



## **WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY**

### **GENERAL CONSTRUCTION NOTES**

#### **CONTACT INFORMATION**

Facilities Owner: (name/address/phone)

West Travis County PUA

13215 Bee Cave Parkway Building 2, Suite 110

Bee Cave, Texas 78738

512/263-0100

jriechers@wtcpua.org

Land Owner: name/address/phone

Owner's representative responsible for plan alterations: name/phone Maintenance: Person or firm responsible for erosion/ sedimentation control

Contractor: name/address/ phone Maintenance:

Person or firm responsible for tree/natural area protection. Contractor: name/address/phone

#### **SPOILS MANAGEMENT AND DISPOSAL NOTES**

1. Temporary holding sites as necessary to stockpile excavated soils, embedment material, and/or piping and appurtenances may be located within the limits of construction as shown on the plans.
2. No permanent spoils disposal shall be allowed on-site, unless approved by the owner and governing authority.
3. All spoils materials shall be disposed of by the Contractor at an approved spoil disposal site. The Contractor shall be responsible for locating and securing a permit for the site; and shall notify the Owner and/or Engineer at least forty-eight (48) hours prior to disposal of any spoil material.

### **EROSION /SEDIMENTATION CONTROL NOTES**

Use latest City of Austin, City of Dripping Springs, City of Bee Cave, Travis County, Hays County Erosion/Sedimentation Control notes, as appropriate.

### **STANDARD TREE PROTECTION NOTES**

Use latest City of Austin, City of Dripping Springs, City of Bee Cave, Travis County, Hays County Erosion/Sedimentation Control notes, as appropriate

### **WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY (WTCPUA) NOTES**

#### **COVER SHEET NOTES**

1. The West Travis County Public Utility Agency is the \_\_\_\_\_ provider. Designate – water and/or wastewater provider, and if Retail or Wholesale customer.
2. \_\_\_\_ Number/size of meter(s) for domestic purposes only.  
\_\_\_\_ number/size landscape irrigation meter(s), as applicable.
3. WTCPUA does not guarantee fire flow.
4. A WTCPUA representative must be present at the time of connection to the existing system.
5. All water and wastewater infrastructure shall be constructed in accordance with City of Austin water and wastewater construction specifications and with materials from the current approved City of Austin Standard Products List (SPL).

### **WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY (WTCPUA) NOTES - to be placed on General Notes Sheet**

#### **HOURS OF CONSTRUCTION**

1. No work shall be done between the hours of 8:00 P.M. and 6:00 A.M; nor on Sundays or Legal Holidays without the written permission of the WTCPUA in each case, except such work as may be necessary for the proper care, maintenance and protection of the work already done or in the case of an emergency.

### **LIMITS OF CONSTRUCTION**

1. The limits of construction shall be bounded by the right of way line or permanent / temporary casement limits shown on the Plans. Limits of construction may be further restricted by placement of silt fence, tree protection fencing, or other appurtenances as shown on the Plans.
2. Limits of construction shall be clearly delineated by the Contractor by installing silt fence, orange tensor fencing (4 - foot roll tied to 6-foot posts set at 10-foot intervals) or other barriers as approved by the Engineer. All temporary barriers shall be removed at the end of the project.
3. Any areas outside the limits of construction disturbed by the Contractor shall immediately be restored to preconstruction condition.

### **SANITARY FACILITIES**

1. Provisions shall be made for necessary sanitary conveniences for the use of laborers on the work. The facilities must be properly secluded from public observation and shall be installed and maintained by the contractor.

### **PROTECTION OF BORE PITS**

1. Install barrier fencing (Tensor orange fencing or chain link fencing) to surround the bore pits. Barrier fencing shall remain in place at all times while the bore pit is open. Contractor shall be responsible for security and safety at the bore pits.

### **HORIZONTAL CONTROLS**

1. All linework shall be staked prior to construction with sealed cut sheets provided to the WTCPUA inspector prior to construction.

### **CONSTRUCTION SEQUENCING (modify to fit project)**

1. 48 hours prior to beginning any work, call the One-Call Board of Texas at 811 or 1-800-545-6005 for utility locations and obtain street cut permit for any work within city, county, and/or state right-of-way.
2. Install temporary erosion controls and tree/natural area protection fencing prior to preconstruction meeting and prior to any site clearing, grubbing, excavation, material stockpiling, or other construction operations.

