



J.R. HOE

Infrastructure
Products

CAST IRON



Cast iron is one of the world's great building materials. It has been used on infrastructure and architectural projects dating back to the 16th century. Made up of three of the Earth's primary elements (Carbon, Silica, and Iron), iron castings weather naturally without harm to the environment. Over time iron is often recycled and cast into new parts. It is a versatile material that offers unique qualities:

Strength: Gray cast iron may be produced from 20 ksi to 40 ksi in tensile strength, depending on its intended use. General engineering grade cast iron is Class 30. For increased strength, ductile iron may be cast in strengths from 60 ksi to 80 ksi, and with specialized heat treatment can reach tensile properties well over 100 ksi.

Durability: Cast iron resists weathering. Uncoated cast iron forms a natural corrosion resistant skin that resists oxidation when exposed to outdoor elements. It far outlasts steel, even when galvanized, and carries zero potentially harmful residues to the environment.

Sustainability: Domestic iron castings contain a high percentage of recycled content. J.R. Hoe castings average over 75% recycled content. Used or obsolete iron parts, such as railroad rail, are entered back into the scrap supply chain and re-

melted to make new castings. Iron castings qualify under the U.S. Green Building Council LEED Credits 4.1/4.2 as "made from recycled content".

Beauty: Iron castings can be designed with smoothly contoured shapes to enhance the aesthetic appeal of any landscape or building project. They age beautifully, becoming an important part of the landscape appeal over time. Cast iron has become the "material of choice" for today's urban streetscapes and green infrastructure projects.

Infrastructure Casting Specifications

General: Castings are of uniform quality and free from defects. Castings are manufactured with smooth finish and well cleaned by shotblast. Due to the natural corrosion resistance of cast iron, castings are furnished uncoated.

Materials: Gray iron castings manufactured by J.R. Hoe conform to ASTM A48, Class 35B where specified. For extreme loading conditions, ductile iron may be specified which conforms to ASTM A536 tensile strength ranges (65,000 – 80,000 psi).

Tolerances: As cast dimensions may vary per industry standards, typically (+/-) 1/16" per unit foot.

Bearing Surfaces: Round frames with grates or covers are supplied with machined bearing surfaces to prevent rocking, unless otherwise noted.

Performance: Overall function and shape, rather than weight, are the major considerations of casting performance. Many castings have been redesigned to provide better load-bearing capabilities at lower weights.

Submittals: The J.R. Hoe engineering department cooperates closely with engineers to specify the appropriate casting for each application. Individual detailed drawings are available for each casting listed.



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HISTORY



Operating out of Middlesboro, KY for more than 110 years, J.R. Hoe is a versatile, quality-focused manufacturer of cast iron and fabricated steel products supplying a wide range of industries throughout North America. As a 5th generation family-owned company, we have earned a reputation for exceptional products and service through an enduring commitment to quality, hard work and customer satisfaction. Today, J.R. Hoe is still family owned and operated and is extremely proud of its heritage. By combining over 100 years of ironworking expertise with the latest technology in product design and metal casting, J.R. Hoe strives to uphold the core principles of hard work, quality and customer service upon which the company was founded.

Manhole Covers

- Designed for H-20 traffic loading
- Standard lettering up to 24" ID: Sanitary or Storm Sewer
- Standard lettering 30" ID: Electric, Communications or Telephone
- Options: special lettering, locking options, bolted, watertight



Round Manhole Covers and Frames

Other sizes available

Catalog Number	A Cover Diameter	B Cover Thickness	C Clear Opening	E Flange OD	F Frame Height
MC-1578	11 1/4	1 5/16	9 3/4	20	8
MC-82	13 1/4	1 1/2	11 1/2	17 5/8	4
MC-162	21 7/8	1 1/2	20 1/4	26 5/8	4
MC-200	22 3/4	1 1/2	20	25	2 3/4
MC-295	22 3/4	1 3/4	21	32 5/8	4
MC-260	22 3/4	1 1/2	21	32	4
MC-315	22 3/4	1 3/4	21	34	7
MC-350	22 3/4	1 1/2	21	35	7
MC-420	24	1 3/16	22	34	7
MC-275	24	1 3/16	22	30	4
MC-206	25 1/4	1 1/2	23 1/2	29 1/2	4
MC-285	26	1 1/2	24	36	4
MC-375	26	1 1/2	24	36	7
KY-510	28	1	25	38	8
MC-680	31 15/16	1 3/8	30	46	5 5/8
MC-780	31 15/16	1 3/8	30	46	10
MC-520	31 7/8	1 3/8	30	38	4
MC-455	34	1 1/2	32 1/4	38 1/2	4
MC-747	38	2	35 3/4	46	6
MC-900	50 1/4	2	48	56 1/2	6

Manhole Cover Options

Pickhole Designs



Open



Concealed



Epic™

Lift Handle Options



Ring Handle



Drop Handle



Pick Bar

Self-Sealed Manhole Covers

Weight of cover "seals" gasket to frame.



Watertight Manhole Covers

Cover is bolted to frame with (4) SS bolts. Neoprene gasket glued to frame seat.



Manhole Cover Accessories

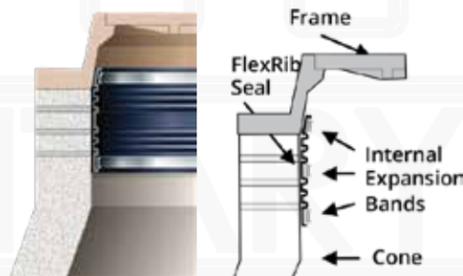
Infra-Risers – Below Ground Rubber Riser

- Reduces traffic vibration damage which prolongs life of pavement and manhole structures
- Protects against load concentration stress
- Reduces water infiltration
- Will not break, split, rot, crack or chip
- Made of 92% recycled raw materials
- Available in round, square and rectangular; flat and tapered risers



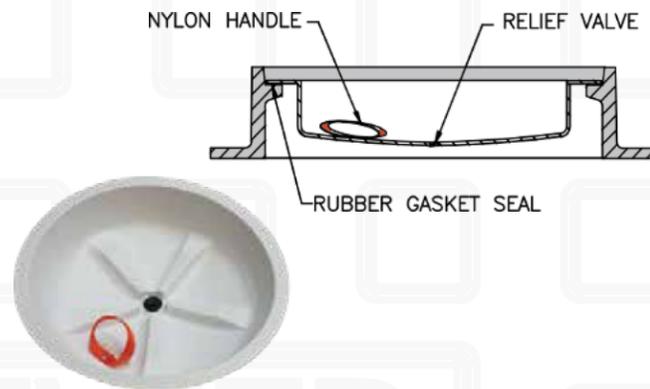
Chimney Seal

FlexRib Seals stop leaking joints by bridging the joint with a flexible rubber seal. This is achieved by compressing the rubber seal against the manhole frame and the manhole cone on either side of the joint with the internal expansion bands forming a watertight seal



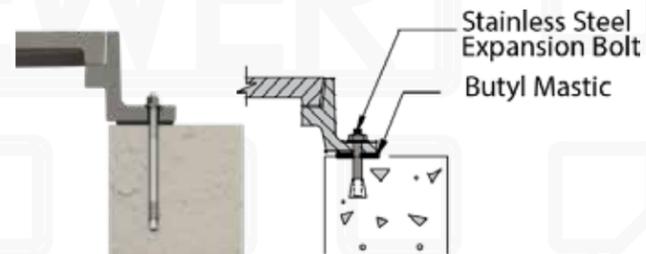
The "RAINSTOPPER" infiltration device

- Stops flow of rainwater into sewage systems
- Controls manhole odors
- Keeps dirt out of system
- Easily installed by one person; weighs 2 lbs.
- To order provide: lid diameter and ID of frame opening



Anchor Bolts

- Secures frame casting to concrete structure.
- Mastic seals out water infiltration.



