP ELEV.=173.0'
–L– STA. 500+00 RT, TOP ELEV.=172.3'
–SR3– STA. 20+50 RT, TOP ELEV.=151.0'
–SR3– STA. 24+50 RT, TOP ELEV.=150.0'

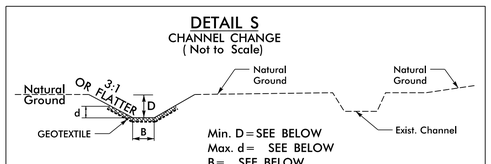
DETAIL R
LATERAL BASE DITCH
(Not to Scale)



Type of Liner= CL B Rip–Rap

–L– STA. 517+50 TO STA. 521+00 LT

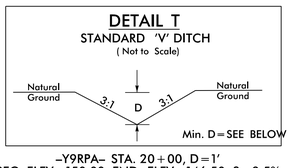
DETAIL S
CHANNEL CHANGE
(Not to Scale)



Type of Liner= VARIES

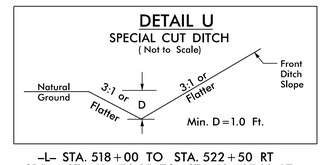
DETAIL NOT USED IN SECTION 2

DETAIL T
STANDARD 'V' DITCH
(Not to Scale)



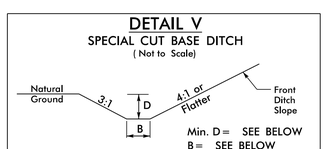
–Y9RPA– STA. 20+00, D=1'
BEG. ELEV=150.00 END ELEV=146.50, S=3.5%

DETAIL U
SPECIAL CUT DITCH
(Not to Scale)



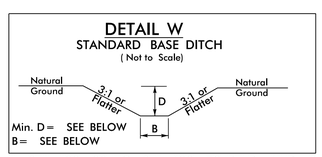
–L– STA. 518+00 TO STA. 522+50 RT
–SR5A– STA. 11+76.57 TO STA. 12+27.18 LT
–SR5A– STA. 11+76.57 TO STA. 12+27.18 RT
–SR5A– STA. 13+79.06 TO STA. 19+00 LT
–SR5A– STA. 13+79.06 TO STA. 19+00 RT
–Y8– STA. 11+00 TO STA. 12+00 LT
–Y8– STA. 11+00 TO STA. 16+00 RT
–Y8– STA. 34+50 TO STA. 36+00 RT

DETAIL V
SPECIAL CUT BASE DITCH
(Not to Scale)



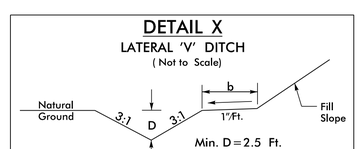
–Y20– STA. 24+45.78 TO STA. 32+51.25 RT, B=4', D=3.5'

DETAIL W
STANDARD BASE DITCH
(Not to Scale)



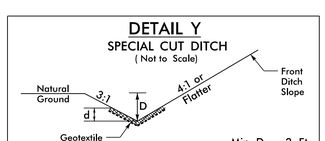
–L– STA. 499+00 TO STA. 499+70 RT, B=4', D=3'
–SR5B– STA. 15+70 RT, B=4', D=3', M=3.0
BEG EL=168.57', END EL=168.33', S=0.30%, L=78'
–Y20– STA. 32+51 LT, B=4', D=4.0'
BEG. ELEV=141.11 END ELEV=141.06, S=0.1%, M=4.0
–L– STA. 405+64 LT, B=4', D=3.0'
BEG. ELEV=140.22 END ELEV=139.80, S=0.3%, M=4.0

DETAIL X
LATERAL 'V' DITCH
(Not to Scale)



DETAIL NOT USED IN SECTION 2

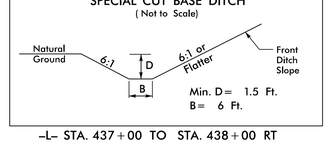
DETAIL Y
SPECIAL CUT DITCH
(Not to Scale)



Type of Liner= CL B Rip–Rap

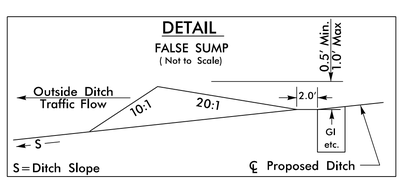
DETAIL NOT USED IN SECTION 2

DETAIL Z
SPECIAL CUT BASE DITCH
(Not to Scale)

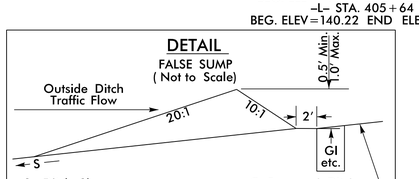


–L– STA. 437+00 TO STA. 438+00 RT

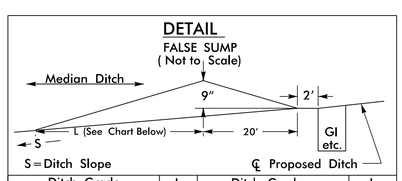
DETAIL
FALSE SUMP
(Not to Scale)



DETAIL
FALSE SUMP
(Not to Scale)



DETAIL
FALSE SUMP
(Not to Scale)



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

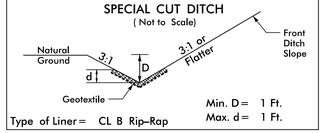
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Hydraulics\CADD\PSH\Redlines\I-5986A_HYD_Ditch Detail_Sec2.dgn
jshelfer

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

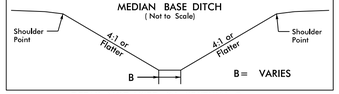
DETAIL AA
SPECIAL CUT DITCH
(Not to Scale)



Type of Liner= CL B Rip–Rap

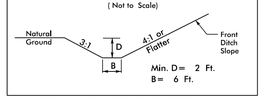
DETAIL NOT USED IN SECTION 2

DETAIL AB
MEDIAN BASE DITCH
(Not to Scale)



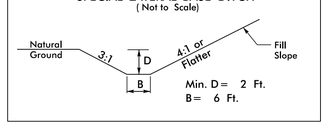
DETAIL NOT USED IN SECTION 2

DETAIL AC
SPECIAL CUT BASE DITCH
(Not to Scale)



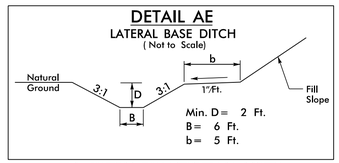
DETAIL NOT USED IN SECTION 2

DETAIL AD
SPECIAL LATERAL BASE DITCH
(Not to Scale)



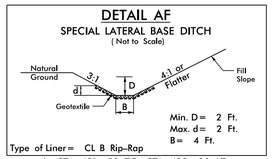
DETAIL NOT USED IN SECTION 2

DETAIL AE
LATERAL BASE DITCH
(Not to Scale)



DETAIL NOT USED IN SECTION 2

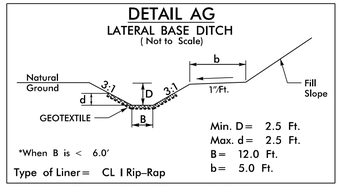
DETAIL AF
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Type of Liner= CL B Rip–Rap

–L– STA. 421+50 TO STA. 422+80 LT
–L– STA. 521+00 TO STA. 522+90 LT

DETAIL AG
LATERAL BASE DITCH
(Not to Scale)

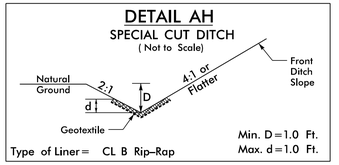


*When B is < 6.0'

Type of Liner= CL I Rip–Rap

DETAIL NOT USED IN SECTION 2

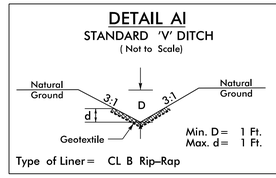
DETAIL AH
SPECIAL CUT DITCH
(Not to Scale)



Type of Liner= CL B Rip–Rap

–L– STA. 296+00 TO STA. 296+50 LT

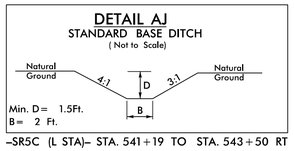
DETAIL AI
STANDARD 'V' DITCH
(Not to Scale)



Type of Liner= CL B Rip–Rap

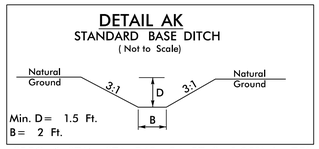
–Y9RPA– STA. 20+00, D=1'
BEG. ELEV=155.88 END ELEV=150.00, S=25.6%

DETAIL AJ
STANDARD BASE DITCH
(Not to Scale)



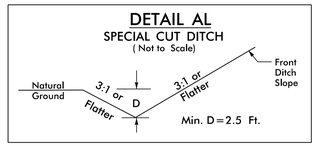
–SR5C (L STA)– STA. 541+19 TO STA. 543+50 RT

DETAIL AK
STANDARD BASE DITCH
(Not to Scale)



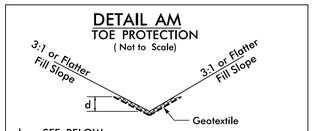
–SR5C (L STA)– STA. 543+26 RT, S=1.00%, L=75',
BEG EL=142.50', END EL=141.75'

DETAIL AL
SPECIAL CUT DITCH
(Not to Scale)



–L– STA. 489+50 TO STA. 499+60 RT

DETAIL AM
TOE PROTECTION
(Not to Scale)

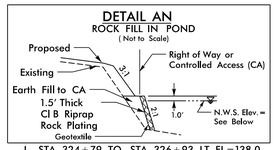


d= SEE BELOW

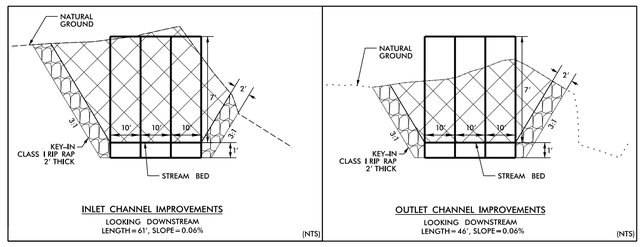
Type of Liner= B Rip–Rap

–L– STA. 522+00 TO STA. 540+00 RT, d=2.5

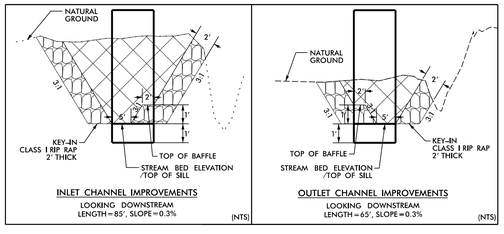
DETAIL AN
ROCK FILL IN POND
(Not to Scale)



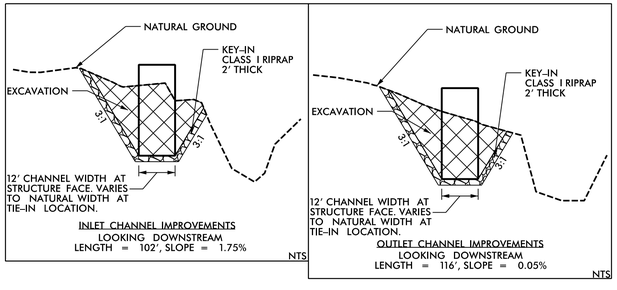
–L– STA 324+79 TO STA 326+93 LT, EL=138.0
–L– STA 452+12 TO STA 454+94 LT, EL=155.0
–L– STA 491+59 TO STA 492+86 LT, EL=170.0



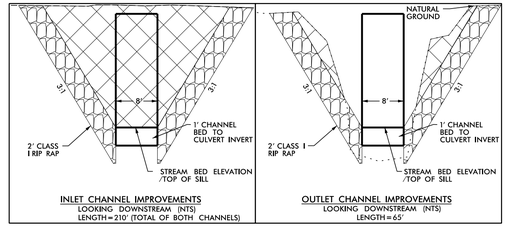
CULVERT INLET AND OUTLET DETAILS
–L– STA. 304+15



CULVERT INLET AND OUTLET DETAILS
–L– STA. 355+00



CULVERT INLET AND OUTLET DETAILS
–L– STA. 422+50.5



CULVERT INLET AND OUTLET DETAILS
–L– STA. 540+46

8/24/2020
R:\Hydraulics\CADD\PSH\Redlines\I-5986A_HYD_Ditch Detail_Sec2.dgn
.shelter

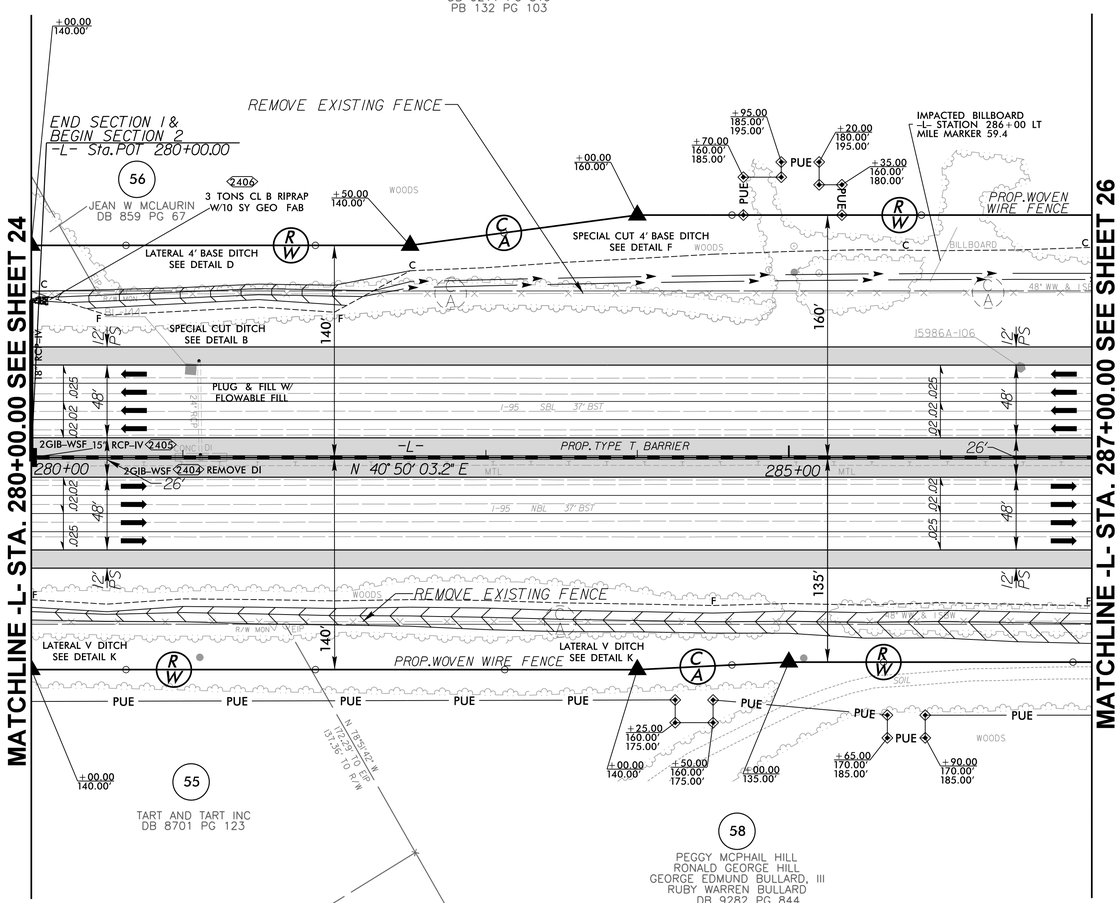
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011



FOR -LLT SEC2- PROFILE SEE SHT. 107
FOR -LRT SEC2- PROFILE SEE SHT. 107

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
8:16:26 AM
dbaldwin
J:\Projects\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh25.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -Y6- STA. 18+00.00 SEE SHEET 72

MATCHLINE -L- STA. 287+00.00 SEE SHEET 25

MATCHLINE -L- STA. 300+50.00 SEE SHEET 27

MATCHLINE -Y6- STA. 26+00.00 SEE SHEET 73

NAD 83/NA 2011

59
WESLEY L BAREFOOT
CARLA H BAREFOOT
DB 9211 PG 319
PB 132 PG 103

57
WESLEY L BAREFOOT
CARLA H BAREFOOT
DB 9211 PG 319
PB 132 PG 103

58
PEGGY MCPHAIL HILL
RONALD GEORGE HILL
GEORGE EDMUND BULLARD, III
RUBY WARREN BULLARD
DB 9282 PG 844

60
PEGGY MCPHAIL HILL
RONALD GEORGE HILL
GEORGE EDMUND BULLARD, III
RUBY WARREN BULLARD
DB 9282 PG 844

NCDOT
DB 2021 PG 167
DB 2194 PG 295
RW PLAT 1 PG 38

-Y6- PT Sta. 19+92.42

-L- POT Sta.293+22.24 =
-Y6- POT Sta. 21+97.67
△ = 63° 35' 55"

BEGIN CONSTRUCTION
-DR1- Sta. 10+27.00

-DR1- PCC Sta. 10+52.32

-DR1- PC Sta. 10+00.00

-DR1- PT Sta. 11+45.75

REMOVE EXISTING FENCE

PROP.WOVEN WIRE FENCE

SPECIAL CUT 4' BASE DITCH SEE DETAIL F

LATERAL V DITCH SEE DETAIL K

LATERAL 4' BASE DITCH SEE DETAIL D

STD. 4' BASE DITCH SEE DETAIL I

SP. CUT DITCH W/CL B RIPRAP SEE DETAIL AH

2 TONS CL B RIP RAP W/7 SY GEO FAB

8 TONS CL B RIP RAP W/21 SY GEO FAB

BEGIN MSE WALL
BEGIN CONCRETE BARRIER
-L- STA.292+17.00

END MSE WALL
END CONCRETE BARRIER
-L- STA.293+53.00

BEGIN MSE WALL
BEGIN CONCRETE BARRIER
-L- STA.292+93.00

END MSE WALL
END CONCRETE BARRIER
-L- STA.294+27.00

PROP. SBG
STA.15+15.50
TO 20+86.87

PROP. SBG
STA.23+25.01
TO 27+30.60

PROP. SBG
STA.23+08.47
TO 27+30.60

PROP. SBG
STA.300+00.00
TO 304+38.00

PROP. TYPE T BARRIER

REMOVE SYSTEM

REMOVE JB

REMOVE DI

PLUG & FILL W/ FLOWABLE FILL

FILL AND CAP AREA BETWEEN BARRIERS

MEDIAN BARRIER TRANSITION AT OVERPASS

30" RCP-III

15" RCP-IV

15" CSP 2 ELBOWS

2GIB-WSF

2GIA-WSF

4GI

GREU TL-3

JB wMH

-L-

N 40° 50' 03.2" E

290+00

295+00

300+00

TRAFFIC DIAGRAM

SMITHFIELD ROAD (SR 1005)

ADT 2018
ADT 2040

400/500

56,700/73,800 I-95 I-95 56,700/73,800

400/500

SMITHFIELD ROAD (SR 1005)

-Y6-	-DR1-	
PI Sta 18+61.56	PI Sta 10+26.18	PI Sta 11+02.76
△ = 0° 08' 59.9" (RT)	△ = 5° 30' 01.3" (RT)	△ = 53° 32' 00.6" (RT)
D = 0° 03' 26.3"	D = 10° 30' 46.8"	D = 57° 17' 44.8"
L = 261.73'	L = 52.32'	L = 93.43'
T = 130.87'	T = 26.18'	T = 50.44'
R = 100,000.00'	R = 545.00'	R = 100.00'
SE = NC	SE = NC	SE = NC
DS = 60 MPH	DS = 20 MPH	DS = 20 MPH

FOR BRIDGE SKETCH SEE SHT. 2A-6
FOR CROSS SECTION LAYOUT SEE SHT. 2B-1
FOR -LLT SEC2- PROFILE SEE SHTS. 107 THRU 108
FOR -LRT SEC2- PROFILE SEE SHTS. 107 THRU 108
FOR -Y6- PROFILE SEE SHT. 174
FOR -DR1- PROFILE SEE SHT. 184
FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

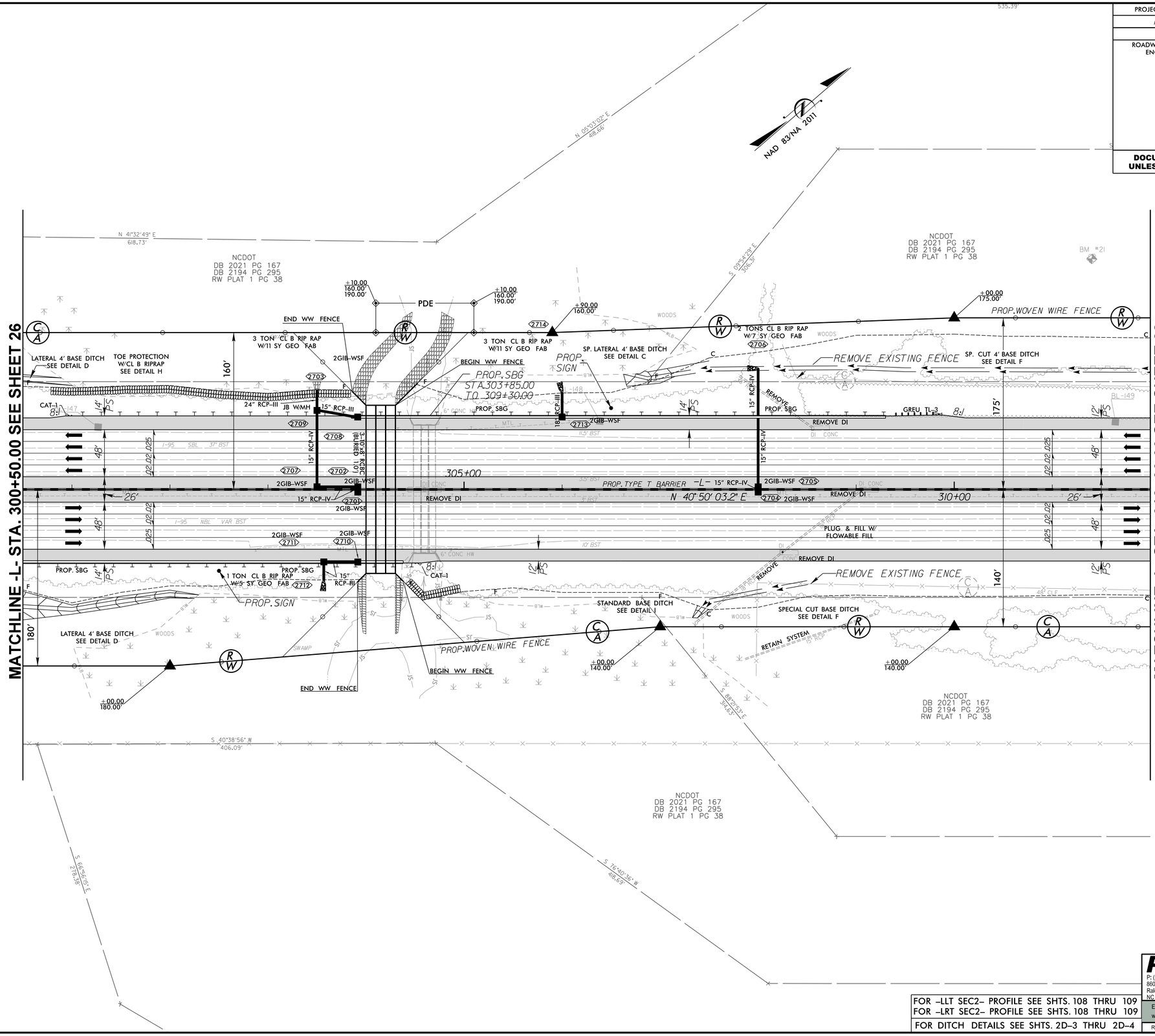
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
dhefner
...Roadway\Proj\Plan Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh26.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	27
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



FOR –LLT SEC2– PROFILE SEE SHTS. 108 THRU 109
FOR –LRT SEC2– PROFILE SEE SHTS. 108 THRU 109
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/28/2020
8:28:16 AM
jhelton
K:\Raleigh\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh27.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

464.64'

N 78°37'33" E
246.38'

S 40°51'49" W
50.29'

NCDOT
DB 2021 PG 167
DB 2194 PG 295
RW PLAT 1 PG 38

N 80°14'58" E
134.18'

N 88°08'18" W
300.65'

48" CLF
R/W MON

ROCK FILL IN POND
SEE DETAIL AN

±00.00
175.00'

PROP. WOVEN WIRE FENCE 2803

2 TONS CL B RIP RAP
W/7 SY GEO FAB

LATERAL 4' BASE DITCH
SEE DETAIL D

REMOVE EXISTING FENCE
TO RIGHT OF WAY LINE

WOODS

SP. CUT 4' BASE DITCH
SEE DETAIL F

REMOVE EXISTING FENCE

EXISTING R/W

48" CLF

30" RCP

REMOVE DI &
12' 30" RCP

175'

INV=133.92'

PLUG & FILL W/
FLOWABLE FILL

15" RCP-IV

10.5' BST

I-95 SBL 37' BST

REMOVE DI

–L–

15" RCP-IV 2802

2GIB-WSF

REMOVE DI

CONC

4' BST

PROP. TYPE T BARRIER

26'

315+00

N 40° 50' 03.2" E

2801 2GIB-WSF

320+00

3' BST

I-95 NBL 37' BST

PLUG & FILL W/
FLOWABLE FILL

PLUG & FILL W/
FLOWABLE FILL

13.5' BST

REMOVE DI

CONC

PLUG & FILL W/
FLOWABLE FILL

INV (FES)=136.78'

140'

REMOVE EXISTING FENCE

EXISTING R/W

30" RCP

48" CLF

SPECIAL CUT DITCH
SEE DETAIL B

PROP. WOVEN WIRE FENCE

WOODS

LATERAL V DITCH
SEE DETAIL K

SPECIAL CUT DITCH
SEE DETAIL B

LATERAL V DITCH
SEE DETAIL K

+70.00
140.00'
150.00'

±00.00
140.00'
150.00'

MATCHLINE -L- STA. 312+00.00 SEE SHEET 27

MATCHLINE -L- STA. 325+00.00 SEE SHEET 29

NCDOT
DB 2021 PG 167
DB 2194 PG 295
RW PLAT 1 PG 38

N 09°54'29" W
315.38'

S 40°50'50" W
1254.29'

N 40°51'49" E
730.00'

NCDOT
DB 2021 PG 167
DB 2194 PG 295
RW PLAT 1 PG 38

S 01°37'35" W
387.33'

S 40°51'49" W
1000.00'

FOR –LLT SEC2– PROFILE SEE SHTS. 109 THRU 110
FOR –LRT SEC2– PROFILE SEE SHTS. 109 THRU 110
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
K:\Raleigh\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh28.dgn
Charles

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

61
HEATHER B WILLIAMS
COURTNEY J WILLIAMS
DB 9282 PG 844

62
SAMUEL A ROBERTS
MICHAEL D DIXON
NANCY C DIXON
DB 427 PG 594

63
ANNA L CHAO,
TRUSTEE OF ANNA L CHOA
NANCY WONG
DB 8129 PG 646
DB 4000 PG 473

NCDOT
DB 2021 PG 167
DB 2194 PG 295
RW PLAT 1 PG 38

N 40°50'03" E
853.93'

BM #22

-L- STA. 325+00.00 SEE SHEET 28

-L- STA. 338+00.00 SEE SHEET 30

MATCHLINE -L- STA. 325+00.00 SEE SHEET 28

MATCHLINE -L- STA. 338+00.00 SEE SHEET 30

+00.00
175.00'

ROCK FILL IN POND
SEE DETAIL AN

+25.00
175.00'
210.00'

+65.00
190.00'
210.00'

+90.00
175.00'
190.00'

PUE

PROP. WOVEN WIRE FENCE

2904
2 TONS CL B RIP RAP
W/7 SY GEO FAB

LATERAL 4' BASE DITCH
SEE DETAIL D

SP. CUT 4' BASE DITCH
SEE DETAIL F

REMOVE EXISTING FENCE

WOODS

48" CLT

48" WW &ISBW

R/W MON

BL-153

BL-154

175'

140'

15" RCP-IV

2GIB-WSF

2902

2903

2901

330+00

335+00

-L-

N 40° 50' 03.2" E

PROP. TYPE T BARRIER

REMOVE DI

PLUG & FILL W/
FLOWABLE FILL

CONC

26'

48'

12" PS

I-95 SBL 37' BST

I-95 NBL 37' BST

10.5' BST

3.5' BST

3' BST

8:1

GREU
TL-3

14" PS

LATERAL V DITCH
SEE DETAIL K

SPECIAL LATERAL V DITCH
SEE DETAIL A

+00.00
140.00'

+25.00
140.00'
155.00'

+45.00
155.00'
175.00'

+65.00
160.00'
175.00'

N 86°45'50" W
889.86' TO R/W MONUMENT
909.99' TO P/W

N 86°45'50" W
525.5'

FOR –LLT SEC2– PROFILE SEE SHTS. 110 THRU 111
FOR –LRT SEC2– PROFILE SEE SHTS. 110 THRU 111
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
8:42:58 AM
C:\Projects\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_pst29.dgn
cheller

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

62
SAMUEL A ROBERTS
MICHAEL D DIXON
NANCY C DIXON
DB 427 PG 594

64
SAMUEL A ROBERTS
MICHAEL D DIXON
NANCY C DIXON
DB 427 PG 594

65
WILLIAM C DAUGHTRY
SANDRA U DAUGHTRY
DB 10067 PG 399

MATCHLINE -L- STA. 338+00.00 SEE SHEET 29

MATCHLINE -L- STA. 350+00.00 SEE SHEET 31

EXISTING R/W

COVINGTON LN

60'

S 85°05'59" E
624.85'

+00.00
175.00'
140.00'

+71.74
EX.R/W

+95.00
170.00'
150.00'

+80.00
140.00'
150.00'

SP. LATERAL 4' BASE DITCH
SEE DETAIL C

SP. CUT 4' BASE DITCH
SEE DETAIL F

BST

FOOT BRIDGE

PROP.WOVEN WIRE FENCE

WOODS

3003
2 TONS CL B RIP RAP
W/7 SY GEO FAB

SPECIAL LATERAL V DITCH
SEE DETAIL A

REMOVE EXISTING FENCE

LATERAL V DITCH
SEE DETAIL K

48" CMP

PLUG & FILL W/
FLOWABLE FILL

15" RCP-IV

48'

12' VEG MOW

REMOVE DI

2GIB-WSF

3001

3002

340+00

26'

-L-

N 40° 50' 03.2" E

PROP. TYPE T BARRIER

I-95 SBL 37' BST

I-95 NBL 37' BST

345+00

3004

3005

18" RCP-IV

140'

8:1

CAT-1

PROP. SIGN

TELEPHONE PED NOT FOUND IN FIELD PLACED PER UTILITY

BILLBOARD

48" WW & ISBW

S 86°05'59" E
14.04'

N 00°29'18" E
17.33'

PUE

EX. R/W
160.00'

EX.R/W
155.00'

+75.00
175.00'

+95.00
160.00'
175.00'

+00.00
140.00'

IMPACTED BILLBOARD
-L- STATION 341+00 RT
MILE MARKER 60.4

3 TONS CL B RIP RAP
W/10 SY GEO FAB

63
66
GEORGE EDMUND BULLARD III
RUBY W BULLARD
DB 10017 PG 340
PB 131 PG 13

67
SAMUEL A ROBERTS
MICHAEL D DIXON
NANCY C DIXON
DB 427 PG 594

65A
WILLIAM C DAUGHTRY
SANDRA U DAUGHTRY
DB 10067 PG 399

68
GEORGE EDMUND BULLARD III
RUBY W BULLARD
DB 10017 PG 340
PB 131 PG 13

PURDY MATTHEWS RD

EXISTING R/W

ANNA L CHAO,
TRUSTEE OF ANNA L CHOA
NANCY WONG
DB 8129 PG 646
DB 4000 PG 473

S 87°35'40" E
364.39'

N 00°29'18" E
772.98'

FOR –LLT SEC2– PROFILE SEE SHTS. 111 THRU 112
FOR –LRT SEC2– PROFILE SEE SHTS. 111 THRU 112
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
8:42:48 AM
chelser
C:\Projects\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_pst30.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	31
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y7RPB-
PIs Sta 11+33.34
Θs = 2° 17' 30.6"
Ls = 200.00'
LT = 133.34'
ST = 66.68'

NAD 83/NA 2011

65
WILLIAM C DAUGHTRY
SANDRA U DAUGHTRY
DB 10067 PG 399

69
GEORGE EDMUND BULLARD III
RUBY W BULLARD
DB 10017 PG 340
PB 131 PG 13

70
WEEKS FARM, INC
DB 2720 PG 269

68
GEORGE EDMUND BULLARD III
RUBY W BULLARD
DB 10017 PG 340
PB 131 PG 13

71
WEEKS FARM, INC
DB 2720 PG 269

MATCHLINE -L- STA. 350+00 SEE SHEET 30

MATCHLINE -L- STA. 363+00 SEE SHEET 32

-L- POT Sta. 361+81.03=
-Y7RPB- TS Sta. 10+00.00(61' LT)

