

# WOODLANDS AT ECHO FARMS

## TRACT 5

4114 ECHO FARMS BLVD.  
WILMINGTON, NORTH CAROLINA 28412

## DESIGN DOCUMENTS

### JUNE 2018

#### NOTICE REQUIRED

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED 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 COMMENCEMENT OF EXCAVATION OR DEMOLITION.

CONTRACTORS SHALL CONTACT OVERHEAD ELECTRIC PROVIDER TO COMPLY WITH FEDERAL OSHA 1910.333 MINIMUM APPROACH DISTANCE TO ENERGIZED POWERLINES AND OSH 29 CFR 1926.1407-1411 MUST BE FOLLOWED.

CONTRACTOR SHALL CONTACT AT&T PRIOR TO ANY DEMOLITION TO ALLOW FOR AT&T TO DISCONNECT COMMUNICATIONS CABLES COMING INTO THE SITE.

#### CONTACT THESE UTILITIES

CITY OF WILMINGTON PLANNING & DEVELOPMENT

ATTN: MEGAN CROWE, PLANNER  
PH: 910-341-3247

ATTN: ZONING INSPECTIONS  
PH: 910-254-0900

PIEDMONT NATURAL GAS

ATTN: CATHY PLEASANT  
PH: 910-251-2827

EMERGENCY DIAL 911  
POLICE - FIRE - RESCUE

ATTN: CITY OF WILMINGTON FIRE & LIFE SAFETY  
PH: 910-343-0696

CAPE FEAR PUBLIC UTILITY AUTHORITY (WATER & SEWER)

ENGINEERING/INSPECTIONS  
PH: 910-332-6560

OPERATIONS/MAINTENANCE  
PH: 910-322-6550

DUKE ENERGY

DISTRIBUTION CONSTRUCTION SERVICE  
DEP CSC PH: 1-800-452-2777

TRANSMISSION AGENT

BILL WILDER  
PH: 910-772-4903

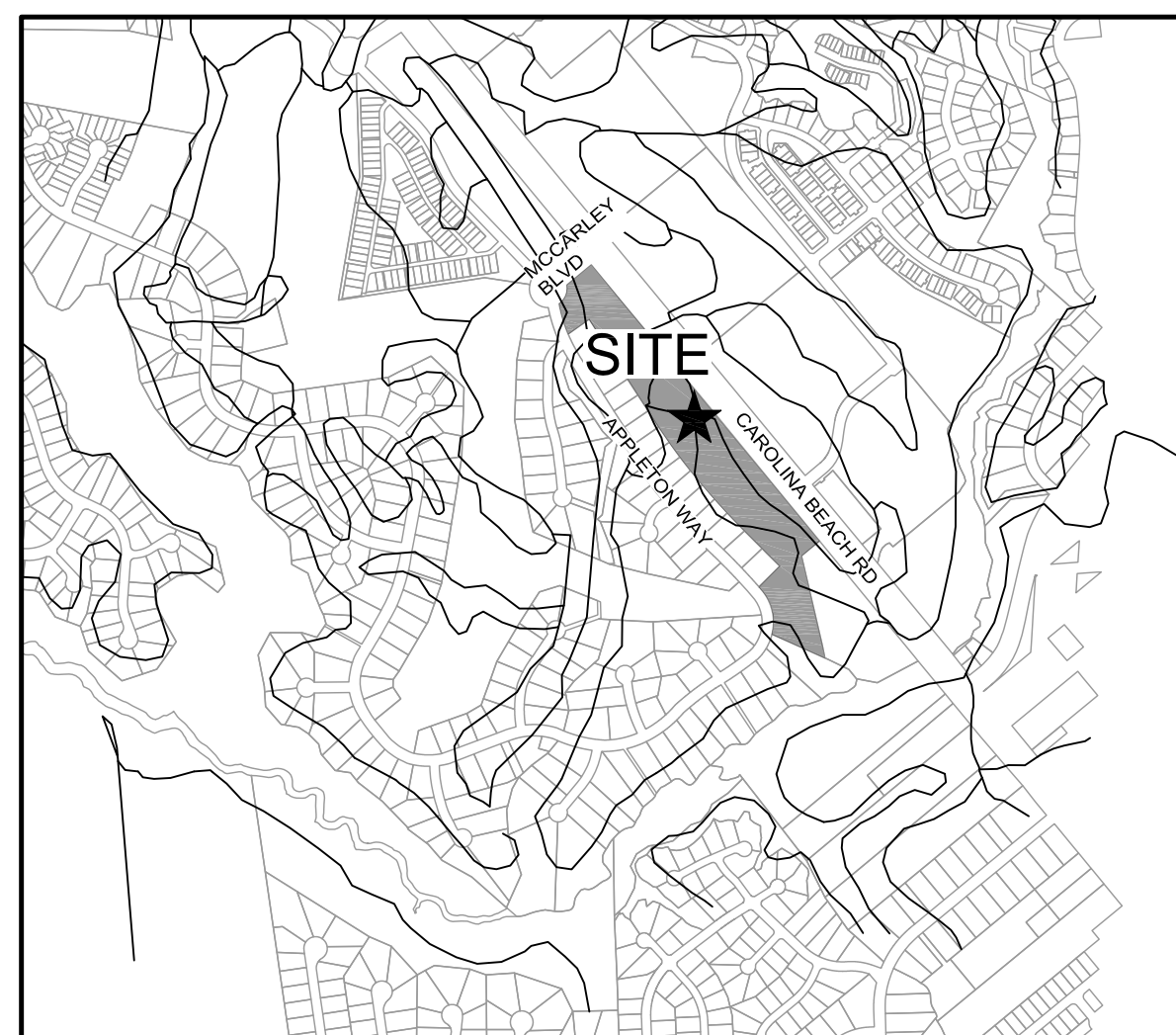
AT&T/BELL SOUTH

ATTN: STEVE DAYVAULT (BUILDING ENGINEERING)  
PH: 910-341-0741

ATTN: JAMES BATSON, ENGINEERING  
PH: 910-341-1621

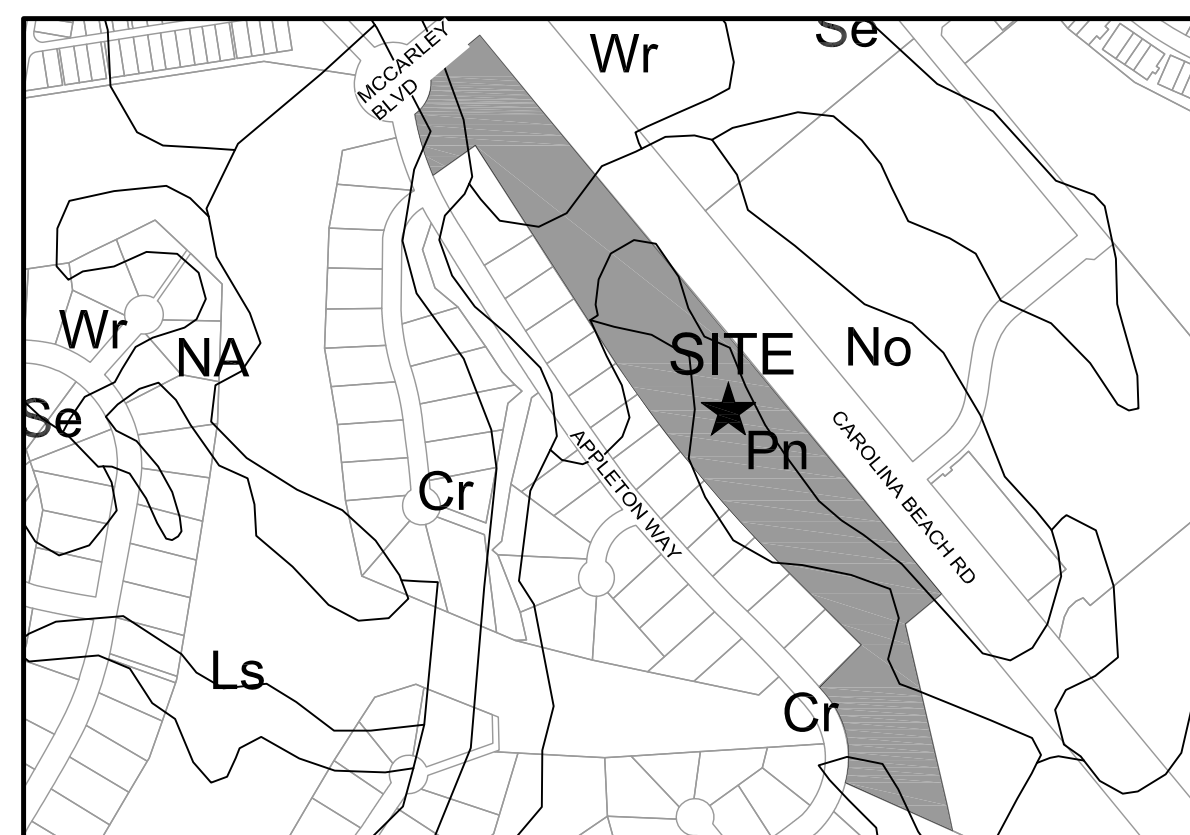
SPECTRUM

GENERAL PH: 800-892-4357



VICINITY MAP

SCALE: 1"=1000'



SOILS MAP

SCALE: 1"=500'

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.	NCDENR PWSS WATER PERMIT #:	_____
	WATER CAPACITY:	_____ GPD
	DWQ SEWER PERMIT #:	_____
	SEWER CAPACITY:	_____ GPD
	SEWER SHED # AND PLANT:	_____
	SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)
<b>Approved Construction Plan</b>		
Name _____		Date _____
Planning _____		
Traffic _____		
Fire _____		
		Signed: _____

**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_

#### OWNER / DEVELOPER:

ECHO FARMS, LLC C/O MATRIX DEVELOPMENT GROUP  
400 CN FORSGATE DRIVE  
CRANBURY, NEW JERSEY 08512  
(732) 521-2900

#### ENGINEER (CIVIL):

PARAMOUNTE ENGINEERING, INC.  
122 CINEMA DRIVE  
WILMINGTON, NORTH CAROLINA 28403  
ATTN: ROB BALLAND, P.E. (910) 791-6707

#### SHEET INDEX

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#### PREPARED BY:

**PARAMOUNTE**  
ENGINEERING, INC.

122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846  
PROJECT # 18153.PE





COORDINATION NOTES:

1. THE CONTRACTOR IS REQUIRED TO OBTAIN ANY/ALL PERMITS REQUIRED FOR CONSTRUCTION OF THESE PLANS.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND WITH CITY OF WILMINGTON, NEW HANOVER COUNTY, 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 BEGINNING 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.
5. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS BY OTHERS FOR ALL BUILDING DIMENSIONS AND DETAILS.

GENERAL NOTES:

1. AN EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY WAS COMPLETED BY MICHAEL UNDERWOOD & ASSOC. PA. THE SURVEY SHALL BE FIELD VERIFIED BY CONTRACTOR AND ANY DISCREPANCIES REPORTED TO THE OWNER, OWNERS REPRESENTATIVE AND/OR ENGINEER IMMEDIATELY.
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 PROHULGATED 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 FOR A PERIOD OF ONE YEAR AFTER THE OWNER ACCEPTS THE WORK.
7. CONTRACTOR SHALL CALL NORTH CAROLINA 811 AT "811" AND ALLOW THE CENTER TO LOCATE EXISTING UTILITIES BEFORE DIGGING.

DEMOLITION NOTES

1. 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 CONSIDERED UNCLASSIFIED EXCAVATION.
2. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE PADS, CONCRETE DITCHES, 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.
3. 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 CONTRACTORS ACTIVITIES SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO OWNER.
4. ELECTRIC, TELEPHONE, SANITARY SEWER, WATER AND STORM SEWER UTILITIES THAT SERVICE OFF-SITE PROPERTIES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL PRODUCE A PHOTOGRAPHIC RECORD (DIGITAL) OF DEVELOPMENT COMMENCING WITH A RECORD OF THE SITE AS IT APPEARS BEFORE DEMOLITION HAS BEGUN. AFTERWARDS, A PHOTOGRAPHIC RECORD SHALL BE MAINTAINED WEEKLY DURING CONSTRUCTION AND ENDING WITH A PHOTOGRAPHIC RECORD OF THE DEVELOPMENT AS IT APPEARS AFTER DEMOLITION. THIS RECORD SHALL BE DELIVERED TO THE OWNER.
6. EXISTING CURB AND GUTTER, LIGHTS, SIDEWALK, AND 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 OVERHEAD 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. EXISTING FIRE HYDRANTS ARE TO REMAIN IN SERVICE.
12. 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.

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. CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
3. ACCESS TO UTILITIES, FIRE HYDRANTS, STREET LIGHTING, ETC., SHALL REMAIN UNDISTURBED, UNLESS COORDINATED WITH THE RESPECTIVE UTILITY.
4. DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
5. THE GENERAL CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT AND AT LEAST ONCE A WEEK DURING CONSTRUCTION.
6. THE GENERAL CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
7. ALL UTILITIES TO SERVICE PROPOSED STRUCTURE SHALL BE UNDERGROUND ON SITE.
8. ALL STREET SURFACES, DRIVEWAYS, CULVERTS, CURB AND GUTTERS, ROADSIDE DRAINAGE DITCHES AND OTHER STRUCTURES THAT ARE DISTURBED OR DAMAGED IN ANY MANNER AS A RESULT OF CONSTRUCTION SHALL BE REPLACED OR REPAIRED IN ACCORDANCE WITH THE SPECIFICATIONS.
9. CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPES 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.
10. 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, THE CITY OF WILMINGTON, OR NEW HANOVER COUNTY RESPECTIVELY.
11. 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 PIPES 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 811" CALL 811 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL NON-SUBSCRIBING UTILITIES.
12. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC., THAT MAY BE REQUIRED.
13. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
14. ALL PARKING LOT DIMENSIONS ARE FROM FACE OF CURB UNLESS NOTED OTHERWISE.
15. LANDSCAPE PLANTINGS AT ENTRANCE/ EXITS WILL BE INSTALLED AND MAINTAINED SO AS NOT TO INTERFERE WITH SIGHT DISTANCE NEEDS OR DRIVERS IN THE PARKING AREA AND AT ENTRANCE/EXIT LOCATIONS PER LOCAL STANDARDS.
16. SEEDING TO BE INSTALLED TO LOCAL REQUIREMENTS & STANDARD PRACTICES.
17. ALL DIMENSIONS AND RADII ARE TO OUTSIDE FACE OF BUILDING OR TO FACE OF CURB UNLESS OTHERWISE NOTED.

EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES:

NOTE: THESE EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES ARE INTENDED FOR EACH "PHASE" OF CONSTRUCTION. THE ORDER AND STEPS TAKEN MUST BE IMPLEMENTED AS EACH PART OF THE PROJECT IS DEVELOPED. WHETHER AS A WHOLE OR IN PHASES. ANY EROSION CONTROL DEVICES/MEASURES MUST REMAIN IN PLACE UNTIL THE ENTIRE BASIN DESIGNED TO HANDLE SEDIMENTATION AND EROSION IS STABILIZED AND ALL IMPROVEMENTS WITHIN THE BASIN ARE COMPLETE.

PHASE I EROSION CONTROL PLAN:

1. CONSTRUCT TEMPORARY GRAVEL CONSTRUCTION ENTRANCE(S), ESTABLISH THE LIMITS OF DISTURBANCE AND TEMPORARY SILT FENCE.
2. CLEAR AND GRUB THE AREAS REQUIRED TO CONSTRUCT THE SEDIMENT SKIMMER BASIN AND TEMPORARY DIVERSION DITCH (TDD), ONCE COMPLETE, INSTALL SKIMMER AS SHOWN.
3. CLEAR AND REMOVE FROM SITE ALL TREES (ONLY ONES TO BE REMOVED), ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN THE DESIGNATED CLEARING LIMITS. INSTALL REMAINING EROSION CONTROL MEASURES AS SHOWN ON THE PLANS WITHIN THE AREA DISTURBED. ALL EROSION CONTROL MEASURES MUST BE INSTALLED BEFORE COMMENCING CONSTRUCTION.
4. PLANT GRASS OVER ALL GRADED AREAS WITHIN 14 DAYS OF CEASE OF ANY GRADING ACTIVITY.

PHASE II EROSION CONTROL PLAN:

1. IMMEDIATELY UPON THE INSTALLATION OF ANY STORM DRAINAGE CATCH BASIN, DROP INLET, ETC., THE CONTRACTOR SHALL INSTALL INLET PROTECTION TO STOP ANY SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.
2. DURING ROUGH GRADING ACTIVITIES, THE CONTRACTOR SHALL GRADE THE SITE IN SUCH A FASHION THAT THE RUNOFF FROM THE SITE IS DIRECTED TO THE TEMPORARY SILT FENCE AS SHOWN ON THE PLANS.
3. THE 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 CONTROL MEASURES.
4. DURING GRADING AND AFTER GRADING HAS BEEN COMPLETED, THE CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL INSPECTION AND APPROVAL BY LOCAL EROSION CONTROL PROGRAM.
5. UPON RECEIVING FINAL INSPECTION AND APPROVAL BY LOCAL EROSION CONTROL PROGRAM, THE CONTRACTOR CAN REMOVE TEMPORARY EROSION CONTROL MEASURES.
6. ONCE SITE IS STABILIZED, WET BASINS USED AS SEDIMENT BASINS DURING CONSTRUCTION SHALL BE CLEARED OUT AND RETURNED TO ITS ORIGINAL DESIGN STATE BEFORE IT CAN BE USED AS A STORM WATER FACILITY.
7. THE CONTRACTOR SHALL CONTINUE TO WATER, FERTILIZE, MOW AND MAINTAIN SPRIGGED, SODDED, AND PLANTED AREAS UNTIL ALL CONSTRUCTION IS COMPLETE.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

1. THE EROSION CONTROL PLAN SHALL INCLUDE PROVISIONS FOR GROUND COVER ON ALL EXPOSED PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1 WITHIN 7 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY. GROUND COVER SHALL BE PROVIDED ON ALL OTHER DISTURBED AREAS WITHIN 14 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY.
2. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL HANDBOOK, (NO SEPARATE PAYMENT).
3. THE CONTRACTOR SHALL NOTIFY PLAN APPROVING AUTHORITY ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO FINAL INSPECTION.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE. THE TEMPORARY CONSTRUCTION ENTRANCE SHOULD BE THE FIRST MEASURE INSTALLED.
5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
6. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR STAGING OR STORAGE AREAS), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO THE LOCAL REVIEWING AGENCY FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES REQUIRED AND SHALL INSTALL NECESSARY MEASURES AT NO SEPARATE PAYMENT. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
7. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY EITHER THE REVIEWING AGENCY OR THE ENGINEER. (NO SEPARATE PAYMENT).
8. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
9. ALL AREAS DISTURBED BY CONSTRUCTION UNLESS OTHERWISE IMPROVED SHALL BE SODDED OR SEEDED AS INDICATED AND STABILIZED.
10. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
11. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT, ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
12. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED BY CONTRACTOR ONCE STABILIZATION OR A SUFFICIENT GROUND COVER HAS BEEN ESTABLISHED OR AS DIRECTED BY THE ENGINEER. (NO SEPARATE PAYMENT). LOCAL EROSION CONTROL PROGRAMS FINAL APPROVAL IS REQUIRED PRIOR TO ANY TEMPORARY EROSION CONTROL MEASURES REMOVAL.
13. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREA, (NO SEPARATE PAYMENT).
14. WHEN CROSSING CREEK OR DRAINAGE-WAY, THE DIVISION OF WATER QUALITY SHALL BE CONTACTED PRIOR TO DISTURBING A CREEK. THE CONTRACTOR SHALL INSTALL RIP-RAP WITH FABRIC ALONG DISTURBED BANKS AND CHANNEL AND RESTORE SLOPES TO ORIGINAL CONTOURS, BUT NOT STEEPER THAN 2:1 MAXIMUM. DISTURBED CREEK AREA SHALL BE STABILIZED IMMEDIATELY.

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 FENCE - 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. ALL SEEDED AREAS WILL BE FERTILIZED, RESEED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A THOROUGH, DENSE VEGETATIVE COVER.
5. INLET PROTECTION - INSPECT INLET PROTECTION AT LEAST ONCE A WEEK AND AFTER EACH SIGNIFICANT (1/8 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN THE DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRADING FACING.
6. SEDIMENT BASIN/SEDIMENT TRAPS - REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO WITHIN ONE HALF OF THE DESIGN DEPTH. THE ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR WHEN THE ROCK IS DISLOGGED. BAFFLES WILL BE REPAIRED OR REPLACED PROMPTLY IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. SEDIMENT WILL BE REMOVED FROM BAFFLES WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED WEEKLY AND WILL BE KEPT CLEAN. PLACE SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, PIPING, AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.
7. SKIMMER - INSPECT SKIMMER AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL TO MAKE SURE THAT THE INTAKE MECHANISM, ORIFICE, OR DISCHARGE PIPE IS NOT CLOGGED WITH TRASH OR SEDIMENT. IF THE BASIN IS DRY, MAKE SURE THAT ANY VEGETATION GROWING ON THE BOTTOM IS NOT HOLDING THE SKIMMER DOWN. TAKE SPECIAL PRECAUTION IN WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.
8. OUTLET PROTECTION - INSPECT RIP RAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1/8 INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIP RAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLOGGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.
9. EMERGENCY SPILLWAY / FOREBAY PROTECTION - AFTER EVERY HIGH-WATER EVENT INSPECT THE INTEGRITY OF THE LINED SPILLWAY AND THE ADJACENT EARTHENED BANKS. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE. REPAIR ANY VOIDS IN THE RIP RAP LINED APRONS, RE-ESTABLISH ANY LOOSE STONES, AND FIX GAPS IN THE ADJACENT VEGETATIVE COVER.
10. TEMPORARY SEDIMENT FENCE OUTLET - INSPECT SEDIMENT CONTROL FENCE ON A REGULAR BASIS AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. REMOVE AND REPLACE CLOGGED SEDIMENT STONE. INSTALL ADDITIONAL POSTS OR WIRE IF FENCE IS SAGGING.

GENERAL UTILITY NOTES

1. ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF WILMINGTON 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.
3. ALL STORM SEWER PIPES SHOWN AS ROP ON THE PLANS SHALL BE REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76, UNLESS INDICATED OTHERWISE ON PLANS.

ROOF DRAIN NOTE:

1. PROPOSED BUILDING SHALL DIVERT ROOF DRAINAGE TO STORMWATER COLLECTION SYSTEM VIA ROOF GUTTERS AND LEADERS.

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 OWNERS REPRESENTATIVE IMMEDIATELY.

