

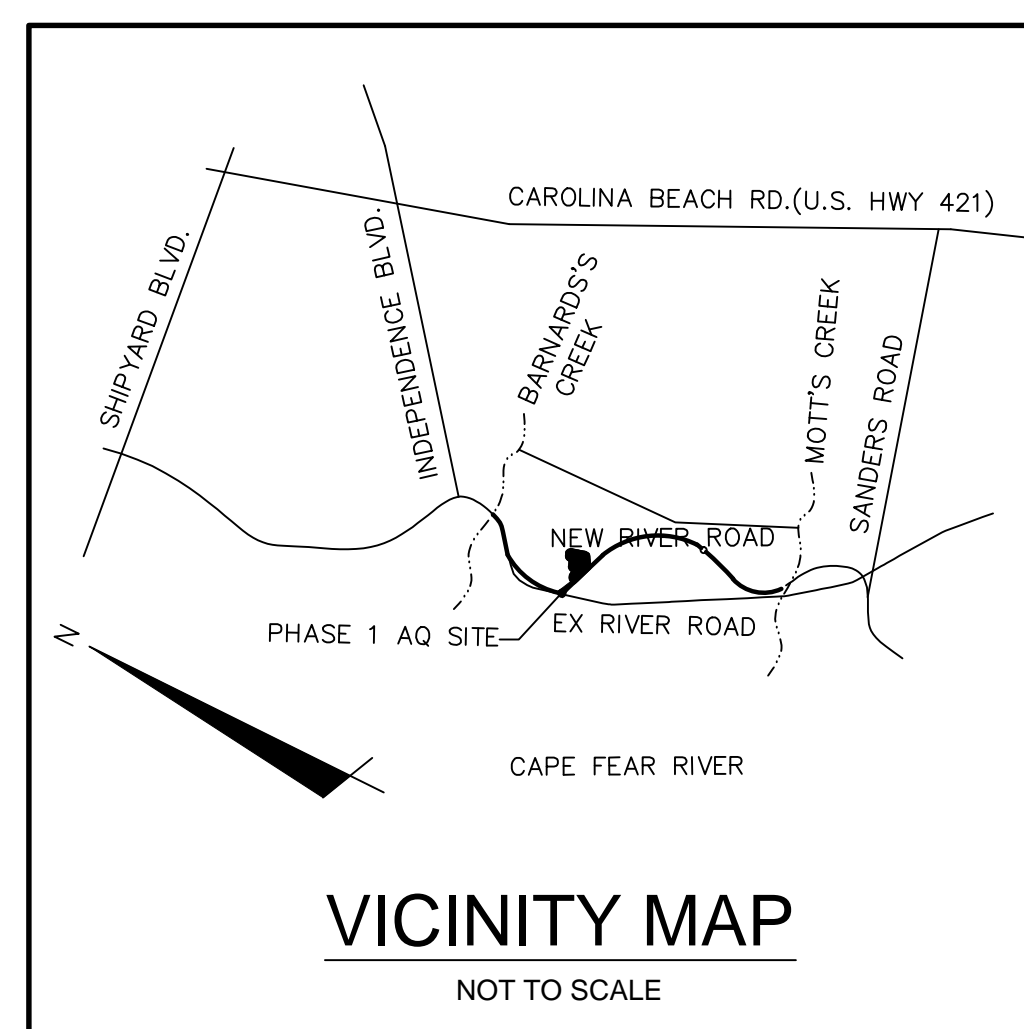
RIVERLIGHTS

CONVENTIONAL PHASE II

CITY OF WILMINGTON, NC

JUNE 2015

SUBDIVISION REVIEW BOARD SUBMITTAL



SHEET INDEX

Sheet Number	Sheet Title	Sheet Description
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5	CU-100	UTILITY PLAN
6	CL-101	LANDSCAPE CONCEPT PLAN

COUNTY AND AGENCY CONTACTS

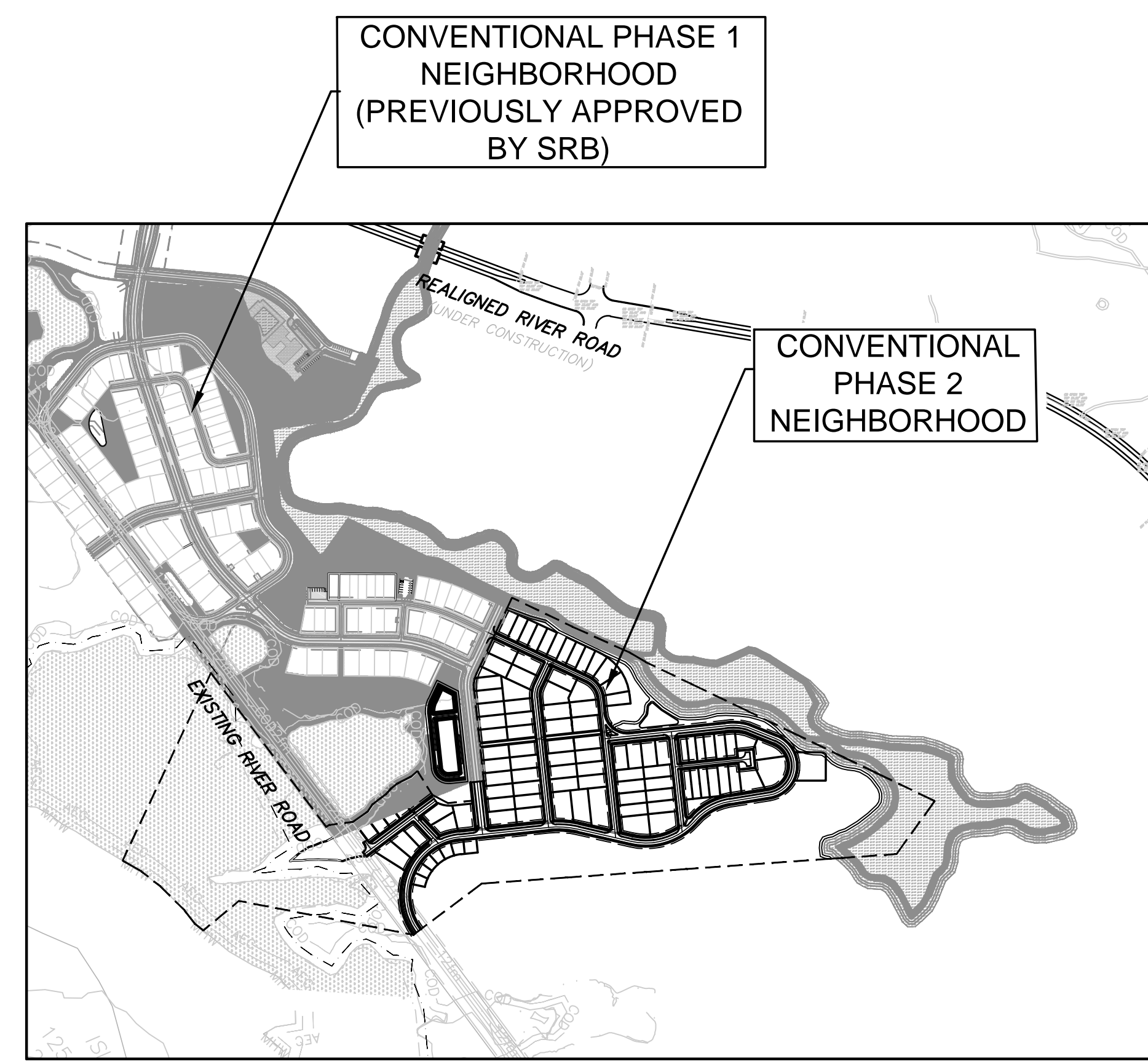
- A. **City of Wilmington**
Planning Department
 102 North Third Street
 PO BOX 1810
 Wilmington, NC 28402-1810
 (910)341-3255
 Contact: Ron Satterfield
 Email: Ron.Satterfield@wilmingtonnc.gov

- B. **City of Wilmington**
Engineering
 212 Operations Center Drive
 PO BOX 1810
 Wilmington, NC 28402-1810
 (910) 341-7807
 Contact: Rob Gordon
 Email: Rob.Gordon@wilmingtonnc.gov

- C. **New Hanover County**
Sediment and Erosion Control
 230 Government Center Drive, Suite 160
 Wilmington, NC 28403
 (910) 798-7432
 Contact: Beth Wetherill
 Email: BWetherill@nhcgov.com

- D. **Cape Fear Public Utility Authority**
 235 Government Center Drive
 Wilmington, NC 28403
 (910) 332-6626
 Contact: David Dailey
 Email: David.Dailey@cfpua.org

- E. **NC DENR**
Division of Environmental Health
Public Water Supply Section
 1634 Mail Service Center
 Raleigh, NC 27699-1634
 (919) 715-3226



VICINITY MAP
1"=500'

