





**SITE DATA TABLE:**  
 ADDRESS: 245 S. KERR AVE.  
 PARCEL ID: 4919-008-039-000 & 4918-003-007-000  
 TOTAL PROJECT AREA: 103,459 SF (2.38 AC.)  
 EXISTING ZONING: RB  
 CAVA LAND CLASSIFICATION: CDMU  
 PROPOSED USE: MIXED USE (RETAIL/APARTMENTS)  
 NUMBER OF BUILDINGS: 1 (3-Story)

**SETBACK REQUIRED - PROVIDED**  
 FRONT - 25' 20' (EXISTING BUILDING)  
 REAR - 15' 34'  
 SIDE - 0' 9.75'  
 \*\*20' MIN SIDE  
 \*(WHERE ABUTTING RESIDENTIAL)  
 \*\*SEE CODE SECTION 18-499 FOR REDUCTION

**NOTES:**  
 FOR EVERY FOOT OF INCREASED HEIGHT FOR STRUCTURES OVER TWENTY (20) FEET, THE DEVELOPER SHALL PROVIDE ADDITIONAL INTERIOR SIDE AND REAR YARD SETBACKS AT A 1:1 RATIO WHERE ABUTTING A RESIDENTIAL DISTRICT.  
 THE SETBACK FOR STRUCTURES MAY BE DECREASED IF THE BASE WIDTH OF THE BUFFER YARD IS INCREASED BY THE SAME AMOUNT.

**EXISTING IMPERVIOUS AREAS**  
 EXISTING BUILDINGS 6,380 SF  
 EXISTING PARKING AREA 6,380 SF  
 EXISTING GRAVEL AREA 6,385 SF  
 TOTAL 24,075 SF

**PROPOSED IMPERVIOUS AREA**  
 ON-SITE:  
 BUILDING (PROPOSED) 12,106 SF  
 BUILDING (EXISTING) 6,380 SF  
 PERVIOUS PAVMT (24,521\*0.25) 6,130 SF  
 EXISTING PARKING 6,909 SF  
 SIDEWALK 4,259 SF  
 CURB & GUTTER 2,529 SF  
 TOTAL 38,313 SF (37.03%)  
 OFF-SITE (Newly Constructed)  
 DRIVE APRON 337 SF  
 TOTAL 337 SF  
 TOTAL: 38,650 SF

LIMITS OF DISTURBANCE: 2.04 AC.

**OFF-STREET PARKING REQUIREMENTS**

	REQUIRED	PROVIDED
RETAIL/CONVENIENCE STORE	21 Spaces (1 H/C) MIN. 1,300 SF (21) MAX. 1,200 SF (32)	21 Spaces (1 H/C)
APARTMENT BUILDING*	51 Spaces (3 H/C) MIN. (2 BR x 1.5) MAX. (UNITS x 2.5)	56 Spaces (3 H/C)
BICYCLE PARKING	5	10

\*ONE DEDICATED PARKING SPACE SHALL BE PROVIDED FOR EACH DWELLING UNIT ON SITE. THE PARKING SPACE MUST BE AVAILABLE TO THE OCCUPANTS AT ALL TIMES AND CLEARLY DESIGNATED OR RESERVED FOR RESIDENTIAL TENANTS ONLY.

**WATER/SEWER USAGE**

	CURRENT	PROPOSED
SEWER (120 GPD-Warehouse, 500 GPD-Retail)	620 GPD	5,660 GPD (42 BR @ 120 GPD/BR) 6,920 GPD (42 BR @ 150 GPD/BR)
WATER (120 GPD-Warehouse, 500 GPD-Retail)	620 GPD	6,920 GPD (42 BR @ 150 GPD/BR)

**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.

**UTILITY NOTES:**

- EXISTING WATER AND SANITARY SEWER SERVICES ARE CURRENTLY AVAILABLE TO THE SITE FROM CAPE FEAR PUBLIC UTILITY AUTHORITY PUBLIC MAINS.
- ALL UTILITY SERVICES, SUCH AS ELECTRIC POWER, CATV, GAS & TELEPHONE SHALL BE INSTALLED UNDERGROUND.
- ALL WATER & SEWER UTILITIES TO BE INSTALLED PER CFPWA TECHNICAL SPECIFICATIONS & STANDARDS.
- PROJECT SHALL COMPLY WITH CFPWA 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 343-3910 FOR INFORMATION.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CFPWA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFCPOOR 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 NCDENR, AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY SECTION OF NCDENR.
- IF CONTRACTOR DESIRES CFPWA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE. THIS IS TO BE ACCESSIBLE IN ALL VALVES AND METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
- 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 DISC TAPERS. 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-LOO 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 IS DUMPSTER PICKUP BY PRIVATE CONTRACT.

