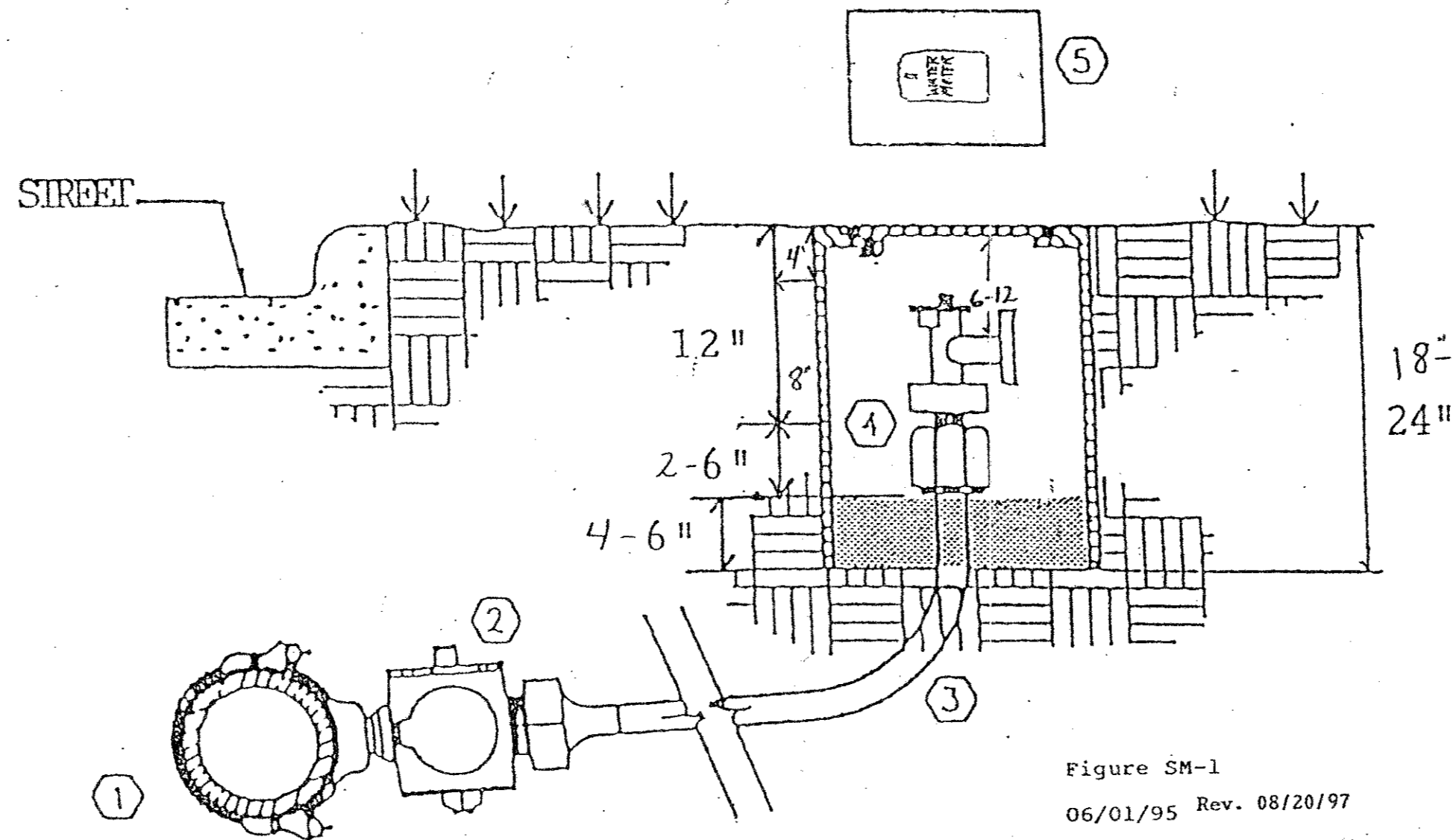
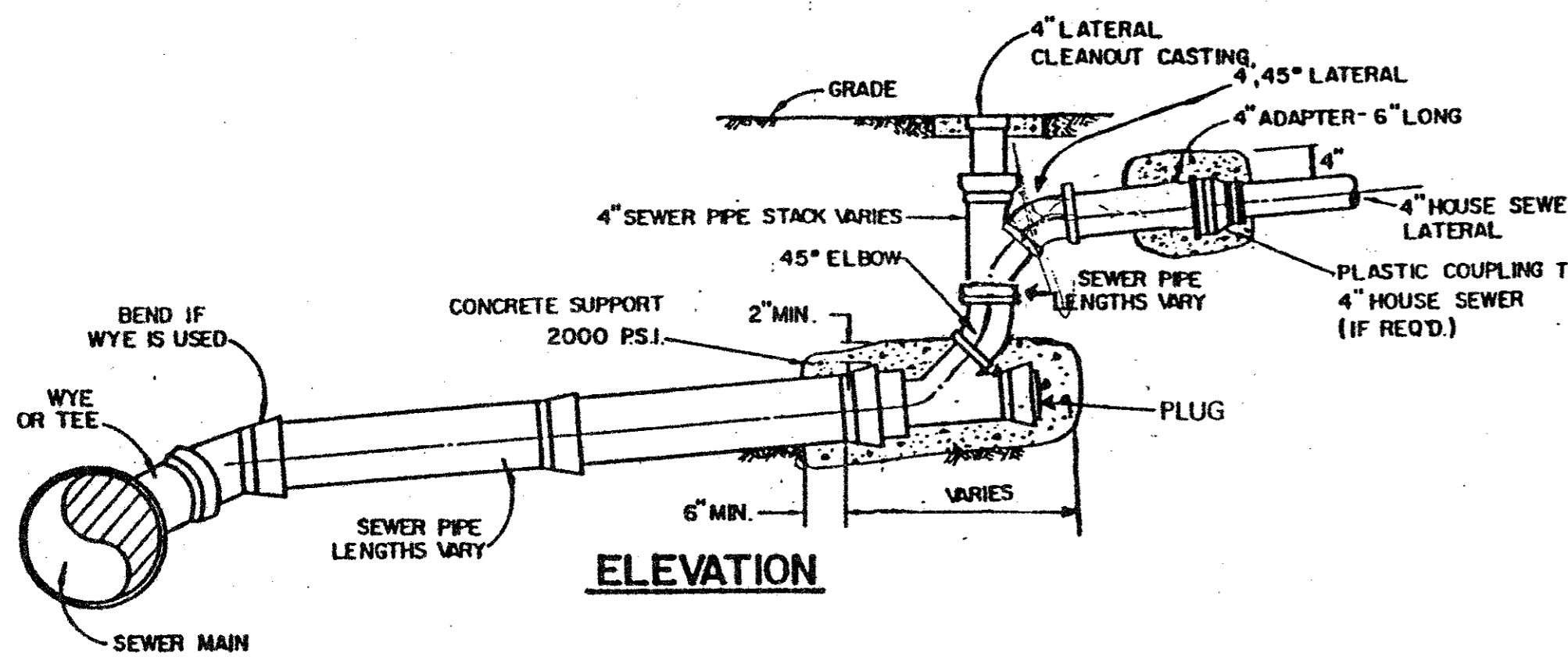
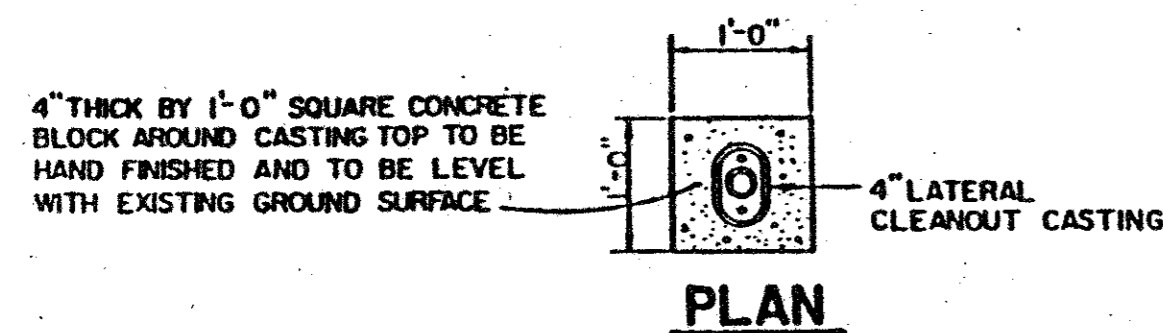


