

GENERAL CONSTRUCTION NOTES

- A. Prior to commencing construction, three sets of Approved Construction Plans (Civil Set) shall be provided to the Town of Addison Public Works Department. 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 the Assistant Director of Public Works or the Public Works Inspector at 972-450-2871.
B. The contractor shall obtain a Right-of-Way Permit from the Town of Addison prior to working within the public right-of-way.
C. It is the contractor's responsibility to contact any Utility Companies for location of existing facilities in or near the work areas. These include, but may not be limited to the following:
The Town of Addison, Comcast (AT&T), Oncor Gas and Electric, MCI WorldCom, SBC (Southwestern Bell), Brooks Cable, TC/Charter Cable, Explorer Pipeline.

PRIOR TO FINAL ACCEPTANCE BY THE TOWN OF ADDISON, THE FOLLOWING ITEMS SHALL BE COMPLETED:

- 1. The contractor, at their expense, shall repair any existing pavement, curb, irrigation system, landscaping, and/or sidewalks damaged or removed due to construction activity.
2. 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 one-half inch in diameter 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.
3. 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. A 2-inch "C" shall mark conduits crossing pavement, and a 2-inch "V" shall mark water valves, with the "point" of the "V" toward the valve.
4. All existing and proposed improvements (valves, manholes, fire hydrants, water meters, etc.) shall be adjusted to final finished grade by the contractor.
5. Any adjacent properties affected by the construction shall be restored to pre-construction in accordance with the plans and specifications approved by the Town of Addison.
6. A Registered Professional Engineer in the State of Texas shall certify that the project was constructed in accordance with the plans and specifications approved by the Town of Addison.
7. The owner shall provide one reproducible set, two blue line sets, and one electronic media (intergraph or AutoCAD) copy of dimensioned "As-Built" plans (dimensioned, dated, sealed and certified by a Registered Professional Engineer in the State of Texas).
8. A list of materials and opportunities included in the public infrastructure shall be submitted. Square footage of approaches and sidewalks shall be included in this list.
9. The contractor shall provide verification of completion of all required tests (pressure, bacteriological, backflow, vacuum, mandrel, VHS video of sanitary sewer, etc.).
10. A Maintenance Bond shall be submitted for the Public Infrastructure:
* 100% for valuations less than or equal to \$5,000.00
* \$5,000.00 for valuations > \$5,000.00 and < \$50,000.00
* 10% for valuations > \$50,000.00.
The Bond is typical submitted by the General Contractor, but may be also be submitted by the Property Owner. The Bond shall be for a period of one year beginning with the date of final acceptance by the Town.
11. The contractor shall call 972-450-2847 to request a walk-through inspection of the public infrastructure.
12. Water and sanitary accounts shall be set up with Utility Billing 972-450-7081 and all necessary deposits paid by the party responsible for the water services.
13. Issues identified during the final walk-through inspection that require revision, repair, or additional work may be addressed in a letter to the Town of Addison. The letter should be sent to the attention of the Assistant Director of Public Works, PO Box 9010, Addison, Texas 75001, on official letterhead (Owner/General Contractor) and will include a list of the items and the projected completion date. Upon receipt of said letter, the Public Works Inspector may sign off on a "temporary" Certificate of Occupancy provided there is no endangerment to health or safety.
14. Upon completion of all required work in a satisfactory manner, and receipt of all requirements listed above, the Public Works Inspector will sign off on the full Certificate of Occupancy. Other departments or agencies may have separate requirements not covered by the Public Works Department.

All new meters installed in the town of Addison shall be equipped with electronic encoder registers, programmed to read in thousand gallon increments, equipped with touch-pad readers.

Table with 3 columns: Connection fees, Domestic (potable) Use, and Meter sizes. Fees range from \$50.00 to \$1,200.00. Domestic use includes lawn irrigation, fire services, and backflow prevention assemblies.

- 1. All commercial unit applications for domestic use having flow demands greater than 160 g.p.m. shall employ either a compound type meter, or a single-jet meter, >2", and conforming to Town of Addison Specifications. Hersey MCTM are the accepted compound models at this time. Single-jet meters be Metron-Farmer Spectrum® meters.
Lawn Irrigation:
1. All irrigation services > 1.5" shall employ a Class 1 turbine, or single-jet type meter conforming to the above guidelines.
2. Less than 1.5" irrigation service may use disc meters, but Class 1 turbine or single-jet meters are preferred.
3. Connection fees are waived for irrigation services.

- Fire Services:
1. Less than or equal to 2" meters shall be a turbine, or single-jet meter as described above.
2. Greater than 2" shall employ either a Double Check Detector Assembly, or a Reduced Pressure Zone Detector Assembly. These assemblies shall be approved by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USC-FCCCHR), and installed in USC approved orientations and clearances.
3. Connection fees apply, see above.