300' TAPER LANE

800' ACCELERATION LANE

BM #23

N 01°30'28" E 366.26'

N 00°15' E 536.83'

S 89°33'29" E 306.42'

S 89°33'29" E 598.72'

N 40° 50' 03.2" E

355+00

360+00

+81.03

+15.70

+00.00 165.00'

+40.00 165.00' 190.00'

+50.00 140.00'

+10.00 160.00'

+90.00 165.00' 140.00'

+40.00 140.00' 155.00'

+81.03 165.00'

END WW FENCE

BEGIN WW FENCE

PDE

PROP. SIGN

REMOVE EXISTING FENCE

PROP. WOVEN WIRE FENCE

PROP. TYPE T BARRIER

REMOVE DI

PLUG & FILL W/ FLOWABLE FILL

PLUG & FILL W/FLOWABLE FILL

5 TONS CL B RIP RAP W/14 SY GEO FAB

8 TONS CL B RIP RAP 21 SY GEOTEXTILE

2 TONS CL B RIP RAP W/7 SY GEO FAB

LATERAL V DITCH SEE DETAIL K

LATERAL BASE DITCH SEE DETAIL P

LATERAL BASE DITCH SEE DETAIL J

LATERAL 2' BASE DITCH SEE DETAIL J

LATERAL BASE DITCH SEE DETAIL D

CHORD SP. CUT BASE DITCH SEE DETAIL F

24" RCP-III

18" RCP-IV

15" RCP-IV

24" RCP-IV

30" RCP-IV

42" RCP

42" RCBC (BURIED 1.0')

3101 2GIB-WSF

3102 2GIB-WSF

3103 2GIB-WSF

3104 2GIB-WSF

3105 2GIA-WSF

3106

3107 JB w/MH

3108

CAT-1

GREU TL-3

8:1

165'

140'

60'

48'

26'

12' PS

14' PS

PUE

WOODS

48" CLF

48" WW & ISBW

I-95 SBL 37" BST

I-95 NBL 37" BST

10.5' BST

10' BST

-Y7RPB-

FOR –LLT SEC2– PROFILE SEE SHTS. 112 THRU 113
FOR –LRT SEC2– PROFILE SEE SHTS. 112 THRU 113
FOR –Y7RPB– PROFILE SEE SHT. 178

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
8:47:56 AM
C:\Projects\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy.pshtl31.dgn
dhester

REVISIONS
ROW REVISION 4/6/2020 - REVISED PDE ON PARCEL 76, REMOVED PROPERTY LINE FROM -SR3- STA. 20+34.16 - 23+76.90 LT AND COMBINED PARCELS 70 AND 70A.
ROW REVISION 7/2/2020 - REVISED OFFSET REFERENCE FOR EASEMENT FLAG AT -Y78PA- STA. 23+43.00 RT.
ROW REVISION 8/20/2020 - REVISED ROW ON PARCEL 78 FROM -SR3- STA. 22+00.00 TO 23+17.00 LT, REVISED ROW ON PARCEL 79 FROM -SR3- STA. 23+76.90 TO 24+50.00 LT, REVISED PUE ON PARCELS 78 & 79 FROM -SR3- STA. 18+75.00 TO 29+50.00 LT.
ROW REVISION 8/25/2020 - REVISED PUE ON PARCELS 77, 78, AND 79 FROM -SR3- STA. 24+10.00 TO 29+50.00 LT.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -SR3- STA. 18+25.00 SEE SHEET 74

MATCHLINE -Y7B- STA. 14+50.00 SEE SHEET 74

BEGIN -Y7RAB2- PC Sta.10+00.00=
END -Y7RAB2- PT Sta.13+58.14

-Y7RAB2- POC Sta.12+85.69=
-Y7B- PT Sta.16+40.53 RT

-Y7RPB- PT Sta.24+32.14

-Y7RPB- PC Sta.23+50.35

-Y7RPB- ST Sta.21+63.90

-Y7RPB- CS Sta.19+63.91

-Y7RPB- N 61° 16' 35.4" E

-Y7RPA- PT Sta.23+95.77

-Y7RPA- POC Sta.21+55.85

-Y7RPA- PT Sta.25+18.85

-Y7C- PT Sta.12+17.58

-Y7RAB2- POC Sta.11+17.57=
-Y7C- PC Sta.10+00.00 RT

-SR3- PT Sta.22+57.30

-SR3- PC Sta.24+65.94

-Y7RPA- TS Sta.11+20.23

-Y7RPA- SC Sta.13+20.23

-Y7RPC- TS Sta.11+10.63

-Y7RPC- SC Sta.13+10.63

-L- POT Sta.364+45.00=
-Y7RPC- PT Sta.10+00.00 16F RT
Δ= 3°00'00"

-L- POT Sta.377+68.88 =
-Y7C- PT Sta.14+30.55
Δ= 109°24'27"

-Y7RPC- PRC Sta.23+26.54

-Y7RPC- PT Sta.24+80.52

-Y7RPC- POT Sta.25+67.32

-Y7RAB3- POC Sta.12+85.69=
-Y7D- PC Sta.10+00.00 RT

-Y7RPD- PT Sta.25+06.13

-Y7RAB3- PC Sta.10+00.00=
END -Y7RAB3- PT Sta.13+58.14

-Y7D- PCC Sta.12+29.50

-Y7RPD- ST Sta.21+21.06

-Y7RPD- CS Sta.19+21.06

-Y7RPD- PT Sta.24+06.68

-Y20- PC Sta.18+62.14

MATCHLINE -SR3- STA. 23+50.00 SEE SHEET 33

MATCHLINE -L- STA. 390+00.00 SEE SHEET 33

MATCHLINE -L- STA. 363+00.00 SEE SHEET 31

MATCHLINE -Y7D- STA. 12+50.00 SEE SHEET 176

MATCHLINE -Y20- STA. 14+00.00 SEE SHEET 175

END MSE WALL -L- STA.376+76.48

END MSE WALL -L- STA.379+74.89

BEGIN MSE WALL -L- STA.370+54.31

BEGIN MSE WALL -L- STA.377+60.31

PROP. SIGN STA.9+00.00 TO 13+98.32

PROP. SIGN STA.9+00.00 TO 13+98.32

PROP. SIGN STA.9+00.00 TO 13+98.32

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-SR3-

PI Sta 27+47.76	PI Sta 34+30.97
Δ = 23° 09' 57.2" (LT)	Δ = 3° 36' 54.8" (LT)
D = 4° 10' 01.1"	D = 1° 12' 04.2"
L = 555.94'	L = 300.98'
T = 281.82'	T = 150.54'
R = 1,375.00'	R = 4,770.00'
SE = 0.03	SE = NC
DS = 40 MPH	DS = 40 MPH

-Y7RPD-

PIs Sta 11+33.35	PI Sta 15+63.79
Θs = 2° 36' 15.7"	Δ = 18° 46' 44.3" (LT)
Ls = 200.00'	D = 2° 36' 15.7"
LT = 133.35'	L = 721.06'
ST = 66.68'	T = 363.79'
	R = 2,200.00'
	SE = 0.07
	DS = 65 MPH

-Y20-

PI Sta 21+51.37	PI Sta 32+14.20
Δ = 36° 57' 13.0" (RT)	Δ = 38° 35' 23.5" (RT)
D = 6° 37' 25.6"	D = 16° 22' 12.8"
L = 557.89'	L = 235.73'
T = 289.04'	T = 122.53'
R = 865.00'	R = 350.00'
SE = 0.04	SE = 0.04
DS = 40 MPH	DS = 35 MPH

END CONSTRUCTION -SR3- Sta. 36+00.00

MATCHLINE -SR3- STA. 29+50.00 SEE SHEET 32

MATCHLINE -L- STA. 390+00.00 SEE SHEET 32

MATCHLINE -Y20- STA. 20+00.00 SEE SHEET 32

MATCHLINE -L- STA. 402+00.00 SEE SHEET 34

MATCHLINE -Y20- STA. 32+00.00 SEE SHEET 34

NAD 83/NA 2011

78 WOOD, EDDIE C & WIFE BETTY H DB 7760 PG 413 PB 121PG 70

79 WOOD, EDDIE CALVIN DB 6166 PG 372 PB 121PG 70

86 JOHNSON, BRETT CORY DB 9600 PG 37

87 BETHEA SR, ROBERT L E & WIFE HENRIETTA C DB 8504 PG 727 PB 123 PG 168

CAIN, BILLY V & WIFE YVONNE L CAIN DB 3607 PG 858

85 PRESLER, SHELBY MATTHEWS DB 9404 PG 95 PB 43 PG 36

88 PRESLER, SHELBY MATTHEWS DB 9404 PG 95 PB 43 PG 36

89 CORNETT PROPERTIES LLC DB 8775 PG 511 PB 57 PG 35

90 MOORE, ELENE DB 554 PG 15

-SR3- PT Sta. 30+21.88

-L- POT Sta. 390+90.00= -Y7RPA- POT Sta. 10+00.00(61' LT) Δ = 2° 59' 60.00"

-SR3- PC Sta. 32+80.44

-SR3- PT Sta. 35+81.41

-SR3- POT Sta. 36+10.00

-Y7RPD- SC Sta. 12+00.00

-Y20- PT Sta. 24+20.23

-L- POT Sta. 394+34.95= -Y7RPD- TS Sta. 10+00.00(61' RT)

-Y20- PC Sta. 30+91.66

N 44° 42' 08.4" E

N 41° 05' 13.6" E

N 40° 50' 03.2" E

N 40° 50' 05.0" E

S 43° 50' 03.2" W

230' TAPER LANE

800' ACCELERATION LANE

100' BLEND TO EXIST.

SP. LATERAL BASE DITCH SEE DETAIL C

5 TONS CL B RIP RAP 16 SY GEOTEXTILE

TOE PROTECTION W/CL B RIPRAP SEE DETAIL H

REMOVE 2 TONS CL B RIP RAP 7 SY GEOTEXTILE

3 TONS CL B RIP RAP 10 SY GEOTEXTILE

8 TONS CL B RIP RAP 21 SY GEOTEXTILE

MEDIAN DITCH SEE DETAIL G

LATERAL V DITCH SEE DETAIL K

LATERAL BASE DITCH SEE DETAIL P

SP. CUT BASE DITCH SEE DETAIL V

SPECIAL CUT DITCH SEE DETAIL B

PROP. CHAIN LINK FENCE

REMOVE EXISTING FENCE

PROP. TYPE T BARRIER

PLUG & FILL W/FLOWABLE FILL

REMOVE DI

REMOVE

RETAIN

END WW FENCE BEGIN CHAIN LINK FENCE +72.64 -Y7RPD- BEGIN GLARE SCREEN

CONCRETE WASHOUT STRUCTURE

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR –LLT_SEC2– PROFILE SEE SHTS. 115 THRU 116
FOR –LRT_SEC2– PROFILE SEE SHTS. 115 THRU 116
FOR –Y7RPA– PROFILE SEE SHT. 177
FOR –Y7RPD– PROFILE SEE SHT. 179
FOR –Y20– PROFILE SEE SHT. 181
FOR –SR3– PROFILE SEE SHT. 182

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Projects\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh33.dgn
dherr

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	34
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y20-	
PI Sta 32+14.20	PI Sta 33+74.76
△ = 38° 35' 23.5" (RT)	△ = 25° 25' 19.8" (RT)
D = 16° 22' 12.8"	D = 27° 17' 01.3"
L = 235.73'	L = 93.18'
T = 122.53'	T = 47.37'
R = 350.00'	R = 210.00'
SE = 0.04	SE = 0.04
DS = 35 MPH	DS = 25 MPH

NAD 83/NA 2011

MATCHLINE -L- STA. 402+00.00 SEE SHEET 33

MATCHLINE -L- STA. 415+00.00 SEE SHEET 35

MATCHLINE -Y20- STA. 32+00.00 SEE SHEET 33

BETHEA SR, ROBERT E & WIFE HENREITTA C DB 8504 PG 727 PB 123 PG 168

CAIN, BILLY V & WIFE YVONNE L CAIN DB 3607 PG 858

MOORE, ELENE DB 554 PG 15

MOORE, RONALD C & WIFE BETTY H DB 2254 PG 152

END CHAIN LINK FENCE
END GLARE SCREEN
+26.55
140.00

+84.86
175.00

+05.00
175.00

+60.00
160.00

+20.00
160.00

LATERAL V DITCH SEE DETAIL K

48 TONS CL I RIP RAP
89 SY GEOTEXTILE

IMPACTED BILLBOARD
-L- STATION 406+00 LT
MILE MARKER 61.6

STANDARD BASE DITCH
SEE DETAIL W

SPECIAL CUT DITCH SEE DETAIL B

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

SP. CUT DITCH SEE DETAIL B

+45.86
107.62

SPECIAL CUT DITCH SEE DETAIL B

PLUG & FILL W/FLOWABLE FILL

2GIB-WSF 3411
15" RCP-IV

2GIA-WSF 3410

REMOVE DI & 10' PIPE

PLUG & FILL W/FLOWABLE FILL

405+00

N 40° 50' 03.2" E

26'

REMOVE DI & 11' PIPE

PLUG & FILL W/FLOWABLE FILL

48" RCP-IV

2GIA-WSF 3408

2GIA-WSF 3404

15" RCP-IV -L-

2GIB-WSF 3403

PROP TYPE T BARRIER

15" RCP-IV

410+00

REMOVE DI

2GIB-WSF 3402

415+00

26'

LATERAL V DITCH SEE DETAIL K

3405 HW

3407

LATERAL BASE DITCH SEE DETAIL P
40 TONS CL I RIP RAP
75 SY GEOTEXTILE

STANDARD BASE DITCH SEE DETAIL W
+19.62 -L-
175.86

+55.00 -Y20-
89.60'

+65.00 -Y20-
75.0000

END CHAIN LINK FENCE
BEGIN WW. FENCE
END GLARE SCREEN
+00.00 -Y20-
20.00'

+65.00 -Y20-
EX.R/W

IMPACTED BILLBOARD
-L- STATION 405+00 RT
MILE MARKER 61.6

LATERAL BASE DITCH SEE DETAIL D

+40.00
140.00'

SPECIAL CUT DITCH SEE DETAIL B

TRAFFIC SIGNAL HANDHOLE

REMOVE EXISTING FENCE

PROP. WOVEN WIRE FENCE

-Y20- PCC Sta. 33+27.40

300' TAPER LANE

+34.95

SP. CUT BASE DITCH SEE DETAIL V

800' ACCELERATION LANE

SP. CUT BASE DITCH SEE DETAIL N

+42.00 -Y20-
EX.R/W
40.45

50' BLEND TO EXIST.

END CONSTRUCTION
-Y20- Sta. 33+42.00

-Y20- PT Sta. 34+20.57

S 75°00'00" E
1182'

90 MOORE, ELENE DB 554 PG 15

91 MOORE, ELENE DB 554 PG 15

92 MOORE, RONALD C & WIFE BETTY H DB 2254 PG 152

92A BETHEA SR, ROBERT E & WIFE HENREITTA C DB 8504 PG 727 PB 123 PG 168

93 MOORE, ELENE DB 554 PG 15

94 MOORE, RONALD C & WIFE BETTY H DB 2254 PG 152

FOR -LLT_SEC2- PROFILE SEE SHT. 116
FOR -LRT_SEC2- PROFILE SEE SHT. 116
FOR -Y20- PROFILE SEE SHT. 181

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
c:\pwidot\pwidgn\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh34.dgn
dlarue

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	35
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

92
MOORE, RONALD C & WIFE BETTY H
DB 2254 PG 152

92
MOORE, RONALD C & WIFE BETTY H
DB 4971PG 441

MATCHLINE -L- STA. 415+00.00 SEE SHEET 34

MATCHLINE -L- STA. 428+00.00 SEE SHEET 36

PROP. SIGN

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

END WW FENCE

BEGIN WW FENCE

SP. CUT DITCH SEE DETAIL B

SP. LAT. BASE DITCH SEE DETAIL AF

SP. LAT BASE DITCH SEE DETAIL C

TOE PROTECTION SEE DETAIL BT

PROP. SBG STA.422+00.00 TO 425+65.00

PROP. SBG STA.419+50.00 TO 422+38.00

3 TON CL B RIP RAP 10 SY GEOTEXTILE

1 TON CL B RIP RAP W/5 SY GEO FAB

LINE CUT/FILL TRANSITION 2 TONS CL B RIPRAP W/7 SY GEOTEXTILE

PLUG & FILL W/FLOWABLE FILL

REMOVE 10' OF 18" RCP

REMOVE 10' OF 24" RCP

REMOVE DI

CONC PAVED DITCH

PROP. TYPE T BARRIER

N 40° 50' 03.2" E

N 00°52'09" E 842.51'

S 00°52'09" W 397.11'

94
MOORE, RONALD C & WIFE BETTY H
DB 2254 PG 152

94
MOORE, RONALD C & WIFE BETTY H
DB 4971PG 441

96
STARLING-WHITE, JESSIE
DB 3030 PG 293

FOR –LLT_SEC2– PROFILE SEE SHT. 117
FOR –LRT_SEC2– PROFILE SEE SHT. 117
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
C:\Roadway\Proj\Plan Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh35.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	36
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

92
MOORE, RONALD C & WIFE BETTY H
DB 4971PG 441

92
MOORE, RONALD C & WIFE BETTY H
DB 9634 PG 854

95
BELL, MARIE W
DB 2540 PG 241

MATCHLINE -L- STA. 428+00.00 SEE SHEET 35

MATCHLINE -L- STA. 442+00.00 SEE SHEET 37

IMPACTED BILLBOARD
-L- STATION 435+00 LT
MILE MARKER 62.2

IMPACTED BILLBOARD
-L- STATION 441+15 RT
MILE MARKER 62.3

PROP.WOVEN WIRE FENCE

REMOVE EXISTING FENCE

SP. LAT BASE DITCH SEE DETAIL C

SP. CUT BASE DITCH SEE DETAIL F

SP. CUT BASE DITCH SEE DETAIL Z

TOE PROTECTION SEE DETAIL H

PLUG & FILL W/FLOWABLE FILL

REMOVE 10' OF 24" RCP

REMOVE 10' OF 18" RCP

PROP. TYPE T BARRIER

24" RCP–IV

18" RCP–IV

15" RCP–IV

REMOVE DI

2GIA–WSF

2GIB–WSF

430+00

435+00

440+00

N 40° 50' 03.2" E

94
MOORE, RONALD C & WIFE BETTY H
DB 4971PG 441

96
STARLING-WHITE, JESSIE
DB 3030 PG 293

97
BELL, MARIE W
DB 5432 PG 611

FOR –LLT_SEC2– PROFILE SEE SHTS. 117 THRU 118
FOR –LRT_SEC2– PROFILE SEE SHTS. 117 THRU 118
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh36.dgn
dbeiler

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	37
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

95
BELL, MARIE W
DB 2540 PG 241

95
BELL, MARIE W
DB 5432 PG 611

S 62°36'02" E
442.38'

MATCHLINE -L- STA. 442+00.00 SEE SHEET 36

MATCHLINE -L- STA. 456+00.00 SEE SHEET 38

PUE — PROP.WOVEN WIRE FENCE — SP. LAT BASE DITCH SEE DETAIL C — +00.00 140.00' — REMOVE EXISTING FENCE — SP. CUT DITCH SEE DETAIL B — +50.00 140.00 160.00' — +90.00 140.00' 160.00' — SP. CUT BASE DITCH SEE DETAIL F — 11 TON CL B RIP RAP 28 SY GEOTEXTILE — 3704 — 3703 — 46' — 36" RCP-III — REMOVE — PROP. SIGN — CAT-1 8:1 — CONC PAVED DITCH — GREU TL-3 — REMOVE DI

WP — WP — EIP — EXISTING R/W — 48" WW W/ISBW — ISBW — F — C — 140' — 175' — 12' PS — 14' PS — 48' — 10.5' BST — 10' BST — 3' BST — 3.5' BST — I-95 SBL 37' BST — I-95 NBL 37' BST — 2.025 — 2.02 — FES — PLUG & FILL W/FLOWABLE FILL — REMOVE 10' OF 18" RCP — BL-206 — 15" RCP-IV — 3705 2GIB-WSF — 3706 2GIB-WSF — 3701 2GIB-WSF — 3702 2GIB-WSF — 26' — 445+00 — N 40° 50' 03.2" E — 450+00 — 455+00 — -L- — CONC PAVED DITCH — PROP. TYPE T BARRIER — REMOVE DI

+00.00
140.00'
175.00'

97
BELL, MARIE W
DB 5432 PG 611

97
BELL, MARIE W
DB 5432 PG 611

S 66°01'12" W
77.25'

S 01°49'55" E
186.30'

S 00°59'58" W
323.40'

FOR –LLT_SEC2– PROFILE SEE SHTS. 118 THRU 119
FOR –LRT_SEC2– PROFILE SEE SHTS. 118 THRU 119
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
8:\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh37.dgn
dhester

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	38
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TRAFFIC DIAGRAM

PERCY STRICKLAND ROAD (SR 1813)

ADT 2018 100/100
ADT 2040

56,100/73,200 I-95 I-95 56,100/73,200

100/100

PERCY STRICKLAND ROAD (SR 1813)

-Y8-		-SR5A-
PI Sta 19+45.75	PI Sta 29+50.92	PI Sta 17+29.03
Δ = 4° 03' 09.4" (LT)	Δ = 37° 22' 16.1" (RT)	Δ = 41° 00' 22.8" (RT)
D = 0° 39' 44.6"	D = 4° 48' 53.2"	D = 10° 42' 34.2"
L = 611.83'	L = 776.18	L = 438.92'
T = 306.04'	T = 402.46'	T = 232.66'
R = 8,650.00'	R = 1,190.00'	R = 535.00'
SE = NC	SE = 0.04	SE = 0.04
DS = 55 MPH	DS = 55 MPH	DS = 40 MPH

NAD 83/NA 2011

MATCHLINE -L- STA. 456+00.00 SEE SHEET 37

MATCHLINE -L- STA. 470+00.00 SEE SHEET 39

MATCHLINE -Y8- STA. 30+00.00 -SR5A- STA. 13+28.42 SEE SHEET 76A

MATCHLINE -Y8- STA. 19+50.00 & -SR5A- STA. 13+28.42 SEE SHEET 76

-Y8- PC Sta. 25+48.46

-L- POT Sta. 462+84.22
-Y8- POT Sta. 24+01.24
Δ = 50° 12' 54.2"

-Y8- PT Sta. 22+51.54

-SR5A- PC Sta. 14+97.07

-SR5A- PT Sta. 19+36.00

-SR5A- POT Sta. 22+00

-SR5A- POT Sta. 20+60.00

END CONSTRUCTION

BEGIN MSE WALL
BEGIN CONCRETE BARRIER
-L- STA. 462+89.18

END MSE WALL
END CONCRETE BARRIER
-L- STA. 462+80.26

BEGIN MSE WALL
BEGIN CONCRETE BARRIER
-L- STA. 461+31.40

END MSE WALL
END CONCRETE BARRIER
-L- STA. 464+34.04

PROP. SBG STA. 25+36.13 TO 29+50.00

PROP. SBG STA. 18+00.00 TO 22+92.11

PROP. SBG STA. 17+00.00 TO 22+64.34

PROP. SBG REMOVE CB STA. 25+10.37 TO 25+48.46

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

RETAIN EXIST. FENCE

TIE TO EXISTING WOVEN WIRE FENCE

BEGIN WW FENCE TIE TO BRIDGE

END WW FENCE TIE TO BRIDGE

BEGIN WW FENCE TIE TO BRIDGE

SP. CUT BASE DITCH SEE DETAIL F

SP. CUT DITCH SEE DETAIL U

STD. BASE DITCH SEE DETAIL I

LAT V DITCH SEE DETAIL K

15 TON CL I RIP RAP 30 SY GEOTEXTILE

1 TON CL B RIP RAP 5 SY GEOTEXTILE

2 TON CL B RIP RAP 7 SY GEOTEXTILE

5 TON CL B RIP RAP 14 SY GEOTEXTILE

REMOVE CB B-77

REMOVE DI

REMOVE CB 2GIB-WSF

FILL AND CAP AREA BETWEEN BARRIERS

PLUG & FILL W/FLOWABLE FILL

MEDIAN BARRIER TRANSITION AT OVERPASS

38'-0" CLEAR ROADWAY

PROP. TYPE T BARRIER

-L-

N 40° 50' 03.2" E

N 40° 57' 41.4" E -SR5A-

N 6° 02' 41.4" W

N 3° 22' 51.0" W

JB w/MH

2GIA-WSF

2GIB-WSF

2GIB-NSF

4GI

15" CSP 0.3' R.BROWS

18" RCP-IV

24" RCP-IV

30" RCP-III

36" RCP-III

36" RCP-IV

36" WW W/ISBW

48" WW W/ISBW

GREU TL-3 8:1

95 BELL, MARIE W DB 2540 PG 241

95 IE W 5 611

97 BELL, MARIE W DB 5432 PG 611

97 BELL, MARIE W DB 5432 PG 611

98 BELL, MARIE W DB 5432 PG 611 PB 85 PG 175

99 FISHER, DORIS JEAN DB 3626 PG 803 PB 35 PG 13

100 LAMM, KENNETH & & WIFE KYOUNG POWER DB 9697 PG 116 PB 139 PG 130

101 LAMM, KENNETH & & WIFE KYOUNG POWER DB 9697 PG 116 PB 139 PG 130

101A WILLIAMS, R K DB 5520 PG 288 PB 35 PG 13

ISFD

MTL CAN

FOR BRIDGE SKETCH SEE SHT. 2A-7
FOR CROSS SECTION LAYOUT SEE SHT. 2B-3
FOR DITCH DETAILS SEE SHTS. 2D-3 AND 2D-4
FOR -LLT_SEC2- PROFILE SEE SHTS. 119 THRU 120
FOR -LRT_SEC2- PROFILE SEE SHTS. 119 THRU 120
FOR -Y8- PROFILE SEE SHT. 180
FOR -SR5A- PROFILE SEE SHT. 183
FOR -SR5B- PROFILE SEE SHT. 183

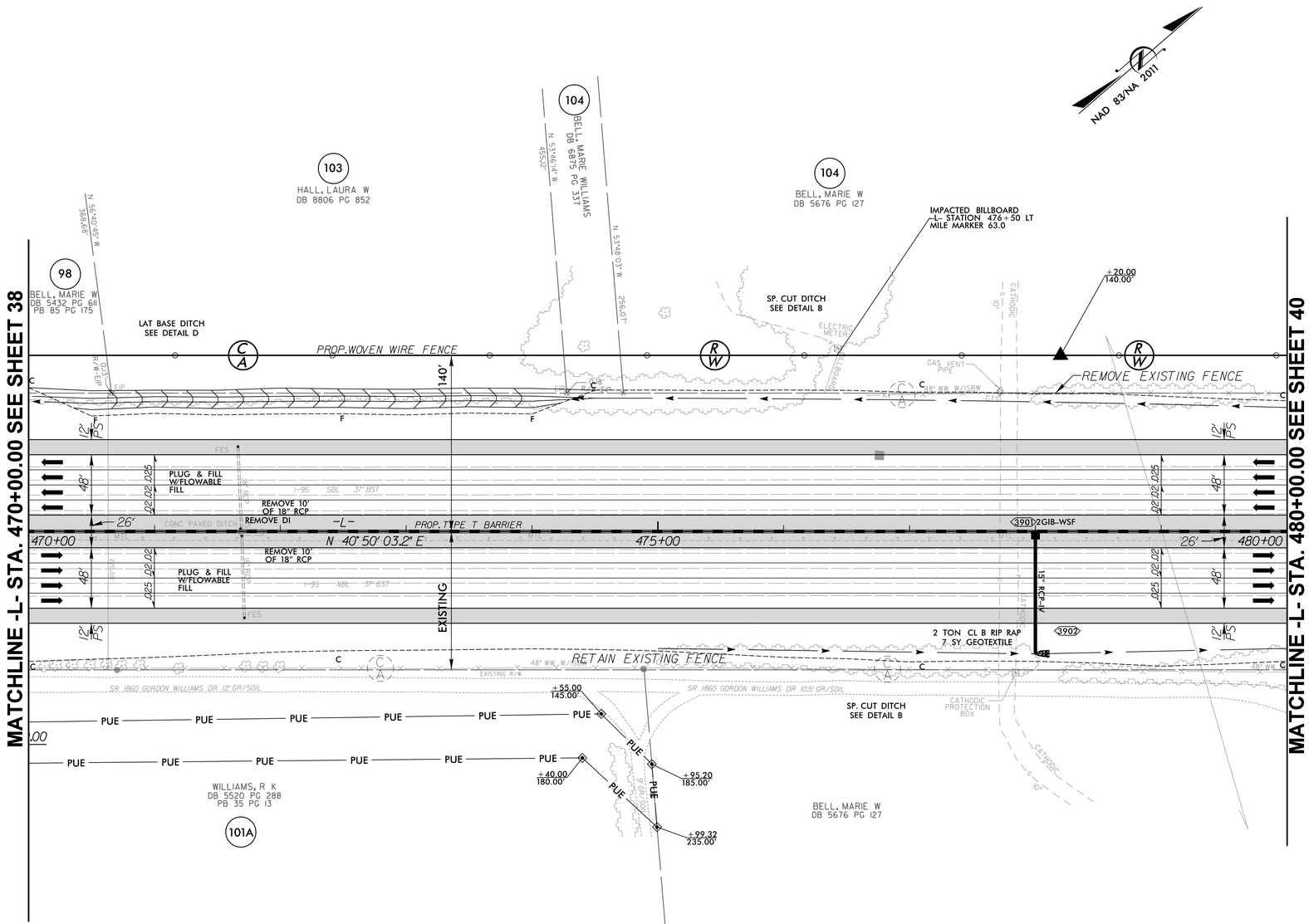
RK&K
P: (919) 878-9560
9801 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\24_Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh38.dgn
Sheet Plan

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	39
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR –LLT_SEC2– PROFILE SEE SHTS. 120 THRU 121
FOR –LRT_SEC2– PROFILE SEE SHTS. 120 THRU 121

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh39.dgn
sheiler

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	40
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA. 480+00.00 SEE SHEET 39

MATCHLINE -L- STA. 492+00.00 SEE SHEET 41

106
MERCADO, ENEIDA
DB 8296 PG 316
PB 125 PG 112

104
BELL, MARIE W
DB 5676 PG 127

107

108
MCCOLLUM, JOHN C & HOLY
DB 8291PG 677
PB 82 PG 181

ENCROACHMENT OFF PB 125 PG 112
DB 6903 PG 118

N 53°53'38" W 353.37'

N 65°25'56" W 238.27'

N 57°57'55" W 228.89'

30.12'
N 40°42'26" E

SP. CUT DITCH
SEE DETAIL B

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE #56

RETAIN EXISTING FENCE

DRAIN POND AND GRADE TO DRAIN

ROCK FILL IN POND
SEE DETAIL AN

+55.00
140.000'
150.00'

+00.00
160.00'

+40.00
160.33'
180.00'

PUE

EXISTING R/W

0.67' R/W EIP

0.2' R/W EIP

48" WW W/ISBW

I5986-9

10' PS

12' PS

14' PS

10.5' BST

I-95 SBL 37" BST

I-95 NBL 37" BST

10' BST

3.5' BST

140'

02.02.025

48'

26'

480+00

485+00

490+00

N 40° 50' 03.2" E

15" RCP-IV

400 2GIB-WSF

PROP. TYPE T BARRIER

REMOVE DI

LONG PAVED DITCH

REMOVE 10' OF 18" RCP

PLUG & FILL W/FLOWABLE FILL

18" RCP-IV

EXISTING

4003 3 TON CL B RIP RAP
10 SY GEOTEXTILE

8:1 GREU TL-3

PROP. SBG

PROP. SBG
STA.488+50.00
TO 500+05.00

SP. CUT DITCH
SEE DETAIL AL

+00.00
EX.RW

+00.00
115.00

8' GR

SP. CUT DITCH
SEE DETAIL B

BELL, MARIE W
DB 5676 PG 127

SOUTHERN RAILWAY SYSTEM

S 53°49'21" E 119.55'

109
WILLIAMS, ROBERT KEVIN
& WIFE TAMMY P
DB 7007 PG 11

110
WILLIAMS, ROBERT KEVIN
& WIFE TAMMY P
DB 7007 PG 11

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR –LLT_SEC2– PROFILE SEE SHTS. 121 THRU 122
FOR –LRT_SEC2– PROFILE SEE SHTS. 121 THRU 122

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
K:\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh40.dgn
Charles

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	41
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-SR5B-

