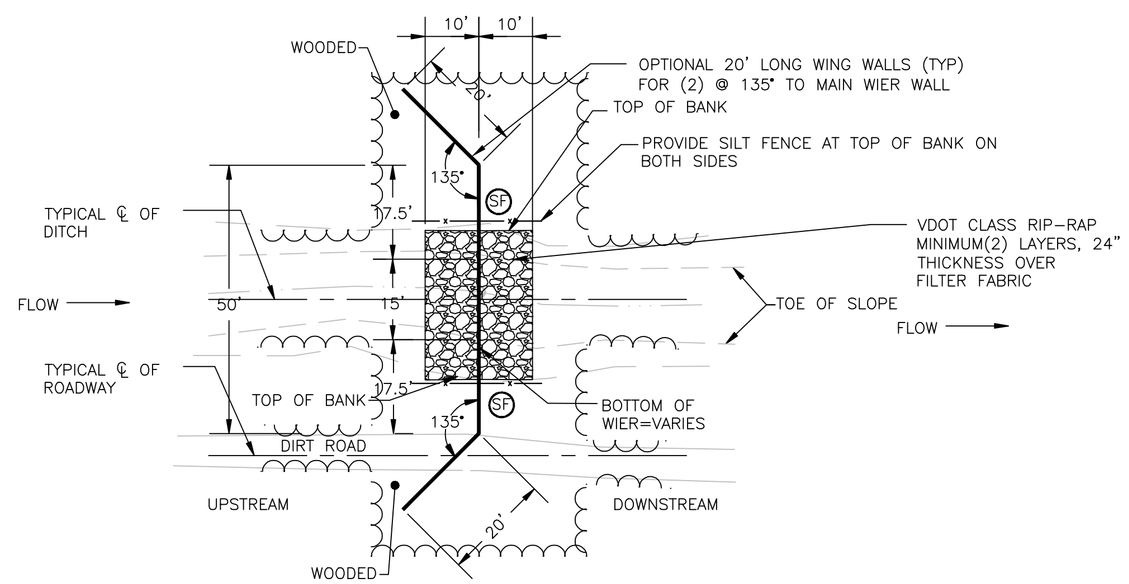

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 INCH = 20 FT.

GENERAL NOTES

1. THIS WEIR DESIGN HAS BEEN PREPARED FOR THE U.S. FISH AND WILDLIFE SERVICE (FWS) AND IS INTENDED FOR USE AT MULTIPLE SITES WITHIN THE GREAT DISMAL SWAMP.

2. DESIGN TOP AND BOTTOM OF WEIR ELEVATIONS AND PILE LENGTHS ARE BASED ON A MAXIMUM DEPTH OF 5 FEET OF IMPOUNDED WATER FROM CENTERLINE OF DITCH TO BOTTOM OF WEIR. INCREASES TO THE HEIGHT OF THE WEIR OR DEPTH OF IMPOUNDED WATER ARE NOT PERMITTED AND SHALL VOID THE DESIGN. THE WIDTH OF THE WEIR MAY BE INCREASED TO A MAXIMUM OF 15 FEET.

3. LENGTH OF WEIR AND OPTIONAL WING WALLS ARE BASED ON TYPICAL CONDITIONS WHICH ARE ANTICIPATED TO BE ENCOUNTERED.

4. THE LOCATION AND/OR EXISTENCE OF UTILITY SERVICE LINES, OTHER THAN THOSE SHOWN HEREON, TO, AND/OR ON, THE SUBJECT PROPERTY ARE UNKNOWN. NO ATTEMPT WAS MADE TO OBTAIN OR SHOW DATA CONCERNING THE EXISTENCE AND/OR LOCATION OF ANY MUNICIPAL OR PUBLIC SERVICE FACILITY.

5. ALL TIMBER SHALL RECEIVE CHROMATED COPPER ARSENATE (CCA) TREATMENT AT A RATE OF 2.5 PCF IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVERS ASSOCIATION AWPA STANDARD C2 AND C18.

6. ALL FASTENERS SHALL BE PROVIDED WITH A HOT DIPPED GALVANIZED COATING IN ACCORDANCE WITH ASTM A123 OR A153 (AS APPLICABLE) WITH A MINIMUM ZINC COATING OF 0.90 OZ/FT2 (OUNCES PER SQUARE FOOT OF SURFACE AREA).

