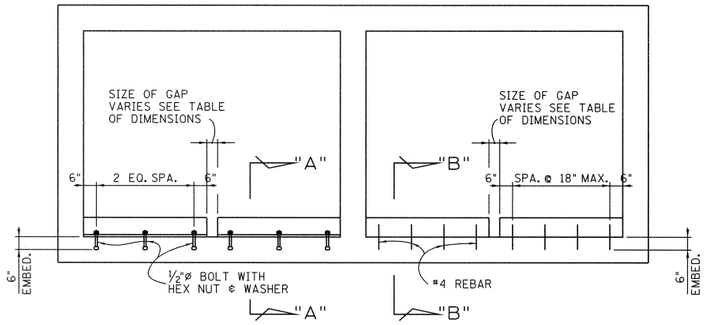
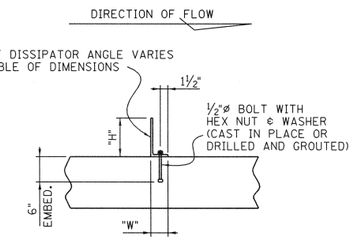


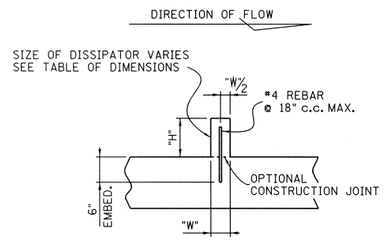
STEEL ANGLE DISSIPATOR
(ALTERNATE A)

CONCRETE DISSIPATOR
(ALTERNATE B)

TYPICAL CROSS-SECTION

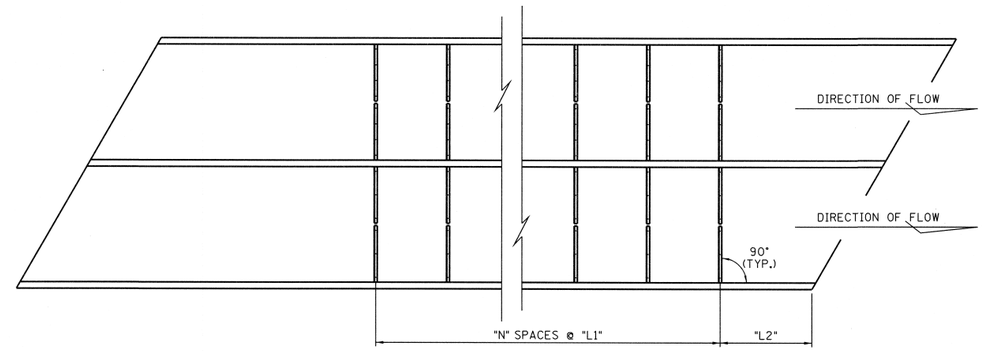


SECTION "A"-"A"
(ALTERNATE A)



SECTION "B"-"B"
(ALTERNATE B)

BOX CULVERT DETAILS



PARTIAL PLAN

("N" = NUMBER OF SPACES)
("L1" = DISTANCES BETWEEN ELEMENTS)
("L2" = DISTANCE FROM OUTLET END OF CULVERT)

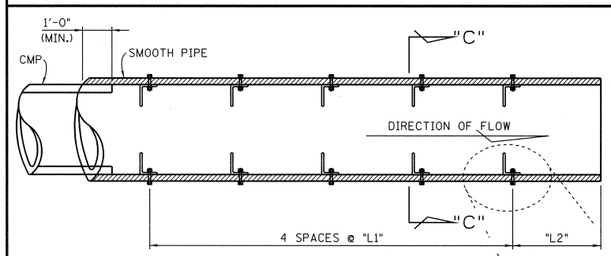
TABLE OF DIMENSIONS

TYPE	"H" (IN.)	"W" (IN.)	GAP (IN.)
STEEL ANGLE / CONCRETE	3	4	3
STEEL ANGLE / CONCRETE	4	4	3
STEEL ANGLE / CONCRETE	5	4	3
STEEL ANGLE / CONCRETE	6	4	3
STEEL ANGLE / CONCRETE	7	4	4
STEEL ANGLE / CONCRETE	8	4	4
STEEL ANGLE / CONCRETE	9	4	5
CONCRETE	10	6	5
CONCRETE	11	6	6
CONCRETE	12	6	6
CONCRETE	13	8	7
CONCRETE	14	8	7
CONCRETE	15	8	8

