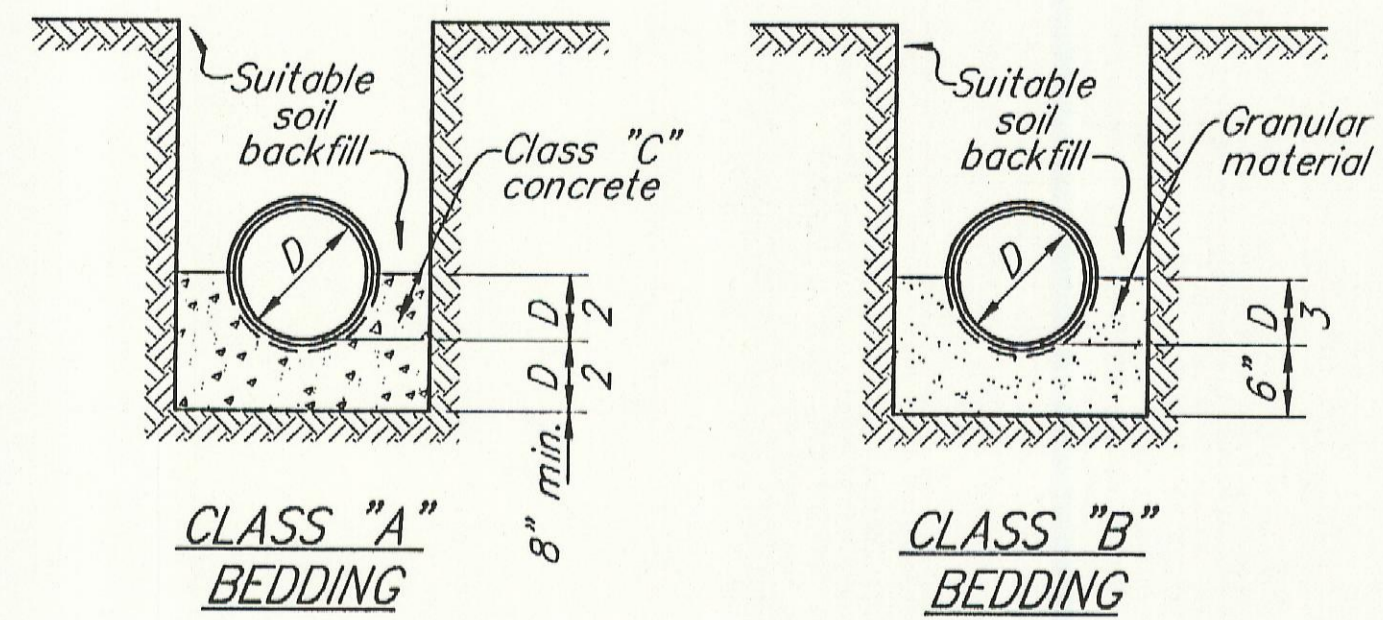


**TYPICAL TILE REPLACEMENT DETAIL**

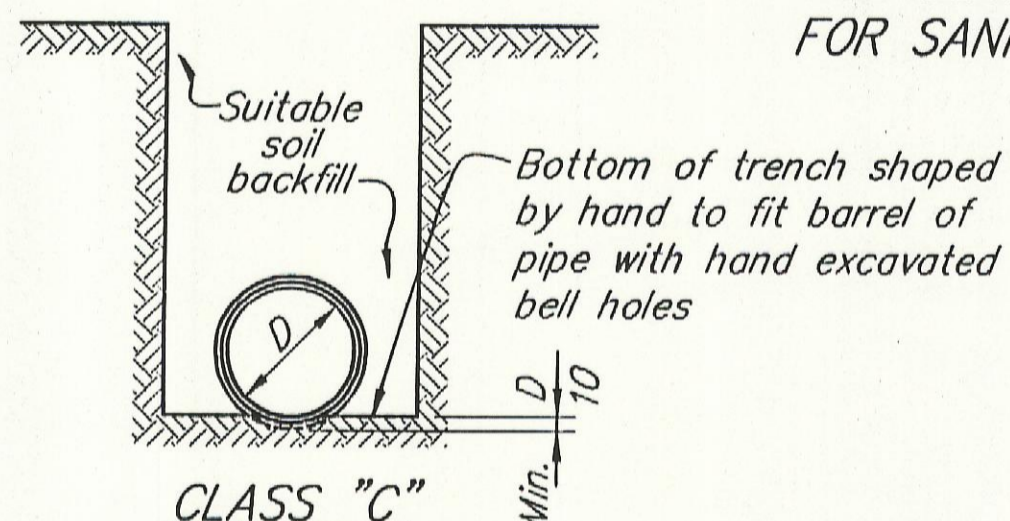
RICHLAND ENGINEERING LIMITED  
CONSULTING ENGINEERS  
29 NORTH PARK ST., MANSFIELD OHIO 44902

