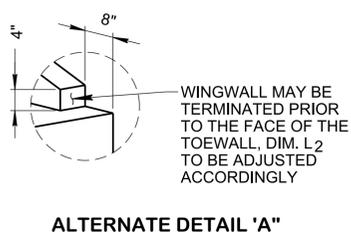
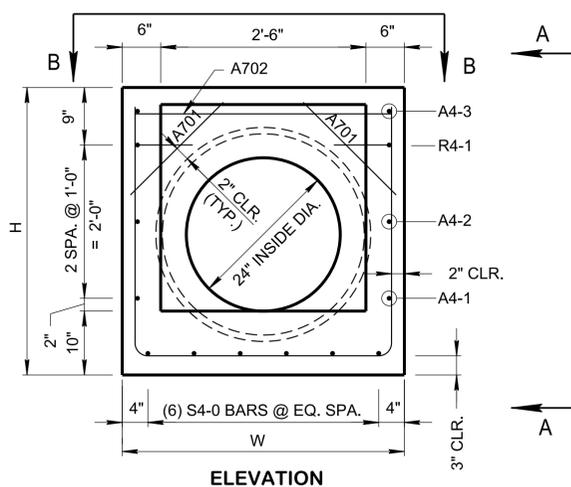


ISOMETRIC VIEW

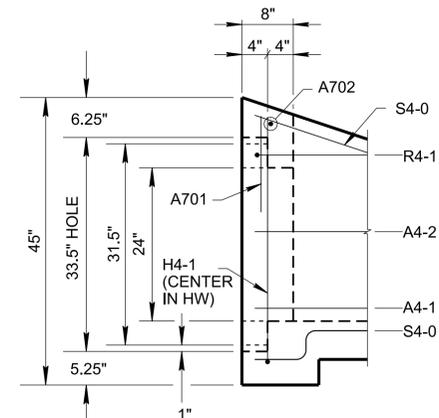
NOTE: 3/4" CHAMFER REQUIRED ON ALL EXPOSED EDGES



ALTERNATE DETAIL 'A'



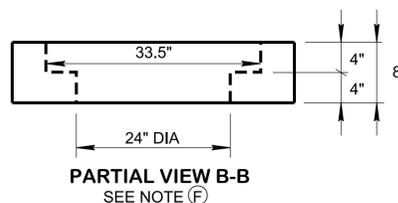
ELEVATION



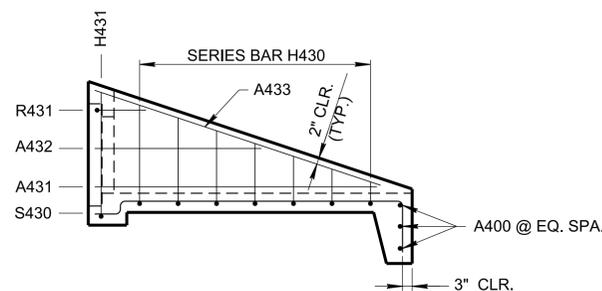
PARTIAL VIEW A-A

HEADWALL DETAILS

NOTE: INSTALL BARS A701 AT 45°
SEE GENERAL NOTES (C) & (E).

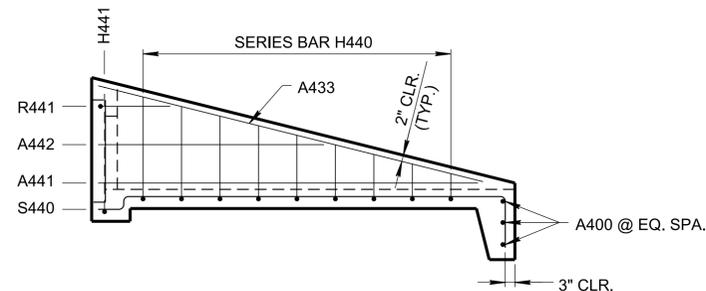


PARTIAL VIEW B-B
SEE NOTE (F)



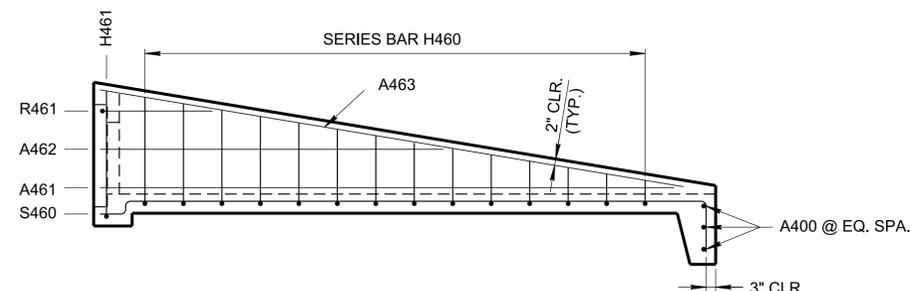
3:1 WINGWALL ELEVATION

NOTE: A-BARS IN HEADWALL NOT SHOWN FOR CLARITY.



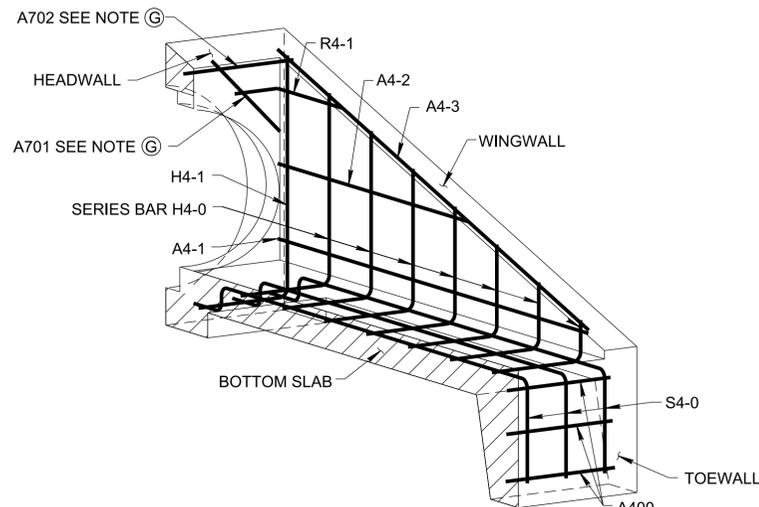
4:1 WINGWALL ELEVATION

NOTE: A-BARS IN HEADWALL NOT SHOWN FOR CLARITY.