**TRAFFIC NOTES:**

- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY & FOR DRIVEWAY ARE TO BE THERMOPLASTIC & MEET CITY AND/OR NCDOT STANDARDS.
- TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- CONTACT TRAFFIC ENGINEERING, AT 341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN. ADD A NOTE TO CALL TRAFFIC ENGINEERING A MIN. OF FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE R/W.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
- CONTACT KAREN DIXON AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS. THE LANDSCAPING PLAN WILL BE NEEDED TO DETERMINE STREET LIGHT LOCATIONS.
- TACTILE WARNING MATS TO BE INSTALLED AT ALL WHEELCHAIR RAMPS.
- 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.
- A LANDSCAPING PLAN, INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE TRAFFIC ENGINEERING DIVISION AND PARKS & RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAN. PLAN SHALL ADHERE TO SD 15-17.

n/f  
 PBRE2 Corporation  
 D.B. 5141-798  
 Zoning: RB Land  
 Use: Building  
 Materials

2" X 12" TAPPING SLEEVE  
 2" TAPPING VALVE

SAWCUT & RESTORE  
 TO EXISTING CONDITIONS  
 6" X 12" TAPPING SLEEVE  
 6" TAPPING VALVE

**FIRE & LIFE SAFETY NOTES:**

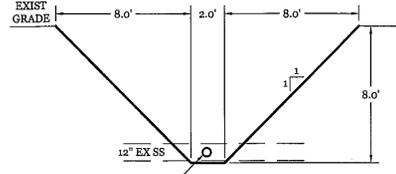
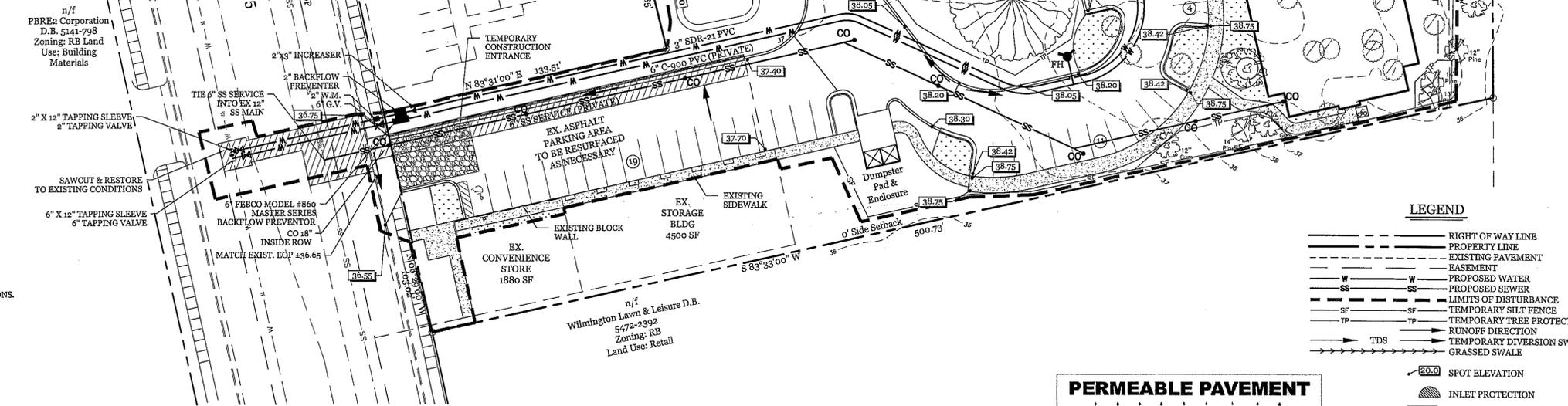
- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS WITHIN ANY DEVELOPMENT.
- HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
- TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
- CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
- UNDERGROUND FIRE LINE & PRIVATE WATER MAINS MUST BE PERMITTED & INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WFD - DIVISION OF FIRE & LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
- CONSTRUCTION TYPE - 5B
- BUILDING WILL BE SPRINKLED.
- THE FDC MUST BE WITHIN 150' OF A FIRE HYDRANT & WITHIN 40' OF FIRE APPARATUS PLACEMENT.
- LANDSCAPING OR PARKING CAN NOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT (3') CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC.
- INSTALLATION OF SECURITY GATES ACROSS A FIRE APPARATUS ROAD OR PARKING LOT SHALL BE APPROVED BY THE FIRE DEPARTMENT.

**TREE PRESERVATION, GRADING & STORMWATER MANAGEMENT NOTES:**

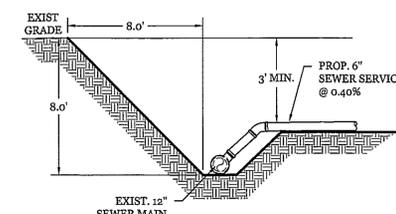
- STORMWATER MANAGEMENT WILL MEET CITY & STATE REQUIREMENTS. TOTAL LIMITS OF DISTURBANCE WILL BE GREATER THAN ONE (1) ACRE. AN EROSION CONTROL STORMWATER PERMIT WILL BE REQUIRED.
- TREE PRESERVATION / REMOVAL PERMIT IS REQUIRED PRIOR TO CLEARING & LAND DISTURBANCE.
- PRIOR TO ANY CLEARING, GRADING OR 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.
- 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 INVENTORY NOTES:**

