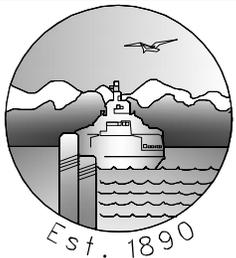


**NOTES:**

1. MAXIMUM WIDTH OF TRENCH AT TOP OF PIPE
  - 36" FOR PIPE UP TO AND INCLUDING 12" DIAMETER
  - O.D. PLUS 18" FOR PIPE LARGER THAN 12" NOMINAL DIAMETER
2. REFER TO CITY OF EDMONDS MODIFICATIONS TO DIVISION 9 OF WSDOT STANDARD SPECIFICATIONS FOR MATERIAL GRADATION AND ADDITIONAL INFORMATION.
3. TRENCH BACKFILL SHALL MEET A MINIMUM COMPACTION OF 95% DENSITY PER ASTM D 1557.
4. IF UNSTABLE MATERIAL IS ENCOUNTERED BELOW PIPE ZONE, CONTRACTOR SHALL REMOVE AND REPLACE AS REQUIRED BY CITY ENGINEER.



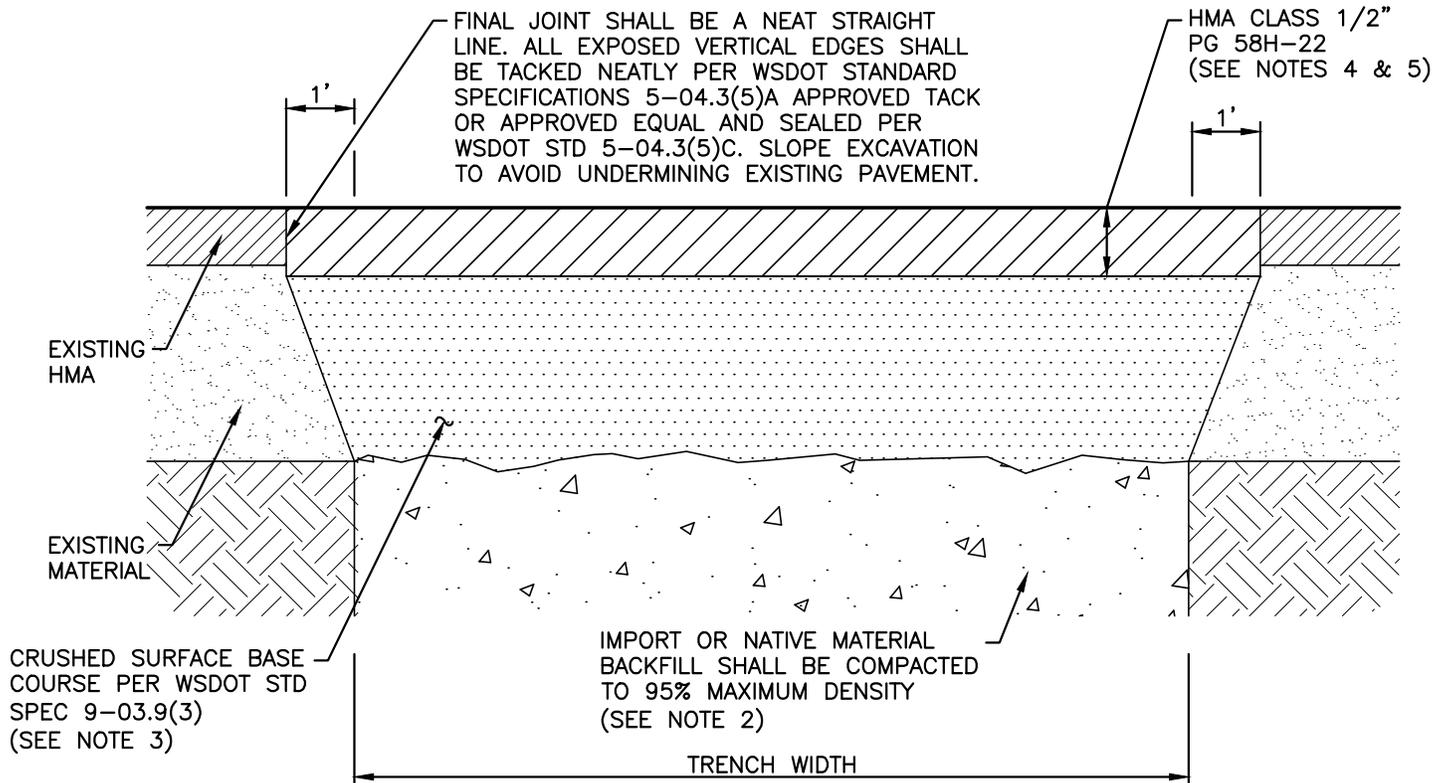
**CITY OF EDMONDS**  
PUBLIC WORKS  
DEPARTMENT

