

STRUCTURAL DATA							
WALL AND SLAB DIMENSIONS AND REINFORCEMENT REQUIREMENTS							
MAX W	MAX V	t	t <sub>F</sub>	REINFORCEMENT REQUIRED IN			
				FRONT WALL	REAR WALL	BOTTOM SLAB	END WALL
3.5' (1.0 m)	8' (2.4 m)	6" (150 mm)	6" (150 mm)	NO	REINFORCEMENT	REINFORCEMENT	REQUIRED
3.5' (1.0 m)	12' (3.6 m)	8" (200 mm)	8" (200 mm)				
7' (2.0 m)	6' (1.8 m)	6" (150 mm)	6" (150 mm)				
7' (2.0 m)	12' (3.6 m)	8" (200 mm)	8" (200 mm)				
14' (4.0 m)	4' (1.2 m)	6" (150 mm)	6" (150 mm)	REINFORCEMENT	REINFORCEMENT	REINFORCEMENT	REQUIRED
	8' (2.4 m)	6" (150 mm)	8" (200 mm)				
	12' (3.6 m)	8" (200 mm)	10" (250 mm)				
21' (6 m) AND 28' (9 m)	4' (1.2 m)	6" (150 mm)	6" (150 mm)	REINFORCEMENT	REINFORCEMENT	REINFORCEMENT	REQUIRED
	6' (1.8 m)	6" (150 mm)	8" (200 mm)				
	8' (2.4 m)	8" (200 mm)	8" (200 mm)				
	10' (3.0 m)	8" (200 mm)	10" (250 mm)				
	12' (3.6 m)	8" (200 mm)	10" (250 mm)				

FOR W > 28' (9 m), V > 12' (3.6 m) OR B > 4' (1.2 m), SEE PLANS

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE  
PUBLIC WORKS STANDARDS INC.  
GREENBOOK COMMITTEE  
1984  
REV. 1992, 1996, 2009, 2021

**CURB OPENING CATCH BASIN**

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN

**300-4**

SHEET 1 OF 2

NOTES:

1. WHERE THE BASIN IS TO BE CONSTRUCTED WITHIN THE LIMITS OF EXISTING OR PROPOSED SIDEWALK OR IS CONTIGUOUS TO SUCH SIDEWALK, THE TOP SLAB OF THE BASIN MAY BE Poured EITHER MONOLITHIC WITH THE SIDEWALK OR SEPARATELY, USING THE SAME CLASS OF CONCRETE AS IN THE BASIN. WHEN Poured MONOLITHICALLY, THE SIDEWALK SHALL BE PROVIDED WITH A WEAKENED PLANE OR A 1" (25 mm) DEEP SAWCUT CONTINUOUSLY AROUND THE EXTERNAL PERIMETER OF THE CATCH BASIN WALLS, INCLUDING ACROSS THE FULL WIDTH OF THE SIDEWALK. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE, GRADE, COLOR, FINISH, AND SCORING TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO THE BASIN.
2. ALL CURVED CONCRETE SURFACES SHALL BE FORMED BY CURVED FORMS, AND SHALL NOT BE SHAPED BY PLASTERING.
3. FLOOR OF BASIN SHALL BE GIVEN A STEEL TROWEL FINISH AND SHALL HAVE A LONGITUDINAL AND LATERAL SLOPE OF 1V:12H MINIMUM AND 1V:3H MAXIMUM, EXCEPT WHERE THE GUTTER GRADE EXCEEDS 8%, IN WHICH CASE THE LONGITUDINAL SLOPE OF THE FLOOR SHALL BE THE SAME AS THE GUTTER GRADE. SLOPE FLOOR FROM ALL DIRECTIONS TO THE OUTLET.
4. DIMENSIONS:  
B = 3'-2" (970 mm) UNLESS OTHERWISE NOTED.  
V = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT OF THE CATCH BASIN AT THE OUTLET. 4.5' (1.35 m) UNLESS OTHERWISE NOTED).  
 $V_U$  = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT AT THE UPSTREAM END OF THE BASIN. IT SHALL BE DETERMINED BY THE REQUIREMENTS OF NOTE 3, BUT SHALL NOT BE LESS THAN CURB FACE PLUS 12" (300 mm).  
 $V_I$  = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT OF THE INLET, NOTED ON THE PLANS.  
H = 2" (50 mm) UNLESS OTHERWISE NOTED.  
W = NOTED ON THE PLANS.  
A = THE ANGLE, IN DEGREES, INTERCEPTED BY THE CENTERLINE OF THE CONNECTOR PIPE AND THE CATCH BASIN WALL TO WHICH THE CONNECTOR PIPE IS ATTACHED.
5. PLACE CONNECTOR PIPES AS INDICATED ON THE PLANS. UNLESS OTHERWISE SPECIFIED, THE CONNECTOR PIPE SHALL BE LOCATED AT THE DOWNSTREAM END OF THE BASIN. WHERE THE CONNECTOR PIPE IS SHOWN AT A CORNER, THE CENTERLINE OF THE PIPE SHALL INTERSECT THE INSIDE CORNER OF THE BASIN. THE PIPE MAY BE CUT AND TRIMMED AT A SKEW NECESSARY TO ENSURE MINIMUM 3" (75 mm) PIPE EMBEDMENT, ALL AROUND, WITHIN THE CATCH BASIN WALL, AND 3" (75 mm) RADIUS OF ROUNDING OF STRUCTURE CONCRETE, ALL AROUND, ADJACENT TO PIPE ENDS. A MONOLITHIC CATCH BASIN CONNECTION SHALL BE USED TO JOIN THE CONNECTOR PIPE TO THE CATCH BASIN WHENEVER ANGLE "A" IS LESS THAN 70° OR GREATER THAN 110°, OR WHENEVER THE CONNECTOR PIPE IS LOCATED IN A CORNER. THE OPTIONAL USE OF A MONOLITHIC CATCH BASIN CONNECTION IN ANY CASE IS PERMITTED. MONOLITHIC CATCH BASIN CONNECTIONS MAY BE CONSTRUCTED TO AVOID CUTTING STANDARD LENGTHS OF PIPE.
6. STEPS SHALL BE LOCATED AS SHOWN. IF THE CONNECTOR PIPE INTERFERES WITH THE STEPS, THEY SHALL BE LOCATED AT THE CENTERLINE OF THE DOWNSTREAM END WALL. STEPS SHALL BE SPACED 12" (300 mm) APART. THE TOP STEP SHALL BE 7" (175 mm) BELOW THE TOP OF THE MANHOLE AND PROJECT 2-1/2" (65 mm). ALL OTHER STEPS SHALL PROJECT 5" (125 mm).
7. DOWELS ARE REQUIRED AT EACH CORNER AND AT 7' (2.0 m) ON CENTER (MAXIMUM) ALONG THE BACKWALL.
8. THE FOLLOWING SPPWC ARE INCORPORATED HEREIN:  
308 MONOLITHIC CATCH BASIN CONNECTION  
309 CATCH BASIN REINFORCEMENT  
310 CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR  
312 CATCH BASIN MANHOLE FRAME AND COVER  
635 STEEL STEP 636 POLYPROPYLENE PLASTIC STEP

