
**ALBEMARLE COUNTY SERVICE AUTHORITY
MEMORANDUM**

TO: DISTRIBUTION

FROM: PAUL A. SHOOP, DIRECTOR OF ENGINEERING

SUBJECT: REVISIONS TO THE GENERAL WATER & SEWER
CONSTRUCTION SPECS OF THE ALBEMARLE COUNTY
SERVICE AUTHORITY

DATE: AUGUST 19, 2005

On August 18, 2005 the Board of Directors adopted revisions to the Authority's specifications. The changes are as follows:

- Fire hydrants are to be placed above the groundwater table or to have the weep holes plugged. This change is to protect the public water supply from groundwater contamination.
- Casing spacers are to be placed no greater than 8 feet on center and 2 feet from the end of each section of pipe as per manufacturer's recommendations.
- Drop connections at manholes are to be ductile iron pipe.
- Manhole rings and covers are to be solid cast with an integral gasket as shown on the enclosed details. Projects approved for construction prior to August 18, 2005 shall be allowed to continue using the old specifications. Any projects approved on or after August 18, 2005 shall meet the new specifications.

Please review the enclosed. If you have any questions regarding these changes, feel free to call the office of the Authority.

PAS:dmg
Distribution:
Spec Holders
VDH
ACSA Staff

To: Distribution

Notice of revisions to the General Water & Sewer Construction Specifications of the Albemarle County Service Authority

Date: August 18, 2005

The following sections are revised as shown in the attachments and summarized below:

Fire Hydrants – Effective 8/18/05

- Part IV, Section J, Page W23-W25 – Added paragraph
- Typical Detail Figure W-4, Page TD-17 – Revised

Casing Spacers – Effective 8/18/05

- Revised Details Figure S-5, Page TD-9
- Revised Detail Figure S-6, Page TD-10
- Revised Detail Figure W-10, Page TD-28
- Revised Detail Figure W-11, Page TD-29

Manholes – Drop Connections – Effective 8/18/05

- Revised Paragraph 2, Page S-2
- Revised Detail Figure S-1-C, Page TD-3

Manhole Rings & Covers – (to be used on all plans approved after 8/18/05)

- Revised Part V, Section G, Paragraph 2, Page S-18:S-19
- Revised Detail Figure S-1-D, Page TD-4
- Revised Detail Figure S-1-E, Page TD-5

Adopted: August 18, 2005

Please append these changes to your copy of the General Specifications.

