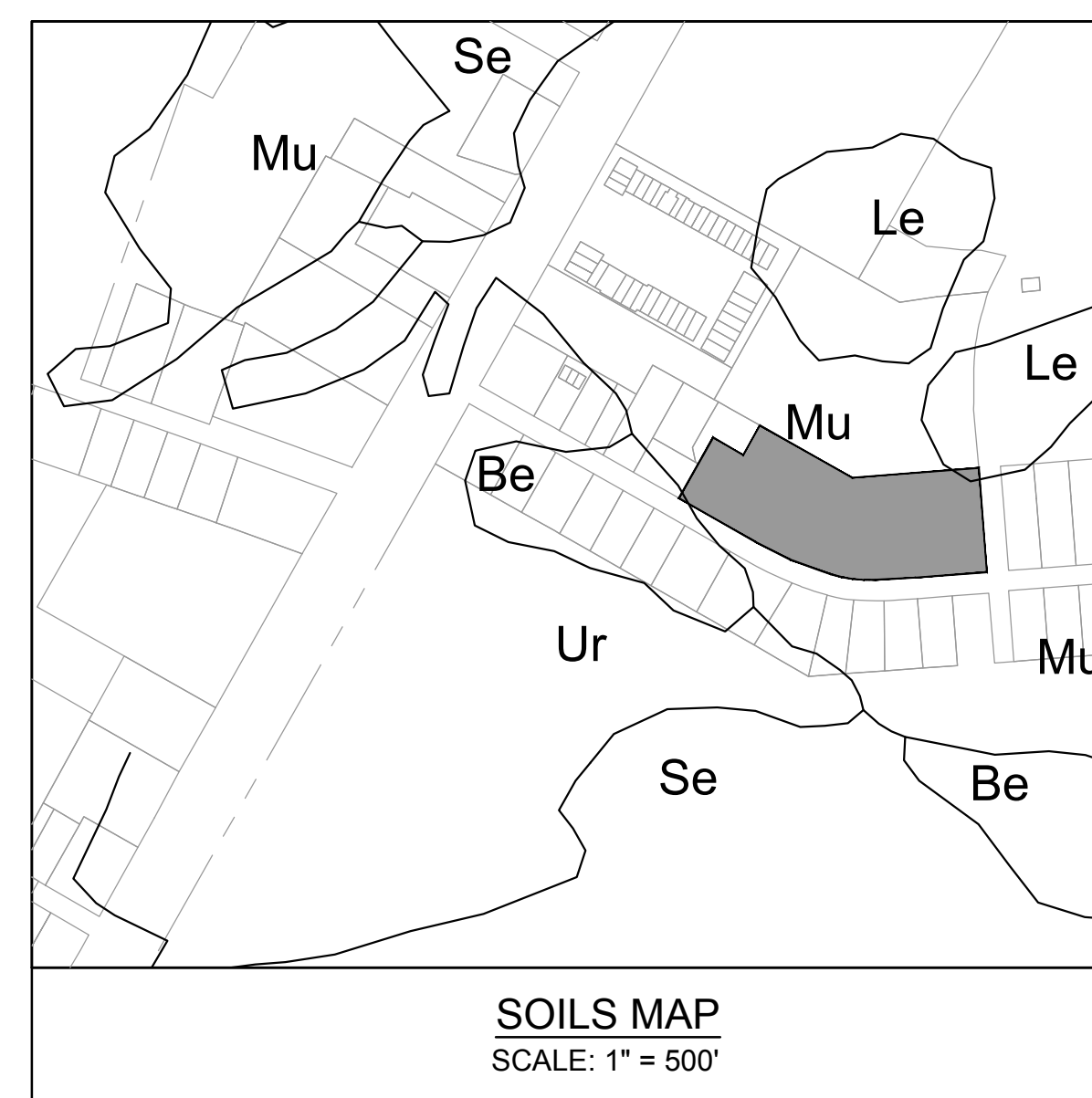
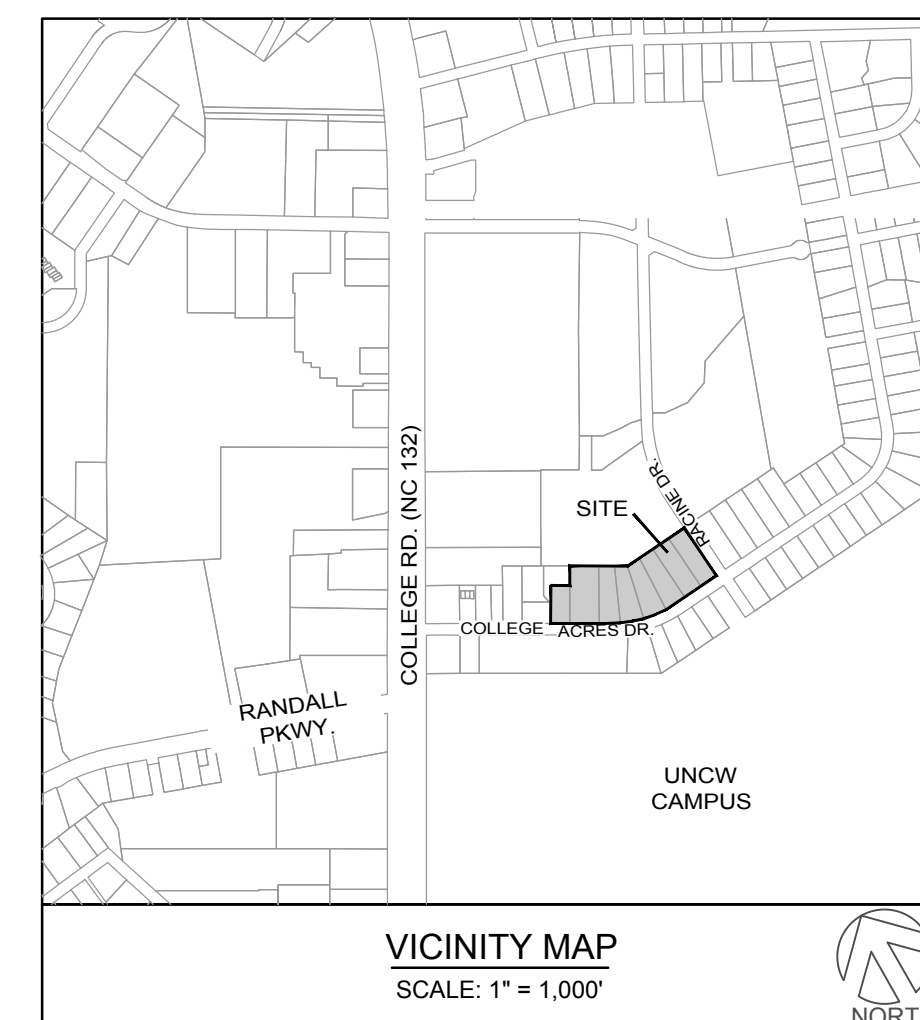


# COLLEGE ACRES APARTMENTS

COLLEGE ACRES DRIVE  
WILMINGTON, NORTH CAROLINA

CITY OF WILMINGTON T.R.C. DESIGN DOCUMENTS  
OCTOBER 12, 2020



### 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: 910-343-0696

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



## COLLEGE ACRES APARTMENTS

PROJECT # 19443.PE

OCTOBER 12, 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	CEPUA UTILITY DETAILS
L-1.0	LANDSCAPE PLAN
L-1.1	TRUCK TURNING & OPEN SPACE PLAN

### 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	_____
<b>WILMINGTON</b> 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

RECEIVED

By Patrick O'Mahony at 3:07 pm, Oct 14, 2020

FOR PERMITTING ONLY - NOT RELEASED FOR CONSTRUCTION



COORDINATION NOTES:

- 1. 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.
4. ANYTIME WORK IS PERFORMED OFF-SITE OR WITHIN AN EXISTING EASEMENT, THE CONTRACTOR IS TO NOTIFY THE HOLDER OF SAID EASEMENT AS TO THE NATURE OF PROPOSED WORK.

GENERAL NOTES:

- 1. BOUNDARY AND EXISTING CONDITIONS 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 LABOR SAFETY AND HEALTH REGULATIONS.
4. CONTRACTOR SHALL PLAN AND CONSTRUCT WORK SO AS TO CAUSE MINIMUM INCONVENIENCE TO THE OWNER AND THE PUBLIC.
5. ALL MATERIAL CLEARED OR DEMOLISHED BY THE CONTRACTOR IN ORDER TO CONSTRUCT THE WORK SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE.
6. ALL WORK BY THE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR AFTER THE OWNER ACCEPTS THE WORK.
7. CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL CENTER AT 811 AND ALLOW THE CENTER TO LOCATE EXISTING UTILITIES BEFORE DIGGING.
8. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO START OF CONSTRUCTION.
9. CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY.
10. ACCESS TO UTILITIES, FIRE HYDRANTS, STREET LIGHTING, ETC., SHALL REMAIN UNDISTURBED, UNLESS COORDINATED WITH THE RESPECTIVE UTILITY.
11. DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
12. THE GENERAL CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT AND AT LEAST ONCE A WEEK DURING CONSTRUCTION.
13. THE GENERAL CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
14. ALL STREET SURFACES, DRIVEWAYS, CURBS AND GUTTERS, ROADSIDE DRAINAGE DITCHES AND OTHER STRUCTURES THAT ARE DISTURBED OR DAMAGED IN ANY MANNER AS A RESULT OF CONSTRUCTION SHALL BE REPLACED OR REPAIRED IN ACCORDANCE WITH THE SPECIFICATIONS.
15. CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT.
16. IF DEPARTURES FROM THE SPECIFICATIONS OR DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE GIVEN TO THE OWNER FOR REVIEW.
17. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES.
18. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC., THAT MAY BE REQUIRED.
19. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
20. ALL LOT STRIPING AND DIRECTIONAL ARRAYS TO BE REFLECTIVE MARKINGS AND SHALL CONFORM TO MUTCD.
21. 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.
22. ALL DIMENSIONS AND RADII ARE TO OUTSIDE FACE OF BUILDING OR TO FACE OF CURB UNLESS OTHERWISE NOTED.

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 PLAN APPROVING AUTHORITY ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO FINAL INSPECTION.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
6. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS, THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO NEW HANOVER COUNTY FOR APPROVAL.
7. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY EITHER THE REVIEWING AGENCY OR THE ENGINEER.
8. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
9. ALL AREAS DISTURBED BY CONSTRUCTION UNLESS OTHERWISE IMPROVED SHALL BE SOUDED OR SEEDED AS INDICATED AND STABILIZED.
10. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
11. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT.
12. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED BY CONTRACTOR ONCE STABILIZATION OR A SUFFICIENT GROUND COVER HAS BEEN ESTABLISHED OR AS DIRECTED BY THE ENGINEER.
13. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREA.
14. WHEN CROSSING CREEK OR DRAINAGE-WAY, THE DIVISION OF WATER QUALITY SHALL BE CONTACTED PRIOR TO ANY DREDGING OR CHANNEL CLEARING.

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 OPERATION WORK REQUIRED TO CONSTRUCT NEW SITE IMPROVEMENTS.
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, ABANDONED UTILITIES, BUILDINGS, PAVEMENTS AND ALL MATERIALS CLEARED AND STRIPPED TO THE EXTENT NECESSARY AS DIRECTED BY THE GEOTECHNICAL ENGINEER FOR THE INSTALLATION OF THE NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING AND AS SHOWN ON THESE PLANS.
4. THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY, STRUCTURES AND UTILITIES ON THE PROPERTY NOT TO BE DEMOLISHED.
5. ELECTRIC, TELEPHONE, SANITARY SEWER, WATER AND STORM SEWER UTILITIES THAT SERVICE OFF-SITE PROPERTIES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS BY THE CONTRACTOR.
6. THE CONTRACTOR SHALL PRODUCE A PHOTOGRAPHIC RECORD (DIGITAL) OF DEVELOPMENT COMMENCING WITH A RECORD OF THE SITE AS IT APPEARS BEFORE DEMOLITION HAS BEGUN.
7. EXISTING CURB AND GUTTER, LIGHTS, SIDEWALK, AND UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED AND UNDISTURBED DURING DEMOLITION.
8. ALL EXISTING IMPROVEMENTS INDICATED OR REQUIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM THE PROPERTY AND PROPER DISPOSAL.
9. CONTRACTOR SHALL COORDINATE RELOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES INCLUDING CABLE, GAS, TELEPHONE AND ELECTRIC AND ANY OTHER UTILITIES THROUGH THE SITE WITH THE RESPECTIVE COMPANIES.
10. CONTRACTOR SHALL MAINTAIN REQUIRED DISTANCES FROM HIGH VOLTAGE OVERHEAD LINES AND REMOVE TREES SO THEY DO NOT FALL TOWARDS OVERHEAD ELECTRICITY.
11. PROVIDE SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND GUTTERS AND SIDEWALKS TO BE DEMOLISHED.
12. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS OSHA REGULATIONS.
13. EXISTING FIRE HYDRANTS ON OR NEAR THE SITE ARE TO REMAIN IN SERVICE.
14. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS.

TRAFFIC NOTES:

- 1. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY & FOR DRIVEWAY(S) ARE TO BE THERMOPLASTIC & MEET CITY OF WILMINGTON AND/OR NCDOT STANDARDS.
2. 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.
3. 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.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. ANY OPEN CUTTING OF A CITY STREET REQUIRES A UTILITY CUT PERMIT.
6. CONTACT TRAFFIC ENGINEERING, AT 341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
7. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND/OR CURBING SHALL BE REPLACED.
8. TACTILE WARNING MATS TO BE INSTALLED AT ALL WHEELCHAIR RAMPS.

EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES:

- NOTE: THESE EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES ARE INTENDED FOR EACH "PHASE" OF CONSTRUCTION.
1. CONSTRUCT TEMPORARY GRAVEL CONSTRUCTION ENTRANCES, 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 WITH THE AREA DISTURBED.
4. PLANT GRASS OVER ALL GRADED AREAS WITHIN 14 WORKING DAYS OF CEASE OF ANY GRADING ACTIVITY.
5. IMMEDIATELY UPON THE INSTALLATION OF ANY STORM DRAINAGE CATCH BASIN, DROP INLET, ETC., THE CONTRACTOR SHALL INSTALL INLET PROTECTION TO PREVENT SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND RESTORING TO PRE-CONSTRUCTION CONDITIONS ANY AREAS OUTSIDE THE PROJECT LIMITS THAT MAY INADVERTENTLY BE DAMAGED DUE TO THE FAILURE OF THE EROSION CONTROL MEASURES.
7. DURING GRADING AND AFTER GRADING HAS BEEN COMPLETE, THE CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL APPROVAL BY ENGINEER OR EROSION CONTROL INSPECTOR.
8. UPON RECEIVING FINAL APPROVAL, THE CONTRACTOR CAN REMOVE TEMPORARY EROSION CONTROL MEASURES.
9. THE CONTRACTOR SHALL CONTINUE TO WATER, FERTILIZE, MOW AND MAINTAIN GRASS & PLANTED AREAS UNTIL ALL CONSTRUCTION IS COMPLETE.

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 SEEDED AREAS WILL BE FERTILIZED, RESEEDDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
5. INLET PROTECTION - INSPECT WIRE AND ROCK INLET PROTECTION AT LEAST ONCE A WEEK.
6. SEDIMENT BASIN/SEEDING TRAPS - REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS.
7. SKIMMER - INSPECT SKIMMER AT LEAST ONCE A WEEK.
8. OUTLET PROTECTION - INSPECT RIP RAP OUTLET STRUCTURES WEEKLY.
9. EMERGENCY SPILLWAY / FOREBAY PROTECTION - AFTER EVERY HIGH-WATER EVENT.
10. TEMPORARY DIVERSION DITCH - INSPECT TEMPORARY DIVERSIONS ONCE A WEEK.
11. CHECK DAMS - EXCERLSON (WATLES) OR RIP RAP - SEDIMENT SHALL BE REMOVED FROM THE DAM.
12. RAMP RUNS WITH A RISE GREATER THAN SIX (6) INCHES SHALL HAVE HANDRAILS ON BOTH SIDES.

PERMANENT SEEDING

Table with 4 columns: GRASS TYPE, LBS/ ACRE, TIME OF SEEDING, FERTILIZER LIMESTONE. Rows include Bermuda, Centipede, Tall Fescue, and Centipede/Sericea/Lespedeza.

TEMPORARY SEEDING

Table with 4 columns: GRASS TYPE, LBS/ ACRE, TIME OF SEEDING, FERTILIZER LIMESTONE. Rows include Rye Grain, Sweet Sudan Grass, and Straw Mulch.

NC ACCESSIBILITY NOTES:

- 1. 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.
2. IT IS ESSENTIAL THAT CONTRACTORS ARE AWARE OF THE SITE ACCESSIBILITY REQUIREMENTS.
3. THE CONTRACTOR SHALL NOTIFY PARAMOUNT ENGINEERING IMMEDIATELY OF ANY CONFLICT BETWEEN THESE NOTES AND DETAILS.
4. THESE ACCESSIBILITY NOTES AND DETAILS ARE INTENDED TO DEPICT SLOPE AND DIMENSIONAL REQUIREMENTS ONLY.
5. AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED WITHIN THE SITE FROM ACCESSIBLE PARKING SPACES AND ACCESSIBLE PASSENGER LOADING ZONES.
6. 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%.
7. ANY WALKING SURFACE THAT IS PART OF AN ACCESSIBLE ROUTE WITH A RUNNING SLOPE GREATER THAN 5.0% IS A RAMP.
8. TRANSITIONS BETWEEN RAMPS, WALKS, LANDINGS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL CHANGES.
9. AN ACCESSIBLE ROUTE WITH A CLEAR WIDTH LESS THAN SIXTY (60) INCHES SHALL PROVIDE PASSING SPACES AT INTERVALS OF TWO HUNDRED (200) FEET MAXIMUM.
10. DOORS, DOORWAYS AND GATES THAT ARE PART OF AN ACCESSIBLE ROUTE SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS).
11. DIRECTIONAL SIGNAGE INDICATING THE ROUTE TO THE NEAREST ACCESSIBLE BUILDING ENTRANCE SHALL BE PROVIDED AT INACCESSIBLE BUILDING ENTRANCES.
12. WHERE POSSIBLE, DRAINAGE INLETS SHALL NOT BE LOCATED ON AN ACCESSIBLE ROUTE.
13. RAMP NOTES:
14. CURB RAMP NOTES:
15. CURB RAMP NOTES (cont.)

NC ACCESSIBILITY NOTES CONTD.

- PARKING SPACE NOTES:
1. ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTES OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE BUILDING ENTRANCE.
2. ACCESSIBLE PARKING SPACES SHALL BE AT LEAST NINETY-SIX (96) INCHES WIDE.
3. PARKING ACCESS AISLES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING OR FACILITY ENTRANCE.
4. TWO (2) ACCESSIBLE PARKING SPACES MAY SHARE A COMMON ACCESS AISLE.
5. ACCESS AISLES SHALL EXTEND THE FULL LENGTH OF THE PARKING SPACE THEY SERVE.
6. ACCESS AISLES SHALL BE MARKED SO AS TO DISCOURAGE PARKING IN THEM.
7. ACCESS AISLES SHALL NOT OVERLAP THE VEHICULAR WAY.
8. FLOOR SURFACES OF PARKING SPACES AND ACCESS AISLES SERVING THEM SHALL BE STABLE, FIRM AND SLIP RESISTANT.
9. PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2.0% IN ALL DIRECTIONS.
10. PARKED VEHICLE OVERHANGS SHALL NOT REDUCE THE REQUIRED CLEAR WIDTH OF AN ACCESSIBLE ROUTE.
11. PARKING SPACES FOR VANS AND ACCESS AISLES AND VEHICULAR ROUTES SERVING THEM SHALL PROVIDE A VERTICAL CLEARANCE OF NINETY-EIGHT (98) INCHES MINIMUM.
12. EACH ACCESSIBLE PARKING SPACE SHALL BE PROVIDED WITH SIGNAGE.
13. SIGNAGE AT ACCESSIBLE PARKING SPACES REQUIRED BY THE NC BUILDING CODE SECTION 1106.1 SHALL COMPLY WITH THE REQUIREMENTS OF NORTH CAROLINA GENERAL STATUTE 20-37.8 AND 136-30.
14. PASSENGER LOADING ZONE NOTES:
15. ACCESSIBLE ENTRANCE NOTES:
16. GENERAL STORM SEWER NOTES:
17. ROOF DRAIN NOTE:
18. EXISTING UTILITY NOTES:
19. WETLAND NOTES:

Vertical sidebar containing PROJECT STATUS, GENERAL NOTES, CLIENT INFORMATION (COLLEGE ACRES DEVELOPMENT, LLC), DRAWING INFORMATION, PROJECT STATUS, and PEI JOB#: 19443.PE.



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 form with fields for Name, Date, Planning, Traffic, Fire, and official stamps/signatures.

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



**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**

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"> <li>Temporary grass seed covered with straw or other mulches and tackifiers</li> <li>Hydroseeding</li> <li> Rolled erosion control products with or without temporary grass seed</li> <li> Appropriately applied straw or other mulch</li> <li> Plastic sheeting</li> </ul>	<ul style="list-style-type: none"> <li>Permanent grass seed covered with straw or other mulches and tackifiers</li> <li> Geotextile fabrics such as permanent soil reinforcement matting</li> <li>Hydroseeding</li> <li> Shrubs or other permanent plantings covered with mulch</li> <li> Uniform and evenly distributed ground cover sufficient to restrain erosion</li> <li> Structural methods such as concrete, asphalt or retaining walls</li> <li> Rolled erosion control products with grass seed</li> </ul>

- 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.

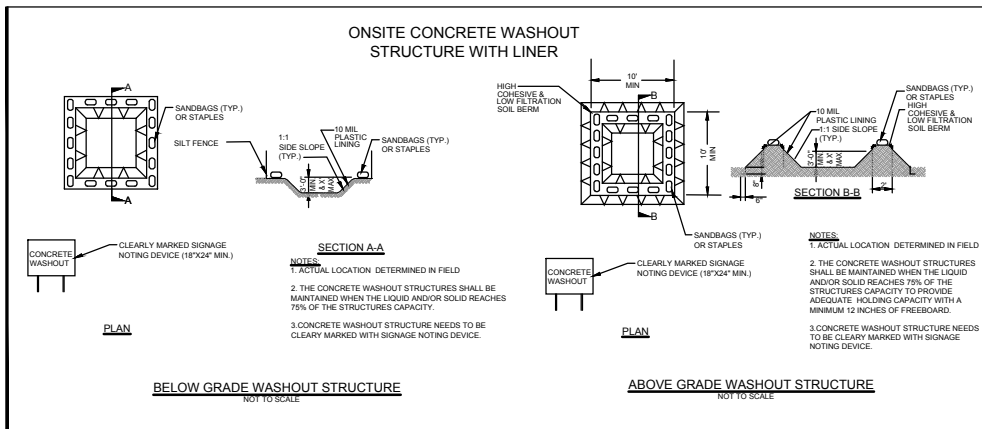
- EQUIPMENT AND VEHICLE MAINTENANCE**
- Maintain vehicles and equipment to prevent discharge of fluids.
  - Provide drip pans under any stored equipment.
  - Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
  - Collect all spent fluids, store in separate containers 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.



- 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)

- 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.
- 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 110.3 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"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, 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.</li> <li>If the stream is named on the <a href="#">NC 303(d) list</a> 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.</li> </ul>
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> <li><b>Within 24 hours</b>, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> <li><b>A report at least ten days before the date of the bypass, if possible.</b> The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, a report that includes an evaluation of the quality and effect of the bypass.</li> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, 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(i)(6)].</li> <li>Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, 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(i)(6)].</li> <li>Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>
(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"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, 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(i)(6)].</li> <li>Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>

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 \_\_\_\_\_

**WILMINGTON**  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN

Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_

**NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING**

EFFECTIVE: 04/01/19

REVISIONS:

NO.	REVISION	DATE
1	REVISED PER FINAL TRC COMMENTS	10/09/20

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

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

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

PROJECT STATUS

DESIGN START:	09/20/20
CONSTRUCTION START:	10/13/20
FINAL DESIGN COMPLETE:	10/13/20
RELEASED FOR CONSTRUCTION:	

DRAWING INFORMATION

DATE:	07/31/19
SCALE:	N/A
NO. OF SHEETS:	1
TOTAL NO. OF SHEETS:	1
DRAWN BY:	CDR
CHECKED BY:	JRS

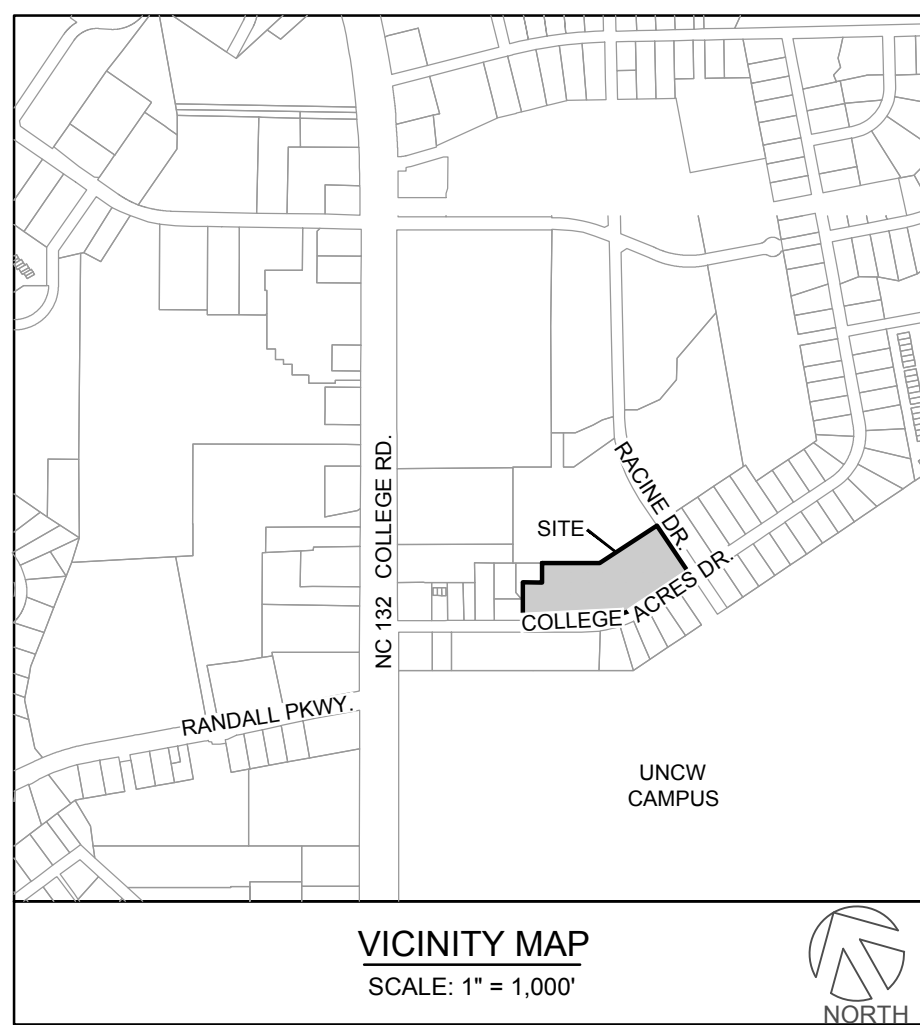
SEAL

**C-1.1**

PEI JOB#: 19443.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION





VICINITY MAP  
SCALE: 1" = 1,000'

**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: POOQIN  
 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:**  
 EXISTING BUILDING: 20,800 SF  
 EXISTING PAVEMENT: 13,000 SF  
 EXISTING GRAVEL: 3,350 SF  
 TOTAL EXISTING IMPERVIOUS: 37,150 SF (TO BE REMOVED)  
 PROPOSED BUILDINGS: 53,555 SF  
 PROPOSED PAVEMENT: 55,950 SF  
 PROPOSED SIDEWALKS: 11,600 SF  
 OTHER: 2,740 SF  
 FUTURE: 2,000 SF  
 TOTAL NEW IMPERVIOUS: 125,845 SF (52% OF PROPERTY)  
 OFFSITE IMPERVIOUS: 4,500 SF (TO WETLAND)  
 PERV. PAVEMENT IMPERVIOUS: 31,355 SF  
 SW WETLAND IMPERVIOUS: 98,990 SF  
 NET IMPERVIOUS TO WETLAND: 98,990 - 37,150 SF = 61,840 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 ±  
 (5) 3-STORY MULTI-FAMILY @ 6,100 SF ±  
 (1) 1-STORY AMENITY CENTER @ 2,700 SF ±  
 TOTAL SF: 53,000 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: 133,800 SF ± GFA

**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 + 15%  
 MAX. TOTAL SPACES ALLOWED = 223 SPACES  
**PROVIDED:** 242 SPACES PER (69 PERVIOUS PAVEMENT SPACES > REQ'D = 37)  
**ACCESSIBLE PARKING:** 242 TOTAL REQUIRES 5 STD. & 2 VAN SPACES TOTALS 7  
 PROVIDED: 9 SPACES INCL. 8 VAN SPACES  
**BIKE PARKING:** PARKING PROVIDED = 20 MIN.  
 PARKING REQUIRED = 6 @ 5 SPACE RACK = 30 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 WILL 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 ACCESSES 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	V/C	LOS
College Acres Dr	Between S. College Rd and Racine Dr	808	9,400	0.09	A
S. College Rd	Between College Acres Dr and Race Center Dr	76,547	41,700	1.8	F
Racine Dr	Between College Acres Dr and New Campus Dr	21,454	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 24-Hour Volume Trips (ADT)
Existing	Single-family detached	11 units	13	12	100
Proposed	Duplexes	18 units	9	13	95
Proposed	MF-RCDD	60 units	21	27	304
Proposed	MF-MCDD	78 units	36	46	419
	Total				

**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 = (1260 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

**WATER & SEWER CAPACITY:**

\*ALL EXISTING WATER AND SEWER UTILITIES ARE OWNED 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

**CD-11-320 CONDITIONS:**

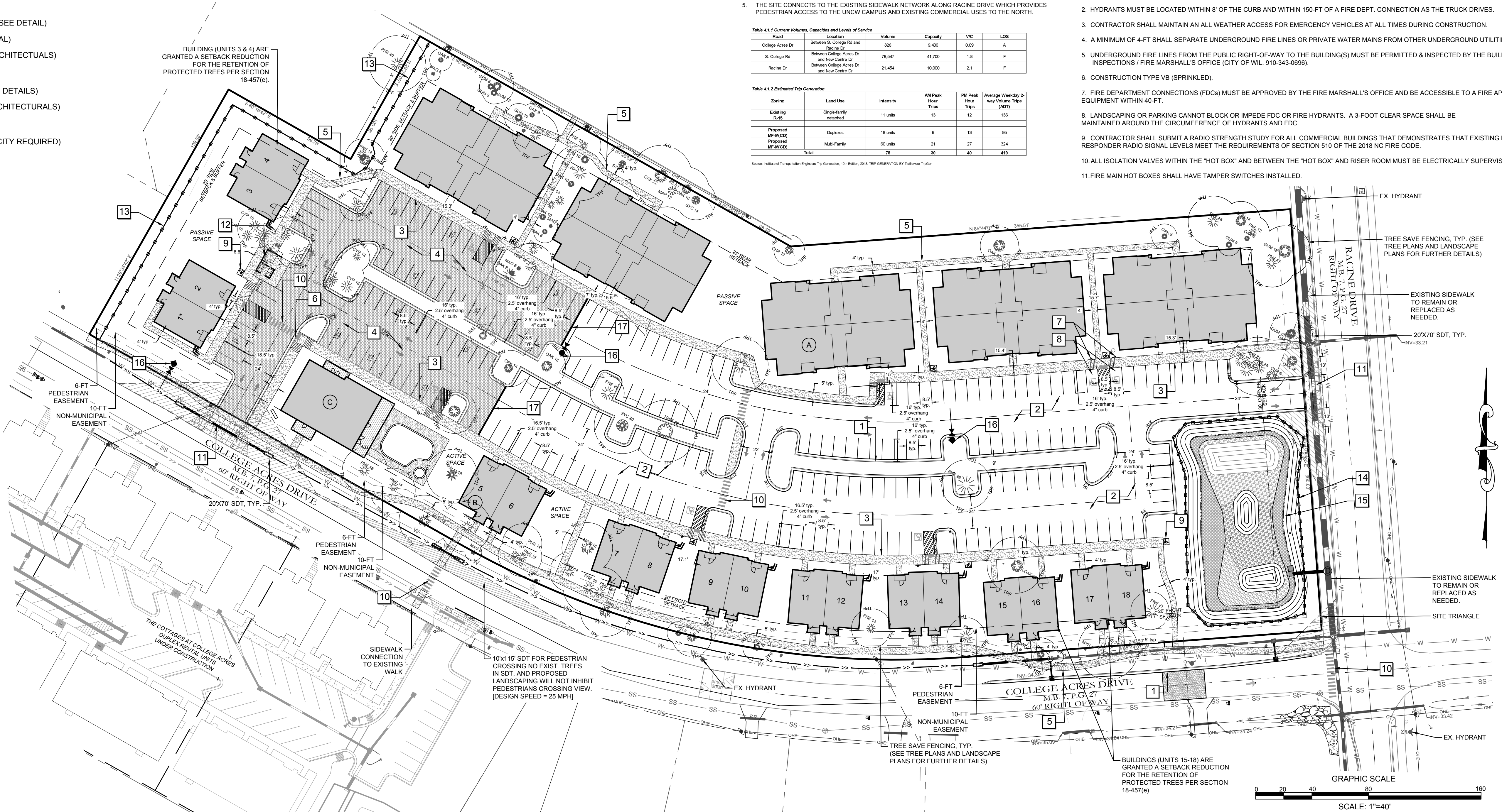
- The use and development of the property shall comply with all regulations and requirements imposed by the Land Development Code, the City of Wilmington Technical Standards and Specifications Manual and any other applicable federal, state or local law, ordinance or regulation, as well as any condition stated below. In the event of a conflict, the more stringent requirement or higher standard shall apply.
- Approval of this conditional district zoning does not constitute technical approval of the site plan. Final approval by the Technical Review Committee and the issuance of all required permits must occur prior to release of the project for construction.
- If, for any reason, any condition for approval is found to be illegal or invalid or if the applicant should fail to accept any condition following approval, the approval of the site plan for the district shall be null and void and of no effect and proceedings shall be instituted to rezone the property to its previous zoning classification.
- The use and development of the property shall be in accordance with the site plan and elevation approved by City Council.
- The proposed use shall be limited to 9 duplexes and 5 buildings with 12 multi-family residential units in each for a total of 78 residential units.
- Access shall be limited to one driveway off College Acres Drive and one driveway off Racine Drive.
- Building footprints, parking areas, and stormwater control measures shall be adjusted to preserve protected trees to the maximum extent practical. Protected trees not located within the building footprint or impacted by essential site improvements shall be preserved.
- Parking in excess of 207 spaces shall be constructed of pervious materials, with a maximum allowance of 250 spaces.
- Exterior lighting shall be installed so as not to shine directly onto adjacent residential parcels.
- All city, state and federal regulations shall be followed.
- The duplex units shall have facades similar to the elevations provided in this summary, while the apartment structures shall incorporate similar colors, materials, and architectural features as shown in the provided elevations.
- Units adjacent to College Acres Drive and Racine Drive shall include entrances that front the right-of-ways.
- Sidewalk connections shall be provided between all units fronting College Acres Drive and the public sidewalk required along the College Acres Drive frontage.