PI Sta 12+20.92	PI Sta 15+00.46	PI Sta 16+73.39
△ = 0° 24' 26.5" (LT)	△ = 1° 56' 38.6" (RT)	△ = 1° 48' 25.7" (LT)
D = 0° 17' 11.3"	D = 1° 38' 13.3"	D = 0° 47' 44.8"
L = 142.20'	L = 118.76'	L = 227.09'
T = 71.10'	T = 59.38'	T = 113.56'
R = 20,000.00'	R = 3,500.00'	R = 7,200.00'
SE = NC	SE = NC	SE = NC
DS = 20 MPH	DS = 20 MPH	DS = 20 MPH

NAD 83/NA 2011

MATCHLINE -L- STA. 492+00.00 SEE SHEET 40

MATCHLINE -L- STA. 505+00.00 SEE SHEET 42

108 MCCOLLUM, JOHN C & HOLY DB 8291 PG 677 PB 82 PG 181

111 FOUNDATION FOR FEEDING HUNGRY DB 9216 PG 286 PB 137 PG 110

112 SHIVA REAL ESTATE LLC DB 10113 PG 561 PB 137 PG 110

113 NORTH CAROLINA DIVISION SONS DB 9856 PG 712 PB 137 PG 130

114 WILLIAMS, DOROTHY R DB 2544 PG 143 PB 137 PG 130

116 BELL, MARIE W DB 5676 PG 127

115 MARIAN J COOPER LIFE ESTATE DB 8461 PG 841

110 WILLIAMS, ROBERT KEVIN & WIFE TAMMY P DB 7007 PG 11

DRAIN POND AND GRADE TO DRAIN

ROCK FILL IN POND SEE DETAIL AN

IMPACTED BILLBOARD -L- STATION 498+00 LT MILE MARKER 63.4

IMPACTED BILLBOARD -L- STATION 500+00 RT MILE MARKER 63.4

STANDARD BASE DITCH SEE DETAIL I

10' WIDE BERM TOP ELEV.=173.0' SEE DETAIL Q

SP. CUT BASE DITCH SEE DETAIL F

SP. LAT. BASE DITCH SEE DETAIL C

SP. LAT. V DITCH SEE DETAIL A

LAT. BASE DITCH SEE DETAIL D

REMOVE EXISTING FENCE

PROP. WOVEN WIRE FENCE

PROP. TYPE T BARRIER

PLUG & FILL W/FLOWABLE FILL

REMOVE 10' OF 30" RCP

REMOVE DI

REMOVE 10' OF 18" RCP

16 TON CL B RIP RAP 42 SY GEOTEXTILE

22 TON CL B RIP RAP 54 SY GEOTEXTILE

3 TON CL B RIP RAP 10 SY GEOTEXTILE

PROP. SBG STA.488+50.00 TO 500+05.00

RETAIN EXISTING FENCE

SP. CUT DITCH SEE DETAIL AL

SP. CUT DITCH SEE DETAIL B

STANDARD BASE DITCH SEE DETAIL W

10' WIDE BERM TOP ELEV.=172.3' SEE DETAIL Q

EXISTING DITCH IS AT 0.23% DESIGNED DITCH IS REPLACING DITCH AT 0.22%

-SR5B- POT Sta. 10+00.00

-SR5B- PC Sta. 11+49.83

BEGIN CONSTRUCTION -SR5B- POC Sta.12+40.00

-SR5B- PT Sta. 12+92.02

-SR5B- PC Sta. 14+41.08

-SR5B- PRC Sta. 15+59.83

-SR5B- PT Sta. 17+86.93

END CONSTRUCTION -SR5B- POC Sta.17+50.00

495+00 500+00 505+00 10+00 15+00

N 40° 50' 03.2" E

N 41° 02' 13.4" E

N 40° 37' 46.9" E

N 23°02'42" E 100.00'

S 61°50'20" E 159.52'

S 67°39'34" E 8600.75'

N 61°42'56" W 238.95'

N 67°39'34" W 185.55'

N 67°40'24" W 201.19'

N 40°51'39" E 178.39'

N 40°40'31" E 281.81'

N 40°40'31" E 31.60'

N 40°40'31" E

S 46°57'29" E 109.56'

S 46°57'29" E 143.40'

FOR –LLT_SEC2– PROFILE SEE SHTS. 122 THRU 123
FOR –LRT_SEC2– PROFILE SEE SHTS. 122 THRU 123
FOR –SR5B– PROFILE SEE SHT. 183

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/28/2020
R:\Projects\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh41.dgn
dbellamy

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	42
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

114
WILLIAMS, DOROTHY R
DB 2544 PG 143
PB 137 PG 130

117
WILLIAMS, DOROTHY R
DB 8194 PG 21

118
HERRING, LAURA
DB 10127 PG 181
BK DB 346 PG 582

N 85°50'00" W
1781.1'

N 52°51'00" W
655.2'

MATCHLINE -L- STA. 505+00.00 SEE SHEET 41

MATCHLINE -L- STA. 517+00.00 SEE SHEET 43

+20.00
140.00

TOE PROTECTION
SEE DETAIL H

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

LAT. BASE DITCH
SEE DETAIL C

LAT. BASE DITCH
SEE DETAIL C

SP. CUT BASE DITCH
SEE DETAIL N

APPROX 48" WW W/ISBW

EXISTING R/W

WOODS

140'

12' SS

48'

02.02.025

505+00

26'

510+00

515+00

15" RCP-IV
REMOVE DI

2GIB-WSF 4206

PROP. TYPE 'L' BARRIER

2GIB-WSF 4206

N 40° 50' 03.2" E

18" RCP-IV

15" RCP-IV

4204 2GIB-WSF 18" RCP-IV

4203 2GIB-WSF

CONC PAVED DITCH DI

PAVED DITCH

I-95 SBL 37' BST

I-95 NBL 37' BST

REMOVE 10'
OF 18" RCP

PLUG & FILL
W/FLOWABLE
FILL

FES

EXISTING

RETAIN EXISTING FENCE

APPROX 48" WW W/15BW

48" WW W/15BW

8' GR

+30.00
EX.R/W
115.00'

+30.00
EX.R/W
115.00'

SP. CUT DITCH
SEE DETAIL B

48" WW W/ISBW

GRAVEL ROAD
TO CEMETERY

116
BELL, MARIE W
DB 5676 PG 127

116
BELL, MARIE W
DB 5676 PG 127

S 53°29'02" E
2456.65'

FOR –LLT_SEC2– PROFILE SEE SHTS. 123 THRU 124
FOR –LRT_SEC2– PROFILE SEE SHTS. 123 THRU 124
FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
8:29:16 am
dbeal
C:\Projects\Proj\Plan_Sheets\SEC_2_PLAN_SHEETS\I-5986A_Rdy_psh42.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	43
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

118
HERRING, LAURA
DB 10127 PG 181
BK DB 346 PG 582

119
SCOTT III, JOSEPH C & WIFE
DB 2358 PG 715

116
BELL, MARIE W
DB 5676 PG 127

MATCHLINE -L- STA. 517+00.00 SEE SHEET 42

MATCHLINE -L- STA. 530+00.00 SEE SHEET 44

LAT. BASE DITCH SEE DETAIL R

SP. LAT. BASE DITCH SEE DETAIL AF

SP. LAT BASE DITCH SEE DETAIL C

PROP. WOVEN WIRE FENCE

REMOVE EXISTING FENCE

TOE PROTECTION SEE DETAIL H

+20.00 140.00'

RM #58

ELECTRIC METER

TRAFFIC CONTROL BOX

CAMERA POLE

WOODS

APPROX 48' WW W/ISBW

EXISTING R/W

140'

12' PS

48'

2.02.025

10' BST

5' BST

18" RCP-IV

15" RCP-IV

430 2GIA-WSF

430 2GIB-WSF

PROP TYPE T BARRIER

24" RCP-IV

CONC PAVED DITCH

15" RCP-III

24" RCP-III

24" RCP-II

REMOVE DI

26'

520+00

N 40° 50' 03.2" E

525+00

530+00

REMOVE 10' OF 18" RCP

PLUG & FILL W/FLOWABLE FILL

EXISTING

I-95 SBL 37' BST

I-95 NBL 37' BST

14' PS

8:1

GREU TL-3

CAT-1

RETAIN EXISTING FENCE

PROP. SIGN

RETAIN

8' GR

RETAIN, CLEANOUT BOTH PIPES

TDE

+65.00 EX.R/W 150.00'

+10.00 EX.R/W 150.00'

SP. CUT DITCH SEE DETAIL U

8 TON CL B RIP RAP
21 SY GEOTEXTILE
CUT/FILL TRANSITION

TOE PROTECTION SEE DETAIL AM

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR -LLT_SEC2- PROFILE SEE SHTS. 124 THRU 125
FOR -LRT_SEC2- PROFILE SEE SHTS. 124 THRU 125
FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
dhefner
C:\Projects\Proj\Plan Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh43.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	44
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

-SR5C-

PI Sta 12+27.25	PI Sta 15+76.54
△ = 1° 06' 03.9" (LT)	△ = 0° 30' 18.5" (RT)
D = 0° 19' 05.9"	D = 0° 11' 27.5"
L = 345.91'	L = 264.49'
T = 172.96'	T = 132.25'
R = 18,000.00'	R = 30,000.00'
SE = EXIST	SE = EXIST

119
SCOTT III, JOSEPH C & WIFE
DB 2358 PG 715

120
TART & TART INC
DB 357 PG 293
DB 186 PG 370

MATCHLINE -L- STA. 530+00.00 SEE SHEET 43

MATCHLINE -L- STA. 542+00.00 SEE SHEET 45

+00.00 140.00'

+00.00 160.00'

SP. LAT BASE DITCH SEE DETAIL C

REMOVE EXISTING FENCE

PROP. WOVEN WIRE FENCE

BEGIN WW FENCE

END WW FENCE

3 TON CL B RIP RAP
21 SY GEOTEXTILE

4405

140'

160'

WOODS

48" WW W/ISBW

12' PS

14' PS

48'

2GIA-WSF

2GIB-WSF

24" RCP-III

15" RCP-III

30" RCP-III

PROP. TYPE T BARRIER

CONC PAVED DITCH

535+00

540+00

N 40° 50' 03.2" E

REMOVE DI

REMOVE 10' OF 18" RCP

PLUG & FILL W/FLOWABLE FILL

EXISTING

26'

I-95 SBL 37' BST

I-95 NBL 37' BST

10' BST

3' BST

MTL

4GI

CONC HW

4409

4411

15+00

SR 1802 GORDON WILLIAMS RD 19.5' BST

-SR5C-

REMOVE

24" RCP-III

4414

-SR5C_DET

ELECTRIC METER

ELECTRIC BOX

14.5' GR

TOE PROTECTION SEE DETAIL AM

+90.00 EX.R/W

RETAIN EXISTING FENCE

10+00

N 41° 22' 55.9" E

-SR5C- POT Sta. 10+00.00

BEGIN CONSTRUCTION -SR5C- POT Sta. 10+14.25

-SR5C- PC Sta. 10+54.29

R=40'

+65.00 EX.R/W

+45.00 205.00'

+40.00 220.00' 230.00'

+65.00 225.00' 235.00'

+22.00 -L- EX.R/W 205.00'

+95.00 205.00'

+60.00 EX.R/W 170.00'

+25.00 EX.R/W

+29.76 170.00'

+45.00 235.00'

+70.00 165.00'

+20.00 210.00'

+00.00 165.00'

+20.00 235.00'

+30.00 235.00'

+05.00 255.00'

+50.00 235.00'

+50.00 255.00'

+25.00 260.00' 280.00'

+50.00 270.00' 285.00'

+45.00 270.00' 290.00'

+75.00 265.00' 290.00'

PDE

TDE

DUE

PUE

STANDARD BASE DITCH SEE DETAIL AJ

-SR5C- PT Sta. 14+00.21

N 40° 16' 52.1" E

-SR5C- PC Sta. 14+44.29

116
BELL, MARIE W
DB 5676 PG 127

121
GREENWOOD, MARGARET LOUETTA
DB 5891 PG 529

122
BELL, MARIE W
DB 9523 PG 760
PB 134 PG 144

POND

S 37°50'23" E 598.16'

764.89' S 23°08'39" E

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR –LLT_SEC2– PROFILE SEE SHTS. 125 THRU 126
FOR –LRT_SEC2– PROFILE SEE SHTS. 125 THRU 126
FOR –SR5C– PROFILE SEE SHT. 184
FOR –SR5C_DET– PROFILE SEE SHT. 2B–8

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

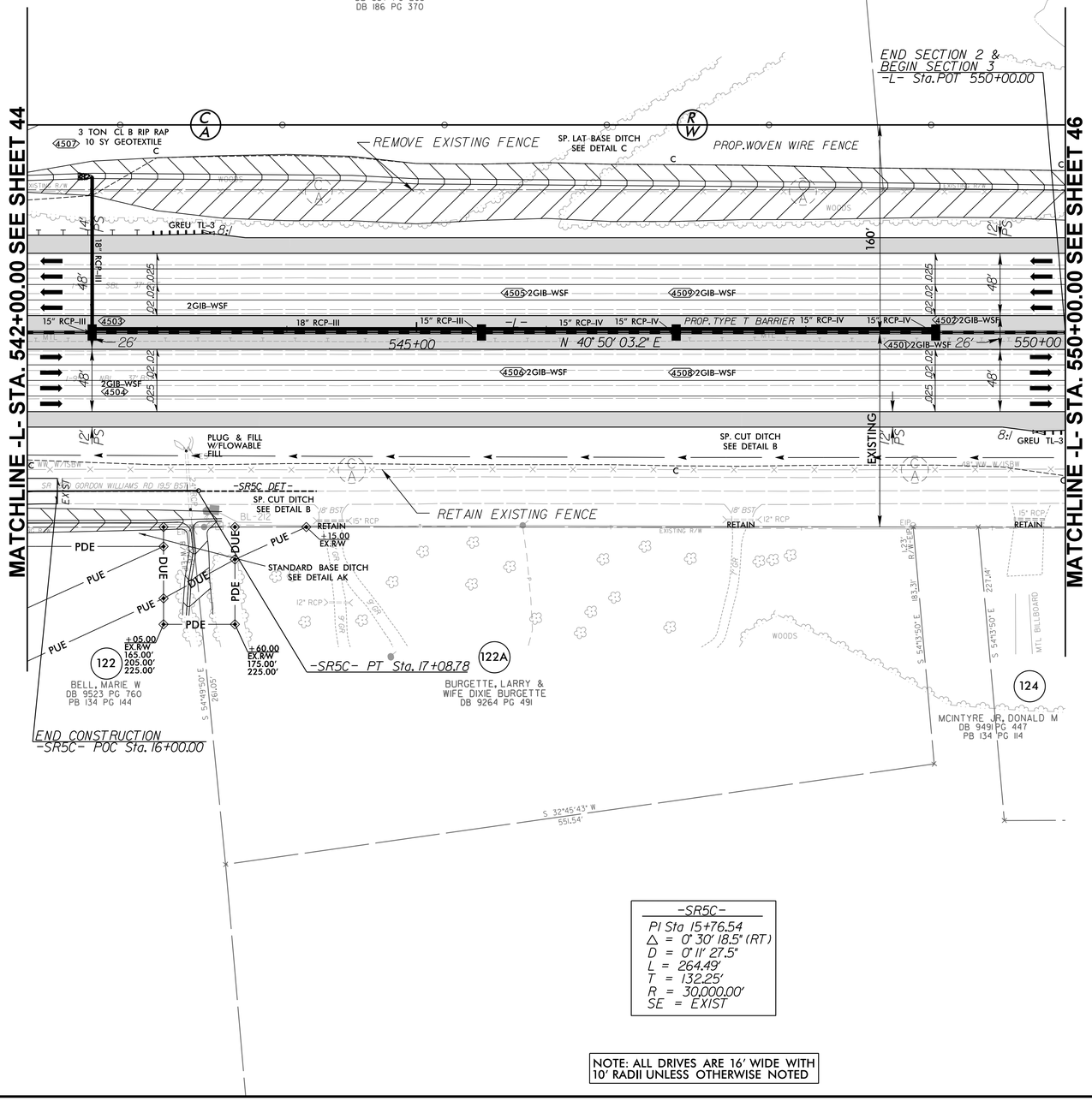
8/24/2020
R:\Roadway\Proj\Plan Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh44.dgn
jbeal

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	45
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011



NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR –LLT_SEC2– PROFILE SEE SHT. 126
FOR –LRT_SEC2– PROFILE SEE SHT. 126

FOR DITCH DETAILS SEE SHTS. 2D–3 THRU 2D–4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\24\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh45.dgn
jbeaver

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	72
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y6-
PI Sta 18+61.56
Δ = 0° 08' 59.9" (RT)
D = 0° 03' 26.3"
L = 261.73'
T = 130.87'
R = 100,000.00'
SE = NC
DS = 60 MPH

NAD 83 NA 2011

BEGIN CONSTRUCTION
-Y6- Sta. 10+80.00

-Y6- POT Sta. 10+00.00

125
WALLACE LEE JERNIGAN, JR
HUGH A MCPHAIL
DB 9200 PG 642
MB 132 PG 119

-Y6- PC Sta.17+30.69

59
WESLEY L BAREFOOT
CARLA H BAREFOOT
DB 9211 PG 319
PB 132 PG 103

MATCHLINE -Y6- STA. 18+00.00 SEE SHEET 26

50' BLEND TO EXIST.

SPECIAL CUT DITCH SEE DETAIL B

+00.00 -Y6- EX.RW

WOODS

LATERAL V DITCH SEE DETAIL K

7203 2 TON CL B RIP RAP W/7 SY GEO FAB

+50.00 -Y6- 80.00

EXISTING R/W

BM #18

N 80°16'43" W 163.11'

N 77°57'02" W 125.25'

N 75°32'13" W 195.72'

S 77°56'33" E 121.12'

S 80°14'50" E 159.67'

N 32°56'46" E 220.44'

S 14°19'23" W 416.49'

N 14°19'23" E 333.76'

N 09°28'35" E 82.60'

N 14°18'14" E 32.52'

15" RCP

EIP

CONC

I S F D G

50'

EXIST. 60' PUBLIC R/W

15" CSP 12" ELBOWS

PROP. SBG STA.15+15.50 TO 20+86.87

PROP. SBG

GREU TL-3

7202 2GIB-WSF

8:1

-Y6- 15+00 PC S 75° 43' 01.6" E

SR 1005 SMITHFIELD RD 19' BST

8" PS

11'

7201

7204

15"

+90.00 -Y6- EX.RW 40.00'

SPECIAL CUT DITCH SEE DETAIL B

+00.00 -Y6- 40.00'

+90.00 -Y6- 70.00'

PROP. SBG STA.15+15.50 TO 20+70.33

SUSIE A PARTIN
JOHNATHAN D PARTIN
ET AL
DB 9333 PG 103
PB 132 PG 103

57
WESLEY L BAREFOOT
CARLA H BAREFOOT
DB 9211 PG 319
PB 132 PG 103

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR -Y6- PROFILE SEE SHT. 174

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh72.dgn
dhester

8/17/99

-Y6-			-DRI-	
PI Sta 28+31.09	PI Sta 32+19.81	PI Sta 33+94.26	PI Sta 14+73.16	PI Sta 16+36.23
Δ = 0° 54' 38.8" (LT)	Δ = 4° 29' 45.1" (LT)	Δ = 13° 39' 32.2" (LT)	Δ = 29° 14' 39.8" (RT)	Δ = 95° 56' 13.5" (LT)
D = 0° 30' 41.7"	D = 3° 22' 13.2"	D = 6° 21' 58.3"	D = 47° 44' 47.3"	D = 47° 44' 47.3"
L = 178.03'	L = 133.39'	L = 214.55'	L = 61.25'	L = 200.93'
T = 89.02'	T = 66.73'	T = 107.79'	T = 31.31'	T = 133.13'
R = 11,200.00'	R = 1,700.00'	R = 900.00'	R = 120.00'	R = 120.00'
SE = NC			SE = NC	SE = NC
DS = 60 MPH			DS = 20 MPH	DS = 20 MPH

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	73
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

NCDOT
DB 2021 PG 167
DB 2194 PG 295
RW PLAT 1 PG 38

60
PEGGY MCPHAIL HILL
RONALD GEORGE HILL
GEORGE EDMUND BULLARD, III
RUBY WARREN BULLARD
DB 9282 PG 844

S 40°56'49" W
557.62' TO R/W MONUMENT
557.62' TO R/W

MATCHLINE -Y6- STA. 26+00.00 SEE SHEET 26

S 75° 34' 01.7" E

-Y6- PC Sta. 27+42.07

-Y6- POC Sta. 28+88.02 =
-DRI- POT Sta. 17+47.23

-Y6- PT Sta. 29+20.10

SP. LAT. V DITCH
SEE DETAIL A

LATERAL V DITCH
SEE DETAIL K

+50.00 -Y6-
EX.R/W

SPECIAL CUT DITCH
SEE DETAIL B

PROP. SBG
STA. 23+25.01
TO 27+30.60

PROP. SBG

7307

2GIB-WSF

GREU TL-3

8:1

WOODS

SMITHFIELD RD

SR 1005

50'

30+00

-Y6- PC Sta. 31+53.08

-Y6- PCC Sta. 32+86.47

-Y6- PT Sta. 35+01.03

-Y6- POT Sta. 35+25.59

417.70'

26.66'
(TYP.)

EXISTING R/W

BM #20

BY5-76

35+00

N 85° 22' 02.2" E

S 76° 28' 40.5" E

PROP. SBG
STA. 23+08.47
TO 27+30.60

7304

7305

BY5-74

15+00

+00.00 -Y6-
82.00'

-DRI-

N 53° 37' 29.7" E

+00.00 -Y6-
55.98'

+50.00 -Y6-
50.00'

-DRI- PT Sta. 17+04.04

50' BLEND
TO EXIST.

+50.00 -Y6-
EX R/W
50.00'

BY5-75

EXISTING R/W

7303

2 TON CL B RIP RAP
W/7 SY GEO FAB

+55.00 -Y6-
145.00'

+10.00 -Y6-
145.00'

-DRI- PRC Sta. 15+03.11

+65.00 -Y6-
110.00'

-DRI- PC Sta. 14+41.86

+50.00 -Y6-
125.00'

S 79° 40' 56.5" E

58
PEGGY MCPHAIL HILL
RONALD GEORGE HILL
GEORGE EDMUND BULLARD, III
RUBY WARREN BULLARD
DB 9282 PG 844

END CONSTRUCTION
-Y6- Sta. 32+00.00

FOR -Y6- PROFILE SEE SHT. 174
FOR -DRI- PROFILE SEE SHT. 184

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

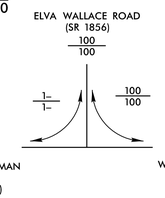
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_pst73.dgn
dbeck

8/17/99

TRAFFIC DIAGRAM

ADT 2018
ADT 2040



–Y7A–	–Y7B–		–Y7RABI–	–SR3–		
PI Sta 15+78.86	PI Sta 11+09.09	PI Sta 15+32.02	PI Sta 10+00.00	PI Sta 10+99.89	PI Sta 14+49.31	PI Sta 20+47.50
Δ = 10° 23' 19.9" (LT)	Δ = 10° 23' 19.9" (LT)	Δ = 10° 23' 19.9" (LT)	Δ = 360° 00' 00.0" (LT)	Δ = 9° 31' 01.1" (RT)	Δ = 89° 59' 51.2" (RT)	Δ = 46° 25' 55.4" (LT)
D = 4° 46' 28.7"	D = 4° 46' 28.7"	D = 4° 46' 28.7"	D = 100° 31' 08.2"	D = 4° 46' 28.7"	D = 22° 55' 05.9"	D = 10° 25' 02.7"
L = 217.58'	L = 217.58'	L = 217.58'	L = 358.14'	L = 199.32'	L = 392.69'	L = 445.72'
T = 109.09'	T = 109.09'	T = 109.09'	T = 0.00'	T = 99.89'	T = 249.99'	T = 235.91'
R = 1,200.00'	R = 1,200.00'	R = 1,200.00'	R = 57.00'	R = 1,200.00'	R = 250.00'	R = 550.00'
SE = 0.03	SE = 0.03	SE = 0.03		SE = 0.03	SE = 0.04	SE = 0.04
DS = 25 MPH	DS = 25 MPH	DS = 25 MPH		DS = 25 MPH	DS = 30 MPH	DS = 40 MPH

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	74
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -SR3- STA. 18+25.00 SEE SHEET 32

MATCHLINE -Y7B- STA. 14+50.00 SEE SHEET 32

TRUCK APRON

PAVEMENT REMOVAL

FOR –Y7RAB1– PROFILE SEE SHT. 176
FOR –Y7A– PROFILE SEE SHT. 175
FOR –Y7B– PROFILE SEE SHT. 175
FOR –Y7 DET– PROFILE SEE SHT. 2B-7
FOR –SR3– PROFILE SEE SHT. 182

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Raleigh\Proj\Plan-Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh74.dgn
dlefler

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	75
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -Y20- STA. 14+00.00
SEE SHEET 32

MATCHLINE -Y7D- STA. 12+50.00
SEE SHEET 32

SHREEJIGAS LLC
DB 9764 PG 650

84

SPECIAL CUT DITCH
SEE DETAIL B

+25.00 -Y20-
67.15'

+09.12 -Y20-
97.65'

+10.00 -Y7D-
90.00'
END WW FENCE
END C/A

LATERAL BASE DITCH
SEE DETAIL D

8 TONS CL
B RIP RAP
21 SY GEOTEXTILE

REMOVE

+50.00 -Y20-
95.00'
110.00'

+25.00 -Y20-
95.00'
110.00'

PUE

507

36'

15"

N 3° 52' 52.0" E
-Y20-

100' TAPER

+72.00

25' CL

30" RCP-IV

+50.66

750

+05.94

15'

22' TYP.

3:1

GREU TL-3

LATERAL V DITCH
SEE DETAIL K

503

+85.00 -Y7D-
60.00'

SPECIAL CUT DITCH
SEE DETAIL B

+65.00 -Y7D-
63.35'

+75.00 -Y7D-
90.00'

+35.00 -Y7D-
68.27'

+55.00 -Y7D-
100.00'

MATTHEWS, CHARLES DWIGHT
DB 2538 PG 69
PB 43 PG 36

83

+10.00 -Y7D-
87.54'
END WW FENCE
END C/A

200' MEDIAN TAPER

MATTHEWS, CHARLES DWIGHT
DB 2552 PG 416
PB 43 PG 71

83

S 01°51'11" W
929.82'

85

PRESLER, SHELBY MATTHEWS
DB 9404 PG 95
PB 43 PG 36

SPECIAL CUT DITCH
SEE DETAIL B

+25.00 -Y20-
50.00'

SP. CUT BASE DITCH
SEE DETAIL F

R=45'

+30.00 -Y7D-
60.00

END CONSTRUCTION
-Y7D- Sta. 16+25.00

+25.00 -Y7D-
EX.R/W
60.00'

N 3°42'55.00" E
830.10'

BAIN JR, SEAVY A &
MALINDA BAIN RICHBOURG
DB 2969 PG 397

128

BAIN JR, SEAVY A &
MALINDA BAIN RICHBOURG
DB 2969 PG 397

-Y7D- PT Sta. 14+84.36

-Y7D- POC Sta. 14+45.89=
-Y20- PI Sta. 10+00.00

-Y7D- POT Sta. 21+35.51

BM #52

15+00

20+00

-Y7D-
S 86° 07' 08.0" E

SR 1815 WADE STEADMAN RD 22' BST

EXISTING R/W

50' BLEND
TO EXIST.

EX. 15" RCP

+03.00

+25.00 -Y7D-
EX.R/W
60.00'

JAR RELPAX
VALVE/BOX

S 28°22'38" E
27.48'

S 77°45'54" E
340.13'

S 62°57'49" E
82.61'

S 46°16'49" E
97.14'

S 38°55'49" E
48.74'

S 32°45'
34.55'

-Y7D-
PI Sta 13+52.94
△ = 1° 50' 12.2" (RT)
D = 0° 41' 55.4"
L = 262.87'
T = 131.44'
R = 8,200.00'
SE = NC
DS = 50 MPH

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR -Y7D- PROFILE SEE SHT. 176
FOR -Y20- PROFILE SEE SHT. 181

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
C:\Roadway\Proj\Plan Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh75.dgn
dhefner

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	76
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y8-		-SR5A-
PI Sta 14+65.60	PI Sta 19+45.75	PI Sta 11+04.43
△ = 2° 18' 24.6" (RT)	△ = 4° 03' 09.4" (LT)	△ = 90° 21' 18.1" (LT)
D = 0° 39' 44.6"	D = 0° 39' 44.6"	D = 71° 37' 11.0"
L = 348.27'	L = 611.83'	L = 126.16'
T = 174.16'	T = 306.04'	T = 80.50'
R = 8,650.00'	R = 8,650.00'	R = 80.00'
SE = NC	SE = NC	SE = NC
DS = 55 MPH	DS = 55 MPH	DS = 15 MPH

NAD 83/NA 2011

BEGIN CONSTRUCTION
-Y8- POT Sta. 11+10.00

MATCHLINE
-Y8- STA. 19+50.00 &
-SR5A- STA. 13+28.42
SEE SHEET 38

-Y8- POC Sta.16+94.30=
-SR5A- POT Sta. 10+00.00

-Y8- PRC Sta.16+39.71

-Y8- PT Sta. 12+91.45

-Y8- POT Sta.10+00.00

-SR5A- PC Sta. 10+23.94

-SR5A- PT Sta. 11+50.09

N 84° 18' 36.8" E
PROP. SBG
STA.17+00.00
TO 22+64.34

PROP. SBG
STA.18+00.00
TO 22+92.11

PROP WOVEN WIRE FENCE

SR 1813 PERCY STRICKLAND
20' BST

50' BLEND TO EXIST.

25' (TYP.)

N 7° 38' 06.2" W

10+00

15+00

8:1

18" RCP REMOVE

18" RCP III

15" CSP ELBOWS

15" RCP III

1 TON CL B RIP RAP
5 SY GEOTEXTILE

3 TON CL B RIP RAP
10 SY GEOTEXTILE

6' LAT V DITCH
SEE DETAIL A

SP. LAT V DITCH
SEE DETAIL A

SP. CUT DITCH
SEE DETAIL U

2GI-NSF

GREU TL-3

7601 7602 7603 7604 7605 7606

BELL, MARIE W
DB 5432 PG 611
97

BELL, MARIE W
DB 5432 PG 611
129

SCOGGINS, BILLY ORDELL
DB 6748 PG 643
DB 4539 PG 367
PB 12 PG 22
PB 12 PG 22
130

FISHER, DORIS JEAN
DB 3626 PG 803
PB 35 PG 13
99

EXISTING R/W

PUE

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR -Y8- PROFILE SEE SHTS. 180
FOR -SR5A- PROFILE SEE SHTS. 183

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
K:\Roadway\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh76.dgn
PlanSet

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	76A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y8-
PI Sta 29+50.92
△ = 37° 22' 16.1" (RT)
D = 4° 48' 53.2"
L = 776.18'
T = 402.46'
R = 1,190.00'
SE = 0.04
DS = 55 MPH

NAD 83/NA 2011

S 32°42'28" W
912.41'

S 88°20'35" W
720.41'

N 53°48'25" W
556.86'

95
BELL, MARIE W
DB 2540 PG 241

END CONSTRUCTION
-Y8- POT Sta. 36+00.00

76A01
3 TON CL B RIP RAP
11 SY GEOTEXTILE

SP. LAT. DITCH
SEE DETAIL C

50' BLEND TO EXIST.

+00.00 -Y8-
EX.R/W
40.00'

+85.00 -Y8-
51.02'
85.00'

+45.00 -Y8-
85.00'

+10.00 -Y8-
50.00'

LATERAL BASE DITCH
SEE DETAIL P

+24.64 -Y8-
50.00'

25'
(TYP.)

+41.41'

35+00

-Y8-
N 27° 59' 25.1" E

24" RCP-IV

EXIST.

