



APPENDIX D

STANDARD CONSTRUCTION NOTES FOR PRIVATELY FINANCED PUBLIC IMPROVEMENTS

(NOTE: The following Standard Construction Notes shall be shown on all privately financed public improvement projects and shall be supplemented as necessary by the Design Engineer to meet the specific project needs. Unless approved otherwise, the Standard Construction Notes shall retain the numbering scheme and order shown below)

1. GENERAL

1. CONTRACTOR SHALL PROCURE AND CONFORM TO ALL CONSTRUCTION PERMITS REQUIRED BY THE CITY OF STAYTON, MARION COUNTY AND/OR ODOT, AS APPLICABLE. CONTRACTOR SHALL PROCURE A RIGHT-OF-ENTRY PERMIT FROM MARION COUNTY AND/OR ODOT FOR ALL WORK WITHIN MARION COUNTY OR STATE RIGHT-OF-WAY. CONTRACTOR SHALL CONFORM TO ALL CONDITIONS OF THE PERMIT.
2. CONTRACTOR SHALL PROCURE A RIGHT-OF-ENTRY PERMIT FROM AFFECTED RAILROADS FOR ALL WORK WITHIN THE RAILROAD RIGHT-OF-WAY AND CONFORM TO ALL CONDITIONS OF THE PERMIT.
3. CONTRACTOR SHALL PROVIDE ALL BONDS AND INSURANCE REQUIRED BY PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION.
4. MATERIALS AND WORKMANSHIP FOR FACILITIES IN PUBLIC RIGHT-OF-WAY OR EASEMENTS SHALL CONFORM TO APPROVING AGENCIES' CONSTRUCTION SPECIFICATIONS WHEREIN EACH HAS JURISDICTION, INCLUDING BUT NOT LIMITED TO THE CITY, COUNTY, OREGON DEPARTMENT OF HUMAN SERVICES (DHS) THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) AND THE OREGON DEPARTMENT OF TRANSPORTATION (ODOT).
5. UNLESS OTHERWISE APPROVED BY THE PUBLIC WORKS DIRECTOR, CONSTRUCTION OF ALL PUBLIC FACILITIES SHALL BE DONE BETWEEN 7:00 A.M. AND 6:00 P.M., MONDAY THROUGH FRIDAY, AND BETWEEN 9:00 A.M. AND 6:00 P.M. SATURDAY.
6. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET APPLICABLE AGENCY REQUIREMENTS AND PROVIDE A COMPLETED PROJECT.
7. CONTRACTOR TO NOTIFY CITY, COUNTY, ODOT AND ALL UTILITY COMPANIES A MINIMUM OF 48 BUSINESS HOURS (2 BUSINESS DAYS) PRIOR TO START OF CONSTRUCTION, AND COMPLY WITH ALL OTHER REQUIREMENTS OF ORS 757.541 TO 757.571.
8. ANY INSPECTION BY THE ENGINEER, CITY, COUNTY OR OTHER AGENCIES SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH THE APPLICABLE CODES AND AGENCY REQUIREMENTS.



9. SOURCE OF TOPOGRAPHY SHOWN ON THE CIVIL PLANS ARE BASE MAPS PROVIDED BY (to be filled in as appropriate). EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY, PRIOR TO COMMENCEMENT OF CONSTRUCTION.
10. HORIZONTAL DATUM: STAYTON LOCAL COORDINATE SYSTEM.
11. VERTICAL DATUM: NAVD 88.
12. PRIOR TO ANY CONSTRUCTION ACTIVITY IN PUBLIC RIGHT-OF-WAY, CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN TO THE CITY AND OTHER BY PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION FOR REVIEW AND APPROVAL. CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES, WARNING SIGNS, TRAFFIC CONES PER CITY, COUNTY AND ODOT REQUIREMENTS IN ACCORDANCE WITH THE MUTCD (INCLUDING OREGON AMENDMENTS). ACCESS TO DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES. ALL TRAFFIC CONTROL MEASURES SHALL BE APPROVED AND IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITY.
13. **RECORD DRAWINGS**. THE CONTRACTOR SHALL MAINTAIN ONE COMPLETE SET OF APPROVED PLANS AND SPECIFICATIONS ON THE CONSTRUCTION SITE AT ALL TIMES WHEREON HE WILL RECORD ANY APPROVED DEVIATIONS IN CONSTRUCTION FROM THE APPROVED PLANS, AS WELL AS THE STATION LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES ENCOUNTERED. THESE FIELD RECORD DRAWINGS SHALL BE KEPT UP TO DATE AT ALL TIMES AND SHALL BE AVAILABLE FOR INSPECTION BY THE CITY UPON REQUEST. UPON COMPLETION OF CONSTRUCTION OF PUBLIC FACILITIES, CONTRACTOR SHALL SUBMIT A CLEAN SET OF FIELD RECORD DRAWINGS CONTAINING ALL AS-BUILT INFORMATION TO THE DESIGN ENGINEER FOR USE IN THE PREPARATION OF RECORD DRAWINGS FOR SUBMITTAL TO THE CITY.
14. THE CONTRACTOR SHALL SUBMIT A SUITABLE WARRANTY BOND PRIOR TO FINAL PAYMENT WHERE REQUIRED BY PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION.
15. CONTRACTOR SHALL PROCURE AND CONFORM TO DEQ 1200-C OR CN STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES WHERE ONE (1) OR MORE ACRES ARE DISTURBED.
16. PER OREGON FIRE CODE (OFC 505.1), NEW AND EXISTING BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS, OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FOR THE STREET OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. NUMBERS SHALL BE A MINIMUM OF 4-INCHES HIGH WITH A MINIMUM STROKE WIDTH OF 0.5-INCH. TEMPORARY ADDRESS SIGNS SHALL BE MOUNTED IN A VISIBLE LOCATION PRIOR TO AND DURING ANY CONSTRUCTION, AND THE PERMANENT NUMBERS MOUNTED PRIOR TO OCCUPANCY.
17. PER OREGON FIRE CODE (OFC 505.2), STREETS AND ROADS SHALL BE IDENTIFIED WITH APPROVED SIGNS. TEMPORARY SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES. SIGNS SHALL BE OF AN APPROVED SIZE, WEATHER RESISTANT, AND BE MAINTAINED UNTIL REPLACED BY PERMANENT SIGNS.



