

# STORM DRAINAGE

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City of Newport  
169 SW Coast Hwy  
Newport, Oregon 97365  
(541) 574-3366 Fax: (541) 265-3301

## STANDARD DETAIL DRAWING INDEX

DETAIL NO.

D-010

12/18/2020

CAST IRON (H-20 RATED) MANHOLE COVER AND FRAME SET FRAME IN NON-SHRINK GROUT, SEE STANDARD DETAIL D-250

10 GA. COPPER TRACER WIRE WITH GREEN 30 MIL THICK HDPE INSULATION

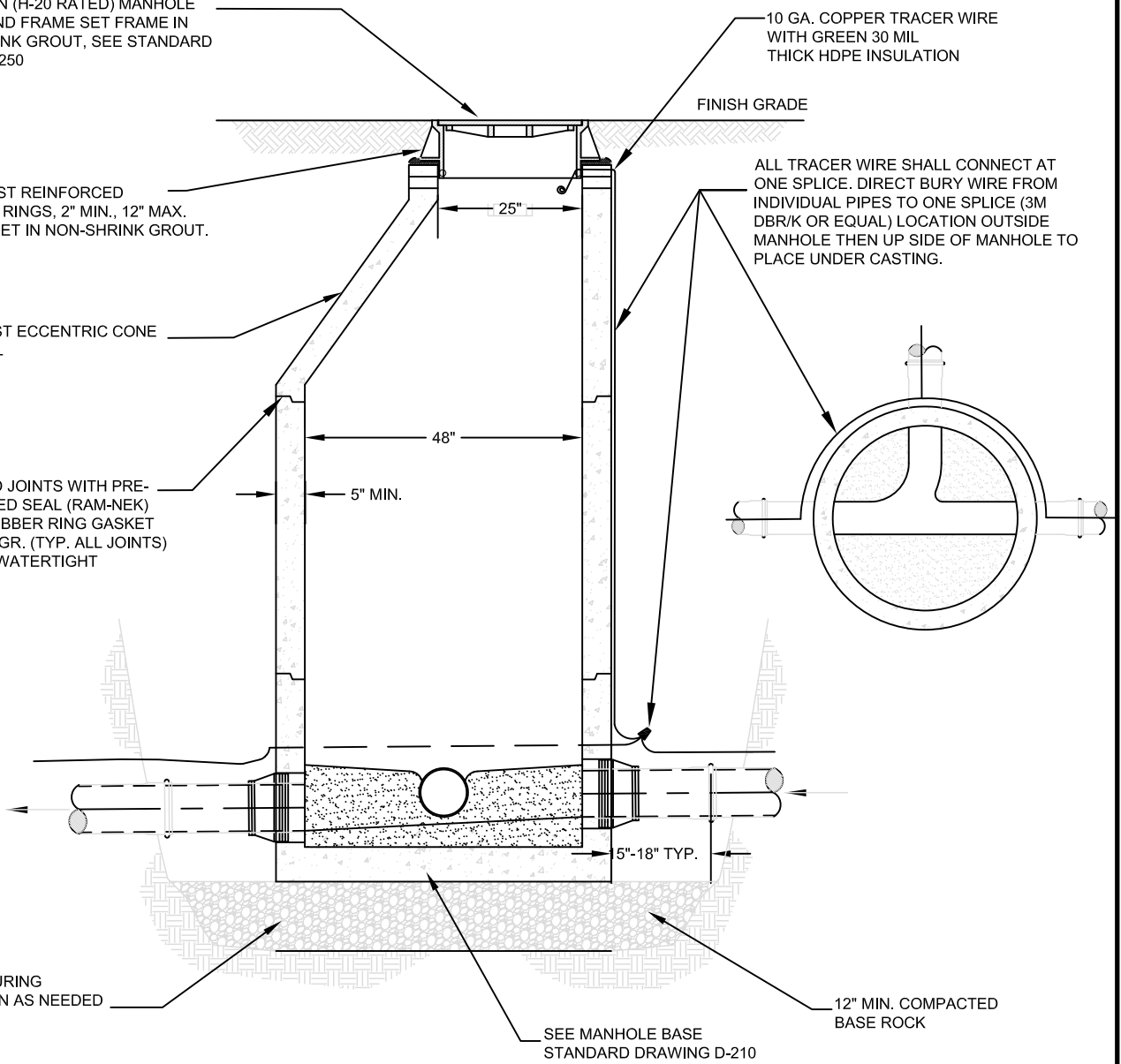
FINISH GRADE

PRECAST REINFORCED GRADE RINGS, 2" MIN., 12" MAX. EACH SET IN NON-SHRINK GROUT.

ALL TRACER WIRE SHALL CONNECT AT ONE SPLICE. DIRECT BURY WIRE FROM INDIVIDUAL PIPES TO ONE SPLICE (3M DBR/K OR EQUAL) LOCATION OUTSIDE MANHOLE THEN UP SIDE OF MANHOLE TO PLACE UNDER CASTING.

PRECAST ECCENTRIC CONE 36" TALL

KEYED JOINTS WITH PRE-FORMED SEAL (RAM-NEK) OR RUBBER RING GASKET BY MFR. (TYP. ALL JOINTS) SEAL WATERTIGHT



DEWATER DURING INSTALLATION AS NEEDED

SEE MANHOLE BASE STANDARD DRAWING D-210

12" MIN. COMPACTED BASE ROCK

NOTES:

1. ALL PRECAST MANHOLE SECTIONS SHALL MEET ASTM C-478.
2. FLAT-TOP MANHOLE REQUIRED WHEN DEPTH FROM FINISH GRADE TO INVERT IS LESS THAN 6 FEET.
3. INTERIOR DROPS EXCEEDING 24" REQUIRE INSIDE DROP. SEE DRAWING S-220.
4. LARGER INLET PIPES THAN 24" WILL REQUIRE A SPECIAL DESIGN AND APPROVAL FROM CITY ENGINEER
5. BACKFILL AND DENSITY REQUIREMENTS SHALL CONFORM TO THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION, SECTION 00405.
6. MANHOLES SHALL BE TESTED PER OREGON STANDARD SPECIFICATIONS, CURRENT EDITION, SECTION 00470.71.b.



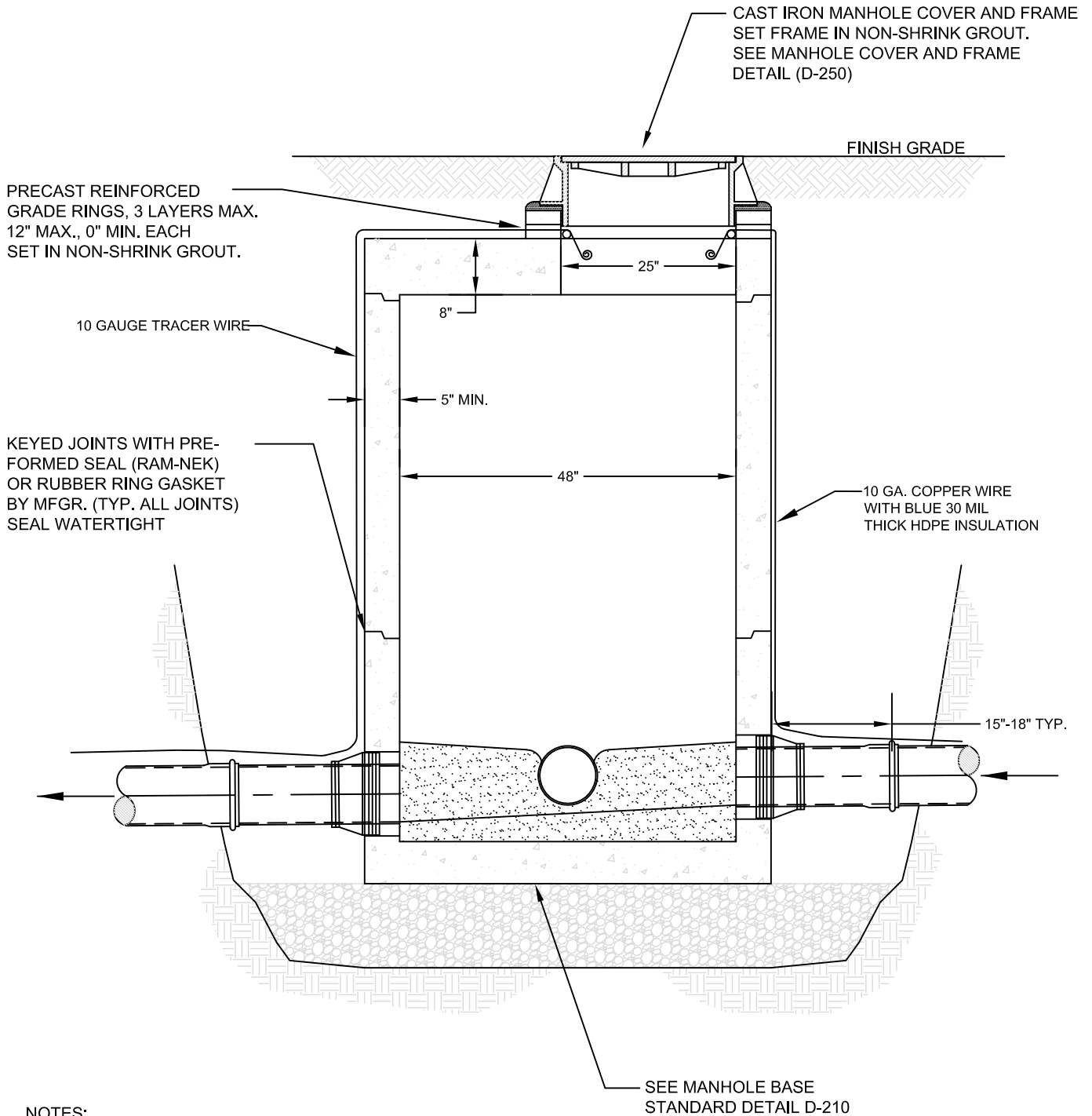
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STANDARD STORM MANHOLE  
 PIPES LESS THAN 24" DIAM.

