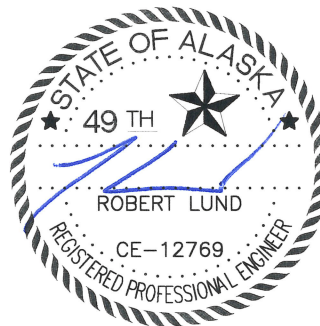


# CITY OF UNALASKA

Department of Public Works  
Department of Public Utilities

## STANDARD DETAILS

January 29<sup>th</sup>, 2018

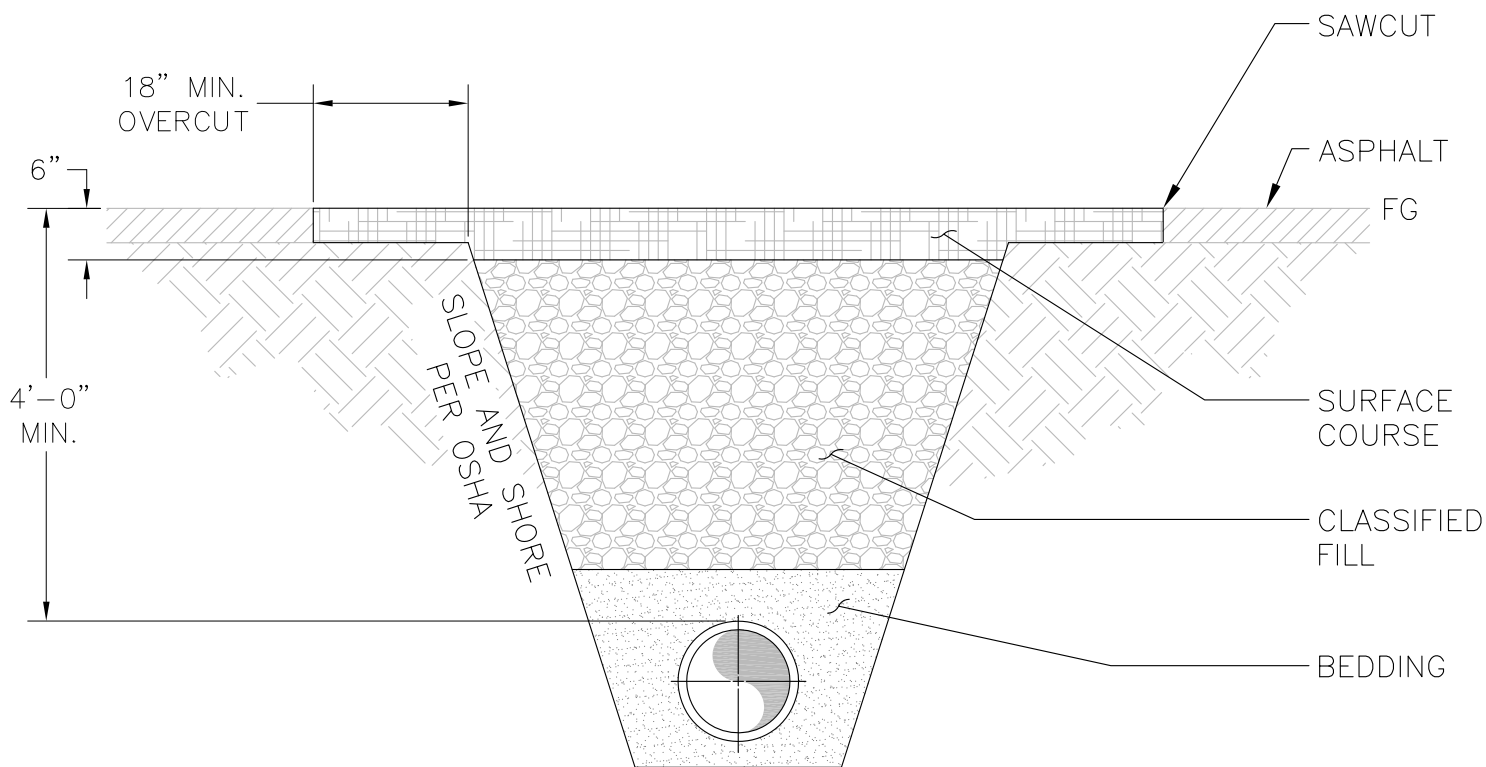


The Mission of the Unalaska Public Works Department is to responsibly develop and preserve the physical infrastructure which provides the foundation for our diverse and growing community, while recognizing our remote character and responding to our unique challenges.

The Mission of the Department of Public Utilities is to provide Electric, Solid Waste, Water, and Wastewater services that, within regulatory guidelines, meets or exceeds our customer's needs and expectations for safety, quality, and quantity; to provide these services at a competitive price and in a fair and equitable and environmentally responsible manner.

These are largely adaptations of historical details by the Alaska Department of Transportation, Municipality of Anchorage and Regan Engineering. They were created and published under the authority of Unalaska Code of Ordinance.

The collection is incomplete and pending updates consult the Departments and other Authorities Having Jurisdiction for best practices. Construct these works in accordance with all applicable City of Unalaska, State of Alaska and Federal Regulations.



TRENCH CROSS SECTION

NOTES:

SAWCUTS:

1. PERPENDICULAR OR PARALLEL TO THE FLOW OF TRAFFIC
2. NEAT STRAIGHT MECHANICAL CUTS
3. VERTICAL AND COMPLETELY PENETRATING THE ASPHALT

EXCAVATION AND FILL PER ADOT 200/703:

1. SURFACE COURSE E-1
2. BEDDING F-1 FOR PLASTIC PIPE AND E-1 FOR METALLIC PIPE
3. BASE COURSE D-1
4. CLASSIFIED FILL TYPE A (3" MINUS) AGGREGATE OR SELECTED MATERIAL W/ APPROVAL. DO NOT REUSE PLASTIC NATIVE OVERBURDEN TYPE MATERIAL
5. COMPACT IN 8" MAX LIFTS TO 95% MAX DRY DENSITY PER ASTM D1557

RESURFACING:

1. CONCRETE. SEE PAGE 2
2. ASPHALT. SEE PAGE 3

CITY OF UNALASKA

Department of Public Works

UTILITY CUT – GRAVEL  
RESURFACING

DRAWN BY:  
RL

DATE:  
1/24/18

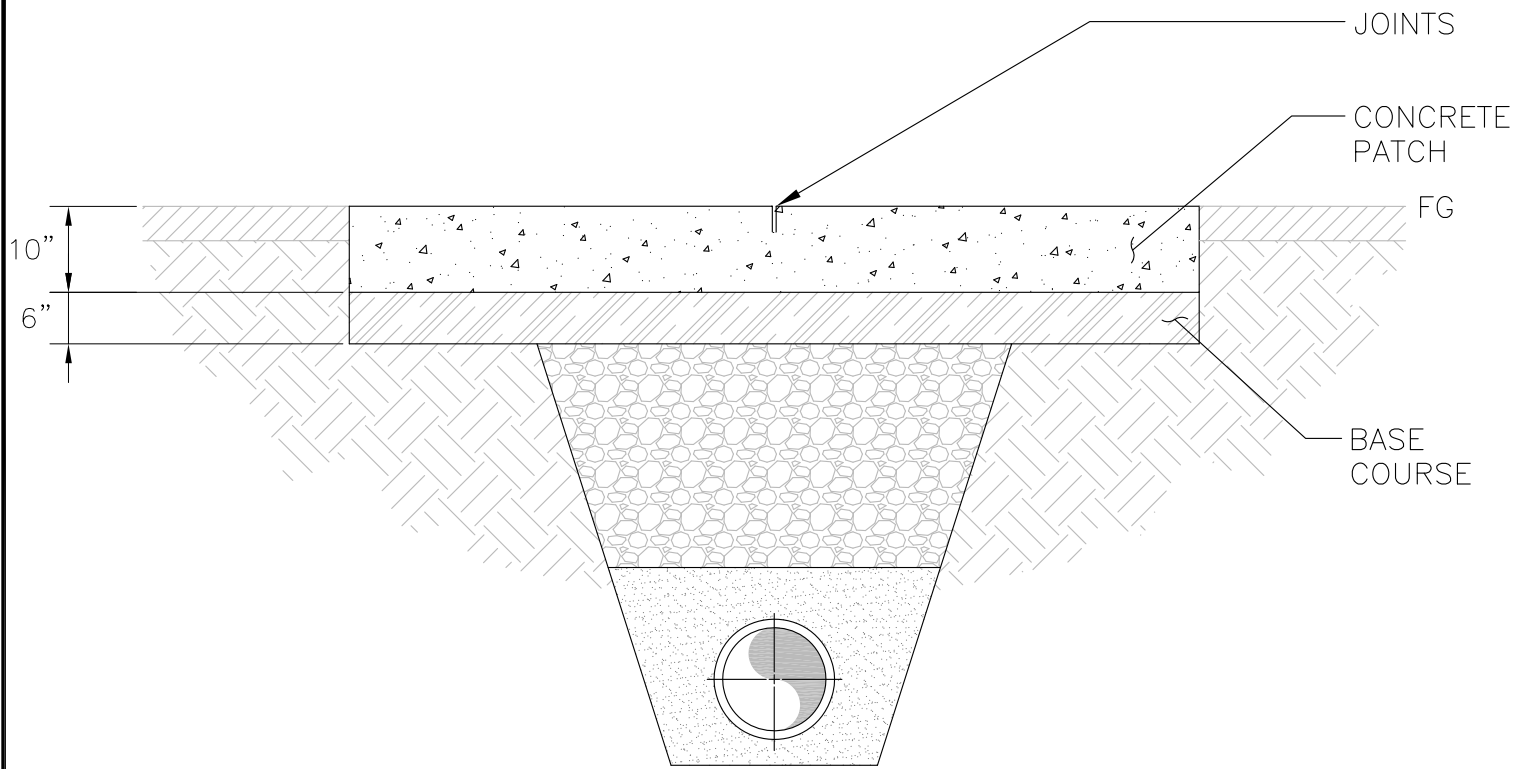
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3

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1 of 3

STANDARD DETAIL NO.:  
20-1



NOTES (CONTINUED): CONCRETE REPAIR CROSS SECTION

PLAIN CONCRETE PER ADOT:

1. MIX DESIGN. ADOT 501 TYPE A-A – 7 SACK – w/c 0.44 MAX – SLUMP 1–3” – AIR 5–8% – GRADATION AASHTO NO. 57 OR 67 – STRENGTH 5,000 PSI MIN.
2. SET ACCELERATING ADMIXTURES. CHLORIDE FREE – AASHTO M 194 – AS NEEDED TO ALLOW TRAFFIC W/IN 7 DAYS OF POUR AT 80% OF STRENGTH
3. REINFORCEMENT. ASTM C 1116 BLENDED TYPE I/III STEEL/SYNTHETIC FIBERS – NOVOMESH 850 – 36 LBS PER CY OF CONCRETE – MIXED IN TRUCK AT MAX SPEED FOR 5 MINUTES MIN.
4. CURE. USE WATER CURING METHOD. APPLY A PENETRATING SILANE BASED SEALER 28 DAYS AFTER POUR. MASTER KURE ER 50 IS ALLOWED DURING FINISHING IF USED IN ACCORDANCE WITH MFR. OR USE ONE STEP MEMBRANE CURING W/ ASTM C-309 CURE & SEAL W/ PENETRATING SILANE COMPONENT
5. JOINTS. CONTRACTION TYPE TOOLED OR CUT W/IN 24 HOURS OF POUR – SAWCUT 1/4” WIDE BY 3” DEEP – INSTALL JOINTS 5’ OC LONGITUDINAL AND TRANSVERSE
6. FINISH. ROUGH BROOM
7. USE SPECIFIED MATERIALS OR APPROVED EQUAL

CITY OF UNALASKA

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UTILITY CUT – CONCRETE  
RESURFACING

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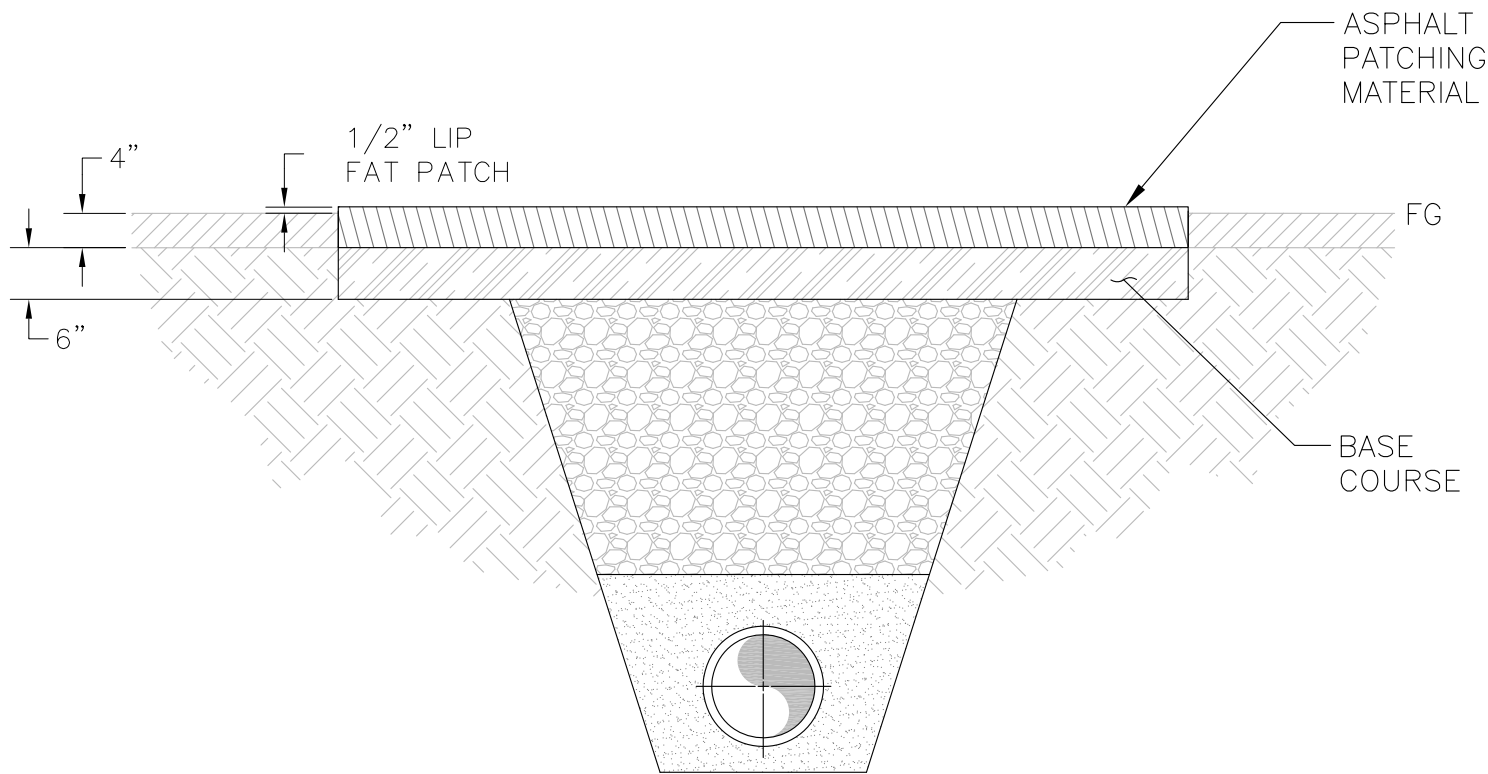
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ASPHALT REPAIR CROSS SECTION

NOTES (CONTINUED):

1. ASPHALT PATCHING MATERIAL: PREMIUM COLD ASPHALT MANUFACTURED BY EZ STREET ASPHALT
2. ASPHALT LIFT THICKNESS AFTER COMPACTION. 2" NOMINAL
3. COMPACTION. PLATE COMPACTOR ON BOTTOM LIFT AND VIBRATORY STEEL WHEEL ROLLER ON TOP LIFT
4. USE SPECIFIED MATERIALS OR APPROVED EQUAL