TOWN OF ADDISON
COMMERCIAL WATER SERVICE

TOWN OF ADDISON
WATER SERVICE

TOWN OF ADDISON
SPECIFICATION # FH-95-1
FIRE HYDRANTS



Contractors and/or plumbers are responsible for compliance with the following specifications:

- Meters shall be set within the Utility easement and clear of vehicular traffic flow and/or parking spaces. Curb stops are to be set 6"-12" below finished grade.
- To prevent the inflow of mud or silt into the box, 4-6" of washed pea gravel shall be placed under the meter inside the box, allowing for 2-4" of open space below the meter. Meter box shall be minimum 18" deep. (See Figure SM-1)
- meter boxes shall be large enough to allow access to, and operation of, all meter nuts/flanges/bolts, and the curb stop without obstruction.
- Boxes that are vulnerable to vehicular traffic shall have load bearing frames and lids with reader door designed to withstand the anticipated load.
- Meters shall conform to Town specifications as to make and type. (See General Requirements for Water Service)
- An approved Backflow Prevention Assembly shall be installed on all water services after the meter, with a nipple between the meter and the Assembly of sufficient length to allow placement in separate boxes, both being accessible for testing and repairs. It shall be the responsibility of the contractor to have the Assembly tested upon installation by a TNRCC certified tester, who shall provide the original of the test report to the Town of Addison Utility Division prior to final, continuous connection to the City's water supply.
- All companion flanges shall be elliptical brass, and all bolts & nuts shall be 316 stainless steel.
- Meters shall be set level in all directions.
- 2" meters shall have a laying length of 17'; 1.5" meters shall have a laying length of 13'. Meters may be "compacted", but the difference shall be made up with a steeper upstream, or a spool with test port downstream from the meter. 5/8" x 3/4" meters shall have 7 1/2" laying length, 3/4" meters shall have 9" laying length, and 1" meters shall have 10 3/4" laying length. (Approval of Utility Inspector)
- A meter deposit is required for all meters prior to initiation of service. Application and deposit will be made to the Town of Addison Utility Billing Department by the party responsible for the water bill. (Call 450-7081)

TOWN OF ADDISON
3/4" - 2" WATER SERVICE
APPROVED MATERIALS AND PROCEDURES

- Double-strap bronze tapping saddle with CC. (AWWA taper) threads: Mueller #BR2B, Ford #202B, or McDonald #3525.
- Corporation stop with AWWA taper thread (CC) by conductive compression connection: Mueller H-15013 or B25008 (1.5", 2"), Mueller H-15008 or H-25008 (3/4", 1"), Ford FH1000 or FH100 (1.5", 2", 4-G, 7-G, 1", 3-G, 4-G, respectively), McDonald #701T or #701BT.
- Pipe and meter size shall be determined by owner with approval of Building Inspection or Public Works/Engineering Departments: Piping shall be continuous type "K" copper from corporation to curb stop.
- 90 degree angle curb stop with lock-wing: Mueller H-14277 or B24276 (1.5", 2"), Ford KXV43-465W-G or KVA3-777W-G (1.5", 2"), Mueller H-14277 or B24276 (3/4", 1"), Ford KXV43-332W-G or KVA3-444W-G (3/4", 1"), McDonald #446BT or #466BT. All companion flanges (1.5", 2") shall be brass.
- meter boxes shall be of sufficient size to accommodate the curb stop, meter, and all connections. They shall have a cover with reader lid. Boxes may be stacked to achieve sufficient depth (see "B&C" above).
- In-line curb-stops, meter yokes/tees, and/or meter risers may be considered on a case by case basis dependent on situation and subject to approval of Utility Inspector and/or Utility Foreman. No sand valves will be allowed on the inlet side of the meter.
- The type of Backflow Prevention Assembly required shall depend upon the degree of hazard or potential hazard which exists. See Utility Rules for further information.
- The tapping saddle and corporation stop must be poly-wrapped (8 mil) and hand backfilled with sand to a depth of 12". Additional backfill may be done in accordance with material free of rocks and clods exceeding three (3) inches in diameter. CAUTION! Inspection must be called for and completed prior to backfill, or tap must be re-exposed by the contractor so that inspection may be completed by the Town's representative.

See Figure SM-1 for detail.

01/31/96 revised 08/20/97

GENERAL CONSTRUCTION NOTES

- Prior to commencing construction, the owner or their authorized representative, shall convene a pre-construction conference among the Town of Addison, the Consulting Engineer(s), Contractor(s), Utility Companies, and any other affected parties, at least 48 hours prior to the beginning of construction. Contact Mike Murphy, Assistant Director of Public Works at 972-450-2878, or Dave Wilde, Public Works Inspector at 972-450-2847.
- The contractor shall obtain a right-of-way permit from the Town of Addison for working within the public right-of-way.
- The contractor is responsible to contact any Utility Companies to locate existing facilities in or near the work areas. These include, but may not be limited to the following:
The Town of Addison
TULSG
Southwestern Bell
TCI Cable
AT&T
NCL
Brooks Cable
Explorers Pipeline
- Any existing pavement, curb, and/or sidewalks damaged or removed due to construction activity shall be repaired by the contractor at their expense.
- Lot pins shall be installed after construction and prior to final acceptance. Concrete monuments shall be placed as shown on the final plat and iron pins shall be placed at block corners, curve points, and angle points in public right-of-way. Concrete monuments shall be six (6) inches in diameter and twenty-four (24) inches long. An iron rod shall be placed in the center of the monument and shall be embedded at least three (3) inches into the monument at the exact intersection point of the monument. The monument shall be set at such an elevation that after construction, the top of the monument will be not less than twelve (12) inches below finished grade.
- The contractor shall stamp a 2-inch "W" and a 2-inch "S" in the curb at the location of the water and sewer service lines, respectively.
- At intersections that have valley drainage, the crown of the intersecting streets will culminate in a distance of forty (40) feet from the intersecting curb line, unless otherwise noted.
- Temporary or permanent barricades shall remain at all points of ingress or egress to prevent public use until such street receives final acceptance.
- During construction, the owner shall provide a qualified geotechnical lab to perform material testing during the construction, at the request of the Town of Addison.
- The contractor shall submit material sheets to the Town of Addison for approval, prior to incorporating materials into the job.
- The utility contractor shall submit to the Town of Addison, an approved trench safety plan, sealed by a professional engineer registered in the state of Texas, for the installation of utilities greater than five (5) feet in depth.
- All existing and proposed improvements (valves, manholes, fire hydrants, water meters, etc.) shall be adjusted to finished grade by the contractor.
- Any adjacent properties affected by the construction shall be restored to pre-construction condition, or better.