PERMANENT SEEDING SCHEDULE - MIXTURE 5CP

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

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--20 LB/ACRE NITROGEN IN SPRING WITH NO PHOSPHORUS. CENTPEDE GRASS CANNOT TOLERATE HIGH PH OR EXCESS FERTILIZER.

TEMPORARY SEEDING-LATE WINTER/EARLY SPRING

Seeding Mixture	
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.

SPECIES	RATE (LB/ACRE)
GERMAN MILLET	40

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

TRAFFIC NOTES:

1. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY & FOR DRIVEWAY(S) ARE TO BE THERMOPLASTIC & MEET CITY AND/OR NC DOT STANDARDS.
2. 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.
3. ALL TRAFFIC CONTROL SIGNS AND MARKINGS NOT WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. ANY BROKEN OR MISSING SIDEWALK PANELS AND/OR CURBING SHALL BE REPLACED.
6. TACTILE WARNING MATS TO BE INSTALLED AT ALL WHEELCHAIR RAMPS.



APPROVED STORMWATER MANAGEMENT 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.

NC DENR PWSS WATER PERMIT #:  
WATER CAPACITY: \_\_\_\_\_ GPD  
DWQ SEWER PERMIT #:  
SEWER CAPACITY: \_\_\_\_\_ GPD  
SEWER SHED # AND PLANT:  
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

NC ACCESSIBILITY NOTES:

GENERAL NOTES:

1. SPECIAL ATTENTION SHALL BE GIVEN TO COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), THE NORTH CAROLINA BUILDING CODE/ANSI A117.1, AND APPLICABLE LOCAL LAWS & REGULATIONS.

2. IT IS ESSENTIAL THAT CONTRACTORS ARE AWARE OF THE SITE ACCESSIBILITY REQUIREMENTS. PARAMOUNT ENGINEERING, INC. (PEI) HAS DEVELOPED THESE NOTES AND DETAILS TO ASSURE THAT CONTRACTORS ARE AWARE OF THE REQUIREMENTS AT THE POINT IN TIME WHEN THEY ARE BIDDING THE PROJECT. IN ADDITION, PEI HAS MADE A POINT IN THESE NOTES AND DETAILS, AS WELL AS IN OUR DRAWINGS, TO PROVIDE SLOPES / GRADES AND DIMENSIONS THAT COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), THE NORTH CAROLINA BUILDING CODE/ANSI A117.1 AND APPLICABLE LOCAL LAWS & REGULATIONS. IF THESE SLOPES / GRADES AND DIMENSIONS ARE NOT ACHIEVABLE, THE CONTRACTOR IS REQUIRED TO CONTACT THE OWNER IMMEDIATELY AND BEFORE MOVING FORWARD WITH THE WORK.

3. THE CONTRACTOR SHALL NOTIFY PEI IMMEDIATELY OF ANY CONFLICT BETWEEN THESE NOTES AND DETAILS AND OTHER PROJECT DRAWINGS, WHETHER BY PEI OR OTHERS. THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK FOR WHICH THE ALLEGED CONFLICT HAS BEEN DISCOVERED UNTIL SUCH ALLEGED CONFLICT HAS BEEN RESOLVED. NO CLAIM SHALL BE MADE BY THE CONTRACTOR FOR DELAY OR DAMAGES AS A RESULT OF RESOLUTION OF ANY SUCH CONFLICT(S).

4. THESE ACCESSIBILITY NOTES AND DETAILS ARE INTENDED TO DEPICT SLOPE AND DIMENSIONAL REQUIREMENTS ONLY. REFER TO SIDEWALK, CURBING, AND PAVEMENT DETAILS FOR ADDITIONAL INFORMATION.

ACCESSIBLE ROUTE NOTES:

1. AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED WITHIN THE SITE FROM ACCESSIBLE PARKING SPACES AND ACCESSIBLE PASSENGER LOADING ZONES, PUBLIC STREETS OR SIDEWALKS, AND PUBLIC TRANSPORTATION STOPS TO THE ACCESSIBLE BUILDING OR FACILITY ENTRANCE THEY SERVE.
2. AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, ACCESSIBLE FACILITIES, ACCESSIBLE ELEMENTS, AND ACCESSIBLE SPACES THAT ARE ON THE SAME SITE.
3. WALKING SURFACES THAT ARE PART OF AN ACCESSIBLE ROUTE SHALL HAVE A MAXIMUM RUNNING SLOPE OF 5.0% AND A MAXIMUM CROSS SLOPE OF 2.0%.
4. ANY WALKING SURFACE THAT IS PART OF AN ACCESSIBLE ROUTE WITH A RUNNING SLOPE GREATER THAN 5.0% IS A RAMP AND SHALL COMPLY WITH THE GUIDELINES FOR RAMPS OR CURB RAMPS.
5. TRANSITIONS BETWEEN RAMPS, WALKS, LANDINGS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL CHANGES (1/4 INCH MAXIMUM VERTICAL CHANGE IN LEVEL PERMITTED).
6. FLOOR SURFACES SHALL BE STABLE, FIRM AND SLIP RESISTANT.
7. THE MINIMUM CLEAR WIDTH OF EXTERIOR ACCESSIBLE ROUTES SHALL BE FOURTY- EIGHT (48) INCHES MINIMUM MEASURED BETWEEN HANDRAILS WHERE HANDRAILS ARE PROVIDED (NC BUILDING CODE 1104.1 & 1104.2).
8. WHERE AN ACCESSIBLE ROUTE MAKES A 180 DEGREE TURN AROUND AN OBJECT THAT IS LESS THAN FORTY-EIGHT (48) INCHES IN WIDTH, CLEAR WIDTH SHALL BE FORTY-TWO (42) INCHES MINIMUM APPROACHING THE TURN, FORTY-EIGHT (48) INCHES MINIMUM DURING THE TURN, AND FORTY-TWO (42) INCHES MINIMUM LEAVING THE TURN. THE CLEAR WIDTH APPROACHING AND LEAVING THE TURN MAY BE THIRTY-SIX (36) INCHES MINIMUM WHEN THE CLEAR WIDTH AT THE TURN IS SIXTY (60) INCHES MINIMUM. \* SEEN NOTE 7 ABOVE FOR NC CLEAR WIDTH OF EXTERIOR ACCESSIBLE ROUTES\*
9. AN ACCESSIBLE ROUTE WITH A CLEAR WIDTH LESS THAN SIXTY (60) INCHES SHALL PROVIDE PASSING SPACES AT INTERVALS OF TWO HUNDRED (200) FEET MAXIMUM. PASSING SPACES SHALL BE EITHER A SIXTY (60) INCH MINIMUM BY SIXTY (60) INCH MINIMUM SPACE, OR AN INTERSECTION OF TWO (2) WALKING SURFACES THAT PROVIDE A COMPLIANT T-SHAPED TURNING SPACE. PROVIDED THE BASE AND ARMS OF THE T-SHAPED SPACE EXTEND FORTY-EIGHT (48) INCHES MINIMUM BEYOND THE INTERSECTION.
10. DOORS, DOORWAYS AND GATES THAT ARE PART OF AN ACCESSIBLE ROUTE SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), THE NORTH CAROLINA BUILDING CODE /ANSI A117.1, AND APPLICABLE LOCAL LAWS & REGULATIONS.
11. DIRECTIONAL SIGNAGE INDICATING THE ROUTE TO THE NEAREST ACCESSIBLE BUILDING ENTRANCE SHALL BE PROVIDED AT INACCESSIBLE BUILDING ENTRANCES.
12. WHERE POSSIBLE, DRAINAGE INLETS SHALL NOT BE LOCATED ON AN ACCESSIBLE ROUTE. IN THE EVENT THAT A DRAINAGE INLET MUST BE LOCATED ON AN ACCESSIBLE ROUTE, THE GRATE SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), A117.1, THE NC BUILDING CODE, AND APPLICABLE LOCAL LAWS & REGULATIONS

RAMP NOTES:

1. ANY PART OF AN ACCESSIBLE ROUTE WITH A RUNNING SLOPE GREATER THAN 5% SHALL BE CONSIDERED A RAMP.
2. THE MAXIMUM RUNNING SLOPE FOR A RAMP SHALL BE 8.33% AND THE MAXIMUM CROSS SLOPE SHALL BE 2.0%.
3. THE CLEAR WIDTH OF AN EXTERIOR RAMP RUN SHALL BE FORTY EIGHT INCHES (NC BUILDING CODE 1104.1), WHERE HANDRAILS ARE PROVIDED ON THE RAMP RUN, THE CLEAR WIDTH SHALL BE MEASURED BETWEEN THE HANDRAILS.
4. THE RISE FOR ANY RAMP RUN SHALL BE THIRTY (30) INCHES MAXIMUM.
5. LANDINGS SHALL BE PROVIDED AT THE TOP AND BOTTOM OF RAMPS. LANDINGS SHALL HAVE A SLOPE NOT STEEPER THAN 2.0% IN ANY DIRECTION. THE LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE WIDEST RAMP RUN LEADING TO THE LANDING. THE LANDING CLEAR LENGTH SHALL BE SIXTY (60) INCHES LONG MINIMUM. RAMPS THAT CHANGE DIRECTION BETWEEN RUNS AT LANDINGS SHALL HAVE A CLEAR LANDING OF SIXTY (60) INCHES BY SIXTY (60) INCHES MINIMUM.
6. RAMP RUNS WITH A RISE GREATER THAN SIX (6) INCHES SHALL HAVE HANDRAILS ON BOTH SIDES COMPLYING WITH THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), THE NC BUILDING CODE/ANSI A117.1, AND APPLICABLE LOCAL LAWS & REGULATIONS.
7. FLOOR SURFACES OF RAMPS AND LANDINGS SHALL BE STABLE, FIRM AND SLIP RESISTANT.
8. EDGE PROTECTION COMPLYING WITH AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), THE NC BUILDING CODE/ANSI A117.1, AND APPLICABLE LOCAL LAWS & REGULATIONS SHALL BE PROVIDED ON EACH SIDE OF RAMP RUNS AND ON EACH SIDE OF RAMP LANDINGS.
9. WHERE DOORWAYS ARE LOCATED ADJACENT TO A RAMP LANDING, MANEUVERING CLEARANCES REQUIRED BY THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), THE NC BUILDING CODE/ANSI A117.1 SHALL BE PERMITTED TO OVERLAP THE REQUIRED LANDING AREA. WHERE DOORS THAT ARE SUBJECT TO LOCKING ARE ADJACENT TO A RAMP LANDING, LANDINGS SHALL BE SIZED TO PROVIDE A COMPLIANT TURNING SPACE.

CURB RAMP NOTES:

1. THE MAXIMUM RUNNING SLOPE OF A CURB RAMP SHALL BE 8.33% AND THE MAXIMUM CROSS SLOPE SHALL BE 2.0%.
2. COUNTER SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT BE STEEPER THAN 5%. THE ADJACENT SURFACES AT TRANSITIONS AT CURB RAMPS TO WALKS, GUTTERS AND STREETS SHALL BE AT THE SAME LEVEL.
3. THE CLEAR WIDTH OF A CURB RAMP SHALL BE 36 INCHES (36) MINIMUM, EXCLUSIVE OF FLARED SIDES, IF PROVIDED. \*NOTE NC BUILDING CODE REQUIRES EXTERIOR ACCESSIBLE ROUTES TO BE 48 INCHES MINIMUM WIDE (1104.1 & 1104.2)\*.
4. LANDINGS SHALL BE PROVIDED AT THE TOP OF CURB RAMPS. THE CLEAR LENGTH OF THE LANDING SHALL BE THIRTY-SIX (36) INCHES MINIMUM. THE CLEAR WIDTH OF THE LANDING SHALL BE AT LEAST AS WIDE AS THE CURB RAMP. EXCLUDING FLARED SIDES, LEADING TO THE LANDING. LANDINGS SHALL HAVE A SLOPE NOT STEEPER THAN 2% IN ANY DIRECTION.
5. IF A CURB RAMP IS LOCATED WHERE PEDESTRAINS MUST WALK ACROSS THE RAMP, OR WHERE IT IS NOT PROTECTED BY HANDRAILS OR GUARDRAILS, IT SHALL HAVE FLARED SIDES.
6. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT EXCEED 10%.
7. CURB RAMPS AND THE FLARED SIDES OF CURB RAMPS SHALL BE LOCATED SO THAT THEY DO NOT PROJECT INTO VEHICULAR TRAFFIC LANES. PARKING SPACES OR PARKING ACCESS AISLES CURBS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
8. CURB RAMPS SHALL BE LOCATED OR PROTECTED TO PREVENT THEIR OBSTRUCTION BY PARKED VEHICLES.
9. IT IS RECOMMENDED TO PROVIDE CURB RAMPS WITH A TWENTY-FOUR (24) INCH DEEP DETECTABLE WARNING COMPLYING WITH 406.12 A117.1. EXTENDING THE CLEAR WIDTH OF THE RAMP REFER TO DETECTABLE WARNING DETAILS AND NOTES FOR PLACEMENT, ORIENTATION AND NOTES. THE NC BUILDING CODE DOES NOT CURRENTLY REQUIRE DETECTABLE WARNINGS AT CURB RAMPS, NOR DO THE 2010 ADA STANDARDS. - HOWEVER US DOT ADA REGULATIONS DO REQUIRE THESE.
10. FLOOR SURFACES OF CURB RAMPS SHALL BE DEEP GROOVED, 1/8 INCH WIDE BY 1/4 INCH DEEP, ONE (1) INCH CENTERS TRANSVERSE TO THE RAMP.
11. WHERE PROVIDED, STOP LINES SHALL BE LOCATED IN ADVANCE OF CURB RAMP.
12. WHERE PROVIDED, PEDESTRIAN ACTIVATED SIGNALS SHALL BE LOCATED ADJACENT TO THE SIDEWALK AND NOT ON THE SIDEWALK.
13. WHERE PROVIDED, DRAINAGE INLETS SHALL BE LOCATED UPSTREAM OF CURB RAMPS AND NOT IN THE RAMP AREA.
14. CURB RAMP TYPE AND LOCATION ARE PER PLAN.

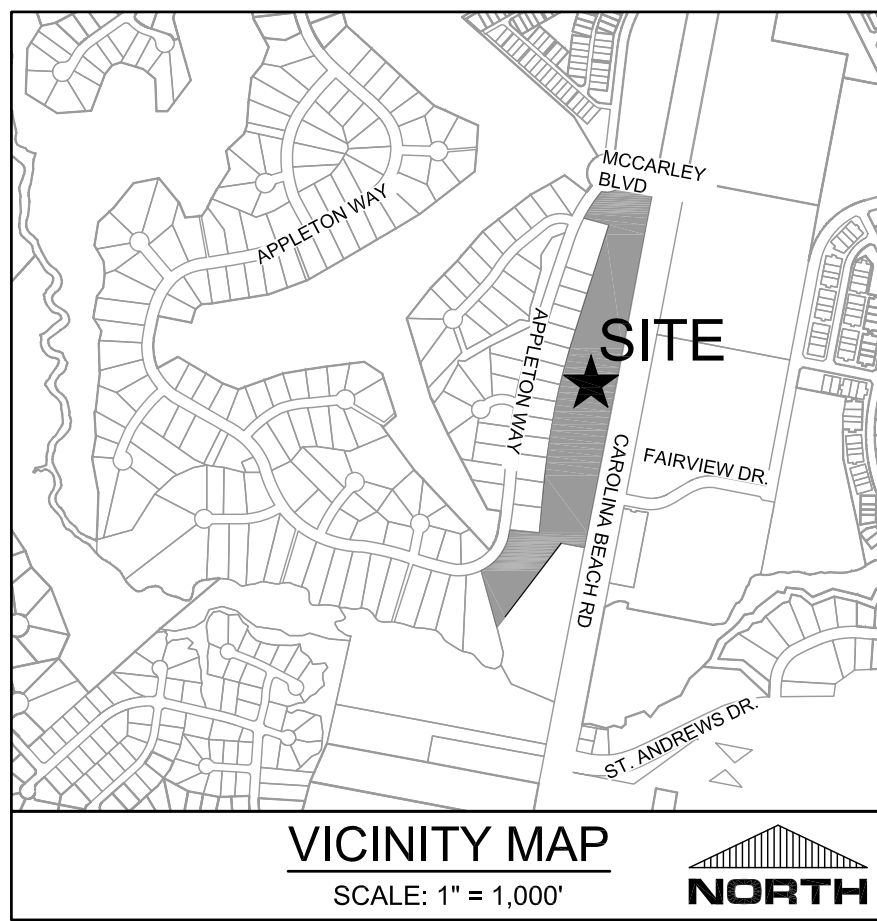
NPDES WATER QUALITY STABILIZATION TIME FRAMES		
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES

NC ACCESSIBILITY NOTES (CONT.):

PARKING SPACE NOTES:

1. ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTES OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE BUILDING ENTRANCE.
2. ACCESSIBLE PARKING SPACES SHALL BE AT LEAST NINETY-SIX (96) INCHES WIDE. ACCESS AISLES SHALL BE 60 INCHES WIDE. ONE OF SIX ACCESSIBLE SPACES SHOULD PROVIDE A VAN ACCESSIBLE AISLE. THE AISLE SHOULD BE 96 INCHES WIDE (OR ACCESSIBLE SPACE IS 11 FEET AND ACCESS AISLE IS FIVE FEET). WHERE PARKING SPACES AND ACCESS AISLES ARE MARKED WITH LINES, THE WIDTH MEASUREMENTS SHALL BE MADE FROM CENTERLINE OF THE MARKINGS. WHERE PARKING SPACES OR ACCESS AISLES ARE NOT ADJACENT TO ANOTHER PARKING SPACE OR ACCESS AISLES, MEASUREMENTS SHALL BE PERMITTED TO INCLUDE THE FULL WIDTH OF THE LINE DEFINING THE PARKING SPACE OR ACCESS AISLE.
3. PARKING ACCESS AISLES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING OR FACILITY ENTRANCE AND SHALL COMPLY WITH PROVISIONS FOR ACCESSIBLE ROUTES. MARKED CROSSINGS SHALL BE PROVIDED WHERE THE ACCESSIBLE ROUTE MUST CROSS VEHICULAR TRAFFIC LANES. WHERE POSSIBLE, IT IS PREFERRED THAT THE ACCESSIBLE ROUTE NOT PASS BEHIND PARKED VEHICLES.
4. TWO (2) ACCESSIBLE PARKING SPACES MAY SHARE A COMMON ACCESS AISLE.
5. ACCESS AISLES SHALL EXTEND THE FULL LENGTH OF THE PARKING SPACE THEY SERVE.
6. ACCESS AISLES SHALL BE MARKED SO AS TO DISCOURAGE PARKING IN THEM.
7. ACCESS AISLES SHALL NOT OVERLAP THE VEHICULAR WAY. ACCESS AISLES SHALL BE PERMITTED TO BE PLACED ON EITHER SIDE OF THE PARKING SPACE EXCEPT FOR ANGLED VAN PARKING SPACES WHICH SHALL HAVE ACCESS AISLES LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACES.
8. FLOOR SURFACES OF PARKING SPACES AND ACCESS AISLES SERVING THEM SHALL BE STABLE, FIRM AND SLIP RESISTANT. ACCESS AISLES SHALL BE AT THE SAME LEVEL AS THE PARKING SPACES THEY SERVE. CHANGES IN





SITE DATA TABULATION

ECHO FARMS, LLC  
MATRIX DEVELOPMENT GROUP  
CN 400 FORSGATE DRIVE  
CRANBURY, NJ 08512

PROJECT ADDRESS: 4114 ECHO FARMS BLVD.  
WILMINGTON, NC 28412

TAX PARCEL IDENTIFICATION #: R07006-002-001-000  
RECORDED DEED BOOK: BK 2307, PG 450  
PLAT BOOK 64 PG. 296

TOTAL SITE AREA: 13.57 ACRES (591,022 SF)  
CURRENT ZONING: MF-M  
CAMA LAND USE CLASSIFICATION: URBAN/ CONSERVATION AREA  
MAXIMUM ALLOWABLE BUILDING HEIGHT: 35' - 96' (WITH ADDITIONAL YARD REQ.)  
EXISTING LAND USE: GOLF COURSE  
PROPOSED LAND USE: 4 - SINGLE-FAMILY RES. (DETACHED)  
42 - MULTI-FAMILY (ATTACHED)

SINGLE FAMILY LOT COVERAGE: 50% MAX PER CODE (20,000SF/44,773SF) 44.7%  
MULTI FAMILY LOT COVERAGE: 30% MAX PER CODE (60,000SF/501,456SF) 12.0%

SINGLE FAMILY SETBACK STANDARDS

	PROVIDED	REQUIRED
MINIMUM FRONT SETBACK	15 FT	15 FT
MINIMUM SIDE SETBACK	5 FT	5 FT
MINIMUM CORNER SETBACK	10 FT	10 FT
MINIMUM REAR SETBACK	15 FT	15 FT

SINGLE FAMILY LOT SIZE

APPROXIMATELY 60' WIDE x 120' LONG  
MINIMUM WIDTH = 50'  
MINIMUM SQUARE FOOTAGE = 5,000 SF

MULTI FAMILY SETBACK STANDARDS

	PROVIDED	REQUIRED
MINIMUM FRONT SETBACK	35 FT	35 FT
MINIMUM SIDE SETBACK	25 FT	25 FT
MINIMUM REAR SETBACK	25 FT	25 FT

MAXIMUM ALLOWED DENSITY TRACT 5

SFR IN MF-M ZONING ALLOWS UP TO 9 DU/AC  
13.57 AC. \* 9 UNITS/AC = 122 UNITS  
MF-M ZONING ALLOWS UP TO 17 DU/AC  
13.57 AC. \* 17 UNITS/AC = 231 UNITS  
46 PROPOSED UNITS = 3.39 UNITS/ACRE

OPEN SPACE REQUIREMENTS

	PROVIDED	REQUIRED
(46) UNITS X 0.03 ACRES	7.91 AC	1.38 AC
TOTAL	0.70 AC	0.69 AC
ACTIVE (50% OF REQUIRED)	0.70 AC	0.69 AC
PASSIVE (50% OF REQUIRED)	7.21 AC	0.69 AC

FLOOD NOTE

A PORTION OF HTE THE SUBJECT TRACT 5 PARCEL LIES WITHIN A 100-YEAR FLOOD ZONE AS INDICATED BY FEMA FLOOD ZONE PANEL 3720312500J BEARING AN EFFECTIVE DATE OF APRIL 3, 2006. SEE SHEET C-2.2 FOR AREA EFFECTED BY FLOOD ZONE.

