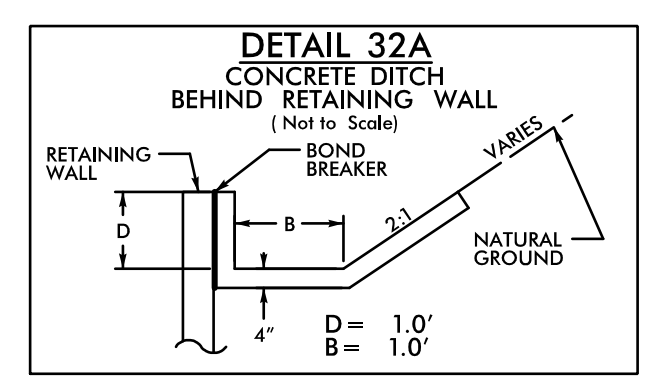


PROJECT REFERENCE NO. A-0009CB	SHEET NO. 32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH: (704) 476-0003 CORP. LICENSE NO.: C-0275	

**\* DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVATURE AND HORIZONTAL SSD.**

THE CONTRACTOR SHOULD BE ADVISED THAT ANY CLEARING WITHIN THE PERMANENT EASEMENT (PE) ALONG USFS PROPERTY SHALL ADHERE TO THE AGREEMENT BETWEEN NCDOT AND THE USFS. THE CONTRACTOR IS TO COORDINATE WITH THE RESIDENT ENGINEER AND DIVISION ENVIRONMENTAL OFFICER PRIOR TO STARTING CLEARING OPERATIONS TO ENSURE COMPLIANCE.

**-L- CURVE DATA**  
 PI Sta 388+01.79  
 $\Delta = 150' 28" 04.5" (LT)$   
 $D = 17' 24" 54.5"$   
 $L = 864.0'$   
 $T = 1,248.2'$   
 $*R = 329.00'$   
 $DS = 35 MPH$   
 $SE = 0.08$



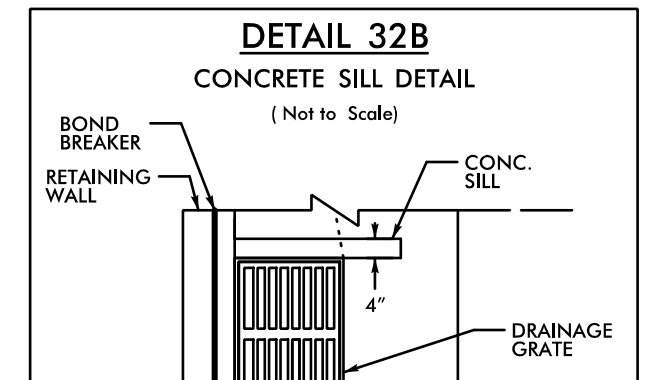
**DETAIL 32A**  
CONCRETE DITCH BEHIND RETAINING WALL (Not to Scale)

RETAINING WALL  
BOND BREAKER  
NATURAL GROUND

D = 1.0'  
B = 1.0'

-L- STA. 375+00 TO 375+26 LT  
 -L- STA. 376+65 TO 380+50 LT  
 -L- STA. 380+51@62' RT TO 380+51@120' RT  
 -L- STA. 382+30 TO 389+00 LT  
 -L- STA. 382+30 TO 383+50 RT  
 (SEE WALL ENVELOPES FOR DITCH GRADE)

PROP. RETAINING WALL #18  
W/9' WW WILDLIFE FENCE  
BEGIN -L- STA. 375+25±  
END -L- STA. 378+15±

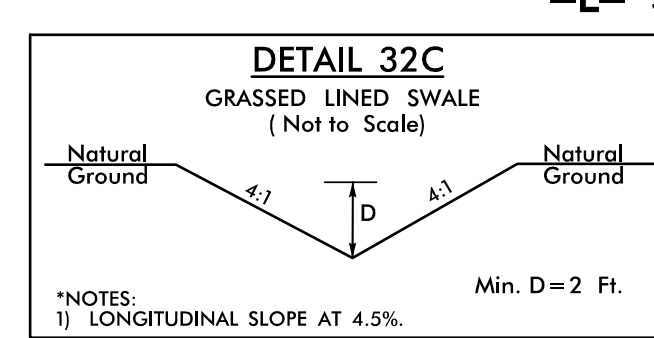


**DETAIL 32B**  
CONCRETE SILL DETAIL (Not to Scale)

BOND BREAKER  
RETAINING WALL  
CONC. SILL  
DRAINAGE GRATE

D = 1.0'  
B = 2.0'