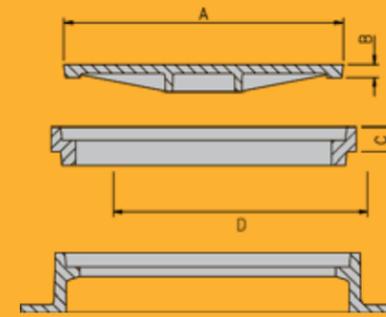
Pavement Riser Rings

Solid Cast Iron Manhole Riser Rings and Expandable Diameter Steel Riser Rings

Used in paving application to raise the manhole cover

INFORMATION NEEDED TO ORDER:

- Cover Diameter
- Cover Thickness
- Inside Clear Opening of Frame
- Height Need to Raise



Water Valve Risers

For 7-1/4" diameter covers
1", 1-1/2", 2", 3", 4" and 6" rise available



Cast Iron Riser Ring



Expandable Diameter Steel Riser Ring



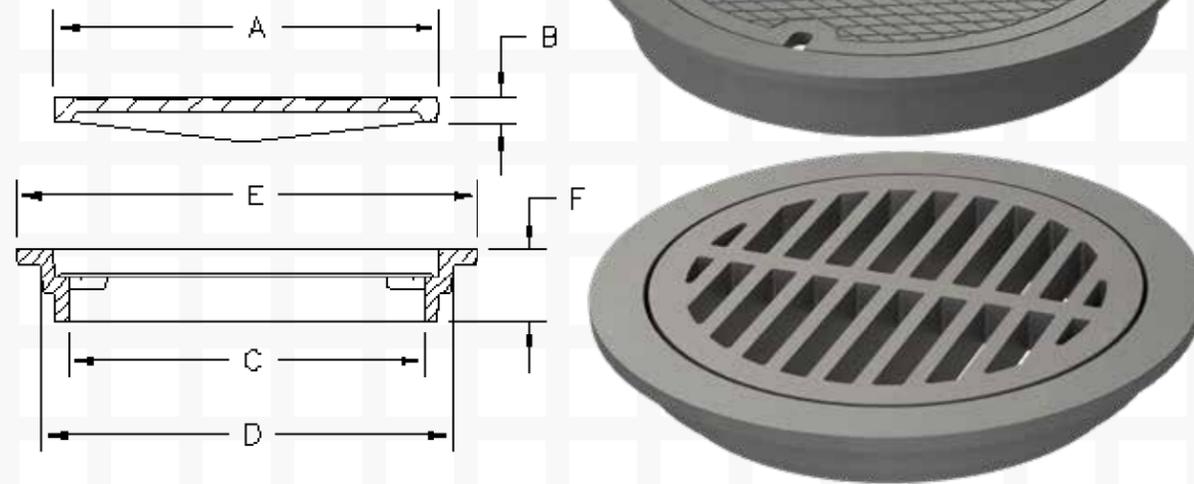
Catch Basin Type 1



Catch Basin Type 2

Manhole Covers/Grates for Slab

- Cast with flange up to anchor into top of concrete slab
- Designed for H-20 traffic loading
- Options: Bolted, watertight, locking options

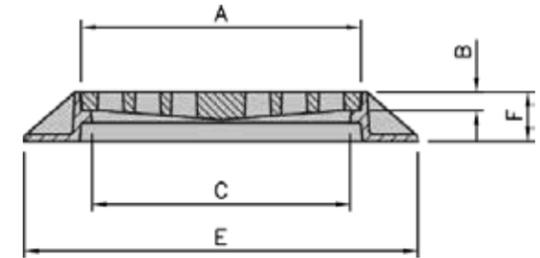


Catalog Number	A Cover/Grate Diameter	B Cover/Grate Thickness	C Clear Opening	D Barrel Diameter	E Flange OD	F Frame Height	Grate Types	Drain Area Sq. Ft.
MCS-82	13 1/4	1 1/2	11 1/2	14 1/2	17 5/8	4	B	0.4
MCS-162	21 7/8	1 1/2	20 1/4	23 5/8	26 5/8	4	B	1.1
MCS-206	25 1/4	1 1/2	23 1/2	26 3/8	29 1/2	4	B	1.3
MCS-288	26	1 1/2	24	27 3/4	36	4	B, R, BH, P	1.3
MCS-455	34 1/4	1 1/2	32 1/4	35 1/2	38 1/2	4	B	2.7
MCS-520	32 1/8	1 1/2	30	34	38	4	B	2.4
MCS-747	38	2	35 3/4	39 3/4	46	6	B	3.4
MCS-900	50 1/4	2	48	52	56 1/2	6	B	5.3

B = BAR GRATE
 R = RADIAL
 P = ADA/PEDESTRIAN
 BH = BEEHIVE

Round Manhole Catch Basins

- All flat grates designed for H-20 traffic loading
- All sizes interchangeable with solid covers
- Options: Bolted



Grate Types

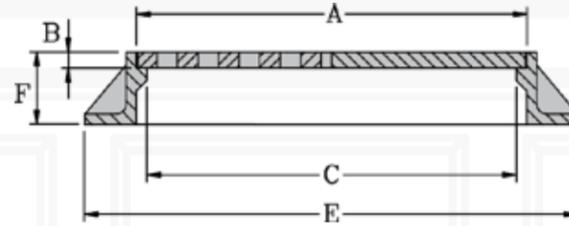


Round Manhole Catch Basins

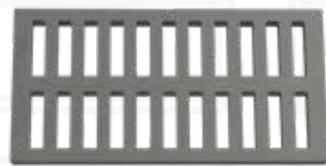
Catalog Number	A Grate Diameter	B Grate Thickness	C Clear Opening	E Flange OD	F Frame Height	Grate Type	Drain Area Sq. Ft.
MCB-82	13 1/4	1 1/2	11 1/2	17 5/8	4	B	0.4
MCB-162	21 7/8	1 1/2	20 1/4	26 5/8	4	B	1.1
MCB-210	22 3/4	1 1/2	20	25	2 3/4	B, R, BH	1.3
MCB-260	22 3/4	1 1/2	21	32	4	B, R, BH	1.3
MCB-315	22 3/4	1 3/4	21	34	7	R, BH	1
MCB-350	22 3/4	1 1/2	21	35	7	B, R, BH	1.3
MCB-420	24	1 3/16	22	34	7	B	0.9
MCB-275	24	1 3/16	22	30	4	B	0.9
MCB-206	25 3/8	1 1/2	23 1/2	29 1/2	4	B	1.3
MCB-285	26	1 1/2	24	36	4	B, P, BH, R	1.3
MCB-375	26	1 1/2	24	36	7	B, P, BH, R	1.3
MCB-520	31 7/8	1 3/8	30	38	4	B	2.4
MCB-455	33 7/8	1 1/2	32 1/4	38 1/2	4	B	2.7
MCB-747	38	2	35 3/4	46	6	B	3.3
MCB-900	50 1/4	2	48	56 1/2	6	B	5.9