PROJECT DATA

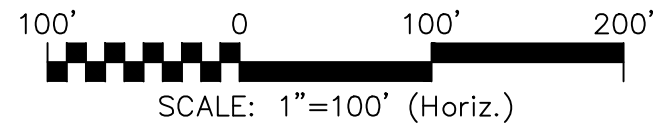
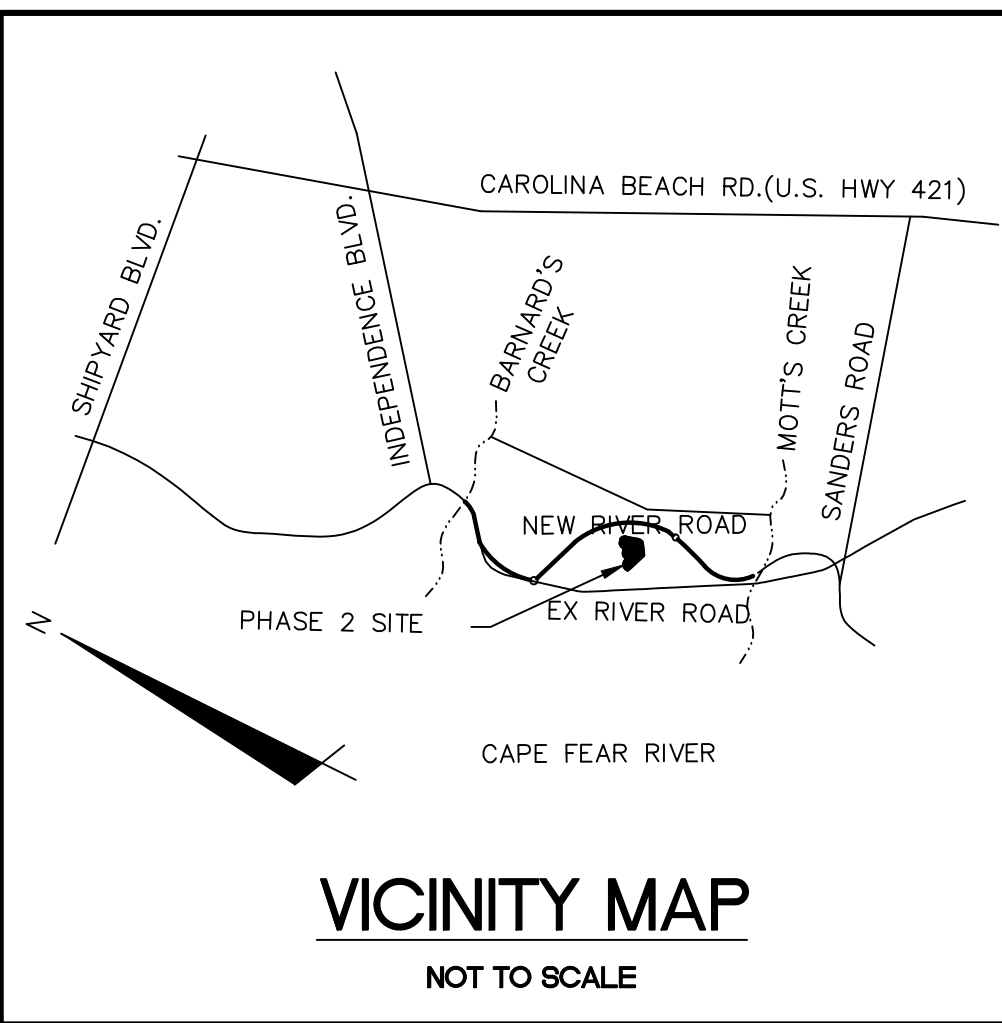
NAME OF PROJECT:
 RIVERLIGHTS- CONVENTIONAL PHASE 2 NEIGHBORHOOD
 WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER:
 NNP IV-CAPE FEAR RIVER, LLC
 3410 RIVER ROAD, SUITE 103
 WILMINGTON, NC 28412

PREPARED BY:
 MCKIM & CREED, INC
 243 NORTH FRONT ST
 WILMINGTON, NC 28401
 PHONE: (910)343-1048
 FAX: (910)251-8282
 CONTACT: KATHRYN ESPINOZA, PE
 EMAIL: KESPINOZA@MCKIMCREED.COM

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GENERAL NOTES:

1. FLOODPLAIN INFORMATION WAS OBTAINED FROM NC FLOODPLAIN MAPPING FLOOD RISK INFORMATION SYSTEM PROGRAM. RIVERLIGHTS IS LOCATED WITHIN FIRM MAP 3720312400K, PANEL 3124 AS REVISED JUNE 02, 2006.
2. FINISHED FLOOR ELEVATIONS OFF ALL INHABITABLE STRUCTURES WILL BE MIN. 2- FEET ABOVE BASE FLOOD ELEVATION
3. RIVERLIGHTS CONVENTIONAL PHASE 2 DOES NOT CONTAIN ANY LOCAL, STATE, OR FEDERALLY RECOGNIZED HISTORIC STRUCTURES OR ARCHAEOLOGICAL SITES ON SITE. RIVERLIGHTS WAS ISSUED A NOTICE OF NO FURTHER ACTION LETTER DATED JUNE 2, 2008 FOLLOWING COMPLETION OF AN EA/SEPA DOCUMENT.

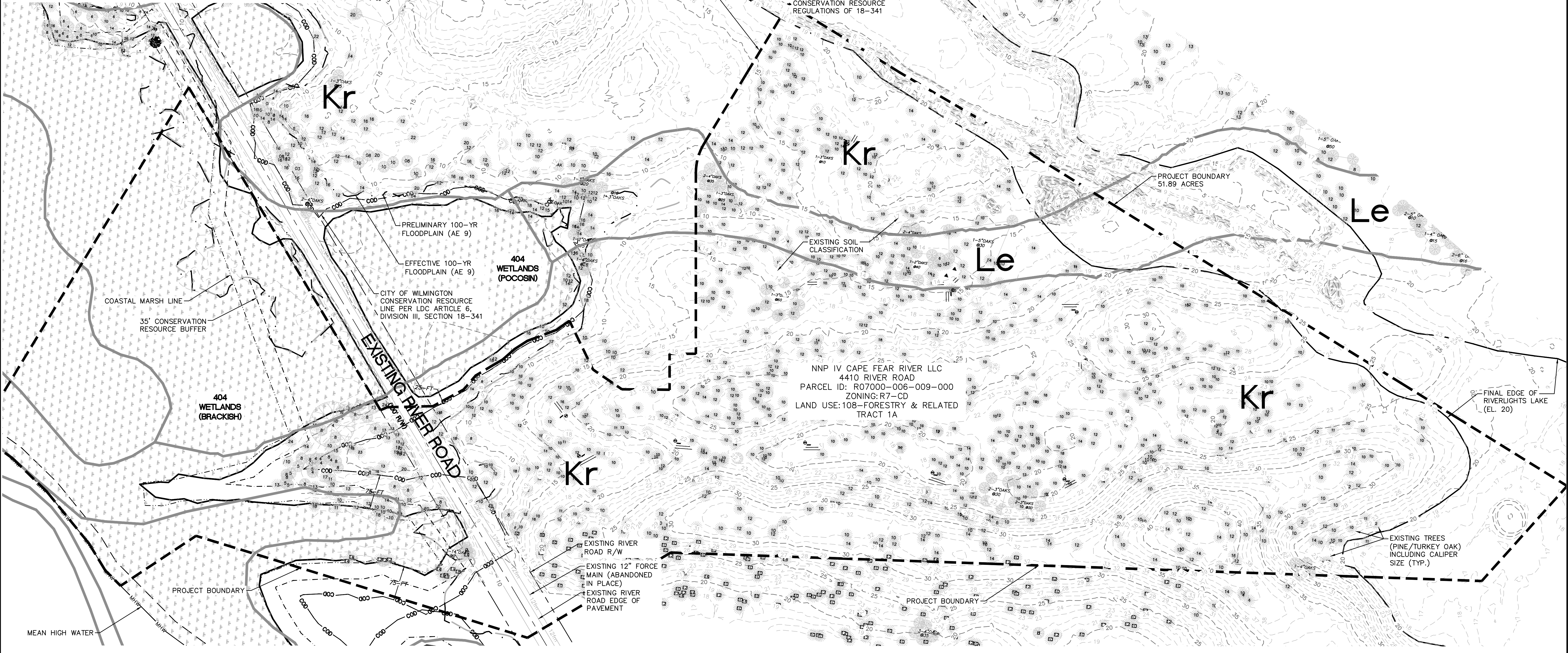
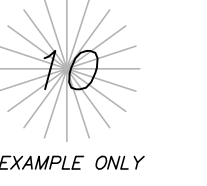
LEGEND

- RBC = REBAR & CAP
- POWER POLE
- SANITARY SEWER MANHOLE
- WETLAND
- OHE = OVERHEAD ELECTRIC LINE
- CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
- SS = SANITARY SEWER MAIN

TREE LEGEND

- CEDAR
- GUM
- OAK
- MAPLE
- PINE

NOTE:
EXISTING TREE CALIPER INCH SIZE IS SHOWN WITHIN THE TREE SYMBOL



REVNO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON TRC CONCEPT SUBMITTAL	05/06/2015
REVISIONS		

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RIVERLIGHTS
by
Newland COMMUNITIES