18. THE ENGINEER AND APPLICABLE AGENCY MUST APPROVE, PRIOR TO CONSTRUCTION, ANY ALTERATION OR VARIANCE FROM THESE PLANS. ANY VARIATIONS FROM THESE PLANS SHALL BE PROPOSED ON CONSTRUCTION FIELD PRINTS AND TRANSMITTED TO THE DESIGN ENGINEER AND THE CITY FOR APPROVAL.

2. EXISTING UTILITIES AND FACILITIES

1. **ATTENTION**. OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-0010090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987).
2. THE LOCATION AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE CITY, DESIGN ENGINEER OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS. CONTRACTOR SHALL FIELD VERIFY SIZES AND LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING PROPERTY AND STREET MONUMENTS PRIOR TO CONSTRUCTION. ANY MONUMENTS DISTURBED DURING CONSTRUCTION OF THE PROJECT SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE. THE MONUMENTS SHALL BE REPLACED WITHIN A MAXIMUM OF 90 DAYS, AND THE COUNTY SURVEYOR SHALL BE NOTIFIED IN WRITING AS REQUIRED BY ORS 209.150.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF ALL BURIED AND OVERHEAD UTILITIES.
5. CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES WHERE NEW FACILITIES CROSS. ALL UTILITY CROSSINGS MARKED OR SHOWN ON THE PLANS SHALL BE POTHOLED USING HAND TOOLS OR OTHER NON-INVASIVE METHODS PRIOR TO EXCAVATING OR BORING. CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING POTENTIAL UTILITY CONFLICTS FAR ENOUGH AHEAD OF CONSTRUCTION TO MAKE NECESSARY GRADE MODIFICATIONS WITHOUT DELAYING THE WORK. IF GRADE MODIFICATION IS NECESSARY, CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER, AND THE DESIGN ENGINEER SHALL OBTAIN APPROVAL FROM THE CITY ENGINEER PRIOR TO CONSTRUCTION. ALL UTILITY CROSSINGS SHALL BE POTHOLED AS NECESSARY PRIOR TO EXCAVATING OR BORING TO ALLOW THE CONTRACTOR TO PREVENT GRADE OR ALIGNMENT CONFLICTS.
6. EXISTING FACILITIES SHALL BE MAINTAINED IN-PLACE BY THE CONTRACTOR UNLESS OTHERWISE SHOWN OR DIRECTED. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO SUPPORT, MAINTAIN, OR OTHERWISE PROTECT EXISTING UTILITIES AND OTHER FACILITIES AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR TO LEAVE EXISTING FACILITIES IN AN EQUAL OR BETTER-THAN-ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY ENGINEER.
7. UTILITIES, OR INTERFERING PORTIONS OF UTILITIES, THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL PLUG THE REMAINING EXPOSED ENDS OF ABANDONED UTILITIES.



8. CONTRACTOR SHALL REMOVE ALL EXISTING SIGNS, MAILBOXES, FENCES, LANDSCAPING, ETC., AS REQUIRED TO AVOID DAMAGE DURING CONSTRUCTION AND REPLACE THEM TO EXISTING OR BETTER CONDITION.
9. ANY SEPTIC TANKS ENCOUNTERED DURING CONSTRUCTION SHALL BE PUMPED OUT AND, REMOVED OR ABANDONED IN PLACE IN ACCORDANCE WITH STATE OF OREGON DEQ AND COUNTY SANITARIAN REQUIREMENTS.
10. ANY WELLS ENCOUNTERED SHALL BE ABANDONED PER STATE OF OREGON WATER RESOURCES DEPARTMENT REQUIREMENTS.
11. ANY FUEL TANKS ENCOUNTERED SHALL BE REMOVED AND DISPOSED OF PER STATE OF OREGON DEQ REQUIREMENTS. BACKFILL WITH COMPACTED GRANULAR MATERIAL.

3. EARTHWORK

1. UNLESS OTHERWISE NOTED, ALL EARTHWORK SHALL CONFORM TO THE STANDARD CONSTRUCTION SPECIFICATIONS. IN ADDITION, THE CONTRACTOR SHALL REVIEW THE SOILS REPORT PREPARED BY (to be filled in as applicable), AND CONFORM TO ALL RECOMMENDATIONS LISTED IN THE REPORT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MANAGING CONSTRUCTION ACTIVITIES TO ENSURE THAT PUBLIC STREETS AND RIGHT-OF-WAYS ARE KEPT CLEAN OF MUD, DUST OR DEBRIS. DUST ABATEMENT SHALL BE MAINTAINED BY ADEQUATE WATERING OF THE SITE BY THE CONTRACTOR.
3. UNLESS OTHERWISE NOTED, ANY GRADING ON THE SITE SHALL BE COMPLETED SO AS TO MAINTAIN EXISTING DRAINAGE FROM ADJACENT PROPERTIES. ALL PROPOSED ELEVATIONS SHOWN SHALL BE CONSIDERED TO BE FINISH SURFACE ELEVATIONS, UNLESS NOTED OTHERWISE.
4. CLEAR AND GRUB, WITHIN WORK LIMITS SHOWN, ALL SURFACE VEGETATION, TREES, STUMPS, BRUSH, ROOTS, ETC. DO NOT DAMAGE OR REMOVE TREES EXCEPT AS APPROVED AND AS SHOWN ON THE PLANS. PROTECT ALL ROOTS TWO INCHES IN DIAMETER OR LARGER, UNLESS OTHERWISE DIRECTED IN THE PLANS AND SPECIFICATIONS.
5. STRIP WORK LIMITS A MINIMUM OF FOUR INCHES (4") OR AS RECOMMEND BY THE SOILS REPORT, REMOVING ALL ORGANIC MATTER WHICH CANNOT BE COMPACTED INTO A STABLE MASS. ALL TREES, BRUSH AND DEBRIS ASSOCIATED WITH CLEARING, STRIPPING OR GRADING SHALL BE REMOVED AND DISPOSED OF OFF-SITE.
6. IMMEDIATELY FOLLOWING FINE GRADING OPERATIONS, COMPACT SUB GRADE TO 95 PERCENT OF THE MAXIMUM DRY DENSITY PER AASHTO T -180 TEST METHOD (MODIFIED PROCTOR). SUB GRADE MUST BE INSPECTED AND APPROVED BY THE CITY PRIOR TO PLACING EMBANKMENTS OR BASE ROCK.
7. FILLS WITHIN PUBLIC RIGHT-OF-WAYS AND EASEMENTS SHALL BE ENGINEERED. ADDITIONALLY, ANY FILLS OUTSIDE OF PUBLIC RIGHT-OF-WAYS WHICH ARE OVER 12-INCHES IN DEPTH SHALL BE ENGINEERED. ANY ENGINEERED FILLS OVER 12-INCHES IN DEPTH SHALL REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 1704.7 OF THE OREGON STRUCTURAL SPECIALTY CODE.