SITE INFORMATION

PROPOSED IMPERVIOUS AREA	
LOT IMPERVIOUS (5,000 SF/LOT)	20,000 SF
MULTI-FAMILY BUILDINGS	60,000 SF
ON-SITE SIDEWALKS/PATHS	21,000 SF
ASPHALT/ CONCRETE/ CURB & GUTTER	65,000 SF
FUTURE	4,000 SF
TOTAL PROPOSED IMP. AREA	170,000 SF (3.90 AC)

PROPOSED PERCENT IMPERVIOUS 170,000 SF / 591,022 SF = 28.8%

OFF-SITE IMPERVIOUS

IMPERVIOUS PAVEMENT	1,460 SF
IMPERVIOUS SIDEWALK	2,925 SF
TOTAL	4,385 SF

TOTAL PROP. IMPERVIOUS (ON-SITE & OFF-SITE) 174,385 SF

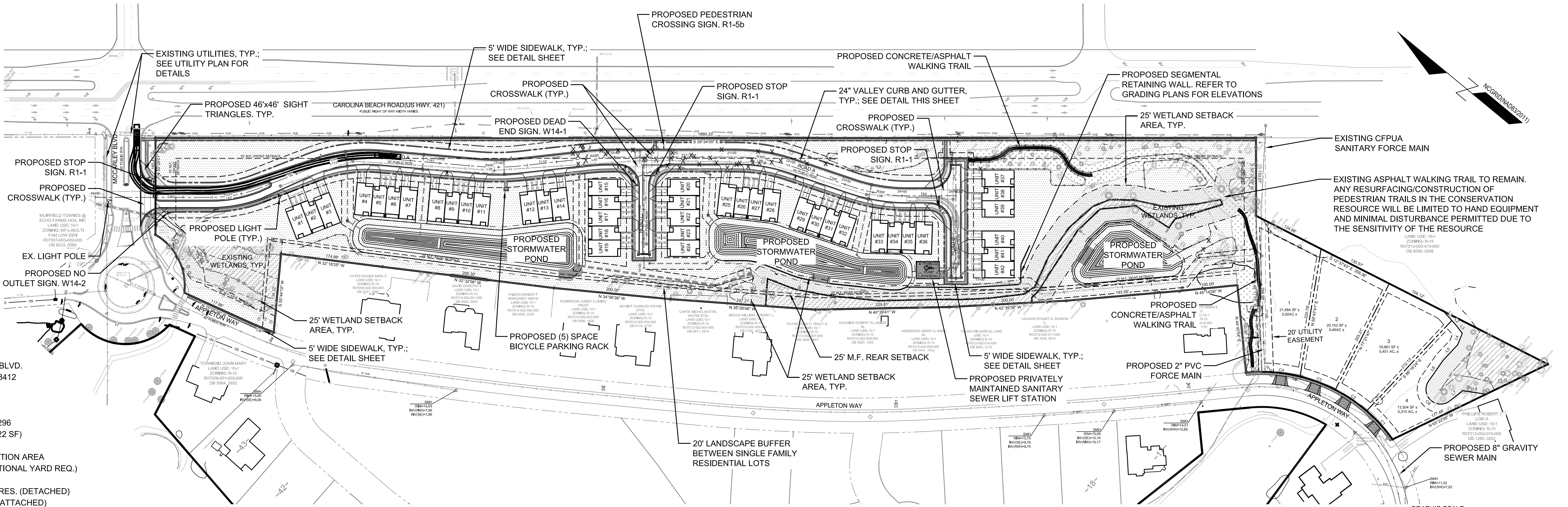
WATER AND SEWER CAPACITY

SANITARY SEWER

SINGLE FAMILY - ASSUMING 4-BEDROOM HOMES @ 120 GPD/BED = 480 GPD/HOME  
MULTI-FAMILY - ASSUMING 3-BEDROOM UNITS @ 120 GPD/BED = 360 GPD/UNIT  
4 - SINGLE FAMILY HOMES @ 480 GPD/HOME = 1,920 GPD  
56 - MULTI FAMILY UNITS @ 360 GPD/UNIT = 15,120 GPD  
TOTAL SEWER FLOW = 17,040 GPD

WATER

SINGLE FAMILY - 4 HOMES AT 400 GPD/HOME = 1,600 GPD  
MULTI FAMILY - 42 UNITS AT 400 GPD/UNIT = 16,800 GPD  
TOTAL WATER DEMAND = 18,400 GPD



WASTE DISPOSAL:  
ALL WASTE DISPOSAL WILL BE BY INDIVIDUAL ROLLOUT CONTAINERS.

VEHICLE PARKING:  
PER SEC. 18-532 - PARKING SCHEDULE, 3 BEDROOM UNITS REQUIRE 2.25  
PARKING SPACES.  
REQUIRED: 42 UNITS @ 2.25/UNIT = 95 SPACES.  
PROVIDED: (1/GARAGE PLUS DRIVEWAY AS SHOWN) = 97 SPACES

BICYCLE PARKING:  
5 BICYCLE PARKING SPACES FOR MULTI FAMILY DEVELOPMENT REQUIRING 25  
OR MORE AUTOMOBILE PARKING SPACES. EACH ADDITIONAL 100 AUTOMOBILE  
PARKING SPACES ABOVE THE TWENTY-FIVE MINIMUM SHALL REQUIRE  
PROVISIONS FOR PARKING AN ADDITIONAL (5) BICYCLES. 5 BICYCLE PARKING  
SPACES REQUIRED.

GENERAL NOTES:

- 1.) INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
- 2.) 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 910-341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- 3.) ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- 4.) CONTACT TRAFFIC ENGINEERING FORTY- EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY. 910-341-3258
- 5.) 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.

STREET LIGHTING NOTES:

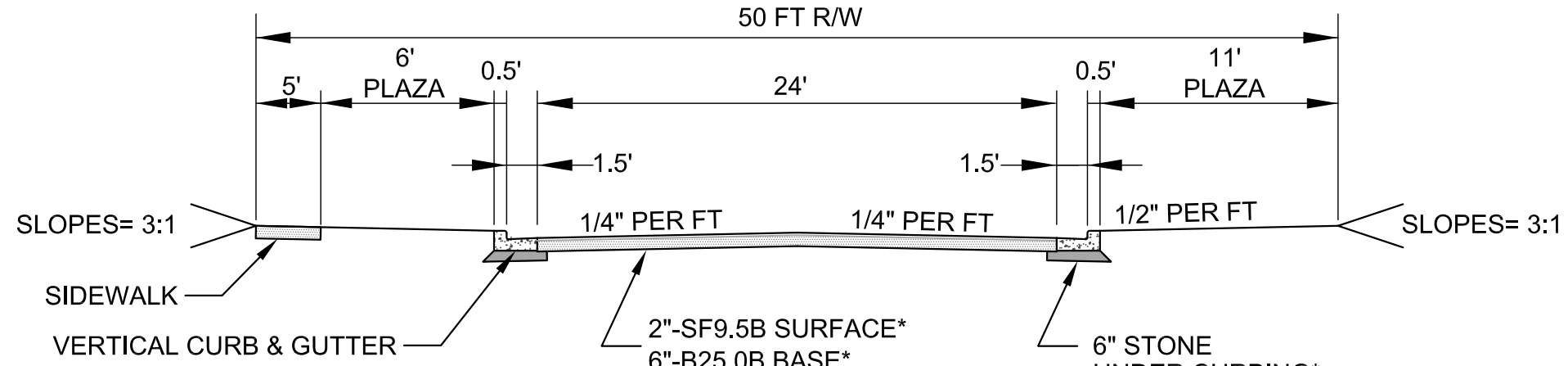
1. THE STANDARD STREETLIGHT SHALL BE A DEP ENCLOSED CUTOFF (COBRA TYPE). HIGH PRESSURE SODIUM VAPOR (HPSV) OR DEP DESIGNATED LED EQUIVALENT FIXTURE INSTALLED WITHIN THE RECOMMENDED RANGE OF MOUNTING HEIGHTS FOR THE SPECIFIC FIXTURE. THE STANDARD STREETLIGHT SHALL BE INSTALLED ON A WOODEN POLE IN AREAS SERVED FROM OVERHEAD FACILITIES AND ON A FIBERGLASS POLE IN AREAS SERVED FROM UNDERGROUND FACILITIES.
2. A LAYOUT FOR THE STANDARD STREET LIGHTING HAS BEEN PROVIDED WITH THE REVIEW. MINIMUM OF FIVE STREET LIGHTS ARE REQUIRED FOR THIS SUB-DIVISION. ALTHOUGH, DEVELOPERS MAY CHOOSE TO PROVIDE ANY EXTRA LIGHTS OR ORNAMENTAL. ANY INSTALLATIONS ABOVE THE CRITERIA OF STANDARD STREET LIGHTING, WILL BE CONSIDERED AS NONSTANDARD AND HAS TO CONFORM TO THE CITY'S NON-STANDARD STREET LIGHTING PROCEDURE AS PER THE POLICY.
3. DEVELOPERS SHALL BEAR ANY INSTALLATION COSTS ASSOCIATED WITH STREETLIGHTS, IF APPLICABLE. IN AREAS SERVED FROM UNDERGROUND FACILITIES, THE DEVELOPERS SHALL PAY THE ONE-TIME UNDERGROUND CONTRIBUTION CHARGE, IF APPLICABLE.
4. THE PLANNING, DEVELOPMENT AND TRANSPORTATION DIRECTOR OR DESIGNEE AND THE CITY LANDSCAPE DESIGNER WILL COORDINATE PLAZA PLANTINGS AND STREETLIGHT LOCATIONS TO MINIMIZE THE OBSTRUCTION OF LIGHT BY VEGETATION.

WILMINGTON  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

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

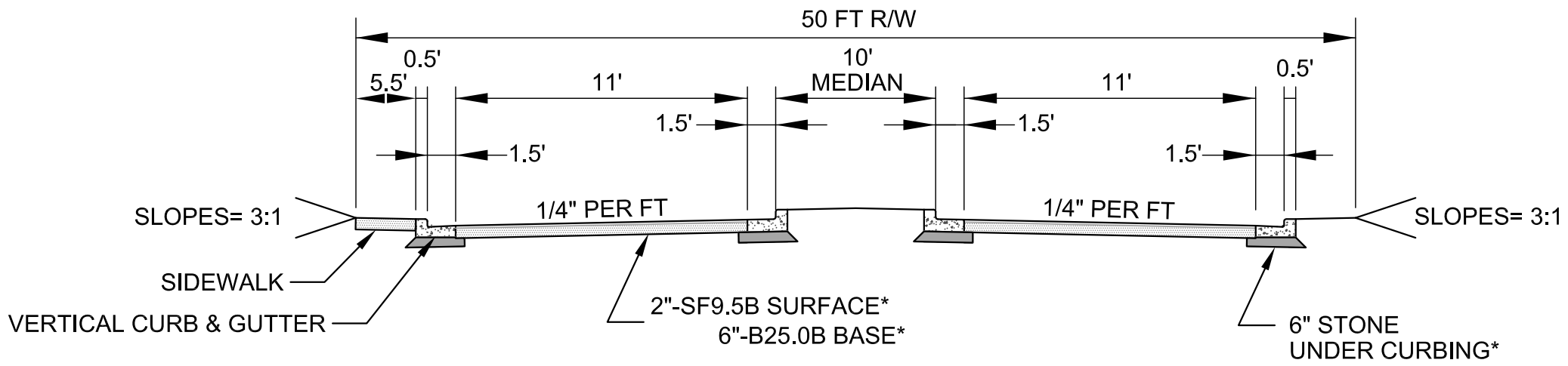
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

NCDENR PWSS WATER PERMIT #: \_\_\_\_\_  
WATER CAPACITY: \_\_\_\_\_ GPD  
DWQ SEWER PERMIT #: \_\_\_\_\_  
SEWER CAPACITY: \_\_\_\_\_ GPD  
SEWER SHED # AND PLANT: \_\_\_\_\_  
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)



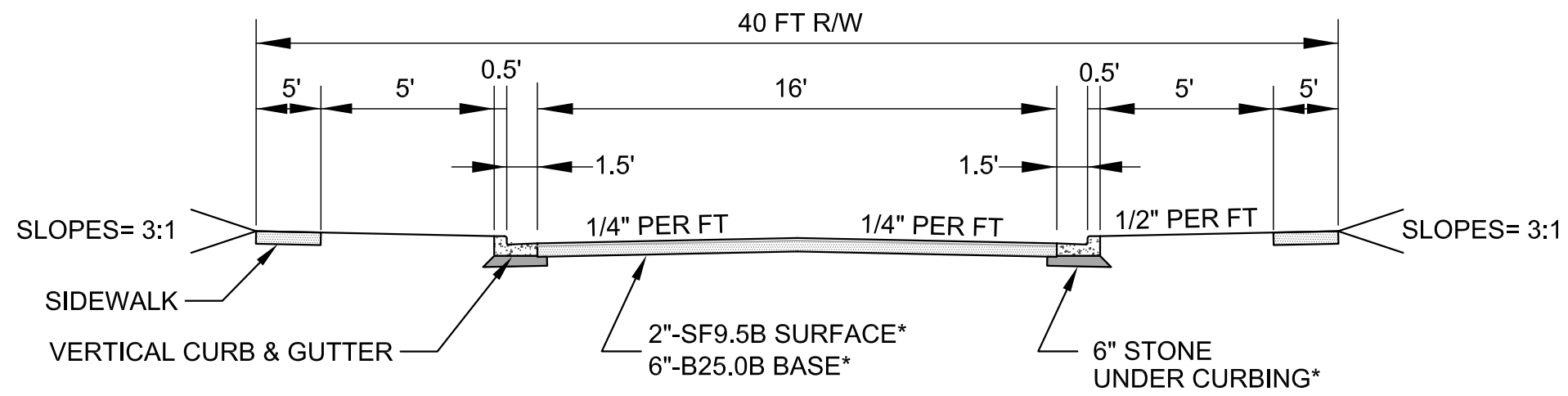
ROAD A - TYPICAL CROSS SECTION

NOT TO SCALE



ROAD A - TYPICAL CROSS SECTION W/ MEDIAN

NOT TO SCALE



ROAD B & C - TYPICAL CROSS SECTION

NOT TO SCALE

PRELIMINARY DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

CLIENT INFORMATION:  
ECHO FARMS, LLC  
c/o MATRIX DEVELOPMENT GROUP  
CN 400 FORSGATE DRIVE  
CRANBURY, NJ 08512

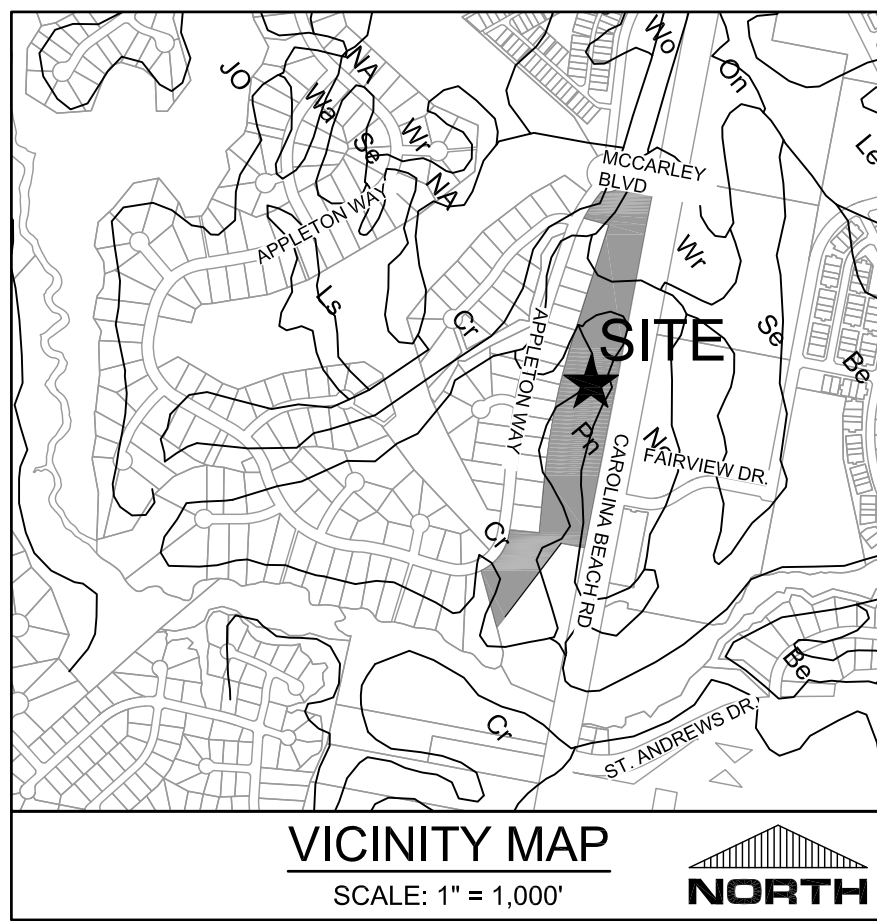
PARAMOUNT ENGINEERING  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

OVERALL SITE PLAN  
TRACT 5  
WOODLANDS @ ECHO FARMS  
CITY OF WILMINGTON  
NORTH CAROLINA

PROJECT STATUS:  
CONCEPTUAL LAYOUT:  
FINAL DESIGN:  
RELEASED FOR CONSTRUCTION:  
DRAWING INFORMATION:  
DATE: 8/8/2018  
SCALE: 1" = 100'  
DESIGNED: CWM  
CHECKED: JRE

SEAL  
C-2.0  
PEJ JOB#: 18153.PE





### SITE DATA TABULATION

ECHO FARMS, LLC  
MATRIX DEVELOPMENT GROUP  
CN 400 FORSGATE DRIVE  
CRANBURY, NJ 08512

PROJECT ADDRESS: 4114 ECHO FARMS BLVD.  
WILMINGTON, NC 28412

TAX PARCEL IDENTIFICATION #:  
RECORDED DEED BOOK:

R07006-002-001-000  
BK 2307, PG 450  
PLAT BOOK 64 PG. 296  
13.57 ACRES (591,022 SF)  
MF-M  
URBAN/ CONSERVATION AREA  
35' - 96' (WITH ADDITIONAL YARD REQ.)

EXISTING LAND USE:  
PROPOSED LAND USE:  
(DETACHED)

GOLF COURSE  
4 - SINGLE-FAMILY RES.

SINGLE FAMILY LOT COVERAGE  
MULTI FAMILY LOT COVERAGE

50% MAX PER CODE  
(20,000SF/44,773SF) 44.7%  
30% MAX PER CODE  
(60,000SF/501,456SF) 12.0%

### SINGLE FAMILY SETBACK STANDARDS

	PROVIDED	REQUIRED
MINIMUM FRONT SETBACK	15 FT	15 FT
MINIMUM SIDE SETBACK	5 FT	5 FT
MINIMUM CORNER SETBACK	10 FT	10 FT
MINIMUM REAR SETBACK	15 FT	15 FT

### SINGLE FAMILY LOT SIZE

APPROXIMATELY 60' WIDE x 120' LONG  
MINIMUM WIDTH = 50'  
MINIMUM SQUARE FOOTAGE = 5,000 SF

### MULTI FAMILY SETBACK STANDARDS

	PROVIDED	REQUIRED
MINIMUM FRONT SETBACK	35 FT	35 FT
MINIMUM SIDE SETBACK	25 FT	25 FT
MINIMUM REAR SETBACK	25 FT	25 FT

### MAXIMUM ALLOWED DENSITY TRACT 5

SFR IN MF-M ZONING ALLOWS UP TO 9 DU/AC  
13.57 AC. \* 9 UNITS/AC = 122 UNITS  
MF-M ZONING ALLOWS UP TO 17 DU/AC  
13.57 AC. \* 17 UNITS/AC = 231 UNITS  
46 PROPOSED UNITS = 3.39 UNITS/ACRE

### OPEN SPACE REQUIREMENTS

	PROVIDED	REQUIRED
(46) UNITS X 0.03 ACRES		
TOTAL	7.91 AC	1.38 AC
ACTIVE (50% OF REQUIRED)	0.70 AC	0.69 AC
PASSIVE (50% OF REQUIRED)	7.21 AC	0.69 AC