**FIRE AND LIFE SAFETY NOTES**

- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
- HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB AND WITHIN 150-FT OF A FIRE DEPT. CONNECTION AS THE TRUCK DRIVES.
- CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- A MINIMUM OF 4-FT SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
- UNDERGROUND FIRE LINES FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING(S) MUST BE PERMITTED & INSPECTED BY THE BUILDING INSPECTIONS / FIRE MARSHALL'S OFFICE (CITY OF WIL. 910-343-0889).
- CONSTRUCTION TYPE VB (SPRINKLED).
- FIRE DEPARTMENT CONNECTIONS (FDCS) MUST BE APPROVED BY THE FIRE MARSHALL'S OFFICE AND BE ACCESSIBLE TO A FIRE APPARATUS WITHIN 40-FT.
- LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC.
- CONTRACTOR SHALL SUBMIT A RADIO STRENGTH STUDY FOR ALL COMMERCIAL BUILDINGS THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET THE REQUIREMENTS OF SECTION 510 OF THE 2018 NC FIRE CODE.
- ALL ISOLATION VALVES WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX" AND RISER ROOM MUST BE ELECTRICALLY SUPERVISED.
- FIRE MAIN HOT BOXES SHALL HAVE TAMPER SWITCHES INSTALLED.

**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 1 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. ARCHITECTUALS)
- PROPOSED CROSSWALK (TYPICAL - SEE DETAIL)
- PROPOSED CITY STD. DRIVE APRON (TYPICAL - SEE DETAILS)
- COMPACTOR WITH ENCLOSURE (TYPICAL - REF. ARCHITECTURAL)
- 8-FT SCREENING FENCE WITHIN BUFFER
- 4-FT DECORATIVE FENCE AROUND WETLAND (NOT CITY REQUIRED)
- STORMWATER WETLAND
- PROPOSED FIRE HYDRANT
- 12" CONCRETE HEADER CURB (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: \_\_\_\_\_

REVISIONS:  
 1. 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) 791-6766 (F)  
 NC License #: C-2846

**SITE 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

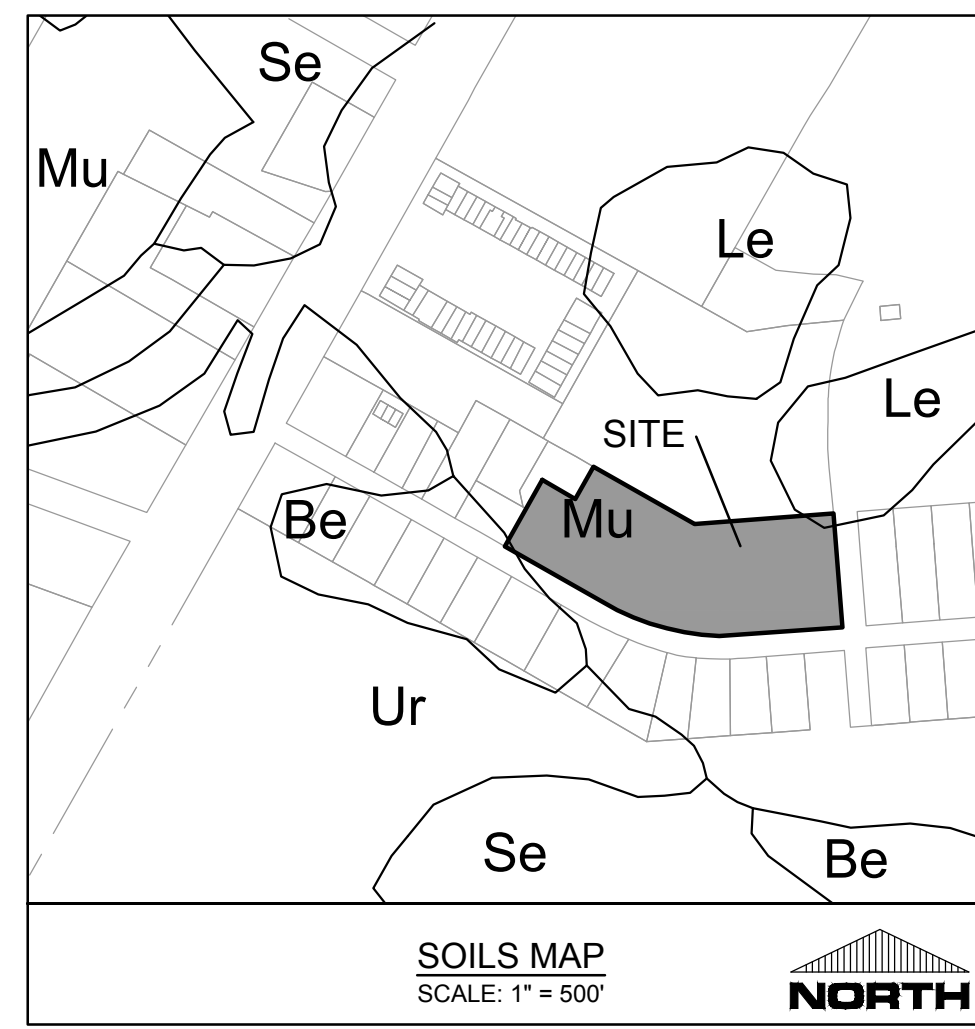
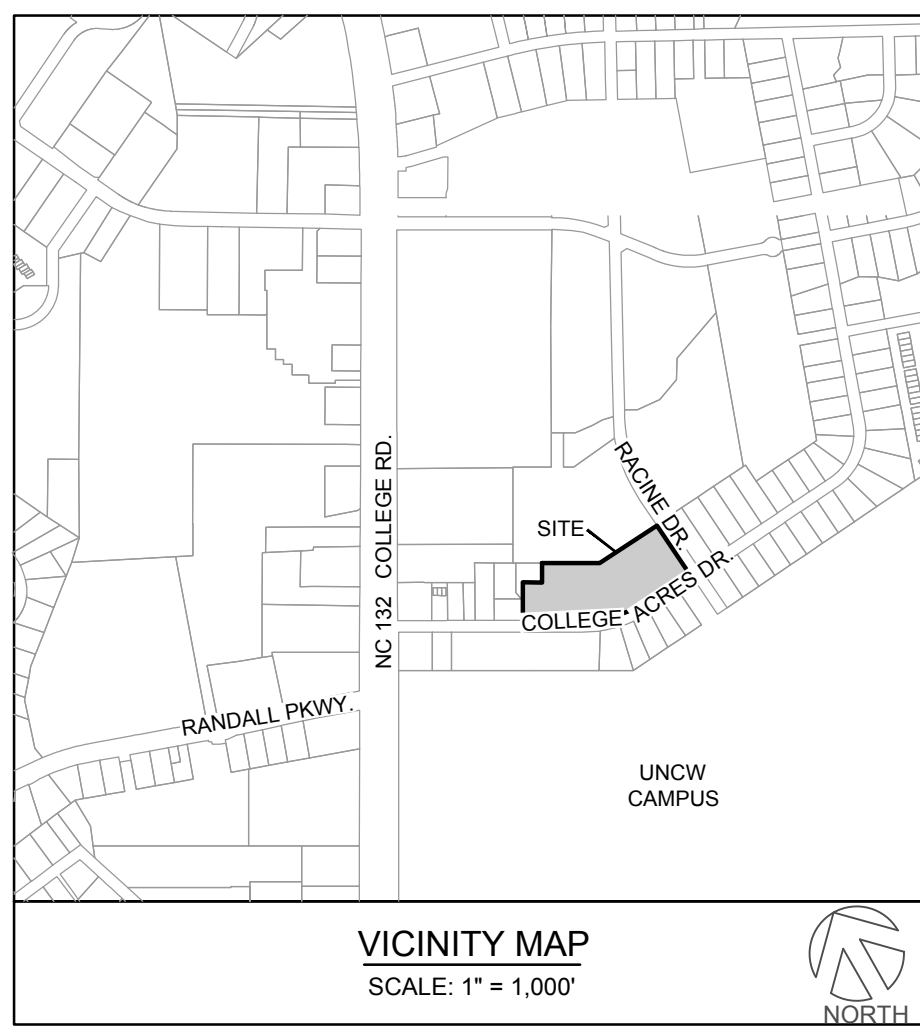
DRAWING INFORMATION:  
 DATE: 07/31/19  
 SCALE: 1" = 40'  
 DRAWN BY: JEN  
 CHECKED: JTC

SEAL

**C-2.0**  
 PEI JOB#: 19443.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION





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. 4749 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

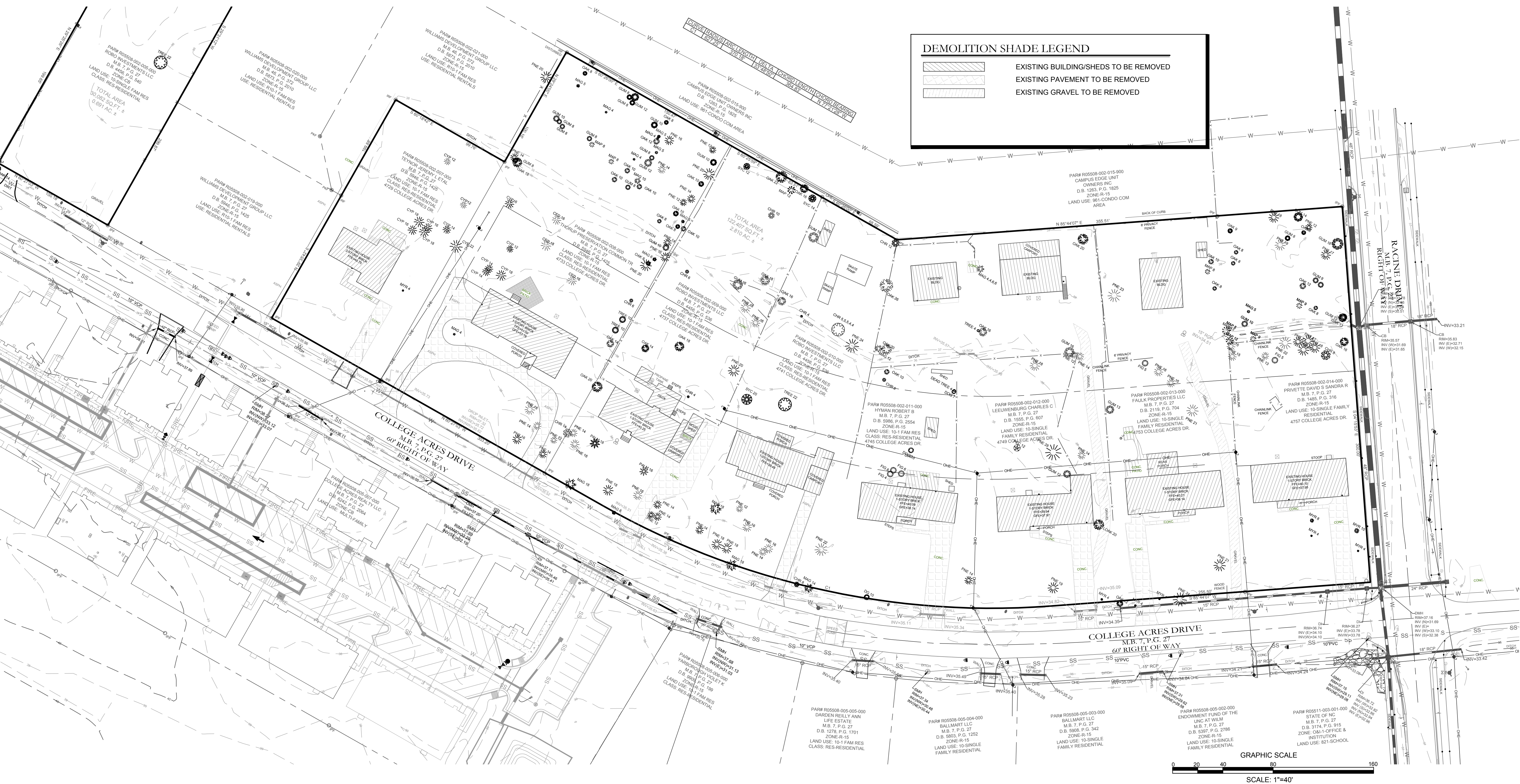
**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

**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

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

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

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

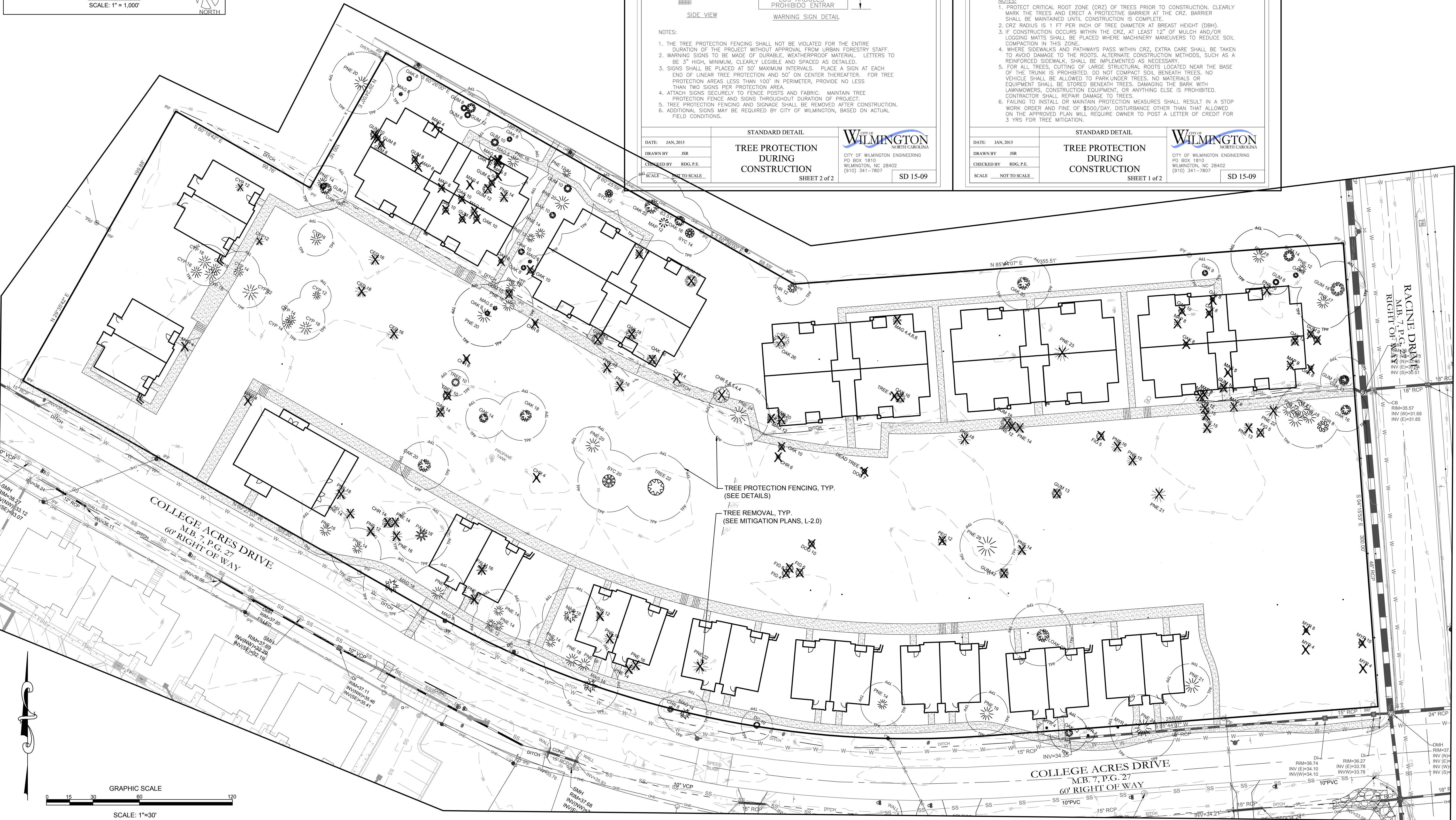
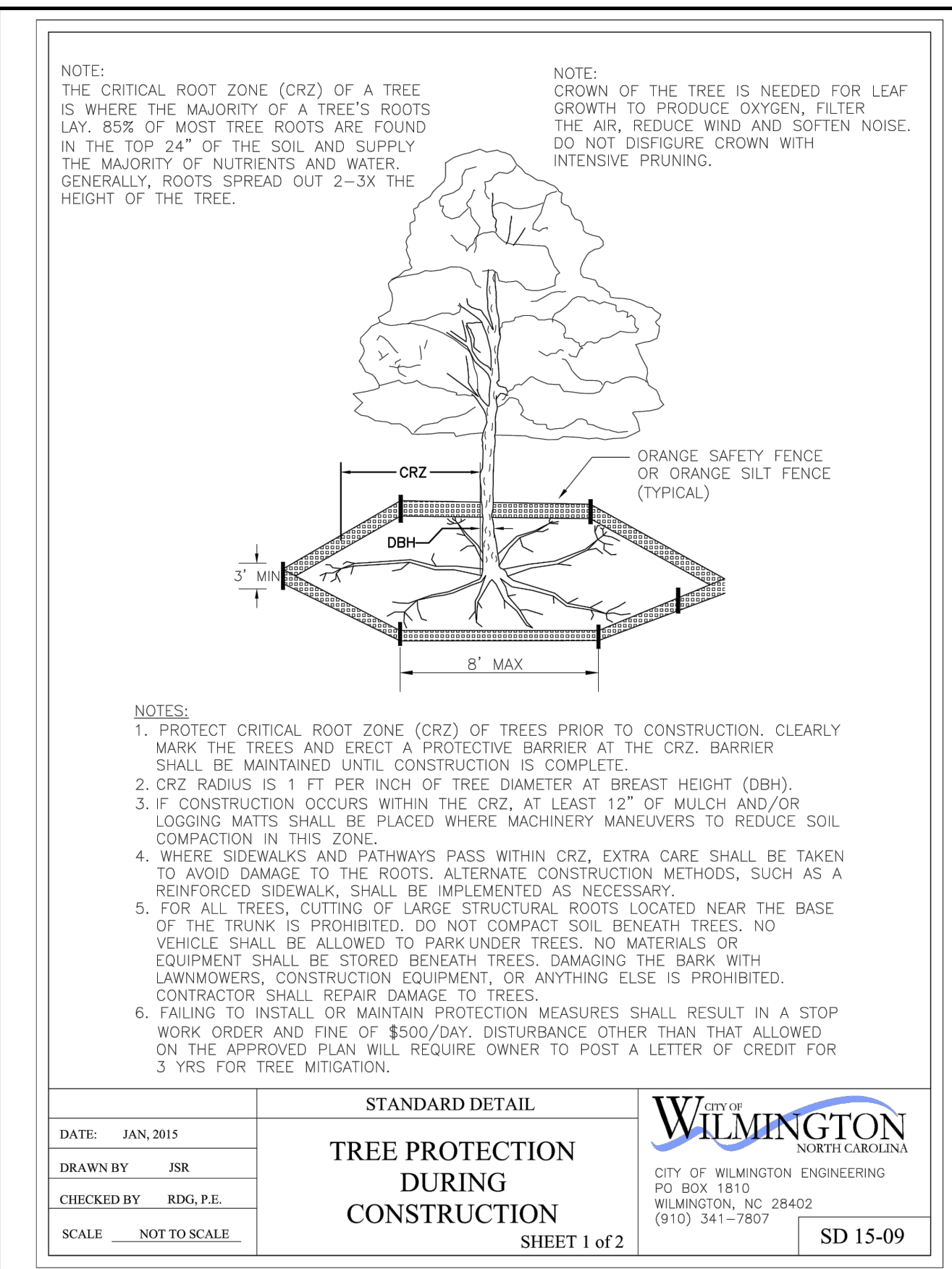
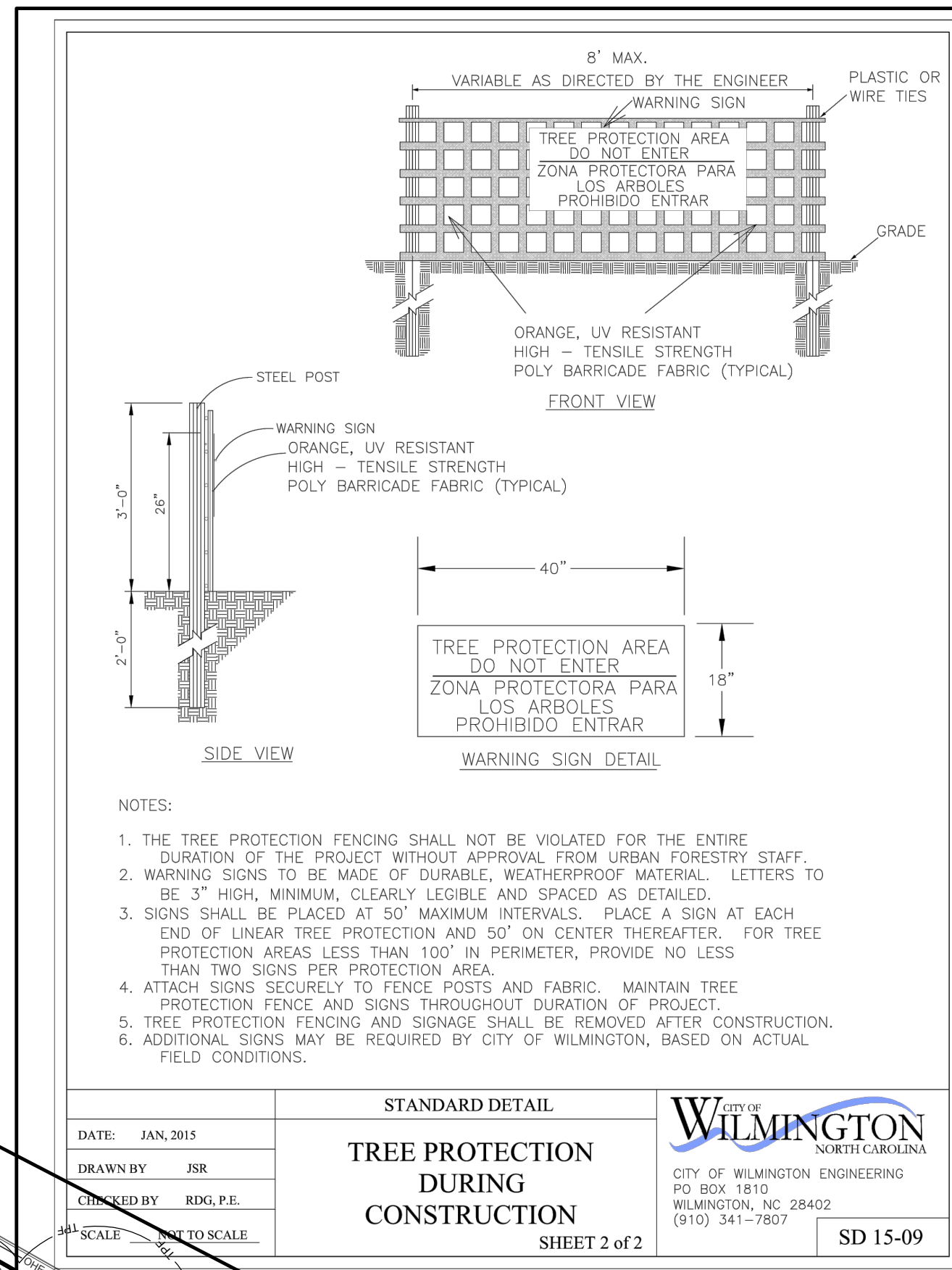
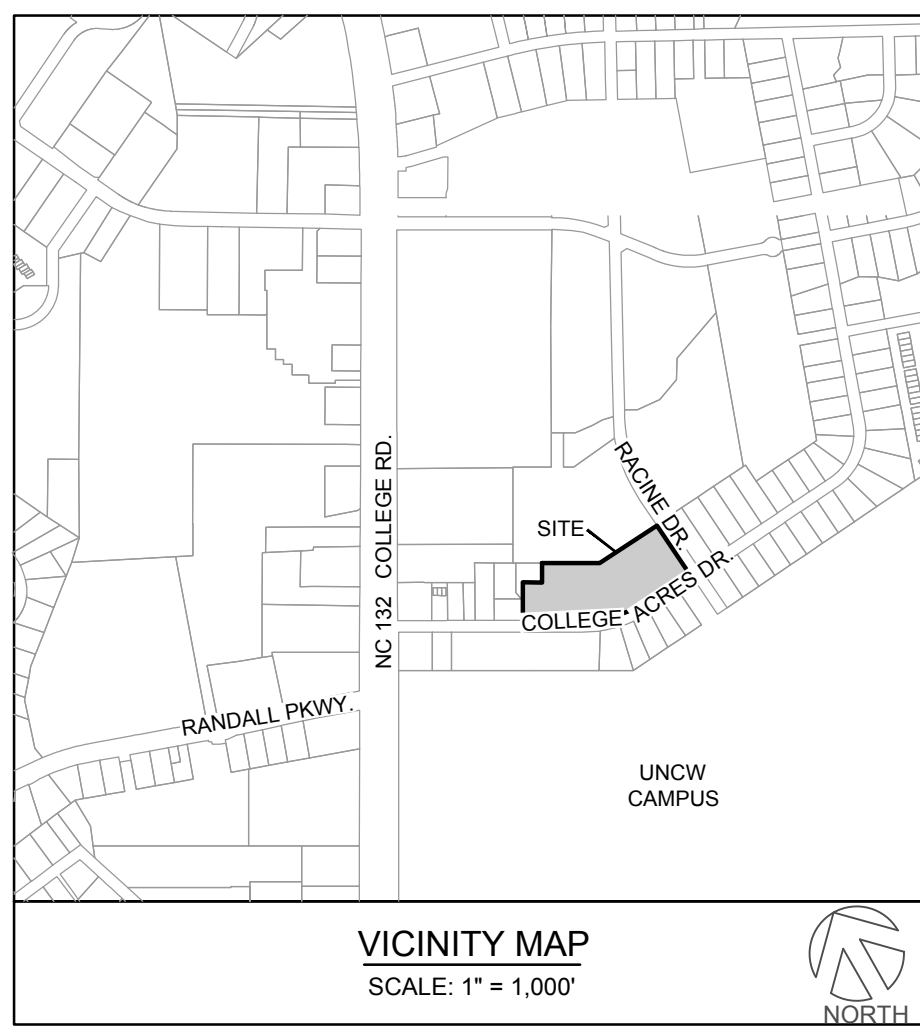
**DRAWING INFORMATION**  
DATE: 07/31/19  
SCALE: 1" = 40'  
DRAWN BY: JEM  
CHECKED: JEM

**SEAL**

**C-2.1**  
PEI JOB#: 19443.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION





Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN

Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

Approved Construction Plan  
Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
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TREE REMOVAL PLAN  
COLLEGE ACRES APARTMENTS  
COLLEGE ACRES DRIVE  
WILMINGTON, NEW HANOVER CO., NC

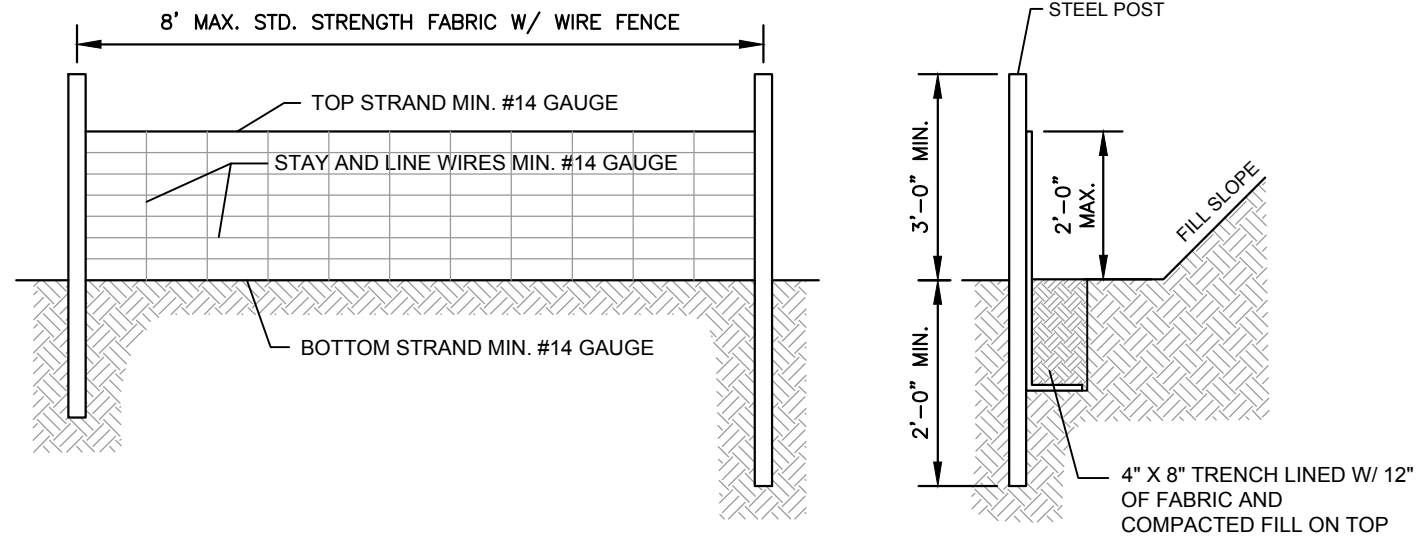
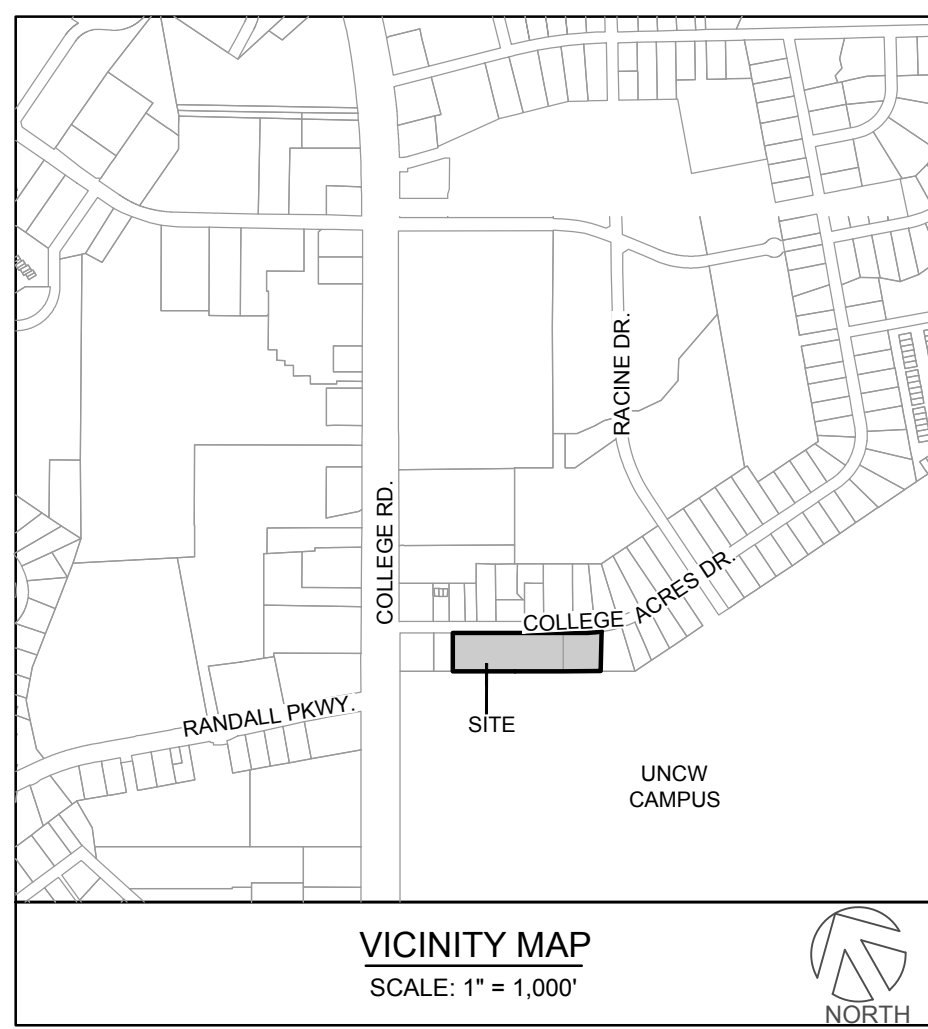
PROJECT STATUS:  
CONCEPTUAL LAYOUT: 9.28.20  
FINAL DESIGN LAYOUT: 10.13.20  
RELEASED FOR CONSTRUCTION: 07.31.19

