

Design Assumptions for
Nebraska Base Drawing NE900-10-006
Sheet Pile Structure for Wetland Enhancement

Revised: 05/04 Replaces: 5010-1

Sheet Pile Structure for Wetland Enhancement

Use of this drawing is limited. Consult the NRCS field engineer for guidance and direction.

SZ-22 sheet piles are specified, equivalent alternatives would be DA27 or MA22.

Refer to PL-46 specifications No. 13 Piling for proper installation procedures. Adequate "false-work" is to be provided to hold and drive sheet piles in proper alignment.

Instructions for
Nebraska Base Drawing NE900-10-006
Sheet Pile Structure for Wetland Enhancement

Fill in the following data fields to automatically fill in the necessary data fields on the drawing.

Title block

Title line(s)

Subtitle line

County, State

Sheet number of

Who / When

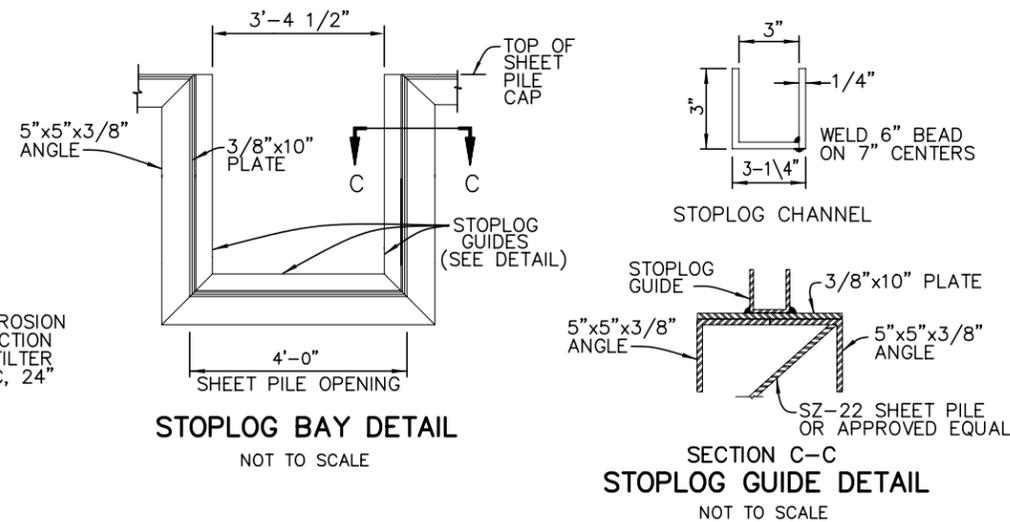
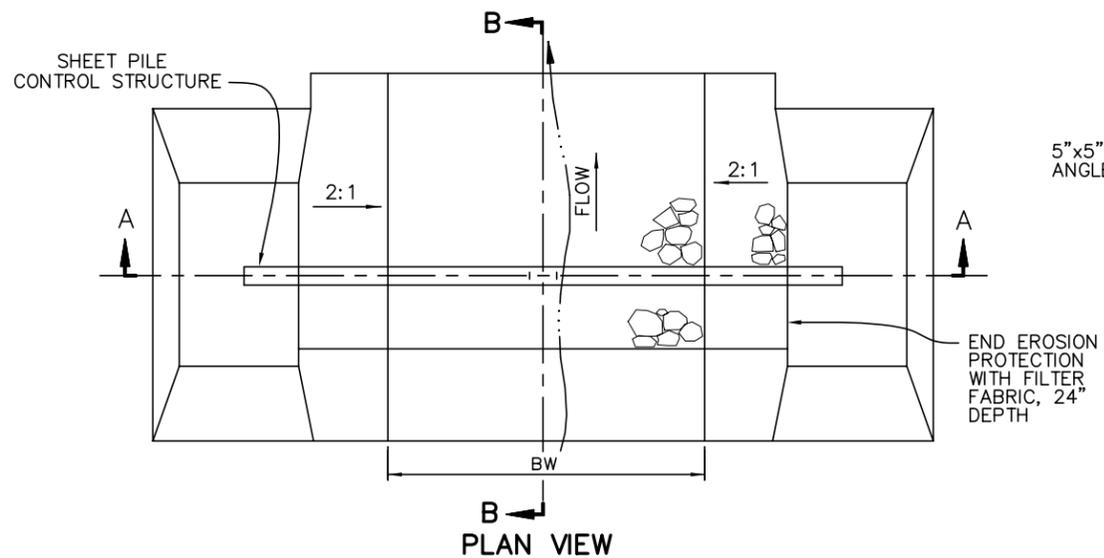
Designed