STANDARD  
DWG. NO.  
13-A



**NOTE:**  
Granular bedding shall be AASHTO M4.3 Number 67 crushed aggregate. See table 703-1 O.D.O.T. Construction & Material Specifications.

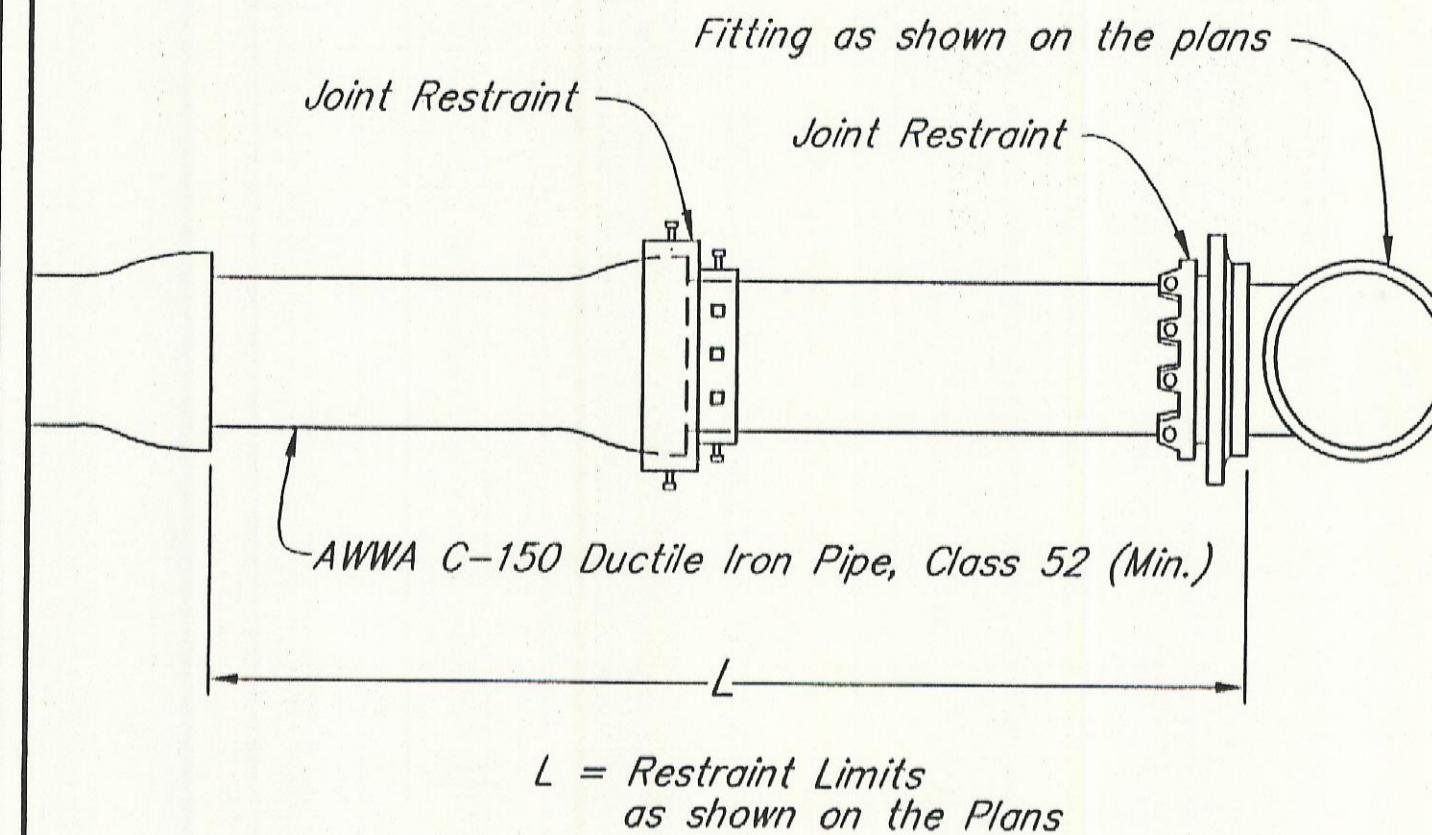
**NOTE:**  
THIS DETAIL IS NOT FOR SANITARY SEWER



**TYPICAL TRENCH & PIPE BEDDING DETAILS**