All fire hydrants installed for use in the Town of Addison shall meet or exceed AWWA Standard C 502-85 or the latest revision thereof. Rated working pressure shall be at least 150psi, test pressure shall be 300psi, and hydrant shall be capable of flowing 1000gpm (class A). All hydrants shall be manufactured in the United States and shall be manufacturer's best grade. Hydrant shall be warranted by the manufacturer for a minimum of 5 years. In addition, all hydrants shall include the following design criteria:

- General Design
 - 3-way style consisting of 2 opposing hose nozzles separated by 1 pumper nozzle, dry barrel type.
 - A clearly visible arrow and the word "OPEN" shall be cast in relief on the top of the hydrant. The hydrant shall be opened by turning the operating nut counter-clockwise.
 - Operating nut shall be all bronze, one piece, pentagon measuring 1 1/4" from point to flat and at least 1 1/2" in height.
 - Manufacturer name, size of main valve, and year of manufacture shall be cast in relief on the upper barrel section, and clearly visible to aid in the identification of repair parts.
 - Lower barrel shall have ground line markings cast in relief and clearly visible approximately 2" below flange to aid in proper installation.
 - "Traffic model" with upper and lower barrels joined approximately 2" above ground line by a separate and breakable "swivel" flange providing for 360 degree rotation of upper barrel for proper nozzle facing.
 - Shoe and barrel castings shall be fabricated of ASTM A-126, Class B Gray Iron or Ductile Iron ASTM A-536, but no combination thereof, assuring uniform strength of all cast components.
- Operation
 - Hose nozzles shall be 2 1/2" - 7.5" NS, pumper nozzle shall be 4" pumper gauge (40480) after the manner of City of Dallas and City of Carrollton Standards. Nozzle section shall allow for field replacement of damaged threads without special tools, excavation, or disturbing the ground joint line. Nozzles shall be fastened by mechanical means and secured to prevent nozzles from turning or backing out. Nozzle caps shall be provided with 1- 3/4" pentagon nuts at least 1 1/2" in height, a recess provided at the inner end of thread for gasket retention, and secured to the hydrant with non-kinking type chain made from stock not less than 1/8" in diameter. Center line of lowest nozzle shall be at least 18" above ground line.
 - Main valve closure shall be compression type, opening against line pressure and closing with the pressure. Main valve shall be 5 1/4" in diameter. A bronze seal ring shall thread into a bronze drain ring (or shoe bushing). This bronze seal ring shall be low zinc (less than 10%) to minimize galvanic corrosion. Design shall allow for removal of seal, drain valve mechanism, internal rod, and all working parts through the top of the hydrant without disturbing the ground line joint or the nozzle section of the hydrant.
 - Lubrication of the upper stem threads, operating nut threads, upper and lower thrust collar bearing surfaces, and O-ring stem seals shall be accomplished automatically as the hydrant is operated. Lubricant shall be low viscosity, non toxic, FDA approved oil. Oil reservoir shall be separated from waterway by two (2) O-rings.
 - The "traffic model" safety flange shall employ unweakened stainless steel hex head bolts (AWWA C 502, Sec. 3.2.17), and fasteners of sufficient strength to bear all test and operating pressures. The stem shall be 2-piece, not less than 1 1/4" in diameter (excluding threaded or machined areas) and shall be connected by a breakable stem coupling. The weakened portion of the coupling shall be below the coupling pins to eliminate failure due to excessive torque. All screws, pins, bolts, or fasteners used in conjunction with the coupling shall be of metal similar to that of stem to eliminate failure due to electrolysis and corrosion. The coupling joint shall be located below the top of the lower barrel to prevent vehicle wheel or other forces being applied to stem which would open the valve mechanism.
 - Drain system shall consist of two (2) valves feeding two (2) external discharges. Drain system shall be so designed as to provide for both automatic and intentional force flushing at full line pressure. Drain valve mechanism and outlet shall be all bronze.
 - The interior surfaces of the shoe and lower main valve components shall be epoxy coated in compliance with AWWA Standard C-550. The shoe and lower barrel shall be connected by stainless steel bolts, nuts, and fasteners of sufficient size and strength to bear all pressures and forces that the hydrant is subject to, including corrosion, for its warranted life.
 - Painting and Delivery
 - Hydrants shall be delivered with 2 coats of primer on upper barrel (AWWA C-502 Sec. 4.2.3). Interior and exterior shall be painted in an AWWA C-502 Sec. 4, excluding the interior of shoe which shall be as noted in Sec. 2.F of this specification.
 - Hydrants shall be complete in all details when supplied. Due and customary care shall be used in preparation for shipment to eliminate damage in handling or transit. Hydrants must be drained and completely closed before shipment.
 - Manufacturer shall supply an Affidavit of Compliance verifying that the hydrant and all materials used in its construction conform to the applicable requirements of the most current form of AWWA C502 and these supplementary specifications, that all specified tests have been performed, and that all test

