

SANITARY SEWER NOTES:

1. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH WKUD'S STANDARD SPECIFICATIONS. IF CONFLICTS ARISE DURING CONSTRUCTION, CONSULT WITH WKUD'S INSPECTOR AS TO NECESSARY FIELD CHANGES. WKUD RESERVES THE RIGHT TO MODIFY THE MATERIAL OR CONSTRUCTION REQUIREMENTS IF SUCH CONFLICTS ARISE.
2. THE LOCATIONS OF THE EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE. CONTRACTOR TO REFERENCE PLANS AND COORDINATE WITH THE UTILITY OWNER TO DETERMINE THE ACTUAL FIELD LOCATION. UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, AT 1-800 - 351-1111.
3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS TO NOTIFY THEM OF WORK IN THE AREA AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY. NOTIFICATION SHALL BE GIVEN AT LEAST THREE BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.
4. PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD THE EXISTING UTILITIES FROM DAMAGE DURING THE CONSTRUCTION OF THIS PROJECT. FURNISH ANY SPECIAL EQUIPMENT REQUIRED TO WORK OVER AND AROUND THE UTILITIES.
5. WKUD REQUIRES 24" OF HORIZONTAL SEPARATION AND 12" OF VERTICAL SEPARATION FROM OTHER UTILITIES IF THEY ARE INSTALLED ALONGSIDE THE SEWER MAINS, AND THEY SHOULD NOT BE CONSTRUCTED IN THE SAME TRENCH.
6. HORIZONTAL SEPARATION BETWEEN WATER AND SANITARY SEWER LINES SHALL BE 10 LF. IF 10 LF OF SEPARATION IS NOT AVAILABLE, THE SEWER SHALL BE INSTALLED UNDERNEATH THE WATER LINE WITH A MINIMUM OF 18" OF SEPARATION BETWEEN THE OUTSIDES OF THE PIPES.
7. NO BUILDINGS, BUILDING FOOTERS, OR OTHER PERMANENT STRUCTURES ARE TO BE CONSTRUCTED WITHIN THE 15 FEET UTILITY EASEMENTS (7.5 FEET EACH SIDE OF INSTALLED LINE).
8. TRENCH DESIGN AND SAFETY FOR PIPELINE CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM WITH ALL APPLICABLE LOCAL, STATE, AND OSHA REGULATIONS.
9. THE STONE BEDDING AND BACKFILL SHALL BE DONE IN STRICT COMPLIANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS, BUT MUST COMPLY WITH WKUD'S SPECIFICATIONS.
10. UTILITIES SHALL BE INSTALLED AFTER GRADING IS COMPLETED AND APPROVED AND BEFORE ANY PAVEMENT IS INSTALLED.
11. CONTRACTOR SHALL TAKE SPECIAL CARE TO BED, BACKFILL, AND COMPACT PIPE CROSSINGS WHERE A SANITARY SEWER MAIN CROSSES WITH STORM SEWERS. CROSSING SHALL BE CONSTRUCTED WITH A WELL COMPACTED FULL STONE (#57) 6" ENVELOPE SUCH THAT STORM SEWER DOES NOT BEAR DIRECTLY ON SANITARY SEWER MAINS.
12. ALL SANITARY SEWER LINES AND APPURTENANCES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH WKUD'S STANDARD SEWER SYSTEM SPECIFICATIONS.
13. ALL WORK MUST BE INSPECTED BY WKUD PRIOR TO BACKFILLING.
14. ALL SANITARY SEWER LINES SHALL BE SDR 26 PVC OR PROTECTO 401 LINED CLASS 350 DIP, (MIN.) UNLESS NOTED OTHERWISE.
15. ALL LOW-PRESSURE FORCE MAINS SEWER LINES SHALL BE HDPE SDR 11.