B = BAR
 P = ADA/PEDESTRIAN
 R = RADIAL
 BH = BEEHIVE

Square Catch Basin Inlets



Grate Types



Standard (S)



Cross Drain (CD)



Beehive (BH)

SQUARE

Catalog Number	A Grate	B Grate Thickness	C Clear Opening	E Flange OD	F Frame Height	Grate Types	Drain Area Sq. Ft.
HOE-60-A	11 3/4 x 11 3/4	1 1/4	10 x 10	16 x 16	2 1/2	S	0.4
HOE-165-A	18 x 18	1 1/2	16 x 16	23 x 23	4	S, SC, P	1.0
HOE-280S	24 x 24	1 1/2	22 x 22	29 x 29	4	S, SC, P	1.8
HOE-280T	23 11/16 X 23 11/16	1 1/2	22 x 22	29 1/4 x 29 1/4	4	D	1.9
HOE-342	23 9/16 x 23 9/16	1 1/2	22 x 22	32 3/4 x 32 3/4	6	S, P	1.4
HOE-320	25 3/4 x 25 3/4	1 1/2	24 x 24	31 3/8 x 31 3/8	4	D	2.2
HOE-326	26 x 26	1	24 x 24	32 x 32	4	BH	2.0
HOE-428	30 x 30	1 1/2	28 x 28	34 1/2 x 34 1/2	4	CD	2.7
HOE-468	31 3/4 x 31 3/4	1 1/2	30 1/8 x 30 1/8	37 1/2 x 37 1/2	4	CD, SC	3.3
HOE-595	35 1/2 x 35 1/2	1 7/8	33 1/4 x 33 1/4	40 3/4 x 40 3/4	3	CD, DF	3.6
HOE-598	37 1/2 x 37 1/2	1 1/2	36 x 36	43 1/4 x 43 1/4	4	S	4.5
HOE-918	50 5/8 x 50 5/8	1 5/8	48 5/8 x 48 5/8	56 1/4 x 56 1/4	4 3/8	S	9.5

SQUARE INLETS FOR SLAB

Catalog Number	A Grate	B Grate Thickness	C Clear Opening	E Flange OD	F Frame Height	Grate Types	Drain Area Sq. Ft.
MCS-112	13 3/8 x 13 3/8	1 9/16	11 5/8 x 11 5/8	19 1/8 x 19 1/8	4	S, P, CD	0.4
MCS-234	23 11/16 x 23 11/16	1 1/2	22 x 22	29 1/4 x 29 1/4	4	S, P	1.85
MCS-320	25 3/4 x 25 3/4	1 1/2	24 x 24	31 3/8 x 31 3/8	4	D, P	2.2
MCS-428	30 x 30	1 1/2	28 x 28	34 1/2 x 34 1/2	4	CD	2.7
MCS-468	31 3/4 x 31 3/4	1 1/2	30 1/8 x 30 1/8	37 1/2 x 37 1/2	4	CD, SC	3.3
MCS-718	37 1/2 x 37 1/2	1 1/2	36 x 36	43 1/4 x 43 1/4	4	CD, SC	4.5



Square Inlets for Slab

Rectangular Catch Basin Inlets

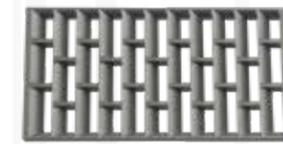


- Frame bottom flange to rest on concrete structure
- Designed for H-20 traffic loading
- Most available with solid covers
- Options for one piece solid covers: bolted, watertight

Grate Types



ADA/Pedestrian (P)



Directional Flow (OF)



Solid Cover (SC)

RECTANGULAR

Catalog Number	A Grate	B Grate Thickness	C Clear Opening	E Flange OD	F Frame Height	Grate Types	Drain Area Sq. Ft.
HOE-180-A	18 x 24	1 1/4	16 x 22	24 x 30 1/4	4	CD	1.2
HOE-175-A	20 x 23	1 1/2	18 x 21	24 x 27	3 1/2	S, DF	1.1
HOE-275-A	24 x 30	2	20 x 26	29 x 35	3 1/2	S, DF	2.4
HOE-460	23 5/8 x 29 3/8	2 1/2	21 5/8 x 27 5/8	30 x 36	3 1/2	CD	2.4
KY-460-11	23 1/2 X 30	3	21 3/8 x 27 7/8	32 1/2 x 39	3 3/4	CD	2.3
HOE-562	25 5/8 x 31 3/4	1 1/2	24 3/16 x 30 1/8	31 3/8 x 37 3/8	4	CD	2.7
HOE-580	16 7/8 x 19 (2)	1 3/4	15 1/4 x 35 13/16	26 x 41 3/8	5 1/2	S, DF	1.4
HOE-518	23 3/4 x 35 3/4	1 1/2	21 15/16 x 34	29 1/2 x 41 1/2	4	D, S, SC, P	2.8
HOE-818	24 x 24 (2)	1 1/2	24 x 48	35 x 60	5	S, SC	3.3
HOE-567	24 13/16 x 25 3/4 (2)	1 1/2	24 x 48	31 1/2 x 55 1/2	4	S	3.7

B = Bar Grate P = Pedestrian BH = Beehive LV = L-Vane



Double Catch Basin Inlets

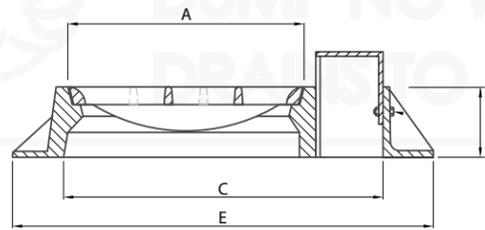
DOUBLE CATCH BASINS

Catalog Number	A Grate	B Grate Thickness	C Clear Opening	E Flange OD	F Frame Height	Grate Types	Drain Area Sq. Ft.
HOE-275-A DBL	24 x 24 (2)	2	26 x 48	36 x 56	3 1/2	S	5.0
HOE-428-DBL	30 x 30 (2)	1 1/2	28 x 56	34 1/2 x 66 1/2	4	S	5.3
HOE-518-DBL	36 x 48	1 1/2	34 x 48	43 x 57 1/2	4	S	4.2
HOE-818-DBL	24 x 24 (4)	1 1/2	48 x 48	57 1/2 x 60	5	S	6.6

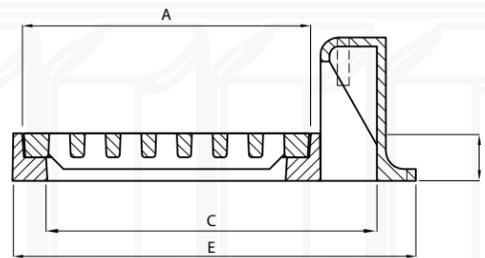
Curb Box Inlets



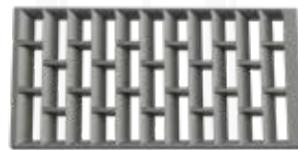
- For curb and gutter
- Available in two design types, as noted
- Grates designed for H-20 traffic loading



