

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2829A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
35517.3.TA1	NA, 0540047	DESIGN-BUILD	
35517.3.TAGVI	NA, 0540047	DESIGN-BUILD	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

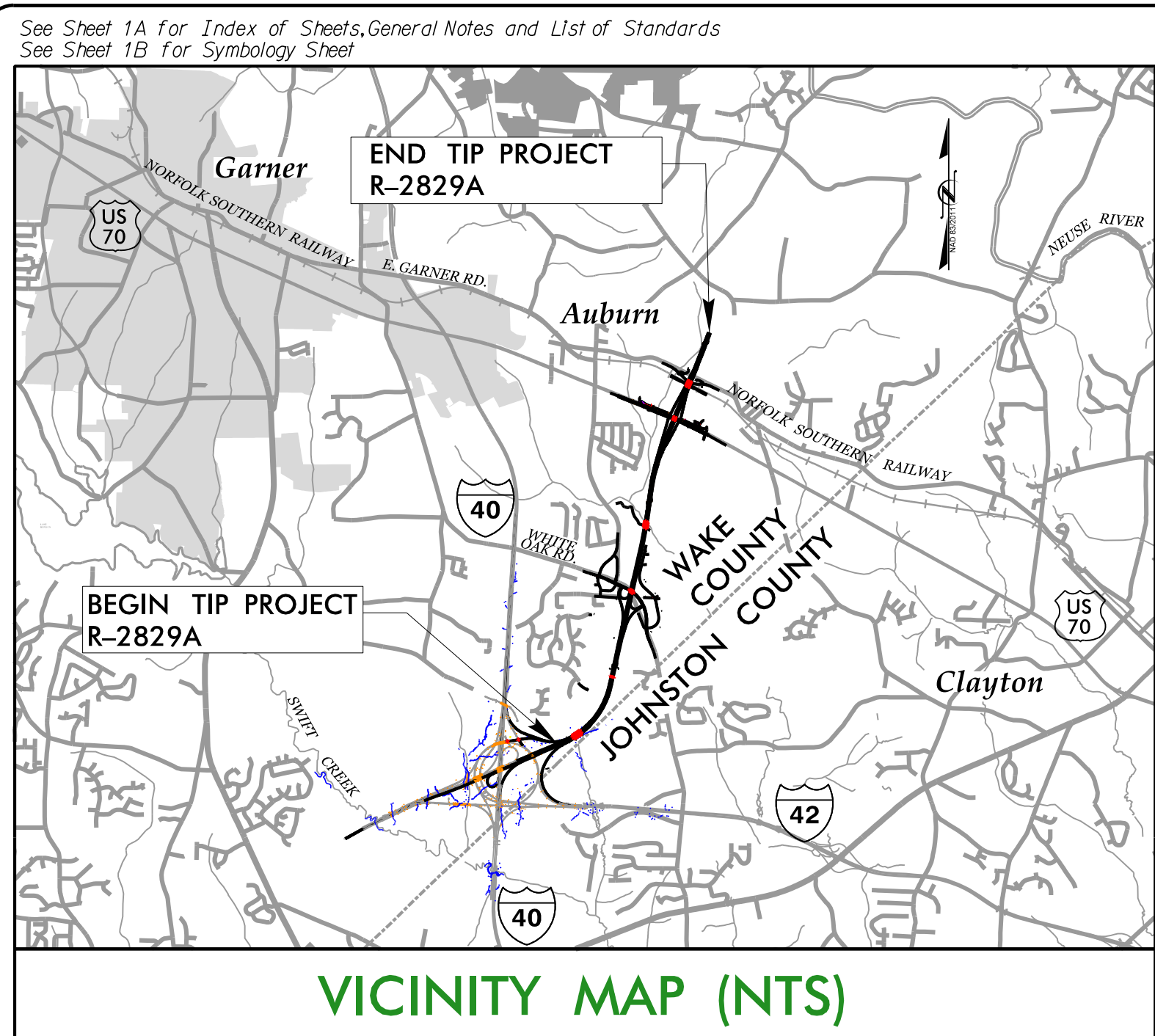
WAKE COUNTY

**LOCATION: TRIANGLE EXPRESSWAY SOUTHEAST EXTENSION
FROM I-40 TO SOUTH OF SR 2542 (ROCK QUARRY RD.)**

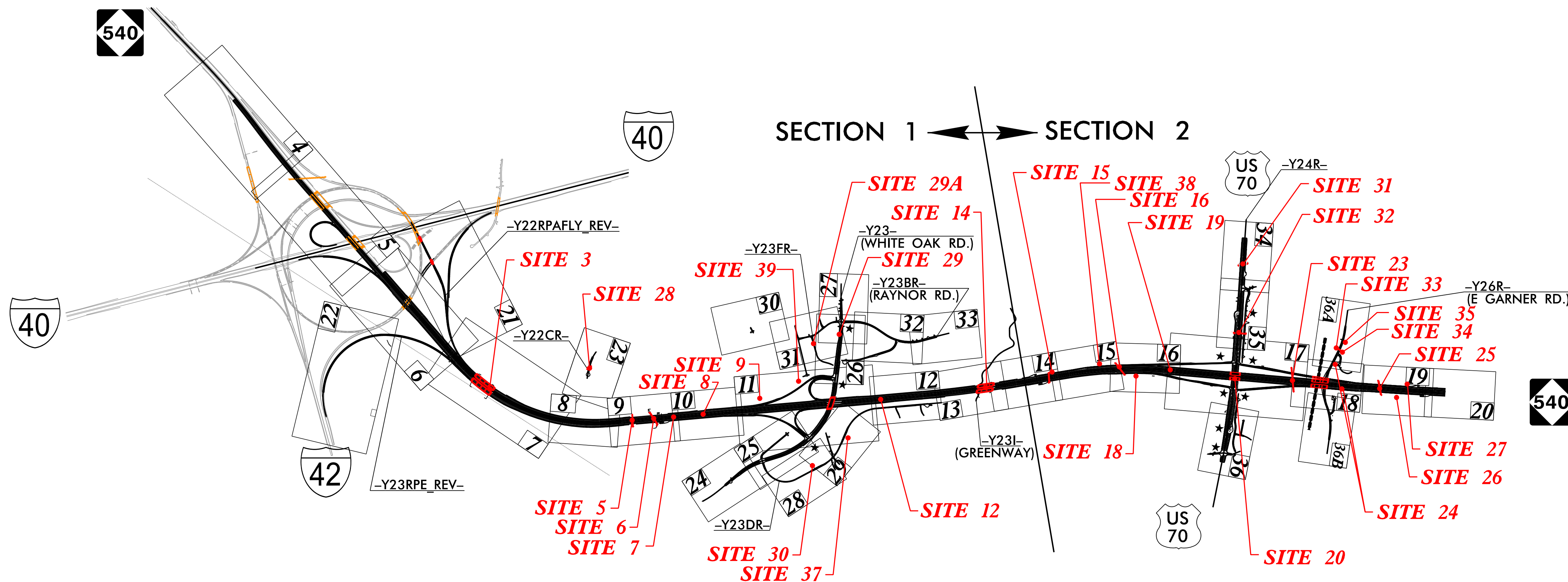
**TYPE OF WORK: GRADING, DRAINAGE, PAVING, LIGHTING,
SIGNING, ITS, CULVERTS & STRUCTURES**

**SAFETEA-LU SECTION 6002
HYDRAULIC DESIGN MEETING PLANS**

**BUFFER DRAWING
SHEET 1 OF 36**



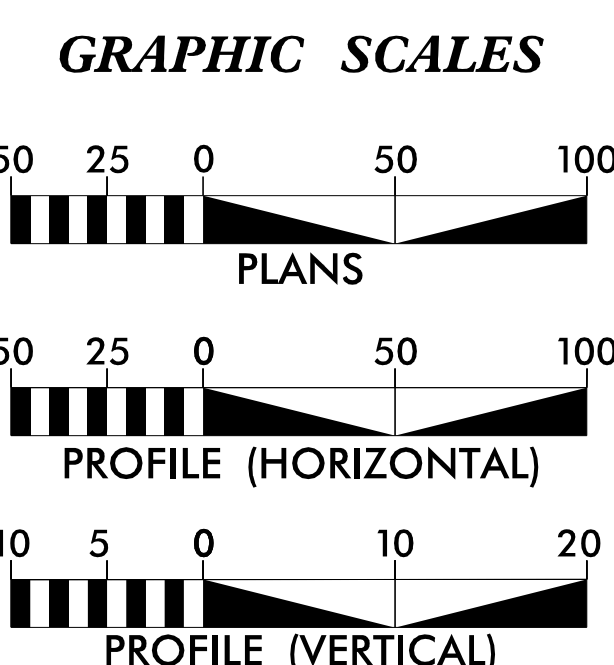
VICINITY MAP (NTS)



- NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III MODIFIED.
2. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
3. THIS PROJECT IS NOT WITHIN MUNICIPAL LIMITS.

★ PROPOSED TRAFFIC SIGNAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2023	=	15,440
ADT 2043	=	22,040
K	=	12%
D	=	65%
T	=	10% *
V	=	75 MPH

FUNC CLASS: INTERSTATE
* (TTST 4% + DUALS 6%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2829A	3.924 MILES
LENGTH STRUCTURE TIP PROJECT R-2829A	0.241 MILES
TOTAL LENGTH TIP PROJECT R-2829A	4.165 MILES

NCTA CONTACT

Ron McCollum, PE
DEPUTY CHIEF ENGINEER for PRECONSTRUCTION
TURNPIKE AUTHORITY

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. P-0112

FOR NORTH CAROLINA
TURNPIKE AUTHORITY

2018 STANDARD SPECIFICATIONS

LETTING DATE:
October 17, 2023

C. Byron Holden, PE
PROJECT ENGINEER

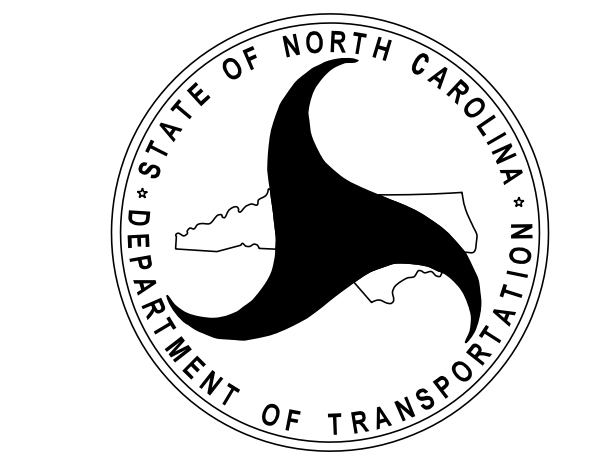
Anthony A. Houser, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

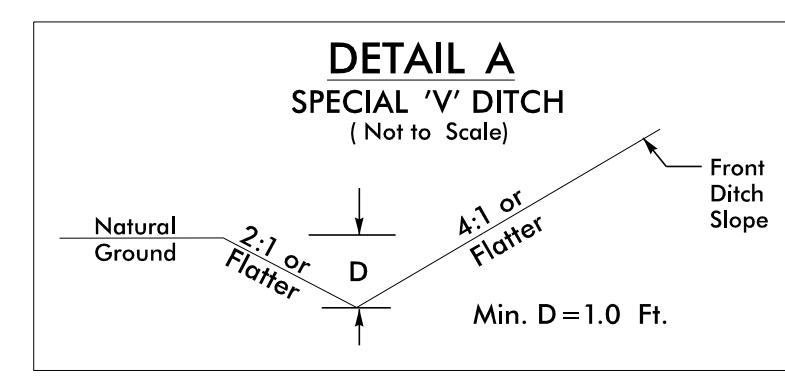
SIGNATURE: _____ P.E.



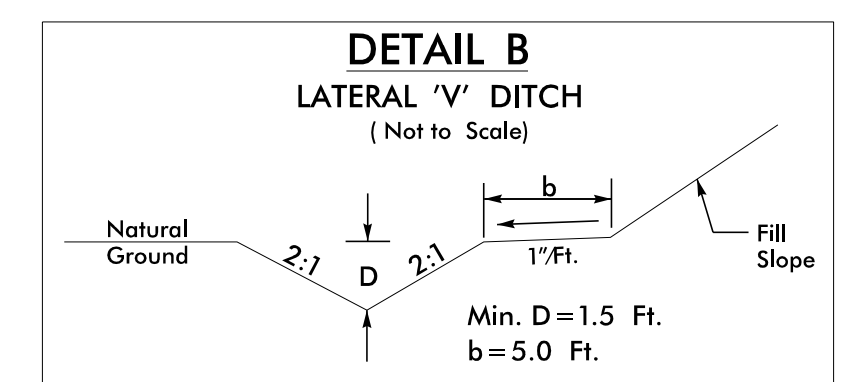
CONTRACT: C204824 TIP PROJECT: R-2829A

6/5/2024 R:\Hydraulics\Permits-Environment\Drawings\4C\R-2829A_hyd_buf_t.sh.dgn aburke

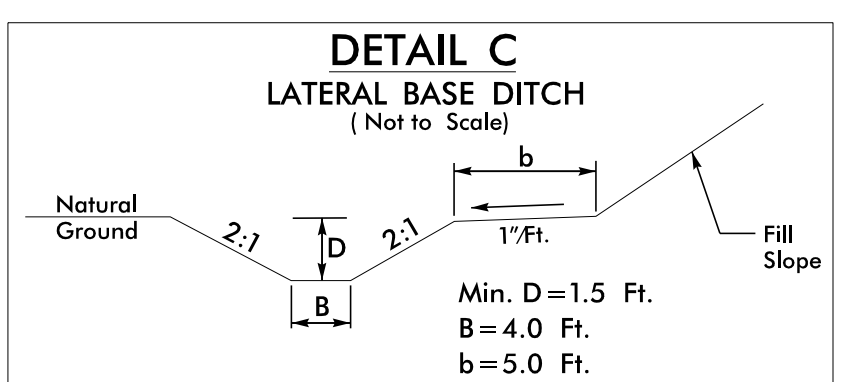
BUFFER DRAWING
SHEET 2 OF 36



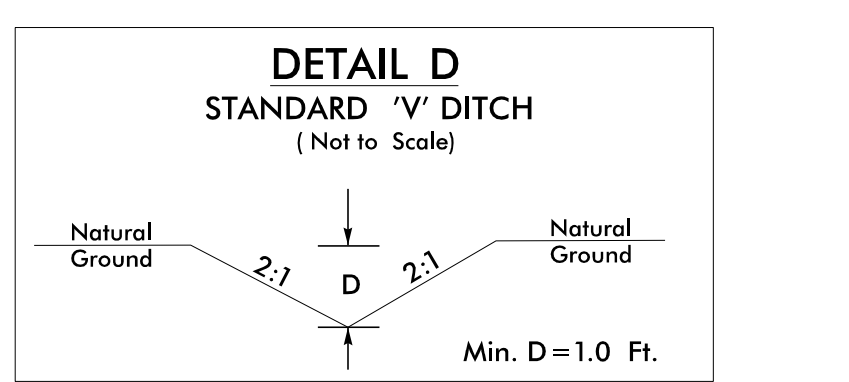
- Y22RPE REV- STA. 42+00 TO STA. 45+50 LT
- Y22RPE REV- STA. 48+88 TO STA. 51+93.23 RT
- L- STA. 996+00 TO STA. 1000+00 LT
- L- STA. 1000+00 TO STA. 1001+00 LT
- L- STA. 1000+50 TO STA. 1002+00 RT
- L- STA. 1025+50 TO STA. 1026+50 LT
- L- STA. 1027+50 TO STA. 1030+35 LT
- L- STA. 1040+35 TO STA. 1044+50 RT
- L- STA. 1045+50 TO STA. 1048+50 RT
- L- STA. 1057+00 TO STA. 1057+50 LT
- L- STA. 1071+50 TO STA. 1073+00 LT
- L- STA. 1093+50 TO STA. 1094+00 RT
- Y22CR- STA. 15+00 TO STA. 15+50 LT
- Y23R- STA. 15+50 TO STA. 16+50 LT
- Y23R- STA. 15+50 TO STA. 16+00 RT
- Y23R- STA. 19+00 TO STA. 20+00 RT
- Y23R- STA. 22+50 TO STA. 23+80 RT
- Y23R- STA. 23+80 TO STA. 25+30 LT
- Y23R- STA. 26+00 TO STA. 27+15 RT
- Y23R- STA. 32+00 TO STA. 32+75 RT
- Y23R- STA. 63+00 TO STA. 63+32 LT
- Y23R- STA. 63+00 TO STA. 63+35 RT
- Y23R- STA. 68+75 TO STA. 69+00 RT
- Y23AR- STA. 10+30 TO STA. 12+50 RT
- Y23AR- STA. 16+50 TO STA. 17+50 RT
- Y23BR- STA. 10+77 TO STA. 16+00 LT
- Y23BR- STA. 18+50 TO STA. 22+00 LT
- Y23CR- STA. 19+00 TO STA. 20+50 LT
- Y23DR- STA. 10+50 TO STA. 11+50 LT
- Y23DR- STA. 15+00 TO STA. 15+50 LT
- Y23DR- STA. 10+50 TO STA. 16+50 RT
- Y23DR- STA. 20+50 TO STA. 23+50 RT
- Y23DR- STA. 37+00 TO STA. 40+00 LT
- Y23DR- STA. 38+38 TO STA. 41+00 RT
- Y23DR- STA. 54+94 TO STA. 55+65 RT
- Y23E- STA. 10+00 TO STA. 10+50 LT
- Y23E- STA. 10+20 TO STA. 11+50 LT
- Y23G- STA. 10+50 TO STA. 11+50 LT
- Y23J- STA. 14+00 TO STA. 15+30 RT
- DR2- STA. 10+24 TO STA. 11+50 LT
- DR2- STA. 10+70 TO STA. 11+50 RT



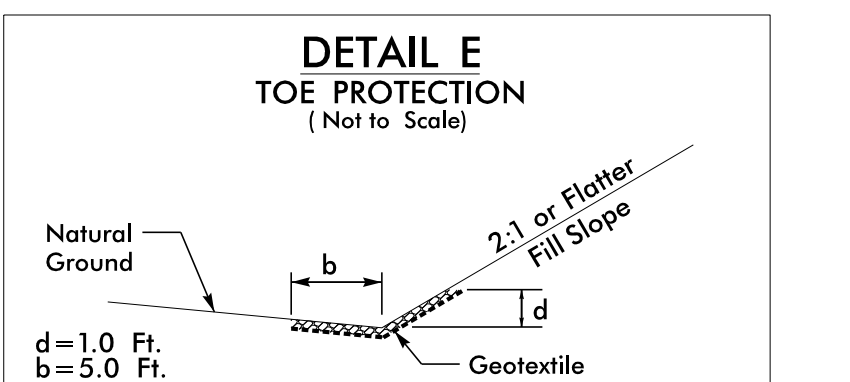
- *-Y22RPAFLY REV- STA. 32+50 TO STA. 34+50 RT
- Y22RPAFLY REV- STA. 18+54 TO STA. 20+00 LT
- Y22RPA REV- STA. 21+36 TO STA. 23+00 LT
- Y22RPE REV- STA. 35+50 TO STA. 39+00 LT
- Y23R- STA. 48+00 TO STA. 49+50 RT
- Y23BR- STA. 22+00 TO STA. 22+75 LT
- L- STA. 1026+50 TO STA. 1027+50 LT
- L- STA. 1033+00 TO STA. 1034+00 LT
- L- STA. 1069+50 TO STA. 1071+50 LT
- L- STA. 1135+50 TO STA. 1136+00 RT
- L- STA. 1164+50 TO STA. 1168+50 LT



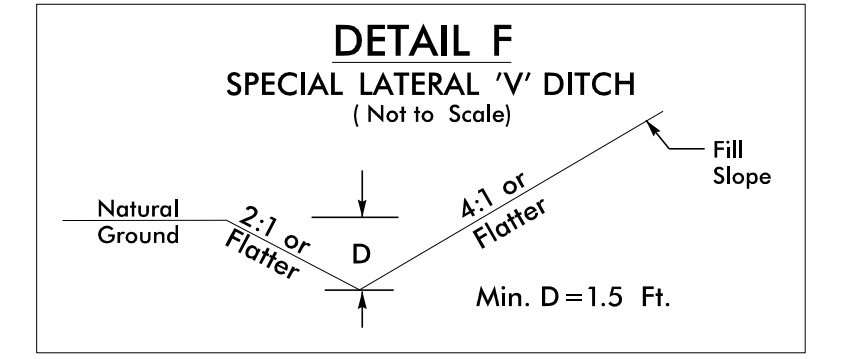
- L- STA. 1003+00 TO STA. 1004+34 RT
- Y23R- STA. 53+00 TO STA. 55+00 RT
- Y23R- STA. 55+00 TO STA. 56+16 LT
- Y22RPA REV- STA. 14+55 TO STA. 19+50 RT
- L- STA. 1033+00 TO STA. 1034+00 LT
- L- STA. 1069+50 TO STA. 1071+50 LT
- Y26R- STA. 29+25 TO STA. 34+50 RT



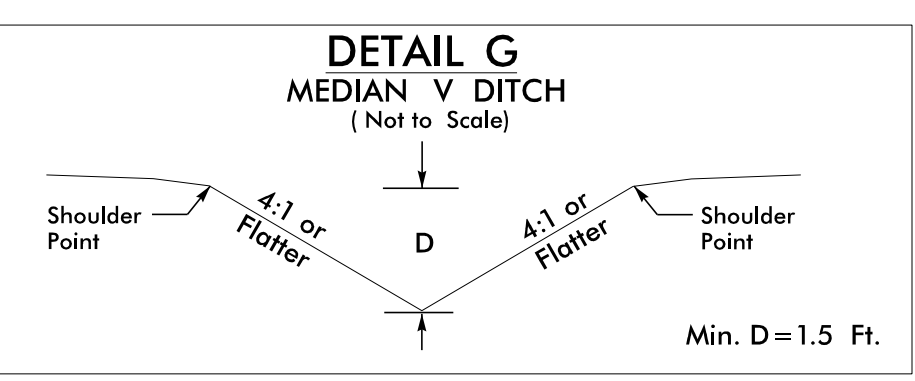
- Y22RPE REV- STA. 51+93.23 TO STA. 53+40 RT
- BEGIN ELEV=245.6, END ELEV=242.30
- S=2.25%, L=151'
- Y23DR- STA. 55+00 TO STA. 56+18 RT
- BEGIN ELEV=278.7, END ELEV=277.5
- S=4.5%, L=53'
- L- STA. 1161+20 RT
- BEGIN ELEV=308.10, END ELEV=307.60
- S=1.92%, L=26'
- Y24RPC- STA. 28+50 TO STA. 28+76 LT
- BEGIN ELEV=300.00, END ELEV=299.80
- S=0.34%, L=58'



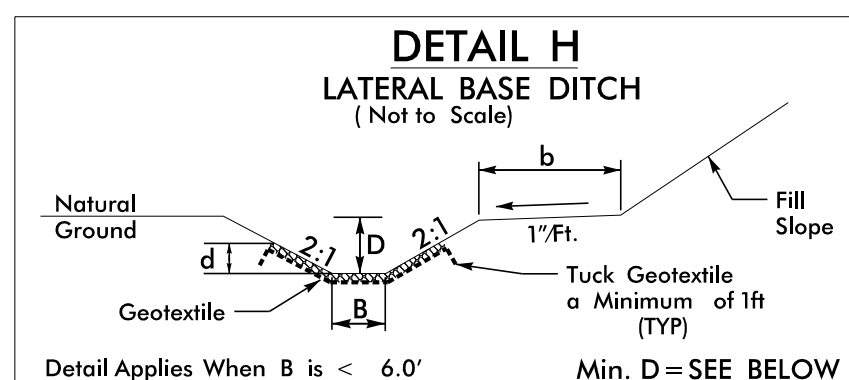
- Type of Liner= CLASS B RIPRAP
- *-Y22RPAFLY1- STA. 62+90 TO STA. 63+70 LT
 - *-Y22RPAFLY REV- STA. 39+50 TO STA. 39+69 LT
 - *-Y22LPC- STA. 24+13 TO STA. 26+25 RT
 - *-L- STA. 930+24 TO STA. 930+72 RT
 - Y22RPE REV- STA. 27+50 TO STA. 33+50 RT
 - Y22RPE REV- STA. 39+00 TO STA. 43+00 RT
 - L- STA. 1002+00 TO STA. 1002+75 RT
 - L- STA. 1003+50 TO STA. 1004+50 LT
 - L- STA. 1004+25 TO STA. 1004+75 RT
 - L- STA. 1007+00 TO STA. 1010+00 RT
 - L- STA. 1007+50 TO STA. 1008+75 LT
 - L- STA. 1012+50 TO STA. 1013+50 LT
 - L- STA. 1013+00 TO STA. 1014+00 RT
 - L- STA. 1091+69 TO STA. 1093+51 LT
 - Y22CR- STA. 15+50 TO STA. 16+00 LT
 - Y22CR- STA. 15+50 TO STA. 16+00 RT
 - Y23RPB- STA. 12+50 TO STA. 15+15 LT
 - Y23R- STA. 39+00 TO STA. 40+60 RT
 - Y23DR- STA. 34+70 TO STA. 35+50 RT
 - Y23DR- STA. 51+88 TO STA. 52+47 RT
 - Y23E- STA. 10+66 TO STA. 10+81 RT
 - DR1- STA. 10+33 TO STA. 11+12 RT
 - Y23DR- STA. 47+54 TO STA. 47+92 RT
 - Y23DR- STA. 49+24 TO STA. 49+83 RT
 - Y23RPB- STA. 27+50 TO STA. 28+00 LT
 - Y23FR- STA. 11+15 TO STA. 11+67 LT
 - Y24RPAR- STA. 22+86 TO STA. 24+04 RT
 - Y24RPDR- STA. 24+10 TO STA. 25+50 LT
 - Y26R- STA. 21+70 TO STA. 22+75 RT
 - L- STA. 1104+59 TO STA. 1105+35 LT
 - L- STA. 1170+60 TO STA. 1172+00 LT
 - L- STA. 1123+12 TO STA. 1124+20 LT
 - L- STA. 1125+00 TO STA. 1126+07 LT
 - L- STA. 1128+50 TO STA. 1129+00 LT
 - L- STA. 1098+63 TO STA. 1104+59 LT
 - L- STA. 1169+54 TO STA. 1170+37 LT
 - L- STA. 1174+50 TO STA. 1175+55 LT
 - L- STA. 1113+24 TO STA. 1114+41 RT
 - L- STA. 1110+09 TO STA. 1113+58 LT
 - L- STA. 1113+86 TO STA. 1116+96 LT
 - L- STA. 1124+19 TO STA. 1125+00 LT
 - Y23RPB- STA. 27+50 TO STA. 28+00 LT
 - Y24R- STA. 19+75 TO STA. 20+50 LT
 - Y24R- STA. 20+00 TO STA. 21+50 RT
 - Y24R- STA. 61+15 TO STA. 62+50 RT
 - Y24RPAR- STA. 21+70 TO STA. 22+86 RT
 - Y24RPDR- STA. 14+30 TO STA. 14+80 LT
 - Y23R- STA. 39+00 TO STA. 41+00 LT
 - Y23R- STA. 49+50 TO STA. 53+00 RT
 - Y23R- STA. 60+00 TO STA. 62+00 RT
 - Y23RPB- STA. 27+50 TO STA. 28+75 RT
 - Y23RPB- STA. 17+00 TO STA. 18+00 RT
 - Y23BR- STA. 21+50 TO STA. 22+50 RT
 - Y23BR- STA. 23+40 TO STA. 25+50 RT
 - Y23CR- STA. 22+50 TO STA. 23+15 LT
 - Y23FR- STA. 10+25 TO STA. 11+15 LT
 - Y23FR- STA. 11+69 TO STA. 12+40 RT
 - Y23FR- STA. 11+94 TO STA. 13+50 LT
 - L- STA. 1136+00 TO STA. 1137+00 RT
 - L- STA. 1164+50 TO STA. 1165+50 RT
 - L- STA. 1167+50 TO STA. 1170+00 RT
 - L- STA. 1168+50 TO STA. 1169+50 LT
 - Y24RPB- STA. 29+50 TO STA. 30+50 LT
 - Y24RPDR- STA. 11+60 TO STA. 12+80 LT
 - Y24R- STA. 18+00 TO STA. 19+17 LT
 - Y24R- STA. 19+00 TO STA. 20+11 RT
 - Y24R- STA. 33+99 TO STA. 34+68 RT
 - L- STA. 1113+00 TO STA. 1113+26 RT



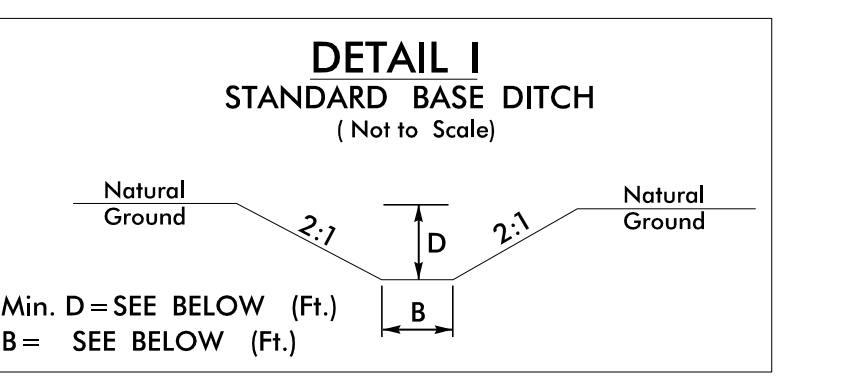
- *-Y22RPA REV- STA. 23+00 TO STA. 27+50 RT
- *-Y22RPA REV- STA. 23+00 TO STA. 27+85 LT
- Y23R- STA. 21+50 TO STA. 22+50 RT
- *-L- STA. 958+00 TO STA. 962+50 RT
- *-L- STA. 957+00 TO STA. 962+50 LT



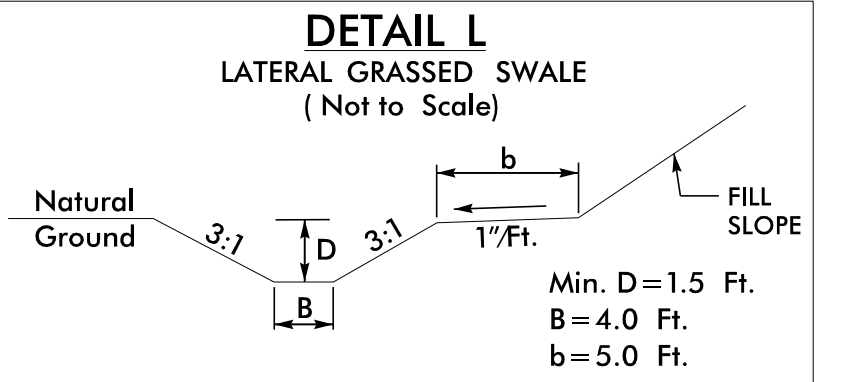
- *-L- STA. 962+50 TO STA. 964+00 RT
- L- STA. 1038+50 TO STA. 1043+50 LT
- L- STA. 1038+00 TO STA. 1040+35 RT
- L- STA. 1038+00 TO STA. 1040+50 LT
- L- STA. 1044+50 TO STA. 1045+00 RT
- L- STA. 1087+00 TO STA. 1089+50 RT
- L- STA. 1092+00 TO STA. 1094+00 LT
- Y23DR- STA. 34+15 TO STA. 36+00 LT
- Y23DR- STA. 51+00 TO STA. 51+93 RT
- Y23RPB- STA. 22+50 TO STA. 23+50 RT
- L- STA. 1128+50 TO STA. 1131+00 RT



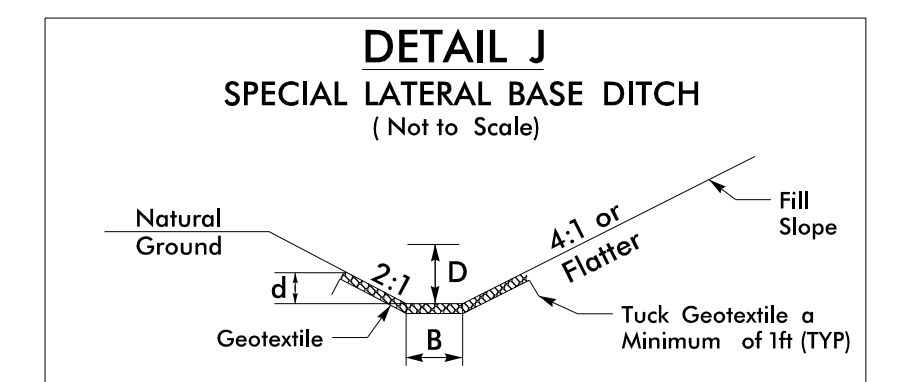
- Y22RPA REV- STA. 19+50 TO STA. 20+73 RT, D/d=1.0'
- Y22RPE REV- STA. 39+00 TO STA. 41+00 LT, D/d=1.0'
- L- STA. 966+00 TO STA. 971+50 LT, D/d=3.0'
- L- STA. 1002+40 TO STA. 1003+00 RT, D/d=1.5'
- L- STA. 1015+50 TO STA. 1018+00 LT, D/d=1.0'
- L- STA. 1018+15 TO STA. 1019+00 RT, D/d=1.0'
- L- STA. 1087+00 TO STA. 1089+50 RT, D/d=1.0'
- L- STA. 1092+00 TO STA. 1094+00 LT, D/d=1.0'
- Y23DR- STA. 34+15 TO STA. 36+00 LT, D/d=1.0'
- Y23DR- STA. 51+00 TO STA. 51+93 RT, D/d=1.0'
- Y23RPB- STA. 22+50 TO STA. 23+50 RT, D/d=1.0'
- Y24RPDR- STA. 14+75 TO STA. 17+48 LT, D/d=2.0'
- Y24RPC- STA. 19+00 TO STA. 21+50 RT, D/d=1.0'



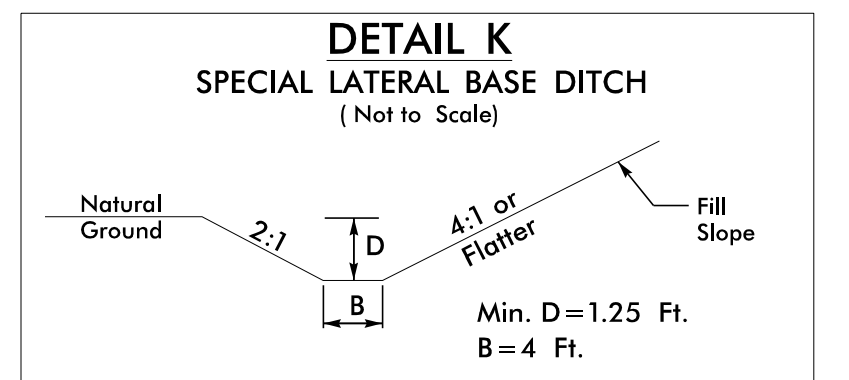
- *-Y22RPAFLY REV- STA. 30+50 RT, L=138', S=6.52%
- BEGIN ELEV=284.0, END ELEV=275.0'
- MIN D=1.0', B=4' (TEMPORARY DITCH)
- L- STA. 971+50 TO STA. 972+93 LT, L=143'
- BEGIN ELEV=217.45', END ELEV=217.00', S=0.31%
- MIN D=2.75', B=10'
- Y23R- STA. 23+80 RT, L=82', S=0.3%
- BEGIN ELEV=335.25, END ELEV=335.0',
- MIN D=1.5', B=4'
- Y23BR- STA. 22+75 LT, L=80', S=0.7%
- BEGIN ELEV=340.20, END ELEV=339.65',
- MIN D=1.5', B=3'
- Y23DR- STA. 15+50 RT, L=100', S=0.45%
- BEGIN ELEV=316.6, END ELEV=316.15',
- MIN D=1.5', B=4'
- L- STA. 1027+00 LT, L=205', S=0.3%
- BEGIN ELEV=296.7, END ELEV=296.0,
- MIN D=1.5', B=4'
- L- STA. 1030+35 LT, L=172', S=0.5%
- BEGIN ELEV=301.8, END ELEV=301.0,
- MIN D=1.5', B=4'
- Y23DR- STA. 51+00 LT, L=97', S=1.24%
- BEGIN ELEV=265.0, END ELEV=263.8,
- MIN D=2.0', B=4'
- Y24E- STA. 10+60 LT
- BEGIN ELEV=336.2', END ELEV=336.0', L=58', S=0.3%
- MIN D=1', B=2'
- Y24R- STA. 37+00 RT
- BEGIN ELEV=264.2', END ELEV=264.1', L=37', S=0.3%
- MIN D=2', B=4'



- L- STA. 1003+00 TO STA. 1003+80 LT
- L- STA. 1009+03 TO STA. 1011+50 LT
- L- STA. 1013+77 TO STA. 1015+50 LT
- L- STA. 1023+00 TO STA. 1023+84 LT
- L- STA. 1024+18 TO STA. 1025+00 RT
- L- STA. 1034+00 TO STA. 1036+33 LT
- L- STA. 1089+50 TO STA. 1093+50 RT
- L- STA. 1090+00 TO STA. 1092+00 LT
- Y23R- STA. 19+00 TO STA. 23+00 LT
- Y23R- STA. 39+00 TO STA. 41+00 LT
- Y23R- STA. 49+50 TO STA. 53+00 RT
- Y23R- STA. 60+00 TO STA. 62+00 RT
- Y23RPB- STA. 27+50 TO STA. 28+75 RT
- Y23RPB- STA. 17+00 TO STA. 18+00 RT
- Y23BR- STA. 21+50 TO STA. 22+50 RT
- Y23BR- STA. 23+40 TO STA. 25+50 RT
- Y23CR- STA. 22+50 TO STA. 23+15 LT
- Y23FR- STA. 10+25 TO STA. 11+15 LT
- Y23FR- STA. 11+69 TO STA. 12+40 RT
- Y23FR- STA. 11+94 TO STA. 13+50 LT

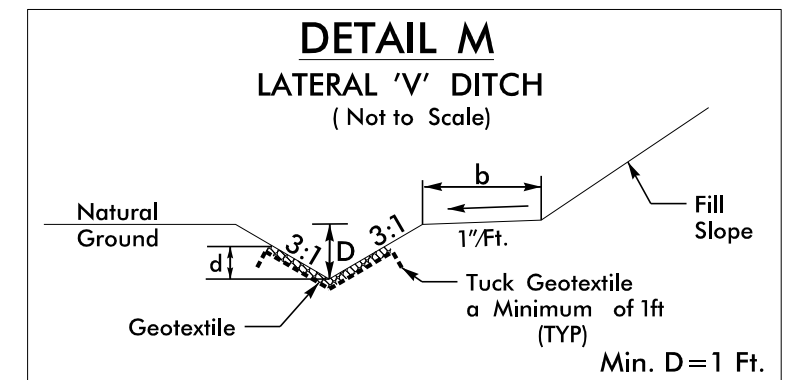


- *-Y22RPAFLY REV- STA. 32+00 TO STA. 32+50 RT, CL I RIPRAP (TEMPORARY DITCH)

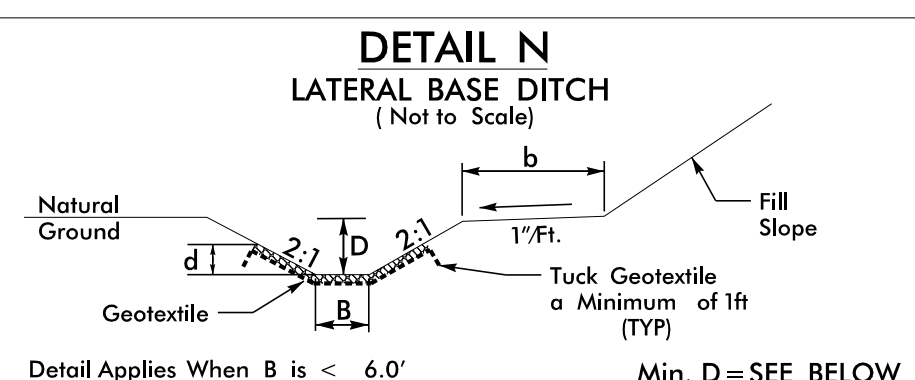


- *-Y22RPAFLY REV- STA. 30+50 TO STA. 32+00 RT (TEMPORARY DITCH)