CONCRETE SIDEWALK GENERAL NOTES:

- Reinforced concrete sidewalk shall be 5 or 7 feet wide, a minimum of four (4) inches thick and shall be 3000 psi at 28 days (5 sack mix). Unless noted otherwise.
- Chamfer all exposed edges of concrete (1/4) inch.
- All bar dimensions are given as center to center of bars and are located as shown.
- All reinforcing steel shall be No. 3 on 18 inch centers longitudinally, 24 inch centers transversely and shall conform to the requirements of ASTM A-615, Grade 60.
- 1" thick min. fine, washed sand cushion shall be free from organic materials or clays and shall be used for grade adjustment.
- Subgrade shall be compacted to a density not less than 95% at optimum moisture.
- Tooled joints (contraction joints) shall be on five (5) foot center and shall be round one-fourth (1/4) inch radius.
- A one-half (1/2) inch expansion joint shall be placed every eight (8) footed joints, and where works abut old work, or where new work is constructed adjacent to other concrete, a one-half inch expansion joint shall be used where sidewalk is adjacent to curb, the expansion joint shall be made of pre-molded bituminous expansion joint filler or redwood with silicone sealant. See specs.
- Sidewalks shall be finished by lightly brooming surface transversely to direction of main traffic or where adjacent sidewalks differ from this standard, new sidewalks shall conform to adjacent sidewalk (e.g. exposed aggregate).
- Cross slope walk one-fourth (1/4) inch per foot towards curb or as shown on the drawings to provide drainage.

STANDARD DETAIL SHEET

CITY OF ADDISON, TEXAS

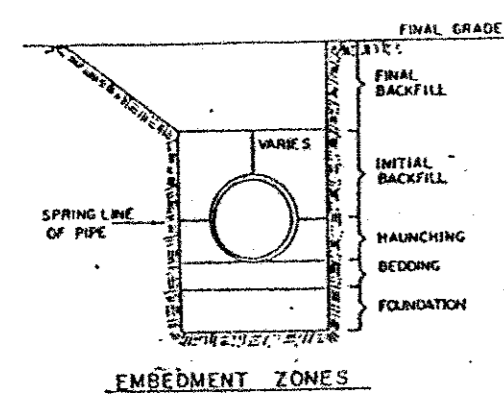
1601 SURVEYOR BOULEVARD

HENNESSEY ENGINEERING, INC.