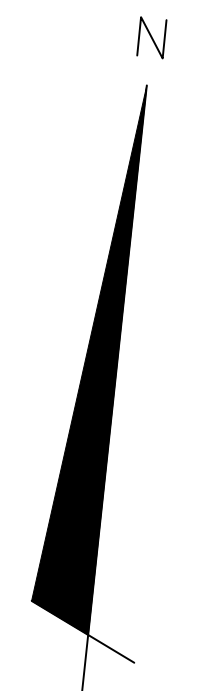
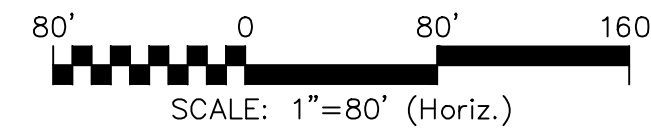
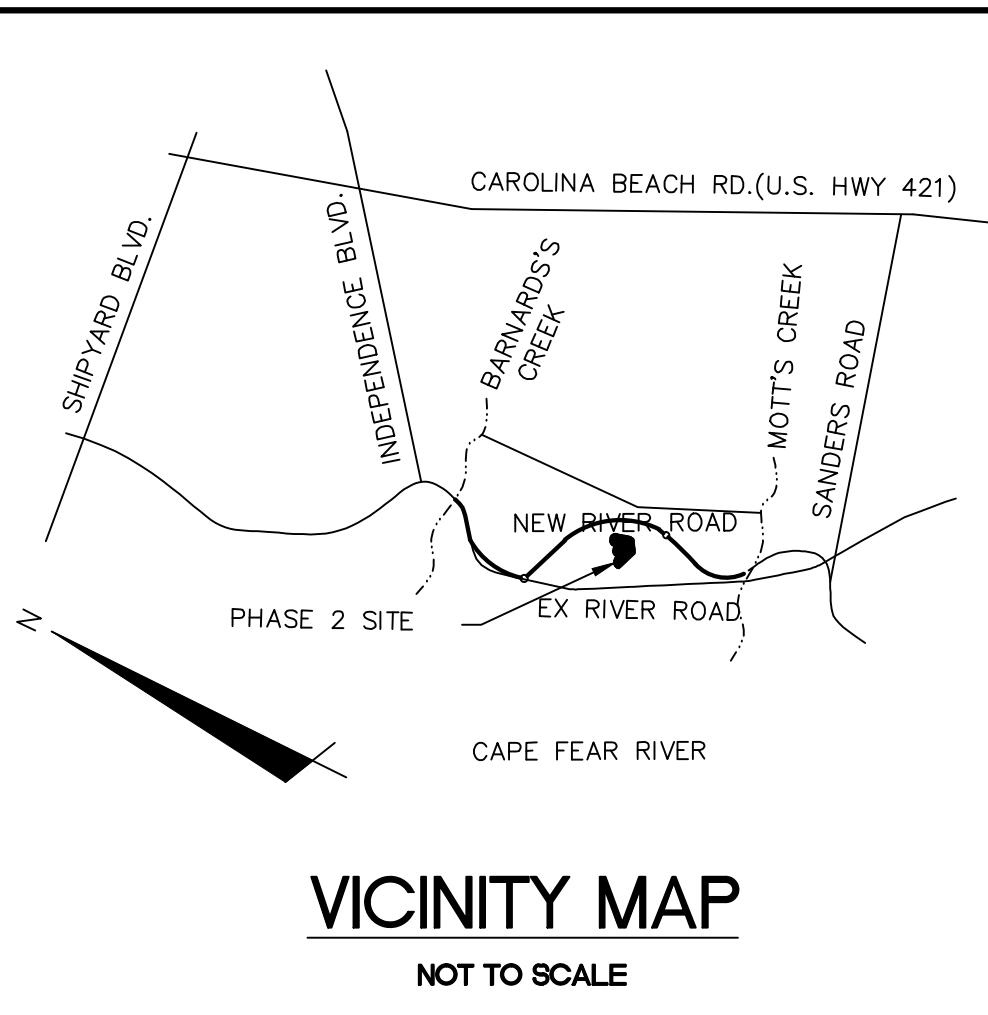
RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PHASE II

EXISTING CONDITIONS/SITE INVENTORY PLAN

DATE:	05/06/2015
MCE PROJ. #	02735-0141
DRAWN	TCM
DESIGNED	KCBE
CHECKED	NJL
PROJ. MGR.	RMC

SCALE	MAC FILE NUMBER
HORIZONTAL: 1"=100'	CX-101
VERTICAL: N/A	DRAWING NUMBER
	2
STATUS: PRELIMINARY PLANS	REVISION

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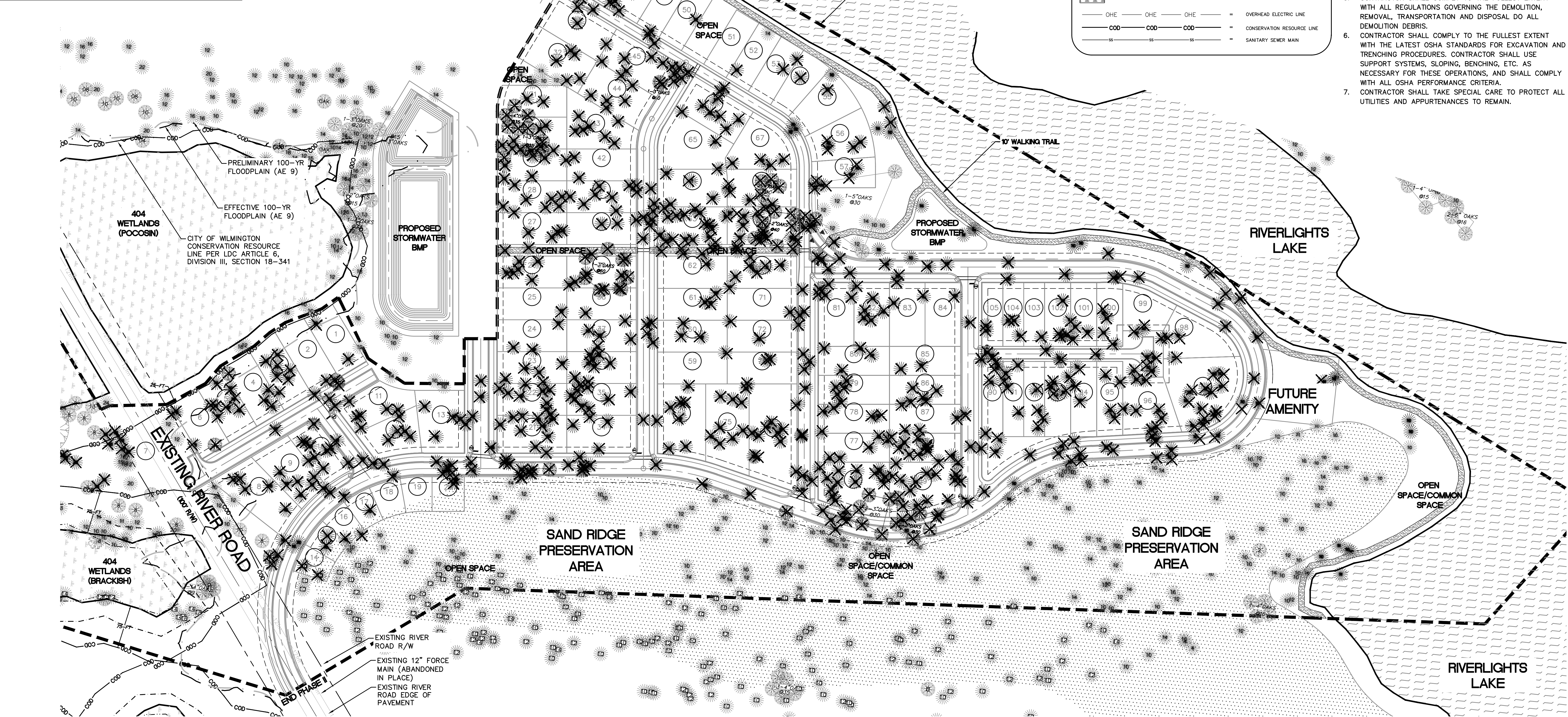
TREE LEGEND

- CEDAR
- GUM
- OAK
- MAPLE
- PINE
- TREE TO BE REMOVED

LEGEND

- REBAR & CAP
- POWER POLE
- SANITARY SEWER MANHOLE
- WETLAND
- OVERHEAD ELECTRIC LINE
- CONSERVATION RESOURCE LINE
- SANITARY SEWER MAIN

- DEMOLITION NOTES:**
- NO EARTH DISTURBING ACTIVITIES SHALL COMMENCE UNTIL ALL PERIMETER EROSION CONTROL MEASURES ARE IN PLACE IN ACCORDANCE WITH THE EROSION CONTROL SEQUENCE SHOWN IN THESE PLANS.
 - NO EARTH-DISTURBING ACTIVITY OR OTHER WORK SHALL TAKE PLACE WITHIN WETLANDS AREAS NOTED ON SURVEY. CONTRACTOR SHALL FIELD VERIFY WETLAND LIMITS. FLAGGING IS IN PLACE AND SHALL NOT ENTER WETLAND AREAS. IF WETLAND FLAGGING IS MISSING OR OTHERWISE DAMAGED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTE WETLAND LIMITS AND PREVENT DISTURBANCE OR OTHER ACTIVITY WITHIN WETLANDS.
 - THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL PROPERTY CORNER MONUMENTS, AND SHALL HAVE, AT HIS EXPENSE, ALL CORNER MONUMENTS REPLACED WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES.
 - CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS, AT HIS EXPENSE, DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
 - CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH ALL REGULATIONS GOVERNING THE DEMOLITION, REMOVAL, TRANSPORTATION AND DISPOSAL DO ALL DEMOLITION DEBRIS.
 - CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS FOR EXCAVATION AND TRENCHING PROCEDURES. CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, ETC. AS NECESSARY FOR THESE OPERATIONS, AND SHALL COMPLY WITH ALL OSHA PERFORMANCE CRITERIA.
 - CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ALL UTILITIES AND APPURTENANCES TO REMAIN.



REV. NO.	DESCRIPTIONS / REVISIONS	DATE
A	CITY OF WILMINGTON TRC CONCEPT SUBMITAL	05/06/2015

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SEAL

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RIVERLIGHTS
by Newland COMMUNITIES