- Backflow Prevention Assemblies:
1. All water services (except fire services >2", see above) 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. There may be no unprotected taps or tees into the service between the meter and the BPA. The Town of Addison Public Works Department must approve proposed installations prior to action installation. All installations shall comply with USC-FCCCHR approved orientations and clearances as found in the most recent edition of the Manual of Cross-Connection Control.
2. All BPA's must be on the most current List of Approved Backflow Prevention Assemblies as published by the USC-FCCCHR.
3. The appropriate BPA will be determined by the Town of Addison Utility Division, using the most current edition of the Manual of Cross-Connection Control as published by USC-FCCCHR as a guideline. Final determination rests with the Town of Addison.

- 4. 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 TCEQ Rules for the specific type of installation (i.e. Fireline, General). Thereafter, it will be the responsibility of the party doing the water bill, to have the BPA tested as determined 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.
5. Stainless steel, brass, or nylon/plastic plugs shall be placed in all test cocks after testing. The use of Teflon tape is required to facilitate removal of plugs for future testing of the device. Plumber's putty or pipe dope is unacceptable for this installation.
6. Double Check Valve Assemblies may be placed in a meter box, but the box must be of sufficient size to provide the proper clearances for accessing, testing, and repair of the device. All above ground device 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.

WATER SERVICE Sizes 3/4" - 2"

- Contractors and/or plumbers are responsible for compliance with the following specifications:
A. 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"-8" below finished grade.
B. 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"-6" of open space below the meter. Meter box shall be minimum 18" deep. (See Figure SM-1).
C. Meter boxes shall be large enough to allow access to, and operation of, all meter nuts/flanges/bolts, and the curb stop without obstruction.
D. Boxes that are vulnerable to vehicular traffic shall have load-bearing frames and lids with reader door designed to withstand the anticipated load.
E. Meters shall conform to Town specifications as to make and type (See General Requirements for Water Service). All meters shall be equipped with electronic encoder registers for connection to touch-pad readers.
F. An approved Backflow Prevention Assembly shall be installed on all water services after the meter, with a brass or copper nipple between the meter and the Assembly of sufficient length to allow placement in separate boxes. Both meter and assembly shall be accessible for testing and repairs. It is the responsibility of the contractor to have the Assembly tested upon installation by a TCEQ 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.
G. All companion flanges shall be elliptical brass, and all bolts & nuts shall be grade 316 stainless steel, 5/8"-11 x 2 1/2" hex head.
H. Meters shall be set level in all directions.
I. 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 strainer 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)
J. A meter deposit is required for all meters before initiation of service. The party responsible for the water bill will make application and deposit for service to the Town of Addison Utility Billing Department. (Call 450-7081)

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

- 1. Double-strap bronze tapping saddle with CC. (AWWA taper) threads: Mueller #BR2B, Ford #202B, or McDonald #3825. Top shall be set at 45° of vertical on the mainline.
2. Corporation stop with AWWA taper thread (CC) by conductive compression connection: Mueller H-15013 or B2500B (1.5", 2"), Mueller H-15008 or H2500B (3/4", 1"), Ford F81000 or F1000 (1.5", 2", -6-G, -7-G respectively), 3/4", 1", -3-G, -4-G, respectively), McDonald 4701T or 4701BT.
3. Pipe and meter size shall be determined by owner with approval of Building Inspection or Public Works/Engineering Department: Piping shall be continuous type "K" copper from corporation to curb stop.
4. 90° angle curb stop with lock-wing: Mueller H-1427T or B4227B (1.5", 2"), Ford KV43-688W-G or FV43-777W-G (1.5", 2"), Mueller H-1427T or B2425B (3/4", 1"), Ford KV43-332W-G or KV43-444W-G (3/4", 1"), McDonald 4646BT or 4606BT. All companion flanges (1.5", 2") shall be brass.
5. 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)
6. In-line curb-stops, meter yokes/setters, 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 Superintendent. No hand valves will be allowed on the inlet side of the meter.
7. The type of Backflow Prevention Assembly required shall depend upon the degree of hazard or potential hazard which exists. Contact Utility Superintendent for further information.
8. 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 by machine, with material free rocks and clods exceeding 3" in diameter. CAUTION! Inspection must be called for and completed prior to backfill, or top must be re-exposed by the contractor so that the Town's representative may complete the inspection.
Lawn Irrigation sprinklers are exempt from connection fees. Connection to an existing service will require a \$35.00 connection fee.

