GREENLAWN FUNERAL HOME

CITY OF WILMINGTON, NC

JULY 11, 2018

TECHNICAL REVIEW COMMITTEE SUBMITTAL

CONDITIONAL DISTRICT REZONING CONDITIONS

- STATED BELOW. IN THE EVENT OF A CONFLICT, THE MORE

- 5. THE STRUCTURE FACING SHIPYARD BOULEVARD SHALL CONFORM TO THE ELEVATION AS PRESENTED (DATED RECEIVED **DECEMBER 21, 2017).**
- THE PROPOSED USES SHALL BE LIMITED TO A FUNERAL HOME AND CREMATORY WITH ASSOCIATED PARKING AND LANDSCAPING.
- STRICT ADHERENCE TO THE DESIGN STANDARDS WILL BE CONFIRMED AS PART OF THE TECHNICAL REVIEW.
- EXTERIOR LIGHTING SHALL BE INSTALLED SO AS NOT TO SHINE DIRECTLY ONTO ADJACENT RESIDENTIAL PARCELS.
- ANY FREESTANDING SIGN(S) ON THE SITE SHALL BE A MAXIMUM OF 6 FEET IN HEIGHT, MONUMENT STYLE WITH LANDSCAPING AROUND THE BASE OF THE SIGN; NO POLE SIGNS SHALL BE
- 10. THE CREATIVE STANDARD SHALL NOT BE USED TO SATISFY THE STREET YARD LANDSCAPING REQUIREMENTS.
- 11. THE BUFFER BETWEEN THE ADJACENT RESIDENTIAL ZONING NECESSARY, WITH EVERGREEN PLANTINGS AS SHOWN ON THE SITE PLAN (DATED RECEIVED, JANUARY 24, 2018).
- 12. A MULTI-USE PATH SHALL BE INSTALLED ALONG THE FRONTAGE OF SHIPYARD BOULEVARD FROM THE PROPERTY BOUNDARY TO THE WEST TO THE SHARED DRIVEWAY WITH THE CEMETERY.
- 13. ALL CITY, STATE AND FEDERAL REGULATIONS SHALL BE MET

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

WATER AND SEWER DEMAND: 1. WATER 0 GPD (CURRENT USE)

3. SEWER 0 GPD (CURRENT USE) 4. SEWER 5,835 GPD (PROPOSED USE)

2. WATER 5,835 GPD (PROPOSED USE)

Approved Construction Plan APPROVED STORMWATER MANAGEMENT PLAI A. City of Wilmington **Planning Department**

COUNTY AND AGENCY CONTACTS

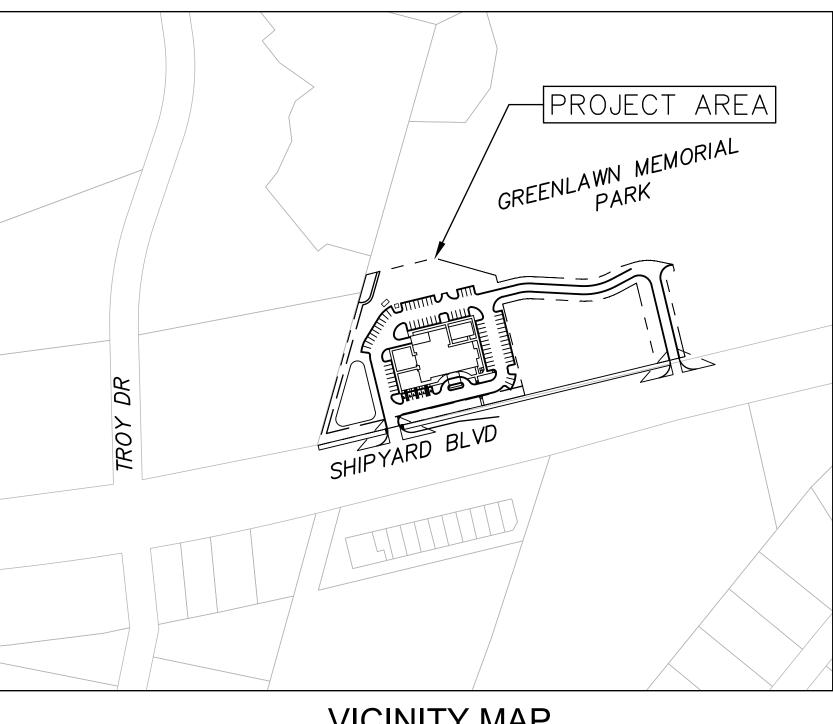
102 North Third Street PO BOX 1810 Wilmington, NC 28402-1810 (910)342-2782

B. City of Wilmington Engineering 212 Operations Center Drive PO BOX 1810 Wilmington, NC 28402-1810 (910) 341-7807 **Contact: Rob Gordon** Email: Rob.Gordon@wilmingtonnc.gov

C. New Hanover County **Sediment and Erosion Control** 230 Government Center Drive, Suite 160 Wilmington, NC 28403 (910) 798-7432 **Contact: Beth Wetherill** Email: BWetherill@nhcgov.com

D. Cape Fear Public Utility Authority 235 Government Center Drive Wilmington, NC 28403 (910) 332-6626

ISSUED FOR PERMITTING NOT FOR CONSTRUCTION



VICINITY MAP

4	CX-100	SITE INVENTORY/ EXISTING CONDITIONS				
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SHEET LIST TABLE

SHEET DESCRIPTION

COVER

GENERAL NOTES

CLOSE-OUT NOTES

UTILITY DETAILS

PROJECT DATA

NAME OF PROJECT:

GREENLAWN FUNERAL HOME WILMINGTON, NORTH CAROLINA **NEW HANOVER COUNTY**

SHEET NUMBER SHEET TITLE

G-001 G-002

G-003

SSD-4

OWNER/DEVELOPER:

SCI FUNERAL SERVICES OF NC, LLC 1929 ALLEN PARKWAY HOUSTON, TX 77019 **CONTACT: JONATHAN GEREN** EMAIL: JONATHAN.GEREN@SCI-US.COM

PREPARED BY:

MCKIM & CREED, INC 243 NORTH FRONT ST WILMINGTON, NC 28401 PHONE: (910)343-1048 FAX: (910)251-8282 CONTACT: KATHRYN ESPINOZA, PE EMAIL: KESPINOZA@MCKIMCREED.COM

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License: F-1222

www.mckimcreed.com

Call before you dig.

CONSTRUCTION NOTES

- 1. CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON STANDARDS AND
- 2. CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING THE LOCATION OF EXISTING UTILITIES FROM THE APPROPRIATE PARTIES PRIOR TO CONSTRUCTION.
- 3. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAGMEN, ETC. AS NECESSARY TO INSURE SAFETY
- 4. THESE DRAWINGS SHOW INFORMATION OBTAINED FROM THE AVAILABLE RECORDS REGARDING PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES AND CONDITIONS WHICH EXIST ALONG THE LINES OF WORK AND BELOW THE SURFACE OF THE GROUND. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITIES FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION, AND SUCH INFORMATION IS BEING SHOWN ONLY FOR THE CONVENIENCE OF THE CONTRACTOR WHO MUST VERIFY THE INFORMATION TO HIS OWN SATISFACTION DURING THE BIDDING AND CONSTRUCTION PHASES. IF THE CONTRACTOR RELIES ON SAID INFORMATION, HE DOES SO AT HIS OWN RISK. THE GIVING OF THE INFORMATION ON THE CONTRACT DRAWINGS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO SUPPORT AND PROTECT ALL PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES, WHETHER ABOVE OR BELOW GRADE.
- 5. SHOULD ANY DAMAGE OCCUR TO EXISTING UTILITIES, IT SHALL BE REPAIRED SOLELY AT THE CONTRACTOR'S
- 6. THE CONTRACTOR SHALL VERIFY EXISTING INVERTS PRIOR TO CONSTRUCTION OF UNDERGROUND UTILITIES. TEST PITTING OF EXISTING LINES PRIOR TO CONSTRUCTION, IF NECESSARY, SHALL BE COORDINATED WITH THE OWNER.
 7. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, PROJECT SPECIFICATIONS, AND LOCAL BUILDING CODES.
- 8. ALL DISTURBED AREAS SHALL BE SMOOTHLY GRADED TO PROMOTE POSITIVE DRAINAGE AND STABILIZED WITH TOPSOIL, SEED, AND MULCH. IF SETTLEMENT OCCURS, TOPSOIL, SEEDING, AND MULCH SHALL BE REPEATED UNTIL SETTLEMENT SUBSIDES. (SEE EROSION AND SEDIMENT CONTROL DETAILS AND SPECIFICATIONS.)
- 9. WATER MAINS WILL BE INSTALLED AT A DEPTH THAT WILL PROVIDE 36" COVER OVER THE PIPES BELOW PROPOSED GRADE UNLESS SHOWN OTHERWISE ON THESE PLANS OR DIRECTED OTHERWISE BY THE ENGINEER.
- 10. ALL WATER VALVES, BOXES, AND FIRE HYDRANT ASSEMBLES SHALL BE SET AND ADJUSTED TO FINISHED GRADE.

CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO

- 11. THE OWNER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, BOTH TEMPORARY AND PERMANENT.

 12. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL SURVEY CONTROL PRIOR TO STAKING OUT
- 13. ANY PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE REPLACED SOLELY AT THE
- CONTRACTOR'S EXPENSE.
- 14. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS.
- 15. FIRE HYDRANTS SHALL BE PLACED A MINIMUM DISTANCE OF 6 FEET FROM BACK OF CURB AND SHALL HAVE A CLEAR SPACE OF 3 FEET FROM ANY PERMANENT STRUCTURE PER CFPUA STANDARDS.16. ALL SELECT AND BORROW MATERIAL SHALL MEET CRITERIA SET FORTH BY SECTIONS 1016 AND 1018 OF THE
- NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS FOR ROADS AND STRUCTURES. SEE SECTION FOR PLACEMENT AND COMPACTION INFORMATION.

 17. THE ENGINEER AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES USED IN THE FINAL DRAINAGE SYSTEM
- AND AGREE ON THE CONDITION OF THE PIPES PRIOR TO CONSTRUCTION. IF DAMAGE OCCURS TO THESE PIPES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE PIPE(S).
- BE USED AS FILL MATERIAL AND SHALL BE DISPOSED OF OUTSIDE THE PROJECT LIMITS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING AND FEES FOR DISPOSAL.

18. EXISTING PAVING, CONCRETE, AND OTHER UNSUITABLE MATERIALS INCLUDING UNDERCUT EXCAVATION SHALL NOT

- 19. ALL TREES, STUMPS, ROOT MAT, ETC. SHALL BE ENTIRELY REMOVED REGARDLESS OF DEPTH. BURIAL OF ORGANIC MATERIAL WITHIN THE PROJECT LIMITS IS NOT PERMITTED. OPEN BURNING OF DOWNED TREES AND STUMPS IS NOT PERMITTED. CHIPPED MATERIALS MUST BE REMOVED PRIOR TO THE PLACEMENT OF EMBANKMENT OR TOPSOIL.
- 20. THE CONTRACTOR IS SOLELY RESPONSIBLE TO OBTAIN OFF—SITE SPOIL AREAS FOR DISPOSAL OF EXCESS AND/OR UNSUITABLE MATERIALS AS NECESSARY. OFF—SITE SPOIL AREAS MUST BE SUBMITTED TO THE ENGINEER AND APPLICABLE REGULATORY AGENCIES PRIOR TO UTILIZATION BY THE CONTRACTOR. NO AREAS DESIGNATED AS WETLANDS WILL BE PERMITTED FOR USE AS A DISPOSAL SITE. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER THAT NO WETLANDS WILL BE IMPACTED. THE ENGINEER WILL NOT CONSIDER ANY DELAYS OR MONETARY CLAIMS OF ANY NATURE RESULTING FROM THE CONTRACTOR'S FAILURE OR DIFFICULTY IN FINDING NECESSARY DISPOSAL SITES TO MEET THE TIME FRAMES AND CAPACITIES REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PLANS, PERMITS, EROSION AND SEDIMENT CONTROL MEASURES, ETC. REQUIRED BY THE APPROPRIATE REGULATORY AGENCIES FOR UTILIZING OFF—SITE SPOIL AREAS. THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED PRIOR TO UTILIZING THE OFF—SITE SPOIL AREAS. ALL COSTS FOR PROCURING AND UTILIZING THE OFF—SITE SPOIL AREAS ARE TO BE INCIDENTAL TO THE BASE BID.

DEMOLITION NOTES

- THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIARIZED WITH FIELD DEMOLITION CONDITIONS.
- 2. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL DEMOLISHED DEBRIS ASSOCIATED WITH THE PROJECT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST GENERATED BY THE WORK, INCLUDING BUT NOT LIMITED TO DEMOLITION AND CONSTRUCTION ACTIVITIES. SITE VEHICULAR TRAFFIC AND RELATED OPERATIONS.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL EXISTING UTILITIES LOCATED PRIOR TO BEGINNING ANY DEMOLITION. CONTRACTOR SHALL CONTACT NC ONE CALL AT LEAST 72 HOURS PRIOR TO BEGINNING
- CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED.

 5. EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR

TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S

- REPRESENTATIVE AND ENGINEER IMMEDIATELY.

 6. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF DISCONNECTING AND ABANDONING ALL EXISTING UTILITIES WITH THE OWNER UNLESS OTHERWISE NOTED. ALL EXISTING UTILITIES AND ASSOCIATED PIPING, ETC. NOT
- UTILITIES WITH THE OWNER UNLESS OTHERWISE NOTED. ALL EXISTING UTILITIES AND ASSOCIATED PIPING, ETC. NOT IN USE ON THE SITE SHALL BE PROPERLY ABANDONED AND REMOVED AS REQUIRED. COORDINATE WITH THE OWNER.
- 7. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ANY EXISTING UTILITIES THAT REMAIN IN SERVICE DURING DEMOLITION.
- 8. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS AND SLOPES ON AND OFF SITE IN ACCORDANCE WITH THE EROSION CONTROL MEASURES SPECIFIED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO DETERMINE WHO IS RESPONSIBLE FOR PROVIDING THE PERMANENT STABILIZATION MEASURES AND THE TYPE OF PERMANENT MEASURES PRIOR TO BEGINNING DEMOLITION AND CONSTRUCTION. THE PERMANENT STABILIZATION MEASURES SHALL BE IN PLACE AND ACCEPTABLE TO THE OWNER'S REPRESENTATIVE AND ENGINEER PRIOR TO PROJECT CLOSEOUT. COORDINATE INSPECTION WITH THE OWNER AND ENGINEER PRIOR TO PROJECT CLOSEOUT.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND CONTACTING THE ENGINEER FOR THE REQUIRED INSPECTIONS ON THE PROJECT.
- 10. WETLANDS DO NOT EXIST ON SITE. WETLANDS WILL NOT BE DISTURBED DURING CONSTRUCTION OF THIS PROJECT.

Approved Construction Plan	
<u>Name</u> <u>Date</u>	
Planning	
Traffic	
Fire	
WILLY OF NORTH CAROLINA Public Services Engineering Division	
APPROVED STORMWATER MANAGEMENT PLAN	For each open utility cut
Date: Permit #	City streets, a \$325 pern shall be required from the City prior to occupancy and/or project acceptance

utility cut of 6325 permit ed from the ccupancy acceptance.

EXCAVATION, GRADING, AND BACKFILLING NOTES

- 1. ANY UNDERCUTTING IN GOOD SOIL SHALL BE REPLACED AND THE REPLACEMENT MATERIAL SHALL BE COMPACTED TO NINETY—FIVE (95) PERCENT OF MAXIMUM DENSITY OBTAINED AT OPTIMUM MOISTURE CONTENT, AS DETERMINED BY THE ASTM D 698 STANDARD PROCTOR TEST METHOD. IN THE EVENT THAT MATERIAL ENCOUNTERED AT PIPE GRADE, SUBGRADE OF PARKING OR ROADWAYS AND SUBGRADE OF BUILDING FOUNDATIONS IS FOUND TO BE SOFT, SPONGY, OR IN ANY OTHER WAY UNSUITABLE, THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER IMMEDIATELY. SUCH UNSUITABLE MATERIAL SHALL BE REMOVED TO A DEPTH AS SPECIFIED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH A MINIMUM OF SIX (6) INCHES OF STONE, OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- 2. BEFORE BACKFILLING IS COMMENCED OVER PIPES AND OTHER INSTALLATIONS, EARTH FILL SHALL BE SOLIDLY TAMPED AROUND AND ABOVE THE PIPE TO A DEPTH OF ONE (1) FOOT ABOVE THE TOP OF THE PIPE. CARE SHALL BE TAKEN TO PREVENT ANY DISTURBANCE TO THE PIPE OR DAMAGE TO NEWLY MADE JOINTS. THE FILLING OF THE TRENCH SHALL BE CARRIED OUT SIMULTANEOUSLY ON BOTH SIDES OF THE PIPES IN SUCH A MANNER THAT INJURIOUS SIDE PRESSURES DO NOT OCCUR.
- 3. THE MATERIAL FOR BACKFILLING SHALL BE FREE FROM ALL PERISHABLE AND OBJECTIONABLE MATERIALS. BEFORE PLACING ANY BACKFILL, ALL RUBBISH, FORM, BLOCKS, WIRES OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM EXCAVATION. THE BACK—FILLING OVER PIPES SHALL BE PLACED IN LAYERS NOT OVER SIX (6) INCHES THICK AND COMPACTED TO A MINIMUM DENSITY OF NINETY—FIVE (95) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST TO A DEPTH OF 12 INCHES BELOW FINISHED GRADE. THE LAST 12 INCHES OF BACKFILL SHALL BE PLACED IN LAYERS NOT OVER SIX (6) INCHES THICK AND COMPACTED TO A MINIMUM DENSITY OF NINETY—EIGHT (98) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST.

STORM DRAINAGE AND GRADING NOTES

- 1. IN ACCORDANCE WITH NC GENERAL STATUTES, NPDES REGULATIONS, AND NCDENR REQUIREMENTS, STORMWATER DISCHARGE OUTFALLS SHALL BE INSPECTED BY THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR AFTER EACH STORM EVENT OF 1/2 INCH OR GREATER, WITH ONE WEEKLY INSPECTION MINIMUM. NCDENR STANDARD INSPECTION REPORTS SHALL BE PREPARED AND SIGNED WITH COPIES PROVIDED TO THE OWNER, ARCHITECT, AND ENGINEER, BY THE CONTRACTOR.
- 2. INLET PROTECTION SHALL BE INSTALLED AROUND OUTFALL. DEVICES SHALL BE CONSTRUCTED TO FINAL PROPOSED CONDITION UPON STABILIZATION OF CONTRIBUTING GROUND SURFACES AND REMOVAL OF SEDIMENT FROM STORM PIPES.
- 3. ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO CONTRACTOR FOR ANY WORK DONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
- 4. UNLESS OTHERWISE NOTED, GRADES AND SPOT ELEVATIONS NOTED ON PLANS INDICATE FINISHED GRADE OR PAVEMENT SURFACE. ALL DIMENSIONS ARE MEASURED TO THE BACK OF CURB UNLESS OTHERWISE INDICATED.
- 5. COORDINATION WITH CITY SURVEYOR TO DETERMINE MONUMENTATION IS REQUIRED. NOTE ON PLANS.
- CONTRACTOR TO COORDINATE WITH CITY OF WILMINGTON CONSTRUCTION INSPECTOR TO ENSURE EDGE OF CATCH BASIN GRATES ALIGN WITH TRAVEL LANE AS REQUIRED.

MATERIALS AND EASEMENT NOTES:

- ALL CATCH BASINS ARE NCDOT STD 840.02, 840.03
- ALL DROP INLETS ARE NCDOT STD 840.14, 840.16
- ALL STORM DRAINAGE PIPING TO BE CLASS III RCP OR HDPE, UNLESS OTHERWISE NOTED

ALL STORM DRAINAGE PIPING CONVEYING DISCHARGE FROM THE PUBLIC

- RIGHT-OF-WAY SHALL BE CONTAINED WITHIN A PUBLIC DRAINAGE EASEMENT WHOSE WIDTH IS DETERMINED BY THE DEPTH OF BURY

 ALL SANITARY SEWER LINES AND WATERLINES SHALL BE C-900 PV
- ALL SANITARY SEWER LINES AND WATERLINES SHALL BE C-900 PVC, UNLESS OTHERWISE NOTED AND MEET CAPE FEAR PUBLIC UTILITY SPECIFICATIONS
- A PUBLIC UTILITY EASEMENT SHALL BE RESERVED WITHIN THE STREET RIGHT-OF-WAY. A 10' NON-MUNICIPAL EASEMENT SHALL BE RESERVED ALONG BOTH SIDES OF ALL STREETS
- WATER AND SANITARY SEWER UTILITIES ARE PUBLIC CAPE FEAR PUBLIC UTILITY AUTHORITY

UTILITY COMPANY CONTACTS

DUKE/PROGRESS ENERGY: SID LIVINGSTON/MARK HATFIELD (910) 452-2777
DUKE ENERGY (TRANSMISSION): BILL WILDER (910) 772-4903
AT&T: JAMES BATSON (910) 452-5300
SPECTRUM: ROBERT JOHN (910) 216-4494
PIEDMONT NATURAL GAS: PAUL GONKA (910) 512-2841
DJ MEDEIROS (910) 431-3233

CAPE FEAR PUBLIC UTILITY AUTHORITY: (910) 332-6550

UTILITY NOTES

- 1. SCHEDULE A PRECONSTRUCTION MEETING WITH CAPE FEAR PUBLIC UTILITY AUTHORITY 48 HOURS PRIOR TO CONSTRUCTION OF WATER AND SEWER LINES.
- 2. WATER AND SANITARY SEWER UTILITY MAINS ARE PRIVATE BEYOND THE PUBLIC STREET RIGHT-OF-WAY.
- 3. THIS PROJECT SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND NCDENR HAS ISSUED THE "FINAL APPROVAL".
- 4. ALL COMMERCIAL WATER SERVICES AND ANY IRRIGATION SYSTEMS SUPPLIED BY CFPUA WATER SHALL HAVE A BACKFLOW PREVENTION DEVICE ACCEPTABLE TO CFPUA AND APPROVED BY USCFCCCHR OR ASSE.
- 5. BACKFLOW PREVENTION AND METERS WILL BE PROVIDED FOR BOTH FIRE LINES (RPDA) AND DOMESTIC SERVICE (RPZ). FIRE LINE BACKFLOW PREVENTER AND DOMESTIC SERVICE BACKFLOW PREVENTER WILL BE LOCATED AS SHOWN ON THE UTILITY PLANS. INSTALLER OF BACKFLOW PREVENTERS MUST CONTACT CFPUA PRIOR TO INSTALLING UNITS TO GIVE CFPUA THE OPTION TO VERIFY INSTALLATION PROCEDURES.
- 5.1. <u>REDUCED PRESSURE PRINCIPLE ASSEMBLY</u> FOR DOMESTIC WATER SERVICE
- 5.2. <u>REDUCE PRESSURE DETECTOR ASSEMBLY</u> WILL BE UTILIZED FOR THE BACKFLOW PREVENTER ON THE FIRE SERVICE.
- 6. IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- 7. WATER: 1.5" AND 2" PVC SERVICES SHALL BE CONSTRUCTED USING ASTM D2241, IPS, GASKETED PIPE, SDR 21. 4"-12" PVC MAINS AND SERVICES SHALL BE CONSTRUCTED USING AWWA C-900 PVC, CL235 (DR-18). REQUIREMENTS OF AWWA C900 ELASOMERIC PUSH-ON JOINTS.
- 8. SANITARY SEWER: FOR PIPE SIZES 4" AND 6" PIPE SHALL BE SCH 40 CONFORMING TO THE REQUIREMENTS OF ASTM D1785 WITH SOLVENT WELD JOINTS CONFORMING TO ASTM D2672. FOR PIPE SIZES 8" THROUGH 12", PIPE SHALL BE CLASS 150, DR18 CONFORMING TO THE REQUIREMENTS OF AWWA C900 WITH ELASTOMERIC PUSH—ON JOINTS CONFORMING TO ASTM D3212 OR ASTM D3139.
- 9. WATER AND SEWER SERVICES CANNOT BE ACTIVATED ON NEW MAINS UNTIL ENGINEER'S CERTIFICATION AND AS—BUILTS ARE RECEIVED AND "FINAL APPROVAL" ISSUED BY PUBLIC WATER SUPPLY SECTION OF NCDENR AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY OF NCDENR.
- 10. WATERLINE TRACER WIRE: SEE CFPUA DETAIL WD-17.
- 11. SITE UTILITY CONTRACTOR TO PROVIDE WATER AND SANITARY SEWER SERVICE TO WITHIN 5 FEET OF THE BUILDING. CONTRACTOR SHALL COORDINATE SITE PLAN CONNECTIONS WITH THE ARCHITECTURAL BUILDING PLANS.
- 12. MAXIMUM BENDING RADIUS FOR 8" C-900 PVC WATER MAIN BENDS IS 380' (ONE-HALF MANUFACTURER'S RECOMMENDED ALLOWABLE LONGITUDINAL BENDING).
- 13. <u>UNDERGROUND UTILITIES:</u> ALL NEW UTILITIES SHALL BE INSTALLED UNDERGROUND, EXCEPT WHERE SUCH PLACEMENT IS PROHIBITED OR DEEMED IMPRACTICAL BY THE UTILITY PROVIDER. UNDERGROUND TERMINAL FACILITIES FOR STREET LIGHTING ALONG THE PUBLIC STREETS ABUTTING THE SUBJECT SITE SHALL BE INSTALLED BY THE DEVELOPER.
- 14. MINIMUM OF 36" COVERAGE ABOVE ALL WATERMAINS.
- 15. MINIMUM OF 36" VERTICAL SEPARATION BETWEEN WATERLINES AND STORMDRAIN CURB INLETS
- 16. A VARIANCE IS NOT ANTICIPATED FROM ANY NORTH CAROLINA DIVISION OF WATER QUALITY (DWQ) REQUIREMENT.
- 17. PLANS ARE IN COMPLIANCE WITH CAPE FEAR PUBLIC UTILITY AUTHORITY TECHNICAL STANDARDS AND SPECIFICATIONS.

RELATION OF WATER MAINS TO SANITARY SEWERS:

- LATERAL SEPARATION OF SANITARY SEWERS 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:
- 1.1. 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
- 1.2. 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 ABOVE THE TOP OF THE SEWER.
- 2. CROSSING A WATER MAIN OVER A SEWER MAIN: 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 24 INCHES ABOVE THE TOP OF THE SEWER MAIN. UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION IN WHICH CASE BOTH THE WATER MAIN AND THE SEWER MAIN 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.
- 3. CROSSING A WATER MAIN UNDER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER MAIN BOTH THE WATER MAIN AND THE SEWER MAIN 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.
- 4. CROSSING A SEWER MAIN/WATER MAIN OVER OR UNDER A STORM DRAIN: WHENEVER IT IS NECESSARY FOR A SEWER MAIN/WATER MAIN TO CROSS A STORM DRAIN PIPE, THE SEWER MAIN/WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE OUTSIDE OF THE SEWER MAIN/WATER MAIN NEAREST TO THE OUTSIDE OF THE STORM DRAIN PIPE SHALL MAINTAIN A 24 INCH CLEAR SEPARATION DISTANCE HORIZONTAL, OR THE SEWER MAIN/WATER MAIN SHALL EITHER BE CONSTRUCTED OF DUCTILE IRON PIPE OR ENCASED IN EITHER CONCRETE OR DUCTILE IRON PIPE FOR AT LEAST 5 FEET ON EITHER SIDE OF THE CROSSING.

