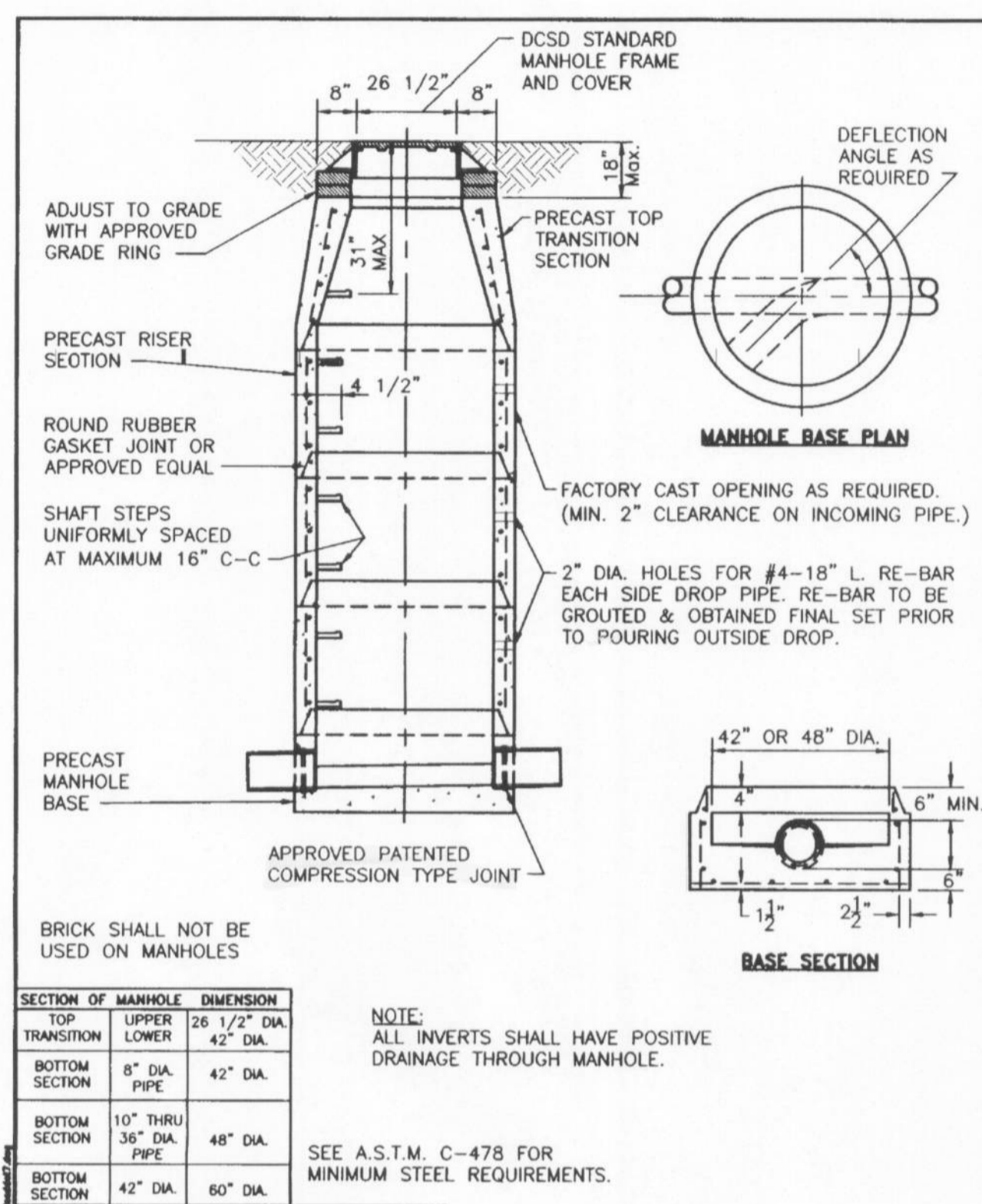