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PHASE II

TREE REMOVAL PLAN

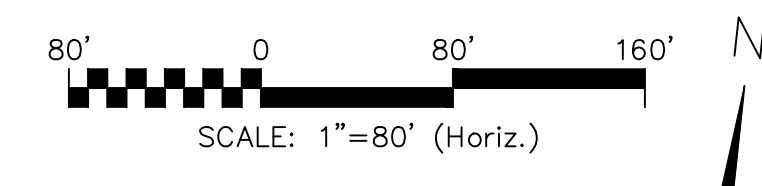
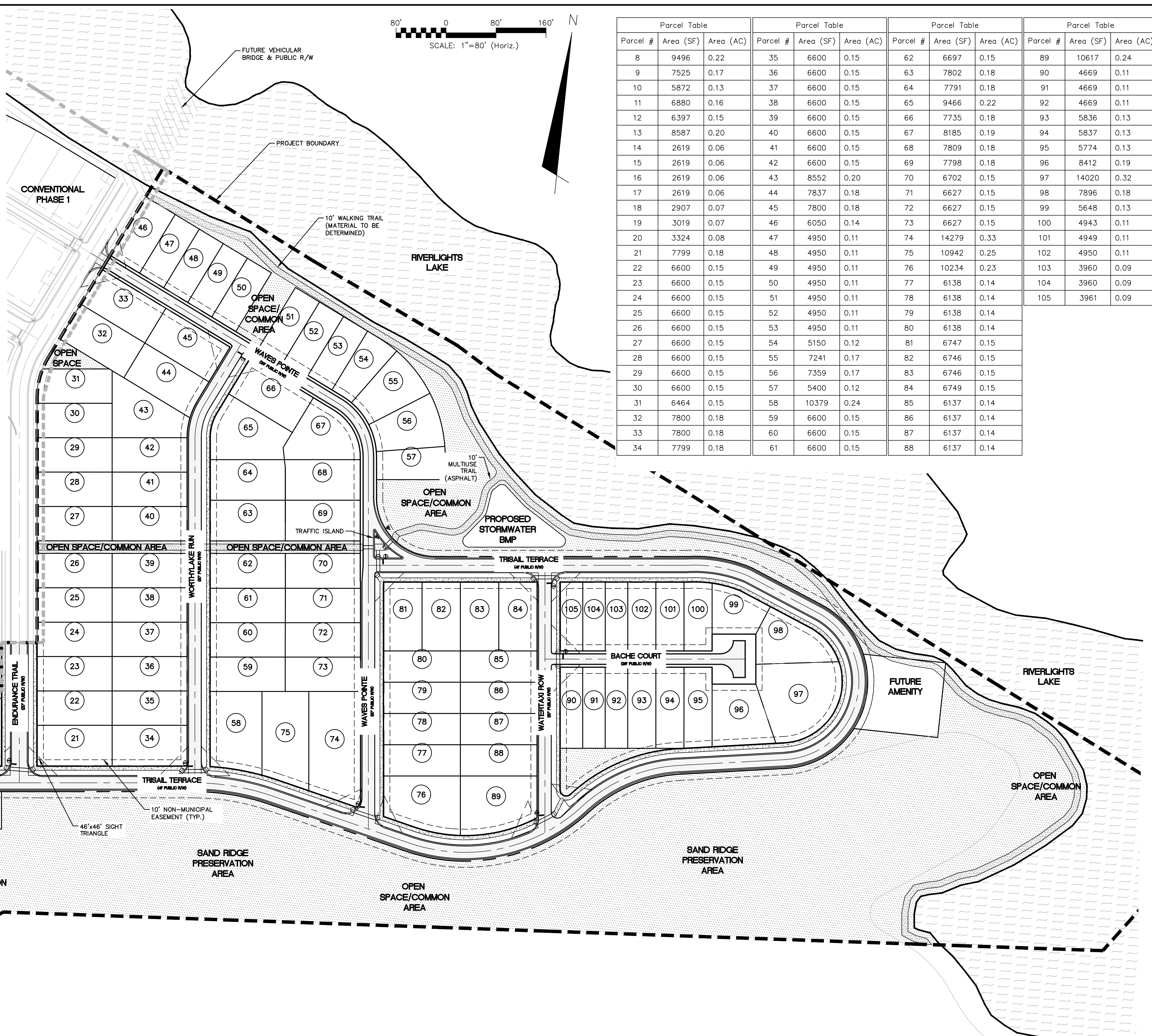
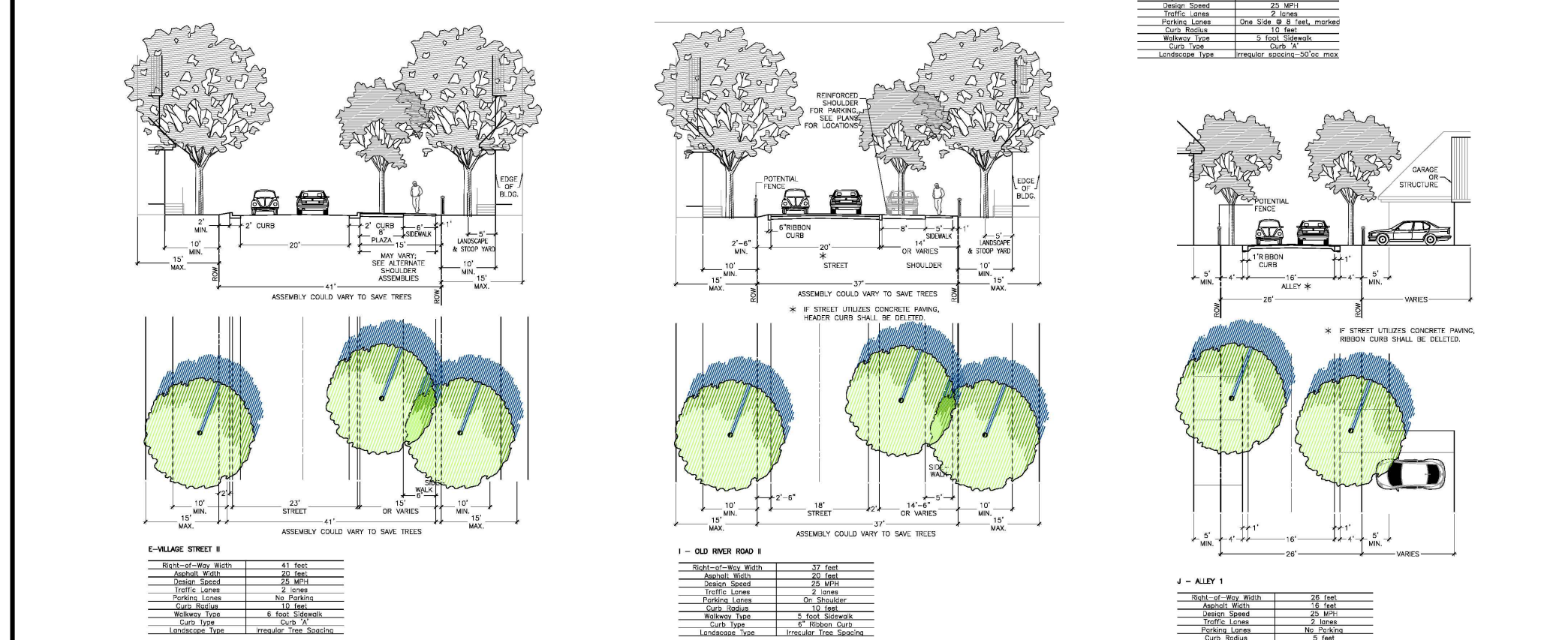
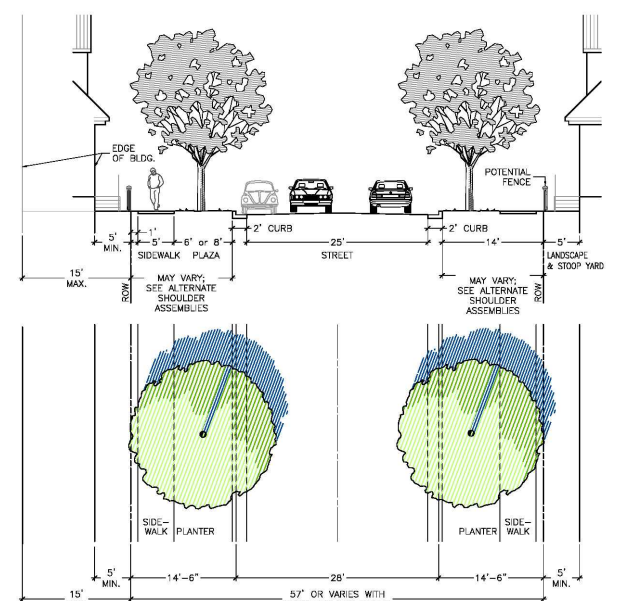
DATE: 05/06/2015	SCALE: HORIZONTAL: 1"=80' VERTICAL: N/A	MAC FILE NUMBER: CX-102
MCE PROJ. # 02735-0141		DRAWING NUMBER: 3
DRAWN: TCM		
DESIGNED: KCBE		
CHECKED: NUL		
PROJ. MGR.: RMC		
STATUS: PRELIMINARY PLANS		