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

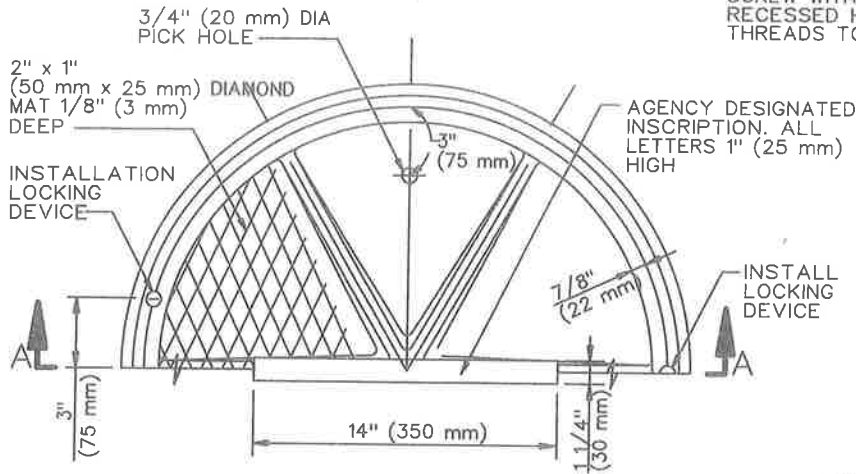
**CURB OPENING CATCH BASIN**

STANDARD PLAN

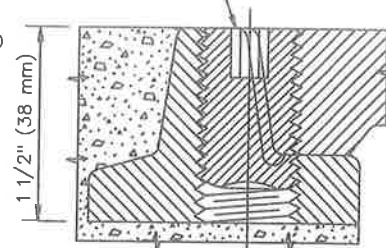
**300-4**

SHEET 2 OF 2

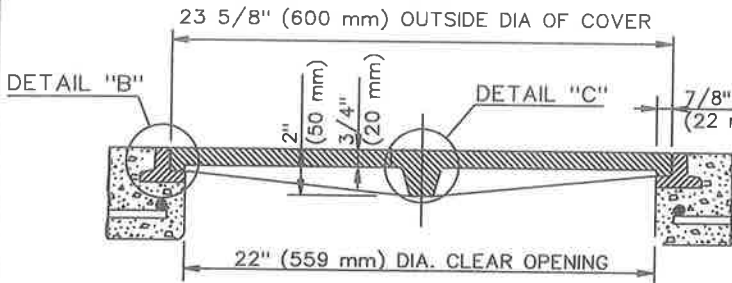
DRILL AND TAP HOLE AND INSTALL  
 3/4" x 1 1/4" (20 mm x 32 mm)  
 STAINLESS STEEL SOCKET SET  
 SCREW WITH 3/8" (10 mm)  
 RECESSED HEX HOLE ALL  
 THREADS TO BE NC



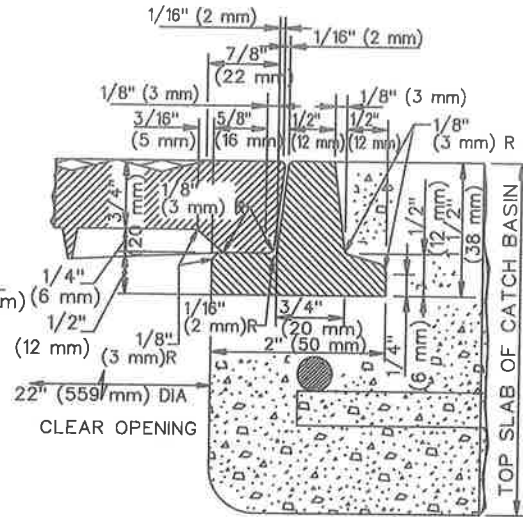
PLAN



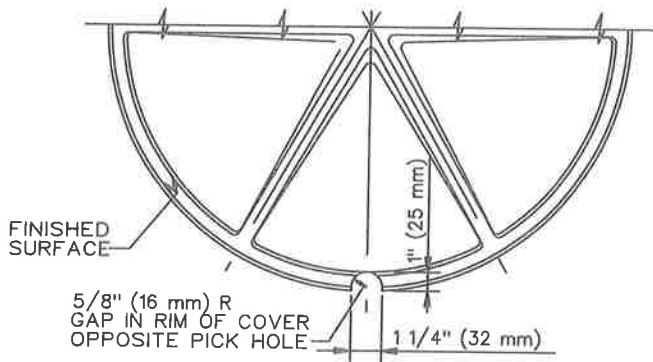
LOCKING DEVICE



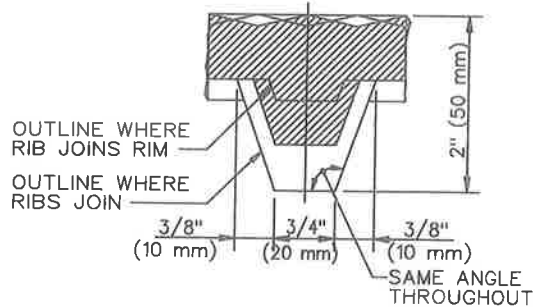
SECTION A-A



DETAIL "B"



