

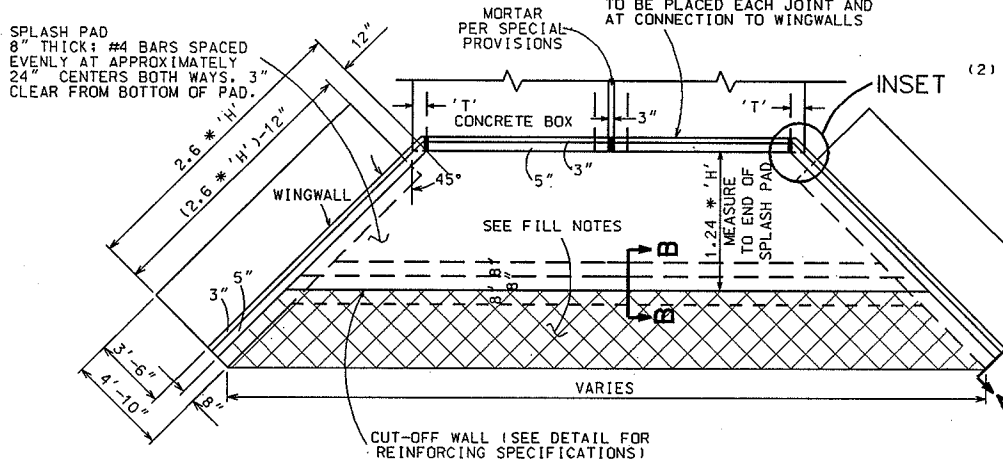
NOTE: ALL BARS TO BE EPOXY COATED.

SPLASH PAD  
8" THICK; #4 BARS SPACED  
EVENLY AT APPROXIMATELY  
24" CENTERS BOTH WAYS; 3"  
CLEAR FROM BOTTOM OF PAD.

HEADER  
SEE REINFORCEMENT DETAIL  
FOR DIMENSIONS AND INSET  
FOR ORIENTATION; 1/2" FELTS  
TO BE PLACED EACH JOINT AND  
AT CONNECTION TO WINGWALLS

**FILL NOTES:**

- (1) WINGWALLS WITH SPLASH PAD DOWNSTREAM: SEE S.D.D. 5.5.2 FOR INSTALLATION OF RIPRAP AT BOX CULVERT WINGWALLS.
- (2) WINGWALLS WITH SPLASH PAD UPSTREAM: FILL AREA WITH NON-GRANULAR GENERAL FILL OVERLAID WITH EROSION MATTING.

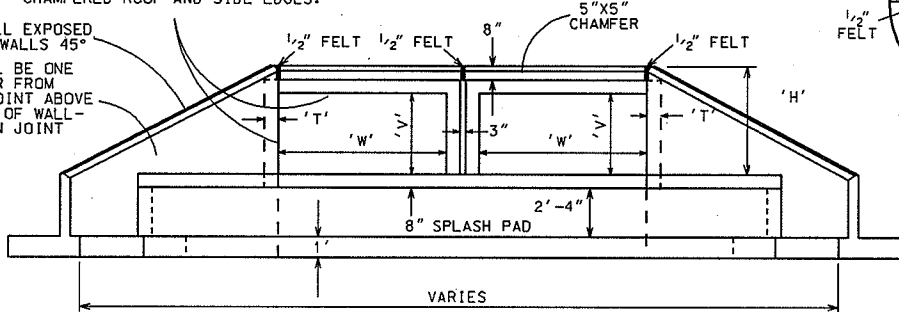


**TOP VIEW**

**WINGWALLS WITH SPLASHPAD**

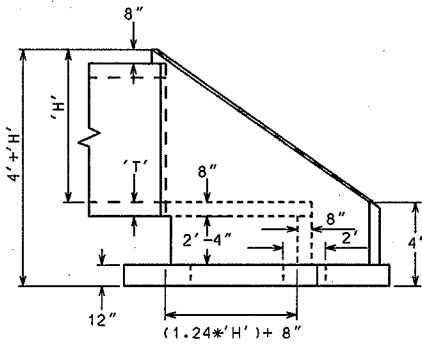
FOR UPSTREAM BOX CULVERTS, THE ENTRANCE SHALL HAVE 45° CHAMFERED ROOF AND SIDE EDGES.

MITER ALL EXPOSED POURED WALLS 45°  
WINGWALLS SHALL BE ONE CONTINUOUS POUR FROM CONSTRUCTION JOINT ABOVE FOOTING TO TOP OF WALL - NO CONSTRUCTION JOINT AT SPLASH PAD