**TYPICAL TRENCH SECTION**

APPROVED BY: **R. ENGLISH**

REVISION DATE  
**JANUARY 2018**

STANDARD  
DETAIL  
**GU-400**



**NOTES:**

1. SEE CITY OF EDMONDS MODIFICATIONS TO DIVISION 9 OF THE CURRENT WSDOT STANDARD SPECIFICATIONS FOR BACKFILLING REQUIREMENTS.
2. SUBMIT PROCTOR AND DENSITY TESTS FROM CERTIFIED TESTING COMPANIES DOCUMENTING THAT THE BACKFILL MEETS A MINIMUM OF 95% DENSITY PER ASTM D 1557.
3. CSBC DEPTH SHALL BE A MINIMUM 6" OR MATCH EXISTING WHICHEVER IS GREATER. WHEN MATCHING EXISTING CSBC DEPTH GREATER THEN 6", THEN CSBC SHALL BE INSTALLED IN MULTIPLE EQUAL THICKNESS LIFTS NOT EXCEEDING 6".
4. ROADWAY HMA DEPTH SHALL BE A MINIMUM OF 4" THICK. UNLESS APPROVED BY THE ENGINEER, ANY DEPTH GREATER THAN 4" SHALL MATCH EXISTING.
5. ALLEY HMA DEPTH SHALL BE A MINIMUM OF 2" THICK. UNLESS APPROVED BY THE ENGINEER, ANY DEPTH GREATER THAN 2" SHALL MATCH EXISTING.
6. UNLESS APPROVED BY THE ENGINEER, THE HMA SHALL BE INSTALLED IN MULTIPLE EQUAL THICKNESS LIFTS NOT EXCEEDING 2".
7. FINAL PAVEMENT JOINTS SHALL BE NEATLY AND UNIFORMLY SEALED WITH WSDOT STANDARD SPECIFICATIONS 5-04.3(5)C APPROVED JOINT SEALANT OR APPROVED EQUAL.



**CITY OF EDMONDS**  
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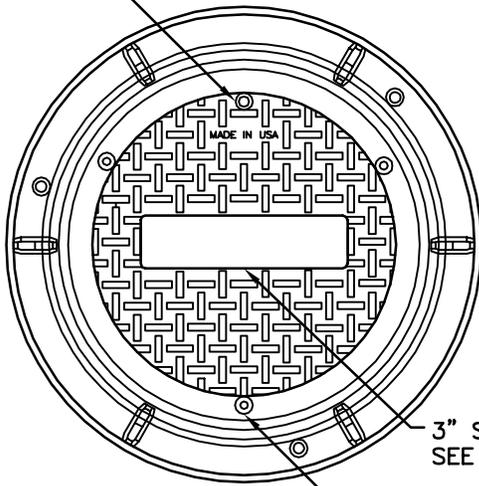
**TYPICAL HMA AND  
UTILITY PATCH**

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REVISION DATE  
FEBRUARY 2020

STANDARD  
DETAIL  
GU-410

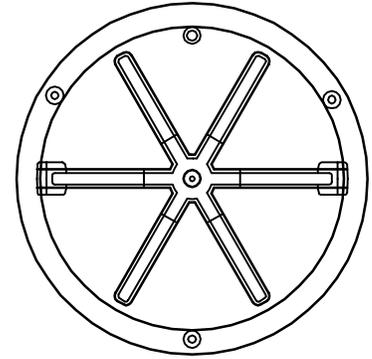
(1) 1" PICKHOLE



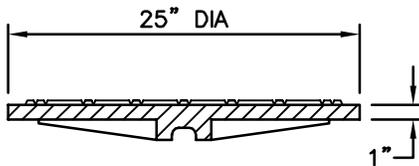
3" SHARP FACE GOTHIC  
SEE NOTE 1 FOR WORDING