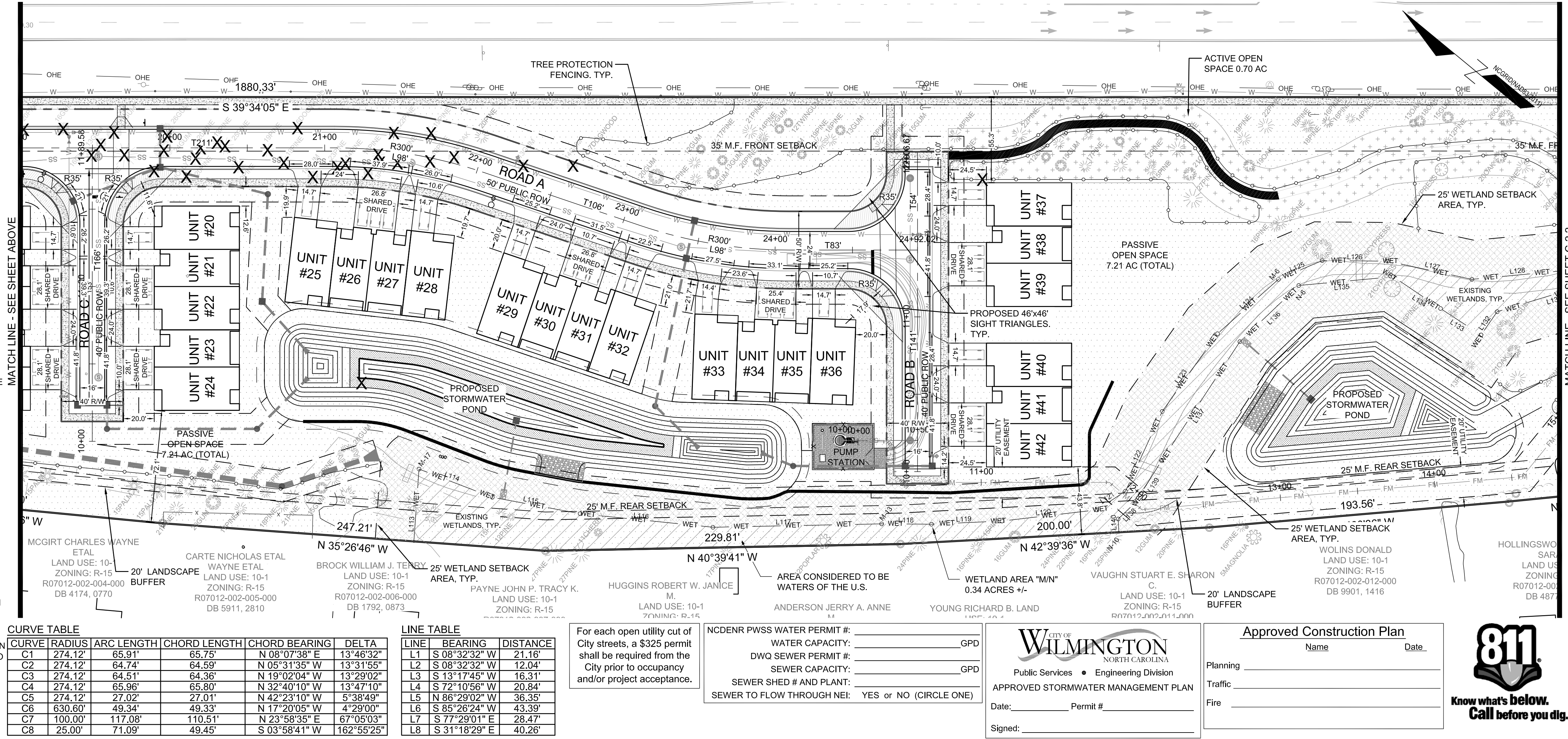
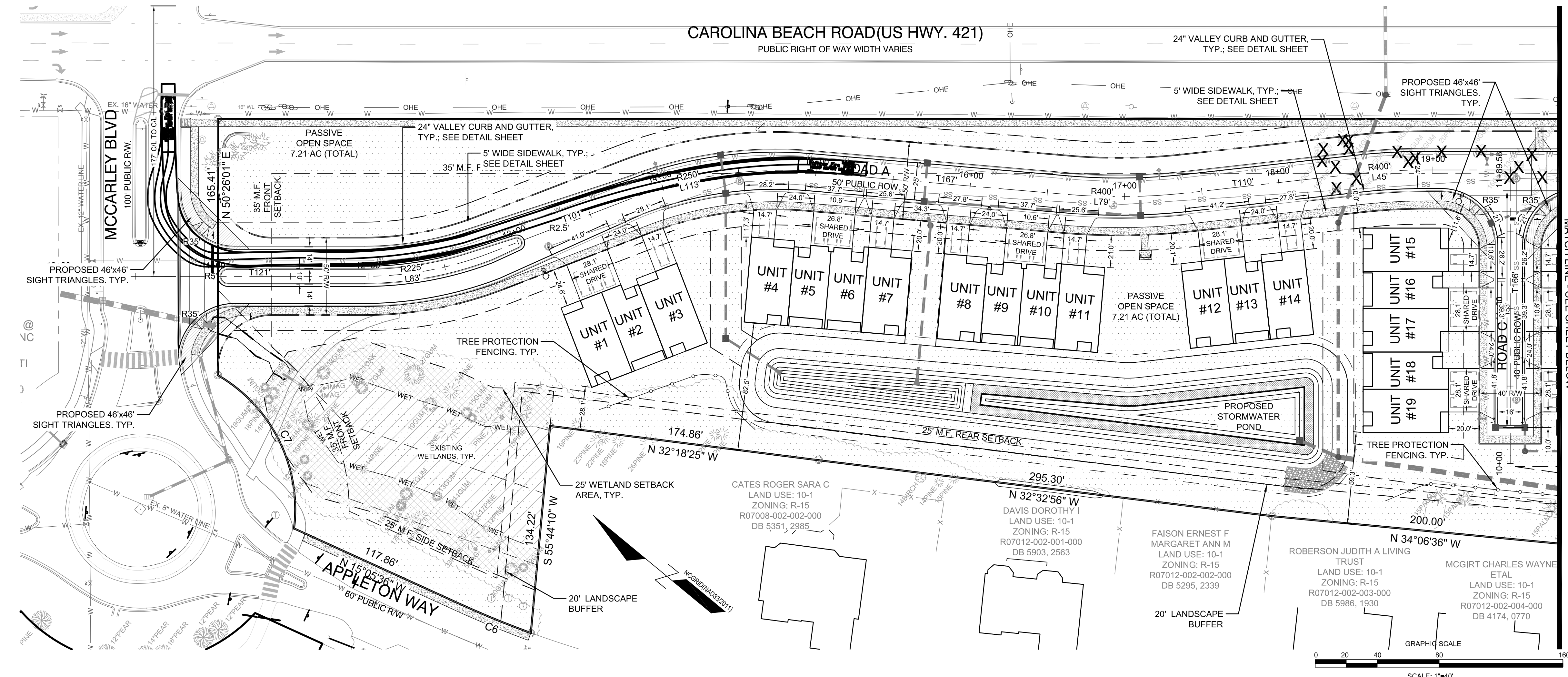
(0.57 ACRES OF OPEN SPACE IS WETLANDS)

### FLOOD NOTE

A PORTION OF HTE THE SUBJECT TRACT 5 PARCEL LIES WITHIN A 100-YEAR FLOOD ZONE AS INDICATED BY FEMA FLOOD ZONE PANEL 3720312500J BEARING AN EFFECTIVE DATE OF APRIL 3, 2006. SEE SHEET C-2.2 FOR AREA EFFECTED BY FLOOD ZONE.

### GENERAL NOTES:

- 1) INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
- 2) 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 910-341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- 3) ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- 4) CONTACT TRAFFIC ENGINEERING FORTY- EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY. 910-341-3258
- 5) 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.



### CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA
C1	374.12'	65.91'	65.75'	N 08°07'39" E	13°46'32"
C2	274.12'	64.74'	64.59'	N 05°31'35" W	13°31'55"
C3	274.12'	64.51'	64.36'	N 19°02'04" W	13°29'02"
C4	274.12'	65.96'	65.80'	N 32°40'10" W	13°47'10"
C5	274.12'	27.02'	27.01'	N 42°23'10" W	5°38'49"
C6	630.60'	49.34'	49.33'	N 17°20'05" W	4°29'00"
C7	100.00'	117.08'	110.51'	N 23°58'35" E	67°05'03"
C8	25.00'	71.09'	49.45'	S 03°58'41" W	162°55'25"

### LINE TABLE

LINE	BEARING	DISTANCE
L1	S 08°32'32" W	21.16'
L2	S 08°32'32" W	12.04'
L3	S 13°17'45" W	16.31'
L4	S 72°10'56" W	20.84'
L5	N 86°29'02" W	36.35'
L6	S 85°26'24" W	43.39'
L7	S 77°29'01" E	28.47'
L8	S 31°18'29" E	40.26'

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

NC DENR PWSS WATER PERMIT #:  
WATER CAPACITY: \_\_\_\_\_ GPD  
DWQ SEWER PERMIT #:  
SEWER CAPACITY: \_\_\_\_\_ GPD  
SEWER SHED # AND PLANT:  
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

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



PRELIMINARY DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

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CLIENT INFORMATION:

ECHO FARMS, LLC  
c/o MATRIX DEVELOPMENT GROUP  
CN 400 FORSGATE DRIVE  
CRANBURY, NJ 08512

PARAMOUNT ENGINEERING

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SITE PLAN  
TRACT 5  
WOODLANDS @ ECHO FARMS  
CITY OF WILMINGTON  
NORTH CAROLINA

PROJECT STATUS:  
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RELEASED FOR CONST:

DRAWING INFORMATION:  
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SEAL

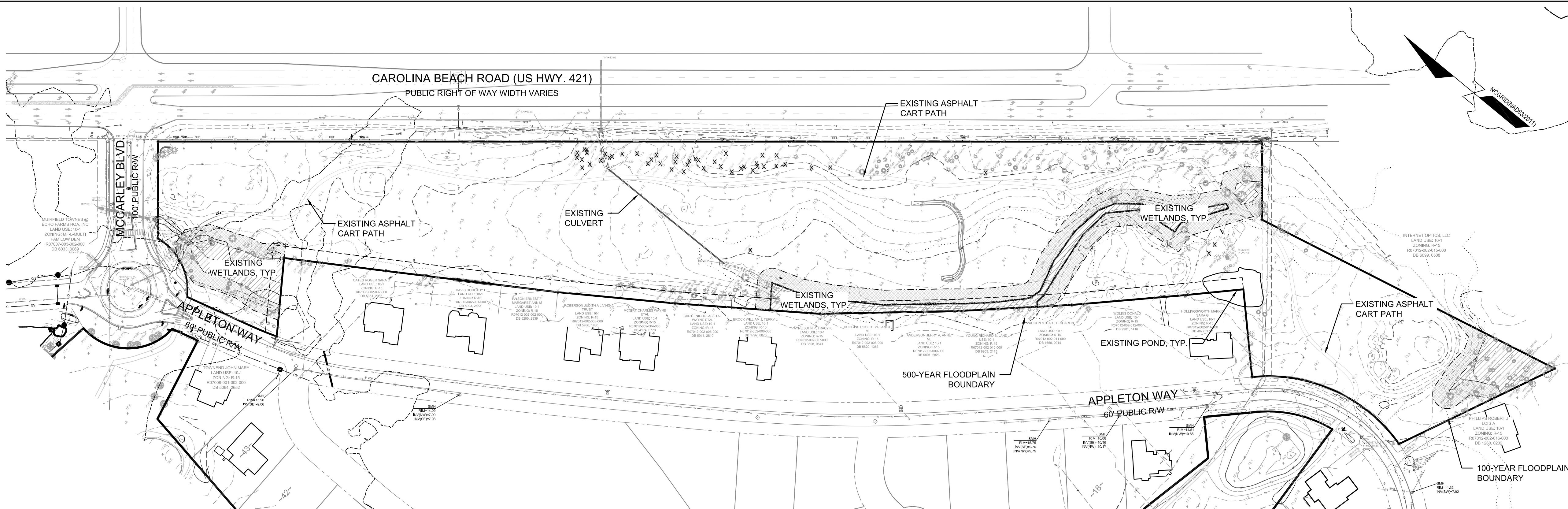
C-2.1

PEJ JOB#: 18153.PE







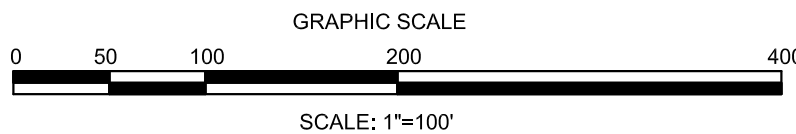


Approved Construction Plan	
Name	Date
Planning _____	
Traffic _____	
Fire _____	

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**REVISIONS:**

**CLIENT INFORMATION:**

ECHO FARMS, LLC  
c/o MATRIX DEVELOPMENT GROUP  
CN 4000 FORSGATE DRIVE  
CRANBURY, NJ 08512

# PARAMOUNT

122 Cinema Drive

ington, North Carolina 28403  
1-6707 (O) (910) 791-6760 (F)

NC License #: C-2846

**SITE INVENTORY MAP  
TRACT 5  
WOODLANDS @ ECHO FARM  
CITY OF WILMINGTON  
NORTH CAROLINA**

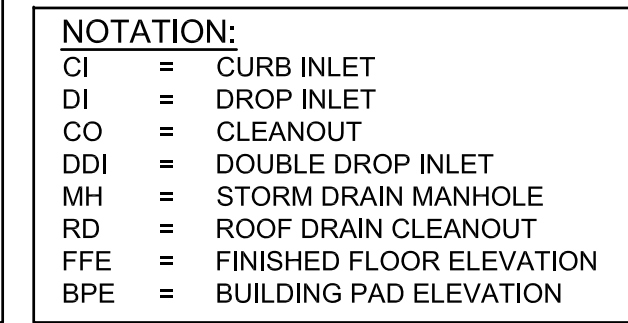
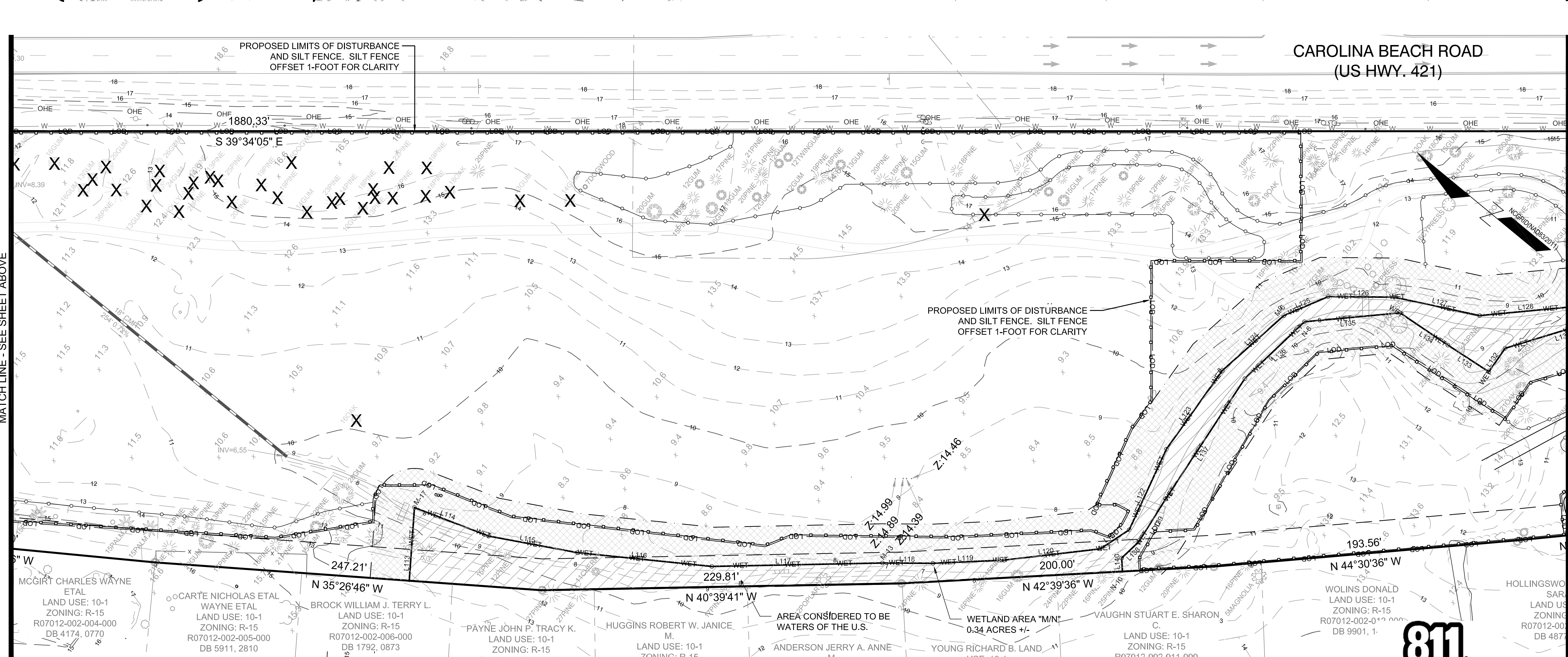
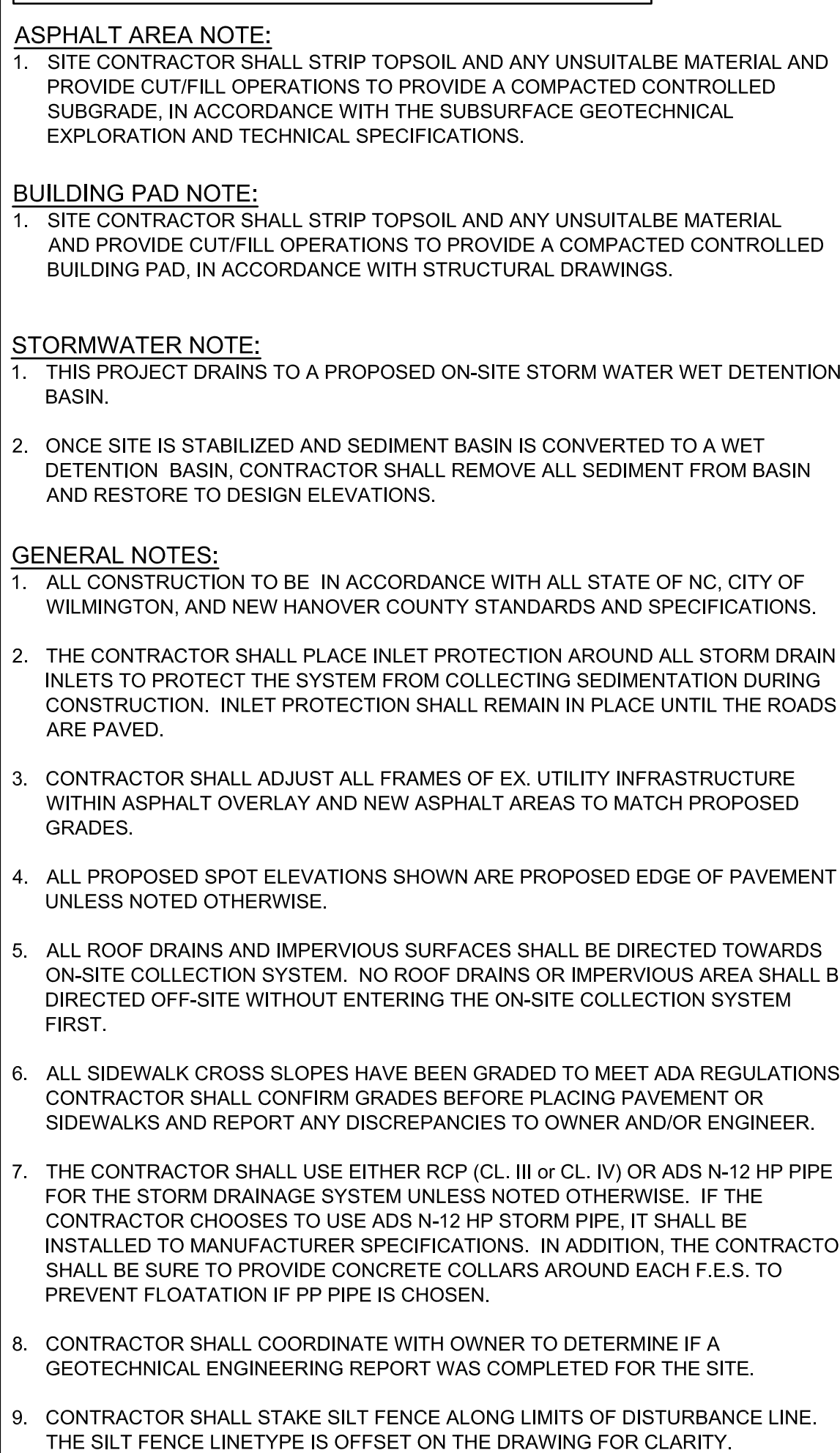
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SEAL

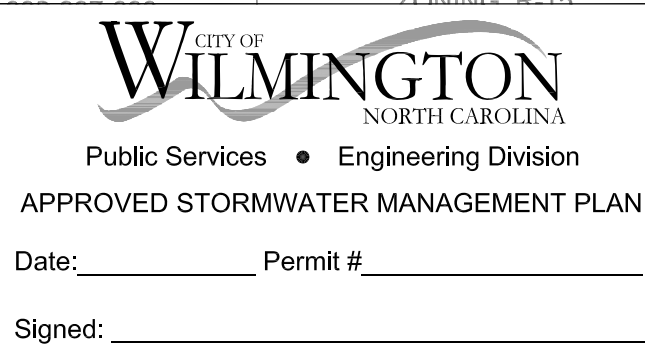
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PEI JOB#: 18153.PE



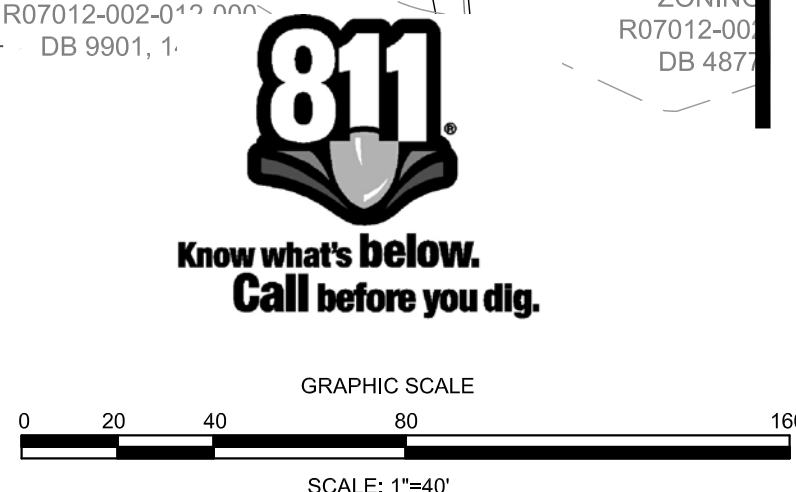


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<u>Approved Construction Plan</u>	
<u>Name</u>	<u>Date</u>
Planning _____	
Traffic _____	
Fire _____	

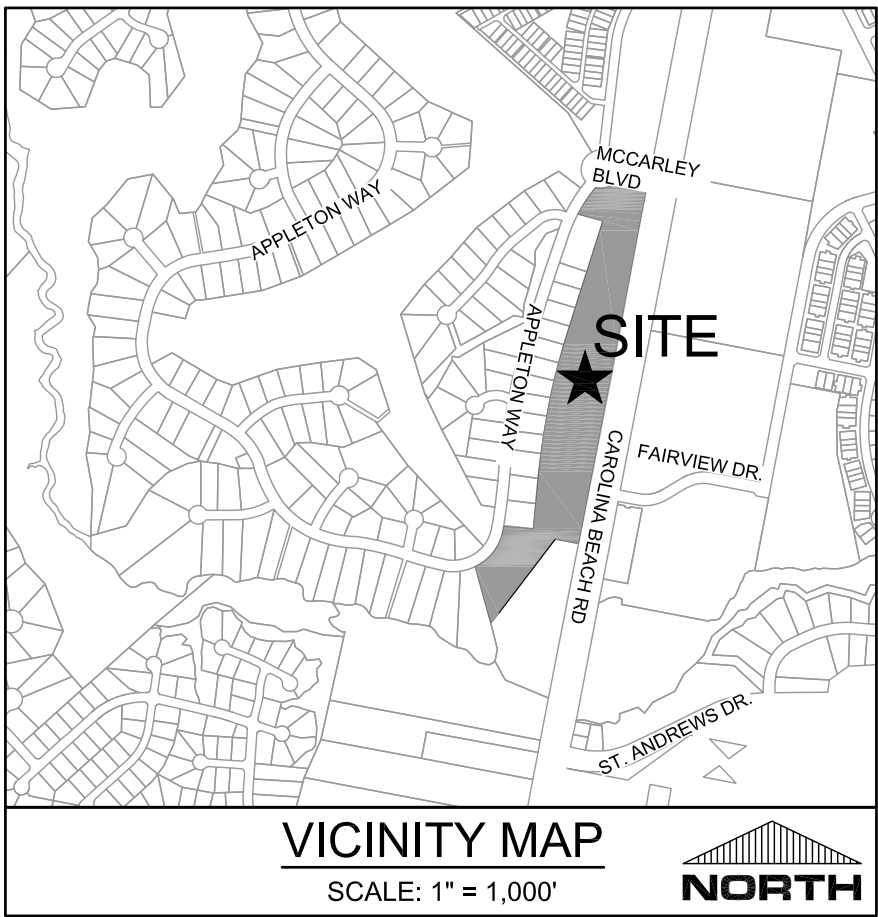
NCDENR PWSS WATER PERMIT #: \_\_\_\_\_  
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SEWER SHED # AND PLANT: \_\_\_\_\_  
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)