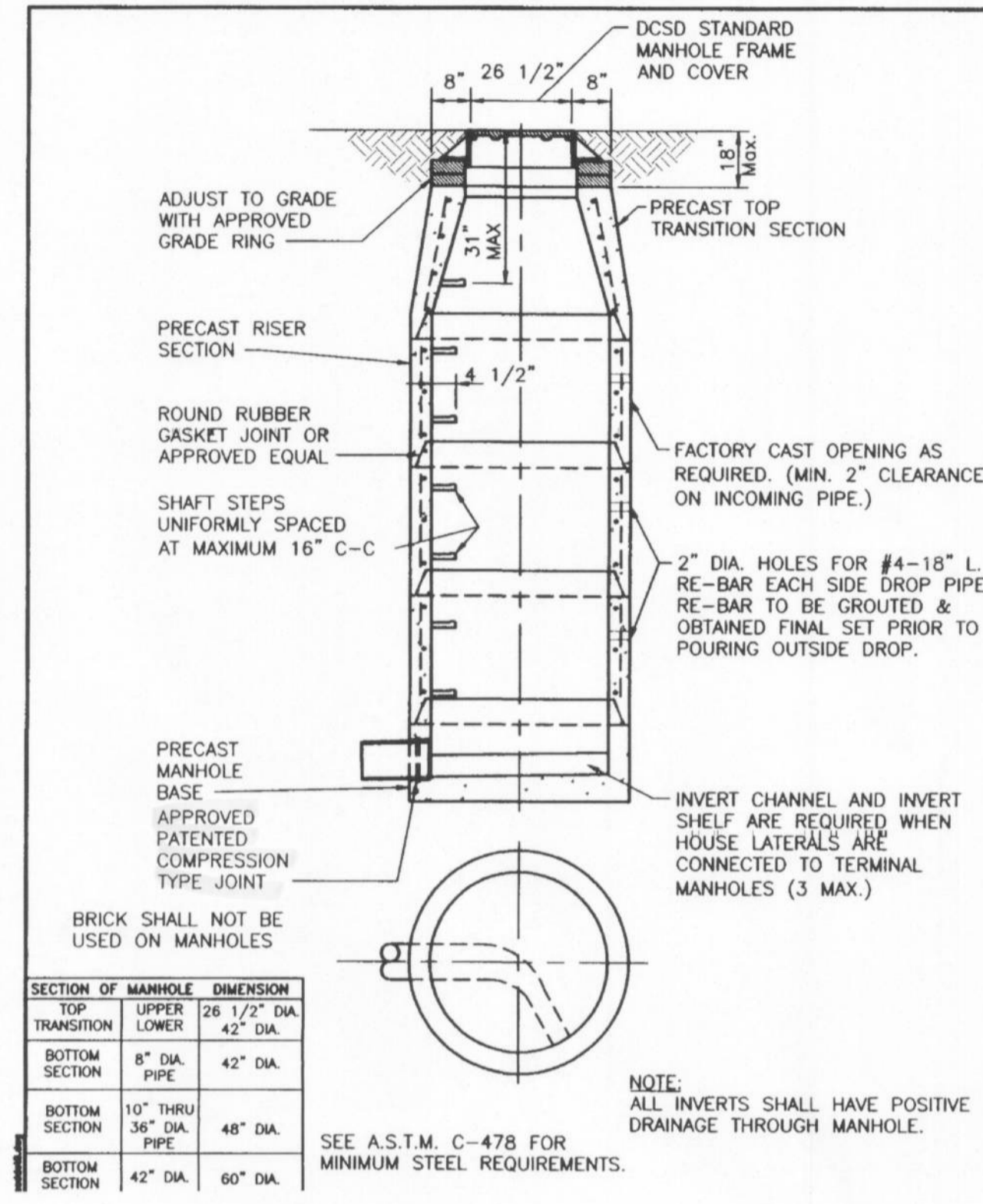


