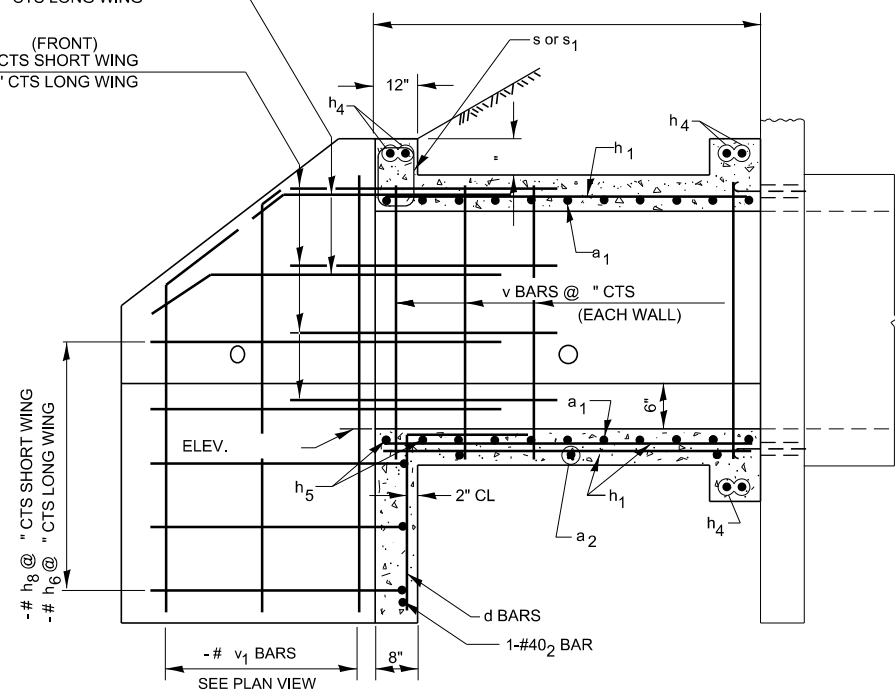
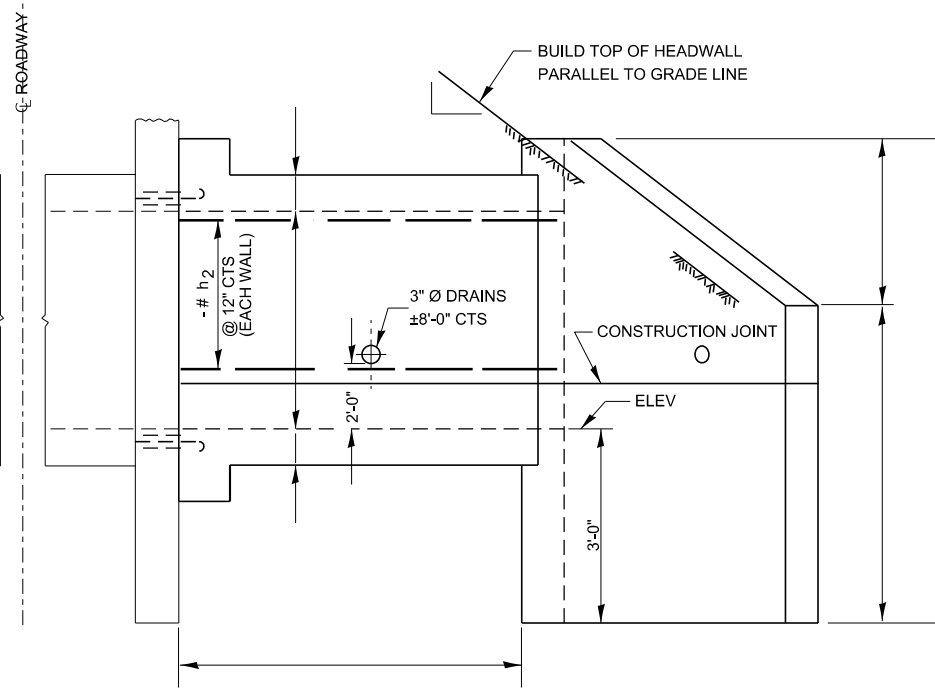


