THE FLATS ON FRONT

CITY OF WILMINGTON, NC

OCTOBER 3, 2018

TECHNICAL REVIEW COMMITTEE RESUBMITTAL

COUNTY AND AGENCY CONTACTS

A. City of Wilmington **Planning Department 102 North Third Street** PO BOX 1810 Wilmington, NC 28402-1810 (910)342-2782 **Contact: Jeff Walton** Email: Jeff.Walton@wilmingtonnc.gov

B. City of Wilmington Engineering 212 Operations Center Drive PO BOX 1810 Wilmington, NC 28402-1810 (910) 341-7807

> **Contact: Richard Christensen** Email: Richard.Christensen@wilmingtonnc.gov OWNER/DEVELOPER:

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

D. Cape Fear Public Utility Authority 235 Government Center Drive Wilmington, NC 28403 (910) 332-6626 **Contact: David Dailey** Email: David.Dailey@cfpua.org

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

Approved Construction Plan				
<u>Name</u> <u>Dat</u>	<u>ie</u>			
Planning				
Traffic				
Fire				
WILLIAM STATES OF THE CAROLINA NORTH CAROLINA				
Public Services Engineering Division	on			
APPROVED STORMWATER MANAGEMENT I	PLAN			
Date: Permit #				

PROJECT DATA

NAME OF PROJECT:

THE FLATS OF FRONT WILMINGTON, NORTH CAROLINA **NEW HANOVER COUNTY**

FLYWAY RESIDENTIAL, LLC **1539 TIPPAH PARK COURT** CHARLOTTE, NC 28205 **CONTACT: PORTER JONES** EMAIL: PJONES@DPJRESIDENTIAL.COM

ARCHITECT:

CLINE DESIGN 2923 SOUTH TRYON STREET SUITE 103 CHARLOTTE, NC 28208 ARCHITECT: MARK WARD EMAIL: MARKW@CLINEDESIGNASSOC.COM

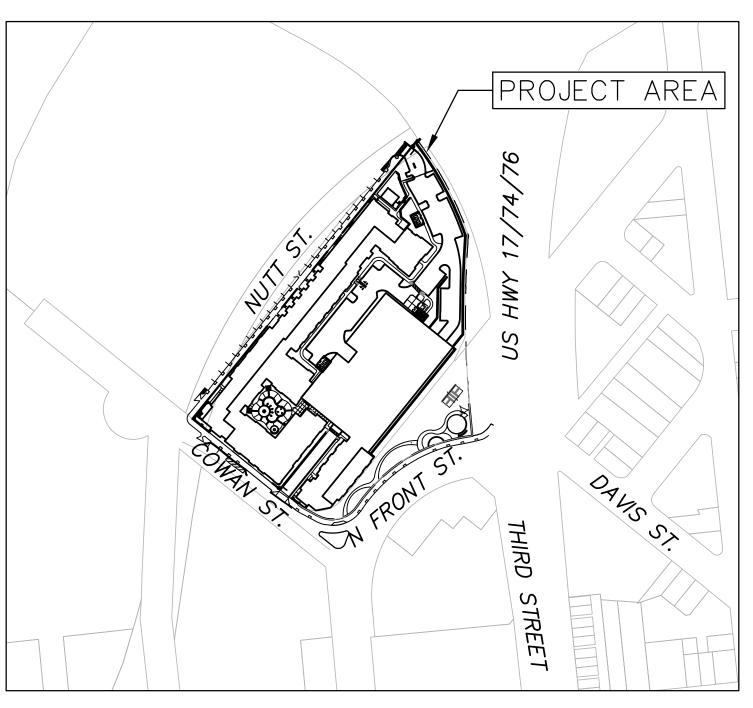
LAND PLANNER:

CLINE DESIGN 125 NORTH HARRINGTON STREET RALEIGH, NC 27603 **CONTACT: JANET MOUNTCASTLE** EMAIL:JANETM@CLINEDESIGNASSOC.COM

PREPARED BY:

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

ISSUED FOR PERMITTING NOT FOR CONSTRUCTION



VICINITY MAP





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

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SHEET LIST TABLE

SHEET DESCRIPTION

GENERAL NOTES

CLOSE-OUT NOTES

SHEET TITLE

G-002

G-003

CX-100

SHEET NUMBER

2

3

CONSTRUCTION NOTES

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

12. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL SURVEY CONTROL PRIOR TO STAKING OUT

- 11. THE OWNER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, BOTH TEMPORARY AND PERMANENT.
- CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO
- 13. ANY PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE REPLACED SOLELY AT THE CONTRACTOR'S EXPENSE.
- 14. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS.
- 15. FIRE HYDRANTS SHALL BE PLACED A MINIMUM DISTANCE OF 6 FEET FROM BACK OF CURB AND SHALL HAVE A CLEAR SPACE OF 3 FEET FROM ANY PERMANENT STRUCTURE PER CFPUA STANDARDS.
- 16. ALL SELECT AND BORROW MATERIAL SHALL MEET CRITERIA SET FORTH BY SECTIONS 1016 AND 1018 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS FOR ROADS AND STRUCTURES. SEE SECTION FOR PLACEMENT AND COMPACTION INFORMATION.
- 17. THE ENGINEER AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES USED IN THE FINAL DRAINAGE SYSTEM AND AGREE ON THE CONDITION OF THE PIPES PRIOR TO CONSTRUCTION. IF DAMAGE OCCURS TO THESE PIPES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE
- 18. EXISTING PAVING, CONCRETE, AND OTHER UNSUITABLE MATERIALS INCLUDING 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 IS RESPONSIBLE FOR ALL PERMITTING AND FEES FOR DISPOSAL.
- 19. ALL TREES, STUMPS, ROOT MAT, ETC. SHALL BE ENTIRELY REMOVED REGARDLESS OF DEPTH. BURIAL OF ORGANIC MATERIAL WITHIN THE PROJECT LIMITS IS NOT PERMITTED. OPEN BURNING OF DOWNED TREES AND STUMPS IS NOT PERMITTED. CHIPPED MATERIALS MUST BE REMOVED PRIOR TO THE PLACEMENT OF EMBANKMENT OR TOPSOIL.
- 20. THE CONTRACTOR IS SOLELY RESPONSIBLE TO OBTAIN OFF-SITE SPOIL AREAS FOR DISPOSAL OF EXCESS AND/OR UNSUITABLE MATERIALS AS NECESSARY, OFF-SITE SPOIL AREAS MUST BE SUBMITTED TO THE ENGINEER AND APPLICABLE REGULATORY AGENCIES PRIOR TO UTILIZATION BY THE CONTRACTOR. NO AREAS DESIGNATED AS WETLANDS WILL BE PERMITTED FOR USE AS A DISPOSAL SITE. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER THAT NO WETLANDS WILL BE IMPACTED. THE ENGINEER WILL NOT CONSIDER ANY DELAYS OR MONETARY CLAIMS OF ANY NATURE RESULTING FROM THE CONTRACTOR'S FAILURE OR DIFFICULTY IN FINDING NECESSARY DISPOSAL SITES TO MEET THE TIME FRAMES AND CAPACITIES REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PLANS, PERMITS, EROSION AND SEDIMENT CONTROL MEASURES, ETC. REQUIRED BY THE APPROPRIATE REGULATORY AGENCIES FOR UTILIZING OFF-SITE SPOIL AREAS. THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED PRIOR TO UTILIZING THE OFF-SITE SPOIL AREAS. ALL COSTS FOR PROCURING AND UTILIZING THE OFF-SITE SPOIL AREAS ARE TO BE INCIDENTAL TO THE BASE BID.

DEMOLITION NOTES

- THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIARIZED WITH FIELD DEMOLITION CONDITIONS.
- 2. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL DEMOLISHED DEBRIS ASSOCIATED WITH THE PROJECT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST GENERATED BY THE WORK, INCLUDING BUT NOT LIMITED TO DEMOLITION AND CONSTRUCTION ACTIVITIES. SITE VEHICULAR TRAFFIC AND RELATED OPERATIONS.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL EXISTING UTILITIES LOCATED PRIOR TO BEGINNING ANY DEMOLITION. CONTRACTOR SHALL CONTACT NC ONE CALL AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED
- 5. EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE AND ENGINEER IMMEDIATELY.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF DISCONNECTING AND ABANDONING ALL EXISTING UTILITIES WITH THE OWNER UNLESS OTHERWISE NOTED. ALL EXISTING UTILITIES AND ASSOCIATED PIPING, ETC. NOT IN USE ON THE SITE SHALL BE PROPERLY ABANDONED AND REMOVED AS REQUIRED. COORDINATE WITH THE
- . THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ANY EXISTING UTILITIES THAT REMAIN IN SERVICE
- 8. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS AND SLOPES ON AND OFF SITE IN ACCORDANCE WITH THE EROSION CONTROL MEASURES SPECIFIED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO DETERMINE WHO IS RESPONSIBLE FOR PROVIDING THE PERMANENT STABILIZATION MEASURES AND THE TYPE OF PERMANENT MEASURES PRIOR TO BEGINNING DEMOLITION AND CONSTRUCTION. THE PERMANENT STABILIZATION MEASURES SHALL BE IN PLACE AND ACCEPTABLE TO THE OWNER'S REPRESENTATIVE AND ENGINEER PRIOR TO PROJECT CLOSEOUT. COORDINATE INSPECTION WITH THE OWNER AND ENGINEER PRIOR TO PROJECT CLOSEOUT.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND CONTACTING THE ENGINEER FOR THE REQUIRED INSPECTIONS ON THE PROJECT.
- 10. WETLANDS DO NOT EXIST ON SITE. WETLANDS WILL NOT BE DISTURBED DURING CONSTRUCTION OF THIS PROJECT.

Appro	oved Construction	n Plan	
	<u>Name</u>	<u>Date</u>	
Planning			
Traffic			
Fire			
	LLMRGT NORTH Services Engineer	CAROLINA	
	TORMWATER MANA		For each open utility cut of City streets, a \$325 permit
Date:	Permi	t #	shall be required from the City prior to occupancy

1 inch

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

STORM DRAINAGE AND GRADING NOTES

- IN ACCORDANCE WITH NC GENERAL STATUTES, NPDES REGULATIONS, AND NCDENR REQUIREMENTS, STORMWATER DISCHARGE OUTFALLS SHALL BE INSPECTED BY THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR AFTER EACH STORM EVENT OF 1/2 INCH OR GREATER, WITH ONE WEEKLY INSPECTION MINIMUM. NCDENR STANDARD INSPECTION REPORTS SHALL BE PREPARED AND SIGNED WITH COPIES PROVIDED TO THE OWNER, ARCHITECT, AND ENGINEER, BY THE CONTRACTOR.
- 2. INLET PROTECTION SHALL BE INSTALLED AROUND OUTFALL. DEVICES SHALL BE CONSTRUCTED TO FINAL PROPOSED CONDITION UPON STABILIZATION OF CONTRIBUTING GROUND SURFACES AND REMOVAL OF SEDIMENT FROM STORM PIPES.
- ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO CONTRACTOR FOR ANY WORK DONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
- 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.

MATERIALS AND EASEMENT NOTES:

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

ALL STORM DRAINAGE PIPING CONVEYING DISCHARGE FROM THE PUBLIC

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

UTILITY COMPANY CONTACTS

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

DJ MEDEIROS (910) 431-3233 CAPE FEAR PUBLIC UTILITY AUTHORITY: (910) 332-6550

UTILITY NOTES

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

RELATION OF WATER MAINS TO SANITARY SEWERS:

- 1. LATERAL SEPARATION OF SANITARY SEWERS AND WATER MAINS: WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10 FOOT LATERAL SEPARATION, IN WHICH CASE:
- 1.1. THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, OR
- 1.2. THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND ABOVE THE TOP OF THE SEWER.
- 2. CROSSING A WATER MAIN OVER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 24 INCHES ABOVE THE TOP OF THE SEWER MAIN. UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION - IN WHICH CASE BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
- 3. CROSSING A WATER MAIN UNDER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER MAIN BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
- 4. CROSSING A SEWER MAIN/WATER MAIN OVER OR UNDER A STORM DRAIN: WHENEVER IT IS NECESSARY FOR A SEWER MAIN/WATER MAIN TO CROSS A STORM DRAIN PIPE, THE SEWER MAIN/WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE OUTSIDE OF THE SEWER MAIN/WATER MAIN NEAREST TO THE OUTSIDE OF THE STORM DRAIN PIPE SHALL MAINTAIN A 24 INCH CLEAR SEPARATION DISTANCE HORIZONTAL. OR THE SEWER MAIN/WATER MAIN SHALL EITHER BE CONSTRUCTED OF DUCTILE IRON PIPE OR ENCASED IN EITHER CONCRETE OR DUCTILE IRON PIPE FOR AT LEAST 5 FEET ON EITHER SIDE OF THE CROSSING.

EROSION CONTROL NOTES

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

EROSION CONTROL MAINTENANCE PLAN:

MEASURES.

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

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

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

CITY OF WILMINGTON STANDARD NOTES

- 1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
- 2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- 3. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS. CONTACT CITY OF WILMINGTON TRAFFIC ENGINEERING AT (910)341-7888 AND CONSTRUCTION MANAGEMENT (910)341-7807 TO DISCUSS PAVEMENT MARKINGS PRIOR TO INSTALLATION.
- 4. ONCE STREETS ARE OPEN TO TRAFFIC, THE DEVELOPER SHALL CONTACT TRAFFIC ENGINEERING (910-341-7888) TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- 5. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- 6. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
- 8. CONTACT CITY OF WILMINGTON TRAFFIC ENGINEERING AT (910)341-7888 TO DISCUSS STREET LIGHTING OPTIONS. 9. IF THE CONTRACTOR DESIRES WATER FOR CONSTRUCTION HE SHALL

APPLY WITH THE CAPE FEAR PUBLIC UTILITY AUTHORITY IN ADVANCE

- FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX. THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED.
- SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.

12. TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR

- 11. CONTACT TRAFFIC ENGINEERING TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
- 13. 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.

- 15. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- 16. CONTACT TRAFFIC ENGINEERING AT (910)341-7888 TO COORDINATE PARKING SIGNAGE AND/OR MARKINGS PRIOR TO INSTALLATION.
- 17. CONTACT TRAFFIC ENGINEERING AT (910)341-7888 FORTY -EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- 18. 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.
- 19. SOLID WASTE TO BE HANDLED BY ROLLOUT TRASH CONTAINERS/CARTS.

FIRE PROTECTION NOTES

- 1. HYDRANT MUST BE WITHIN 150' OF THE FDC.
- 2. 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. 4. HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB PER CITY OF WILMINGTON STANDARDS. HYDRANTS WILL BE LOCATED WITHIN 6' OF THE
- CURB PER CFPUA STANDARDS 5. COMBUSTIBLE MATERIALS MAY NOT BE STORED OR ERECTED ONSITE WITHOUT CITY FIRE INSPECTOR APPROVAL
- 6. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION. 7. UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
- 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

8. A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR

- TIMES DURING CONSTRUCTION. 10. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS
- PASSAGE BY VEHICLES. 11. FIRE DEPARTMENT ACCESS WIDTHS SHALL BE A MINIMUM OF 20-FEET

12. BAG HYDRANTS THAT ARE NOT IN SERVICE.

ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1

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

UNLESS LESSER WIDTHS ARE APPROVED BY THE FIRE CODE OFFICIAL.

and/or project acceptance. B CITY OF WILIMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL A CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL REVISIONS





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THE FLATS ON FRONT

GENERAL NOTES

WILMINGTON. NEW HANOVER COUNTY. NORTH CAROLINA

DRAWN DESIGNED CHECKED

14 DAYS

VERTICAL: STATUS: PRELIMINARY DESIGN

G - 002

NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)

HORIZONTAL

N/A

ISSUED FOR PERMITTING

07/11/2018

7402-000

ALM/KCE

CAPE FEAR PUBLIC UTILITY AUTHORITY CONSTRUCTION PROCEDURE:

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

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

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

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

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

TEST TYPE:

- 5. CONTRACTOR SHALL GIVE TWO (2) BUSINESS DAYS NOTIFICATION FOR SCHEDULING TO THE ASSIGNED CFPUA INSPECTOR FOR EACH OF THE FOLLOWING:
- OPERATING A CFPUA VALVE (INCLUDES TAPPING VALVES)
- WHEN BEGINNING CONSTRUCTION AND IF THE CONTRACTOR PULLS OFF THE SITE
- LAYING OUT OF ANY CONNECTION IN EXISTING MANHOLE
- CUTTING IN ANY NEW MANHOLES ON EXISTING LINES
- CORING ANY MANHOLES
- CONNECTING TO AN EXISTING SEWER FORCE MAINS
- CONNECTING ONTO EXISTING WATER LINES
- ANY BORES AND THREADING CARRIER PIPES
- ALL CAMERA WORK, TESTING, CHLORINATION AND WATER SAMPLING
- ALL TESTING

CAPE FEAR PUBLIC UTILITY AUTHORITY TESTING PROCEDURE:

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

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

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

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

AFTER GRAVEL HAS BEEN INSTALLED ON ALL ROADWAYS.

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 CFPUA AND WILL BE RE-INSPECTED AS OUTLINED ABOVE.

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

TEST TARGET:

CITY OF WILMINGTON RECORD DRAWING REQUIREMENTS:

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

PLANS SHALL INCLUDE

- LOCATIONS, TOP ELEVATIONS, INVERT ELEVATIONS FOR ALL MANHOLES
- FIRE HYDRANTS. WATER METERS AND SANITARY SEWER CLEANOUTS
- NOTE OR SHOW UTILITY CROSSINGS
- STREETS AND CURBLINES (LABELED "PUBLIC" OR "PRIVATE") WITH SPOT ELEVATIONS PROVIDED AT THE TOP OF CURB. EDGE OF PAVEMENT AND AT THE CENTERLINE EVERY 200 FT AND AT ALL STREETS SHOULD ALSO BE LABELED WITH THE COMPACTED STONE BASED THICKNESS AND ASPHALT THICKNESS
- PAVEMENT MARKINGS AND ALL TRAFFIC SIGNS
- SIDEWALKS WITH SPOT ELEVATIONS PROVIDED AT THE INSIDE EDGE, OUTSIDE EDGE AND AT THE CENTERLINE EVERY 100 FT AND AT ALL GRADE BREAKS
- SIZE, SLOPE AND MATERIAL FOR ALL STORM DRAINAGE PIPES
- FOR STORM DRAINAGE: TYPE/MATERIAL OF STRUCTURE, TOP ELEVATION, INVERTS IN AND OUT.
- LOCATIONS OF STREET LIGHTING AND TYPE
- VICINITY MAP
- NORTH ARROW
- DATE
- SCALE FOR DRAWINGS SHALL BE 1"=20" OR 1"=30"; THE EXCEPTION BEING UTILITY PLANS, WHICH MAY BE SUBMITTED AT 1"=40' OR LESS. NO PLANS ACCEPTED AT 1'=50' OR MORE.
- LEGEND
- DETAILS IF NEEDED
- VERTICAL DATUM
- LOT NUMBERS AND LOT LINES
- RIGHT-OF-WAY AND EASEMENT LINES
- ANY STATE OF NC PERMIT NUMBERS (IF APPLICABLE)

FREQUENCY AND TEST SECTIONS:

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

DOCUMENTATION:

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

		1.20	Joi 20.		D
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' WIDTH 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 / MOISTURE	LOADED TANDEM TRUCK	ALL AREAS UNDER ROAD	PROOFROLL REPORT.
SAMPLING, MAKING & CURING TEST SPECIMENS	CURBING, SIDEWALKS, DRIVEWAYS	PROPER COLLECTION AND CURING IN FIELD AND LABORATORY	SAMPLING CONCRETE - ASTM C172; ASTM C31; ASTM C39	4 CYLINDERS PER DAY/BATCH FOR EVERY 50 CUBIC YARDS	"FORM 312U MIX DESIGN. VERIFY JMF ON-SITE."
AIR TEST	SEE ABOVE	UP TO 8%, PER MIX DESIGN	PRESSURE AIR METER - ASTM 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
		BASE UP TO 8" DEPTH			ASPHALT ROADWAY DAILY REPORT — (NCDOT M&T 605 FORM)
ASPHALT TEMPERATURE	AIR TEMPARTURE	40° IN THE SHADE AND RISING	NCDOT	TEST BEFORE PLACEMENT	
	SURFACE TEMPARTURE	50°	SECTION 610-4	ALSO, NO WET PAVEMENT AFFECTING BONDING	
DENSITY — NUCLEAR GAUGE CONTROL WITH CORE CHECKS	ROADWAY/PATH	90% COMPACTION - 9.5A	NUCLEAR DENSITY TESTS — ASTM D2950	"QC = 5 NUCLEAR GAUGE SHOTS PER 500'/EACH PAVER LAYDOWN WIDTH / LOT QA = VERIFICATION, TEST REQUESTS AND LOCATION"	FORMS — CITY OR NCDOT QC-5, 516QC, QA-515, ETC
(CORE CONTROL AND CONTROL STRIPS WHEN NEEDED)	TOADWAI/FAIR	92% COMPACTION—SURFACE OTHER, INTERMDIATE, BASE	BULK DENSITY (CORES) - ASTM D2726	QC = 1 CORE CHECK PER 500'/EACH PAVER LAYDOWN WIDTH. PRIMARILY IN BASE LAYERS.	"CERTIFICATIONS: GAUGE CALIBRATION QMS ROADWAYTECHNICIAN, NUCLEAR GAUGE OPERATOR, ETC"

