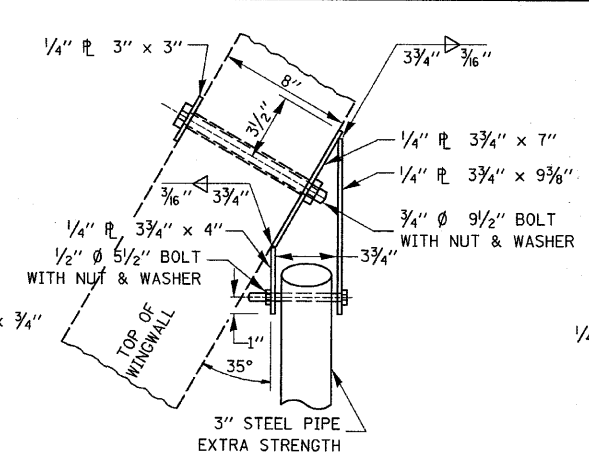


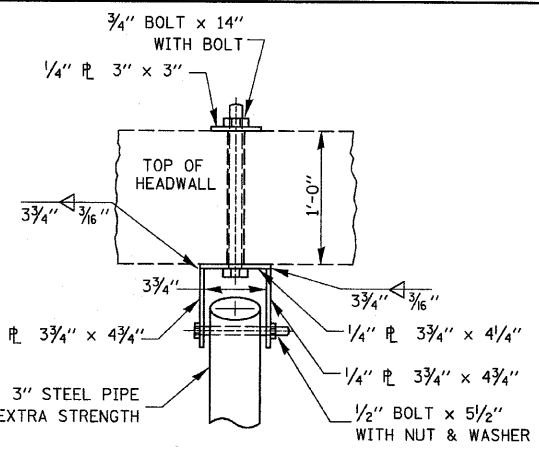
PLAN

END BRACKET ASSEMBLY - LEFT



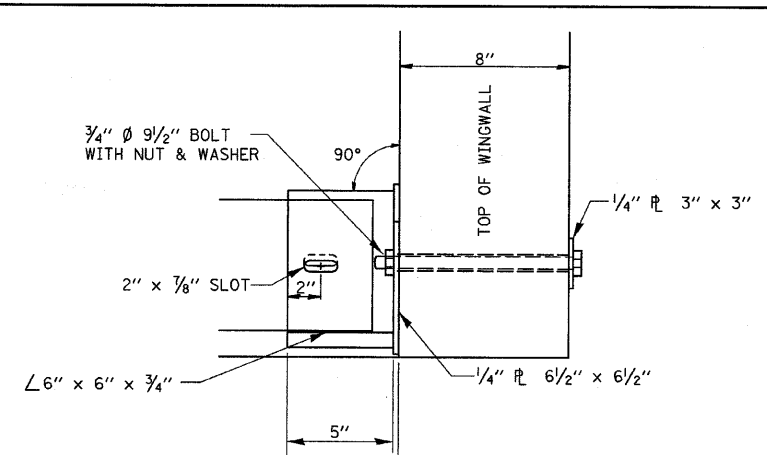
PLAN

WINGWALL BRACKET ASSEMBLY - LEFT



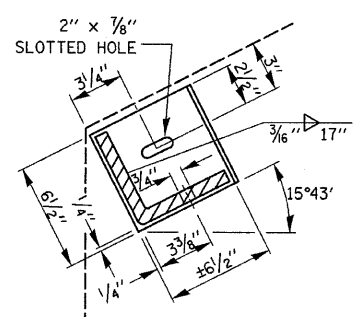
PLAN

HEADWALL BRACKET ASSEMBLY

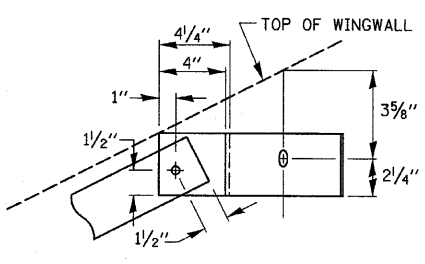


PLAN

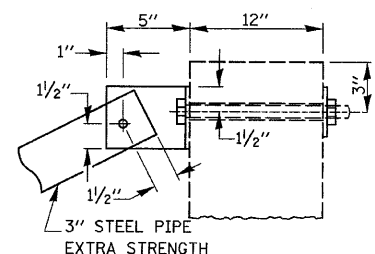
END BRACKET ASSEMBLY - RIGHT



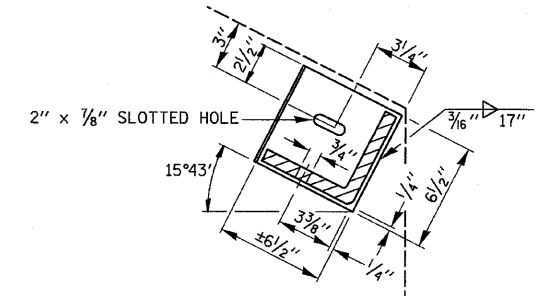
SECTION THRU
DETAIL A



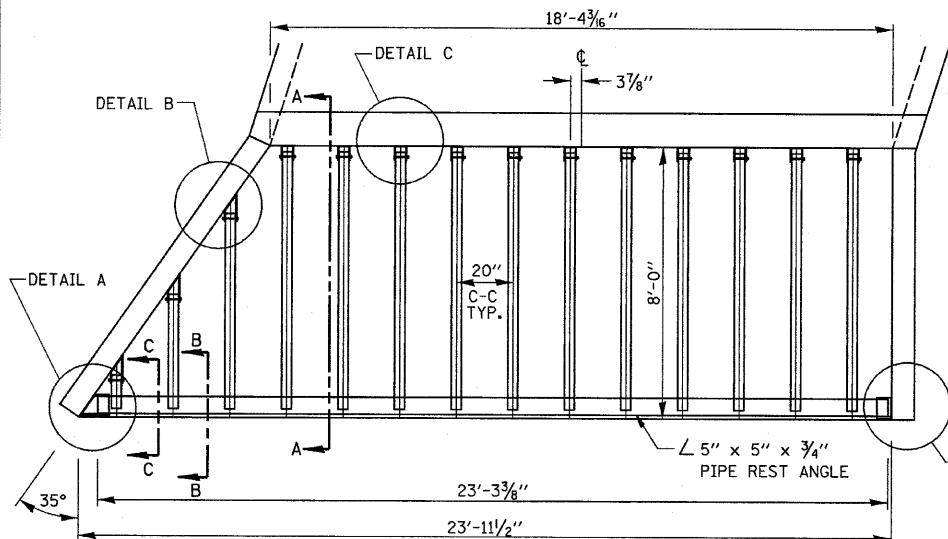
SECTION THRU
DETAIL B



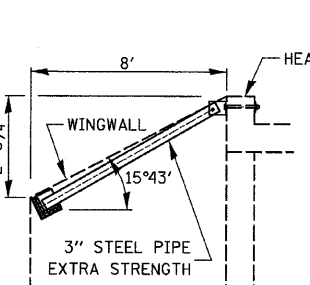
SECTION THRU
DETAIL C



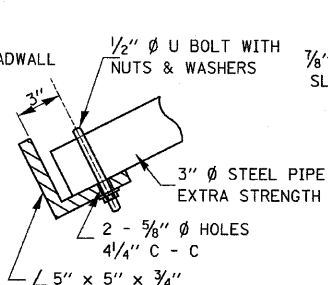
SECTION THRU
DETAIL E



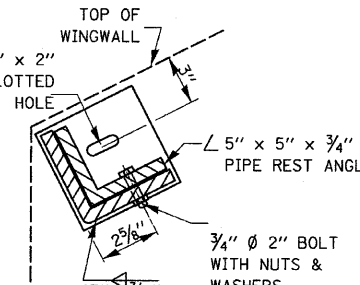
PLAN VIEW



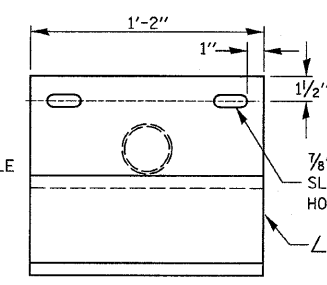
SECTION A-A



SECTION B-B

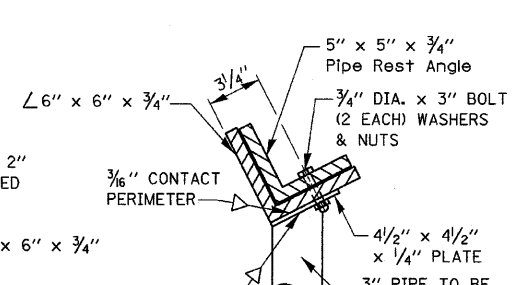


SECTION C-C

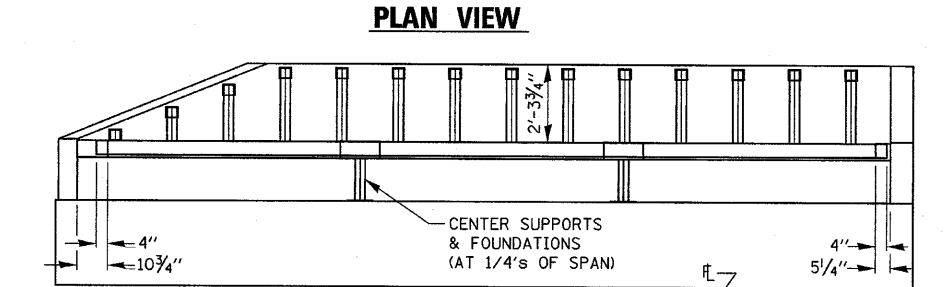


PLAN VIEW OF SUPPORT