DETAIL NO.

D-200

12/18/2020



**NOTES:**

1. ALL PRECAST MANHOLE SECTIONS SHALL MEET ASTM C-478.
2. STANDARD MANHOLE REQUIRED WHEN DEPTH FROM FINISH GRADE TO INVERT IS 6 FEET OR MORE.



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**FLAT-TOP STORM MANHOLE  
PIPES LESS THAN 24" DIAM.**

DETAIL NO.

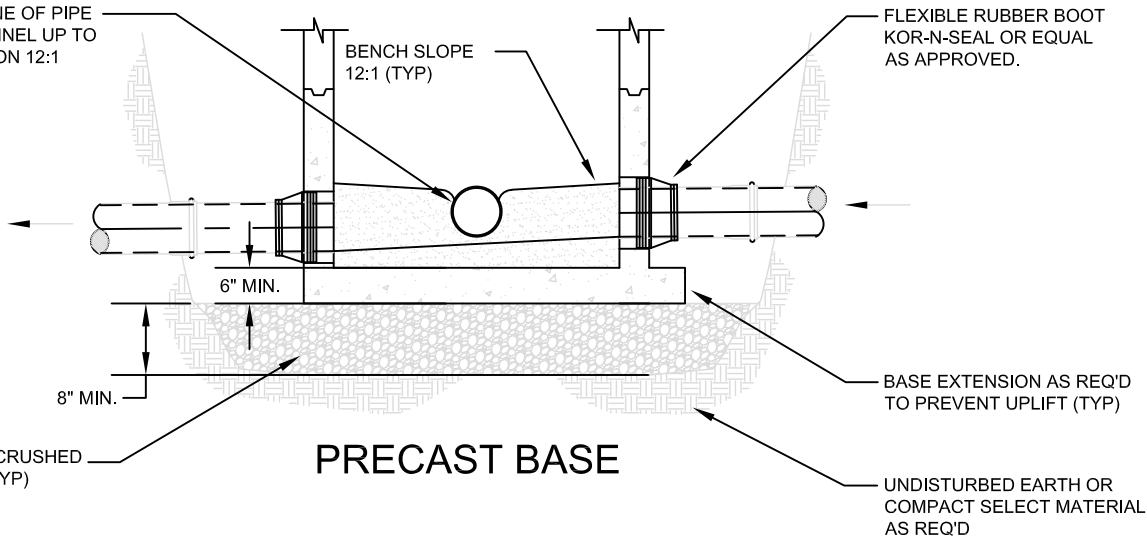
**D-205**

12/18/2020

AT SPRING LINE OF PIPE  
EXTEND CHANNEL UP TO  
CROWN LINE ON 12:1  
BATTER (TYP)

BENCH SLOPE  
12:1 (TYP)

FLEXIBLE RUBBER BOOT  
KOR-N-SEAL OR EQUAL  
AS APPROVED.



1"-0 OR 3/4"-0 CRUSHED  
ROCK BASE (TYP)

### PRECAST BASE

BASE EXTENSION AS REQ'D  
TO PREVENT UPLIFT (TYP)

UNDISTURBED EARTH OR  
COMPACT SELECT MATERIAL  
AS REQ'D

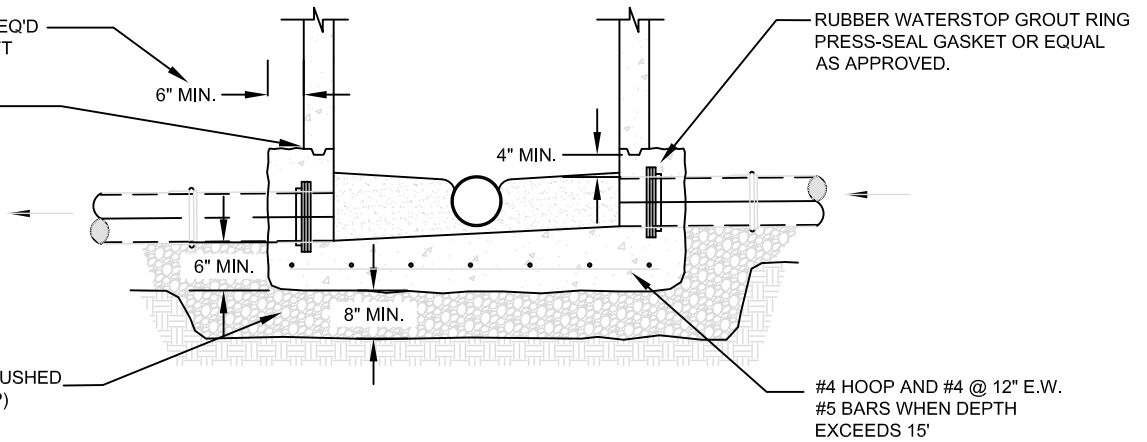
OR GREATER AS REQ'D  
TO PREVENT UPLIFT

RAM-NEK SEAL

6" MIN.

RUBBER WATERSTOP GROUT RING  
PRESS-SEAL GASKET OR EQUAL  
AS APPROVED.

4" MIN.



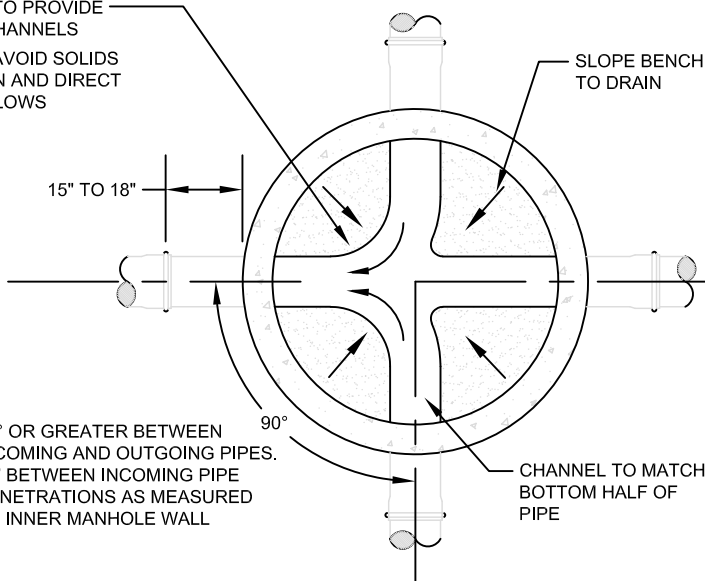
1"-0 OR 3/4"-0 CRUSHED  
ROCK BASE (TYP)

### CAST-IN-PLACE BASE

#4 HOOP AND #4 @ 12" E.W.  
#5 BARS WHEN DEPTH  
EXCEEDS 15'

CONTOUR TO PROVIDE  
SMOOTH CHANNELS  
SHAPE TO AVOID SOLIDS  
DEPOSITION AND DIRECT  
HEAD-ON FLOWS

SLOPE BENCH  
TO DRAIN



90° OR GREATER BETWEEN  
INCOMING AND OUTGOING PIPES.  
12" BETWEEN INCOMING PIPE  
PENETRATIONS AS MEASURED  
AT INNER MANHOLE WALL

CHANNEL TO MATCH  
BOTTOM HALF OF  
PIPE

#### NOTES:

1. SEE STANDARD MANHOLE DRAWING D-200 FOR TRACER WIRE REQUIREMENT.
2. PRECAST OR CAST-IN-PLACE BASE AT CONTRACTOR'S OPTION OR AS DIRECTED.
3. A MIX DESIGN SHALL BE SUBMITTED TO CITY PRIOR TO SCHEDULING POUR.
4. STRUCTURAL CONCRETE SHALL CONFORM WITH THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION, SECTION 00759.
5. MIN. 0.2 FT. INVERT DROP ACROSS MANHOLE.
6. MANHOLE BASE SHALL BE CLEAN OF DIRT AND DEBRIS PRIOR TO CHANNELING BASE.
7. PIPE PENETRATIONS SHALL NOT CROSS THROUGH BARREL SECTION JOINTS.