- SOIL TYPE: SE (SEAGATE FINE SAND).
- THIS PROPERTY IS NOT IMPACTED BY ANY AEC.
- THERE ARE NO CONSERVATION OVERLAY BOUNDARIES AFFECTING THIS PROPERTY.
- THIS SITE IS NOT IMPACTED BY ANY RECOGNIZED HISTORIC OR ARCHEOLOGICAL SIGNIFICANCE.
- NO CEMETERIES WERE EVIDENCED ON THE SITE.
- EXISTING VEGETATION HAS BEEN LOCATED AND IS LABELED.
- THERE IS NO EVIDENCE OF JURISDICTIONAL WETLANDS ON THE SITE.
- THERE IS NO EVIDENCE OF ENDANGERED SPECIES OR HABITAT ISSUES ON THE SITE.
- THIS PROPERTY IS NOT WITHIN ANY FLOOD HAZARD AREA AS EVIDENCED ON N.C. FLOOD MAP 37203470001.
- THE SITE DRAINAGE FLOWS INTO THE BURNT MILL CREEK DRAINAGE BASIN, INTO SC CLASSIFIED WATERS.



**TRENCH SECTION - WATER**  
 NTS



**TRENCH SECTION - SEWER**  
 NTS



**SEWER CONNECTION PROFILE**  
 NTS

**TRENCH SECTION - WATER**  
 NTS

**TRENCH SECTION - SEWER**  
 NTS

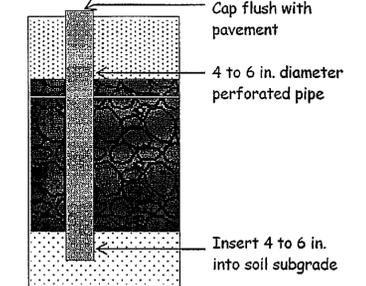
**GENERAL NOTES:**

- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- 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 AREAS AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
- 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.
- IF THESE UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.

**PERMEABLE PAVEMENT**

**ACTIVITIES PROHIBITED:**  
 SANDING  
 RE-SEALING  
 RE-SURFACING  
 POWER WASHING  
 STORAGE OF MULCH OR SOIL  
 STORAGE OF SNOW PILES  
 STORAGE OF HEAVY LOADS  
 APPLICATION OF SALT OR DE-ICERS

NOTE:  
 1. SIGN SIZE SHALL BE 24" X 18".  
 2. DWG CAN PROVIDE THIS IMAGE IN A HIGH-RESOLUTION FILE FOR OWNERS WHO WOULD LIKE TO USE IT FOR THEIR SIGNS.



**PERMEABLE CONCRETE MONITORING WELL**  
 NTS

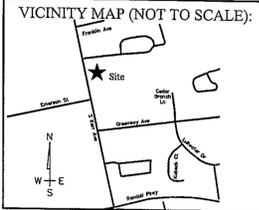
**LEGEND**

---	RIGHT OF WAY LINE
---	PROPERTY LINE
---	EXISTING PAVEMENT BASEMENT
---	PROPOSED WATER
---	PROPOSED SEWER
---	LIMITS OF DISTURBANCE
---	TEMPORARY SILT FENCE
---	TEMPORARY TREE PROTECTION
---	RUNOFF DIRECTION
---	TEMPORARY DIVERSION SWALE
---	GRASSED SWALE
○	SPOT ELEVATION
○	INLET PROTECTION
○	ENERGY DISSIPATER
○	SANITARY SEWER MANHOLE
○	FIRE HYDRANT ASSEMBLY
○	GATE VALVE
○	PROPOSED CONCRETE SIDEWALK
○	SAW CUT AND REMOVE EXIST. DRIVE / WALK
○	LANDSCAPED PLANTING AREA (SF)
○	STREETYARD AREA

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

**Approved Construction Plan**

Name	Date
Planning	
Public Utilities	
Traffic	
Fire	



**REVISIONS**

NO.	DATE	REVISIONS PER DOT AND NHC EC COMMENTS
10-21-13		REVISIONS PER DOT AND NHC EC COMMENTS

**INTRACOASTAL ENGINEERING, PLLC**  
 91 Pelican Point Road  
 Wilmington, North Carolina 28409  
 Phone: 910.409.3567  
 Email: charlie@intracoastalengineering.com  
 License Number P-0662

**GRADING, UTILITY, STORMWATER & EROSION CONTROL PLAN**  
 FOR  
**OAK COURT MIXED USE**  
 245 S. Kerr Ave. WILMINGTON, NC

Professional Engineer Seal for Charles D. Cazier, License No. 032555, State of North Carolina.

**CLIENT INFORMATION:**  
 REAL PROPERTIES, LLC.  
 MATTHEW SCHARF  
 1319 MILITARY CUTOFF RD. ST 172  
 WILMINGTON, NC 28405  
 (910) 538-9901

DRAWN: NME	SHEET SIZE: 24X36
CHECKED: CDC	DATE: 10-07-13
APPROVED: CDC	SCALE: 1:30
PROJECT NUMBER: 2013-021	
DRAWING NUMBER: C-3	

### LATE WINTER & EARLY SPRING TEMPORARY GRASSING DETAIL

**SEEDING MIXTURE**

**SPECIES**

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.