BOTTOM OF MANHOLE COVER



DETAIL "C"

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE  
 PUBLIC WORKS STANDARDS INC.  
 GREENBOOK COMMITTEE  
 1984

REV. 1993, 1996, 2006, 2009, 2021

CATCH BASIN  
 MANHOLE FRAME AND COVER

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN

312-5

SHEET 1 OF 2

NOTES

1. THE CAST IRON USED SHALL CONFORM TO ASTM A48 (A48M) CLASS 35B.
2. THE FRAME AND COVER SHALL BE COATED WITH ASPHALTUM OR BITUMINOUS PAINT AFTER TESTING AND INSPECTION.
3. FOUNDRY IDENTIFYING MARK, HEAT AND DATE SHALL BE CAST ON THE BOTTOM OF THE COVER AND ON THE INSIDE OF THE FRAME.
4. IMPORTED COVERS AND FRAMES SHALL HAVE THE COUNTRY OF ORIGIN MARKING IN COMPLIANCE WITH FEDERAL REGULATIONS.
5. WEIGHT OF FRAME SHALL BE 30 POUNDS (15 kg). WEIGHT OF COVER SHALL BE 85 POUNDS (40 kg). ACTUAL WEIGHTS SHALL BE WITHIN A RANGE OF 95% TO 110%.
6. THE MANHOLE FRAME AND COVER SHALL BE INSPECTED BY THE ENGINEER PRIOR TO SHIPMENT TO THE WORK SITE. ACCEPTANCE WILL BE INDICATED BY THE AGENCY'S MARK.
7. AGENCY INSCRIPTION SHALL BE AS SPECIFIED ON THE PLANS OR SPECIAL PROVISIONS.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