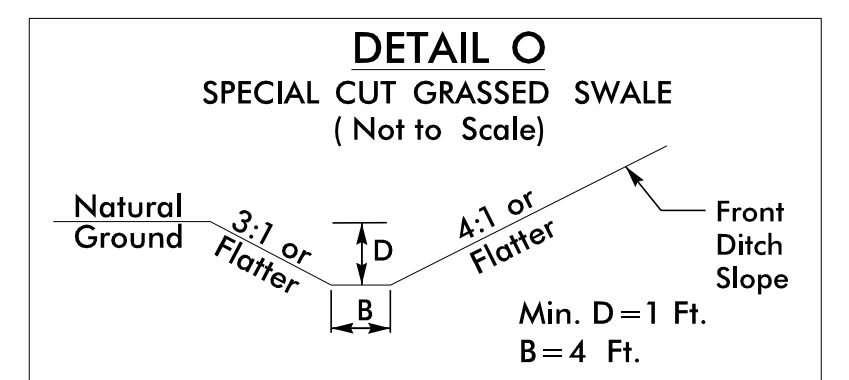
- Y24A- STA. 11+85 TO STA. 13+49 LT
- Y24E- STA. 10+50 TO STA. 11+00 LT
- Y24F- STA. 10+50 TO STA. 12+50 LT
- Y24R- STA. 13+00 TO STA. 16+00 RT
- Y24R- STA. 14+00 TO STA. 15+50 LT
- Y24R- STA. 23+50 TO STA. 24+48 LT
- Y24R- STA. 25+75 TO STA. 26+50 LT
- Y24RPC- STA. 26+30 TO STA. 28+50 LT
- Y26R- STA. 13+00 TO STA. 14+50 LT
- Y26 DRW1- STA. 10+10 TO STA. 12+50 RT
- Y26RSR1- STA. 12+25 TO STA. 13+82 RT
- Y26RSR2- STA. 10+10 TO STA. 10+50 RT
- L- STA. 1094+00 TO STA. 1097+00 RT
- Y26R- STA. 13+00 TO STA. 13+50 RT
- L- STA. 1131+00 TO STA. 1134+50 RT



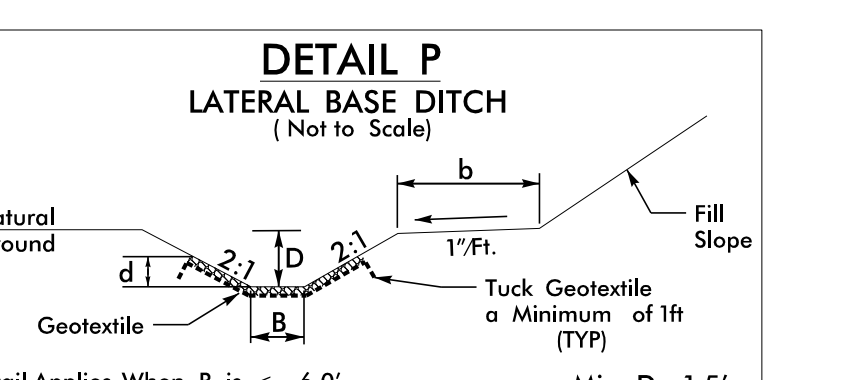
- Y23RPB- STA. 28+50 TO STA. 29+80 LT
- Y22RPA REV- STA. 10+00 TO STA. 12+00 RT
- Y22RPAFLY REV- STA. 19+75 TO STA. 21+46 RT
- Y23AR- STA. 19+60 TO STA. 19+80 LT
- Y26R- STA. 22+02 TO STA. 22+40 LT



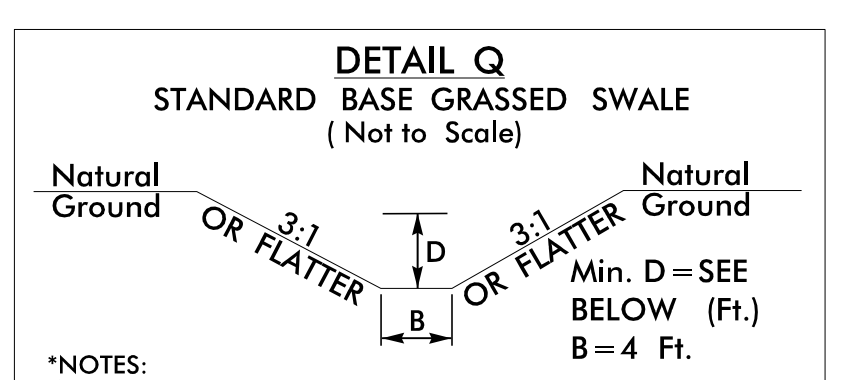
- Y22RPAFLY REV- STA. 15+37 TO STA. 19+75 RT, D/d=2.75'
- Y22RPAFLY REV- STA. 21+24 TO STA. 28+00 LT, D/d=2.5'
- Y22RPE REV- STA. 21+00 TO STA. 28+00 LT, D/d=2.5'
- L- STA. 979+00 TO STA. 982+00 RT, D/d=1.5'
- L- STA. 980+24 TO STA. 986+00 LT, D/d=1.5'
- L- STA. 1064+00 TO STA. 1066+50 LT, D/d=1.0'
- Y23R- STA. 31+50 TO STA. 34+75 RT, D/d=1.5'
- Y23DR- STA. 24+50 TO STA. 27+50 LT, D/d=1.0'
- Y23DR- STA. 24+00 TO STA. 24+75 RT, D/d=1.0'
- Y23DR- STA. 32+50 TO STA. 34+15 LT, D/d=1.0'
- Y23DR- STA. 51+93 TO STA. 52+50 LT, D/d=1.0'
- L- STA. 1163+00 TO STA. 1164+50 RT, D/d=1.5'
- L- STA. 1163+00 TO STA. 1164+50 LT, D/d=1.5'
- L- STA. 1165+50 TO STA. 1167+50 RT, D/d=1.5'
- L- STA. 1170+00 TO STA. 1171+38 RT, D/d=1.5'
- L- STA. 1179+40 TO STA. 1181+00 LT, D/d=1.5'
- Y24RPAR- STA. 21+00 TO STA. 21+78 RT, D/d=1.5'
- Y24RPDR- STA. 12+80 TO STA. 14+24 LT, D/d=1.5'
- Y24R- STA. 15+50 TO STA. 18+00 LT, D/d=1.5'
- Y24R- STA. 16+00 TO STA. 19+00 RT, D/d=1.5'



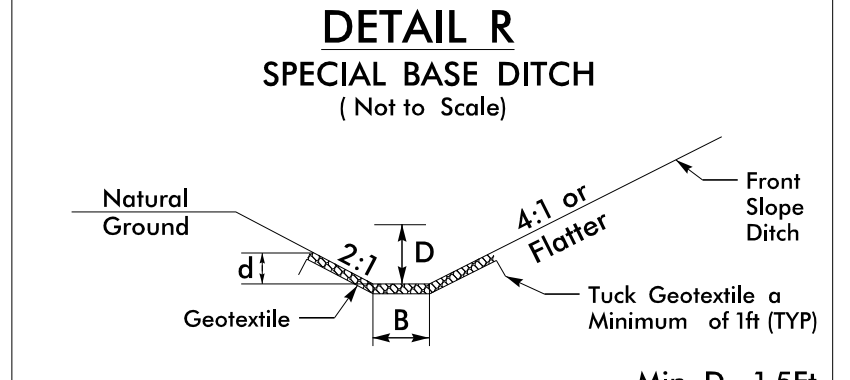
- L- STA. 1001+00 TO STA. 1003+00 LT
- L- STA. 1005+50 TO STA. 1007+00 RT
- L- STA. 1010+50 TO STA. 1012+50 RT
- L- STA. 1018+00 TO STA. 1021+50 LT
- L- STA. 1019+00 TO STA. 1024+00 RT
- L- STA. 1022+50 TO STA. 1024+18 RT
- L- STA. 1026+00 TO STA. 1029+50 RT
- L- STA. 1054+50 TO STA. 1056+00 RT
- L- STA. 1059+00 TO STA. 1060+50 LT
- L- STA. 1096+16 TO STA. 1098+00 LT
- Y23R- STA. 18+50 TO STA. 19+00 LT
- Y23R- STA. 38+20 TO STA. 39+00 LT
- Y23R- STA. 59+00 TO STA. 60+00 RT
- Y23RPC- STA. 14+29 TO STA. 17+00 RT
- Y23RPC- STA. 18+00 TO STA. 19+00 RT
- Y23RPC- STA. 20+00 TO STA. 23+50 LT
- Y23RPC- STA. 19+00 TO STA. 24+00 RT
- Y23LPC- STA. 14+00 TO STA. 15+44 RT
- Y23RPB- STA. 16+08 TO STA. 17+12 LT
- Y23RPB- STA. 18+05 TO STA. 22+50 RT
- Y23AR- STA. 13+30 TO STA. 14+50 RT
- Y23BR- STA. 18+50 TO STA. 21+50 RT
- Y23CR- STA. 20+50 TO STA. 22+50 LT
- Y23DR- STA. 21+00 TO STA. 23+00 LT
- Y23DR- STA. 29+85 TO STA. 32+50 LT
- Y23DR- STA. 36+00 TO STA. 37+00 LT
- Y23DR- STA. 44+43 TO STA. 45+43 RT
- Y23J- STA. 14+00 TO STA. 14+85 LT
- L- STA. 992+00 TO STA. 996+00 LT
- L- STA. 1097+00 TO STA. 1098+50 RT
- L- STA. 1101+00 TO STA. 1101+50 RT
- L- STA. 1119+00 TO STA. 1124+50 RT
- Y24R- STA. 32+50 TO STA. 33+99 RT
- Y24A- STA. 19+51 TO STA. 20+01 LT
- Y24RPB- STA. 30+50 TO STA. 32+00 LT
- Y24RPC- STA. 21+50 TO STA. 24+50 RT
- L- STA. 1094+00 TO STA. 1096+16 LT
- L- STA. 1180+00 TO STA. 1181+50 RT



- Y24RPB- STA. 32+00 TO STA. 34+00 LT

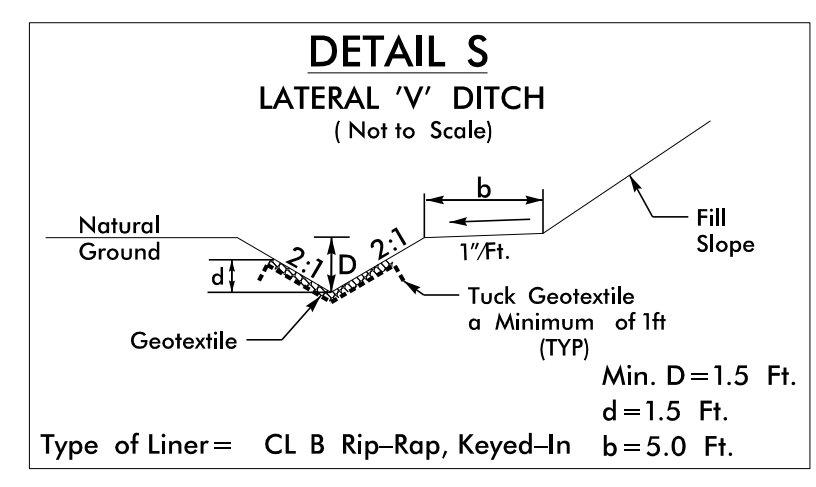


- *NOTES:
- 1) LONGITUDINAL SLOPES BETWEEN 0.3% AND 4.0%.
- 2) MODIFICATIONS MAY BE NEEDED, AS APPROVED BY ENGINEER.
- L- STA. 1084+71 TO STA. 1087+00 RT, D=2'
- BEGIN ELEV=230.0, END ELEV=231.0, S=-0.36%, L=279'
- L- STA. 1056+00 RT, D=1'
- L- STA. 1085+06 LT, D=2'
- BEGIN ELEV=230.4, END ELEV=230.0, S=0.3%, L=117'
- L- STA. 1118+85 TO STA. 1119+00 RT, D=1'
- L- STA. 1179+10 TO STA. 1180+00 RT, D=1'



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

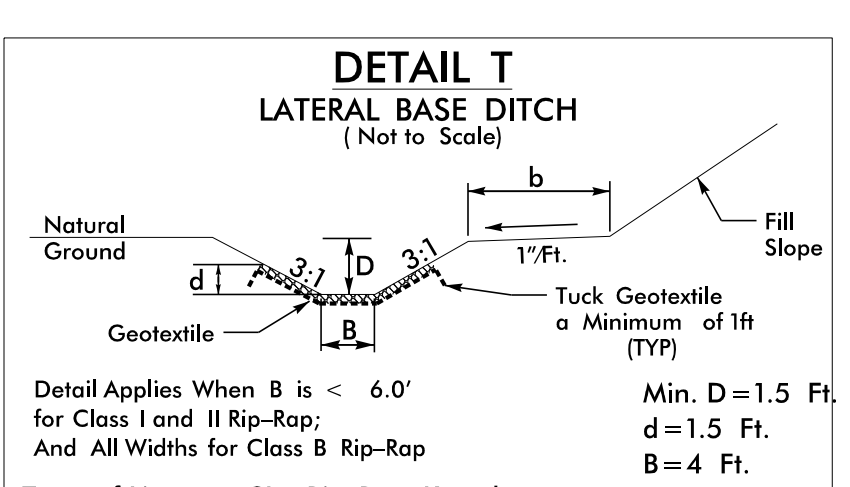
**BUFFER DRAWING
SHEET 3 OF 36**



Min. D=1.5 Ft.
d=1.5 Ft.
b=5.0 Ft.

Type of Liner = CL B Rip-Rap, Keyed-In

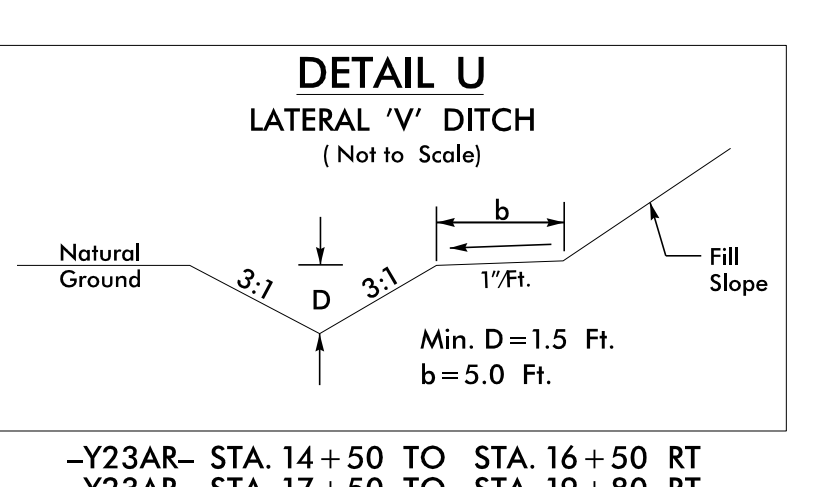
-Y22RPAFLY_REV- STA. 20+00 TO STA. 21+24 LT
-Y23R- STA. 41+00 TO STA. 43+00 LT
-Y23RPB- STA. 23+50 TO STA. 24+50 RT
-Y23FR- STA. 13+50 TO STA. 14+00 LT
-Y26R- STA. 20+30 TO STA. 22+02 LT
-Y26R- STA. 28+50 TO STA. 29+25 RT



Min. D=1.5 Ft.
d=1.5 Ft.
b=4 Ft.

Type of Liner = CL I Rip-Rap, Keyed-In

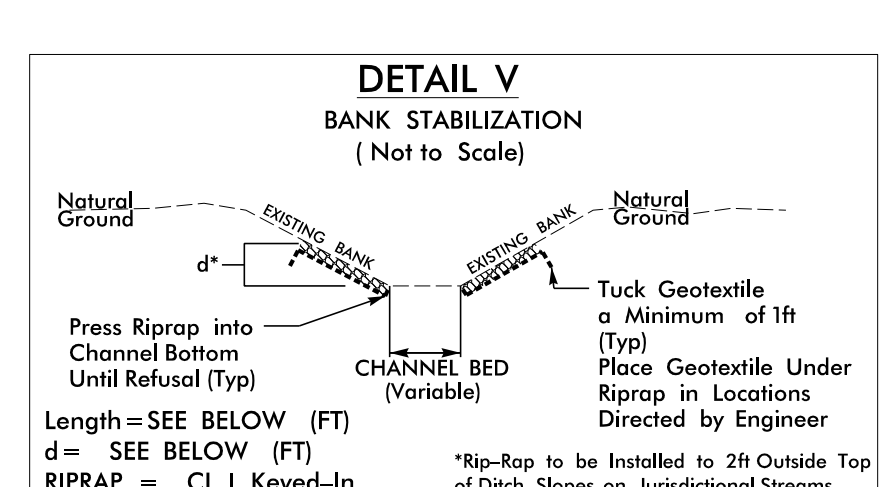
-Y23RPB- STA. 28+20 TO STA. 28+50 LT
-Y23RPB- STA. 28+75 TO STA. 30+45 RT
-Y22RPEV- STA. 28+00 TO STA. 30+00 LT
-Y22RPAFLY_REV- STA. 28+00 TO STA. 30+00 LT



Min. D=1.5 Ft.
b=5.0 Ft.

Type of Liner = CL B Rip-Rap

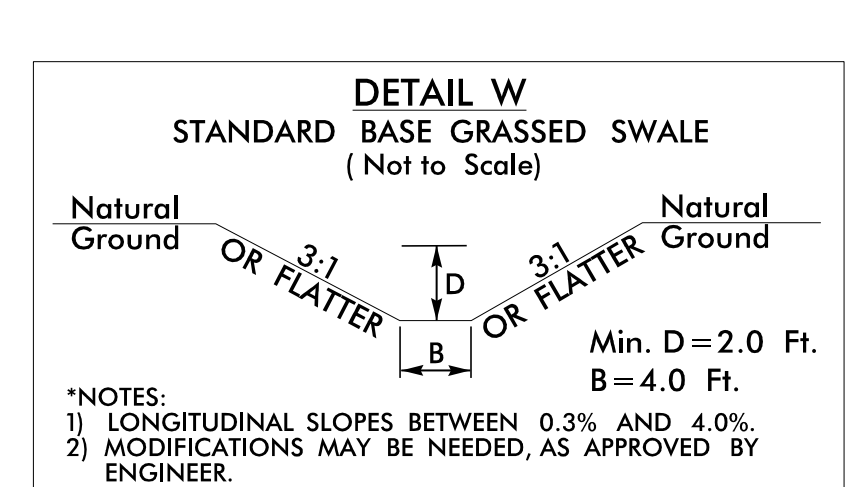
-Y23AR- STA. 14+50 TO STA. 16+50 RT
-Y23AR- STA. 17+50 TO STA. 19+80 RT



Min. D=1.5 Ft.
b=5.0 Ft.

Type of Liner = CL I, Keyed-In

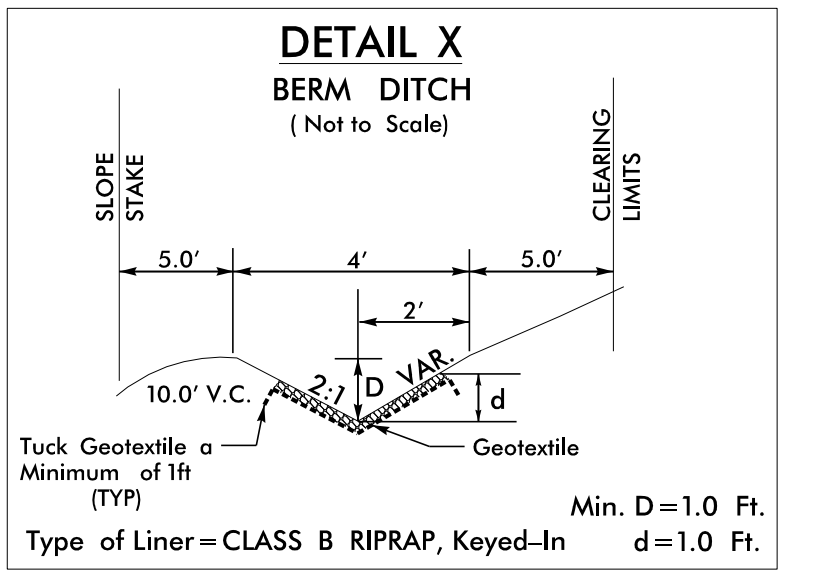
-Y26R- STA. 22+25 LT,
L=72', d=3'
48 TONS CL I RIPRAP, W/107 SY GEOFAB



Min. D=2.0 Ft.
B=4.0 Ft.

Type of Liner = CL B Rip-Rap, Keyed-In

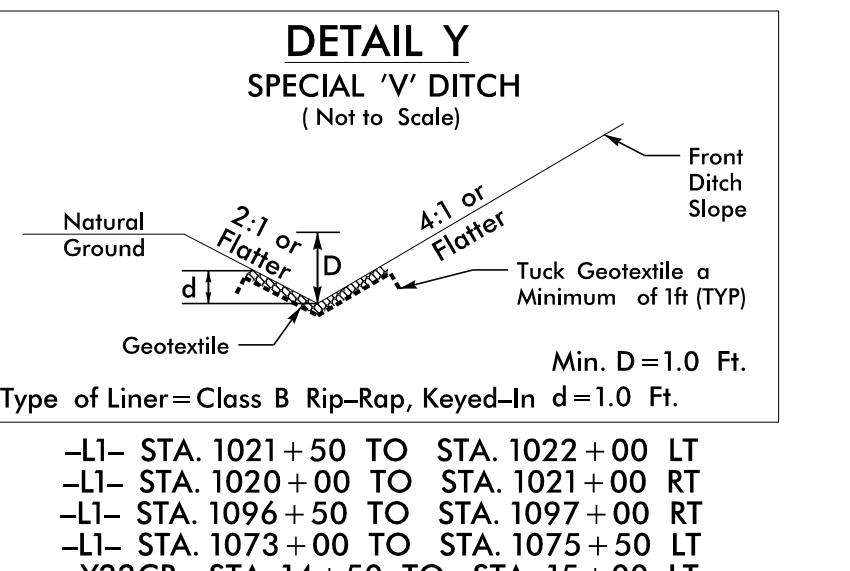
-Y23RPB- STA. 23+50 RT, L=143'
BEGIN ELEV=317.1', END ELEV=315.70', S=1.0%
MIN D=1.0', B=4'



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

Type of Liner = CLASS B RIPRAP, Keyed-In

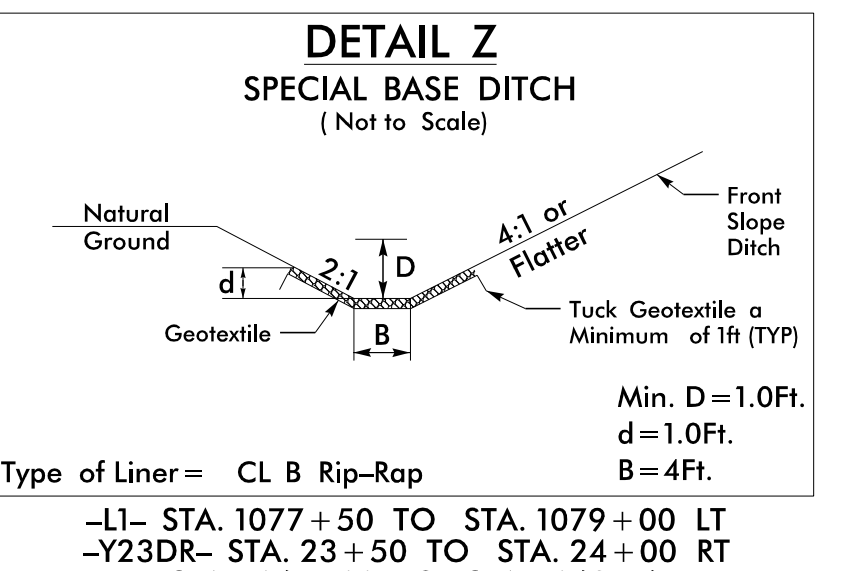
-Y23RPC- STA. 14+29 TO STA. 16+00 RT
-L1- STA. 1053+30 TO STA. 1058+00 LT
-L1- STA. 1108+85 TO STA. 1112+50 RT



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

Type of Liner = Class B Rip-Rap, Keyed-In

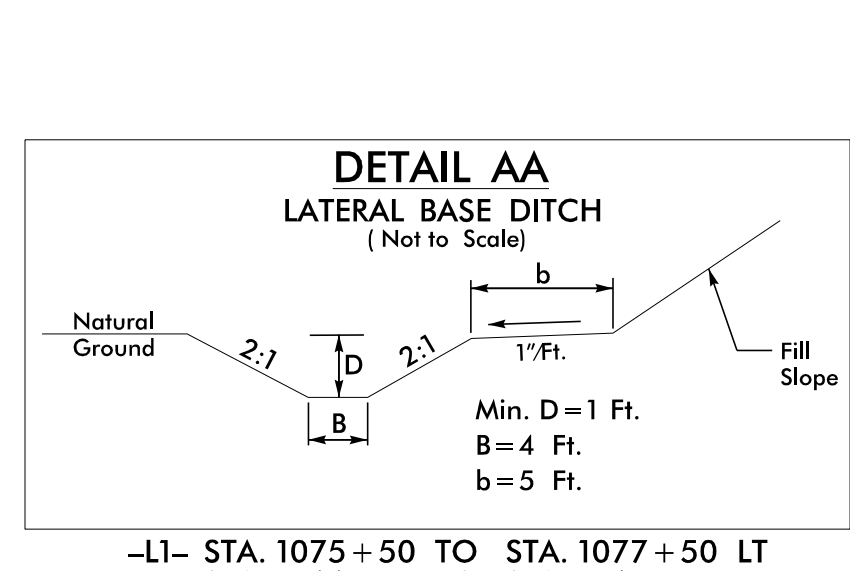
-L1- STA. 1021+50 TO STA. 1022+00 LT
-L1- STA. 1020+00 TO STA. 1021+00 RT
-L1- STA. 1096+50 TO STA. 1097+00 RT
-L1- STA. 1073+00 TO STA. 1075+50 LT
-Y22CR- STA. 14+50 TO STA. 15+00 LT
-Y23R- STA. 56+50 TO STA. 59+00 RT
-Y23R- STA. 64+65 TO STA. 69+00 LT
-Y23R- STA. 66+50 TO STA. 68+30 RT
-Y23LPB- STA. 14+50 TO STA. 15+00 LT
-Y23DR- STA. 27+50 TO STA. 28+80 LT
-Y23DR- STA. 36+00 TO STA. 38+38 RT
-L1- STA. 1181+50 TO STA. 1182+50 RT
-Y24R- STA. 31+00 TO STA. 32+50 RT
-Y24A- STA. 10+90 TO STA. 11+45 LT (L=83')
-Y24A- STA. 10+75 TO 11+00 RT (L=33')
-Y24A- STA. 11+00 TO 12+65 RT (L=97')
-Y24A- STA. 12+65 TO 13+49 RT
-Y24A- STA. 19+01 TO STA. 19+51 LT



Min. D=1.0 Ft.
B=4 Ft.

Type of Liner = CL B Rip-Rap

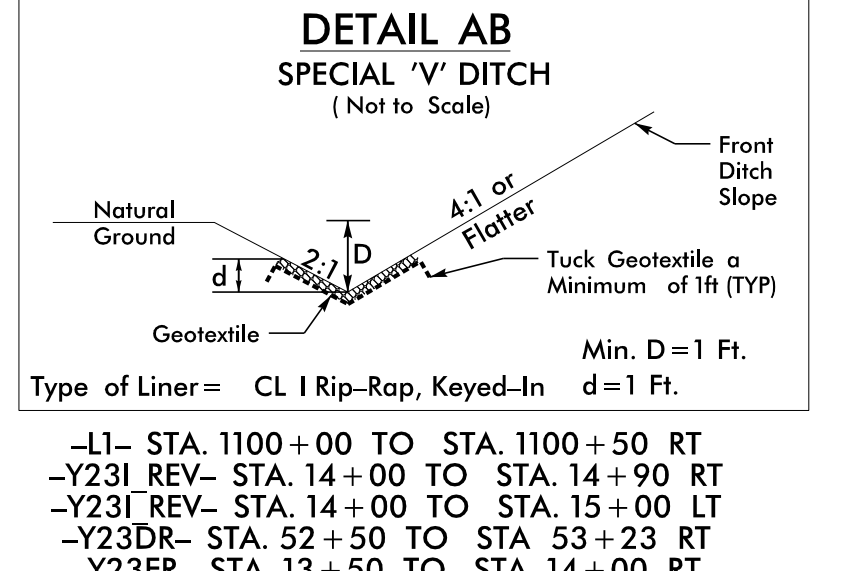
-L1- STA. 1077+50 TO STA. 1079+00 LT
-Y23DR- STA. 23+50 TO STA. 24+00 RT
-L1- STA. 1061+00 TO STA. 1062+61 LT



Min. D=1 Ft.
B=4 Ft.
b=5 Ft.

Type of Liner = CL B Rip-Rap

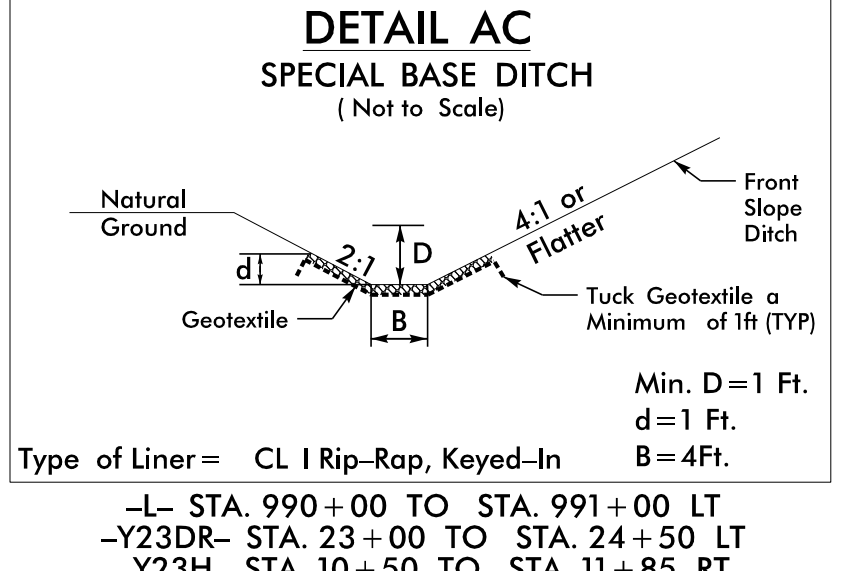
-L1- STA. 1075+50 TO STA. 1077+50 LT
-L1- STA. 1066+00 TO STA. 1069+50 LT
-L1- STA. 1098+00 TO STA. 1098+80 LT
-Y24R- STA. 37+00 TO STA. 39+50 RT
-Y24RPDR- STA. 18+00 TO STA. 21+50 LT
-L1- STA. 1128+74 TO STA. 1130+00 RT
-L1- STA. 1098+00 TO STA. 1098+80 LT
-L1- STA. 1114+70 TO STA. 1115+77 RT



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

Type of Liner = CL I Rip-Rap, Keyed-In

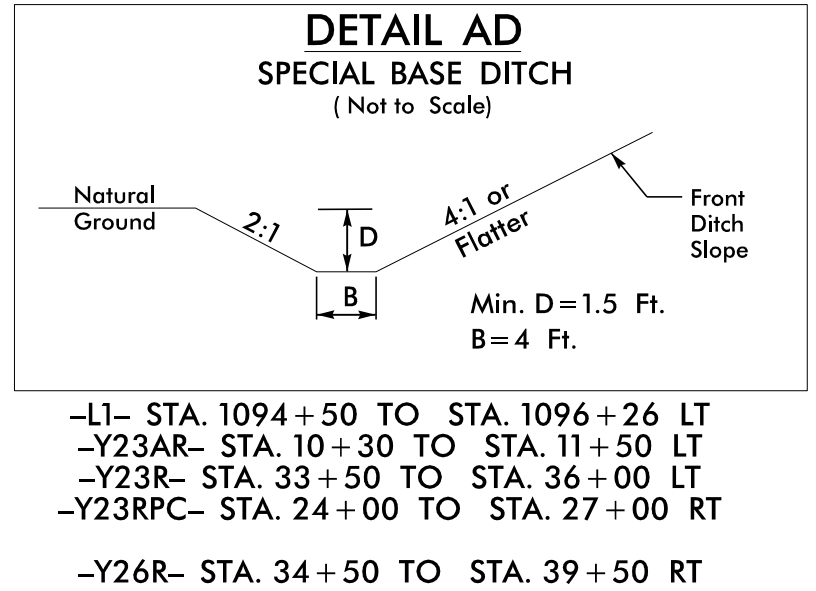
-L1- STA. 1100+00 TO STA. 1100+50 RT
-Y23I REV- STA. 14+00 TO STA. 14+90 RT
-Y23I REV- STA. 14+00 TO STA. 15+00 LT
-Y23DR- STA. 52+50 TO STA. 53+23 RT
-Y23FR- STA. 13+50 TO STA. 14+00 RT
-Y24B- STA. 10+26 TO STA. 11+00 RT



Min. D=1 Ft.
B=4 Ft.

Type of Liner = CL I Rip-Rap, Keyed-In

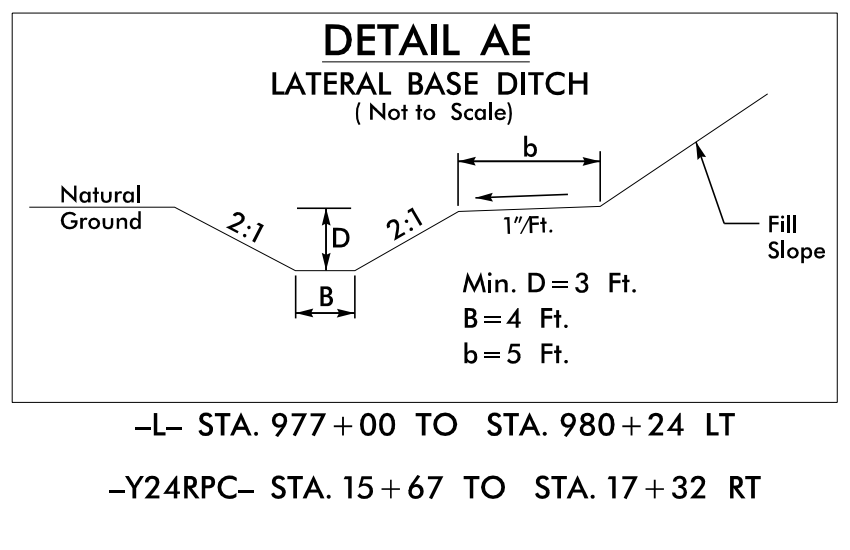
-L- STA. 990+00 TO STA. 991+00 LT
-Y23DR- STA. 23+00 TO STA. 24+50 LT
-Y23H- STA. 10+50 TO STA. 11+85 RT
-Y23R- STA. 32+50 TO STA. 33+50 LT
-Y23R- STA. 64+50 TO STA. 66+50 RT
-Y24R- STA. 47+00 TO STA. 51+50 RT



Min. D=1.5 Ft.
B=4 Ft.

Type of Liner = CL B Rip-Rap, Keyed-In

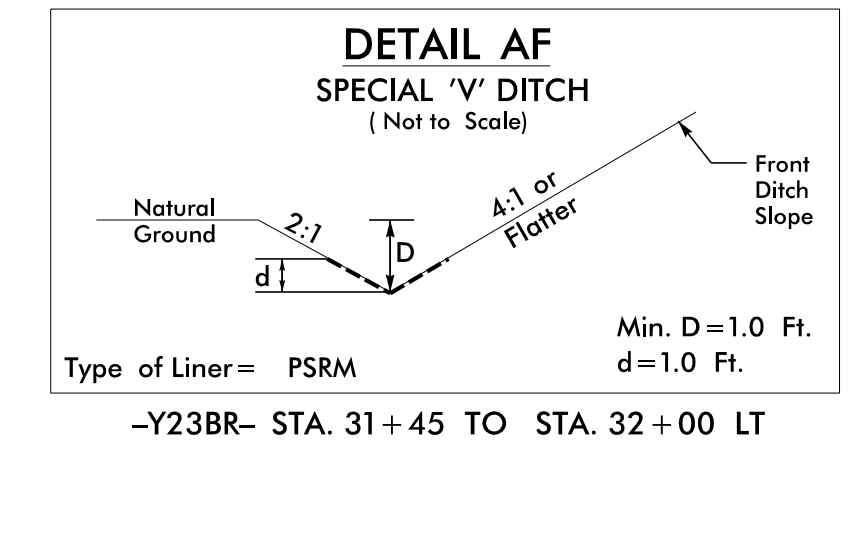
-L1- STA. 1094+50 TO STA. 1096+26 LT
-Y23AR- STA. 10+30 TO STA. 11+50 LT
-Y23R- STA. 33+50 TO STA. 36+00 RT
-Y23RPC- STA. 24+00 TO STA. 27+00 RT
-Y26R- STA. 34+50 TO STA. 39+50 RT



Min. D=3 Ft.
B=4 Ft.
b=5 Ft.

Type of Liner = CL B Rip-Rap

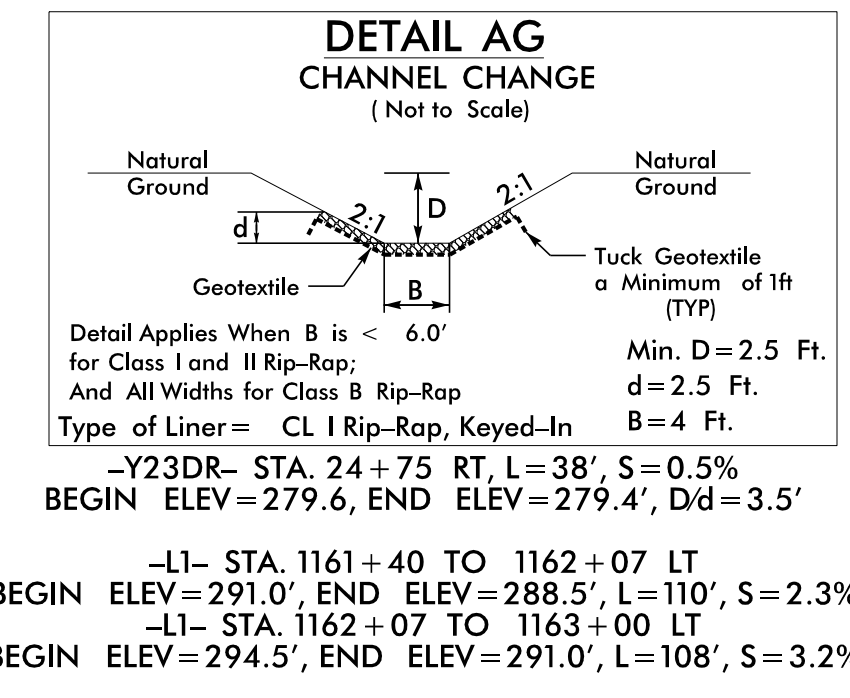
-L- STA. 977+00 TO STA. 980+24 LT
-Y24RPC- STA. 15+67 TO STA. 17+32 RT



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

Type of Liner = PSRM

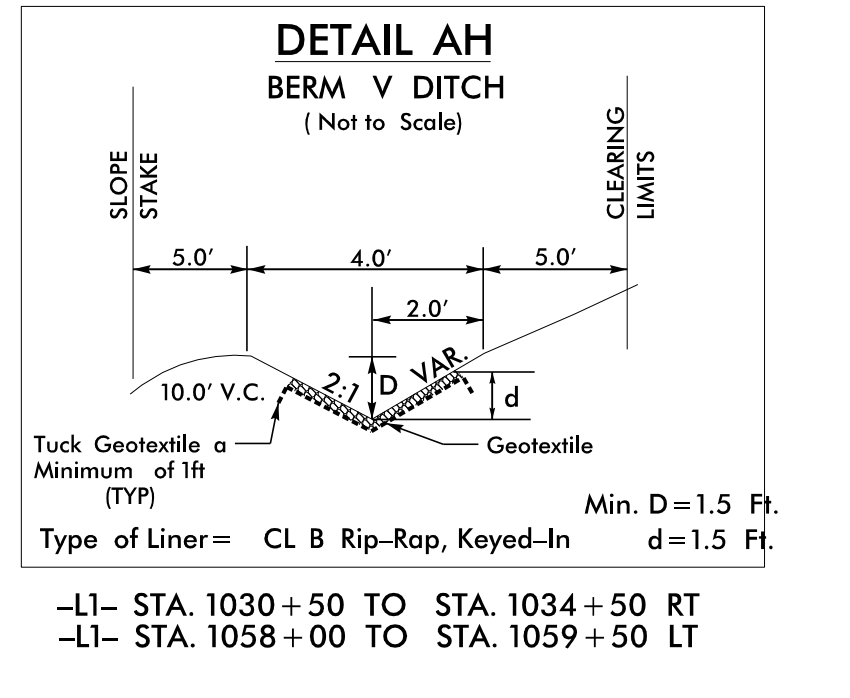
-Y23BR- STA. 31+45 TO STA. 32+00 LT



Min. D=2.5 Ft.
d=2.5 Ft.
B=4 Ft.

