

NOTES:

1. CONSTRUCTION OF IMPROVEMENTS SHALL BE IN ACCORDANCE WITH OAK LODGE WATER SERVICES (OLWS a.k.a. DISTRICT) DEVELOPER EXTENSION AGREEMENT (as applicable), DISTRICT STANDARD DETAILS AND THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, MOST CURRENT EDITION, AS ISSUED BY THE OR. STATE DEPT. OF TRANSPORTATION.
2. A PRE-CONSTRUCTION CONFERENCE IS REQUIRED PRIOR TO CONSTRUCTION AND 48 HOURS ADVANCE NOTIFICATION OF THE LOCAL MUNICIPALITY, OLWS AND ALL AFFECTED UTILITY COMPANIES PRIOR TO THE ACTUAL START OF WORK.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH THE PROVISIONS OF THE ROAD OPENING PERMIT AS ISSUED BY CLACKAMAS COUNTY.
4. LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY, LOCATE AND PROTECT ALL UTILITIES WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING OR REPAIRING ANY UTILITIES DAMAGED DURING CONSTRUCTION. SHOW THESE UTILITIES ON THE AS-BUILTS. IF A UTILITY IS DAMAGED, THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANY IMMEDIATELY.
5. SANITARY MAIN TRENCH SECTION AND ALL EXCAVATED AREAS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE STANDARD DETAILS, THE ROAD OPENING PERMIT, AND WITH SECTION 01140.40 OF THE STANDARD SPECIFICATIONS. COMPACTION TESTING SHALL BE REQUIRED DURING BACKFILLING OPERATIONS WITHIN ALL ROADWAYS AND AT THE DISCRETION OF THE DISTRICT. IF TRENCH BACKFILL DOES NOT MEET COMPACTION REQUIREMENTS, CONTRACTOR SHALL EXCAVATE, RECOMPACT AND RETEST MATERIAL AT CONTRACTOR'S EXPENSE.
6. RESTORATION OF DAMAGED ROAD SURFACING SHALL BE IN ACCORDANCE WITH CLACKAMAS COUNTY REQUIREMENTS. ALL OTHER AREAS SHALL BE RESTORED TO ORIGINAL CONDITION OR AS DIRECTED BY THE DISTRICT. THIS INCLUDES SHOULDERS, LANDSCAPING, WALLS, DRIVEWAYS, FENCES AND OTHER IMPROVEMENTS.
7. POLYVINYL CHLORIDE PIPE (PVC) SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034, SDR 35, AND JOINT TYPE SHALL BE ELASTOMERIC GASKET CONFORMING TO ASTM D-3212.
8. MANHOLES TO BE PRECAST CONCRETE SECTIONS WITH MINIMUM INSIDE DIAMETER OF 48-INCHES, CONFORMING TO THE REQUIREMENTS OF ASTM C-478, EXCEPT AS NOTED ON THE PLANS.
9. POLYVINYL CHLORIDE PIPE (PVC) SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. PVC SEWER PIPE SHALL BE CONNECTED TO CONCRETE MANHOLES BY MEANS OF A KOR-N-SEAL BOOT (OR EQUIVALENT). SAND COLLARS WILL NOT BE ACCEPTED.
10. AFTER THE CONTRACTOR HAS BACKFILLED THE PIPE ZONE OF THE TRENCH AS REQUIRED, HE SHALL THEN BACKFILL THE BALANCE OF THE TRENCH, WITH THE TYPE OF BACKFILL SPECIFIED, IN ONE FOOT (1') LAYERS, MECHANICALLY COMPACTING EACH LAYER TO 95% OF MAXIMUM DENSITY IN ROADWAYS AND 85% TO 90% IN ALL OTHER AREAS. MAXIMUM RELATIVE DENSITY SHALL BE DETERMINED PER AASHTO T-180. IN PLACE, DENSITY SHALL BE DETERMINED PER AASHTO T-191, T-205 OR T-238. ANY SUBSEQUENT SETTLEMENT OF THE TRENCH OR DITCH DURING THE GUARANTEE PERIOD SHALL BE CONSIDERED TO BE THE RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO THE DISTRICT OR THE OWNER.