DRAWING INFORMATION:  
DATE: 07.31.19  
SCALE: 1" = 30'  
DRAWN BY: JEN  
CHECKED: TBC

SEAL

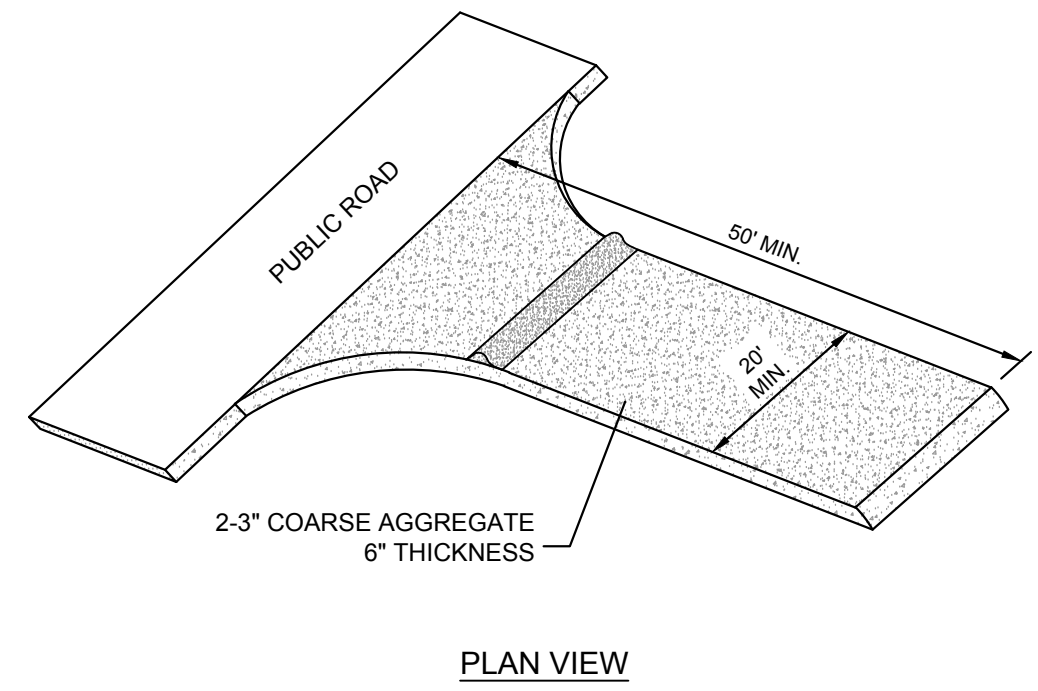
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PEI JOB#: 19443.PE



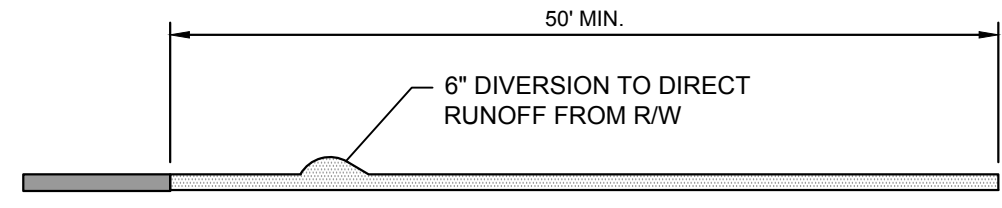


**NOTES:**  
 1. WIRE FENCE (IF USED) SHALL BE MINIMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF 8-INCHES.  
 2. SYNTHETIC FILTER FABRIC OF AT LEAST 85% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461 AND ALSO SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS 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



**PLAN VIEW**



**SECTION VIEW**

**TEMPORARY CONSTRUCTION ENTRANCE**  
NOT TO SCALE

**EROSION CONTROL LEGEND:**

— LOD — LOD —	LIMITS OF DISTURBANCE
— SF — SF —	SILT FENCE
— TPF — TPF —	TREE PROTECTION FENCING
— X — X —	SEDIMENT BASIN BAFFLES
— 20 — 20 —	PROPOSED CONTOURS
— 20 — 20 —	EXISTING CONTOURS
✕	TREE REMOVAL
⌒	WATTLE / CHECK DAM
⊥	INLET PROTECTION
▨	GRAVEL ENTRANCE

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
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**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.



**EROSION CONTROL NOTES:**

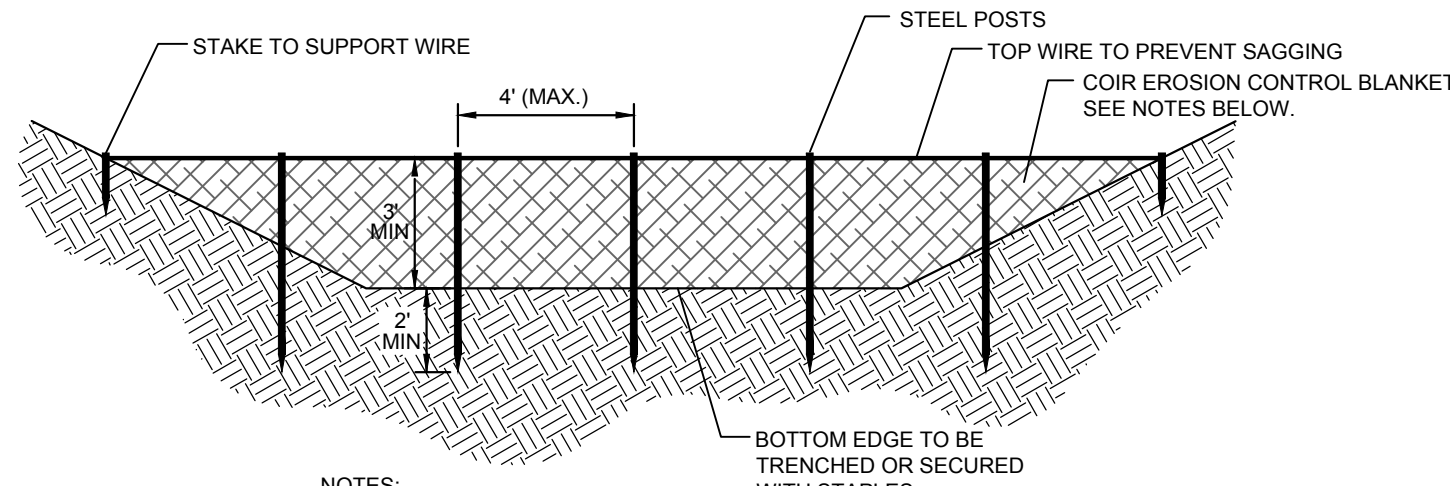
- SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE STOCKPILE LOCATIONS ON SITE IF NOT SPECIFIED. SEE GENERAL NOTES SHEET FOR GRADING, DRAINAGE, AND EROSION CONTROL NOTES AND REQUIREMENTS. IN ADDITION, REFERENCE TECHNICAL SPECIFICATIONS AND DETAIL SHEETS FOR MORE INFORMATION.
- SEE GRADING AND DRAINAGE PLANS FOR FINISH GRADES AND STORM PIPE SCHEDULE.
- 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:**

- 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.

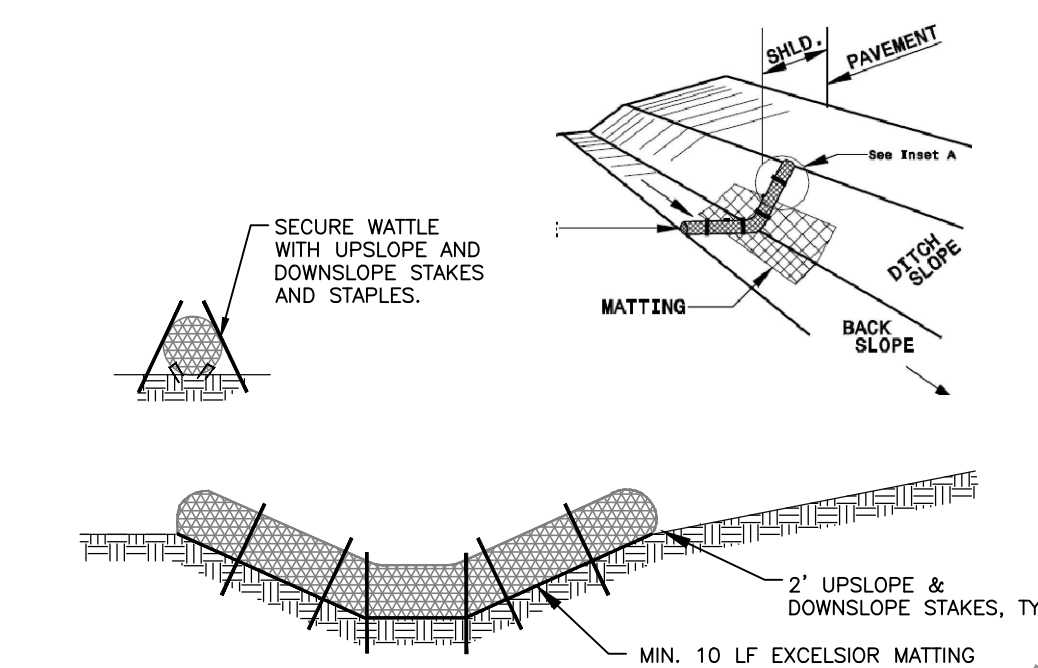
**BUILDING PAD NOTE:**

- 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.



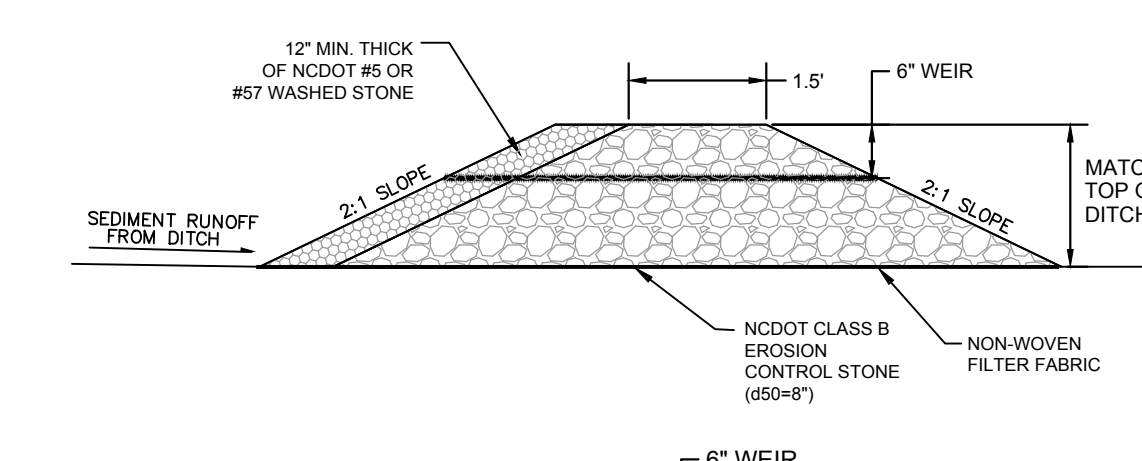
**NOTES:**  
 1. INSTALL ONE CONTINUOUS PIECE OF FABRIC ACROSS THE ENTIRE BASIN—DO NOT SPLICE.  
 2. COIR FIBER MATERIAL SHALL BE 0.30" THICK, TENSILE STRENGTH OF 900x680 lb/ft min, ELONGATION OF 69%x34%, ALLOW 10-12 fpa, 700gm<sup>2</sup> WEIGHT MIN., WIDTH OF 6.5 FT, AND AT LEAST 50% OPEN AREA.

**COIR FIBER BAFFLE DETAIL**  
NOT TO SCALE



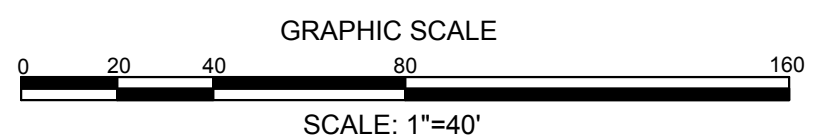
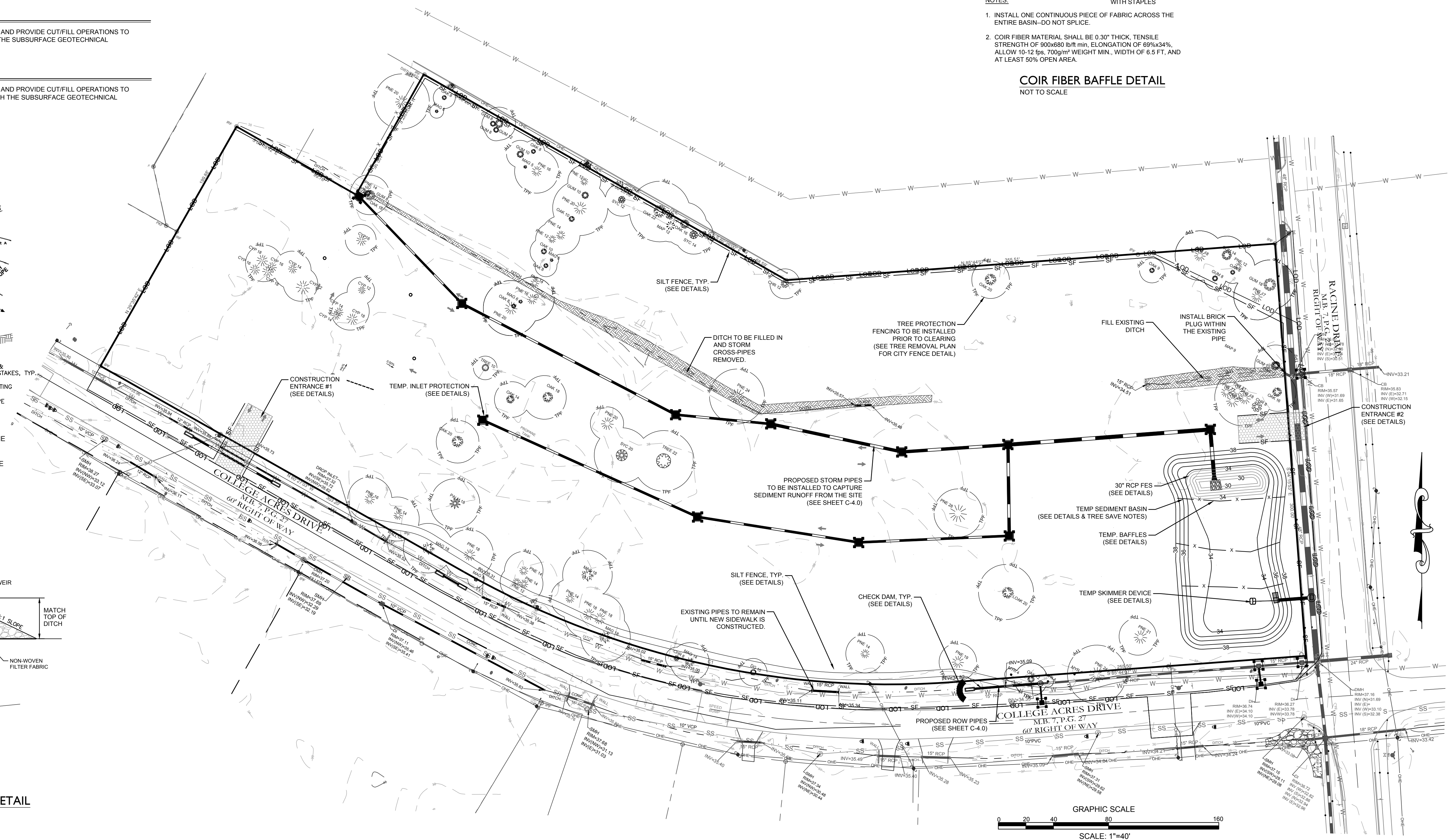
**NOTES:**  
 1. USE MINIMUM 12" DIA. EXCELSIOR WATTLE.  
 2. USE 2"x2" WOODEN STAKES 2-FT IN LENGTH ON THE UPSLOPE AND DOWNSLOPE AT AN ANGLE TO WEDGE THE WATTLE TO THE BOTTOM OF THE SWALE.  
 3. STAPLE EVERY 1 LF ON BOTH SIDES OF THE WATTLE TO SECURE IT TO THE BOTTOM OF THE SWALE.

**TEMPORARY WATTLE DETAIL**  
NOT TO SCALE



**STONE SECTION WITH A WEIR**

**TEMPORARY CHECK DAM DETAIL**  
NOT TO SCALE



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

**REVISIONS:**  
 1. REVISED PER FINAL TRC COMMENTS

**CLIENT INFORMATION:**  
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 5217 MARKET STREET  
 WILMINGTON, NC 28405

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

**EROSION CONTROL PH I**  
 COLLEGE ACRES APARTMENTS  
 COLLEGE ACRES DRIVE  
 WILMINGTON, NEW HANOVER CO., NC

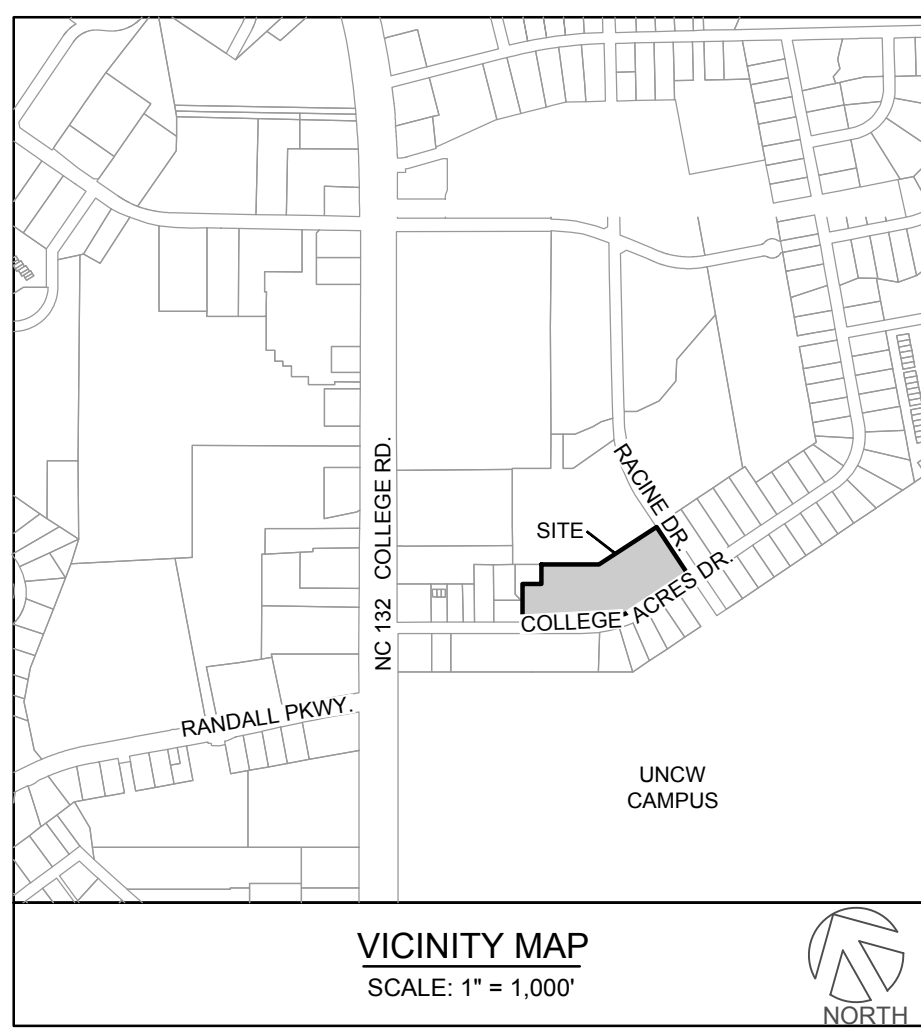
**PROJECT STATUS:**  
 8.28.20 CONCEPTUAL LAYOUT  
 10.13.20 FINAL DESIGN LAYOUT  
 RELEASED FOR CONSTRUCTION

**DRAWING INFORMATION:**  
 07/24/19 DATE  
 1"=40' SCALE  
 CDR DRAWING  
 JBS CHECKED

**SEAL**

**C-3.0**  
 PEI JOB#: 19443.PE





**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:**

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**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	31.00	30.00	30	32.7	3.060%	37.17
DI 102	DI 101	31.70	31.00	30	147.2	0.480%	36.80
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%	36.60
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
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%	36.50
DI 102-3	DI 102-2	33.00	32.50	18	118.6	0.420%	36.50
DI 102-4	DI 102-3	33.50	33.00	18	170.9	0.290%	36.75

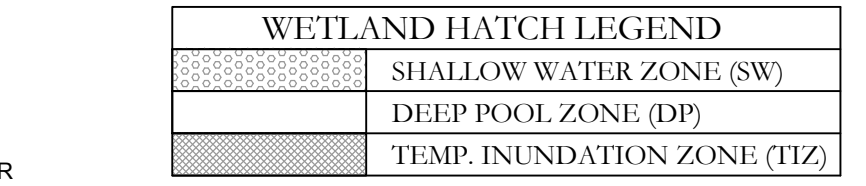
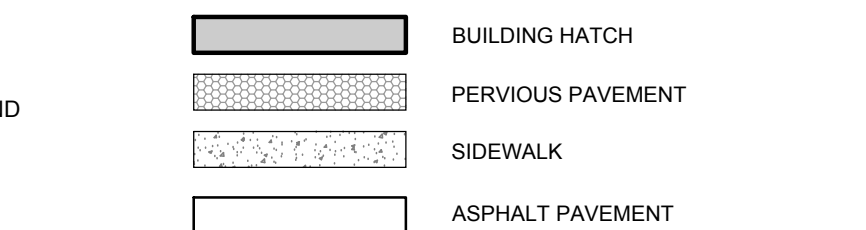
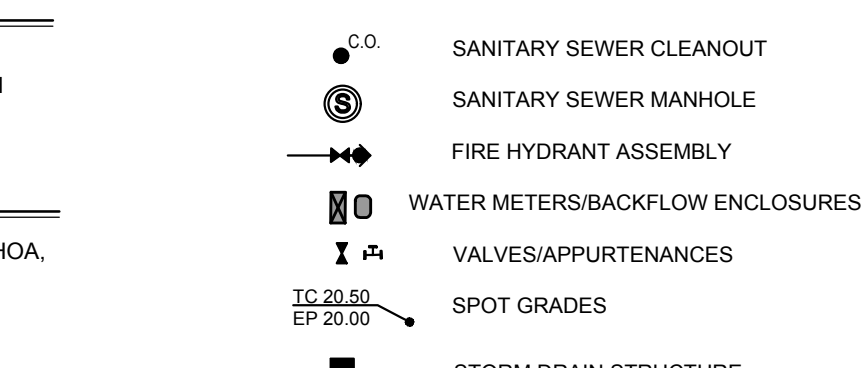
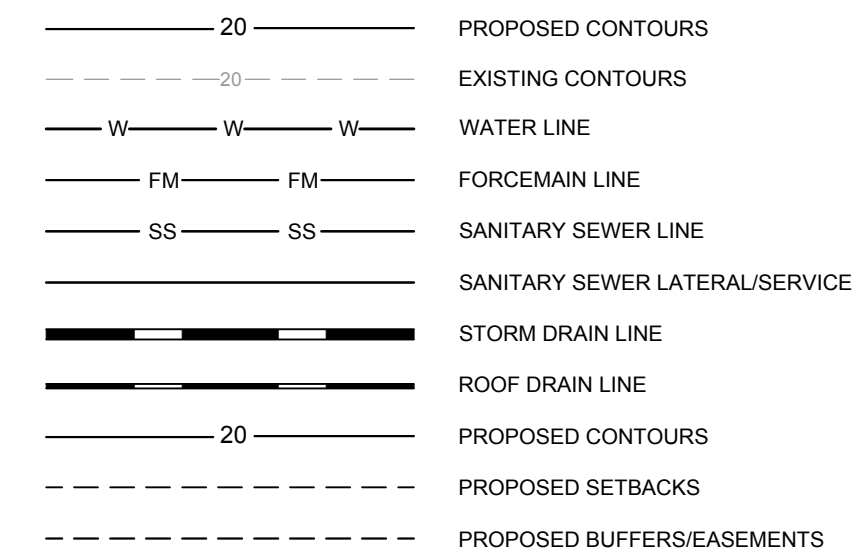
**ROOF DRAINAGE & COLLECTION NOTES:**

- 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 BOTTED 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:**

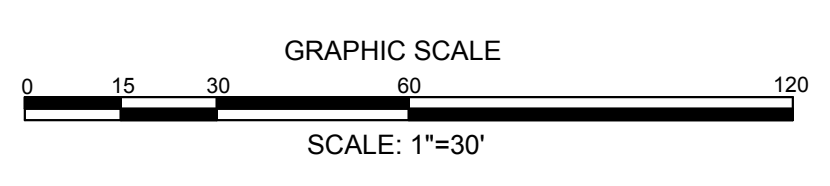
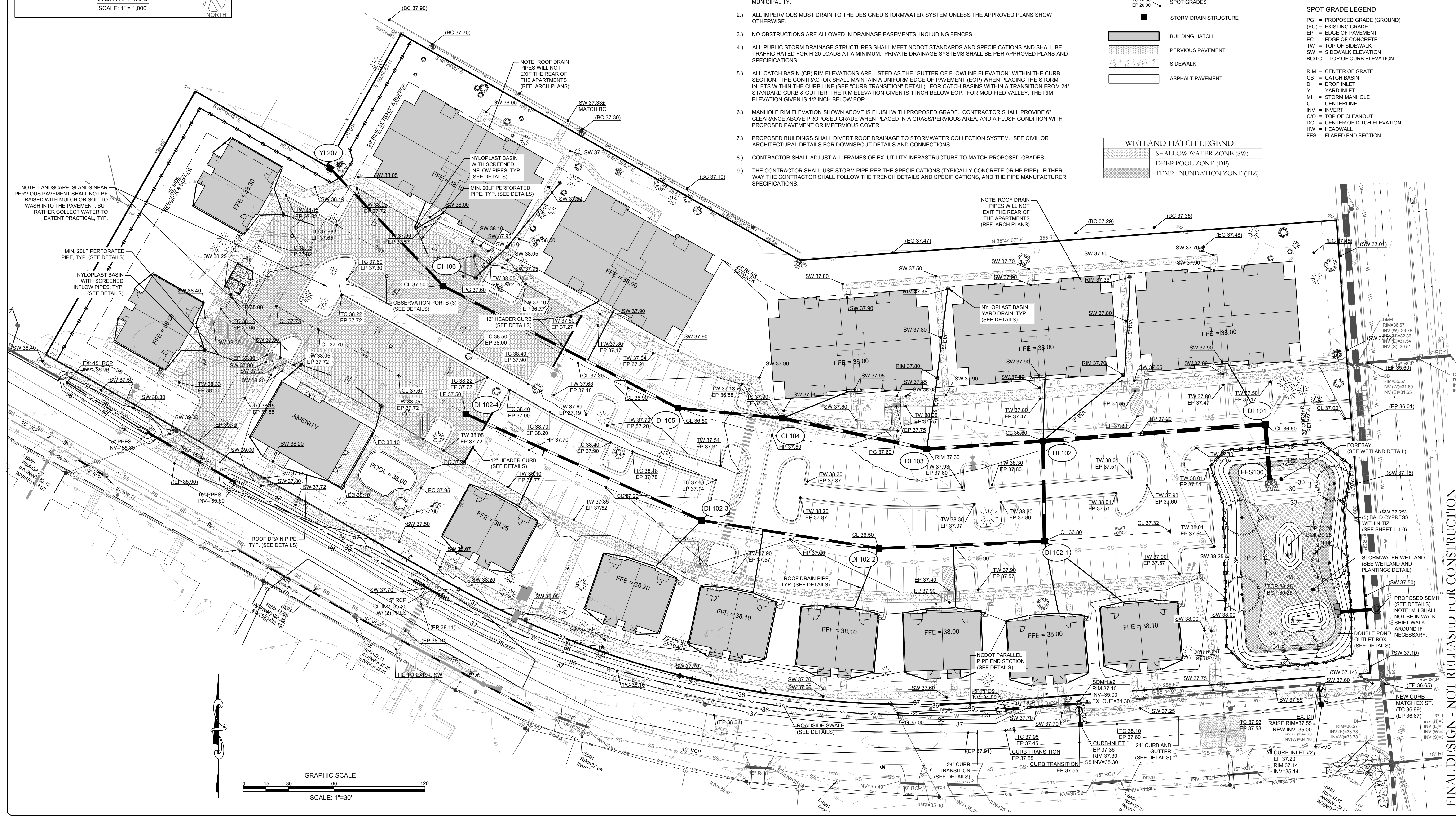


**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

**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.

- 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
  - B/C/T = TOP OF CURB ELEVATION
  - CB = CENTER OF GRATE
  - CI = CATCH BASIN
  - DI = DRAIN INLET
  - YI = YARD INLET
  - MH = STORM MANHOLE
  - CL = CENTERLINE
  - INV = INVERT
  - C/O = TOP OF CLEANOUT
  - DS = CENTER OF DITCH ELEVATION
  - HW = HEADWALL
  - FES = FLARED END SECTION



