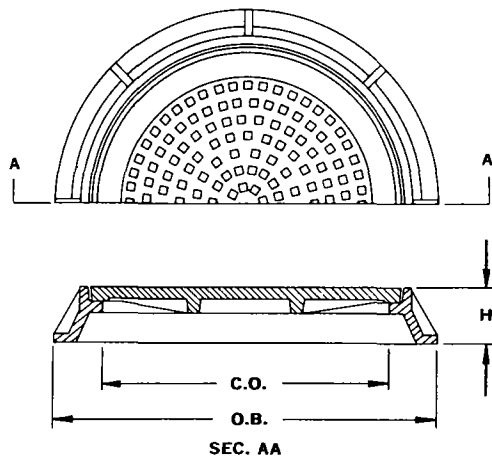


*heavy traffic type* X-100

manhole frame and cover

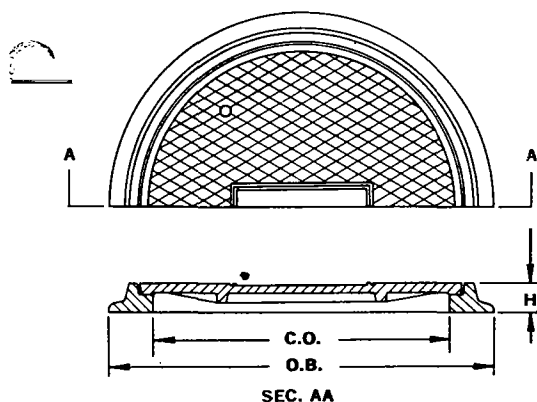


Conforms to San Diego and Las Vegas Standard design. Machined to fit (non rocking) . . . Lettered as required . . . Raised block tread with pick holes . . . Hot asphaltum dipped.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-100	22"	31"	340 lbs.	4"

*non-traffic type* X-101

manhole frame and cover

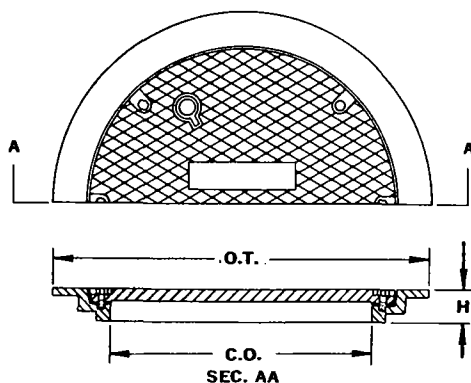


Conforms to Standard design, medium weight. Machined to fit (non rocking) . . . Lettered as required . . . Diamond tread . . . Hot asphaltum dipped.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-101A	36"	45"	500 lbs.	3½"
X-101B	30"	37"	360 lbs.	3"
X-101C	26"	34"	240 lbs.	3½"
X-101D	24"	31"	200 lbs.	3"
X-101E	20"	28"	140 lbs.	2¾"
X-101F	18"	25½"	110 lbs.	2¾"
X-101G	16"	24"	72 lbs.	2¾"
X-101H	12"	19"	60 lbs.	2¾"

*heavy traffic type* X-102

water tight frame and cover



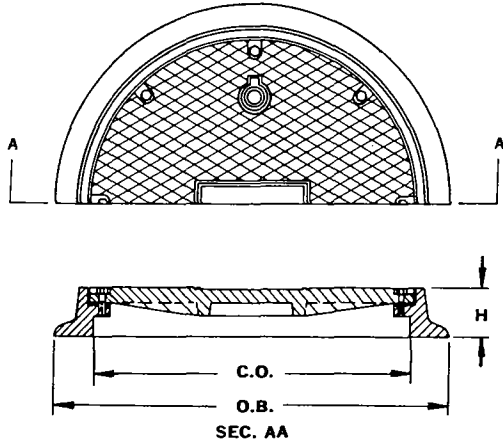
Conforms to Standard design. Machined to fit (non rocking) . . . Lettered as required . . . Diamond tread with hinged lift handles. Frame and Cover are used over fuel tanks requiring heavy duty traffic. Fitted with lead gasket and bolted down with brass bolts.

Designation Number	Clear Opening	O.D. or Overall Top	Approx. Weight	Height Frame
X-102A	24"	34"	440 lbs.	3½"
X-102B	30"	40"	580 lbs.	3½"



heavy and non-traffic type X-103

pressure manhole frame and cover

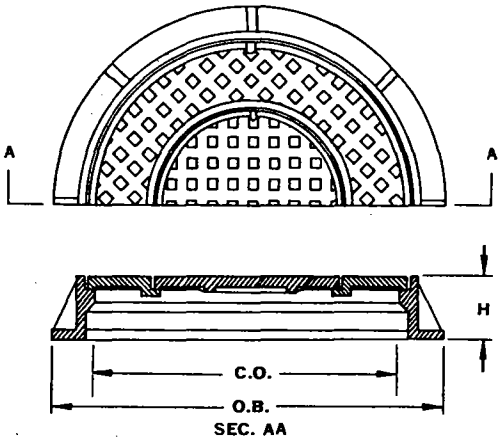


Heavy traffic type (X-103A to X-103E). Non-traffic type (X-103F and X-103G). Conforms to Standard design. Machined to fit (non rocking) . . . Lettered as required . . . Diamond tread with ring lift handle . . . Hot asphaltum dipped . . . Cover is water tight. It has composition gasket and is bolted down with brass bolts.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-103A	36"	44"	745 lbs.	6"
X-103B	30"	38"	520 lbs.	6"
X-103C	26"	34"	380 lbs.	4"
X-103D	24"	32"	300 lbs.	4"
X-103E	24"	36"	420 lbs.	6"
X-103F	20"	28"	220 lbs.	4"
X-103G	18"	26"	165 lbs.	3"

heavy traffic type X-104

large vault or manhole frame and cover

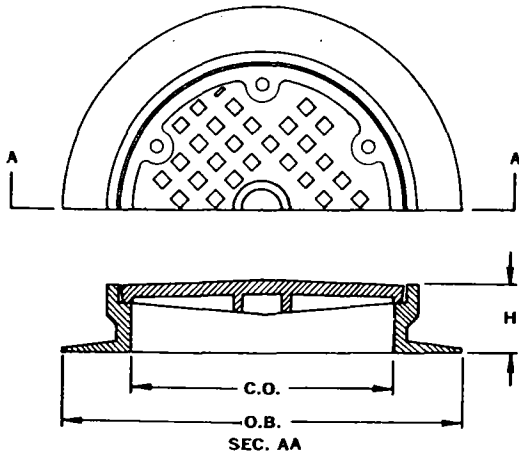


Conforms to Navy plate No. 12 pattern 3. Machined to fit (non rocking) . . . Lettered as required . . . Square block tread with pick holes . . . Hot asphaltum dipped. Two concentric vault or manhole covers. Net opening on inside cover 24".

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-104	42"	56"	1200 lbs.	10"

heavy duty traffic type X-105

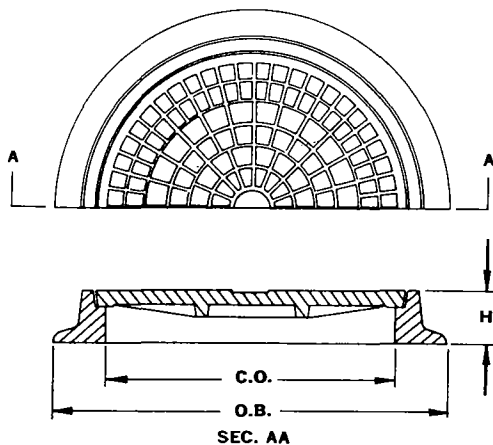
navy design manhole frame and cover



Conforms to specifications of Public Works Office, 11th Naval District, San Diego, series F-10-5-S-30. Machined to fit (non rocking) . . . Lettered as required . . . Square raised block tread with pick holes . . . Hot asphaltum dipped.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-105A	24"	36"	420 lbs.	6"
X-105B	27"	39 1/2"	550 lbs.	7"
X-105C	30"	46"	715 lbs.	8"

## heavy traffic type X-106



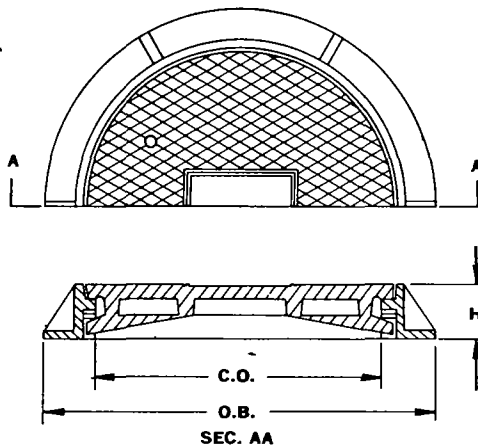
## general use manhole frame and cover

Conforms to Standard design. Machined to fit (non rocking) . . . Lettered as required . . . Square tread with pick holes . . . Hot asphaltum dipped. May be obtained with grating in place of solid cover at the same price.

\*Available with Diamond Tread.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-106A*	36"	44"	680 lbs.	6"
X-106B	30"	38"	545 lbs.	5½"
X-106C	26"	34"	350 lbs.	4"
X-106D	26½"	37"	400 lbs.	6"
X-106E*	24"	32"	300 lbs.	4"
X-106E-F	24"	32"	350 lbs.	4"
X-106F*	24"	32"	400 lbs.	5"
X-106G*	24"	36"	420 lbs.	6"
X-106H*	24"	42"	510 lbs.	10"
X-106I	20"	28"	240 lbs.	4"
X-106J	18"	26"	170 lbs.	3"

## heavy duty traffic type X-107

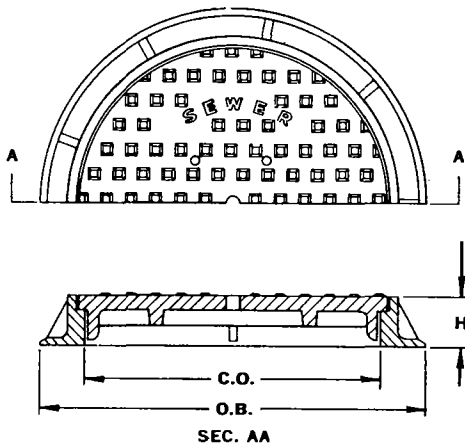


## standard manhole frame and cover

Conforms to Los Angeles County, design No. SA 117 & SA 207. Machined to fit (non rocking) . . . Lettered as required . . . Diamond tread with pick holes . . . Hot asphaltum dipped. A locking device engages two fingers on the cover along an inverted inclined plane on the frame. A turn of a few degrees either way releases or locks the cover.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-107A	22¾"	30¼"	365 lbs.	4⅛"
X-107B	Same as above without locking device.			

