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PROJECT: THE FOST TRACT PD-R - PHASE 4
 CURRITUCK COUNTY
 MOYOCK TOWNSHIP
 NORTH CAROLINA

**WASTE WATER &
SANITARY SEWER PLAN**

RECORD DRAWINGS - PHASE 4

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DRAWN: AKM
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 APPROVED: BPG
 SHEET: 9 OF 13
 CAD FILE: 4651ASB-PH4
 PROJECT NO: 4651

ORDER OF PRECEDENCE GENERAL NOTES/TECHNICAL SPECIFICATIONS

1. THE NOTES CONTAINED HEREIN ARE INTENDED TO SUPPLEMENT THE TECHNICAL SPECIFICATIONS AND PROVIDE EASY REFERENCE FOR THE CONTRACTOR. IN NO CASE SHALL THESE NOTES VOID ANY PART, SECTION OR REQUIREMENT OUTLINED IN THE TECHNICAL SPECIFICATIONS CONTAINED IN THE CONTRACT DOCUMENTS. IF CONFLICTS OCCUR BETWEEN THE TECHNICAL SPECIFICATIONS AND THE NOTES CONTAINED HEREIN, THE TECHNICAL SPECIFICATIONS SHALL SUPERSEDE.

2. CONTRACTOR IS CHARGED WITH PERFORMING SITE INVESTIGATIONS TO ASCERTAIN EXISTING SITE CONDITIONS. PHOTOGRAPHIC DOCUMENTATION OF PRE-EXISTING CONSTRUCTION CONDITIONS WILL BE CONDUCTED BY THE ENGINEER FOR DETERMINATION OF COMPLIANCE WITH CONDITIONS NOTED HEREON.

GENERAL NOTES

1. ACCESS TO SITES SHALL BE BY PUBLIC RIGHT-OF-WAYS AND UTILITY EASEMENTS. OTHER ACCESS LOCATIONS REQUIRED SHALL BE SECURED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. SUPPLEMENTAL EROSION CONTROL MEASURES SHALL BE REQUIRED TO INCLUDE CONSTRUCTION ENTRANCES, SILT FENCING, RESTORATION, ETC. ADDITIONAL MEASURES SHALL BE INCLUDED AS PART OF A SUPPLEMENTAL EROSION CONTROL PLAN PREPARED BY THE CONTRACTOR.

2. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE CONSTRUCTION STAGING AREA AT HIS EXPENSE.

3. THE CONTRACTOR IS EXPECTED AND REQUIRED TO COOPERATE WITH THE PROPERTY OWNERS AFFECTED BY THE WORK. MAIL ADDRESSING PROPERTY OWNER LETTERS TO EFFECTED PROPERTY OWNERS NOTING THAT WORK WILL BE OCCURRING WITHIN THE AREAS ADJOINING THEIR PROPERTIES. THIS LETTER SHALL GIVE PROPERTY OWNERS A MINIMUM OF 14 DAYS WRITTEN NOTICE PRIOR TO COMMENCEMENT OF CONSTRUCTION FOR REMOVAL OF ANY PERSONAL ITEMS FROM THE RIGHT-OF-WAY. THE LETTER OUTLINES THE EXTENT OF THE WORK TO BE PERFORMED TO INCLUDE DRIVEWAY DISRUPTIONS.

4. CONTRACTOR SHALL MAINTAIN A NEAT AND CLEAN JOB-SITE TO INCLUDE STAGING/STORAGE AREAS AS FOLLOWS: - PERFORM DUST CONTROL BY WATERING DAILY OR AS DIRECTED BY THE ENGINEER AND/OR CURRITUCK COUNTY. - SWEEP STREETS A MINIMUM OF ONCE WEEKLY (FRIDAY) OR AS DIRECTED BY THE ENGINEER AND/OR CURRITUCK COUNTY. - BLADE, LEVEL AND RE-COMPACT ALL EXPOSED TRENCHES WEEKLY (OR AS DIRECTED BY THE ENGINEER) TO PRODUCE A SMOOTH 'RIDE'. - PERFORM DAILY CLEAN-UP OF ALL DIRT, DEBRIS AND SCRAP MATERIALS. - REMOVE EXCESS EQUIPMENT, MATERIALS, TOOLS, ETC. NOT NEEDED. - ANY DRIVEWAY REMOVALS MUST HAVE A TEMPORARY SURFACE INSTALLED WITHIN THE SAME DAY AS REMOVAL. APPROVED SURFACES MAY CONSIST OF EITHER ABC OR MILLINGS.

5. EXCESS SUITABLE SOIL EXCAVATED DURING CONSTRUCTION SHALL BE STOCKPILED FOR USE ON THE PROJECT OR DISPOSED OF OFF-SITE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL NOT BE ALLOWED TO STOCKPILE MATERIALS OR EXCESS MATERIALS IN THE STREET RIGHT-OF-WAYS AT ANY TIME. THE CONTRACTOR SHALL PROVIDE A SUFFICIENT AND SUITABLE STOCKPILE AREA AND LOCATION AT THE CONTRACTOR'S EXPENSE.