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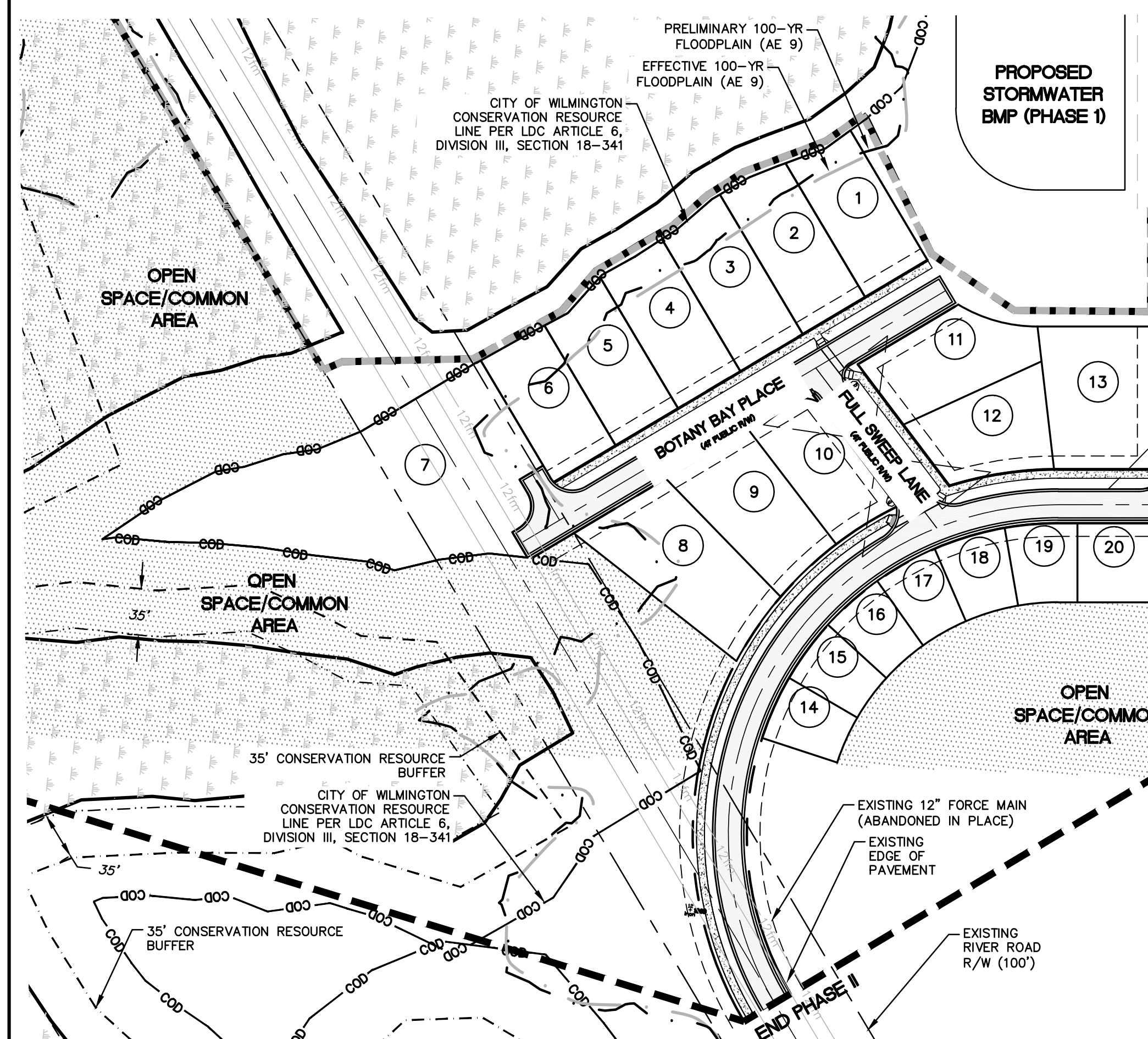
SITE DATA TABLE		PHASE 2
PARCEL ADDRESS		4410 RIVER ROAD
TAX PARCEL IDENTIFICATION NUMBER		R07000-006-009-000
ZONING DISTRICT		R-7/CD CLUSTER
CAMA LAND USE CLASSIFICATION		TRANSITION
WATER BODY CLASSIFICATION		SC
TOTAL ACREAGE WITHIN RIVER LIGHTS BOUNDARY		1,329.41 ACRES (57,909,099.6 SF)
TOTAL ACREAGE PHASE 2 BOUNDARY		51.89 ACRES (2,260,510.3 SF)
PROPOSED NUMBER OF LOTS		105 SINGLE FAMILY
TOTAL AMOUNT OF DISTURBED AREA		TBD
IMPERVIOUS AREA (EXISTING)		
LOT COVERAGE		0
DRIVEWAYS		0
SIDEWALKS		0
CONCRETE OR ASPHALT STREETS		0.38 ACRES (16,610 SF)
TOTAL S.F.		0.38 ACRES (16,610 SF)
PERCENT S.F.		0.77%
IMPERVIOUS AREA (PROPOSED)		
LOT COVERAGE		TBD
SIDEWALKS		0.63 ACRES (27,302 SF)
CONCRETE OR ASPHALT STREETS		3.03 ACRES (132,161 SF)
TOTAL S.F.		TBD
PERCENT S.F.		TBD

GENERAL NOTES:

- 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.
- 10 FT SEPARATION REQUIRED BETWEEN BUILDINGS.
- ZERO LOT LINES ARE PERMITTED IN CLUSTER SUBDIVISIONS.
- ZONING AND LAND USE OF ADJACENT PROPERTIES IS AS FOLLOWS:
 NORTH- FUTURE R7-CD CLUSTER/TRANSITION
 SOUTH- FUTURE R7-CD CLUSTER/TRANSITION
 EAST- FUTURE R7-CD CLUSTER/TRANSITION
 WEST- FUTURE R7-CD CLUSTER/TRANSITION



Parcel Table			Parcel Table			Parcel Table			Parcel Table		
Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)
8	9496	0.22	35	6600	0.15	62	6697	0.15	89	10617	0.24
9	7525	0.17	36	6600	0.15	63	7802	0.18	90	4669	0.11
10	5872	0.13	37	6600	0.15	64	7791	0.18	91	4669	0.11
11	6880	0.16	38	6600	0.15	65	9466	0.22	92	4669	0.11
12	6397	0.15	39	6600	0.15	66	7735	0.18	93	5836	0.13
13	8587	0.20	40	6600	0.15	67	8185	0.19	94	5837	0.13
14	2619	0.06	41	6600	0.15	68	7809	0.18	95	5774	0.13
15	2619	0.06	42	6600	0.15	69	7798	0.18	96	8412	0.19
16	2619	0.06	43	8552	0.20	70	6702	0.15	97	14020	0.32
17	2619	0.06	44	7837	0.18	71	6627	0.15	98	7896	0.18
18	2907	0.07	45	7800	0.18	72	6627	0.15	99	5648	0.13
19	3019	0.07	46	6050	0.14	73	6627	0.15	100	4943	0.11
20	3324	0.08	47	4950	0.11	74	14279	0.33	101	4949	0.11
21	7799	0.18	48	4950	0.11	75	10942	0.25	102	4950	0.11
22	6600	0.15	49	4950	0.11	76	10234	0.23	103	3960	0.09
23	6600	0.15	50	4950	0.11	77	6138	0.14	104	3960	0.09
24	6600	0.15	51	4950	0.11	78	6138	0.14	105	3961	0.09
25	6600	0.15	52	4950	0.11	79	6138	0.14			
26	6600	0.15	53	4950	0.11	80	6138	0.14			
27	6600	0.15	54	5150	0.12	81	6747	0.15			
28	6600	0.15	55	7241	0.17	82	6746	0.15			
29	6600	0.15	56	7359	0.17	83	6746	0.15			
30	6600	0.15	57	5400	0.12	84	6749	0.15			
31	6464	0.15	58	10379	0.24	85	6137	0.14			
32	7800	0.18	59	6600	0.15	86	6137	0.14			
33	7800	0.18	60	6600	0.15	87	6137	0.14			
34	7799	0.18	61	6600	0.15	88	6137	0.14			



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RIVERLIGHTS
 by Newland COMMUNITIES
 NORTH AMERICA SEXISUS HOUSE, LLC

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PHASE II
 OVERALL SITE PLAN

DATE: 05/06/2015
 MCE PROJ. # 02735-0141
 DRAWN: TCM
 DESIGNED: KCBCE
 CHECKED: NJL
 PROJ. MGR.: RMC

SCALE: HORIZONTAL: 1"=80' VERTICAL: N/A

MAC FILE NUMBER: CS-100
 DRAWING NUMBER: 4

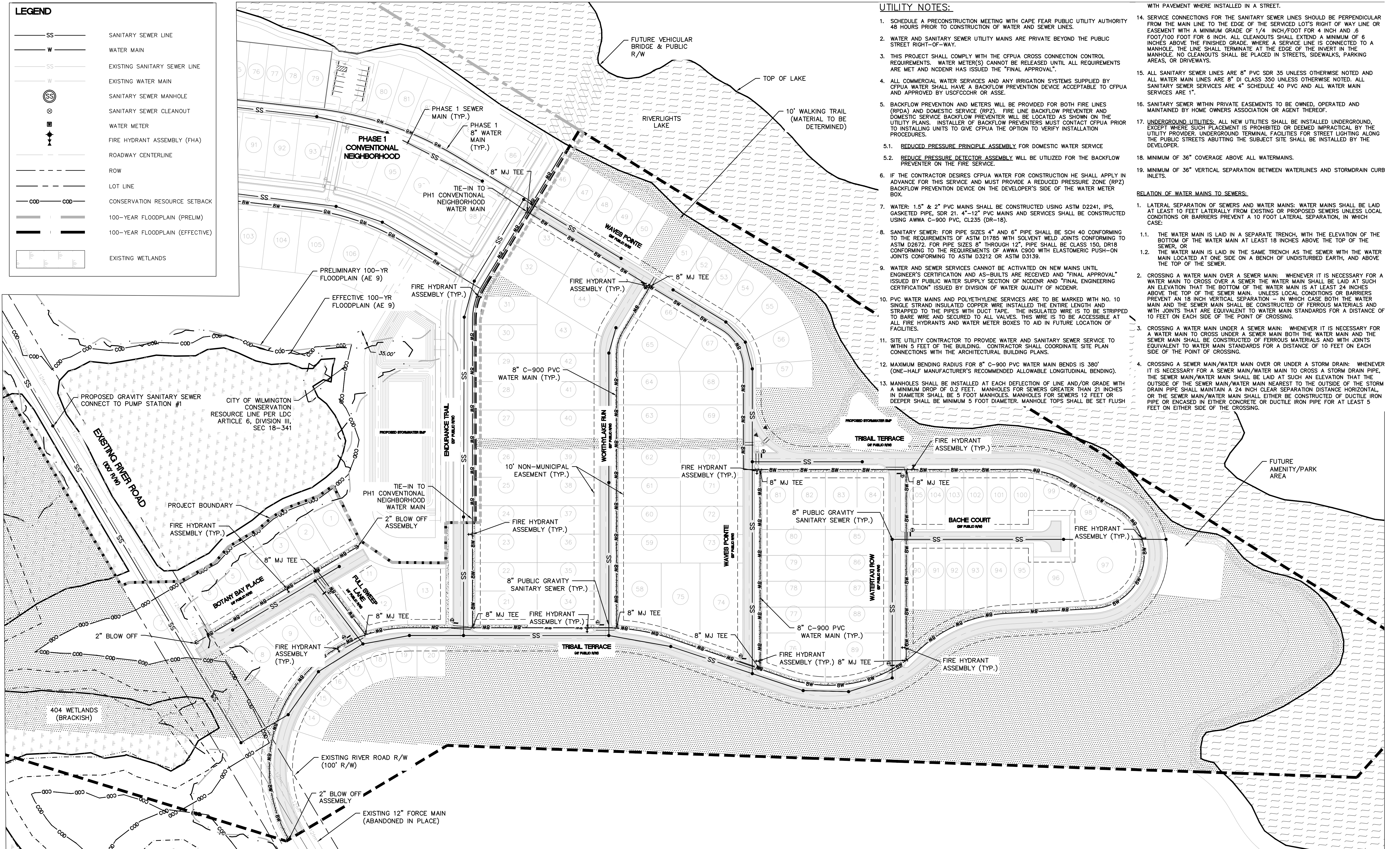
STATUS: PRELIMINARY PLANS

LEGEND

- SS SANITARY SEWER LINE
- W WATER MAIN
- SS EXISTING SANITARY SEWER LINE
- W EXISTING WATER MAIN
- (SS) SANITARY SEWER MANHOLE
- (S) SANITARY SEWER CLEANOUT
- (M) WATER METER
- (FHA) FIRE HYDRANT ASSEMBLY (FHA)
- ROADWAY CENTERLINE
- ROW
- LOT LINE
- COD --- COD --- CONSERVATION RESOURCE SETBACK
- 100-YEAR FLOODPLAIN (PRELIM)
- 100-YEAR FLOODPLAIN (EFFECTIVE)
- EXISTING WETLANDS