**REVISIONS:**

NO.	DATE	DESCRIPTION
1		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

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

PROJECT STATUS:  
ORIGINAL LAYOUT: 9.28.22  
FINAL DESIGN LAYOUT: 10.13.23  
RELEASED FOR CONSTRUCTION: \_\_\_\_\_

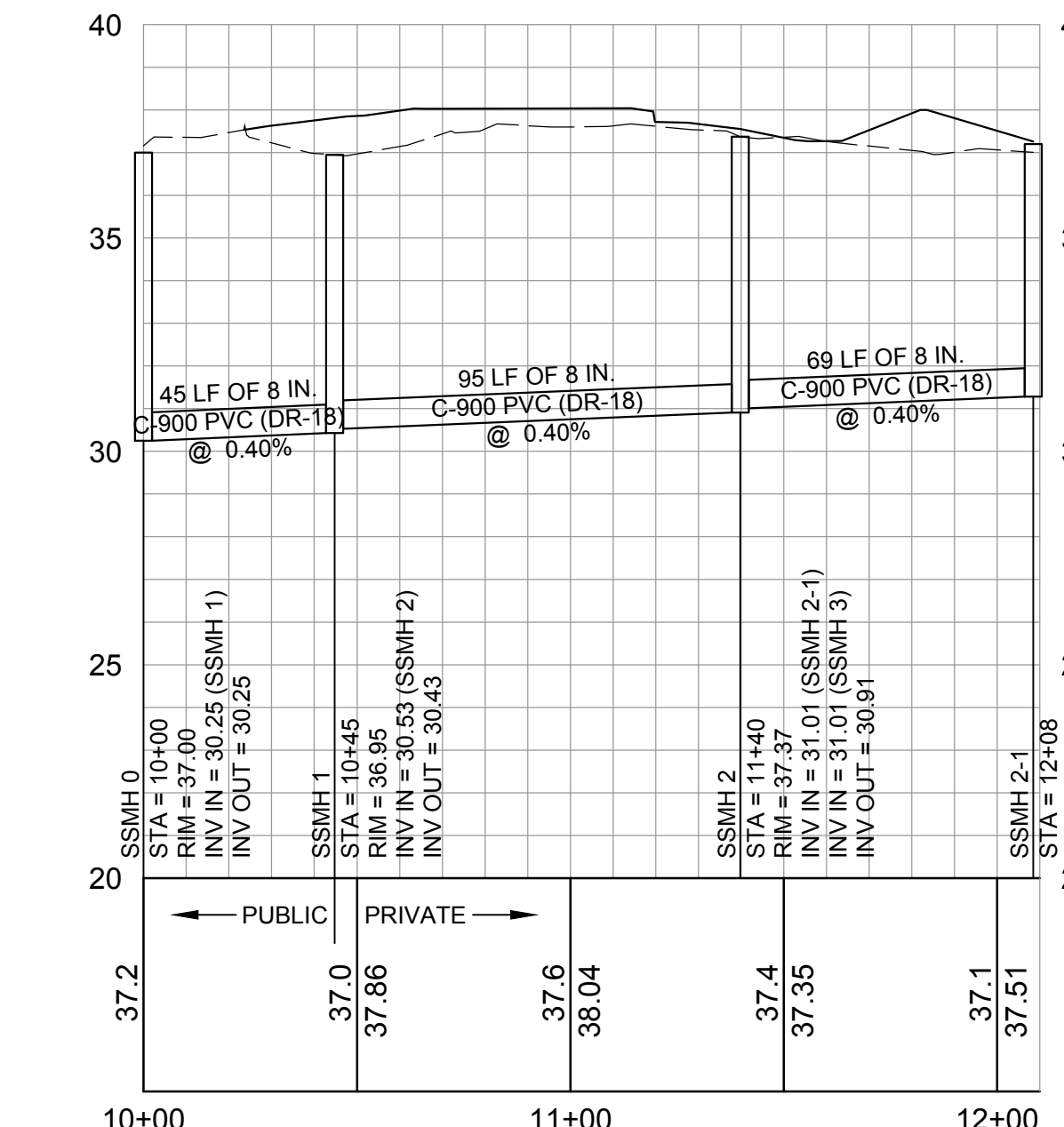
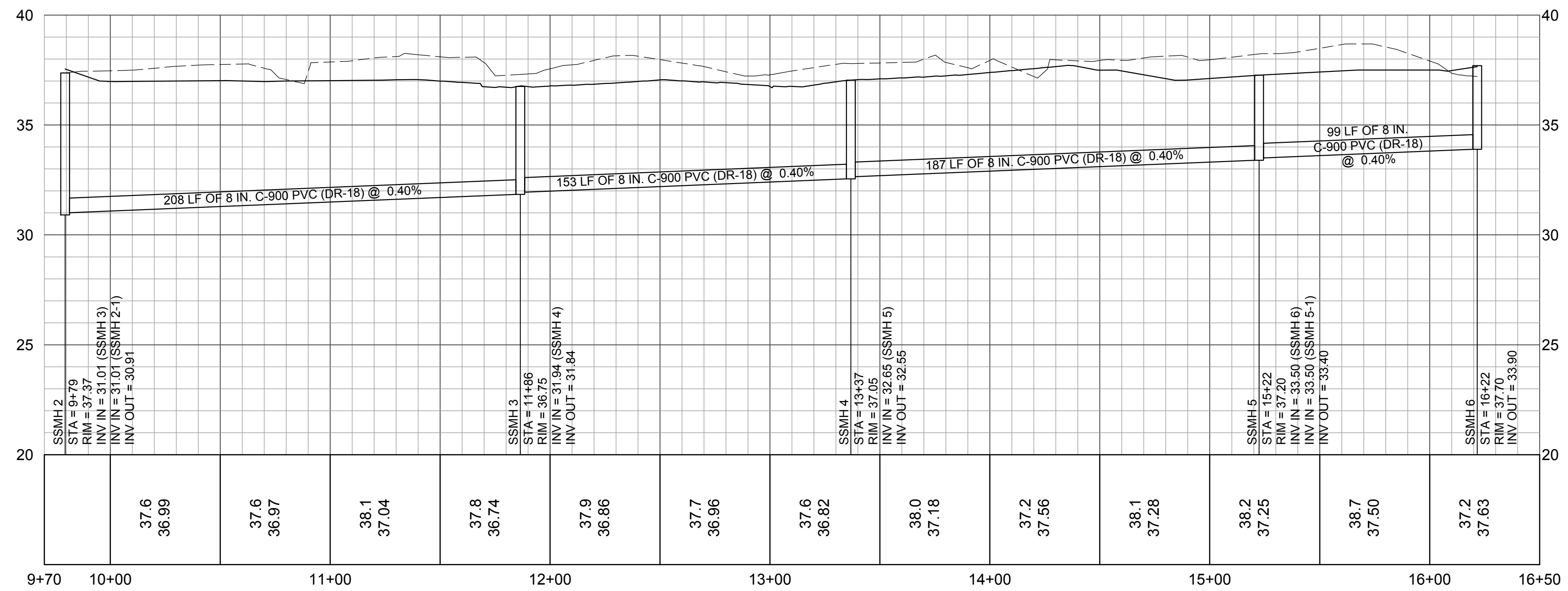
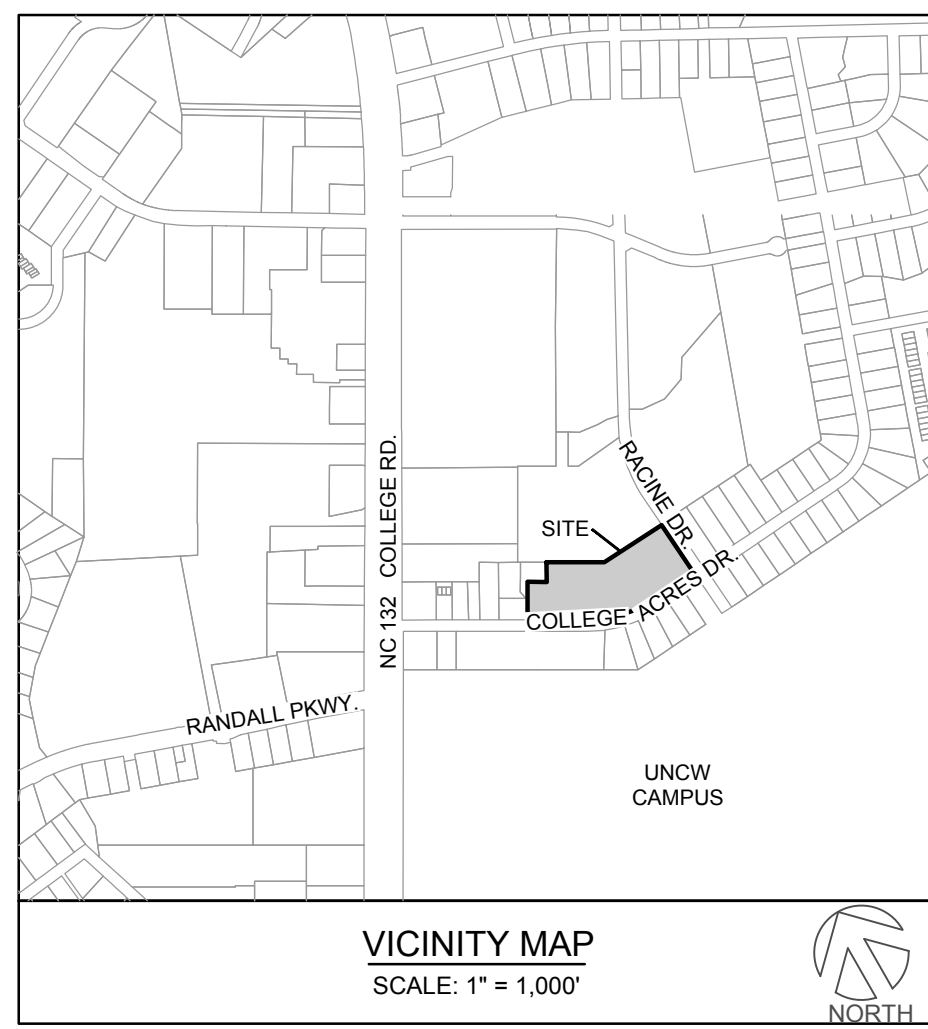
DRAWING INFORMATION:  
DATE: 07/26/19  
SCALE: 1" = 30'  
DRAWN BY: JBS  
CHECKED: \_\_\_\_\_

SEAL: \_\_\_\_\_

**C-4.0**  
PEI JOB#: 19443.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION





PRIVATE SEWER - PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'

PUBLIC SEWER - PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'

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 DOUBLE CHECK DETECTOR ASSEMBLIES FOR FIRE & 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

UTILITY KEYNOTES:

- S (2) 6"x6" MJ TEE WITH (2) 6" MJ GV
- T (2) 6"x2" REDUCER & (2) 2" MJ GV
- U (2) 6"x4" MJ TEES WITH (4) 4" MJ GV
- V (2) 4"x2" REDUCER
- W 2" BLOWOFF ASSEMBLY

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

- CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
  - SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RW LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
  - ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
  - NO FLEXIBLE COUPLINGS SHALL BE USED.
  - ALL STAINLESS STEEL FASTENERS SHALL BE 316.

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

- UTILITY NOTES: (NCAC 15A.02T.0305 / T15A.18C.0904-906)
- 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.
  - 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.
  - 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.
  - 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.
  - 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.
  - MATERIALS, INSTALLATION, AND TESTING FOR PRIVATE UTILITIES SHALL BE IN ACCORDANCE WITH CFPUA SPECIFICATIONS.
  - CONTRACTOR SHALL ABANDON ALL UNUSED SEWER AND WATER TAPS.
  - 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: \_\_\_\_\_

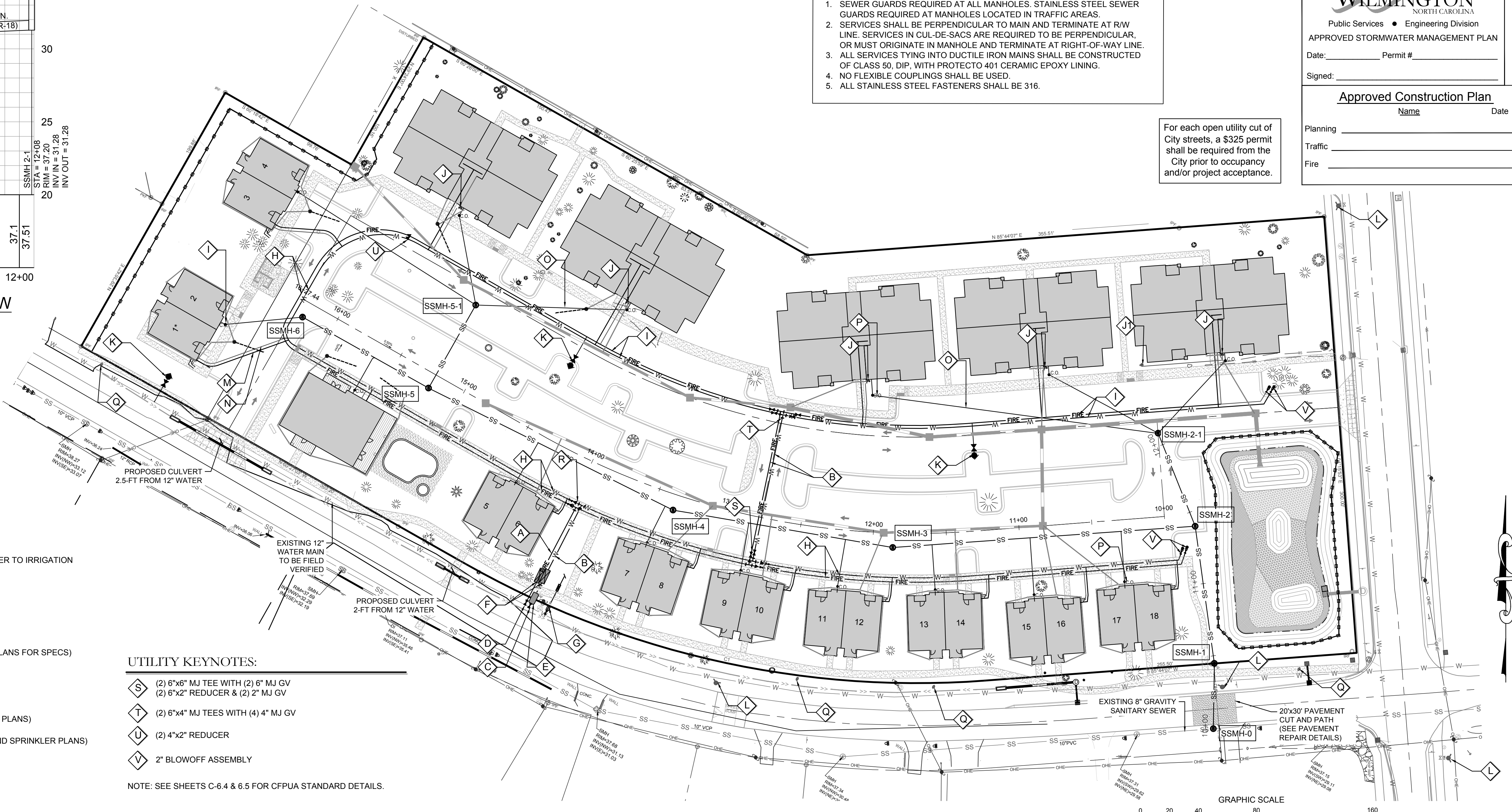
Approved Construction Plan

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_



REVISIONS:

1	REVISED PER FINAL TRC COMMENTS
---	--------------------------------

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

UTILITY 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

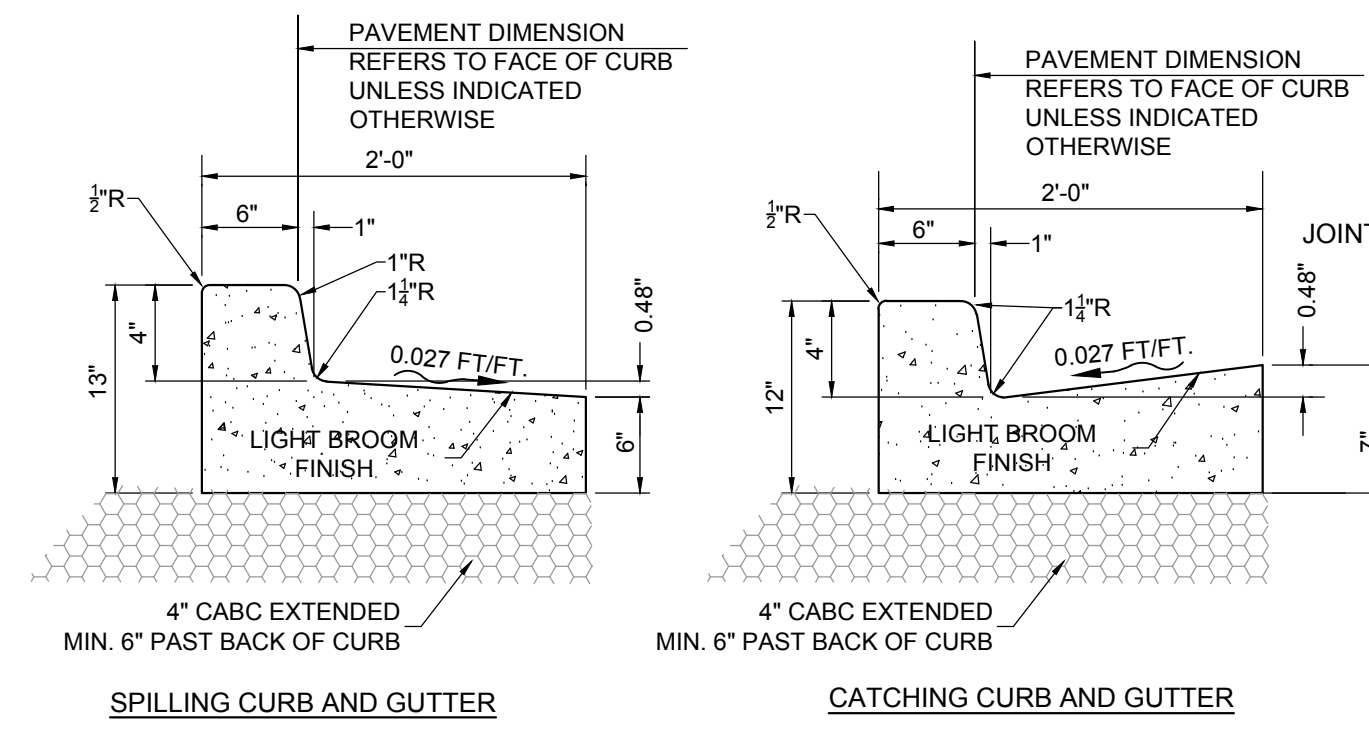
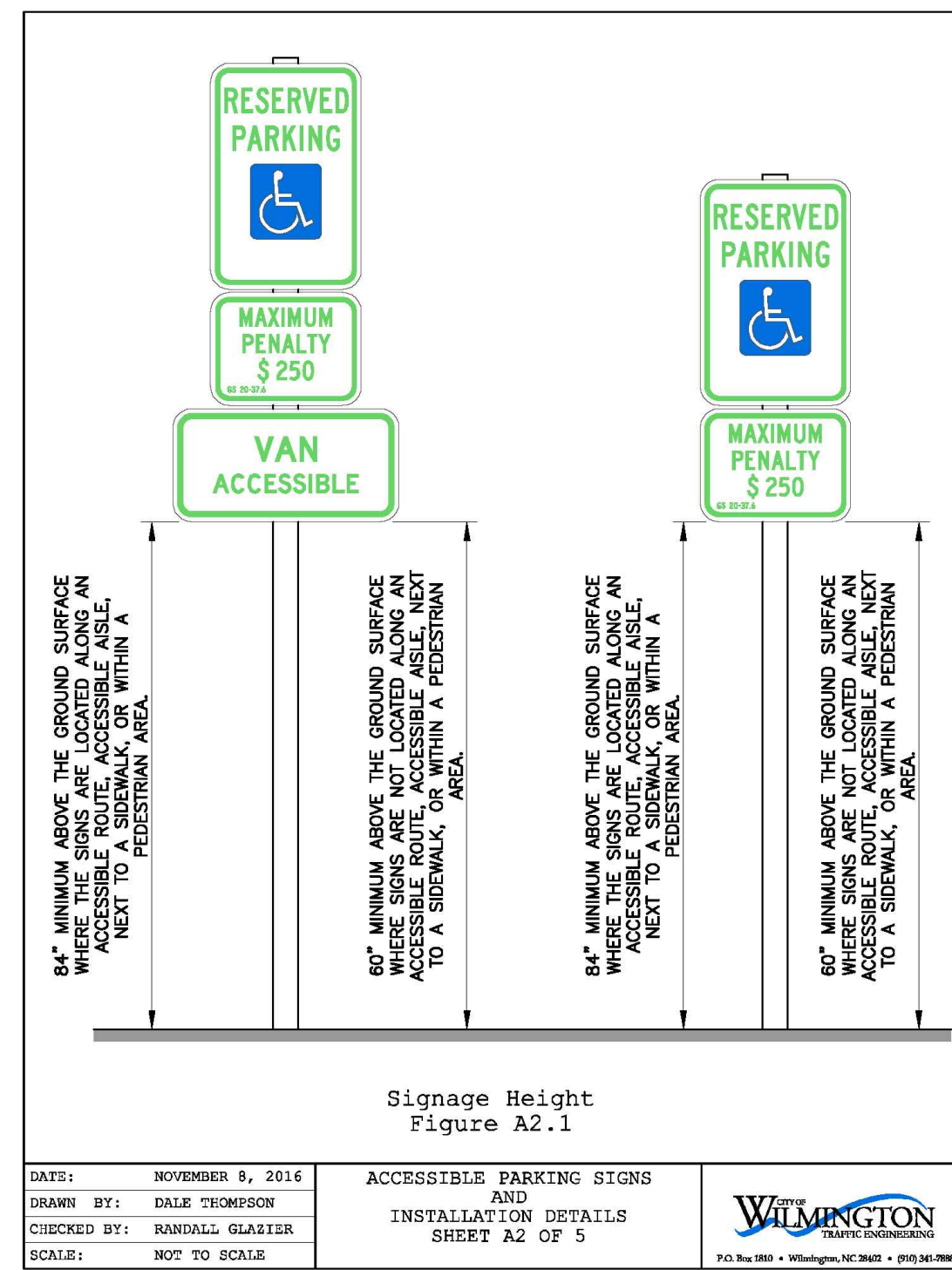
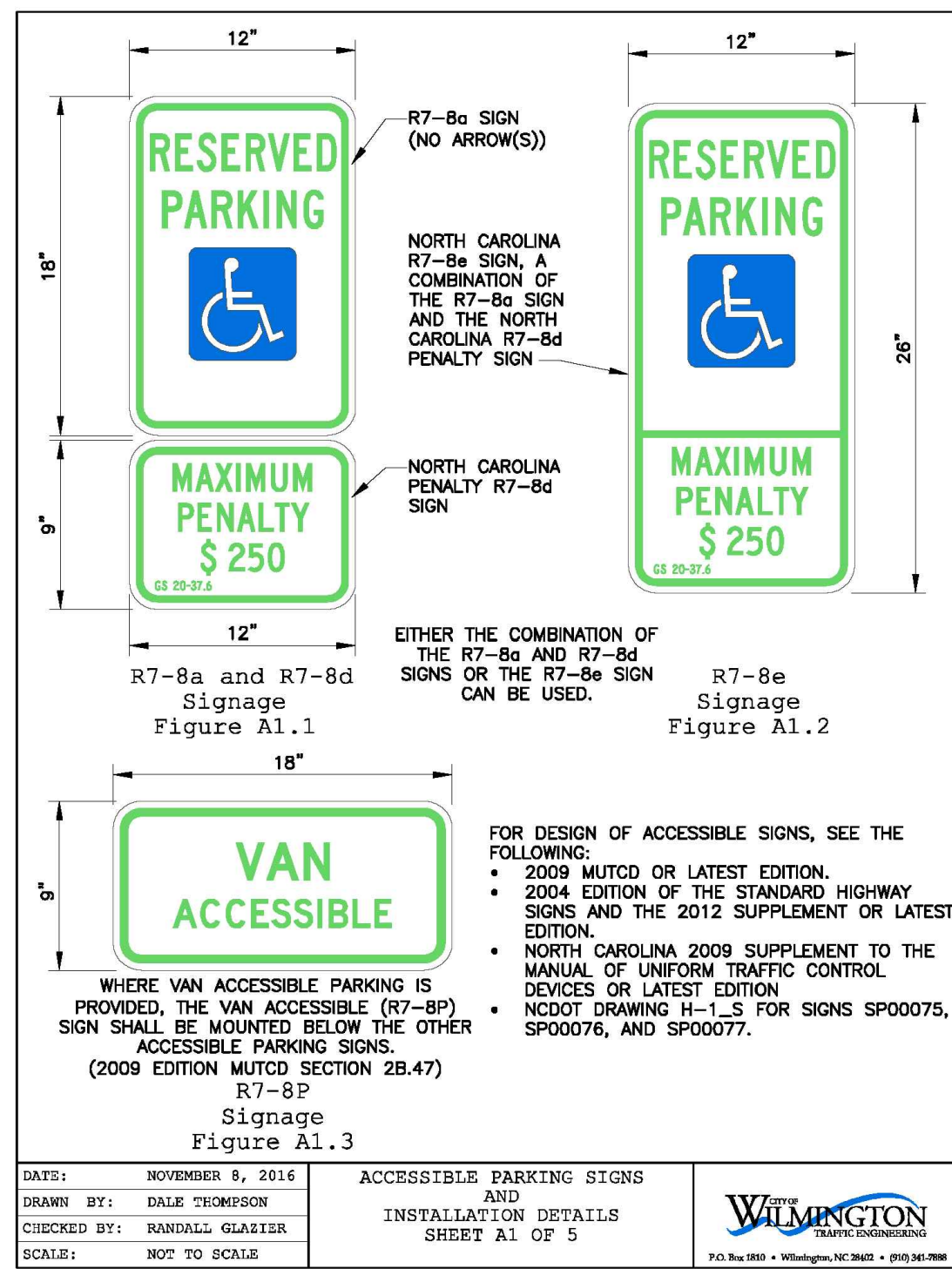
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SCALE: 1" = 40'  
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CHECKED: JBS

PEI JOB#: 19443.PE

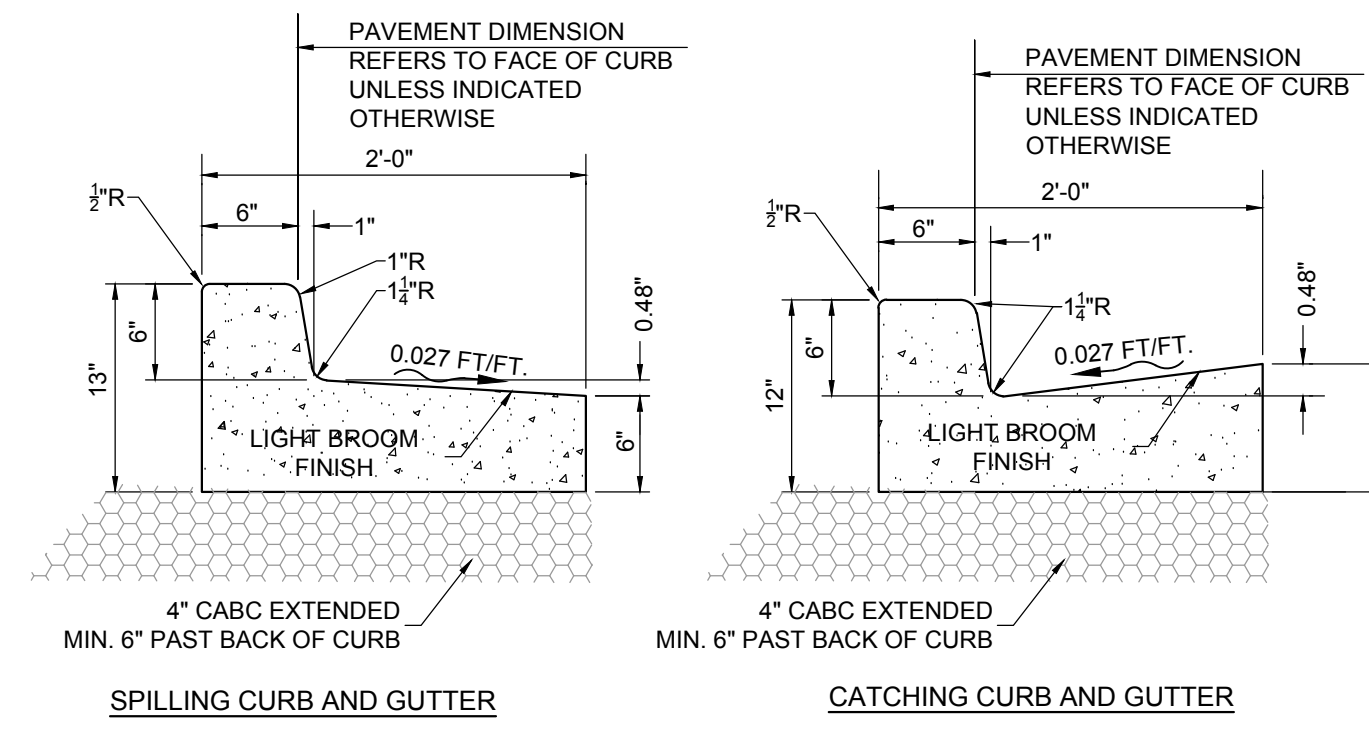
C-5.0

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

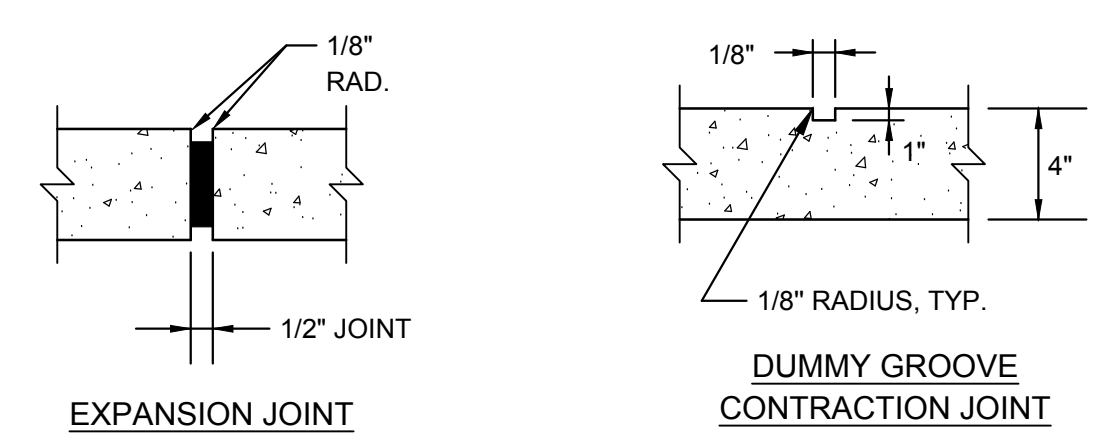




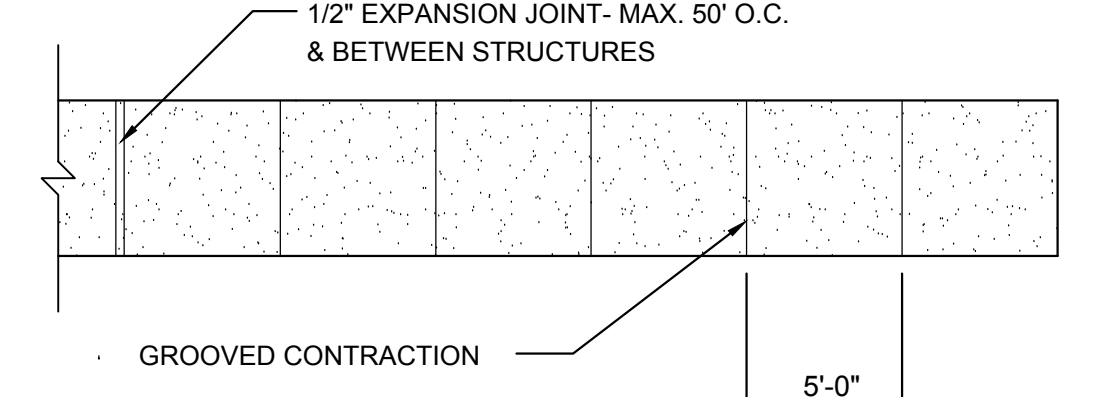
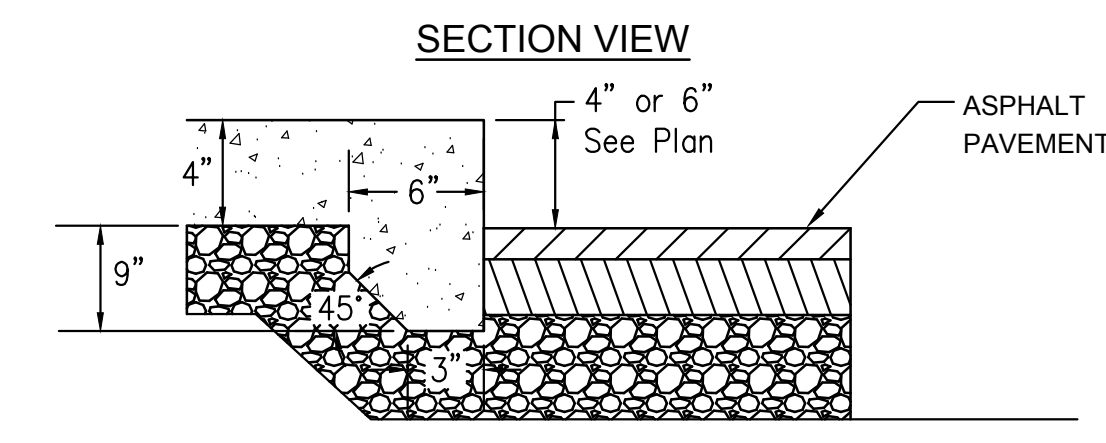
24" CURB AND GUTTER (4" CURB HEIGHT)  
NOT TO SCALE