7. BOLTS – ALL BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A307 AND HAVE HOT DIPPED GALVANIZING IN ACCORDANCE TO ASTM A153 WITH A MINIMUM ZINC COATING OF 0.90 OZ/FT2 (OUNCES PER SQUARE FOOT OF SURFACE

8. SHEETPILE – THE SHEET PILING SHALL BE MANUFACTURED FROM VIRGIN OR VIRGIN AND RECYCLED VINYL. THE SHEETS SHALL HAVE A NOMINAL THICKNESS OF 0.40 INCHES, A MINIMUM WEIGHT OF 5.4 LBS. PER FOOT. A SECTION MODULUS OF 22.50 IN/FT. OF WALL, AND A LONG TERM ALLOWABLE MOMENT OF 6,000 FT.–LBS. ALL BOLTS AND NUTS SHALL COMPLY WITH ASTM A307 AND SHALL BE HOT DIP GALVANIZED AND SHALL HAVE FLAT PLATE OR OGEE WASHERS INSTALLED. FOR DRIVING SHEET PILING, USE A HAMMER OR VIBRATOR HAVING A DELIVERED FORCE OR ENERGY SUITABLE FOR SHEET PILE AND THE CHARACTER OF THE MATERIAL TO BE ENCOUNTERED. OPERATE THE HAMMER OR VIBRATOR AT THE RATE RECOMMENDED BY THE MANUFACTURER THROUGHOUT THE ENTIRE DRIVING PERIOD. PRIOR TO DRIVING, PROVIDE TEMPLATE OR DRIVING FRAME SUITABLE FOR ALIGNING, SUPPORTING AND MAINTAINING SHEET PILES IN CORRECT POSITION DURING SETTING AND DRIVING. USE A SYSTEM OF STRUCTURAL FRAMING SUFFICIENTLY RIGID TO RESIST LATERAL AND DRIVING FORCES AND TO ADEQUATELY SUPPORT THE SHEET PILE UNTIL THE TIP ELEVATION SHOWN ON THE PLANS IS ACHIEVED. TEMPLATES SHALL NOT MOVE WHEN SUPPORTING SHEET PILING. MAINTAIN SHEET PILING VERTICAL DURING DRIVING. DRIVE SHEET PILES IN A MANNER TO PROVIDE CONTINUOUS CLOSURE. WHERE POSSIBLE, DRIVE SHEET PILING WITH BALL END LEADING. IF AN OPEN SOCKET IS LEADING, PLACE BOLT OR SIMILAR OBJECT IN THE BOTTOM OF THE INTERLOCK PRIOR TO DRIVING. DRIVE ALL SHEET PILES WITH A MAXIMUM VARIATION FROM VERTICAL OF NOT MORE THAN 1/4 INCH PER FOOT. PLACE THE FACE OF THE SHEET PILE SO THAT THE FACE WILL NOT BE MORE THAN 3 INCHES FROM VERTICAL ALIGNMENT AT ANY POINT. MANIPULATION OF SHEET PILES TO FORCE THEM INTO POSITION WILL NOT BE PERMITTED. THE CONTRACTOR SHALL INSPECT THE INTERLOCKS OF THE PORTION OF DRIVEN SHEET PILES THAT EXTEND ABOVE GROUND. REMOVE AND REPLACE SHEET PILES FOUND TO BE OUT OF INTERLOCK.

9. ALL TIMBER SHALL BE SOUTHERN YELLOW PINE, NO. 2.

TIMBER PILES, CLASS B,
10"ø BUTT
6"ø TIP
LENGTH= 16'

10. FILTER FABRIC: SHALL CONSIST OF A MATERIAL MEETING THE REQUIREMENT FOR FILTER FABRIC USED WITH RIPRAP AS DETAILED IN TABLE 3.19 D IN SECTION 3.19 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK THIRD EDITION, 1992, PAGE III–171.

COMMONWEALTH OF VIRGINIA
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2014-04-16
PROFESSIONAL ENGINEER

U.S. FISH & WILDLIFE SERVICE
VINYL SHEET PILE STANDARD FIXED WEIR

PLAN AND
NOTES

DATE: 04/16/2014

SHEET 1 OF 2

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