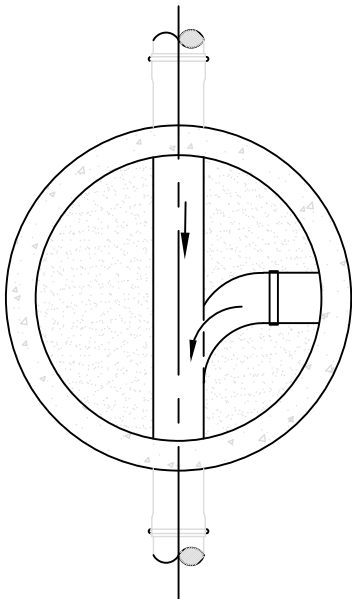
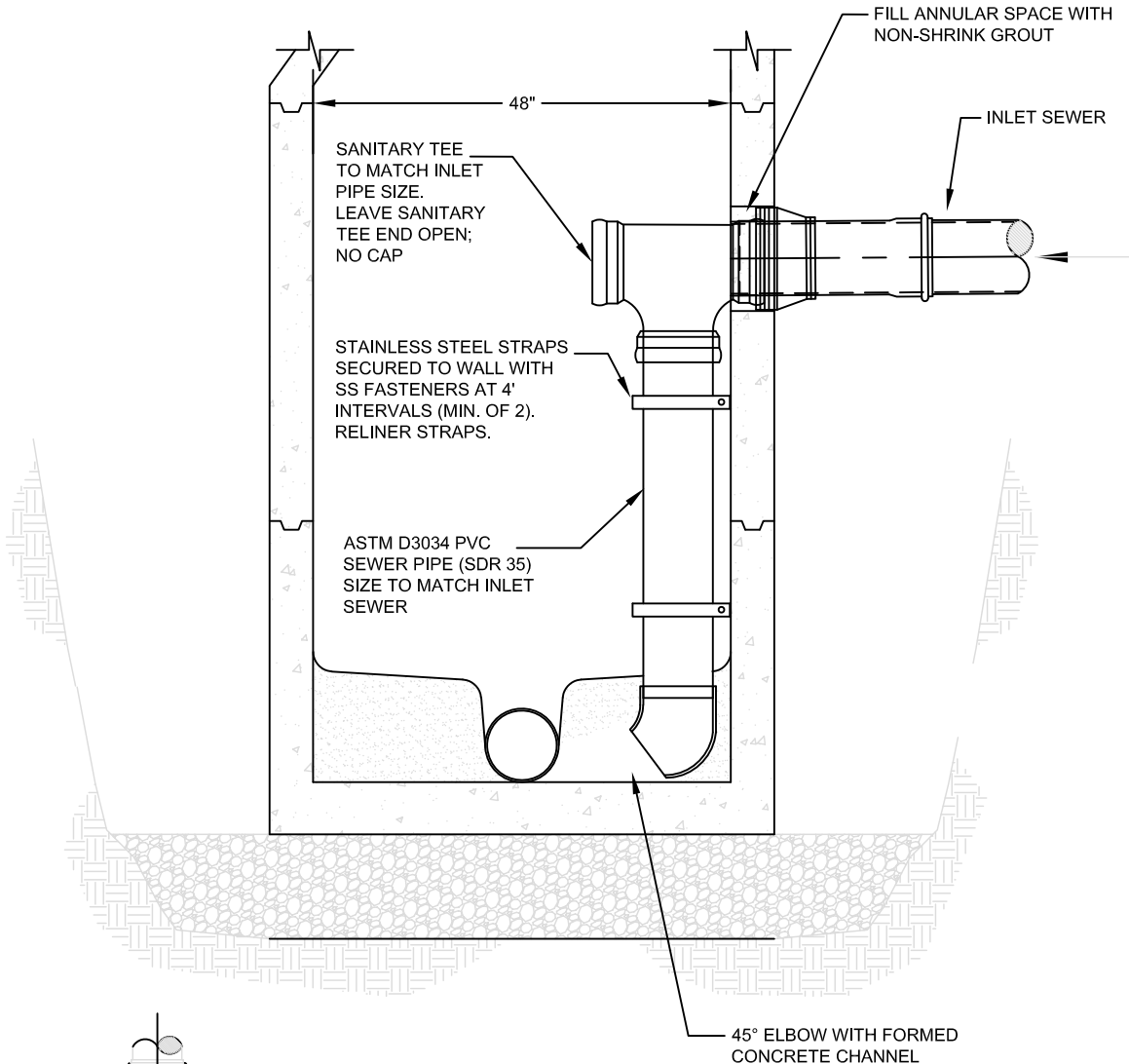
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## STORM MANHOLE BASE STANDARD DETAILS

DETAIL NO.

D-210

12/18/2020



**NOTES:**

1. DROP MANHOLES SHALL ONLY BE USED WITH PRIOR APPROVAL FROM CITY ENGINEER.
2. EXTEND INLET SEWER PIPE INTO MANHOLE FAR ENOUGH TO ALLOW SECURE ATTACHMENT OF SANITARY TEE (DEPTH VARIES).
3. ONLY ONE DROP ASSEMBLY ALLOWED PER MANHOLE.
4. SEE STANDARD MANHOLE DRAWING S-200 FOR TRACER WIRE LAYOUT.



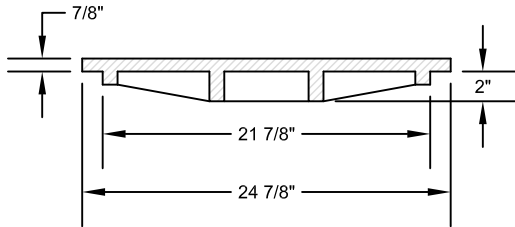
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**STANDARD INSIDE DROP  
 MANHOLE**

DETAIL NO.

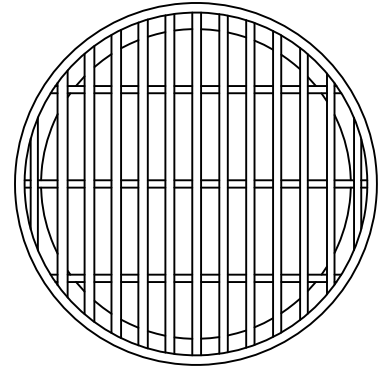
**D-225**

12/5/23



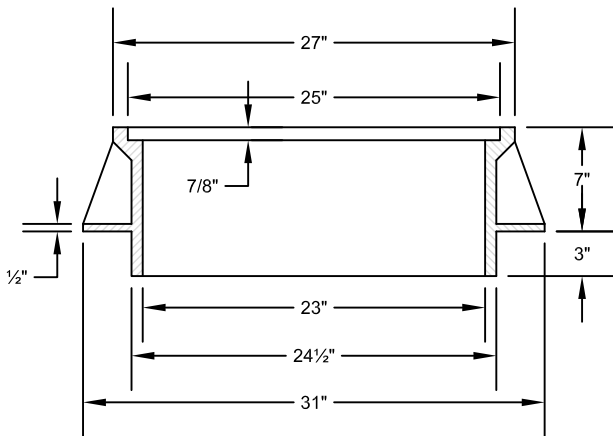
**COVER (150 LBS)**

(OLYMPIC FOUNDRY MH26S, OR APPROVED EQUAL)

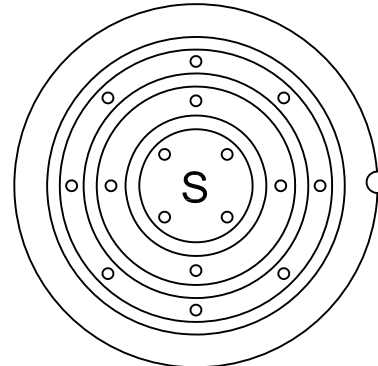


**GRATE**

(OLYMPIC FOUNDRY #MH26G,  
REQUIRES PRE-APPROVAL BY CITY ENGINEER)



**FRAME (237 LBS)**



**STORM**

(OLYMPIC FOUNDRY #MH26P  
OR APPROVED EQUAL)

**NOTE:**

1. MANHOLE FRAMES AND COVER SHALL HAVE H-20 RATING



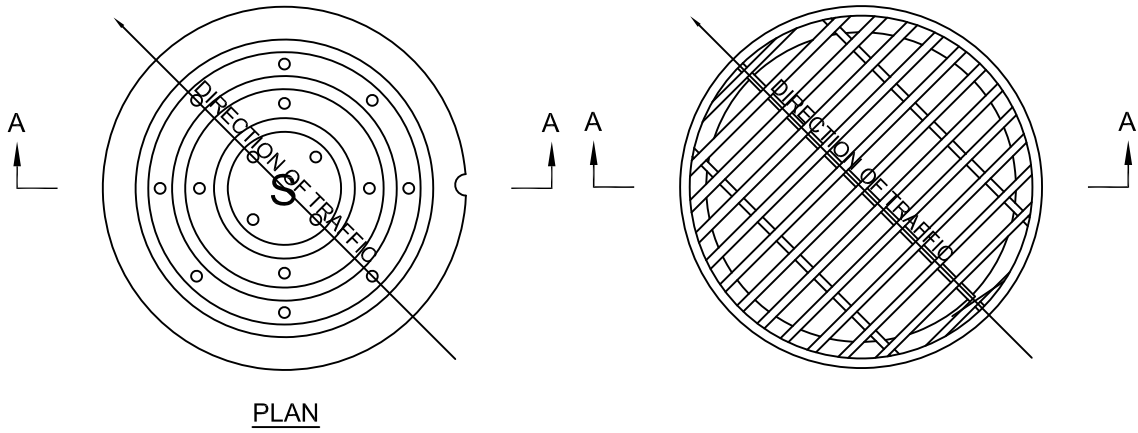
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**STORM MANHOLE COVER  
AND FRAME DETAILS**

