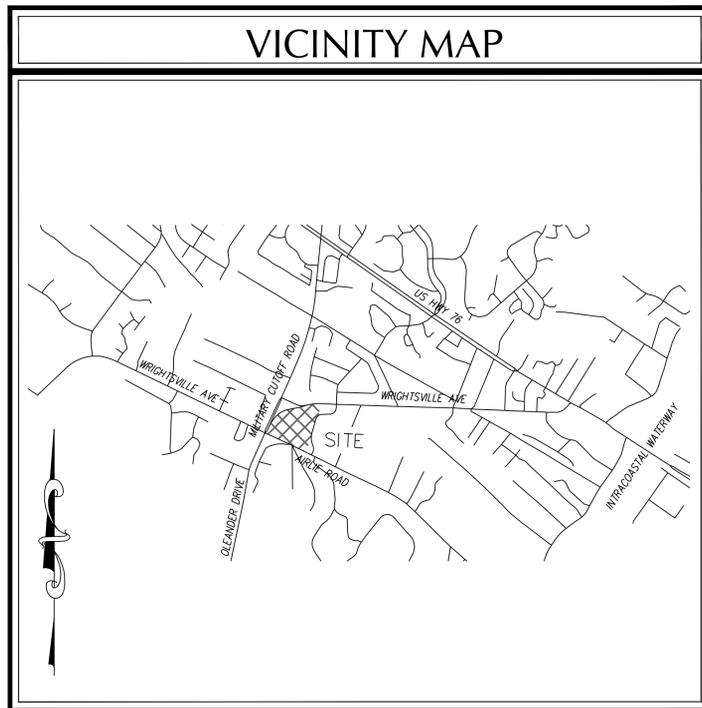
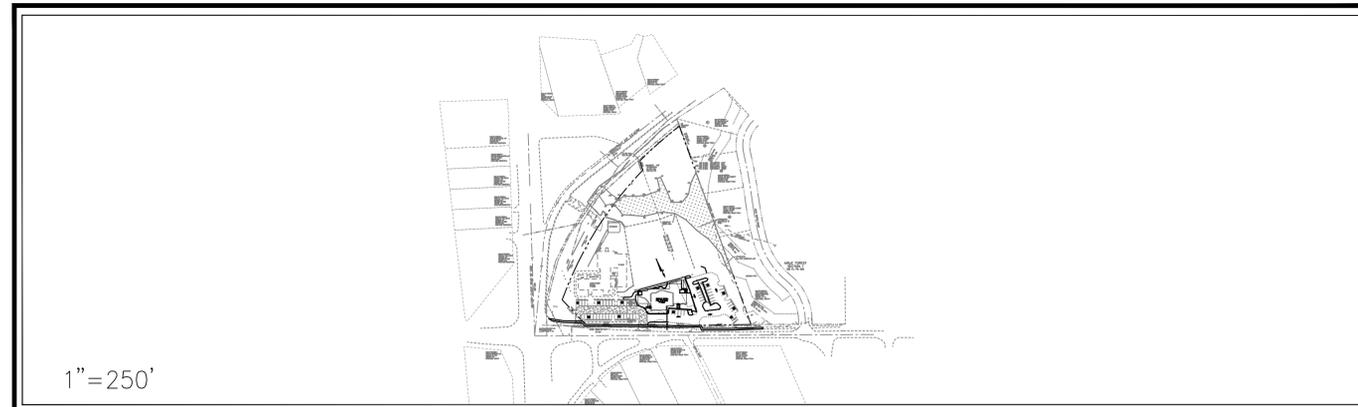


# SITE DEVELOPMENT PLAN FOR ST. ANDREWS ON-THE-SOUND EXPANSION WILMINGTON, NORTH CAROLINA MARCH 2013



VICINITY MAP  
(NTS)



DESCRIPTION	EXISTING	PROPOSED
1' CONTOUR INTERVAL	—	—
5' CONTOUR INTERVAL	- - - - -	- - - - -
PROPERTY LINE	- - - - -	- - - - -
ROADWAY CENTERLINE	- - - - -	- - - - -
RIGHT OF WAY LIMITS	- - - - -	- - - - -
EASEMENT LINE	- - - - -	- - - - -
CURB & GUTTER	- - - - -	- - - - -
SANITARY SEWER FACILITIES	- - - - -	- - - - -
STORM SEWER FACILITIES	- - - - -	- - - - -
WATERLINE	- - - - -	- - - - -
FIRE HYDRANT ASSEMBLY		
WATERWAYS	- - - - -	N/A
PROPOSED LOT AND S.F.	X	5,000 s.f.
OPEN SPACE LABEL	(A)	
OPEN SPACE		STREET SIGN
BUILDING SET BACKS	- - - - -	404 WETLANDS
PRIVATE SANITARY SET BACKS	- - - - -	FLOW DIRECTION

**DEVELOPER/OWNER**

**ST. ANDREWS ON-THE-SOUND  
EPISCOPAL CHURCH**  
101 AIRLIE ROAD  
WILMINGTON, NC 28403

**PREPARED BY:**

**GSP CONSULTING, PLLC**  
**ENGINEERING**  
6626 Gordon Road, Unit C, Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659 License # P-0718

INDEX OF SHEETS	
SHT C-0	COVER SHEET
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SHT C-4	GRADING, DRAINAGE, UTILITY & EROSION & SEDIMENT CONTROL PLAN
SHT C-5	STANDARD DETAILS
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For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan	
Name	Date
Planning _____	_____
Traffic _____	_____
Fire _____	_____

SITE DATA TABLE	
<b>GENERAL NOTES:</b>	
1. NEW HANOVER COUNTY PARCEL NOS.:	PIN 315714.32.2938 / PID 5600-003-001-000 PIN 315714.32.4957 / PID 5600-003-008-001
2. TOTAL TRACT AREA:	187,173 SF (4.30 AC±) EXISTING + 43,356 SF OF ADDITIONAL ROW ACQUISITION = 230,529 SF (5.29 AC±) TOTAL
3. ZONING DISTRICT:	O&I REQ'D. SETBACKS - 20' FRONT, 20' CORNER, 20' REAR (25' TO RESIDENTIAL), 10' SIDE (20' TO RESIDENTIAL)
	PROV'D SETBACKS - 38' FRONT, (N/A) CORNER, 438' REAR, 143' SIDE
4. CAMA LAND CLASSIFICATION:	CONSERVATION
5. WETLANDS HAVE BEEN LOCATED ON THIS PROPERTY AND VERIFIED BY USACOE.	
6. A PORTION OF THIS PROPERTY LIES WITHIN A FEMA DESIGNATED 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP #3720315700J, EFFECTIVE DATE APRIL 3, 2006	
<b>DEVELOPMENT DATA:</b>	
TOTAL TRACT AREA =	187,173 SF = 4.30 AC. (EXISTING) + 43,356 SF FUTURE ROW ACQUISITION = 230,529 SF (5.29 A.C.)
DEVELOPMENT AREA =	5.29 A.C.
BUILDING COVERAGE =	9,849 S.F. (EXISTING) 7,228 S.F. (PROPOSED) 17,077 S.F. (7.4% TOTAL)
MAX. BLDG. HGT. =	45' (PROPOSED 32') (EXISTING 28')
PARKING =	242 SEATS X 4 MIN. SP./SEAT = 61 MINIMUM TOTAL SPACES REQUIRED = 61 242 SEATS X 3 MAX. SP./SEAT = 81 MAXIMUM TOTAL SPACES PERMITTED = 81 ** 65 EXISTING SPACES PROVIDED (2 H/C) **
IMPERVIOUS SURFACES =	
EXISTING TO REMAIN	9,849 S.F.
BUILDING =	28,275 S.F.
PARKING AREA =	3,853 S.F.
CONC. WALKS =	41,977 S.F.
TOTAL =	41,977 S.F.
PROPOSED	
BUILDING =	7,228 S.F.
PARKING =	202 S.F.
CONC. WALKS =	2,276 S.F.
TOTAL =	9,706 S.F. (23.1% OF EXISTING)
<b>UTILITY CAPACITY REQUESTS:</b>	
EXISTING WATER/SEWER - 1,452 GPD BASED ON 6 GAL/SEAT/DAY. 242 SEATS NOT ADDING ADDITIONAL FLOW WITH THIS PROPOSED EXPANSION.	
<b>DEVELOPMENT NOTES:</b>	
1. ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE & TECHNICAL STANDARDS MANUAL.	
2. PROJECT SHALL COMPLY WITH ALL CITY, STATE & FEDERAL REGULATIONS.	
Date: _____ Permit # _____ Signed: _____	
<b>NOTE:</b> ALL DESIGN AND CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE & THE STATE OF NORTH CAROLINA	

**COORDINATION NOTES**

1. THE CONTRACTOR IS REQUIRED TO OBTAIN ANY/ALL PERMITS REQUIRED FOR CONSTRUCTION OF THESE PLANS.
2. ALL WORK IS TO BE IN ACCORDANCE WITH CITY OF WILMINGTON, NEW HANOVER COUNTY, THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) AND THE STATE OF NORTH CAROLINA.
3. THE CONTRACTOR IS TO ESTABLISH AND CHECK ALL HORIZONTAL AND VERTICAL CONTROLS TO BE USED WITH THE PROJECT. IN ADDITION, THE CONTRACTOR IS TO COMPUTE THE LAYOUT OF THE ENTIRE SITE PLAN IN ADVANCE OF BEING ANY WORK ASSOCIATED WITH THE SUBJECT PLANS. CONTRACTOR SHALL EMPLOY A PROFESSIONAL SURVEYOR TO PERFORM SITE IMPROVEMENT STAKEOUT(S).
4. ANYTIME WORK IS PERFORMED OFF-SITE OR WITHIN AN EXISTING EASEMENT, THE CONTRACTOR IS TO NOTIFY THE HOLDER OF SAID EASEMENT AS TO THE NATURE OF PROPOSED WORK, AND TO FOLLOW ANY GUIDELINES OR STANDARDS WHICH ARE ASSOCIATED WITH OR REFERENCED IN THE RECORDED EASEMENT.