EROSION CONTROL NOTES

- ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
- 2. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE. ANY BUILDER THAT ANTICIPATED THE DISTURBANCE OF MORE THAN ONE ACRE WILL BE REQUIRED TO GET AN EROSION CONTROL PERMIT FROM NEW HANOVER COUNTY.
- 3. GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
- 4. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NEW HANOVER COUNTY.
- 5. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
- 6. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
- 7. IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED.
- 8. WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL
- 9. ALL ACTIVITY AND INSTALLATION OF EROSION CONTROL MATTING WILL BE COMPLETE PRIOR TO ANY RAIN EVENT.

EROSION CONTROL MAINTENANCE PLAN:

MEASURES.

- 1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE—HALF (0.5) INCH OR GREATER RAINFALL.
- 2. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
- SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
- 4. ALL AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
- 5. STONE CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS TRACKED ON TO THE PAVEMENT. STONE WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN 6 INCH DEPTH. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS REQUIRED.
- 6. INSPECT TEMPORARY DIVERSIONS AND CHECK DAMS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE AND CHECK DAM. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.
- 7. INSPECT TEMPORARY SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE—HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS.
- 8. CHECK THE SEDIMENT BASIN EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.
- 9. INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (0.5" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED. INLET PROTECTION SHOULD BE CLEANED OUT WHEN IT IS HALF FULL.
- 10. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEAN OUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH. AFTER THE CONTRIBUTING DRAINAGE AREAS HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE. AND STABILIZE IT.
- 11. INSPECT THE SKIMMER FOR CLOGGING. PULL THE SKIMMER TO THE SIDE OF THE BASIN AND REMOVE ANY DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER AND THE ARM OR BARREL PIPE FOR CLOGGING; IF CLOGGED, REMOVE THE DEBRIS.

CITY OF WILMINGTON STANDARD NOTES

- 1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
- 2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- 3. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS. CONTACT CITY OF WILMINGTON TRAFFIC ENGINEERING AT (910)341-7888 AND CONSTRUCTION MANAGEMENT (910)341-7807 TO DISCUSS PAVEMENT MARKINGS PRIOR TO INSTALLATION.
- 4. ONCE STREETS ARE OPEN TO TRAFFIC, THE DEVELOPER SHALL CONTACT TRAFFIC ENGINEERING (910–341–7888) TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- 5. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- 6. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- 7. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
- 8. CONTACT KAREN DIXON AT (910)341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
- 9. IF THE CONTRACTOR DESIRES WATER FOR CONSTRUCTION HE SHALL APPLY WITH THE CAPE FEAR PUBLIC UTILITY AUTHORITY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- 10. WATER AND SEWER SERVICES SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
- 11. CONTACT TRAFFIC ENGINEERING TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
- 12. TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR RAMPS.
- 13. NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS.
- 14. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- 15. CONTACT TRAFFIC ENGINEERING AT (910)341-7888 TO COORDINATE PARKING SIGNAGE AND/OR MARKINGS PRIOR TO INSTALLATION.
- 16. CONTACT TRAFFIC ENGINEERING AT (910)341-7888 FORTY -EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- 17. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
- 18. CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES, AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.

FIRE PROTECTION NOTES

- 1. HYDRANT MUST BE WITHIN 150' OF THE FDC.
- 2. THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
- 3. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
- 4. HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB PER CITY OF WILMINGTON STANDARDS. HYDRANTS WILL BE LOCATED WITHIN 6' OF THE CURB PER CFPUA STANDARDS.
- 5. COMBUSTIBLE MATERIALS MAY NOT BE STORED OR ERECTED ONSITE WITHOUT CITY FIRE INSPECTOR APPROVAL.
- 6. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION.
- 7. UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
- . MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM UNDERGROUND UTILITIES
- 9. CONTRACTOR SHALL MAINTAIN AN ALL—WEATHER ACCESS TO ALL PORTIONS OF THE JOBSITE WHERE COMBUSTIBLES ARE PRESENT AT ALL TIMES DURING CONSTRUCTION.
- INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.

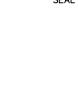
 11. FIRE DEPARTMENT ACCESS WIDTHS SHALL BE A MINIMUM OF 20—FEET

10. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET

UNLESS LESSER WIDTHS ARE APPROVED BY THE FIRE CODE OFFICIAL.

12. BAG HYDRANTS THAT ARE NOT IN SERVICE.

FINAL PURPOSES



SMCKIM&CREED

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SERVICES, LLC. 1929 ALLEN PKWY. HOUSTON, TX 77019

SCI NORTH CAROLINA FUNERAL

GREENLAWN FUNERAL HOME

WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

GENERAL NOTES

STATUS: F

DATE: 07/11/2018

MCE PROJ. # 07397-0001

DRAWN ALM/EEM/KCBE

DESIGNED KCBE/EEM/ALM

CHECKED RMC

PROJ. MGR. KCBE

HORIZONTAL:
N/A
VERTICAL:
N/A

VERTICAL:
N/A

CAPE FEAR PUBLIC UTILITY AUTHORITY CONSTRUCTION PROCEDURE:

- 1. THE DESIGN ENGINEERING SHALL SUBMIT 3 SETS OF FINAL DESIGN PLANS AND APPROVED SPECIFICATIONS PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING.
- 2. SUBMITTALS FOR MATERIALS SHOULD BE MADE IN ACCORDANCE WITH CFPUA SPECIFICATION SECTION 01340. MATERIAL SHOP DRAWING SUBMITTALS ARE REQUIRED FOR ALL PHYSICAL ASSETS TO ENSURE THEY COMPLY WITH CFPUA TECHNICAL SPECIFICATIONS AND DETAILS. THESE SUBMITTALS ARE PROJECT—SPECIFIC, AND MUST INCLUDE OR HIGHLIGHT ONLY THE SPECIFIC MATERIALS TO BE USED IN THE PROJECT. THE SUBMITTAL APPROVAL PROCESS IS GENERALLY AS FOLLOWS:
 - MATERIAL VENDOR FURNISHES SUBMITTALS TO THE CONTRACTOR BASED ON THE PROJECT REQUIREMENTS.

CONTRACTOR REVIEWS THE SUBMITTALS FOR COMPLIANCE WITH THE APPROVED CONSTRUCTION DRAWINGS, CFPUA TECHNICAL SPECIFICATIONS AND DETAILS, AND FORWARDS TO THE DEVELOPER'S ENGINEER-OF-RECORD WHEN COMPLETE.

THE DEVELOPER'S ENGINEER-OF-RECORD VERIFIES COMPLIANCE, STAMPS AND SIGNS THE SUBMITTAL, AND FORWARDS THE PACKAGE TO THE CFPUA CONSTRUCTION MANAGER. IF IT IS DETERMINED THAT THE MATERIAL SHOP DRAWING SUBMITTAL IS NOT IN COMPLIANCE, THE ENGINEER SHALL RETURN IT TO THE CONTRACTOR FOR CORRECTION AND RESUBMISSION AS NOTED ABOVE.

CFPUA'S CONSTRUCTION MANAGER REVIEWS THE SUBMITTAL FROM THE DEVELOPER'S ENGINEER-OF-RECORD, VERIFIES COMPLIANCE, AND NOTIFIES THE ENGINEER THAT THE MATERIALS ARE APPROVED FOR CONSTRUCTION. IF IT IS DETERMINED THAT THE MATERIAL SHOP DRAWING SUBMITTAL IS NOT IN COMPLIANCE, THE SUBMITTAL WILL BE RETURNED TO THE ENGINEER FOR CORRECTION AND RESUBMISSION AS NOTED ABOVE.

- 3. ANY REQUEST FOR DEVIATIONS FROM THE STAMPED DRAWINGS AND MATERIAL SUBMITTALS MUST BE SUBMITTED TO THE CFPUA CONSTRUCTION MANAGER. THE DEVIATION WILL BE REVIEWED BY CFPUA STAFF. THE ENGINEER, CONTRACTOR AND CFPUA INSPECTOR WILL BE NOTIFIED IF IT IS APPROVED, NEEDS TO BE REVISED AND RESUBMITTED OR REJECTED. ANY CHANGES TO THE STAMPED CONSTRUCTION DOCUMENTS MADE IN THE FIELD BY THE CONTRACTOR MUST BE APPROVED BY THE ENGINEER OF RECORD AND CFPUA CONSTRUCTION MANAGER. THE CFPUA INSPECTOR CANNOT APPROVE MAJOR CHANGES FROM THE STAMPED CONSTRUCTION DOCUMENTS.
- 4. THE CFPUA INSPECTOR SHALL BE NOTIFIED WHEN ANY MATERIAL IS DELIVERED TO THE JOB SITE. THE CFPUA INSPECTOR WILL VERIFY THAT ALL MATERIALS MEET CFPUA SPECIFICATIONS, DETAILS, AND/OR APPROVED SUBMITTAL. THE CFPUA INSPECTOR WILL NOTIFY THE CONTRACTOR AND THE CFPUA CONSTRUCTION MANAGER OF ANY UNAPPROVED MATERIAL, AND THAT THE UNAPPROVED MATERIAL MUST BE REMOVED FROM THE PROJECT SITE.
- 5. CONTRACTOR SHALL GIVE TWO (2) BUSINESS DAYS NOTIFICATION FOR SCHEDULING TO THE ASSIGNED CFPUA INSPECTOR FOR EACH OF THE FOLLOWING:

OPERATING A CFPUA VALVE (INCLUDES TAPPING VALVES)

WHEN BEGINNING CONSTRUCTION AND IF THE CONTRACTOR PULLS OFF THE SITE

LAYING OUT OF ANY CONNECTION IN EXISTING MANHOLE

CUTTING IN ANY NEW MANHOLES ON EXISTING LINES

CORING ANY MANHOLES

A CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL

DESCRIPTIONS REVISIONS

CONNECTING TO AN EXISTING SEWER FORCE MAINS

CONNECTING ONTO EXISTING WATER LINES

ANY BORES AND THREADING CARRIER PIPES

ALL CAMERA WORK, TESTING, CHLORINATION AND WATER SAMPLING

ALL TESTING

CAPE FEAR PUBLIC UTILITY AUTHORITY TESTING PROCEDURE:

- 1. ALL STRUCTURES, PRESSURE PIPING AND GRAVITY SEWER PIPING SHALL BE TESTED BY THE CONTRACTOR AS SPECIFIED IN THE CFPUA SPECIFICATIONS IN ACCORDANCE WITH APPLICABLE REGULATIONS AND AS DIRECTED BY THE CFPUA INSPECTOR. ALL TESTING MUST BE CONDUCTED IN THE PRESENCE OF THE CFPUA INSPECTOR. THE CONTRACTOR IS TO GIVE TWO (2) BUSINESS DAYS NOTIFICATION FOR SCHEDULING, TO THE ASSIGNED CFPUA INSPECTOR FOR ALL TESTING.
- 2. ALL PRESSURE PIPE LINES MUST BE SUBJECTED TO HYDROSTATIC TESTING IN ACCORDANCE WITH THE APPROPRIATE CFPUA SPECIFICATION. THESE PIPE LINES SHALL BE TESTED TO 150 PSI FOR A PERIOD OF TWO (2) HOURS. IF THE PRESSURE DROPS MORE THAN THREE (3) PSI, THE TEST FAILS. REFER TO THE APPROPRIATE CFPUA SPECIFICATION FOR MORE INFORMATION ON THE PROCEDURE.
- 3. ALL WATER MAINS AND SERVICES MUST BE FLUSHED, CHLORINATED AND SAMPLED IN ACCORDANCE WITH THE CFPUA SPECIFICATION 02660 AND AS DIRECTED BY THE CFPUA INSPECTOR.
- 4. SEWER LINE SEGMENT TESTING: EACH SEWER LINE SEGMENT (THE SEWER MAIN BETWEEN MANHOLES) SHALL BE TESTED:

THIRTY (30) DAYS AFTER INSTALLATION AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, ALL SEWER LINE SEGMENTS AND ALL SERVICES SHALL BE CAMERA INSPECTED AND VIDEO RECORDED. THE CFPUA INSPECTOR WILL REVIEW THE VIDEO RECORDING FOR ACCEPTANCE.

AS AN ALTERNATIVE TO WAITING THIRTY (30) DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM, THE CFPUA MAY ACCEPT CERTIFICATION FROM A SOIL TESTING FIR VERIFYING THAT THE BACKFILL OF THE TRENCH HAS BEEN COMPACTED TO AT LEAST 95% MAXIMUM DENSITY.

AFTER TWO (2) PAPER COPIES OF THE AS-BUILTS HAVE BEEN SUBMITTED TO THE CFPUA INSPECTOR.

AFTER GRAVEL HAS BEEN INSTALLED ON ALL ROADWAYS.

CATION FOR

5. VIDEO INSPECTION TESTING: THE CONTRACTOR SHALL PROVIDE A DVD(S) OF EACH SEWER LINE SEGMENT AND SERVICE LINE TO ENSURE THAT THE LINES MEET MINIMUM STANDARDS. THE DVD(S) WILL BE REVIEWED IN THE ORDER THEY ARE RECEIVED. THE TYPICAL REVIEW TIME IS GENERALLY TEN (10) TO FIFTEEN (15) BUSINESS DAYS BUT WILL DEPEND ON THE COMPLEXITY OF THE PROJECT, SIZE, QUALITY OF THE DVD(S), ETC.

THE MAIN LINE CAMERA INSPECTION MUST HAVE PROJECT NAME, FOOTAGES, MANHOLE NUMBERS, AND DATES OF INSPECTION.

THE SERVICE LINE CAMERA INSPECTION MUST INCLUDE PROJECT NAME, FOOTAGES, ADDRESS AND/OR LOT NUMBER, AND DATE OF INSPECTION.

THE CAMERA INSPECTION MUST SHOW THE FULL DIAMETER OF THE PIPE.

THE CAMERA INSPECTION MUST BE PERFORMED UPON COMPLETION OF CLEANING AND POTABLE WATER INTRODUCED INTO THE SYSTEM TO BE TESTED. ALL DEFECTS IN THE PIPELINE AND APPURTENANCES SHALL BE REMEDIED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE CFPUA AND WILL BE RE—INSPECTED AS OUTLINED ABOVE.

6. TWO (2) SETS OF AS-BUILT RECORD DRAWINGS SHALL BE PROVIDED IN ACCORDANCE WITH CFPUA SPECIFICATION SECTION 01720 FOR REVIEW.

CITY OF WILMINGTON RECORD DRAWING REQUIREMENTS:

RECORD DRAWINGS (AS-BUILTS) SHALL BE FILED IN THE ENGINEERING OFFICE FOR ASSET MANAGEMENT AND FUTURE USE. RECORD DRAWINGS SHOULD INDICATE WHAT HAS BEEN LOCATED BY THE SURVEYOR AND REFLECT WHAT IS ON AND IN THE GROUND AT A PARTICULAR SITE. ALL INFORMATION PERTAINS TO PUBLIC AND/OR PRIVATE INFRASTRUCTURE, SUCH AS STREETS, WATER, SEWER, AND DRAINAGE. ALL INFRASTRUCTURE SHOWN ON PLANS SHALL BE INDICATED PUBLIC OR PRIVATE. RECORD DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL AND HARD COPY FORM. DIGITAL FILES SHALL BE AUTOCAD VERSION 2000 OR LATER. HARD COPIES SHALL HAVE AN ENGINEER'S SEAL AFFIXED AND THE SURVEYOR'S "STANDARDS OF PRACTICE" STATEMENT SIGNED AND SEALED.

PLANS SHALL INCLUDE

LOCATIONS, TOP ELEVATIONS, INVERT ELEVATIONS FOR ALL MANHOLES

FIRE HYDRANTS, WATER METERS AND SANITARY SEWER CLEANOUTS

NOTE OR SHOW UTILITY CROSSINGS

STREETS AND CURBLINES (LABELED "PUBLIC" OR "PRIVATE") WITH SPOT ELEVATIONS PROVIDED AT THE TOP OF CURB, EDGE OF PAVEMENT AND AT THE CENTERLINE EVERY 200 FT AND AT ALL STREETS SHOULD ALSO BE LABELED WITH THE COMPACTED STONE BASED THICKNESS AND ASPHALT THICKNESS

PAVEMENT MARKINGS AND ALL TRAFFIC SIGNS

SIDEWALKS WITH SPOT ELEVATIONS PROVIDED AT THE INSIDE EDGE, OUTSIDE EDGE AND AT THE CENTERLINE EVERY 100 FT AND AT ALL GRADE BREAKS

SIZE, SLOPE AND MATERIAL FOR ALL STORM DRAINAGE PIPES

FOR STORM DRAINAGE: TYPE/MATERIAL OF STRUCTURE, TOP ELEVATION, INVERTS IN AND OUT.

LOCATIONS OF STREET LIGHTING AND TYPE

VICINITY MAP

NORTH ARROW

DATE

SCALE FOR DRAWINGS SHALL BE 1"=20' OR 1"=30; THE EXCEPTION BEING UTILITY PLANS, WHICH MAY BE SUBMITTED AT 1"=40' OR LESS. NO PLANS ACCEPTED AT 1"=50' OR MORE.

LEGEND

DETAILS IF NEEDED

VERTICAL DATUM

LOT NUMBERS AND LOT LINES

RIGHT-OF-WAY AND EASEMENT LINES

ANY STATE OF NC PERMIT NUMBERS (IF APPLICABLE)

REQUENCY AND TEST SECTIONS

HARD COPIES OF PLANS SHALL BE SIGNED/SEALED/DATED BY A LICENSED SURVEYOR

CUMENTATION

CITY OF WILMINGTON MATERIALS DOCUMENTATION AND TESTING (PROVIDED FOR INFORMATION ONLY/SUBJECT TO CHANGE):

SOIL PROCTORS	FOR USE WITH SOIL DENSITY TESTS	OPTIMUM MOISTURE AND MAIXIMUM DRY DENSITY RESULTS	STANDARD PROCTOR - ASTM D698-A	EACH PROJECT; WHERE SOILS CHANGE	SOIL PROFILE TESTS (LAB)
	EMB ANKMENTS	> 95% COMPACTION	NUCLEAR GAUGE	1 / BLOCK OR EVERY 500'	
	PIPE TRENCH AND OVERFILL	> 95% COMPACTION	ASTM D6938	PER LIFT (12" MAX) EVERY 100'	ON DELIVERY — COLLECT TICKETS
DENSITY — NUCLEAR GAUGE	SUBBASE (FINAL 12" FILL)	> 98% COMPACTION		"4 / BLOCK OR EVERY 500' WHERE PVMT < 32' WIDTH OR 8 / BLOCK OR EVERY 500' WHERE PVMT > 32' WIDTH"	DENSITY REPORTS.
DENSITY — ALTERNATES	FOR ALL, SEE ABOVE	SEE ABOVE	SAND CONE METHOD — ASTM D1556 OR;	SEE ABOVE	DENSITY REPORTS.
PROOFROLL	SUBBASE AT GRADE	VISUAL CHECK OF STABILITY / MOISTURE	LOADED TANDEM TRUCK	ALL AREAS UNDER ROAD	PROOFROLL REPORT.
DYNAMIC CONE PENETROMETER	EXCAVATION BACKFILLS	# BLOWS PER 1.75" (TYP. 25-30)	ASTM D6951	ANY AREA TO CHECK FOR RELATIVE COMPACTION	REPORT.
DENSITY — NUCLEAR GAUGE	ROAD BASE (ABC)	EACH <u>></u> 95% WITH AVG. <u>></u> 98%	NUCLEAR GAUGE — ASTM D6938	"4 / BLOCK OR EVERY 500' WHERE PVMT < 32' WIDTH OR 8 / BLOCK OR EVERY 500' WHERE PVMT > 32' WIDTH"	DENSITY REPORTS.
	CURBLINES (ABC)	EACH <u>></u> 95% WITH AVG. <u>></u> 98%		4 / BLOCK OR EVERY 500'	
PROOFROLL	STONE BASE AT GRADE	VISUAL CHECK OF STABILITY / MOISTURE	LOADED TANDEM TRUCK	ALL AREAS UNDER ROAD	PROOFROLL REPORT.
SAMPLING, MAKING & CURING TEST SPECIMENS	CURBING, SIDEWALKS, DRIVEWAYS	PROPER COLLECTION AND CURING IN FIELD AND LABORATORY	SAMPLING CONCRETE - ASTM C172; ASTM C31; ASTM C39	4 CYLINDERS PER DAY/BATCH FOR EVERY 50 CUBIC YARDS	"FORM 312U MIX DESIGN. VERIFY JMF ON-SITE."
AIR TEST	SEE ABOVE	UP TO 8%, PER MIX DESIGN	PRESSURE AIR METER - ASTM C 231	TRUCK #1; AIR, SLUMP, TEMP, CYLINDERS	NCDOT M&T 903 (BATCH TIX)
SLUMP TEST	SEE ABOVE	UP TO 5", PER MIX DESIGN	SLUMP TEST - ASTM C143	TRUCKS #2-4; AIR	250 DAILY PLANT REPORT WHEN NEEDED
COMPRESSIVE STRENGTH	CURBING, SIDEWALKS, DRIVEWAYS	BREAKS RESULTS @ REQUIRED STRENGTH (I.E 3000PSI)	ASTM C39	"7 DAY BREAK (TYP @ 75% OF STRENGTH), 28 DAY BREAK @ DESIGN STRENGTH"	CONCRETE BREAK REPORTS.
ASPHALT MIX		SURFACE UP TO 3" DEPTH	PVMT DESIGN OR		VERIFY JMF ON-SITE.
(JOB MIX FORMULAE)	ROADWAY/PATH	INTERMEDIATE UP TO 4" DEPTH	CITY POLICY	FOR CONTROL STRIP WHEN NEEDED, REF. NCDOT 2012 STANDARD SPECIFICATIONS SECTION 609-7	ON DELIVERY — COLLECT TICKETS
		BASE UP TO 8" DEPTH			ASPHALT ROADWAY DAILY REPORT — (NCDOT M&T 605 FORM)
ASPHALT TEMPERATURE	AIR TEMPARTURE	40° IN THE SHADE AND RISING	NCDOT	TEST BEFORE PLACEMENT	
	SURFACE TEMPARTURE	50°	SECTION 610-4	ALSO, NO WET PAVEMENT AFFECTING BONDING	
DENSITY — NUCLEAR GAUGE CONTROL WITH CORE CHECKS		90% COMPACTION - 9.5A	NUCLEAR DENSITY TESTS — ASTM D2950	"QC = 5 NUCLEAR GAUGE SHOTS PER 500'/EACH PAVER LAYDOWN WIDTH / LOT QA = VERIFICATION, TEST REQUESTS AND LOCATION"	FORMS - CITY OR NCDOT QC-5, 516QC, QA-515, ETC
(CORE CONTROL AND CONTROL STRIPS WHEN NEEDED)	ROADWAY/PATH	92% COMPACTION—SURFACE OTHER, INTERMDIATE, BASE	BULK DENSITY (CORES) — ASTM D2726	QC = 1 CORE CHECK PER 500'/EACH PAVER LAYDOWN WIDTH. PRIMARILY IN BASE LAYERS.	"CERTIFIC ATIONS: GAUGE CALIBRATION QMS ROADWAYTECHNICIAN, NUCLEAR GAUGE OPERATOR, ETC"

REQUIREMENTS FOR VIDEO INSPECTION OF STORM SEWER SYSTEMS:

GENERAL

- 1. ALL EQUIPMENT USED FOR CLEANING AND VIDEO INSPECTION SHALL BE SPECIFICALLY DESIGNED FOR THE WORK DESCRIBED HEREIN. ALL CAMERAS SHALL BE SELF-POWERED UNITS WITH COLOR, PAN-AND-TILT, MINIMUM RESOLUTION OF 640X480, AND THE ABILITY TO OPERATE IN 100% HUMIDITY CONDITIONS. THE LENS SHALL HAVE NOT LESS THAN A 65-DEGREE VIEWING ANGLE WITH EITHER AUTOMATIC OR REMOTE FOCUS AND IRIS CONTROLS.
- 2. ALL WORK DESCRIBED HEREIN SHALL BE COMPLETED IN ACCORDANCE WITH NASSCO PIPELINE ASSESSMENT AND CERTIFICATION PROGRAM (PACP/MACP) GUIDELINES.
- THE CITY OF WILMINGTON (COW) RESERVES THE RIGHT TO REFUSE ANY RECORDING OR REPORT ON THE BASIS OF SUBSTANDARD QUALITY.

EXECUTION

- ALL STORM PIPE INSTALLATIONS SHALL BE COMPLETELY INSTALLED A MINIMUM OF 30 DAYS PRIOR TO VIDEO INSPECTION. GENERALLY, INSPECTIONS SHALL OCCUR 30 DAYS PRIOR TO ASPHALT PAVING
- 2. THE CONTRACTOR'S CLEANING OPERATIONS SHALL BE PERFORMED PRIOR TO THE VIDEO INSPECTION, AND SHALL FULLY CLEAN THE PIPES AND STRUCTURES AS WELL AS REMOVE ALL SEDIMENT, ROOTS, DEBRIS, ETC.
- 3. INSPECTIONS OF EACH PIPE SEGMENT SHALL BEGIN IN THE CENTER OF THE START DRAINAGE STRUCTURE AND END IN THE CENTER OF THE END DRAINAGE STRUCTURE. THE CAMERA SHALL BE MOVED THROUGH THE LINE IN EITHER DIRECTION AT A UNIFORM RATE BUT NOT GREATER THAN 30 FEET PER MINUTE (0.5 FT/SEC).
- 4. THE CAMERA SHALL BE STOPPED AT EACH PIPE JOINT, DEFECT, IMPERFECTION, ETC. AT THESE LOCATIONS, THE CAMERA SHALL BE PANNED, TILTED AND ROTATED TO FULLY VIEW AND DOCUMENT THE CONDITION OF THE JOINTS, DEFECTS, IMPERFECTIONS, ETC.
- 5. THE DIGITAL RECORDING SHALL BE FREE OF ELECTRICAL INTERFERENCE AND SHALL PRODUCE A CLEAR AND STABLE IMAGE.
- 6. VIDEO OVERLAY SHALL INCLUDE, AT A MINIMUM, THE OWNER NAME, PROJECT NAME, STREET NAME, DIAMETER OF PIPE, PIPE MATERIAL, DATE AND TIME OF INSPECTION, DIRECTION OF VIDEO (UPSTREAM OR DOWNSTREAM), DRAINAGE STRUCTURE NUMBER DESIGNATION FOR EACH DRAINAGE STRUCTURE ON THE PIPE SEGMENT INSPECTED THAT CORRESPONDS TO THE CONSTRUCTION PLANS. A CONSTANT OVERLAY DISPLAY OF THE STREET NAME, DRAINAGE STRUCTURE DESIGNATIONS (I.E. MH START#/MH END#), DATE AND DISTANCE SHALL APPEAR ON THE SCREEN. THE INSPECTOR SHALL MOVE THE CONSTANT OVERLAY DISPLAY SO IT DOES NOT INTERFERE WITH THE INSPECTION REVIEW.
- 7. INSPECTION OF EACH PIPE SEGMENT SHALL BE PROVIDED IN A SEPARATE VIDEO FILE. IN SITUATIONS WHERE REVERSE INSPECTION IS NECESSARY, THE REVERSE INSPECTION SHALL BE PROVIDED IN A SEPARATE VIDEO FILE.
- 8. ALL OBSERVATIONS/DEFECTS SHALL BE NOTED BY THE INSPECTOR, WHERE A TEXT DISPLAY SHALL APPEAR DESCRIBING THE OBSERVATION/DEFECT. TEXT SHALL DISPLAY FOR A MINIMUM OF 4 SECONDS. THE VIDEO FILE RECORDING SHALL PAUSE AS THE OPERATOR SELECTS THE OBSERVATION/DEFECT NOTATION, ELIMINATING "ON HOLD" VIDEO.
- 9. AN INSPECTION FORM SHALL BE COMPLETED AND SUBMITTED FOR EACH PIPE SEGMENT AND DRAINAGE STRUCTURE INSPECTED AND VIDEOED. AT A MINIMUM, OBSERVATION/DEFECT NOTES SHALL INCLUDE GENERAL INFO, DISTANCE WITHIN THE PIPE SEGMENT, DESCRIPTION, A SEVERITY RATING, AND A STILL PHOTOGRAPH.