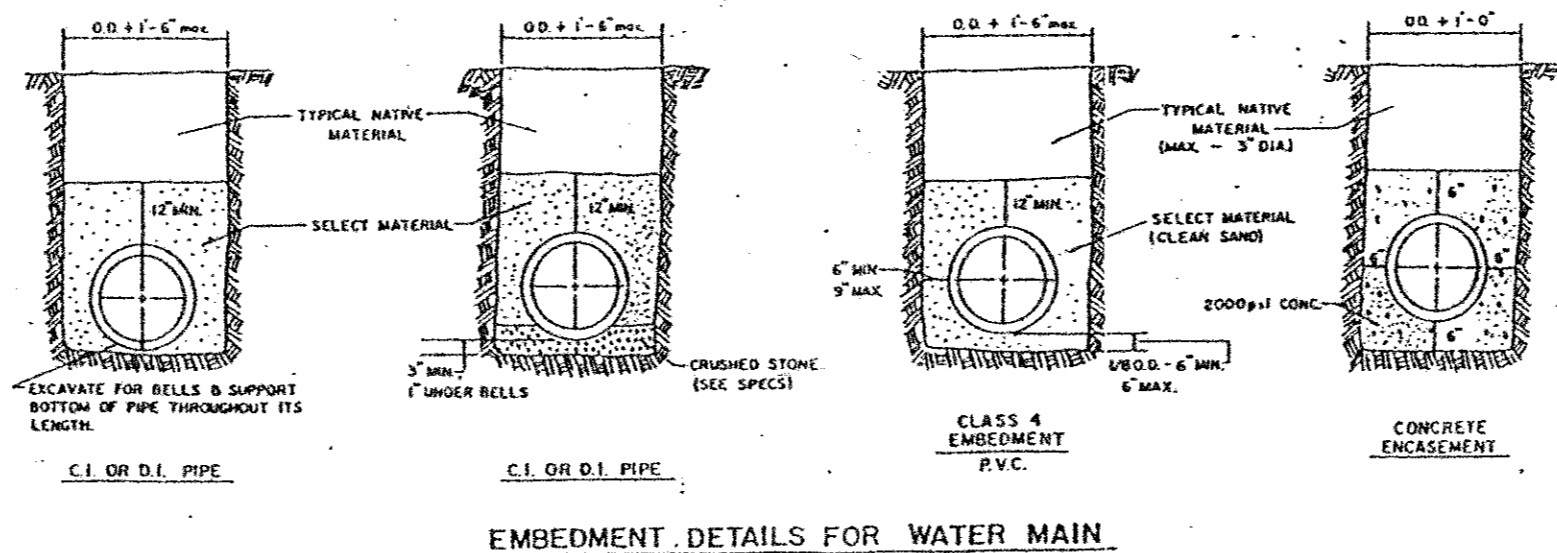
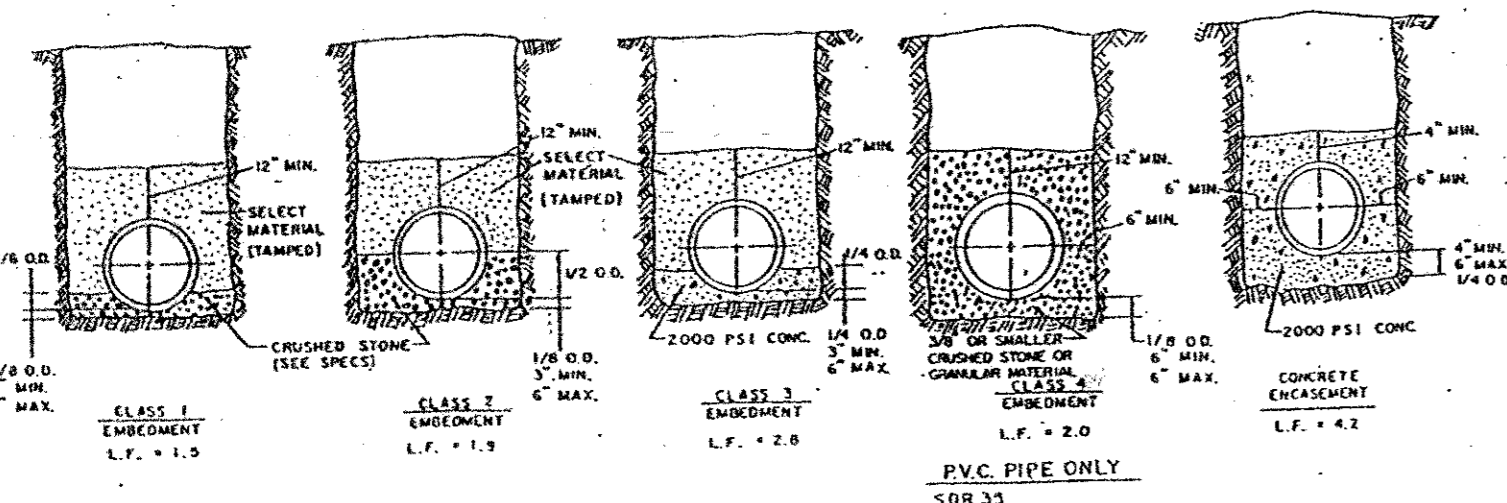
1417 W. MAIN STREET #100, CARROLLTON, TX 75006
TEL: (972) 245-9478 FAX: (972) 245-7087

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
		03-18-99	AS NOTED		9876	D-1