**SEEDING DATES:**

Mountains - Above 2500 ft: Feb. 15-May 15  
Below 2500 ft: Feb. 1-May 1  
Piedmont - Jan. 1-May 1  
Coastal Plain - Dec. 1-Apr. 15

**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 TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

**MAINTENANCE**

Re-fertilize if growth is not fully adequate. Re-seed, re-fertilize and mulch immediately following erosion or other damage.

### TEMPORARY SUMMER GRASSING DETAIL

**SEEDING MIXTURE**

**SPECIES**

GERMAN MILLET

IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUNDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

**SEEDING NOTES**

MOUNTAINS - MAY 15-AUG. 15  
PIEDMONT - MAY 1-AUG. 15  
COASTAL PLAN - APR. 15-AUG. 15

**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 TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

**MAINTENANCE**

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

### TEMPORARY FALL GRASSING DETAIL

**SEEDING MIXTURE**

**SPECIES**

Rye (grain)

**SEEDING NOTES**

MOUNTAINS - AUG. 15-DEC. 15  
COASTAL PLAN AND PIEDMONT - AUG. 15-DEC. 30

**SOIL AMENDMENTS**

FOLLOW SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER.

**MULCH**

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

**MAINTENANCE**

Repair and re-fertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extend temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) Lespedeza in late February or early March.

### SPRING-SUMMER PERMANENT GRASSING DETAIL

**SEEDING MIXTURE**

**SPECIES**

PENSACOLA BAHIA GRASS  
SERICEA LESPEDEZA  
COMMON BERMUDAGRASS  
GERMAN MILLET  
TALL FESCUE

**RATE (lb/acre)**

30  
10  
10  
10  
50

**SEEDING NOTES**

1. WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA.  
2. USE COMMON BERMUDAGRASS ONLY ON ISOLATED SITES WHERE IT CANNOT BECOME A PEST. BERMUDAGRASS MAY BE REPLACED WITH 5 lb/acre CENTIPEDEGRASS.

**SEEDING DATES**

APRIL 1 - JULY 15

**SOIL AMENDMENTS**

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 3,000 lb/acre GROUND AGRICULTURE LIMESTONE AND 500 lb/acre 10-10-10 FERTILIZER.

**MULCH**

APPLY 4,000 lb/acre GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR BY TACKLING WITH ASPHALT, ROVING, OR NETTING OR BY CRIMPING WITH A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

**MAINTENANCE**

REFERTILIZE THE FOLLOWING APRIL WITH 50 lb/acre NITROGEN. REPEAT AS GROWTH REQUIRES. MAY BE MOVED ONLY ONCE A YEAR, WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA AND MOW AS OFTEN AS NEEDED.

### FALL-WINTER PERMANENT GRASSING DETAIL

**SEEDING MIXTURE**

**SPECIES**

TALL FESCUE (BLEND OF TWO OR THREE IMPROVED VARIETIES)  
RYE (GRAIN)

**RATE (lb/acre)**

200  
25

**SEEDING DATES**

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.

**MULCH**

APPLY 4,000 lb/acre GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKLING WITH ASPHALT, ROVING, OR NETTING OR BY CRIMPING WITH A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

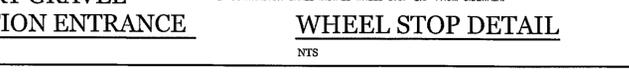
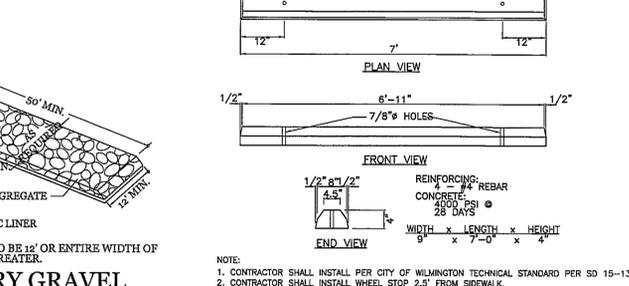
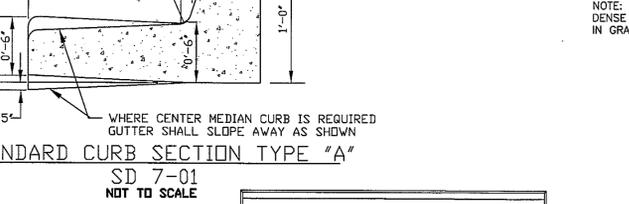
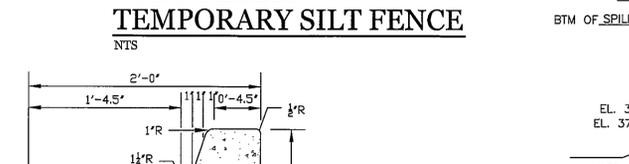
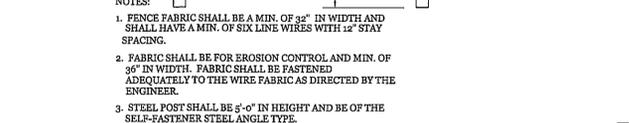
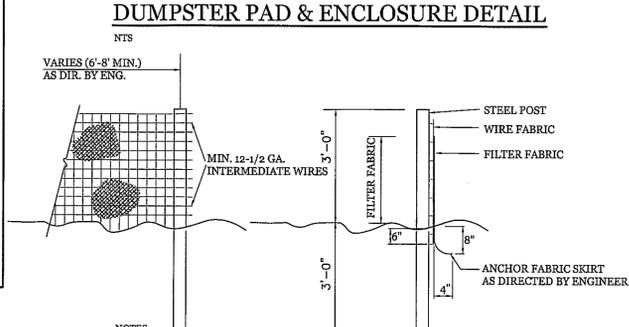
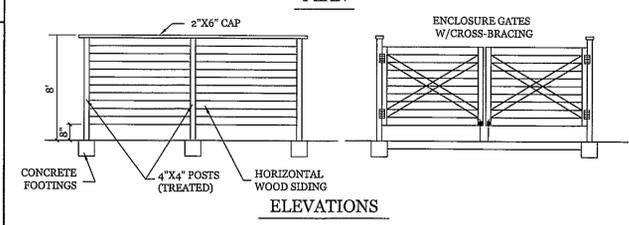
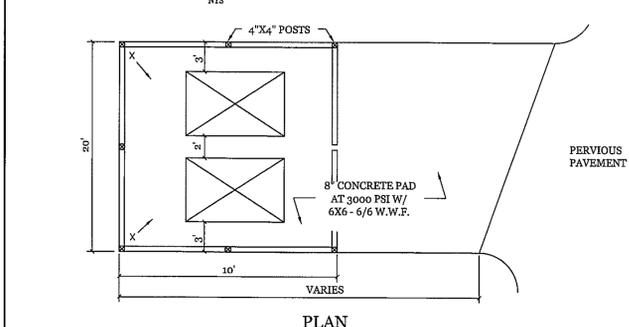
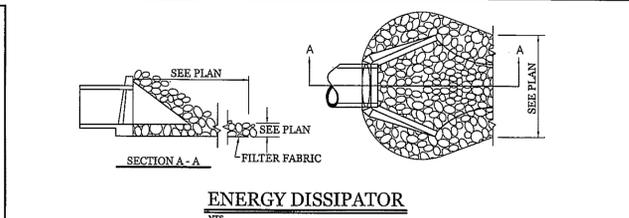
**MAINTENANCE**