WATER SERVICE Sizes >2"

- Contractors, plumbers, and/or developers are responsible for compliance with the following specifications:
A. Provide and install mechanical joint tapping sleeves (such as Mueller H-615). Submittal and approval required if other.
B. Provide and install tapping valve to meet Addison specification GV-95.1, for resilient wedge gate valve.
C. Provide and install piping. Piping shall conform to ASNI/AWWA C-909-98 for Molecularly Oriented PVC Pressure pipe for water distribution. Pipe shall be 150-pal minimum class rating for domestic use, and 200-pal minimum class rating for fire line applications. Submittal and approval required, of other.
D. Fittings shall be ductile iron mechanical joint style, with restraining glands (such as Mega-Lug). Fittings shall be wrapped with 8-mil poly prior to backfill.
E. Pipe embedment shall conform to NCTCOG Class "B-2" or "B-4" (from Standard Specifications for Public Works Construction, Third Edition, Drawing 3020, 3030). Variations allowed with engineer's seal and approval of City Engineer.
F. Service meter or Fire Line DCD shall be placed in a pre-cast concrete vault with floor and access hatch. Hatch shall be "Bite"-type, aluminum, spring-assisted, lockable, and sufficiently sized to allow for removal of complete meter or assembly. Vault shall be placed within the public ROW, wherever possible, clear of vehicular traffic flow and/or parking areas.
G. All meters shall be equipped with electronic encoder registers and remote touch-ad reading devices. (See General Requirement for Water Service)
H. The meter and/or backflow assembly and piping shall be supported with manufactured supports designed for such application. (For clarification, reference Specification for Standon Pipe Supports as manufactured by Material Resources Co., Hillsboro, Oregon; 503-683-0727 - Models S89 or S82).
I. There shall be a flanged coupling adapter in-line on the inlet side of the meter or device.

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

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:

- 1. General Design
A. 3-way style consisting of 2 opposing hose nozzles separated by 1 pumper nozzle, dry barrel type.
B. 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.
C. Operating nut shall be all bronze, one piece, pentagon measuring 1 1/4" from point to flat and at least 1 1/4" in height.
D. Manufacturer name, size of main valve, and year of manufacturer shall be cast in relief on the upper barrel section, and clearly visible to aid in the identification of repair parts.
E. Lower barrel shall have proper line markings cast in relief and clearly visible approximately 2" below flange to aid in ground installation.
F. "Traffic model" with upper and lower barrels joined approximately 2" above ground line by a separate and breakable "swivel" flange providing for 360° rotation of upper barrel for proper nozzle facing.
G. 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.

- 2. Operation
A. Hose nozzles shall be 2 1/4" - 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 1-1/4" pentagon nuts at least 1 1/4" 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. Centerline of lowest nozzle shall be at least 18" above ground line.
B. Main valve closure shall be compression type, opening against line pressure and closing with the pressure. Main valve shall be 5 1/2" in diameter. A bronze seat ring shall thread into a bronze drain ring (or shoe bushing). This bronze shall be low-zinc (less than 18%) to minimize galvanic corrosion. Design shall allow for removal of seat, 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.
C. 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.
D. The "traffic model" safety flange shall employ unweakened stainless steel hex head bolts (AWWA C502, 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 threads 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 stainless steel. 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.
E. 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.
F. 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.

- 3. Painting and Delivery
A. 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 as in AWWA C-502 Sec. 4, excluding the interior of shoe which shall be as noted in Sec. 2.F of this specification.
B. 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.
C. 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 requirements have been met.
D. For purposes of clarification, hydrants accepted under this specification include: Mueller Super Centurion, AWK Nostalgic Style.

TOWN OF ADDISON SPECIFICATION #GV-95.1 RESILIENT SEATED GATE VALVES

All gate valves installed in the Town of Addison shall be of the resilient wedge type conforming to AWWA C509, Standard for Resilient Seated Gate Valves, in its most current revision. In addition, all valves shall include the following design criteria:

- 1. Wedge shall be cast or ductile iron, full encapsulated in synthetic rubber.
2. Wedge rubber shall be molded in place and permanently bonded to the iron without screws, rivets, or similar fasteners.
3. Wedge shall seat against seating surfaces arranged symmetrically about the centerline of the operating stem, so that seating is equally effective regardless of direction of pressure imbalance across the wedge.
4. Valves for underground installations shall be non-raising stem type, opening counter clockwise by means of a 2" square operating nut. Valves for installation in a vault shall be of the raising stem type opening counter clockwise by means of a hand wheel. The word OPEN and an ARROW indicating direction to open shall be cast in the metal of the nut or hand wheel.
5. Stem shall be sealed by at least two O-rings. All tam seals shall be replaceable with valve fully open and well subjected to full rated pressure.
6. All nuts and bolts shall be stainless steel.
7. Waterway shall be smooth and shall have no depressions or cavities in seat area where foreign material can lodge and prevent closure. Waterway shall be large enough to accept full size tapping cutter without damaging the interior of the valve.
8. Valve body and bonnet shall be epoxy coated, inside and out, with fusion-bonded epoxy. Coating shall conform to AWWA C550-90, Standard for Protective Interior Coatings for Valves and Hydrants.
9. Current list of approved Gate Valves: Mueller A2360, AFC 500, and AV series 25. Other valves may be submitted for consideration to the Town of Addison Engineering Department for verification of compliance to these specifications.