SPEC:

REQUIREMENTS FOR VIDEO INSPECTION OF STORM SEWER SYSTEMS:

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

EXECUTION

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

DELIVERABLES

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

Approved Construction Plan		
<u>Name</u> <u>Date</u>		
Planning		
Traffic		
Fire		
Public Services Engineering Division APPROVED STORMWATER MANAGEMENT PLAN		
Date: Permit #		
Signed:		

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

1 inch

B CITY OF WILIMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTA A CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL REVISIONS



www.mckimcreed.com

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





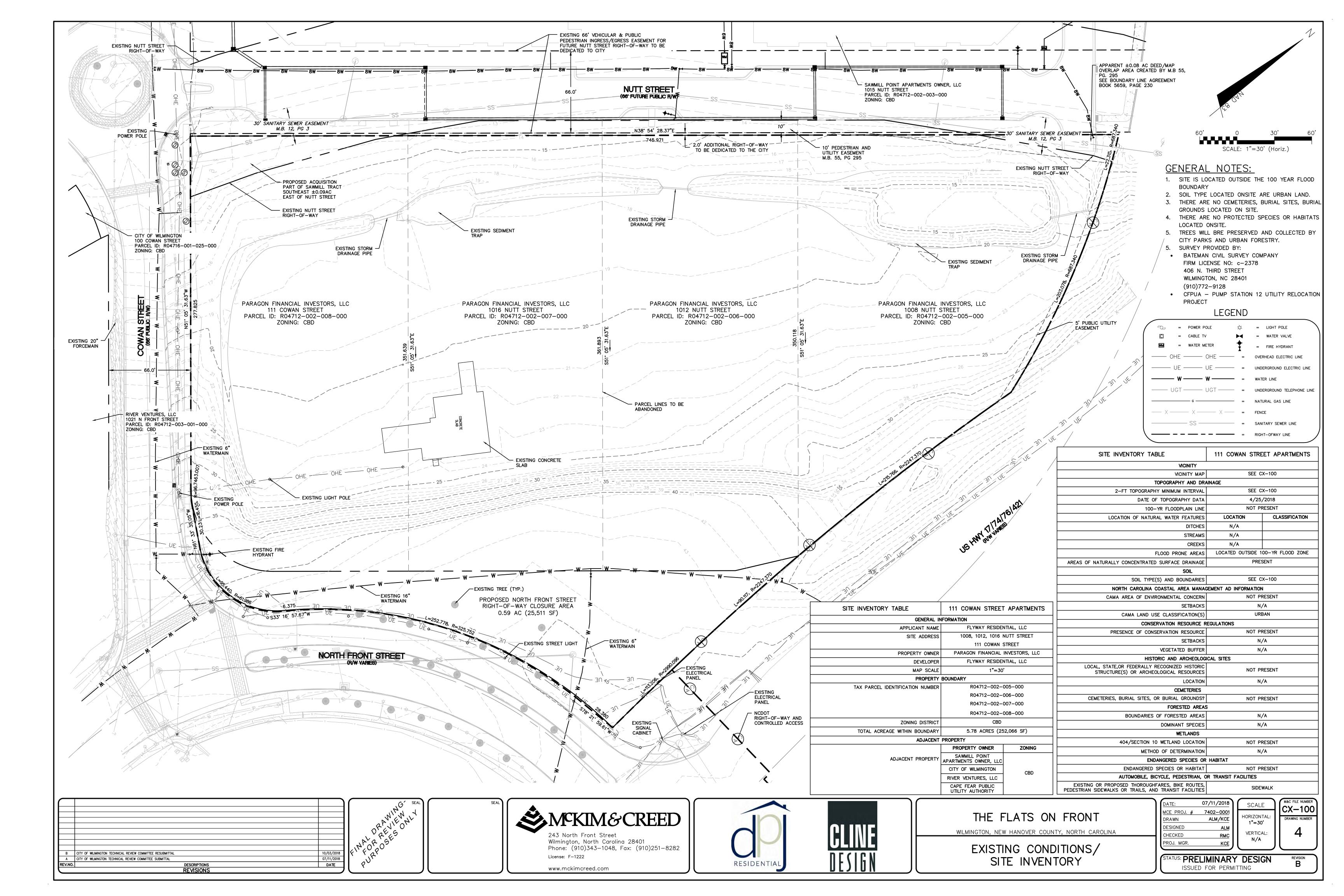
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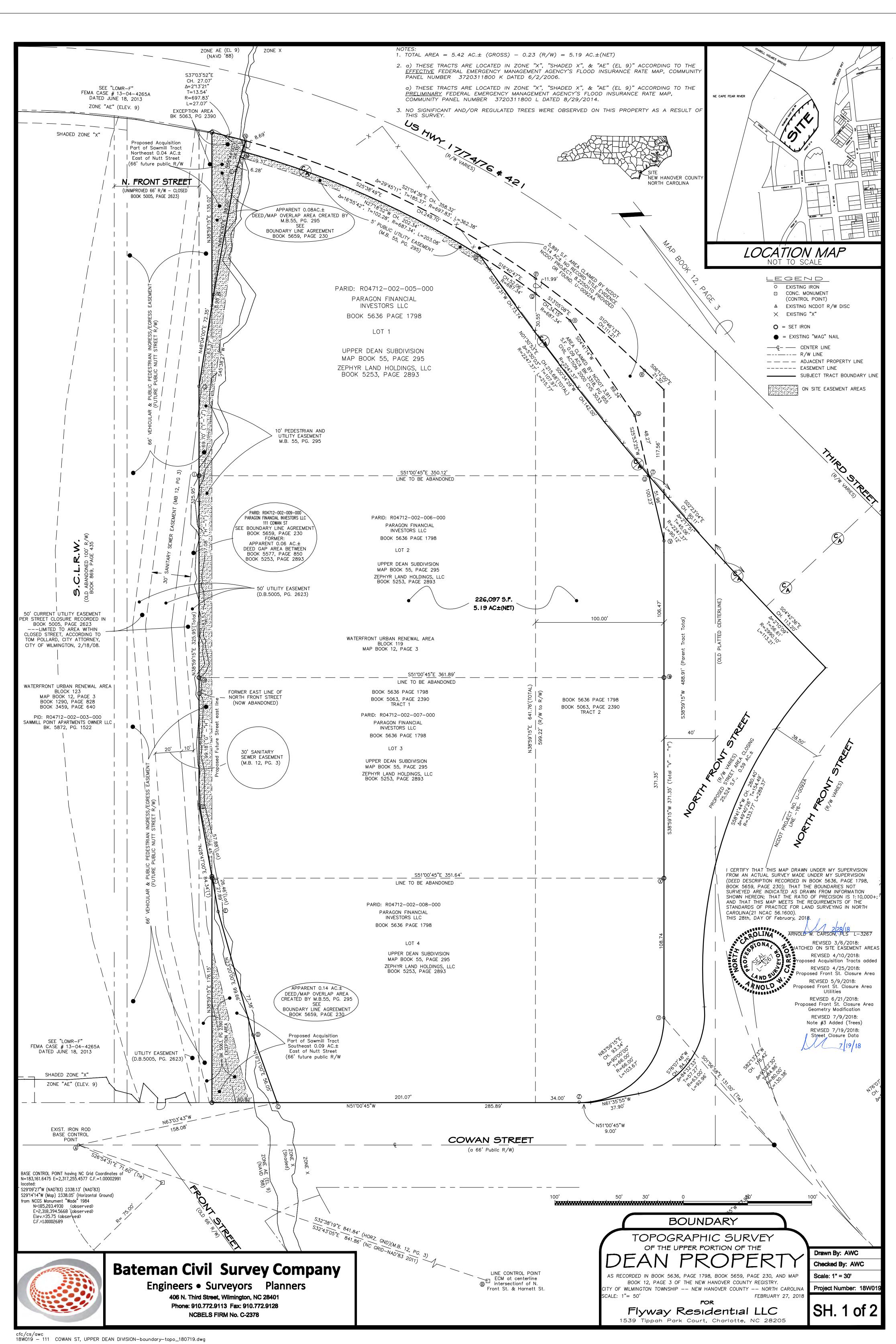
WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA CLOSE-OUT NOTES

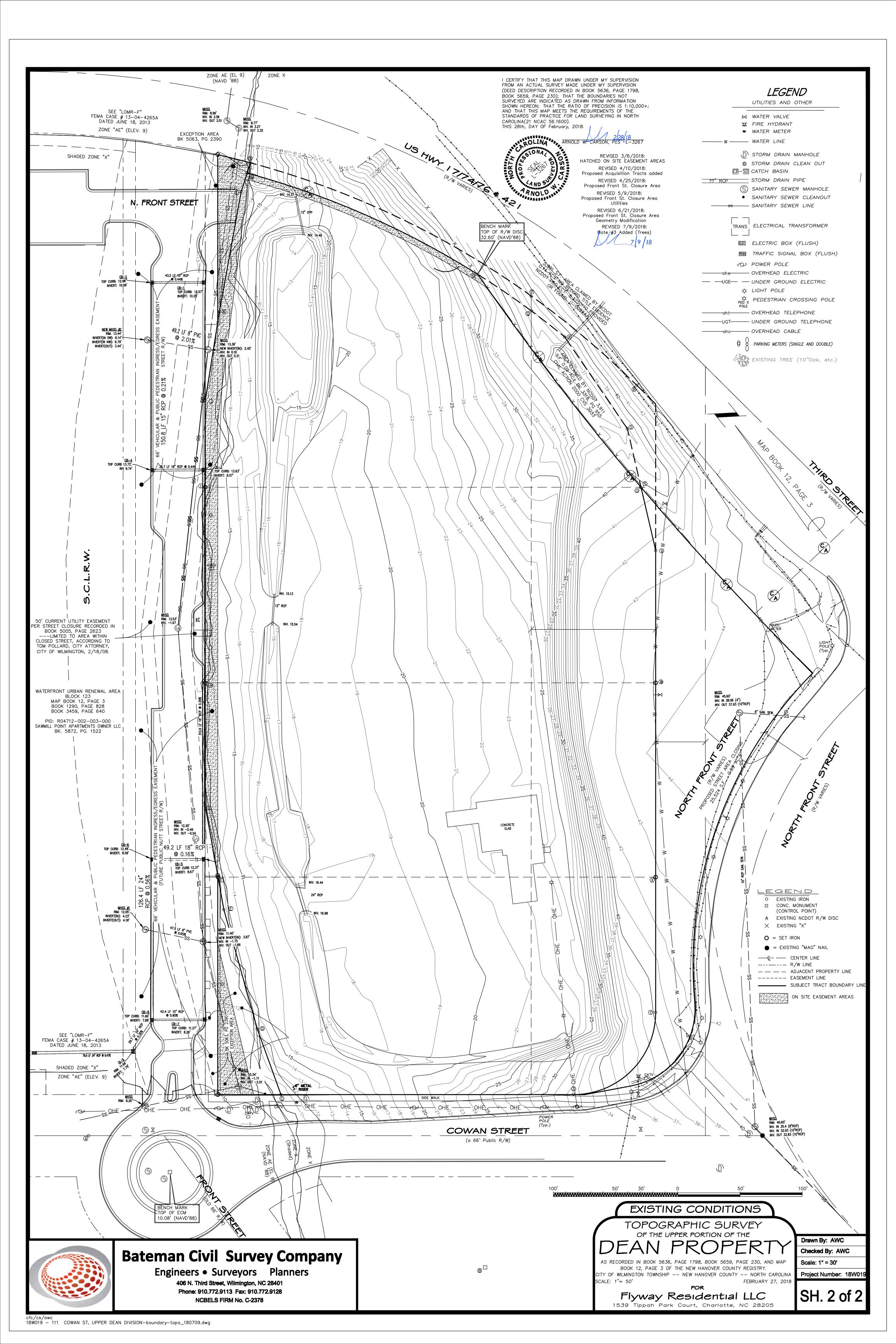
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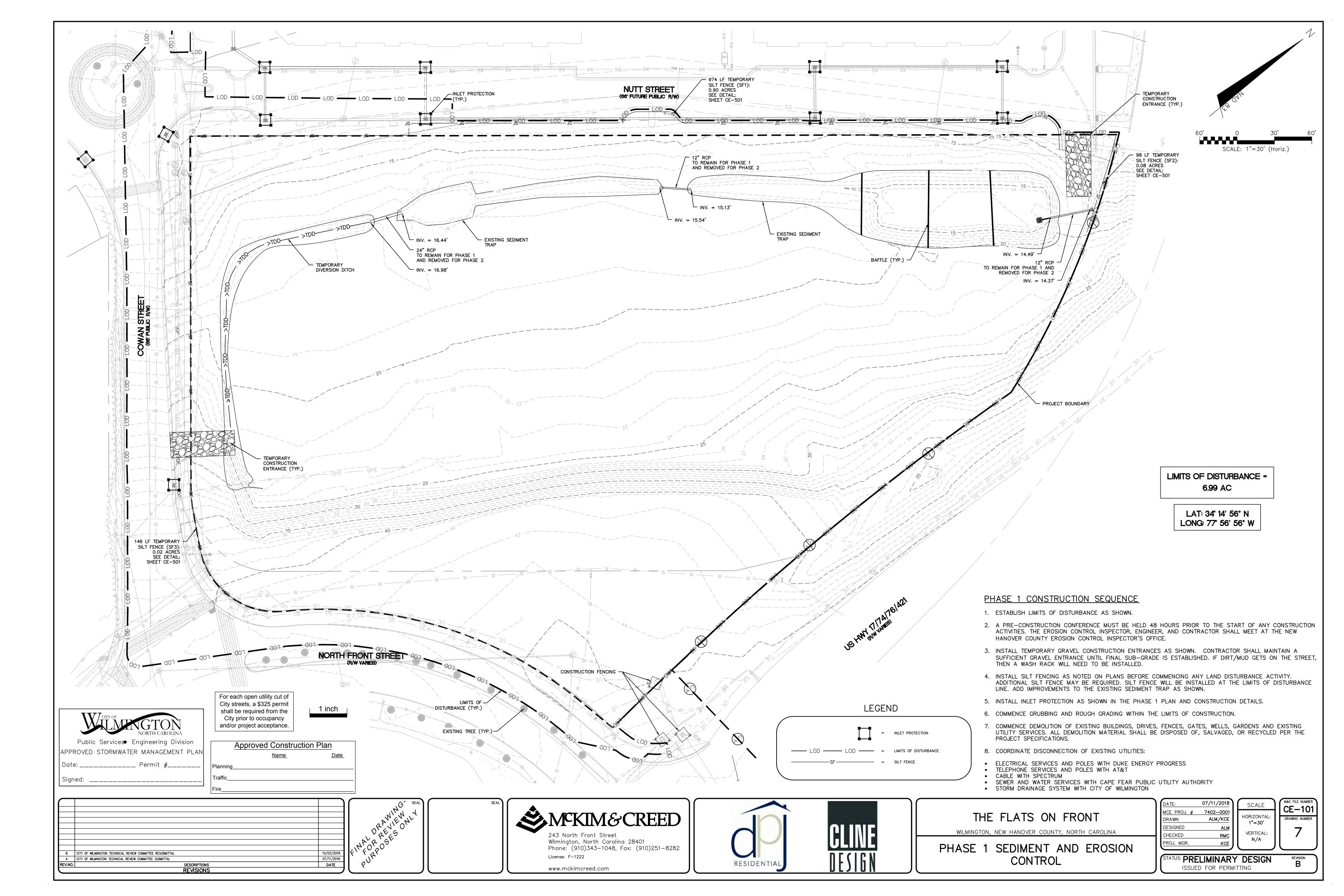
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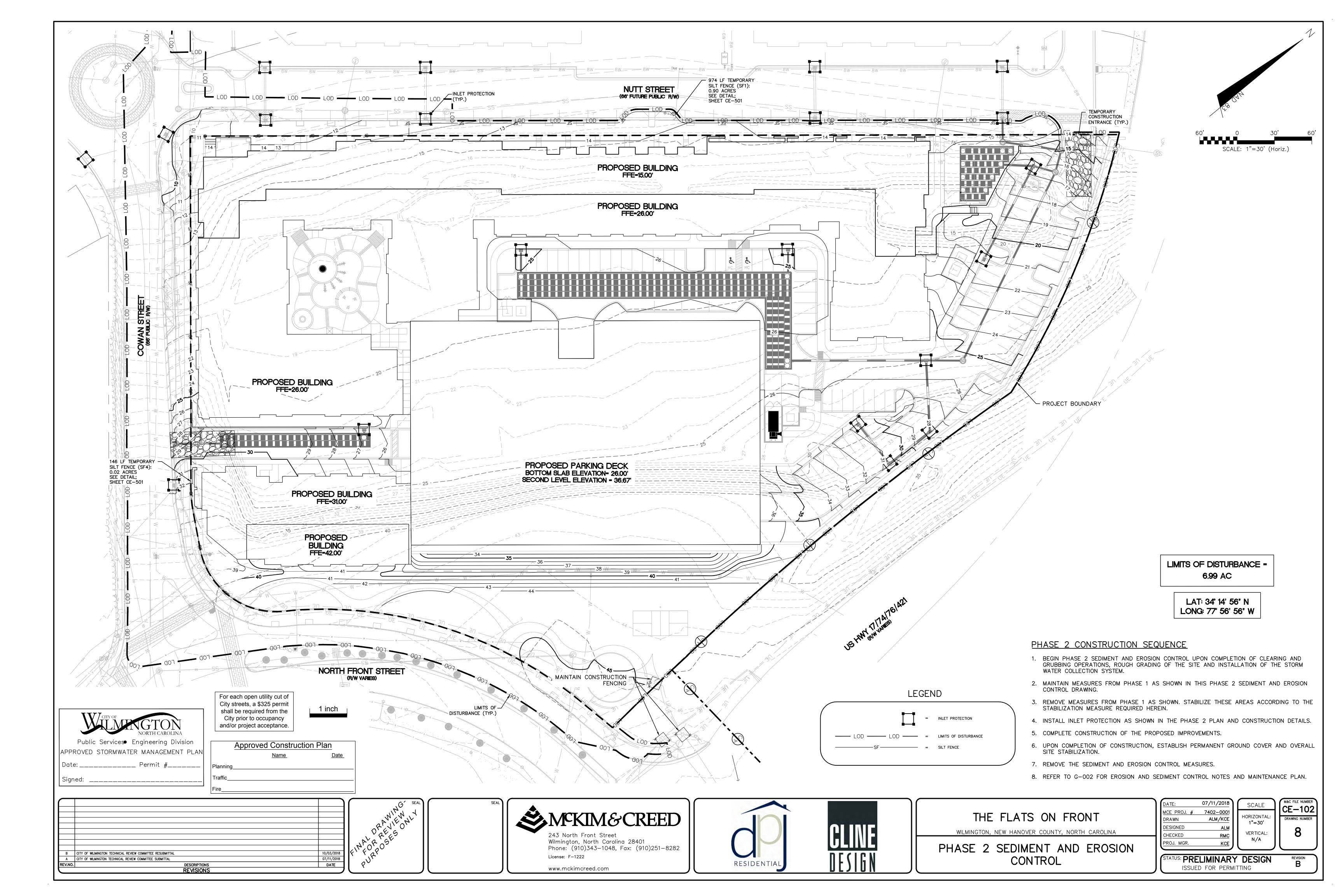
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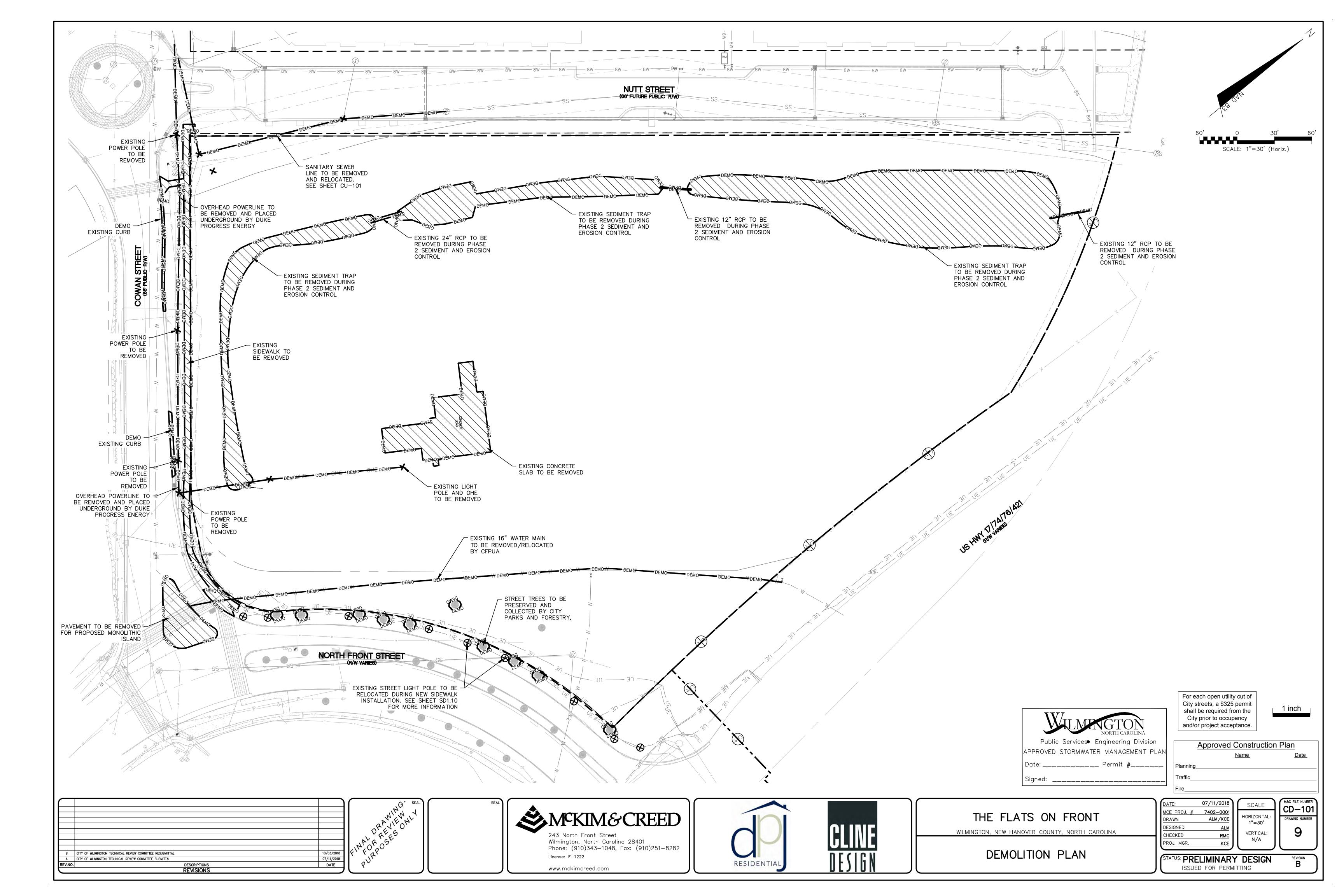