SR 1813 PERCY STRICKLAND 20' BST

EXISTING R/W

GREEN TL-3

8:1

30+00

76A02

+40.00 -Y8-
60.00'

+25.00 -Y8-
50.00'

SP. LAT V DITCH
SEE DETAIL A

98
BELL, MARIE W
DB 5432 PG 611
PB 85 PG 175

SP. CUT DITCH
SEE DETAIL U

+00.00 -Y8-
EX.R/W
35.00'

±90.00'

-Y8- PT Sta. 33+24.64

-Y8- POT Sta. 33+24.64

103
HALL, LAURA W
DB 8806 PG 852

104
BELL, MARIE WILLIAMS
DB 6875 PG 337

ISBKD

132
BELL, MARIE W
DB 5654 PG 736

131
GREENWOOD, MARGARET W
DB 5057 PG 405

SP. CUT DITCH
SEE DETAIL U

CATHODIC PROTECTION BOX

R/W MON FD

EIP

EIPSQ

N 53°48'03" W
269.28'

N 37°59'27" W
201.00'

N 53°51'38" W
225.19'

N 24°57'26" E
31.74'

N 28°14'39" E

N 28°14'39" E

MATCHLINE -Y8- STA. 30+00.00 SEE SHEET 38

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED

FOR -Y8- PROFILE SEE SHT. 180

FOR DITCH DETAILS SEE SHTS. 2D-3 THRU 2D-4

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

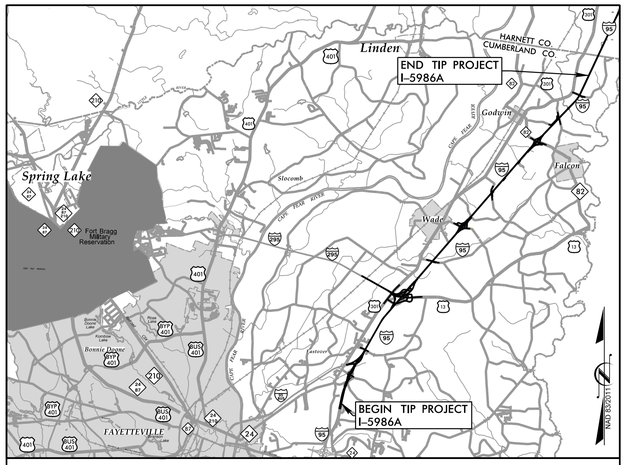
8/24/2020
8:42:56 AM
jbailey
C:\Projects\Proj\Plan_Sheets\SEC 2 PLAN SHEETS\I-5986A_Rdy_psh76A.dgn

09/08/49

TIP PROJECT: I-5986A

CONTRACT: C204283

See Sheet 1-B For Conventional Symbols



VICINITY MAP (NTS)

SECTION 3 – ROW ROADWAY PLANS FOR PARCELS #162 THRU #193

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

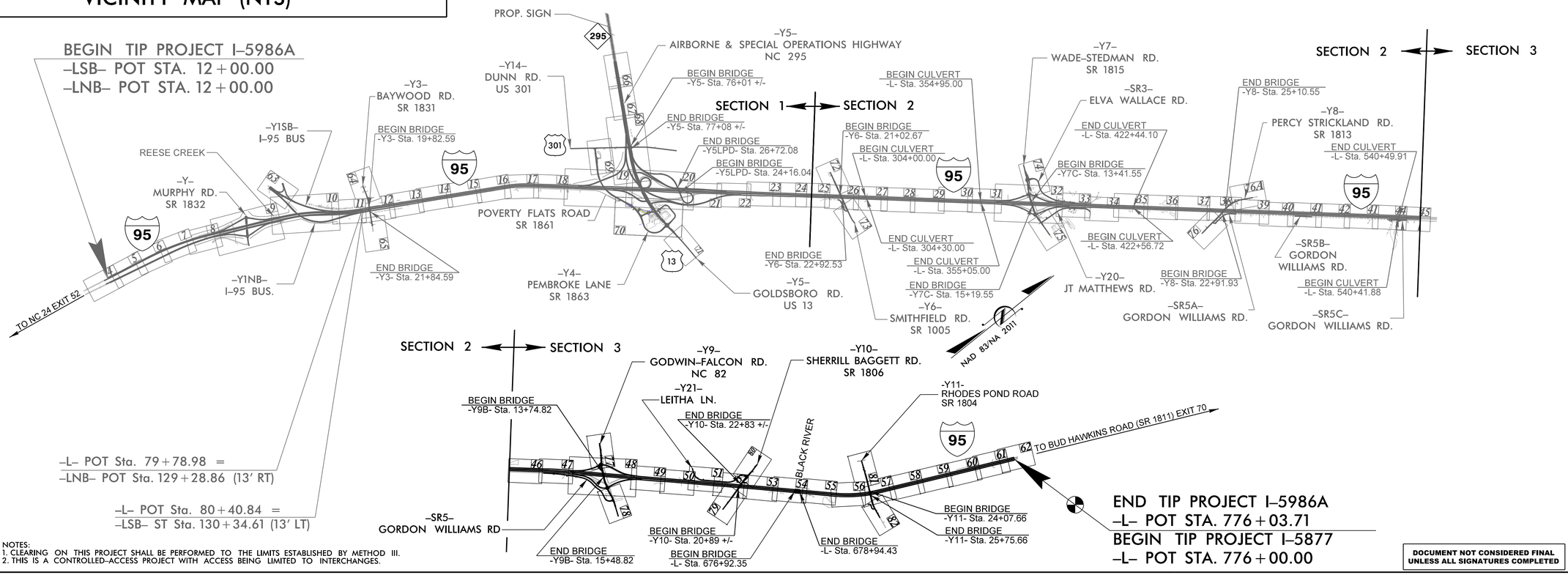
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5986A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
47532.2.2	NHP-0095(057)	R/W
47532.3.2	NHP-0095(057)	PE, UTIL., CONST.



LOCATION: *I-95 WIDENING FROM SOUTH OF SR 1832 (MURPHY ROAD– EXIT 55) TO SOUTH OF SR 1811 (BUD HAWKINS ROAD–EXIT 70)*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, LIGHTING, SIGNING, ITS, CULVERTS & STRUCTURES*



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2018 = 56,700
ADT 2040 = 73,800
K = 55%
D = 7%
T = 18% *
V = 75 MPH

FUNC CLASS: INTERSTATE
* (TTST 13% + DUALS 5%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5986A.....15.368 MILES
LENGTH STRUCTURE TIP PROJECT I-5986A.....0.048 MILES
TOTAL LENGTH TIP PROJECT I-5986A.....15.416 MILES

NCDOT CONTACT

Karen Capps, P.E.
PROJECT ENGINEER – DESIGN-BUILD UNIT

PLANS PREPARED BY:

RK&K — RUMMEL, KLEPPER & KAHL, LLP
8601 SIX FORKS ROAD, FORUM 1, SUITE 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112

FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

S.T. WOOTEN

2018 STANDARD SPECIFICATIONS

LETTING DATE:
AUGUST 20, 2019

Michael T. Merritt, P.E.
PROJECT ENGINEER

Anthony A. Houser, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

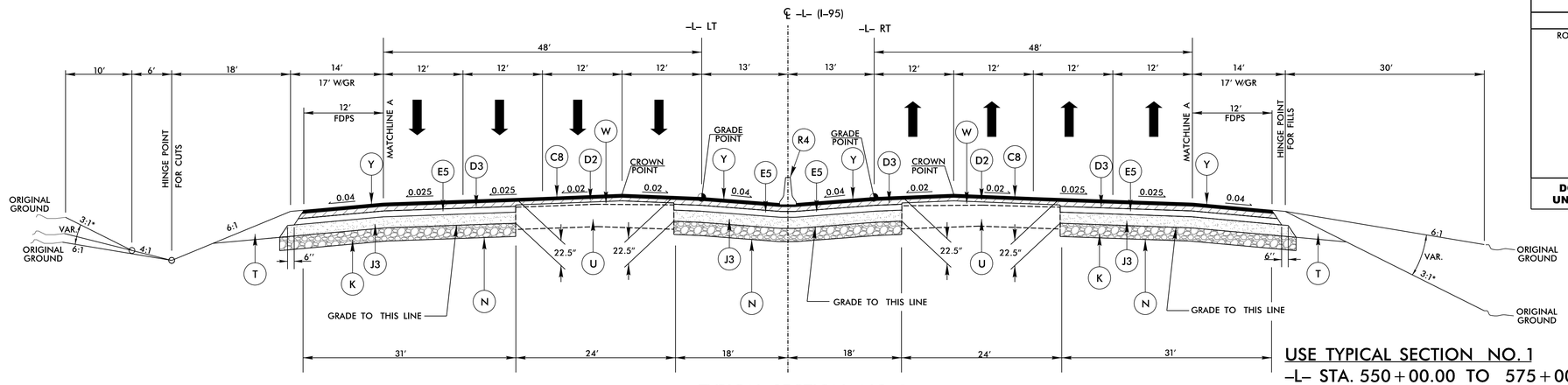
ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION *

8/24/2020
R:\Roadway\Proj\I-5986A_Rdy_tsh_Sec3.dgn
lkitchings

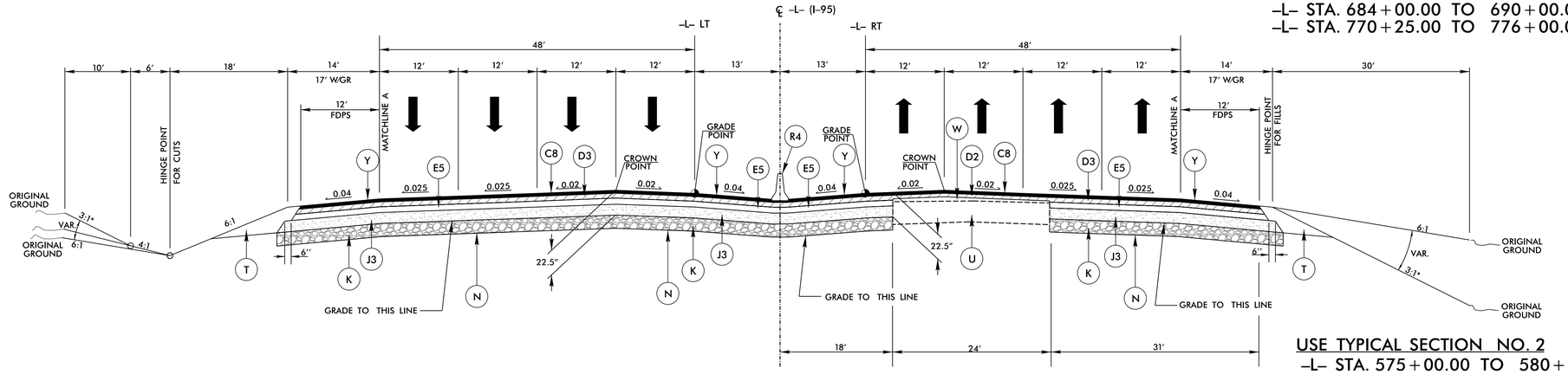
PAVEMENT SCHEDULE	
~~C1~~	1.5" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1.5" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
C7	1.5" TYPE S9.5D
C8	3" TYPE S9.5D
C9	VAR. TYPE S9.5D
C10	2" TYPE S9.5C
D1	2.5" TYPE I19.0C
D2	3" TYPE I19.0C
D3	4" TYPE I19.0C
D4	VAR. TYPE I19.0C
E1	3" TYPE B25.0C
E2	4" TYPE B25.0C
E3	4.5" TYPE B25.0C
E4	5" TYPE B25.0C
E5	5.5" TYPE B25.0C
E6	VAR. TYPE B25.0C
J1	6" ABC
J2	8" ABC
J3	10" ABC
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR SOIL STABILIZATION
P	PRIME COAT
R	9" X 18" CURB
R1	1'-6" C&G
R2	2'-6" C&G
R3	SINGLE FACED CONCRETE BARRIER
R4	TYPE T CONCRETE BARRIER
R5	SBG
R6	5" MONOLITHIC CONCRETE ISLAND
R7	12" JOINTED TRUCK APRON WITH WIRE MESH
R8	12" JOINTED TRUCK APRON
R9	4" ISLAND COVER
S	4" CONC. SIDEWALK
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING
V1	1.5" MILLING
V2	3" MILLING
V3	INCIDENTAL MILLING
Y	MILLED RUMBLE STRIPS



TYPICAL SECTION NO. 1

FOR MATCHLINE A, SEE SHEET 2A–1

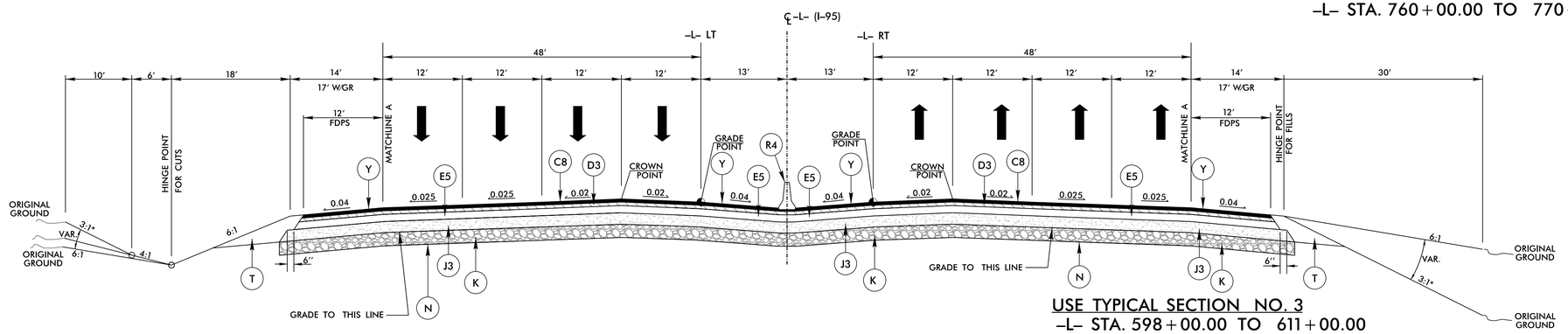
USE TYPICAL SECTION NO. 1
–L– STA. 550+00.00 TO 575+00.00
–L– STA. 580+00.00 TO 598+00.00
–L– STA. 611+00.00 TO 624+00.00
–L– STA. 634+50.00 TO 636+50.00
–L– STA. 651+50.00 TO 656+00.00
–L– STA. 684+00.00 TO 690+00.00
–L– STA. 770+25.00 TO 776+00.00



TYPICAL SECTION NO. 2

FOR MATCHLINE A, SEE SHEET 2A–1

USE TYPICAL SECTION NO. 2
–L– STA. 575+00.00 TO 580+00.00
–L– STA. 631+00.00 TO 634+50.00
–L– STA. 656+00.00 TO 670+00.00
–L– STA. 689+00.00 TO 735+00.00
–L– STA. 742+00.00 TO 751+50.00
–L– STA. 760+00.00 TO 770+25.00



TYPICAL SECTION NO. 3

FOR MATCHLINE A, SEE SHEET 2A–1

USE TYPICAL SECTION NO. 3
–L– STA. 598+00.00 TO 611+00.00
–L– STA. 624+00.00 TO 631+00.00
–L– STA. 636+50.00 TO 651+50.00
–L– STA. 670+00.00 TO 676+92.35 (BEGIN BRIDGE)
–L– STA. 678+94.43 (END BRIDGE) TO 689+00.00
–L– STA. 735+00.00 TO 742+00.00
–L– STA. 751+50.00 TO 760+00.00

NOTES:
SEE PLANS FOR LOCATION OF AUXILIARY LANES, TURN LANES, TAPERS, AND CONCRETE ISLANDS.
*4:1 MAXIMUM SLOPES WITHIN INTERCHANGES.
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

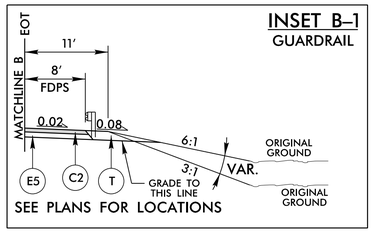
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-2
R/W SHEET NO.	
ROADWAY DESIGN	PAVEMENT ENGINEER

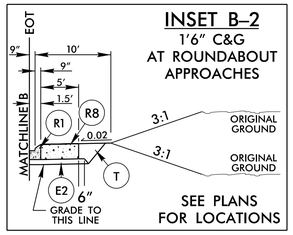
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

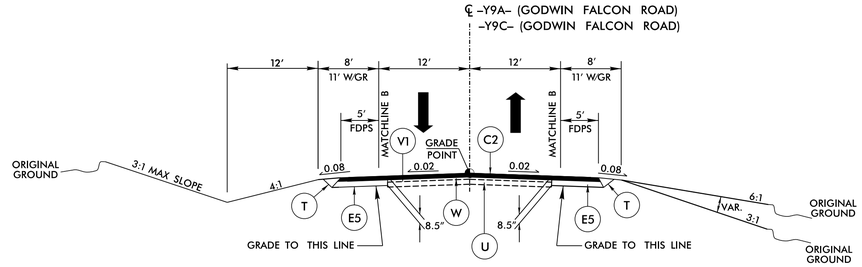
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Projects\I5986A_Rdy_typ_sec3.dgn
User:

PAVEMENT SCHEDULE	
~~B1~~	1.5" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1.5" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
C7	1.5" TYPE S9.5D
C8	3" TYPE S9.5D
C9	VAR. TYPE S9.5D
C10	2" TYPE S9.5C
D1	2.5" TYPE I19.0C
D2	3" TYPE I19.0C
D3	4" TYPE I19.0C
D4	VAR. TYPE I19.0C
E1	3" TYPE B25.0C
E2	4" TYPE B25.0C
E3	4.5" TYPE B25.0C
E4	5" TYPE B25.0C
E5	5.5" TYPE B25.0C
E6	VAR. TYPE B25.0C
J1	6" ABC
J2	8" ABC
J3	10" ABC
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR SOIL STABILIZATION
P	PRIME COAT
R	9" X 18" CURB
R1	1'-6" C&G
R2	2'-6" C&G
R3	SINGLE FACED CONCRETE BARRIER
R4	TYPE T CONCRETE BARRIER
R5	SBG
R6	5" MONOLITHIC CONCRETE ISLAND
R7	12" JOINTED TRUCK APRON WITH WIRE MESH
R8	12" JOINTED TRUCK APRON
R9	4" ISLAND COVER
S	4" CONC. SIDEWALK
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING
V1	1.5" MILLING
V2	3" MILLING
V3	INCIDENTAL MILLING
Y	MILLED RUMBLE STRIPS







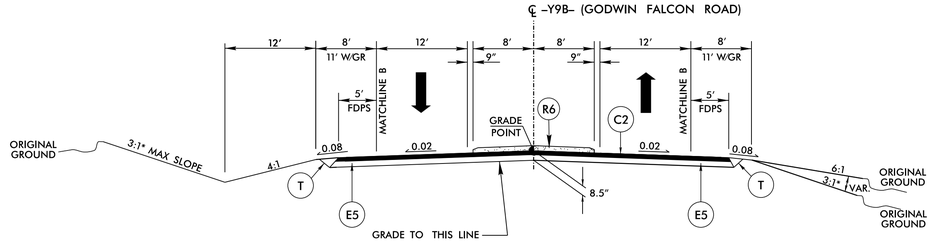
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
–Y9A– STA. 10+00.00 TO STA 14+74.47
–Y9C– STA. 14+80.85 TO STA. 19+45.00

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 4 IN THE FOLLOWING LOCATIONS:
–Y9A– STA. 10+00.00 TO STA. 10+50.00
–Y9C– STA. 18+95.00 TO STA. 19+45.00

TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
–Y9A– STA 14+74.47 TO STA 18+55.93 (BEGIN ROUNDABOUT)
–Y9C– STA. 10+72.28 (END ROUNDABOUT) TO 14+80.82



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6
–Y9B– STA. 10+71.70 (END ROUNDABOUT) TO 13+74.82 (BEGIN BRIDGE)
–Y9B– STA. 15+48.82 (END BRIDGE) TO 19+92.08 (BEGIN ROUNDABOUT)

NOTES:
SEE PLANS FOR LOCATION OF AUXILARY LANES, TURN LANES, TAPERS, AND CONCRETE ISLANDS.
*4:1 MAXIMUM SLOPES WITHIN INTERCHANGES.
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

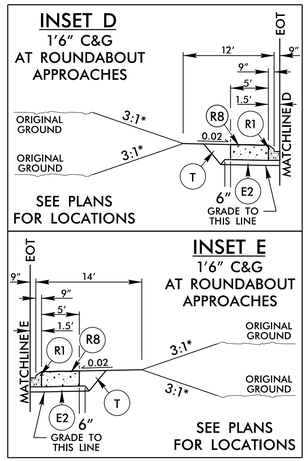
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

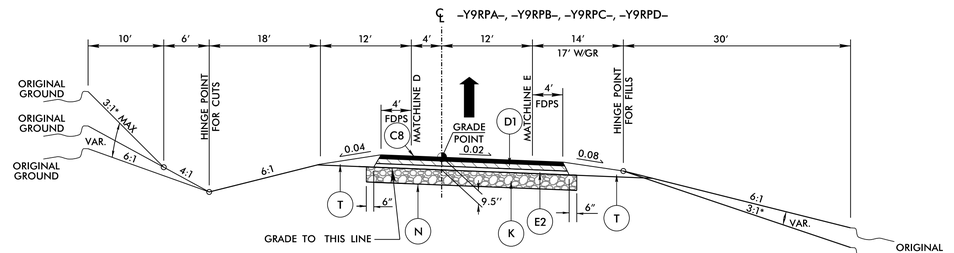
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Projects\I5986A_Rdy_typ_sec3.dgn
dbell

PAVEMENT SCHEDULE	
~~B1~~	1.5" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1.5" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
C7	1.5" TYPE S9.5D
C8	3" TYPE S9.5D
C9	VAR. TYPE S9.5D
C10	2" TYPE S9.5C
D1	2.5" TYPE I19.0C
D2	3" TYPE I19.0C
D3	4" TYPE I19.0C
D4	VAR. TYPE I19.0C
E1	3" TYPE B25.0C
E2	4" TYPE B25.0C
E3	4.5" TYPE B25.0C
E4	5" TYPE B25.0C
E5	5.5" TYPE B25.0C
E6	VAR. TYPE B25.0C
J1	6" ABC
J2	8" ABC
J3	10" ABC
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR SOIL STABILIZATION
P	PRIME COAT
R	9" X 18" CURB
R1	1'-6" C&G
R2	2'-6" C&G
R3	SINGLE FACED CONCRETE BARRIER
R4	TYPE T CONCRETE BARRIER
R5	SBG
R6	5" MONOLITHIC CONCRETE ISLAND
R7	12" JOINTED TRUCK APRON WITH WIRE MESH
R8	12" JOINTED TRUCK APRON
R9	4" ISLAND COVER
S	4" CONC. SIDEWALK
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING
V1	1.5" MILLING
V2	3" MILLING
V3	INCIDENTAL MILLING
Y	MILLED RUMBLE STRIPS





TYPICAL SECTION NO. 7

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

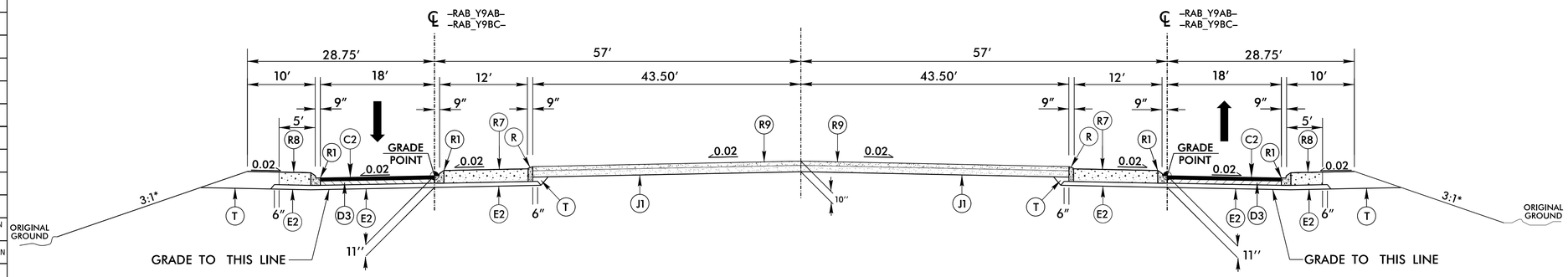
USE TYPICAL SECTION NO. 7

–Y9RPA– STA 10+00.00 TO STA. 25+33.96
–Y9RPC– STA 10+00.00 TO STA. 26+84.94

USE REVERSE TYPICAL AND LANE ARROW

–Y9RPB– STA 10+00.00 TO STA. 23+51.82
–Y9RPD– STA 10+00.00 TO STA. 25+38.67

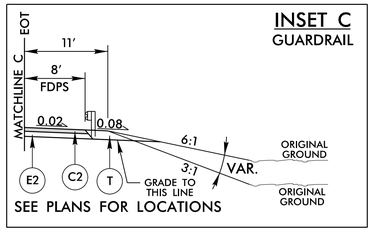
NOTE: USE –L– PAVEMENT DESIGN IN THE FOLLOWING LOCATIONS:
–Y9RPA– STA. 10+00.00 TO STA. 13+82.21
–Y9RPB– STA. 10+00.00 TO STA. 14+70.53
–Y9RPC– STA. 10+00.00 TO STA. 14+20.46
–Y9RPD– STA. 10+00.00 TO STA. 14+70.53

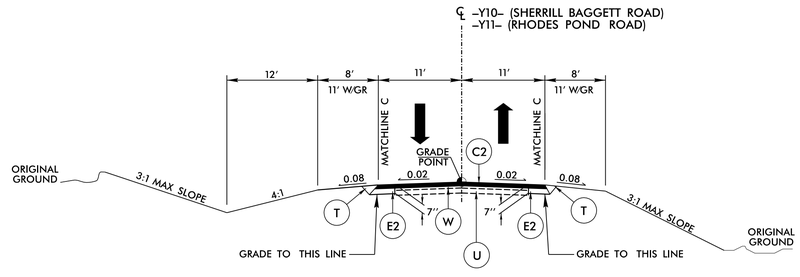


TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8

–RAB_Y9AB– STA 10+00.00 TO STA 13+58.14
–RAB_Y9BC– STA 10+00.00 TO STA 13+58.14





TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9

–Y10– STA 12+10.00 TO STA 13+75.00
–Y10– STA 32+25.00 TO STA. 34+25.00

–Y11– STA 12+50.00 TO STA 13+50.00
–Y11– STA 33+75.00 TO STA 35+50.00

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 9 IN THE FOLLOWING LOCATIONS:
–Y10– STA. 12+10.00 TO STA. 12+60.00
–Y10– STA. 33+75.00 TO STA. 34+25.00
–Y11– STA. 12+00.00 TO STA. 12+50.00
–Y11– STA. 35+50.00 TO STA. 36+00.00

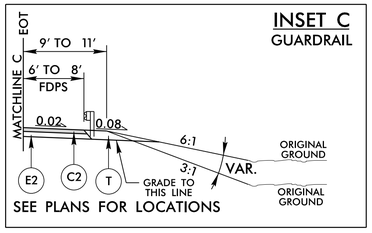
NOTES:
SEE PLANS FOR LOCATION OF AUXILIARY LANES, TURN LANES, TAPERS, AND CONCRETE ISLANDS.
*4:1 MAXIMUM SLOPES WITHIN INTERCHANGES.
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT ENGINEER

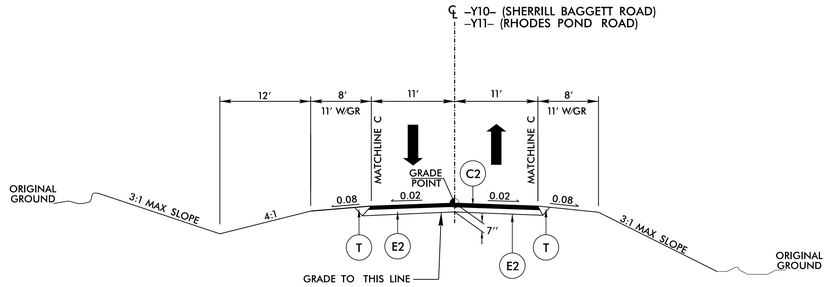
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT SCHEDULE	
~~B1~~	1.5" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. TYPE S9.5B
C4	1.5" TYPE S9.5C
C5	3" TYPE S9.5C
C6	VAR. TYPE S9.5C
C7	1.5" TYPE S9.5D
C8	3" TYPE S9.5D
C9	VAR. TYPE S9.5D
C10	2" TYPE S9.5C
D1	2.5" TYPE I19.0C
D2	3" TYPE I19.0C
D3	4" TYPE I19.0C
D4	VAR. TYPE I19.0C
E1	3" TYPE B25.0C
E2	4" TYPE B25.0C
E3	4.5" TYPE B25.0C
E4	5" TYPE B25.0C
E5	5.5" TYPE B25.0C
E6	VAR. TYPE B25.0C
J1	6" ABC
J2	8" ABC
J3	10" ABC
K	12" TYPE 1 AGGREGATE SUBGRADE
N	GEOTEXTILE FOR SOIL STABILIZATION
P	PRIME COAT
R	9" X 18" CURB
R1	1'-6" C&G
R2	2'-6" C&G
R3	SINGLE FACED CONCRETE BARRIER
R4	TYPE T CONCRETE BARRIER
R5	SBG
R6	5" MONOLITHIC CONCRETE ISLAND
R7	12" JOINTED TRUCK APRON WITH WIRE MESH
R8	12" JOINTED TRUCK APRON
R9	4" ISLAND COVER
S	4" CONC. SIDEWALK
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING
V1	1.5" MILLING
V2	3" MILLING
V3	INCIDENTAL MILLING
Y	MILLED RUMBLE STRIPS



INSET C
GUARDRAIL

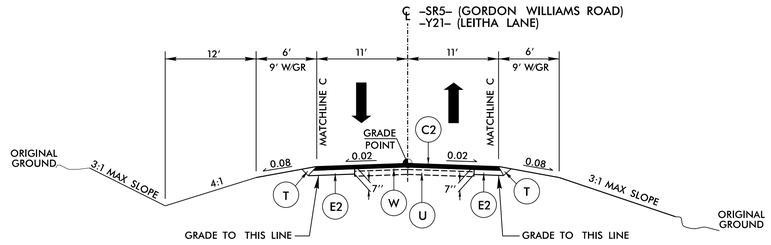
SEE PLANS FOR LOCATIONS



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10
–Y10– STA 13+75.00 TO STA 20+89.43 (BEGIN BRIDGE)
–Y10– STA 22+83.52 (END BRIDGE) TO STA 32+25.00

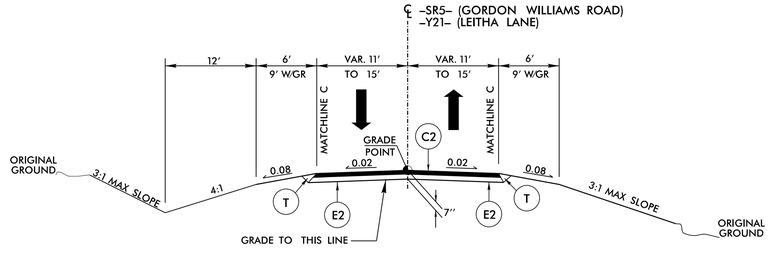
–Y11– STA 13+50.00 TO STA 24+07.66 (BEGIN BRIDGE)
–Y11– STA 25+75.66 (END BRIDGE) TO STA 33+75.00



TYPICAL SECTION NO. 11

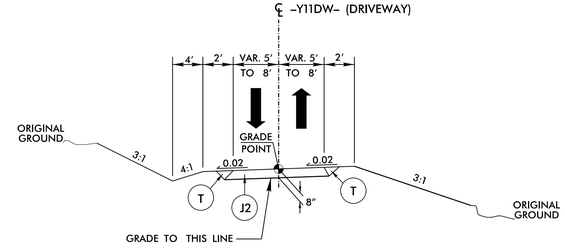
USE TYPICAL SECTION NO. 11
–Y21– STA 13+55.00 TO STA 18+75.00
–SR5– STA 14+50.00 TO STA 20+88.68

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 11 IN THE FOLLOWING LOCATIONS:
–Y21– STA 13+55.00 TO STA 14+05.00
–SR5– STA 14+00.00 TO STA 14+50.00



TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12
–Y21– STA 18+75.00 TO STA 38+24.80
–SR5– STA 20+88.68 TO STA 45+55.18



TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13
–Y11DW– STA 10+11.00.00 TO STA 15+50.00

NOTES:
SEE PLANS FOR LOCATION OF AUXILARY LANES, TURN LANES, TAPERS, AND CONCRETE ISLANDS.
*4:1 MAXIMUM SLOPES WITHIN INTERCHANGES.
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

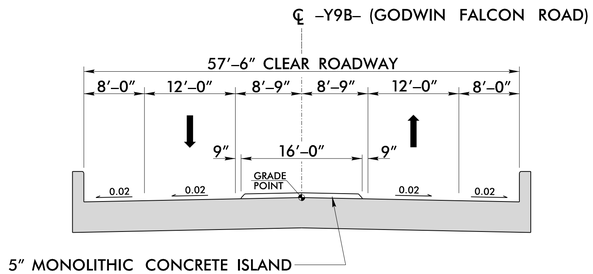
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

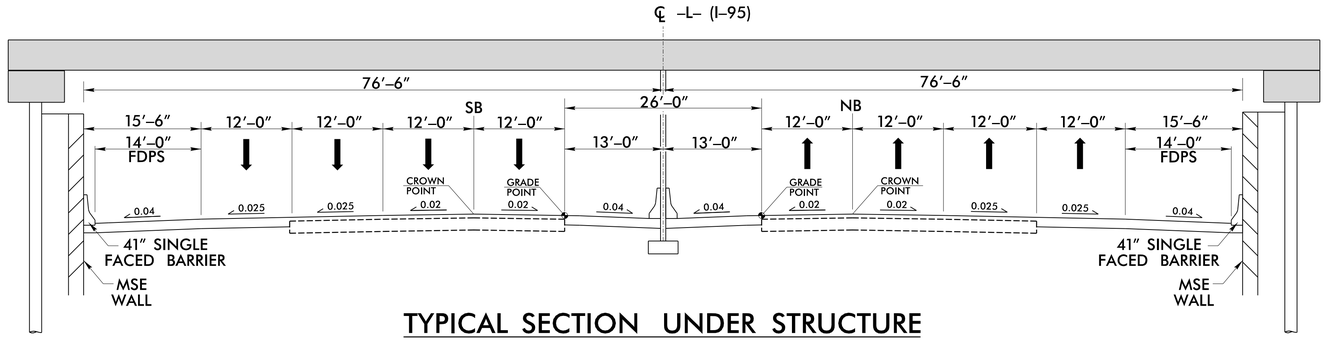
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SITE 6

BRIDGE AT –Y9B– STATION 14+61.82 OVER –L– STATION 591+70.22



STRUCTURE TYPICAL SECTION

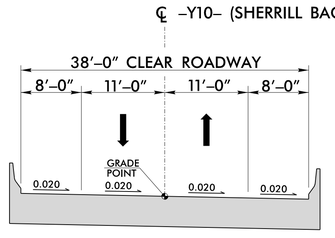


TYPICAL SECTION UNDER STRUCTURE

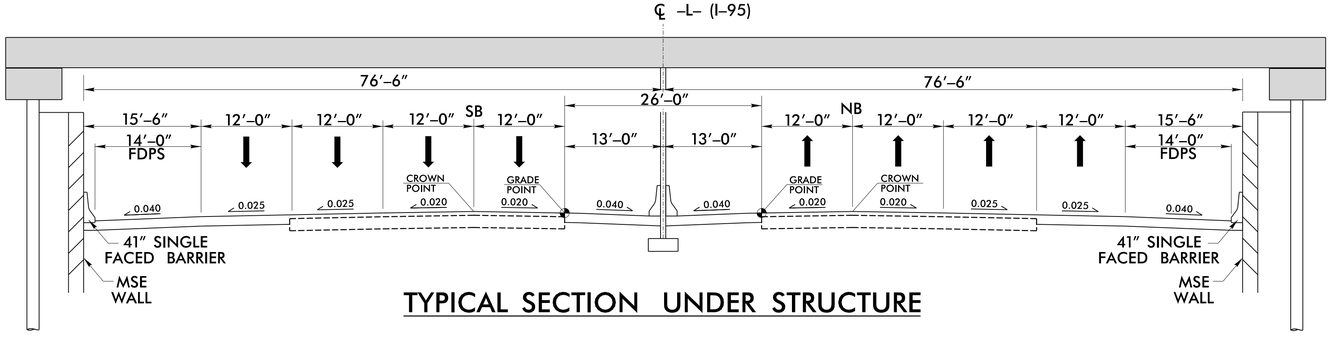
NOTES:
1. SEE SHEET 48 FOR PLAN VIEW.
2. SEE SHEET 187 FOR PROFILE VIEW.