6. CONTRACTOR SHALL PROVIDE MEASURES DURING CONSTRUCTION TO SECURE THE SITE AND EXCAVATION FROM THE GENERAL PUBLIC AND COMPLY WITH ALL OSHA REGULATIONS. JOB SITE SAFETY IS THE EXCLUSIVE AND SOLE RESPONSIBILITY OF THE CONTRACTOR. OPEN EXCAVATION LEFT UNATTENDED OR OVER NIGHT IS NOT ACCEPTABLE AND SHALL BE FILLED IMMEDIATELY.

7. CONTRACTOR SHALL REPAIR OR REPLACE DRIVES DISTURBED BY CONSTRUCTION TO EXISTING OR BETTER CONDITIONS. NO SEPARATE PAYMENT UNLESS OTHERWISE INDICATED.

8. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING WHERE FENCES ARE REMOVED FOR CONSTRUCTION. CONTRACTOR SHALL COORDINATE FENCE REMOVAL OR REINSTALLATION WITH INDIVIDUAL PROPERTY OWNERS PRIOR TO REMOVAL. CONTRACTOR SHALL REINSTALL ALL SHEDS, FENCES, ETC. TO AS GOOD OR BETTER THAN EXISTING CONDITIONS UNLESS OTHERWISE INDICATED. (NO SEPARATE PAYMENT).

9. CONTRACTOR SHALL REPLACE ALL DISTURBED MAILBOXES, SIGNS, ETC. DISTURBED DURING CONSTRUCTION WITHIN 24 HOURS OF DISTURBANCE. PERMANENT ROAD SIGNAGE DISTURBED SHALL BE REPLACED IMMEDIATELY AND IF NECESSARY ROADWAY SIGNS SHALL BE TEMPORARILY INSTALLED IN A LOCATION CONSISTENT WITH THE CALCULATED TO PROVIDE CONTINUOUS TRAFFIC AWARENESS OF ROADWAY CONDITIONS. (NO SEPARATE PAYMENT).

10. CONTRACTOR SHALL PROVIDE SECURITY FENCING, SECURITY GUARD, AND ANY AND ALL OTHER MEASURES CONTRACTOR DEEMS NECESSARY TO PROTECT EQUIPMENT AND MATERIALS STORED ON THE PROJECT. (NO SEPARATE PAYMENT).

11. WHERE CONTRACTOR CEASES WORK OPERATIONS FOR A 72 HOUR PERIOD OR LONGER, SUCH AS HOLIDAYS, ETC., THE FOLLOWING SHALL BE ACCOMPLISHED PRIOR TO THE WORK STOPPAGE.

A. CONTRACTOR SHALL STORE ALL EQUIPMENT IN THE CONTRACTOR STAGING AREA OR OFF SITE.

B. THE CONTRACTOR SHALL SWEEP ALL STREETS, PERFORM GENERAL CLEANUP AND SHALL PERFORM MAINTENANCE ON ALL EXPOSED PATCHES.

12. CONTRACTOR SHALL SCHEDULE WORK AND MATERIAL DELIVERIES SO THAT STORED MATERIAL QUANTITIES ON THE JOB SITE SHALL BE MINIMIZED.

13. CONTRACTOR SHALL STORE ALL MATERIALS IN THE CONTRACTOR STAGING AREA 72 HOURS PRIOR TO INCORPORATING INTO THE WORK TO REDUCE OBSTRUCTIONS TO TRAFFIC AND INCONVENIENCE TO RESIDENTS. WHERE UTILITIES ARE BEING CONSTRUCTED IN EASEMENTS OUT OF TRAFFIC AREAS CONTRACTOR MAY STORE MATERIALS AHEAD OF CONSTRUCTION FOR A DISTANCE NOT GREATER THAN 1800 FEET UNLESS APPROVED OTHERWISE BY THE ENGINEER.

14. CLEARING AND GRUBBING SHALL BE RESTRICTED TO PERMANENT EASEMENTS ONLY. CONTRACTOR SHALL LIMIT TREMBUSH CLEARING IN THE TEMPORARY EASEMENTS, BETWEEN HOUSES AND ALONG PROPERTY LINES TO ONLY ABSOLUTELY NECESSARY FOR CONSTRUCTION.

RELATION OF WATER MAINS TO SEWERS

(A) LATERAL WATER MAINS AND WATER MAINS. WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10-FOOT LATERAL SEPARATION- IN WHICH CASE:

(1) THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER OR.

(2) THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH AND WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION- IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.

(B) CROSSING A WATER MAIN OVER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION- IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.

(C) CROSSING A WATER MAIN UNDER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

CONSTRUCTION SEQUENCE NOTES

1. PRIOR TO COMMENCEMENT OF ANY WORK WITHIN EASEMENTS OR RIGHTS-OF-WAYS THE CONTRACTOR IS REQUIRED TO NOTIFY CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH GS 87-102. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. NO SEPARATE PAYMENT. EXISTING UTILITIES SHOWN ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED (I.E. TELEPHONE, GAS, CABLE, ETC.).

2. THE CONTRACTOR SHALL DIG UP EACH UTILITY WHICH MAY CONFLICT WITH CONSTRUCTION 14 DAYS IN ADVANCE TO VERIFY LOCATIONS (HORIZONTALLY AND VERTICALLY) TO ALLOW THE ENGINEER AN OPPORTUNITY TO ADJUST THE DESIGN TO AVOID CONFLICTS (NO SEPARATE PAYMENT).

3. ALL SANITARY SEWER & WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS OF THE NCDENR-DWQ & NCDENR-PWS. STORM DRAINAGE, STREET CONSTRUCTION AND PAVING SHALL BE IN ACCORDANCE WITH THE N.C.D.O.T.