<u>DELIVERABLES</u>

- 1. CORRESPONDENCE FROM THE ENGINEER OF RECORD CONFIRMING THAT HE/SHE HAS REVIEWED THE VIDEO INSPECTION PACKAGE FOR COMPLIANCE TO CONTENT AND HAS MADE AN EVALUATION WITH RECOMMENDATIONS FOR REPAIR AS NEEDED PER THE CITY GUIDELINES.
- 2. VIDEO INSPECTIONS CAPTURED LIVE OFF OF THE INSPECTION CAMERA TO BE SUBMITTED TO ON A DVD COMPATIBLE WITH WINDOWS MEDIA PLAYER. THE INSPECTIONS MUST BE IN ORDER AND COMPLETE.
- 3. ALL INSPECTION REPORTS COMPLETED FOR EACH PIPE SEGMENT AND DRAINAGE STRUCTURE WHETHER VIDEOED OR NOT SHALL BE SUBMITTED.



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

G-003

243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282

www.mckimcreed.com

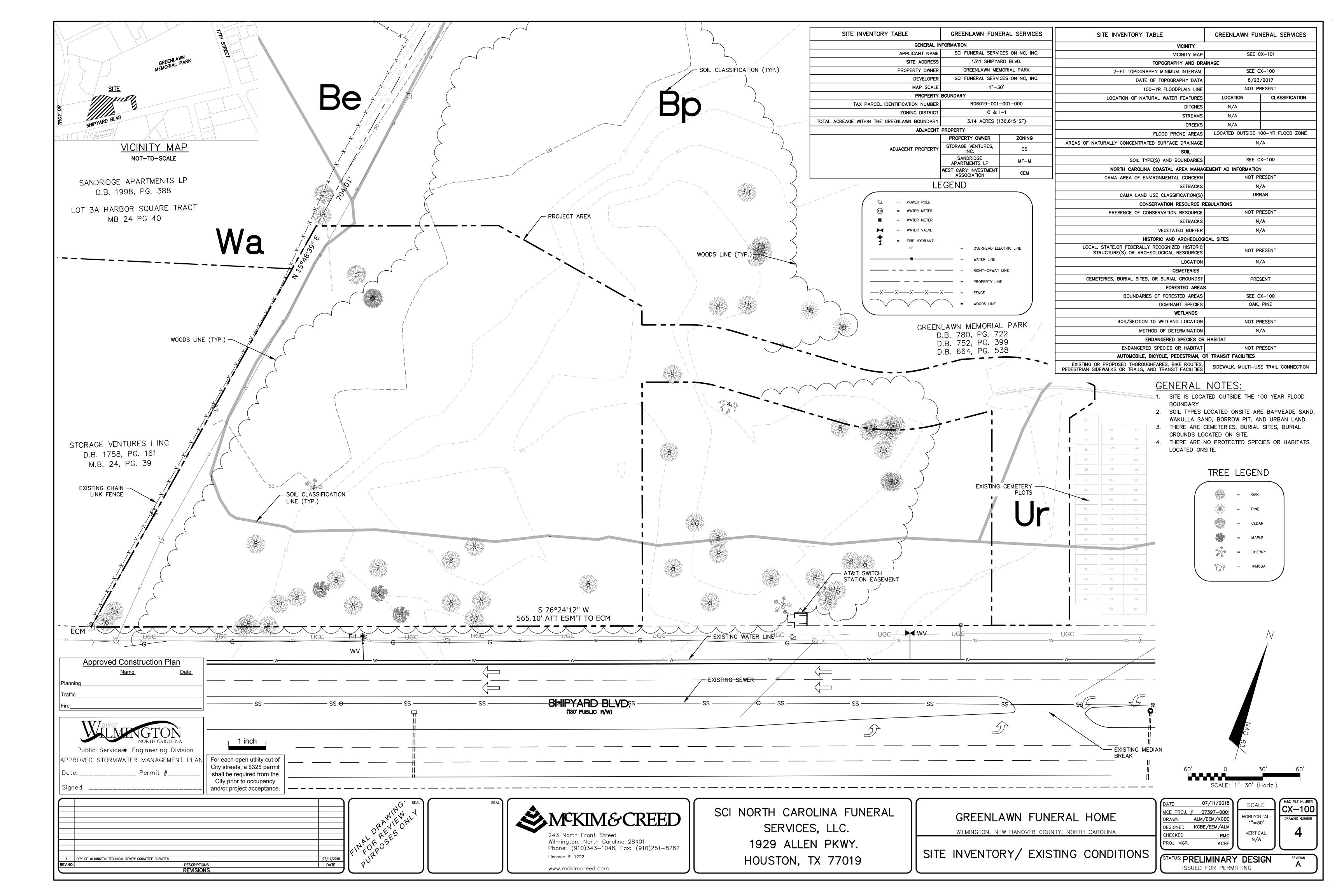
SCI NORTH CAROLINA FUNERAL SERVICES, LLC.
1929 ALLEN PKWY.
HOUSTON, TX 77019

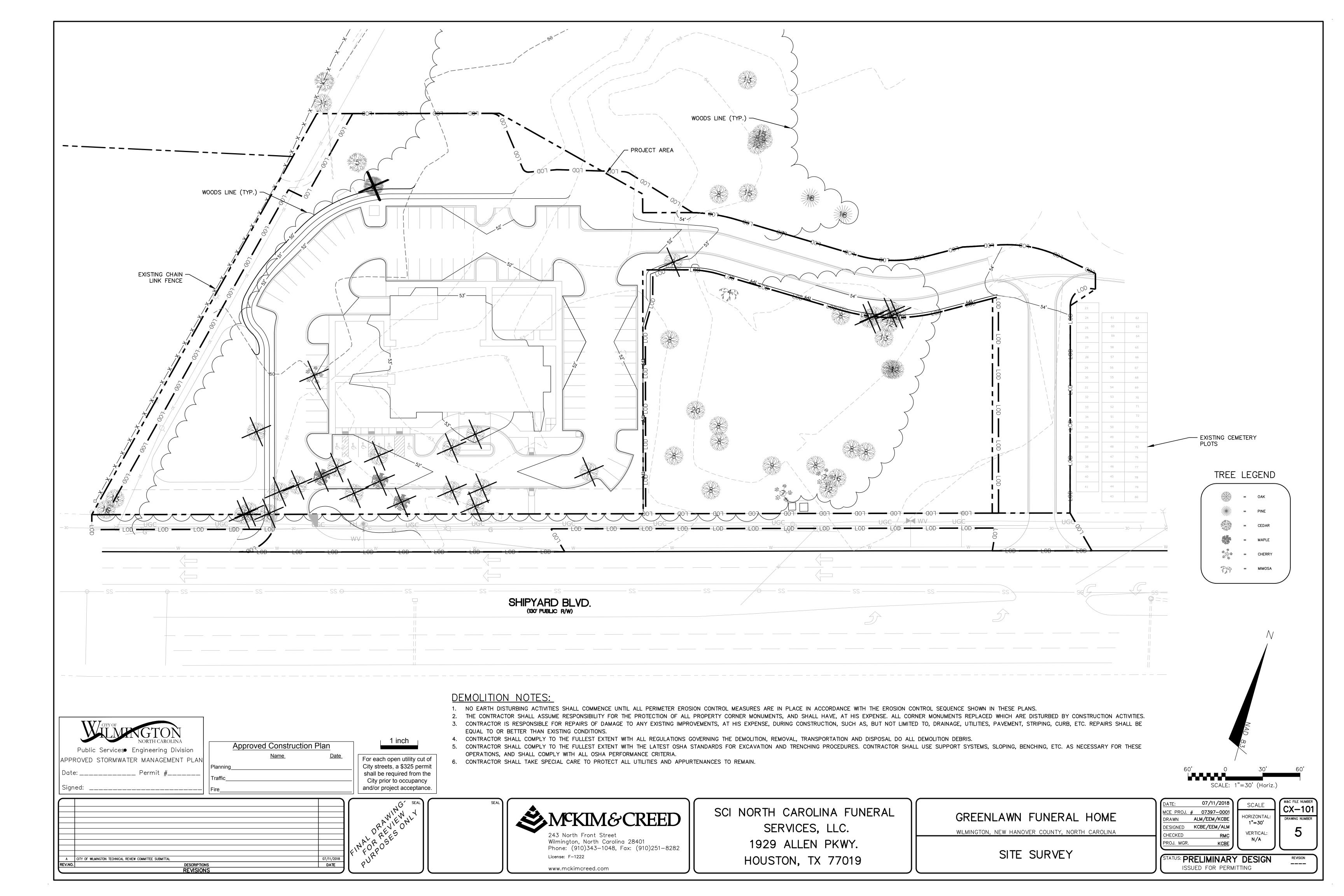
GREENLAWN FUNERAL HOME
WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

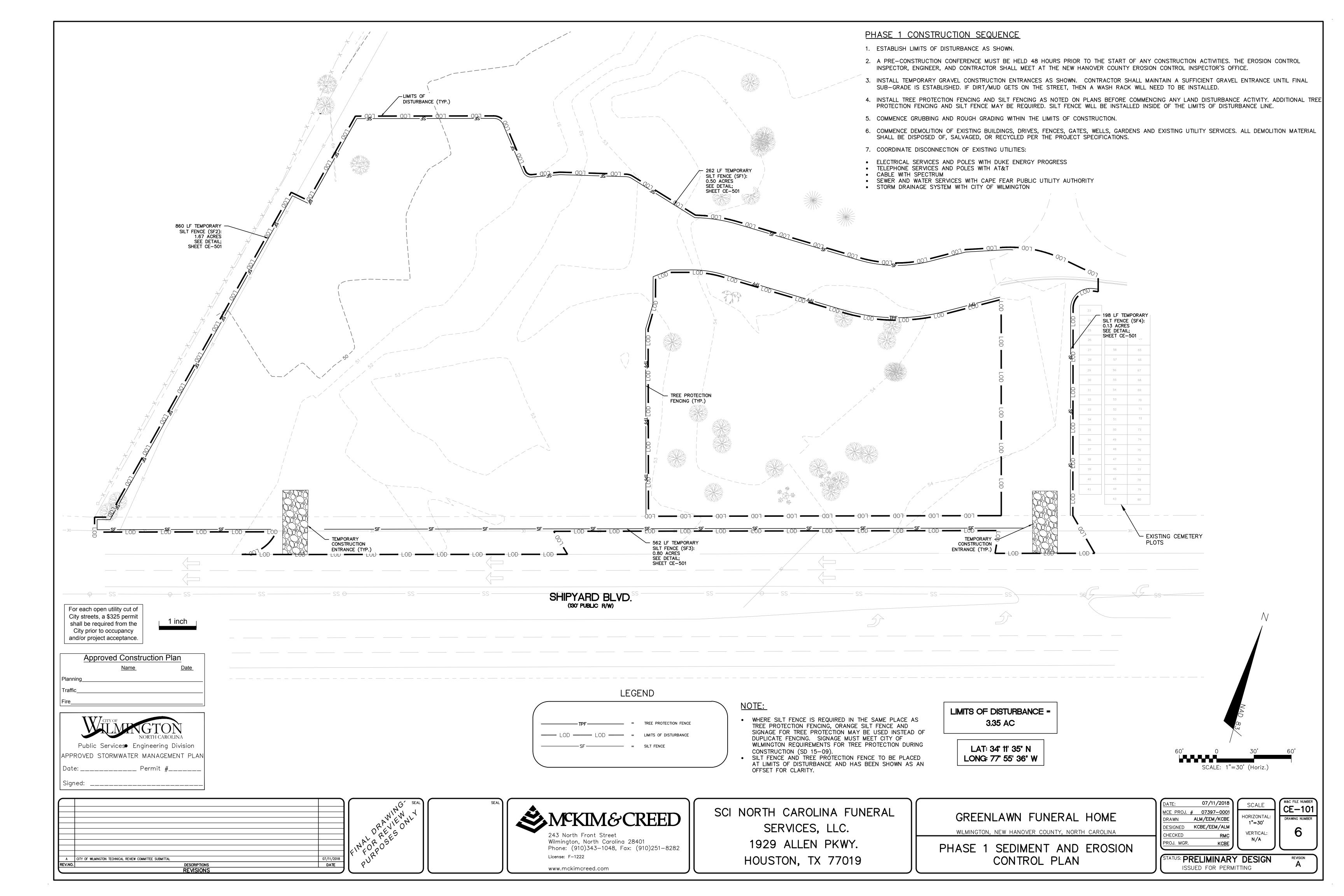
CLOSE-OUT NOTES

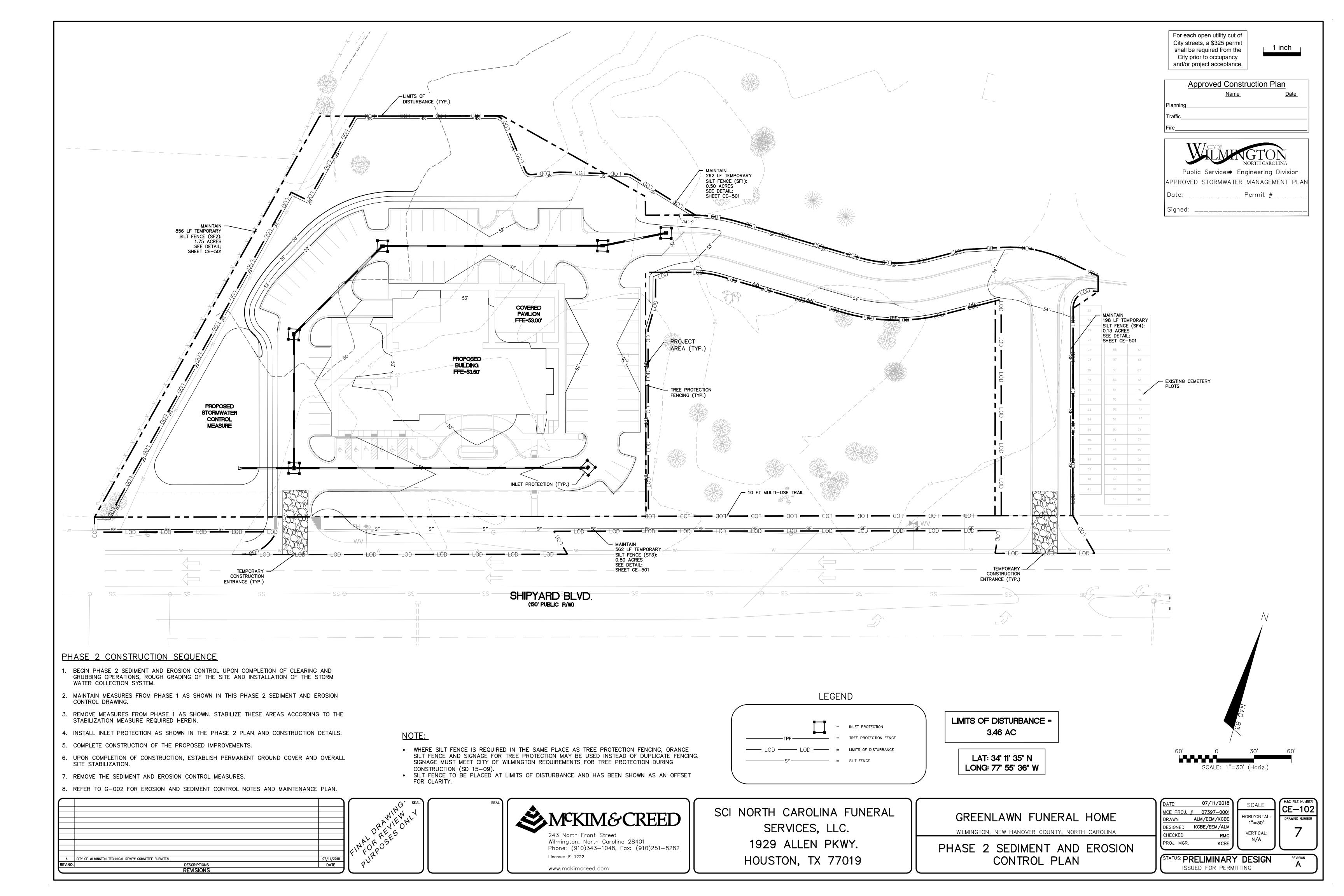
_			
	DATE:	07/11/2018	SCALE
	MCE PROJ.	# 07397-0001	
	DRAWN	ALM/EEM/KCBE	HORIZONTAL N/A
	DESIGNED	KCBE/EEM/ALM	N/A
	CHECKED	RMC	VERTICAL:
	PROJ. MGR.	KCBE	N/A

