

RIVERLIGHTS CONVENTIONAL - PHASE 7 & 8

CITY OF WILMINGTON, NC

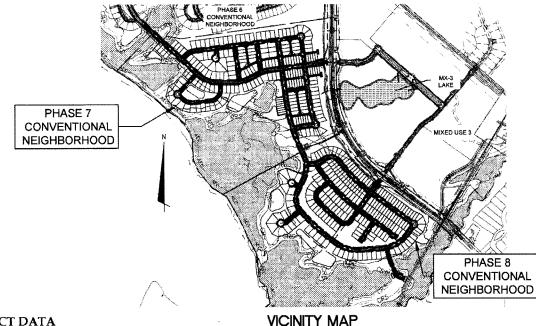
JULY 27TH, 2022

TECHNICAL REVIEW COMMITTEE SUBMITTAL

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

COUNTY AND AGENCY CONTACTS

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PROJECT DATA

NAME OF PROJECT:

RIVERLIGHTS- CONVENTIONAL NEIGHBORHOOD PHASE 7 & 8 MASONBORO TOWNSHIP, WILMINGTON NEW HANOVER COUNTY, NORTH CAROLINA

OWNER/DEVELOPER:

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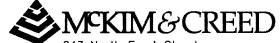


Know what's below.









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CONSTRUCTION NOTES

- . THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND CONTACTING THE ENGINEER FOR THE REQUIRED INSPECTIONS ON THE PROJECT.
- CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF WILLIAMSTON STANDARDS AND SPECIFICATIONS.
- Contractor is fully responsible for acquiring the location of existing utilities from the appropriate parties prior to construction.
- CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAGMEN, ETC. AS NECESSARY TO INSURE SAFET TO THE PUBLIC.
- THESE DRAWNGS SHOW INFORMATION OBTAINED FROM THE AVAILABLE RECORDS RECARDING PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRECTURES AND CONDITIONS WHICH EXIST ALONG THE LINES OF WORK AND BELOW THE SURFACE OF THE GROUND. THE OWNER AND ENGINEER DISCLAM 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 SPORTMATION IS BEING SHOWN ONLY FOR THE CONVENIENCE CONSTRUCTION PHASES. IF THE CONTRACTOR RELES ON SAID INFORMATION, IT THE CONTRACTOR OF HIS SISS. THE CONTRACTOR OF HIS SISS.
- SHOULD ANY DAMAGE OCCUR TO EXISTING UTILITIES, IT SHALL BE REPAIRED SOLELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL VERIFY EDISTING INVERTS PRIOR TO CONSTRUCTION OF UNDERGROUND UTILITIES. TEST PITTING OF EXISTING LINES PRIOR TO CONSTRUCTION, IF NECESSARY, SHALL BE COORDINATED WITH THE OWNER. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE DRAWNIGS, PROJECT SPECIFICATIONS. AND LOCAL BUILDING CODES.
- ALL DISTURBED AREAS SHALL BE SMOOTHLY GRADED TO PROMOTE POSITIVE DRAINAGE AND STABILIZED WITH TOPSOIL, SEED, AND MULCH, IF SETTLEBENT OCCURS, TOPSOIL, SEEDBIG, AND MULCH, IF SETTLEBENT SCHOOT, TOPSOIL, SEDBIG, AND MULCH SHALL BE REPEATED UNTIL SETTLEBENT SUBSIDES. (SEE EROSION AND SEDBIGIST CONTRICL DETAILS AND SPECIFICATIONS.)
- O. 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.
- 1. ALL WATER VALVES, BOXES, AND FIRE HYDRANT ASSEMBLES SHALL BE SET AND ADJUSTED TO FINISHED GRADE
- 12. THE OWNER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, BOTH TEMPORARY AND PERMANENT.
- THE CONTRACTOR SHALL VERBY HORIZONTAL AND VERTICAL SURVEY CONTROL PRIOR TO STARING OUT CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
- 4. ANY PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE REPLACED SOLELY AT THE CONTRACTOR'S EXPENSE.
- FRE HYDRANTS SHALL BE PLACED A MINIMUM DISTANCE OF 8 FEET FROM BACK OF CURB AND SHALL HAVE A CLEAR SPACE OF 3 FEET FROM ANY PERMANENT STRUCTURE PER CFPUA STANDARDS.
- 7. ALL SELECT AND BORROW MATERIAL SHALL MEET CRITERIA SET FORTH BY SECTIONS 1018 AND 1018 OF THE NORTH CARCUNA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS FOR ROADS AND STRUCTURES. SEE SECTION FOR PLACEMENT AND COMPACTION INFORMATION INFORMATION.
- 18. THE ENGINEER AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES USED IN THE FINAL DRAINAGE SYSTEM AND AGREE ON THE CONDITION OF THE PIPES PRICE TO CONSTRUCTION. IF DAMAGE COCURS TO THESE PIPES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE PIPE(S).
- EXISTING PAYING, CONCRETE, AND OTHER UNSUSTABLE MATERIALS INCLIDING UNDERCUT EXCAVATION SHALL NOT BE USED AS FILL MATERIAL AND SHALL BE DISPOSED OF OUTSIDE THE PROJECT LIMITS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR RESPONSIBLE FOR ALL PERMITTING AND FEES FOR DISPOSAL.
- . ALL TREES, STUMPS, ROOT MAT, ETC. SHALL BE ENTIRELY REMOVED RECARDLESS OF DEPTH. BURAL 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 EMBANIMENT OF TOPSOIL.
- FINANCIA INC. CONTRACTOR IS COLD. PROPERTIES OF CONTRACTOR IS COLD. PROVIDED FROM 10 INC. PLACEBERT OF DESCRIPCION OF EXCESS AND/OR UNDUTTABLE BATTERIADS. AS PRESENT OFF SITE SPOIL AREAS INC. INSEAS TOR DISSOCIAL OF EXCESS AND/OR UNDUTTABLE BATTERIADS. AS PROVIDED FROM THE SPOIL AREAS BUSIF BE SIRBHITED TO THE ENGLES AND OR WET AND STATES. THE STATE OF THE PROPERTIES AND THE CONTRACTOR NO AREAS DESIGNATED AS WET AND SWILL BE PERMITTED FOR USE AS A DISPOSAL SITE. THE CONTRACTOR SHALL SUBBIT DOCUMENTATION TO THE DEPORT WILL BE DEPORTED TO THE DEPORT WILL NOT CONSIDER AND DELAYS OR MONETARY CLAMS OF ANY NATURE RESULTING FROM THE CONTRACTOR'S FAILURE OF DEPORT AND THE PROPERTY OF THE PROPERTY HAT ALL PLANS, PERMIT DESIGNATION OF THE PROPERTY HAT ALL PLANS OF THE PROPERTY HAT ALL PLANS, PERMIT DESIGNATION OF THE PROPERTY HAT ALL PLANS OF THE PROPERTY OF THE PROPERTY HAT ALL PLANS OF THE PROPERTY OF THE PROPERTY HAS ALL COSTS FOR PROCURING AND UTILIZING THE OFF-SITE SPOIL AREAS AND TO BE INCIDENTAL TO THE BASE BIO.

DEMOLITION NOTES

- 1. THE CONTRACTOR SHALL WIST THE SITE TO BECOME FAMILIARIZED WITH FIELD DEMOLITION CONDITIONS
- . The contractor is responsible for the proper disposal of all demoushed debris associated with the project in accordance with the project specifications.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST GENERATED BY THE WORK, INCLUDING BUT NOT LIMITED TO DEVOLITION AND CONSTRUCTION ACTIVITIES, SITE VEHICULAR TRAFFIC AND RELATED OPERATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL EXISTING UTILITIES LOCATED PRIOR TO BEGINNING ANY DEMOLITION. CONTRACTOR SHALL CONTRACT NO ONE CALL AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION OF EXCAVATION TO HAVE EXISTING UTILITIES LOCATED.
- EOSTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERBY FIELD CONDITIONS PRIOR TO BECOMING PELATED CONSTRUCTION. AND USCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE AND ENGINEER IMMEDIATELY.
- . THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF DISCONNECTING AND ABANDONING ALL EXISTING UTILITIES WITH THE OWNER UMLESS OTHERWISE NOTED. ALL EXISTING UTILITIES AND ASSOCIATED PIPMS, ETC. NOT IN USE ON THE SITE SHALL BE PROPERLY ABANDONED AND REMOVED AS REQUIRED. COORDINATE WITH THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ANY EXISTING UTILITIES THAT REMAIN IN SERVICE DURING DEMOLITION.
- . WETLANDS DO EXIST ON SITE, ALL APPROPRIATE SETBACKS AND CONSERVATION RESOURCE SETBACK HAVE BEEN APPLIED, WETLANDS WILL NOT BE DISTURBED DURING CONSTRUCTION OF THIS PROJECT.

MATERIALS AND EASEMENT NOTES:

- ALL CATCH BASINS ARE NCDOT STD 840.02, 840.03
- ALL STORM DRAINAGE PIPING TO BE HP, 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 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

SITE AREA DESCRIPTION	STABILIZATION TIMEFRAME	STABILIZATION TIMEFRAME EXCEPTIONS
PORMETER DIKES, BRALES. DITCHES AND BLOPES	7 DAYS	NONE
HIGH QUALITY WATER ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3-1	7 DAYS	IF SLOPES ARE 10 FT OR LESS IN SI LENGTH AN ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLONED
SLOPES IN OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN SO FT IN LENGTH
ALL OTHER AREAS WIN	14 DAYS	HONE (EXCEPT FOR PERMETERS AND HOW ZONE

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EXCAVATION, GRADING, AND BACKFILLING NOTES

- 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 GEOTECHINCAL 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.
- 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 NEMLY MADE JOINTS. THE FILLING OF THE TRENCH SHALL BE CARRIED OUT SMULTANEOUSLY ON BOTH SIDES OF THE PIPES IN SUCH A MANNER THAT
- THE MATERIAL FOR BACKFILLING SHALL BE FREE FROM ALL PERISHABLE AND OBJECTIONABLE MATERIALS. BEFORE PLACING ANY BACKFILL ALL RUBBISHS, FORM, BLOCKS, MIRES OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM EXCAVATION. THE BACK-FILLING OVER PIPES SHALL BE PLACED IN LAYER 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 INIETY-EIGHT (98) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST.

STORM DRAINAGE AND GRADING NOTES

- IN ACCORDANCE WITH NC GENERAL STATUTES, NPDES REGULATIONS, AND NODERR 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.
- 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
- 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 DISCREDITION LAS NOT SERVING STATES.
- . 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.
- 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.

FIRE PROTECTION NOTES

- 1. HYDRANT MUST BE WITHIN 150' OF THE FDC.
- THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT
- 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.
- HYDRANTS MUST BE LOCATED WITHIN B' OF THE CURB PER CITY OF WILMINGTON STANDARDS. HYDRANTS WILL BE LOCATED WITHIN 6' OF THE CURB PER CFPUA STANDARDS.
- COMBUSTIBLE MATERIALS MAY NOT BE STORED OR ERECTED ONSITE WITHOUT CITY FIRE INSPECTOR APPROVAL.
- 8. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION.
- 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.
- A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM UNDERGROUND UTILITIES.
- CONTRACTOR SHALL MAINTAIN AN ALL—WEATHER ACCESS TO ALL PORTIONS OF THE JOBSITE WHERE COMBUSTIBLES ARE PRESENT AT ALL TIMES DURING CONSTRUCTION.
- TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
- FIRE DEPARTMENT ACCESS WIDTHS SHALL BE A MINIMUM OF 20—FEET UNLESS LESSER WIDTHS ARE APPROVED BY THE FIRE CODE OFFICIAL.
- 12. BAG HYDRANTS THAT ARE NOT IN SERVICE
- CONTRACTOR SHALL MAINTAIN AN ALL—WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- 14. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
- 15. ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.

UTILITY NOTES

- SCHEDULE A PRECONSTRUCTION MEETING WITH CAPE FEAR PUBLIC UTILITY AUTHORITY 48 HOURS PRIOR TO CONSTRUCTION OF WATER AND SEWER LINES.
- WATER AND SANITARY SEWER UTILITY MAINS ARE PRIVATE BEYOND THE PUBLIC STREET RIGHT-OF-WAY.
- THIS PROJECT SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND NODENR HAS ISSUED THE
- 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
- 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
- WATER: 1.5" & 2" PVC MAINS 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).
- 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 ASTM D3212 OR ASTM D3139.
- 8. 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 NCOENT AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY OF NCDENR.
- PVC WATER MAINS AND POLYETHYLENE SERVICES ARE TO BE MARKED WITH NO. 10 SINGLE STRAND INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND STRAPPED TO THE PIPES WITH DUCT TAPE. THE INSULATED WIRE IS TO BE STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES, THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
- O. 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
- 1. MAXIMUM BENDING RADIUS FOR 8" C-900 PVC WATER MAIN BENDS IS 380' (ONE-HALF MANUFACTURER'S RECOMMENDED ALLOWABLE LONGITUDINAL BENDING). CONTRACTOR SHALL PLACE FITTINGS AS NECESSARY TO KEEP WATER MAIN IN ALIGNMENT AND ACHIEVE ANY BADIUS. IESS TUAN. 380. RADIUS LESS THAN 380°.
- RADIUS LESS IMAN 360.

 12. UNDERGROUND UTILITIES: 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.
- 13. MINIMUM OF 36" COVERAGE ABOVE ALL WATERMAINS.
- 15. A VARIANCE IS NOT ANTICIPATED FROM ANY NORTH CAROLINA DIVISION OF WATER QUALITY (DWQ) REQUIREMENT.
- 16. 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.
- 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 18 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.
- 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 ANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT
- 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 BE LAID AT SUCH AN ELEVATION THAT THE OUTSIDE OF THE SEMEX MAIN/MATER MAIN NEAREST TO THE OUTSIDE OF THE STORM DRAIN PIPE SHALL MAINTAIN A 24 INCH CLEAR SEPARATION DISTANCE VERTICAL, OR THE SEMER MAIN/MATER MAIN SHALL EITHER BE CONSTRUCTED OF DUCTILE IRON PIPE OR ENCASED IN EITHER CONCRETE OR DUCTILE IRON PIPE FOR AT LEAST 10 FEET ON EITHER SIDE OF THE ROSOSPING.

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EROSION CONTROL MAINTENANCE PLAN:

- 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.
- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE (1.0) INCH OR GREATER RAINFALL.
- 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.
- ALL AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A WOORGUS, DENSE VEGETATIVE COVER.
- 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 JAY STONE TO MAINTAIN 6 INCH DEPTH. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS REQUIRED.
- 3. INSPECT SILT FENCE STONE OUTLETS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE STORAGE AREA WHEN SEDIMENT ACCUMULATION REACHES \$\frac{1}{2}\]
 THE STORAGE AREA OR NO GREATER THAN ONE FOOT. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
- . 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 origi dimensions when it accumulates to one-half the design depth. Place removed sediment in an area with sediment controls.
- 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.
- 16. 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
- INSPECT BAFFLES AT LEAST DNCE 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 DEPITH 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.
- I. 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.
- . INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. WHEN THE AREA PROTECTED IS PREMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.
- INSPECT CHECK DAMS AND CHANNELS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMES, OR OTHER DEBRIS THAT COULD CLOG THE CHANNEL WHEN NEEDED, REMOVE SEDIMENT ACCUMULATED BEHIND THE DAM AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN PERSON MEDICAL AND COSS SECTION. MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

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 SPECTIANI EROSION

UTILITY COMPANY CONTACTS

RIVERLIGHTS*

DUKE/PROGRESS ENERGY: BRIAN GRAY (910) 452-2777
DUKE ENERGY (TRANSMISSION): BILL WILDER (910) 772-4903
AT&T (BELLSOUTH): JAMES BATSON (910) 452-5300
TIME WARNER CABLE: ROBERT JOHN (910) 216-4494 PIEDMONT NATURAL GAS: PAUL GONKA (910) 512-2841 DJ MEDEIROS (910) 431-3233 CAPE FEAR PUBLIC UTILITY AUTHORITY: JEFF THEBERGE, PE (910) 332-6550

- CITY OF WILMINGTON STANDARD NOTES

 1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
- 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.
- 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.
- 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.
- 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.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
- CONTACT CITY OF WILMINGTON TRAFFIC ENGINEERING AT (910)341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
- IF THE CONTRACTOR DESIRES WATER FOR CONSTRUCTION HE SHALL APPLY WITH THE CAPE FEAR PUBLIC UTILLTY 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.
- O. THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED
- , 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. NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS.
- 14. IF UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- 21. IT WILL BE THE RESPONSIBILITY OF THE SUBDIMDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WIT THE SUBDIMISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL THE SUBDIMDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIMIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT (910)341-7888 TO COORDINATE PARKING SIGNAGE
- CONTACT TRAFFIC ENGINEERING AT (910)341-7888 FORTY -EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- 23. 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.
- 24. SOLID WASTE TO BE HANDLED BY ROLLOUT TRASH CONTAINERS/CARTS.
- 25. STREET TREES MUST BE LOCATED A MINIMUM OF 15 FEET FROM STREET LIGHTS.
- 26. CONTACT 811 PRIOR TO CONTACTING CITY OF WILMINGTON, TRAFFIC ENGINEERING REGARDING THE UTILITIES IN ROW.
- 27. ANY REQUIRED INSTALLATION OR RELOCATION OF TRAFFIC SIGNS IS THE RESPONSIBILITY OF THE PROJECT DEVELOPER. PLEASE COORDINATE WITH CITY TRAFFIC SIGNS AND MARKINGS MANAGER SUPERVISOR PRIOR TO INSTALLATION OF ANY TRAFFIC SIGNS OR MARKINGS IN PUBLIC ROW. EROSION CONTROL NOTES
- ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A MOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT
- 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 ANTICHATED THE DISTURBANCE OF MORE THAN ONE ACRE WILL BE REQUIRED TO GET AN EROSION CONTROL PERMIT FROM NEW
- 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.
- ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NEW HANOVER COUNTY.
- i. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
- ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
- 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. WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES.
- 3. ALL ACTIVITY AND INSTALLATION OF EROSION CONTROL MATTING WILL BE COMPLETE PRIOR TO ANY RAIN EVENT.

GENERAL NOTES

RIVERLIGHTS CONVENTIONAL

PHASE 7 & 8

MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLIN

1/12/2021 SCALE G-002 MCE PROJ. # 02735-0322 DRAWN MDH/EEM HORIZONTAL: Parini MARCO MDH/EED 2 VERTICAL: CHECKED KCBE H/A KCBE

STATUS: PRELIMINARY DESIGN

CAPE FEAR PUBLIC UTILITY AUTHORITY CONSTRUCTION PROCEDURE:

- 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 ENGINEET-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, ADDA

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.

- ANY REQUEST FOR DEMATIONS FROM THE STAMPED DRAWINGS AND MATERIAL SUBMITTALS MUST BE SUBMITTED TO THE CPPUA 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.
- IN THE CFPUA INSPECTOR SHALL BE NOTIFIED WHEN ANY MATERIAL IS DELIVERED TO THE JOB SITE. THE CFPUA INSPECTOR WHIL VERIFY THAT ALL MATERIALS MEET CFPUA SPECIFICATIONS, DETAILS, AND/OR APPROVED SUBMITIAL 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.

TEST TYPE:

 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

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

REVISIONS

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 OFPUA SPECIFICATIONS IN ACCORDANCE WITH APPLICABLE REGULATIONS AND AS DIRECTED BY THE CPPUA INSPECTOR. ALL TESTING MUST BE CONDUCTED IN THE PRESENCE OF THE CIPPUA INSPECTOR. THE CONTRACTOR IS TO GIVE TWO (2) BUSINESS DAYS NOTIFICATION FOR SCHEDULING, TO THE ASSIGKED CPPUA 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 PROPS MORE THAN THREE (3) PSI, THE TEST FAILS. REFER TO THE APPROPRIATE CFPUA SPECIFICATION FOR MORE INFORMATION ON THE PROCEDULE.
- 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 MILL REVIEW THE VIDEO RECORDING FOR ACCEPTANCE.

AS AN ALTERNATIVE TO WAITING THIRTY (30) DAYS TO PERMIT STABILIZATION OF THE SOIL—PIPE SYSTEM, THE CEPUA MAY ACCEPT CERTIFICATION FROM A SOIL TESTING FIR VERIFYING THAT THE BOCKFILL 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.

LOCATION 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 CPPUA AND WILL BE RE-INSPECTED AS OUTLINED ABOVE.

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

TEST TARGET:

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, STWER, AND DRAINAGE ALL INFRASTRUCTURE SHOWN ON PLANS SHALL BE INDICATE PUBLIC OR PRIVATE. RECORD DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL AND HARD COPY FORM. DIGITAL FILES SHALL BUTCAD VERSION 2000 OR LATER. HARD COPIES SHALL HAVE AN ENGINEERS 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

OTE 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 ASQUALT THICKNESS AND ASQUALT 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.

LECEND

DETAILS IF NEEDED

VERTICAL DATUM

LOT NUMBERS AND LOT LINES

RIGHT-OF-WAY AND EASEMENT LINES

ANY STATE OF NC PERMIT NUMBERS (IF APPLICABLE)

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

FREQUENCY AND TEST SECTIONS: DOCUMENTATION:

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)
	EMBANKMENTS	≥ 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 ≥ 95% WITH AVG. ≥ 98%	NUCLEAR GAUGE - ASTM D6938	"4 / BLOCK OR EVERY 500' WHERE PVMT < 32' WDTH OR 8 / BLOCK OR EVERY 500' WHERE PVMT > 32' WIDTH"	DENSITY REPORTS.
-	CURBLINES (ABC)	EACH ≥ 95% WITH AVG. ≥ 98%		4 / BLOCK OR EVERY 500'	
PROOFROLL	STONE BASE AT GRADE	VISUAL CHECK OF STABILITY /	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 C231	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
	1	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 810-4	ALSO, NO WET PAVEMENT AFFECTING BONDING	
DENSITY - NUCLEAR GAUGE CONTROL WITH CORE CHECKS	DOADWAY (DATI)	90% COMPACTION - 9.5A	NUCLEAR DENSITY TESTS - ASTM D2950	"QC = 5 NUCLEAR GAUGE SHOTS PER 500'/EACH PAVER LAYDOWN MIDTH / 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, INTERMOIATE, BASE	BULK DENSITY (CORES) - ASTM D2726	QC = 1 CORE CHECK PER 500'/EACH PAVER LAYDOWN WIDTH. PRIMARILY IN BASE LAYERS.	"CERTIFICATIONS: GAUGE CALIBRATION QMS ROADWAYTECHNICIAN, NUCLEAR GAUGE OPERATOR, ETC"

SPEC:

REQUIREMENTS FOR VIDEO INSPECTION OF STORM SEWER SYSTEMS:

GENERAL

- 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 840X480, AND THE ABILITY TO OPERATE IN 100% HUMBITY CONDITIONS. THE LENS SHALL HAVE NOT LESS THAN A 65-DEGREE YIEWING ANGLE WITH EITHER AUTOMATIC OR REMOTE FOCUS AND IRIS CONTROLS.
- ALL WORK DESCRIBED HEREIN SHALL BE COMPLETED IN ACCORDANCE WITH NASSCO PIPELINE ASSESSMENT AND CERTIFICATION PROGRAM/ MANHOLE ASSESSMENT AND CERTIFICATION PROGRAM (PACP) 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 MODEO INSPECTION. GENERALLY, INSPECTIONS SHALL OCCUR 30 DAYS PRIOR TO ASPHALT PAVING.
- 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.
- 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.
- 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 DOWNISTREAM), 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 INSPECTIOR SHALL MOVE THE CONSTANT OVERLAY DISPLAY SO IT DOES NOT INTERFERE WITH THE INSPECTION REVIEW.
- 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 MODEO FILE RECORDING SHALL PAUSE AS THE OPERATOR SELECTS THE OBSERVATION/DEFECT NOTATION, ELIMINATING "ON HOLD" VIDEO.
- 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.

DELIVERABLES

- 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.
- 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 CAMBIFED.
- 3. ALL INSPECTION REPORTS COMPLETED FOR EACH PIPE SEGMENT AND DRAINAGE STRUCTURE WHETHER VIDEOED OR NOT SHALL BE SUBMITTED.

WKIM&CREED

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

www.mckimcreed.com





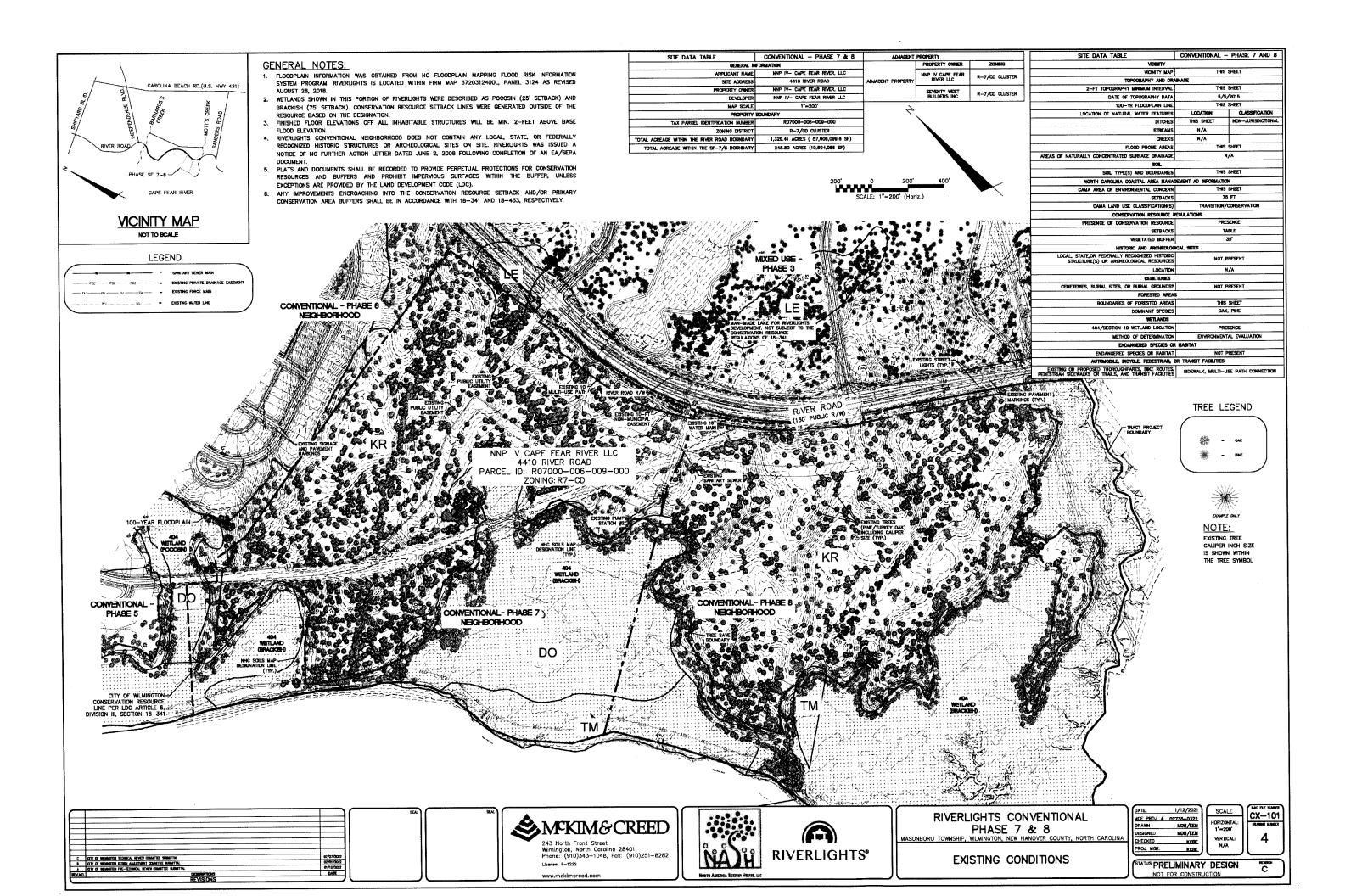
RIVERLIGHTS CONVENTIONAL
PHASE 7 & 8
MASONBORO TOWNSHIP, WILMINGTON, NEW HANDVER COUNTY, NORTH CAROLIN

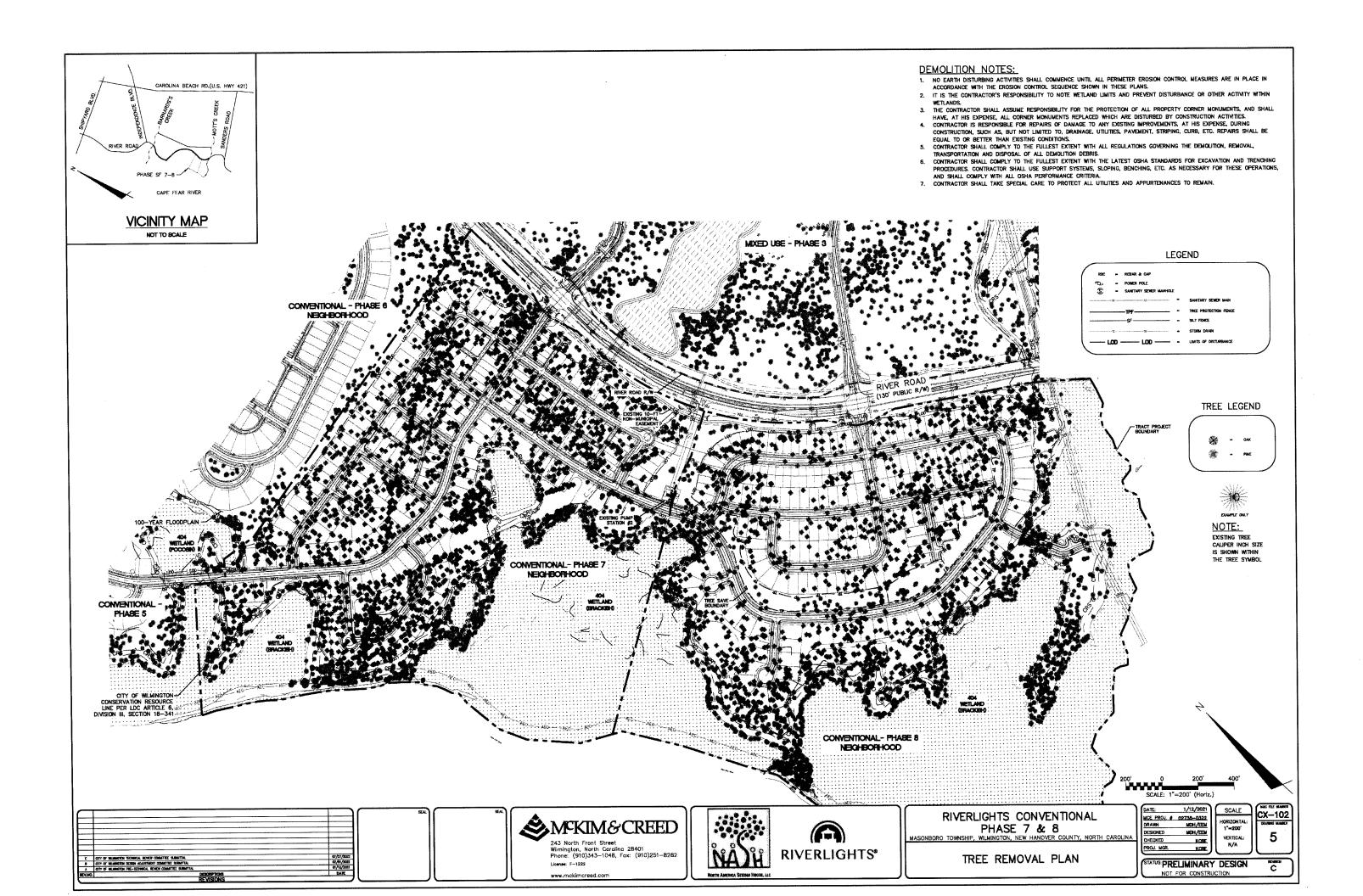
GENERAL NOTES

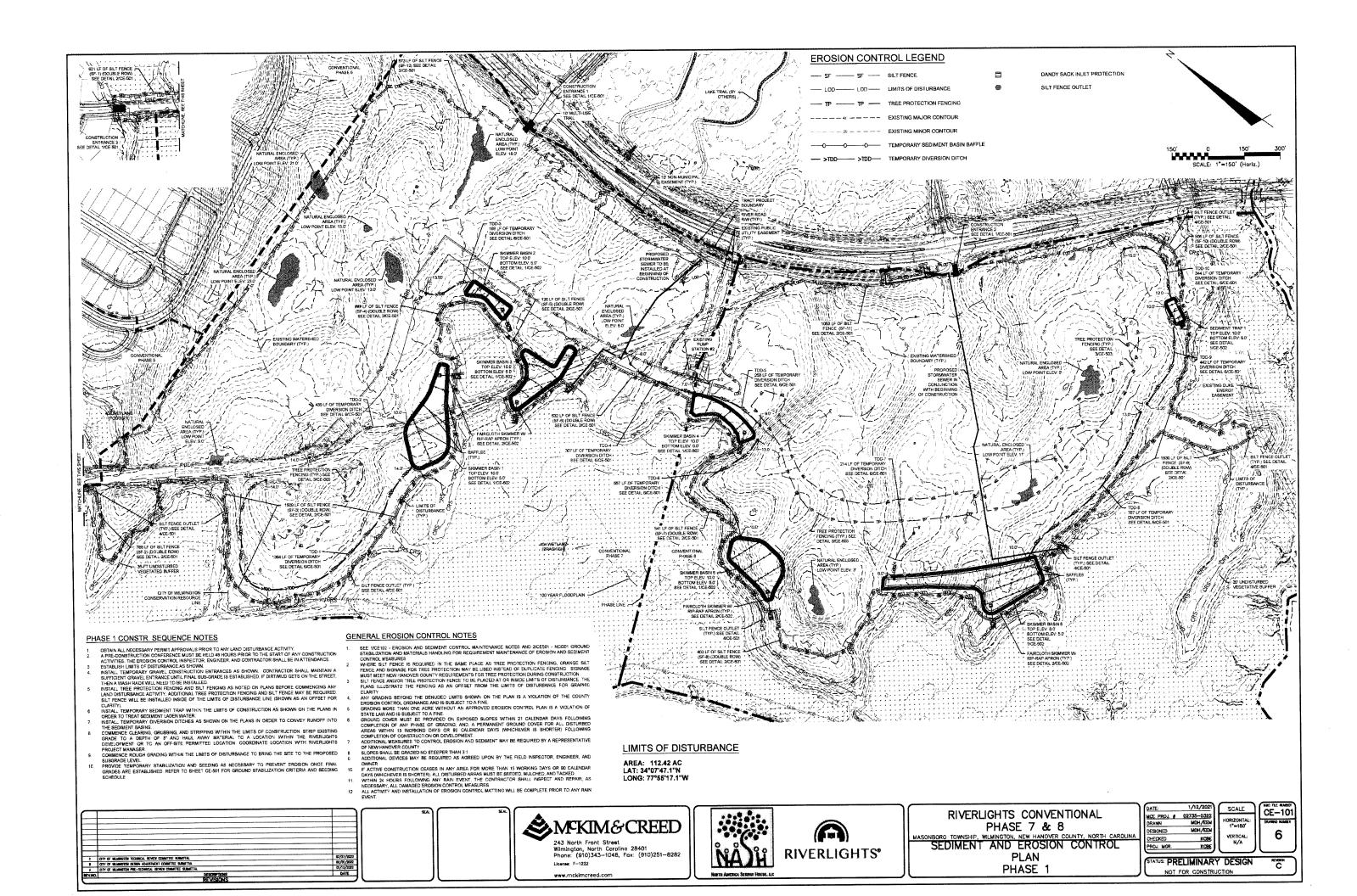
DATE: 1/12/2021	SCALE	
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DESGNED	MDH/EEM	VERTICAL: N/A
PROJ. MGR.	KGBE	N/A