4. UTILITY SERVICES TO INDIVIDUAL PROPERTIES ARE NOT SHOWN IN THE PROFILES FOR SIMPLICITY OF THE DRAWINGS. SERVICES MAY INCLUDE WATER, LATERALS, TELEPHONE, ELECTRIC, CABLE, GAS, ETC.

5. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION AND/OR SECURING EXISTING UTILITY POLES AND SIGNS AND/OR UTILITIES IN ACCORDANCE WITH UTILITY OWNER REQUIREMENTS DURING THE UTILITY MAIN INSTALLATION AND STREET CONSTRUCTION. (NO SEPARATE PAYMENT).

6. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS FOR UTILITY CROSSINGS AND REPAIR DAMAGES DUE TO CONSTRUCTION TO THE SATISFACTION OF THE UTILITY INVOLVED AT NO ADDITIONAL EXPENSE TO THE OWNER. UNDERGROUND ELECTRICAL CROSSINGS SHALL BE GROESSED IN ACCORDANCE WITH THE NEC AND TECHNICAL SPECIFICATION SECTION UNDERGROUND ELECTRICAL CROSSING.

7. WHERE DEEMED NECESSARY BY THE ENGINEER THAT A SUBSURFACE DRAINAGE SYSTEM IS REQUIRED, THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT, TIE-INS TO EXISTING DRAINAGE STRUCTURES AND ALL OTHER INCIDENTALS NECESSARY TO PROVIDE COMPLETE INSTALLATION. IMPROPERLY INSTALLED AND NON-FUNCTIONING DRAINAGE SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING FRENCH DRAINAGE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AND OR REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.

8. STORM DRAINAGE REPAIRS BY CONTRACTOR DUE TO CONSTRUCTION DAMAGE AND JOINTS EXPOSED DURING CONSTRUCTION SHALL BE INSPECTED BY THE OWNER PRIOR TO BACKFILLING.

9. CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT AND MATERIAL AND PERFORM ALL WORK REQUIRED FOR INSTALLATION OF SEWER LINES, MANHOLES AND APPURTENANCES AS OUTLINED IN DRAWINGS AND ON SPECIFICATIONS, ALL OF WHICH BECOME PART OF THE CONTRACT DOCUMENTS.

10. ALL CONSTRUCTION OF SANITARY SEWER MAINS AND APPURTENANCES IN THE COLLECTION SYSTEMS SHALL BE IN STRICT ACCORDANCE WITH PLANS AND SPECIFICATIONS PREPARED AS PART OF THE CONTRACT DOCUMENTS AND AS APPROVED BY THE BPG, INC. ENGINEER. ALL MATERIALS SHALL BE NEW AND UNUSED. PRIOR TO CONSTRUCTION OF THE APPROVED SANITARY SEWER, CONTRACTOR SHALL PROVIDE FIELD STAKEOUT INCLUDING ADEQUATE LINE AND GRADE STAKES IN ORDER THAT SANITARY SEWER AND APPURTENANCES MAY BE CONSTRUCTED IN ACCORDANCE WITH CONTRACT DRAWINGS.

11. A PRECONSTRUCTION CONFERENCE SHALL BE HELD AT THE COMPLETION OF THE FIELD STAKEOUT WITH THE ENGINEER AN HISHER REPRESENTATIVE, CURRITUCK COUNTY REPRESENTATIVE, NCDENR REPRESENTATIVE, AND ANY REQUISITE UTILITY REPRESENTATIVES THAT WILL REQUIRE COORDINATION WITH DURING THE COURSE OF CONSTRUCTION. A MINIMUM OF 2 DAYS NOTICE SHALL BE GIVEN FOR MEETING REPRESENTATIVES.

12. PREPARE PHOTOGRAPHIC DOCUMENTATION OF PRE-EXISTING CONDITIONS OF THE PROJECTED CONSTRUCTION ROUTE PRIOR TO COMMENCING WORK.

13. IF ANY DEVIATION IS CONTEMPLATED IN LOCATION OR LINE GRADE OF ANY SEWER, STRUCTURE OR APPURTENANCE AS SHOWN ON THE CONTRACT DRAWINGS, A REVISION OF THE DRAWINGS SHOWING THE PROPOSED DEVIATION SHALL BE SUBMITTED TO THE BPG, INC. ENGINEER FOR REVIEW AND APPROVAL BEFORE ANY CHANGES ARE CONSTRUCTED. MINOR FIELD CHANGES MAY BE MADE WITH APPROVAL OF BPG, INC. APPOINTED FIELD INSPECTOR. SHOULD CONTRACTOR DISCOVER AND/OR DAMAGE ANY UNDERGROUND UTILITY FACILITIES, WHICH ARE NOT SHOWN ON DRAWINGS AND/OR MARKED ON THE GROUND, CONTRACTOR SHALL PROMPTLY NOTIFY UTILITY OWNER AND OWNER'S PROJECT REPRESENTATIVE. RELOCATION OF ANY UTILITIES SHALL BE APPROVED AND COORDINATED WITH THE APPROPRIATE UTILITY OWNER.