8. PLACE FILL MATERIAL UNIFORMLY ACROSS SITE TO PROVIDE POSITIVE DRAINAGE AND PREVENT LOW AREAS DURING CONSTRUCTION. PROVIDE TEMPORARY DITCHES OR SWALES AS NECESSARY TO PREVENT SURFACE WATER FROM PONDING AND TO DIRECT SURFACE WATER AWAY FROM AREA OF FILL PLACEMENT.
9. DO NOT PLACE FILL MATERIAL IF FROZEN, IF SURFACE UPON WHICH FILL IS TO BE PLACED IS FROZEN, OR DURING PERIODS OF MEASUREABLE RAIN. CONTRACTOR SHALL CONTINUALLY MONITOR AND ALTER THE MOISTURE CONTENT OF THE SOIL EITHER BY ADDING MOISTURE OR BY DRYING THE SOIL BY AERATION SUCH THAT THE MOISTURE CONTENT OF THE SOIL DOES NOT VARY BY PLUS OR MINUS TWO PERCENT ($\pm 2\%$) OF OPTIMUM. EXCAVATED TRENCH NATIVE MATERIAL, WHICH IS OF SUITABLE MATERIAL, SHALL BE PLACED AND COMPACTED AS ENGINEERED FILL.
10. ENGINEERED FILLS SHALL BE CONSTRUCTED IN 6-INCH MAXIMUM LIFTS. EACH LIFT SHALL BE COMPACTED TO 95 PERCENT OF THE MAXIMUM DRY DENSITY PER AASHTO T -180 TEST METHOD (MODIFIED PROCTOR). ALL SUBGRADE IN PUBLIC RIGHT-OF-WAYS SHALL BE COMPACTED TO A FIRM AND UNYIELDING CONDITION.
11. UNLESS OTHERWISE SHOWN ON THE PLANS, NO CUT OR FILL SLOPES SHALL BE CONSTRUCTED STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL.
12. PLANTER AREAS SHALL BE BACKFILLED WITH APPROVED TOP SOIL MINIMUM 12-INCH IN DEPTH. STRIPPING MATERIALS SHALL **NOT** BE USED FOR PLANTER BACKFILL.
13. CONTRACTOR SHALL SEED ALL EXPOSED SLOPES AND DISTURBED AREAS WHICH ARE NOT SCHEDULED TO BE LANDSCAPED OR RECEIVE A HARD SURFACING.
14. GRADING SHOWN ON THE PLANS IS CRITICAL TO THE FUNCTIONING OF SITE DRAINAGE AND SHALL BE STRICTLY FOLLOWED.
15. AS APPLICABLE, CONTRACTOR SHALL COORDINATE AND ENSURE THAT STORMWATER FACILITY SIZE, ELEVATION, AND DETENTION VOLUMES ARE VERIFIED AND INSPECTED BY THE DESIGN ENGINEER AND APPROVED BY PUBLIC AGENCIES HAVING JURISDICTION PRIOR TO PAVING AND LANDSCAPING.

4. PAVING

1. UNLESS OTHERWISE NOTED, ALL ROCKING AND PAVING SHALL CONFORM TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. UNLESS OTHERWISE SHOWN ON THE PLANS, SMOOTH TRANSITIONS SHALL BE RUN BETWEEN ALL FINISH GRADE ELEVATIONS AND/OR FINISH CONTOUR LINES SHOWN. FINISH PAVEMENT GRADES AT TRANSITION TO EXISTING PAVEMENT SHALL MATCH EXISTING PAVEMENT GRADES TO PROVIDE A SMOOTH, FREE DRAINING SURFACE.
3. CRUSHED ROCK SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD CONSTRUCTION SPECIFICATIONS. COMPACT TO 95% OF THE MAXIMUM DRY DENSITY PER AASHTO T -180 TEST METHOD (MODIFIED PROCTOR). PRIOR TO PLACING AC PAVEMENT, WRITTEN COMPACTION TEST RESULTS FOR BASEROCK AND TRENCH BACKFILL MUST BE RECEIVED BY THE CITY, AND A PROOF-ROLL (WITNESSED BY THE CITY) MUST BE PERFORMED.



4. PAVING OF STREETS WILL NOT BE ALLOWED UNTIL AFTER COMPLETION OF ALL REQUIRED TESTING AND INSPECTION OF NEW WATER, SEWER AND STORM DRAIN LINES UNDER PAVED AREAS, AND REVIEW AND APPROVAL OF THE PRIVATE (FRANCHISE) UTILITY PLANS BY THE CITY ENGINEER OR HIS/HER DESIGNEE.
5. PAVEMENT SHALL CONFORM TO THE STANDARD CONSTRUCTION SPECIFICATIONS. ASPHALT CONCRETE PAVEMENT SHALL BE COMPACTED TO A MINIMUM OF 91 PERCENT OF MAXIMUM DENSITY (AT ALL LOCATIONS) AS DETERMINED BY THE RICE STANDARD METHOD (AASHTO T-209).
6. EXISTING OR CONSTRUCTED MANHOLES, CLEANOUTS, MONUMENTS, GAS VALVES, WATER VALVES AND SIMILAR STRUCTURES SHALL BE ADJUSTED TO MATCH FINISH GRADE OF THE PAVEMENT (PRIOR TO PAVING OPERATIONS), SIDEWALK, LANDSCAPED AREA OR MEDIAN STRIP WHEREIN THEY LIE. STORM DRAIN INLET STRUCTURES SHALL BE ADJUSTED SO WATER FLOWS INTO THE STRUCTURE WITHOUT PONDING WATER.
7. ASPHALT CONCRETE PAVEMENT WHICH DOES NOT MEET SPECIFIED COMPACTION REQUIREMENTS, AND WHICH ARE DEEMED BY THE CITY ENGINEER TO BE UNSUITABLE FOR USE, WILL BE REJECTED. ANY REJECTED MATERIAL SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