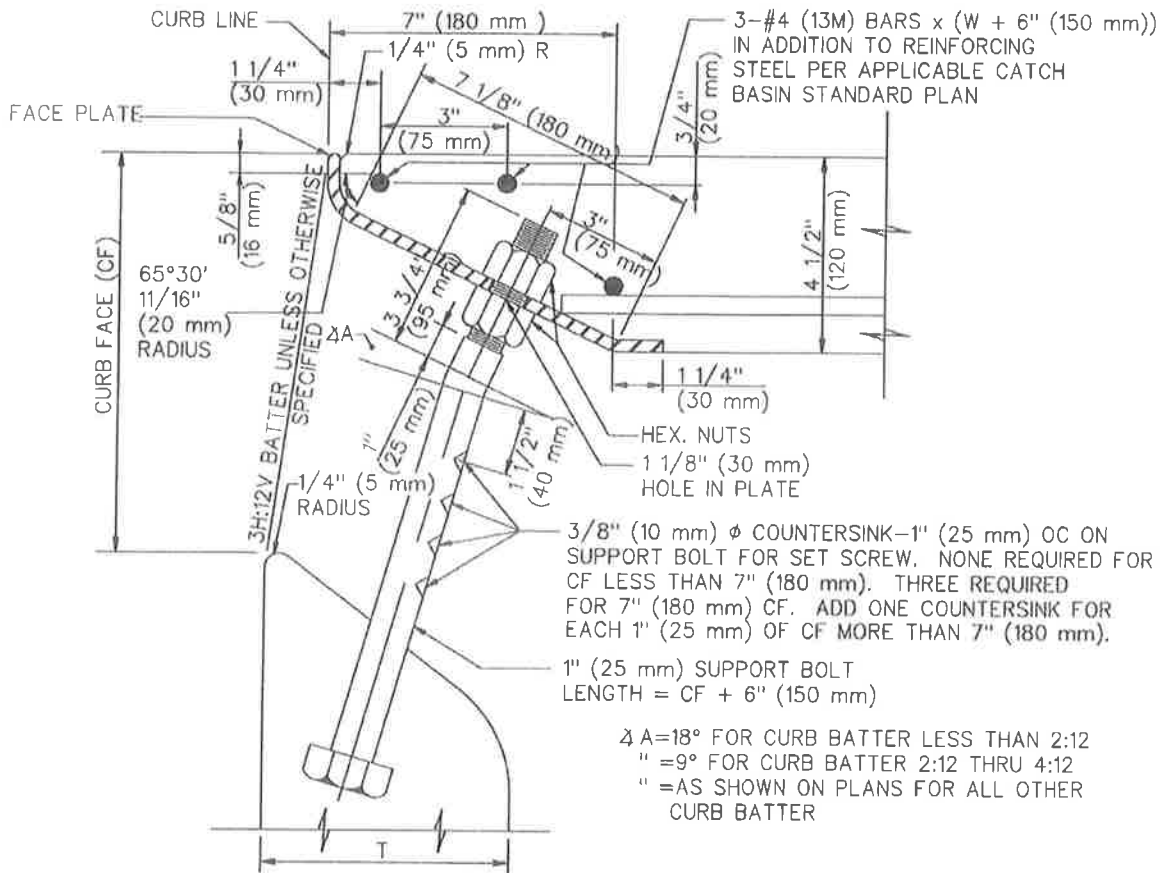
**CATCH BASIN MANHOLE FRAME AND COVER**

STANDARD PLAN

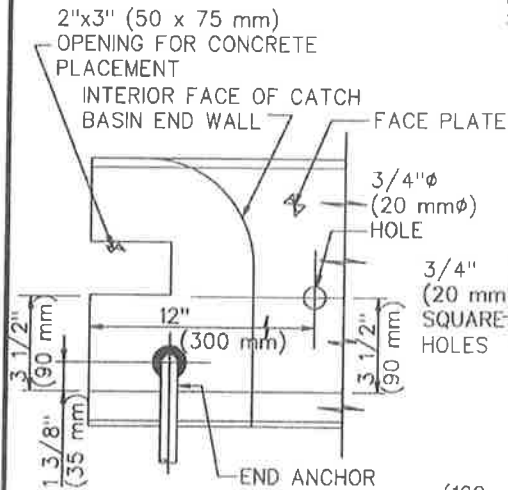
**312-5**

SHEET 2 OF 2

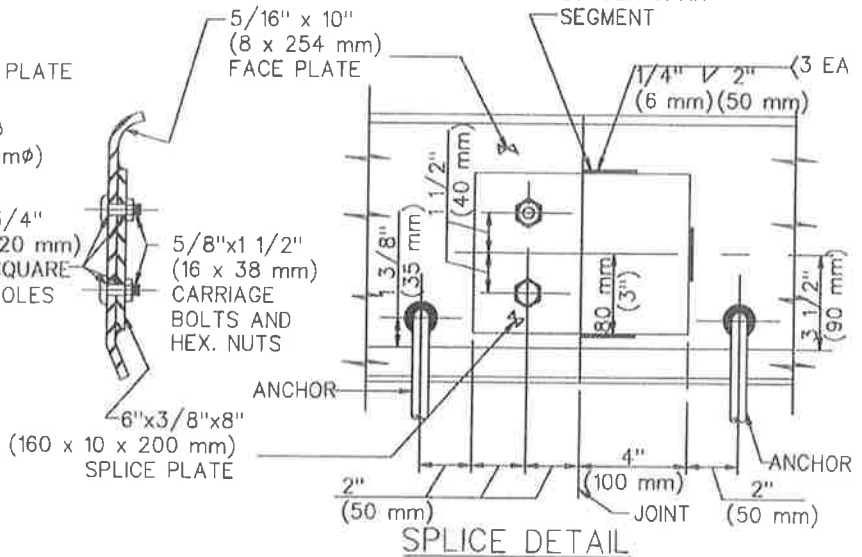
# SUPPORT BOLT AND FACE PLATE 4 1/2" (120 mm) TOP SLAB



SECTION



END DETAIL



SPLICE DETAIL