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PRELIMINARY DESIGN - NOT RELEASED FOR CONSTRUCTION  
WATSON LINE - SEE SHEET 0.0-1

C-3.0		SEAL	PROJECT STATUS CONCEPTUAL LAYOUT: FINAL DESIGN: RELEASED FOR CONST:	PH I EROSION CONTROL PLAN TRACT 5  WOODLANDS @ ECHO FARMS CITY OF WILMINGTON NORTH CAROLINA	PARAMOUNT ENGINEERING  122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) NC License #: C-2846	CLIENT INFORMATION:  ECHO FARMS, LLC c/o MATRIX DEVELOPMENT GROUP CN 4000 FORSGATE DRIVE, CRANBURY, NJ 08512	REVISIONS:	
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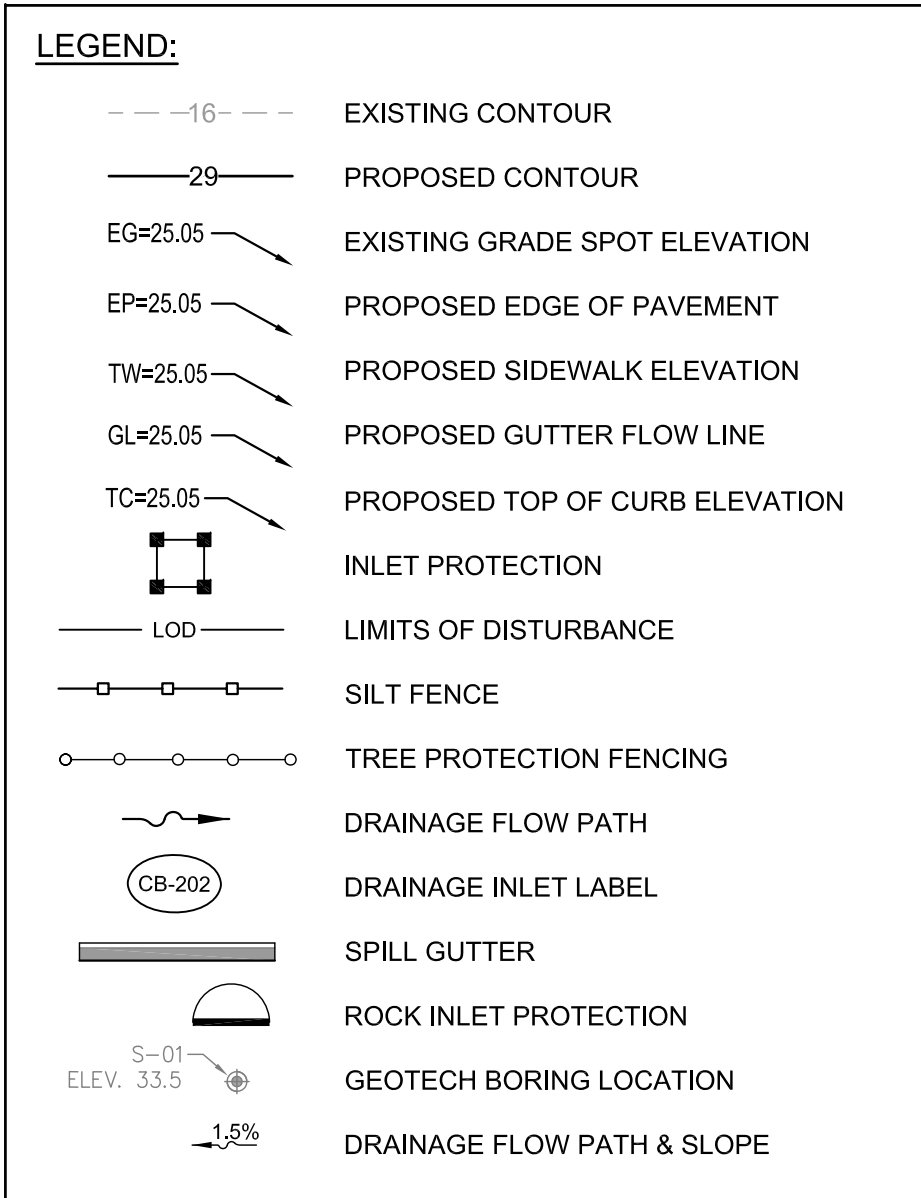


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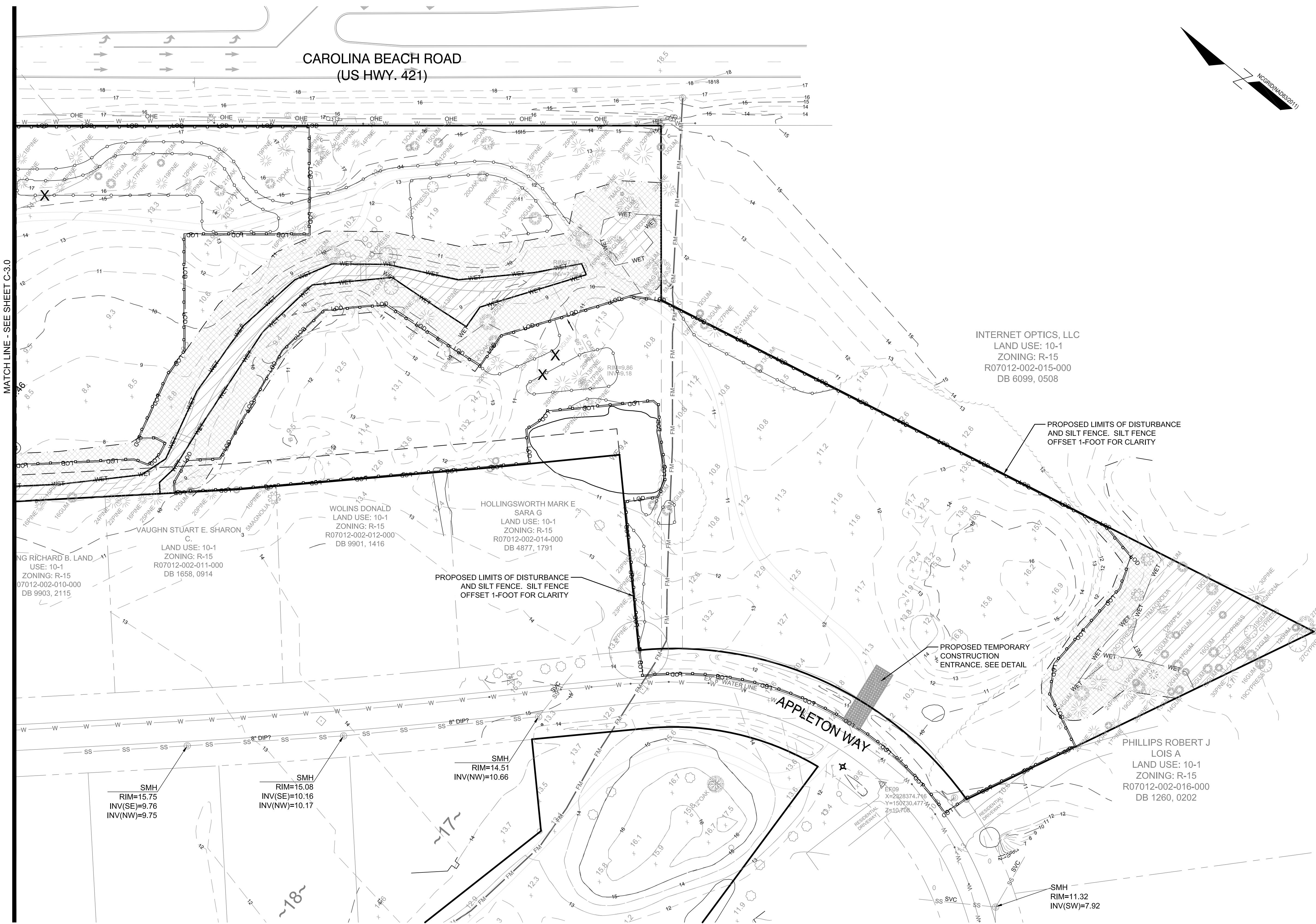
STORMWATER NOTE:  
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NOTATION:

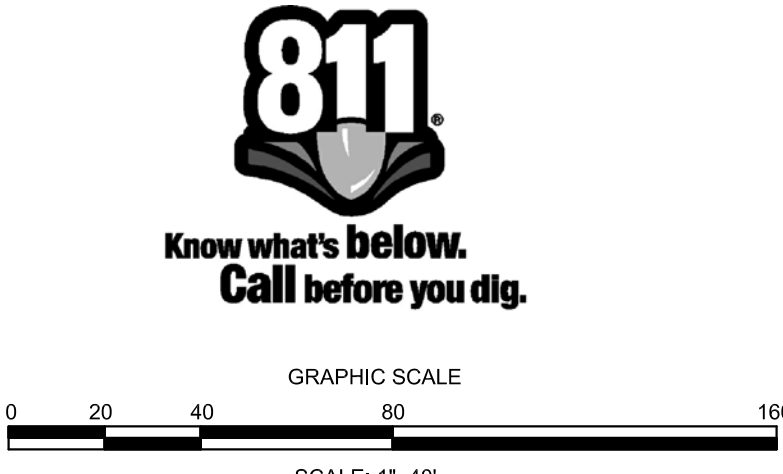
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WILMINGTON NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: Permit #  
Signed:

Approved Construction Plan  
Name Date  
Planning  
Traffic  
Fire

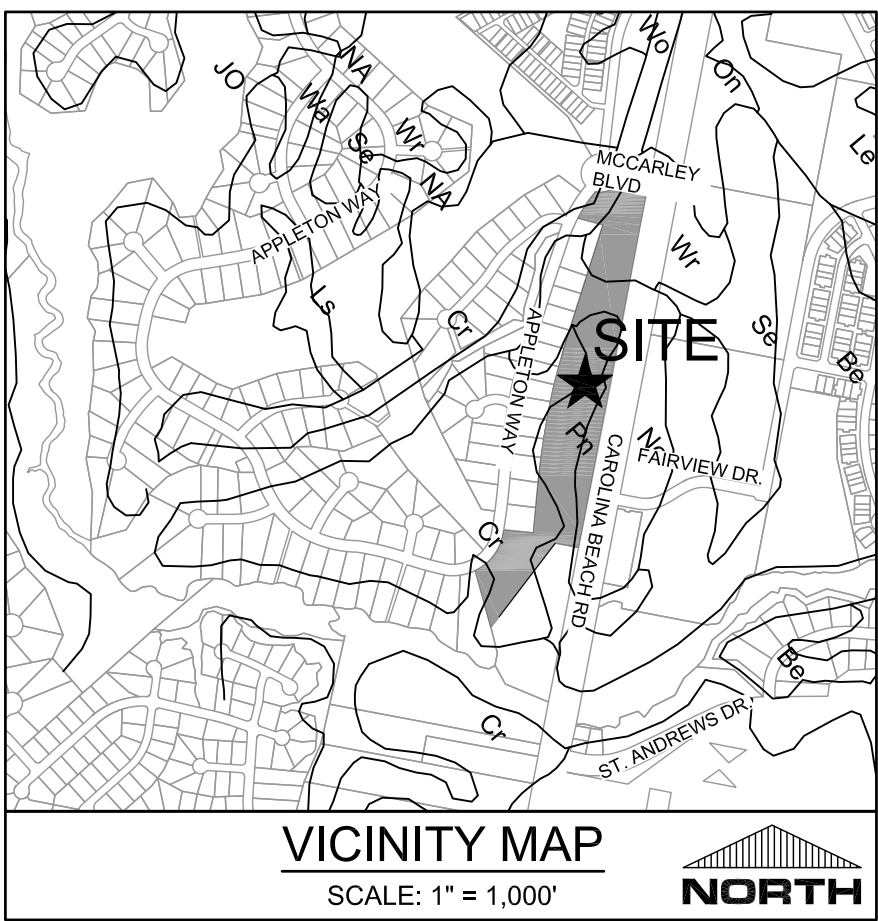
NCDENR PWSS WATER PERMIT #:  
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PRELIMINARY DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:	CLIENT INFORMATION:	PROJECT STATUS:	SEAL
	ECHO FARMS, LLC c/o MATRIX DEVELOPMENT GROUP CN 4000 FORSGATE DRIVE CRANBURY, NJ 08512	CONCEPTUAL LAYOUT: FINAL DESIGN: RELEASED FOR CONST:	
	PARAMOUNT ENGINEERING, INC. 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) NC License # C-2846	DRAWING INFORMATION: DATE: SCALE: DESIGNED: CHECKED:	
		PH I EROSION CONTROL PLAN TRACT 5 WOODLANDS @ ECHO FARMS CITY OF WILMINGTON NORTH CAROLINA	
		C-3.1	PEI JOB#: 18153.PE



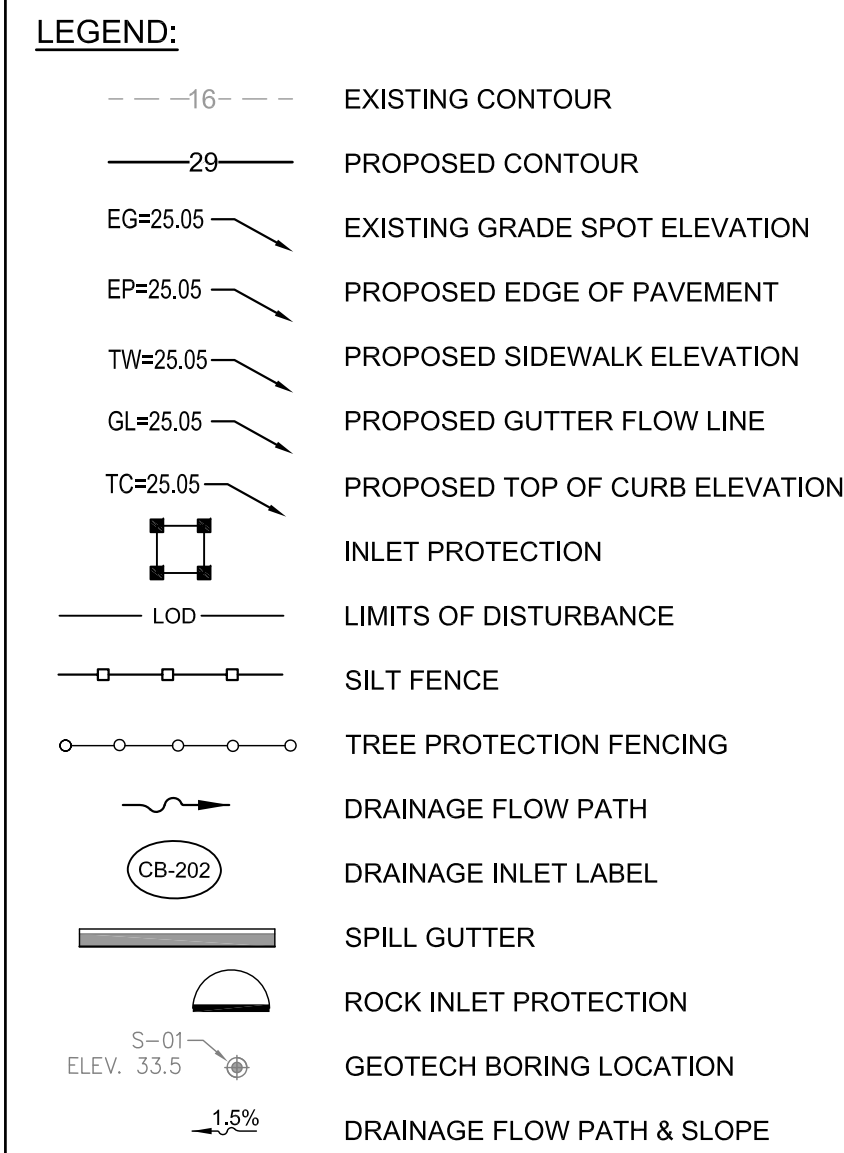


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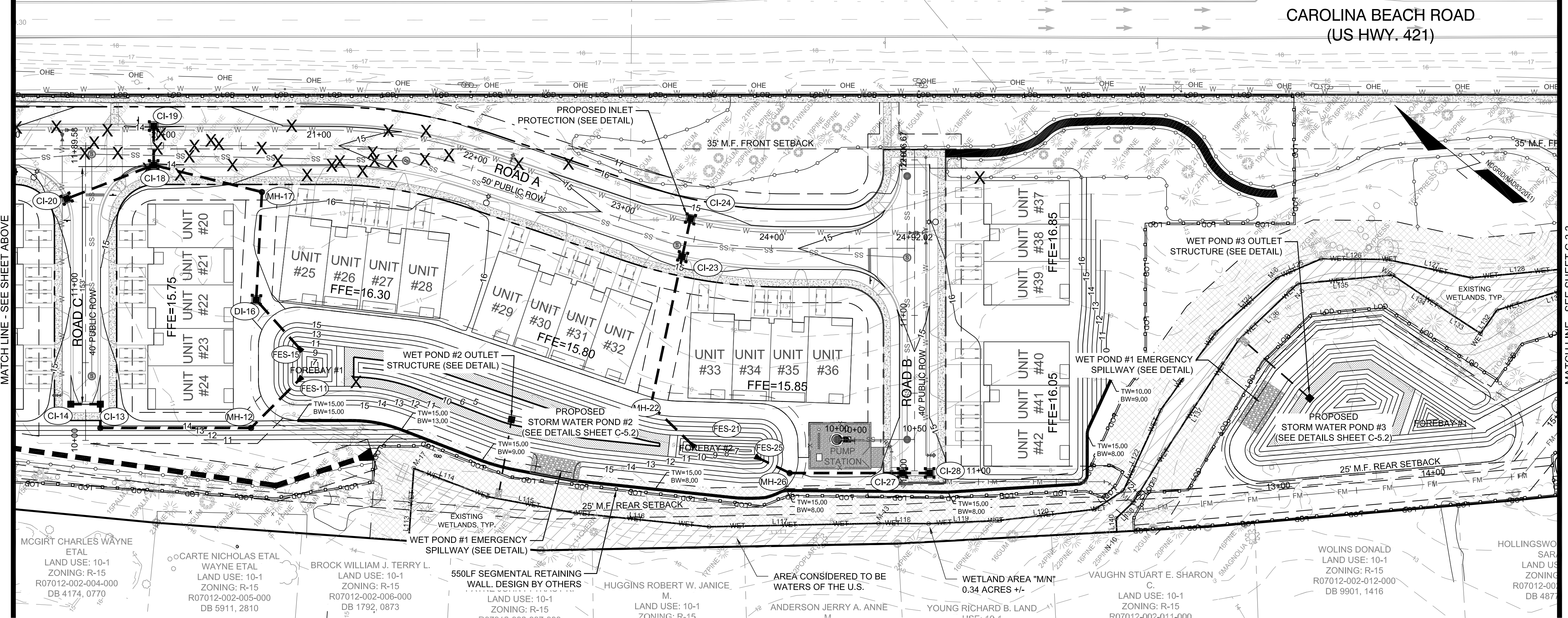
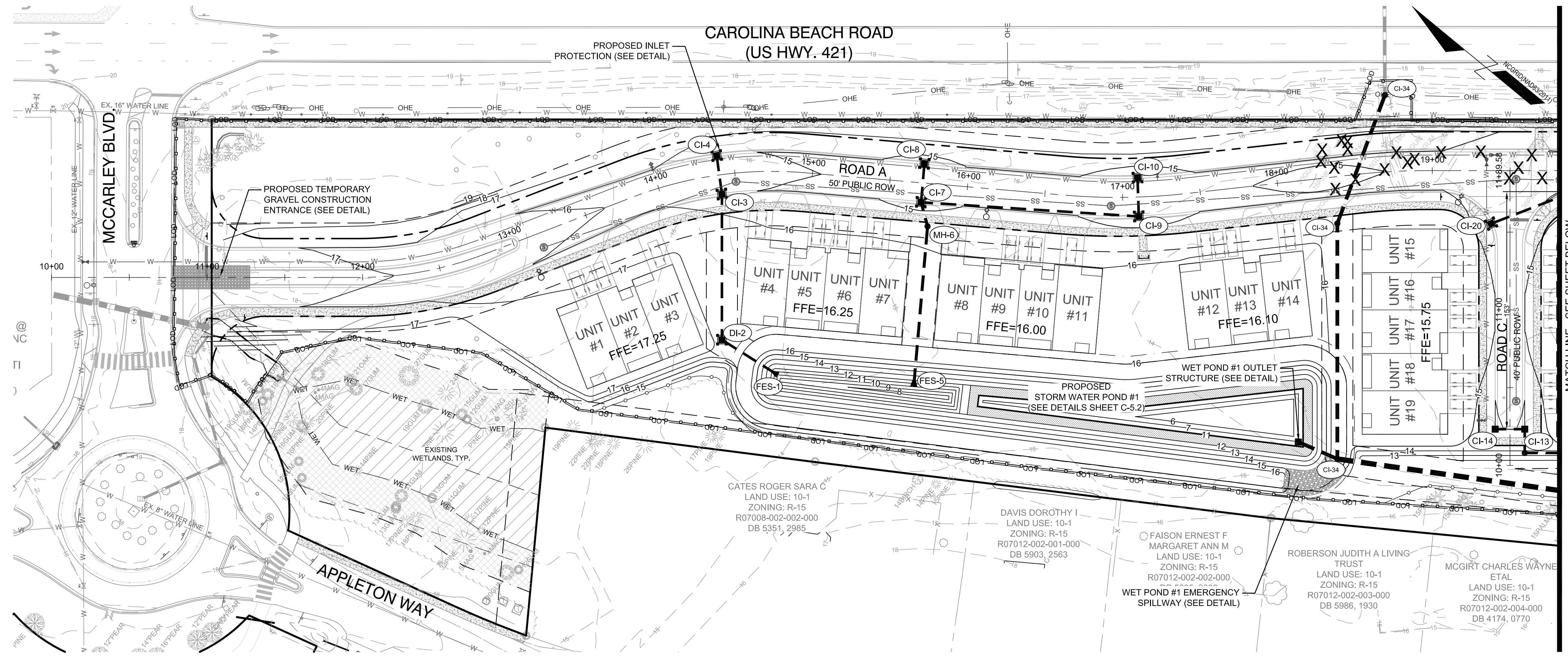
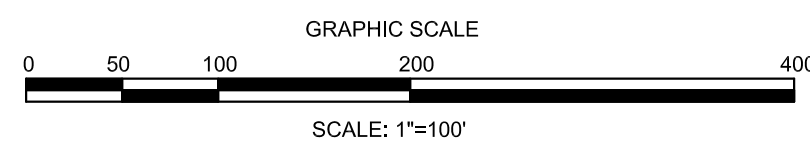
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**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
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**Approved Construction Plan**  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
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REVISIONS:

