

COLLEGE ACRES APARTMENTS

COLLEGE ACRES DRIVE
WILMINGTON, NORTH CAROLINA

CITY OF WILMINGTON T.R.C. DESIGN DOCUMENTS

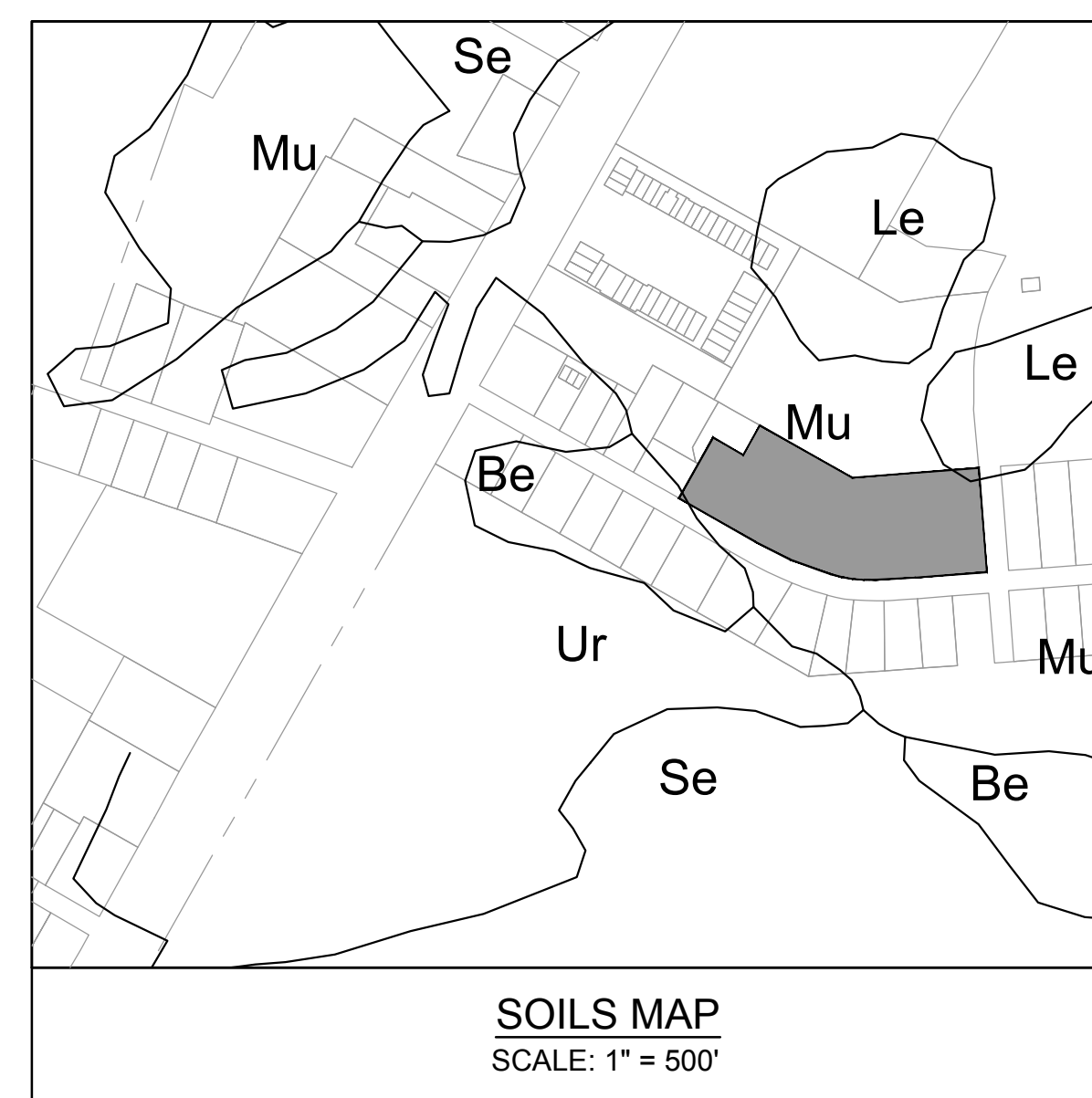
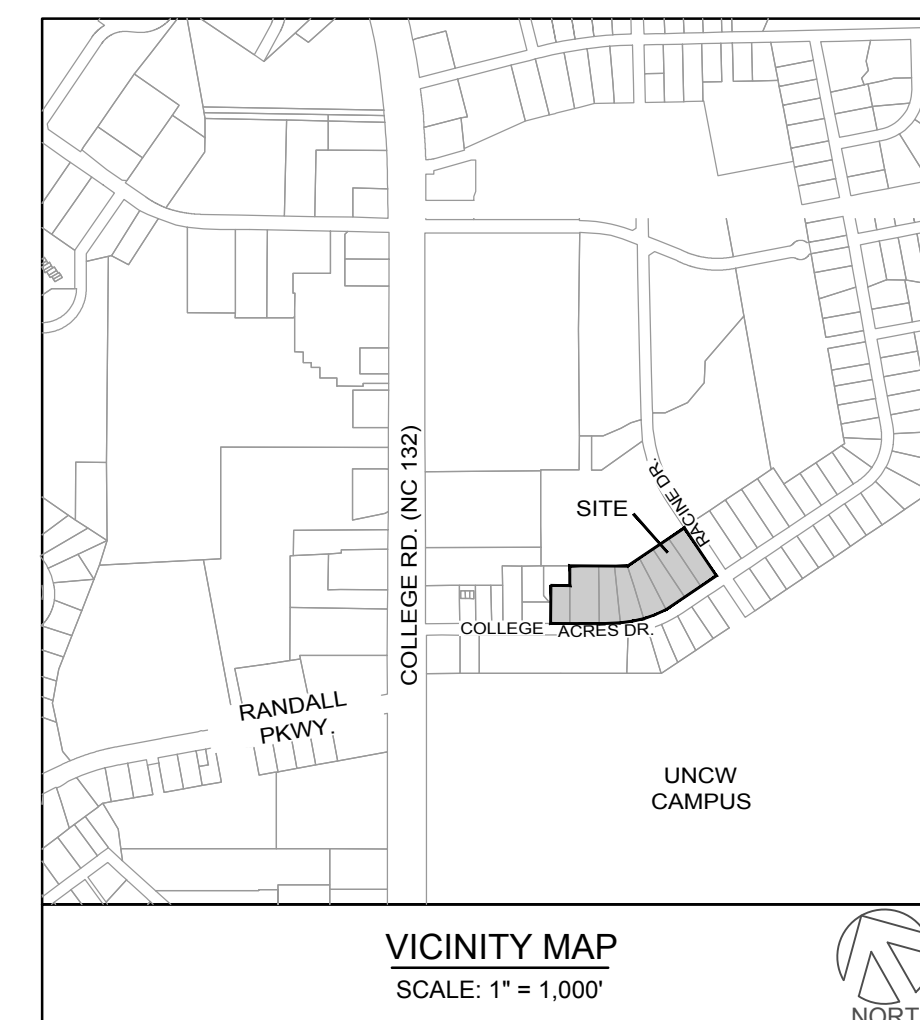
OCTOBER 29, 2020

COLLEGE ACRES APARTMENTS

PROJECT # 19443.PE

OCTOBER 29, 2020

SHEET NUMBER	SHEET TITLE
C-0.0	COVER SHEET
C-1.0-1.1	GENERAL NOTES
C-2.0	OVERALL SITE PLAN
C-2.1	SITE INVENTORY & DEMOLITION
C-2.2	TREE REMOVAL PLAN
C-3.0	EROSION CONTROL PLAN
C-4.0	GRADING & DRAINAGE PLAN
C-5.0	UTILITY PLAN
C-6.0-6.3	CIVIL DETAILS
C-6.4-6.5	CFPUA UTILITY DETAILS
L-1.0	LANDSCAPE PLAN
L-1.1	TRUCK TURNING & OPEN SPACE PLAN



NOTICE REQUIRED

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED PRIOR TO THE BEGINNING OF ANY CONSTRUCTION IN THE VICINITY OF SAID UTILITIES.

CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.

CONTRACTORS SHALL CONTACT OVERHEAD ELECTRIC PROVIDER TO COMPLY WITH FEDERAL OSHA 1910.333 MINIMUM APPROACH DISTANCE TO ENERGIZED POWERLINES AND OSH 29 CFR 1926.1407-1411 MUST BE FOLLOWED.

CONTRACTOR SHALL CONTACT AT&T PRIOR TO ANY DEMOLITION TO ALLOW FOR AT&T TO DISCONNECT COMMUNICATIONS CABLES COMING INTO THE SITE.

CONTACT THESE UTILITIES

CITY OF WILMINGTON PLANNING & DEVELOPMENT

ATTN: PAT O'MAHONEY, PLANNER
PH: 910-341-4661

ATTN: ZONING INSPECTIONS
PH: 910-254-0900

PIEDMONT NATURAL GAS (DUKE ENERGY)

ATTN: CATHY PLEASANT
PH: 910-251-2827

EMERGENCY DIAL 911

POLICE - FIRE - RESCUE

ATTN: CITY OF WILMINGTON FIRE & LIFE SAFETY
PH: 910-343-0896

CAPE FEAR PUBLIC UTILITY AUTHORITY (WATER & SEWER)

ENGINEERING/INSPECTIONS
PH: 910-332-6560

OPERATIONS/MAINTENANCE
PH: 910-322-6550

DUKE ENERGY

DISTRIBUTION CONSTRUCTION SERVICE
DEP CSC PH: 1-800-452-2777

TRANSMISSION AGENT

BILL WILDER
PH: 910-772-4903

AT&T/BELL SOUTH

ATTN: STEVE DAYVAULT (BUILDING ENGINEERING)
PH: 910-341-0741

ATTN: JAMES BATSON, ENGINEERING
PH: 910-341-1621

SPECTRUM

GENERAL PH: 800-892-4357



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

PROJECT DEVELOPER

College Acres Development, LLC
5217 Market Street
Wilmington, NC 28403
Attn: David DeSpain

DESIGN CONSULTANTS

PARAMOUNTE ENGINEERING, INC.
122 CINEMA DR., WILMINGTON NC 28403
(910) 791-6707
CIVIL ENGINEER: J. BRANCH SMITH, PE
LANDSCAPE ARCHITECT: ALLISON ENGBRETTSON, RLA
SURVEYOR: CHRIS GAGNE, PLS

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

WILMINGTON NORTH CAROLINA
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.

PREPARED BY:

PARAMOUNTE
ENGINEERING, INC.
122 Cinema Drive Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

COORDINATION NOTES: THE CONTRACTOR IS REQUIRED TO OBTAIN ANY ALL PERMITS REQUIRED FOR CONSTRUCTION OF THESE PLANS.

- 2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND WITH THE CITY OF WILMINGTON, NEW HANOVER COUNTY, CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA), AND THE STATE OF NORTH CAROLINA.
- 3. THE CONTRACTOR IS TO ESTABLISH AND CHECK ALL HORIZONTAL AND VERTICAL CONTROLS TO BE USED WITH THE PROJECT. IN ADDITION, THE CONTRACTOR IS TO COMPUTE THE LAYOUT OF THE ENTIRE SITE PLAN IN ADVANCE OF BEGINNING ANY WORK ASSOCIATED WITH THE SUBJECT PLANS.

GENERAL NOTES:

- 1. BOUNDARY AND EXISTING CONDITIONS SURVEY COMPLETED BY PARAMOUNT ENGINEERING, INC., AND TREE INVENTORY AND TOPOGRAPHIC SURVEY COMPLETED BY PARAMOUNT ENGINEERING, INC.
- 2. REASONABLE CARE HAS BEEN EXERCISED IN SHOWING THE LOCATION OF EXISTING UTILITIES ON THE PLANS.
- 3. CONTRACTOR SHALL COMPLY WITH THE LATEST REVISIONS AND INTERPRETATIONS OF THE DEPARTMENT OF ENVIRONMENT AND NATURE RESOURCES FOR CONSTRUCTION PROMULGATED UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- 1. THE EROSION CONTROL PLAN SHALL INCLUDE PROVISIONS FOR GROUND COVER ON ALL EXPOSED PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1 WITHIN 7 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY.
- 2. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL HANDBOOK.
- 3. THE CONTRACTOR SHALL NOTIFY PARAMOUNT ENGINEERING IMMEDIATELY OF ANY CONFLICT BETWEEN THESE NOTES AND DETAILS AND OTHER PROJECT DRAWINGS.

DEMOLITION NOTES:

- 1. CONTRACTOR TO COORDINATE WITH THE OWNER TO PROPERLY MAINTAIN OR RELOCATE EXISTING SERVICE CONNECTIONS WHEN NECESSARY.
- 2. CONTRACTOR IS TO WALK THE SITE AND BECOME FAMILIAR WITH THE SCOPE OF DEMOLITION WORK.
- 3. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE PADS, CONCRETE DITCHES, FOUNDATIONS, SLABS, STEPS, AND STRUCTURES.

EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES:

- NOTE: THESE EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES ARE INTENDED FOR EACH "PHASE" OF CONSTRUCTION. THE ORDER AND STEPS TAKEN MUST BE IMPLEMENTED AS EACH PART OF THE PROJECT IS DEVELOPED.
- 1. CONSTRUCT TEMPORARY GRAVEL CONSTRUCTION ENTRANCES(E), ESTABLISH THE LIMITS OF DISTURBANCE, TREE PROTECTION FENCING, AND TEMPORARY SILT FENCE.
- 2. CLEAR AND REMOVE FROM SITE TREES AS DESIGNATED, ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN THE DESIGNATED CLEARING LIMITS.
- 3. INSTALL REMAINING EROSION CONTROL MEASURES AS SHOWN ON THE PLANS WITHIN THE AREA DISTURBED.

EROSION CONTROL MAINTENANCE PLAN:

- 1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK.
- 2. ALL CONSTRUCTION ENTRANCES WILL BE PERIODICALLY TOP DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH.
- 3. SEDIMENT WILL BE REMOVED BEHIND THE SEDIMENT FENCE WHEN IT BECOMES 0.5 FEET DEEP AT THE FENCE.
- 4. ALL SEEDING AREAS WILL BE FERTILIZED, RESEED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN.

NC ACCESSIBILITY NOTES:

- SPECIAL ATTENTION SHALL BE GIVEN TO CONFORMANCE WITH AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), THE NORTH CAROLINA BUILDING CODE(ANSI A117.1, AND APPLICABLE LOCAL LAWS & REGULATIONS.
- IT IS ESSENTIAL THAT CONTRACTORS ARE AWARE OF THE SITE ACCESSIBILITY REQUIREMENTS. PARAMOUNT ENGINEERING HAS DEVELOPED THESE NOTES AND DETAILS TO ASSURE THAT CONTRACTORS ARE AWARE OF THE REQUIREMENTS AT THE POINT IN TIME WHEN THEY ARE BIDDING THE PROJECT.
- THE CONTRACTOR SHALL NOTIFY PARAMOUNT ENGINEERING IMMEDIATELY OF ANY CONFLICT BETWEEN THESE NOTES AND DETAILS AND OTHER PROJECT DRAWINGS.

ACCESSIBLE ROUTE NOTES:

- AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED WITHIN THE SITE FROM ACCESSIBLE PARKING SPACES AND ACCESSIBLE PASSENGER LOADING ZONES, PUBLIC STREETS OR SIDEWALKS, AND PUBLIC TRANSPORTATION STOPS TO THE ACCESSIBLE BUILDING OR FACILITY ENTRANCE THEY SERVE.
- AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, ACCESSIBLE FACILITIES, ACCESSIBLE ELEMENTS, AND ACCESSIBLE SPACES THAT ARE ON THE SAME SITE.
- WALKING SURFACES THAT ARE PART OF AN ACCESSIBLE ROUTE SHALL HAVE A MAXIMUM RUNNING SLOPE OF 5.0% AND A MAXIMUM CROSS SLOPE OF 2.0%.
- ANY WALKING SURFACE THAT IS PART OF AN ACCESSIBLE ROUTE WITH A RUNNING SLOPE GREATER THAN 5.0% IS A RAMP AND SHALL COMPLY WITH THE GUIDELINES FOR RAMPS OR CURB RAMPS.
- TRANSITIONS BETWEEN RAMPS, WALKS, LANDINGS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL CHANGES (1/4 INCH MAXIMUM VERTICAL CHANGE IN LEVEL PERMITTED).

NC ACCESSIBILITY NOTES CONTD.:

- ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTES OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE BUILDING ENTRANCE.
- ACCESSIBLE PARKING SPACES SHALL BE AT LEAST NINETY-SIX (96) INCHES WIDE. ACCESS AISLES SHALL BE 60 INCHES WIDE. ONE OF SIX ACCESSIBLE SPACES SHOULD PROVIDE A VAN ACCESSIBLE AISLE.
- PARKING ACCESS AISLES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING OR FACILITY ENTRANCE AND SHALL COMPLY WITH PROVISIONS FOR ACCESSIBLE ROUTES.
- FLOOR SURFACES OF PARKING SPACES AND ACCESS AISLES SERVING THEM SHALL BE STABLE, FIRM AND SLIP RESISTANT.
- PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2.0% IN ALL DIRECTIONS.
- PARKING SPACES FOR VANS AND ACCESS AISLES AND VEHICULAR ROUTES SERVING THEM SHALL PROVIDE A VERTICAL CLEARANCE OF NINETY-EIGHT (98) INCHES MINIMUM.

PASSENGER LOADING ZONE NOTES:

- PASSENGER LOADING ZONES SHALL PROVIDE VEHICULAR PULL-UP SPACE NINETY-SIX (96) INCHES WIDE MINIMUM AND TWENTY (20) FEET LONG MINIMUM.
- PASSENGER LOADING ZONES SHALL PROVIDE A CLEARLY MARKED ACCESS AISLE THAT IS SIXTY (60) INCHES WIDE MINIMUM AND EXTENDS THE FULL LENGTH OF THE VEHICLE PULL-UP SPACE THEY SERVE.
- ACCESS AISLE SHALL ADJOIN AN ACCESSIBLE ROUTE AND NOT OVERLAP THE VEHICULAR WAY.
- VEHICLE PULL-UP SPACES AND ACCESS AISLES SERVING THEM SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2.0% IN ALL DIRECTIONS.
- FLOOR SURFACES OF VEHICLE PULL-UP SPACES AND ACCESS AISLES SERVING THEM SHALL BE STABLE, FIRM AND SLIP RESISTANT.
- VEHICLE PULL-UP SPACES, ACCESS AISLES SERVING THEM AND A VEHICULAR ROUTE FROM AN ENTRANCE TO THE PASSENGER LOADING ZONE, AND FROM THE PASSENGER LOADING ZONE TO A VEHICULAR EXIT SERVING THEM, SHALL PROVIDE A VERTICAL CLEARANCE OF ONE HUNDRED FOURTEEN (14) INCHES MINIMUM.

ACCESSIBLE ENTRANCE NOTES:

- ACCESSIBLE ENTRANCES SHALL BE PROVIDED AS REQUIRED BY THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS) AND THE NORTH CAROLINA BUILDING CODE, AND APPLICABLE LOCAL LAWS & REGULATIONS.
- ENTRANCE DOORS, DOORWAYS AND GATES SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS) THE NC BUILDING CODE(ANSI A117.1 AND SHALL BE ON AN ACCESSIBLE ROUTE.

GENERAL STORM SEWER NOTES:

- ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF WILMINGTON REQUIREMENTS AS SPECIFIED ON THE DRAWINGS AND IN THE PROJECT SPECIFICATIONS.
- BEDDING FOR ALL STORM SEWER PIPE SHALL BE AS SPECIFIED ON THE DRAWINGS.
- ALL STORM SEWER PIPES SHOWN AS RCP ON THE PLANS SHALL BE REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76, UNLESS INDICATED OTHERWISE ON PLANS.

ROOF DRAIN NOTE:

- PROPOSED BUILDING SHALL DIVERT ROOF DRAINAGE TO STORMWATER COLLECTION SYSTEM.

EXISTING UTILITY NOTES:

- IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO VERIFY THE ACTUAL LOCATION AND AVAILABILITY OF ALL EXISTING AND PROPOSED UTILITIES IN THE FIELD PRIOR TO GROUND BREAKING.
- EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON A FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS.

WETLAND NOTES:

- THERE ARE NO WETLANDS FLAGGED AND SURVEYED ON THE PROPERTY.

GENERAL NOTES:

- CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC., THAT MAY BE REQUIRED.
- THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
- ALL LOT STRIPING AND DIRECTIONAL ARROWS TO BE REFLECTIVE MARKINGS AND SHALL CONFORM TO MUTCD. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- LANDSCAPE PLANTINGS AT ENTRANCE/ EXITS WILL BE INSTALLED AND MAINTAINED SO AS NOT TO INTERFERE WITH SIGHT DISTANCE NEEDS OF DRIVERS IN THE PARKING AREA AND AT ENTRANCE/EXIT LOCATIONS PER LOCAL STANDARDS.

TRAFFIC NOTES:

- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY & FOR DRIVEWAY(S) ARE TO BE THERMOPLASTIC & MEET CITY OF WILMINGTON AND/OR NCDOT STANDARDS.
- 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 NOT WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ANY OPEN CUTTING OF A CITY STREET REQUIRES A UTILITY CUT PERMIT.

PERMANENT SEEDING table with columns: GRASS TYPE, LBS/ ACRE, TIME OF SEEDING, FERTILIZER LIMESTONE

TEMPORARY SEEDING table with columns: GRASS TYPE, LBS/ ACRE, TIME OF SEEDING, FERTILIZER LIMESTONE

811 logo: Know what's below. Call before you dig. 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 stamp with fields for Name, Date, Planning, Traffic, Fire, Date, Permit #, and Signed.

WILMINGTON logo and APPROVED STORMWATER MANAGEMENT PLAN stamp with fields for Date and Permit #.

Approved Construction Plan stamp with fields for Name, Date, Planning, Traffic, Fire, Date, Permit #, and Signed.

C-1.0 stamp with fields for PROJECT STATUS, DRAWING INFORMATION, and SEAL.

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none">Temporary grass seed covered with straw or other mulches and tackifiersHydroseedingRolled erosion control products with or without temporary grass seedAppropriately applied straw or other mulchPlastic sheeting	<ul style="list-style-type: none">Permanent grass seed covered with straw or other mulches and tackifiersGeotextile fabrics such as permanent soil reinforcement mattingHydroseedingShrubs or other permanent plantings covered with mulchUniform and evenly distributed ground cover sufficient to restrain erosionStructural methods such as concrete, asphalt or retaining wallsRolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

ON-SITE CONCRETE WASHOUT STRUCTURE WITH LINER

CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NEW HANOVER COUNTY LAND QUALITY STABILIZATION (CHPT. 23, ARTICLE VI, SEC. 23-237, 2019)

1. SLOPES ARE NOT TYPICALLY GREATER THAN 2:1 AND MUST BE APPROVED BY THE COUNTY IF STEEPER. ALL SLOPES MUST BE STABILIZED WITHIN TWENTY-ONE (21) CALENDAR DAYS, WHICHEVER IS SHORTER OF COMPLETION OF ANY PHASE OF GRADING BE PLANTED OR OTHERWISE PROVIDED WITH GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

2. EXCEPT AS PROVIDED IN SECTION 23-238(B)(5) OF THIS ORDINANCE, PROVISIONS FOR A GROUND COVER SUFFICIENT TO RESTRAIN EROSION MUST BE ACCOMPLISHED WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT WHICHEVER PERIOD IS SHORTER.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&S Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Indication of whether the measures were operating properly. 5. Description of maintenance needs for the measure. 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration. 5. Indication of visible sediment leaving the site. 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits. 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence, and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part II, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&S measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe and an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&S Plan Documentation

The approved E&S plan as well as any approved deviation shall be kept on the site. The approved E&S plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&S plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&S Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&S Plan.	Initial and date each E&S Measure on a copy of the approved E&S Plan or complete, date and sign an inspection report that lists each E&S Measure shown on the approved E&S Plan. This documentation is required upon the initial installation of the E&S Measures or if the E&S Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&S Plan.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&S Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&S Measures.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

In addition to the E&S Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- This general permit as well as the certificate of coverage, after it is received.
- Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
- All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 113.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- Anticipated bypasses and unanticipated bypasses.
- Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

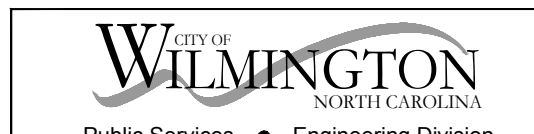
After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none">Within 24 hours, an oral or electronic notification.Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none">Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none">A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none">Within 24 hours, an oral or electronic notification.Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(j)(7)]	<ul style="list-style-type: none">Within 24 hours, an oral or electronic notification.Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.41(j)(6)].Division staff may waive the requirement for a written report on a case-by-case basis.

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
Name _____ Date _____

Planning _____
Traffic _____
Fire _____



Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

REVISIONS:

NO.	DATE	DESCRIPTION
1.		REVISED PER FINAL TRC COMMENTS
2.		REVISED PER NCEC COMMENTS
3.		REVISED PER FINAL TRC COMMENTS

CLIENT INFORMATION:
COLLEGE ACRES DEVELOPMENT, LLC
5217 MARKET STREET
WILMINGTON, NC 28405

PARAMOUNT ENGINEERING INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6700 (F)
NC License # - C-2846

NPDES NCG01 NOTES
COLLEGE ACRES APARTMENTS
COLLEGE ACRES DRIVE
WILMINGTON, NEW HANOVER CO., NC

PROJECT STATUS
9/26/20 ORIGINAL LAYOUT
10/13/20 FINAL DESIGN LAYOUT
10/13/20 RELEASED FOR CONSTRUCTION

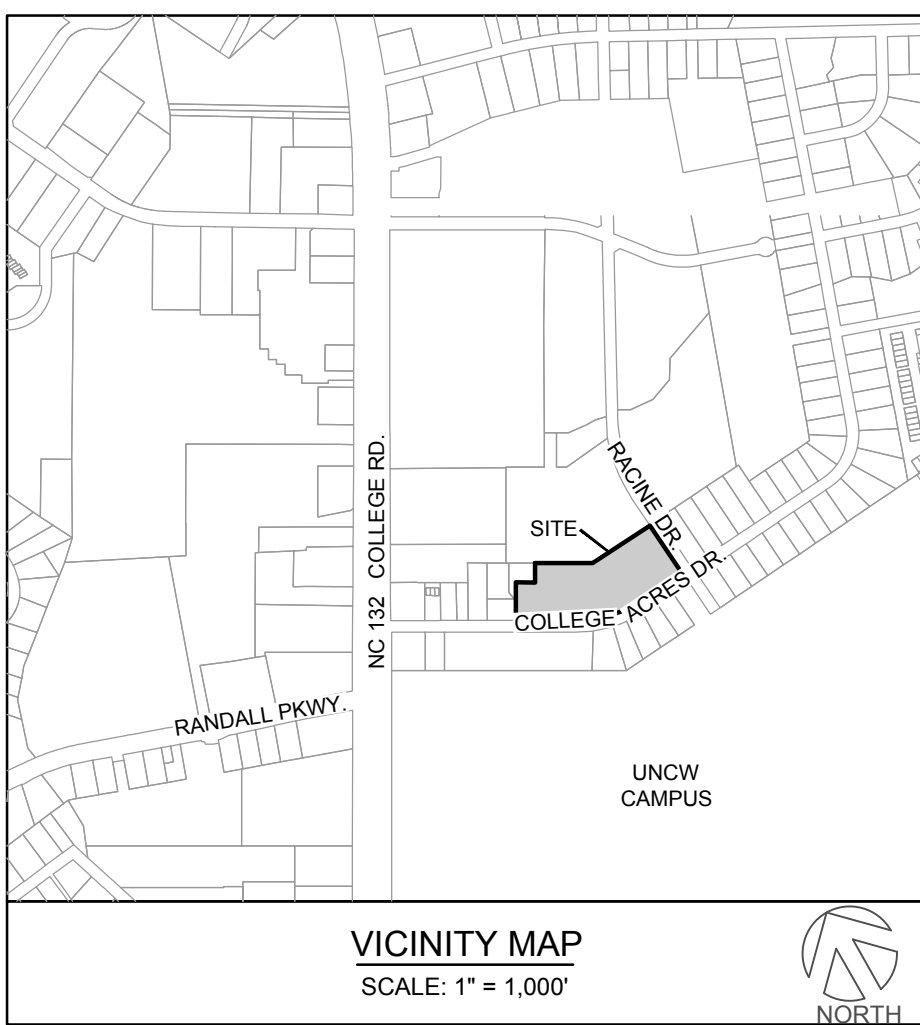
DRAWING INFORMATION
DATE: 07/31/19
SCALE: N/A
DRAWN: CDR
CHECKED: JRS

SEAL

C-1.1

PEI JOB#: 19443.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



SITE INFORMATION:

PARCEL ID: R05508-002-007 thru 014-000
 CURRENT ZONING: MF-M (CD)
 EXISTING USE: SINGLE-FAMILY RESIDENCES
 PROPOSED USE: MULTI-FAMILY RESIDENTIAL
 PROPERTY AREA: ± 5.53 ACRES (± 241,062 SF)
 PROJECT LIMITS AND DISTURBANCE: ± 5.40 ACRES
 OWNER INFORMATION: SEE SHEET C-2.1 SITE INVENTORY PLAN

FLOOD INFORMATION: THIS PARCEL IS LOCATED IN FLOOD ZONE X, WHICH IS NOT A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY FEMA FLOOD PANEL 3720314700K DATED AUGUST 28, 2018.

FEMA FLOODPLAIN NOTE: N/A
 CONSERVATION RESOURCES DISTRICT: POOQSN
 OVERLAY ZONE: COLLEGE RD.
 CAMA AREAS OF ENVIRONMENTAL CONCERN: N/A
 CAMA FUTURE LAND USE: URBAN
 EXISTING HISTORIC AND ARCHAEOLOGICAL SITE: N/A
 EXISTING WETLANDS OR STREAMS: N/A
 EXISTING SURFACE WATERS: N/A

GENERAL NOTES

- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NC DOT STANDARDS.
- ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD 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.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED. COMMON DUMPSTER PROVIDED FOR DEVELOPMENT TRASH DISPOSAL.
- CONTRACTOR SHALL REFER TO LANDSCAPE PLAN FOR SPECIFIC TREE REMOVAL AND OTHER LANDSCAPING DETAILS.
- ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' TO 10'.
- THERE ARE NO WETLANDS LOCATED ON SITE.

DIMENSIONAL REQUIREMENTS:

MF-M (CD)
 PROVIDED BUILDING SETBACKS:
 - FRONT (COLLEGE ACRES DR): 20' (REQ'D 15' DUPLEX)
 - REAR (CAMPUS EDGE APARTMENTS): 25' (REQ'D 25' MF)
 - SIDE (BUFFER YARD): 20' (REQ'D 5' DUPLEX)
 - CORNER SIDE: 30' (REQ'D 30' MF)
 - BUILDING HEIGHT: <35' (REQ'D 35' HEIGHT)

IMPERVIOUS DATA:

IMPERVIOUS AREA: 20,800 SF
 EXISTING BUILDING: 13,000 SF
 EXISTING PAVEMENT: 11,500 SF
 EXISTING GRAVEL: 3,350 SF
 TOTAL EXISTING IMPERVIOUS: 37,150 SF (TO BE REMOVED)

PROPOSED BUILDINGS: 53,805 SF
 PROPOSED PAVEMENT: 55,800 SF
 PROPOSED SIDEWALKS: 11,500 SF
 OTHER: 2,740 SF
 FUTURE: 2,000 SF
 TOTAL NEW IMPERVIOUS: 125,945 SF (52% OF PROPERTY)

OFFSITE IMPERVIOUS: 4,500 SF (TO WETLAND)
 PERV. PAVEMENT IMPERVIOUS: 31,605 SF
 SW WETLAND IMPERVIOUS: 98,840 SF
 NET IMPERVIOUS TO WETLAND: 98,840 - 37,150 SF = 61,690 SF TO WETLAND

OPEN SPACE DATA:

MF-M REQUIRED: 35% OF TOTAL PROPERTY SUBTRACT NATURAL OR STORMWATER FEATURES:
 TOTAL REQ'D = 241,062 x 0.35
 TOTAL REQ'D = 84,371 SF

OPEN SPACE PROVIDED = 88,845 SF
 (78,548 SF OF RECREATION SPACE & 12,297 SF OF REMAINING UNCOVERED LANDS)

RECREATION AREA REQUIRED: 50% OF OPEN SPACE = 42,186 SF REQ'D.

RECREATION AREA PROVIDED: ACTIVE SPACE (AMENITY, LOOP WALKS, & TWO OPEN YARDS) TOTAL = 28,181 SF
 PASSIVE SPACE (BUILDING YARDS, TWO OPEN YARDS & WETLAND) TOTAL = 48,367 SF

BUILDING INFORMATION:

BUILDING COVERAGE:
 (9) 2-STORY DUPLEXES @ 2,200 SF ±
 BUILDING NO.'s 1-18
 (5) 3-STORY MULTI-FAMILY @ 6,100 SF ±
 BUILDING NO.'s 19-23
 (1) 1-STORY CLUBHOUSE @ 2,700 SF ±
 *TOTAL SF: 53,805 SF ± (±22.02%)
 (MF-M ALLOWS 30% MAX.)

TOTAL GROSS FLOOR AREA:
 (9) 2-STORY DUPLEXES @ 4,400 SF ±
 (5) 3-STORY MULTI-FAMILY @ 18,300 SF ±
 (1) 1-STORY AMENITY CENTER @ 2,700 SF ±
 *TOTAL SF: 133,900 SF ± GFA

CONSTRUCTION TYPE:
 VB, SPRINKLER SYSTEM

PARKING DATA:

MINIMUM: 18 - 4BR UNITS @ MIN. 4 SPACE / UNIT = 72
 60 - 3BR UNITS @ MIN. 2.25 SPACE / UNIT = 135
 MIN. TOTAL SPACES = 207 SPACES*
 *SPACES ABOVE MIN. MUST BE PERVIOUS PER COND. DISTRICT

MAXIMUM: 18 - 4BR UNITS @ MAX. 4 SPACE / UNIT + 10% = 73
 60 - 3BR UNITS @ MAX. 2.50 SPACE / UNIT = 150
 MAX. TOTAL SPACES ALLOWED = 223 SPACES

PROVIDED: 241 SPACES PER (69 PERVIOUS PAVEMENT SPACES > REQ'D = 37)

ACCESSIBLE PARKING: 241 TOTAL REQUIRES 5 STD. & 2 VAN SPACES TOTALS 7
 PROVIDED: 9 SPACES INCL. 8 VAN SPACES

BIKE SPACES: REQUIRED = 20 MIN.
 PROVIDED = 7 @ 5 SPACE RACK = 35 SPACES

TRAFFIC DATA:

- TABLE 4.1.1 BELOW INDICATES THAT THIS PORTION OF COLLEGE ACRES DRIVE IS CURRENTLY OPERATING WITHIN ITS DESIGNED CAPACITY AT A LEVEL OF SERVICE (LOS) OF A. HOWEVER, BOTH MAJOR INTERSECTIONS WITH COLLEGE ACRES DR. INCLUDING S. COLLEGE ROAD AND RACINE DRIVE, ARE OPERATING BEYOND THEIR DESIGN CAPACITY AT A LOS OF F. TABLE 4.1.2 INDICATES THAT ESTIMATED VEHICLE TRIPS ASSOCIATED WITH THE PROPOSED USE WOULD BE GREATER THAN DEVELOPMENT UNDER THE EXISTING ZONING DISTRICT.
- BASED ON THE ESTIMATED TRIP GENERATION A TRAFFIC IMPACT ANALYSIS (TIA) IS NOT REQUIRED.
- THE DEVELOPMENT PROVIDES DRIVEWAY ACCESSSES OFF OF COLLEGE ACRES DRIVE AND RACINE DRIVE.
- A RECENT TRAFFIC IMPROVEMENT AT THE INTERSECTION OF COLLEGE ACRES DRIVE AND RACINE DRIVE CURRENTLY RESTRICTS LEFT TURN MOVEMENTS AT THIS INTERSECTION.
- THE SITE CONNECTS TO THE EXISTING SIDEWALK NETWORK ALONG RACINE DRIVE WHICH PROVIDES PEDESTRIAN ACCESS TO THE UNCW CAMPUS AND EXISTING COMMERCIAL USES TO THE NORTH.