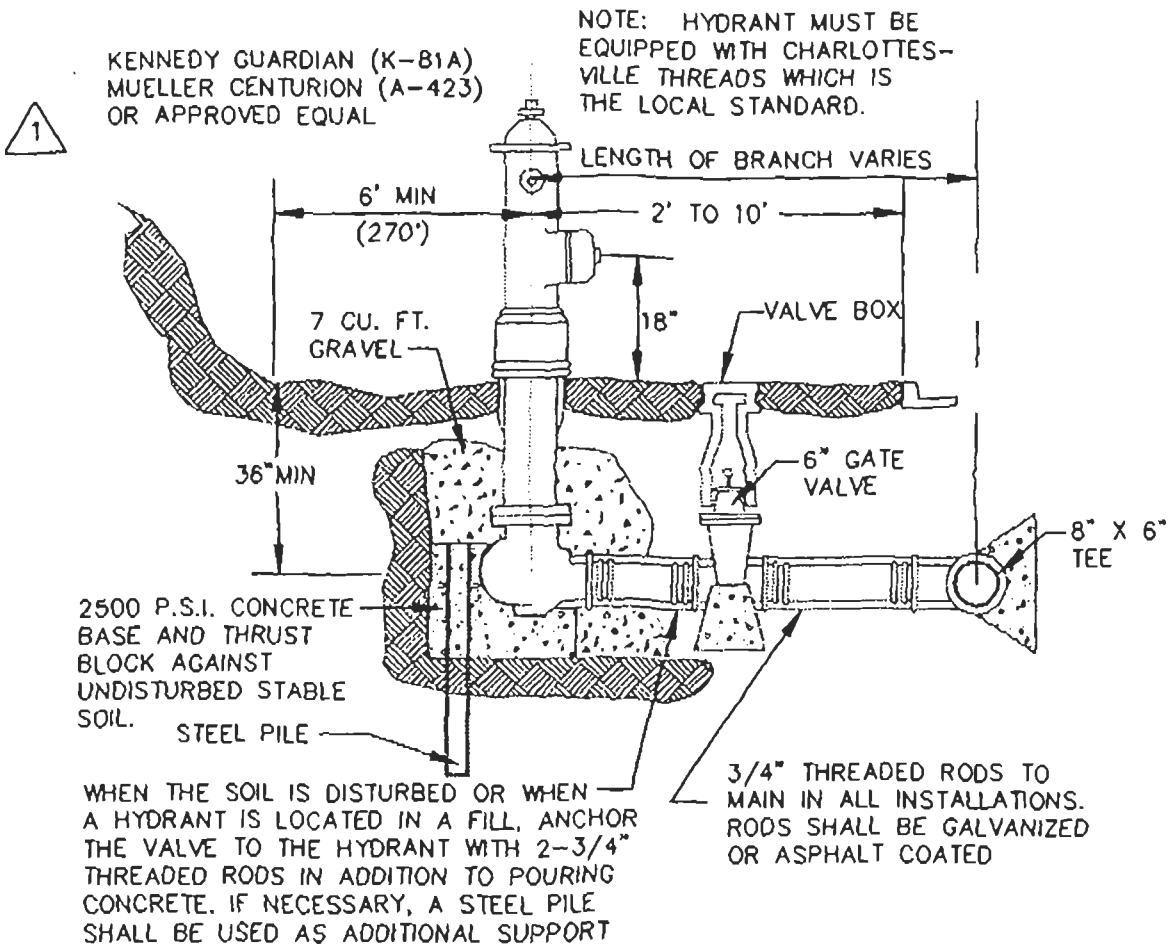
PART IV SECTION J: FIRE HYDRANT SPECIFICATIONS

Part IV, Section J, Page W23-W25 – Add the following as the 3rd full paragraph in the Section.

Fire hydrants shall be installed in areas where weep holes can be above the prevailing groundwater table. Design elevations and the location of drainage structures shall be used to ensure the weep holes of the hydrant are not subject to groundwater immersion. If, during the course of construction, groundwater is observed in the trench the fire hydrant shall be moved to higher ground and the separation between fire hydrants will be adjusted accordingly. If fire hydrants cannot be placed above groundwater, the weep holes shall be plugged and the hydrant shall be pumped dry.

Typical Detail: Figure W-4, Page TD-17 shall be modified as follows: Add Note 5.

5. Fire hydrants shall be installed at locations where weep holes are above the prevailing groundwater elevation. If required to be in wet areas, the weep holes shall be plugged and the hydrant shall be pumped dry.

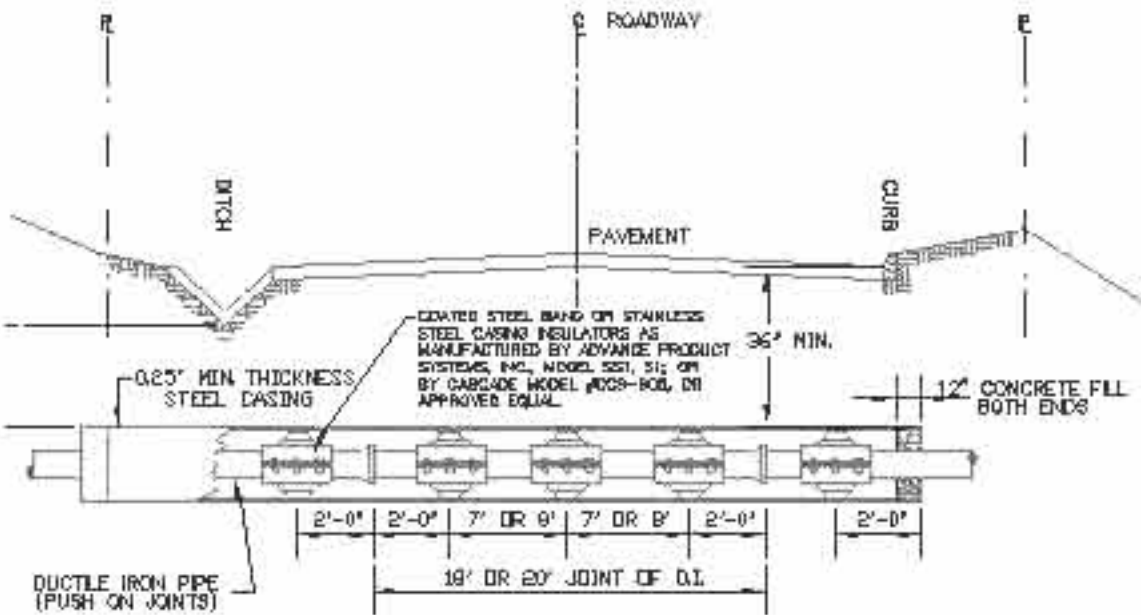


NOTE :

1. SURROUND WEEP HOLES WITH GRAVEL AND KEEP FREE OF CONCRETE.
2. MAINTAIN A 3' MIN. COVER FROM THE MAIN TO THE FIRE HYDRANT (INCLUDING DITCHES)
3. FINISHED GRADE SHALL SLOPE AWAY FROM THE FIRE HYDRANT AND VALVE BOX.
4. THE GATE VALVE IS ALLOWED IN SHOULDER OR BEHIND THE DITCH. IT IS NOT ALLOWED IN THE DITCH.
5. Fire hydrants shall be installed at locations where weep holes are above the prevailing groundwater elevation. If required to be in wet areas, the weep holes shall be plugged and the hydrant shall be pumped dry.

TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

N.T.S.
FIG. W-4



TEEL CASING TO EXTEND TO BACK OF CURB, DITCH, SIDEWALK, ETC. OR A MINIMUM OF 5' BEYOND THE EDGE OF PAVEMENT, WHICHEVER IS GREATER.