PROJECT NO.	YEAR	SHEET NO.
	2010	

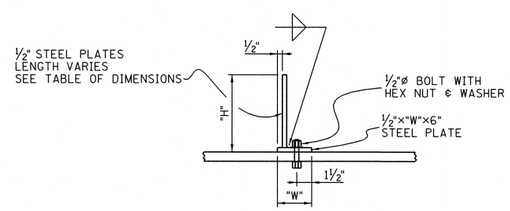
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



PARTIAL PLAN

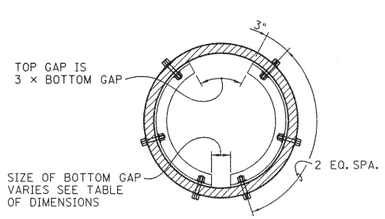
("L1" = DISTANCES BETWEEN ELEMENTS)
("L2" = DISTANCE FROM OUTLET END OF CULVERT)



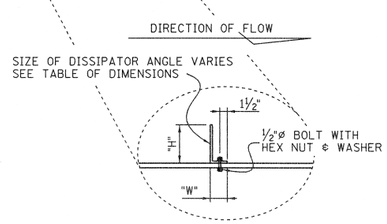
ALTERNATE STEEL PLATE CONNECTION

GENERAL NOTES:

1) ALL ANGLES AND ANCHORAGE HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM-123. COST TO BE INCLUDED IN UNIT PRICE OF CULVERT.
2) COST OF MATERIALS, LABOR AND ANY INCIDENTALS FOR ENERGY DISSIPATOR TO BE INCLUDED IN UNIT PRICE OF CULVERT.
3) ALL STEEL ANGLES (ASTM A992) AND PLATES (ASTM A709) SHALL BE AASHTO M270 GRADE 36.
4) THE CONTRACTOR MAY USE ALTERNATE A OR B ON THE BOX CULVERT DETAILS
5) ALL WELDING SHALL BE COMPLETED PRIOR TO BEING GALVANIZED.
6) NOTE: IF A CMP IS USED, A SMOOTH PIPE EXTENSION SHALL BE USED FOR THE DISSIPATOR. OTHERWISE, DISSIPATOR SHALL BE CONNECTED DIRECTLY TO CONCRETE PIPE.
7) THE SIZE OF THE HEIGHT OF THE DISSIPATOR, AND DIMENSIONS "L1" AND "L2" SHALL BE IN ACCORDANCE WITH THE CONTRACT PLANS.



SECTION "C"-"C"



PIPE CULVERT DETAILS

TABLE OF DIMENSIONS

TYPE	"H" (IN.)	"W" (IN.)	BOTTOM GAP (IN.)
STEEL ANGLE / PLATE	3	4	3
STEEL ANGLE / PLATE	4	4	3
STEEL ANGLE / PLATE	5	4	4
STEEL ANGLE / PLATE	6	4	4
STEEL ANGLE / PLATE	7	4	6
STEEL ANGLE / PLATE	8	4	6

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD INTERNAL ENERGY DISSIPATOR FOR BOX AND PIPE CULVERTS

2010

CORRECT Edward P. Wasserman
ENGINEER OF STRUCTURES

DESIGNED BY	CMH / MAH	DATE	12-09
DRAWN BY	K. FRANKENFIELD (MDB)	DATE	04-10
SUPERVISED BY	CMH / MAH	DATE	12-09
CHECKED BY		DATE	

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Date: 7/28/2010
Time: 3:20:45 PM

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