Drawn

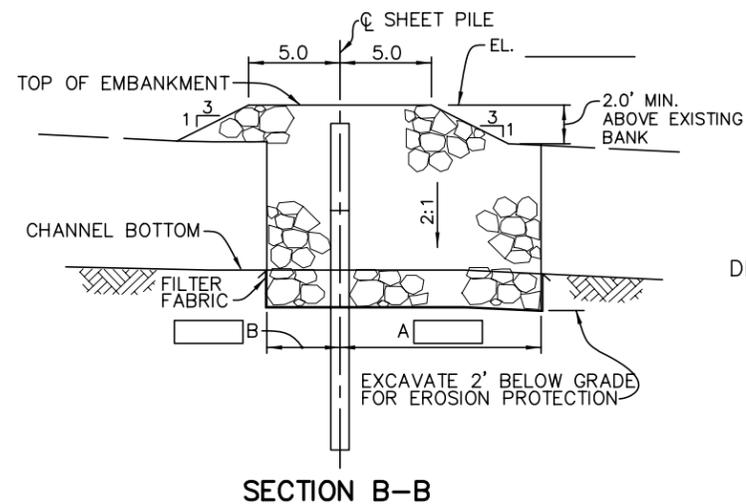
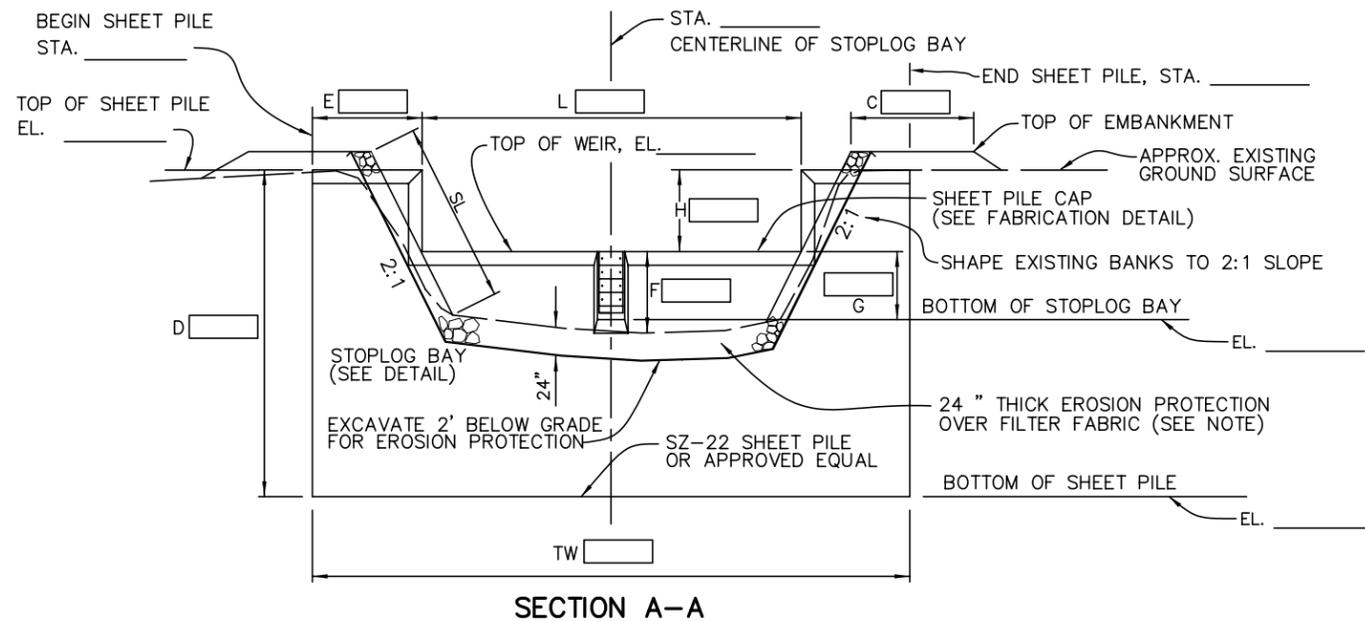
Checked

Enter directly on drawing

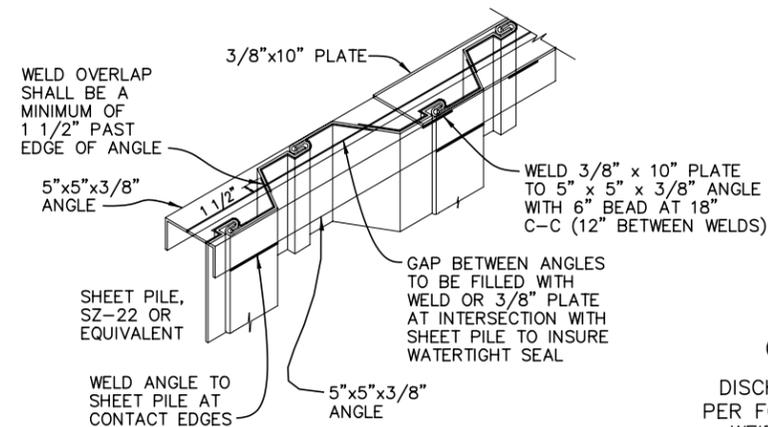
Left click blue data fields to enter required information.



