## FSD GENERAL SERVICE PLAN NOTES

THE CONTRACTOR SHALL NOTIFY THE FOUNTAIN SANITATION DISTRICT OFFICE (719-382-5303) A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

GENERAL:

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL MEET FOUNTAIN SANITATION DISTRICT STANDARD SPECIFICIATIONS.

2. FOUNTAIN SANITATION DISTRICT DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS OF EXISTING PIPELINES, MANHOLES, AND SERVICE LINES. IF FIELD CONDITIONS ARE FOUND TO BE DIFFERENT THAN SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE DISTRICT INSPECTOR AND THE DESIGN ENGINEER IMMEDIATELY.

3. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY FACILITIES AS A RESULT OF THEIR ACTIONS. THE CONTRACTOR SHALL MAKE ALL THE REQUIRED REPAIRS IMMEDIATELY TO THE SATISFACTION OF FOUNTAIN SANITATION DISTRICT.
4. ALL FIELD STAKING SHALL COMPLY WITH THE WASTEWATER STANDARD SPECIFICATIONS.
5. FINAL LOCATION OF ALL WASTEWATER SERVICES SHALL BE APPROVED IN THE FIELD BY THE DISTRICT INSPECTOR.
6. ALL TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION PART C, ATRICLE II OF THE FOUNTAIN SANITATION DISTRICT STANDARD SPECIFICATIONS MANUAL.

## SANITARY SERVICE PLAN NOTES

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL MEET FOUNTAIN SANITATION DISTRICT STANDARD SPECIFICIATIONS.

2. FINAL LOCATION OF ALL SEWER, WATER AND GAS SERVICES TO BE APPROVED IN THE FIELD BY THE CONSTRUCTION MANAGER AND DISTRICT INSPECTOR PRIOR TO INSTALLATION.

3. PROPERTY END OF ALL SEWER SERVICES TO BE MARKED WITH A 12’x2”x4” STEEL OR WOODEN POST EXTENDING VERTICALLY FROM THE FLOWLINE.

4. UTILITY LOCATIONS, WHETHER OR NOT SHOWN ON THIS PLAN, IN NO WAY RELIEVES THE CONTRACTOR FROM THE RESPONSIBILITY FOR CALLING FOR UTILITY LOCATIONS FROM THE APPROPRIATE AUTHORITIES PRIOR TO BEGINNING EXCAVATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UTILITIES WITHIN THE PROJECT. ANY DAMAGE TO EXISTING UTILITIES SHALL BE IMMEDIATELY REPAIRED AT THE CONTRACTOR’S SOLE EXPENSE.

5. REUSE OF ANY MATERIAL IS AT THE DISCRETION OF THE DISTRICT INSPECTOR.

6. ALL SANITARY SERVICES TO BE INSTALLED AT THE MINIMUM PERMISSIBLE GRADE OF 2.08% UNLESS OTHERWISE PRE-APPROVED BY THE FOUNTAIN SANITATION DISTRICT.

7. ALL SANITARY SERVICE PIPE SHALL BE GREEN GASKETED SDR35.
8. SANITARY SEWER SERVICE CONNECTIONS ARE TO BE A MINIMUM OF 5’ FROM THE MANHOLE.

9. THE CONTRACTOR SHALL NOTIFY FOUNTAIN SANITATION DISTRICT'S INSPECTOR (382-5303) 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO OUTLINE METHODS OF CONSTRUCTION, MATERIALS TO BE USED AND CONSTRUCTION STAKING.

10. ALL SANITARY SEWER SERVICE LINES TO THE RESIDENTIAL LOTS SHALL BE 4-INCH DIAMETER PIPE. SEWER SERVICES SHALL BE EXTENDED 10' INTO THE RESIDENTIAL LOTS TO AVOID GAS, ELECTRIC AND WATER EASEMENTS ADJACENT TO THE RIGHT OF WAY.

11. ALL TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION PART C, ARTICLE II OF THE FOUNTAIN SANITATION DISTRICT STANDARD SPECIFICATIONS MANUAL.

## SANITARY SEWER CONSTRUCTION NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH FOUNTAIN SANITATION DISTRICT DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS.

2. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING PIPE INVERTS PRIOR TO INSTALLATION OF NEW SANITARY SEWER SYSTEM.

3. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES DURING THE WORK. PRIOR TO ANY EXCAVATION, CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 AT LEAST TWO WORKING DAYS PRIOR TO DIGGING.

4. ALL PROPOSED SANITARY SEWER PIPELINES WITHIN THIS PROJECT SHALL BE AIR TESTED AND VIDEO INSPECTED PER THE FOUNTAIN SANITATION DISTRICT (FSD) STANDARD SPECIFICATIONS.

5. ALL AS-CONSTRUCTED RECORDS AND OTHER REQUIREMENTS OF THE SUBDIVISION PUBLIC IMPROVEMENTS AGREEMENT SHALL BE COMPLETED PRIOR TO CONSIDERATION OF ACCEPTANCE OF THE SYSTEM BY THE DISTRICT.

6. DURING THE CONSTRUCTION OF THE SANITARY SEWER SYSTEM THE CONTRACTOR SHALL HAVE IN HIS/HER POSSESSION AT LEAST ONE "APPROVED FOR CONSTRUCTION" SET OF UPDATED PLANS AT ALL TIMES. APPROVED FIELD MODIFICATIONS TO PLAN SETS SHALL BE CLEARLY IDENTIFIED IN RED INK ON THE PLANS BY THE CONTRACTOR PER FIELD CONSTRUCTION. THESE AS-BUILT CHANGES SHALL BE DATED AND SUBMITTED TO THE ENGINEER OF RECORD. THE ENGINEER OF RECORD SHALL PREPARE A COMPLETE SET OF "AS CONSTRUCTED" DRAWINGS AND DELIVER THE SETS TO THE FOUNTAIN SANITATION DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE SANITARY SEWER SYSTEM.

7. WITH PRIOR APPROVAL, THE CONTRACTOR SHALL PROVIDE 3 DEGREE BENDS ON ALL CURVILINEAR SANITARY SEWER PIPE AT THE LOCATIONS DETAILED ON THE APPROVED CONSTRUCTION PLANS.

8. SANITARY SEWER SERVICE LINES SHALL BE LOCATED PER THE DETAIL ON THE UTILITY SERVICE PLAN, THE DIMENSIONS GIVEN AT EACH LOT WHERE A TYPICAL INSTALLATION IS REQUIRED OR AT THE DIRECTION OF THE FOUNTAIN SANITATION DISTRICT REPRESENTATIVE.

9. SERVICE STUBS SHALL BE INSTALLED A MINIMUM OF TEN (10) FEET INTO THE PROPERTY, UNLESS OTHERWISE SHOWN, AND THE END OF THE STUB SHALL BE MARKED WITH A 2”X4”X12’ STEEL OR WOODEN POST PAINTED GREEN.

10. OVERLOT GRADING AND STREET SUBGRADE MUST BE WITHIN ± ONE (1) FOOT PRIOR TO ANY UTILITY INSTALLATION.

11. CONTRACTOR TO CONSTRUCT ALL MANHOLES AND STRUCTURES TO FINISHED GRADE.

12. ALL SANITARY SERVICE PIPE TO BE **GREEN** GASKET SDR35.

13. ALL 3° BENDS SHALL BE A SPIGOT X BELL FITTING. THE SPIGOT END OF EACH BEND FITTING SHALL BE INSERTED IN THE BELL OF A FULL PIECE (13 FEET) OF ASTM D3034 FOR PVC, SDR 26 OR 35 PIPE WITH THE SUBSEQUENT UPSTREAM PIPE SEGMENT BEING A FULL PIECE OF PIPE. EACH JOINT OF PIPE MAY BE DEFLECTED TO A MINIMUM RADIUS OF 200 FEET IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS BETWEEN EACH BEND FITTING. THE CONTRACTOR SHALL USE EXTREME CARE AND EXPERT WORKMANSHIP TO PROVIDE PROPER HORIZONTAL AND VERTICAL ALIGNMENT THROUGH SECTIONS WITH 3° BENDS.