**GENERAL NOTES:**

1. EXISTING TOPOGRAPHY, BOUNDARY AND UTILITIES, HAVE BEEN PREPARED BY A FIELD SURVEY BY WK DICKSON, INC.
2. REASONABLE CARE HAS BEEN EXERCISED IN SHOWING THE LOCATION OF EXISTING UTILITIES ON THE PLANS. THE EXACT LOCATION OF ALL EXISTING UTILITIES IS NOT KNOWN IN ALL CASES. THE CONTRACTOR SHALL EXPLORE THE AREA AHEAD OF DITCHING OPERATIONS BY OBSERVATIONS, ELECTRONIC DEVICES, HAND DIGGING AND BY PERSONAL CONTACT WITH THE UTILITY COMPANIES. IN ORDER TO LOCATE EXISTING UTILITIES IN ADVANCE OF TRENCHING OPERATIONS SO AS TO ELIMINATE OR MINIMIZE DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS RESULTING FROM ANY DAMAGE TO THE EXISTING UTILITY LINES INCLUDING LOSS OF UTILITY REVENUES. CONTRACTOR SHALL ARRANGE FOR TEMPORARY SUPPORT OF EXISTING UTILITIES, SUCH AS POLES, CONDUITS, FIBER OPTIC CABLES, TELEPHONE CABLES, WATER LINES, ETC...
3. CONTRACTOR SHALL COMPLY WITH THE LATEST REVISIONS AND INTERPRETATIONS OF THE DEPARTMENT OF LABOR SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION PROMULGATED UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT.
4. CONTRACTOR SHALL PLAN AND CONSTRUCT WORK SO AS TO CAUSE MINIMUM INCONVENIENCE TO THE OWNER AND THE PUBLIC. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN AT ALL TIMES DURING THE PROGRESS OR TEMPORARY SUSPENSION OF WORK, SUITABLE BARRIERS, FENCES, SIGNS OR OTHER ADEQUATE PROTECTION, INCLUDING FLAGMEN AND WATCHMEN AS NECESSARY TO INSURE THE SAFETY OF THE PUBLIC AS WELL AS THOSE ENGAGED IN THE CONSTRUCTION WORK. CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "CONSTRUCTION AND MAINTENANCE OPERATIONS SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE DOT.
5. ALL MATERIAL CLEARED OR DEMOLISHED BY THE CONTRACTOR IN ORDER TO CONSTRUCT THE WORK SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE.
6. ALL WORK BY THE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR UNTIL THE CERTIFICATE OF OCCUPANCY IS ISSUED.
7. CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL CENTER AT 1 (800) 632-4949 AND ALLOW THE CENTER TO LOCATE EXISTING UTILITIES BEFORE DIGGING.
8. CONTRACTOR SHALL REMOVE ASPHALT, AGGREGATE BASE COURSE, AND CONCRETE CURB & GUTTER WITHIN LIMITS OF DEMOLITION AS SHOWN ON PLAN.

**DEMOLITION NOTES**

1. CONTRACTOR TO COORDINATE WITH THE OWNER TO PROPERLY MAINTAIN OR RELOCATE EXISTING SERVICE CONNECTIONS WHEN NECESSARY.
2. CONTRACTOR IS TO WALK THE SITE AND BECOME FAMILIAR WITH THE SCOPE OF DEMOLITION REQUIRED. ALL DEMOLITION WORK REQUIRED TO CONSTRUCT NEW SITE IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND WILL BE UNCLASSIFIED EXCAVATION.
3. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE PADS, CONCRETE PILES, FOUNDATIONS, SLABS, STEPS, AND STRUCTURES; ABANDONED UTILITIES, BUILDINGS, PAVEMENTS AND ALL MATERIALS CLEARED AND STRIPPED TO THE EXTENT NECESSARY AS DIRECTED BY THE SOILS ENGINEER FOR THE INSTALLATION OF THE NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING AND AS SHOWN ON THESE PLANS.
4. THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY, STRUCTURES AND UTILITIES ON THE PROPERTY NOT TO BE DEMOLISHED. DAMAGE TO PROPERTIES OF OTHERS DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO OWNER.
5. ELECTRIC, TELEPHONE, SANITARY SEWER, WATER AND STORM SEWER UTILITIES THAT SERVICE OFF-SITE PROPERTIES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS BY THE CONTRACTOR.
6. EXISTING UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED AND UNDISTURBED DURING DEMOLITION.
7. ALL EXISTING IMPROVEMENTS INDICATED OR REQUIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM THE PROPERTY AND PROPER DISPOSAL.
8. CONTRACTOR SHALL COORDINATE RELOCATION OF ALL EXISTING OVER HEAD AND UNDERGROUND UTILITIES INCLUDING CABLE, GAS, TELEPHONE AND ELECTRIC AND ANY OTHER UTILITIES THROUGH THE SITE WITH THE RESPECTIVE COMPANIES.
9. PROVIDE SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND GUTTERS AND SIDEWALKS TO BE DEMOLISHED.
10. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS OSHA REGULATIONS.
11. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS OF THE MAINS BY DIGGING TEST PITS BY HAND.

**EROSION AND SEDIMENT CONTROL NOTES**

**GENERAL NOTES:**

1. CLEAR AND REMOVE FROM SITE ALL TREES, ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN DESIGNATED CLEARING LIMITS.
2. PLANT GRASS OVER ALL GRADED AREAS AS SHOWN IN THE TABLE ON THIS SHEET OF CEASE OF ANY GRADING ACTIVITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND RESTORING TO PRE-CONSTRUCTION CONDITIONS ANY AREAS OUTSIDE THE PROJECT LIMITS THAT MAY INADVERTENTLY BE DAMAGED DUE TO THE FAILURE OF THE EROSION MEASURES.
4. DURING GRADING AND AFTER GRADING HAS BEEN COMPLETED, CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL INSPECTION AND APPROVAL BY THE NCDENR DIVISION OF LAND QUALITY.
5. WATER, FERTILIZE, MOW AND MAINTAIN SPRIGGED, SODDED AND PLANTED AREAS UNTIL FINAL APPROVAL BY THE NCDENR DIVISION OF LAND QUALITY.
6. ANY BORROW MATERIAL BROUGHT ONTO SITE MUST BE FROM A LEGALLY OPERATED MINE OR OTHER APPROVED SOURCE.
7. ANY EXCESS MATERIAL REMOVED FROM SITE MUST BE HAULED TO A LEGALLY OPERATED MINE OR OTHER APPROVED SOURCE.

**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. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. ALL CONSTRUCTION ENTRANCES WILL BE PERIODICALLY TOP DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. ANY SEDIMENT THAT IS TRACKED INTO THE STREET WILL BE IMMEDIATELY REMOVED.
3. SEDIMENT WILL BE REMOVED BEHIND THE SEDIMENT FENCE WHEN IT BECOMES 0.5 FEET DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. SILT FENCE STAKES WILL BE SPACED 6 FEET APART UNLESS A WIRE BACKING IS USED WITH 8 FOOT STAKE SPACING.
4. INSPECT INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.
5. ALL SEEDED AREAS WILL BE FERTILIZED, RESEED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

**STABILIZATION NOTES**

1. ALL DISTURBED AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS OF CEASE OF ANY PHASE OF ACTIVITY AND SLOPES WITHIN 21 CALENDAR DAYS.

**PERMANENT SEEDING SCHEDULE – MIXTURE 5CP**

SPECIES	RATE (LB./ACRE)
CENTPEDE GRASS	10-20

Seeding Dates  
MARCH – JUNE

Soil Amendments  
APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 300 LB/ACRE 10-10-10 FERTILIZER.

Mulch  
DO NOT MULCH.

Maintenance  
FERTILIZE VERY SPARINGLY LB/ACRE NITROGEN IN SPRING WITH NO PHOSPHORUS. CENTPEDE GRASS CANNOT TOLERATE HIGH PH OR EXCESS FERTILIZER.