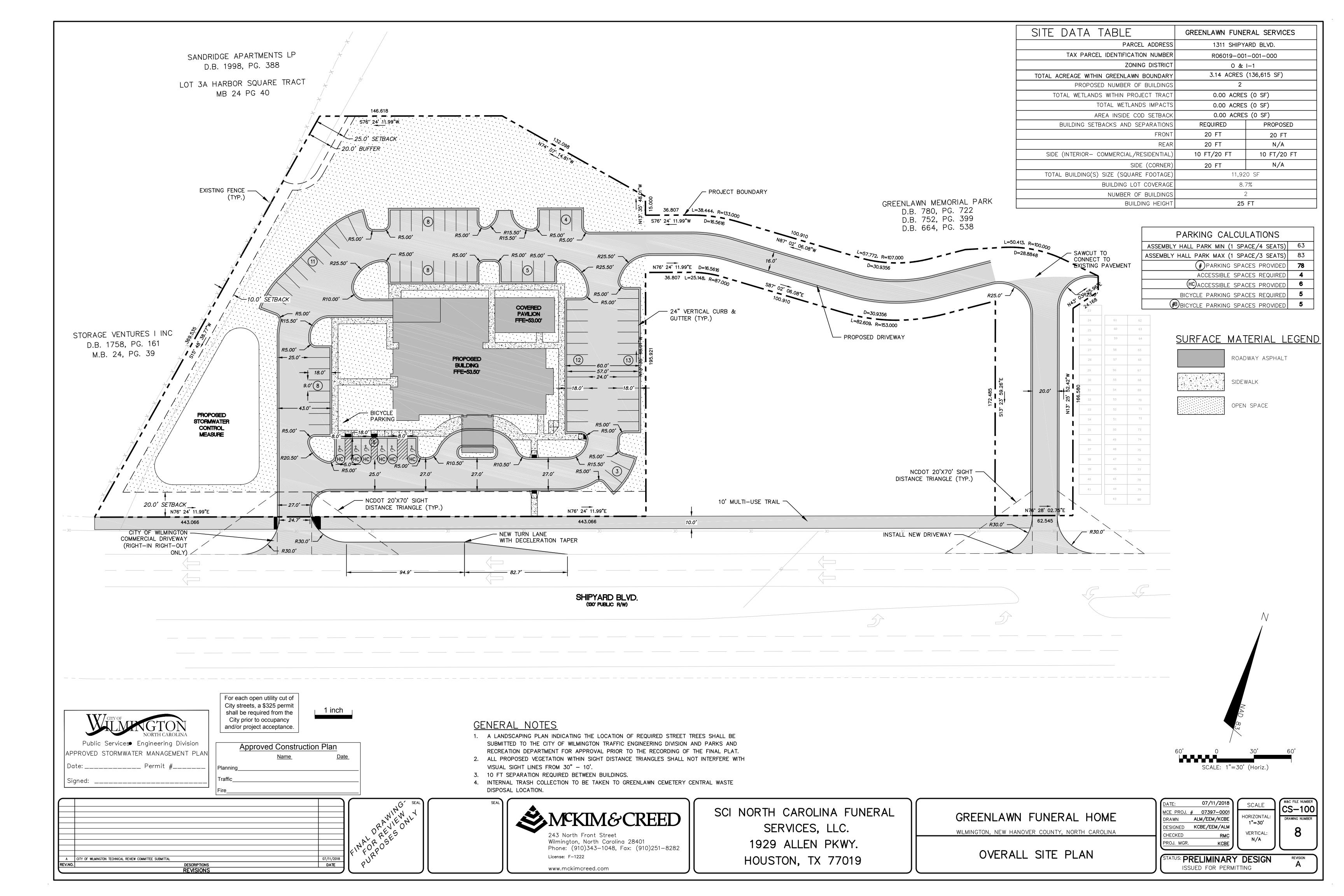
NARY DESIGN

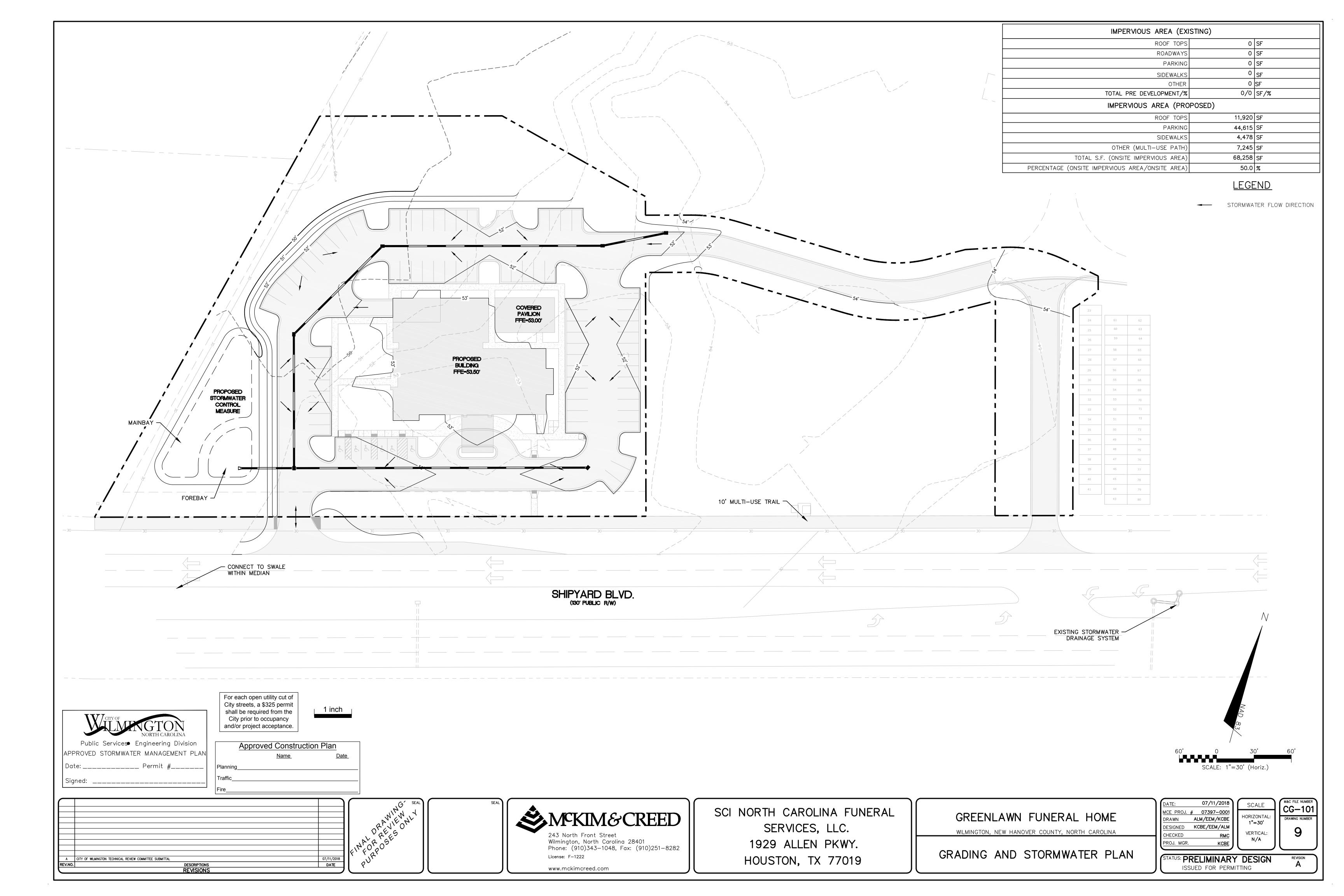


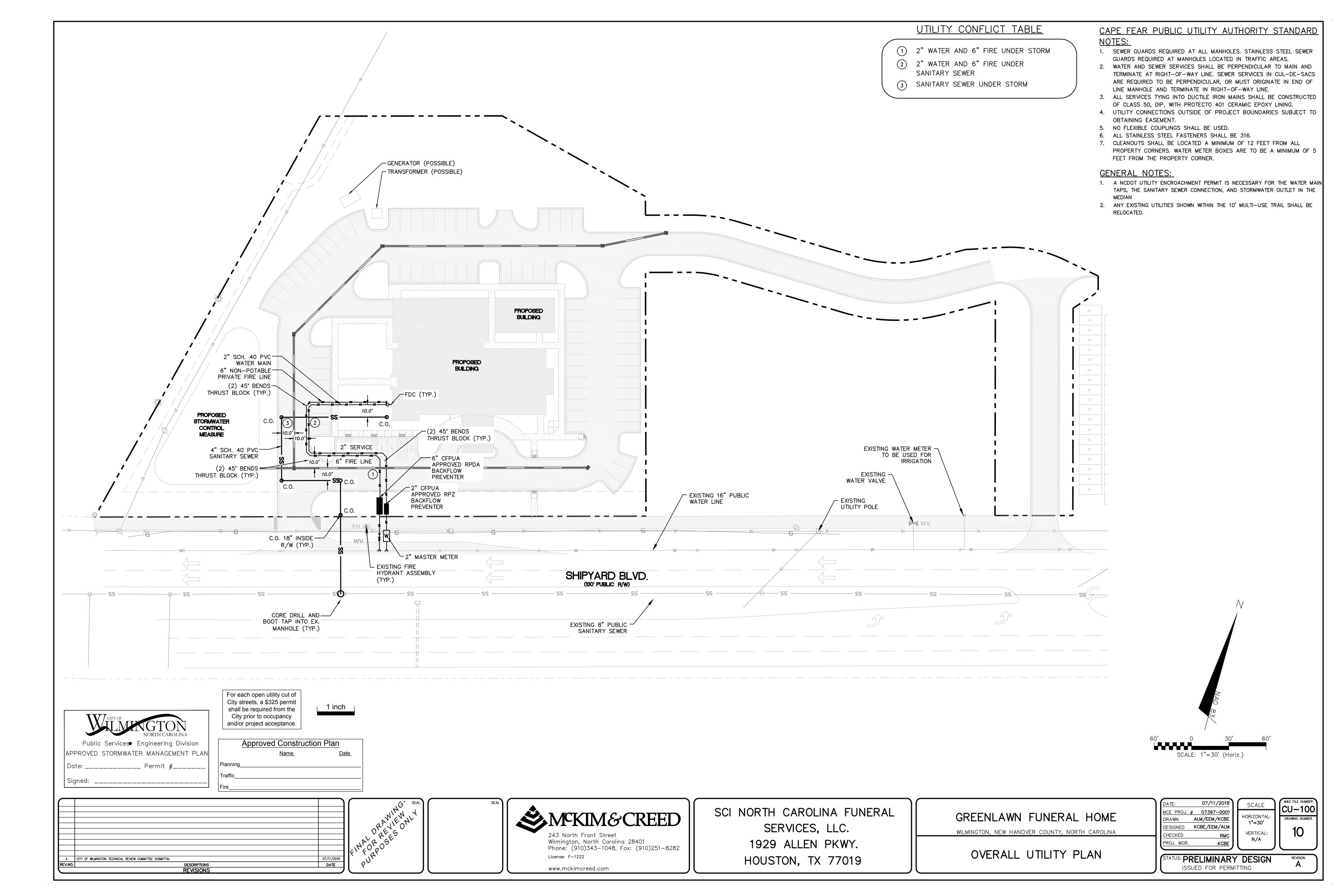


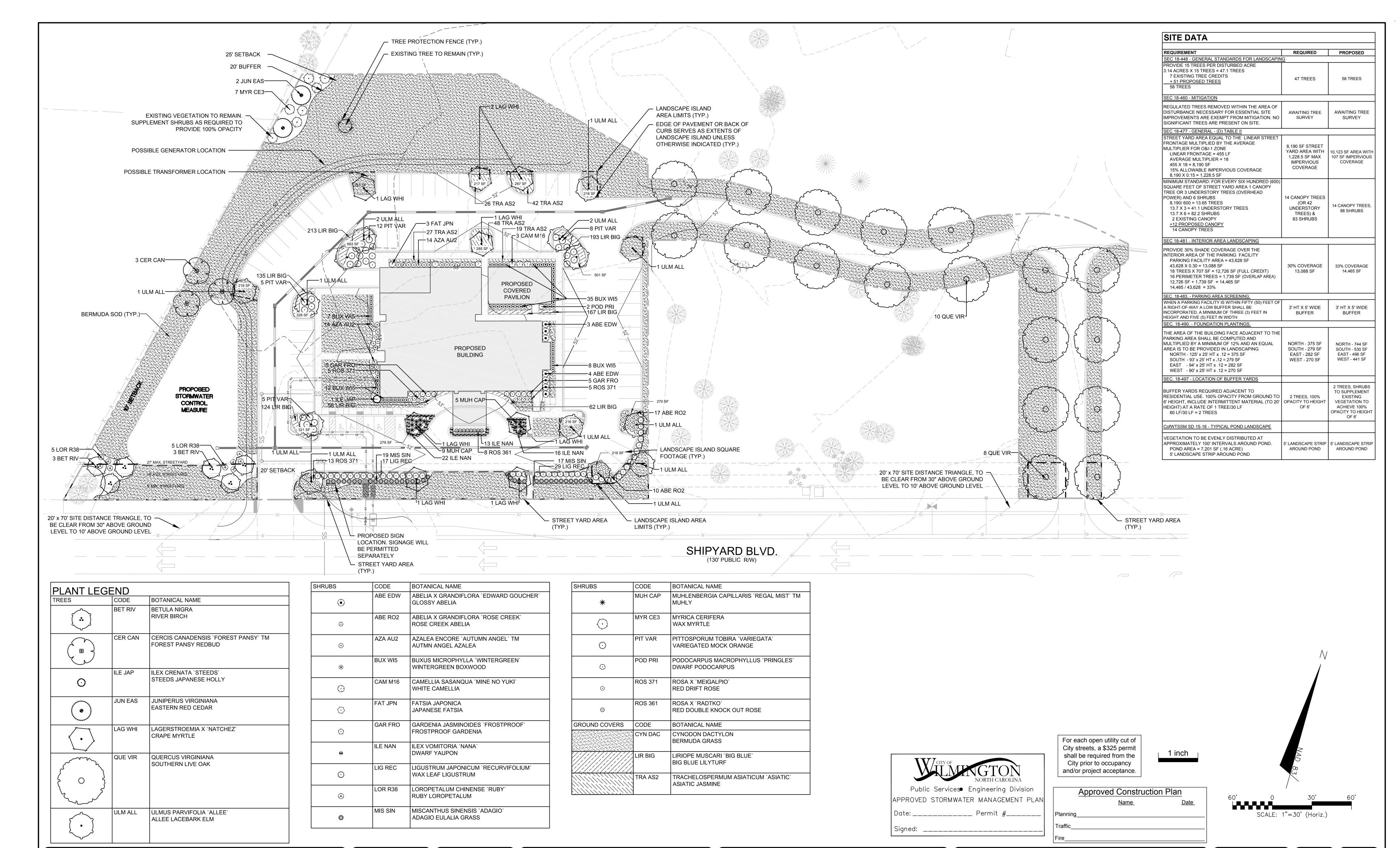




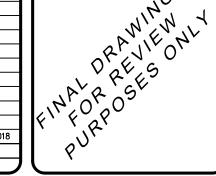








DESCRIPTIONS REVISIONS







www.mckimcreed.com

SCI NORTH CAROLINA FUNERAL SERVICES, LLC. 1929 ALLEN PKWY. HOUSTON, TX 77019

GREENLAWN FUNERAL HOME WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

LANDSCAPE PLAN

DATE:	07/11/2018	SCALE
MCE PROJ. #	07397-0001	
DRAWN	ALM	HORIZONTAL: 1"=30'
DESIGNED	ALM	1 -50
CHECKED	RMC	VERTICAL:
PROJ. MGR.	KCBE	N/A

CL-101

SEEDBED PREPARATION:

- 1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- 2. RIP THE ENTRANCE AREA TO 6 INCHES DEPTH.
- 3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- 4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW*).
- 5. CONTINUE TILLAGE UNTIL A WELL PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEF
- 6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
- 7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- 8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
- 9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

AGRICULTURAL LIMESTONE - 2 TONS/ACRE FERTILIZER - 1000 LBS/ACRE (10-10-10) SUPERPHOSPHATE - 500 LBS/ACRE (20%) MULCH - 2 TONS/ACRE (SMALL GRAIN STRAW) ANCHOR - ASPHALT EMULSION AT 450 GAL/ACRE

TREE PROTECTION NOTES:

- . NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS.
- 2. PROTECTIVE FENCING IS TO BE PROPERLY MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. [18-458]
- 3. LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION REQUIREMENTS AND METHODS. [18-457(d)]
- $_{
 m 4.~~ANY}$ TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING AND GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS. [18-458]
- 5. NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED. [18-458]
- i. REGULATED AND SIGNIFICANT TREES IN THE STREET YARD [18-456(c)] AND ANY TREES IN ANY REQUIRED BUFFERS [18-456(b)] ARE REQUIRED TO BE RETAINED.

GROUND STABILIZATION CRITERIA							
SITE AREA DESCRIPTION	STABILIZATION TIMEFRAME	STABILIZATION TIMEFRAME EXCEPTIONS					
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE					
HIGH QUALITY WATER ZONES	7 DAYS	NONE					
SLOPES STEEPER THAN 7 DAYS 3:1		IF SLOPES ARE 10 FT OR LESS IN IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED					
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FT IN LENGTH					
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)					

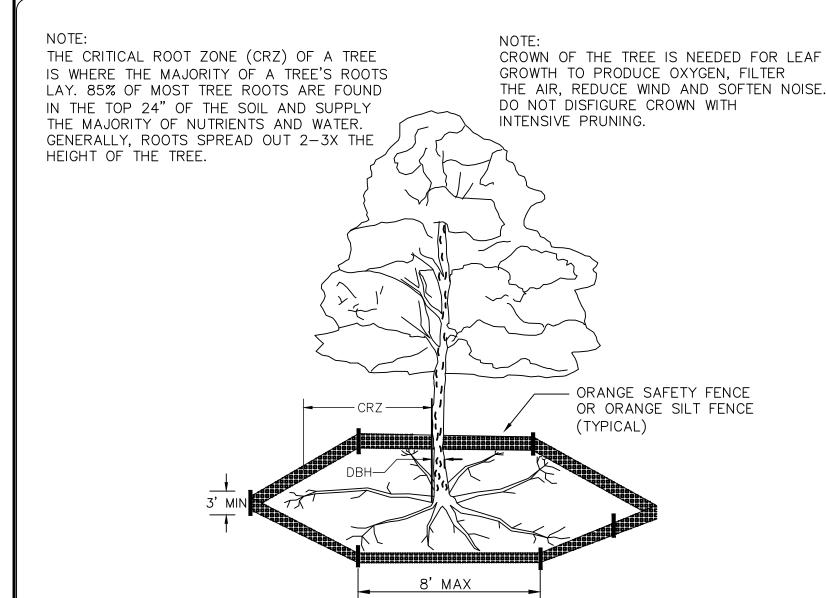
PERMANENT SEEDING							
GRASS TYPE AMOUNT/ TIME OF SEEDING INITIAL							
BERMUDA, COMMON	1-2 LBS.	APRIL - JUNE	25 LBS. 10-10-10				
FESCUE, TALL (KENTUCKY 31)	5-7 LBS	JUNE - AUGUST FEB OCT.	25 LBS 10-10-10				
SERICEA LESPEDEZA (SLOPES 1-2 LBS MARCH - APRIL 25 LBS 10-10-10							

TEMPORARY SEEDING							
GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL				
RYE GRAIN	1-2 LBS.	APRIL - JUNE	25 LBS. 10-10-10				
BROWNTOP MILLET	1-2 LBS	JUNE - AUGUST	25 LBS 10-10-10				

NOTE (G.S. 113A-57 (2))

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE. THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

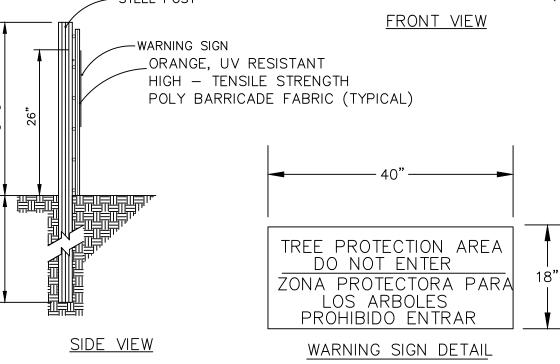
6 GENERAL NOTES 5 GENERAL NOTES N/A



TREE SAVE

- 1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
- 2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH) 3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATTS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
- 4. WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY. 5. FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARKUNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED.
- CONTRACTOR SHALL REPAIR DAMAGE TO TREES. 6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A
- WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

8' MAX. PLASTIC OR VARIABLE AS DIRECTED BY THE ENGINEER ∕WARNING SIGN TREE PROTECTION AREA HIGH - TENSILE STRENGTH POLY BARRICADE FABRIC (TYPICAL) -STEEL POST



NOTES:

- 1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
- 2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO
- BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED. 3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
- 4. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE
- PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT. 5. TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER
- CONSTRUCTION. 6. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

METHOD OF TREE PROTECTION DURING CONSTRUCTION

SD 15-09

Wilmington, North Carolina 28401 Phone: (910)343-1048, Fax: (910)251-8282 License: F-1222

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SILT FENCE OUTLET

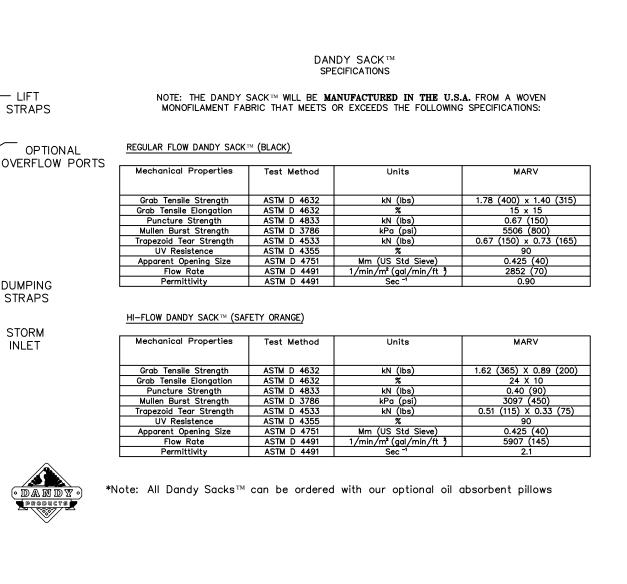
HOUSTON, TX 77019

NOT TO SCALE

NOT TO SCALE

GREENLAWN FUNERAL HOME WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

SEDIMENT AND EROSION CONTROL **DETAILS**



TEMPORARY DANDY SACK® INLET PROTECTION

NOT TO SCALE

8' MAX. STD. STRENGTH FABRIC W/ WIRE FENCE

6' MAX. STD. STRENGTH FABRIC W/O WIRE FENCE

INLET PROTECTION

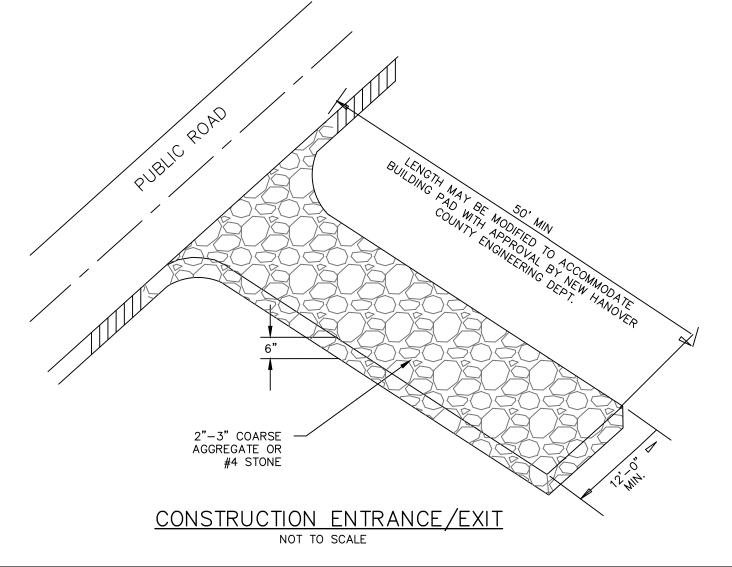
REINFORCED CORNERS -

MANAGEABLE 2 F00T

CONTAINMENT

DANDY SACK

NOT TO SCALE



CONSTRUCTION ENTRANCE

APPROVED STORMWATER MANAGEMENT PLAN

Approved Construction Plan

igned: ______

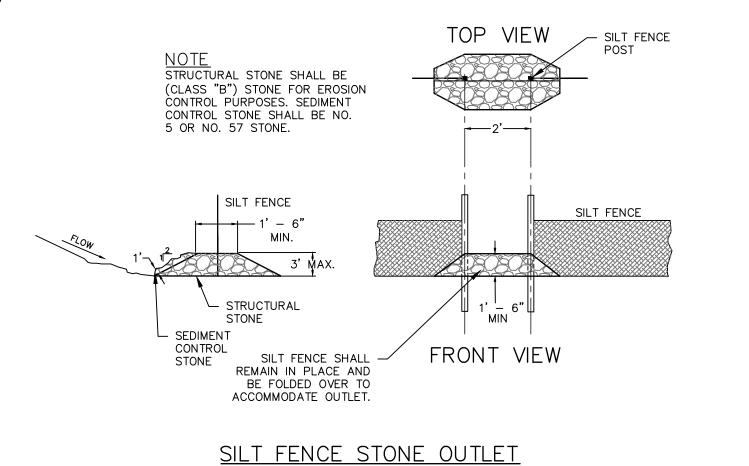
For each open utility cut of

City streets, a \$325 permit

City prior to occupancy and/or project acceptance.

shall be required from the

NOT TO SCALE



YES/NO PHASE 1 AND 2 SILT FENCE SF 1 0.50 262.00 0.19 YES SF 2 860.00 YES 0.19 SF 3 562.00 YES 0.80 0.14

198.00

STEEL POST

GROUND LINE -

SILT FENCE

SF 4

Notes:

1. Calculation taken from Table 6.62a of the NCDENR ESC Manual for slopes < 2% only.

0.07

4" X 8" TRENCH LINED W/ 12" OF

FABRIC AND COMPACTED FILL ON

2 | TEMPORARY SILT FENCE

0.13

NOT TO SCALE

07/11/2018 07397-000 ALM/EEM/KCBE KCBE/EEM/ALM PROJ. MGR.

1. WIRE FENCE (IF USED) SHALL BE MINUMUM 14 GAUGE

2. SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY

THE MANUFACTURER OR SUPPLIER AS CONFORMING TO

THE REQUIREMENTS IN ASTM D 6461 AND ALSO SHOULD

CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS

SPECIFICATIONS INSTALLING SEDIMENT FENCE USING THE

WITH A MAXIMUM MESH OPENING OF 6-INCHES.

3. SEE THE NC EROSION CONTROL MANUAL FOR

ACCORDING TO ASTM D 4355.

SLICING METHOD MACHINERY.

TEMPORARY SILT FENCE

NOT TO SCALE

0.25 Acre

per 100 ft

YES

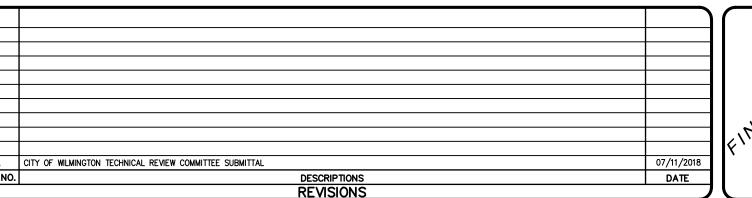
DRAWN

DESIGNED

CHECKED

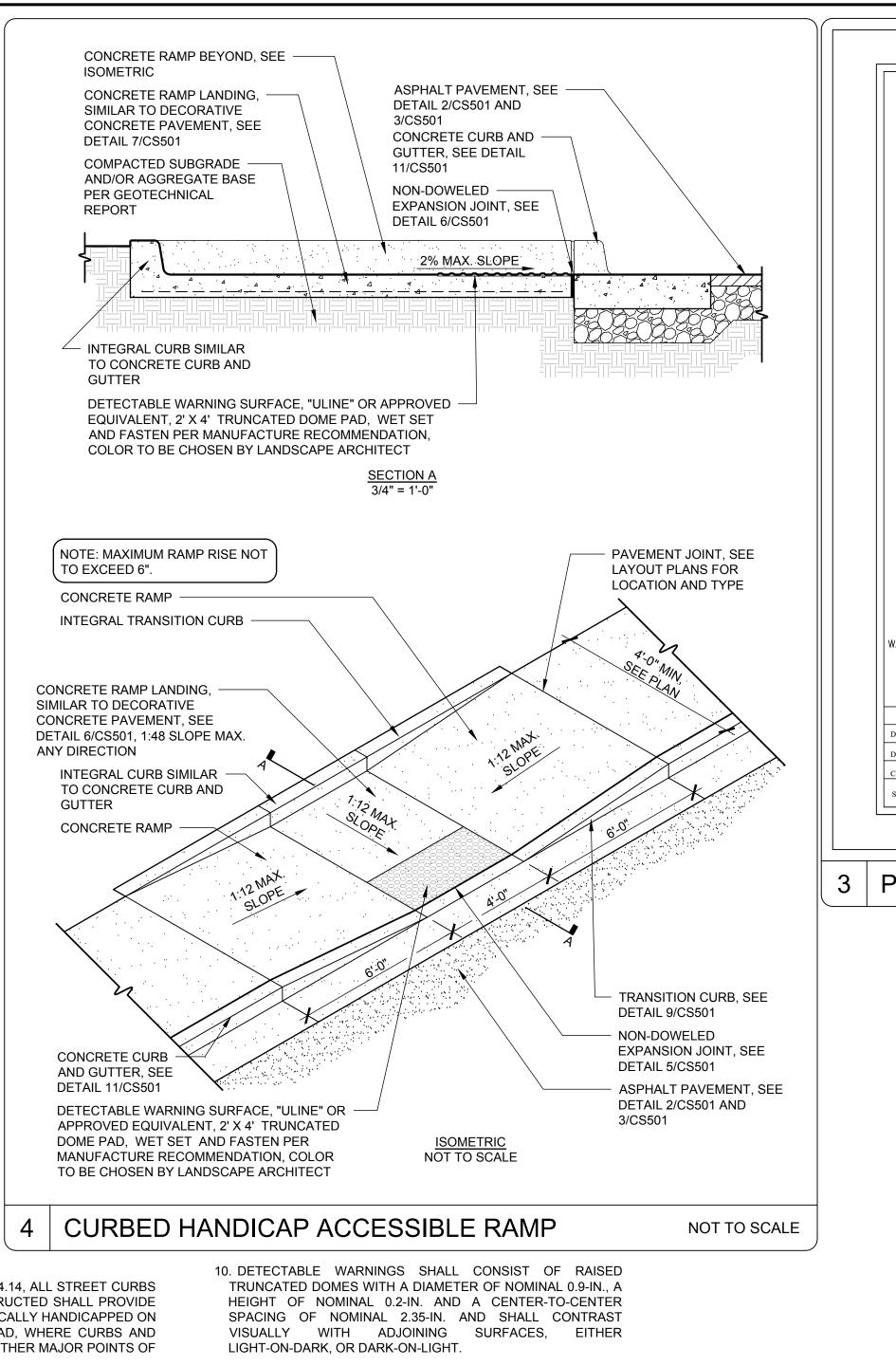
HORIZONTAL VERTICAL: N/A

CE-501

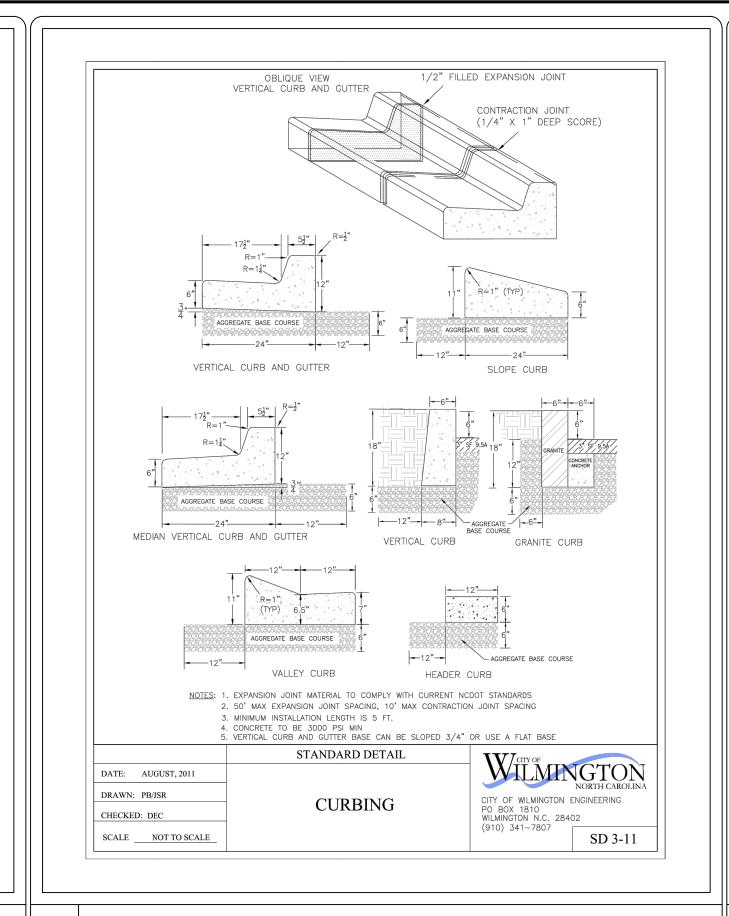


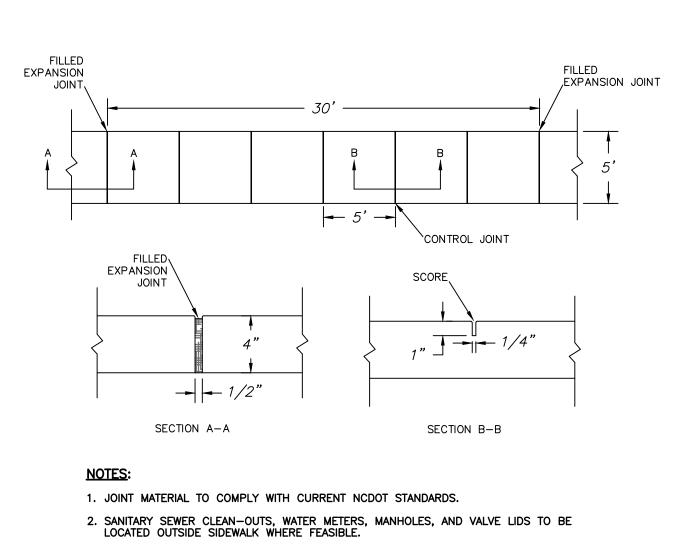






JOINT SIDEWALK 1.5±0.5% 1.0-8.3% (30"MAX RISE) MIN. LANDING WIDTH = RAMP WIDTH 10% MAX (X=36"MIN) MAX SLOPE 2% IN ANY DIRECTION 8.3% MAX (X<36") (FOR ALTERATIONS SECTION A-A WARNING DOMES 1.6-2.4" (TYP) TRUNCATED DOMES BASE DIAMETER 0.9-1.4 TOP DIAMETER 50-60% WARNING DOME NOTES: 1. USE CONTRASTING COLORS, RED OR BLACK ON WHITE PAVEMENT. USE CAST IN PLACE PAVERS FOR NEW CONSTRUCTION. 3. RUBBER MATS ARE PERMITTED FOR RETROFITS. 4. LANDING AND RAMP WIDTH MAY BE REDUCED TO 3' WHERE SPACE IS LIMITED AND DESIGN IS APPROVED BY THE CITY ENGINEER. STANDARD DETAIL DATE: DECEMBER, 2010 PERPENDICULAR CURB DRAWN: **RAMP** CITY OF WILMINGTON ENGINEERING CHECKED: DEC ADJACENT TO WALKING (910) 341-7807 **SURFACE** SCALE NOT TO SCALE SD 3-07





- 3. MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
- 4. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY
- 5. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL
- 6. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS
- 7. MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"

APRON) SHALL BE CLASS "A" - 3,000 PSI.

- 8. MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
- 9. MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2%. MAX LONGITUDINAL SLOPE IS 8.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

SIDEWALK

PERPENDICULAR RAMP

2 CURBING NOT TO SCALE

VERTICAL CURB

12"
CONCRETE

2' MIN.

