



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

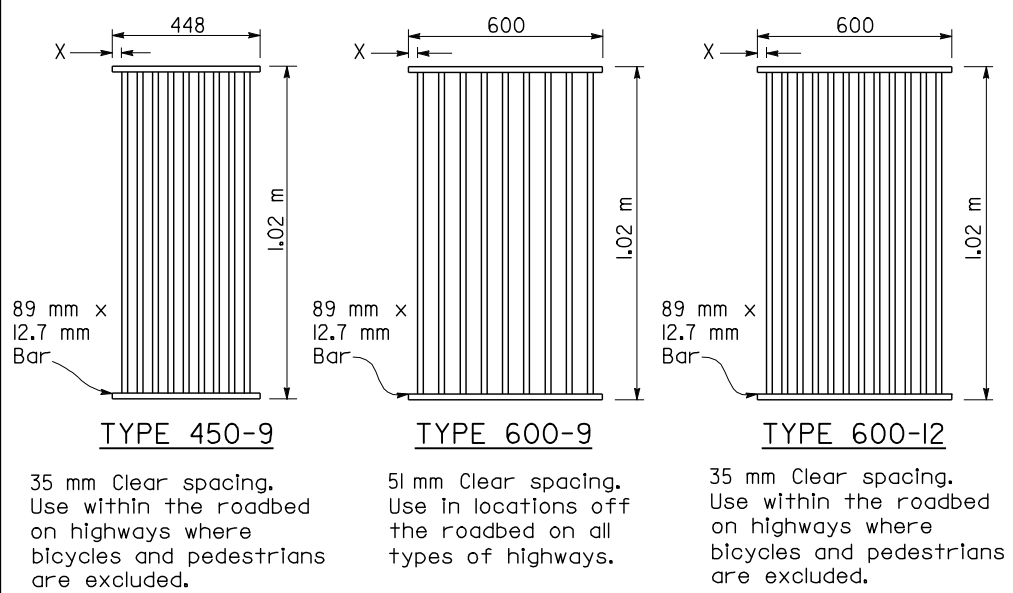
Raymond Don Tszto
REGISTERED CIVIL ENGINEER

January 18, 2008
PLANS APPROVAL DATE

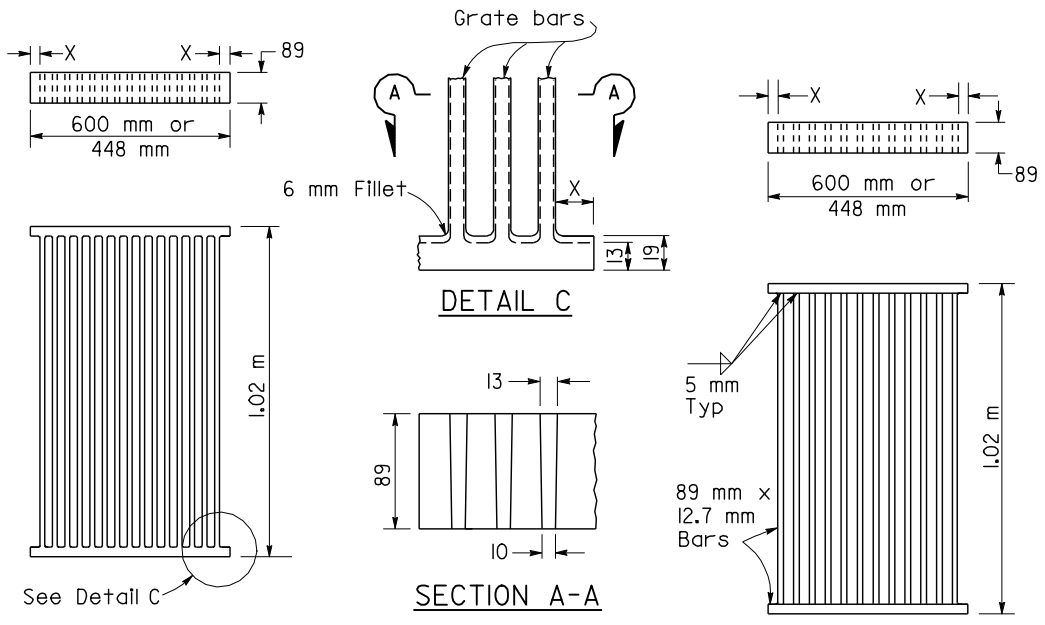
REGISTERED PROFESSIONAL ENGINEER
Raymond Don Tszto
No. C37332
Exp. 6-30-08
CIVIL
STATE OF CALIFORNIA