**TEMPORARY SEEDING—LATE WINTER/EARLY SPRING**

**WINTER AND EARLY SPRING**

SPECIES	RATE (LB./ACRE)
Rye (GRAIN)	120
*ANNUAL LESPEDEZA (KOBÉ IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)	50

\*OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

**SUMMER**

SPECIES	RATE (LB./ACRE)
GERMAN MILLET	40

**FALL**

SPECIES	RATE (LB./ACRE)
RYE (GRAIN)	120

**Seeding dates**

COASTAL PLAIN – DEC.1-APR. 15 – LATE WINTER AND EARLY SPRING  
APRIL 15 – AUG. 15 – SUMMER  
AUG. 15 – DEC. 30 – FALL

**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**

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

**GENERAL GRADING NOTES**

1. REASONABLE CARE HAS BEEN EXERCISED IN SHOWING THE LOCATION OF EXISTING UTILITIES ON THE PLANS. THE EXACT LOCATION OF SUCH UTILITIES IS NOT KNOWN IN ALL CASES. THE CONTRACTOR SHALL EXPLORE THE AREA AHEAD OF THE DITCHING OPERATION BY OBSERVATIONS, ELECTRONIC DEVICES, HAND DIGGING AND BY PERSONAL CONTACT WITH THE UTILITY COMPANIES IN ORDER TO LOCATE EXISTING UTILITIES IN ADVANCE OF THE TRENCHING OPERATIONS SO AS TO AVOID AND PREVENT DAMAGE TO THE EXISTING UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST RESULTING FROM ANY DAMAGE TO THE EXISTING UTILITY LINES INCLUDING BUT NOT LIMITED TO REPAIRS AND LOSS SERVICE REVENUE. CONTRACTOR SHALL ARRANGE FOR TEMPORARY SUPPORT OF EXISTING UTILITIES, SUCH AS POLES, CONDUITS, FIBER OPTIC CABLES, TELEPHONE CABLES, WATER LINES, ETC...
2. CONTRACTOR SHALL COMPLY WITH THE LATEST REVISIONS AND INTERPRETATIONS OF THE DEPARTMENT OF LABOR SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION PROMULGATED UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT.
3. CONTRACTOR SHALL PLAN AND CONSTRUCT WORK SO AS TO CAUSE MINIMUM INCONVENIENCE TO THE OWNER AND THE PUBLIC. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN AT ALL TIMES DURING THE PROGRESS OR TEMPORARY SUSPENSION OF WORK, SUITABLE BARRIERS, FENCES, SIGNS OR OTHER ADEQUATE PROTECTION, INCLUDING FLAG MEN AND WATCHMEN AS NECESSARY TO INSURE THE SAFETY OF THE PUBLIC AS WELL AS THOSE ENGAGED IN THE CONSTRUCTION WORK. CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "CONSTRUCTION AND MAINTENANCE OPERATIONS SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE NCDOT.
4. ALL MATERIAL CLEARED AND GRUBBED BY THE CONTRACTOR IN ORDER TO CONSTRUCT THE WORK, SUCH AS TREES, VEGETATION, FENCING, ETC... SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE OR BURNED IF PROPER PERMITS ARE RECEIVED.

**SITE NOTES**

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

**GENERAL STORM SEWER NOTES**

1. ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF WILMINGTON AND THE STATE OF NORTH CAROLINA REQUIREMENTS AS SPECIFIED ON THE DRAWINGS AND IN THE PROJECT SPECIFICATIONS.
2. BEDDING FOR ALL STORM SEWER PIPE SHALL BE AS SPECIFIED ON THE DRAWINGS, PROJECT SPECIFICATIONS, AND MANUFACTURER SPECIFICATIONS.
3. ALL STORM SEWER PIPES TO BE HDPE ADS N-12 OR EQUIVALENT, UNLESS OTHERWISE SPECIFIED.
4. ALL STORM SEWER PIPES SHOWN AS RCP ON THE PLANS SHALL BE REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76, UNLESS INDICATED OTHERWISE ON PLANS.

GROUND STABILIZATION		
SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) 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 FEET IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HOW ZONES)

**EXISTING UTILITY NOTES**

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

**UTILITY CONTACTS:**

1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING AND DIGGING. 1-800-632-4949

**NOTICE REQUIRED**

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED BY CONTRACTOR PRIOR TO THE BEGINNING OF ANY CONSTRUCTION IN THE VICINITY OF SAID UTILITIES.

CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO ANY EXCAVATION OR DEMOLITION.

CONTACT "CAROLINA ONE CALL" AT 1-800-632-4949

EMERGENCY DIAL 911 POLICE - FIRE - RESCUE

No.	Revision	Date	By

Designer	GSP	Scale	
Drawn By	GSP	Date	JANUARY 2013
License #	P-0718	Job No.	2013-0002

**ST. ANDREWS ON-THE-SOUND EXPANSION**  
Wilmington New Hanover County North Carolina

**GENERAL NOTES**

PREPARED FOR:  
ST. ANDREWS ON-THE-SOUND EPISCOPAL CHURCH  
101 AIRLIE ROAD  
WILMINGTON, NC 28403

**GSP CONSULTING, PLLC ENGINEERING**  
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.  
**C-1**

**Approved Construction Plan**  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

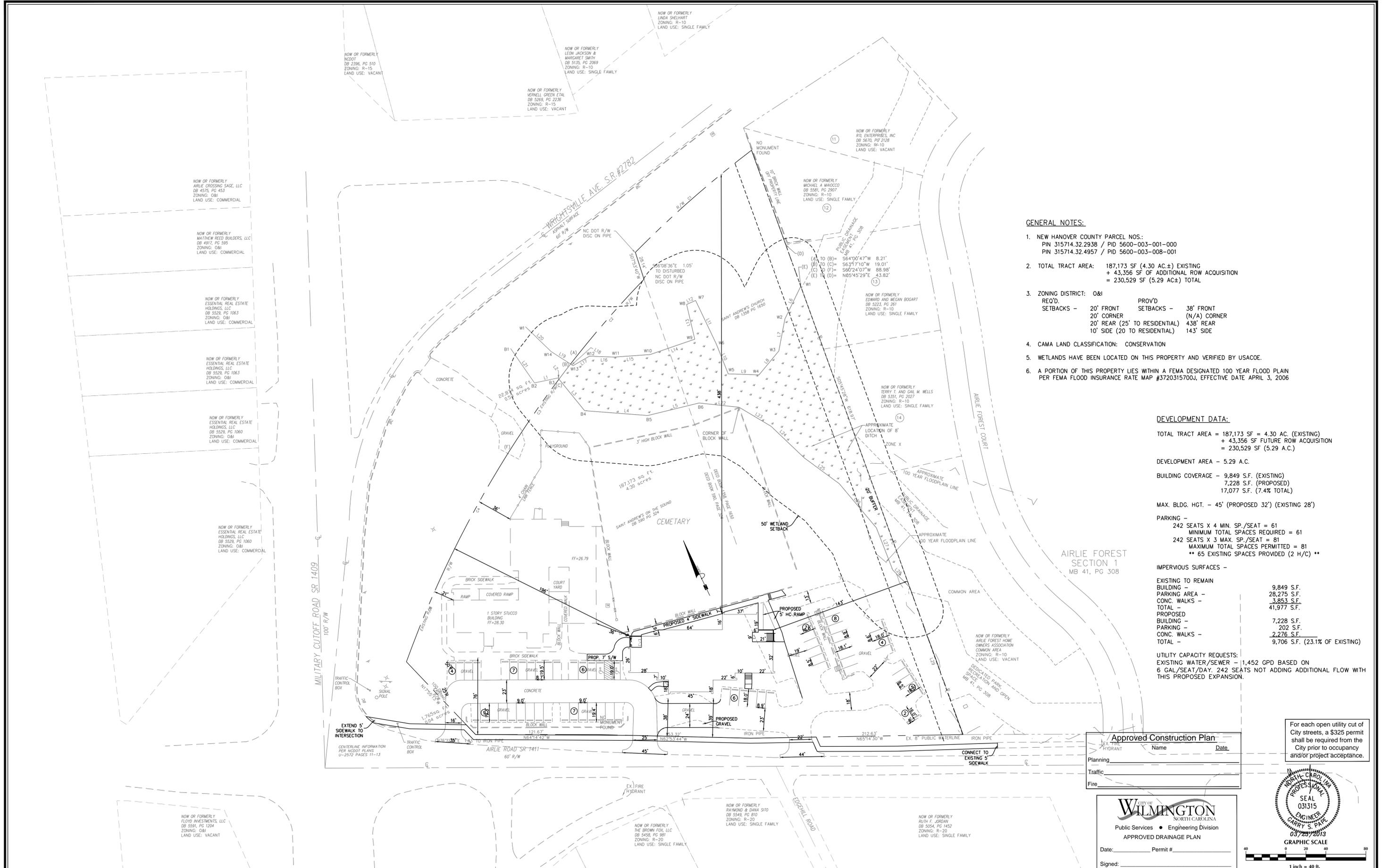
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

WILMINGTON NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED DRAINAGE PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_









**GENERAL NOTES:**

- NEW HANOVER COUNTY PARCEL NOS.:  
PIN 315714.32.2938 / PID 5600-003-001-000  
PIN 315714.32.4957 / PID 5600-003-008-001
- TOTAL TRACT AREA: 187,173 SF (4.30 AC.±) EXISTING  
+ 43,356 SF OF ADDITIONAL ROW ACQUISITION  
= 230,529 SF (5.29 AC.±) TOTAL
- ZONING DISTRICT: O&I  
REQ'D. SETBACKS - 20' FRONT, 20' CORNER, 20' REAR (25' TO RESIDENTIAL), 10' SIDE  
PROV'D SETBACKS - 38' FRONT, (N/A) CORNER, 438' REAR, 143' SIDE
- CAMA LAND CLASSIFICATION: CONSERVATION
- WETLANDS HAVE BEEN LOCATED ON THIS PROPERTY AND VERIFIED BY USACOE.
- A PORTION OF THIS PROPERTY LIES WITHIN A FEMA DESIGNATED 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP #3720315700J, EFFECTIVE DATE APRIL 3, 2006

**DEVELOPMENT DATA:**

TOTAL TRACT AREA = 187,173 SF = 4.30 AC. (EXISTING)  
+ 43,356 SF FUTURE ROW ACQUISITION  
= 230,529 SF (5.29 A.C.)