## heavy duty traffic type X-108



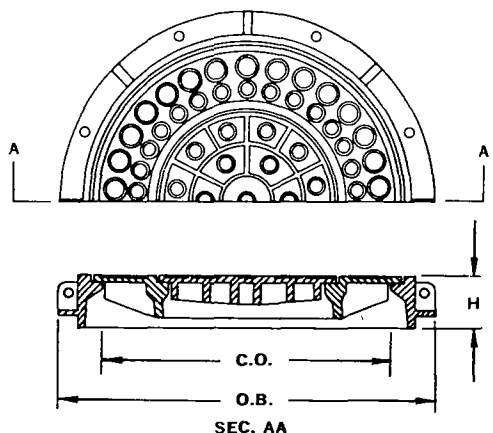
## standard manhole frame and cover

Conforms to Orange County Standard design. Machined to fit (non rocking) . . . Lettered as required . . . Square raised block tread with pick holes . . . Hot asphaltum dipped. Vent holes in cover.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-108	23½"	34"	440 lbs.	6"

heavy traffic type X-109

extra large type manhole frame and cover

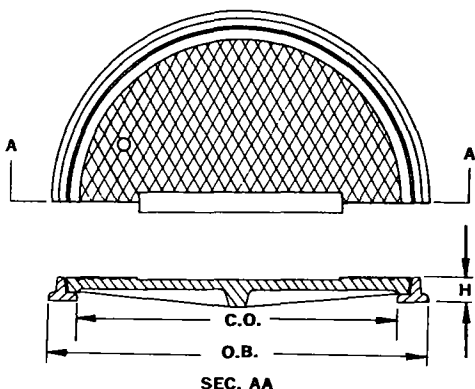


Two concentric manhole covers. Conforms to Los Angeles Department of Water and Power drawing No. C 626. Machined to fit (non rocking) . . . Lettered as required . . . Raised special tread with pick holes . . . Hot asphaltum dipped.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-109	44"	53"	975 lbs.	7 1/2"

non-traffic type X-110

manhole frame and cover for catch basins

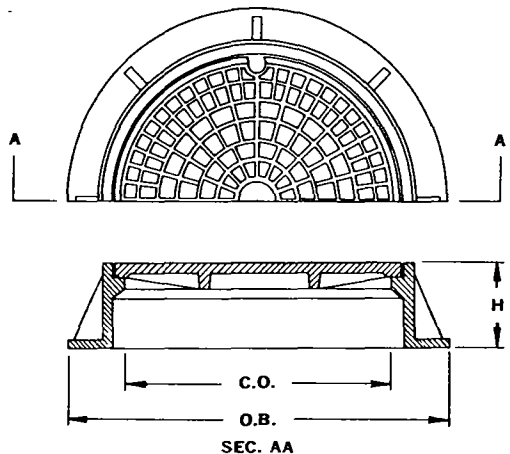


Conforms to State, County and City Standards (Los Angeles City Standard, B-2189). Machined to fit (non rocking) . . . Lettered as required . . . Diamond tread with pick holes . . . Hot asphaltum dipped. Cover bolted down with steel screws if required.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-110A Black	22"	26"	134 lbs.	1 1/2"
X-110B Galv.	22"	26"	140 lbs.	1 1/2"
X-110C Galv. Cl. 40	22"	26"	140 lbs.	1 1/2"
X-110D Black with Locking Screws	22"	26"	134 lbs.	1 1/2"
X-110E Galv. with Locking Screws	22"	26"	140 lbs.	1 1/2"
X-110F Black with Everdur Locking Screws	22"	26"	134 lbs.	1 1/2"
X-110G Black with Counter Bored Locking Screws	22"	26"	134 lbs.	1 1/2"

heavy and non-traffic type X-111

navy standard manhole frame and cover

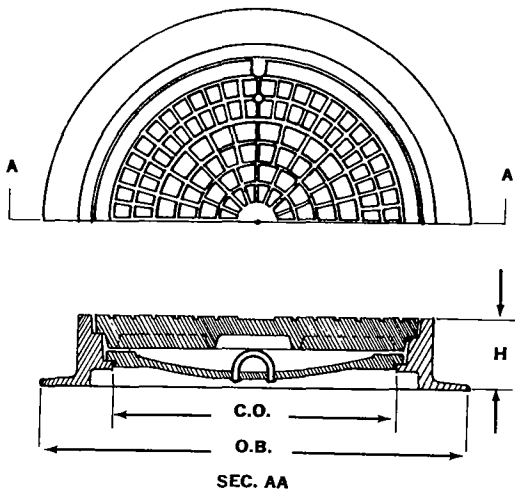


Heavy traffic type (X-111A and X-111C). Non-traffic type (X-111B and X-111D). Conforms to Navy specifications 42YA plate No. 12. Machined to fit (non rocking) . . . Lettered as required . . . Round block raised tread with pick holes . . . Hot asphaltum dipped. Perforated or solid cover as required.

Designation Number	Area Used	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-111A	Paved Area	20 1/2"	36"	440 lbs.	9"
X-111B	Unpaved Area	20 1/4"	36"	330 lbs.	9"
X-111C	Paved Area	23"	38"	435 lbs.	9"
X-111D	Unpaved Area	23"	35"	350 lbs.	7 1/2"

heavy duty traffic type X-115

standard manhole frame and cover

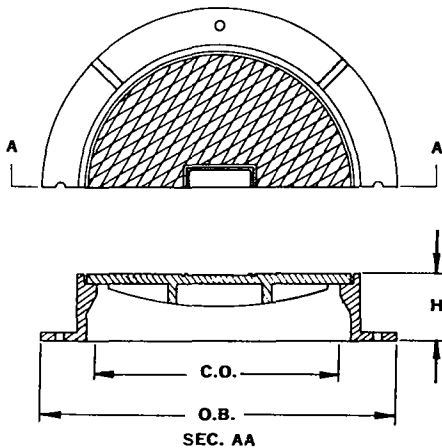


Conforms to Los Angeles City Standards, similar to design No. B 1636. Machined to fit (non rocking) . . . Lettered as required . . . Raised block tread with pick holes . . . Hot asphaltum dipped. Inner pan provided if required. Grate supplied in lieu of cover if specified.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-115A	22½"	33½"	465 lbs.	6"
X-115B	Innerpan		70 lbs.	

heavy traffic type X-116

pacific naval base manhole frame and cover

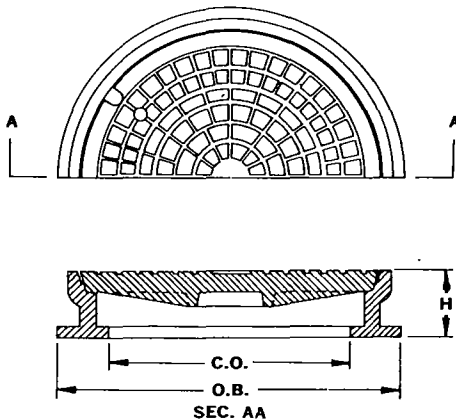


Conforms to Pacific Naval Base Standard, design No. 1-N26-200. Machined to fit (non rocking) . . . Lettered as required . . . Raised diamond tread with pick holes . . . Hot asphaltum dipped.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame	Navy Drawing
X-116A	22"	32"	340 lbs.	5½"	1-N26-200
X-116B	28"	40"	515 lbs.	7"	1-N26-200

heavy duty traffic type X-117

standard manhole frame and cover



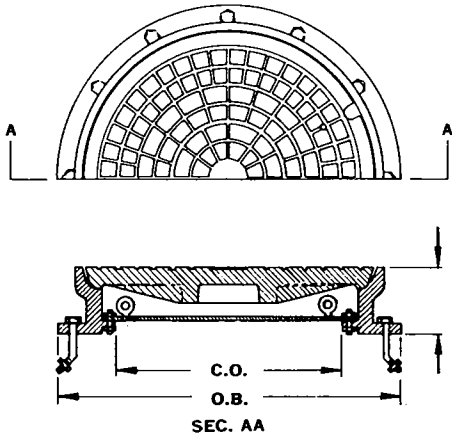
Conforms to Los Angeles City Standards, design No. B 2855. Machined to fit (non rocking) . . . Lettered as required . . . Square block tread with pick hole . . . Hot asphaltum dipped. Inner pan provided if required. Design No. B 3184.

\*Furnished with locking screws.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-117A	23¼"	31¾"	475 lbs.	6"
X-117B	Inner Pan		80 lbs.	
X-117C*	23¼"	31¾"	475 lbs.	6"

heavy duty traffic type X-118

pressure manhole frame and cover

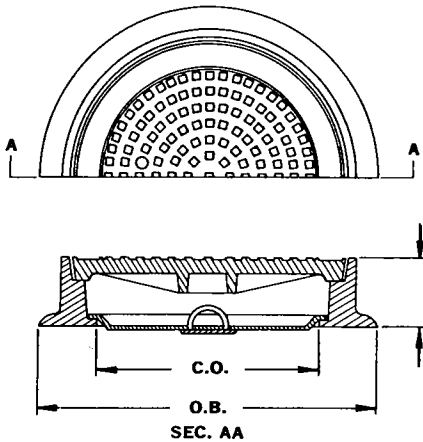


Conforms to Los Angeles City Standards, design No. B 1842, or Los Angeles County Sanitation Districts No. SA 208. Machined to fit (non rocking) . . . Lettered as required . . . Raised block tread with pick holes . . . Hot asphaltum dipped. The inner steel cover plate is gasket sealed and bolted down with brass studs. Anchor bolts are included.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-118	22 $\frac{1}{2}$ "	31 $\frac{3}{4}$ "	500 lbs.	6"

heavy traffic type X-119

manhole frame and cover

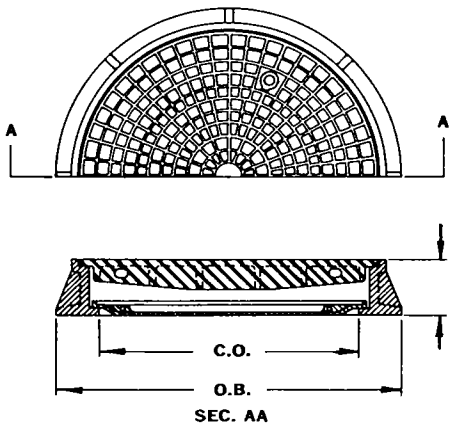


Conforms to Standard design. Machined to fit (non rocking) . . . Lettered as required . . . Raised block tread with pick holes . . . Hot asphaltum dipped . . . Designed to take inner pan.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-119A	21 $\frac{3}{4}$ "	31 $\frac{3}{4}$ "	380 lbs.	5"
X-119B	Inner Pan		70 lbs.	