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE  
PUBLIC WORKS STANDARDS INC.  
GREENBOOK COMMITTEE  
1964  
REV. 1998, 2005, 2008, 2021

## CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR

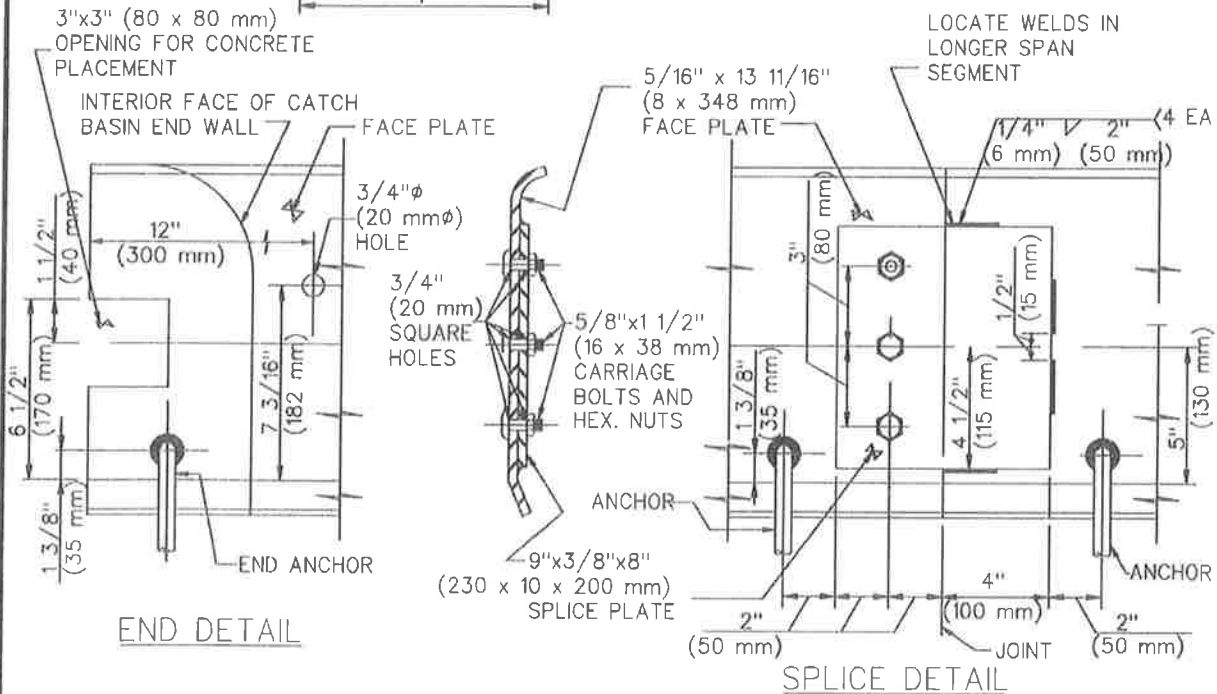
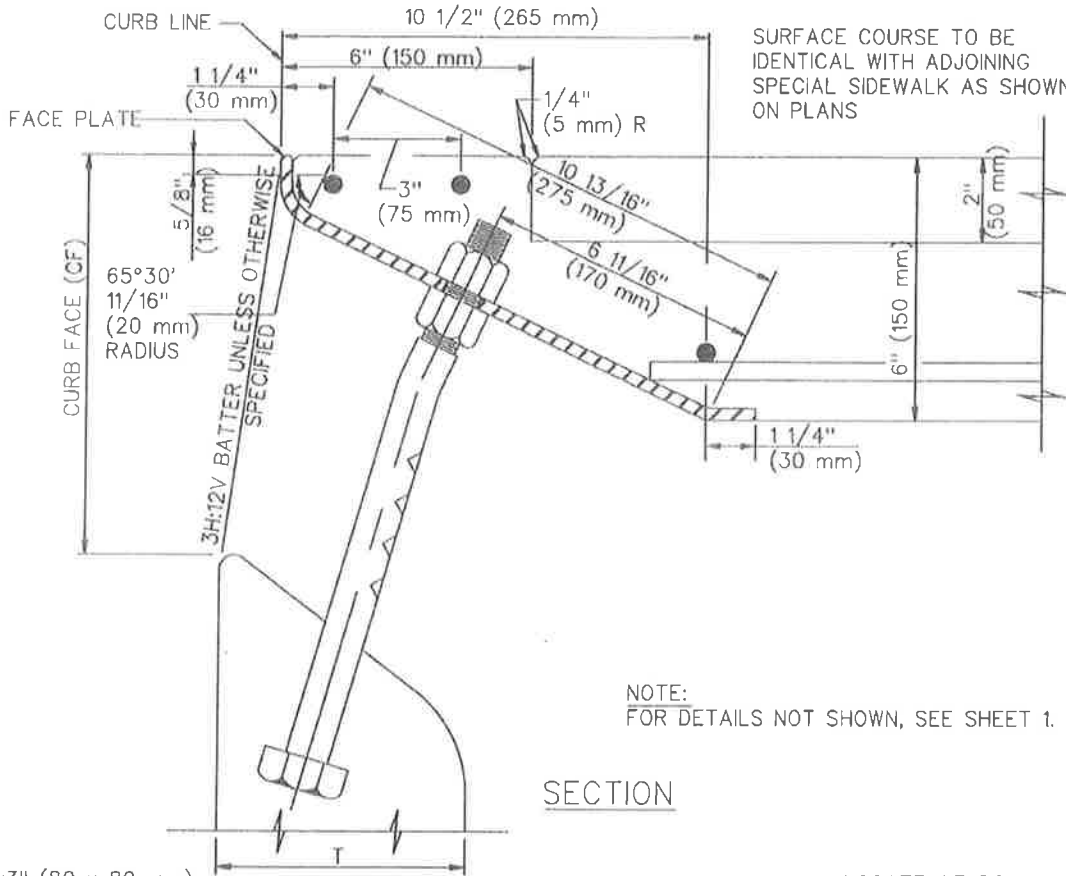
STANDARD PLAN