CLIENT INFORMATION:

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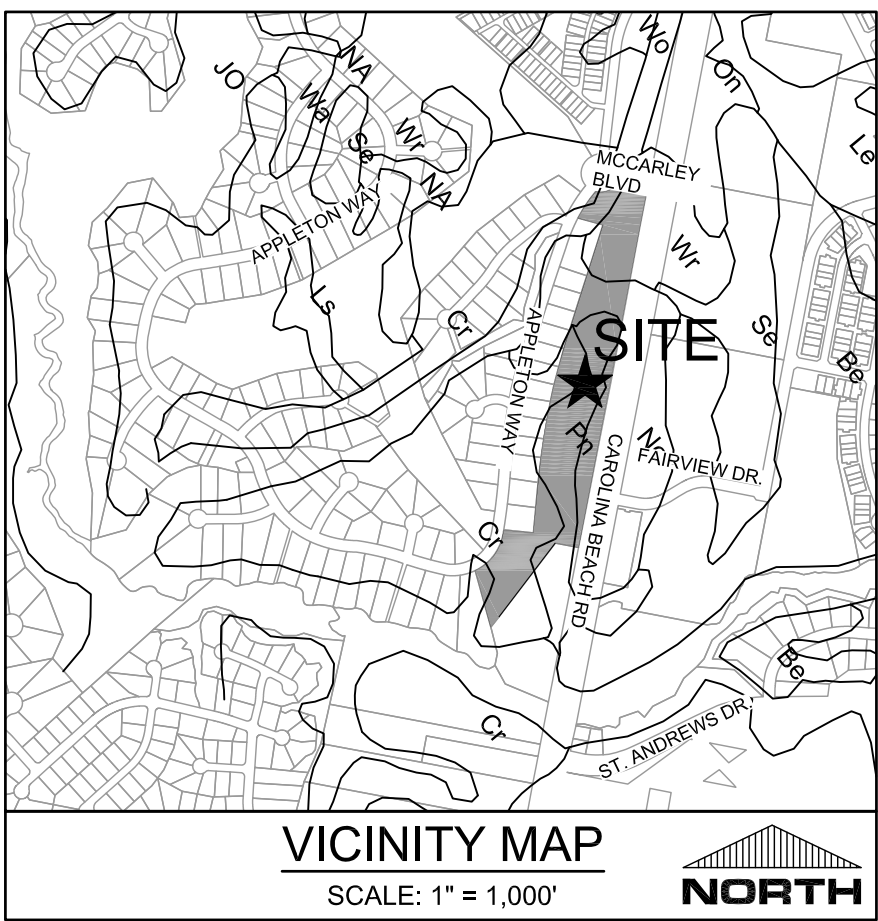
GRADING & DRAINAGE PLAN  
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WOODLANDS @ ECHO FARMS  
CITY OF WILMINGTON  
NORTH CAROLINA

PROJECT STATUS:  
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FINAL DESIGN LAYOUT:  
RELEASED FOR CONSTRUCTION:  
DRAWING INFORMATION:  
DATE: 8/8/15  
SCALE: 1" = 40'  
DESIGNED: CWW  
CHECKED: BBE

SEAL

**C-3.2**  
PEI JOB#: 18153.PE



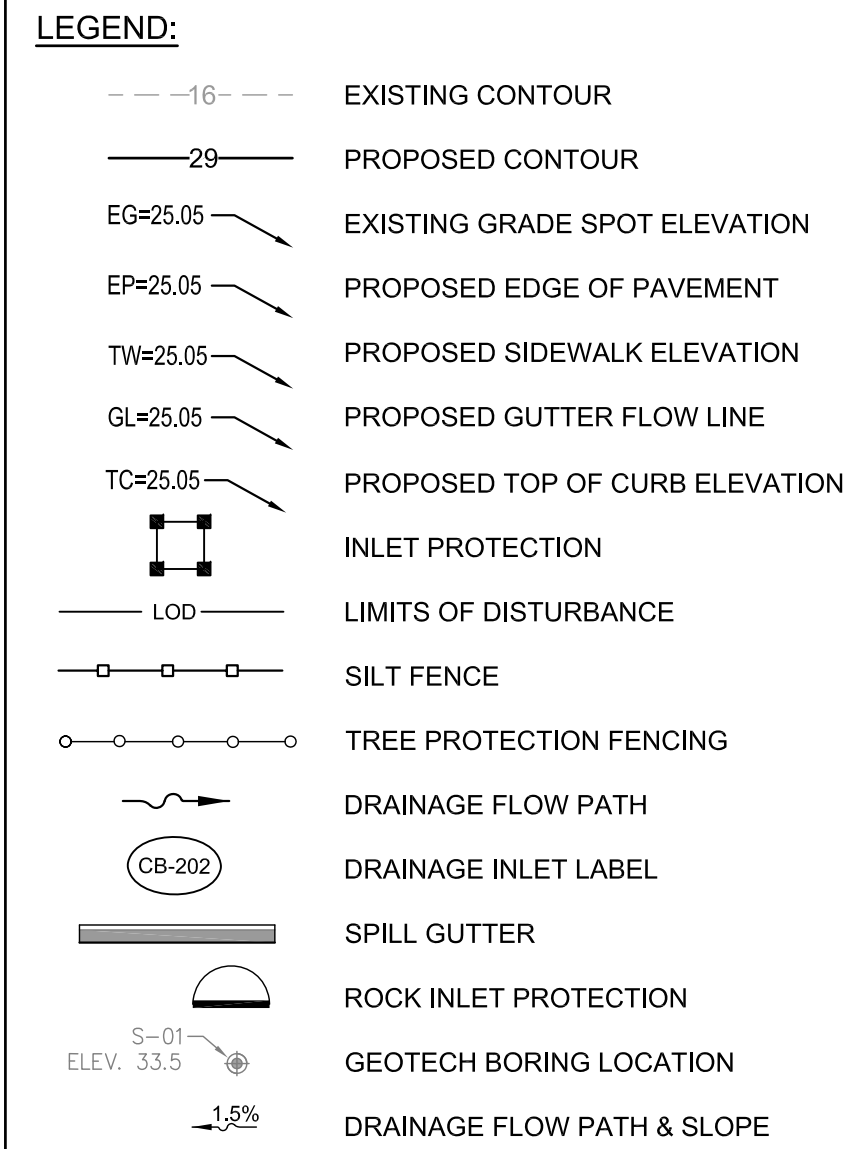


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2. ONCE SITE IS STABILIZED AND SEDIMENT BASIN IS CONVERTED TO A WET DETENTION BASIN, CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM BASIN AND RESTORE TO DESIGN ELEVATIONS.

GENERAL NOTES:  
1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL STATE OF NC, CITY OF WILMINGTON, AND NEW HANOVER COUNTY STANDARDS AND SPECIFICATIONS.  
2. THE CONTRACTOR SHALL PLACE INLET PROTECTION AROUND ALL STORM DRAIN INLETS TO PROTECT THE SYSTEM FROM COLLECTING SEDIMENTATION DURING CONSTRUCTION. INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE ROADS ARE PAVED.  
3. CONTRACTOR SHALL ADJUST ALL FRAMES OF EX. UTILITY INFRASTRUCTURE WITHIN ASPHALT OVERLAY AND NEW ASPHALT AREAS TO MATCH PROPOSED GRADES.  
4. ALL PROPOSED SPOT ELEVATIONS SHOWN ARE PROPOSED EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.  
5. ALL ROOF DRAINS AND IMPERVIOUS SURFACES SHALL BE DIRECTED TOWARDS ON-SITE COLLECTION SYSTEM. NO ROOF DRAINS OR IMPERVIOUS AREA SHALL BE DIRECTED OFF-SITE WITHOUT ENTERING THE ON-SITE COLLECTION SYSTEM FIRST.  
6. ALL SIDEWALK CROSS SLOPES HAVE BEEN GRADED TO MEET ADA REGULATIONS. CONTRACTOR SHALL CONFIRM GRADES BEFORE PLACING PAVEMENT OR SIDEWALKS AND REPORT ANY DISCREPANCIES TO OWNER AND/OR ENGINEER.  
7. THE CONTRACTOR SHALL USE EITHER RCP (CL. III or CL. IV) OR ADS N-12 HP PIPE FOR THE STORM DRAINAGE SYSTEM UNLESS NOTED OTHERWISE. IF THE CONTRACTOR CHOOSES TO USE ADS N-12 HP STORM PIPE, IT SHALL BE INSTALLED TO MANUFACTURER SPECIFICATIONS. IN ADDITION, THE CONTRACTOR SHALL BE SURE TO PROVIDE CONCRETE COLLARS AROUND EACH F.E.S. TO PREVENT FLOATATION IF PP PIPE IS CHOSEN.  
8. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE IF A GEOTECHNICAL ENGINEERING REPORT WAS COMPLETED FOR THE SITE.  
9. CONTRACTOR SHALL STAKE SILT FENCE ALONG LIMITS OF DISTURBANCE LINE. THE SILT FENCE LINETYPE IS OFFSET ON THE DRAWING FOR CLARITY.



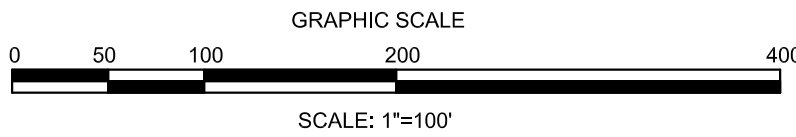
NOTATION:  
CI = CURB INLET  
DI = DROP INLET  
CO = CLEANOUT  
DDI = DOUBLE DROP INLET  
MH = STORM DRAIN MANHOLE  
RD = ROOF DRAIN CLEANOUT  
FFE = FINISHED FLOOR ELEVATION  
BPE = BUILDING PAD ELEVATION

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

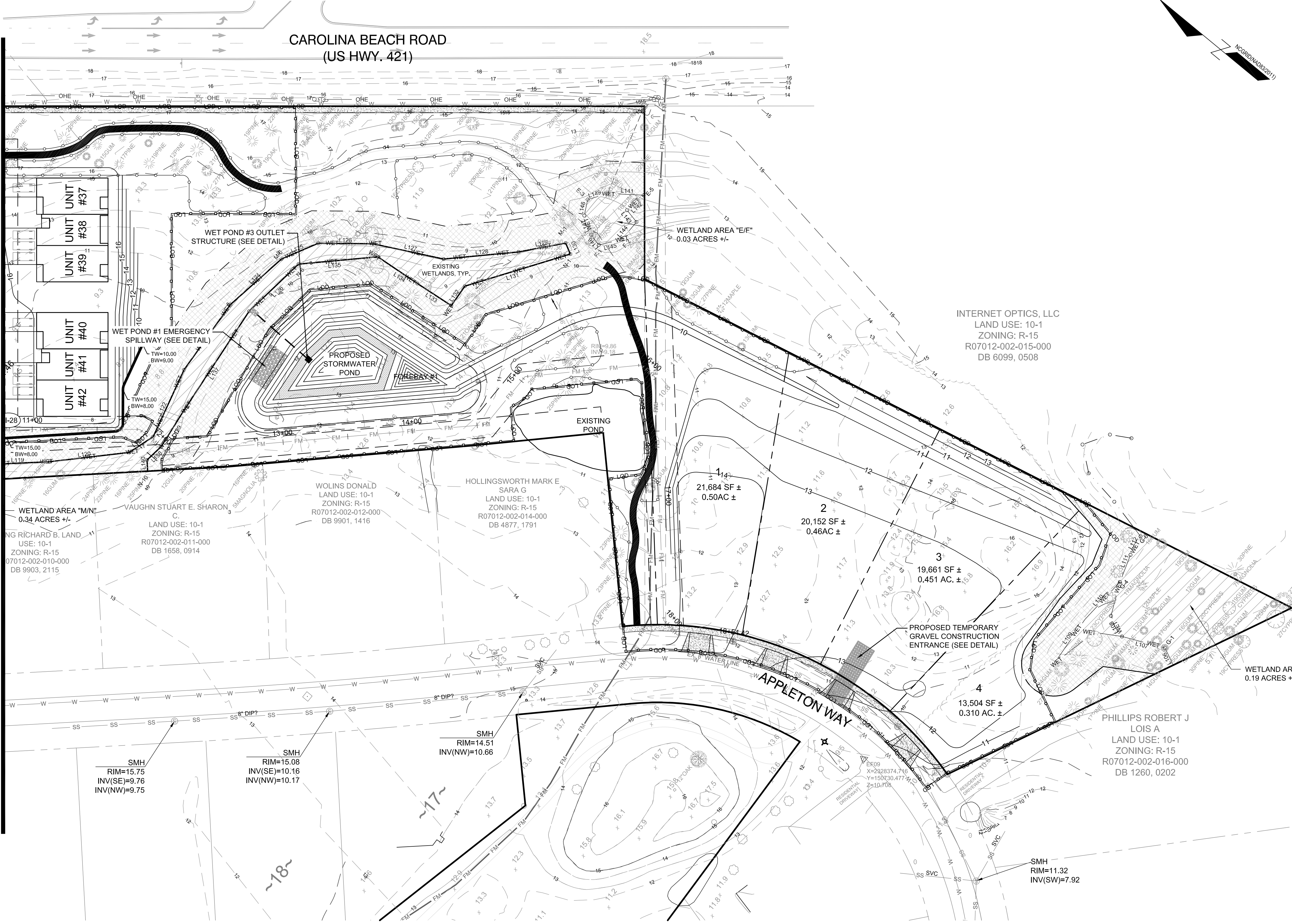
NC DENR PWSS WATER PERMIT #:  
WATER CAPACITY: \_\_\_\_\_ GPD  
DWQ SEWER PERMIT #:  
SEWER CAPACITY: \_\_\_\_\_ GPD  
SEWER SHED # AND PLANT:  
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

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



MATCH LINE - SEE SHEET C-3.2



PRELIMINARY DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:		CLIENT INFORMATION:	
		ECHO FARMS, LLC c/o MATRIX DEVELOPMENT GROUP CN 4000 FORSGATE DRIVE CRANBURY, NJ 08512	
GRADING & DRAINAGE PLAN TRACT 5 WOODLANDS @ ECHO FARMS CITY OF WILMINGTON NORTH CAROLINA		PARAMOUNT ENGINEERING 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) NC License #: C-2846	
PROJECT STATUS: CONCEPTUAL LAYOUT: FINAL DESIGN: RELEASED FOR CONST:		DRAWING INFORMATION: DATE: SCALE: DESIGNED: CHECKED:	
SEAL		C-3.3	
		PEJ JOB#: 18153.PE	

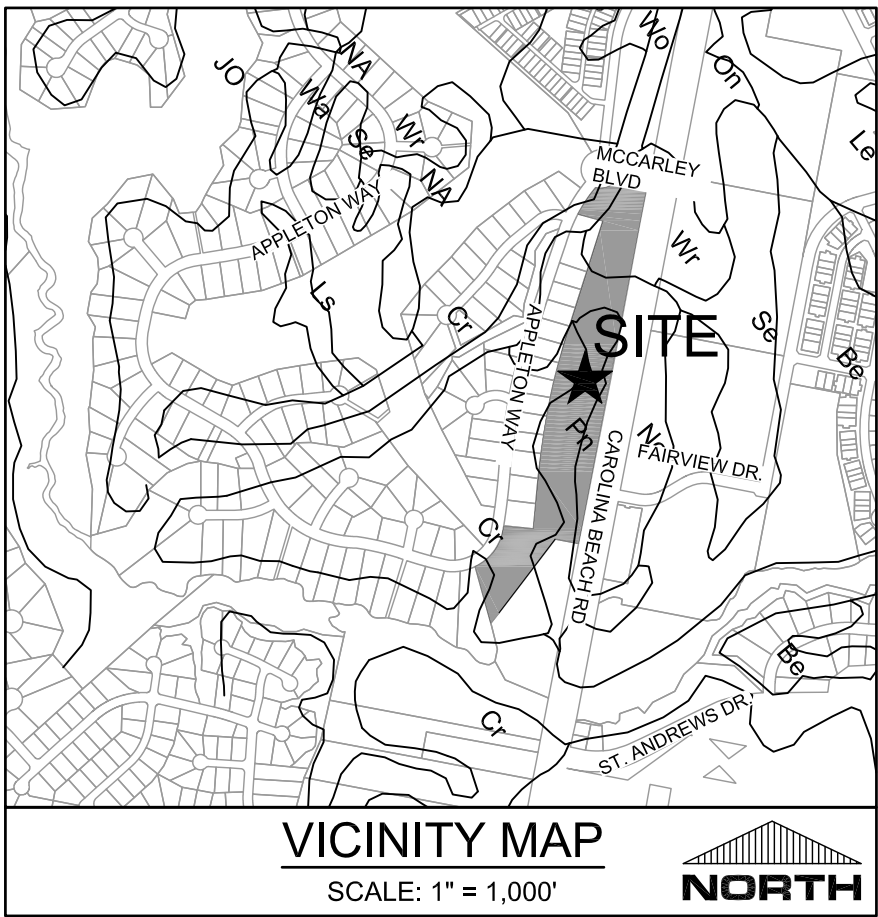


C-4.0		UTILITY PLAN & PROFILE TRACT 5  WOODLANDS @ ECHO FARMS CITY OF WILMINGTON NORTH CAROLINA	<table border="1"><tr><td><b>PROJECT STATUS</b> CONCEPTUAL LAYOUT: DESIGNED: FINAL DESIGN: RELEASED FOR CONST:</td><td><b>DRAWING INFORMATION</b> DATE: 6/9/07/HB BY: JMB OWN: PWS CHECKED: RPB APP: RPB</td></tr></table>	<b>PROJECT STATUS</b> CONCEPTUAL LAYOUT: DESIGNED: FINAL DESIGN: RELEASED FOR CONST:	<b>DRAWING INFORMATION</b> DATE: 6/9/07/HB BY: JMB OWN: PWS CHECKED: RPB APP: RPB	<p><b>PARAMOUNT ENGINEERING</b></p> <p>122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6766 (F) NC License #: C-2846</p>	<p>c/o MATRIX DEVELOPMENT GROUP CN 4000 FOREGATE DRIVE, CRANBURY, NJ 08512</p>	ECHO FARMS, LLC	REVISIONS:
<b>PROJECT STATUS</b> CONCEPTUAL LAYOUT: DESIGNED: FINAL DESIGN: RELEASED FOR CONST:	<b>DRAWING INFORMATION</b> DATE: 6/9/07/HB BY: JMB OWN: PWS CHECKED: RPB APP: RPB								
PFI JOB#:	18153.PF								









UTILITY NOTES: (NCAC 15A.02T.0305 / T15A.18C.0906)

1. WATER MAINS SHALL BE LAID SO AS TO PROVIDE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET FROM SEWERS. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN CAN BE INSTALLED AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, EITHER IN A SEPARATE TRENCH, OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH.
2. WHEN CROSSING A WATER MAIN OVER A SEWER, THE WATER MAIN SHALL BE LAID AT LEAST 18 INCHES ABOVE THE SEWER. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS THAT MEET WATER MAIN STANDARDS. THE DUCTILE IRON PIPE SHALL EXTEND 10 FEET ON EACH SIDE OF THE CROSSING WITH A SECTION OF WATER MAIN PIPE CENTERED ON THE CROSSING.
3. CROSSING A WATER MAIN UNDER A SEWER, WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER 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. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
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UTILITY INFORMATION

SANITARY SEWER

THIS PROJECT IS CONSTRUCTING A SANITARY SEWER GRAVITY SYSTEM THAT WILL CONNECT TO A PROPOSED PRIVATE PUMP STATION WHICH THEN PUMPS TO A PROPOSED GRAVITY MAIN EXTENSION THAT DRAINS TO CFPUA P.S. #26. SANITARY SEWER ALLOCATION IS PROVIDED BY CFPUA.

WATER

THIS PROJECT WILL CONNECT TO EXISTING 12-INCH WATER MAIN LOCATED WITHIN MCCARLEY BLDV. RIGHT OF WAY. THIS PROJECT IS CONSTRUCTING 8-INCH WATER MAINS THAT WILL DEED END WITHIN THE PROJECT. DOMESTIC WATER ALLOCATION PROVIDED BY CFPUA.