Table 4.1.1 Current Volumes, Capacities and Levels of Service

Road	Location	Volume	Capacity	VIC	LOS
College Acres Dr	Between College Rd and Racine Dr	828	9,400	0.09	A
College Rd	Between College Acres Dr and New Centre Dr	78,547	41,700	1.8	F
Racine Dr	Between College Acres Dr and New Centre Dr	21,464	10,000	2.1	F

Table 4.1.2 Estimated Trip Generation

Zoning	Land Use	Intensity	AM Peak Hour Trips	PM Peak Hour Trips	Average Weekday 2-Way Volume Trips (ADT)
Existing MF-15	Single-Family detached	11 units	13	12	136
Proposed MF-15	Duplexes	18 units	9	13	95
Proposed MF-15	Multifamily	60 units	21	27	324
Total		79	35	49	455

Source: Institute of Transportation Engineers Trip Generation, 10th Edition, 2016. TRIP GENERATION BY TRAFFIC VEHICLE

BUFFER/ SCREENING INFORMATION:

STREETYARDS: MF-M MULTIPLIER = 18
 COLLEGE ACRES = (924 LF OF FRONTAGE - 24' OF DRIVEWAY) X 18 = 16,200 SF
 16,200 SF / 600 SF = 27 CANOPY TREES
 27 * 6 SHRUBS = 162 SHRUBS (12' HGT. AT PLANTING)
 RACINE DRIVE = (290 LF OF FRONTAGE - 24' OF DRIVEWAY) X 9 (1/2 MF-M) = 2,394 SF
 2,394 SF / 600 SF = 4 CANOPY TREES
 4 * 6 SHRUBS = 24 SHRUBS (12' HGT. AT PLANTING)

WEST BUFFER: 403LF x 8' DEPTH MIN. W/ 8' WOOD SCREEN FENCE W/ DOUBLE ROW OF SHRUBS

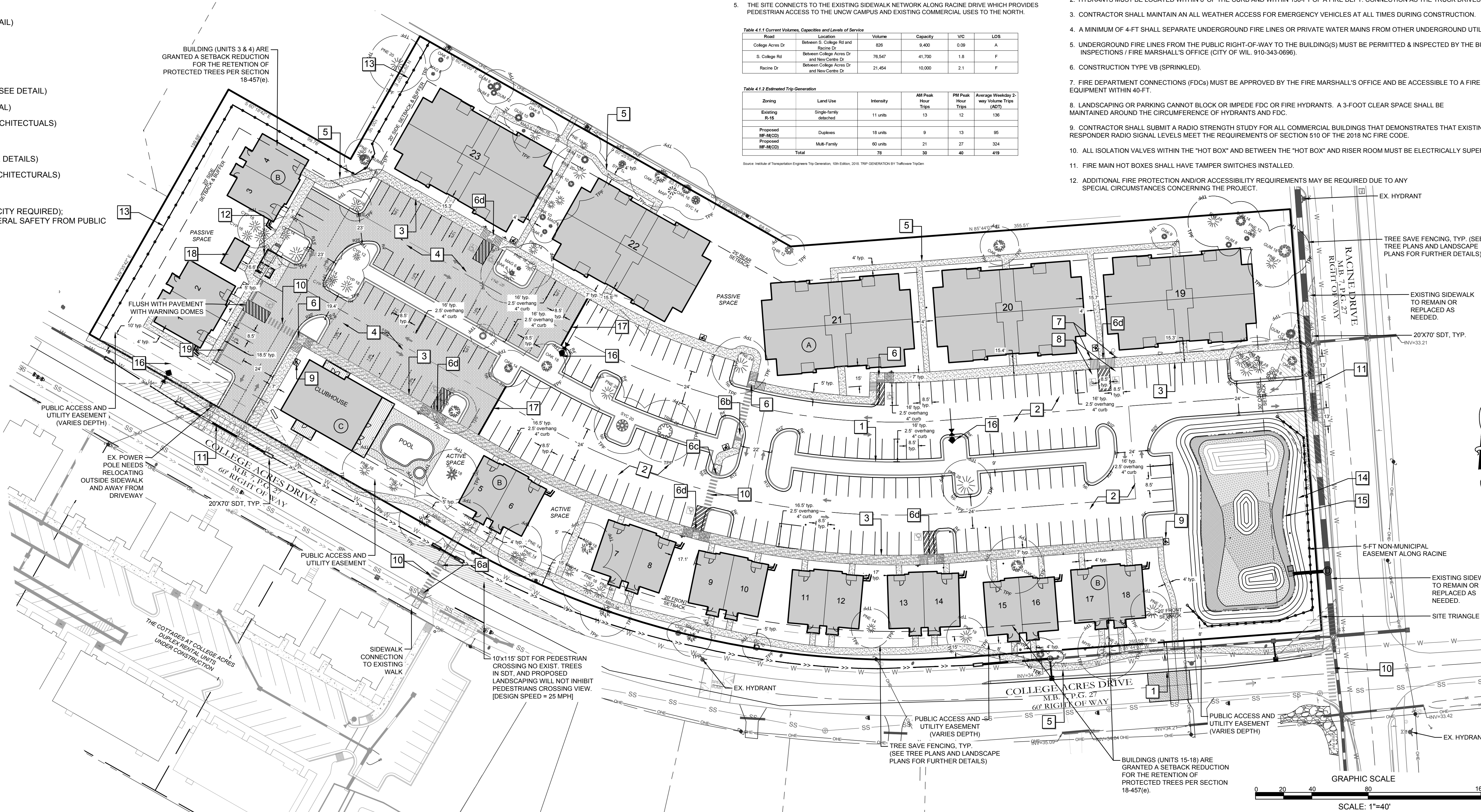
SCREENING: ALL DUMPSTERS, HVAC, MECHANICAL EQUIPMENT AND ANY OTHER ITEMS REQUIRING SCREENING AS DEFINED BY THE CITY OF WILMINGTON LDC TO BE SCREENED IN ACCORDANCE WITH SECTION CD-11-320 CONDITIONS:

WATER & SEWER CAPACITY:

ALL EXISTING WATER AND SEWER UTILITIES ARE SERVICED BY CFPWA
 SANITARY SEWER MULTI-FAMILY - ASSUMING 120 GPD/BED
 PROPOSED - 252 BDRM @ 120 GPD = 30,240 GPD
 WATER PROPOSED 125% OF SEWER DEMAND = 37,800 GPD
 EXISTING ESTIMATION = ±2880 GPD

SITE KEYNOTES:

- 24" CURB & GUTTER (TYPICAL - SEE DETAIL)
- ASPHALT PARKING PAVEMENT (TYPICAL - SEE DETAIL)
- 4" CONCRETE TURNDOWN WALK (TYPICAL - SEE DETAIL)
- PERVIOUS PAVEMENT (TYPICAL - SEE DETAIL)
- CONCRETE SIDEWALK (4ft, 5ft, & 7ft - SEE DETAIL)
- TYPE 1B HANDICAP RAMP (TYPICAL - SEE DETAIL)
- CITY STD. 3-07 HANDICAP RAMP (TYPICAL - SEE DETAIL)
- TYPE 1 HANDICAP RAMP (TYPICAL - SEE DETAIL)
- TYPE 3 HANDICAP RAMP (TYPICAL - SEE DETAIL)
- TYPE 2 HANDICAP RAMP (TYPICAL - SEE DETAIL)
- PROPOSED ACCESSIBLE PARKING SIGN (TYPICAL - SEE DETAIL)
- PROPOSED ACCESSIBLE SPACE WITH AISLE (TYPICAL)
- PROPOSED BIKE RACK (5-SPACE, TYPICAL - REF. ARCHITECTURALS)
- PROPOSED CROSSWALK (TYPICAL - SEE DETAIL)
- PROPOSED CITY STD. DRIVE APRON (TYPICAL - SEE DETAILS)
- COMPACTOR WITH ENCLOSURE (TYPICAL - REF. ARCHITECTURALS)
- 8-FT SCREENING FENCE WITHIN BUFFER
- 4-FT DECORATIVE FENCE AROUND WETLAND (NOT CITY REQUIRED); ONLY FACING THE PUBLIC RIGHT OF WAY FOR GENERAL SAFETY FROM PUBLIC
- STORMWATER WETLAND
- PROPOSED FIRE HYDRANT
- 12" CONCRETE HEADER CURB (SEE DETAIL)
- OUTDOOR MAIL KIOSK & PACKAGE LOCKERS (REF. ARCH. PLANS)
- WHEEL STOPS (SEE DETAIL)



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

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

1. REVISED PER FINAL TRC COMMENTS	10/29/20
2. REVISED PER NCE/EC COMMENTS	10/13/20
3. REVISED PER FINAL TRC COMMENTS	10/29/20

CLIENT INFORMATION:
COLLEGE ACRES DEVELOPMENT, LLC
 5217 MARKET STREET
 WILMINGTON, NC 28405

PARAMOUNT ENGINEERING
 122 Cinema Drive
 Wilmington, North Carolina 28403
 (910) 791-6707 (O) (910) 791-6766 (F)
 NC License #: C-2846

SITE PLAN
 COLLEGE ACRES APARTMENTS
 COLLEGE ACRES DRIVE
 WILMINGTON, NEW HANOVER CO., NC

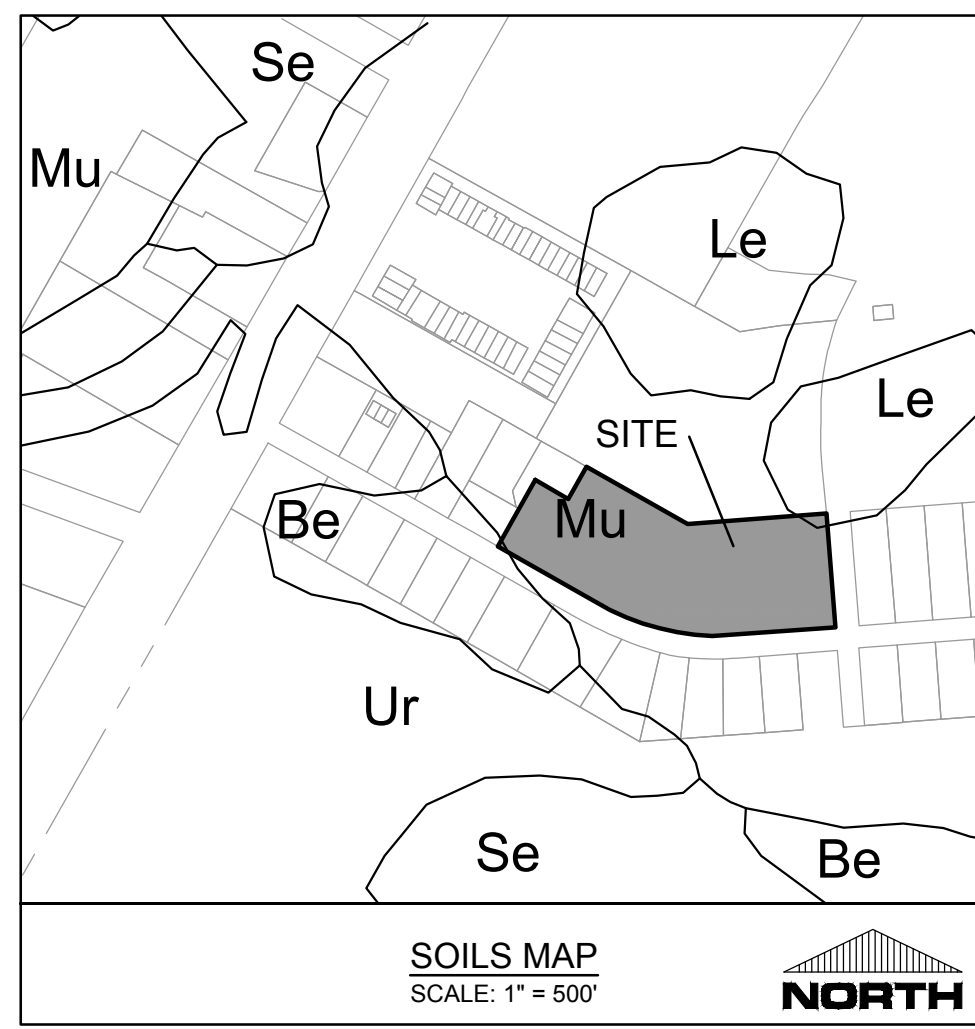
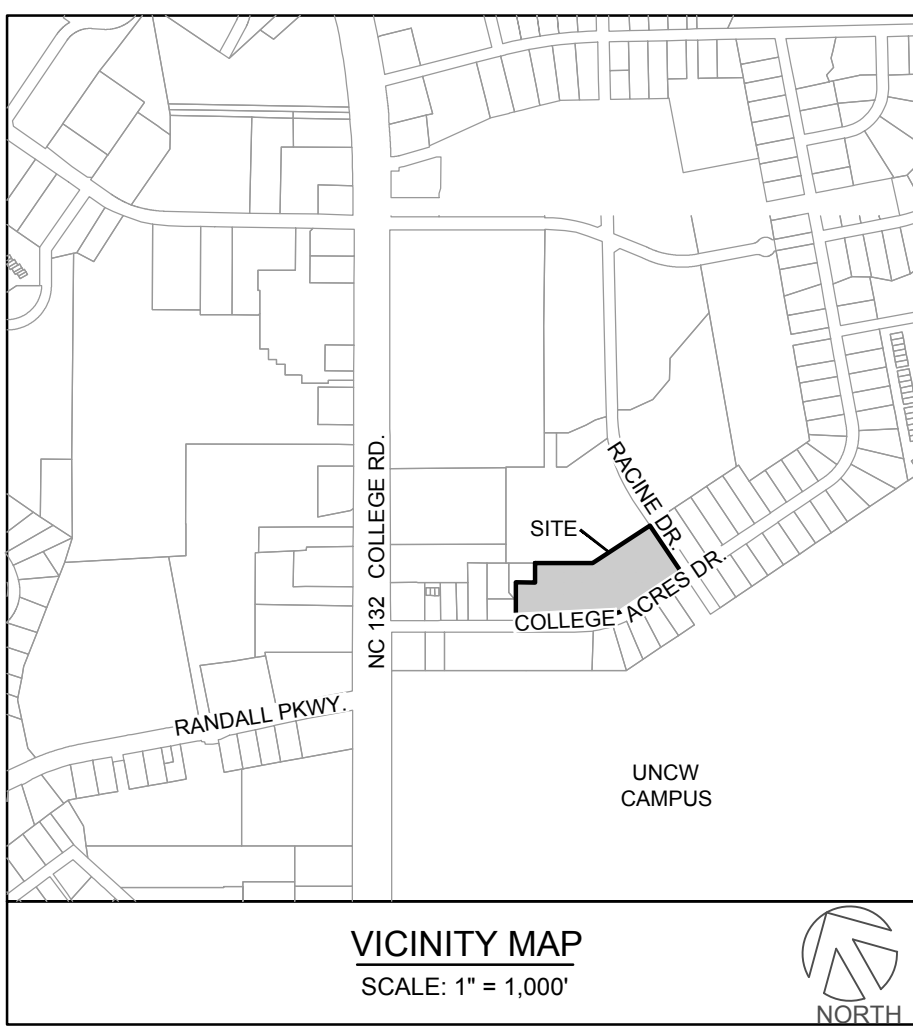
PROJECT STATUS:
 CONCEPTUAL LAYOUT: 9/29/20
 FINAL DESIGN: 10/13/20
 RELEASED FOR CONSTRUCTION: 10/29/20

DRAWING INFORMATION:
 DATE: 07/31/19
 SCALE: 1" = 40'
 DRAWN BY: JEN
 CHECKED: JTC

SEAL

C-2.0

PEI JOB#: 19443.PE

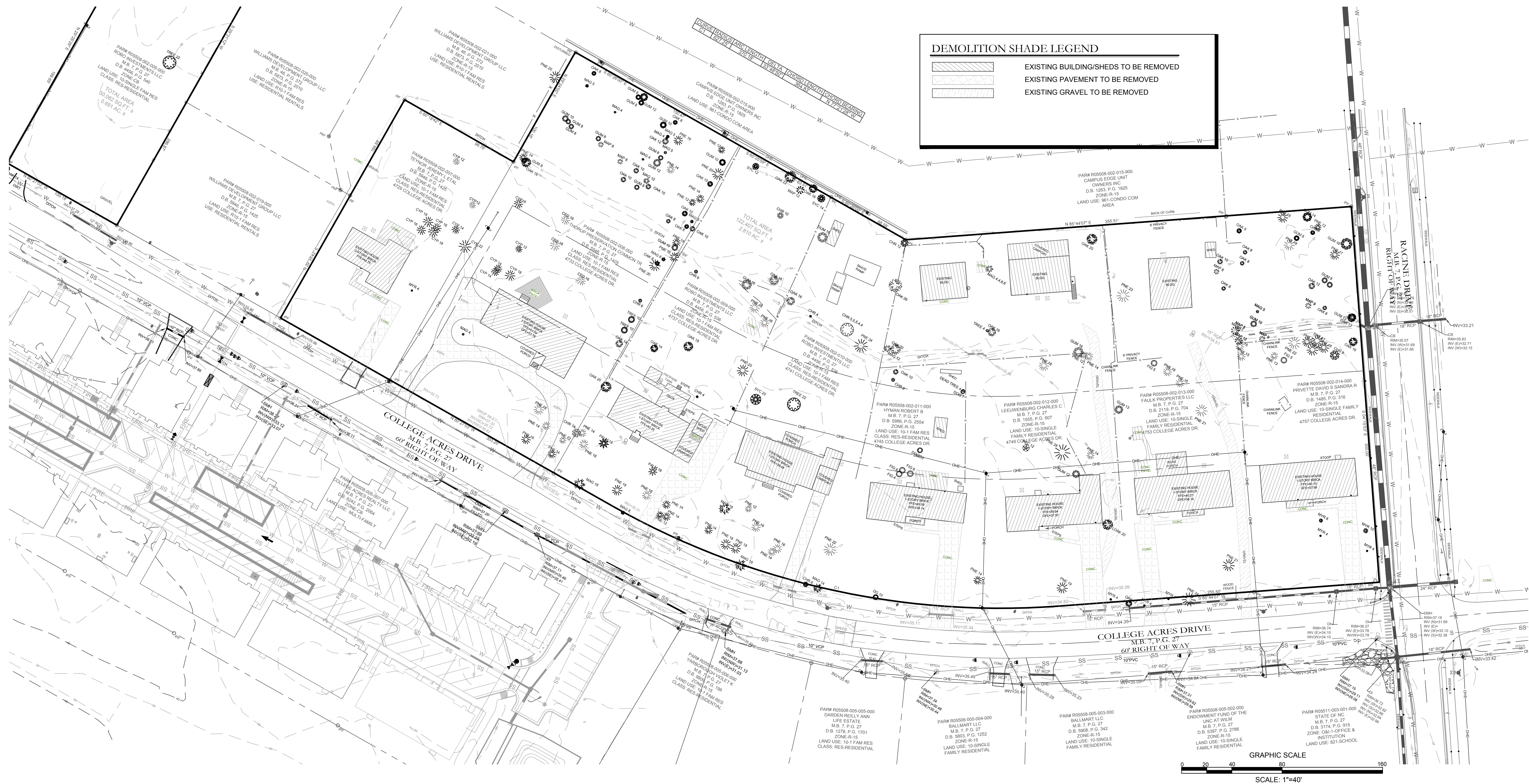


SITE INVENTORY DATA			
1. PREPARER OF THE PLAN:	PARAMOUNTE ENGINEERING, INC. 122 CINEMA DRIVE WILMINGTON, NC 28403	6. PROPERTY BOUNDARY:	SEE PLAN
2. APPLICANT NAME:	COLLEGE ACRES DEVELOPMENT, LLC 5217 MARKET STREET WILMINGTON, NC 28405	7. ZONING:	MF-M (CD)
3. SITE ADDRESS:	[MULTIPLE] COLLEGE ACRES DR. WILMINGTON, NC 28403	8. ADJACENT PROPERTY INFORMATION (OWNER AND ZONING):	SEE PLAN
4. PROPERTY OWNER(S):	TEYNOR JEREMY LETAL 5006 CARLETON DR. UNIT 36 WILMINGTON, NC 28403 THORUP PRESERVATION COMMON TR 4733 COLLEGE ACRES DR. WILMINGTON, NC 28403 ROBO INVESTMENTS, LLC PO BOX 1489 WRIGHTSVILLE BEACH, NC 28480 HYMAN ROBERT B. PO BOX 7905 WILMINGTON, NC 28406 LEEUWENBURG CHARLES C. 4745 COLLEGE ACRES DR. WILMINGTON, NC 28403 FAULK PROPERTIES, LLC 2605 TATTON DR. RALEIGH, NC 27608 PRIVETTE DAVID S. SANDRA R. 4757 COLLEGE ACRES DR. WILMINGTON, NC 28403	9. VICINITY MAP:	SEE MAP THIS SHEET
		10. TOPOGRAPHY:	SEE PLAN
		11. 100 YEAR FLOOD PLAIN BOUNDARY:	THIS PARCEL IS LOCATED IN FLOOD ZONE X, WHICH IS NOT A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY FEMA FLOOD PANEL 3720314700K DATED AUGUST 28, 2018
		12. LOCATION OF EXISTING DITCHES, CREEKS, AND STREAMS:	SEE PLAN
		13. SOILS:	BAYMEADE (Be), LEON SAND (Le), MURVILLE FINE SAND (Mu), (SEE SOILS MAP THIS SHEET)
		14. CAMA AEC & ASSOCIATED SETBACKS:	N/A
		15. CAMA LAND CLASSIFICATION:	URBAN
		16. CONSERVATION RESOURCES:	N/A
		17. LOCAL, STATE, OR FEDERAL HISTORIC OR ARCHAEOLOGICAL SITE:	N/A
		18. LOCATION OF CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS:	N/A
		19. SQUARE FOOTAGE OF FORESTED AREA, HABITAT, AND DOMINANT SPECIES:	N/A
		20. SECTION 404 WETLANDS AND SECTION 10 WATERS:	N/A
5. DEVELOPER:	COLLEGE ACRES DEVELOPMENT, LLC. 5217 MARKET STREET WILMINGTON, NC 28405	21. PROTECTED SPECIES OR HABITAT:	N/A
		22. THOROUGHFARES, BIKE ROUTES, SIDEWALKS, TRANSIT FACILITIES (EXISTING OR PROPOSED):	SEE PLAN & VICINITY MAP

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

Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

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



REVISIONS:

1.	REVISED PER FINAL TRC COMMENTS
2.	REVISED PER NCEC COMMENTS
3.	REVISED PER FINAL TRC COMMENTS

CLIENT INFORMATION:
COLLEGE ACRES DEVELOPMENT, LLC
 5217 MARKET STREET
 WILMINGTON, NC 28405

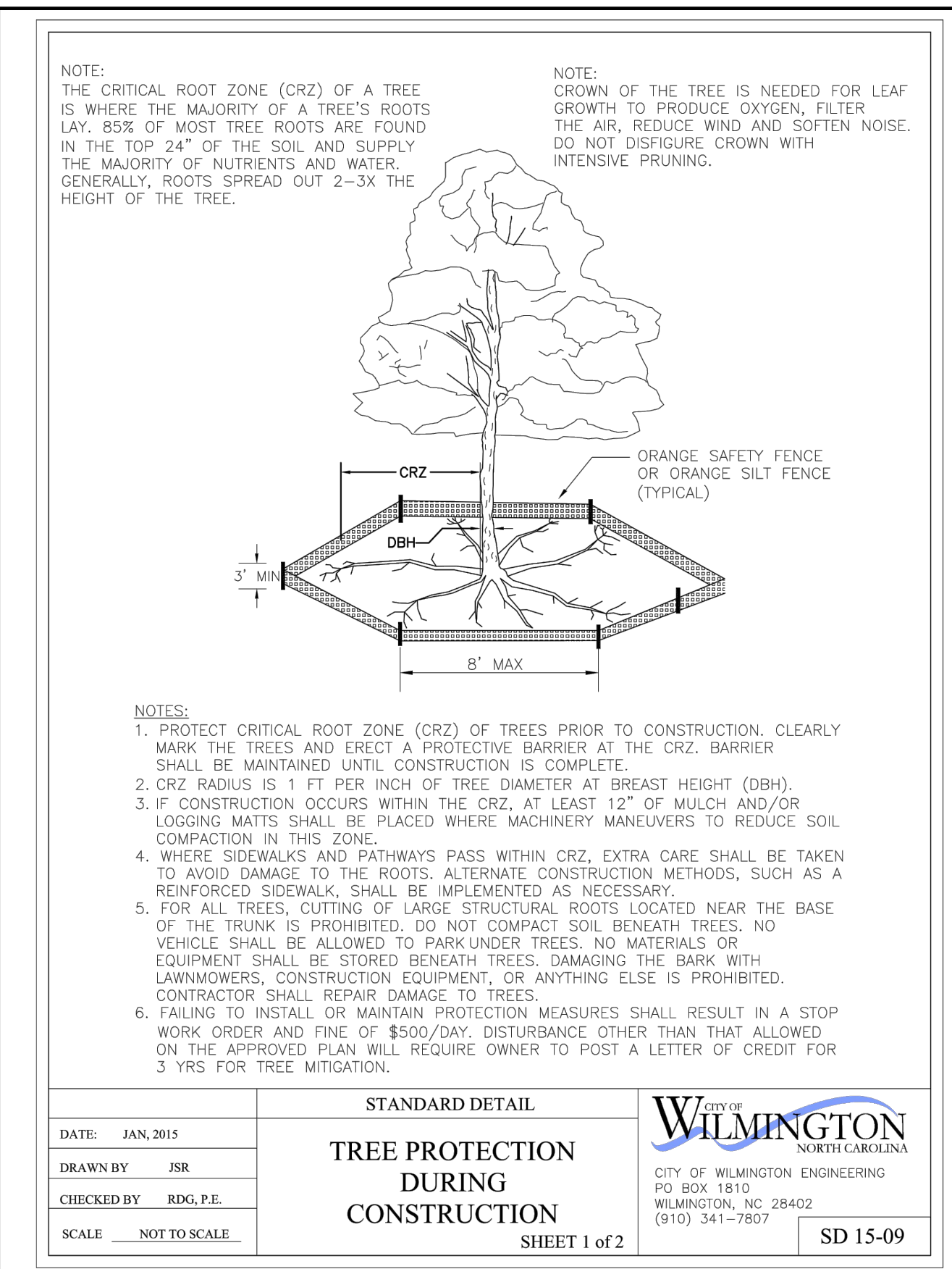
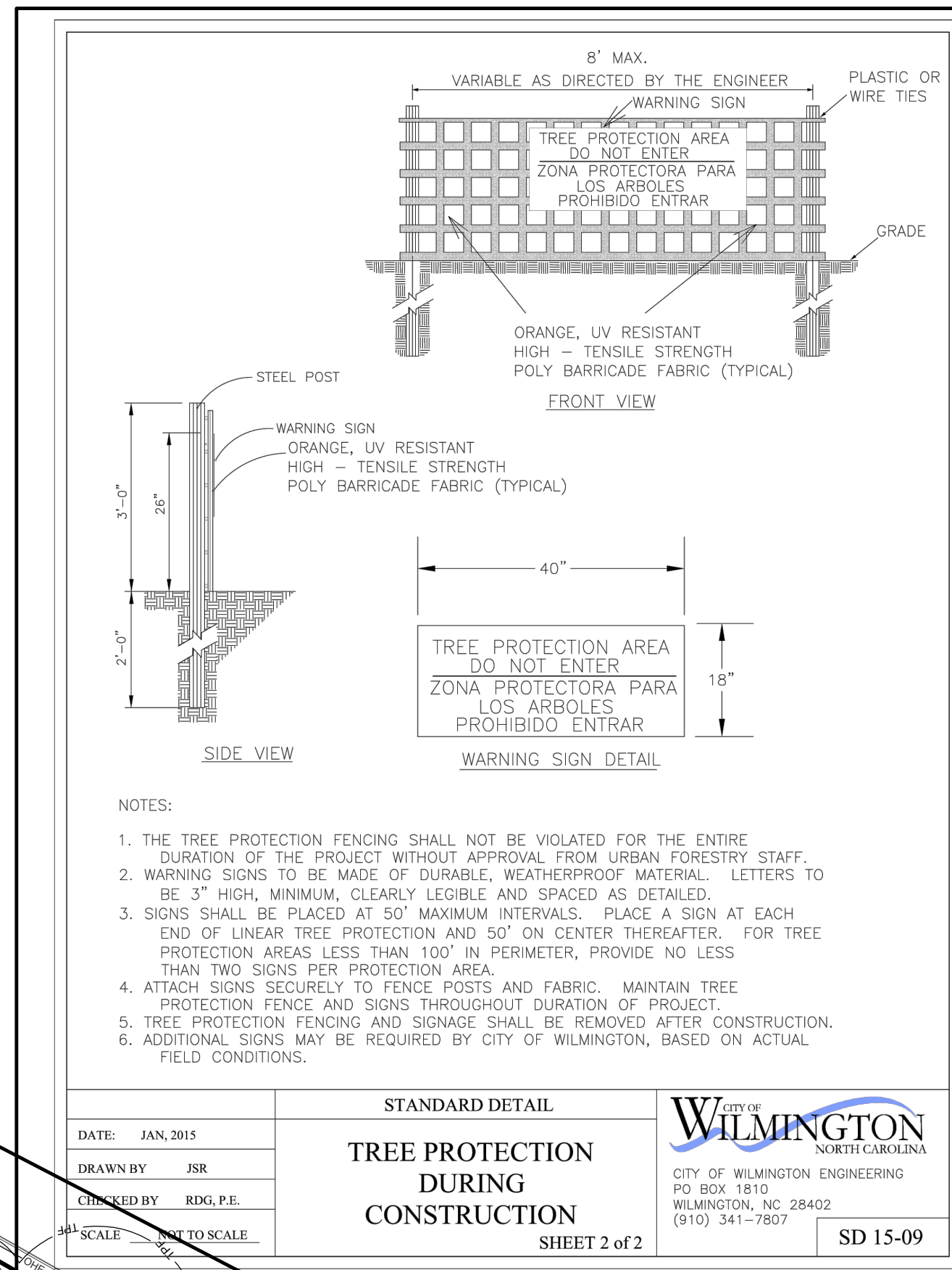
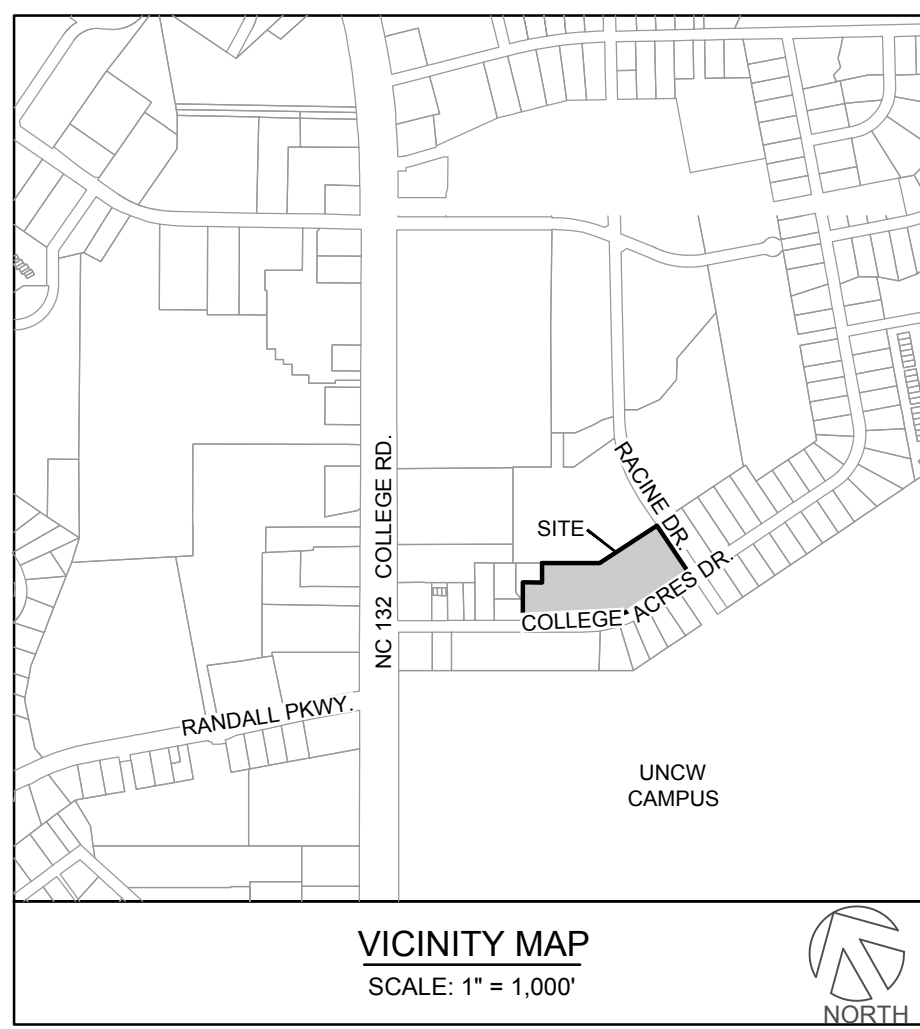
PARAMOUNTE ENGINEERING, INC.
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SITE INVENTORY PLAN & SITE DEMOLITION PLAN
COLLEGE ACRES APARTMENTS
 COLLEGE ACRES DRIVE
 WILMINGTON, NEW HANOVER CO., NC

PROJECT STATUS:
 CONCEPTUAL LAYOUT: 9.28.20
 FINAL DESIGN LAYOUT: 10.13.20
 RELEASED FOR CONSTRUCTION: _____
 DRAWING INFORMATION:
 DATE: 07/31/19
 SCALE: 1" = 40'
 DRAWN BY: JEM
 CHECKED: TBC

SEAL _____
C-2.1
 PEI JOB#: 19443.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



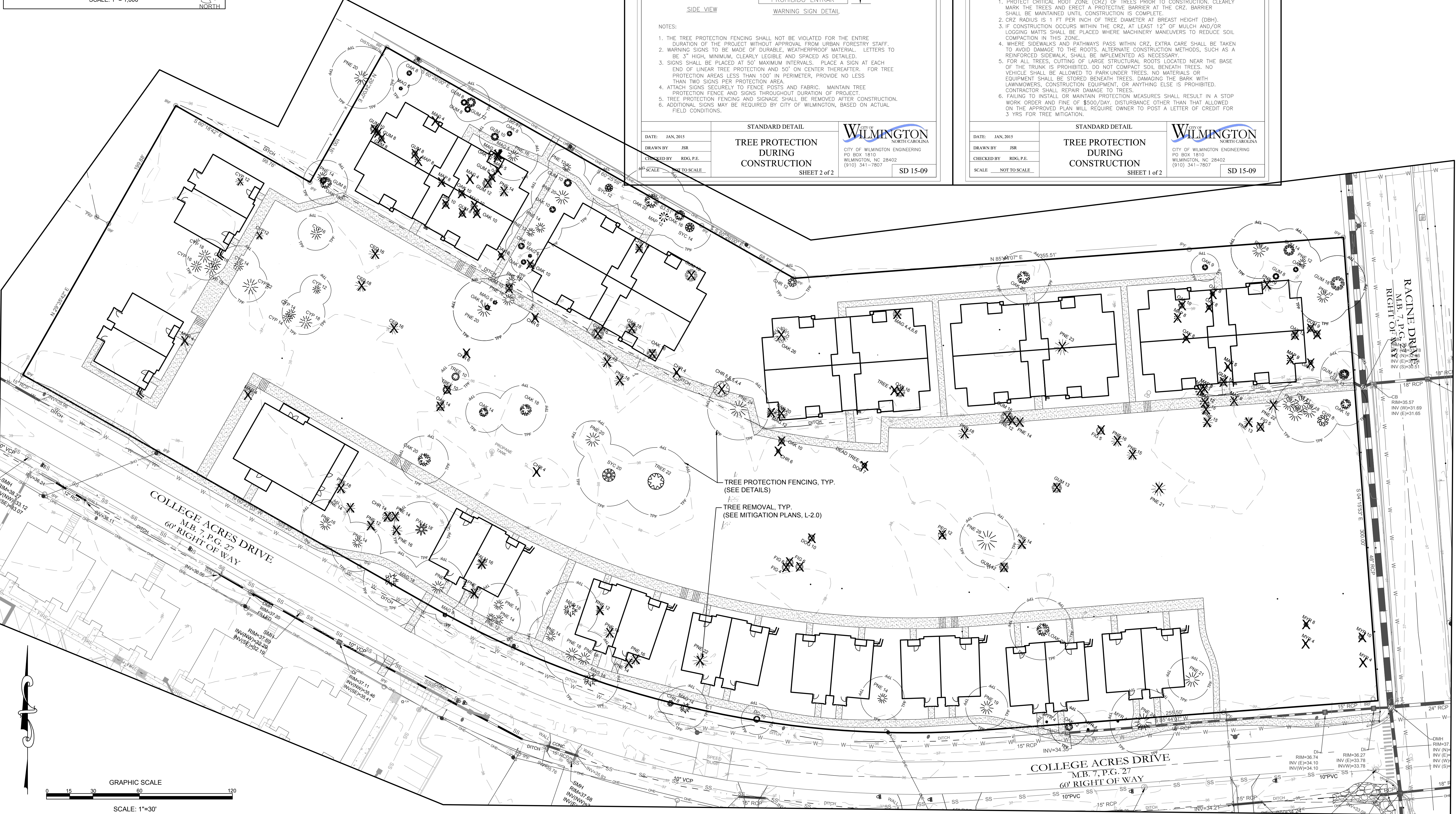
City of WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____

Planning _____
Traffic _____
Fire _____

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



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

1.	REVISED PER FINAL TRC COMMENTS	10/13/20
2.	REVISED PER NRC/EC COMMENTS	10/28/20
3.	REVISED PER FINAL TRC COMMENTS	10/28/20

CLIENT INFORMATION:
COLLEGE ACRES DEVELOPMENT, LLC
5217 MARKET STREET
WILMINGTON, NC 28405

PARAMOUNT ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6766 (F)
NC License #: C-2846

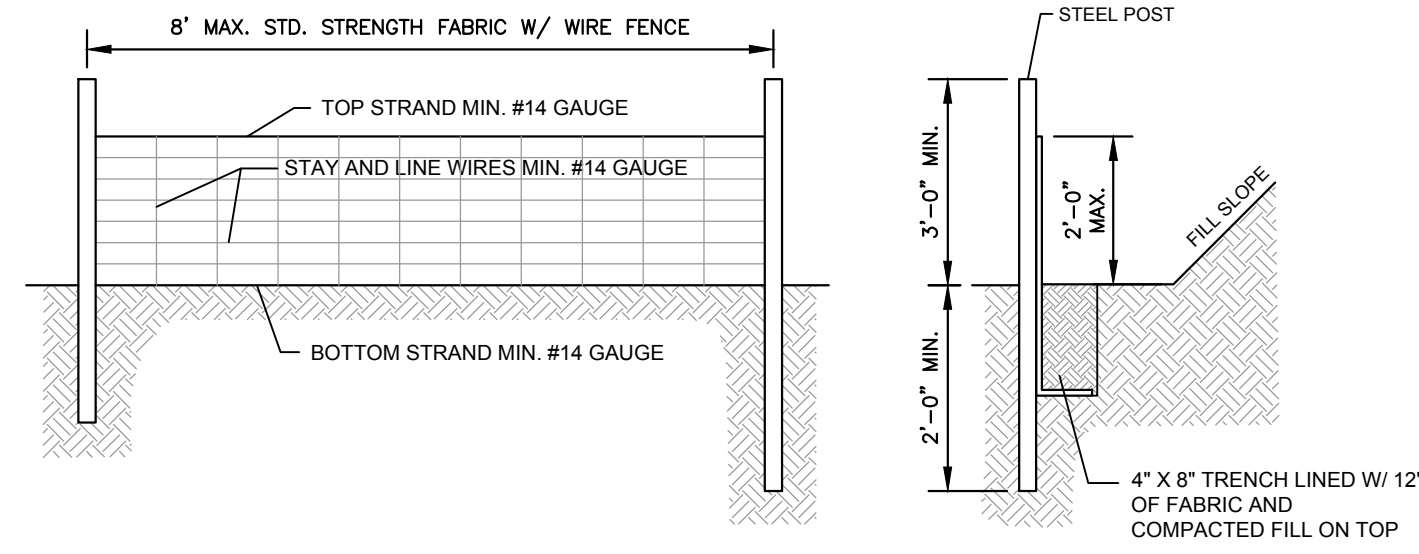
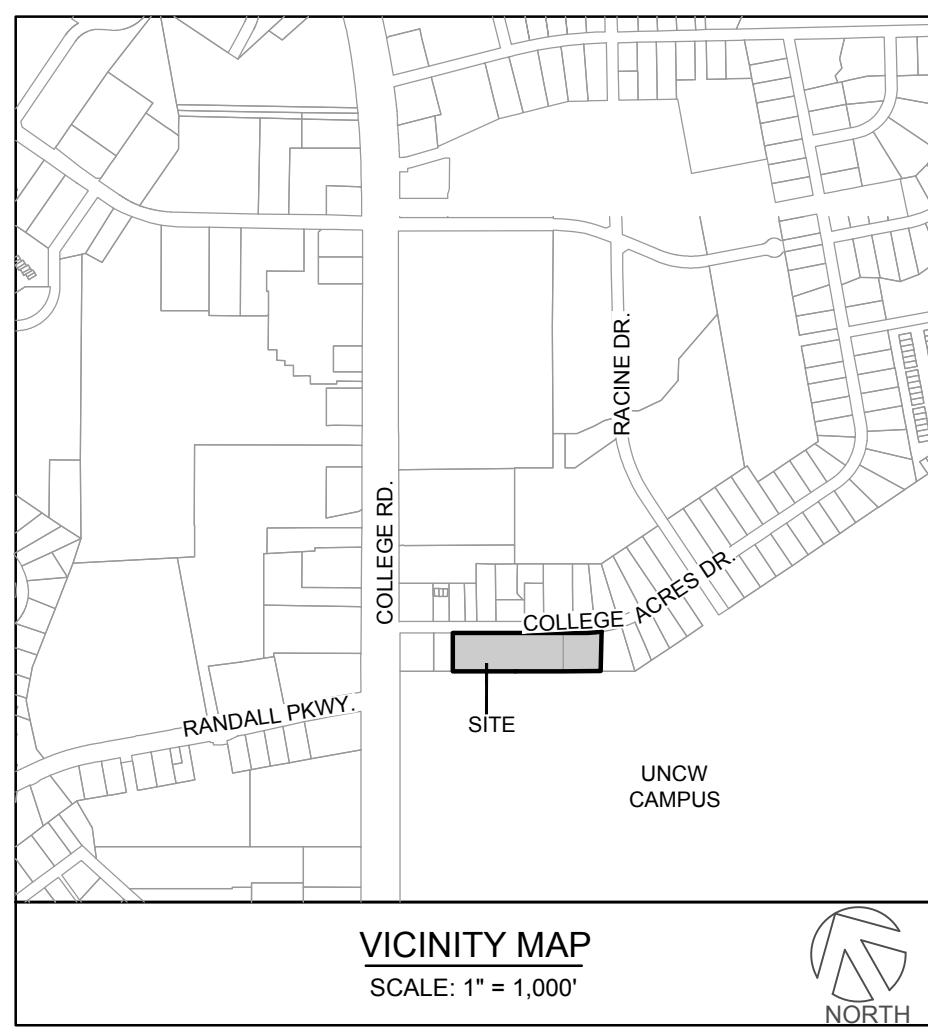
TREE REMOVAL PLAN
COLLEGE ACRES APARTMENTS
COLLEGE ACRES DRIVE
WILMINGTON, NEW HANOVER CO., NC