CITY OF UNALASKA  
Department of Public Works

UTILITY CUT – ASPHALT  
RESURFACING

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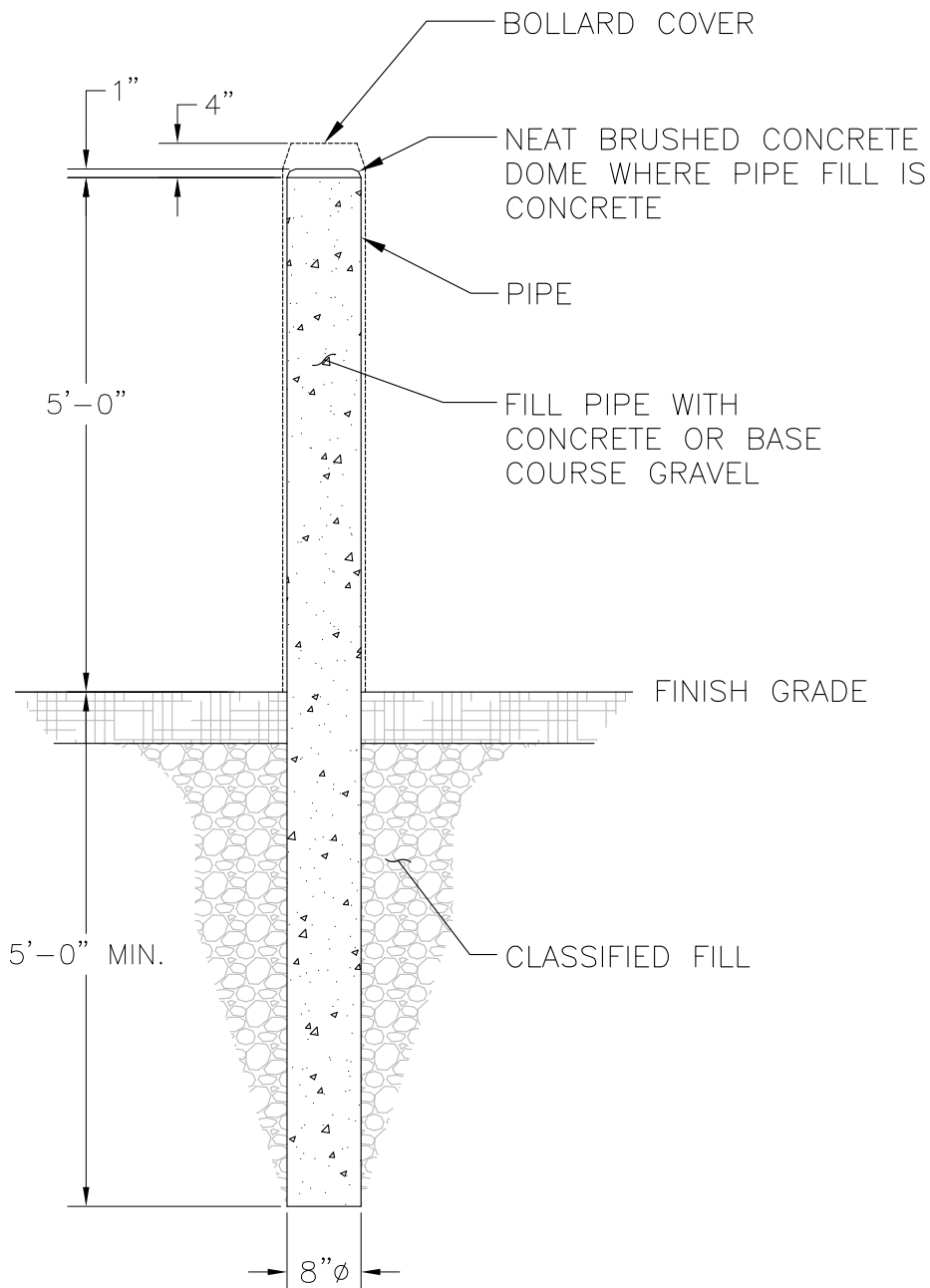
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20-1

# NOTES::

1. BOLLARD COVER IS 8<sup>7</sup>/<sub>8</sub>"x64" POST GUARD ENCORE YELLOW
2. BANDS HYDRANT USE RED BANDS TOP AND BLUE BAND BOTTOM. ALL OTHERS USE RED BANDS TOP AND BOTTOM
3. PIPE IS 8"Ø SCH 40 STEEL HOT DIP GALV PIPE ASTM 500 B STRUCTURAL GRADE
4. USE SPECIFIED PARTS OR APPROVED EQUAL



HIGH TRAFFIC AREA BOLLARD – TALL

CITY OF UNALASKA

Department of Public Utilities

BOLLARDS

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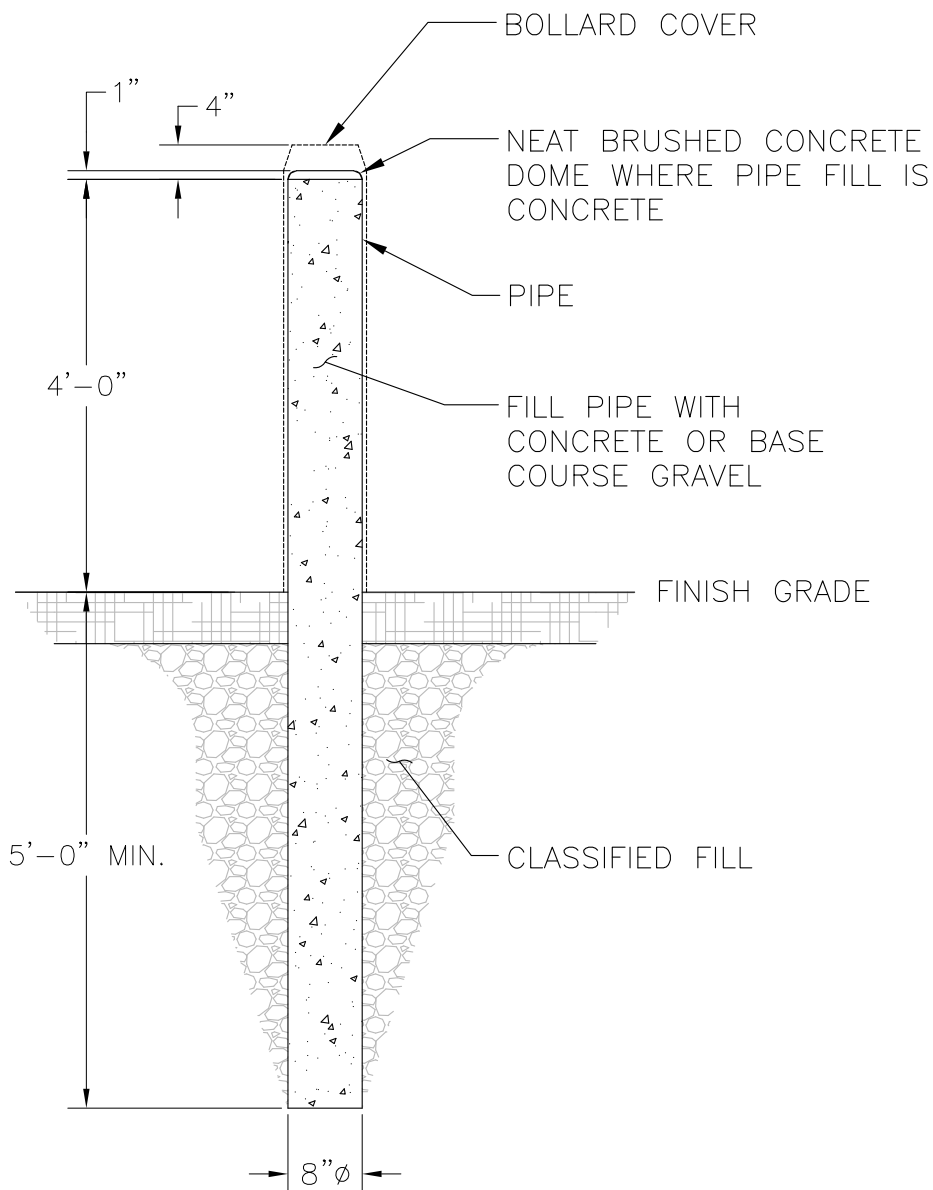
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70-2

# NOTES::

1. BOLLARD COVER IS 8<sup>7</sup>/<sub>8</sub>"x52" POST GUARD ENCORE YELLOW
2. BANDS HYDRANT USE RED BANDS TOP AND BLUE BAND BOTTOM. ALL OTHERS USE RED BANDS TOP AND BOTTOM
3. PIPE IS SCH 40 STEEL HOT DIP GALV PIPE ASTM 500 B STRUCTURAL GRADE
4. USE SPECIFIED PARTS OR APPROVED EQUAL



HIGH TRAFFIC AREA BOLLARD – SHORT

CITY OF UNALASKA

Department of Public Utilities

BOLLARDS

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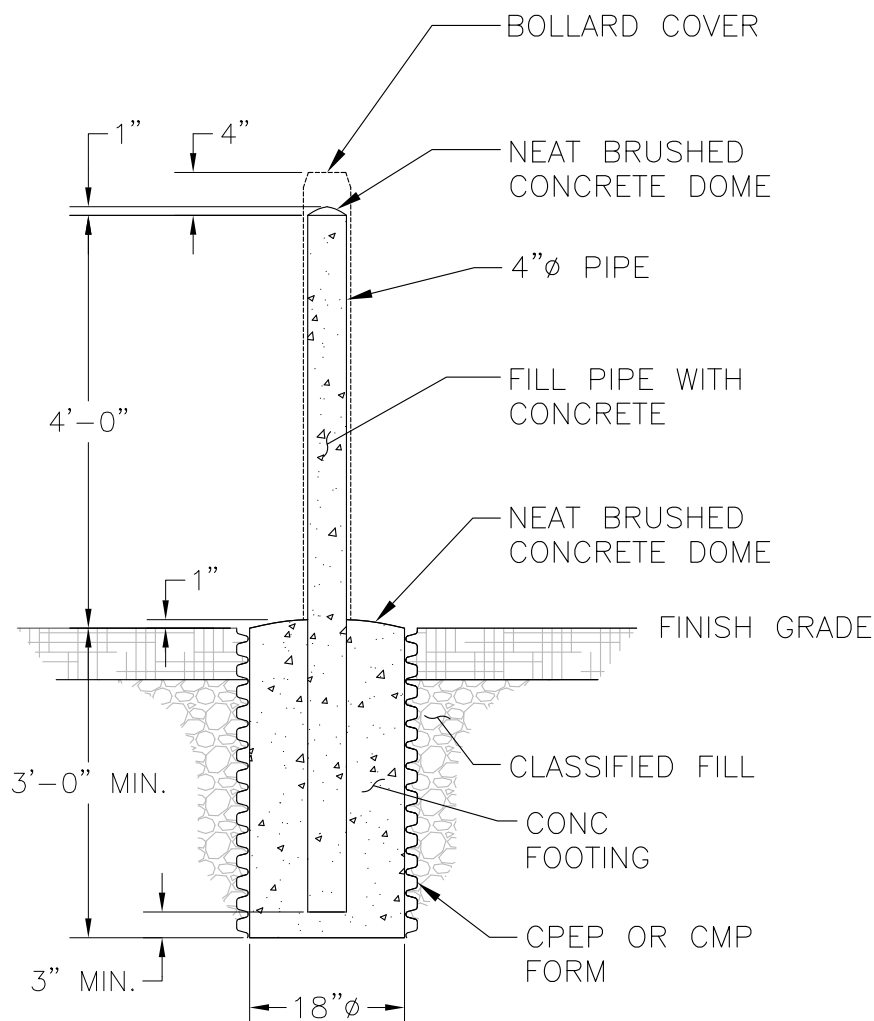
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STANDARD DETAIL NO.:  
70-2

# NOTES::

1. BOLLARD COVER IS  
4 $\frac{1}{2}$ "x51" POST GUARD  
ENCORE YELLOW
2. BANDS HYDRANT USE  
RED BANDS TOP AND  
BLUE BAND BOTTOM.  
ALL OTHERS USE RED  
BANDS TOP AND  
BOTTOM
3. PIPE IS 4"Ø SCH 40  
STEEL HOT DIP GALV  
PIPE ASTM 500 B  
STRUCTURAL GRADE
4. USE SPECIFIED PARTS  
OR APPROVED EQUAL



LOW TRAFFIC AREA BOLLARD

CITY OF UNALASKA

Department of Public Utilities

BOLLARDS

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70-1

MUELLER CENTURION A-423  
OR AMERICAN B-62-B-5  
FIRE HYDRANT

4 $\frac{1}{2}$ " PUMPER  
CONNECTION

1 $\frac{1}{2}$ " PENTAGONAL  
OPERATING NUT OPENS  
COUNTER CLOCKWISE

(2) 2 $\frac{1}{2}$ " HOSE  
CONNECTIONS

6" MIN.  
9" MAX.

FINISH GRADE

GATE VALVE  
BOX ASSEMBLY,  
PER STD  
DETAIL

WATER MAIN  
TEE, PER STD  
DETAIL

BREAKABLE DRY  
HYDRANT BARREL

6"Ø SHOE

REMOVE DRAIN PLUG

6"Ø CONNECTING  
PIPE

18"

6"Ø RESILIENT WEDGE GATE  
VALVE MUELLER A-2360,  
AMERICAN FLOW CONTROL  
2500, OR U.S. PIPE A-USP2

1 CUBIC YARD OF  
COMPACTED DRAIN  
ROCK AROUND SHOE

#### NOTES:

1. HYDRANTS ARE UL/FM LISTED AND MEET AWWA STANDARDS
2. HYDRANTS ARE FACTORY FINISH; MUELLER-YELLOW, AMERICAN-RED
3. SCREW THREAD CONNECTIONS ARE NFPA #1963
4. JOINT, FITTING, AND VALVE CONNECTIONS ARE MECHANICAL JOINTS WITH MEGALUG STYLE RETAINING GLANDS EBAA IRON 1100 SERIES
5. PIPE IS AWWA RATED CLASS 52 CEMENT MORTAR LINED DUCTILE IRON PIPE
6. BOLLARDS NOT SHOWN FOR CLARITY, SEE PAGE 2

PROFILE VIEW

CITY OF UNALASKA

Department of Public Utilities

FIRE HYDRANT

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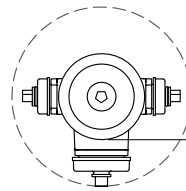


3' TO 4'  
WORKING  
CLEARANCE

INSTALL GATE  
VALVE BOX  
BEHIND  
BOLLARDS

NOTES:

1. INSTALL ADDITIONAL  
BOLLARDS AS  
REQUIRED ON ALL  
SIDES EXPOSED TO  
TRAFFIC AT 4' OC  
AROUND WORKING  
CLEARANCE



3'-6"

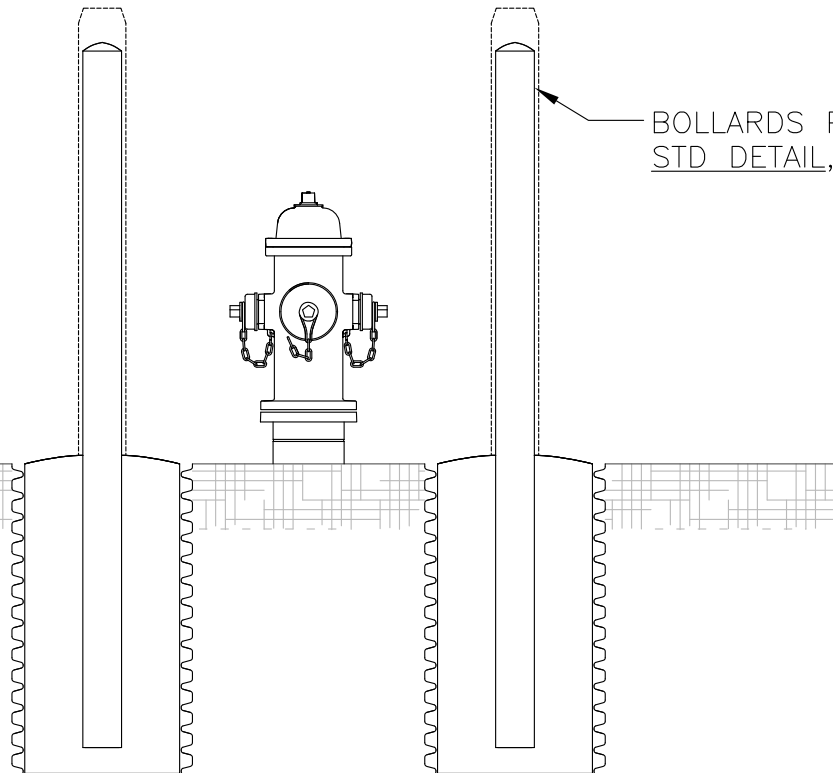
4'-0"

BOLLARDS PER  
STD DETAIL, TYP.

PLAN VIEW

FINISH GRADE

BOLLARDS PER  
STD DETAIL, TYP.