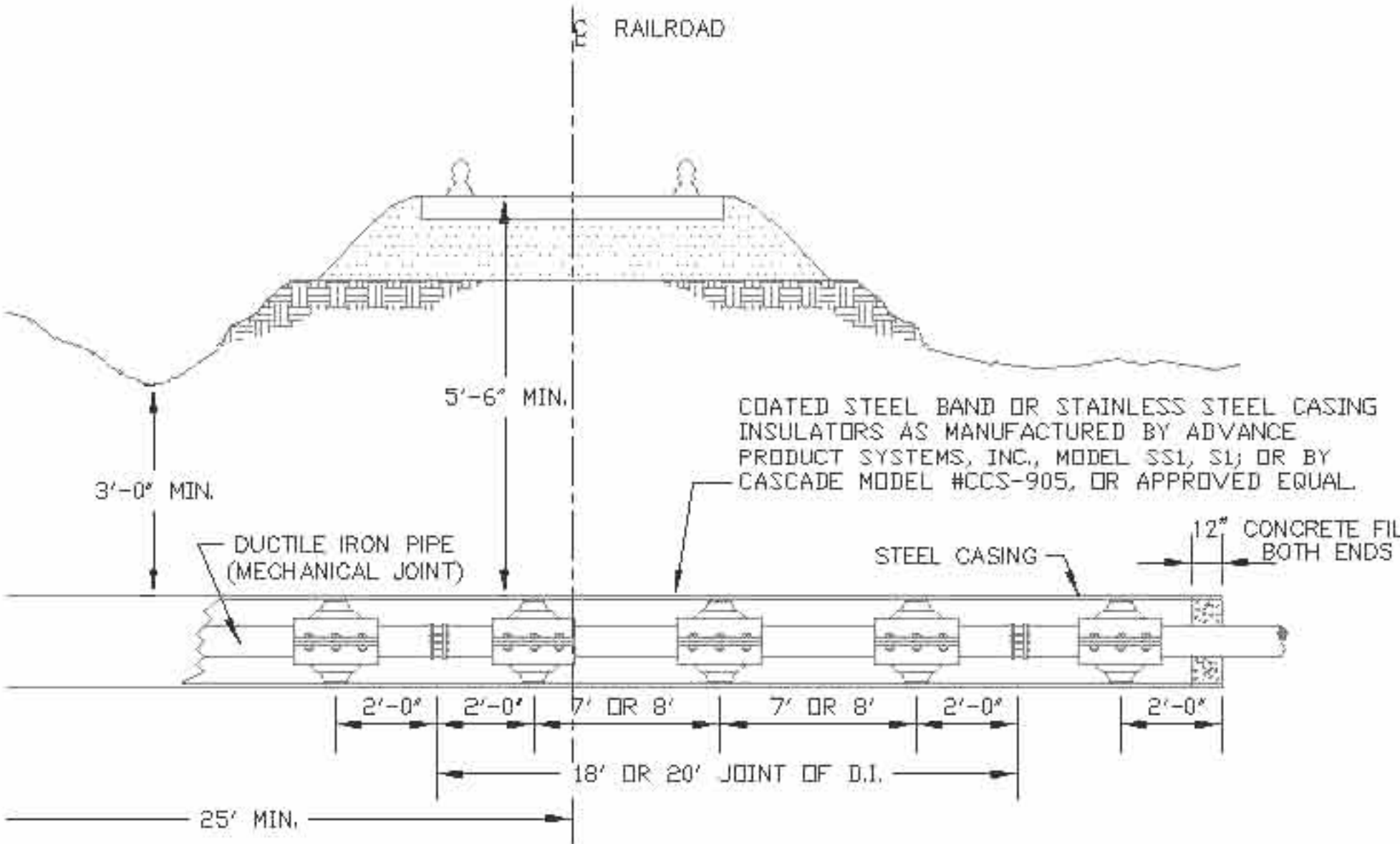
JOINTS OF CASING CAN BE SEALED USING MODEL AC PULL-ON END SEAL GASKET, AS MANUFACTURED BY ADVANCE PRODUCT SYSTEMS, INC. IN LIEU OF CONCRETE FILL.

SPACER SHALL BE PLACED AT THE CENTERPOINT OF PIPE.

SEWER
TYPICAL STEEL SLEEVE INSTALLATION
UNDER ROADWAYS

N.T.S.

