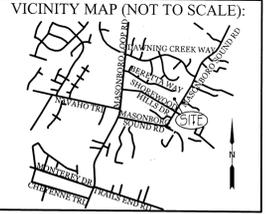


**STORMWATER MANAGEMENT PLAN
APPROVED**
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE _____ PERMIT # _____
SIGNED _____

Approved Construction Plan

Name	Date
Planning	
Public Utilities	
Traffic	
Fire	

SITE DATA
PARCEL ID: R07200-003-001-000
CURRENT ZONING: R-15
CAMA LAND USE CLASSIFICATION: WATERSHED RESOURCE PROTECTION
PROJECT ADDRESS: 7920 MASONBORO SOUND RD. WILMINGTON, NC 28409
CURRENT OWNER: HANOVER PARTNERS, LLC
PO BOX 1377 WRIGHTSVILLE BEACH, NC 28480



REVISIONS

NO.	DATE	DESCRIPTION

TOTAL ACREAGE IN PROJECT BOUNDARY: 208,233.47 S.F. (4.78 AC.)
TOTAL DISTURBED AREA: 2.3 AC.
BUILDING HEIGHT: 35' MAX

BUILDING SETBACKS:
FRONT: REQUIRED= 30'
SIDE: REQUIRED= 10' (15' CORNER LOT)
REAR: REQUIRED= 25'