5. CURBS AND SIDEWALKS

1. UNLESS OTHERWISE SHOWN OR INDICATED ON THE PLANS, 6-INCHES NOMINAL CURB EXPOSURE USED FOR DESIGN OF ALL PARKING LOT AND STREET GRADES.
2. CONTRACTOR SHALL PROVIDE A MINIMUM 2-WEEP HOLES PER LOT IN CURB TO PROVIDE FOR LOT DRAINAGE. ONE WEEP HOLE SHALL BE LOCATED 5-FEET FROM THE PROPERTY LINE ON THE LOW POINT IN THE LOT FRONTAGE. WEEP HOLES SHALL ALSO BE PROVIDED AS REQUIRED FOR ADDITIONAL DRAINPIPES SHOWN ON THE PLANS. WEEPHOLES INSTALLED IN EXISTING CURBS SHALL BE CORE DRILLED.
3. CURBS AND GUTTERS SHALL BE STAMPED WITH AN 'SS', 'SD', OR 'W' AT THE POINT WHERE EACH SANITARY SEWER, STORM DRAIN AND WATER SERVICE LATERAL CROSSES THE CURBS AND GUTTERS, RESPECTIVELY. THE LOCATION OF GATE VALVES SHALL ALSO BE MARKED WITH A 'GV'. LETTERS SHALL BE A MINIMUM OF 2-INCHES HIGH.
4. CONTRACTOR SHALL CONSTRUCT HANDICAP ACCESS RAMPS AT ALL INTERSECTIONS IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
5. SIDEWALKS AND DRIVEWAYS SHALL BE CONSTRUCTED TO THE FULL THICKNESS SHOWN.
6. WHERE TRENCH EXCAVATION REQUIRES REMOVAL OF PCC CURBS AND/OR SIDEWALKS, THE CURBS AND/OR SIDEWALKS SHALL BE SAWCUT AND REMOVED AT A TOOLED JOINT UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE CITY. THE SAWCUT LINES SHOWN ON THE PLANS ARE SCHEMATIC AND NOT INTENDED TO SHOW THE EXACT ALIGNMENT OF SUCH CUTS.



6. SITE UTILITIES

1. CONTRACTOR SHALL COORDINATE AND PAY ALL COSTS ASSOCIATED WITH CONNECTING TO EXISTING WATER, SANITARY SEWER AND STORM SEWER FACILITIES. CONNECTIONS BETWEEN EXISTING INFRASTRUCTURE AND NEW WORK SHALL NOT BE MADE UNTIL NECESSARY INSPECTIONS AND TESTS HAVE BEEN COMPLETED ON THE NEW WORK IS FOUND TO CONFORM IN ALL RESPECTS TO THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.
2. UNLESS OTHERWISE NOTED, MATERIALS AND WORKMANSHIP FOR WATER, SANITARY SEWER AND STORM SEWER SHALL CONFORM TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
3. **BEDDING AND BACKFILL.** ALL PIPES SHALL BE BEDDED WITH MINIMUM 6-INCHES OF 3/4-INCH MINUS CRUSHED ROCK BEDDING AND BACKFILLED WITH COMPACTED 3/4-INCH MINUS CRUSHED ROCK IN THE PIPE ZONE (CRUSHED ROCK SHALL EXTEND A MINIMUM OF 12-INCHES OVER THE TOP OF THE PIPE IN ALL CASES). CRUSHED ROCK TRENCH BACKFILL SHALL BE USED UNDER ALL HARD SURFACED AREAS, INCLUDING SIDEWALKS. CRUSHED ROCK BEDDING SHALL BE PLACED TO FORM A CONTINUOUS AND UNIFORM BEARING SUPPORT FOR THE PIPE AT EVERY POINT BETWEEN JOINTS. PIPE ZONE MATERIAL SHALL BE FIRST PLACED UP TO THE SPRING LINE OF THE PIPE AND MATERIAL UNIFORMLY COMPACTED BY HAND TO INSURE PROPER SUPPORT WITHIN THE PIPE HAUNCHES. GRANULAR TRENCH BACKFILL SHALL BE COMPACTED TO 92 PERCENT OF THE MAXIMUM DRY DENSITY PER AASHTO T -180 TEST METHOD (MODIFIED PROCTOR).
4. THE CONTRACTOR SHALL HAVE APPROPRIATE EQUIPMENT ON SITE TO PRODUCE A FIRM, SMOOTH, UNDISTURBED SUBGRADE AT THE TRENCH BOTTOM, TRUE TO GRADE. THE BOTTOM OF THE TRENCH EXCAVATION SHALL BE SMOOTH, FREE OF LOOSE MATERIALS OR TOOTH GROOVES FOR THE ENTIRE WIDTH OF THE TRENCH PRIOR TO PLACING THE GRANULAR BEDDING MATERIAL.
5. CONTRACTOR SHALL ARRANGE FOR AND PAY ALL COSTS TO ABANDON EXISTING SEWER AND WATER SERVICES NOT SCHEDULED TO REMAIN IN SERVICE.
6. ALL SITE UTILITIES ABANDONED IN PLACE SHALL HAVE ALL OPENINGS CLOSED WITH CONCRETE PLUGS WITH A MINIMUM LENGTH OF 12-INCHES OR 2 TIMES THE DIAMETER OF THE ABANDONED PIPE, WHICHEVER IS LARGER.
7. MINIMUM ALLOWABLE CLEARANCE BETWEEN PIPES AT CROSSINGS SHALL BE 6-INCHES.
8. THE END OF ALL UTILITY STUBS SHALL BE MARKED WITH A 2X4, EXTENDING 2-FEET MINIMUM ABOVE FINISH GRADE, PAINTED AND WIRED TO PIPE STUB (PAINTED GREEN FOR SANITARY SEWER, WHITE FOR STORM). TYPE OF UTILITY (IE. SEWER, STORM, ETC) AND DEPTH BELOW GRADE TO TOP OF PIPE SHALL BE CLEARLY AND PERMANENTLY LABELED ON THE MARKER POST.
9. CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT AND FACILITIES REQUIRED FOR TESTING ALL UTILITY PIPING IN ACCORDANCE WITH THE STANDARD CONSTRUCTION SPECIFICATIONS.