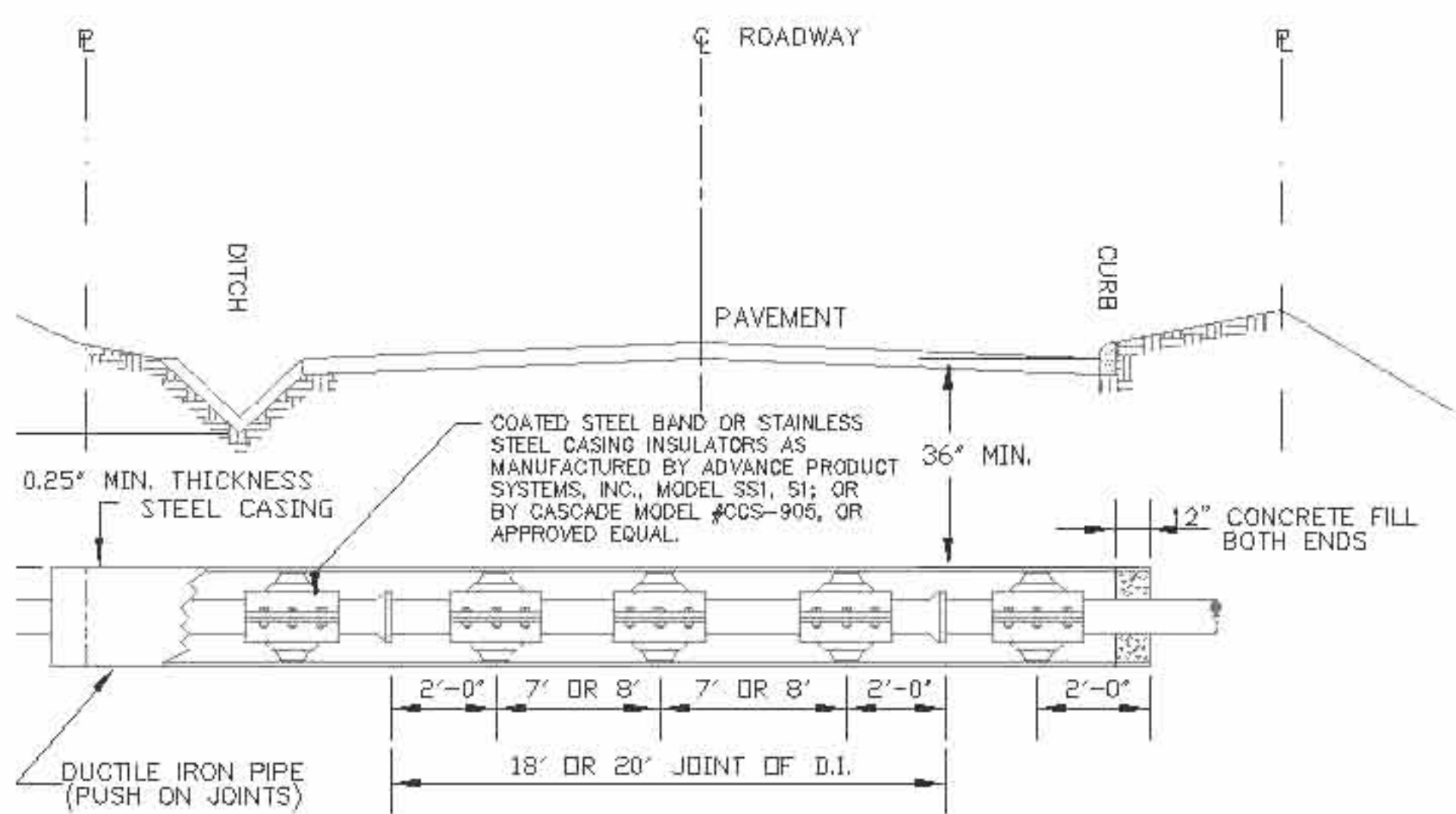
FIG. 5-d



ALSO SEE THE "AREA MANUAL FOR RAILWAY ENGINEERING - PART 5, PIPELINES"

CASING CAN BE SEALED USING MODEL AC PULL-ON END SEAL GASKET, AS MANUFACTURED BY ADVANCE SYSTEMS, INC., IN LIEU OF CONCRETE FILL.
 PACER SHALL BE PLACED AT THE CENTERPOINT OF PIPE.