14. MINIMUM RADIUS FOR SANITARY SEWER WITHOUT JOINT FITTINGS IS 270 FEET USING A 14-FOOT-LONG PIPE SEGMENT.

15. CONTRACTOR SHALL BE AWARE THAT WHEN DEBRIS IS DROPPED INTO MANHOLES AND OTHER STRUCTURES, THEY ARE TO IMMEDIATELY REMOVE THIS TO ELIMINATE THE POSSIBILITY OF PROPERTY DAMAGE DUE TO THE DEBRIS-CAUSING BACKUP INTO PRIVATE PROPERTIES. IF AND WHEN IT IS DETERMINED THAT DEBRIS CAUSED A BACKUP, THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR DAMAGES.

16. NO TREES ARE TO BE PLANTED WITHIN ANY SEWER EASEMENT OR WITHIN FIFTEEN (15) FEET OF ANY MANHOLE OR PIPE.

17. ACCESS TO MANHOLES AND INLETS SHALL BE MADE AVAILABLE FOR MAINTENANCE PURPOSES.

18. ALL MANHOLES SHALL RECEIVE AN EXTERIOR WATERPROOF COATING OF COAL TAR EPOXY, ICS DEVOE "DEVTAR," OR APPROVED EQUIVALENT.

19. ALL MANHOLES SHALL RECEIVE AN EXTERIOR JOINT WRAP TO BEST ASSURE WATERTIGHTNESS. REFER TO THE FOUNTAIN SANITATION DISTRICT STANDARD SPECIFICATIONS FOR MATERIALS AND INSTALLATION REQUIREMENTS.

20. ALL SANITARY SEWER MANHOLES ON THIS PROJECT SHALL BE SUBJECT TO VACUUM TESTING PRIOR TO THE CONSIDERATION OF ACCEPTANCE BY THE DISTRICT. AT THE DISTRICT'S SOLE OPTION, ADDITIONAL VACUUM TESTING MAY BE REQUIRED DURING AND PRIOR TO THE CONCLUSION OF THE WARRANTY PERIOD FOR THIS WORK. REFER TO THE FOUNTAIN SANITATION DISTRICT STANDARD SPECIFICATIONS FOR TESTING REQUIREMENTS.

21. CLASS "B" GRANULAR BEDDING SHALL BE UTILIZED FOR ALL WASTEWATER PIPELINE CONSTRUCTION ON THIS PROJECT. AS A MINIMUM, THE CLASS "B" BEDDING SHALL BE COMPRISED OF 3/4-INCH CRUSHED ROCK. LARGER AGGREGATE AND/OR ALTERNATIVE GRADATIONS MAY BE NECESSARY IN ORDER TO ADDRESS TRENCH SUBGRADE STABILIZATION CONDITIONS FOUND UPON EXCAVATION OF THE TRENCH IN ADDITION TO THE SPECIFIED CLASS "B" PIPE BEDDING.

22. WHERE NECESSARY, THE CONTRACTOR SHALL PROVIDE 3° BENDS ON ALL CURVILIVEAR SANITARY SEWER PIPE AT THE LOCATIONS SHOWN ON THE PLANS.

23. SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC), SDR 35, IN ACCORDANCE WITH ASTM D3034 FOR DEPTHS UP TO SIXTEEN (16) FEET. SANITARY SEWER LINES WITH COVER EXCEEDING SIXTEEN (16) FEET FROM FINISHED GRADE SHALL BE POLYVINYL CHLORIDE (PVC), SDR 26, IN ACCORDANCE WITH ASTM D3034. ALL SDR 26 PIPE SHALL BE BEDDED IN CLASS B BEDDING MATERIAL OR WITH RECLAIMED CONCRETE MATERIAL MEETING SANITATION DISTRICT STANDARD.

24. MANHOLES SHALL BE STANDARD PRECAST CONCRETE.

25. ALL SANITARY SEWER MANHOLES SHALL NOT HAVE ANY ACCESS STEPS INSTALLED INSIDE THE MANHOLE. ANY PRECAST SANITARY MANHOLES WITH STEPS SHALL HAVE THE STEPS REMOVED BY SAW CUTTING STEPS FLUSH TO THE MANHOLE AND ADDING EPOXY TO THE CUT ENDS OF THE STEPS.