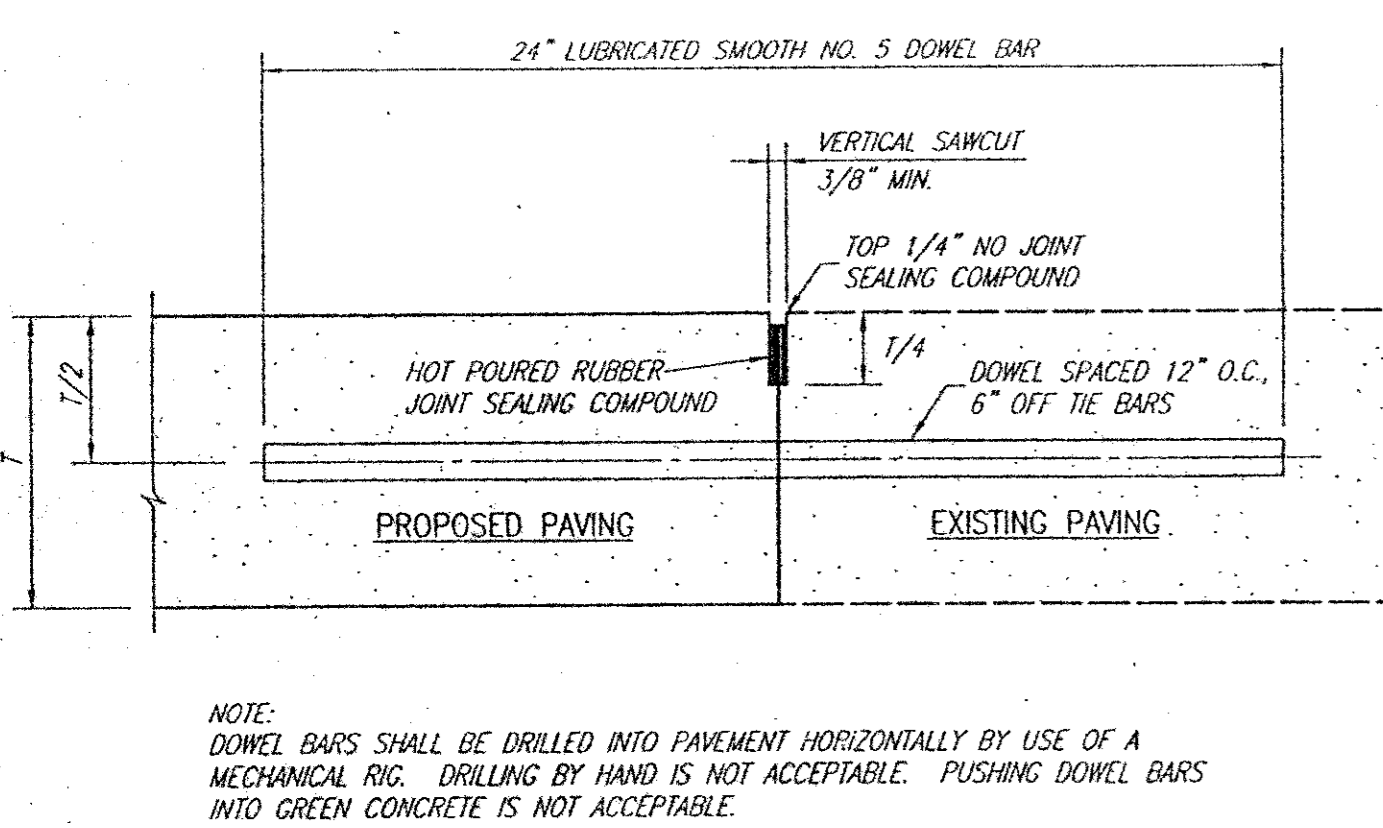
SANITARY SEWER



TYPICAL NATIVE MATERIAL COMBINED TO:
95% OPTIMUM MOISTURE @ TO 1% UNDER PAVEMENT
95% OPTIMUM MOISTURE @ TO 1% OUTSIDE CURB LINES
EXCEPT TO BE COMPACTED IN 2" LIFES
TYPICAL NATIVE MATERIAL (MAX. 3" DIA.):