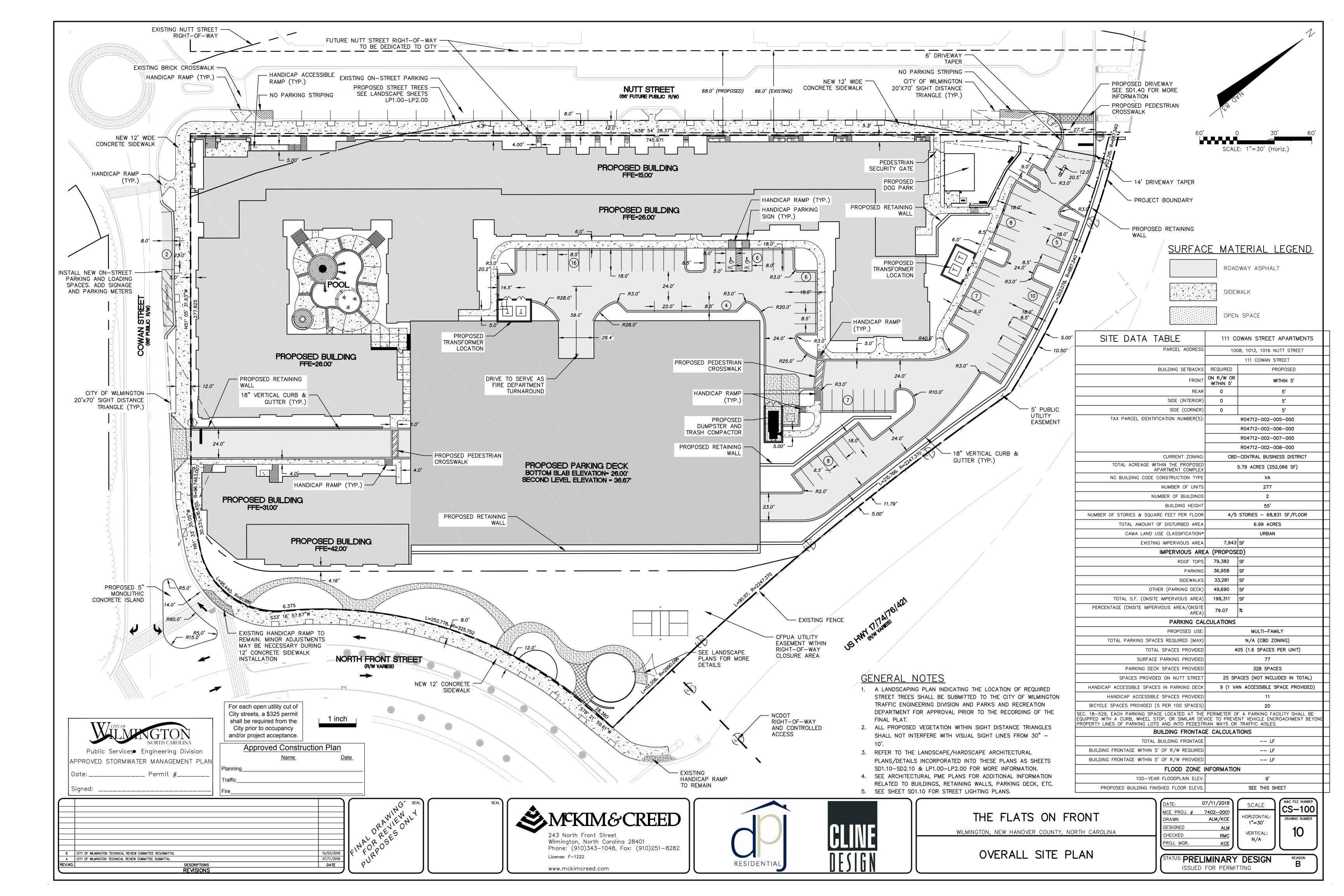


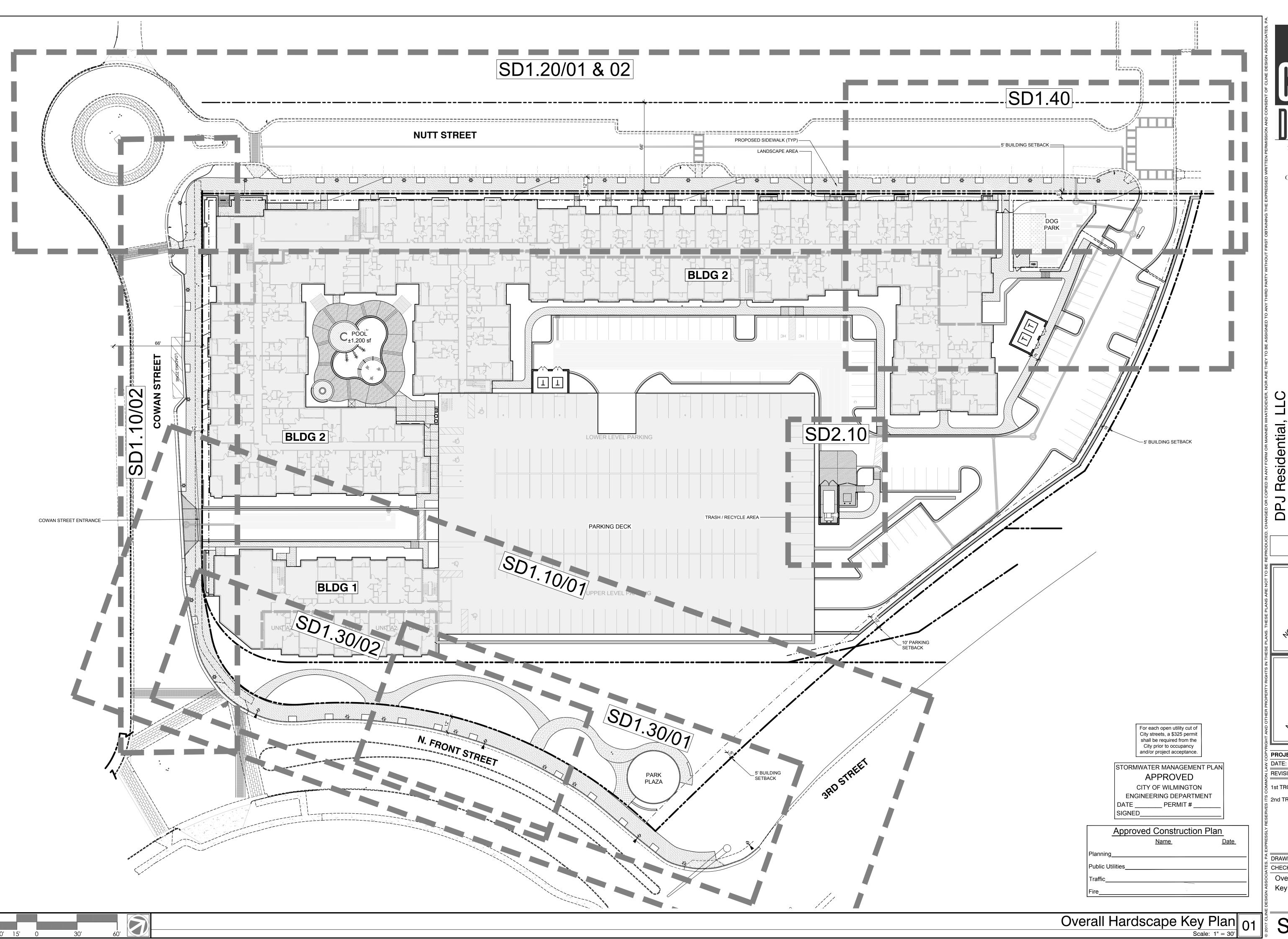














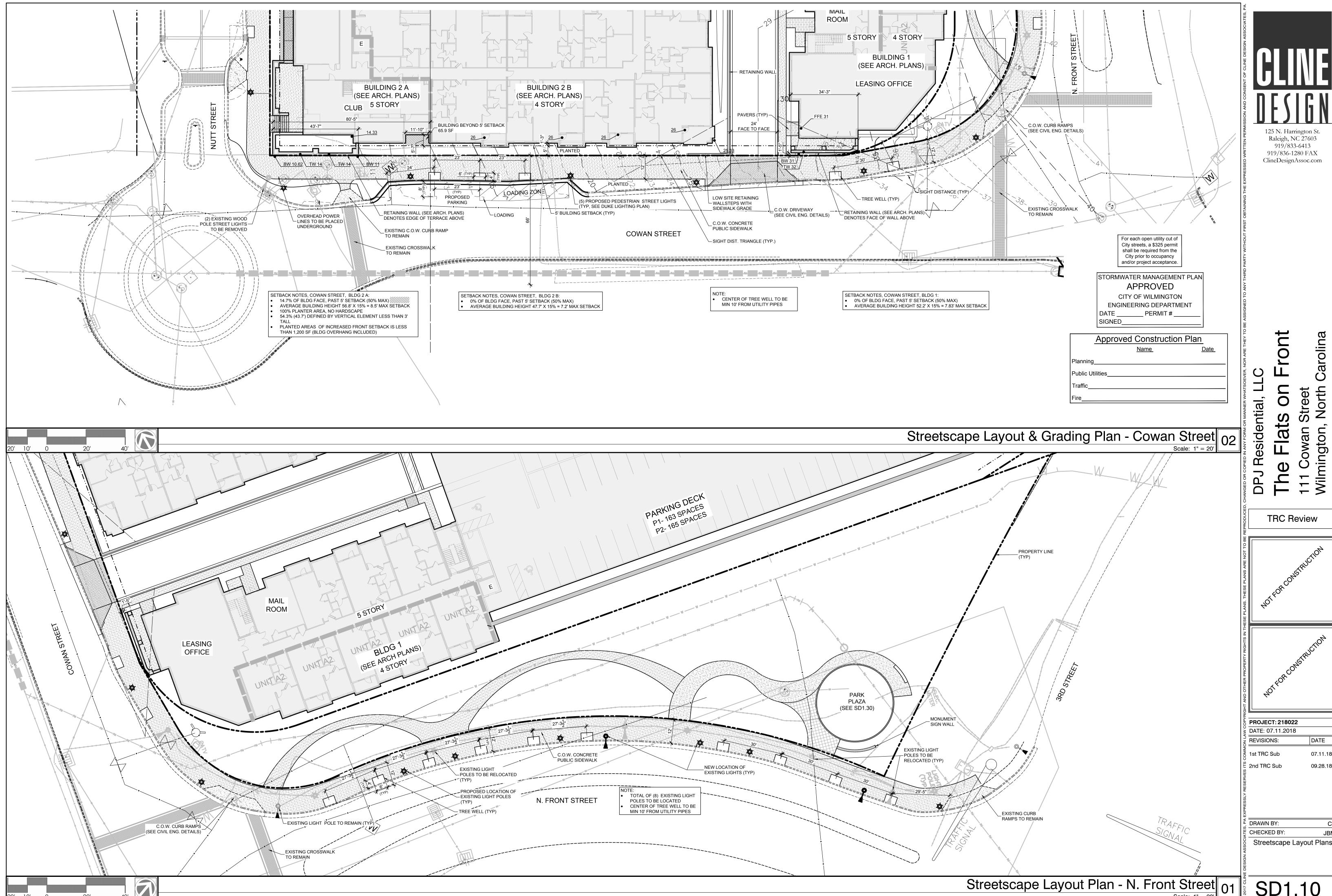
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PROJECT: 218022 DATE: 07.11.2018 **REVISIONS:** 1st TRC Sub 2nd TRC Sub 09.28.18

DRAWN BY: CHECKED BY: Overall Hardscape Key Plan

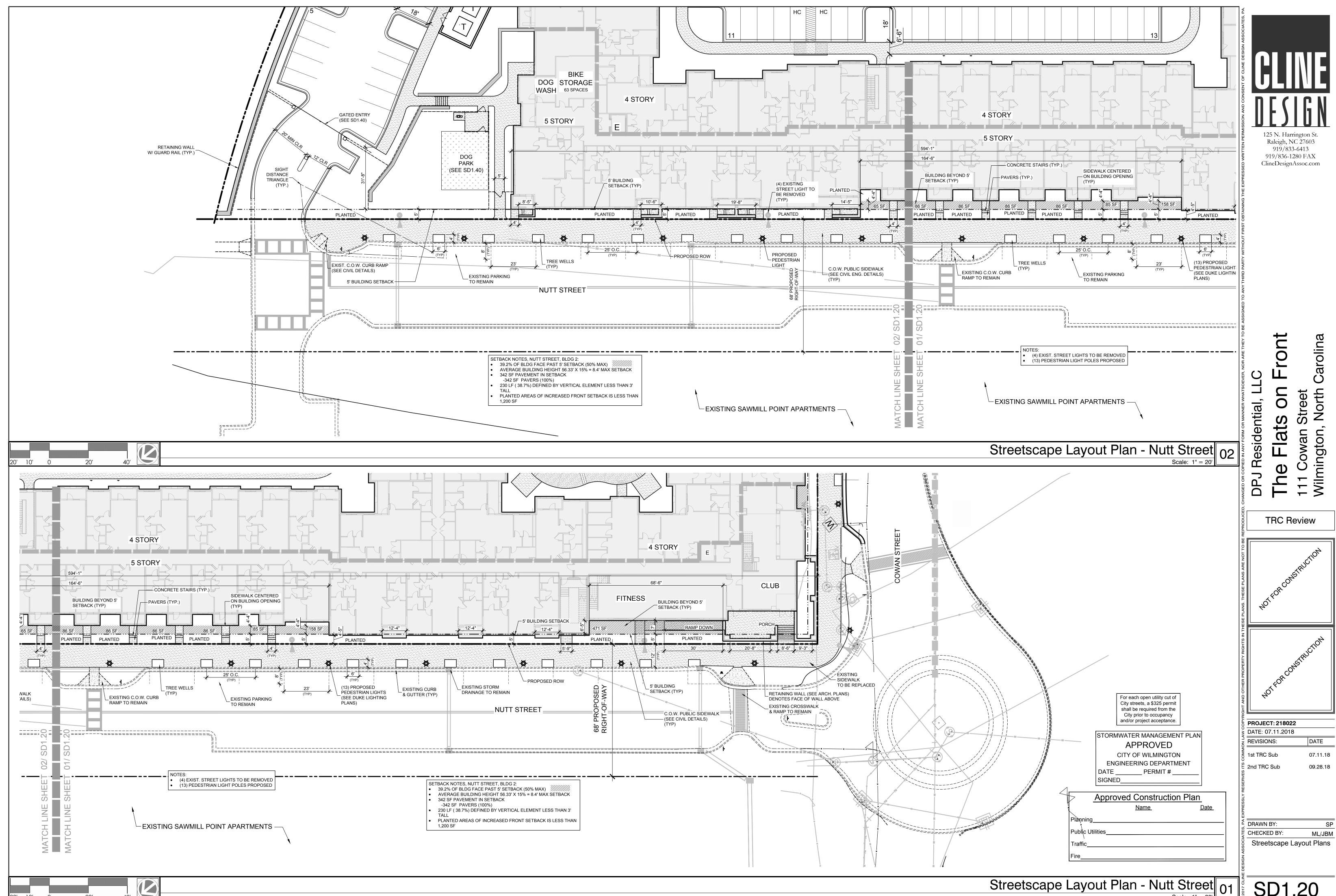
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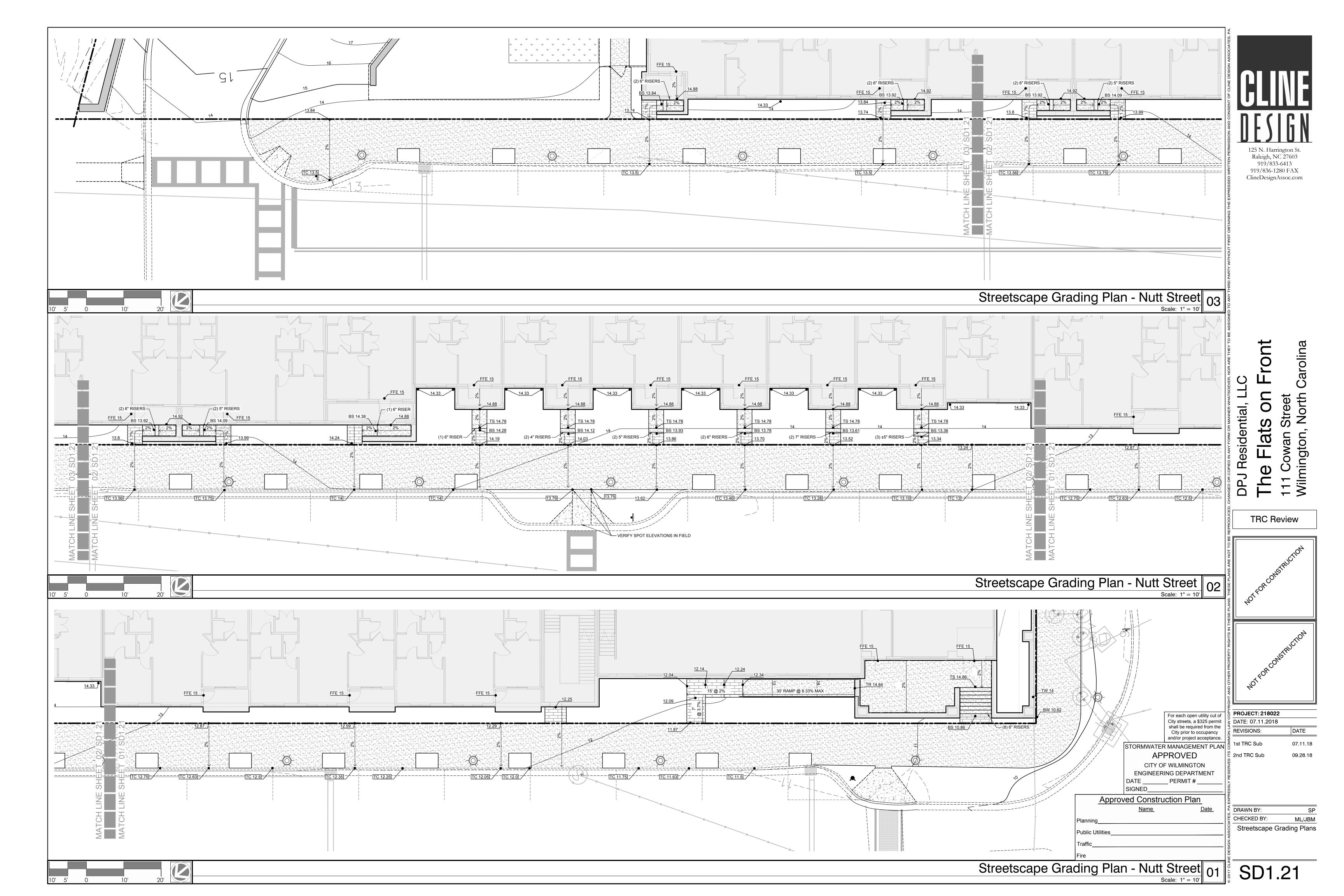