UTILITY NOTES:

1. SCHEDULE A PRECONSTRUCTION MEETING WITH CAPE FEAR PUBLIC UTILITY AUTHORITY 48 HOURS PRIOR TO CONSTRUCTION OF WATER AND SEWER LINES.
 2. WATER AND SANITARY SEWER UTILITY MAINS ARE PRIVATE BEYOND THE PUBLIC STREET RIGHT-OF-WAY.
 3. THIS PROJECT SHALL COMPLY WITH THE CFPWA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND NCDENR HAS ISSUED THE "FINAL APPROVAL".
 4. ALL COMMERCIAL WATER SERVICES AND ANY IRRIGATION SYSTEMS SUPPLIED BY CFPWA WATER SHALL HAVE A BACKFLOW PREVENTION DEVICE ACCEPTABLE TO CFPWA AND APPROVED BY USCFOOCHR OR ASSE.
 5. BACKFLOW PREVENTION AND METERS WILL BE PROVIDED FOR BOTH FIRE LINES (RPDA) AND DOMESTIC SERVICE (RPZ). FIRE LINE BACKFLOW PREVENTER AND DOMESTIC SERVICE BACKFLOW PREVENTER WILL BE LOCATED AS SHOWN ON THE UTILITY PLANS. INSTALLER OF BACKFLOW PREVENTERS MUST CONTACT CFPWA PRIOR TO INSTALLING UNITS TO GIVE CFPWA THE OPTION TO VERIFY INSTALLATION PROCEDURES.
 - 5.1. REDUCED PRESSURE PRINCIPLE ASSEMBLY FOR DOMESTIC WATER SERVICE
 - 5.2. REDUCED PRESSURE DETECTOR ASSEMBLY WILL BE UTILIZED FOR THE BACKFLOW PREVENTER ON THE FIRE SERVICE.
 6. IF THE CONTRACTOR DESIRES CFPWA 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.
 7. WATER: 1.5" & 2" PVC MAINS SHALL BE CONSTRUCTED USING ASTM D2241, IPS, GASKETED PIPE, SDR 21. 4"-12" PVC MAINS AND SERVICES SHALL BE CONSTRUCTED USING AWWA C-900 PVC, CL235 (DR-18).
 8. SANITARY SEWER: FOR PIPE SIZES 4" AND 6" PIPE SHALL BE SCH 40 CONFORMING TO THE REQUIREMENTS OF ASTM D1785 WITH SOLVENT WELD JOINTS CONFORMING TO ASTM D2672. FOR PIPE SIZES 8" THROUGH 12", PIPE SHALL BE CLASS 150, DR18 CONFORMING TO THE REQUIREMENTS OF AWWA C900 WITH ELASTOMERIC PUSH-ON JOINTS CONFORMING TO ASTM D3212 OR ASTM D3139.
 9. WATER AND SEWER SERVICES CANNOT BE ACTIVATED ON NEW MAINS UNTIL ENGINEER'S CERTIFICATION AND AS-BUILTS ARE RECEIVED AND "FINAL APPROVAL" ISSUED BY PUBLIC WATER SUPPLY SECTION OF NCDENR AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY OF NCDENR.
 10. PVC WATER MAINS AND POLYETHYLENE SERVICES ARE TO BE MARKED WITH NO. 10 SINGLE STRAND INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND STRAPPED TO THE PIPES WITH DUCT TAPE. THE INSULATED WIRE IS TO BE STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
 11. SITE UTILITY CONTRACTOR TO PROVIDE WATER AND SANITARY SEWER SERVICE TO WITHIN 5 FEET OF THE BUILDING. CONTRACTOR SHALL COORDINATE SITE PLAN CONNECTIONS WITH THE ARCHITECTURAL BUILDING PLANS.
 12. MAXIMUM BENDING RADIUS FOR 8" C-900 PVC WATER MAIN BENDS IS 380' (ONE-HALF MANUFACTURER'S RECOMMENDED ALLOWABLE LONGITUDINAL BENDING).
 13. MANHOLES SHALL BE INSTALLED AT EACH DEFLECTION OF LINE AND/OR GRADE WITH A MINIMUM DROP OF 0.2 FEET. MANHOLES FOR SEWERS GREATER THAN 21 INCHES IN DIAMETER SHALL BE 5 FOOT MANHOLES. MANHOLES FOR SEWERS 12 FEET OR DEEPER SHALL BE MINIMUM 5 FOOT DIAMETER. MANHOLE TOPS SHALL BE SET FLUSH WITH PAVEMENT WHERE INSTALLED IN A STREET.
 14. SERVICE CONNECTIONS FOR THE SANITARY SEWER LINES SHOULD BE PERPENDICULAR FROM THE MAIN LINE TO THE EDGE OF THE SERVICED LOT'S RIGHT OF WAY LINE OR EASEMENT WITH A MINIMUM GRADE OF 1/4" INCH/FOOT FOR 4 INCH AND .6 FOOT/FOOT FOR 6 INCH. ALL CLEANOUTS SHALL EXTEND A MINIMUM OF 6 INCHES ABOVE THE FINISHED GRADE. WHERE A SERVICE LINE IS CONNECTED TO A MANHOLE, THE LINE SHALL TERMINATE AT THE EDGE OF THE INVERT IN THE MANHOLE. NO CLEANOUTS SHALL BE PLACED IN STREETS, SIDEWALKS, PARKING AREAS, OR DRIVEWAYS.
 15. ALL SANITARY SEWER LINES ARE 8" PVC SDR 35 UNLESS OTHERWISE NOTED AND ALL WATER MAIN LINES ARE 8" DI CLASS 350 UNLESS OTHERWISE NOTED. ALL SANITARY SEWER SERVICES ARE 4" SCHEDULE 40 PVC AND ALL WATER MAIN SERVICES ARE 1".
 16. SANITARY SEWER WITHIN PRIVATE EASEMENTS TO BE OWNED, OPERATED AND MAINTAINED BY HOME OWNERS ASSOCIATION OR AGENT THEREOF.
 17. UNDERGROUND UTILITIES: ALL NEW UTILITIES SHALL BE INSTALLED UNDERGROUND, EXCEPT WHERE SUCH PLACEMENT IS PROHIBITED OR DEEMED IMPRACTICAL BY THE UTILITY PROVIDER. UNDERGROUND TERMINAL FACILITIES FOR STREET LIGHTING ALONG THE PUBLIC STREETS ADJACENT TO THE SUBJECT SITE SHALL BE INSTALLED BY THE DEVELOPER.
 18. MINIMUM OF 36" COVERAGE ABOVE ALL WATERMAINS.
 19. MINIMUM OF 36" VERTICAL SEPARATION BETWEEN WATERLINES AND STORMDRAIN CURB INLETS.
- RELATION OF WATER MAINS TO SEWERS:**
1. LATERAL SEPARATION OF SEWERS AND WATER MAINS: WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10 FOOT LATERAL SEPARATION, IN WHICH CASE:
 - 1.1. THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.
 - 1.2. THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND ABOVE THE TOP OF THE SEWER.
 2. CROSSING A WATER MAIN OVER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER MAIN THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 24 INCHES ABOVE THE TOP OF THE SEWER MAIN, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION - IN WHICH CASE BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
 3. CROSSING A WATER MAIN UNDER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER MAIN BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
 4. CROSSING A SEWER MAIN/WATER MAIN OVER OR UNDER A STORM DRAIN: WHENEVER IT IS NECESSARY FOR A SEWER MAIN/WATER MAIN TO CROSS A STORM DRAIN PIPE, THE SEWER MAIN/WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE OUTSIDE OF THE SEWER MAIN/WATER MAIN NEAREST TO THE OUTSIDE OF THE STORM DRAIN PIPE SHALL MAINTAIN A 24 INCH CLEAR SEPARATION DISTANCE HORIZONTAL, OR THE SEWER MAIN/WATER MAIN SHALL EITHER BE CONSTRUCTED OF DUCTILE IRON PIPE OR ENCASED IN EITHER CONCRETE OR DUCTILE IRON PIPE FOR AT LEAST 5 FEET ON EITHER SIDE OF THE CROSSING.