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 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.

**GROUND STABILIZATION CRITERIA**

SITE AREA DESCRIPTION	STABILIZATION TIMEFRAME	STABILIZATION TIMEFRAME 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 are not steeper than 2:1, 14 days are allowed
* Slopes 3:1 or flatter	14 Days	7-days for slopes greater than 50 ft. in length
* All other areas with slopes flatter than 4:1	14 Days	None (except for perimeters & HQW Zones)

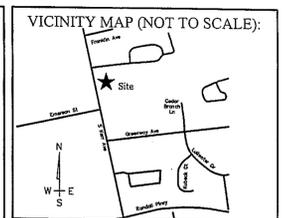
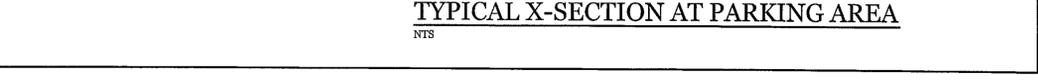
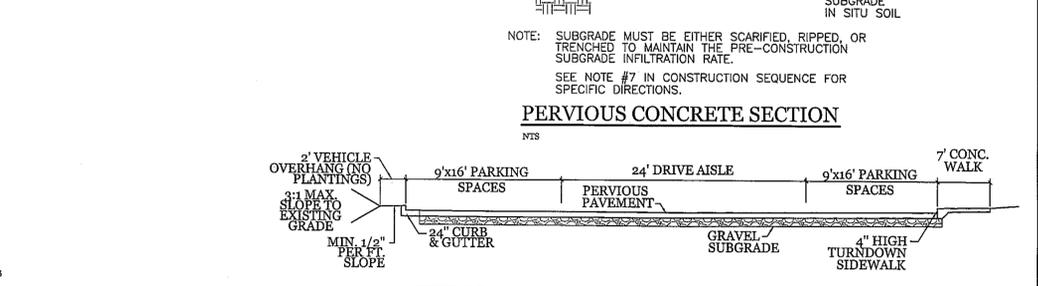
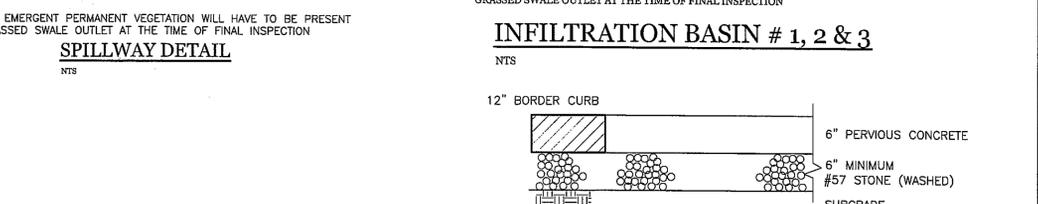
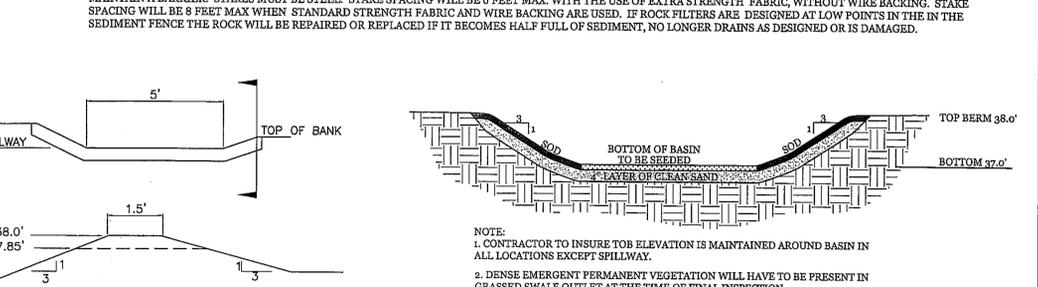
Note: Ground Stabilization chart may be required by NPDES permit.