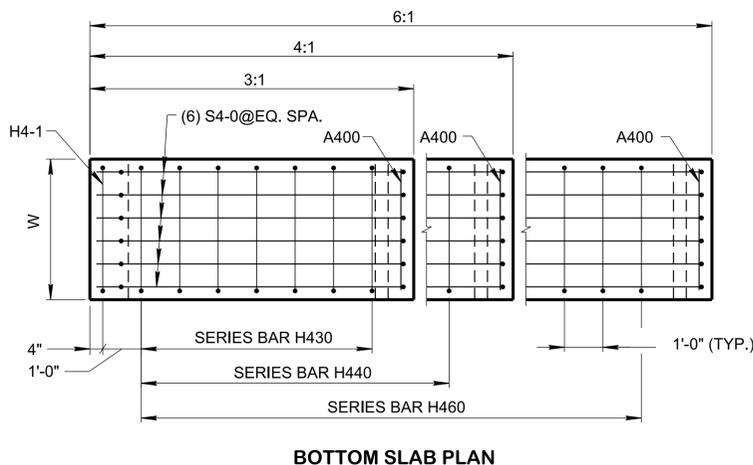
6:1 WINGWALL ELEVATION

NOTE: A-BARS IN HEADWALL NOT SHOWN FOR CLARITY.



ISOMETRIC HALF-SECTION SHOWING REINFORCEMENT

(3:1 SHOWN, 4:1 & 6:1 SIMILAR)
SEE GENERAL NOTE (C)



BOTTOM SLAB PLAN

DIMENSIONS AND QUANTITIES FOR ONE ENDWALL 24" PIPE						
SLOPE	CONCRETE ENDWALL DIMENSIONS				ESTIMATED QUANTITIES	
	H	L ₁	L ₂	W	CLASS "A" CONC. CU. YD.	STEEL BAR REINF. LB.
3:1		8'-5"	8'-10 1/2"		1.28	124
4:1	3'-9"	11'-0"	11'-4"	3'-6"	1.61	153
6:1		16'-2"	16'-4 5/8"		2.26	215

- GENERAL NOTES**
- (A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE AND ALL PRECAST 24" CONCRETE ENDWALLS (TYPE "U") FOR CROSS DRAINS ONLY. "U" ENDWALL TO BE PLACED AT 90° SKEW TO CENTERLINE. SEE STD. DWG. D-PE-99 FOR SKEWED CONNECTION DETAIL WHEN CROSS DRAIN IS NOT PERPENDICULAR TO CENTERLINE. CAST-IN-PLACE CONCRETE ENDWALL SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS.
 - (B) SEE STD. DWG. D-PE-24B FOR BILL OF STEEL & PRECAST NOTES.
 - (C) "-" IN BAR DESIGNATION REPRESENTS 3, 4 OR 6 FOR 3:1, 4:1 OR 6:1 SLOPES, RESPECTIVELY. SEE STD. DWG. D-PE-24B.
 - (D) SPLICING OF REINFORCEMENT IS ACCEPTABLE PROVIDED THAT A MINIMUM 21" SPLICE LENGTH IS USED.
 - (E) TOEWALL BACK SLOPE MAY BE CONSTRUCTED VARIABLE FROM VERTICAL UP TO 15°.
 - (F) 90° STEPS ARE SHOWN ON THE STEPPED HOLE DETAIL, HOWEVER MINOR VARIATIONS OF THE TAPER ARE ACCEPTABLE.
 - (G) OPTIONAL STEPPED HOLE OR HOLE FORMERS ARE ALLOWED PROVIDED THE AMOUNT OF COVER BETWEEN THE PIPE OPENING AND BARS A701 AND A702 IS THE SAME OR GREATER THAN SHOWN ON THIS DRAWING.
 - (H) PAYMENT WILL BE MADE UNDER:

611-07.57	24" ENDWALL (CROSS DRAIN) 3:1	EACH
611-07.58	24" ENDWALL (CROSS DRAIN) 4:1	EACH
611-07.59	24" ENDWALL (CROSS DRAIN) 6:1	EACH
 - (I) THE CONTRACTOR MAY BE ELECT TO SUBSTITUTE AN APPROVED ALTERNATIVE DESIGN.
 - (J) DIMENSIONAL AND REINFORCING TOLERANCES WILL BE AS SHOWN IN STANDARD OPERATING PROCEDURE (SOP) 5-3.

- REV. 6-14-13: REVISED NOTEG. ADDED NOTE (H) AND (I)
- REV. 1-6-15: REVISED HOLE OPENING SIZE. ADDED STEPPED HOLE DETAIL.
- REV. 1-21-16: REVISED GENERAL NOTE (B)
- REV. 7-5-17: MODIFIED GENERAL NOTES (C) AND (J)
- REV. 06-28-19: ADJUSTED A-A, B-B AND ELEVATION VIEWS. RENAMED AND REDREW SHEET.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

TYPE "U" CROSS DRAIN ENDWALL FOR 24" PIPE
(FOR 3:1, 4:1 & 6:1 SLOPES)

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