PROJECT STATUS:
CONCEPTUAL LAYOUT: 9/28/20
FINAL DESIGN LAYOUT: 10/13/20
RELEASED FOR CONSTRUCTION: 10/13/20

DRAWING INFORMATION:
DATE: 07/31/19
SCALE: 1" = 30'
DRAWN BY: JEN
CHECKED: TCC

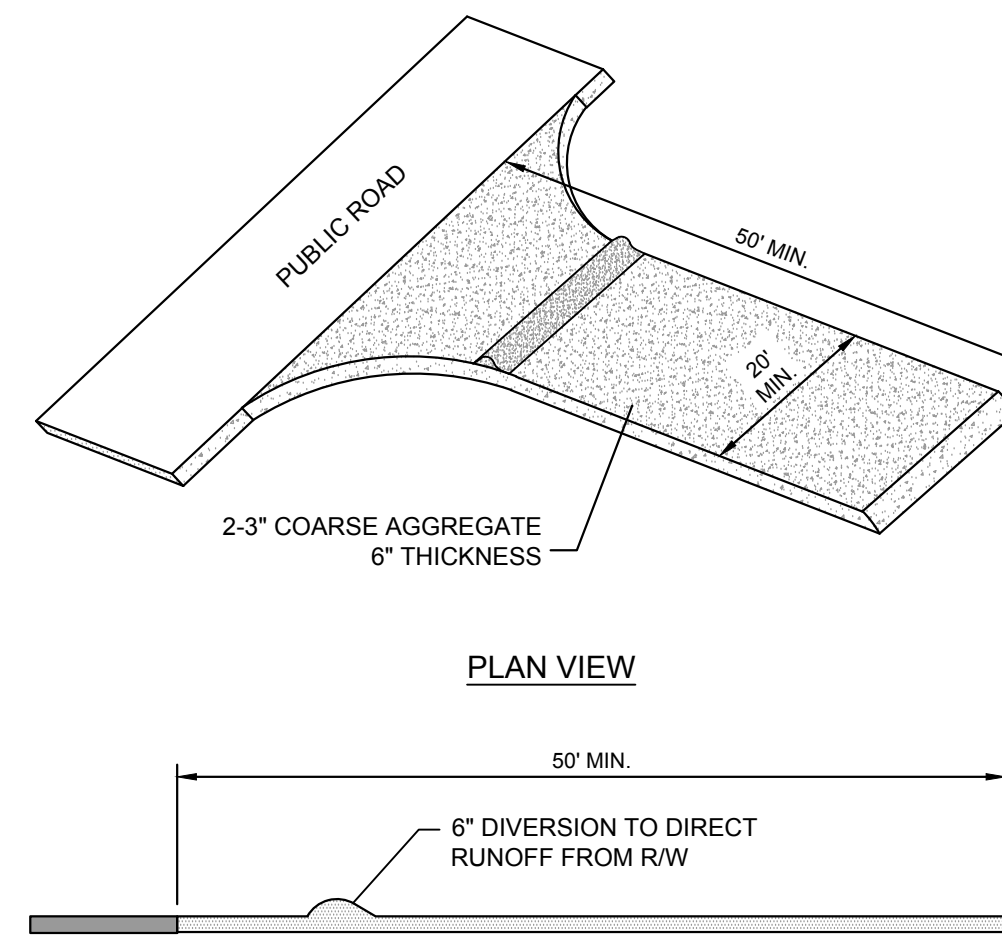
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PEI JOB#: 19443.PE

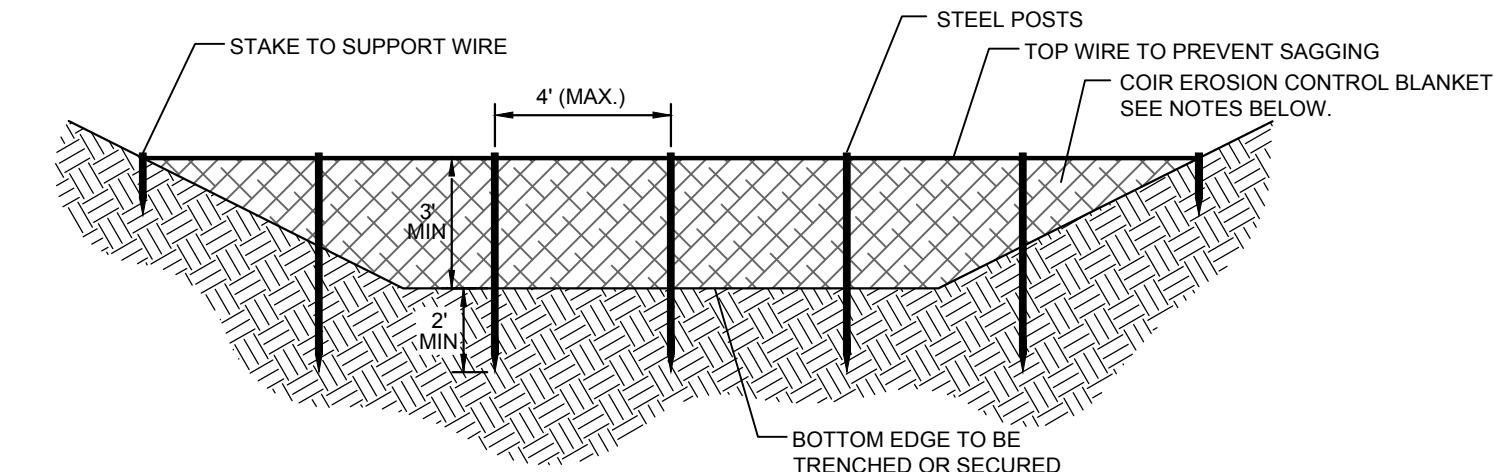
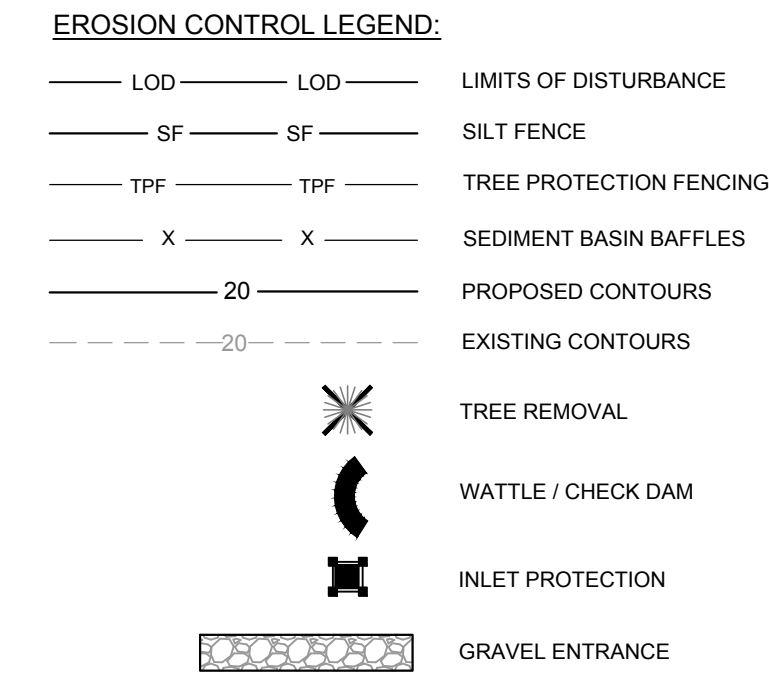


- NOTES:**
1. WIRE FENCE (IF USED) SHALL BE MINIMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF 8-INCHES.
 2. SYNTHETIC FILTER FABRIC OF AT LEAST 85% BY WEIGHT OF POLYESTER OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6611 AND ALSO SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS ACCORDING TO ASTM D 4355.
 3. SEE THE NC EROSION CONTROL MANUAL FOR SPECIFICATIONS INSTALLING SEDIMENT FENCE USING THE SLICING METHOD MACHINERY.

TEMPORARY SILT FENCE
NOT TO SCALE



TEMPORARY CONSTRUCTION ENTRANCE
NOT TO SCALE



- NOTES:**
1. INSTALL ONE CONTINUOUS PIECE OF FABRIC ACROSS THE ENTIRE BASIN--DO NOT SPLICE.
 2. COIR FIBER MATERIAL SHALL BE 0.30" THICK, TENSILE STRENGTH OF 900x680 lb/ft min, ELONGATION OF 69%x34%, ALLOW 10-12 lbs, 700gm² WEIGHT MIN., WIDTH OF 6.5 FT, AND AT LEAST 50% OPEN AREA.

COIR FIBER BAFFLE DETAIL
NOT TO SCALE

EROSION CONTROL NOTES:

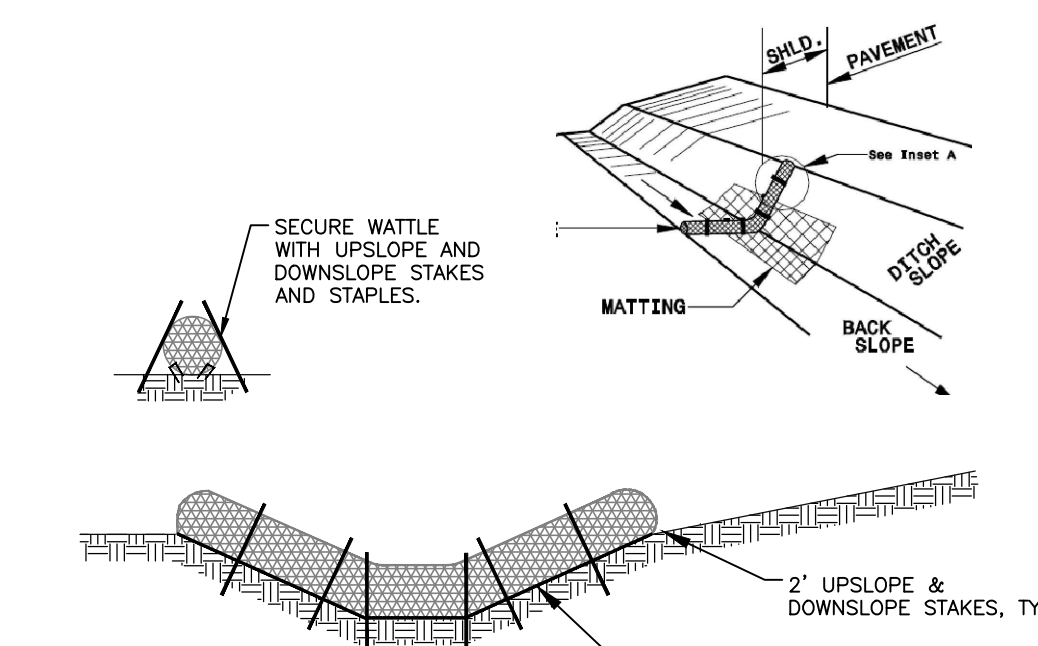
1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE STOCKPILE LOCATIONS ON SITE IF NOT SPECIFIED. SEE GENERAL NOTES SHEET FOR GRADING, DRAINAGE, AND EROSION CONTROL NOTES AND REQUIREMENTS. IN ADDITION, REFERENCE TECHNICAL SPECIFICATIONS AND DETAIL SHEETS FOR MORE INFORMATION.
2. SEE GRADING AND DRAINAGE PLANS FOR FINISH GRADES AND STORM PIPE SCHEDULE.
3. A GEOTECHNICAL ENGINEER OR INSPECTORS SHALL BE CONSULTED TO CONFIRM SUITABILITY OF SUBGRADE MATERIAL AND PROPER COMPACTION PER EARTHWORK SPECIFICATIONS IN FILL AREAS

ASPHALT AREA NOTE:

1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

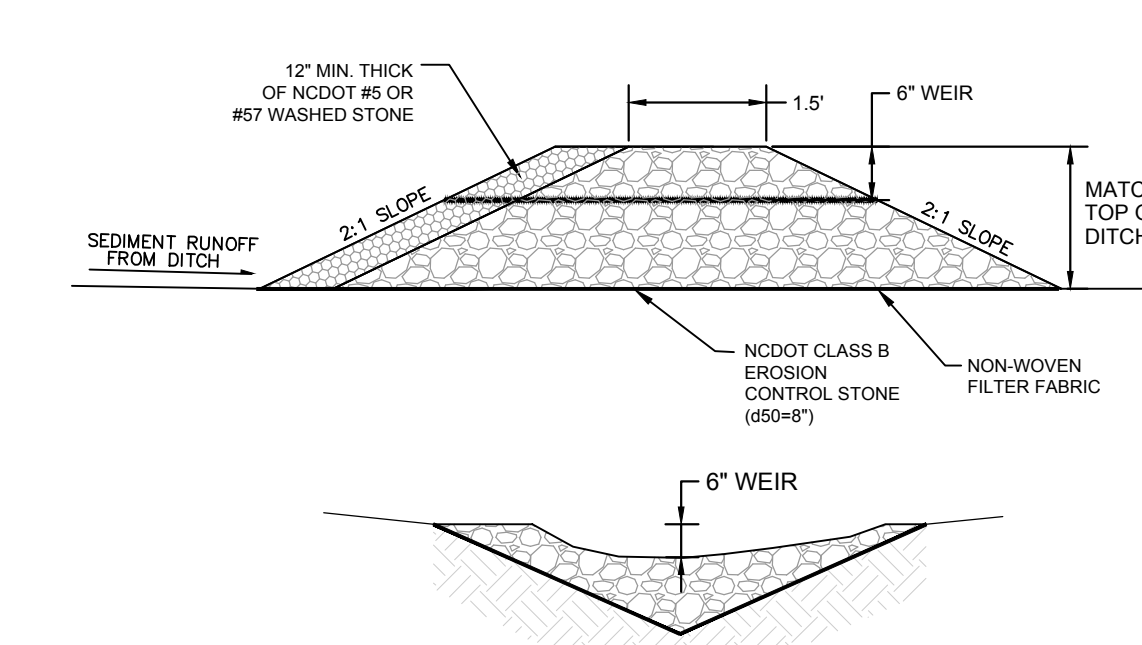
BUILDING PAD NOTE:

1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

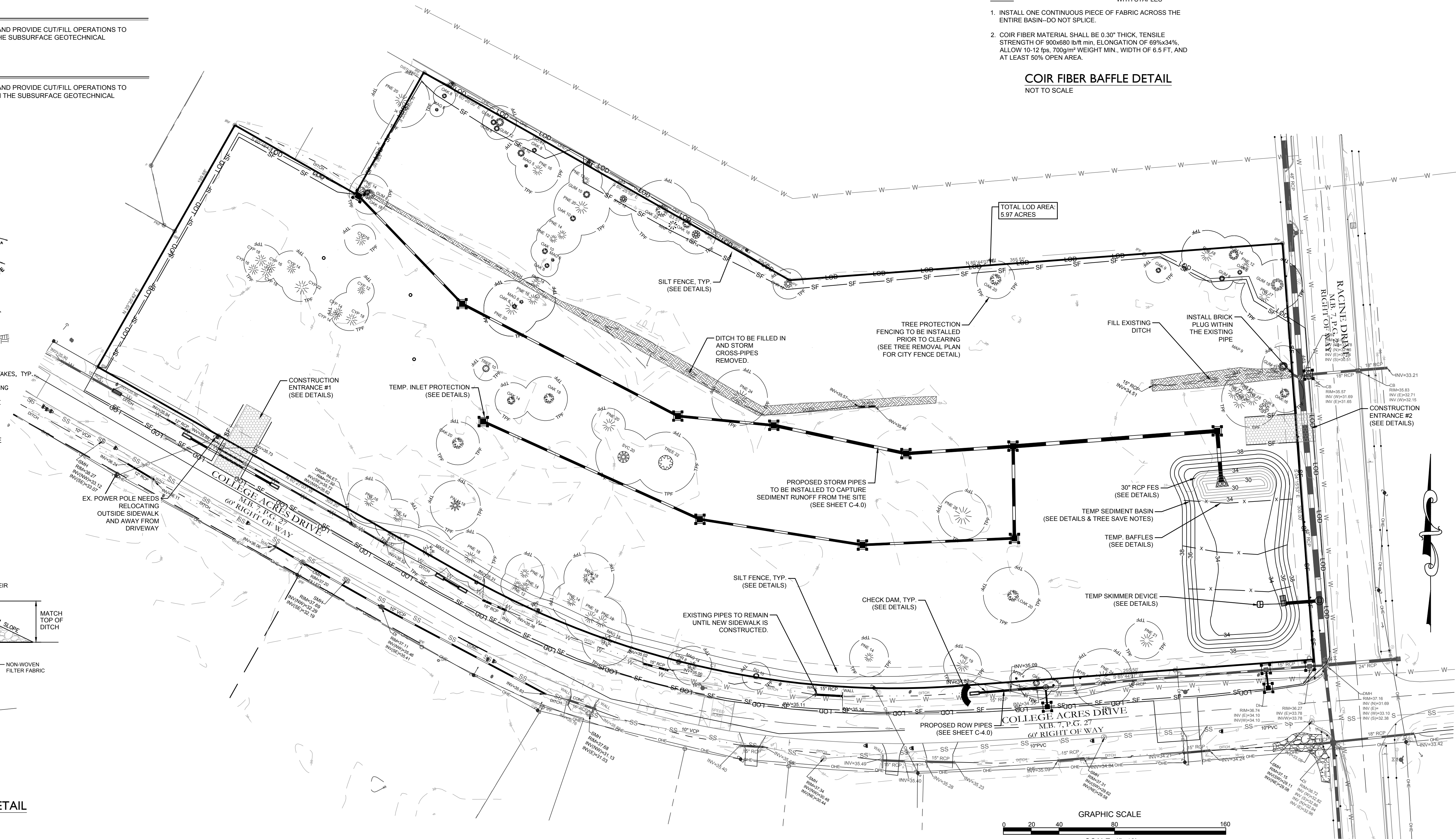


- NOTES:**
1. USE MINIMUM 12" DIA. EXCELSIOR WATTLE.
 2. USE 2"x2" WOODEN STAKES 2-FT IN LENGTH ON THE UPSLOPE AND DOWNSLOPE AT AN ANGLE TO WEDGE THE WATTLE TO THE BOTTOM OF THE SWALE.
 3. STAPLE EVERY 1 LF ON BOTH SIDES OF THE WATTLE TO SECURE IT TO THE BOTTOM OF THE SWALE.

TEMPORARY WATTLE DETAIL
NOT TO SCALE



TEMPORARY CHECK DAM DETAIL
NOT TO SCALE



CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____

Planning _____
Traffic _____
Fire _____

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



REVISIONS:

1.	REVISED PER FINAL TRC COMMENTS	10/13/20
2.	REVISED PER NRC/EC COMMENTS	10/28/20
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EROSION CONTROL PH I
COLLEGE ACRES APARTMENTS
COLLEGE ACRES DRIVE
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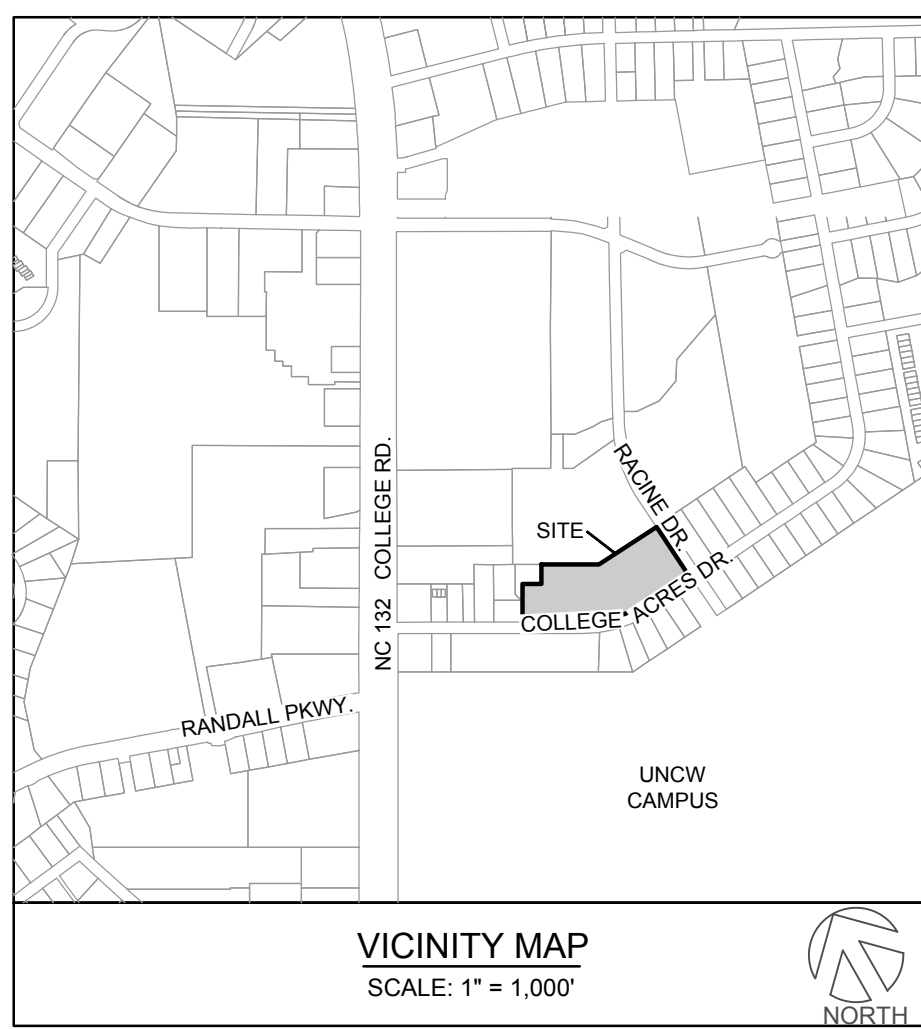
PROJECT STATUS:
CONCEPTUAL LAYOUT: 8.23.20
FINAL DESIGN: 10.13.20
RELEASED FOR CONSTRUCTION: 10.13.20

DRAWING INFORMATION:
DATE: 07/24/19
SCALE: 1"=40'
DRAWN BY: GJR
CHECKED: JBS

SEAL

C-3.0
PEI JOB#: 19443.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



NOTES:

- 1) SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE STOCKPILE LOCATIONS ON SITE IF NOT SPECIFIED. SEE GENERAL NOTES SHEET FOR GRADING, DRAINAGE, AND EROSION CONTROL NOTES AND REQUIREMENTS. IN ADDITION, REFERENCE TECHNICAL SPECIFICATIONS AND DETAIL SHEETS FOR MORE INFORMATION.
- 2) SEE GRADING AND DRAINAGE PLANS FOR FINISH GRADES AND STORM PIPE SCHEDULE.
- 3) A GEOTECHNICAL ENGINEER OR INSPECTORS SHALL BE CONSULTED TO CONFIRM SUITABILITY OF SUBGRADE MATERIAL AND PROPER COMPACTION PER EARTHWORK SPECIFICATIONS IN FILL AREAS.

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BUILDING PAD NOTE:

- 1) SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

AS-BUILT STORMWATER RULE [15A NCAC 02H.1044]:

- 1) THE CONTRACTOR WILL EMPLOY A LAND SURVEYOR LICENSED IN THE STATE OF NORTH CAROLINA TO PROVIDE ACCURATE REPRODUCIBLE AS-BUILT DRAWINGS OF THE WET DETENTION BASIN, COLLECTION SYSTEM, AND IMPERVIOUS AREA ON THE SITE TO THE ENGINEER & OWNER UPON COMPLETION OF CONSTRUCTION. UPON CERTIFICATION BY THE ENGINEER AND VERIFICATION FROM THE OWNER ANY DISCREPANCIES WILL BE INDICATED. THEN THESE PLANS SHALL BE RETURNED TO THE CONTRACTOR FOR CORRECTION PRIOR TO FINAL PAYMENT AND FINAL INSPECTION.

STORM SCHEDULE:

Upstream Node	Downstream Node	Upstream Invert	Downstream Invert	Diameter (In)	Pipe Length (ft)	Slope (%)	Upstream Rim Elev
DI 101	FES 100	31.20	30.70	30	32.7	1.530%	36.90
DI 102	DI 101	31.70	31.20	30	147.2	0.340%	36.80
DI 102-1	DI 102	32.07	31.70	24	66.1	0.560%	36.80
DI 102-2	DI 102-1	32.50	32.07	18	109.3	0.390%	36.75
DI 102-3	DI 102-2	33.00	32.50	18	118.6	0.420%	36.60
DI 102-4	DI 102-3	33.50	33.00	18	170.9	0.290%	37.50
DI 103	DI 102	32.50	31.70	24	77.0	1.040%	37.30
CI 104	DI 103	32.95	32.50	24	97.5	0.460%	37.40
DI 105	CI 104	33.25	32.95	18	69.2	0.430%	36.80
DI 106	DI 105	34.15	33.25	18	174.9	0.510%	37.50
YI 107	DI 106	34.65	34.15	15	107.6	0.460%	36.90

ROOF DRAINAGE & COLLECTION NOTES:

- 1) SITE CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR IN PIPING OF DOWNSPOUTS TO CONNECT TO STORM DRAINAGE PIPING OR STORMWATER WETLAND DIRECTLY. UNDERGROUND CONNECTIONS CAN BE MADE WITH BOTTLED PLASTIC CONNECTIONS TO HP PIPE OR OTHERWISE PIPED TO STRUCTURES.

DRAINAGE NOTES:

- 1) DRAINAGE EASEMENT AND STORMWATER SYSTEM MAINTENANCE IS THE RESPONSIBILITY OF THE DEVELOPER OR HOA, INCLUDING PONDS, PIPES, AND INFILTRATION BASINS AND TRENCHES AS PERMITTED WITH THE STATE AND LOCAL MUNICIPALITY.
- 2) ALL IMPERVIOUS MUST DRAIN TO THE DESIGNED STORMWATER SYSTEM UNLESS THE APPROVED PLANS SHOW OTHERWISE.
- 3) NO OBSTRUCTIONS ARE ALLOWED IN DRAINAGE EASEMENTS, INCLUDING FENCES.
- 4) ALL PUBLIC STORM DRAINAGE STRUCTURES SHALL MEET NCDOT STANDARDS AND SPECIFICATIONS AND SHALL BE TRAFFIC RATED FOR H-20 LOADS AT A MINIMUM. PRIVATE DRAINAGE SYSTEMS SHALL BE PER APPROVED PLANS AND SPECIFICATIONS.
- 5) ALL CATCH BASIN (CB) RIM ELEVATIONS ARE LISTED AS THE "GUTTER OF FLOWLINE ELEVATION" WITHIN THE CURB SECTION. THE CONTRACTOR SHALL MAINTAIN A UNIFORM EDGE OF PAVEMENT (EOP) WHEN PLACING THE STORM INLETS WITHIN THE CURB LINE (SEE "CURB TRANSITION" DETAIL). FOR CATCH BASINS WITHIN A TRANSITION FROM 24" STANDARD CURB & GUTTER, THE RIM ELEVATION GIVEN IS 1 INCH BELOW EOP. FOR MODIFIED VALLEY, THE RIM ELEVATION GIVEN IS 1/2 INCH BELOW EOP.
- 6) MANHOLE RIM ELEVATION SHOWN ABOVE IS FLUSH WITH PROPOSED GRADE. CONTRACTOR SHALL PROVIDE 6" CLEARANCE ABOVE PROPOSED GRADE WHEN PLACED IN A GRASS/PERVIOUS AREA, AND A FLUSH CONDITION WITH PROPOSED PAVEMENT OR IMPERVIOUS COVER.
- 7) PROPOSED BUILDINGS SHALL DIVERT ROOF DRAINAGE TO STORMWATER COLLECTION SYSTEM. SEE CIVIL OR ARCHITECTURAL DETAILS FOR DOWNSPOUT DETAILS AND CONNECTIONS.
- 8) CONTRACTOR SHALL ADJUST ALL FRAMES OF EX. UTILITY INFRASTRUCTURE TO MATCH PROPOSED GRADES.
- 9) THE CONTRACTOR SHALL USE STORM PIPE PER THE SPECIFICATIONS (TYPICALLY CONCRETE OR HP PIPE). EITHER WAY THE CONTRACTOR SHALL FOLLOW THE TRENCH DETAILS AND SPECIFICATIONS, AND THE PIPE MANUFACTURER SPECIFICATIONS.

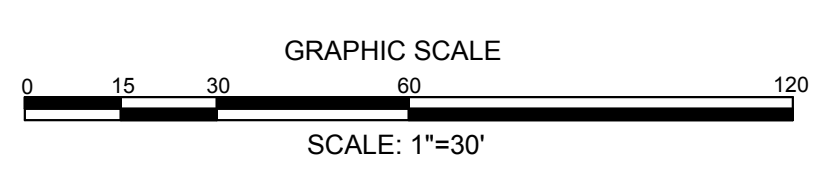
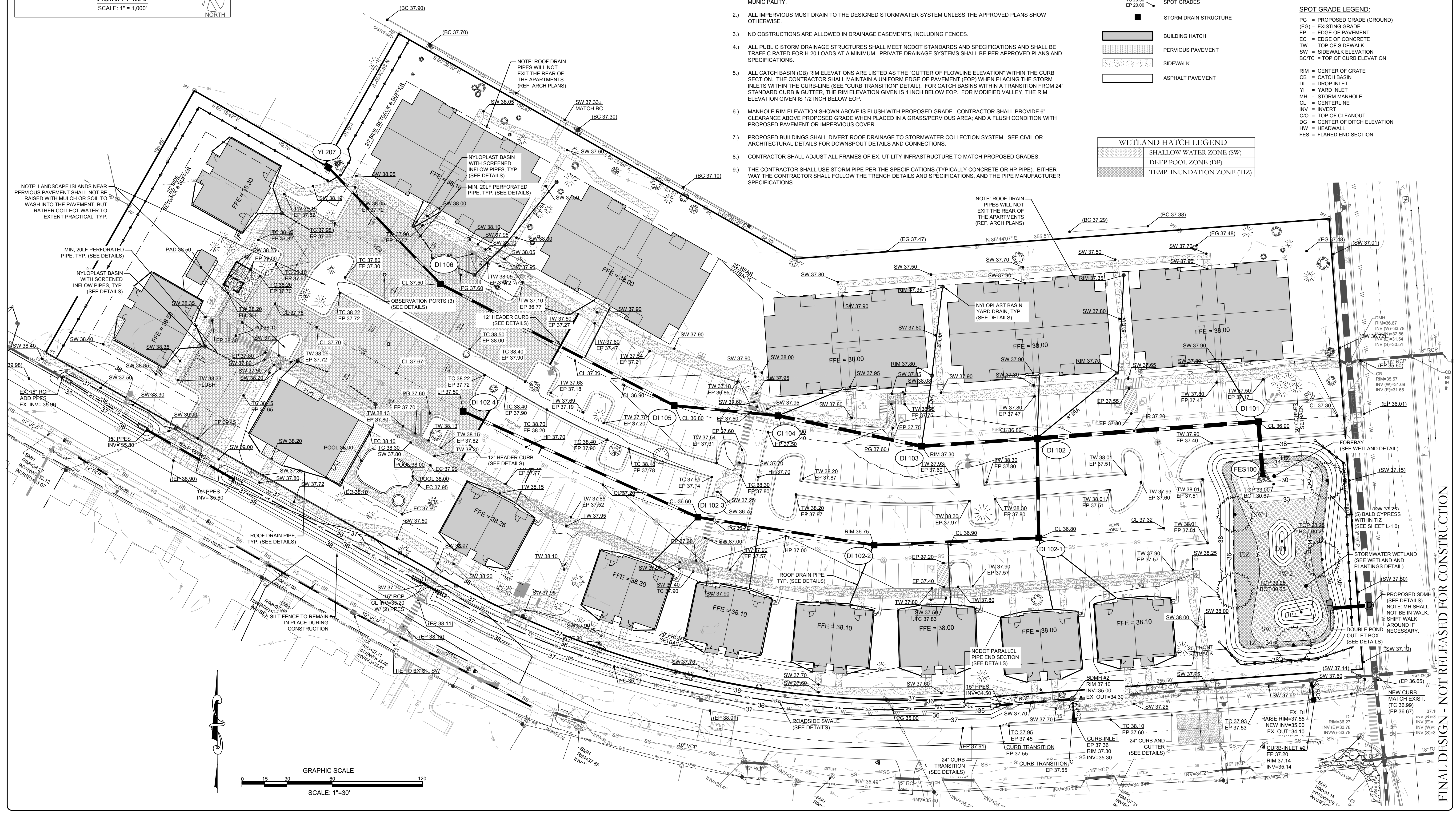
LEGEND:

20 PROPOSED CONTOURS
 --- EXISTING CONTOURS
 --- WATER LINE
 --- FM --- FORCEMAIN LINE
 --- SS --- SANITARY SEWER LINE
 --- SANITARY SEWER LATERAL/SERVICE
 --- STORM DRAIN LINE
 --- ROOF DRAIN LINE
 --- PROPOSED CONTOURS
 --- PROPOSED SETBACKS
 --- PROPOSED BUFFER/EASEMENTS
 --- PROPOSED POND OUTLINE
 ● C.O. SANITARY SEWER CLEANOUT
 ○ S SANITARY SEWER MANHOLE
 --- FIRE HYDRANT ASSEMBLY
 --- WATER METERS/BACKFLOW ENCLOSURES
 --- VALVES/APPURTENANCES
 --- SPOT GRADES
 --- TC 20.50
 --- EP 20.00
 --- STORM DRAIN STRUCTURE
 --- BUILDING HATCH
 --- PERVIOUS PAVEMENT
 --- SIDEWALK
 --- ASPHALT PAVEMENT
 --- WETLAND HATCH LEGEND
 --- SHALLOW WATER ZONE (SW)
 --- DEEP POOL ZONE (DP)
 --- TEMP. INUNDATION ZONE (TIZ)
 --- SPOT GRADE LEGEND
 PG = PROPOSED GRADE (GROUND)
 EG = EXISTING GRADE
 EP = EDGE OF PAVEMENT
 EC = EDGE OF CONCRETE
 TW = TOP OF SIDEWALK
 SW = SIDEWALK ELEVATION
 BC/TC = TOP OF CURB ELEVATION
 RIM = CENTER OF GRATE
 CB = CATCH BASIN
 DI = DROP INLET
 YI = YARD INLET
 MH = STORM MANHOLE
 CL = CENTERLINE
 INV = INVERT
 C/O = TOP OF CLEANOUT
 DG = CENTER OF DITCH ELEVATION
 HW = HEADWALL
 FES = FLARED END SECTION

WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

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



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

NO.	DATE	DESCRIPTION
1	08/20/20	ISSUED PER FINAL TRC COMMENTS
2	10/13/20	REVISED PER FIN/EC COMMENTS
3	10/29/20	REVISED PER FINAL TRC COMMENTS