- SITE WORK NOTES:**
- THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS BOTH ON AND ADJACENT TO THE SITE.
  - CLEARING: CONTRACTOR SHALL REMOVE ALL TREES AND VEGETATION WITHIN LIMITS OF CONSTRUCTION IF DESIGNATED TO BE REMOVED.
  - 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.
  - MUCKING: CONTRACTOR SHALL COORDINATE WITH OWNER AND THEIR GEOTECHNICAL REPRESENTATIVE TO COORDINATE REMOVAL OF ANY SOFT AREAS.
  - DISPOSAL: CLEARED, GRUBBED, STRIPPED OR OTHER WASTE MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A PROPERLY PERMITTED FACILITY.
  - FILL AND COMPACTION SHOULD COMPLY WITH GEOTECHNICAL RECOMMENDATIONS.
  - 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.
  - THE CONTRACTOR SHALL FURNISH SUITABLE BORROW MATERIAL FROM AN OFF-SITE PROPERLY PERMITTED FACILITY AS REQUIRED.
  - 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.
  - NO CONSTRUCTION IS TO BEGIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NO ONE-CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
  - THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. BEFORE COMMENCING ANY EXCAVATIONS IN OR ALONG ROADWAYS OR RIGHT-OF-WAYS, PUBLIC AREAS OR IN PRIVATE EASEMENTS, THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE PERSONNEL OF THEIR INTENT TO EXCAVATE, IN WRITING, NOT LESS THAN 10 DAYS PRIOR TO EXCAVATING.
  - THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE DISCONNECTION/ RECONNECTION AND/OR THE RELOCATION OF ALL EXISTING UTILITIES WITH APPROPRIATE PERSONNEL.
  - 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.
  - EXISTING SURVEYING PERFORMED BY ARNOLD W. CARSON, PLS FC. PHONE: 910-772-913.
  - 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.
  - THE CONTRACTOR SHALL PROVIDE ANY AND ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK UNLESS OTHERWISE DIRECTED BY WORKMANSHIP.
  - ALL SERVICE CONNECTIONS SHALL BE INSTALLED TO MEET ALL LOCAL, STATE, AND CPDIA CODES. METERS, TAPS, MATERIALS, WORKMANSHIP AND ALL FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL COMPLY WITH ALL REQUIREMENTS.
  - 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.
  - 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.
  - CONCRETE FOR WALKS, CURBS AND DRIVES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS - AIR ENTRAINED.
  - 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.
  - ALL SIDEWALKS SHALL BE FREE OF CRACKS, BREAKS, OR ANY OTHER DEFECT PRIOR TO RECEIVING A CERTIFICATE OF OCCUPANCY.