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

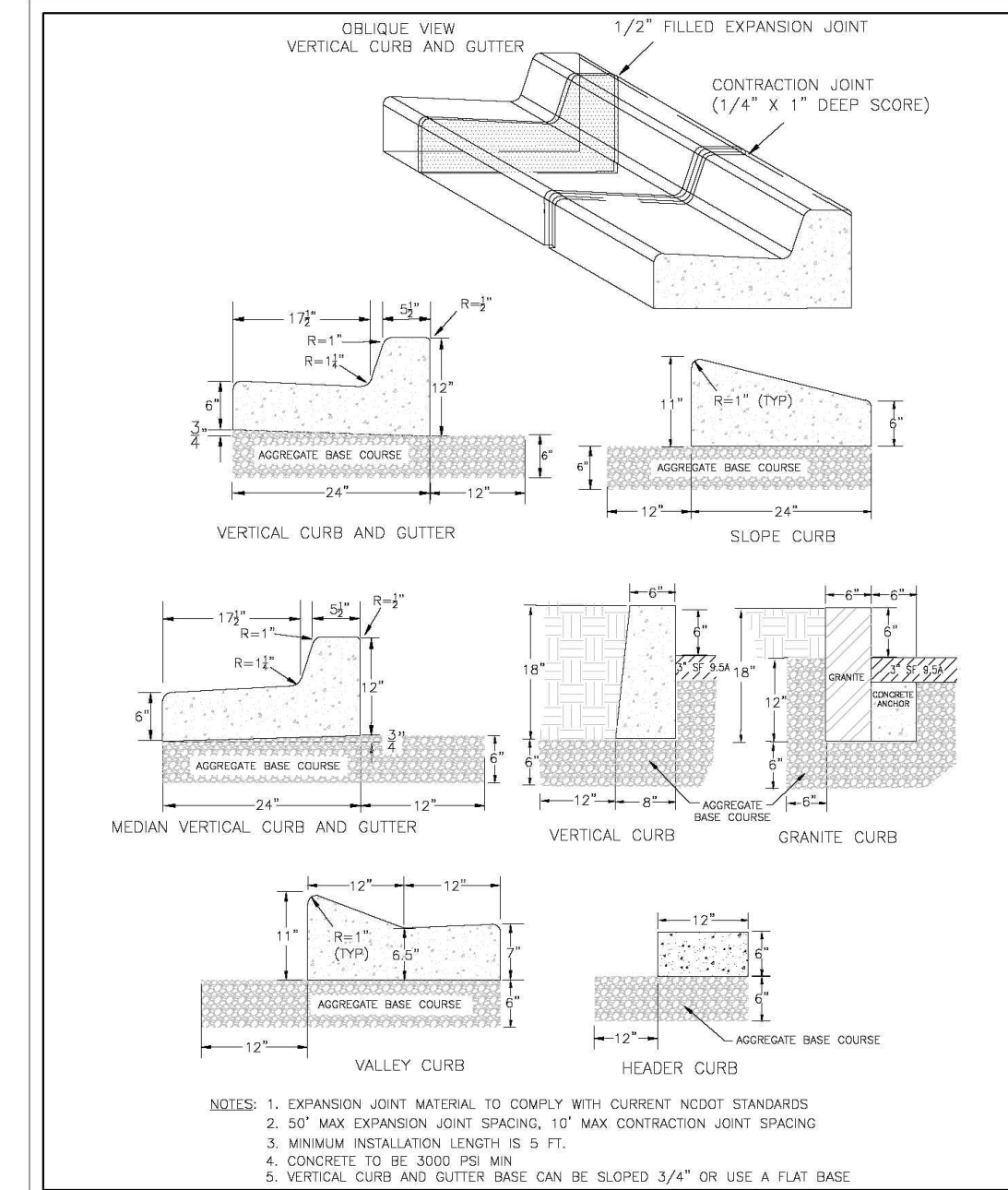


EXPANSION JOINT  
DUMMY GROOVE CONTRACTION JOINT

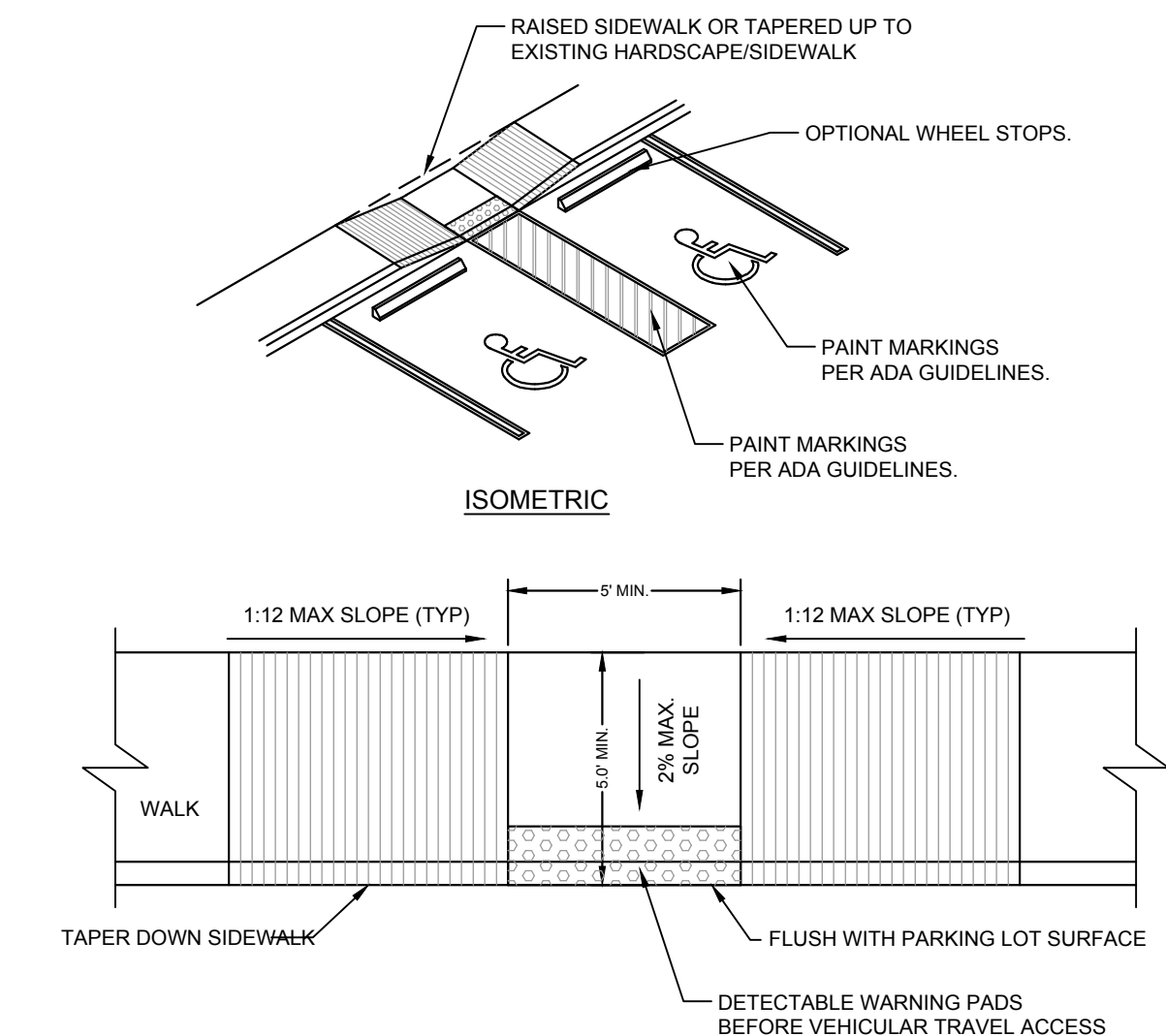


SECTION VIEW  
PLAN VIEW

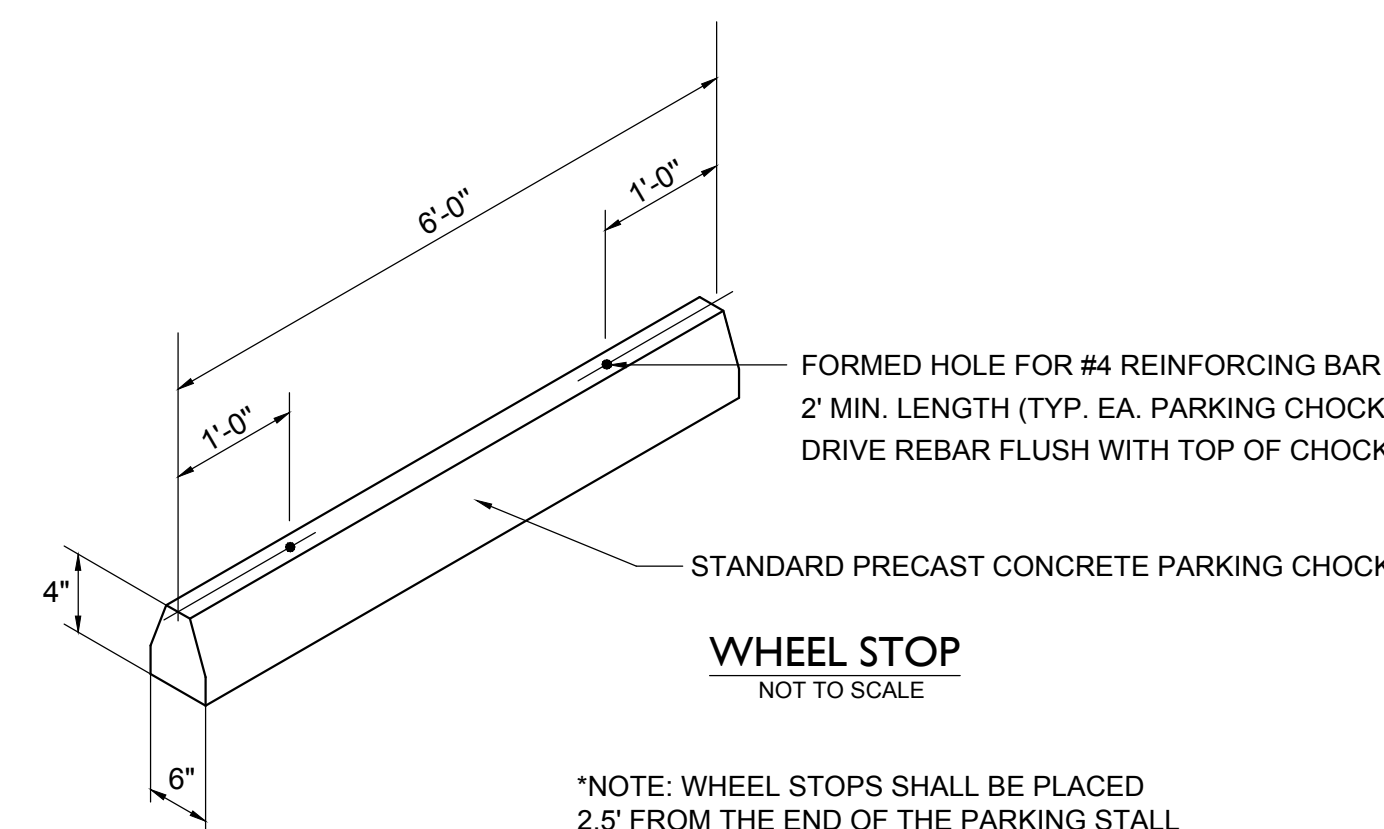
SIDWALK DETAILS  
NOT TO SCALE



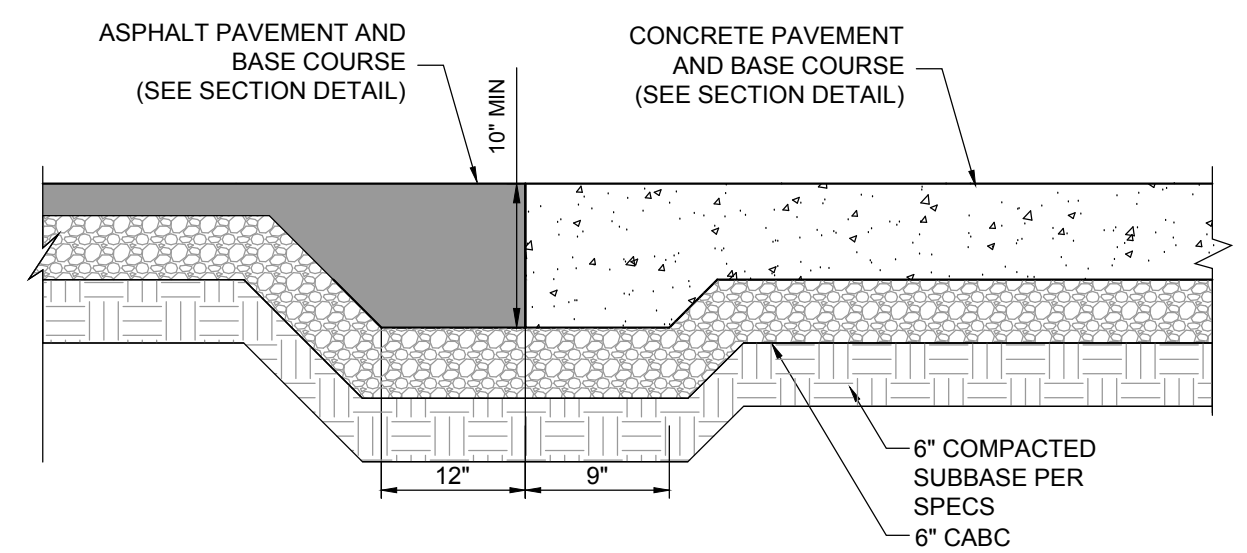
STANDARD DETAIL  
CURBING



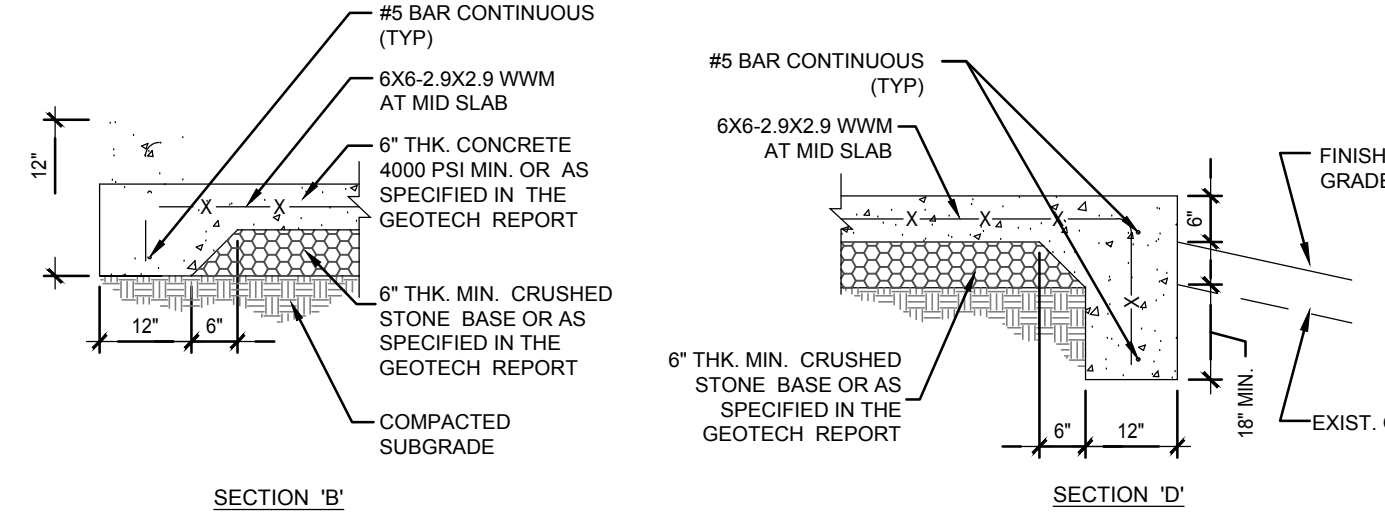
CURB RAMP DETAIL  
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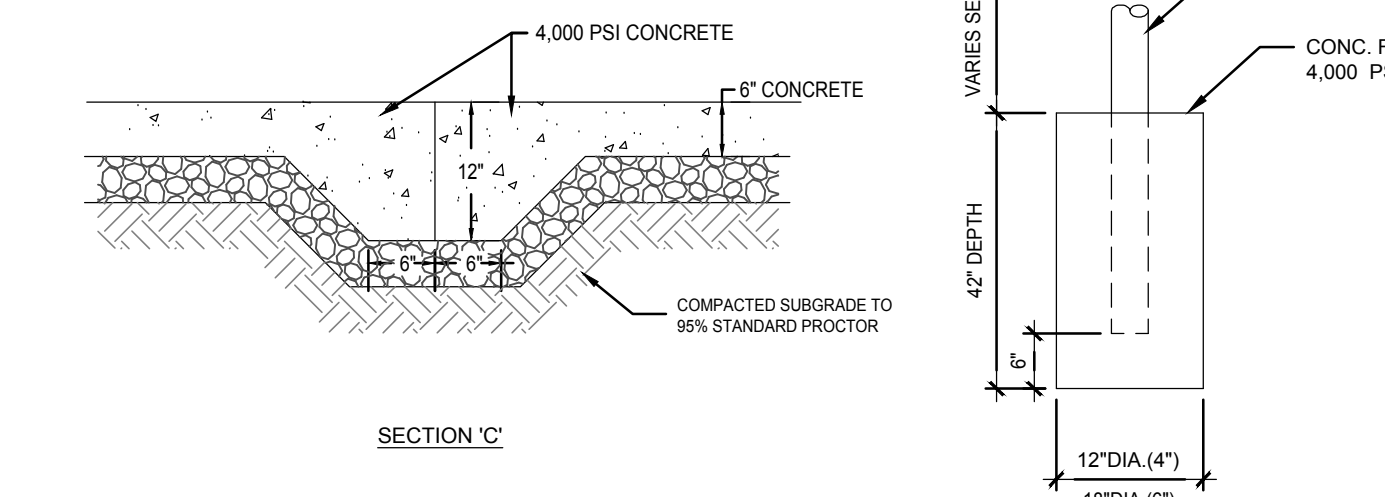
WHEEL STOP  
NOT TO SCALE



ASPHALT TO CONCRETE TRANSITION  
(TYPICAL)



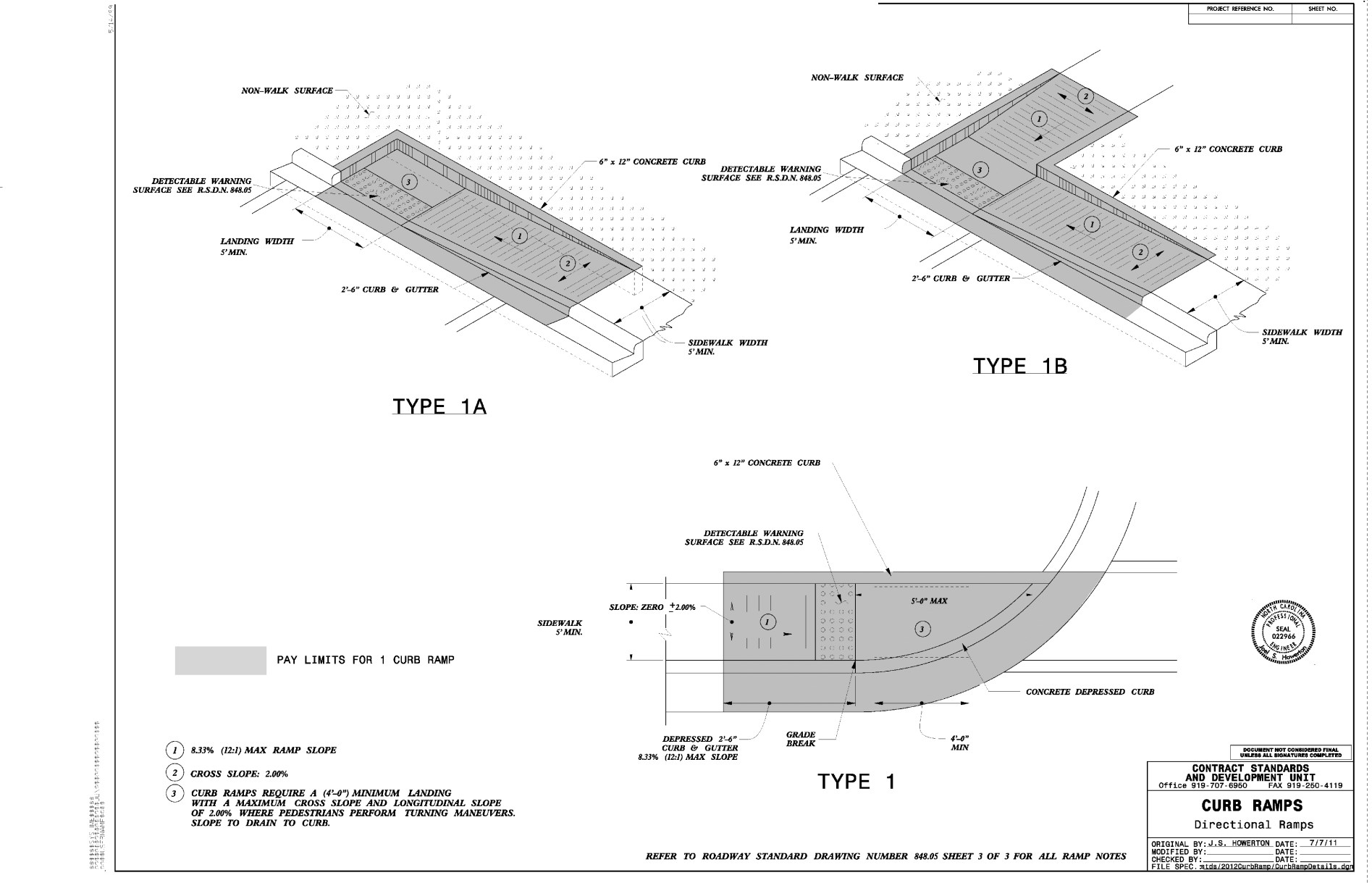
SECTION B'  
SECTION C'



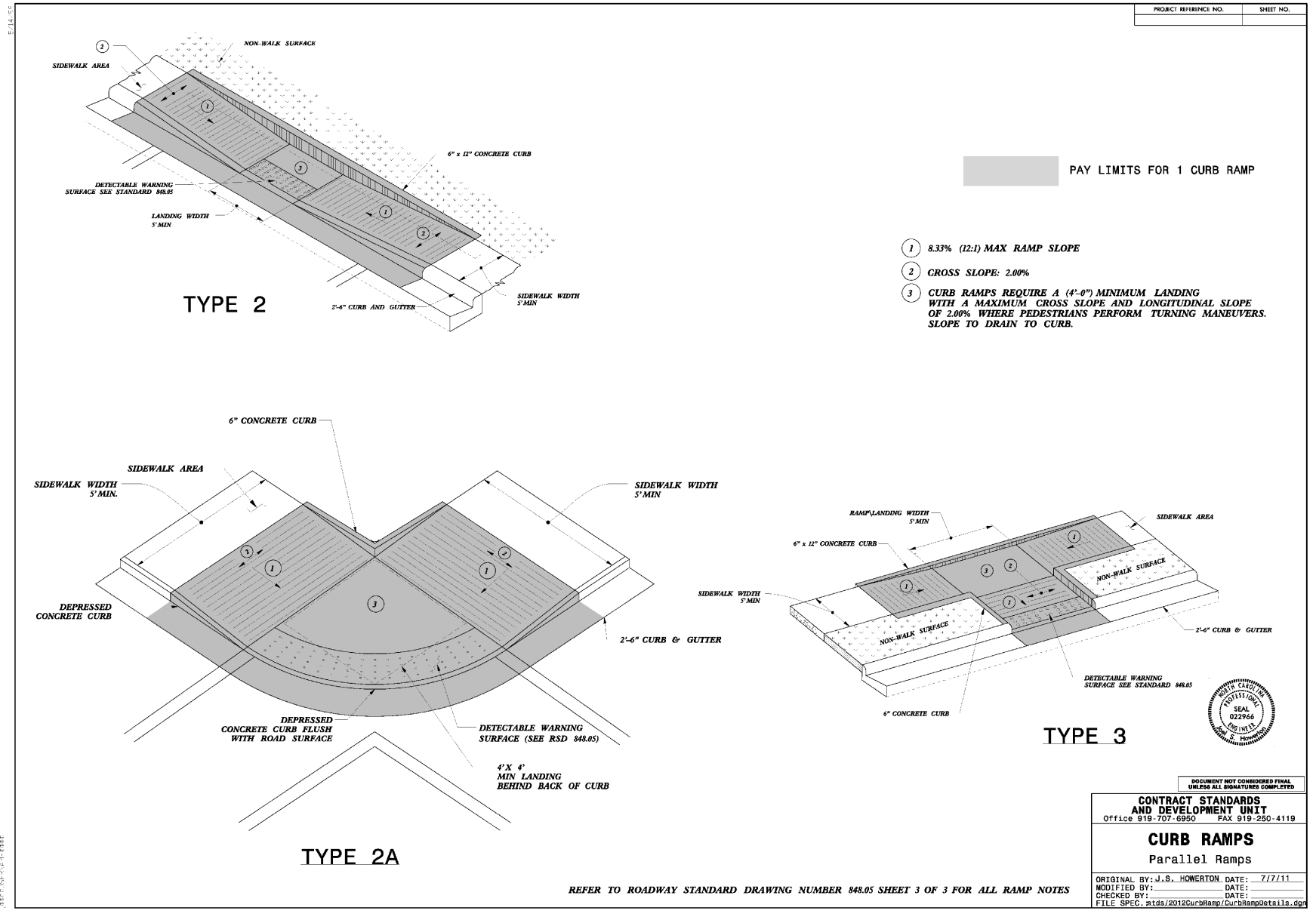
BOLLARD FOOTING

NOTES:  
1. DUMPSTER SHALL BE A TRASH COMPACTOR DEVICE AND THE ENCLOSURE AND ACCESS WILL BE PROVIDED BY THE ARCHITECTURAL PLANS.