WATER AND SEWER SPECIFICATIONS

Water Mainline Piping

All mainline, fire line, and hydrant lead piping from 6-12 inches in diameter shall be AWWA C900-98 Molecularly Oriented PVC Pressure pipe (Class 150 min., Class 200 for fire lines) with Cast Iron O.D., or, when pipe penetrates meter vault walls it shall be Ductile Iron. Pipe joints shall be rubber ring and integral thickened bell, assembled with a factory supplied lubricant. Cast iron fittings shall be mechanical restrained joint (E8AA Iron "Mega-Lug" or equal) type, and poly-wrapped (8 mil) prior to backfill. Three-inch pipe for fire line services shall be AWWA C900-75, DR-14, Class 200, PVC.

Embedment

Embedment shall comply with NCTCOG Class "B+" embedment of crushed stone to the spring line of the pipe, with sand (12" min.) over the pipe. A layer of geo-textile fabric shall be placed on top of the stone prior to the placement of sand.

Tracer

Tracer wire shall be placed on pipe prior to embedment. Wire shall be #12 plastic coated copper wire, tied to all valves and fire hydrants, and extending to 6" above finished grade along the outside of all valve stacks and hydrants.

Backfill

Finish backfill shall be native soil free of all rocks and clods greater than 3" in diameter, compacted to 95% Standard Proctor Density, in 8" maximum loose lifts, with 0% to +3% Optimum Moisture. Trenches under pavement may be backfilled with "flowable fill" to the level indicated by the pavement thickness, pending the approval of the Town's Engineering Department. Submit a "batch design" for any flowable fill requests.

Service Taps

Service taps must meet Town of Addison Standards. See General Requirements for Water Service for water service details. All taps must be inspected prior to backfilling.

Sanitary Sewer Pipe

Sanitary sewer mainline piping shall meet the extra strength requirements of ASTM Specification D3034, or SDR35 PVC for installations less than 10' deep. For installations greater than 10' deep, SDR 26 PVC shall be used. Pipe shall have the bell and spigot type joints, consisting of integral wall section with factory installed compression rubber ring gasket, securely locked in bell groove to provide positive seal under all installation conditions. Pipe shall be laid with the bell end on the upstream side.

Fittings

Fittings shall be identical with the bell and spigot configuration of the pipe, and the same class rating.

Embedment

Mainline embedment shall be NCTCOG Class "B+", with the addition of a layer of geo-textile fabric prior to the placement of the sand, or as indicated on approved, engineered plans. Backfill shall be native material compacted 8" loose lifts to 95% Standard Proctor Density, with 0% to +3% Optimum Moisture, and free of any rocks or clods larger than 3" in diameter.

Connections at Manholes

Manholes are to be poured in place with 6 sack minimum concrete mix. Asbestos cement sleeves or approved equal with rubber ring joint shall be used at pipe penetrations to provide positive watertight seals. Connections at existing manholes shall be cored.

Sewer Taps

The contractor or plumber shall make all taps in new or existing sewer mains. Water must be pumped out of tapping trench throughout the operation to prevent inflow of groundwater into the sewer system. Service taps shall be made with standard eye fittings set at 45° of vertical. Lateral lines shall be SDR 35 PVC laid on 3/4" per foot minimum grade to the property line. A double clean out shall be placed at the property line, and set at finished grade with an 18" x 18" x 4" thick concrete locator pad poured in all non-pavement locations. Wyes, tees, and bends are to be encased in Class B concrete 6" thick. The Town must inspect tap prior to backfill operation. Backfill shall be 12" of sand placed by hand solely. After hand operation, the rest of the trench may be machine filled with select fill absent of any rocks or clods larger than 3" in diameter. Compaction in 8" loose lifts to 95% Standard Proctor Density, with 0% to +3% of Optimum Moisture.

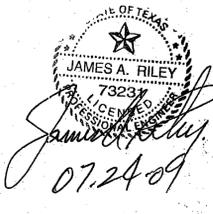
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GENERAL NOTES

AIRPORT WATER MAIN EXTENSION TOWN OF ADDISON DALLAS COUNTY, TEXAS

BROCKETTE • DAVIS • DRAKE, INC. Consulting Engineers

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