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STANDARD  
DWG. NO.  
1-A



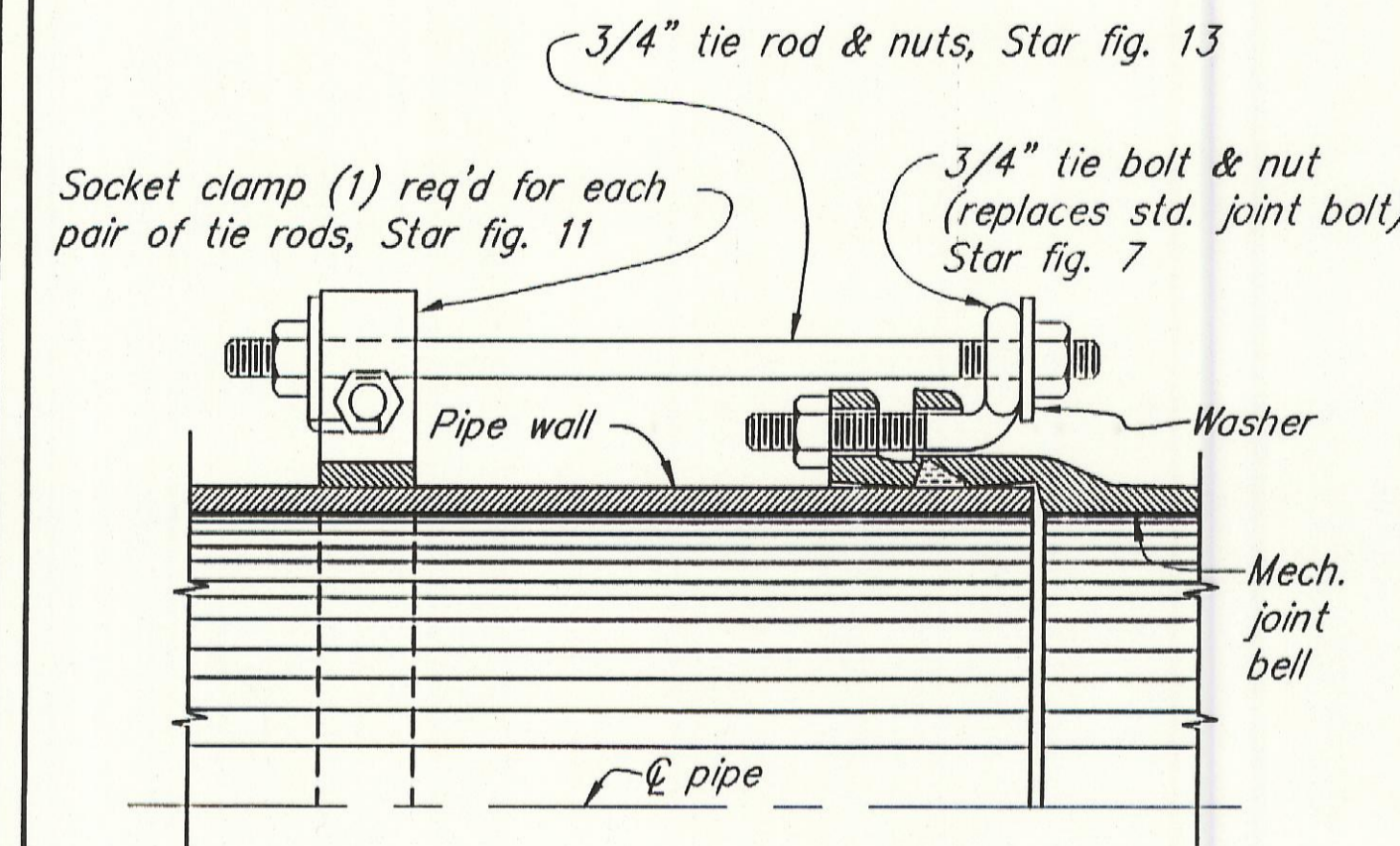
**JOINT RESTRAINTS SHALL BE:**

- 4" thru 12" Push-on-joint - EBAA Iron Series 800 or equal
- 14" thru 30" Push-on-joint - EBAA Iron Series 1100HD or equal
- 4" thru 30" MJ Fitting - EBAA Iron Series 1100 or equal