" NEX POST

CONCRETE OR

BRICK SURFACE -

(DECORATIVE)

- NEX TOP CAP

- NEX LOCKING

NEX POST

SLOPE CURB

WEDGE

SIDEWALK DETAIL

NOT TO SCALE

Ch<u>estnut</u> st

30" X 30"

NO CURB

POST -

1. All signs shall meet the requirements of MUTCD and City Traffic Engineering in effect at

2. All Traffic Control Signs including multi-use paths shall be fabricated with 0.080 inch aluminum blanks using high intensity prismatic reflective sheeting Type IV or better. STOP signs shall be a minimum of 30"x30".

3. SPECIAL DESIGNATION signs by location and type shall adhere to City of Wilmington

signage plan (ie. downtown, historic, cross-city trail, parks, riverfront, scenic by-way, parking. etc.) and all associated policies.

4. POST MOUNTED STREET NAME SIGNS shall be fabricated with 9" extruded aluminum street name sign blanks using a standard cut-out. Minimum sign length is 18" long and increasing in 6" increments to 54" maximum as dictated by the number of letters in the name. The color scheme shall be white letters on a green background without a border. Generally, in the downtown and historic areas or as designated in the City of Wilmington signage plan the background shall be blue and contain a topper.

5. Decorative sign posts shall consist of the NEX sign support system, 2" octagonal tube, 14

gauge, powder coated glossy black and include cap, post, base and wedge. 6. All other sign posts shall be u-channel posts made of galvanized steel with 8' posts 2lbs/ft or 12' posts 3lbs/ft. Galvanized NEX post may be substituted with approval from the City

7. OVERHEAD STREET NAME SIGNS shall be fabricated with 0.080 inch aluminum flat sign blanks 18" in height using a standard cut-out. Sign length will be dictated by the number of letters in the name. For mast-arm type traffic signal supports and other overhead support systems refer to the design plans for maximum sign length.

8. All sign lettering, colors and fonts shall adhere to the MUTCD in effect at the time of construction. Florescent Yellow-Green shall be used on signs, in place of Yellow, when listed as an optional color in the MUTCD. Generally, the font will be FHWA series fonts (Highway

Gothic.) Other font types require prior City Signs and Markings Engineer approval. LOCATION

Signs and Markings Engineer.

- 9. Sign locations depend on the edge of road condition. Generally, signs shall be a minimum 2' from face of a vertical curb, 4' from front of slope face curb, and 6' from edge of pavement without curb. Signs shall not be located more than 12' from any of these locations.
- 10. Sign posts installed in dirt shall be buried a minimum of 36". Octagonal posts shall utilize an anti-spin device, 6" in length minimum. Sign posts installed in concrete or brick shall utilize a base cast in concrete 24" x 12" diameter.
- 11. Street name signs shall be installed 8'-6" from the ground to the bottom of the sign. Street name signs co-located with STOP signs shall be installed above the STOP sign. A 6" space shall be maintained between the STOP sign and a Street name sign that is parallel to the

STOP sign face. All other signs should be mounted per MUTCD guidelines for Urban Areas. STANDARD DETAIL WILMINGTON DATE: NOVEMBER, 2011 STREET SIGNS CITY OF WILMINGTON ENGINEERING

DRAWN BY JSR AND LOCATION CHECKED BY BDR, P.E. SCALE NOT TO SCALE SHEET 2 of 2

5 STREET SIGN LOCATIONS

NOT TO SCALE

CS-501

SD 15-03

GENERAL NOTES

1. IN ACCORDANCE WITH N.C.G.S. 136-44.14, ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY HANDICAPPED ON EACH SIDE OF ANY STREET OR ROAD, WHERE CURBS AND SIDEWALKS ARE PROVIDED AND AT OTHER MAJOR POINTS OF PEDESTRIAN FLOW.

2. WHEELCHAIR RAMPS SHALL BE LOCATED AS INDICATED IN DETAIL DRAWINGS; HOWEVER, EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. MAY AFFECT PLACEMENT. 3. CURB RAMPS SHALL HAVE DETECTABLE WARNINGS

EXTENDING THE FULL WIDTH OF THE RAMP AND A MINIMUM OF 2-FT. IN LENGTH.

CONSTRUCTION NOTES

THE CURB RAMPS.

1. CONSTRUCTION SHALL CONFORM WITH CONSTRUCTION STANDARDS OF THE GOVERNING BODY WHICH HAS JURISDICTION OF THE PARTICULAR STREET.

2. WHEELCHAIR RAMPS SHALL BE CONSTRUCTED OF CLASS "A"

- CONCRETE WITH THE SURFACE HAVING A ROUGH, NON-SKID 3. A 1/2-IN. EXPANSION JOINT SHALL BE REQUIRED WHERE THE
- CONCRETE WHEELCHAIR RAMP JOINS ANY RIGID PAVEMENT OR STRUCTURE. 4.IN NO CASE SHALL THE WIDTH OF A CURB RAMP OR CURB
- CUT BE LESS THAN 40-IN. (3-FT, 4-IN.), NOT INCLUDING THE FLARED SIDES. 5. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS OR
- STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. 6. THE MAXIMUM SLOPE ON THE CURB RAMP RUN IS 1:12.

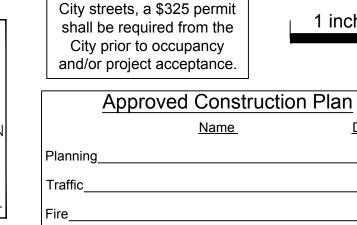
7. THE MAXIMUM CROSS SLOPE OF THE CURB RAMP IS 1:50.

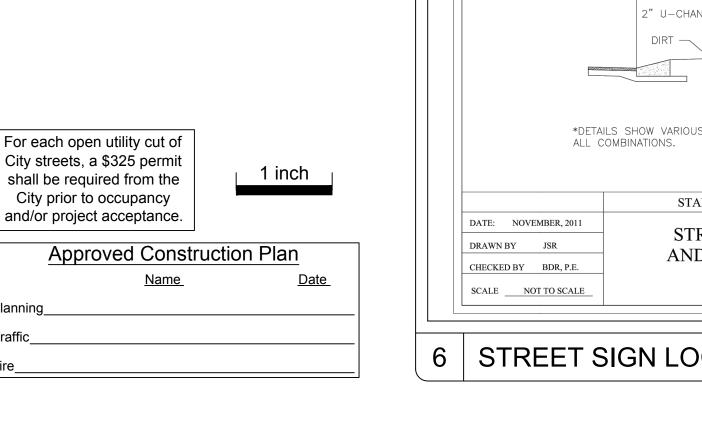
IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20. 9. ANY RAISED ISLANDS IN CROSSINGS SHALL BE CUT THROUGH LEVEL WITH THE STREET OR HAVE CURB RAMPS AT BOTH SIDES AND A LEVEL AREA AT LEAST 48-IN. LONG BETWEEN

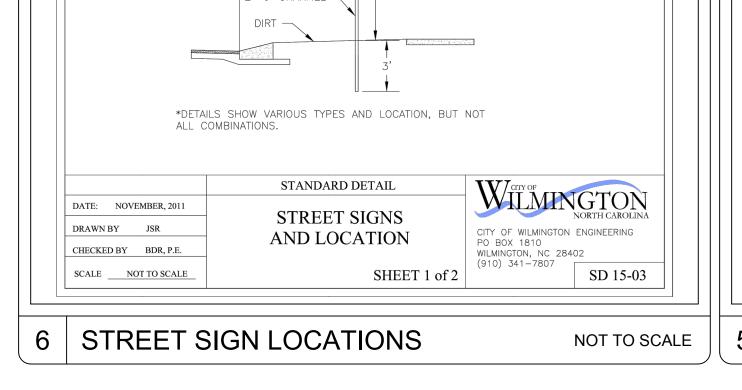
8. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE

ADDITIONAL NOTES

- 1. STOP BARS SHALL BE USED WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL,
- STOP SIGN OR OTHER LEGAL REQUIREMENT. 2. PARKING SHALL BE A MINIMUM OF 20 FEET BACK OF THE PEDESTRIAN CROSSWALK.
- 3. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION. THIS DOCUMENT IS AVAILABLE FROM THE SUPERINTENDENT OF DOCUMENTS, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C. 20402.
- 4. INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
- 5. CURB RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED
- MARKED CROSSINGS SHALL HAVE 48-IN. MINIMUM CLEAR SPACE WITHIN THE MARKINGS
- Public Services Engineering Division 6. THE BOTTOM OF DIAGONAL (CORNER TYPE) CURB RAMPS AT APPROVED STORMWATER MANAGEMENT PLAN 7. IF DIAGONAL CURB RAMPS HAVE FLARED SIDES, THEY SHALL Date: _____ Permit #_____ HAVE AT LEAST A 24-IN. LONG SEGMENT OF STRAIGHT CURB LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING.







MKIM&CREED Wilmington, North Carolina 28401 Phone: (910)343-1048, Fax: (910)251-8282 License: F-1222 CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL DESCRIPTIONS REVISIONS www.mckimcreed.com

SCI NORTH CAROLINA FUNERAL SERVICES, LLC. 1929 ALLEN PKWY. HOUSTON, TX 77019

GREENLAWN FUNERAL HOME WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

SITE DETAILS

06/06/2018 MCE PROJ. # 07397-000 ALM/EEM/KCBE DRAWN DESIGNED KCBE/EEM/ALM PROJ. MGR. KCBE

VERTICAL: N/A

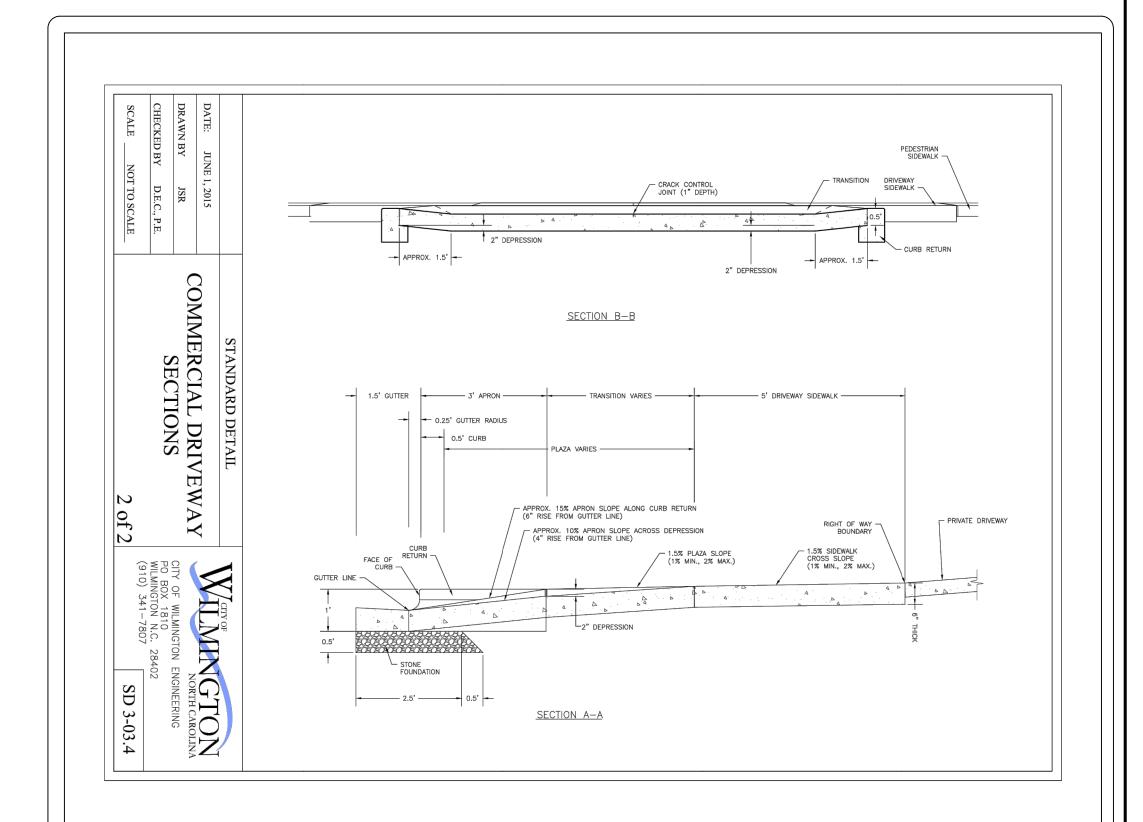
HORIZONTAL

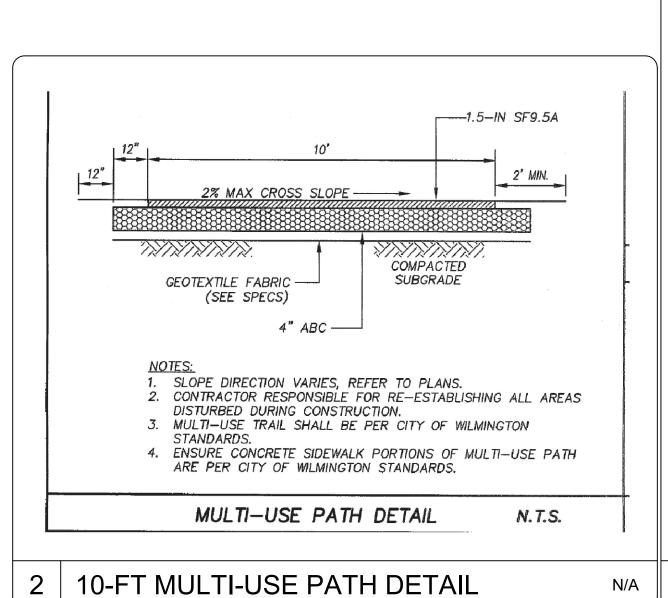
Public Services Engineering Division APPROVED STORMWATER MANAGEMENT PLAN Date: _____ Permit #____

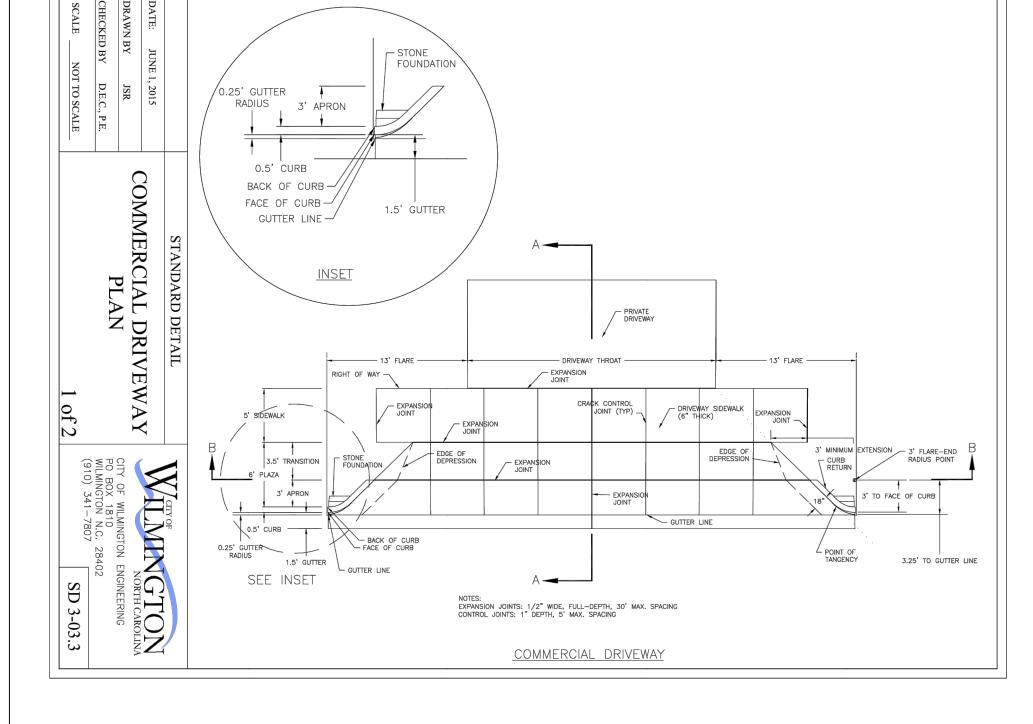
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

₁ 1 inch

Approved Construction Plan







A CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL DESCRIPTIONS REVISIONS

EMEKIM& CREED 243 North Front Street Wilmington, North Carolina 28401 Phone: (910)343—1048, Fax: (910)251—8282 License: F-1222

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GREENLAWN FUNERAL HOME

SITE DETAILS

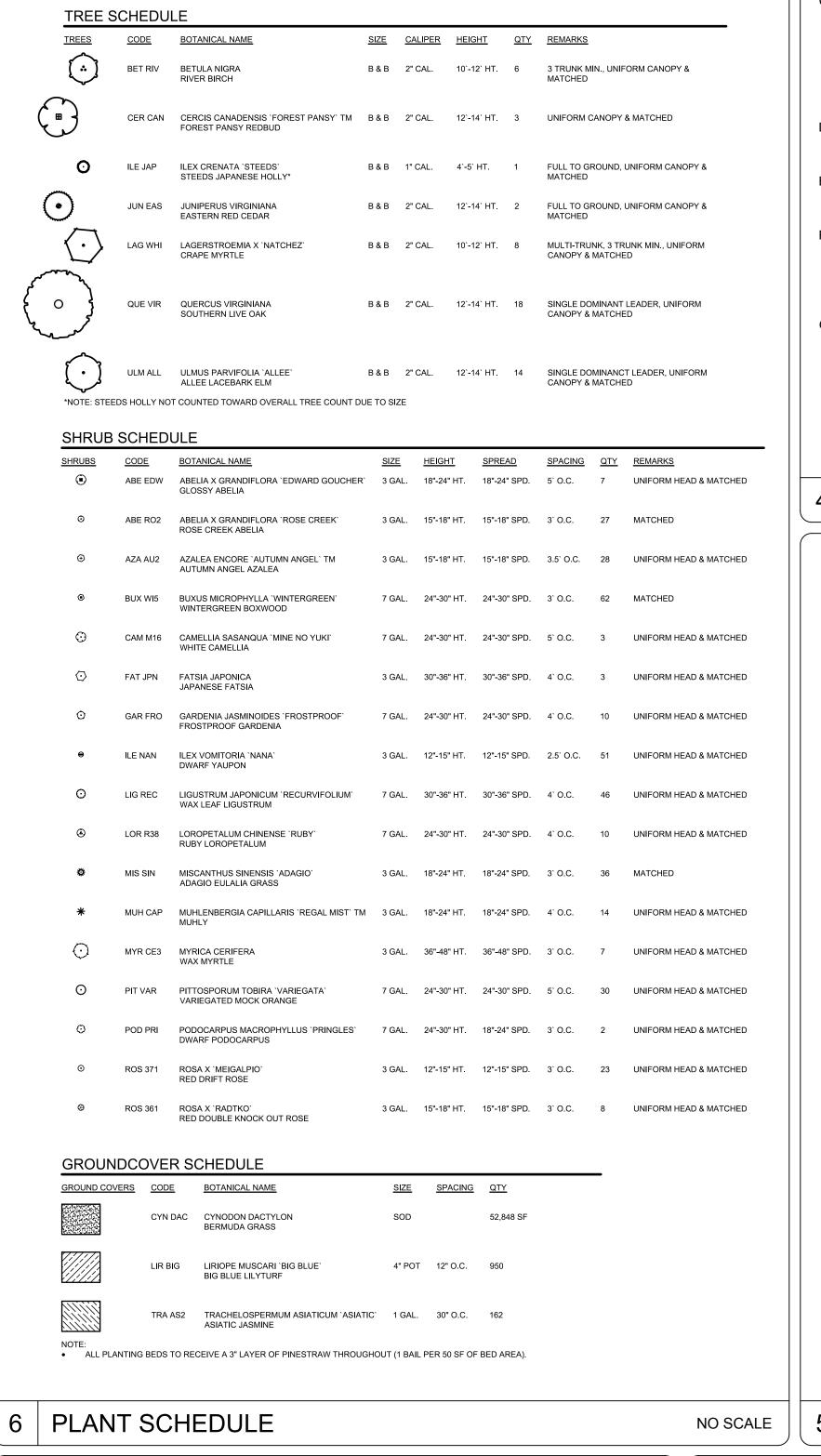
DRIVEWAY DETAIL

N/A

WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

MCE PROJ. # 07397-000 ALM/EEM/KCBE DRAWN DESIGNED KCBE/EEM/ALM KCBE PROJ. MGR.

HORIZONTAL VERTICAL: N/A



- A. ALL EXISTING VEGETATION THAT IS USED TO MEET LANDSCAPING REQUIREMENTS, ALL REQUIRED PLANTED LIVING MATERIAL, AND ALL REQUIRED BERMS SHALL BE MAINTAINED BY THE OWNER OF THE PROPERTY ON A CONTINUING BASIS. ANY PLANTED MATERIAL WHICH BECOMES DAMAGED OR DISEASED OR DIES SHALL BE REPLACED BY THE OWNER WITHIN 60 DAYS OF THE OCCURRENCE OF SUCH CONDITION. IF, IN THE OPINION OF THE ZONING ADMINISTRATOR THERE ARE SEASONAL CONDITIONS WHICH WILL NOT PERMIT THE TIMELY REPLACEMENT OF THE VEGETATION (E.G. TOO HOT OR TOO COOL FOR SUCCESSFUL REPLANTING) THIS REQUIREMENT MAY BE ADMINISTRATIVELY WAIVED UNTIL A TIME CERTAIN WHEN THE REPLANTING WOULD BE SUCCESSFUL.
- B. VERIFICATION OF TOTAL LANDSCAPE MATERIAL QUANTITIES AS SHOWN ON THE LANDSCAPE PLANS AND IN THE PLANT SCHEDULE SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO FINAL BIDDING OR INSTALLATION.
- C. ALL PLANTING TYPES SHALL COMPLY WITH LOCAL GOVERNING CODES AND REGULATIONS, CONFORM TO REQUIREMENTS OF PLANT LIST AND TO THE AMERICAN ASSOCIATION OF NURSERYMEN "AMERICAN STANDARD OF NURSERY STOCK" AND "HORTICULTURAL STANDARDS" AS TO SPECIES, AGE, SIZE, AND PLANTING RECOMMENDATIONS.
- D. LANDSCAPE MATERIAL PLACED IN PREPARED HOLES SHALL BE PROPERLY BACKFILLED PRIOR TO THE END OF THE WORKING DAY.
- E. ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
- F. LANDSCAPE ARCHITECT SHALL APPROVE ANY ON-SITE PLANT STORAGE AREA FOR ACCESSIBILITY, SHADE CONDITIONS, HEALING-IN MULCH MATERIAL AND TEMPORARY WATERING METHODS.
- G. ALL ROPE AND WRAPPING TWINE SHALL BE CUT AND REMOVED FROM AROUND THE UPPER PARTS OF THE ROOT BALL. METAL BASKET WIRES AND BURLAP SHALL BE PULLED BACK AND TUCKED UNDER THE EDGES OF THE SAUCER RINGS ON ALL TREES AND LARGE SHRUBS. ALL SYNTHETIC BURLAP SHALL BE REMOVED FROM PLANT BALLS PRIOR TO BACK FILLING.

For each open utility cut of

City streets, a \$325 permit

shall be required from the City prior to occupancy

and/or project acceptance.

Approved Construction Plan

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Signed: _____

CITY STAMPS

- H. ALL PLANT BEDS OR RAISED SAUCER RINGS SHALL BE EDGED WITH T. SMOOTH, CONTINUOUS CURVES.
- ALL PLANT MATERIAL SHALL BE PLANTED AT HEIGHTS AND WIDTHS AS ILLUSTRATED IN PLANTING DETAILS.
- TREE GUYING SHALL BE PERFORMED WITHIN A WEEK OF PLANTING. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TREE GUYING STRAPPING AND STAKES AFTER THE FIRST FULL GROWING SEASON OR ONE YEAR, WHICH EVER COMES
- K. CONTRACTOR SHALL VERIFY LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO PLANTING.
- L. ANY EXPOSED OR UNCOVERED LINES SHALL BE SHOWN TO GENERAL CONTRACTOR PRIOR TO BACKFILLING.
- M. ALL PLANT BEDS AND RAISED SAUCER RINGS SHALL BE GRADED TO PROVIDE ADEQUATE DRAINAGE AND SHALL BE MULCHED AS SPECIFIED.
- N. ALL MATERIALS, PLANTING AND LANDSCAPE WORK SHALL CONFORM TO THE CURRENT MUNICIPAL AUTHORITIES STANDARD SPECIFICATIONS AND DETAILS.
- O. ALL LANDSCAPE AREAS THAT ARE NOT PLANTED, MULCHED OR PAVED SHALL BE SEEDED OR SODDED.
- P. FIRST YEAR PRUNING OF TREE CROWN SHALL BE LIMITED TO REMOVAL OF DEAD & DAMAGED WOOD.
- Q. TREE PROTECTION FENCE SHALL BE INSTALLED, INSPECTED AND APPROVED PRIOR TO CLEARING, GRADING AND CONSTRUCTION ACTIVITY OR ISSUANCE OF ANY RELATED PERMITS. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- R. MULCH LINE SHALL CONSIST OF SMOOTH CONTINUOUS CURVES.
- S. ALL TREES NOT WITHIN A PLANT BED SHALL BE TREATED WITH A 6' DIAMETER MULCH RING TYPICAL, UNLESS OTHERWISE INDICATED ON THE PLANTING PLANS.

TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.

- U. SUBSTITUTIONS OF PLANT MATERIALS SPECIFIED CAN ONLY OCCUR WITH PRIOR APPROVAL BY LANDSCAPE ARCHITECT.
- V. ESTABLISH PLANT BED CONFIGURATION. LANDSCAPE ARCHITECT TO APPROVE BED LAYOUT IN FIELD.
- W. AREAS DAMAGED BY ACTIVITIES OF CONTRACTOR SHALL BE RE-ESTABLISHED TO PRE-DISTURBANCE CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- X. USE HERBICIDES, PESTICIDES, AND FERTILIZER IN A MANNER CONSISTENT WITH THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT AND IN ACCORDANCE WITH LABEL RESTRICTIONS.
- Y. CONTRACTOR SHALL INSURE THAT ALL PLANT MATERIAL IS FREE OF FIRE ANTS PRIOR TO INSTALLATION.
- Z. LANDSCAPE ARCHITECT OR OWNER SHALL APPROVE PLACEMENT OF TREES PRIOR TO PLANTING.