DUMPSTER PAD DETAILS  
NOT TO SCALE



CURB RAMP TYPES  
REFER TO ROADWAY STANDARD DRAWING MEMBER SHEET 3 OF 3 FOR ALL RAMP NOTES



CURB RAMP TYPES  
REFER TO ROADWAY STANDARD DRAWING MEMBER SHEET 3 OF 3 FOR ALL RAMP NOTES

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

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

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

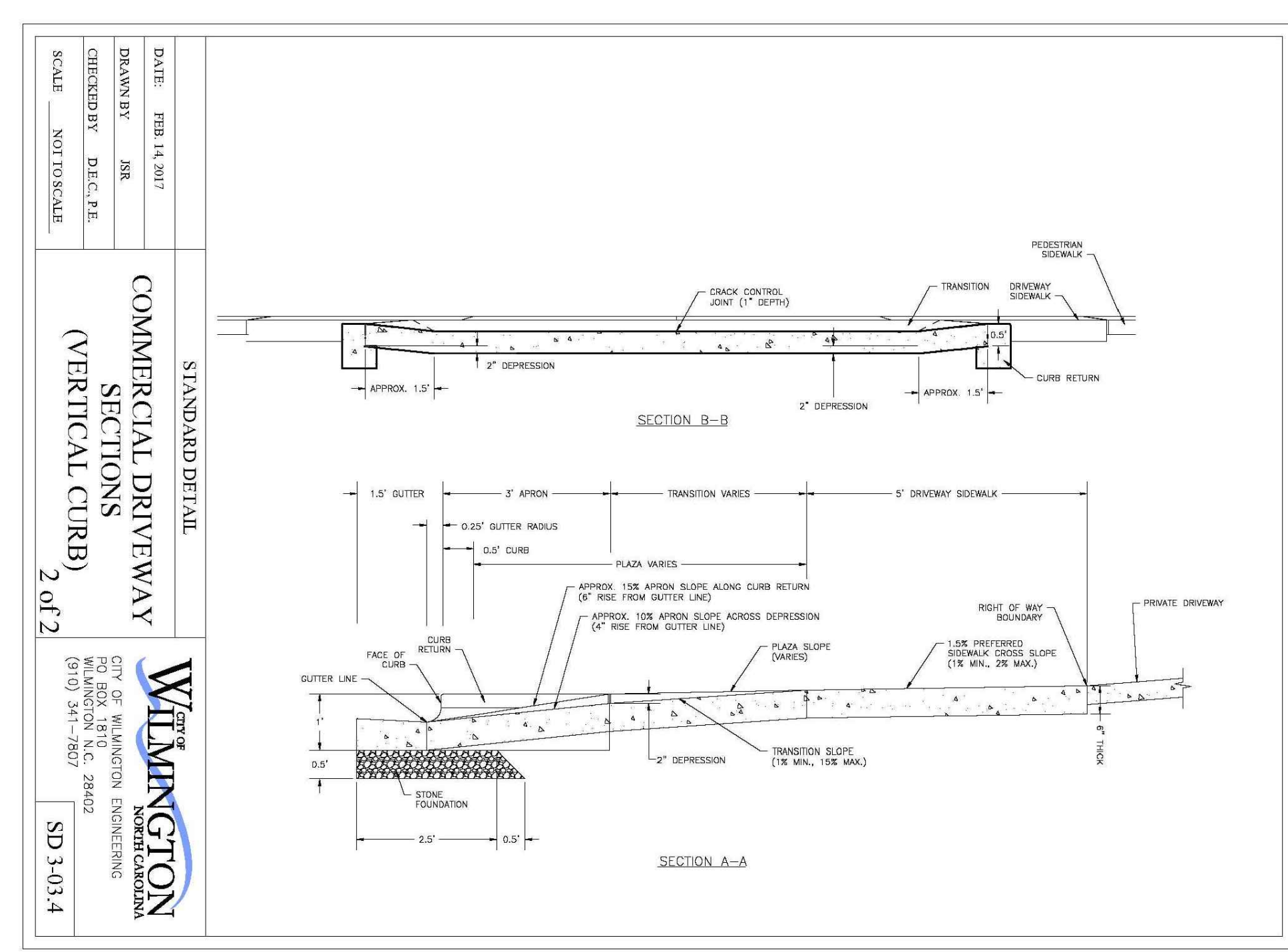
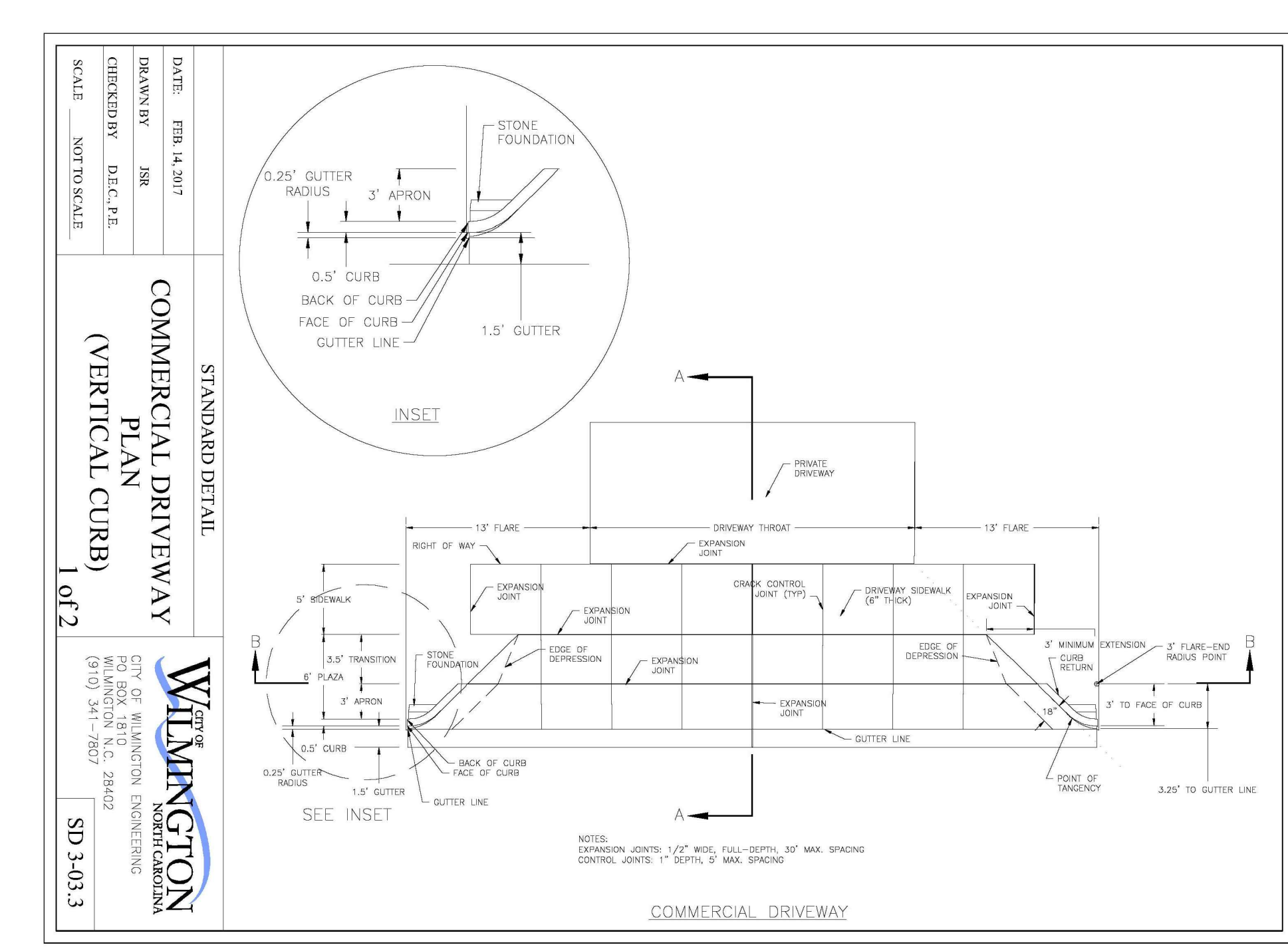
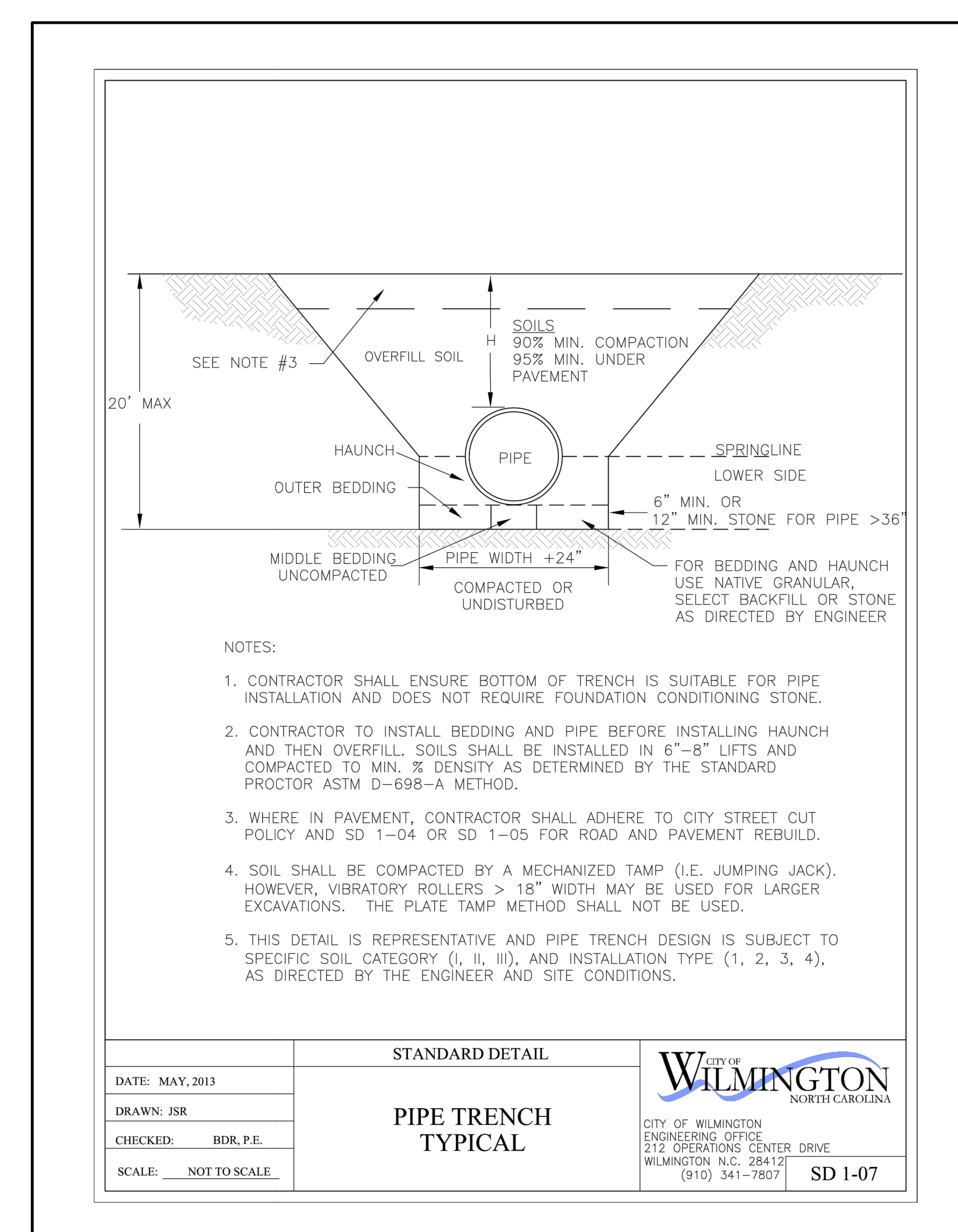
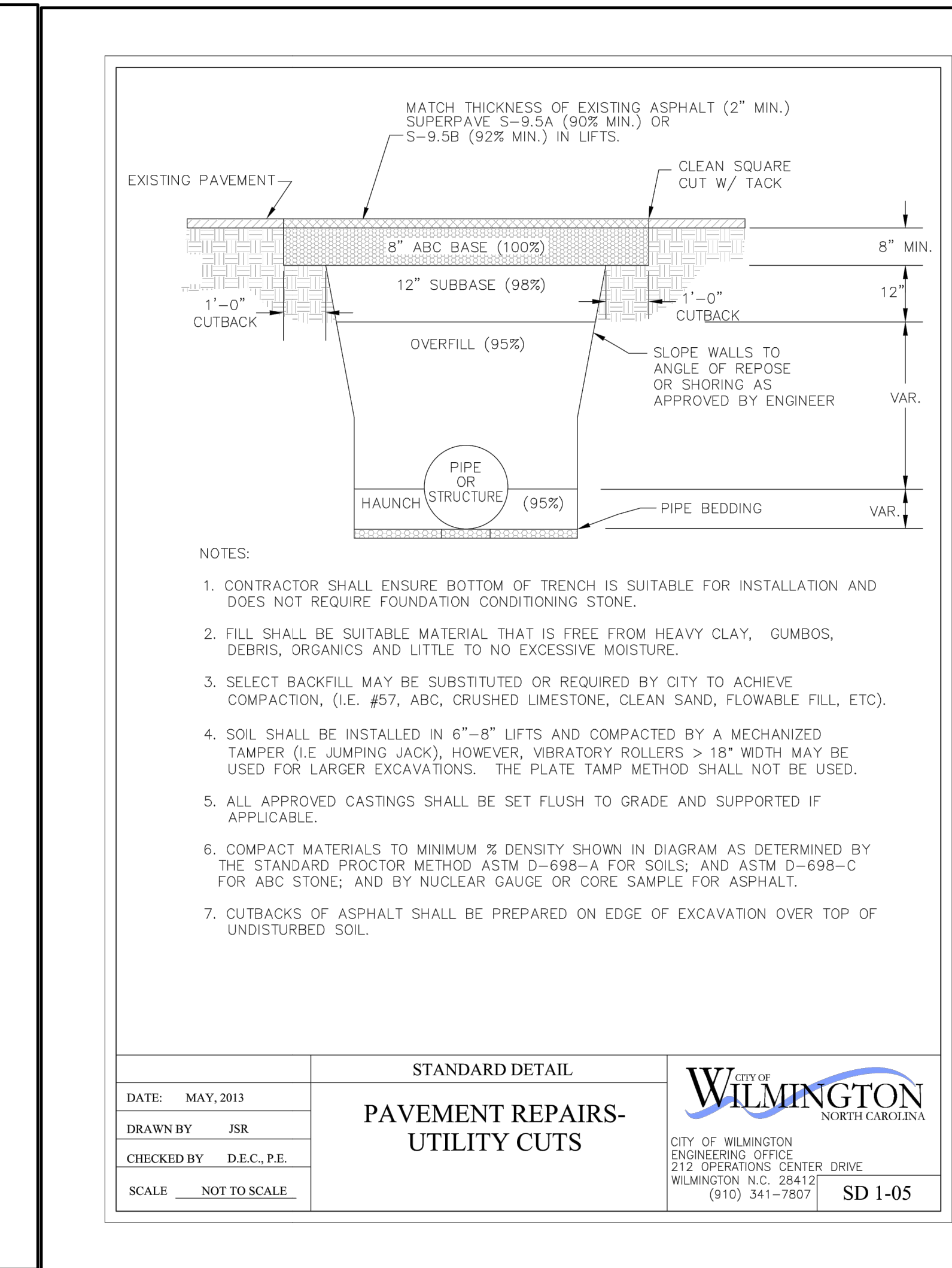
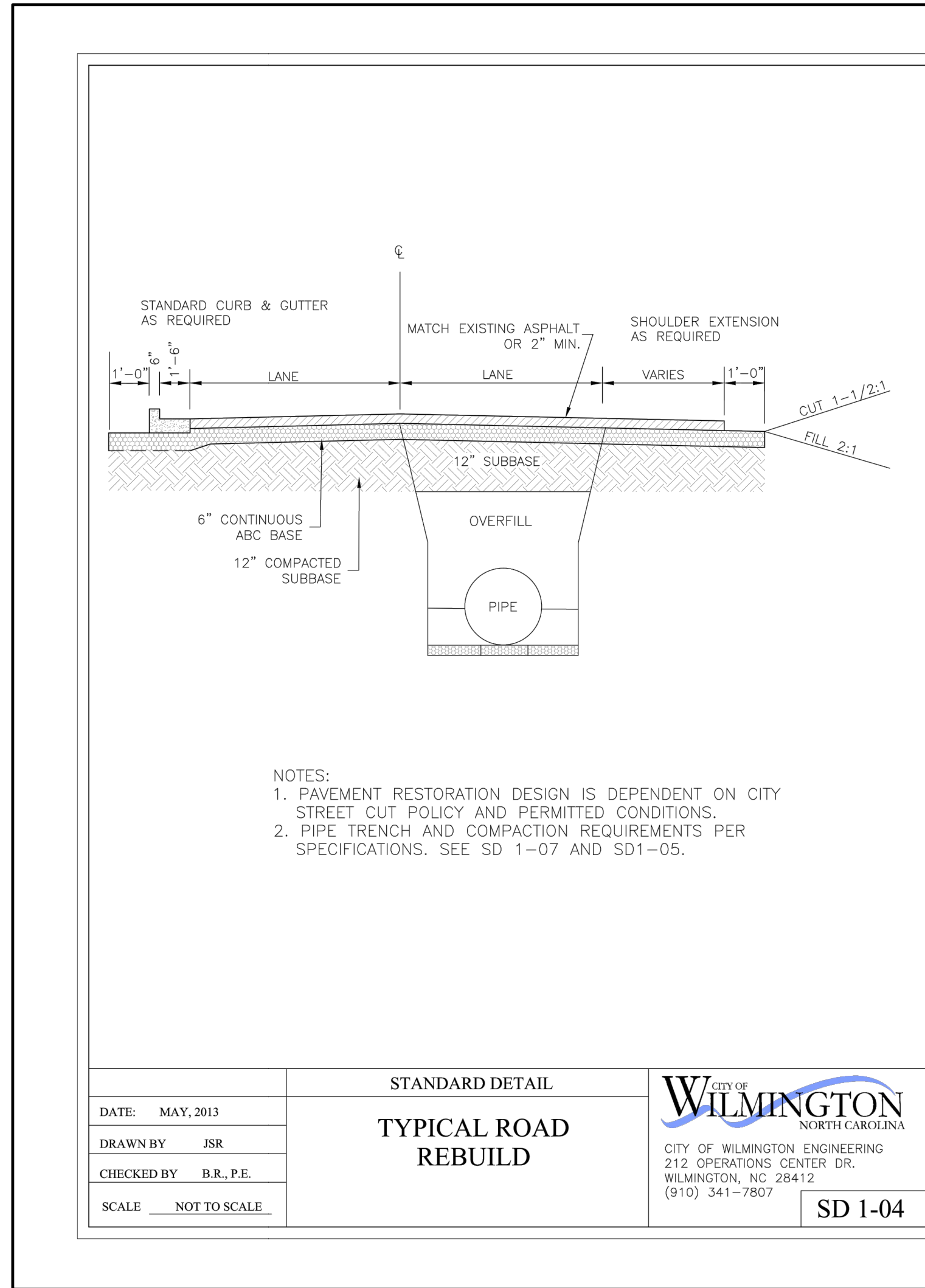
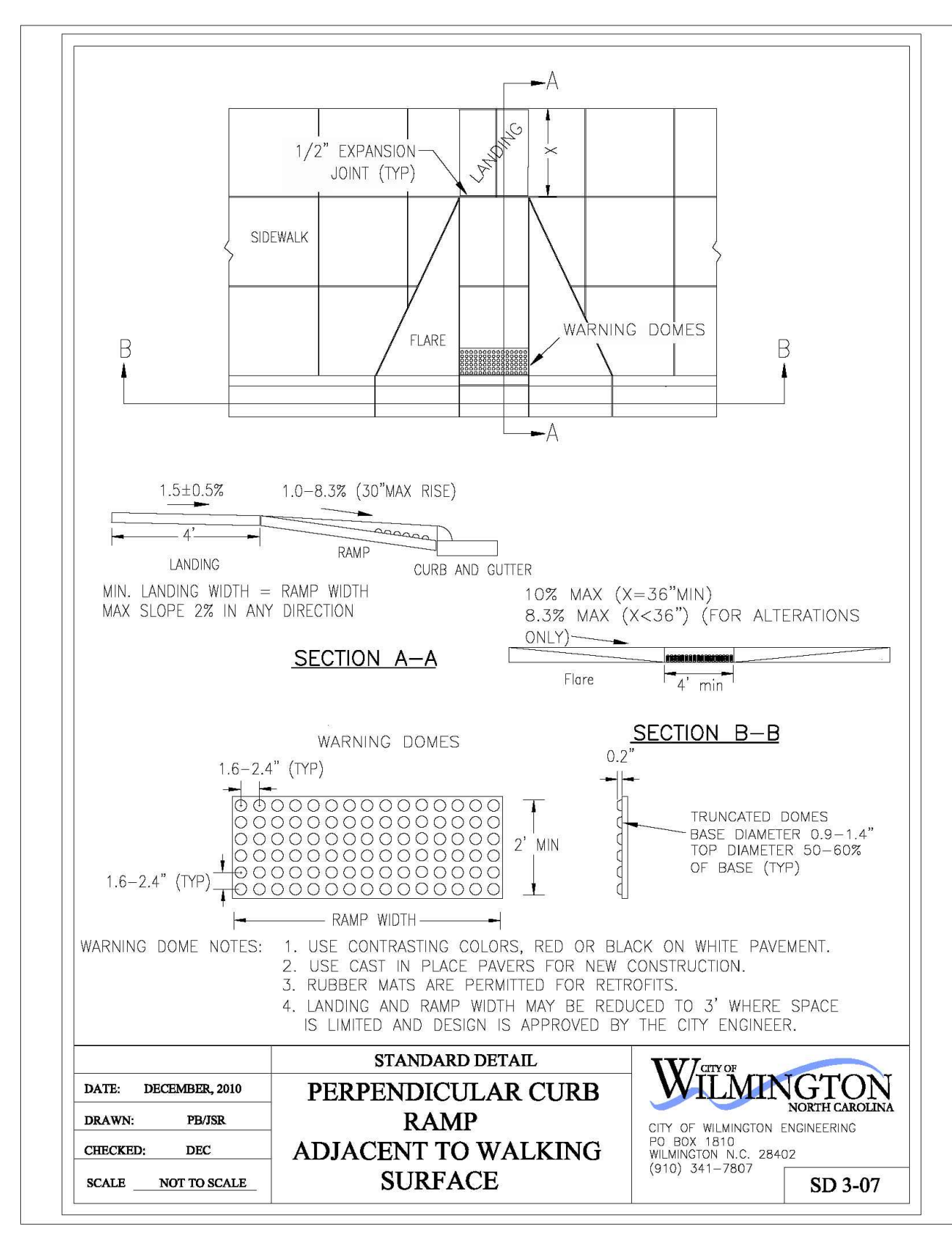
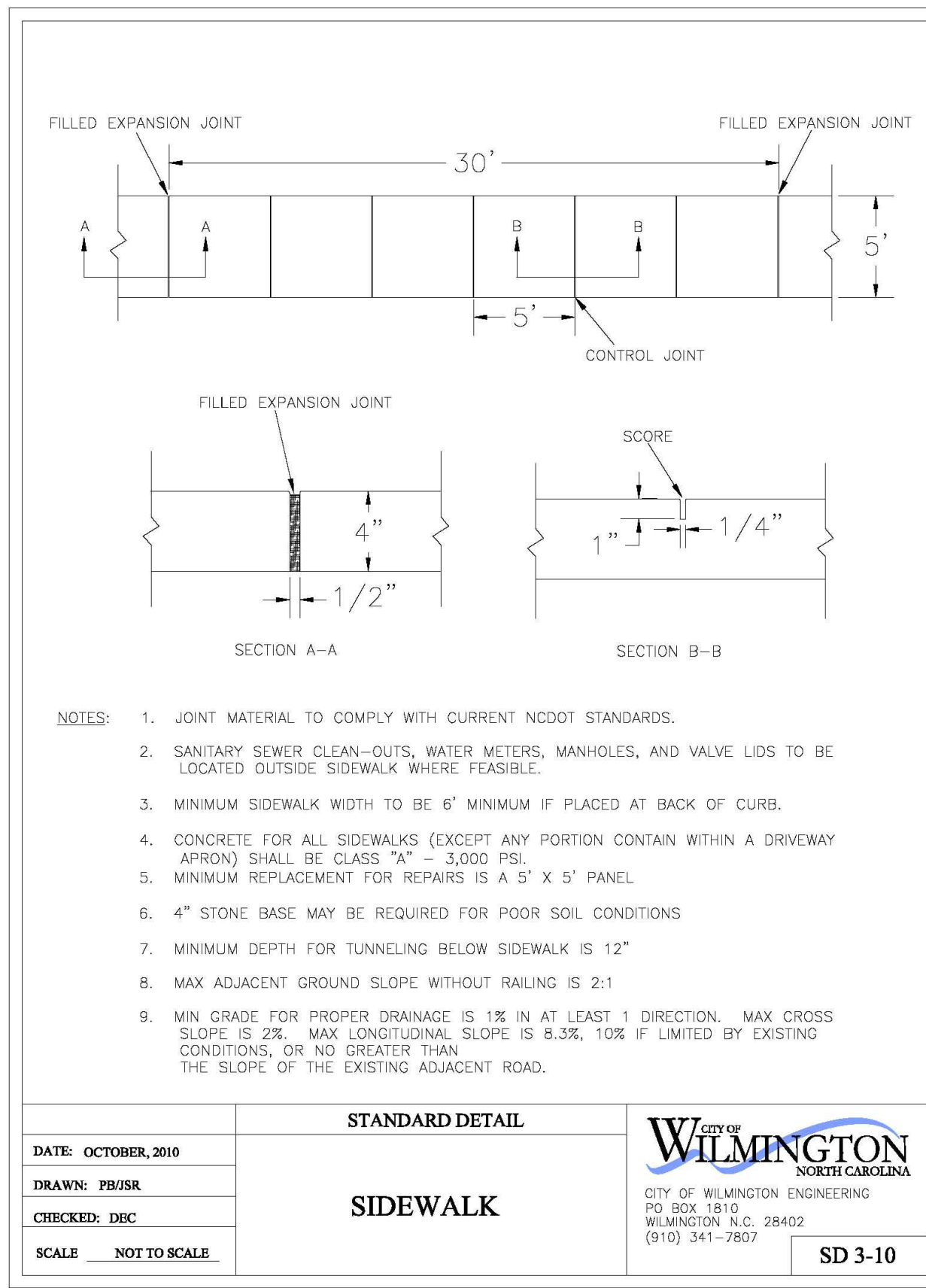
PROJECT STATUS  
CONCEPTUAL LAYOUT: 9.28.20  
FINAL DESIGN: 10.13.20  
RELEASED FOR CONSTRUCTION: 07.24.19  
DATE: 07.24.19  
SCALE: 1" = 30'  
DRAWN: CURB  
CHECKED: JBS

SEAL

C-6.0  
PEI JOB#: 19443.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION





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

Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_

**Approved Construction Plan**

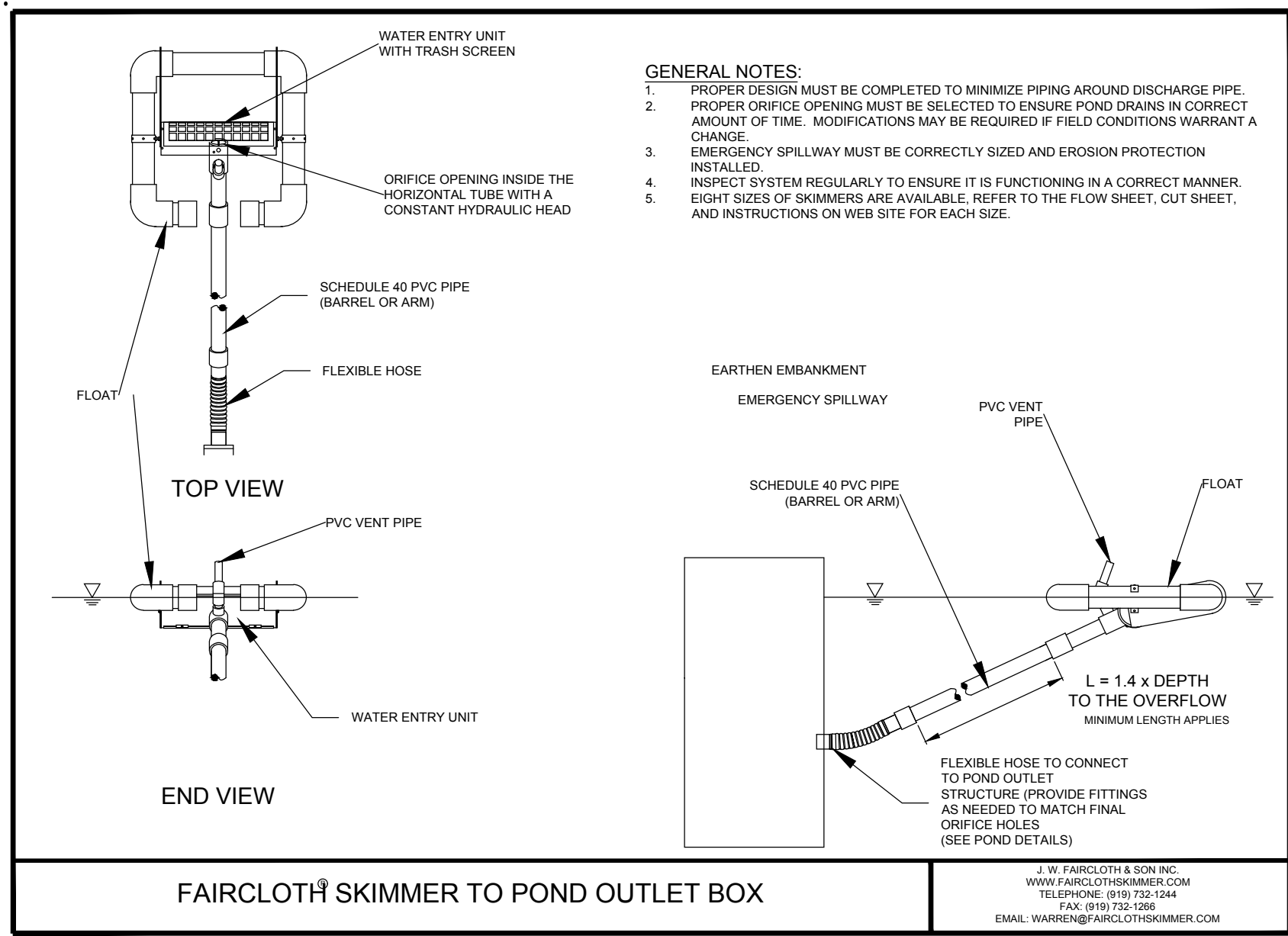
Name	Date
Planning	_____
Traffic	_____
Fire	_____

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

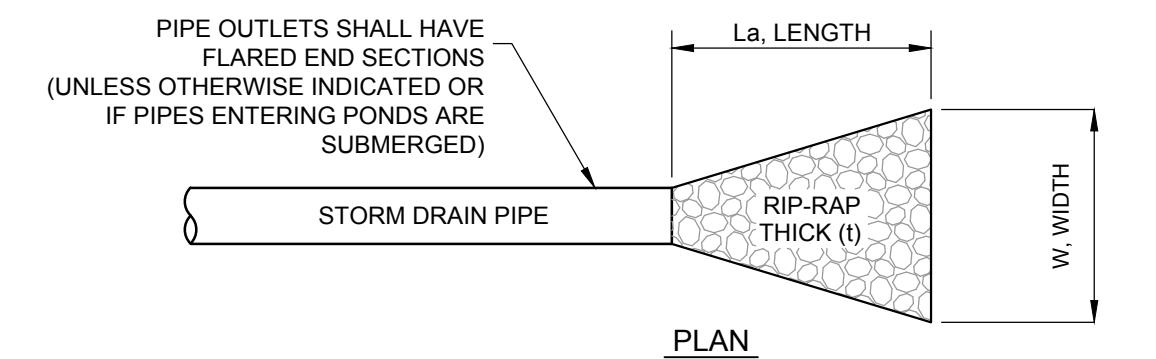
FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:	CLIENT INFORMATION:
1. REVISED PER FINAL TRC COMMENTS	COLLEGE ACRES DEVELOPMENT, LLC 5217 MARKET STREET WILMINGTON, NC 28405
10/26/20	PARAMOUNT ENGINEERING INC. 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6700 (F) NC License # C-2846
PROJECT STATUS:	DETAILS
9.26.20 CONCEPT LAYOUT 10.13.20 FINAL DESIGN LAYOUT RELEASED FOR CONSTRUCTION	COLLEGE ACRES APARTMENTS COLLEGE ACRES DRIVE WILMINGTON, NEW HANOVER CO., NC
DRAWING INFORMATION:	SEAL
DATE: 07/24/19 SCALE: 1" = 30' DRAWN: JSR CHECKED: BDR	
PEI JOB#: 19443.PE	C-6.1