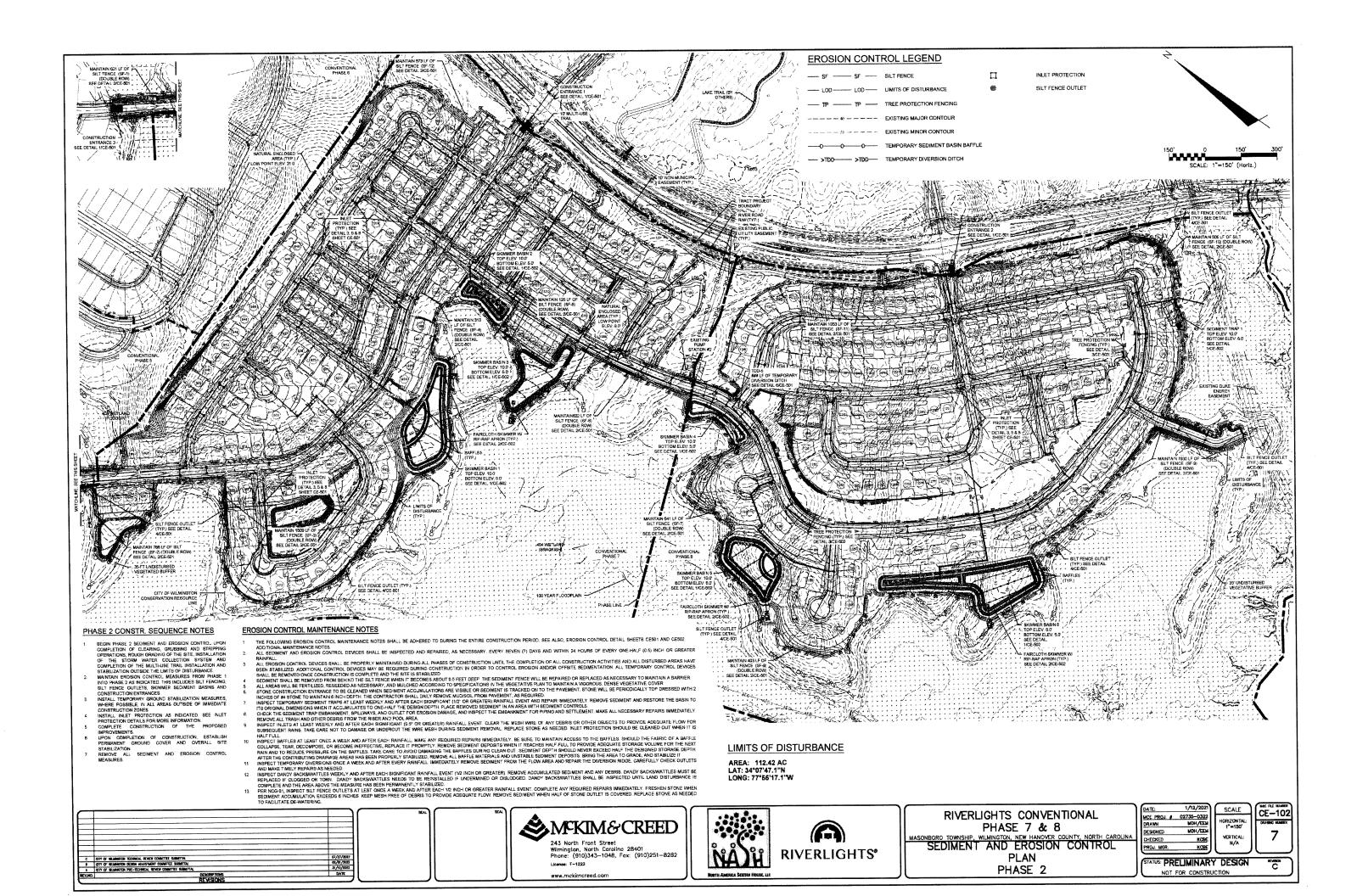
SCALE | MAC RL MARKER G-003 |
HORIZONTAL: N/A |
VERTICAL: N/A |
3

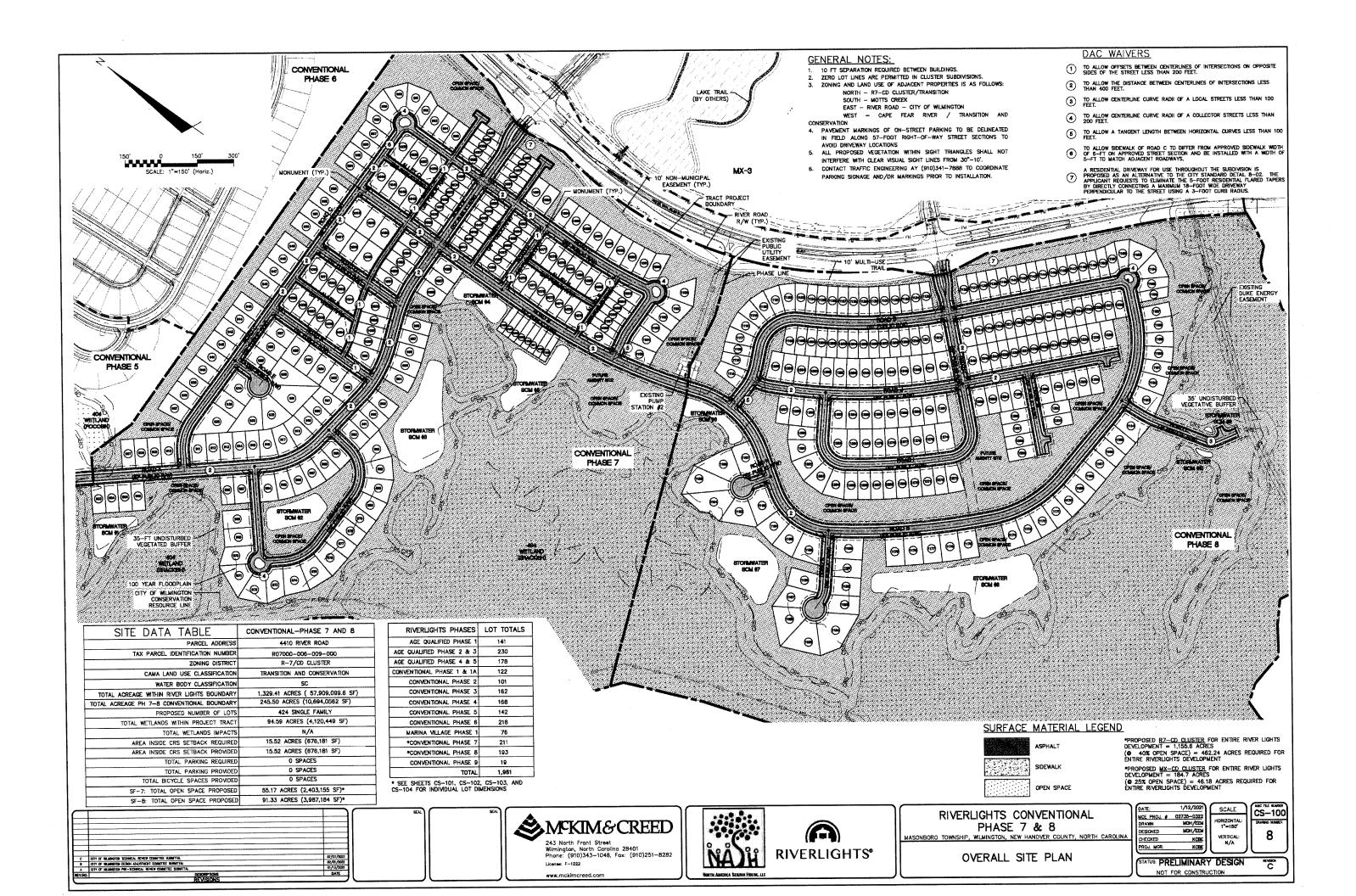
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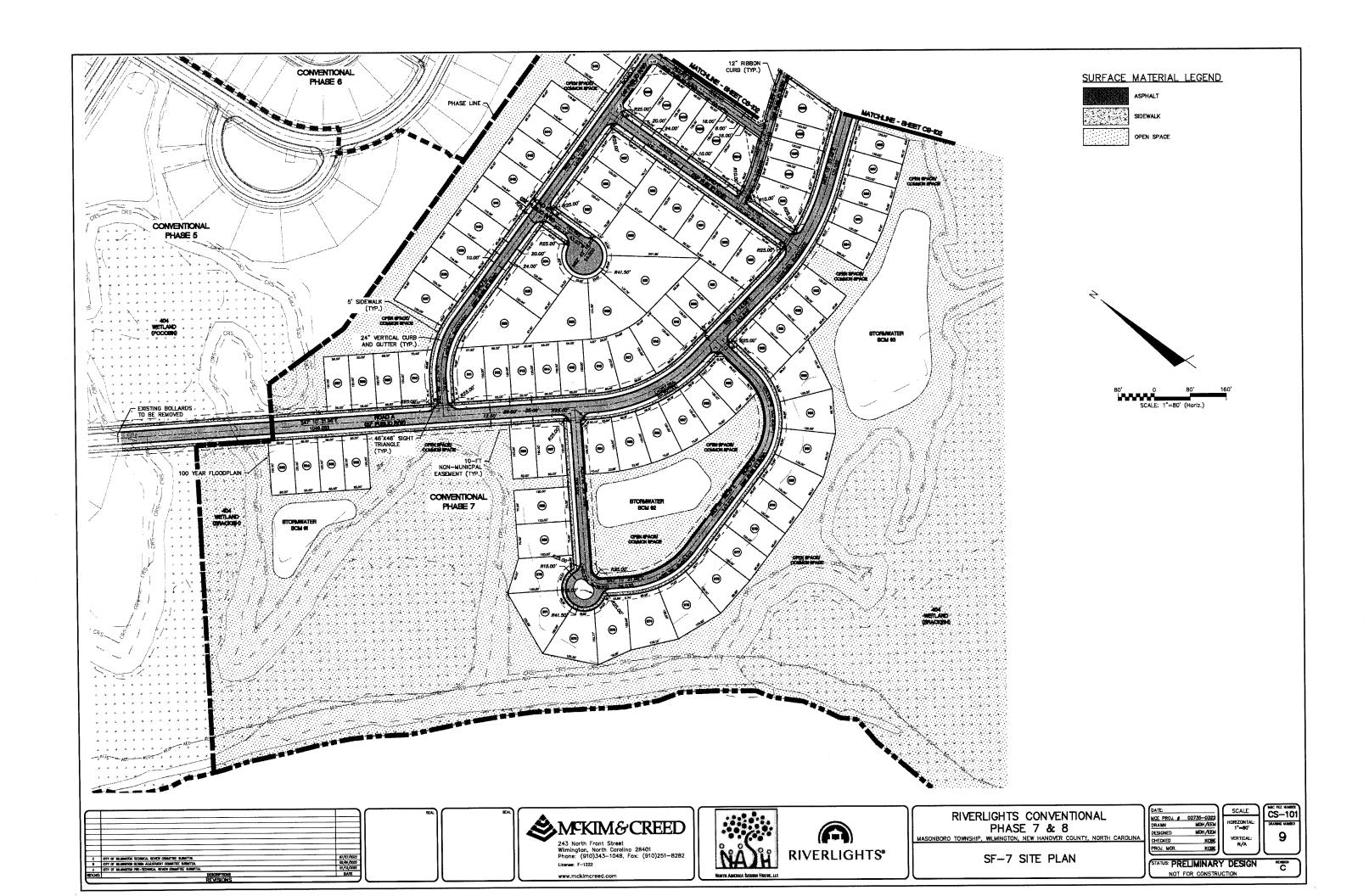


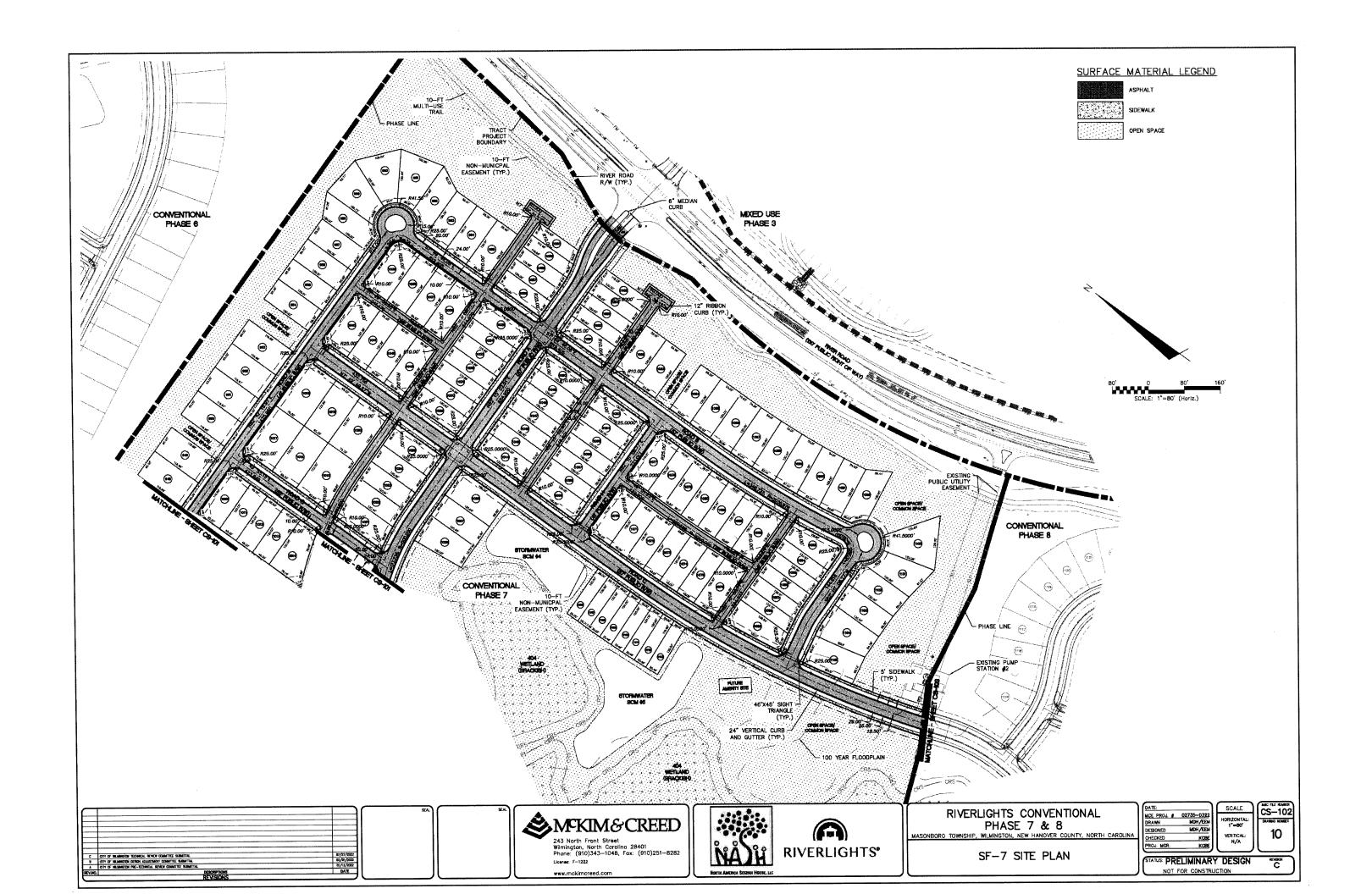


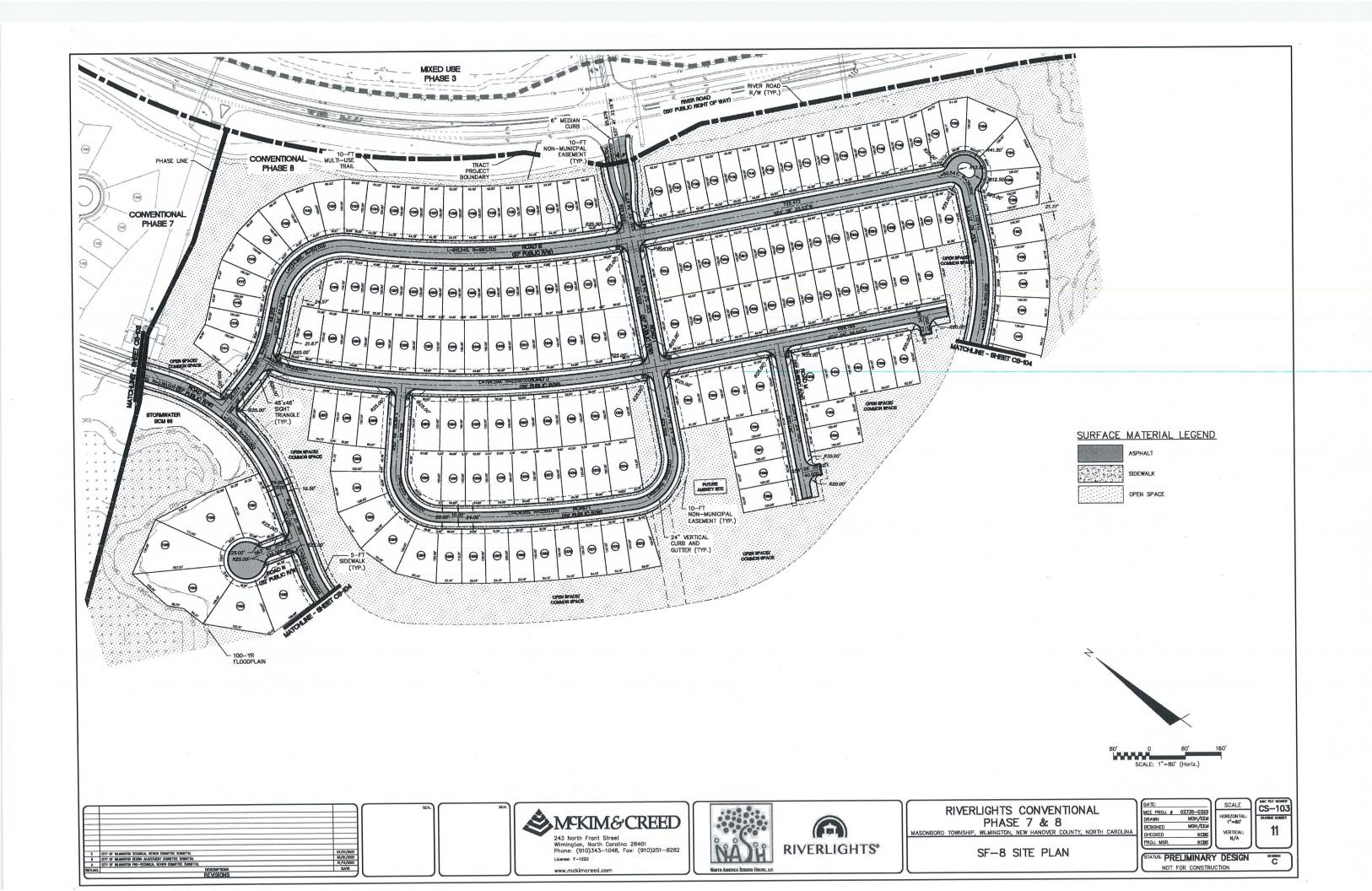


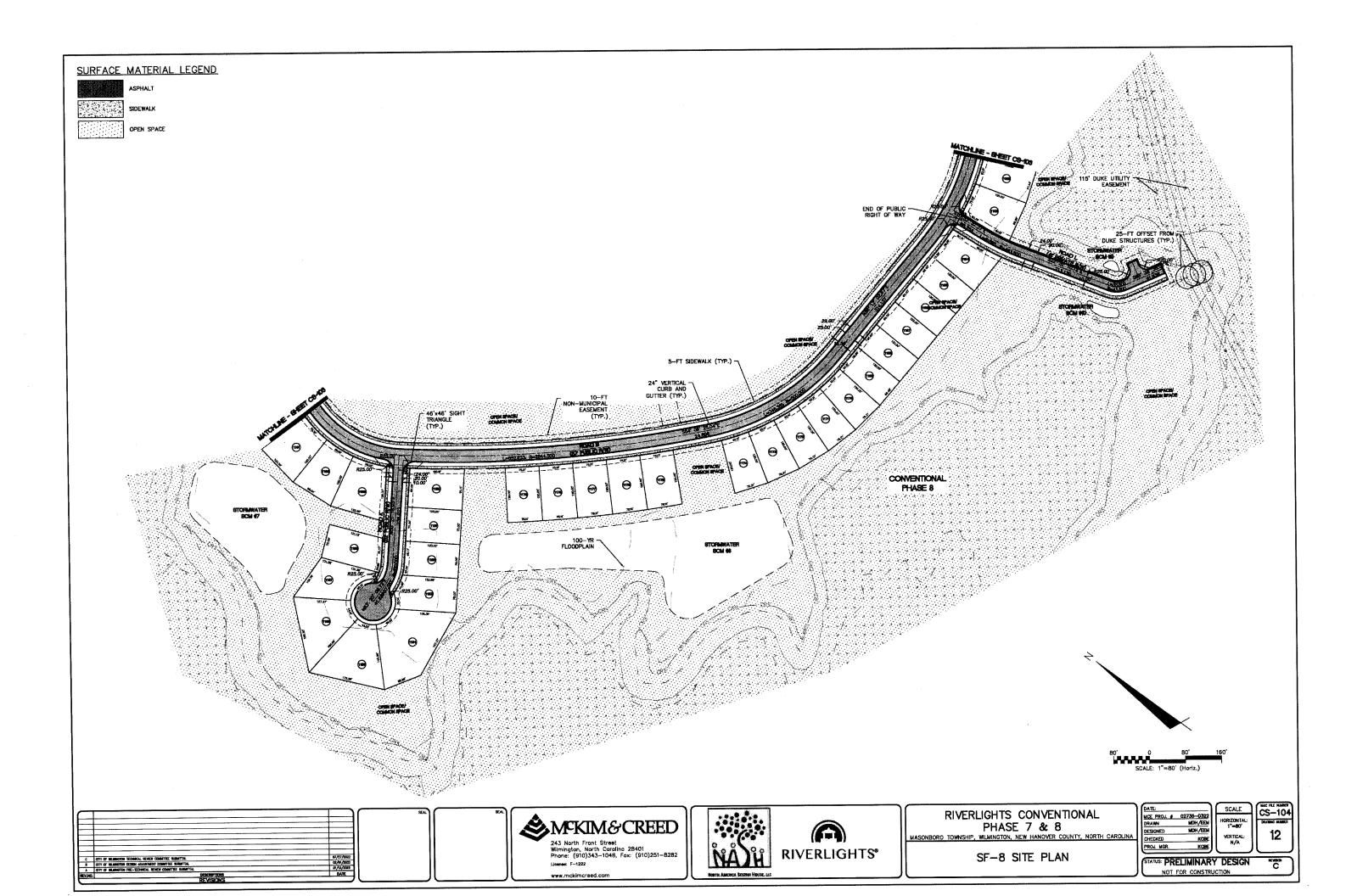












SF-7 LOT SCHEDULE

	Parcel Table	
PARCEL #	AREA (SF)	AREA (AC)
903	6600.00	0.15
904	6600.00	0.15
905	6600.00	0.15
906	6600.00	0.15
907	6600.00	0.15
908	6600.00	0.15
909	6600.00	0.15
910	8040.89	0.18
911	8313.56	0.19
912	6600.00	0.15
913	6600.00	0.15
914	6600.00	0.15
915	6600.00	0.15
916	7912.18	0.18
917	8494.62	0.20
918	8496.52	0.20
919	6600.00	0.15
920	6600.04	0.15
921	7796.88	0.18
922	8798.12	0.20
923	7800.00	0.18
924	7800.00	0.18
925	7800.00	0.18
926	8005.49	0.18
927	9067.70	0.21
928	7800.00	0.18
929	9000.31	0.21
930	13489.04	0.31
931	15357.95	0,35
932	11760.62	0.27

	Parcel Table	
PARCEL #	AREA (SF)	AREA (AC)
933	12890.39	0.30
934	10164.14	0.23
935	7800.00	0.18
936	13973.47	0.32
937	8453.43	0.19
938	7799.52	0.18
939	7798.55	0.18
940	7797.59	0.18
941	7796.62	0.18
942	7795.66	0.18
943	7794.70	0.18
944	7793.73	0.18
945	7792.77	0.18
946	7799.79	0.18
947	7799.48	0.18
948	7799,17	0.18
949	7798.85	0.18
950	7798.37	0.18
951	7798.06	0.18
952	7797.75	0.18
953	7797.44	0.18
954	6600.82	0.15
955	6800.60	0.15
956	6600.37	0.15
957	6600.15	0.15
958	7141.43	0.16
959	8170.18	0.19
960	7770.29	0.18
961	8065.10	0.19
962	6774.38	0.16

1 0/00/ 100/0				
PARCEL #	AREA (SF)	AREA (AC)		
963	6600.48	0.15		
964	6600.52	0.15		
965	6600.83	0.15		
966	6600.00	0.15		
967	7800.00	0.18		
968	9000.00	0.21		
969	9000.00	0.21		
970	9117.95	0.21		
971	10400.88	0.24		
972	9793.10	0.22		
973	9675.75	0.22		
974	10524.07	0.24		
975	10549.83	0.24		
976	9844.46	0.23		
977	7800.00	0.18		
978	7800.00	0.18		
979	7800.00	0.18		
980	8628.86	0.20		
981	9261.12	0.21		
982	9261.12	0.21		
983	10148.14	0.23		
984	8483.24	0.19		
985	7666.49	0.18		
986	7668.24	0.18		
987	766B.24	0.18		
988	7667.65	0.18		
989	8067.50	0.19		
990	7858.83	0.18		
991	6600,00	0.15		
992	6834.91	0.16		
	Parcel Tabl	e		
PARCEL #		AREA (AC		

Parcel Table

ĺ	9000.00	0.21		930	0700.07	4.10
	9000.00	0.21		999	8564.27	0.20
	9117.95	0.21		1000	5904.56	0.14
	10400.88	0.24		1001	5400.00	0.12
	9793.10	0.22		1002	5400.00	0.12
	9675.75	0.22		1003	8192.80	0.19
	10524.07	0.24		1004	8415.15	0.19
.	10549.83	0.24		1005	5400.01	0.12
	9844.46	0.23		1006	5400.01	0.12
	7800.00	0.18	Ì	1007	5400.01	0.12
	7800.00	0.18	1	1008	5400.00	0.12
	7800.00	0.18		1009	6770.63	0.16
,	8628.86	0.20	1	1010	6780.25	0.16
	9261.12	0.21		1011	5399.96	0.12
!	9261.12	0.21]	1012	5399.98	0.12
5	10148.14	0.23]	1013	5400.00	0.12
-	8483.24	0.19		1014	7606.35	0.17
5	7666.49	0.18		1015	9514.98	0.22
3	7668.24	0.18		1016	8003.30	0.18
7	7668.24	0.18]	1 017	9429.05	0.22
3	7667.65	0.18		1018	9288.60	0.21
)	8067.50	0.19		1019	8003.22	0.18
)	7858.83	0.18		1020	9228,30	0.21
1	6600.00	0.15]	1021	6650.10	0.15
2	6834.91	0.16		1022	5408.81	0.12
			-			
	Parcel Table]		Parcel Table	1
L #	AREA (SF)	AREA (AC)		PARCEL #	AREA (SF)	AREA (AC)
3	6625,59	0.15		1113	3565.96	0.08
4	6600.00	0.15	_			
5	6600.00	0.15]			
86	6611.61	0.15				
17	6686.62	0.15]			
18	6686.62	0.15				

	Parcel Table	
PARCEL #	AREA (SF)	AREA (AC)
1023	5400.02	0.12
1024	5400.00	0.12
1025	6600.00	0.15
1026	7284.37	0.17
1027	00.00	0.15
1028	7800.00	0.18
1029	5429.91	0.12
1030	4499.80	0.10
1031	4499.68	0.10
1032	4499.56	0.10
1033	4499.44	0.10
1034	4499.32	0.10
1035	5706.65	0.13
1036	6438.47	0.15
1037	6379.36	0.15
1038	6394.11	0.15
1039	7818.99	0.18
1040	8098.29	0.19
1041	6395.74	0.15
1042	6395.88	0.15
1043	6438.33	0.15
1044	5580.00	0.13
1045	4262.54	0.10
1046	4259.99	0.10
1047	4259.98	0.10
1048	4259.98	0.10
1049	4259.97	0.10
1050	5039.96	0.12
1051	5040.07	0.12
		0.09

Parcel Table			Parcel Table			
PARCEL # AREA (SF) AREA (AC)			PARCEL #	AREA (SF)	AREA (AC)	
1053	3840.03	0.09		1083	6625,59	0.15
1054	3840.02	0.09		1084	6600.00	0.15
1055	3817.16	0.09		1085	6600.00	0.15
1056	5037.58	0.12		1086	6611.61	0.15
1057	3839.78	0.09		1087	6686.62	0.15
1058	3833.88	0.09		1088	6686.62	0.15
1059	3735.07	0.09		1089	6686.62	0.15
1060	3486.72	0.08		1090	6686.62	0.15
1061	6600.99	0.15		1091	6486.58	0.15
1062	6598.30	0.15		1092	6794.17	0.16
1063	5040.00	0.12]	1093	6125.36	0.14
1064	4260.00	0.10		1094	3960.00	0.09
1065	4260.00	0.10		1095	3950.00	0.09
1066	4260.00	0.10		1096	3960.01	0.09
1067	4260.00	0.10		1097	3992.27	0.09
1068	4261.53	0.10		1098	4145.50	0.10
1059	5580.00	0.13		1099	6797.98	0.16
1070	6575.40	0.15		1100	9055.38	0.21
1071	5400.00	0.12]	1101	7252.16	0.17
1072	5400.07	0.12		1102	6714.61	0.15
1073	5401.33	0.12		1103	6600.00	0.15
1074	5404.68	0.12		1104	8160.82	0.19
1075	5410.17	0.12		1105	7806.67	0.18
1076	6623.04	0.15	1	1106	3480.00	0.08
1077	6576.39	0.15		1107	3489.90	0.08
1078	5400.11	0,12		1108	3567.05	0.08
1079	5399.91	0.12		1109	3567.59	0.08
1080	5400.55	0.12		1110	3567.45	0.08
1081	5403.97	0.12]	1111	3567.45	0.08
1082	5410.33	0.12]	1112	3566,58	0.08

PARCEL #	Parcel Table	AREA (AC)
1113	3565.96	0.08

Parcel Table

PARCEL # AREA (SF) AREA (AC) 7362.62 0.17 7362.62 7362.62

996 6941.75 997 6600.00

998 6783.57

0.16

0.15

0.16

SF-8 LOT SCHEDULE

	Parcel Table	г
PARCEL NO.	AREA (SF)	AREA (AC)
1114	827B	0.19
1115	5986	0.14
1116	5040	0.12
1117	6447	0.15
1118	6541	0.15
1119	6541	0.15
1120	6541	0.15
1121	6541	0.15
1122	6541	0.15
1123	5593	0.13
1124	5210	0.12
1125	5210	0.12
1126	5210	0.12
1127	5210	0.12
1128	5210	0.12
1129	5210	0.12
1130	5210	0.12
1131	5210	0.12
1132	5210	0.12
1133	5210	0.12
1134	5210	0.12
1135	5214	0.12
1136	5040	0.12
1137	5040	0.12
1138	5040	0.12
1139	5040	0.12
1140	5040	0.12
1141	5040	0.12
1142	5040	0.12
1143	5040	0.12

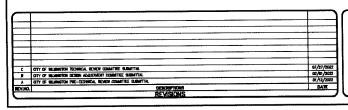
			,			
	Parcel Table				Parcel Table	_
CEL NO.	AREA (SF)	AREA (AC)		PARCEL NO.	AREA (SF)	
144	5040	0.12		1174	8247	
145	5040	0.12		1175	9189	Ī
146	5040	0.12	ĺ	1176	9189	Γ
147	5040	0.12	ĺ	1177	9189	Ī
148	5040	0.12		1178	9189	Ī
149	5040	0.12		1179	9189	Ī
150	5197	0.12		1180	10516	Ī
1151	5477	0.13		1181	9000	Ţ
152	6018	0.14		1182	9026	Ī
1153	8636	0.20		1183	9950	Ī
154	8636	0.20		1184	19367	T
155	5947	0.14		1185	14581	Ţ
156	5270	0.12		1186	13321	Ī
157	6705	0.15		1187	10124	1
158	7035	0.16		1188	9592	1
1159	7081	0.16		1189	11669	Ī
160	7058	0.16		1190	9821	1
1161	7058	0.16		1191	10052	1
1162	8379	0.19		1192	12025	Ī
1163	9879	0.23		1193	11470	Ţ
1164	10232	0.23		1194	15475	1
1165	7800	0.18		1195	14390	1
1166	7800	0.18		1196	14229	1
1167	7800	0.18		1197	11713	1
1168	7800	0.18		1198	5767	-
1169	7873	0.18		1199	5189	
1170	8247	0.19		1200	5190	
1171	8247	0.19		1201	5190	
1172	8247	0.19		1202	5190	
1173	8247	0.19		1203	5190	1

ible			1	Parcel Table	
SF)	AREA (AC)		PARCEL NO.	AREA (SF)	AREA (A
,	0.19		1204	5190	0.12
,	0.21		1205	5190	0.12
,	0.21		1206	5190	0.12
)	0.21	i I	1207	5190	0.12
,	0.21	1 1	1208	5190	0.12
,	0.21		1209	5190	0.12
6	0.24		1210	5192	0.12
)	0.21		1211	5188	0.12
5	0.21		1212	7740	0.18
)	0.23	1	1213	7440	0.17
7	0.44	1	1214	5040	0.12
1	0.33		1215	5040	0.12
1	0.31	1	1216	5040	0.12
4	0.23		1217	5040	0.12
5	0.22		1218	5040	0.12
9	0.27		1219	5040	0.12
1	0.23	1	1220	5040	0.12
2	0.23	1	1221	5040	0.12
5	0.28	1	1222	5040	0.12
0	0.26		1223	5040	0.12
5	0.36]	1224	5040	0.12
O	0.33		1225	5040	0.12
9	0.33		1226	5040	0.12
3	0.27		1227	5040	0.12
7	0.13		1228	6033	0.14
9	0.12		1229	6660	0.15
0	0.12		1230	6660	0.15
D	0.12		1231	5040	0.12
D	0.12	1	1232	5040	0.12
0	0.12	1	1233	5040	0.12