-L- STA. 383+50 RT



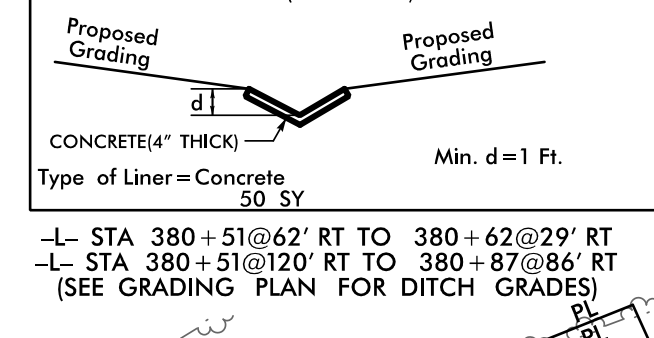
**DETAIL 32C**  
GRASSED LINED SWALE (Not to Scale)

Natural Ground  
DRAINAGE GRATE  
NATURAL GROUND

Min. D = 2 Ft.

\*NOTES:  
1) LONGITUDINAL SLOPE AT 4.5%.

-L- STA. 380+65@51' LT TO 380+62@29' RT  
 (SEE GRADING PLAN FOR DITCH GRADES)

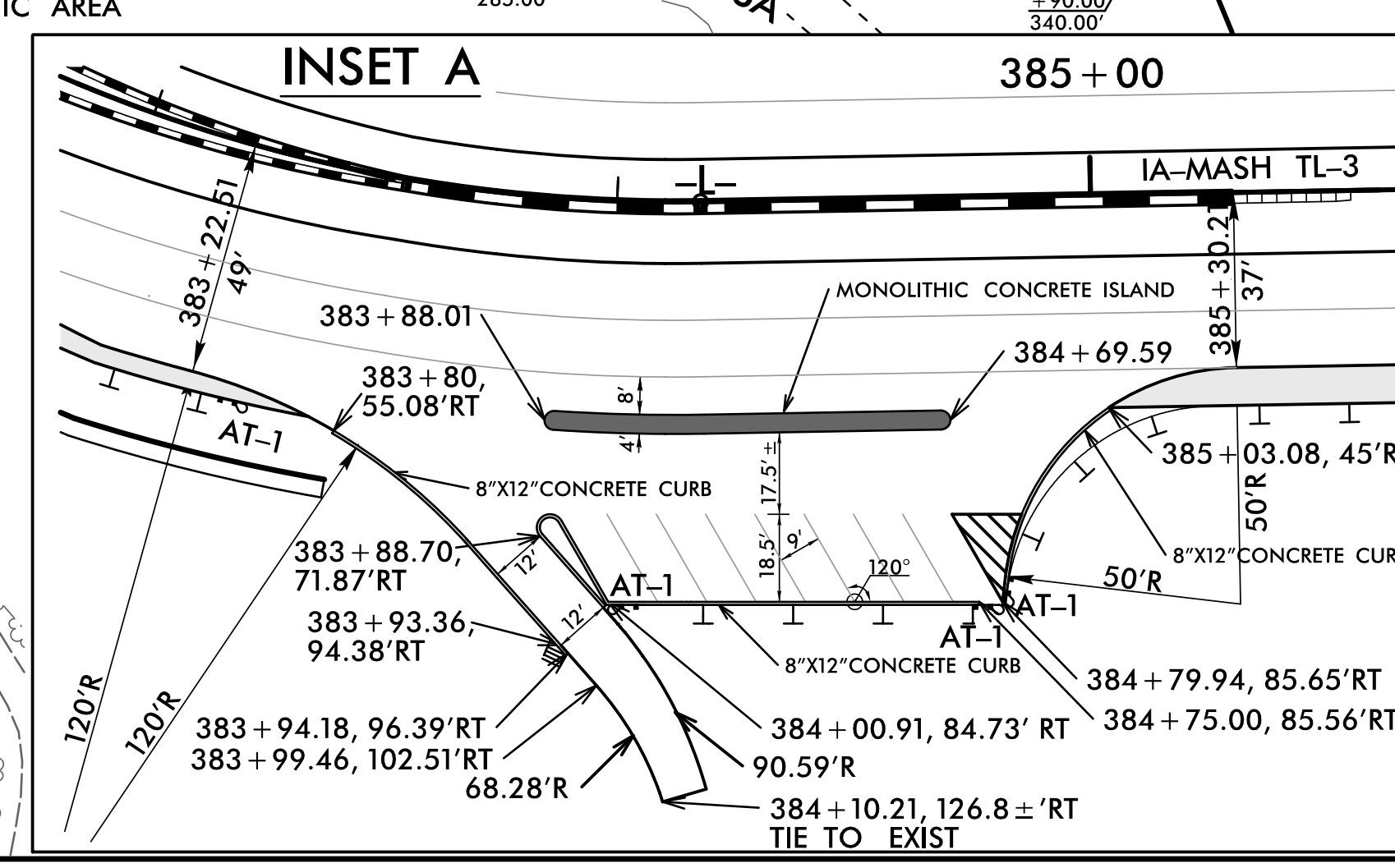