heavy traffic type X-120

water and power manhole frame and cover

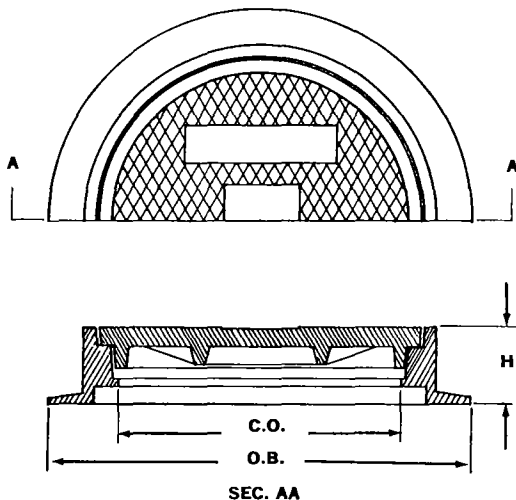


Conforms to Bureau of Water and Power requirements. Machined to fit (non rocking) . . . Lettered as required . . . Raised block tread with pick holes . . . Hot asphaltum dipped. Cast Iron inner pan hermetically sealed on electrical installations. Cast steel covers furnished at extra cost if specified. Inner pan with caulking joint. X-120E has special steel inner pan.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-120A	26"	38"	670 lbs.	5"
X-120B	28"	40"	730 lbs.	5"
X-120C	29 $\frac{1}{2}$ "	40"	860 lbs.	7"
X-120D	35 $\frac{1}{2}$ "	44"	850 lbs.	5"
X-120E	36"	44"	850 lbs.	5"
X-120F	30 $\frac{3}{4}$ "	44"	875 lbs.	7"

heavy traffic type X-139

manhole frame and cover

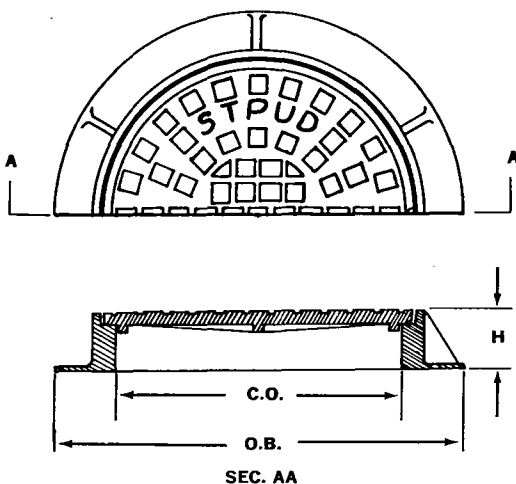


Long Beach Standard design. Machined to fit (non rocking) . . . Lettered as required. Hot asphaltum dipped . . . Square tread with pick holes. Inner pan if required at extra cost. Grate supplied in lieu of cover if specified.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-139A	22½"	33½"	465 lbs.	6"
X-139B	Inner Pan		70 lbs.	

heavy traffic type X-140

manhole frame and cover

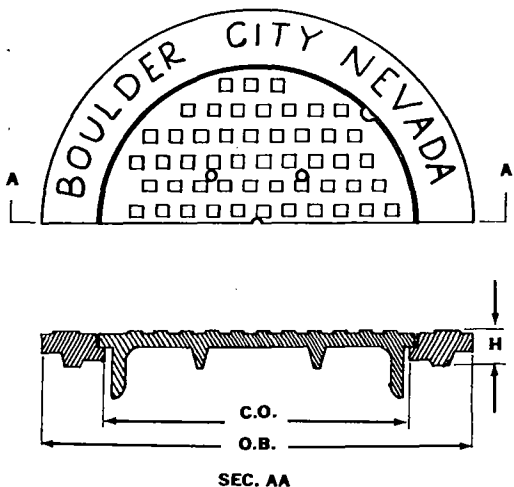


Northern California Standard design. Machined to fit (non rocking) . . . Lettered as required. Hot asphaltum dipped. Raised block tread with pick holes.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-140A	24"	34"	373 lbs.	5"

heavy traffic type X-141

manhole frame and cover



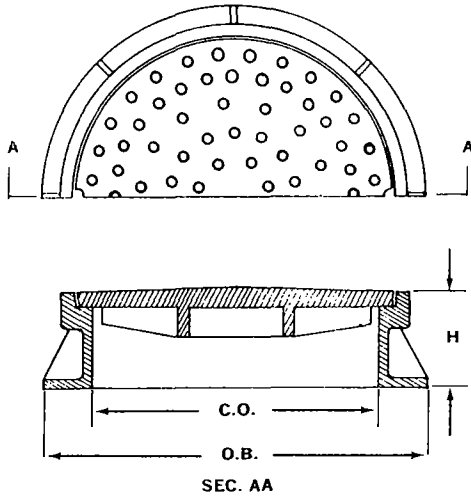
Boulder City Standard design. Machined to fit . . . Lettered as required. Square tread with pick holes and vent holes. Hot asphaltum dipped.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-141A	24"	34"	410 lbs.	2½"
X-141B*	24"	34"	410 lbs.	2½"

\*Water tight with gasket and brass bolts. Lift ring furnished in place of pick holes.

heavy traffic type X-142

manhole frame and cover

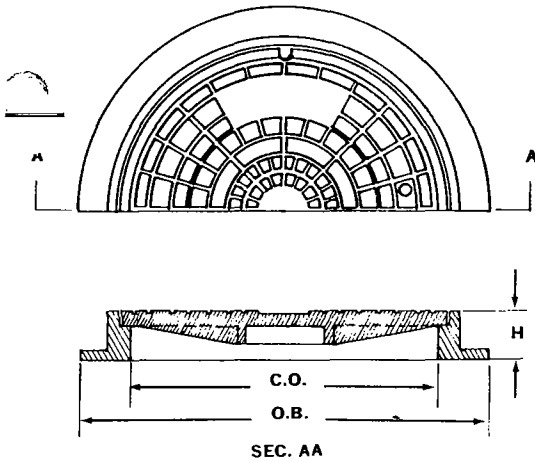


City of Santa Barbara Standard design. Machined to fit (non rocking) . . . Lettered as required . . . Hot asphaltum dipped . . . Raised round block tread with pick holes.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-142	24"	33"	415 lbs.	8"

heavy traffic type X-143

manhole frame and cover

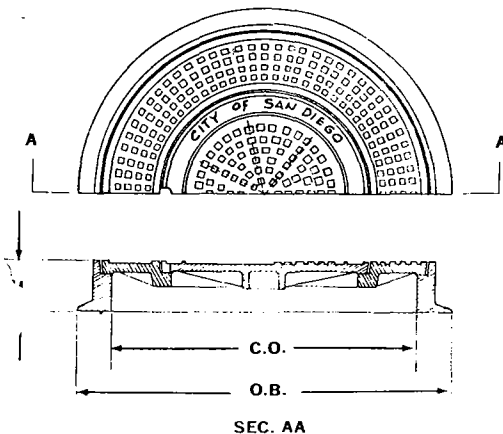


City of Garden Grove Standard design. Machined to fit (non rocking) . . . Lettered as required . . . Square tread with pick holes . . . Hot asphaltum dipped.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-143	24"	32"	375 lbs.	4"

heavy traffic type X-144

manhole frame and cover



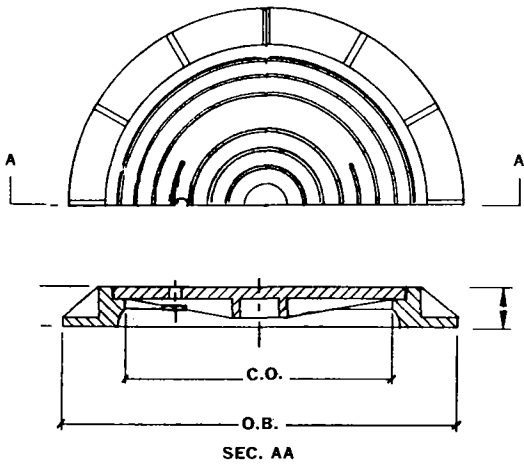
Two concentric manhole covers. Conforms to City of San Diego Standard design . . . Machined to fit (non rocking) . . . Lettered as required . . . Raised square block tread with pick holes . . . Available in pressure type at extra cost.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-144	36"	44"	835 lbs.	6"



*traffic type* X-155

manhole frame and cover

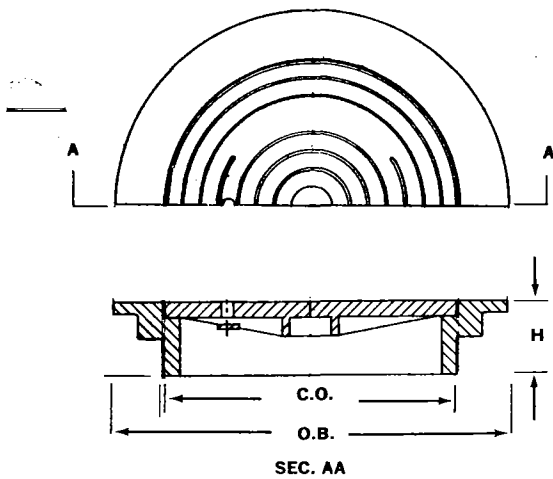


Machined to fit (non-rocking) . . . Hot asphaltum dipped.  
Conforms to City & County of Honolulu Standards  
D-23 & D-25 & S-22 & S-23.

Designation Number	Clear Opening	Overall Base	Approx. Weight	Height Frame
X-155	22"	30 <sup>3</sup> / <sub>4</sub> "	340 lbs.	4 <sup>1</sup> / <sub>8</sub> "

*non-traffic type* X-156

manhole frame and cover

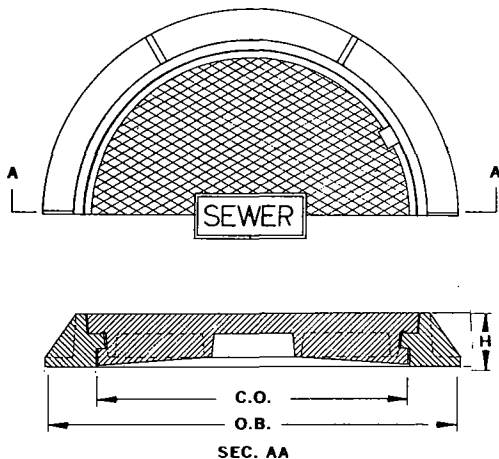


Machined to fit (non-rocking) . . . Diamond tread with pick hole.  
Hot asphaltum dipped.  
Conforms to City & County of Honolulu Standards  
S-30, D-24 & D-25.

Designation Number	Clear Opening	Overall Base	Approx. Weight	Height Frame
X-156	22"	30"	200 lbs.	4"

*heavy duty traffic type* X-160

standard manhole frame and cover

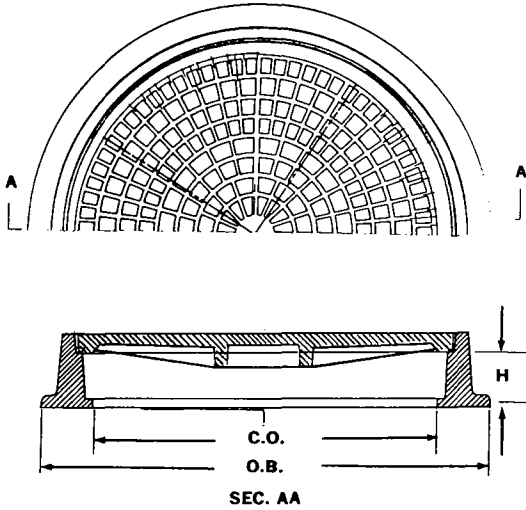


Conforms to Los Angeles County Standard Drawing Nos.  
SA-207 and S-35. Machined to fit (non-rocking) . . . Lettered  
as required . . . Diamond tread with pick hole . . .  
Hot asphaltum dipped.