ON-SITE IMPERVIOUS AREAS:
CONCRETE SIDEWALKS & CURBING: 7,605 S.F.
ASPHALT ROAD: 19,662 S.F.
LOTS: 32,000 S.F. (4,000 S.F. /LOT)
FUTURE OPEN SPACE IMPROVEMENTS: 2,000 S.F.
TOTAL: 61,267 S.F. ÷ 208,233 S.F. = 29.4%

OFFSITE IMPERVIOUS AREAS:
ASPHALT ROAD: 851 S.F.
CONCRETE SIDEWALK: 979 S.F.
TOTAL: 1,830 S.F.

OPEN SPACE REQUIREMENT: (0.03 AC. per dwelling unit)
.03 X 8 du = 0.24 AC (Min 50% active open space)
PROVIDED: 0.25 AC (0.12 AC ACTIVE OPEN SPACE)

**INTRACOASTAL
ENGINEERING, PLLC**

5725 Oleander Dr. Unit E-7
Wilmington, North Carolina 28403
Phone: 910.859.6983
Email: charlie@intracoastalengineering.com
License Number: P-6062

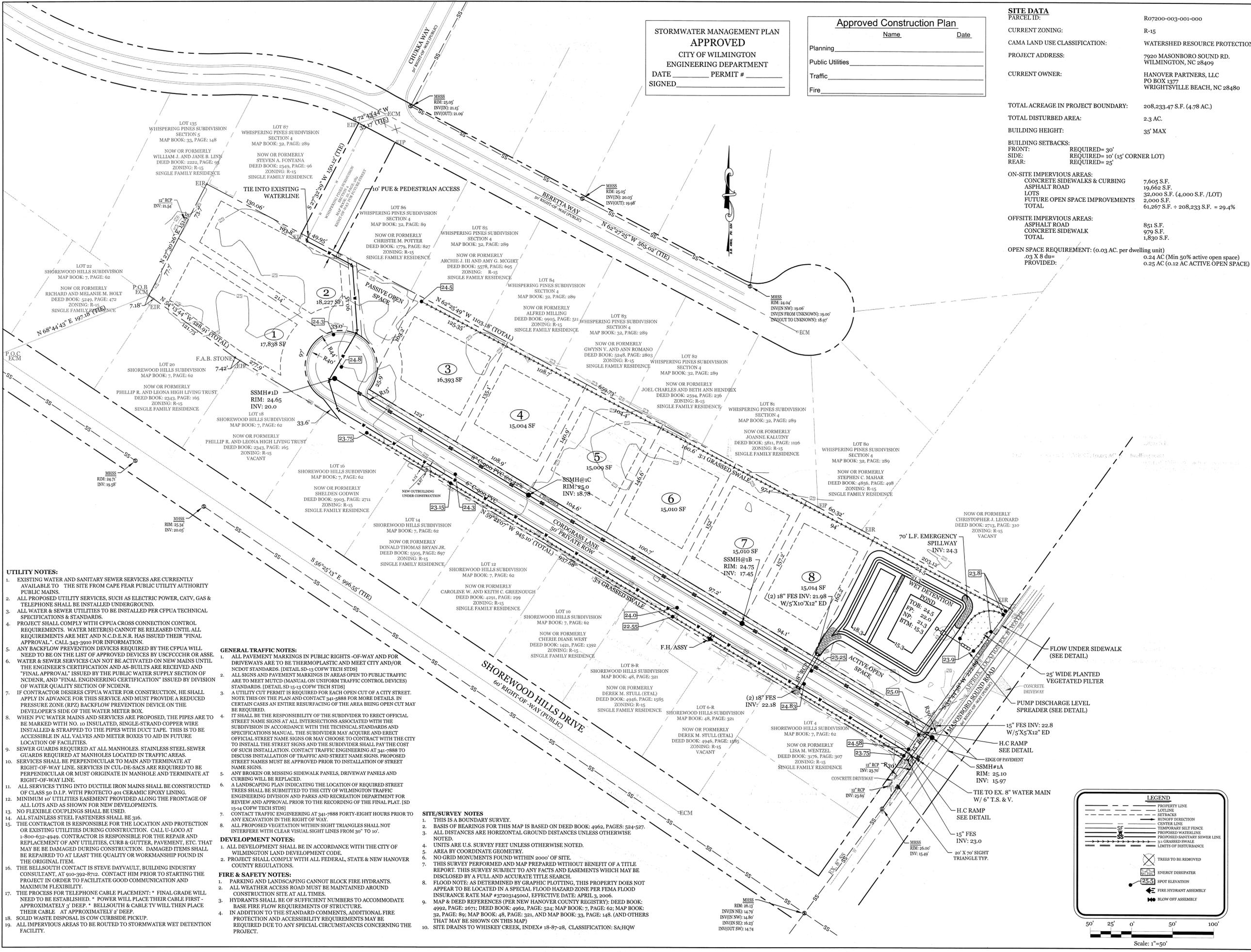
**SITE, GRADING, DRAINAGE,
UTILITY, AND STORMWATER
PLAN**
FOR
**MASONBORO
TRACE**
WILMINGTON, NC

NORTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
SEAL
032555
CHARLES D. CAHILL
3-23-16

CLIENT INFORMATION:
HANOVER PARTNERS, LLC
PO BOX 1377
WRIGHTSVILLE BEACH, NC 28480
PH: 910-332-8528

DRAWN:	JAE	SHEET SIZE:	24x36
CHECKED:	CDC	DATE:	3/23/2016
APPROVED:	CDC	SCALE:	1" = 50'
PROJECT NUMBER:	2015-052		

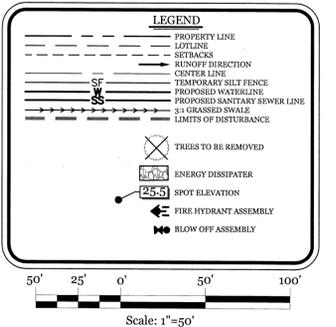
DRAWING NUMBER: **C-1** 1 OF 10

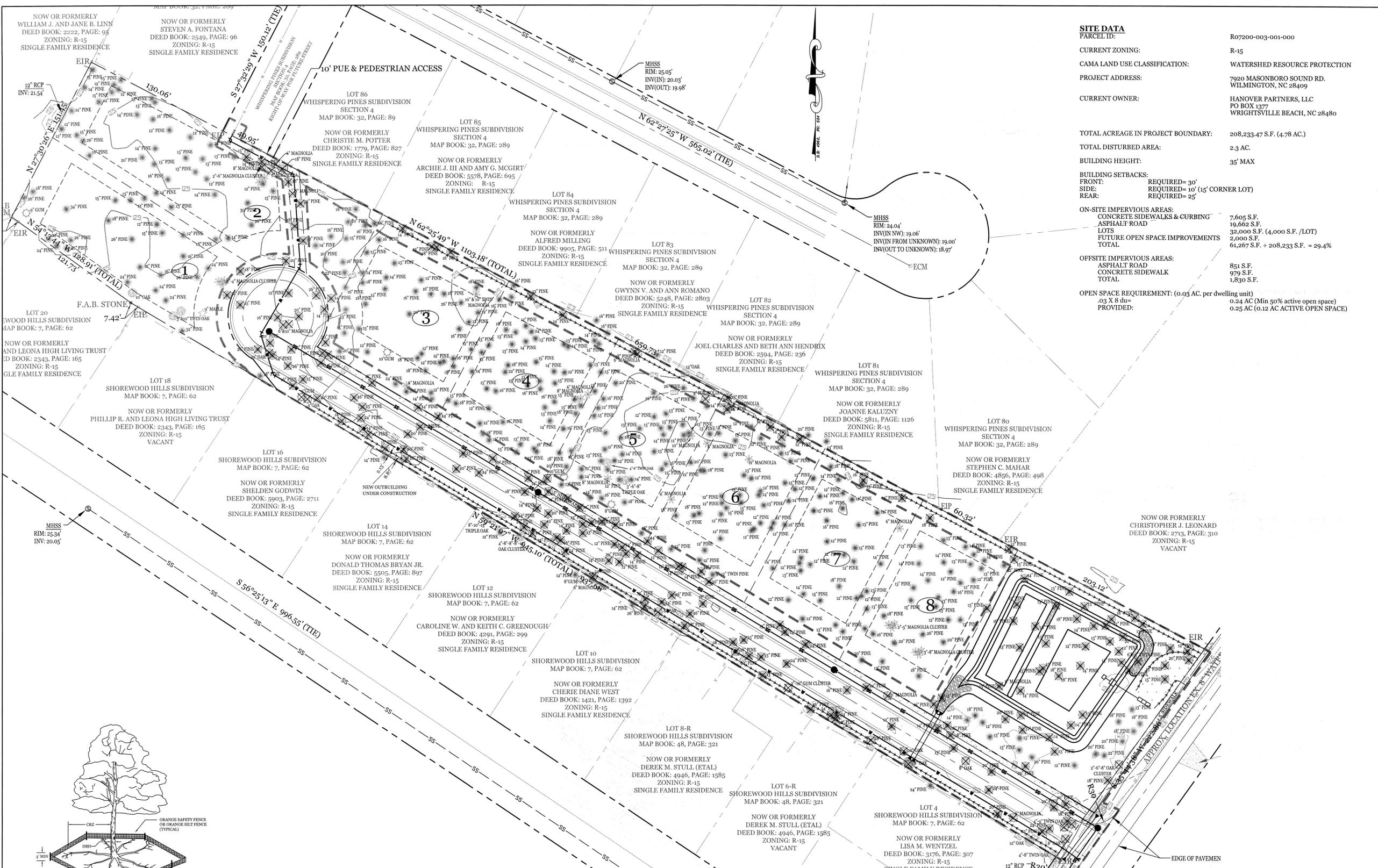


- UTILITY NOTES:**
- EXISTING WATER AND SANITARY SEWER SERVICES ARE CURRENTLY AVAILABLE TO THE SITE FROM CAPE FEAR PUBLIC UTILITY AUTHORITY PUBLIC MAINS.
 - ALL PROPOSED UTILITY SERVICES, SUCH AS ELECTRIC POWER, CATV, GAS & TELEPHONE SHALL BE INSTALLED UNDERGROUND.
 - ALL WATER & SEWER UTILITIES TO BE INSTALLED PER CFPUA TECHNICAL SPECIFICATIONS & STANDARDS.
 - PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METERS(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND N.C.D.E.N.R. HAS ISSUED THEIR "FINAL APPROVAL". CALL 343-3910 FOR INFORMATION.
 - ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USE OF CCROR 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 NCDCEN, AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY SECTION OF NCDCEN.
 - IF CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
 - 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.
 - 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 RIGHT-OF-WAY 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 D.I.P. WITH PROTECTO 401 CERAMIC EPOXY LINING.
 - MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
 - NO FLEXIBLE COUPLINGS SHALL BE USED.
 - ALL STAINLESS STEEL FASTENERS SHALL BE 316.
 - 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 GRAD 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 IS COW CURBSIDE PICKUP.
 - ALL IMPERVIOUS AREAS TO BE ROUTED TO STORMWATER WET DETENTION FACILITY.

- GENERAL TRAFFIC NOTES:**
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR COUNTY 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 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. 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 SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT 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.
 - 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 PLAT. [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'.
- 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.
- FIRE & SAFETY NOTES:**
- 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.