Type of Liner = CL I Rip-Rap, Keyed-In

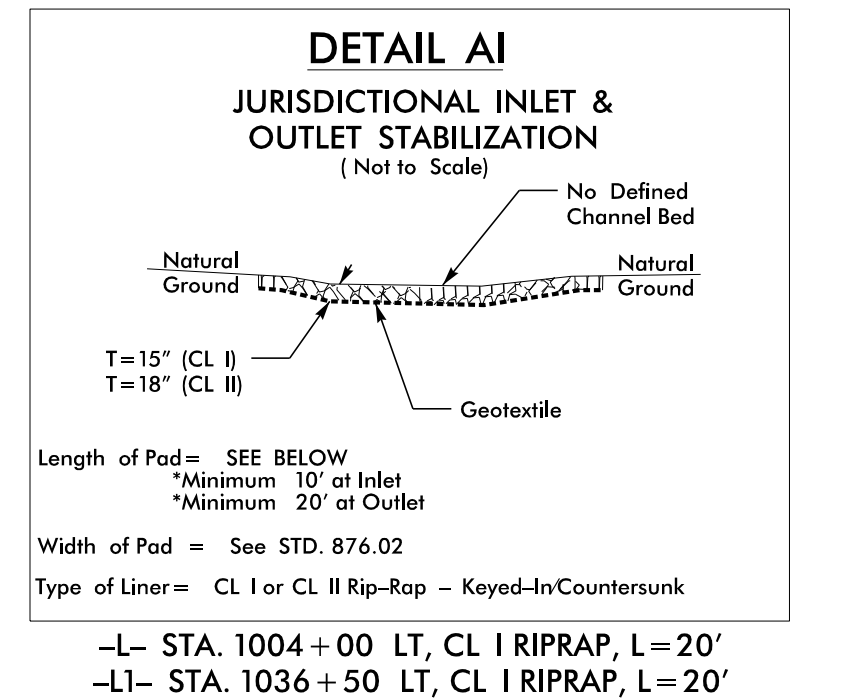
-Y23DR- STA. 24+75 RT, L=38', S=0.5%
BEGIN ELEV=279.6, END ELEV=279.4', D/d=3.5'
-L1- STA. 1161+40 TO 1162+07 LT
BEGIN ELEV=291.0, END ELEV=288.5', L=110', S=2.3%
-L1- STA. 1162+07 TO 1163+00 LT
BEGIN ELEV=294.5, END ELEV=291.0', L=108', S=3.2%



Min. D=1.5 Ft.
d=1.5 Ft.

Type of Liner = CL B Rip-Rap, Keyed-In

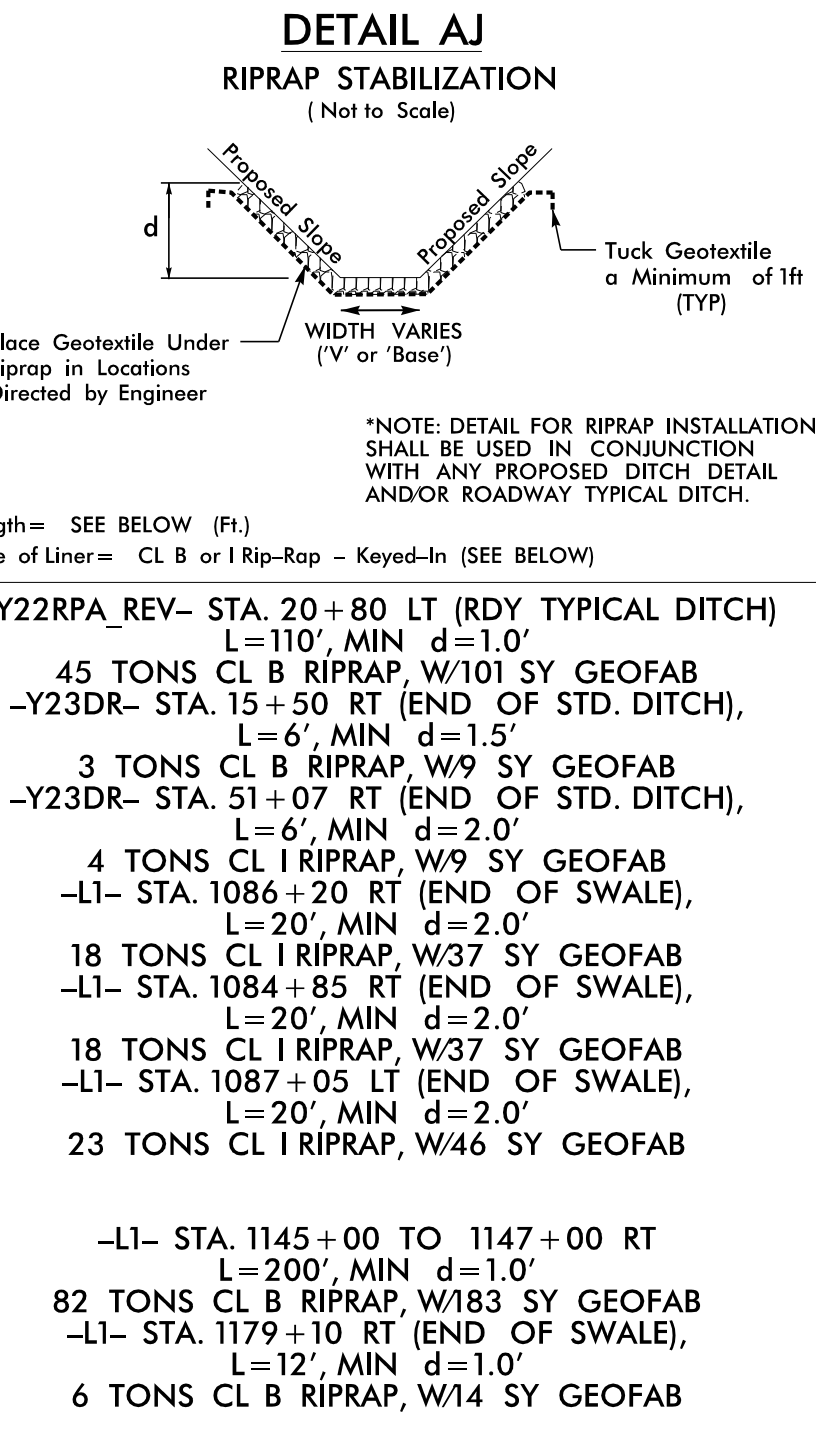
-L1- STA. 1030+50 TO STA. 1034+50 RT
-L1- STA. 1058+00 TO STA. 1059+50 LT



Min. D=1.5 Ft.
d=1.5 Ft.

Type of Liner = CL I or CL II Rip-Rap - Keyed-In/Countersunk

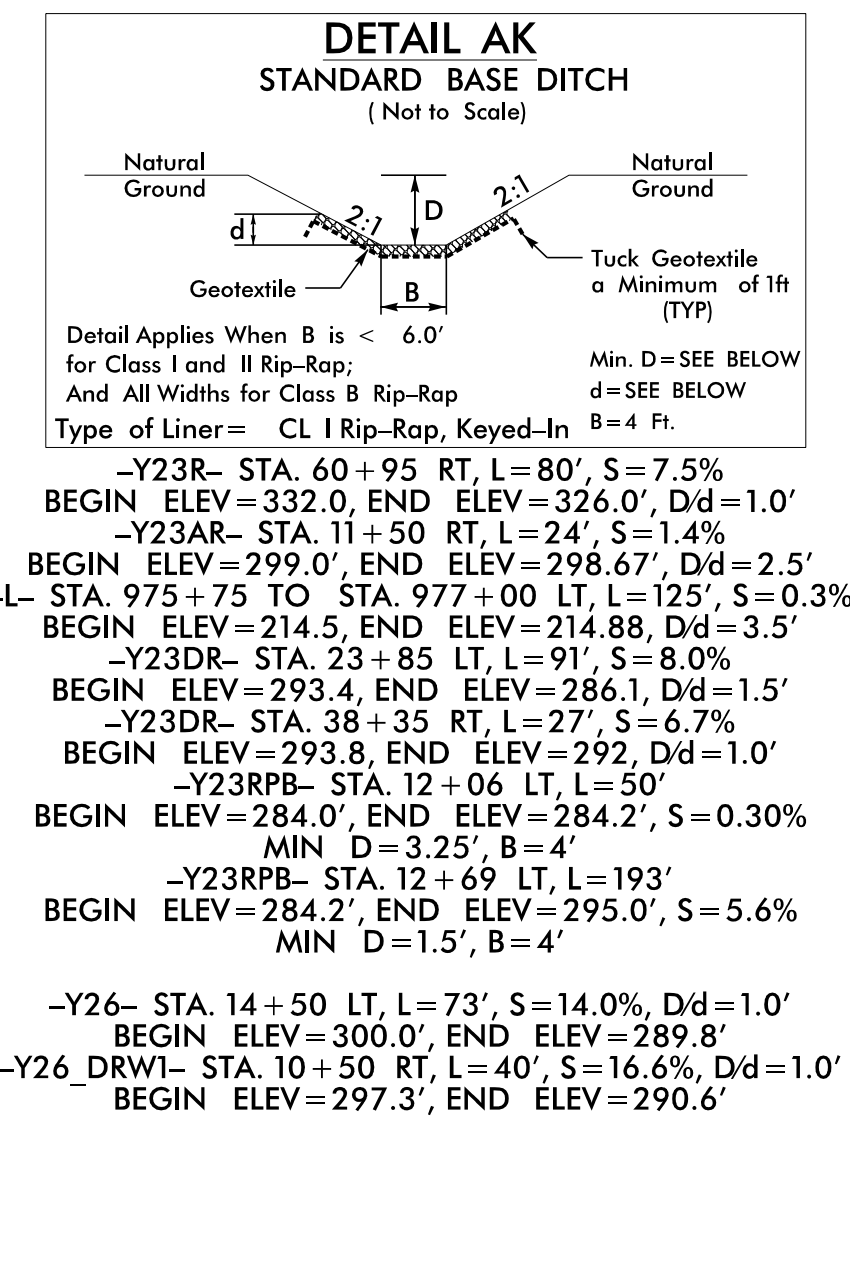
-L- STA. 1004+00 LT, CL I RIPRAP, L=20'
-L1- STA. 1036+50 LT, CL I RIPRAP, L=20'



Min. D=1.5 Ft.
d=1.5 Ft.

Type of Liner = CL B Rip-Rap, Keyed-In

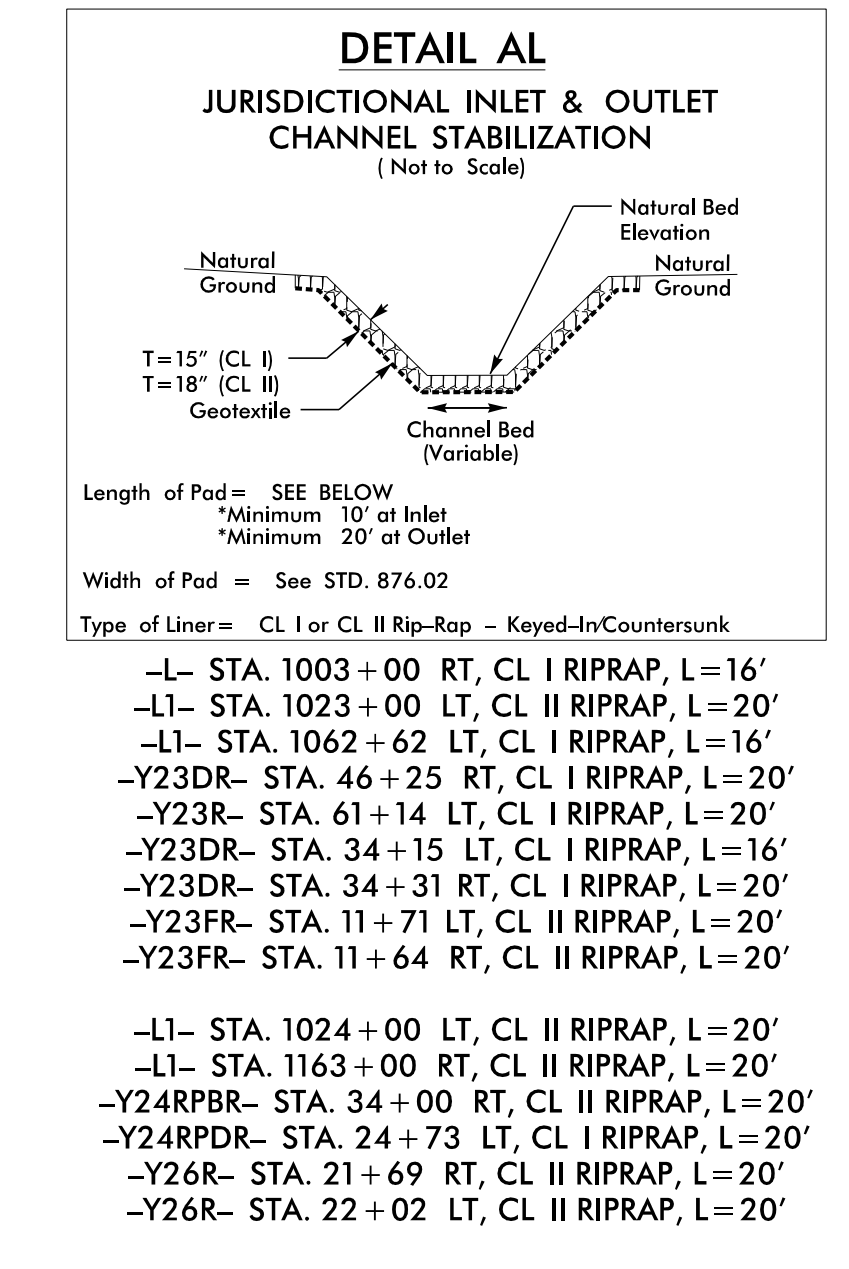
-Y22RPA_REV- STA. 20+80 LT (RDY TYPICAL DITCH)
L=110', MIN d=1.0'
45 TONS CL B RIPRAP, W/101 SY GEOFAB
-Y23DR- STA. 15+50 RT (END OF STD. DITCH),
L=6', MIN d=1.5'
3 TONS CL B RIPRAP, W/9 SY GEOFAB
-Y23DR- STA. 51+07 RT (END OF STD. DITCH),
L=6', MIN d=2.0'
4 TONS CL I RIPRAP, W/9 SY GEOFAB
-L1- STA. 1086+20 RT (END OF SWALE),
L=20', MIN d=2.0'
18 TONS CL I RIPRAP, W/37 SY GEOFAB
-L1- STA. 1084+85 RT (END OF SWALE),
L=20', MIN d=2.0'
18 TONS CL I RIPRAP, W/37 SY GEOFAB
-L1- STA. 1087+05 LT (END OF SWALE),
L=20', MIN d=2.0'
23 TONS CL I RIPRAP, W/46 SY GEOFAB
-L1- STA. 1145+00 TO STA. 1147+00 RT
L=200', MIN d=1.0'
82 TONS CL B RIPRAP, W/183 SY GEOFAB
-L1- STA. 1179+10 RT (END OF SWALE),
L=12', MIN d=1.0'
6 TONS CL B RIPRAP, W/14 SY GEOFAB



Min. D=SEE BELOW
d=SEE BELOW
B=4 Ft.

Type of Liner = CL I Rip-Rap, Keyed-In

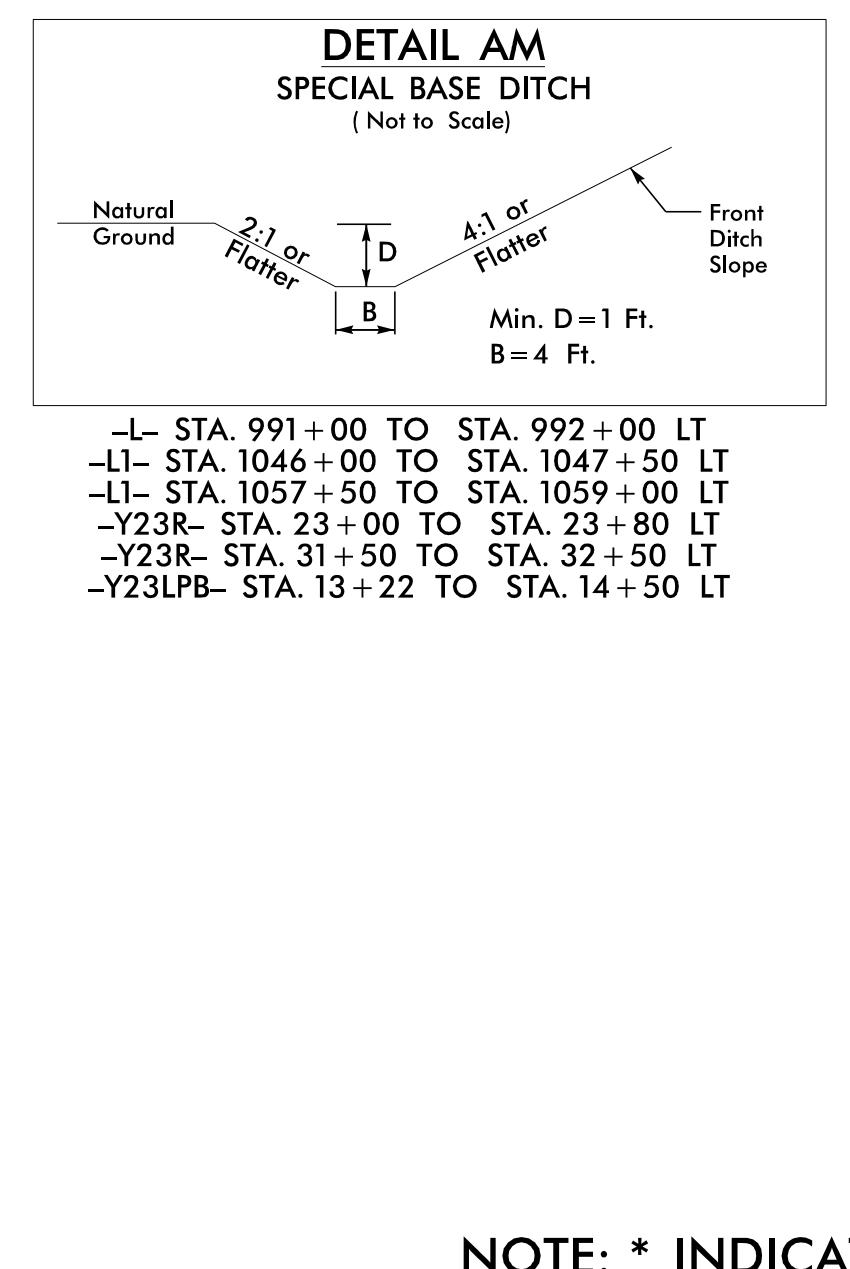
-Y23R- STA. 60+95 RT, L=80', S=7.5%
BEGIN ELEV=332.0, END ELEV=326.0', D/d=1.0'
-Y23AR- STA. 11+50 RT, L=24', S=1.4%
BEGIN ELEV=299.0, END ELEV=298.67', D/d=2.5'
-L- STA. 975+75 TO STA. 977+00 LT, L=125', S=0.3%
BEGIN ELEV=214.5, END ELEV=214.88, D/d=3.5'
-Y23DR- STA. 23+85 LT, L=91', S=8.0%
BEGIN ELEV=293.4, END ELEV=286.1, D/d=1.5'
-Y23DR- STA. 38+35 RT, L=27', S=6.7%
BEGIN ELEV=293.8, END ELEV=292, D/d=1.0'
-Y23RPB- STA. 12+06 LT, L=50'
BEGIN ELEV=284.0, END ELEV=284.2', S=0.30%
MIN D=3.25', B=4'
-Y23RPB- STA. 12+69 LT, L=193'
BEGIN ELEV=284.2, END ELEV=295.0', S=5.6%
MIN D=1.5', B=4'
-Y26- STA. 14+50 LT, L=73', S=14.0%, D/d=1.0'
BEGIN ELEV=300.0, END ELEV=289.8'
-Y26 DRW1- STA. 10+50 RT, L=40', S=16.6%, D/d=1.0'
BEGIN ELEV=297.3, END ELEV=290.6'



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

Type of Liner = CL I or CL II Rip-Rap - Keyed-In/Countersunk

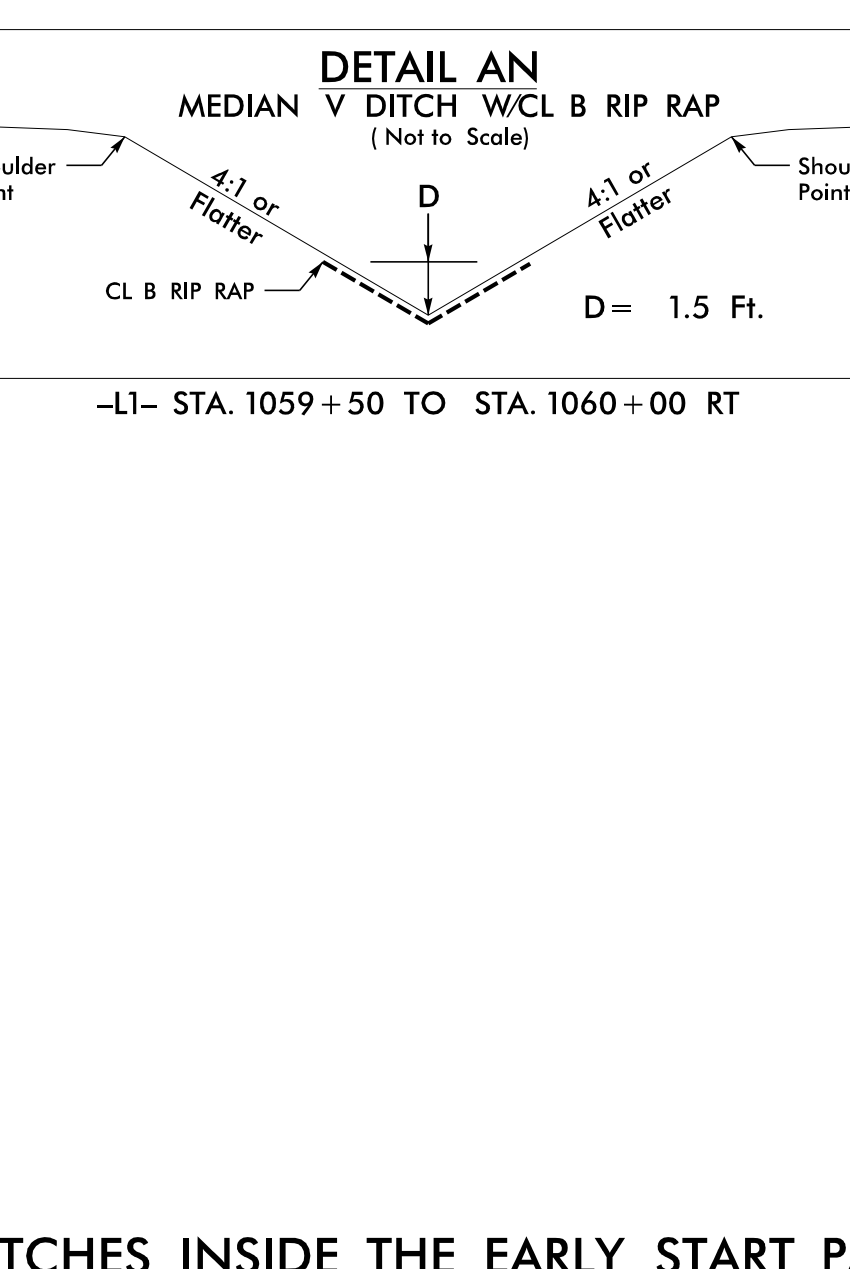
-L- STA. 1003+00 RT, CL I RIPRAP, L=16'
-L1- STA. 1023+00 LT, CL II RIPRAP, L=20'
-L1- STA. 1062+62 LT, CL I RIPRAP, L=16'
-Y23DR- STA. 46+25 RT, CL I RIPRAP, L=50'
-Y23R- STA. 61+14 LT, CL I RIPRAP, L=20'
-Y23DR- STA. 34+15 LT, CL I RIPRAP, L=16'
-Y23DR- STA. 34+31 RT, CL I RIPRAP, L=20'
-Y23FR- STA. 11+71 LT, CL II RIPRAP, L=20'
-Y23FR- STA. 11+64 RT, CL II RIPRAP, L=20'
-L1- STA. 1024+00 LT, CL II RIPRAP, L=20'
-L1- STA. 1163+00 RT, CL II RIPRAP, L=20'
-Y24RPBR- STA. 34+00 RT, CL II RIPRAP, L=20'
-Y24RPDR- STA. 24+73 LT, CL I RIPRAP, L=20'
-Y26R- STA. 21+69 RT, CL II RIPRAP, L=20'
-Y26R- STA. 22+02 LT, CL II RIPRAP, L=20'



Min. D=1 Ft.
B=4 Ft.

Type of Liner = CL B Rip-Rap

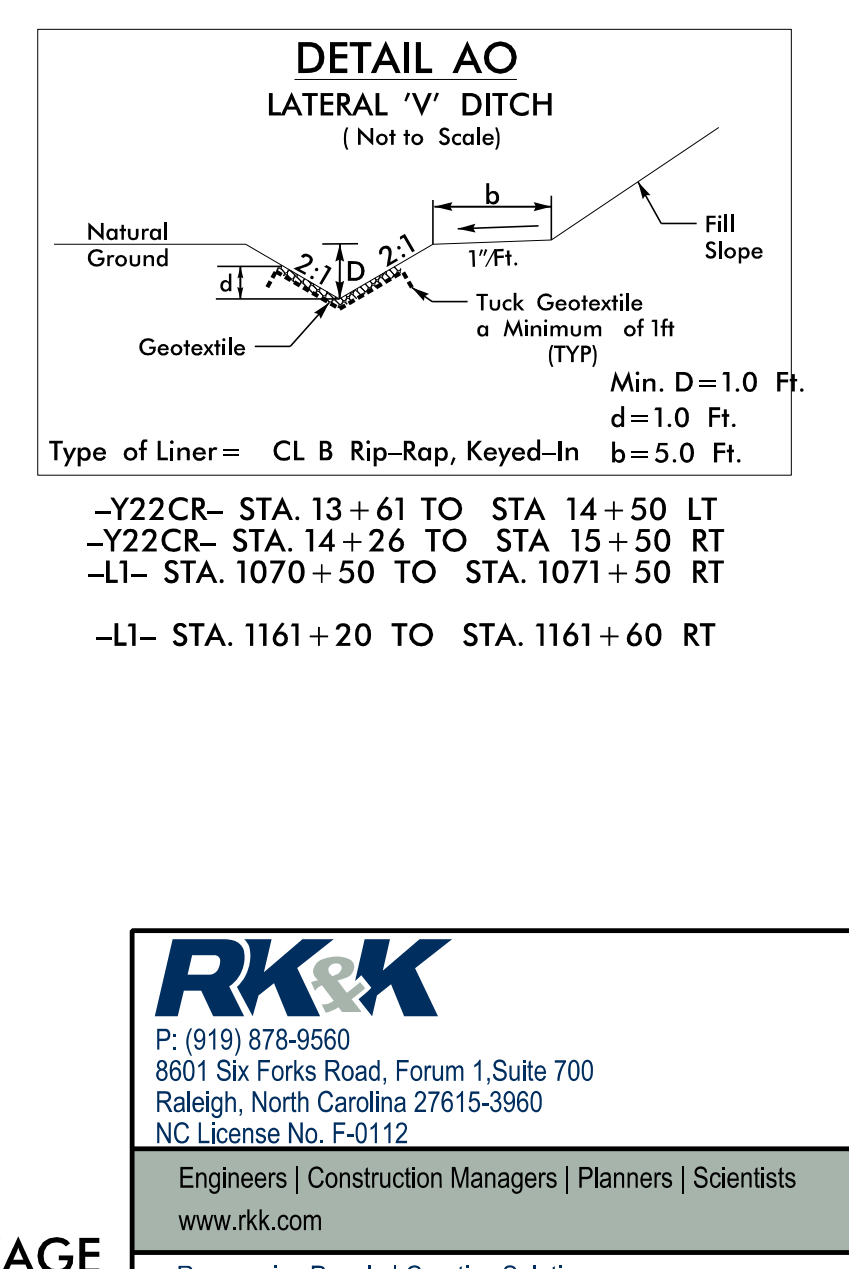
-L- STA. 991+00 TO STA. 992+00 LT
-L1- STA. 1046+00 TO STA. 1047+50 LT
-L1- STA. 1057+50 TO STA. 1059+00 LT
-Y23R- STA. 23+00 TO STA. 23+80 LT
-Y23R- STA. 31+50 TO STA. 32+50 LT
-Y23LPB- STA. 13+22 TO STA. 14+50 LT



Min. D=1.5 Ft.
D=1.5 Ft.

Type of Liner = CL B Rip-Rap, Keyed-In

-L1- STA. 1059+50 TO STA. 1060+00 RT



Min. D=1.0 Ft.
d=1.0 Ft.
b=5.0 Ft.