10. **TRACER WIRE.** ALL NON-METALLIC WATER, SANITARY AND STORM SEWER PIPING SHALL HAVE AN ELECTRICALLY CONDUCTIVE INSULATED 12 GAUGE COPPER TRACER WIRE THE FULL LENGTH OF THE INSTALLED PIPE USING BLUE WIRE FOR WATER AND GREEN FOR STORM AND SANITARY PIPING. TRACER WIRE SHALL BE EXTENDED UP INTO ALL VALVE BOXES, AND MANHOLES AND CATCH BASINS. TRACER WIRE PENETRATIONS INTO MANHOLES SHALL BE WITHIN 18-INCHES OF THE RIM ELEVATION AND ADJACENT TO MANHOLE STEPS. THE TRACER WIRE SHALL BE TIED TO THE TOP MANHOLE STEP OR OTHERWISE SUPPORTED TO ALLOW RETRIEVAL FROM THE OUTSIDE OF THE MANHOLE.
11. **WARNING TAPE.** UNDERGROUND DETECTABLE (FOR NON-METALIC PIPING) OR NON-DETECTABLE (FOR METALIC PIPING) ACID AND ALKALI RESISTANT SAFETY WARNING TAPE SHALL BE PROVIDED 12-INCHES MIN TO 18-INCHES MAX FROM FINISH GRADE ALONG THE FULL LENGTH OF ALL UTILITY SERVICE LATERALS AND ALONG ALL UTILITY MAINLINES. UNDERGROUND WARNING TAPE SHALL BE CONTINUOUS THE ENTIRE LENGTH OF SERVICE LATERALS INSTALLED FROM THE MAINLINE TO THE BACK OF THE PUE. MARKING TAPE COLOR SHALL BE IN ACCORDANCE WITH APWA UNIFORM COLOR CODE.
12. NO TRENCHES IN ROADS OR DRIVEWAYS SHALL BE LEFT IN AN OPEN CONDITION OVERNIGHT. ALL SUCH TRENCHES SHALL BE BACKFILLED OR STEEL PLATED AS APPROVED BY THE CITY ENGINEER, BEFORE THE END OF EACH WORK DAY AND NORMAL TRAFFIC FLOWS RESTORED.

7. **WATER**

1. OPERATION OF EXISTING VALVES, INCLUDING FIRE HYDRANTS, SHALL BE PERFORMED ONLY BY AUTHORIZED CITY STAFF. CONTRACTOR SHALL COORDINATE WITH THE CITY ACCORDINGLY.
2. ALL WATER MAINS SHALL BE MINIMUM CLASS 52 DUCTILE IRON. ALL FITTINGS 4-INCHES THROUGH 24-INCHES IN DIAMETER SHALL BE DUCTILE IRON FITTINGS IN CONFORMANCE WITH AWWA C-153 OR AWWA C-110. THE MINIMUM WORKING PRESSURE FOR ALL MJ CAST IRON OR DUCTILE IRON FITTINGS 4-INCHES THROUGH 24-INCH IN DIAMETER SHALL BE 350 PSI FOR MJ FITTINGS AND 250 PSI FOR FLANGED FITTINGS.
3. ALL WATER MAINS TO BE INSTALLED WITH A MINIMUM 36-INCH COVER TO FINISH GRADE UNLESS OTHERWISE NOTED OR DIRECTED. SERVICE LINES TO BE INSTALLED WITH A MINIMUM 30-INCHES COVER WITHIN THE RIGHT-OF-WAY. DEEPER DEPTHS MAY BE REQUIRED AS SHOWN ON THE PLANS OR TO AVOID OBSTRUCTIONS.
4. THRUST RESTRAINT SHALL BE PROVIDED ON ALL BENDS, TEES AND OTHER DIRECTION CHANGES PER THE STANDAD DRAWINGS UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE PLANS. ALL VALVES SHALL BE FLANGE CONNECTED TO ADJACENT TEES OR CROSSES, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. WATER SERVICE PIPE ON THE PUBLIC SIDE OF THE METER SHALL BE TYPE K SOFT COPPER TUBING CONFORMING TO ASTM B-88. WATER SERVICE PIPE ON THE PRIVATE SIDE OF THE METER SHALL BE AS SPECIFIED PER THE OREGON PLUMBING SPECIALTY CODE.



6. FIRE HYDRANT ASSEMBLIES SHALL BE KENNEDY K-81D GUARDIAN, WATEROUS 5-1/4 PACER, OR APPROVED EQUAL. FIRE HYDRANTS SHALL BE LOCATED TO ALLOW A MINIMUM OF 5-FEET CLEAR SPACE SURROUNDING ALL PORTIONS OF THE HYDRANT. THERE SHALL BE NO OBSTRUCTIONS DIRECTLY IN LINE WITH ANY OF THE PORTS OF THE HYDRANT FOR A DISTANCE OF 6-FEET.
7. DOMESTIC AND FIRE BACKFLOW PREVENTION DEVICES AND VAULTS SHALL CONFORM TO REQUIREMENTS OF PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION.
8. ALL NEW WATER LINES SHALL BE THOROUGHLY FLUSHED, PRESSURE TESTED, CHLORINATED AND BACTERIOLOGICALLY TESTED. POTABLE WATER TEST SHALL BE APPROVED BY THE CITY PRIOR TO ANY METERED SERVICE HOOKUP. CONTRACTOR SHALL INSTALL TEMPORARY PLUG AND BLOWOFF AS REQUIRED AT THE END OF WATERLINE FOR FLUSHING, TESTING AND CHLORINATION.
9. THE WORK SHALL BE PERFORMED IN A MANNER DESIGNATED TO MAINTAIN WATER SERVICE TO BUILDINGS SUPPLIED FROM THE EXISTING WATERLINES. IN NO CASE SHALL SERVICE TO ANY MAIN LINE OR BUILDING BE INTERRUPTED FORM MORE THAN FOUR (4) HOURS IN ANYONE DAY. CONTRACTOR SHALL NOTIFY THE CITY AND ALL AFFECTED RESIDENTS AND BUSINESSES A MINIMUM OF FORTY-EIGHT (48) BUSINESS HOURS (2 WORKING DAYS) PRIOR TO ANY INTERRUPTION OF SERVICE.
10. **SANITARY SEWER AND WATERLINE CROSSINGS.** WHERE SANITARY SEWER LINES CROSS ABOVE OR WITHIN 18-INCHES VERTICAL SEPARATION BELOW A WATERLINE, SEWER MAINS AND/OR LATERALS SHALL BE REPLACED WITH AWWA C-900 PVC PIPE (DR 18) AT THE CROSSING. CENTER ONE FULL LENGTH (20-FOOT) OF AWWA C-900 PVC PIPE AT POINT OF CROSSING. CONNECT TO EXISTING SEWER LINES WITH APPROVED RUBBER COUPLINGS. SANITARY SEWER CROSSINGS SHALL COMPLY WITH DHS REGULATIONS.