CITY OF O'FALLON SANITARY DISTRICT CONSTRUCTION NOTES

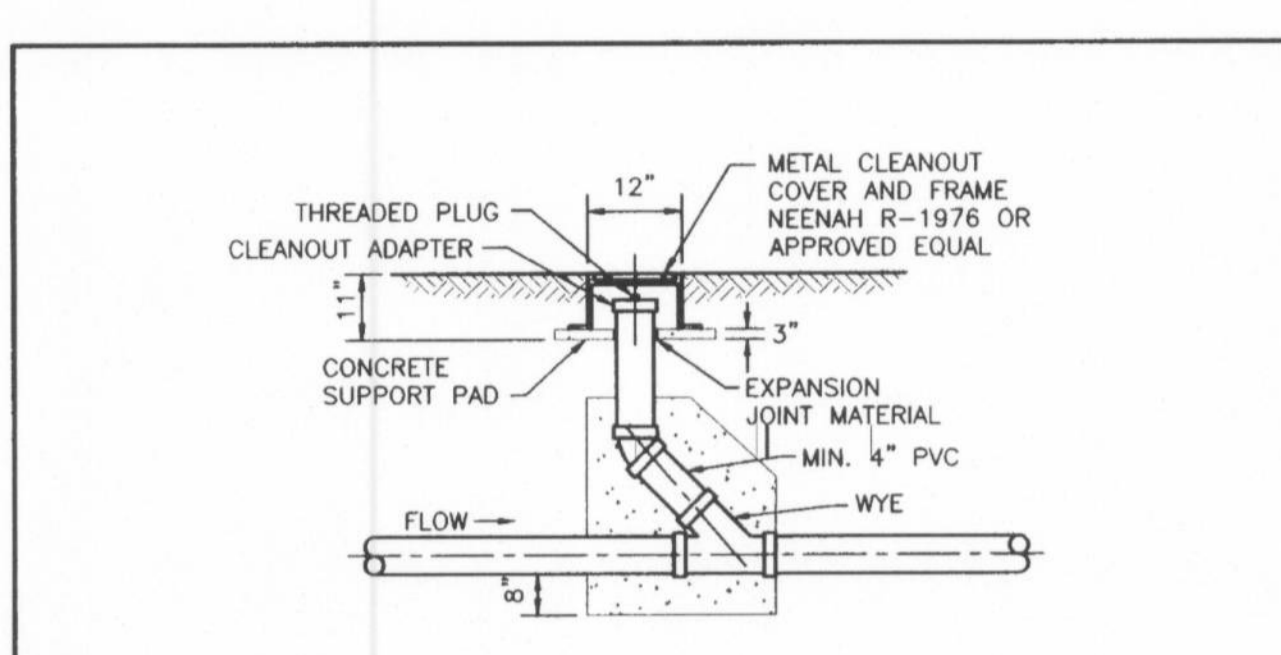
- Underground utilities have been plotted from available information and therefore location shall be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans, shall be the responsibility of the contractor and shall be located prior to any grading or construction of improvements.
- Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary and storm sewers, including house laterals.
- All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match preconstruction conditions.
- All fill including places under proposed storm and sanitary sewer lines and paved areas including trench backfills within and off the road right-of-way shall be compacted to 90 percent of maximum density as determined by the "Modified AASHTO T-180 Compaction Test (ASTM D1557)". All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. The compacted fill shall be free of rutting and shall be non-yielding and non-pumping during proofrolling and compaction.
- The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system.
- All sanitary sewer flowlines and tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor.
- Easements shall be provided for all sanitary sewers, storm sewers and all utilities on the record plat.
- The sanitary sewer construction and materials shall conform to the current construction standards of the Duckett Creek Sanitary District.
- The Duckett Creek Sanitary District shall be notified at least 48 hours prior to construction for coordination of inspection.
- All sanitary sewer building connections shall be designed so that the minimum vertical distance from the low point of the basement to the flowline of a sanitary sewer at the corresponding building connection shall not be less than the diameter of the pipe plus the vertical distance of 2-1/2 feet.
- All sanitary sewer manholes shall be waterproofed on the exterior in accordance with Missouri Department of Natural Resources specification 10 CSR-B.120(7)(E).
- All PVC sanitary sewer pipe shall conform to the requirements of ASTM D-3034 Standard Specification for PSM Polyvinyl Chloride Sewer Pipe, SDR-35 or equal, with "clean" 1/2 inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4 inches below the pipe to springline of pipe. Immediate backfill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 12 inches above the top of pipe.
- All sanitary and storm sewer trench backfills shall be water jetted. Granular backfill will be used under pavement areas.
- All pipes shall have positive drainage (0.20') through manholes. Flat invert structures not allowed.
- All creek crossings shall be lined with rip-rap as directed by District inspectors.
- All manholes shall be pre-cast concrete structures only. Brick shall not be used on sanitary sewer manholes.
- Existing sanitary sewer service shall not be interrupted.
- Maintain access to existing residential driveways and streets.
- Pre-manufactured adapters shall be used at all PVC to DIP connections. Rubber boot/Mission-type couplings will not be allowed.
- Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.
- 'Type N' Lock-Type Cover and Locking Device (Lock-Lug) shall be used where lock-type covers are required.
- Tees (t-junction) or wyes (y-junction) shall be installed at the places shown on the Project Plans.