SITE 7

BRIDGE AT –Y10– STATION 21+86.48 OVER –L– STATION 652+36.45



TYPICAL ON STRUCTURE



TYPICAL SECTION UNDER STRUCTURE

NOTES:
1. SEE SHEET 52 FOR PLAN VIEW.
2. SEE SHEET 193 FOR PROFILE VIEW.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sec3.dgn
Default

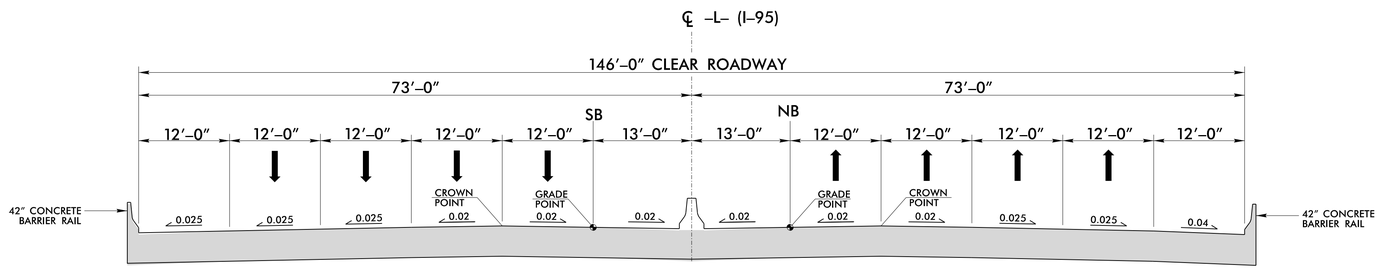
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2A-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SITE 8

BRIDGE ON –L– STATION 677+93.39 OVER BLACK RIVER

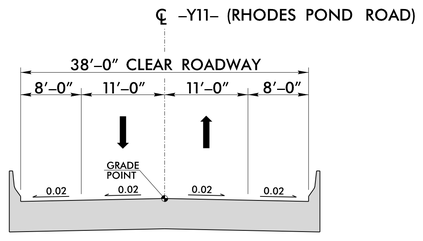


TYPICAL ON STRUCTURE

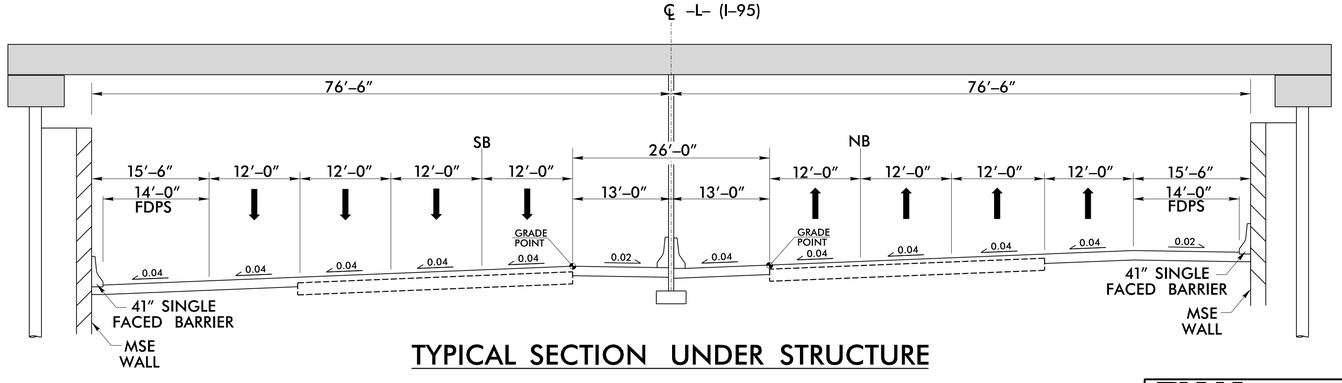
NOTES:
1. SEE SHEET 54 FOR PLAN VIEW.
2. SEE SHEET 136 FOR PROFILE VIEW.

SITE 9

BRIDGE AT –Y11– STATION 24+91.66 OVER –L– STATION 710+35.83



TYPICAL ON STRUCTURE



TYPICAL SECTION UNDER STRUCTURE

NOTES:
1. SEE SHEET 57 FOR PLAN VIEW.
2. SEE SHEET 194 FOR PROFILE VIEW.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\I5986A_Rdy_typ_sec3.dgn
ptarr

8/17/99

ON–SITE DETOUR: –SR5_DET1–

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

PDE PDE PDE PDE PDE PDE PDE

PUE PUE PUE

8/17/99

ON–SITE DETOUR: –SR5_DET2–

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

PDE PDE PDE PDE PDE PDE PDE

PUE PUE PUE

8/17/99

CROSS–OVER –L_DET1–

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MCINTYRE JR, DONALD M
DB 8486 PG 385
BK DB 298 PG 255

MCINTYRE JR, DONALD M
DB 8486 PG 383
BK DB 298 PG 255

MCINTYRE JR, DONALD M
DB 8486 PG 383
BK DB 298 PG 255

NAD 83/NA 2011
N 68°29'08" W
235.17'

BEGIN GRADE
-L_DET1- POC STA. 20+79.65=
-L- STA. 624+53.03 (113.0' LT)

BEGIN CONSTRUCTION
-L_DET1- POC STA. 19+37.20=
-L- STA. 623+10.19 (113.0' LT)

TEMP. CONC. BARRIER

TEMP. CONC. BARRIER

-L_DET1- PRC Sta. 20+35.02

-L_DET1- PC Sta. 10+00.00=
-L- POT Sta. 613+74.62 (58' LT)

10+00

15+00

20+00

615+00

620+00

-L-

-L_DET1-

WOODS

EXISTING R/W

CONC PAVED DITCH

I-95 SBL 37' BST

I-95 NBL 37' BST

36" RCP

FES

BM #512

N 45° 26' E

+79.94'

30' (TYP.)

4" P.S.

-L_DET1-

PI Sta 15+17.79	PI Sta 25+52.81
△ = 4° 35' 49.5" (RT)	△ = 4° 35' 49.5" (LT)
D = 0° 26' 39.0"	D = 0° 26' 39.0"
L = 1,035.02'	L = 1,035.02'
T = 517.79'	T = 517.79'
R = 12,900.00'	R = 12,900.00'
SE = NC	SE = NC
DS = 65 MPH	DS = 65 MPH

TEMPORARY WEDGING

MATCHLINE -L_DET1- STA. 22+00.00
SEE SHEET 2B-9

MATCHLINE -L_DET1- STA. 22+00.00
SEE SHEET 2B-9

BEGIN GRADE
-L_DET1- POC STA. 20+79.65=
-L- STA. 624+53.03 (113.0' LT)
EL = 152.01'

PI = 21+90.00
EL = 152.38'
VC = 170'
K = 250
V = 70 MPH

(+)0.3408% (−)0.3395%

EXISTING GROUND

PROPOSED GRADE

180 170 160 150 140 130 120 110 100

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00

RK&K
P: (919) 878-9560
900 Ridgefield Drive Suite 350 | Raleigh, North Carolina 27609-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_rdy_psh02B-8.dgn
abeller

8/17/99

CROSS-OVER -L_DET1-

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L_DET1- STA. 22+00.00
SEE SHEET 2B-8

-L_DET1-
PI Sta 25+52.81
△ = 4° 35' 49.5" (LT)
D = 0° 26' 39.0"
L = 1,035.02'
T = 517.79'
R = 12,900.00'
SE = NC
DS = 65 MPH

TEMPORARY WEDGING

TEMP. CONC. BARRIER

TEMP. CONC. BARRIER

END GRADE
-L_DET1- POC STA. 25+13.59=
-L- STA. 628+86.16 (13.0' RT)

END CONSTRUCTION
-L_DET1- POC STA. 25+13.59
-L- STA. 632+81.90 (13.0' RT)

BAGGETT JR, LAWRENCE F & WIFE DEBRA B
DB 8908 PG 41

PT Sta. 30+70.05=
POT Sta. 634+42.45 (25' LT)

ARVIEUX, KATHRYN POPE & HUSBAND LOUIS C
DB 8908 PG 41

MCLEAN, MARY
DB 2461 PG 753

FOUR OAKS INVESTMENT LLC
DB 9395 PG 438

GREU TL-3

I-95 SBL 37' BST

DIVERTER RD 18' BST

SR 1807 BEND OF 41' BST RIVER RD

SR 1807 MIL GATE

48" WW W/ISBW

WOODS

MATCHLINE -L_DET1- STA. 22+00.00
SEE SHEET 2B-8

PI = 21+90.00
EL = 152.38'
VC = 170'
K = 250
V = 70 MPH

PI = 23+30.00
EL = 151.91'
VC = 100'
K = 184
V = 70 MPH

PI = 24+35.00
EL = 152.12'
VC = 100'
K = 198
V = 65 MPH

END GRADE
-L_DET1- POC STA. 25+13.59=
-L- STA. 628+86.16 (13.0' RT)
EL = 151.89'

(−)0.3395%

(+)0.2041%

(−)0.3000%

EXISTING GROUND

PROPOSED GRADE

180 170 160 150 140 130 120 110 100

22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00

RK&K
P: (919) 878-9560
900 Ridgefield Drive Suite 350 | Raleigh, North Carolina 27609-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_rdy_psh02B-9.dgn
ahelfer

8/17/99

CROSS-OVER -L_DET2-

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

H & J FARMS INC
DB 2662 PG 503

NAD 83/NA 2011

H & J FARMS INC
DB 2662 PG 503

N 50°49'51" W 2675.2'

0.07' R/W-EIP

EIP

WOODS

BM #518

BL 230

FES

95' BST

35' BST

3' BST

10' BST

42" RCP

24" RCP

DI

CONC PAVED DITCH

48" WW W/ISBW

APPROX 48" WW W/ISBW

CONC HW

I-95 SBL 37' BST

I-95 NBL 37' BST

BROKEN

08° 46.4' E

S 03° 33.0' E

MIL 765+00

10+00.00

15+00

20+00

+14.10

30' (TYP)

89.30

4' P.S.

22'

20'

.025

.02

.01

.00

TEMP. CONC. BARRIER

-L_DET2-

BEGIN CONSTRUCTION
-L_DET2- POC STA.11+60.69=
-L- STA.756+46.81 (13.0' RT)

-L_DET2- PC STA.10+00.00=
-L- STA.754+86.26 (25.0' RT)

BEGIN GRADE
-L_DET2- POC STA.15+56.24=
-L- STA.760+42.33 (13.0' RT)

END GRADE
-L_DET2- PT STA.19+88.89=
-L- STA.764+74.17 (13.0' LT)

-L_DET2- PRC STA.20+33.45

END CONSTRUCTION
-L_DET2- PT STA.21+30.95=
-L- STA.766+16.61 (13.0' LT)

TEMPORARY WEDGING

-L_DET2-	
PI Sta 15+17.00	PI Sta 25+49.67
△ = 4° 35' 24.3" (LT)	△ = 4° 34' 59.5" (RT)
D = 0° 26' 39.0"	D = 0° 26' 39.0"
L = 1,033.45'	L = 1,031.89'
T = 517.00'	T = 516.22'
R = 12,900.00'	R = 12,900.00'
SE = NC	SE = NC
DS = 65 MPH	DS = 65 MPH

MATCHLINE -L_DET2- STA. 23+00.00
SEE SHEET 2B-11

180
170
160
150
140
130
120
110
100

BEGIN GRADE
-L_DET2- POC STA.15+56.24=
-L- STA.760+42.33 (13.0' RT)
EL = 150.31'

PI = 16+10.00
EL = 149.95'
VC = 100'
K = 264
V > 80 MPH

(-)0.6800%

PROPOSED GRADE

(-)0.3012%

PI = 19+35.00
EL = 148.97'
VC = 100'
K = 1012
V > 80 MPH

(-)0.4000%

END GRADE
-L_DET2- PT STA.19+88.89=
-L- STA.764+74.17 (13.0' LT)
EL = 148.75'

EXISTING GROUND

MATCHLINE -L_DET2- STA. 23+00.00
SEE SHEET 2B-11

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00

RK&K
P: (919) 878-9560
900 Ridgefield Drive Suite 350 | Raleigh, North Carolina 27609-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_rdy_psh02B-10.dgn
phelfer

8/17/99

CROSS-OVER -L_DET2-

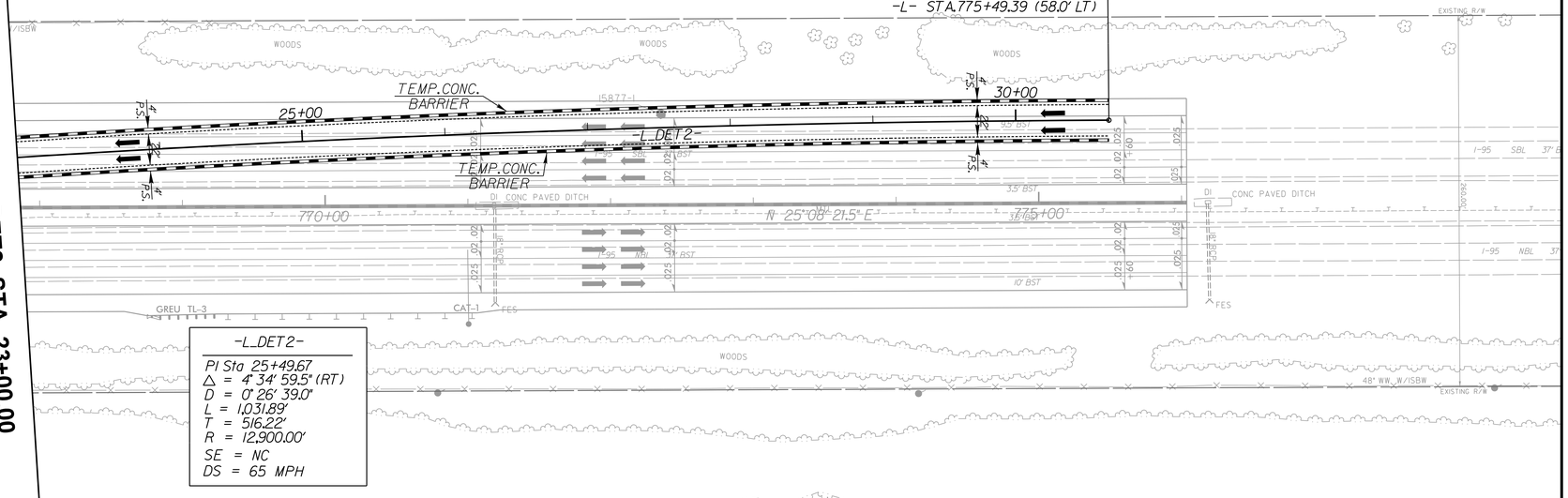
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

H & J FARMS INC
DB 2662 PG 503

NAD 83/NA 2011

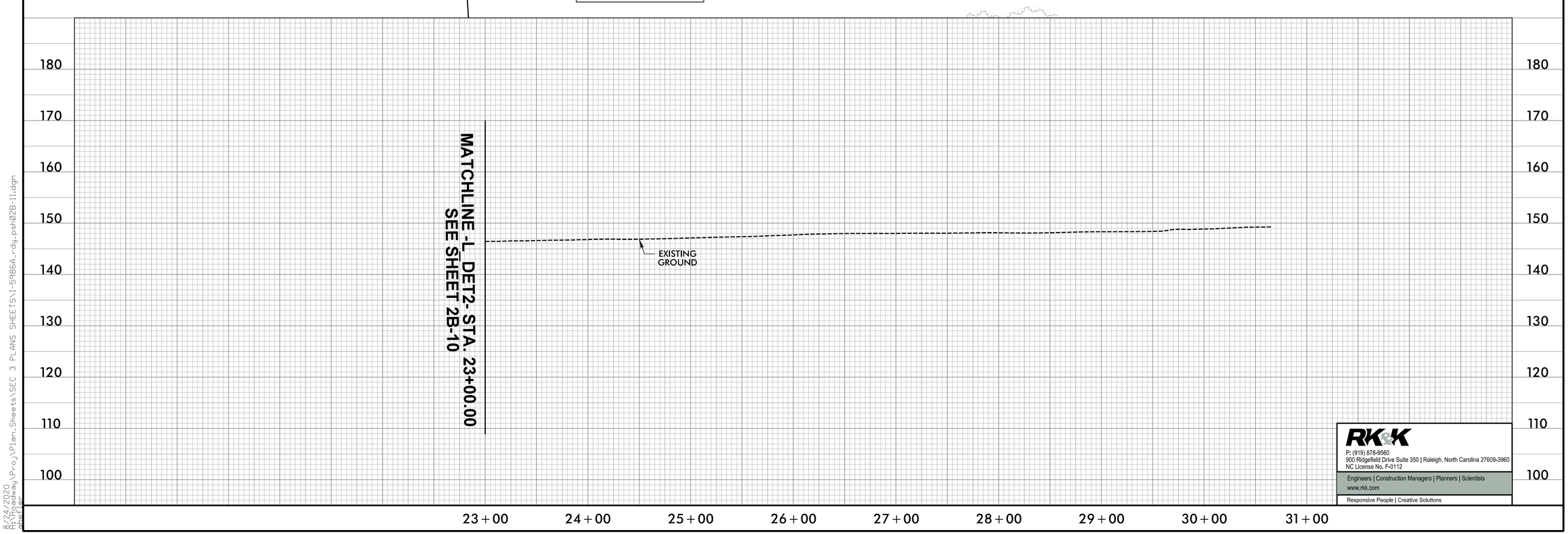
-L_DET2- PT STA.30+65.34=
-L- STA.775+49.39 (58.0' LT)



-L_DET2-

PI Sta 25+49.67
△ = 4° 34' 59.5" (RT)
D = 0° 26' 39.0"
L = 1,031.89'
T = 516.22'
R = 12,900.00'
SE = NC
DS = 65 MPH

MATCHLINE -L_DET2- STA. 23+00.00
SEE SHEET 2B-10



MATCHLINE -L_DET2- STA. 23+00.00
SEE SHEET 2B-10

RK&K
P: (919) 878-9560
900 Ridgefield Drive Suite 350 | Raleigh, North Carolina 27609-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_rdy_psh02B-11.dgn
sheiler

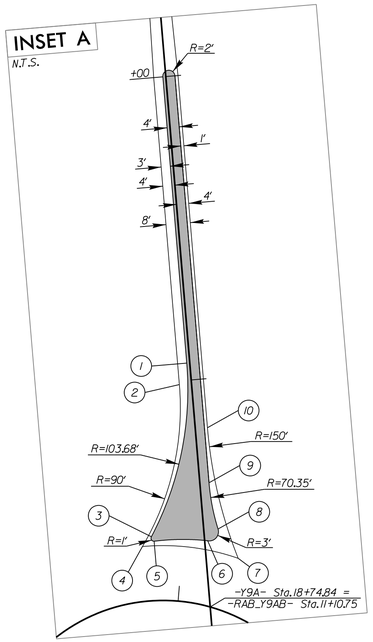
8/17/99

ROUNDABOUT LAYOUT

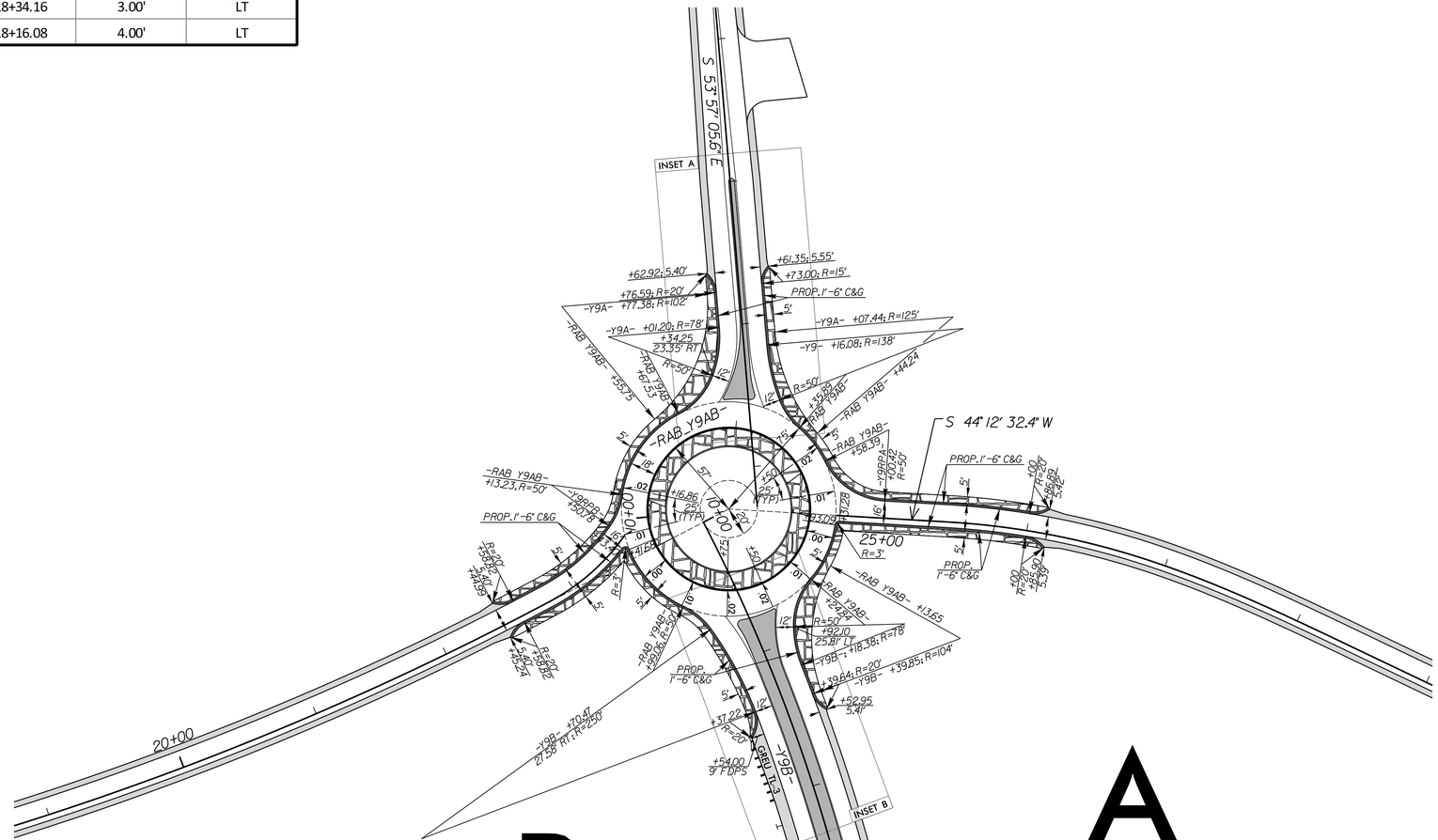
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

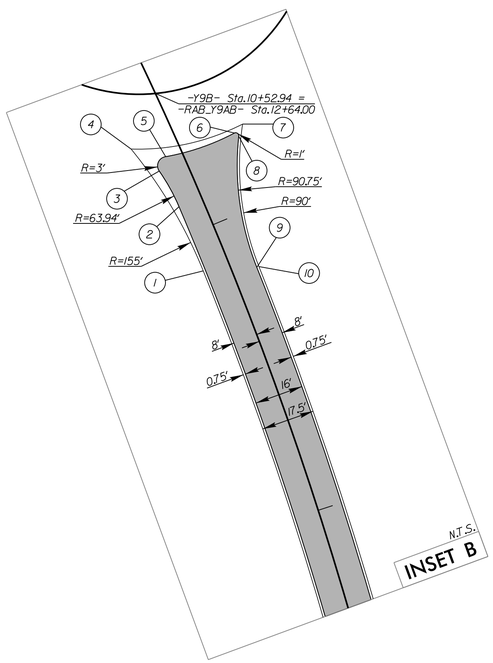
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011



POINT NUMBER	ALIGNMENT	STATION	OFFSET	LOCATION
1	-Y9A-	17+94.36	1.00'	RT
2	-Y9A-	18+01.20	4.00'	RT
3	-Y9A-	18+50.25	17.35'	RT
4	-RAB_Y9AB-	10+89.89	18.00'	LT
5	-RAB_Y9AB-	10+92.88	19.50'	LT
6	-RAB_Y9AB-	11+05.83	21.00'	LT
7	-RAB_Y9AB-	11+14.17	18.00'	LT
8	-Y9A-	18+49.54	4.70'	LT
9	-Y9A-	18+34.16	3.00'	LT
10	-Y9A-	18+16.08	4.00'	LT





POINT NUMBER	ALIGNMENT	STATION	OFFSET	LOCATION
1	-Y9B-	11+12.89	8.75'	RT
2	-Y9B-	10+90.19	8.00'	RT
3	-Y9B-	10+76.76	9.33'	RT
4	-RAB_Y9AB-	12+76.02	18.00'	LT
5	-RAB_Y9AB-	12+67.63	21.00'	LT
6	-RAB_Y9AB-	12+49.97	19.50'	LT
7	-RAB_Y9AB-	12+47.20	18.00'	LT
8	-Y9B-	10+76.77	19.18'	LT
9	-Y9B-	11+18.38	8.00'	LT
10	-Y9B-	11+18.38	8.75'	LT

MONOLITHIC ISLAND

CONCRETE APRON COVER

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112

Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh2B-12_roundabout.dgn
abeller

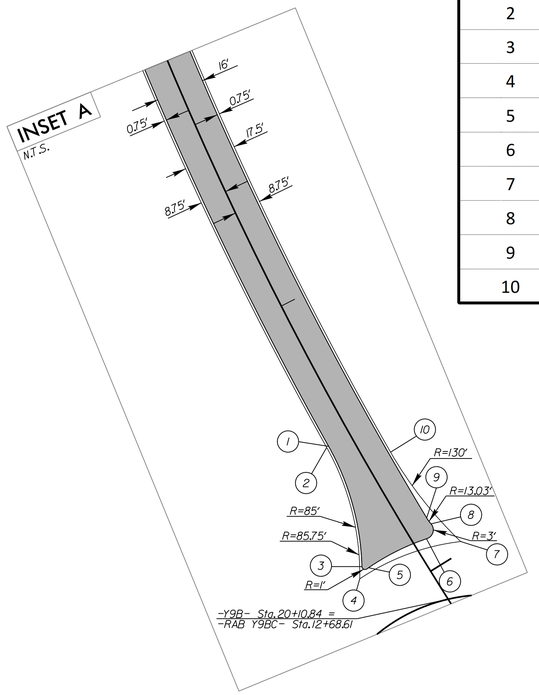
8/17/99

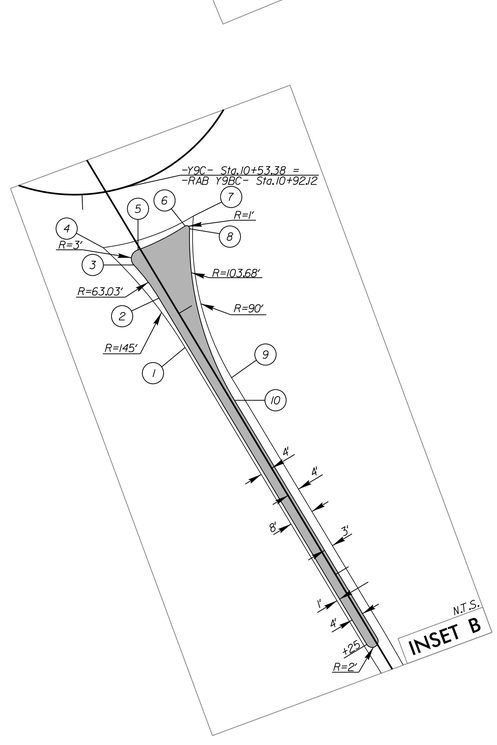
ROUNDABOUT LAYOUT

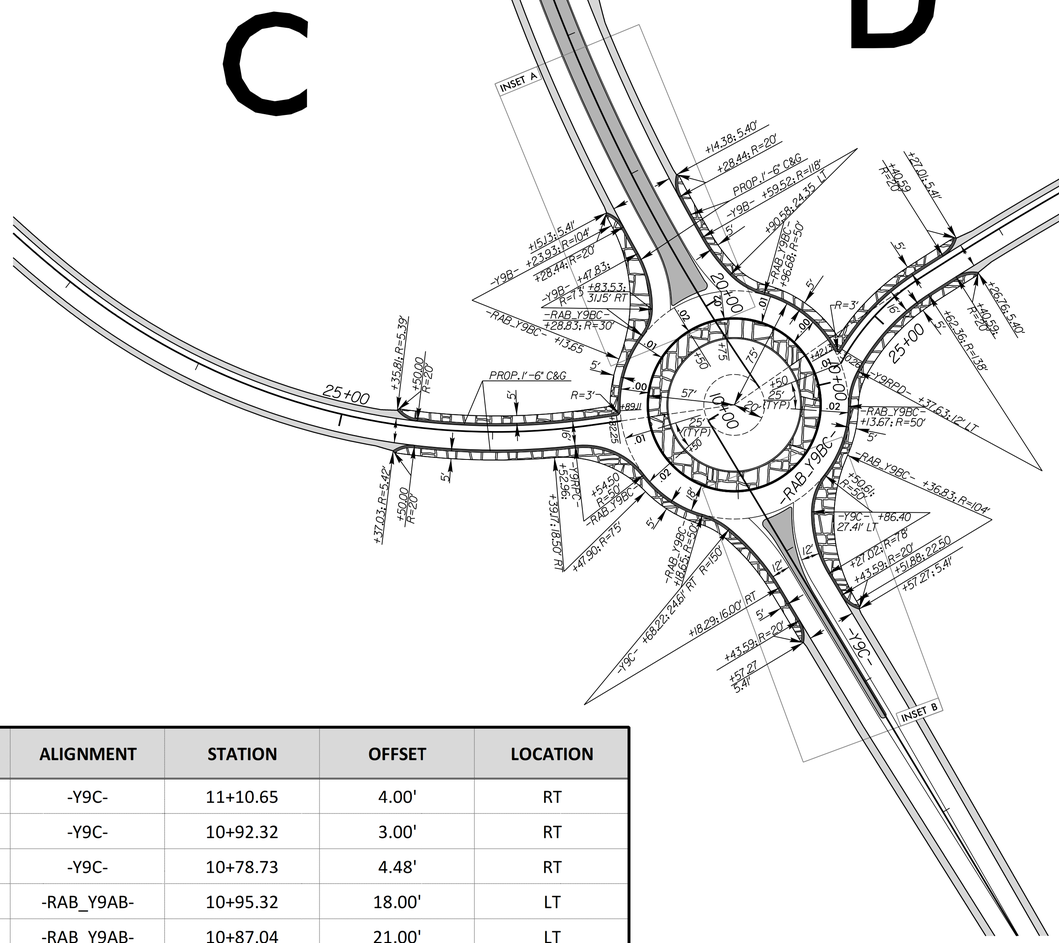
PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2B-12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

POINT NUMBER	ALIGNMENT	STATION	OFFSET	LOCATION
1	-Y9B-	19+47.83	8.00'	RT
2	-Y9B-	19+47.83	8.75'	RT
3	-Y9B-	19+87.01	18.43'	RT
4	-RAB_Y9BC-	12+47.79	18.00'	LT
5	-RAB_Y9BC-	12+50.52	19.50'	LT
6	-RAB_Y9BC-	12+66.81	21.00'	LT
7	-RAB_Y9BC-	12+74.91	18.00'	LT
8	-Y9B-	19+86.73	8.22'	LT
9	-Y9B-	19+84.33	8.00'	LT
10	-Y9B-	19+59.52	8.75'	LT







POINT NUMBER	ALIGNMENT	STATION	OFFSET	LOCATION
1	-Y9C-	11+10.65	4.00'	RT
2	-Y9C-	10+92.32	3.00'	RT
3	-Y9C-	10+78.73	4.48'	RT
4	-RAB_Y9AB-	10+95.32	18.00'	LT
5	-RAB_Y9AB-	10+87.04	21.00'	LT
6	-RAB_Y9AB-	10+74.25	19.50'	LT
7	-RAB_Y9AB-	10+71.26	18.00'	LT
8	-Y9C-	10+77.96	17.35'	LT
9	-Y9C-	11+27.02	4.00'	LT
10	-Y9B-	11+33.85	1.00'	LT

NAD 83/NA 2011

MONOLITHIC ISLAND

CONCRETE APRON COVER

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112

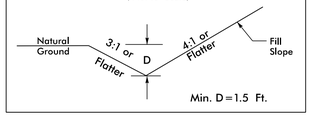
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh2B-13_roundabout.dgn
shelfer

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

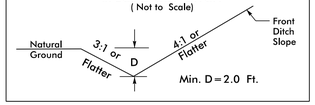
DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D=1.5 Ft.