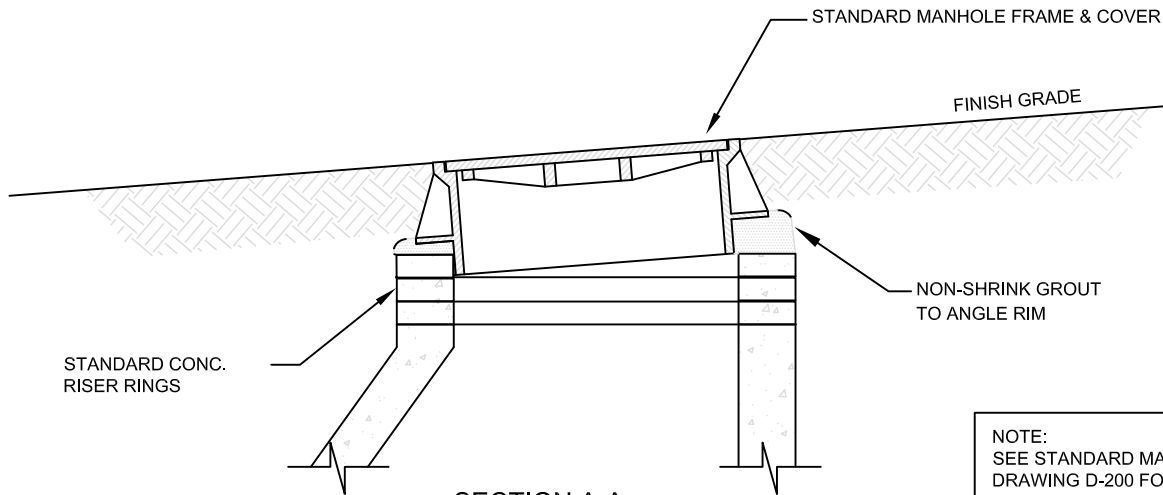
DETAIL NO.

D-250

12/18/2020



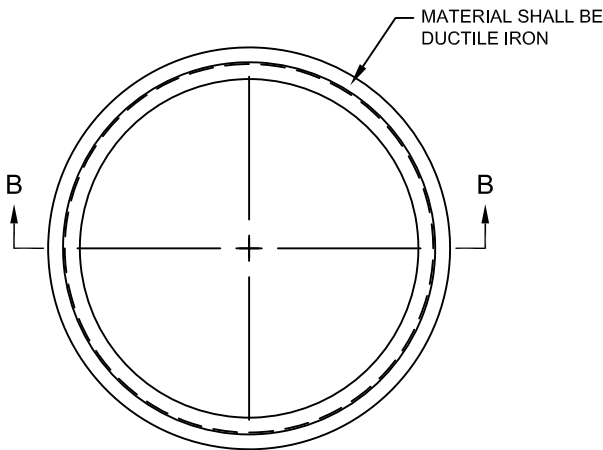
PLAN



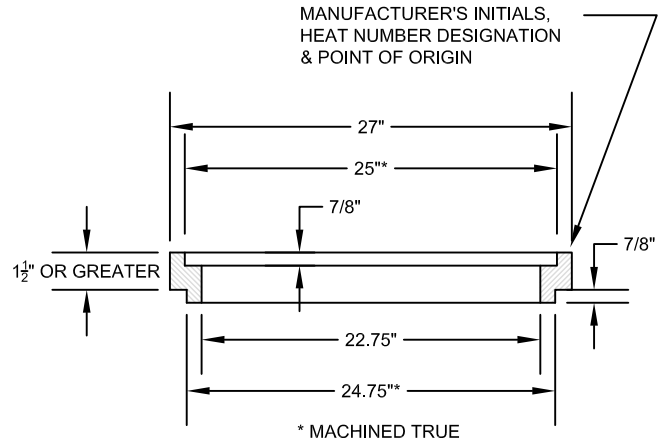
SECTION A-A

TYPICAL MANHOLE GRADE ADJUSTMENT IN STREET

NOTE:  
SEE STANDARD MANHOLE  
DRAWING D-200 FOR  
TRACER WIRE LAYOUT.



MANHOLE ADJUSTMENT RINGS  
FOR RESURFACING



SECTION B-B



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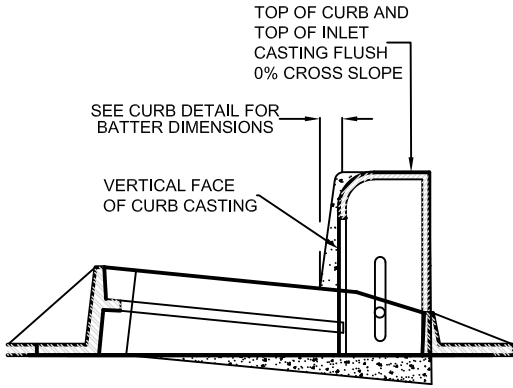
**STORM MANHOLE FRAME  
GRADE ADJUSTMENT**

DETAIL NO.

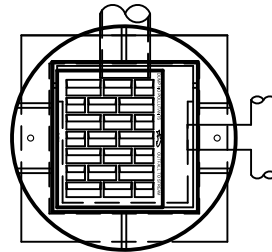
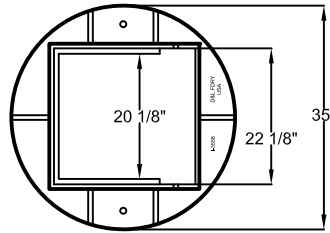
D-260

12/18/2020

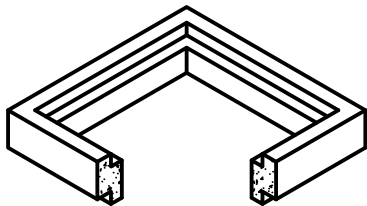
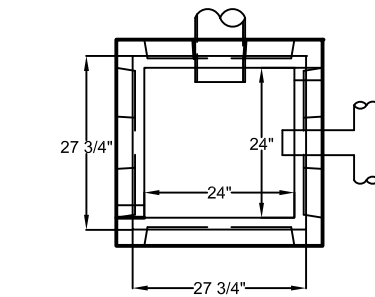
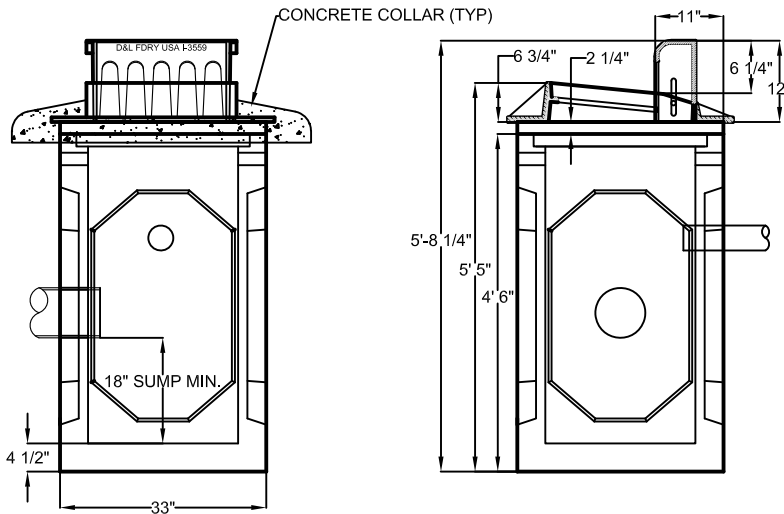
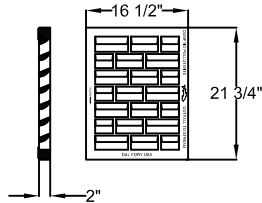
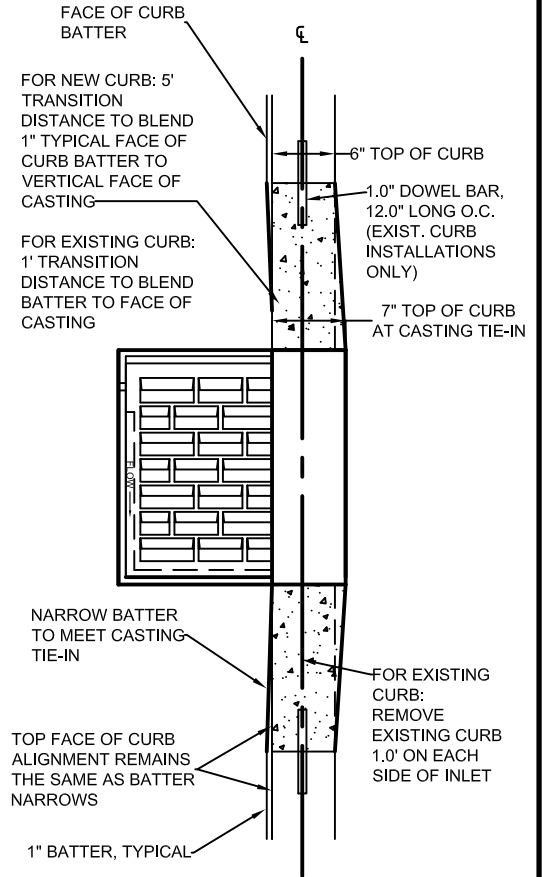
**FACE OF CURB / FACE OF CASTING ORIENTATION**



**BOX & CASTING**



**TOP OF CURB / TOP OF CASTING ALIGNMENT**



\* 4", 6" & 12" OPTIONAL RISER RINGS FOR ADJUSTMENT

**NOTES:**

1. SET GRATE TO GRADE WITH CONCRETE ADJUSTMENT RINGS AND MORTAR; GROUT BETWEEN GRATE AND BOX TO SMOOTH FINISH.
2. POUR CONCRETE COLLAR AROUND GRATE AND BOX.
3. MAXIMUM VERTICAL ADJUSTMENT OF 2 1/4" WITHOUT RISER RINGS; MAX HORIZONTAL OFFSET = 3".
4. MAXIMUM OF 12" OF CONCRETE ADJUSTMENT RINGS ALLOWED WITH FULL BED OF MORTAR BETWEEN EACH.
5. VOIDS AROUND PIPE DIAMETER SHALL BE GROUTED ON THE INSIDE AND OUTSIDE OF THE BOX.
6. LOCATE WIRES (SEE PIPE INSTALLATION STANDARD DRAWINGS FOR DETAILS) SHALL BE EXTENDED TO THE TOP OF THE STRUCTURE.
7. OPTIONAL BAFFLE BOX (NOT SHOWN) FOR 6", 8", 10", OR 12" PIPES ARE AVAILABLE; AS REQUIRED BY ENGINEER.
8. USE ADVANTAGE PRECAST 24" SQUARE CATCH BASIN OR PRE-APPROVED EQUAL. USE D&L FOUNDRY I-3559 CURB INLET OR PRE-APPROVED EQUAL.