Type of Liner = CL B Rip-Rap, Keyed-In

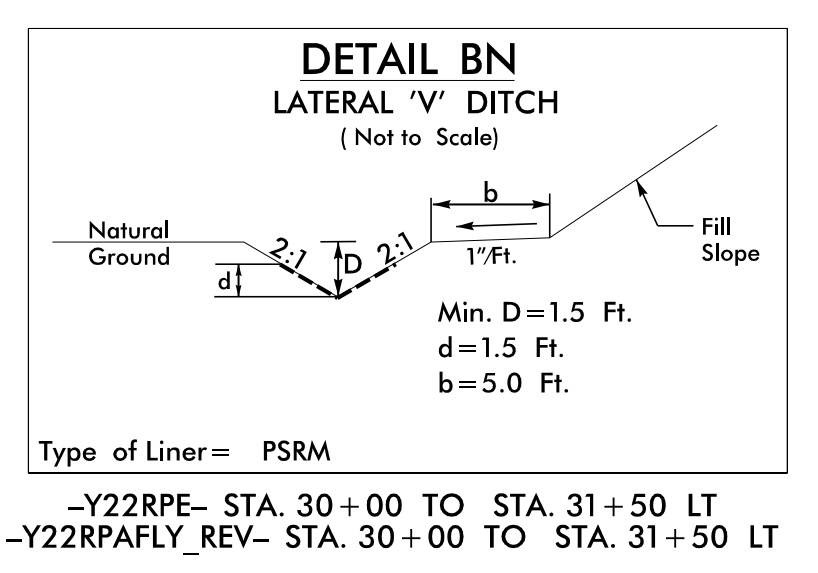
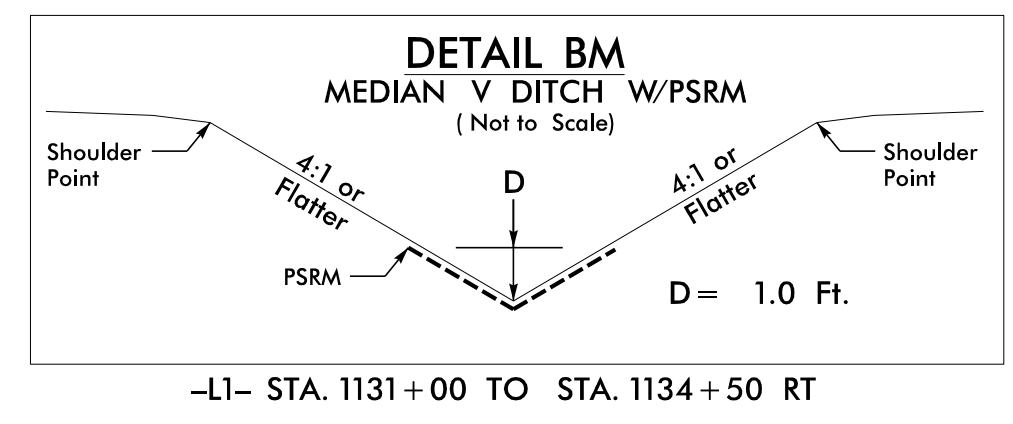
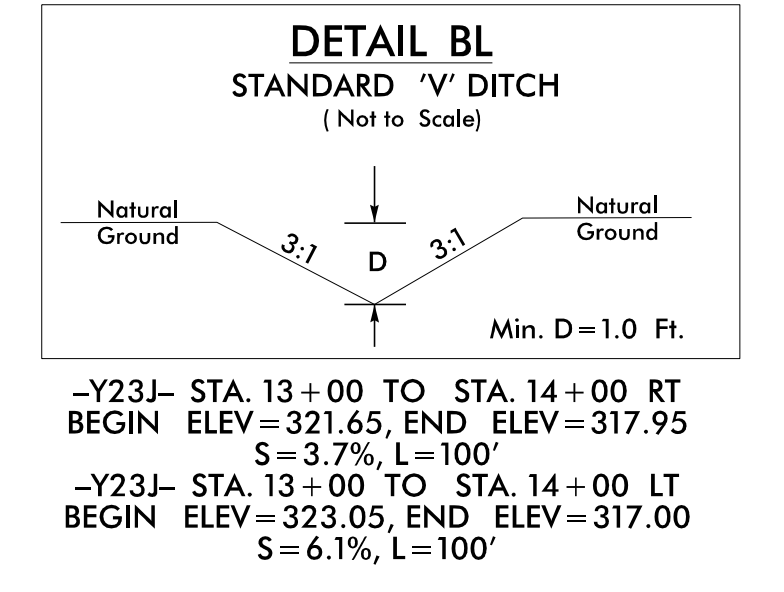
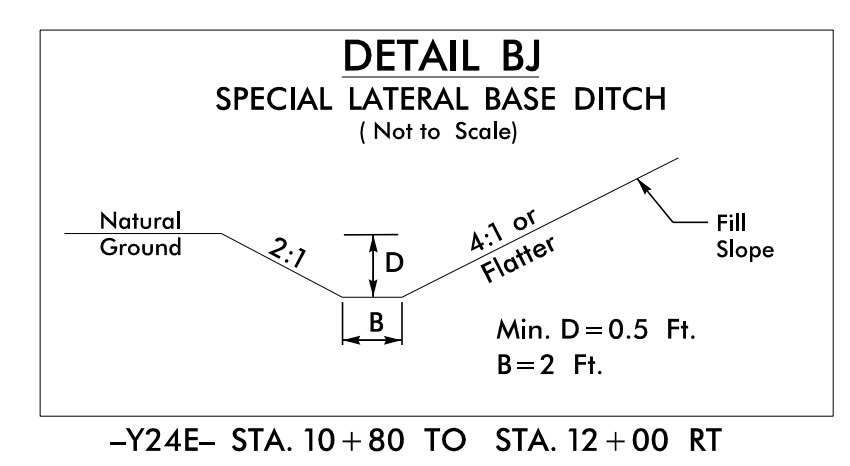
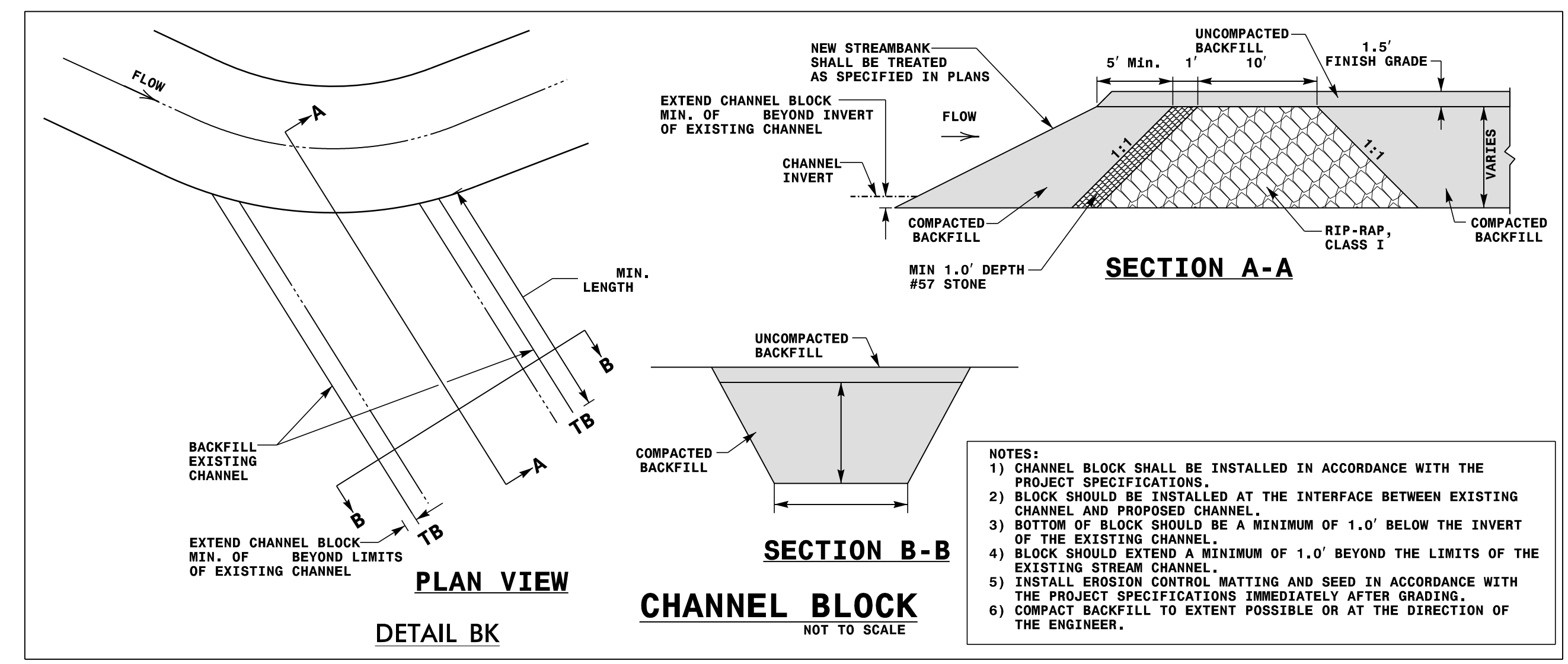
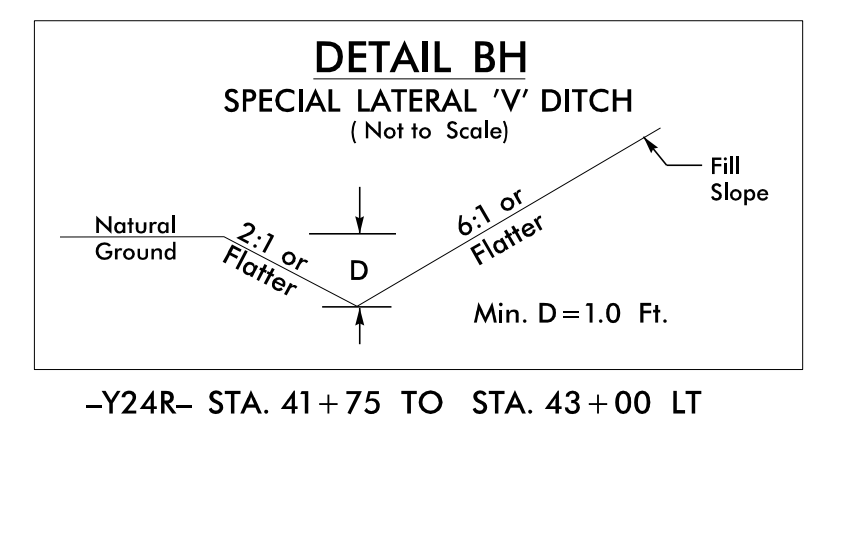
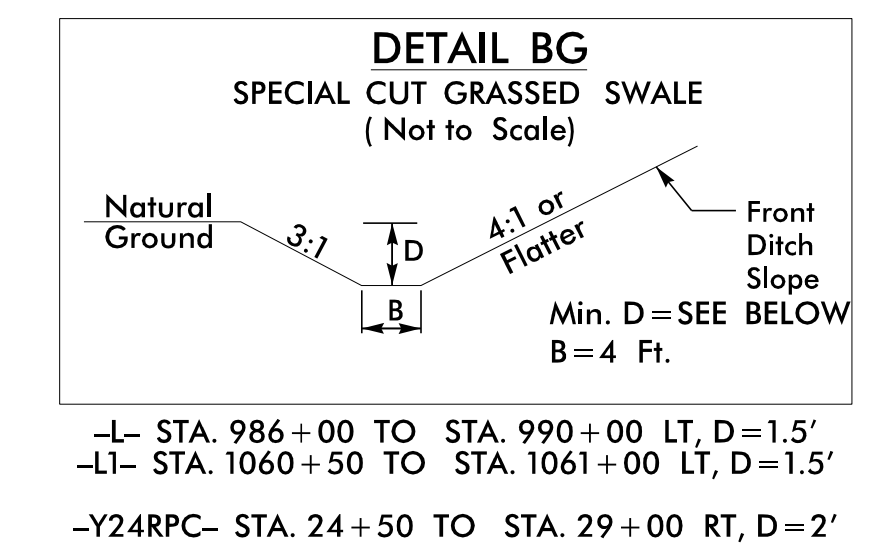
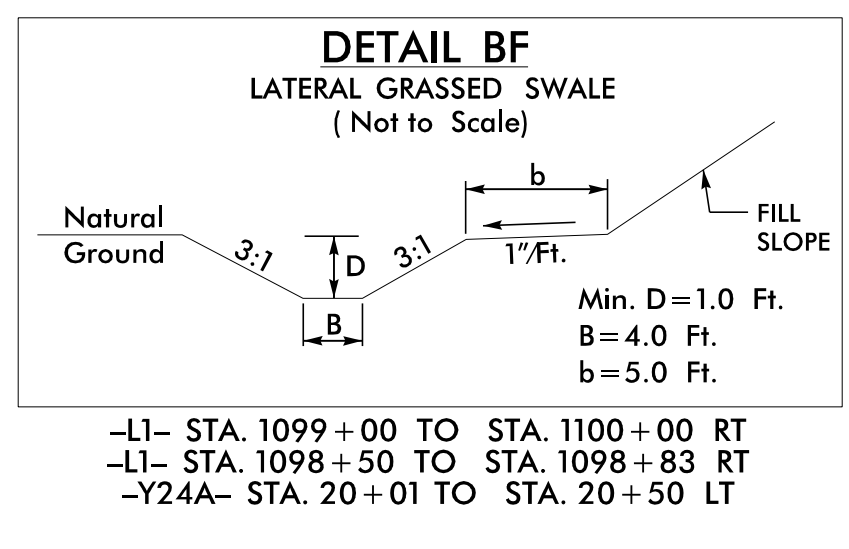
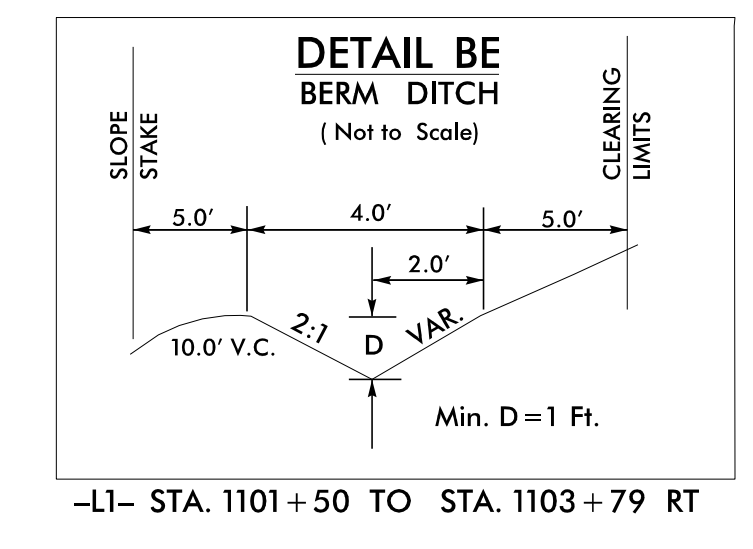
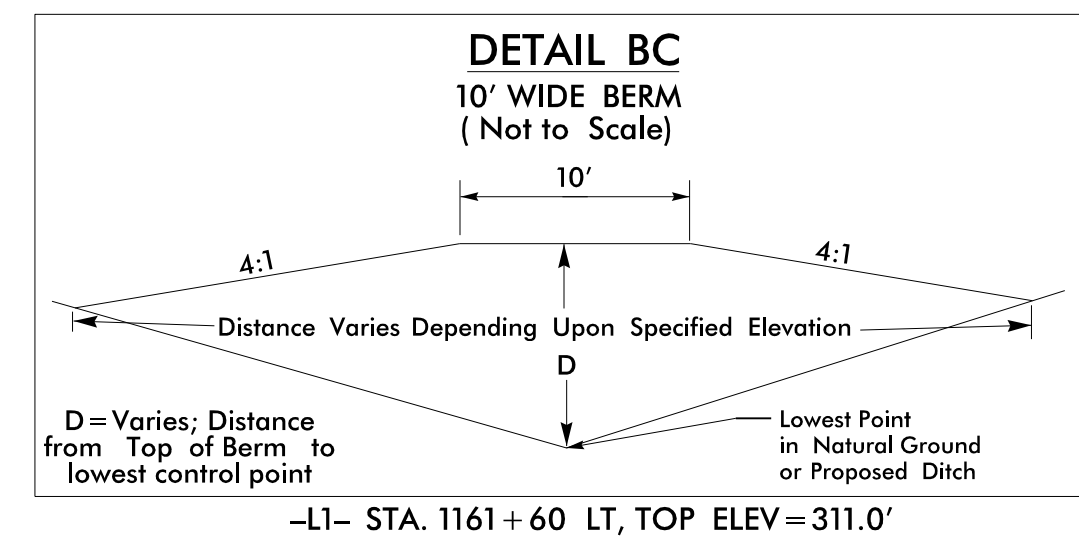
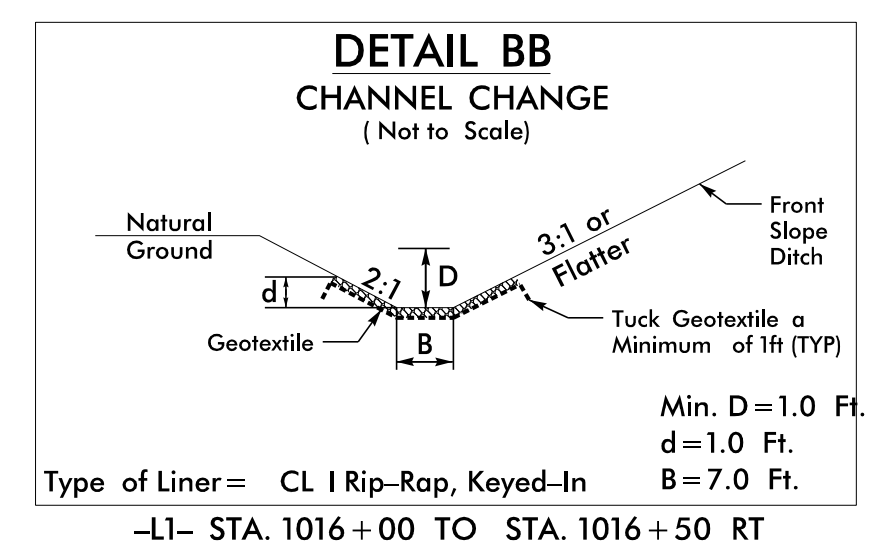
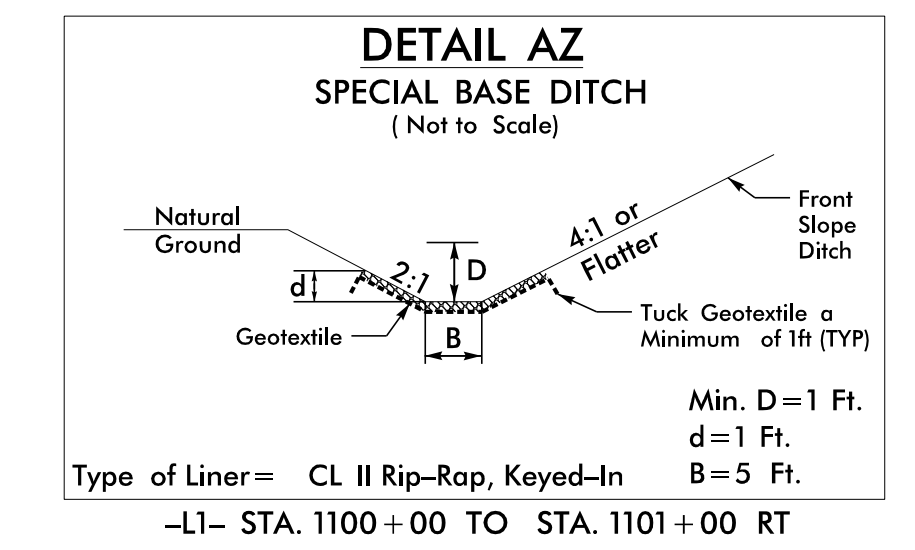
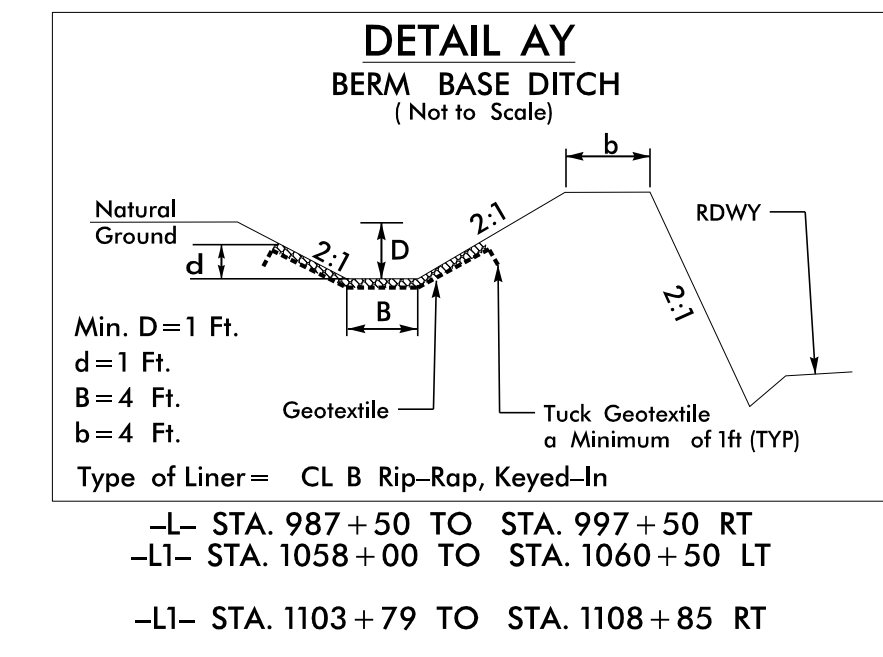
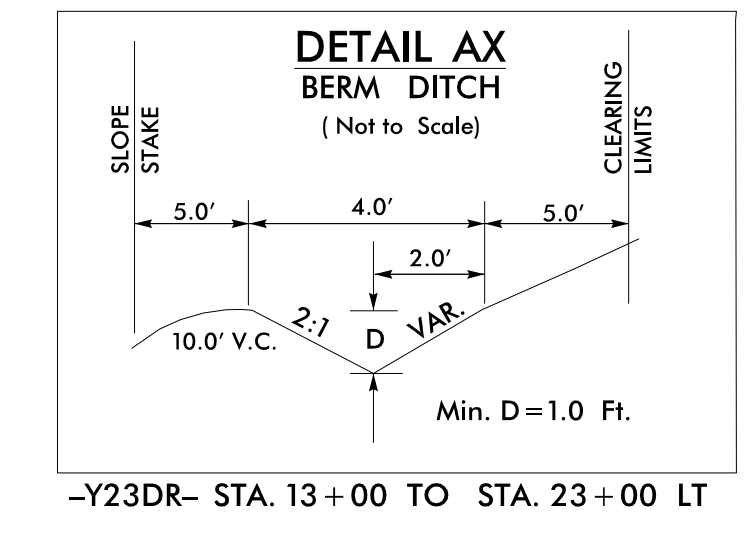
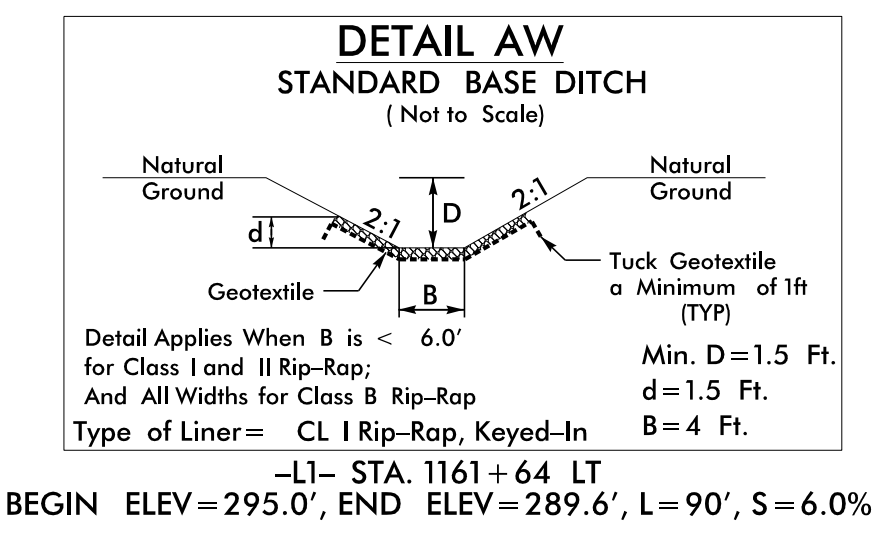
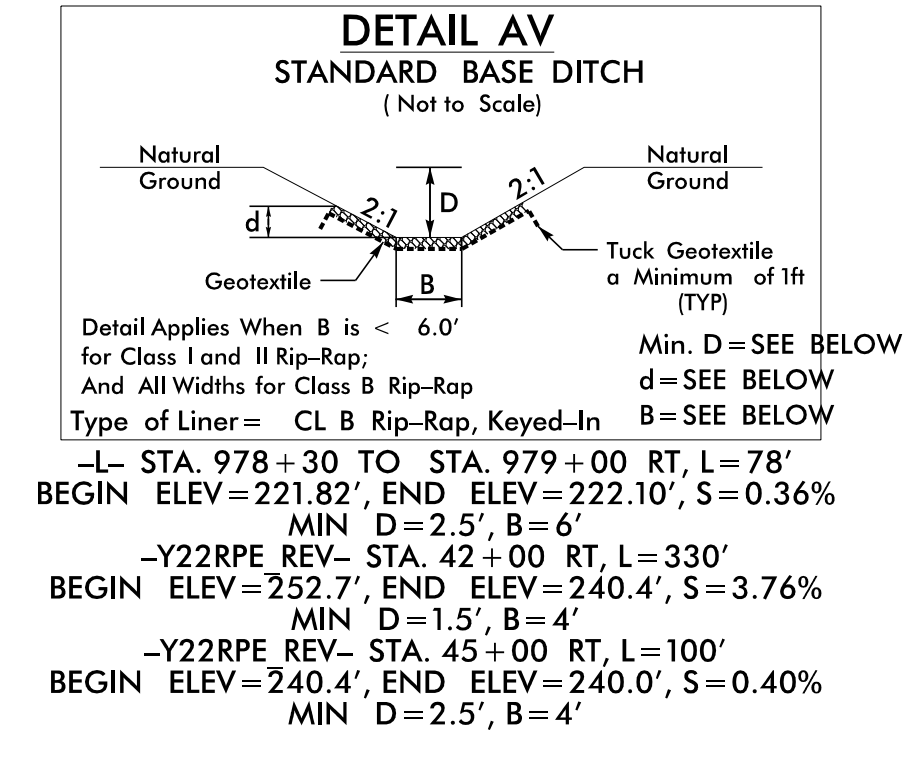
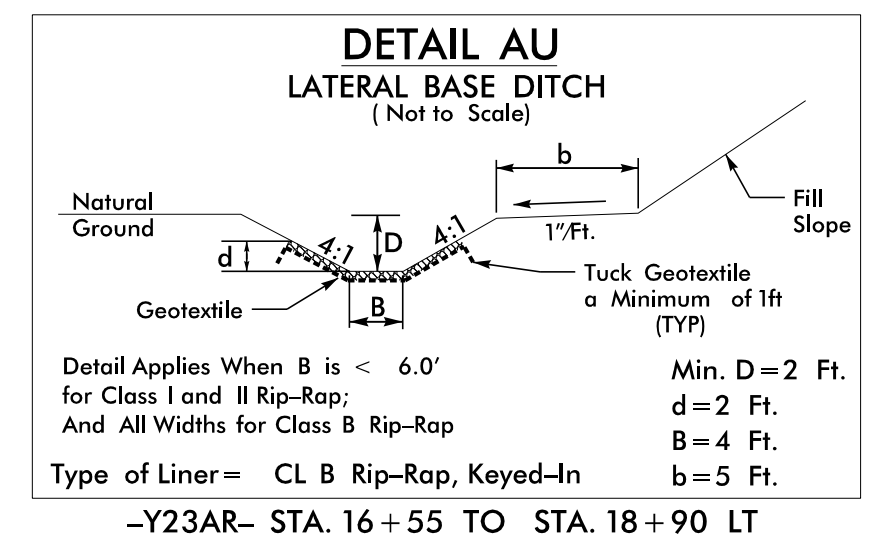
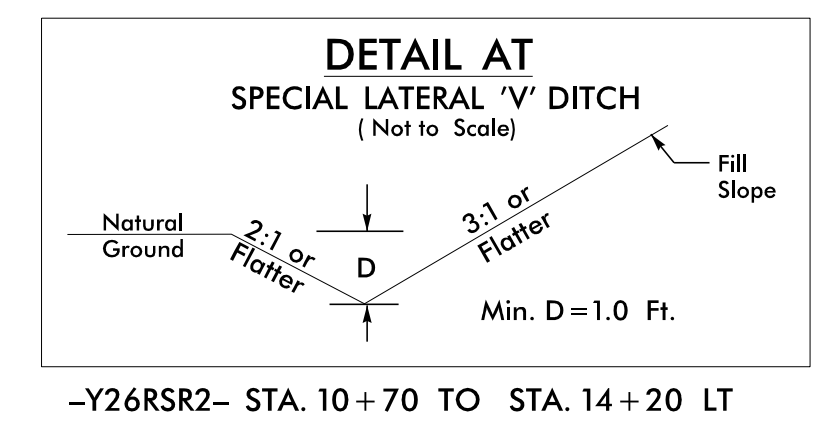
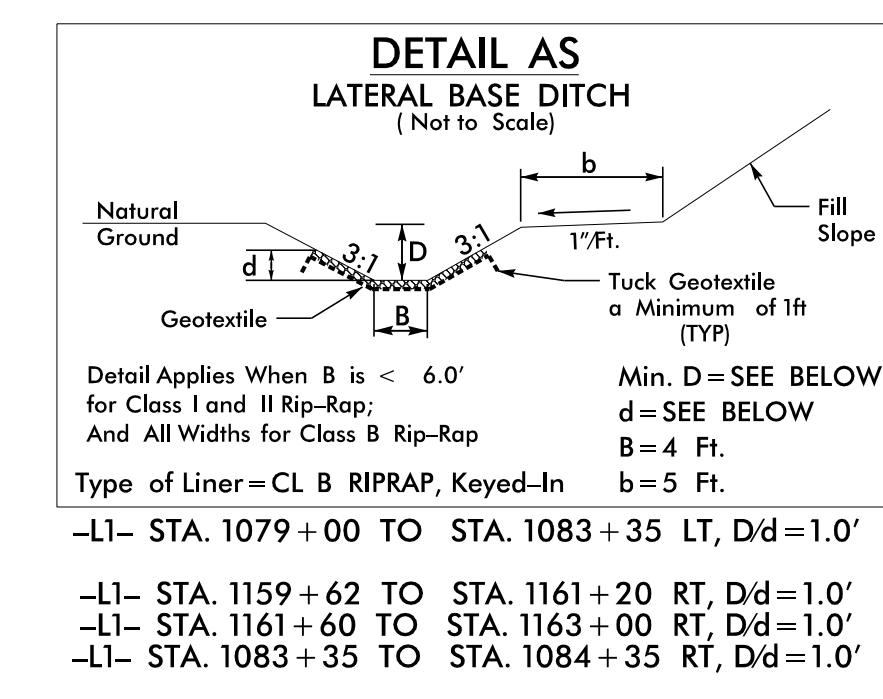
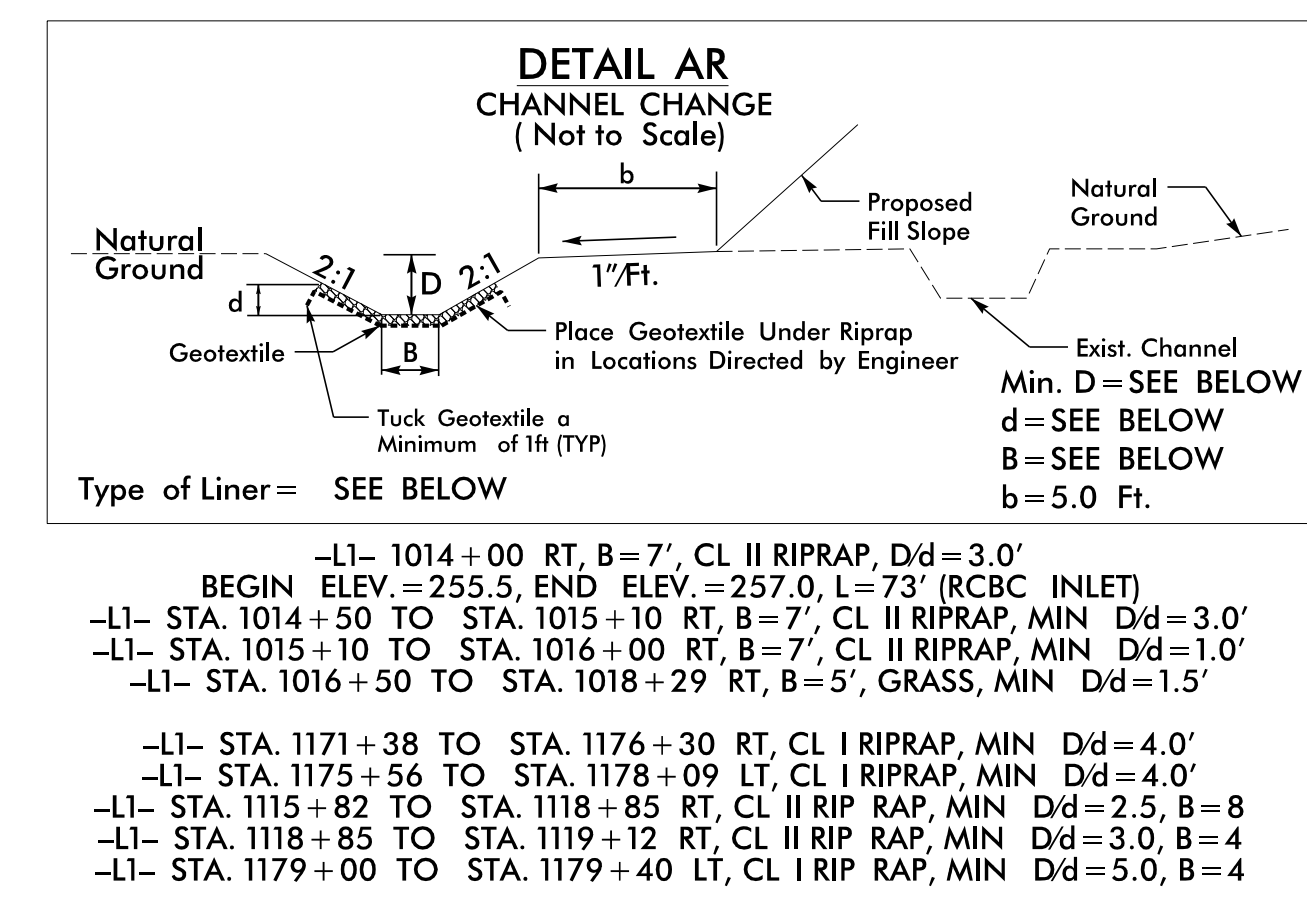
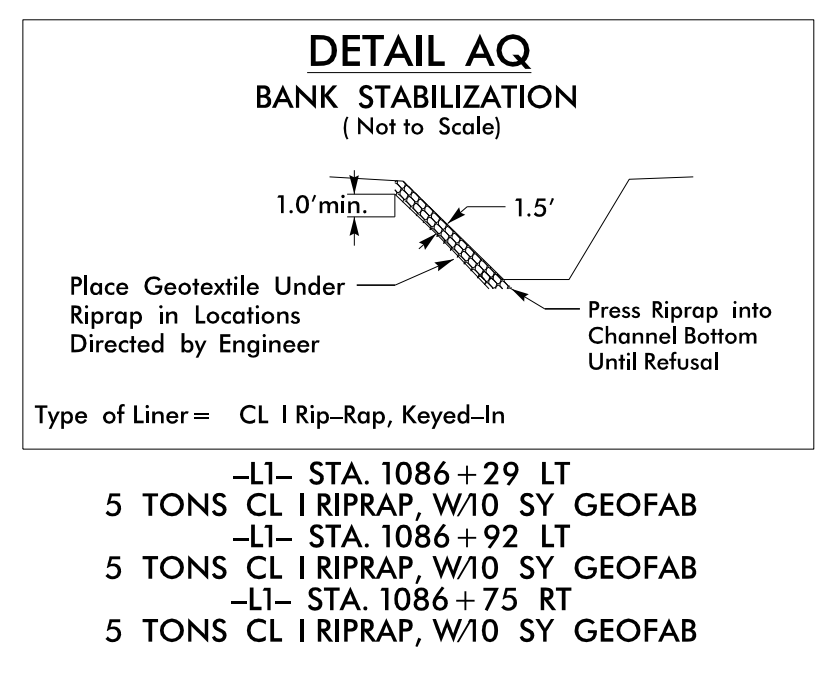
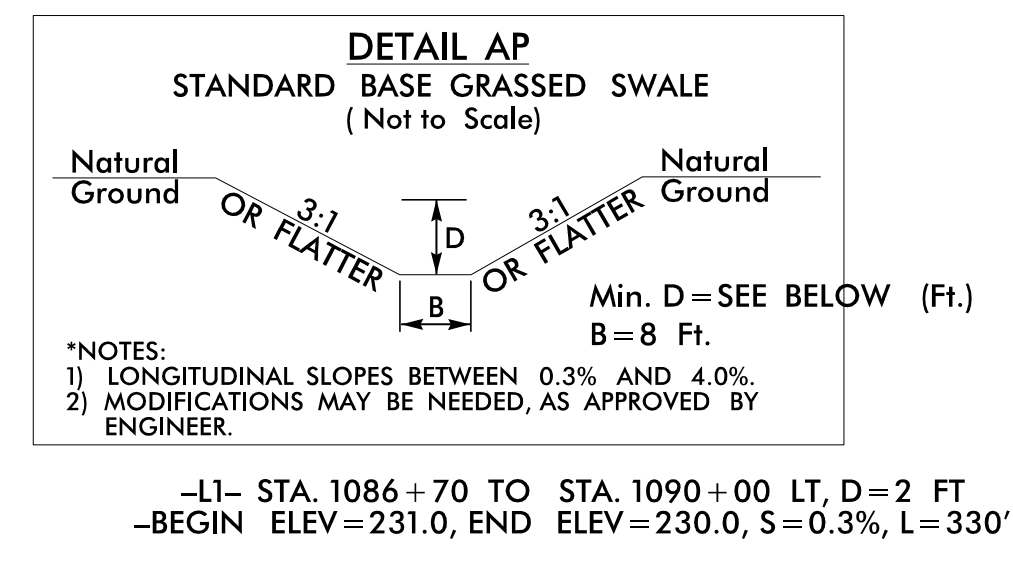
-Y22CR- STA. 13+61 TO STA. 14+50 LT
-Y22CR- STA. 14+26 TO STA. 15+50 RT
-L1- STA. 1070+50 TO STA. 1071+50 RT
-L1- STA. 1161+20 TO STA. 1161+60 RT

NOTE: * INDICATE DITCHES INSIDE THE EARLY START PACKAGE

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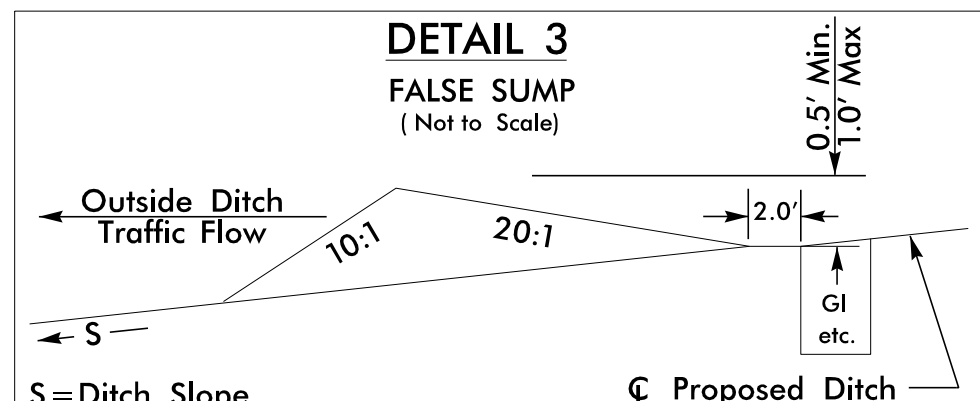
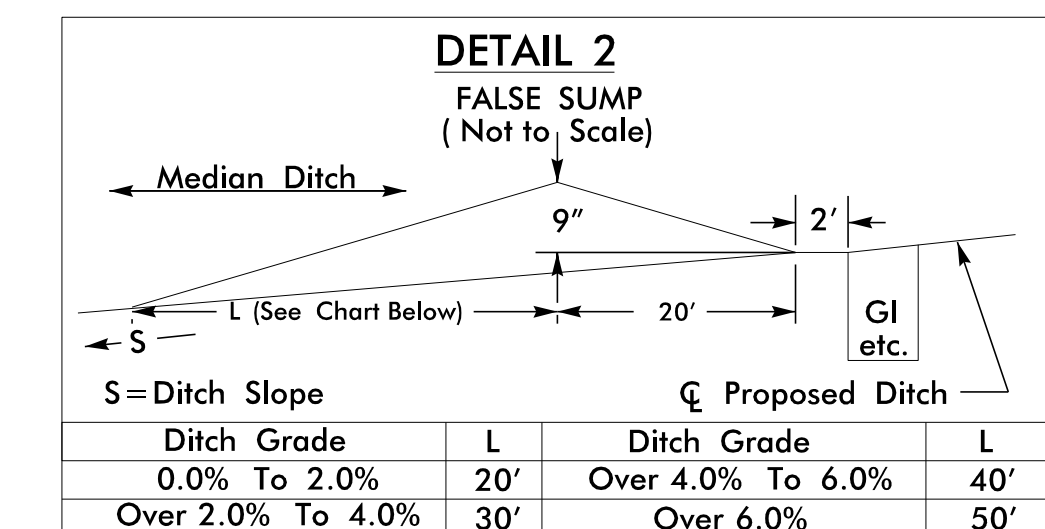
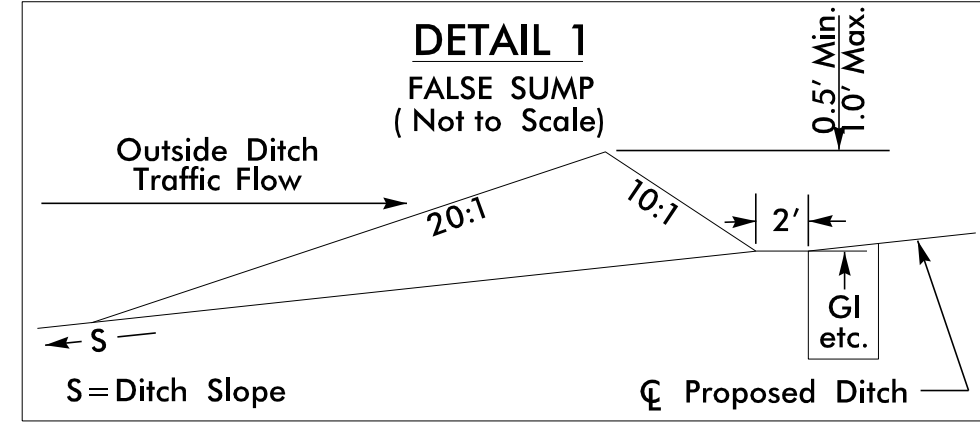
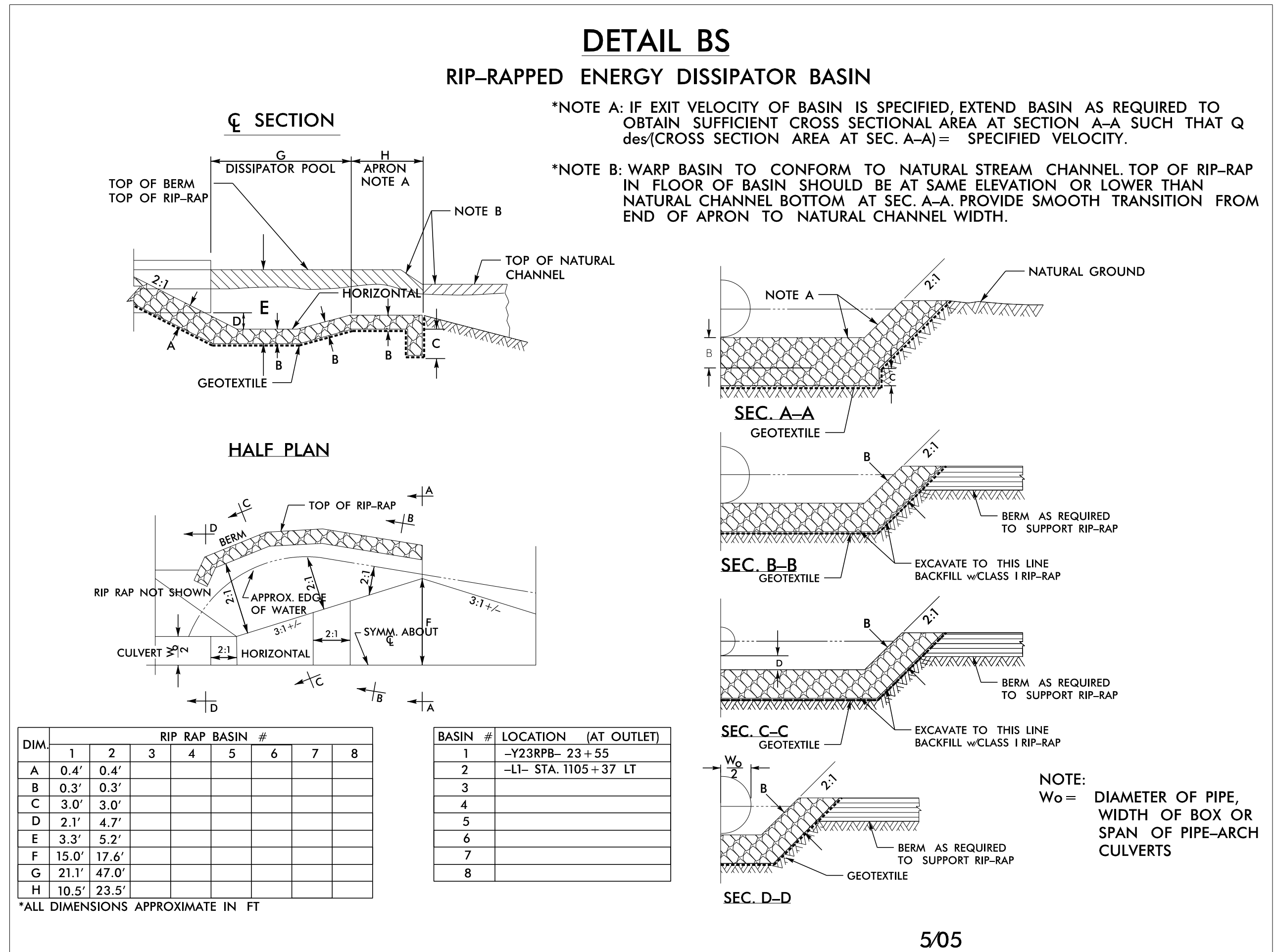
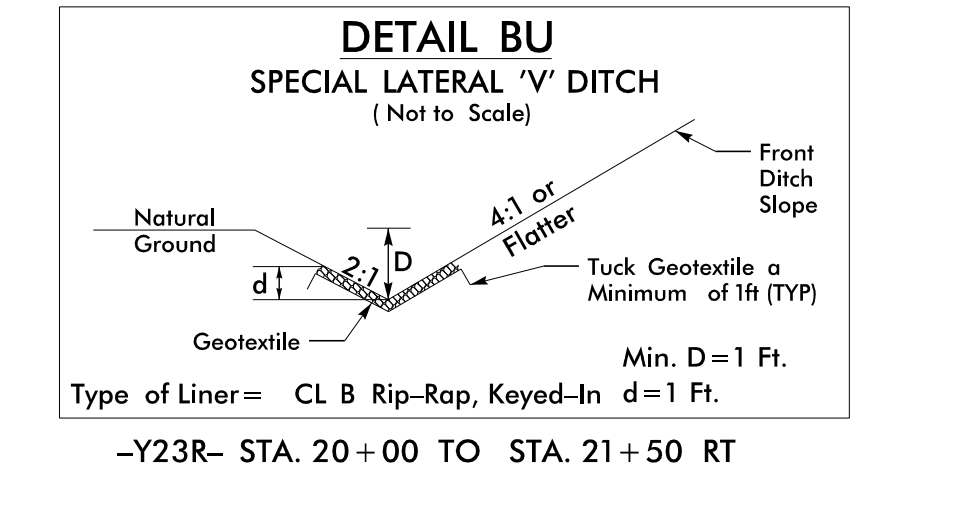
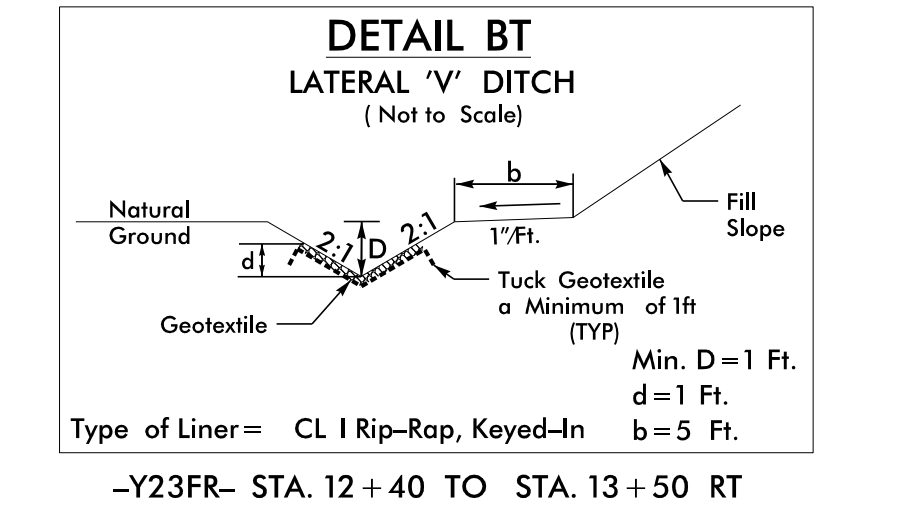
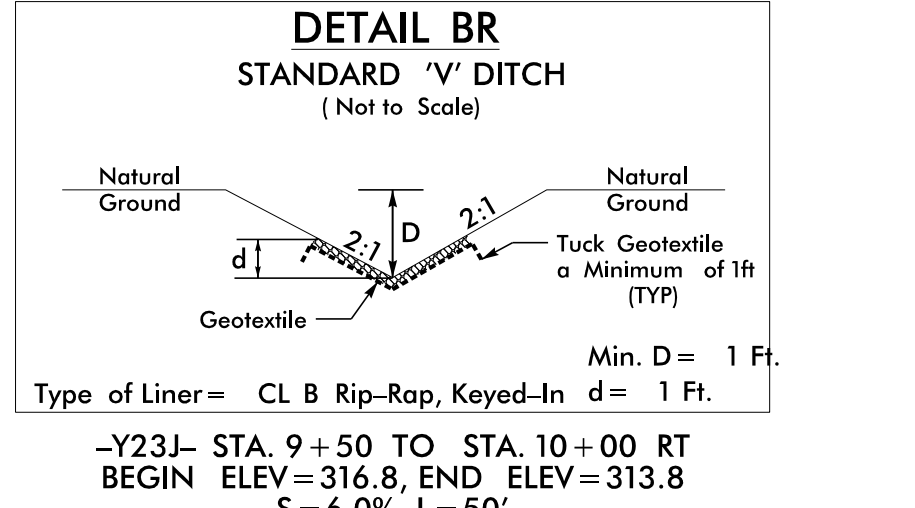
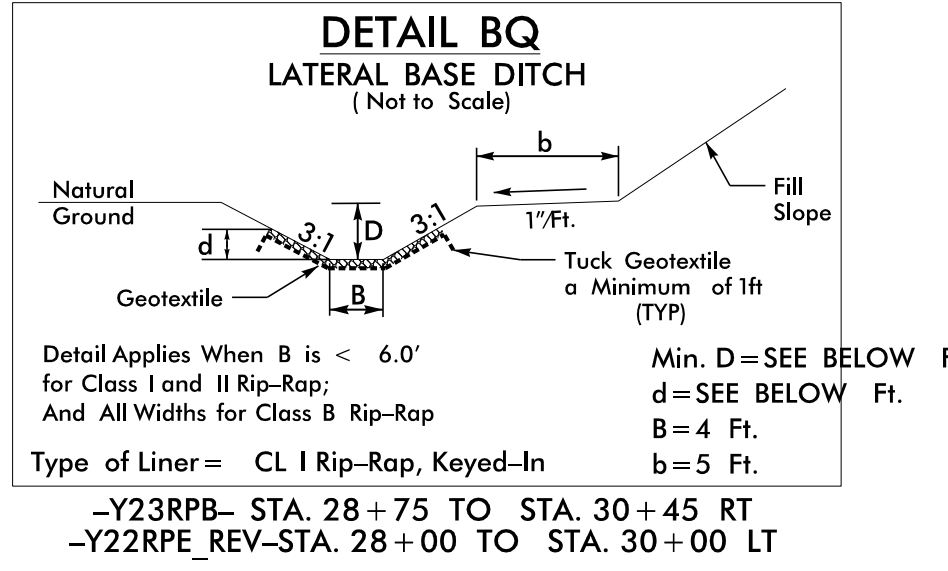
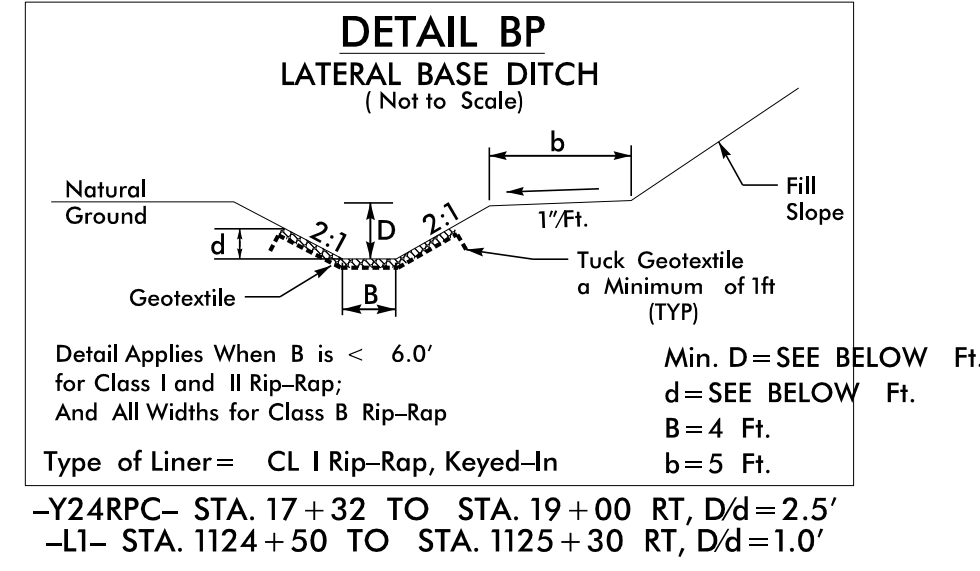
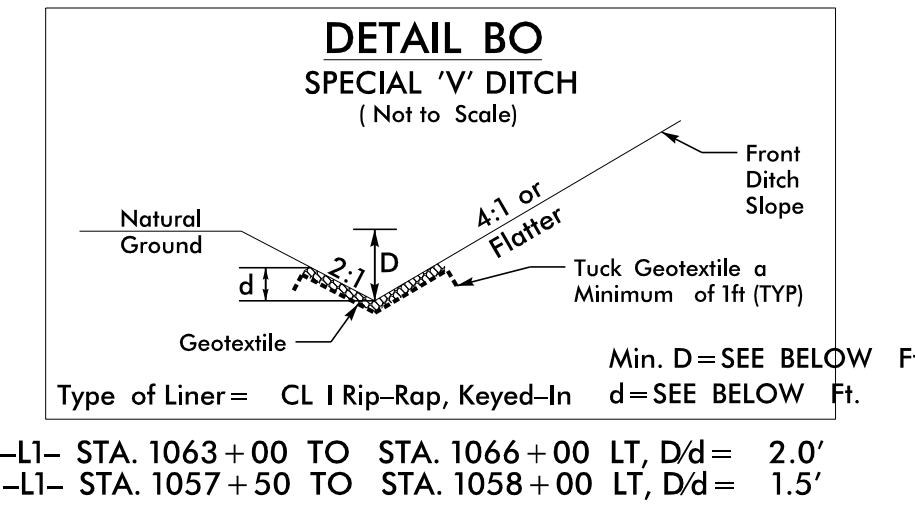
BUFFER DRAWING SHEET 4 OF 36