–L– STA. 626+93 TO STA. 629+50 LT
–L– STA. 627+50 TO STA. 629+00 RT
–L– STA. 735+00 TO STA. 735+85 LT
–L– STA. 740+00 TO STA. 742+50 LT
–L– STA. 761+00 TO STA. 761+35 LT

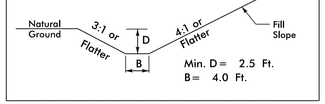
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



Min. D=2.0 Ft.

–L– STA. 582+00 TO STA. 585+00 LT
–L– STA. 595+00 TO STA. 599+50 LT
–L– STA. 599+00 TO STA. 600+00 RT
–L– STA. 609+50 TO STA. 610+50 LT
–L– STA. 620+00 TO STA. 620+50 LT
–L– STA. 629+50 TO STA. 635+00 LT
–L– STA. 629+00 TO STA. 637+00 RT
–L– STA. 647+00 TO STA. 649+00 LT
–L– STA. 646+00 TO STA. 650+50 RT
–L– STA. 653+00 TO STA. 659+00 RT
–L– STA. 696+00 TO STA. 709+00 LT
–L– STA. 711+50 TO STA. 715+00 RT
–L– STA. 711+50 TO STA. 735+00 LT
–L– STA. 725+50 TO STA. 726+50 RT
–L– STA. 731+50 TO STA. 732+50 RT
–L– STA. 742+50 TO STA. 753+00 LT
–L– STA. 758+50 TO STA. 759+00 LT
–L– STA. 760+00 TO STA. 761+00 LT
–SR5– STA. 14+00 TO STA. 17+96 RT
–SR5– STA. 20+92 TO STA. 22+92 RT
–SR5– STA. 33+47 TO STA. 37+00 RT
–SR5– STA. 37+50 TO STA 41+50 LT
–Y9A– STA. 10+00 TO STA. 16+50 RT
–Y9A– STA. 10+00 TO STA. 16+00 LT
–Y9C– STA. 13+50 TO STA. 15+50 LT
–Y9C– STA. 13+00 TO STA. 15+50 RT
–Y9RPA– STA. 15+70 TO STA. 19+00 LT
–Y9RPA– STA. 14+73 TO STA. 18+50 RT
–Y9RPD– STA. 16+86 TO STA. 20+00 LT
–Y10– STA. 12+50 TO STA. 13+00 RT
–Y10– STA. 31+00 TO STA. 34+00 LT
–Y10– STA. 32+00 TO STA. 34+00 RT
–Y11– STA. 12+00 TO STA. 13+30 LT
–Y11– STA. 12+00 TO STA. 13+90 RT
–Y11– STA. 13+60 TO STA. 15+00 LT
–Y11– STA. 32+50 TO STA. 36+00 LT
–Y11DW– STA. 12+50 TO STA. 15+50 LT
–Y11DW– STA. 11+50 TO STA. 15+50 RT
–Y21– STA. 14+00 TO STA. 19+78 LT
Y21– STA. 14+50 TO STA. 16+82 RT

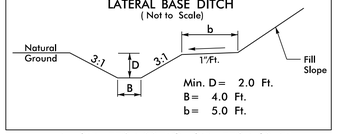
DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D= 2.5 Ft.
B= 4.0 Ft.

–L– STA. 541+75 TO STA. 550+50 LT
–L– STA. 620+50 TO STA. 622+47 LT
–L– STA. 756+50 TO STA. 758+50 LT
–Y9A– STA. 16+50 TO STA. 18+90 LT (3:1 FILL SLOPE)
–Y9C– STA. 13+50 TO STA. 15+50 LTT
–Y10– STA. 15+00 TO STA. 16+00 RT

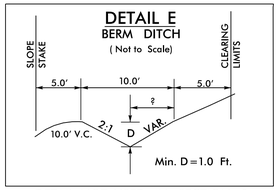
DETAIL D
LATERAL BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
B= 4.0 Ft.
b= 5.0 Ft.

–L– STA. 573+00 TO STA. 573+60 LT
–L– STA. 639+50 TO STA. 640+35 RT
–L– STA. 642+70 TO STA. 646+00 RT
–L– STA. 656+00 TO STA. 660+10 LT
–L– STA. 666+00 TO STA. 667+00 LT
–L– STA. 694+80 TO STA. 696+50 RT
–L– STA. 699+50 TO STA. 704+40 RT
–L– STA. 732+50 TO STA. 742+00 RT
–L– STA. 748+00 TO STA. 756+40 RT
–L– STA. 753+00 TO STA. 756+40 LT
–L– STA. 764+00 TO STA. 776+50 LT
–SR5– STA. 17+96 TO STA. 19+55 RT
–SR5– STA. 19+65 TO STA. 20+92 RT
–Y9A– STA. 16+50 TO STA. 18+90 RT
–Y9C– STA. 11+40 TO STA. 13+00 RT
–Y9RPB– STA. 20+50 TO STA. 23+50 LT
–Y10– STA. 24+00 TO STA. 28+75 RT
–Y11– STA. 14+20 TO STA. 19+00 RT
–Y11– STA. 15+00 TO STA. 21+50 LT
–Y21– STA. 19+78 TO STA. 24+50 LT
–Y21– STA. 25+00 TO STA. 34+00 LT

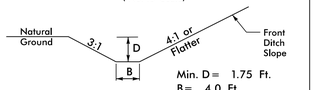
DETAIL E
BERM DITCH
(Not to Scale)



Min. D=1.0 Ft.

DETAIL NOT USED IN SECTION 3

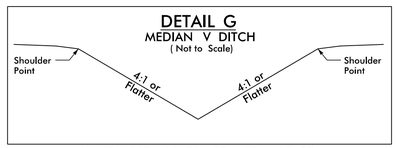
DETAIL F
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D= 1.75 Ft.
B= 4.0 Ft.

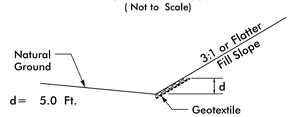
–L– STA. 550+50 TO STA. 573+00 LT
–L– STA. 585+00 TO STA. 590+15 LT
–L– STA. 585+00 TO STA. 590+50 RT
–L– STA. 594+50 TO STA. 599+00 RT
–L– STA. 637+50 TO STA. 639+50 RT
–L– STA. 654+50 TO STA. 656+00 LT
–L– STA. 659+00 TO STA. 660+10 RT
–L– STA. 660+10 TO STA. 666+00 LT
–L– STA. 696+50 TO STA. 699+50 RT
–L– STA. 742+00 TO STA. 748+00 RT
–Y9B– STA. 11+00 TO STA. 13+50 LT
–Y9B– STA. 16+00 TO STA. 19+50 LT
–Y9RPD– STA. 10+23 TO STA. 16+86 LT
–SR5– STA. 36+28 TO STA. 37+50 LT
–Y10– STA. 13+00 TO STA. 15+00 RT

DETAIL G
MEDIAN V DITCH
(Not to Scale)



–L– STA. 557+50 TO STA. 574+00 RT
–L– STA. 599+50 TO STA. 600+50 LT
–L– STA. 643+00 TO STA. 647+00 LT

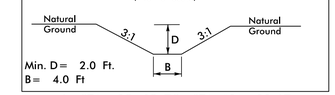
DETAIL H
TOE PROTECTION
(Not to Scale)



d= 5.0 Ft.
Type of Liner= CL B Rip-Rap

–L– STA. 605+75 TO STA. 606+83 LT
–L– STA. 622+50 TO STA. 627+00 LT
–L– STA. 625+75 TO STA. 627+50 RT
–L– STA. 674+70 TO STA. 677+10 RT
–L– STA. 678+75 TO STA. 684+10 RT
–L– STA. 692+30 TO STA. 694+76 RT
–L– STA. 735+85 TO STA. 736+10 LT
–Y9RPA– STA. 10+00 TO STA. 13+30 RT
–Y10– STA. 16+00 TO STA. 18+00 RT

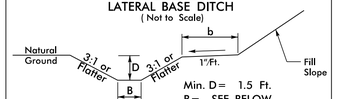
DETAIL I
STANDARD BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
B= 4.0 Ft

–L– STA. 695+15 TO STA. 696+00 LT,
BEG. EL=128.85', END EL=129.15', L=95', S=0.3%
–L– STA. 761+30 LT,
BEG. EL=145.03', END EL=144.20', L=28', S=3.0%
–L– STA. 593+50 LT,
BEG. EL=152.05', END EL=151.25', L=105', S=0.8%
–L– STA. 594+55 RT,
BEG. EL=152.60', END EL=151.20', L=53', S=2.6%
–Y9C– STA. 11+40 RT,
BEG. EL=153.80', END EL=151.00', L=300', S=0.9%
–Y9RPA– STA. 16+20 RT,
BEG. EL=150.32', END EL=150.15', L=54', S=0.3%

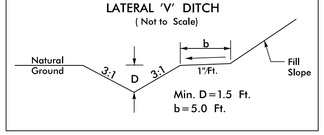
DETAIL J
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= SEE BELOW
b= 5.0 Ft.

DETAIL NOT USED IN SECTION 3

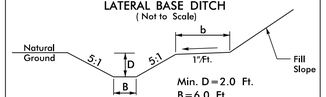
DETAIL K
LATERAL 'V' DITCH
(Not to Scale)



Min. D=1.5 Ft.
b=5.0 Ft.

–Y9RPD– STA. 18+29 TO STA. 24+50 RT
–Y10– STA. 20+00 TO STA. 21+30 RT
–Y10– STA. 27+86 TO STA. 31+00 LT
–Y10– STA. 28+75 TO STA. 32+00 RT
–Y11– STA. 26+00 TO STA. 27+00 RT
–Y21– STA. 31+00 TO STA. 36+00 RT

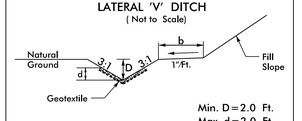
DETAIL L
LATERAL BASE DITCH
(Not to Scale)



Min. D=2.0 Ft.
B=6.0 Ft.
b=5.0 Ft.

DETAIL NOT USED IN SECTION 3

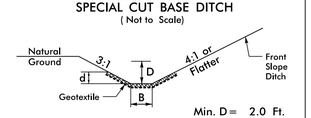
DETAIL M
LATERAL 'V' DITCH
(Not to Scale)



Type of Liner= CL B Rip-Rap
Min. D=2.0 Ft.
Max. d=2.0 Ft.
b=5.0 Ft.

DETAIL NOT USED IN SECTION 3

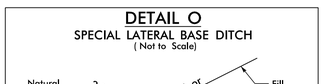
DETAIL N
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 4.0 Ft.
Type of Liner= CL B Rip-Rap

DETAIL NOT USED IN SECTION 3

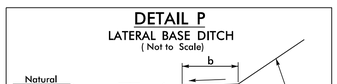
DETAIL O
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D= SEE BELOW
B= SEE BELOW

DETAIL NOT USED IN SECTION 3

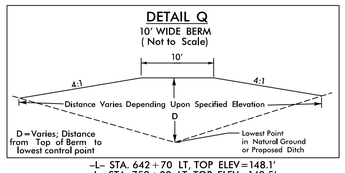
DETAIL P
LATERAL BASE DITCH
(Not to Scale)



Min. D= SEE BELOW
B= SEE BELOW
b= 5.0 Ft.

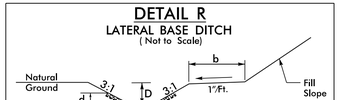
–L– STA. 704+55 TO STA. 709+40 RT, B=10', D=2.0'
–L– STA. 756+40 TO STA. 758+00 RT, B=12', D=2.5'
–Y11DW– STA. 11+00 TO STA. 11+50 LT, B=4', D=1.0'

DETAIL Q
10' WIDE BERM
(Not to Scale)



–L– STA. 642+70 LT, TOP ELEV=148.1'
–L– STA. 759+00 LT, TOP ELEV=148.5'
–L– STA. 762+00 LT, TOP ELEV=146.8'

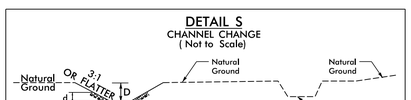
DETAIL R
LATERAL BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 4.0 Ft.
b= 5.0 Ft.
*When B is < 6.0'
Type of Liner= CL B Rip-Rap

DETAIL NOT USED IN SECTION 3

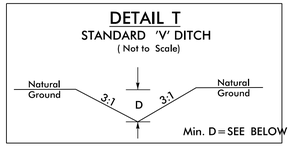
DETAIL S
CHANNEL CHANGE
(Not to Scale)



Min. D=SEE BELOW
Max. d= SEE BELOW
B= SEE BELOW
b=5.0 Ft.
Type of Liner= VARIES

–L– STA. 766+40 LT, B=6', CL I RIPRAP, MIN D=3.0'
BEG. EL=138.55', END EL=137.85', L=55', S=1.3%
–L– STA. 766+40 RT, B=6', CL II RIPRAP, MIN D=3.0'
BEG. EL=134.80', END EL=134.35', L=48', S=0.9%

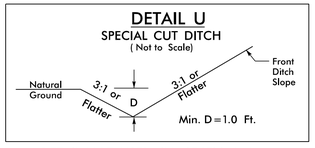
DETAIL T
STANDARD 'V' DITCH
(Not to Scale)



Min. D=SEE BELOW

–L– STA. 735+85 LT,
BEG. EL=144.50', END EL=144.53', L=20', S=0.2%

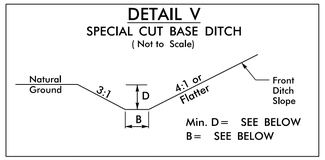
DETAIL U
SPECIAL CUT DITCH
(Not to Scale)



Min. D=1.0 Ft.

DETAIL NOT USED IN SECTION 3

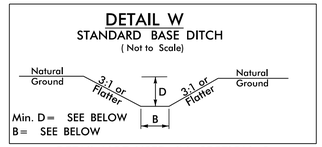
DETAIL V
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D= SEE BELOW
B= SEE BELOW

–Y9C– STA. 16+50 TO STA. 19+00 RT, MIN D=1.0', B=2'

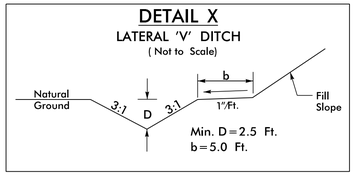
DETAIL W
STANDARD BASE DITCH
(Not to Scale)



Min. D= SEE BELOW
B= SEE BELOW

DETAIL NOT USED IN SECTION 3

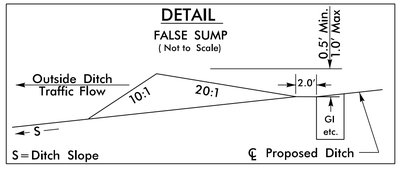
DETAIL X
LATERAL 'V' DITCH
(Not to Scale)



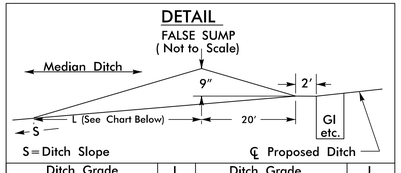
Min. D=2.5 Ft.
b=5.0 Ft.

DETAIL NOT USED IN SECTION 3

DETAIL
FALSE SUMP
(Not to Scale)

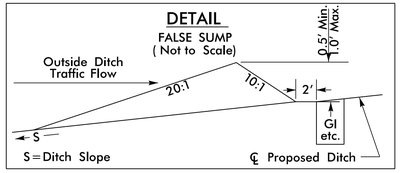


DETAIL
FALSE SUMP
(Not to Scale)

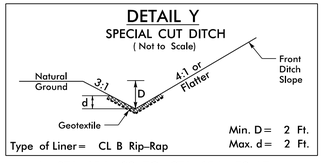


Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

DETAIL
FALSE SUMP
(Not to Scale)



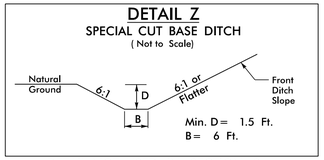
DETAIL Y
SPECIAL CUT DITCH
(Not to Scale)



Type of Liner= CL B Rip-Rap
Min. D= 2 Ft.
Max. d= 2 Ft.

–L– STA. 654+00 TO STA. 654+50 LT

DETAIL Z
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= 6 Ft.

DETAIL NOT USED IN SECTION 3

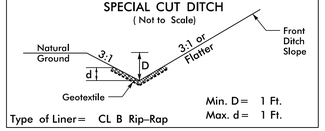
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Hydraulics\CADD\PSHVRedlines\I-5986A_HYD_Ditch Detail_Sec3.dgn
aheiter

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	2D-6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

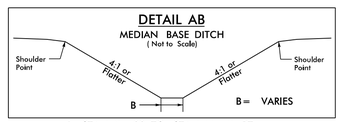
DETAIL AA
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.
Max. d = 1 Ft.
Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 3

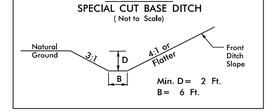
DETAIL AB
MEDIAN BASE DITCH
(Not to Scale)



B = VARIES

–L– STA. 575+00 TO STA. 577+75 RT
–L– STA. 635+00 TO STA. 642+50 LT
–Y9RPC– STA. 10+00 TO STA. 12+26 RT
–Y9RPC– STA. 17+50 TO STA. 24+00 RT

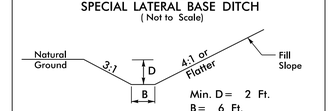
DETAIL AC
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.

–L– STA. 608+66 TO STA. 625+50 RT
–Y9RPB– STA. 11+19 TO STA. 20+50 LT

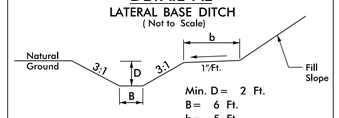
DETAIL AD
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.

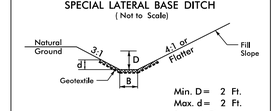
–L– STA. 625+50 TO STA. 625+90 RT

DETAIL AE
LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
B = 6 Ft.
b = 5 Ft.

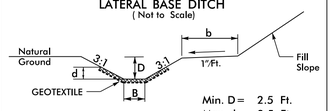
DETAIL AF
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2 Ft.
Max. d = 2 Ft.
B = 4 Ft.
Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 3

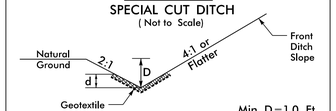
DETAIL AG
LATERAL BASE DITCH
(Not to Scale)



Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 12.0 Ft.
b = 5.0 Ft.
*When B is < 6.0'
Type of Liner = CL I Rip–Rap

–L– STA. 575+50 TO STA. 576+81 LT
–Y9RPB– STA. 10+00 TO STA. 11+19 LT

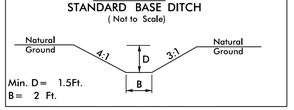
DETAIL AH
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = CL B Rip–Rap

DETAIL NOT USED IN SECTION 3

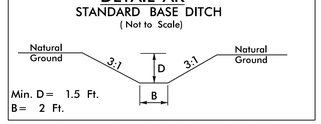
DETAIL AJ
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.5Ft.
B = 2 Ft.

DETAIL NOT USED IN SECTION 3

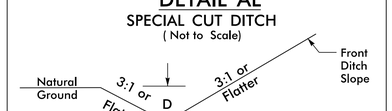
DETAIL AK
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 2 Ft.

DETAIL NOT USED IN SECTION 3

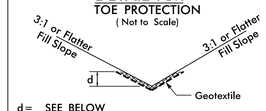
DETAIL AL
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 2.5 Ft.

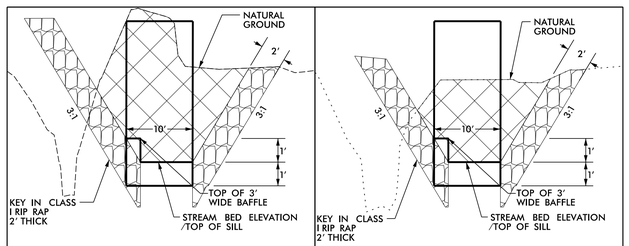
DETAIL NOT USED IN SECTION 3

DETAIL AM
TOE PROTECTION
(Not to Scale)



d = SEE BELOW
Type of Liner = B Rip–Rap

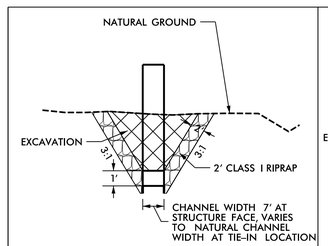
DETAIL NOT USED IN SECTION 3



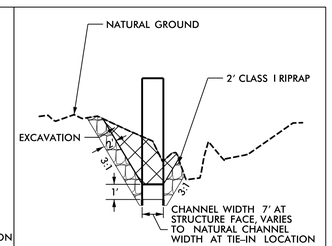
INLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM (NTS)
LENGTH = 68', SLOPE = 0.1%

OUTLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM (NTS)
LENGTH = 95', SLOPE = 0.1%

CULVERT INLET AND OUTLET DETAILS
–L– 574+71



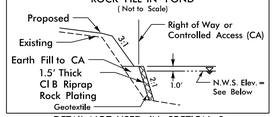
INLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM (NTS)
LENGTH = 65', SLOPE = 0.4% (NTS)



OUTLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM (NTS)
LENGTH = 28', SLOPE = 0.4% (NTS)

CULVERT INLET AND OUTLET DETAILS
–L– 642+72

DETAIL AN
ROCK FILL IN POND
(Not to Scale)



DETAIL NOT USED IN SECTION 3

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Hydraulics\CADD\PSH\Redlines\I-5986A_HYD_Ditch Detail_Sec3.dgn
shelter

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	46
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS

ROW REVISION 07/28/2020 - PARCELS #123 THRU #161 HAVE BEEN RELEASED FOR ROW ACQUISITION.

8/17/99

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh46.dgn
sheetgen

MATCHLINE -L- STA. 550+00.00 SEE SHEET 45

MATCHLINE -L- STA. 564+00.00 SEE SHEET 47

+00.00
140.00', 160.00 LT

END SECTION 2 &
BEGIN SECTION 3
-L- Sta.POT 550+00.00

-L- PC Sta. 563+49.59

+49.59
140.00 LT

123
MCINTYRE JR, DONALD M
DB 8486 PG 373

PROP. WOVEN WIRE FENCE

SP. CUT BASE DITCH
SEE DETAIL F

SPECIAL CUT BASE DITCH
SEE DETAIL F

WOODS

EXISTING R/W

48" WW (SBW)

PLUG & FILL W/
FLOWABLE FILL REMOVE 10'
OF 18" RCP

12" P.S.

140'

48'

.025 .02 .02

10' BST

I-95 SBL 37' BST

3' BST

REMOVE DI DITCH

26'

-L-

555+00

N 40° 50' 03.2" E

560+00

PROP. TYPE T BARRIER

I-95 NBL 37' BST

GREU
TL-3

CAT-1
8d

PROP. SIGN

14" P.S.

EXIST

MEDIAN V DITCH
SEE DETAIL G

SR 1860 GORDON WILLIAMS RD 20' BST

RETAIN EXISTING C/A FENCE

15" RCP
RETAIN

28' GRAVEL

BL-213

EXISTING R/W

72" HW

22'

NON-IMPACTED BILLBOARD
-L- STATION 554+50 RT
MILEMARKER 64.4

MTL BILLBOARD

NON-IMPACTED BILLBOARD
-L- STATION 559+50 RT
MILEMARKER 64.5

MCINTYRE JR, DONALD M
DB 9491 PG 447
PB 134 PG 114

124

WOODS

S 40°40'49" W
1909.69'

-L-

PI Sta 569+27.29
△ = 2° 44' 30.4" (RT)
D = 0° 14' 14.5"
L = 1,155.17'
T = 577.70'
R = 24,140.00'
SE = NC
DS = 75 MPH

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -L- PROFILES SEE SHTS. 127 & 128

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	47
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99 ROW REVISION 07/28/2020 - PARCELS *123 THRU *161 HAVE BEEN RELEASED FOR ROW ACQUISITION. PARCEL *134-CORRECTED DUE FLAG AT -SR5- STA.21+00 RT.

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh47.dgn
phelps

NAD 83/NA 2011

MATCHLINE -L- STA. 564+00.00 SEE SHEET 46

MATCHLINE -L- STA. 577+00.00 SEE SHEET 48

MATCHLINE -SR5- STA 21+95.00 SEE SHEET 48

N 53°14'30" W 288.89'

N 53°14'25" W 153.83'

N 36°05'09" E 1346.00'

MCINTYRE JR, DONALD M
DB 8486 PG 373
(123)

ALTMAN, DORIS ELLEN LIFE
DB 7467 PG 694
(133)

BRAXTON, CLARA GAYLE M
DB 5036 PG 32
(135)

MCINTYRE JR, DONALD M
DB 9491 PG 447
PB 134 PG 114
(124)

BRAXTON, CLARA GAYLE M
DB 9209 PG 731
BK DB 5036 PG 32
(134)

-Y9RPB- ST Sta. 10+00.00 =
-L- POT Sta. 576+81.18 (61.0' LT)

-L- PT Sta. 575+04.77

300' TAPER

800' ACCELERATION LANE

+8UB

PROP. WOVEN WIRE FENCE

SPECIAL CUT BASE DITCH SEE DETAIL F

3 TON CL B RIP RAP
10 SY GEOTEXTILE
4707

392 TON CL I RIP RAP

LATERAL RIPRAP BASE DITCH SEE DETAIL AG

LATERAL BASE DITCH SEE DETAIL D

END FENCE

BEGIN FENCE

PLUG & FILL W/ FLOWABLE FILL

18" RCP-IV

2GIB-WSF 4706

2GIB-WSF 4705

REMOVE DI

15" RCP-IV

565+00

570+00

575+00

-L-

PROP. TYPE T BARRIER

2GIB-WSF 4701

2GIB-WSF 4714

REMOVE 10' 18" RCP

REMOVE 80' 66" RCP

10'X7' RCBC (BURIED 1.0)

CAT-1

MEDIAN V DITCH SEE DETAIL G

REPLACE EXISTING FENCE -L- 568+50.00

+50.00 107.18'

+02.07 105.00'

RETAIN EXISTING C/A FENCE

N 41° 24' 22.0" E

RETAIN

15" RCP

2Y GRAVEL

REMOVE

15+00

-SR5-

20' (TYP)

70'

105'

PROP. WOVEN WIRE FENCE

MEDIAN V DITCH SEE DETAIL G

PLUG & FILL W/ FLOWABLE FILL

4GI 24" RCP-III

REMOVE 72" CMP

30" RCP-III

+04.77 105.00'

MEDIAN BASE DITCH SEE DETAIL AB

GREU TL-3

GREU TL-2

20+00

N 47° 34' 30.5" E

18"

SPECIAL CUT DITCH SEE DETAIL B

LATERAL BASE DITCH SEE DETAIL D

262 TON CL I RIP RAP

IMPACTED BILLBOARD -L- STATION 575+00 RT MILEMARKER 64.9

-SR5- +07.92 70.00' RT

-SR5- PT Sta. 20+07.92

-SR5- +00.00 26.29' RT

50' BLEND TO EXIST.

BEGIN CONSTRUCTION
-SR5- POT Sta.14+00.00

-SR5- PCC Sta. 15+86.81

-SR5- +86.81 70.00 RT

-SR5- PC Sta. 11+29.57

-SR5- POT Sta. 10+00.00

NON-IMPACTED BILLBOARD -L- STATION 565+00 RT MILEMARKER 64.7

+87.00 25.61 57.00

+08.00 45.00 58.00

NON-IMPACTED BILLBOARD -L- STATION 570+00 RT MILEMARKER 64.8

+65.00 91.00 107.00

+87.00 92.00 108.00

+90.00 70.00 90.00 104.00

+00.00 62.95 80.00 100.00

+10.00 140.00', 190.00'

+10.00 152.46', 190.00'

-Y9RPB- +00.00 100.00 LT

+04.77 140.00

WOODS

N 40°40'49" E 34.02'

S 53°27'41" E 1205.94'

S 53°27'41" E 1205.94'

N 29°31'17" E 401.81'

1418.95' N 29°31'17" E

N 43° 34' 33.6" E

N 47° 34' 30.5" E

-L-	-SR5-	-Y9RPB-
PI Sta 569+27.29	PI Sta 13+58.20	PI Sta 17+97.49	PIs Sta 11+33.35
△ = 2° 44' 30.4" (RT)	△ = 1° 20' 36.6" (RT)	△ = 4° 49' 31.9" (RT)	θs = 2° 36' 15.7"
D = 0° 14' 14.5"	D = 0° 17' 37.8"	D = 1° 08' 45.3"	Ls = 200.00'
L = 1,155.17'	L = 457.24'	L = 421.11'	LT = 133.35'
T = 577.70'	T = 228.63'	T = 210.68'	ST = 66.68'
R = 24,140.00'	R = 19,500.00'	R = 5,000.00'
SE = NC	SE = NC	SE = NC
DS = 75 MPH	DS = 40 MPH	DS = 40 MPH

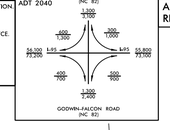
FOR -L- PROFILES SEE SHTS. 128 & 129
FOR -Y9RPB- PROFILE SEE SHT. 190
FOR -SR5- PROFILE SEE SHT. 196

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

REVISIONS
ROW REVISION 07/28/2020 – PARCELS #123 THRU #161 HAVE BEEN RELEASED FOR ROW ACQUISITION. PARCEL #133; REVISED EXISTING ROW. PARCEL #134; REVISED EXISTING ROW; REVISED PROPOSED ROW. PARCEL #148; REVISED EXISTING ROW; REVISED C/A. PARCEL #153; REVISED EXISTING ROW. PARCEL #154; REVISED EXISTING ROW; REVISED PROPOSED ROW & TCE. PARCEL #156; REVISED EXISTING ROW; REVISED C/A. ROW REVISION 08/17/2020 – PARCEL #152; REVISED PUE.