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**24" SQUARE CURBSIDE CATCH BASIN INLET**

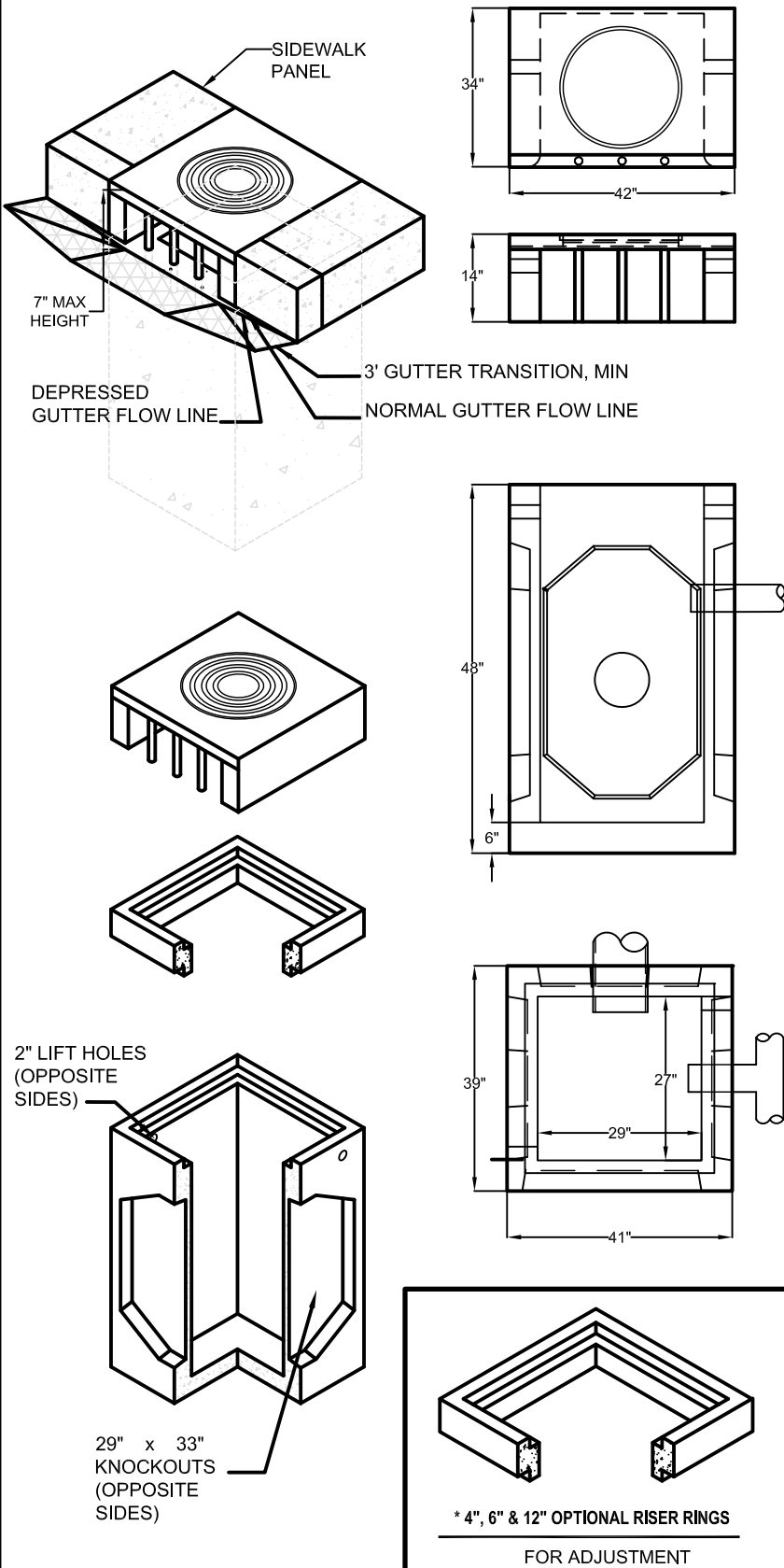
DETAIL NO.

D-300

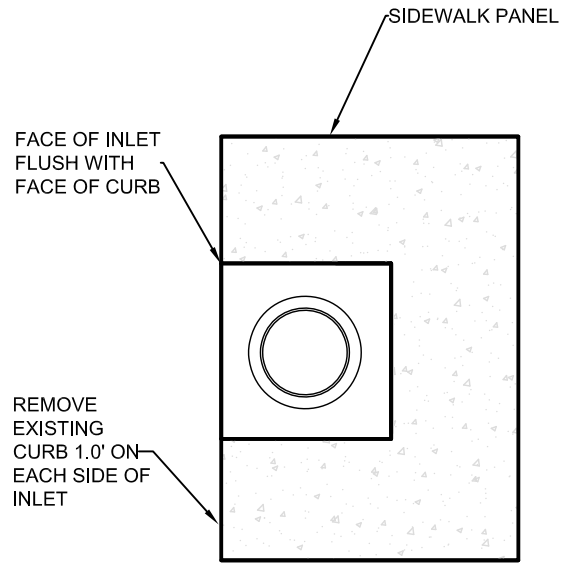
9/6/2019



### BOX & CASTING



### CASTING / CURB ALIGNMENT



#### NOTES:

1. SET GRATE TO GRADE WITH CONCRETE ADJUSTMENT RINGS AND MORTAR; GROUT BETWEEN GRATE AND BOX TO SMOOTH FINISH.
2. POUR CONCRETE COLLAR AROUND GRATE AND BOX.
3. MAXIMUM VERTICAL ADJUSTMENT OF 2 1/4" WITHOUT RISER RINGS; MAX HORIZONTAL OFFSET = 3".
4. MAXIMUM OF 12" OF CONCRETE ADJUSTMENT RINGS ALLOWED WITH FULL BED OF MORTAR BETWEEN EACH.
5. VOIDS AROUND PIPE DIAMETER SHALL BE GROUTED ON THE INSIDE AND OUTSIDE OF THE BOX.
6. LOCATE WIRES (SEE PIPE INSTALLATION STANDARD DRAWINGS FOR DETAILS) SHALL BE EXTENDED TO THE TOP OF THE STRUCTURE.
7. OPTIONAL BAFFLE BOX (NOT SHOWN) FOR 6", 8", 10", OR 12" PIPES ARE AVAILABLE; AS REQUIRED BY ENGINEER.
8. USE ODOT G2 BOX.
9. TRANSITION ASPHALT IN FRONT OF GRATE FOR FLOW INTO CURB INLET; 2" ELEVATION DIFFERENCE BETWEEN NORMAL AND DEPRESSED GUTTER LINES.



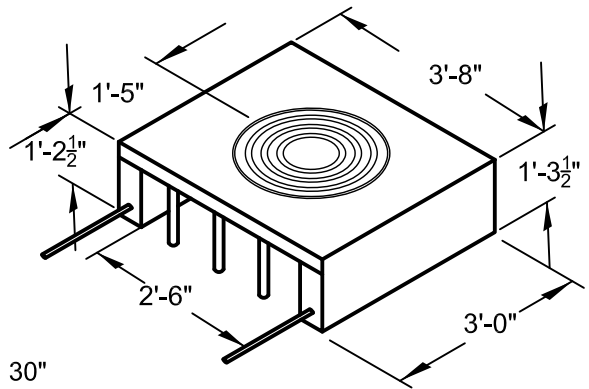
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IN SIDEWALK  
CURB INLET

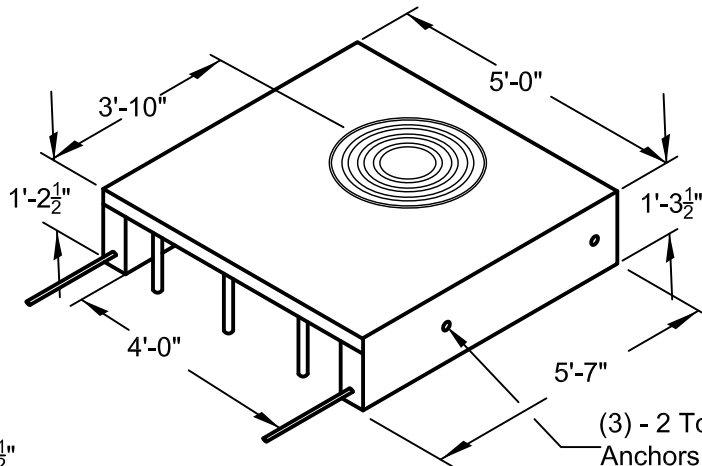
DETAIL NO.