PREVAILING **GENERAL NOTES:** WINDS A. TREE TO BE STRAIGHTENED PRIOR TO BACKFILL AND GUYING STAKE B. SCARIFY BOTTOM AND SIDES OF PLANT PIT. - TRUNK C. STAKE AND GUY TREES 3" CALIPER OR GREATER, OR TREES IN WINDING LOCATIONS AS DIRECTED BY LANDSCAPE ARCHITECT. D. DO NOT WRAP TREE TRUNK. E. MARK NORTH SIDE OF TREE AT NURSERY AND PLANT WITH MARKING FACING BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, PACK SOIL AROUND BASE OF ROOTBALL TO STABILIZE, INSTALL REMAINDER IN 9" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER STAKING "ARBORTIE" HEAVY DUTY — TREE AS SPECIFIED PER TREE GUY STRAPPING. LANDSCAPE PLAN(S) COLOR TO BE GREEN, 900LB BREAK STRENGTH, SLACK LOOP STRAPPING JUST STRAP LIGHTLY TO ALLOW ABOVE FIRST LIMB AND SLIGHT MOVEMENT IN TREE AROUND CENTRAL LEADER, REFER TO PULL BACK TOP 1/4 OF — MANUFACTURER'S BURLAP. TWINE TIES AND **RECOMMENDATION FOR** WIRE BASKET, LEAVE TYING METHOD REMAINDER AROUND ROOT FLARE TO BE SET **ROOT BALL** 2" ABOVE EXISTING GRADE MULCH AS SPECIFIED, KEEP 6" AWAY FROM NATIVE SOIL, TILL SOIL TREE TRUNK TO A 6" MIN. DEPTH FINISH GRADE -4" DEEP SHOVEL DUG "V" TRENCH - 2" X 2" X 30" UNTREATED SEE LANDSCAPE LUMBER STAKES (TYP.), (3) PLAN FOR TOTAL EQUALLY SPACED 2 TO 3 TIMES THE LOCATIONS AROUND TREE, INSTALL ROOT BALL DIAMETER OUTSIDE OF ROOTBALL NATIVE SUBGRADE AND BACKFILLED SOIL **SECTION** BALLED AND BURLAP -MIXTURE **ROOT BALL** TOPSOIL COMPACTED NATIVE SOIL PEDESTAL 2 TYPICAL TREE PLANTING SCALE: 1/2" = 1'-0"

PLANT SPACING CHART

1'-0" O.C.

1'-6" O.C.

2'-0" O.C.

2'-6" O.C.

3'-0" O.C.

3'-6" O.C.

4'-0" O.C.

LARGER PLANTS WILL REQUIRE ADDITIONAL TOPSOIL DEPTH.

B. THE BOTTOM OF SHRUB ROOT BALLS SHALL NOT PROJECT INTO THE NATIVE SUBGRADE

BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, INSTALL IN 6" LAYERS, HAND

PLACEMENT AND BACKFILLING WITH PREPARED SOILS. HAND TOOLS SHALL NOT BE USED TO

ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED BY HAND PRIOR TO

A. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.

TAMP TO REMOVE VOIDS AND WATER EACH LAYER

PLANTING BED

SCARIFY ROOT BALLS.

EDGE

PLANT SPACING

<u>PLAN</u>

GENERAL NOTES

ROW OFFSET (B) SPACING (A)

10" O.C.

1'-4" O.C.

1'-9" O.C.

2'-2" O.C.

2'-7" O.C.

3'-0" O.C.

3'-6" O.C.

5'-0" O.C.

6'-0" O.C.

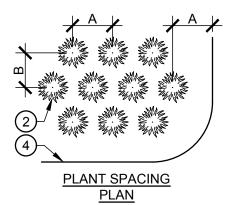
7'-0" O.C

8'-0" O.C

9'-0" O.C.

10'-0" O.C.

4 | PLANTING NOTES SCALE: 1/2" = 1'-0"

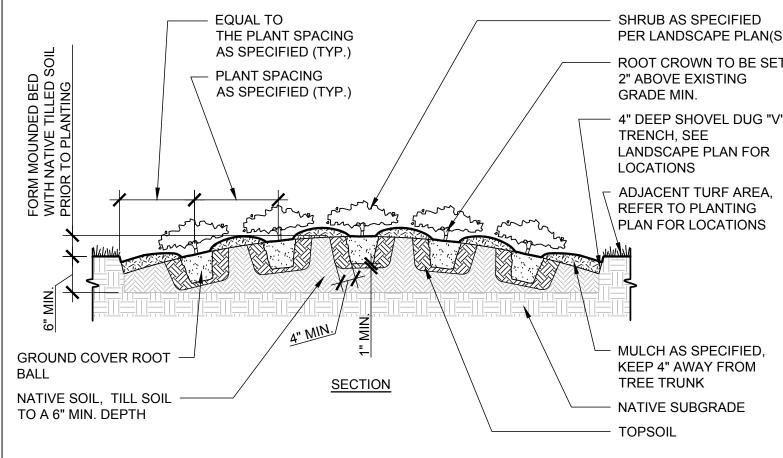


PLANT SPACING CHART SPACING (A) ROW OFFSET (B)

6" O.C. 5" O.C. 24" O.C. 1'-9" O.C. 2'-7" O.C. 8" O.C. 7" O.C. 36" O.C. 3'-6" O.C. 15" O.C. 1'-1" O.C. 5'-0" O.C. 4'-4" O.C. 1'-4" O.C. 6'-0" O.C. 5'-2" O.C.

A. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.

- B. THE BOTTOM OF GROUND COVER ROOT BALLS SHALL NOT PROJECT INTO THE NATIVE SUBGRADE LARGER PLANTS WILL REQUIRE ADDITIONAL TOPSOIL DEPTH.
- BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, INSTALL IN 6" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER
- ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED BY HAND PRIOR TO PLACEMENT AND BACKFILLING WITH PREPARED SOILS. HAND TOOLS SHALL NOT BE USED TO SCARIFY ROOT BALLS.



PER LANDSCAPE PLAN(S) ROOT CROWN TO BE SET 4" DEEP SHOVEL DUG "V"

2" ABOVE EXISTING **EQUAL TO THE** GRADE MIN. PLANT SPACING PLANT SPACING 4" DEEP SHOVEL DUG "V" AS SPECIFIED AS SPECIFIED TRENCH, SEE LANDSCAPE PLAN FOR LOCATIONS ADJACENT TURF AREA REFER TO PLANTING PLAN FOR LOCATIONS 6" MIN. MULCH AS SPECIFIED, **KEEP 4" AWAY FROM** SHRUB ROOT BALL ROOT CROWN NATIVE SOIL, TILL SOIL NATIVE SUBGRADE **SECTION** TO A 6" MIN. DEPTH **TOPSOIL**

TYPICAL SHRUB PLANTING SCALE: 1/2" = 1'-0"

SCALE: 1/2" = 1'-0"

M&C FILE NUMBER

ROW OFFSET (B)

4'-4" O.C.

5'-2" O.C.

6'-1" O.C.

6'-11" O.C.

7'-10" O.C.

8'-8" O.C.

SHRUB AS SPECIFIED

PER LANDSCAPE PLAN(S)

ROOT CROWN TO BE SET

CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL DESCRIPTIONS REVISIONS

SMCKIM&CREED

1 inch

<u>Date</u>

Wilmington, North Carolina 28401 Phone: (910)343-1048, Fax: (910)251-8282 License: F-1222

NO SCALE

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3 TYPICAL GROUNDCOVER PLANTING

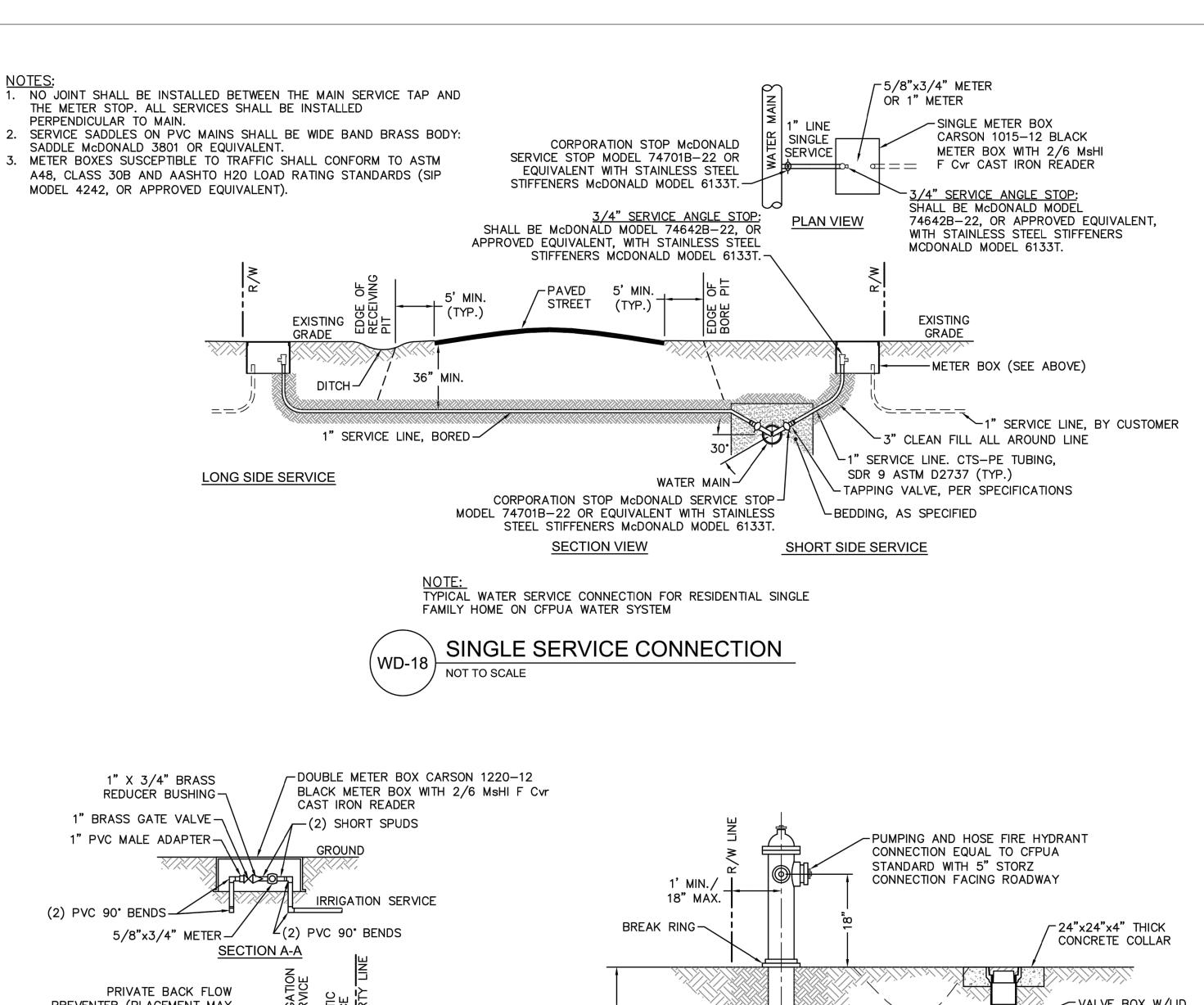
GREENLAWN FUNERAL HOME WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

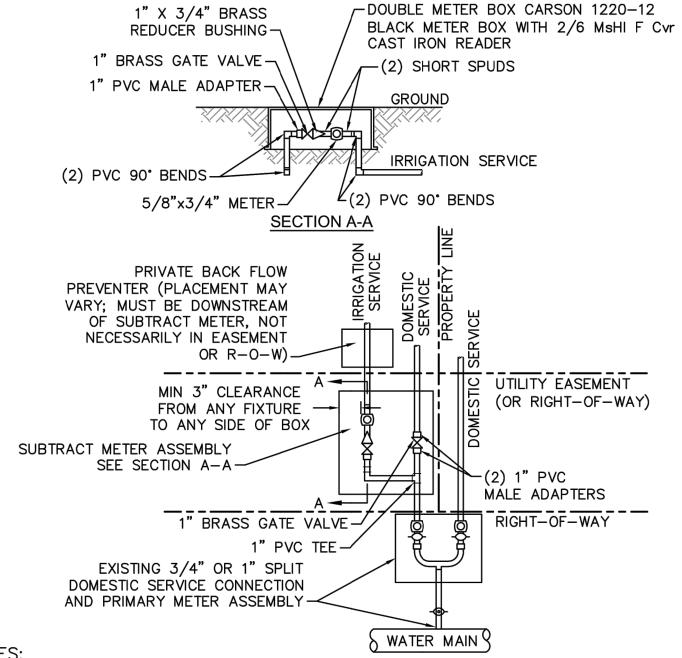
LANDSCAPE DETAILS

07/11/2018 SCALE IORIZONTAL DRAWN 1"=30' VERTICAL: N/A

STATUS: PRELIMINARY DESIGN

ISSUED FOR PERMITTING



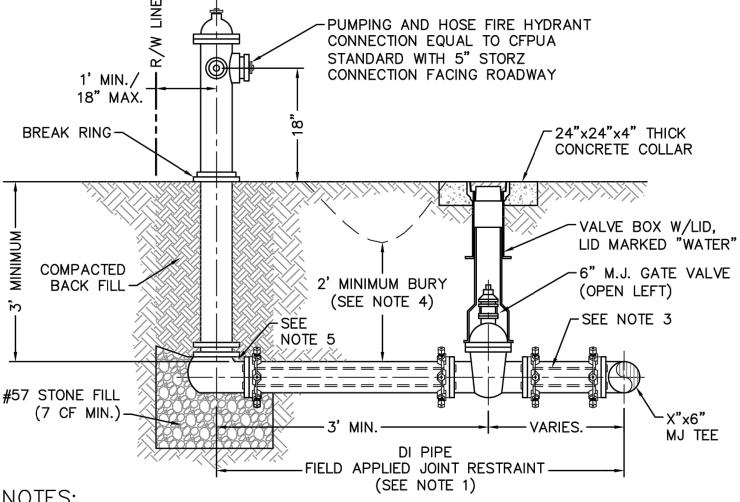


NOTES:

1. BEYOND THE PRIMARY DOMESTIC METER ASSEMBLY, CFPUA IS ONLY RESPONSIBLE FOR METER AND WASHERS OF SUBTRACT METER ASSEMBLY. 2. ALL PIPE AND FITTINGS UP TO FINAL SERVICE LINE TO BE 1" EXCLUDING METERS. PLAN VIEW

(MULTIPLE DOMESTIC SERVICES PER TAP)





1. JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI PIPE AS MANUFACTURED

BY EBAA IRON, SIGMA, STAR PIPE PRODUCTS OR APPROVED EQUAL. 2. WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.

3. CONTINUOUS 316 STAINLESS STEEL RODS (TEE TO VALVE AND VALVE TO HYDRANT) MAY BE USED WITH COR-BLUE MJ T-BOLT AND GASKET KITS, AS AN ALTERNATIVE. 4. HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.

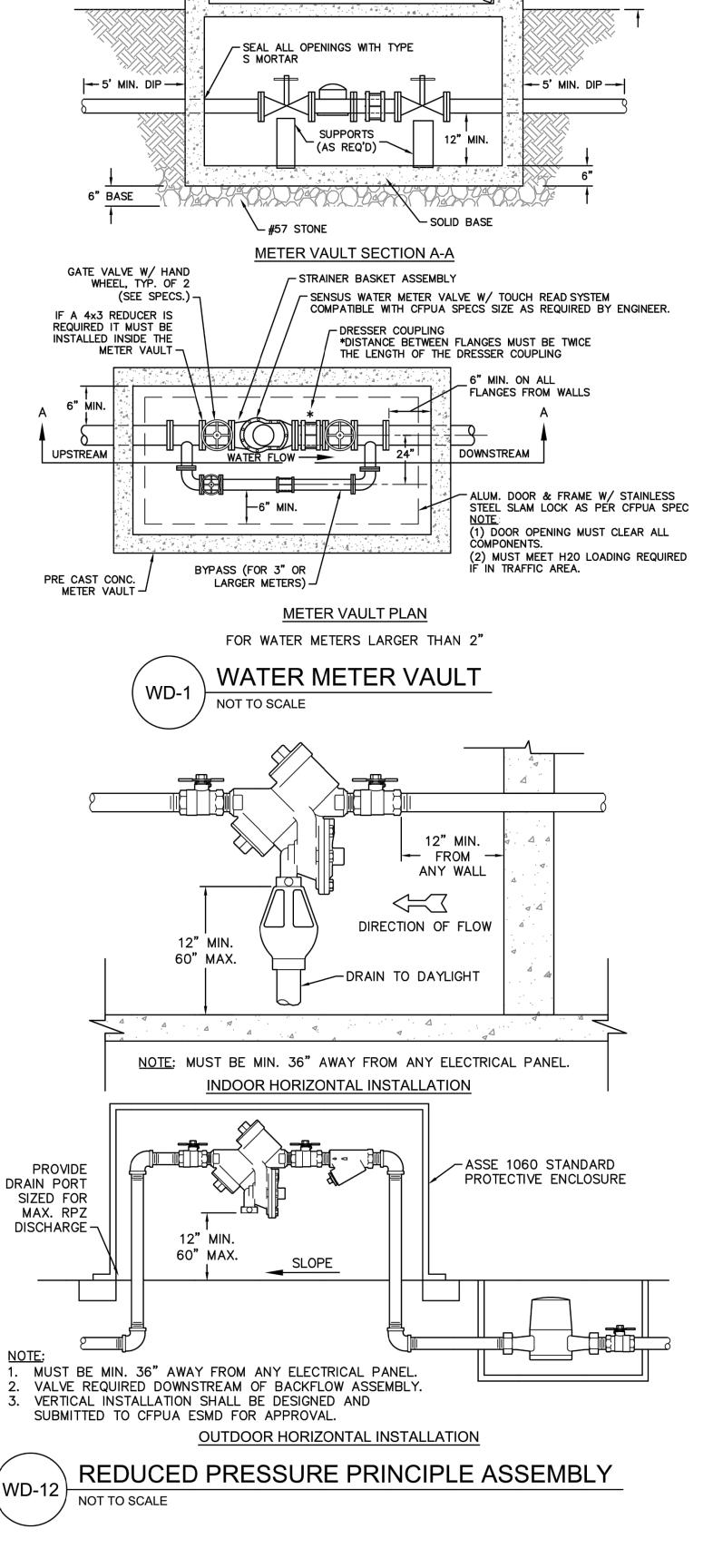
5. WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.

FIRE HYDRANT ASSEMBLY NOT TO SCALE

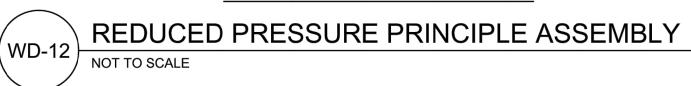
CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:

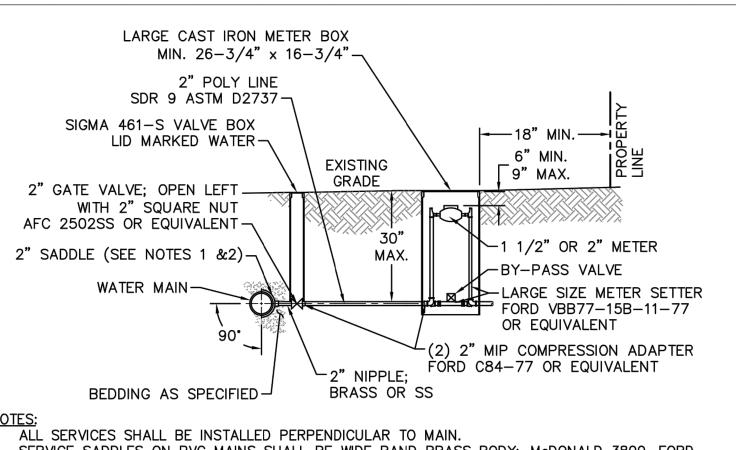
- 1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- 2. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
- 3. ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
- 4. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- 5. NO FLEXIBLE COUPLINGS SHALL BE USED. 6. ALL STAINLESS STEEL FASTENERS SHALL BE 316.
- 7. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.





PRE CAST CONC METER VAULT



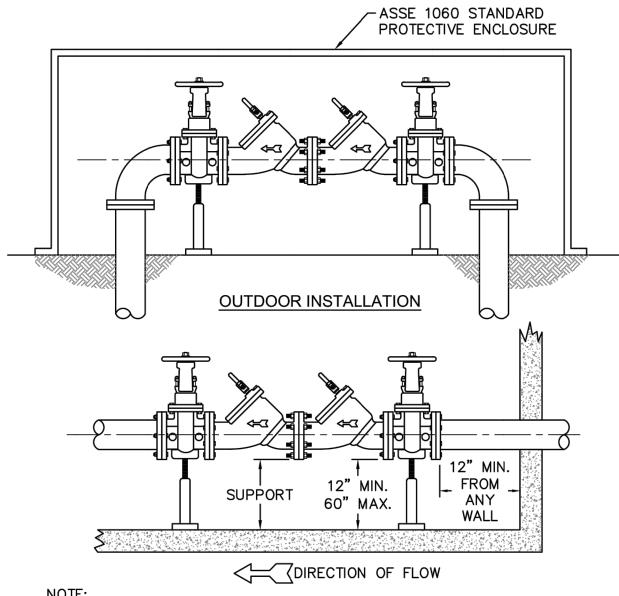


2. SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: McDONALD 3800, FORD S90 (DOUBLE STRAP) OR EQUIVALENT.

- 3. METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (OLDCASTLE PRECAST MODEL B1730 OR APPROVED EQUIVALENT).
- METER BOXES SUSCEPTIBLE TO INCIDENTAL, NON-DELIBERATE TRAFFIC SHALL CONFORM TO ANSI/SCTE 77 TIER 15 LOAD RATING STANDARDS (SYNERTECH MODEL DUO 17x30 OR APPROVED
- NON-TRAFFIC METER BOXES SHALL BE SIGMA MB2203 OR APPROVED EQUIVALENT.
- 6. 3" CLEAN FILL REQUIRED ALL AROUND 2" POLY SERVICE LINE.

FOR 1-1/2" OR 2" WATER SERVICES

LARGE METER NOT TO SCALE

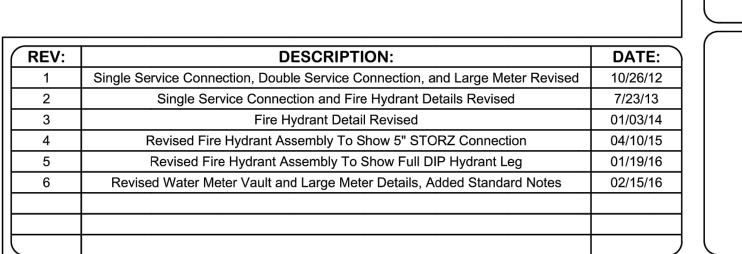


MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL. VALVE REQUIRED DOWNSTREAM OF BACKFLOW ASSEMBLY VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPUA ESMD FOR APPROVAL



- 1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
- 2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY
- CONSTRUCTION BEGINS.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL
- MEASURES WHILE CONSTRUCTION IS IN PROGRESS. 4. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04



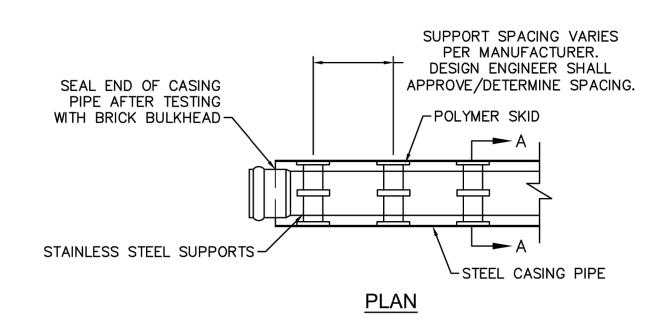


wardship. Sustainability. Service.

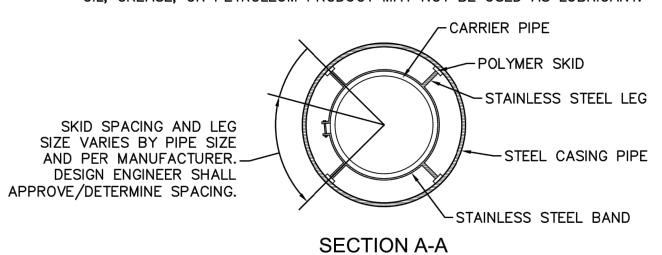
DRAWN BY: **CFPUA** CHECKED BY: CFPUA STANDARD DETAILS PROJECT NO.:

CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE **WILMINGTON, NC 28403** OFFICE: (910)332-6560

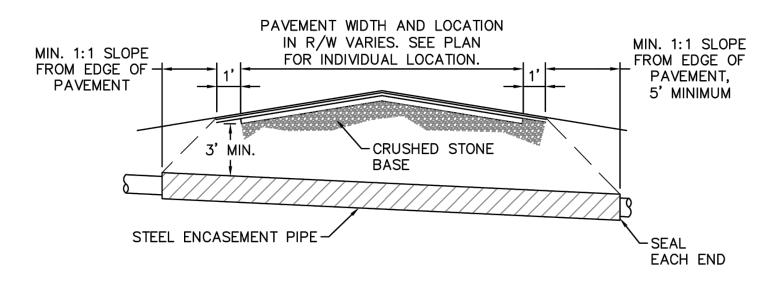
SHEET NO: WSD-



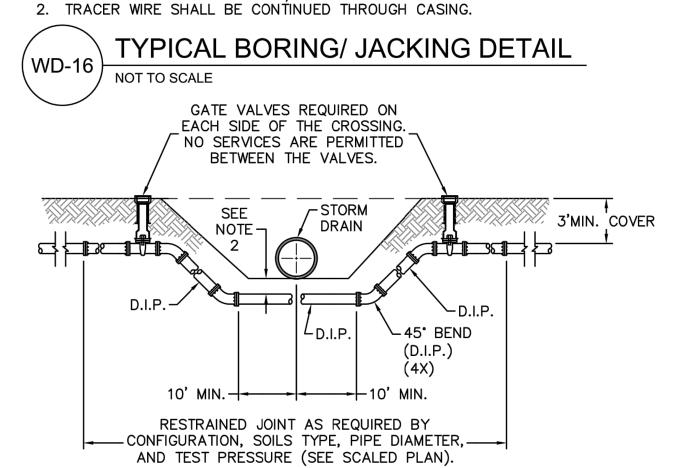
NOTE: PIPE SUPPORT TO BE PLACED TO PROVIDE PROPER SUPPORT, ALIGNMENT, AND GRADE AS SPECIFIED. CONTINUOUS SUPPORTS MAY BE USED AS ALTERNATIVE. OIL, GREASE, OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.



WD-15 NOT TO SCALE



1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.



NOTES:

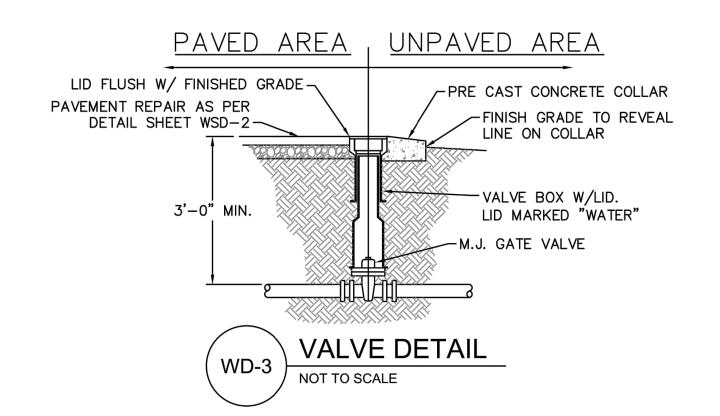
1. USE PRESSURE CLASS 350 DIP, UNLESS SPECIFIED OTHERWISE.