FRONT ELEVATION VIEW

CITY OF UNALASKA

Department of Public Utilities

FIRE HYDRANT

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1/24/18

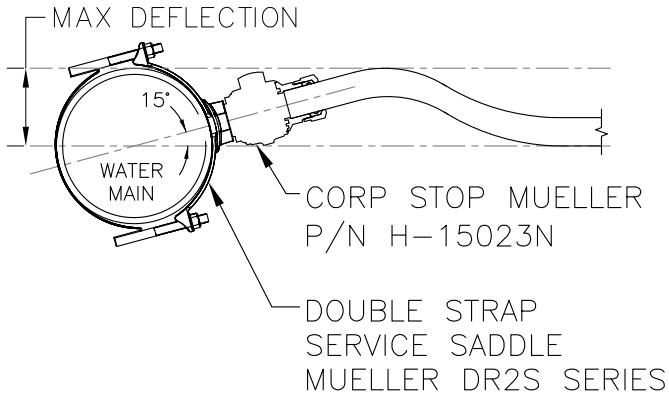
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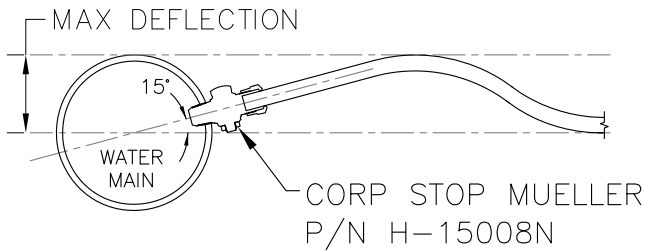
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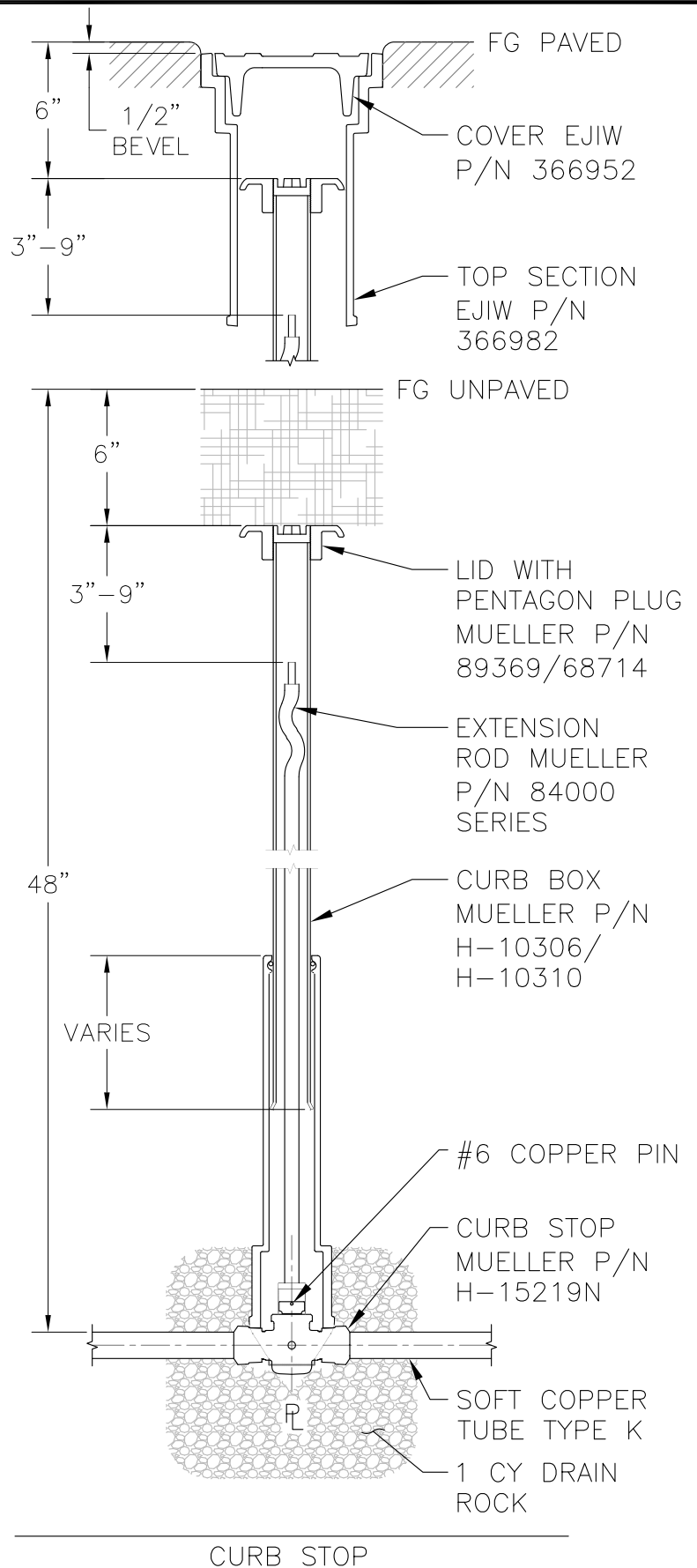
1-1/2" AND 2" CORP STOP WITH SERVICE SADDLE



3/4" AND 1" DIRECT TAP CORP STOP

NOTES:

1. WRAP 8 MIL POLYETHYLENE FILM AROUND MAIN, SERVICE SADDLE, AND FIRST 3' OF COPPER TUBE.



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WATER SERVICE CONNECTION

3/4" 1" 1-1/2" 2"

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1/24/18

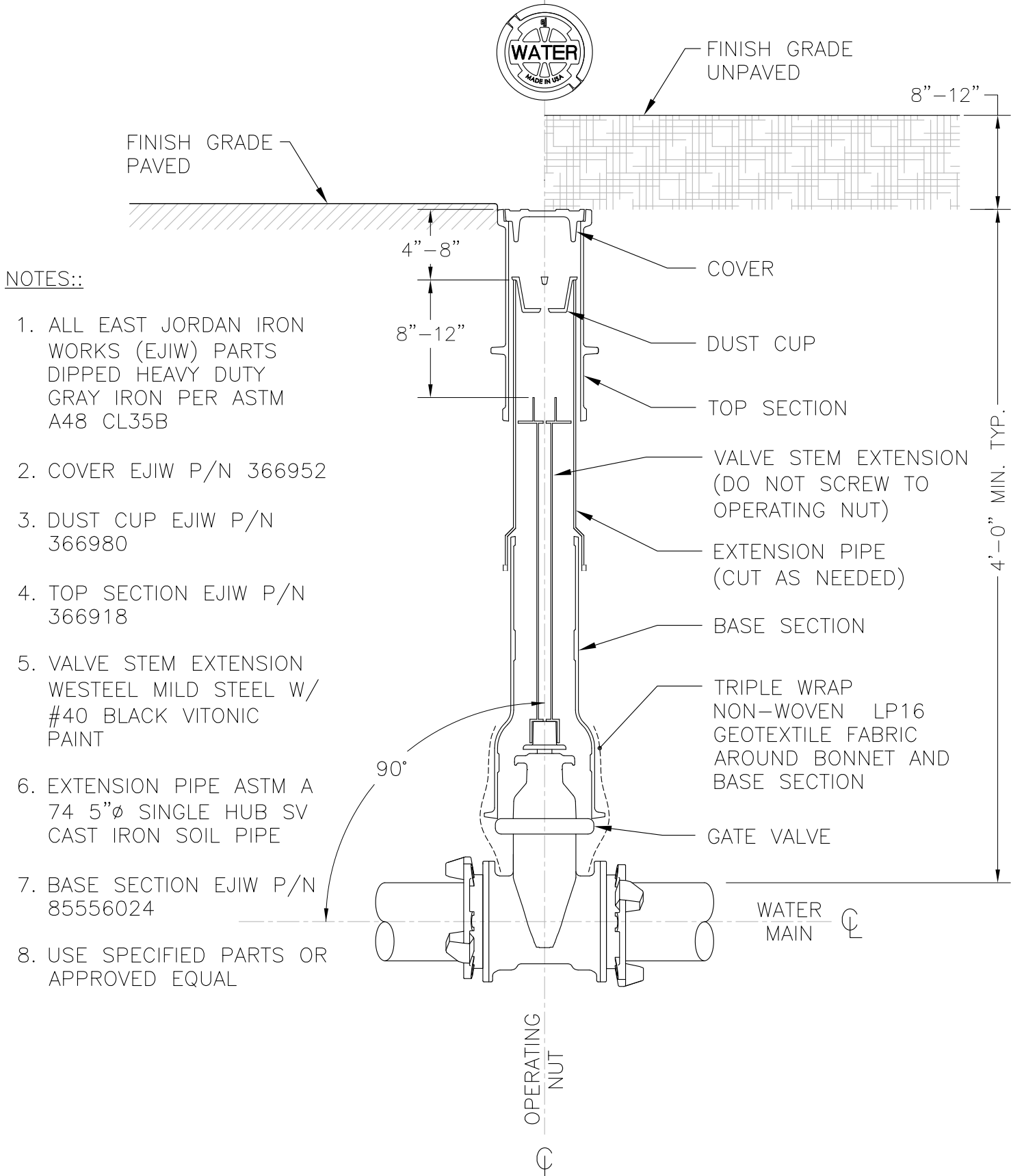
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STANDARD DETAIL NO.:  
60-2



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GATE VALVE BOX

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3

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60-3

NOTES::

1. ALL EAST JORDAN IRON WORKS (EJIW) PARTS DIPPED HEAVY DUTY GRAY IRON PER ASTM A48 CL35B
2. COVER EJIW P/N 366952
3. DUST CUP EJIW P/N 366980
4. TOP SECTION EJIW P/N 366918
5. VALVE STEM EXTENSION WESTEEL MILD STEEL W/ #40 BLACK VITONIC PAINT
6. EXTENSION PIPE ASTM A 74 5"Ø SINGLE HUB SV CAST IRON SOIL PIPE
7. BASE SECTION EJIW P/N 85556024
8. USE SPECIFIED PARTS OR APPROVED EQUAL

FINISH GRADE  
PAVED

4"-8"

8"-12"

FINISH GRADE  
UNPAVED

8"-12"

COVER

DUST CUP

TOP SECTION

VALVE STEM EXTENSION  
(DO NOT SCREW TO  
OPERATING NUT)

EXTENSION PIPE  
(CUT AS NEEDED)

BASE SECTION

TRIPLE WRAP  
NON-WOVEN LP16  
GEOTEXTILE FABRIC  
AROUND ACTUATOR  
AND BASE SECTION

90°

WATER  
MAIN

OPERATING  
NUT

BUTTERFLY VALVE

4'-0" MIN. TYP.

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BUTTERFLY VALVE BOX

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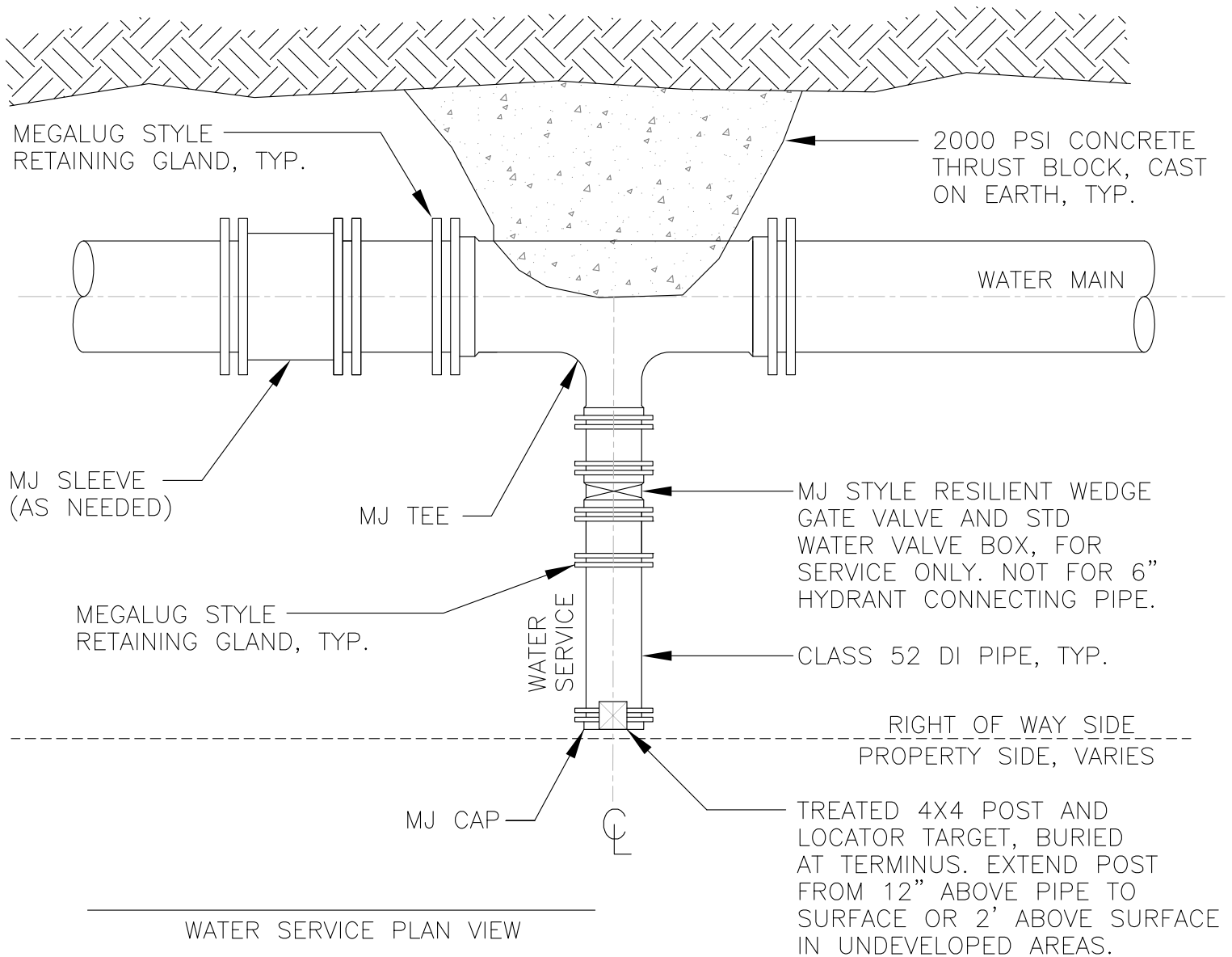
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3

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60-4



SERVICE PIPE SIZE	MIN CONC BASE AREA SQ.FT. TEE PIPE FITTING
6"	2.0
8"	2.5

THRUST BLOCK SIZE TABLE

NOTES::

1. RESTRAINED JOINT PIPE SHALL BE RESTRAINED WITH MEGALUG STYLE RETAINING GLANDS OR EQUAL.
2. ALL PIPE SHALL BE COVERED WITH AN 8 MIL POLYETHYLENE WRAP.
3. REFERENCE SERVICE CAP TO (3) PERMANENT SWING TIE LOCATIONS.

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WATER MAIN TEE

6" 8"