3. Schedule and convene a preconstruction meeting including but not limited to the Owner's representative, Engineer, WTCPUA representative, Fire Department, City, County, TxDOT representative, and TCEQ representative, as applicable.
4. Install traffic control measures.
5. Contractor shall locate all existing utilities prior to initiating construction.
6. Rough cut water quality ponds and direct runoff to ponds to act as a sediment trap.
7. Remove and stockpile topsoil in areas as required.
8. Rough cut roads/site, as necessary.
9. Install all underground utilities. Contractor shall be responsible for coordinating with the WTCPUA when switching service to the WTCPUA system. It shall be the contractor's responsibility to provide materials/facilities to ensure service is maintained during switchover.
10. Complete all underground installations, including installation of sleeves.
11. Complete subgrade.
12. Complete 1<sup>st</sup> course base.
13. Complete final course base.
14. Lay pavement and/or complete any pavement repair.
15. Complete water quality ponds.
16. Complete permanent erosion control and site restoration.
17. Remove and dispose of temporary erosion controls.
18. Complete any necessary final dress up of areas disturbed by construction operations.

**TRAFFIC CONTROL NOTES (include if applicable)**

1. Plans shall indicate responsible agent for traffic control (Engineer or Contractor).
2. Contractor shall maintain reasonable local vehicular traffic throughout construction operations.

3. Contractor shall provide signs, barricades, flaggers, and other measures as required to allow for vehicular and pedestrian traffic to proceed safely with minimum inconvenience.
4. Signs, barricades, flaggers, and related work shall be in accordance with the Texas Manual on Uniform Traffic Control Devices and with the requirements of the governing city/county.
5. For any activity within TxDOT right-of-way, project must have a TxDOT permit. A copy of the TxDOT permit shall be provided to the WTCPUA prior to construction.

### **SWPPP NOTES**

This project is subject to the Texas Commission on Environmental Quality's (TCEQ) Texas Pollution Discharge Elimination System (TPDES) General Permit TXR150000 for Construction Activities. The General Permit requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP), which has been provided by the OWNER for use by the CONTRACTOR. The OWNER shall provide the OWNER'S Notice of Intent (NOI) and Notice of Termination (NOT) to the TCEQ. The CONTRACTOR'S responsibilities are as follows:

1. Maintain a copy of the SWPPP and a set of construction plans with the temporary erosion and sediment control plan at the Work site at all times.
2. File a Notice of Intent (NOI) and applicable payment to the TCEQ at least 2 days prior to site disturbance.
3. Post a copy of the OWNER'S and CONTRACTOR'S NOI forms at the Work site.
4. Sign the certification and obtain a signed certification statement from all Subcontractors responsible for implementing the erosion and sediment control measures which indicates that the CONTRACTOR and Subcontractor understands the permit requirements (forms are in the SWPPP)
5. Follow and comply with all aspects of the TPDES General Permit No. TXR150000. This includes but is not limited to field inspections and report, maintaining and repairing erosion controls and updating erosion controls and updating erosion control plan sheets based on field changes and modifications.
6. File a copy of the CONTRACTOR'S Notice of Termination (NOT) with the TCEQ once the work is completed in accordance with the TPDES general permit no TXR.150000 and has been accepted by the owner.