CLIENT INFORMATION:
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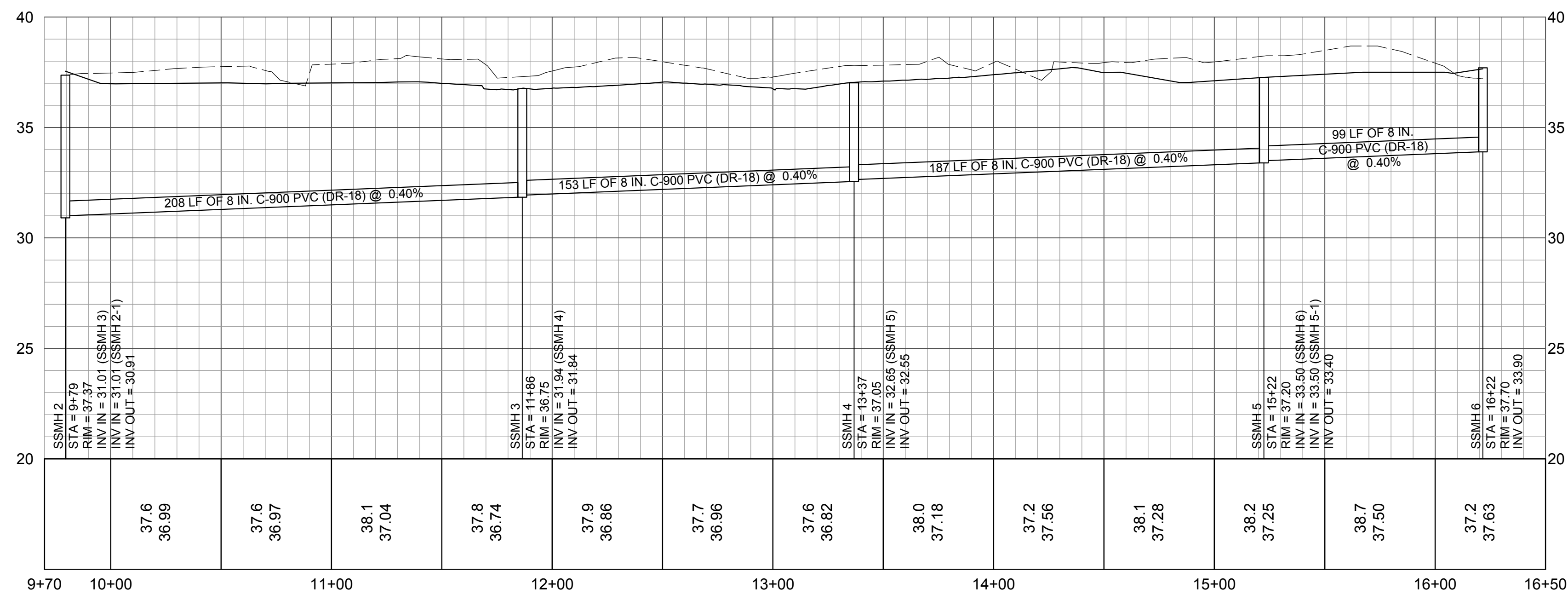
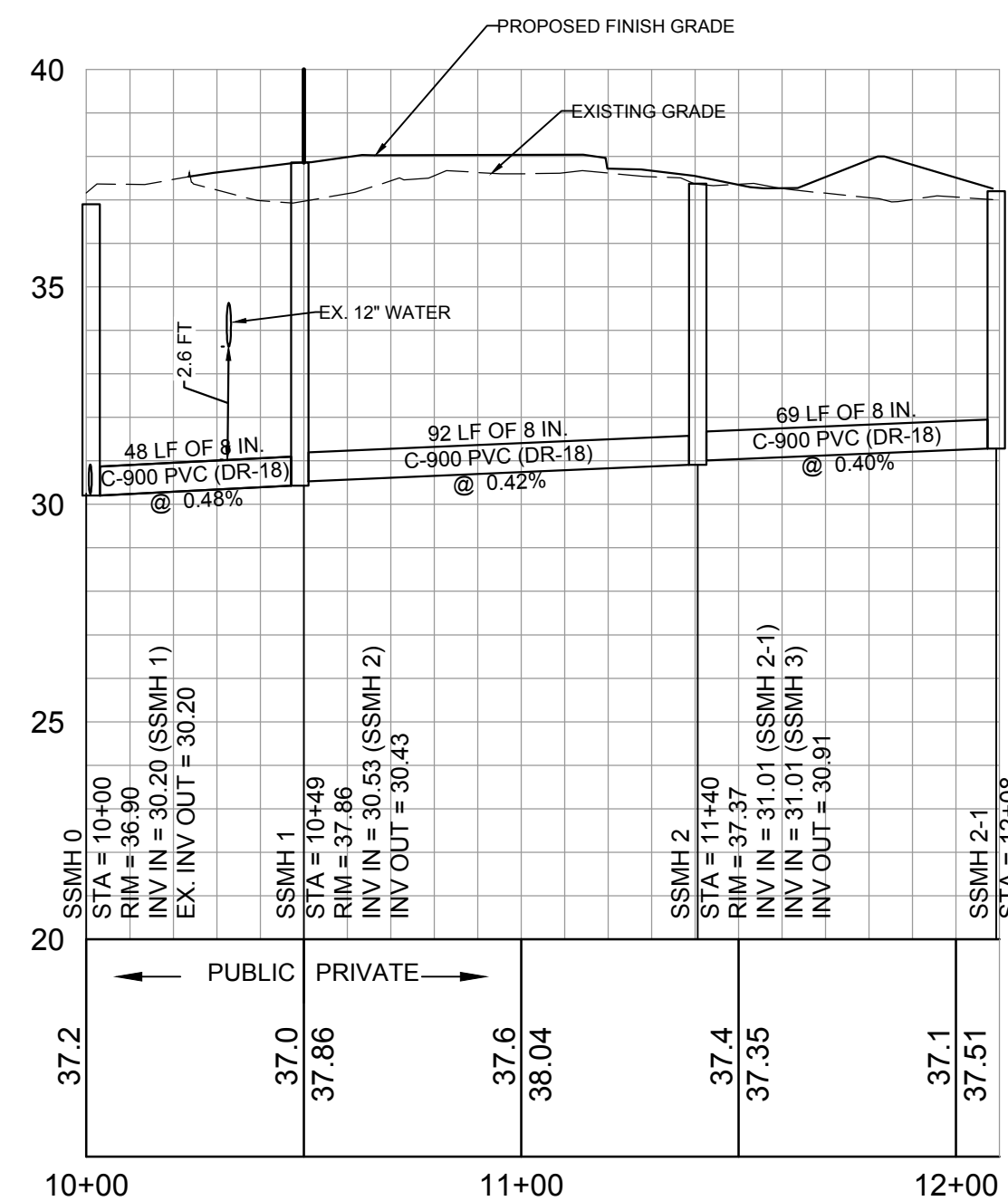
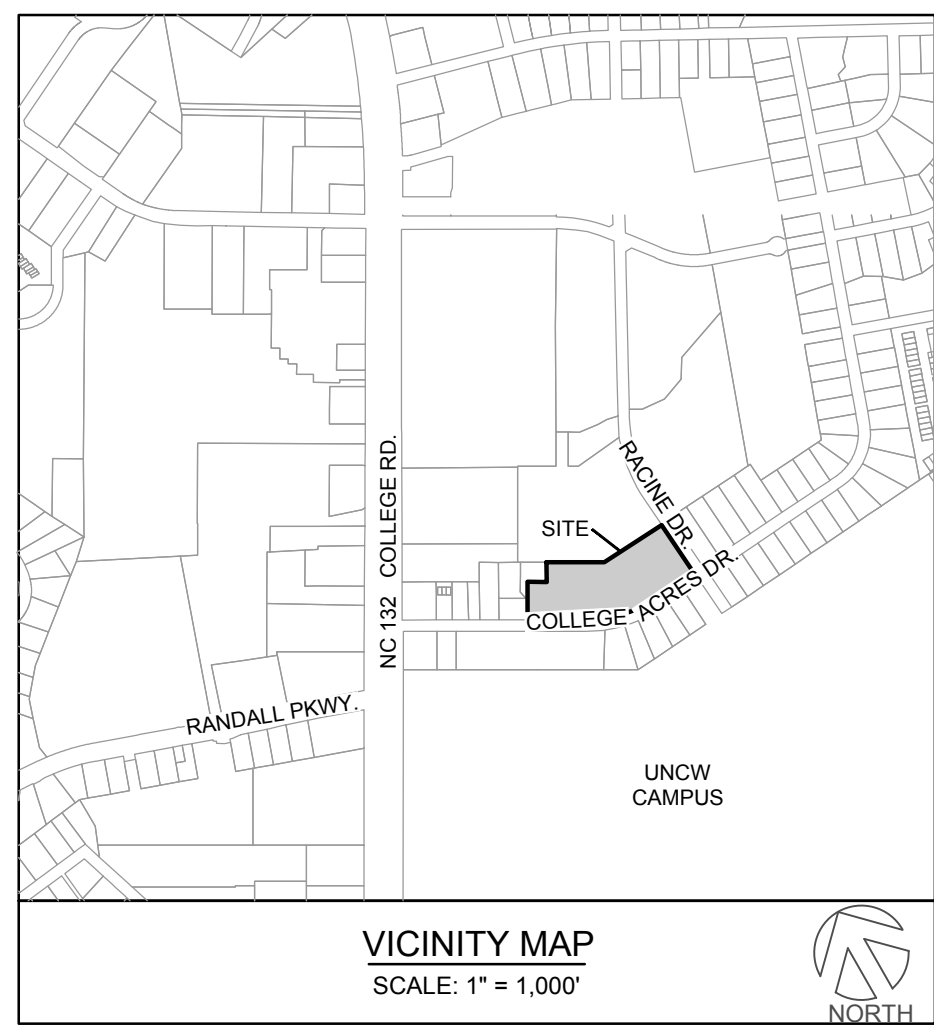
GRADING & DRAINAGE PHASE II EROSION CONTROL
 COLLEGE ACRES APARTMENTS
 COLLEGE ACRES DRIVE
 WILMINGTON, NEW HANOVER CO., NC

PROJECT STATUS
 ORIGINAL LAYOUT: 8/23/20
 FINAL DESIGN LAYOUT: 10/13/20
 RELEASED FOR CONSTRUCTION: 10/29/20

DRAWING INFORMATION
 DATE: 07/26/19
 SCALE: 1"=30'
 DRAWING: C-4.0
 CHECKED: JBS

SEAL

C-4.0
 PEI JOB#: 19443.PE



UTILITY KEYNOTES:

- A 8" C-900 PVC MAIN
- B 6" C-900 PVC MAIN
- C [1] 12"x8" TS&V FIRE MAIN
- D [1] 12"x6" TS&V DOMESTIC MAIN
- E 4" WATER METER VAULT IN FRONT OF SIDEWALK
- F REDUCED PRESSURE PRINCIPAL ASSEMBLY DEVICE (DOMESTIC)
- G 12"x2" TS&V WITH 1" IRRIGATION METER AND 2" SERVICE LINE (REFER TO IRRIGATION PLANS FOR CONTINUATION)
- H 2" PVC WATER & FIRE MAINS
- I 4" C900 WATER & FIRE MAINS
- J WALL-MOUNT FDC (SEE PLUMBING PLANS FOR DETAILS)
- K STAND-PIPE FDC WITH STAINLESS OR PVC PIPE (REF. PLUMBING PLANS FOR SPECS)
- L PROPOSED FIRE HYDRANT
- M EXISTING FIRE HYDRANT
- N WATER SERVICE CONNECTION TO BUILDING (REFER TO PLUMBING PLANS)
- O FIRE SERVICE CONNECTION TO BUILDING (REFER TO PLUMBING AND SPRINKLER PLANS)
- P 6" SANITARY SEWER LATERAL AT 1.50% MINIMUM SLOPE
- Q SANITARY SEWER CLEAN-OUT (TYPICAL)
- R EXIST. METERS TO BE REMOVED AT THE MAIN PER CFPUA
 - (1) 8"x6" MJ TEE WITH 6"x2" REDUCER & 2" GV
 - (1) 8"x6" MJ TEE WITH 6"x2" REDUCER & 2" GV
 - (2) 6"x6" MJ TEE WITH (2) 6" MJ GV
 - (2) 6"x2" REDUCER & (2) 2" MJ GV
 - (2) 6"x4" MJ TEES WITH (4) 4" MJ GV

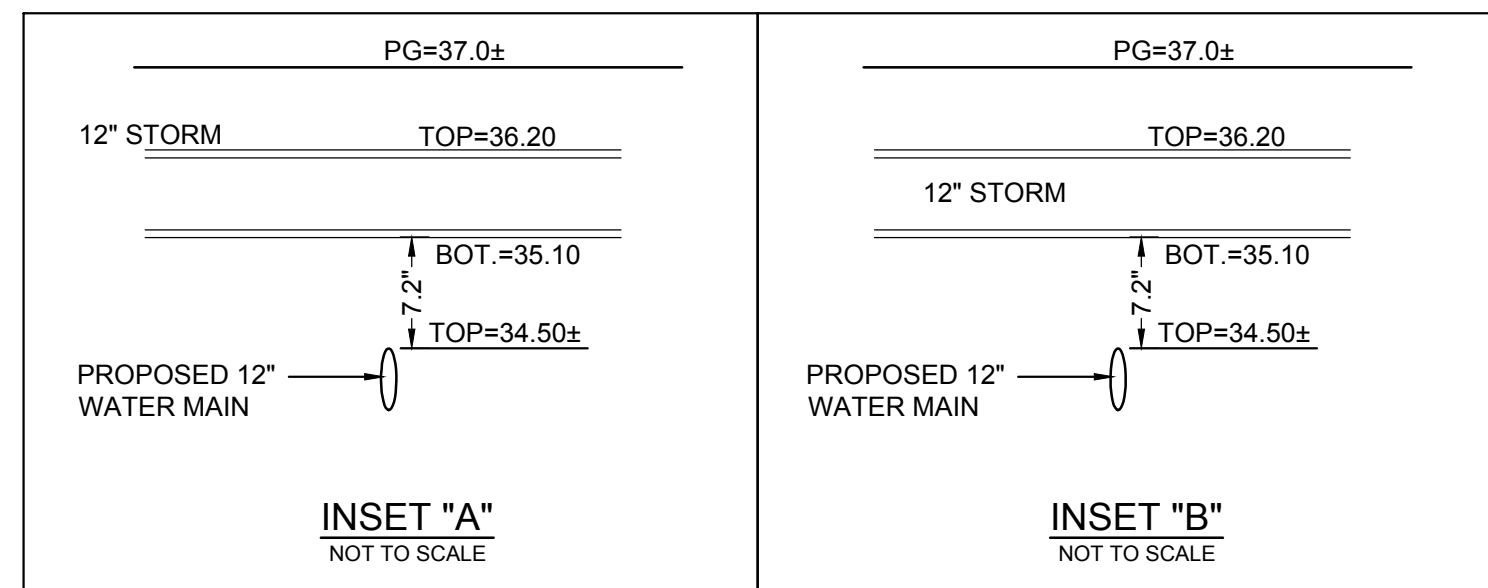
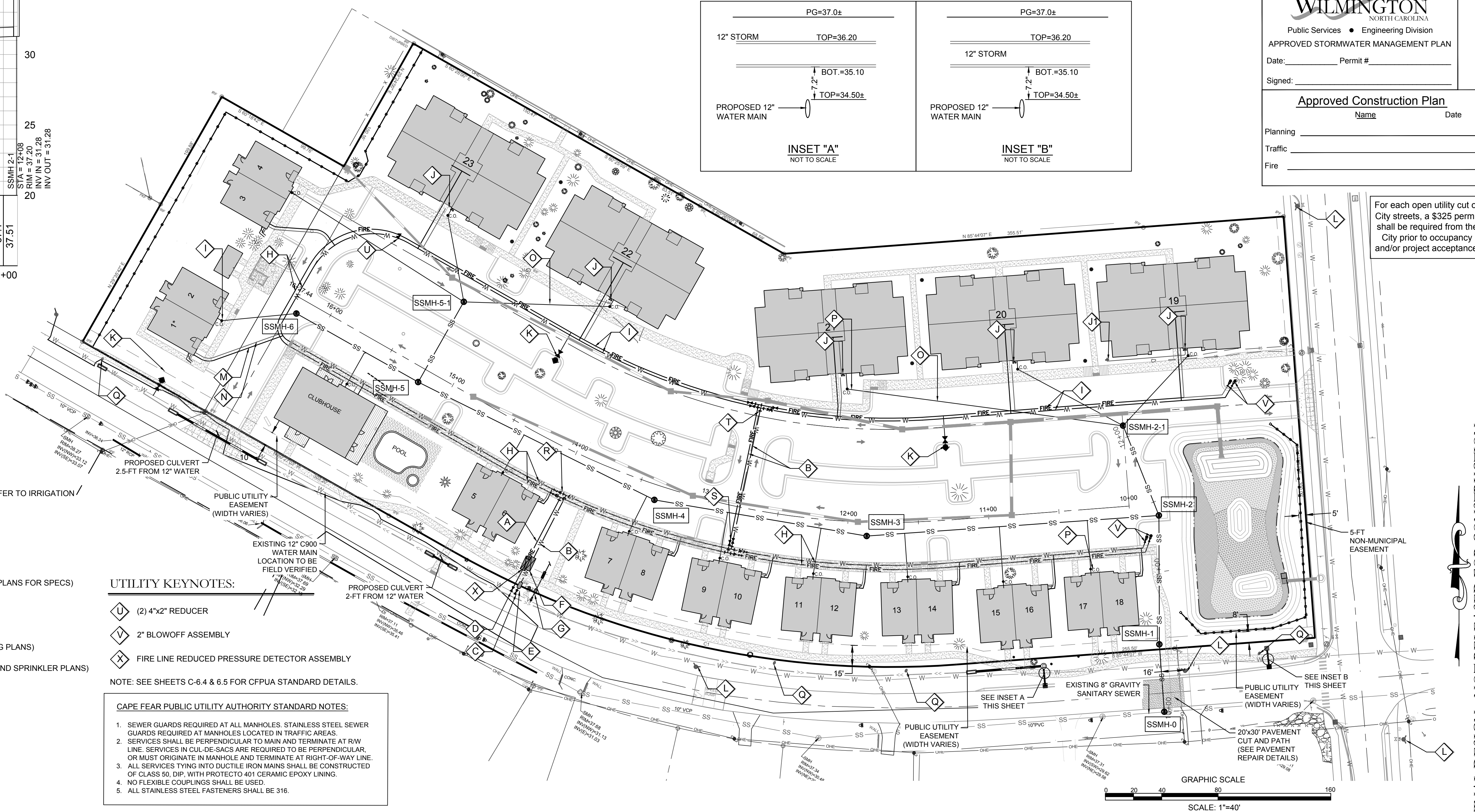
UTILITY KEYNOTES:

- U (2) 4"x2" REDUCER
- V 2" BLOWOFF ASSEMBLY
- X FIRE LINE REDUCED PRESSURE DETECTOR ASSEMBLY

NOTE: SEE SHEETS C-6.4 & 6.5 FOR CFPUA STANDARD DETAILS.

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:

1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
2. SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT R/W LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
3. ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
4. NO FLEXIBLE COUPLINGS SHALL BE USED.
5. ALL STAINLESS STEEL FASTENERS SHALL BE 316.



- UTILITY NOTES: (NCAC 15A.02T.0305 / T15A.18C.0904-906)
1. WATER MAINS SHALL BE LAID SO AS TO PROVIDE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET FROM SEWERS. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN CAN BE INSTALLED AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, EITHER IN A SEPARATE TRENCH, OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH.
 2. WHEN CROSSING A WATER MAIN OVER A SEWER, THE WATER MAIN SHALL BE LAID AT LEAST 18 INCHES ABOVE THE SEWER. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS THAT MEET WATER MAIN STANDARDS. THE DUCTILE IRON PIPE SHALL EXTEND 10 FEET ON EACH SIDE OF THE CROSSING WITH A SECTION OF WATER MAIN PIPE CENTERED ON THE CROSSING.
 3. CROSSING A WATER MAIN UNDER A SEWER, WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
 4. WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.
 5. WHERE VERTICAL CLEARANCE IS LESS THAN 18" BETWEEN WATER MAIN AND STORM DRAIN WHEN STORM IS ABOVE WATER, WATER MAIN SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE. OTHERWISE, A 12" MIN. SEPARATION SHALL BE CONSTRUCTED.
 6. MATERIALS, INSTALLATION, AND TESTING FOR PRIVATE UTILITIES SHALL BE IN ACCORDANCE WITH CFPUA SPECIFICATIONS.
 7. CONTRACTOR SHALL ABANDON ALL UNUSED SEWER AND WATER TAPS.
 8. WATER MAINS SHALL BE BURIED A MIN. OF 36-INCHES OR DEPTH BELOW THE FROST-LINE OR GREATER IF THE LOCAL UTILITY PROVIDER REQUIRES.

WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

REVISIONS:

1.	REVISED PER FINAL TRC COMMENTS
2.	REVISED PER NRC COMMENTS
3.	REVISED PER FINAL TRC COMMENTS

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UTILITY PLAN
COLLEGE ACRES APARTMENTS
COLLEGE ACRES DRIVE
WILMINGTON, NEW HANOVER CO., NC

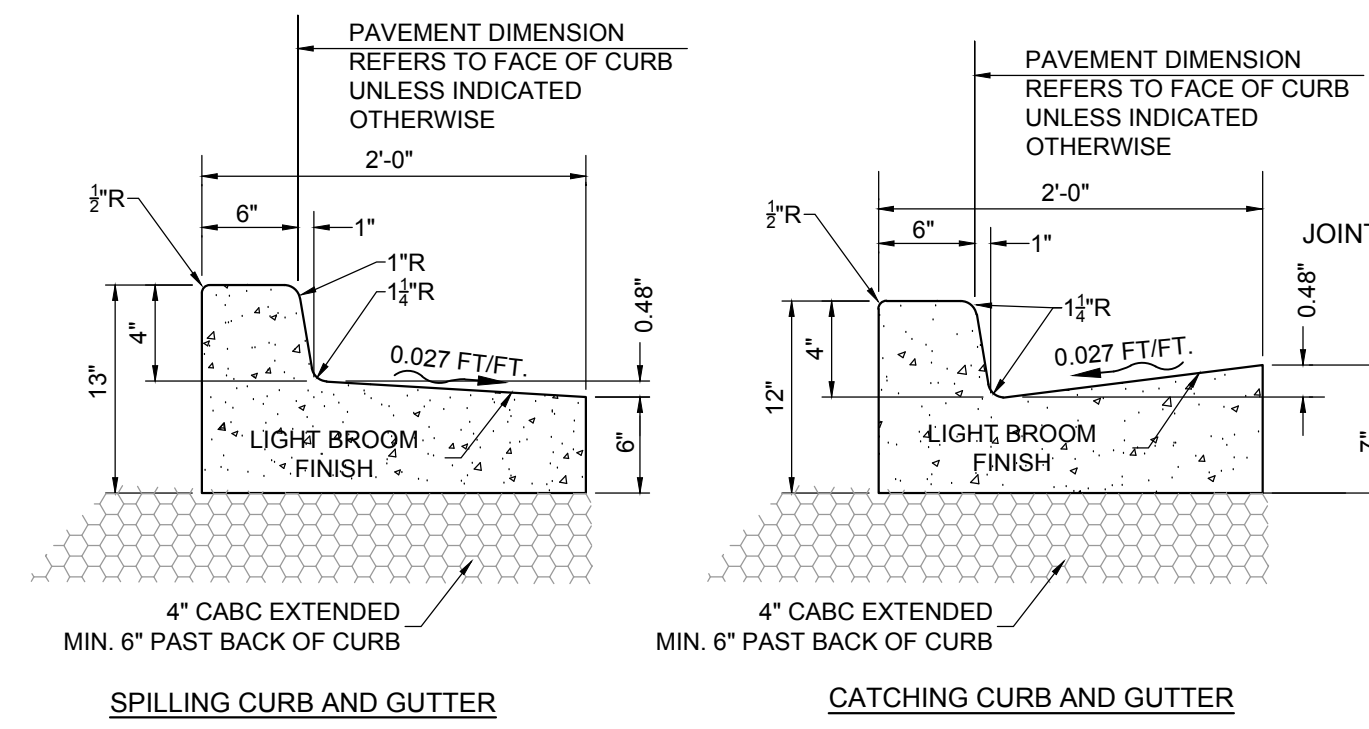
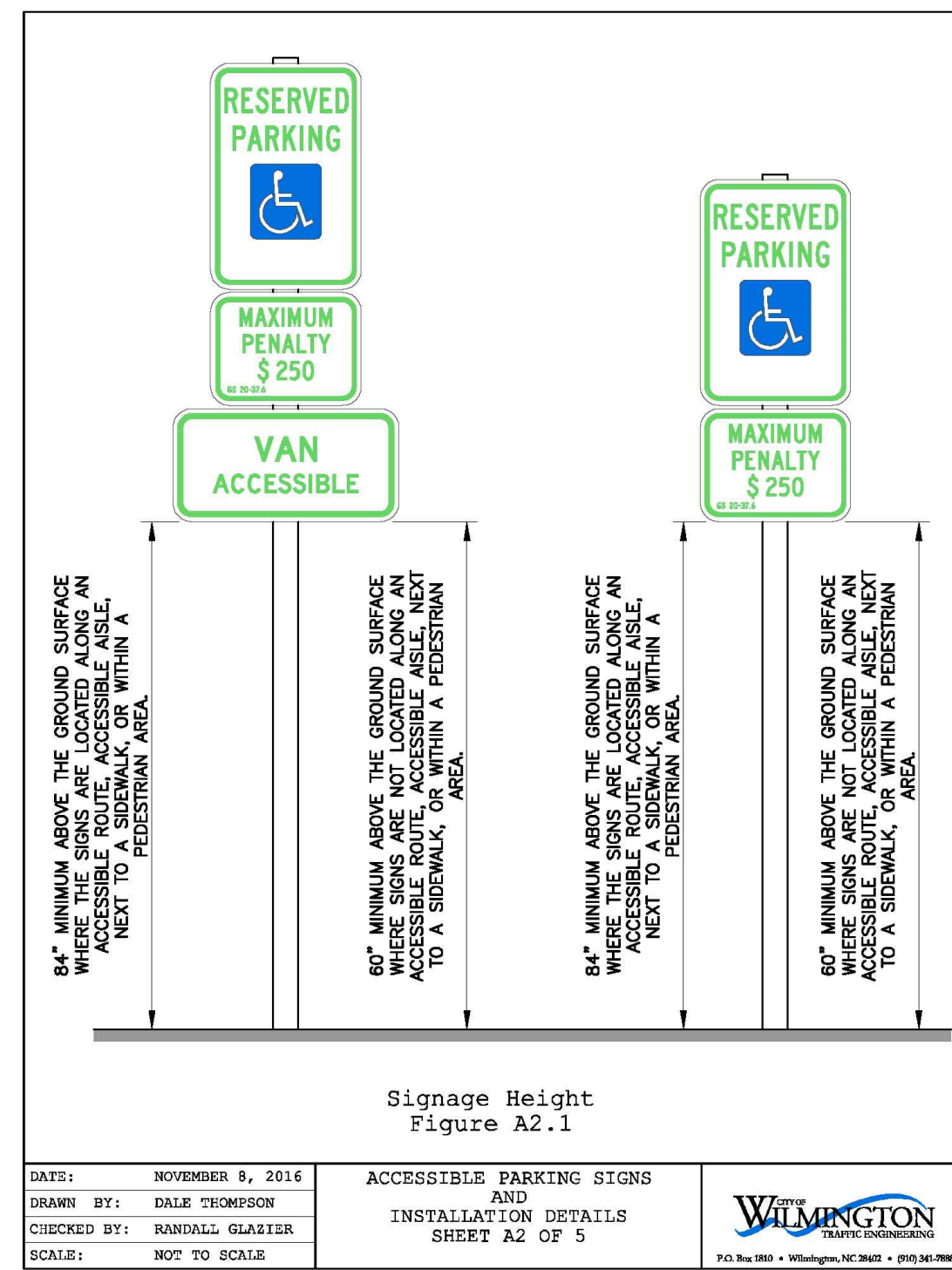
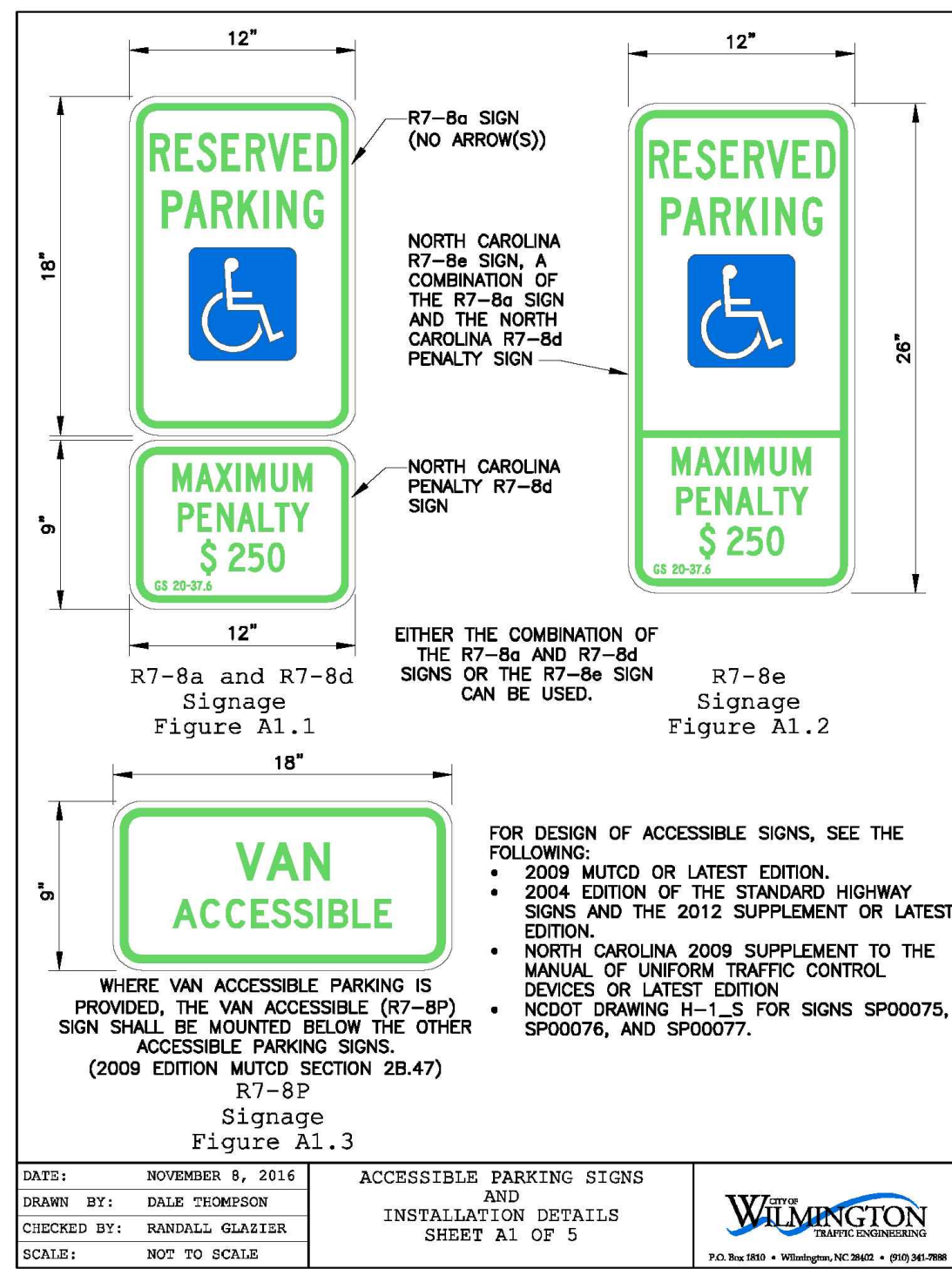
PROJECT STATUS:
CONCEPTUAL LAYOUT: 9.28.20
FINAL DESIGN: 10.13.20
RELEASED FOR CONSTRUCTION: 10.13.20

DRAWING INFORMATION:
DATE: 08/03/20
SCALE: 1"=40'
DRAWN BY: CDR
CHECKED: JBS

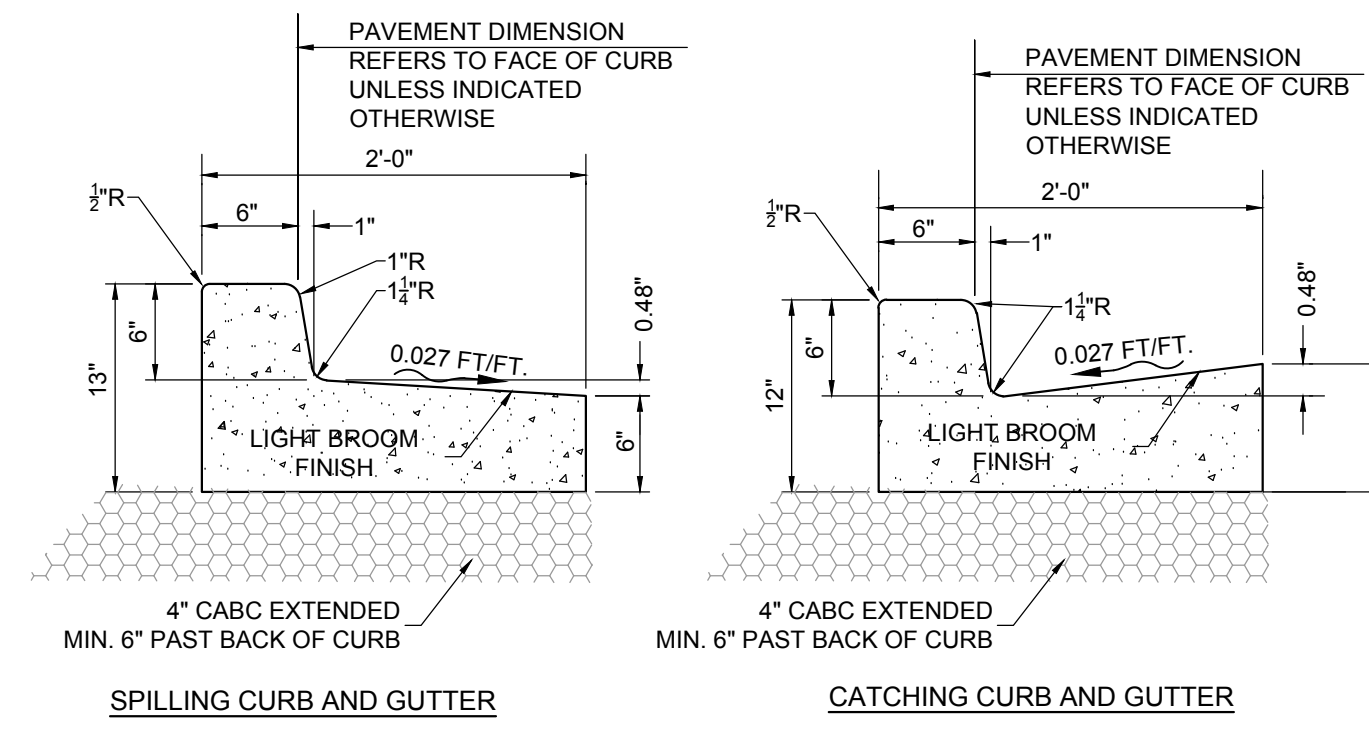
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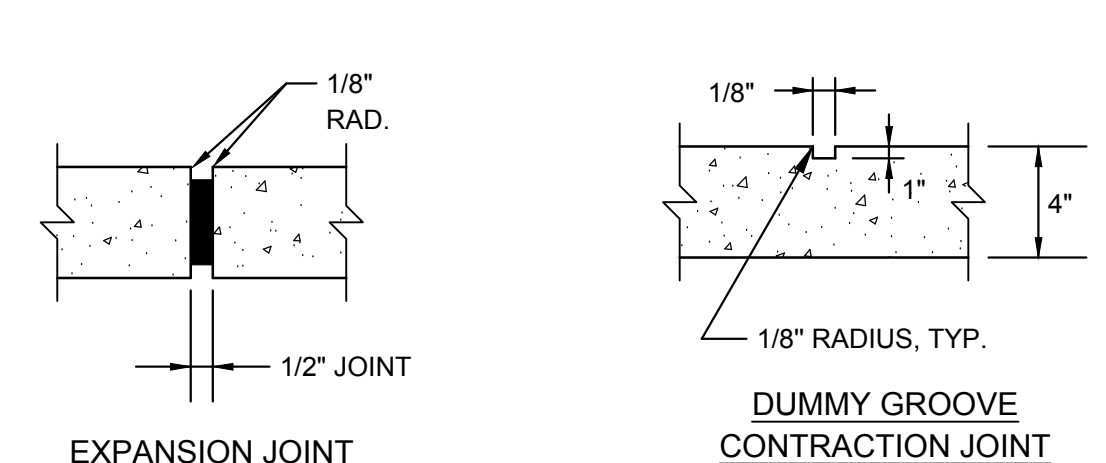
FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



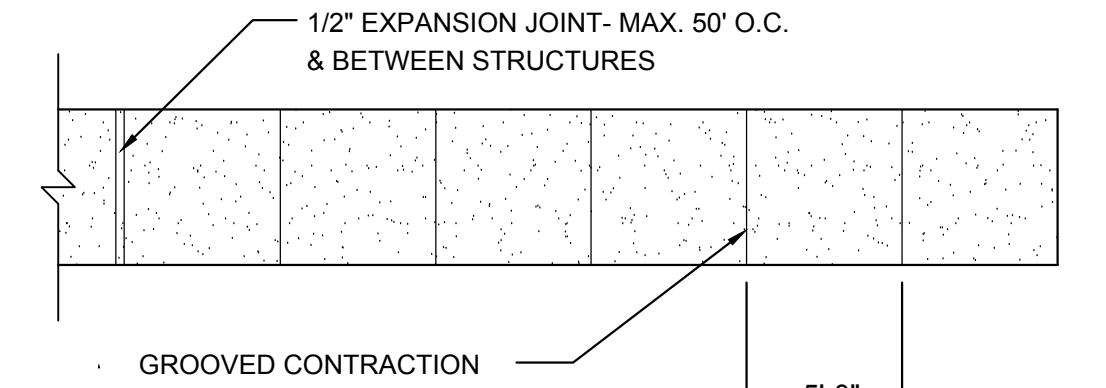
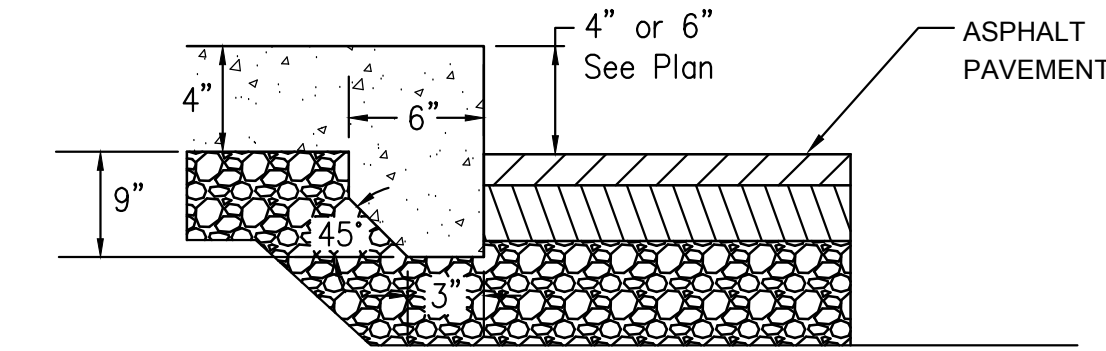
24" CURB AND GUTTER (4" CURB HEIGHT)
NOT TO SCALE