DEVELOPMENT AREA = 5.29 A.C.

BUILDING COVERAGE = 9,849 S.F. (EXISTING)  
7,228 S.F. (PROPOSED)  
17,077 S.F. (7.4% TOTAL)

MAX. BLDG. HGT. = 45' (PROPOSED 32') (EXISTING 28')

PARKING -  
242 SEATS X 4 MIN. SP./SEAT = 61  
MINIMUM TOTAL SPACES REQUIRED = 61  
242 SEATS X 3 MAX. SP./SEAT = 81  
MAXIMUM TOTAL SPACES PERMITTED = 81  
\*\* 65 EXISTING SPACES PROVIDED (2 H/C) \*\*

IMPERVIOUS SURFACES -

EXISTING TO REMAIN	
BUILDING -	9,849 S.F.
PARKING AREA -	28,275 S.F.
CONC. WALKS -	3,853 S.F.
TOTAL	41,977 S.F.
PROPOSED	
BUILDING -	7,228 S.F.
PARKING -	202 S.F.
CONC. WALKS -	2,276 S.F.
TOTAL	9,706 S.F. (23.1% OF EXISTING)

UTILITY CAPACITY REQUESTS:  
EXISTING WATER/SEWER = 1,452 GPD BASED ON  
6 GAL/SEAT/DAY. 242 SEATS NOT ADDING ADDITIONAL FLOW WITH  
THIS PROPOSED EXPANSION.

**Approved Construction Plan**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Planning: \_\_\_\_\_

Traffic: \_\_\_\_\_

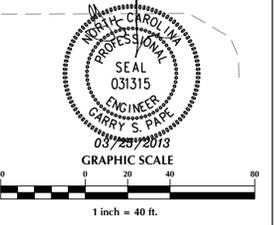
Fire: \_\_\_\_\_

City of Wilmington  
Public Services • Engineering Division  
APPROVED DRAINAGE PLAN

Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_

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



No.	Revision	Date	By

Designer: GSP  
Scale: 1" = 40'  
Date: JANUARY 2013  
Drawn By: GSP  
Job No.: P-0718  
License #: 2013-0002

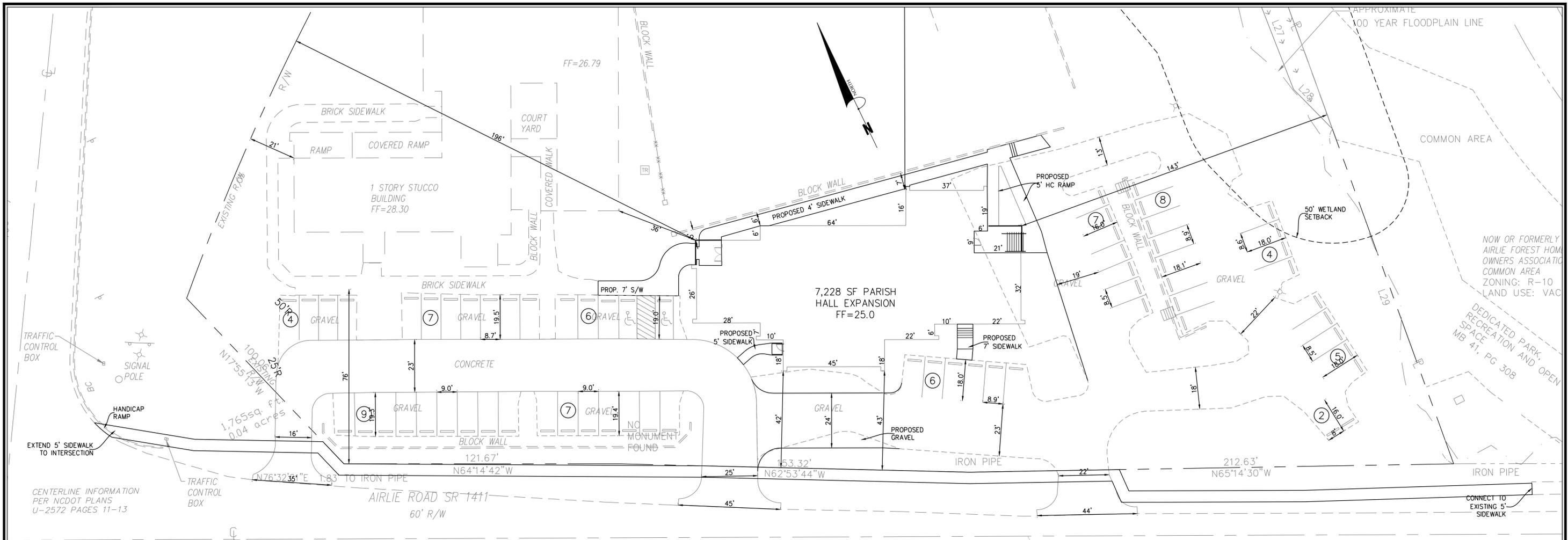
**ST. ANDREWS ON-THE-SOUND EXPANSION**  
Wilmington, North Carolina

**OVERALL SITE PLAN**

PREPARED FOR:  
ST. ANDREWS ON-THE-SOUND EPISCOPAL CHURCH  
101 AIRLIE ROAD  
WILMINGTON, NC 28403

**GSP CONSULTING, PLLC ENGINEERING**  
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No. **C-3.1**



**GENERAL NOTES:**

- NEW HANOVER COUNTY PARCEL NOS.:  
PIN 315714.32.2938 / PID 5600-003-001-000  
PIN 315714.32.4957 / PID 5600-003-008-001
- TOTAL TRACT AREA: 187,173 SF (4.30 AC.±) EXISTING  
+ 43,356 SF OF ADDITIONAL ROW ACQUISITION  
= 230,529 SF (5.29 AC.±) TOTAL
- ZONING DISTRICT: O&I  
REQ'D. SETBACKS - 20' FRONT, 20' CORNER, 20' REAR (25' TO RESIDENTIAL), 10' SIDE (20 TO RESIDENTIAL)  
PROV'D SETBACKS - 38' FRONT, (N/A) CORNER, 438' REAR, 143' SIDE
- CAMA LAND CLASSIFICATION: CONSERVATION
- WETLANDS HAVE BEEN LOCATED ON THIS PROPERTY AND VERIFIED BY USACOE.
- A PORTION OF THIS PROPERTY LIES WITHIN A FEMA DESIGNATED 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP #3720315700J, EFFECTIVE DATE APRIL 3, 2006.
- SOLID WASTE DISPOSAL THROUGH CURB SIDE PICKUP.

**DEVELOPMENT DATA:**

TOTAL TRACT AREA = 187,173 SF = 4.30 AC. (EXISTING)  
+ 43,356 SF FUTURE ROW ACQUISITION  
= 230,529 SF (5.29 A.C.)

DEVELOPMENT AREA - 5.29 A.C.

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**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

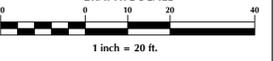
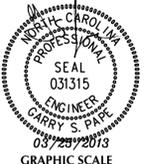
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**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED DRAINAGE PLAN

Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_

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



No.	Revision	Date	By

Designer	GSP	Scale	1" = 20'
Drawn By	GSP	Date	JANUARY 2013
License #	P-0718	Job No.	2013-0002

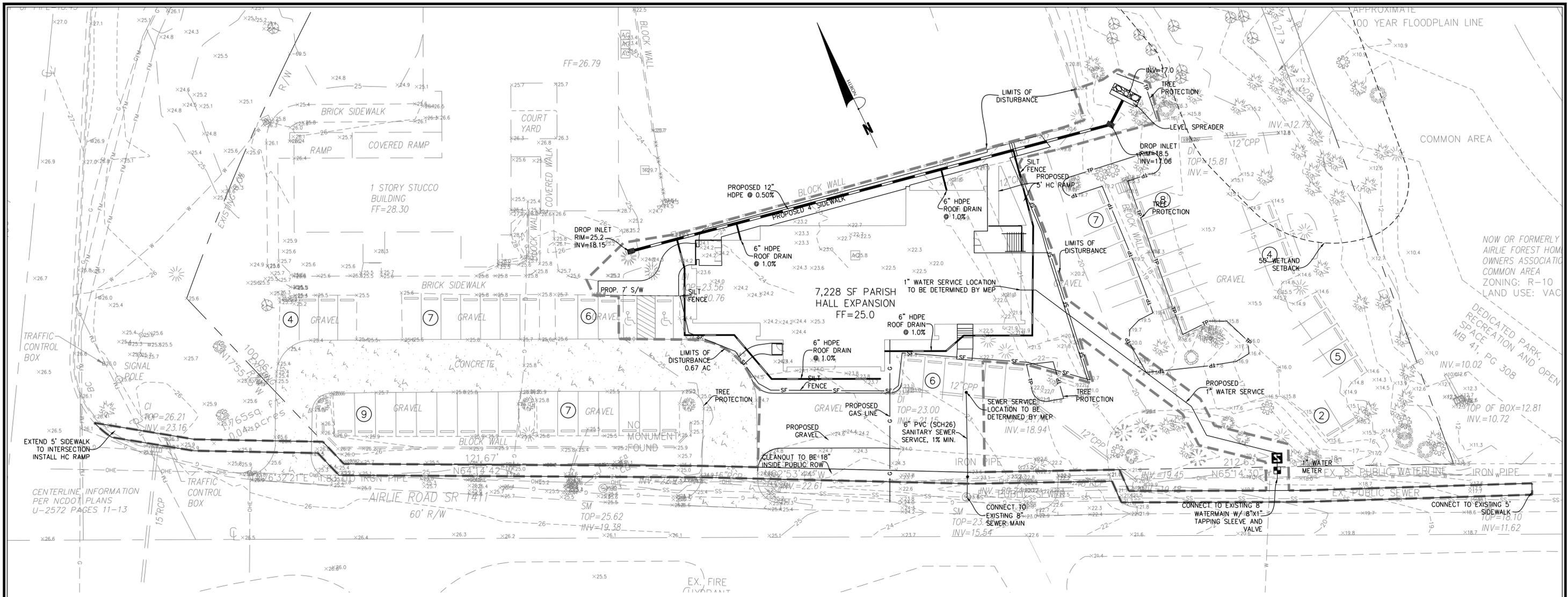
**ST. ANDREWS ON-THE-SOUND EXPANSION**  
Wilmington North Carolina