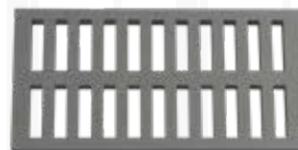
TYPE A



TYPE B



Directional Flow (OF)



Standard (S)



Vane

Curb Box Inlets

Catalog Number	A Grate	B Grate Thickness	C Clear Opening	E Flange OD	F Frame Height	Curb Box	Design	Grate Types	Drain Area Sq. Ft.
HOE-399	16 1/16 x 23	2	20 7/8 x 22	36 dia	8	Adj	A	S, DF	1.0
HOE-360	19 7/8 x 22 7/8	1 1/2	17 3/4 x 20 1/2	32 x 36	6	Adj	B	S, DF	0.8
HOE-465	18 x 24	1 1/4	22 x 22	34 x 34	5	6	A	S, DF	0.9
HOE-470	16 7/8 x 19 (2)	1 3/4	14 3/4 x 36	32 x 44	6	Adj	A	S, DF	1.4
HOE-525	17 5/8 x 35 1/2	1 7/8	24 1/4 x 33 1/4	31 x 43	4 - 6	Adj	A	CD, DF	1.8
HOE-950	24 x 48	2	28 x 44	33 7/8 x 49 7/8	4	12	B	CD	3.2

Concave and Drive Over/Roll Curb Inlets



CONCAVE INLETS

For Special Surface Drainage Conditions

Catalog Number	A Grate	B Grate Thickness	C Clear Opening	E Flange OD	F Frame Height	Drain Area Sq. Ft.
HOE-149	18 x 24	1 1/2	16 x 22	19 1/2 x 25 1/2	3 1/2	1.1
KY-550	18 x 30	2 1/2	16 x 28	30 x 42	4 1/2	1.5
HOE-405	24 x 24	1 1/2	24 x 24	35 x 35	6	1.9
HOE-449	23 1/4 x 33	1 3/4	23 x 31	30 x 40 1/2	5	2.1



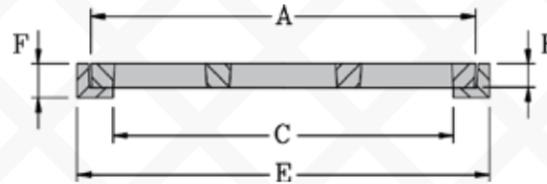
ROLL CURB INLETS

For driveways and mountable curbs

Catalog Number	A Grate	B Grate Thickness	C Clear Opening	E Flange OD	F Frame Height	Drain Area Sq. Ft.
HOE-410	26 1/2 x 22 1/2	2	23 3/8 x 20	28 x 32	3 1/2 to 6	2
HOE-698	26 1/2 x 22 1/2 (2)	2	23 3/8 x 44	32 x 51	3 1/2 to 6	4

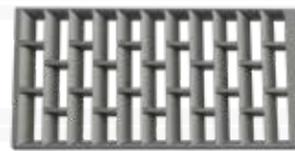
Other sizes available

Angle Frame and Grates/Covers



- Cast or fabricated angle frames available
- Grates and/or covers available, as noted
- Designed for H-20 traffic loading

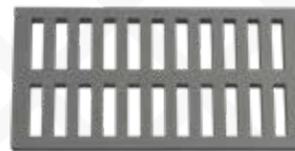
Grate Types



Directional Flow (OF)



ADA/Pedestrian (P)



Standard (S)



Solid Cover (SC)



Cross Drain (CD)

Angle Frame and Grate Covers

Square

Catalog Number	A Grate/Cover	B Gr/Cvr Thickness	C Clear Opening	E Flange OD	F Frame Height	Grate/Cover Types	Drain Area Sq. Ft.
HOE-60	12 x 12	1	10 x 10	13 1/2 x 13 1/2	1 1/2	S, SC	0.4
HOE-165	18 x 18	1 1/2	15 1/2 x 15 1/2	21 x 21	2 1/2	S, SC	0.9
HOE-200	24 x 24	1 1/2	22 x 22	26 x 26	2 1/2	S, CD, SC, BH	1.4
HOE-315	27 x 27	1 1/2	25 1/2 x 25 1/2	30 1/2 x 30 1/2	2 1/2	S, CD, SC	2.3
HOE-368	31 3/4 x 31 3/4	1 1/2	29 1/4 x 29 1/4	32 3/4 x 32 3/4	1 3/4	S, CD, SC	2.8
HOE-490	35 1/4 x 35 1/4	2	32 1/4 x 32 1/4	36 1/4 x 36 1/4	2 1/2	S, DC, DF	3.8
HOE-555	38 3/8 x 38 3/8	2	36 x 36	42 x 42	3	S, CD	4.5

Rectangular

Catalog Number	A Grate/Cover	B Gr/Cvr Thickness	C Clear Opening	E Flange OD	F Frame Height	Grate/Cover Types	Drain Area Sq. Ft.
HOE-108	14 x 24	1 1/2	11 3/8 x 21 1/4	14 7/8 x 24 3/4	1 3/4	S, P, SC	0.8
HOE-180	18 x 24	2	16 x 22 1/2	19 x 25	2 1/2	CD	1.2
KY-230	17 5/8 x 29 3/4	2 1/2	15 3/4 x 27 3/4	19 1/2 x 31 3/8	3 1/2	DF	1.4
HOE-245	17 1/2 x 35 1/4	2	14 7/8 x 32	18 1/4 x 36	2 1/2	CD, DF	1.5
HOE-275	24 x 30	2	20 x 26	25 1/2 x 31 1/2	2 1/2	S	2.4
HOE-330	24 x 36	2	21 x 33	25 x 37	2 1/2	S	2.9
HOE-690	24 x 48	2	20 x 44	25 7/8 x 49 7/8	4	CD	3.2
HOE-700	27 3/4 x 36	3	24 x 36	30 x 39 1/2	4	CD	2.4

Other sizes available

Heavy Duty Access Hatches

The heavy duty hinged hatch access assembly series is designed to be installed in high traffic areas. The optional lift assist reduces the lifting forces of the cover to less than 50 pounds. These hatches are typically installed in airports and ports. Our airport rated hinged hatch provides a secure and easy access point to underground utility structures. The standard lift assist reduces the lifting force of the cover to less than 50 pounds.

