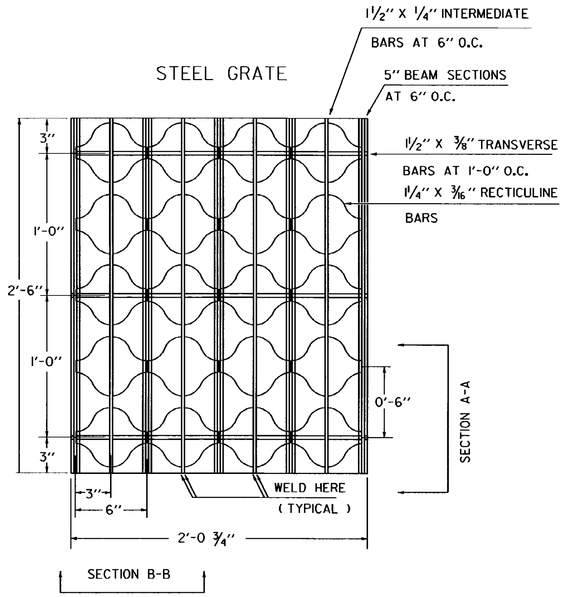
## STEEL GRATE

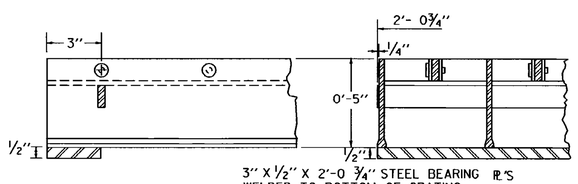



PLAN

GRATE SIZE SINGLE 24 3/4" X 30"
DOUBLE 24 3/4" X 54"

WEIGHT 95 LBS OR MORE
GRATES SHALL BE CAPABLE OF SUPPORTING H-20 (32,000 LB. AXLE LOAD) INCLUDING 30% IMPACT.

| UNIT STRESSES (LBS PER SQ. IN.) | | 18,000 | 20,000 |
|---|---|---|---|
| MAIN BAR PARALLEL TO TRAFFIC | H-20 | 49" | 53" |
| MAIN BAR PERPENDICULAR TO TRAFFIC | H-20 | 39" | 42" |

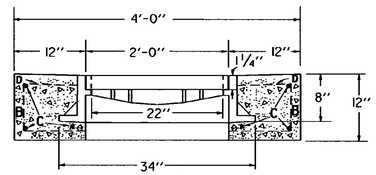



SECTION A-A SECTION B-B

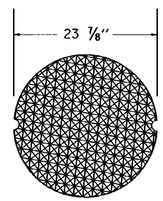
## CAST IRON COVER WITH FRAME

| BAR | NO. | LENGTH | |
|---|---|---|---|
| B | 4 | | 8" 3'-8" 8" |
| C | 6 | 3'-8" | STRAIGHT |
| D | 4 | 3'-8" | STRAIGHT |

ALL REINFORCING STEEL TO BE No. 5 DEFORMED BARS



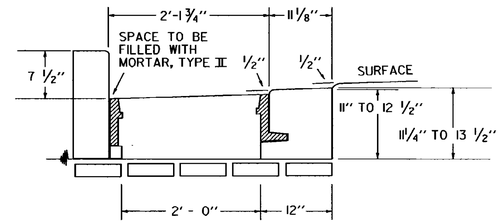

ELEVATION




GENERAL NOTES:
WEIGHT OF FRAME AND COVER = 425 LBS.

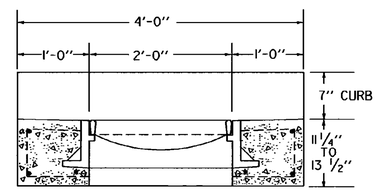
PLAN

## CAST IRON GRATE WITH FRAME




ELEVATION OF REINFORCED CONCRETE DROP INLET WITH VERTICAL GRANITE CURB AND 3 FLANGE CAST IRON FRAME FOR CAST IRON GRATE

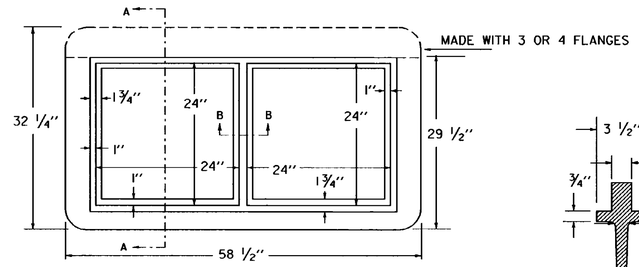
SEE STANDARD D-9 FOR CONCRETE VOLUME, REINFORCING STEEL SCHEDULE, AND CURB JOINT DETAIL.