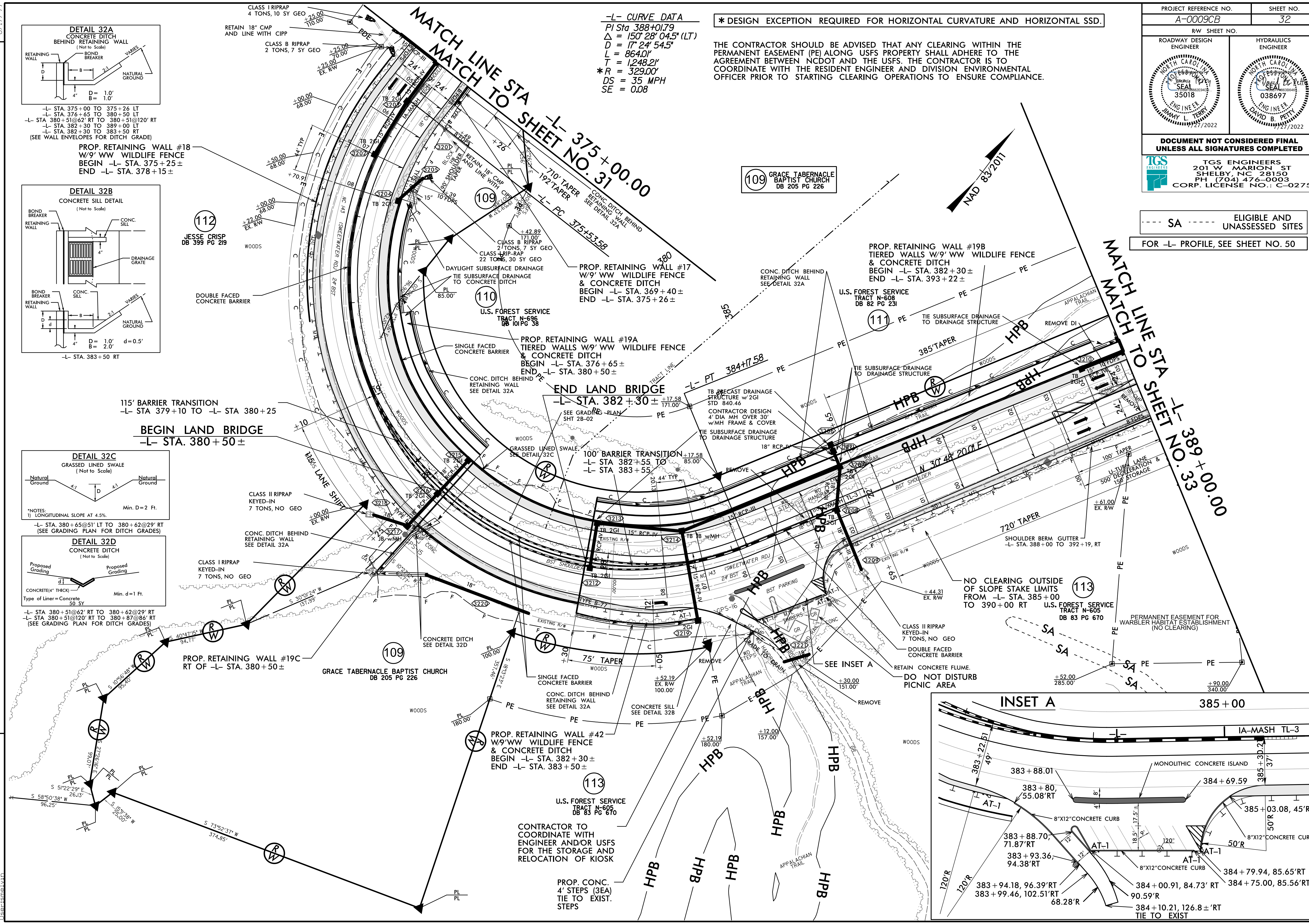


**DETAIL 32D**  
CONCRETE DITCH (Not to Scale)

Proposed Grading  
CONCRETE LINER  
NATURAL GROUND

Min. d = 1 Ft.

-L- STA. 380+51@62' RT TO 380+62@29' RT  
 -L- STA. 380+51@120' RT TO 380+87@86' RT  
 (SEE GRADING PLAN FOR DITCH GRADES)



REVISIONS

7/28/2022  
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 User: jls