**SITE PLAN**

PREPARED FOR:  
ST. ANDREWS ON-THE-SOUND EPISCOPAL CHURCH  
101 AIRLIE ROAD  
WILMINGTON, NC 28403

**GSP CONSULTING, PLLC ENGINEERING**  
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.  
**C-3.2**



**CFPUA STANDARD SEWER NOTES**

- 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 R/W 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, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
- 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL CLEANOUTS TO BE LOCATED IN THE CENTER OF THE LOT.

**GENERAL UTILITY NOTES:**

- PROJECT SHALL COMPLY WITH CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) CROSS CONNECTION REQUIREMENTS. WATER METER(S) CANNOT BE SET AND ACTIVATED ON NEW MAINS UNTIL ALL REQUIREMENTS ARE MET AND NCDENR HAS ISSUED THEIR "FINAL APPROVAL". CALL 332-6558 FOR INFORMATION.
- IF THE 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.
- TO USE CFPUA WATER FOR IRRIGATION IT MUST BE METERED SEPARATELY.
- WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED SINGLE STRAND 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 AND FITTINGS. THIS WIRE IS TO BE ACCESSIBLE AT ALL VALVES, FIRE HYDRANTS, AND WATER METER BOXES TO AID IN FUTURE LOCATIONS OF FACILITIES.
- TREES ARE NOT TO BE PLANTED OVER WATER MAINS OR WITHIN UTILITY EASEMENTS.
- STATE WATER AND SEWER PERMITS (IF REQUIRED) SHALL BE OBTAINED PRIOR TO RELEASE OF THE PROJECT FOR CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE TO REPLACE/REPAIR CFPUA WATER AND/OR SEWER FACILITIES DAMAGED DURING CONSTRUCTION.

**FIRE DEPARTMENT NOTES:**

- HYDRANT MUST BE WITHIN 150' OF THE FDC.
- THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
- LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
- HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDING(S).
- CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.

No.	Revision	Date	By

Designer	GSP	Scale	1" = 20'
Drawn By	GSP	Date	JANUARY 2013
License #	P-0718	Job No.	2013-0002

**ST. ANDREWS ON-THE-SOUND EXPANSION**  
 Wilmington, North Carolina  
 New Hanover County

**GRADING, DRAINAGE, UTILITY & E&SC PLAN**

PREPARED FOR:  
 ST. ANDREWS ON-THE-SOUND EPISCOPAL CHURCH  
 101 AIRLIE ROAD  
 WILMINGTON, NC 28403

**GSP CONSULTING, PLLC ENGINEERING**  
 6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.  
**C-4**

**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

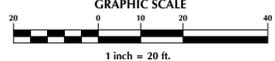
Traffic \_\_\_\_\_

Fire \_\_\_\_\_

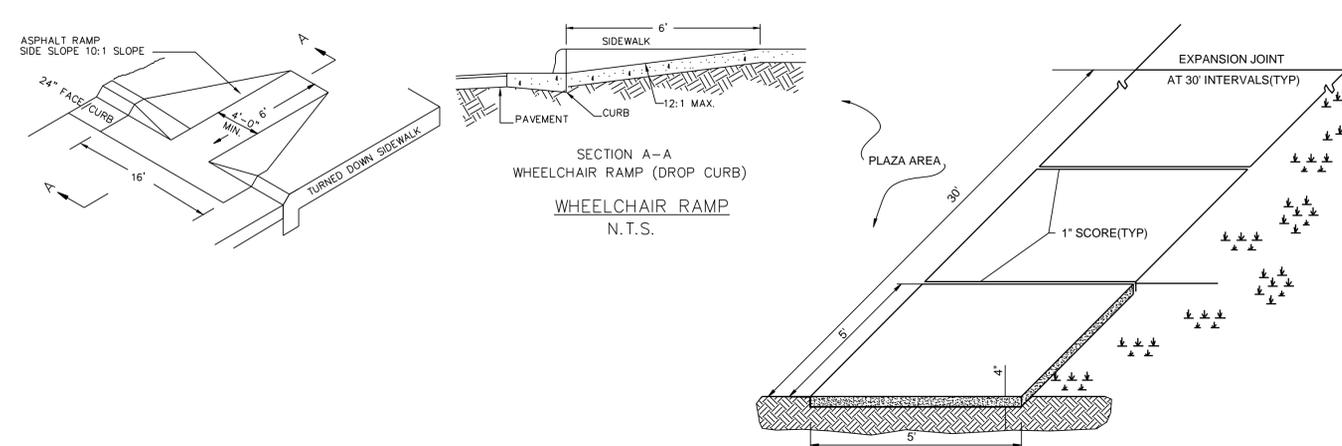
Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_

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

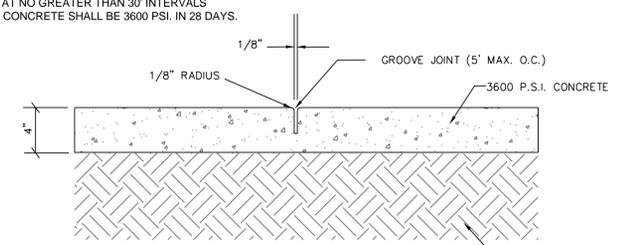


- GENERAL NOTES**
- I. LOCATION OF WHEELCHAIR RAMPS:
- IN ACCORDANCE WITH THE RATIFIED HOUSE BILL 1296, ALL STREET CURBS IN NORTH CAROLINA BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILITIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1, 1973 SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY HANDICAPPED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTERS AND SIDEWALKS ARE PROVIDED AND AT OTHER MAJOR POINTS OF PEDESTRIAN FLOW.
  - WHEELCHAIR RAMPS SHOULD BE LOCATED AS INDICATED IN DETAIL DRAWINGS, HOWEVER EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. MAY AFFECT PLACEMENT.
- II. CONSTRUCTION NOTES:
- NO SLOPE SHALL EXCEED 1"=1' (12:1) ON THE RAMP OR SIDEWALK.
  - IN NO CASE SHALL THE WIDTH OF WHEELCHAIR RAMPS BE LESS THAN 40" (3'-4"). WIDTHS MAY EXCEED 40" IF NECESSARY.
  - USE CLASS 'A' CONCRETE WITH THE SURFACE HAVING A ROUGH, NON-SKID TYPE FINISH.
  - 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE CONCRETE WHEELCHAIR RAMP JOINS ANY RIGID PAVEMENT OR STRUCTURE.
  - CONSTRUCTION METHODS SHALL CONFORM WITH THOSE OF THE GOVERNING BODY WHICH HAS JURISDICTION OF THE PARTICULAR STREET.
- III. ADDITIONAL NOTES:
- THE INSIDE PEDESTRIAN CROSSWALK LINES SHALL BE ESTABLISHED BY BISECTING THE INTERSECTION RADII WHERE MARKED (SEE NOTE 6).
  - THE WHEELCHAIR RAMP SHALL BE LOCATED SO THAT THE BEGINNING OF THE WHEEL CHAIR RAMP WILL BE TWO FEET FROM THE INSIDE PEDESTRIAN CROSSWALK LINE.
  - THE WIDTH OF THE PEDESTRIAN CROSSWALK SHALL BE 10 FEET UNLESS A GREATER WIDTH IS REQUIRED TO ACCOMMODATE THE PEDESTRIAN TRAFFIC.
  - STOP BARS SHALL BE USED WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN, OR OTHER LEGAL REQUIREMENTS.
  - PARKING SHALL BE ELIMINATED A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK.
  - ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION. THIS IS AVAILABLE FROM THE SUPERINTENDENT OF DOCUMENTS, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C. 20402.

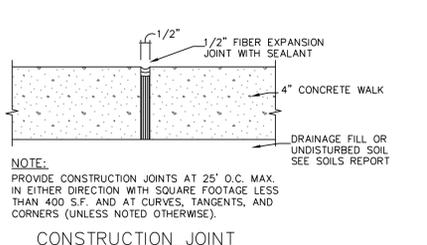


**GUIDELINES FOR WHEELCHAIR RAMPS**

- GENERAL NOTES:**
- A GROOVE JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 45' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK ABUTS ANY CURB & GUTTER AND ANY RIGID STRUCTURES. IN SIDEWALKS & PLAZA AREAS EXPANSION JOINTS ARE REQUIRED AT NO GREATER THAN 30' INTERVALS. CONCRETE SHALL BE 3600 PSI. IN 28 DAYS.