310-4

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

SHEET 1 OF 6

# SUPPORT BOLT AND FACE PLATE 150 mm (6") TOP SLAB



STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

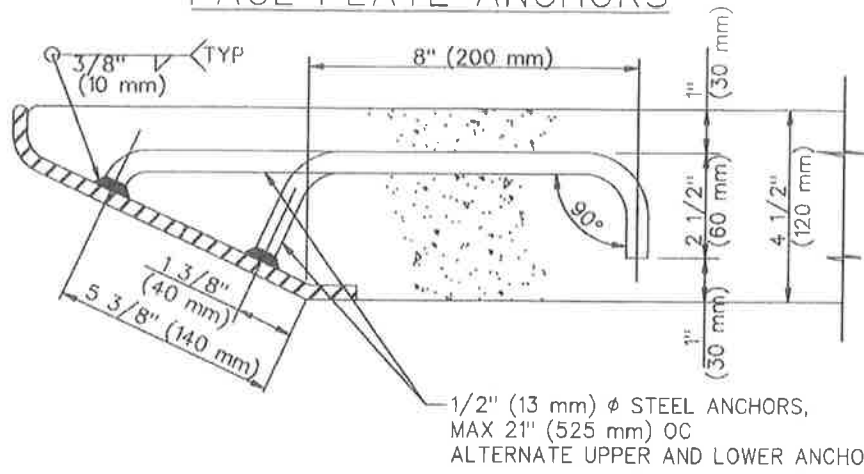
STANDARD PLAN

**CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR**

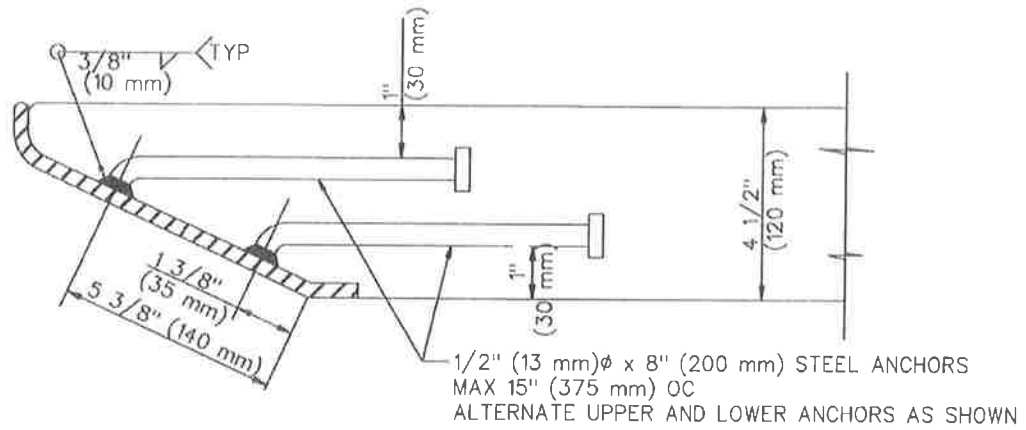
**310-4**

SHEET 2 OF 6

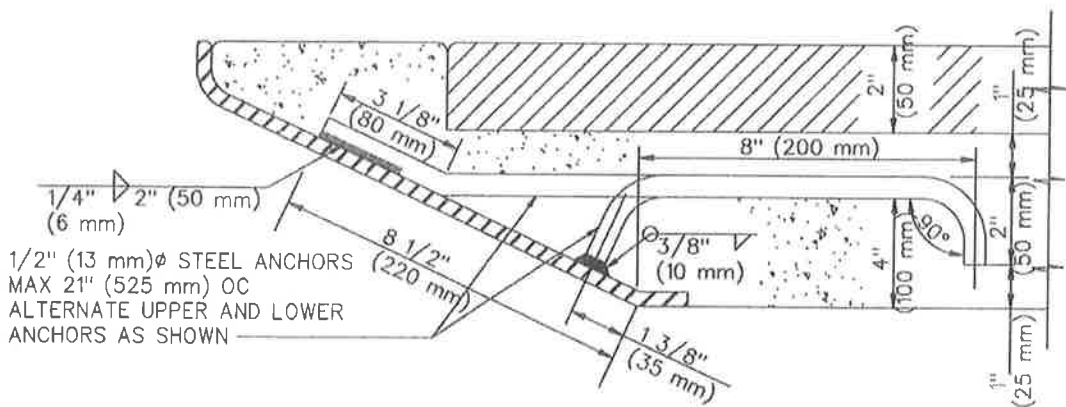
# FACE PLATE ANCHORS



## HOOK ANCHOR - 4 1/2" (120 mm) TOP SLAB

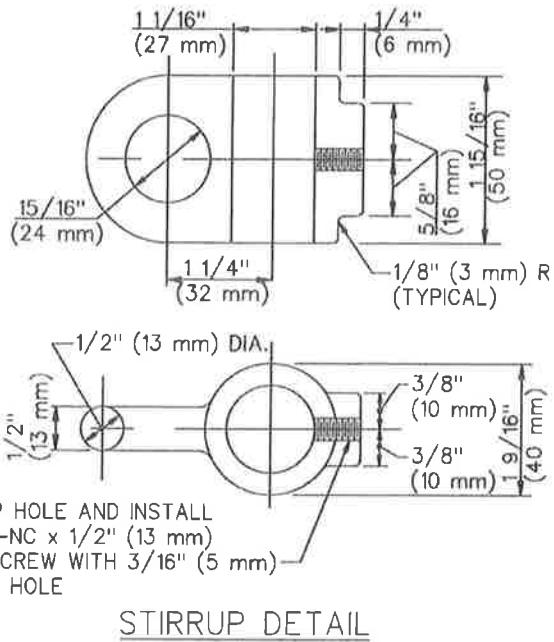
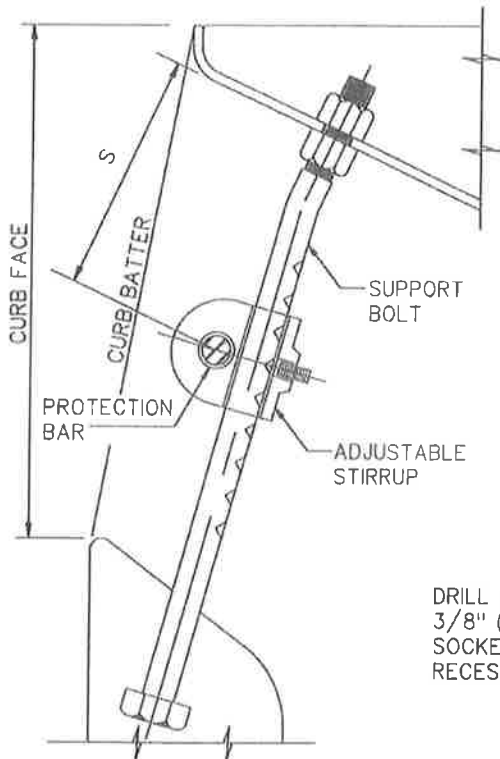
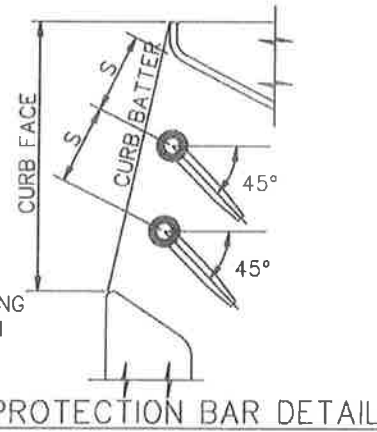
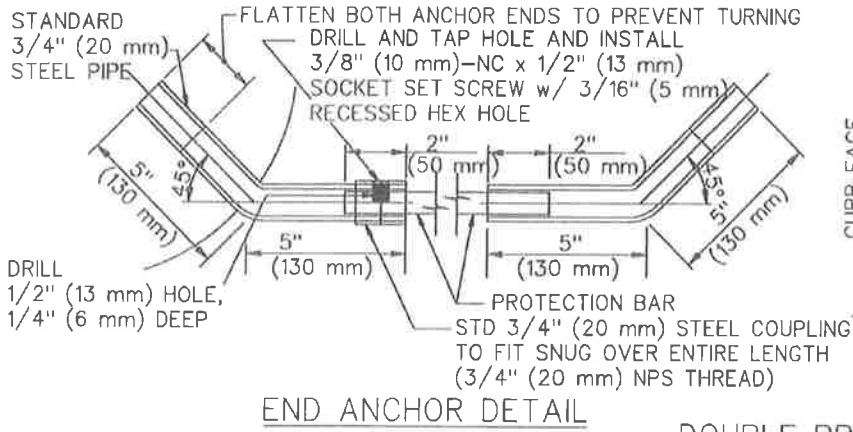
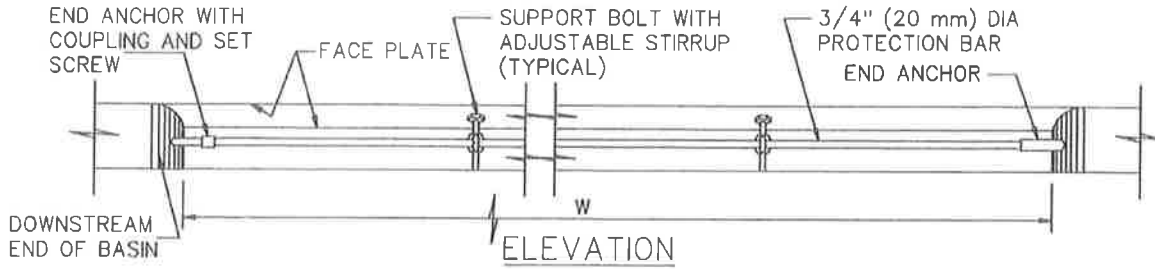