Parcel Table				
PARCEL NO.	AREA (SF)	AREA (AC)		
1234	5040	0.12		
1235	5040	0.12		
1236	5040	0.12		
1237	5040	0.12		
1238	5040	0.12		
1239	5040	0.12		
1.240	5040	0.12		
1241	5040	0.12		
1242	7440	0.17		
1243	7725	0.18		
1244	6417	0.15		
1245	6417	0.15		
1246	6417	0.15		
1247	6417	0.15		
1248	6417	0.15		
1249	6417	0.15		
1250	6417	0.15		
1251	6417	0.15		
1252	6415	0.15		
1253	6417	0.15		
1254	6417	0.15		
1255	6417	0.15		
1256	6908	0.16		
1257	6403	0.15		
1258	6403	0.15		
1259	7636	0.18		
1260	6590	0.15		
1261	8221	D.19		
1262	8292	0.19		
1263	8252	0.19		

	Parcel Table	
PARCEL NO.	AREA (SF)	AREA (A
1264	8252	0.19
1265	6518	0.15
1266	6331	0.15
1267	6350	0.15
1268	6350	0.15
1269	6350	0.15
1270	6350	0.15
1271	6350	0,15
1272	6350	0.15
1273	7136	0.16
1274	8434	0.19
1275	6396	0.15
1276	6395	0.15
1277	6396	0.15
1278	6395	0.15
1279	6395	0,15
1280	6396	0.15
1281	8409	0.15
1282	7831	0.18
1283	7800	0.18
1284	6404	0.15
1285	6404	0.15
1286	6404	0.15
1287	5404	0.15
1288	6404	0.15
1289	6404	0.15
1290	5404	0.15
1291	6402	0.15
1292	7320	0.17
1293	6120	0.14

	arce lable	
ARCEL NO.	AREA (SF)	AREA (AC)
1294	6120	0.14
1295	7320	0.17
1296	6240	0.14
1297	6240	0.14
1298	6240	0.14
1299	6240	0.14
1300	6240	0.14
1301	6240	0.14
1302	7440	0.17
1303	6240	0.14
1304	6240	0.14
1305	6240	0.14
1306	6240	0.14













RIVERLIGHTS CONVENTIONAL PHASE 7 & 8

MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLIN

DATE:

MCE PROJ. # 02735-0322

DRAWN MOH/ZEM

DESIGNED MOH/ZEM

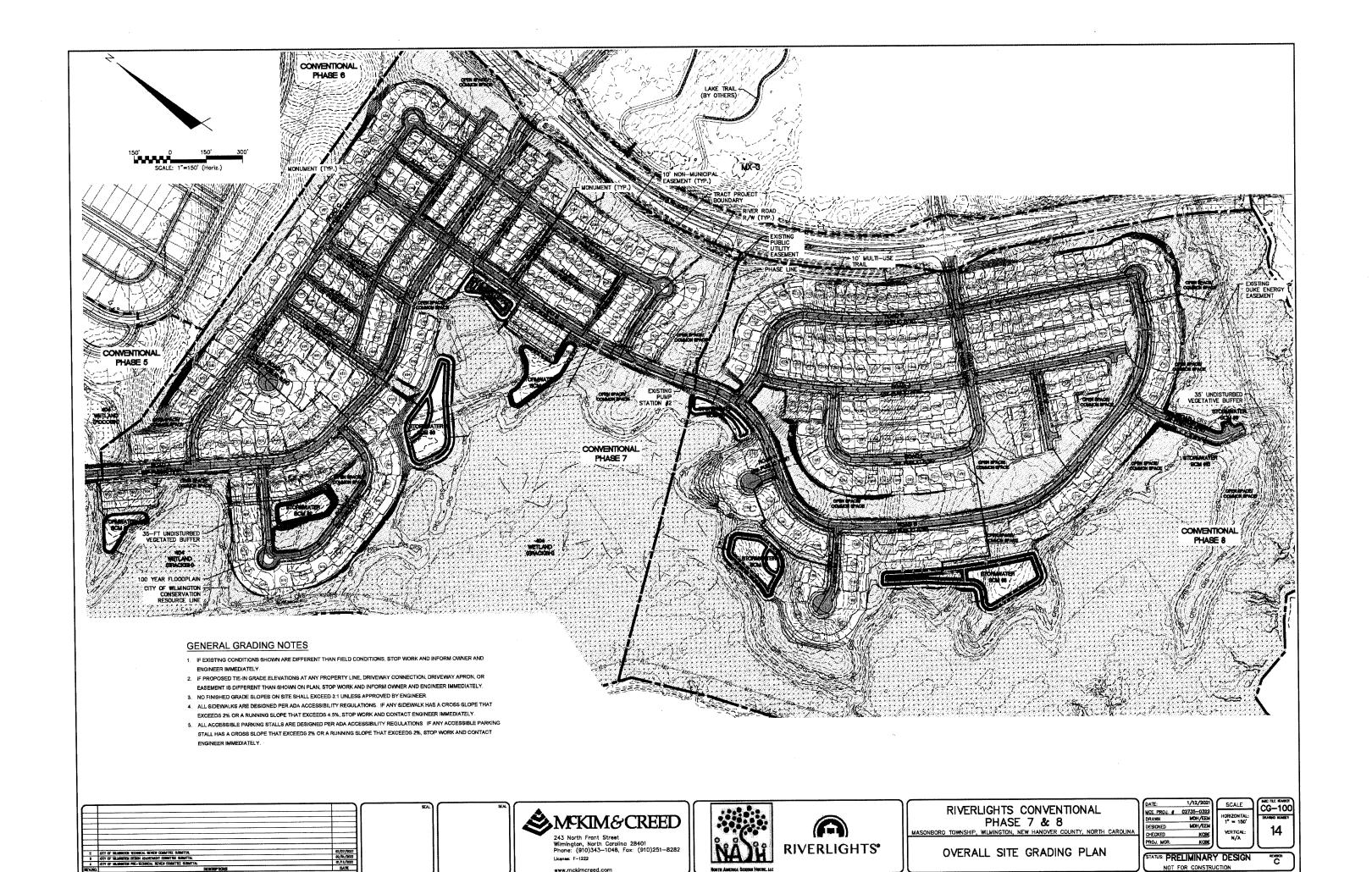
CHECKED KOBE

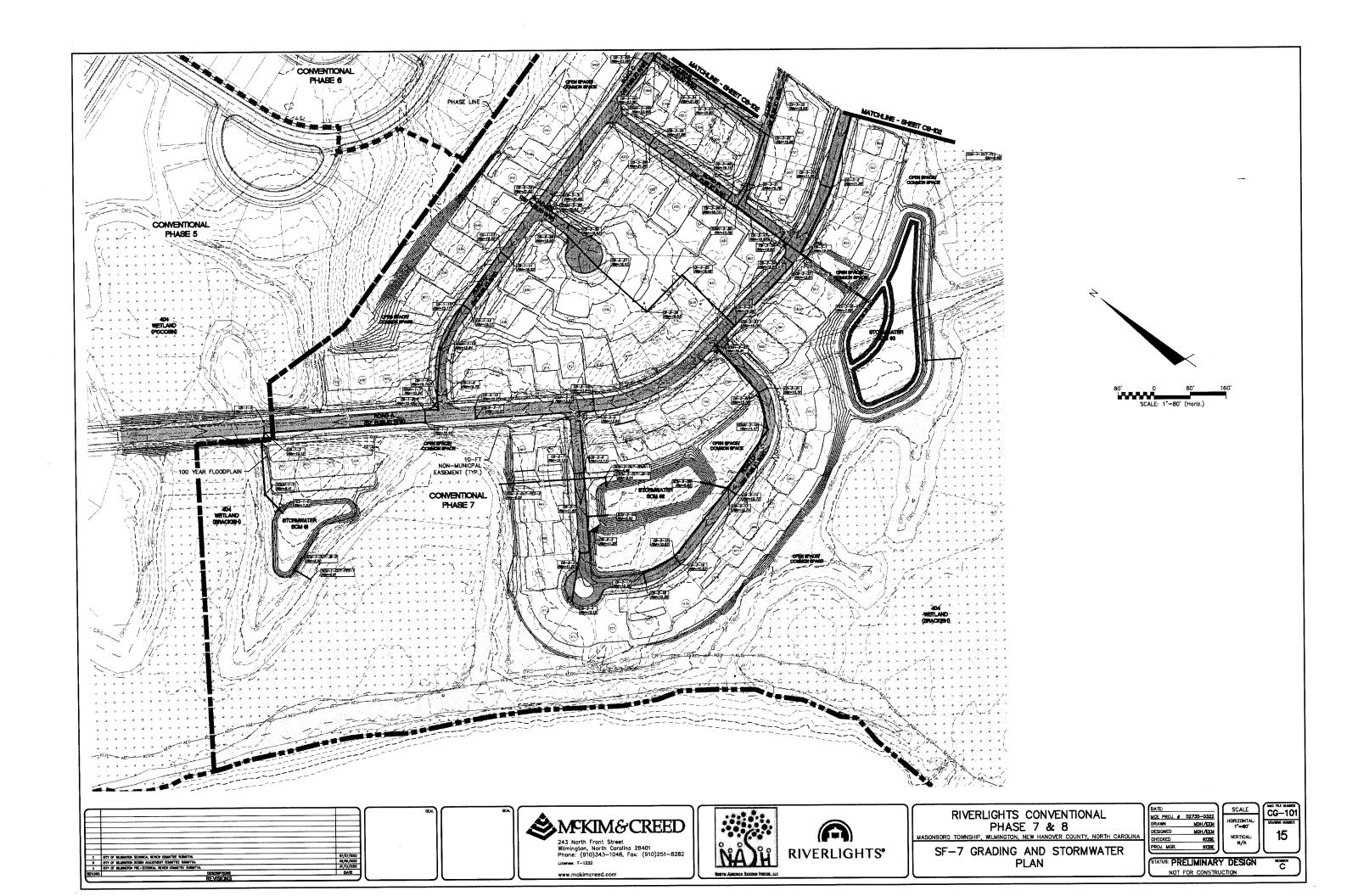
KOBE VERTICAL:

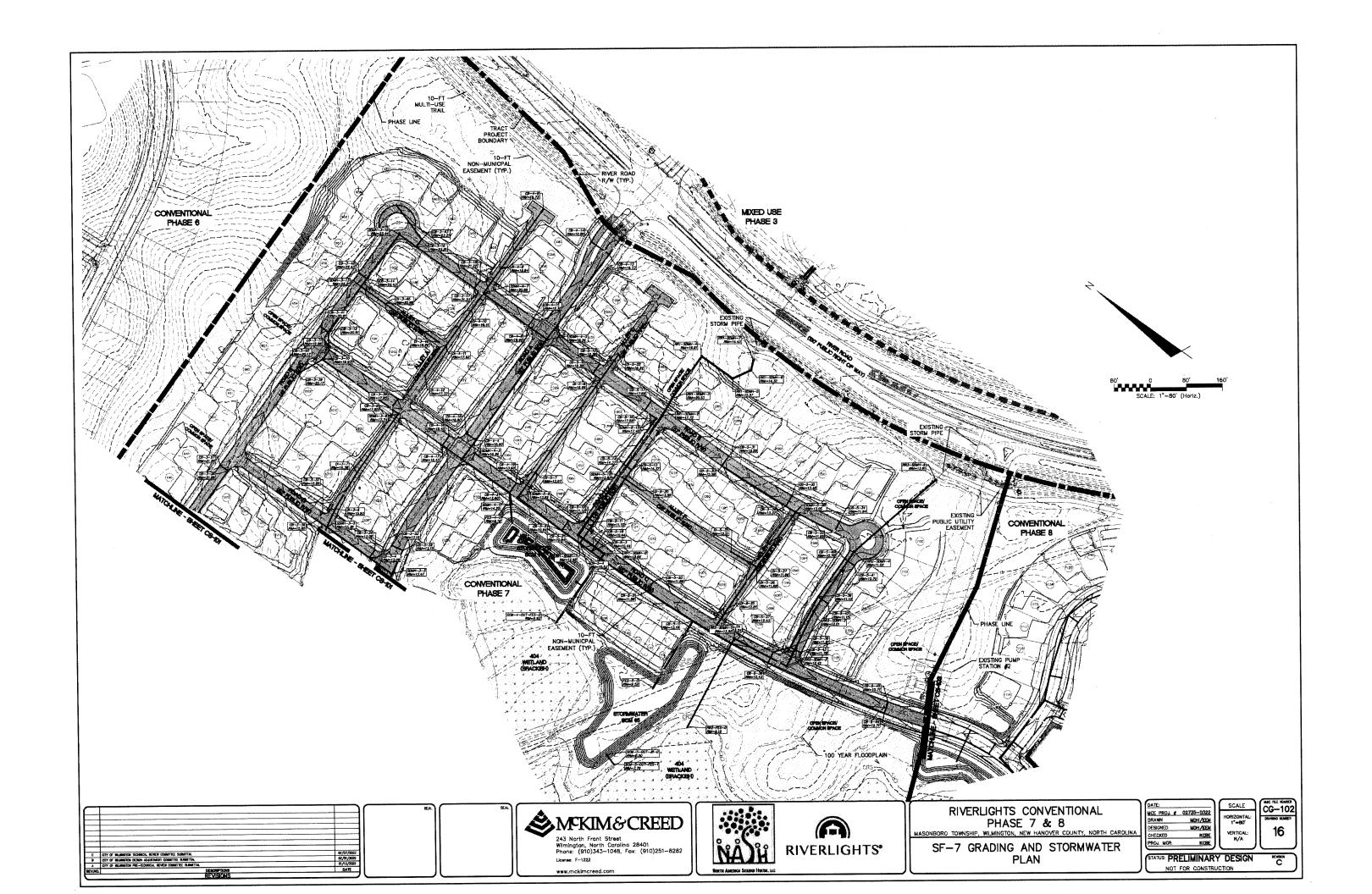
CS-105 13

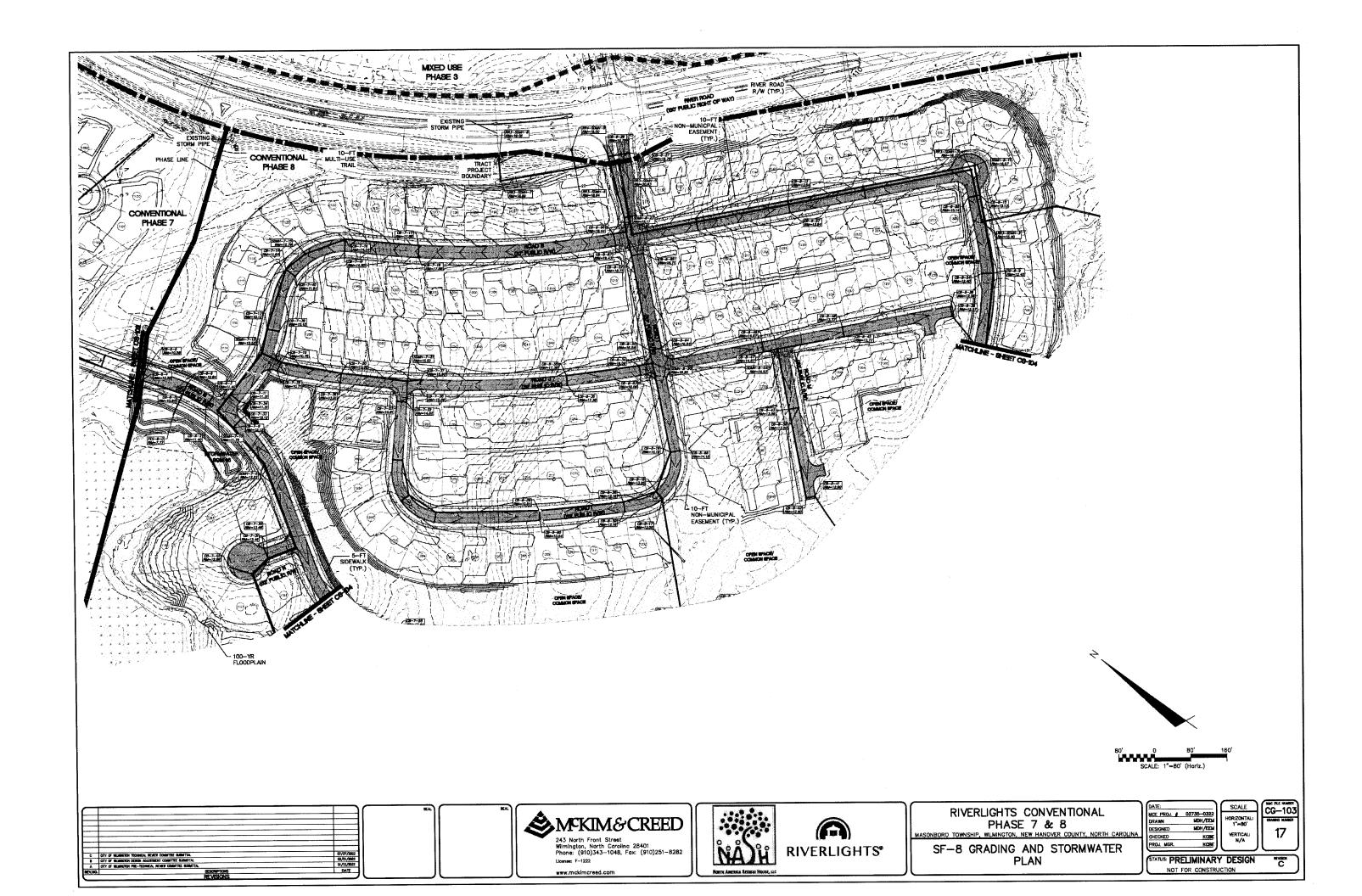
SF-7 AND SF-8 LOT SCHEDULES

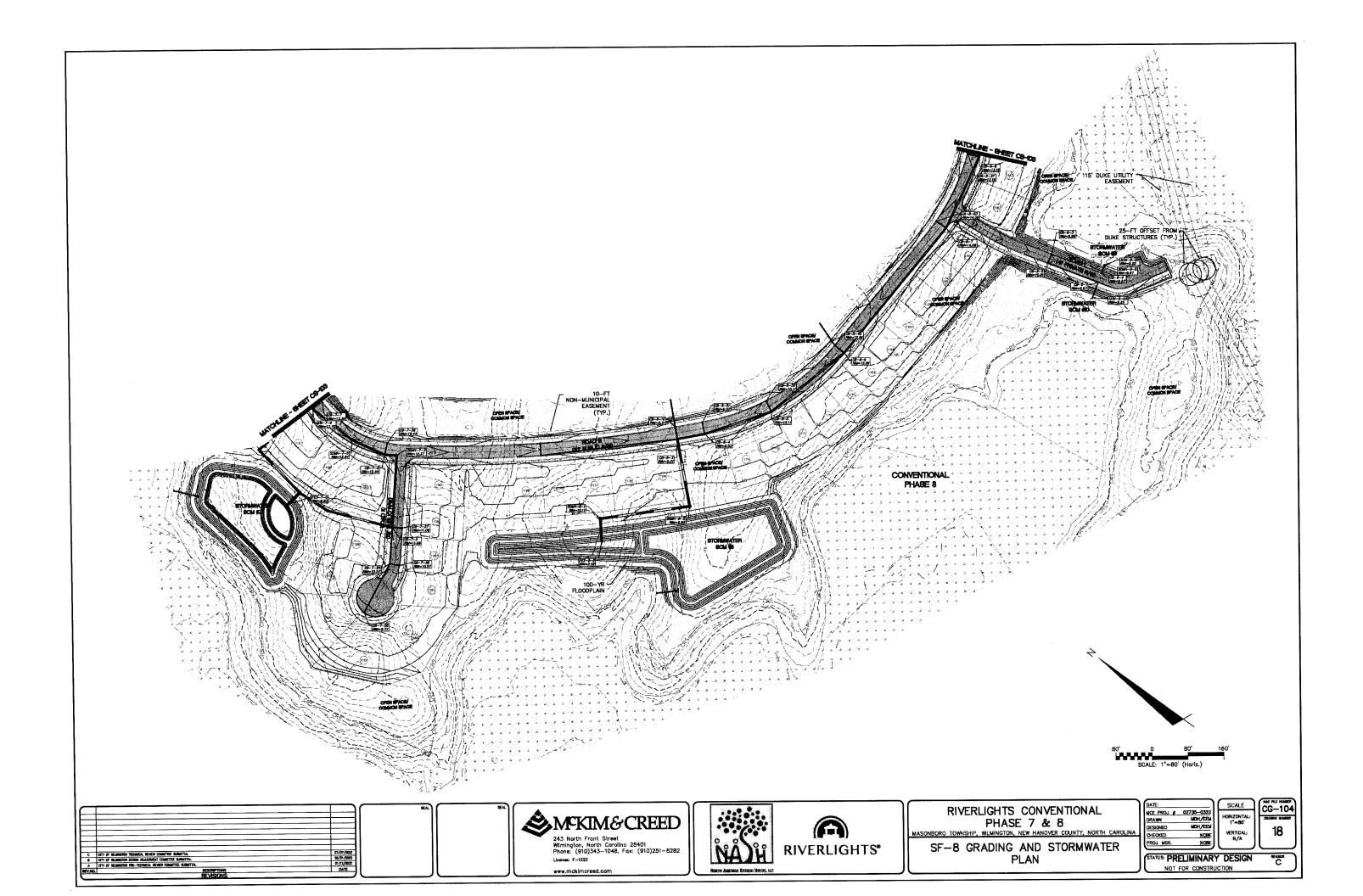
STATUS: PRELIMINARY DESIGN











- 10' NON-MUNICIPAL EASEMENT (TYP.) SHE MAND REST OF MAIN

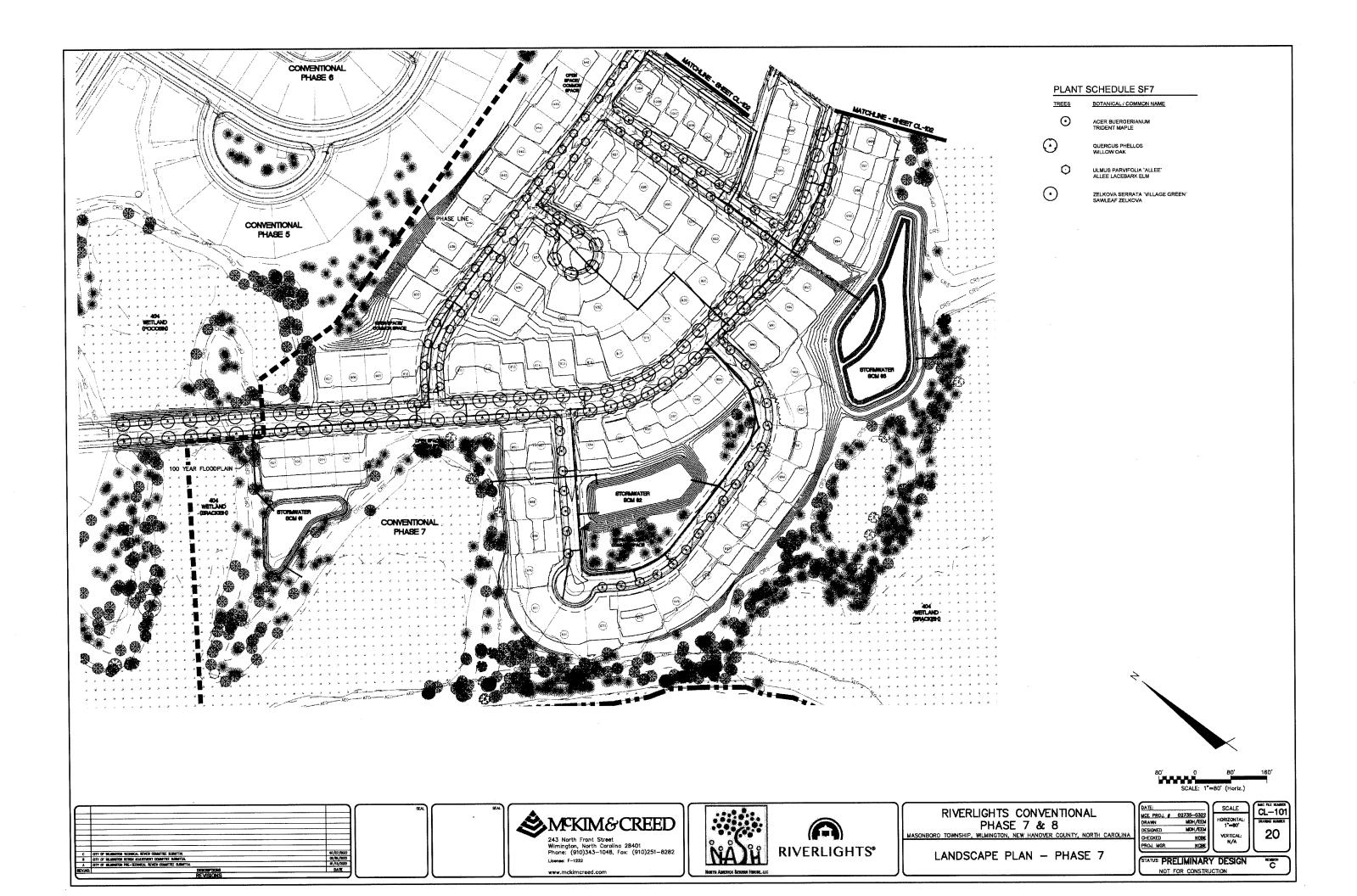
CONVENTIONAL PHASE 7

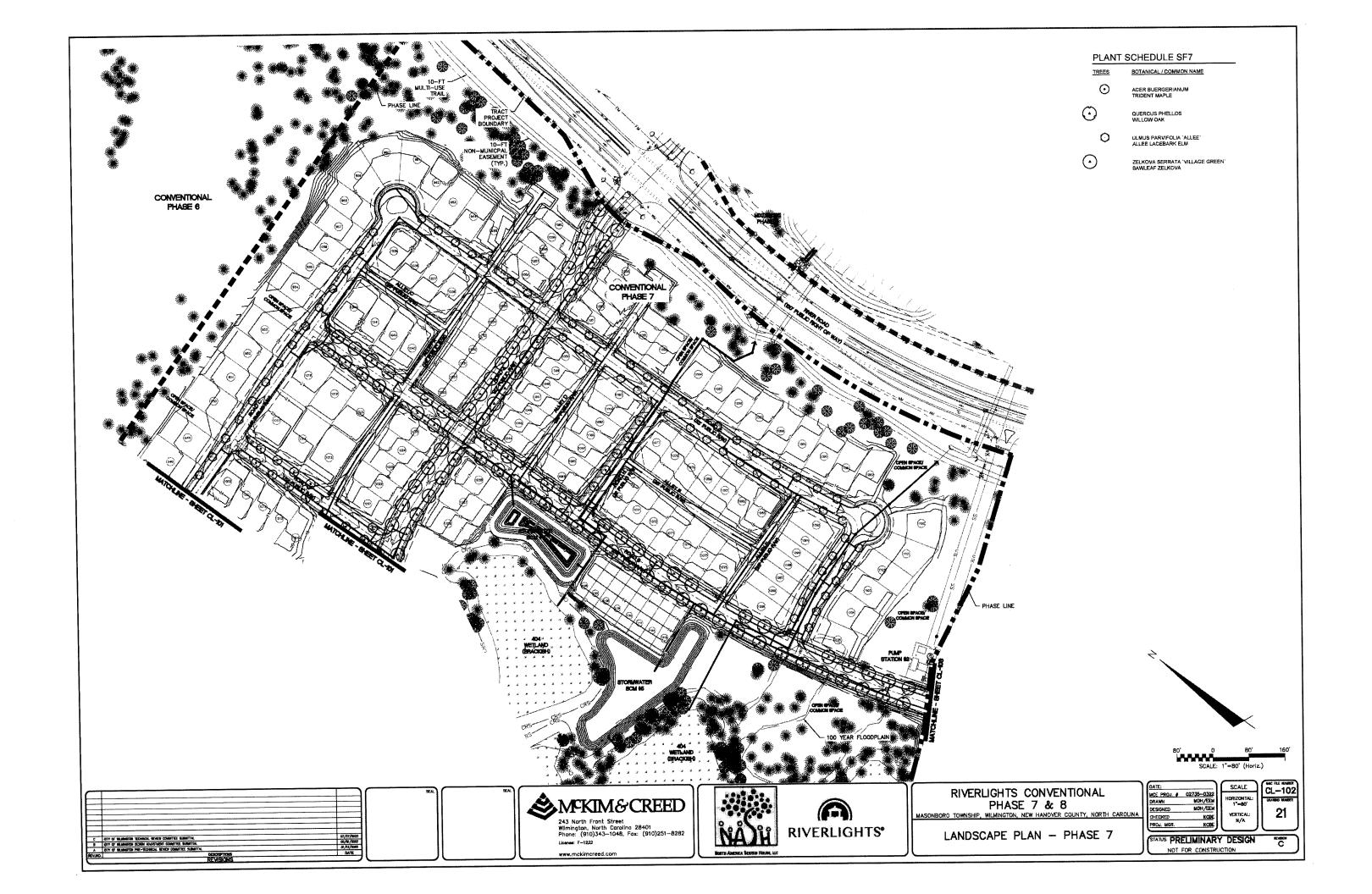
CONVENTIONAL PHASE 8

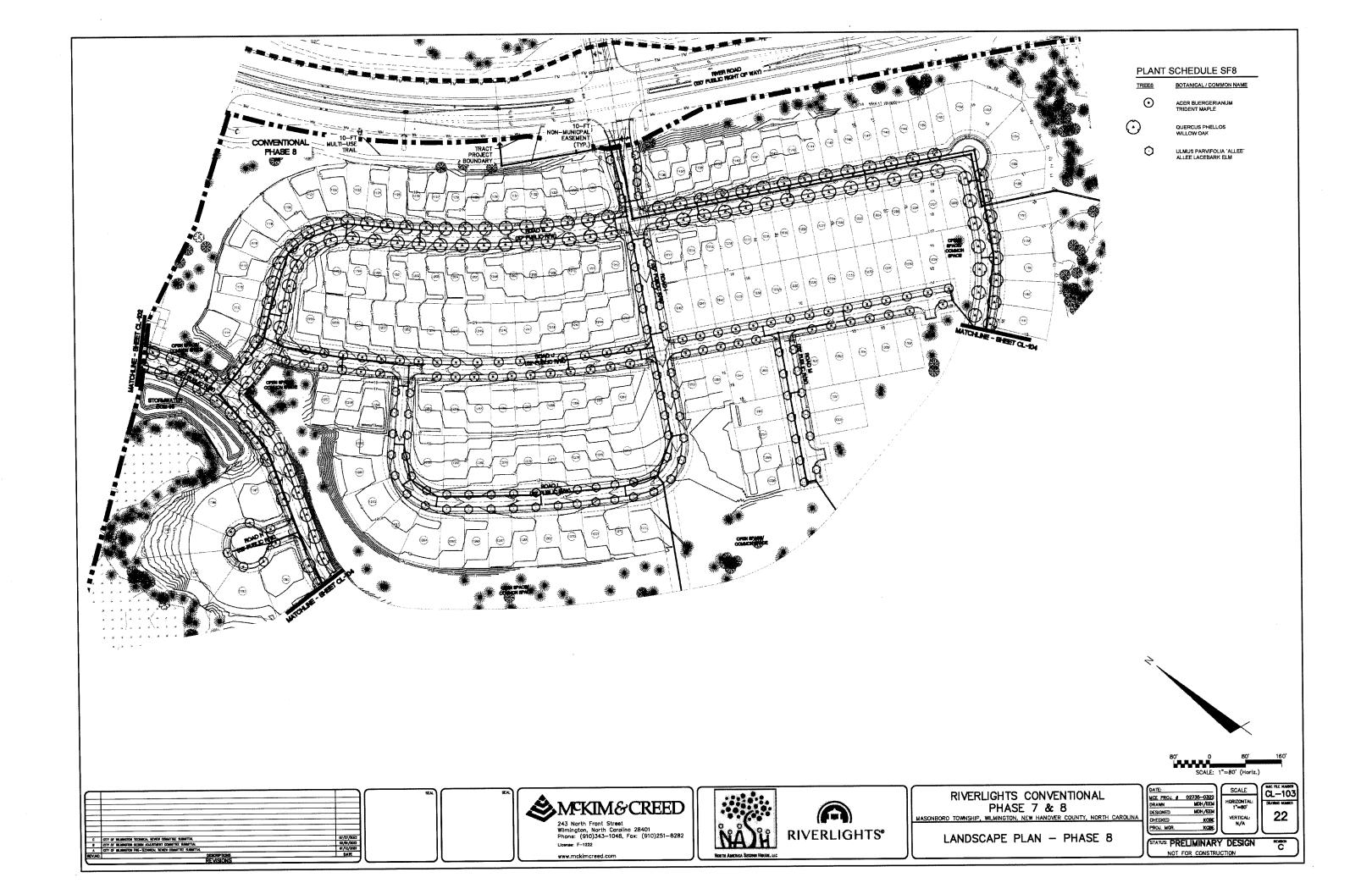
CONVENTIONAL PHASE 5

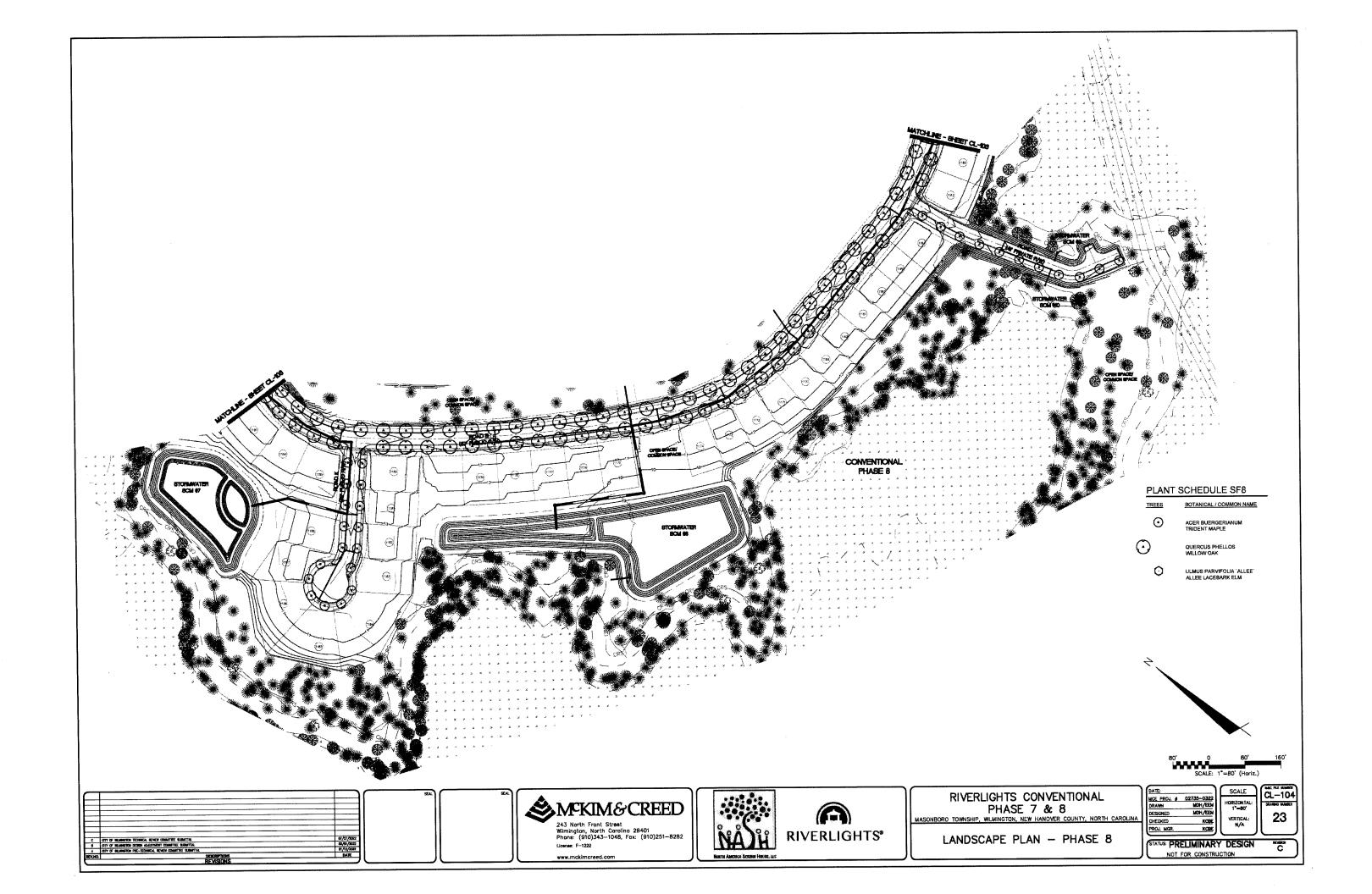


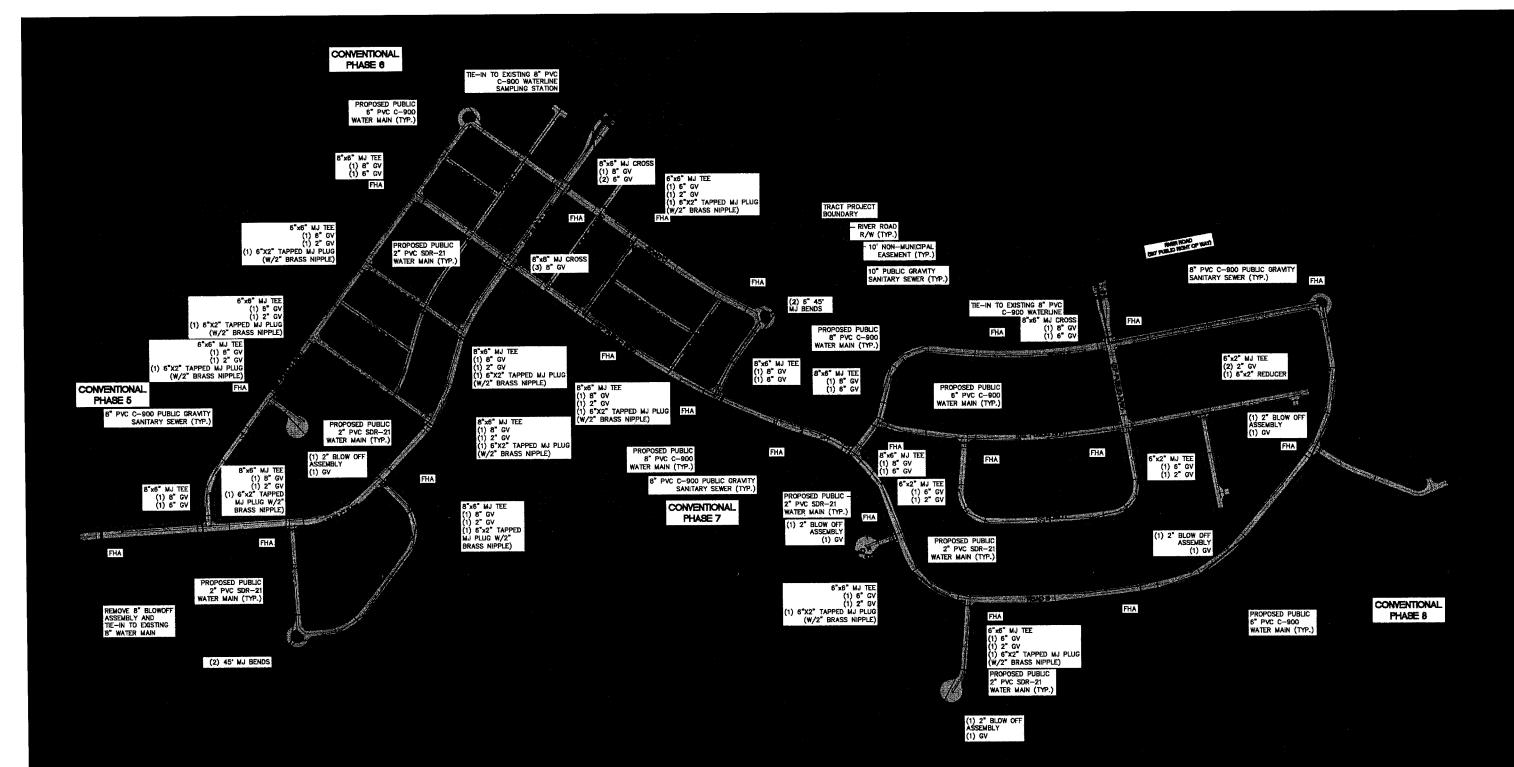






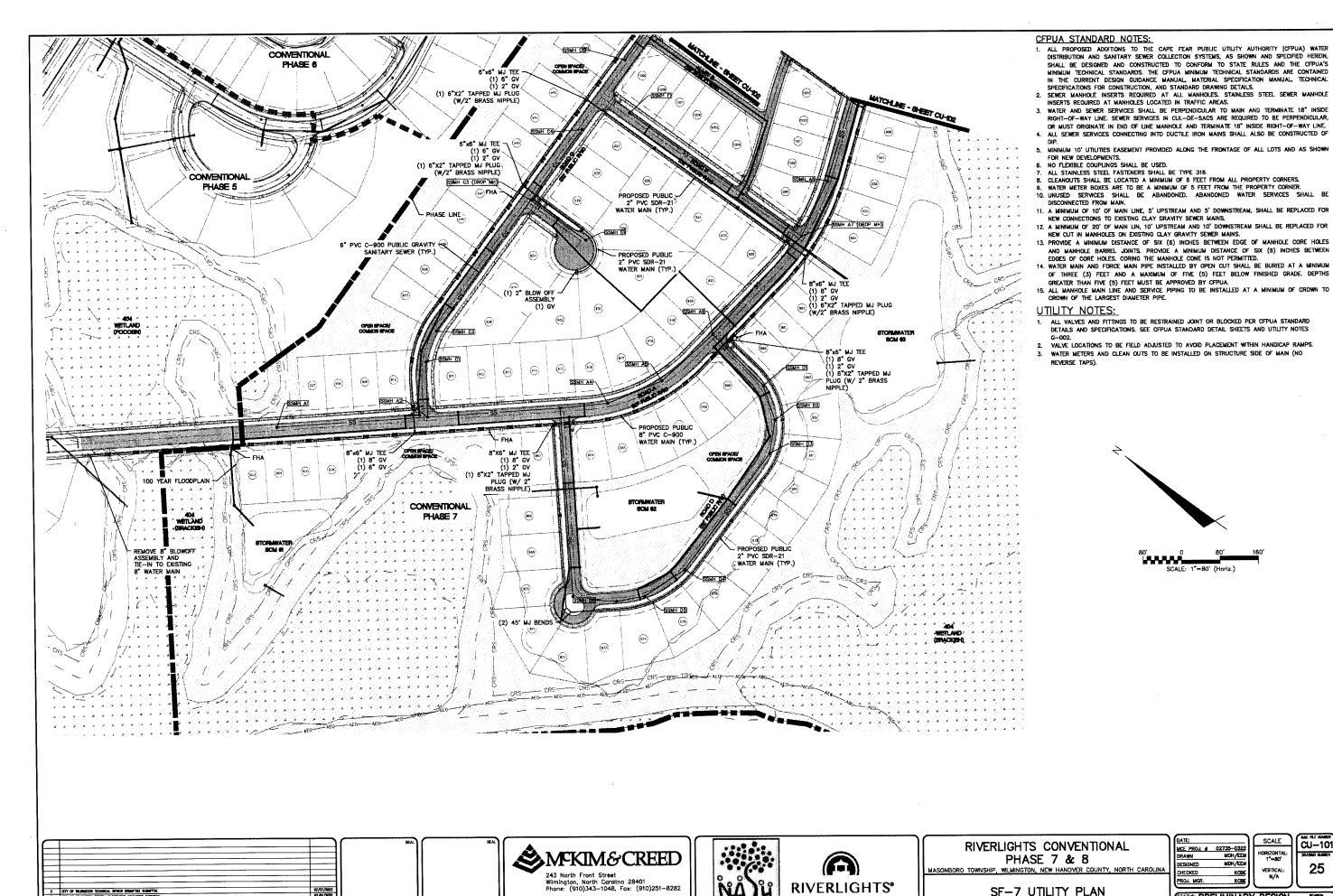












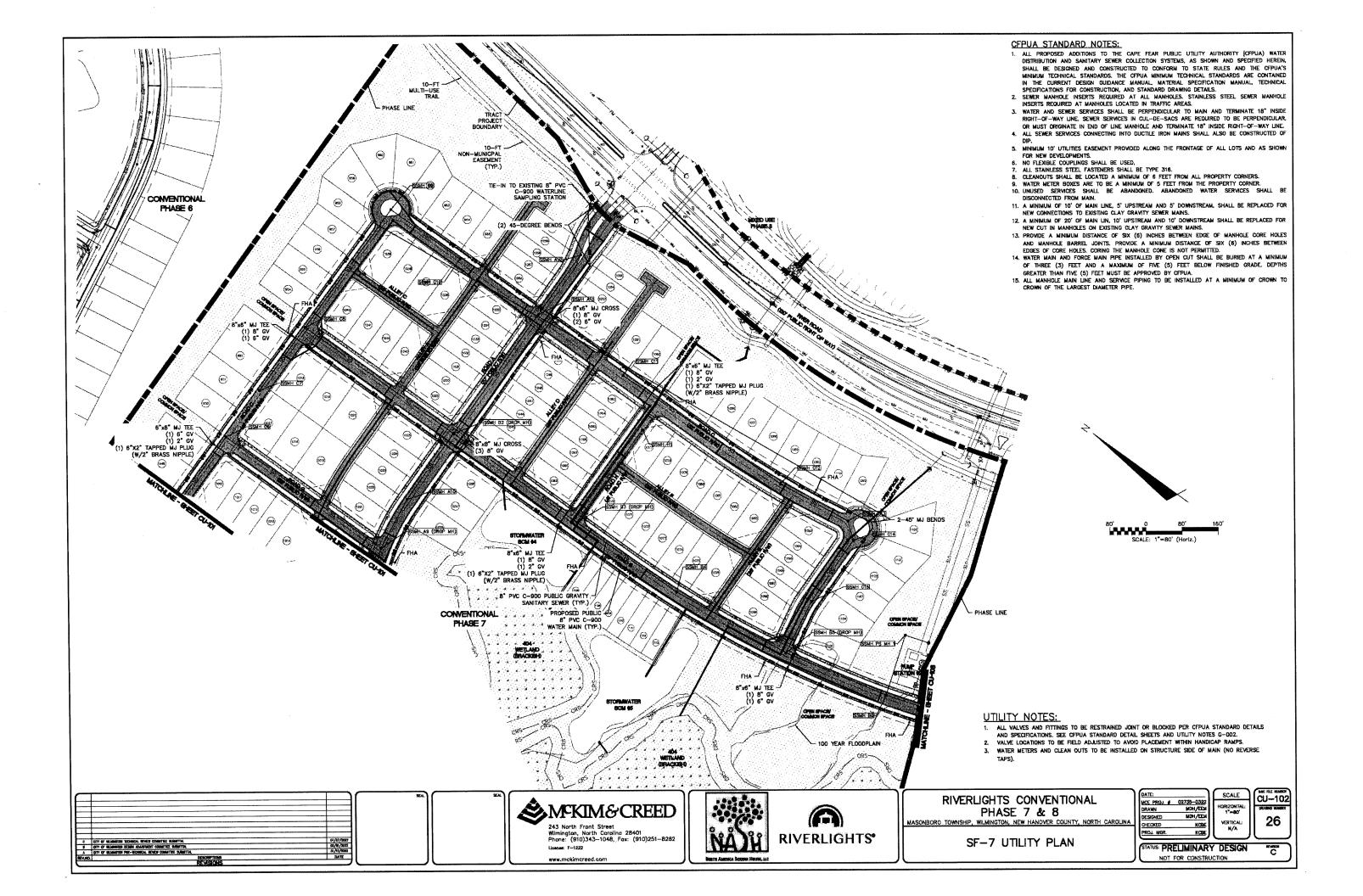
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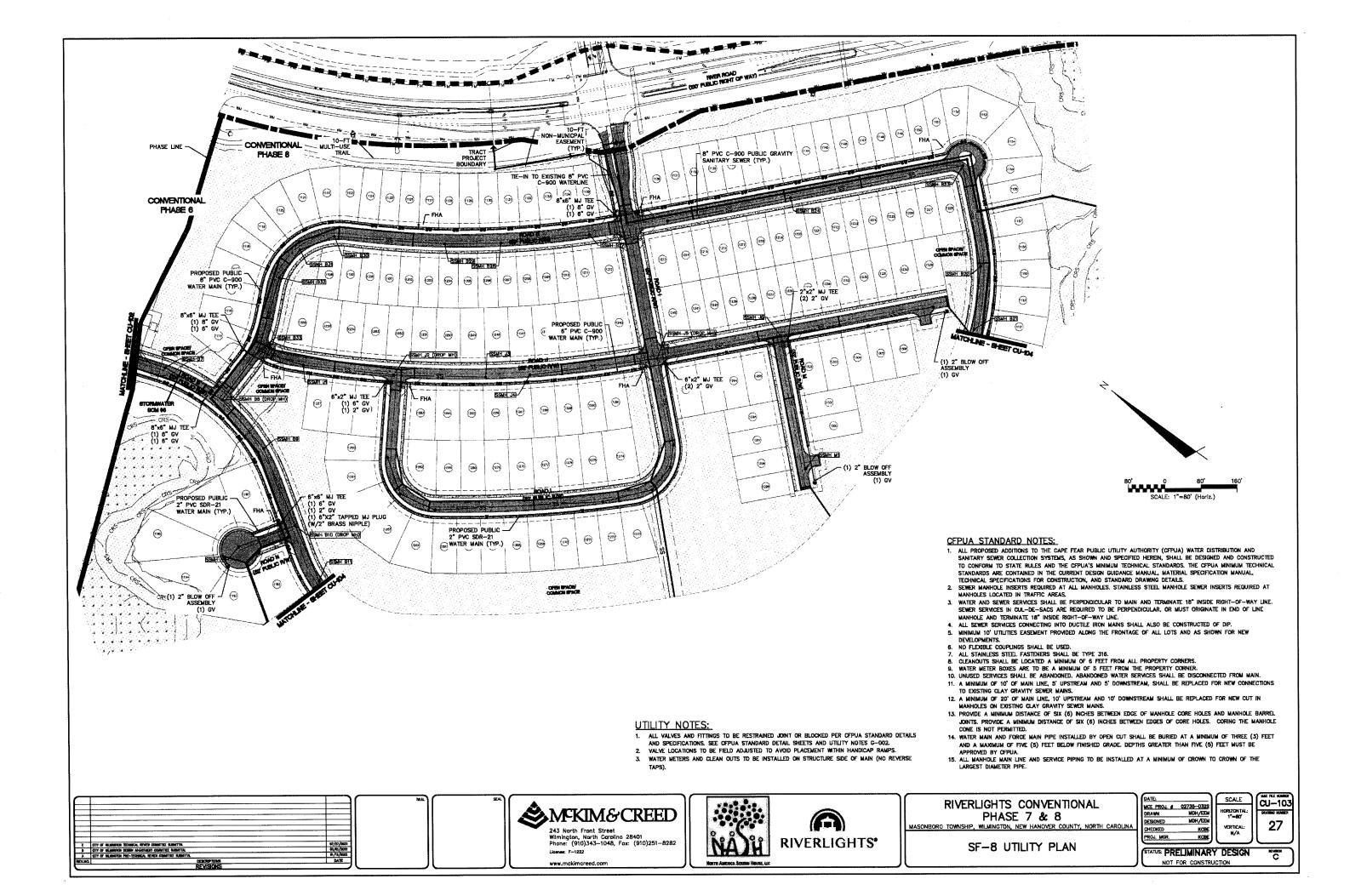
www.mckimcreed.com

STATUS: PRELIMINARY DESIGN NOT FOR CONSTRUCTION

CU-101

25





CFPUA STANDARD NOTES:

- AL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTRINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
- SEWER MANHOLE INSERTS REQUIRED AT ALL MANHOLES. STAINLESS STEEL MANHOLE SEWER INSERTS REQUIRED AT
- MANHOLE INSERTS REQUIRED IN TAFFIC AREAS.

 3. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE.

 SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE
- SCHER SERVICES IN OUT-DETSAGS ARE REQUIRED TO BE FERFERDICULAR, OR MOST URGINATE IN END OF MANHOLE AND TERMINATE 18' INSIDE RIGHT-OF-WAY TUNE.

 4. ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.

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

 6. NO FLEXIBLE COUPLINGS SHALL BE USED.

- NU FLEXIBLE COORDINGS STALL BE DIVE 316.
 ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
 CLEANOUTS SHALL BE LOCATED A MINIMUM OF 8 FEET FROM ALL PROPERTY CORNERS.
 WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
- 9. WALER MEIER BOXES ARE ID BE A MINIMUM OF 5 FEEL FROM THE FROMERY CONTROL.

 10. UNUSED SERVICES SHALL BE ABRIADONED, MARADONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.

 11. A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM, SHALL BE REPLACED FOR NEW CONNECTIONS
- TO EXISTING CLAY GRAVITY SEWER MAINS.

 12. A MINIMUM OF 20' OF MAIN LINE, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN
- MANHOLES ON EDSTING CLAY GRAVITY SEWER MAINS.

 13. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL
- JOINTS. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT PERMITTED.
- 14. WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE. DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY CFPUA.

STORMWATER SCM 67

SSMH B12

(1BE)

(186)

SSMH K1

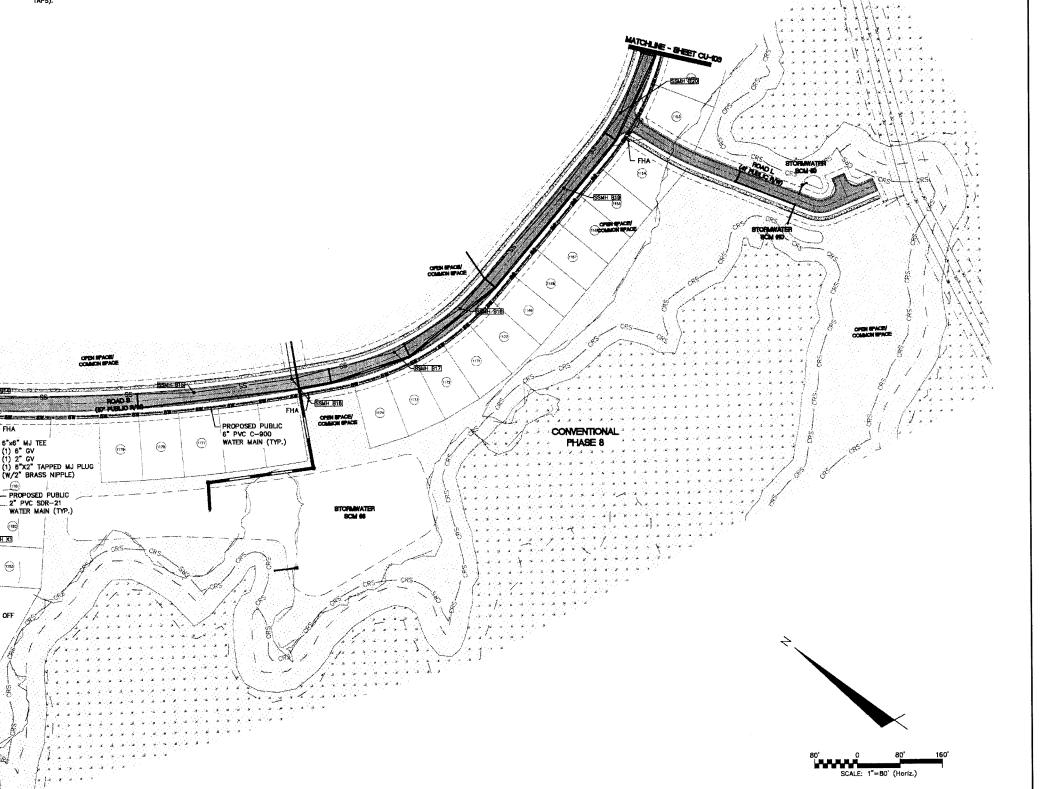
(1) 2" BLOW OFF ASSEMBLY

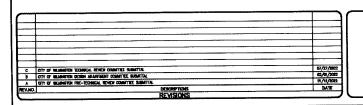
(1) GV

15. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE

UTILITY NOTES:

- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT OR BLOCKED PER CFPUA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPUA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.
- VALVE LOCATIONS TO BE FIELD ADJUSTED TO AVOID PLACEMENT WITHIN HANDICAP RAMPS.
- 3. WATER METERS AND CLEAN OUTS TO BE INSTALLED ON STRUCTURE SIDE OF MAIN (NO REVERSE





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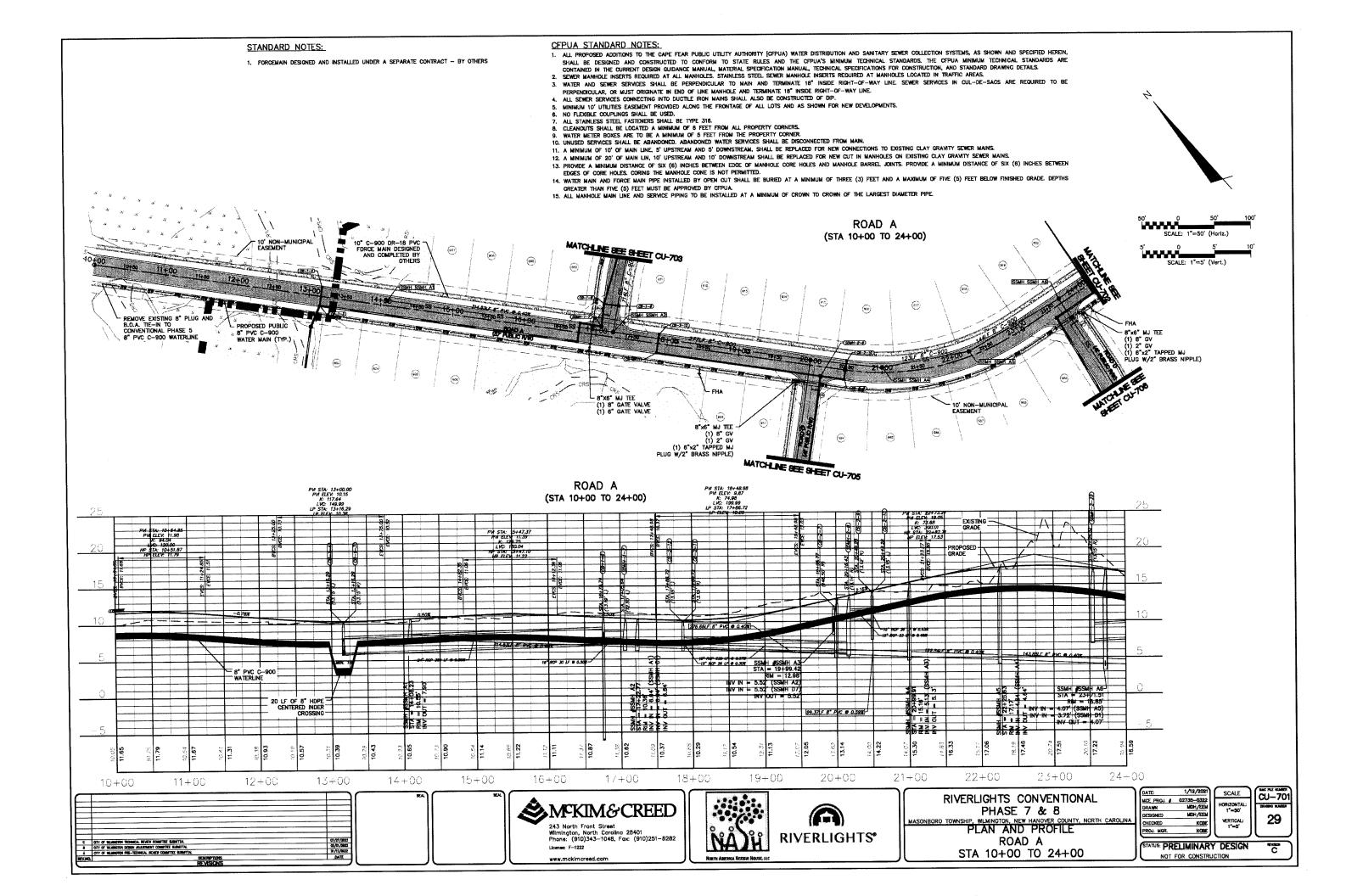
SF-8 UTILITY PLAN

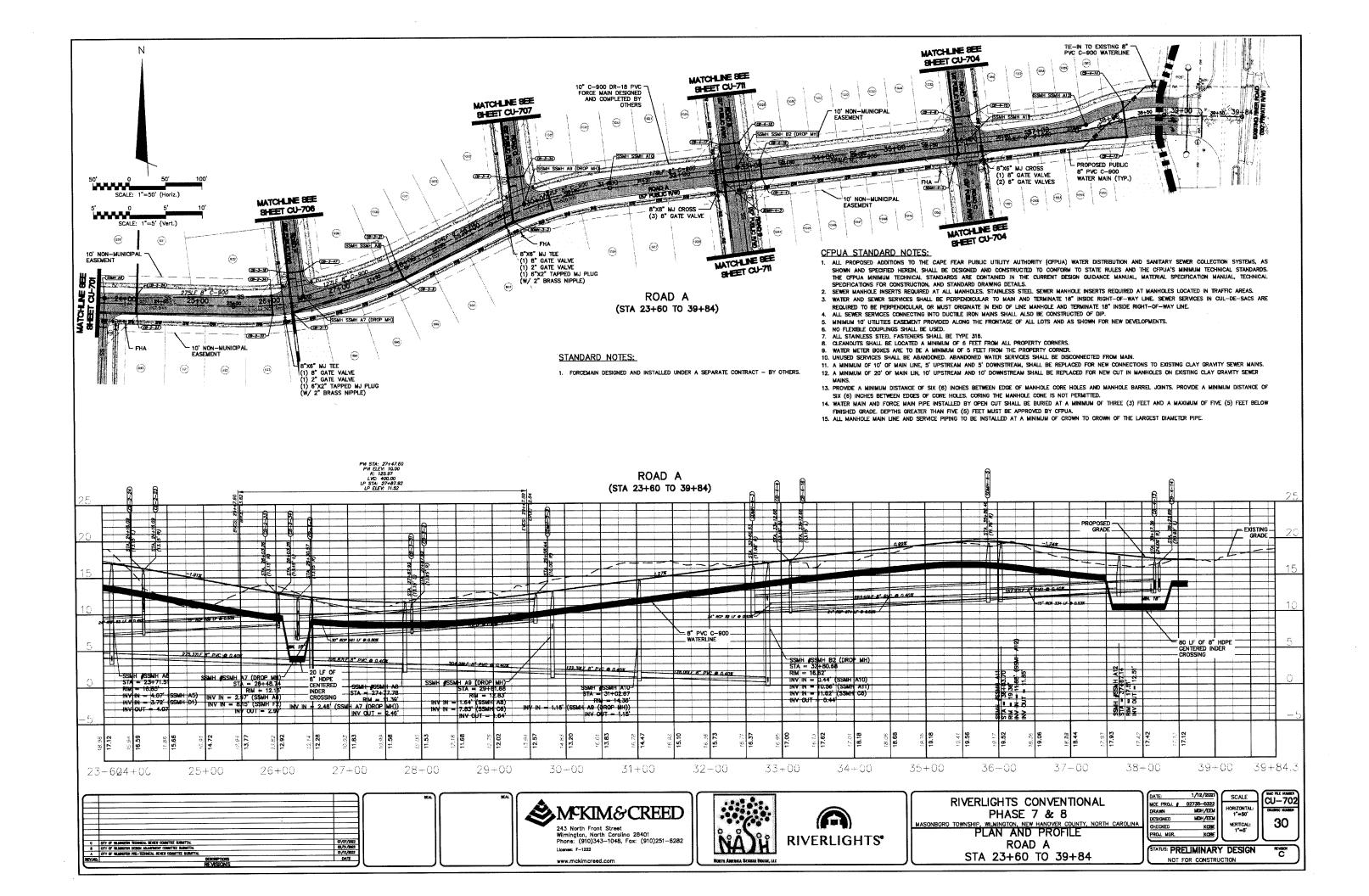


CU-104

28

STATUS PRELIMINARY DESIGN NOT FOR CONSTRUCTION



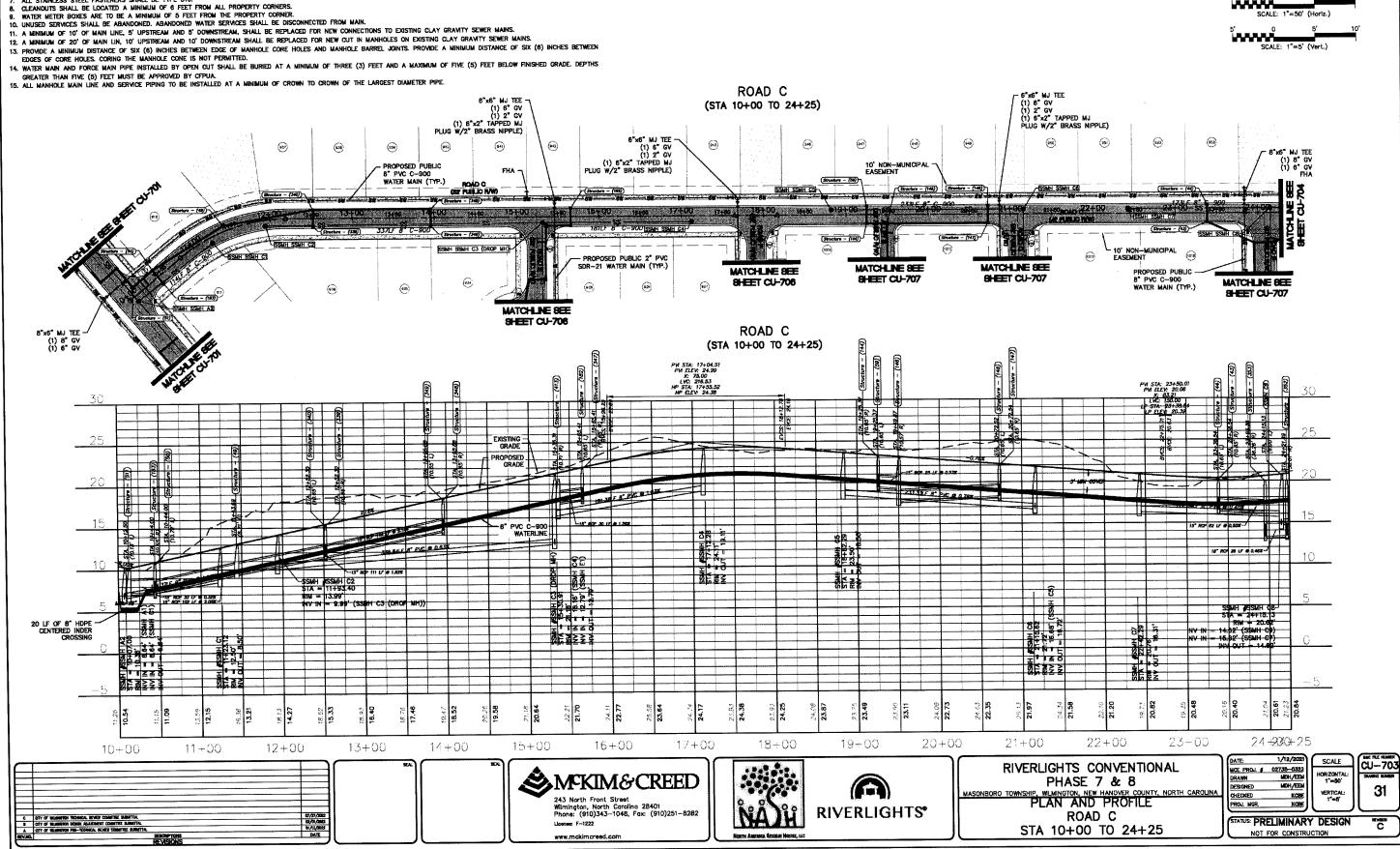


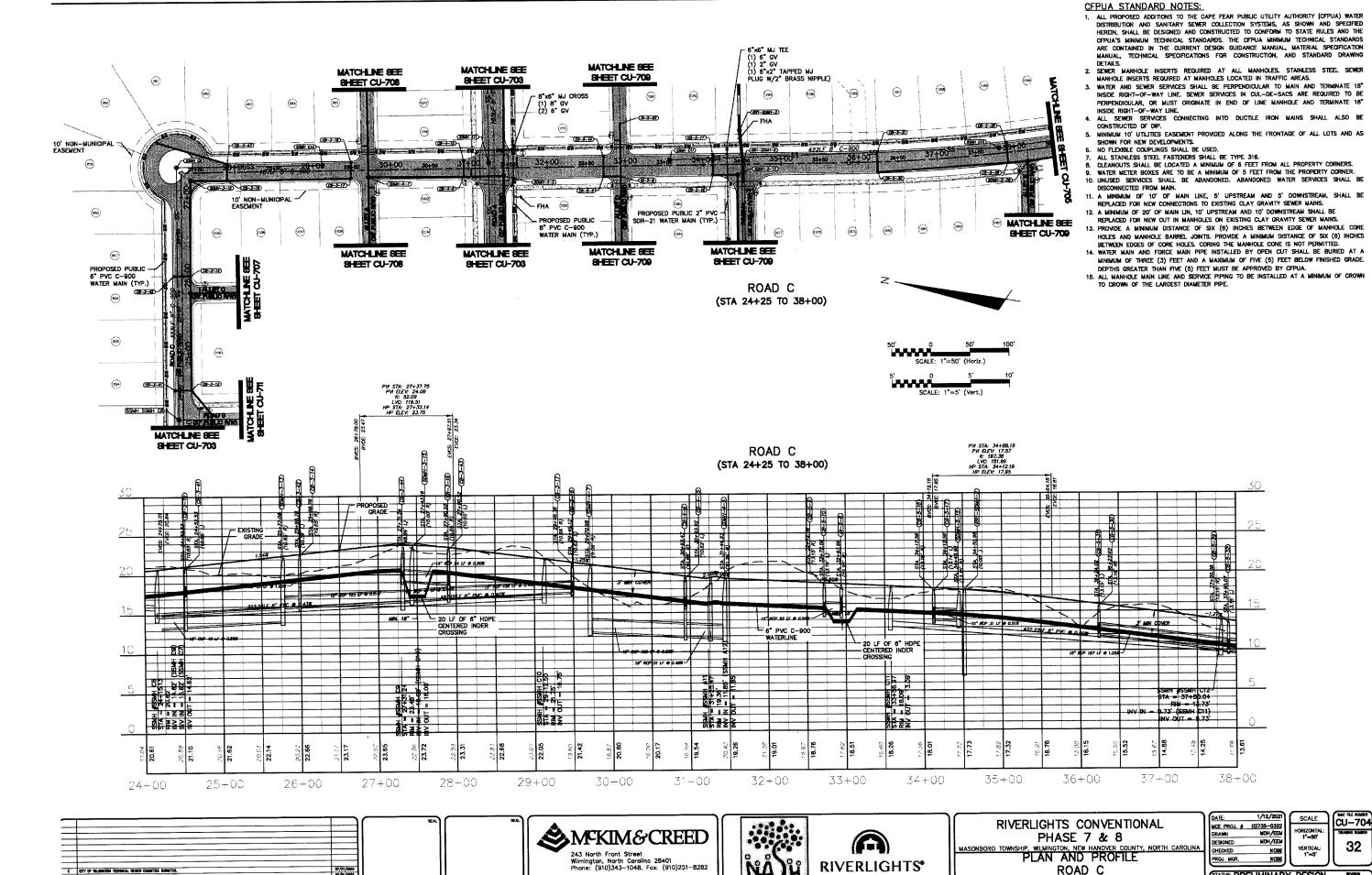
CFPUA STANDARD NOTES:

- 1. ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARD ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.