24" CURB AND GUTTER (6" CURB HEIGHT)
NOT TO SCALE

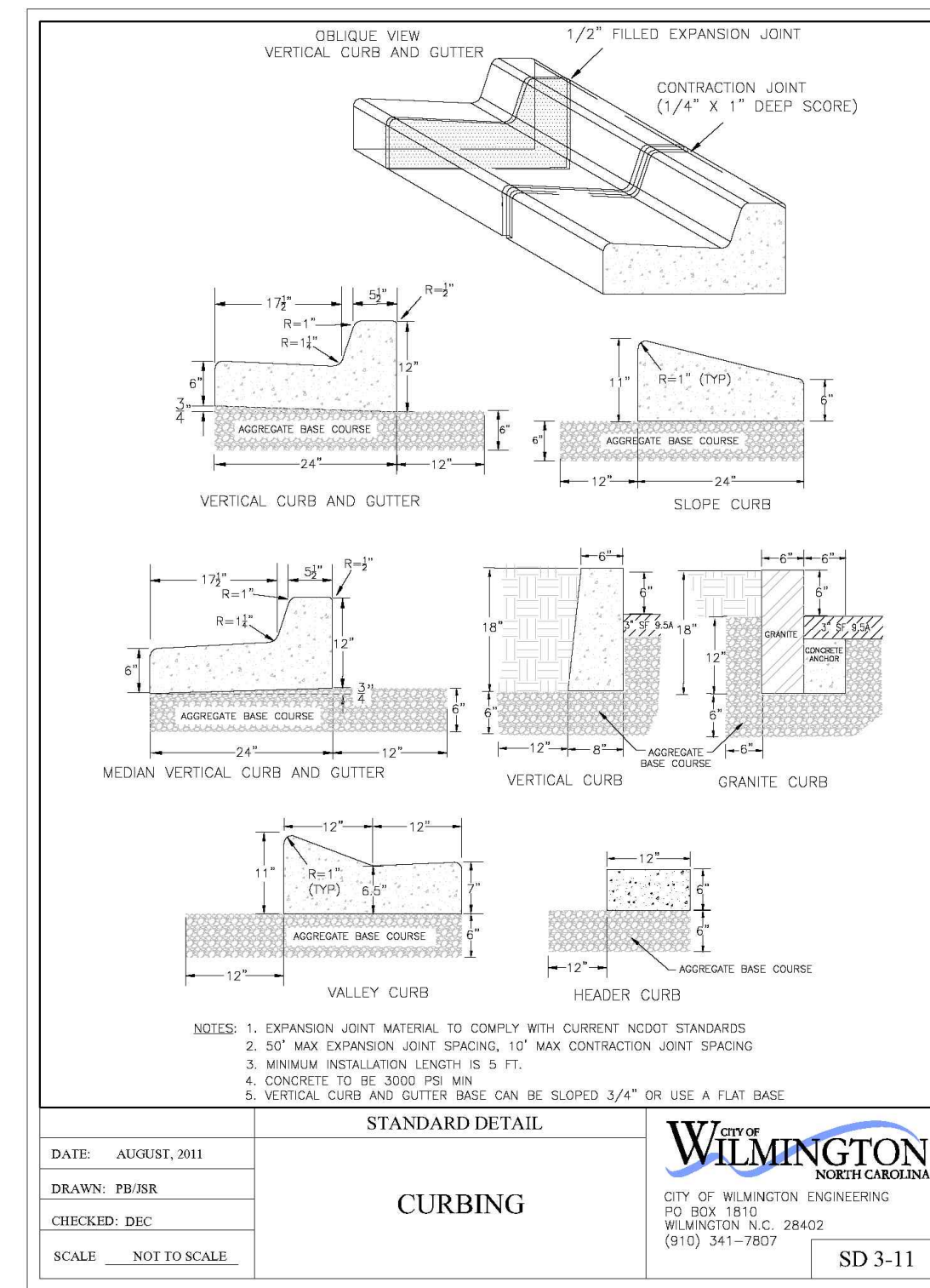


EXPANSION JOINT
DUMMY GROOVE CONTRACTION JOINT

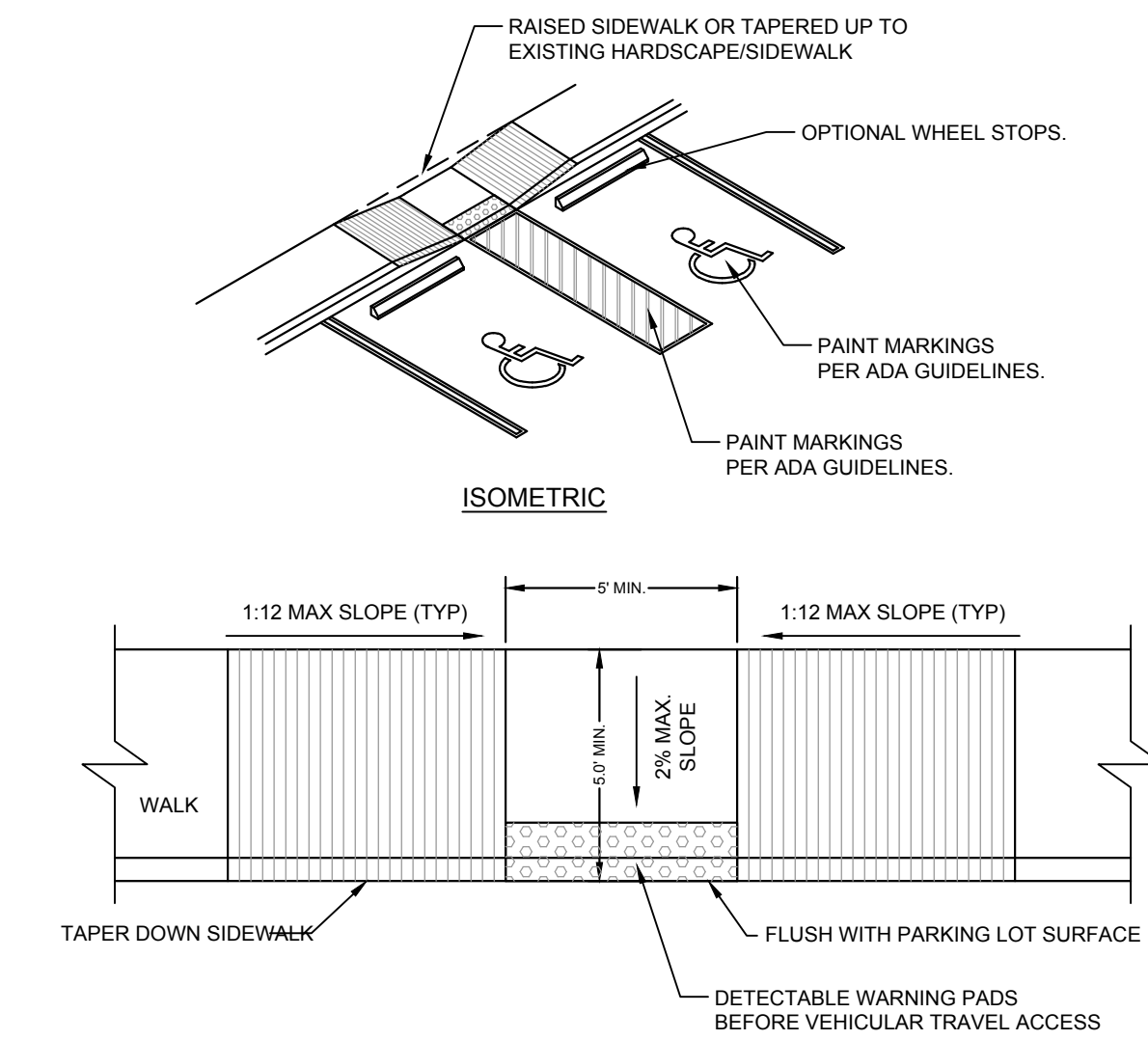


SECTION VIEW
PLAN VIEW

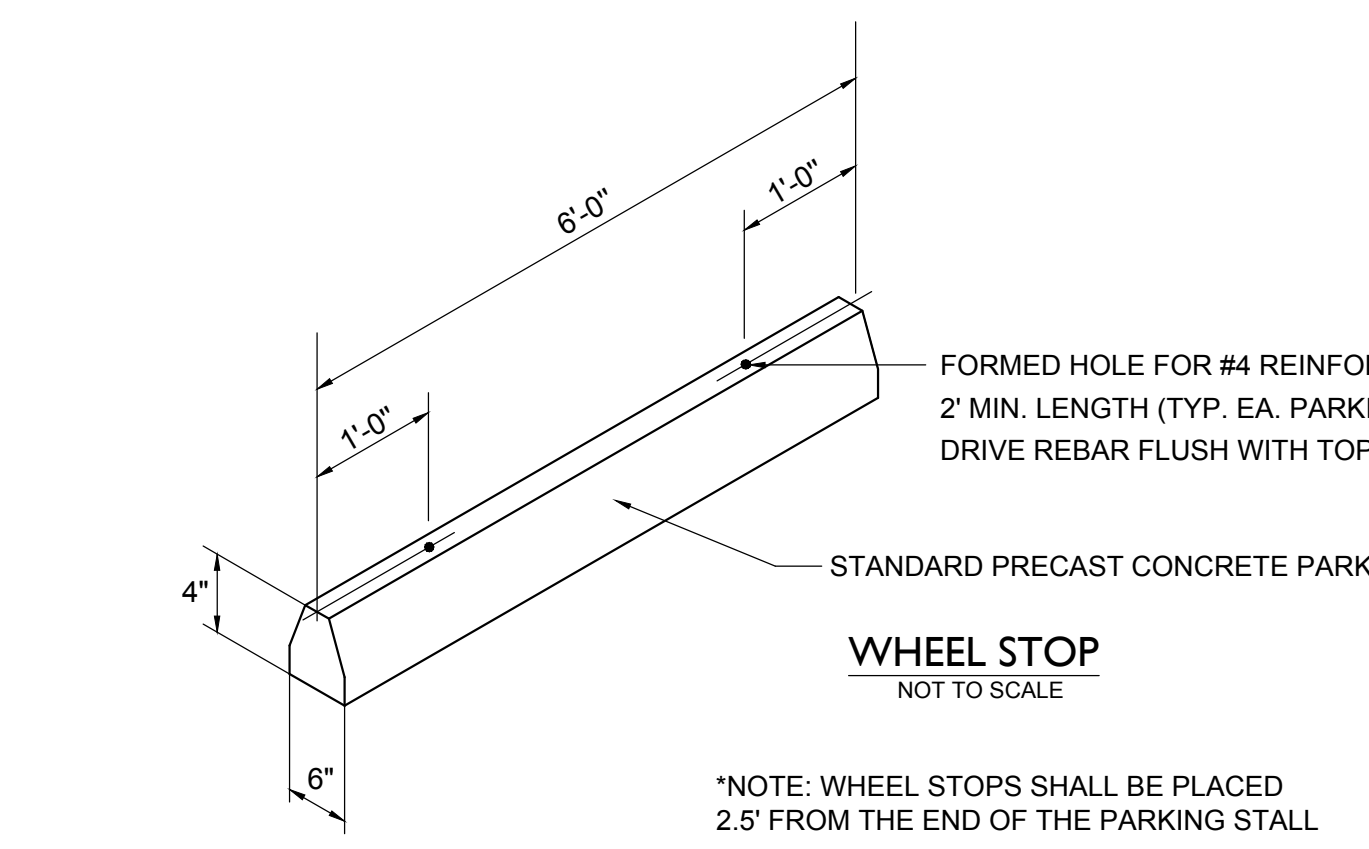
SIDEWALK DETAILS
NOT TO SCALE



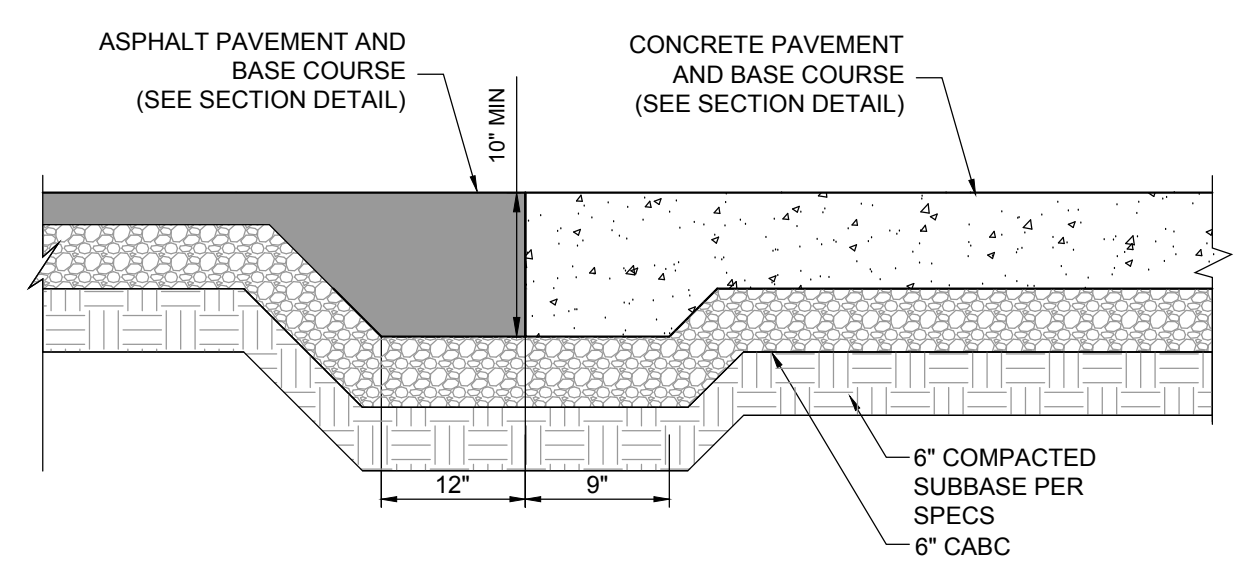
STANDARD DETAIL
CURBING



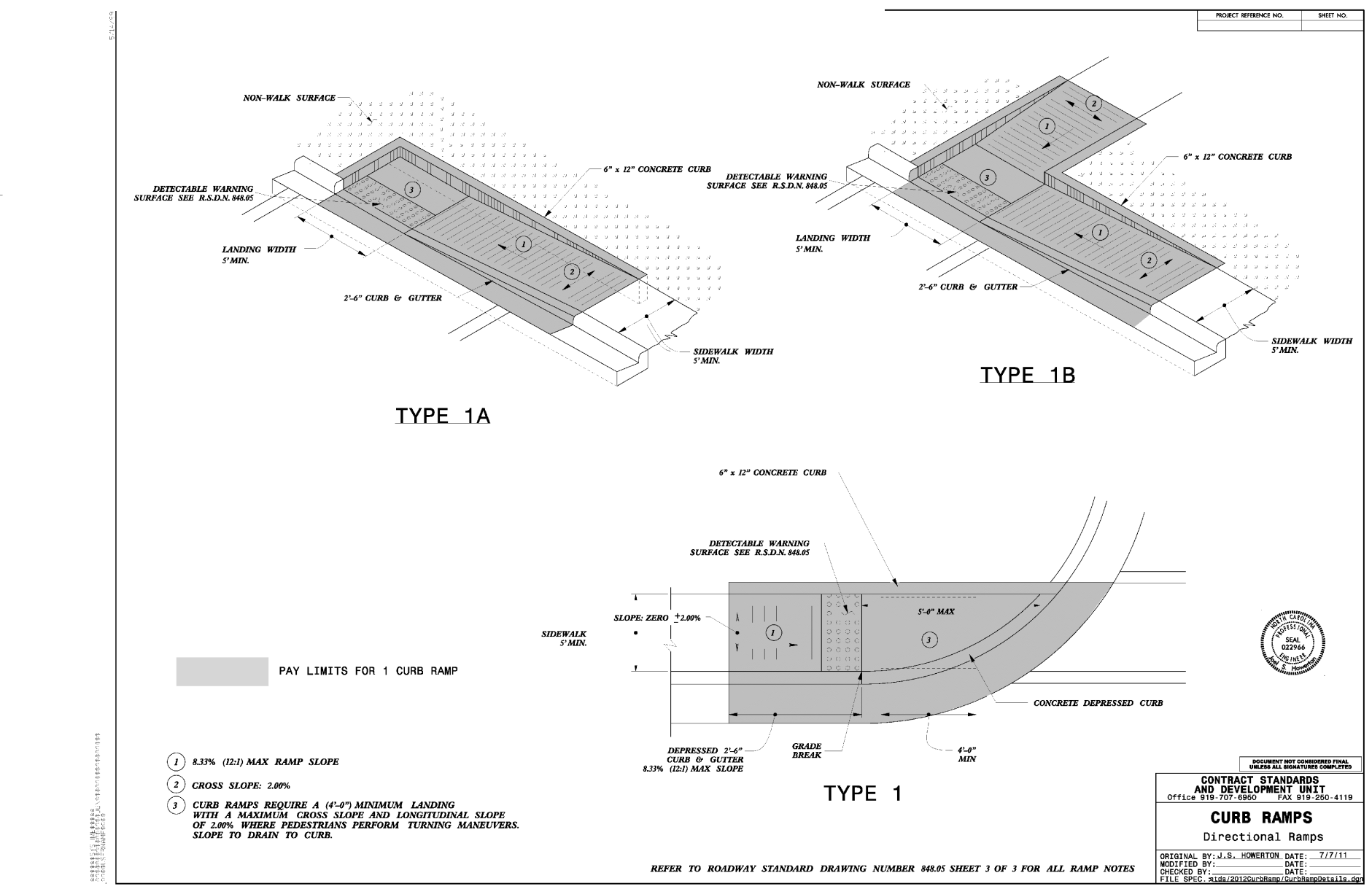
CURB RAMP DETAIL (TYPE 2)
NOT TO SCALE



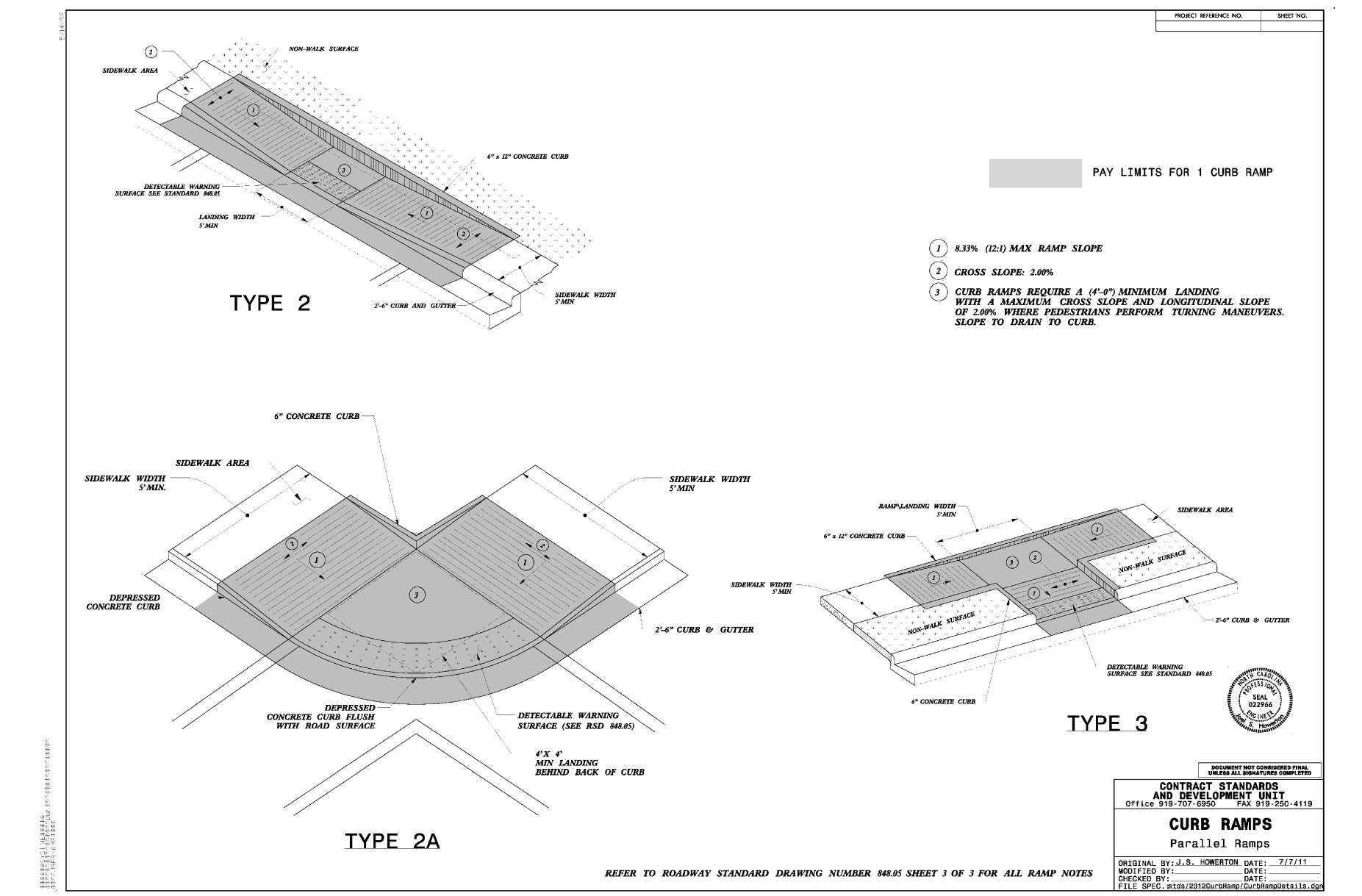
WHEEL STOP
NOT TO SCALE



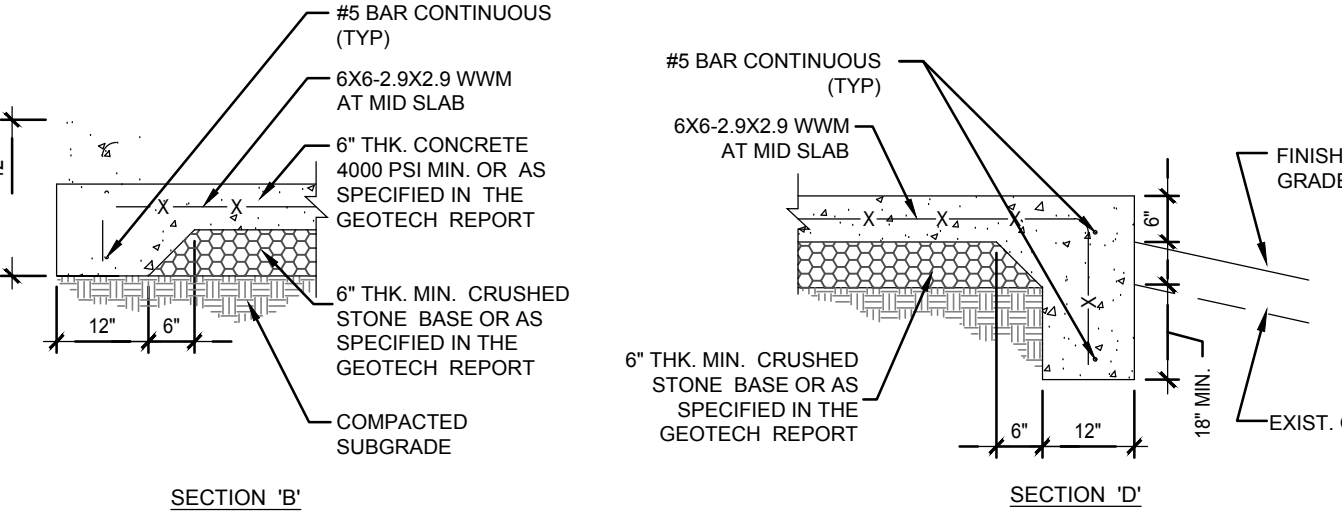
ASPHALT TO CONCRETE TRANSITION (TYPICAL)



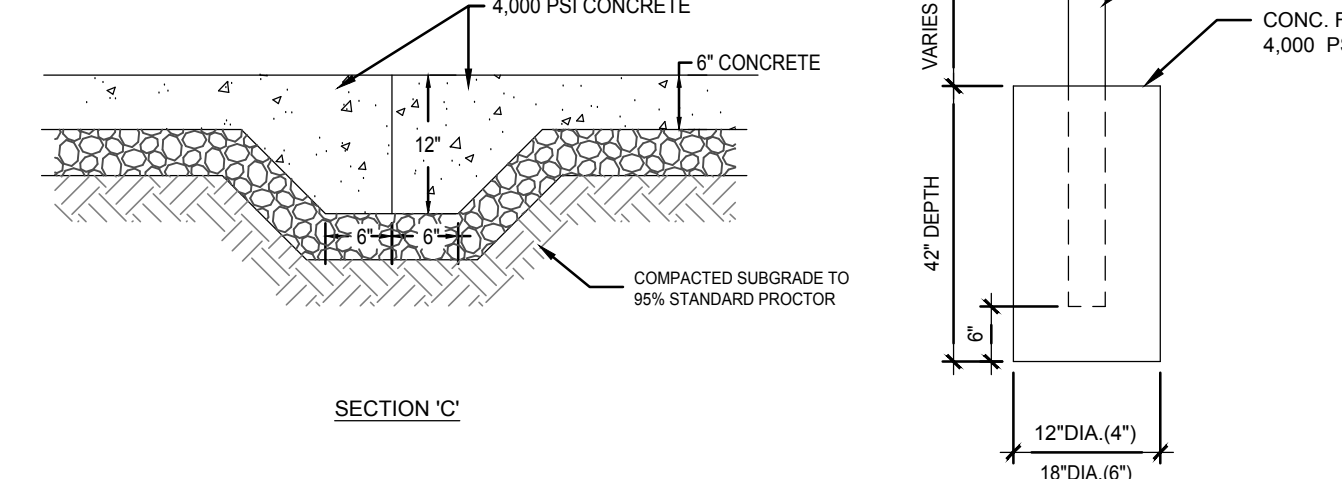
TYPE 1A
TYPE 1B
TYPE 1



TYPE 2
TYPE 3



SECTION B'
SECTION C'



SECTION C'



BOLLARD FOOTING

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 STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____
Planning _____
Traffic _____
Fire _____

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

1. REVISED PER FINAL TRC COMMENTS	10/26/20
2. REVISED PER TRC COMMENTS	10/13/20
3. REVISED PER FINAL TRC COMMENTS	10/26/20