D-301

9/6/2019

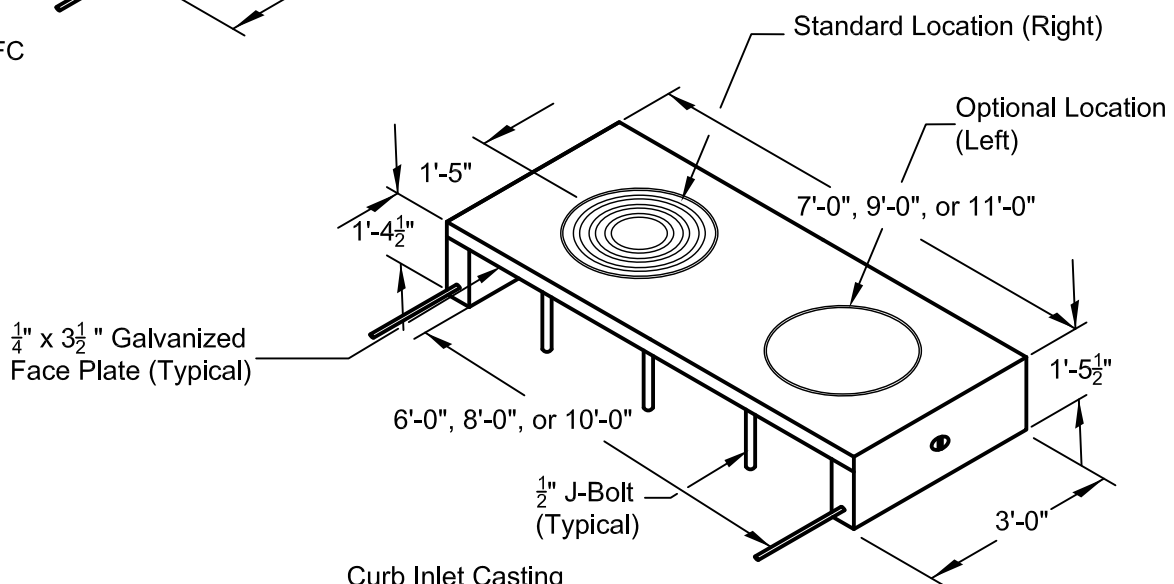


30"  
No. CI-30-23FC  
1,075 lbs.



48" MH  
No. CI-48MH-23FC  
2,375 lbs.

(3) - 2 Ton Lift  
Anchors (1 Each  
Side, 1 Back Side)



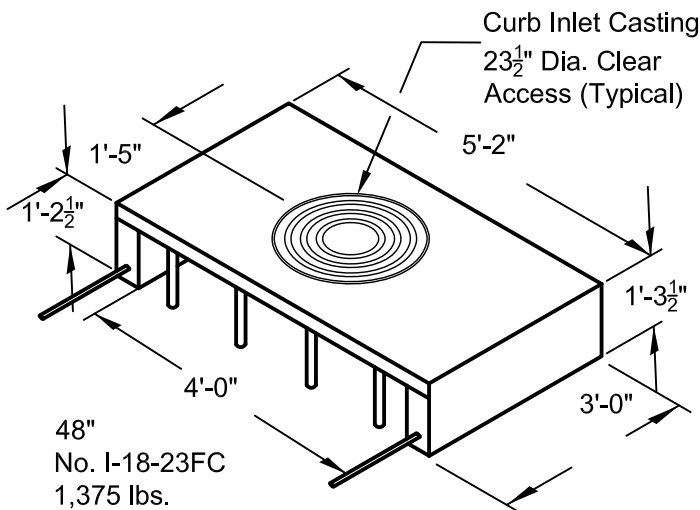
1/4" x 3 1/2" Galvanized  
Face Plate (Typical)

1/2" J-Bolt  
(Typical)

Standard Location (Right)

Optional Location  
(Left)

VARIABLE 6', 8', & 10' MH  
No. CI-VARMH-23FC  
6'-0" 2,100 lbs.  
8'-0" 2,880 lbs.  
10'-0" 3,520 lbs.



48"  
No. I-18-23FC  
1,375 lbs.

Curb Inlet Casting  
23 1/2" Dia. Clear  
Access (Typical)



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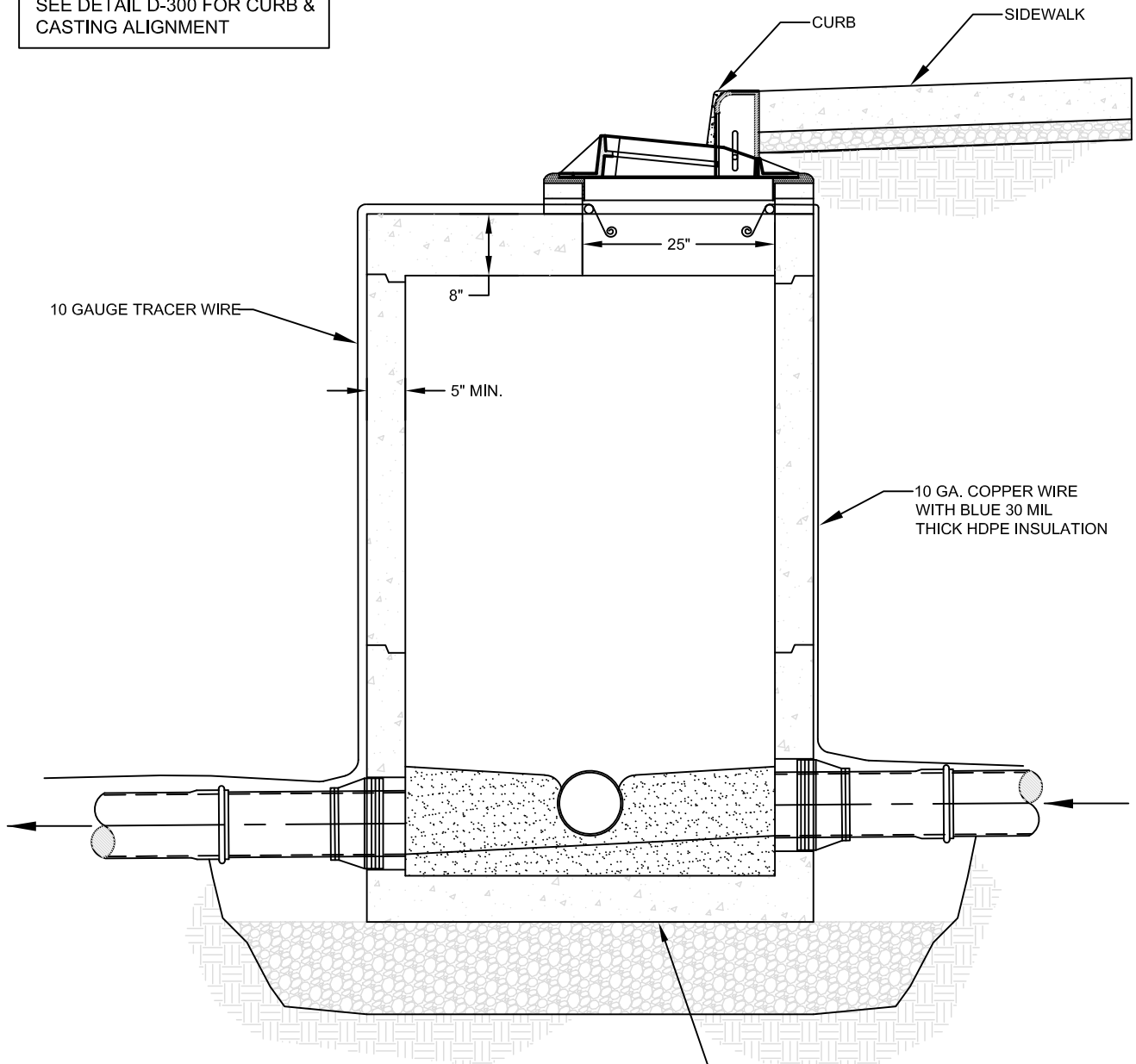
## IN SIDEWALK CURB INLET TOPS

DETAIL NO.

D-302

12/18/2020

SEE DETAIL D-300 FOR CURB & CASTING ALIGNMENT



**NOTES:**

1. MANHOLE BASE CURB INLETS SHALL BE APPROVED PRIOR TO INSTALLATION.
2. STANDARD MANHOLE REQUIRED WHEN DEPTH FROM FINISH GRADE TO INVERT IS 6 FEET OR MORE.
3. ALL PRECAST MANHOLE SECTIONS SHALL MEET ASTM C-478.
4. MANHOLE MAY BE ROTATED AS NEEDED BY EXISTING CONDITIONS. FINAL ROTATION APPROVED BY CITY ENGINEER.

SEE MANHOLE BASE  
STANDARD DETAIL D-210



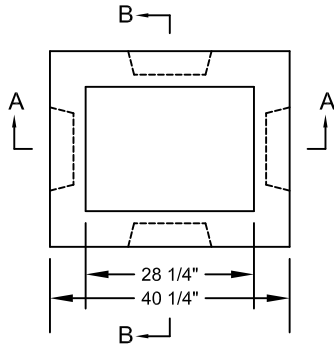
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**MANHOLE CURB INLET**

DETAIL NO.