## **WTCPUA WATER & WASTEWATER GENERAL CONSTRUCTION NOTES**

1. All construction operations shall be accomplished in accordance with applicable state statutes and U.S. Occupational Safety and Health Administration regulations (O.S.H.A.). Copies of O.S.H.A. standards may be purchased from the U.S. Government printing office. Information and related reference materials may be obtained from O.S.H.A. Austin Area Office - La Costa Green Bldg 1033, La Posada Dr, Suite 375, Austin, Texas 78752-3832, 512-374-0271.
2. The attention of the contractor is directed to The City of Austin Standard Specifications and to the State Law, (Vernon's Annotated Texas Statutes, Article 1436 ©) and the need for effective precautionary measures when operating in the vicinity of electrical lines. The contractor is responsible for all safety requirements, and for coordination of all work with the appropriate electric utility company.
3. The Contractor shall contact the One-Call Board of Texas at 811 or 1-800-545-6005 for existing utility locations prior to any excavation. The location and type of utilities and underground facilities shown on these plans are not guaranteed to be accurate or all-inclusive. It is the Contractor's responsibility to locate and protect all existing utilities. The Contractor shall verify all depths and locations of existing utilities prior to any construction. In addition to normal precautions when excavating, use extra caution when excavating within 25 feet of any utilities shown on the plans.
4. The Contractor shall be responsible for all coordination between himself and other contractors and utilities in the vicinity of the project. This includes all water, wastewater, gas, electrical, telephone, cable television, and street and drainage work. Once the contractor becomes aware of a possible conflict, it is the contractor's responsibility to notify the engineer and WTCPUA inspector within twenty-four (24) hours.
5. The contractor shall be responsible for disposing of all spoil material from the construction site. All spoils material shall be disposed of by the contractor at an approved spoil site. The contractor shall be responsible for locating and securing a permit for the site. The contractor shall notify the WTCPUA inspector at least forty-eight (48) hours prior to disposal of the material. No spoils are to remain overnight in the floodplain.
6. No blasting or burning will be allowed.
7. It shall be the responsibility of the contractor to repair, at his expense, all utilities, pavement, curb, fences or any other items damaged during construction regardless of whether these items are shown on the construction plans.

8. Whenever existing utilities, indicated or not on plans, present obstructions to grade and/or alignment of proposed pipe, contractor is to immediately notify the engineer who will determine if existing improvements are to be relocated or if the grade and/or alignment of proposed pipe is to be changed.
9. Dust prevention shall be provided by the Contractor at his own expense. Dust control shall include spraying of water on all disturbed areas, spoil piles, or haul materials associated with the project or other methods approved by the WTCPUA.
10. Cleanup - upon completion and before making application for acceptance of the work, the contractor shall clean all streets and all ground occupied by him in connection with the work of all rubbish, excess materials, excess excavated materials, temporary structures and equipment. All parts of the work shall be left in a neat and presentable condition satisfactory to the WTCPUA and other governmental bodies having jurisdiction prior to submittal of the final payment.
11. The contractor shall maintain access to businesses and residences at all times. The contractor shall coordinate with property owners to minimize disruption of deliveries, parking, and other activities.
12. Dewatering, if necessary, shall be considered incidental to the work and shall not constitute a basis for additional payment.
13. The minimum depth of cover from top of pipe to finished grade for all water lines shall be four feet. Install lines to avoid high points.
14. Concrete shall be Class 'A' with a minimum 28-day compressive strength of 3,000 psi, unless otherwise noted.
15. Reinforcing steel shall be ASTM A 615M, Grade 60 unless otherwise noted.
16. All responsibility for the adequacy of these plans remains with the engineer who prepared them. In reviewing these plans, the WTCPUA must rely on the adequacy of the design engineer. Approval of these plans by the WTCPUA does not release the design engineer of these responsibilities.

#### **WEST TRAVIS COUNTY PUA WATER AND WASTEWATER UTILITY NOTES**

1. West Travis County PUA is the water and / or wastewater service provider for this project. A pre-construction meeting with the WTCPUA shall be held prior to commencement of construction to schedule inspection of installation of water/wastewater facilities. Water facilities will be inspected up to, and including, the water meter and/or fire hydrants. The

contact number for WTCPUA is (512) 263- 0100.