## ROUND HEAD ANCHOR - 4 1/2" (120 mm) TOP SLAB



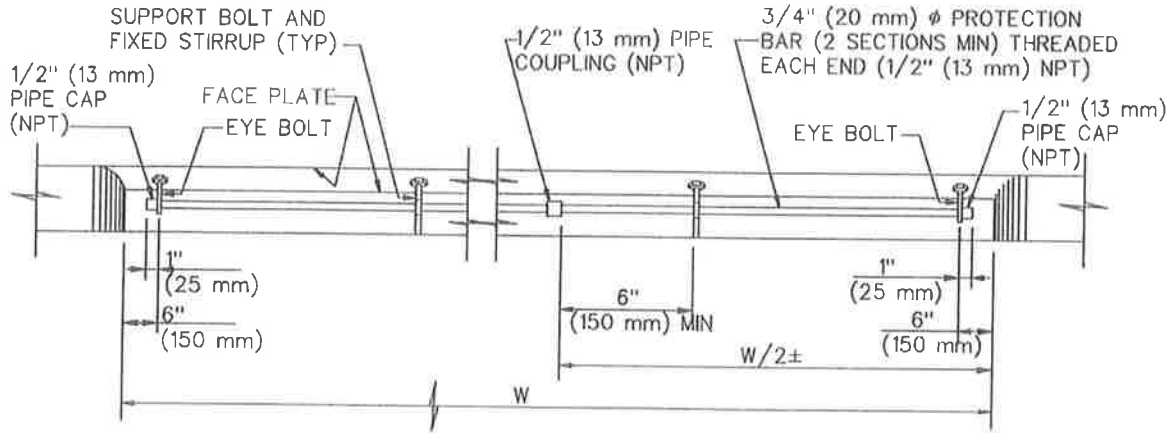
## HOOK ANCHOR - 6" (150 mm) TOP SLAB

# PROTECTION BAR AND SUPPORT BOLT(S) WITH ADJUSTABLE STIRRUP(S) – (TYPE A)

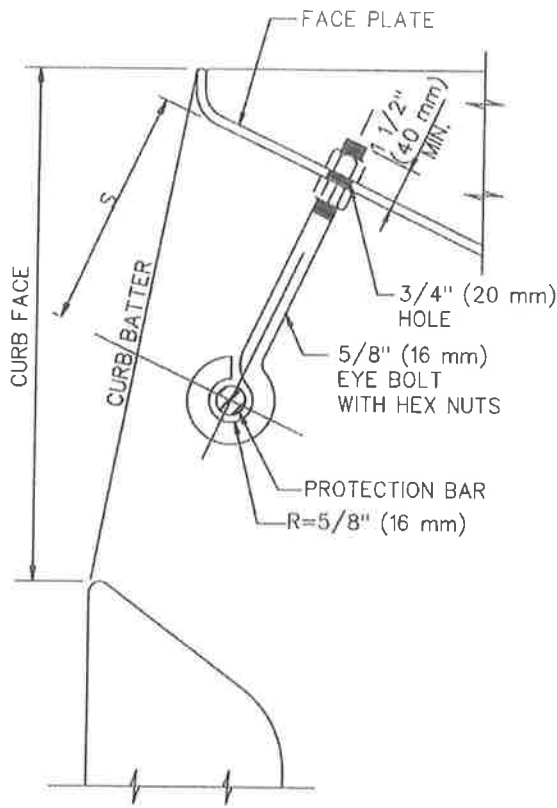




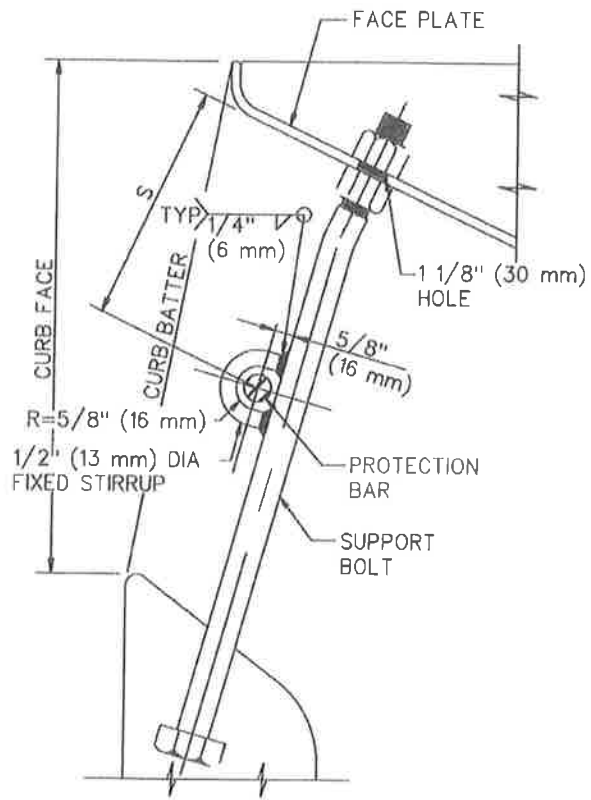
# PROTECTION BAR AND SUPPORT BOLT(S) WITH FIXED STIRRUP(S) - (TYPE B)



ELEVATION



EYE BOLT DETAIL



STIRRUP DETAIL

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

**CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR**

STANDARD PLAN

**310-4**

SHEET 5 OF 6

**NOTES:**

GENERAL

1. ALL PARTS SHALL BE STEEL, EXCEPT SET SCREWS, WHICH SHALL BE STAINLESS STEEL OR BRASS.
2. EXCLUDING SET SCREWS, ALL EXPOSED METAL PARTS SHALL BE GALVANIZED AFTER FABRICATION.
3. CURB FACE SHALL BE AS NOTED ON THE PLANS.
4. CURB BATTER SHALL BE 3:12 UNLESS OTHERWISE SPECIFIED.