BOLTHOLES - 3 PLCS  
EQUALLY SPACED 120°  
APART ON 23-1/16" DIA BC

**RING AND COVER**

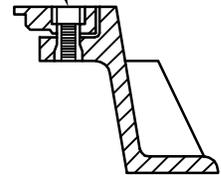


**BOTTOM VIEW**

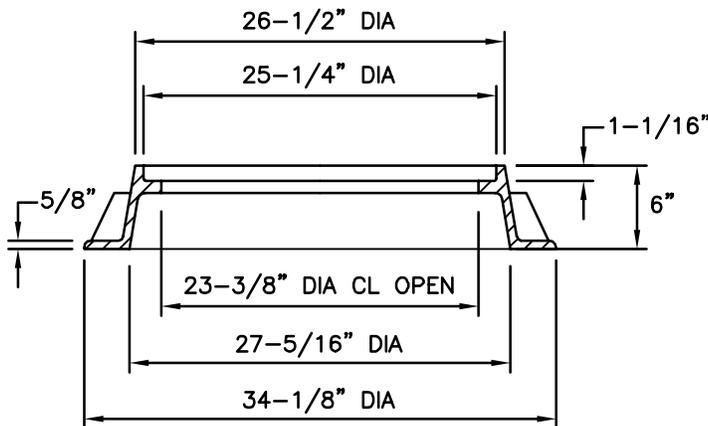


**COVER SECTION**

(3) BLT SOC (ALLEN HEAD)  
5/8"-11 x 1.5 SS



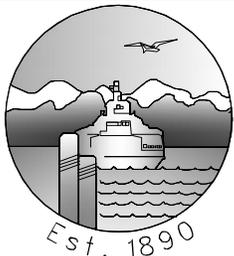
**EON BOLTING DETAIL**



**FRAME SECTION**

**NOTES:**

1. COVER SHALL HAVE THE WORD "SEWER" FOR SANITARY SEWER MANHOLES AND "STORM" OR "DRAIN" FOR STORM MANHOLES.
2. RING AND COVER SHALL BE RATED HS-20.
3. EAST JORDAN IRON WORKS 00371584 OR APPROVED EQUAL.
4. RING AND COVER IS CAST IRON, ASTM-48 CLASS 35.



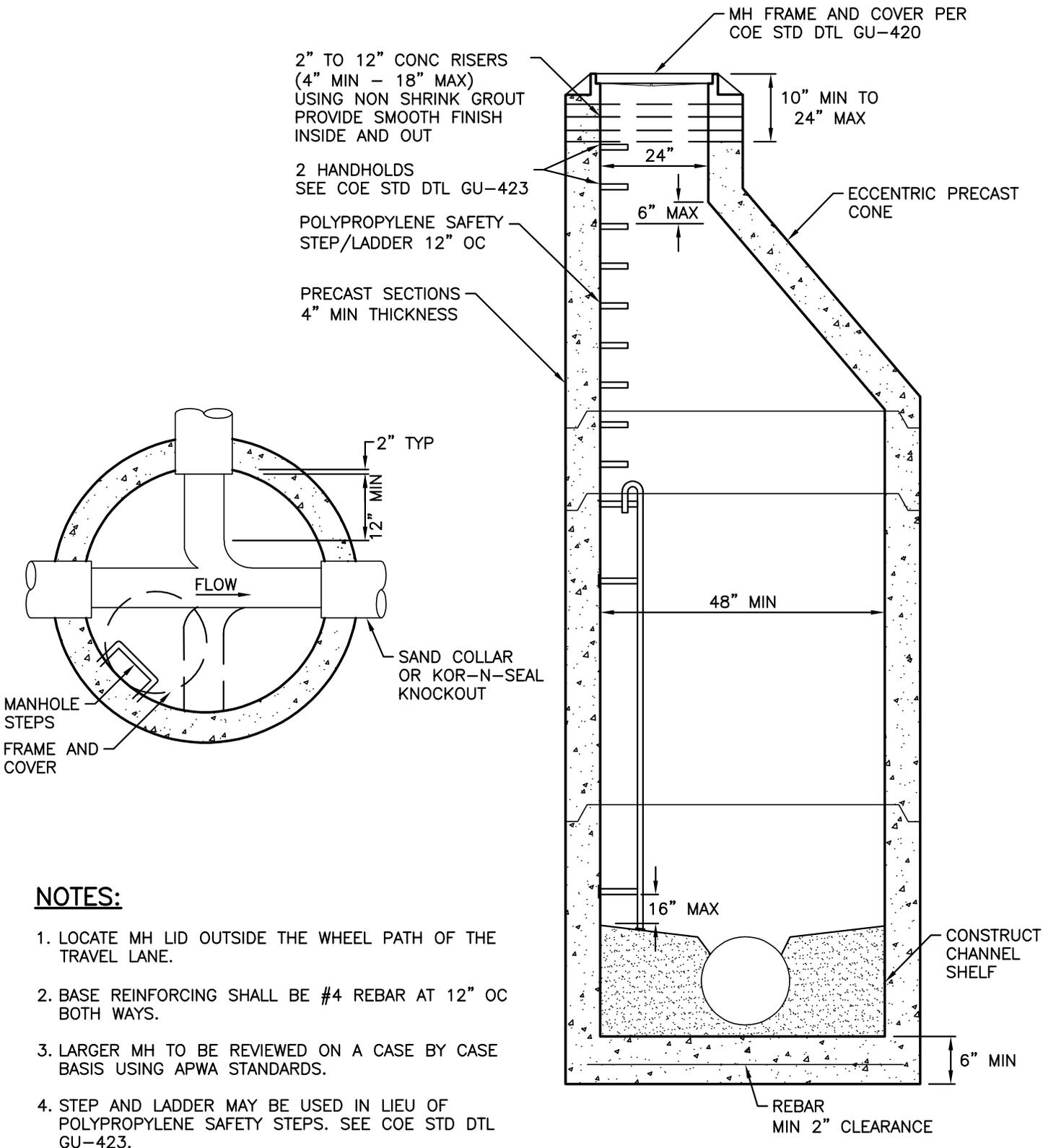
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DEPARTMENT