Heavy Duty Series (High Traffic Areas)

Clear Opening	
24 x 36	
24 x 24	
30 x 30	
30 x 62	Double Door
36 x 36	
36 x 74	Double Door
48 x 48	
48 x 48	Double Door

- 40,000 lbs. on 9" x 9" contact area
- Lift Ring
- Options: special lettering, hinged with safety bar, bolted, hasp lock

Extra Heavy Duty Series (Airport)

Clear Opening	
24 x 24	
30 x 30	
30 x 62	Double Door
36 x 36	
36 x 74	Double Door
48 x 48	

- Extra heavy duty / Proof load 200,000 lbs. / Gray iron frame / Ductile iron cover
- Furnished with hex head bolts and washers
- Options: special lettering, security bolting, water resistant gasket



KYDOH

- KYDOH Certifications provided
- Welding by KYDOH certified welders
- Cast Iron H-20 traffic load rated

KYDOH Drop Boxes (Steel)



Catalog Number	Description
KY-316	Drop Box Inlet Type 1: Frame and 2pc Grate
KY-398	Drop Box Inlet Type 2: Frame and 2pc Grate
KY-328	Drop Box Inlet Type 3: Frame and 2pc Grate
KY-410	Drop Box Inlet Type 4: Frame and 2pc Grate
KY-460	*Drop Box Inlet Type 5A, 5B, 5C, 5D, 5E, or 5F: Frame and 2pc Grate
KY-426	*Drop Box Inlet Type 6A, 6B, 6C, 6D, 6E, or 6F: Frame and 2pc Grate
KY-328	Drop Box Inlet Type 7: Frame and 2pc Grate

KYDOH Drop Boxes (Cast Iron)



Catalog Number	Description
KY-550	Drop Box Inlet Type 10: Frame and Grate
KY-460CI	Drop Box Inlet Type 11: Frame and Grate
KY-130	Drop Box Inlet Type 12: Frames and Grates
KY-130BLT	Drop Box Inlet Type 12A: Bolted Frames and Grates
KY-240	Drop Box Inlet Type 13/16 Grade: Frame and Grate
KY-480	Drop Box Inlet Type 13/16 Sag: Frames and Grates
KY-210	Drop Box Inlet Type 14: Frame and Grate
KY-215	Drop Box Inlet Type 15: Frame and Beehive Grate

KYDOH Curb Boxes (Cast Iron)



Catalog Number	Description
KY-345	Concrete Median Barrier Box Inlet: Frames and Grate
KY-206	Curb Box Inlet Type A: Frame and Cover
KY-345	Curb Box Inlet Type B: Frames and Grate
KY-465	Standard Curb Box Inlet Type F: Frame, Grate and Curb Box

KYDOH Security Plate

Steel Sloped Headwall Grates



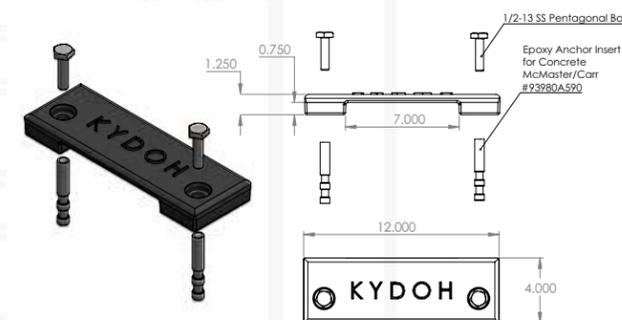
Catalog Number	Description
KY-161	15-18" Sloped Box Outlet Type 1: 2pc Grate set
KY-300	24" Sloped Box Outlet Type 1: 3 pc Grate set
KY-272	18" Sloped and Flared Box Inlet-Outlet: 2 pc Grate set
KY-454	24" Sloped and Flared Box Inlet-Outlet: 2 pc Grate set
KY-796	30" Sloped and Flared Box Inlet-Outlet: 3 pc Grate set
KY-1218	36" Sloped and Flared Box Inlet-Outlet: 4 pc Grate set
KY-298	Sloped Box Inlet or Outlet Type 1: 2 pc Grate set
KY-206-S	Sloped Box Inlet or Outlet Type 2: 2 pc Grate set
SBI-SGL	15", 18", 24" Single Safety Box Inlet: 2 pc Grate set
SBI-DBL	Double Safety Box Inlet: 4 pc Grate set

KYDOH Manhole Covers



Cat. No.	Description
KY-206	Non-Traffic Frame and Cover Type 1
KY-510	Traffic, Bolted Frame and Cover Type 2

KYDOH Security Plate Assembly



The Headwall Security Plate Assembly is designed to deter theft of headwallgrates. Made of unbreakable ductile cast iron, the plate attaches to the headwall via two anchor bolts using 1/2" Drive-In Adhesive Capsules for easier installation. What really sets the KYDOH Security Plate apart is the use of a Tri-Groove Tool, which is engineered to fit the 1/2" Stainless Steel Tri-Groove security nut.

No epoxy supplied.

INDIANA DOT

- Designed for H-20 traffic loading
- INDOT Certification Letters
- Furnished with castings



MonA/B



QS/OSD



SQ / SQA



Type 2



Type 3



Type 4



Type 5

MADE IN USA

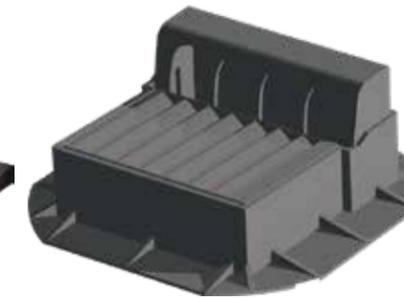
INDIANA DOT

Indiana Department of Transportation Specifications

INDOT castings comply with INDOT Standard Specification Section 910.05. INDOT castings are melted and manufactured 100% in the United States of America at EJ USA in East Jordan, Michigan and Ardmore, Oklahoma. INDOT castings comply with the applicable provisions of the Code of Federal Regulations 23 CFR 635.410 BUY AMERICA Requirements. Material Certification Letters are available upon request.



Type 7



Type 8



Type 10



Types 12 (DBL) & 12 A (SGL)



Type 13



Type 14



Type 15



RCP-BH

Airport Castings

EJ USA airport castings are offered in many styles: round or square manhole covers, catch basins, drainage inlets, trench grating and mooring eyes. All extra heavy duty construction castings are manufactured with gray iron conforming to ASTM A48, Class 35B and ductile iron conforming to ASTM A536.



1895 Airport Manhole Frame & Cover
Proof load 345,000 lb.



7585 Airport Manhole Frame & Grate
Proof load 245,000 lb.



Airport Mooring Eye
Ductile Iron ASTM A536

Airport Castings



6900 Airport Trench Grating
Proof load 200,000 lb.



Airport Spring Assist Hatches
Proof load 200,000 lb



2880 Airport Frame & Grate
Waiting on proof load from EJ

Tree Grates

Durable, functional and architecturally appealing tree grates are a necessity for healthy trees in various settings from urban environments, campuses, parks, to indoor malls. Tree grates provide more area for pedestrian activity while protecting developing trees and root systems. The slotted design allows for watering and drainage in addition to being ADA compliant for pedestrian safety. The harrow slot of an ADA grate also prohibits litter from collecting in the tree well and minimizes the growth of weeds.

Square Tree Grates



Round Tree Grates



Rectangle Tree Grates



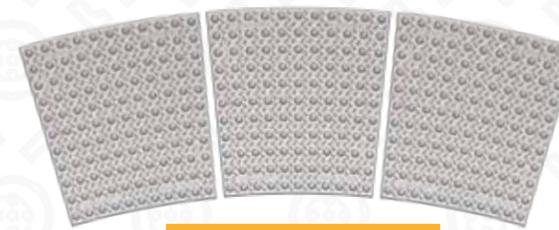
Additional designs available.



Detectable Warning Plates

- Compliant with ADA Accessibility Guidelines
- Easy Installation
- Made from Recycled Materials (LEED)
- Cast Iron: durable, reliable, proven, corrosion resistant, permanently embedded in concrete
- Available in many sizes; radial in 5 ft. increments up to 35 ft.
- Made in USA
- Impervious to vehicular and snow plow traffic

Plate Sizes



Radial sizes available in 5' increments



18"x24"

24"x30"

24"x24"

Radius	Number of Plates for 90° Corner
10 ft.	8
15 ft.	15
17.5 ft.	18
20 ft.	20
25 ft.	23
30 ft.	25
35 ft.	30

* Custom Sizes - Build Your Own Width.



