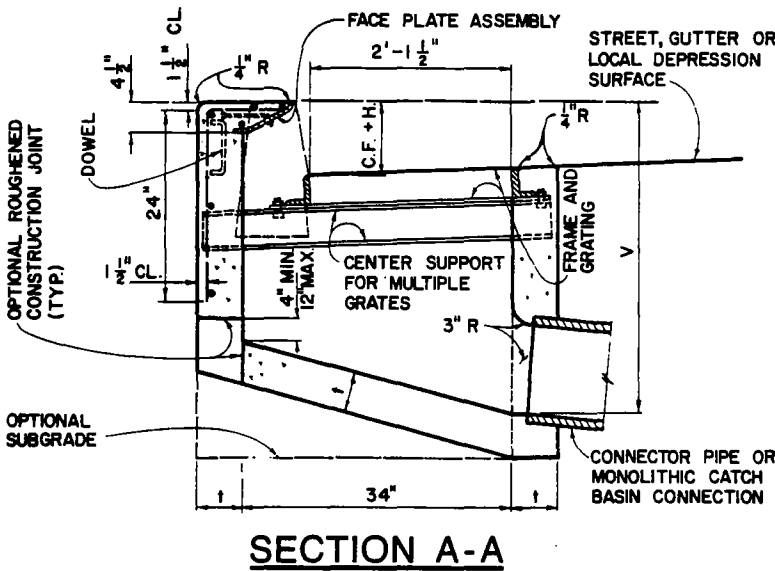


**DOWEL DETAIL**



STRUCTURAL DATA			
WALL AND SLAB DIMENSIONS AND REINFORCEMENT REQUIREMENTS			
NO. OF GRATES	MAX. V	t	REINFORCEMENT FOR WALLS AND SLABS
1-2	4'	6"	NOT REQUIRED
1-2	8'	8"	
1-2	10'	10"	
1-2	12'	10"	REQUIRED
3-4	4'	6"	NOT REQUIRED
3-4	7'	8"	
3-4	8'	8"	REQUIRED
3-4	12'	10"	
5-6	4'	6"	NOT REQUIRED
5-6	6'	8"	
5-6	8'	8"	REQUIRED
5-6	12'	10"	
> 6	4'	6"	
> 6	8'	8"	REQUIRED
> 6	12'	10"	

<b>REVISIONS</b>	<b>CITY OF LONG BEACH, CALIFORNIA</b>		<b>STANDARD PLAN NO.</b>  <b>603</b>
NO. DATE	DEPARTMENT OF PUBLIC WORKS		
1	<b>CATCH BASIN NO. 3 CURB OPENING WITH GRATING(S) TYPE</b>		
2			<b>SHEET</b> <b>1 OF 2</b>
3	APPROVED BY: <i>Edward J. Hutz</i>		
4	CITY ENGINEER R.E. No. 24233		
	DATE: 6-26-89 EX. DATE 12-31-89		

**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-INCH 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. ONE GRATING IS REQUIRED UNLESS OTHERWISE SHOWN ON THE PROJECT PLAN.
4. FLOOR OF BASIN SHALL BE GIVEN A STEEL TROWEL FINISH AND SHALL HAVE A LONGITUDINAL AND LATERAL SLOPE OF 1:12 MINIMUM AND 1:3 MAXIMUM, EXCEPT WHERE THE GUTTER GRADE EXCEEDS 8 PERCENT, 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.
5. DIMENSIONS:
  - V = THE DIFFERENCE IN ELEVATION FROM THE TOP OF THE CURB AND THE INVERT OF THE CATCH BASIN AT THE OUTLET = 4.5 FEET.
  - V<sub>u</sub> = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT AT THE UPSTREAM END OF THE BASIN, AND SHALL BE DETERMINED BY THE REQUIREMENTS OF NOTE 4, BUT SHALL NOT BE LESS THAN CURB FACE PLUS 12 INCHES.
  - V<sub>i</sub> = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT OF THE INLET. NOTED ON THE PROJECT PLANS.
  - H = NOTED ON THE PROJECT PLANS.
  - W = 2 FEET 11-3/8 INCHES FOR ONE GRATING; ADD 3 FEET 5-3/8 INCHES FOR EACH ADDITIONAL GRATING.
  - 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.
6. PLACE CONNECTOR PIPES AS INDICATED ON THE PROJECT 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 INSURE MINIMUM 3-INCH PIPE EMBEDMENT, ALL AROUND, WITHIN THE CATCH BASIN WALL, AND 3-INCH 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 DEGREES OR GREATER THAN 110 DEGREES, 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.
7. STEPS SHALL BE LOCATED AS SHOWN. IF THE CONNECTOR PIPE INTERFERES WITH THE STEPS, THEY SHALL BE LOCATED ON THE FRONT WALL AT THE CENTERLINE OF THE DOWNSTREAM GRATING. STEPS SHALL BE SPACED 12 INCHES APART. THE TOP STEP SHALL BE 7 INCHES BELOW THE TOP OF THE GRATING AND PROJECT 2-1/2 INCHES. ALL OTHER STEPS SHALL PROJECT 5 INCHES.
8. DOWELS ARE REQUIRED AT EACH CORNER AND AT 7 FEET ON CENTER (MAXIMUM) ALONG THE BACKWALL.
9. THE FOLLOWING STANDARD PLANS ARE INCORPORATED HEREIN:
  - 609 MONOLITHIC CATCH BASIN CONNECTION
  - 610 CATCH BASIN REINFORCEMENT
  - 611 CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR
  - 612 FRAME AND GRATING FOR CATCH BASINS
  - 615 STEEL STEP

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		
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2			
3			
4			
APPROVED BY: <i>Edward J. Kelly</i>		DATE: 6-26-89	SHEET
CITY ENGINEER R.E. No. 24233		EX. DATE 12-31-89	2 OF 2