**24" MANHOLE  
CATCH BASIN  
RING AND COVER**

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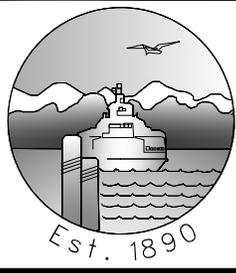
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**APRIL 2018**

STANDARD  
DETAIL  
**GU-420**



**NOTES:**

1. LOCATE MH LID OUTSIDE THE WHEEL PATH OF THE TRAVEL LANE.
2. BASE REINFORCING SHALL BE #4 REBAR AT 12" OC BOTH WAYS.
3. LARGER MH TO BE REVIEWED ON A CASE BY CASE BASIS USING APWA STANDARDS.
4. STEP AND LADDER MAY BE USED IN LIEU OF POLYPROPYLENE SAFETY STEPS. SEE COE STD DTL GU-423.



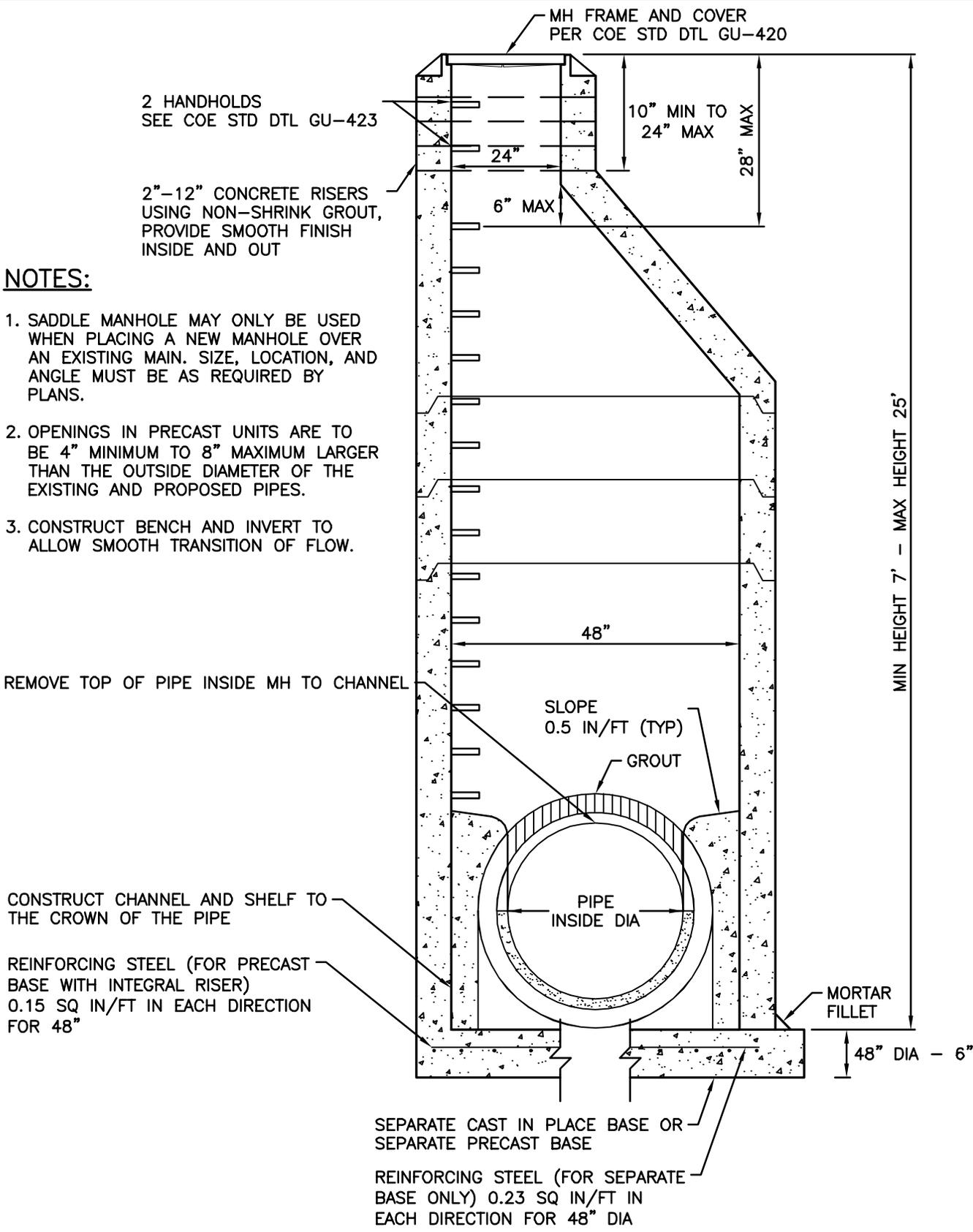
**CITY OF EDMONDS**  
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**TYPE I MH**

