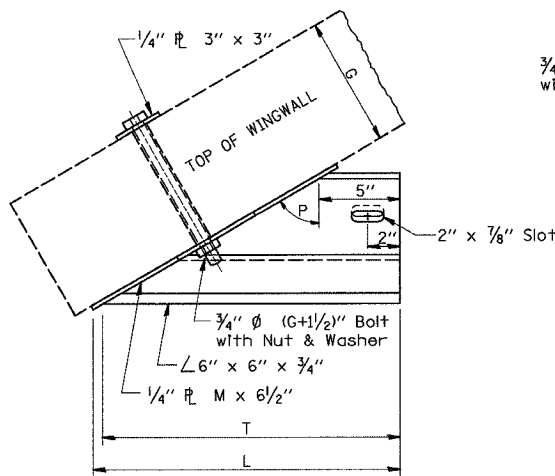
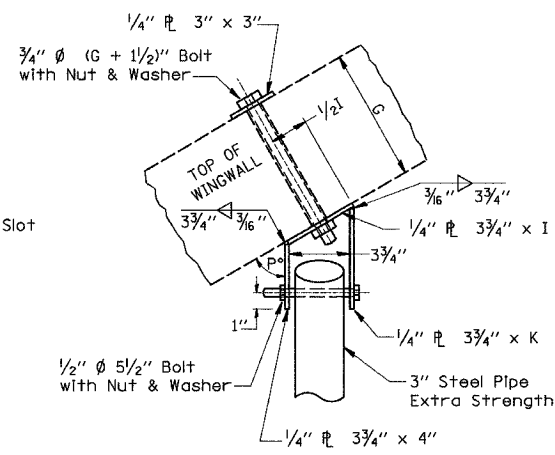


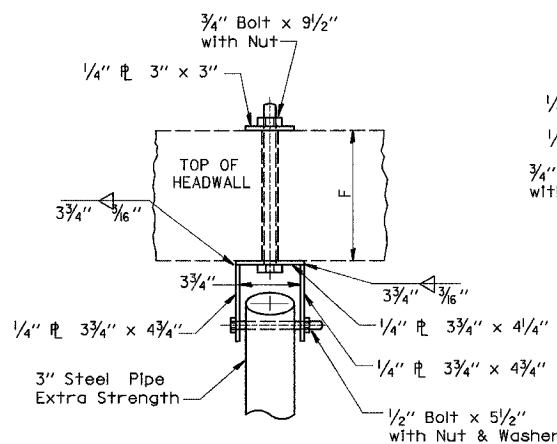
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2247	13X-BR-1	BUREAU	51	41
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