D-303

12/18/2020

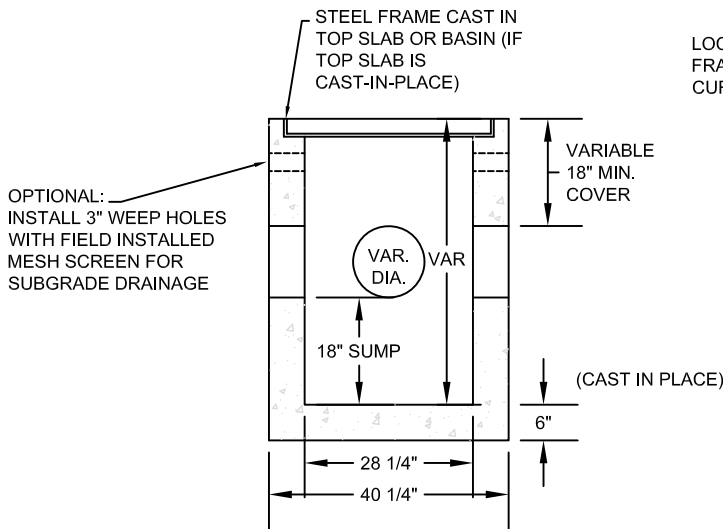


TOP VIEW

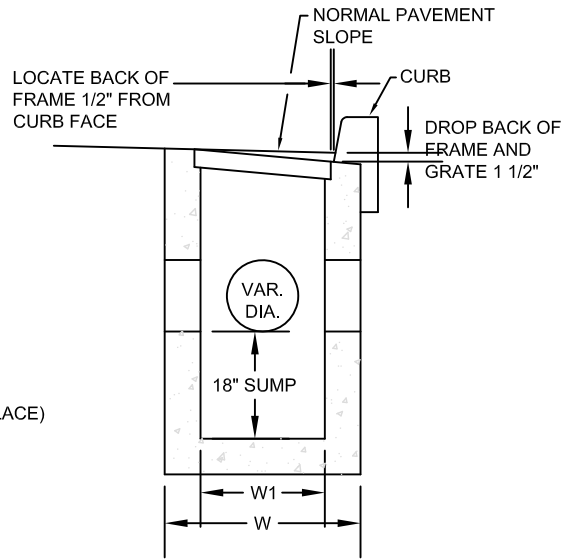
NOTES

1. CONCRETE STRENGTH SHALL BE 3300 PSI.
2. PRECAST BASE WALLS SHALL BE A MINIMUM 4" THICK. CAST-IN-PLACE BASE WALLS SHALL BE 6" THICK.
3. USE VERTICAL BEADS IN CORNERS, FILLET WELD JOINT ON BOTTOM OF FRAME. GRATE MUST REST FLAT ON FRAME SURFACE.

INLET TYPE	W	W1
G-1	2' 8-7/8"	1' 8-7/8"



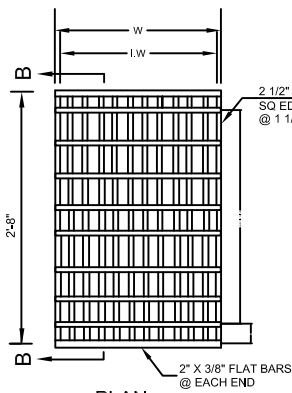
SECTION A-A



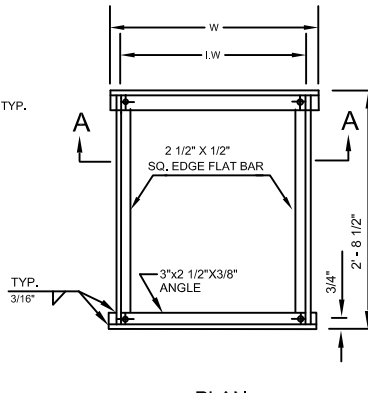
SECTION B-B

TYPE	W	I.W
STANDARD	1'-9"	1'-8 1/4"

TYPE	DIA. PIPE	W	I.W
STANDARD	10"-12"	1'-10 3/4"	1'-9 3/8"



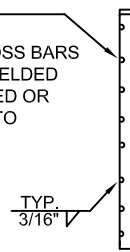
PLAN



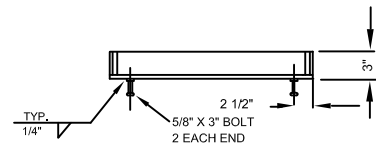
PLAN

NOTE

3/8" ROUND OR RECTANGULAR CROSS BARS SHALL BE FILLET WELDED RESISTANCE WELDED OR ELECTROFORGED TO BEARING BARS



SECTION B-B



SECTION A-A'



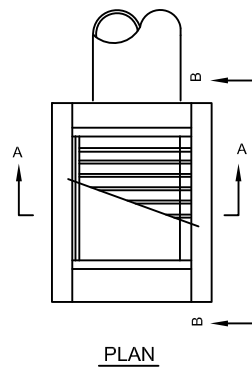
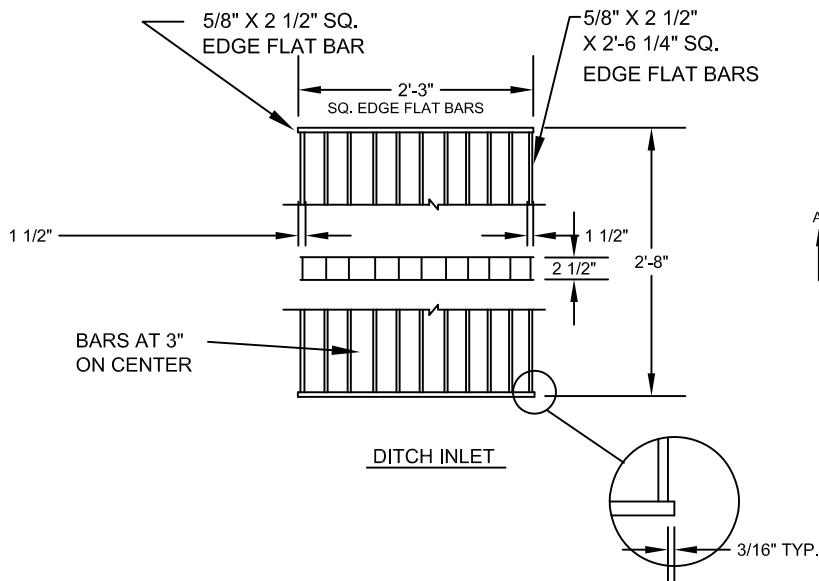
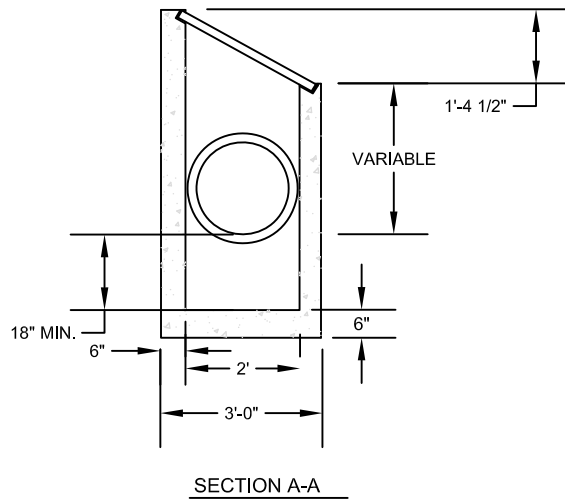
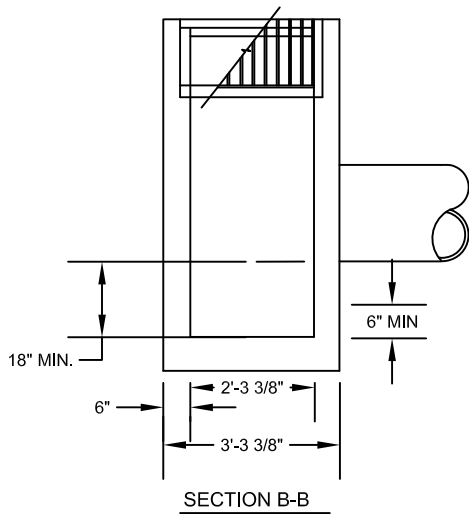
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CG-1 INLET BASIN,  
FRAME & GRATE

DETAIL NO.

D-304

2/13/2024



**NOTES:**

1. CONCRETE STRENGTH SHALL BE 3300 PSI.
2. CATCH BASIN, FRAME, AND GRATES SHALL MEET H2O LOADING.
3. INSIDE FRAME DIMENSIONS: 2'-3 3/8", 2'-8 1/2".
4. 3/8" CROSS BARS SHALL BE FLUSH WITH THE GRATE SURFACE AND MAY BE FILLET WELDED, RESISTANCE WELDED OR ELECTROFORGED TO BEARING BARS.