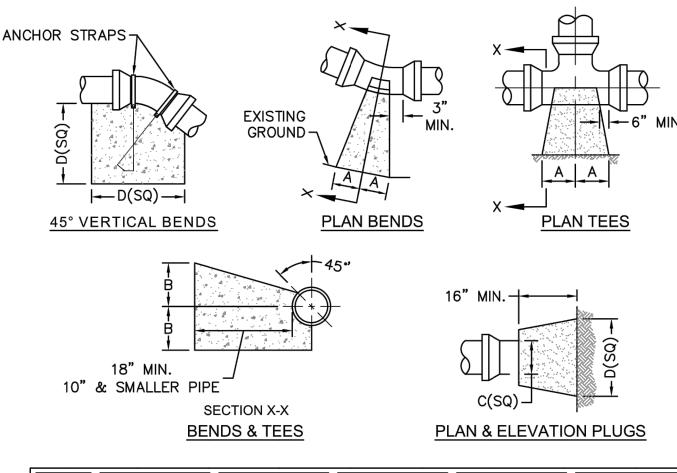
2. MINIMUM DEPTH REQUIRED, UNLESS SPECIFIED OTHERWISE BY CFPUA:

a. IN DOT R/W, 36" MIN. TYPICAL, OR 24" MIN. WHEN CROSSING A DITCH LINE.

b. ALL OTHER LOCATIONS, 30" MIN.
 c. WHEN STORM DRAIN INVERT IS BURIED AT OR BELOW ABOVE DEPTHS, 18" MIN. CLEARANCE IS REQUIRED.

WATER MAIN DITCH
AND STORM DRAIN CROSSING
NOT TO SCALE





SIZE	90 B	BENDS	45 E	BENDS	22-1/2	BENDS	TEES/	PLUGS	45 VERT. BENDS
J SIZE	A	В	Α	В	Α	В	Α	В	
3"	8"	6"	5"	6"	3"	7"	6"	8"	27"
4"	8"	9"	5"	8"	3"	11"	6"	9"	28"
6"	14"	11"	9"	9"	8"	8"	12"	9"	36"
8"	16"	16"	12"	12"	10"	13"	14"	13"	42"
10"	18"	22"	15"	14"	14"	16"	18"	15"	50"
12"	20"	28"	18"	17"	16"	16"	22"	18"	62"
14"	26"	29"	21"	19"	18"	18"	26"	20"	72"
16"	33"	29"	25"	21"	20"	21"	32"	21"	83"
18"	40"	30"	28"	24"	22"	23"	36"	24"	88"

NOTES:

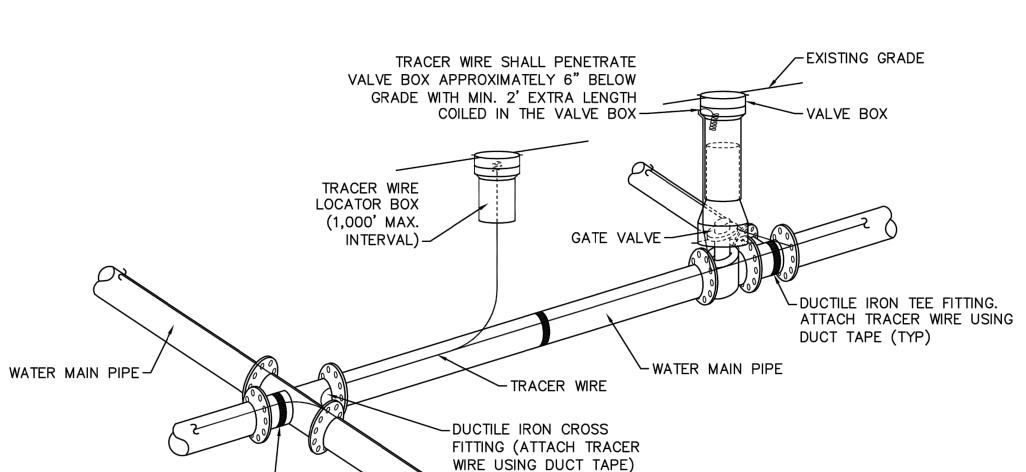
1. BASED ON 160 PSI TEST PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.

2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.

3. USE MEG-A-LUG (PREFERRED) IN LIEU OF BLOCKING AND RODDING

NOT TO SCALE

THRUST BLOCK DETAIL



NOTES:

1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL

- RESISTANT INSULATION. "
 2. WIRE SHALL BE STRAPPED TO ALL PVC WATER MAIN PIPING WITH DUCT TAPE AT 12 FOOT
- INTERVALS ALONG THE PIPE.

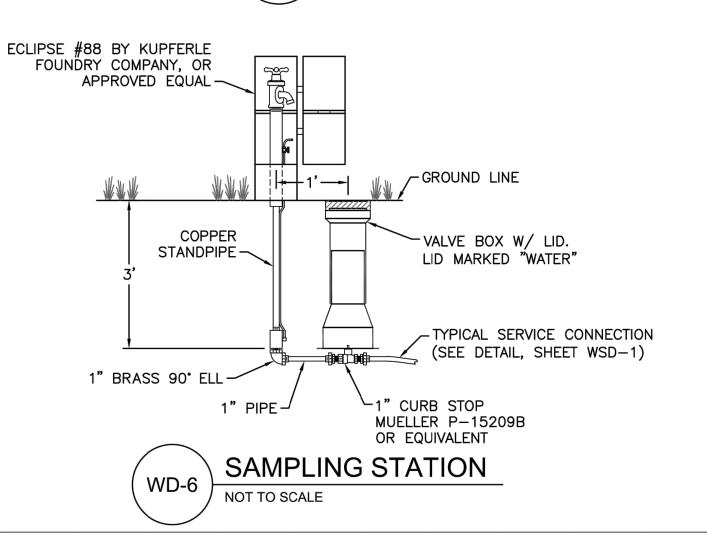
ATTACH TRACER WIRE TO

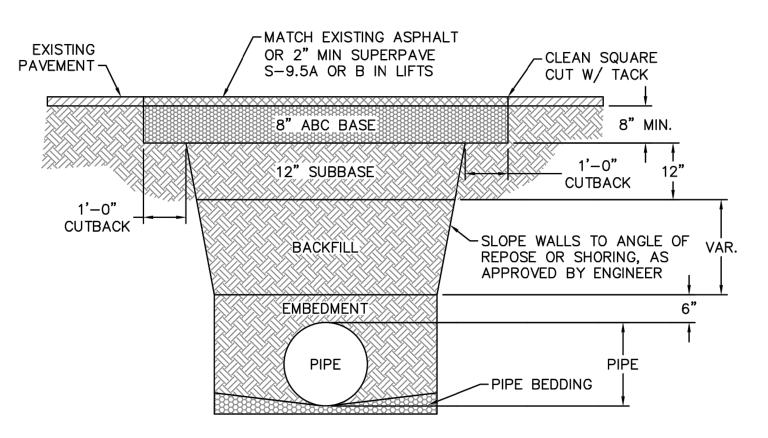
FITTING USING DUCT TAPE

(TYP.)

SECURE WIRE TO ALL TEE AND CROSS FITTINGS WITH DUCT TAPE.
 ALL SPLICES IN THE WIRE SHALL BE MADE WITH 3M DBR DIRECT BURY SPLICE KIT AN UNDERGROUND RATED, WATERTIGHT, AND APPROVED SPLICE CONNECTOR OR APPROVED







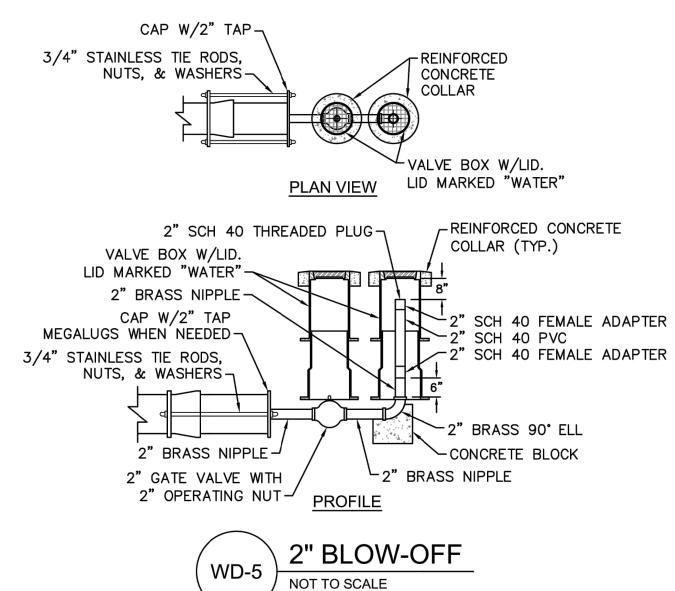
NOTES:

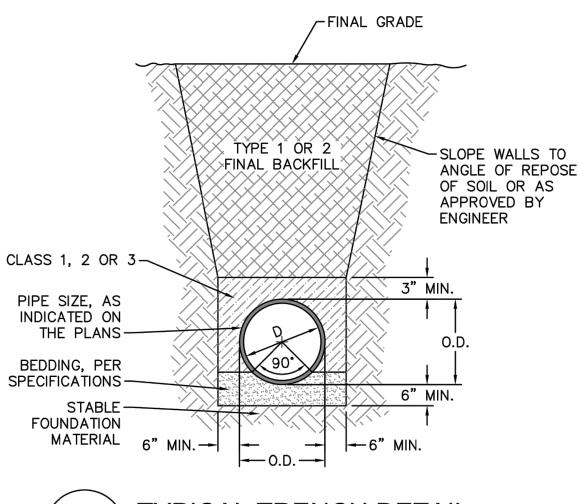
1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.

- 2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
- 8-INCH OF ABC BASE MATERIAL SHALL BE USED ON CITY STREETS.
 BACKFILL AND BASE MATERIALS SHALL BE COMPACTED 12" MINIMUM LIFTS
- 5. SOIL SHALL BE COMPACTED BY A MECHANIZED TAMPER (I.E JUMPING JACK), HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
- 6. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF
- 7. ABC BASE AND SUBBASE COMPACTED TO 98% AND BACKFILL AND EMBEDMENT COMPACTED TO 90% AS DETERMINED BY THE MODIFIED PROCTOR AASHTO METHOD T-99.
- 8. 1-FOOT CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.

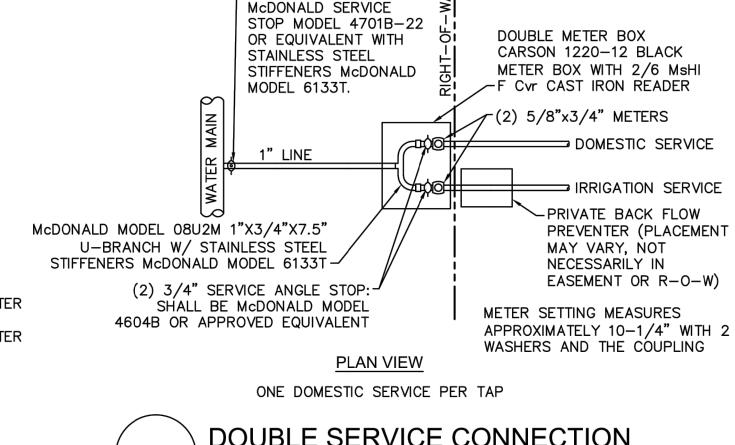
(FOR PRIVATE ROADS AND PAVED AREAS; CONTRACTOR TO MEET MIN.
REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)







WD-13 TYPICAL TRENCH DETAIL
NOT TO SCALE



CORPORATION STOP

DOUBLE SERVICE CONNECTION

NOT TO SCALE

GENERAL NOTES:

1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE—WAY.

2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY

- CONSTRUCTION BEGINS.

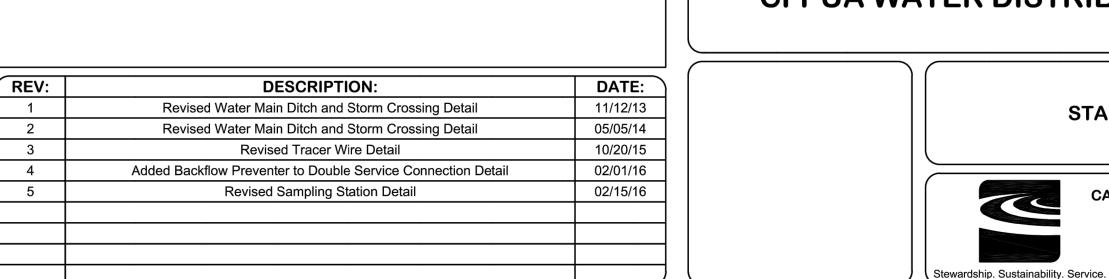
 3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL
- MEASURES WHILE CONSTRUCTION IS IN PROGRESS.

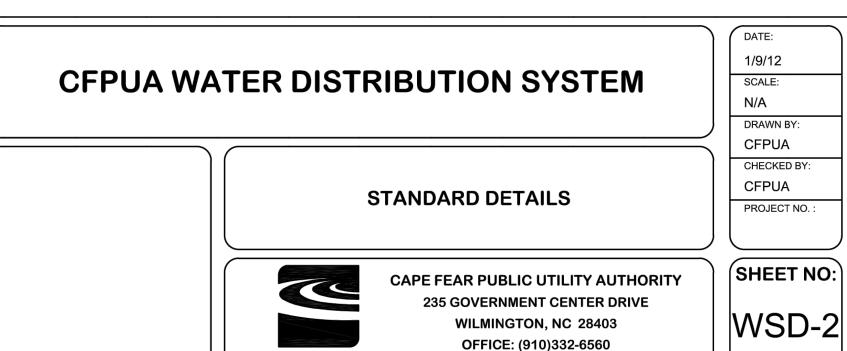
 4. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE

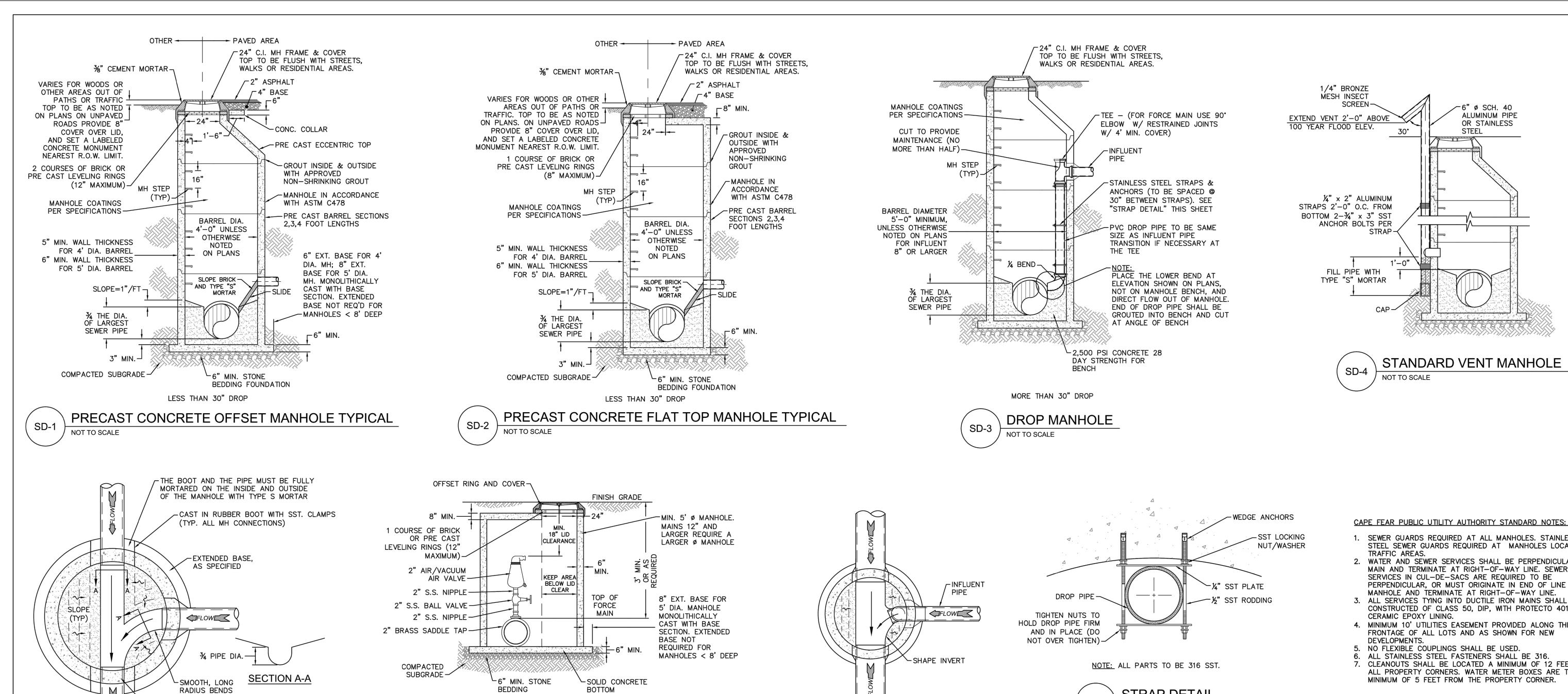
AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPUA

WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04







NOTES:

1. CONTRACTOR TO INSTALL VALVE AND MANHOLE AT SUFFICIENT DEPTH TO WALL SECTION ALLOW FOR ACCESS.

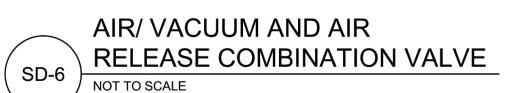
¬NO JOINTS FOR PIPE

WILL BE ALLOWED IN

MANHOLE FLOOR PLAN

NOT TO SCALE

2. FORCE MAIN TO BE OFFSET IN MANHOLE TO KEEP AREA BELOW LID CLEAR. 3. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS. 4. USE CAST IN RUBBER BOOT WITH SST. CLAMPS FOR ALL MH CONNECTIONS, INCLUDING FORCE MAIN.



FOUNDATION



NOT TO SCALE

1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN

2. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE

MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE. 3. ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401

4. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW

5. NO FLEXIBLE COUPLINGS SHALL BE USED. 6. ALL STAINLESS STEEL FASTENERS SHALL BE 316.

7. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

(REQUIRED ON ALL PLAN AND PROFILE SHEETS)



STRAP DETAIL

NOT TO SCALE

STANDARD NOTES

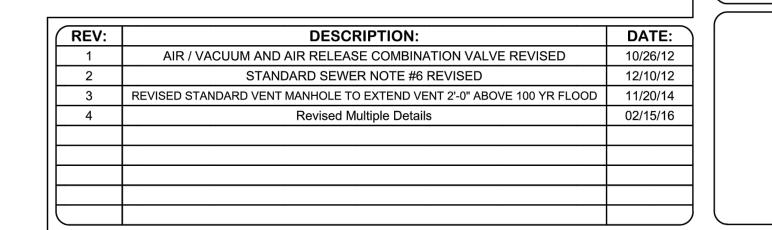
GENERAL NOTES:

1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE—WAY. 2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.

3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.

4. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS. 5. THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPUA **WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04**





DRAWN BY: **CFPUA** CHECKED BY: CFPUA PROJECT NO. :

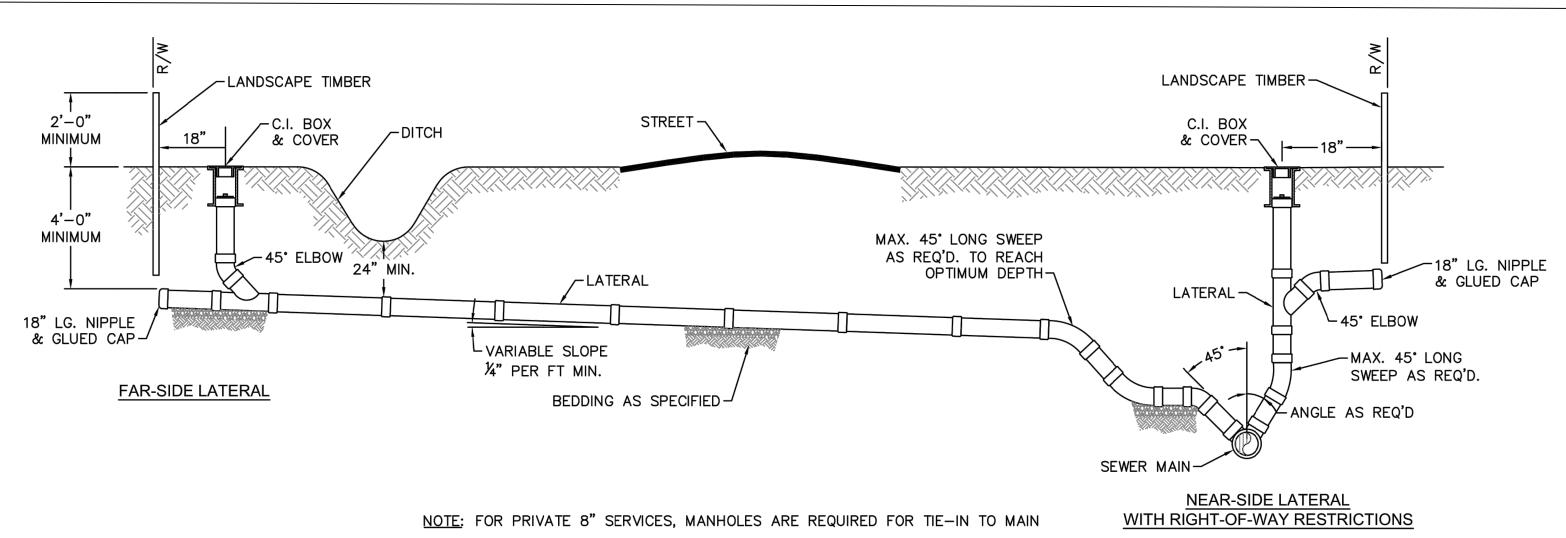
STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 vardship. Sustainability. Service.

SHEET NO: SSD-1

1/9/12

SCALE: N/A



STANDARD SERVICE CONNECTION

TO SANITARY SEWER NOT TO SCALE MIN. 4' DEEP MIN. SLOPE SEE STANDARD SERVICE CONNECTION 1 1/4" PER FT. DETAIL 1'-0" MINIMUM, 1'-6" MAXIMUM ø4" OR 6" SCH. 40 SOLVENT WELD -ø4" OR 6" x 45° BENDS LONG SWEEP (2X) INSTALLATION LEAK PROOF -ø4" OR 6" x 1/6" BEND MAXIMUM LONG SWEEP PROPERTY 6" MIN.-

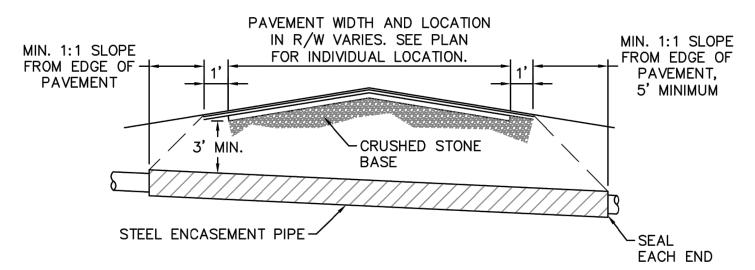
·ø4" OR 6" PIPE OF SUFFICIENT LENGTH TO PERMIT PLACEMENT OF RISER IN UNDISTURBED SOIL AND TO PROVIDE CONVENIENT LOCATION OF CLEAN OUT MATERIAL TO BE SAME AS THE MAIN (C-9XX OR DIP)

-BARREL SIZE TO BE CALLED FOR ON CRUSHED STONE BEDDING. PLANS, OR AS OTHERWISE SPECIFIED 2' EACH SIDE OF LATERAL-

NOTES:

1. SPECIAL CARE SHALL BE TAKEN DURING BACKFILL OPERATIONS. THE RISER SHALL BE PLUMB AND TRUE AT ALL TIMES, AND REST ON FIRM, STABLE FOUNDATION. 2. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

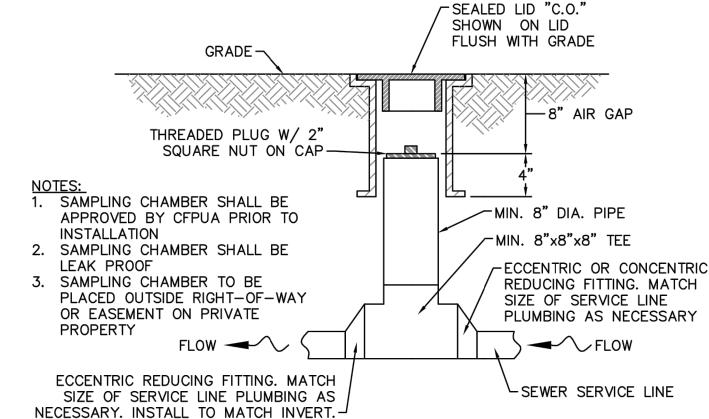
> MAIN DEPTH GREATER THAN 8 FT DEEP SERVICE LATERAL NOT TO SCALE



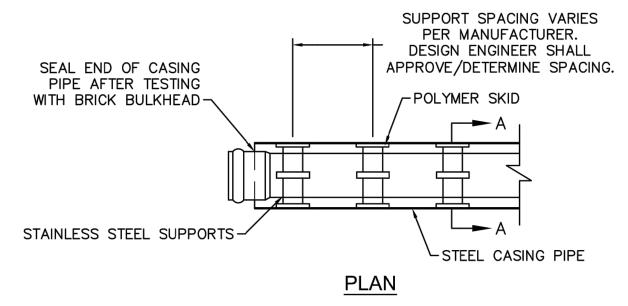
1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.

2. TRACER WIRE SHALL BE CONTINUED THROUGH CASING.

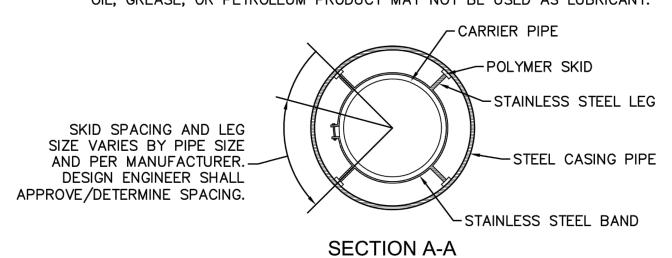
YPICAL BORING/ JACKING DETAIL SD-16 NOT TO SCALE



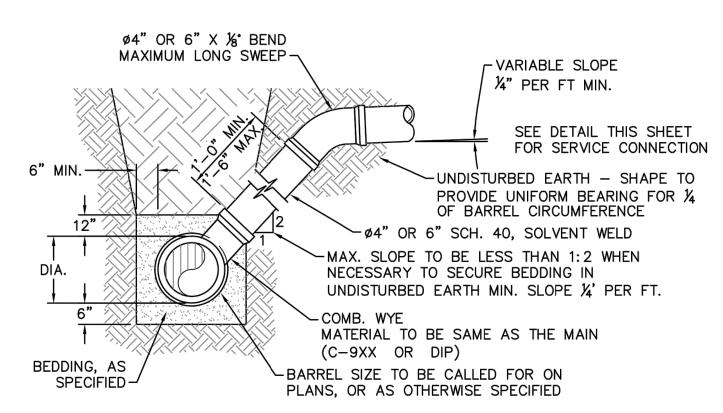
SAMPLING CHAMBER NOT TO SCALE



NOTE: PIPE SUPPORT TO BE PLACED TO PROVIDE PROPER SUPPORT, ALIGNMENT, AND GRADE AS SPECIFIED. CONTINUOUS SUPPORTS MAY BE USED AS ALTERNATIVE. OIL. GREASE. OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.