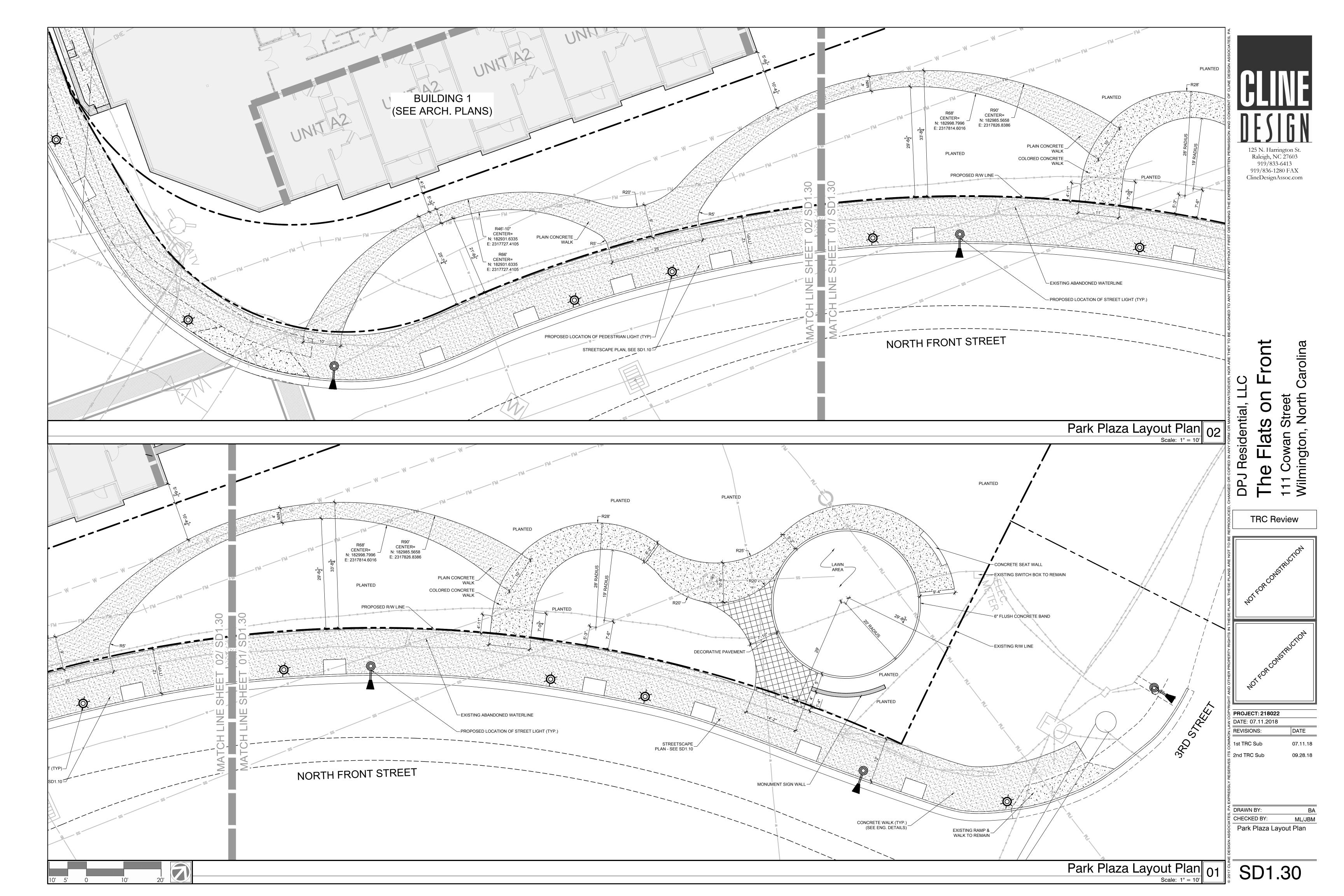
09.28.18

JBM Streetscape Layout Plans

SD1.10









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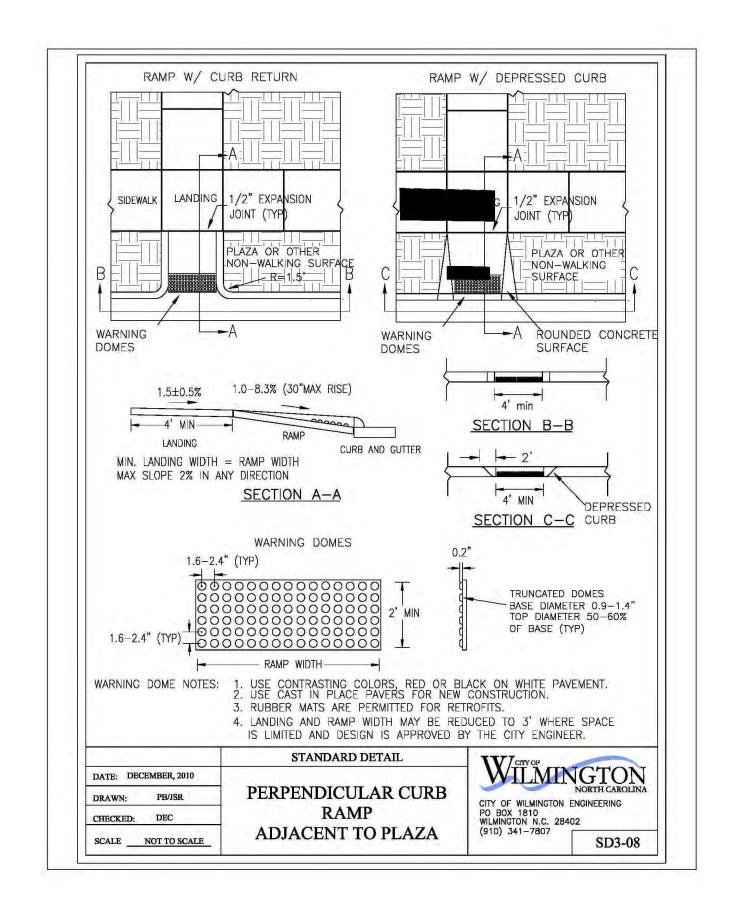
TRC Review

PROJECT: 218022 DATE: 07.11.2018 DATE REVISIONS: 1st TRC Sub 07.11.18 [™] 2nd TRC Sub 09.28.18

DRAWN BY: CHECKED BY: ML/JBM Dog Park Layout Plan

Dog Park Layout Plan 01 Scale: 1" = 10' Stale: 1" = 10' Stale:

<u>Date</u>



ACCESSIBLE RAMP-

ACCESSIBLE ROUTE

ACCESSIBLE RAMP-

ACCESSIBLE ROUTE

BUILDING FACE

Concrete Sidewalk

Between

Building and

Parking Spaces

Figure A5.1

Concrete Sidewalk and

Landscaping Between

Building and Parking

Spaces

Figure A5.2

NOVEMBER 8, 2016

NOT TO SCALE

DRAWN BY: DALE THOMPSON

CHECKED BY: RANDALL GLAZIER

LUSHED TO FACE OF

BUILDING, BOTTOM OF BOTTOM SIGN IS 60 INCHES ABOVE

ACCESSIBLE AISLE

SIGNS NEXT TO

SIDEWALK, BOTTOM OF BOTTOM SIGN IS

84 INCHES ABOVE

ACCESSIBLE PARKING SIGNS

INSTALLATION DETAILS

SHEET A5 OF 5

THESE DETAIL APPLIES ALSO TO PARKING THAT IS SIMILAR. PARKING

STALLS AND LAYOUT SHOWN IS FOR

ILLUSTRATIVE PURPOSE ONLY. ACTUAL PARKING STALLS AND LAYOUT TO BE DETERMINED BY DESIGNER.

WILMINGTON TRAFFIC ENGINEERING

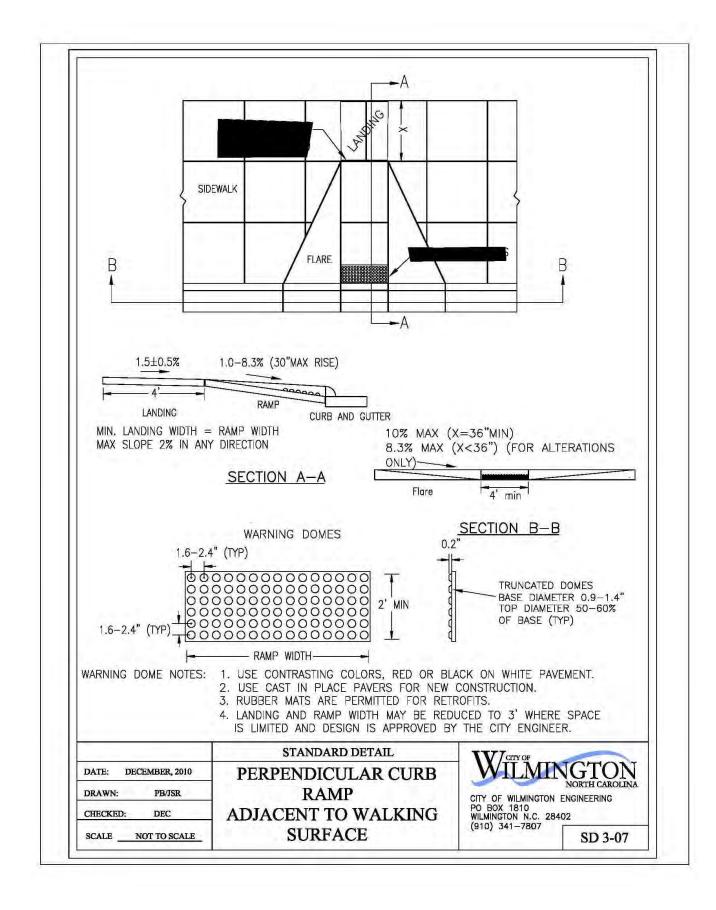
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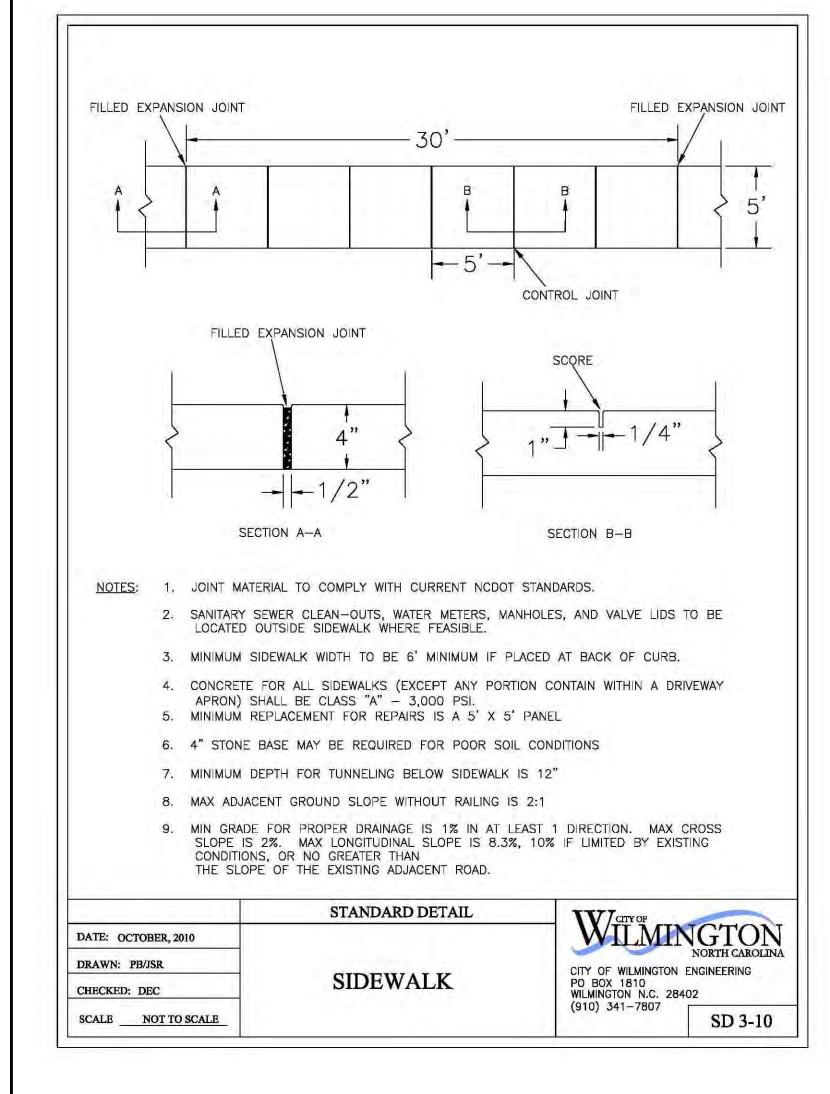
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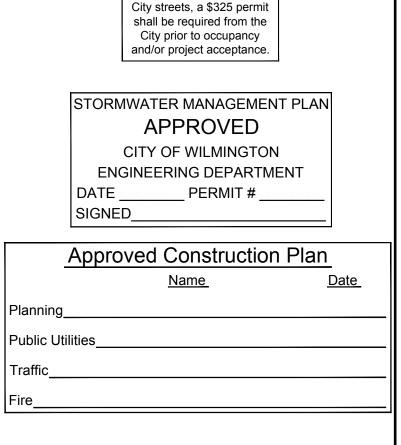
PAVEMENT.

LANDSCAPED AREA

-BUILDING FACE







For each open utility cut of



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sidential Ø DPJ

COW Concrete Sidewalk 02 **TRC Review**

PROJECT: 218022 DATE: 07.11.2018 DATE **REVISIONS:** 1st TRC Sub 07.11.18 2nd TRC Sub 09.28.18 DRAWN BY: SP

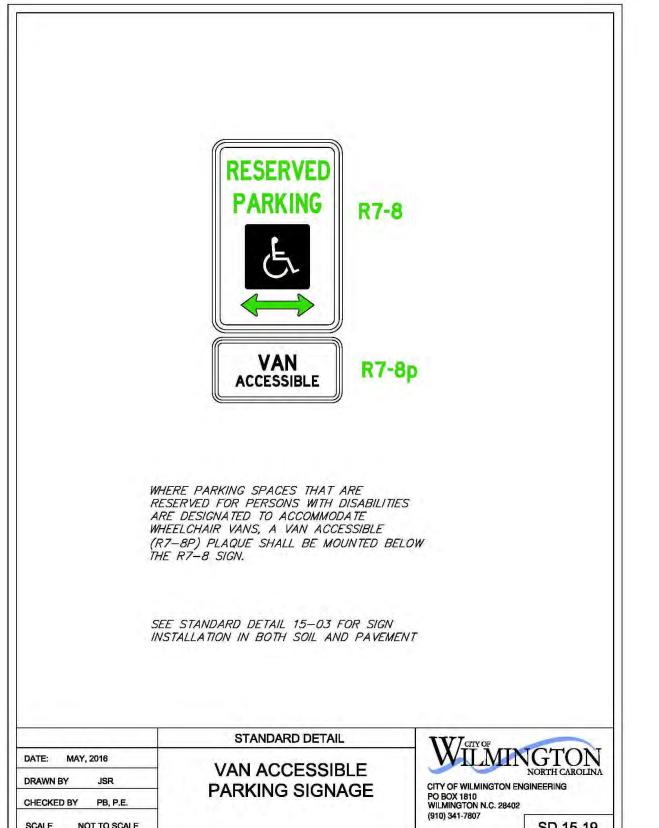
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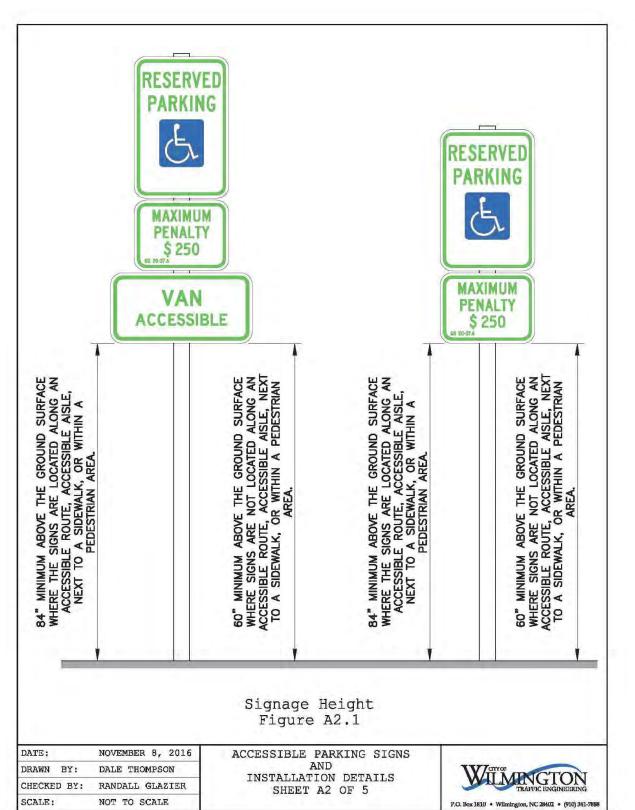
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CHECKED BY:

Site Details

COW Accessible Ramp 03



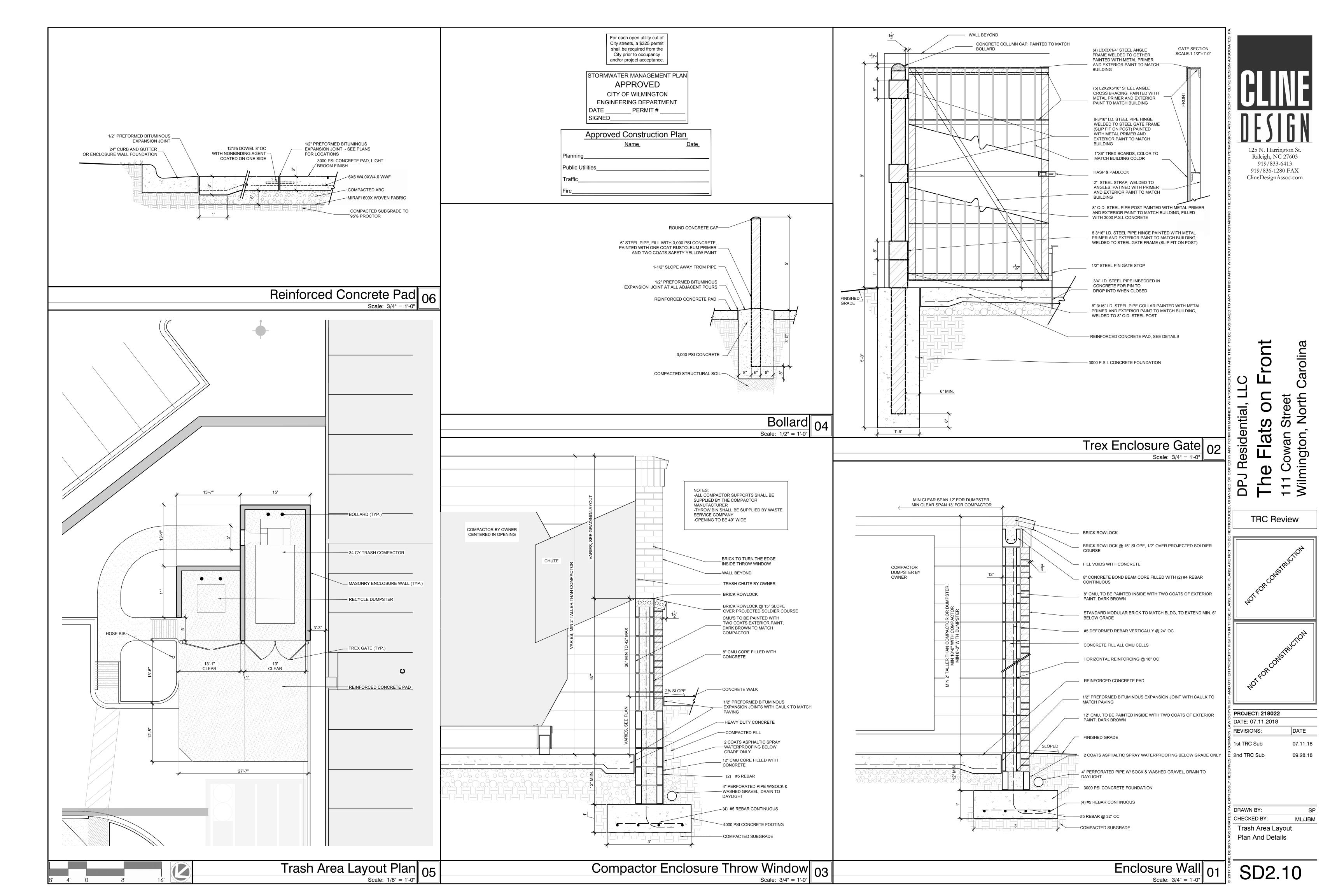


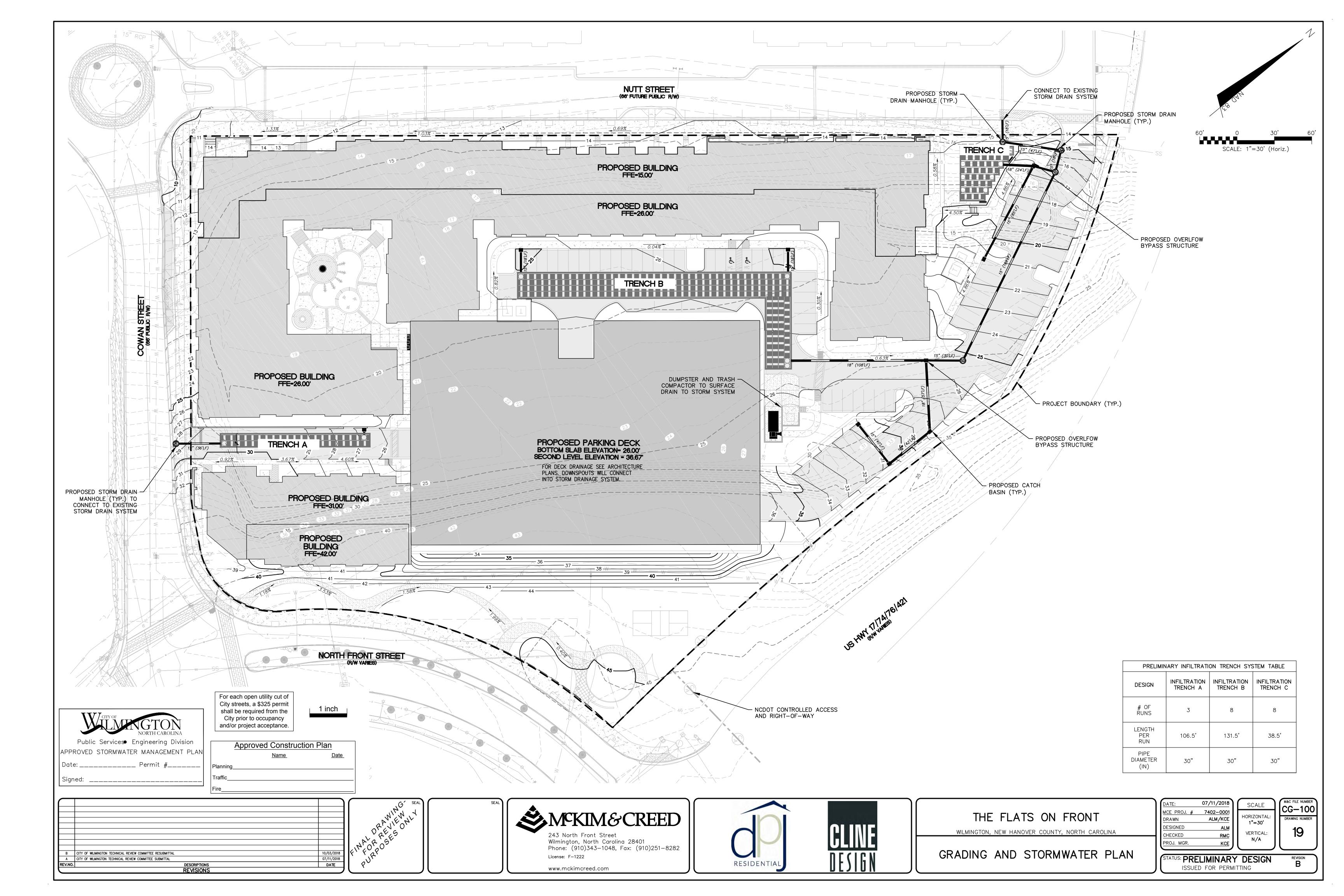


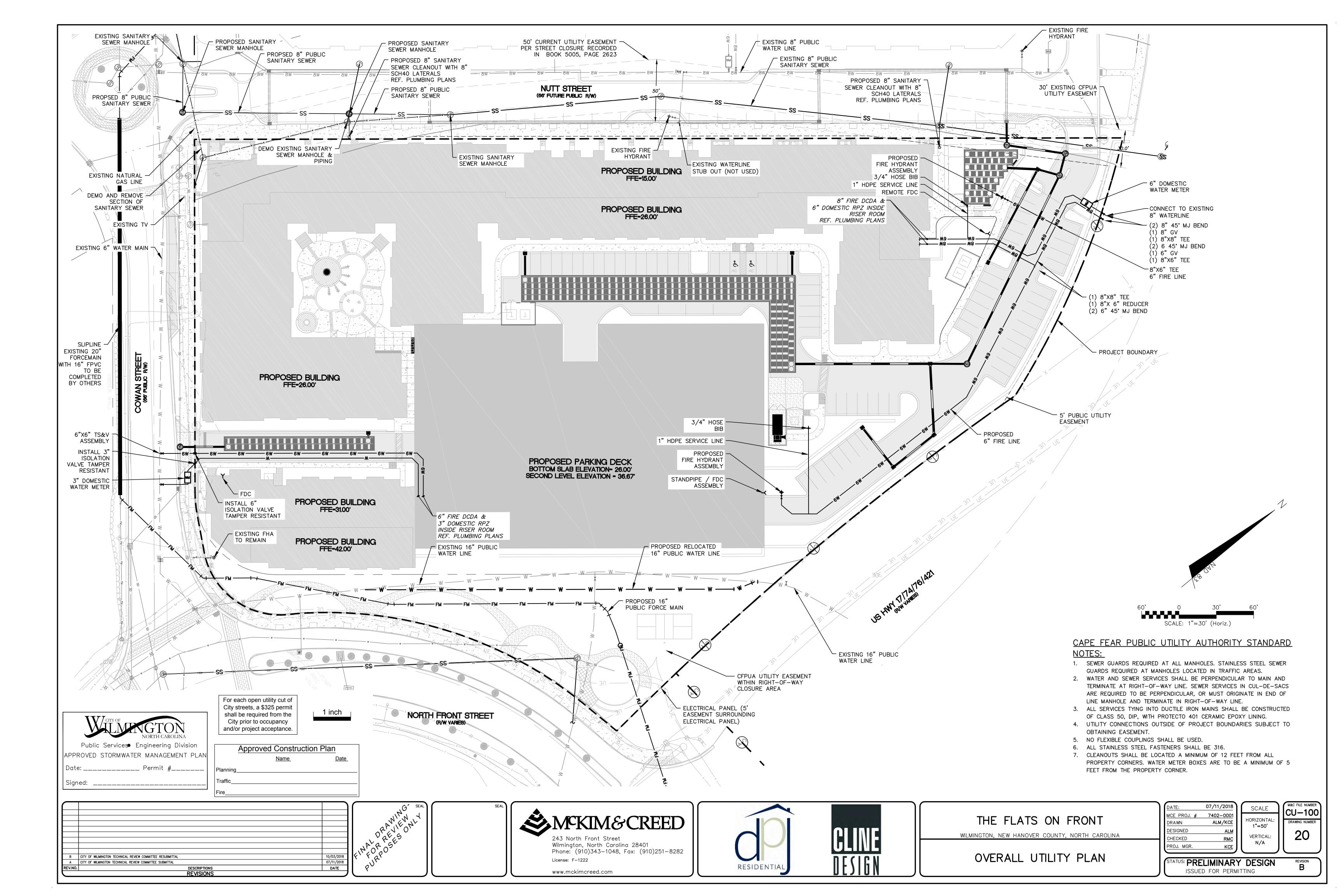


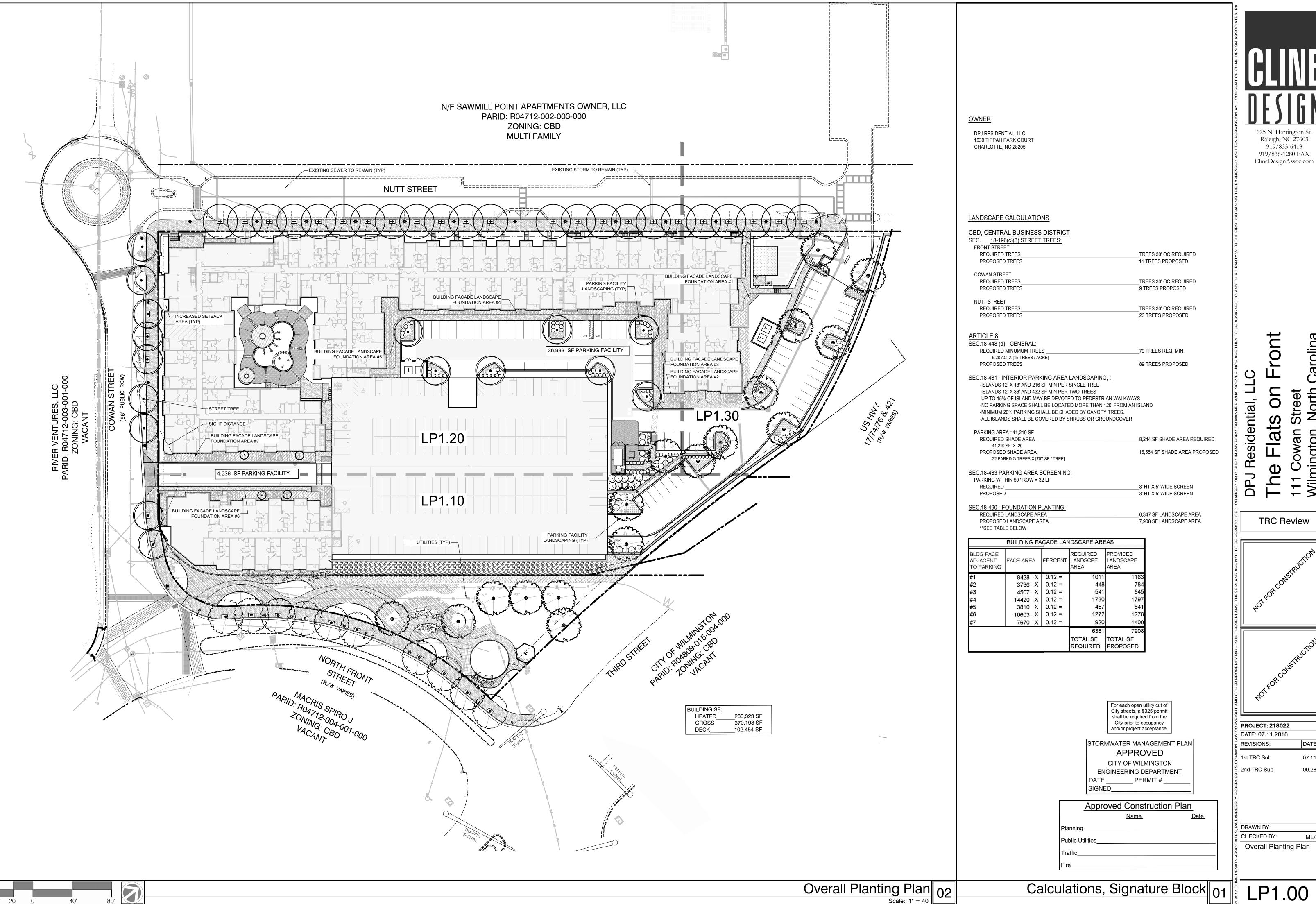
COW Handicap Parking Space Signage 01

SD 15-19







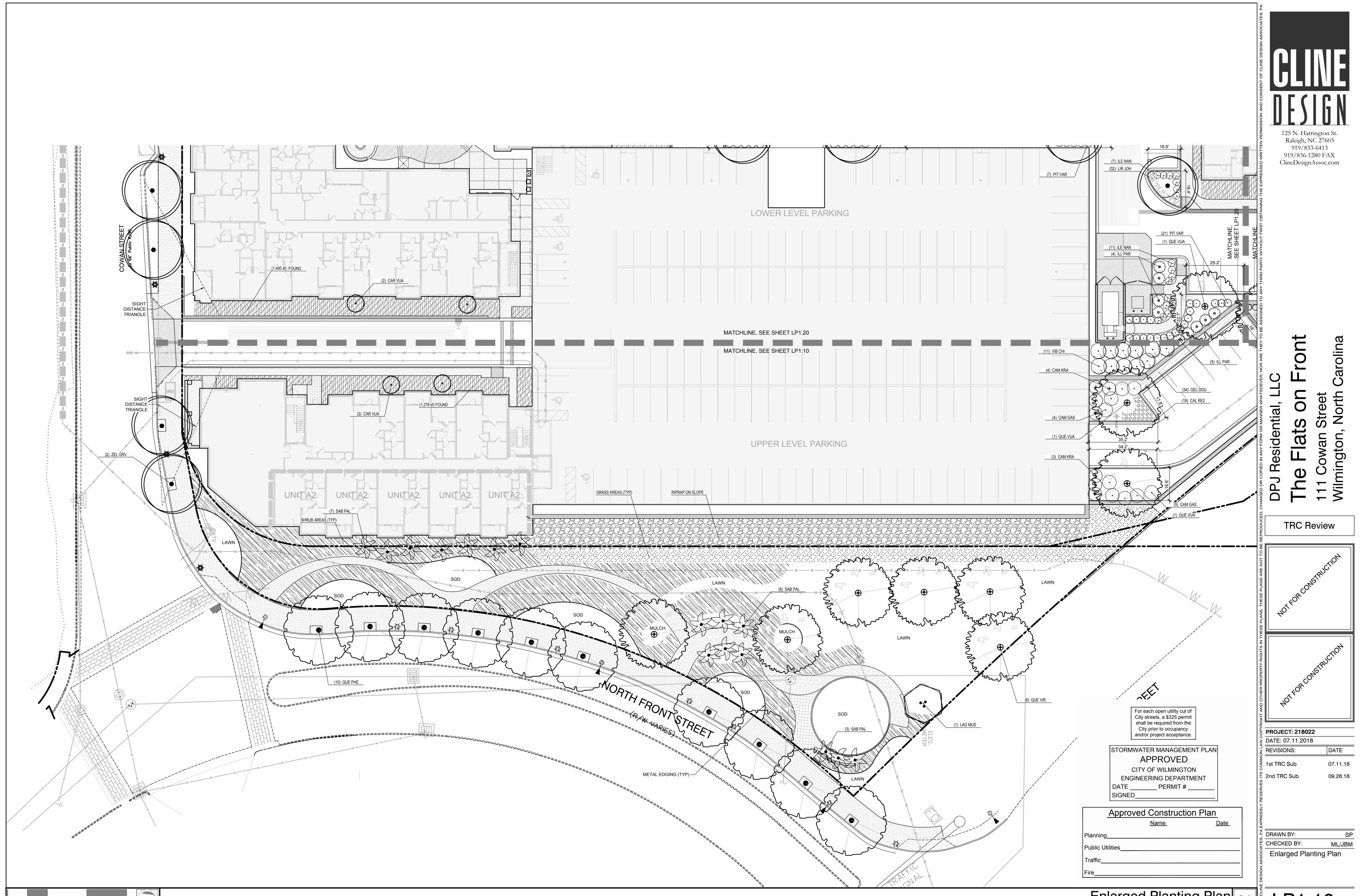


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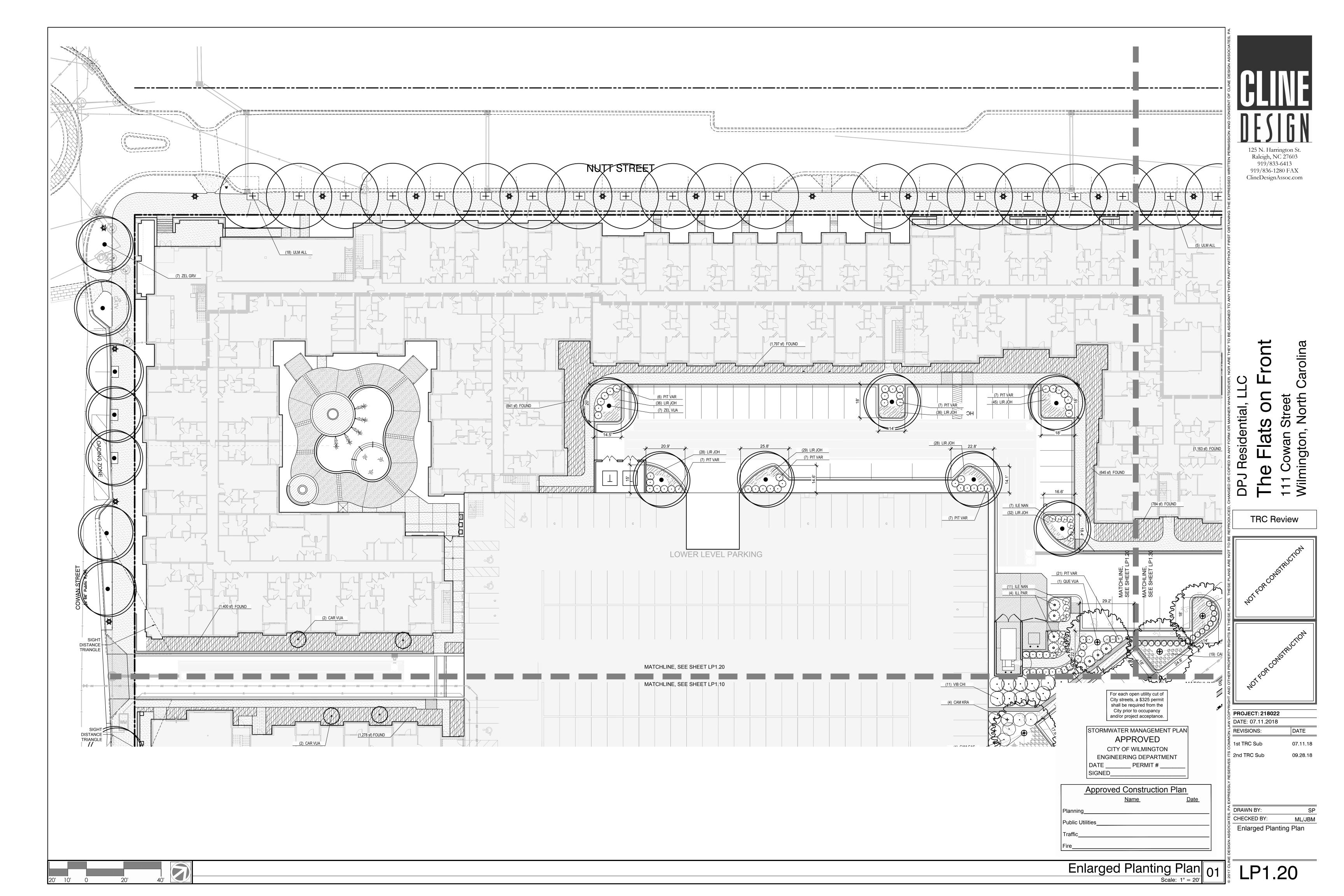
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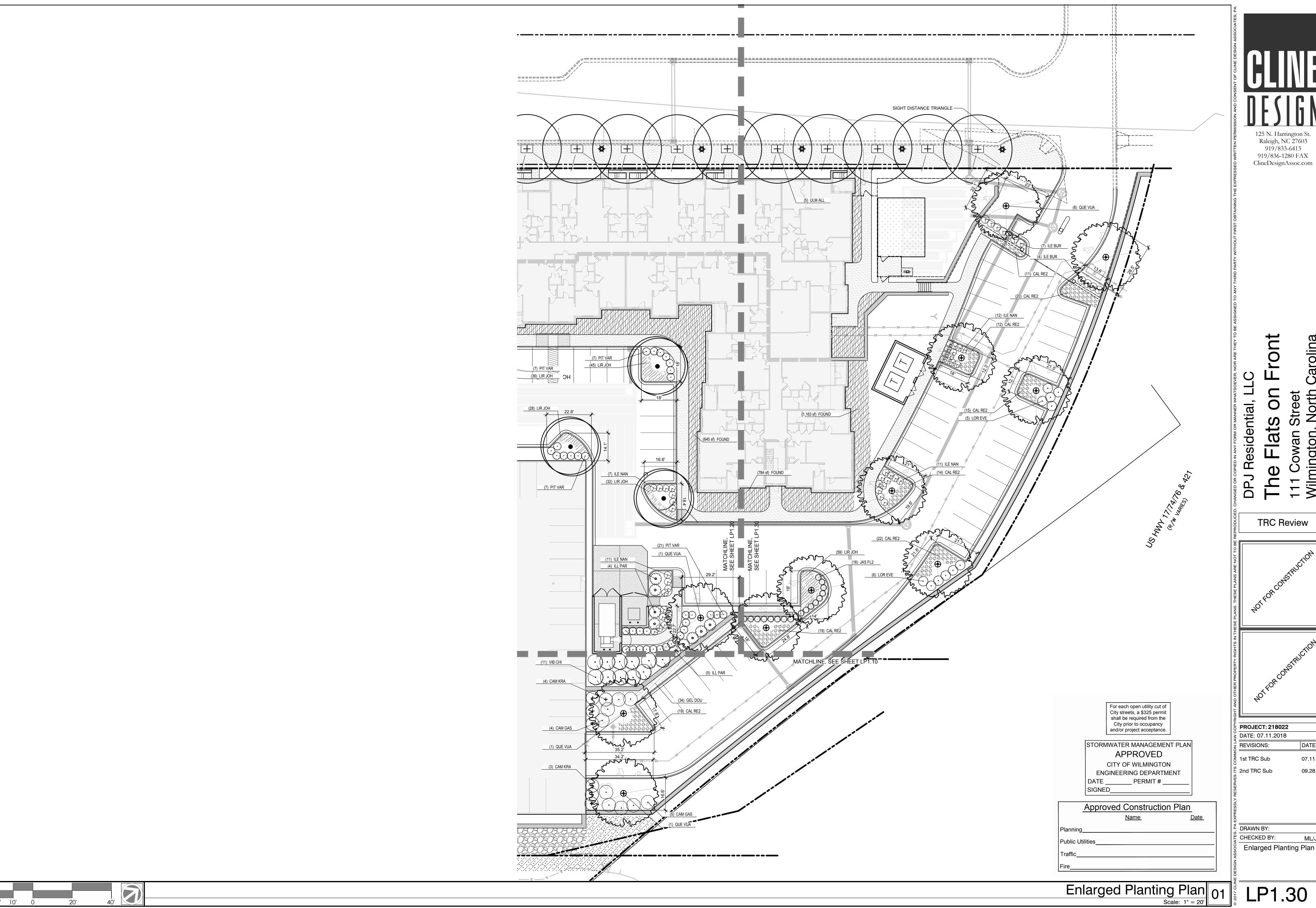
PROJECT: 218022 DATE: 07.11.2018 DATE **REVISIONS:** 1st TRC Sub 2nd TRC Sub 09.28.18