14. EXCAVATION SHALL CONFORM TO THE LINES AND GRADES SHOWN ON THE PLANS. THE WIDTH OF EXCAVATION FOR TRENCHES SHALL BE A MINIMUM OF 24". EXCAVATION SHALL NOT BE CARRIED BELOW THE ESTABLISHED GRADES AND ANY EXCAVATION BELOW THE REQUIRED LEVEL SHALL BE BACKFILLED WITH SUITABLE, THOROUGHLY COMPACTED GRANULAR BEDDING MATERIAL. CONTRACTOR SHALL INSTALL ALL SHEETING, BRACING, AND SHORING NECESSARY TO PERFORM THE WORK. TO PROTECT EXISTING STRUCTURES AND ALL EXCAVATIONS AS REQUIRED UNDER NORTH CAROLINA OSHA REGULATIONS, COMPLIANCE WITH PROVISIONS OF THE OVERHEAD HIGH VOLTAGE LINE SAFETY ACT IS REQUIRED.

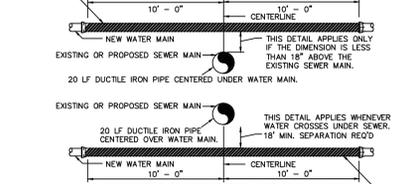
15. DEWATERING EQUIPMENT SHALL BE SIZED TO MAINTAIN THE TRENCH IN A SATISFACTORY DEWATERED CONDITION SUITABLE FOR PIPE LAYING AND BACKFILLING. PIPE LAYING WILL BE PERMITTED ONLY WHERE THE DEPTH OF WATER IS MAINTAINED BELOW THE BEDDING MATERIAL. BEDDING MATERIAL SHALL NOT BE PLACED ON UNSTABLE TRENCH MATERIAL.

16. NOT MORE THAN ONE HUNDRED FIFTY FEET (150') OF TRENCH SHALL BE OPENED IN ADVANCE OF THE COMPLETED PIPE LAYING. TRENCHES SHALL BE PROTECTED IN ACCORDANCE WITH CURRENT OSHA REGULATIONS. EXCAVATION AT MANHOLES AND SIMILAR STRUCTURES SHALL PROVIDE A MINIMUM CLEARANCE OF EIGHTEEN INCHES (18") BETWEEN THE OUTER SURFACE OF THE STRUCTURE AND THE EMBANKMENT OR SHEETING.

17. WHEREVER FOUNDATION MATERIAL IS UNSUITABLE, IT SHALL BE EXCAVATED UNTIL A STABLE FOUNDATION IS ACHIEVED. GRANULAR MATERIAL, #67 STONE PER ASTM C 12, SHALL THEN BE PLACED IN SIX INCH (6") LAYERS AND COMPACTED UNTIL THE TRENCH BOTTOM HAS BEEN STABILIZED. STANDARD GRANULAR PIPE BEDDING MATERIAL SHALL BE PLACED IN ACCORDANCE WITH ASTM D 2321 FOR PVC PIPE AND ASTM C 12 FOR DIP.

18. ALL GRAVITY SEWER MAINS, SERVICE LATERALS AND FORCE MAINS SHALL HAVE A MINIMUM COVER OF THREE FEET (3') AS MEASURED FROM TOP OF PIPE TO FINISH GRADE. THE BPG, INC. ENGINEER MAY REQUIRE ADDITIONAL COVER AS NEEDED FOR PIPE PROTECTION. SEWERS, WHICH HAVE A DEPTH OF COVER LESS THAN THREE FEET (3'), SHALL BE APPROVED AND INSTALLED AS PER BPG, INC. ENGINEER'S WRITTEN INSTRUCTIONS.

19. PIPE SHALL BE LAID TRUE TO LINE AND GRADE WITH BELLS UPSTREAM AND SHALL BE PROTECTED IN ACCORDANCE WITH CURRENT OSHA REGULATIONS.



WATER CROSSING SEWER DETAIL

BE JOINTED TOGETHER SUCH THAT THE COMPLETED PIPE WILL HAVE A SMOOTH INVERT. PIPE SHALL BE PUSHED HOME BY HAND. THE USE OF EQUIPMENT (I.E. BACKHOES) SHALL NOT BE PERMITTED. CUTTING OF PIPE SHALL BE PERFORMED BY SAWING FROM EXTERIOR. TRENCH SHALL BE COMPLETELY BACKFILLED AT END OF EACH WORKDAY. WHEN NEW PIPE IS TIED INTO AN EXISTING MANHOLE, NEW PIPE SHALL BE PLUGGED WITH A STANDARD SEWER PLUG AND SHALL REMAIN PLUGGED UNTIL ALL NEW LINE(S) THAT WILL FLOW TO EXISTING MANHOLE HAVE BEEN COMPLETED, TESTED, AND ACCEPTED.

20. EXCEPT AS REQUIRED FOR USE OF A LASER LEVEL, EXPOSED END OF ALL PIPE AND FITTINGS SHALL BE FULLY CLOSED TO PREVENT EARTH, WATER OR OTHER SUBSTANCES FROM ENTERING PIPE. TRENCH SHALL BE COMPLETELY BACKFILLED AT END OF EACH WORKDAY. WHEN NEW PIPE IS TIED INTO AN EXISTING MANHOLE, NEW PIPE SHALL BE PLUGGED WITH A STANDARD SEWER PLUG AND SHALL REMAIN PLUGGED UNTIL ALL NEW LINE(S) THAT WILL FLOW TO EXISTING MANHOLE HAVE BEEN COMPLETED, TESTED, AND ACCEPTED.

