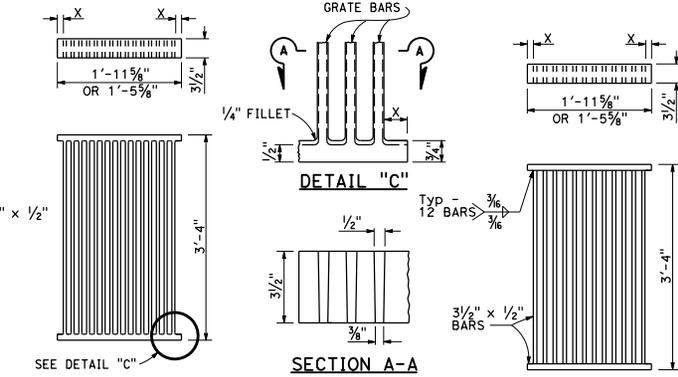


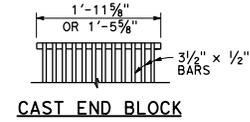
RECTANGULAR GRATE DETAILS

(See table below)

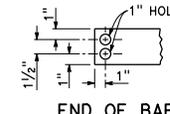


ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE

ALTERNATIVE WELDED GRATE

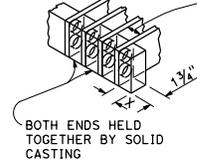


CAST END BLOCK

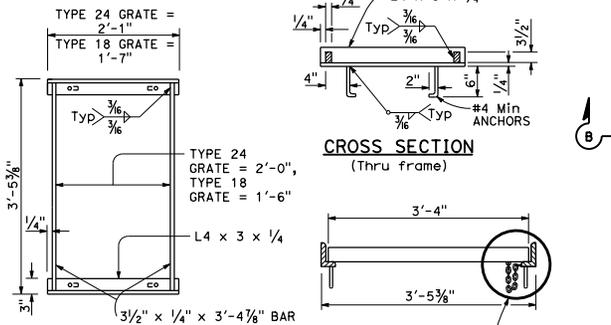


END OF BAR

SPACING SAME AS FOR WELDED OR BOLTED GRATE

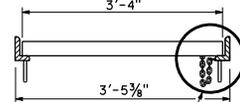


ALTERNATIVE CAST DUCTILE IRON OR CAST CARBON STEEL END BLOCK GRATE

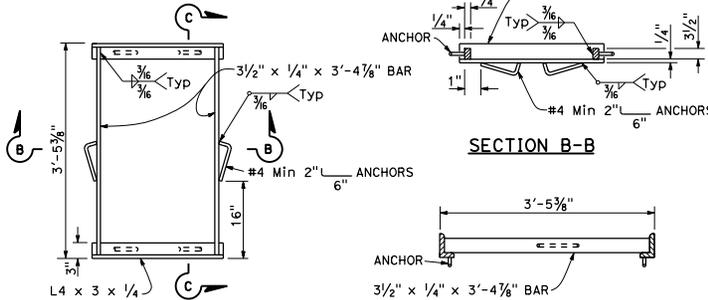


TYPICAL FRAME

CROSS SECTION (Thru frame)



LONGITUDINAL SECTION (Thru frame and grate)



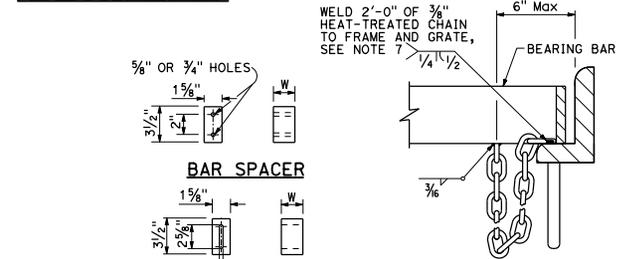
TYPICAL FRAME

SECTION B-B

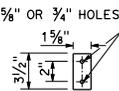
SECTION C-C

ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME

(For details not shown, See Rectangular Frame Details)



BAR SPACER



ALTERNATIVE SPACER

W = 1 3/8" or 2"

DETAIL "D"

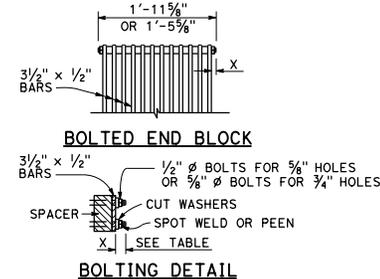
(Steel grates only)

GRATE BAR SPACING TABLE

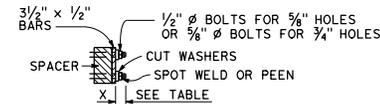
TYPE	No. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/8"
24-9	9	2"	1 3/8"
24-12	12	1 3/8"	1 1/4"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCF	PLATE	112
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	No. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
GO,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22
GRATE CHAIN			3



BOLTED END BLOCK



BOLTING DETAIL

ALTERNATIVE BOLTED GRATE

NOTES:

1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
2. Rounded top of bars optional on all grates.
3. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
4. Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
5. Standard square, hexagon, round or equivalent headed anchors are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).
6. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).
7. Connect chain to grate and frame only at locations shown on the plans. When chain is required, do not use cast ductile iron grates.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
GRATE DETAILS No. 1
NO SCALE

D77A

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

Raymond Don Isztos
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Raymond Don Isztos
No. C37332
Exp. 6-30-16
CIVIL
STATE OF CALIFORNIA