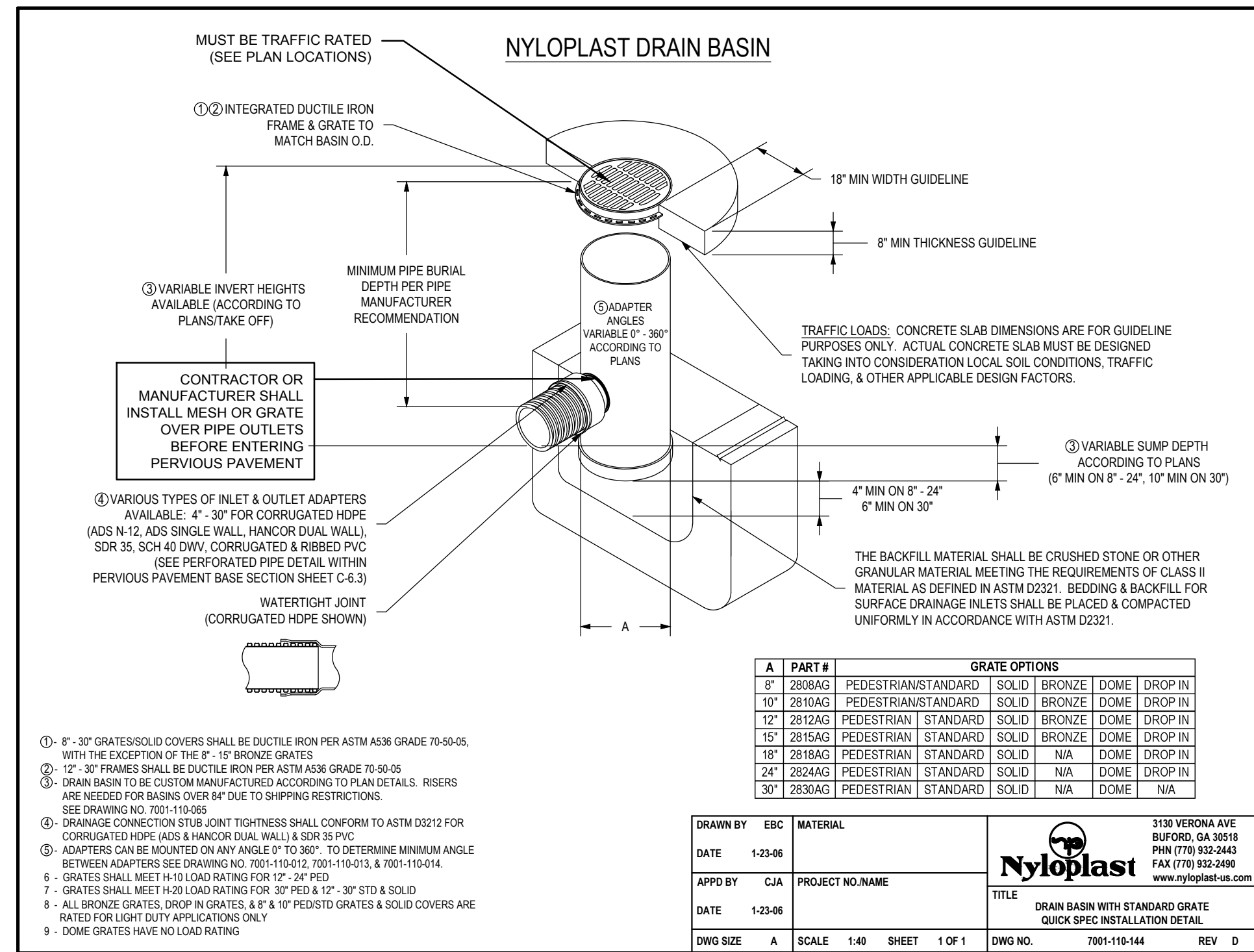
**TEMPORARY SKIMMER DEWATERING DEVICE**  
NOT TO SCALE



**RIP-RAP APRON DETAIL**  
NOT TO SCALE

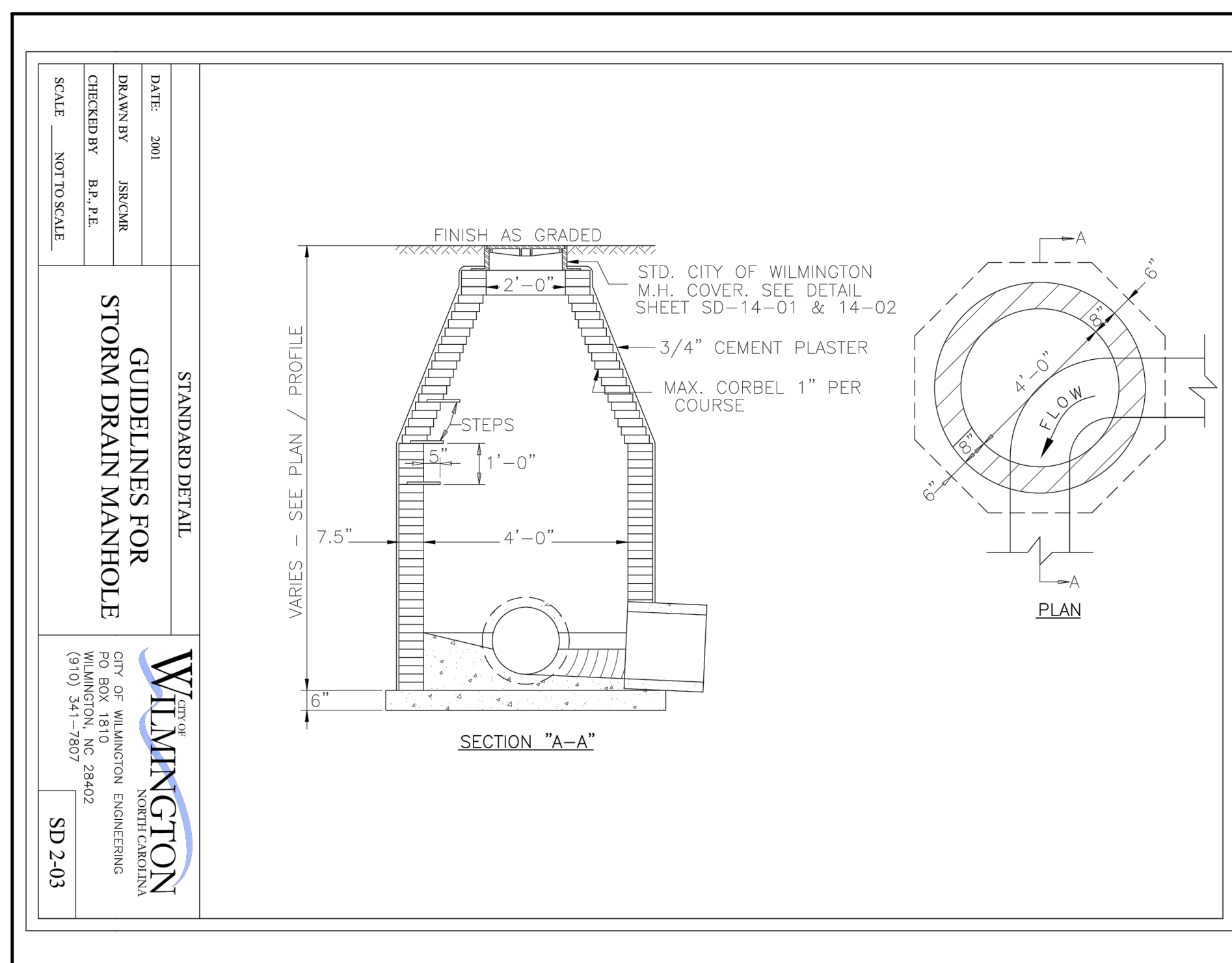
**RIP-RAP APRON SCHEDULE**

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



**INLINE CLEANOUT**  
NOT TO SCALE

**ROOF DRAIN DETAIL WITH CLEANOUTS**  
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.

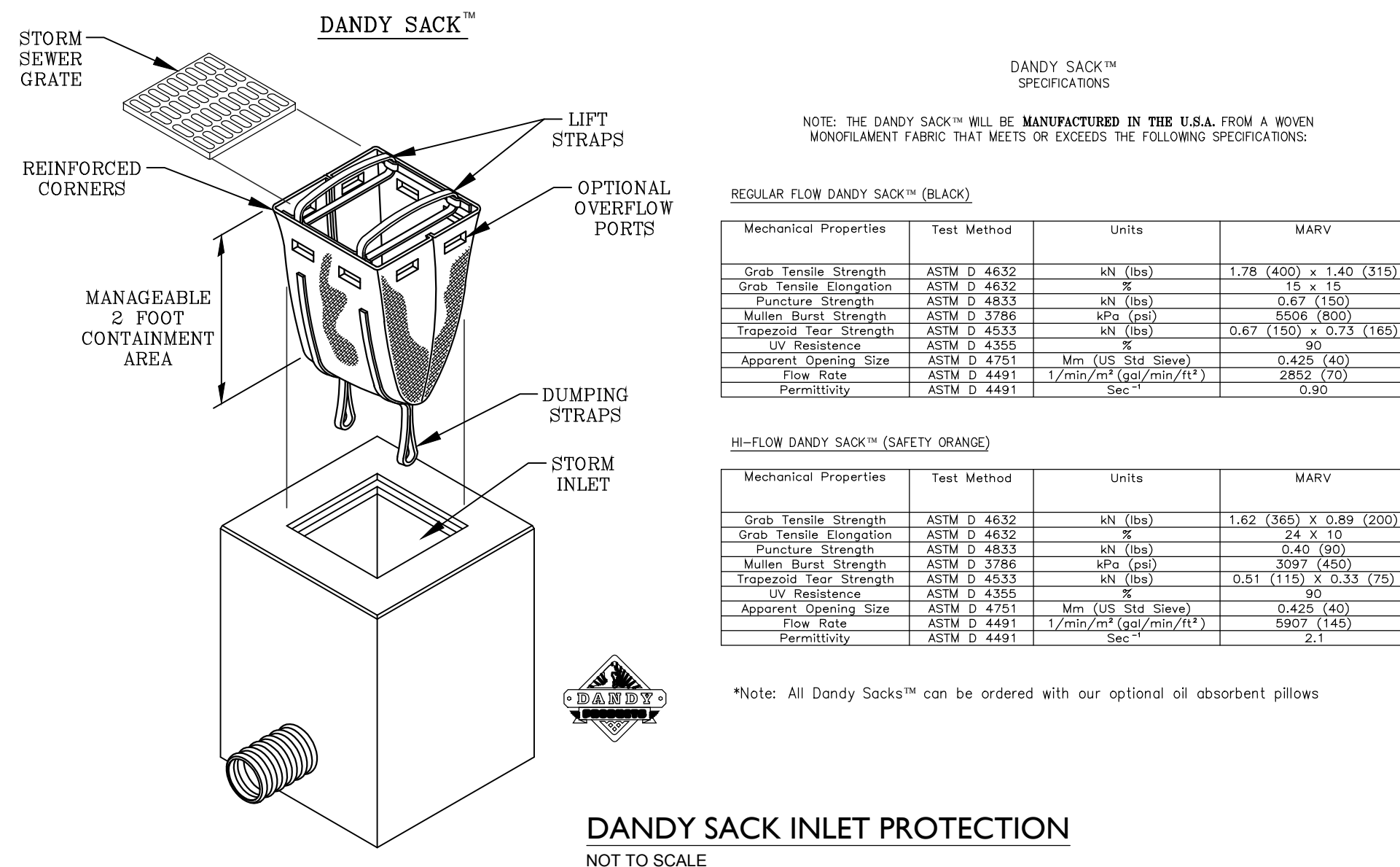
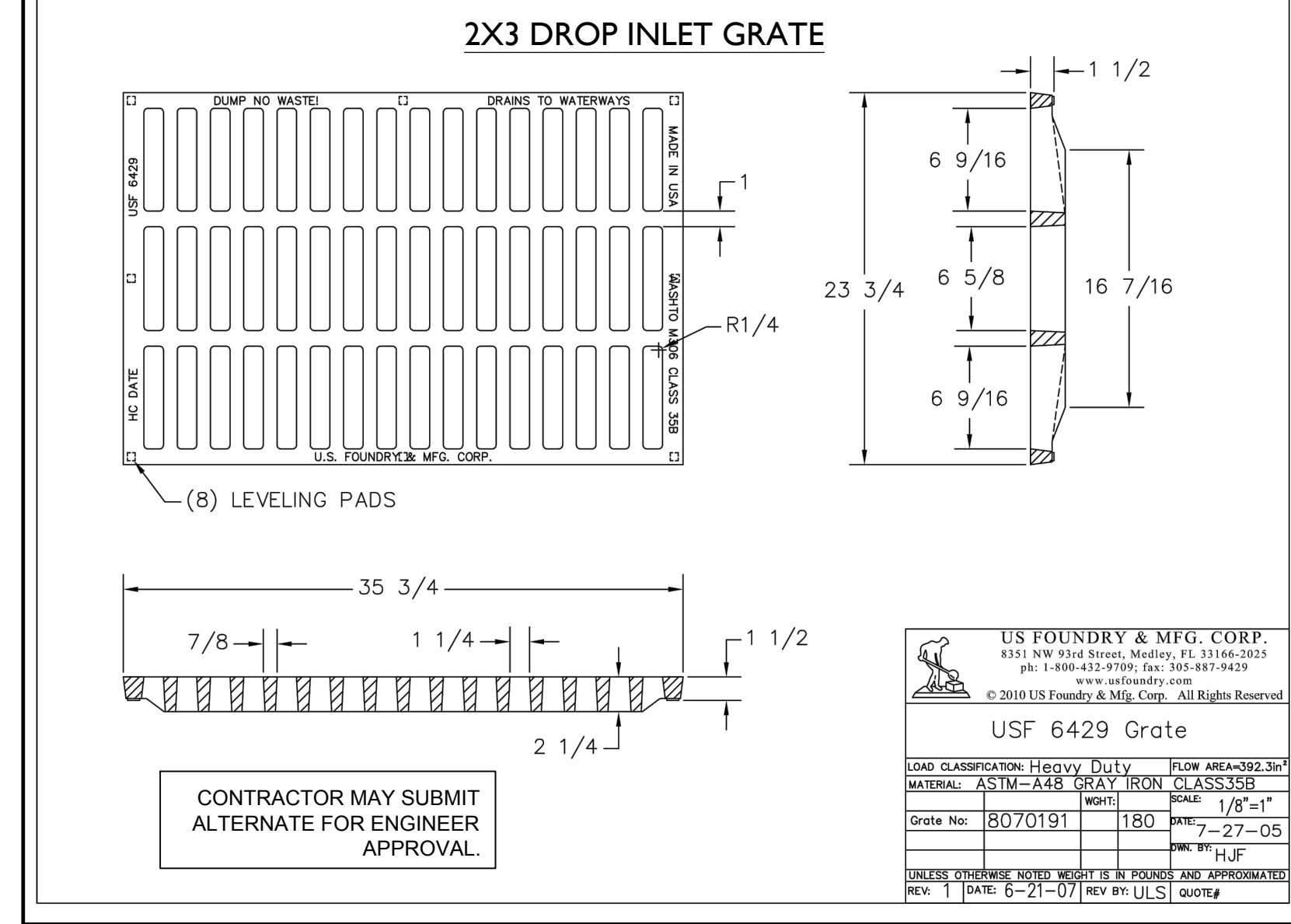
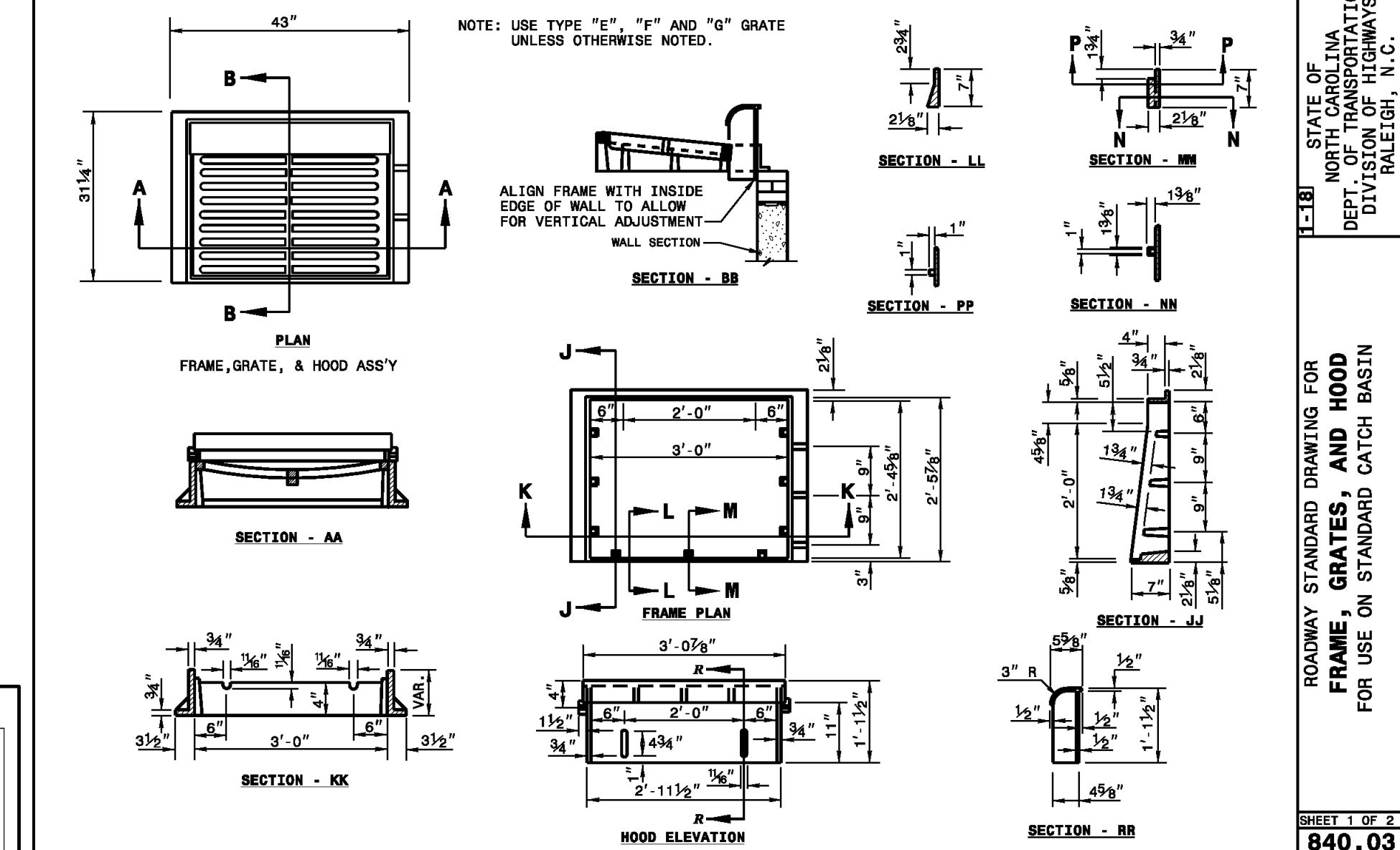
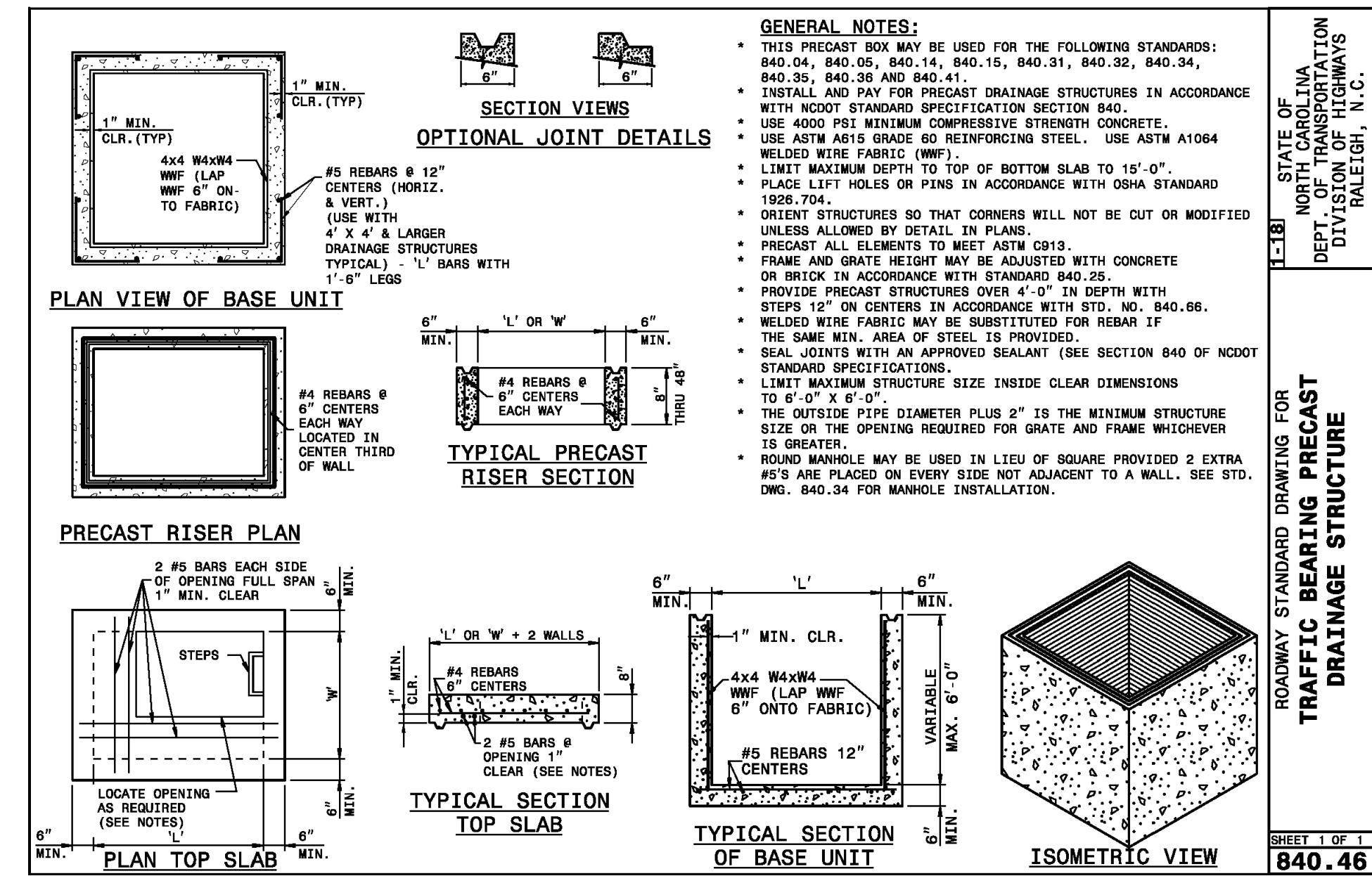
**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN

Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

**Approved Construction Plan**

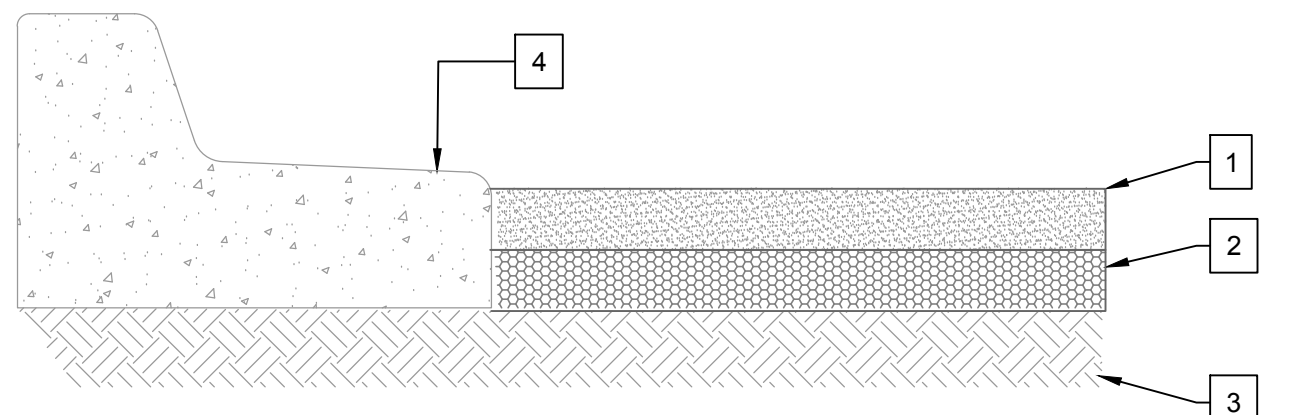
Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



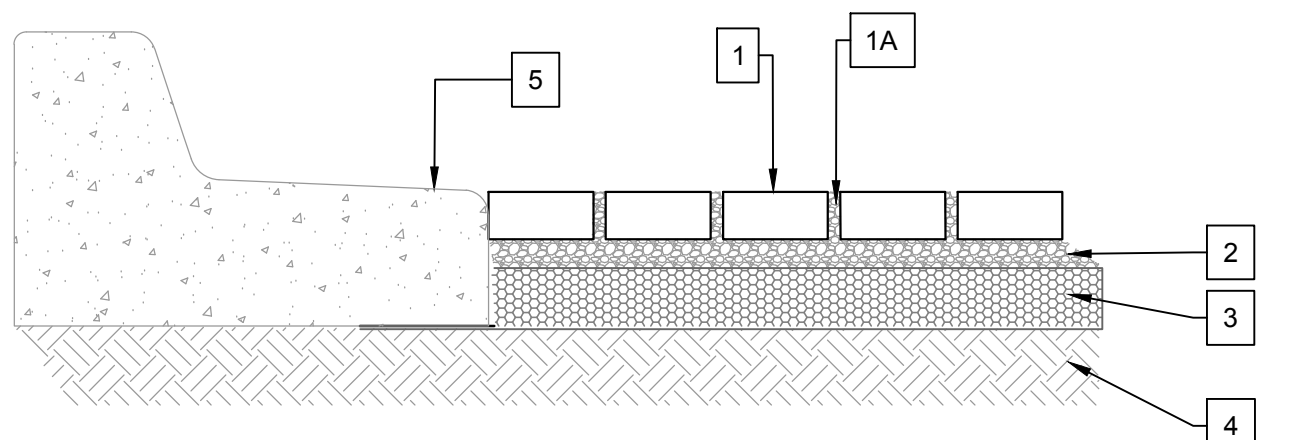


- 1 6" PERVIOUS CONCRETE (450PSI FLEX & 20% VOIDS)
- 2 6" BEDDING COURSE- ASTM #57 WASHED AGGREGATE (FREE OF FINES)
- 3 SUBGRADE SCARIFIED PER GEOTECH ENGINEER. GEOTECH SHALL CONFIRM SOIL SUITABILITY PRIOR TO PLACING MATERIAL. IF NOT SUITABLE, MIN. 4" CLEAN SAND 'NCDOT 2MS' GRADATION
- 4 24" CURB AND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

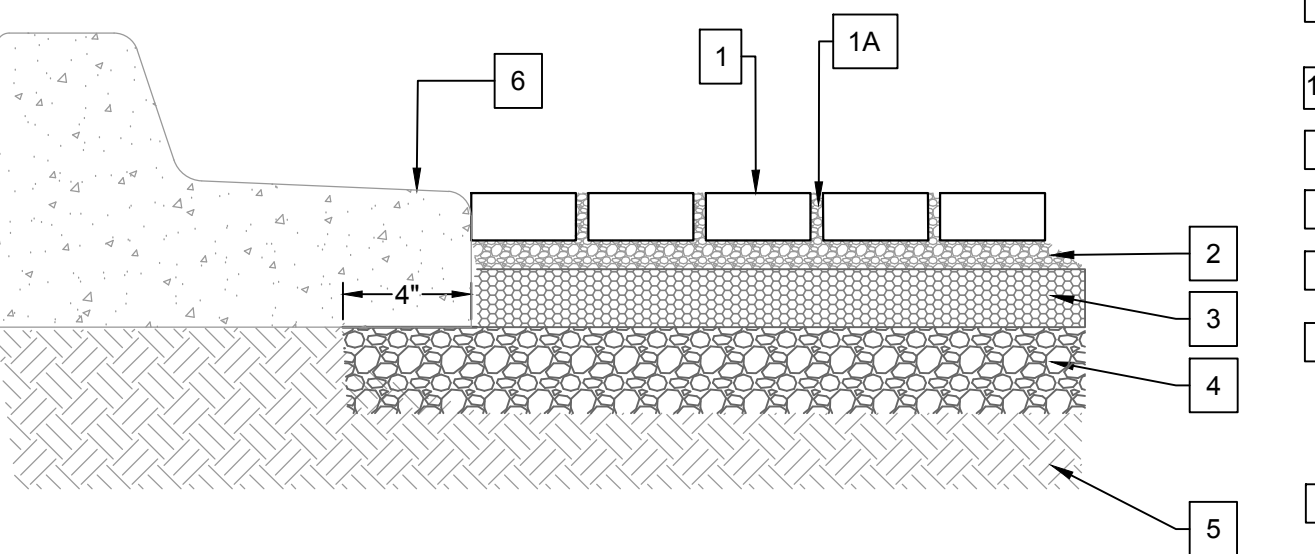
PERVIOUS CONCRETE OPTION 1



- 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.

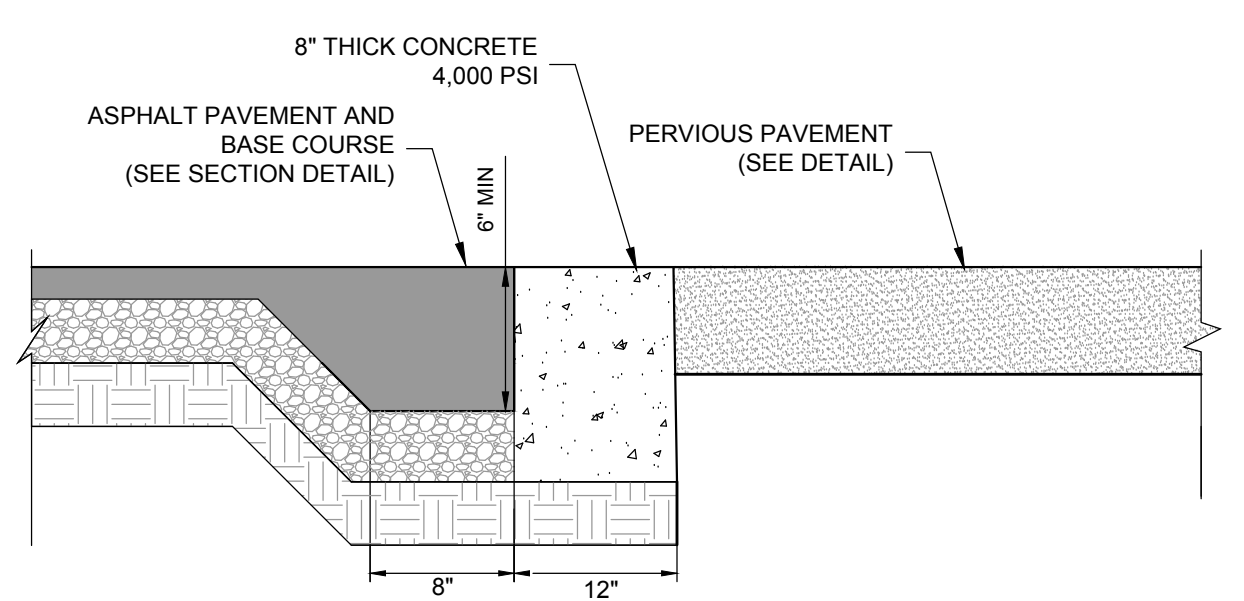
**PERVIOUS PAVER DRIVE AISLE PAVEMENT SECTION**  
 NOT TO SCALE

PERVIOUS PAVERS OPTION 2

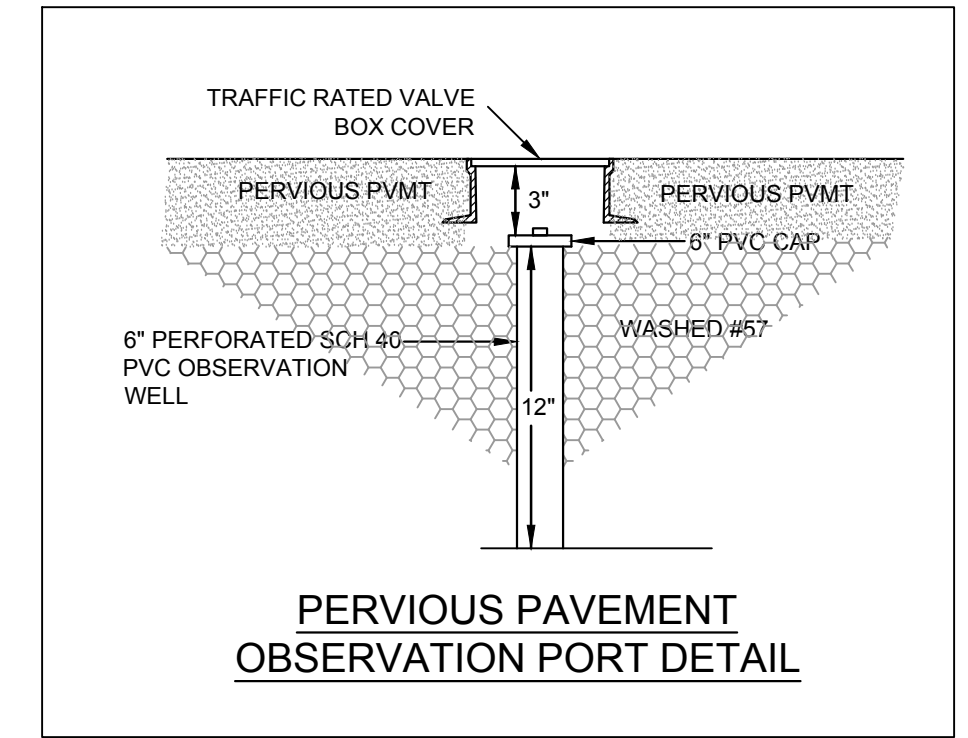
**STORMWATER WETLAND ZONE PLANTINGS:**

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	
TIZ	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	