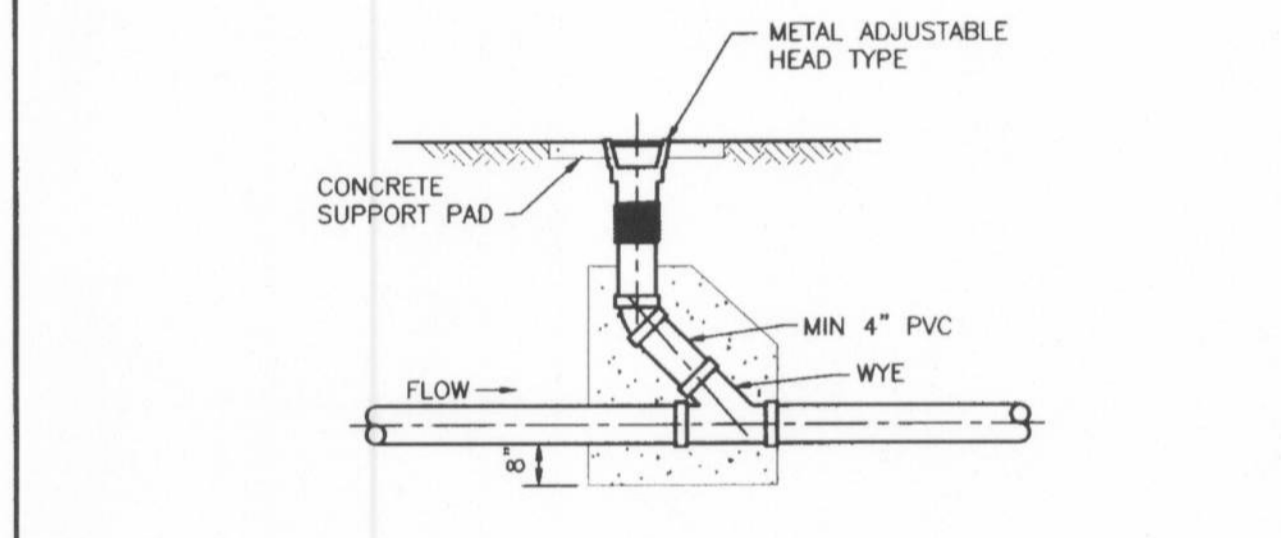
**PRE-CAST CONCRETE MANHOLE  
8" THROUGH 18" SEWERS**