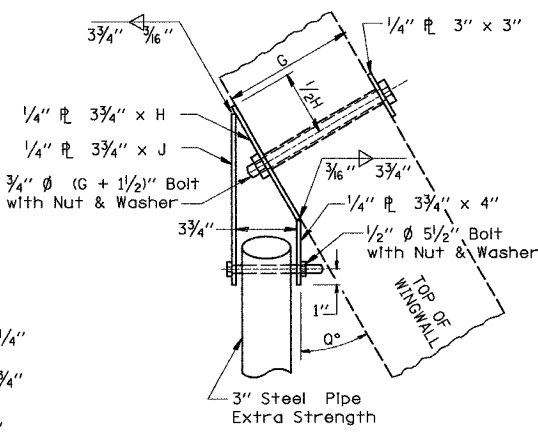
PLAN
END BRACKET ASSEMBLY - LEFT



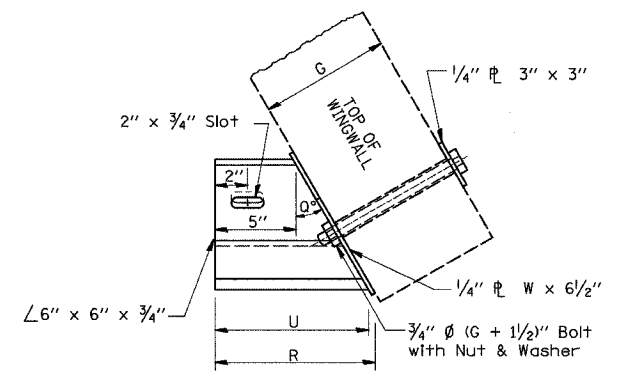
PLAN
WINGWALL BRACKET ASSEMBLY - LEFT



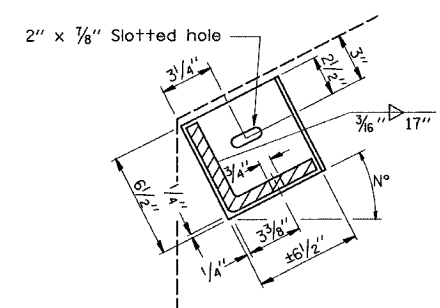
PLAN
HEADWALL BRACKET ASSEMBLY



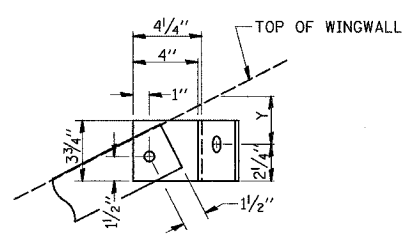
PLAN
WINGWALL BRACKET ASSEMBLY - RIGHT



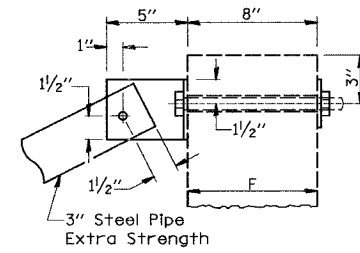
PLAN
END BRACKET ASSEMBLY - RIGHT



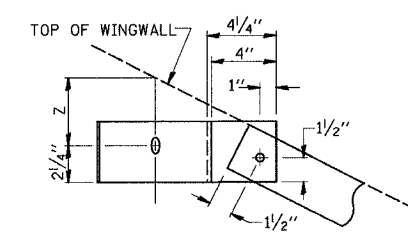
SECTION THRU
DETAIL A



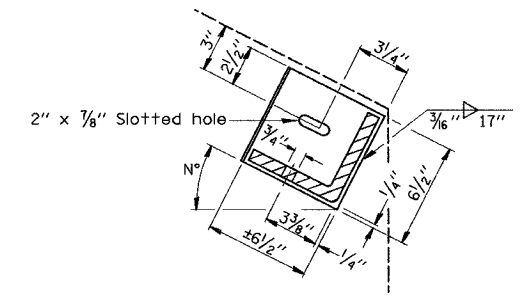
SECTION THRU
DETAIL B



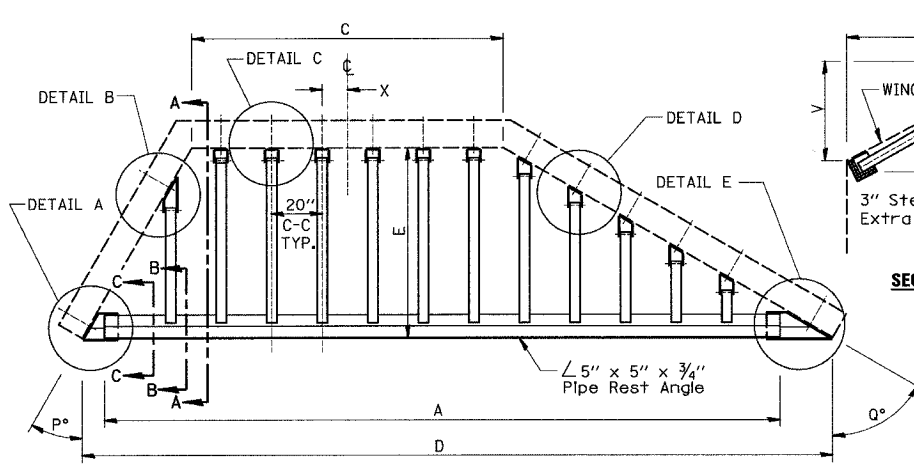
SECTION THRU
DETAIL C



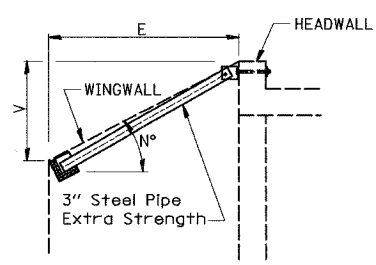
SECTION THRU
DETAIL D



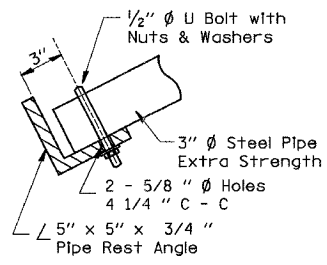
SECTION THRU
DETAIL E



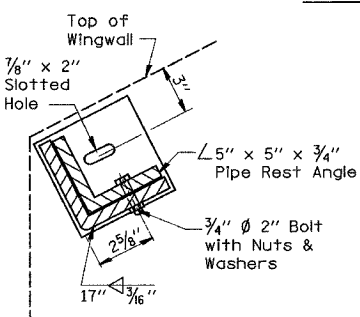
PLAN VIEW



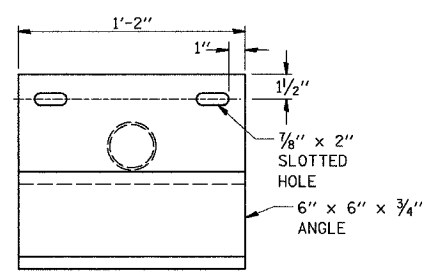
SECTION A-A



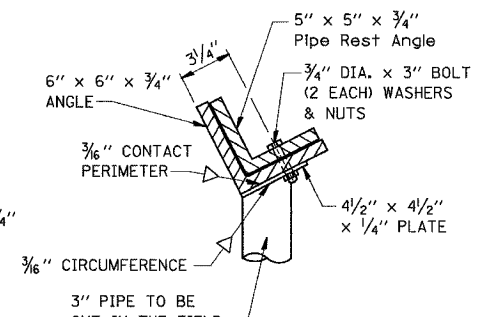