**TYPICAL D.I.P. PIPE JOINT RESTRAINT DETAIL**

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STANDARD  
DWG. NO.  
14-B



**QUANTITY OF TIE RODS PER JOINT**

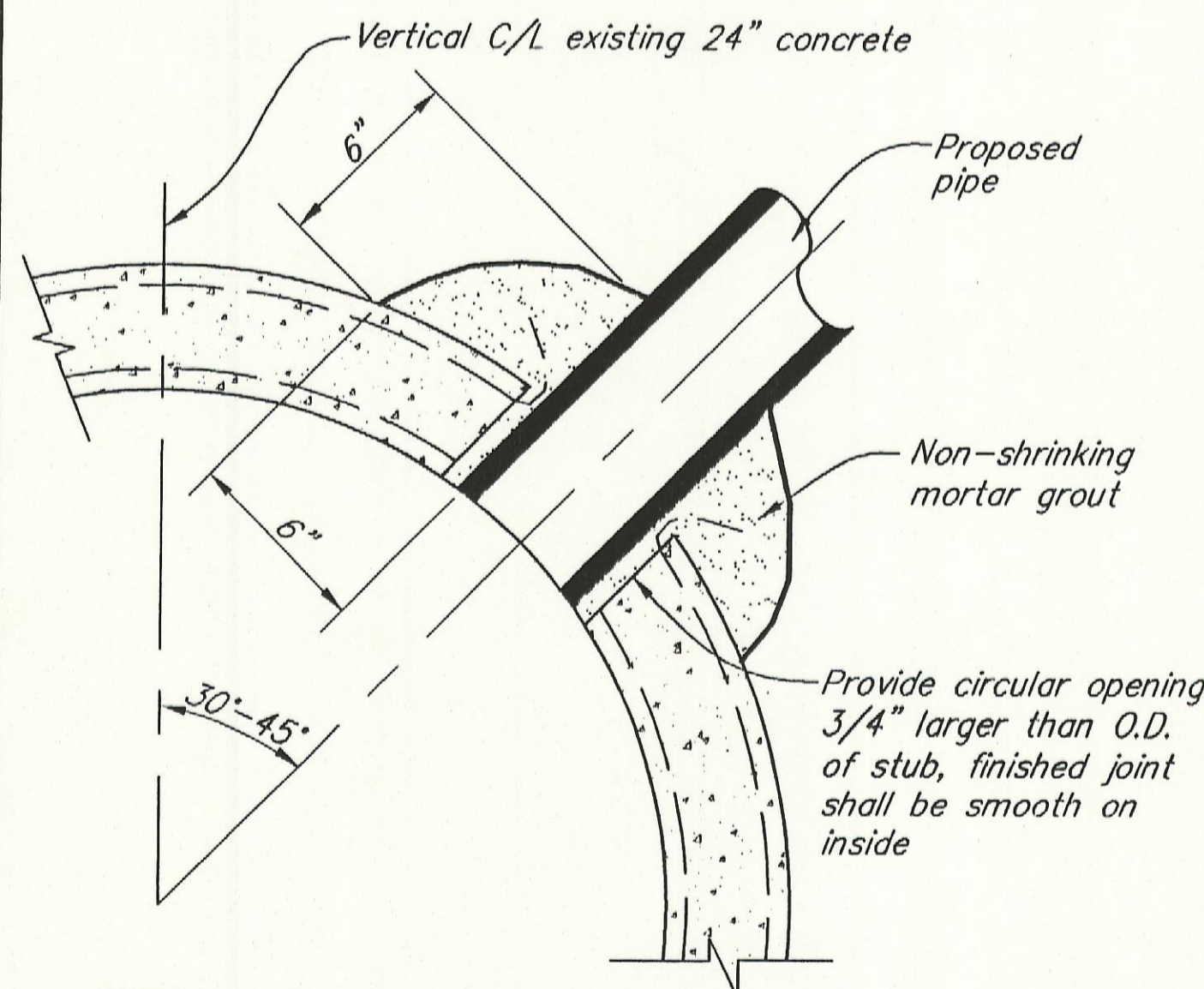
Pipe size	Angle of deflection				
	0°	11 1/4°	22 1/2°	45°	90°
6"	2	2	2	2	2
8"	2	2	2	2	2
10"	2	2	2	2	4
12"	2	2	2	2	4