**TERMINAL MANHOLE  
8" THROUGH 18" SEWERS**

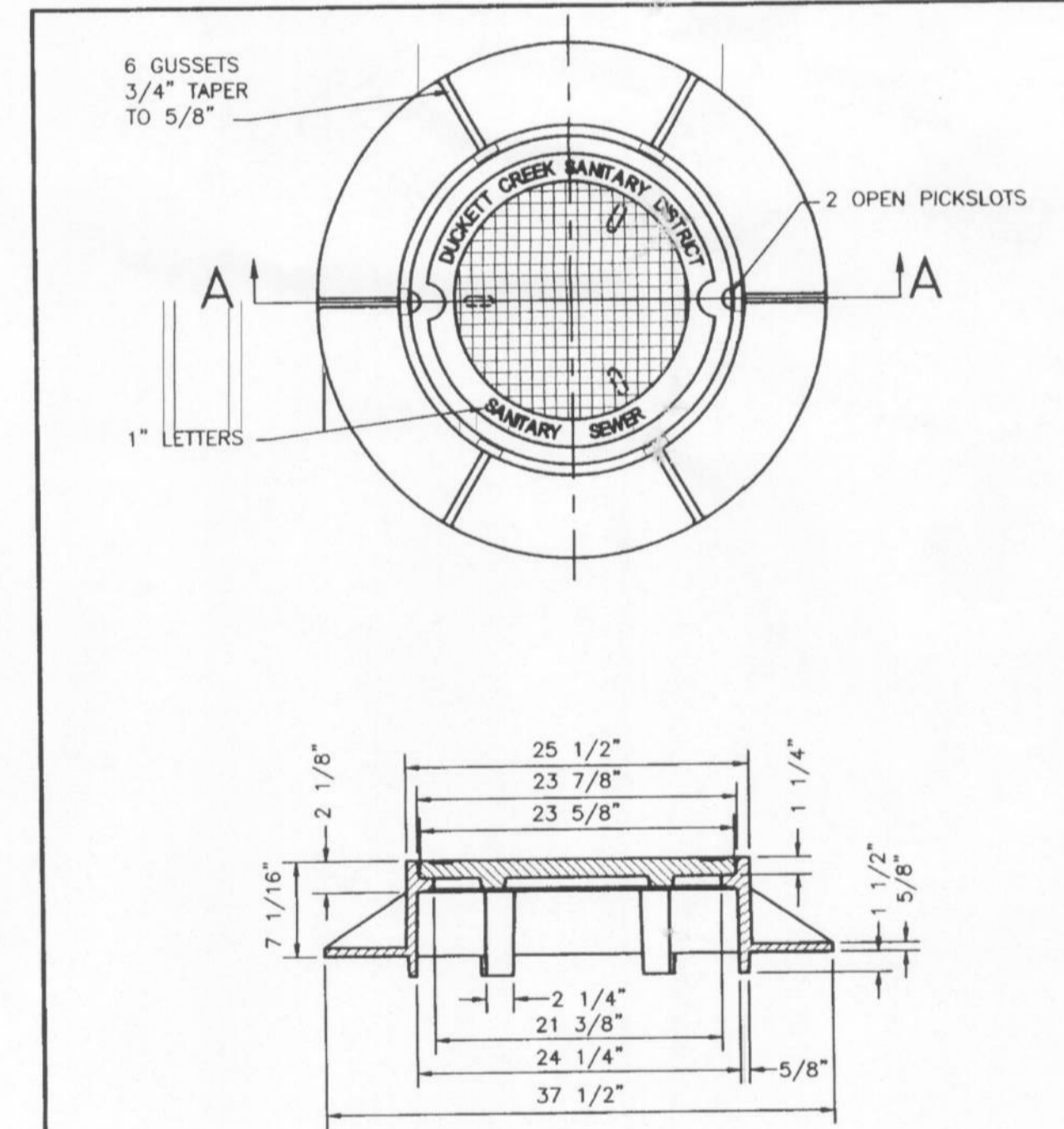


**METAL FRAME AND COVER TYPE CLEANOUT**



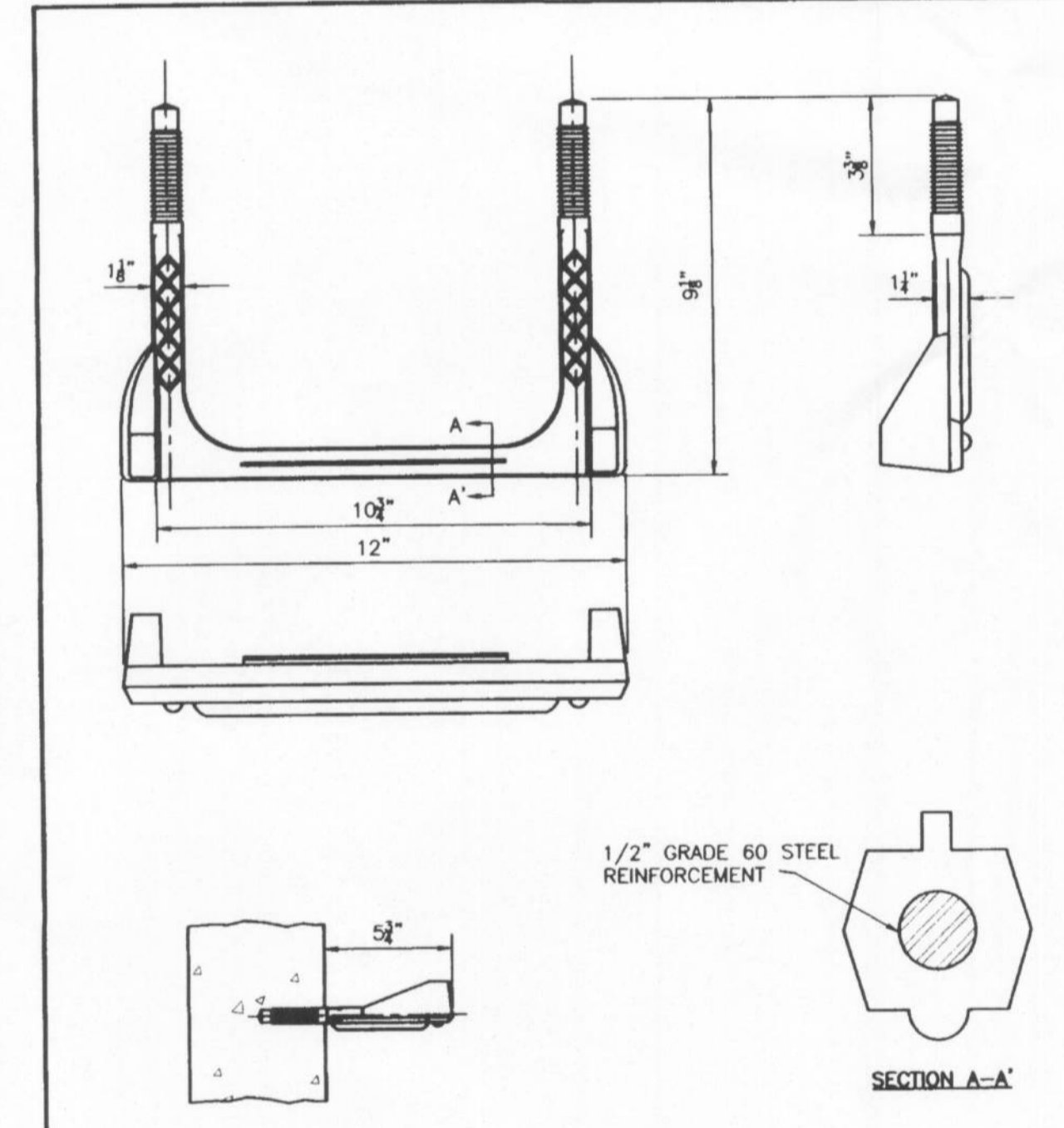
**ADJUSTABLE HEAD TYPE CLEANOUT**

**SEWER LATERAL CLEANOUT DETAILS**



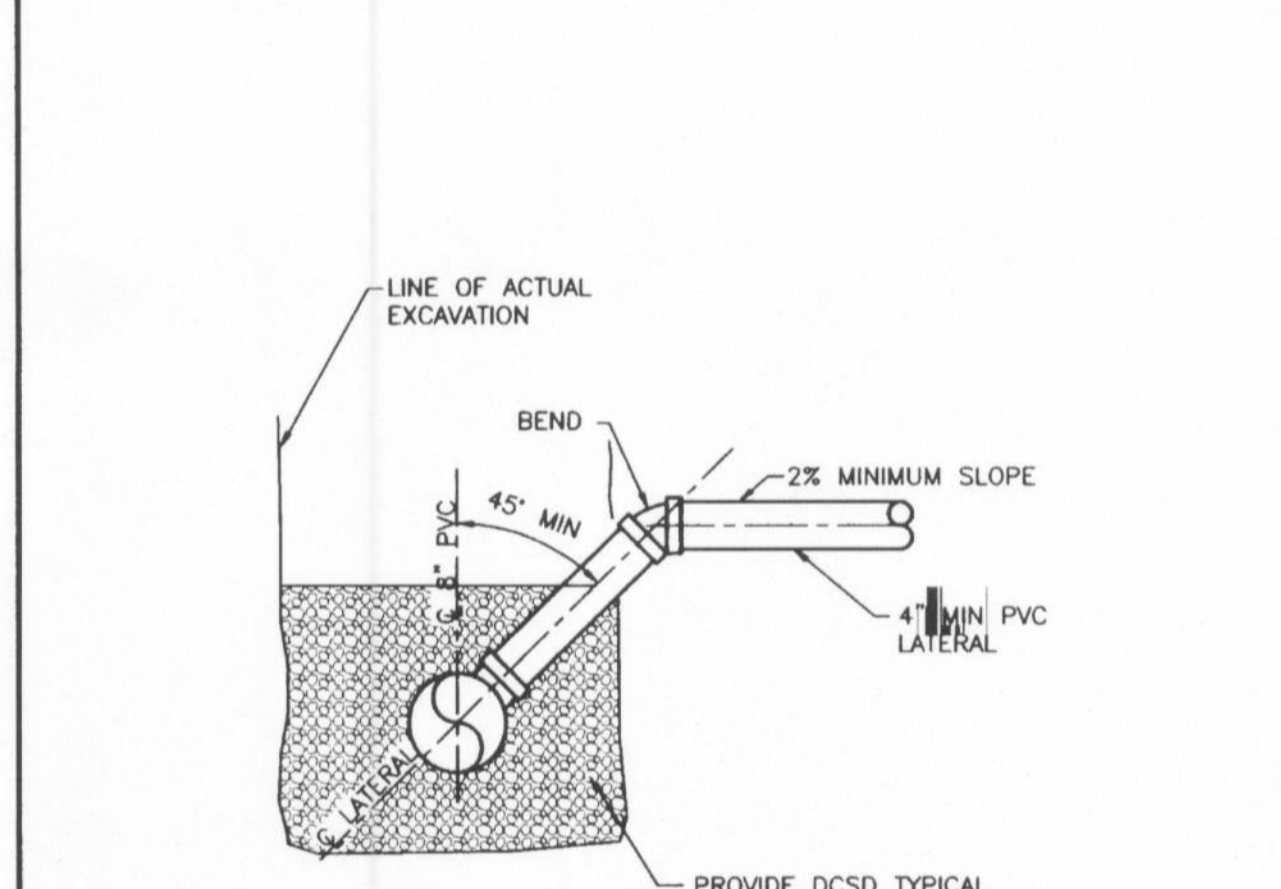
**SECTION A-A**

**MANHOLE FRAME AND COVER**



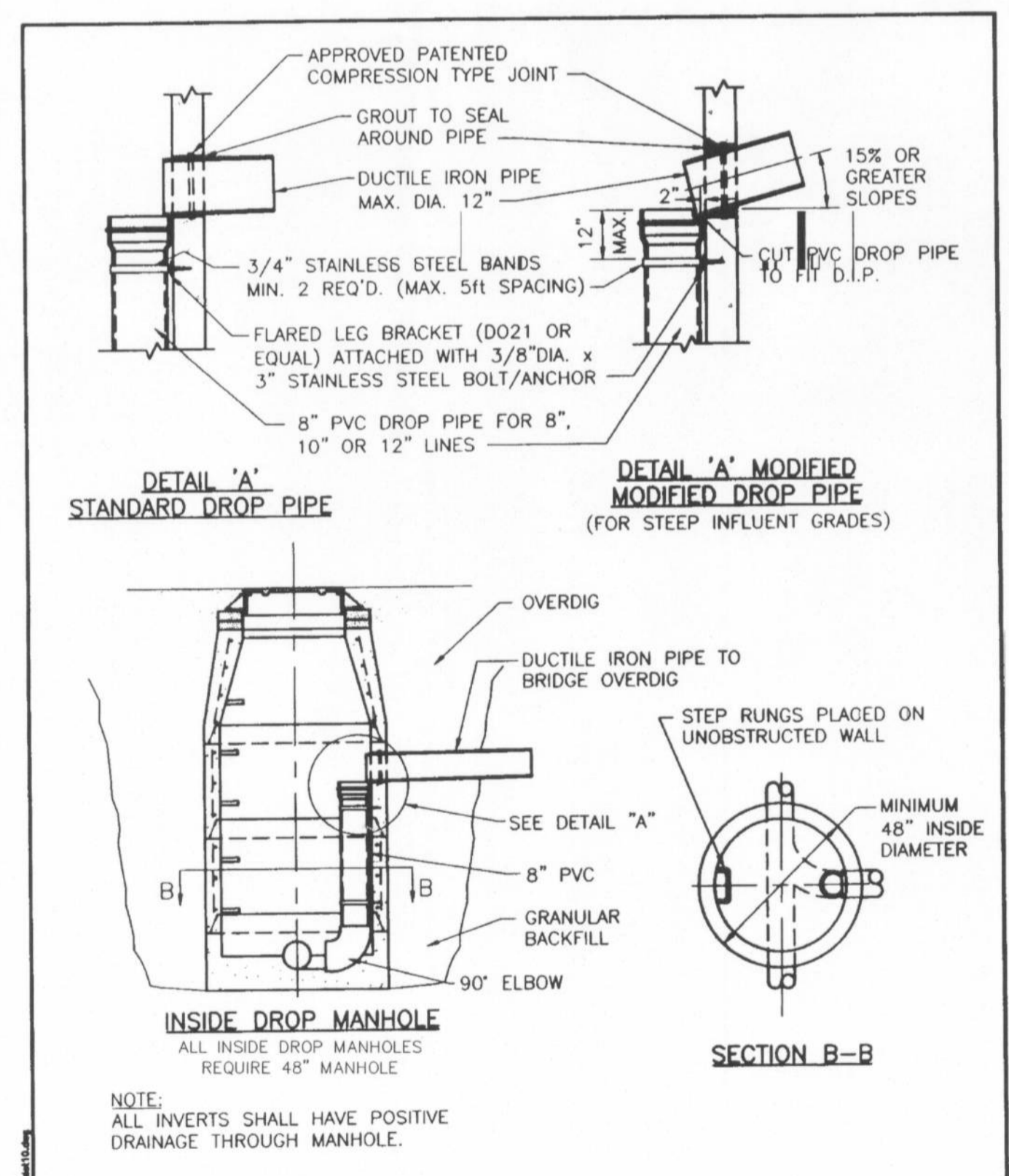