26. SANITARY SEWER MH COVERS SHALL BE LOCATED ALONG THE CENTERLINE OF THE STREET OR AS CLOSE TO THE CENTERLINE AS IS PRACTICAL.

27. IF GROUNDWATER IS ENCOUNTERED DURING TRENCHING, THEN THE TRENCH SHALL BE OVEREXCAVATED AND DEWATERED. WELL POINTS SHALL BE PLACED AS NECESSARY TO PREVENT WATER IN THE TRENCH. THE GROUNDWATER LEVEL SHALL BE KEPT 12-INCHES OR MORE BELOW THE UTILITY BEING INSTALLED. OVEREXCAVATED TRENCH DEPTH SHALL BE BACKFILLED WITH 2-INCH MINUS ROCK WITH <5% PASSING NO. 4 SIEVE. DEWATERING SHALL CONTINUE UNTIL SUCH TIME AS IT IS SAFE TO ALLOW THE WATER TABLE TO RISE IN THE EXCAVATION. PIPE TRENCHES SHALL CONTAIN ENOUGH BACKFILL TO PREVENT PIPE FLOATATION.

28. IN AREAS WHERE SANITARY SEWER WILL BE PLACED ON FILL THE CONTRACTOR SHALL SUPPLY THE FOUNTAIN SANITATION DISTRICT WITH SOIL DENSITY REPORTS PRIOR TO COMMENCING CONSTRUCTION OF THE PIPELINES. THE DENSITY REPORTS SHALL DEMONSTRATE THAT ALL FILLS PLACED WITHIN PIPELINE CONSTRUCTION SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY OR PER GEOTECHNICAL RECOMMENDATION, WHICHEVER STANDARD IS STRICTER. ADDITIONALLY, FILLS SHALL BE PLACED TO A MINIMUM OF 6' ABOVE THE TOP OF THE PROPOSED PIPE PRIOR TO CONSTRUCTION OF THE PIPELINES.

29. THE SANITARY SEWER SERVICES TO BE CONSTRUCTED IN THIS PROJECT SHALL BE CONNECTED TO THE MAIN WITH IN-LINE WYE FITTINGS IN ACCORDANCE WITH FOUNTAIN SANITATION DISTRICT DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS. EACH WYE FITTING WILL BE LOCATED NO LESS THAN 3-FEET CLEAR FROM AN ADJACENT SERVICE LINE WYE FITTING. IF TWO (2) SERVICE LINES ARE LOCATED ON THE SAME SIDE OF THE WASTEWATER COLLECTION SYSTEM MAIN, THERE SHALL BE NO LESS THAN 4 FEET OF SPACE BETWEEN THE TWO SEPARATE SEWER SERVICE PIPELINES TO FACILITATE FUTURE EXCAVATION OF EACH WITHOUT DISTURBANCE.

30. ALL SANITARY SEWER MAINS AND PIPELINES SHALL BE CONSTRUCTED WITH COPPER TRACER WIRE, **6 GAUGE SOLID COPPER**, EXTENDING FROM THE MANHOLE-TO-MANHOLE ON THE MAIN LINES. IN ADDITION, A COPPER TRACER WIRE SHALL EXTEND ALONG EACH SERVICE LINE, CONNECTED TO THE MAIN LINE COPPER TRACER WIRE, TO A LOCATION NO LESS THAN 10 FEET INSIDE THE LOT FRONTAGE. THE TRACER WIRES WILL BE CONTINUED AT THE TIME OF BUILDING SEWER CONSTRUCTION SUBJECT TO THE INSPECTION OF THE FOUNTAIN SANITATION DISTRICT.

31. THE TRACER WIRE WILL EXTEND UP THE OUTSIDE OF EACH MANHOLE AND BE INSERTED INTO THE MANHOLE INTERIOR UNDER ADJUSTING RINGS SET ON THE CONE WITH NO LESS THAN 1.5 FEET OF CONDUCTOR COILED AT THE MANHOLE INTERIOR.

32. PLASTIC GRADE RINGS: HIGH DENSITY POLYETHYLENE MATERIAL AS DEFINED IN ASTM SPECIFICATION D-4976 MAY BE USED IN PLACE OF PRECAST CONCRETE RINGS.