Designation Number	Clear Opening	Overall Base	Approx. Weight	Height Frame
X-160	24"	31 <sup>3</sup> / <sub>4</sub> "	365 lbs.	4 <sup>1</sup> / <sub>8</sub> "

heavy traffic type X-162

manhole frame and cover

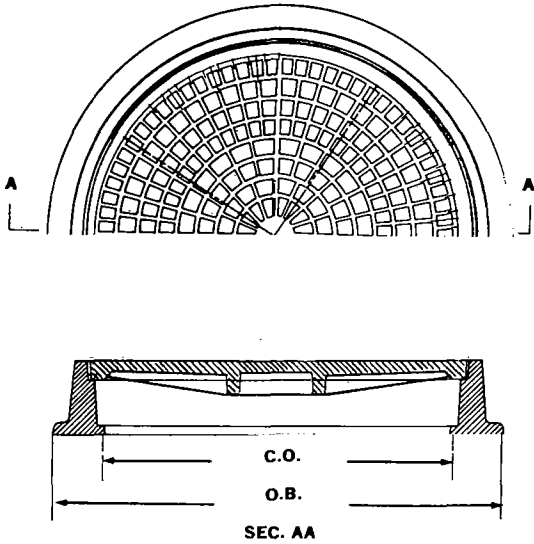


Conforms to American Public Works Assoc. Std. Plan 101-O.  
Los Angeles County Flood Control Dist. Dwg. #2-D472.  
City of Los Angeles Std. S-281-O.

Designation Number	Clear Opening	Overall Base	Approx. Weight	Height Frame
X-162	24"	32½"	410 lbs.	6"

heavy traffic type X-163

manhole frame and cover

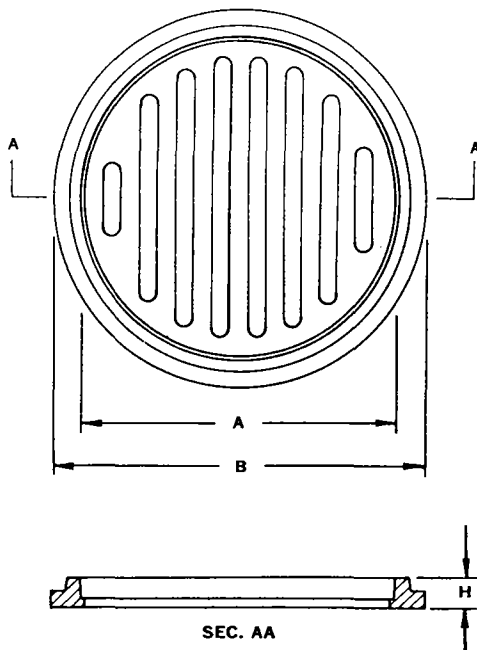


Conforms to American Public Works Assoc Std. Plan 103-O.  
City of Los Angeles Std. S-283-O.

Designation Number	Clear Opening	Overall Base	Approx. Weight	Height Frame
X-163	30"	38½"	635 lbs.	6"

## heavy traffic and non-traffic type X-304

## standard round frame and grate



Conforms to Standard Design . . . Ground to fit . . . Hot asphaltum dipped. Used for cesspools and catch basins. Galvanized if specified.\*

\*Galvanized at extra cost.

## NON-TRAFFIC TYPE

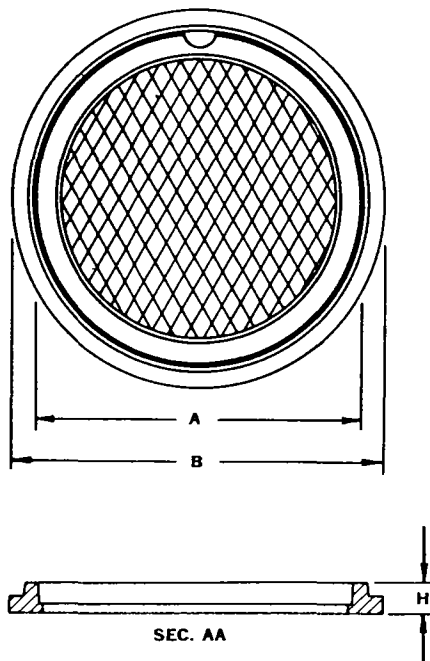
Designation Number	Gr. Dia. 'A'	Fr. Dia. 'B'	Approx. Weight	Height Frame
X-304A	6"	8"	6 lbs.	1"
X-304B	8"	10"	11 lbs.	1"
X-304C	10"	12"	16 lbs.	1"
X-304D	12"	14"	38 lbs.	1½"
X-304E	14"	16"	46 lbs.	1½"
X-304F	16"	18"	48 lbs.	1½"
X-304G	18"	20"	55 lbs.	1½"
X-304H	20"	22"	69 lbs.	1½"
X-304I	22"	24"	92 lbs.	1½"
X-304J	24"	26"	103 lbs.	1½"

## HEAVY TRAFFIC TYPE

X-304AA	6"	8"	10 lbs.	1½"
X-304BB	8"	10"	18 lbs.	1½"
X-304CC	10"	12"	32 lbs.	1½"
X-304DD	12"	14"	60 lbs.	2½"
X-304EE	14"	16"	85 lbs.	2½"
X-304FF	16"	18"	95 lbs.	2½"
X-304GG	18"	20"	108 lbs.	2½"
X-304HH	20"	22"	140 lbs.	2½"
X-304II	22"	24"	180 lbs.	2½"
X-304JJ	24"	26"	210 lbs.	2½"

## heavy traffic and non-traffic type X-305

## standard round frame and cover



Conforms to Standard design . . . Ground to fit . . . Diamond tread with pick holes . . . Hot asphaltum dipped. Galvanized if specified.\*

\*Galvanized at extra cost.

## NON-TRAFFIC TYPE

Designation Number	Gr. Dia. 'A'	Fr. Dia. 'B'	Approx. Weight	Height Frame
X-305A	6"	8"	6 lbs.	1"
X-305B	8"	10"	11 lbs.	1"
X-305C	10"	12"	16 lbs.	1"
X-305D	12"	14"	36 lbs.	1½"
X-305E	14"	16"	44 lbs.	1½"
X-305F	16"	18"	46 lbs.	1½"
X-305G	18"	20"	54 lbs.	1½"
X-305H	20"	22"	70 lbs.	1½"
X-305I	22"	24"	90 lbs.	1½"
X-305J	24"	26"	105 lbs.	1½"

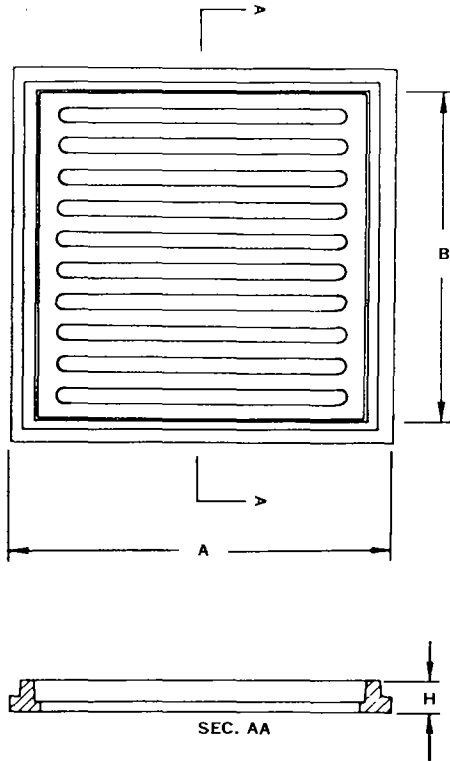
## HEAVY TRAFFIC TYPE

X-305AA	6"	8"	10 lbs.	1½"
X-305BB	8"	10"	18 lbs.	1½"
X-305CC	10"	12"	32 lbs.	1½"
X-305DD	12"	14"	60 lbs.	2½"
X-305EE	14"	16"	85 lbs.	2½"
X-305FF	16"	18"	95 lbs.	2½"
X-305GG	18"	20"	108 lbs.	2½"
X-305HH	20"	22"	140 lbs.	2½"
X-305II	22"	24"	180 lbs.	2½"
X-305JJ	24"	26"	210 lbs.	2½"



non-traffic type X-310

parkway frame and grating



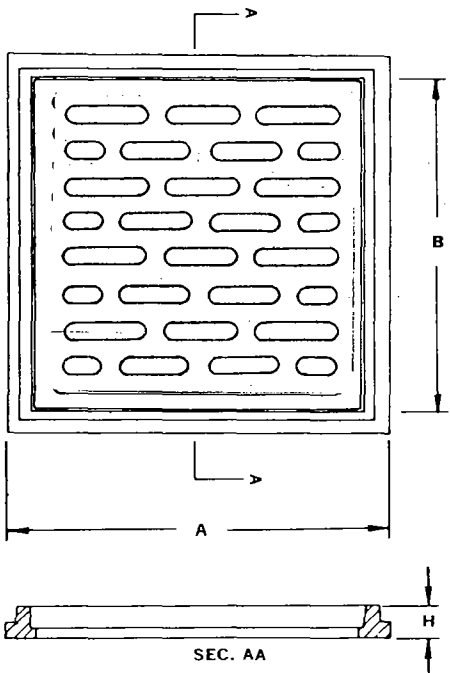
Single grating conforms to Standard design. Ground to fit . . .  
Hot asphaltum dipped. Galvanized if specified.\*

Designation Number	Grate Size 'B'	Overall Base Frame Size 'A'	Clear Opening	Approx. Weight	Height Frame
X-310A	6" x 6"	8" x 8"	5" x 5"	8 lbs.	1"
X-310B	8" x 8"	10" x 10"	7" x 7"	14 lbs.	1"
X-310C	10" x 10"	12" x 12"	9" x 9"	20 lbs.	1"
X-310D	12" x 12"	14" x 14"	11" x 11"	35 lbs.	1 1/2"
X-310E	14" x 14"	16" x 16"	13" x 13"	40 lbs.	1 1/2"
X-310F	16" x 16"	18" x 18"	15" x 15"	55 lbs.	1 1/2"
X-310G	18" x 18"	20" x 20"	16" x 16"	70 lbs.	1 1/2"
X-310H	20" x 20"	22" x 22"	18" x 18"	90 lbs.	1 1/2"
X-310I	22" x 22"	24" x 24"	20" x 20"	115 lbs.	1 1/2"
X-310J	24" x 24"	26" x 26"	22" x 22"	125 lbs.	1 1/2"
X-310K	26" x 26"	28" x 28"	24" x 24"	140 lbs.	1 1/2"
X-310L	29" x 29"	31" x 31"	27" x 27"	155 lbs.	1 1/2"
X-310M	38" x 38"	40" x 40"	36" x 36"	261 lbs.	1 1/2"
X-310N	16" x 20"	18" x 22"	14" x 18"	95 lbs.	1 1/2"
X-310O	12" x 16"	14" x 18"	10" x 14"	45 lbs.	1 1/2"
X-310P	12" x 18"	14" x 20"	10" x 16"	55 lbs.	1 1/2"
X-310Q	12" x 24"	14" x 26"	10" x 22"	65 lbs.	1 1/2"
X-310R	18" x 24"	20" x 26"	16" x 22"	80 lbs.	1 1/2"
X-310S	18" x 30"	20" x 32"	16" x 28"	115 lbs.	1 1/2"
X-310T	22" x 28"	24" x 30"	20" x 26"	130 lbs.	1 1/2"
X-310U	18" x 36"	20" x 38"	16" x 34"	125 lbs.	1 1/2"
X-310V	24" x 36"	26" x 38"	22" x 34"	170 lbs.	1 1/2"
X-310W	24" x 48"	26" x 50"	22" x 46"	210 lbs.	1 1/2"