2. The City of Austin standard specifications and standard details current at the time of construction shall govern materials and methods used to perform this work. City of Austin Specifications and Standard Details are available at <https://library.municode.com/tx/austin/codes/>
3. Contractor shall obtain all approvals and permits, including but not limited to street/driveway cut and utility cut permits from the appropriate governmental agency before beginning construction within the right-of-way of a public street or alley.
4. The WTCPUA shall be contacted at (512) 263-0100 at least 48 hours before connecting to their existing water and/or wastewater facilities.
5. The Contractor shall contact the Austin Area "One Call" System at 811 or 1-800-545-6005 for existing utility locations prior to any excavation. In advance of construction, the contractor shall verify the location of all utilities to be extended, tied to, or altered, or subject to damage/inconvenience by the construction operations.
6. No other utility service/appurtenances shall be placed near the property line, or other assigned location designated for water and wastewater utility service that would interfere with the water and/or wastewater services.
8. Where water lines and sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution). Any deviation these standards shall require a variance approved by TCEQ before submitting piping assignments to the WTCPUA.
9. The City of Austin Specification item 509S will be required as a minimum trench safety measure. Contract documents, which include a trench safety plan signed and sealed by a Texas Professional Engineer and a pay item for trench safety measures, in compliance with OSHA, State, County, and City requirements before beginning work on the project.
10. All material tests, including soil density tests and related soil analysis, shall be accomplished by an independent laboratory funded by the owner in accordance with City of Austin Standard Specification Item 1804S.4.
11. Connections to existing WTCPUA water lines shall be made by cut-in tees in accordance with City of Austin Standard Specification Item 510.3(24). Isolation valves shall be installed on the ends of the cut-in tee, as necessary. A shut-out valve plan shall be provided showing the location of existing gate valves in the vicinity of the connection. The shut-out plan shall identify all affected property



owners. Contractor shall perform all work and shall furnish all materials, including draining and cutting into existing piping and connecting a new pipeline or other extension into the existing pressure piping, forming an addition to the potable water transmission and distribution network and performing necessary shutoffs. Contractor shall schedule all such connections in advance and such schedule shall be approved by the WTCPUA before beginning the work. At least 48 hours-notice shall be given to the WTCPUA prior to making the connection, and a representative from the WTCPUA shall be present when the connection is made. Pressure taps may be approved on a case-by-case basis. "Size on Size" taps will NOT be permitted. When approved, any taps shall be made by use of and approved full circle, gasketed cast iron or ductile iron tapping sleeve. Concrete blocking shall be placed behind and under all tap sleeves prior to making the pressure tap and the use of precast blocks may be used to hold the tap in its correction position prior to blocking. The blocking behind and under the tap shall have a minimum of 24 hours curing time before the valve can be reopened for service from that tap. The contractor shall notify the WTCPUA inspector a minimum of seventy-two (72) hours in advance for the WTCPUA to notify the affected customers. The WTCPUA shall be present while all work is performed to make the connection.

12. Thrust restraint shall be by metal thrust restraints in accordance with City of Austin Standard Specification Item 510.3(22).
13. Fire hydrants shall be set in accordance with City of Standard Specification Item 51S.3 E and shall be approved Fire Department or other appropriate party prior to installation. Fire hydrants on mains under construction shall be securely wrapped with a poly wrap bag and taped into place. The poly wrap will be removed when the mains are accepted and placed in service. Fire hydrants that are to be used as drain hydrants shall be painted silver w/ blue caps prior to acceptance. Where Storz adaptors are required (Hays County), fire hydrants shall be manufactured with integral Storz adaptors.
14. Water line testing and sterilization shall be performed in accordance with City of Austin Standard Specification Item 510.3(29) and/or TCEQ rules.
15. Test pressure for 2-hour test shall be at 175 psi at the lowest point in the line.

Note:

Prior to pressure testing, contractor shall verify that thrust blocking and/or thrust restraint back to and including the valve against which the pressure test shall be performed, has been installed to at least the specifications of this project. Failure to verify that thrust blocking and/or thrust restraint in the existing line meets or exceeds the specifications of this project may result in serious damage to the existing waterline.