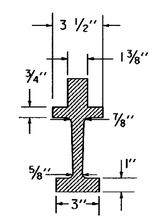

ELEVATION

WEIGHT OF 3 FLANGED FRAME AND GRATE

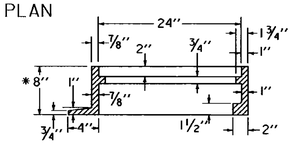
| | |
|---|---|
| GRATE | 220 LBS |
| FRAME | 260 LBS |
| TOTAL | 480 LBS |




PLAN



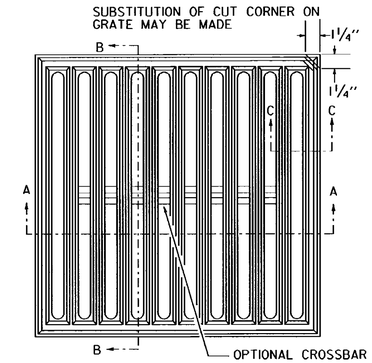

SECTION B-B



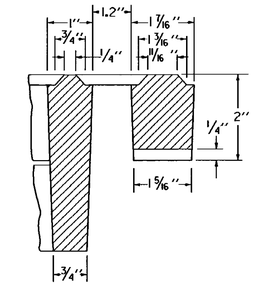

SECTION A-A

RECTANGULAR CAST IRON FRAME FOR TWO 24" SQUARE CAST IRON GRATES

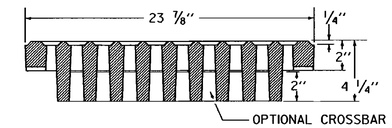
## CAST IRON GRATE, TYPE A



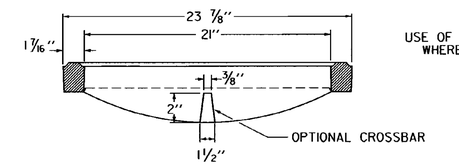

PLAN




SECTION C-C

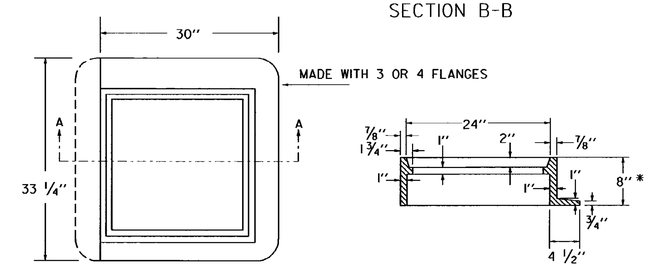



SECTION A-A




SECTION B-B

USE OF THE TYPE A GRATE IS PROHIBITED WHERE BICYCLE TRAFFIC IS EXPECTED




PLAN SECTION A-A

SQUARE CAST IRON FRAME FOR CAST IRON GRATE TYPE A

* NOTE: FRAME DEPTH TO BE "6" WHEN USED IN CONJUNCTION WITH DROP INLET DETAILED ON STANDARD D-6.

THIS FRAME TO BE PLACED IN DROP INLET TOP BEFORE CONCRETE IS POURED.

4 FLANGES UNLESS OTHERWISE INDICATED. FRAMES TO BE FURNISHED WITH 3 FLANGES WHEN USED IN CONJUNCTION WITH CURB OR AS DIRECTED BY THE ENGINEER.

REVISIONS AND CORRECTIONS

DEC. 6, 1971 - ORIGINAL APPROVAL
APR. 25, 1972 - CAST IRON COVER CHANGED FROM SQUARE TO CIRCULAR
SEPT. 4, 1980 - OPTIONAL CROSSBAR ADDED TO A GRATE; NOTE ADDED TO A GRATE FRAME DETAIL
AUG. 25, 1981 - NOTE ADDED RESTRICTING USE OF TYPE A GRATE
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

Gordon R. MacArthur, P.E.
DIRECTOR OF ENGINEERING

Robert M. Murphy, PE
DESIGN ENGINEER

# STEEL GRATE
# CAST IRON GRATE TYPE A
# CAST IRON COVER

VERMONT AGENCY OF TRANSPORTATION

STANDARD
D-11