WATER & SEWER SERVICE NOTE:

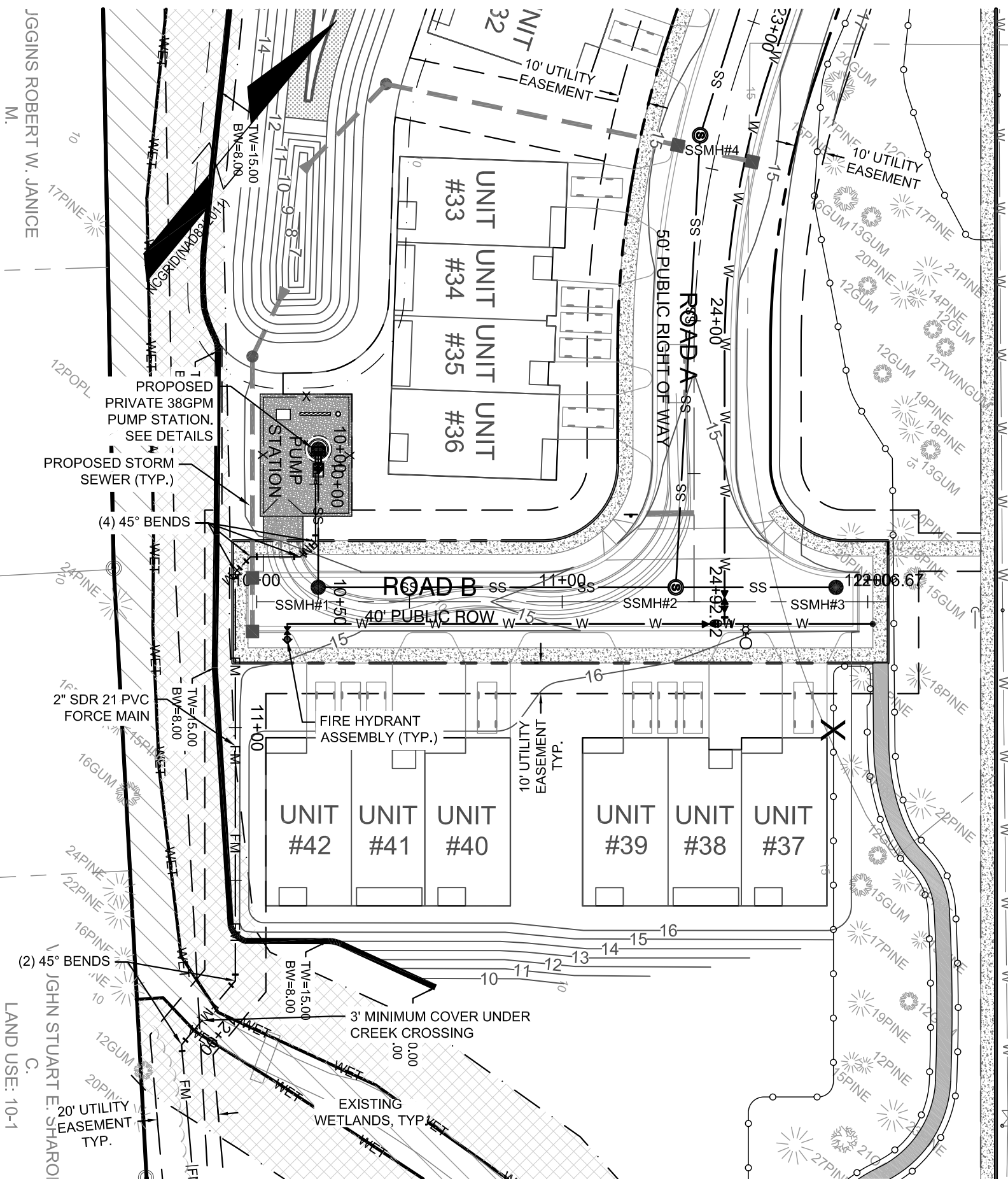
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FIRE & LIFE SAFETY NOTES:

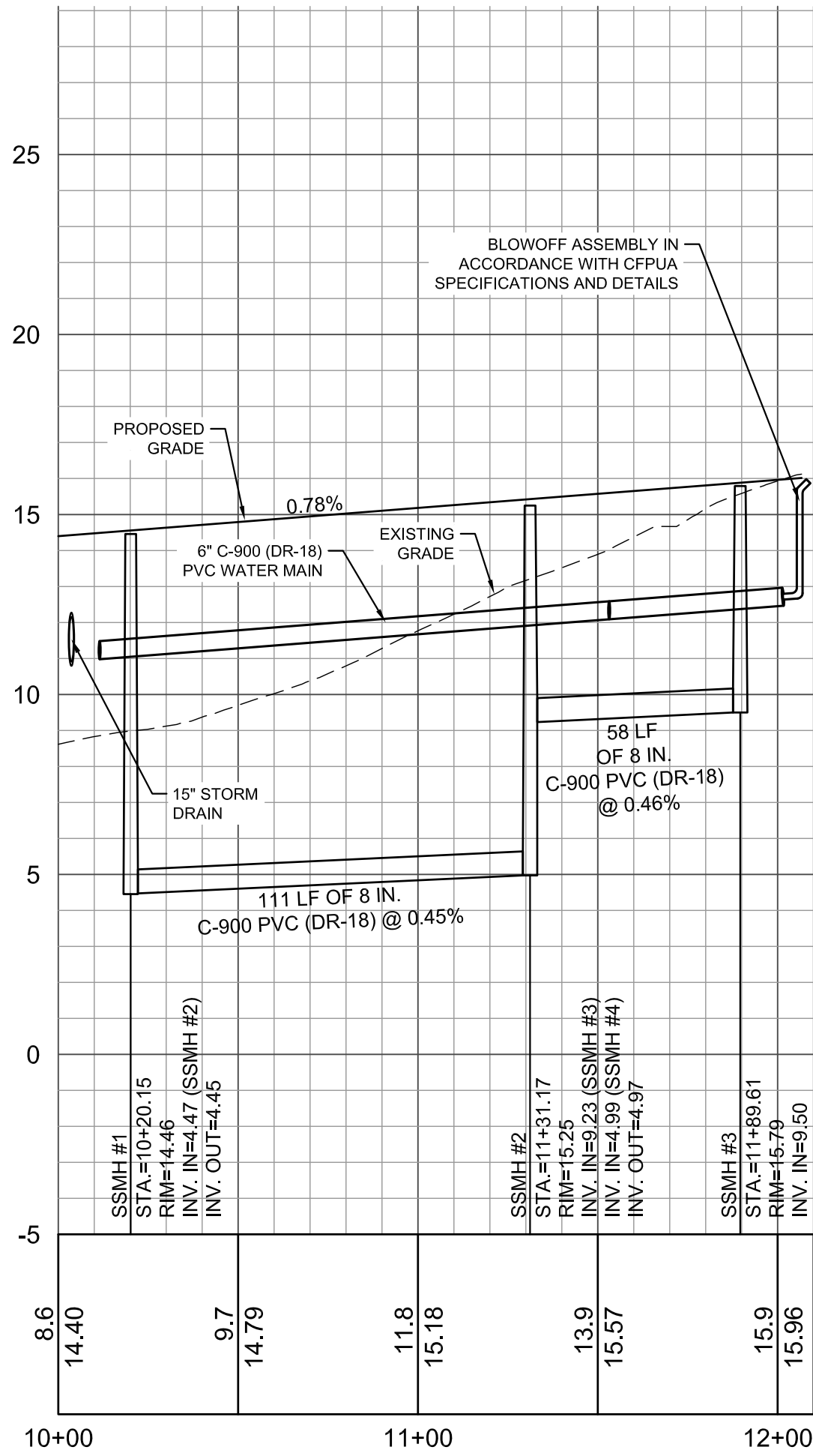
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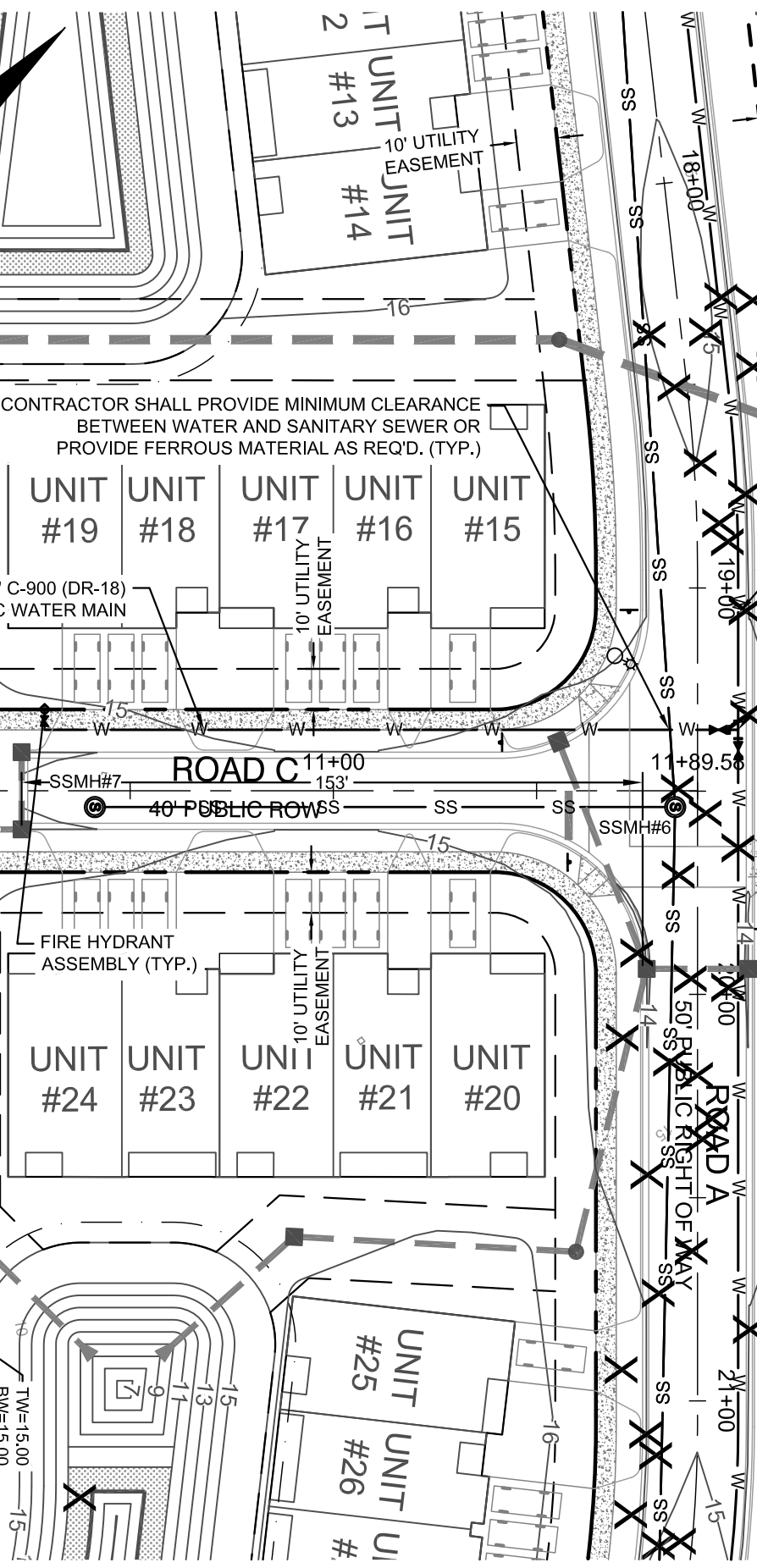
ROAD B - PLAN VIEW  
HORIZONTAL SCALE: 1"=40'



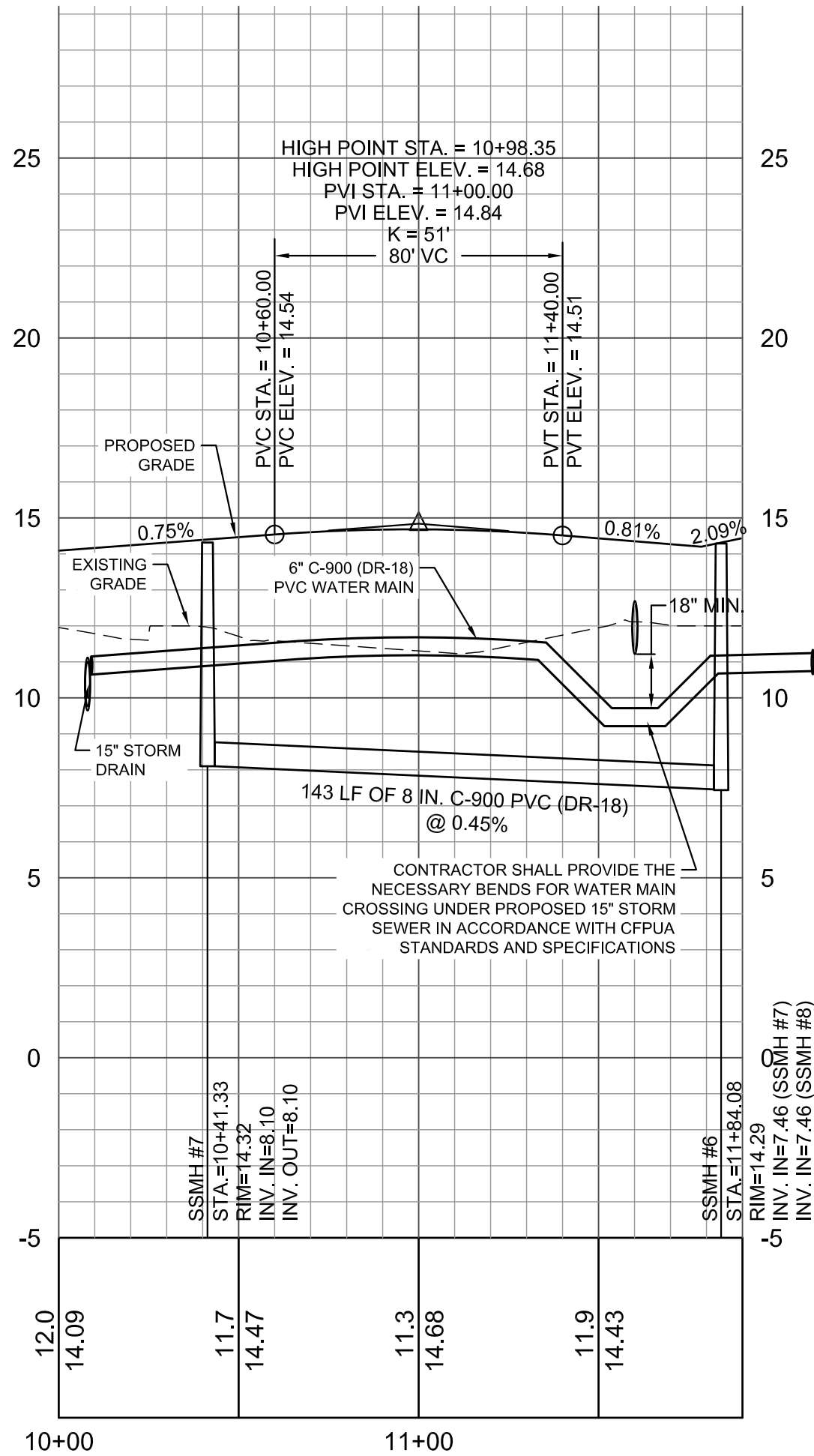
ROAD B - PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'

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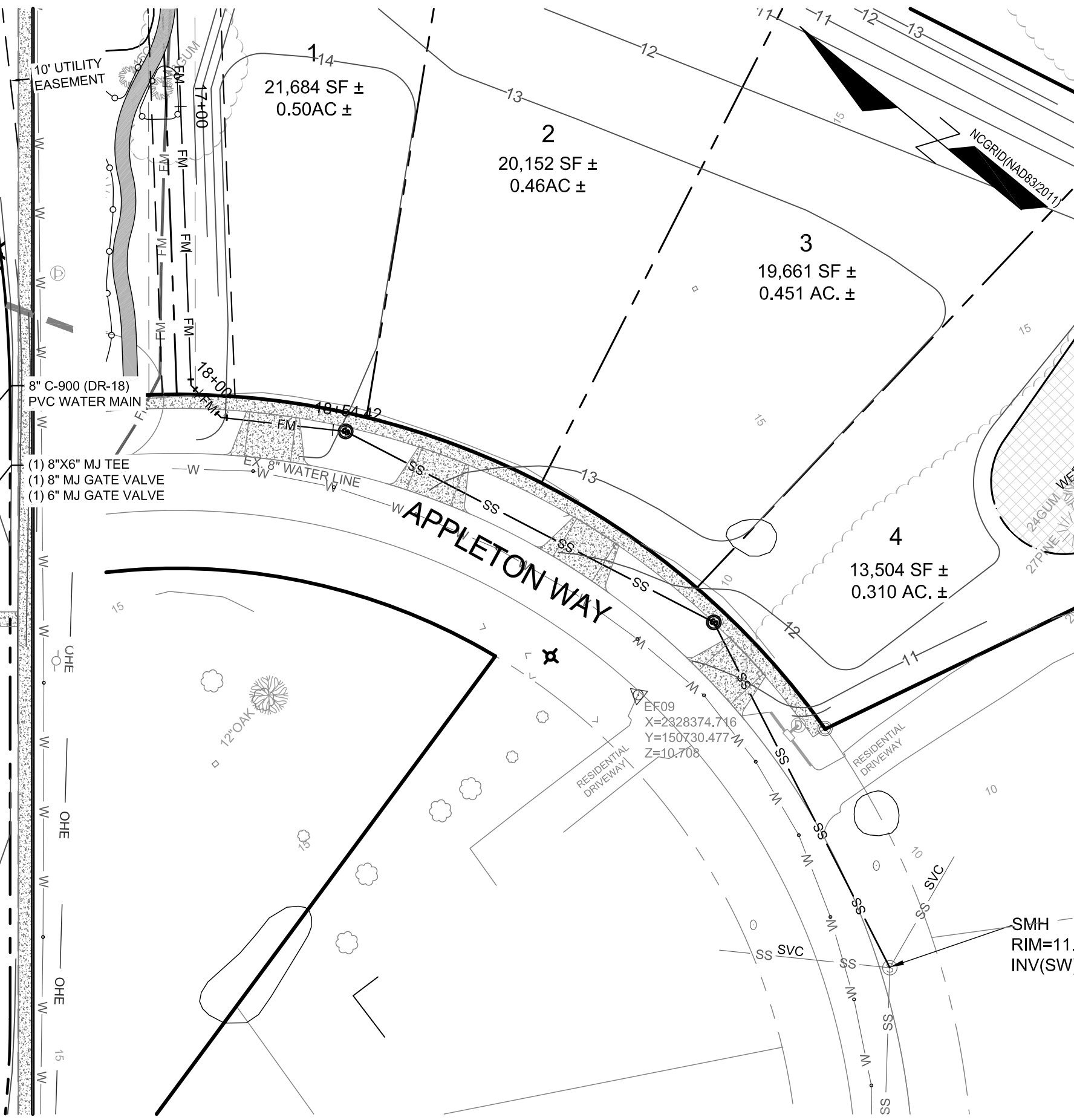
NCDENR PWSS WATER PERMIT #: \_\_\_\_\_  
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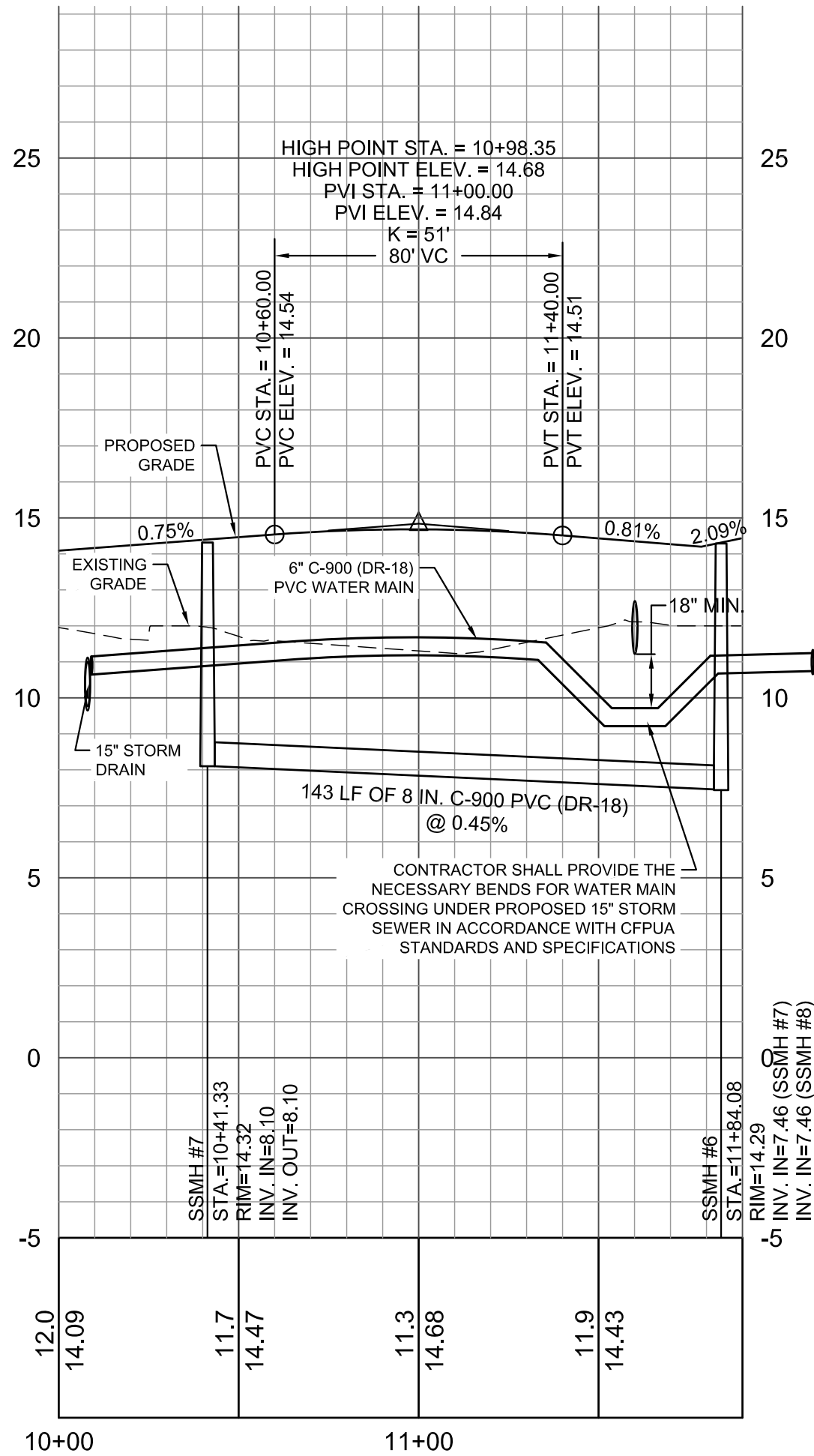
ROAD C - PLAN VIEW  
HORIZONTAL SCALE: 1"=40'



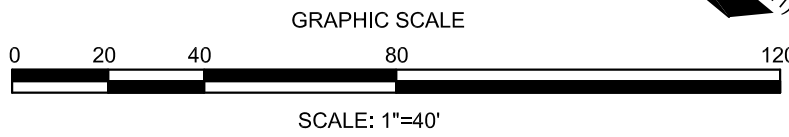
ROAD C - PROFILE VIEW  
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APPLETON WAY - PLAN VIEW  
HORIZONTAL SCALE: 1"=40'