3" STEEL PIPE, EXTRA STRENGTH
x 2' LONG TO BE
CUT TO FIT IN THE FIELD



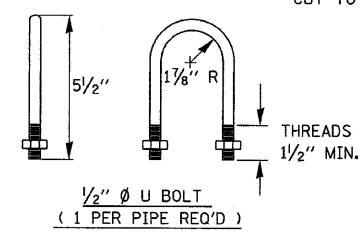
END VIEW OF SUPPORT



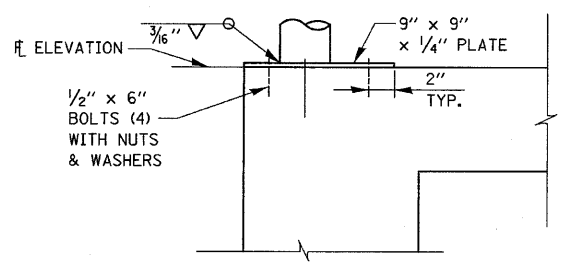
ELEVATION VIEW

GENERAL NOTES

BOLTS AND NUTS SHALL CONFORM TO ASTM A 307.
ALL BOLTS SHALL HAVE WASHERS AT EACH END.
HOLES SHALL BE 1/16" OVERSIZE UNLESS OTHERWISE NOTED EXCEPT IN CONCRETE WHICH SHALL BE 1/8" OVERSIZE.
ANGLES AND STEEL PLATES SHALL CONFORM TO AASHTO M183.
STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B OR ASTM A 501.
STEEL PIPES, ANGLES AND PLATES SHALL BE HOT DIPPED GALVANIZED CONFORMING TO THE REQUIREMENTS OF AASHTO M111.
BOLTS, NUTS AND WASHERS SHALL BE HOT DIPPED GALVANIZED CONFORMING TO THE REQUIREMENTS OF AASHTO M232.
THE APPROXIMATE WEIGHT OF STEEL, 3470 POUNDS, INCLUDES PLATES, ANGLES, AND PIPES. BOLTS, NUTS AND WASHERS ARE NOT INCLUDED.
ALL DIMENSIONS ARE TO BE VERIFIED IN THE FIELD.