**NOTE:**  
Tie rods, tie bolts and socket clamps shall be as furnished by star supply corporation, Columbus, Ohio or approved equals. Set screw type mechanical joint retainer glands will not be permitted on cast iron pipe.

**TYPICAL TIED JOINT DETAIL**

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STANDARD  
DWG. NO.  
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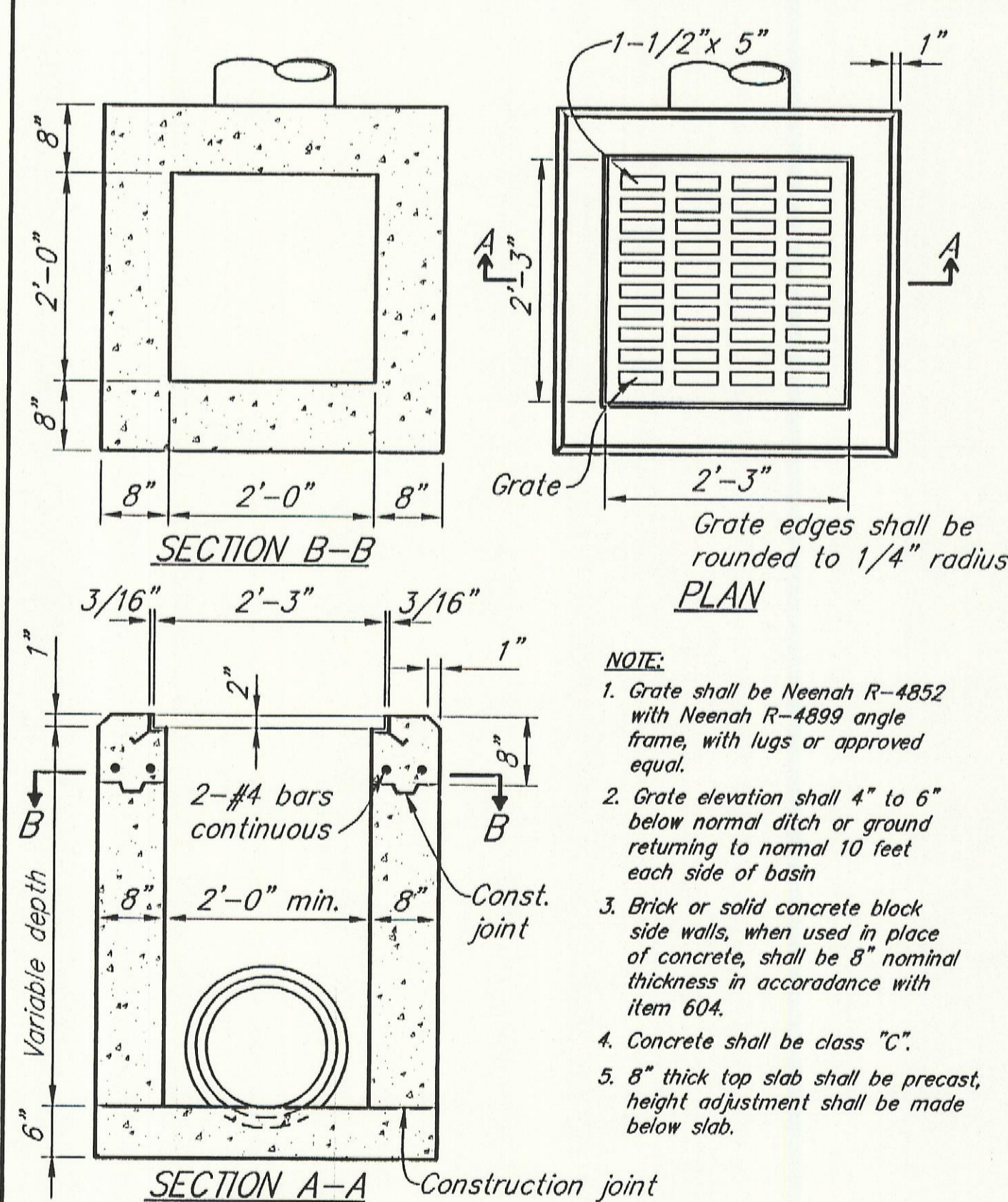