Standard Trench Grates

Trench Grate Frames



Standard (S)
(Z Frame)



Cross Drain (CD)
(Std Angle Rail)



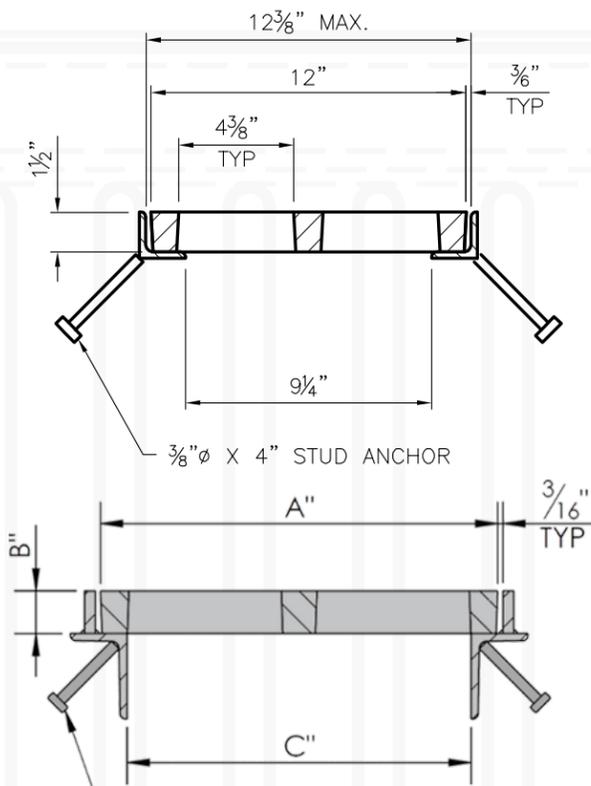
ADA Pedestrian (P)
(Cast Iron Frame)



Directional Flow (DF)
(Cast Iron Frame)



Solid cover (SC)
(Std Angle Rail)

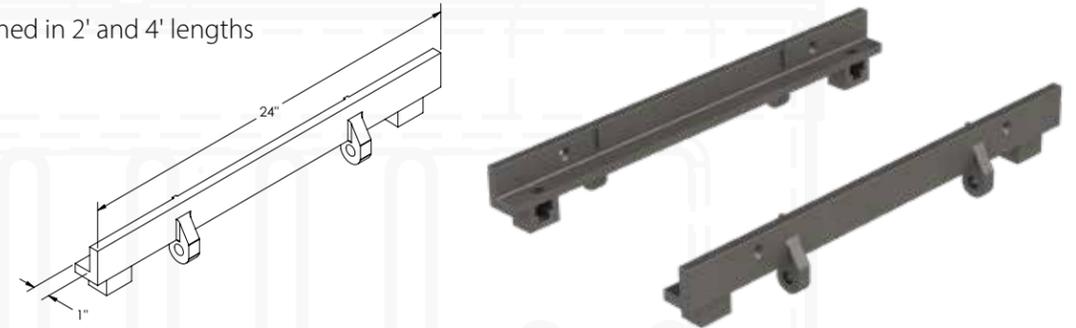


- Designed for H-20 traffic loading
- Three frame options: Standard, Z or cast iron
- Options: Bolted or security bolted to cast iron frame only; locking
- Solid Covers available
- Recommend installing frame for all trench applications

A	B	C Cast / Z Frames	C Std. Angle	Open Area in Sq. Ft.	Grate Type
8	1-1/2	6	5-1/4	.20	S, CD, SC, P
10	1-1/2	8	7-1/4	.24	S, CD, SC, P
12	1-1/2	10	9-1/4	.31	S, CD, SC, P
14	1-1/2	12	11-1/4	.39	S, CD, SC, P, DF
17	1-1/2	15	14-1/4	.51	S, CD, SC, P
20	1-1/2	18	17-1/4	.62	S, CD, SC, P
23	1-1/2	21	20-1/4	.74	S, CD, SC
26	1-1/2	24	23-1/4	.85	S, CD, SC
30	2-1/2	27		1.26	S, CD, SC
33	2-1/2	30		1.32	S, CD, SC
36	2-1/2	33		1.47	S, CD, SC
39	2-1/2	36		1.61	S, CD, SC
45	2-1/2	42		1.85	S, CD, SC

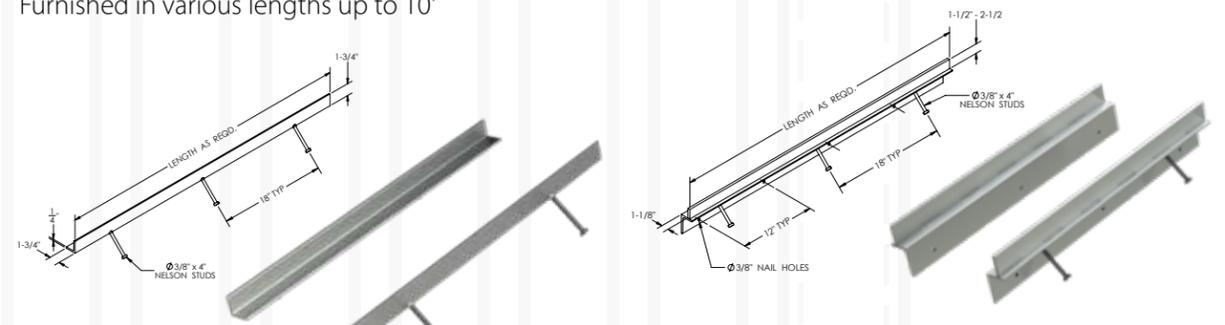
Cast Iron Frames

Furnished in 2' and 4' lengths



Fabricated Rails

Furnished in various lengths up to 10'



Standard Angle Frame

Z Angle Frame
vertical leg for forming purposes

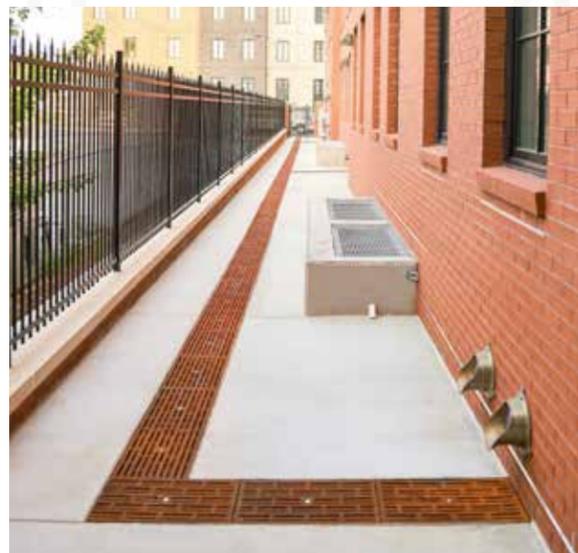
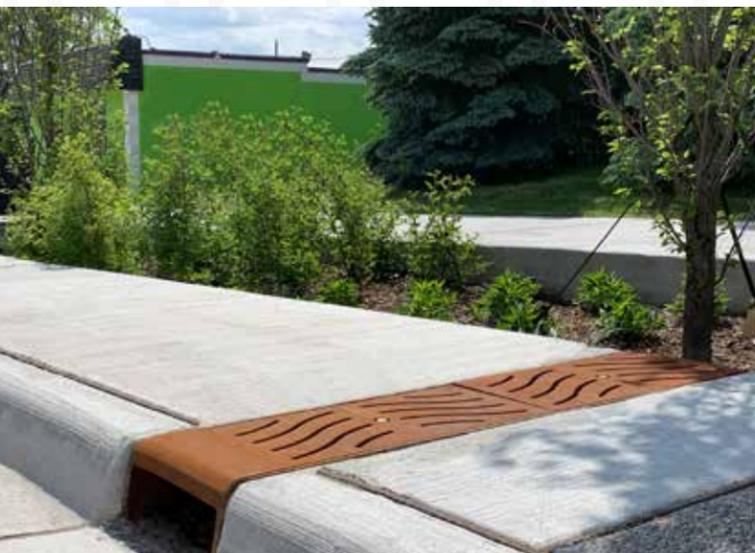
Bolted Grating or Covers