16. DUCTILE IRON PIPE PROTECTO 401 LINED PRESSURE CLASS 350 SHALL BE USED ON DEPTHS GREATER THAN 16 FEET, FOR CREEK CROSSING WITH STEEL CASINGS, AND FOR ROAD BORES WHERE STEEL CASING IS USED.
17. ANY SANITARY SEWER MAIN OR SERVICE LATERAL THAT DISCHARGES AT A HEIGHT GREATER THAN 1.99 FEET ABOVE THE MANHOLE INVERT REQUIRES A DROP CONNECTION. DROP CONNECTION SHALL BE "INSIDE DROP SYSTEM" BY RELINER OR EQUAL. INSTALLED PER WKUD'S SPECIFICATIONS.
18. ALL SEWER SERVICE LATERALS SHALL BE INSTALLED WITH A MINIMUM 1% SLOPE. CLEANOUTS IN PAVEMENT SHALL HAVE SOLID BRASS, THREADED, TRAFFIC-RATED CAPS. EFFORTS SHOULD BE MADE TO PLACE CLEANOUTS IN UNPAVED AREAS WHERE POSSIBLE.
19. ALL 6" CLEANOUT SHALL BE CONNECTED TO THE SERVICE WITH A DOUBLE SWEEP TEE (SDR 26 PVC GPK OR APPROVED EQUAL).
20. ALL SANITARY SEWER LINES SHALL HAVE A MINIMUM OF 36" COVER. UNDER ROADWAYS AND CROSSINGS, SEWER SHALL HAVE A MINIMUM OF 48" COVER AND IF 48" IS NOT AVAILABLE, THEN DUCTILE IRON PIPE MUST BE USED, PROTECTO 401 LINED CLASS 350 (MIN).
21. GRAVITY SEWER PIPE DEFLECTION AND ALIGNMENT SHALL BE CHECKED AFTER BACKFILLING AND COMPACTION ARE COMPLETE AND PRIOR TO PLACING THE MANHOLE BASE. TEST DEFLECTION WITH A MANDREL OR OTHER APPROVED METHOD.
22. PIPE WITH DEFLECTION OF 5% OR GREATER OR WITH UNDUE MISALIGNMENT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
23. PIPE IS MEASURED IN TERMS OF HORIZONTAL LENGTH COMPLETE IN PLACE, REGARDLESS OF TYPE, DEPTH, CLASS, SHAPE, AND SIZE AS MEASURED ALONG THE CENTERLINE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE (NO DEDUCTIONS FOR STRUCTURES). ACTUAL QUANTITY OF PIPE MAY VARY. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE NECESSARY QUANTITY OF PIPE TO CONSTRUCT THE COMPLETE SYSTEM AS SHOWN. INSTALLATION INCLUDES EXCAVATION, SHORING, FURNISHING, AND INSTALLATION OF PIPES, JOINT MATERIALS, COUPLINGS, AND BACKFILL.
24. A RUBBER BOOT CONNECTOR ("A-LOK" OR APPROVED EQUAL. "Z-LOK" OR APPROVED EQUAL REQUIRED IF PIPE SLOPE IS GREATER THAN 10%) SHALL BE FITTED WITHIN EACH PRECAST CONCRETE MANHOLE FOR EACH SANITARY SEWER MAIN OR LATERAL CONNECTING TO A MANHOLE. EACH TAP TO AN EXISTING MANHOLE TO BE MECHANICALLY CORED AND A "KOR-N-SEAL" (OR APPROVED EQUAL) PIPE ENTRANCE SHALL BE PROVIDED.
25. ADJUST TOP OF CASTING (TC) ELEVATIONS (ALL SIDES) FLUSH WITH FINAL GRADES TO MATCH CROSS SLOPES AND LONGITUDINAL SLOPES.
26. INSTALL FITTINGS (FOR SERVICE LATERALS) AS REQUIRED TO AVOID CONFLICTS WITH EXISTING AND PROPOSED UNDERGROUND CONFLICTS AND OBSTRUCTIONS.
27. GROUT INSIDE MANHOLE JOINTS WITH NON-SHRINK GROUT. ALL EXTERIOR JOINTS TO BE WRAPPED WITH BUTYL AND CON-SEAL WRAP, APPLIED WITH PRIMER TO WKUD STANDARDS.
28. BOLT ALL MANHOLE FRAMES TO CONES WITH 4, 3/4" STAINLESS STEEL WEDGE ANCHORS.
29. FOR SEWER PIPES WITH SLOPES GREATER THAN 15% USE CONCRETE PIPE ANCHORS AS SPECIFIED BY THE MANUFACTURER.
30. GRINDER PUMP INSTALLER SHALL OBTAIN "EONE RESIDENTIAL GRINDER PUMP STATION INSTALLATION REQUIREMENTS" DRAWING FROM WKUD PRIOR TO CONSTRUCTION.

31. ALL LOW-PRESSURE SEWER SERVICE LATERALS INSTALLED UNDER A PAVED SURFACE SHALL BE SLEEVED.
32. OFFSITE SEWER SHALL BE MARKED WITH GREEN CARSONITE MARKERS EVERY 250 FT.
33. INSTALL LOW PRESSURE FORCE MAIN SEWER LINES AT POSITIVE GRADE BETWEEN DESIGNATES HIGH POINTS AND LOW POINTS TO PREVENT TRAPPING OF AIR.
34. ALL TESTING SHALL BE COMPLETED IN ACCORDANCE WITH THE PROJECT SPECIFIC SPECIFICATIONS OR WKUD'S STANDARD SPECIFICATIONS. REFER TO THE FOLLOWING WKUD STANDARD SPECIFICATION SECTIONS:
 - A. SECTION 02530: GRAVITY SEWER PIPING, PARAGRAPH 3.16 – TESTING
 - B. SECTION 02531: SEWAGE FORCE MAINS, PARAGRAPH 3.13 – TESTING
 - C. SECTION 02532; SANITARY SEWER MANHOLES, FRAMES, AND COVERS, PARAGRAPH 3.10 - TESTING