SECTION B-B



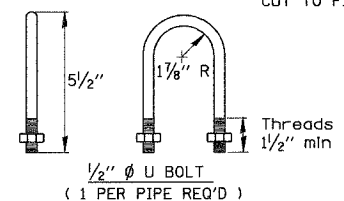
SECTION C-C



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

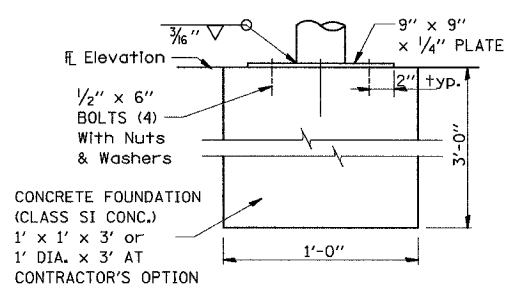


END VIEW OF SUPPORT



1/2" Ø U BOLT
(1 PER PIPE REQ'D)

DETERMINING NEED OF CENTER SUPPORTS		
TIP TO TIP OF WINGWALLS (DIMENSION "D")	NUMBER OF SUPPORTS REQUIRED	LOCATION
0'-0" TO 12'-6"	0	---
12'-6" TO 18'-0"	1	CENTER OF SPAN
18'-0" TO 24'-0"	2	1/3 OF SPAN
24'-0" TO 30'-0"	3	1/4 OF SPAN



CONCRETE FOUNDATION
(CLASS S1 CONC.)
1' x 1' x 3' or 1' DIA. x 3' AT CONTRACTOR'S OPTION

CENTER SUPPORT FOUNDATION

GRATING FOR CULVERTS WITH WINGWALLS

PLT DATE = 4/78
FILE NAME = 20690SP1
USER NAME = BR

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 GIVEN IN TABLES 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 HEADSUPPORTS WHEN REQUIRED, AND INSTALLATION OF THE GRATING AS DETAILED.