- CONSTRUCTION SEQUENCE:**
- CONSTRUCTION OF SITE TO START WITH INSTALLATION OF CONSTRUCTION ENTRANCE, SEDIMENT TRAP, TREE PROTECTION FENCE 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 SEEDING 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.
- GENERAL CLEARING AND GRADING OF THIS SITE WILL NOT BE DONE UNTIL THE TEMPORARY SILT FENCE, SEDIMENT TRAP, TREE PROTECTION FENCE, AND CONSTRUCTION ENTRANCE ARE INSTALLED.
  - 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).
  - NO SEDIMENT WILL BE ALLOWED TO EXIT THE SITE. ALL EROSION SHALL BE CONTROLLED INCLUDING SLOPE DURING AND AFTER CONSTRUCTION.
  - INSTALL PRIMARY EROSION CONTROL MEASURES BEFORE BEGINNING CONSTRUCTION INCLUDING BUT NOT LIMITED TO GRAVELED CONSTRUCTION ENTRANCE, SILT FENCE & CHECK DAMS. INSTALL ALL SECONDARY EROSION CONTROL MEASURES AS SOON AS POSSIBLE AFTER BEGINNING CONSTRUCTION.
  - UTILITY SERVICES, STORMWATER, & INFILTRATION BASINS TO BE INSTALLED AT THIS TIME. CONCRETE BUILDING FOUNDATIONS AND SIDEWALKS TO BE POURED.
  - CONTRACTOR TO COORDINATE CONSTRUCTION SEQUENCE WITH ENGINEER. CONTRACTOR TO FOLLOW
    - BUILDING PADS TO BE BROUGHT TO GRADE AND POURED.
    - PERVIOUS PAVEMENT SUBGRADE TO BE PREPARED AND PAVEMENT POURED.
    - BUILDINGS TO BE ERRECTED. CONTRACTOR TO PROTECT ALL PERVIOUS PAVEMENT FROM WOOD DEBRIS & SAWDUST.
  - CONTRACTOR TO FOLLOW CONSTRUCTION SPECIFICATIONS FOR POROUS CONCRETE PROVIDED BY THE ENGINEER & REQUIRED IN STORMWATER PERMIT. CONTRACTOR MUST CONTACT ENGINEER FOR SPECIFICATIONS PRIOR TO CONSTRUCTION TO PREVENT SUBGRADE COMPACTION AND CLOGGING OF THE PAVEMENT SURFACE AS WELL AS THE OTHER UNIQUE CONSTRUCTION CONSIDERATIONS FOR PERVIOUS CONCRETE.
  - ALL EROSION CONTROL MEASURES TO BE INSPECTED AFTER EACH RAIN. SILT FENCE TO BE CLEANED WHEN HALF FULL.
  - A 4" LAYER OF TOPSOIL SHALL BE APPLIED TO ALL NEW AREAS TO BE GRASSED.
  - ALL DISTURBED AREAS SHALL BE SEEDING IN ACCORDANCE WITH SEEDING SCHEDULE.
  - MAINTAIN ALL EROSION CONTROL MEASURES UNTIL PROJECT IS COMPLETE.
  - MORE STRINGENT MEASURES MAY BE REQUIRED TO HALT EROSION IF THOSE ON THIS PLAN PROVE TO BE LESS EFFECTIVE.
  - REMOVE ALL TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF CONSTRUCTION. ALL PERMANENT MEASURES SHALL BE WELL ESTABLISHED PRIOR TO PROJECT COMPLETION.

- MAINTENANCE PLAN**
- 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.
  - 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 OBJECTIONABLE MATERIAL SPILLED, WASHED OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.
  - SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTION, ROCK DOUGHNUT INLET PROTECTION, SEDIMENT TRAP BAFFLES, AND ROCK PIPE INLET PROTECTION WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER 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.
  - CHECK SEDIMENT BASIN AND BAFFLES WEEKLY & AFTER EACH RAINFALL EVENT. REMOVE SEDIMENT FROM TRAP & BAFFLES AND RESTORE TO ORIGINAL VOLUME WHEN SEDIMENT ACCUMULATES TO ABOUT 1/2 THE DESIGN VOLUME. REPAIR / REPLACE BAFFLES IF TORN, COLLAPSED, OR INEFFECTIVE.
  - 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.
  - 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 BARRIER. STAKES MUST BE STEEL. STAKE SPACING WILL BE 6 FEET MAX. WITH THE USE OF EXTRA STRENGTH FABRIC, WITHOUT WIRE BACKING. STAKE SPACING WILL BE 8 FEET 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.



**REVISIONS**

NO.	DATE	REVISIONS PER DOT AND NHC EC COMMENTS
10-21-13		

**INTRACOASTAL ENGINEERING, PLLC**

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Phone: 910.409.3567  
Email: Charlie@intracoastalengineering.com  
License Number: P-0662