All trench grates/covers listed may be security bolted to cast frame. Theft-proof bolts available upon request





The Evergrate family of products is the industry's only trench drainage system engineered specifically to convey stormwater runoff through sidewalk and pedestrian zones between buildings, roadways and green spaces. From streetscape and green infrastructure applications to building and parking lot drainage systems, the Evergrate products' one-of-a-kind performance based design is practical, durable and aesthetically pleasing.

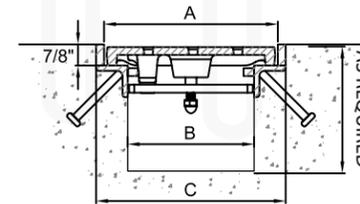


All components manufactured by J.R. Hoe in Middlesboro, KY, USA from a minimum of 75% Recycled Content



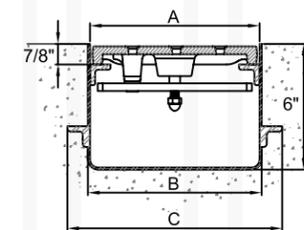
Frame Options

ANGLE FRAME



Product#	A	B	C	Notes
T-06A	6 1/4"	4"	7"	• Angle frames provided in loose pieces • Standard Lengths: 18", 48", 60"
T-OSA	8 1/4"	6"	9"	• Finish Options: Plain, Galvanized, Powder Coating • Field cut frame for odd length runs
T-12A	12 1/4"	10"	11"	• Compatible with Evergrate downspout boots and curb openings
T-14A	14 1/4"	12"	15"	• End Plates available as required (see end plate spec sheet)

CHANNEL FRAME



Product#	A	B	C	Notes
T-06C	6 1/4"	6 5/8"	8 1/2"	• Standard Lengths: 18", 48", 60"
T-OSC	8 1/4"	8 5/8"	10 1/2"	• Finish Options: Plain, Galvanized, Powder Coating • Field cut frame for odd length runs
T-12C	12 1/4"	12 5/8"	14 1/2"	• Compatible with Evergrate downspout boots and curb openings • U-Brackets available for joining successive frame pieces together
T-14C	14 1/4"	14 5/8"	16 1/2"	• End Plates available as required (see end plate spec sheet) • Grates offered in 18" and 24" standard lengths • Stainless Steel Penta-Lok anti-theft device standard

Grate Styles



- ASTM A48 Class 30B Gray Iron
- Made in USA from 75% Recycled Content

- Grates offered in 18" and 24" standard lengths
- Stainless Steel Penta-Lok anti-theft device standard

Downspout Boots



Inlet sized for downspouts 3" to 6", round, square, rectangular

Outlet designed for below grade connection to Evergrate Angle and Channel Frames

Curb Openings



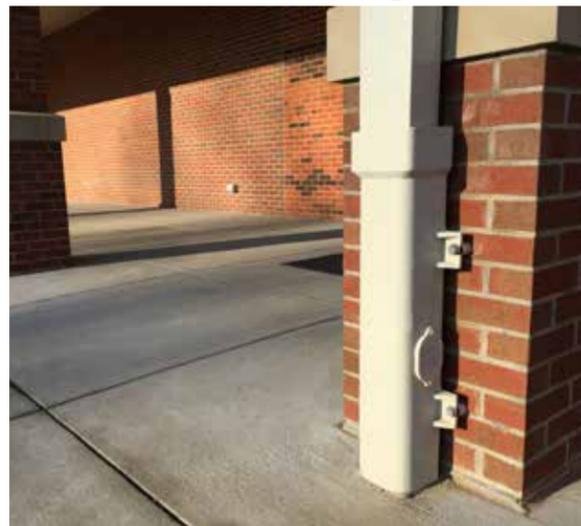
- Available in 6", 8", 12" and 14" widths to fit Evergrate Angle and Channel Frames
- 3 different styles accommodate trench, pipe connections plus flush back applications

Visit www.evergrate.com to download drawings or request a quote.

DOWNSPOUTBOOTS.com

A DIVISION OF **J.R. HOE**

Manufactured in the USA from industrial grade cast iron, J.R. Hoe downspout boots prevent damage to the downspout at the most critical point in the building drainage system. With a durable and flow efficient design, cast iron downspout boots are available in plain finish, primer coated or powder coated. In addition to its standard product line of cast iron downspout boots, J.R. Hoe offers custom-sized downspout boots fabricated from carbon steel, aluminum and stainless steel with various coating options.



Cast Iron Downspout Boot Options

Square & Rectangular Top Bell Sizes

Top Bell	Outlet OD	Available Lengths
3" x 4"	4 1/4", 4 7/8"	16", 20", 24", 28", 32", 36", 40", 44", 48", 52", 56", 60", 64", 68", 72", 76", 80"
3" x 5"	4 1/4", 4 7/8"	
4" x 4"	4 1/4", 4 7/8"	
4" x 5"	4 7/8", 5 7/8"	
4" x 6"	4 7/8", 5 7/8"	
5" x 5"	4 7/8", 5 7/8"	
5" x 6"	5 7/8", 6 7/8"	
5" x 7"	5 7/8", 6 7/8"	
6" x 6"	5 7/8", 6 7/8"	
6" x 8"	5 7/8", 7 1/4"	
8" x 8"	8 1/4"	24", 30", 36", 42", 48", 54", 60", 66", 72", 78", 84"



Offset Angular Ninety

Round Top Bell Sizes

Top Bell	Outlet OD	Available Lengths
3" Round	4 1/4", 4 7/8"	16", 20", 24", 28", 32", 36", 40", 44", 48", 52", 56", 60", 64", 68", 72", 76", 80"
4" Round	4 1/4", 4 7/8"	
5" Round	4 7/8", 5 7/8"	
6" Round	5 7/8", 6 7/8"	
8" Round	8 1/4"	24", 30", 36", 42", 48", 54", 60", 66", 72", 78", 84"



Offset Angular Ninety

Product drawings for all downspout boot sizes are available at www.downspoutboots.com. Cleanout option available for all sizes 24" or greater in length.