SEWER
TYPICAL STEEL SLEEVE INSTALLATION
UNDER RAILROADS

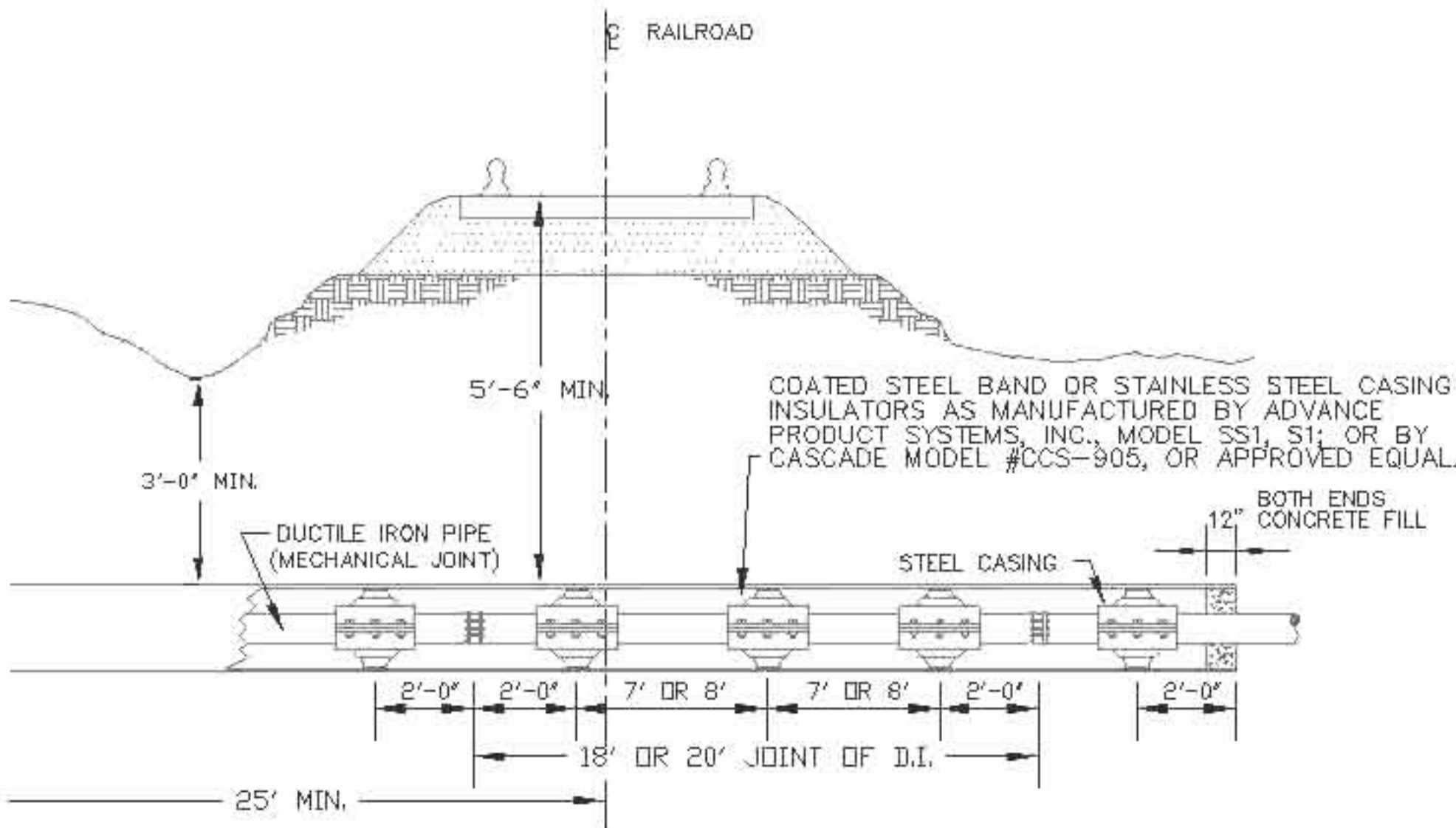


CASING TO EXTEND TO BACK OF CURB, DITCH, SIDEWALK, ETC. OR A MINIMUM OF 5' BEYOND THE EDGE OF PAVEMENT, WHICHEVER IS GREATER.

JOINT OF CASING CAN BE SEALED USING A MODEL AC PULL-ON END SEAL GASKET, AS MANUFACTURED BY ADVANCE PRODUCT SYSTEMS, INC., IN LIEU OF CONCRETE FILL.

A SPACER SHALL BE PLACED AT THE CENTERPOINT OF PIPE.

WATER
TYPICAL STEEL SLEEVE INSTALLATION
UNDER ROADWAYS



ALSO SEE THE "AREA MANUAL FOR RAILWAY ENGINEERING - PART 5, PIPELINES"

ENDS OF CASING CAN BE SEALED USING A MODEL AC PULL-ON END SEAL GASKET, AS MANUFACTURED BY ADVANCE PRODUCT SYSTEMS, INC., IN LIEU OF CONCRETE FILL.

DUCTILE SPACER SHALL BE PLACED AT THE CENTERPOINT OF PIPE.