**DETAIL SHEET**

FOR

**OAK COURT MIXED USE**

245 S. Kerr Ave. WILMINGTON, NC

**PROFESSIONAL SEAL**

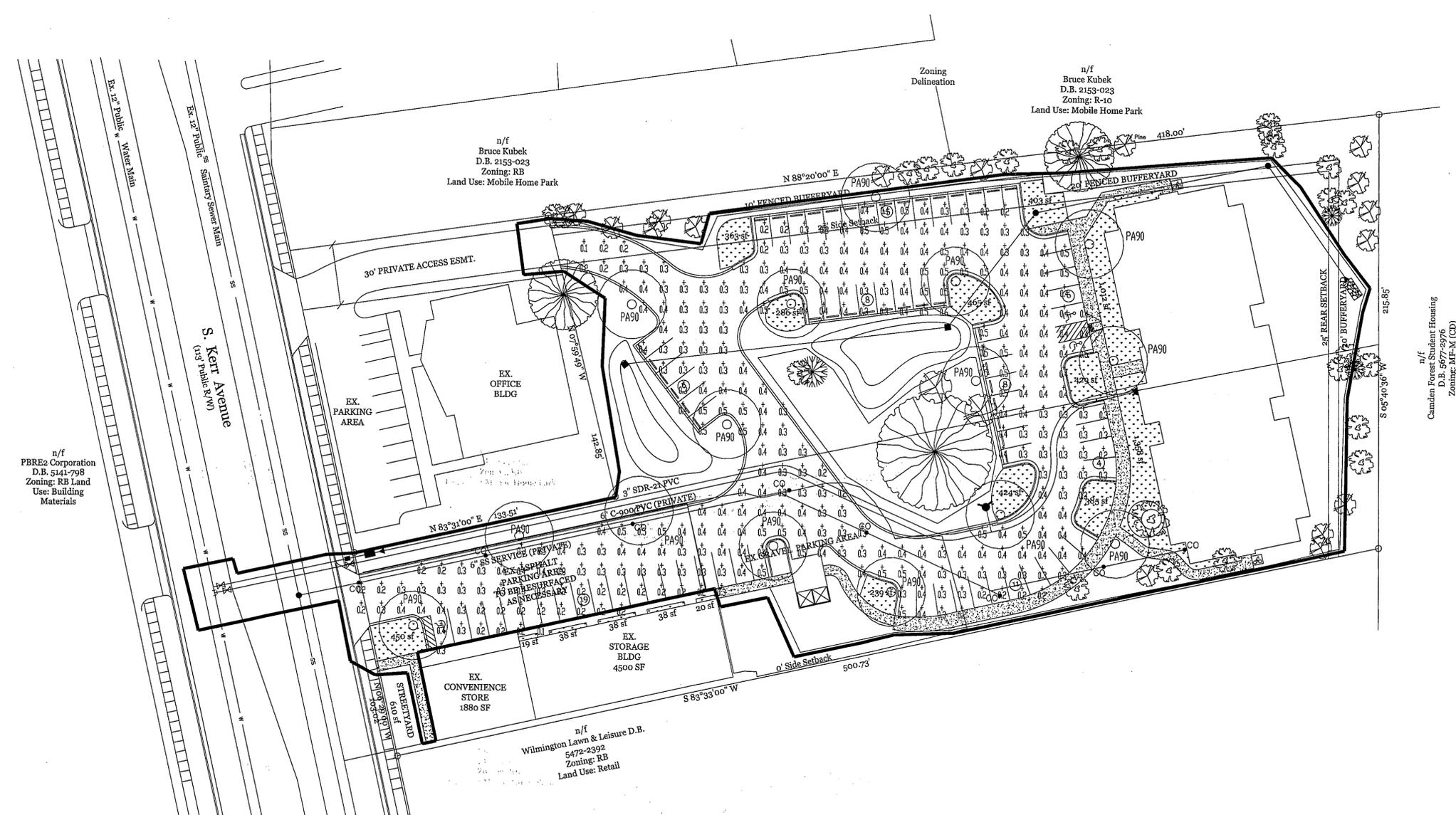
NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
CHARLES D. KETTER  
032555  
10.7.13

**CLIENT INFORMATION:**

REAL PROPERTIES, LLC.  
MATHEW SCHARF  
1319 MILITARY CUTOFF RD. ST 172  
WILMINGTON, NC 28405  
(910) 538-9901

DRAWN: NME SHEET SIZE: 24X36  
CHECKED: CDC DATE: 10-07-13  
APPROVED: CDC SCALE: NTS  
PROJECT NUMBER: 2013-021

DRAWING NUMBER: **C-5**

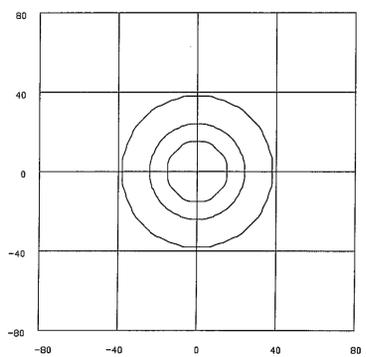


ISOFOTOCANDLE CURVES

FIXTURE: POST STYLE 'A'  
 MOUNTING HEIGHT: 16 FT  
 LAMP: 100W, 9000 LUMENS, METAL HALIDE  
 PATTERN: TYPE V, NON-CUTOFF

POLE ASSY # PLFG16BLC  
 ASSY # L9KMHMPABLC

NOTE: THE FOOTCANDLE READINGS BELOW ARE MAINTAINED AND HAVE BEEN DEPRECIATED FOR LAMP LUMEN DEPRECIATION AND LUMINAIRE DIRT DEPRECIATION. FOR INITIAL FOOTCANDLES, DIVIDE THE READINGS BELOW BY .64.



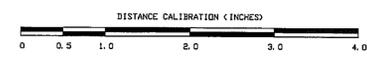
LEGEND (OUTER to INNER): 0.100, 0.200, 0.300



AREA NAME	DIMENSIONS	GRID / TYPE	# PTS	SPAC	GROUP	AVE	MAX	MIN	MAX/MIN	AVE/MIN
parking	645.50x390.10ft	parking / H-H	330	10.00	(+)	0.35	0.56	0.13	4.16	2.59

TYP	SYMBOL	DESCRIPTION	LAMP	LUMENS	MOUNTING/BALLAST	LLF	QTY
PA90	o	GE Lighting Sys POSTA90R 1/POST (1) 'A90R' POSTA90R 1/POST	(1) MHC100/C/U/M/4K	8400	16' MT HT METAL HALIDE	0.64	15

Customer approval \_\_\_\_\_ Date \_\_\_\_\_



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KERR AVENUE MIXED USE	
WILMINGTON NC	
SITE LIGHTING PLAN	
Designed by DEP LIGHTING SOLUTIONS	
Reviewed by R. Simpkins	Scale 1" = 30'
Date 10/22/2013	Size 'Arch D'
Description Metal Halide Post 'A' Fixtures	
Drawing No. 13-0126B	Sht. 1 OF 1

RECEIVED  
 OCT 23 2013  
 PLANNING DIVISION