- NOTES:
1. EROSION PROTECTION SHALL BE DURABLE AND GRADED. IT WILL BE EITHER, ROCK RIPRAP, BROKEN CONCRETE OR NATIVE STONE (APPROXIMATE MAX. SIZE 15")
 2. FILTER FABRIC SHALL BE SIMILAR OR EQUAL TO C 70/06 AVAILABLE FROM CONTECH CONSTRUCTION PRODUCTS INC. 535 J STREET, LINCOLN, NE 68508, OR LINK - GTF400E, AVAILABLE FROM ALLIED CONSTRUCTION SPECIALITIES, 2209 S. 21ST., OMAHA, NE 68108. FABRIC CONSIDERED SIMILAR OR EQUAL SHALL BE WOVEN AND MEET THE FOLLOWING: WEIGHT = 6 OZ./SQ.YD., BURST STRENGTH = 480 PSI, EOS = STD. SIEVE 70
 3. STOP LOGS SHALL BE 2" x 12" WOOD PLANK CONSTRUCTION GRADE DOUGLAS FIR OR EQUIVALENT.
 4. ALL WELDS TO BE 1/4" FILLET WELDS.
 5. WELD 6" BEAD ON 7" CENTERS AROUND STOPLOG BAY.
 6. TOP OF SHEET PILE SHALL BE TRIMMED TO GRADES INDICATED ON PLANS TO REMOVE ANY DAMAGE CAUSED BY DRIVING. ANY TRIMMING OVER 3" SHALL BE CONSIDERED CUT-OFF AND WILL BE DEDUCTED FROM THE COST OF "SHEET PILE INSTALLATION".



- DESIGN NOTES:
- DETERMINE THE DESIGN Q TO COMPLY WITH THE APPLICABLE PRACTICE STANDARD.
 $Q =$ _____
 TOP OF WEIR ELEVATION IS SET AT THE DESIGN LEVEL FOR PONDED WATER.
 $F =$ TOP OF WEIR ELEV. MINUS CHANNEL BOTTOM ELEV.
 $F < OR = 3'$
 $G =$ TOP OF WEIR ELEV. MINUS DRAWDOWN ELEV.
 $H =$ TOP OF BANK ELEV. MINUS TOP OF WEIR ELEV.
 $H < OR = 3'$
 DETERMINE L FROM THE CAPACITY TABLE FOR H AND DESIGN Q.



CAPACITY TABLE

DISCHARGE CAPACITY 'q' IN CFS PER FOOT OF WEIR LENGTH 'L' FOR WEIR FLOW DEPTH 'H' IN FEET

H	1	1.5	2	2.5	3
Q	2.7	5.1	7.9	10.8	14.3

$L = \frac{\text{TOTAL "Q" IN CFS FOR DESIGN STORM}}{\text{"Q" FROM TABLE 1 ABOVE}}$

REQUIREMENT TABLE

ITEM	UNIT	QUANTITY
PLATE LENGTH = $2x \frac{E}{2} + 2x \frac{H}{2} + 2x \frac{G}{2} + \frac{L}{2} =$	FT.	
ANGLE IRON LENGTH = $2x \frac{\text{PLATE LENGTH}}{2} =$	FT.	
STOPLOG CHANNEL = $2x \frac{G}{2} =$	FT.	
SHEET PILE = $\frac{D}{2} \times \frac{TW}{2} - \frac{H \times L}{2} =$	SQ. FT.	
EROSION PROTECTION = $[0.1] \times \frac{A+B}{2} \times \frac{BW+2SL}{2} =$	TON	
FILTER FABRIC = $\frac{A+B+5}{2} \times \frac{BW+2SL}{2} =$	SQ. FT.	
12" PLANKS FOR STOPLOGS = $4 \times \frac{G}{2} =$	FT.	

- MINIMUM DESIGN VALUES IN FEET FOR:
- $E = 2H+6.0'$
 $C = 2E$
 $A = 4+[1.5x(F+H)+(2xH)]/2$
 $B = 2$ (OPTIONAL) RECOMMENDED FOR GRANULAR SOILS AND VALUES OF $H > 2$
 $D = 2x(H+F)$
 $BW = L-(4 \times F)$
 $SL = 2x(H+F+2)$

Nebraska Standard Drawing NE900-10-006 Rev 5/04 Replaces 5010-1

Date _____
 Designed _____
 Drawn _____
 Checked _____
 Approved _____



CAD file: NE900-10-006.dwg
 Drawing No. _____

SHEET PILE STRUCTURE FOR WETLAND ENHANCEMENT

Sheet _____ of _____