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DATE:  
1/29/14

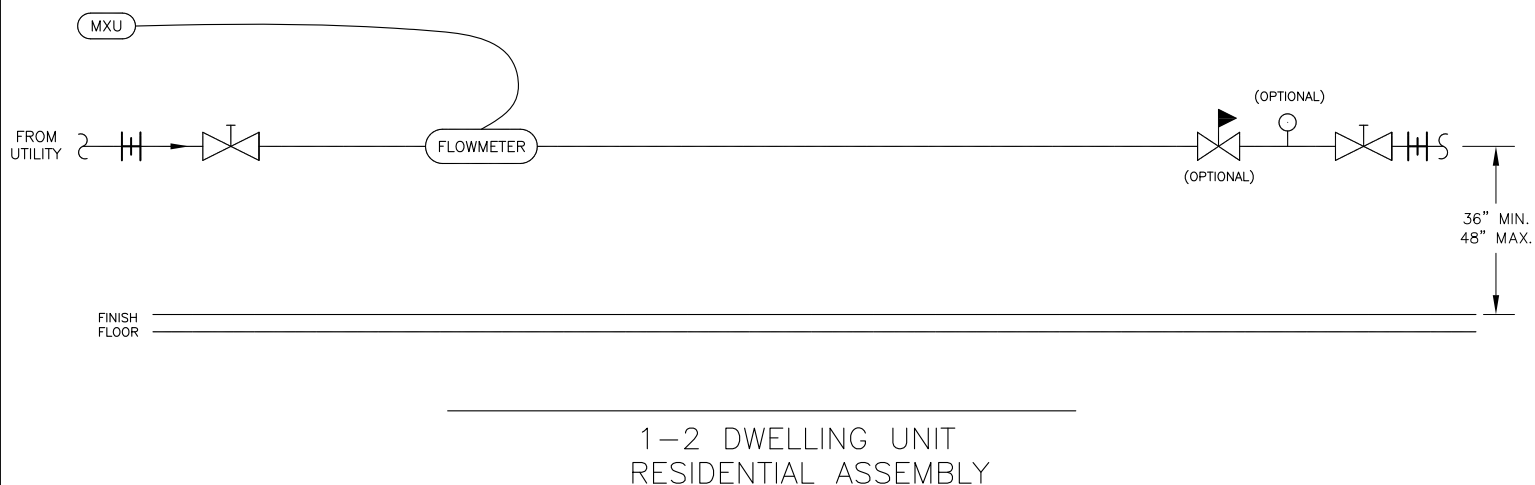
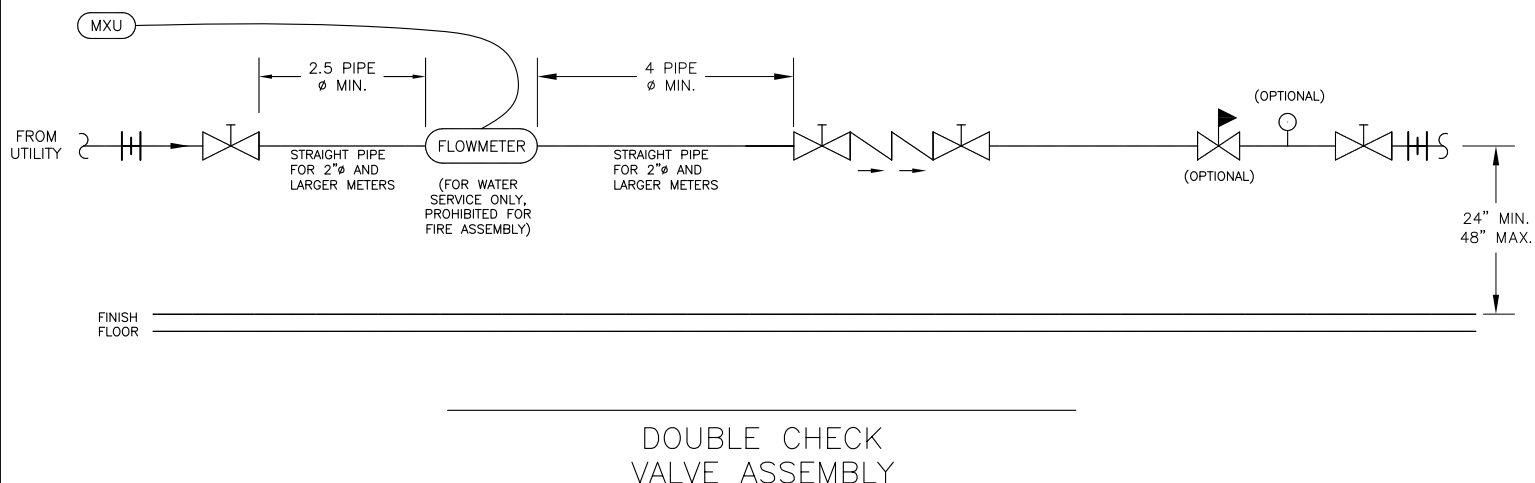
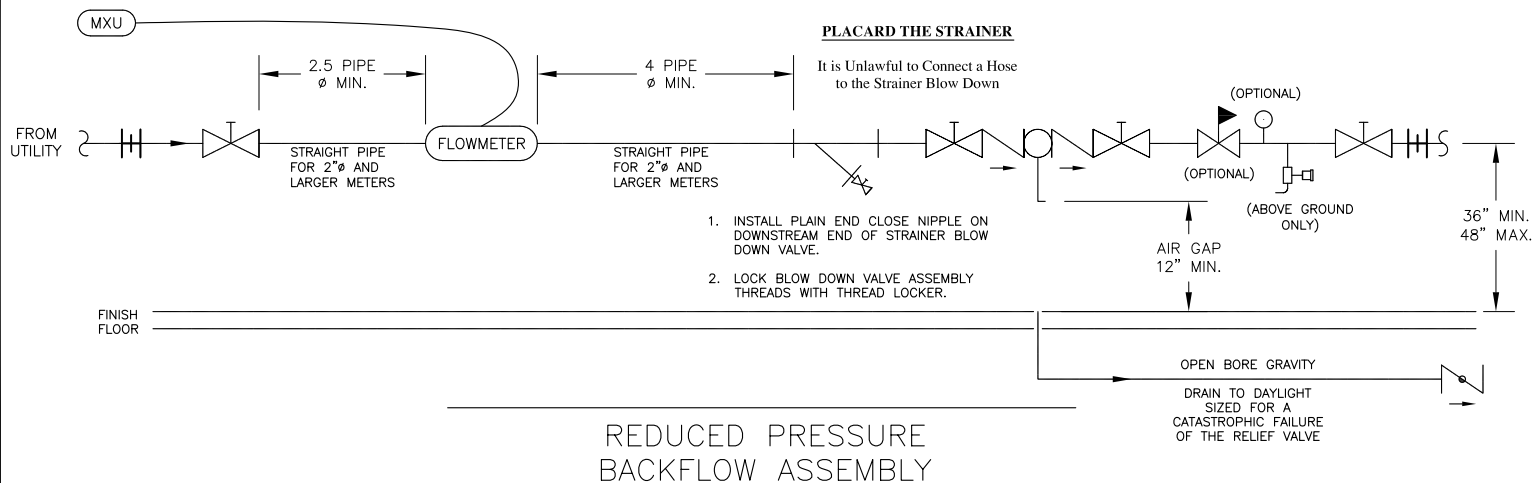
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CITY OF UNALASKA

Department of Public Utilities

WATER SERVICE ENTRANCE

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12/22/16

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—

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4

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STANDARD DETAIL NO.:  
60-6

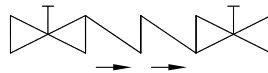
## GENERAL NOTES::

1. THIS DRAWING DEPICTS MINIMUM SPECIFICATIONS REQUIRED BY DPU FOR WATER SERVICE ENTRANCES. DPU IS NOT RESPONSIBLE FOR OTHER DESIGN REQUIREMENTS, FOR PARTS EXCEPT METER AND METER READER (MXU), FOR CONSTRUCTION, OR FOR MAINTENANCE AND TESTING.
2. COORDINATE MANDATORY INSPECTIONS WITH DPU PRIOR TO CONNECTING TO THE MAIN OR TURNING ON A WATER SERVICE. CONFORM WORK TO ALL OTHER CURRENT MANUFACTURER/CITY/STATE/FEDERAL REQUIREMENTS.
3. INSTALL ASSEMBLIES WITH ADEQUATE NON-HAZARDOUS SPACE FOR INSPECTION, TESTING, REPAIR AND MAINTENANCE. MAINTAIN CLEAR SPACE A MINIMUM OF 30" ABOVE, 8" BEHIND AND 30" IN FRONT OF ASSEMBLIES.
4. ALL PIPE AND FITTINGS ARE "LEAD FREE" ANSI/NSF 61 APPROVED. ALL BACKFLOW PREVENTION DEVICES MUST BE INSTALLED IN THE CORRECT H:V ORIENTATION AND BE CURRENTLY CERTIFIED AND LISTED BY THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH.
5. COMMERCIAL OR INDUSTRIAL WATER SERVICES REQUIRE A REDUCED PRESSURE BACKFLOW ASSEMBLY. 3+ DWELLING UNIT RESIDENTIAL WATER AND FIRE SERVICES MAY USE A DOUBLE CHECK VALVE ASSEMBLY UNLESS AN UNPROTECTED HAZARD EXISTS THAT REQUIRES A REDUCED PRESSURE BACKFLOW ASSEMBLY.
6. UNLESS NOTED OTHERWISE, ONLY THE WATER METER AND MXU ARE FURNISHED BY DPU.  $\frac{3}{4}$ " TO 1" SENSUS IPERL AND 2" TO 10" SENSUS OMNI C2. THE MXU IS INSTALLED BY DPU.
7. ALL NEW PIPE, FITTINGS, AND DEVICES ARE THE SAME DIAMETER AS THE WATER METER EXCEPT WITH SPECIAL APPROVAL BY DPU. NEW PIPE AND FITTINGS 2"Ø AND SMALLER ARE TYPE K SOFT COPPER BELOW GROUND AND RIGID COPPER TYPE L OR BRASS ABOVE GROUND. NEW PIPE AND FITTINGS 3"Ø AND LARGER MAY BE DUCTILE IRON WITH FLANGED CONNECTIONS WHERE ABOVE GROUND.

### KEY:



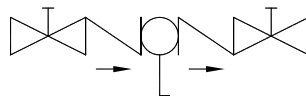
PRESSURE REDUCING VALVE



DOUBLE CHECK VALVE ASSEMBLY



VALVE



REDUCED PRESSURE BACKFLOW ASSEMBLY



BACK WATER VALVE



METER READER



SPIGOT W/ INTEGRAL VACUUM  
BREAKER



PRESSURE GAUGE



WYE STRAINER



DIELECTRIC UNION OR BRASS NIPPLE  
JUMP GROUNDS W/ BRONZE CLAMPS

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WATER SERVICE ENTRANCE

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12/22/16

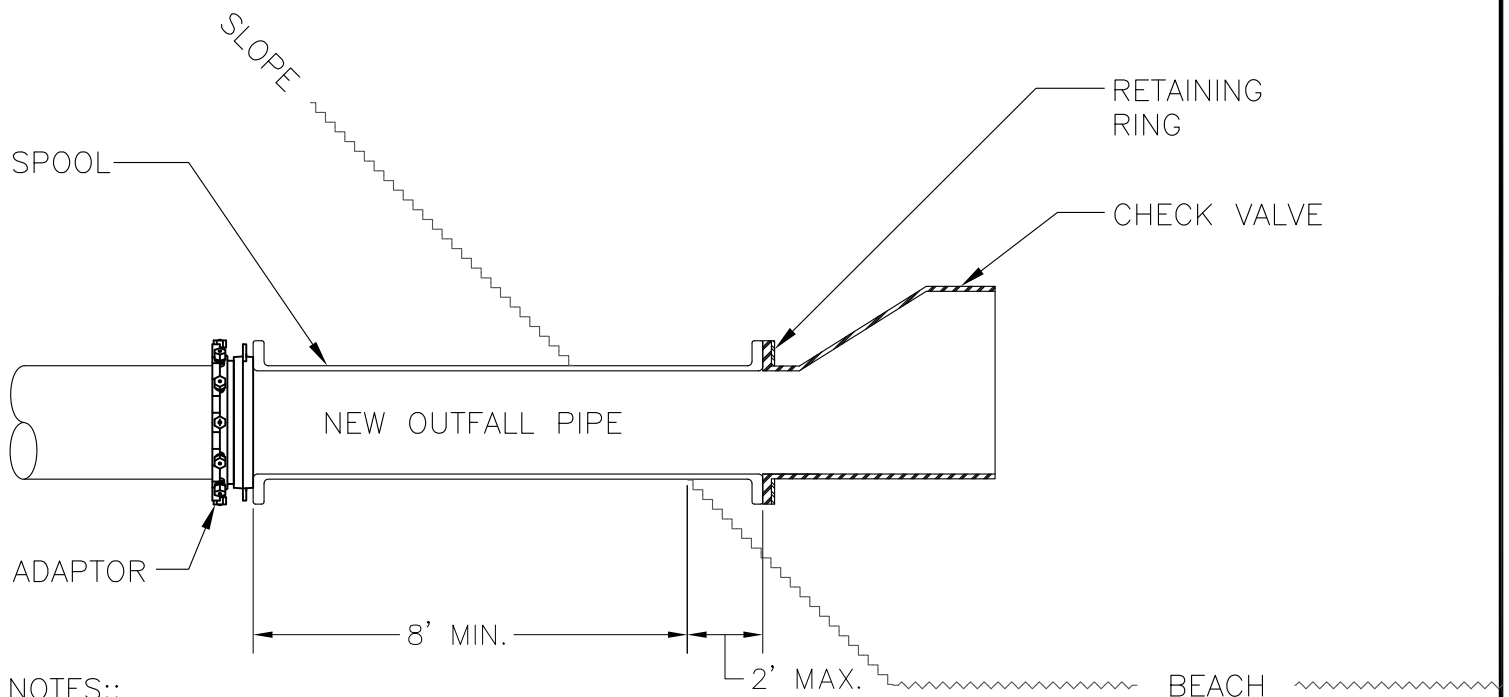
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60-6



NOTES::

1. LONGITUDINAL HARDWARE NOT SHOWN FOR CLARITY. USE 316L SS BOLTS, LOCK WASHERS, AND NUTS PROVIDED BY EBAA
2. CHECK VALVE – TIDEFLEX 35-1 100% EPDM
3. RETAINING RING – TIDEFLEX 316L SS
4. SPOOL – CLASS 53 ANSI/AWWA 115/A21.5 DUCTILE IRON PIPE W/ FLAT FACED DUCTILE IRON FLANGES PER ANSI/AWWA C110/A21.10 W/ ASME B16.1/5 CLASS 125/150 BOLT PATTERN
5. ADAPTOR – EBAA IRON MEGAFLANGE 2100 W/ 316 L SS BOLTS
6. PIPE – CLASS 52 DUCTILE IRON AWWA C-150/C151 W/ FIELD LOCK 350 GASKETS
7. PIPE AND SPOOL – AWWA C104 BITUMINOUS COATINGS AND CEMENT MORTAR LINING. WRAP W/ AWWA C105 8 MIL POLYETHYLENE ENCASEMENT
8. USE SPECIFIED PARTS OR APPROVED EQUAL

ASSEMBLED PROFILE VIEW

CITY OF UNALASKA

Department of Public Utilities

WATER SYSTEM OUTFALL  
NEW PIPE

DRAWN BY:  
RL

DATE:  
1/24/18

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CH

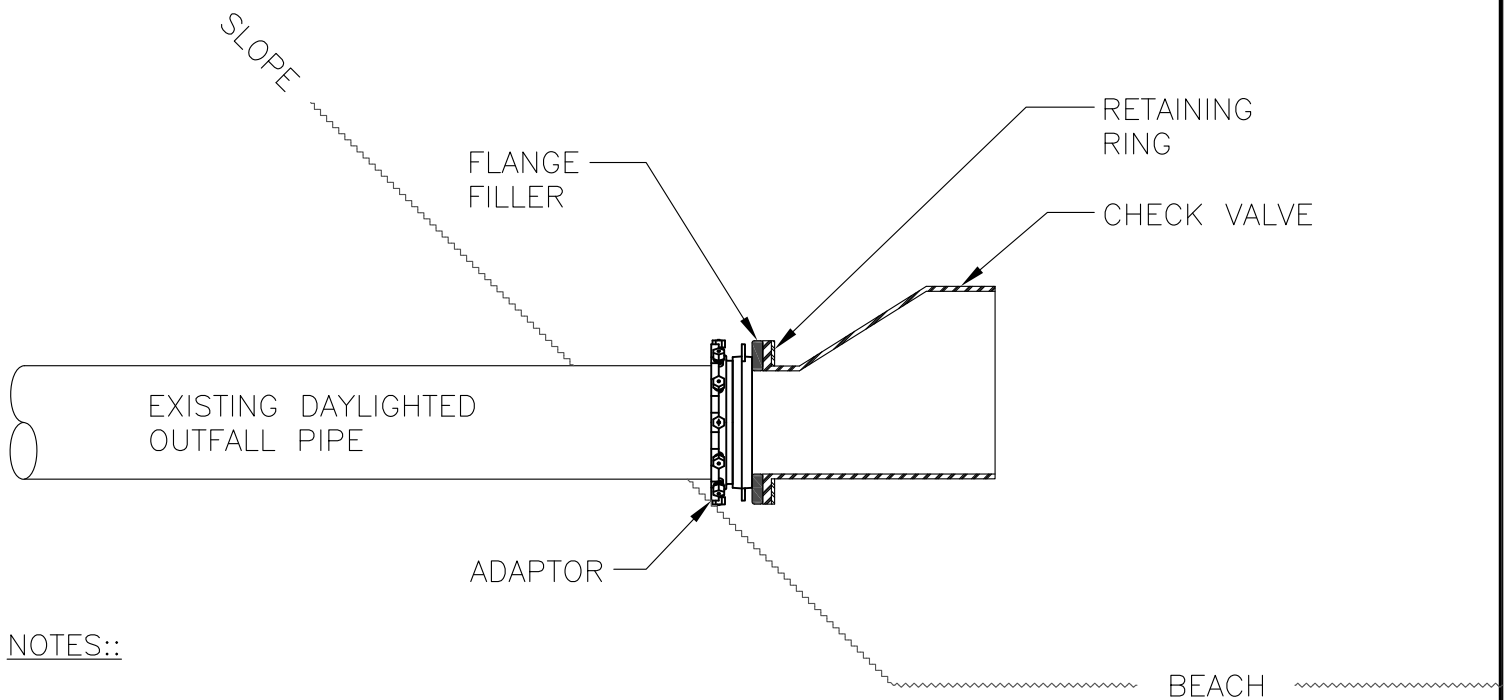
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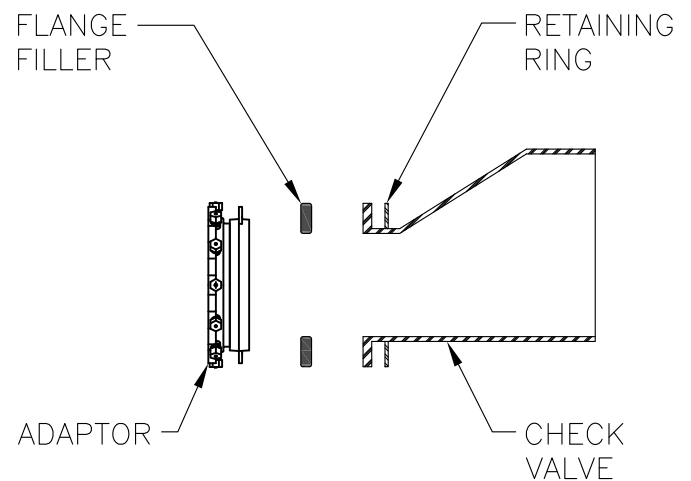