TRAFFIC DIAGRAM
ADT 2018
ADT 2040



ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	48
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALE
50 25 0 50 100
PLANS

–SR5–

PI Sta 25+38.05 Δ = 4° 29' 37.5" (RT) D = 1° 06' 14.3" L = 403.06' T = 201.63' R = 5,180.00' SE = NC DS = 40 MPH	PI Sta 30+41.72 Δ = 35° 57' 56.7" (RT) D = 6° 11' 38.9" L = 580.64' T = 300.25' R = 925.00' SE = 0.04 DS = 40 MPH	PI Sta 34+88.80 Δ = 16° 31' 09.0" (LT) D = 5° 12' 31.3" L = 317.15' T = 159.68' R = 1,100.00' SE = 0.04 DS = 40 MPH	PI Sta 37+95.65 Δ = 32° 18' 10.2" (RT) D = 10° 36' 37.2" L = 304.45' T = 156.39' R = 540.00' SE = 0.04 DS = 40 MPH

–Y9RPC–

PI Sta 12+83.35 Δ = 2° 36' 15.7" Ls = 200.00' LT = 133.35' ST = 66.68'	PI Sta 14+50.07 Δ = 5° 12' 31.3" (RT) D = 2° 36' 15.7" L = 200.00' T = 100.01' R = 2,200.00' SE = 0.01' DS = 65 MPH	PI Sta 15+78.27 Δ = 7° 39' 03.9" Ds = 1° 29' 31.5" Ls = 500.00' LT = 28.27' ST = 217.3'	PI Sta 17+82.84 Δ = 21° 34' 00.0" (RT) D = 5° 58' 05.9" L = 361.35' T = 182.84' R = 960.00' SE = 0.08 DS = 55 MPH

–Y9RPA–

PI Sta 12+53.38 Δ = 4° 27' 07.3" Ls = 230.00' LT = 153.39' ST = 76.71'	PI Sta 14+59.15 Δ = 9° 56' 25.8" (RT) D = 3° 52' 16.8" L = 257.64' T = 129.15' R = 1,480.00' SE = 0.08 DS = 65 MPH	PI Sta 16+64.35 Δs = 4° 27' 07.3" Ls = 230.00' LT = 153.39' ST = 76.71'	
PI Sta 20+31.43 Δs = 6° 16' 00.2" Ls = 200.00' LT = 140.09' ST = 70.08'	PI Sta 22+84.90 Δs = 10° 56' 38.9" Ls = 170.00' LT = 113.55' ST = 56.86'	PI Sta 25+19.70 Δ = 41° 40' 12.7" (LT) D = 12° 52' 31.6" L = 323.64' T = 169.35' R = 445.00' SE = 0.08 DS = 40 MPH	PI Sta 27+92.13 Δ = 13° 11' 25.5" (LT) D = 10° 25' 02.7" L = 107.56' T = 54.08' R = 550.00' SE = 0.08 DS = 40 MPH

–RAB_Y9AB–

PI Sta Undefined Δ = 180° 00' 00.0" (RT) D = 102° 31' 08.1" L = 179.07' T = Undefined R = 57.00' SE = NC DS = 25 MPH
PI Sta Undefined Δ = 180° 00' 00.0" (RT) D = 102° 31' 08.1" L = 179.07' T = Undefined R = 57.00' SE = NC DS = 25 MPH

–RAB_Y9BC–

PI Sta Undefined Δ = 180° 00' 00.0" (RT) D = 102° 31' 08.1" L = 179.07' T = Undefined R = 57.00' SE = NC DS = 25 MPH	PI Sta Undefined Δ = 180° 00' 00.0" (RT) D = 102° 31' 08.1" L = 179.07' T = Undefined R = 57.00' SE = NC DS = 25 MPH

–Y9RPB–

PI Sta 11+33.35 Δs = 2° 36' 15.7" Ls = 200.00' LT = 133.35' ST = 66.68'	PI Sta 17+52.78 Δ = 28° 09' 14.8" (LT) D = 12° 35' 15.7" T = 155.76' R = 2,200.00' SE = 0.01' DS = 65 MPH
PI Sta 23+17.20 Δ = 26° 51' 15.6" (LT) D = 38° 11' 49.5" L = 70.57' T = 35.99' R = 150.00'	

–Y9B–

PI Sta 11+57.01 Δ = 14° 54' 31.9" (RT) D = 4° 46' 28.7" L = 312.25' T = 157.01' R = 1,200.00' SE = 0.03 DS = 50 MPH	PI Sta 18+32.59 Δ = 22° 21' 56.2" (LT) D = 4° 46' 28.7" L = 468.45' T = 237.23' R = 1,200.00' SE = 0.03 DS = 50 MPH

–Y9RPD–

PI Sta 18+49.09 Δ = 32° 52' 34.4" (LT) D = 2° 50' 15.2" L = 1,262.35' R = 640.09' SE = 0.09' DS = 65 MPH	PI Sta 25+01.36 Δ = 29° 09' 02.1" (LT) D = 18° 11' 49.5" L = 76.35' T = 39.07' R = 315.00' SE = NC DS = 75 MPH

–L–

PI Sta 598+20.76 Δ = 17° 06' 00.0" (LT) D = 17° 01' 29.7" L = 40.37' T = 20.69' R = 2,100.00' SE = NC DS = 75 MPH

RK&K
P: (919) 878-8560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

PROJECT REFERENCE NO.	SHEET NO.
I-5986	49
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99 ROW REVISION 07/28/2020 – PARCELS *123 THRU *161 HAVE BEEN RELEASED FOR ROW ACQUISITION.

NAD 83/NA 2011

MATCHLINE -L- STA. 605+00.00 SEE SHEET 48

MATCHLINE -L- STA. 618+00.00 SEE SHEET 50

149 DAWKINS, CHARLES FRANKLIN & WIFE JUANITA W DB 10083 PG 228

162 MCINTYRE JR, DONALD M DB 8486 PG 385 BK DB 298 PG 255

163 MCINTYRE JR, DONALD M DB 8486 PG 383 BK DB 298 PG 255

156 TURPIN JR, CLIFTON L DB 2923 PG 481

155 ALLEN, BEULAH M DB 2454 PG 13 PB 38 PG 66

TURPIN JR, CLIFTON L DB 3462 PG 223 PB 35 PG 63

S 47° 28' 33.7" W

N 72°10'01" W 406.93'

N 67°41'20" W 653.59'

S 70°49'37" E 363.35'

S 70°23'12" E 400.00'

-Y9RPA- POT Sta. 10+00.00= -L- POT Sta.605+75.00 (61.0' LT)

-Y9RPA- +00.00 79.19' RT

PROP. SIGN

LAT. BASE DITCH SEE DETAIL AE

PROP. FENCE WOVEN WIRE

EXISTING R/W

TOE PROTECTION SEE DETAIL H

GREU TL-3

CAT-1

10+00

PLUG & FILL W/ W/FLOWABLE

REMOVE 20' 30" RCP

REMOVE DI

CONC PAVED DITCH

2GIA-WSF 4907

4908

610+00

N 43° 28' 33.7" E

-L-

PROP. TYPE T BARRIER

615+00

2GI-WSF 4901

4902

REMOVE 10' 18" RCP

15" RCP-IV

4905

2GI-WSF 4904

-Y9RPD-

28.57' (TYP)

SPECIAL CUT BASE DITCH SEE DETAIL F

SPECIAL CUT BASE DITCH SEE DETAIL AC

52 TON CL I RIP RAP 100 SY GEOTEXTILE

4906

+00.00 100.00' LT

-Y9RPD- SC Sta. 12+00.00

-Y9RPD- +00.00 89.00' LT

-Y9RPD- ST Sta. 10+00.00= -L- POT Sta.608+89.30 (61.0' RT)

800' ACCELERATION LANE

4903

2 TON CL B RIP RAP 7 SY GEOTEXTILE

+00.00 150.00' RT

+89.30

300' TAPER

140'

150'

60'

48"

26'

16'

WOODS

BL-218

I-95 SBL 37' BST

10' BST

-Y9RPD-

Pls Sta 11+33.35
Θs = 2° 36' 15.7"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

PI Sta 18+49.09
Δ = 32° 52' 34.4" (LT)
D = 2° 36' 15.7"
L = 1,262.36'
T = 649.09'
R = 2,200.00'
SE = 0.07
DS = 65 MPH

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR CROSS-SECTION LAYOUT SEE SHTS. 2B-1 THRU 2B-3

FOR –L– PROFILES SEE SHTS. 131 & 132
FOR –Y9RPA– PROFILE SEE SHT. 189
FOR –Y9RPD– PROFILE SEE SHT. 192

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh49.dgn
ppeltier

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	50
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99

ROW REVISION 08/17/2020 – PARCEL #163: REMOVED COMBINE PARCEL SYMBOL BETWEEN LT & RT PARCELS, PARCELS #165 & #166: REMOVED COMBINE PARCEL SYMBOL BETWEEN PARCELS.

8/24/2020
R:\Roadway Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh50.dgn
Administrator

MATCHLINE -L- STA. 618+00.00 SEE SHEET 49

MATCHLINE -L- STA. 631+00.00 SEE SHEET 51

NAD 83/NA 2011

163 MCINTYRE JR, DONALD M
DB 8486 PG 383
BK DB 298 PG 255

164 RAMSEY, GLORIA MCEACHIN
DB 7719 PG 253
PB 120 PG 200

165 ARVIEUX, KATHRYN POPE & HUSBAND LOUIS C
DB 8908 PG 41

167 MCLEAN, MARY
DB 24611PG 753

166 ARVIEUX, KATHRYN POPE & HUSBAND LOUIS C
DB 8908 PG 41

162 MCINTYRE JR, DONALD M
DB 8486 PG 385
BK DB 298 PG 255

DUKE ENERGY
DB 2739 PG 526

+00.00
140.00' LT

+00.00
150.00' RT

+89.30

300' TAPER

PROP. WOVEN WIRE FENCE

IMPACTED BILLBOARD
-L- STATION 627+00 LT
MILEMARKER 65.8

SPECIAL LAT. BASE DITCH
SEE DETAIL C

3 TON CL B RIP RAP
10 SY GEOTEXTILE
<5007>

SPECIAL CUT DITCH
SEE DETAIL B

SPECIAL LAT. V DITCH
SEE DETAIL A

TOE PROTECTION
SEE DETAIL H

<5011> HW

REMOVE JB

PLUG & FILL W/ FLOWABLE

REMOVE 10'
36" RCP

REMOVE DI

18" RCP-IV

72" RCP-IV BURIED 1.0'

REMOVE 10'
30" RCP

SPECIAL CUT BASE DITCH
SEE DETAIL AC

SPECIAL LAT. BASE DITCH
SEE DETAIL AD

38 TON CL I RIP RAP
78 SY GEOTEXTILE
<5008>

SP. LAT. V DITCH
SEE DETAIL A

625+00

630+00

620+00

N 43° 28' 33.7" E

15" RCP-IV

2GI-WSF

2GIA-WSF

<4904> <4905> <5005> <5004> <5009> <5010> <5006> <5003> <5002>

PROP. TYPE T BARRIER

WOODS

I-95 SBL 37' BST

I-95 NBL 37' BST

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR –L– PROFILES SEE SHTS. 132 & 133

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	51
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

ROW REVISION 08/17/2020 - DIVIDED PARCEL #165 INTO #165 & #168A, ADDED PARCEL #168A

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC B PLANS SHEETS\I-5986A_Rdy_psh51.dgn
sheet1dgn

-Y21- POT Sta. 10+00.00

-Y21- PC Sta. 12+09.82

BEGIN CONSTRUCTION
-Y21- Sta.13+55.00

BEGIN GRADE
-Y21- POC Sta.14+05.00

-Y21- PCC Sta. 14+30.20

-Y21- PT Sta. 17+45.64

10+00

15+00

20+00

S 66° 59' 47.1" E

N 21°31'59" E 679.35'

S 69°22'11" E 498.68'

N 43° 28' 33.7" E -Y21-

-L- Sta.633+35.70

-L- Sta.636+00.00

635+00

640+00

MATCHLINE -L- STA. 631+00.00 SEE SHEET 50

MATCHLINE -L- STA. 642+00.00 SEE SHEET 52

RAMSEY, GLORIA McEACHIN
DB 7719 PG 253
PB 120 PG 200

(167) MCLEAN, MARY
DB 2461 PG 753

(165) ARVIEUX, KATHRYN POPE & HUSBAND LOUIS C
DB 8908 PG 41

(168A) BAGGETT JR, TALMAGE S
MARY B RICE & DEBRA B MOORE

(168) BAGGETT JR, TALMAGE S
MARY B RICE & DEBRA B MOORE
DB 2522 PG 513

(169) BAGGETT JR, TALMAGE S
MARY B RICE & DEBRA B MOORE
DB 2522 PG 513

(166) ARVIEUX, KATHRYN POPE & HUSBAND LOUIS C
DB 8908 PG 41

FOUR OAKS INVESTMENT LLC
DB 9395 PG 438
(170)

(171) SCOGGINS, BILLY ORDELL
DB 8226 PG 714

IMPACTED BILLBOARD
-L- STATION 632+00 LT
MILEMARKER 65.9

IMPACTED BILLBOARD
-L- STATION 638+00 RT
MILEMARKER 66.0

-Y21-

PI Sta 13+22.49	PI Sta 15+94.71
Δ = 29° 21' 52.3" (LT)	Δ = 40° 09' 46.9" (LT)
D = 13° 19' 28.6"	D = 12° 43' 56.6"
L = 220.38'	L = 315.44'
T = 112.67'	T = 164.51'
R = 430.00'	R = 450.00'
SE = 0.04	SE = 0.04
DS = 40 MPH	DS = 40 MPH

FOR CROSS-SECTION LAYOUT SEE SHT. 2B-4

FOR -L- PROFILES SEE SHTS. 133 & 134
FOR -Y21- PROFILE SEE SHT. 195

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	52
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y10-		-Y21-	
PI Sta 16+88.06	PI Sta 25+73.95	PI Sta 31+44.65	PI Sta 36+70.21
△ = 3° 13' 38.6" (LT)	△ = 10° 08' 00.3" (RT)	△ = 57° 39' 45.1" (LT)	△ = 95° 24' 38.2" (RT)
D = 0° 28' 38.9"	D = 2° 27' 32.6"	D = 10° 25' 02.7"	D = 22° 55' 05.9"
L = 675.94'	L = 412.09'	L = 553.52'	L = 416.31'
T = 338.06'	T = 206.58'	T = 302.76'	T = 274.80'
R = 12,000.00'	R = 2,330.00'	R = 550.00'	R = 250.00'
SE = NC	SE = 0.05	SE = 0.04	SE = 0.04
DS = 60 MPH	DS = 60 MPH	DS = 40 MPH	DS = 40 MPH

NAD 83/NA 2011

MATCHLINE -Y21- STA. 35+00.00 SEE SHEET 80

MATCHLINE -Y10- STA. 25+00.00 SEE SHEET 80

MATCHLINE -L- STA. 642+00.00 SEE SHEET 51

MATCHLINE -L- STA. 655+00.00 SEE SHEET 53

MATCHLINE -Y10- STA. 18+00.00 SEE SHEET 79

-Y21- PRC Sta. 33+95.41

-Y21- PC Sta. 28+41.89

-Y10- PC Sta. 23+67.36

-L- POT Sta.652+36.45=
-Y10- POT Sta.21+86.48
SKEW ANGLE= 60°32'28"

-Y10- PT Sta. 20+25.94

-Y21- N 43° 28' 33.7" E

-L- N 43° 28' 33.7" E

169 BAGGETT JR, TALMAGE S
MARY B RICE & DEBRA B MOORE
DB 2522 PG 513

172 BAGGETT JR, TALMAGE S,
MARY B RICE & DEBRA B MOORE
DB 2373 PG 103

N C DEPT OF TRANSPORTATION
DB 715 PG 551

173 WEEKS FARMS INC
DB 9470 PG 646
PB 134 PG 133

174

LATERAL BASE DITCH SEE DETAIL D

LATERAL V DITCH SEE DETAIL K

MEDIAN V DITCH SEE DETAIL G

10' WIDE BERM TOP ELEV. =148.1' SEE DETAIL Q

150 TON CL I RIP RAP

5 TON CL B RIP RAP 14 SY GEOTEXTILE

2 TON CL B RIP RAP 7 SY GEOTEXTILE

1 TON CL B RIP RAP 5 SY GEOTEXTILE

10 TON CL B RIP RAP 28 SY GEOTEXTILE

54 TON CL A RIP RAP

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT DITCH SEE DETAIL Y

SPECIAL CUT BASE DITCH SEE DETAIL F

REMOVE 75' 25+00 54" RCP

24" RCP-III

18" RCP-III

30" RCP-III

15" RCP-IV

15" CSP 2 ELBOWS

2GIB-WSS

2GIB-WSF

2GIA-WSF

4GI

JB W/MH

PLUG & FILL W/ FLOWABLE FILL

REMOVE DI

REMOVE

PROP.WOVEN WIRE FENCE

PROP.TYPE T BARRIER

BEGIN FENCE

END FENCE

IMPACTED BILLBOARD
-L- STATION 651+00 RT
MILEMARKER 66.3

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

TRAFFIC DIAGRAM

SHERRILL BAGGETT ROAD (SR 1806)

ADT 2018 600 / 1,400

ADT 2040

55,800 / 73,100 I-95 I-95 55,800 / 73,100

600 / 1,400

SHERRILL BAGGETT ROAD (SR 1806)

FOR BRIDGE SKETCH SEE SHT. 2A-6

FOR CROSS-SECTION LAYOUT SEE SHT. 2B-5

PAVEMENT REMOVAL

FOR -L- PROFILES SEE SHTS. 134 & 135
FOR -Y10- PROFILE SEE SHT. 193
FOR -Y21- PROFILE SEE SHT. 195

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

REVISIONS

ROW REVISION 08/17/2020 - PARCEL #174 - CHAGNED PDE INTO DUE.

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh52.dgn
shelter

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	53
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

REVISIONS

8/17/99

ROW REVISION 08/17/2020 - DIVIDED PARCEL #173 INTO PARCELS #173 & #173A ADDED PARCEL #173A, PARCEL #174 CHANGED POE INTO DUE.

MATCHLINE -L- STA. 655+00.00 SEE SHEET 52

MATCHLINE -L- STA. 668+00.00 SEE SHEET 54

DUE

174

+50.00 140.00'

+87.65 140.00' LT

IMPACTED BILLBOARD -L- STATION 658+00 LT MILEMARKER 66.4

+88.00 178.00'

PUE

+25.00 140.00' 178.00'

+72.00 140.00'

LATERAL BASE DITCH SEE DETAIL D

PROP. WOVEN WIRE FENCE

+60.00 140.00'

BAGGETT JR, TALMAGE S
MARY B RICE & DEBRA B MOORE
DB 9074 PG 822
BK DB 800 PG 326
BK DB 800 PG 347

+12.32 140.00' LT

+00.00 155.00'

+75.00 175.00'

+90.00 140.00'

SPECIAL CUT BASE DITCH SEE DETAIL F

PROP. SIGN

FS MINIMUM ELEV. = 138.00'

SPECIAL CUT DITCH SEE DETAIL B

CAT-1

140'

PLUG & FILL W/ FLOWABLE FILL

30" RCP-IV

660+00

2GIB-WSF S302

2GIB-WSF S303

665+00

N 43° 56' 54.7" E

-L-

PROP. TYPE T BARRIER

REMOVE DI

655+00

26'

48"

12" P.S.

REMOVE DI

SPECIAL CUT BASE DITCH SEE DETAIL F

REMOVE

SPECIAL CUT DITCH SEE DETAIL B

S304

15 TON CL B RIP RAP
37 SY GEOTEXTILE

CUT FILL TRANSITION
1 TON CL B RIP RAP
5 SY GEOTEXTILE

+87.65 140.00' RT

-L- PC Sta. 656+87.65

+64.00 140.00' 170.00'

PUE

+10.00 140.00' 170.00'

IMPACTED BILLBOARD -L- STATION 659+00 RT MILEMARKER 66.4

+12.32 140.00' RT

-L- PT Sta. 665+12.32

S 13°16'53" E 55.18'

136.98' S46°01'03"W

173
WEEKS FARMS INC
DB 9470 PG 646
PB 134 PG 133

173A
BAGGETT, TALMADGE S.
DB 800 PG 347

176
DORMAN, ROBERT DALE & WIFE TAMMY B
DB 9029 PG 298
PB 124 PG 193

-L-
PI Sta 660+99.99
△ = 0° 28' 21.0" (RT)
D = 0° 03' 26.3"
L = 824.68'
T = 412.34'
R = 100,000.00'
SE = NC
DS = 75 MPH

-L-
PI Sta 660+99.99
△ = 0° 28' 21.0" (RT)
D = 0° 03' 26.3"
L = 824.68'
T = 412.34'
R = 100,000.00'
SE = NC
DS = 75 MPH

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -L- PROFILES SEE SHTS. 135 & 136

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh53.dgn
ShaffLar

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	54
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA. 668+00.00 SEE SHEET 53

MATCHLINE -L- STA. 681+00.00 SEE SHEET 55

174
BAGGETT JR, TALMAGE S
MARY B RICE & DEBRA B MOORE
DB 9074 PG 822
BK DB 800 PG 326
BK DB 800 PG 347

177
KAUFMAN, JORDAN PAUL &
WIFE JAMIE MELISSA
DB 9364 PG 139

180
FOWL RHODES LLC
DB 9355 PG 284
PB 127 PG 167
PB 113 PG 152

176
DORMAN, ROBERT DALE & WIFE TAMMY B
DB 9029 PG 298
PB 124 PG 193

178
UNKNOWN

179
DORMAN, ROBERT DALE & WIFE TAMMY B
DB 8651PG 15
BK DB 8436 PG 241
PB 124 PG 193

BLACK RIVER

PROP.WOVEN WIRE FENCE

1 TON CL B RIP RAP
5 SY GEOTEXTILE

2 TON CL B RIP RAP
7 SY GEOTEXTILE

3 TON CL B RIP RAP
11 SY GEOTEXTILE

PROP.TYPE T BARRIER

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/
FLOWABLE FILL

TOE PROTECTION
SEE DETAIL H

GREU TL-3

15" RCP-III

15" RCP-IV

24" RCP-IV

2GIB-WSF

2GIA-WSF

PROP. SBG

CONC BRIDGE

EXISTING R/W

WOODS

WLB

MTL

BL-222

I-95 SBL 37' BST

N 43° 56' 54.7" E

675+00

670+00

680+00

+00.00
140.00' LT

+00.00
140.00' RT

140'

146'

S 45°03'32" E
403.72'

S 24°59'06" E
302.54'

N 46°04'29" W
596.83'

N 28°24'29" W
306.26'

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR BRIDGE SKETCH SEE SHT. 2A-7

FOR -L- PROFILES SEE SHT. 136

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh54.dgn
dhatler

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	55
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA. 681+00.00 SEE SHEET 54

MATCHLINE -L- STA. 694+00.00 SEE SHEET 56

180
FOWL RHODES LLC
DB 9355 PG 284
PB 127 PG 167
PB 113 PG 152

181
VARGAS, RAMON CORTEZ &
WIFE MARIA VERONICA CORTEZ RECENDIZ
DB 9778 PG 441
BK DB 767 PG 233
PB 136 PG 198

179
DORMAN, ROBERT DALE & WIFE TAMMY B
DB 8651PG 15
BK DB 8436 PG 241
PB 124 PG 193

-L- TS Sta. 693+07.28

+07.28
140.00' LT

(CHORD)

77.5' (TYP)

N 27°22'06" E
801.70'

75.55'
S 27°10'02" W

+95.00
180.00'

+30.00
175.00'

+25.00
140.00'

+25.00
140.00'

PROP. WOVEN WIRE FENCE

1 TON CL B RIP RAP
5 SY GEOTEXTILE

5513

15" CSP
2 ELBOWS
GREU TL-3

15" RCP-IV

BL-223

14" P.S.

12" P.S.

140'

PROP. SBG

5512
2GIB-WSF

5504
2GIB-WSF

10' BST

195 SBL 37' BST

48'

.025 .02 .02 .025

REMOVE DI

CONC PAVED DITCH

MTL

26'

PROP. TYPE T BARRIER

685+00

-L-

N 43° 56' 54.7" E

690+00

PLUG & FILL W/
FLOWABLE FILL

3' BST

REMOVE DI

CONC PAVED DITCH

2GIB-WSF

5508
15" RCP-IV

5507
2GIB-WSF

15" RCP-IV

5502
2GIB-WSF

5501
2GIB-WSF

15" RCP-IV

5503
2GIB-WSF

24" RCP-IV

PLUG & FILL W/
FLOWABLE FILL

95' BST

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/
FLOWABLE FILL

15" RCP-IV

2GIB-WSF

5511

2GIB-WSF

5505

CAT-1

15" RCP-III

PROP. SBG

TOE PROTECTION
SEE DETAIL H

WOODS

EXISTING R/W

5510
2 TON CL B RIP RAP
7 SY GEOTEXTILE

5506
3 TON CL B RIP RAP
11 SY GEOTEXTILE

TOE PROTECTION
SEE DETAIL H

1 TON CL B RIP RAP
5 SY GEOTEXTILE

5514

+65.00
140.00'

+50.00
140.00'

PROP. WOVEN WIRE FENCE

+00.00
175.00'

+07.28
140.00' RT

(CHORD)

-L-

PIs Sta 695+13.96
Θs = 1° 28' 48.5"
Ls = 310.00'
LT = 206.67'
ST = 103.34'

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -L- PROFILES SEE SHT. 137

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh55.dgn
abeller

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	56
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99

ROW REVISION 08/17/2020 - PARCEL #179: ADDED TCE.

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh56.dgn
sheiffer

MATCHLINE -L- STA. 694+00.00 SEE SHEET 55

MATCHLINE -L- STA. 707+00.00 SEE SHEET 57

S 27°18'02" W
482.52'

N 27°10'48" E
498.69'

N 27°18'55" E
574.93'

N 5°30'38" W
610.85'

NAD 83/NA 2011

181
VARGAS, RAMON CORTEZ &
WIFE MARIA VERONICA CORTEZ RECENDIZ
DB 9778 PG 441
BK DB 767 PG 233
PB 136 PG 198

-L- SC Sta. 696+17.28

+15.00
175.00'

+83.34
141.01'

(CHORD)

PDE

PDE

+17.28
140.00' LT

STANDARD BASE DITCH
SEE DETAIL I

5 TON CL B RIP RAP
14 SY GEOTEXTILE

PROP.WOVEN WIRE FENCE

77.5' (TYP)

S603

PLUG & FILL W/
FLOWABLE FILL

REMOVE DI

CONC PAVED DITCH

24" RCP-IV

2GIB-WSF

S602

15" RCP-IV

S601

2GIB-WSF

695+00

700+00

-L-

PROP.TYPE T BARRIER

140'

WOODS

SPECIAL CUT DITCH
SEE DETAIL B

FS MINIMUM
ELEV.= 139.5'

HW

S608

BL-225

10' BST

18" RCP-IV

PLUG & FILL W/
FLOWABLE FILL

2GIB-WSF

REMOVE DI

S605

15" RCP-IV

705+00

S604

2GIB-WSF

24" RCP-IV

REMOVE 10'
24" RCP

PLUG & FILL W/
FLOWABLE FILL

30" RCP-IV

REMOVE DI

CONC PAVED DITCH

S604
JB W/MH

REMOVE

LATERAL BASE DITCH
SEE DETAIL P

48" WW W/ISBW

S607

8 TON CL B
RIP RAP 21
SY GEOTEXTILE

+00.01
152.77'

TOE PROTECTION
SEE DETAIL H

LATERAL BASE DITCH
SEE DETAIL D

EXISTING R/W

WOODS

48" WW W/ISBW

(CHORD)

+10.00
138.99'

+50.00
190.00'

-L- +17.28
140.00' RT

SPECIAL CUT DITCH
SEE DETAIL F

IMPACTED BILLBOARD
-L- STATION 699+00 RT
MILEMARKER 67.2

LATERAL BASE DITCH
SEE DETAIL D

PROP.WOVEN WIRE FENCE

IMPACTED BILLBOARD
-L- STATION 703+00 RT
MILEMARKER 67.3

+60.00
140.00'

+70.00
166.00'

+14.00
140.00' RT

PROP.WOVEN WIRE FENCE

+90.00
173.00'

+26.00
205.00'

PUE

PUE

PUE

+45.00
234.00'

+25.00
250.00'

+45.00
250.00'

179
DORMAN, ROBERT DALE & WIFE TAMMY B
DB 8651 PG 15
BK DB 8436 PG 241
PB 124 PG 193

-L-

PIs Sta 695+13.96	PI Sta 704+52.10
θs = 1° 28' 48.5"	Δ = 15° 50' 31.3" (LT)
Ls = 310.00'	D = 0° 57' 17.7"
LT = 206.67'	L = 1,658.97'
ST = 103.34'	T = 834.81'
	R = 6,000.00'
	SE = 0.04
	DS = 75 MPH

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -L- PROFILES SEE SHTS. 137 & 138

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/17/99

REVISIONS

ROW REVISION 07/28/2020 – PARCEL #179; CORRECTED ROW FLAG AT –L– STA.709+15 RT.
ROW REVISION 08/17/2020 – PARCEL #183; DIVIDED PARCEL INTO #183 & #183A AND CHANGED PROPERTY OWNER NAMES.

R:\24/2020 R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEET\TSV1-5986A_Rdy_psh57.dgn shelter

MATCHLINE -Y11- STA. 20+00.00 SEE SHEET 81

TRAFFIC DIAGRAM

RHODES POND ROAD (SR 1804)

ADT 2018
ADT 2040

200/300

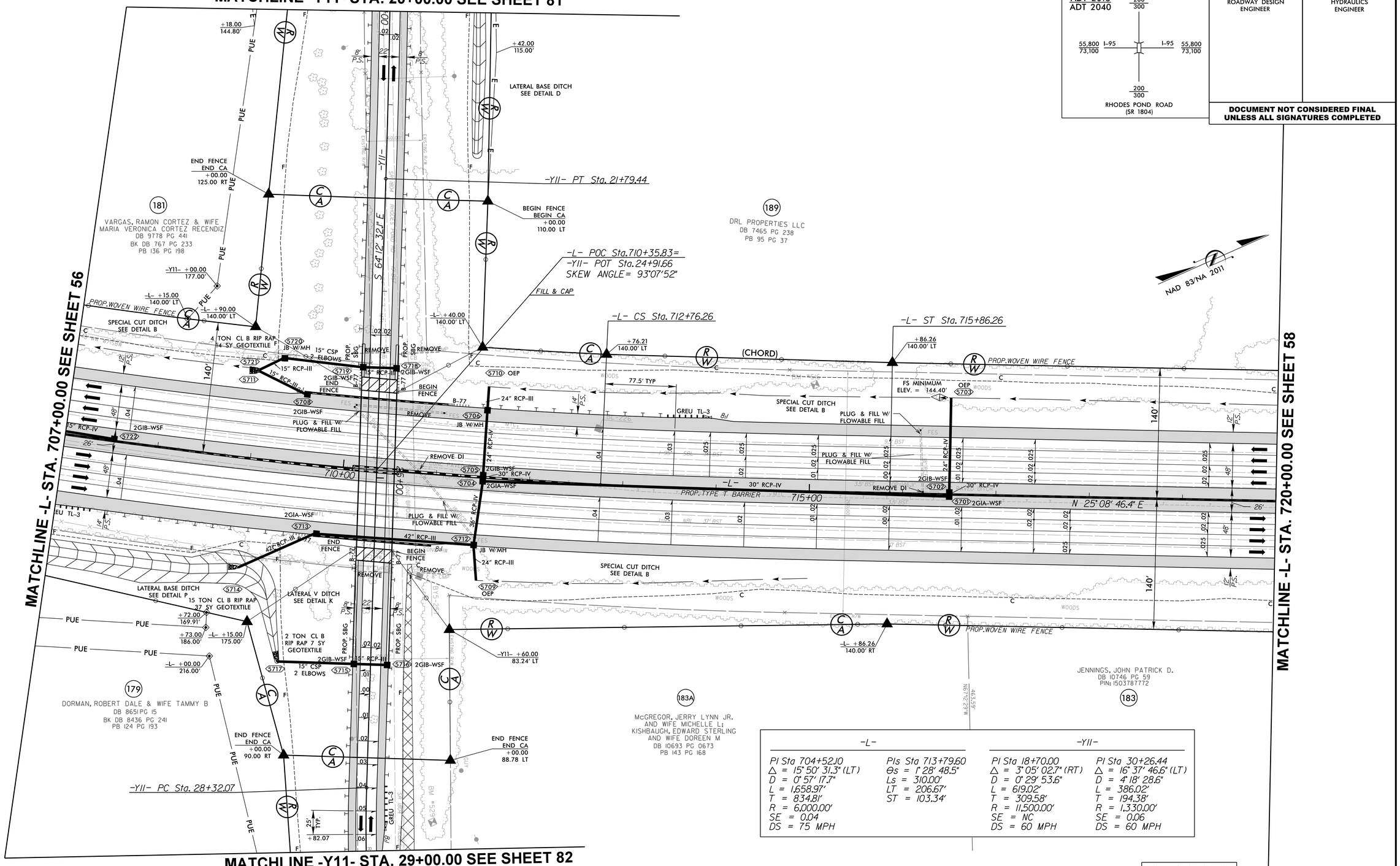
55,800/73,100 I-95 — I-95 55,800/73,100

200/300

RHODES POND ROAD (SR 1804)

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	57
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



–L–		–Y11–	
PI Sta 704+52.10	PIs Sta 713+79.60	PI Sta 18+70.00	PI Sta 30+26.44
Δ = 15° 50' 31.3" (LT)	Θs = 1° 28' 48.5"	Δ = 3° 05' 02.7" (RT)	Δ = 16° 37' 46.6" (LT)
D = 0° 57' 17.7"	Ls = 310.00'	D = 0° 29' 53.6"	D = 4° 18' 28.6"
L = 1,658.97'	LT = 206.67'	L = 619.02'	L = 386.02'
T = 834.81'	ST = 103.34'	T = 309.58'	T = 194.38'
R = 6,000.00'		R = 11,500.00'	R = 1,330.00'
SE = 0.04		SE = NC	SE = 0.06
DS = 75 MPH		DS = 60 MPH	DS = 60 MPH

FOR BRIDGE SKETCH SEE SHT. 2A–7

PAVEMENT REMOVAL

FOR –L– PROFILES SEE SHTS. 138 & 139
FOR –Y11– PROFILE SEE SHT. 194

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	58
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA. 720+00.00 SEE SHEET 57

MATCHLINE -L- STA. 733+00.00 SEE SHEET 59

189
DRL PROPERTIES LLC
DB 7465 PG 238
PB 95 PG 37

189A
HERRING, NATHAN WILLIAM & WIFE
DB 5217 PG 450
PB 87 PG 153

192A

N 25°28'35" E
555.99'

S 89°20'11" W
N 82°39'49" N

241.27'
N 31°46'28" W

PROP. WOVEN WIRE FENCE

EXISTING R/W

WLB

WOODS

SPECIAL CUT DITCH
SEE DETAIL B

+00.00
140.00' LT

236.48'
N 83°37'59" W

140'

48'

26'

I-95 SBL 37' BST

I-95 NBL 37' BST

725+00

N 25°08'46.4" E

-L-

PROP. TYPE T. BARRIER

730+00

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/
FLOWABLE FILL

2GIB-WSF

15" RCP-IV

18" RCP-IV

3 TON CL B RIP RAP
10 SY GEOTEXTILE F

LATERAL BASE DITCH
SEE DETAIL D

48" WW W/ISBW

PUE

+95.00
140.00'
158.00'

+00.00
140.00' RT

N 57°06'13" E
206.43'

S 42°21'54" E
207.25'

S 42°04'13" E
60.50'

P R JOHNSON HEIRS
DB 730 PG 70

191A

191
WEEKS FARMS INC
DB 2636 PG 655

183
JENNINGS, JOHN PATRICK D.
DB 10746 PG 59
PIN: 1503787772

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -L- PROFILES SEE SHTS. 139 & 140

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh58.dgn
ashelton

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	59
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

MATCHLINE -L- STA. 733+00.00 SEE SHEET 58

MATCHLINE -L- STA. 746+50.00 SEE SHEET 60

192
CURRIN, HELEN B
DB 5524 PG 696
PB 95 PG 37

192A
STRICKLAND, COURTNEY CHAD
DB 5233 PG 812
PB 101PG 79

191
WEEKS FARMS INC
DB 2636 PG 655

SPECIAL LATERAL V DITCH SEE DETAIL A

SPECIAL CUT DITCH SEE DETAIL B

STANDARD V DITCH SEE DETAIL T
TOE PROTECTION SEE DETAIL H

PROP. WOVEN WIRE FENCE

+00.00
140.00' LT

EXISTING R/W

BM #517

WOODS

HW

5907

5903

140'

12' P.S.