**CONCRETE SIDEWALK DETAIL**

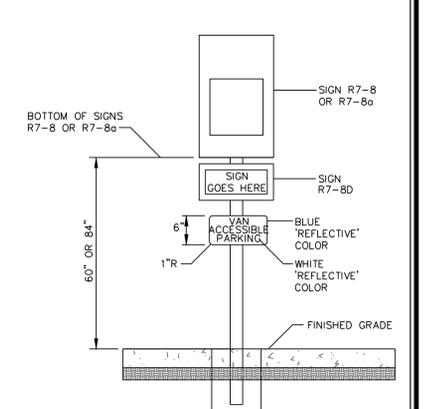


**CONSTRUCTION JOINT**

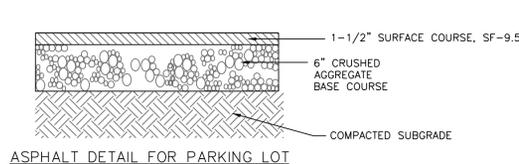
**STANDARD SIDEWALK DETAIL**  
SD 8-15  
NOT TO SCALE



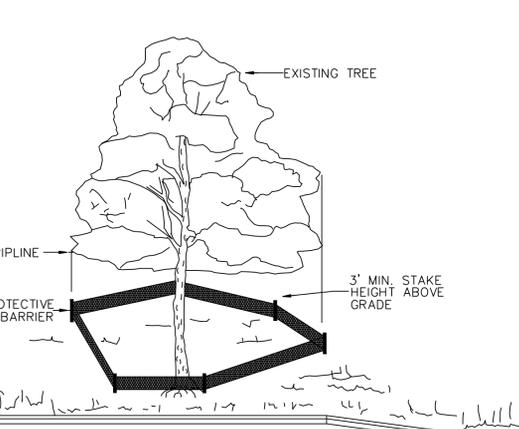
SIGN APPROVED FOR USE UNDER GENERAL STATUTE 20.37.5  
COLORS:  
LEGEND AND BORDER-GREEN  
WHITE SYMBOL ON BLUE BACKGROUND  
BACKGROUND-WHITE



**HANDICAP PARKING SIGNAGE**  
N.T.S.

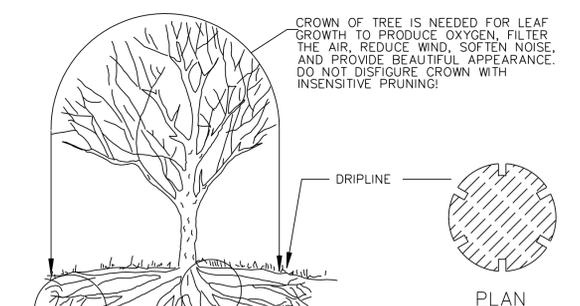


**PAVEMENT DETAIL**  
N.T.S.



NOTE:  
TREES TO BE SAVED WILL BE CLEARLY MARKED PRIOR TO CONSTRUCTION AND A PROTECTIVE BARRIER IS TO BE INSTALLED AT THE DRIPLINE.  
DRIPLINE - THE AREA OF SOIL DIRECTLY BENEATH THE TREE EXTENDING OUT TO THE TIPS OF THE OUTERMOST BRANCHES.

**METHOD OF TREE PROTECTION DURING CONSTRUCTION**  
SD 15-08  
NOT TO SCALE



CROWN OF TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND, SOFTEN NOISE, AND PROVIDE BEAUTIFUL APPEARANCE. DO NOT DISFIGURE CROWN WITH INSENSITIVE PRUNING!

DRIPLINE

PLAN

FEEDER ROOTS ARE LOCATED AT "DRIPLINE" OF TREE AND PROVIDE TREE WITH MOISTURE AND NUTRIENTS. SEE NOTE 1 & NOTE 4

STRUCTURAL ROOTS LOCATED NEAR BASE OF TRUNK ARE NEEDED TO GIVE SUPPORT TO ENTIRE TREE. IF REMOVED, TREE CAN FAIL AND DAMAGE PROPERTY. SEE NOTE 2 & NOTE 4

- TREE PROTECTION DURING CONSTRUCTION**
- DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO HEAVY MATERIALS SHALL BE STORED BENEATH TREES. RESULTS OF COMPACTION CAUSE WATER AND AIR NOT TO REACH THE ROOTS AND THE TREE WILL DIE. THESE "FEEDING ROOTS" OCCUR WELL AWAY FROM THE BASE OF THE TREE TO THE EDGE OF THE OVERHEAD BRANCH CANOPY. DAMAGING THE BARK WITH LAWMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. A PROTECTIVE BARRIER SHOULD PREVENT DAMAGE FROM OCCURRING DURING CONSTRUCTION.
  - NO CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK. THESE ARE ESSENTIAL IN SUPPORTING THE TREE AND HOLDING IT UPRIGHT IN HIGH WINDS. REMOVAL OF THESE ROOTS ALONG ONE SIDE IS OFTEN DONE BECAUSE OF A WALK, PAVING OR BUILDING WHICH IS BEING CONSTRUCTED.
  - AVOID CUT AND FILL WITHIN DIAMETER OF TREE CROWN DURING EXCAVATION.

**METHOD OF TREE PROTECTION DURING CONSTRUCTION**  
SD 15-09  
NOT TO SCALE

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

Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

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

**SEAL**  
031315  
ENGINEER  
CARY S. PIERCE  
03/29/2013

No.	Revision	Date	By	Designer	Scale
				GSP	NO SCALE
				GSP	JANUARY 2013
				P-0718	2013-0002

**ST. ANDREWS ON-THE-SOUND EXPANSION**  
Wilmington New Hanover County North Carolina

**STANDARD DETAILS**

PREPARED FOR:  
ST. ANDREWS ON-THE-SOUND EPISCOPAL CHURCH  
101 AIRLIE ROAD  
WILMINGTON, NC 28403

**GSP CONSULTING, PLLC**  
ENGINEERING  
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No.  
**C-5**

**SEQUENCE OF CONSTRUCTION**

LIMITS OF CONSTRUCTION = 0.67 ACRES

1. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN ON EROSION & SEDIMENT CONTROL PLAN.

2. INSTALL PERIMETER CONTROLS (TEMPORARY SILT FENCE, TREE PROTECTION FENCING) AS SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN. THIS STEP NEEDS TO BE COMPLETED PRIOR TO UPSLOPE LAND DISTURBING ACTIVITIES.

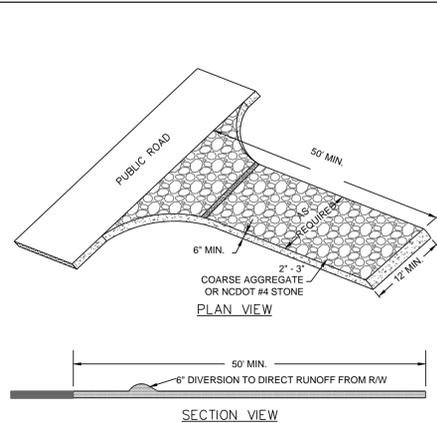
3. ONCE PERIMETER CONTROLS AND SEDIMENT TRAPPING MEASURES ARE INSTALLED CLEAR AND GRUB SITE WITHIN LIMITS OF DISTURBANCE.

4. UPON BRINGING THE SITE TO ROUGH GRADE, STABILIZE ALL AREAS WITH TEMPORARY VEGETATION IF LEFT UNDISTURBED FOR 15 WORKING DAYS AND ALL SLOPES WITHIN 21 CALENDAR DAYS.

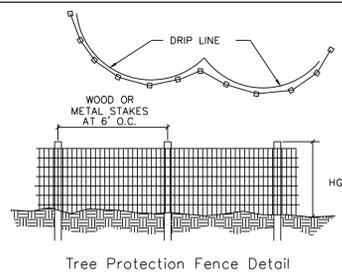
5. UPON BRINGING THE PARKING AREA TO SUBGRADE ELEVATIONS, STABILIZE THE AREAS BY PLACING STONE BASE AS EARLY AS POSSIBLE.

6. FOR TEMPORARY VEGETATIVE STABILIZATION OF ALL DENUDED AREAS SEE NOTE REFERENCING THE EROSION CONTROL PROGRAM AND SPECIFICATIONS ON SHEET C-1.

7. AFTER CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS HAVE BEEN STABILIZED, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED. SEDIMENT FROM TEMPORARY SEDIMENT TRAPPING DEVICES SHALL BE DISPOSED OF BY SPREADING ON THE SITE OR HAULING AWAY IF NOT SUITABLE FOR FILL. ALL DENUDED AREAS ARE TO BE PERMANENTLY STABILIZED WITH PERMANENT VEGETATION.



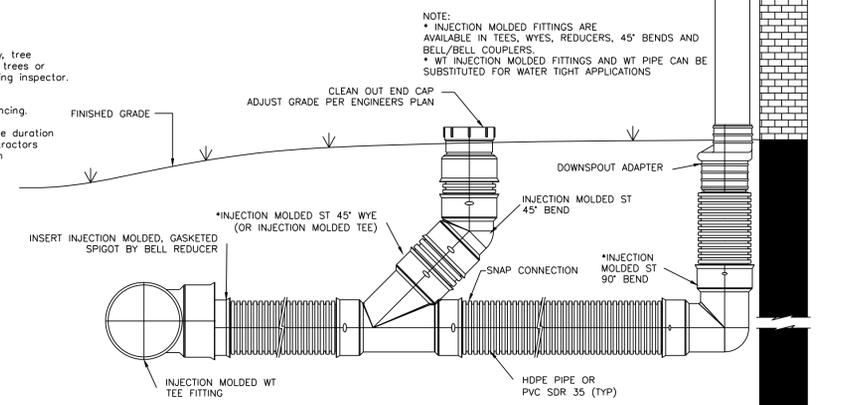
TEMPORARY CONSTRUCTION ENTRANCE  
N.T.S.