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REVISION DATE  
FEBRUARY 2019

STANDARD  
DETAIL  
GU-421



**NOTES:**

1. SADDLE MANHOLE MAY ONLY BE USED WHEN PLACING A NEW MANHOLE OVER AN EXISTING MAIN. SIZE, LOCATION, AND ANGLE MUST BE AS REQUIRED BY PLANS.
2. OPENINGS IN PRECAST UNITS ARE TO BE 4" MINIMUM TO 8" MAXIMUM LARGER THAN THE OUTSIDE DIAMETER OF THE EXISTING AND PROPOSED PIPES.
3. CONSTRUCT BENCH AND INVERT TO ALLOW SMOOTH TRANSITION OF FLOW.

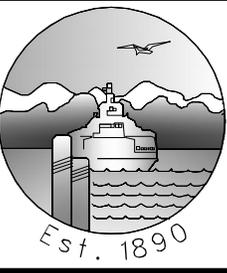
REMOVE TOP OF PIPE INSIDE MH TO CHANNEL

CONSTRUCT CHANNEL AND SHELF TO THE CROWN OF THE PIPE

REINFORCING STEEL (FOR PRECAST BASE WITH INTEGRAL RISER) 0.15 SQ IN/FT IN EACH DIRECTION FOR 48"

SEPARATE CAST IN PLACE BASE OR SEPARATE PRECAST BASE

REINFORCING STEEL (FOR SEPARATE BASE ONLY) 0.23 SQ IN/FT IN EACH DIRECTION FOR 48" DIA



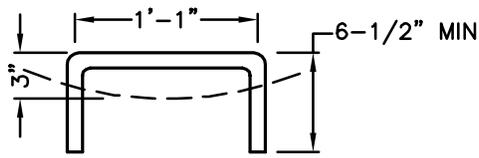
**CITY OF EDMONDS**  
PUBLIC WORKS  
DEPARTMENT

**48" SADDLE MH  
FOR 24" AND SMALLER  
PIPE**

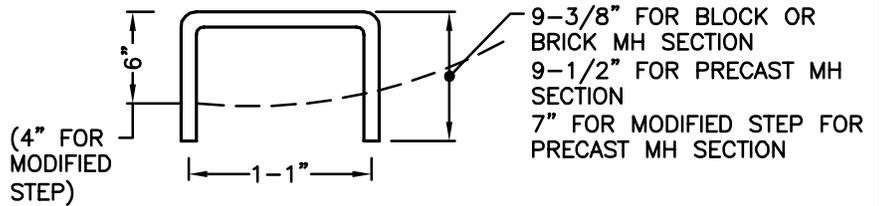
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REVISION DATE  
**JANUARY 2018**

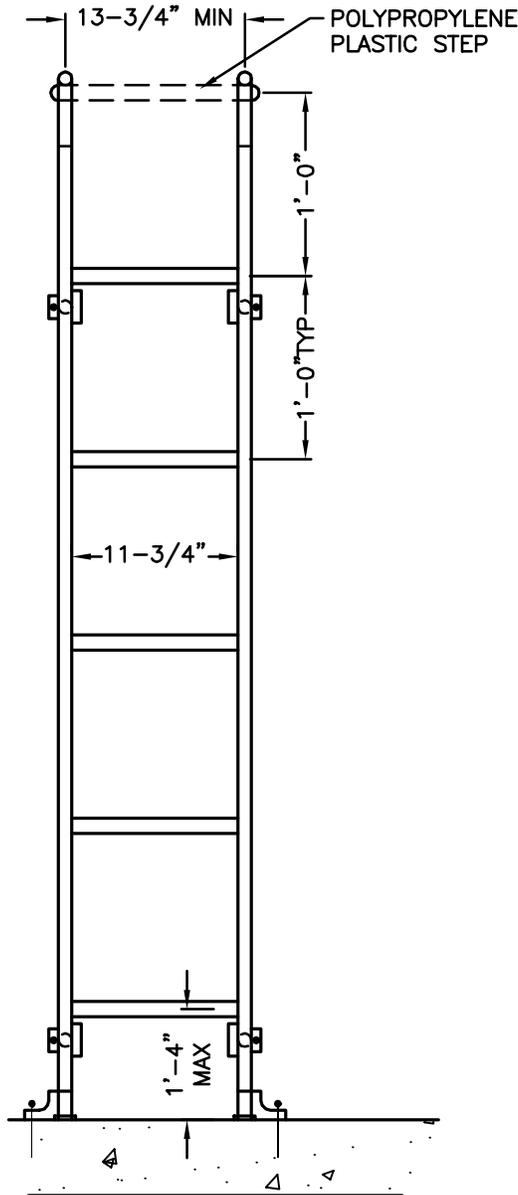
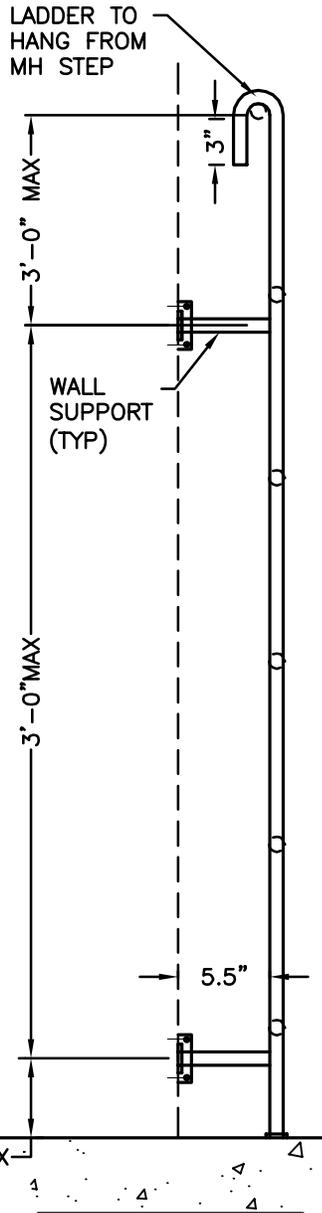
STANDARD  
DETAIL  
**GU-422**



**HANDHOLD**



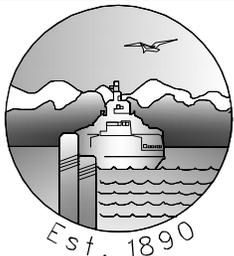
**STEP**



**PREFABRICATED LADDER**

**NOTES:**

1. LADDER MAY BE INSTALLED IN ALL CATCH BASINS AND MANHOLES WHEN DEPTH OF STRUCTURE FROM TOP OF FRAME TO LOWEST FLOWLINE EXCEEDS FOUR(4) FEET.
2. DIMENSIONS FOR THE MH LADDER AND STEP ARE MINIMUM REQUIREMENTS ONLY.
3. STEPS AND HANDHOLDS SHALL BE INSTALLED AT 1'-0" ON CENTER SPACING. WHEN THE DISTANCE FROM THE HIGHEST STEP OR HANDHOLD AT THE TOP OF THE MH FRAME EXCEEDS 1'-0" AND ANOTHER STEP OR HANDHOLD CANNOT BE INSTALLED BECAUSE OF THE LOCATION OF THE MH FRAME, A HANDHOLD SHALL BE INSTALLED BETWEEN THE TOP 2 LAYERS OF BRICK OR COLLAR.
4. IF BOTH STEPS AND LADDER ARE REQUIRED IN ANY STRUCTURE, THEY SHALL BE FROM THE SAME MANUFACTURER.
5. STEPS AND LADDER SHALL BE POLYPROPYLENE AND CONFORM TO ASTM D4101 WITH 1/2" ASTM A615 GRADE 60 STEEL REINFORCING BAR. LANE P-13938, M.A.PS2-PF, OR EQUAL.
6. FASTEN LADDER TO FLOOR AND WALL SUPPORTS WITH 1-1/2" x 3-3/4" ANCHORS. ANCHORS TO BE INSTALLED PER MANUFACTURER RECOMMENDATIONS.