CUTTING OF THE EXTRA STRENGTH PIPE AND ANGLES TO THE EXACT LENGTHS AND DRILLING HOLES IS TO BE DONE IN THE FIELD.
THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE "EACH" FOR GRATING FOR CONCRETE HEADWALLS IN PLACE, AND SHALL INCLUDE FABRICATION PAINTING, CENTER SUPPORTS WHEN REQUIRED, AND INSTALLATION OF THE GRATING AS DETAILED.



1/2" Ø U BOLT
(1 PER PIPE REQ'D)



CENTER SUPPORTS

FILE NAME = 0366870-SHT-DETAILS.DGN	USER NAME = ---	DESIGNED - JKC	REVISED - ---	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS GRATING FOR CULVERTS WITH WINGWALLS			F.A.P. RTE. 681	SECTION (115)I	COUNTY LIVINGSTON	TOTAL SHEETS 20	SHEET NO. 16
PLOT SCALE = 1"=1'	CHECKED - JKC	DATE - 01/10	REVISED - ---		SCALE: NONE	SHEET NO. ___ OF ___ SHEETS	STA. _____ TO STA. _____	CONTRACT NO. 66870				
PLOT DATE = 01/10	DATE - 01/10	REVISED - ---	REVISED - ---		ILLINOIS FED. AID PROJECT							