 1. SEWER MANHOLE INSERTS REQUIRED AT ALL MANHOLES, STAINLESS STEEL SEWER MANHOLE INSERTS REQUIRED AT MANHOLE INCATED IN TRAFFIC AREAS.
- 3. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE IS INSIDE 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 IS INSIDE RIGHT-OF-WAY LINE.

 4. ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
 ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.





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REVISIONS

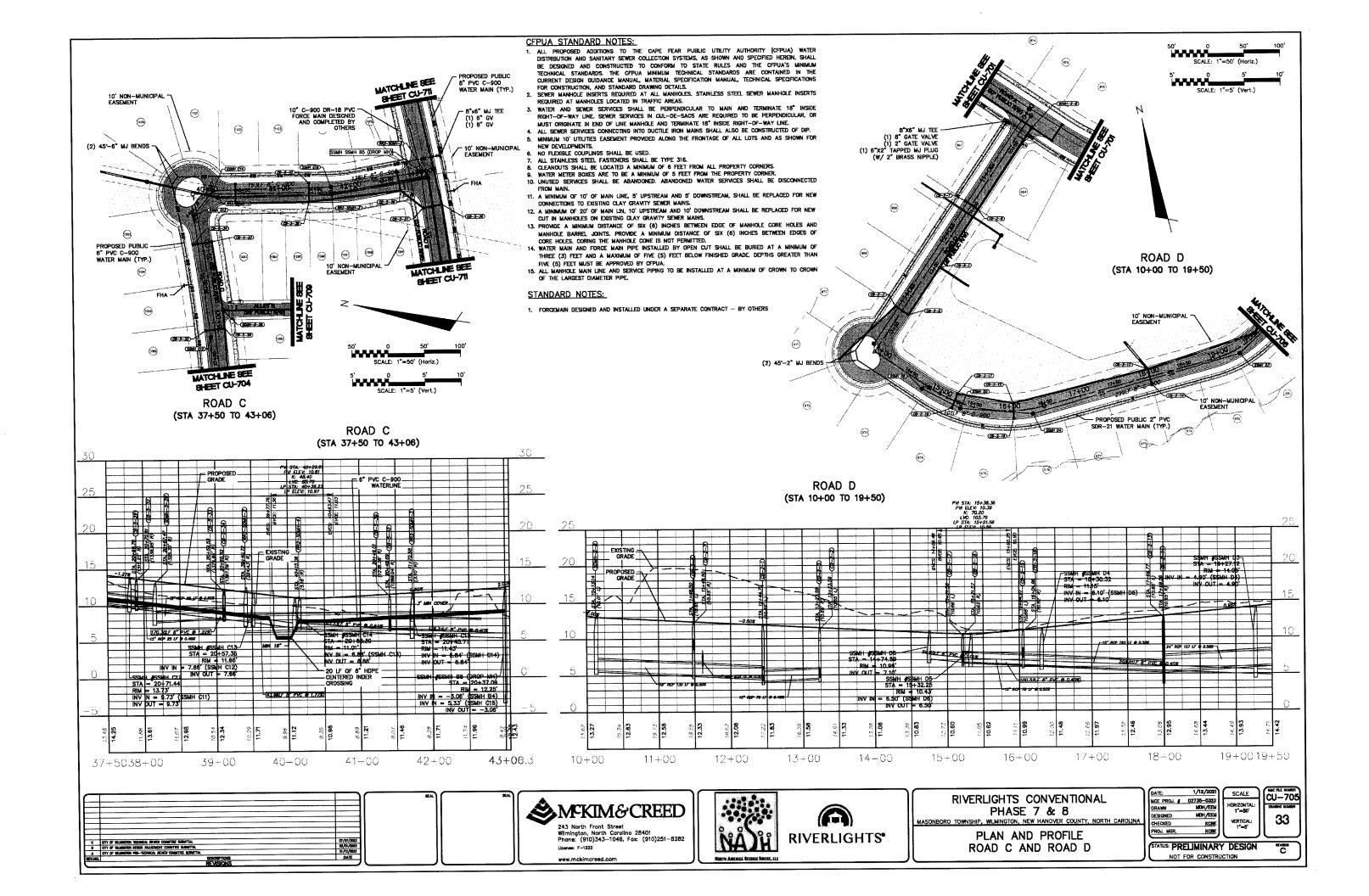
32

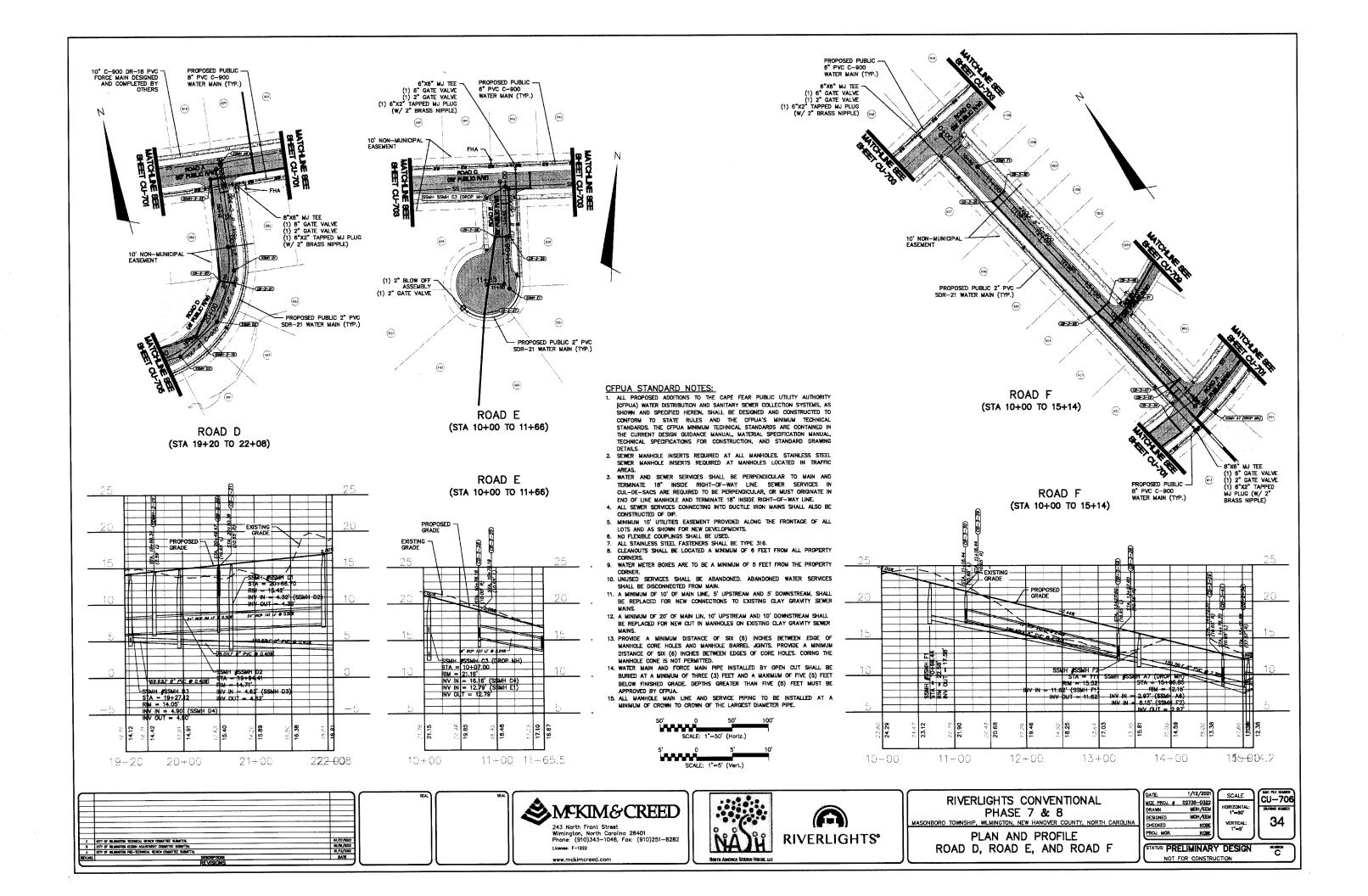
REVENON C

STATUS: PRELIMINARY DESIGN

NOT FOR CONSTRUCTION

STA 24+25 TO 38+00





CFPUA STANDARD NOTES:

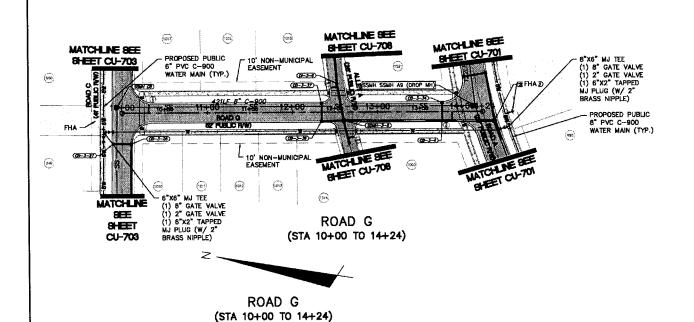
- I. ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (OFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPU'S MINIMUM TECHNICAL STANDARDS. THE CFPU'A MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATION FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.

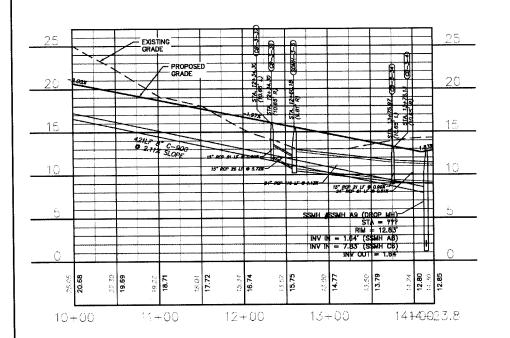
 2. SEWER MANHOLE INSERTS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER MANHOLE INSERTS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.

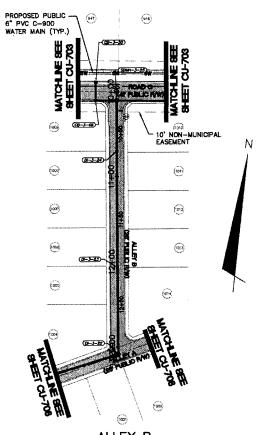
 3. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE RIGHT—OF—WAY LINE SEWER SERVICES IN CUL—DE—SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN
- END OF LINE MANHOLE AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE.
 ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
 CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.
 WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
- 11. A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM, SHALL BE REPLACED FROM MAIN.

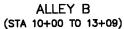
 11. A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM, SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.
- 12. A MINIMUM OF 20' OF MAIN LIN, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN MANHOLES ON EXISTING CLAY GRAVITY SEWER MAINS.
- 13. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING
- 14. WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE. DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY OFPUA.

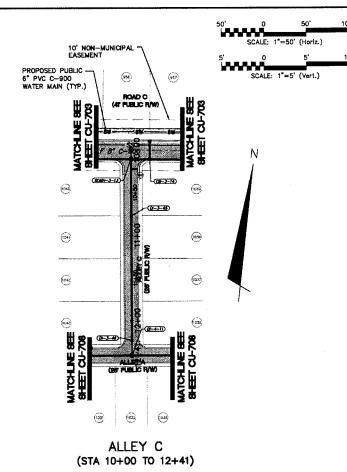
 15. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN OF THE LARGEST DIAMETER PIPE.

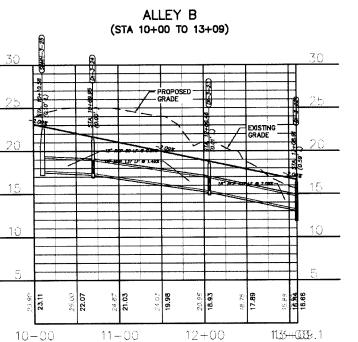


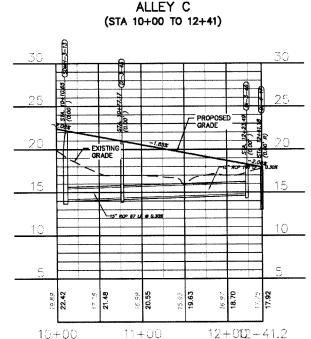


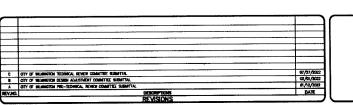


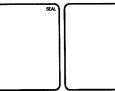














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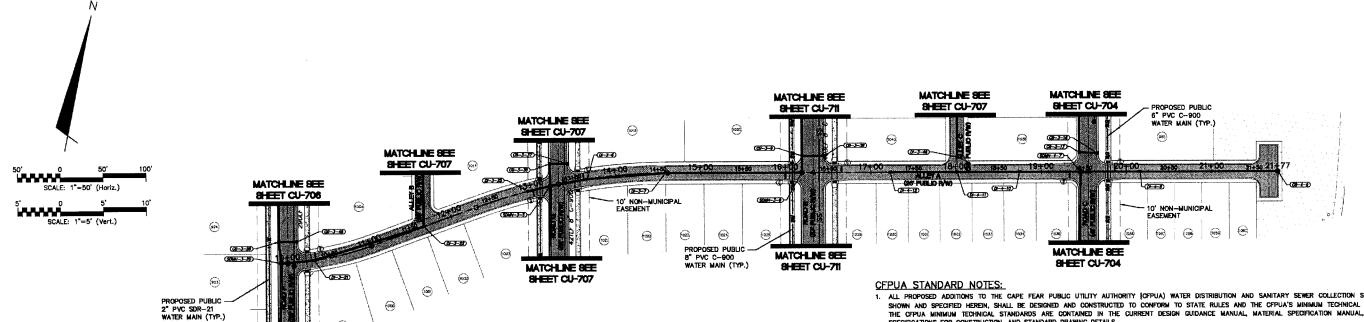
RIVERLIGHTS CONVENTIONAL PHASE 7 & 8 WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

PLAN AND PROFILE ROAD G, ALLEY B, AND ALLEY C

DATE:	1/12/2021
MCE PROJ. #	02735-0322
DRAWN	MOH/EEM
DESIGNED	MDH/EEM
CHECKED	KCBE
PROJ. MGR.	KCBE

SCALE CU-707 35

STATUS: PRELIMINARY DESIGN NOT FOR CONSTRUCTION



STANDARD NOTES:

∞

MATCHLINE BEE

SHEET CU-708

1. FORCEMAIN DESIGNED AND INSTALLED UNDER A SEPARATE CONTRACT -- BY OTHERS.

ALLEY A

(STA 10+00 TO 21+77)

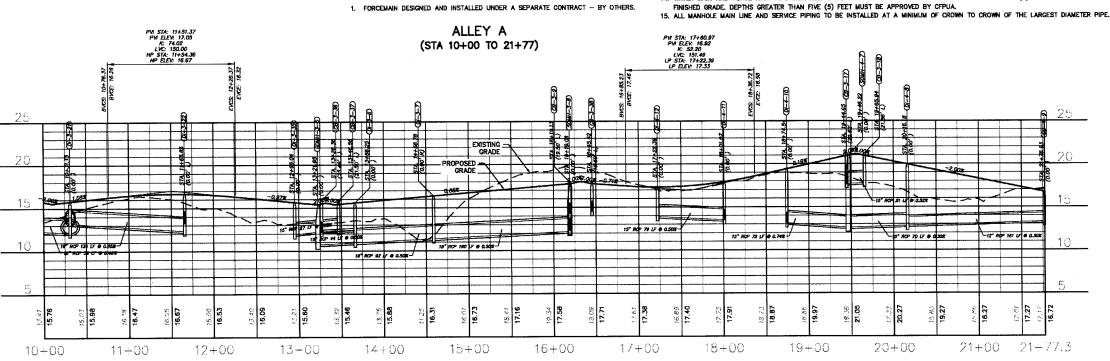
- 1. ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWNO DETAILS.

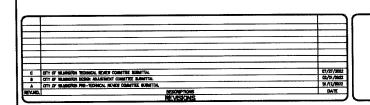
 2. SEMER MANHOLE INSERTS REQUIRED AT ALL MANHOLES STAINLESS STEEL SEWER MANHOLE INSERTS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- 3. WATER AND SEMER SCRUCES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE.

 4. ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- 5. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- 6. NO FLEXIBLE COUPLINGS SHALL BE USED.
 7. ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
- 8. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.

 9. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

 10. UNUSED SERVICES SHALL BE ABANDONED, ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
- 11. A MINIMUM OF 10' OF MAIN LINE, B' UPSTREAM AND 5' DOWNSTREAM, SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.
- 12. A MINIMUM OF 20' OF MAIN LIN, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN MANHOLES ON EXISTING CLAY GRAVITY SEWER 13. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM DISTANCE OF
- SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT PERMITTED. 14. WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW







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RIVERLIGHTS CONVENTIONAL PHASE 7 & 8 PLAN AND PROFILE ALLEY A

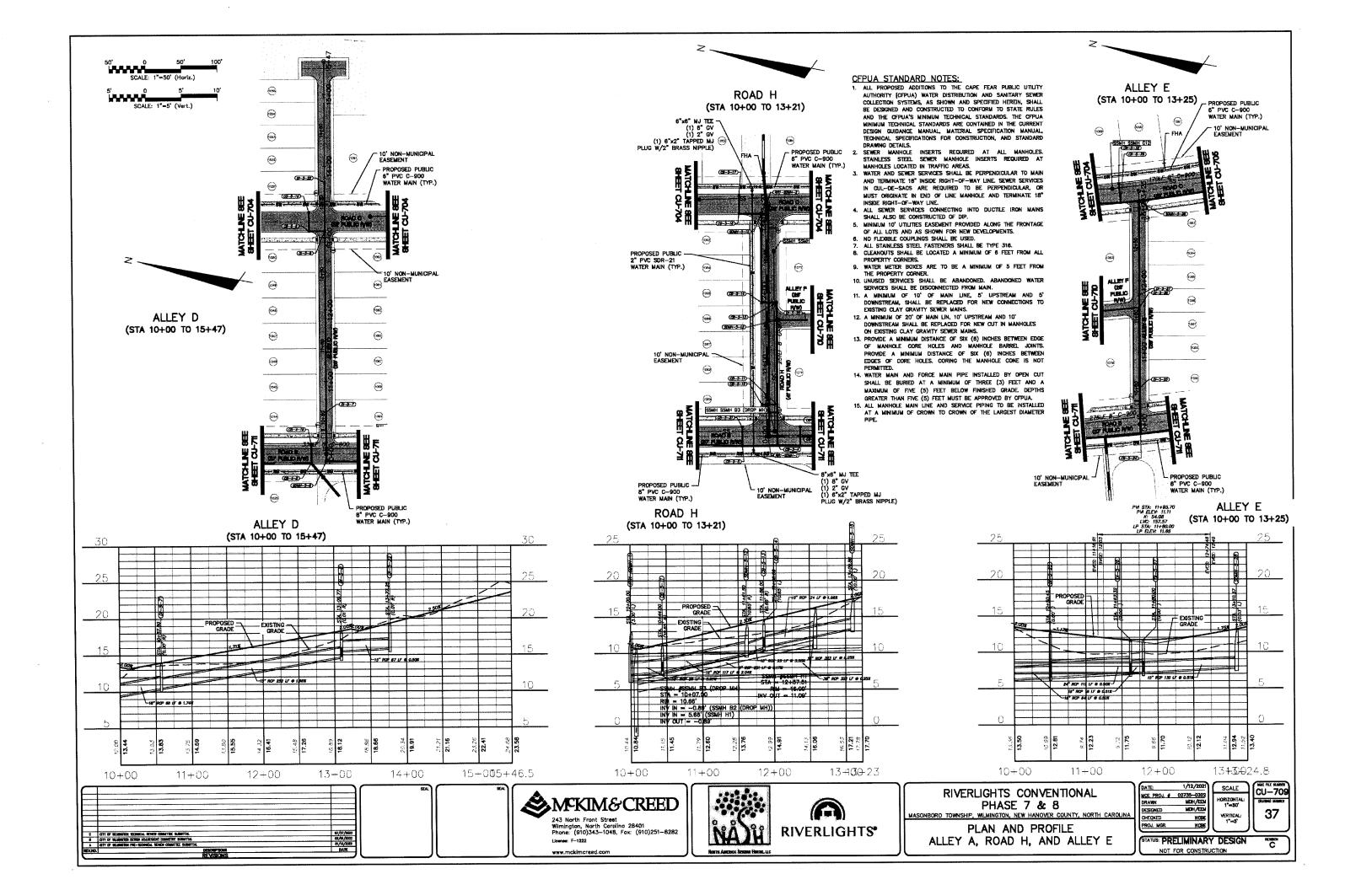
STA 10+00 TO 21+77

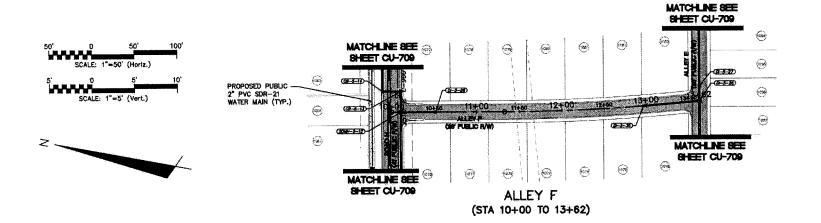
١	DRAWN	MOH/EEM
1	DESIGNED	MDH/EEM
4	CHECKED	KCBE
1	PROJ. MGR.	KOBE

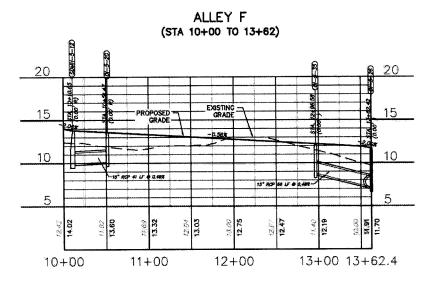
SCALE CU-708 ORIZONTA 1"=50" 36

C

NTUS: PRELIMINARY DESIGN NOT FOR CONSTRUCTION







REVISIONS





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

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RIVERLIGHTS CONVENTIONAL PHASE 7 & 8

MASONBORD TOWNSHIP, MILMINGTON, NEW HANDVER COUNTY, NORTH CAROLINA PLAN AND PROFILE

CFPUA STANDARD NOTES:

 ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA)
WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.

CONSTRUCTION, AND STANDARD DRAWING DETAILS.

2. SEWER MANHOLE INSERTS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER MANHOLE INSERTS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.

3. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE 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 18" INSIDE RIGHT-OF-WAY LINE.

ALL SEVER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.

MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
 NO FLEXIBLE COUPLINGS SHALL BE USED.

7. ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316. 8. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY

9, WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY

10. UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE

11. A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM, SHALL BE

12. A MINIMUM DIE 20 CF MAIN LIN, 10 OFSTREAM AND LID DOWNSTREAM STRUCK REPLACED FOR NEW CUT IN MANHOLES ON EDISTING CLAY GRAVITY SEWER MAINS.

13. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS, PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT

PERMITTED.

14. WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT

A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE. DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY OFPUA.

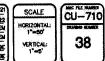
15. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.

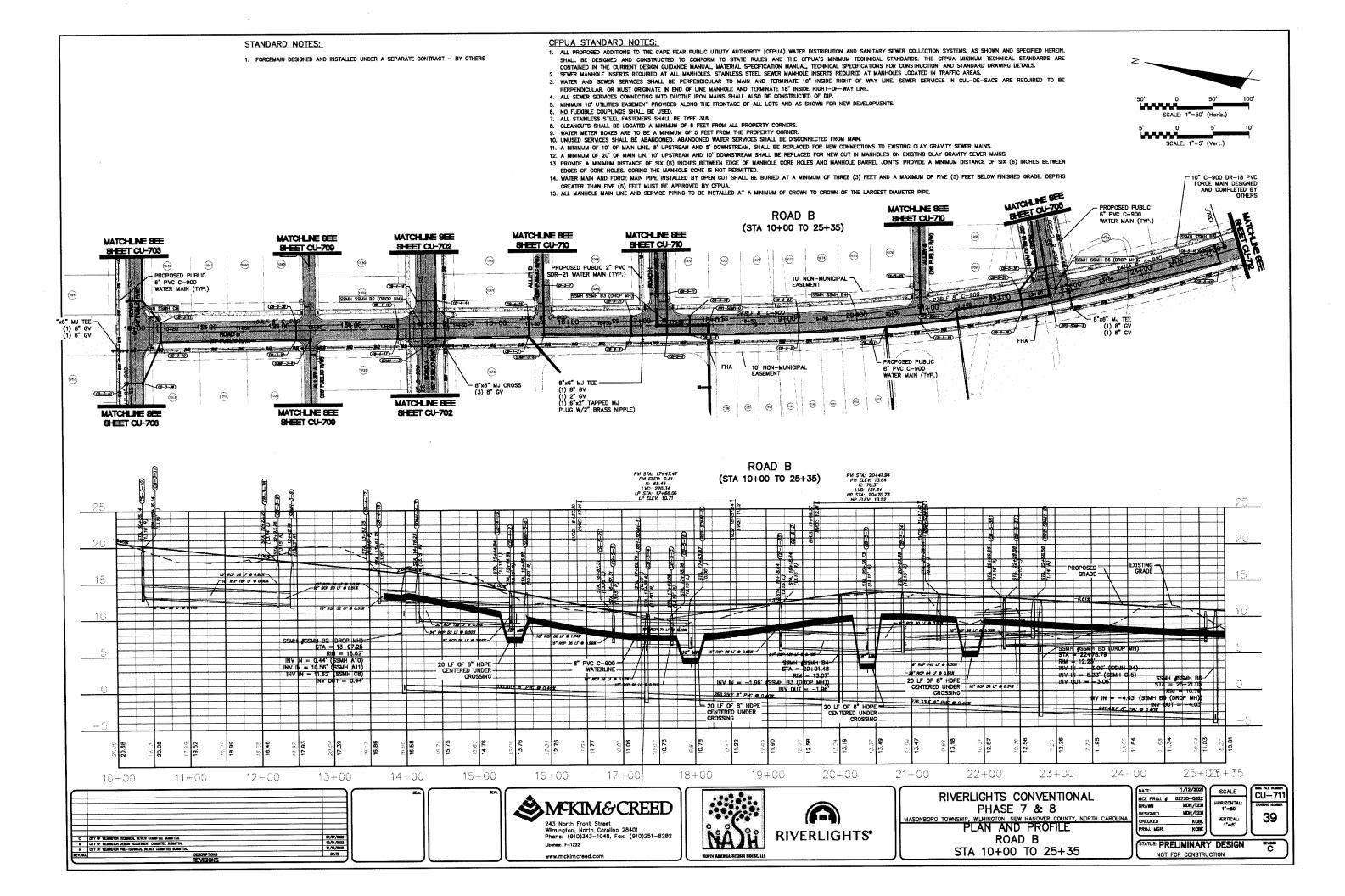
12. A MINIMUM OF 20' OF MAIN LIN, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE

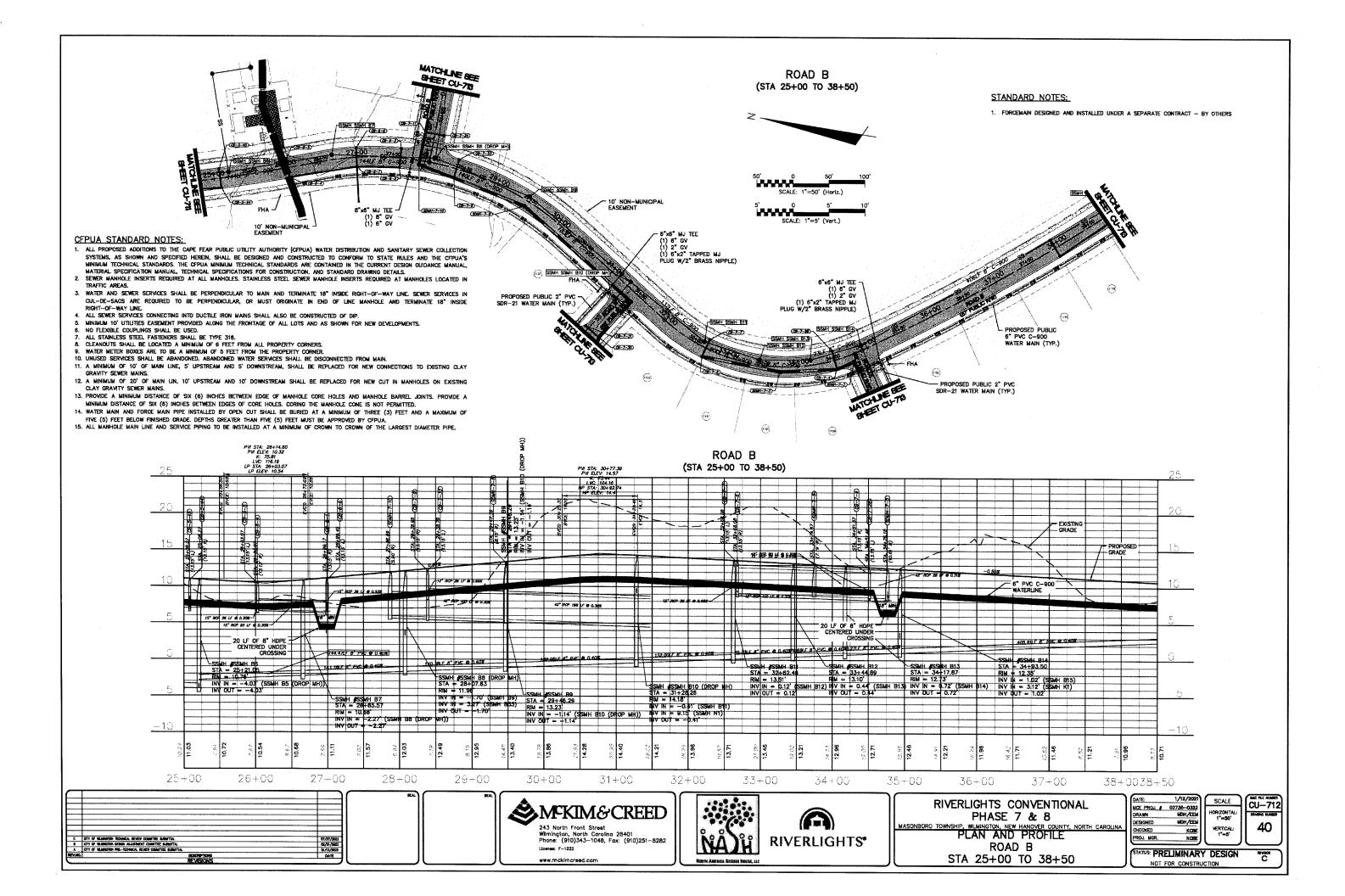
ALLEY F STA 10+00 TO 13+62

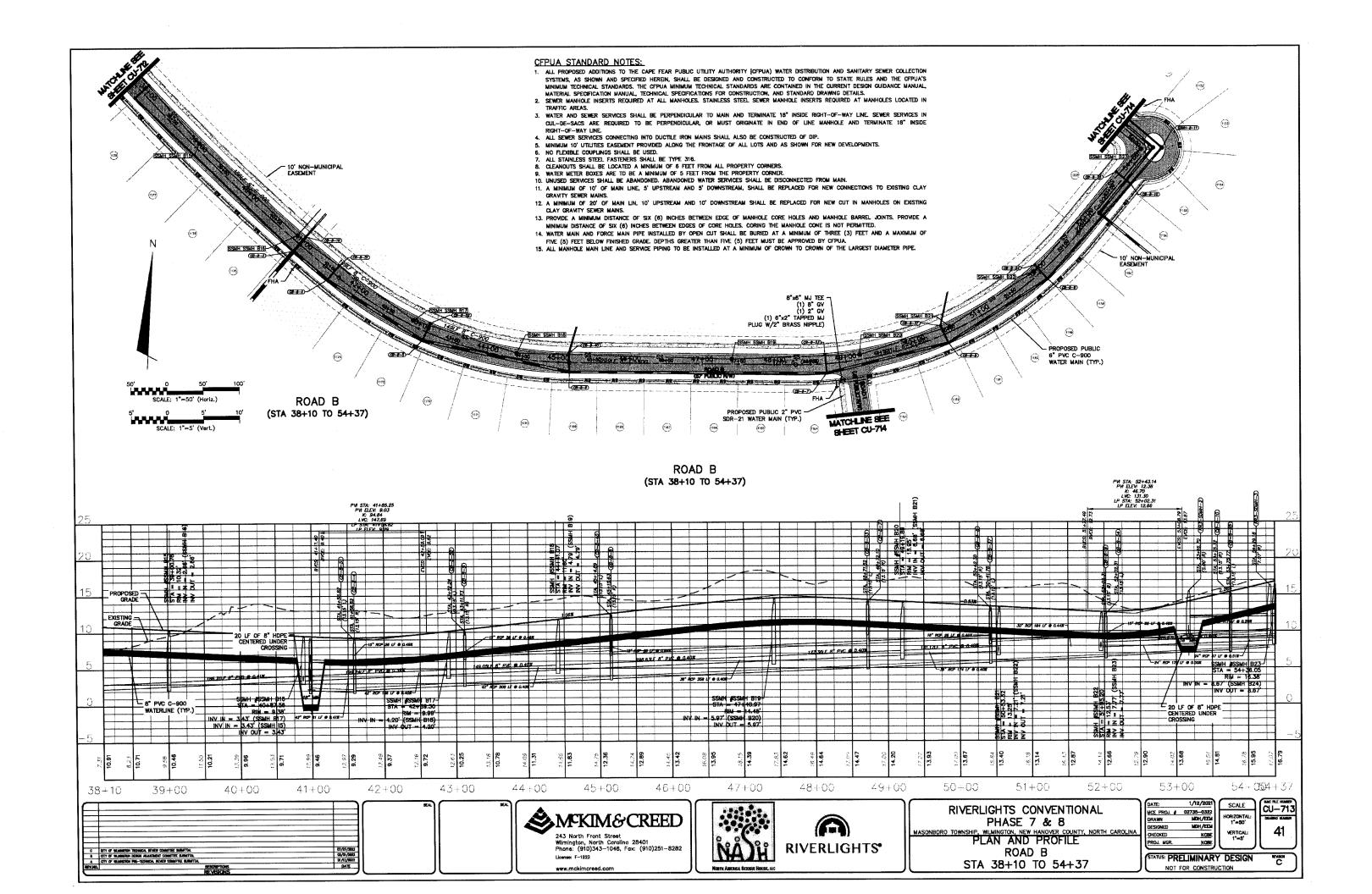
DATE:	1/12/2021
MCE PRO	J. # 02735-0322
DRAWN	MDH/EEM
DESIGNED	MOH/EEM
CHECKED	KCDE
PROJ. MC	XR. KOBE

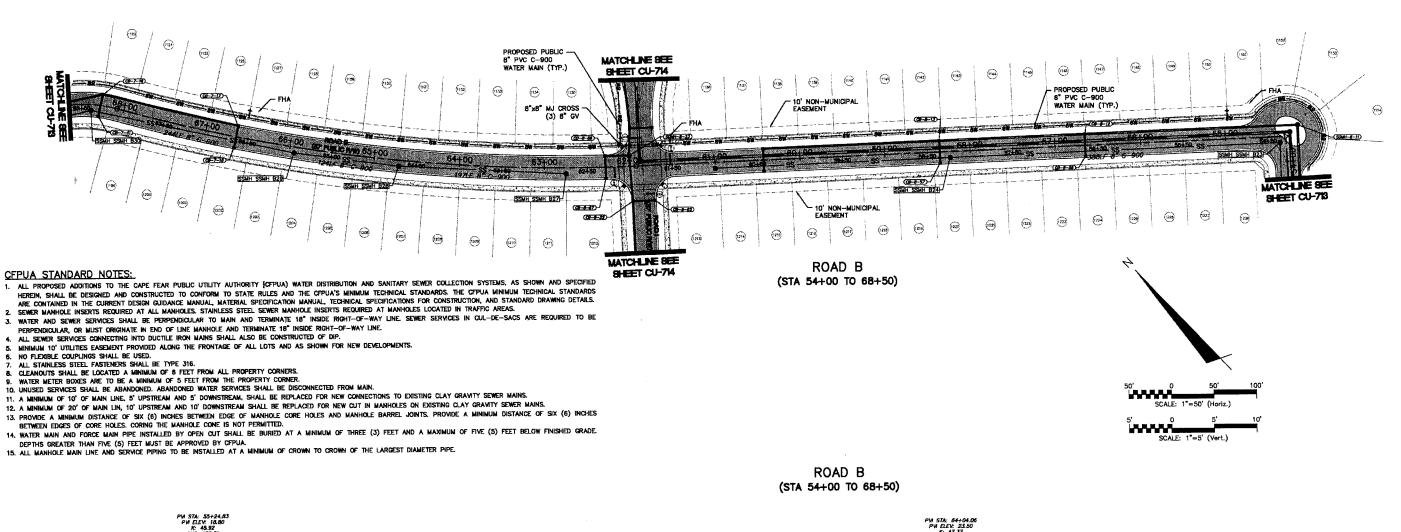


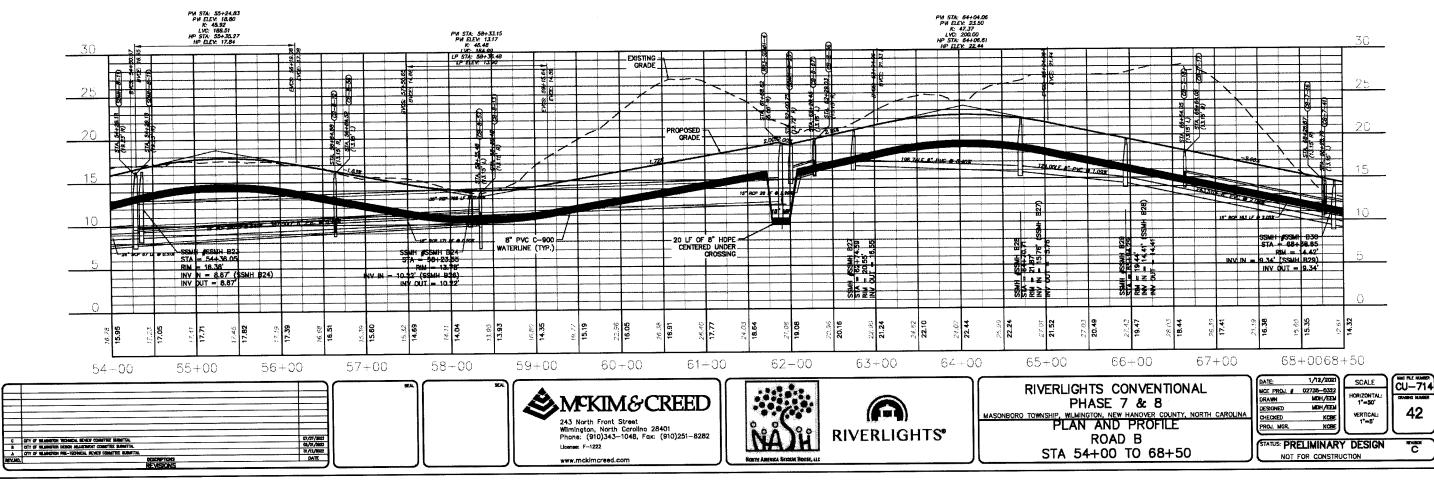
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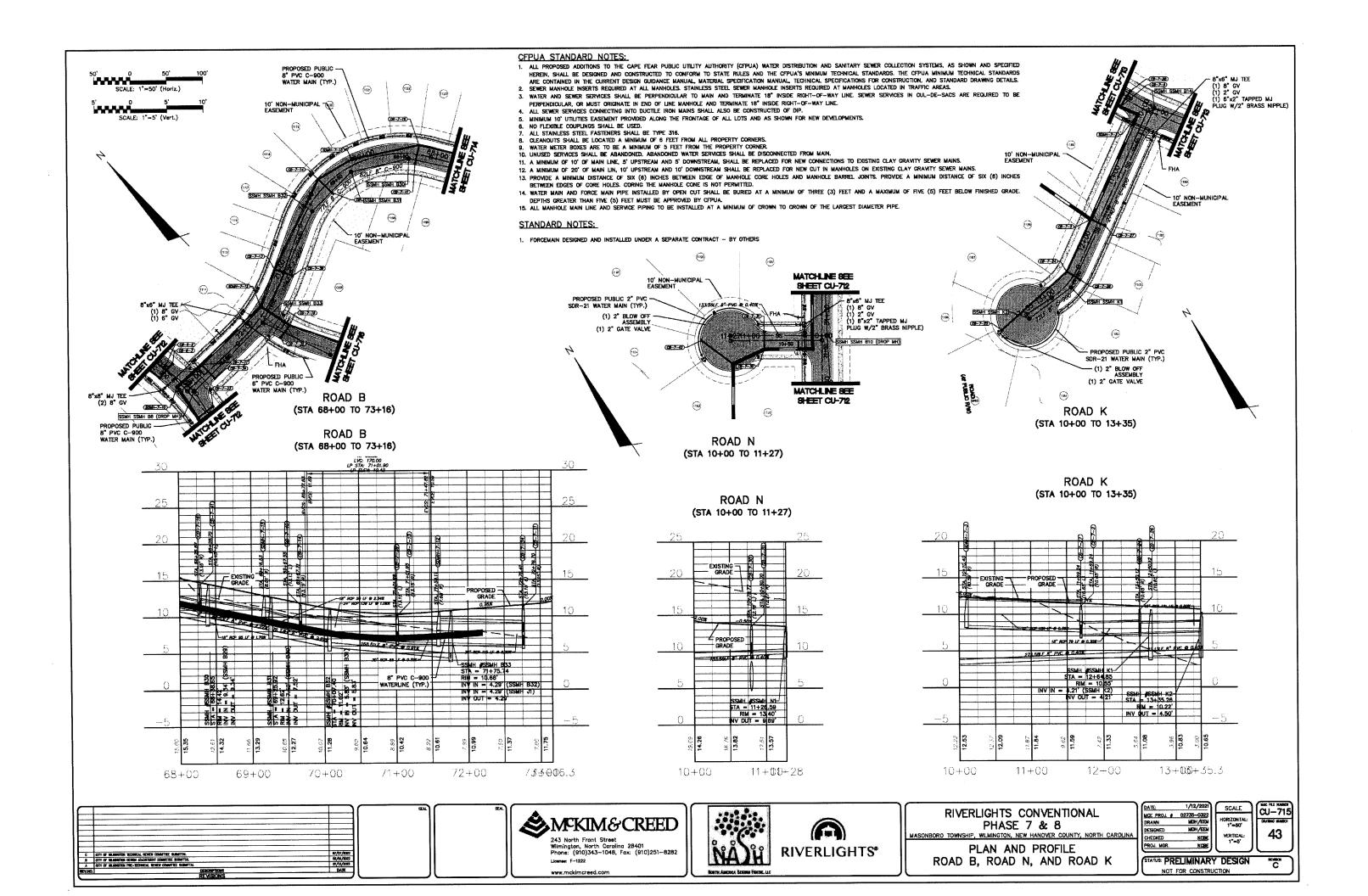


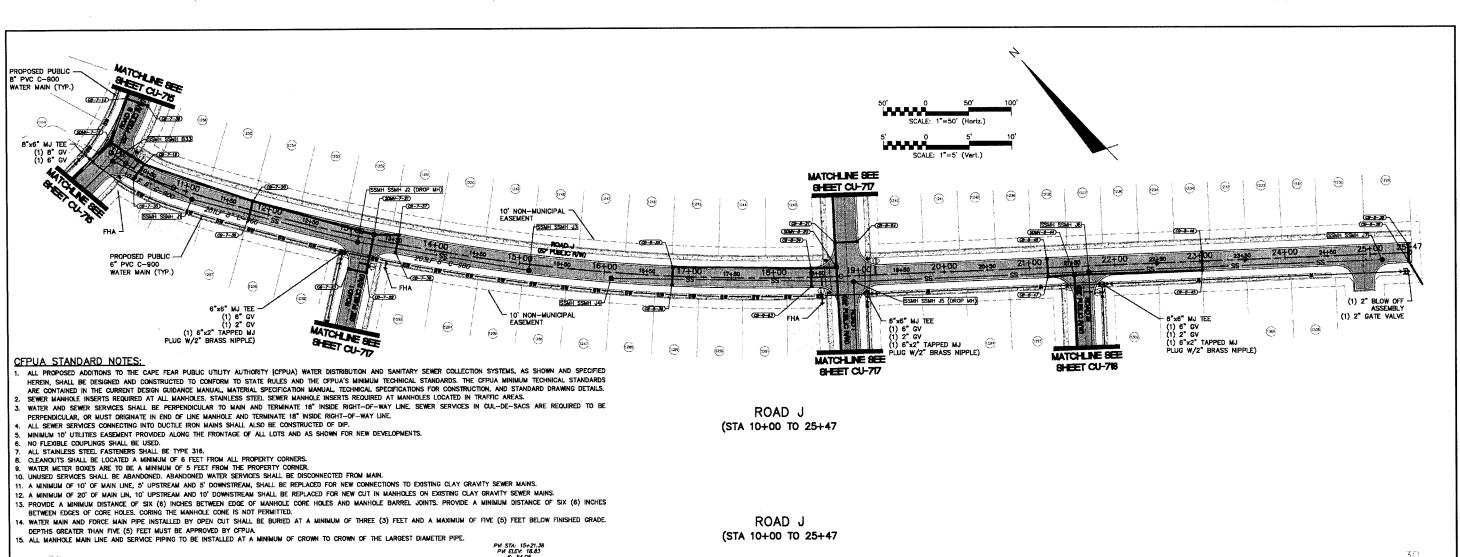


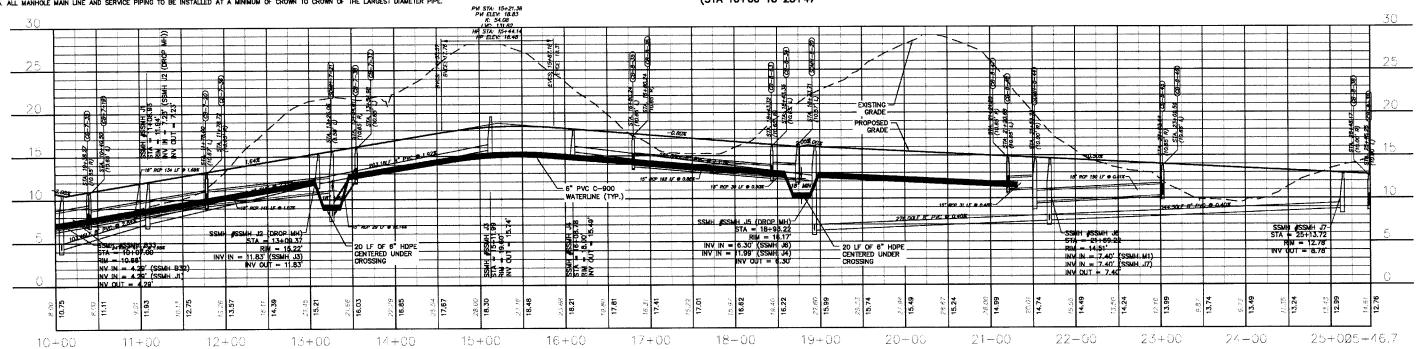


















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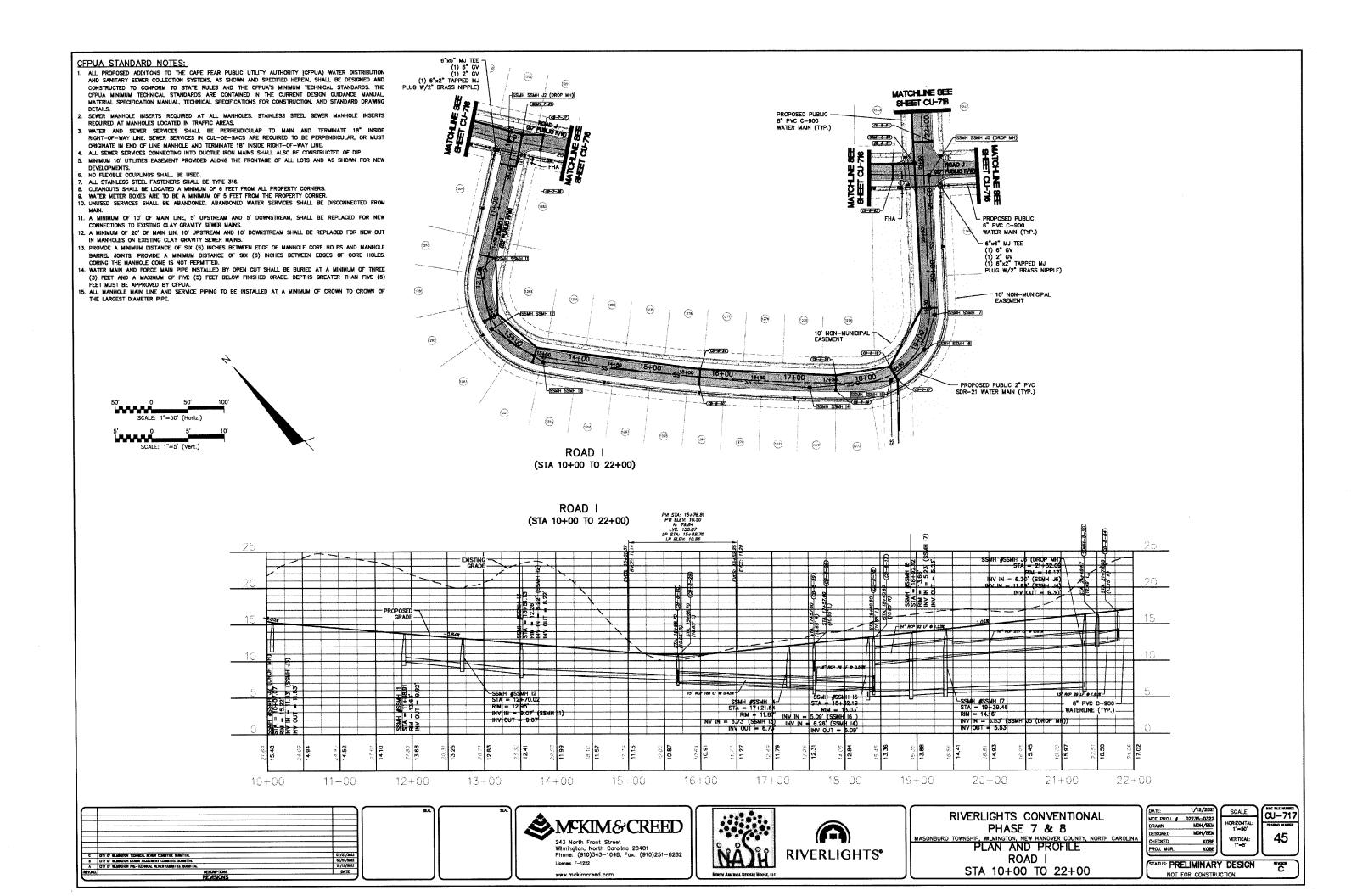


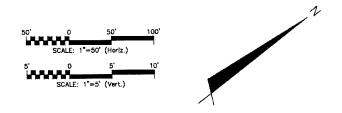
RIVERLIGHTS CONVENTIONAL
PHASE 7 & 8
NBORD TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
PLAN AND PROFILE
ROAD J
STA 10+00 TO 25+47

DATE:	1/12/2021	SCALE	NAC THE HUMBER
MCE PROJ. #	02735-0322 MDH/EEM	HORIZONTAL:	ORANNG HAMBER
DESIGNED	MOH/EEM	1"=50' VERTICAL:	44
PROJ. MGR.	KOBE	1"=5"	

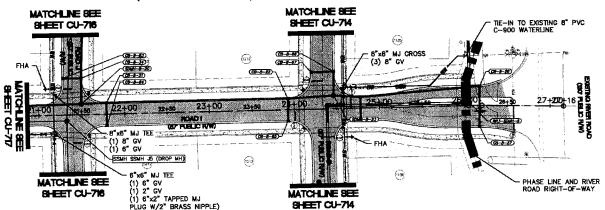
STATUS: PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

REVISION C

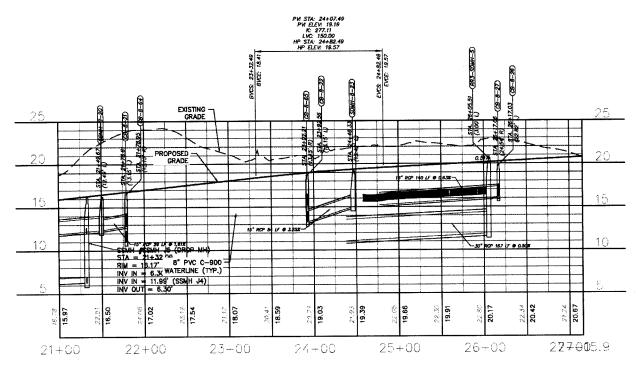


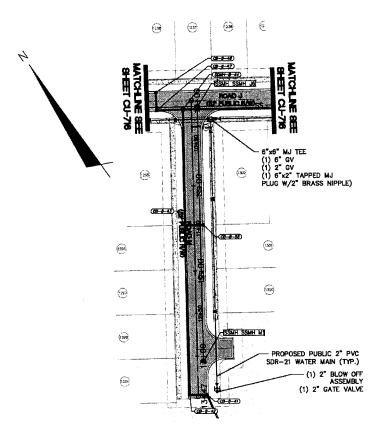


ROAD I (STA 21+00 TO 27+15)



ROAD I (STA 21+00 TO 27+15)





ROAD M (STA 10+00 TO 13+47)

CFPUA STANDARD NOTES:

- ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CPPUA)
 WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND
 SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE SPECIFIED HERICAL, STARL BE DESIGNED AND CONTROLLED TO STAND CARD. THE CPPUA'S MINIMUM TECHNICAL STANDARDS. THE CPPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL MATERIAL SPECIFICATION FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
- STANDARD DRAWING DETAILS.

 2. SEWER MANHOLE INSERTS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER MANHOLE INSERTS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.

 3. WATER AND SEWER SERVICES SHALL BE PERFENDICULAR TO MAIN AND TERMINATE 18" INSIDE RIGHT-OF-MAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERFENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE 18"
- INSIDE RIGHT-OF-WAY LINE.

 4. ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- 5. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS
- SHOWN FOR NEW DEVELOPMENTS.

 8. NO FLEXIBLE COUPLINGS SHALL BE USED.

 7. ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
- 8. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.

 9. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

 10. UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE

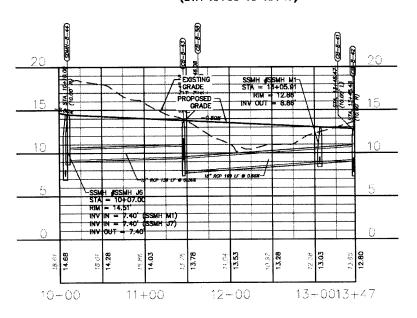
- 10. UNUSED SERVICES SHALL BE ABANDUMED. ABANDUMED TIGHTS SHALL BE DISCONNECTED FROM MAIN.

 11. A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM, SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.

 12. A MINIMUM OF 20' OF MAIN LIN, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN MANHOLES ON EXISTING CLAY GRAVITY SEWER MAINS. 13. PROVIDE A MINIMUM DISTANCE OF SIX (8) INCHES BETWEEN EDGE OF MANHOLE CORE
- HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT PERMITTED. 14. WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A
- MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE.
- DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY CPPUA.

 15. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

ROAD M (STA 10+00 TO 13+47)









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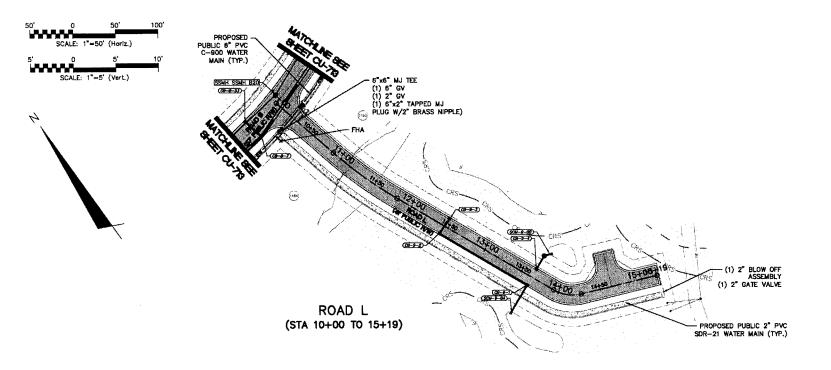
RIVERLIGHTS CONVENTIONAL PHASE 7 & 8

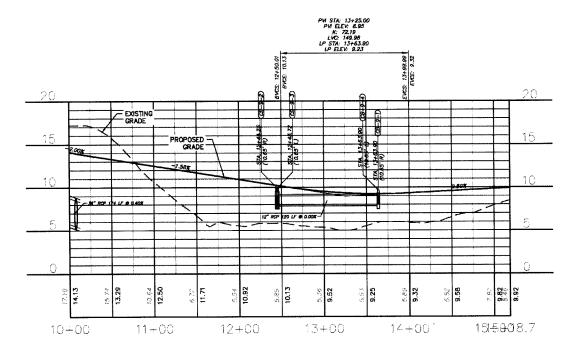
PLAN AND PROFILE ROAD I AND ROAD M

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CU-718 ONTAL: =50' CRAMING MUMBER 46

STATUS: PRELIMINARY DESIGN NOT FOR CONSTRUCTION











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- I. ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA)
 WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND
 SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE
 RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM
 TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL,
 MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
- SEWER MANHOLE INSERTS REQUIRED AT ALL MANHOLES, STAINLESS STEEL SEWER MANHOLE INSERTS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- 3. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE 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 18" INSIDE RIGHT-OF-WAY LINE.
- 4. ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- 5. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
 6. NO FLEXIBLE COUPLINGS SHALL BE USED.

CFPUA STANDARD NOTES:

- NO FLEXIBLE COUPLINGS SHALL BE CUST.
 ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
 CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.
 WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
 UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
- 11. A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM, SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.
- 12. A MINIMUM OF 20' OF MAIN LIN, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN MANHOLES ON EXISTING CLAY GRAVITY SEWER MAINS.
- 13. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES
- BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT PERMITTED.

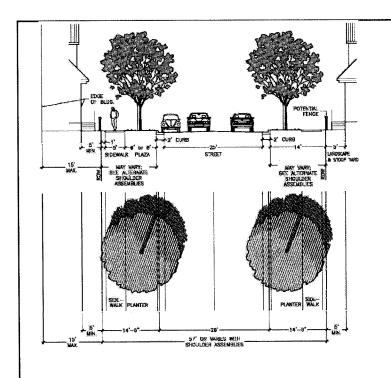
 14. WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE. DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY CFPUA.
- 15. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

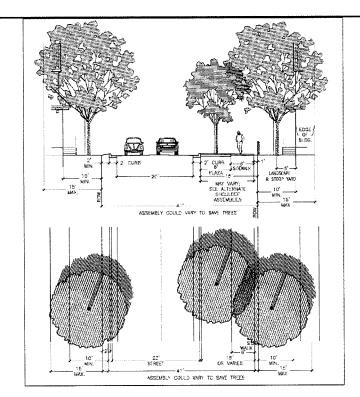
RIVERLIGHTS CONVENTIONAL PHASE 7 & 8 MASONBORO TOWNSHI

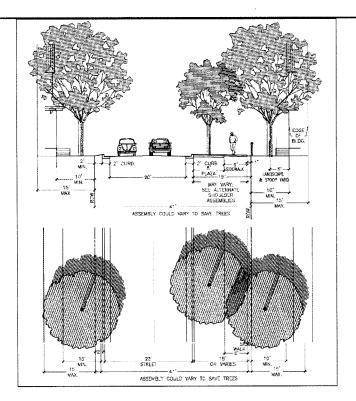
HIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
PLAN AND PROFILE ROAD L STA 10+00 TO 15+19

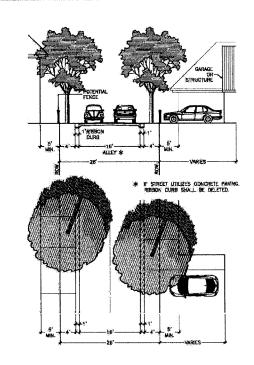
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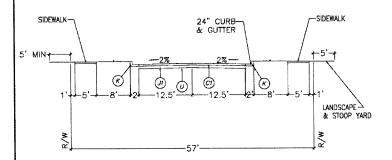
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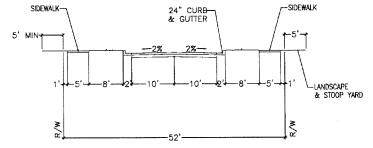


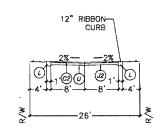












57' RIGHT-OF-WAY (PUBLIC)

52	HIGH	1-OH	-WAY
	(PUI	BLIC)	

41' RIGHT-OF-WAY

26' RIGHT-OF-WAY (PUBLIC)

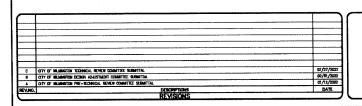
Right-of-Way Width	57 feet				
Asphalt Width	25 feet				
Design Speed	25 MPH				
Traffic Lanes	2 iones				
Parking Lanes	One Side @ 8 feet, mark				
Curb Radius	25 feet				
Walkway Type	5 foot sidewalk				
Curb Type	Curb A				
Landscape Type	Irregular spacing-50'ac max				

Right-of-Way Width	52 feet
Asphalt Width	20 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	No Parking
Curb Radius	25 feet
Walkway Type	5 foot sidewalk
Curb Type	Curb A
Landscape Type	Irregular spacing-50'oc max

Right-of-Way Width	41 feet
Asphalt Width	20 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	No Parking
Curb Radius	10 feet
Walkway Type	6 foot sidewalk
Curb Type	Curb A
Landscape Type	Irregular Tree Spacing

Right-of-Way Width	26 feet			
Asphalt Width	16 feet			
Design Speed	25 MPH			
Traffic Lanes	2 lanes			
Parking Lanes	No Parking			
Curb Radius	5 feet			
Walkway Type	N/A			
Curb Type	12" Ribbon Curb			
Landscape Type	Irregular Tree Spacing			

Г	PAVEMENT SCHEDULE									
(G	3" ASPHALT CONCRETE SURFACE COARSE, TYPE S9.58 AT AN AVERAGE RATE OF 336 LBS. PER SQ. YD.	®	24.0° VERTICAL CURB & GUTTER (TYPE A)							
(02	2" ASPHALT CONCRETE SURFACE COARSE, TYPE SF9.5A AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	(12.0° RIBBON CURB							
(3)	B.O" COMPACTED ABC STONE BASE COURSE	(0)	COMPACTED SUBGRADE							
(32	6.0" COMPACTED ABC STONE BASE COURSE	*SE FOR	EE SHEET CS-501 FOR ADDITIONAL DETAILS AND SECTIONS OF CURBING, PAVEMENT, STONE, AND SUBGRADE.							