NOTES::

1. LONGITUDINAL HARDWARE NOT SHOWN FOR CLARITY. USE 316L SS BOLTS, LOCK WASHERS, AND NUTS PROVIDED BY EBAA. VERIFY DIMENSIONS AND SPECIAL ORDER LONGER BOLT LENGTHS TO ACCOMODATE FLANGE FILLER
2. CHECK VALVE – TIDEFLEX 35-1 100% EPDM
3. RETAINING RING – TIDEFLEX 316L SS
4. FLANGE FILLER – FLAT FACED DUCTILE IRON ANSI/AWWA C110/C111 ½” THICK W/ ASME B16.1/5 CLASS 125/150 BOLT PATTERN
5. ADAPTOR – EBAA IRON MEGAFLANGE 2100 W/ 316L SS BOLTS. USE 2100T FOR STEEL PIPE
6. PIPE – DUCTILE IRON OR STEEL, VIF
7. USE SPECIFIED PARTS OR APPROVED EQUAL

ASSEMBLED PROFILE VIEW



ASSEMBLY VIEW

CITY OF UNALASKA

Department of Public Utilities

WATER SYSTEM OUTFALL  
EXISTING PIPE

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1/24/18

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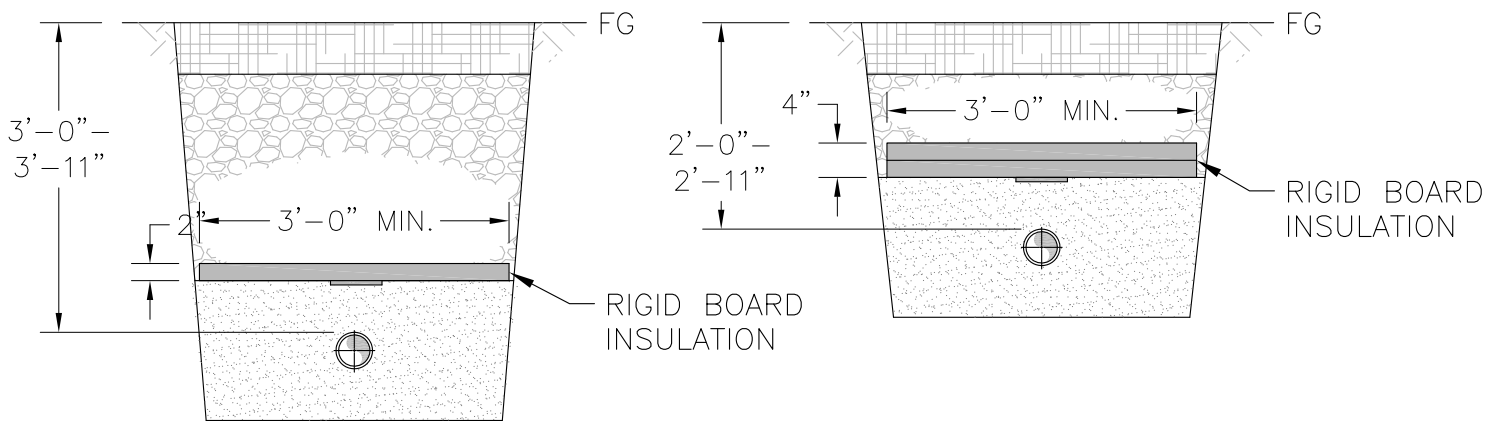
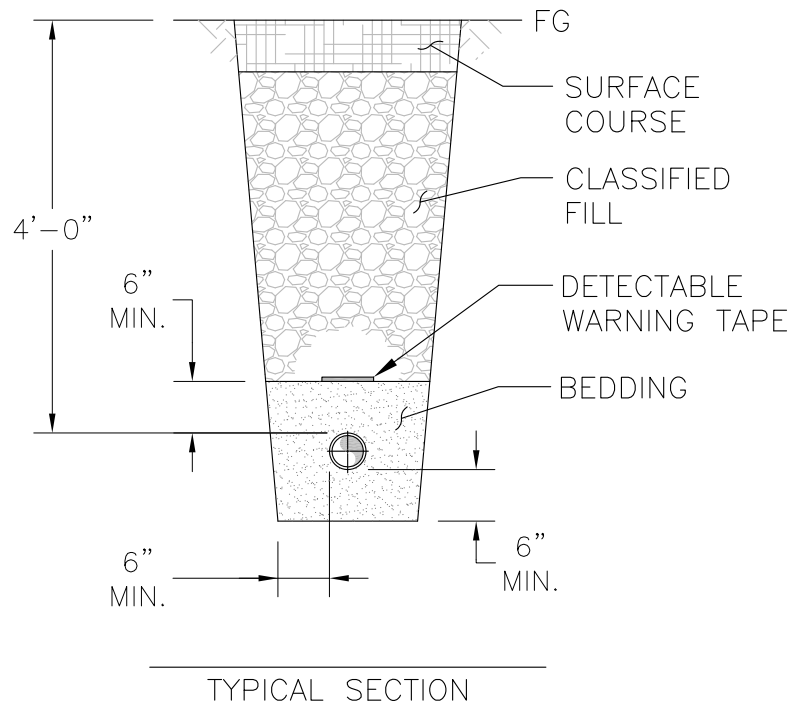
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2 of 2

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60-7

NOTES::

1. GRAVEL RESURFACING SHOWN FOR CLARITY. FOR TRENCH CONSTRUCTION AND RESURFACING SEE UTILITY CUT DETAILS
2. FOR SHARED WATER AND SEWER SERVICE TRENCHES SEE SHARED TRENCH DETAILS
3. RIGID BOARD INSULATION IS DOW HIGHLOAD 40
4. DETECTABLE WARNING TAPE IS DIRECT BURIAL RATED 6" WIDE 5 MIL THICK POLYETHELENE ENCASED ALUMINUM APWA COLOR CODE W/ UTILITY LEGEND "WARNING WATER LINE BELOW"
5. USE SPECIFIED PARTS OR APPROVED EQUAL



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Department of Public Utilities

WATER SERVICE  
TRENCHES

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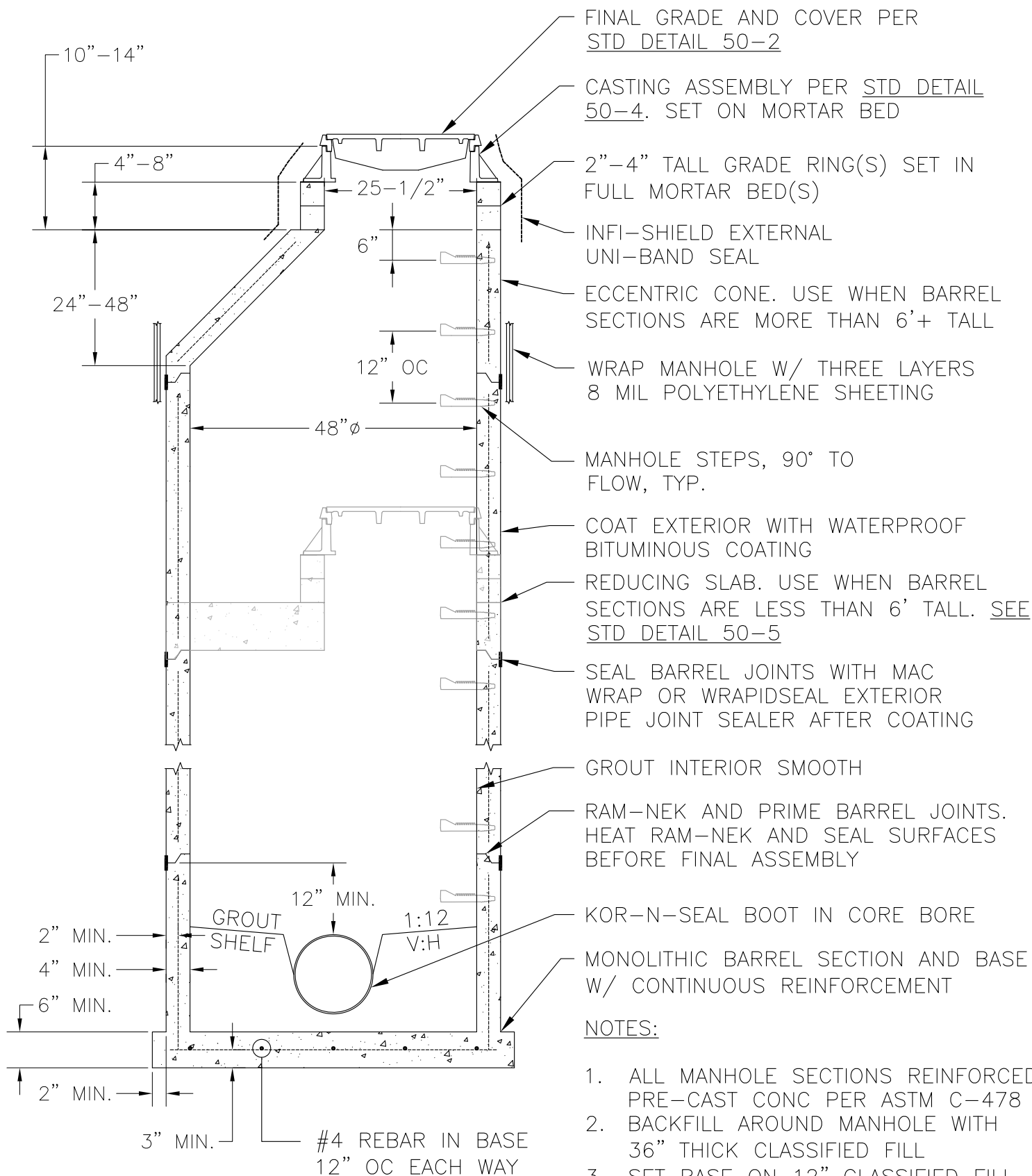
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# TYPE A SANITARY MANHOLE 8" TO 24" SEWER MAINS

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1/26/18

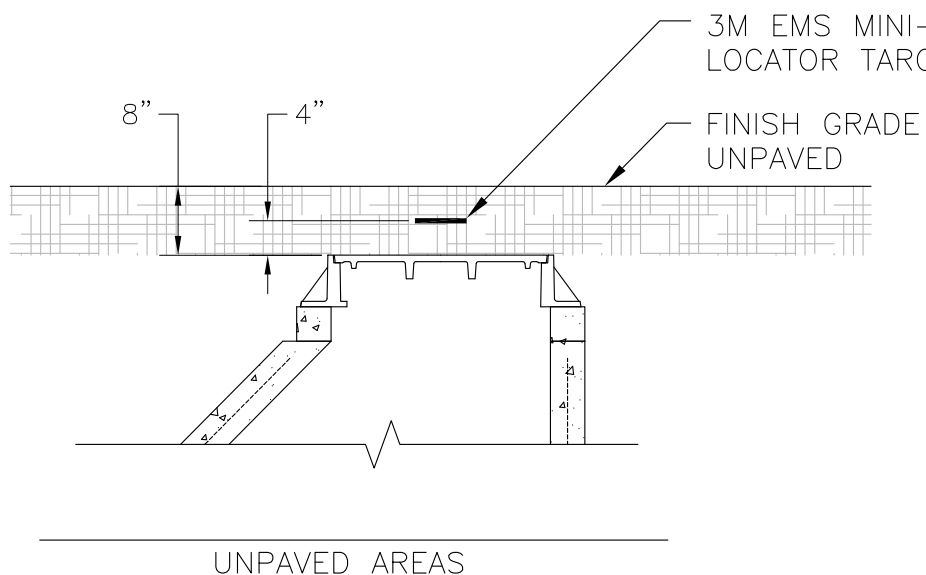
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SCALE:  
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REVISION NO.:  
2

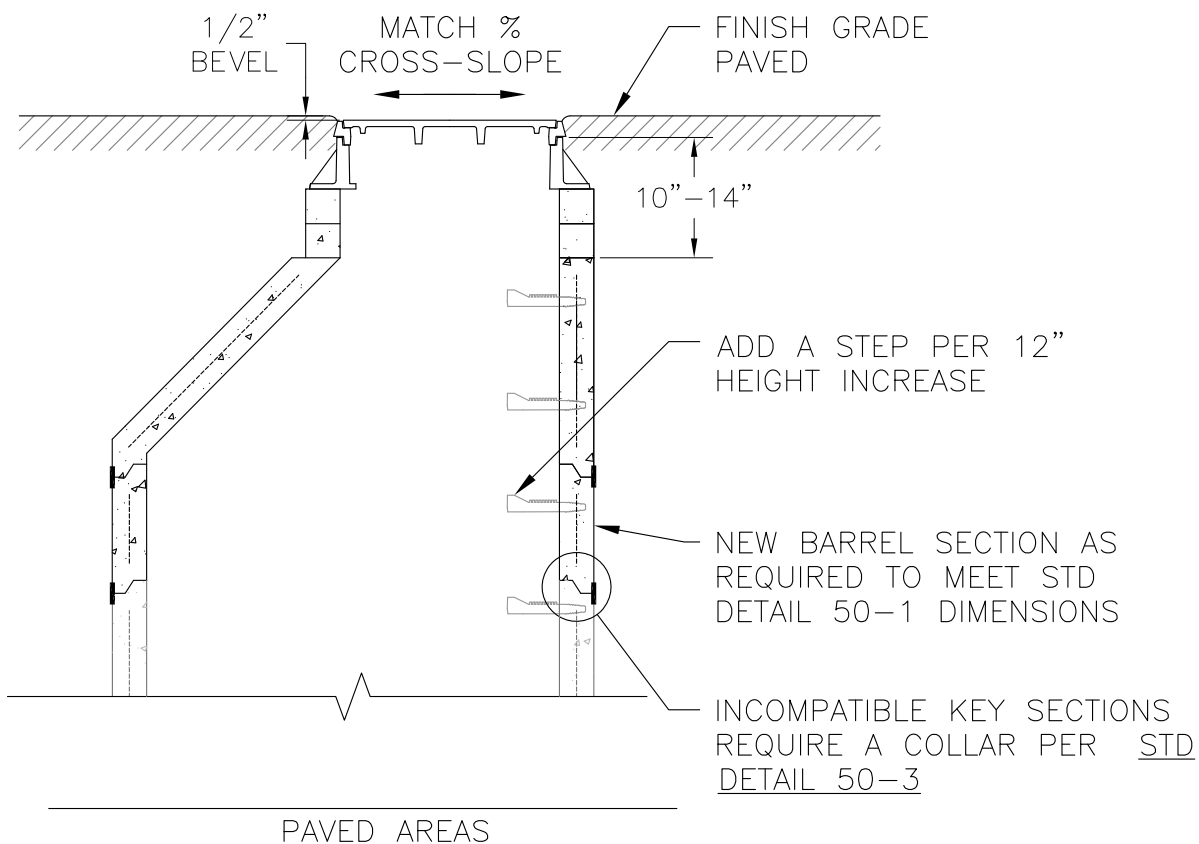
PAGES.:  
1 of 1

STANDARD DETAIL NO.:  
50-1



#### GENERAL NOTES:

1. REBUILD IN ACCORDANCE WITH STD DETAIL 50-1 OR 55-1 AS APPLICABLE
2. IN PAVING USE ONE 2"-4" PAVING RING
3. FOR ADJUSTMENTS OF 1" OR LESS. SHIM FRAME WITH STUD WASHERS OR BRICKS SET IN FULL MORTAR BED