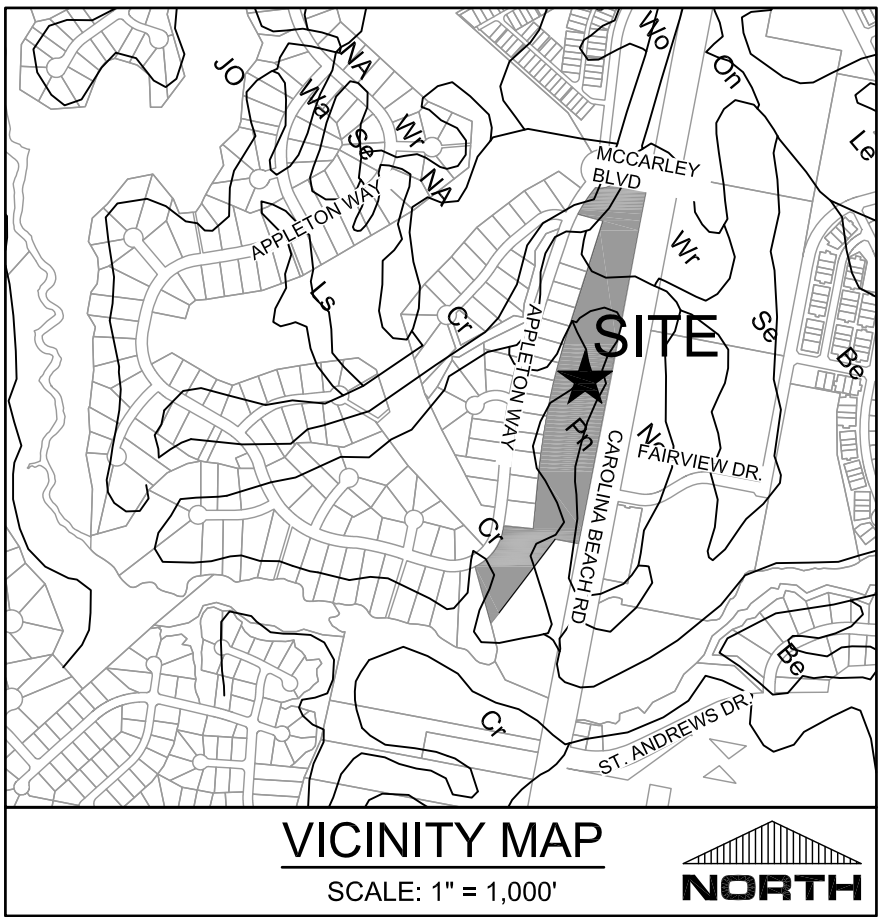
APPLETON WAY - PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
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REVISIONS:	
CLIENT INFORMATION: ECHO FARMS, LLC c/o MATRIX DEVELOPMENT GROUP CN 4000 FORSGATE DRIVE CRANBURY, NJ 08512	
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SEAL C-4.2 PEI JOB#: 18153.PE	





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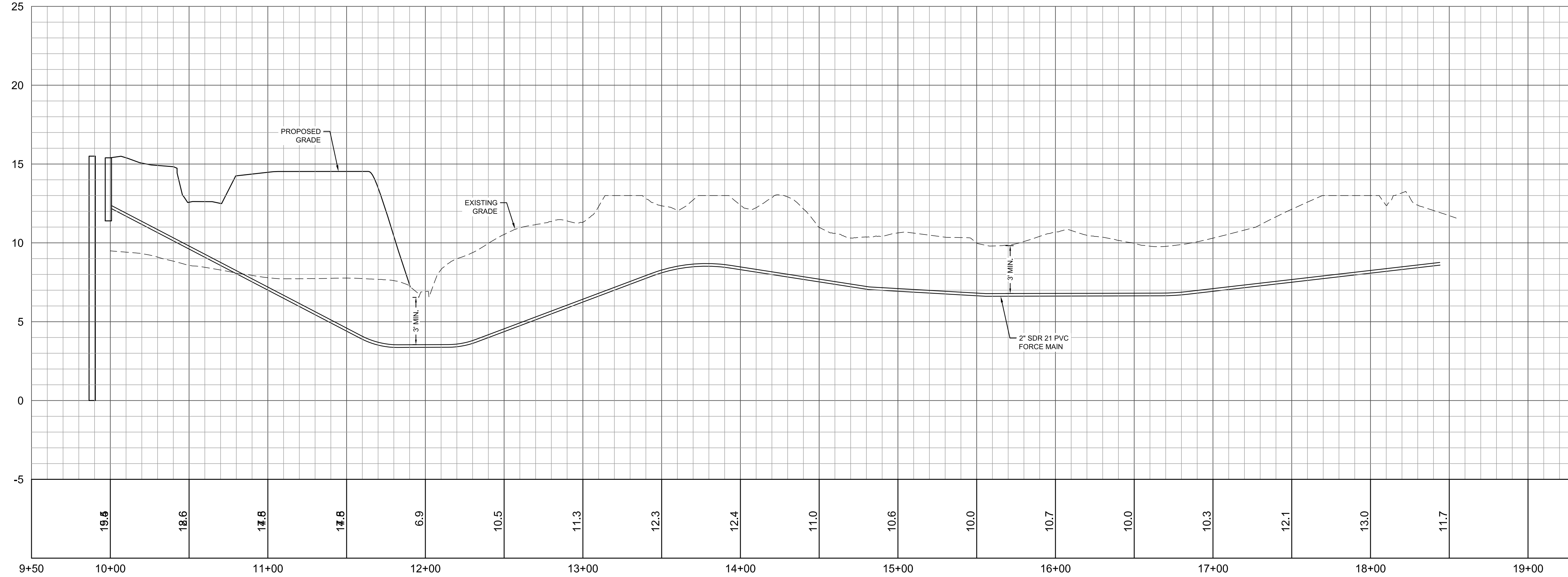
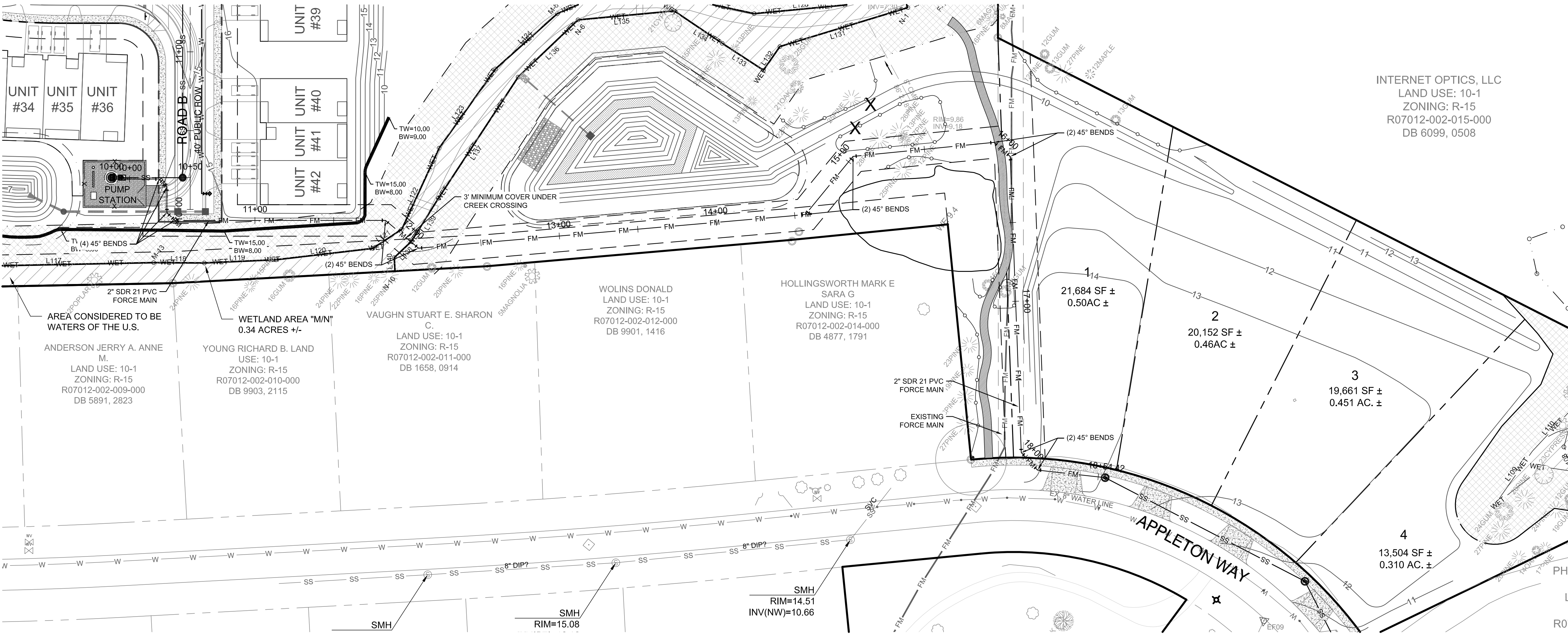
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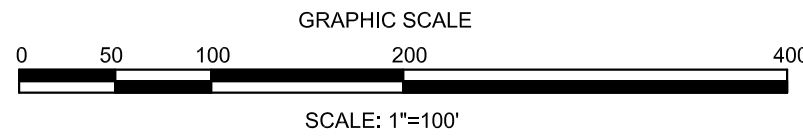


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NCDENR PWSS WATER PERMIT #: \_\_\_\_\_  
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CITY OF WILMINGTON  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

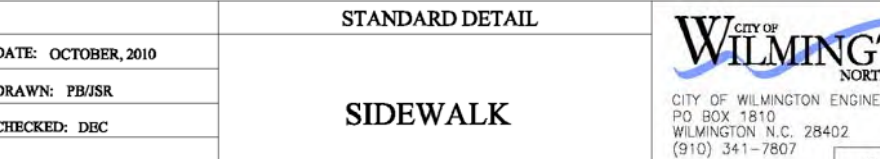
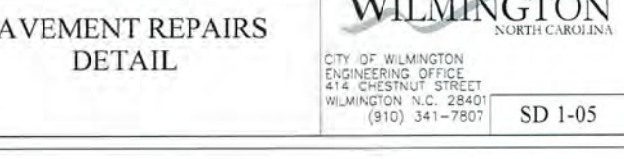
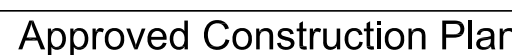
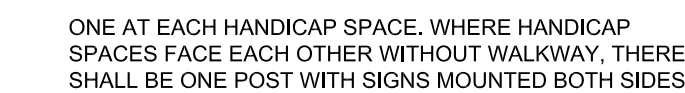
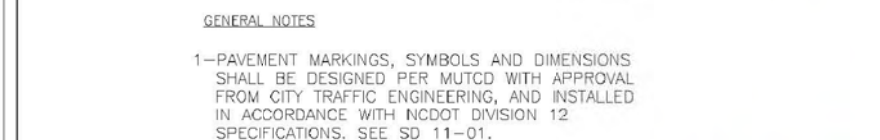
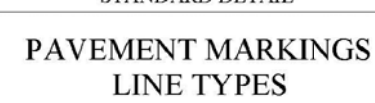
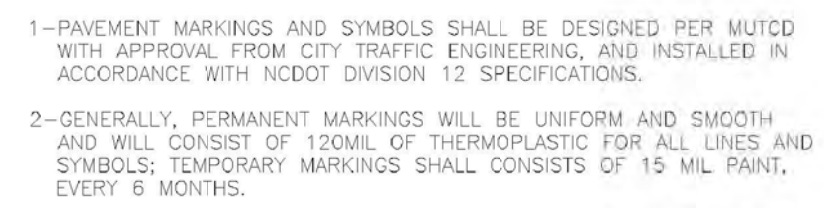
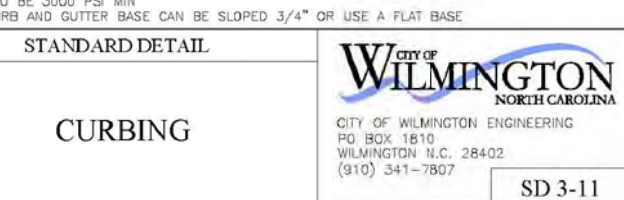
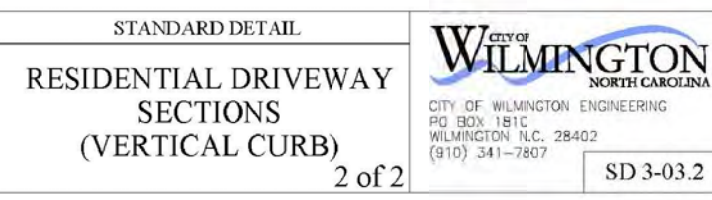
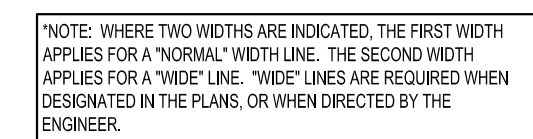
Approved Construction Plan  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_



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SEAL		DRAWING INFORMATION DATE: 8/8/18 SCALE: 1"=40' DESIGNED: CWM CHECKED: BRE	
C-4.3		PEJ JOB#: 18153.PE	



PEI JOB#: 17358.PE

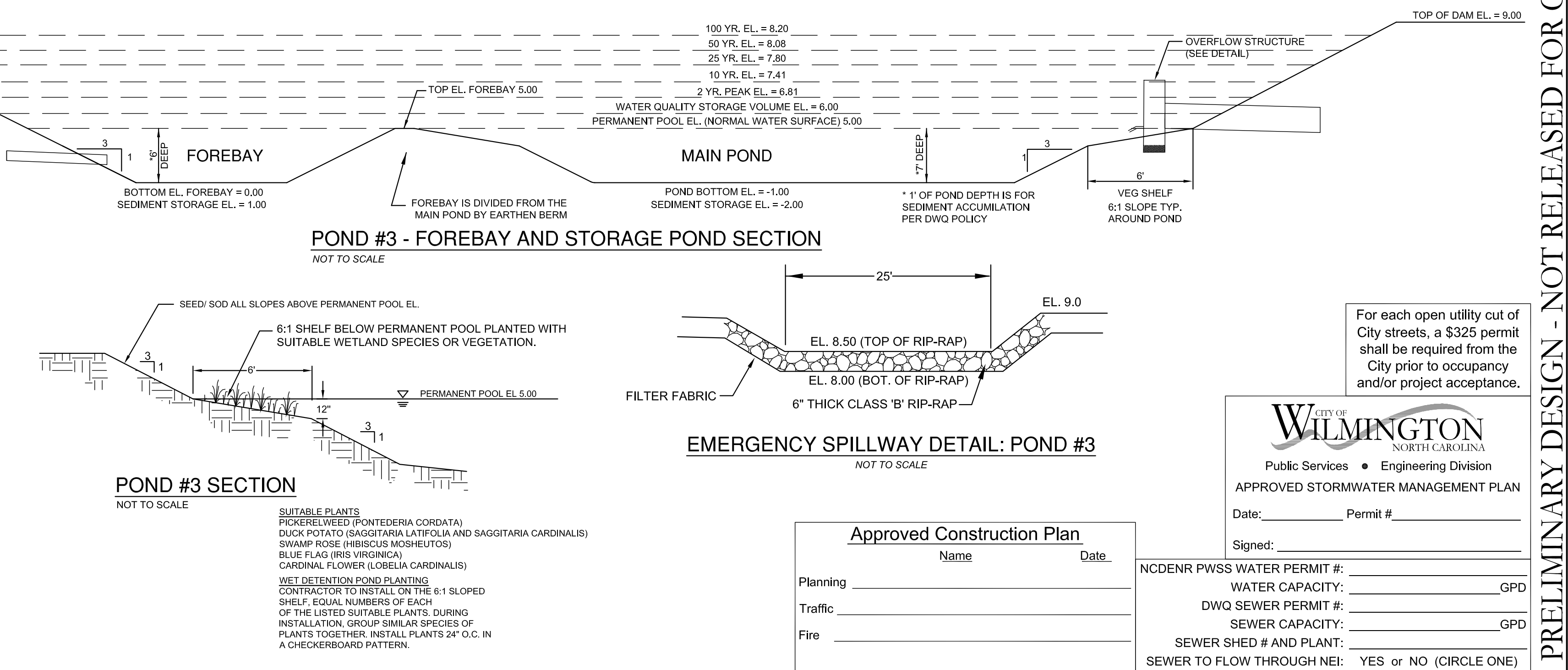
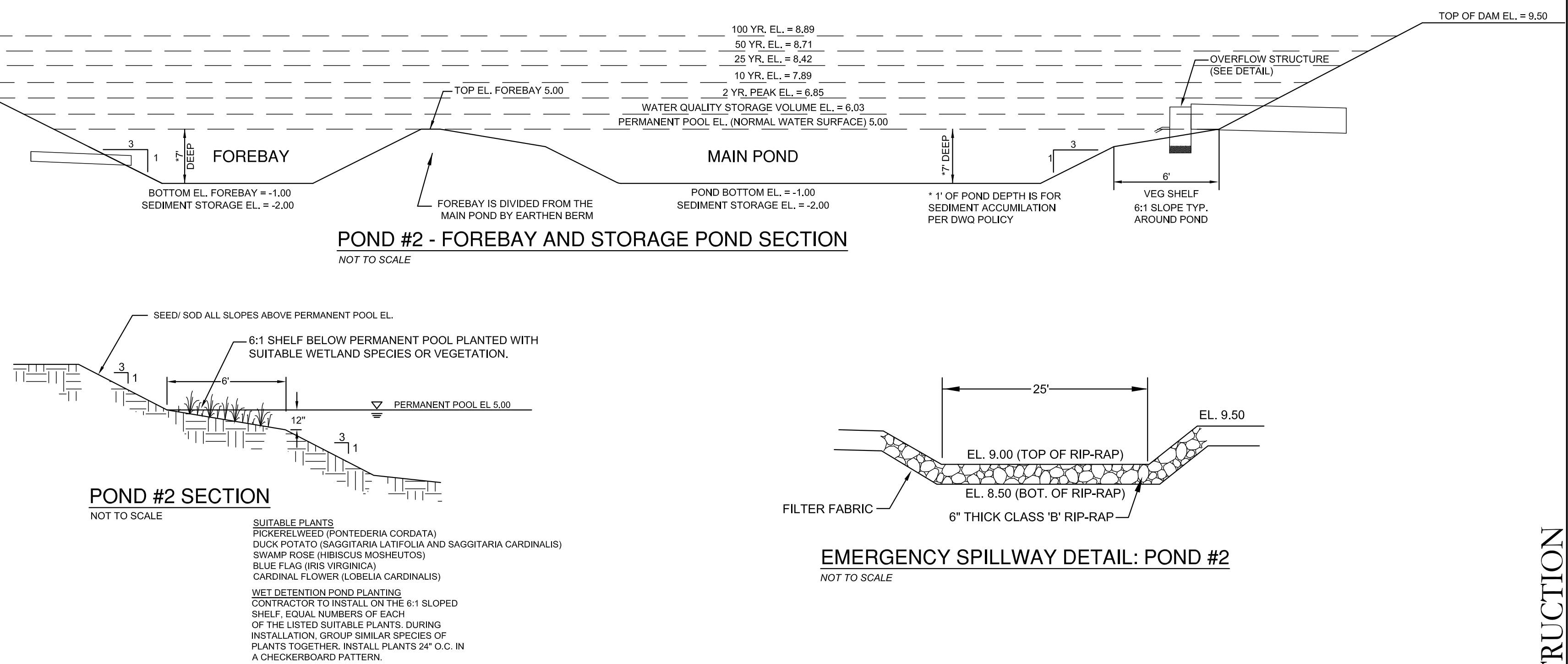
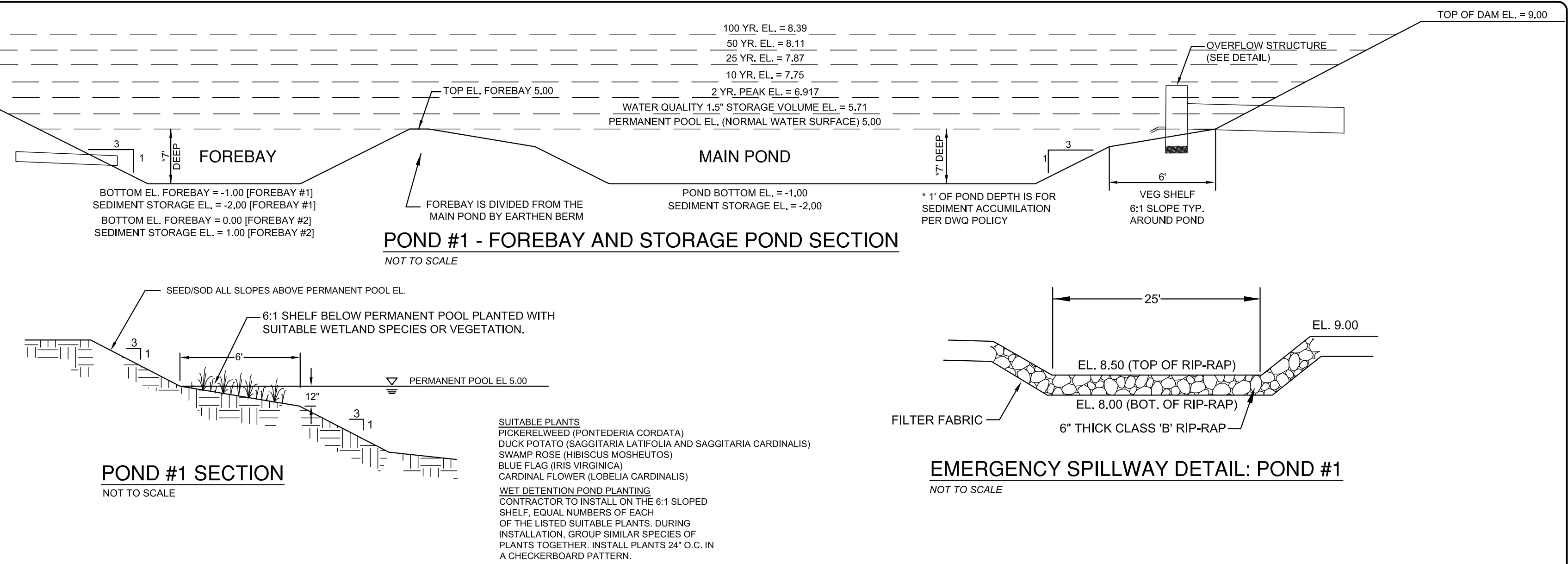
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PEI JOB#: 17358.PE

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