21. BACKFILL SHALL BEGIN AT THE TOP OF THE STANDARD GRANULAR BEDDING AND SHALL BE PLACED IN SIX INCH (6") LAYERS FOR THE INITIAL ONE FOOT OVER THE PIPE AND SHALL BE THOROUGHLY TAMPED TO NINETY-FIVE PERCENT (95%) OF THE MAXIMUM THEORETICAL COMPACTION DENSITY AS DETERMINED BY A STANDARD PROCTOR ON THE MATERIAL. REMAINDER OF THE BACKFILL SHALL BE IN TWO FOOT (2') LAYERS PROPERLY TAMPED.

22. COMPLETION. BEFORE CONNECTING TO AN ACTIVE SYSTEM, THE LEAKAGE TESTS SHALL PROMPTLY FOLLOW INSTALLATION OF WASTEWATER PIPE INCLUDING SERVICES AND KEPT WITHIN A MAXIMUM OF 1000 FEET BEHIND THE WASTEWATER PIPE LAYING OPERATION.

23. CONTRACTOR SHALL FURNISH WEIRS, STAND PIPES, PIPE PLUGS, WATER PRESSURE GAUGES, STOP WATCHES, VACUUM PUMP, HOSE AND SUCH MATERIALS AND ASSISTANCE AS REQUIRED TO PERFORM THESE TESTS. ALL ACCEPTANCE TESTS SHALL BE CONDUCTED BY CONTRACTOR IN THE PRESENCE OF A BPG, INC. APPOINTED INSPECTOR.

24. ACCEPTANCE TESTS SHALL NOT BE MADE UNTIL SANITARY SEWER, MANHOLES AND PROPOSED SEWER SERVICE CONNECTIONS, AS SHOWN ON THE APPROVED SEWER PLANS, HAVE BEEN INSTALLED. THE SEWER TRENCHES (INCLUDING MANHOLES AND CLEANOUT STACKS) BACKFILLED AND COMPACTED TO FINISHED SUB-GRADE.

25. CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR MAINTAINING SEWER FLOWS DURING PROJECT TO INCLUDE ANY REQUIRED BY-PASS PUMPING OF WASTEWATER BETWEEN MANHOLES DURING INSTALLATION OF SEWER LINES AND APPURTENANCES. BY-PASS PUMPING SYSTEM SHALL PROVIDE CONTINUOUS FULL CONVEYANCE AND CONTAINMENT OF WASTEWATER PRESENT DURING THE WORK AND SHALL NOT SURCHARGE THE UPSTREAM PUMP STATION BY MORE THAN TWO (2) FEET ABOVE THE NORMAL EFFLUENT LEVELS.

26. ONCE ACCEPTANCE AND START OF THE COLLECTION SYSTEM HAS BEEN RECEIVED, THE CONTRACTOR SHALL PROCEED WITH THE ABANDONMENT PROCEDURES OF THE EXISTING WASTEWATER COLLECTION SYSTEM AS DESCRIBED HEREON.

27. THE NOTES CONTAINED HEREIN ARE INTENDED TO SUPPLEMENT THE TECHNICAL SPECIFICATIONS AND PROVIDE EASY REFERENCE FOR THE CONTRACTOR. IN NO CASE SHALL THESE NOTES VOID ANY PART, SECTION OR REQUIREMENT OUTLINED IN THE TECHNICAL SPECIFICATIONS CONTAINED IN THE CONTRACT DOCUMENTS.

TRENCH DEWATERING DURING SEWER LINE INSTALLATION

1. ALL GROUND WATER WHICH MAY BE FOUND IN THE TRENCHES AND ANY WATER WHICH MAY GET INTO THEM FROM ANY CAUSE WHATSOEVER SHALL BE PUMPED OR BAILED OUT SO THAT THE TRENCH SHALL BE DRY DURING THE PIPE LAYING PERIOD. NO WATER SHALL BE PERMITTED TO REACH CONCRETE UNTIL IT HAS SET SUFFICIENTLY. ALL WATER PUMPED FROM THE TRENCHES SHALL BE DISPOSED OF IN A MANNER SATISFACTORY TO THE OWNER. CONTRACTOR SHALL PROVIDE AT LEAST TWO (2) PUMPS FOR EACH TRENCH OPENED IN WET GROUND AND AT THE SAME TIME, HE SHALL HAVE ONE (1) PUMP IN RESERVE.

2. IF, DURING ANY TIME THAT CONTRACTOR IS PERMITTED TO LAY PIPE IN A TRENCH CONTAINING UNAVOIDABLE TRENCH WATER AND CONSTRUCTION IS INTERRUPTED FOR ANY REASON, THE OPEN ENDS OF PIPE SHALL BE CLOSED BY WATER TIGHT PLUGS OR CAPS, OR OTHER MEANS APPROVED BY THE OWNER. IN ANY CASE SUCH PROTECTION SHALL BE PROVIDED THROUGHOUT THE ENTIRE PERIOD OF WORK OR ON WEEKENDS AND HOLIDAYS, REGARDLESS OF THE CONDITION OF THE TRENCH WITH RESPECT TO WATER AT THE TIME THAT THE WORK IS SUSPENDED.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL STRUCTURES, INCLUDING PIPES AND MANHOLES, AGAINST ANY TENDENCY TO FLOAT UNDER CONDITIONS OF HIGH WATER, WHETHER DUE TO HIGH GROUND WATER OR FLOOD CONDITIONS ON THE PROJECT SITE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE WHATEVER STEPS MAY BE REQUIRED, INCLUDING THE INSTALLATION AND OPERATION OF PUMPS AND PUMPING SYSTEMS, WELL POINTS OR RELIEF DEVICES, TO PREVENT ANY STRUCTURE FROM FLOATING DURING CONSTRUCTION.