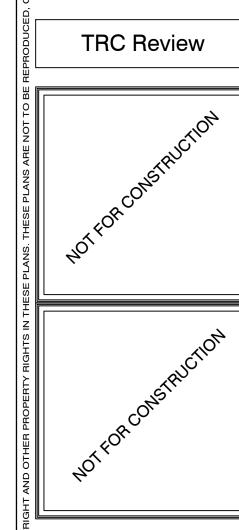
DRAWN BY: CHECKED BY: ML/JBM Overall Planting Plan



Enlarged Planting Plan 01 LP1.10



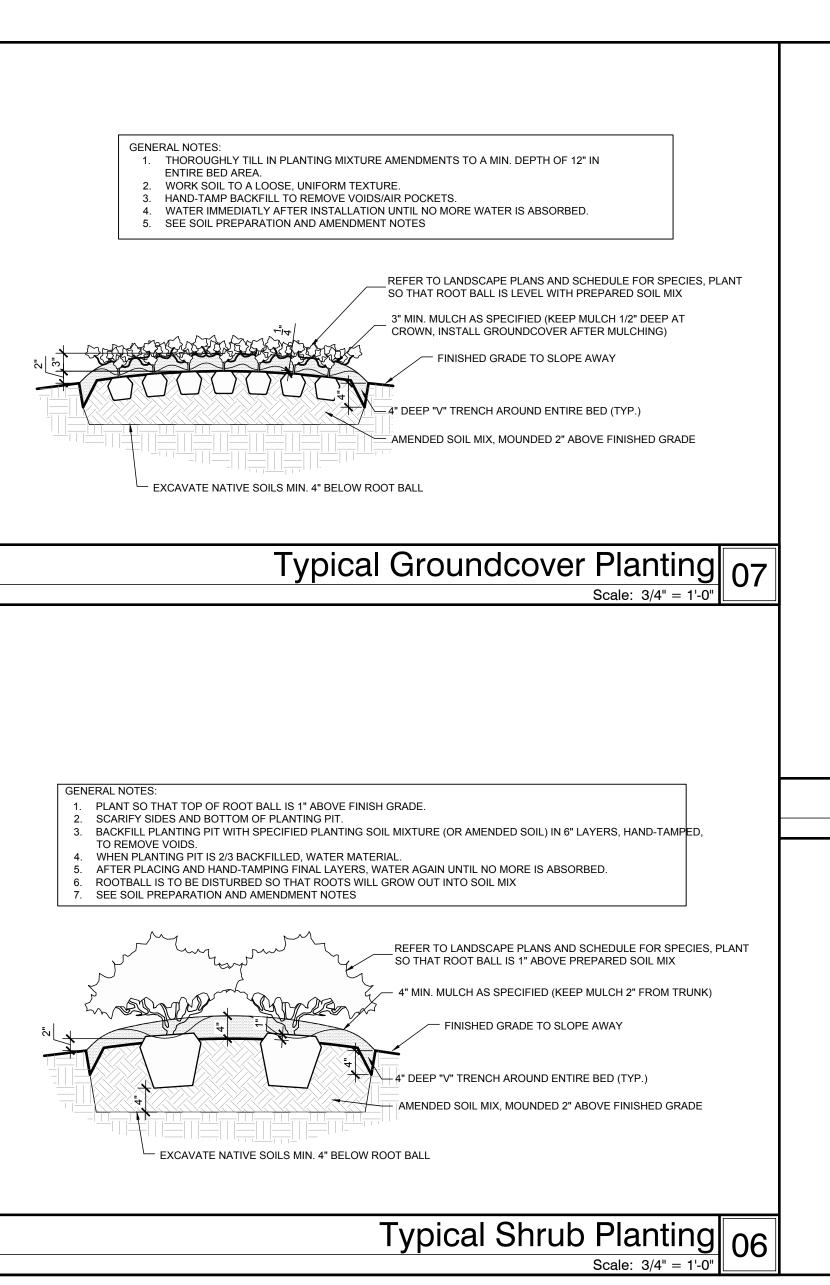


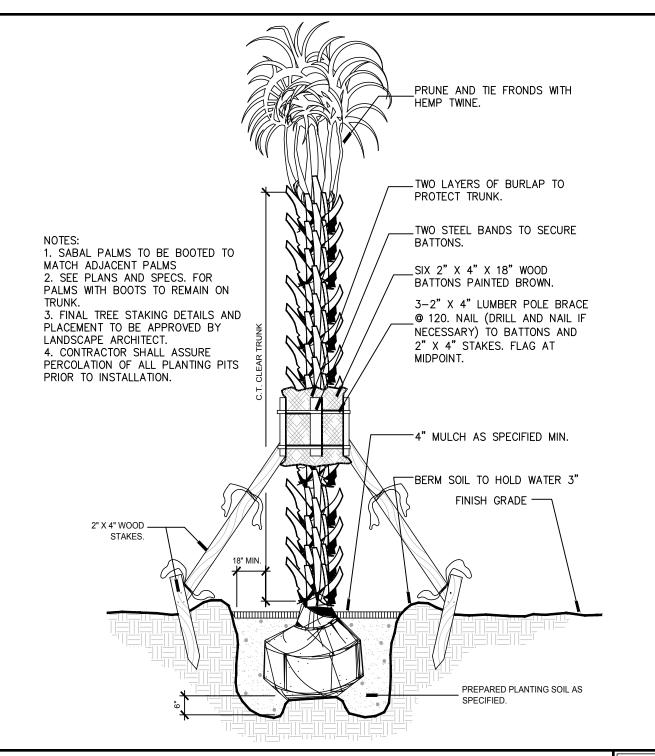


DATE 07.11.18 09.28.18

ML/JBM Enlarged Planting Plan

LP1.30





Landscape Maintenance Notes THE OWNERS OF THE PROPERTY AND THEIR AGENTS, HEIRS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE INSTALLATION, PRESERVATION AND MAINTENANCE OF ALL PLANTINGS AND PHYSICAL FEATURES SHOWN ON THIS PLAN. THE OWNERS SHALL BE RESPONSIBLE FOR ANNUAL MAINTENANCE OF THE VEGETATION TO INCLUDE BUT NOT LIMITED TO: A. Fertilization: Avoid any nitrogen fertilization of cool-season grasses, such as tall fescue, after the February application until September. Fertilize lawns three times per year September 15, October 31, and February 15 according to soil test. Fertilize warm season grasses once during growing season per soil test. B. Pruning: Purpose of pruning is to improve heath and vigor of woody plants, adjustments to the foliage and branching density for visual screens and managing competition, and improving the appearance of trees and shrubs. Pruning shall be limited to removal of dead wood or branches for trees or for sight distances/safety reasons for the first year. The ANSI A300 Tree Care Operations standards should be adhered to. The pruning of shrubs shall be limited to the pruning necessary to maintain the natural shape of the plant except for sheared hedges. 1. Shrubs in buffers allowed to remain full to ground and 6'-8' height. 2. Shrubs in streetscape buffer trimmed to continuous soft hedges below trees. 3. Shrubs in planting islands kept trimmed to 36" maximum height. C. Pest Control: Pre-emergent weed control for lawns and shrub beds may be applied in February. Chemical treatment for insect infestation and disease may be applied and shall be specific to the problem. D. Mulching: Mulching shall be maintained at a depth of 2"-3" in plant beds. Mulch shall be reapplied every year. recommended height of the species of turf grass.

E. Mowing primary fescue lawns shall be maintained at a height of 3". Secondary turf areas may be maintained higher and less frequently. Warm season grasses shall be mowed as needed during the growing season to maintain the F. Plant protection: Avoid excess intrusion into the root zone area of established plantings. Install tree protection

fencing as shown during construction.

G. Watering: If any irrigation system is utilized, the system shall be regulated to provide approximately 1" of rainfall per week during the growing season.

H. Maintenance notes for Bioretenion Basin plant materials: 1. Visually inspect and repair erosion around bioretension areas on a monthly basis.

2. Inspect mulch cover monthly and replace any void area as needed. additional mulch shall be applied in the spring

3. Remove and replace all dead or diseased vegetation twice annually. Treat all diseased shrubs and trees as needed to insure proper growth. 4. All plant materials shall be watered by hand for two weeks after installation.

5. Replace any deficient stakes or wires whenever needed. Remove all trash weekly.

Landscape Maintenance Notes 03

Landscape Planting Notes

1. Verification of total landscape material quantities as shown on the landscape plans and in the plant list shall be the responsibility of the landscape contractor. The landscape architect shall be notified of any discrepancies prior to final bidding or installation.

2. All landscape materials shall conform to the most recent American Standards for Nursery Stock established by the American Association of Nurserymen (A.A.N.). 3. Soil analysis shall be obtained by landscape contractor prior to planting. See Soil Preparation and Amendment Notes

4. Shrub bed area preparation is highly preferred to individually dug holes.

5. Trees with root flare covered by more than 1.5" of soil will be rejected prior to installation. 6. Landscape material placed in prepared holes shall be properly backfilled prior to the end of the working day.

7. All saucers shall be soaked with water and mulched immediately following installation. 8. All prepared ground cover and annual bed installations shall be properly soaked and mulched prior to the end of the day.

9. Landscape Architect shall approve any on-site plant storage area for accessibility, shade conditions, healing-in mulch material and temporary watering methods.

10. Lift and set the tree by root ball only. Do not lift using the tree trunk. Do not use tree trunk as a lever. 11. All root balls removed from containers shall be scarified by hand prior to placement and back filling with prepared soils. Hand tools are not to be used to scarify root balls.

12. All rope and wrapping twine shall be cut and removed from around the upper parts of the root ball. Metal basket wires and burlap shall be pulled back and tucked under the edges of the saucer rings on all trees and large shrubs. All synthetic burlap shall be removed from plant balls prior to back filling. 13. All plant beds or raised saucer rings shall be edged with smooth, continuous curves.

14.All plant material shall be planted at heights as illustrated in plant details.

15. 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.

16. B & B as listed under "root" in the plant list indicates balled and burlapped.

17. Contractor shall verify locations of underground utilities prior to planting. Any exposed or uncovered lines shall be shown to general contractor prior to backfilling. 18. All plant beds and raised saucer rings shall be graded to provide adequate drainage and shall be mulched as specified.

19. All materials, planting and landscape work shall conform to the current municipal authority's standard specifications and details.

20. All landscape areas that are not planted and mulched or paved shall be seeded or sodded per owner's direction with rebel IV turf type tall fescue, unless otherwise noted. 21. Tree protection fence shall be installed, inspected and approved prior to the issuance of any grading or other permits.

22. First year pruning of tree crown shall be limited to removal of dead & damaged wood. 23. The owner shall be responsible for the maintenance of all required landscaping by keeping lawns mowed, all plants maintained as disease free, all planting beds groomed

and kept weed free (except in areas of preserved existing natural vegetation i.e. thickets) and kept them free from trash, debris and other materials. 24. The owner shall be responsible for the replacement of any required planting, which is removed or dies after the date of planting. Such replacement shall occur during the

25. Trees within Public Right-of Way to be planted from October 1st to April 30th only.

Soil Preparation and Amendment Notes

1. Soil samples shall be taken and submitted for soil analysis.2. Per recommendation of soils report; landscape contractor to supplement soil with lime, macronutirents and micronutrients.

3. Contractor to amend soil with organic material and/or sand to yield the final soil ratio:

33.3% Sand/Silt

33.3% Clay

33.3% Organic Material *

* Organic material to be Compost made solely from plant-based products. Peat moss is allowed in sandy soils

4. Native soil, Lime, Nutrients and Amendments to be tilled to a minimum width of 3-5 x root ball for trees. Shrub and groundcover planting areas shall be tilled to a minimum 4" below rootball or a minimum 12" deep.

Planting and Soil Notes 02

Φ

W DPJ

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TRC Review

PROJECT: 218022 DATE: 07.11.2018 **REVISIONS:** DATE 1st TRC Sub 07.11.18

DRAWN BY: SP

09.28.18

MWL

CHECKED BY: Plant Schedule And Details

2nd TRC Sub

Typical Tree Planting (Sandy Soils) 05

PLANT SO THAT HALF OF TOP OF ROOT BALL IS 2" ABOVE FINISH GRADE.

DO NOT WRAP TREE TRUNKS UNLESS DIRECTED BY LANDSCAPE ARCHITECT.

BACKFILL TREE PIT WITH SPECIFIED PLANTING SOIL MIXTURE (OR AMENDED SOIL) IN

AFTER PLACING AND HAND-TAMPING FINAL LAYERS, WATER AGAIN UNTIL NO MORE IS

TREE TO BE STRAIGHTENED

APPROVED TREE WRAP ON

(LANDSCAPE CONTRACTOR TO REMOVE COMPLETELY AFTER ONE YEAR GUARANTEE)

'ARBOR TIE' OR APPROVED EQUIVALENT STRAPPING

PULL BACK ALL BURLAP. CLIP WIRE BASKET IN

- SECTIONS, CUT ALL TWINE OR ROPE AROUND TRUNK

4" MIN. MULCH AS SPECIFIED (KEEP MULCH 6" FROM

4" DEPTH "V" TRENCH EARTH SAUCER CENTERED

2"x2"x80" UNTREATED LUMBER STAKES, THREE PER

TREE SPACED EQUALLY AROUND TREE. STAKE

SUBGRADE PEDESTAL COMPACTED TO PREVENT

SHALL BE NOTCHED AT TOP, TO BEAR INTO

THIN BARK SPECIES ONLY

PRIOR TO BACKFILLING

AND GUYING

TREE TRUNK)

AROUND TREE

- SPECIFIED SOIL MIX

NON-DISTURBED SOIL

SETTLING OF TREE

FINISH GRADE

SCARIFY SIDES AND BOTTOM OF PLANTING PIT

8" LAYERS, HAND-TAMPED, TO REMOVE VOIDS.

STAKE AND GUY TREES (3" CALIPER AND LARGER)

SEE SOIL PREPARATION AND AMENDMENT NOTES.

4' MIN AMENDED SOIL

WHERE SPACE ALLOWS

ABSORBED.

3 X MAX WIDTH OF ROOTBALL

WIDTH OF ROOTBALL

4' MIN AMENDED SOIL

WHERE SPACE ALLOWS

WHEN PLANTING PIT IS 2/3 BACKFILLED, WATER MATERIAL

BOTANICAL NAME COMMON NAME SPR. <u>REMARKS</u> FULL HEAD. MATCHED QUE VIR QUERCUS VIRGINIANA SOUTHERN LIVE OAK 12-14 6-8' SAB PAL 16 SABAL PALMETTO SABAL PALMETTO PALM 8-1øʻ FULL, MATCHED STREET TREES **BOTANICAL NAME COMMON NAME** <u>REMARKS</u> 2.5 - 3" WILLOW OAK QUERCUS PHELLOS 12-14' FULL, MATCHED QUE PHE ULM ALL 23 ULMUS PARVIFOLIA 'UPMTF' BOSQUE® LACEBARK ELM 2.5-3" 12'-14' FULL HEAD. MATCHED ZELKOVA SERRATA 'GREEN VASE' ZEL GRV GREEN VASE ZELKOVA 2.5 - 3" 12-14' FULL, MATCHED UNDERSTORY TREES BOTANICAL NAME FULL HEAD. MATCHED, 3 TRUNK, MIN. LIMBED UP LAGERSTROEMIA FAURIEI 'MUSKOGEE' MUSKOGEE CRAPE MYRTLE 12'-14' LAG MUS BOTANICAL NAME VEHICULAR TREES COMMON NAME <u>REMARKS</u> CAR VUA CARPINUS BETULUS 'FRANS FONTAINE' PYRAMIDAL EUROPEAN HORNBEAN 10'-12' 3'-5' FULL, QUE VUA 11 QUERCUS VIRGINIANA SOUTHERN LIVE OAK 2.5-3" 12-14 6-8' FULL HEAD. MATCHED FULL, MATCHED ZELKOVA SERRATA 'GREEN VASE' ZEL VUA GREEN VASE ZELKOVA 2.5 - 3" 12-14' COMMON NAME <u>SHRUBS</u> BOTANICAL NAME <u>REMARKS</u> CAM KRA CAMELLIA JAPONICA 'KRAMER'S SUPREME' TM KRAMER'S SUPREME CAMELLIA 24-36" 15-2Ø" FULL 18-24" FULL CAM GAS CAMELLIA SASANQUA 'SHISHI GASHIRA' SHISHI GASHIRA CAMELLIA 24-3Ø" 36"-42" 24-28" ILE BUR DWARF BURFORD HOLLY FULL ILEX CORNUTA 'BURFORDII NANA' 18" MIN. ILEX VOMITORIA 'NANA' DWARF YAUPON 12**"** FULL ILE NAN ILL PAR ILLICIUM PARVIFLORUM ANISE TREE 24-36" 18-24" FULL FULL JAS FL2 18 JASMINUM FLORIDUM SHOWY JASMINE LOR EVE 11 LOROPETALUM CHINENSE 'EVER RED EVER RED LOROPETALUM 18-24" 12-18" FULL PIT VAR PITTOSPORUM TOBIRA 'VARIEGATA' VARIEGATED MOCK ORANGE 12-18" 18-24**"** FULL 36" –48" VIB CHI VIBURNUM AWABUKI 'CHINDO' CHINDO VIBURNUM FULL 24-3Ø" <u>SHRUB AREAS</u> COMMON NAME <u>CONT</u> BOTANICAL NAME <u>REMARKS</u> FOUND FOUNDATION LANDSCAPE FOUNDATION LANDSCAPE VARIETY OF SHRUBS AND GROUNDCOVERS VARIES PARK 7,722 SF PARK SHRUB AREAS MIXED SHRUBS VARIETY OF SHRUBS AND GROUNDCOVERS SPACING 30" o.c. **GRASS AREAS** COMMON NAME <u>REMARKS</u> KOREAN FEATHER REED GRASS FULL CAL RE2 CALAMAGROSTIS BRACHYTRICHA 1 GAL **GROUND COVERS** SPACING REMAR 30" o.c. FULL **COMMON NAME** GELSEMIUM SEMPERVIRENS & RANKINII DOUBLE SHOT 1 GAL 3-5" GEL DOU DOUBLE SHOT JESSAMINE 16-2Ø" LIRIOPE MUSCARI 'JOHN BURCH' LILY TURF 1 GAL 18" o.c. FULL LIR JOH SOD

Plant Schedule 01 LP2.00

Landscape Maintenance Notes 04

PLANT SCHEDULE

MULCH

DOUBLE SHREDDED HARDWOOD

SEEDBED PREPARATION:

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

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

TREE PROTECTION NOTES:

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

GROUND STABILIZATION CRITERIA					
STABILIZATION TIMEFRAME	STABILIZATION TIMEFRAME EXCEPTIONS				
7 DAYS	NONE				
7 DAYS	NONE				
7 DAYS	IF SLOPES ARE 10 FT OR LESS IN IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED				
14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FT IN LENGTH				
14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)				
	STABILIZATION TIMEFRAME 7 DAYS 7 DAYS 7 DAYS 14 DAYS				

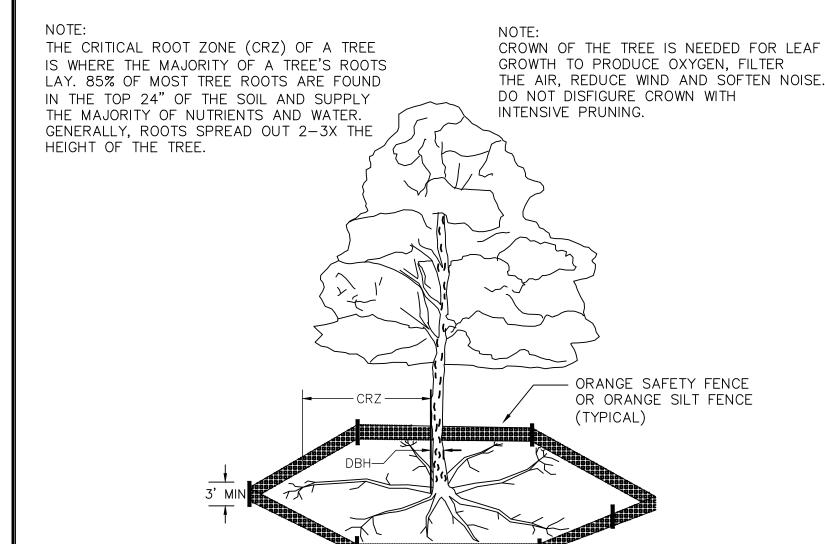
PERMANENT SEEDING				
AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL		
1-2 LBS.	APRIL - JUNE	25 LBS. 10-10-10		
5-7 LBS	JUNE - AUGUST FEB OCT.	25 LBS 10-10-10		
1-2 LBS	MARCH - APRIL	25 LBS 10-10-10		
	AMOUNT/ 1000 S.F. 1-2 LBS. 5-7 LBS	AMOUNT/ 1000 S.F. TIME OF SEEDING 1-2 LBS. APRIL - JUNE 5-7 LBS JUNE - AUGUST FEB OCT.		