**SECTION A-A**

**MANHOLE STEP**



**PROVIDE DCSD TYPICAL GRANULAR BEDDING TO SUPPORT LATERAL WITHIN LINE OF ACTUAL EXCAVATION**

**LATERAL RISER DETAIL**



**INSIDE DROP MANHOLE**

**INSIDE DROP MANHOLE**

**ENGINEERS' CERTIFICATION:**  
The following applies to ALL sheets and documents involved in the preparation of the plans and documents for this project. The responsibility for Professional Engineering liability on this project is limited to the set of plans displaying the signature and an original stamped seal of the Engineer on each sheet. ALL responsibility is Disclaimed, until ALL review agency approvals are granted, for all other plan sheets issued prior to this issue date, for this set when another set is issued after this date, if the sheets are used individually instead of a set. This applies for ALL sheets and documents involved in this project whether this certification appears on it or not. Copyright. All Rights Reserved.  
**ZAVRADINOS & ASSOCIATES, INC. DBA ZAVRADINOS ENGINEERING & SURVEYING**  
STEVEN W. POLK  
REGISTERED PROFESSIONAL ENGINEER  
NUMBER E-18668  
DATE 10/19

**SANITARY SEWER  
DETAILS**

PLANNING & ZONING FILE NO. 2204.03

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