4. COST OF THE NECESSARY PUMPS, WELL POINTS OR OTHER APPURTENANCES REQUIRED TO PREVENT FLOTATION SHALL BE INCLUDED IN THE UNIT PRICES BID IN THE PROPOSAL FOR THE VARIOUS BID ITEMS, AND NO EXTRA COMPENSATION SHALL BE ALLOWED FOR SUCH WORK. ANY DAMAGE WHICH MAY OCCUR TO ANY PART OF THE WORK AS THE RESULT OF THE FLOTATION EFFECT OF GROUND OR FLOOD WATERS SHALL BE REPAIRED IN A MANNER FULLY SATISFACTORY TO THE OWNER, AT NO ADDITIONAL COST TO THE OWNER.

5. CONTRACTOR SHALL PROVIDE AND PLACE ALL NECESSARY FLUMES OR OTHER CHANNELS OF ADEQUATE SIZE TO CARRY TEMPORARILY ALL STREAMS, BROOKS, STORMWATER OR OTHER WATER, WHICH MAY FLOW ALONG OR ACROSS THE LINES OF THE PIPE LINE. ALL FLUMES OR CHANNELS THUS UTILIZED SHALL BE TIGHT SO AS TO PREVENT LEAKAGE INTO THE TRENCHES. WATER PUMPED FROM TRENCHES SHALL BE LEFT TO NATURAL WATERCOURSES. EXISTING SEWERS SHALL NOT BE EMPLOYED AS A DRAIN FOR THE REMOVAL OF DEWATERING WASTES.

SEWER SERVICE LATERAL NOTES

1. CONTRACTOR SHALL MAKE UP STACK AND SUBMIT TO ENGINEER FOR APPROVAL AND SHALL SUBMIT TAPPING SADDLE IF USED TO ENGINEER FOR APPROVAL.

2. HOLE IN SANITARY SEWER MAIN MUST BE CUT WITH SHELL CUTTER, NO HAMMER TAPS ALLOWED.

3. LATERAL SHALL CONFORM TO ASTM SPECS. D-3034 SDR-35 UNLESS OTHERWISE INDICATED AS DUCTILE IRON.

4. ALL PIPE AND FITTINGS SHALL BE 4" OR 6" UNLESS OTHERWISE SPECIFIED. ALL D.I. PIPE SHALL HAVE AN INTERIOR LINING OF CERAMIC EPOXY OR FUSED CALCIUM ALUMINATE CEMENT WITH FUSED CALCIUM ALUMINATE AGGREGATES. THE ENTIRE D.I. LATERAL SHALL BE COMPRISED OF D.I. PIPE AND MECHANICAL JOINT FITTINGS.

5. ALL CONNECTIONS SHALL HAVE RUBBER GASKET SEALS INSTALLED. THE CONTRACTOR SHALL USE SDR 35 P.V.C. WYE FOR CONNECTION TO SDR 35 P.V.C. WYE OR DI TEE FOR CONNECTION TO DUCTILE IRON PIPE. PVC WYE SHALL BE ONE PIECE MOLDED OR FABRICATED.

6. ENTIRE SEWER LATERAL ASSEMBLY SHALL BE ENGINEER APPROVED INSTALLATION OTHER THAN AS SHOWN MUST BE ENGINEER APPROVED.

7. SLOPE AND DEPTH OF THE SERVICE LATERAL SHALL BE DETERMINED BY THE TOPOGRAPHY OF THE LOT AS APPROVED BY THE ENGINEER OR AS INDICATED ON CONTRACT DRAWINGS.

8. SLOPE OF LATERALS SHALL CONFORM TO 1/4" PER FOOT MIN. FOR 4" PIPE AND 1/8" PER FOOT MIN. FOR 6" PIPE. MAXIMUM CLEAN OUT SPACING FOR 4" PIPE IS 75', 100' FOR 6" PIPE.

9. ENTIRE SEWER LATERAL ASSEMBLY SHALL BE AIR TESTED CONCURRENTLY WITH SEWER MAIN.

10. INDIVIDUAL LATERALS SHALL BE CLEANED AND FLUSHED PRIOR TO FLUSHING SANITARY SEWER MAINS.

UTILITY GENERAL NOTES

1. PRIOR TO COMMENCEMENT OF ANY WORK WITHIN EASEMENTS OR RIGHTS-OF-WAYS THE CONTRACTOR IS REQUIRED TO NOTIFY CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH GS 87-102. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. NO SEPARATE PAYMENT. EXISTING UTILITIES SHOWN ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED (I.E. TELEPHONE, GAS, CABLE, ETC.).

2. THE CONTRACTOR SHALL DIG UP EACH UTILITY WHICH MAY CONFLICT WITH CONSTRUCTION 14 DAYS IN ADVANCE TO VERIFY LOCATIONS (HORIZONTALLY AND VERTICALLY) TO ALLOW THE ENGINEER AN OPPORTUNITY TO ADJUST THE DESIGN TO AVOID CONFLICTS (NO SEPARATE PAYMENT).