\*Galvanized at extra cost.

heavy traffic type X-311

traffic frame and grating



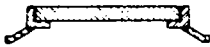
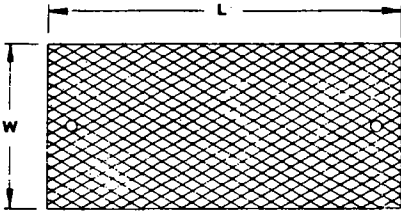
Single grating conforms to Standard design. Ground to fit . . .  
Hot asphaltum dipped. Galvanized if specified.\*

Designation Number	Grate Size 'B'	Overall Base Frame Size 'A'	Clear Opening	Approx. Weight	Height Frame
X-311A	12" x 12"	14" x 14"	10" x 10"	70 lbs.	1 1/2"
X-311B	14" x 14"	17" x 17"	12" x 12"	90 lbs.	2"
X-311C	18" x 18"	21" x 21"	16" x 16"	145 lbs.	2 1/2"
X-311D	20" x 20"	23" x 23"	18" x 18"	180 lbs.	2 1/2"
X-311E	24" x 24"	27" x 27"	22" x 22"	235 lbs.	2 1/2"
X-311F	26" x 26"	29" x 29"	24" x 24"	250 lbs.	2 1/2"
X-311G	30" x 30"	33" x 33"	28" x 28"	360 lbs.	2 1/2"
X-311H	38" x 38"	41" x 41"	36" x 36"	540 lbs.	2 1/2"
X-311I	18" x 24"	21" x 27"	16" x 22"	150 lbs.	2 1/2"
X-311J	18" x 30"	21" x 33"	16" x 28"	230 lbs.	2 1/2"
X-311K	24" x 36"	27" x 39"	22" x 34"	370 lbs.	2 1/2"
X-311L	24" x 48"	27" x 51"	22" x 46"	450 lbs.	2 1/2"

\*Galvanized at extra cost.

## non-traffic and traffic type X-317

## steel frame and cast iron trench cover



Sectional steel frame and cast iron trench cover . . . Conforms to Standard design . . . Ground to fit . . . Lettered as required. Hot asphaltum dipped. Diamond tread with pick holes. Used over concrete trench. Sectional covers used in multiple for continuous trench. Price quoted will be per lineal foot.

## NON-TRAFFIC TYPE

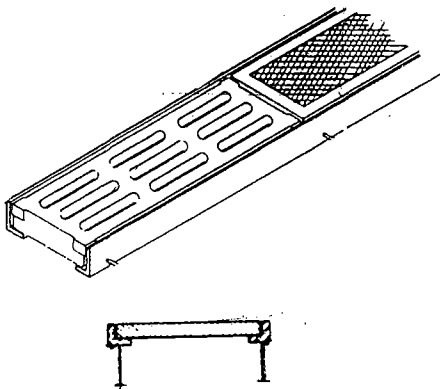
Designation Number	Width	Approx. Weight	Height Frame	Length
X-317A	6"	14 lbs.	1½"	24"
X-317B	8"	20 lbs.	1½"	24"
X-317C	10"	30 lbs.	1½"	24"
X-317D	12"	37 lbs.	1½"	24"
X-317E	14"	42 lbs.	1½"	24"

## TRAFFIC TYPE

X-317H	6"	24 lbs.	2½"	24"
X-317I	8"	52 lbs.	2½"	24"
X-317J	10"	62 lbs.	2½"	24"
X-317K	12"	84 lbs.	2½"	24"
X-317L	14"	90 lbs.	2½"	24"

## non-traffic and traffic type X-318

## steel frame and cast iron trench grate



Sectional steel frame and grating. Ground to fit. Hot asphaltum dipped. Galvanized price on request. For use on concrete trenches. Multiple sections for continuous trench. Price quoted will be per lineal foot.

## NON-TRAFFIC TYPE

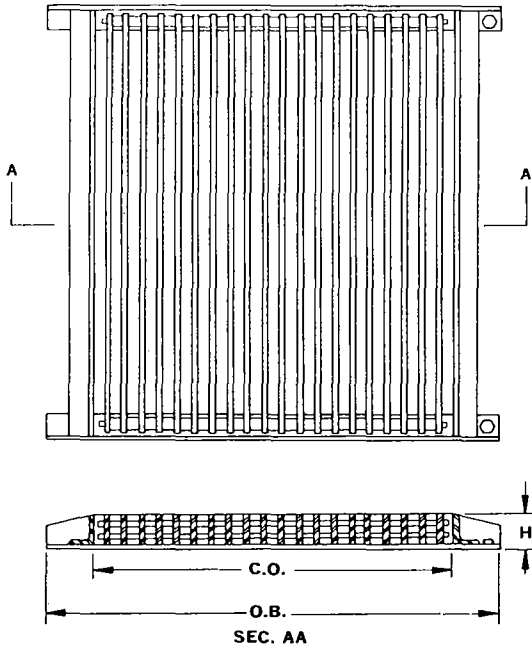
Designation Number	Width	Approx. Weight	Height Frame	Length
X-318A	6"	12 lbs.	1½"	24"
X-318B	8"	18 lbs.	1½"	24"
X-318C	10"	28 lbs.	1½"	24"
X-318D	12"	35 lbs.	1½"	24"
X-318E	14"	40 lbs.	1½"	24"

## TRAFFIC TYPE

X-318H	6"	22 lbs.	2½"	24"
X-318I	8"	50 lbs.	2½"	24"
X-318J	10"	60 lbs.	2½"	24"
X-318K	12"	82 lbs.	2½"	24"
X-318L	14"	88 lbs.	2½"	24"

heavy traffic type X-319

fabricated steel catch basin frame and grate

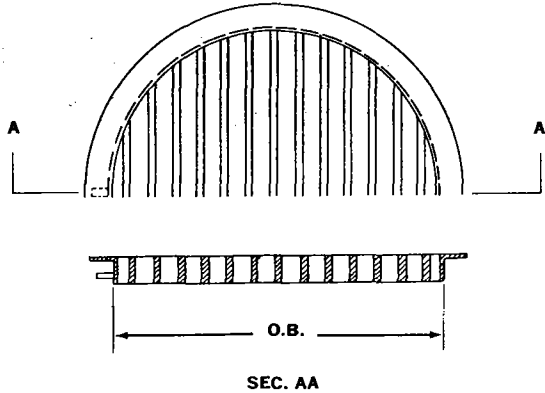


Conforms to City, County, State and Government Specifications. Galvanized or hot asphaltum dipped. H Beam supports used to make multiple units. Prices for multiple units supplied on request.

Designation Number	Clear Opening	Overall Base	Approx. Weight	Height Frame	No. Bars Grating	Size Bars Grating
X-319A	25 1/2" x 35 1/2"	36 1/2" x 41 3/8"	565 lbs.	4	20	1/2" x 3 1/2"
X-319B	25 1/2" x 35 1/2"	36 1/2" x 41 3/8"	475 lbs.	4	16	1/2" x 3 1/2"
X-319C	24" x 35 1/2"	35" x 41 3/8"	446 lbs.	4	15	1/2" x 3 1/2"
X-319D	18" x 35 1/2"	29" x 41 3/8"	312 lbs.	4	9	1/2" x 3 1/2"

traffic type X-320

fabricated steel inlet frame and grate

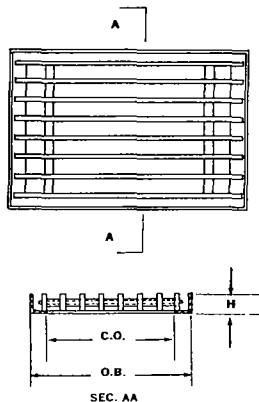


Conforms to State of Calif. and City of Manhattan Beach Standards . . . Galvanized or hot asphaltum dipped. Constructed of fabricated steel.

Designation Number	Clear Opening	Overall Base	Approx. Weight	Height Frame
X-320	34 1/2"	39 1/2"	225 lbs.	3"

traffic type X-321

fabricated steel inlet frame and grate

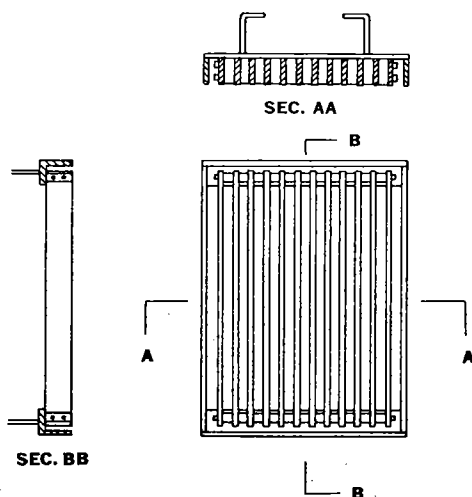


Conforms to Forest Lawn design . . . Galvanized or hot asphaltum dipped. Constructed of fabricated steel.

Designation Number	Clear Opening	Overall Base	Approx. Weight	Height Frame
X-321	15" x 24"	19" x 28"	112 lbs.	2 1/2"

*heavy traffic type* X-322

## fabricated steel catch basin frame and grate



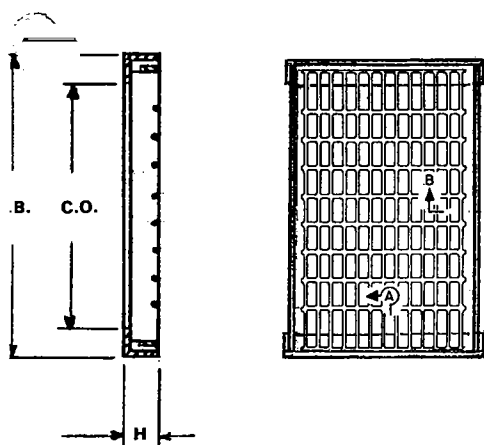
Galvanized or hot asphaltum dipped.

H Beam supports used to make multiple units.

Designation Number	Clear Opening	Overall Base	Approx. Weight	Height Frame	No. Bars	Size Bars Grating
X-322A	18" x 35 $\frac{3}{8}$ "	19 $\frac{1}{2}$ " x 41 $\frac{3}{8}$ "	290 lbs.	4"	9	1 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "
X-322B	24" x 35 $\frac{3}{8}$ "	25 $\frac{1}{2}$ " x 41 $\frac{3}{8}$ "	305 lbs.	4"	9	1 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "
X-322C	24" x 35 $\frac{3}{8}$ "	25 $\frac{1}{2}$ " x 41 $\frac{3}{8}$ "	370 lbs.	4"	12	1 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "
X-322D	24" x 35 $\frac{3}{8}$ "	25 $\frac{1}{2}$ " x 41 $\frac{3}{8}$ "	425 lbs.	4"	15	1 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "

*heavy traffic type* X-323

## bicycle proof catch basin frames and grates

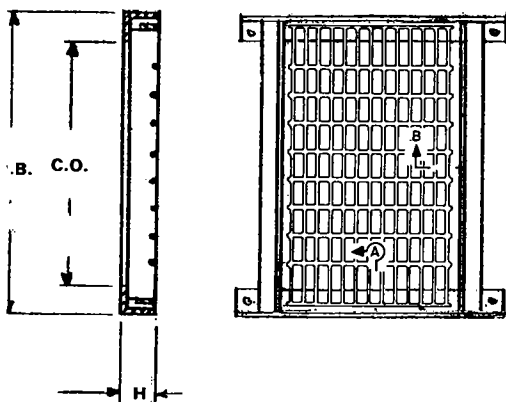


Conforms to State of Calif. and Orange County, Calif. Standards. . . Galvanized or hot asphaltum dipped.