**NOTES:**  
1. The opening shall be neatly cut in the storm sewer pipe by using a core drill or by drilling a series of holes in a circle and removing the center, air hammers are not permitted. Alternate means of making the opening shall meet with the approval of the Engineer.

**FIELD CONNECTION DETAIL TO PROPOSED STORM SEWER**

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STANDARD  
DWG. NO.  
21-A

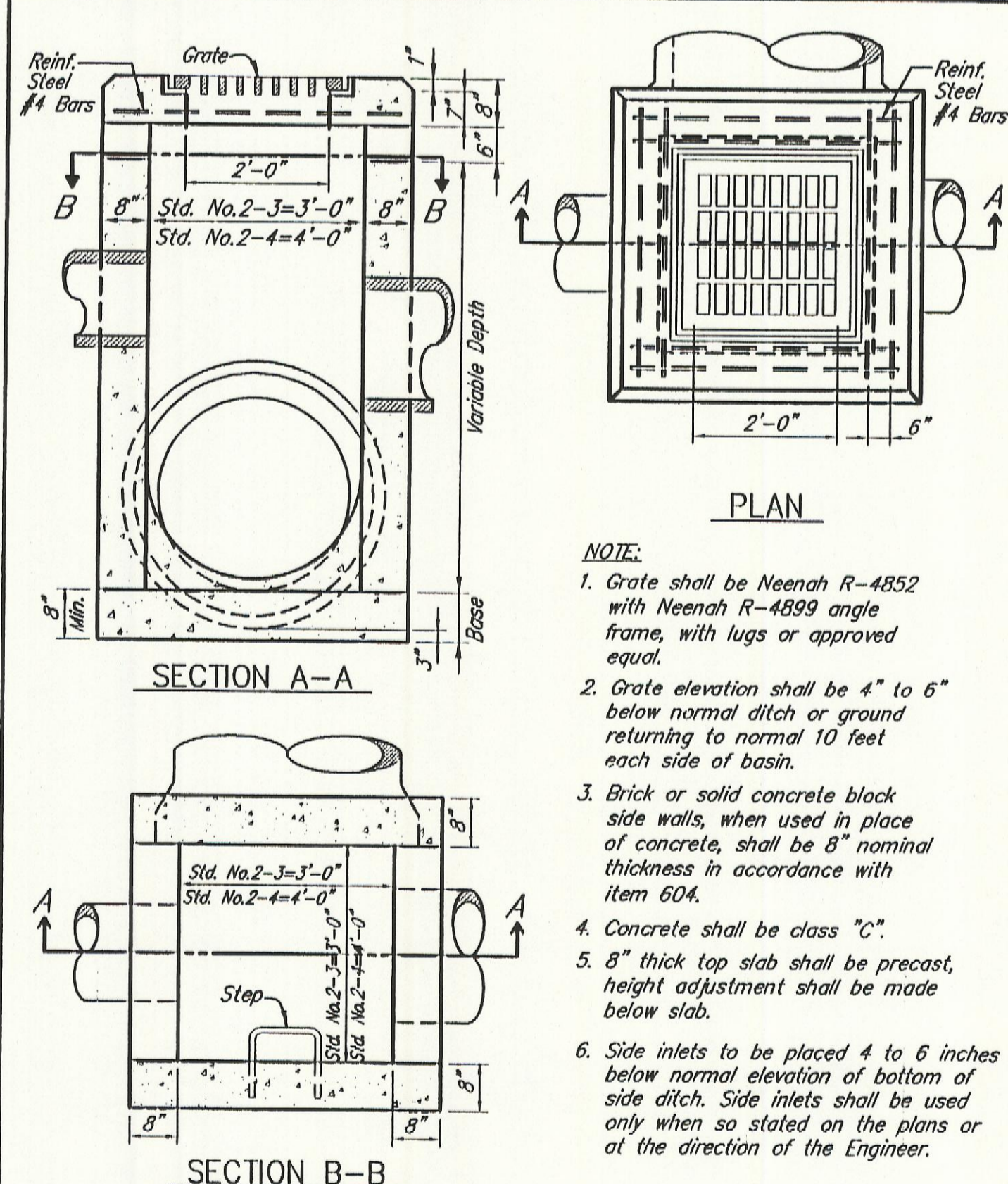


**NOTE:**  
1. Grate shall be Neenah R-4852 with Neenah R-4899 angle frame, with lugs or approved equal.  
2. Grate elevation shall 4" to 6" below normal ditch or ground returning to normal 10 feet each side of basin.  
3. Brick or solid concrete block side walls, when used in place of concrete, shall be 8" nominal thickness in accordance with item 604.  
4. Concrete shall be class "C".  
5. 8" thick top slab shall be precast, height adjustment shall be made below slab.