(BACK)
 -# h_3 @ " CTS SHORT WING
 -# h_7 @ " CTS LONG WING

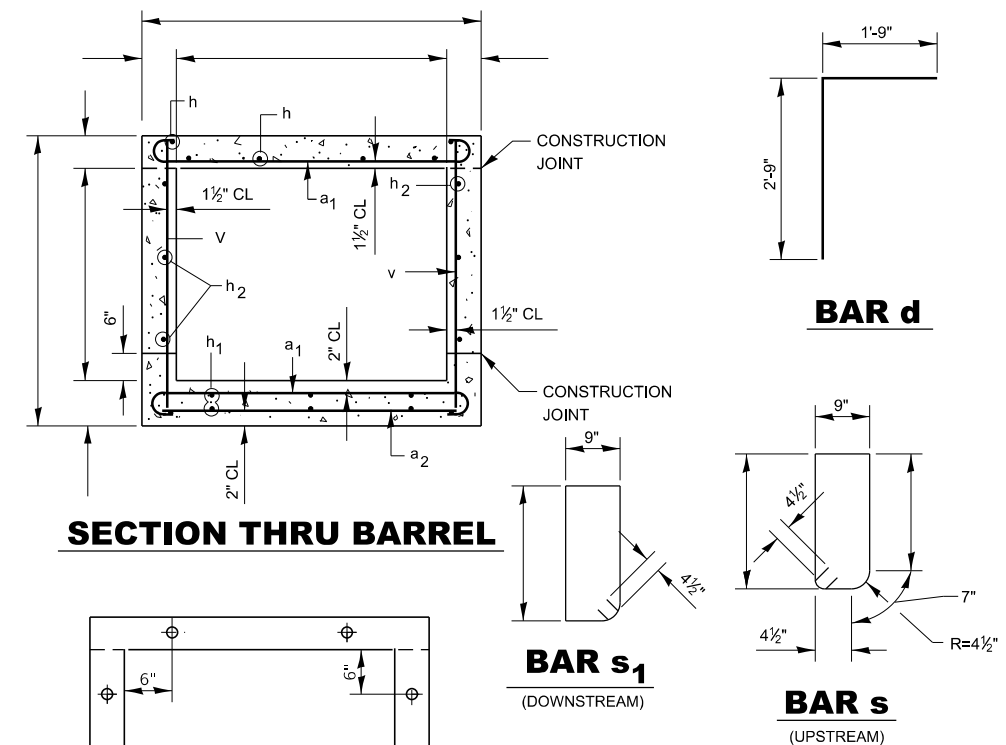
(FRONT)
 -# h_3 @ " CTS SHORT WING
 -# h_7 @ " CTS LONG WING