16. Water lines shall be filled with water and all air expelled at least 24 hours before testing. All service laterals and drain valve leads, with the hydrant valves closed and nozzle caps open shall be included in the tests.
17. Contractor shall submit a Disinfection and Flushing Plan in accordance with AWWA standards to the WTCPUA for approval. Required flushing volumes, flushing schedule, and method of disposal of flush water shall be in accordance with the approved plan.
18. Gate valves shall be resilient seated gate valves conforming to AWWA C509, with a minimum rated working pressure of 250 psig.
19. Force main testing shall be performed in accordance with the City of Austin Standard Specification Item 510.3(27) and/or TCEQ rules.
20. Gravity sanitary sewer main testing shall be performed in accordance with the City of Austin Standard Specification Items 510.3(26) and/or TCEQ rules. In addition, all gravity sanitary sewer mains shall be televised prior to acceptance by WTCPUA. Digital files (via CD-ROM) clearly showing televised recording shall be submitted to the Engineer of Record following inspection.
21. Locator 'Finder' Wire - All non-metallic water lines shall have a finder wire located above the pipe. The wire shall be poly-insulated No. 10 solid copper and will terminate at each isolation valve such that it is accessible from the valve box.
22. Locator 'Finder' Wire - All non-metallic wastewater lines shall have a finder wire located above the pipe. The wire shall be poly-insulated No. 10 solid copper and will terminate at readily accessible locations throughout the collection system.
23. All valve risers shall have a 1'-6" square concrete box poured around them at finished grade.
24. All manholes shall be lined with a corrosion resistant lining approved by the WTCPUA.
25. Bolted and gasketed covers shall be used for all manholes located in the 100-year floodplain. Where there are more than three gasketed manholes in a row, vents shall be provided on every third manhole.
26. The downstream end of any force main shall be terminated in a sanitary sewer manhole in a manner to minimize turbulence.
27. Contractor shall have necessary Erosion and Sedimentation Controls in place prior to commencing water/wastewater facility construction.

28. Record drawings, as stipulated by the WTCPUA, shall be submitted to the Engineer of Record for verification and furnished to the WTCPUA upon completion of the project.
29. The WTCPUA will own and operate all water lines and appurtenances up to and including the water meter. These improvements will be defined by a recorded easement or in public right-of-way.
30. Any portions of wastewater lines including services that are located outside of a recorded easement or public right-of-way will be owned and maintained by the property owner, or his/her assigns.
31. Where existing water and/or wastewater infrastructure is to be abandoned, the engineer shall submit an abandonment plan for approval by the WTCPUA.
32. Water services shall be installed using HDPE pipe. Copper is not allowed.
33. For any storm sewer line crossing a water or wastewater line closer than 18", the storm sewer pipe shall be laid such that no storm sewer joints will be over the water pipe crossing.

**OTHER NOTES – Engineer is responsible for including all applicable notes, including but not limited to County, City, TxDOT, State, Fire Department, TCEQ (CZP, WPAP, Organized Sewage Collection System Notes, General Construction Notes). Engineer is responsible for ensuring the current adopted version of all notes is included in the construction plans.**

**TCEQ WATER DISTRIBUTION SYSTEM  
GENERAL CONSTRUCTION NOTES**

(Revised February 2019 or latest version)

1. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."
2. All newly installed pipes and related products must conform to American National Standards Institute (ANSI)/NSF International Standard 61 and must be certified by an organization accredited by ANSI [§290.44(a)(1)].

3. Plastic pipe for use in public water systems must bear the NSF International Seal of Approval (NSF-pw) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less [§290.44(a)(2)].
4. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply [§290.44(a)(3)].
5. All water line crossings of wastewater mains shall be perpendicular [§290.44(e)(4)(B)].
6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface [§290.44(a)(4)].
7. The maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent [§290.44(b)].
8. The contractor shall install appropriate air release devices with vent openings to the atmosphere covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent [§290.44(d)(1)].
9. The contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation [§290.44(f)(1)].
10. When waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the waterline shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested [§290.44(f)(2)].
11. Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.
  - The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$Q = \frac{LD\sqrt{P}}{148,000}$$

Where:

- Q = the quantity of makeup water in gallons per hour,
  - L = the length of the pipe section being tested, in feet,
  - D = the nominal diameter of the pipe in inches, and
  - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
- The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$L = \frac{SD\sqrt{P}}{148,000}$$

Where:

- L = the quantity of makeup water in gallons per hour,
  - S = the length of the pipe section being tested, in feet,
  - D = the nominal diameter of the pipe in inches, and
  - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
12. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(e)(1)-(4).
13. The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].
14. Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].
15. Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any

tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].

16. Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].
17. The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].
18. De-chlorination of disinfecting water shall be in strict accordance with current AWWA Standard C655-09 or most recent.