8. SANITARY SEWER

1. UNLESS OTHERWISE SHOWN, SANITARY SEWER PIPE SHALL BE ASTM D-3034 PVC, MINIMUM SDR 35.
2. ALL PRECAST MANHOLES SHALL BE PROVIDED WITH INTEGRAL RUBBER BOOT MANHOLE PIPE ADAPTER. WHERE MANHOLES WITH INTEGRAL MANHOLE PIPE ADAPTERS ARE NOT USED, A SHEAR JOINT SHALL BE PROVIDED ON ALL MAINLINES WITHIN 1.5-FEET OF THE OUTSIDE FACE OF THE MANHOLE. TAMPER-PROOF MANHOLE COVERS ARE REQUIRED ON ALL MANHOLES OUTSIDE OF PUBLIC RIGHT-OF-WAY.
3. OPENINGS FOR CONNECTIONS TO EXISTING MANHOLES SHALL BE MADE BY CORE-DRILLING THE EXISTING MANHOLE STRUCTURE AND INSTALLING A MANHOLE PIPE ADAPTER. CONNECTIONS TO BE WATERTIGHT AND SHALL PROVIDE A SMOOTH FLOW INTO AND THROUGH THE MANHOLE. SMALL CHIPPING HAMMERS OR SIMILAR LIGHT TOOLS WHICH WILL NOT DAMAGE OR CRACK THE MANHOLE BASE MAY BE USED TO SHAPE CHANNELS. USE OF LARGE PNEUMATIC JACKHAMMERS SHALL BE PROHIBITED. UNLESS OTHERWISE APPROVED IN WRITING BY THE CITY ENGINEER, MANHOLE STEPS SHALL BE INSTALLED IN ANY MANHOLE TAPPED WHICH DOES NOT HAVE EXISTING STEPS.



4. **LEAKAGE TESTING.** SANITARY SEWER PIPE AND APPURTENANCES SHALL BE TESTED FOR LEAKAGE. LEAKAGE TESTS SHALL INCLUDE AN AIR TEST OF ALL SEWER MAINS AND LATERALS PRIOR TO PAVING, AND A SEPARATE AIR TEST OF ALL SEWER MAINS AND LATERALS FOLLOWING EXCAVATION AND BACKFILLING OF ANY FRANCHISE UTILITY TRENCHES OR OTHER UTILITY WORK THAT CROSSES SANITARY SEWER LATERALS. ALL MANHOLES SHALL BE VACUUM TESTED FOLLOWING COMPLETION OF PAVING OR FINAL SURFACE RESTORATION. ALL TESTING SHALL CONFORM TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
5. **CLEANING.** PRIOR TO MANDREL TESTING AND/OR CCTV INSPECTION, FLUSH AND CLEAN ALL SEWERS, AND REMOVE ALL FOREIGN MATERIAL FROM THE MAINLINES AND MANHOLES. FAILURE TO CLEAN ALL DIRT, ROCK AND DEBRIS FROM PIPELINES PRIOR TO TV INSPECTION WILL RESULT IN THE NEED TO RE-CLEAN AND RE- CCTV THE SEWER LINES.
6. **MANDREL TESTING.** CONTRACTOR SHALL CONDUCT DEFLECTION TEST OF FLEXIBLE SANITARY SEWER PIPES BY PULLING AN APPROVED MANDREL THROUGH THE COMPLETED PIPE LINE FOLLOWING TRENCH COMPACTION. THE DIAMETER OF THE MANDREL SHALL BE 95 PERCENT OF THE INITIAL PIPE DIAMETER. TEST SHALL BE CONDUCTED NOT MORE THAN 30 DAYS AFTER THE TRENCH BACKFILLING AND COMPACTION HAS BEEN COMPLETED.
7. **CCTV INSPECTION.** UPON COMPLETION OF ALL SEWER CONSTRUCTION, TESTING AND REPAIR, THE CONTRACTOR SHALL CONDUCT A COLOR CLOSED-CIRCUIT TELEVISION (CCTV) ACCEPTANCE INSPECTION OF ALL MAINLINES IN ACCORDANCE WITH THE STANDARD CONSTRUCTION SPECIFICATIONS TO DETERMINE COMPLIANCE WITH GRADE REQUIREMENTS. THE CCTV INSPECTION SHALL BE CONDUCTED BY AN APPROVED TECHNICAL SERVICE WHICH IS EQUIPPED TO MAKE AUDIO-VISUAL RECORDINGS OF THE CCTV INSPECTIONS ON DVD (VHS VIDEO TAPE ACCEPTABLE ONLY UPON PRIOR WRITTEN APPROVAL BY CITY ENGINEER). UNLESS OTHERWISE REQUIRED BY THE AGENCY WITH JURISDICTION, A STANDARD 1-INCH DIAMETER BALL SHALL BE SUSPENDED IN FRONT OF THE CAMERA DURING THE INSPECTION TO DETERMINE THE DEPTH OF ANY STANDING WATER. SUFFICIENT WATER TO REVEAL LOW AREAS OR REVERSE GRADES SHALL BE DISCHARGED INTO THE PIPE IMMEDIATELY PRIOR TO INITIATION OF THE CCTV INSPECTION. THE DVD AND WRITTEN REPORT SHALL BE DELIVERED TO THE CITY ENGINEER.
8. ALL SANITARY SERVICE LATERAL CONNECTIONS AT THE MAIN ARE TO BE TEES, UNLESS OTHERWISE NOTED.
9. ALL SEWER SERVICE LATERALS SHALL EXTEND A MINIMUM OF 5-FEET BEYOND PUE INTO EACH LOT. THE MINIMUM GRADE FOR LATERALS SHALL BE 2 PERCENT EXCEPT WHERE APPROVED BY CITY. SANITARY SEWER SERVICE LATERALS SHALL BE 4-INCH DIAMETER UNLESS OTHERWISE NOTED ON THE PLANS.