NOTE: * INDICATE DITCHES INSIDE THE EARLY START PACKAGE

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**BUFFER DRAWING
SHEET 5 OF 36**

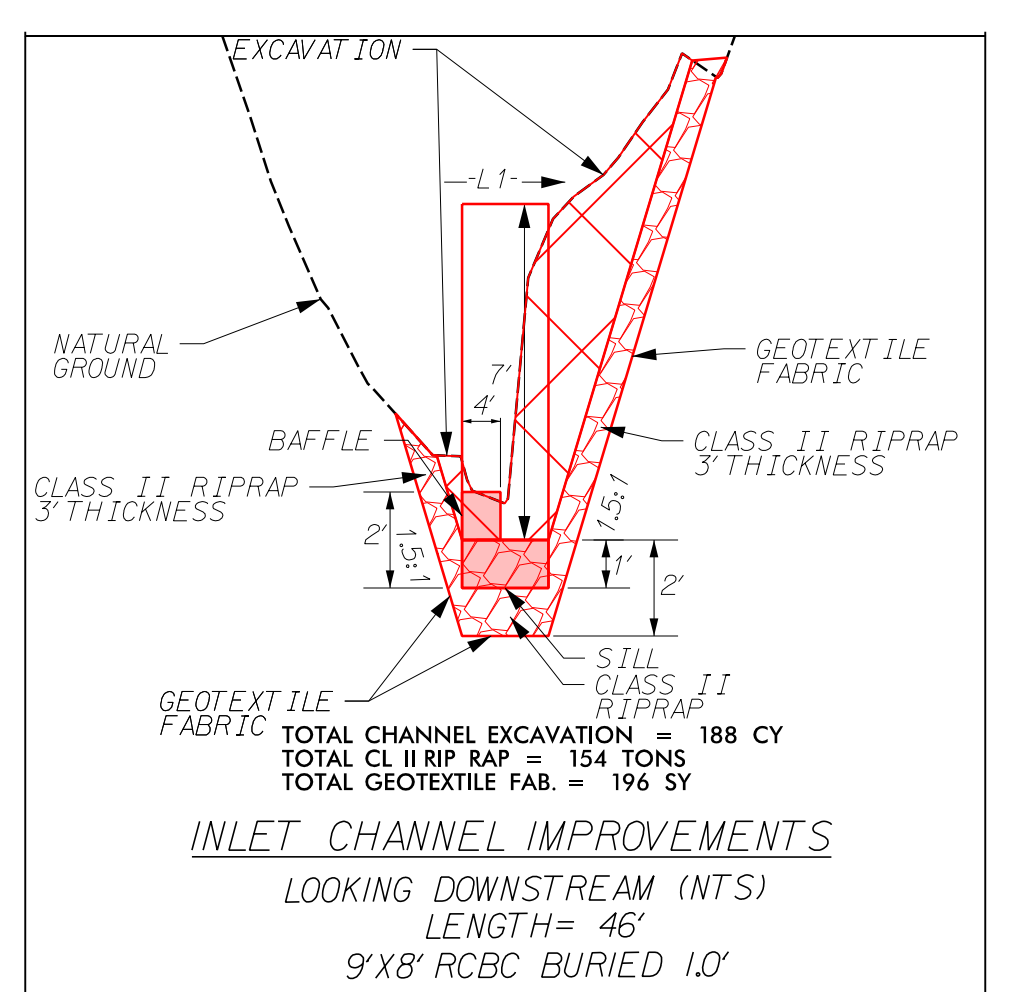
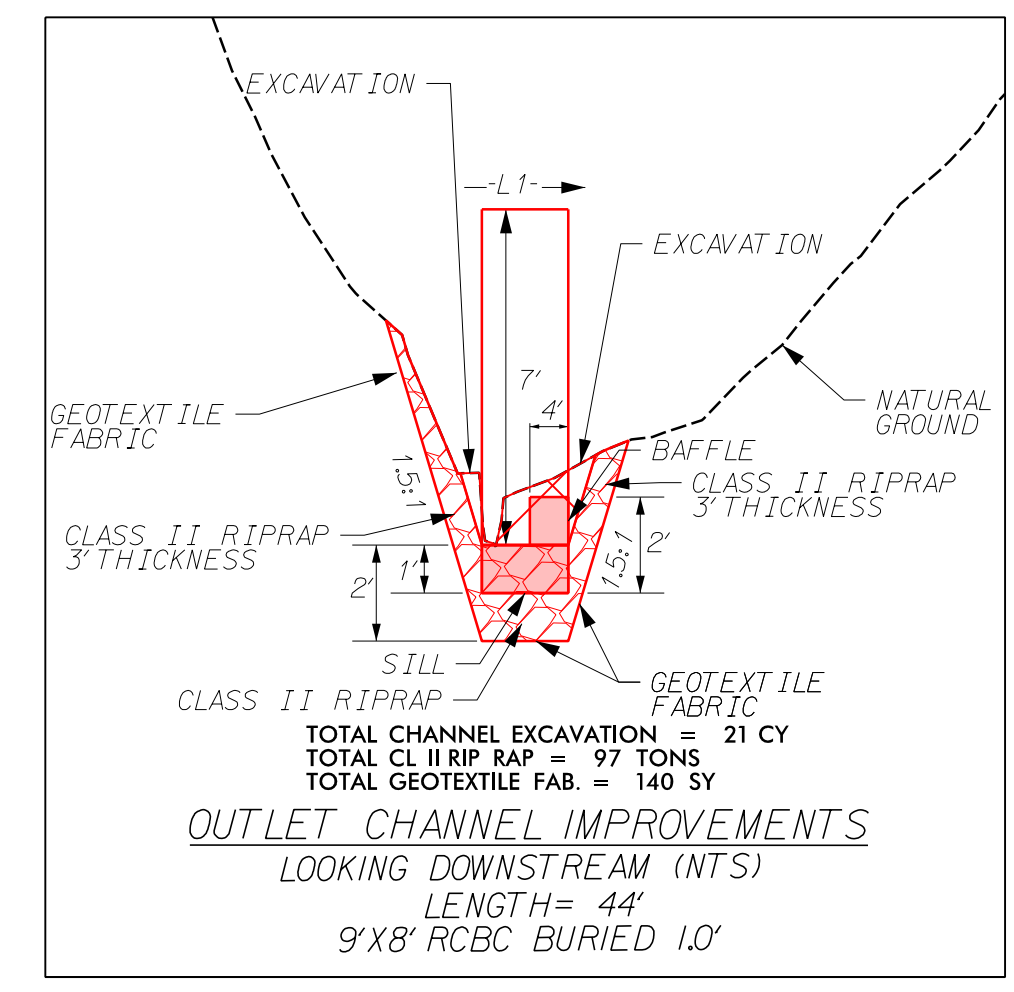


NOTE: * INDICATE DITCHES INSIDE THE EARLY START PACKAGE

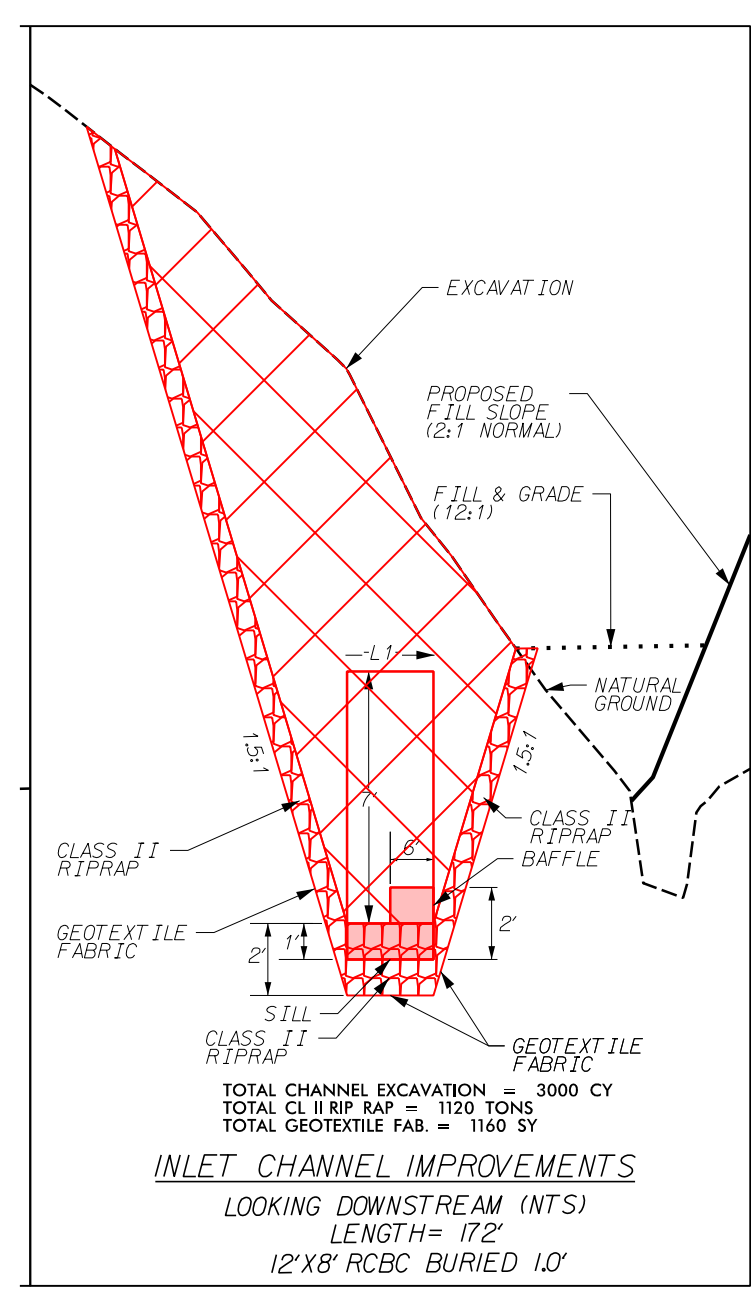
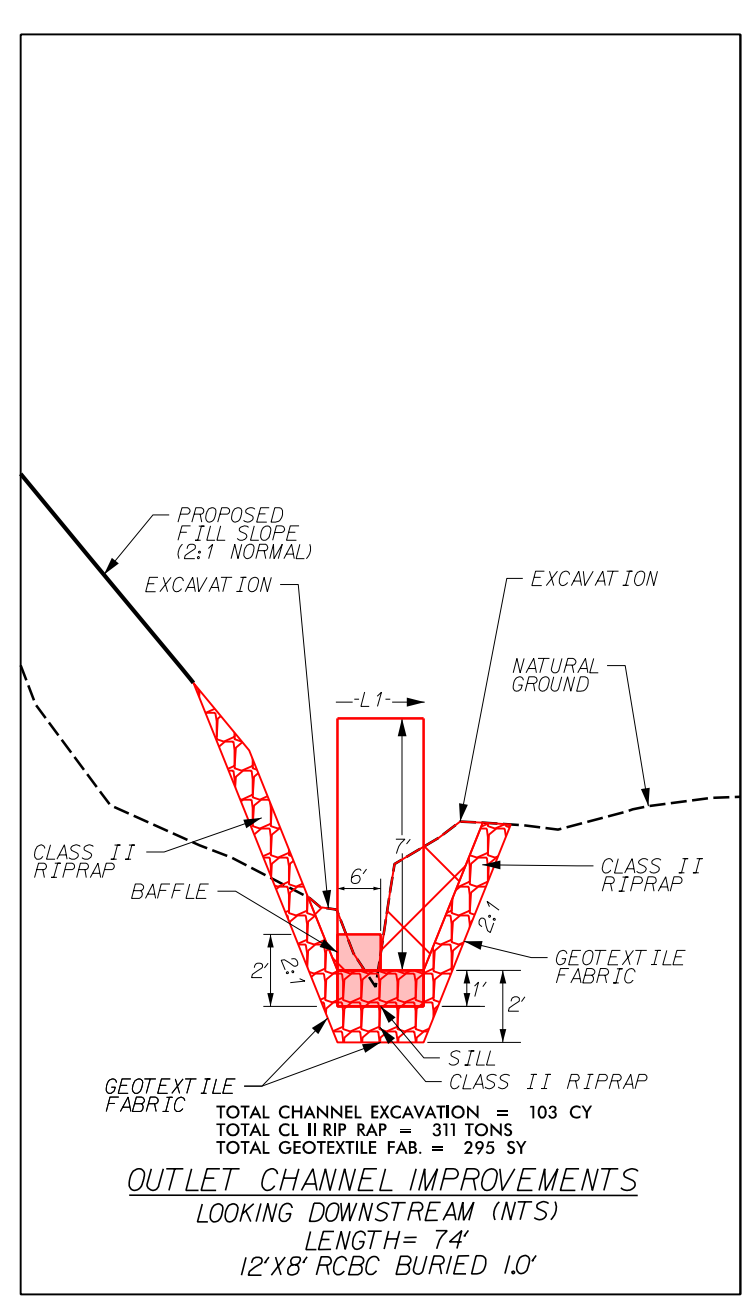
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**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

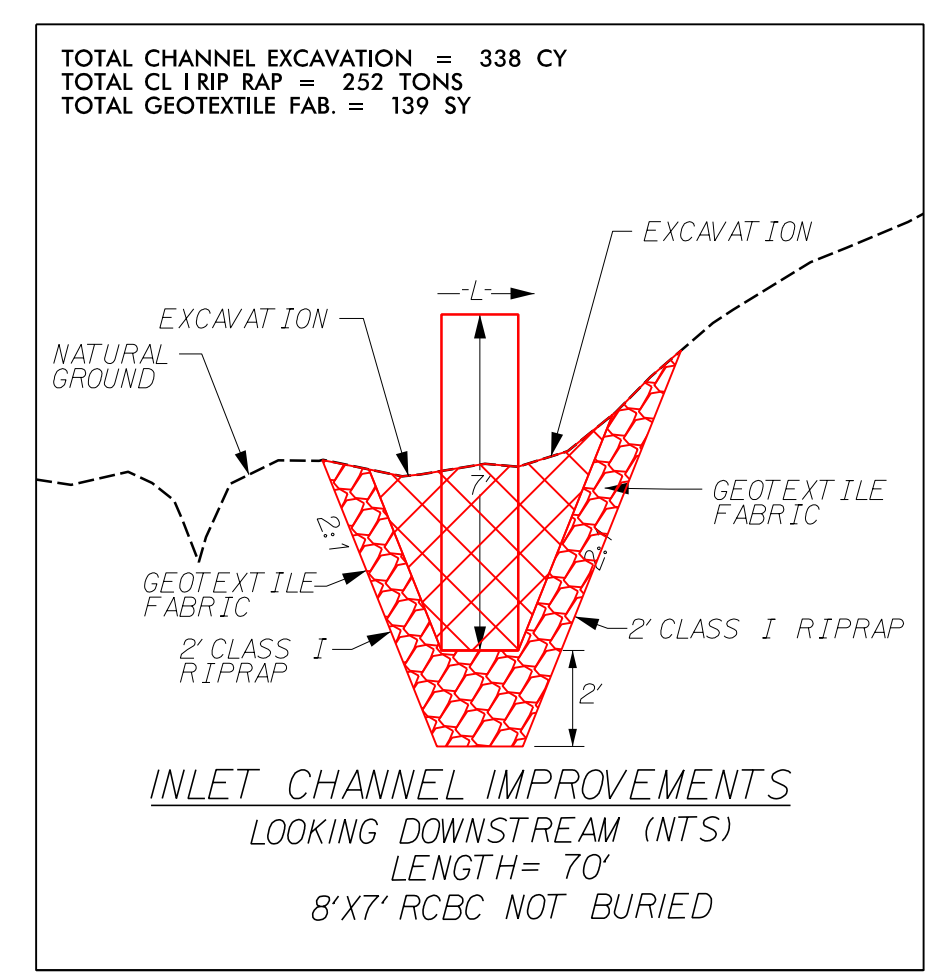
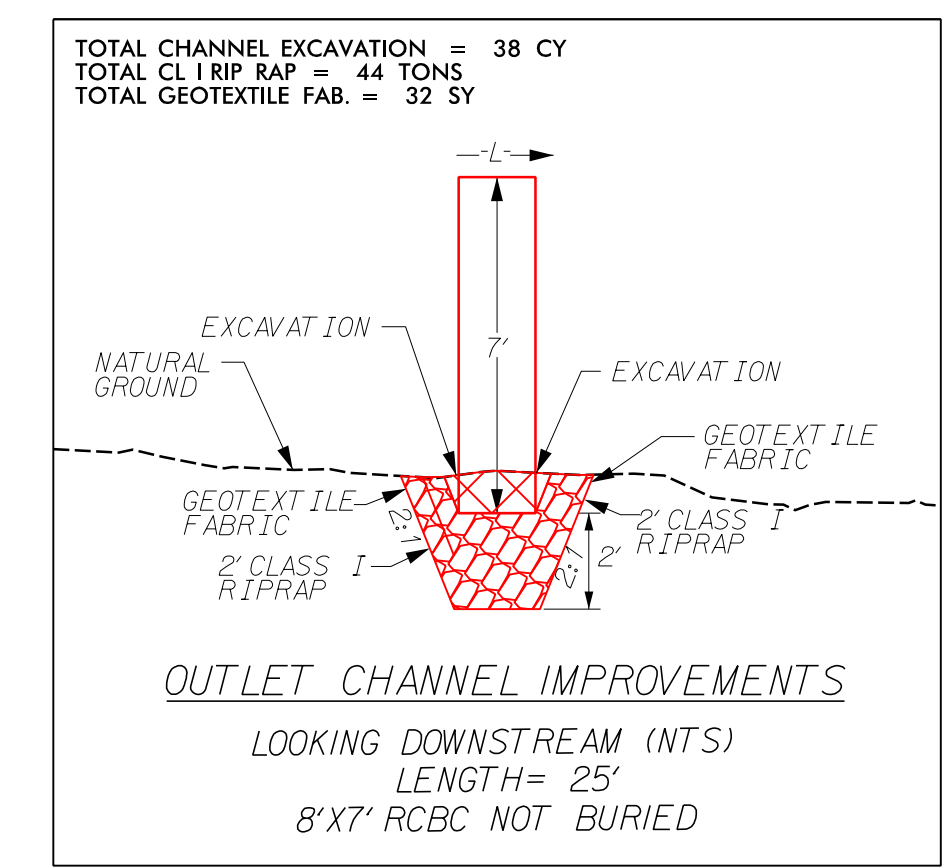
**BUFFER DRAWING
SHEET 6 OF 36**



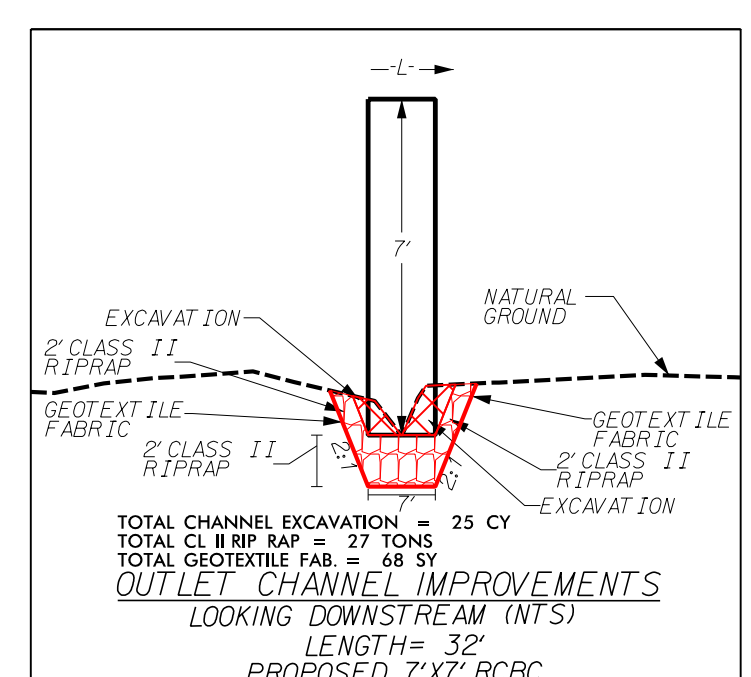
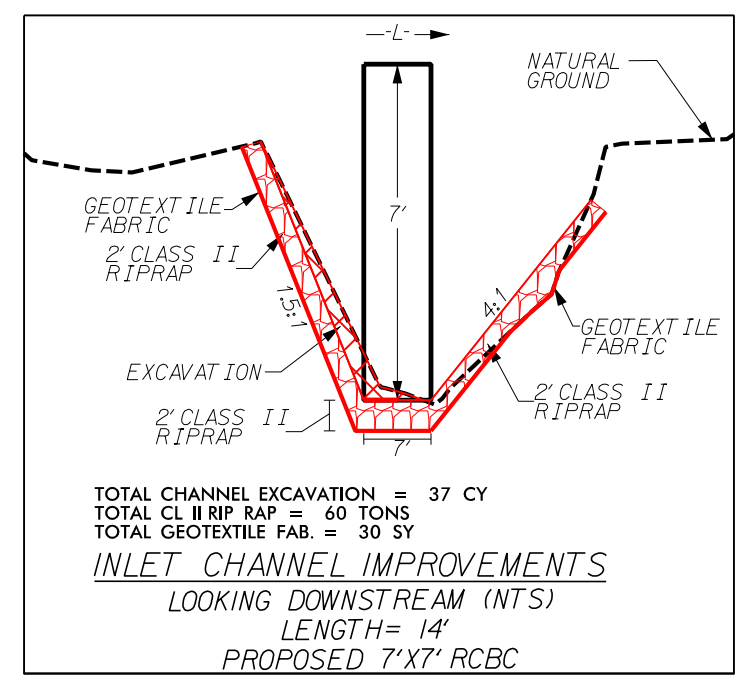
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-L- STA. 1008+75
(DETAIL CA)**



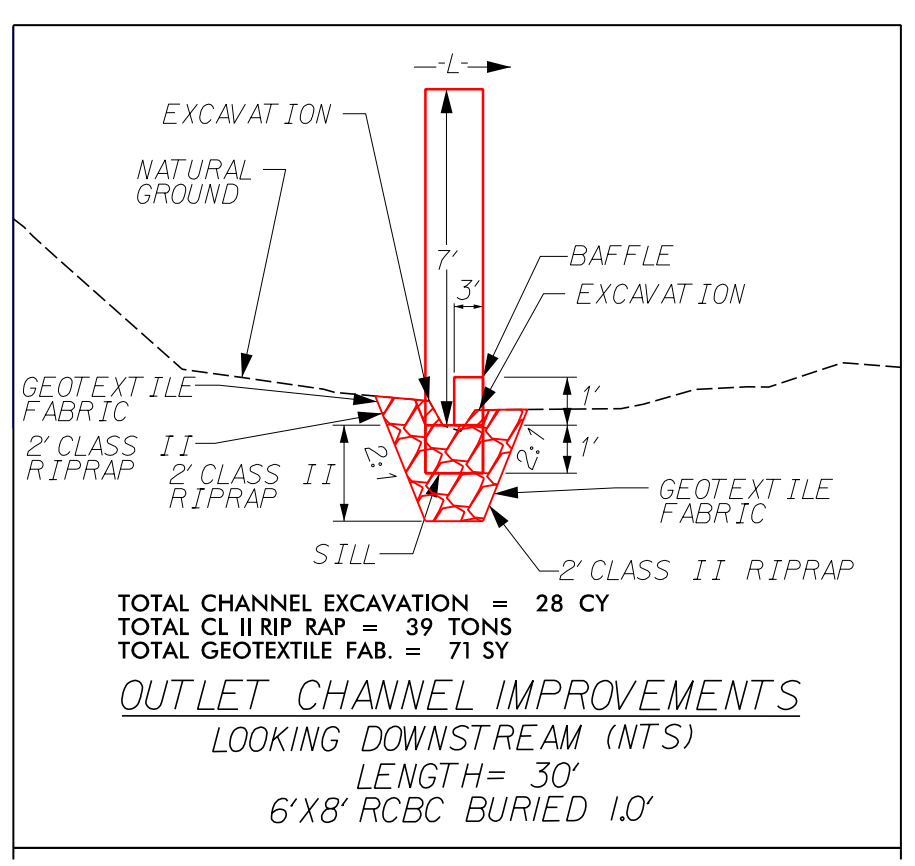
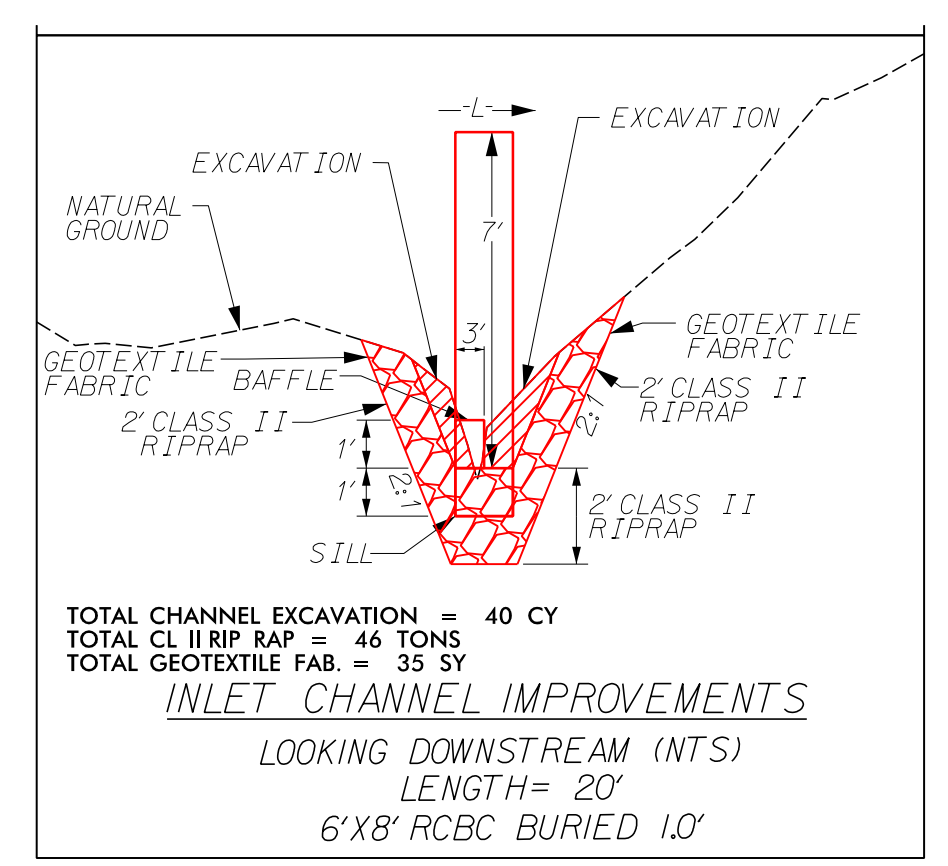
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C200
-L- STA. 1013+50
(DETAIL CB)**



**CULVERT INLET/OUTLET DETAILS
C300
-L- STA. 1099+00
(DETAIL CC)**



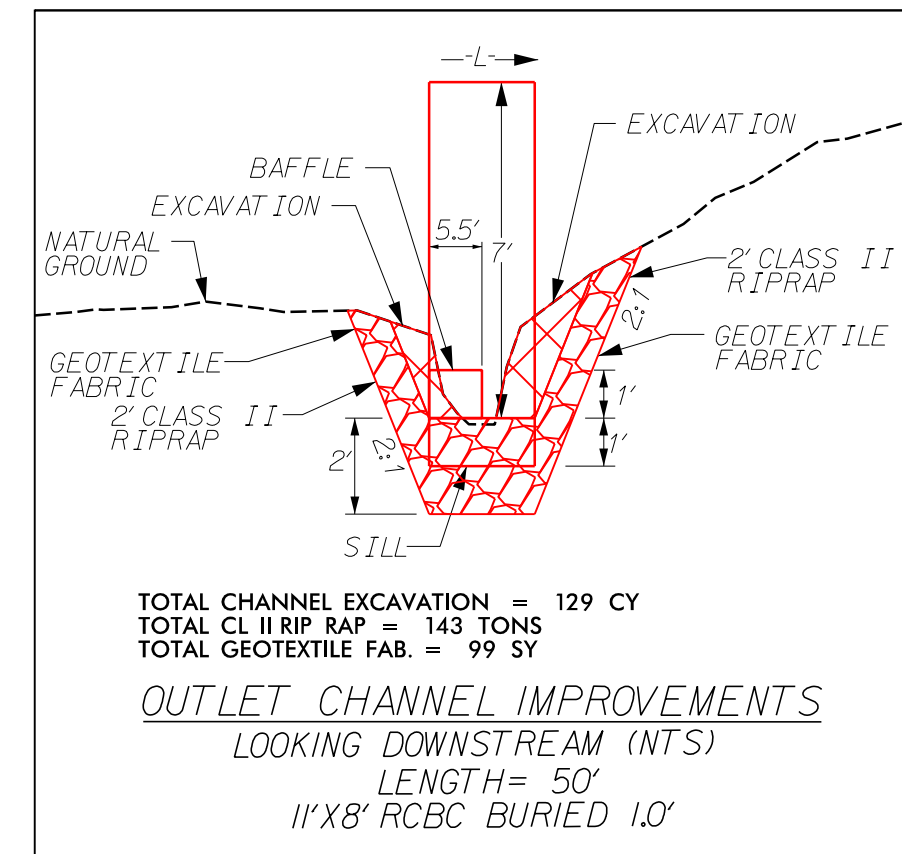
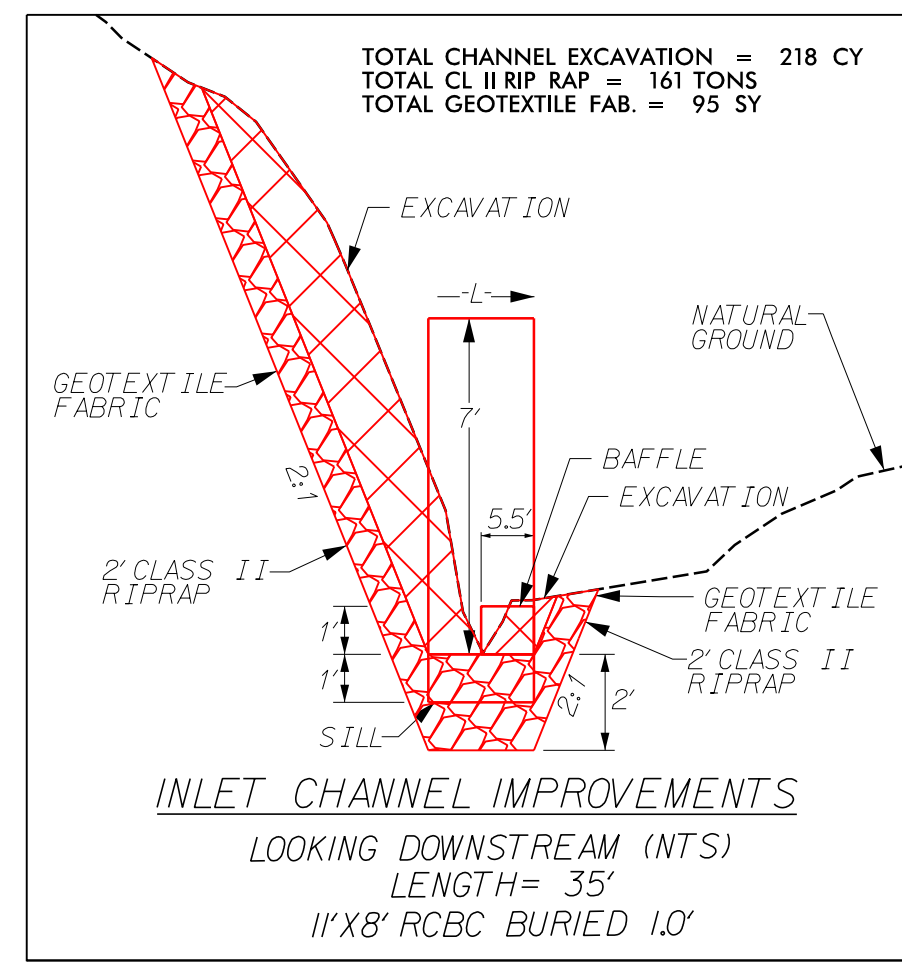
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C400
-L- STA. 1114+75
(DETAIL CD)**