REV. NO.	DESCRIPTIONS	DATE

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

MCKIM & CREED
 243 North Front Street
 Wilmington, North Carolina 28401
 Phone: (910)343-1048, Fax: (910)251-8282
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 www.mckimcreed.com

RIVERLIGHTS
 by Newland COMMUNITIES

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PHASE II
UTILITY PLAN

DATE: 05/06/2015	SCALE: 1"=80'	M&C FILE NUMBER: CU-100
M&C PROJ. # 02735-0141	HORIZONTAL: 1"=80'	DRAWING NUMBER: 5
DRAWN: TCM	VERTICAL: N/A	REVISION: ---
DESIGNED: KCBE		
CHECKED: NUL		
PROJ. MGR.: RMC		
STATUS: PRELIMINARY PLANS		

S:\2726\0141 Ph 2_Sp-06-Drawings\CU100-027350141.dwg, 6/11/2015 10:40:29 AM, emcauthr

SYM	BOTANICAL NAME	COMMON NAME	CALYR	MIN. HT.	MIN. SPL.	REMARKS
PLANT LIST						
CANOPY / SHADE / STREET TREES						
ACB	ACER BUERGERIANUM	TRIDENT MAPLE	2-2 1/2"	--	--	--
ACD	ACER RUBRUM OCTOBER DUNE	OCTOBER GLORY RED MAPLE	2-2 1/2"	--	--	--
ACS	ACER SACCHARINUM GREEN MOUNTAIN SUGAR MAPLE	GREEN MOUNTAIN SUGAR MAPLE	2-2 1/2"	--	--	--
BEH	BETULA NIGRA "DURA MEAT" HERITAGE	RIVER BIRCH	2-2 1/2"	--	--	--
CAAQ	CARYA AQUATICA	WATER HICKORY	2-2 1/2"	--	--	--
CLL	CLADASTIS LUTEA	AMERICAN YELLOWWOOD	2-2 1/2"	--	--	--
CHR	CHONANTHUS RETICUS	CHINESE FERN TREE	2-2 1/2"	--	--	--
DIV	DIOSPIROS VIRGINIANA	AMERICAN PERSIMMON	2-2 1/2"	--	--	--
FAG	FAGUS GRANDIFOLIA	AMERICAN BEECH	2-2 1/2"	--	--	--
FRA	FRAXINUS AMERICANA	WHITE ASH	2-2 1/2"	--	--	--
LIT	LIRIODENDRUM TULIPIFERA	TULIP TREE	2-2 1/2"	--	--	--
MAA	MAGNOLIA ACUMINATA	CUCUMBER-TREE	2-2 1/2"	--	--	--
NYS	NYSSA SYLVATICA	BLACK GUM	2-2 1/2"	--	--	--
PLD	PLATANUS OCCIDENTALIS	AMERICAN PLANE TREE	2-2 1/2"	--	--	--
QIA	QUERCUS ALBA	WHITE OAK	2-2 1/2"	--	--	--
QIAC	QUERCUS ADUSTISSIMA	SAWTOOTH OAK	2-2 1/2"	--	--	--
QIB	QUERCUS BICOLOR	SWAMP WHITE OAK	2-2 1/2"	--	--	--
QIC	QUERCUS COCCINEA	SCARLET OAK	2-2 1/2"	--	--	--
QIF	QUERCUS FALCATA	SOUTHERN RED OAK	2-2 1/2"	--	--	--
QIL	QUERCUS LYRATA	OVERCUP OAK	2-2 1/2"	--	--	--
QIN	QUERCUS NIGRA	WATER OAK	2-2 1/2"	--	--	--
QINU	QUERCUS NUTTALLI	NUTTALL OAK	2-2 1/2"	--	--	--
QIP	QUERCUS PALUSTRIS	PIN OAK	2-2 1/2"	--	--	--
QIP	QUERCUS PHellos	WILLOW OAK	2-2 1/2"	--	--	--
QIS	QUERCUS SHUMARDII	SHUMARD OAK	2-2 1/2"	--	--	--
TAD	TAXODIUM DISTICHUM	BALD CYPRESS	2-2 1/2"	--	--	--
ULP	ULMUS PARVIFOLIA	CHINESE ELM	2-2 1/2"	--	--	--
ZES	ZELKOVA SERRATA	JAPANESE ZELKOVA	2-2 1/2"	--	--	--
EVERGREEN TREES						
CHT	CHAMAECYPARIS THYROIDES	ATLANTIC WHITE CEDAR	88	6'	--	--
CRZY	CRYPTOMERIA JAPONICA "YOSHINO"	YOSHINO JAPANESE CEDAR	88	6'	--	--
DRR	DRYOPHYTERA JAPONICA "RADICANS"	RADICANS JAPANESE CEDAR	88	6'	--	--
CUL	CUNNINGHAMIA LANCEOLATA	CHINA FIR	88	6'	--	--
LOT	ILEX OPACA "TINGA"	TINGA AMERICAN HOLLY	88	6'	--	--
LOG	ILEX OPACA "GREENLEAF"	GREENLEAF AMERICAN HOLLY	88	6'	--	--
ELY	ILEX VOMITORIA	YALPUN HOLLY	88	6'	--	--
JIV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	88	6'	--	--
MAGA	MAGNOLIA GRANDIFLORA "ALTA"	ALTA SOUTHERN MAGNOLIA	88	6'	--	--
MAGH	MAGNOLIA GRANDIFLORA "HESSIE"	HESSIE SOUTHERN MAGNOLIA	88	6'	--	--
MAGD	MAGNOLIA GRANDIFLORA "D.D."	D.D. SOUTHERN MAGNOLIA	88	6'	--	--
MAY	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA	88	6'	--	--
PP	PNUS PALUSTRIS	LONGLEAF PINE	88	6'	--	--
PT	PNUS TAEDA	LOBLOLLY PINE	88	6'	--	--
PTH	PNUS THUNBERGIANA	JAPANESE BLACK PINE	88	6'	--	--
PRC	PRUNUS CAROLINIANA	CAROLINA CHERRY	88	5'	--	--
QRH	QUERCUS HEMISPHERICA "DARLINGTON"	LAUREL OAK	2-2 1/2"	--	--	--
QIV	QUERCUS MIGNANA	LIVE OAK	2-2 1/2"	--	--	--
ORNAMENTAL GRASSES						
ANT	ANDROPOGON TERNARIUS	SPRUT-HEAD BROOMSEDGE	--	--	--	--
AMB	AMMOPHILA BREVILOBLATA	AMERICAN BEACHGRASS	--	--	--	--
BRM	BRIJA MEDIA	QUAKING GRASS	--	--	--	--
CAA	CLAZACRISTIS AQUIFOLIA "CARL FORESTIE"	FEATHER REED GRASS	--	--	--	--
CAB	CALAMAGROSTIS BRACHYTRICHA	KOREAN FEATHER REED GRASS	--	--	--	--
CHL	CHAMAMTRUM LATIFOLIUM	NORTHERN SEA OATS	--	--	--	--
JIE	JUNCUS EFFUSUS	COMMON RUSH	--	--	--	--
MUC	MUHLENBERGIA CAPILLARIS "WHITE CLOUD"	MUHLY GRASS	--	--	--	--
MUF	MUHLENBERGIA FULPES	SWEETGRASS	--	--	--	--
NAT	NASSELLA TENUISSIMA	MEXICAN FEATHER GRASS	--	--	--	--
PAA	PANICUM AMARUM	DRY BLUE SWITCH GRASS	--	--	--	--
PAVC	PANICUM VIRGATUM "CLOUD BIRD"	SWITCH GRASS	--	--	--	--
PAVN	PANICUM VIRGATUM "NORTHSTAR"	UPRIGHT SWITCH GRASS	--	--	--	--
PAVS	PANICUM VIRGATUM "SHEMONGOH"	SWITCH GRASS	--	--	--	--
SOL	SCHIZACHYRIUM LITTOREALE	SEASIDE LITTLE BLUESTEM	--	--	--	--
SCS	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUE STEM	--	--	--	--
SON	SORGHASTRUM NUTANS	INDIAN GRASS	--	--	--	--
SPB	SPARTINA BAKERI	SAND CORNDOGGRASS	--	--	--	--
SPF	SPARTINA PATENS	SALTMEADOW CORNDOGGRASS	--	--	--	--
SPV	SPOROBIOLUS VIRGINICUS	SEASIDE DROPSEED	--	--	--	--
UNP	UNOLA PANICULATA	SEA OATS	--	--	--	--
VINES						
BC	BOGNA CAREOLATA	CROSS VINE	--	--	--	--
CAR	CAMPIDIS RADICANS	TRUMPET CREEPER	--	--	--	--
CARF	CAMPIDIS RADICANS "FLAKE"	YELLOW TRUMPET CREEPER	--	--	--	--
CLA	CLEMATIS X ARMANI	EVERGREEN CLEMATIS	--	--	--	--
CLJ	CLEMATIS X JACOMINI	JACOMINI'S CLEMATIS	--	--	--	--
FP	FOCUS PAMELA	CLIMBING FIG	--	--	--	--
GES	GESEMIUM SEMPERVIRENS	CAROLINA JESSAMINE	--	--	--	--
HYA	HYDRANGEA ANOMALA PETIOLARIS	CLIMBING HYDRANGEA	--	--	--	--
ROB	ROSA BANKSAE	LADYBANKS ROSE	--	--	--	--
ROS	ROSA SPEDES	CLIMBING ROSE	--	--	--	--
TRJ	TRACHELOSPERMUM LAMARCKIENSIS	CONFEDERATE JASMINE	--	--	--	--