Designation Number	Clear Opening	Grate Size	Approx. Weight	Height Frame	No. Bars	Size Bars Grating
X-323	24" x 35"	24" x 40"	248 lbs.	4"		3 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ "

*heavy traffic type* X-324

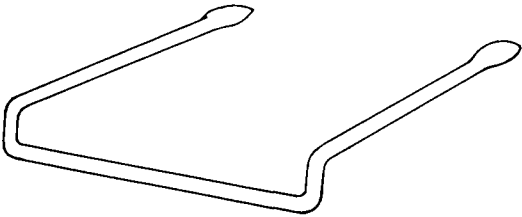
## bicycle proof catch basin frames and grates

Conforms to Los Angeles County Flood Control District Standards . . . Galvanized or hot asphaltum dipped . . .  
. . . H Beam supports used to make multiple units.

Designation Number	Clear Opening	Overall Base	Approx. Weight	Height Frame	No. Bars	Size Bars Grating
X-324	25 $\frac{1}{2}$ " x 35"	25 $\frac{3}{8}$ " x 40"	278 lbs.	4"		3 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ "

## X-400

## fabricated steel steps

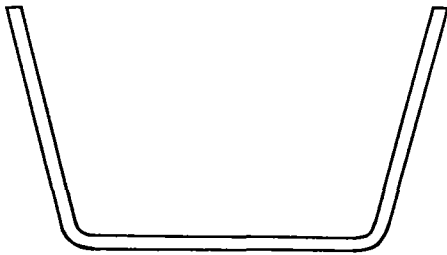


Conforms to Standard design . . . Hot asphaltum dipped . . .  
Galvanized if specified, at additional cost. The steps are  $\frac{3}{4}$   $\phi$  steel.

Designation Number	Width	Leg Length	Approx. Weight	Finish
X-400A	14"	10"	4 $\frac{3}{4}$ lbs.	Black
X-400B	14"	10"	4 $\frac{3}{4}$ lbs.	Galv.

## X-401

## manhole step

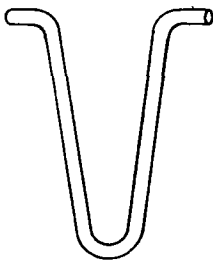


Step for round brick manhole of  $\frac{3}{4}$   $\phi$  steel . . . Galvanized or galvanized and hot asphaltum dipped.

Designation Number	Width	Leg Length	Approx. Weight	Finish
X-401A	14"	10"	4 $\frac{1}{2}$ lbs.	Galv.
X-401B	14"	10"	4 $\frac{1}{2}$ lbs.	Galv. & Black
X-401C	14"	12"	4 $\frac{1}{2}$ lbs.	Galv.
X-401D	14"	12"	4 $\frac{1}{2}$ lbs.	Galv. & Black

## X-402

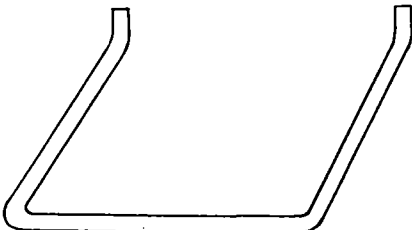
## pulling iron



Pull iron fabricated of  $\frac{3}{4}$ " or  $\frac{7}{8}$ "  $\phi$  steel. For electrical vaults, pullboxes and handholes.

Designation Number	Width	Leg Length	Approx. Weight	Finish
X-402A	8 $\frac{3}{4}$ "	9"	4 $\frac{1}{2}$ lbs.	Galv.

## X-403

4 bend step for concrete structures  $\frac{3}{4}$  steel

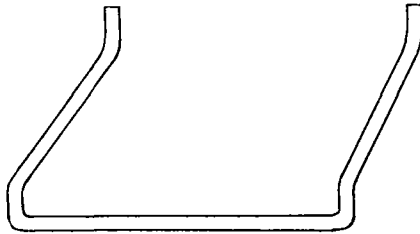
Conforms to Standard design. Galvanized or galvanized and hot asphaltum dipped.

Designation Number	Width	Leg Length	Approx. Weight	Finish
X-403A	14"	10"	4 $\frac{3}{4}$ lbs.	Galv.
X-403B	14"	10"	4 $\frac{3}{4}$ lbs.	Galv. & Black



X-404

6 bend steps for vaults and walls

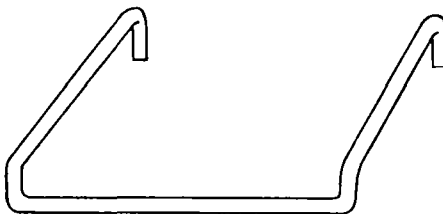


Conforms to Edison Standard Type. Galvanized or galvanized and hot asphaltum dipped. The steps are  $\frac{3}{4}$   $\phi$  steel.

Designation Number	Width	Leg Length	Approx. Weight	Finish
X-404A	14"	8"	5 lbs.	Galv.
X-404B	14"	8"	5 lbs.	Galv. & Black
X-404C	14"	11"	5 lbs.	Galv.
X-404D	14"	11"	5 lbs.	Galv. & Black

X-405

6 bend steps for manholes and vaults



Conforms to Los Angeles County specifications. Galvanized or galvanized and hot asphaltum dipped. The steps are  $\frac{3}{4}$   $\phi$  steel.

Designation Number	Width	Leg Length	Approx. Weight	Finish
X-405A	14"	8"	5 lbs.	Galv.
X-405B	14"	8"	5 lbs.	Galv. & Black
X-405C	14"	10"	5 lbs.	Galv.
X-405D	14"	10"	5 lbs.	Galv. & Black

X-406

catch basin step

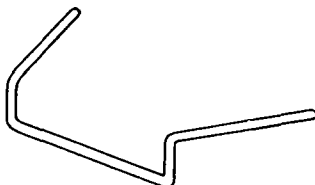


Conforms to Standard design. Galvanized. Steps of  $\frac{3}{4}$   $\phi$  steel for rectangular catch basins and manholes.

Designation Number	Width	Leg Length	Approx. Weight	Finish
X-406A	14"	8"	4 lbs.	Galv.
X-406B	14"	10"	4 lbs.	Galv.

X-407

sewer step

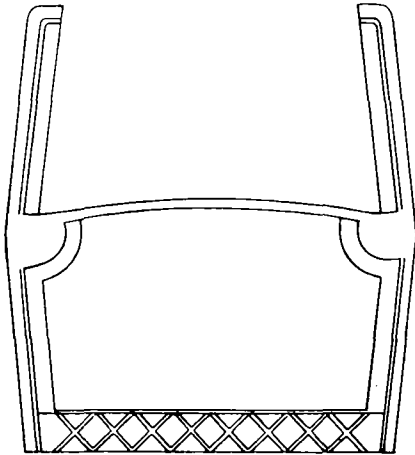


Step for round brick manhole  $\frac{3}{4}$   $\phi$  steel. Galvanized or galvanized and hot asphaltum dipped.

Designation Number	Width	Leg Length	Approx. Weight	Finish
X-407A	14"	12"	5 lbs.	Galv.
X-407B	14"	8 $\frac{3}{4}$ "	5 lbs.	Galv.
X-407C	14"	12"	5 lbs.	Galv. & Black
X-407D	14"	8 $\frac{3}{4}$ "	5 lbs.	Galv. & Black

**X-408**

**cast iron steps**



Conforms to Standard design. Hot asphaltum dipped. Galvanized if specified at additional cost.

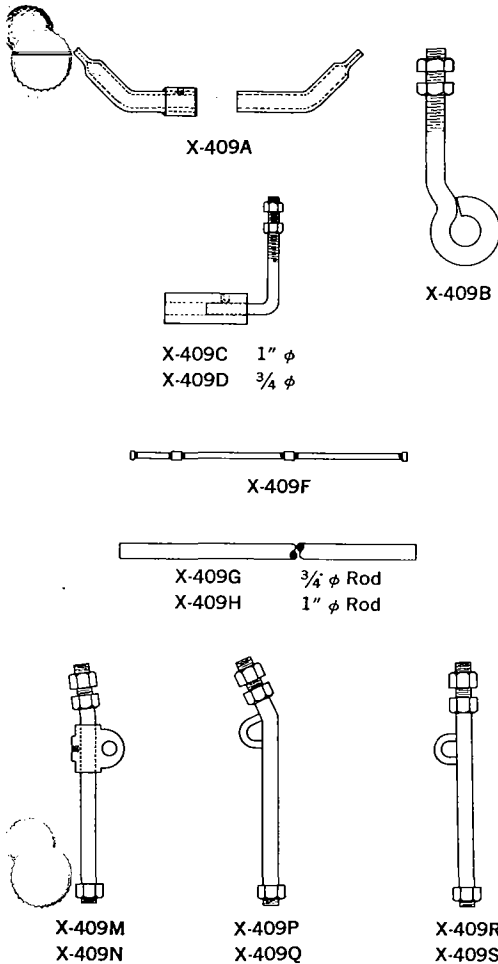
Used primarily in brick or concrete sewer manholes.

Designation Number	Width	Leg Length	Approx. Weight	Finish
X-408A	8 3/4"	10"	10 1/2 lbs.	Black
X-408B	8 3/4"	10"	10 1/2 lbs.	Galv.
X-408C	14"	11 1/2"	21 1/2 lbs.	Black
X-408D	14"	11 1/2"	22 lbs.	Galv.

X-408C and D conforms to U.S.N. Plate No. 27 Spec. 42VB.

**X-409**

**curb support accessories**



**PROTECTION BAR END ANCHOR**

Designation Number	Size	Description and Use
X-409A	3/4 φ	L.A.C.F.C.D. End Anchor for 3/4 φ Rod.
X-409B	5/8 φ	Offset Eye Bolt for 1/2 φ Pipe.
X-409C	1" φ	1" φ Rod Anch. w/C.I. Sleeve for 1" φ Rod.
X-409D	3/4 φ	3/4 φ Rod Anch. w/C.I. Sleeve for 3/4 φ Rod.

**PROTECTION BAR**

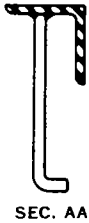
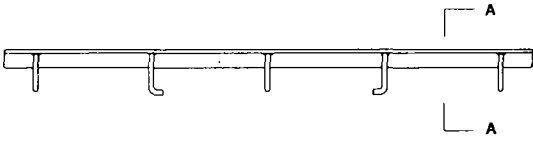
X-409F	1/2 φ Pipe	L.A. Co. Rd. Std. Length to Suit.
X-409G	3/4 φ Rod	L.A.C.F.C.D. & Orange Co. Std. Length to Suit.
X-409H	1" φ Rod	L.A. City, Orange Co. & State Highway Length to Suit.