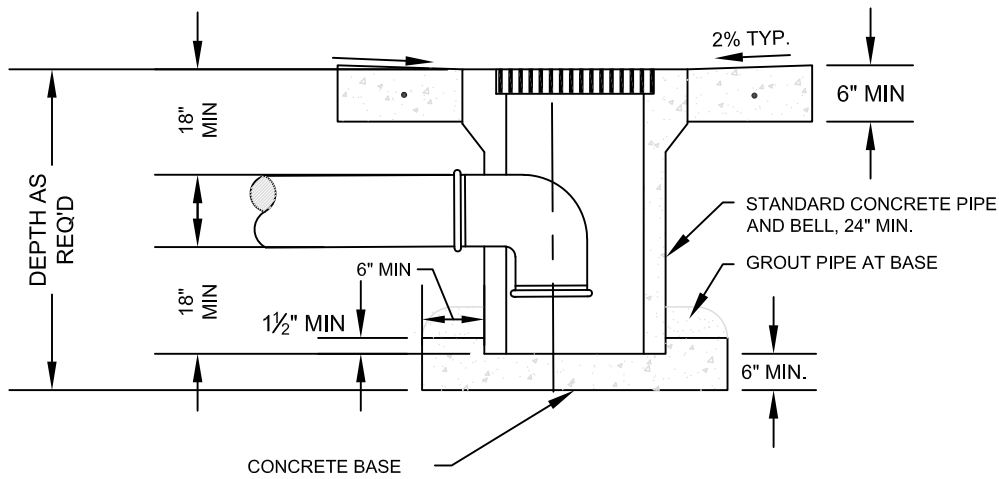
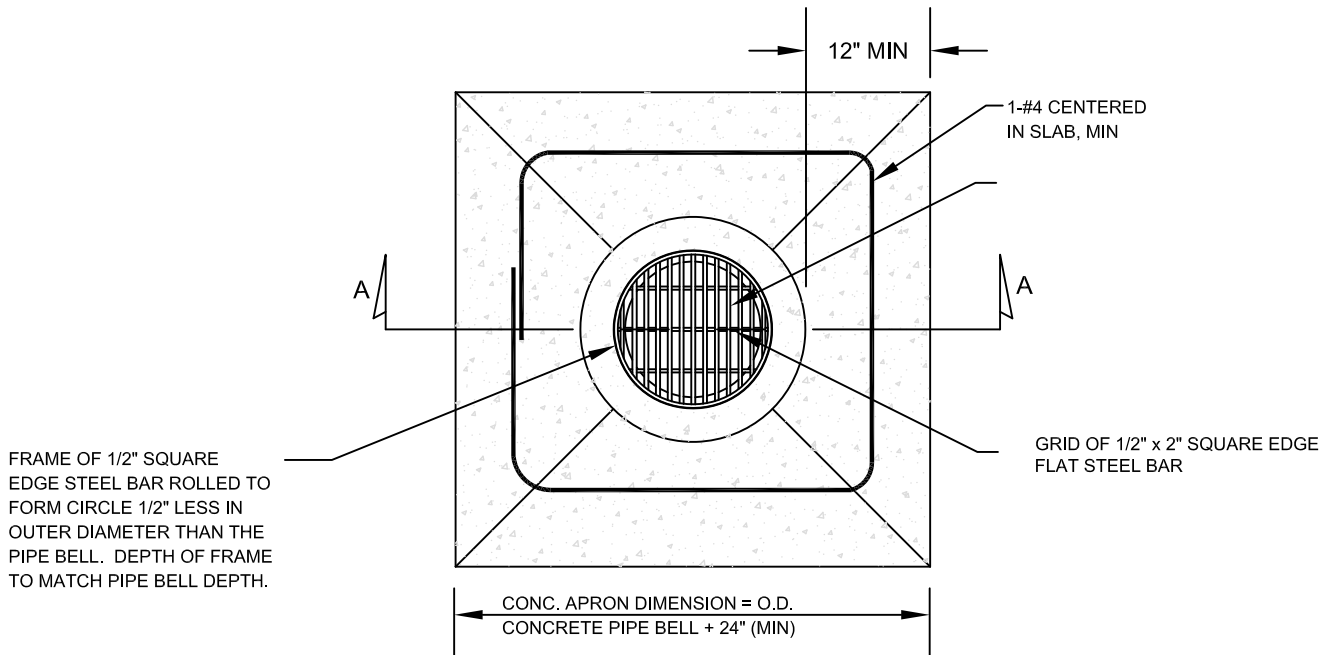
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**TYPICAL DITCH INLET  
 AND GRATE**

DETAIL NO.

**D-310**

12/18/2020



**NOTES:**

1. GRATES SHALL BE CONSTRUCTED FOR BICYCLE SAFETY. PLACE 13" BARS ON TOP OF 3" BARS.
2. PRECAST CONCRETE CATCH BASINS MAY BE USED FOR AREA DRAINS WHEN APPROVED BY THE CITY.
3. NOT FOR USE IN VEHICULAR TRAFFIC AREAS.



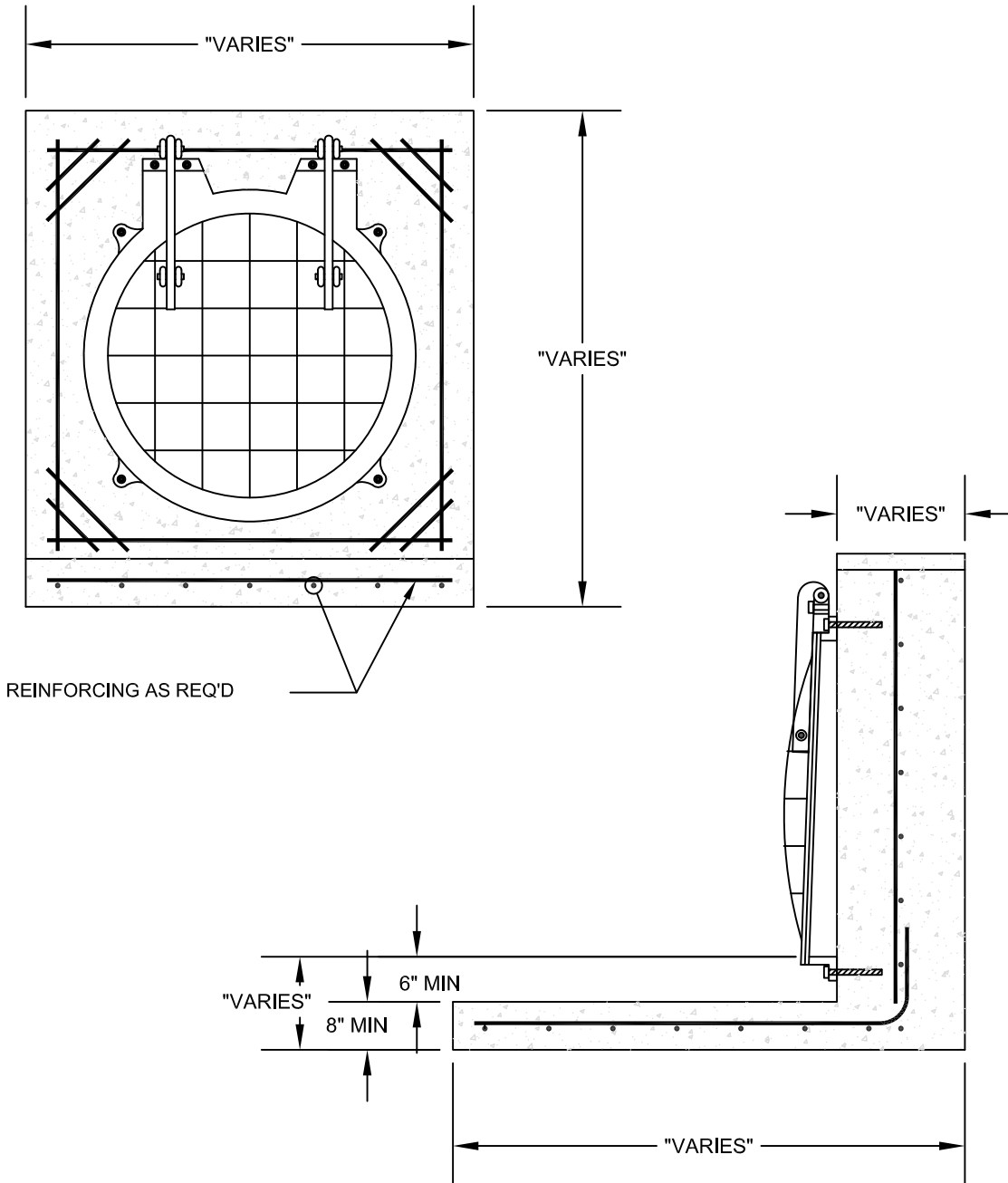
City of Newport  
 169 SW Coast Hwy  
 Newport, Oregon 97365  
 (541) 574-3366 Fax: (541) 265-3301

**TYPICAL AREA DRAIN INLET**

DETAIL NO.

D-311

12/18/2020



**NOTES:**

1. OUTFALL HEADWALL SHOWN FOR CLARITY ONLY - ALL OUTFALLS SHALL BE SITE SPECIFIC AND SHALL CONFORM TO THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL REGULATIONS.
2. OUTFALL SHALL BE ABOVE THE MEAN HIGH WATER LEVEL EXCEPT AS APPROVED BY CITY ENGINEER. INSTALLATION OF TIDEGATE MAY BE REQUIRED WHEN OUTFALL IS IN A TAILWATER CONDITION.
3. ALL TIDEGATES, FLAPGATES OR OTHER OUTLET GATES INSTALLED ON SPECIFIC OUTFALLS SHALL MEET THE REQUIREMENTS OF ODFW, NOAA AND OTHER AGENCIES AS REQUIRED.
4. CONCRETE STRENGTH SHALL BE 3,300 PSI AFTER 28 DAYS.
5. PROVIDE REINFORCING AS REQUIRED.



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**HEADWALL WITH TIDEGATE**

DETAIL NO.

D-320

12/18/2020