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RIVERLIGHTS CONVENTIONAL
PHASE 7 & 8
RO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

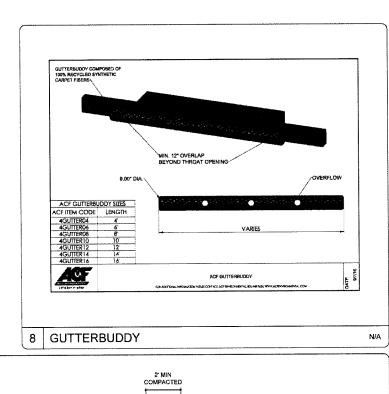
TYPICAL STREET SECTIONS

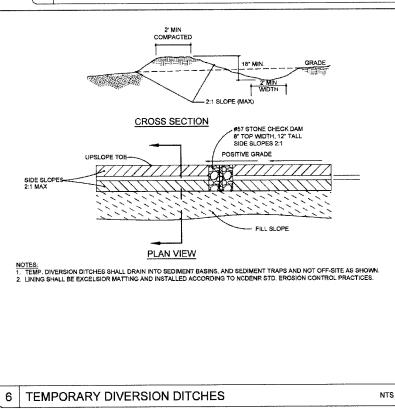
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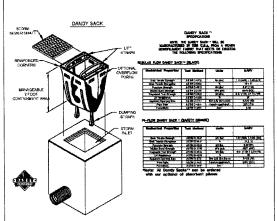
SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

WAS TAL MARKER
CT.—301
DRAWNO MARKER
48

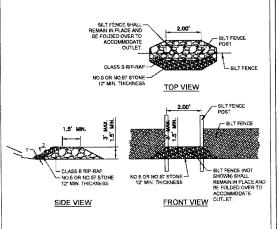
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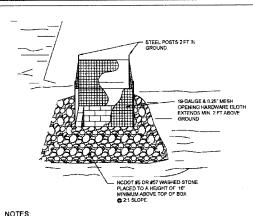




5 DANDY SACK INTLET PROTECTION NTS



SILT FENCE OUTLET



- UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET. THE TOP ELEVATION OF THE STRUCTURE MUST BE AT LEAST 12-MCHES LOWER THAN THE SURROUNDING GROUND ELEVATION DOWNSHOOF FROM THE MILET TO ENSURE HAT STORM FLOWS GET INTO THE INTENDED INLET. UNLESS OTHER SEDIMENT-CONITROL DEVICES ARE INSTALLED TO PREVENT OFF-SITE SEDIMENT-CONITROL DEVICES ARE INSTALLED TO PREVENT OFF-SITE SEDIMENT-GROUNDED.

3 HARDWARE CLOTH AND GRAVEL INLET PROTECTION

STAY AND LINE WIRES MIN. \$14 GUAGE

<u>NOTES:</u> 1. WIRE FENCE (IF USED) SHALL BE MINUMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF

- 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 8461 AND ALSO SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND CARDINATION ACCORDING TO SECTION 4500.
- 3. SEE THE NC EROSION CONTROL MANUAL FOR SPECIFICATIONS INSTALLING SEDIMENT FENCE USING THE SLICING METHOD MACHINERY.

2 TEMPORARY SILT FENCING

1 CONSTRUCTION ENTRANCE

SCALE CE-501

NTS

NTS

1/12/2021 MCE PROJ. # 02735-0322 DRAWN MDH/EEM MDH/EEM 49

SEDIMENT AND EROSION CONTROL **DETAILS**

TEMPORARY SEDIMENT BASIN WITH RIP-RAP APRON C CITY OF WELMINGTON TECHNICAL REVIEW COMMITTEE SUBMITIAL
B CITY OF WELMINGTON DESIGN ADJUSTMENT COMMITTEE SUBMITIAL
A CITY OF WELMINGTON PRE-RESINGAL REVIEW COMMITTEE SUBMITIAL

SECTION B-B

SPILLWAY-W MIN 2/3 STREAM WIDTH

SECTION A-A

DITCH CHECK DAM

STONE FILLER-#57 STONE

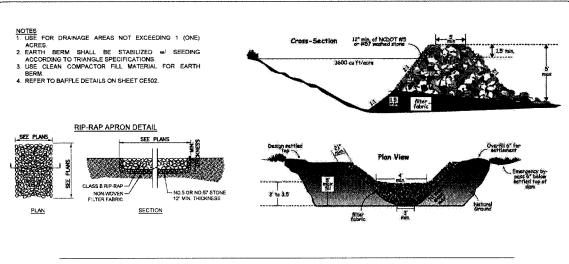


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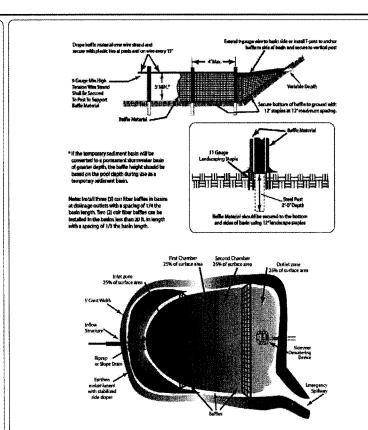
RIVERLIGHTS CONVENTIONAL PHASE 7 & 8

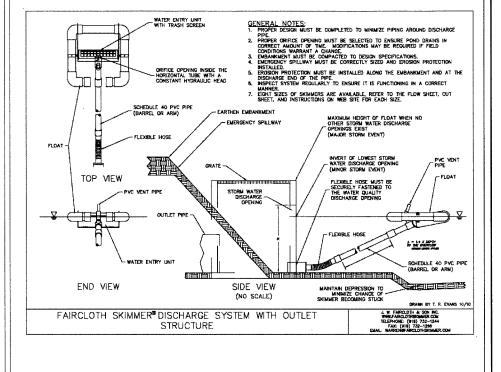


TEMPORARY SEDIMENT TRAP CALCULATION TABLE

Trap No.	Drainag e Area	Rational C Runoff Coeff.	l10 Intensity	Q10 Peak Flow	Required SA (435 x Q10)	Provided SA	Required Vol (3600cf/ac x DA)	Provided Vol	Storage Depth	Storage Vol Drained	Weir Width
	ac		in/hr	cfs	 sf	sf	¢f	çí	ft	cf	ft
TST-1	2.51	0.30	6,37	4.80	 2,086	5,316	9,036	12,207	3,50	9,036	8.0

- 1. Q10 Peak Flow were taken from Rational Method.
- 2. Required Surface Areas and Volumes were taken from NCDENR ESC Manual.
- 3. Emergency Weir Width taken from Skimmer Basin Criteria Section of NCDENR ESC Manual Table.





3 BAFFLE COIR DETAILS

2 FAIRCLOTH SKIMMER

5 BAFFLE COIR DETAILS

SEEDBED PREPARATION:

CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
RIP THE ENTRANCE AREA TO 6 INCHES DEPTH.
RIP THE ENTRANCE AREA TO 6 INCHES DEPTH.
REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOWY).
CONTINUE TILLAGE UNITL, A WELL - PULL VERIZED, FIRM, REASONABLY UNIFORM SEEDED LIS PRARED 4 TO 6 INCHES DEEP.
SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
MULCH HIMPOINTELY AFTER SEEDING AND ANCHOR MULCH
INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE
OVER 00% DAMAGED, RESETABLISH FOLLOWING ORIGINAL LIME, FERTILIZER, AND SEEDING RATES.
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

PERMANENT SEEDING							
GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL				
BERNUDA, COMMON	1-2 L9S.	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				

IEMPURART .	TEMPURART 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						

TREE PROTECTION NOTES:

- NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS. [18-457(b)]
 PROTECTIVE FENCING IS TO BE PROPERLY MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. [18-458]
 LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION REQUIREMENTS AND METHODS. [18-457(d)]
 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]
 NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED. [18-458]
- [19-458] 6. 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.

NOTES: 1. BAFFLE MATERIAL SHALL BE MATERIALS SUCH AS 700 G/M. COIR EROSION BLANKET, COIR MESH, OR

- TREE PROTECTION FENCE FOLDED OVER TO REDUCE PORE SIZE

 THE BAFFLE MATERIAL NEEDS TO BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.

- TRENCHING AS FOR SILT FENCE.

 LOCATE THE EMERGENCY SPILLWAY ON NATURAL SOILS, AVOID PLACING IT THROUGH FILL MATERIAL WHEREVER POSSIBLE.

 ALL RUNOFF MUST DISCHARGE TO THE INLET SIDE OF THE BASIN. DISCHARGE RUNOFF INTO THE BASIN IN A MANNER THAT MINIMIZES EROSION.

 PHASE 2 SKIMMER CONNECTION WILL BE MADE AT THE INVERT OF THE BOTTOM OF THE STORMWATER STRUCTURE AS SHOWN IN SHEETS CN-501 THROUGH CN-507.



- . Q10 PEAK FLOW WERE TAKEN FROM RATIONAL METHOD.
- 1. 010 PEAK FLOW WERE TAKEN FROM RATIONAL METHOD.
 2. REQUIRED SURFACE AREAS AND VOLUMES WERE TAKEN FROM NCDENR ESC MANUAL.
 3. FAIRCLOTH SKIMMER SELECTION TABLE TAKEN FROM TABLE 4-2. NCDOT LEVEL III-A DESIGN OF SEDIMENT & EROSION CONTROL PLANS MANUAL.
 4. EMERGENCY WEIR WIDTH TAKEN FROM SKIMMER BASIN CRITERIA SECTION OF NCDENR ESC MANUAL TABLE AND/OR HYDRAULIC ROUTING OF THE BASIN TO ENSURE NON-BROSNEY EVICOITY.
 5. MINIMUM BARREL PIPE ON THE SKIMMER IS 4-INCHES. (ON A 1% SLOPE THE CAPACITY IS 100 GPM)

SKIMMER BASIN CALCULATION TABLE

Skimmer No.	Drainage Area	Rational C Runoff Coeff.	I _{Id} Intensity	Q ₁₀ Peak Flow	Required SA (325 x Q _{(b})	Provided SA	Required Vol (1800cf/ac x DA)	Provided Vol	Storage Vol. Drained	Weir Width
	ac		in/hr	cis	sf	.61	ct	cí	cí	ſŧ
TSB-1	17.24	0.40	7.90	54.48	23,697	52,743	31,031	186,504	31,031	20.0
TSB-2	8.39	0.40	7.90	26.51	8,616	11,561	15,100	34,075	15,100	10.0
TSB-3	1.26	0.40	7.90	3.99	1,297	32,289	2,274	105,799	2,274	15.0
T5B-4	10.51	0.40	7.90	33.20	14,443	22,337	18,913	50,513	18,913	10.0
TSB-5	3.35	0.40	7.90	10.59	3,443	37,830	6,034	133,561	6,034	15.0

OUTLET STRUCTURE 6" GATE VALVE STAKE - WITH MARKER AT SEDIMENT CLEANOUT DEPTH EARTH DAM BASIN SECTION

	FAIRCLOTH SKIMMER SIZE CALCULATION						out	LET PARAM	ETERS	
Skimmer No.	Dewatering Time	Skimmer Outflow	Skimmer Size	Orifice Diameter	Orifice Radius	Barrel Outflow	Barrel Pipe	Skimmer Basin Bottom Elevation	Orifice Elevation	Temp. Emergency Spillway Elev
TSB-1	(days)	cf/day 10.344	4.0	1R 2.8	1.4	gpm 53.7	4.0	5.0	5.5	9.6
TSB-2	3	5,033	2.5	2.2	1,1	26.1	4.0	5.0	5.5	9.0
TSB-3	3	758	1.5	1.0	0.5	3.9	4.0	5.0	5.5	9,0
TSB-4	3	6,304	2.5	2.4	1.2	32.7	4.0	6.0	6.5	9.0
TSB-5	3	2,011	2.0	1.5	0.7	10.4	4.0	5.0	5.5	9.0
TSB-6	3	9,268	3.0	2.8	1.4	48.1	4.0	5.0	5.5	9,0

NOTES

- 2. Required Surface Areas and Volumes were taken from NCDENR ESC Manual. Use (435xQ₁₀) when drainage area is greater than 10 acres. 3. Faircloth Skimmer Selection Table taken from Table 4-2. NCDOT Level III-A Design of Sediment & Erosion Control Plans Manual
- 4. Emergency Weir Width taken from Skimmer Basin Criteria Section of NCDENR ESC Manual Table and/or Hydraulic Routing of the basin to ensure non-crosive velocity.
- 5. Minimum Barrel Pipe on the Skimmer is 4-inches. (On a 1% slope the capacity is 100 GPM)

GENERAL NOTES

TEMPORARY SKIMMER SEDIMENT BASIN

RIVERLIGHTS CONVENTIONAL

MCE PROJ. # PHASE 7 & 8 CHECKED PROJ. MGR.

ondono jonnom, n	ICHII (O / O/)	MON INGIOTEN C	JOURNAL THOMAS	-
SEDIMENT	AND	EROSION	CONTROL	
	DE	TAILS		

1/12/2021	SCALE
02735-0322 MDH/EEM MDH/EEM	HORIZONT/ N/A
KCSE	VERTICAL N/A
KCBE	

50 REVESION C

NTS

CE-502

RATING M.M.

NTS

STATUS PRELIMINARY DESIGN NOT FOR CONSTRUCTION

DATE:

C CITY OF WILMINGTON TECHNICAL SEVERN COMMITTEE SUBMITTAL
B CITY OF WILMINGTON DESIGN ADJUSTMENT COMMITTEE SUBMITTAL
A CITY OF WILMINGTON PRE-ELOPRICAL SEVEN COMMITTEE SUBMITTAL



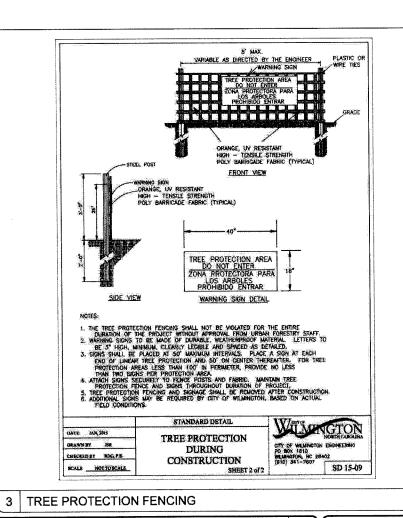


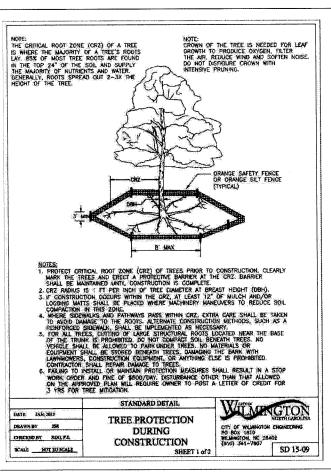
Wilmington, North Carolina 28401 Phone: (910)343-1048, Fax: (910)251-8282 License: F-1222

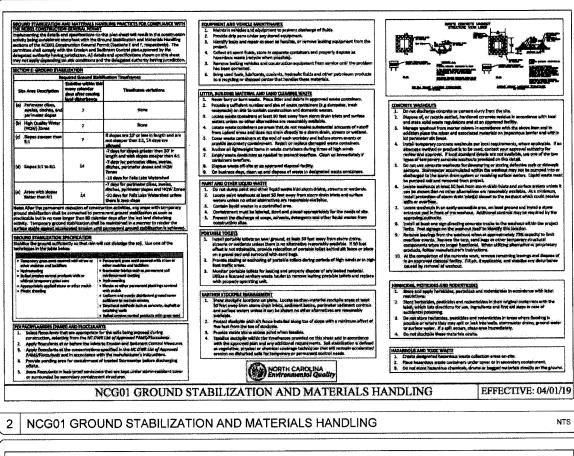
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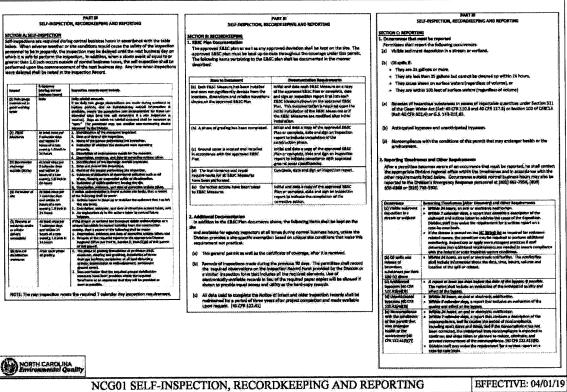












NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

RIVERLIGHTS CONVENTIONAL

1/12/2021 SCALE MCE PROJ. # 02735-0322 DRAWN MDH/EEM MDH/EEM DESIGNED

SEDIMENT AND EROSION CONTROL **DETAILS**

PHASE 7 & 8, wildington, new hanover county, north carol

CE-503 51

STATUS: PRELIMINARY DESIGN

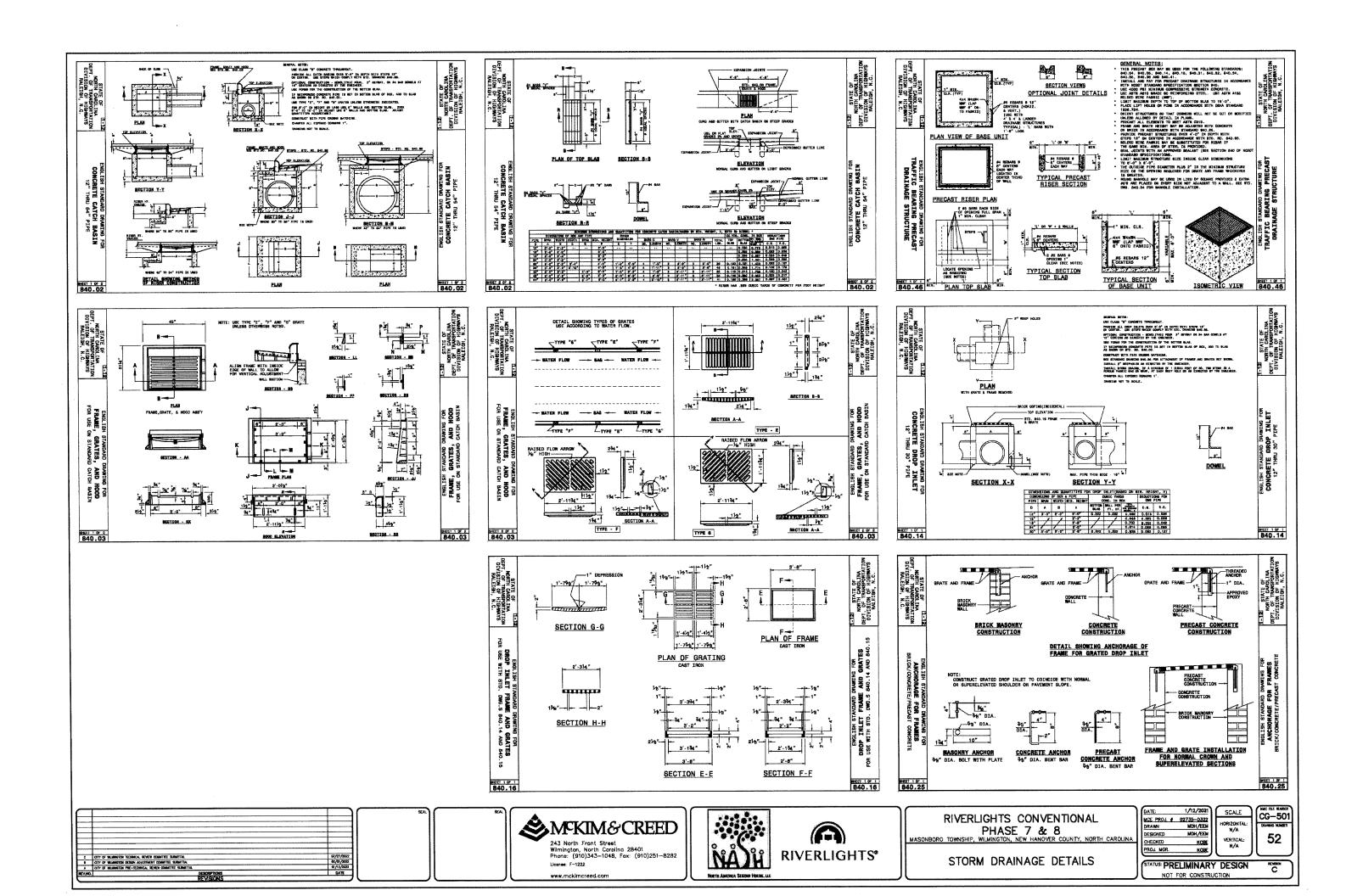


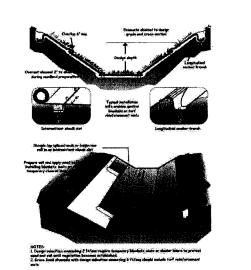


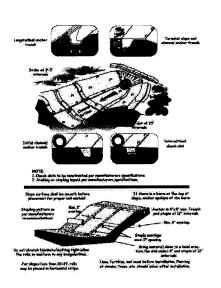
243 North Frant Street Wilmington, North Carolina 28401 Phone: (910)343-1048, Fox: (910)251-8282

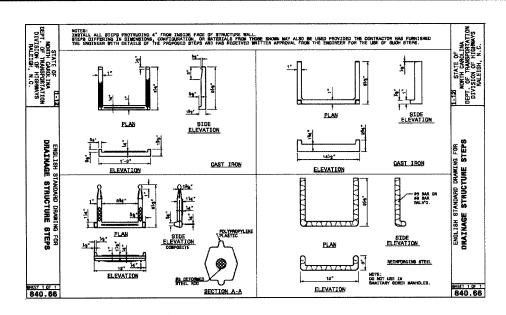


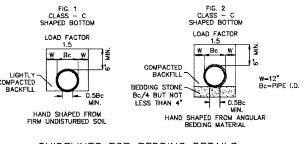












GUIDELINES FOR BEDDING DETAILS, STORM SEWER CLASS C

SD 2-17

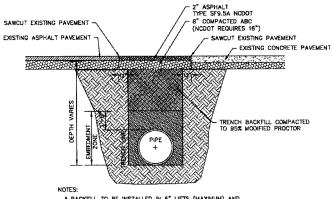
- . EXCAVATION FOR STORM DRAINAGE PIPE SHALL BE TO THE LINES AND GRADES AS SHOWN ON THE PLANS.
- THE BEDDING SHALL BE SHAPED IN ACCORDANCE WITH CLASS °C' BEDDING AS SHOWN ON CITY STANDARD DETAIL SD 2-17.
- THE BEDDING SHALL PROVIDE A FIRM FOUNDATION OF UNIFORM DENSITY ALONG THE ENTIRE LENGTH OF PIPE.
 RECESSES SHALL BE MADE TO ACCOMMODATE BELLS AND JOINTS.
- WHERE UNSTABLE SOILS ARE ENCOUNTERED AS DETERMINED BY GEOTECHNICAL ENGINEER, THICK BEDDING OF STONE SHALL BE PLACED, SEE FIGURE 2, SD 2-17.
- THE STONE SHALL BE UNIFORMLY GRADED FROM 3/4 INCH TO NO. 4 IN ACCORDANCE WITH ASTM C-33, CARE
 SHALL BE TAKEN TO PREVENT UNDERCUTTING IN SUITABLE SOIL.
- AREAS UNDERCUT SHALL BE FILLED WITH SUITABLE SOIL AND COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 1557 STANDARD TEST METHOD.

_STD. MANHOLE COVER, SEE SD 14-01

PRECAST MANHOLE SECTION, A.S.T.M. C 478

USE EXCELSIOR MATTING (OR APPROVED EQUAL) AT A MINIMUM FOR THE ROLLED ERGISION CONTROL PRODUCT ON SLOPES AND BOTTOMS OF DRAMAGE DITCHES AS INDICATED.

ROLLED EROSION CONTROL PRODUCT (RECP) NOT TO SCALE (NCDENR PRACTICE STD. 6.17)



- BACKFILL TO BE INSTALLED IN 6" LIFTS (MAXIMUM) AND COMPACTED TO A MINIMUM DENSITY OF 89% AS DE TERMINED BY THE MODIFIED AREA. H.T.O. STANDARD METHOD T-89

 CUT BACK TO BE PREPARED AFTER TRENCH BACKFILLING AND COMPACTION

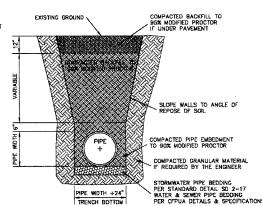
STANDARD SHOWING METHOD MAKING PAVEMENT REPAIRS WHERE PIPE IS INSTALLED

PAVEMENT REPAIR DETAIL SD 1-16 NOT TO SCALE

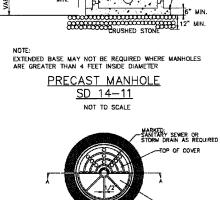
STORM DRAINAGE NOTES:

- 2. ALL STORM DRAINAGE PIPES SHALL BE RCP CLASS III UNLESS. OTHERWISE NOTED ON THE PLANS.

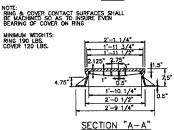
- THE CONTRACTOR SHALL CONTACT ONECALL BEFORE COMMENCING ANY WOR. THE CONTRACTOR SHALL VERBY THE LOCATION OF ALL UNDERSTOOMS UTILITIES MEETING CONSTRUCTOR OF THE PROPERTY OF A REPRESENTATIVE OF THE GAS COMPANY WHEN WORKING IN THE VARBITY ANY GAS MAINS.



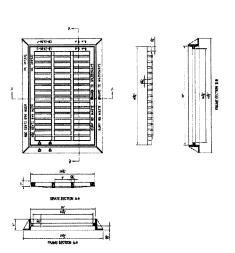
STANDARD PIPE TRENCH DETAIL SD 1-07



-AS SPECIFIED-



STANDARD MANHOLE RING AND COVER SD 14-01 NOT TO SCALE



24"x36" CASTING (2DI) NOT TO SCALE

C CITY OF MEMORITON RECENCEL REVIEW COMMITTEE SUBMITTAL

B OTTY OF MEMORITON DESIGN ADJUSTMENT COMMITTEE SUBMITTAL

A CITY OF MEMORITON PRE-REIMPOON, REVIEW COMMITTEE SUBMITTAL







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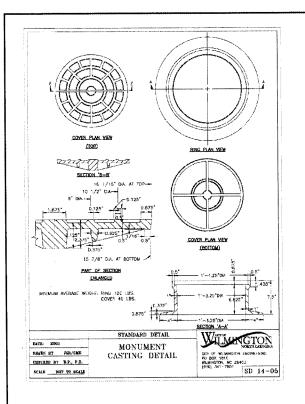


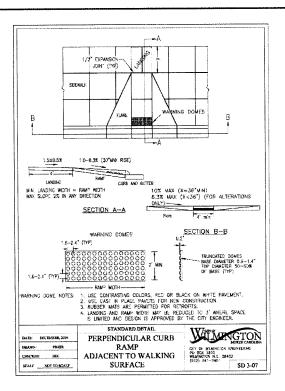
RIVERLIGHTS CONVENTIONAL PHASE 7 & 8 WILMINGTON, NEW HANDVER COUNTY, NORTH CAROLINA

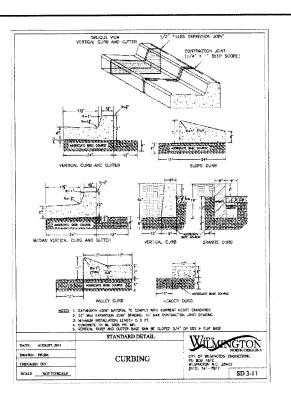
STORM DRAINAGE DETAILS

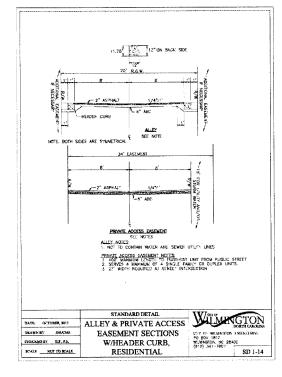
DATE:	1/12/2021
MCE PROJ.	02735-0322
DRAWN	MOH/EEM
DESIGNED	MDH/EEM
CHECKED	KCBE
PROJ. MGR.	KCBE

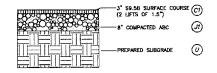












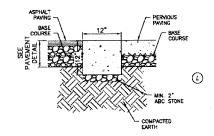
ASPHALT PAVEMENT SECTION (STREET SECTION)

NOT TO SCALE

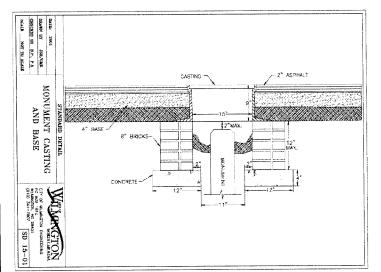
COMPACTED ABC NOTE—1:
COMPACTED ABC MUST MEET THE NCDOT STANDARD
SPECIFICATION
GRADATION. REFER TO NCDOT STD SPECS (JAN 2012 EDITION)
SECTION 520, AND SECTIONS 1005, 1006, AND 1010 FOR ALL
OF

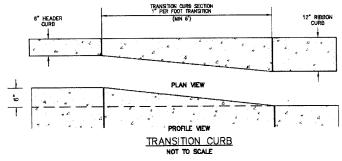
THE MATERIAL GRADATION AND SPECIFICATIONS.

- ** COMPACTED ABC NOTE-2:
 GRANITE BASED ABC IS NOT REQUIRED FOR THIS PROJECT.
 THE FOLLOWING TYPE OF MATERIALS MAY BE USED FOR ABC;
 1. MARL -6* IN DEPTH;
 2. CRUSHED CONCRETE CAN REDUCE TO 4* IN DEPTH;
- 3. ASPHALT MILLING CRUSHED TO 1 DIAMETER 6" IN



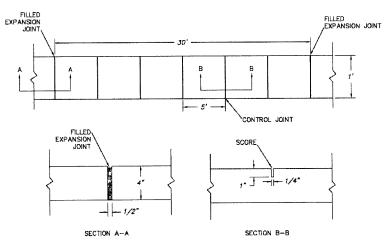
12" RIBBON CURB DETAIL NOT TO SCALE





NOTES:

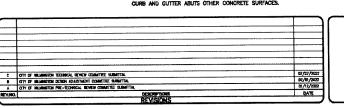
- 1. CURB TO BE CONSTRUCTED IN 10 FT. LENGTHS.



NOTES:

- 1. JOINT MATERIAL TO COMPLY WITH CURRENT NODOT STANDARDS.
- 2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
- 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 apron) shall be class "a" 3,000 psi.
- 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"
- B. 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









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SITE DETAILS

DATE:	1/12/2021	$C_{\rm s}$
MCE PROJ. #	02735-0322	
DRAWN	MOH/EEM	HO
DESIGNED	MDH/EEM	
CHECKED	KCBE	٧
OBO : NCB	Vone	1



GENERAL NOTES

- JUNICORDANCE 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.

CONSTRUCTION NOTES

- 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 TYPE FINISH.
- 7.10.51.

 3.A 1/2-IN. EXPANSION JOINT SHALL BE REQUIRED WHERE THE CONCRETE WHEELCHAIR RAMP JOINS ANY RIGID PAYEMENT 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

- BE LESS THAN 40-IN. (3-FT, 4-IN.), NOT INCLUDING THE FLAKED 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 RIN IS 1:12.

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

 8. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE 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 THE CURB RAMPS.

 10. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9-IN. A HEIGHT OF NOMINAL 0.2-IN. AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

ADDITIONAL NOTES

- 1.STOP BARS SHALL BE USED WHERE IT IS IMPORTANT TO INDIGATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN OR OTHER LEGAL BECKLIEBERT
- 2.PARKING SHALL BE A MINIMUM OF 20 FEET BACK OF THE
- REQUIREMENT.

 2. PARKING SHALL BE A MINIMUM OF 20 FEET BACK OF THE PEDESTRIAN CROSSWALK.

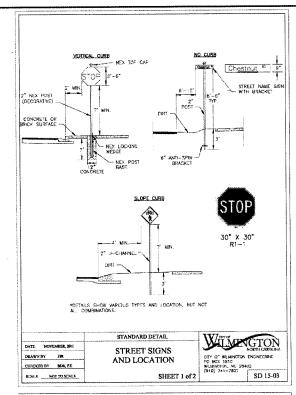
 3. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PUBLISHED BY THE FEDERAL HIGHMAY ADMINISTRATION. THIS DOCUMENT IS AVAILABLE FROM THE SUPERINTENDENT OF DOCUMENTS, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C. 20402.

 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 SIDES.

 6. THE BOTTOM OF DIAGONAL (CORNER TYPE) CURB RAMPS AT MARKED CROSSINGS SHALL HAVE AB-IN. MINIMUM CLEAR SPACE WITHIN THE MARKINGS.

 7. IF DIAGONAL CURB RAMPS HAVE FLARED SIDES, THEY SHALL HAVE AT LEAST A 24-IN. LONG SEGMENT OF STRAIGHT CURB LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING.



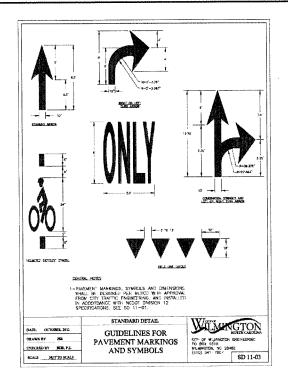


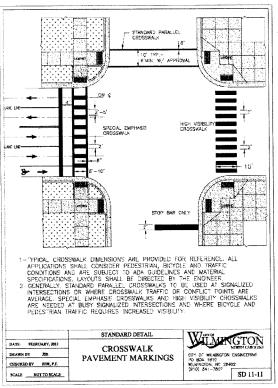
- All Treffic Control Signs including multi-use paths shall be fabricated with 0.080 inch aluminum blanks using high intensity priematic reflective sheeting Type IV or better. STOP signs shall be a minimum of 30°X30°.
- SPECIAL DESIGNATION eigns by location and type shall adhere to City of Wilmington signage plan (le. 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 6° extruded eluminum sinset name sign blanks using a standard out-out. Minimum sign length is 16° long and increasing in 6° increments Let 7° maximum as distaled 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 Witmington signage plan the background shall be blue and contain a topper.

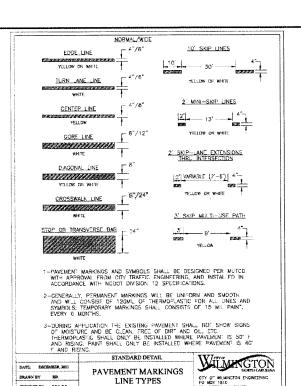
- 7. OVERHEAD STREET NAME SIGNS shall be fabricated with 0.090 inch eluminum field sign blanks 18" in height using a standard cut-out. Sign length will be dictated by the number of letters in the name. For mast-erm type treffic eignal supports and other overhead support systems refer to the design plans for maximum sign length.
- 8. All sign lettering, colors and fortic 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 fort will be FHVM series fortis (Highway Gothic.) Other lort types require prior CITy Signs and Markings Engineer approval.

- 10. Sign poets installed in dirt shall be buried a minimum of 38°. Ootsgonal poets shall utilits an arti-spin device, 6° in length minimum. Sign poets installed in concrete or brick shall utilize a base ceat in concrete 24° x 12° diameter.
- 11. Since name signs shall be installed 8'-9" from the ground to the bottom of the sign. Sirect name signs co-boaried with STOP signs shall be installed above the STOP sign. A 8" space shell be maintained between the STOP sign and a Sheet name sign that is parallel to STOP sign land. A 8" space shell be maintained between the STOP sign and a Sheet name sign that is parallel to STOP sign lanc. All other signs whould be mounted per MUTCO putdelines for Urban Areas.