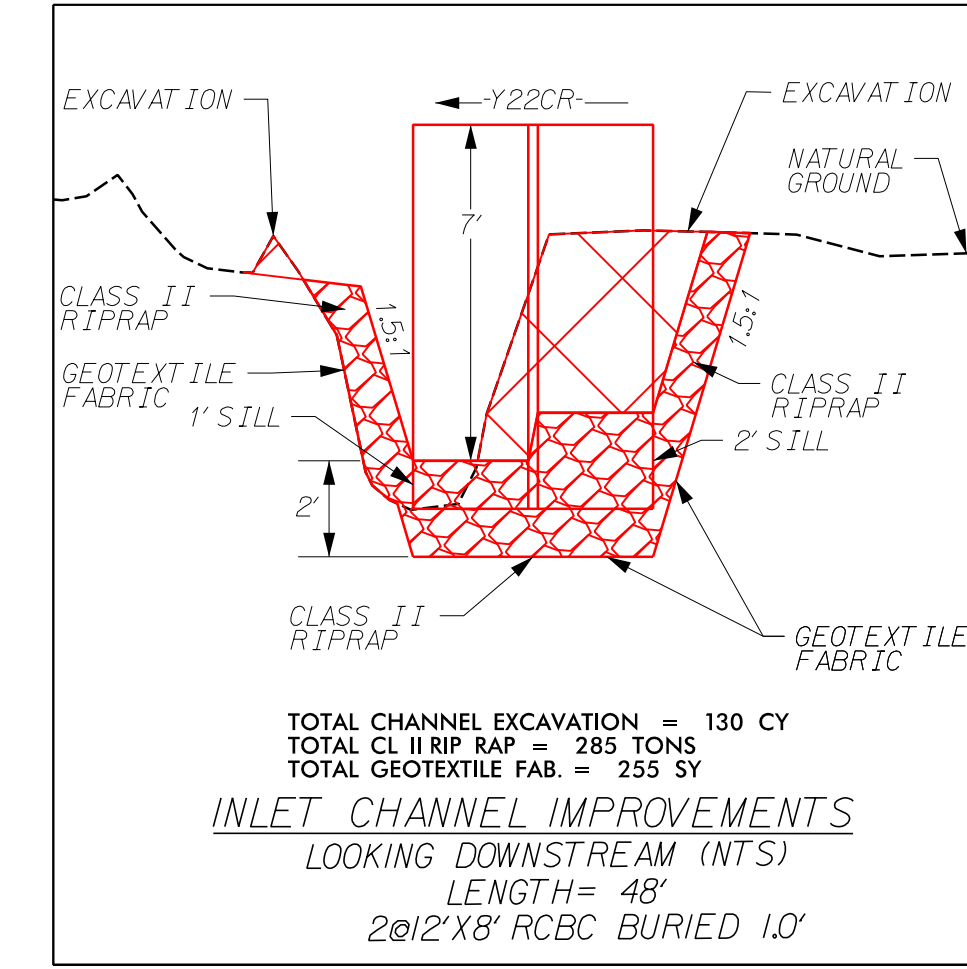
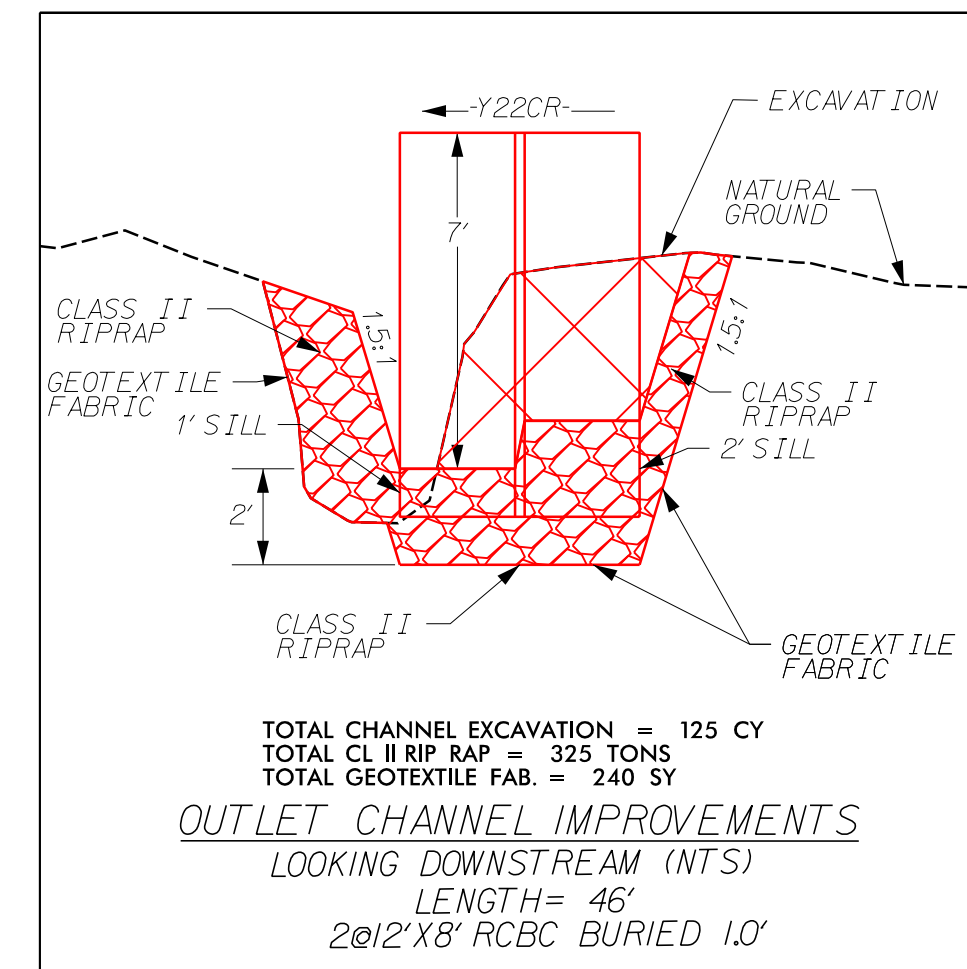
**CULVERT INLET/OUTLET DETAILS
C500
-L- STA. 1152+00
(DETAIL CE)**

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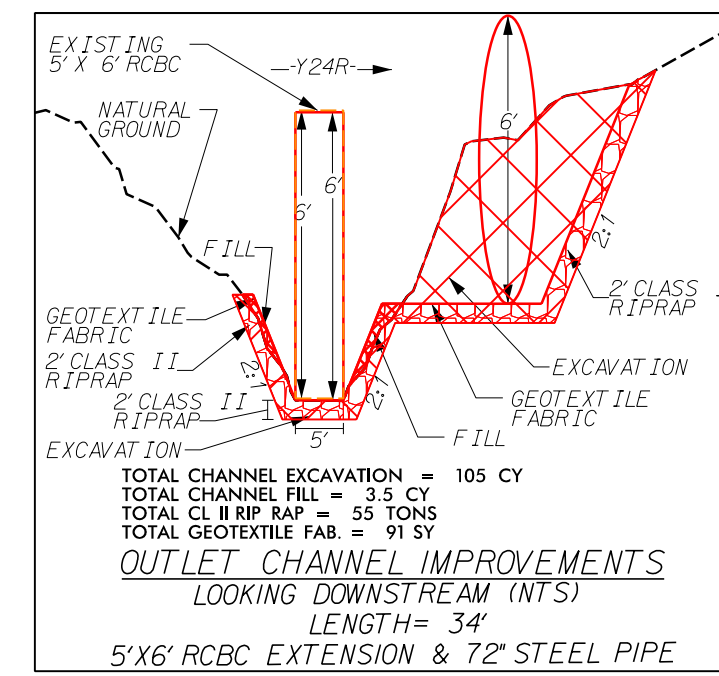
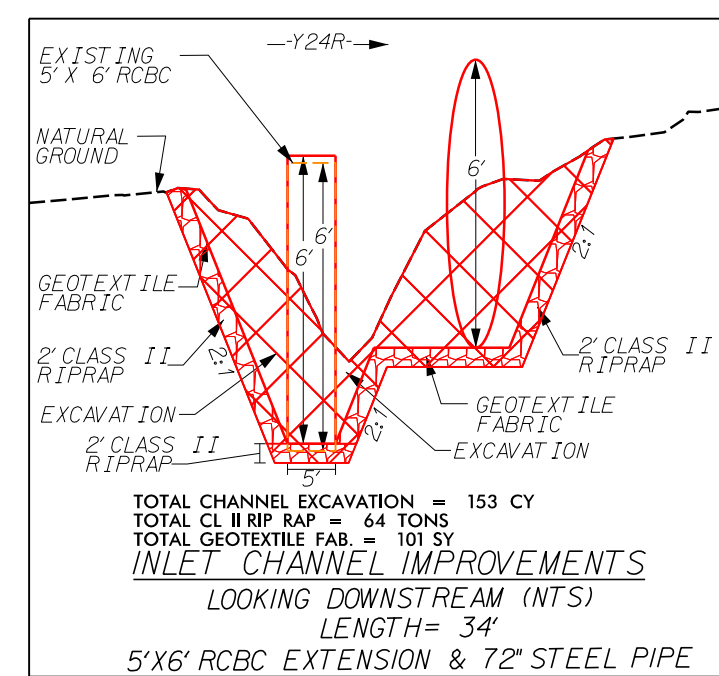
**BUFFER DRAWING
SHEET 7 OF 36**



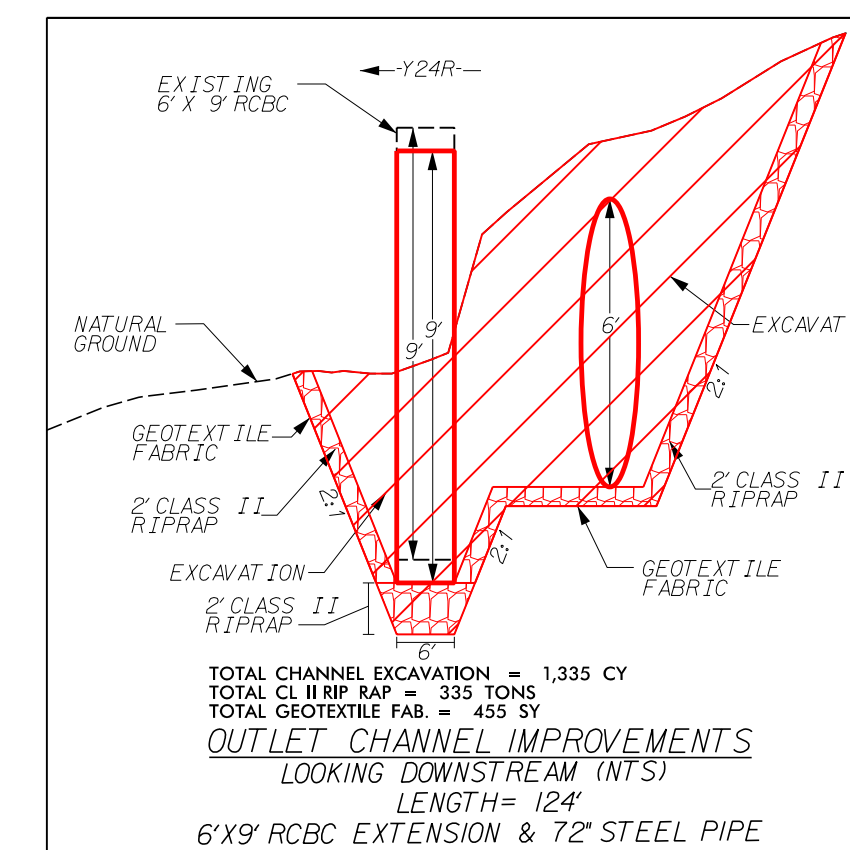
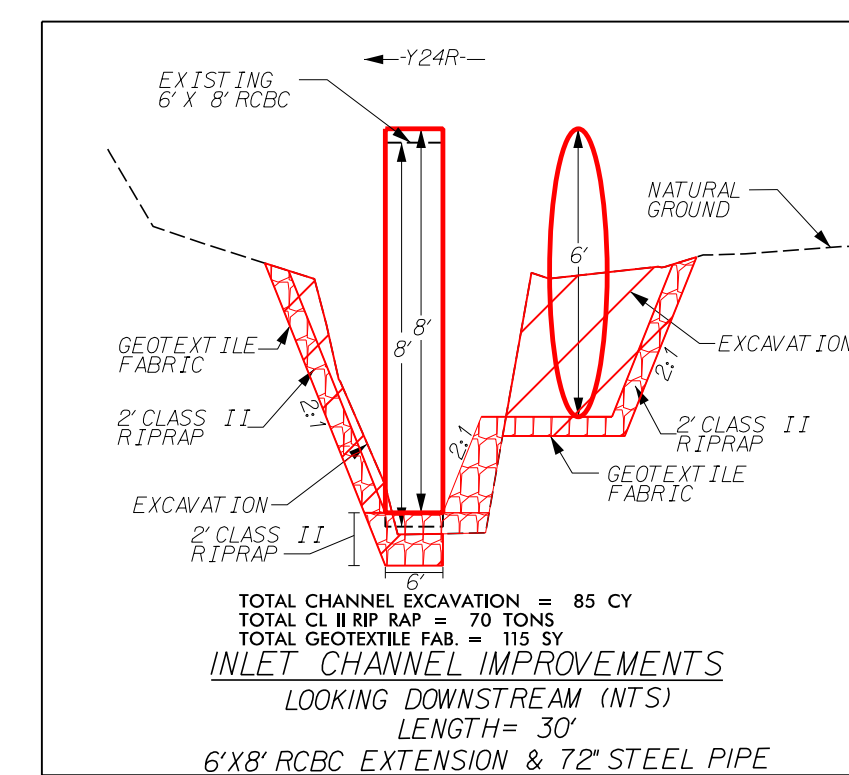
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C600
 -L1- STA. 1171+00
 (DETAIL CF)



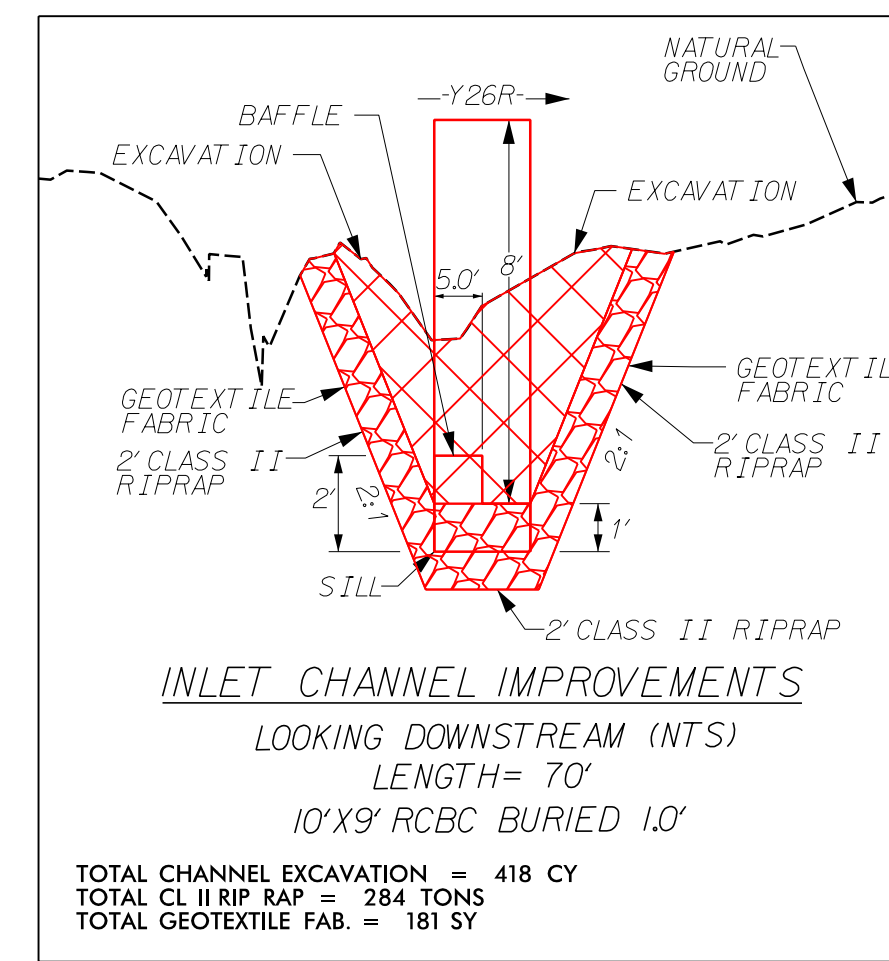
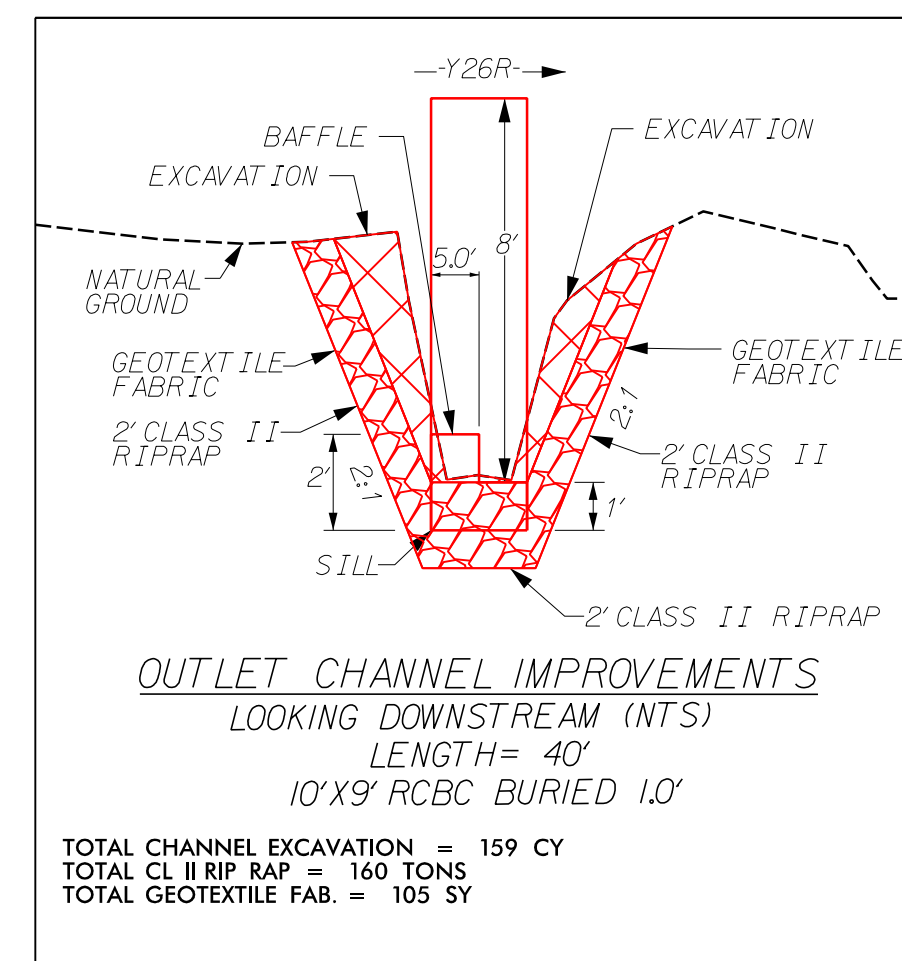
CULVERT INLET/OUTLET DETAILS
C700
 -Y22CR- STA. 14+00
 (DETAIL CG)



CULVERT INLET/OUTLET DETAILS
C800
 -Y24R- 19+50
 (DETAIL CH)



CULVERT INLET/OUTLET DETAILS
C900
 -Y24R- 34+50
 (DETAIL CI)



CULVERT INLET/OUTLET DETAILS
C1000
 -Y26R- 18+75
 (DETAIL CJ)

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SECTION 1 – SWALE DATA

<p>GRASS SWALE DATA</p> <p>DA = 6.86 AC SLOPE = 0.30 % LREQ = 686 FT LPRO = 400 FT Q2 = 21.95 CFS V2 = 1.98 FT/S D2 = 1.24 FT Q10 = 28.09 CFS V10 = 2.11 FT/S D10 = 1.39 FT STA = L 98600 TO 99000 LT</p>	<p>GRASS SWALE DATA</p> <p>DA = 4.02 AC SLOPE = 0.40 % LREQ = 402 FT LPRO = 400 FT Q2 = 12.86 CFS V2 = 1.90 FT/S D2 = 0.89 FT Q10 = 16.46 CFS V10 = 2.04 FT/S D10 = 1.01 FT STA = L 99200 TO 99600 LT</p>	<p>GRASS SWALE DATA</p> <p>DA = 1.91 AC SLOPE = 0.60 % LREQ = 191 FT LPRO = 200 FT Q2 = 6.98 CFS V2 = 1.95 FT/S D2 = 0.61 FT Q10 = 8.94 CFS V10 = 2.09 FT/S D10 = 0.70 FT STA = L 100100 TO 100300 LT</p>	<p>GRASS SWALE DATA</p> <p>DA = 2.10 AC SLOPE = 0.63 % LREQ = 210 FT LPRO = 80 FT Q2 = 7.68 CFS V2 = 1.70 FT/S D2 = 0.73 FT Q10 = 9.83 CFS V10 = 1.83 FT/S D10 = 0.83 FT STA = L 100300 TO 100380 LT</p>	<p>GRASS SWALE DATA</p> <p>DA = 0.43 AC SLOPE = 0.49 % LREQ = 43 FT LPRO = 150 FT Q2 = 1.39 CFS V2 = 1.03 FT/S D2 = 0.25 FT Q10 = 1.78 CFS V10 = 1.12 FT/S D10 = 0.29 FT STA = L 100550 TO 100700 RT</p>	<p>GRASS SWALE DATA</p> <p>DA = 3.15 AC SLOPE = 0.73 % LREQ = 315 FT LPRO = 247 FT Q2 = 10.08 CFS V2 = 1.94 FT/S D2 = 0.81 FT Q10 = 12.90 CFS V10 = 2.08 FT/S D10 = 0.92 FT STA = L 100903 TO 101150 LT</p>	<p>GRASS SWALE DATA</p> <p>DA = 4.70 AC SLOPE = 0.58 % LREQ = 470 FT LPRO = 173 FT Q2 = 12.89 CFS V2 = 1.91 FT/S D2 = 0.97 FT Q10 = 16.50 CFS V10 = 2.07 FT/S D10 = 1.10 FT STA = L 101377 TO 101550 LT</p>	<p>GRASS SWALE DATA</p> <p>DA = 2.11 AC SLOPE = 0.60 % LREQ = 211 FT LPRO = 100 FT Q2 = 6.75 CFS V2 = 1.93 FT/S D2 = 0.60 FT Q10 = 8.64 CFS V10 = 2.13 FT/S D10 = 0.69 FT STA = L 101800 TO 101900 LT</p>	<p>GRASS SWALE DATA</p> <p>DA = 0.54 AC SLOPE = 2.16 % LREQ = 54 FT LPRO = 250 FT Q2 = 1.97 CFS V2 = 1.96 FT/S D2 = 0.21 FT Q10 = 2.53 CFS V10 = 2.13 FT/S D10 = 0.24 FT STA = L 101900 TO 102150 RT</p>	<p>GRASS SWALE DATA</p> <p>DA = 0.88 AC SLOPE = 0.79 % LREQ = 88 FT LPRO = 200 FT Q2 = 2.82 CFS V2 = 1.04 FT/S D2 = 0.46 FT Q10 = 3.60 CFS V10 = 1.12 FT/S D10 = 0.53 FT STA = L 101050 TO 101250 RT</p>	<p>GRASS SWALE DATA</p> <p>DA = 0.75 AC SLOPE = 1.50 % LREQ = 75 FT LPRO = 100 FT Q2 = 2.40 CFS V2 = 1.85 FT/S D2 = 0.26 FT Q10 = 3.07 CFS V10 = 2.00 FT/S D10 = 0.30 FT STA = L 101900 TO 102000 RT</p>
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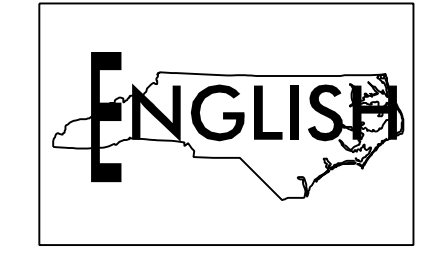
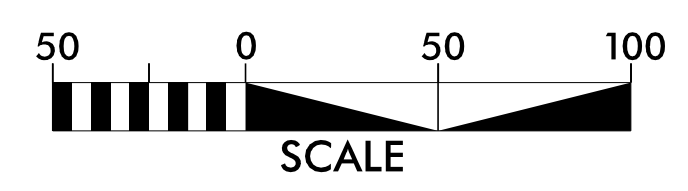
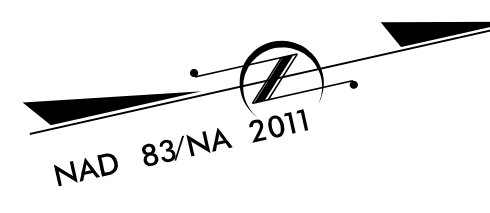
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 sburke

SECTION 2 – SWALE DATA

GRASS SWALE DATA		GRASS SWALE DATA		GRASS SWALE DATA		GRASS SWALE DATA		GRASS SWALE DATA		GRASS SWALE DATA		GRASS SWALE DATA		GRASS SWALE DATA		GRASS SWALE DATA		GRASS SWALE DATA		GRASS SWALE DATA																																																																																																				
DA = 0.60 AC	SLOPE = 1.39 %	LREQ = 60 FT	LPRO = 216 FT	Q2 = 2.33 CFS	V2 = 1.56 FT/S	D2 = 0.30 FT	Q10 = 2.98 CFS	V10 = 1.69 FT/S	D10 = 0.35 FT	STA = L1 109400 TO 109615.6 LT	DA = 0.47 AC	SLOPE = 0.81 %	LREQ = 47 FT	LPRO = 184 FT	Q2 = 1.72 CFS	V2 = 1.18 FT/S	D2 = 0.30 FT	Q10 = 2.20 CFS	V10 = 1.28 FT/S	D10 = 0.34 FT	STA = L1 109615.6 TO 109800 LT	DA = 0.83 AC	SLOPE = 1.17 %	LREQ = 83 FT	LPRO = 150 FT	Q2 = 2.66 CFS	V2 = 1.82 FT/S	D2 = 0.30 FT	Q10 = 3.40 CFS	V10 = 1.97 FT/S	D10 = 0.34 FT	STA = L1 109700 TO 109850 RT	DA = 0.91 AC	SLOPE = 1.67 %	LREQ = 91 FT	LPRO = 30 FT	Q2 = 3.33 CFS	V2 = 1.86 FT/S	D2 = 0.35 FT	Q10 = 3.73 CFS	V10 = 1.80 FT/S	D10 = 0.38 FT	STA = L1 109850 TO 109880 RT	DA = 2.17 AC	SLOPE = 0.59 %	LREQ = 217 FT	LPRO = 34 FT	Q2 = 7.93 CFS	V2 = 1.68 FT/S	D2 = 0.75 FT	Q10 = 10.16 CFS	V10 = 1.80 FT/S	D10 = 0.86 FT	STA = L1 109883 TO 109917 RT	DA = 2.02 AC	SLOPE = 0.78 %	LREQ = 202 FT	LPRO = 83 FT	Q2 = 7.39 CFS	V2 = 1.82 FT/S	D2 = 0.67 FT	Q10 = 9.45 CFS	V10 = 1.96 FT/S	D10 = 0.77 FT	STA = L1 109917 TO 110000 RT	DA = 0.60 AC	SLOPE = 1.56 %	LREQ = 60 FT	LPRO = 50 FT	Q2 = 2.06 CFS	V2 = 1.84 FT/S	D2 = 0.24 FT	Q10 = 2.63 CFS	V10 = 2.00 FT/S	D10 = 0.27 FT	STA = L1 110100 TO 110150 RT	DA = 4.91 AC	SLOPE = 0.35 %	LREQ = 491 FT	LPRO = 26 FT	Q2 = 16.83 CFS	V2 = 1.71 FT/S	D2 = 1.26 FT	Q10 = 21.54 CFS	V10 = 1.82 FT/S	D10 = 1.43 FT	STA = L1 111300 TO 111326 RT	DA = 0.98 AC	SLOPE = 1.47 %	LREQ = 98 FT	LPRO = 15 FT	Q2 = 3.58 CFS	V2 = 1.82 FT/S	D2 = 0.38 FT	Q10 = 4.59 CFS	V10 = 1.97 FT/S	D10 = 0.44 FT	STA = L1 111885 TO 111900 RT	DA = 0.92 AC	SLOPE = 1.48 %	LREQ = 92 FT	LPRO = 275 FT	Q2 = 3.36 CFS	V2 = 1.79 FT/S	D2 = 0.37 FT	Q10 = 4.31 CFS	V10 = 1.94 FT/S	D10 = 0.42 FT	STA = L1 111900 TO 112175 RT	DA = 2.10 AC	SLOPE = 0.55 %	LREQ = 210 FT	LPRO = 275 FT	Q2 = 7.68 CFS	V2 = 1.62 FT/S	D2 = 0.76 FT	Q10 = 9.83 CFS	V10 = 1.74 FT/S	D10 = 0.86 FT	STA = L1 112175 TO 112450 RT
DA = 0.70 AC	SLOPE = 1.47 %	LREQ = 70 FT	LPRO = 300 FT	Q2 = 2.56 CFS	V2 = 1.64 FT/S	D2 = 0.32 FT	Q10 = 3.28 CFS	V10 = 1.77 FT/S	D10 = 0.36 FT	STA = V24RRC 2150 TO 2450 RT	DA = 3.00 AC	SLOPE = 0.83 %	LREQ = 300 FT	LPRO = 120 FT	Q2 = 7.54 CFS	V2 = 1.88 FT/S	D2 = 0.67 FT	Q10 = 9.65 CFS	V10 = 2.01 FT/S	D10 = 0.76 FT	STA = 17-18 1160.23 TO 1280 LT	DA = 0.83 AC	SLOPE = 2.00 %	LREQ = 83 FT	LPRO = 100 FT	Q2 = 2.28 CFS	V2 = 1.75 FT/S	D2 = 0.27 FT	Q10 = 2.91 CFS	V10 = 1.89 FT/S	D10 = 0.31 FT	STA = 18 116450 TO 116550 RT	DA = 1.84 AC	SLOPE = 1.15 %	LREQ = 184 FT	LPRO = 100 FT	Q2 = 5.05 CFS	V2 = 1.86 FT/S	D2 = 0.49 FT	Q10 = 6.46 CFS	V10 = 2.01 FT/S	D10 = 0.57 FT	STA = 19 116850 TO 116950 LT	DA = 12.10 AC	SLOPE = 0.32 %	LREQ = 1210 FT	LPRO = 250 FT	Q2 = 33.18 CFS	V2 = 1.99 FT/S	D2 = 1.79 FT	Q10 = 42.47 CFS	V10 = 2.12 FT/S	D10 = 2.00 FT	STA = 19 116750 TO 117000 RT	DA = 2.52 AC	SLOPE = 0.74 %	LREQ = 252 FT	LPRO = 188 FT	Q2 = 6.91 CFS	V2 = 2.00 FT/S	D2 = 0.55 FT	Q10 = 8.85 CFS	V10 = 2.15 FT/S	D10 = 0.63 FT	STA = 17 2450 TO 2638 RT	DA = 10.12 AC	SLOPE = 0.31 %	LREQ = 1012 FT	LPRO = 262 FT	Q2 = 21.81 CFS	V2 = 1.99 FT/S	D2 = 1.23 FT	Q10 = 28.28 CFS	V10 = 2.13 FT/S	D10 = 1.39 FT	STA = 17 2638 TO 2900 RT	DA = 0.75 AC	SLOPE = 1.00 %	LREQ = 75 FT	LPRO = 100 FT	Q2 = 2.40 CFS	V2 = 1.41 FT/S	D2 = 0.34 FT	Q10 = 3.07 CFS	V10 = 1.52 FT/S	D10 = 0.39 FT	STA = 17 113600 TO 113700 RT	DA = 3.25 AC	SLOPE = 0.80 %	LREQ = 325 FT	LPRO = 150 FT	Q2 = 8.91 CFS	V2 = 1.94 FT/S	D2 = 0.74 FT	Q10 = 11.41 CFS	V10 = 2.08 FT/S	D10 = 0.84 FT	STA = 17 2950 TO 3050 LT	DA = 3.25 AC	SLOPE = 0.80 %	LREQ = 325 FT	LPRO = 150 FT	Q2 = 8.91 CFS	V2 = 1.94 FT/S	D2 = 0.74 FT	Q10 = 11.41 CFS	V10 = 2.08 FT/S	D10 = 0.84 FT	STA = 17 3050 TO 3200 LT	DA = 3.07 AC	SLOPE = 0.64 %	LREQ = 307 FT	LPRO = 117 FT	Q2 = 9.82 CFS	V2 = 1.84 FT/S	D2 = 0.82 FT	Q10 = 12.57 CFS	V10 = 1.97 FT/S	D10 = 0.94 FT	STA = 34 1800 TO 1917 LT
DA = 6.21 AC	SLOPE = 0.36 %	LREQ = 621 FT	LPRO = 111 FT	Q2 = 19.87 CFS	V2 = 1.81 FT/S	D2 = 1.36 FT	Q10 = 25.43 CFS	V10 = 1.94 FT/S	D10 = 1.53 FT	STA = 34 1900 TO 2011 RT	DA = 1.00 AC	SLOPE = 1.40 %	LREQ = 100 FT	LPRO = 50 FT	Q2 = 3.20 CFS	V2 = 1.98 FT/S	D2 = 0.31 FT	Q10 = 4.10 CFS	V10 = 2.14 FT/S	D10 = 0.35 FT	STA = 35 1951.06 TO 2001.06 LT	DA = 1.04 AC	SLOPE = 2.02 %	LREQ = 104 FT	LPRO = 49 FT	Q2 = 3.33 CFS	V2 = 1.99 FT/S	D2 = 0.33 FT	Q10 = 4.26 CFS	V10 = 2.15 FT/S	D10 = 0.38 FT	STA = 35 2001.06 TO 2050.45 LT	DA = 2.14 AC	SLOPE = 0.60 %	LREQ = 214 FT	LPRO = 149 FT	Q2 = 6.85 CFS	V2 = 1.94 FT/S	D2 = 0.61 FT	Q10 = 8.76 CFS	V10 = 2.09 FT/S	D10 = 0.69 FT	STA = 35 3250 TO 3399.34 RT	DA = 3.20 AC	SLOPE = 0.68 %	LREQ = 320 FT	LPRO = 69 FT	Q2 = 10.24 CFS	V2 = 1.90 FT/S	D2 = 0.83 FT	Q10 = 13.10 CFS	V10 = 2.04 FT/S	D10 = 0.94 FT	STA = 35 3399.34 TO 3468.33 RT	DA = 2.00 AC	SLOPE = 1.30 %	LREQ = 200 FT	LPRO = 90 FT	Q2 = 5.48 CFS	V2 = 1.99 FT/S	D2 = 0.50 FT	Q10 = 7.02 CFS	V10 = 2.15 FT/S	D10 = 0.57 FT	STA = 19 117910 TO 118000 RT	DA = 1.79 AC	SLOPE = 0.52 %	LREQ = 179 FT	LPRO = 50 FT	Q2 = 4.89 CFS	V2 = 1.91 FT/S	D2 = 0.43 FT	Q10 = 6.27 CFS	V10 = 2.06 FT/S	D10 = 0.49 FT	STA = 19 118000 TO 118050 RT	DA = 1.71 AC	SLOPE = 1.07 %	LREQ = 171 FT	LPRO = 100 FT	Q2 = 4.69 CFS	V2 = 1.99 FT/S	D2 = 0.40 FT	Q10 = 6.00 CFS	V10 = 2.14 FT/S	D10 = 0.46 FT	STA = 19 118050 TO 118150 RT																																	

6/5/2024 R:\Hydro\Utilities\Permits_Environmental\Drawings\4C\R-2829A_Hyd_buf_Filtration.dgn aburke

PROJECT REFERENCE NO. R-2829A	SHEET NO. 9
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



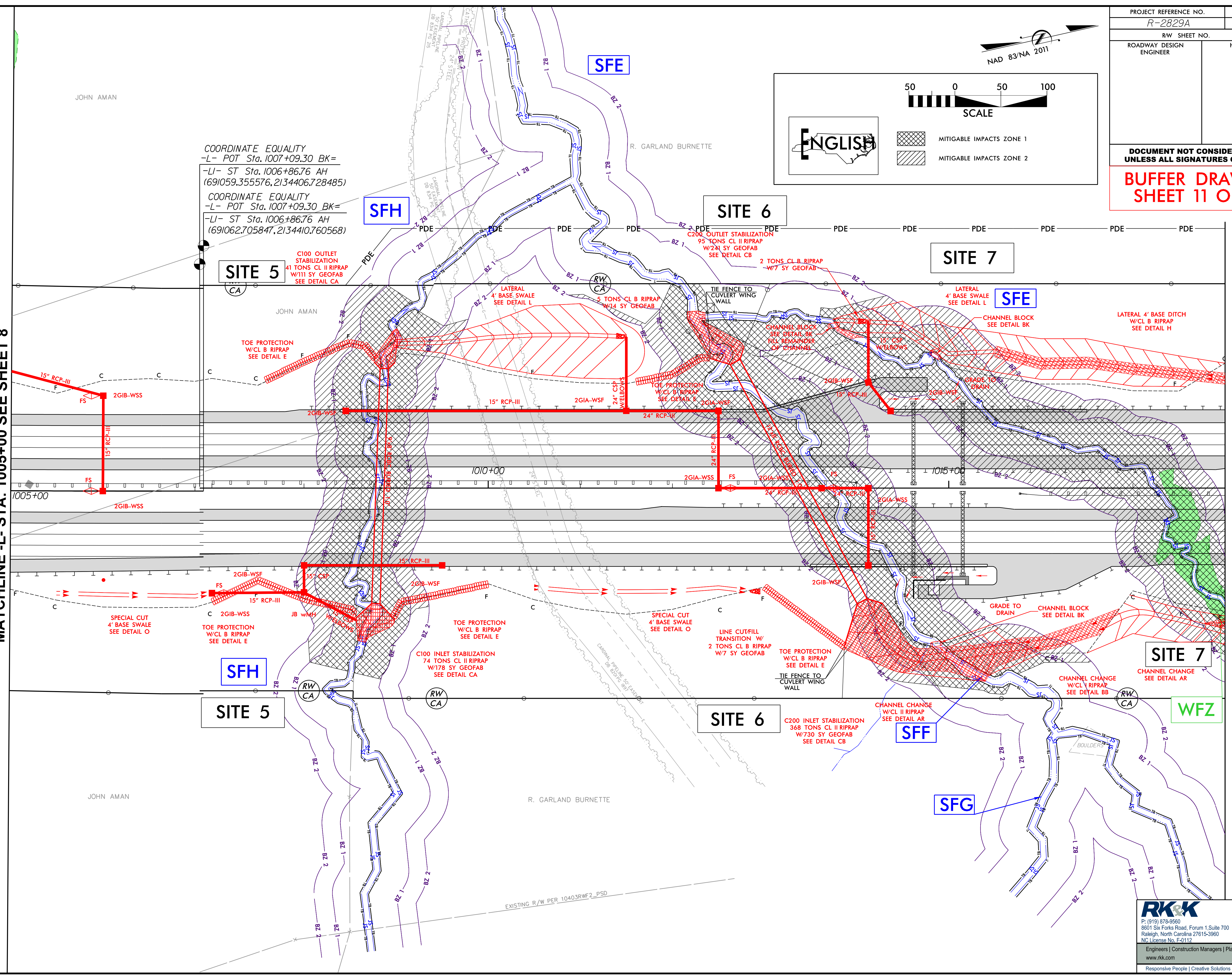
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

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**BUFFER DRAWING
SHEET 11 OF 36**

MATCHLINE -L- STA. 1005+00 SEE SHEET 8

MATCHLINE -L1- STA. 1018+00 SEE SHEET 10



COORDINATE EQUALITY
-L- POT Sta. 1007+09.30 BK=
-LI- ST Sta. 1006+86.76 AH
(691059.355576, 2134406.728485)

COORDINATE EQUALITY
-L- POT Sta. 1007+09.30 BK=
-LI- ST Sta. 1006+86.76 AH
(691062.705847, 2134410.760568)