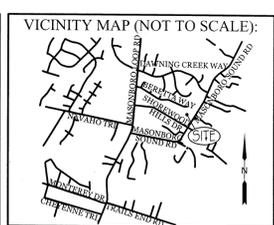
- SITE/SURVEY NOTES**
- THIS IS A BOUNDARY SURVEY.
 - BASIS OF BEARINGS FOR THIS MAP IS BASED ON DEED BOOK: 4962, PAGES: 524-527.
 - ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES UNLESS OTHERWISE NOTED.
 - UNITS ARE U.S. SURVEY FEET UNLESS OTHERWISE NOTED.
 - AREA BY COORDINATE GEOMETRY.
 - NO GRID MONUMENTS FOUND WITHIN 2000' OF SITE.
 - THIS SURVEY PERFORMED AND MAP PREPARED WITHOUT BENEFIT OF A TITLE REPORT. THIS SURVEY SUBJECT TO ANY FACTS AND EASEMENTS WHICH MAY BE DISCLOSED BY A FULL AND ACCURATE TITLE SEARCH.
 - FLOOD NOTE: AS DETERMINED BY GRAPHIC PLOTTING, THIS PROPERTY DOES NOT APPEAR TO BE LOCATED IN A SPECIAL FLOOD HAZARD ZONE PER FEMA FLOOD INSURANCE RATE MAP # 3720314500I, EFFECTIVE DATE APRIL 3, 2006.
 - MAP & DEED REFERENCES (PER NEW HANOVER COUNTY REGISTRY): DEED BOOK: 4992, PAGE: 2671; DEED BOOK: 4962, PAGE: 524; MAP BOOK: 7, PAGE: 62; MAP BOOK: 32, PAGE: 89; MAP BOOK: 48, PAGE: 321; AND MAP BOOK: 33, PAGE: 148. (AND OTHERS THAT MAY BE SHOWN ON THIS MAP)
 - SITE DRAINS TO WHISKEY CREEK, INDEX# 18-87-28, CLASSIFICATION: SA;HQW





SITE DATA

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CURRENT ZONING:	R-15
CAMA LAND USE CLASSIFICATION:	WATERSHED RESOURCE PROTECTION
PROJECT ADDRESS:	7920 MASONBORO SOUND RD. WILMINGTON, NC 28409
CURRENT OWNER:	HANOVER PARTNERS, LLC PO BOX 1377 WRIGHTSVILLE BEACH, NC 28480
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SIDE:	REQUIRED = 10' (15' CORNER LOT)
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ASPHALT ROAD	19,662 S.F.
LOTS	32,000 S.F. (4,000 S.F./LOT)
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TOTAL	61,267 S.F. = 208,233 S.F. = 29.4%
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CONCRETE SIDEWALK	979 S.F.
TOTAL	1,830 S.F.
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.03 X 8 du =	0.24 AC (Min 50% active open space)
PROVIDED:	0.25 AC (0.12 AC ACTIVE OPEN SPACE)



REVISIONS

NO.	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

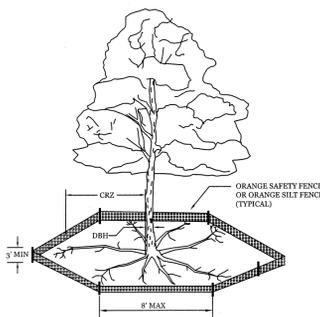
TREE REMOVAL/ PROTECTION PLAN
 FOR
MASONBORO TRACE
 WILMINGTON, NC

CHARLES D. OZIER
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL
 032555
 3-23-16

CLIENT INFORMATION:
 HANOVER PARTNERS, LLC
 PO BOX 1377
 WRIGHTSVILLE BEACH, NC 28480
 PH. 910-332-8528

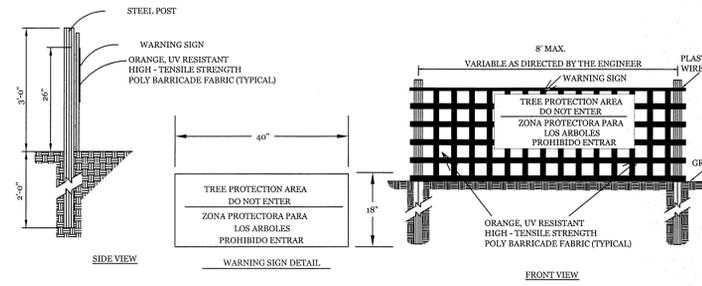
DRAWN: JAE **SHEET SIZE:** 24x36
CHECKED: CDC **DATE:** 3/23/2016
APPROVED: CDC **SCALE:** 1" = 40'
PROJECT NUMBER: 2015-052

DRAWING NUMBER: **C-3**
 3 OF 10



NOTES:
 1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT PROTECTIVE BARRIERS AT THE CRZ. BARRIERS SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
 2. CRZ RADII IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
 3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATS SHALL BE PLACED WHERE MACHINERY MANUEVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
 4. WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
 5. FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO 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 DAMAGED TREES.
 6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 1 YEAR FOR TREE MITIGATION.
 7. THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 80% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF THE NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.
 8. CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.

TREE PROTECTION DETAIL (SD 15-09)
 NOT TO SCALE



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

STORMWATER MANAGEMENT PLAN APPROVED
 CITY OF WILMINGTON
 ENGINEERING DEPARTMENT
 DATE: _____ PERMIT # _____
 SIGNED: _____

Approved Construction Plan

Name	Date
Planning	
Public Utilities	
Traffic	
Fire	