3. ALL SANITARY SEWER & WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS OF THE NCDENR-DWQ & NCDENR-PWS. STORM DRAINAGE, STREET CONSTRUCTION AND PAVING SHALL BE IN ACCORDANCE WITH THE N.C.D.O.T.

4. UTILITY SERVICES TO INDIVIDUAL PROPERTIES ARE NOT SHOWN IN THE PROFILES FOR SIMPLICITY OF THE DRAWINGS. SERVICES MAY INCLUDE WATER LATERALS, TELEPHONE, ELECTRIC, CABLE, GAS, ETC.

5. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION AND/OR SECURING EXISTING UTILITY POLES AND SIGNS AND/OR UTILITIES IN ACCORDANCE WITH UTILITY OWNER REQUIREMENTS DURING THE UTILITY MAIN INSTALLATION AND STREET CONSTRUCTION. (NO SEPARATE PAYMENT).

6. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS FOR UTILITY CROSSINGS AND REPAIR DAMAGES DUE TO CONSTRUCTION TO THE SATISFACTION OF THE UTILITY INVOLVED AT NO ADDITIONAL EXPENSE TO THE OWNER. UNDERGROUND ELECTRICAL CROSSINGS SHALL BE GROESSED IN ACCORDANCE WITH THE NEC AND TECHNICAL SPECIFICATION SECTION UNDERGROUND ELECTRICAL CROSSING.

7. WHERE DEEMED NECESSARY BY THE ENGINEER THAT A SUBSURFACE DRAINAGE SYSTEM IS REQUIRED, THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT, TIE-INS TO EXISTING DRAINAGE STRUCTURES AND ALL OTHER INCIDENTALS NECESSARY TO PROVIDE COMPLETE INSTALLATION IN ACCORDANCE WITH CITY OF FAYETTEVILLE STANDARDS. IMPROPERLY INSTALLED AND NON-FUNCTIONING DRAINAGE SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING FRENCH DRAINAGE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AND OR REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.

8. ANY DRIVEWAY CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE EITHER REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE. FILTER FABRIC CLOTH SHALL BE PLACED OVER EITHER CULVERT ENDS DURING THE COURSE OF CONSTRUCTION. ALL EX. DRAINAGE INFRASTRUCTURE WILL BE RETURNED TO PRE-EXISTING CONDITIONS PRIOR TO FINAL PROJECT APPROVALS.

GENERAL NOTES SANITARY SEWER UTILITY

1. CLEANOUT ELEVATIONS AND/OR LOCATIONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER WHEN NECESSARY. CLEANOUT STACK TOP ELEVATION IS DETERMINED BY INTERPOLATING FIELD DATA AND MAY NOT BE EXACT. CLEANOUT ELEVATION TOP SHALL BE SET IN ACCORDANCE WITH THE TYPICAL DETAIL DESCRIBED HEREON. (NO SEPARATE PAYMENT).

2. WHERE SANITARY SEWER MAINS ARE TO BE CONSTRUCTED WITHIN 20' OF EXISTING RESIDENCES SPECIAL CONSIDERATION SHALL BE GIVEN TO MINIMIZE UNDERMINING OR OTHERWISE DISTURBING EXISTING RESIDENCES ADJACENT TO THE SEWER MAIN. THE CONTRACTOR SHALL USE A RUBBER TIRE BACK HOE AND NO MECHANICAL COMPACTION EQUIPMENT IN THESE AREAS. THE TRENCH SHALL BE SHORED ADEQUATELY TO PREVENT ANY SLOTTING OF THE SIDE SLOPES. SUITABLE BACK FILL SHALL BE PLACED IN THE TRENCH. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR REPAIR OF STRUCTURES, FOUNDATIONS, FOOTINGS, ETC. DAMAGED DUE TO CONSTRUCTION.

3. SANITARY SEWER MANHOLE DEFLECTION ANGLE'S ARE 180 DEGREES UNLESS NOTED OTHERWISE. ALL INVERT ELEVATIONS ARE SHOWN TO THE MANHOLE CENTERLINE.



TAPPING SADDLE (OPTIONAL)



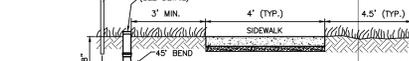
SERVICE PLUG/ C/O CAP ASSEMBLY



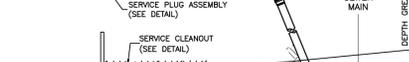
CLEANOUT COVER ASSEMBLY (FOR TRAFFIC AREAS)



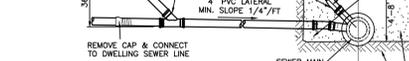
SEWER SERVICE CLEANOUT (FOR TRAFFIC AREAS)