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MANHOLE COVER GRADE

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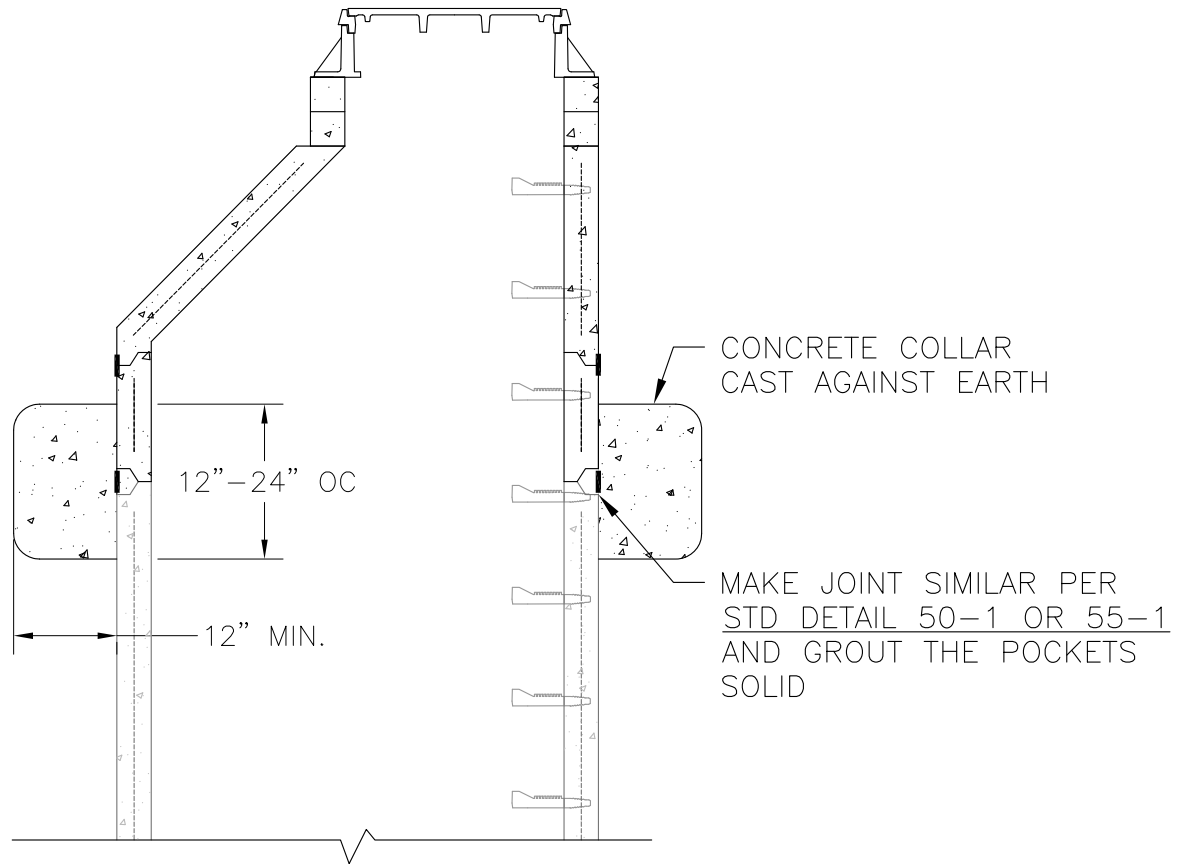
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2

PAGES.:  
1 of 1

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50-2



CONCRETE COLLAR FOR  
INCOMPATIBLE KEY SECTIONS

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INCOMPATIBLE KEY SECTIONS

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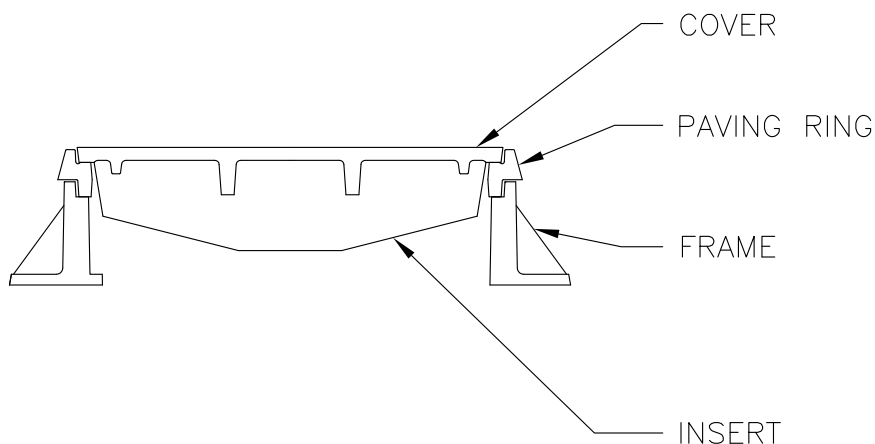
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2

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1 of 1

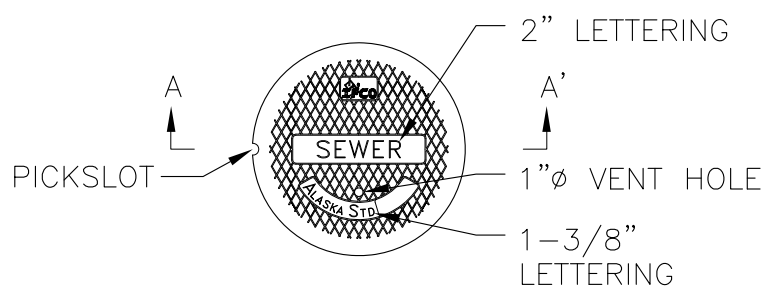
STANDARD DETAIL NO.:  
50-3

# NOTES::

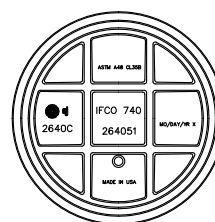
1. ALL EAST JORDAN IRON WORKS (EJIW) PARTS HEAVY DUTY GRAY IRON PER ASTM A48 CL35B
2. COVER EJIW P/N 264051
3. PAVING RING EJIW P/N 2603 SERIES 1.5", 2", 2.5", 3" AND 4"
4. FRAME EJIW P/N 264010
5. INSERT CRETEX FRW STYLE B INFLOW INSERT
6. MACHINED SURFACE  $\nabla$



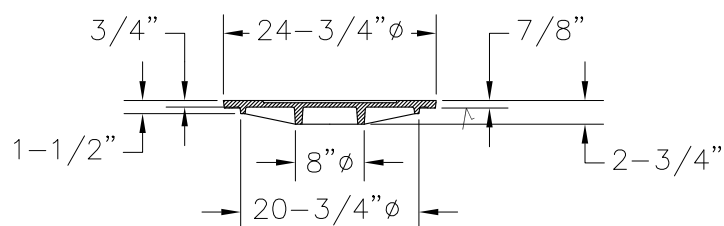
STACKING ASSEMBLY  
SECTION VIEW



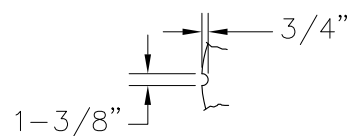
PLAN VIEW



BOTTOM VIEW



A-A' SECTION VIEW



PICKSLOT

COVER DETAIL

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Department of Public Utilities

SEWER MANHOLE CASTING

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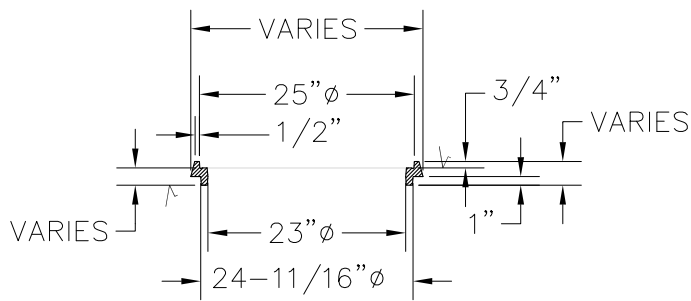
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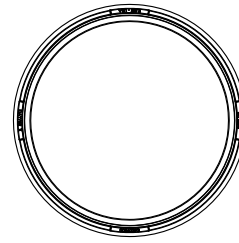
REVISION NO.:  
1

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1 of 2

STANDARD DETAIL NO.:  
50-4

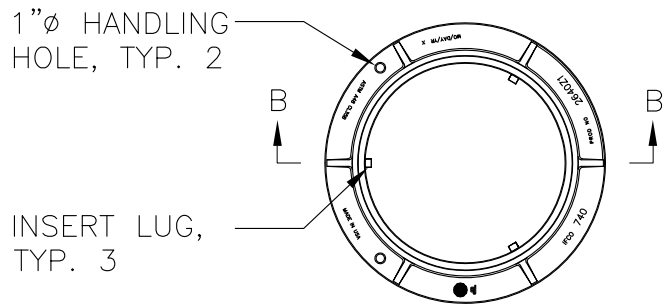


SECTION VIEW

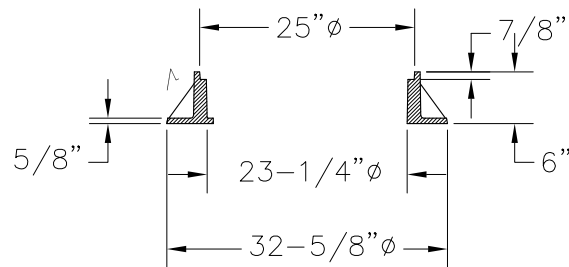


PLAN VIEW

PAVING RING DETAIL



PLAN VIEW



SECTION B-B'

FRAME DETAIL

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SEWER MANHOLE CASTING

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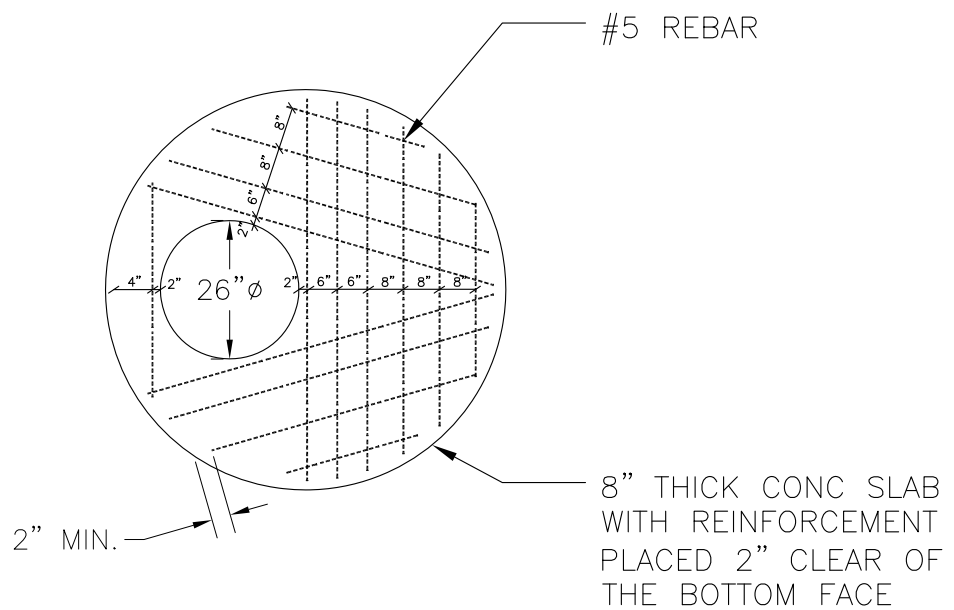
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2 of 2

STANDARD DETAIL NO.:  
50-4



PLAN VIEW

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48"  $\phi$  REDUCING SLAB

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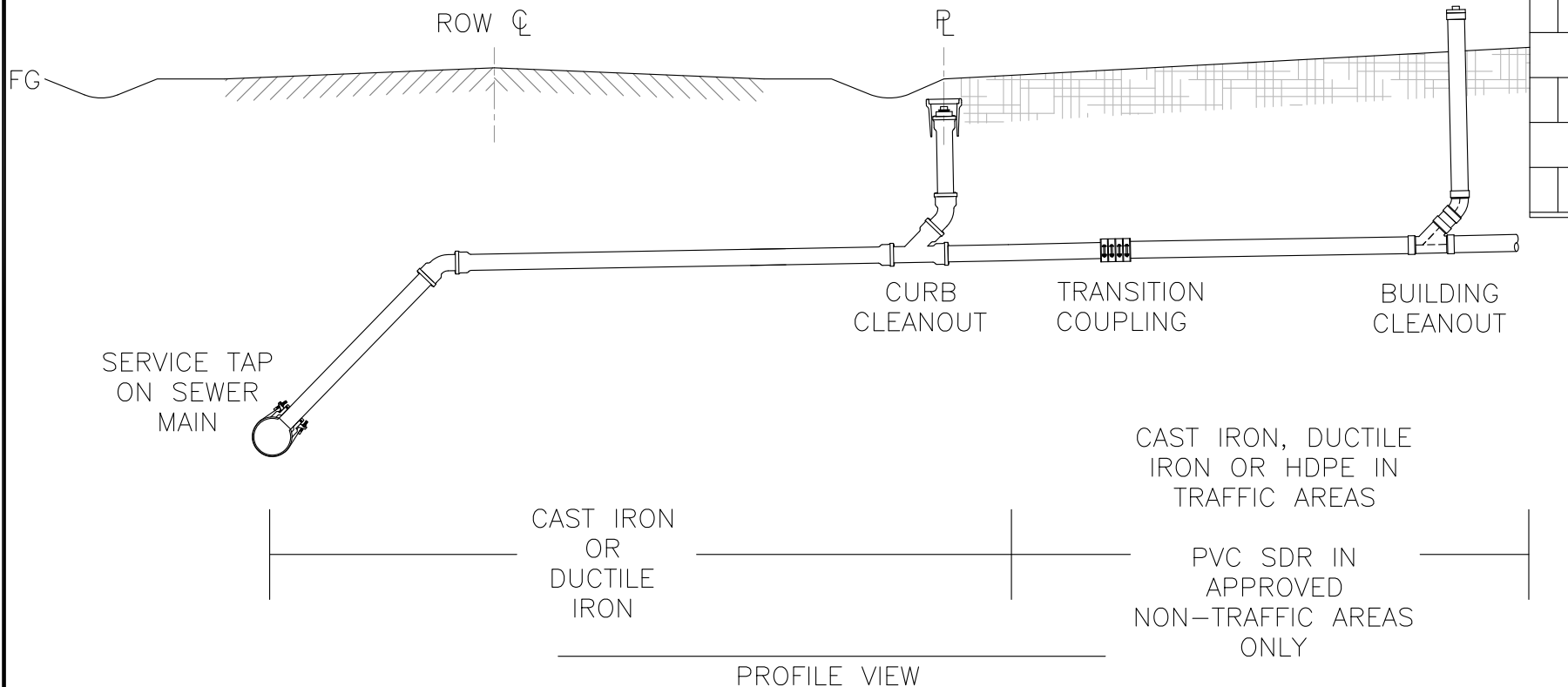
PAGES.:  
2 of 2

STANDARD DETAIL NO.:  
50-5



NOTES::

1. ADDITIONAL CLEANOUTS REQUIRED AT MORE THAN 45° OF BENDS, BETWEEN VERTICAL/HORIZONTAL BENDS AND AT EVERY 100' INTERVAL
2. AT WATER SERVICE PIPE CROSSINGS WITH LESS THAN 12" CLEARANCE SLEEVE WATER SERVICE PIPE WITH ONE SIZE LARGER DIAMETER PIPE 5'-0" ON BOTH SIDES
3. PIPE AND FITTINGS ARE GASKETED HUB AND SPIGOT (EXCEPT HDPE)
4. CAST IRON IS SERVICE WEIGHT SOIL PIPE BY ASTM A74, ASTM A888 AND CISPI 301 W/ NEOPRENE COMPRESSION GASKETS BY ASTM C 564 AND CISPI HSN 85
5. DUCTILE IRON IS AWWA CLASS 52 CEMENT MORTAR LINED WITH FIELD LOK GASKETS, MJ FITTINGS AND 10 MIL PE ENCASEMENT
6. HDPE IS SDR 17 BY ASTM 714/3350 MIN. PE 4710 CELL CLASSIFICATION 445474 2% CARBON BLACK IN IRON PIPE SIZE W/ ELECTROFUSION COUPLINGS
7. PVC SDR IS SDR 26/35 PER ASTM D3034
8. TRANSITION COUPLING IS A HEAVY DUTY SHIELDED NO-HUB COUPLING BY ASTM C-1540 USE HUSKY SD 4000/4200 OR MISSION HEAVYWEIGHT
9. USE SPECIFIED PARTS OR APPROVED EQUAL



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**SEWER SERVICE – PROFILE**  
**4" AND 6"**

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NOTES::