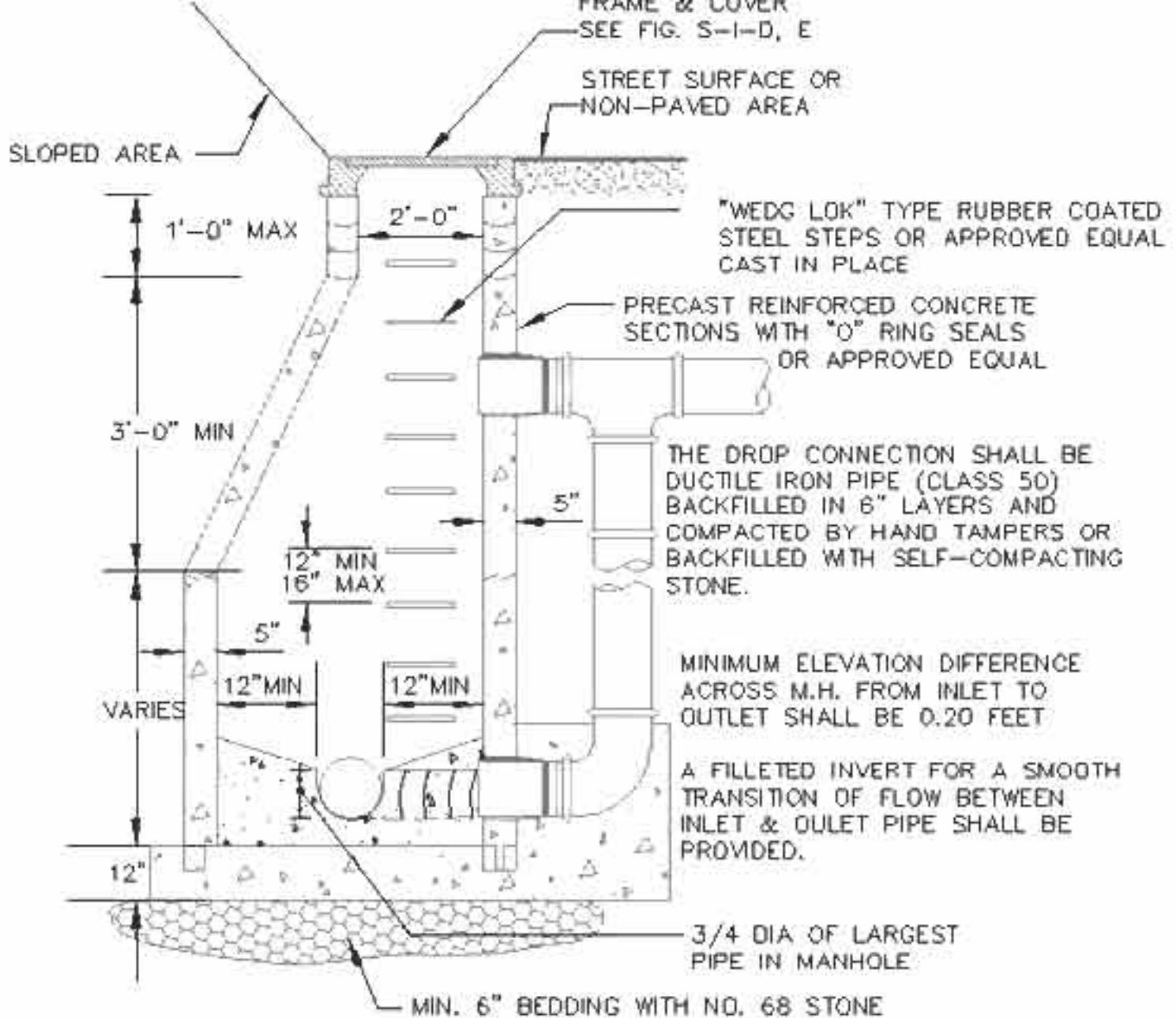
WATER
TYPICAL STEEL SLEEVE INSTALLATION
UNDER RAILROADS

Part V

Section B – Design Criteria

2. Drop Manhole Requirements – Remove reference to PVC pipe.

Drop manhole connections shall be constructed for sewers entering manholes at elevations greater than or equal to twenty-four (24) inches above the manhole invert. Drop connections shall be ductile iron pipe or ~~PVC pipe~~ backfilled in six (6) inch lifts and compacted by hand tampers. (See Part IV, Figure S-1-C, Page TD-3). Sewer lines entering a manhole less than twenty-four (24) inches above the manhole invert shall not enter the manhole greater than twelve (12) inches above the manhole invert and shall be incorporated into a smooth transition by filleting the invert.



NOTES:

1. BEDDING THICKNESS REQUIREMENTS SHOWN ARE MINIMUM AND SHALL BE SPECIFICALLY DETERMINED BY THE CONSULTANT FOR THE SOIL CONDITIONS.
2. THE CONSULTANT SHALL DETERMINE WHETHER MANHOLES SHALL HAVE EXTENDED OR NON-EXTENDED BASES.
3. ALL JOINTS, LIFT HOLES, INLETS, OUTLETS TO BE SEALED & GROUTED INSIDE AND OUT.
4. SPECIAL CONSIDERATION SHALL BE GIVEN FOR ENTRANCE DESIGN ON SEWERS WITH STEEP SLOPES.

TYPICAL MANHOLE WITH DROP CONNECTION

NTS

FIG. S-1-C

Frames & Covers

(a) Materials

Manhole frames and covers shall be heavy duty, traffic resistant, gray cast iron. Frame and cover castings shall conform to the details and dimensions shown in these specifications and shall be true to pattern in form and dimensions, free from pouring faults, sponginess, cracks, blow-holes and other defects in positions affecting their strength and value for the use intended. They shall be boldly filleted on angles and the arises shall be sharp and perfect. They shall be sand blasted or otherwise cleaned or scaled so as to present a smooth, clean, and uniform surface.