SITE 5
C100 OUTLET STABILIZATION
41 TONS CL II RIPRAP
W/111 SY GEOFAB
SEE DETAIL CA

SITE 6
C200 OUTLET STABILIZATION
95 TONS CL II RIPRAP
W/201 SY GEOFAB
SEE DETAIL CB

SITE 7

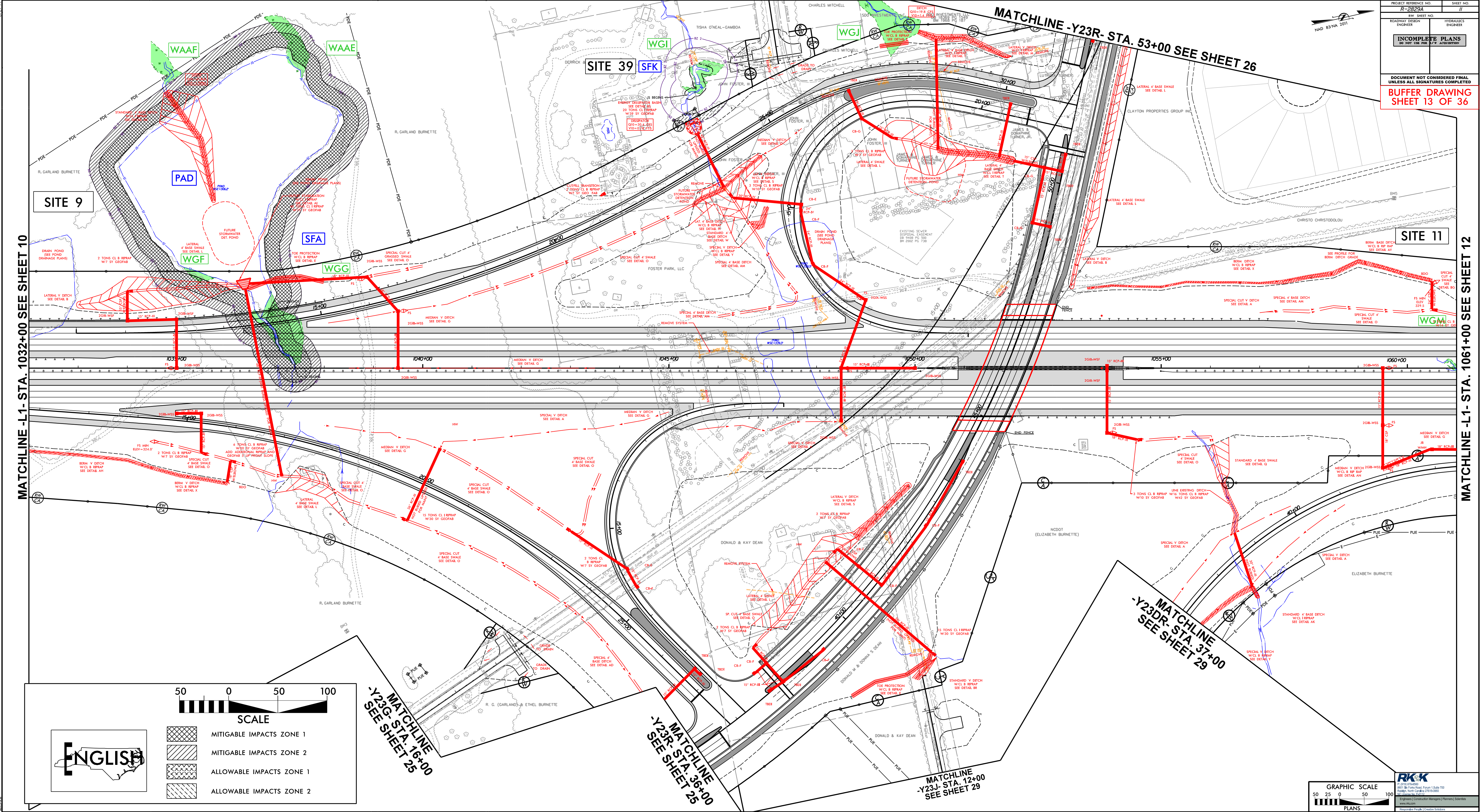
SITE 5
C100 INLET STABILIZATION
74 TONS CL II RIPRAP
W/178 SY GEOFAB
SEE DETAIL CA

SITE 6
C200 INLET STABILIZATION
368 TONS CL II RIPRAP
W/730 SY GEOFAB
SEE DETAIL CB

SITE 7

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MATCHLINE -L1- STA. 1032+00 SEE SHEET 10

MATCHLINE -L1- STA. 1061+00 SEE SHEET 12

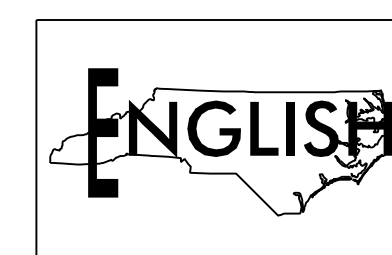
MATCHLINE -Y23R- STA. 53+00 SEE SHEET 26

MATCHLINE -Y23DR- STA. 37+00 SEE SHEET 29

MATCHLINE -Y23G- STA. 16+00 SEE SHEET 25

MATCHLINE -Y23J- STA. 36+00 SEE SHEET 25

MATCHLINE -Y23J- STA. 12+00 SEE SHEET 29



SCALE

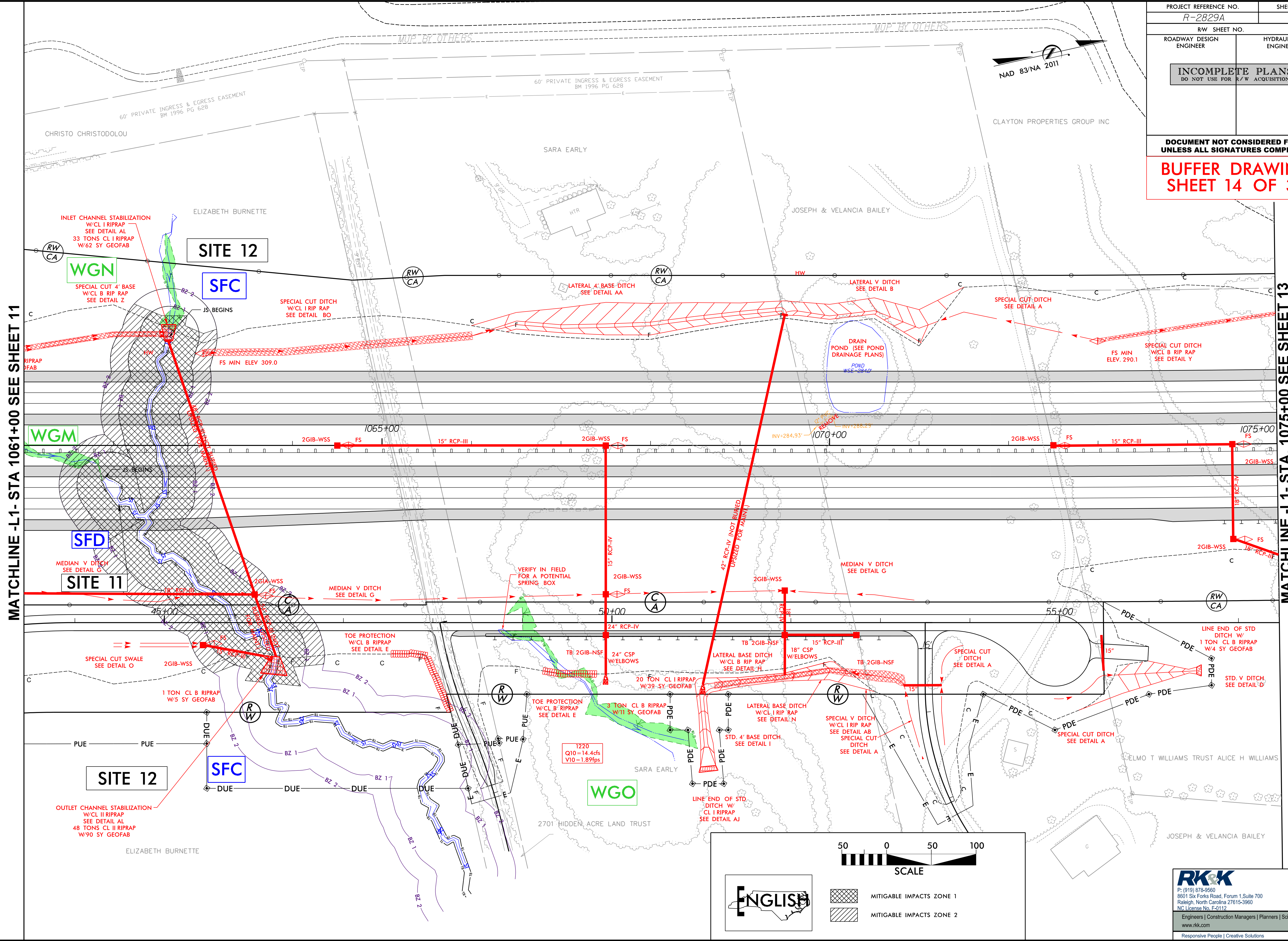
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	MITIGABLE IMPACTS ZONE 1
	MITIGABLE IMPACTS ZONE 2
	ALLOWABLE IMPACTS ZONE 1
	ALLOWABLE IMPACTS ZONE 2

PROJECT REFERENCE NO. R-2829A	SHEET NO. 12
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

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SHEET 14 OF 36



MATCHLINE -L1- STA 1061+00 SEE SHEET 11

MATCHLINE -L1- STA. 1075+00 SEE SHEET 13



- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2

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8/15/2024
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PROJECT REFERENCE NO. R-2829A	SHEET NO. 13
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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SHEET 15 OF 36

SCALE

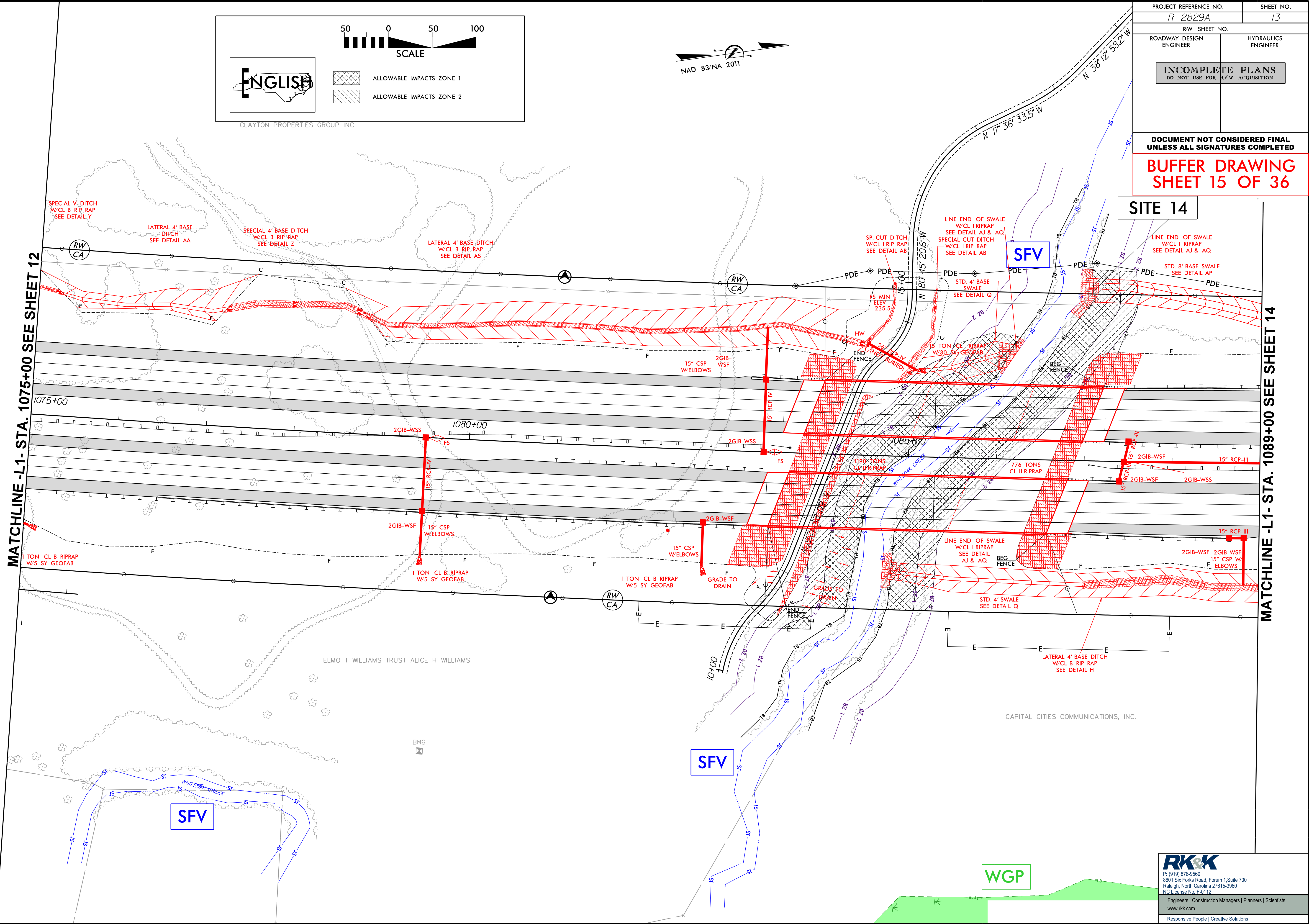
ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

ENGLISH
CLAYTON PROPERTIES GROUP INC.



SITE 14



8/17/09

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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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**BUFFER DRAWING
SHEET 16 OF 36**

50 0 50 100
SCALE

ENGLISH

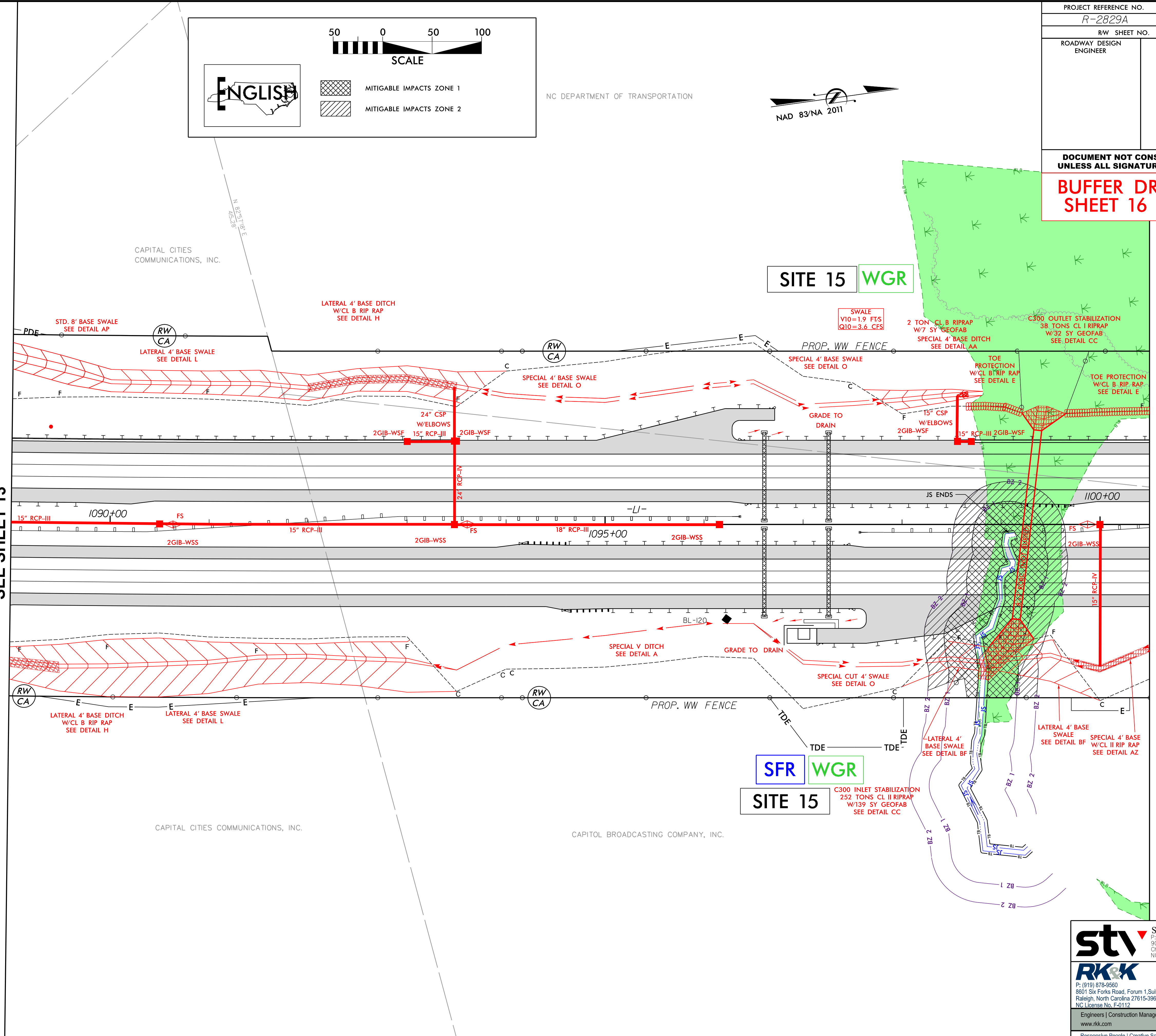
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

NC DEPARTMENT OF TRANSPORTATION



MATCHLINE -L1- STA. 1089+00
SEE SHEET 13

MATCHLINE -L1- STA. 1100+50
SEE SHEET 15



SITE 15 WGR

SFR WGR
SITE 15

8/17/19

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PROJECT REFERENCE NO. R-2829A	SHEET NO. 15
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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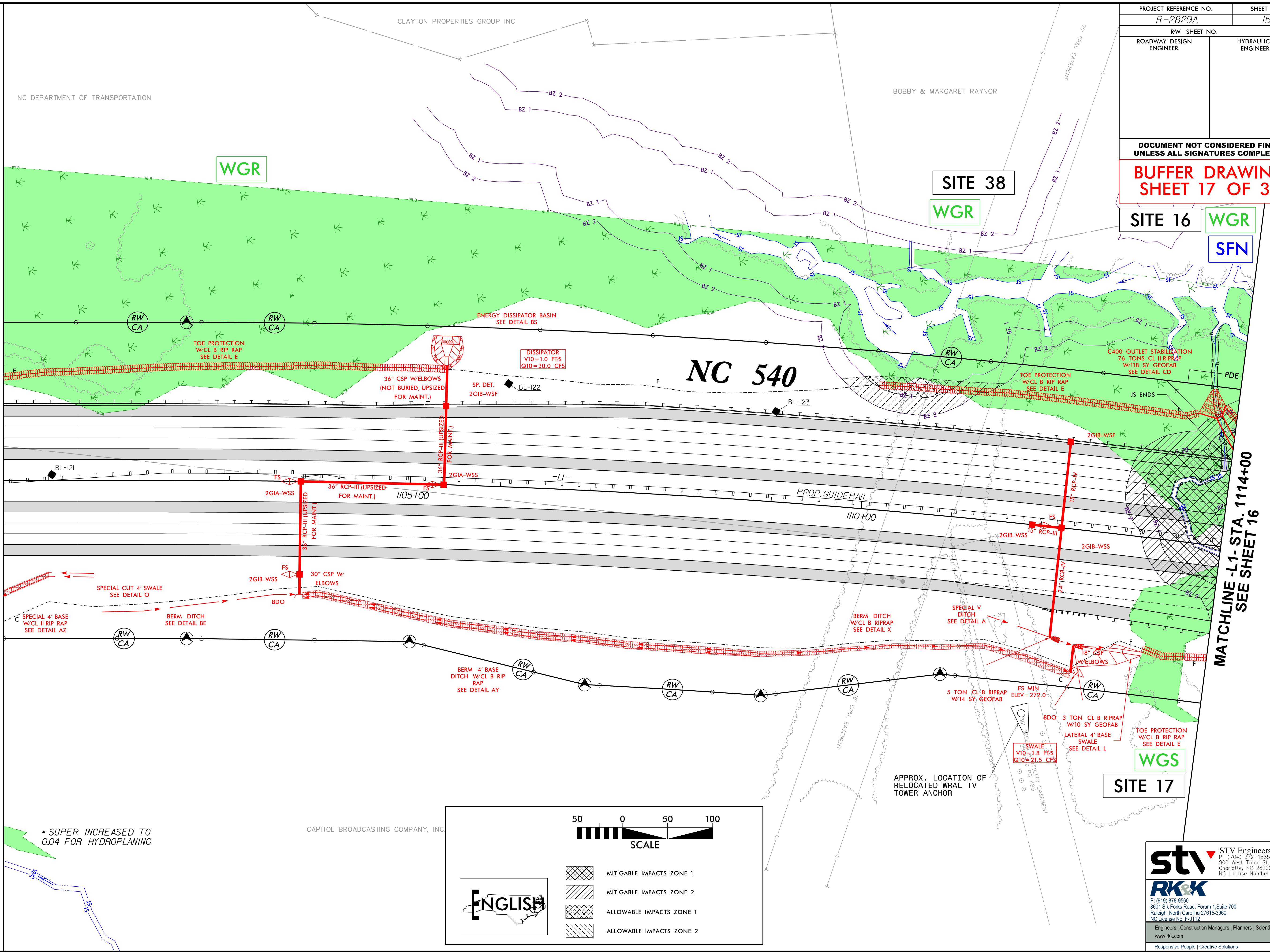
**BUFFER DRAWING
SHEET 17 OF 36**

SITE 16 WGR
SFN

SITE 17 WGS

SITE 38

WGR



**MATCHLINE -L1- STA. 1100+50
SEE SHEET 14**

**MATCHLINE -L1- STA. 1114+00
SEE SHEET 16**

ENGLISH

50 0 50 100
SCALE

- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2
- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2

* SUPER INCREASED TO 0.04 FOR HYDROPLANING

APPROX. LOCATION OF RELOCATED WRAL TV TOWER ANCHOR

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PROJECT REFERENCE NO. R-2829A	SHEET NO. 16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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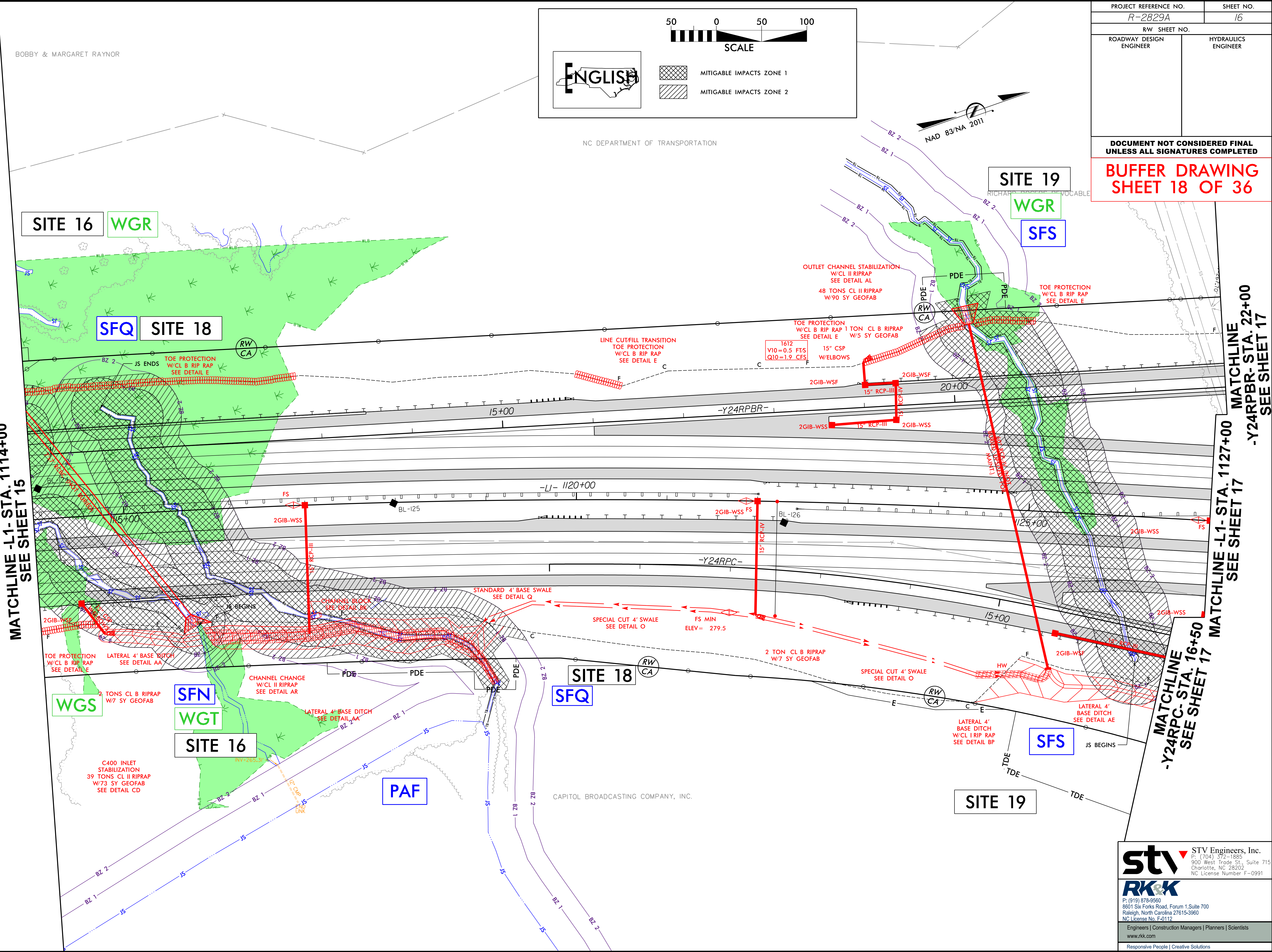
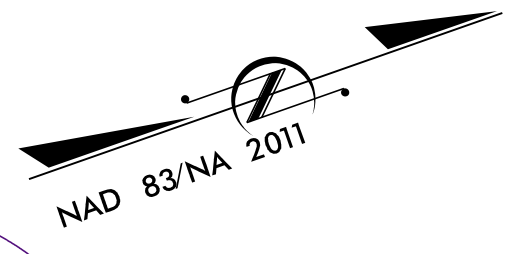
**BUFFER DRAWING
SHEET 18 OF 36**

50 0 50 100
SCALE

ENGLISH

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

NC DEPARTMENT OF TRANSPORTATION



MATCHLINE -L1- STA. 1114+00
SEE SHEET 15

MATCHLINE -L1- STA. 1127+00
SEE SHEET 17
-Y24RPBR- STA. 22+00
SEE SHEET 17

MATCHLINE -Y24RPC- STA. 16+50
SEE SHEET 17

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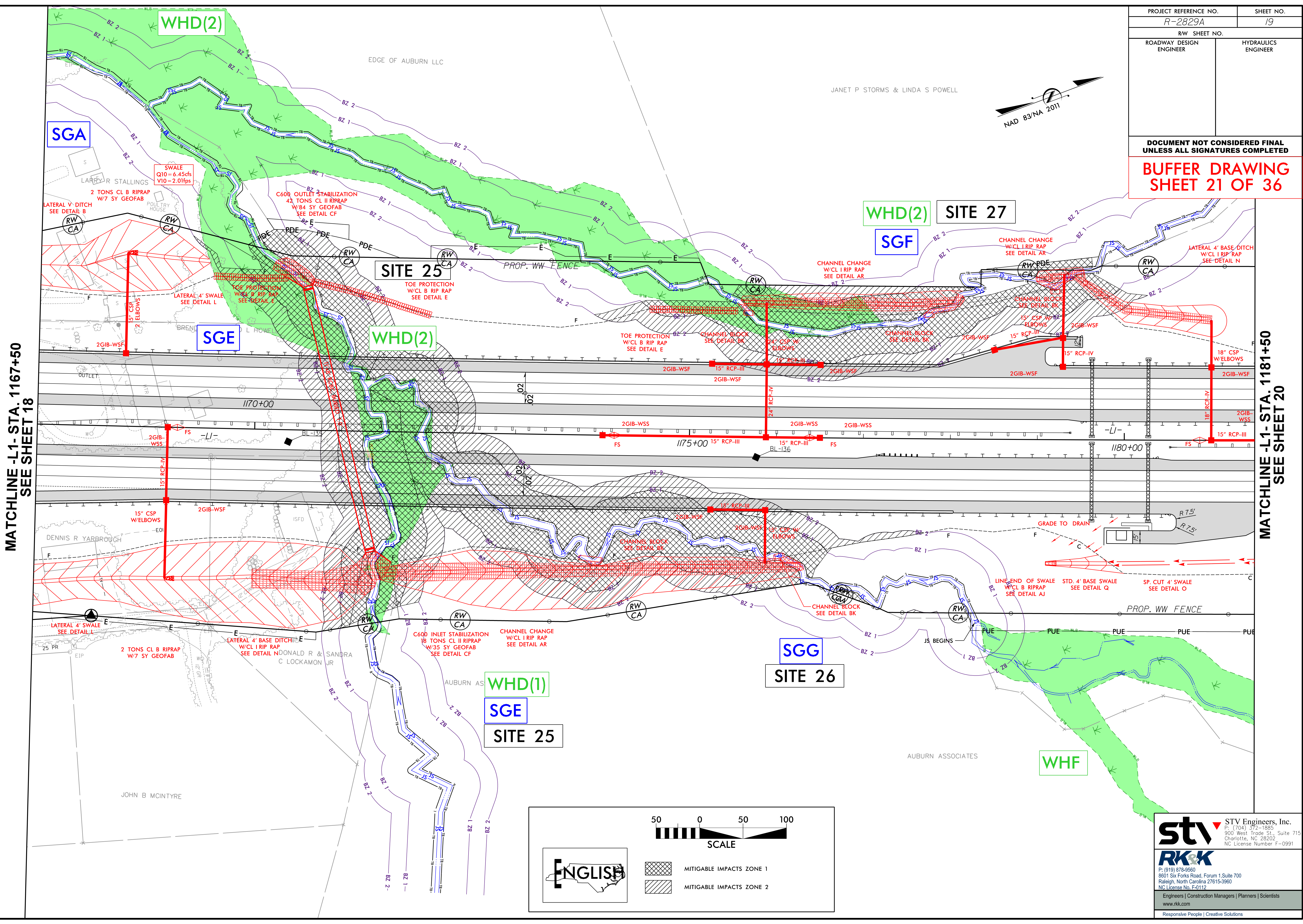
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PROJECT REFERENCE NO. R-2829A	SHEET NO. 19
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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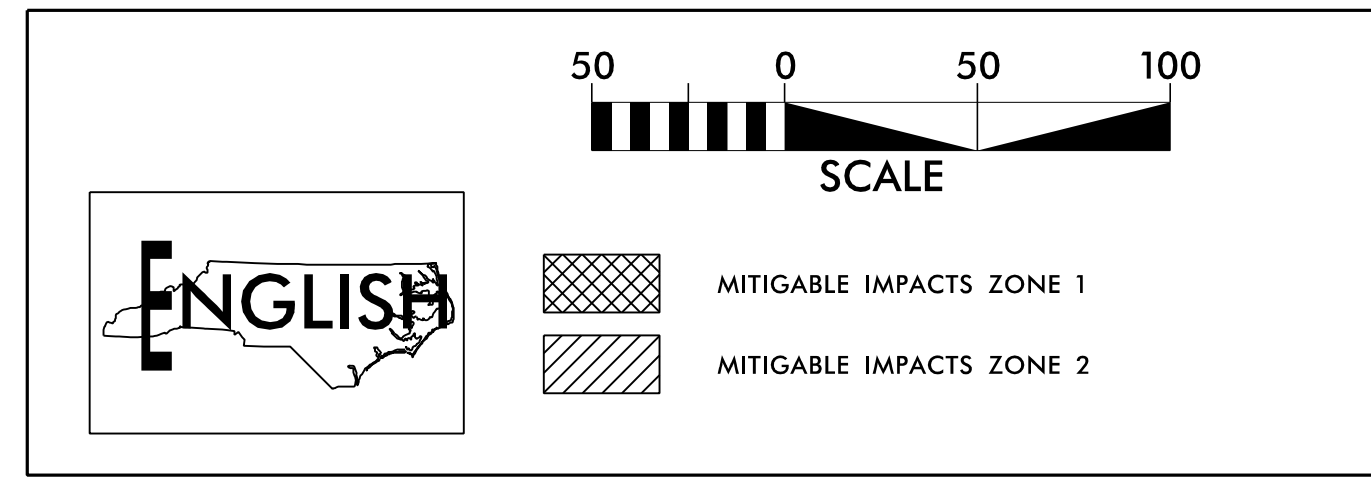
**BUFFER DRAWING
SHEET 21 OF 36**

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MATCHLINE -L1- STA. 1167+50
SEE SHEET 18

MATCHLINE -L1- STA. 1181+50
SEE SHEET 20



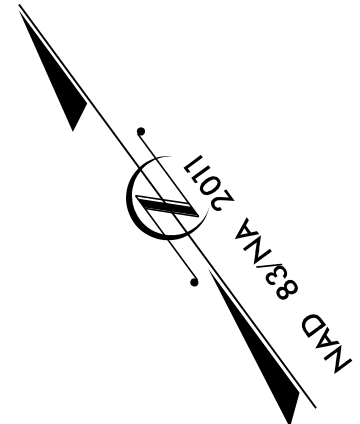
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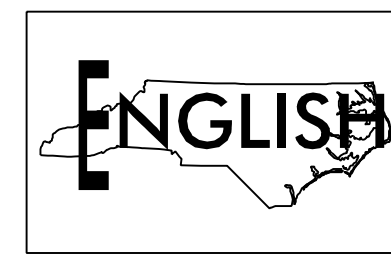
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SCALE



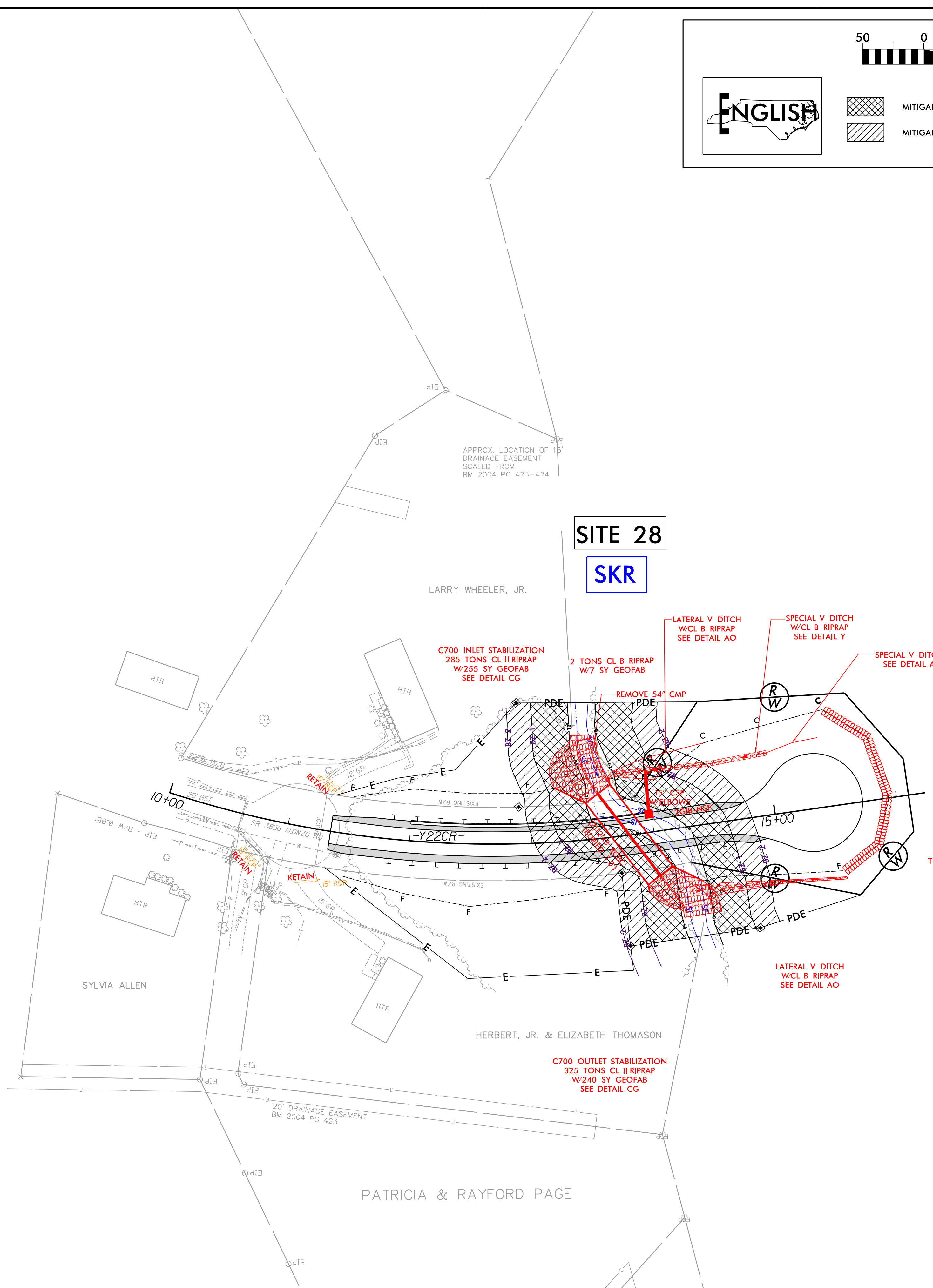
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

PROJECT REFERENCE NO. <i>R-2829A</i>	SHEET NO. <i>23</i>
RW SHEET NO.	
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**BUFFER DRAWING
SHEET 22 OF 36**

JOHN AMAN



SITE 28
SKR



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PROJECT REFERENCE NO. R-2829A	SHEET NO. 25
R/W SHEET NO.	
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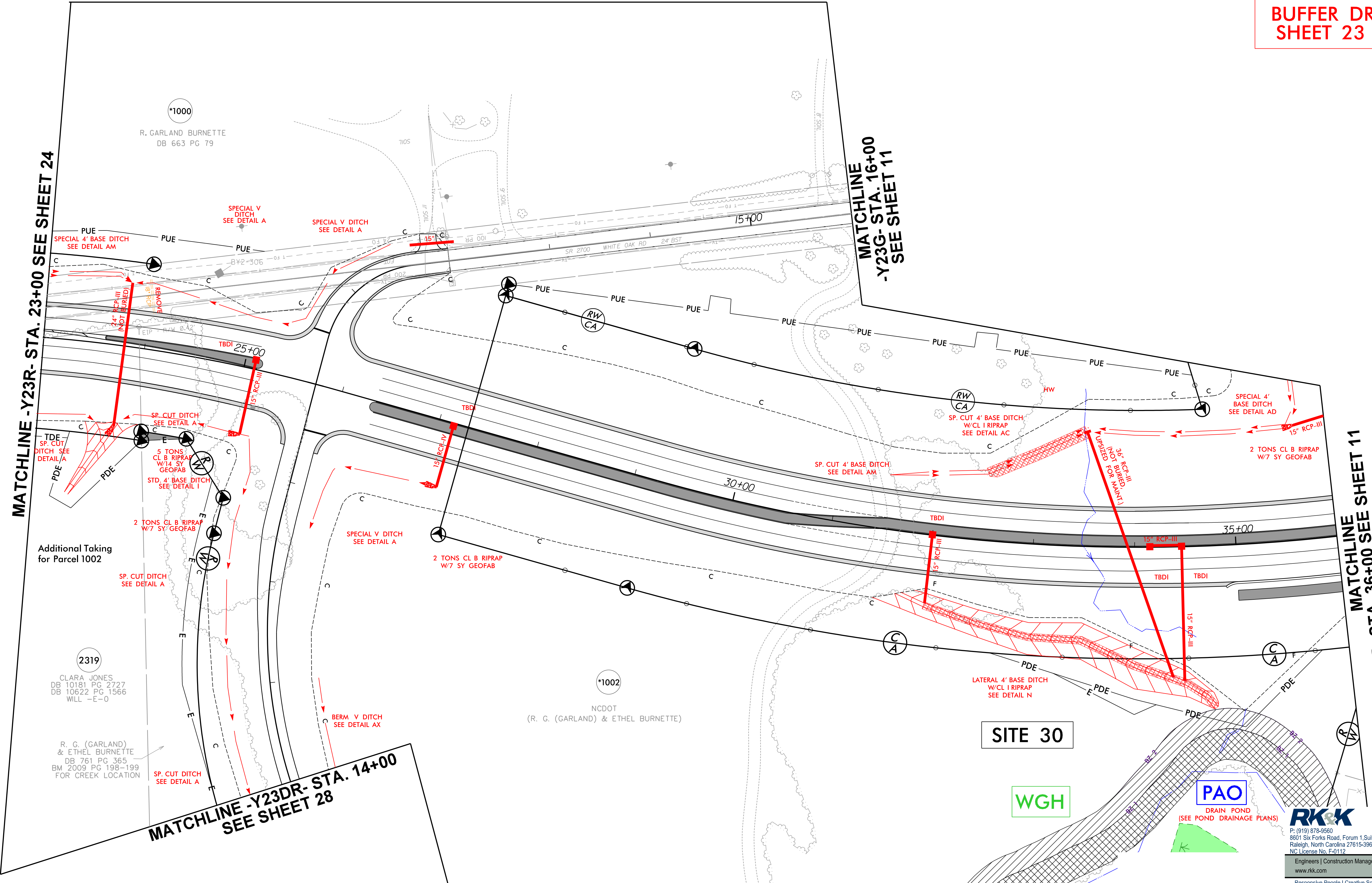
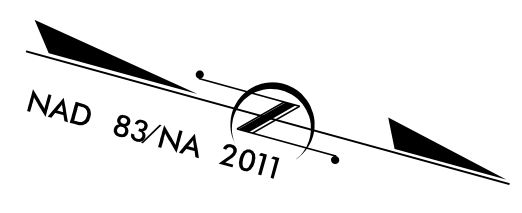
**BUFFER DRAWING
SHEET 23 OF 36**