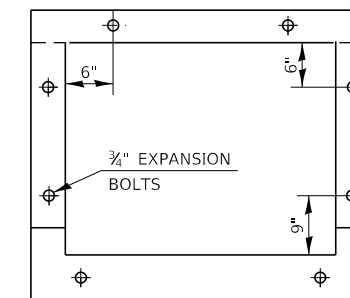
HALF LONG SECTION



HALF ELEVATION



SECTION THRU BARREL



SIDEWALLS @ " CTS
 TOP & BOTTOM @ " CTS

EXPANSION BOLT LOCATION

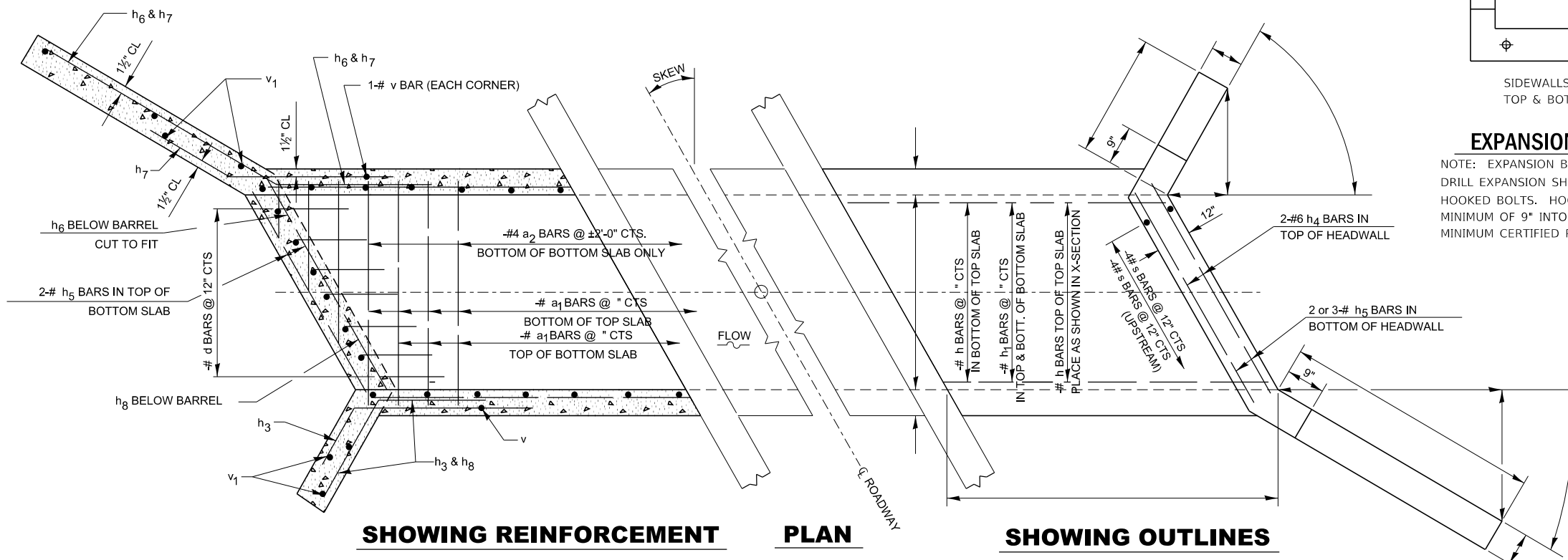
NOTE: EXPANSION BOLTS SHALL CONSIST OF SELF DRILL EXPANSION SHIELDS AND 3/8" DIAMETER HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO NEW CONCRETE. MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS.

BAR s_1
 (DOWNSTREAM)

BAR s
 (UPSTREAM)

BAR a_1

BARS h_6 & h_7



SHOWING REINFORCEMENT PLAN

SHOWING OUTLINES

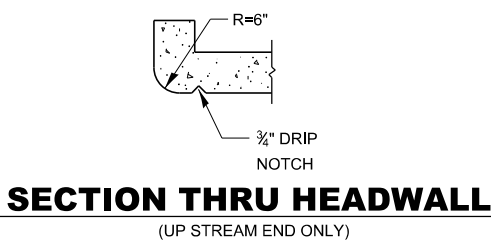
GENERAL NOTES

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
 AT LEAST SIX FEET OF BARREL SHALL BE POURED MONOLITHICALLY WITH WINGWALLS.
 EXPOSED EDGES SHALL BE BEVELED 3/8".
 FOR BACKFILLING AND EMBANKMENTS SEE STANDARD SPECIFICATIONS.
 TILT HOOK OF a_1 BARS, IF NECESSARY, TO OBTAIN 1 1/2" MINIMUM CLEARANCE AT THE TOP OF HOOK.
 REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53, GRADE 60.

DESIGN STRESSES

$f_y = 60,000$ PSI
 $f'_c = 3,500$ PSI

LOADING HS 20-44 & ALT



SECTION THRU HEADWALL

(UP STREAM END ONLY)

BARS h_3 & h_8

BILL OF MATERIALS

BAR	NUMBER	SIZE	LENGTH
a_1		#4	
a_2		#4	
d			
h			
h_1			
h_2			
h_3			
h_4		#6	
h_5			
h_6			
h_7			
h_8			
v			
v_1			
s		#4	
s_1		#4	
CONC BOX CULV		CU YDS	
REINFORCEMENT BARS		LBS	
EXPANSION BOLTS		EACH	

540-3

MODEL: det 3 d4tblb
 FILE: \\paw101\share\paw101\paw101\Documents\DOT Office\District 3 Standards - District 3\DETAILS\SUBDISTRICT 3 STANDARD DETAILS - DGN\500-539 STRUCTURES.dgn

USER NAME = ronald.pohar	DESIGNED -	REVISED -
PLOT SCALE = 100,000 ' / in.	DRAWN -	REVISED -
PLOT DATE = 3/15/2024	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

BOX CULVERT EXTENSION STATION

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				