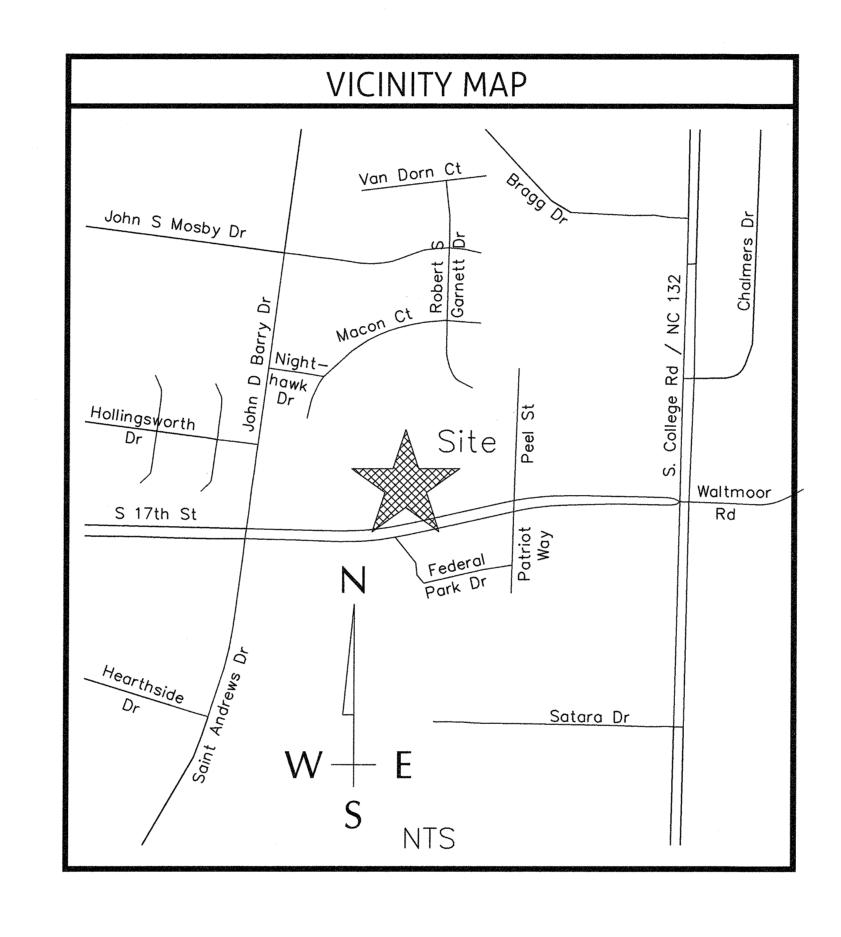
INFRASTRUCTURE CONSTRUCTION DRAWINGS FOR

ARBOR COMMONS

WILMINGTON, NC
MARCH 2017

LEGEND					
LINETYPE DESCRIPTION		LINETYPE DESCRIPTION			
EXISTING WATERLINE	- W	PROPOSED UNDERGROUND ELECTRIC	UE —		
PROPOSED WATERLINE		EXISTING GASLINE	G		
EXISTING STORM DRAINAGE		PROPOSED GASLINE			
PROPOSED STORM DRAINAGE		SILT FENCE	SF		
EXISTING SANITARY SEWER	SS	TREE PROTECTION & SILT FENCE	SF/TP		
PROPOSED SANITARY SEWER		FENCE			
EXISTING FORCE MAIN	FM	TREE PROTECTION	TP		
PROPOSED FORCE MAIN	FM	TEMP. DIVERSION SWALE	->->->>		
EXISTING ELECTRIC (OVERHEAD)	мините маните Е шините иниципа	RIGHT-OF-WAY			
PROPOSED ELECTRIC (OVERHEAD)	——— Е ———	EXISTING WETLANDS			
EXISTING UNDERGROUND ELECTRIC	UE	1' CONTOUR			
EXISTING EASEMENT		5' CONTOUR	5		
PROJECT BOUNDARY	DROVARIA DE CONTROLO SE CONTROLO DE CONTRO	PROPOSED EASEMENT			



INDEX OF SHEETS SHEET NO. SHEET TITLE **PROJECT NOTES EXISTING CONDITIONS** TREE REPLACEMENT PLAN SITE PLAN **EROSION CONTROL PLAN GRADING AND STORMWATER PLAN** LANDSCAPE & LIGHTING PLAN HOLLINGSWORTH DRIVE PLAN & PROFILE PRIVATE INTERPARCEL ACCESS ROAD PLAN & PROFILE PAVEMENT MARKINGS AND SIGNAGE PLAN DRAINAGE AREA PLAN SANITARY SEWER DETAILS SANITARY SEWER DETAILS SANITARY SEWER DETAILS WATER DISTRIBUTION SYSTEM DETAILS WATER DISTRIBUTION SYSTEM DETAILS **ROADWAY DETAILS** STORM DRAIN DETAILS **EROSION CONTROL DETAILS**

SEAL REDACTED

FINAL DESIGN

STORMWATER MANAGEMENT PLAN

APPROVED

CITY OF WILMINGTON

ENGINEERING DEPARTMENT

DATE 3/25/17 PERMIT # 20 (7006

SIGNED VOLUMENT

Approved Construction Plan

Name

Planning

Public Utilities

Traffic

Fire Roba JBM

3 24-17

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



DEVELOPER/OWNER

LEON CAPITAL GROUP

5970 Fairview Road, Suite 450 Charlotte, NC 28210 336-327-3050

ATTN: TODD HARRELSON

RECEIVED

MAR 2 4 2017

PLANNING DIVISION

W:\06\06-1190\061193.01-Arbor Commons\CAD\COVER.dwg- Wednesday, March 01, 2017 9:34:24 AM

PLANS. CONTRACTOR SHALL EMPLOY A PROFESSIONAL SURVEYOR TO PERFORM SITE IMPROVEMENT STAKEOUT(S).

- 2. ALL WORK IS TO BE IN ACCORDANCE WITH THE CITY OF WILMINGTON, CAPE FEAR PUBLIC UTILITY AUTHORITY, NEW HANOVER COUNTY, AND THE
- STATE OF NORTH CAROLINA. 3. THE CONTRACTOR IS TO ESTABLISH AND CHECK ALL HORIZONTAL AND VERTICAL CONTROLS TO BE USED WITH THE PROJECT. IN ADDITION, THE
- 4. ANY TIME 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, AND TO FOLLOW ANY GUIDELINES OR STANDARDS WHICH ARE ASSOCIATED WITH OR REFERENCED IN THE RECORDED EASEMENT.

CONTRACTOR IS TO COMPUTE THE LAYOUT OF THE ENTIRE SITE PLAN IN ADVANCE OF BEGINNING ANY WORK ASSOCIATED WITH THE SUBJECT

- 5. THE CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH THE CITY OF WILMINGTON INSPECTOR AND NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO THE MEETING. AT A MINIMUM; THE CONTRACTOR, CITY INSPECTOR, AND ENGINEER SHALL ATTEND THIS MEETING.
- 6. CONTRACTOR TO COORDINATE WITH TRAFFIC ENGINEERING FOR THE REMOVAL AND STORAGE OF ANY TRAFFIC EQUIPMENT OR SIGNS DURING DEMOLITION, CONSTRUCTION, AND OPENING OF THIS DEVELOPMENT.
- 7. CONTRACTOR TO COORDINATE WITH CITY OF WILMINGTON ENGINEERING ABOUT THE DETOUR AND CLOSURE PLAN FOR THE CROSS CITY TRAIL WHICH WILL BE CLOSED AND OR /PEDESTRIAN REROUTING REQUIRED FOR THE DEMOLITION, CONSTRUCTION OR OPENING OF THIS PROJECT.
- 8. CONTRACTOR TO COORDINATE WITH THE CITY OF WILMINGTON ABOUT ANY CITY EQUIPMENT REMOVED, RELOCATED, OR DEMOLISHED DURING THE DEMOLITION, CONSTRUCTION AND OPENING OF THIS DEVELOPMENT.
- 9. CONTRACTOR TO COORDINATE DIRECTLY WITH ENGINEERING TO DETERMINE IF ANY DRIVEWAY PERMITS/REVISIONS/REVIEW PROCESSES ARE REQUIRED. CONTACT SKIPPER FUNDERBURG AT 910-341-5899.
- 10. CONTRACTOR TO COORDINATE WITH TRAFFIC ENGINEERING AT TRAFFIC PLAN FOR THE CLOSURE OF STREETS, SIDEWALKS, OR DRIVEWAYS AND IMPLEMENTATIONS OF THE VEHICLE AND PEDESTRIAN TRAFFIC PLAN TO BE USED FOR THE DURATION OF THIS PROJECT. THE PLAN MUST INCLUDE LOCATIONS OF SIDEWALKS AND CROSSWALKS THAT WILL BE CLOSED, AS AS, LOCATION OF CONSTRUCTION FENCING, AND PROTECTION AREAS. RESTRICTIONS MAY APPLY FOR CONSTRUCTION OF TURN LANES ON S. 17TH STREET, ST. ANDREWS, JOHN D. BARRY AND PEEL STREET.
- 11. A TEMPORARY DETOUR AND CLOSURE PLAN WILL NEED TO BE FILED WITH NHC 911 FOR THE CLOSURE OF ANY PUBLIC STREETS.

GENERAL NOTES:

- 1. THE BOUNDARY, TOPOGRAPHY AND UTILITIES SURVEY HAVE BEEN PROVIDED BY WITHERS RAVENEL. THE VERTICAL DATUM FOR THE GROUND SURVEY FOR THIS PROJECT IS NAVD 29. CONTRACTOR TO VERIFY ALL ELEVATIONS IN THE FIELD.
- 2. THE TREE SURVEY HAS BEEN PROVIDED BY ROBERT SESSOMS & ASSOCIATES. PLLC (NC LICENSE NUMBER P-0884).
- 3. REASONABLE CARE HAS BEEN EXERCISED IN SHOWING THE LOCATION OF EXISTING UTILITIES ON THE PLANS. THE EXACT LOCATION OF ALL EXISTING UTILITIES IS NOT KNOWN IN ALL CASES. THE CONTRACTOR SHALL EXPLORE THE AREA AHEAD OF DITCHING OPERATIONS BY OBSERVATIONS, ELECTRONIC DEVICES, HAND DIGGING AND BY PERSONAL CONTACT WITH THE UTILITY COMPANIES. IN ORDER TO LOCATE EXISTING UTILITIES IN ADVANCE OF TRENCHING OPERATIONS SO AS TO ELIMINATE OR MINIMIZE DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS RESULTING FROM ANY DAMAGE TO THE EXISTING UTILITY LINES INCLUDING LOSS OF UTILITY REVENUES. CONTRACTOR SHALL ARRANGE FOR TEMPORARY SUPPORT OF EXISTING UTILITIES, SUCH AS POLES, CONDUITS, FIBER OPTIC CABLES, TELEPHONE CABLES, WATER LINES, ETC.
- 4. CONTRACTOR SHALL COMPLY WITH THE LATEST REVISIONS AND INTERPRETATIONS OF THE DEPARTMENT OF LABOR SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION PROMULGATED UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT. CONTRACTOR SHALL PLAN AND CONSTRUCT WORK SO AS TO CAUSE MINIMUM INCONVENIENCE TO THE OWNER AND THE PUBLIC.
- 5. CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN AT ALL TIMES DURING THE PROGRESS OR TEMPORARY SUSPENSION OF WORK, SUITABLE BARRIERS, FENCES, SIGNS OR OTHER ADEQUATE PROTECTION, INCLUDING FLAGMEN AND WATCHMEN AS NECESSARY TO INSURE THE SAFETY OF THE PUBLIC AS WELL AS THOSE ENGAGED IN THE CONSTRUCTION WORK. CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "CONSTRUCTION AND MAINTENANCE OPERATIONS SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE
- 6. 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.
- 7. ALL WORK BY THE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR AFTER THE OWNER ACCEPTS THE Work.
- 8. CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL CENTER AT 1 (800) 632-4949 AND ALLOW THE CENTER TO LOCATE EXISTING UTILITIES
- 9. CONTRACTOR SHALL REMOVE ASPHALT, AGGREGATE BASE COURSE, AND CONCRETE CURB & GUTTER WITHIN LIMITS OF DEMOLITION AS SHOWN
- 10. IF THESE UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT. PLEASE NOTE THIS ON THE SITE PLAN AND ADVISE THE PROPERTY OWNER OF THIS REQUIREMENT.
- 11. THIS PROPERTY IS NOT WITHIN ANY FLOOD HAZARD AREA AS EVIDENCED ON N.C. FLOOD MAP 3720313500J.

DEMOLITION NOTES:

Revision

EVISED PER NHC EC & CITY OF WILMINGTON COMMENTS 9-27-16

- CONTRACTOR TO COORDINATE WITH THE OWNER TO PROPERLY MAINTAIN OR RELOCATE EXISTING SERVICE CONNECTIONS WHEN
- CONTRACTOR IS TO WALK THE SITE AND BECOME FAMILIAR WITH THE SCOPE OF DEMOLITION REQUIRED. ALL DEMOLITION WORK REQUIRED TO CONSTRUCT NEW SITE IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND WILL BE UNCLASSIFIED EXCAVATION.
- 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 SOILS ENGINEER FOR THE INSTALLATION OF THE NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING AND AS SHOWN ON THESE PLANS.
- THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY, STRUCTURES AND UTILITIES ON THE PROPERTY NOT TO BE DEMOLISHED. DAMAGE TO PROPERTIES OF OTHERS DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST
- ELECTRIC, TELEPHONE, SANITARY SEWER, WATER AND STORM SEWER UTILITIES THAT SERVICE OFF-SITE PROPERTIES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS BY THE CONTRACTOR.
- EXISTING UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED AND UNDISTURBED DURING DEMOLITION.
- ALL EXISTING IMPROVEMENTS INDICATED OR REQUIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM THE PROPERTY AND PROPER DISPOSAL.
- CONTRACTOR SHALL COORDINATE RELOCATION OF ALL EXISTING OVER HEAD AND UNDERGROUND UTILITIES INCLUDING CABLE, GAS, TELEPHONE AND ELECTRIC AND ANY OTHER UTILITIES THROUGH THE SITE WITH THE RESPECTIVE COMPANIES.

Drawn By

PROVIDE SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND GUTTERS AND SIDEWALKS TO BE DEMOLISHED.

Date

- 10. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS OSHA REGULATIONS.
- 11. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS OF THE MAINS BY DIGGING TEST PITS BY HAND.

1"=50'

3/24/16

03061193.01

| Wilmington

EROSION AND SEDIMENT CONTROL NOTES

EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES:

- 1. CLEAR AND REMOVE FROM SITE ALL TREES, ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN DESIGNATED CLEARING LIMITS.
- 2. PLANT GRASS OVER ALL GRADED AREAS AS NOTED IN STABILIZATION NOTES.
- 3. 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 MEASURES
- 4. DURING GRADING AND AFTER GRADING HAS BEEN COMPLETED, CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL INSPECTION AND APPROVAL BY THE NEW HANOVER COUNTY
- 5. WATER, FERTILIZE, MOW AND MAINTAIN SPRIGGED, SODDED AND PLANTED AREAS UNTIL FINAL APPROVAL BY NEW HANOVER
- 6. 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.

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 AND WITHIN 24 HOURS OF EVERY HALF INCH RAINFALL. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
- 2. ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES THAT WILL BE PERIODICALLY TOP-DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. THEY WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTIONABLE MATERIAL SPILLED WASHED OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.
- SEDIMENT WILL BE REMOVED BEHIND THE SEDIMENT FENCE WHEN IT BECOMES 0.5 FEET DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. SILT FENCE STAKES WILL BE SPACED 6 FEET APART UNLESS A WIRE BACKING IS USED WITH 8 FOOT STAKE SPACING.
- 4. SEDIMENT WILL BE REMOVED FROM SEDIMENT TRAPS WHEN THE DESIGNED STORAGE REPLACE WHEN THE SEDIMENT POOL NO LONGER DRAINS OR WHEN THE ROCK IS DISLODGED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE.
- 5. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL SLOPES WILL BE STABILIZED WITHIN 21 CALENDAR DAYS. ALL OTHER AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS.
- 6. SEDIMENT WILL BE REMOVED FROM AROUND TEMPORARY ROCK CHECK DAMS ONCE A WEEK AND AFTER EVERY RAIN EVENT.

STABILIZATION NOTES

Seeding Mixture

CENTIPEDE GRASS

Soil Amendments

10-10-1- FERTILIZER.

Seeding Dates

MARCH - JUNE

DO NOT MULCH.

Maintenance

Seeding Mixture

SPECIES

- 1. SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH GROUND COVER, DEVICES, OR STRUCTURES TO RESTRAIN EROSION.
- 2. ALL OTHER DISTURBED AREAS SHALL BE PLANTED OR OTHERWISE PROVIDED PERMANENT GROUND COVER WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT WHICHEVER PERIOD IS SHORTER.

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

Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable. (Section 11.B(2)(b))

WINTER AND EARLY SPRING RATE (LB/ACRE) Rve (GRAIN) 120 ANNUAL LESPEDEZA (KOBE IN PIEDMONT

PERMANENT SEEDING SCHEDULE - MIXTURE 5CP

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 300 LB/ACRE

FERTILIZE VERY SPARINGLY LB/ACRE NITROGEN IN SPRING WITH NO PHOSPHORUS.

CENTIPEDE GRASS CANNOT TOLERATE HIGH PH OR EXCESS FERTILIZER.

TEMPORARY SEEDING-LATE WINTER/EARLY SPRING

AND COASTAL PLAIN, KOREAN IN MOUNTAINS) OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

SUMMER **GERMAN MILLET** RATE (LB/ACRE) RYE (GRAIN)

Seeding dates

AUG. 15 - DEC. 30 - FALL Soil amendments

APRIL 15 - AUG. 15 - SUMMER

COASTAL PLAIN - DEC.1-APR. 15 - LATE WINTER AND EARLY SPRING

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

FIRE & LIFE SAFETY NOTES:

- 1. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT (3') CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
- HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
- 3. A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
- 4. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDING(S).
- 5. CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- 6. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES

GRADING NOTES:

- 1. TREE PRESERVATION / REMOVAL PERMIT IS REQUIRED PRIOR TO CLEARING AND LAND DISTURBANCE.
- 2. NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED.
- 3. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION REQUIREMENTS AND METHODS.

SITE NOTES

- 1. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO START OF CONSTRUCTION. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON BEFORE BEGINNING CONSTRUCTION.
- 2. THE GENERAL CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND R.O.W.'S PUBLIC OR PRIVATE, PRIOR TO WORKING IN THESE AREAS.
- 3. CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
- 4. ACCESS TO UTILITIES, FIRE HYDRANTS, STREET LIGHTING, ETC., SHALL REMAIN UNDISTURBED, UNLESS COORDINATED WITH THE RESPECTIVE UTILITY.
- 5. DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
- 6. THE GENERAL CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT AND AT LEAST ONCE A WEEK DURING CONSTRUCTION.
- 7. THE GENERAL CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
- 8. CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE OWNER UPON COMPLETION OF THE PROJECT WITH A COPY OF THE TRANSMITTAL LETTER TO THE ENGINEER.
- 9. 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, NO DEPARTURES FROM THE CONTRACT DOCUMENT SHALL BE MADE WITHOUT THE PERMISSION OF THE OWNER.
- 10. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES. THE LOCATION OF ALL EXISTING UTILITIES ARE NOT NECESSARILY SHOWN ON PLANS AND WHERE SHOWN ARE ONLY APPROXIMATE. THE CONTRACTOR SHALL ON HIS INITIATIVE AND AT NO EXTRA COST LOCATE ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. NO CLAIMS FOR DAMAGES OR EXTRA COMPENSATION SHALL ACCRUE TO THE CONTRACTOR FROM THE PRESENCE OF SUCH PIPE OTHER OBSTRUCTIONS OR FROM DELAY DUE TO REMOVAL OR REARRANGEMENT OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND STRUCTURES. CONTACT NORTH CAROLINA ONE CALL" TOLL FREE 1-800-632-4949 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL NONSUBSCRIBING UTILITIES.
- 11. ALL PERMITS RELATIVE TO PROJECT MUST BE OBTAINED, PRIOR TO CONSTRUCTION
- 12. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND APPLICABLE STATE, COUNTY, AND LOCAL
- 13. FOR BUILDING DIMENSIONS, SEE ARCHITECTURAL DRAWINGS.
- 14. ALL DIMENSIONS AND RADII ARE TO OUTSIDE FACE OF BUILDING OR TO FACE OF CURB UNLESS OTHERWISE NOTED.
- 15. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC., THAT MAY BE
- 16. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.

TRAFFIC NOTES:

- 1. ALL PAVEMENT MARKINGS IN PUBLIC RIGHT-OF-WAYS AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS, [DETAIL SD-13 CofW TECH STDS]
- 2. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS. [DETAIL SD 15-13 CofW TECH STDS]
- 3. STREET NAME SIGNS FOR PUBLIC AND PRIVATE STREETS MUST BE ERECTED BEFORE A CERTIFICATE OF OCCUPANCY IS ISSUED. CONTACT TRAFFIC ENGINEERING AT 910-341-7888 FOR INFORMATION ABOUT STREET SIGNS FOR THIS PROJECT.
- 4. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- 5. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- 6. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
- 7. CONTACT TRAFFIC ENGINEERING AT A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
- 8. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS. THE LANDSCAPING PLAN WILL BE NEED TO DETERMINE STREET LIGHT LOCATIONS.
- 9. TACTILE WARNING MATS TO BE INSTALLED AT ALL WHEELCHAIR RAMPS.
- 10. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT IN A CITY STREET. NOTE THIS ON THE PLAN AND CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
- 11. IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTRACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- 12. ONCE STREETS ARE READY TO BE OPEN TO PUBLIC TRAFFIC, CONTACT THE TRAFFIC ENGINEERING DIVISION TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- 13. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WITH BE REPLACED.
- 14. A LANDSCAPING PLAN, INDICATING THE LOCATION OR REQUIRED STREET TREES SHALL BE SUBMITTED TO THE TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT. PLAN SHALL ADHERE TO SD 15-17.
- 15. PERMITTING OF BUSINESS IDENTIFICATION SIGNAGE IS A SEPARATE PROCESS. CITY OF WILMINGTON WILL NOT ALLOW OBSTRUCTIONS WITHIN THE RIGHT OF WAY.

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

EXISTING UTILITY NOTES:

- 1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO VERIFY THE ACTUAL LOCATION AND AVAILABILITY OF ALL EXISTING AND PROPOSED UTILITIES IN THE FIELD PRIOR TO GROUND
- 2. EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND ARE BASED ON A FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.

NOTICE REQUIRED

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED BY CONTRACT 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 ANY EXCAVATION OR DEMOLITION.

UTILITY NOTES:

- 1. EXISTING WATER AND SANITARY SEWER SERVICES ARE CURRENTLY AVAILABLE TO THE SITE FROM PUBLIC SYSTEMS. WATER SERVICE AND SANITARY SEWER SERVICE WILL BE PROVIDED BY CAPE FEAR PUBLIC UTILITY AUTHORITY.
- 2. ALL UTILITY SERVICES, SUCH AS ELECTRIC POWER, CATV, GAS, AND TELEPHONE SHALL BE INSTALLED UNDERGROUND.
- 3. ALL WATER & SEWER UTILITIES TO BE INSTALLED PER CFPUA TECHNICAL SPECIFICATIONS & STANDARDS.
- 4. PROJECT SHALL COMPLY WITH CAPE FEAR PUBLIC UTILITY AUTHORITY CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND N.C.D.E.N.R. HAS ISSUED THEIR "FINAL APPROVAL". CALL 332-6560 FOR INFORMATION.
- 5. ALL COMMERCIAL WATER SERVICES AND ANY IRRIGATION SYSTEMS SUPPLIED BY C.F.P.U.A. WATER SHALL HAVE A BACKFLOW PREVENTION DEVICE ACCEPTABLE TO THE CITY AND APPROVED BY USCFCCCHR OR ASSE. CALL 332-6560 FOR INFORMATION.
- 6. WATER AND SEWER SERVICES CAN NOT BE ACTIVATED ON NEW MAINS UNTIL THE ENGINEER'S CERTIFICATION AND AS-BUILTS ARE RECEIVED AND "FINAL APPROVAL" ISSUED BY THE PUBLIC WATER SUPPLY SECTION OF NCDENR, AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY SECTION OF N.C.D.E.N.R.
- 7. IF CONTRACTOR DESIRES WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- WHEN PVC WATER MAINS AND SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED COPPER WIRE INSTALLED AND STRAPPED TO THE PIPES WITH DUCT TAPE. THE INSULATED WIRE IS TO BE STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES AND FITTINGS. THIS WIRE IS TO BE ACCESSIBLE IN ALL VALVE AND METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OR EXISTING UTILITIES DURING CONSTRUCTION. DAMAGED ITEMS SHALL BE REPAIRED TO AT LEAST THE QUALITY OR WORKMANSHIP FOUND IN THE ORIGINAL ITEM.
- 10. THE BELLSOUTH CONTACT IS STEVE DAYVAULT, BUILDING INDUSTRY CONSULTANT, AT 910-392-8712. CONTACT HIM PRIOR TO STARTING THE PROJECT IN ORDER TO FACILITATE GOOD COMMUNICATION AND MAXIMUM FLEXIBILITY.
- 11. THE PROCESS FOR TELEPHONE CABLE PLACEMENT:
- 11.1. FINAL GRADE WILL NEED TO BE ESTABLISHED.
- 11.2. POWER WILL PLACE THEIR CABLE FIRST APPROXIMATELY 3' DEEP. 11.3. BELLSOUTH & CABLE TV WILL THEN PLACE THEIR CABLE AT APPROXIMATELY 2' DEEP.
- 12. SOLID WASTE DISPOSAL TO BE SERVED BY PRIVATELY CONTRACTED DUMPSTER PICKUP.

LANE & SHOULDER CLOSURE REQUIREMENTS:

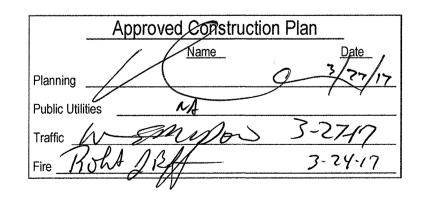
- 1. REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- 2. WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR AN LAND CLOSURE IS INSTALLED.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN DIVIDED FACILITY AND

WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD

AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN

WITH THE CLOSED TRAVEL LANE. 6. DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN



THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

STORMWATER MANAGEMENT PLAN SEAL REDACTED APPROVED

CITY OF WILMINGTON ENGINEERING DEPARTMENT DATE 3/28),7 PERMIT # 20,7006 SIGNED 1240

FINAL DESIGN

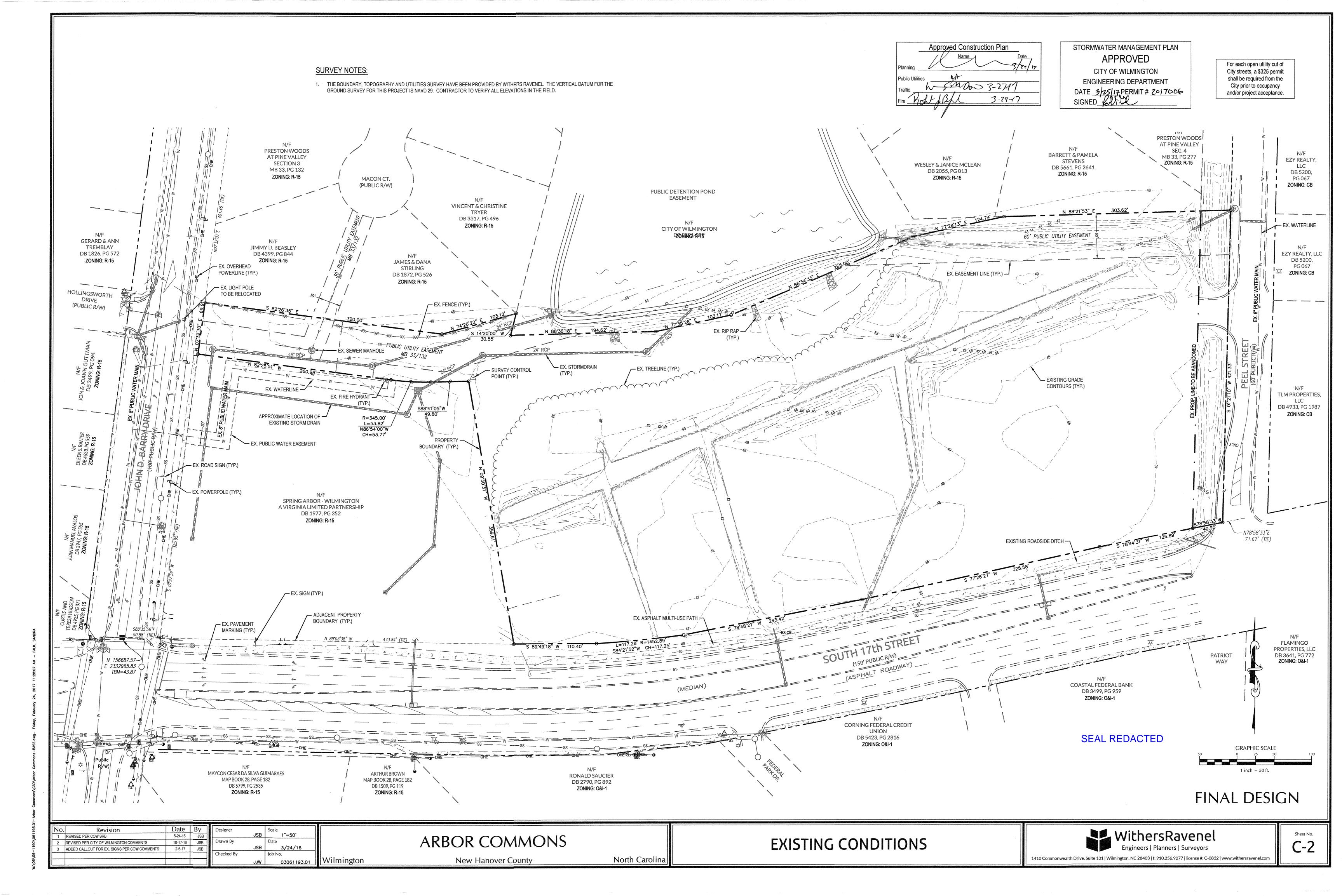
ARBOR COMMONS

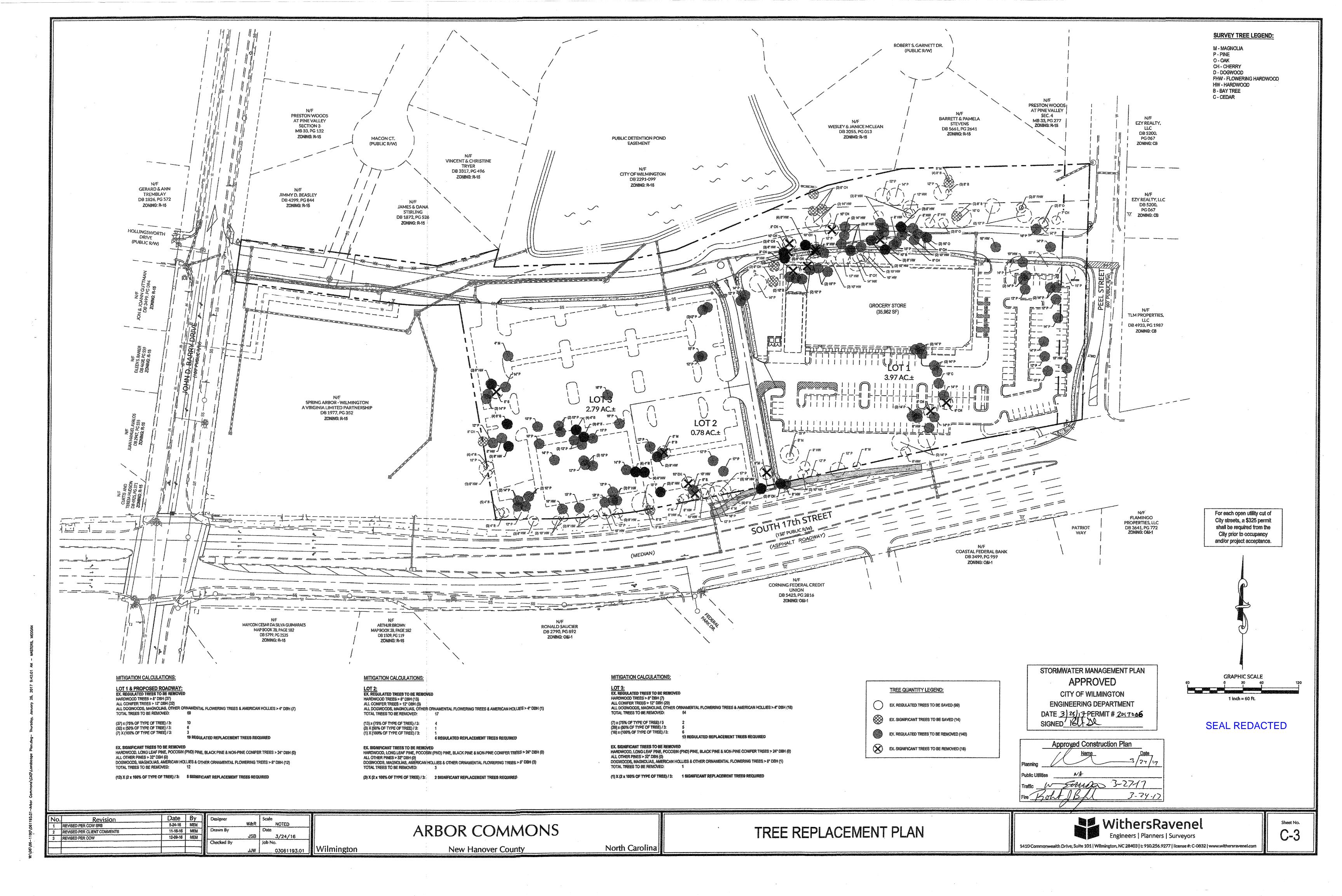
New Hanover County

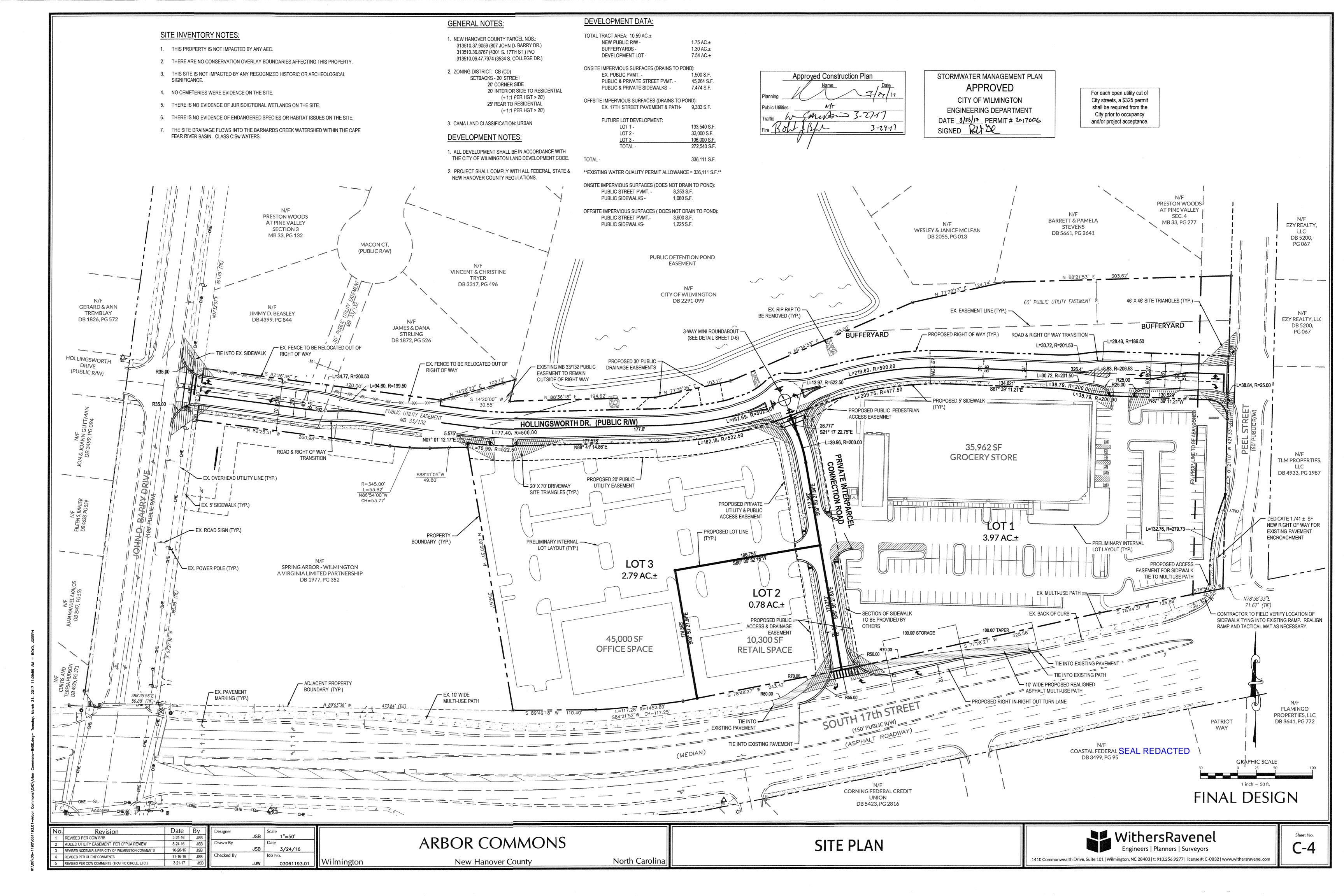
North Carolina

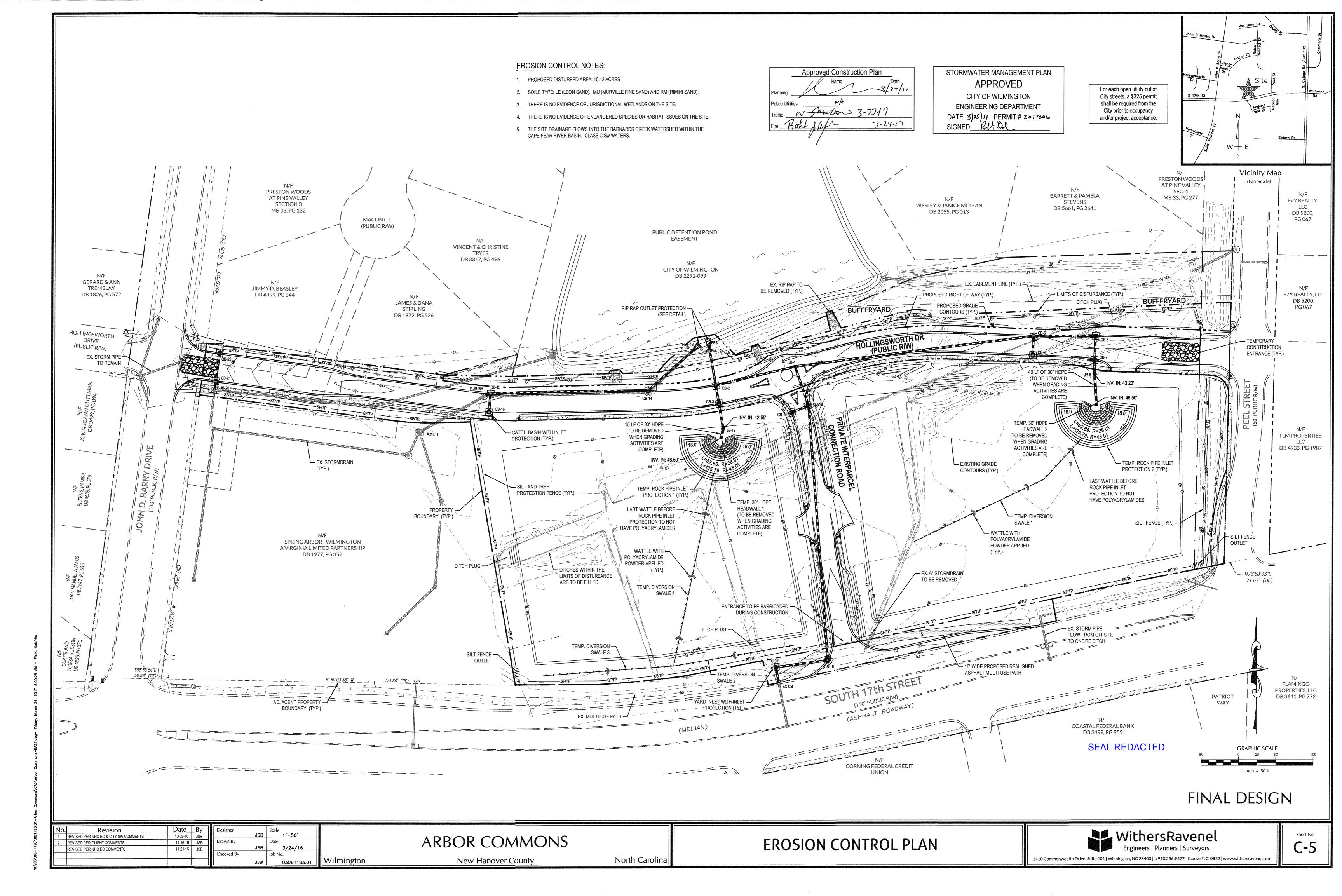
PROJECT NOTES

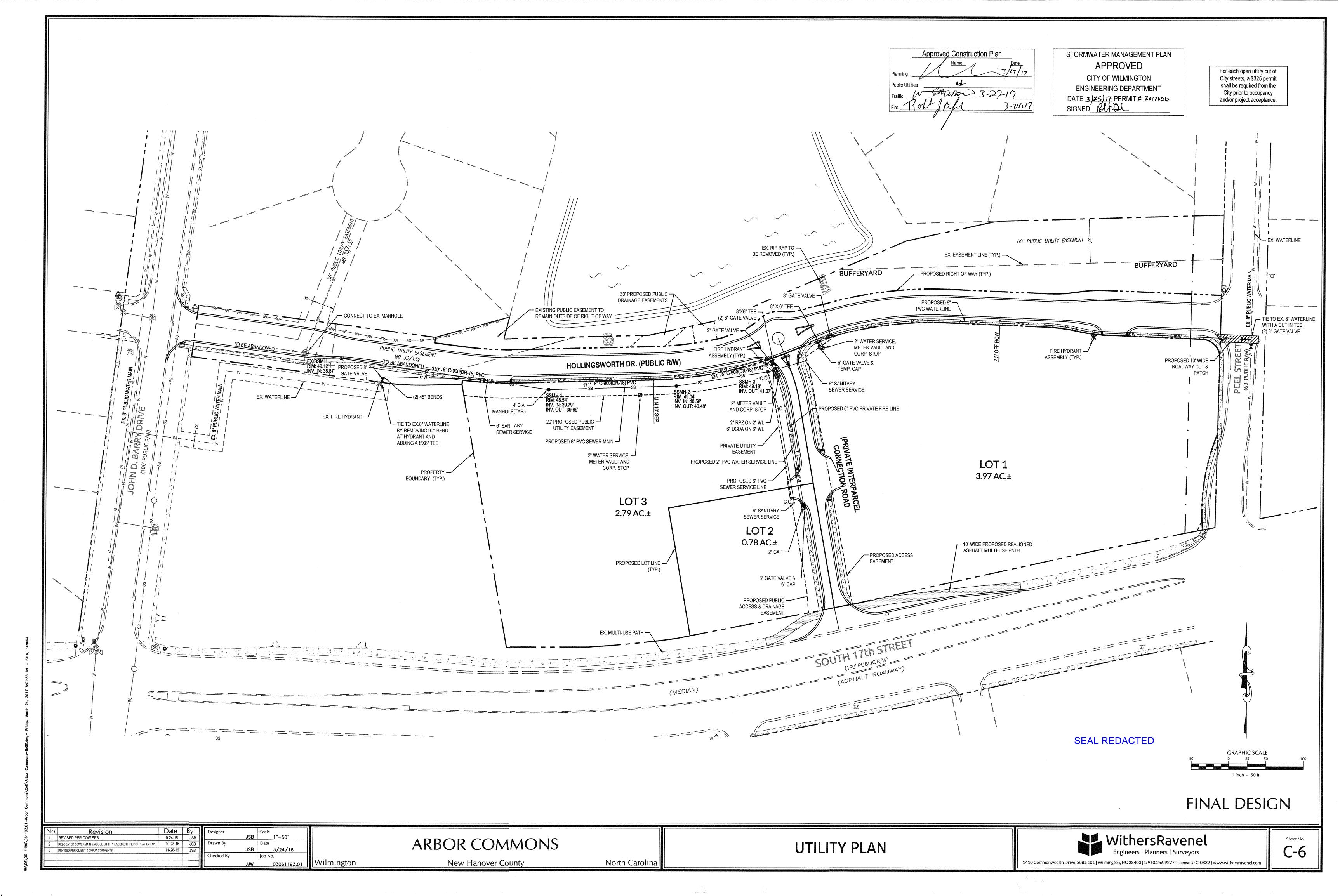
1410 Commonwealth Drive, Suite 101 | Wilmington, NC 28403 | t: 910.256.9277 | license #: C-0832 | www.withersravenel.com

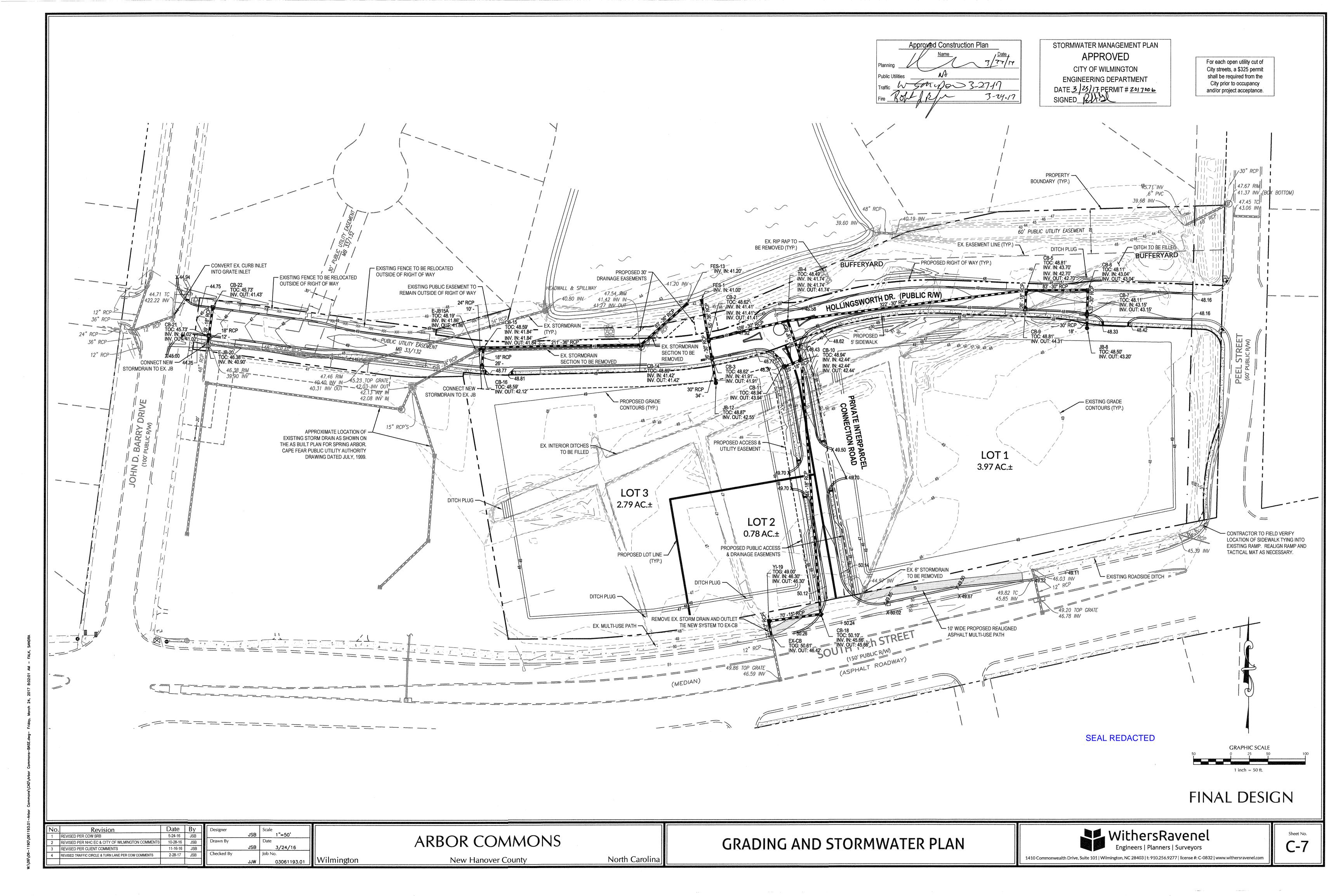


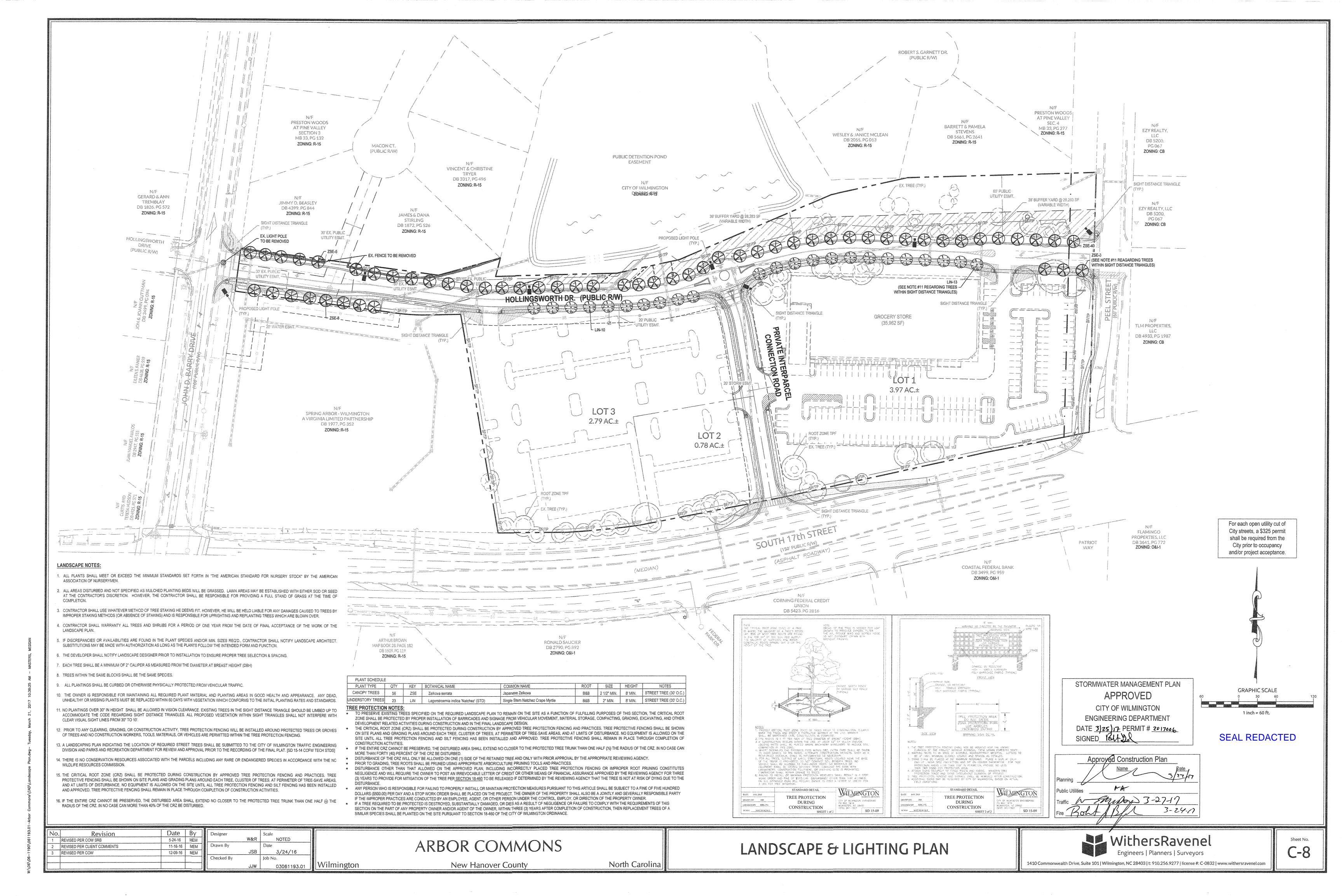


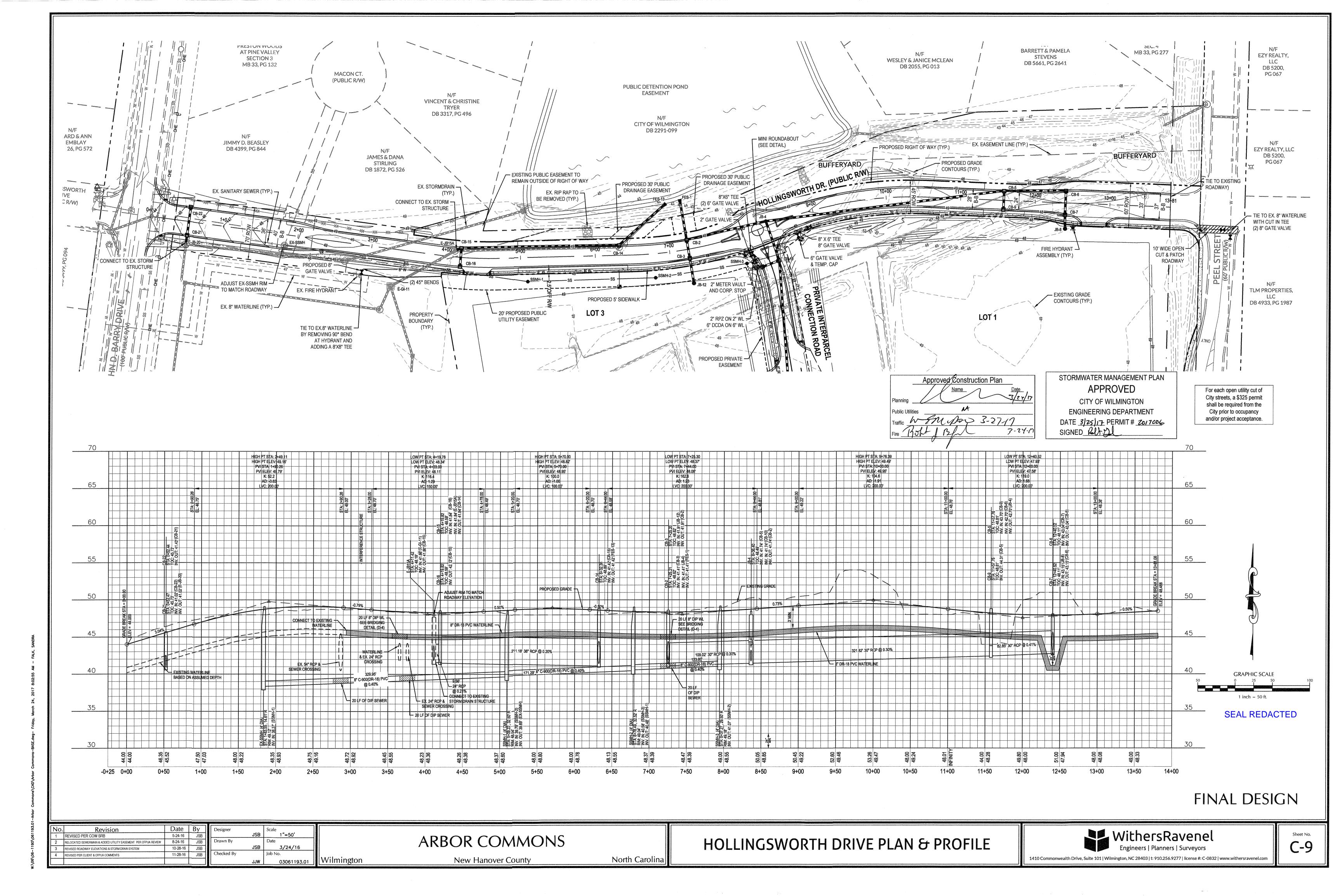












Approved Construction Plan

Name

Planning

Public Utilities

Traffic

Rohl B

7-24-17

STORMWATER MANAGEMENT PLAN

APPROVED

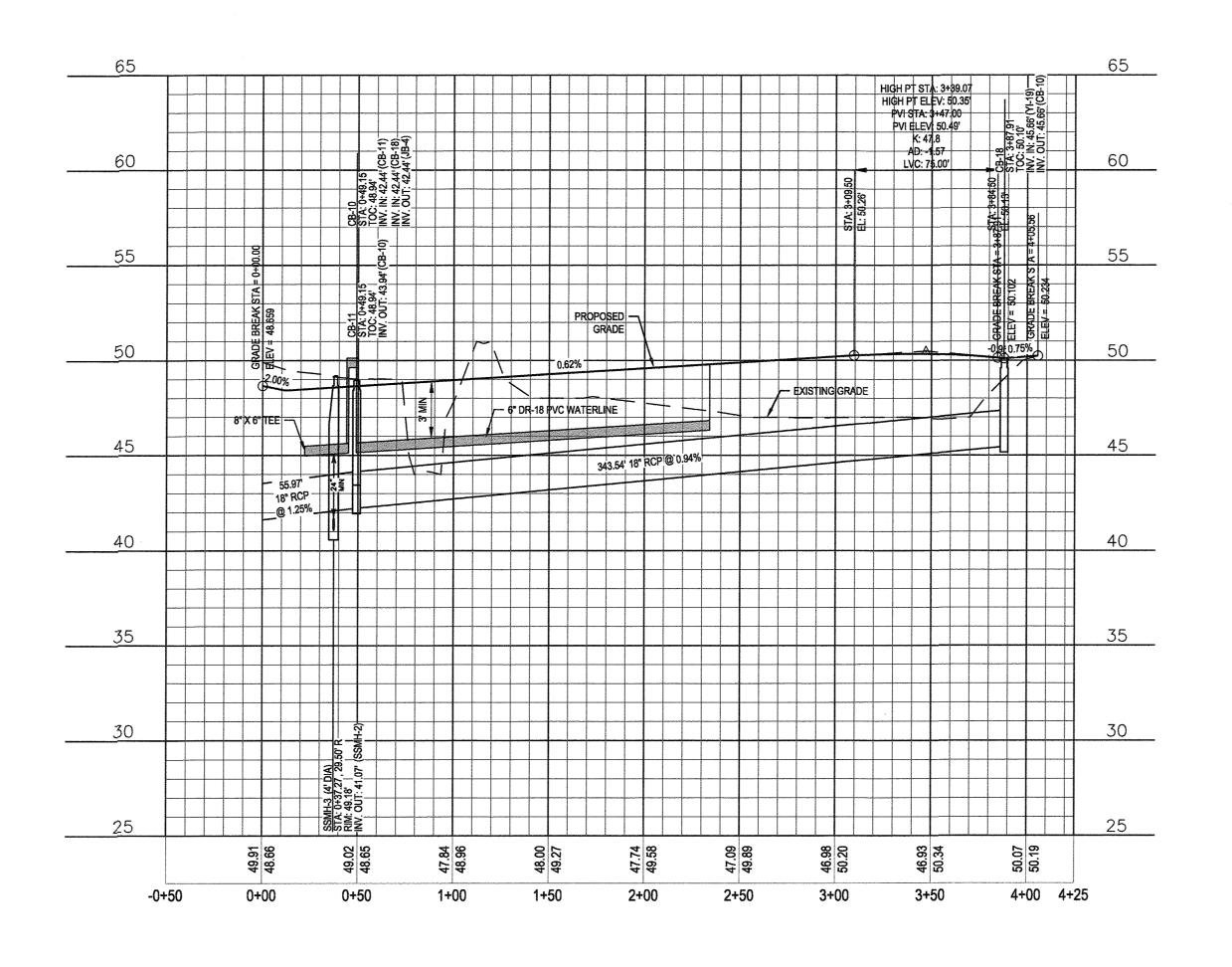
CITY OF WILMINGTON

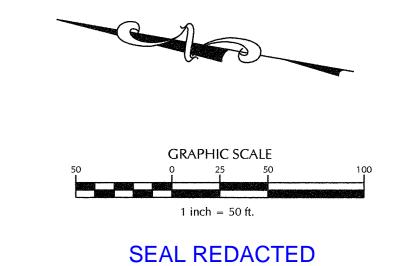
ENGINEERING DEPARTMENT

DATE 3/25/17PERMIT # 2017006

SIGNED 121-121

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

No. Revision

1 REVISED PER COW SRB

2 RELOCATED SEWERMAIN & ADDED UTILITY EASEMENT PER CFPUA REVIEW
3 REVISED STORM DRAIN SYSTEM & GRADE ELEVATIONS
4 REVISED PER CLIENT & CFPUA COMMENTS
5 REVISED ROAD GRADES & MOVED JB-18 TO CB-18 PER COW COMMENTS
5 REVISED ROAD GRADES & MOVED JB-18 TO CB-18 PER COW COMMENTS
5 Date By

Designer

Drawn By

Checked By

Scale 1"=50'

ARBOR COMMONS

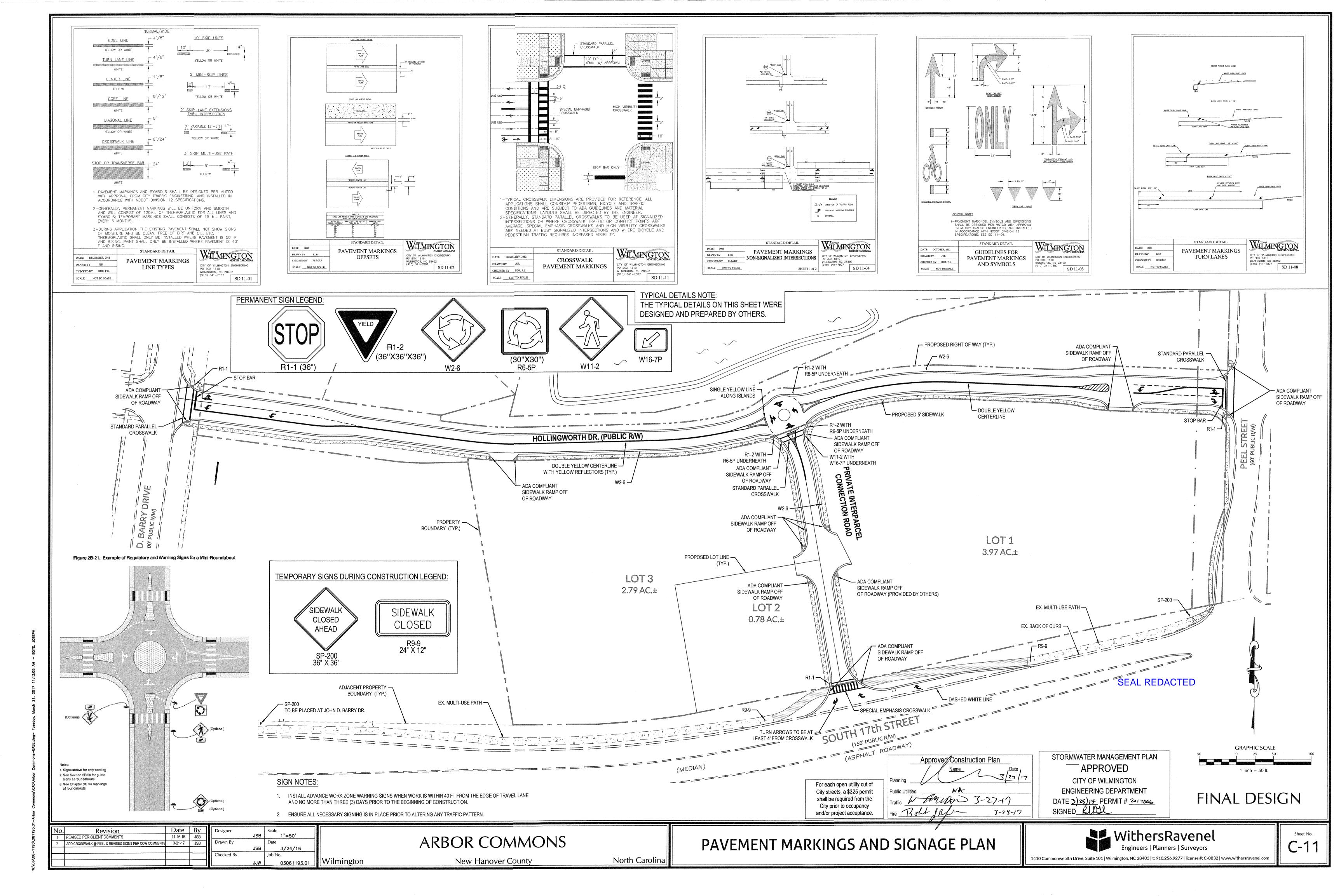
New Hanover County

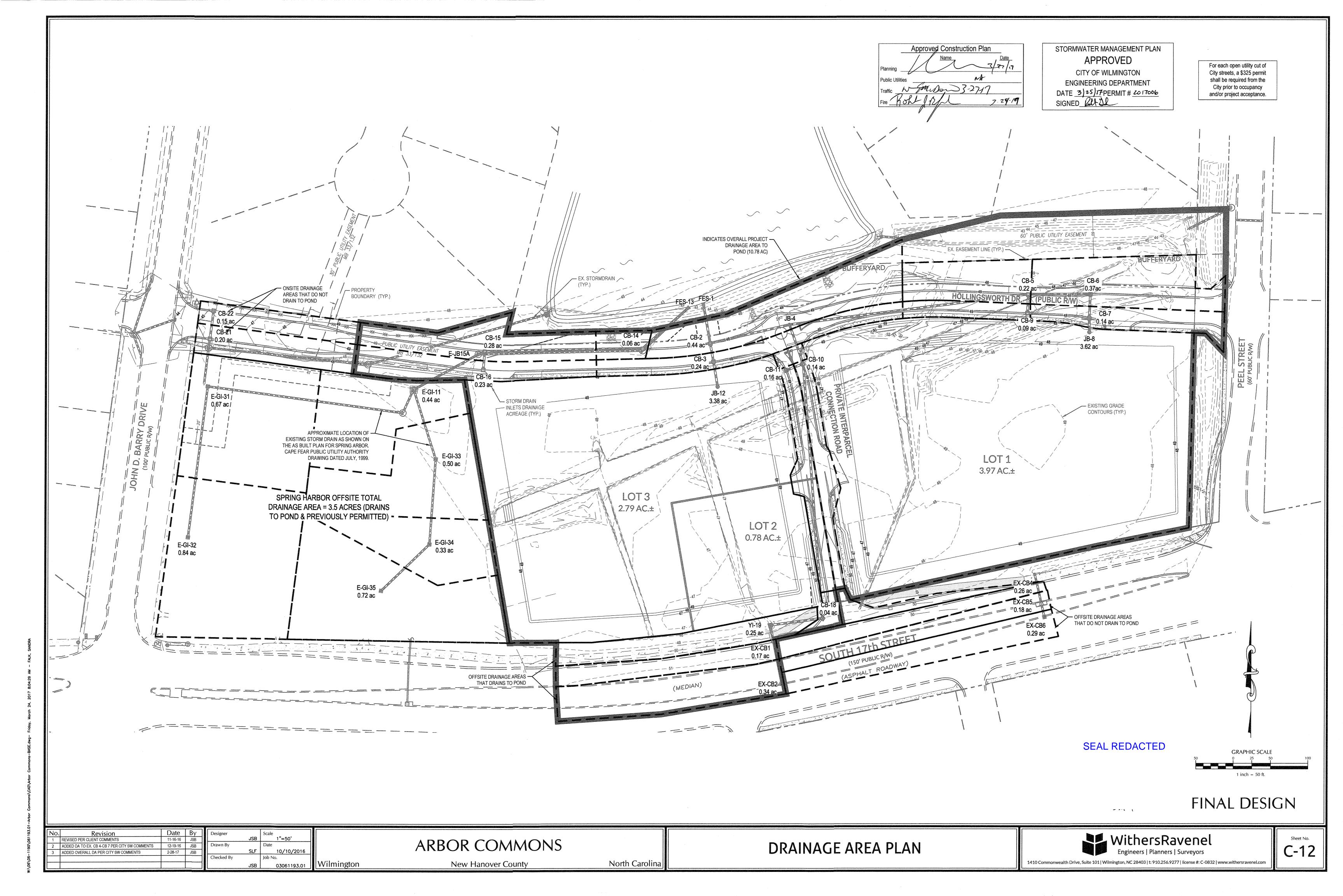
North Carolina

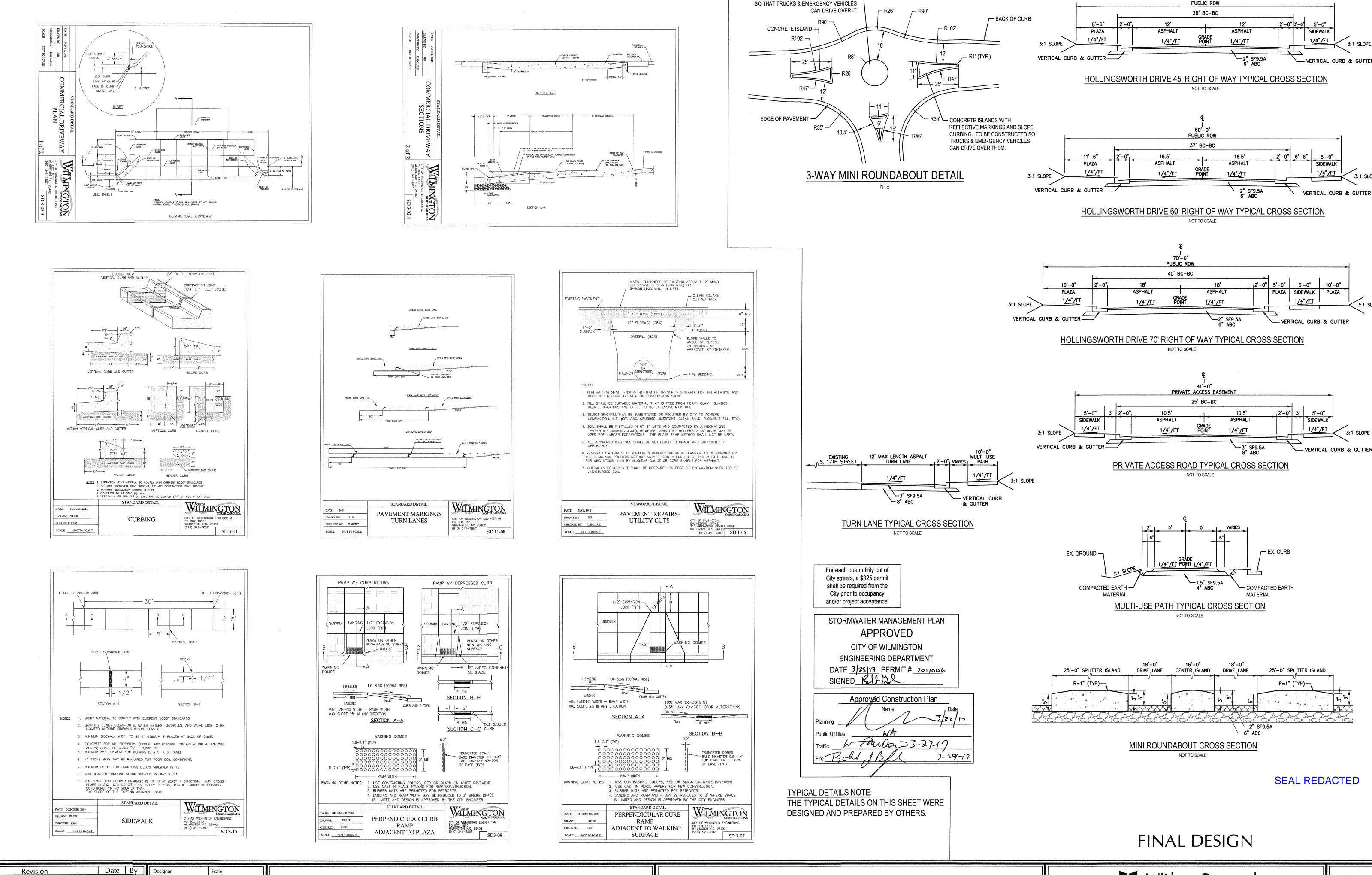
PRIVATE INTERPARCEL ACCESS ROAD
PLAN & PROFILE

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Sheet No.







CONCRETE CENTER ISLAND CONSTRUCTED -

2 REVISED SIDEWALK & ADDED MUP DETAIL PER COW SW
3 REVISED PER CLIENT COMMENTS
4 REVISED TRAFFIC CIRCLE PER COW COMMENTS
5 ADDED TURN LANE CROSS SECTION PER COW COMMENTS

REVISED 70' ROW STREET TO HAVE 5' PLAZA

 Designer
 NA
 Scale NTS

 Drawn By
 Date 6/30/16

 Checked By
 Job No.

 JJW
 03061193.01

Wilmington

10-13-16 JSB

11-16-16 JSB

2-17-17 JSB

ARBOR COMMONS

New Hanover County

North Carolina

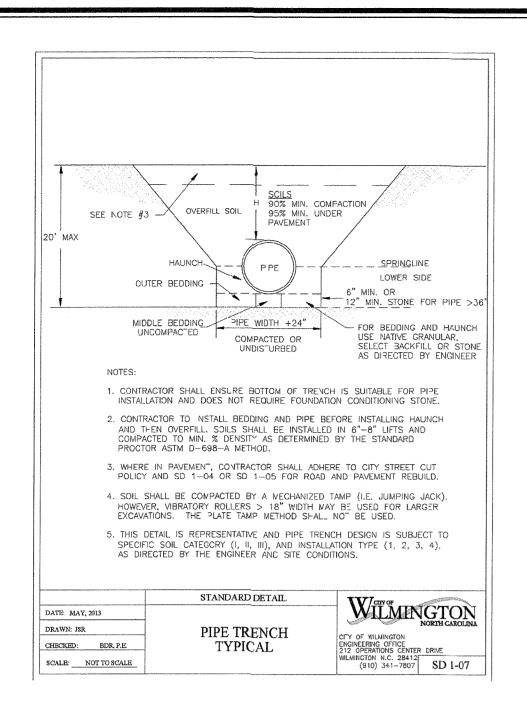
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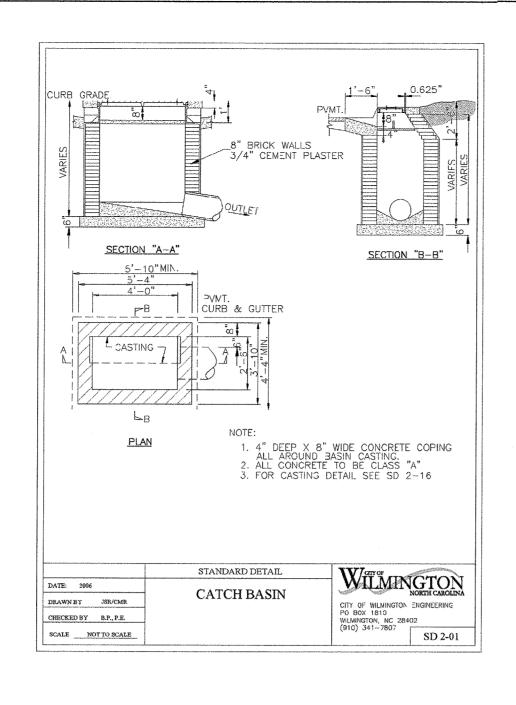
Withers Ravenel
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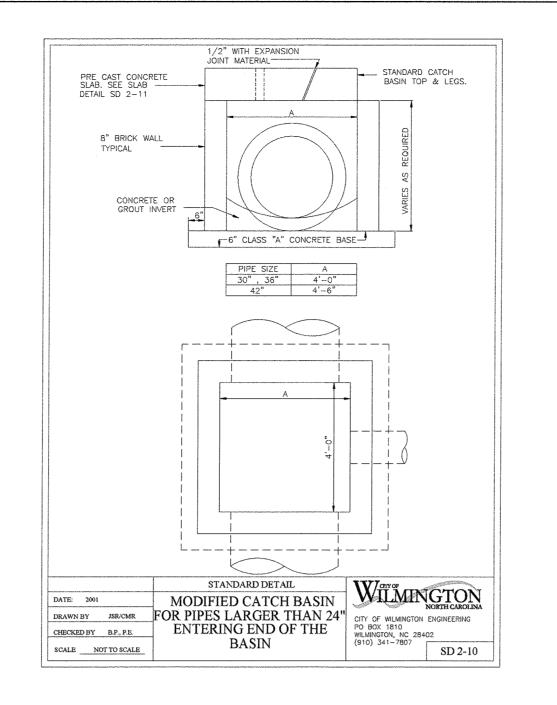
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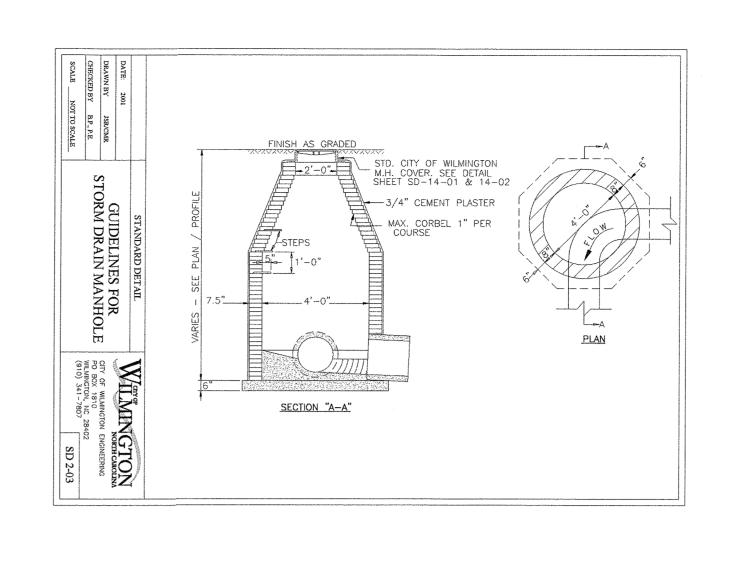
Sheet No.

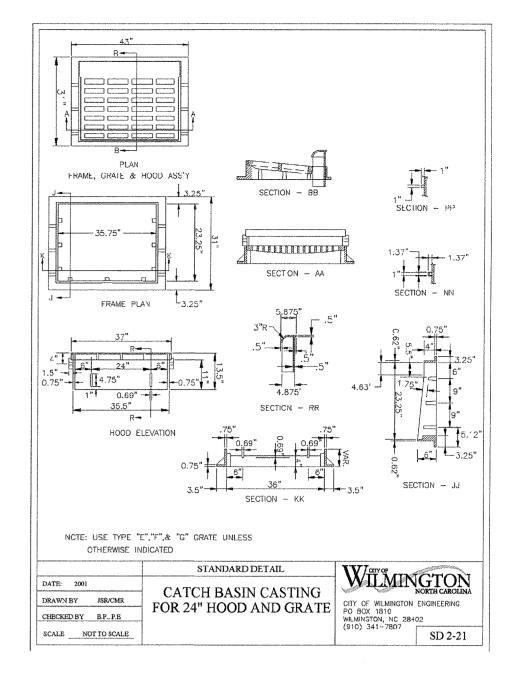
D-6

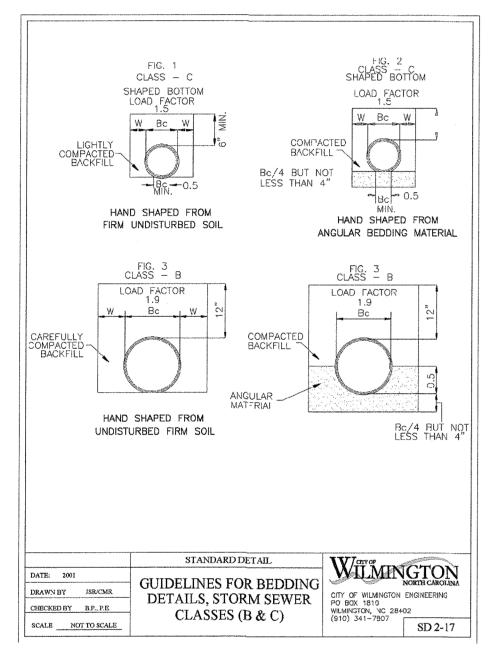


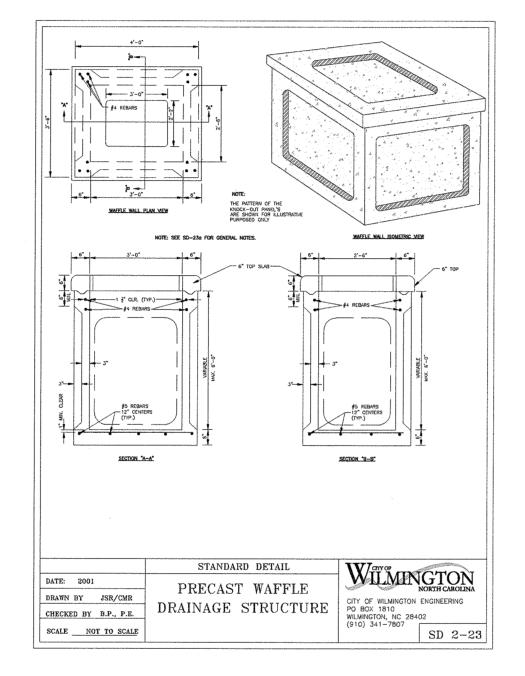


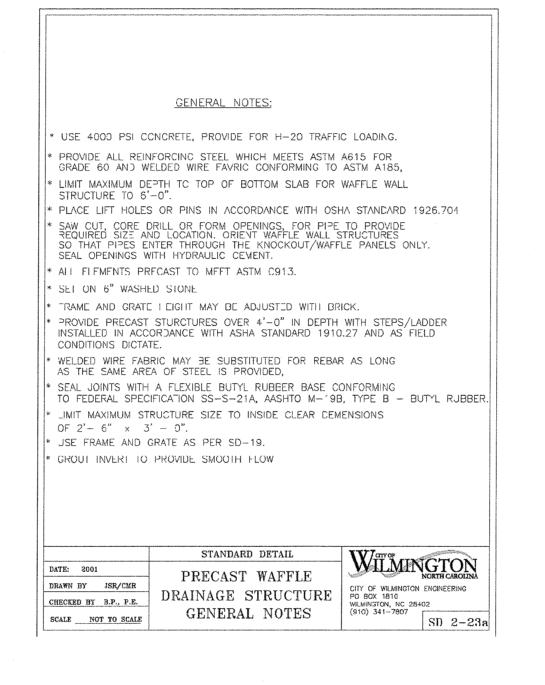


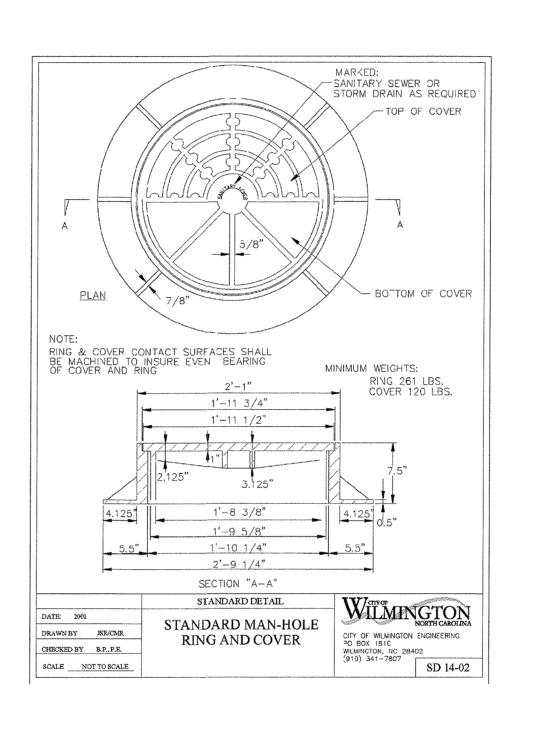


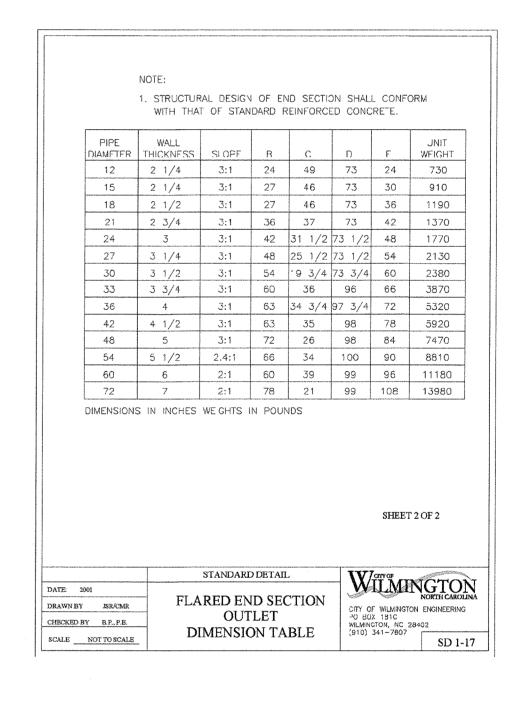


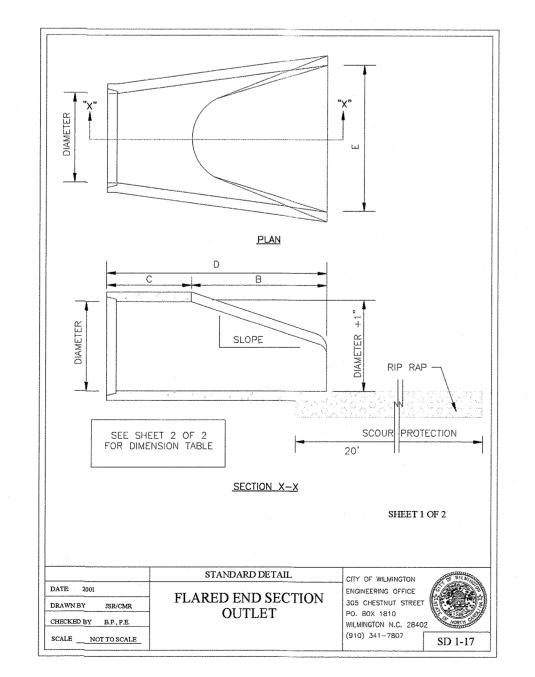


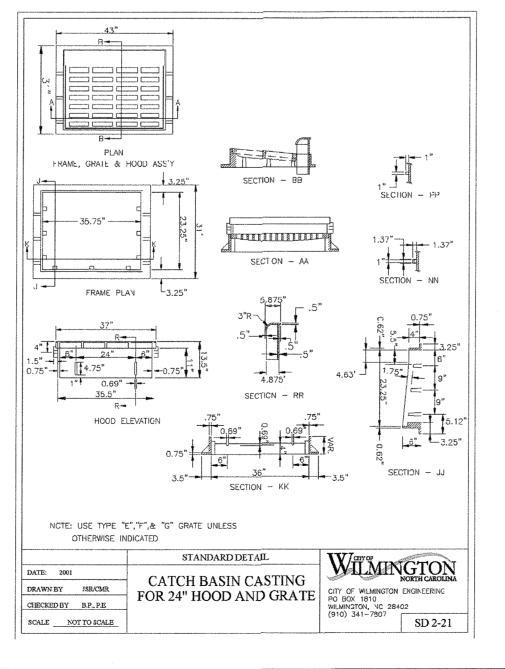












DATE 3/25/17- PERMIT # 2017006 SIGNED RIFT Approved Construction Plan

W SHUDON 3-27-17

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

STORMWATER MANAGEMENT PLAN

APPROVED

CITY OF WILMINGTON

ENGINEERING DEPARTMENT

SEAL REDACTED

TYPICAL DETAILS NOTE: THE TYPICAL DETAILS ON THIS SHEET WERE DESIGNED AND PREPARED BY OTHERS.

FINAL DESIGN

No.	Revision	Date	B
1	ADD STORM INTERFERENCE MANHOLE DETAIL	10-19-16	J
			L

esigner	NA	Scale NTS	
awn By	JSB	Date 6/30/16	
necked By	JJW	Job No. 03061193.01	Wilmington

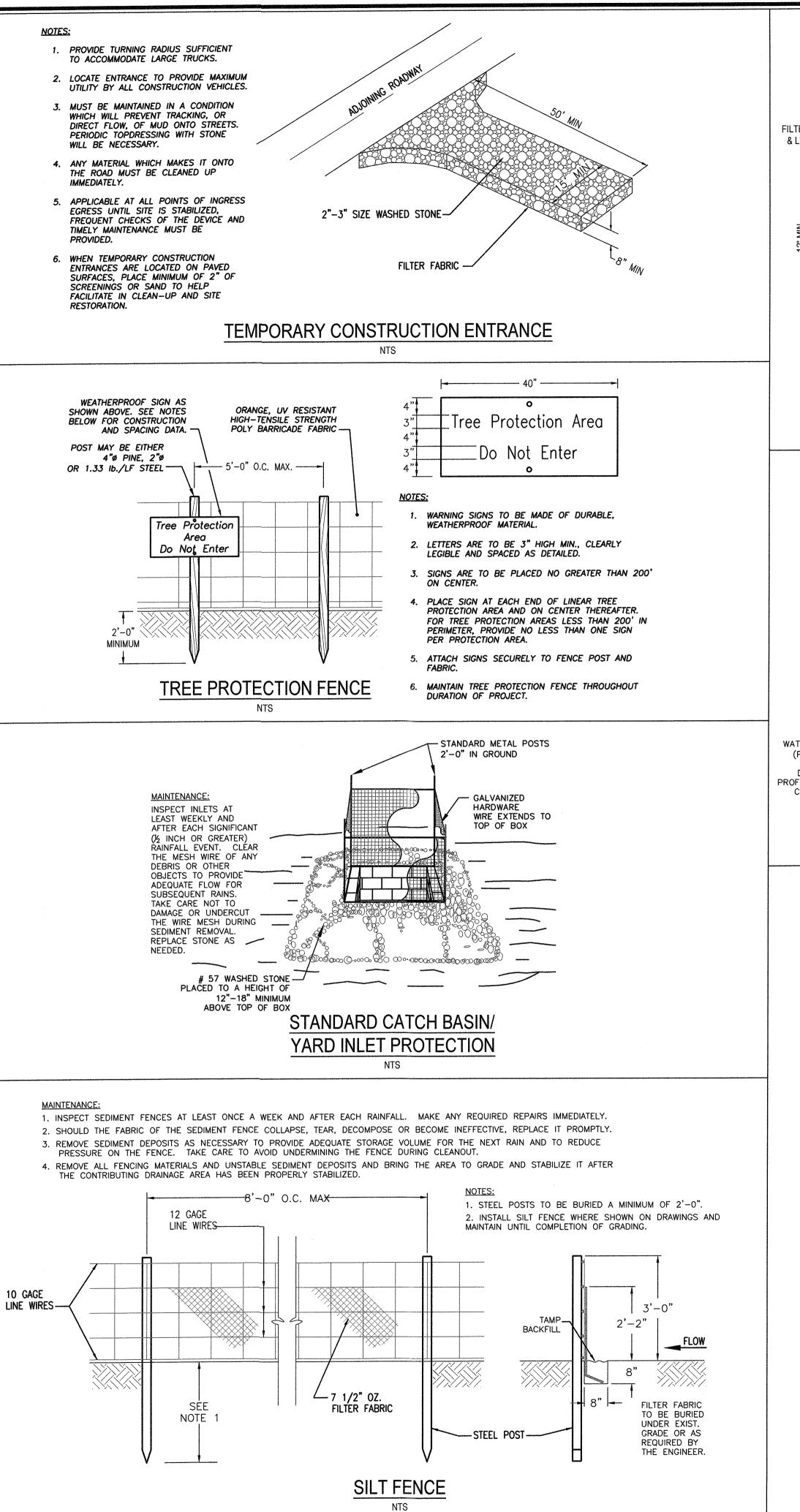
ARBOR COMMONS

New Hanover County

North Carolina

STORMDRAIN DETAILS

■ WithersRavenel Engineers | Planners | Surveyors 1410 Commonwealth Drive, Suite 101 | Wilmington, NC 28403 | t: 910.256.9277 | license #: C-0832 | www.withersravenel.com



Date By

10-28-16 JSB

11-21-16 JSB

12-13-16 JSB

Checked By

Wilmington

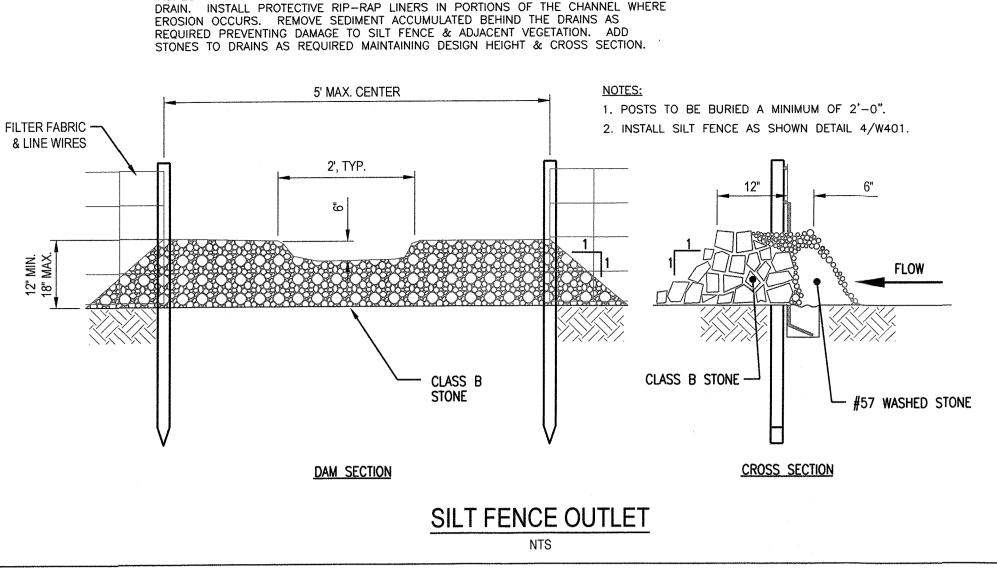
03061193.01

Revision

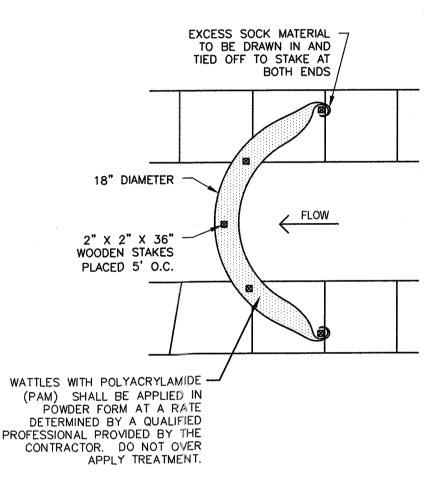
3 REVISED WADDLE DETAIL PER NHC EC COMMENTS

REVISED PER NHC EC COMMENTS & CITY COMMENTS

ADDED ROCK INLET PROTECTION DETAIL PER NHC EC COMMENTS



INSPECT FOR SIGNIFICANT EROSION AROUND THE EDGES & BETWEEN SILT FENCE &



WATTLE MAINTENANCE NOTES: INSPECT COMPOST SOCKS WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2 INCH OR GREATER), REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS. THE COMPOST SOCK MUST BE REPLACED IF CLOGGED OR TORN, IF PONDING BECOMES EXCESSIVE, THE SOCK MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OR A DIFFERENT MEASURE. THE SOCK NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED. THE COMPOST SOCK SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY

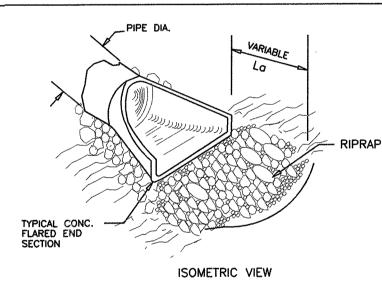
POLYACRYLAMIDE MAINTENANCE NOTES: INSPECT WATTLES AT LEAST WEEKLY OR AFTER A RAINFALL EVENT OF \$ INCH OR GREATER TO MAKE SURE WATTLES REMAIN IN PLACE, ARE MOIST AND ARE NOT COVERED IN SEDIMENT.

DEGRADATION OF POLYMER COAGULANT/FLOCCULANT IS EXPECTED TO OCCUR AS A RESULT OF HIGH RAINFALL, MECHANICAL DEGRADATION, CHEMICAL, AND BIOLOGICAL HYDROLYSIS, SUNLIGHT, SALT, AND TEMPERATURE EFFECTS. REAPPLY POLYMER COAGULANT/FLOCCULANT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, REAPPLICATION IS NOT REQUIRED UNLESS POLYMER COAGULANT/FLOCCULANT TREATED AREAS ARE DISTURBED OR TURBIDITY OR WATER QUALITY SHOW THE NEED FOR AN ADDITIONAL APPLICATION. REAPPLY UNDISTURBED POLYMER COAGULANT/FLOCCULANT TREATED AREAS AS NEEDED. FURTHER POLYMER COAGULANT/FLOCCULANT APPLICATIONS MAY BE REQUIRED FOR STEEP SLOPES, HIGHLY SILTY AND CLAYEY SOILS, LONG GRADES, AND HIGH TRAFFIC OR PRECIPITATION AREAS.

MAINTAIN ALL EQUIPMENT TO PROVIDE THE APPLICATION RATES RECOMMENDED BY THE MANUFACTURER. IN AN APPROVED AREA, RINSE ALL EQUIPMENT USED TO MIX AND APPLY POLYMER COAGULANT/FLOCCULANT THOROUGHLY WITH WATER TO AVOID FORMATION OF

REUSE OR DISPOSE RECOVERED FLOCCULATED SEDIMENTS CONTAINING POLYMER COAGULANT/FLOCCULANT IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

- 1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS. 2. CHECK DAM SHOULD BE USED IN AREAS THAT DRAIN 10 ACRES OR LESS. 3. SEDIMENT SHOULD BE REMOVED FROM BEHIND CHECK DAM ONCE THE
- ACCUMULATED HEIGHT HAS REACHED ½ THE HEIGHT OF THE CHECK DAM 4. CHECK DAM CAN BE DIRECT SEEDED AT THE TIME OF INSTALLATION.
- 5. CONTRACTOR IS REQUIRED TO BE A FILTREXX CERTIFIED™ INSTALLER.



PLAN

SLOPE 0 %

do = PIPE DIA La = APRON LENGTH

d = APRON DEPTH

W = APRON WIDTH 3 X PIPE Ø MIN

WATTLE DETAIL

CONSTRUCTION SPECIFICATION: 1. EXCAVATE BELOW CHANNEL OUTLET AND WIDEN CHANNEL TO THE REQUIRED RIPRAP THICKNESS FOR EACH APRON. FOUNDATION TO BE CUT TO ZERO GRADE

2. PLACE FILTER CLOTH ON BOTTOM AND SIDES OF PREPARED FOUNDATION. ALL JOINTS TO OVERLAP A MINIMUM OF 1.0'.

3. EXERCISE CARE IN RIPRAP PLACEMENT TO AVOID DAMAGE TO FILTER FABRIC. 4. PLACE RIPRAP ON ZERO GRADE - TOP

OF RIPRAP TO BE LEVEL WITH EXISTING

5. RIPRAP TO BE HARD, ANGULAR, WELL GRADED CLASS B EROSION CONTROL

OUTLET - NO OVERFALL AT ENDS.

IMMEDIATELY AFTER CONSTRUCTION STABILIZED ALL DISTURBED AREAS WITH VEGETATION AS SHOWN IN VEGETATIVE

MAINTENANCE: INSPECT RIP RAP DISSIPATERS WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT TO SEE IF ANY EROSION AROUND OR BELOW THE RIP RAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

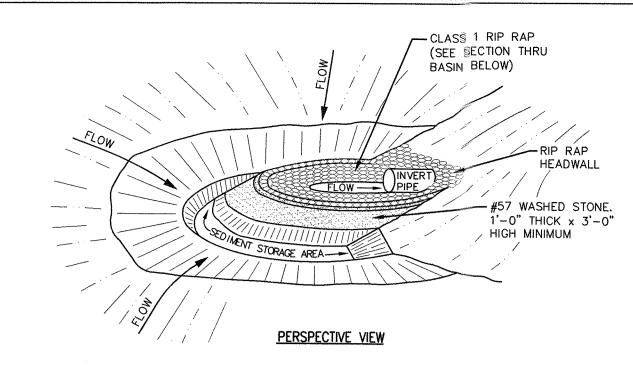
SEE SCHEDULE BELOW FOR DIMENSIONS 1. LA IS THE LENGTH OF THE RIPRAP APRON. 2. D = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" 3. A FILTER BLANKET (FILTER FABRIC) SHALL BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

ENERGY DISSIPATOR SCHEDULE

ENERGY DISSIPATOR NO.	PIPE DIAMETER (in)	APRON THICKNESS (in)	La (ft)	WIDTH(W) (ft)	3do	RIPRAP SIZE
FES#1	36	36	15	18	9	CLASS 2
FES#13	36	24	13	16	9	CLASS 1

RIP RAP ENERGY DISSIPATER

N.T.S.



(CLEAN OUT POINT)

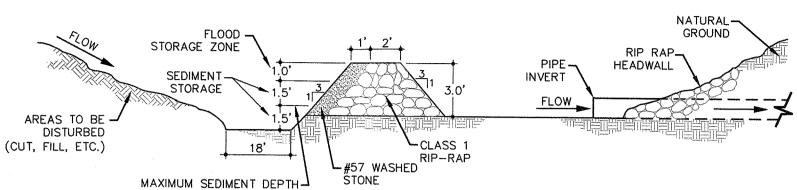
1. GRAVEL & RIP RAP FILTER BERM BASIN DETAIL IS DESIGNED TO PROTECT EXISTING PIPE INVERTS THAT DRAIN 5 ACRES OR LESS.

2. DIMENSIONS ARE MINIMUM ACCEPTABLE UNLESS OTHERWISE NOTED.

MAINTENANCE NOTES:

INSPECT ROCK PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT

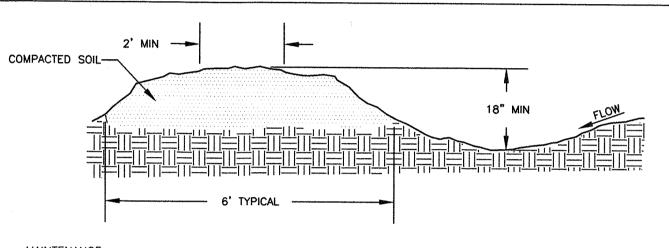
HAS ACCUMULATED TO ONE—HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN THE DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING. CHECK THE STRUCTURE FOR DAMAGE. ANY RIPRAP DISPLACED FROM THE STONE HORSESHOE MUST BE REPLACED IMMEDIATELY. AFTER ALL THE SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE THE STRUCTURE AND ALL THE UNSTABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREAS AND PROVIDE PERMANENT GROUND COVER (SURFACE STABILIZATION).



SECTION THRU BASIN, FILTER AND CULVERT PIPE

ROCK INLET PROTECTION

NTS

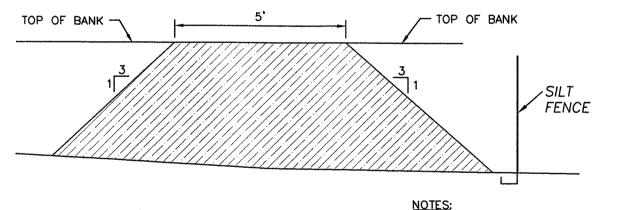


INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVED THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.

	TEMPORARY DIVERSION BERMS								
TD#	DRAINAGE AREA (AC)	RUNOFF COEFFICIENT	SLOPE (%)	CONSTRUCTED DEPTH (FT)	NORMAL DEPTH (FT)	TOP WIDTH (FT)	VELOCITY (FPS)		
1	2.65	0.35	0.25	1.5	1.45	6	1.59		
2	0.20	0.35	0.25	1.5	0.55	6	0.84		
3	0.18	0.35	0.25	1.5	0.53	6	0.82		
4	2.68	0.35	0.25	1.5	1.46	6	1.60		

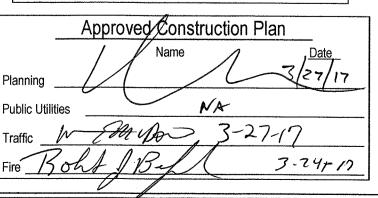
TEMPORARY DIVERSION SWALE

NTS



1. DITCH PLUG TO BE INSTALLED BEFORE GRADING IS STARTED. 2. THE DITCH MUST BE IMMEDIATELY FILLED ONCE THE PLUG IS INSTALLED AND BEFORE ANY RAIN EVENT.

STORMWATER MANAGEMENT PLAN **APPROVED** CITY OF WILMINGTON ENGINEERING DEPARTMENT DATE 3/25/17 PERMIT # 2017006 SIGNED RUDL



DITCH PLUG

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

SEEDBED PREPARATION:

AND MIX WITH SOIL.

. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.

2. RIP THE ENTIRE AREA TO 6 INCHES DEPTH.

3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM. 4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY

5. CONTINUE TILLAGE UNTIL A WELL PULVERIZED, FIRM REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.

6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.

7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.

INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RE-SEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, RE-ESTABLISH FOLLOWING ORIGINAL LIME FERTILIZER AND SEEDING RATES.

9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATES COMBINATIONS ARE

* TEMPORARY-RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING.

SEAL REDACTED

FINAL DESIGN

ARBOR COMMONS

New Hanover County

North Carolina

EROSION CONTROL DETAILS



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