**STANDARD NO. 2-2-B CATCH BASIN MODIFIED**

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STANDARD  
DWG. NO.  
20

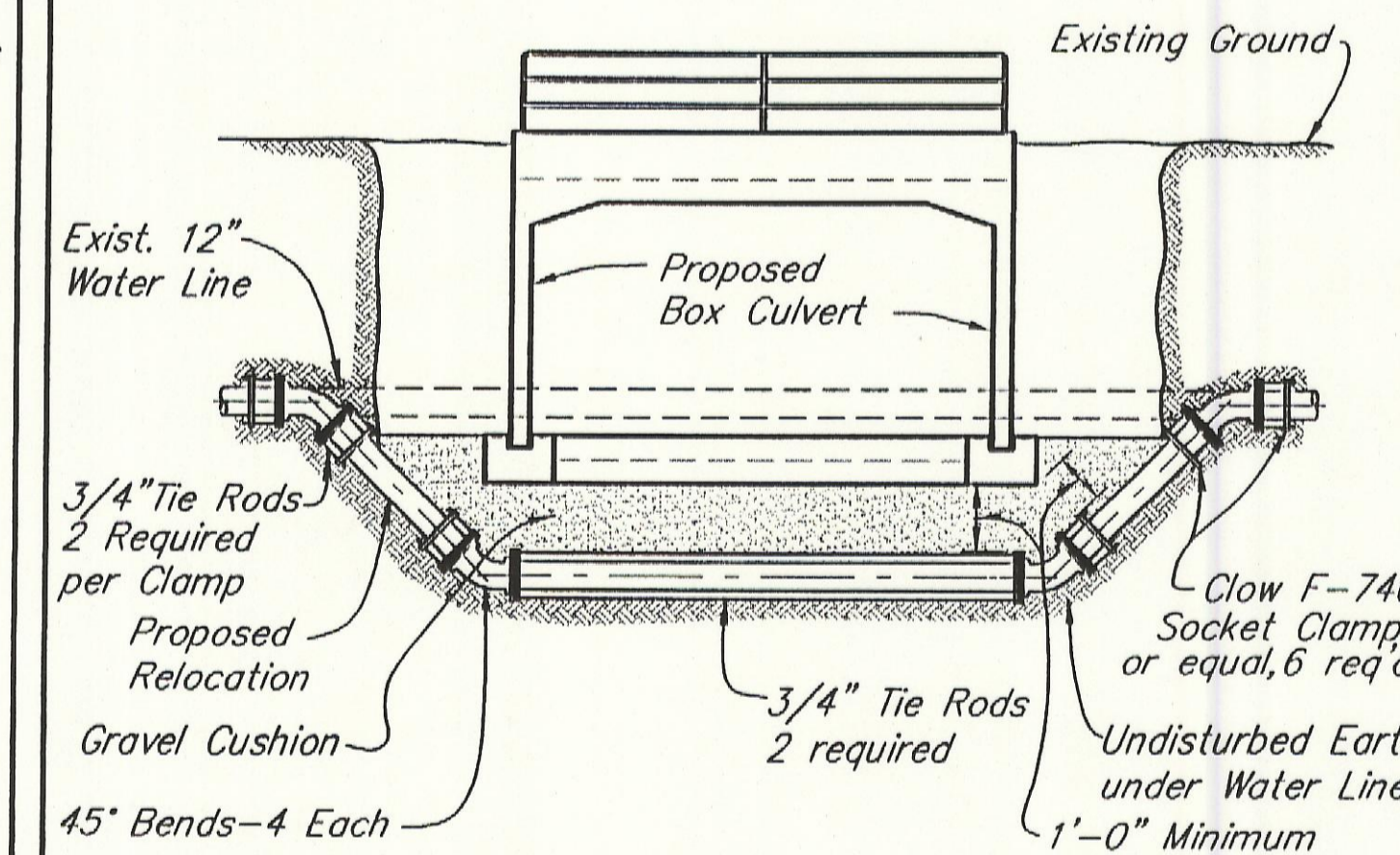


**NOTE:**  
1. Grate shall be Neenah R-4852 with Neenah R-4899 angle frame, with lugs or approved equal.  
2. Grate elevation shall be 4" to 6" below normal ditch or ground returning to normal 10 feet each side of basin.  
3. Brick or solid concrete block side walls, when used in place of concrete, shall be 8" nominal thickness in accordance with item 604.  
4. Concrete shall be class "C".  
5. 8" thick top slab shall be precast, height adjustment shall be made below slab.  
6. Side inlets to be placed 4 to 6 inches below normal elevation of bottom of side ditch. Side inlets shall be used only when so stated on the plans or at the direction of the Engineer.

**STANDARD NO. 2-3 & NO. 2-4 CATCH BASINS-MODIFIED**

RICHLAND ENGINEERING LIMITED  