11. SANITARY SEWER PIPE AND APPURTENANCES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH OLWS STANDARDS. LEAKAGE TESTS INCLUDE AN AIR TEST OF THE SEWER MAINS AND SERVICE CONNECTIONS AND VACUUM TEST OF THE MANHOLES. ANY PORTION OF THE SEWER WHICH FAILS TO PASS THESE TESTS SHALL BE EXCAVATED, REPAIRED OR REALIGNED, AND RETESTED. IN ADDITION TO LEAKAGE TESTING, SANITARY SEWERS CONSTRUCTED OF PVC SEWER PIPE SHALL BE DEFLECTION TESTED AFTER THE TRENCH BACKFILL AND COMPACTION HAS BEEN COMPLETED. THE TEST SHALL BE CONDUCTED BY PULLING AN APPROVED SOLID POINTED MANDREL 95% OF THE INSIDE DIAMETER THROUGH THE PIPELINE ON A MANHOLE TO MANHOLE BASIS. IN ADDITION, ALL MAIN LINES MUST BE VIDEO INSPECTED, AND A VIDEO RECORD ON A FLASH DRIVE MUST BE SUBMITTED TO OLWS. NOTE THAT ALL TESTS AND THE VIDEO INSPECTIONS MUST BE PERFORMED IN THE PRESENCE OF THE OLWS INSPECTOR.
12. UNLESS OTHERWISE SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER, EACH SERVICE CONNECTION SHALL BE LAID IN A SEPARATE TRENCH ON A STRAIGHT LINE AND GRADIENT FROM THE TEE TO THE END OF THE SERVICE CONNECTION. THE SERVICES CONNECTION SHALL BE INSTALLED PERPENDICULAR TO THE MAIN LINE AND MUST HAVE A MINIMUM OF 5 FEET OF COVER IN ALL PARTS OF THE ROAD RIGHT OF WAY AND UTILITY EASEMENT. NO SERVICE CONNECTION SHALL BE LAID ON A SLOPE OF LESS THAN TWO PERCENT, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR SHOWN ON THE PLANS. THE ENGINEER WILL PROVIDE A CUT STAKE AT THE TERMINAL POINT OF EACH SERVICE CONNECTION. THE CONTRACTOR WILL USE A PIPE LASER TO ACHIEVE CORRECT GRADE AND ALIGNMENT. EACH SERVICE CONNECTION SHALL BE PLUGGED WITH A RUBBER RING PLUG. A 2 X 4 MARKER PAINTED GREEN SHALL BE PLACED AT THE END OF EACH SERVICE CONNECTION, AND SHALL EXTEND FROM THE END OF THE PIPE TO A POINT THREE FEET (3') OR MORE ABOVE THE SURFACE OF THE GROUND. A DETECTABLE GREEN MAGNETIC TAPE WITH THE WORD "SEWER" AT REGULAR INTERVALS SHALL BE PLACED ALONG THE SERVICE CONNECTION FROM THE MAINLINE TEE TO THE GROUND SURFACE. EACH SERVICE CONNECTION MUST HAVE A CLEAN OUT WITH A TRAFFIC-RATED BOX LOCATED AT THE EDGE OF THE ROAD RIGHT-OF-WAY OR UTILITY EASEMENT.
13. IN EASEMENT AREAS ALL MANHOLES SHALL HAVE TAMPER-PROOF LIDS PER OLWS SPECIFICATIONS, OR APPROVED EQUAL. IN EASEMENT AREAS MANHOLE FRAMES SHALL BE INSTALLED A MINIMUM OF 6" ABOVE THE SURROUNDING GRADE.
14. THE CONTRACTOR SHALL AT ALL TIMES PROVIDE AND MAINTAIN AMPLE MEANS AND DEVICES TO REMOVE AND DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION DURING THE PROCESS OF LAYING THE PIPE. WATER AND DEBRIS SHALL NOT ENTER INTO THE DISTRICT'S SEWER SYSTEM. WATER AND DEBRIS SHALL BE DISPOSED OF IN AN APPROVED MANNER.
15. THERE MUST BE A MINIMUM OF 5 FEET OF CLEAR HORIZONTAL SEPARATION BETWEEN A WATER MAIN AND A SANITARY LINE. THERE MUST BE A MINIMUM OF 5 FEET OF CLEAR HORIZONTAL SEPARATION BETWEEN A WATER SERVICE AND A SANITARY LINE.



**SANITARY SYSTEM STANDARD DRAWING**

**SANITARY SEWER  
CONSTRUCTION NOTES**

NO.	REVISIONS	DATE	BY
1	TITLE and NOTES 5, 8, 9, 11, 12, 13, 15	1/9/2019	HSO
2	NOTE 15, SPACING REQ	12/14/2020	HSO
3	NOTES 11, 13	3/5/2024	TAP
4			

DRAWING NO.

**301**

DATE: 9/12/2017

SCALE: NTS