**SUPPORT BOLTS**

X-409M	1" φ + 1'-6 1/2"	1" φ Support Bolt w/no loop per/LACFCD
X-409N	1" φ	Cast Steel Adj. Support Bolt Loop (LACFCD)
X-409P	1" φ + 1'-9"	Support Bolt w/loop L.A. City
X-409Q	1" φ + 1'-9"	Support Bolt w/no loop L.A. City
X-409R	1" φ + 1'-3 1/2"	Support Bolt w/loop L.A. Co. Rd.
X-409S	1" φ + 1'-3 1/2"	Support Bolt w/no loop L.A. Co. Rd.

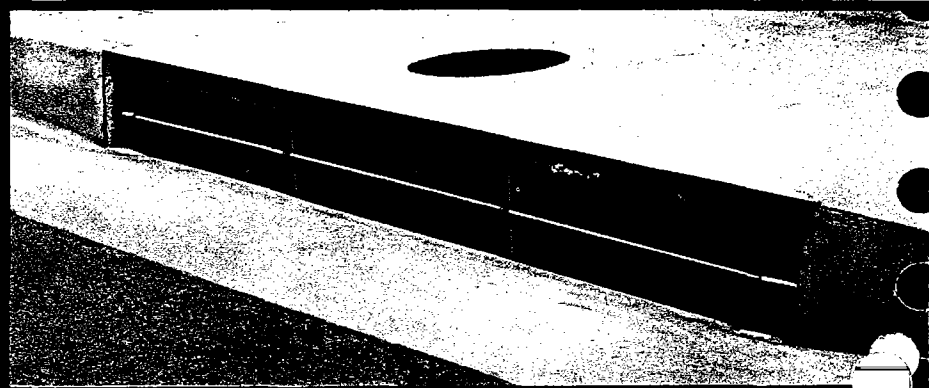
X-410

curb inlet angle



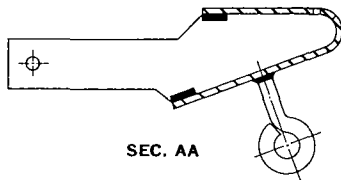
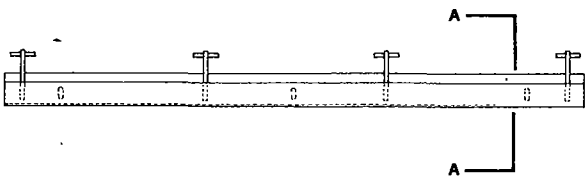
Conforms to Standard design . . . used in catch basin and curb inlets to support concrete above inlet with 1/2" rod anchors. Heavier weight curb angles or larger size angles are available. See photograph below for application.

Plate Number	Size Angle	Approx. Weight	List Prices Per Foot	
			Black	Galvanized
X-410A	3 1/2 x 3 1/2 x 3/16	8# Ft.	P.O.A.	P.O.A.
X-410B	3 1/2 x 3 1/2 x 3/8	9 1/2# Ft.	P.O.A.	P.O.A.
X-410C	3 1/2 x 3 1/2 x 1/2	12# Ft.	P.O.A.	P.O.A.
X-410D	4 x 4 x 3/4	18# Ft.	P.O.A.	P.O.A.

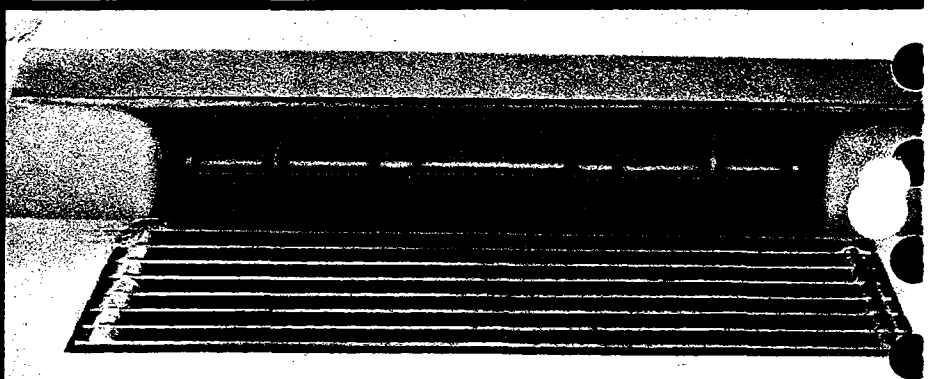


X-411

rolled plate catch basin support

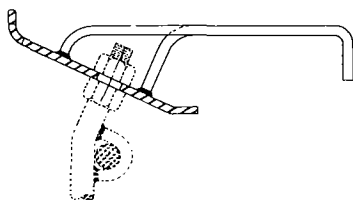
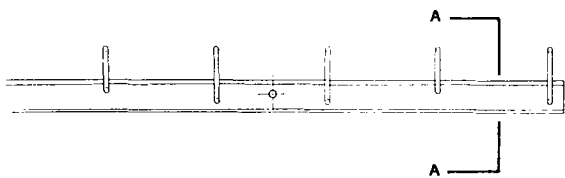


For use on side opening Catch Basin where maximum opening is desired. Eye bolt used to hold up protection bar across center of opening— (see photo). Galvanized with non skid fabric cemented to top edge. Photo below shows applications. Conforms to Los Angeles County specifications.



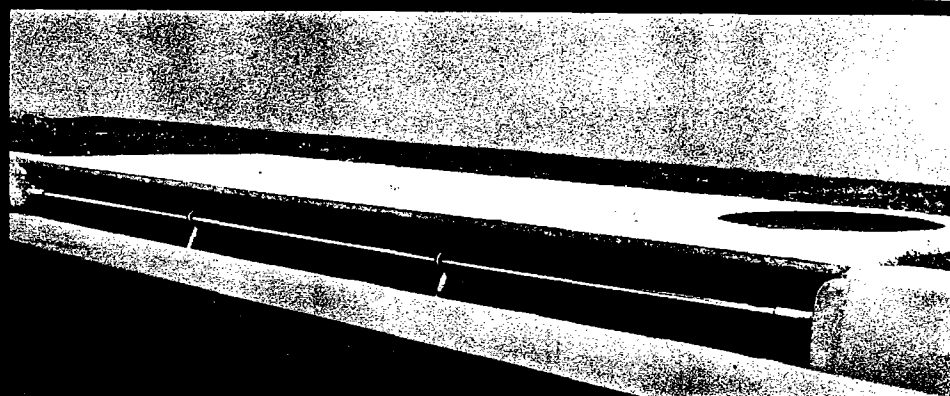
X-412

bent plate catch basin support



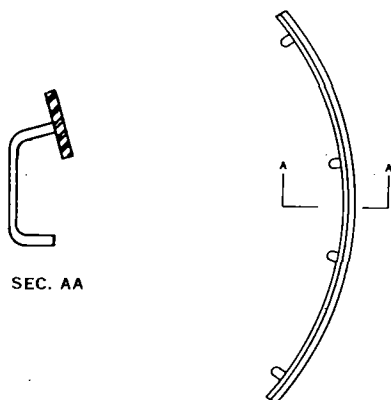
SEC. AA

For use on side opening Catch Basins where maximum opening is desired. Support bolt and eye used to hold protection bar across center of opening. Galvanized. Photo below shows application. Conforms to Los Angeles City, Los Angeles County, State of California specifications.



X-413

state and county type curb armor



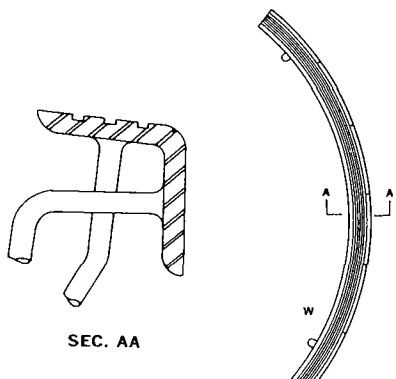
SEC. AA

Galvanized. Used on top of curb at intersection or other places where heavy traffic may cause breakage of concrete.

Designation Number	Size Bar	Approx. Weight
X-413	3/8" x 2 1/2"	4 1/2 lb. per ft.

X-414

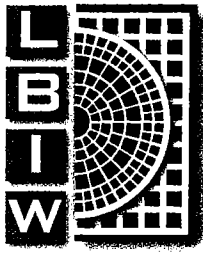
safety steel curb armor



SEC. AA

Conforms to Los Angeles drawing B1604—Case 2. Groove tread. When ordering specify radius of curve and length of arc. Note price list for quantity prices.

Designation Number	Depth	Width	Length Per Section	Approx. Weight
X-414	2 3/4"	2 3/8"	2'6" - 3'	7# Ft.



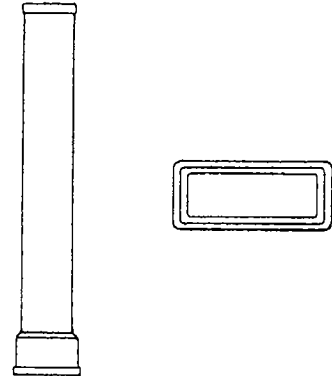
FOUNDRY & FABRICATION

PIPE SIZE	INSIDE PIPE (ID)	OUTSIDE PIPE (OD)	SPIGOT (PLAIN END)	HUB (BELL END)
3" X 5"		X	3-5/8" X 5-1/8"	
	X		2-3/8" X 3-7/8"	
		X		4-5/8" X 6-7/8"
	X			3-3/4" X 5-5/8"
3" X 9"		X	3" X 9"	
	X		1-7/8" X 7-3/4"	
		X		4-5/8" X 11-1/8"
	X			3-1/2" X 9-1/2"
3" X 12-1/2"		X	3-3/8" X 13"	
	X		5/8"	
		X		4-3/4" X 14-3/8"
	X			3-5/8" X 12-3/4"
4" X 14"		X	4-1/4" X 14"	
	X		3" X 12-7/8"	
		X		5-3/4" X 15-5/8"
	X			4-3/8" X 14-3/8"

**X-470 — RECTANGULAR CAST IRON PIPE  
FOR USE UNDER SIDEWALKS  
OR OTHER NARROW SPACES**

OUTSIDE PIPE	OUTSIDE HUBS	TRANSVERSE AREA — NET	LAYING LENGTH	WEIGHT
★ 3" x 5"	4 1/4" x 6 1/4"	11.25 Sq. In.	5'0"	85
★ 3" x 9"	4 1/4" x 10 1/4"	21.20 Sq. In.	5'0"	150
★ 3" x 12 1/2"	4 1/4" x 14"	30.00 Sq. In.	5'0"	200
★ 4" x 14"	5 1/4" x 15 1/4"	47.50 Sq. In.	5'0"	220

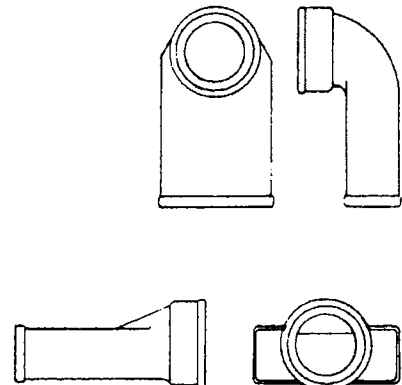
Note: All Pipe Designed with Bell and Spigot Ends.