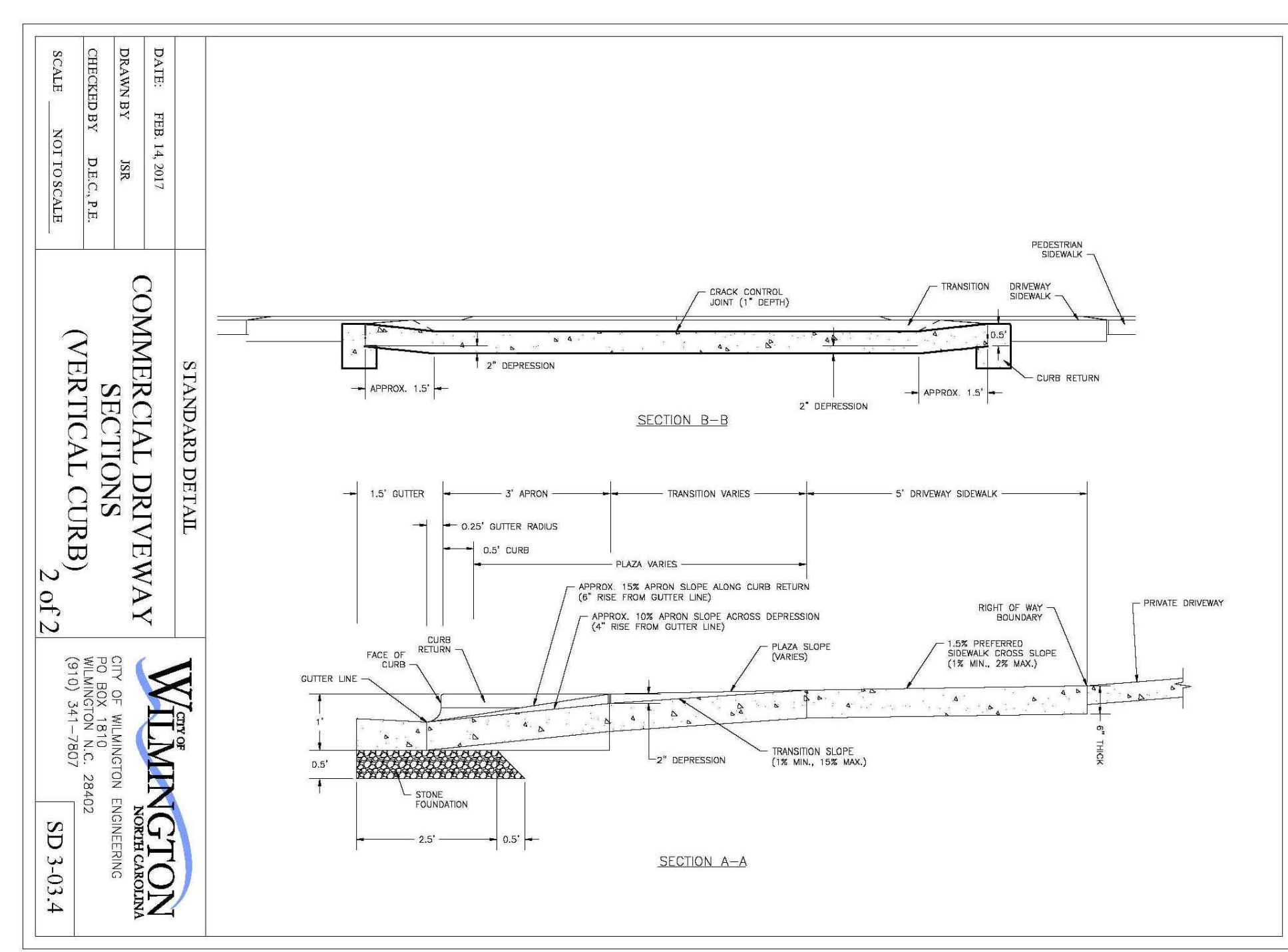
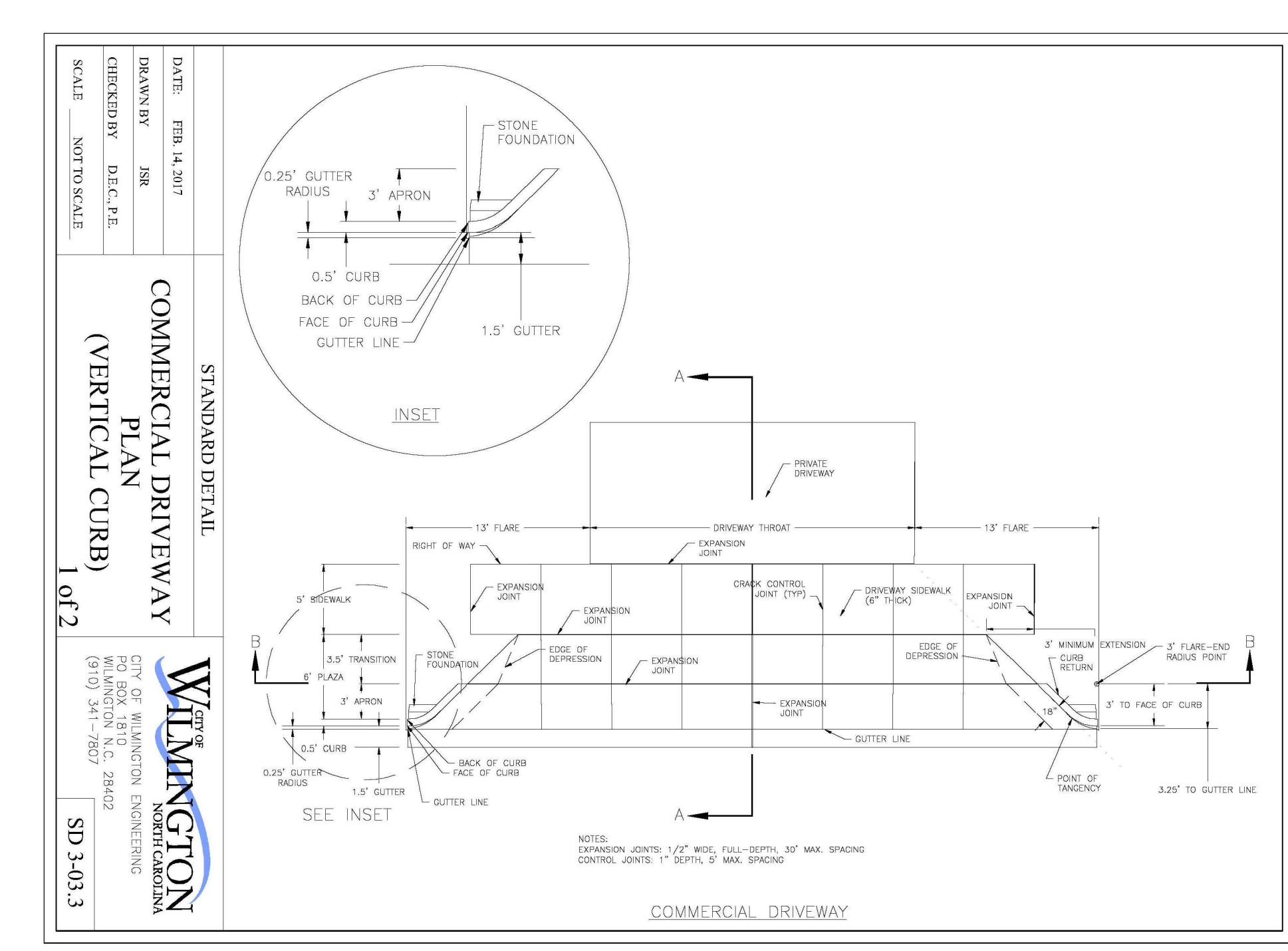
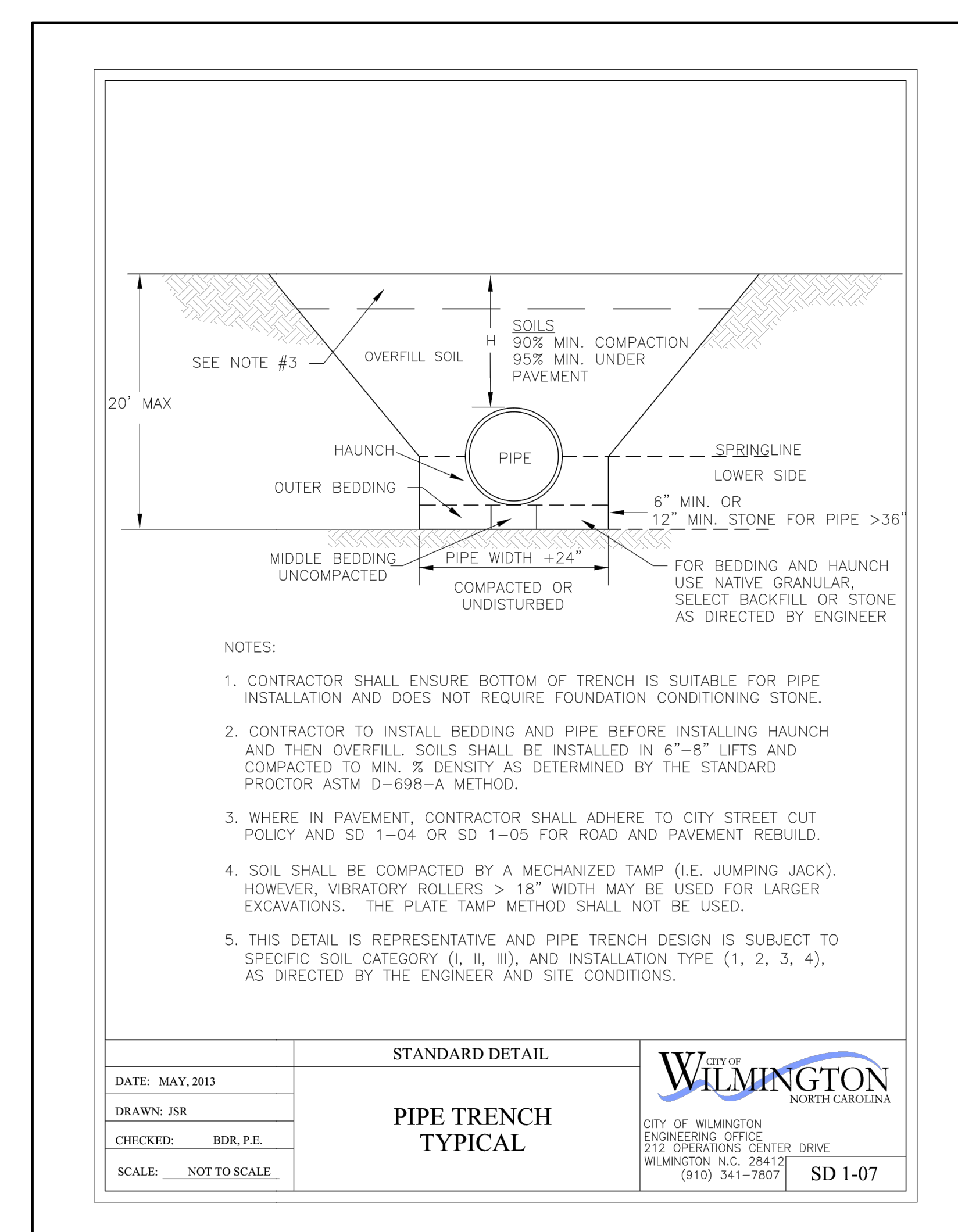
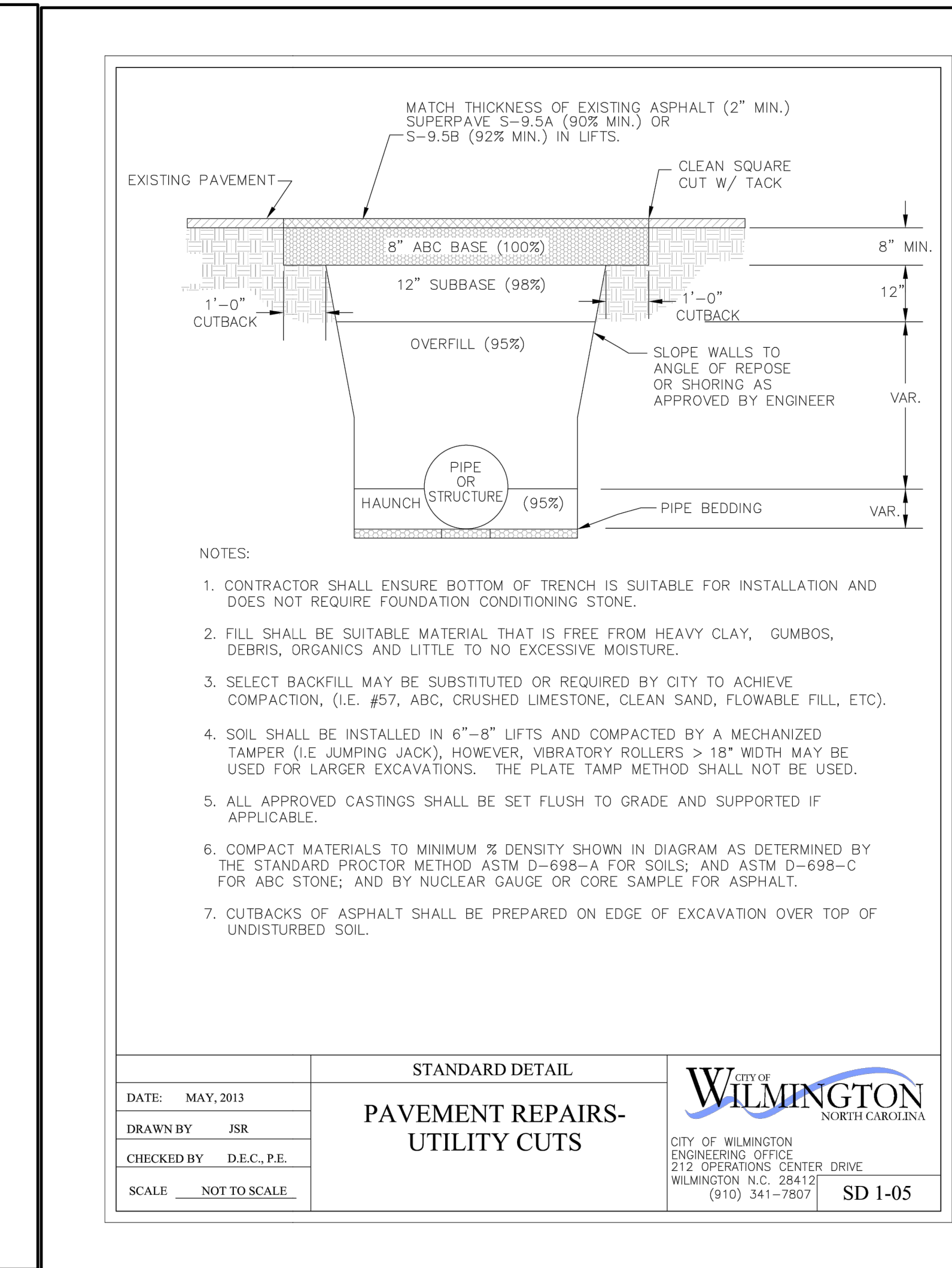
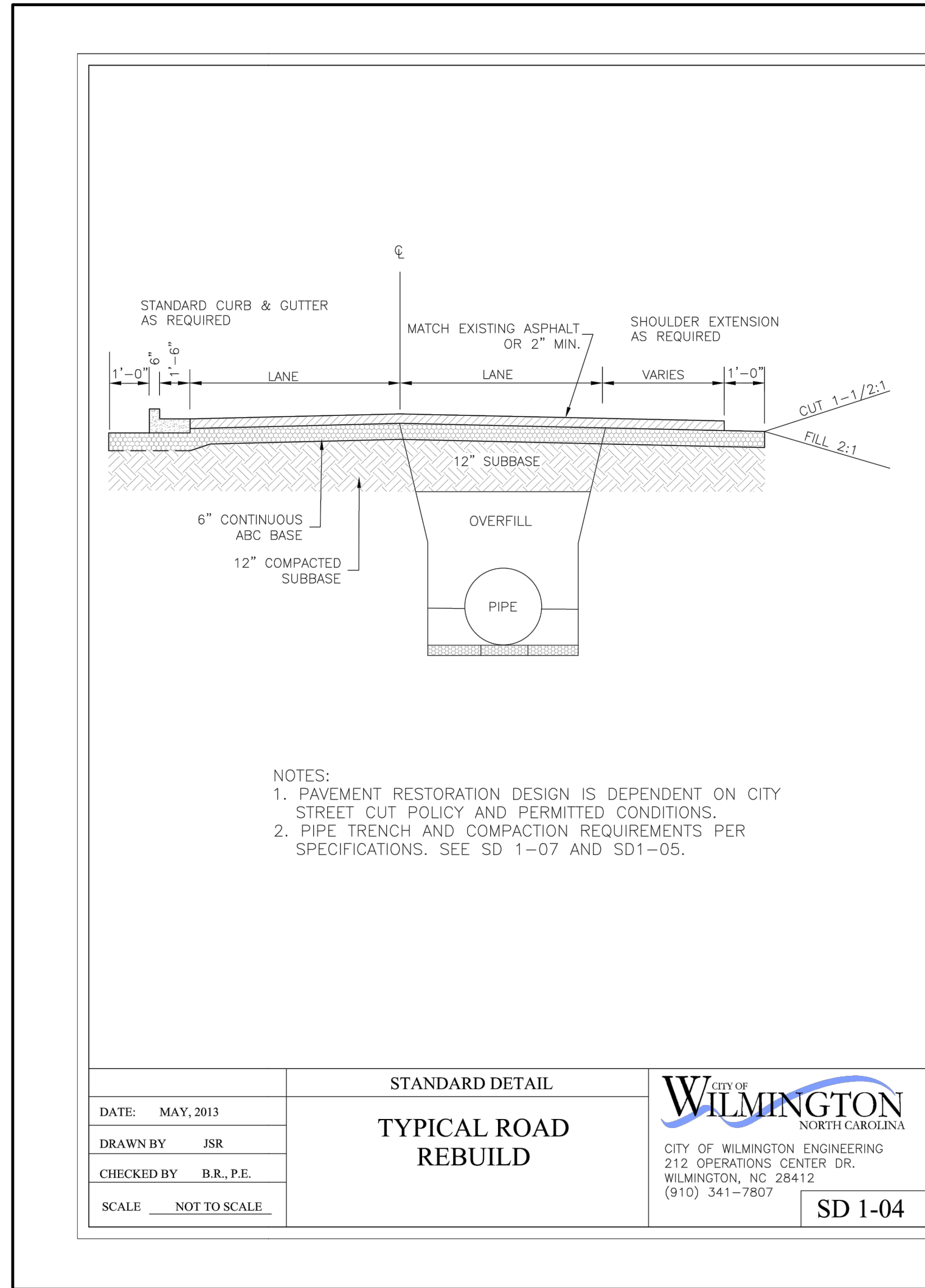
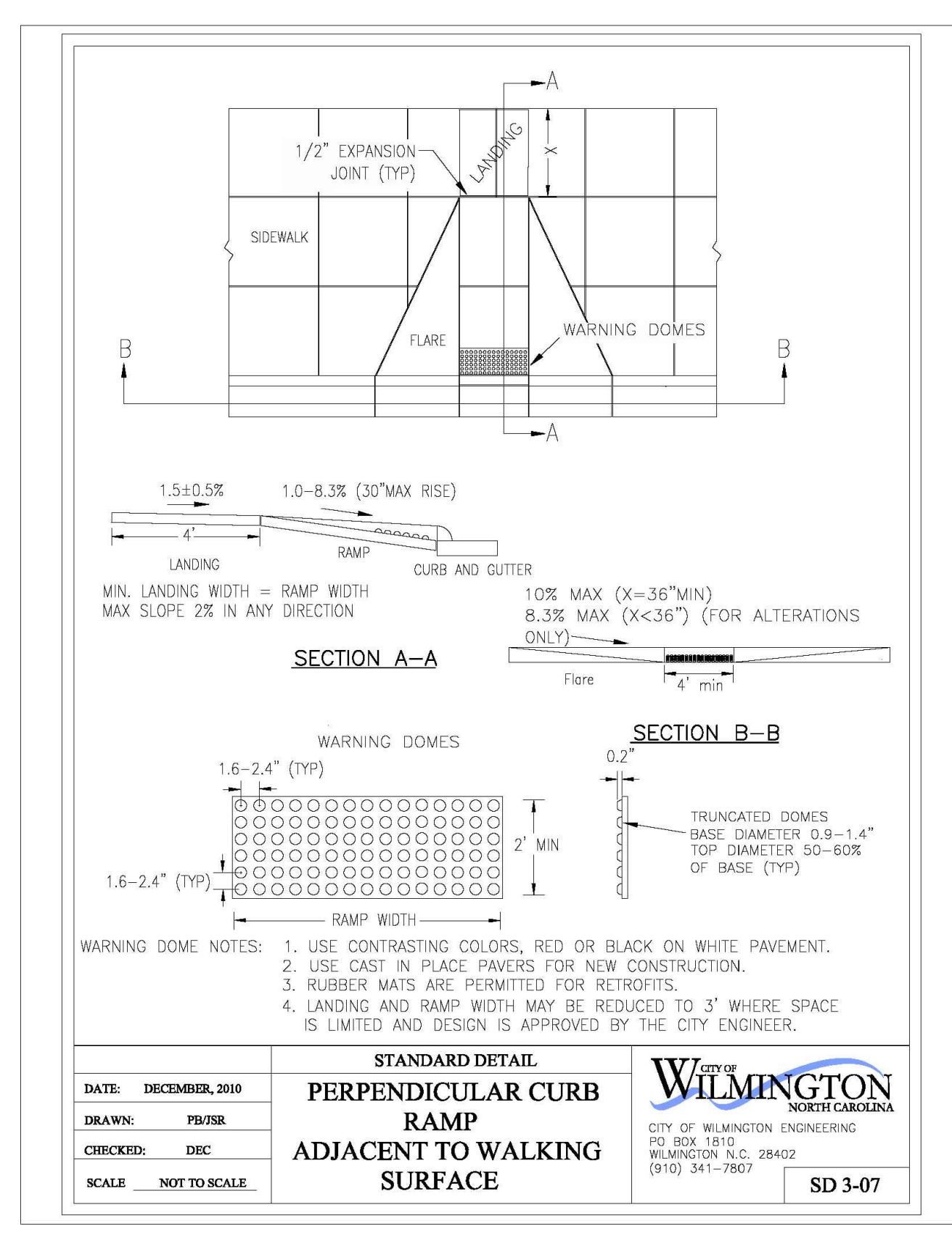
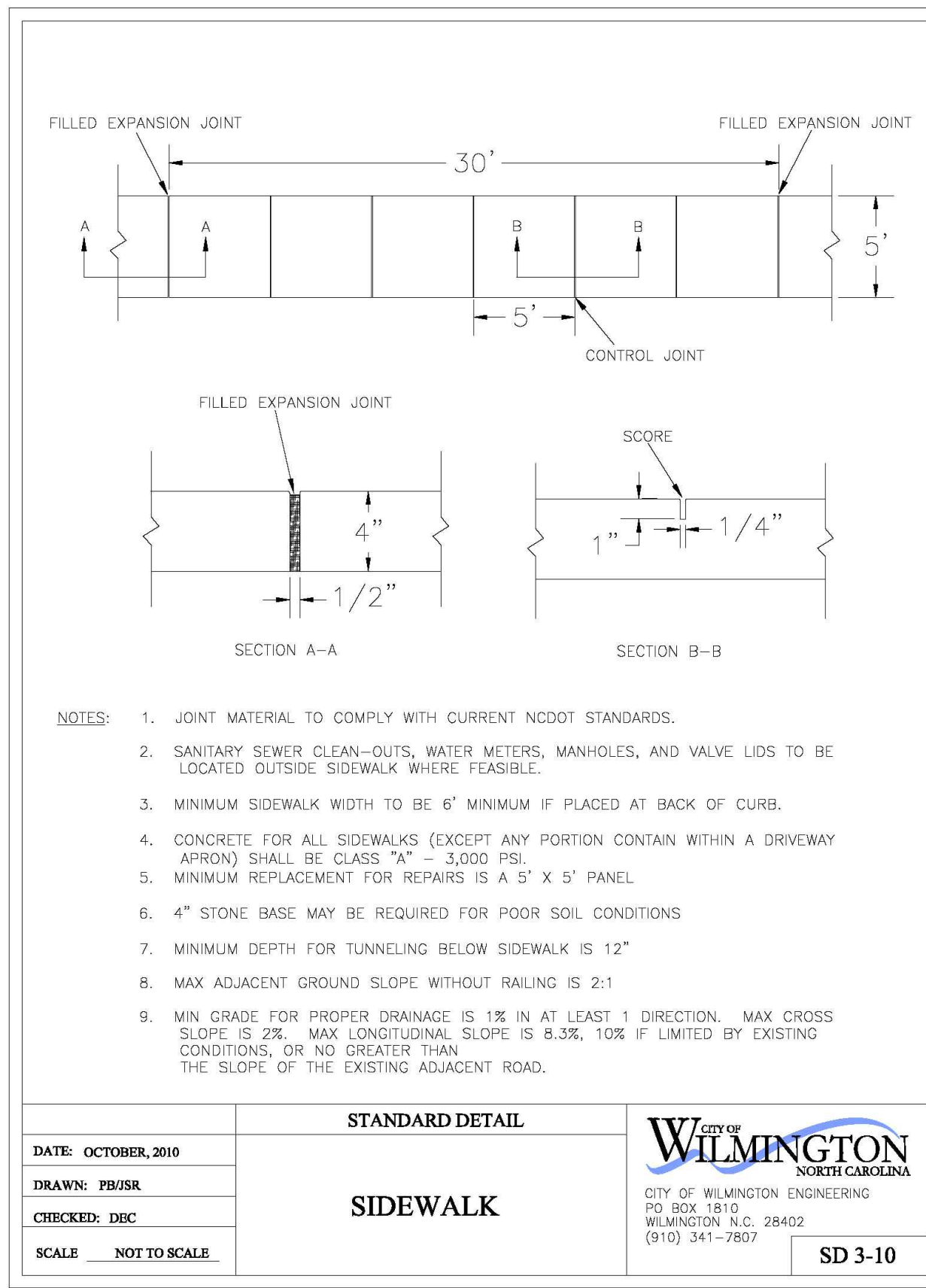
CLIENT INFORMATION:
COLLEGE ACRES DEVELOPMENT, LLC
5217 MARKET STREET
WILMINGTON, NC 28405

PARAMOUNT ENGINEERING
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6700 (F)
NC License # - C-2846

DETAILS
COLLEGE ACRES APARTMENTS
COLLEGE ACRES DRIVE
WILMINGTON, NEW HANOVER CO., NC

PROJECT STATUS	9.29.20
CONCEPTUAL LAYOUT	10.13.20
FINAL DESIGN	10.13.20
RELEASED FOR CONSTRUCTION	
DRAWING INFORMATION	07/24/19
DATE	1" = 30'
SCALE	CURB
DESIGNED BY	JBS
DRAWN BY	
CHECKED BY	

SEAL
C-6.0
PEI JOB#: 19443.PE



WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

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

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

1.	REVISED PER FINAL TRC COMMENTS
2.	REVISED PER TRC COMMENTS
3.	REVISED PER FINAL TRC COMMENTS

CLIENT INFORMATION:

COLLEGE ACRES DEVELOPMENT, LLC
 5217 MARKET STREET
 WILMINGTON, NC 28405

PARAMOUNT ENGINEERING
 122 Cinema Drive
 Wilmington, North Carolina 28403
 (910) 791-6707 (O) (910) 791-6700 (F)
 NC License # C-2846

PROJECT STATUS

9.26.20	CONCEPT LAYOUT
10.13.20	FINAL DESIGN
10.13.20	RELEASED FOR CONSTRUCTION

DRAWING INFORMATION

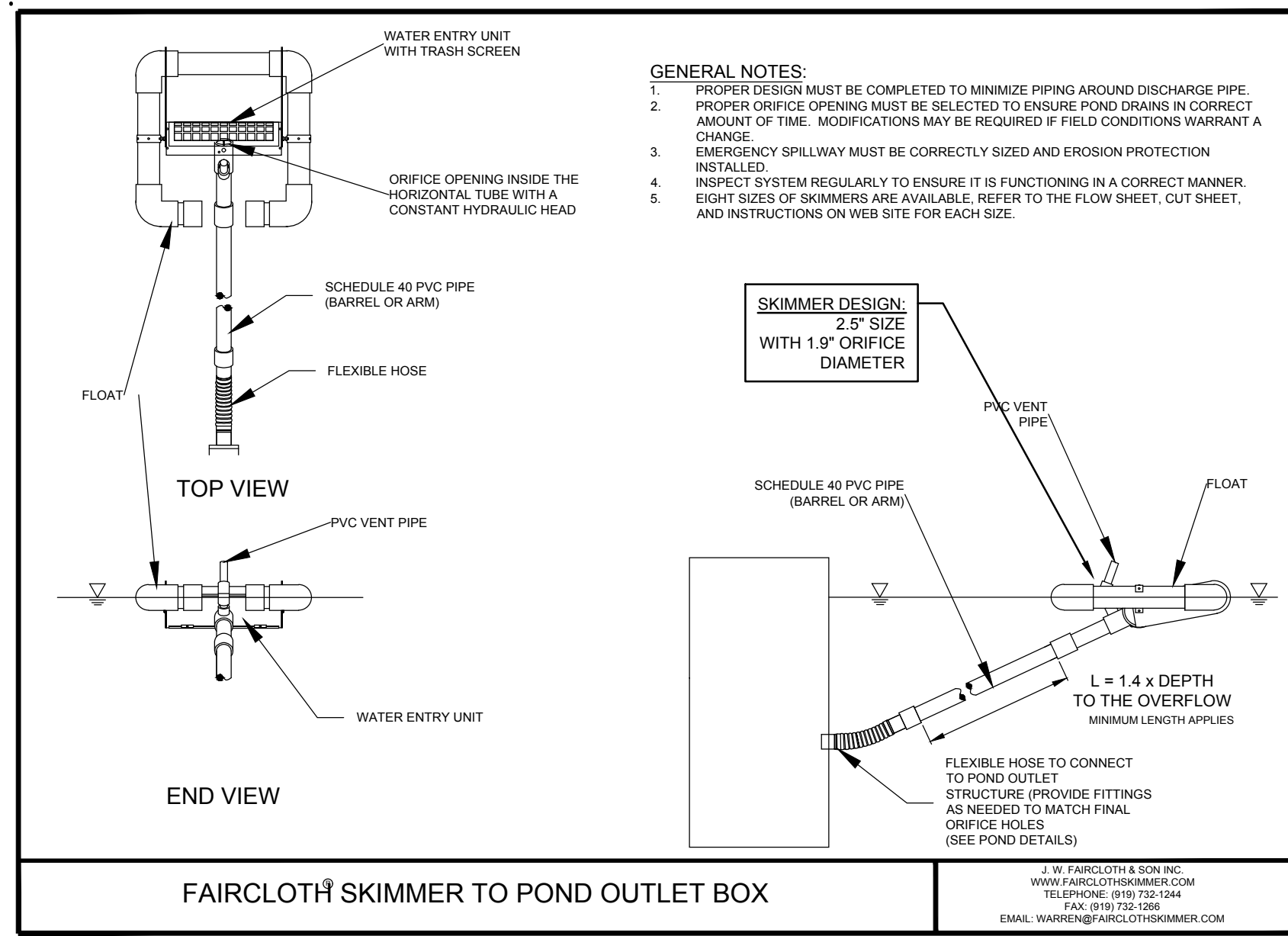
DATE: 07/24/19
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 DRAWN: JSR
 CHECKED: JSR

DETAILS

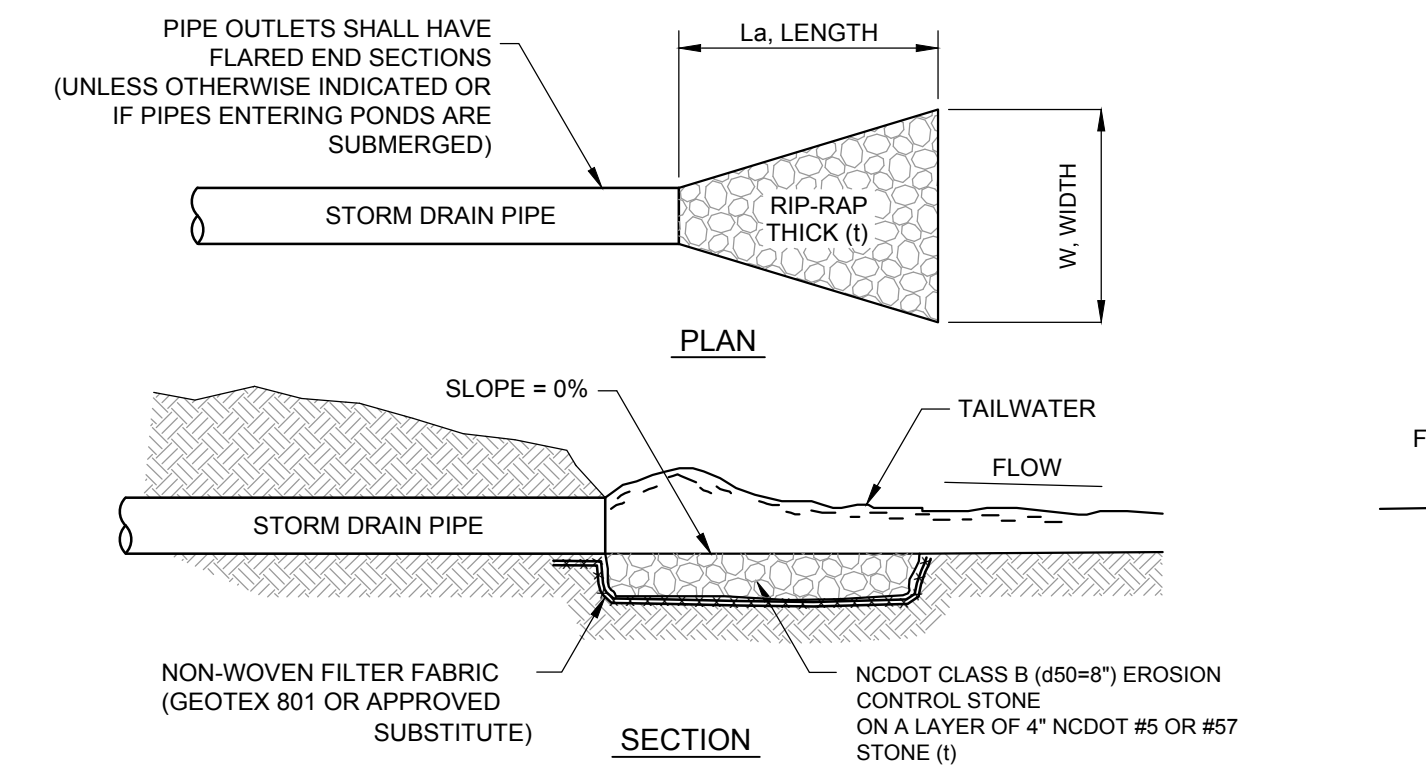
COLLEGE ACRES APARTMENTS
 COLLEGE ACRES DRIVE
 WILMINGTON, NEW HANOVER CO., NC

C-6.1

PEI JOB#: 19443.PE

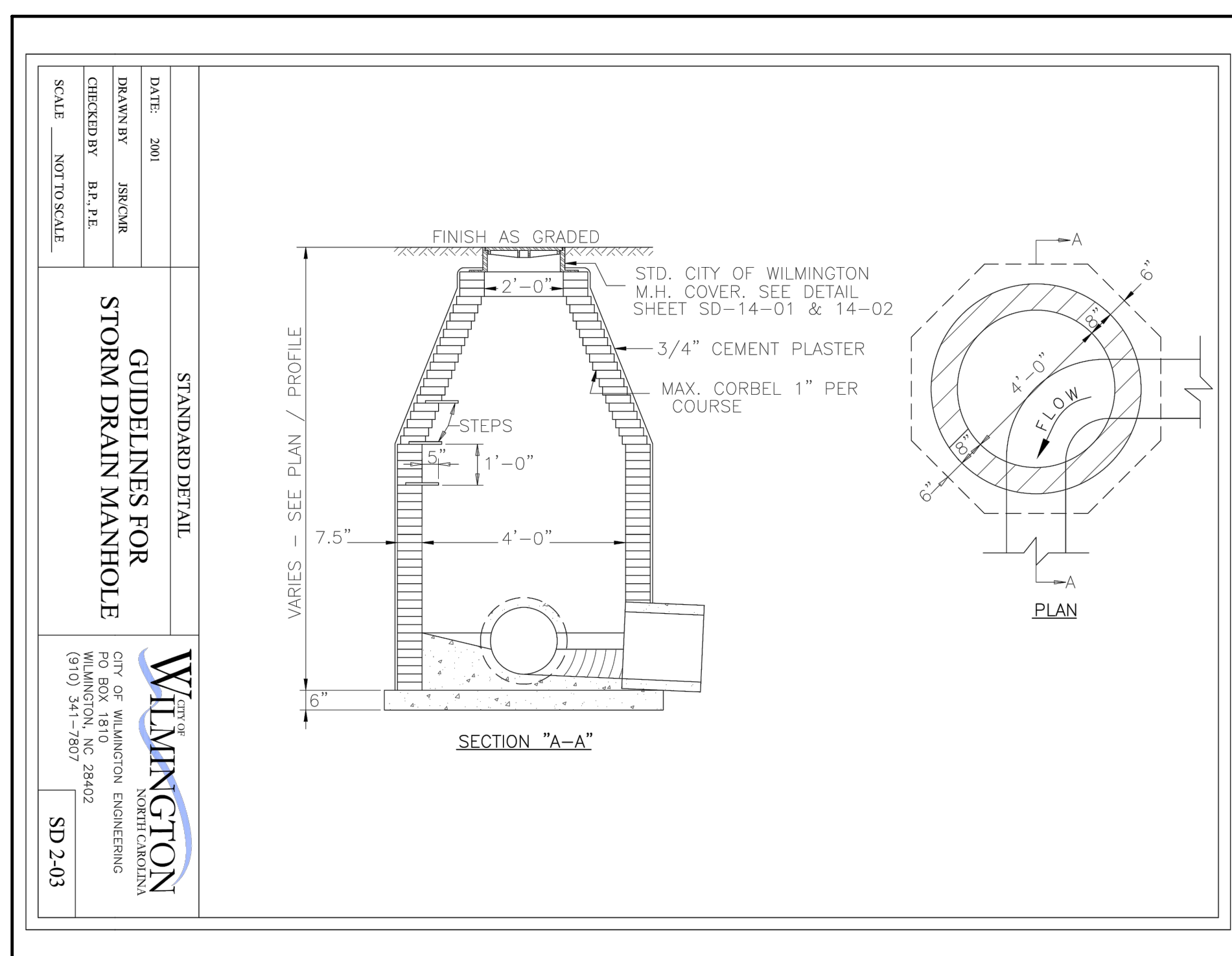
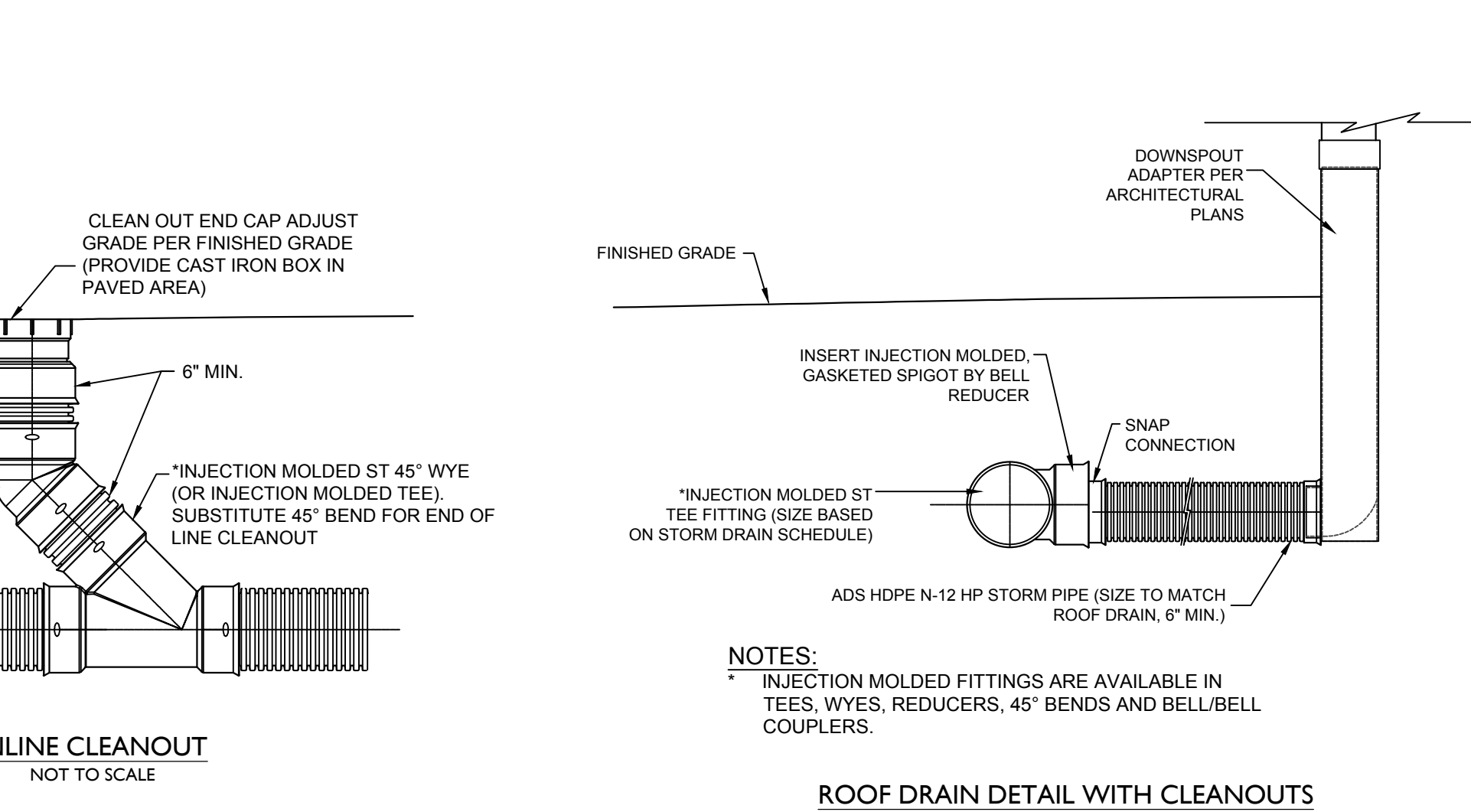
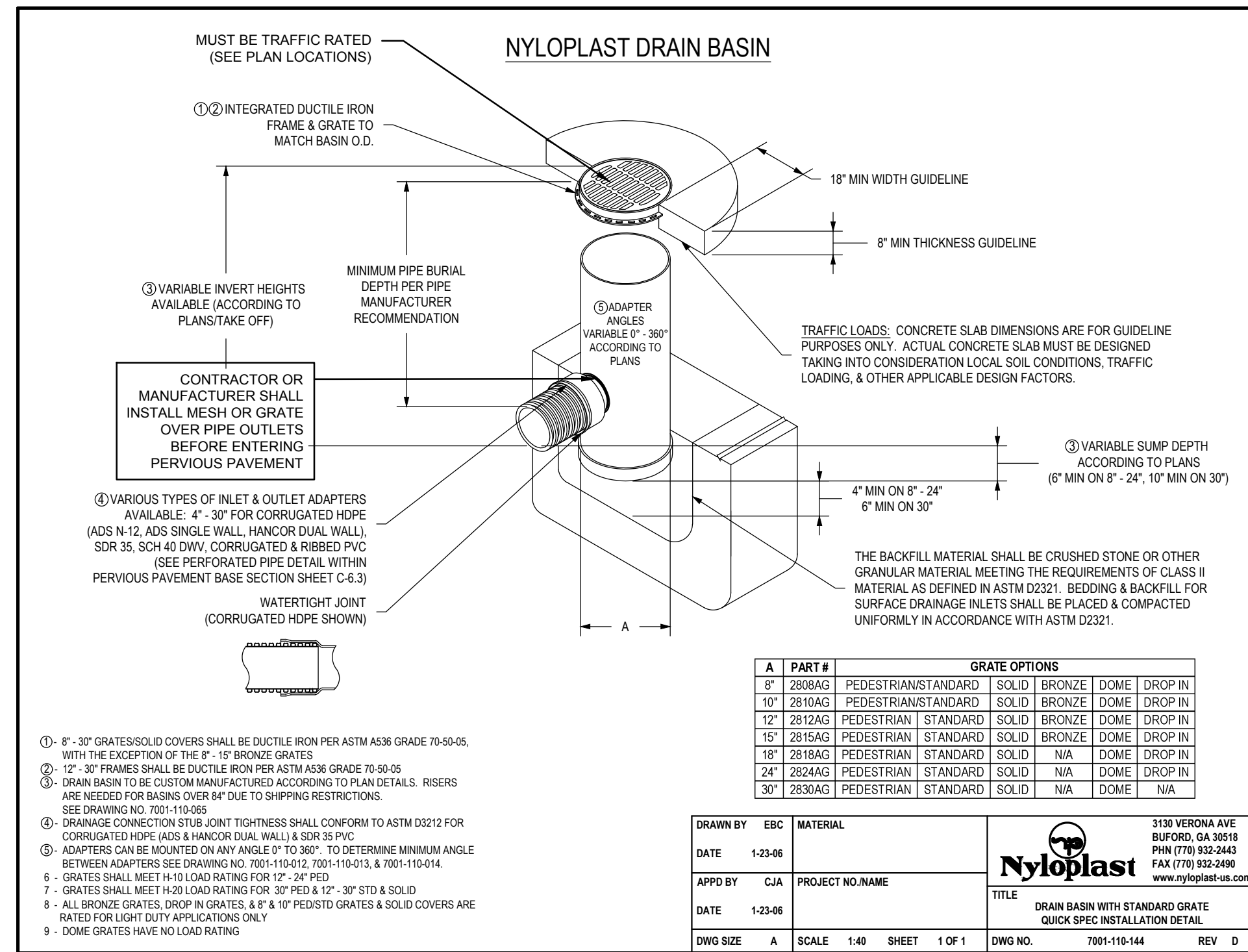


TEMPORARY SKIMMER DEWATERING DEVICE
 NOT TO SCALE



RIP-RAP APRON SCHEDULE

RIPRAP LOCATIONS	PIPE DIA. (IN.)	LENGTH, La (FT.)	UPSTREAM WIDTH, W (FT.)	DOWNSTREAM WIDTH, W (FT.)	STONE THICKNESS t (IN.)
FES 100	30	5	7.5	9.5	13.5