9. STORM DRAIN

1. CONTRACTOR SHALL USE UNIFORM PIPE MATERIAL ON EACH PIPE RUN BETWEEN STRUCTURES UNLESS OTHERWISE DIRECTED OR APPROVED. JOINTED HDPE PIPE SHALL NOT BE USED FOR SLOPES EXCEEDING 12 PERCENT.
2. CATCH BASINS AND JUNCTION BOXES SHALL BE SET SQUARE WITH BUILDINGS OR WITH THE EDGE OF THE CURB, PARKING LOT, AND STREET WHEREIN THEY LIE. STORM DRAIN INLET STRUCTURES AND PAVING SHALL BE ADJUSTED SO WATER FLOWS INTO THE STRUCTURE WITHOUT PONDING WATER.



3. UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER, ALL STORM DRAIN CONNECTIONS SHALL BE BY MANUFACTURED TEES OR SADDLES.
4. STORM DRAINS SHALL BE LAID ON A STRAIGHT ALIGNMENT WITH UNIFORM GRADE BETWEEN STRUCTURES AND LAID UPGRADE WITH SPIGOT ENDS POINTING IN DIRECTION OF FLOW. ALL STORM PIPE JOINTS SHALL BE WATERTIGHT REGARDLESS OF SPECIFIED OR SELECTED MATERIAL.
5. UNLESS OTHERWISE SPECIFIED OR DIRECTED, INSTALL STORM DRAIN PIPE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES.
6. **CLEANING.** PRIOR TO MANDREL TESTING OR FINAL ACCEPTANCE, FLUSH AND CLEAN ALL STORM DRAINS, AND REMOVE ALL FOREIGN MATERIAL FROM THE MAINLINES, MANHOLES AND CATCH BASINS.
7. **MANDREL TESTING.** CONTRACTOR SHALL CONDUCT DEFLECTION TEST OF FLEXIBLE STORM SEWER PIPES BY PULLING AN APPROVED MANDREL THROUGH THE COMPLETED PIPE LINE FOLLOWING TRENCH COMPACTION. THE DIAMETER OF THE MANDREL SHALL BE 95 PERCENT OF THE INITIAL PIPE DIAMETER. TEST SHALL BE CONDUCTED NOT LESS THAN 30 DAYS AFTER THE TRENCH BACKFILLING AND COMPACTION HAS BEEN COMPLETED.

10. STREET LIGHTS

1. STREET LIGHTS SHALL BE INSTALLED AFTER ALL OTHER EARTHWORK AND PUBLIC UTILITY INSTALLATIONS ARE COMPLETED AND AFTER ROUGH GRADING OF THE PROPERTY IS ACCOMPLISHED TO PREVENT DAMAGE TO THE POLES.
2. STREET LIGHT POLES SHALL BE SET TO A DEPTH AS SPECIFIED BY THE MANUFACTURER, BUT NOT LESS THAN 5-FEET.
3. STREETS LIGHT POLES AND ARMS SHALL CONFORM TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND STANDARD DRAWINGS. POLES SHALL BE INSTALLED WITHIN ONE (1) DEGREE OF PLUMB.

11. FRANCHISE UTILITIES

1. UNLESS OTHERWISE SHOWN ON THE PLANS AND APPROVED IN WRITING BY ALL JURISDICTIONS HAVING AUTHORITY, NEW AND RELOCATED PRIVATE UTILITIES (POWER, CABLE, TELEPHONE AND GAS) SHALL BE INSTALLED UNDERGROUND IN CONJUNCTION WITH THE DEVELOPMENT.
2. CONTRACTOR SHALL COORDINATE WITH GAS, POWER, TELEPHONE, AND CABLE COMPANY FOR LOCATION OF CONDUITS IN COMMON TRENCHES, AS WELL AS LOCATION OF VAULTS, PEDESTALS, ETC. UNLESS OTHERWISE APPROVED IN WRITING BY THE CITY, ALL ABOVE-GRADE FACILITIES SHALL BE LOCATED IN PUES (WHERE PUES EXIST OR WILL BE GRANTED BY THE DEVELOPMENT), AND OTHERWISE SHALL BE PLACED IN A LOCATION OUTSIDE THE PROPOSED SIDEWALK LOCATION. INSTALLATION OF PRIVATE UTILITIES IN A COMMON TRENCH WITH OR WITHIN 3 FEET HORIZONTALLY OF PARALLELING WATER, SANITARY SEWER OR STORM DRAINS IS PROHIBITED.



3. POWER, TELEPHONE AND CABLE TRENCHING AND CONDUITS SHALL BE INSTALLED PER UTILITY COMPANY REQUIREMENTS WITH PULL WIRE. CONTRACTOR SHALL VERIFY WITH UTILITY COMPANY FOR SIZE, LOCATION AND TYPE OF CONDUIT PRIOR TO CONSTRUCTION, AND SHALL ENSURE THAT TRENCHES ARE ADEQUATELY PREPARED FOR INSTALLATION PER UTILITY COMPANY REQUIREMENTS. ALL CHANGES IN DIRECTION OF UTILITY CONDUIT RUNS SHALL HAVE LONG RADIUS STEEL BENDS.
4. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH PRIVATE UTILITIES FOR RELOCATION OF POWER POLES, VAULTS, ETC. TO AVOID CONFLICT WITH CITY UTILITY STRUCTURES, FIRE HYDRANTS, METERS, SEWER OR STORM LATERALS, ETC.

12. COMPACTION AND DENSITY REQUIREMENTS

1. COMPACTION SHALL BE BY MECHANICAL MEANS FOR ALL TYPES OF MATERIALS. COMPACTIONS EQUIPMENT FOR GRANULAR MATERIALS SHALL BE VIBRATORY PLATE OR VIBRATORY DRUM COMPACTORS AND SHALL BE ADEQUATE TO OBTAIN THE AMOUNT OF COMPACTIONS SHOWN. COMPACTION EQUIPMENT SHALL BE OPEARATED IN STRICT ACCORDANCE WITH THE MANUFACTURER’S INSTRUCTIONS AND RECOMMENDATIONS AND SHALL BE MAINTAINED IN SUCH CONDITION THAT IT WILL DELIVER THE MANUFACTURER’S RATED COMPACTIVE EFFORT.
2. ALL COMPACTION AND IN-PLACE DENSITY AND MOISTURE TESTS SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE ODOT/APWA STANDARD CONSTRUCTION SPECIFICATIONS AND AASHTO STANDARD SPECIFICATIONS.