	STANDARD DETAIL	WHISTON
DATE NOVEMBER, 301:	STREET SIGNS	NOKTH CANODEM
DRAWN BY 7SR	AND LOCATION	CITY OF WEMPINGTON ENGINEERING PO BOX 1810
CHECKED BY BOX, P.F.		WILMINGTON, NC 28402 (910) 341-7807
SCALE NOT TO SCALE	SHEET 2 of 2	SD 15-03

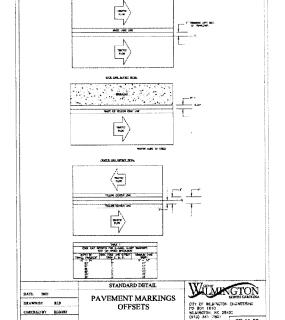


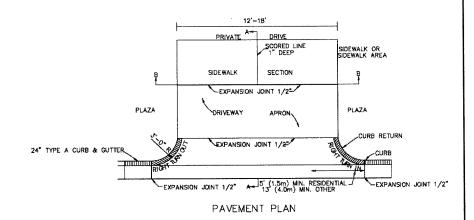




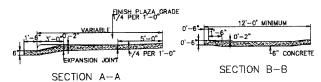
MUNICOTON NO 28402 (910) 341-7807

SD 11-01

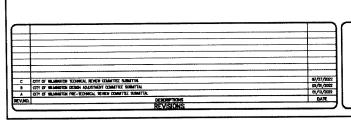




SCALE MOTTO SCALE



MODIFIED STANDARD DRIVEWAY DETAIL SD 8-02









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CTHICKED BY BOX, N.E.

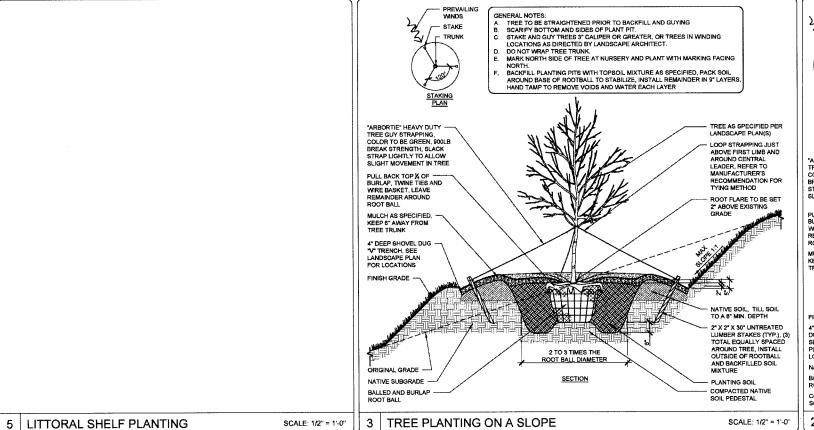
SCALE NOT TO SCALE

RIVERLIGHTS CONVENTIONAL PHASE 7 & 8

SITE DETAILS

DATE:	1/12/2021	SCALE	MAC FLE HANDER
MCE PROJ. #	02735-0322		CS-5UZ
DRAWN	MDH/EEM	HORIZONTAL:	DRAMING MUMBER
DESIGNED	MICH/EEN	1 1	F.E.
CHECKED	KCBE	VERTICAL:	55
PROJ. MGR.	KCBE	N/A	l

REVESION C



GENERAL NOTES.

4. TREE TO BE STRAIGHTENED PRIOR TO BACKFILL AND GUYING.

5. SCARIEY BOTTOM AND SIDES OF PLANT PIT.

5. STAKE AND GUY TREES 3" CALIPER OR GREATER, OR TREES IN WINDING LOCATIONS AS DIRECTED BY LANDSCAPE ARCHITECT. --- STAKE - TRUNK MARK NORTH SIDE OF TREE AT NURSERY AND PLANT WITH MARKING FACING 2000) NORTH.

BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, PACK SOIL

AROUND BASE OF ROOTBALL TO STABILIZE. INSTALL REMAINDER IN 8" LAYERS,

HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER "ARBORTIE" HEAVY DUTY -TREE AS SPECIFIED PER LANDSCAPE PLAN(S) TREE GUY STRAPPING COLOR TO BE GREEN, 900LB BREAK STRENGTH, SLACK LOOP STRAPPING JUST ABOVE FIRST LIMB AND STRAPLIGHTLY TO ALLOW LEADER, REFER TO MANUFACTURER'S RECOMMENDATION FOR TYING METHOD ROOT FLARE TO BE SET 2" ABOVE EXISTING NATIVE SOIL, TILL SOIL TO A 8" MIN. DEPTH 4" DEEP SHOVEL -DUG "V" TRENCH, SEE LANDSCAPE PLAN FOR LOCATIONS 2" X 2" X 30" UNTREATED LUMBER STAKES (TYP.), (3) TOTAL EQUALLY SPACED AROUND TREE, INSTALL OUTSIDE OF ROOTBALL AND BACKFILLED SOIL MIYTHEE 2 TO 3 TIMES THE NATIVE SUBGRADE BALLED AND BURLAP ROOT BALL SECTION COMPACTED NATIVE SOIL PEDESTAL 2 TYPICAL TREE PLANTING SCALE: 1/2" = 1'-0"

TREES	SIZE	CALIPER	HEIGHT	QTY	REMARKS
ACER BUERGERIANUM TRIDENT MAPLE	B&B	2" CAL.	14"-16" HT.	57	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED
QUERCUS PHELLOS WILLOW OAK	В&В	2" CAL.	12'-14' HT.	60	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED
ULMUS PARVIFOLIA "ALLEE" ALLEE LACEBARK ELM	8 & B	2" CAL.	12'-14' HT.	91	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED
ZELKOVA SERRATA 'VILLAGE GREEN' SAWLEAF ZELKOVA	8&8	2" GAL.	12'-14' HT.	108	SINGLE DOMINANT LEADER. UNIFORM CANOPY & MATCHED

PLANT SCHEDU	E SF	8			
TREES	SIZE	CALIPER	HEIGHT	QTY	REMARKS
ACER BUERGERIANUM TRIDENT MAPLE	В&В	3.5" CAL.	14'-16' HT.	96	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED
QUERCUS PHELLOS WILLOW OAK	B&B	2" CAL.	12'-14' HT.	181	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED
ULMUS PARVIFOLIA "ALLEE" ALLEE LACEBARK ELM	вав	3" CAL.	12'-14' HT.	76	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED

- ALL EXISTING VEGETATION THAT IS USED TO MEET LANDSCAPING REQUIREMENTS, ALL REQUIRED PLANTED LIVING MATERIAL, AND ALL REQUIRED BERMS SHALL BE MAINTAINED BYTHE 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 80 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 WAINED UNTIL A TIME CERTAIN WHEN THE REPLANTING WOULD BE SUCCESSFUL VERIFICATION OF TOTAL LANDSCAPE MATERIAL QUANTITIES AS SHOWN ON THE LANDSCAPE PLANS AND IN THE PLANT SCHEDULE SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO FINAL BIDDING OR INSTALLATION.
 ALL PLANTING TYPES SHALL COMPLY WITH LOCAL GOVERNING CODES AND REGULATIONS, CONFORM TO REQUIREMENTS OF PLANT USS TABLY THE LANDSCAPE SHORT OF REQUIREMENTS OF PLANT USS TABLY TO THE MERICAN ASSOCIATION OF NURSERY MEN' AMERICAN STANDARD OF NURSERY STOOK' AND "HORTICULTURAL STANDARDS" AS TO SPECIES, AGE, SUZE, AND PLANTING

- LANDSCAPE MATERIAL PLACED IN PREPARED HOLES SHALL BE PROPERLY BACKFILLED PRIOR TO THE END OF THE
- WORKING DAY.

 ALL SAUCERS SHALL BE SCAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.

 LANDSCAPE ARCHITECT SHALL APPROVE ANY ON-SITE PLANT STORAGE AREA FOR ACCESSIBILITY, SHADE CONDITIONS, HEALING-IM MULCH MATERIAL AND
- CONDITIONS, HEALING-IN MULCH MATERIAL AND TEMPORARY WATERING METHODS. 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 TOKED UNDER THE EDGES OF THE SAUCER.
- 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.

 8. ALL PLANT BEDS OR RAISED SAUCER RINGS SHALL BE
 EDGED WITH SMOOTH, CONTINUOUS CURVES.

 9. ALL PLANT MATERIAL SHALL BE PLANTED AT HEIGHTS AND
 WIDTHS AS ILLUSTRATED IN PLANTING DETAILS.

 10. 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 FIRST.

 11. CONTRACTOR SHALL VERIEY LOCATIONS OF
 UNDERGROUND UTILITIES PRIOR TO PLANTING.
- 12. ANY EXPOSED OR UNCOVERED LINES SHALL BE SHOWN TO GENERAL CONTRACTOR PRIOR TO BACKFILLING.

- 13. ALL PLANT BEDS AND RAISED SAUCER RINGS SHALL BE GRADED TO PROVIDE ADEQUATE DRAINAGE AND SHALL BE MULCHED AS SPECIFIED.

 14. ALL MATERIALS, PLANTING AND LANDSCAPE WORK SHALL CONFORM TO THE CURRENT MUNICIPAL AUTHORITIES STANDARD SPECIFICATIONS AND DETAILS.

 15. ALL LANDSCAPE AREAS THAT ARE NOT PLANTED, MULCHED OR PAVED SHALL BE SEEDED OR SODDED.

 16. FIRST YEAR PRUNING OF TREE CROWN SHALL BE LIMITED TO REMOVAL OF DEAD & DAMAGED WOOD.

 17. TREE PROTECTION FENCE SHALL BE INSTALLED, INSPECTED AND APPROVED PRIOT TO CLEARING, GRADING AND CONSTRUCTED AND APPROVED PRIOT TO CLEARING, GRADING AND CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCES.
- PROTECTION FENCING.
 MULCH LINE SHALL CONSIST OF SMOOTH CONTINUOUS
- 3. MULCH LINE SHALL CONSIST OF SMOOTH CONTINUOUS CURVES.

 9. ALL TREES NOT WITHIN A PLANT BED SHALL BE TREATED WITH A 6" DIAMETER MULCH RING TYPICAL, UNLESS OTHERWISE INDICATED ON THE PLANTING PLANS.

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

- BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.

 21. SUBSTITUTIONS OF PLANT MATERIALS SPECIFIED CAN ONLY OCCUR WITH PRIOR APPROVAL BY LANDSCAPE ARCHITECT.

 22. ESTABLISH PLANT BED CONFIGURATION, LANDSCAPE ARCHITECT.

 23. AREAS DAMAGED BY ACTIVITIES OF CONTRACTOR SHALL BE RE-ESTABLISHED TO PRE-DISTURBANCE CONDITION AT NO ADDITIONAL COST TO THE OWNER.

 24. USE HERBICIDES, PESTICIDES, AND FERTILIZER IN A MANNER CONSISTENT WITH THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODOBITICIDE ACT AND IN ACCORDANCE WITH LABEL RESTRICTIONS.

 25. CONTRACTOR SHALL INSURE THAT ALL PLANT MATERIAL IS FREE OF FIRE ANTS PRIOR TO INSTALLATION.

 26. LANDSCAPE ARCHITECT OR OWNER SHALL APPROVE PLACEMENT OF TREES PRIOR TO PLANTING.

 27. CONTRACTOR SHALL INSURE THE PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINBER FROM 30°-10°.

 26. DUKE ENERGY TO PROVIDE STREET LIGHTING PLAN IN COORDINATION WITH LANDSCAPE AND UTILITY PLAN.

 27. STREET TREES SHALL BE MAINTAINED TO PROVIDE 13-8° CLEAR REIGHT FOR THE PORTION OF THE TERE CANOPY THAT EXTENDS OVER THE PUBLICAL AND MINIMUM OF 15 FEET FROM STREET LIGHTS.

- 3. STREET TREES SHALL BE LOCATED A MINIMUM OF 15 FEET FROM STREETLIGHTS.
 1. DEEPROOT ROOT BARRIER OR APPROVED EQUAL SHALLS INSTALLED AT ALL STREET TREE LOCATIONS AND WHERE A TREE IS WITHIN 10 OF A UTILITY OR HARDSCAPE. THE ROOT BARRIER SHALL BE INSTALLED ACCORDING TO MANUFACTURER RECOMMENDATION.

4 PLANT SCHEDULE





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RIVERLIGHTS CONVENTIONAL PHASE 7 & 8

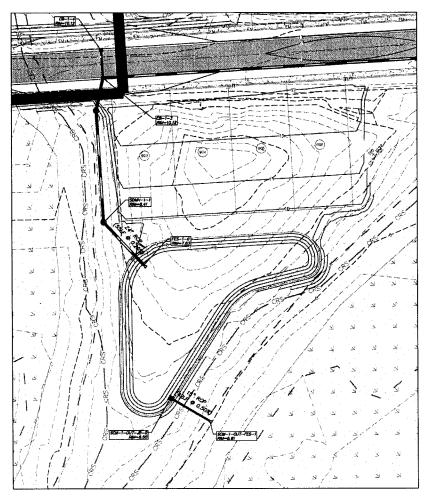
PLANTING NOTES

MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLIN

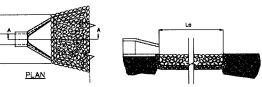
LANDSCAPE DETAILS

\neg	DATE:	1/12/2
- 1	MCE PROJ. #	02735-03
- 1	DRAWN	MDH/E
ı	DESIGNED	MDH/E
NΑ	CHECKED	KC
- 1	PROJ MOS	V/

SCALE CL-501 60



<u>8CM-1</u> INFILTRATION BASIN



PIPE OUTLET PROTECTION

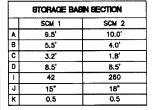
	OVILE	STRUCTURE PROTEC	TION	
	FES-1-0	SCM-1-OUT-JB-	SCM-2-OA	SCM-2-0B
OUTLET PIPE DIA.	24"	15"	24"	30"
OUTLET VELOCITY	9.4 FT/S	9.4 FT/S	9.4 FT/S	7.45 FT/S
MATERIAL	CLASS B	CLASS B	CLASS B	CLASS B
LENGTH	12.0'	12.0	12.0'	18.0
WIDTH	6.0'	6.0'	6.0'	9.0'
STONE DIA.	6,	6"	6"	6"
THICKNESS	22"	22*	22*	22*

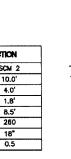
C CITY OF MAININGTON TECHNICAL NEVER COMMITTEE SAMMITIAL

OTY OF MAININGTON DESIGN ADALSTMENT COMMITTEE SAMMITIAL

A CITY OF MAININGTON PRE-NED-HICL NEVER COMMITTEE SAMMITIAL

STORAGE BASIN SECTION		
Т	SCM 1	SCM 2
A	9.5'	10.0
3	5.5'	4.0'
С	3.2'	1.8'
	8.5'	8.5'
П	42	260
j	15"	18"
ĸ	0.5	0.5

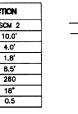




 THE ENTIRE INFILTRATION BASIN SHALL BE SEEDED PER THE SEEDING SCHEDULE IMMEDIATELY FOLLOWING THE COMPLETION OF CONSTRUCTION. THE BOTTOM SHALL BE OVEREXCAVATED 4" AND BACKFILLED WITH CLEAN SAND TO THE BOTTOM ELEVATION SPECIFIED.

IF HARDPAN OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED, OVEREXCAVATE THE BOTTOM A MINIMUM OF 2' AND BACKFILL WITH ENGINEER APPROVED SANDY SOIL MATERIAL

4. IF THE BASIN IS USED AS AN EROSION CONTROL DEVICE, THE BOTTOM MUST BE COMPLETELY CLEANED OUT, OVEREXCAVED 6" AND BACKFILLED WITH AN ENGINEER APPROVED SANDY SOIL MATERIAL





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1" # EXPANSION -ANCHORS TYPICAL EACH SIDE





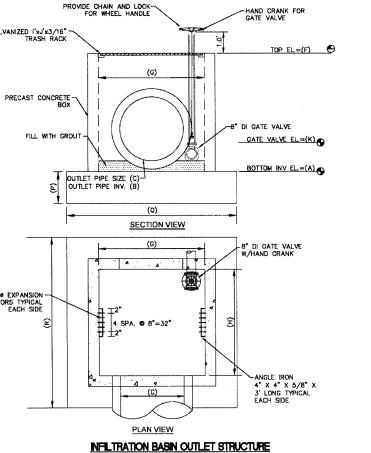




NOT FOR CONSTRUCTION

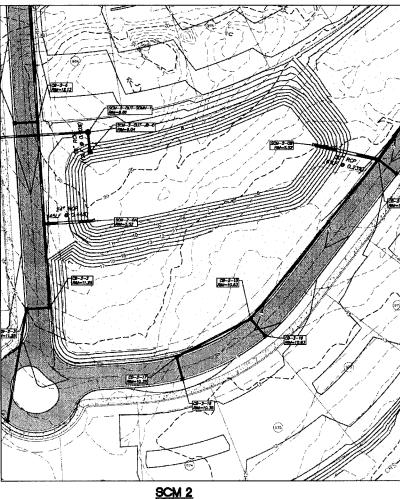
SCALE CN-501 61

STORMWATER DETAILS

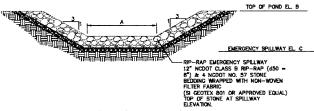


INFILTRATION BASIN OUTLET STRUCTURE

NFILTRATION BASIN OUTLET STRUCTURE		
	SCM 1	SCM 2
Α	x'	x'
В	5.5'	6.83'
С	15"	18"
F	8.5	8.5'
G	5'	6'
н	5'	6,
Т	5'	6'
J	5'	6'
K	5.50'	6.83'
Р	×"	x°
Q	x'	x'
R	x'	x'



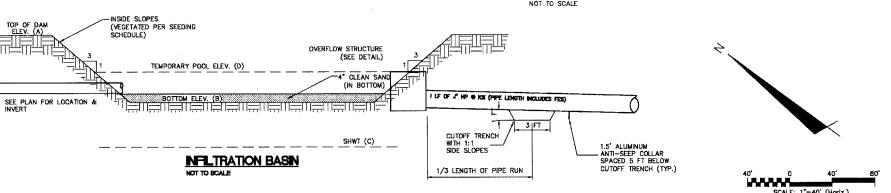
INFILTRATION BASIN

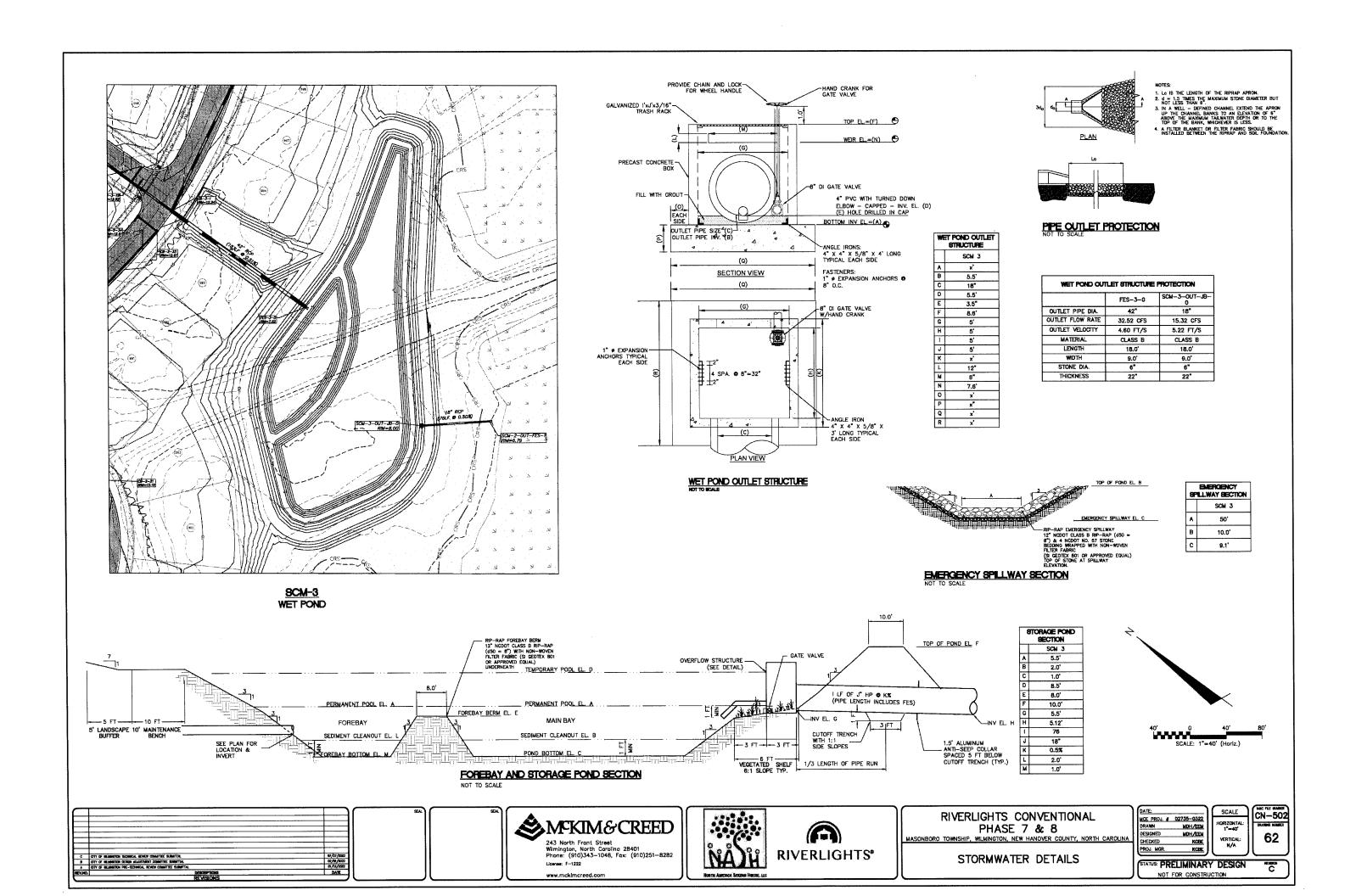


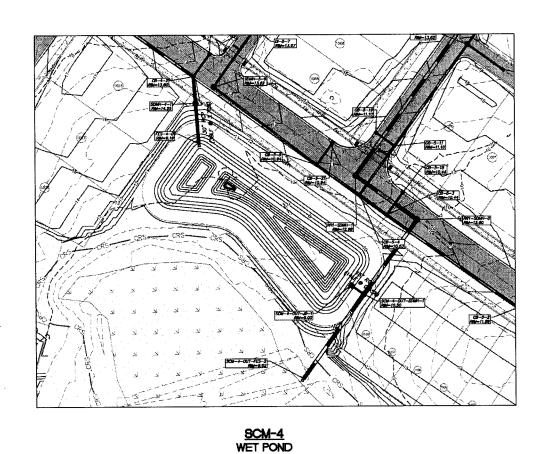
	8PL	SPILLWAY SECTION			
		SCM 1			
EL C	A	30'			
	В	9.5'			
	С	9.0'			

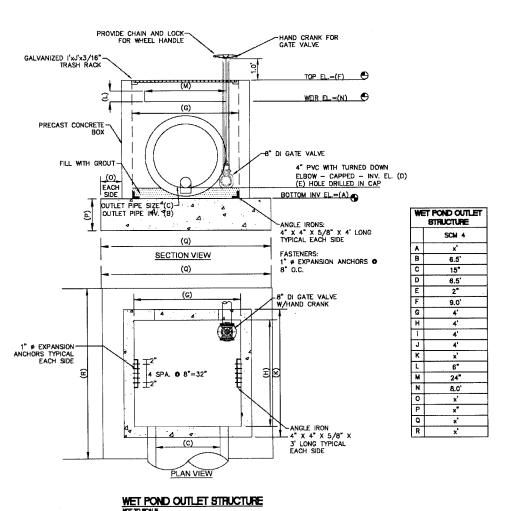
BMERGENCY

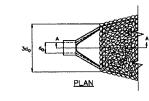
EMERGENCY SPILLWAY SECTION NOT TO SCALE



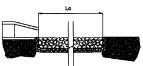






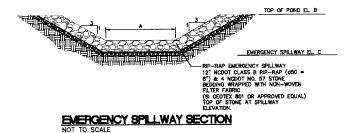


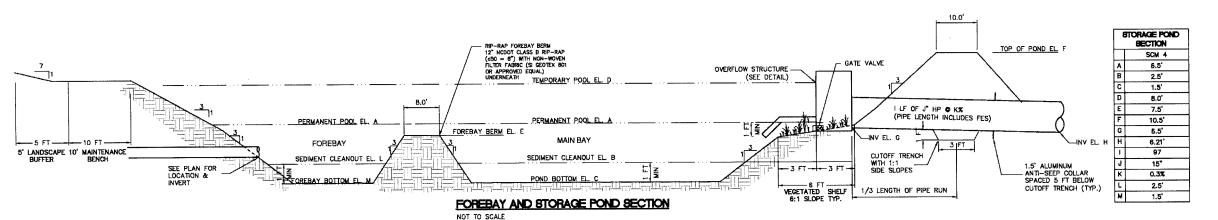
- 1. Lo IS THE LENGTH OF THE RIPRAP APRON.
 2 d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT
 NOT LESS THAN 6.
 3. IN A WELL DEFINED CHANNEL EXTEND THE APRON
 UP THE CHANNEL BANKS TO AN ELEVATION OF 6.
 ABDOVE THE MAXIMUM TALKER DEPLAYED THE
 TOWN OF THE MAXIMUM TALKER DEPLAYED THE
 TOWN OF THE MAXIMUM TALKER PAPERIC SHOULD BE
 MISTALLED BETWEEN THE RIPRAP AND SOLL FOUNDATION.

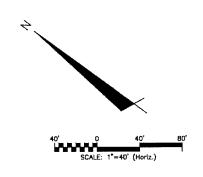


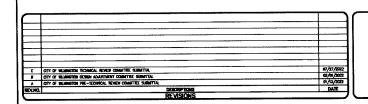
PIPE OUTLET PROTECTION

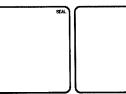
WET POND OUTLET STRUCTURE PROTECTION			
	FES-4-0	SCM-4-OUT-JB-	
OUTLET PIPE DIA.	30"	15"	
OUTLET FLOW RATE	32.52 CFS	15.32 CFS	
OUTLET VELOCITY	4.60 FT/S	5.22 FT/S	
MATERIAL	CLASS B	CLASS B	
LENGTH	18.0'	18.0'	
WIDTH	9.0'	9.0'	
STONE DIA.	6"	6*	
THICKNESS	22"	22"	













EMERGENCY SPILLWAY SECTION SCM 4 20'

> 10.50 9.5





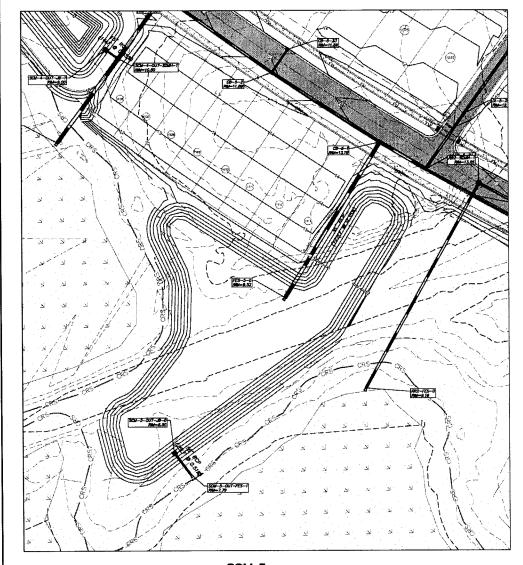


RIVERLIGHTS CONVENTIONAL PHASE 7 & 8

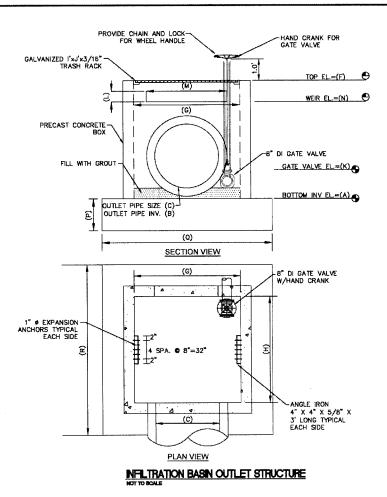
NSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA	CHE
	PRO
STORMWATER DETAILS	(T)



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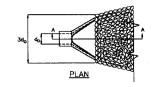
<u>8CM-5</u> INFILTRATION BASIN

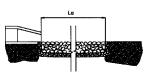


	INFILTRATION BASIN OUTLET STRUCTURE		
	SCM 5		
Α	x¹		
В	6.5'		
С	18"		
F	8.5'		
G	4'		
Н	4'		
1	4' 4'		
J	4'		
к	6.5'		
L	5*		
M	12"		
N	7.5		
P	x*		
Q	x'		
Ŗ	x'		

NOTES

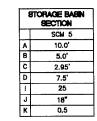
- THE BOTTOM SHALL BE OVEREXCAVATED 4° AND BACKFILLED WITH CLEAN SAND TO THE BOTTOM ELEVATION SPECIFIED.
- IF HARDPAN OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED, OVEREXCAVATE THE BOTTOM A MINIMUM OF 2' AND BACKFILL WITH ENGINEER APPROVED SANDY SOIL MATERIAL.

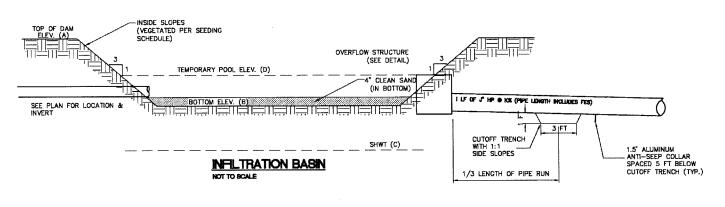


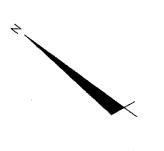


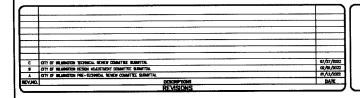
PIPE OUTLET PROTECTION NOT TO SCALE

OUILE! BI	RUCTURE PROT	COINT
	FES-5-0	SCM-5-OUT-FES
OUTLET PIPE DIA.	36"	18"
OUTLET VELOCITY	9.4 FT/S	7.45 FT/S
MATERIAL	CLASS B	CLASS B
LENGTH	12.0'	18.0'
WIDTH	6.0'	9.0'
STONE DIA.	6"	6"
THICKNESS	22"	22"













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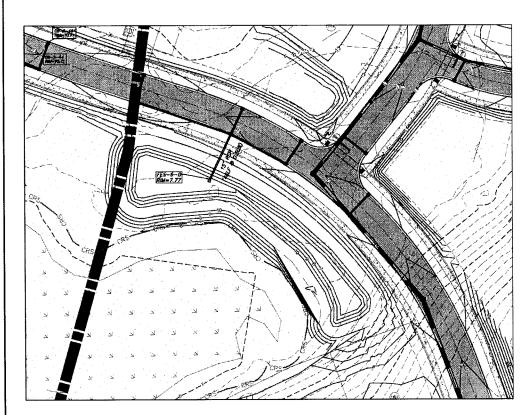
RIVERLIGHTS CONVENTIONAL PHASE 7 & 8

DATE: MCE PROJ. DRAWN

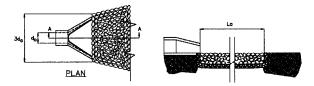
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	02735-0322		
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CN-504

STORMWATER DETAILS



<u>SCM-6</u> INFILTRATION BASIN

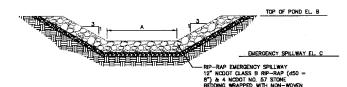


NOTES

- THE ENTIRE INFILTRATION BASIN SHALL BE SEEDED PER THE SEEDING SCHEDULE IMMEDIATELY FOLLOWING THE COMPLETION OF CONSTRUCTION.
- 2. THE BOTTOM SHALL BE OVEREXCAVATED 4" AND BACKFILLED WITH CLEAN SAND TO THE BOTTOM ELEVATION SPECIFIED.
- IF HARDPAN OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED, OVEREXCAVATE THE BOTTOM A MINIMUM OF 2' AND BACKFILL WITH ENGINEER APPROVED SANDY SOIL MATERIAL.
- 4. IF THE BASIN IS USED AS AN EROSION CONTROL DEVICE, THE BOTTOM MUST BE COMPLETELY CLEANED OUT, OVEREXCAVED 6" AND BACKFILLED WITH AN ENGINEER APPROVED SANDY SOIL MATERIAL.

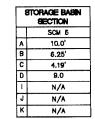
PIPE OUTLET PROTECTION NOT TO SCALE

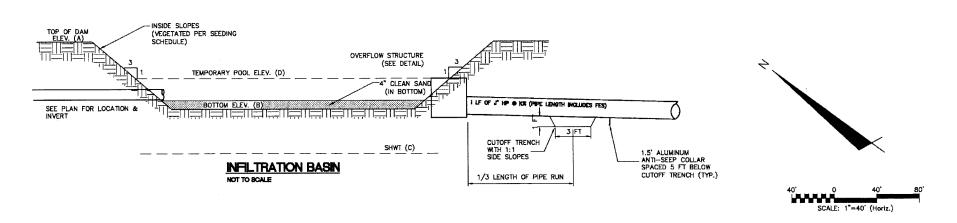
OUTLET STRUCTURE PROTECTION		
	FES-6-0	
OUTLET PIPE DIA.	15"	
OUTLET VELOCITY	9.4 FT/S	
MATERIAL	CLASS B	
LENGTH	12.0'	
WIDTH	6.0'	
STONE DIA.	6"	
THICKNESS	22"	

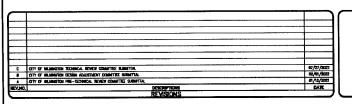


EMETGENCY SPLLWAY SECTION	
	SCM 6
A	20*
В	10.0'
c	9.0'

EMERGENCY SPILLWAY SECTION NOT TO SCALE











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RIVERLIGHTS CONVENTIONAL PHASE 7 & 8

STORMWATER DETAILS

DATE:	
MCE PROJ. #	02735-0322
DRAWN	MOH/EEM
DESIGNED	MDH/EEM
CHECKED	KOBE
PROJ. MGR.	KCBE

CN-505 SCALE HORIZONTAL 65