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

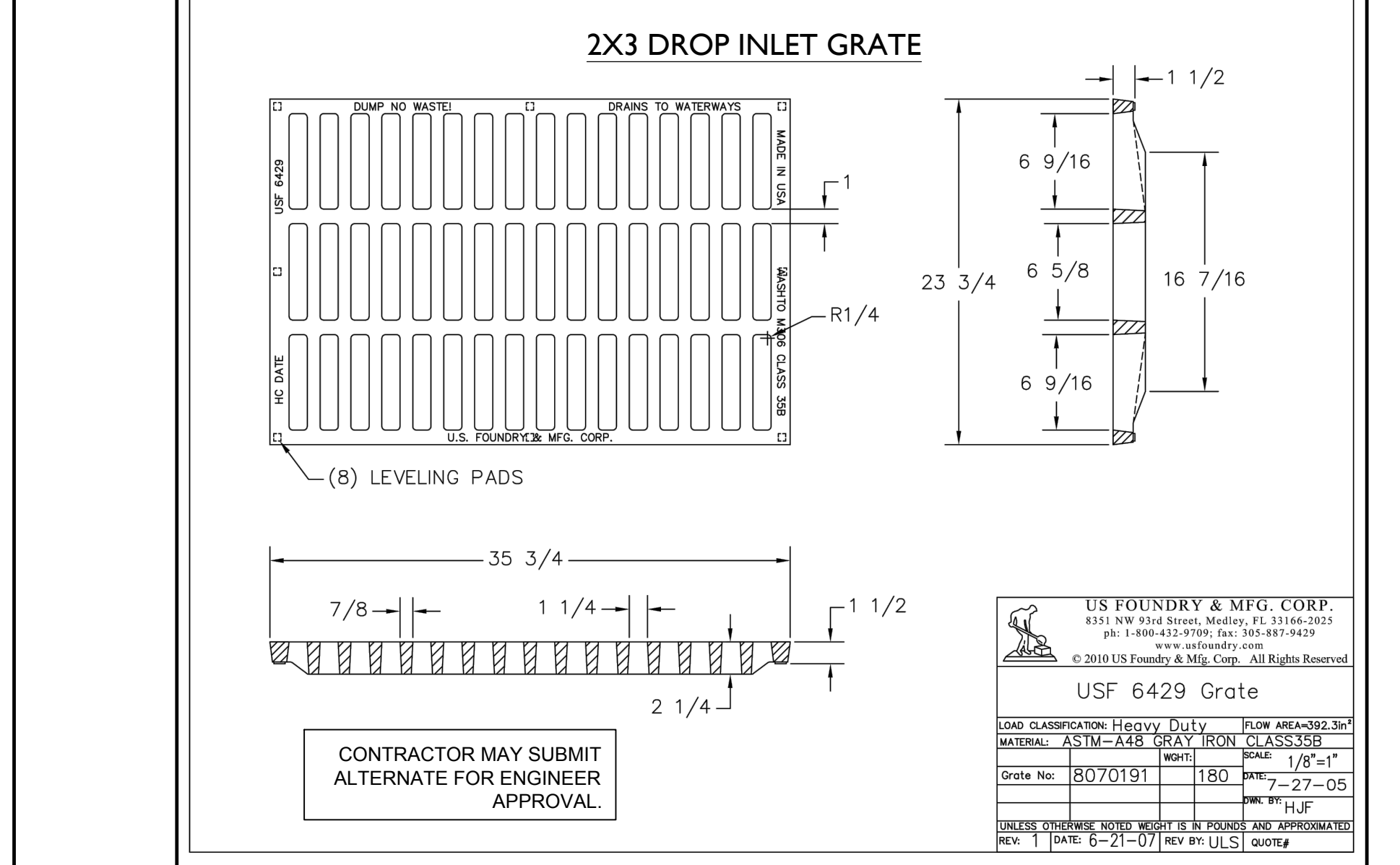
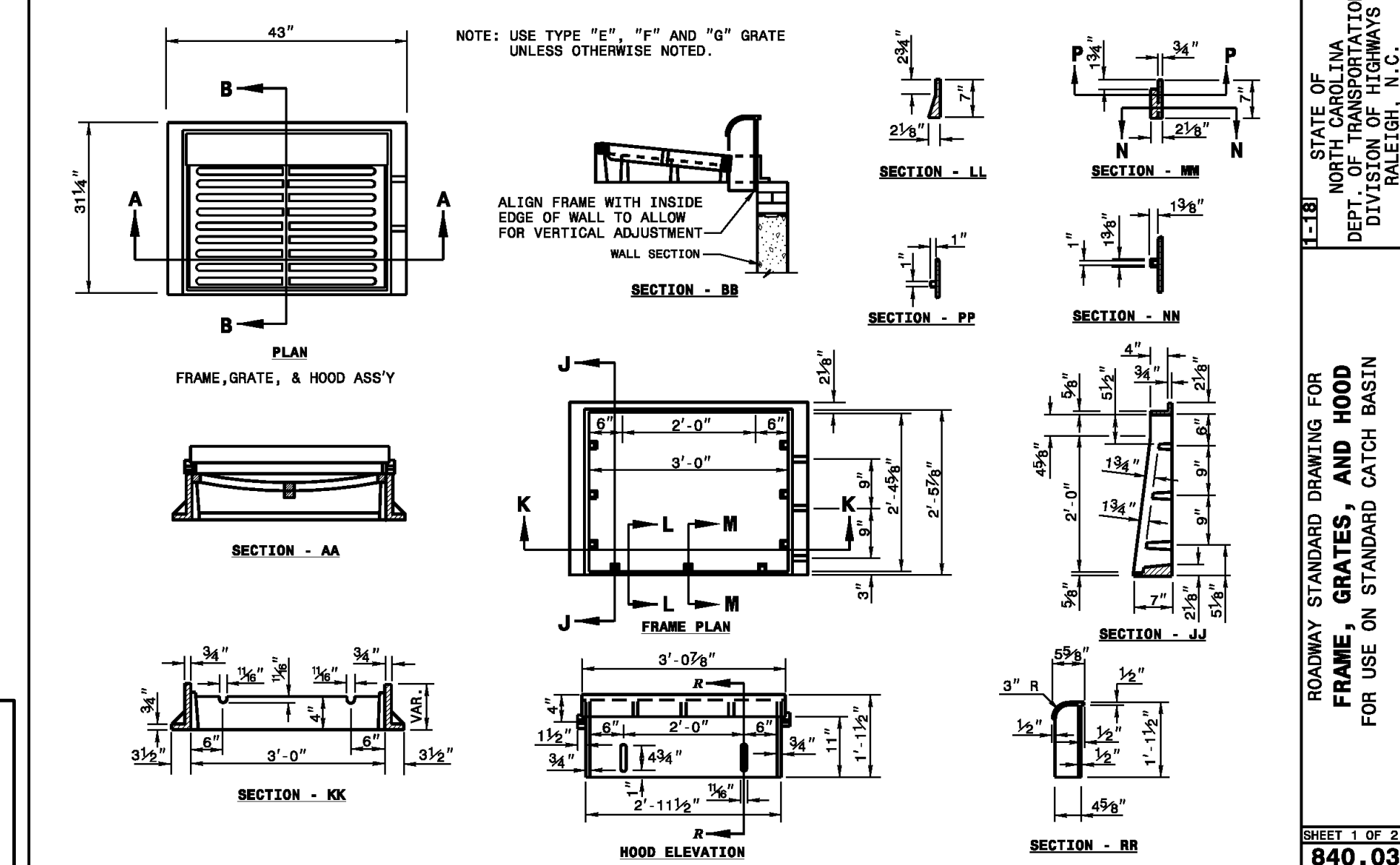
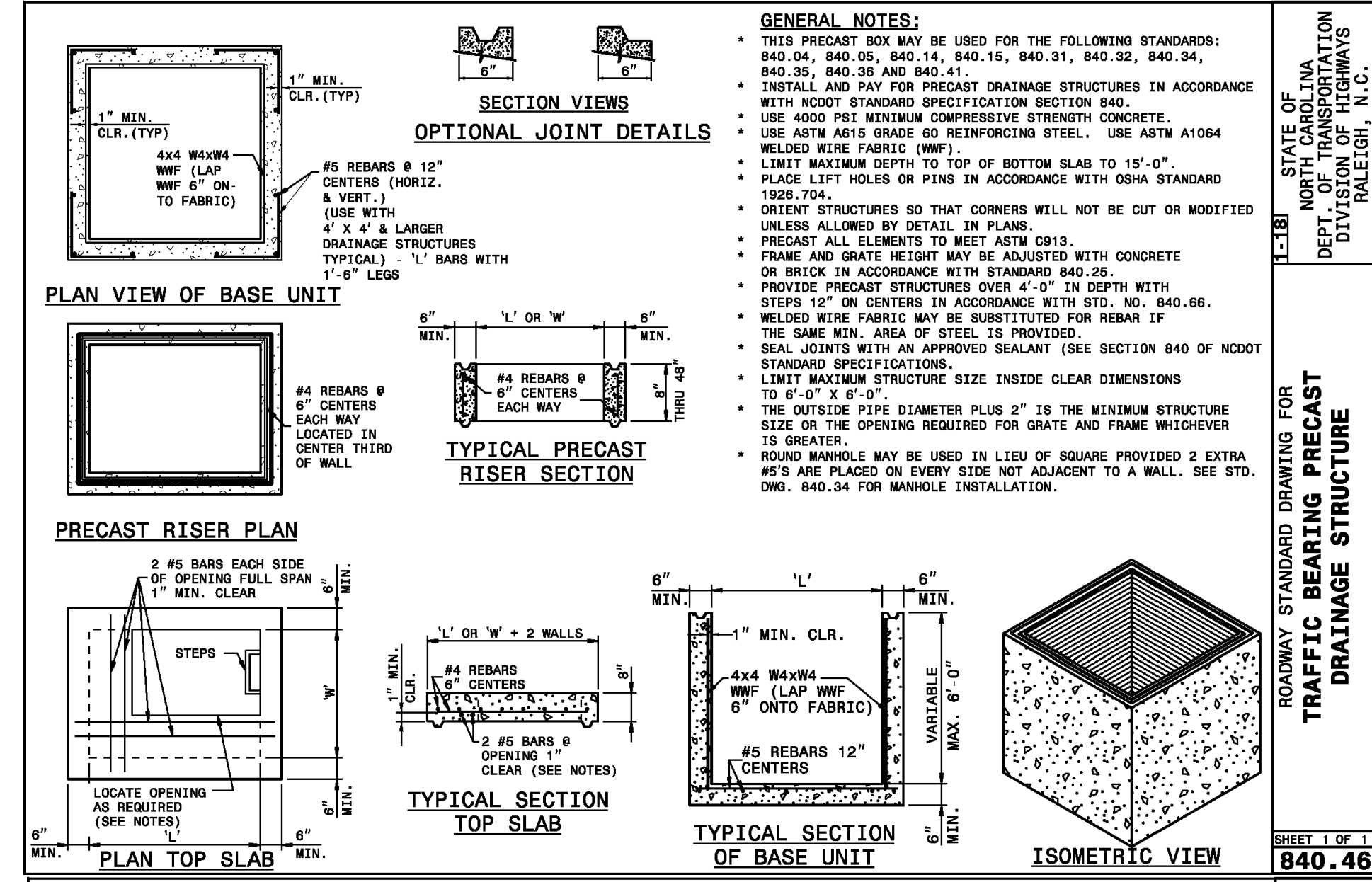
CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan

Name _____ Date _____

Planning _____
 Traffic _____
 Fire _____



REVISIONS:

1.	REVISED PER FINAL TRC COMMENTS
2.	REVISED PER CIVIL COMMENTS
3.	REVISED PER FINAL TRC COMMENTS

CLIENT INFORMATION:
 COLLEGE ACRES DEVELOPMENT, LLC
 5217 MARKET STREET
 WILMINGTON, NC 28405

PARAMOUNT ENGINEERING, INC.
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COLLEGE ACRES APARTMENTS
 COLLEGE ACRES DRIVE
 WILMINGTON, NEW HANOVER CO., NC

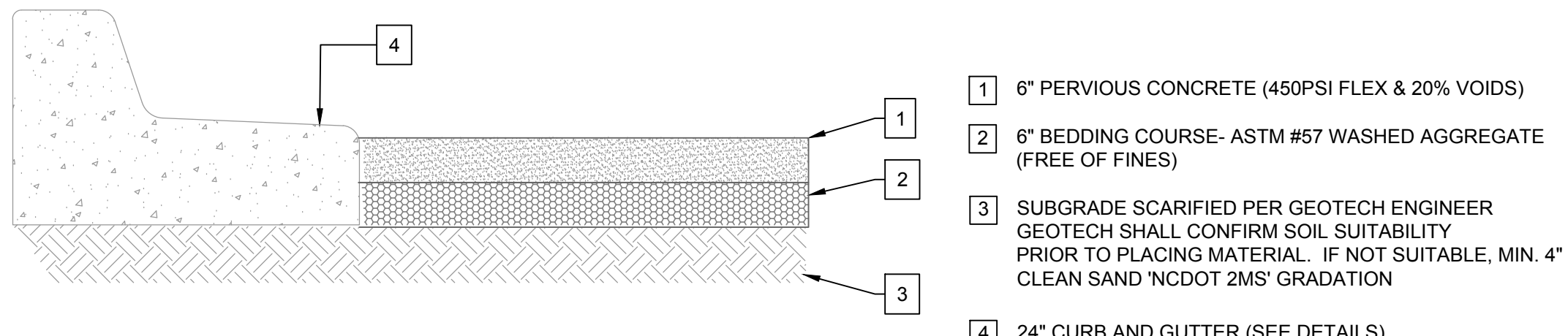
PROJECT STATUS:
 ORIGINAL LAYOUT: 9.26.20
 REVISIONS: 10.13.20
 RELEASED FOR CONSTRUCTION: 10.13.20

DRAWING INFORMATION:
 DATE: 07/24/19
 SCALE: 1" = 30'
 DRAWN: JBS
 CHECKED: JBS

SEAL:

C-6.2
 PEI JOB#: 19443.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

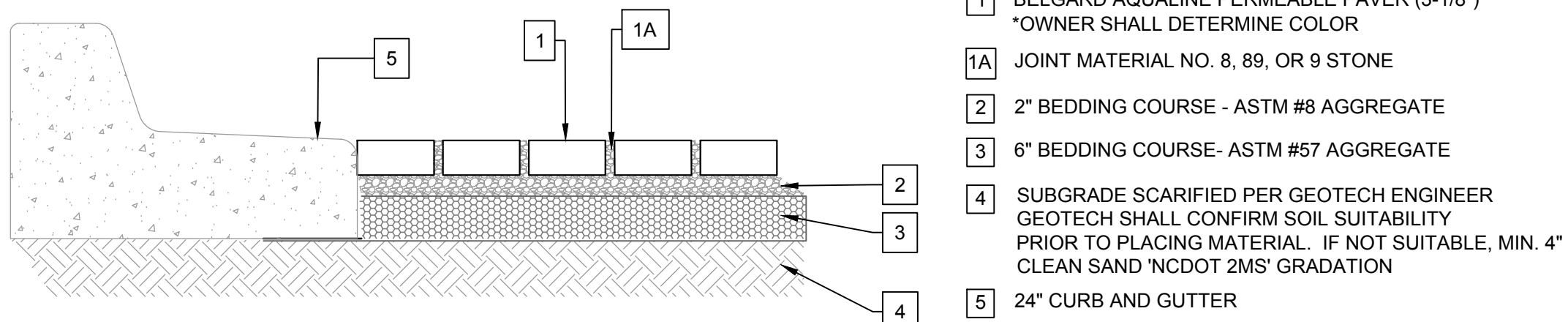


- 1 6" PERVIOUS CONCRETE (450PSI FLEX & 20% VOIDS)
- 2 6" BEDDING COURSE- ASTM #57 WASHED AGGREGATE (FREE OF FINES)
- 3 SUBGRADE SCARIFIED PER GEOTECH ENGINEER GEOTECH SHALL CONFIRM SOIL SUITABILITY PRIOR TO PLACING MATERIAL. IF NOT SUITABLE, MIN. 4" CLEAN SAND 'NCDOT 2MS' GRADATION
- 4 24" CURB AND GUTTER (SEE DETAILS)

NOTES:
 1. PERVIOUS CONCRETE SHALL CONFORM TO ALL REQUIREMENTS OF ACI 522.1-13, 'SPECIFICATION FOR PERVIOUS CONCRETE PAVEMENT', PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE EXCEPT AS MODIFIED BY THESE CONTRACT DOCUMENTS.
 2. IN-FIELD INFILTRATION TESTING SHALL CONFIRM ECS SOIL TESTS OF EXISTING CONDITIONS.

PERVIOUS CONCRETE PAVEMENT SECTION
 NOT TO SCALE

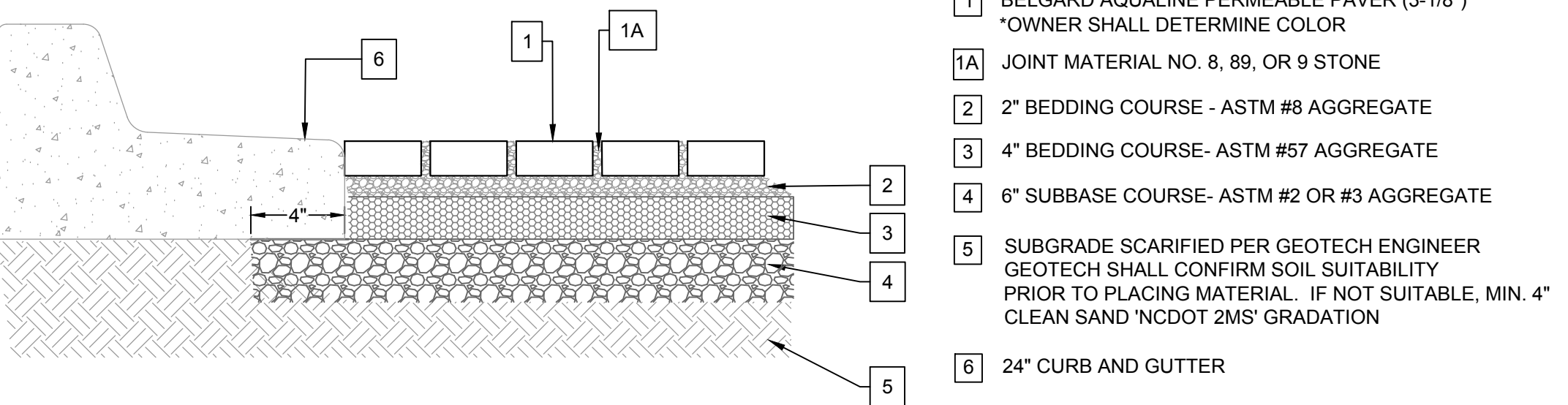
PERVIOUS CONCRETE OPTION 1



- 1 BELGARD AQUALINE PERMEABLE PAVER (3-1/8") *OWNER SHALL DETERMINE COLOR
- 1A JOINT MATERIAL NO. 8, 89, OR 9 STONE
- 2 2" BEDDING COURSE - ASTM #8 AGGREGATE
- 3 6" BEDDING COURSE- ASTM #57 AGGREGATE
- 4 SUBGRADE SCARIFIED PER GEOTECH ENGINEER GEOTECH SHALL CONFIRM SOIL SUITABILITY PRIOR TO PLACING MATERIAL. IF NOT SUITABLE, MIN. 4" CLEAN SAND 'NCDOT 2MS' GRADATION
- 5 24" CURB AND GUTTER

NOTES:
 1. IN-FIELD INFILTRATION TESTING SHALL CONFIRM ECS SOIL TESTS OF EXISTING CONDITIONS.

PERVIOUS PAVER PARKING SPACE PAVEMENT SECTION
 NOT TO SCALE



- 1 BELGARD AQUALINE PERMEABLE PAVER (3-1/8") *OWNER SHALL DETERMINE COLOR
- 1A JOINT MATERIAL NO. 8, 89, OR 9 STONE
- 2 2" BEDDING COURSE - ASTM #8 AGGREGATE
- 3 4" BEDDING COURSE- ASTM #57 AGGREGATE
- 4 6" SUBBASE COURSE- ASTM #2 OR #3 AGGREGATE
- 5 SUBGRADE SCARIFIED PER GEOTECH ENGINEER GEOTECH SHALL CONFIRM SOIL SUITABILITY PRIOR TO PLACING MATERIAL. IF NOT SUITABLE, MIN. 4" CLEAN SAND 'NCDOT 2MS' GRADATION
- 6 24" CURB AND GUTTER

NOTES:
 1. IN-FIELD INFILTRATION TESTING SHALL CONFIRM ECS SOIL TESTS OF EXISTING CONDITIONS.

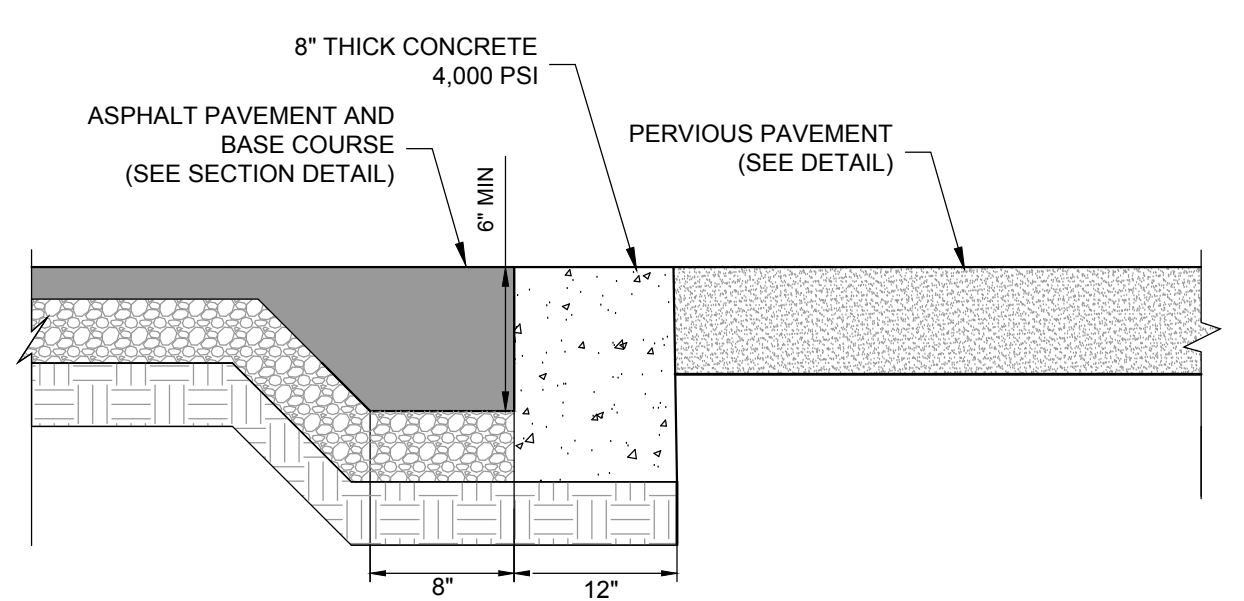
PERVIOUS PAVER DRIVE AISLE PAVEMENT SECTION
 NOT TO SCALE

PERVIOUS PAVERS OPTION 2

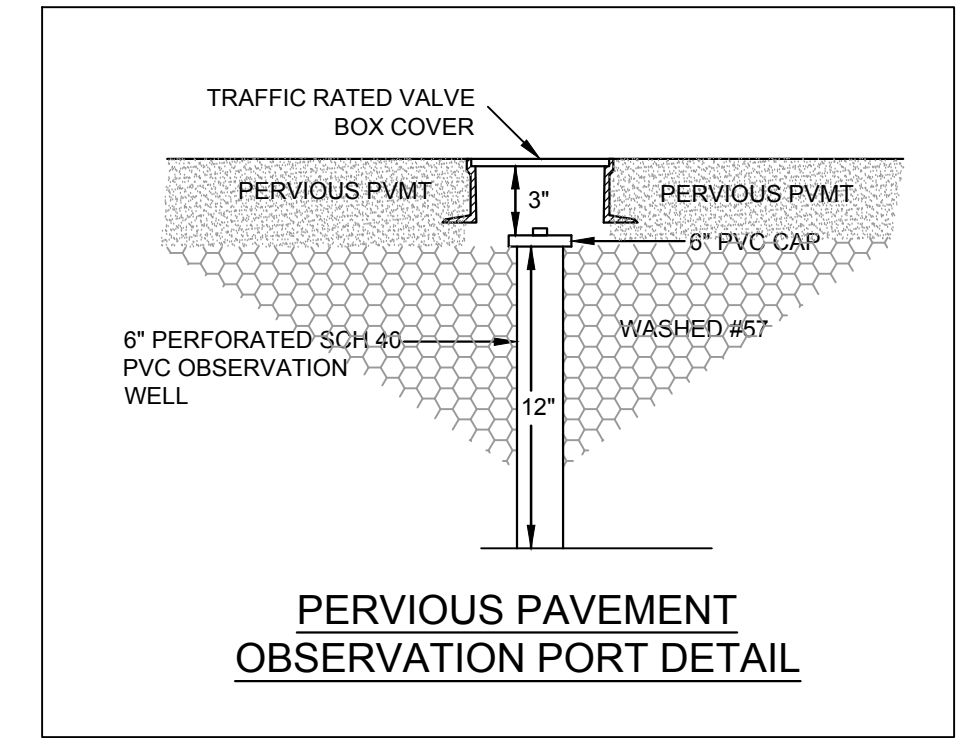
STORMWATER WETLAND ZONE PLANTINGS:

Shallow Water (0'-9" below permanent pool)						
Area #	Common Name	Botanical Name	Size	Quantity	Comments	
SW 1	Sweet Flag	Acorus calamus	Lg Plug (5 - 7 cu. inch)	65	Stagger 2' O.C. in groups of 7 - 9	
	Arrow Arum	Peltandra virginica	Lg Plug (5 - 7 cu. inch)	65	Stagger 2' O.C. in groups of 7 - 9	
	Pickereelweed	Pontederia cordata	Lg Plug (5 - 7 cu. inch)	65	Stagger 2' O.C. in groups of 7 - 9	
	Lizard Tail	Saururus cenusus	Lg Plug (5 - 7 cu. inch)	65	Stagger 2' O.C. in groups of 7 - 9	
	Broadleaf Arrowhead	Sagittaria lancifolia	Lg Plug (5 - 7 cu. inch)	65	Stagger 2' O.C. in groups of 7 - 9	
SW 2	Sweet Flag	Acorus calamus	Lg Plug (5 - 7 cu. inch)	65	Stagger 2' O.C. in groups of 7 - 9	
	Arrow Arum	Peltandra virginica	Lg Plug (5 - 7 cu. inch)	65	Stagger 2' O.C. in groups of 7 - 9	
	Pickereelweed	Pontederia cordata	Lg Plug (5 - 7 cu. inch)	65	Stagger 2' O.C. in groups of 7 - 9	
	Lizard Tail	Saururus cenusus	Lg Plug (5 - 7 cu. inch)	65	Stagger 2' O.C. in groups of 7 - 9	
	Broadleaf Arrowhead	Sagittaria lancifolia	Lg Plug (5 - 7 cu. inch)	65	Stagger 2' O.C. in groups of 7 - 9	
SW 3	Sweet Flag	Acorus calamus	Lg Plug (5 - 7 cu. inch)	5	Stagger 2' O.C. in groups of 5	
	Arrow Arum	Peltandra virginica	Lg Plug (5 - 7 cu. inch)	5	Stagger 2' O.C. in groups of 5	
	Pickereelweed	Pontederia cordata	Lg Plug (5 - 7 cu. inch)	5	Stagger 2' O.C. in groups of 5	
	Lizard Tail	Saururus cenusus	Lg Plug (5 - 7 cu. inch)	5	Stagger 2' O.C. in groups of 5	
	Broadleaf Arrowhead	Sagittaria lancifolia	Lg Plug (5 - 7 cu. inch)	5	Stagger 2' O.C. in groups of 5	

Temporary Inundation Zone (0'-15" above permanent pool)						
Area #	Common Name	Botanical Name	Size	Quantity	Comments	
T1Z	Coastal Joe Pye Weed	EUPATORIUM DUBIUM	Lg Plug (5 - 7 cu. inch)	300	Stagger 2' O.C. in groups of 7 - 9	
	Swamp Verbena	VERBENA HASTATA	Lg Plug (5 - 7 cu. inch)	300	Stagger 2' O.C. in groups of 7 - 9	
	Fringed Sedge	CAREX CRINITA	Lg Plug (5 - 7 cu. inch)	300	Stagger 2' O.C. in groups of 7 - 9	
	Inkberry	Ilex Glabra	1 GAL	32	Stagger 5' O.C. in groups of 7 - 9	
	Swamp Rose	Rosa Palustris	1 GAL	32	Stagger 5' O.C. in groups of 7 - 9	
Swamp Cyrilla	Cyrilla Racemiflora	1 GAL	32	Stagger 5' O.C. in groups of 7 - 9		
Bald Cypress	Taxodium distichum	3-4'	5	Shown per plan		
Switchgrass	Panicum virgatum	Lg Plug (5 - 7 cu. inch)	475	Stagger 2' O.C. in groups of 7 - 9		
Little bluestem grass	Schizachyrium scoparium	Lg Plug (5 - 7 cu. inch)	475	Stagger 2' O.C. in groups of 7 - 10		



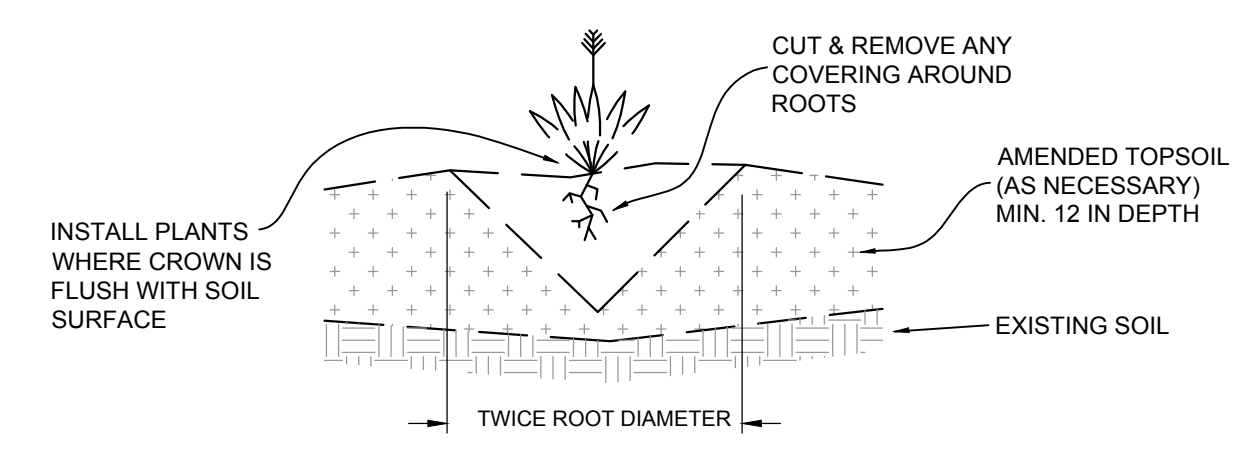
12" HEADER CURB ASPHALT TO PERVIOUS PAVEMENT TRANSITION (TYPICAL)



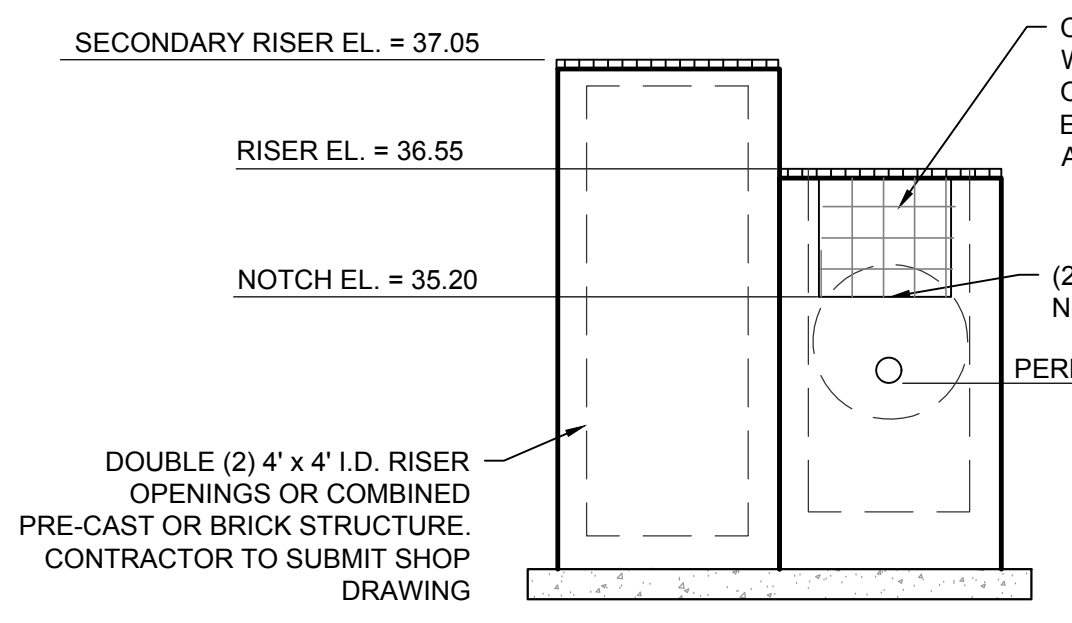
PERVIOUS PAVEMENT OBSERVATION PORT DETAIL

PLANTING SPECIFICATIONS

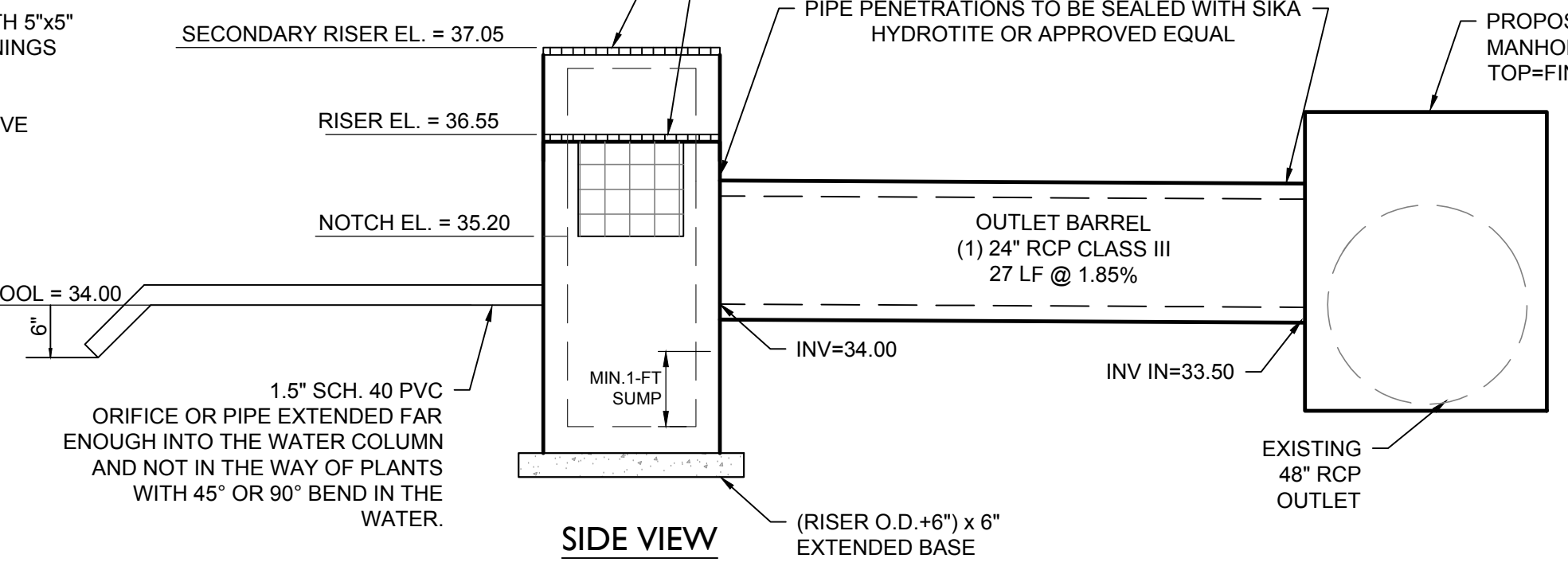
1. APPROXIMATELY 5 GRAMS OF A BALANCED SLOW RELEASE FERTILIZER SHALL BE INSTALLED NEXT TO EACH HERBACEOUS LARGE PLUG WITHIN THE WETLAND. FERTILIZER MAY BE OMITTED IF 6 INCHES OF FERTILE TOPSOIL HAS BEEN APPLIED THROUGHOUT THE WETLAND.
2. ALL PLANTS SHOULD BE PLANTED IN THE SPECIFIED ZONE TO ENSURE SURVIVAL.
3. AVOID PLANTING INDIVIDUAL SPECIES IN LARGE GROUPS BY SPACING CLUSTERS A MIN. OF 5' APART.
4. ALL ZONES TO BE PLANTED WITH BARE ROOT, PLUGS, OR CONTAINER LIVE PLANTINGS AS SPECIFIED
5. BEGIN PLANTING DURING LOCAL GROWING SEASON IN ORDER TO ENSURE THAT PLANTS HAVE ADAQUET TIME TO ESTABLISH BEFORE WINTER MONTHS.
6. FRESH PLANTS WILL BE OBTAINED FROM A NURSERY AND WILL BE STORED WITH ROOTS IN MOIST SOILS.
7. PLANTINGS WILL BE INSPECTED AND MAINTAINED. PLANTS WILL BE INSPECTED FOR WASHOUT. WASHED OUT PLANTS WILL BE REPLACED.
8. A SUITABLE STAND OF WETLAND PLANTS WILL BE ESTABLISHED WITHIN 8 MONTHS OF PLANTING. A 90% SURVIVAL RATE MEETS THIS OBJECTIVE. SUPPLEMENTAL PLANTINGS WILL BE PROVIDED AS NEEDED TO MEET THIS CRITERIA.



TYP. PLANTING DETAIL
 NOT TO SCALE



FRONT VIEW



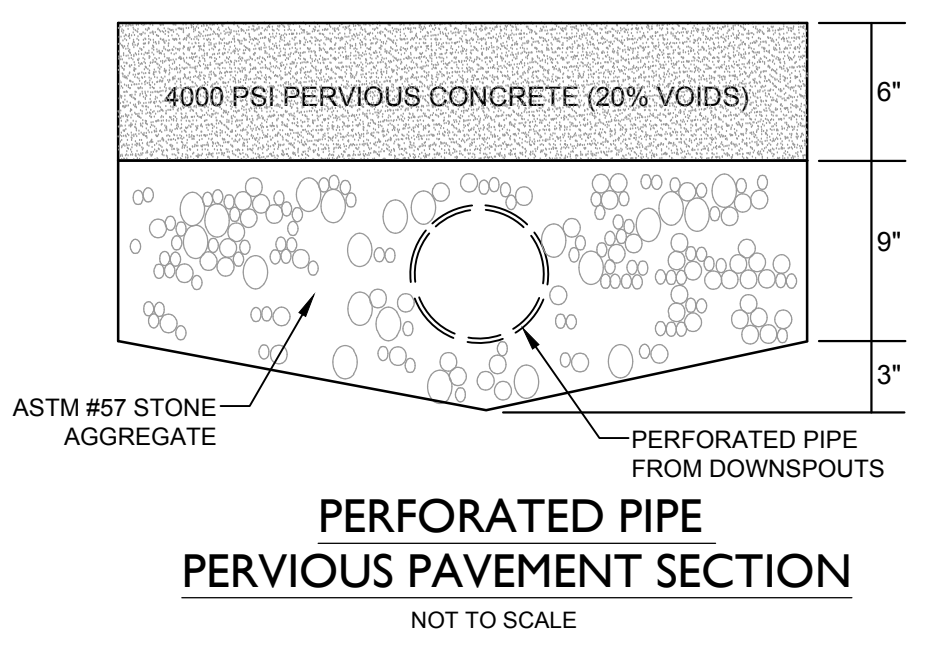
SIDE VIEW

DOUBLE OUTLET STRUCTURE DETAIL
 NOT TO SCALE

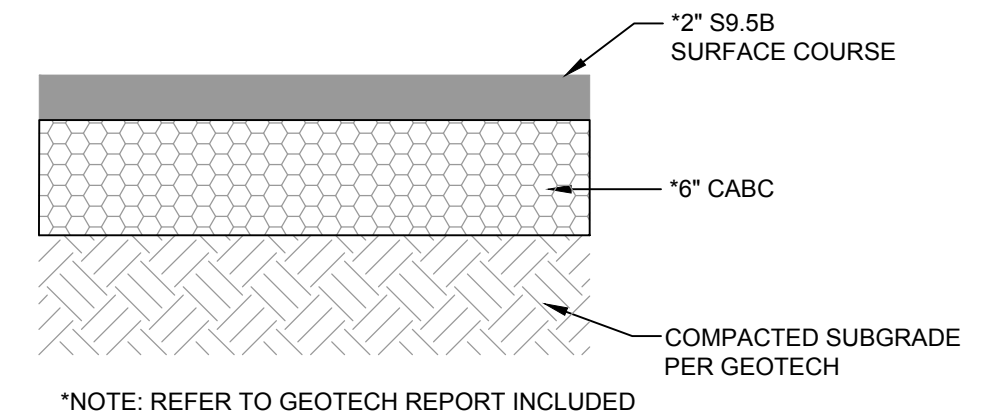
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____



PERFORATED PIPE PERVIOUS PAVEMENT SECTION
 NOT TO SCALE

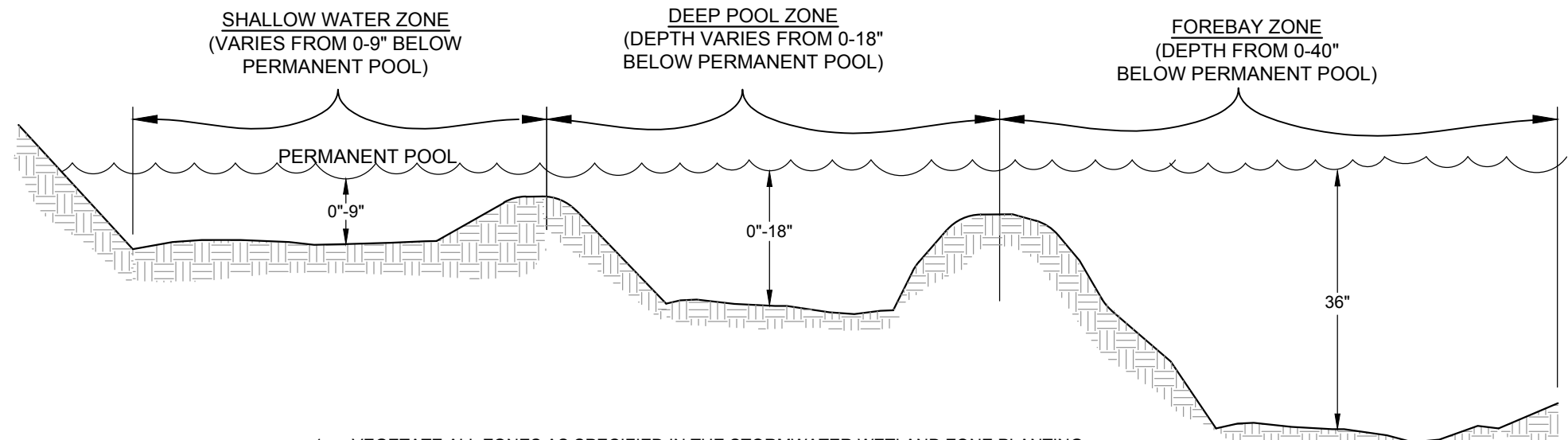


ASPHALT PAVEMENT SECTION

*NOTE: REFER TO GEOTECH REPORT INCLUDED WITHIN THE SPECIFICATIONS FOR PAVEMENT SPECS.