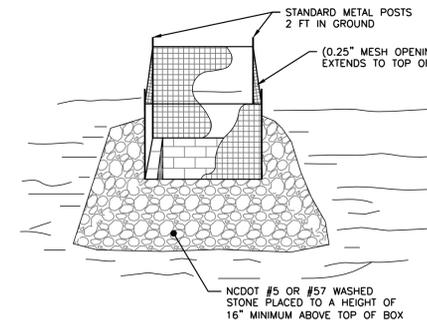
Tree Protection Fence Detail

**Tree Preservation Notes:**

- 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. The location is approved by a zoning inspector.
- 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.

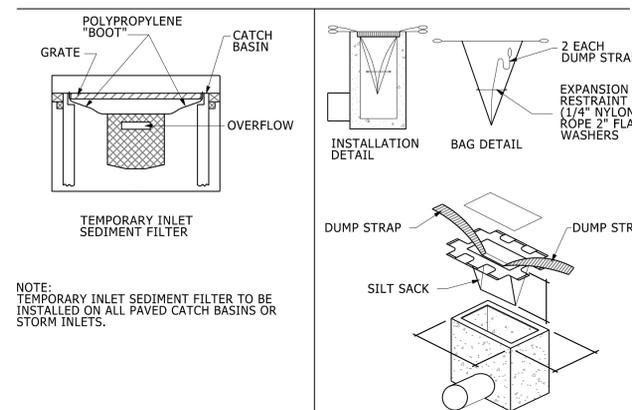


ROOF DRAIN DETAIL WITH CLEANOUT  
N.T.S.



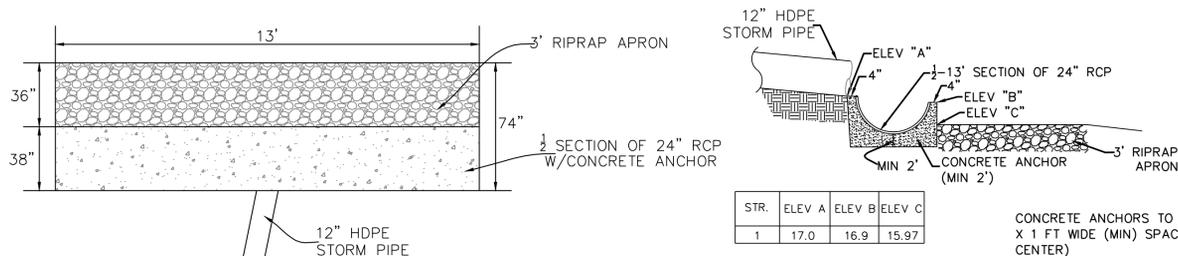
- NOTES:**
- DRIVE 5-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
  - SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH, SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 1-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
  - PLACE CLEAN GRAVEL (NO. DOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A MIN. HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.

STANDARD INLET PROTECTION  
NOT TO SCALE

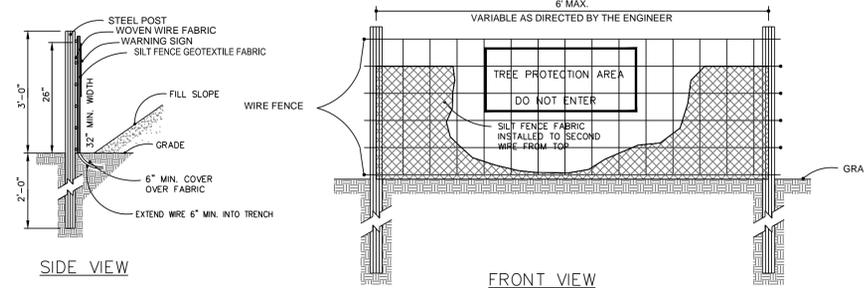


TEMPORARY INLET SEDIMENT FILTER  
NOT TO SCALE

SILT SACK DETAIL  
NOT TO SCALE

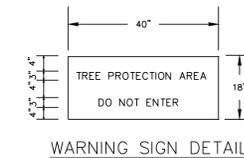


LEVEL SPREADER DETAIL  
N.T.S.

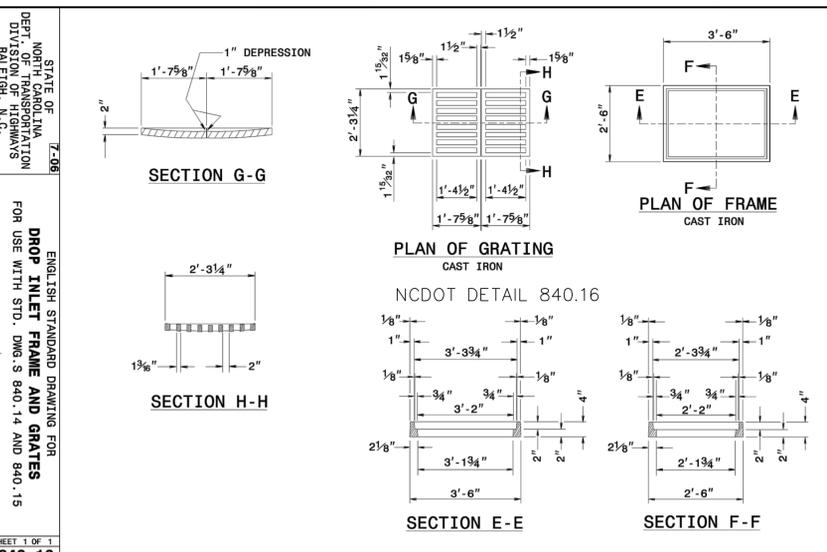


- NOTES:**
- SYNTHETIC FILTER FABRIC SHOULD BE OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER PER ASTM D 6461 AND SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS PER ASTM D 4355.
  - WIRE FENCE SHALL BE MINIMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF 6-INCHES.
  - SEE THE NC EROSION AND SEDIMENTATION CONTROL MANUAL FOR OTHER SPECIFICATIONS.

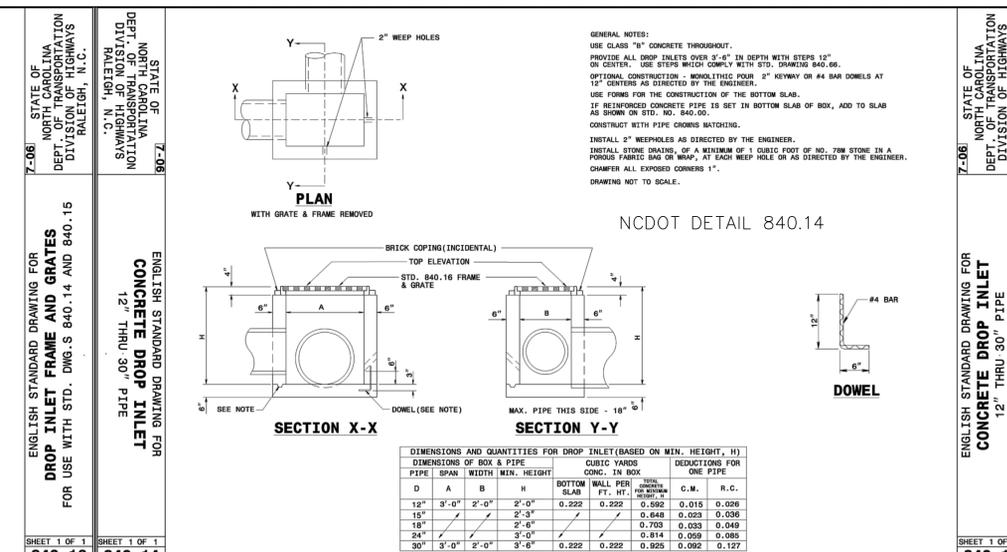
STANDARD TEMPORARY SILT / TREE PROTECTION FENCE  
N.T.S.



WARNING SIGN DETAIL  
N.T.S.



ENGLISH STANDARD DRAWING FOR DROP INLET FRAME AND GRATES FOR USE WITH STD. DMS 840.14 AND 840.15



ENGLISH STANDARD DRAWING FOR CONCRETE DROP INLET 12\"/>

GENERAL NOTES:  
USE CLASS "B" CONCRETE THROUGHOUT.  
PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.  
OPTIONAL CONSTRUCTION - BONDING WITH 3" REINFORCING BARS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.  
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.  
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.  
CONSTRUCT WITH PIPE GRADING MATCHING.  
INSTALL 2" WEAPHERS AS DIRECTED BY THE ENGINEER.  
INSTALL STONE DRAINS OF A MINIMUM OF 1 CUBIC FOOT OF NO. 20M STONE IN A PERFORATED FABRIC BAG OR BOWL, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER. CHAMFER ALL EXPOSED CORNERS 1".  
DRAWING NOT TO SCALE.