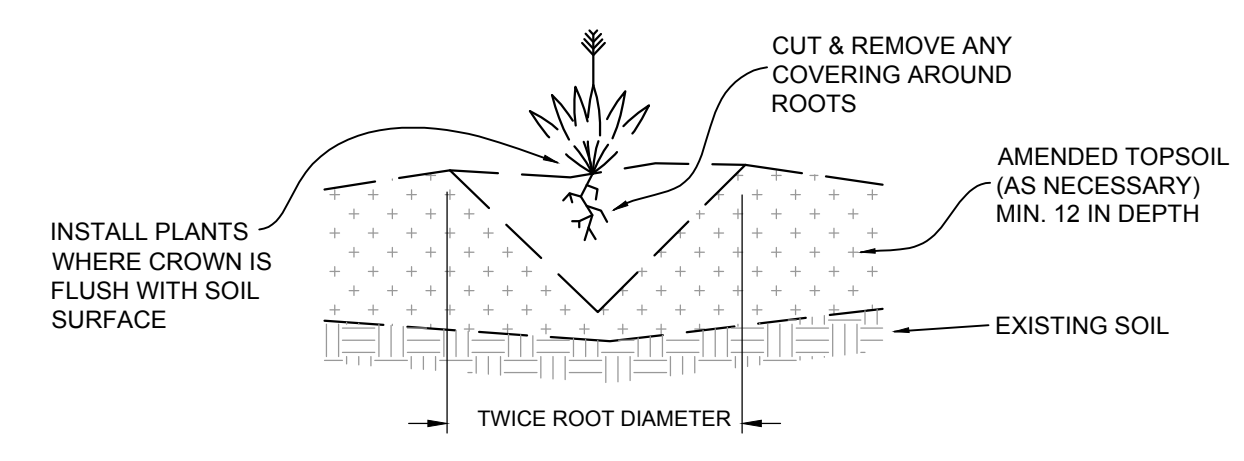
**12" HEADER CURB ASPHALT TO PERVIOUS PAVEMENT TRANSITION (TYPICAL)**



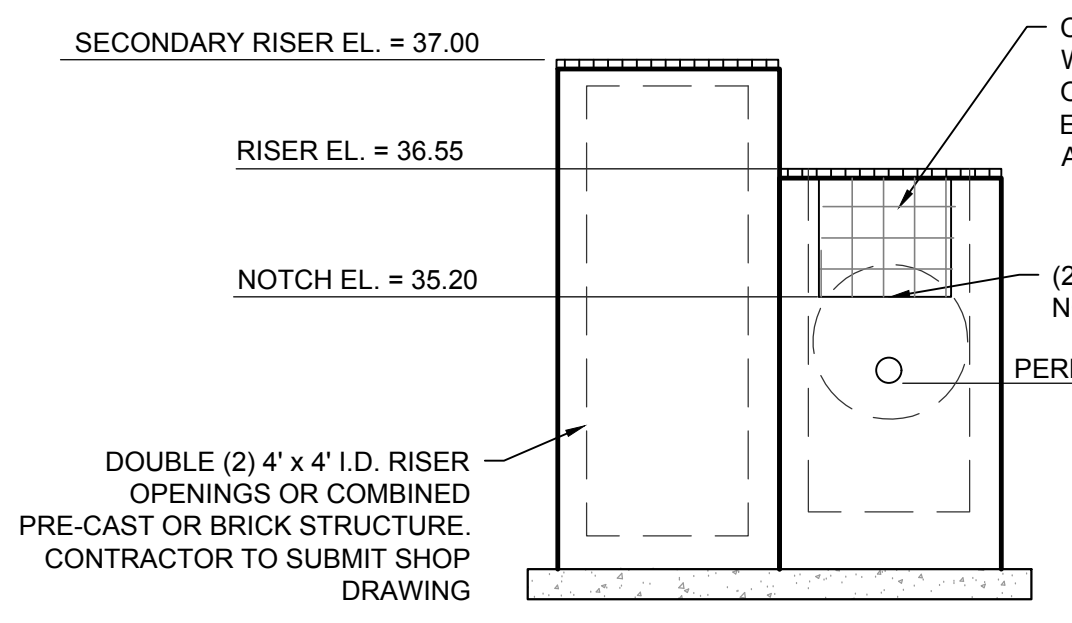
**PERVIOUS PAVEMENT OBSERVATION PORT DETAIL**

**PLANTING SPECIFICATIONS**

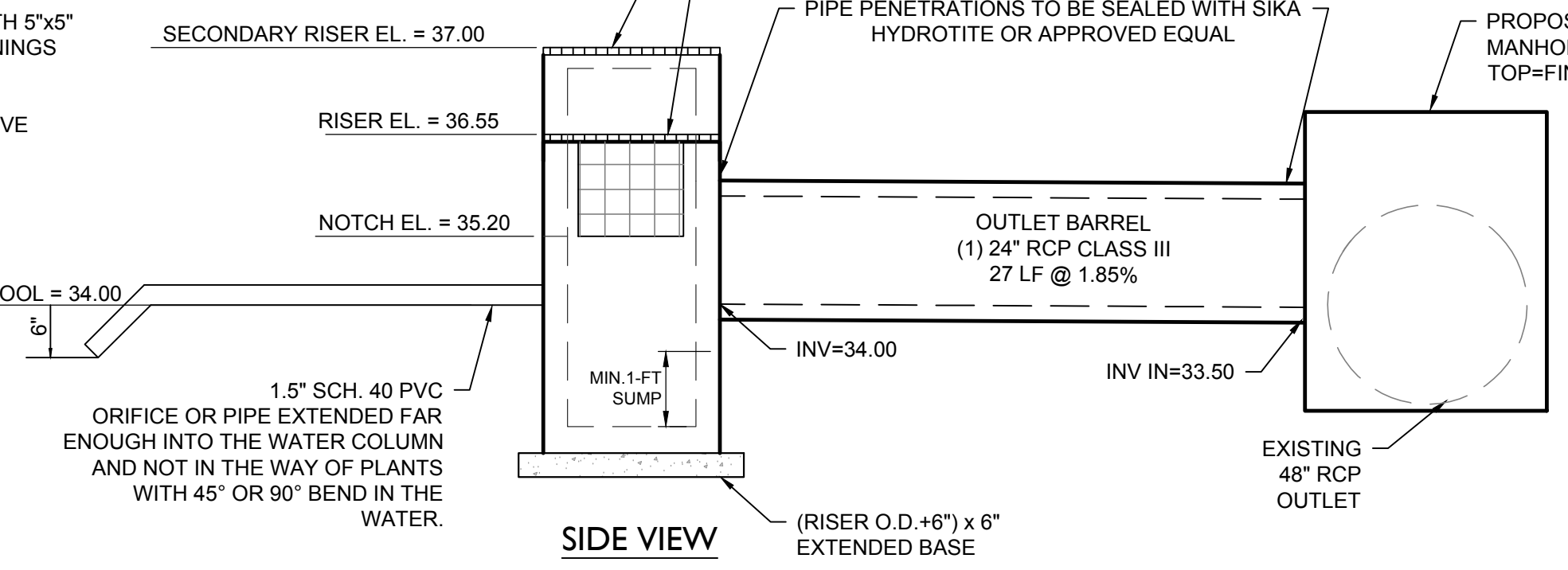
- APPROXIMATELY 5 GRAMS OF A BALANCED SLOW RELEASE FERTILIZER SHALL BE INSTALLED NEXT TO EACH HERBACEOUS LARGE PLUG WITHIN THE WETLAND. FERTILIZER MAY BE OMITTED IF 6 INCHES OF FERTILE TOPSOIL HAS BEEN APPLIED THROUGHOUT THE WETLAND.
- ALL PLANTS SHOULD BE PLANTED IN THE SPECIFIED ZONE TO ENSURE SURVIVAL.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



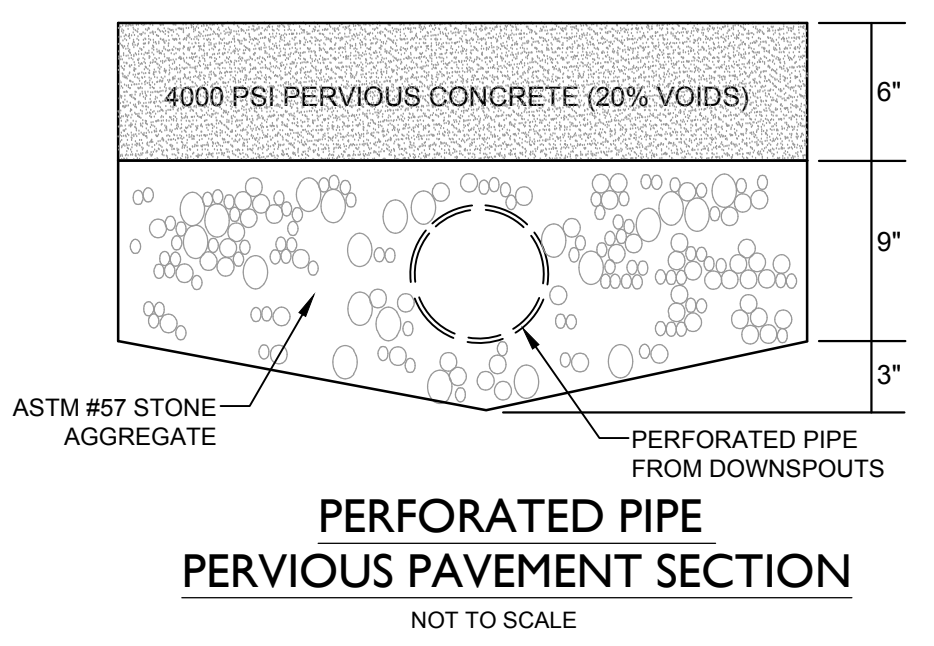
**SIDE VIEW**

**DOUBLE OUTLET STRUCTURE DETAIL**  
 NOT TO SCALE

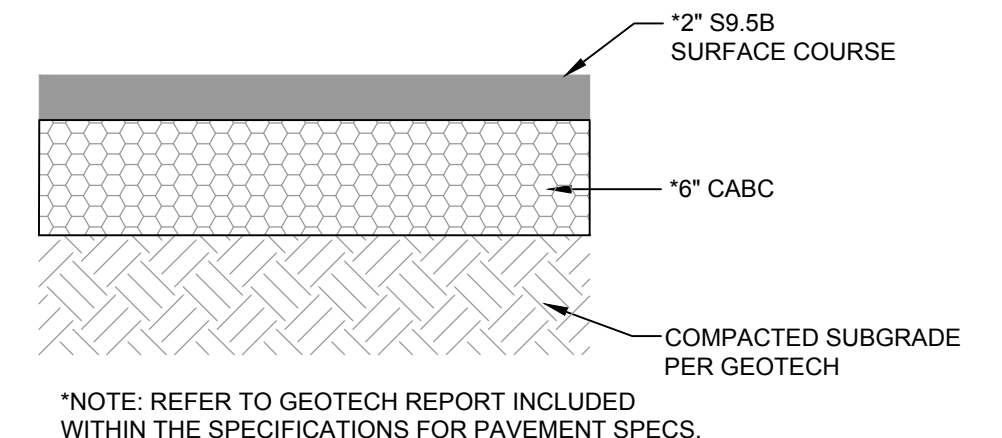
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

**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

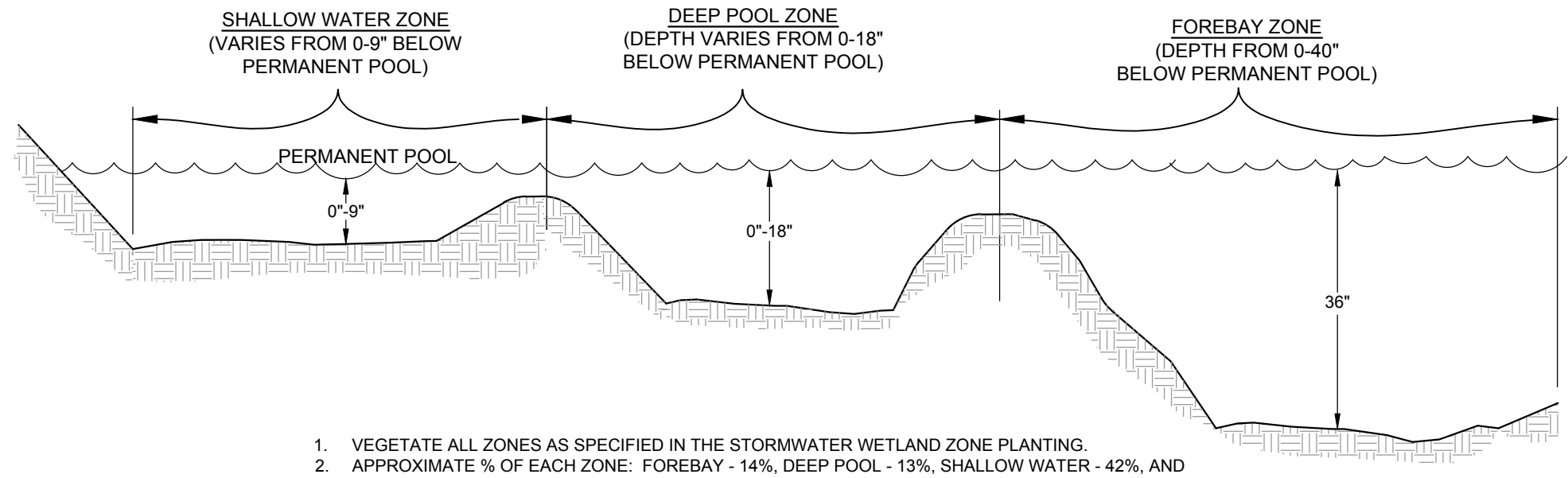


**ASPHALT PAVEMENT SECTION**

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

**SOIL AMENDMENT SPECIFICATIONS**

- TOPSOIL TO BE ADDED TO TOP OF CONSTRUCTED WETLAND SHELF IF NATIVE SOILS ARE NOT SUITABLE FOR GROWTH OF SELECTED PLANT SPECIES.
- TOPSOIL SHALL BE WELL MIXED, FREE OF TRASH AND DEBRIS, UNCOMPACTED, AND VOID OF LARGE (>2 INCHES) AND WOODY MATERIAL (>3 INCHES).
- 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
- IN THE EVENT THAT SELECTED TOPSOIL DOES NOT MEET SPECIFICATION LISTED ABOVE, CONSULT WITH LANDSCAPE ARCHITECT.
- 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.



- VEGETATE ALL ZONES AS SPECIFIED IN THE STORMWATER WETLAND ZONE PLANTING.
- 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. 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) 791-6706 (F)  
 N.C. License #: C-2846

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

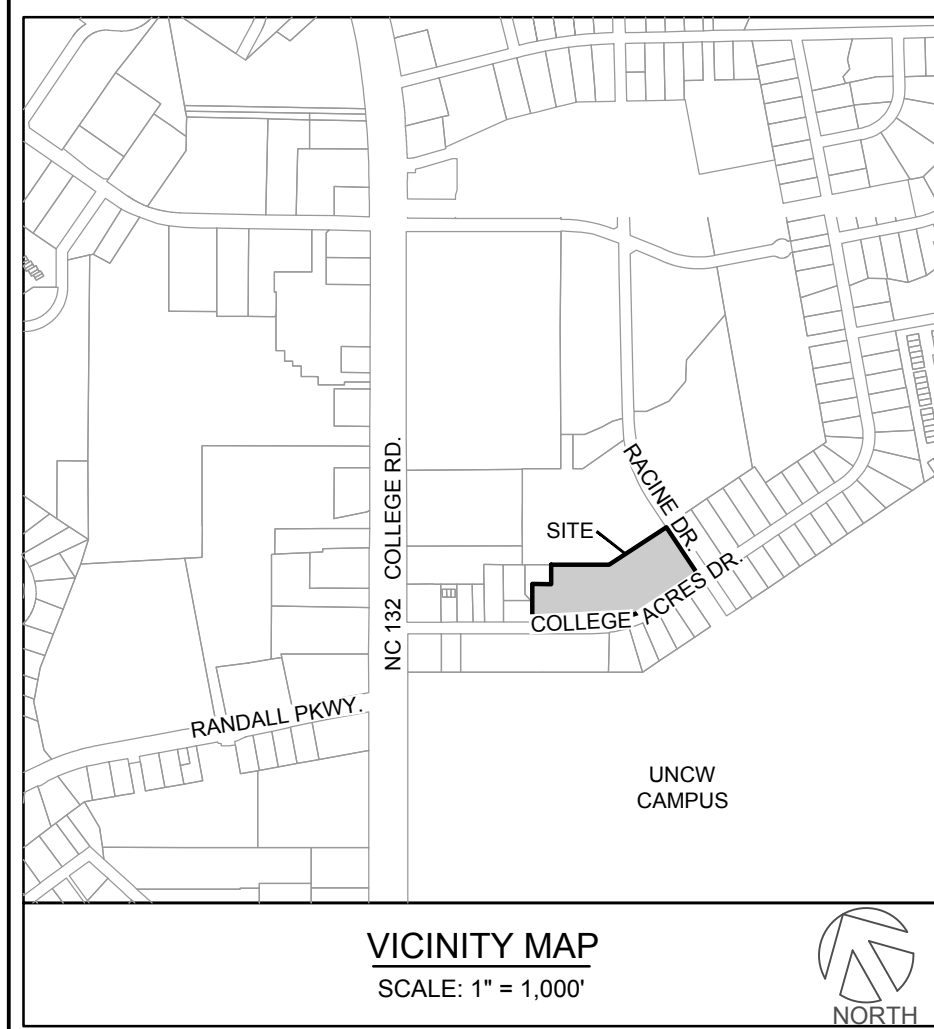
**PROJECT STATUS:**  
 9.29.20 ORIGINAL LAYOUT  
 10.13.20 FINAL DESIGN LAYOUT  
 RELEASED FOR CONSTRUCTION

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

**SEAL**

**C-6.3**  
 PEI JOB#: 19443.PE





**SITE INFORMATION:**

PARCEL ID: R05598-002-007 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: 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

**IMPERVIOUS DATA:**

EXISTING BUILDING:	20,800 SF
EXISTING PAVEMENT:	13,000 SF
EXISTING GRAVEL:	3,950 SF
TOTAL EXISTING IMPERVIOUS:	37,750 SF (TO BE REMOVED)
PROPOSED BUILDINGS:	53,555 SF
PROPOSED PAVEMENT:	55,950 SF
PROPOSED SIDEWALKS:	11,600 SF
OTHER:	2,740 SF
FUTURE:	2,000 SF
TOTAL NEW IMPERVIOUS:	125,845 SF

OFFSITE IMPERVIOUS: 4,500 SF (TO WETLAND)  
 PERV. PAVEMENT IMPERVIOUS: 31,355 SF  
 SW WETLAND IMPERVIOUS: 98,990 SF  
 NET IMPERVIOUS TO WETLAND: 98,990 - 37,150 SF = 61,840 SF TO WETLAND

**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 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 (DUPLX): (50 X 28) X 0.12 = 168 SF  
 CLUBHOUSE: (68 X 14) X 0.12 = 114 SF

PROVIDED:  
 TYPE A (APARTMENT): 830 SF  
 TYPE B (DUPLX): 238 SF  
 CLUBHOUSE: 218 SF

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

SHADE CALCULATIONS:  
 REQUIRED: 35% OF 67,550 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: 16 TREES / ACRE  
 PROVIDED: 83 TREES (15 X 5.53 ACRES)  
 351 TREES (83 PROPOSED + 268 RETAINED CREDIT)

**LANDSCAPE NOTES:**

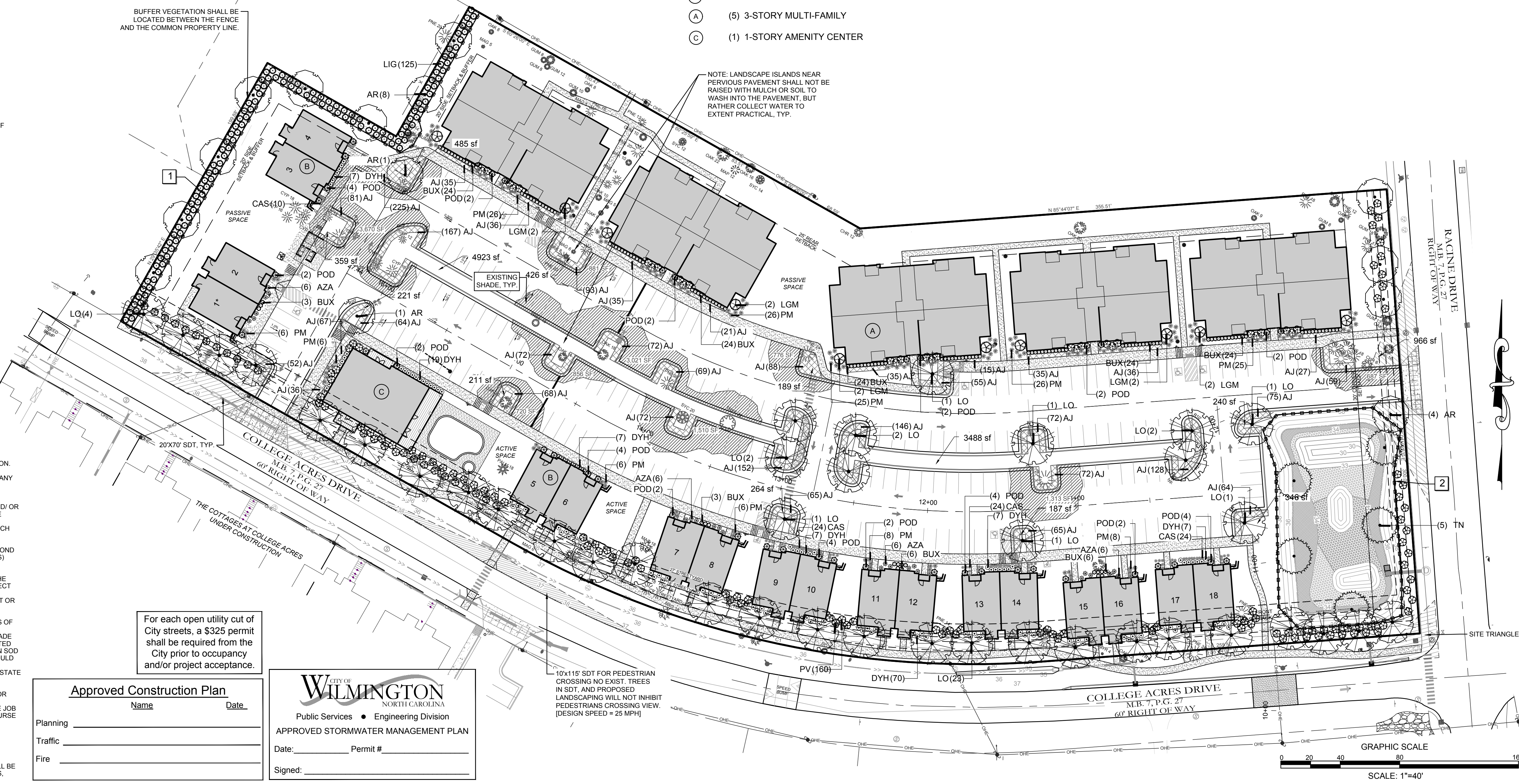
- CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- TREES SHALL BE LOCATED NO CLOSER THAN 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
- ALL 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 DEPTH 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 MARKS. ALL SINGLE TREES (INCLUDING BOTH PROPOSED AND EXISTING TREES) SHOULD HAVE A CIRCLE OF MULCH NOT LESS THAN 5 FEET DIAMETER.
- PLANTING SOIL MIX: MIX EXISTING SOIL WITH THE SOIL AMENDMENTS 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 SOODED AREAS TO ASSURE THAT THE SUBGRADE HAS BEEN RAKED AND ROLLED TO ACCEPT THE SO/SEED. ALL SO/SEED AREAS MUST BE IRRIGATED OR HAND WATERED. ALL SO/SEED SHALL BE PLACED WITH STAGGERED JOINTS AND NO GAPS BETWEEN SO/ JOINTS. SO/ SHOULD BE ROLLED AFTER INSTALLATION. ALL SEEDED AND/OR SOODED 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 SO/ SHALL BE SEEDED.
- ALL LANDSCAPE ISLANDS ARE NOT TO BE SEEDED. 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.

**PLANT SCHEDULE**

TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	
	TN	5	Taxodium distichum imbricatum 'Nutans' Nutans Pond Cypress	2.5" cal - 8' H	
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	2.5" cal - 8' H	
	LO	39	Quercus virginiana Southern Live Oak	2.5" cal / 10'-12' 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' Wintergreen Boxwood	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	2,454	Trachelospermum a. 'Asiatic' Asiatic Jasmine	1 gal	18" o.c.

**SITE KEYNOTES:**

- 8-FT SCREENING FENCE WITHIN BUFFER
  - 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



BUFFER VEGETATION SHALL BE LOCATED BETWEEN THE FENCE AND THE COMMON PROPERTY LINE.

NOTE: LANDSCAPE ISLANDS NEAR PERVIOUS PAVEMENT SHALL NOT BE RAISED WITH MULCH OR SOIL TO WASH INTO THE PAVEMENT, BUT RATHER COLLECT WATER TO EXTENT PRACTICAL, TYP.

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
---	--------------------------------

**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) 791-6706 (F)  
 NC License #: C-2846

**LANDSCAPE PLAN**

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

**PROJECT STATUS:**  
 CONCEPTUAL LAYOUT: 8.28.20  
 FINAL DESIGN: 10.13.20  
 RELEASED FOR CONST:

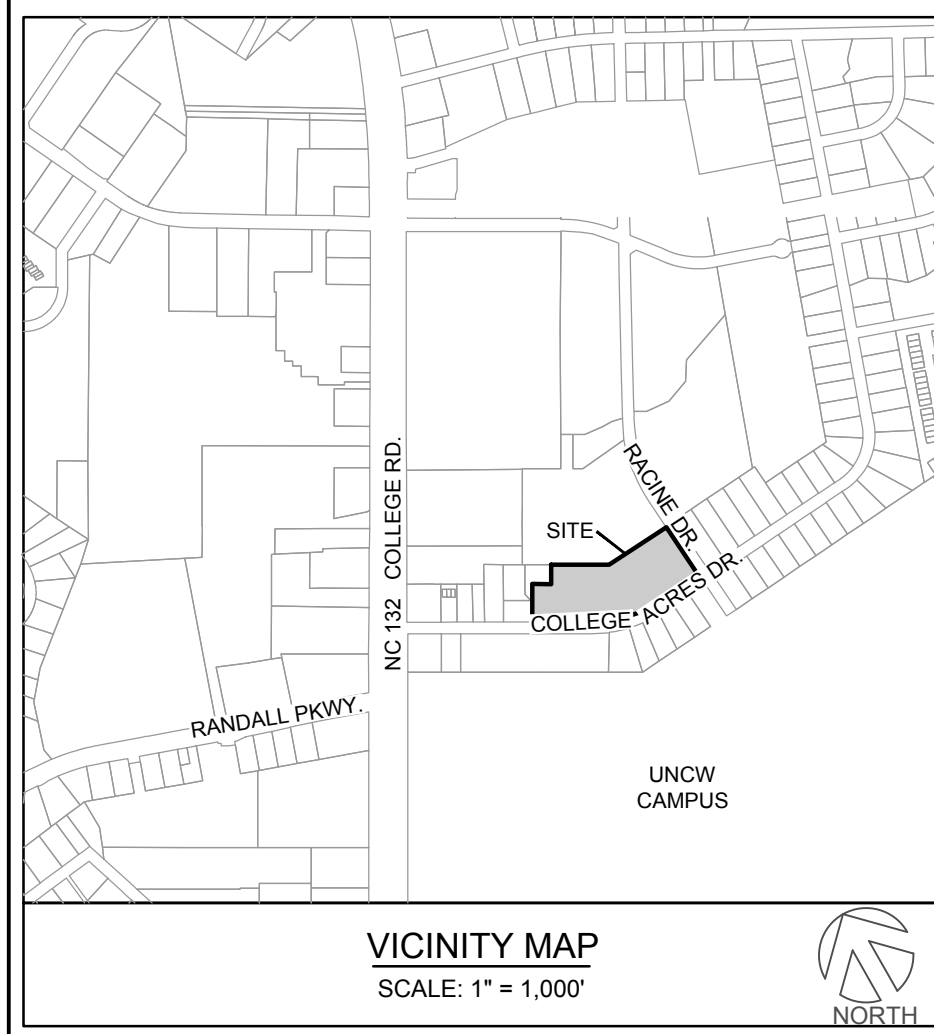
**DRAWING INFORMATION:**  
 DATE: 10/01/20  
 SCALE: 1" = 40'  
 DRAWN: JRC  
 CHECKED: JRC

SEAL

**L-1.0**

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: 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 \_\_\_\_\_

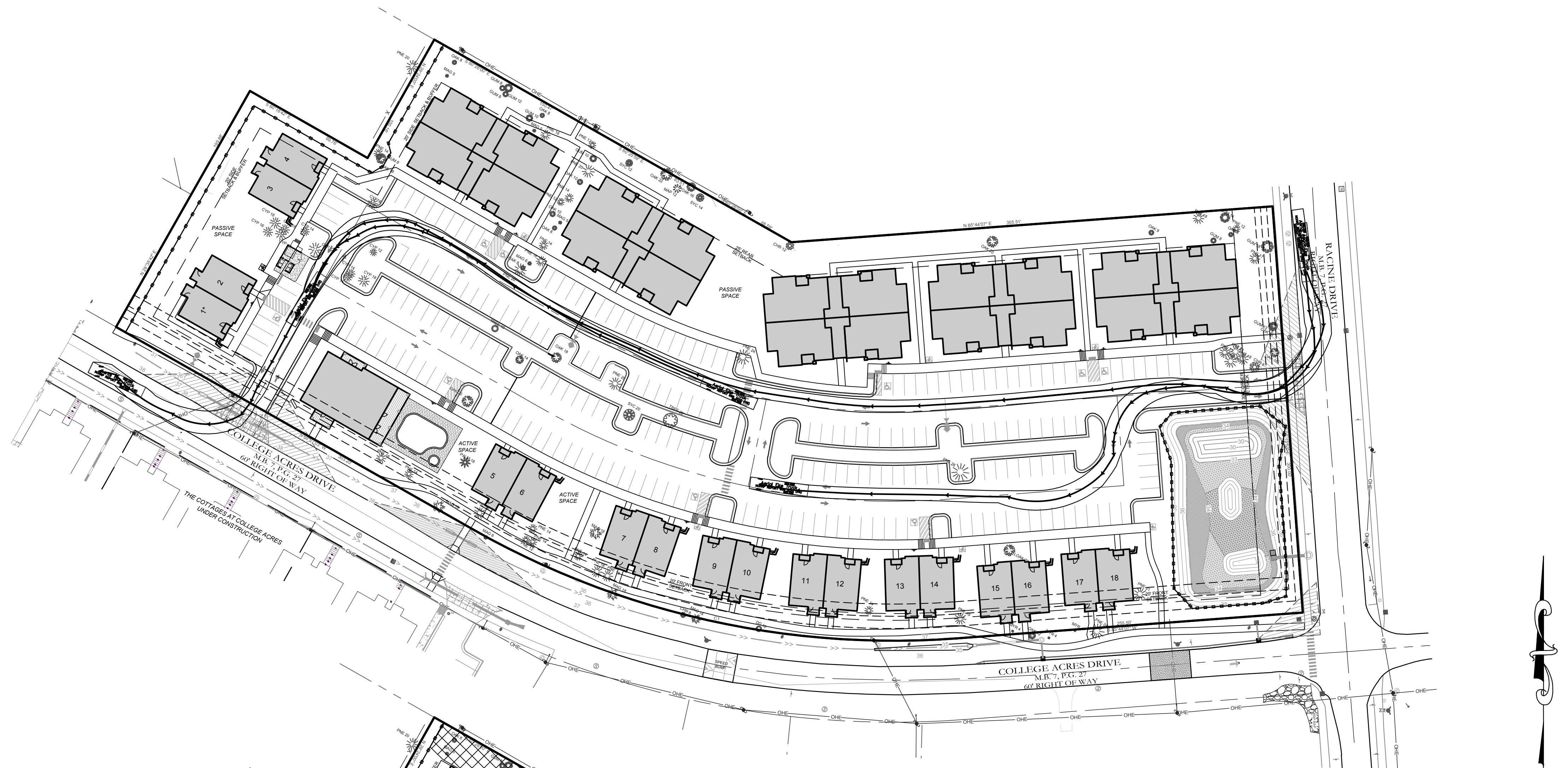
**CITY OF WILMINGTON**  
NORTH CAROLINA

Public Services • Engineering Division

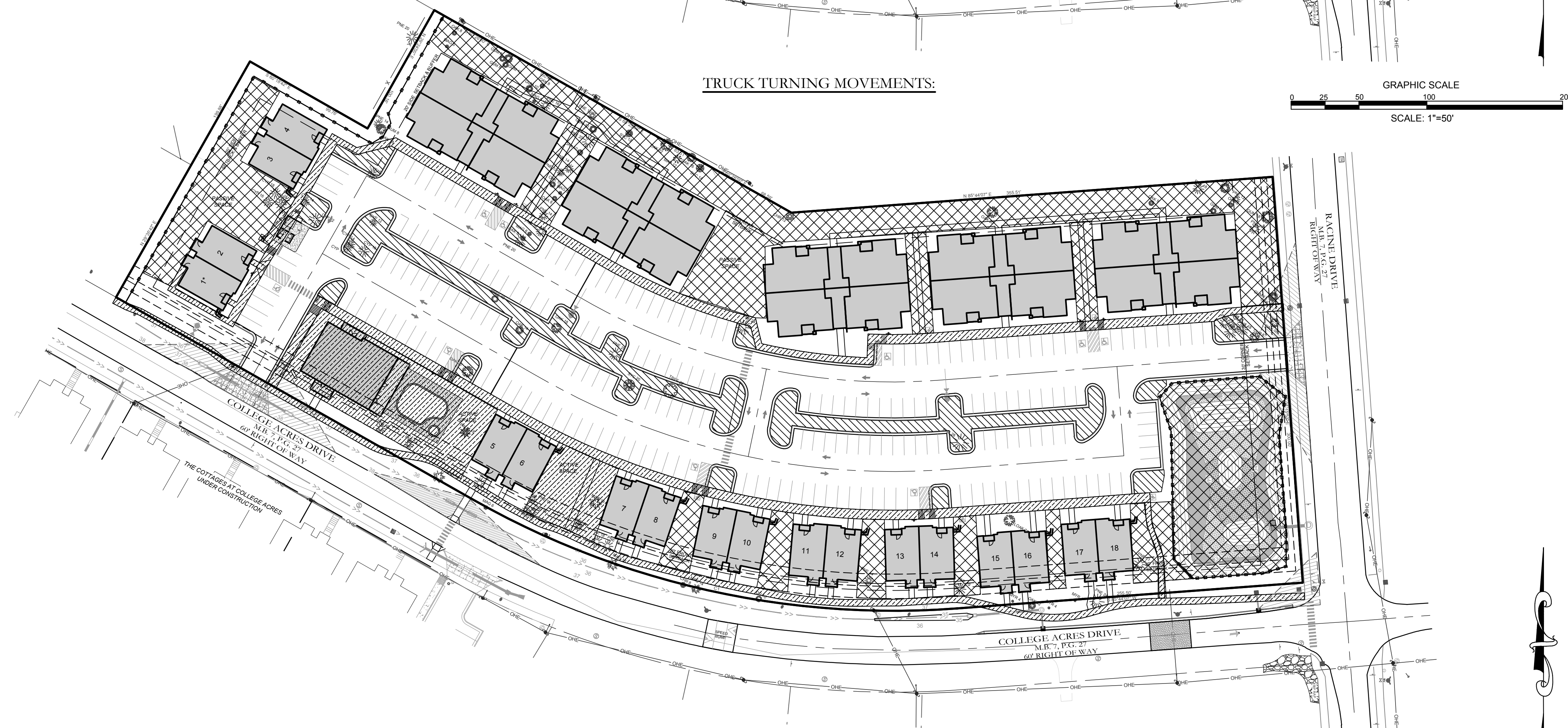
**APPROVED STORMWATER MANAGEMENT PLAN**

Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_



**TRUCK TURNING MOVEMENTS:**



**OPEN SPACE AREAS:**



**REVISIONS:**

1.	REVISED PER FINAL TRC COMMENTS
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**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:	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

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION