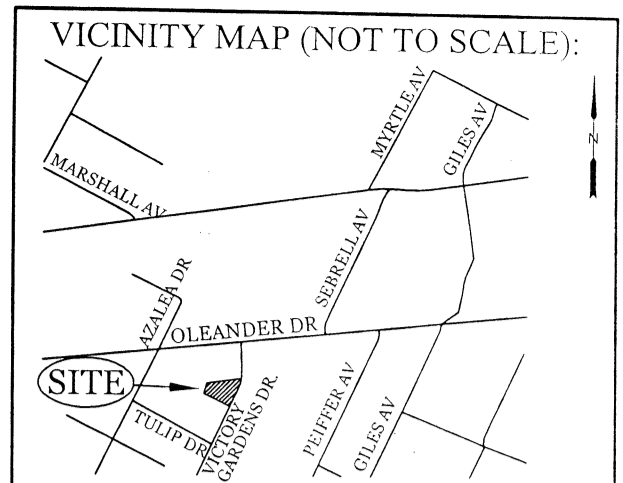


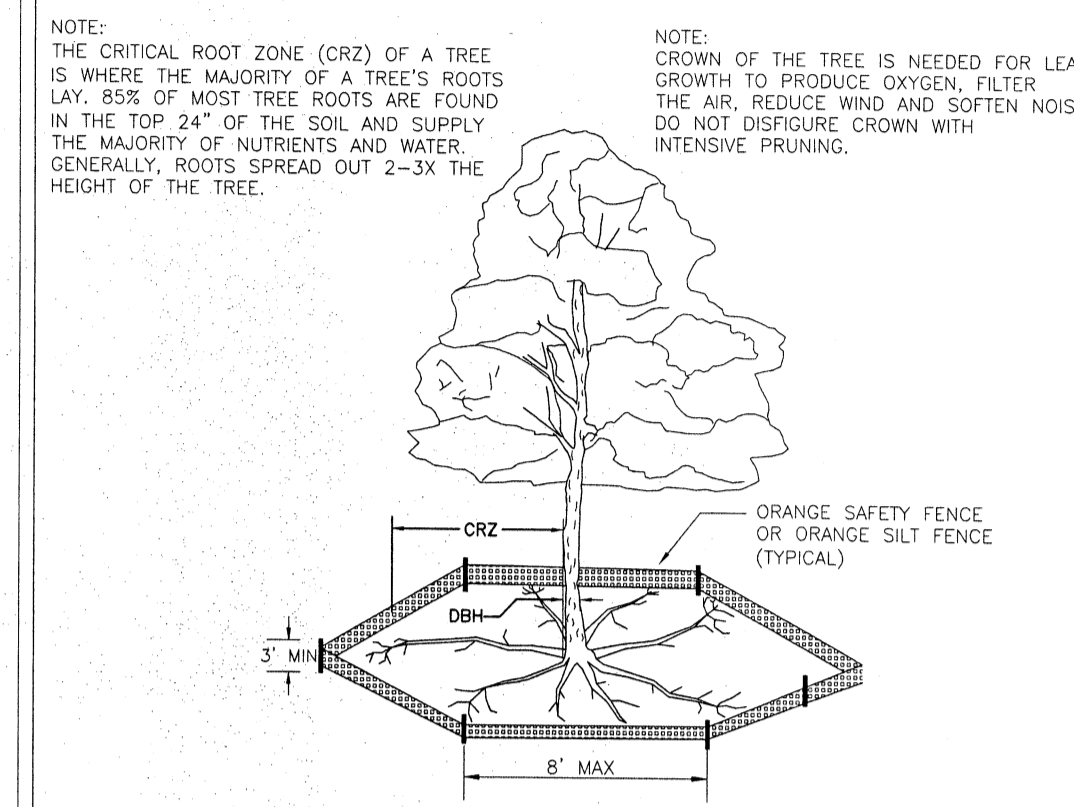
**SITE DATA**

PARCEL ID: R06207-015-010-000  
 CURRENT ZONING: CB  
 CAMA LAND USE CLASSIFICATION: WATERSHED RESOURCE PROTECTION  
 PROJECT ADDRESS: 216 VICTORY GARDENS DR WILMINGTON, NC 28409  
 CURRENT OWNER: BRANNON K. & RENEE R. SMITH 2213 MORELAND DR WILMINGTON, NC 28405  
 TOTAL ACREAGE IN PROJECT BOUNDARY: 14,123 S.F. (± 0.32 ac.)  
 EXISTING ONSITE IMPERVIOUS AREAS: 5,750 S.F. (40.1%) GRAVEL PARKING AREA



**REVISIONS**

NO.	DESCRIPTION



**PROPOSED TREES TO BE REMOVED**

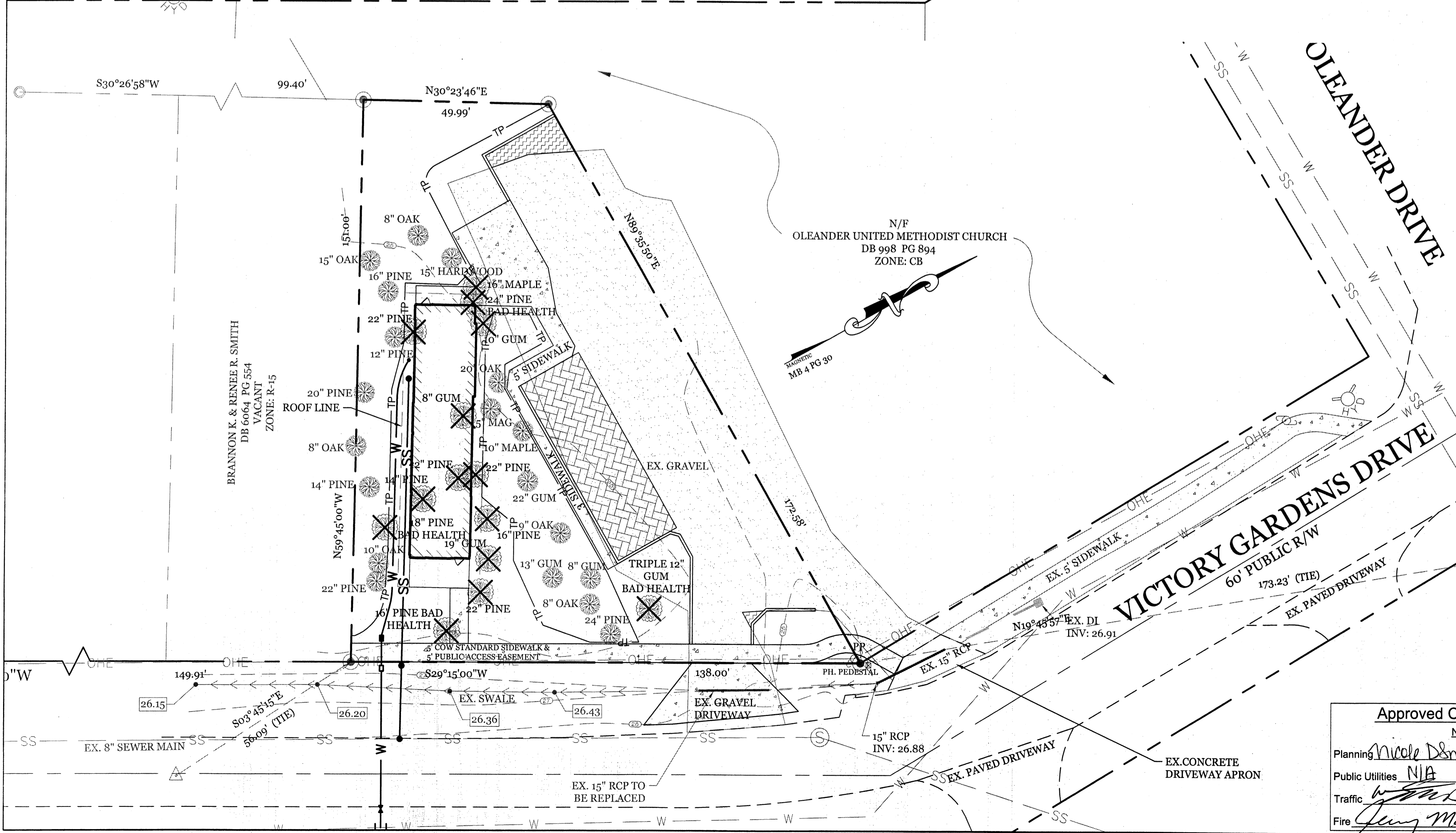
SIZE	SPECIES	QTY	TYPE
12"	PINE	1	REGULATED
14"	PINE	1	REGULATED
16"	PINE	2	REGULATED
18"	PINE	1	REGULATED
22"	PINE	3	REGULATED
24"	PINE	1	REGULATED
16"	MAPLE	1	REGULATED
8"	GUM	1	REGULATED
10"	GUM	1	REGULATED
12"	GUM	1	REGULATED
19"	GUM	1	REGULATED

**NOTES:**

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

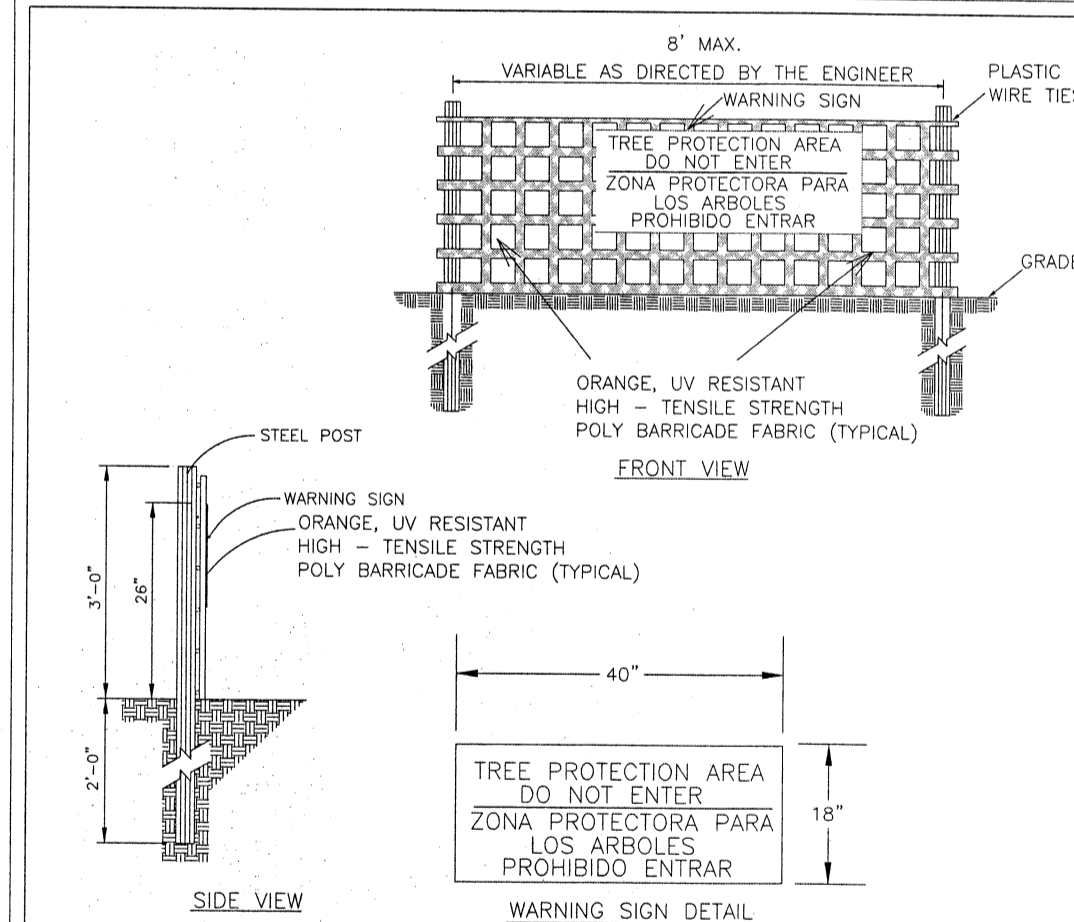
**STANDARD DETAIL**  
**TREE PROTECTION DURING CONSTRUCTION**  
 SHEET 1 of 2  
 SD 15-09

**INTRACOASTAL ENGINEERING, PLLC**  
 5725 Olander Dr. Unit E-7  
 Wilmington, North Carolina 28403  
 Phone: 910.859.8953  
 Email: charlie@intracoastalengineering.com  
 License Number: P-0662



**PROPOSED TREES TO BE PRESERVED**

SIZE	SPECIES	QTY	TYPE
12"	PINE	1	REGULATED
14"	PINE	1	REGULATED
16"	PINE	1	REGULATED
20"	PINE	1	REGULATED
22"	PINE	1	REGULATED
24"	PINE	1	REGULATED
10"	MAPLE	1	REGULATED
5"	MAGNOLIA	1	REGULATED
8"	GUM	1	REGULATED
13"	GUM	1	REGULATED
22"	GUM	1	REGULATED
15"	HARDWOOD	1	REGULATED
8"	OAK	3	REGULATED
9"	OAK	1	REGULATED
10"	OAK	1	REGULATED
15"	OAK	1	REGULATED
20"	OAK	1	REGULATED



**NOTES:**

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

**STANDARD DETAIL**  
**TREE PROTECTION DURING CONSTRUCTION**  
 SHEET 2 of 2  
 SD 15-09

**EXISTING CONDITIONS / TREE REMOVAL PLAN**  
 FOR  
**SMITH & GSELL DESIGN STUDIO**  
 CITY OF WILMINGTON  
 NEW HANOVER COUNTY, NC

**PROFESSIONAL SEAL**  
 NORTH CAROLINA  
 ENGINEER  
 032555  
 CHARLES D. CRUZER  
 1-9-18

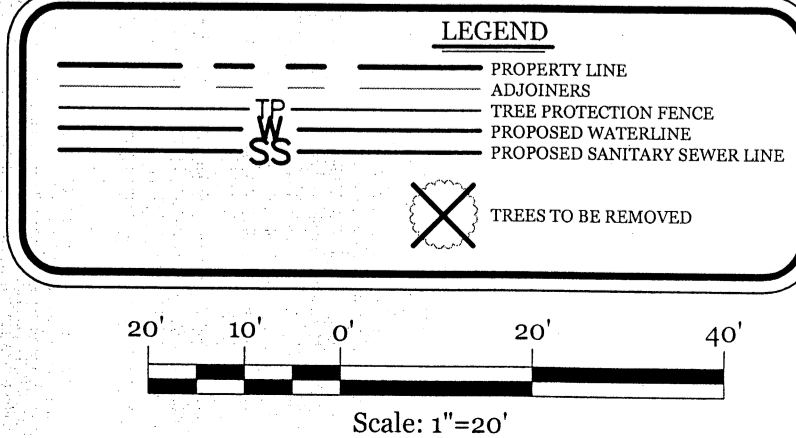
**CLIENT INFORMATION:**  
 Brannon Smith  
 2213 Moreland Dr  
 Wilmington NC 28405  
 910-612-3100  
 BrannonSpine@aol.com

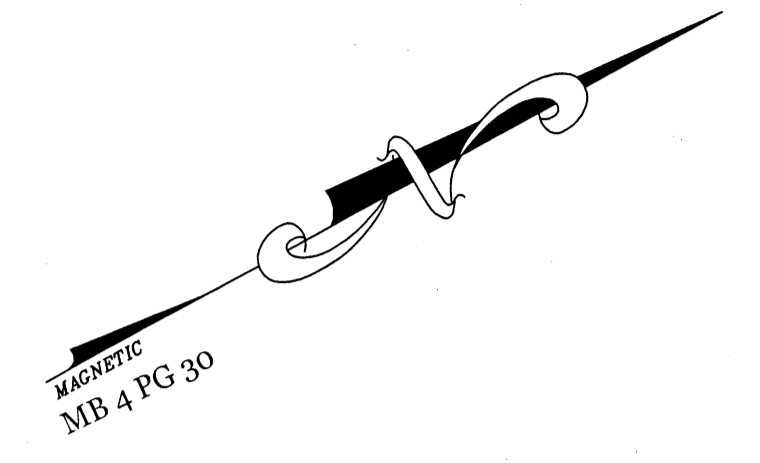
DRAWN: JAE SHEET SIZE: 24x36  
 CHECKED: CDC DATE: 1/9/2018  
 APPROVED: CDC SCALE: 1" = 20'  
 PROJECT NUMBER: 2017-011

DRAWING NUMBER: **C-0**  
 1 OF 5

**Approved Construction Plan**  
 Name: Nicole D Smith Date: 2/6/18  
 Planning: N/A  
 Public Utilities: N/A  
 Traffic: W/25-18  
 Fire: Jay Met 2-6-18

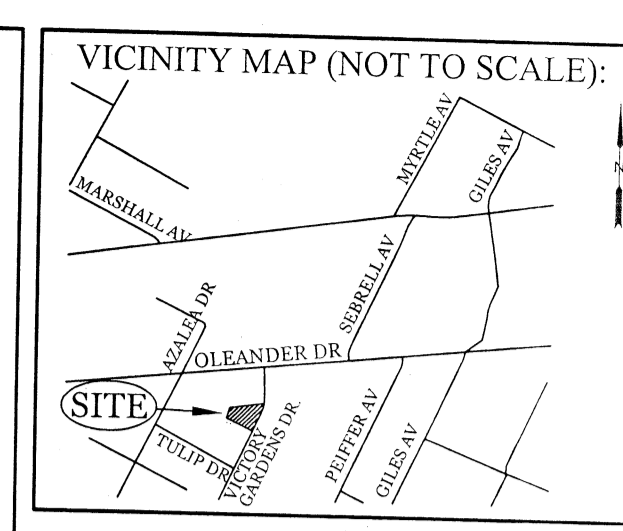
**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED DRAINAGE PLAN  
 Date: 02/06/18 Permit # 2018006  
 Signed: Luis Pella for RAC





**SITE DATA**

PARCEL ID:	R06207-015-010-000
CURRENT ZONING:	CB
CAMA LAND USE CLASSIFICATION:	WATERSHED RESOURCE PROTECTION
PROJECT ADDRESS:	216 VICTORY GARDENS DR WILMINGTON, NC 28409
CURRENT OWNER:	BRANNON K. & RENEE R. SMITH 2213 MORELAND DR WILMINGTON, NC 28405
TOTAL ACREAGE IN PROJECT BOUNDARY:	14,123 S.F. (± 0.32 ac.)
BUILDING SIZE:	1,050 SF (1,738 SF ROOF)
BUILDING HEIGHT:	16.5' (1 STORY)
BUILDING SETBACKS:	
FRONT:	REQUIRED= 20' PROPOSED= 20'
SIDE:	REQUIRED= 20'/0' PROPOSED= 13.86"/41.6'
REAR:	REQUIRED= 10' PROPOSED= 52'
* SETBACK LISTED AS 18" FROM ROOF LINE	
CALCULATION FOR BUILDING COVERAGE:	
PROPOSED COVERAGE:	1,738 S.F. ÷ 14,123 S.F. = 12.3%
EXISTING ONSITE IMPERVIOUS AREAS:	
GRAVEL PARKING AREA:	5,750 S.F. (40.1%)
EXISTING ONSITE IMPERVIOUS AREA TO REMAIN:	
GRAVEL PARKING AREA:	3,625 S.F.
PROPOSED ONSITE IMPERVIOUS AREAS:	
BUILDINGS:	1,738 S.F.
BRICK PAVEMENT PARKING AREA:	972 S.F.
GRAVEL PARKING:	145 S.F.
CONCRETE SIDEWALK/PARKING:	1,646 S.F.
TOTAL:	4,510 S.F. (31.9%)
TOTAL ONSITE IMPERVIOUS AREA:	
PROPOSED ONSITE IMPERVIOUS AREA:	4,510 S.F.
EX. ONSITE IMP. AREA TO REMAIN:	3,625 S.F.
TOTAL:	8,135 S.F. (57.6%)
PROPOSED ONSITE PERVIOUS AREAS:	
WOOD WALKWAYS/RAMPS:	566 S.F. (100% PERVIOUS)
PROPOSED OFFSITE IMPERVIOUS AREAS:	
CONCRETE SIDEWALK/DRIVE APRON:	516 S.F.
PARKING REQUIRED:	
MIN:	1 SPACE / 300 S.F. = 3.5 SPACES (1 H.C.)
MAX:	1 SPACE / 200 S.F. = 5.25 SPACES (1 H.C.)
PARKING PROVIDED:	7 SPACES (1 H.C.)
PARKING LOT INTERIOR LANDSCAPING:	
REQUIRED:	5,078 S.F. * 8% = 406 S.F.
PROVIDED:	749 S.F.
FOUNDATION PLANTINGS:	76 LF X 14.5' FACADE X 12% = 132.24 S.F.
REQUIRED:	132.24 S.F.
PROVIDED:	164 S.F.
STREET YARD REQUIREMENT:	(9' MIN & 27' MAX WIDTH)
REQUIRED:	120.66 LF X 18" = 2,172 S.F.
PROVIDED:	2,238 S.F.
EXISTING SEWER AND WATER DEMAND:	0 GPD
PROPOSED SEWER AND WATER DEMAND:	@ 25 GAL/PERSON = 125 GPD



**REVISIONS**

NO.	DATE	DESCRIPTION

**INTRACOASTAL ENGINEERING, PLLC**  
 5725 Oleander Dr. Unit E-7  
 Wilmington, North Carolina, 28403  
 Phone: 910.859.8983  
 Email: charlie@intracoastalengineering.com  
 License Number: P-0662

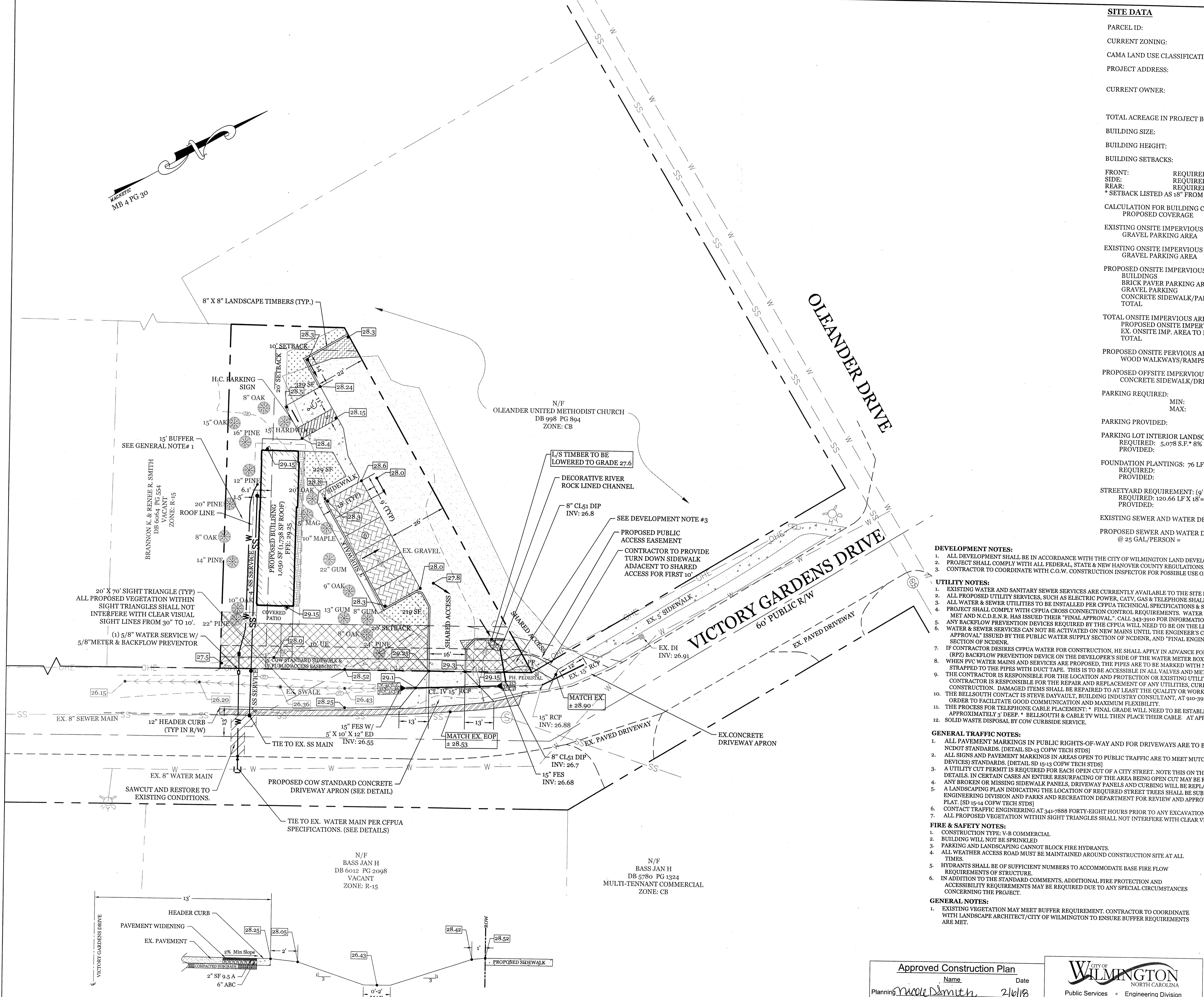
**SITE, GRADING, DRAINAGE, & UTILITIES PLAN**  
 FOR  
**SMITH & GSELL DESIGN STUDIO**  
 CITY OF WILMINGTON  
 NEW HANOVER COUNTY, NC

*Charles D. Smith*  
1-9-18

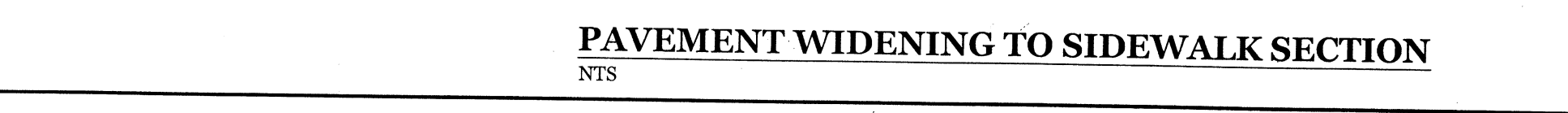
**CLIENT INFORMATION:**  
 Brannon Smith  
 2213 Moreland Dr  
 Wilmington NC 28405  
 910-612-3100  
 BrannonSpine@aol.com

DRAWN: JAE SHEET SIZE: 24x36  
 CHECKED: CDC DATE: 1/9/2018  
 APPROVED: CDC SCALE: 1" = 20'  
 PROJECT NUMBER: 2017-011

DRAWING NUMBER: **C-1**



- DEVELOPMENT NOTES:**
- ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE.
  - PROJECT SHALL COMPLY WITH ALL FEDERAL, STATE & NEW HANOVER COUNTY REGULATIONS.
  - CONTRACTOR TO COORDINATE WITH C.O.W. CONSTRUCTION INSPECTOR FOR POSSIBLE USE OF FLOW UNDER SIDEWALK IN LIEU OF 8" DIP.
- UTILITY NOTES:**
- EXISTING WATER AND SANITARY SEWER SERVICES ARE CURRENTLY AVAILABLE TO THE SITE FROM CAPE FEAR PUBLIC UTILITY AUTHORITY PUBLIC MAINS.
  - ALL PROPOSED UTILITY SERVICES, SUCH AS ELECTRIC POWER, CATV, GAS & TELEPHONE SHALL BE INSTALLED UNDERGROUND.
  - ALL WATER & SEWER UTILITIES TO BE INSTALLED PER CPWA TECHNICAL SPECIFICATIONS & STANDARDS.
  - PROJECT SHALL COMPLY WITH CPWA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METERS(C) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND N.C.D.E.N.R. HAS ISSUED THEIR "FINAL APPROVAL". CALL 341-3910 FOR INFORMATION.
  - ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CPWA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFCOCHR OR ASSE.
  - WATER & 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 NCDNR, AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY SECTION OF NCDNR.
  - IF CONTRACTOR DESIRES CPWA 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, SINGLE-STRAND COPPER WIRE INSTALLED & STRAPPED TO THE PIPES WITH DUCT TAPE. THIS IS TO BE ACCESSIBLE IN ALL VALVES AND METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
  - THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OR EXISTING UTILITIES DURING CONSTRUCTION. CALL U-LOCO AT 1-800-632-4949. CONTRACTOR IS RESPONSIBLE FOR THE REPAIR AND REPLACEMENT OF ANY UTILITIES, CURB & GUTTER, PAVEMENT, ETC. THAT MAY BE DAMAGED DURING CONSTRUCTION. DAMAGED ITEMS SHALL BE REPAIRED TO AT LEAST THE QUALITY OR WORKMANSHIP FOUND IN THE ORIGINAL ITEM.
  - 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.
  - THE PROCESS FOR TELEPHONE CABLE PLACEMENT: \* FINAL GRADE WILL NEED TO BE ESTABLISHED. \* POWER WILL PLACE THEIR CABLE FIRST - APPROXIMATELY 3" DEEP. \* BELLSOUTH & CABLE TV WILL THEN PLACE THEIR CABLE AT APPROXIMATELY 2" DEEP.
  - SOLID WASTE DISPOSAL BY COW CURBSIDE SERVICE.
- GENERAL TRAFFIC NOTES:**
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS. (DETAIL SD-13 COFW TECH STDS)
  - 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)
  - A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF 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.
  - ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
  - A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAN. (SD 15-14 COFW TECH STDS)
  - CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
  - ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' TO 10'.
- FIRE & SAFETY NOTES:**
- CONSTRUCTION TYPE: V-B COMMERCIAL
  - BUILDING WILL NOT BE SPRINKLED
  - PARKING AND LANDSCAPING CANNOT BLOCK FIRE HYDRANTS.
  - ALL WEATHER ACCESS ROAD MUST BE MAINTAINED AROUND CONSTRUCTION SITE AT ALL TIMES.
  - HYDRANTS SHALL BE OF SUFFICIENT NUMBERS TO ACCOMMODATE BASE FIRE FLOW REQUIREMENTS OF STRUCTURE
  - IN ADDITION TO THE STANDARD COMMENTS, ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
- GENERAL NOTES:**
- EXISTING VEGETATION MAY MEET BUFFER REQUIREMENT. CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT/CITY OF WILMINGTON TO ENSURE BUFFER REQUIREMENTS ARE MET.



**Approved Construction Plan**

Name: *Brannon Smith* Date: *2/6/18*

Planning: *Brannon Smith*

Public Utilities: *N/A*

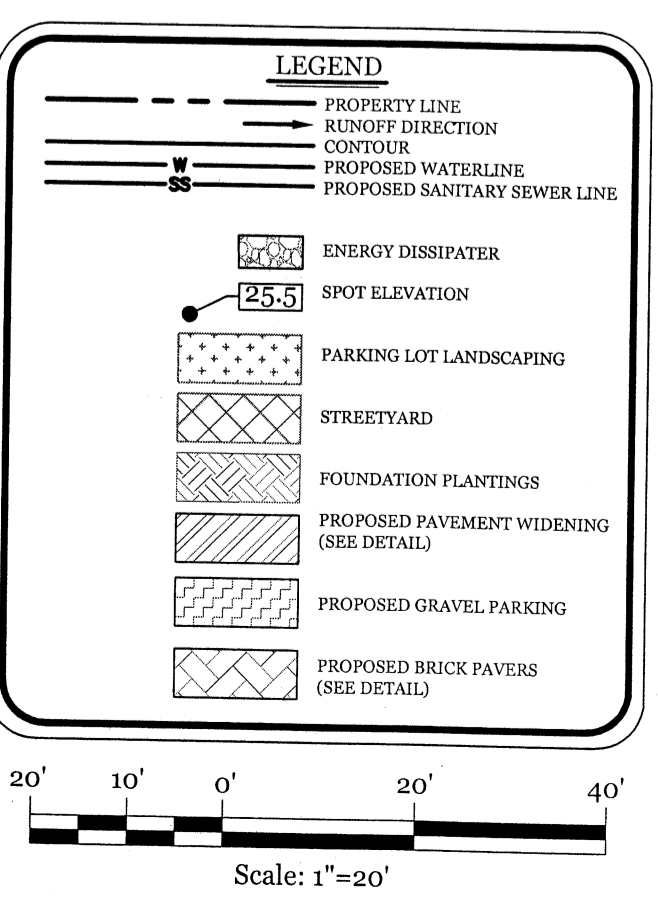
Traffic: *Steve Dayvault 2-5-18*

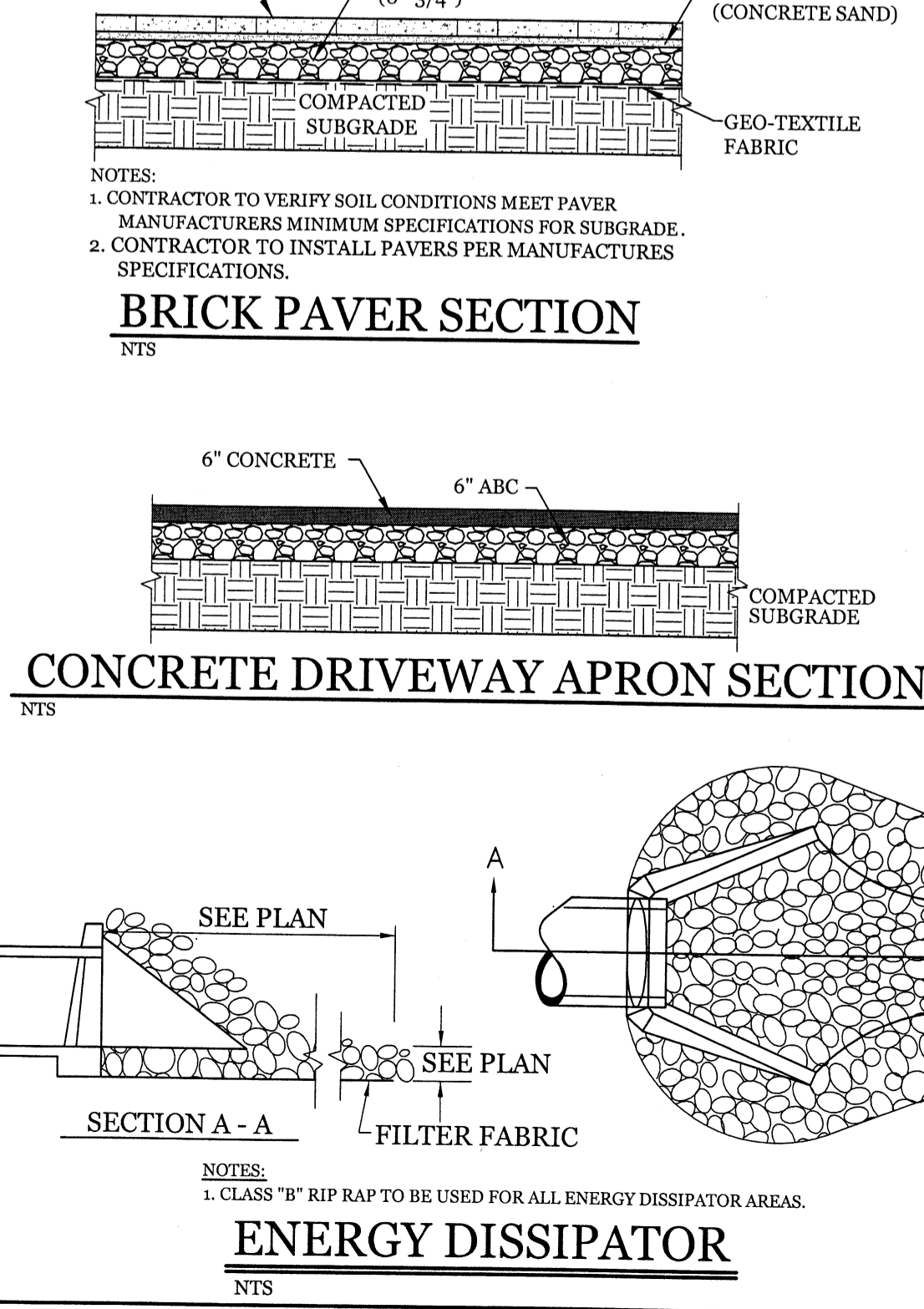
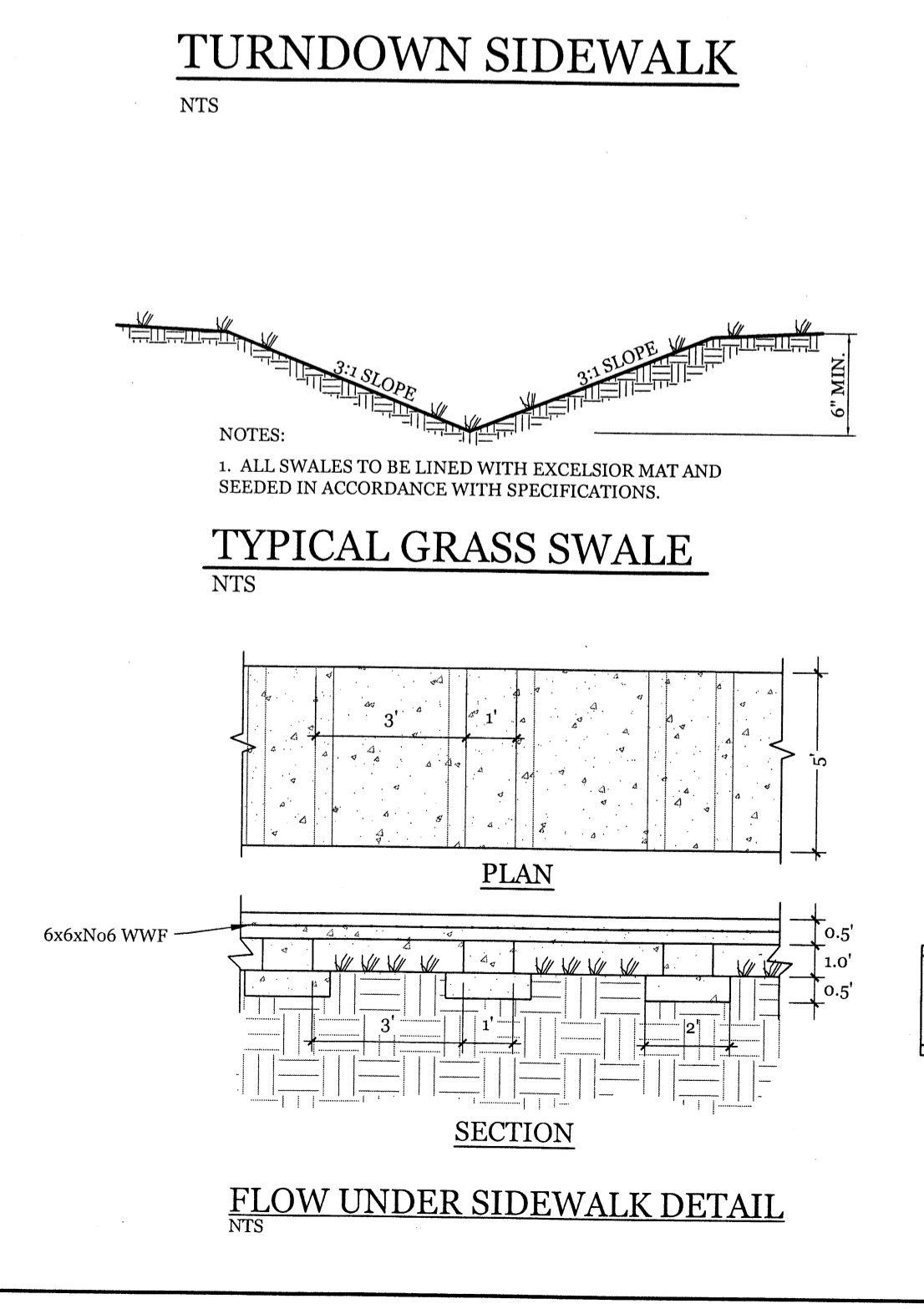
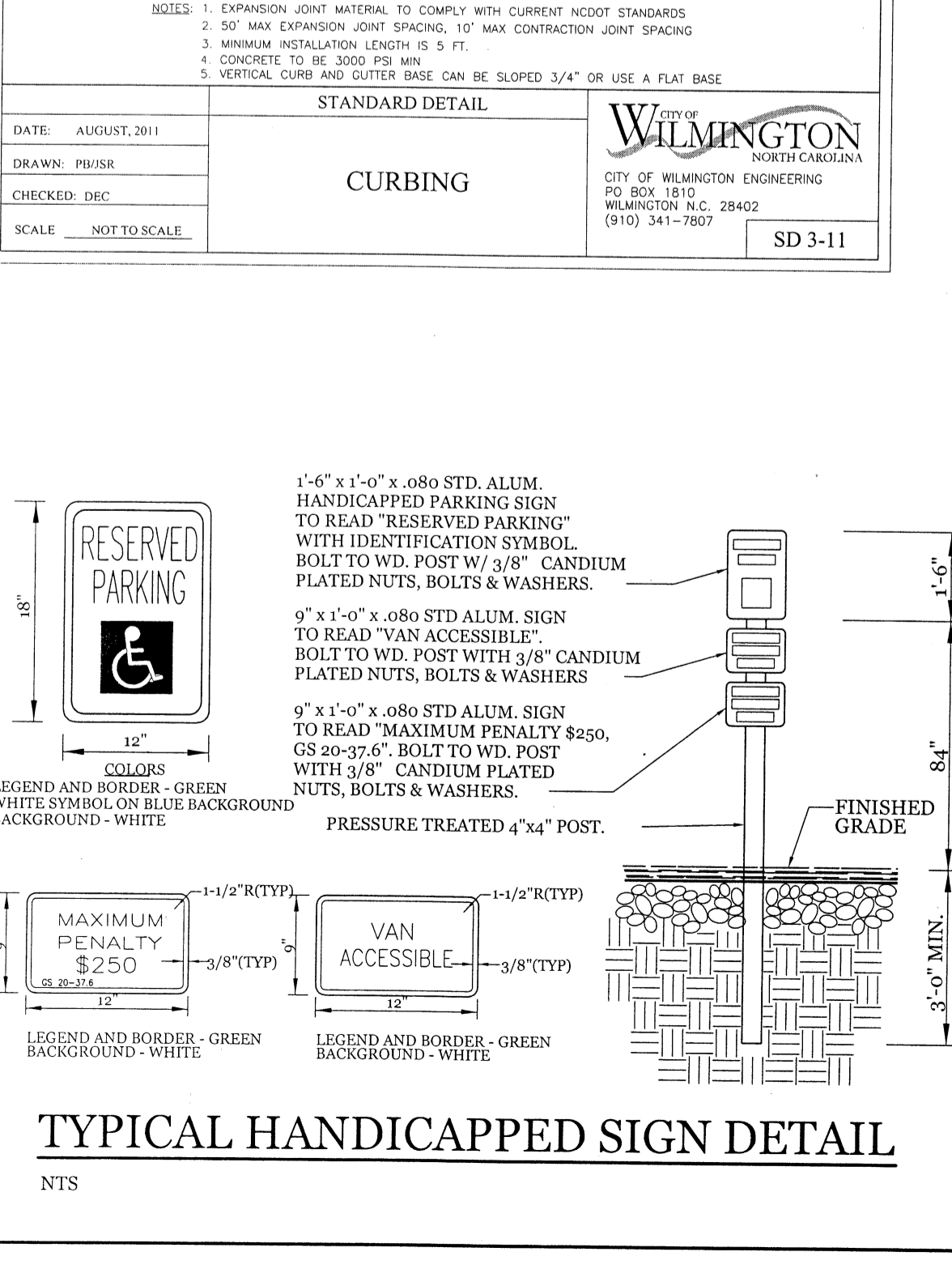
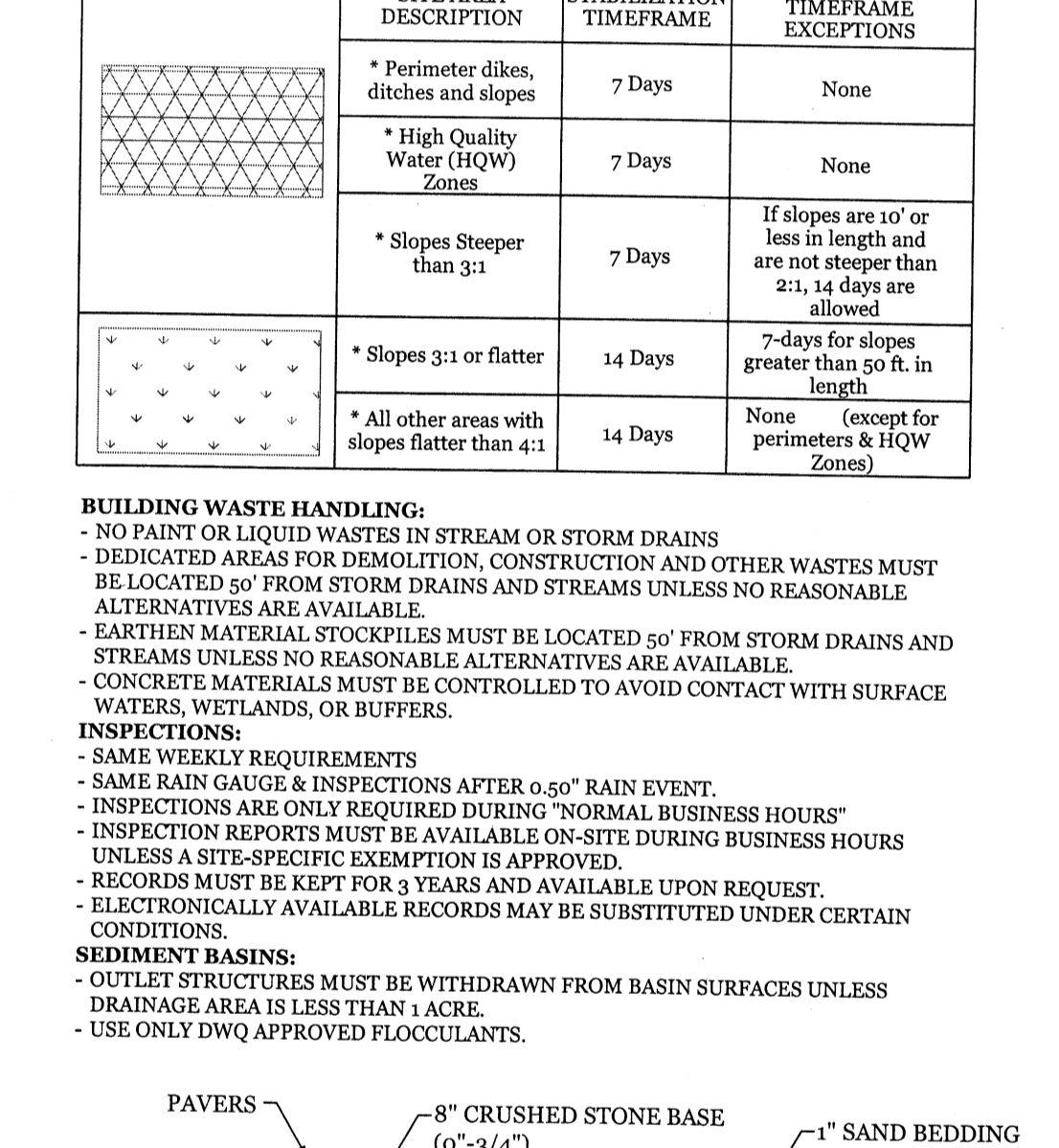
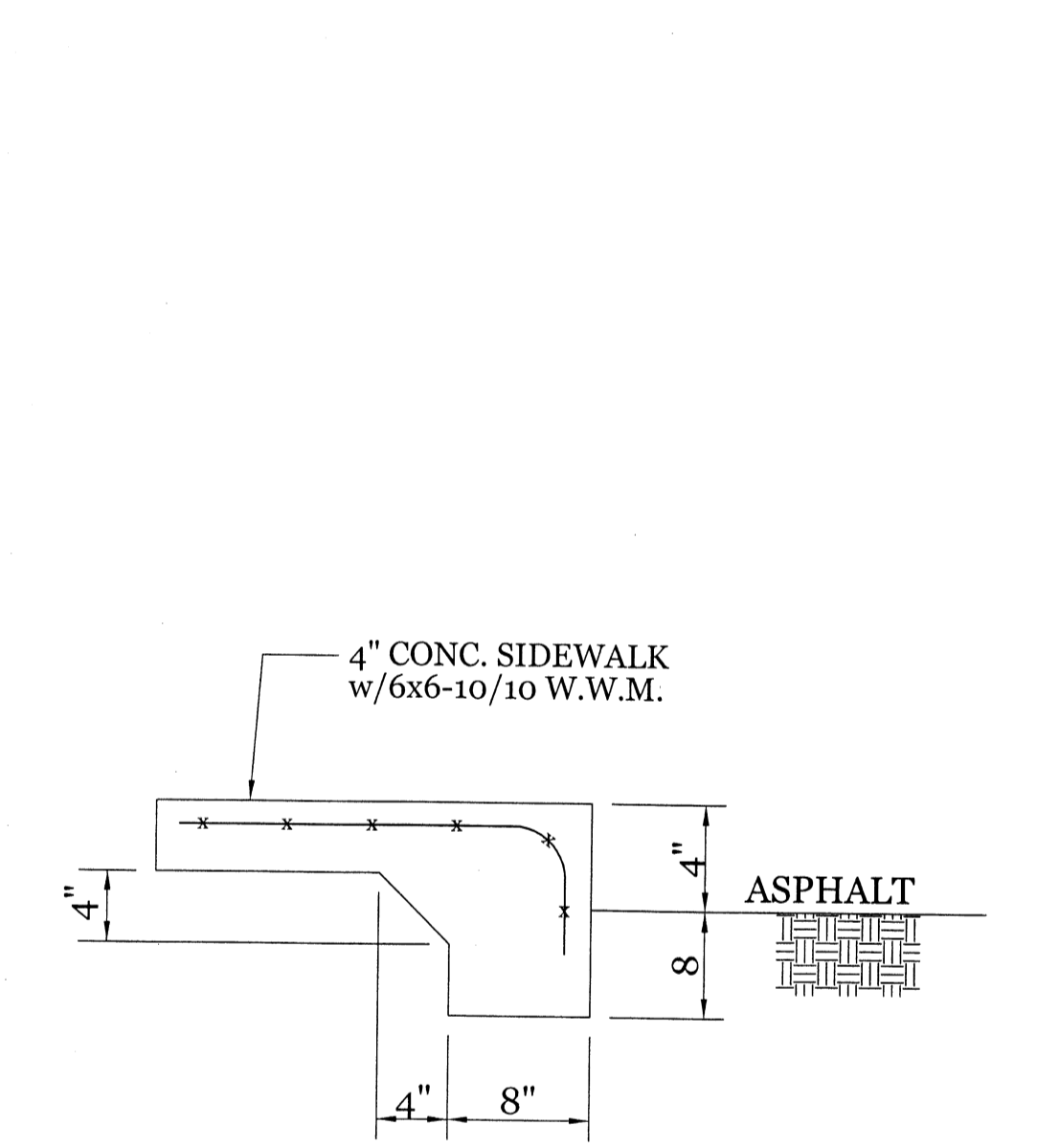
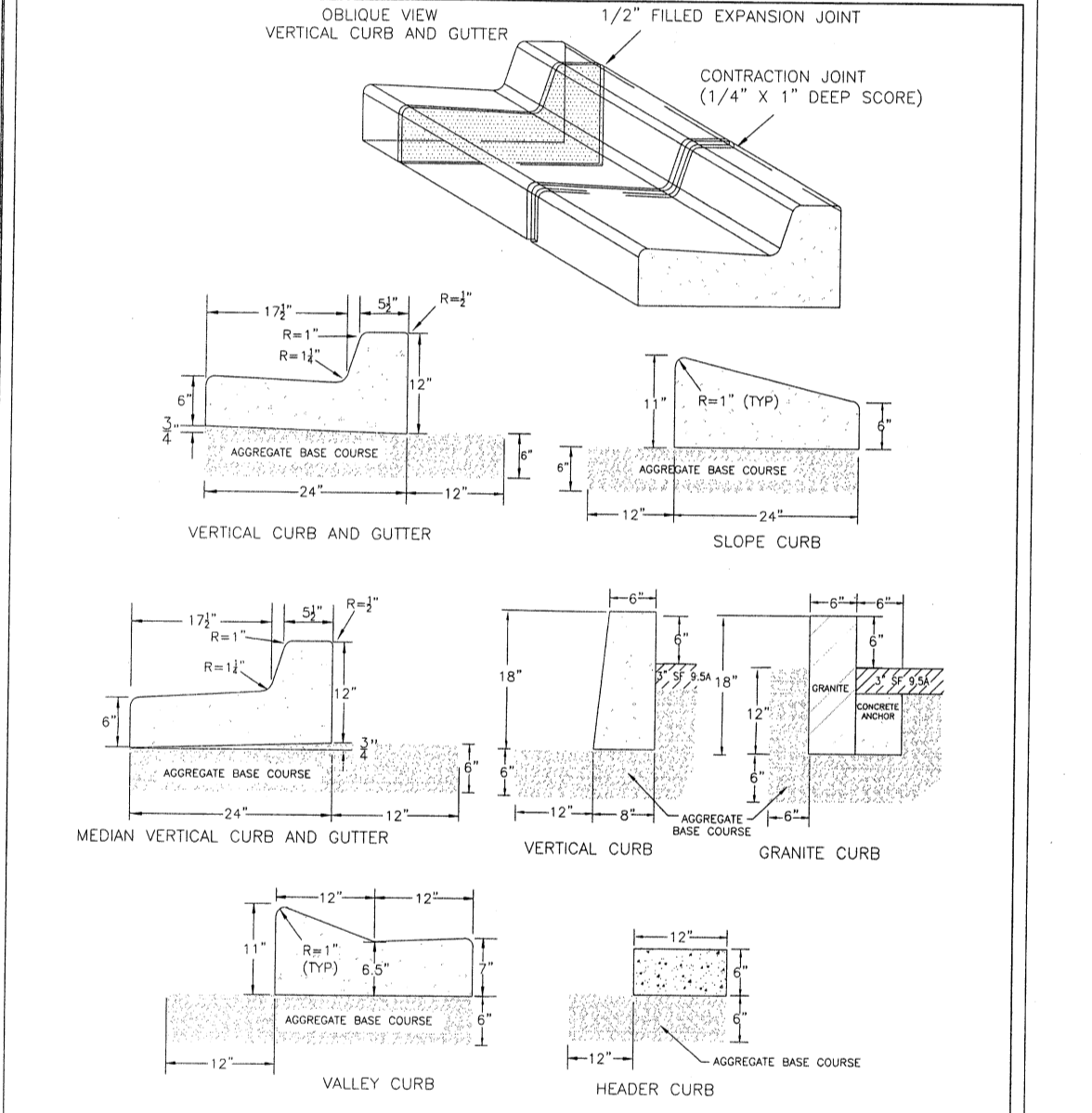
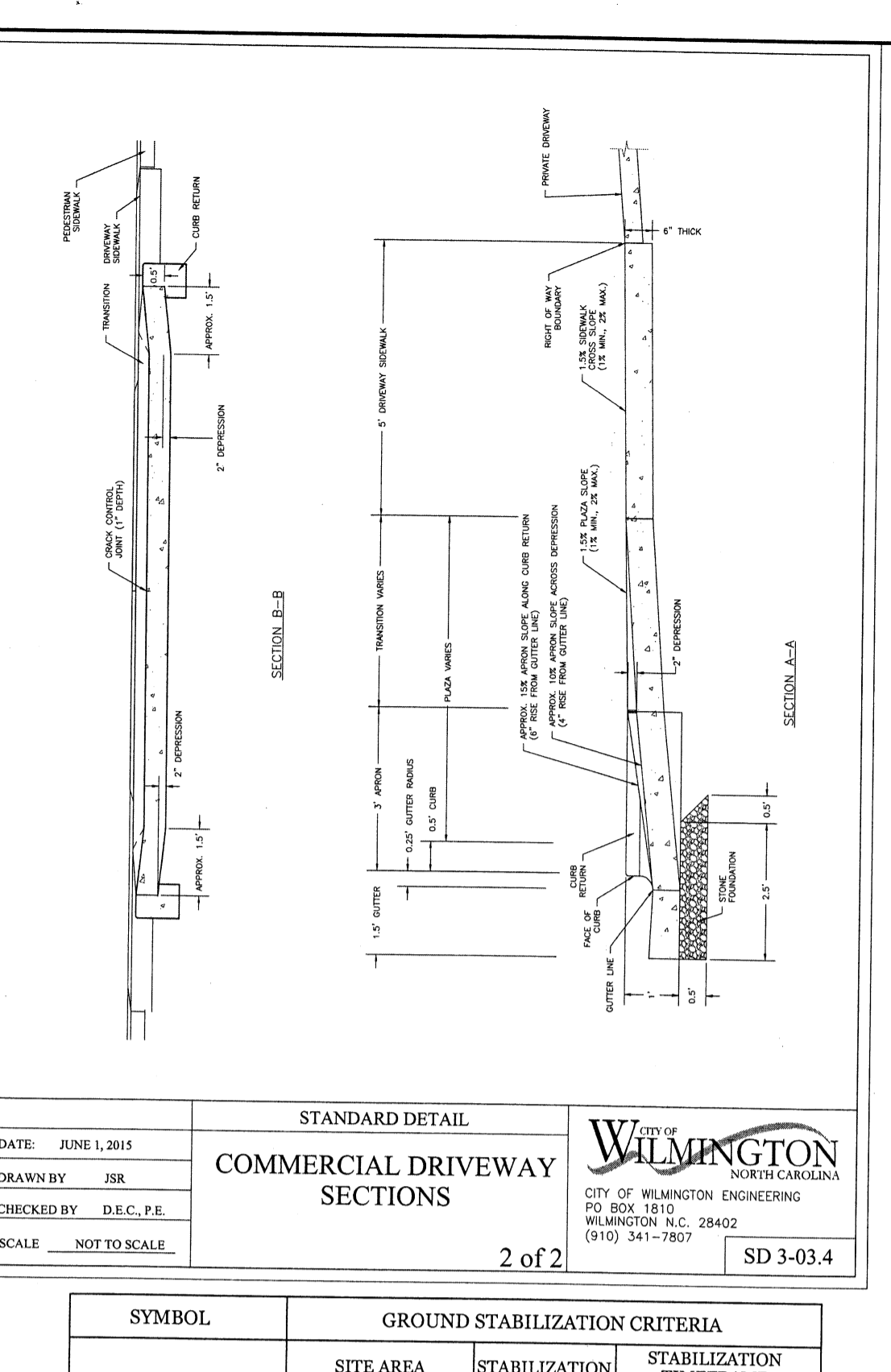
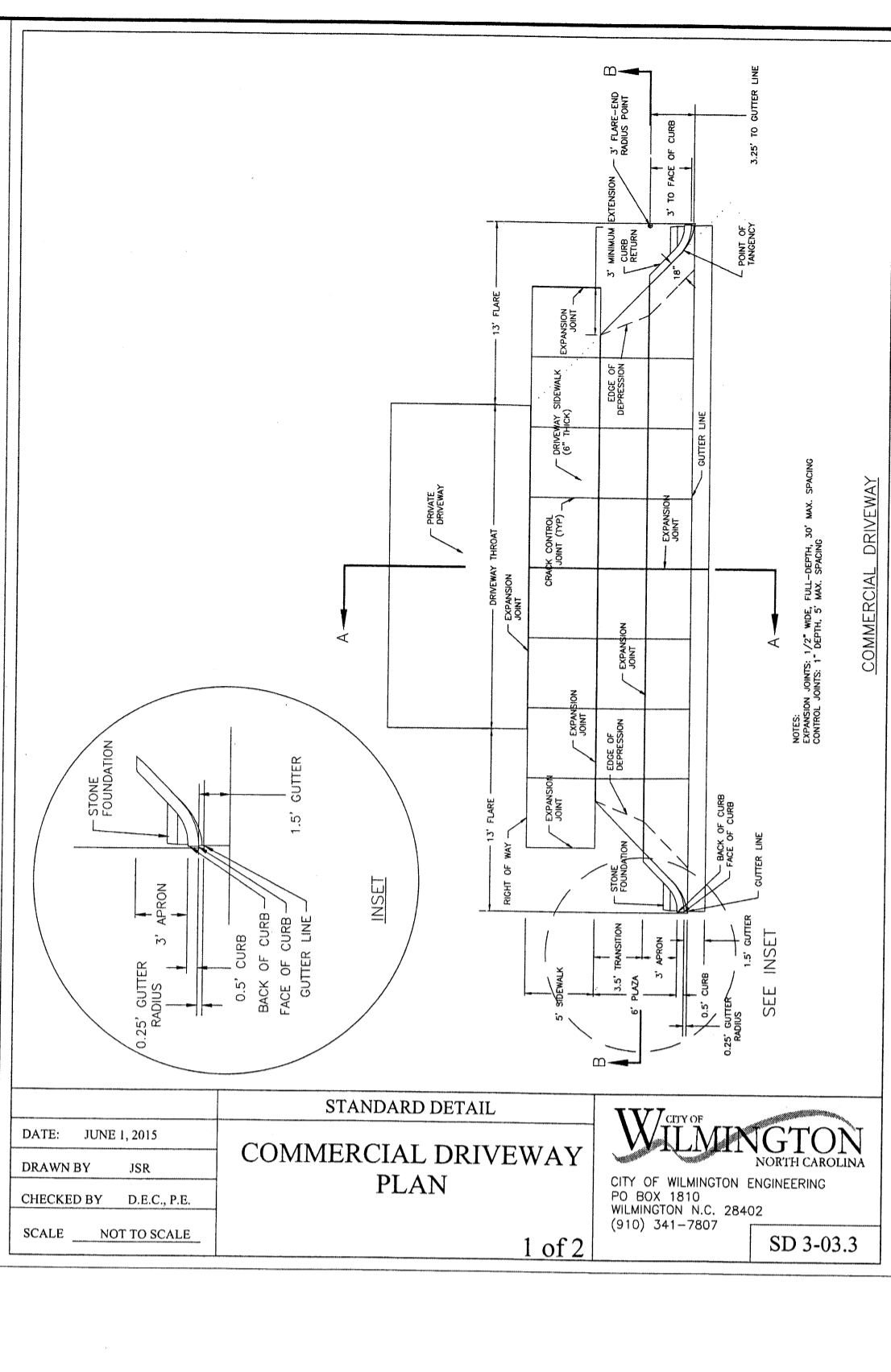
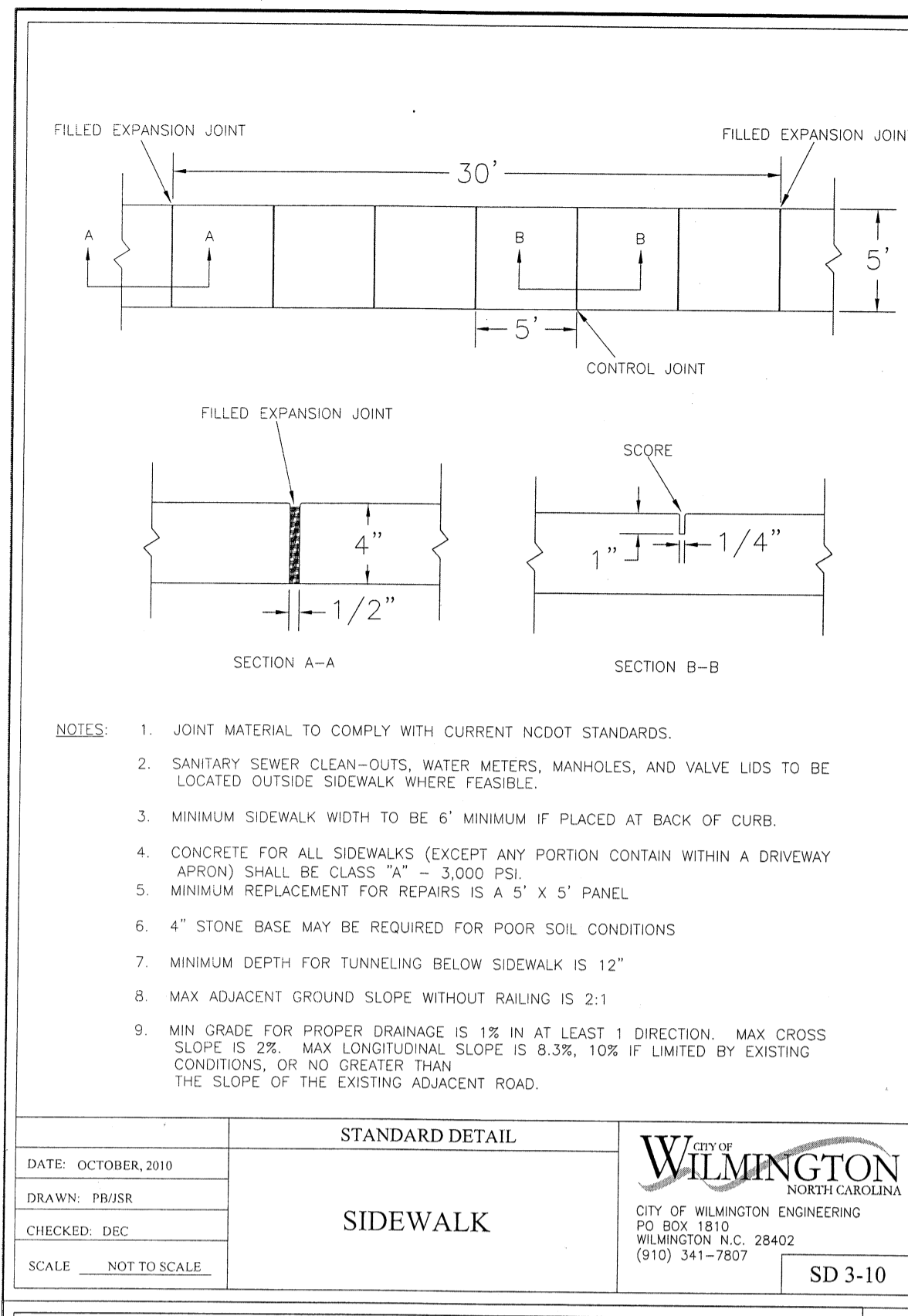
Fire: *James Mot 2-6-18*

City of Wilmington Public Services - Engineering Division APPROVED DRAINAGE PLAN

Date: *02/06/18* Permit #: *2018006*

Signed: *Leah Butler for RAC*





**SITE WORK NOTES:**

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS BOTH ON AND ADJACENT TO THE SITE.
2. CLEARING: CONTRACTOR SHALL REMOVE ALL TREES AND VEGETATION WITHIN LIMITS OF CONSTRUCTION UNLESS OTHERWISE DESIGNATED TO REMAIN.
3. GRUBBING AND STRIPPING: CONTRACTOR SHALL RAKE AND REMOVE ROOTS, STUMPS, VEGETATION, DEBRIS, EXISTING STRUCTURES ABOVE AND BELOW GRADE, ORGANIC MATERIAL OR ANY OTHER UNSUITABLE MATERIAL WITHIN LIMITS OF CONSTRUCTION.
4. MUCKING: CONTRACTOR SHALL COORDINATE WITH OWNER AND THEIR GEOTECHNICAL REPRESENTATIVE TO COORDINATE REMOVAL OF ANY SOFT AREAS.
5. DISPOSAL: CLEARED, GRUBBED, STRIPPED OR OTHER WASTE MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A PROPERLY PERMITTED FACILITY.
6. FILL AND COMPACTION SHOULD COMPLY WITH GEOTECHNICAL RECOMMENDATIONS.
7. THE CONTRACTOR SHALL NOTE THAT THE GRADING PLAN MAY NOT REPRESENT A BALANCED EARTHWORK CONDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUT AND FILL QUANTITIES AND COMPLETE INSTALLATION TO SPECIFIED GRADES.
8. THE CONTRACTOR SHALL FURNISH SUITABLE BORROW MATERIAL FROM AN OFF-SITE PROPERLY PERMITTED FACILITY AS REQUIRED.
9. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT ELEVATIONS AND LOCATIONS OF ALL EXISTING UTILITIES AT ALL CROSSINGS PRIOR TO COMMENCING TRENCH EXCAVATION. IF ACTUAL CLEARANCES ARE LESS THAN INDICATED ON PLAN, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. ANY CONDITION DISCOVERED OR EXISTING THAT WOULD NECESSITATE A MODIFICATION OF THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
10. NO CONSTRUCTION IS TO BEGIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NO ONE-CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. BEFORE COMMENCING ANY EXCAVATIONS OR EXCAVATE, IN WRITING, NOT LESS THAN 10 DAYS PRIOR TO EXCAVATING.
12. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE DISCONNECTION/ RECONNECTION AND/OR THE RELOCATION OF ALL EXISTING UTILITIES WITH APPROPRIATE PERSONNEL.
13. CONTRACTOR SHALL ADJUST ALL MANHOLES, VALVE & CURB BOXES TO FINAL GRADE UPON COMPLETION OF ALL CONSTRUCTION. ANY BOXES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
14. EXISTING SURVEY PERFORMED BY PATRICK C. BRISTOW, N.C. PLS No. L-4148
15. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AT THE SITE. FURTHERMORE THE CONTRACTOR SHALL REPORT ALL DISCREPANCIES OR QUESTIONS TO THE ENGINEER PRIOR TO INSTALLATION.
16. THE CONTRACTOR SHALL PROVIDE ANY AND ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK UNLESS OTHERWISE DIRECTED BY OWNER.
17. ALL SERVICE CONNECTIONS SHALL BE INSTALLED TO MEET ALL LOCAL, STATE, AND CPWA CODES. METERS, TAPS, MATERIALS, WORKMANSHIP AND ALL FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL COMPLY WITH ALL REQUIREMENTS.
18. ALL BACKFILL FROM UTILITY INSTALLATION MUST BE COMPACTED OR AMENDED TO PROVIDE TRAFFIC BEARING CAPACITY. GEOTECHNICAL ENGINEER TO BE CONSULTED AT CONTRACTORS COST AS NECESSARY.
19. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO INSTALLATION. ALL AREAS SHALL BE SLOPED TO DRAIN AWAY FROM BUILDINGS AT ALL TIMES.
20. CONCRETE FOR WALKS, CURBS AND DRIVES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS - AIR ENTRAINED.
21. FIELD TESTING SHALL BE DONE BY AN INDEPENDENT TESTING LABORATORY PAID FOR BY THE OWNER. FURTHER TESTING REQUIRED DUE TO A FAILED TEST WILL BE PAID FOR BY THE CONTRACTOR.
22. ALL SIDEWALKS SHALL BE FREE OF CRACKS, BREAKS, OR ANY OTHER DEFECT PRIOR TO RECEIVING A CERTIFICATE OF OCCUPANCY.

**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.
2. ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES THAT WILL BE PERIODICALLY TOP-DRESSED WITH AN ADDITIONAL 2 INCHES OF 2-3 INCH STONE TO MAINTAIN PROPER DEPTH. THEY WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTABLE MATERIAL SPILLED, WASHED OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.
3. SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTION, ROCK DOUGHNUT INLET PROTECTION, SEDIMENT TRAP Baffles, AND ROCK PIPE INLET DRAINS AS DESIGNED. DEBRIS WILL BE REMOVED FROM THE ROCK AND HARDWARE CLOTH TO ALLOW PROPER DRAINAGE. SILT SACKS WILL BE EMPTIED ONCE A WEEK AND AFTER EVERY RAIN EVENT. SEDIMENT WILL BE REMOVED FROM AROUND BEAVER DAMS, DANDY SACKS AND SOCKS ONCE A WEEK AND AFTER EVERY RAIN EVENT.
4. DIVERSION DITCHES WILL BE CLEANED OUT IMMEDIATELY TO REMOVE SEDIMENT OR OBSTRUCTIONS FROM THE FLOW AREA. THE DIVERSION RIDGES WILL ALSO BE REPAIRED. SWALES MUST BE TEMPORARILY STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY ASSOCIATED WITH A SWALE.
5. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES HALF FILLED. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A MAX WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS ARE DESIGNED AT LOW POINTS IN THE IN THE SEDIMENT FENCE THE ROCK WILL BE REPAIRED OR REPLACED IF IT BECOMES HALF FULL OF SEDIMENT, NO LONGER DRAINS AS DESIGNED OR IS DAMAGED.

**CONSTRUCTION SEQUENCE:**

CONSTRUCTION OF SITE TO START WITH INSTALLATION OF CONSTRUCTION ENTRANCE AND SILT FENCE ALONG ALL LOCATIONS PER PLANS. UPON INSTALLATION OF SILT FENCE, TREES SHOULD BE REMOVED IN LOCATIONS AS NECESSARY. ALL SLOPED AREAS SHOULD BE SEEDED IN ACCORDANCE TO SPECIFICATIONS. SLOPE STABILIZATION IS WITHIN 21 CALENDAR DAYS OF ANY PHASE OF CONSTRUCTION. ALL OTHER AREAS MUST BE STABILIZED WITHIN 15 WORKING DAYS. CONTRACTOR TO FOLLOW NPDES STABILIZATION REQUIREMENTS PER TABLE ON THIS SHEET AS WELL. MOST STRINGENT REQUIREMENT TO BE MET.

1. GENERAL CLEARING AND GRADING OF THIS SITE WILL NOT BE DONE UNTIL THE TEMPORARY SILT FENCE & CONSTRUCTION ENTRANCE HAS BEEN INSTALLED.
2. NO CUT SLOPE OR FILL SLOPE SHALL EXCEED A RISE OR FALL OF ONE FOOT FOR EVERY RUN OF 3 FEET (1 VERTICAL TO 3 HORIZONTAL).
3. NO SEDIMENT WILL BE ALLOWED TO EXIT THE SITE. ALL EROSION SHALL BE CONTROLLED INCLUDING SIDE SLOPES DURING AND AFTER CONSTRUCTION.
4. INSTALL PRIMARY EROSION CONTROL MEASURES BEFORE BEGINNING CONSTRUCTION INCLUDING BUT NOT LIMITED TO GRAVELED CONSTRUCTION ENTRANCE, SILT FENCE, TREE PROTECTION FENCE & SEDIMENT BASINS. CONTRACTOR TO BE FAMILIAR WITH USACE GENERAL PERMIT CONDITIONS FOR ROAD CROSSINGS. SPECIFIC CONSTRUCTION METHODS MAY BE REQUIRED ABOVE AND BEYOND WHAT IS SPECIFIED IN THIS PLAN. INSTALL ALL SECONDARY EROSION CONTROL MEASURES, SUCH AS INLET PROTECTION AS SOON AS POSSIBLE AFTER BEGINNING CONSTRUCTION.
5. ALL EROSION CONTROL MEASURES TO BE INSPECTED AFTER EACH RAIN. SILT FENCE AND INLET PROTECTION TO BE CLEANED WHEN HALF FULL.
6. A 4" LAYER OF TOPSOIL SHALL BE APPLIED TO ALL NEW AREAS TO BE GRASSED.
7. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL PROJECT IS COMPLETE.
8. MORE STRINGENT MEASURES MAY BE REQUIRED TO HALT EROSION IF THOSE ON THIS PLAN PROVE TO BE LESS EFFECTIVE.
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF CONSTRUCTION. ALL PERMANENT MEASURES SHALL BE WELL ESTABLISHED PRIOR TO PROJECT COMPLETION.

**NORTH CAROLINA TEMPORARY GRASSING DETAIL**

SEEDING MIXTURE SPECIES	APPLICATION RATE
<b>LATE WINTER &amp; EARLY SPRING:</b> Rye (grain) Annual Lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains) Omit annual Lespedeza when duration of temporary cover is not to extend beyond June	100 (lb/acre) 50 (lb/acre)
<b>SUMMER:</b> German Millet In the Piedmont and Mountains, a small-stemmed sundangrass may be substituted at a rate of 50 (lb/acre)	40 (lb/acre)
<b>FALL:</b> Rye (grain)	120 (lb/acre)

**SEEDING DATES**

**LATE WINTER & EARLY SPRING:**  
Mountains - Above 2500 ft: Feb. 15-May 15  
Piedmont - Jan. 1-May 1  
Coastal Plain - Dec. 1-Apr. 15

**SUMMER:**  
Mountains - May 15-Aug. 15  
Piedmont - May 1-Aug. 15  
Coastal Plain - Apr. 15-Aug. 15

**FALL:**  
Mountains - Aug. 15-Dec. 15  
Coastal Plain and Piedmont - Aug. 15-Dec. 30

**SOIL AMENDMENTS:**  
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

**MULCH:**  
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.

**MAINTENANCE:**  
Referitize if growth is not fully adequate. reseed, referitize and mulch immediately following erosion or other damage.

**NORTH CAROLINA PERMANENT GRASSING DETAIL**

SEEDING MIXTURE SPECIES	APPLICATION RATE
<b>FALL &amp; WINTER:</b> Tall Fescue (blend of two or three improved varieties) Rye (grain)	200 (lb/acre) 25 (lb/acre)
<b>SPRING &amp; SUMMER:</b> Pensacola Bahiagrass Sericea Lespedeza Common Bermudagrass German Millet Tall Fescue	50 (lb/acre) 30 (lb/acre) 10 (lb/acre) 10 (lb/acre) 50 (lb/acre)

**SEEDING DATES**

**FALL & WINTER:**  
January - April  
August - December

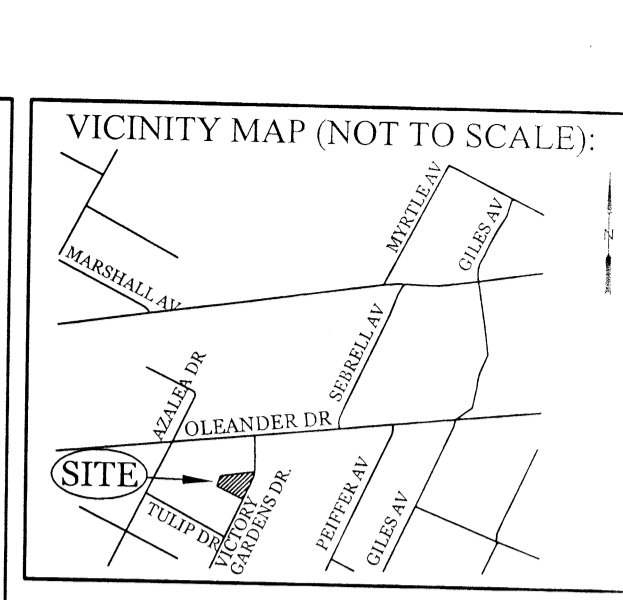
**SOIL AMENDMENTS:**  
Apply lime and fertilizer according to soil tests, or apply 3,000-5,000 lb/acre ground agricultural limestone (use the lower rate on sandy soils) and 1,000 lb/acre 10-10-10 fertilizer.

**MAINTENANCE:**  
Fertilize according to soil tests or apply 40 lb/acre nitrogen in January or february, 40 lb in September and 40 lb in November, from a 12-4-8, 16-4-8, or similar turf fertilizer. Avoid fertilizer applications during warm weather, as this increases stand losses to disease. Reseed, fertilize, and mulch damaged areas immediately, mow to a height of 2.5-3.5 inches as needed.

**SOIL AMENDMENTS:**  
Apply lime and fertilizer according to soil tests, or apply 3,000 lb/acre ground agricultural limestone and 500 lb/acre 10-10-10 fertilizer.

**MAINTENANCE:**  
Referitize the following april with 50 lb/acre nitrogen. Repeat as growth requires. may be mowed only once a year. Where a neat appearance is desired, omit sericea and mow as often as needed.

**MULCH:**  
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.



**REVISIONS**

NO.	DATE	DESCRIPTION

**INTRACOASTAL ENGINEERING, PLLC**

5725 Oleander Dr. Unit E-7  
Wilmington, North Carolina 28403  
Phone: 910.859.8983  
Email: Charlie@intracoastalengineering.com  
License Number: P-0662

**DETAILS FOR SMITH & GSELL DESIGN STUDIO**

CITY OF WILMINGTON  
NEW HANOVER COUNTY, NC

**Professional Engineer Seal**

NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL  
032555  
CHARLES D. CALDER  
1-9-18

**CLIENT INFORMATION:**

Brannon Smith  
2213 Moreland Dr  
Wilmington NC 28405  
910-612-3100  
BrannonSpine@aol.com

DRAWN: JAE SHEET SIZE: 24x36  
CHECKED: CDC DATE: 1/9/2018  
APPROVED: CDC SCALE: NTS  
PROJECT NUMBER: 2017-011

DRAWING NUMBER: C-2

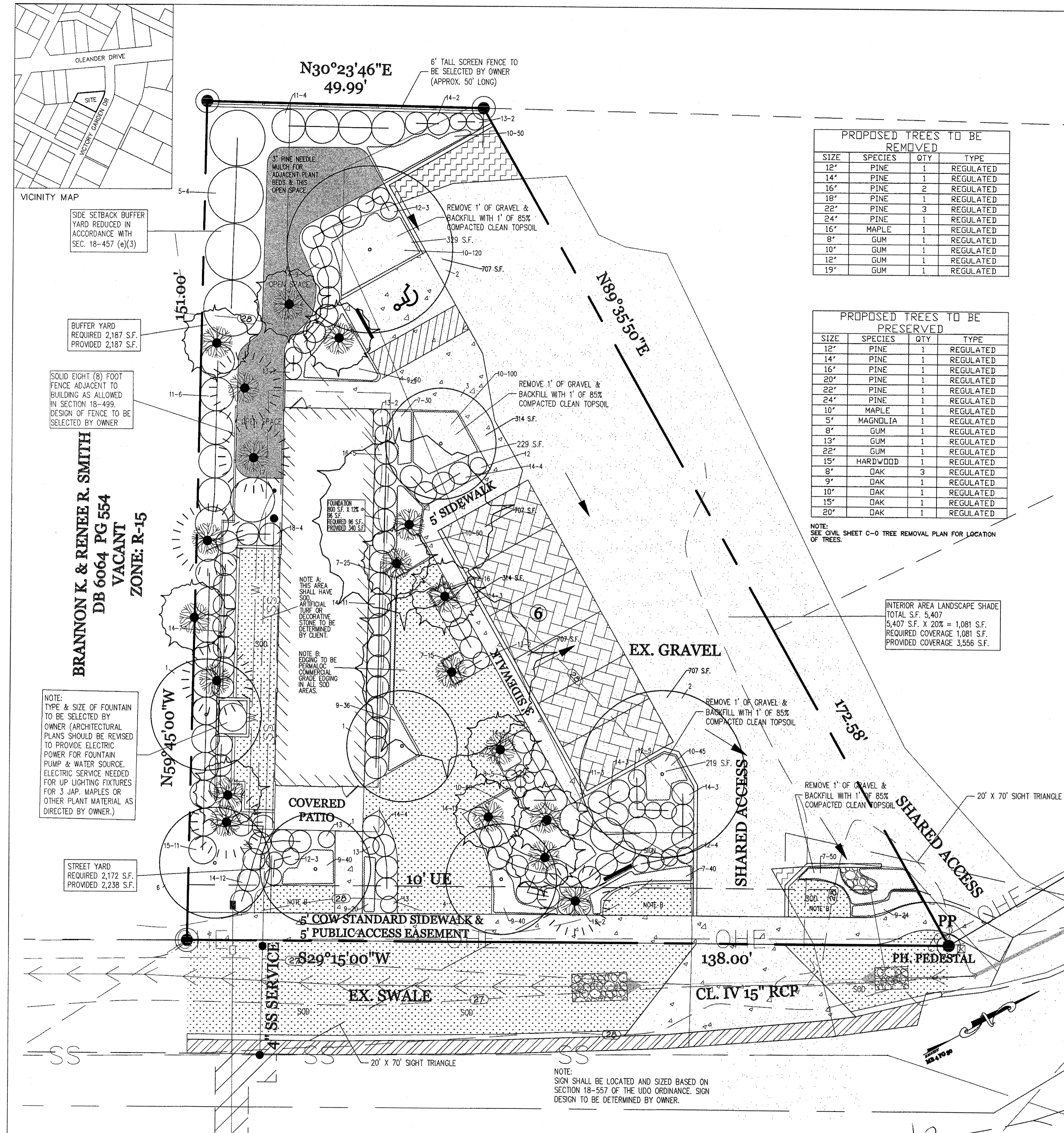
**Approved Construction Plan**

Name: *Brannon Smith* Date: *2/19/18*

Planning: *W. Smith*  
Public Utilities: *N/A*  
Traffic: *W. Smith 2-5-18*  
Fire: *Greg Madsen 2-6-18*

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

Date: *02/06/18* Permit #: *2018006*  
Signed: *Carl B. ...* for RAC



**SITE DATA**  
 PARCEL ID: R06207-015-010-000  
 CURRENT ZONING: CB  
 CAMA LAND USE CLASSIFICATION: WATERSHED RESOURCE PROTECTION  
 PROJECT ADDRESS: 216 VICTORY GARDENS DR. WILMINGTON, NC 28409  
 CURRENT OWNER: BRANNON K. & RENEE R. SMITH 2813 MORLAND DR WILMINGTON, NC 28405

**PROPOSED TREES TO BE REMOVED**

SIZE	SPECIES	QTY	TYPE
12"	PINE	1	REGULATED
14"	PINE	1	REGULATED
16"	PINE	2	REGULATED
18"	PINE	1	REGULATED
22"	PINE	3	REGULATED
24"	PINE	1	REGULATED
16"	MAPLE	1	REGULATED
8"	GUM	1	REGULATED
10"	GUM	1	REGULATED
12"	GUM	1	REGULATED
19"	GUM	1	REGULATED

**PROPOSED TREES TO BE PRESERVED**

SIZE	SPECIES	QTY	TYPE
12"	PINE	1	REGULATED
14"	PINE	1	REGULATED
16"	PINE	1	REGULATED
20"	PINE	1	REGULATED
22"	PINE	1	REGULATED
24"	PINE	1	REGULATED
10"	MAPLE	1	REGULATED
8"	MAGNOLIA	1	REGULATED
8"	GUM	1	REGULATED
13"	GUM	1	REGULATED
22"	GUM	1	REGULATED
15"	HARDWOOD	1	REGULATED
8"	OAK	3	REGULATED
9"	OAK	1	REGULATED
10"	OAK	1	REGULATED
15"	OAK	1	REGULATED
20"	OAK	1	REGULATED

TOTAL ACREAGE IN PROJECT BOUNDARY: 14,123 S.F. (± 0.32 ac.)  
 BUILDING SIZE: 1,050 SF (1,738 SF ROOF)  
 BUILDING HEIGHT: 16.6' (1 STORY)  
 BUILDING SETBACKS:  
 FRONT: REQUIRED=20' PROPOSED=20'  
 SIDE: REQUIRED=20'/0' PROPOSED=13.86'/41.6'  
 REAR: REQUIRED=10' PROPOSED=52'  
 \* SETBACK LISTED AS 15' FROM ROOF LINE

**EXISTING ON-SITE IMPERVIOUS AREAS:**  
 GRAVEL PARKING AREA: 5,790 S.F. (40.1%)  
**EXISTING ON-SITE IMPERVIOUS AREA TO REMAIN:**  
 GRAVEL PARKING AREA: 3,695 S.F.

**PROPOSED ON-SITE IMPERVIOUS AREAS:**  
 BUILDINGS: 1,738 S.F.  
 BRICK PAVEMENT PARKING AREA: 979 S.F.  
 GRAVEL PARKING: 146 S.F.  
 CONCRETE SIDEWALK/PARKING: 1,546 S.F.  
 TOTAL: 4,510 S.F. (31.9%)

**TOTAL ON-SITE IMPERVIOUS AREA:**  
 PROPOSED ON-SITE IMPERVIOUS AREA: 4,510 S.F.  
 EX. ON-SITE IMP. AREA TO REMAIN: 3,695 S.F.  
 TOTAL: 8,205 S.F. (57.6%)

**PROPOSED OFF-SITE IMPERVIOUS AREAS:**  
 WOOD WALKWAYS/RAMPS: 566 S.F. (100% PERVIOUS)  
**PROPOSED OFF-SITE IMPERVIOUS AREAS:**  
 CONCRETE SIDEWALK/DRIVE APRON: 516 S.F.

**PARKING REQUIRED:**  
 MIN: 1 SPACE/300 S.F. = 3.5 SPACES (1 H.C.)  
 MAX: 1 SPACE/300 S.F. = 5.25 SPACES (1 H.C.)  
**PARKING PROVIDED:** 7 SPACES (1 H.C.)

**EXISTING SEWER AND WATER DEMAND:** 0 GPD  
**PROPOSED SEWER AND WATER DEMAND:** @ 25 GAL/PERSON = 125 GPD

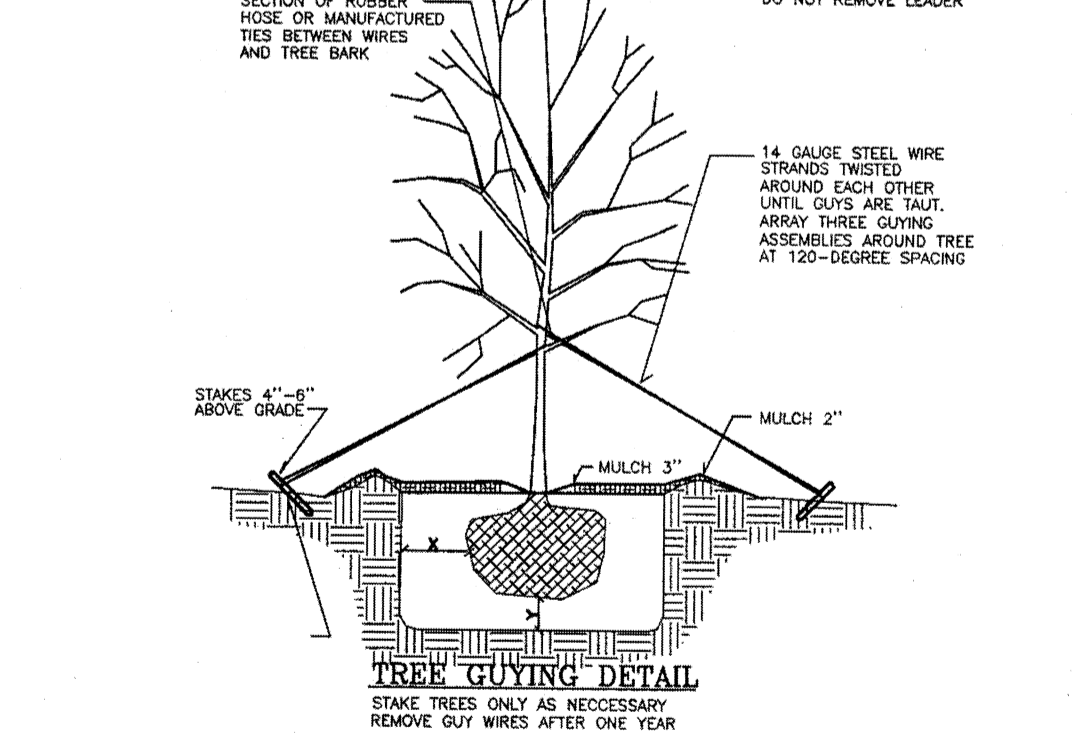
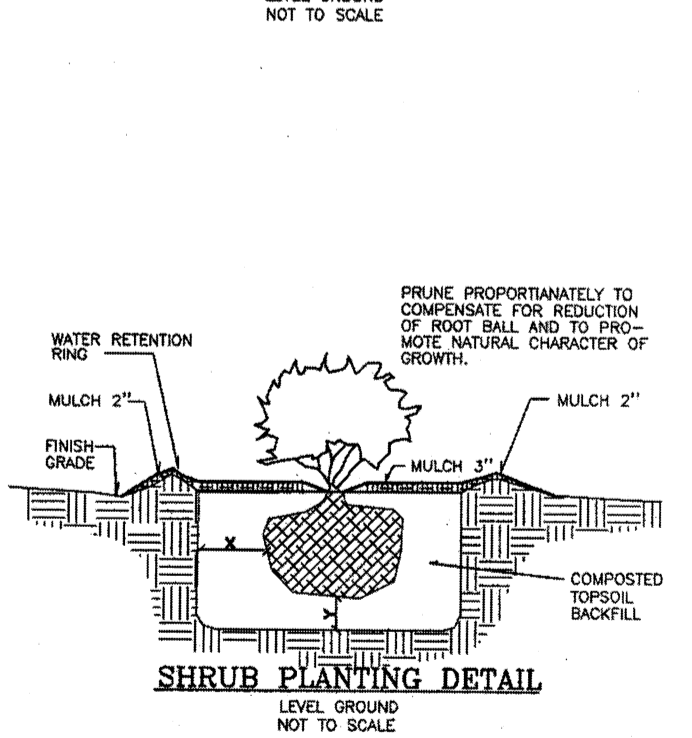
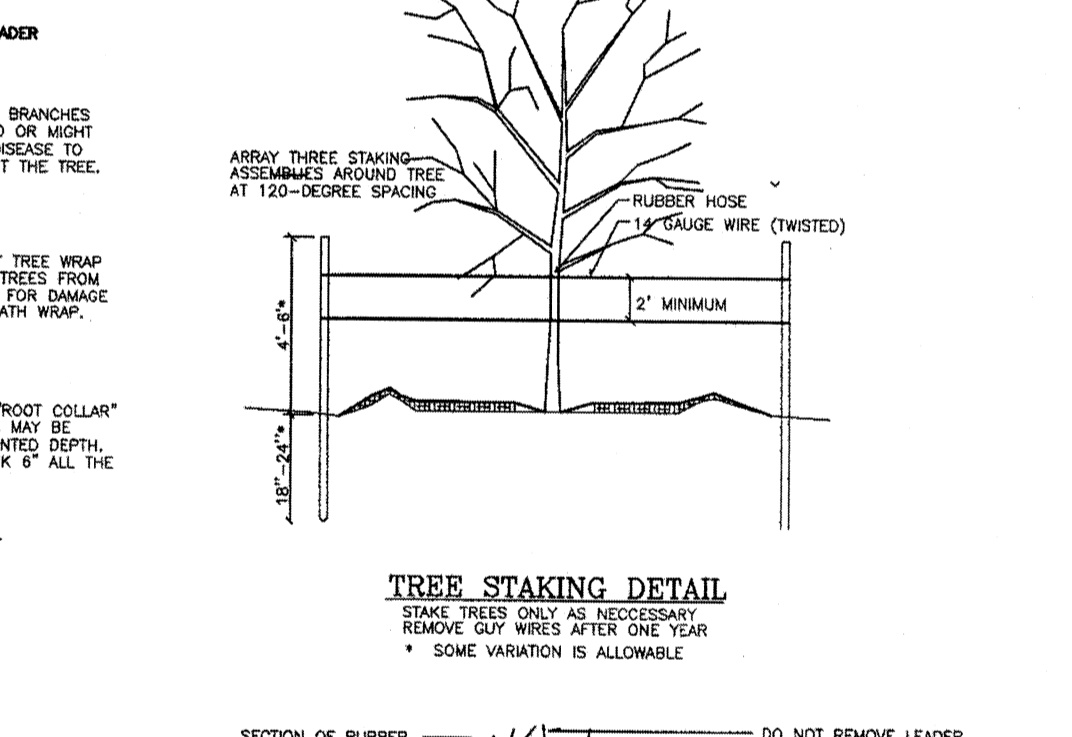
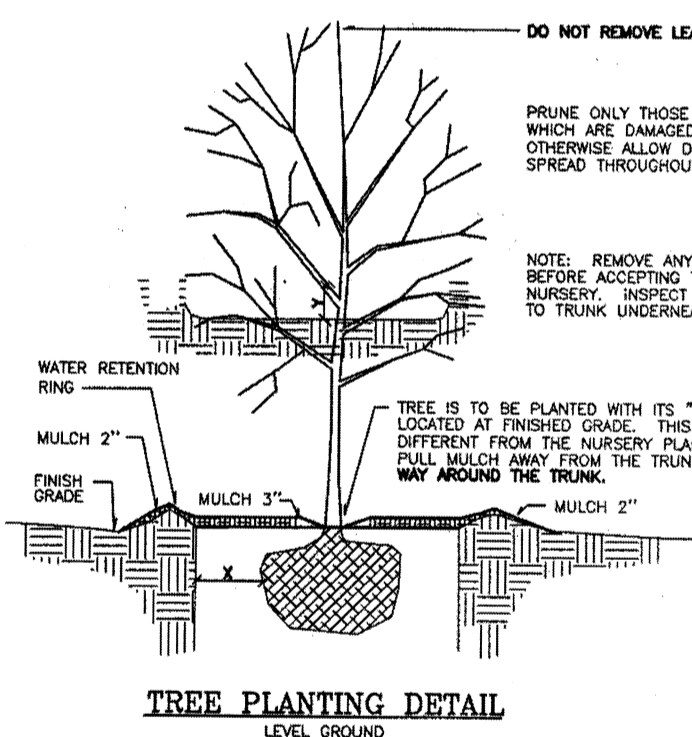
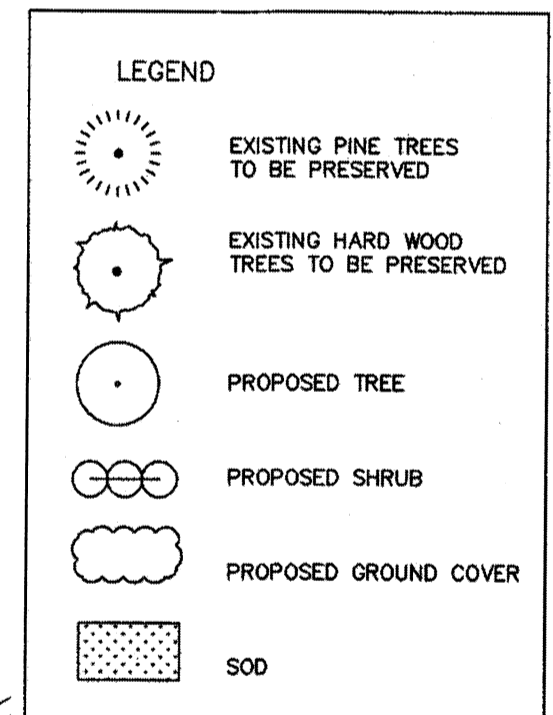
**PLANT LIST**

KEY NO.	QUANTITY	BOTANICAL NAME	COMMON NAME	ROOT	CAL.	HT.	REMARKS
<b>UNDERSTORY TREES / CANOPY TREES</b>							
1	3	ACER PALMATUM	JAPANESE MAPLE	15 GAL		15' - 20'	BLOODGOOD
2	2	QUERCUS VIRGINIANA	LIVE OAK	3 1/2"			
3	1	PRUNUS CERASIFERA	CHERRY PLUM	WB	3"		
4	1	CORNUS FLORIDA	FLORING DOGWOOD	WB		8'-10'	WHITE DOGWOOD
5	4	JUNIPERUS CHINENSIS MAZURKA	HOLLYWOOD JUNIPER	15 GAL		10' O.C.	
6	1	PODOCARPUS MACROPHYLLUS	JAPANESE YEW	30 GAL		6'-7'	15' O.C.
<b>GROUND COVER</b>							
7	191	LIRIOPE MUSCARI	LILY TURF	1 GAL			1" O.C. SUPER BLUE
8	5	MATECCUCIA STRUTHIOPTERIS	OSTRICH FERN	3 GAL			2" O.C.
9	220	VINCA MAJOR	BIG PERIWINKLE	1 GAL			1" O.C.
10	305	HEDERA HELIX	ENGLISH IVY	1 GAL			1" O.C. VAR. BALTIC
<b>SMALL SHRUBS</b>							
11	13	AZALEA INDICA	INDIAN AZALEA	7 GAL		3" @ PLANTING	8" O.C. GLADER
12	18	PENNESETUM ALOPECUROIDES	DWARF FOUNTAIN GRASS	3 GAL			3" O.C.
13	11	MISCANTHUS SINENSIS	EULALIA GRASS	3 GAL			3" O.C.
<b>LARGER SHRUBS</b>							
14	75	BUXUS MICROPHYLLA	WINDSOR GREEN BOXWOOD	7 GAL			4" O.C. KOREANA
15	11	LIGUSTRUM JAPONICUM	JAPANESE PRIVET	7 GAL		3" @ PLANTING	5" O.C.
16	5	AUCUBA JAPONICA	JAPANESE AUCUBA	3 GAL			4" O.C.
17	1	BUXUS SEMPERVIRENS	AMERICAN BOXWOOD	8 & R			8" O.C.
18	4	THYJA OCCIDENTALIS	EMERALD GREEN ARBORVITAE	5 GAL			4" O.C.

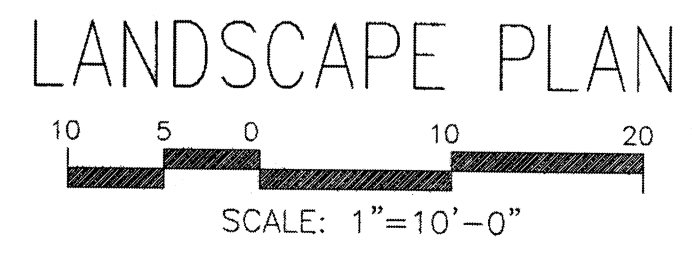
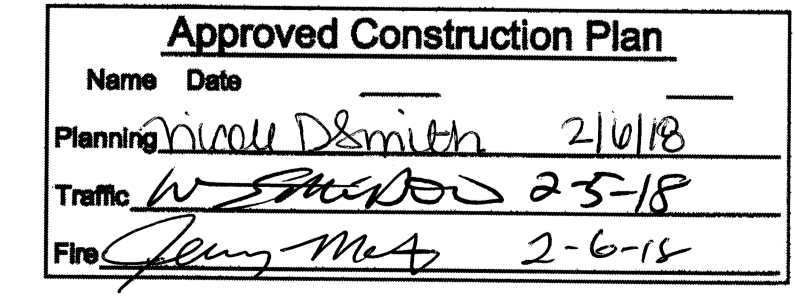
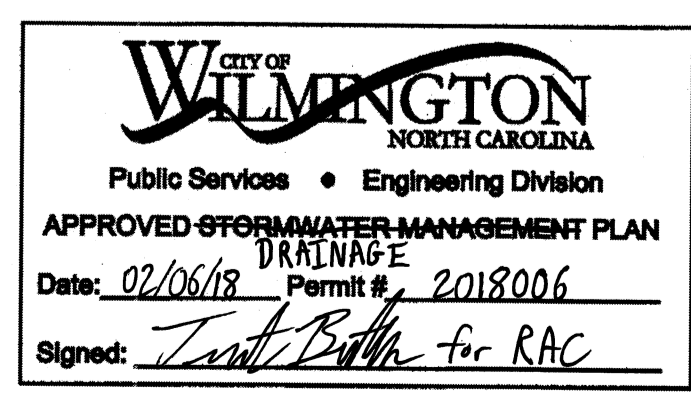
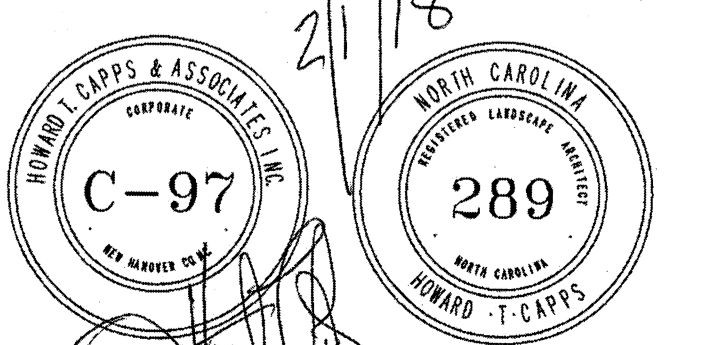
**NOTE:**  
 The key number refers to the Plant List. Where there is only one number, it is the key number and the quantity is one. Where there are two numbers connected by a dash, the first is the key number and the second is the quantity required for the planting bed indicated.  
 888 = Ball and Bump  
 = Wire Stake  
 Cont. = Container grown  
 All plant bed areas shall be covered in 3" of dark chocolate mulch unless otherwise noted on plan.  
 SO2 SHALL BE GENERAL ZONISA.  
 THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND FLAGGING ALL UNDERGROUND UTILITIES PRIOR TO PROCEEDING WITH ANY EXCAVATION WORK. IF ANY DAMAGE IS DONE TO EXISTING OR NEW UTILITIES, ALL NECESSARY REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO COST TO THE OWNER.  
 CALL 1-800-832-1888 TO LOCATE UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.  
 GAS LINES MAY BE LOCATED ON-SITE. CONTRACTOR TO VERIFY WITH OWNER OR OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH ANY EXCAVATION.  
 THE PLANT QUANTITIES SHOWN ON THE PLANT LIST ARE PROVIDED AS A CONVENIENCE TO THE CONTRACTOR. IN THE EVENT THERE IS A DIFFERENCE IN QUANTITY BETWEEN PLANT QUANTITIES IN THE PLANT LIST AND PLANT QUANTITIES ON THE PLAN, THE CONTRACTOR SHALL USE THE QUANTITY SHOWN ON THE PLAN. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF ANY QUANTITY DIFFERENCE.  
 SOURCE FOR DWARF FOUNTAIN GRASS BAKER ENVIRONMENTAL NURSERY AT 1-866-814-9118

**NOTE:** SEE CIVIL SHEET C-0 TREE REMOVAL PLAN FOR LOCATION OF TREES.

**INTERIOR AREA LANDSCAPE SHADE**  
 TOTAL S.F. 5,407  
 5,407 S.F. X 20% = 1,081 S.F.  
 REQUIRED COVERAGE 1,081 S.F.  
 PROVIDED COVERAGE 3,556 S.F.



**NOTES:**  
 1. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES.  
 2. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.



**REVISIONS**

REVISIONS	DATE
ADDRESS TRC COMMENTS	1-8-18
ADDRESS TRC COMMENTS	1-16-18
ADDRESS TRC COMMENTS/FENCE	1/28/18

**HICA**  
 Howard T. Capps & Associates, Inc.  
 Land Planning Landscape Architecture  
 4014 Oleander Drive, Suite 102  
 Wilmington, North Carolina 28403  
 Phone: (910) 264-1888

**Smith & Gsell Design Studio**  
 216 Victory Garden Drive  
 Wilmington, North Carolina

**DESIGNED:** H. Capps  
**DRAWN:** R. Capps

DATE: 12-11-2017  
 SCALE: 1"=10'  
 JOB NO.: 441-01015  
 SHEET: 1  
 OF SHEETS