CONSULTING ENGINEERS  
29 NORTH PARK ST., MANSFIELD OHIO 44902

STANDARD  
DWG. NO.  
20-B



**Notes:**  
1. All Pipe and Fittings necessary for the water line relocation, as shown, shall be new Ductile Iron Pipe A.N.S.I. Class 52 and all Fittings shall have Mechanical Joint ends.  
2. The Contractor shall furnish all labor, tools, material and equipment necessary to complete this item in accordance with this detail, payment shall be lump sum.

**WATER LINE RELOCATION DETAIL**

RICHLAND ENGINEERING LIMITED  
CONSULTING ENGINEERS  
29 NORTH PARK ST., MANSFIELD OHIO 44902

STANDARD  
DWG. NO.  
22-B

Job No. 95099sd Date 11/30/95 Drawn By GEW, RMS

RICHLAND ENGINEERING LIMITED  
 29 NORTH PARK STREET  
 MANSFIELD, OHIO 44902  
 DATE 10/5/95  
 JOB NO. 95099  
 DESIGNED HEW  
 CHECKED 000  
 DRAWN GEW  
 REVISIONS  
 STANDARD DRAWINGS  
 REALIGNMENT OF S.R. 664 AT HUNTER RD. CITY OF LOGAN, OHIO  
 4  
 20