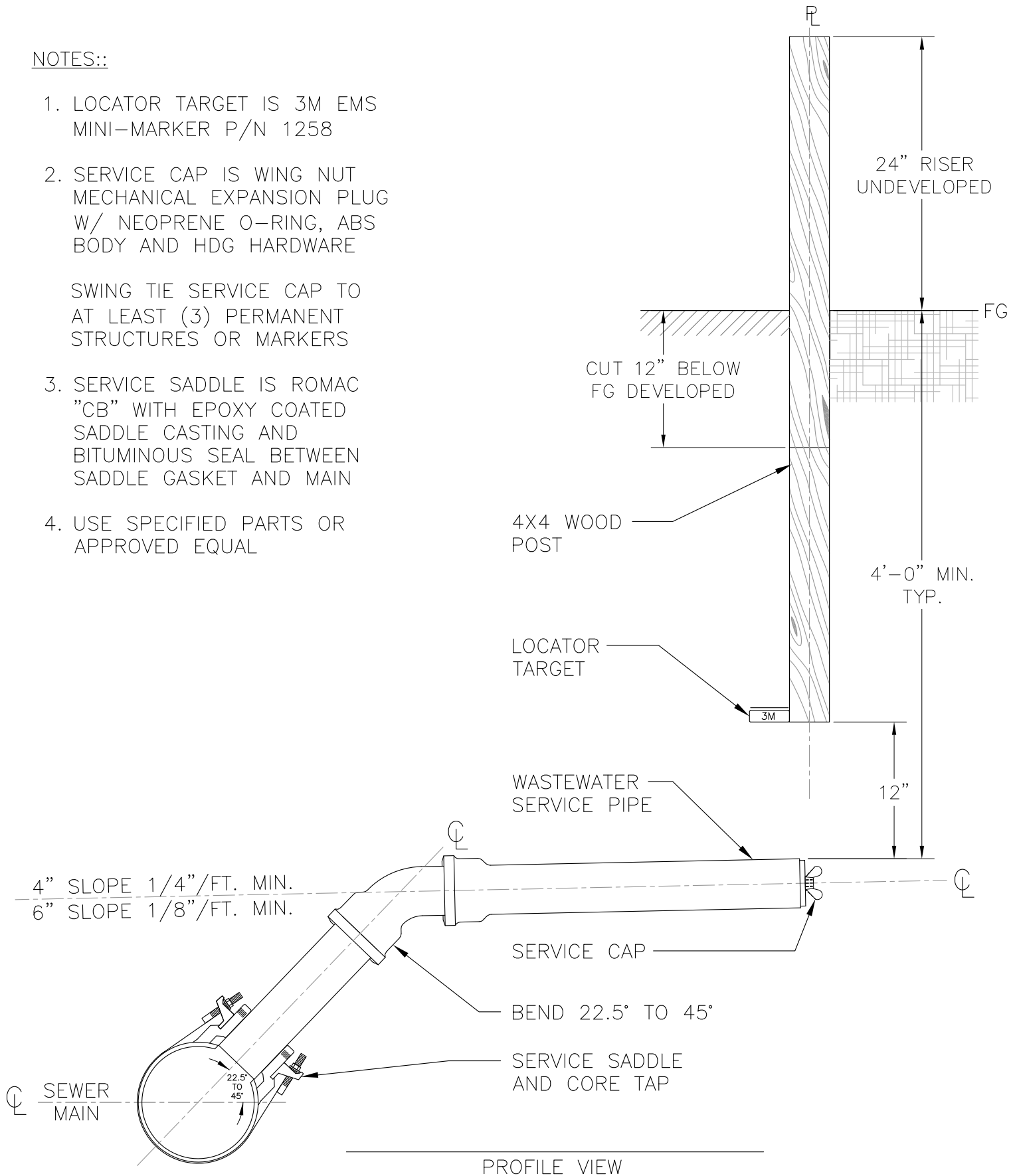
1. LOCATOR TARGET IS 3M EMS  
MINI-MARKER P/N 1258

2. SERVICE CAP IS WING NUT  
MECHANICAL EXPANSION PLUG  
W/ NEOPRENE O-RING, ABS  
BODY AND HDG HARDWARE

SWING TIE SERVICE CAP TO  
AT LEAST (3) PERMANENT  
STRUCTURES OR MARKERS

3. SERVICE SADDLE IS ROMAC  
"CB" WITH EPOXY COATED  
SADDLE CASTING AND  
BITUMINOUS SEAL BETWEEN  
SADDLE GASKET AND MAIN

4. USE SPECIFIED PARTS OR  
APPROVED EQUAL



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SEWER SERVICE – TAP

4" 6"

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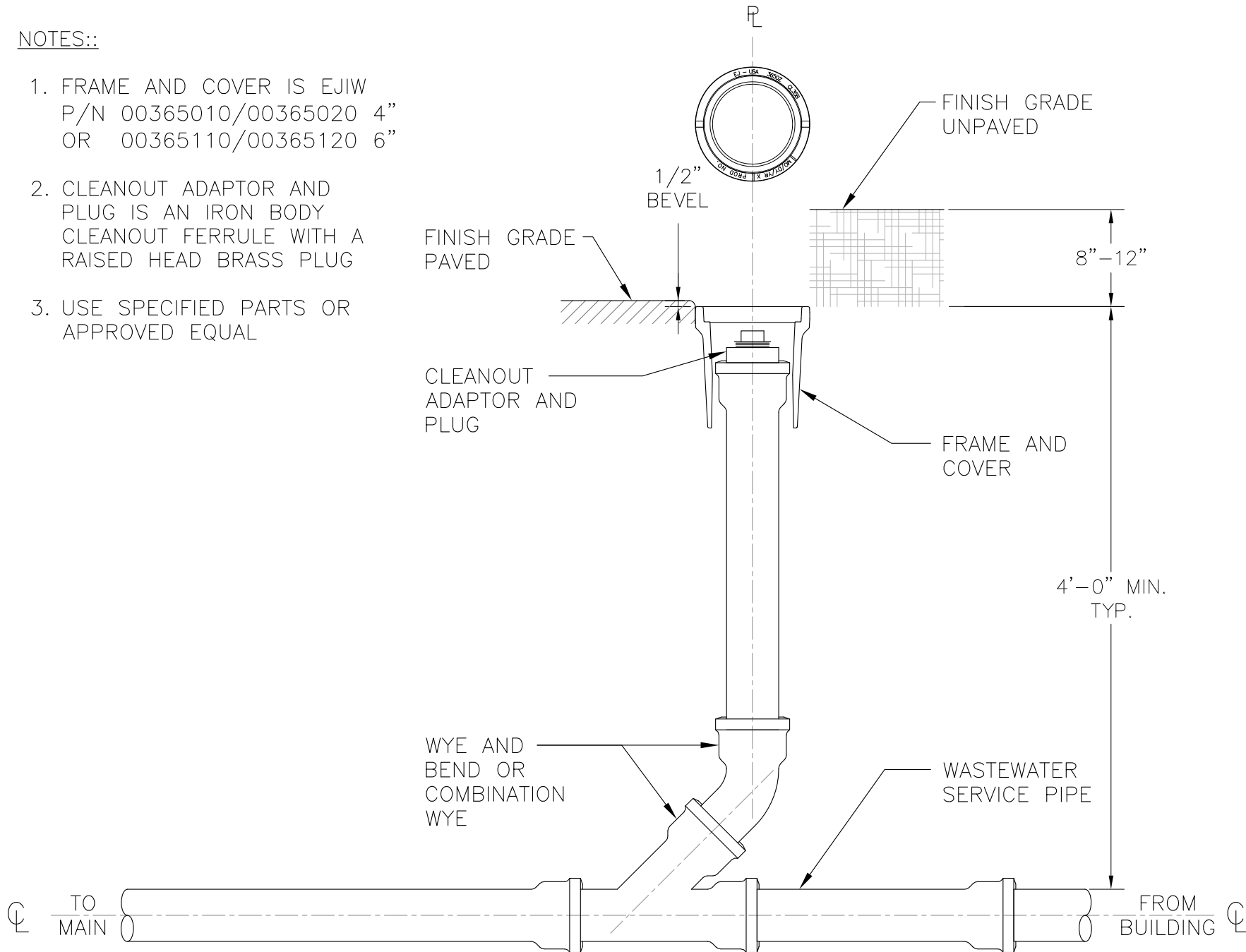
REVISION NO.:  
2

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STANDARD DETAIL NO.:  
50-7

NOTES::

1. FRAME AND COVER IS EJIW  
P/N 00365010/00365020 4"  
OR 00365110/00365120 6"
2. CLEANOUT ADAPTOR AND  
PLUG IS AN IRON BODY  
CLEANOUT FERRULE WITH A  
RAISED HEAD BRASS PLUG
3. USE SPECIFIED PARTS OR  
APPROVED EQUAL



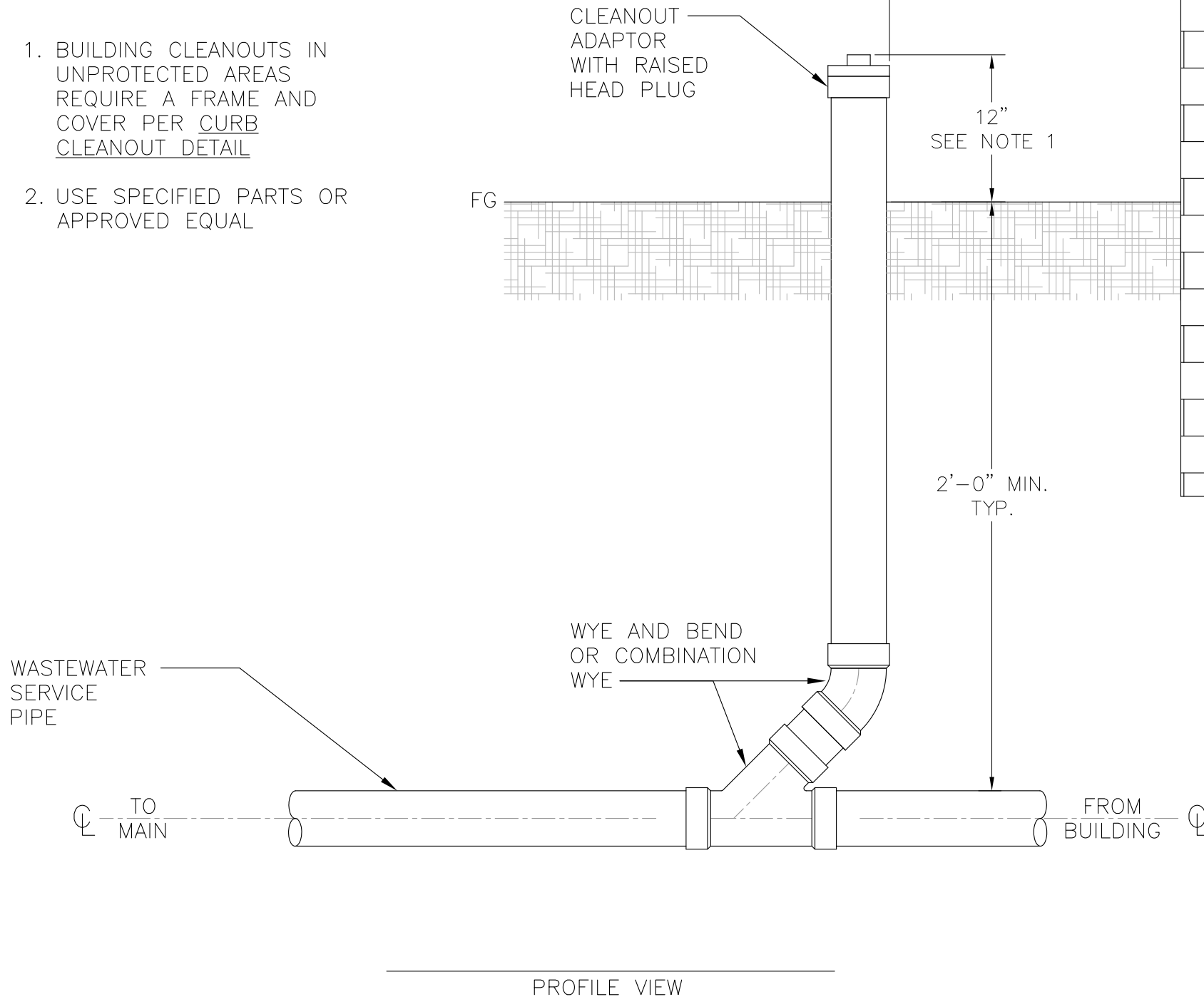
# SEWER SERVICE – CLEANOUT CURB CLEANOUT

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Department of Public Utilities

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NOTES::

1. BUILDING CLEANOUTS IN UNPROTECTED AREAS REQUIRE A FRAME AND COVER PER CURB CLEANOUT DETAIL
2. USE SPECIFIED PARTS OR APPROVED EQUAL



SEWER SERVICE – CLEANOUT  
BUILDING SINGLE WYE

CITY OF UNALASKA  
Department of Public Utilities

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NOTES::

1. BUILDING CLEANOUTS IN UNPROTECTED AREAS REQUIRE A FRAME AND COVER PER CURB CLEANOUT DETAIL

2. USE SPECIFIED PARTS OR APPROVED EQUAL

FG

WASTEWATER  
SERVICE  
PIPE

CL TO  
MAIN

CLEANOUT  
ADAPTOR  
WITH RAISED  
HEAD PLUG

12"  
SEE NOTE 1

2'-0" MIN.  
TYP.

WYE AND BEND  
OR COMBINATION  
WYE

FROM  
BUILDING CL

PROFILE VIEW

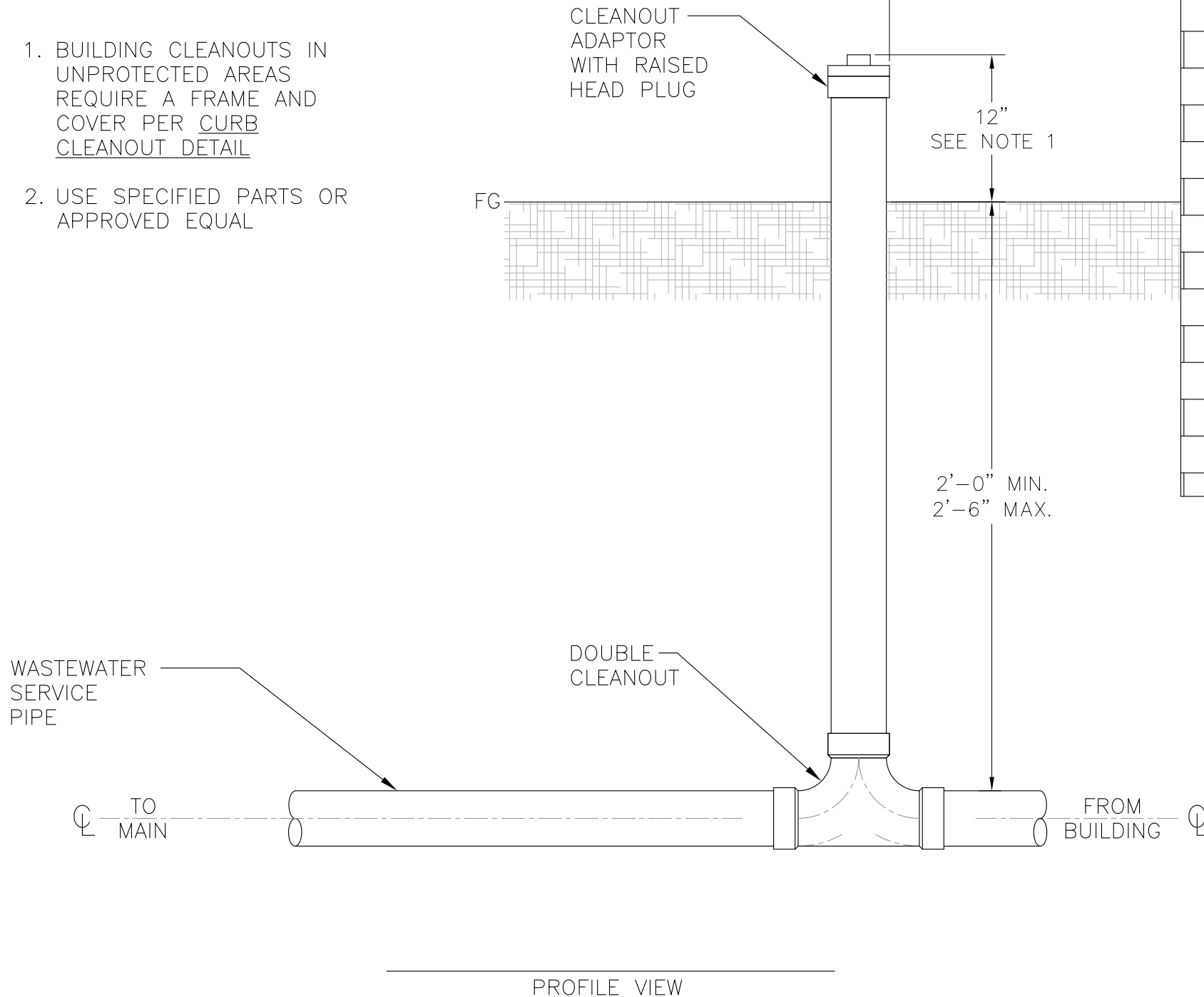
SEWER SERVICE - CLEANOUT  
BUILDING DOUBLE WYE

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Department of Public Utilities

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NOTES::

1. BUILDING CLEANOUTS IN UNPROTECTED AREAS REQUIRE A FRAME AND COVER PER CURB CLEANOUT DETAIL
2. USE SPECIFIED PARTS OR APPROVED EQUAL



