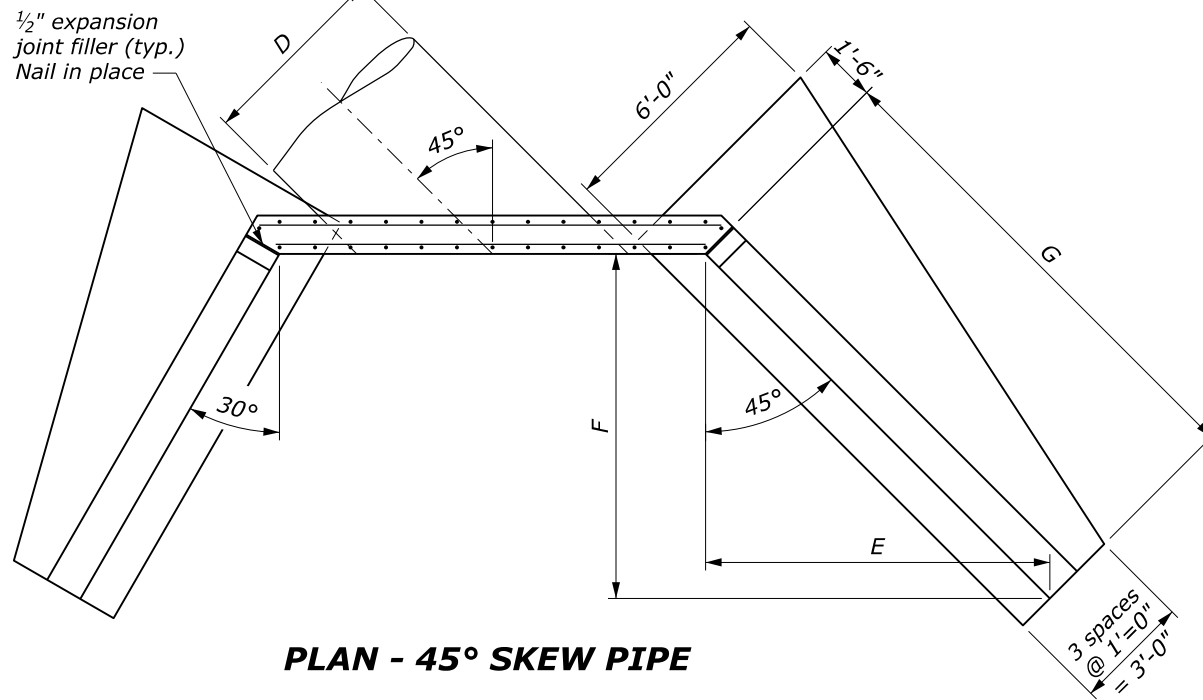


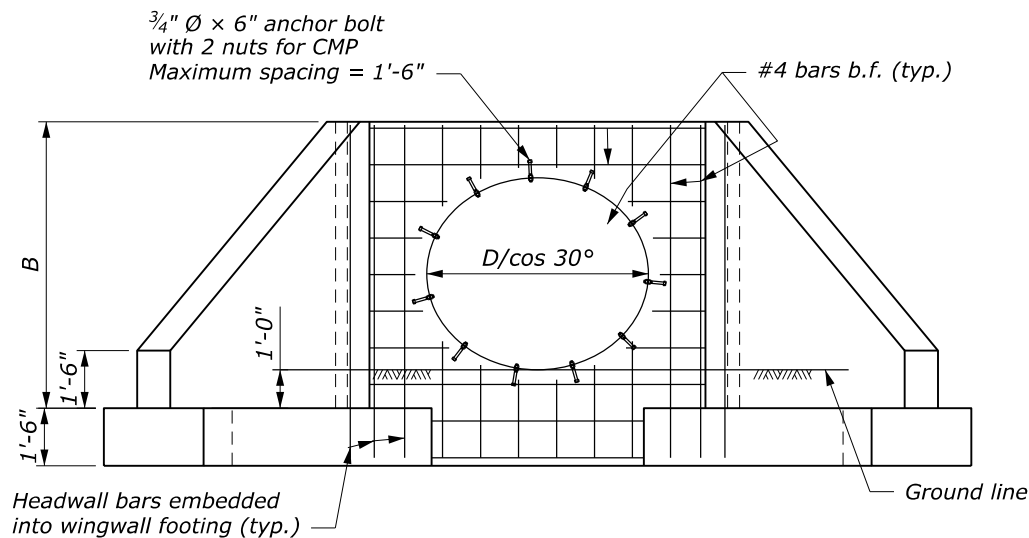
PLAN - 30° SKEW PIPE



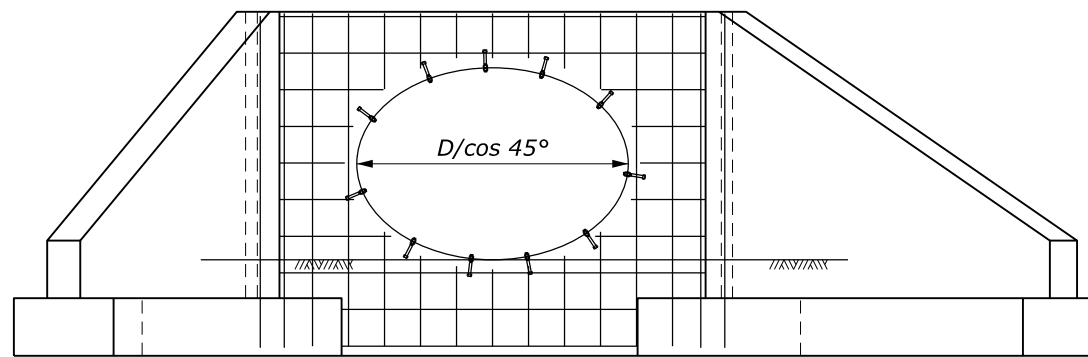
PLAN - 45° SKEW PIPE

NOTE:

1. Use the 30° Skew Detail for skews greater than 15° to 37°30'. Use the 45° Skew Detail for skews greater than 37°30' to 45°.
2. Prepare foundation according to Section 209. Place headwall/wingwalls on 6 inches of foundation fill.
3. Quantities shown in table are for one headwall and two wingwalls and are based on CMP. Concrete and steel quantities shown will be used as basis for final payment for headwall/wingwalls constructed according to this standard.
4. For dimensions and reinforcing details not shown, see Standard 601-5.



FRONT ELEVATION - 30° SKEW PIPE
(Showing headwall reinforcement)



FRONT ELEVATION - 45° SKEW PIPE
(Showing headwall reinforcement)

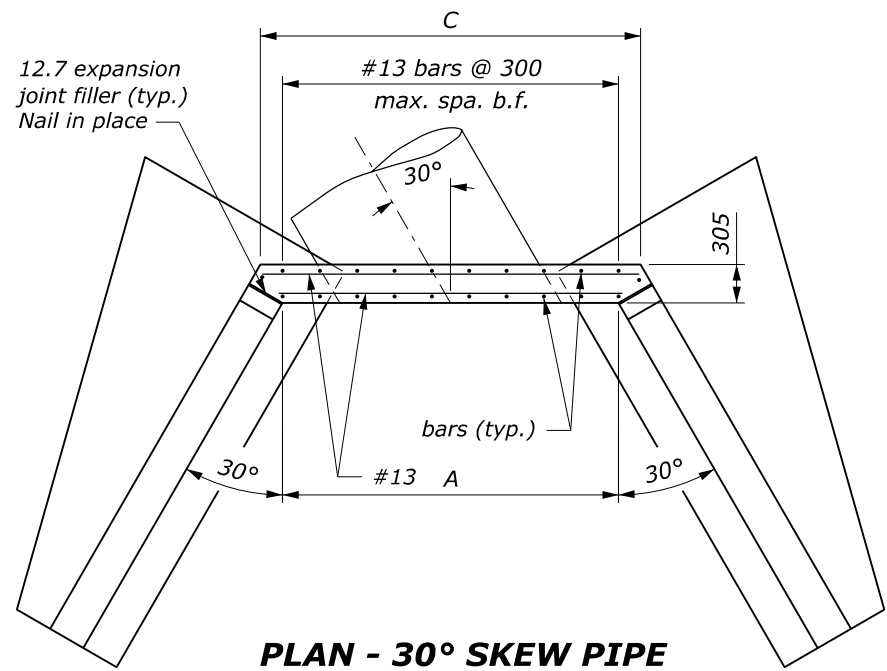
DIMENSIONS AND QUANTITIES FOR 30° SKEW PIPE									
		Diameter of Pipe Culvert (D)							
		42"	48"	54"	60"	66"	72"	78"	84"
1V:1.5H fill slope	Conc. (CUYD)	8.4	9.4	10.5	11.6	12.7	13.9	15.1	16.4
	Steel (LB)	682	764	853	908	1016	1080	1196	1294
1V:2H fill slope	Conc. (CUYD)	10.4	11.7	13.0	14.5	15.9	17.4	18.9	20.5
	Steel (LB)	829	938	1036	1135	1245	1355	1461	1598

DIMENSIONS AND QUANTITIES FOR 45° SKEW PIPE									
		Diameter of pipe culvert (D)							
		42"	48"	54"	60"	66"	72"	78"	84"
1V:1.5H fill slope	A	8'-11 1/4"	9'-8"	10'-4 1/4"	11'-0 3/4"	11'-9 1/4"	12'-6"	13'-2 1/4"	13'-11"
	C	9'-11 1/4"	10'-8"	11'-4 1/4"	12'-1"	12'-9 1/4"	13'-6"	14'-2 1/4"	14'-11"
	E	6'-8 3/4"	7'-5 3/4"	8'-2 1/2"	8'-11 3/4"	9'-8 1/2"	10'-5 3/4"	11'-2 3/4"	12'-0"
	F	6'-8 3/4"	7'-5 3/4"	8'-2 1/2"	8'-11 3/4"	9'-8 1/2"	10'-5 3/4"	11'-2 3/4"	12'-0"
	G	9'-6"	10'-7"	11'-7 1/2"	12'-8 1/4"	13'-9"	14'-10"	15'-10 1/4"	16'-11 1/4"
1V:2H fill slope	Conc. (CUYD)	9.5	10.6	11.8	13.1	14.4	15.7	17.1	18.5
	Steel (LB)	787	868	977	1051	1177	1249	1370	1490
	E	8'-11 1/2"	9'-11 3/4"	10'-11 1/2"	11'-11 3/4"	12'-11 1/2"	13'-11 3/4"	14'-11 1/2"	15'-11 3/4"
	F	8'-11 1/2"	9'-11 3/4"	10'-11 1/2"	11'-11 3/4"	12'-11 1/2"	13'-11 3/4"	14'-11 1/2"	15'-11 3/4"
	G	12'-8"	14'-1 1/4"	15'-6"	16'-11 1/4"	18'-4"	19'-9 1/4"	21'-2"	22'-7"
1V:2H fill slope	Conc. (CUYD)	11.7	13.2	14.7	16.3	17.9	19.6	21.3	23.1
	Steel (LB)	951	1070	1190	1303	1440	1559	1695	1846

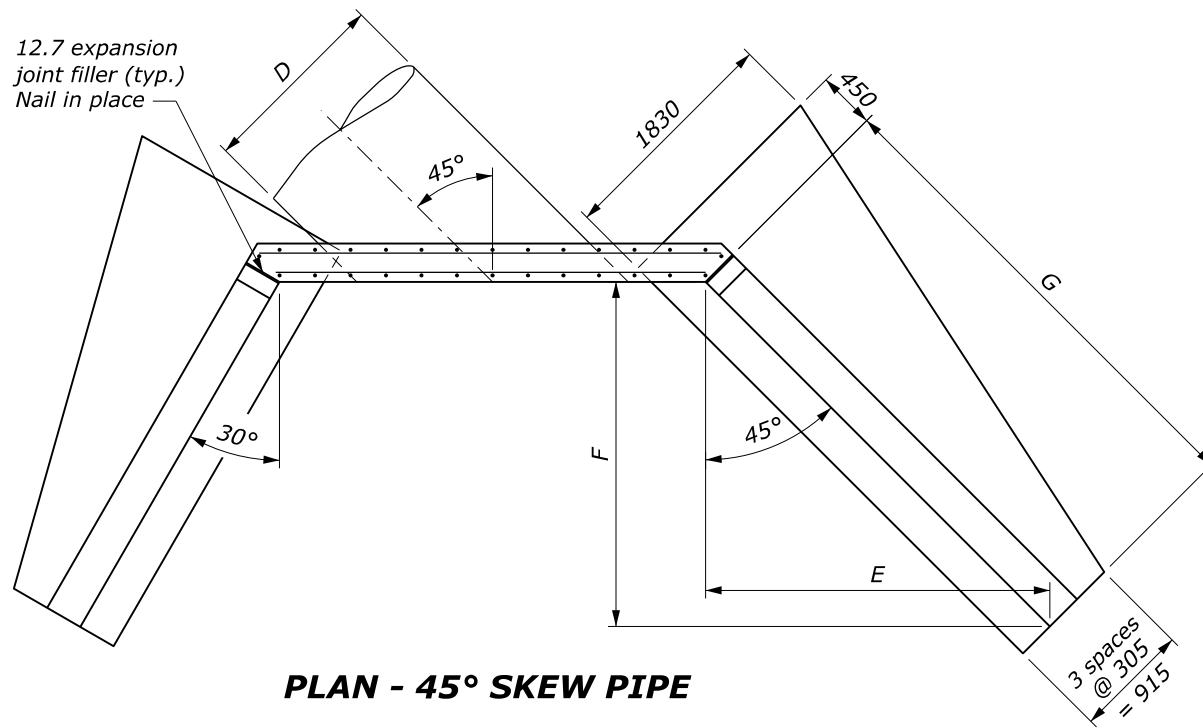
NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA
OFFICE OF FEDERAL LANDS HIGHWAY
**CONCRETE HEADWALL/WINGWALL
FOR SINGLE SKEW
42" TO 84" PIPE CULVERT**

FLH STANDARD
601-6
SPECIFICATION
FP-24, FP-14
APPROVED FOR USE
2/2024

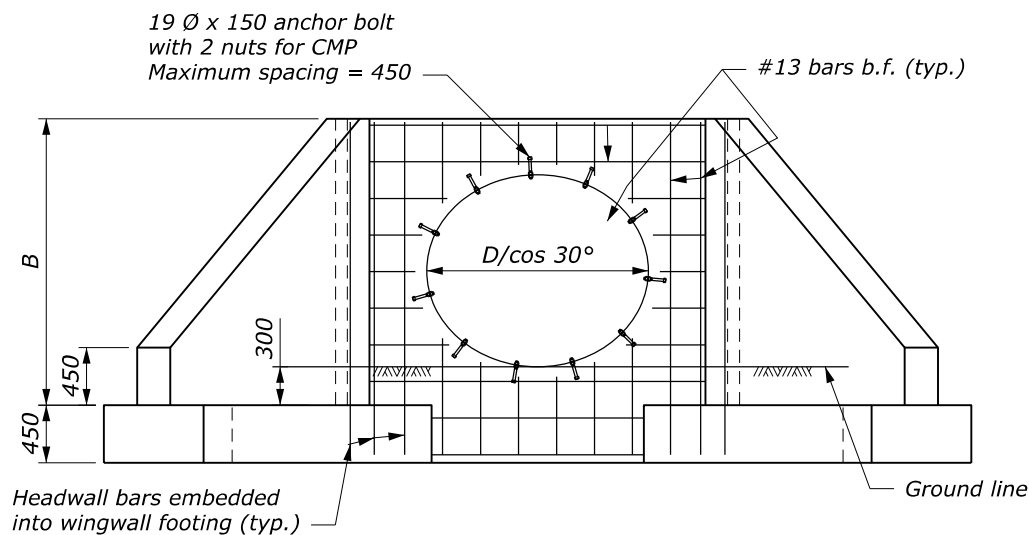


PLAN - 30° SKEW PIPE

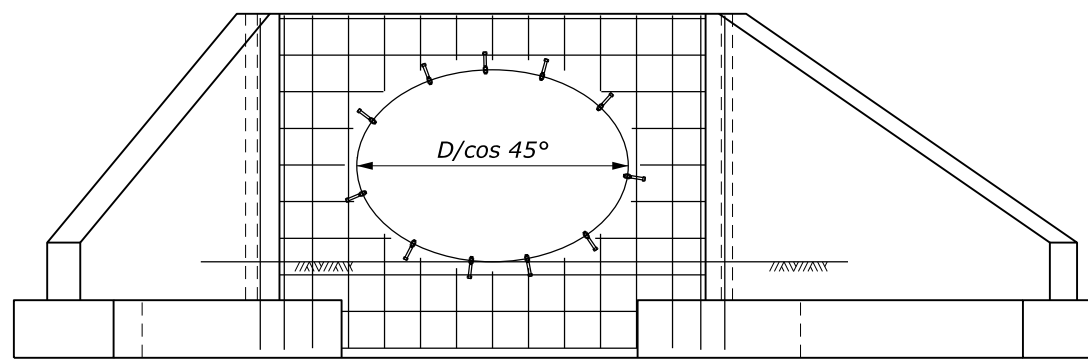


PLAN - 45° SKEW PIPE

- NOTE:**
1. Use the 30° Skew Detail for skews greater than 15° to 37°30'. Use the 45° Skew Detail for skews greater than 37°30' to 45°.
 2. Prepare foundation according to Section 209. Place headwall/wingwalls on 150 mm of foundation fill.
 3. Quantities shown in table are for one headwall and two wingwalls and are based on CMP. Concrete and steel quantities shown will be used as basis for final payment for headwall/wingwalls constructed according to this standard.
 4. For dimensions and reinforcing details not shown, see Standard M601-5.



FRONT ELEVATION - 30° SKEW PIPE
(Showing headwall reinforcement)



FRONT ELEVATION - 45° SKEW PIPE
(Showing headwall reinforcement)

DIMENSIONS AND QUANTITIES FOR 30° SKEW PIPE									
		Diameter of Pipe Culvert (D)							
		1050	1200	1350	1500	1650	1800	1950	2100
1V:1.5H fill slope	Conc. (m³)	6.4	7.2	8.0	8.9	9.7	10.7	11.6	12.5
	Steel (kg)	309	346	387	412	461	490	542	587
1V:2H fill slope	Conc. (m³)	7.9	9.0	10.0	11.1	12.1	13.3	14.5	15.7
	Steel (kg)	376	425	470	515	565	614	662	725

DIMENSIONS AND QUANTITIES FOR 45° SKEW PIPE									
		Diameter of pipe culvert (D)							
		1050	1200	1350	1500	1650	1800	1950	2100
1V:1.5H fill slope	A	2725	2945	3155	3375	3590	3810	4020	4240
	C	3030	3250	3460	3680	3895	4115	4325	4545
	E	2050	2280	2505	2735	2960	3195	3420	3655
	F	2050	2280	2505	2735	2960	3195	3420	3655
	G	2895	3225	3545	3870	4190	4520	4835	5165
	Conc. (m³)	7.2	8.1	9.1	10.0	11.0	12.0	13.1	14.2
	Steel (kg)	357	394	443	477	534	566	621	676
1V:2H fill slope	E	2730	3040	3340	3650	3950	4260	4560	4870
	F	2730	3040	3340	3650	3950	4260	4560	4870
	G	3860	4300	4725	5160	5585	6025	6450	6885
	Conc. (m³)	8.9	10.1	11.2	12.4	13.7	15.0	16.3	17.7
	Steel (kg)	431	485	539	591	653	707	768	837

This drawing contains **Metric** units of measure. Dimensions without units are millimeters.

U.S. DEPARTMENT OF TRANSPORTATION, FHWA OFFICE OF FEDERAL LANDS HIGHWAY	FLH STANDARD M601-6
CONCRETE HEADWALL/WINGWALL FOR SINGLE SKEW 1050 TO 2100 PIPE CULVERT	SPECIFICATION FP-24, FP-14
	APPROVED FOR USE 2/2024

NO SCALE