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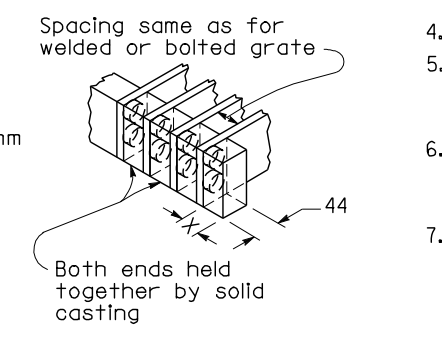
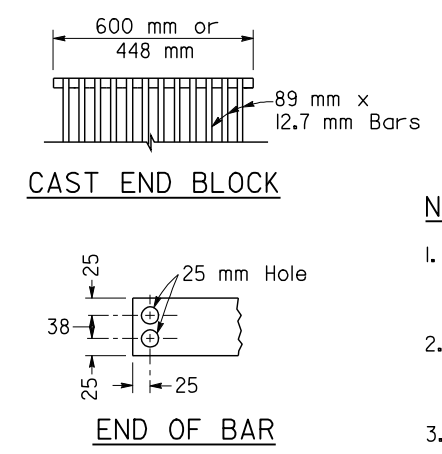
To get to the Caltrans web site, go to: <http://www.dot.ca.gov>



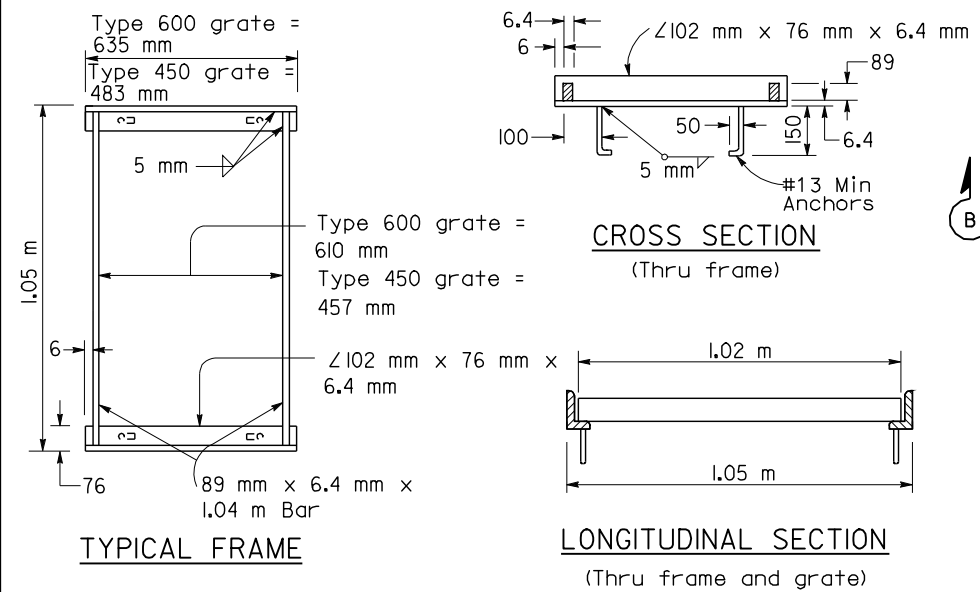
RECTANGULAR GRATE DETAILS
(See table below)



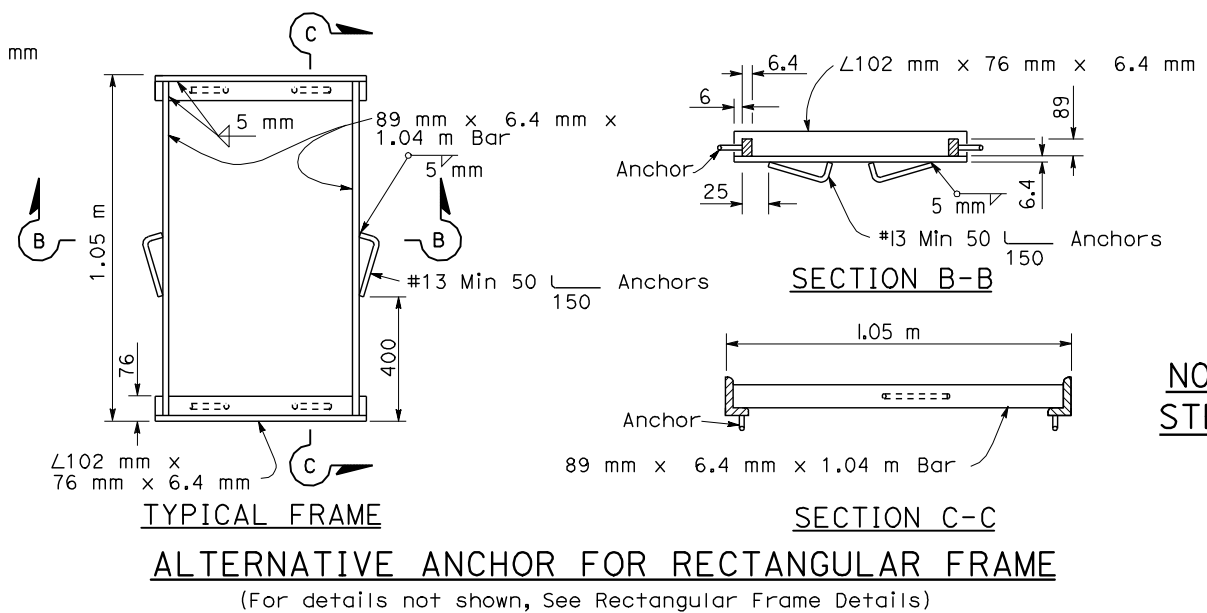
ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE
ALTERNATIVE WELDED GRATE



ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE



RECTANGULAR FRAME DETAILS
(For all rectangular grates)



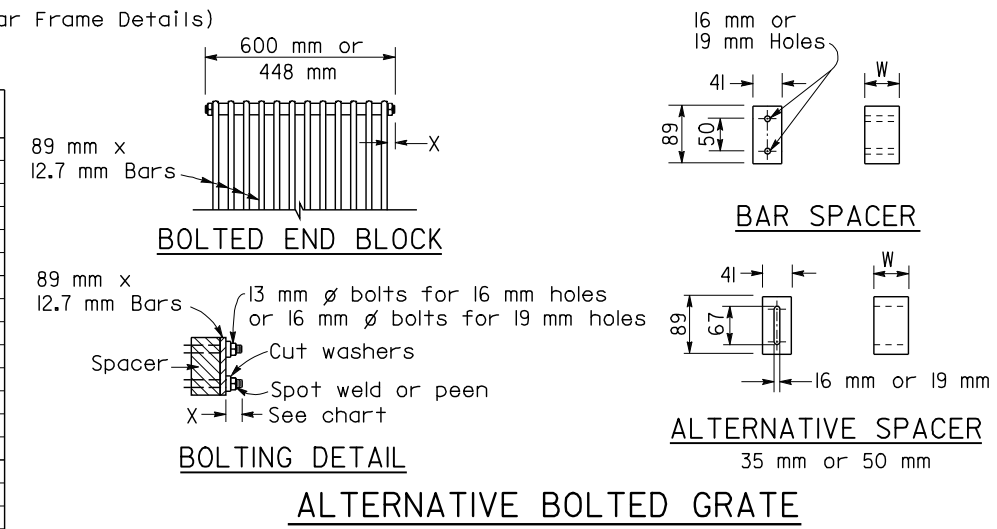
ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME
(For details not shown, See Rectangular Frame Details)

GRATE BAR SPACING TABLE

TYPE	No. OF BARS	CLEAR BAR SPACING (mm)	X (mm)
450-9	9	35	27
600-9	9	51	40
600-12	12	35	32

INLET TYPE	COVER TYPE	MASS (kg)
OS	PLATE	79
OL-2.1	PLATE	77
OL-3.0	PLATE	77
OL-4.3	PLATE	77
OL-6.4	PLATE	77
OCP	PLATE	51
OCPI	PLATE	51
OCPI	REDWOOD	19
OMP	PLATE	80
OMPI	PLATE	80

INLET TYPE	GRATE TYPE	No. OF GRATES	MASS (kg)
GDO	600-12	2	288
GOL-2.1	600-12	1	148
GOL-3.0	600-12	1	148
G0,G1,G2,G3,G4(TYPE 600)	600-9	1	119
	600-12	1	148
G4(TYPE 450),G5,G6	450-9	1	113
GT-1	450-9	2	226
GT-2	450-9	2	226
GT-3	600-12	2	296
GT-4	600-12	2	296
TRASH RACK			10



ALTERNATIVE BOLTED GRATE

BASIS FOR MISC IRON & STEEL FINAL PAY MASSES FOR DRAINAGE INLETS
(See General Notes, No. 8)

NOTES

1. Grate type numbers refer to approximate width of grate in millimeters and number of bars, respectively.
2. Contractor has the option of using cast nodular iron, cast steel, welded, bolted, or cast end block grate.
3. See Special Provisions for requirements pertaining to galvanizing or asphalt dipping of grates and frames.
4. Rounded top of bars optional on all grates.
5. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
6. Full penetration butt welds may be substituted for the fillet welds on all anchors.
7. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
8. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
GRATE DETAILS
NO SCALE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

2004 REVISED STD PLAN RSP D77A

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RSP D77A DATED JANUARY 18, 2008 SUPERSEDES STANDARD PLAN D77A
DATED JULY 1, 2004 - PAGE 155 OF THE STANDARD PLANS BOOK DATED JULY 2004.