CITY OF UNALASKA  
Department of Public Utilities

SEWER SERVICE - CLEANOUT  
BUILDING DOUBLE FITTING

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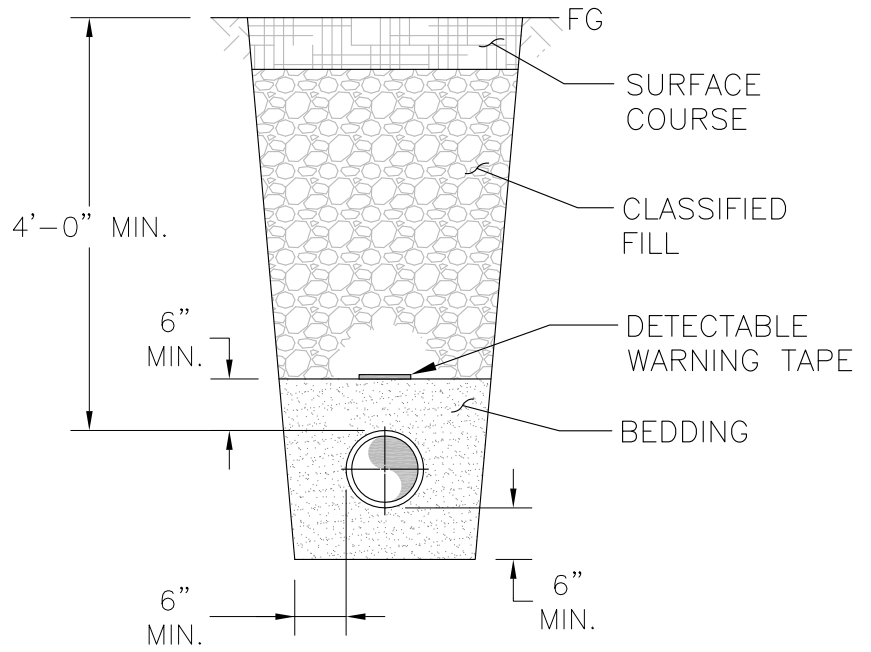
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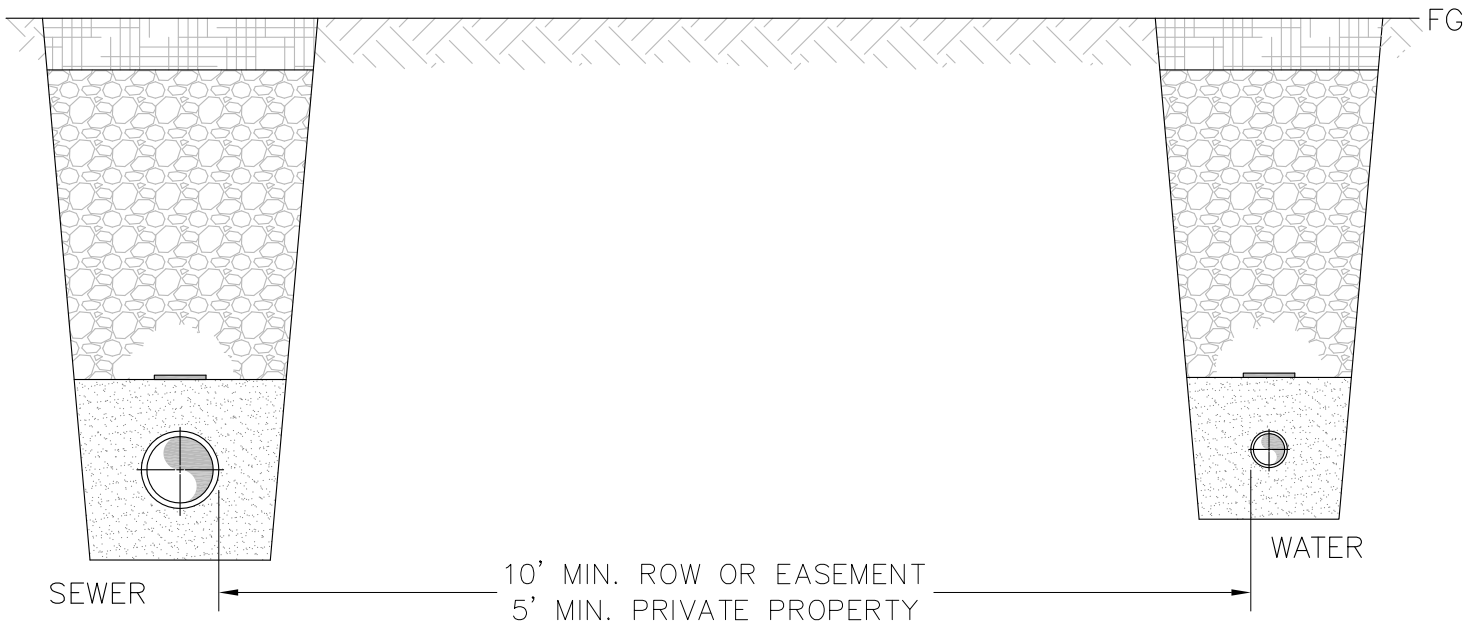
STANDARD DETAIL NO.:  
50-9

NOTES::

1. GRAVEL RESURFACING SHOWN FOR CLARITY. FOR TRENCH CONSTRUCTION AND SURFACING SEE UTILITY CUT DETAILS
2. DETECTABLE WARNING TAPE IS DIRECT BURIAL RATED 6" WIDE 5 MIL THICK POLYETHELENE ENCASED ALUMINUM APWA COLOR CODE W/ UTILITY LEGEND "WARNING SEWER LINE BELOW"
3. USE SPECIFIED PARTS OR APPROVED EQUAL



TYPICAL SECTION



SEPARATE TRENCH SECTIONS  
ANY APPROVED SEWER PIPE

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SEWER SERVICE  
TRENCHES

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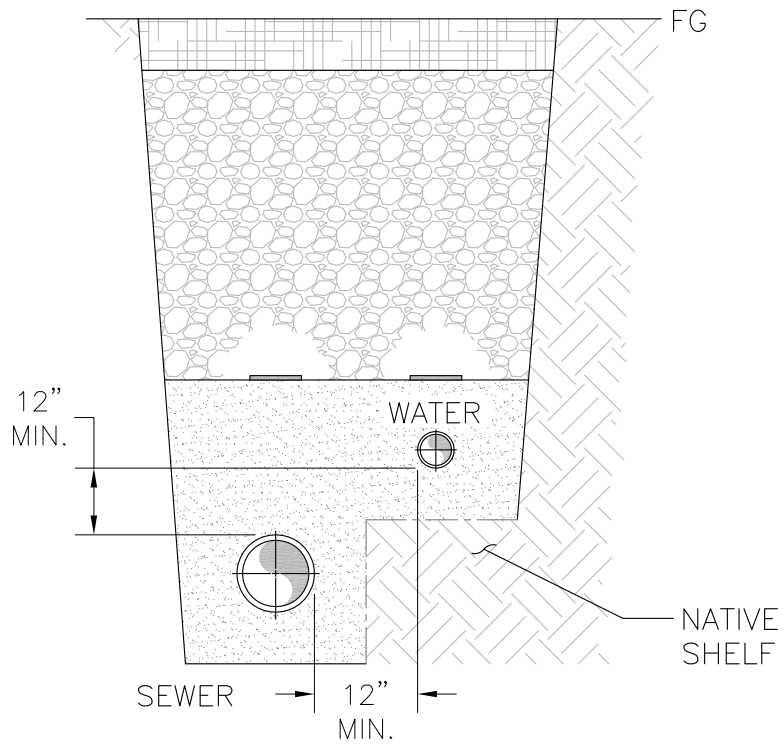
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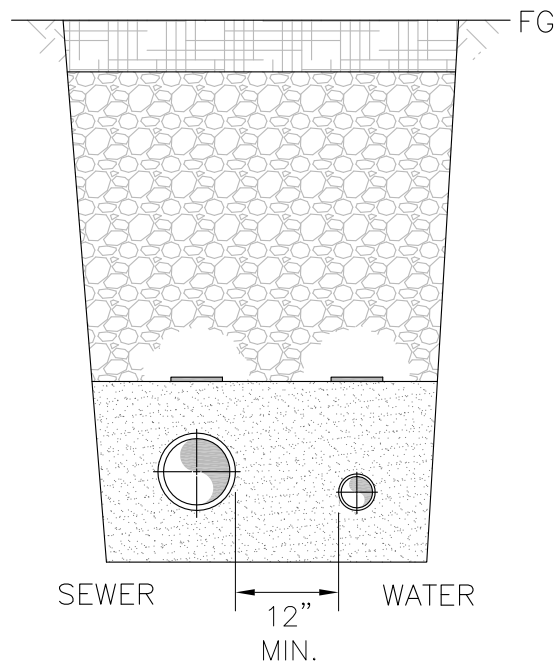
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50-10



PRIVATE PROPERTY – SHARED TRENCH SECTION  
PVC SDR, DUCTILE IRON OR HDPE SEWER PIPE



PRIVATE PROPERTY – SHARED TRENCH SECTION  
CAST IRON SEWER PIPE ONLY

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SEWER SERVICE  
TRENCHES

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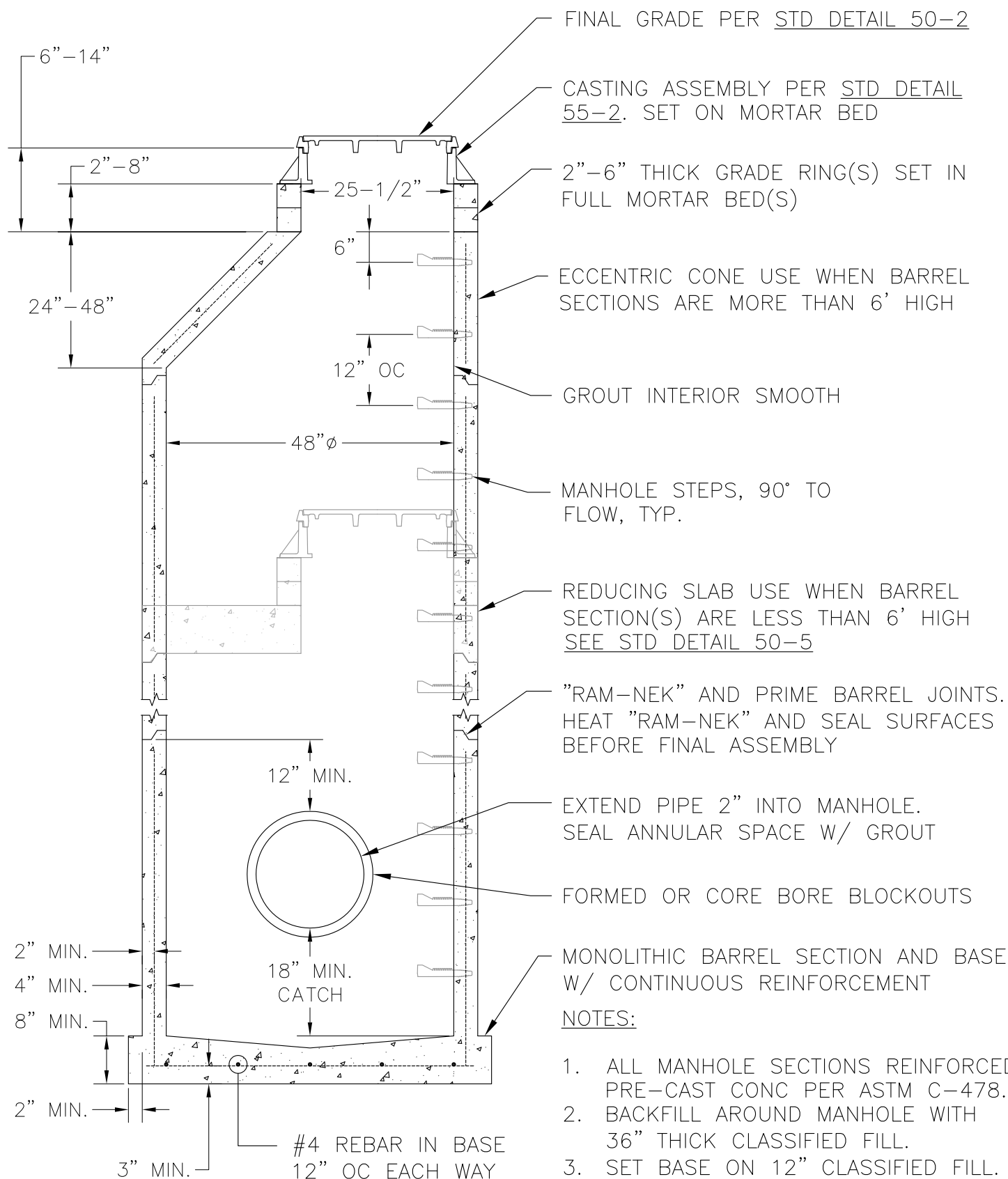
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STANDARD DETAIL NO.:  
50-10





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Department of Public Works

# STORM DRAIN MANHOLE TYPE 1

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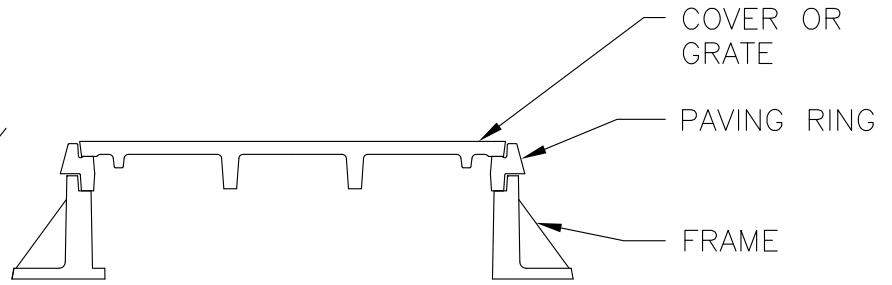
REVISION NO.:  
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PAGES.:  
1 of 1

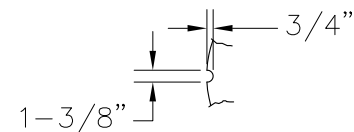
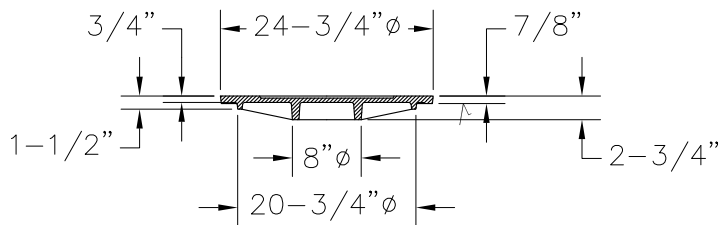
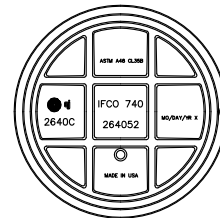
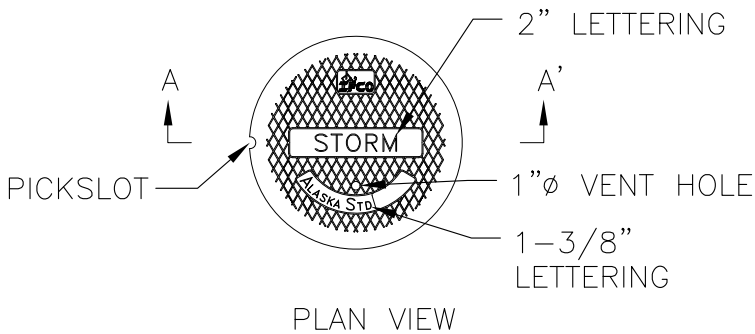
STANDARD DETAIL NO.:  
55-1

# NOTES::

1. ALL EAST JORDAN IRON WORKS (EJIW) PARTS HEAVY DUTY GRAY IRON PER ASTM A48 CL35B
2. COVER EJIW P/N 264052
3. GRATE EJIW P/N 264030
4. PAVING RING EJIW P/N 2603 SERIES 1.5", 2", 2.5", 3" AND 4"
5. FRAME EJIW P/N 264010
6. MACHINED SURFACE  $\nabla$
7. SEE STD DETAIL 50-4 FOR FRAME AND PAVING RING DETAIL



STACKING ASSEMBLY  
SECTION VIEW



COVER DETAIL

CITY OF UNALASKA  
Department of Public Works

STORM DRAIN MANHOLE  
CASTING

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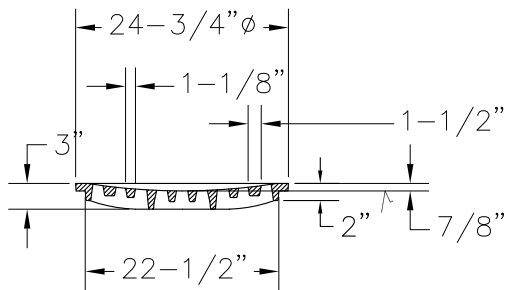
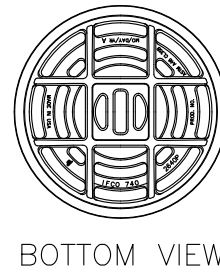
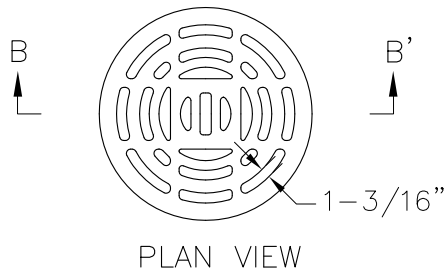
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PAGES.:  
1 of 2

STANDARD DETAIL NO.:  
55-2



NOTES::

1. 136 SQ-IN OPEN GRATE AREA

SECTION B-B'

GRATE DETAIL

CITY OF UNALASKA  
Department of Public Works

STORM DRAIN MANHOLE  
CASTING

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