DIMENSIONS OF BOX & PIPE		CUBIC YARDS CONC. IN BOX		DEDUCTIONS FOR ONE PIPE	
D	H	CONC.	FT.	CONC.	FT.
12"	3'-0"	0.222	0.222	0.016	0.028
15"	3'-0"	0.448	0.448	0.033	0.036
18"	3'-0"	0.703	0.703	0.069	0.069
24"	3'-0"	0.814	0.814	0.085	0.085
30"	3'-0"	0.222	0.222	0.092	0.127

No.	Revision	Date	By

Designer	GSP	Scale	NO SCALE
Drawn By	GSP	Date	JANUARY 2013
License #	P-0718	Job No.	2013-0002

**ST. ANDREWS ON-THE-SOUND EXPANSION**  
New Hanover County North Carolina

**STANDARD DETAILS**

PREPARED FOR:  
ST. ANDREWS ON-THE-SOUND EPISCOPAL CHURCH  
101 AIRLIE ROAD  
WILMINGTON, NC 28403

**GSP CONSULTING, PLLC ENGINEERING**  
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

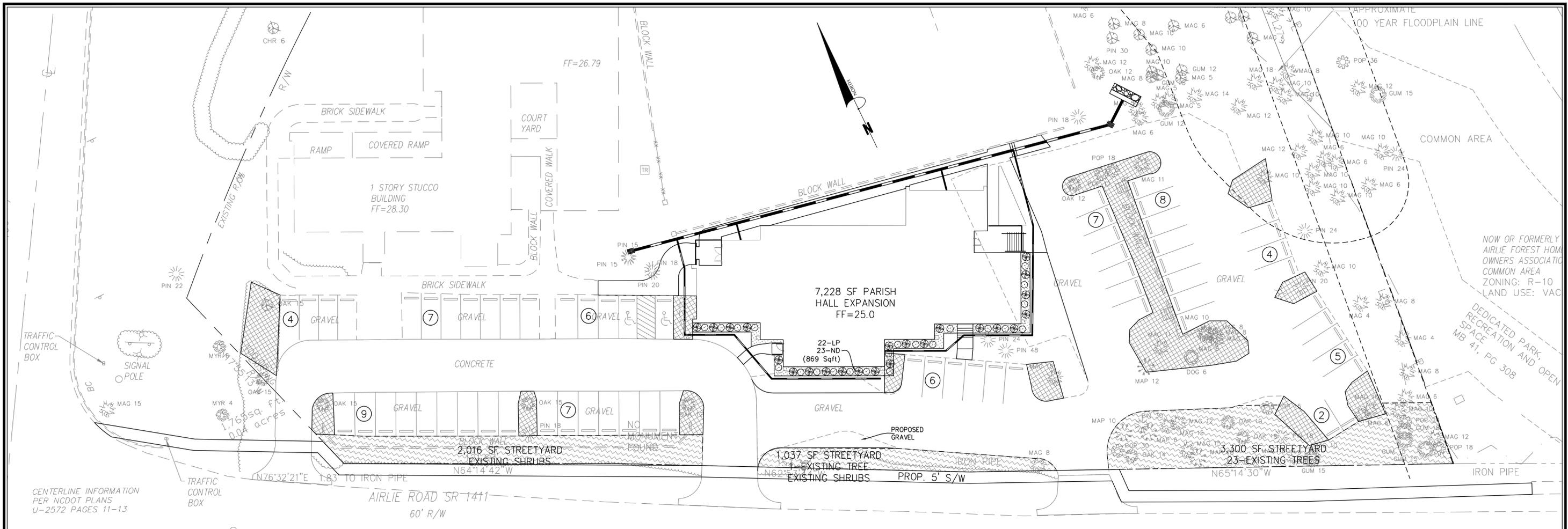
Sheet No. **C-6**

**WILMINGTON NORTH CAROLINA**  
Public Services • Engineering Division  
APPROVED DRAINAGE PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

**Approved Construction Plan**  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

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

**WILMINGTON PROFESSIONAL SEAL 031315**  
ENGINEER  
CARRY S. PIPER  
03/29/2013



- GENERAL NOTES:**
- NEW HANOVER COUNTY PARCEL NOS.:  
PIN 315714.32.2938 / PID 5600-003-001-000  
PIN 315714.32.4957 / PID 5600-003-008-001
  - TOTAL TRACT AREA: 187,173 SF (4.30 AC.±) EXISTING  
+ 43,356 SF OF ADDITIONAL ROW ACQUISITION  
= 230,529 SF (5.29 AC.±) TOTAL
  - ZONING DISTRICT: O&I  
REQ'D. SETBACKS - 20' FRONT, 20' CORNER, 20' REAR (25' TO RESIDENTIAL), 10' SIDE (20 TO RESIDENTIAL)  
PROV'D SETBACKS - 38' FRONT, (N/A) CORNER, 438' REAR, 143' SIDE
  - CAMA LAND CLASSIFICATION: CONSERVATION
  - WETLANDS HAVE BEEN LOCATED ON THIS PROPERTY AND VERIFIED BY USACOE.
  - A PORTION OF THIS PROPERTY LIES WITHIN A FEMA DESIGNATED 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP #3720315700J, EFFECTIVE DATE APRIL 3, 2006

**DEVELOPMENT DATA:**

TOTAL TRACT AREA = 187,173 SF = 4.30 AC. (EXISTING)  
+ 43,356 SF FUTURE ROW ACQUISITION  
= 230,529 SF (5.29 AC.)

DEVELOPMENT AREA - 5.29 AC.

BUILDING COVERAGE - 9,849 S.F. (EXISTING)  
7,228 S.F. (PROPOSED)  
17,077 S.F. (7.4% TOTAL)

MAX. BLDG. HGT. - 45' (PROPOSED 32') (EXISTING 28')

PARKING -  
242 SEATS X 4 MIN. SP./SEAT = 61  
MINIMUM TOTAL SPACES REQUIRED = 61  
242 SEATS X 3 MAX. SP./SEAT = 81  
MAXIMUM TOTAL SPACES PERMITTED = 81  
\*\* 65 EXISTING SPACES PROVIDED (2 H/C) \*\*

IMPERVIOUS SURFACES -

EXISTING TO REMAIN BUILDING	9,849 S.F.
PARKING AREA	28,275 S.F.
CONC. WALKS	3,853 S.F.
TOTAL	41,977 S.F.
PROPOSED BUILDING	7,228 S.F.
PARKING	202 S.F.
CONC. WALKS	2,276 S.F.
TOTAL	9,706 S.F. (23.1% OF EXISTING)

Landscape Calculations: (Note: All regulated & significant trees have been field located and are labeled.)

	Req'd.	Prov'd.
Wrightsville Avenue Primary Streetyard 790 l.f. frontage - 30 l.f. driveway = 760 X 18 (0&I District factor) ● 1 tree / 600 s.f. ● 6 shrubs / 600 s.f.	13,680 s.f. 23 137	FUTURE
Airlie Road Secondary Streetyard 488 l.f. frontage - 48 l.f. driveway = 440 X 9 (1/2 0&I District factor) ● 1 tree / 600 s.f. ● 6 shrubs / 600 s.f.	3,960 s.f. 7 40	6,353 s.f. 24 EXISTING
Parking Area Interior (8% Coverage)- 28,477 s.f. X 8%	2,278 s.f.	4,282 s.f.
Foundation Plantings - 213 l.f. bldg. facade @ 32' hgt. X 12%	818 s.f.	869 s.f.
Bufferyards - 619 l.f. buffer length ● 1 tree / 30 l.f.	21	37 EXISTING
Overall Development Area - 4.30 ac.± development area x 15 trees/ac.	65	396 EXISTING

**PLANT LIST-OR EQUIVALENTS**

KEY	NO.	BOTANICAL NAME	COMMON NAME	MIN. SIZE	TYPE (SHRUB, CANOPY TREE OR UNDERSTORY TREE)	SIZE (LARGE OR SMALL)	SHADING SF GIVEN (TREES ONLY)	PLANTING REMARKS
LP	22	LOROPETALUM CHINESE 'RUBY'	RUBY CHINESE FRINGE FLOWER	3 GAL.	SHRUB			4' O.C.
ND	23	NANDINA DOMESTICA	COMMON NANDINA	36"-48"	SHRUB			3' O.C.

O.C. - "ON CENTER" CAL. - "CALIPER AT 6" ABOVE GRADE" GAL. - "GALLON CONTAINER"  
MIN. PLANTING SIZE: SHADE TREES=2-2.5" CAL. MULTI-STEM= 8-10' SHRUBS= 12"

- LANDSCAPE AREAS**
- STREET YARD LANDSCAPING
  - FOUNDATION LANDSCAPING
  - PARKING INTERIOR PLANTING

UTILITY CAPACITY REQUESTS:  
EXISTING WATER/SEWER - 1,452 GPD BASED ON 6 GAL/SEAT/DAY. 242 SEATS NOT ADDING ADDITIONAL FLOW WITH THIS PROPOSED EXPANSION.

**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

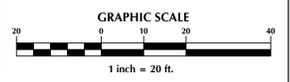
Fire \_\_\_\_\_

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

Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_



No.	Revision	Date	By

Designer	GSP	Scale	1" = 20'
Drawn By	GSP	Date	JANUARY 2013
License #	P-0718	Job No.	2013-0002

**ST. ANDREWS ON-THE-SOUND EXPANSION**  
Wilmington, New Hanover County, North Carolina

**LANDSCAPE PLAN**

PREPARED FOR:  
ST. ANDREWS ON-THE-SOUND EPISCOPAL CHURCH  
101 AIRLIE ROAD  
WILMINGTON, NC 28403

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