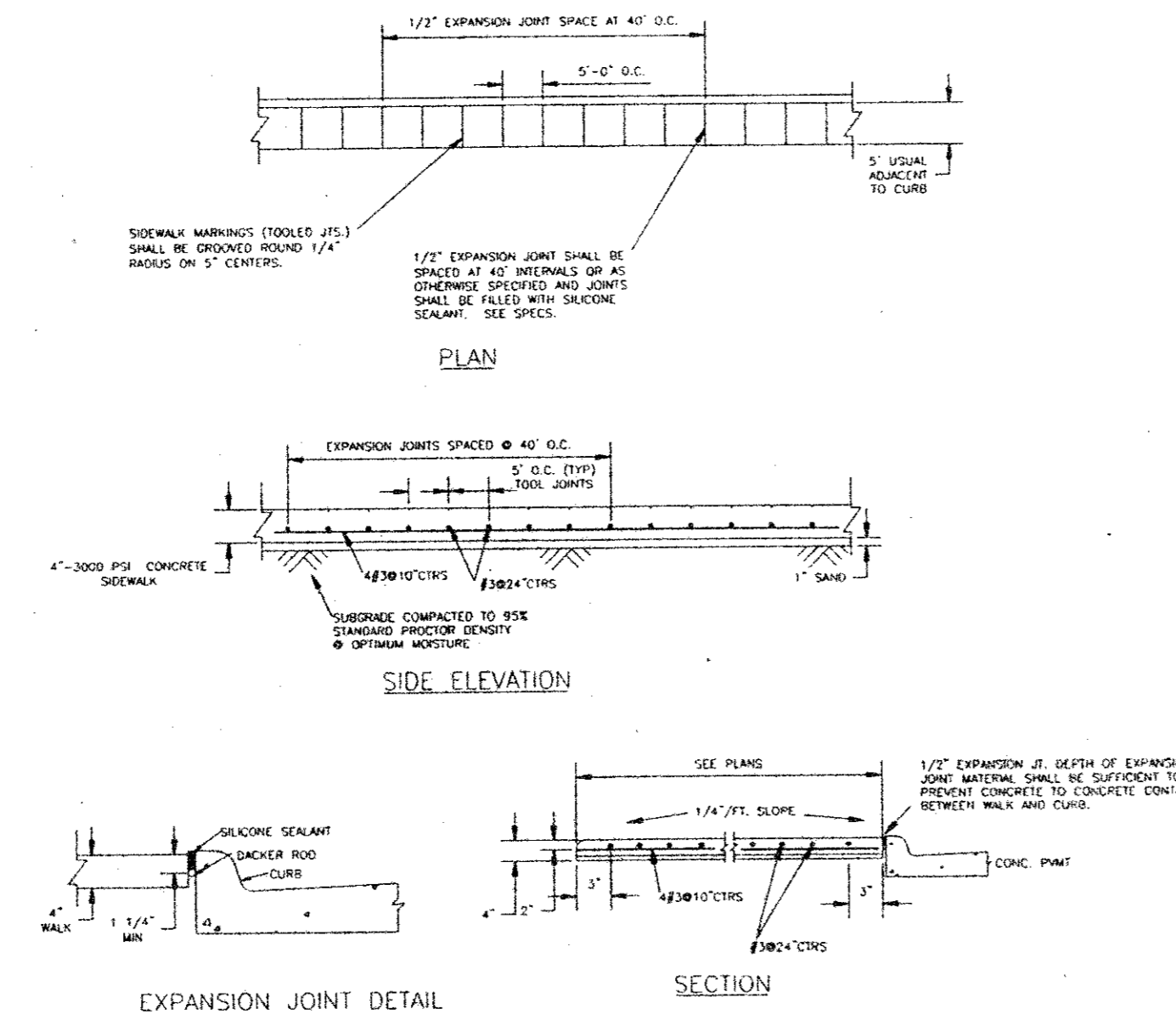


EMBEDMENT DETAILS FOR WATER MAIN



CONNECTION TO EXISTING PAVEMENT

NOT TO SCALE



CONCRETE SIDEWALK

Backflow Prevention Assemblies:

- All water services (except large fire services) shall have the appropriate BPA installed immediately after the meter. If there are space limitations or other considerations that would preclude installation in that location, the BPA may be installed inside a building or other location, but there may be no taps or tees into the service between the meter and the BPA. This must be approved by the Town of Addison Public Works Department prior to installation.
- All BPA's must be on the most current List of Approved Backflow Prevention Assemblies as published by the USC-FCCCHR.
- The appropriate BPA will be determined by the Town of Addison Utility Division, using the specific type of installation, i.e. FireLine, General, etc. Thereafter, it will be the responsibility of the party paying the water bill, to have the BPA tested as prescribed by the Town of Addison Utility Division based on type of device and Degree of Hazard. Reduced Pressure Zone Assemblies shall be tested at least annually.
- The plumber, contractor, and/or owner is responsible for having the BPA tested upon installation and initiation of service by a Tester certified according to TNRCC Rules for the specific type of installation, i.e. FireLine, General, etc. Thereafter, it will be the responsibility of the party paying the water bill, to have the BPA tested as prescribed by the Town of Addison Utility Division based on type of device and Degree of Hazard. Reduced Pressure Zone Assemblies shall be tested at least annually.
- All BPA's shall be installed according to manufacturer's specifications regarding clearances, orientation, etc.
- Stainless steel or brass plugs shall be placed in all test cocks after testing. The use of Teflon tape is necessary to facilitate removal of plugs for future testing of the device. Plumber's putty or pipe dope is unacceptable for this installation.
- Above ground installation is the preferred method, but if the device is placed in a meter box, the box must be of sufficient size to provide the proper clearances for accessing, testing, and repair of the device. All above ground installations shall be protected from freezing with apparatus designed for such use. In no case shall Reduced Pressure Zone Assemblies be permitted in a meter box or vault, or any other below grade installation.