SYM	BOTANICAL NAME	COMMON NAME	CALYR	MIN. HT.	MIN. SPL.	REMARKS
FLOWERING / UNDERSTORY TREES						
AEP	AESOLUS PARVIFOLIA	BOTTLEBRUSH BUCKEYE	--	8'-10'	--	--
AMA	AMLANCHER AMORFA	DWARF SERVICEBERRY	--	8'-10'	--	--
AMC	AMLANCHER CANADENSIS	SHADBLOW SERVICEBERRY	--	8'-10'	--	--
CAC	CARPINUS CAROLINIANA	IRONWOOD	--	8'-10'	--	--
CEC	CELOS CANADENSIS	EASTERN REDBUD	--	8'-10'	--	--
CHV	CHONANTHUS VIRGINICUS	WHITE FRINGE TREE	--	8'-10'	--	--
COK	CORNUS KOUSA	KOUSA DOGWOOD	--	8'-10'	--	--
CORC	CORNUS FLORIDA	FLOWERING DOGWOOD	--	8'-10'	--	--
CORH	CORNUS FLORIDA "CHEROKEE PRINCESS"	CHEROKEE PRINCESS FLOWERING DOGWOOD	--	8'-10'	--	--
HAC	HALESIA CAROLINA	CAROLINA SILVERBELL	--	8'-10'	--	--
HAV	HAMAMELIS VIRGINIANA	WITCH HAZEL	--	8'-10'	--	--
LAI	LASERTROEPA INDICA	GRAPE WRTILE	--	8'-10'	--	--
MAS	MAGNOLIA X SOULANGIANA	SAUCEUR MAGNOLIA	--	8'-10'	--	--
PIA	PISTACHIA CHINENSIS	CHINESE PISTACHIO	--	8'-10'	--	--
PRM	PRUNUS MUME	FLOWERING APRICOT	--	8'-10'	--	--
PRJ	PRUNUS X INCAM "ORANGE"	ORANGE CHERRY	--	8'-10'	--	--
PRS	PRUNUS SERRULATA "KWANZAN"	KWANZAN FLOWERING CHERRY	--	8'-10'	--	--
PRT	PRUNUS YEDDENIS	YOSHINO CHERRY	--	8'-10'	--	--
SUC	SUNAC COPALLINUM	WINGED SUMAC	--	8'-10'	--	--
VA	VITEX AGNUS-CASTUS	CHASTE TREE	--	8'-10'	--	--
EVERGREEN SHRUBS / EVERGREEN PALMS						
CHA	CHAMAECYPARIS ORBISA NANA GRACILLIS	DWARF WHITE CYPRESS	CONT	12"	12"	FULL DENSE
CYR	CYCAS REVOLUTA	INGO SAGO	CONT	12"	12"	FULL DENSE
CIT	CYCAS SARTIIANUS	IMPERIAL SAGO	CONT	12"	12"	FULL DENSE
FAT	FATSIA JAPONICA	FATSIA	CONT	12"	12"	FULL DENSE
FEJ	FEIDA SELLOWIANA	PIEAPPLE GUAVA	CONT	12"	12"	FULL DENSE
GAJ	GARDENIA JAMAICENSIS "MRS. HARRIET"	GARDENIA	CONT	12"	12"	FULL DENSE
HOL	ILEX GLABRA "SHAMROCK"	HOLLY HOLLIE	CONT	12"	12"	FULL DENSE
IVN	ILEX VOMITORIA "NANA"	DWARF YALPUN HOLLY	CONT	12"	12"	FULL DENSE
SL	SLEZUM ANSATSUM	JAPANESE ANISE TREE	CONT	12"	12"	FULL DENSE
JUC	JUNIPERUS CHINENSIS "SEA GREEN"	SEA GREEN JUNIPER	CONT	12"	12"	FULL DENSE
JH	JUNIPERUS HORIZONTALIS "PAVANE"	PAVANE JUNIPER	CONT	12"	12"	FULL DENSE
MIC	MICHALA FIDG	BANANA SHRUB	CONT	12"	12"	FULL DENSE
MYC	MYRTICA CERIFERA	HAWK WRTILE	CONT	12"	12"	FULL DENSE
OSF	OSMANTHUS FORUNDI	SEA OLIVE	CONT	12"	12"	FULL DENSE
OSA	OSMANTHUS AMERICANUS	DEWLEAF	CONT	12"	12"	FULL DENSE
PT	PTISPODIUM TOBIRA	PTISPODIUM	CONT	12"	12"	FULL DENSE
POA	PODOCARPUS MACROPHYLUS	CHINESE PODOCARPUS	CONT	12"	12"	FULL DENSE
SR	SERENOA REPENS	SAW PALMETTO	CONT	12"	12"	FULL DENSE
VA	VIBURNUM AWABIKO "CHERRY"	CHERRY VIBURNUM	CONT	12"	12"	FULL DENSE
VB	VIBURNUM X BURBWOODI	BURBWOOD VIBURNUM	CONT	12"	12"	FULL DENSE
DECIDUOUS SHRUBS						
BUD	BURDELLIA DAVIDA	BUTTERFLY BUSH	CONT	12"	12"	FULL DENSE
CAA	CALLICARPA AMERICANA	AMERICAN BEAUTYBERRY	CONT	12"	12"	FULL DENSE
CAO	CALLICARPA DICHROMA "SUN"	PURPLE BEAUTYBERRY "SUN"	CONT	12"	12"	FULL DENSE
CAF	CALYCANTHUS FLOREUS	SWEET SHRUB	CONT	12"	12"	FULL DENSE
CAC	CARYOPHYLLIS CLAUDENSIS	BLUEBEARD	CONT	12"	12"	FULL DENSE
CAN	CLETHRA ANFOLIA	SWEET PEPPERBUSH	CONT	12"	12"	FULL DENSE
COC	CORINUS COGSGYBIA	MOOREBUSH	CONT	12"	12"	FULL DENSE
FOI	FOSTYTHIA X INTERMEDIA	"FOSTYTHIA"	CONT	12"	12"	FULL DENSE
GS	ILEX DECIDUA "SUNDANCE"	SUNDANCE FORESHAW HAWK	CONT	12"	12"	FULL DENSE
HJ	ILEX VERTICILLATA "JM DANDY"	WINTERBERRY	CONT	12"	12"	FULL DENSE
IVR	ILEX VERTICILLATA "RED SPIRIT"	WINTERBERRY	CONT	12"	12"	FULL DENSE
IVV	ILEX VIRGINICA	VIRGINIA SWEETPIRE	CONT	12"	12"	FULL DENSE
JAM	JASMINEUM HYDRILEGUM	WHITE JASMINE	CONT	12"	12"	FULL DENSE
LAC	LAGERSIDROEMA INDICA "CENTRINA"	CENTRINA DWARF CREEPER WRTILE	CONT	12"	12"	FULL DENSE
LAO	LAGERSIDROEMA INDICA "CAZDO"	CAZDO DWARF CREEPER WRTILE	CONT	12"	12"	FULL DENSE
LAG	LAGERSIDROEMA INDICA "GAMADY"	CHERRY CREEPER DWARF CREEPER WRTILE	CONT	12"	12"	FULL DENSE
LEF	LEUCODIEN FORTANESIANA	PETERBUSH	CONT	12"	12"	FULL DENSE
ROK	ROSA RUGOSA	HARDY ROSE	CONT	12"	12"	FULL DENSE
ROK	ROSA "RADRAZ"	NOCKOUT ROSE	CONT	12"	12"	FULL DENSE
GROUNDCOVERS						
GAJ	GARDENIA JAMAICENSIS RADICANS	DWARF GARDENIA	--	--	--	--
HYC	HYPERICUM CALYCEUM	ST. JOHN'S WORT	--	--	--	--
IV	IVA HIBICATA	SEASHORE ELDER	--	--	--	--
JUC	JUNIPERUS CONERTA	SHORE JUNIPER	--	--	--	--
LM	LIRIOPE MISCARRI	LIRIOPE LESTERT	--	--	--	--
LS	LIRIOPE SPICATA	CREeping LIRIOPE	--	--	--	--
MAR	MAZIS REPTANS	MAZIS	--	--	--	--
OPJ	OPHIOGLOSSUM JAPONICUS	MORNING GRASS	--	--	--	--
SAH	SARCOCOCCA HOCKERIANA	SWEETBOX	--	--	--	--

SYM	BOTANICAL NAME	COMMON NAME	CALYR	MIN. HT.	MIN. SPL.	REMARKS
PERENNIALS						
ACS	ACANTHUS SUMMER BEAUTY	BEARS BREECHES	--	--	--	--
ACH	ACHILLEA MILEFOLIUM	CHICKENBIT GOLD TARRROW	--	--	--	--
AJR	AJACIA REPTANS	CARPET BUGLE	--	--	--	--
ANW	ANEMONE WRIGHTII	TEXAS FIRECRACKER	--	--	--	--
AST	ASTELRAS TURBOSA	BUTTERFLY WEED	--	--	--	--
ASE	ASPERITA ELATOR	CAST IRON PLANT	--	--	--	--
ASH	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	--	--	--	--
ASR	ASTER IMPARIBUS	SATURDAY ASTER	--	--	--	--
BA	BAPTISA ALBA	WHITE WILD INDIGO	--	--	--	--
CAN	CANNA HYBRIDA	CANNA LILY	--	--	--	--
CEP	CELEBRARIA FLUMINOSA	LEADWORT	--	--	--	--
COA	COREOPSIS AURICULATA "SUPERBA"	SUPERBA COREOPSIS	--	--	--	--
ICP	COCHINEA PURPUREA "MAGNUS"	MAGNUS PURPLE CONEFLOWER	--	--	--	--
BUM	ESPAULUM MACULOSUM "GARDWAY"	JOE PEE WEED	--	--	--	--
HEA	HELIANTHUS ANGIUSTIFOLIS	SWAMP SUNFLOWER	--	--	--	--
HEL	HELIANTHUS X LEMOH QUERE	LEMOH QUERE PERENNIAL SUNFLOWER	--	--	--	--
HEV	HELEBORUS X HYBRIDUS	HEBEN ROSE	--	--	--	--
HM	HIBISCUS MOESOTICUS	HARDY HIBISCUS	--	--	--	--
HC	HIBISCUS COCCINEUS	SCARLET HIBISCUS	--	--	--	--
IRV	IRS VIRGINIANA	BLUE FLAG	--	--	--	--
LAC	LANTANA CAMERA	LANTANA	--	--	--	--
FEA	FEDOSIA ABRUCIFOLIA "LITTLE SPIES"	SMALL RUSSIAN SAGE	--	--	--	--
POA	POLYTRICHUM MACROCHLOES	CHRISTMAS FERN	--	--	--	--
ROF	ROBECIA RUGOSA "GOLDENROD"	GOLDENROD RUDIBECKIA	--	--	--	--
SAL	SALVIA LEUCANTHA	MEXICAN BLUE SAGE	--	--	--	--
SAN	SALVIA "INDIGO SPICE"	INDIGO SPICE SALVIA	--	--	--	--
SEM	SEDUM "MARBORA"	SEDUM	--	--	--	--
SR</						