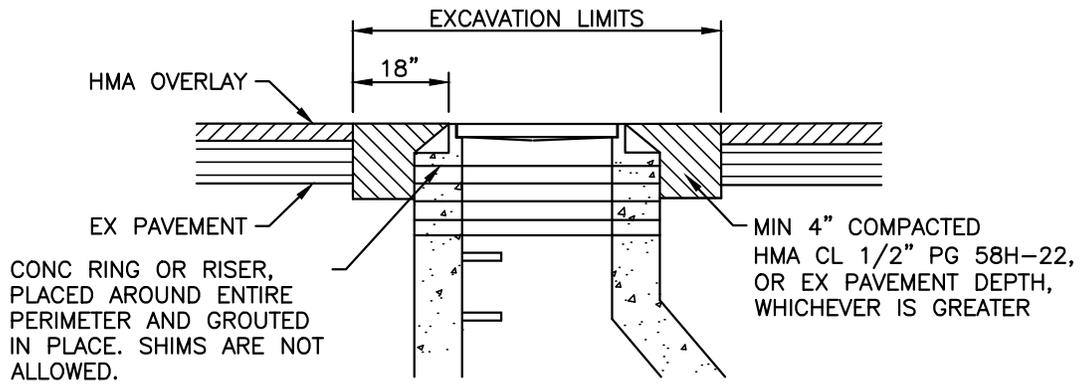
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**STEP AND LADDER DETAIL**

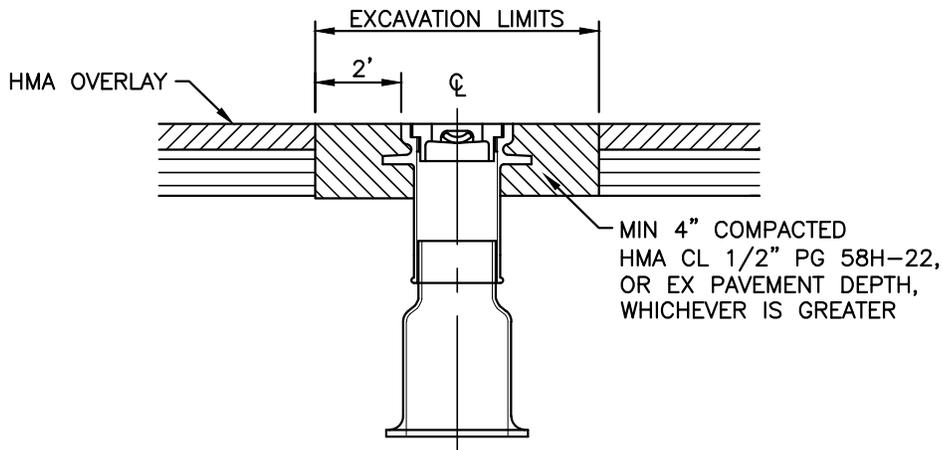
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**JANUARY 2018**

STANDARD  
DETAIL  
**GU-423**



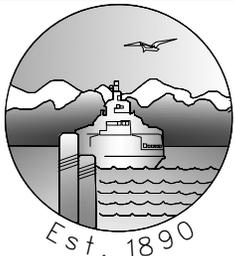
**MANHOLE OR CATCH BASIN  
ADJUSTMENT**



**VALVE BOX, LAMPHOLE OR CLEANOUT  
ADJUSTMENT**

**NOTE:**

ON "MILL AND FILL," OR "GRIND AND OVERLAY" PROJECTS WHERE THE FINAL PAVEMENT ELEVATION IS EXPECTED NOT TO CHANGE (NO ADJUSTMENTS ANTICIPATED) CONTRACTOR SHALL NOTIFY ENGINEER OF ANY ROADWAY CONDITIONS, SUCH AS RUTTING OR CROWN CHANGES, THAT WHEN ADDRESSED, MAY REQUIRE A SUBSEQUENT GRADE ADJUSTMENT FOR UTILITY CASTINGS. OTHERWISE ALL UTILITY CASTINGS SHALL BE EXPOSED DURING THE PAVING PROCESS, UNLESS DIRECTED BY THE ENGINEER.