BL-228

10' BST

42" RCP-IV

PLUG & FILL W/ FLOWABLE FILL

2GIA-WSF

42" RCP-IV 5901

735+00

5902

2GIA-WSF

REMOVE DI

CONC PAVED DITCH

N 25° 08' 46.4" E

-L-

740+00

REMOVE DI

PROP. TYPE T BARRIER

PLUG & FILL W/ FLOWABLE FILL

I-95 SBL 37' BST

I-95 NBL 37' BST

745+00

24" RCP-IV

5905

2GIA-WSF

26'

48'

.02 .02 .025

LATERAL BASE DITCH SEE DETAIL D

5904

20 TON CL B RIP RAP
56 SY GEOTEXTILE

LATERAL BASE DITCH SEE DETAIL D

SPECIAL CUT BASE DITCH SEE DETAIL F

5 TON CL B RIP RAP
14 SY GEOTEXTILE

SPECIAL CUT BASE DITCH SEE DETAIL F

48" WW W/SBW

PUE

+12.00
159.10'

+30.00
185.00'

+13.00
159.58'

+90.00
185.00'

+00.00
140.00' RT

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR –L– PROFILES SEE SHTS. 140 & 141

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh59.dgn
dhefler

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	60
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

192
CURRIN, HELEN B
DB 5524 PG 696
PB 95 PG 37

193
H & J FARMS INC
DB 2662 PG 503

MATCHLINE -L- STA. 746+50.00 SEE SHEET 59

MATCHLINE -L- STA. 759+00.00 SEE SHEET 61

PROP.WOVEN WIRE FENCE

PROP.DMS

BL-229

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT BASE DITCH SEE DETAIL F

LATERAL BASE DITCH SEE DETAIL D

+00.00 140.00' LATERAL BASE DITCH SEE DETAIL D

+00.00 140.00', 155.00' RT

+00.00 145.00'

+22.00 140.00' 159.00'

+34.00 175.00'

+54.00 180.00' SPECIAL LATERAL BASE DITCH SEE DETAIL C

+65.00 140.00'

+73.67 140.00' LT

10' WIDE BERM TOP ELEV=148.5' SEE DETAIL Q

+30.00 162.00'

+35.00 140.00', 155.00' RT

+34.00 178.00'

+57.00 160.00' 172.00'

+73.67 140.00' RT

-L- PC Sta. 758+73.67

N 50°49'57" W 2676.12'

PUE

REMOVE 15' OF EXISTING PIPE

48 TON CL I RIP RAP
89 SY GEOTEXTILE

4007

4004

4003

4005

4006

HW

140'

12' P.S.

26'

48' RCP-IV

24" RCP-IV

15" RCP-IV

2GIB-WSF

2GIA-WSF

REMOVE DI

CONC PAVED DITCH

PLUG & FILL W/ FLOWABLE FILL

PROP. TYPE T BARRIER

750+00

755+00

-L-

N 25° 08' 46.4" E

9.5' BST

I-95 SBL 37' BST

33' BST

I-95 NBL 37' BST

10' BST

48" WW_W/ISBW

FES

EXISTING R/W

191
WEEKS FARMS INC
DB 2636 PG 655

-L-
PI Sta 761+15.78
△ = 0° 01' 06.6" (RT)
D = 0° 00' 13.8"
L = 484.20'
T = 242.10'
R = 1,500,000.00'
SE = NC
DS = 75 MPH

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -L- PROFILES SEE SHTS. 141 & 142

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh60.dgn
pbeiler

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	61
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

193
H & J FARMS INC
DB 2662 PG 503

MATCHLINE -L- STA. 759+00.00 SEE SHEET 60

MATCHLINE -L- STA. 772+00.00 SEE SHEET 62

-L- PC Sta. 769+20.26

10' WIDE BERM TOP ELEV=148.5' SEE DETAIL Q

SPECIAL LATERAL V DITCH SEE DETAIL A

STANDARD BASE DITCH SEE DETAIL I

PROP. WOVEN WIRE FENCE

+57.88 140.00' LT

10' WIDE BERM TOP ELEV=146.8' SEE DETAIL Q

LATERAL BASE DITCH SEE DETAIL D

+63.20 140.00

CHANNEL CHANGE SEE DETAIL S

+54.00 168.00

+78.00 168.00

PDE

+90.00 140.00

NON-IMPACTED BILLBOARD -L- STATION 767+50 LT MILEMARKER 68.5

+20.26 140.00' LT

SPECIAL CUT DITCH SEE DETAIL B

BM #518

6101 HW

6105 W HW

REMOVE HW

140'

30" RCP-IV

72" RCP-IV (BURIED 1.0')

PLUG & FILL W/ FLOWABLE FILL

2GIB-WSF 6102

2GIB-WSF 6103

REMOVE DI

2GIA-WSF 6106

2GIB-WSF 6109

18" RCP-IV

18" RCP-III 6111

18" RCP-III

2GIB-WSF 6110

PROP. TYPE T BARRIER

760+00

765+00

770+00

-L-

N 25° 09' 53.0" E

26'

48'

02.025

I-95 SBL 37° BST

I-95 NBL 37° BST

OUTLET DITCH DESIGNED PER NEW YORK DOT DISSIPATOR METHOD

6104 8 TON CL B RIP RAP 21 SY GEOTEXTILE

6108 132 TON CL II RIP RAP 190 SY GEOTEXTILE

CHANNEL CHANGE SEE DETAIL S

GREU TL-3

CAT-1

PROP. SIGN

8:1

2% P.S.

WOODS

APPROX 48" WW W/ISBW

PUE

DUE

+57.88 140.00' RT

-L- PT Sta. 763+57.88

+00.00 159.03

+22.00 140.00' 159.00' 173.00'

+57.00 140.00' 159.00' 173.00'

+20.26 140.00' RT

191
WEEKS FARMS INC
DB 2636 PG 655

-L-	
PI Sta 761+15.78	PI Sta 770+75.39
△ = 0° 01' 06.6" (RT)	△ = 0° 01' 31.4" (LT)
D = 0° 00' 13.8"	D = 0° 00' 29.5"
L = 484.20'	L = 310.28'
T = 242.10'	T = 155.14'
R = 1,500,000.00'	R = 700,000.00'
SE = NC	SE = NC
DS = 75 MPH	DS = 75 MPH

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -L- PROFILES SEE SHTS. 142 & 143

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh61.dgn
shelter

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	62
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

193
H & J FARMS INC
DB 2662 PG 503

END TIP PROJECT I-5986A
BEGIN TIP PROJECT I-5877
-L- POT Sta. 776+03.71 (I-5986A) BK =
-L- POT Sta. 776+00.00 (I-5877) AH

-L- PT Sta. 772+30.53

MATCHLINE -L- STA. 772+00.00 SEE SHEET 61

+30.53 140.00' LT
+03.71 140.00' LT
+03.71 EX R/W LT
PROP. WOVEN WIRE FENCE
LATERAL BASE DITCH SEE DETAIL D
WOODS
EXISTING R/W
FES
I5877-2
9.5' BST
3.5' BST
10' BST
-L-
PROP. TYPE T BARRIER
N 25° 08' 21.5" E
775+00
26'
48'
140'
DI
CONC PAVED DITCH
I-95 SBL 37' BST
I-95 NBL 37' BST
48" WW W/ISBW
PUE
+42.00 156.00
+03.71 EX R/W RT 146.00'
+30.53 140.00' RT
+03.71 140.00' RT

SEE I-5877 PLANS

191
WEEKS FARMS INC
DB 2636 PG 655

-L-
PI Sta 770+75.39
△ = 0° 01' 31.4" (LT)
D = 0° 00' 29.5"
L = 310.28'
T = 155.14'
R = 700,000.00'
SE = NC
DS = 75 MPH

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -L- PROFILES SEE SHT. 143

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh62.dgn
ppeller

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	77
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99

ROW REVISION 07/28/2020 – PARCELS #123 THRU #161 HAVE BEEN RELEASED FOR ROW ACQUISITION; PARCEL #136; REVISED EXISTING ROW; CLAIM ELIMINATED, PARCEL #137; REVISED EXISTING ROW; CLAIM ELIMINATED, PARCEL #138; REVISED EXISTING ROW; CLAIM ELIMINATED, PARCEL #139; REVISED EXISTING ROW; CLAIM ELIMINATED, PARCEL #140; REVISED EXISTING ROW; REVISED PROPOSED ROW & PUE, PARCEL #141; REVISED EXISTING ROW; REVISED PROPOSED ROW & PUE, PARCEL #142; REVISED EXISTING ROW; REVISED PROPOSED ROW, PARCEL #143; REVISED EXISTING ROW; CLAIM ELIMINATED, PARCEL #144; REVISED EXISTING ROW; ADDED PUE; ELIMINATED PDE, PDE, & TCE, PARCEL #145; REVISED EXISTING ROW; REVISED PUE, PARCEL #146; REVISED EXISTING ROW; REVISED C/A, PARCEL #147; REVISED EXISTING ROW; REVISED C/A, PARCEL #148; REVISED EXISTING ROW; REVISED C/A

S 54°01'45" E 852.76'

S 56°35'48" E 446.34'

N 52°55'28" W 262.87'

ECMP

NAD 83/NA 2011

S 61°55'26" E 117.80'

S 62°04'19" E 136.98'

N 57°04'33" E 510.00'

N 28°04'32" E 246.32'

N 27°55'46" E 290.27'

N 27°55'25" E 290.84'

N 28°08'31" E 389.58'

N 30°08'31" E 295.35'

N 43°20'23" E 349.43'

BEGIN CONSTRUCTION -Y9A- POT Sta. 10+00.00

-Y9A- POT Sta. 9+65.00

BEGIN GRADE -Y9A- POT Sta. 10+50.00

-Y9A- PC Sta. 11+41.34

-Y9A- PT Sta. 14+61.05

(137) McMILLAN, GWENDOLYN DB 4172 PG 246 PB 122 PG 134

(143) MYLES, HARRY DB 7920 PG 801 PB 122 PG 134

(144) MYLES, HARRY DB 6630 PG 503 PB 112 PG 61

(137) McMILLAN, GWENDOLYN DB 4172 PG 246 PB 122 PG 134

(145) SMITH, LARRY ODELL & WIFE BOBBIE SUE L DB 4355 PG 349 PB 61PG 87

(147) EUROCAN ENTERPRISES INC DB 8247 PG 485 PB 134 PG 87

(146) JMJ REALTY INVESTMENTS LLC DB 9736 PG 224 PB 134 PG 87

(148) EXXON CORP C/O JAMES M MCINTYR DB 1116 PG 427

(136) McMILLAN, GWENDOLYN DB 584 PG 186

(138) McMILLAN, GWENDOLYN DB 4172 PG 246

(139) MYLES, HARRY DB 8449 PG 606 PB 109 PG 177

(140) MYLES, DOROTHY MCDUFFIE & CLEVELAND DB 4135 PG 867

(141) GOFF JR, BARNEY B & WIFE CAROL HOLDER DB 8146 PG 17

(142) AAAA INC DB 4908 PG 144

(133) ALTMAN, DORIS ELLEN LIFE DB 7467 PG 694

50' BLEND TO EXIST.

SPECIAL CUT DITCH SEE DETAIL B

25' (TYP)

10+00 REMOVE

15+00 REMOVE

S 61°48'48.4" E

-Y9A-

+89.00 71.00'

+87.00 53.97'

+09.00 55.50' 68.00'

+58.00 71.53' 86.00'

+38.00 88.00'

+36.00 68.33'

+87.00 37.92' RT

+00.00 45.39'

+98.00 58.00'

+27.72

+76.00 112.00'

+79.00 125.00'

+05.00 121.00'

+35.00 160.00'

-Y9A- +70.00 115.00' RT

END CA END FENCE +50.00 90.0RT RT

END CA END FENCE +50.00 88.03' LT

SPECIAL LATERAL BASE DITCH SEE DETAIL C

PROP FENCE WOVEN WIRE

LATERAL BASE DITCH SEE DETAIL D

200' MEDIAN TAPER 0 TO 8'

8 TON CL B RIP RAP 21 SY GEOTEXTILE

PROP FENCE BROKEN WIRE

S 53°51'05.6" E

MATCHLINE -Y9A- STA. 18+00.00 SEE SHEET 48

-Y9A-

PI Sta 13+01.45
△ = 7° 51' 42.8" (RT)
D = 2° 27' 32.6"
L = 319.71'
T = 160.11'
R = 2,330.00'
SE = 0.04
DS = 50 MPH

TRUCK APRON

PAVEMENT REMOVAL

FOR –Y9A– PROFILE SEE SHT. 187

FOR DITCH DETAILS SEE SHTS. 2D–5 THRU 2D–6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh77.dgn
shelter

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	78
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99

ROW REVISION 07/28/2020 – PARCELS #123 THRU #161 HAVE BEEN RELEASED FOR ROW ACQUISITION; PARCEL #153: REVISED EXISTING ROW; PARCEL #154: REVISED EXISTING ROW; REVISED EXISTING ROW; REVISED C/A; ELIMINATED TCE; PARCEL #155: REVISED EXISTING ROW; REVISED PROPOSED ROW & TCE; PARCEL #156: REVISED EXISTING ROW; REVISED C/A; PARCEL #157: REVISED EXISTING ROW; REVISED PROPOSED ROW & PUE; PARCEL #158: REVISED EXISTING ROW; REVISED PROPOSED ROW & PUE; CLAIM ELIMINATED; PARCEL #159: REVISED EXISTING ROW; CLAIM ELIMINATED; PARCEL #160: REVISED EXISTING ROW; CLAIM ELIMINATED; PARCEL #161: REVISED EXISTING ROW; CLAIM ELIMINATED.

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh78.dgn
sheffler

NAD 83/NA 2011

MATCHLINE -Y9C- STA. 12+00.00
SEE SHEET 48

MATCHLINE -SR5- STA. 38+50.00
SEE SHEET 48

156 TURPIN JR, CLIFTON L
DB 2923 PG 481

155 ALLEN, BEULAH M
DB 2454 PG 13
PB 38 PG 66

153

154 TURPIN RENTALS LLC
DB 5616 PG 448

151 UPTON, JOHNNIE MCLEAN
DB 4654 PG 771

152 MILLS FAMILY PROPERTIES LLC
DB 7424 PG 185
PB 27 PG 48

157 SHIPMAN, MARY E
DB 2287 PG 469
PB 38 PG 66

159 SMITH, TONYA A
& AMANDA L CARROLL
DB 8571 PG 221
PB 37 PG 79

158 WILLIAM OBRIA JOHNSON LIFE ESTATE
DB 4024 PG 66
PB 37 PG 79

160 JOHNSON, GARY MACK
DB 3793 PG 00192
THIS LOT PER DB 2752 PG 761
IS BEING USED BY CP&L AS
AN EASEMENT

161

-Y9C- PC Sta. 14+23.59

-SR5- POT Sta. 45+67.18 =
-Y9C- POC Sta. 16+00.00

-Y9C- PT Sta. 17+45.59

END GRADE
-Y9C- POT Sta. 18+95.00

END CONSTRUCTION
-Y9C- POT Sta. 19+45.00

-Y9C- POT Sta. 23+66.06

-SR5- PT Sta. 39+43.71

-SR5- PC Sta. 41+16.41

-SR5- PT Sta. 44+97.17

PROP. FENCE WOVEN WIRE

END FENCE
END CA
-Y9C- +80.00
76.25 LT

REMOVE GRADE TO DRAIN

SPECIAL CUT DITCH
SEE DETAIL B

SPECIAL CUT BASE DITCH
SEE DETAIL V

LATERAL BASE DITCH
SEE DETAIL D

200' MEDIAN TAPER
8' TO 0'

110' LANE WIDTH TAPER

50' BLEND TO EXIST.

TELEPHONE PEDESTAL NOT FOUND OR PLACED PER UTILITY RECORDS

POND

WOODS

PINES

BM #525

GREU TL-3

BY3-248

S 80° 08' 15.6" E

S 76° 10' 54.0" E

S 67° 55' 10.7" E

N 19°46'48" E 528.53'

N 19°46'48" E 540.38'

N 19°46'48" E 560.13'

S 22°04'52" W 507.41'

S 22°04'52" W 594.33'

S 47°00'53" E 231.07'

S 47°00'53" E 193.78'

N22°47'E 681.29'

-Y9C-
PI Sta 15+85.21
△ = 12° 13' 04.9" (RT)
D = 3° 47' 39.9"
L = 322.00'
T = 161.61'
R = 1,510.00'
SE = 0.05
DS = 50 MPH

-SR5-
PI Sta 37+95.65
△ = 32° 18' 10.2" (RT)
D = 10° 36' 37.2"
L = 304.45'
T = 156.39'
R = 540.00'
SE = 0.04
DS = 40 MPH

PI Sta 43+54.74
△ = 87° 15' 44.6" (LT)
D = 22° 55' 05.9"
L = 380.75'
T = 238.33'
R = 250.00'
SE = 0.04
DS = 30 MPH

PAVEMENT REMOVAL

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

FOR -Y9C- PROFILE SEE SHT. 188
FOR -SR5- PROFILE SEE SHT. 197

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/17/99

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	79
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

S 65°27'53" E 286.00'

S 78°58'57" E 3042.65'

N 03°37'53" W 200.58'

S 78°58'57" E 214.59'

N 11°08'07" E 136.29'

N 11°08'07" E 136.29'

S 78°58'57" E 3,424.54'

(172)

BAGGETT JR, TALMAGE S,
MARY B RICE & DEBRA B MOORE
DB 2373 PG 103

-Y10- POT Sta. 9+00.00

BEGIN CONSTRUCTION
-Y10- Sta.12+10.00

BEGIN GRADE
-Y10- Sta.12+60.00

50' BLEND TO EXIST.

EXISTING R/W

10+00

BAGGETT RD 20' BST

N 13° 50' 15.4" W

15" RCP

105.29'

EXISTING R/W

EXISTING R/W

+35.00
29.78'

+15.00
29.58', 45.00'

+00.00
29.16' LT

PROPOSED R/W

PUE

PUE

PUE

PUE

PUE

PUE

PUE

PUE

E

F

16'

EXIST

10'

10'

22'

15+00

8d

GREU TL-3

-Y10-

-Y10A-254

SPECIAL CUT DITCH
SEE DETAIL B

+30.00
30.21'

+60.00
40.00'

+00.00
30.38' RT

25'
(TYP)

64.23'

+10.00
31.20'
43.00'
50.00'

+35.00
33.24'
44.00'
50.00'

SPECIAL CUT BASE DITCH
SEE DETAIL F

SPECIAL LATERAL BASE DITCH
SEE DETAIL C

+00.00
57.63'

GREU TL-3

TOE PROTECTION
SEE DETAIL H

+00.00
80.00' RT

END FENCE
END CA
+50.00
80.00' LT

+30.00
77.38', 95.00'

RW

CA

50' EASEMENT DB 6037 PG 204

(173)

WEEKS FARMS INC
DB 9470 PG 646
PB 134 PG 133

-Y10- PC Sta. 13+50.00

MATCHLINE -Y10- STA. 18+00.00 SEE SHEET 52

-Y10-
PI Sta 16+88.06
△ = 3° 13' 38.6" (LT)
D = 0° 28' 38.9"
L = 675.94'
T = 338.06'
R = 12,000.00'
SE = NC
DS = 60 MPH

FOR -Y10- PROFILE SEE SHT. 193

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh79.dgn
jbell

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	80
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

-Y10-	-Y21-
PI Sta 25+73.95	PI Sta 29+87.38	PI Sta 36+70.21
△ = 10° 08' 00.3" (RT)	△ = 7° 01' 11.3" (LT)	△ = 95° 24' 38.2" (RT)
D = 2° 27' 32.6"	D = 1° 41' 24.5"	D = 22° 55' 05.9"
L = 412.09'	L = 415.34'	L = 416.31'
T = 206.58'	T = 207.93'	T = 274.80'
R = 2,330.00'	R = 3,390.00'	R = 250.00'
SE = 0.05	SE = 0.04	SE = 0.04
DS = 60 MPH	DS = 60 MPH	DS = 40 MPH

MATCHLINE -Y21- STA. 35+00.00 SEE SHEET 52

MATCHLINE -Y10- STA. 25+00.00 SEE SHEET 52

+99.98 50.00' LT

+77.44 66.66' LT

+63.01 78.70' LT

-Y21- PT Sta. 38+11.72

N 81° 13' 26.8" E

-Y21- +00.00 85.00' LT

+00.00 60.00' LT

+00.00 54.87'

+70.00 85.00'

+14.00 54.00'

+20.00 44.00'

50' BLEND TO EXIST.

+86.00 53.00'

+75.00 44.00'

+75.00 30.17' LT

+00.00 30.20'

END GRADE -Y10- Sta. 33+75.00

END CONSTRUCTION -Y10- Sta. 34+25.00

-Y10- +15.00 85.00 LT

END FENCE END CA

LATERAL V DITCH SEE DETAIL K

2 TON CL B RIP RAP 7 SY GEOTEXTILE

LATERAL V DITCH SEE DETAIL K

SPECIAL CUT DITCH SEE DETAIL B

LATERAL BASE DITCH SEE DETAIL D

LATERAL V DITCH SEE DETAIL K

SPECIAL CUT DITCH SEE DETAIL B

N 13° 57' 05.0" W

+00.00 116.00'

-Y10- +15.00 70.71 RT

+52.00 94.00'

+05.00 65.00'

+35.00 61.53'

+45.00 79.00'

+63.00 79.00'

+75.00 57.33'

+00.00 29.80', 35.00'

-Y21- POT Sta. 38+35.80 = -Y10- POC Sta. 27+04.45

-Y10- PRC Sta. 27+79.45

-Y10- PT Sta. 31+94.79

-Y10- POT Sta. 34+27.04

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

PAVEMENT REMOVAL

FOR -Y10- PROFILE SEE SHT. 193

FOR -Y21- PROFILE SEE SHT. 195

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

169 174A 174

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

REVISIONS

8/17/99 ROW REVISION 08/17/2020 - PARCEL #74:CHANGED PDE INTO DUE.

8/24/2020 R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh80.dgn shelter

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	81
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99

ROW REVISION 07/28/2020 - PARCELS #184 & #185 HAVE BEEN COMBINED INTO PARCEL #184

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_psh81.dgn
ppeeler

NAD 83/NA 2011

N 66°44'30" W
437.68'

S 66°44'30" E
407.10'

S 84°04'48" W
8.50'

N 69°10'12" W
28.55'

S 32°39'48" W
180.00'

110.00'

S 76°19'48" W
20.00'

N 36°19'48" E
92.40'

N 22°39.82" N
1026.64'

N C DEPT OF TRANSPORTATION
DB 6731PG 291

EXISTING R/W

EXISTING R/W

-Y11- POT Sta.10+00.00

-Y11- PC Sta. 15+60.42

184
BAKER, MYRA H
DB 7613 PG 190
PB 109 PG 120

184
BAKER, TONY M & WIFE MYRA H
DB 5474 PG 34
PB 104 PG 91

184
BAKER, MYRA H
DB 7613 PG 190
PB 109 PG 120

189
DRL PROPERTIES LLC
DB 7465 PG 238
PB 95 PG 37

N 28°04'58" E
405.57'

N 23°56'30" E
29.55'

N 23°56'30" E
405.57'

2SFD

CONC STEPS

SPECIAL CUT DITCH SEE DETAIL B
+00.00 29.96'
+00.00 29.54' LT
+00.00 40.00'
+90.00 42.46'
+55.00 51.78'
+75.00 63.00'
+90.00 71.22'
+28.00 76.88'
+42.00 174.00'
+59.00 163.00'
+19.00 137.00'
+50.00 149.00'
+35.00 110.00' LT

8102
8103

REMOVE

LATERAL BASE DITCH SEE DETAIL D

HW 8101

42" RCP-IV

GREU TL-3

48" WW W/3SBW

42" 3SBW

BY5-255

BY T-256

10+00

15+00

S 67° 17' 34.9" E
-Y11-

EXIST 102.02

PROP 102.22

+35.00 30.18'
+50.00 40.00'
+90.00 30.42' RT
+85.00 45.00'
+95.00 60.00'
+20.00 46.57'
+15.00 60.00'

50' BLEND TO EXIST.

2S HTR

BK STEPS

BK STEPS & PORCH

MTL SHED

MTL SILO

B

+60.00 86.89'
+15.00 127.00'
+23.00 119.00'
+76.00 121.00'
+75.00 162.00'

PUE

20 TON CL B RIP RAP
56 SY GEOTEXTILE

BM #528

0.23' R/W ELEV

S 16°49' W
290.39'

S 24°25'18" W
177.17'

S 27°29'18" W
285.15'

S 27°28'14" W
289.15'

BEGIN CONSTRUCTION
-Y11- Sta.12+00.00

BEGIN GRADE
-Y11- Sta.12+50.00

186
HONEYCUTT, JEROME F
DB 6921PG 388
PB 133 PG 40

S 66°59'28" E
45.58'

187
HONEYCUTT, JAMES K
DB 6921PG 390
PB 114 PG 117

S 66°59'28" E
188.63'

188
HONEYCUTT, JEROME F
DB 6921PG 388
PB 113 PG 152

181
VARGAS, RAMON CORTEZ & WIFE MARIA VERONICA CORTEZ RECENDIZ
DB 9778 PG 441
BK DB 767 PG 233
PB 136 PG 198

S 27°19'06" W
142.73'

S 27°19'57" W
295.69'

S 27°21'48" W
200.39'

N 66°58'11" W
299.91'

N 62°45'37" W
235.79'

N 27°20'37" W
56.93'

N 34°40'00" W
369.96'

MATCHLINE -Y11- STA. 20+00.00 SEE SHEET 57

-Y11-

PI Sta 18+70.00
△ = 3° 05' 02.7" (RT)
D = 0° 29' 53.6"
L = 619.02'
T = 309.58'
R = 11,500.00'
SE = NC
V = 60 MPH

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

FOR -Y11- PROFILE SEE SHT. 194

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

ALL DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.

ALL EXISTING ROW FENCE TO BE REMOVED UNLESS OTHERWISE LABELED.

PROJECT REFERENCE NO.	SHEET NO.
I-5986A	82
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99

ROW REVISION 07/28/2020 – PARCEL #182: CORRECTED PUE LABELS AT -YIIDW- STA.13+00 +/- LT.
ROW REVISION 08/17/2020 – PARCEL #183: DIVIDED INTO PARCEL #183 & #183A AND CHANGED PROPERTY OWNER NAMES.

8/24/2020
R:\Roadway\Proj\Plan_Sheets\SEC 3 PLANS SHEETS\I-5986A_Rdy_pshB2.dgn
pbell6r

MATCHLINE -Y11- STA. 29+00.00 SEE SHEET 57

NAD 83/NA 2011

183 JENNINGS, JOHN PATRICK D. DB 10746 PG 59 PIN: 1503787772

183A McGREGOR, JERRY LYNN JR. AND WIFE MICHELLE L; KISHBAUGH, EDWARD STERLING AND WIFE DOREEN M DB 10693 PG 0673 PB 143 PG 168

190 JENNINGS, KIMBERLY PAM DORMAN DB 10092 PG 361 PB 139 PG 44

BRIAN KEITH PUGSLEY JR AND WIFE LAUREN ASHLEY JENNINGS PUGSLEY DB 9867 PG 161 PB 137 PG 76

JOHN PATRICK DIGAN JENNINGS DB 5871 PG 38 PB 90 PG 105

JENNINGS, KIMBERLY PAM DORMAN DB 10092 PG 361 PB 139 PG 44

179 DORMAN, ROBERT DALE & WIFE TAMMY B DB 10092 PG 374 PB 139 PG 44

182 ROBERT DALE DORMAN AND WIFE TAMMY B DORMAN DB 10092 PG 380 PB 139 PG 44

-Y11- PT Sta. 32+18.09

-Y11DW- POT Sta.10+00.00 =
-Y11- POC Sta.32+00.00

-Y11DW- PC Sta. 10+30.00

-Y11DW- PT Sta. 11+60.87

-Y11DW- PC Sta. 12+81.95

-Y11DW- PT Sta. 13+97.47

END CONSTRUCTION
-Y11DW- POT Sta.14+15.00

-Y11DW- POT Sta.14+50.00

-Y11- POT Sta. 36+75.83

END GRADE
-Y11- Sta.35+50.00

END CONSTRUCTION
-Y11- Sta.36+00.00

50' BLEND TO EXIST.

RETAIN

REMOVE

GREU TL-3 SPECIAL LATERAL DITCH SEE DETAIL A

SPECIAL CUT DITCH SEE DETAIL B

LATERAL BASE DITCH SEE DETAIL D

LATERAL BASE DITCH SEE DETAIL P

2 TON CL B RIP RAP 7 SY GEOTEXTILE

S 9°56'26.4" W

N 70°04'55.6" W

S 80°50'18.8" E

S 2°40'04.4" W

S 80°09'21" E 307.42'

S 09°50'44" W 259.25'

S 80°09'22" E 224.96'

N 80°10'41" W 52.51'

S 09°50'47" W 66.19'

S 81°13'26" E 164.70'

N 09°50'40" E 255.86'

N 09°51'08" E 955.78'

N 09°50'47" E 186.22'

S 24°01'09" E 182.39'

S 16°43'10" W 942.54'

S 16°23'11" W 53.19'

S 16°39'01" W 186.43'

-Y11-

PI Sta 30+26.44
△ = 16° 37' 46.6" (LT)
D = 4° 18' 28.6"
L = 386.02'
T = 194.38'
R = 1,330.00'
SE = 0.06
V = 60 MPH

-Y11DW-

PI Sta 11+19.35	PI Sta 13+54.70
△ = 99° 58' 38.1" (RT)	△ = 88° 15' 00.4" (LT)
D = 76° 23' 39.7"	D = 76° 23' 39.7"
L = 130.87'	L = 115.52'
T = 89.35'	T = 72.74'
R = 75.00'	R = 75.00'

FOR -Y11- PROFILE SEE SHT. 194
FOR -Y11DW- PROFILE SEE SHT. 197

PAVEMENT REMOVAL

FOR DITCH DETAILS SEE SHTS. 2D-5 THRU 2D-6

RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1,Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions