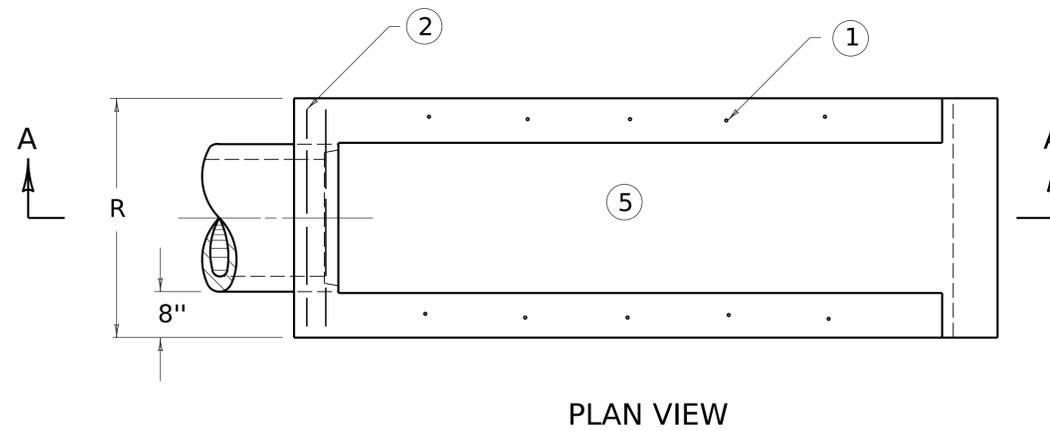


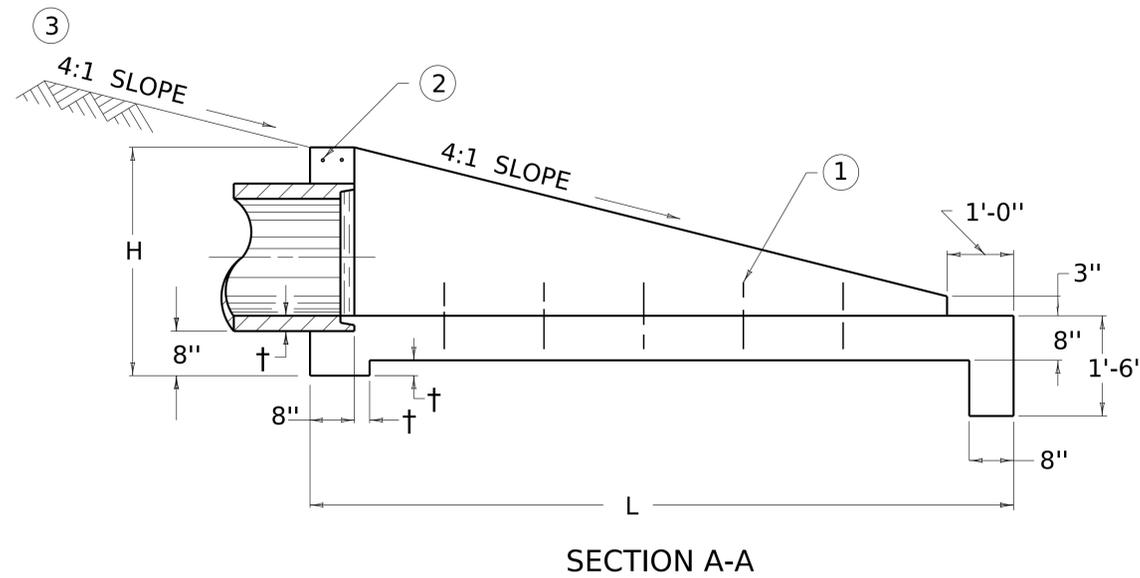
- NOTES -

REINFORCING STEEL : MINIMUM GRADE 40, EVENLY SPACED .

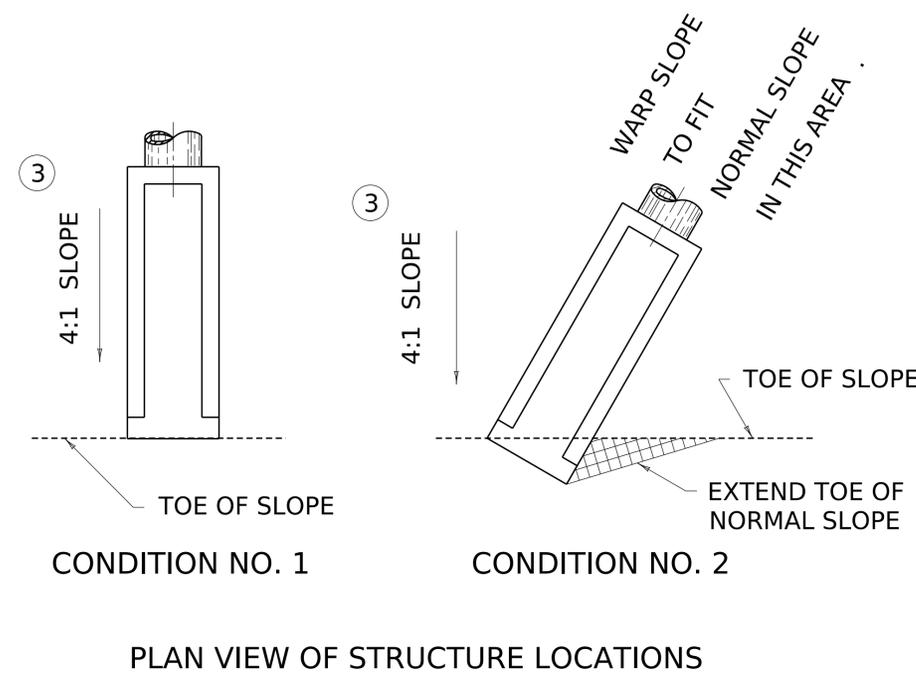
- ① 12 - NO. 4 X 1'-0" DOWEL BARS .
- ② 2 - NO. 4 X (R DIMENSION MINUS 4") .
- ③ SLOPES SHALL BE WARPED TO FIT HEADWALL WHEN PIPE IS SKEWED AND/OR NORMAL SLOPE VARIES FROM 4 : 1 .
- ④ SEE CURRENT STD. DWG. RDI-016 FOR NON-CIRCULAR PIPE EQUIVALENT SIZES .
- ⑤ APRON BETWEEN WINGS SHALL BE SLOPED IN DIRECTION OF FLOW EQUAL TO SLOPE OF PIPE . FRONT FACE OF HEADWALL SHALL REMAIN VERTICAL .
- ⑥ DIMENSIONS AND QUANTITIES ARE BASED ON CONCRETE PIPE AND WILL VARY SLIGHTLY FOR METAL PIPE .



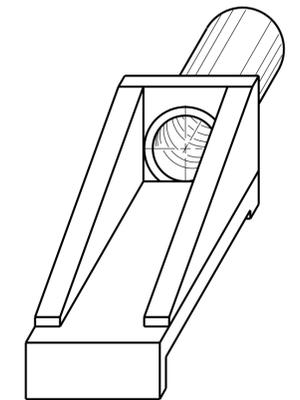
PLAN VIEW



SECTION A-A



PLAN VIEW OF STRUCTURE LOCATIONS



OBLIQUE VIEW

PIPE		DIMENSIONS ⑥				CLASS "A" CONC.	REINF. STEEL
DIA. OR EQUIV. DIA.	SHAPE ④	H	R	L	†	CU. YD.	LBS.
12"	○	2'-6"	2'-8"	7'-4"	2"	0.93	1 1
15"	○	2'-10"	3'-0"	8'-5"	2 1/4"	1.20	1 2
	○	2'-6"	3'-3"	7'-1"		1.02	
18"	○	3'-1"	3'-3"	9'-6"	2 1/2"	1.50	1 3
	○	2'-9"	3'-7"	8'-0"		1.29	
	○	2'-10"	3'-9"	8'-3"		1.38	
21"	○	3'-5"	3'-7"	10'-7"	2 3/4"	1.84	1 2

KENTUCKY
DEPARTMENT OF HIGHWAYS

**SLOPED & PARALLEL
HEADWALLS
12" TO 21" PIPE**

STANDARD DRAWING NO. RDH-030-03

SUBMITTED _____ DIRECTOR DIVISION OF DESIGN _____ DATE _____

APPROVED _____ STATE HIGHWAY ENGINEER _____ DATE _____