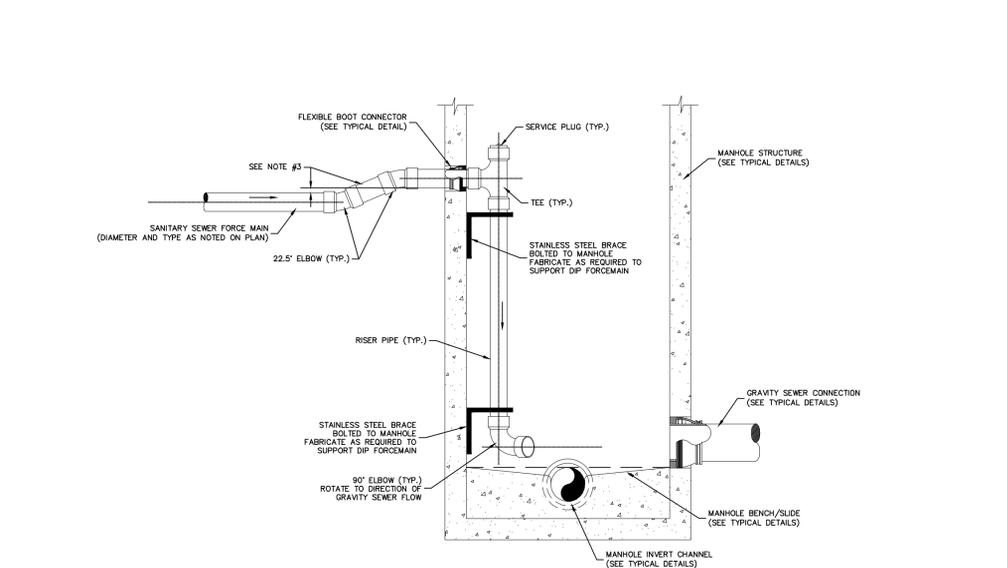
SEWER SERVICE CLEANOUT (FOR NON-TRAFFIC AREAS)



4" LATERAL SEWER SERVICE CONNECTION DETAIL



SEWER SERVICE LATERAL UTILITY CONFLICT SEPARATION REQUIREMENTS



TYPICAL MANHOLE W/ FORCE MAIN CONNECTION DETAIL

NOT TO SCALE

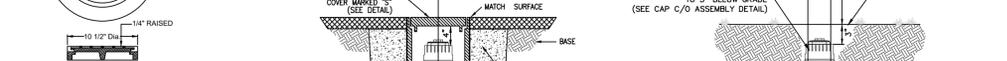
NOTES: 1. PIPE AND FITTINGS SHALL EQUAL SIZE AND TYPE OF FORCE MAIN. 2. MANHOLE SHALL BE IDENTICAL TO STANDARD MANHOLE SPECIFICATIONS. 3. THE INLET PIPE INVERT SHALL BE EQUAL TO OR HIGHER IN ELEVATION THAN THE TOP OF THE FORCE MAIN PRIOR TO THE FIRST 22.5' ELBOW. THE LENGTH OF PIPE BETWEEN ELBOWS SHALL BE DETERMINED AS NECESSARY TO ACHIEVE THE CONDITION DESCRIBED ABOVE.



SERVICE PLUG/ C/O CAP ASSEMBLY



TAPPING SADDLE (OPTIONAL)



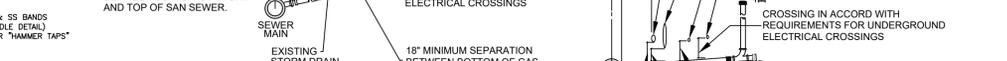
CLEANOUT COVER ASSEMBLY (FOR TRAFFIC AREAS)



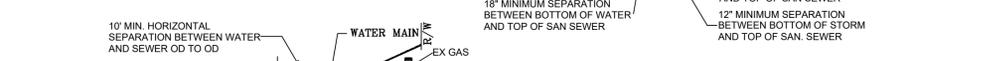
SEWER SERVICE CLEANOUT (FOR TRAFFIC AREAS)



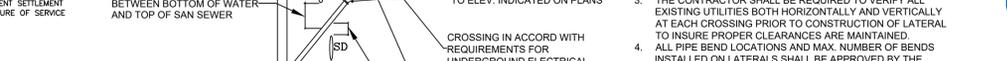
SEWER SERVICE CLEANOUT (FOR NON-TRAFFIC AREAS)



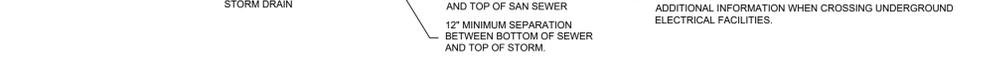
4" LATERAL SEWER SERVICE CONNECTION DETAIL



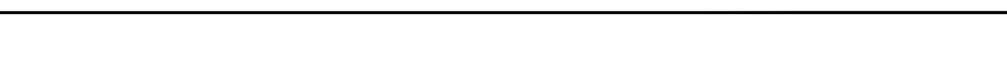
SEWER SERVICE LATERAL UTILITY CONFLICT SEPARATION REQUIREMENTS



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SEWER SERVICE LATERAL UTILITY CONFLICT SEPARATION REQUIREMENTS



SEWER SERVICE LATERAL UTILITY CONFLICT SEPARATION REQUIREMENTS

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BISSELL PROFESSIONAL GROUP, Inc. Engineers, Planners, Surveyors and Environmental Specialists

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THE FOST TRACT PD-R - PHASE 4

MOYOCK TOWNSHIP

CURRITUCK COUNTY

NORTH CAROLINA

RECORD DRAWINGS - PHASE 4

NO. DATE DESCRIPTION

11-06-23 1" = 30'

DATE: 11-06-23 1" = 30'

DATE: 11-06-2