50 0 50 100

SCALE

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2



MATCHLINE -Y23R- STA. 23+00 SEE SHEET 24

MATCHLINE -Y23G- STA. 16+00 SEE SHEET 11

MATCHLINE -Y23R- STA. 36+00 SEE SHEET 11

MATCHLINE -Y23DR- STA. 14+00 SEE SHEET 28

*1000
R. GARLAND BURNETTE
DB 663 PG 79

Additional Taking
for Parcel 1002

2319
CLARA JONES
DB 10181 PG 2727
DB 10622 PG 1566
WILL --E-O

R. G. (GARLAND)
& ETHEL BURNETTE
DB 761 PG 365
BM 2009 PG 198-199
FOR CREEK LOCATION

*1002
NCDOT
(R. G. (GARLAND) & ETHEL BURNETTE)

SITE 30

WGH

PAO
DRAIN POND
(SEE POND DRAINAGE PLANS)



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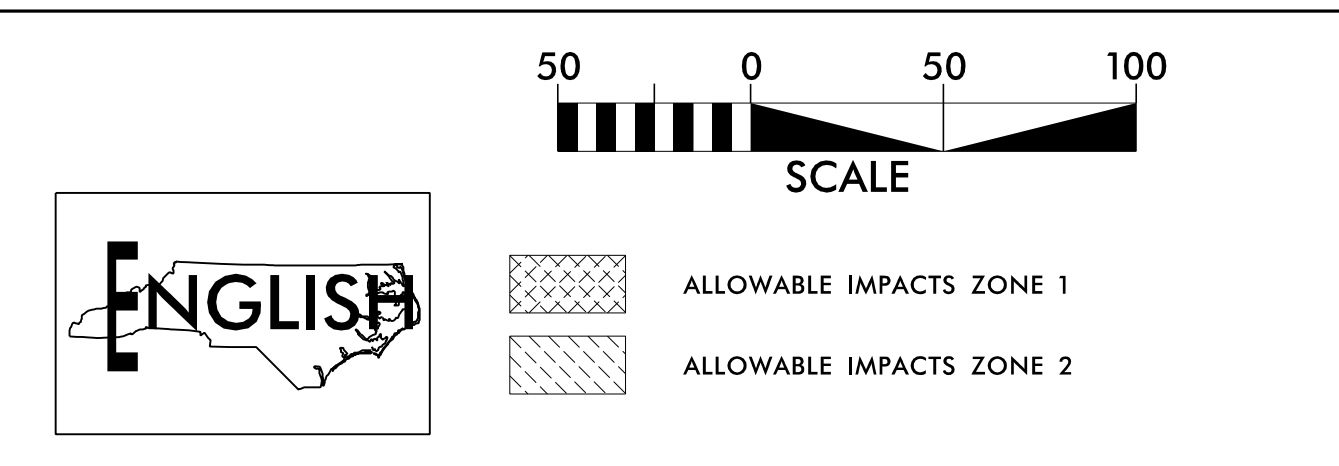
8/17/19

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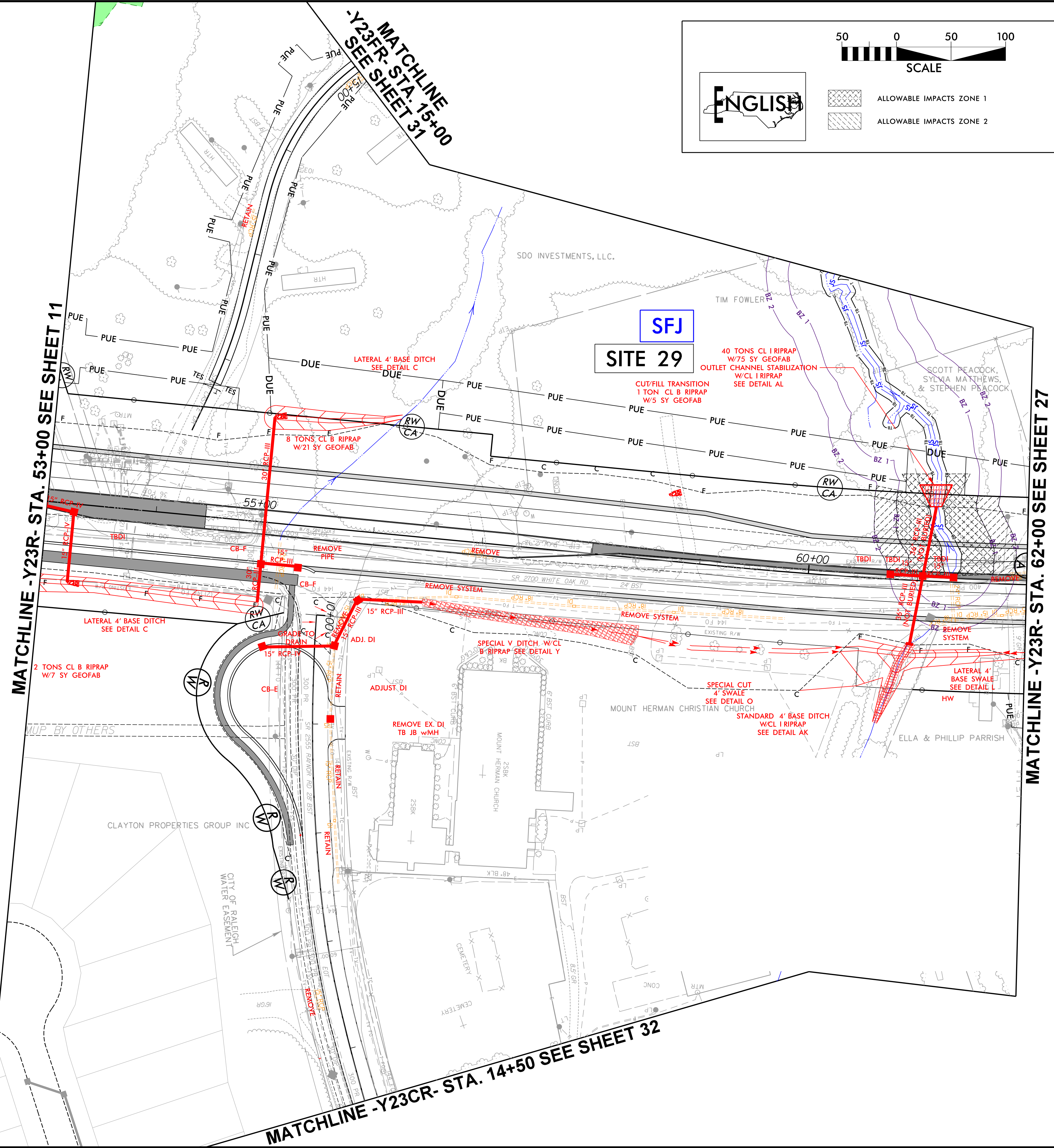
PROJECT REFERENCE NO. R-2829A	SHEET NO. 26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

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BUFFER DRAWING
SHEET 24 OF 36



VAD 8/31/2011



8/17/19

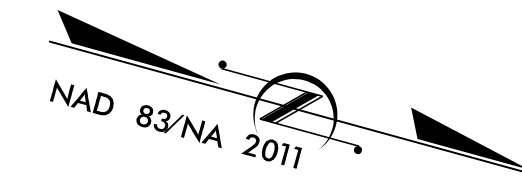
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SCALE

ENGLISH

MITIGABLE IMPACTS ZONE 1

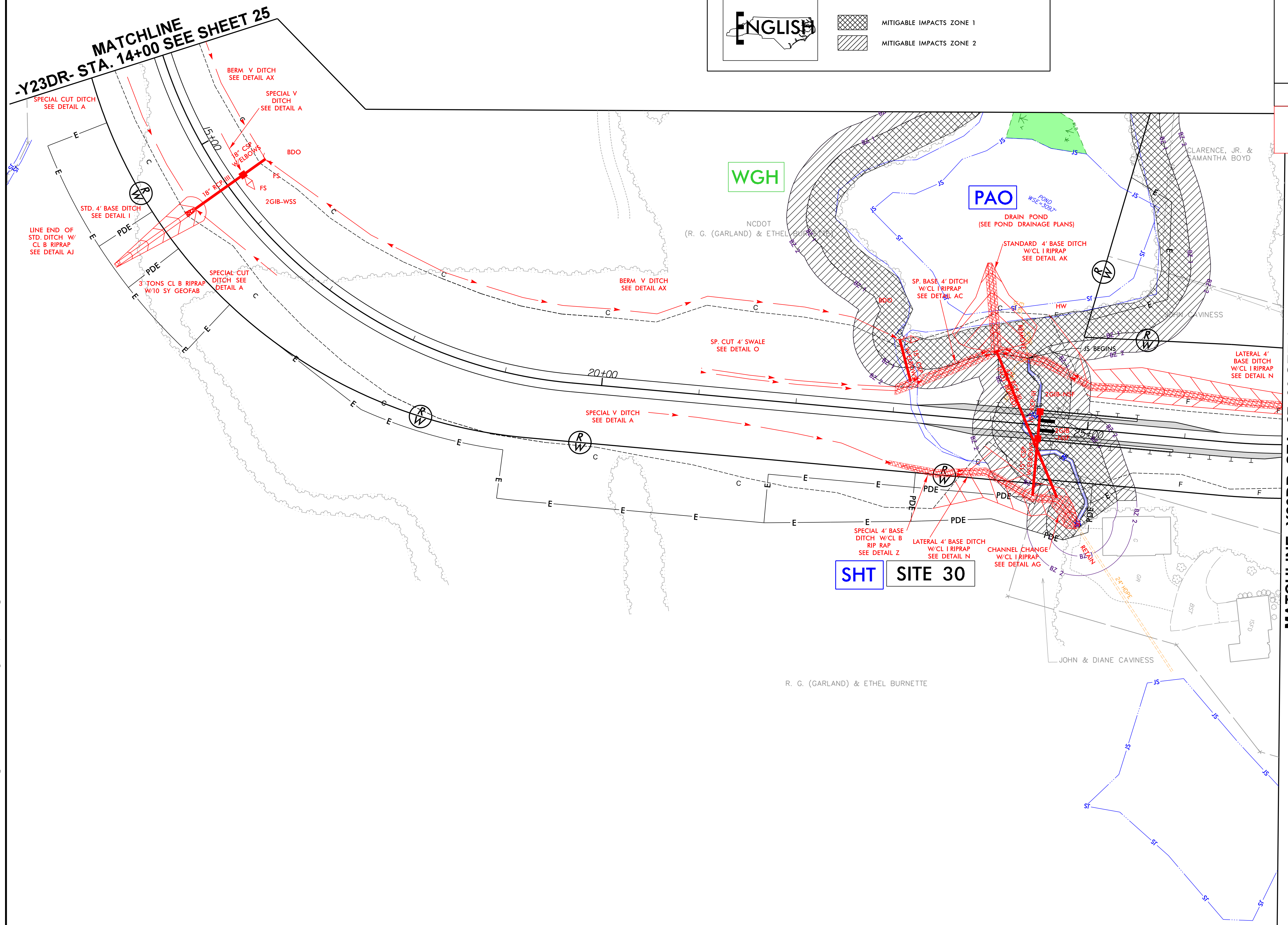
MITIGABLE IMPACTS ZONE 2



PROJECT REFERENCE NO. <i>R-2829A</i>	SHEET NO. <i>28</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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**BUFFER DRAWING
SHEET 25 OF 36**



MATCHLINE -Y23DR- STA. 27+00 SEE SHEET 29

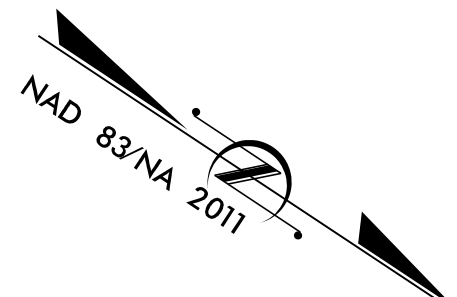
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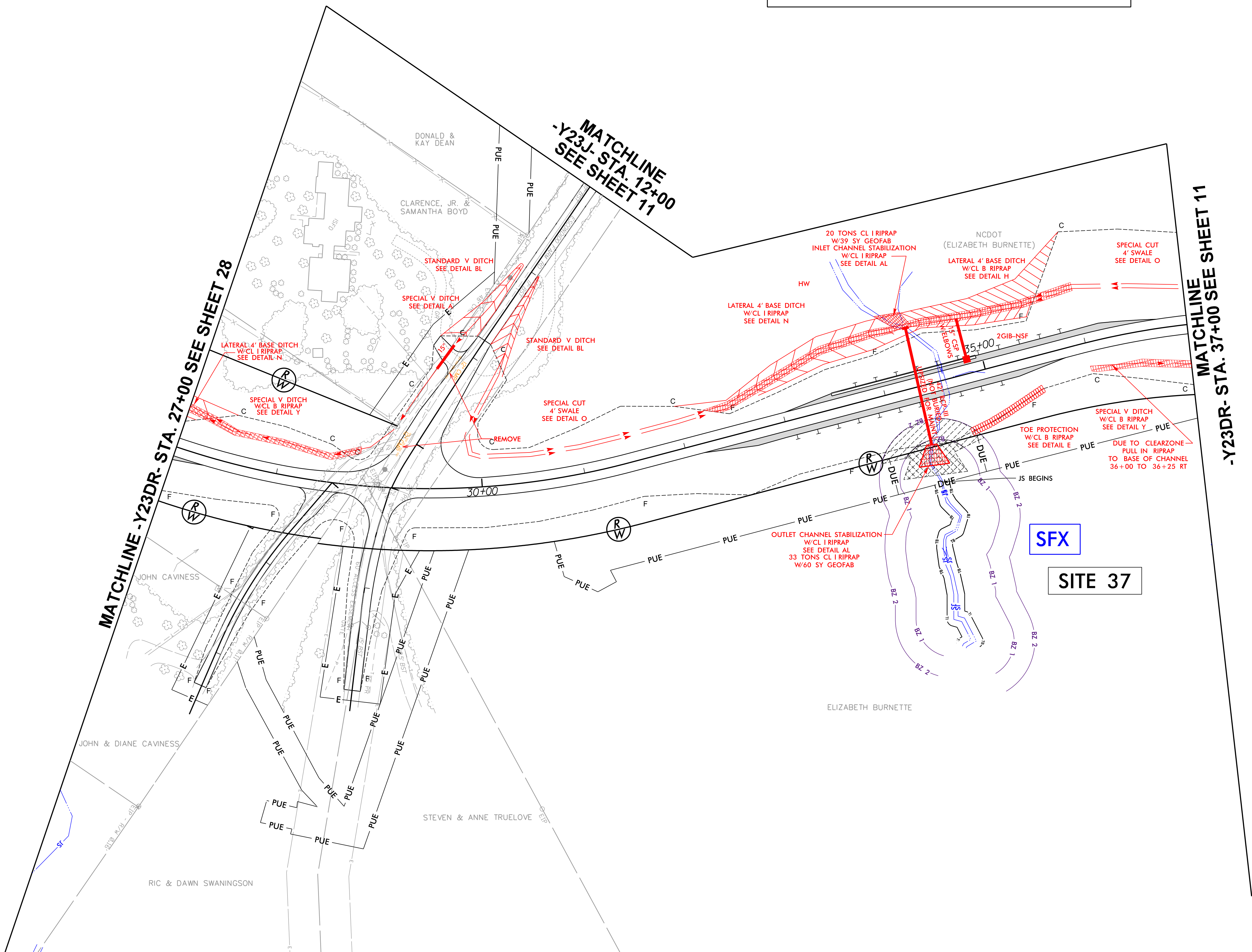


ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

PROJECT REFERENCE NO. <i>R-2829A</i>	SHEET NO. 29
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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BUFFER DRAWING
SHEET 26 OF 36




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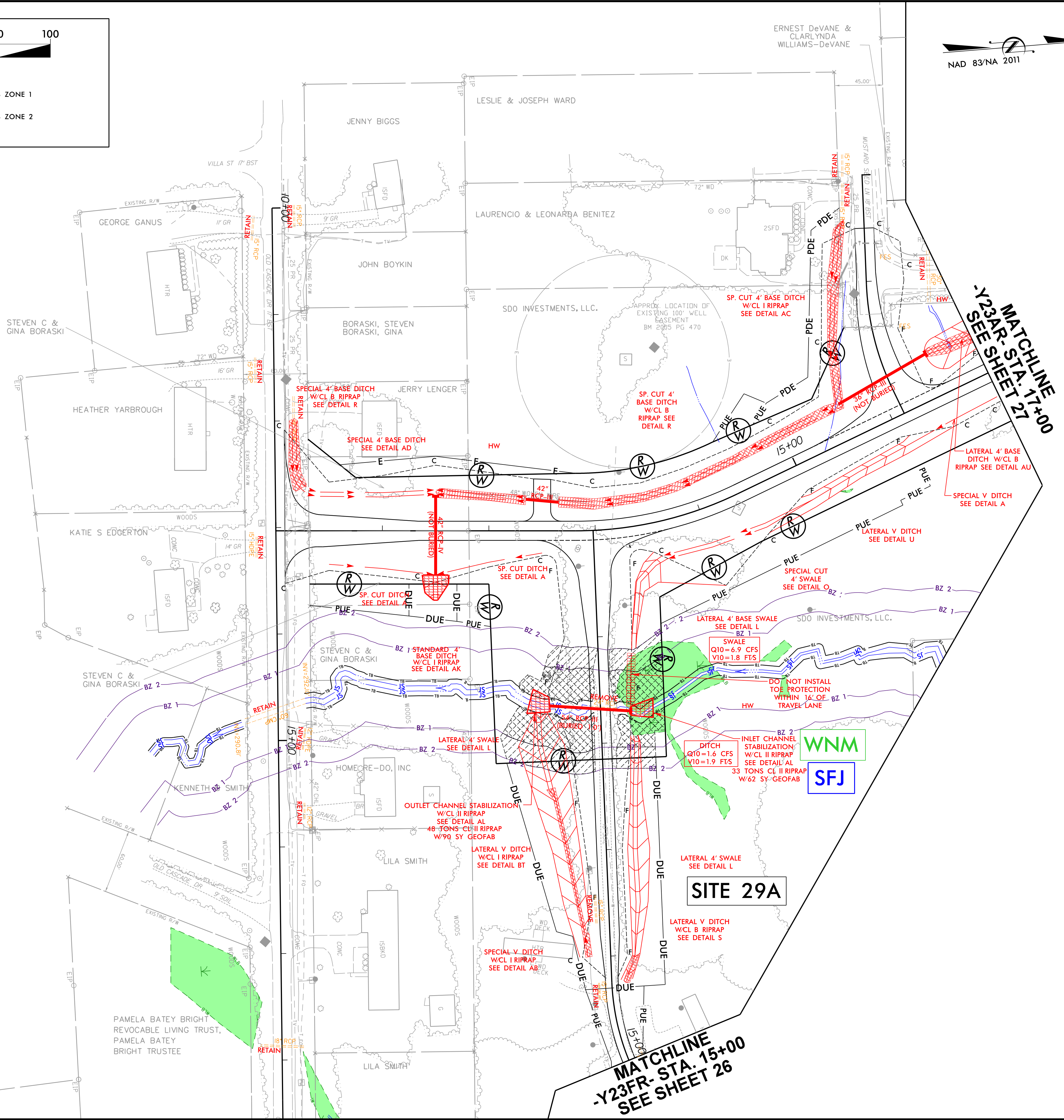
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**BUFFER DRAWING
SHEET 27 OF 36**

SCALE

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

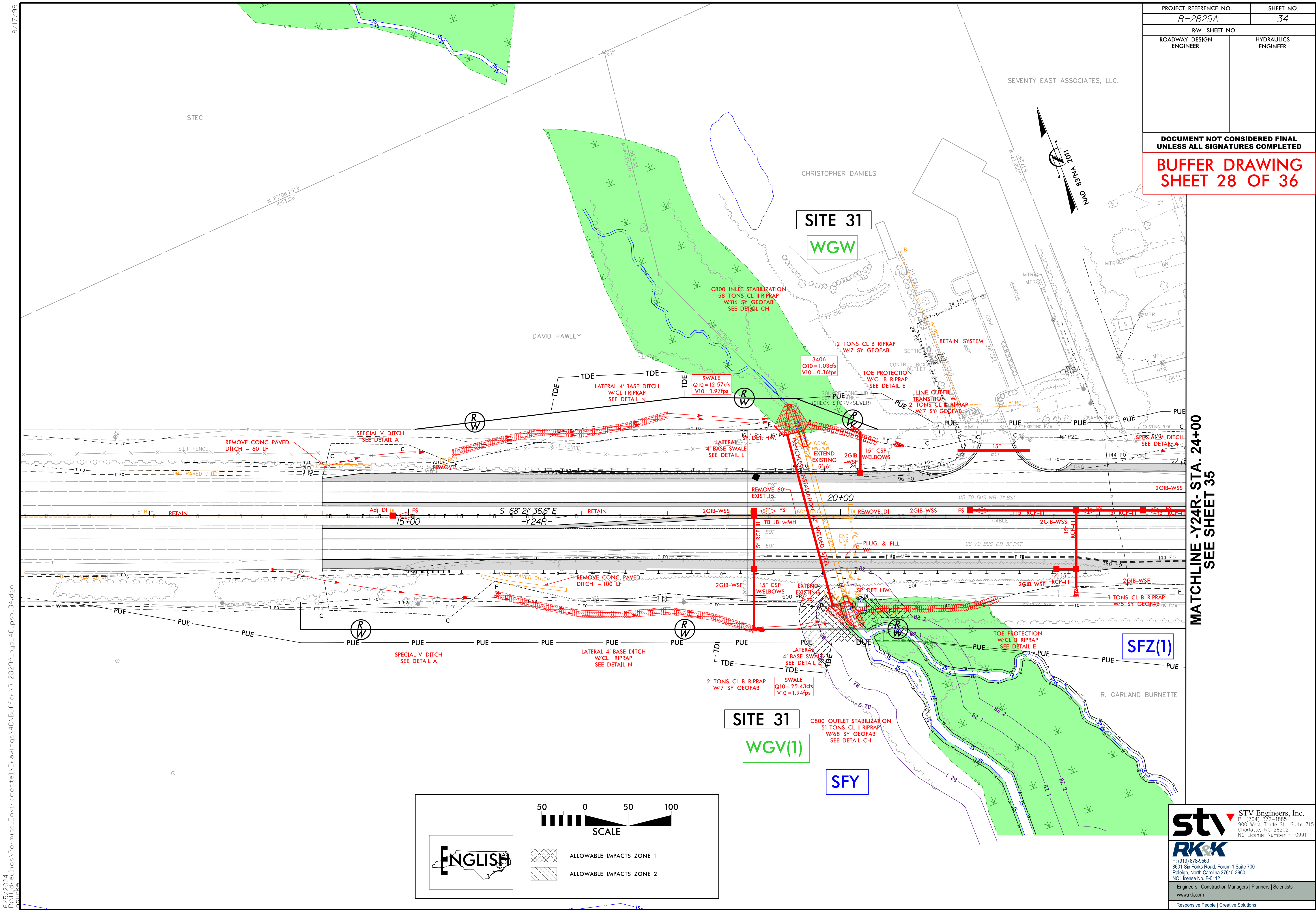


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PROJECT REFERENCE NO. R-2829A	SHEET NO. 34
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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**BUFFER DRAWING
SHEET 28 OF 36**



8/17/199

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SCALE

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

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PROJECT REFERENCE NO. R-2829A	SHEET NO. 35
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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BUFFER DRAWING SHEET 29 OF 36

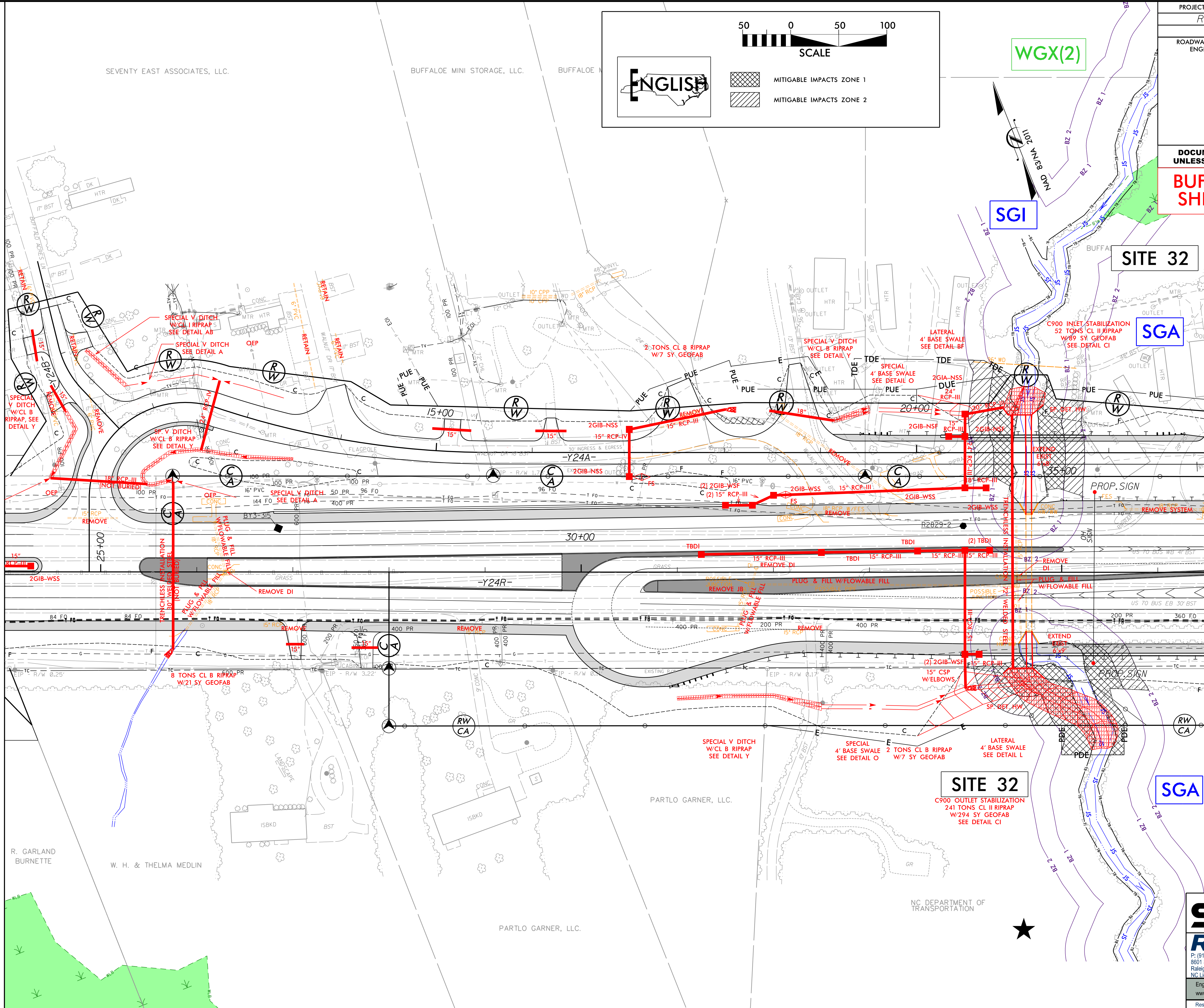
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SCALE

ENGLISH

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

MATCHLINE -Y24R- STA. 24+00
SEE SHEET 34

MATCHLINE -Y24R- STA. 36+50
SEE SHEET 17



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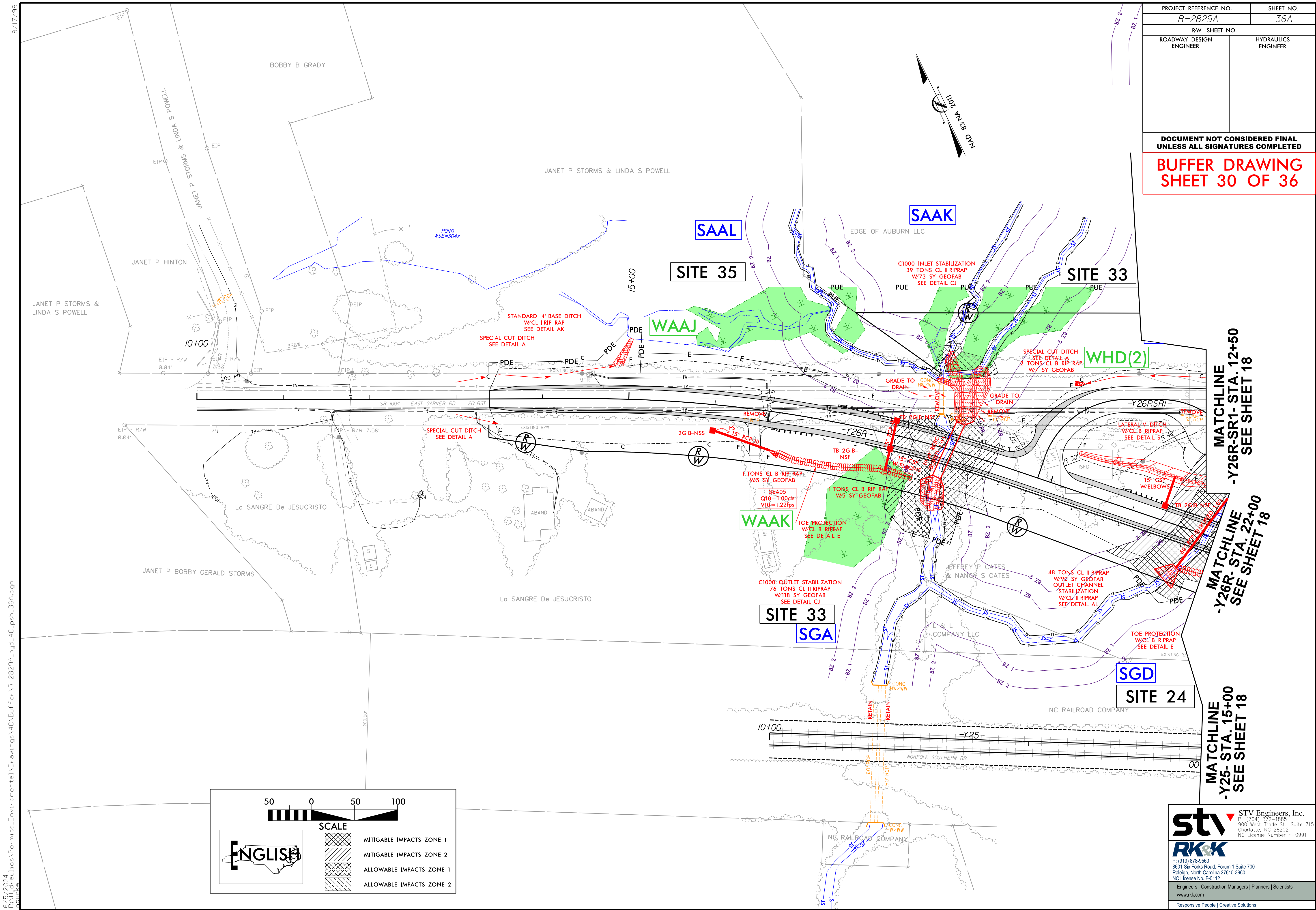
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PROJECT REFERENCE NO. R-2829A	SHEET NO. 36A
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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**BUFFER DRAWING
SHEET 30 OF 36**



**MATCHLINE
-Y26R-SR1- STA. 12+50
SEE SHEET 18**

**MATCHLINE
-Y26R- STA. 22+00
SEE SHEET 18**

**MATCHLINE
-Y25- STA. 15+00
SEE SHEET 18**

SCALE

50 0 50 100

ENGLISH

	MITIGABLE IMPACTS ZONE 1
	MITIGABLE IMPACTS ZONE 2
	ALLOWABLE IMPACTS ZONE 1
	ALLOWABLE IMPACTS ZONE 2

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RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
3	-L- 975+94 - 977+35 LT	Bridge		X		7776	6713	14489					
	-L- 977+35 - 979+70 LT	Roadway Fill	X						14699	11313	26012		
	-L- 976+79 - 980+27 RT	Roadway Fill			X				8806	7879	16685		
5	-L1- 1007+92 - 1009+78	Proposed 9'x8' RCBC	X						28270	15498	43768		
6	-L1- 1010+87 - 1016+55	Proposed 12'x8' RCBC	X						35797	20810	56607		
7	-L1- 1012+32 LT - 1019+97	Roadway Fill	X						43438	26889	70327		
8	-L1- 1022+33 LT - 1024+72	42" RCP	X						17618	11963	29581		
9	-L1- 1033+27 - 1038+89 LT	48" RCP & Drain Pond	X						57397	41129	98526		
11	-L1- 1061+42 - 1062+34 RT	Roadway Fill	X						4440	3105	7545		
12	-L1- 1061+90 LT - 1065+96	48" RCP	X						29672	18305	47977		
14	-L1- 1083+35 RT - 1087+56	BRIDGE		X		27722	17940	45662					
15	-L1- 1098+23 - 1099+67 RT	8'x7' RCBC	X						12233	9537	21770		
SHEET TOTALS*:						35498	24653	60151	252370	166428	418798	0	0

NOTES:

Site 3: SEW buffer is a total take in summary above; hatching outside construction impacts is not shown
 Site 11: Shown as mitigable due to proximity to Site 12 and Site 12 being a mitigable impact.

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 6/6/2024
 Wake County
 R-2829A

WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)	WETLANDS IN BUFFERS	
		ZONE 1 (ft ²)	ZONE 2 (ft ²)
3	-L- 975+94 - 979+70	14982	5374
7	-L1- 1012+32 LT - 1019+97	5152	
8	-L1- 1022+33 LT - 1024+72	1651	1085
9	-L1- 1033+27 - 1038+89 LT	6220	2169
11	-L1- 1061+42 - 1062+34 RT	67	325
12	-L1- 1061+90 LT - 1065+96	412	123
15	-L1- 1098+23 - 1099+67 RT	8053	4017
SHEET TOTAL:		36537	13093

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 6/6/2024
 Wake County
 R-2829A

RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT		
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)	
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)			
16	-L1- 1112+89 LT - 1116+23	Proposed 7'x7' RCBC	X							26808	17524	44332		
18	-L1- 1114+31 LT - 1119+44	Roadway Fill	X							37277	23720	60997		
19	-L1- 1123+75 LT - 1126+80	60" RCP	X							29264	19579	48843		
20	-L1- 1136+80 LT - 1142+77	54" CAAP/RCP	X							47166	30260	77426		
23	-L1- 1151+13 - 1153+09	Proposed 6'x8' RCBC	X							27372	19144	46516		
24	-Y26R- 21+00 RT - 22+90 LT	60" RCP	X							13415	7967	21382		
	-Y26R- 22+58 - 23+47 LT	Roadway Ditch	X							6205	3826	10031		
	-L1- 1162+07 - 1163+15 LT	Roadway Fill	X							11996	7367	19363		
	-L1- 1162+17 - 1163+63 RT	54" CAAP	X							1423	1489	2912		
25	-L1- 1169+25 LT - 1172+20	Proposed 11'x8' RCBC	X							29121	15656	44777		
26	-L1- 1171+27 LT - 1177+70	Roadway Fill	X							38538	21990	60528		
27	-L1- 1173+89 - 1180+26 LT	Roadway Fill				X				24248	15219	39467		
28	-Y22CR- 12+89 LT - 14+89	Proposed 2 @ 12'x8' RCBC	X							14200	9344	23544		
SHEET TOTALS*:						0	0	0	307033	193085	500118	0	0	

NOTES:

Site 16: SFN buffer at -L- 1115+75 RT is a total take in summary above; hatching outside construction impacts is not shown
 Site 18: SFQ buffer at -L- 1116+60 LT and up to limit of stream impact at -L- 1119+00 RT is a total take in summary above;
 hatching outside construction impacts is not shown

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WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)	WETLANDS IN BUFFERS	
		ZONE 1 (ft ²)	ZONE 2 (ft ²)
16	-L1- 1112+89 LT - 1116+23	11142	9727
18	-L1- 1114+31 LT - 1119+44	13751	9196
19	-L1- 1123+75 LT - 1126+80	8191	142
23	-L1- 1151+13 - 1153+09	18620	8475
25	-L1- 1169+25 LT - 1172+20	12550	3623
26	-L1- 1171+27 LT - 1177+70	3382	98
27	-L1- 1173+89 - 1180+26 LT	6569	168
SHEET TOTAL:		74205	31429

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 6/6/2024
 Wake County
 R-2829A

RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
29	-Y23R- 60+57 - 61+89 LT	36" RCP	X			5463	3197	8660					
29A	-Y23FR- 10+96 LT - 12+29	54" RCP	X			6983	4483	11466					
30	-Y23DR- 21+73 - 26+13	42" RCP & Drain Pond	X						47405	32554	79959		
31	-Y24R- 19+52 - 21+38 RT	5'x6' RCBC Ext / 72" WSP	X			2350	2397	4747					
32	-Y24R- 34+03 - 35+90	6'x8'9' RCBC Ext / 72" WSP	X						11974	7535	19509		
33	-Y26R- 18+03 - 19+32	Proposed 10'x9' RCBC				9237	4493	13730					
35	-Y26R- 16+88 - 18+47 LT	Proposed 10'x9' RCBC				297	214	511					
37	-Y23DR- 33+79 - 34+82 RT	42" RCP	X			1625	1881	3506					
38	-L1- 1109+67 - 1111+44 LT	Roadway Fill			X	1574	3203	4777					
39	-Y23RPB- 23+37 - 24+97 LT	42" Energy Dissipator	X			134	1572	1706					
SHEET TOTALS*:						27663	21440	49103	59379	40089	99468	0	0
PROJECT TOTALS*:						63161	46093	109254	618782	399602	1018384	0	0

NOTES:

Site 30: Buffer impact outside ROW / PDE at -Y23DR- 24+75 RT is a total take in summary above;
hatching outside construction impacts is not shown

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
6/6/2024
Wake County
R-2829A

WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)	WETLANDS IN BUFFERS	
		ZONE 1 (ft ²)	ZONE 2 (ft ²)
29A	-Y23FR- 10+96 LT - 12+29	1870	497
31	-Y24R- 19+52 - 21+38 RT	728	547
33	-Y26R- 18+03 - 19+32	706	863
35	-Y26R- 16+88 - 18+47 LT	102	0
38	-L1- 1109+67 - 1111+44 LT	436	555
SHEET TOTAL:		3842	2462
PROJECT TOTAL:		114584	46984

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