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

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

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

6 GENERAL NOTES 5 GENERAL NOTES

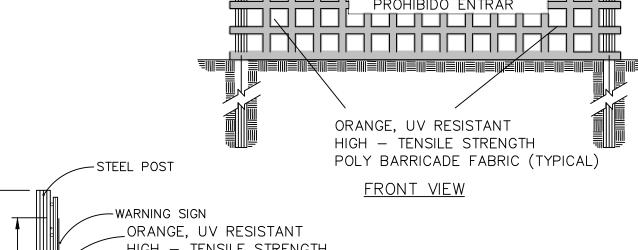


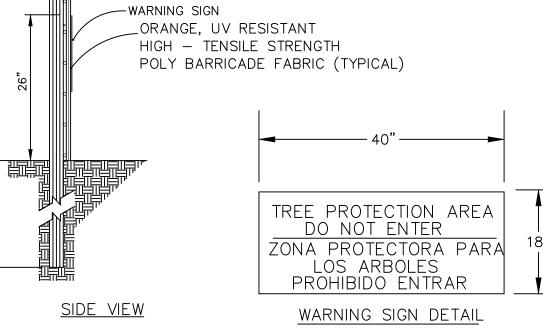
1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.

8' MAX

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

8' MAX. PLASTIC OR VARIABLE AS DIRECTED BY THE ENGINEER ∕WARNING SIGN TREE PROTECTION AREA





NOTES:

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

METHOD OF TREE PROTECTION DURING CONSTRUCTION

SD 15-09 TREE SAVE

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



N/A



NOT TO SCALE

THE FLATS ON FRONT WILMINGTON, NEW HANOVER COUNTY. NORTH CAROLINA

SEDIMENT AND EROSION CONTROL **DETAILS**

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

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

THE MANUFACTURER OR SUPPLIER AS CONFORMING TO

THE REQUIREMENTS IN ASTM D 6461 AND ALSO SHOULD

CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS

SPECIFICATIONS INSTALLING SEDIMENT FENCE USING THE

WITH A MAXIMUM MESH OPENING OF 6-INCHES.

3. SEE THE NC EROSION CONTROL MANUAL FOR

ACCORDING TO ASTM D 4355.

SLICING METHOD MACHINERY.

TEMPORARY SILT FENCE

NOT TO SCALE

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

FABRIC AND COMPACTED FILL ON

Trapezoid Tear Strength
UV Resistence Apparent Opening Size
Flow Rate HI-FLOW DANDY SACK™ (SAFETY ORANGE) Mechanical Properties

SPECIFICATIONS

NOTE: THE DANDY SACKTM WILL BE **MANUFACTURED IN THE U.S.A.** FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

*Note: All Dandy Sacks™ can be ordered with our optional oil absorbent pillows

TEMPORARY DANDY SACK® INLET PROTECTION

REGULAR FLOW DANDY SACKTM (BLACK)

NOT TO SCALE

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

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

INLET PROTECTION

REINFORCED CORNERS -

MANAGEABLE 2 F00T

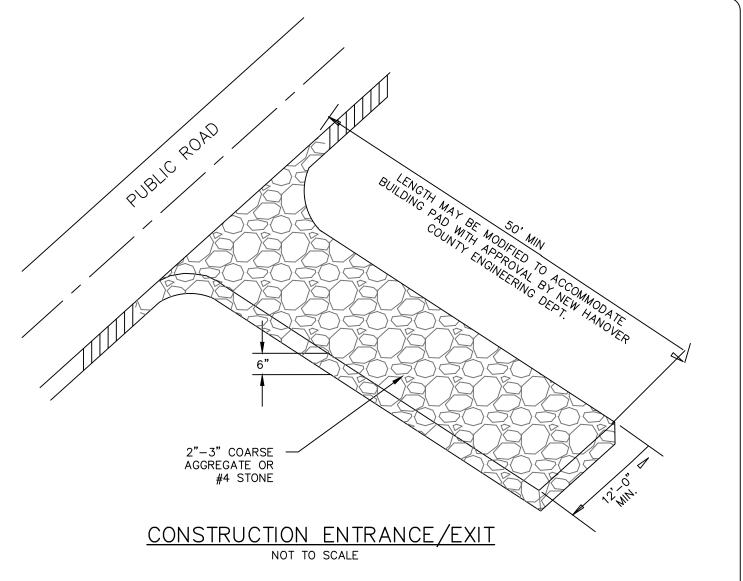
CONTAINMENT

DANDY SACK

STRAPS

OVERFLOW PORTS

NOT TO SCALE



CONSTRUCTION ENTRANCE

APPROVED STORMWATER MANAGEMENT PLAN

Approved Construction Plan

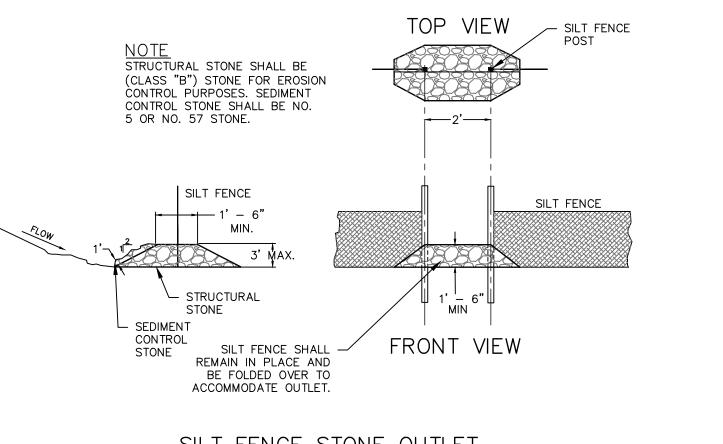
For each open utility cut of

City streets, a \$325 permit

shall be required from the

City prior to occupancy and/or project acceptance.

NOT TO SCALE



SILT FENCE STONE OUTLET NOT TO SCALE

2 | TEMPORARY SILT FENCE

STEEL POST

GROUND LINE -

NOT TO SCALE

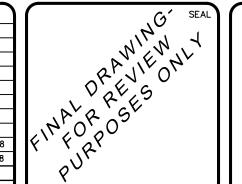
07/11/2018 DRAWN ALM/KCE CHECKED PROJ. MGR

CE-501 VERTICAL: N/A

STATUS: PRELIMINARY DESIGN

ISSUED FOR PERMITTING

OF WILIMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL 07/11/2018 TY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL DESCRIPTIONS REVISIONS





MKIM&CREED

www.mckimcreed.com

RESIDENTIA

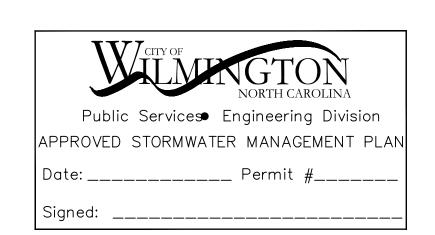
SILT FENCE OUTLET

GENERAL NOTES

- 1. IN ACCORDANCE WITH N.C.G.S. 136-44.14, ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY HANDICAPPED ON EACH SIDE OF ANY STREET OR ROAD, WHERE CURBS AND SIDEWALKS ARE PROVIDED AND AT OTHER MAJOR POINTS OF
- PEDESTRIAN FLOW. 2. WHEELCHAIR RAMPS SHALL BE LOCATED AS INDICATED IN DETAIL DRAWINGS; HOWEVER, EXISTING LIGHT POLES, FIRE
- HYDRANTS, DROP INLETS, ETC. MAY AFFECT PLACEMENT. 3. CURB RAMPS SHALL HAVE DETECTABLE WARNINGS EXTENDING THE FULL WIDTH OF THE RAMP AND A MINIMUM OF 2-FT. IN LENGTH.

CONSTRUCTION NOTES

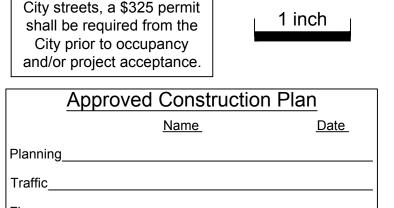
- 1. CONSTRUCTION SHALL CONFORM WITH CONSTRUCTION STANDARDS OF THE GOVERNING BODY WHICH HAS JURISDICTION OF THE PARTICULAR STREET.
- 2. WHEELCHAIR RAMPS SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE WITH THE SURFACE HAVING A ROUGH, NON-SKID TYPE FINISH.
- 3. A 1/2-IN. EXPANSION JOINT SHALL BE REQUIRED WHERE THE CONCRETE WHEELCHAIR RAMP JOINS ANY RIGID PAVEMENT OR STRUCTURE.
- 4. IN NO CASE SHALL THE WIDTH OF A CURB RAMP OR CURB CUT BE LESS THAN 40-IN. (3-FT, 4-IN.), NOT INCLUDING THE FLARED SIDES.
- 5. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
- 6. THE MAXIMUM SLOPE ON THE CURB RAMP RUN IS 1:12. 7. THE MAXIMUM CROSS SLOPE OF THE CURB RAMP IS 1:50.
- 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.



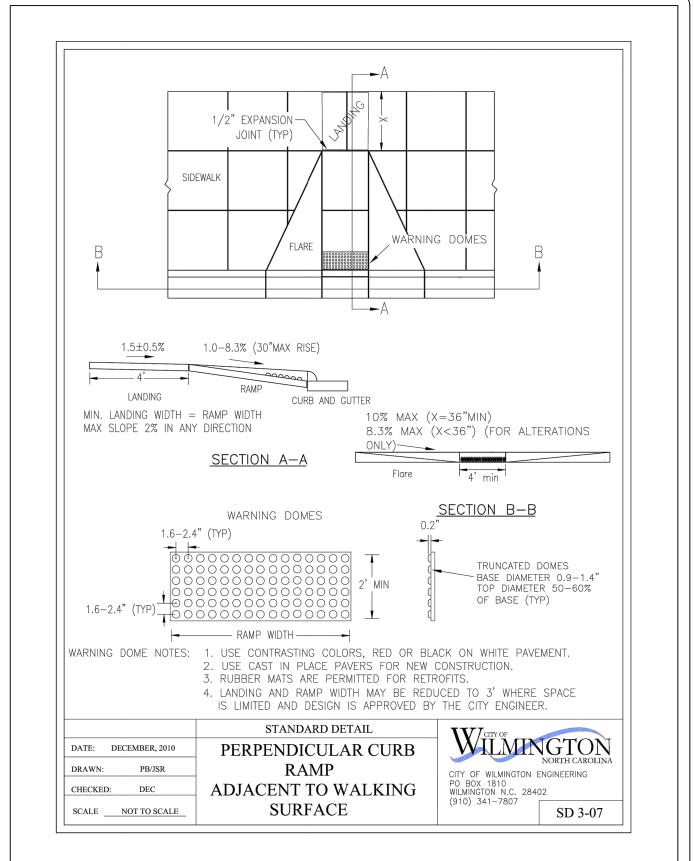
10. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9-IN., A HEIGHT OF NOMINAL 0.2-IN. AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35-IN. AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

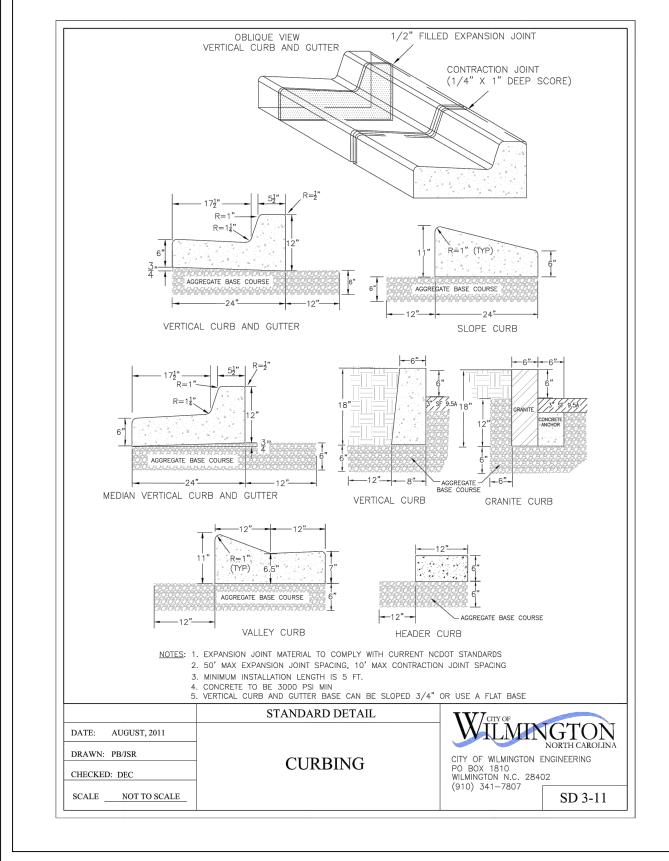
ADDITIONAL NOTES

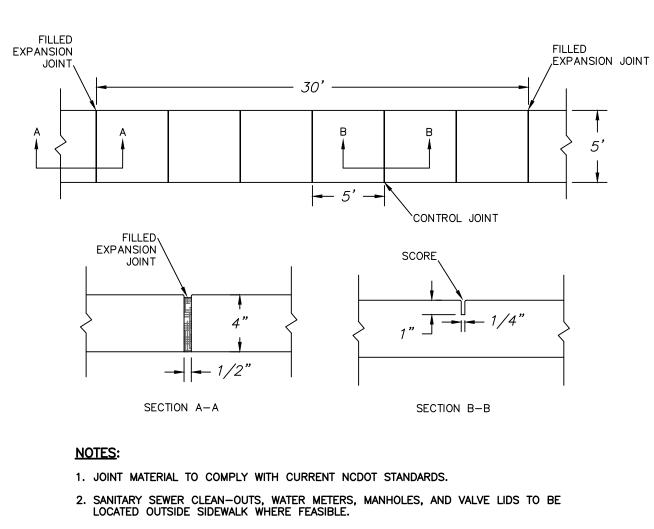
- 1. STOP BARS SHALL BE USED WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL STOP SIGN OR OTHER LEGAL REQUIREMENT.
- 2. PARKING SHALL BE A MINIMUM OF 20 FEET BACK OF THE PEDESTRIAN CROSSWALK.
- 3. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION. THIS DOCUMENT IS AVAILABLE FROM THE SUPERINTENDENT OF DOCUMENTS, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C. 20402.
- 4. INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
- 5. CURB RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED
- 6. THE BOTTOM OF DIAGONAL (CORNER TYPE) CURB RAMPS AT MARKED CROSSINGS SHALL HAVE 48-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



For each open utility cut of







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

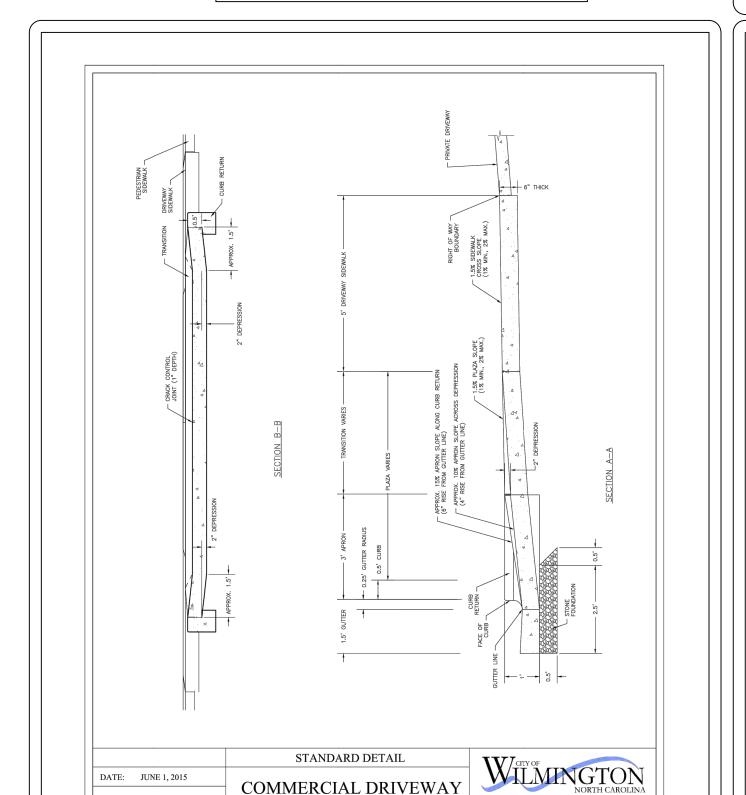
SIDEWALK

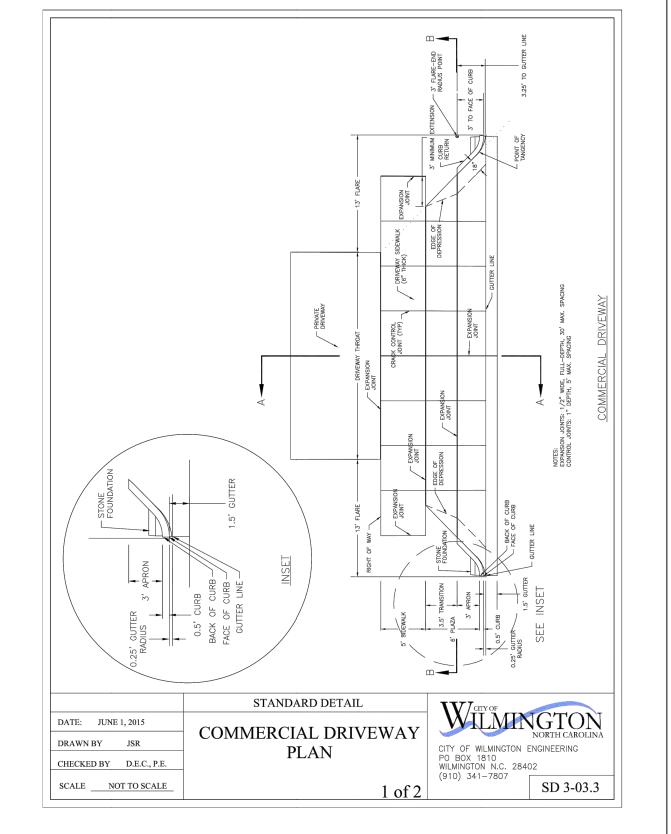
3 PERPENDICULAR RAMP

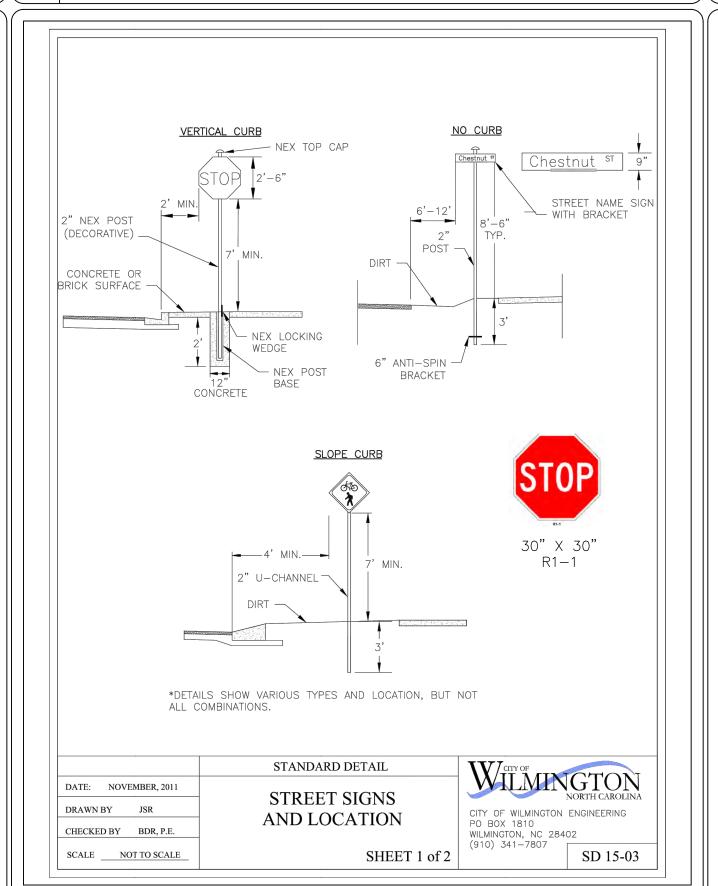
2 CURBING NOT TO SCALE

NOT TO SCALE

SIDEWALK DETAIL







1. All signs shall meet the requirements of MUTCD and City Traffic Engineering in effect at 2. All Traffic Control Signs including multi-use paths shall be fabricated with 0.080 inch aluminum blanks using high intensity prismatic reflective sheeting Type IV or better. STOP signs shall be a minimum of 30"x30". 3. SPECIAL DESIGNATION signs by location and type shall adhere to City of Wilmington signage plan (ie. downtown, historic, cross-city trail, parks, riverfront, scenic by-way, parking. etc.) and all associated policies. 4. POST MOUNTED STREET NAME SIGNS shall be fabricated with 9" extruded aluminum street name sign blanks using a standard cut-out. Minimum sign length is 18" long and increasing in 6" increments to 54" maximum as dictated by the number of letters in the name. The color scheme shall be white letters on a green background without a border. Generally, in the downtown and historic areas or as designated in the City of Wilmington signage plan the background shall be blue and contain a topper. 5. Decorative sign posts shall consist of the NEX sign support system, 2" octagonal tube, 14 gauge, powder coated glossy black and include cap, post, base and wedge. 6. All other sign posts shall be u-channel posts made of galvanized steel with 8' posts 2lbs/ft or 12' posts 3lbs/ft. Galvanized NEX post may be substituted with approval from the City Signs and Markings Engineer. 7. OVERHEAD STREET NAME SIGNS shall be fabricated with 0.080 inch aluminum flat sign blanks 18" in height using a standard cut-out. Sign length will be dictated by the number of letters in the name. For mast-arm type traffic signal supports and other overhead support systems refer to the design plans for maximum sign length. 8. All sign lettering, colors and fonts shall adhere to the MUTCD in effect at the time of construction. Florescent Yellow-Green shall be used on signs, in place of Yellow, when listed as an optional color in the MUTCD. Generally, the font will be FHWA series fonts (Highway

Gothic.) Other font types require prior City Signs and Markings Engineer approval . LOCATION 9. Sign locations depend on the edge of road condition. Generally, signs shall be a minimum

without curb. Signs shall not be located more than 12' from any of these locations. 10. Sign posts installed in dirt shall be buried a minimum of 36". Octagonal posts shall utilize an anti-spin device, 6" in length minimum. Sign posts installed in concrete or brick shall

2' from face of a vertical curb, 4' from front of slope face curb, and 6' from edge of pavement

11. Street name signs shall be installed 8'-6" from the ground to the bottom of the sign. Street name signs co-located with STOP signs shall be installed above the STOP sign. A 6" space shall be maintained between the STOP sign and a Street name sign that is parallel to the

STOP sign face. All other signs should be mounted per MUTCD guidelines for Urban Areas. STANDARD DETAIL

utilize a base cast in concrete 24" x 12" diameter.