FACE PLATE

5. FACE PLATE LENGTHS SHALL BE CATCH BASIN W PLUS 12" (300 mm) EXCEPT AS MODIFIED FOR A "CURB OPENING CATCH BASIN AT DRIVEWAY".
6. WHEN THE LENGTH OF THE FACE PLATE IS BETWEEN 22' (6.5 m) AND 43' (13 m), TWO SECTIONS MAY BE USED. WHEN THE LENGTH EXCEEDS 43' (13 m), THREE SECTIONS MAY BE USED. SECTIONS SHALL BE SPLICED ACCORDING TO THE APPLICABLE SPLICE DETAIL. SPLICE SHALL BE PLACED 1' (300 mm) FROM A SUPPORT BOLT.
7. WHERE CATCH BASINS ARE TO BE CONSTRUCTED ON CURVES, THE MAXIMUM CHORD LENGTH FOR THE FACE PLATE SHALL BE SUCH THAT THE MAXIMUM PERPENDICULAR DISTANCE TO THE TRUE CURVE SHALL NOT EXCEED 1" (25 mm). WHERE MORE THAN ONE CHORD IS REQUIRED, CHORD LENGTHS SHALL BE EQUAL. CHORD SECTIONS SHALL BE SPLICED ACCORDING TO THE APPLICABLE SPLICE DETAIL (MODIFIED TO FIT THE CHORD DEFLECTION) AND A SUPPORT BOLT SHALL BE PLACED 1' (300 mm) FROM THE SPLICE.
8. ROUND HEAD ANCHORS FOR THE FACE PLATE SHALL BE NELSON H-4F SHEAR CONNECTOR, KSN WELDING SYSTEMS DIVISION SHEAR CONNECTOR OR EQUAL.

SUPPORT BOLT

9. SUPPORT BOLTS ARE REQUIRED WHEN THE LENGTH OF THE CATCH BASIN OPENING IS 7' (2 m) OR GREATER, AND SHALL BE EVENLY SPACED ACROSS THE OPENING. SPACING SHALL NOT BE LESS THAN 3'-6" (1 m) ON CENTER NOR GREATER THAN 5' (1.5 m) ON CENTER.

STIRRUP

10. FOR TYPE A, MATERIAL SHALL BE CAST STEEL.

PROTECTION BAR

11. TYPE A SHALL BE USED UNLESS OTHERWISE SPECIFIED.
12. FOR TYPE A, THE BAR SHALL BE CUT TO FIT IN THE FIELD. WHEN "W" IS OVER 21' (6 m), THE PROTECTION BAR SHALL CONSIST OF 2 OR MORE SECTIONS. A SPECIAL CONNECTOR BETWEEN THE PROTECTION BAR PIECES SHALL CONSIST OF A 5" (125 mm) LENGTH OF STANDARD 3/4" (20 mm) PIPE WITH STANDARD COUPLINGS FULLY THREADED ONTO EACH END DRILLED AND TAPPED FOR A SOCKET SET SCREW AS DETAILED FOR THE DOWNSTREAM END ANCHOR.
13. FOR TYPE B, THE BAR SHALL BE TWO PIECES. TWO EYE BOLTS AND A WELDED STIRRUP ON EACH SUPPORT BOLT ARE REQUIRED.
14. NUMBER OF PROTECTION BARS AND LOCATIONS ARE AS FOLLOWS:

		MAXIMUM CURB FACE, INCHES (mm)													
		6" (150)	7" (175)	8" (200)	9" (225)	10" (250)	11" (275)	12" (300)	13" (325)	14" (350)	15" (375)	16" (400)	17" (425)	18" (450)	
CURB BATTER	0:12	0	0	3.5" (90)	3.5" (90)	4.5" (115)	4.5" (115)	4.5" (115)	5.5" (140)	3.5" (90)	3.5" (90)	4.5" (115)	4.5" (115)	4.5" (115)	
	1:12	0	0	3.5" (90)	3.5" (90)	4.5" (115)	4.5" (115)	4.5" (115)	5.5" (140)	3.5" (90)	3.5" (90)	4.5" (115)	4.5" (115)	5.5" (140)	
	2:12	0	0	3.5" (90)	3.5" (90)	4.5" (115)	4.5" (115)	5.5" (140)	3.5" (90)	3.5" (90)	4.5" (115)	4.5" (115)	5.5" (140)	5.5" (140)	
	3:12	0	0	3.5" (90)	3.5" (90)	4.5" (115)	4.5" (115)	5.5" (140)	3.5" (90)	4.5" (115)	4.5" (115)	5.5" (140)	5.5" (140)	4.5" (115)	
	4:12	0	3.5" (90)	3.5" (90)	4.5" (115)	4.5" (115)	5.5" (140)	3.5" (90)	3.5" (90)	4.5" (115)	4.5" (115)	5.5" (140)	4.5" (115)	4.5" (115)	
		0	1				2*				3*				
		NUMBER OF PROTECTION BARS													

FOR OTHER CURB FACE OR BATTER SEE PLANS  
 \* TYPE A PROTECTION BAR ONLY