Coating Options



No Coating
Plain cast iron finish



Primer Coating
Light gray rust inhibitive primer



Powder Coating
To view color options, please visit downspoutboots.com

Accessories



Rubber Couplings
Flexible couplings for durability and ease of installation

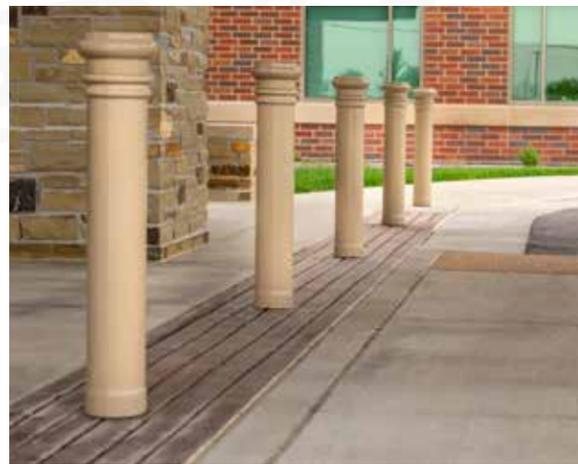


Mounting Hardware
For concrete, masonry or brick building walls

Visit www.downspoutboots.com to download drawings or request a quote.

BOLLARDSUSA
A DIVISION OF JR HOE

BollardsUSA has emerged as an American-made option in a largely foreign-sourced market. Offering industry-leading customization in addition to a strong inventory of standard cast iron and stainless and powder-coated steel, our brand is trusted by municipal and corporate entities across the U.S. to supply high-quality decorative bollards.

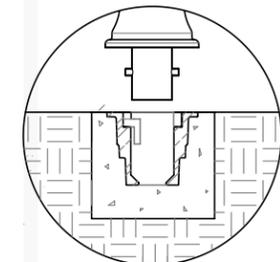


Product Offerings

 Promenade Series 100-RT shown here	 50-GSF shown here 150-GSF shown here Removable Twist & Lock Available	 Broadway Series 160-RP shown here Removable Twist & Lock Available	 Velocity Series 160-GB2 shown here
 Momentum Series 225-HP shown here	 Township Series 200-TP shown here	 Sentry Series 500-HD shown here	 Guardian Series 800-HD shown here Certified Crash Rated

Visit www.BollardsUSA.com to download drawings or request a quote.

Removable Twist & Lock
Patented Removable
Bollard Technology



Customization Options



K/M Impact Rated Options





Trash racks are offered in a wide range of sizes and styles to meet the needs of virtually any stormwater system. Available in mild steel, galvanized, aluminum and stainless steel, trash racks are essential in preventing large debris from entering or obstructing flow into stormwater infrastructure such as catch basins, outlet structures, box culverts and riser pipes.

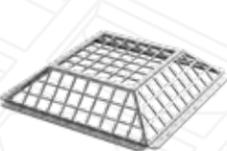
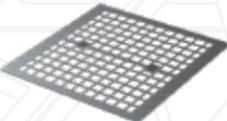


All products manufactured by J.R. Hoe in Middlesboro, Ky, USA.

Visit www.trashracks.com to download drawings or request a quote.



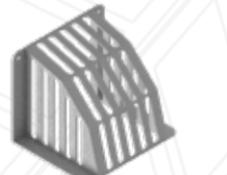
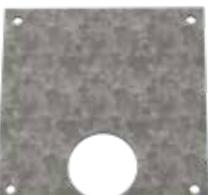
Outlet Structure Trash Racks

 LPK	 LDR	 LSQ	 LFG
Need Something Custom? Give us a Call - We Design and Fabricate Custom Trash Racks			
		 LFS	 LFR

Riser Pipe Trash Racks

 LCP2	 LRPF	 LRPD
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Pipe, Orifice and Culvert Trash Racks

 LPG	 LSW	 LCP1	 PL
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- Available Materials:
- Mild Steel
 - Galvanized Steel
 - Aluminum
 - Stainless Steel

Key Sizes In Stock

Standard Models Available with Hinged Access, Anti-Vortex Plate, Custom Opening Sizes

Steel Fabrication Division

Steel Fabrication Division



J.R. Hoe is a skilled fabricator of structural and miscellaneous steel, and has earned a quality certification from the American Institute of Steel Construction (AISC). J.R. Hoe has a strong resume of successfully completed large infrastructure projects throughout the eastern U.S. and has been AISC certified since 2010.



Certified Categories:

Building Fabricator

Fabricator – Simple

Metal Components Manufacturer

Markets Served:

Transportation

- Highway Components
- Bridge Access Systems
- Tunnel Fabrications
- Airport Construction

Water Treatment

- Water/Wastewater Treatment Plants
- Pump Stations
- Stormwater Storage Facilities

Infrastructure

- DOT Roadway Components
- Light Rail Systems
- Automated People Movers
- Lock and Dam Components

Industrial

- Logistics Centers
- Manufacturing Facilities
- Warehouses

Capabilities:

Project Management

J.R. Hoe works closely with contractors to provide value engineering, schedule and sequence, resulting in a more successful, efficient process.

AWS Certified Welders

All J.R. Hoe employed welders are certified by the American Welding Society.

Iron Casting Facility

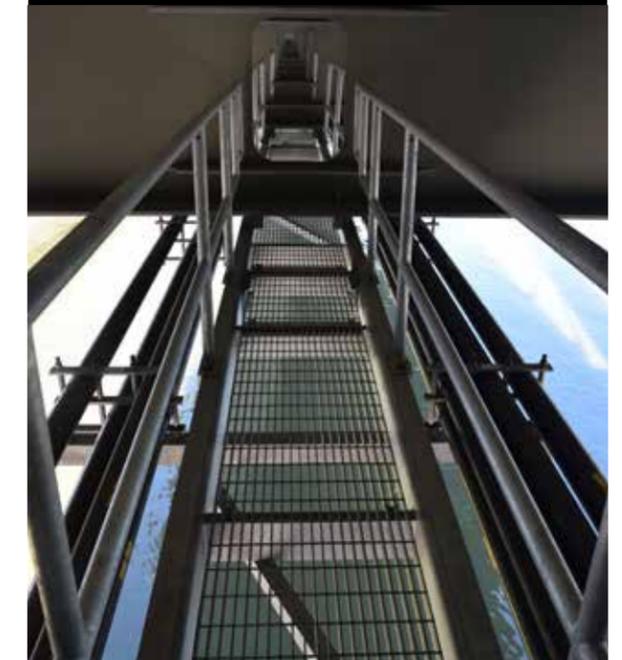
As well as steel fabrication, J.R. Hoe offers iron casting and machining all from one location. This single source advantage cuts lead times, streamlines processing, and improves the customer experience.

In-House Engineering/Detailing

The J.R. Hoe engineering team is well equipped in the way of submitting, reporting, material tracking, and other project-specific tasks.

FEATURE: Bridge Components

As suppliers of bridge components J.R. Hoe is acutely aware of the need to coordinate and communicate from the design /drawing stage to the construction stage. The team at J.R. Hoe is proud to have worked closely with both the GC and designers to anticipate bottlenecks and to develop solutions as needed.



Looking for a fabricator for your next project?
Talk with one of our experts.
fabricatedmetals@jrhoe.com
1-800-245-5521
jrhoe.com



Contact us at 844-240-7860 or
constructionproducts@jr hoe.com