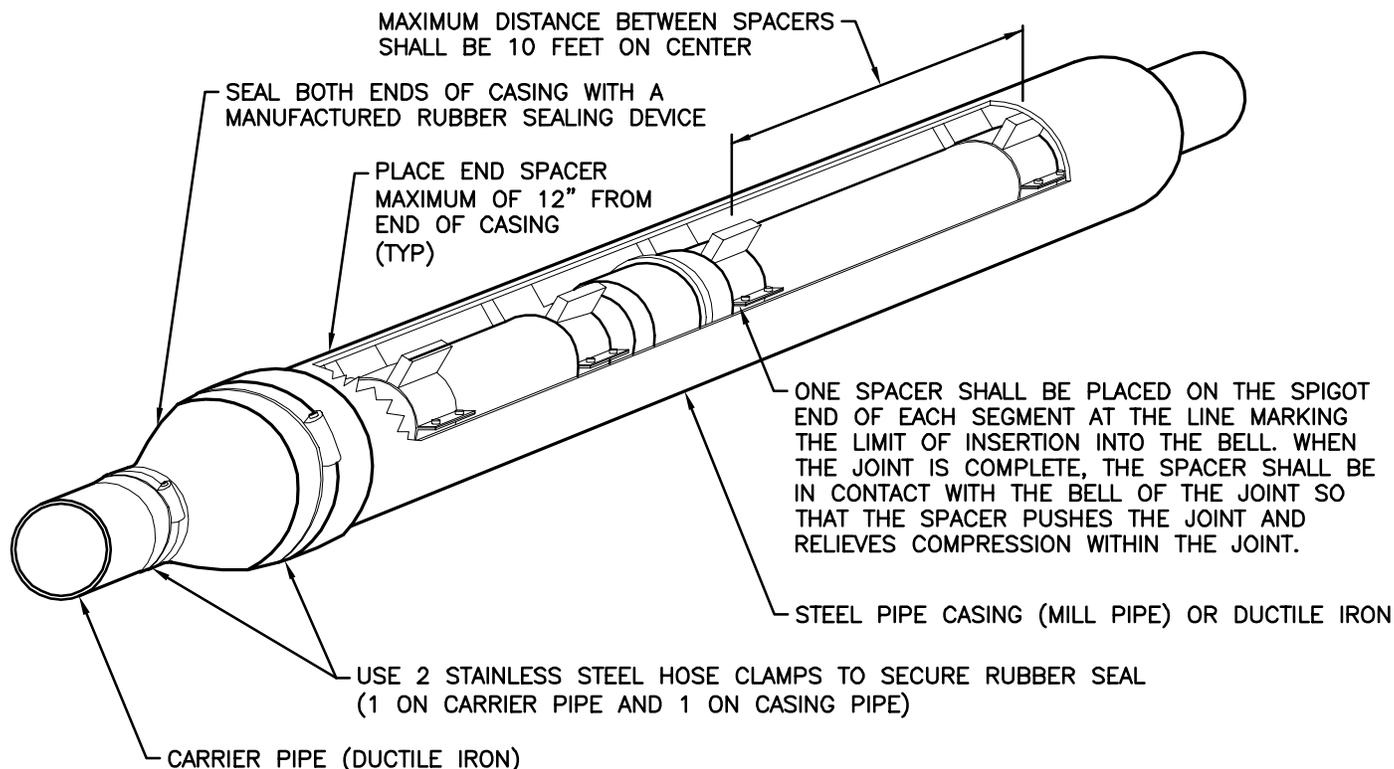
**CITY OF EDMONDS**  
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**UTILITY CASTING  
ADJUSTMENT**

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REVISION DATE  
FEBRUARY 2020

STANDARD  
DETAIL  
**GU-424**



**CASING SPACERS (SEE APPROVED MATERIALS LIST)**

CARRIER PIPE DIAMETER	4"	6"	8"	10"	12"
CASING DIAMETER (PUSH-ON JOINT CARRIER PIPE)	10"	12"	14"	16"	20"
CASING DIAMETER (MJ/MEGALUG JOINT CARRIER PIPE)	14"	16"	18"	20"	22" *
STEEL CASING THICKNESS	0.25"	0.25"	0.25"	0.25"	0.25"
SPACER BAND WIDTH	8"	8"	8"	8"	8"

\* 24" FOR DUCTILE IRON CASING.

**NOTES:**

1. CASING SPACERS SHALL BE "CENTER POSITIONING" TYPE.
2. MINIMUM RUNNER WIDTH SHALL BE 2 INCHES.
3. RUNNER HEIGHT SHALL BE SIZED TO PROVIDE:
  - A. MINIMUM 0.75" BETWEEN CARRIER PIPE BELL AND CASING PIPE WALL AT ALL TIMES.
  - B. MINIMUM 1" CLEARANCE BETWEEN RUNNERS AND TOP OF CASING WALL TO PREVENT JAMMING DURING INSTALLATION.
4. STEEL CASING DIAMETERS ARE "OUTSIDE DIAMETER" FOR 16" AND LARGER.
5. SPACER BAND WIDTH SHALL BE 12" FOR CARRIER PIPES THAT ARE 36" DIAMETER OR GREATER.
6. FOR STEEL CASING, PROVIDE SHOP-APPLIED ANTI-CORROSIVE COATING ON CASING EXTERIOR CONFORMING TO AWWA C210. MINIMUM COATING THICKNESS 16 MILS DFT (DO NOT EXCEED MANUFACTURER'S MAXIMUM THICKNESS). PRODUCT SHALL BE EQUAL TO TNE MEC HI-BUILD TNE ME-TAR SERIES 46H-413.



**CITY OF EDMONDS**  
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**CASING INSTALLATION**

APPROVED BY: **R. ENGLISH**

REVISION DATE  
**JANUARY 2018**

STANDARD  
DETAIL  
**GU-430**