

## WASTEWATER NOTES:

1. The contractor shall maintain service to existing wastewater system at all times during construction.
2. A minimum of 8" wastewater pipe and fittings (P.V.C. SDR-26, ASTM, D-3034, D-3212, F-477) are required on new installation.
3. All residential wastewater service laterals shall be extended to the property line and a cleanout shall be installed at the property line. Services to lots will extend four (4) feet past the underground electric conduit if electric is installed in the front easement. All sewer cleanouts that lead to NBU mains shall be installed with a protective utility shroud and pivoting marker pole during time of construction.
4. Pipe bedding of wastewater lines shall be manufactured sand or pea gravel as per NBU specifications.
5. Secondary backfill of wastewater lines shall generally consist of materials removed from the trench and shall be free from brush, debris and trash, no rocks or stones having any dimension larger than 6 inches at the largest dimension.
6. All wastewater pipes shall have compression or mechanical joints as per 30 TAC §217.53 (c) (2).
7. For wastewater lines less than 24" in diameter, select initial backfill material shall be placed in two lifts.
  - a. The first lift shall be spread uniformly and simultaneously on each side and under the shoulders of the pipe to the mid point or spring line of the pipe.
  - b. The second lift shall be placed to a depth as shown on the pipe backfill detail. For pipes larger than 24", 12" maximum lifts shall be used.
8. All manholes must be water tight, either monolithic, cast-in-place concrete structures or prefabricated manholes specifically approved by NBU. The manholes shall have water-tight rings and covers. Wherever they are within the 100 year floodplain, the manhole covers shall be bolted. Every third manhole in sequence shall have an alternate means of venting. 30 TAC §213.5 (c) (3) (A) and 30 TAC §217.55 (o).
9. All manholes shall be constructed so that the top of the ring is two inches (2") above surrounding ground except when located in paved area. In paved areas, the manhole ring shall be flush with pavement.
10. All new manholes, unless approved by NBU Engineering, are to have covers with 32" openings.
11. Wastewater pipe connections to pre-cast manholes will be compression joints or mechanical "boot type" joint as approved by NBU.
12. Wastewater lines shall be tested from manhole to manhole.
13. In areas where a new wastewater manhole is to be constructed over an existing wastewater system, it shall be the contractor's responsibility to test the existing manholes before construction. After the proposed manhole(s) has been built, the contractor shall re-test the existing system to the satisfaction of the construction inspector. (no separate pay item).

14. Where the minimum 9 foot separation distance between wastewater lines and water lines / mains cannot be maintained, the installation of wastewater lines shall be in strict accordance with TCEQ. The wastewater line shall be constructed of cast iron, ductile iron or PVC meeting the ASTM specification for both pipes and joints of 150 psi and shall be in accordance with 30 TAC §217.53 (d) (3) (A) (i).
15. No testing will be performed prior to 30 days from complete installation of the wastewater lines. The following sequence will be strictly adhered to:
  - a. Pull mandrel
  - b. Perform Air test
  - c. Cleaning of any debris
  - d. Flushing of system
  - e. TV Inspection (within 72 hours of flushing)
16. A minimum of 3 feet of cover is to be maintained over the wastewater main and laterals at subgrade, otherwise concrete encasement will be required.
17. Wastewater main connections made directly to existing manholes will require successful testing of the manhole in accordance with NBU Connection & Construction Policy Manual.
18. TCEQ and EPA require erosion and sedimentation control for construction of wastewater collection systems. Developer or authorized representative shall provide erosion and sedimentation control as notes on the project's plan and profile sheets. All temporary erosion and sedimentation controls shall be removed by the Contractor at final acceptance of the project by NBU Water Systems.
19. All manholes not within paved streets shall have locking concrete collar to secure ring and cover to manhole cone per NBU Detail drawing #329.
20. All manholes over the Edwards Aquifer Recharge Zone shall have locking concrete collar to secure ring and cover to manhole cone per NBU detail drawing #329.