ENGINEERED FILL:

MINIMUM PERCENT COMPACTION REQUIRED	95 PERCENT
TEST METHOD REQUIRED TO DETERMINE MAXIMUM DENSITY	AASHTO T-180
FREQUENCY OF DENSITY TESTING	8-INCH LIFTS, 3 TEST FOR EACH 2- FEET OF FILL PLACED

ROAD SECTION – EMBANKMENT:

MINIMUM PERCENT COMPACTION REQUIRED	95 PERCENT
TEST METHOD REQUIRED TO DETERMINE MAXIMUM DENSITY	AASHTO T-180
FREQUENCY OF DENSITY TESTING OF EMBANKMENT	8-INCH LIFTS, 3 TESTS FOR EACH 2-FEET OF EMBANKMENT PLACED

ROAD SECTION – SUBGRADE:

MINIMUM PERCENT COMPACTION REQUIRED	95 PERCENT
MINIMUM PERCENT COMPACTION REQUIRED TO WHAT DEPTH BELOW SUBGRADE	12-INCHES
TEST METHOD REQUIRED TO DETERMINE MAXIMUM DENSITY	AASHTO T-180
FREQUENCY OF DENSITY TESTING OF SUBGRADE	AS NEEDED

ROAD SECTION – AGGREGATE BASE:

MINIMUM PERCENT COMPACTION REQUIRED	95 PERCENT
TEST METHODS REQUIRED TO DETERMINE MAXIMUM DENSITY	AASHTO T-180
FREQUENCY OF DENSITY TESTING OF AGGREGATE BASE	8-INCH LIFTS, 150- FEET INTERVALS OR AS NEEDED



ROAD SECTION – ASPHALT PAVEMENT:

MINIMUM PERCENT COMPACTION REQUIRED	91 PERCENT
TEST METHOD REQUIRED TO DETERMINE MAXIMUM DENSITY	AASHTO T-209
FREQUENCY OF DENSITY TESTING OF ASPHALT PAVEMENT	5 TESTS MINIMUM* AVERAGE DENSITY
FULL TIME INSPECTION OR SPOT CHECKING OF COMPACTION	SPOT, OR AS SHOWN ON PLANS

UTILITY TRENCH: (BENEATH PAVEMENT AND SIDEWALK)

MINIMUM PERCENT COMPACTION REQUIRED FOR BEDDING AND PIPE ZONE	90 PERCENT
MINIMUM PERCENT COMPACTION REQUIRED FOR TRENCH BACKFILL ABOVE THE PIPE ZONE	92 PERCENT BELOW TOP 5-FEET OF TRENCH BACKFILL 95 PERCENT WITHIN TOP 5-FEET OF TRENCH BACKFILL
MINIMUM PERCENT COMPACTION REQUIRED IN UNIMPROVED, NON-ENGINEERED FILL AREAS	90 PERCENT
TEST METHOD REQUIRED TO DETERMINE MAXIMUM DENSITY	AASHTO T-180
FREQUENCY OF DENSITY TESTING OF UTILITY TRENCH BACKFILL	1 test for every 2-foot vertical at intervals of 200 lineal feet of trench or as directed. Perform a minimum of 1 test for trench length less than 200 lineal feet.

ADDITIONAL INFORMATION/COMMENTS:

*WHEN USING NUCLEAR GAUGE, TWO READINGS AT EACH SITE, THE SECOND AT RIGHT ANGLES TO THE FIRST. THE TWO READING WILL BE AVERAGED TO OBTAIN TEST DENSITY.

13. EROSION CONTROL NOTES

A. GENERAL

1. APPROVAL OF THE EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.)
2. THE IMPLEMENTATION OF THE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THE PLANS SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.



4. THE ESC FACILITIES SHOWN ON THE PLANS MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
5. THE ESC FACILITIES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.
6. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
7. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT.
8. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.

B. SEDIMENT FENCES

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST.
2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS WHERE FEASIBLE. THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 18 INCHES.
3. THE STANDARD STRENGTH FILTER FABRIC SHALL BE FASTENED SECURELY TO STITCHED LOOPS INSTALLED ON THE UPSLOPE SIDE OF THE POSTS, AND 6-INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 30-INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO THE EXISTING TREES.
4. SEDIMENT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
5. SEDIMENT FENCES SHALL BE INSPECTED BY APPLICANT/CONTRACTOR IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

C. GRAVEL CONSTRUCTION ENTRANCES

1. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.



2. THE AREA OF THE ENTRANCE SHALL BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. THE ROCK SHALL BE PLACED TO THE SPECIFIED DIMENSIONS, BUT SHALL BE MINIMUM 8 INCHES THICK AND AT LEAST 50 FEET IN LENGTH. WIDTH SHALL BE THE FULL WIDTH OF THE VEHICLE INGRESS AND EGRESS AREA.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY.
4. IF THE ROCK PAD DOES NOT ADEQUATELY REMOVE DIRT AND MUD FROM VEHICLE WHEELS SUCH THAT MUD AND DIRT TRACKING IS EVIDENT OFF SITE, ADDITIONAL MEASURES MUST BE TAKEN. SUCH MEASURES MAY INCLUDE HOSING OFF WHEELS BEFORE VEHICLES LEAVE THE SITE OR OTHER CONSTRUCTION TECHNIQUES/WORK OPERATIONS MODIFICATION. WHEEL WASHING SHOULD BE DONE ON THE ROCK PAD AND WASH WATER SHOULD DRAIN THROUGH A SILT-TRAPPING STRUCTURE PRIOR TO LEAVING THE CONSTRUCTION SITE.
5. ADDITIONAL ROCK SHALL BE ADDED PERIODICALLY AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT.
6. SUB-GRADE STABILIZATION FABRIC SHALL BE USED UNDER ROCK PADS.
7. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

END OF APPENDIX D