SOIL AMENDMENT SPECIFICATIONS

1. TOPSOIL TO BE ADDED TO TOP OF CONSTRUCTED WETLAND SHELF IF NATIVE SOILS ARE NOT SUITABLE FOR GROWTH OF SELECTED PLANT SPECIES.
2. TOPSOIL SHALL BE WELL MIXED, FREE OF TRASH AND DEBRIS, UNCOMPACTED, AND VOID OF LARGE (>2 INCHES) AND WOODY MATERIAL (>3 INCHES).
3. TOPSOIL (TOP 12") SHALL MEET THE FOLLOWING SPECIFICATIONS: SOIL TYPE: CLAY < 60%, SAND > 80%, SILT < 60% ORGANIC CONTENT: 5-8% P-I: 20-50 pH: 6.0-7.0
4. IN THE EVENT THAT SELECTED TOPSOIL DOES NOT MEET SPECIFICATION LISTED ABOVE, CONSULT WITH LANDSCAPE ARCHITECT.
5. UPON PLACEMENT OF TOPSOIL, AREA SHOULD BE LIGHTLY COMPACTED TO ENSURE STABILIZATION OF MATERIAL. EXCESSIVE TRAFFICKING OF EQUIPMENT OVER CONSTRUCTED WETLAND PLANTING AREAS SHOULD BE AVOIDED.



1. VEGETATE ALL ZONES AS SPECIFIED IN THE STORMWATER WETLAND ZONE PLANTING.
2. APPROXIMATE % OF EACH ZONE: FOREBAY - 14%, DEEP POOL - 13%, SHALLOW WATER - 42%, AND REMAINDER TEMP. INUNDATION ZONE - 30%.

WETLAND SHALLOW AND DEEP ZONES TYP. SECTION
 NOT TO SCALE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

1	08/20/20	REVISED PER FINAL TRC COMMENTS
2	10/13/20	REVISED PER TRC COMMENTS
3	10/28/20	REVISED PER FINAL TRC COMMENTS

CLIENT INFORMATION:
COLLEGE ACRES DEVELOPMENT, LLC
 5217 MARKET STREET
 WILMINGTON, NC 28405

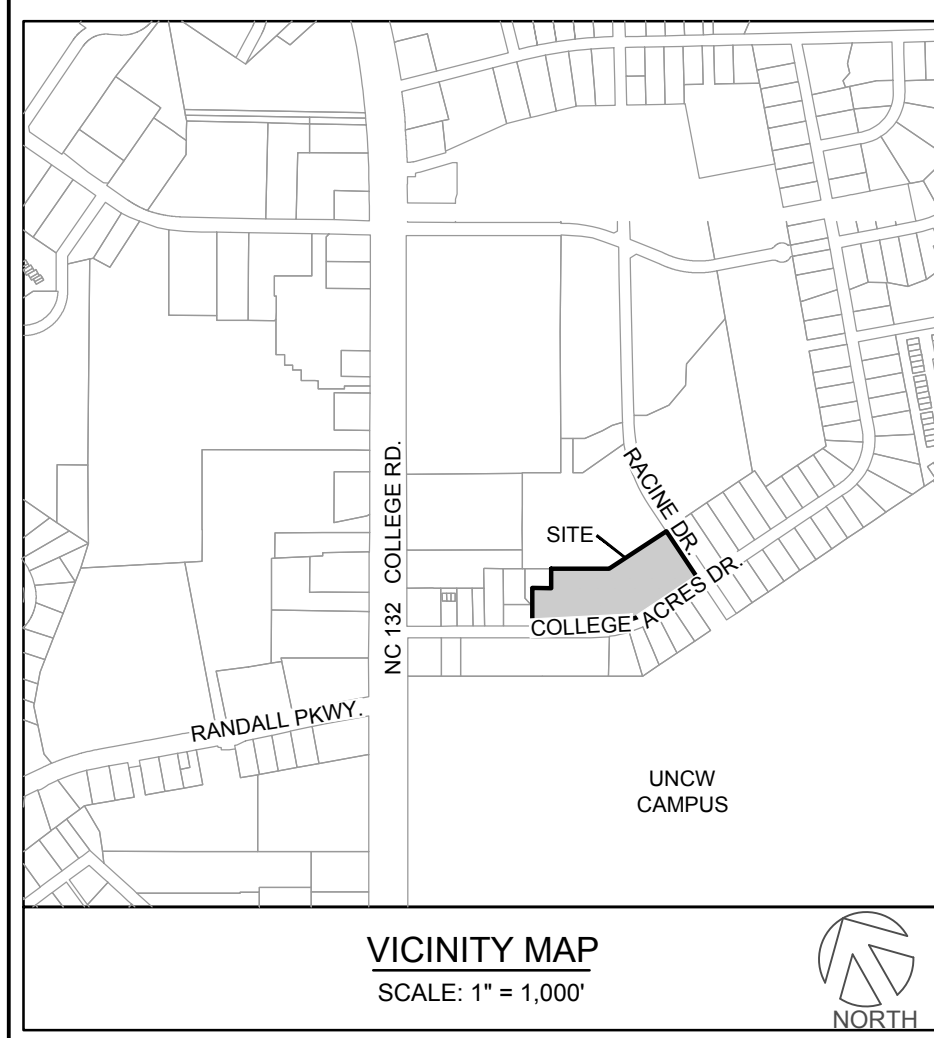
PARAMOUNT ENGINEERING, INC.
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 (910) 791-6707 (O) (910) 791-6700 (F)
 NC License #: C-2846

COLLEGE ACRES APARTMENTS
 COLLEGE ACRES DRIVE
 WILMINGTON, NEW HANOVER CO., NC

PROJECT STATUS:
 ORIGINAL LAYOUT: 9/29/20
 FINAL DESIGN LAYOUT: 10/13/20
 RELEASED FOR CONSTRUCTION: 10/13/20

DRAWING INFORMATION:
 DATE: 07/24/19
 SCALE: NTS
 DRAWN BY: GJR
 CHECKED: JBS

C-6.3
 PEI JOB#: 19443.PE



SITE INFORMATION:

PARCEL ID: R05508-002-007 thru 014-000
 CURRENT ZONING: MF-M (CD)
 EXISTING USE: SINGLE-FAMILY RESIDENCES
 PROPOSED USE: MULTI-FAMILY RESIDENTIAL
 PROPERTY AREA: ± 5.53 ACRES (± 241,062 SF)
 PROJECT LIMITS AND DISTURBANCE: ± 5.40 ACRES
 OWNER INFORMATION: SEE SHEET C-2.1 SITE INVENTORY PLAN

FLOOD INFORMATION: THIS PARCEL IS LOCATED IN FLOOD ZONE X, WHICH IS NOT A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY FEMA FLOOD PANEL 3720314700K DATED AUGUST 28, 2018.

FEMA FLOODPLAIN NOTE: N/A
 CONSERVATION RESOURCES DISTRICT: POCONO COLLEGE RD.
 OVERLAY ZONE: N/A
 CAMA AREAS OF ENVIRONMENTAL CONCERN: URBAN
 CAMA FUTURE LAND USE: N/A
 EXISTING HISTORIC AND ARCHAEOLOGICAL SITE: N/A
 EXISTING WETLANDS OR STREAMS: N/A
 EXISTING SURFACE WATERS: N/A

BUFFER / SCREENING INFORMATION:

STREET YARDS: MF-M MULTIPLIER = 18
 COLLEGE ACRES = 0.924 LF OF FRONTAGE - 24' OF DRIVEWAY X 18 = 16,200 SF
 16,200 SF / 600 SF = 27 CANOPY TREES
 27 * 6 SHRUBS = 162 SHRUBS (12' HGT. AT PLANTING)
 RACINE DRIVE = (290 LF OF FRONTAGE - 24' OF DRIVEWAY) X 9(1/2 MF-M) = 2,394 SF
 2,394 SF / 600 SF = 4 CANOPY TREES
 4 * 6 SHRUBS = 24 SHRUBS (12' HGT. AT PLANTING)

WEST BUFFER: 403LF x 8' DEPTH MIN. W/ 8' WOOD SCREEN FENCE W/ DOUBLE ROW OF SHRUBS

SCREENING: ALL DUMPSTERS, HVAC, MECHANICAL EQUIPMENT AND ANY OTHER ITEMS REQUIRING SCREENING AS DEFINED BY THE CITY OF WILMINGTON LDC TO BE SCREENED IN ACCORDANCE WITH SECTION 18-504.

LANDSCAPE CALCULATIONS:

REQUIRED FOUNDATION PLANTINGS (BLDG LENGTH X BLDG HGT) X 12%
 REQUIRED:
 TYPE A (APARTMENT): (105 X 35) X 0.12 = 441 SF
 TYPE B (DUPLICATE): (60 X 28) X 0.12 = 198 SF
 CLUBHOUSE: (68 X 14) X 0.12 = 114 SF

PROVIDED:
 TYPE A (APARTMENT): 830 SF
 TYPE B (DUPLICATE): 256 SF
 CLUBHOUSE: 218 SF

PARKING REQUIREMENTS:
 1 CANOPY TREE / ISLAND, GROUND COVER OR SHRUBS

SHADE CALCULATIONS:
 REQUIRED: 35% OF 67,650 SF IMPERVIOUS AREA = 23,643 SF
 PROVIDED: 24,746 SF
 11,312 SF = (16) CANOPY TREES @ 707 SF
 13,434 SF = EXISTING SHADE (SEE PLAN)

OVERALL SITE PLANTING:
 REQUIRED: 15 TREES / ACRE
 PROVIDED: 83 TREES (15 X 5.53 ACRE)
 PROVIDED: 351 TREES (63 PROPOSED + 288 RETAINED CREDIT)

LANDSCAPE NOTES:

- CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- TREES SHALL BE LOCATED NO CLOSER THAN 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
- ALL PLANT MATERIAL SHALL MEET THE CURRENT VERSION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
- NO TREE, OTHER THAN THOSE SHOWN ON APPROVED PLANS FOR REMOVAL WITH THESE PLANS AND/OR TREE REMOVAL PERMIT PLANS, SHALL BE REMOVED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
- ALL SHRUB BEDS AND/OR PLANTING AREAS EXCLUDING TURF AREAS SHALL BE MULCHED WITH 3 INCH MINIMUM AND 4 INCH MAXIMUM DEEP PINE STRAW MULCH UNLESS OTHERWISE NOTED.
- ALL PLANTS, 4 FEET OR LESS APART, WILL BE CONNECTED IN ONE PLANTING BED. ALL GROUPS OF PLANTS SHOULD BE WITHIN ONE PLANTING BED WITH THE EDGE OF MULCH EXTENDING 2 FEET BEYOND THE EDGE OF PLANT MASS. ALL SINGLE TREES, INCLUDING BOTH PROPOSED AND EXISTING TREES SHOULD HAVE A CIRCLE OF MULCH NOT LESS THAN 5 FEET DIAMETER.
- PLANTING SOIL MUST BE TESTED FOR PH, NUTRIENT LEVELS AND FERTILIZERS IN THE QUANTITIES RECOMMENDED BY THE SOIL TESTING LABORATORY, THIRD PARTY RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
- ANY AND ALL SUBSTITUTIONS OF PLANT MATERIAL SHALL BE APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. FAILURE IN OBTAINING APPROVAL MAY RESULT IN LIABILITY TO THE CONTRACTOR.
- THE CONTRACTOR SHALL REPLACE DEAD AND/OR UNHEALTHY PLANT MATERIAL WITHIN 12 MONTHS OF ACCEPTANCE OF THE INSTALLED MATERIAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL PREPARE ALL SEEDED OR SODDED AREAS TO ASSURE THAT THE SUBGRADE HAS BEEN RAKED AND ROLLED TO ACCEPT THE SOD/SEED. ALL SOD/SEED AREAS MUST BE IRRIGATED OR HAND WATERED. ALL SOD SHALL BE PLACED WITH STAGGERED JOINTS AND NO GAPS BETWEEN SOD JOINTS. SOD SHOULD BE ROLLED AFTER INSTALLATION. ALL SEEDED AND/OR SODDED AREAS SHOULD PROVIDE A SMOOTH SURFACE FREE OF DIPS AND UNLEVELED GROUND.
- IRRIGATION SHALL BE DESIGNED AND INSTALLED BY A LICENSED IRRIGATION CONTRACTOR IN THE STATE OF NORTH CAROLINA.
- IF IRRIGATION IS REQUIRED, PLANS AND SPECIFICATIONS FOR THE IRRIGATION DESIGN SHALL BE SUBMITTED TO THE OWNER OR OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE OR INSTALLATION OF THE MATERIALS.
- CONTRACTOR IS RESPONSIBLE FOR REMOVING TRASH, DEBRIS AND EXCESS MATERIALS FROM THE JOB SITE ONCE THE PROJECT IS COMPLETE. SECURING ANY MATERIALS LEFT ON SITE DURING THE COURSE OF THE PROJECT IS THE CONTRACTOR'S RESPONSIBILITY.
- ALL DISTURBED AREAS NOT DESIGNATED FOR SOD SHALL BE SEEDDED.
- ALL LANDSCAPE ISLANDS ARE NOT TO BE SEEDDED. LANDSCAPE ISLANDS TO BE MULCHED AS PER OWNER OR OWNER'S REPRESENTATIVE SPECIFICATION.
- ALL VEGETATION PROPOSED WITHIN SIGHT DISTANCE AREAS SHALL NOT INTERFERE WITH SIGHT DISTANCE FROM 30' TO 10'.
- PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.

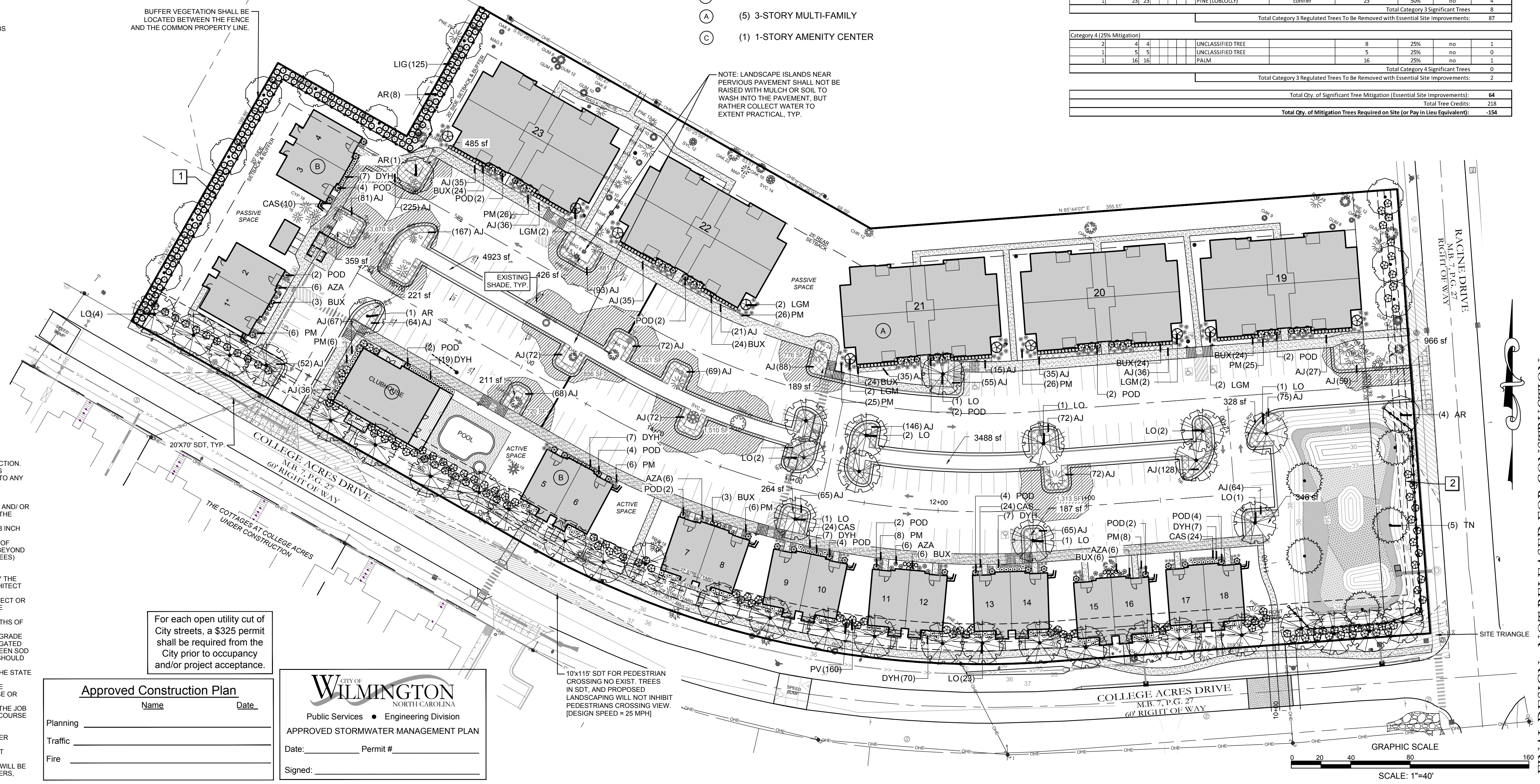
TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
	TN	5	Taxodium distichum imbricatum 'Nutans' Nutans Pond Cypress	2" cal / 8' ht.
UNDERSTORY TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
	LGM	10	Magnolia g. 'Little Gem' Dwarf Southern Magnolia	2" cal / 5' ht.
CANOPY TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
	AR	14	Acer rubrum 'October Glory' October Glory Red Maple	2" cal / 8' ht.
	LO	39	Quercus virginiana Southern Live Oak	2" cal / 8' ht.
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER
	AZA	30	Azalea 'Red Ruffles' Red Ruffles Azalea	3 gal / 12" ht
	BUX	141	Buxus m. 'Wintergreen' Dwarf Yaupon	7 gal - 18" H.
	DYH	131	Ilex vomitoria 'Nana' Dwarf Yaupon	3 gal / 12" ht
	LIG	125	Ligustrum japonicum 'East Bay' East Bay Privet	7 gal - 3' H
	PV	160	Pittosporum L. 'Variegata' Variegated Mock Orange	7 gal - 18" H.
	POD	46	Podocarpus m. maki Shrubby Yew Podocarpus	7 gal - 4' H
ORNAMENTAL GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER
	PM	174	Muhlenbergia capillaris Pink Muhly	3 gal
	CAS	106	Pennisetum a. 'Cassian' Cassian Fountain Grass	1 gal
GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT SPACING
	AJ	2,309	Trachelospermum a. 'Asiatic' Asiatic Jasmine	1 gal 18" o.c.

College Acres North Tree Preservation Credit						
Qty of Trees	Caliper Inches*	Tree Common Name	Total Tree Caliper Inches to be Preserved	City Tree Mitigation Credit	Mitigation Credit for Preserved Trees (# of trees)	
Note: * All listed as total caliper inches for entire tree cluster or single tree trunk caliper in compliance with City of Wilmington						
1	2	CHERRY	2	1	1	
2	8	CHERRY	16	2	4	
3	14	CYPRESS	42	3	9	
3	16	CYPRESS	48	3	9	
3	18	CYPRESS	54	4	12	
1	22	CYPRESS	22	4	4	
1	10	DOGWOOD	10	2	2	
3	8	GUM	24	2	6	
2	10	GUM	20	2	4	
1	12	GUM	12	3	3	
1	13	GUM	13	3	3	
1	14	GUM	14	3	3	
1	18	GUM	18	4	4	
3	5	MAGNOLIA	15	1	3	
2	6	MAGNOLIA	12	2	4	
1	14	MAGNOLIA	14	3	3	
3	18	MAGNOLIA	54	4	12	
1	12	MAPLE	12	3	3	
3	4	MYRTLE	12	1	3	
5	8	OAK	40	2	10	
1	9	OAK	9	2	2	
2	10	OAK	20	2	4	
1	12	OAK	12	3	3	
1	13	OAK	13	3	3	
1	14	OAK	14	3	3	
2	16	OAK	32	3	6	
1	18	OAK	18	4	4	
3	20	OAK	60	4	12	
1	18	PALM	18	4	4	
4	12	PINE	48	3	12	
7	14	PINE	98	3	21	
3	16	PINE	48	3	9	
1	17	PINE	17	3	3	
5	18	PINE	90	4	20	
1	19	PINE	19	4	4	
5	20	PINE	100	4	20	
2	24	PINE	48	4	8	
1	28	PINE	28	4	8	
1	28	PINE	28	4.67	5	
1	12	SYCAMORE	12	3	3	
1	14	SYCAMORE	14	3	3	
1	20	SYCAMORE	20	4	4	
1	10	UNCLASSIFIED TREE	10	2	2	
1	22	UNCLASSIFIED TREE	22	4	4	
TOTAL CALIPER INCHES TO BE RETAINED			1305	TOTAL TREE CREDITS		218

SITE KEYNOTES:

- 1 8-FT SCREENING FENCE WITHIN BUFFER
- 2 4-FT DECORATIVE FENCE AROUND WETLAND (NOT REQUIRED BY CITY)
- (B) (9) 2-STORY DUPLEXES
- (A) (5) 3-STORY MULTI-FAMILY
- (C) (1) 1-STORY AMENITY CENTER

College Acres North Removal & Required Mitigation									
Qty of Trees	Caliper Inches*	Individual Cluster	Tree Common Name	City Tree Type Classification	Total Cal. Inches to be Removed	% Mitigation	Significant	Total Qty. of Mitigation Trees Required	Total Qty. of Mitigation Trees Required
Note: * All listed as total caliper inches for entire tree cluster or single tree trunk caliper in compliance with City of Wilmington Land Development Code definition for "diameter at breast height" Essential Site Improvements: It is anticipated that all trees will be removed for essential site improvements, so only significant trees require mitigation									
REGULATED & SIGNIFICANT TREES									
Category 1 (100% Mitigation)									
3	12	12	CYPRESS	conifer	36	100%	yes	24	
1	7	7	DOGWOOD	ornamental flowering	7	100%	no	3	
1	10	10	DOGWOOD	ornamental flowering	10	100%	yes	3	
4	4	4	MAGNOLIA	ornamental flowering	16	100%	no	5	
2	5	5	MAGNOLIA	ornamental flowering	10	100%	no	3	
1	10	10	MAGNOLIA	ornamental flowering	10	100%	yes	3	
1	12	12	MAGNOLIA	ornamental flowering	12	100%	yes	4	
1	20	4, 4, 6, 6	MAGNOLIA	ornamental flowering	20	100%	yes	7	
4	8	8	MAPLE (RED MAPLE)	hardwood	32	100%	no	11	
2	9	9	MAPLE (RED MAPLE)	hardwood	18	100%	no	6	
1	12	12	MAPLE (RED MAPLE)	hardwood	12	100%	no	4	
1	13	13	MAPLE (RED MAPLE)	hardwood	13	100%	no	4	
1	3	3	MYRTLE	ornamental flowering	3	100%	no	1	
3	4	4	MYRTLE	ornamental flowering	12	100%	no	4	
1	8	8	MYRTLE	ornamental flowering	8	100%	yes	3	
1	10	10	MYRTLE	ornamental flowering	10	100%	yes	3	
5	8	8	OAK	hardwood	40	100%	no	13	
6	10	10	OAK	hardwood	60	100%	no	20	
2	12	12	OAK	hardwood	24	100%	no	8	
1	14	14	OAK	hardwood	14	100%	no	5	
2	16	16	OAK	hardwood	32	100%	no	11	
2	18	18	OAK	hardwood	36	100%	no	12	
1	20	20	OAK	hardwood	20	100%	no	7	
1	26	26	OAK	hardwood	26	100%	yes	9	
Total Category 1 Significant Trees Mitigation Required:						56			
Total Category 1 Regulated Trees To be Removed with Essential Site Improvements:						172			
Category 2 (75% Mitigation)									
2	16	16	CEDAR	conifer	32	75%	no	8	
1	18	18	CEDAR	conifer	18	75%	no	5	
3	4	4	FIG	ornamental flowering	12	75%	no	1	
2	5	5	FIG	ornamental flowering	10	75%	no	3	
2	6	6	FIG	ornamental flowering	12	75%	no	3	
6	8	8	GUM	hardwood	48	75%	no	12	
2	9	9	GUM	hardwood	18	75%	no	5	
3	10	10	GUM	hardwood	30	75%	no	8	
2	12	12	GUM	hardwood	24	75%	no	6	
1	13	13	GUM	hardwood	13	75%	no	3	
3	16	16	GUM	hardwood	48	75%	no	12	
1	12	12	PECAN	hardwood	12	75%	no	3	
Total Category 2 Regulated Trees To be Removed with Essential Site Improvements:						67			
Category 3 (50% Mitigation)									
2	4	4	CHERRY (BLACK CHERRY)	ornamental flowering	8	50%	no	1	
3	6	6	CHERRY (BLACK CHERRY)	ornamental flowering	18	50%	no	3	
1	10	10	CHERRY (BLACK CHERRY)	ornamental flowering	10	50%	yes	2	
1	14	14	CHERRY (BLACK CHERRY)	ornamental flowering	14	50%	yes	2	
1	23	5, 5, 5, 4, 4	CHERRY (BLACK CHERRY)	ornamental flowering	23	50%	yes	4	
3	12	12	PINE (LOBLOLLY)	conifer	36	50%	no	6	
1	13	13	PINE (LOBLOLLY)	conifer	13	50%	no	2	
7	14	14	PINE (LOBLOLLY)	conifer	98	50%	no	16	
3	15	15	PINE (LOBLOLLY)	conifer	45	50%	no	8	
6	16	16	PINE (LOBLOLLY)	conifer	96	50%	no	16	
3	18	18	PINE (LOBLOLLY)	conifer	54	50%	no	9	
1	19	19	PINE (LOBLOLLY)	conifer	19	50%	no	3	
1	21	21	PINE (LOBLOLLY)	conifer	21	50%	no	4	
2	23	23	PINE (LOBLOLLY)	conifer	46	50%	no	7	
1	23	23	PINE (LOBLOLLY)	conifer	23	50%	no	4	
Total Category 3 Regulated Trees To be Removed with Essential Site Improvements:						87			
Category 4 (25% Mitigation)									
2	4	4	UNCLASSIFIED TREE		8	25%	no	1	
1	5	5	UNCLASSIFIED TREE		5	25%	no	1	
1	16	16	PALM		16	25%	no	0	
Total Category 4 Significant Trees:						0			
Total Category 4 Regulated Trees To be Removed with Essential Site Improvements:						2			
Total Qty. of Significant Tree Mitigation (Essential Site Improvements):						64			
Total Tree Credits:						218			
Total Qty. of Mitigation Trees Required on Site (or Pay In Lieu Equivalent):						154			



Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
 NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

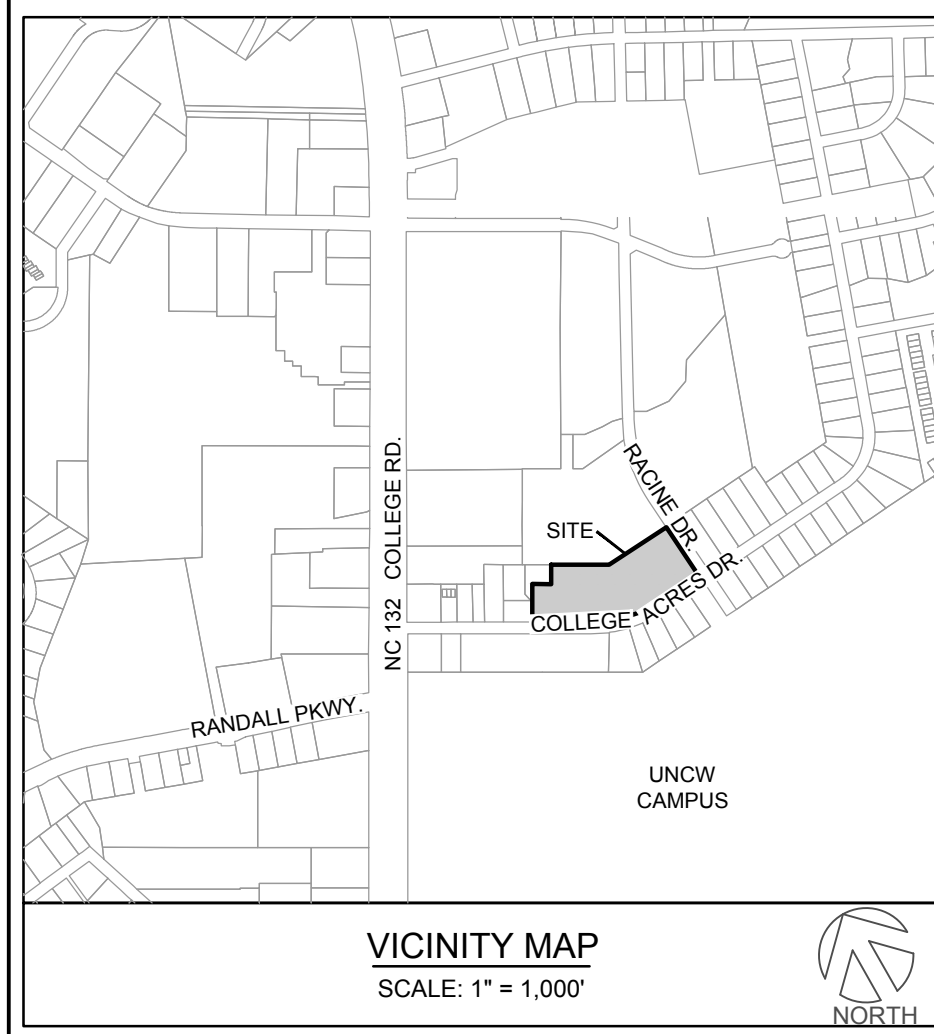
Signed: _____

REVISIONS:

1.	REVISED PER FINAL TRC COMMENTS	10/13/20
2.	REVISED PER NWC COMMENTS	10/13/20
3.	REVISED PER FINAL TRC COMMENTS	10/26/20

CLIENT INFORMATION:

COLLEGE ACRES DEVELOPMENT, LLC



SITE INFORMATION:

PARCEL ID: R05508-002-007 thru 014-000
 CURRENT ZONING: MF-M (CD)
 EXISTING USE: SINGLE-FAMILY RESIDENCES
 PROPOSED USE: MULTI-FAMILY RESIDENTIAL
 PROPERTY AREA: ± 5.53 ACRES (± 241,062 SF)
 PROJECT LIMITS AND DISTURBANCE: ± 5.40 ACRES
 OWNER INFORMATION: SEE SHEET C-2.1 SITE INVENTORY PLAN
 FLOOD INFORMATION: THIS PARCEL IS LOCATED IN FLOOD ZONE X, WHICH IS NOT A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY FEMA FLOOD PANEL 3720314700K DATED AUGUST 28, 2018.
 FEMA FLOODPLAIN NOTE: N/A
 CONSERVATION RESOURCES DISTRICT: POCOSIN COLLEGE RD.
 OVERLAY ZONE: N/A
 CAMA AREAS OF ENVIRONMENTAL CONCERN: N/A
 CAMA FUTURE LAND USE: URBAN
 EXISTING HISTORIC AND ARCHAEOLOGICAL SITE: N/A
 EXISTING WETLANDS OR STREAMS: N/A
 EXISTING SURFACE WATERS: N/A

OPEN SPACE DATA:

MF-M REQUIRED: 35% OF TOTAL PROPERTY SUBTRACT NATURAL OR STORMWATER FEATURES:
 TOTAL REQ'D = 241,062 x 0.35
 TOTAL REQ'D = 84,371 SF

OPEN SPACE PROVIDED = 88,845 SF
 (76,548 SF OF RECREATION SPACE & 12,297 SF OF REMAINING UNCOVERED LANDS)

RECREATION AREA REQUIRED: 50% OF OPEN SPACE = 42,186 SF REQ'D.

RECREATION AREA PROVIDED: ACTIVE SPACE (AMENITY, LOOP WALKS, & TWO OPEN YARDS) TOTAL = 28,181 SF
 PASSIVE SPACE (BUILDING YARDS, TWO OPEN YARDS & WETLAND) TOTAL = 48,367 SF

LEGEND:

	ACTIVE SPACE (AMENITY, LOOP WALKS, & TWO OPEN YARDS) TOTAL = 28,181 SF
	PASSIVE SPACE (BUILDING YARDS, TWO OPEN YARDS & WETLAND) TOTAL = 48,367 SF
	REMAINING UNCOVERED LANDS (PLANTING ISLANDS) TOTAL = 12,297

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

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

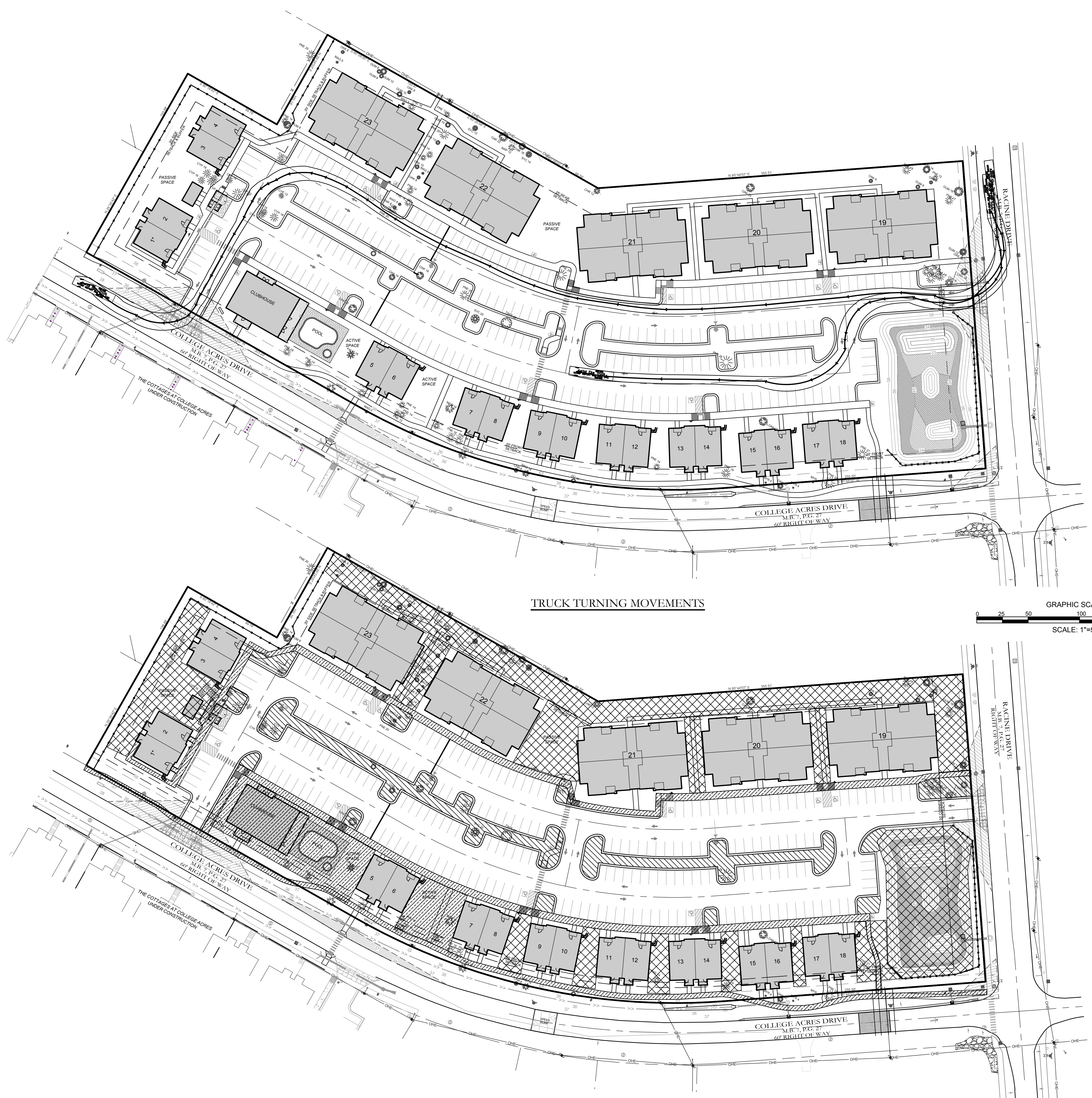
CITY OF WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

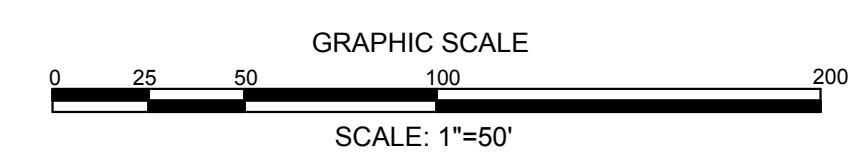
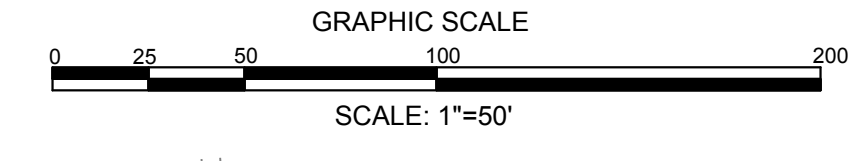
Date: _____ Permit # _____

Signed: _____



TRUCK TURNING MOVEMENTS

OPEN SPACE AREAS



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

1.	REVISED PER FINAL TRC COMMENTS
2.	REVISED PER N/C COMMENTS
3.	REVISED PER FINAL TRC COMMENTS

CLIENT INFORMATION:

COLLEGE ACRES DEVELOPMENT, LLC
5217 MARKET STREET
WILMINGTON, NC 28405

PARAMOUNT ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6700 (F)
NC License #: C-2846

TRUCK TURNING & OPEN SPACE PLAN
COLLEGE ACRES APARTMENTS
COLLEGE ACRES DRIVE
WILMINGTON, NEW HANOVER CO., NC

PROJECT STATUS

CONCEPT LAYOUT:	8.28.20
PRELIMINARY LAYOUT:	10.13.20
FINAL DESIGN LAYOUT:	10.13.20
RELEASED FOR CONSTRUCTION:	

DRAWING INFORMATION

DATE:	10/01/20
SCALE:	1" = 40'
DRAWN BY:	ARC
CHECKED:	ARC

SEAL

L-1.1

PEI JOB#: 19443.PE