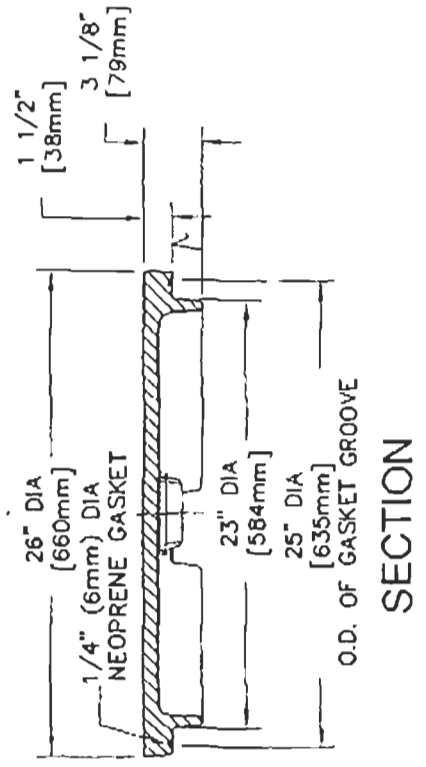
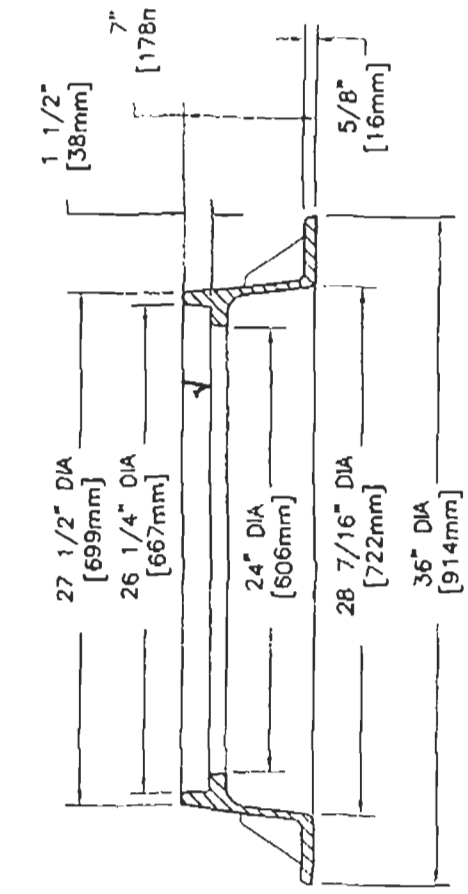
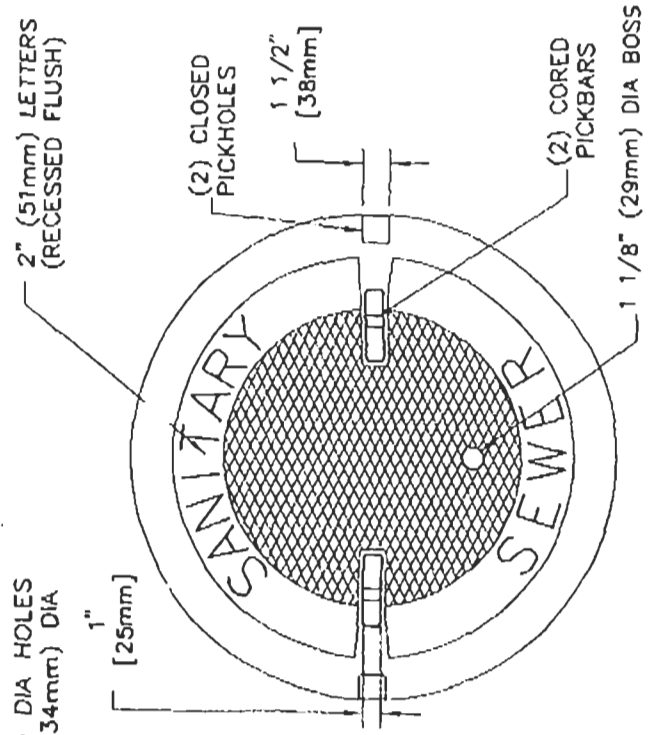
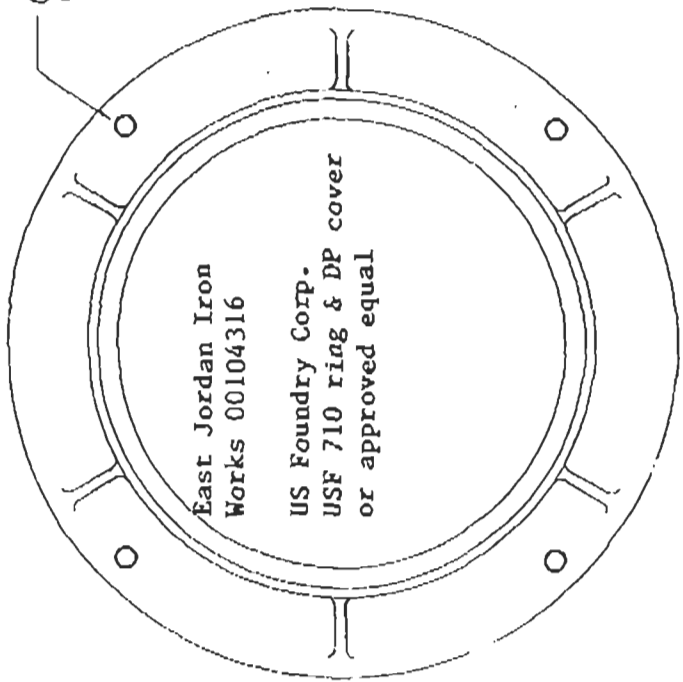
Standard and watertight manhole covers shall have no pick holes. The marking "Sewer" must be cast in their body. Watertight manhole covers provided with ~~bolts and gaskets~~ **locking lugs or similar restraints**, shall be required in all low lying areas subject to flooding and as required by the Authority. Three (3) 5/8" anchor bolts shall be placed in the cone section to secure the manhole frame to the concrete on watertight cones. Standard manhole frames and covers shall be ~~Super Cast, Inc. Model MH RCR 2001,~~ **East Jordan Iron Works Product No. 00104316** or approved equal. Watertight manhole frames and covers shall be ~~Super Cast, Inc. Model MH RCR 3000W, MH RCR 3000SRW~~ **East Jordan Iron Works Product No. 00103971** or approved equal. (See Part VII, Figures S-1-D and E, Pages TD-4 & TD-5).