DATE: NOVEMBER, 2011 DRAWN BY JSR CHECKED BY BDR, P.E. SCALE NOT TO SCALE

STREET SIGNS AND LOCATION

WILMINGTON, NC 28402 SHEET 2 of 2

PO BOX 1810

4 STREET SIGN LOCATIONS

NOT TO SCALE

CS-501

SD 15-03

TY OF WILIMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL ITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL DESCRIPTIONS REVISIONS

DRAWN BY JSR

CHECKED BY D.E.C., P.E.

SCALE NOT TO SCALE

COMMERCIAL DRIVEWAY DETAIL



CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON N.C. 28402

SD 3-03.4

(910) 341-7807



www.mckimcreed.com

6 COMMERCIAL DRIVEWAY DETAIL





STREET SIGN LOCATIONS



NOT TO SCALE

WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

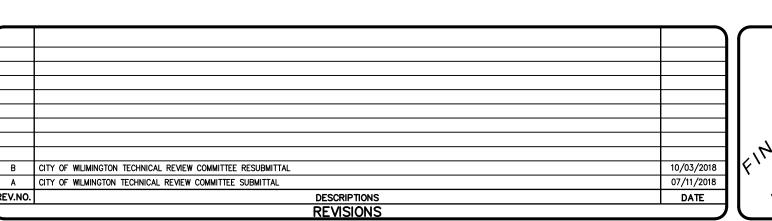
SITE DETAILS

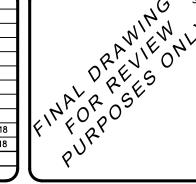
7402-000 HORIZONTAI DRAWN ALM/KCE DESIGNED **VERTICAL** CHECKED PROJ. MGR.

STATUS: PRELIMINARY DESIGN

ISSUED FOR PERMITTING

CONCRETE RAMP BEYOND, SEE ——— ISOMETRIC ASPHALT PAVEMENT, SEE ----CONCRETE RAMP LANDING, —— DETAIL 2/CS501 AND SIMILAR TO DECORATIVE CONCRETE PAVEMENT, SEE CONCRETE CURB AND — DETAIL 7/CS501 GUTTER, SEE DETAIL COMPACTED SUBGRADE —— 11/CS501 AND/OR AGGREGATE BASE NON-DOWELED ----PER GEOTECHNICAL EXPANSION JOINT, SEE REPORT DETAIL 6/CS501 2% MAX. SLOPE ✓ INTEGRAL CURB SIMILAR TO CONCRETE CURB AND **GUTTER** DETECTABLE WARNING SURFACE, "ULINE" OR APPROVED — EQUIVALENT, 2' X 4' TRUNCATED DOME PAD, WET SET AND FASTEN PER MANUFACTURE RECOMMENDATION, COLOR TO BE CHOSEN BY LANDSCAPE ARCHITECT NOTE: MAXIMUM RAMP RISE NOT - PAVEMENT JOINT, SEE LAYOUT PLANS FOR TO EXCEED 6". LOCATION AND TYPE CONCRETE RAMP INTEGRAL TRANSITION CURB -CONCRETE RAMP LANDING, — SIMILAR TO DECORATIVE CONCRETE PAVEMENT, SEE DETAIL 6/CS501, 1:48 SLOPE MAX. ANY DIRECTION INTEGRAL CURB SIMILAR TO CONCRETE CURB AND **GUTTER** CONCRETE RAMP - TRANSITION CURB, SEE DETAIL 9/CS501 NON-DOWELED EXPANSION JOINT, SEE CONCRETE CURB DETAIL 5/CS501 AND GUTTER, SEE DETAIL 11/CS501 ASPHALT PAVEMENT, SEE DETAIL 2/CS501 AND DETECTABLE WARNING SURFACE, "ULINE" OR —— 3/CS501 APPROVED EQUIVALENT, 2' X 4' TRUNCATED DOME PAD, WET SET AND FASTEN PER ISOMETRIC NOT TO SCALE MANUFACTURE RECOMMENDATION, COLOR TO BE CHOSEN BY LANDSCAPE ARCHITECT 4 CURBED HANDICAP ACCESSIBLE RAMP NOT TO SCALE









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THE FLATS ON FRONT

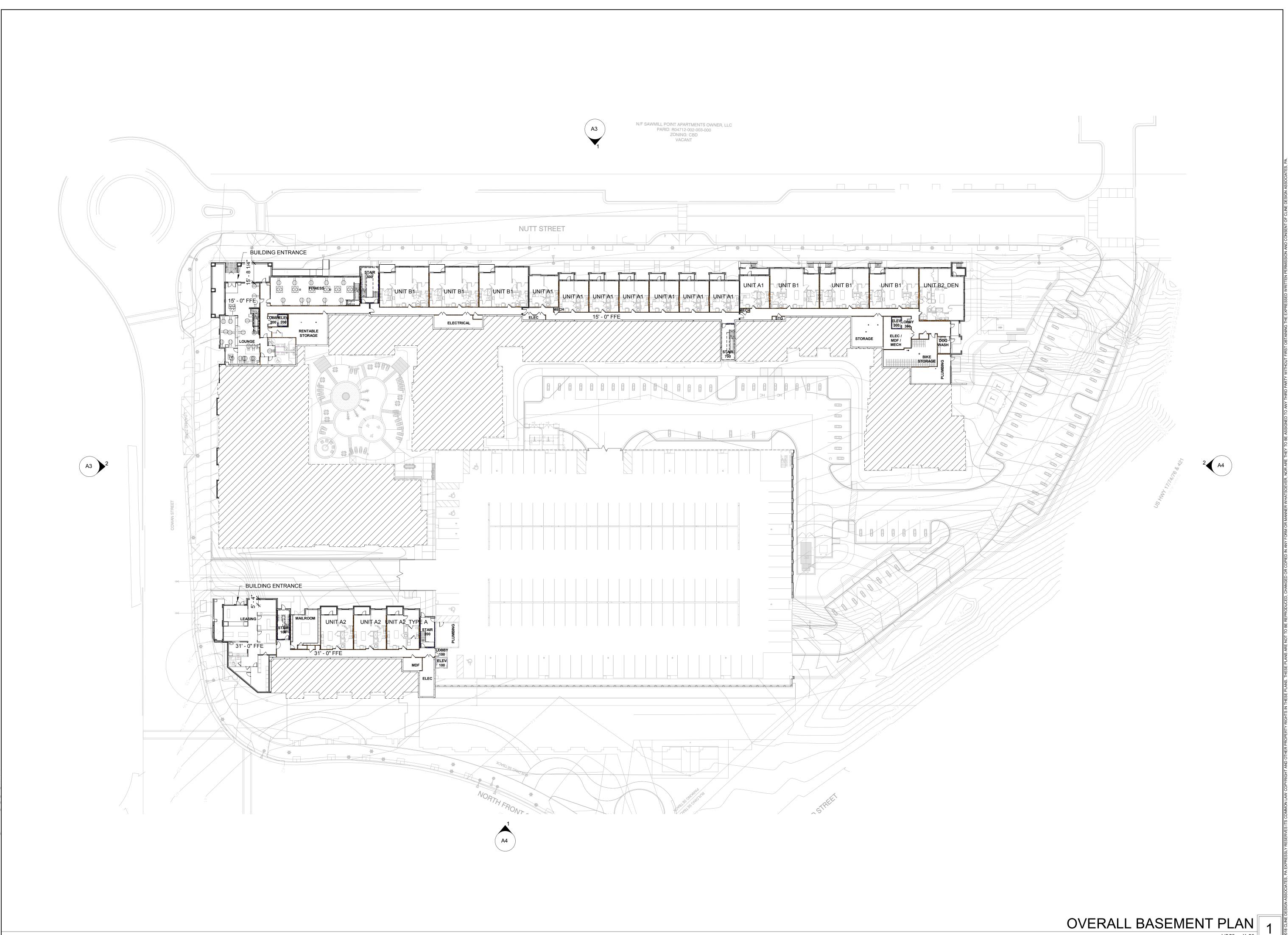
WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

SITE DETAILS

DATE:	07/11/2018	SCALE
MCE PROJ. #	7402-0001	
DRAWN	ALM/KCE	HORIZONTAL: N/A
DESIGNED	ALM	
CHECKED	RMC	VERTICAL:
PROJ. MGR.	KCE	N/A
\ <u> </u>		1

M&C FILE NUMBER
CS-502
DRAWING NUMBER

STATUS: PRELIMINARY DESIGN
ISSUED FOR PERMITTING



CLINE DESIGN

125 N. Harrington St. Raleigh, NC 27603 919/833-6413 919/836-1280 FAX ClineDesignAssoc.com

PROJECT: 218022

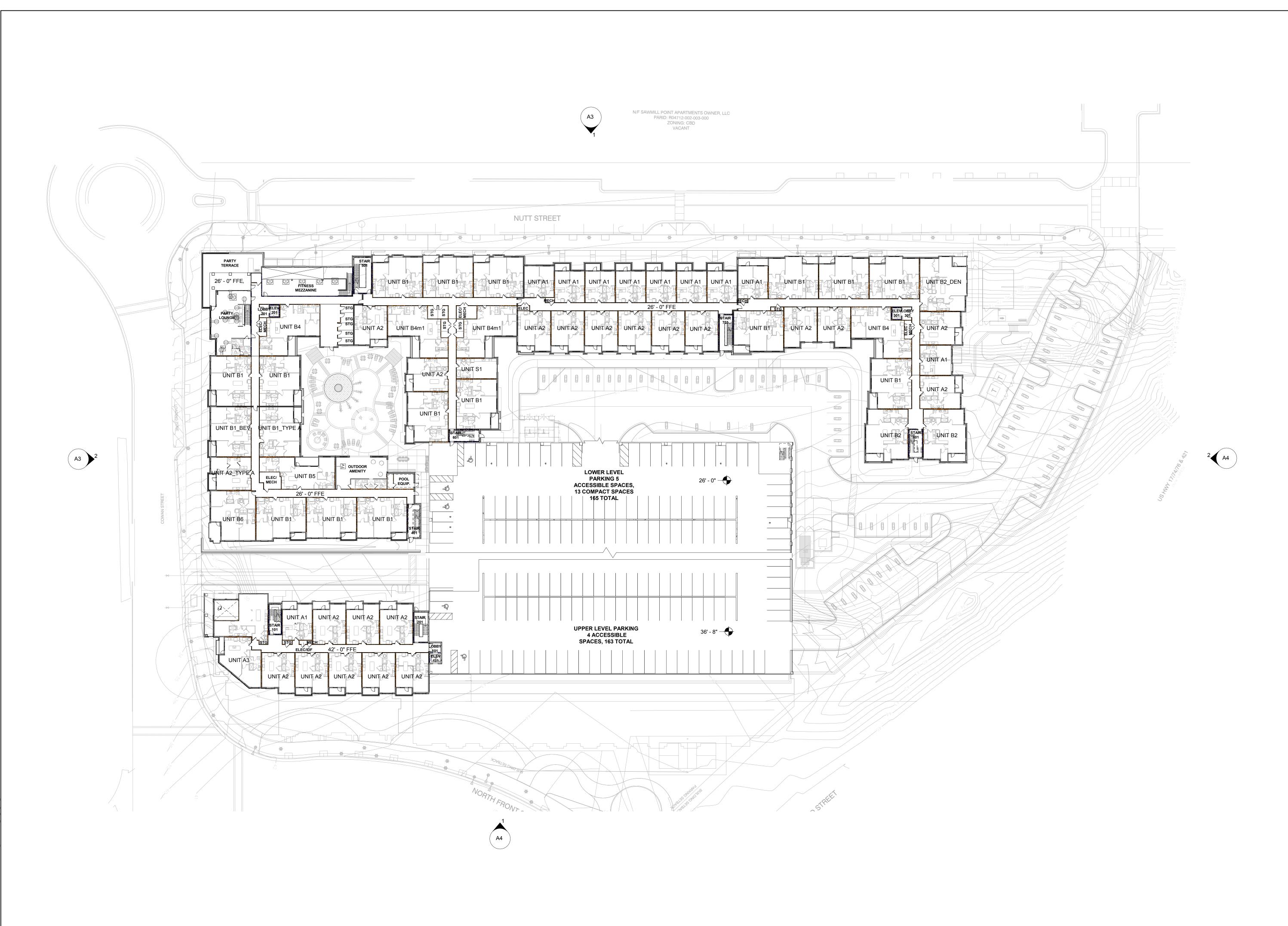
DATE: 08.22.18

DATE

DRAWN BY: Author
CHECKED BY: Checker

REVISIONS:

OVERALL BASEMENT PLAN (TRC)



CLINE DESIGN

125 N. Harrington St. Raleigh, NC 27603 919/833-6413 919/836-1280 FAX ClineDesignAssoc.com

LATS ON FRONT

PROJECT: 218022

DATE: 08.22.18

DATE

DRAWN BY: Author

REVISIONS:

OVERALL FIRST FLOOR PLAN (TRC)



Raleigh, NC 27603 919/833-6413 919/836-1280 FAX

ClineDesignAssoc.com

ESIDEN.

PROJECT: 218022 DATE: 08.22.18

DATE

DRAWN BY: Author

REVISIONS:

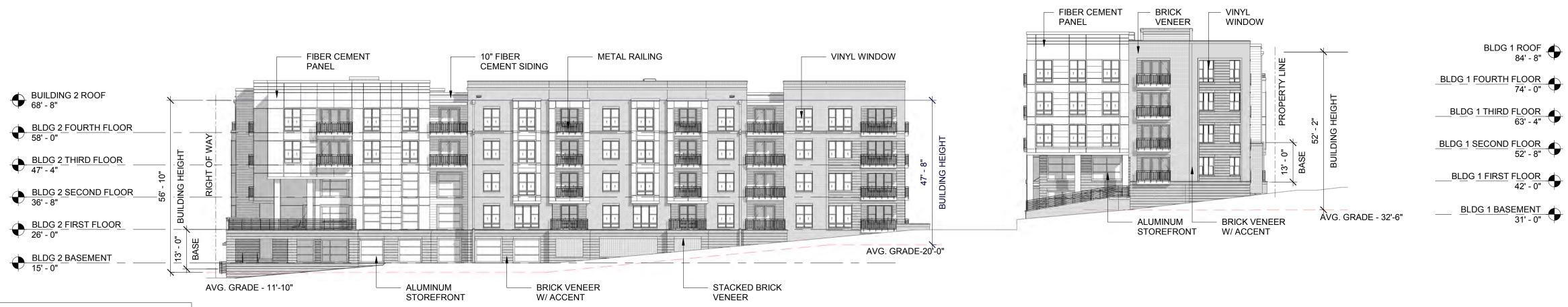
OVERALL EXTERIOR ELEVATIONS (TRC)

A3

CHECKED BY: Checker

BUILDING 2 - OVERALL NUTT ST. ELEVATION

BUILDING 1 + 2 - OVERALL COWAN ST. ELEVATION



BLDG 1 OPEN AREA CALCULATIONS:

TOTAL AREA OF WALL = 1,046.75 S.F. TOTAL AREA OF OPENINGS = 555.14 S.F.

MINIMUM ALLOWABLE AREA = >50% ACTUAL OPENING PERCENTAGE = 555.14 S.F. / 1,046.75 S.F. = 53.03%

BLDG 2 OPEN AREA CALCULATIONS:

TOTAL AREA OF WALL = 2,431.71 S.F.
TOTAL AREA OF OPENINGS = 1,259.98 S.F.
MINIMUM ALLOWABLE AREA = >50%

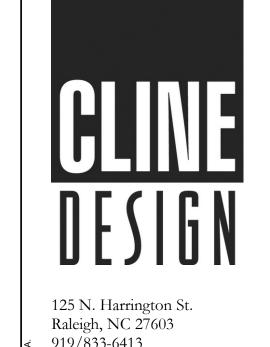
ACTUAL OPENING PERCENTAGE = 1,259.98 S.F. / 2,431.71 S.F. = 51.81%

FIBER CEMENT PANEL 10" FIBER
 CEMENT SIDING FIBER CEMENT PANEL VINYL WINDOW BLDG 2 ROOF 68' - 8" BLDG 2 FOURTH FLOOR 58' - 0" BLDG 2 THIRD FLOOR 47' - 4" BLDG 2 SECOND FLOOR 36' - 8" BLDG 2 FIRST FLOOR 26' - 0" BLDG 2 BASEMENT 15' - 0" AVG. GRADE - 12'-4" AVG. GRADE BRICK VENEER W/ ACCENT ALUMINUM STOREFRONT - METAL RAILING BRICK VENEER BLDG **ENTRANCE**

OPEN AREA CALCULATIONS:

TOTAL AREA OF WALL = 5,989.75 S.F.
TOTAL AREA OF OPENINGS = 3,000.40 S.F. MINIMUM ALLOWABLE AREA = >50%

ACTUAL OPENING PERCENTAGE = 3,000.40 S.F. / 5,989.75 S.F. = 50.09%



125 N. Harrington St. Raleigh, NC 27603 919/833-6413 919/836-1280 FAX ClineDesignAssoc.com

PROJECT: 218022 DATE: 08.22.18

DRAWN BY: Author CHECKED BY: Checker

DATE

OVERALL EXTERIOR ELEVATIONS (TRC)

REVISIONS:

BUILDING 1 - OVERALL NORTH FRONT ST. ELEVATION

AVG. GRADE

FIBER CEMENT PANEL

VINYLWINDOW

METAL RAILING

PARKING ENTRANCE

10" FIBERCEMENT SIDING

BRICK VENEER

- BRICK VENEER

BRICK VENEER
W/ ACCENT

AVG. GRADE - 40'-0"

TOTAL AREA OF WALL = 1,421.38 S.F.
TOTAL AREA OF OPENINGS = 716.37 S.F.
MINIMUM ALLOWABLE AREA = >50%
ACTUAL OPENING PERCENTAGE = 716.37 S.F. / 1,421.38 S.F. = 50.40%

OPEN AREA CALCULATIONS:

- BRICK VENEER

VEHICLE SCREEN

PARKING GARAGE 3RD ST. ELEVATION 2

PARKING UPPER LEVEL 36' - 8"

A4

BLDG 1 ROOF 84' - 8"

BLDG 1 THIRD FLOOR 63' - 4"

BLDG 1 FIRST FLOOR 42' - 0"

BLDG 1 SECOND FLOOR 52' - 8"