**X-480 ADAPTORS — ROUND TO RECTANGULAR PIPE**

ROUND PIPE	RECT. PIPE	LAYING LENGTH	WT.
★ 4"	3" x 5"	1'0"	20
★ 5"	3" x 9"	1'0"	45
★ 6"	3" x 12 1/2"	1'0"	35
★ 8"	4" x 14"	1'0"	65

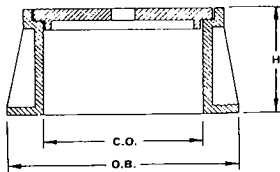
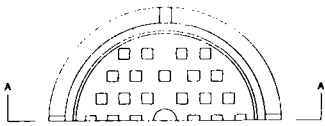
Note: All Adaptors Supplied with Bell and Spigot Ends Except for 6". 6" Adaptor Is No Hub Design.



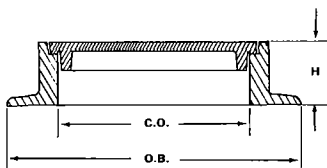
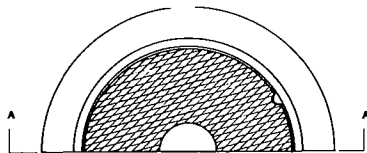
2020 West 14th Street  
Long Beach, CA 90813  
(Tel.) 562.432.5451  
(Fax.) 562.435.5929

heavy traffic type X-508

cleanout frame and cover



SEC. AA  
X-508A



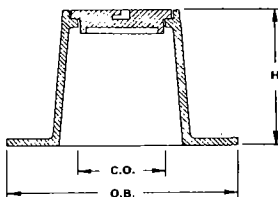
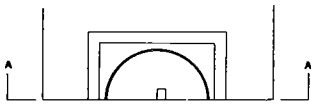
SEC. AA  
X-508B

Lamp hole frame and cover. X-508A conforms to State of Calif. Standard design. X-508B conforms to So. Tahoe Public Utilities District Standard design. Ground to fit. Lettered as required. Raised block tread with pick hole . . . Hot asphaltum dipped . . . Used also for monument marker. \*Furnished with diamond tread.

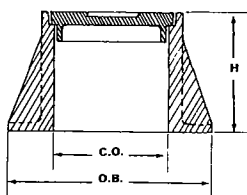
Designation Number	Clear Open	Overall Base	Approx. Weight	Height Frame
X-508A	10"	15"	80 lbs.	7"
X-508B*	12"	19"	45 lbs.	4"

heavy traffic type X-509

test station marker



SEC. AA  
X-509A



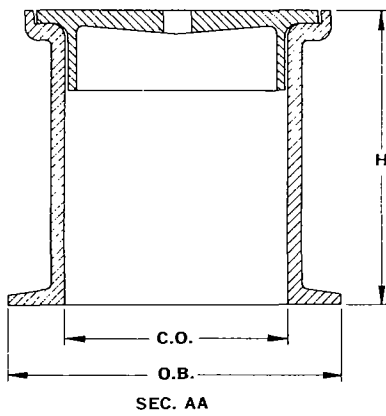
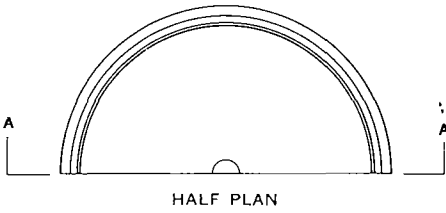
SEC. AA  
X-509B

X-509A conforms to Standard design. X-509B conforms to Boulder City, Nevada Standard design. Plain tread. Hot asphaltum dipped. Special lift slot on X-509A.

Designation Number	Clear Open	Overall Base	Approx. Weight	Height Frame
X-509A	6 3/4"	15 1/2" x 15 1/2"	80 lbs.	9"
X-509B	6 3/4"	12"	60 lbs.	7"

heavy traffic type X-510

sewer lamphole frame and cover

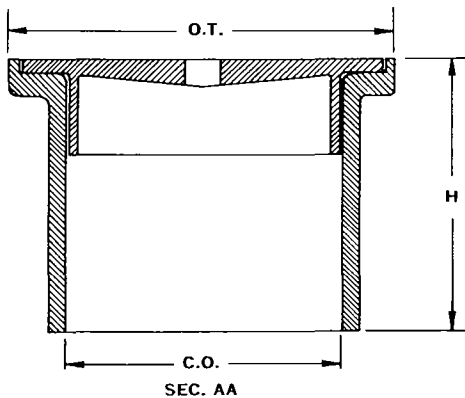
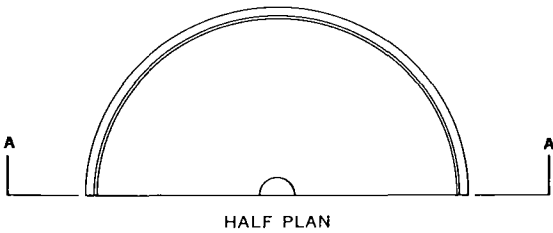


Conforms to Standard design. Ground to fit . . . Lettered as required . . .  
Smooth tread with pick holes . . . Hot asphaltum dipped.  
Used also for sewer cleanouts.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-510A	10"	15"	110 lbs.	12
X-510B	11½"	17"	115 lbs.	12

heavy traffic type X-511

lamphole frame and cover

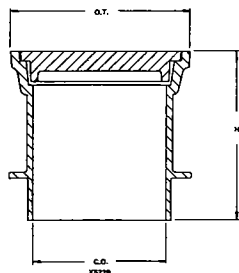
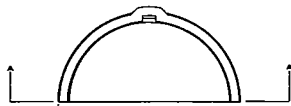
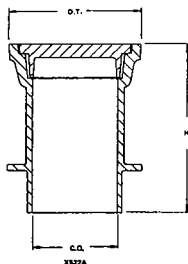
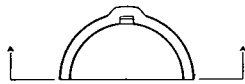


Conforms to Standard design . . . Ground to fit . . . Lettered as required . . .  
Smooth tread with pick hole . . . Hot asphaltum dipped.  
Used also for sewer cleanouts.

Designation Number	Clear Opening	O.D. or Overall Base	Approx. Weight	Height Frame
X-511	10"	11"	80 lbs.	7"

*heavy traffic type* X-522

## gate boxes

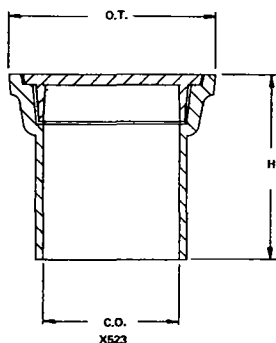
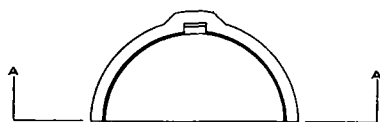


X-521A conforms to City of Long Beach Water Department Drawing No. A5-365 with A-62 cover. X-521B conforms to Drawing No. A5-366 with A-23 cover. Made of cast iron construction. Lettered to suit . . . Ground to fit . . . Hot asphaltum dipped.

Designation Number	Clear Opening	Overall Top	Approx. Weight	Height Frame
X-522 A	7"	10 $\frac{7}{8}$ "	80 lbs.	14"
X-522 B	11"	14 $\frac{7}{8}$ "	135 lbs.	14"

*traffic type* X-523

## gate boxes



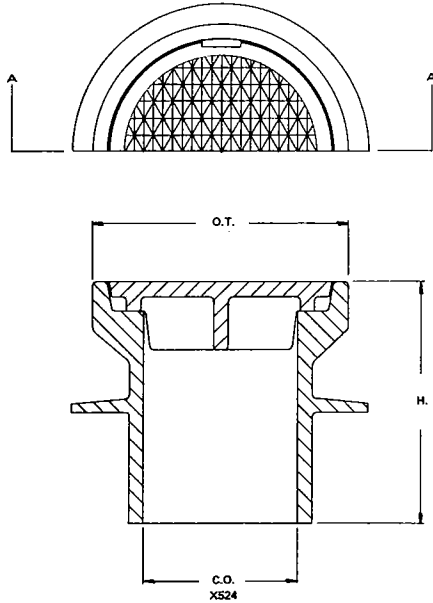
Conforms to City of Long Beach Water Department Drawing No. A5-364 with A-63 cover. Made of cast iron construction . . . Lettered to suit . . . Ground to fit . . . Hot asphaltum dipped.

Designation Number	Clear Opening	Overall Top	Approx. Weight	Height Frame
X-523	7"	10 $\frac{5}{8}$ "	100 lbs.	9 $\frac{5}{8}$ "



heavy traffic type X-524

lamphole frame and cover

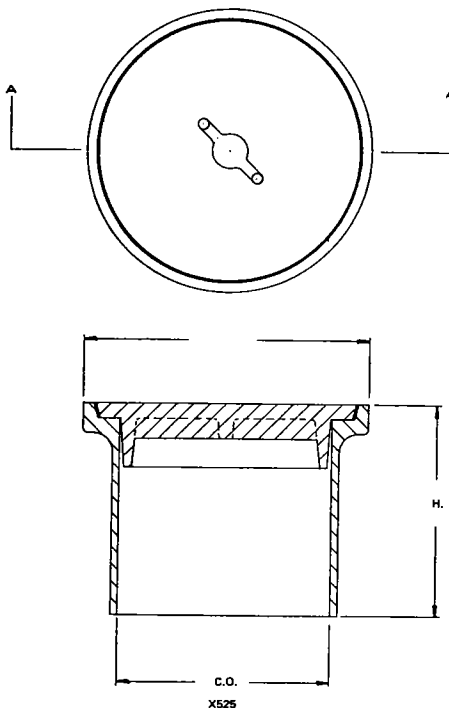


Conforms to City of Long Beach Drawing No. SS-2.  
Made of cast iron construction . . . Ground to fit . . .  
Hot asphaltum dipped.

Designation Number	Clear Opening	Overall Top	Approx. Weight	Height Frame
X-524	18"	13¼"	115 lbs.	12½"

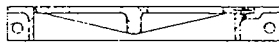
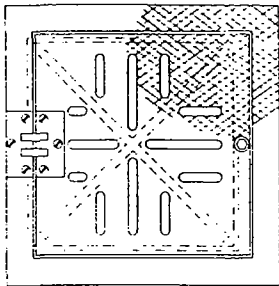
traffic type X-525

monument box frame and cover



Conforms to City of Long Beach Drawing No. A-101.02.  
Made of cast iron construction . . . Machined to fit . . .  
Hot asphaltum dipped.

Designation Number	Clear Opening	Overall Top	Approx. Weight	Height Frame
X-525	11"	14¾"	105 lbs.	11"



**CLEANOUT HINGED COVER AND FRAME**  
 Conforms to Los Angeles County Road Department  
 Dwg. #74-01 for Parkway Drains #1 & #2 Case 1  
**NON-TRAFFIC**

PLATE NUMBER	CLEAR OPENING	OVERALL FLANGE	DEPTH SKIRT	APPROX. WEIGHT
*	12 x 12	16 x 16½	2	45

Flush Cast Link Hinges.  
 Painted: Bituminous Paint.

2100 West Anaheim St.  
 Long Beach, CA 90813  
 (Tel.) 562.432.5451  
 (Fax.) 562.435.5929  
 www.lbiw.com  
 lbiw@ix.netcom.com