(b) Frame & Cover Installations

Manhole frame and cover castings shall be installed so that the cover shall be exposed and flush with the existing street surface. In no case shall the existing pavement surface be raised or lowered to meet the grade of installed manhole frame and cover castings. If street surfaces are renewed or replaced by the developer or owner after the sewer system has been approved and accepted by the Authority, but while such streets are still the obligation of the developer or owner, the manhole frames and covers therein

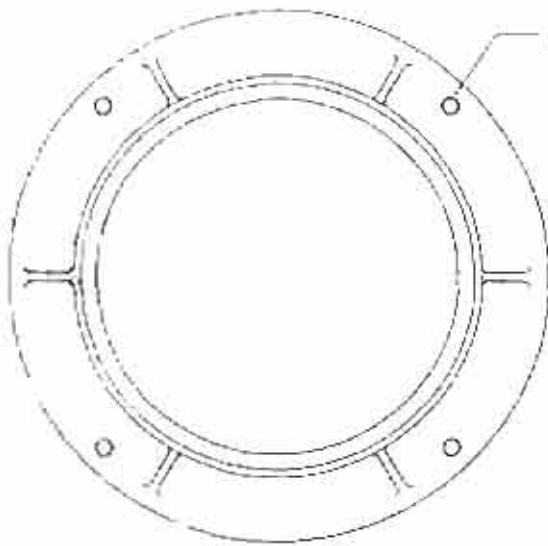
shall be readjusted to proper location relative to new street surfacing by the original developer or owner. Where frames and covers are located in off-street areas, they shall be placed flush with the finished grade. Where manholes are installed in sloped areas the finished grade of the slope shall intersect the top rim of the frame and cover on the uphill side.

The manhole frame shall be sealed to the concrete manhole section using a bed of mortar on either side of a butyl rubber sealant such as "Ramneck", or approved equal. The frame and cover shall be mortared to the outside of the concrete manhole section.

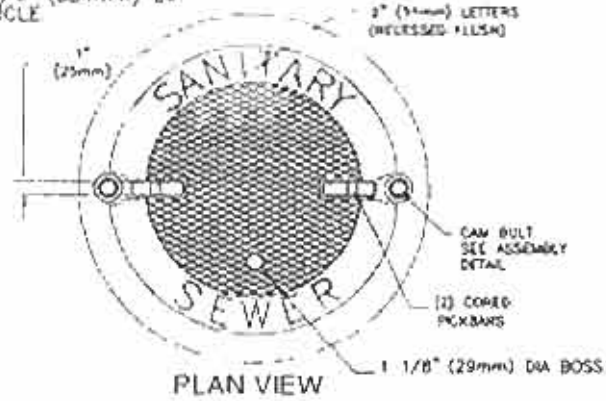


TYPICAL MANHOLE FRAME & COVER

NTS
 FIG S-1--D

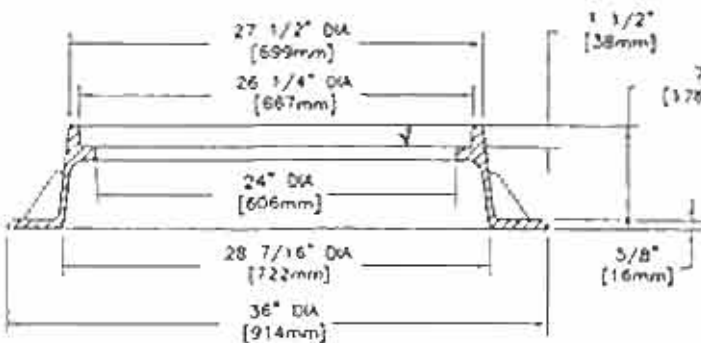


(4) 1" (25mm) DIA HOLES
ON 3 3/4" (95mm) DIA
BOLT CIRCLE

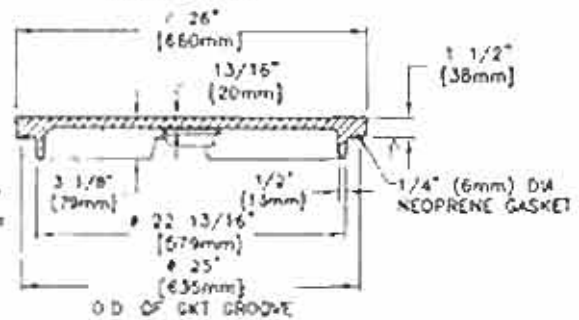


2" (51mm) LETTERS
(RECESSED - FILLING)

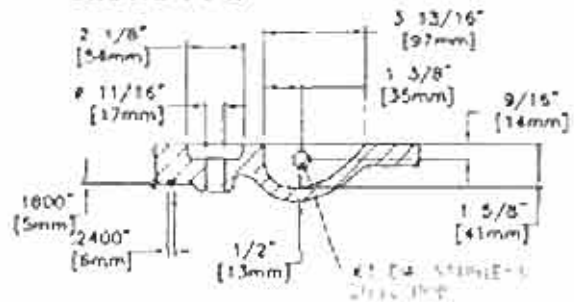
PLAN VIEW



FRAME SECTION



SECTION VIEW



PICKBAR & LOCKLUG HOLE DETAIL

East Jordan Iron Works-#00103971
or approved equal

- NOTE :**
1. ALL MANHOLES WITHIN 100 YEAR FLOODPLAIN OR LOCATED IN AREAS SUBJECT TO FLOODING SHALL HAVE A WATERTIGHT FRAME & COVER.
 2. ALTERNATIVE DESIGN FOR WATERTIGHT COVERS WILL BE CONSIDERED
 3. Covers shall be fixed to frames with locking lugs or similar assembly.

TYPICAL WATERTIGHT MANHOLE FRAME AND COVER

NTS

FIG. S-1-E

TD-5