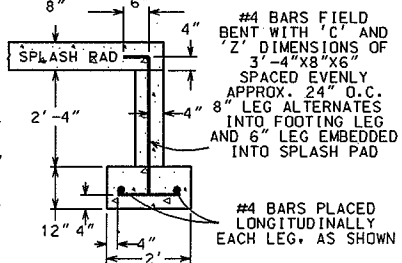
**FRONT VIEW**

**WINGWALLS WITH SPLASHPAD**



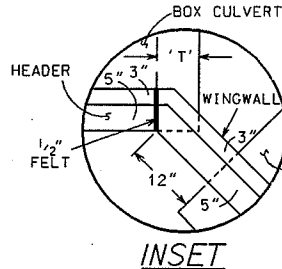
**SIDE VIEW**

**WINGWALLS WITH SPLASHPAD**



**SECTION B-B**

**CUT-OFF WALL DETAIL**



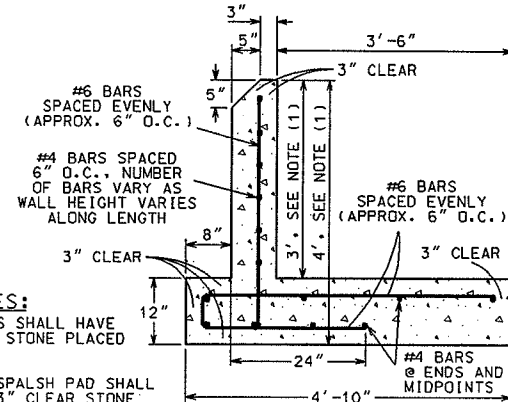
**INSET**

**STEEL CONNECTION NOTES:**

- (1) CONNECTION OF SPLASH PAD TO BOX CULVERTS: 12" LONG #6 REBARS SPACED EVENLY ON APPROXIMATELY 2'-6" CENTERS. TIGHT DRIVEN 6" INTO END OF BOX CULVERT FLOOR AND EMBEDDED 6" INTO SPLASH PAD FLOOR WITH 2" CLEAR SPACING EACH SIDE.
- (2) CONNECTION OF WINGWALL TO BOX CULVERT: #4 REBARS FIELD BENT WITH 'L' DIMENSIONS OF 6" X 6" SPACED EVENLY ON APPROXIMATELY 8" CENTERS. ONE 6" LEG DRIVEN INTO SIDE OF BOX AND THE OTHER EMBEDDED 6" INTO THE WINGWALL. BARS SHALL HAVE 2" CLEAR SPACING TOP AND BOTTOM. (SAME EACH WINGWALL)
- (3) CONNECTION OF SPLASH PAD TO WINGWALLS: #4 REBARS FIELD BENT WITH 'L' DIMENSIONS OF 12" X 8" SPACED EVENLY ON APPROXIMATELY 12" CENTERS. THE 12" LEG EMBEDDED INTO THE SPLASH PAD AND THE 8" LEG EMBEDDED DOWNWARD INTO THE WINGWALL. BARS SHALL BE CENTERED IN THE SPLASH PAD AND THE WINGWALL. WINGWALLS SHALL BE ONE CONTINUOUS POUR FROM CONSTRUCTION JOINT ABOVE FOOTING TO TOP OF THE WALL. THERE SHOULD BE NO CONSTRUCTION JOINT AT PAD ELEVATION.
- (4) CONNECTION OF SPLASH PAD TO THE CUT-OFF WALL: (SEE CUT-OFF WALL DETAIL) THE #4 BAR REINFORCING OF THE CUT-OFF WALL SHALL BE FIELD BENT INTO A 'C' AND 'Z' SHAPES WITH THE DIMENSIONS 3'-4" X 8" X 6" SPACED EVENLY ON APPROXIMATELY 24" CENTERS. THE 8" LEG ALTERNATES INTO FOOTING LEG AND 6" EMBEDDED INTO SPLASH PAD. THE BARS SHALL BE CENTERED IN THE CUT-OFF WALL.

**BEDDING NOTES:**

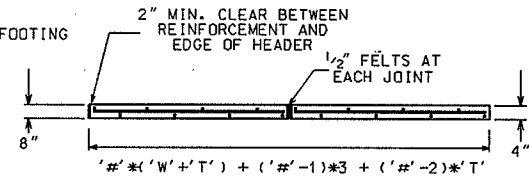
- (1) ALL FOOTINGS SHALL HAVE 12" OF 3" CLEAR STONE PLACED AS BEDDING.
- (2) AREA BELOW SPLASH PAD SHALL BE FILLED WITH 3" CLEAR STONE



NOTE:  
(1) VERTICAL DIMENSION SHOWN IS AT END OF WALL. DIMENSION INCREASES ALONG WALL LENGTH. SEE SIDE VIEW.  
(2) THE WINGWALL SHALL BE ONE CONTINUOUS POUR FROM CONSTRUCTION JOINT ABOVE FOOTING TO TOP OF WALL.

**SECTION A-A**

**WINGWALL DETAIL AT END OF WALL**



VERTICAL REINFORCEMENT PER SECTION STAGGERED  
#4 BARS SPACED EVENLY ON APPROXIMATELY 1'-3" CENTERS. 2" CLEAR EACH SIDE; BARS TO BE EMBEDDED IN CONCRETE 4".  
HORIZONTAL REINFORCEMENT PER SECTION:  
( 'W' + 2 \* 'T' - 4 ) OF #4 BAR CENTERED BOTH DIRECTION IN PROPOSED BOX CULVERT HEADER.

**TOP VIEW**

**BOX CULVERT HEADER REINFORCEMENT DETAIL**

VARIABLES (UNITS: INCHES)	
'#'	= NUMBER OF BOXES
'H'	= INSIDE BOX HEIGHT + ROOF THICKNESS + HEADER HEIGHT
'W'	= INSIDE WIDTH OF BOX
'V'	= INSIDE HEIGHT OF BOX
'T'	= SIDE WALL THICKNESS

DRAWING NOT TO SCALE 2004

CITY OF MADISON  
ENGINEERING DIVISION

**BOX CULVERT  
WINGWALL**

STANDARD DETAIL DRAWING 5.5.1

5.5.1