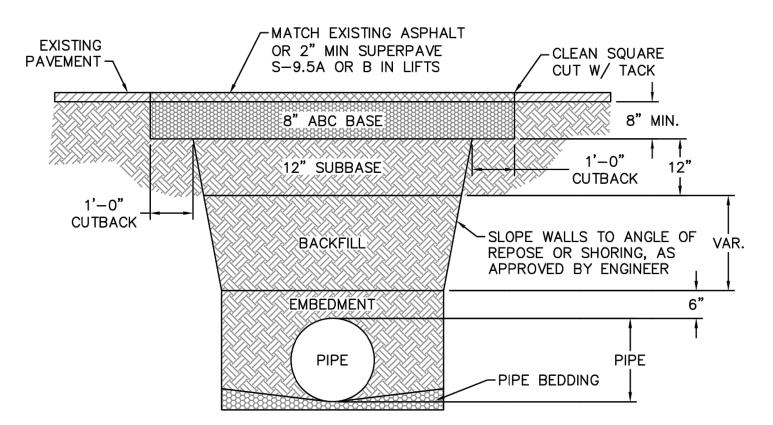


NOTE: ALL STAINLESS STEEL PARTS TO BE 316 SST. PIPE CASING SUPPORT DETAIL NOT TO SCALE



NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

STANDARD SERVICE LATERAL NOT TO SCALE

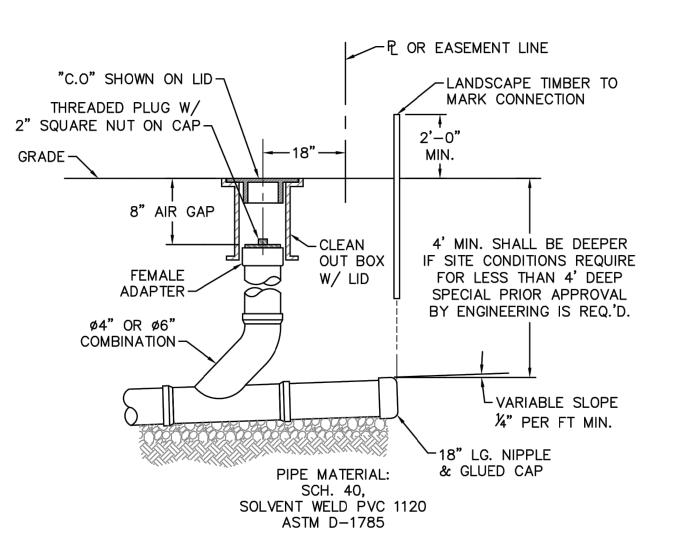


BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS. ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.

- SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
- 3. 8-INCH OF ABC BASE MATERIAL SHALL BE USED ON CITY STREETS. 4. BACKFILL AND BASE MATERIALS SHALL BE COMPACTED 12" MINIMUM LIFTS
- 5. SOIL SHALL BE COMPACTED BY A MECHANIZED TAMPER (I.E JUMPING JACK), HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
- 6. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF
- APPLICABLE. 7. ABC BASE AND SUBBASE COMPACTED TO 98% AND BACKFILL AND EMBEDMENT
- COMPACTED TO 90% AS DETERMINED BY THE MODIFIED PROCTOR AASHTO METHOD T-99. 8. 1-FOOT CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.

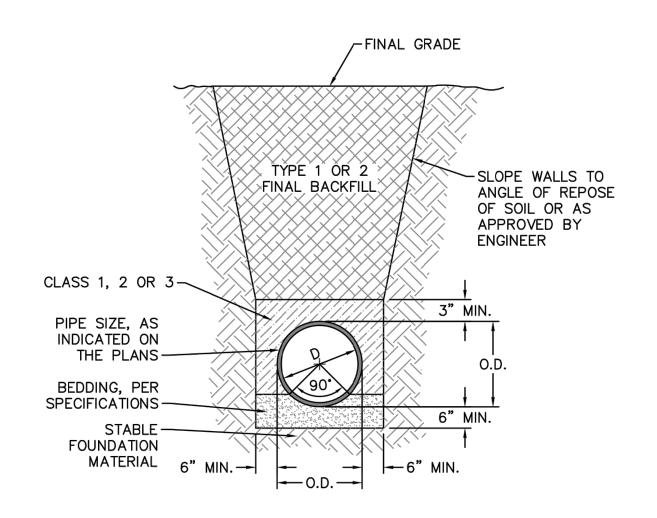
(FOR PRIVATE ROADS AND PAVED AREAS; CONTRACTOR TO MEET MIN. REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)

PAVEMENT REPAIR WHERE PIPE INSTALLED NOT TO SCALE



NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

SERVICE CONNECTION AND CLEAN-OUT SD-11 NOT TO SCALE



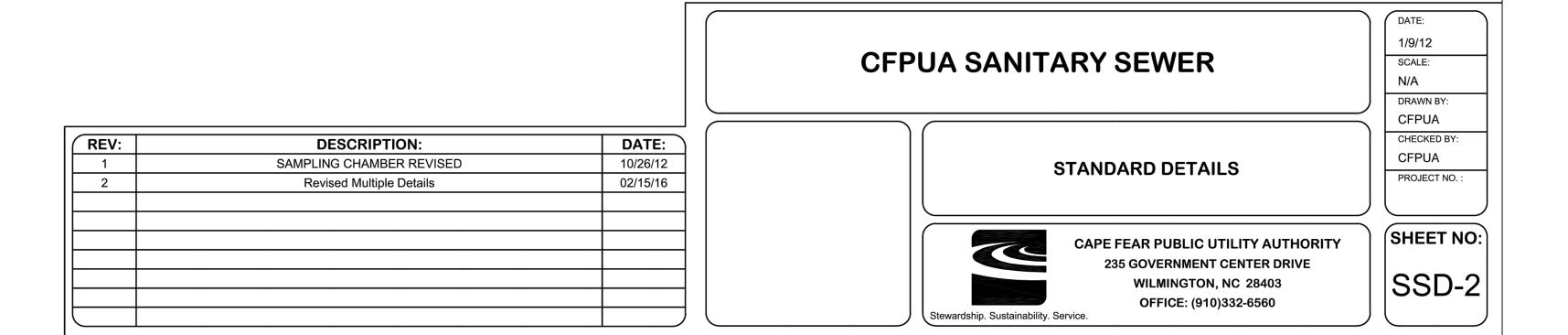
TYPICAL TRENCH DETAIL

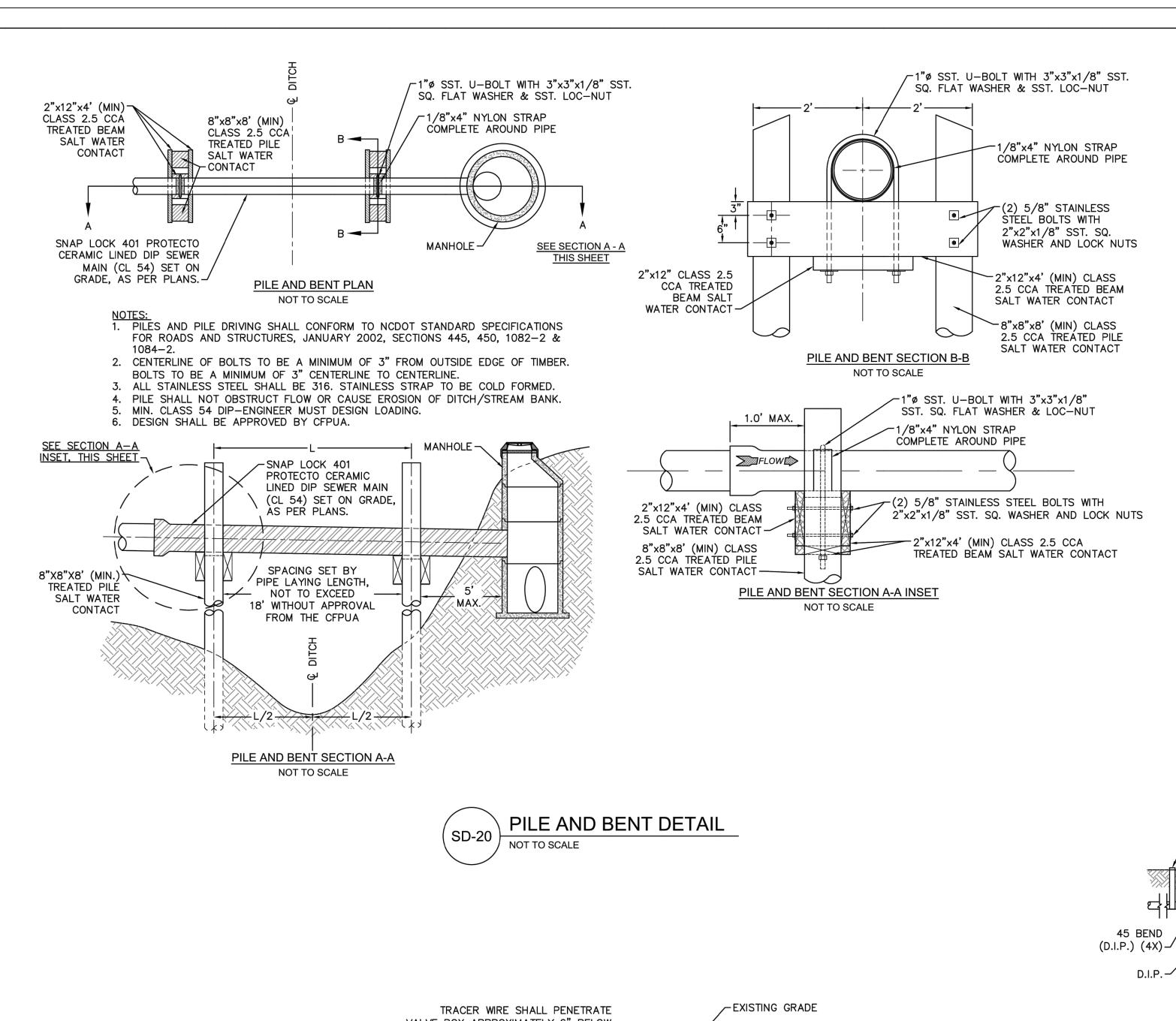
NOT TO SCALE

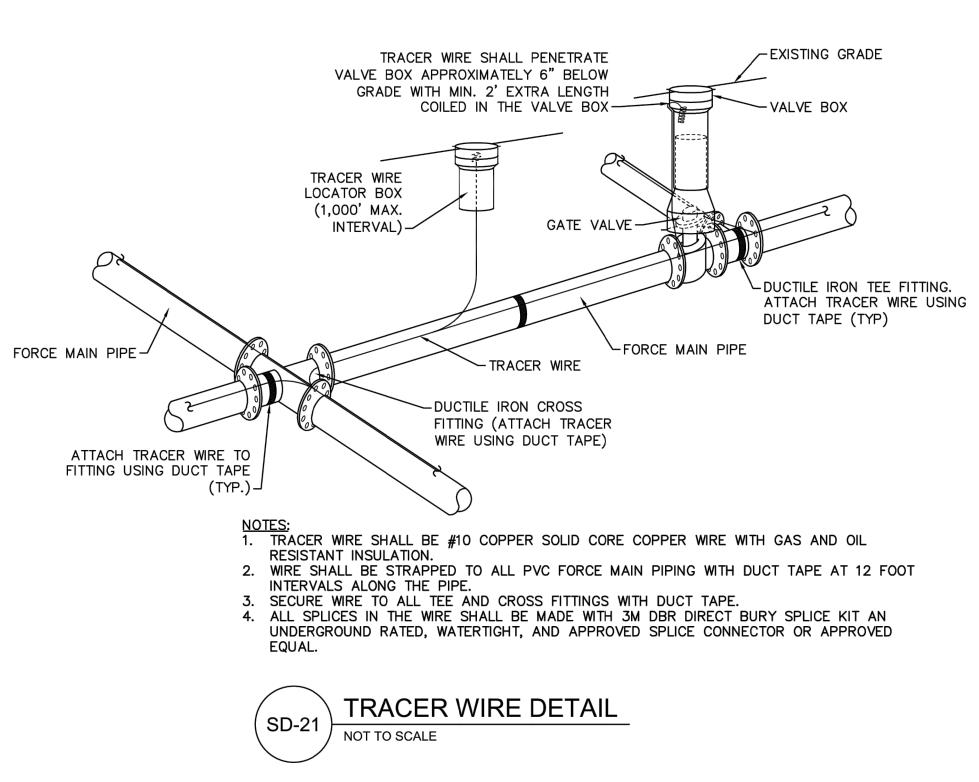
. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY. 2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE

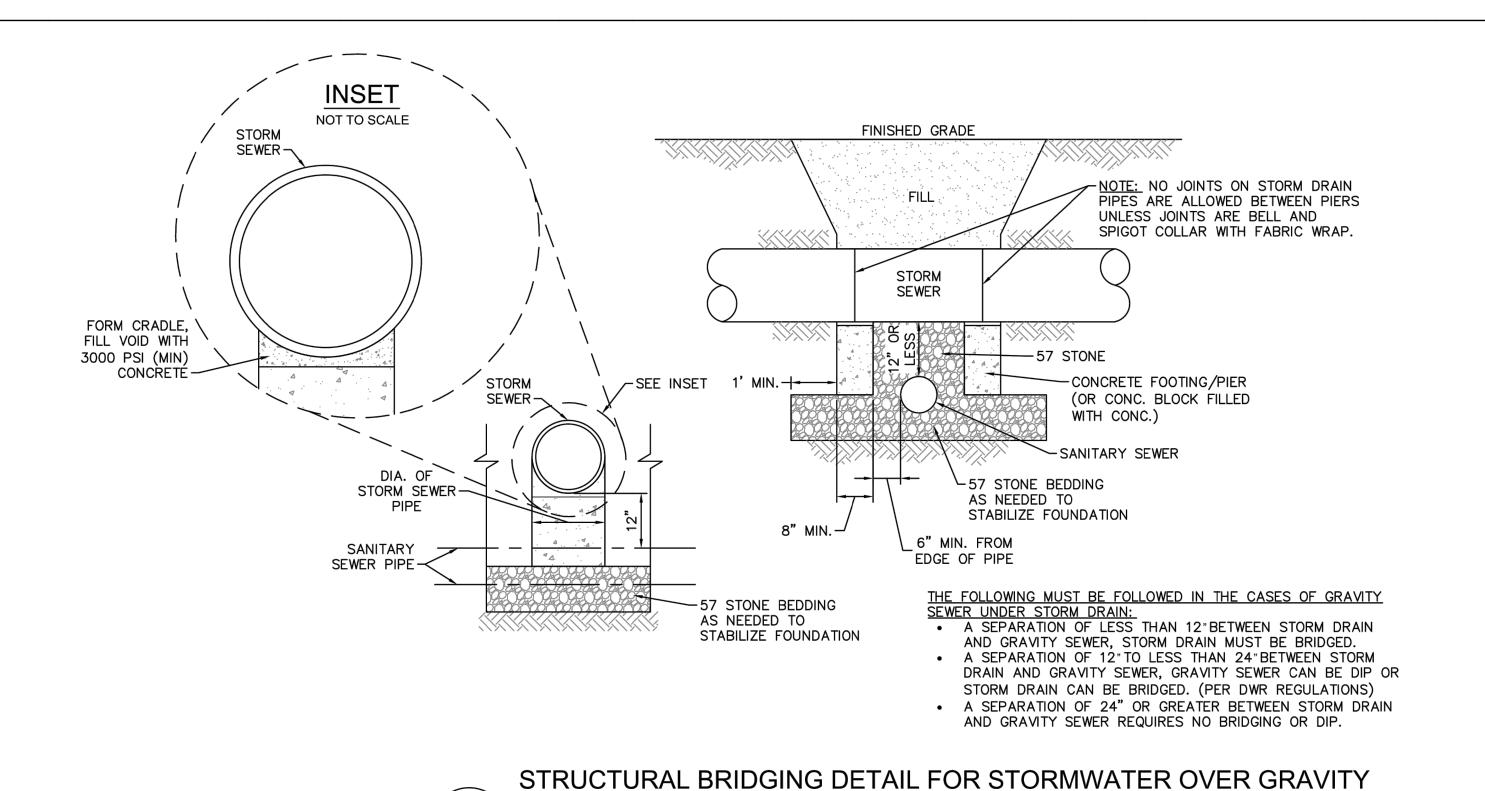
- ANY CONSTRUCTION BEGINS. 3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL
- MEASURES WHILE CONSTRUCTION IS IN PROGRESS
- 4. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS. 5. THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

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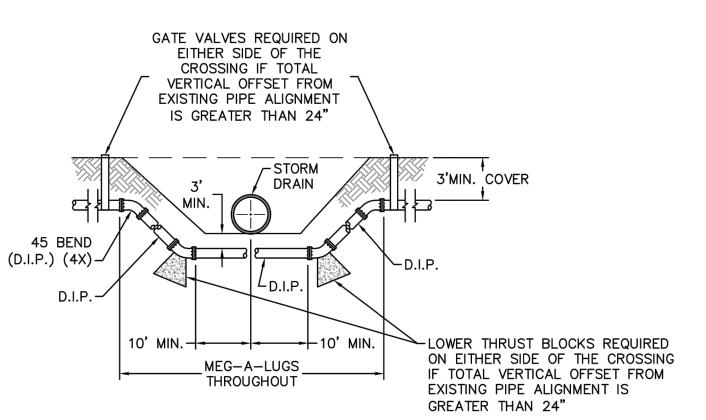








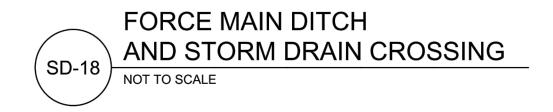
SEWER INSTALLATIONS WITH LESS THAN 12" SEPARATION



SD-24

NOT TO SCALE

NOTE: USE D.I.P. (CL50 OR BETTER)



GENERAL NOTES:

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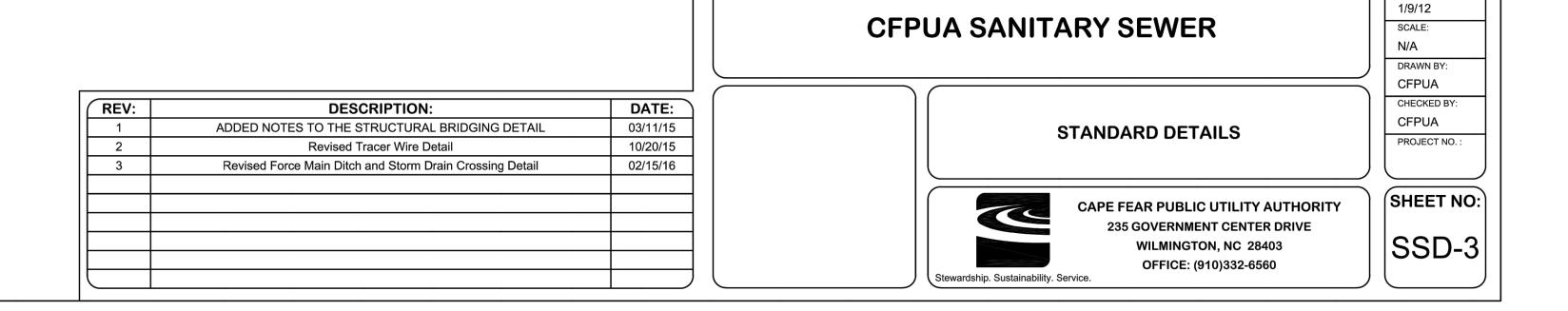
ANY CONSTRUCTION BEGINS.

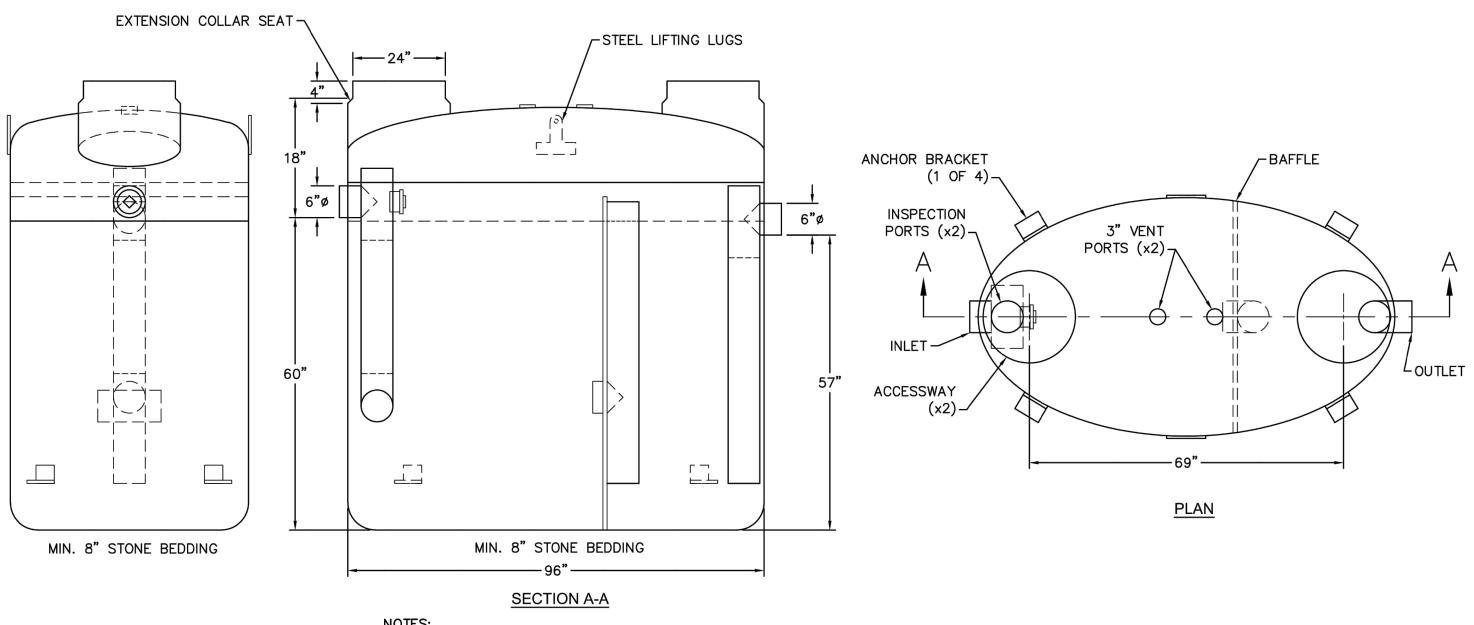
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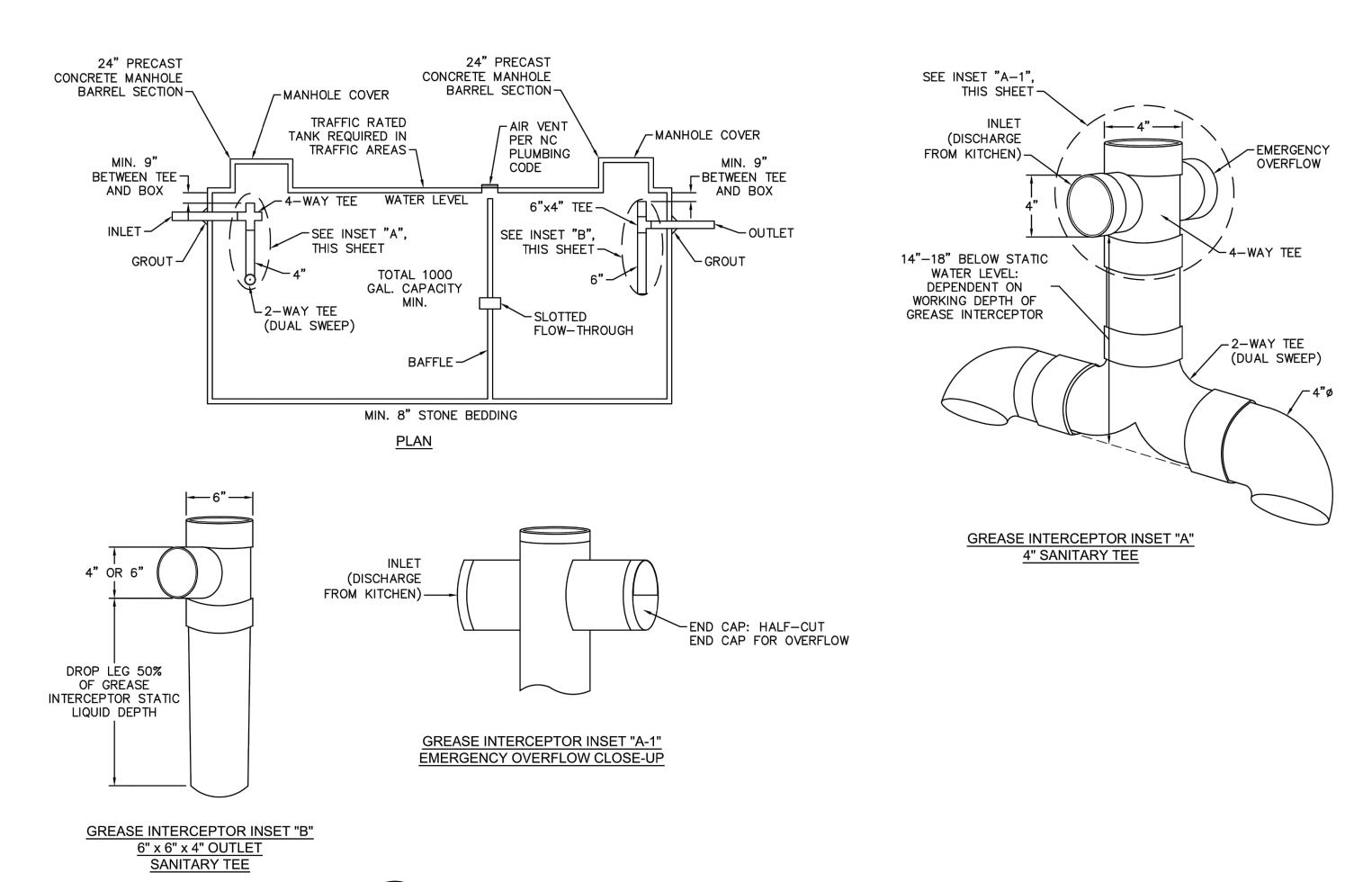




NOTES:
1. FOR GRAVITY APPLICATIONS ONLY.

- 2. MIN. THICKNESS: 1/4" WALL AND 3/8" TOP AND BOTTOM BOWLS.
- 3. STANDARD PIPE STUBS ARE SOCKET SDR 35 PVC. 4. EXTENSION COLLARS SHALL BE CAULKED WITH SIKAFLEX OR EQUIVALENT FOR WATERTIGHT SEAL.
- 5. FOLLOW MANUFACTURE'S SPECS FOR TRAFFIC OR PEDESTRIAN LOADING.





CONCRETE GREASE INTERCEPTOR

SD-23

NOT TO SCALE

DESCRIPTION: DATE: REV:

GENERAL NOTES:

1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE—WAY.

2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE

ANY CONSTRUCTION BEGINS.

3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL

MEASURES WHILE CONSTRUCTION IS IN PROGRESS. 4. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.

5. THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

