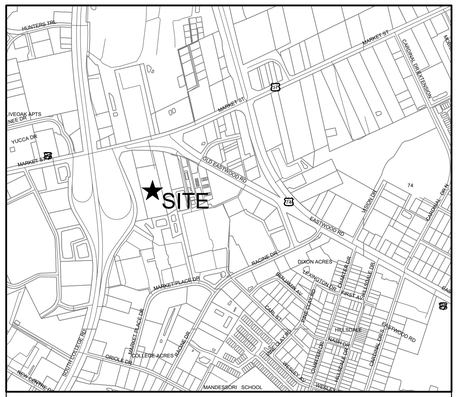
GARRIS ROAD STORAGE

20 GARRIS ROAD
WILMINGTON, NORTH CAROLINA 28403

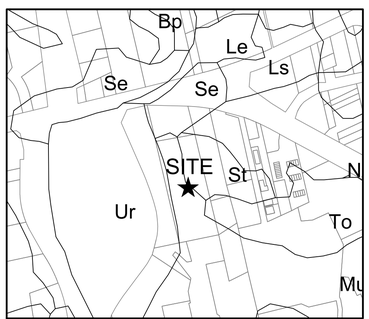
TRC SUBMITTAL

REV DATE: MARCH 2018

PROJECT ADDRESS:
20 GARRIS ROAD
WILMINGTON, NC 28403



VICINITY MAP
SCALE: 1"=1000'
NORTH



SOILS MAP
SCALE: 1"=500'
NORTH

NOTICE RE□UIRED

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: ERYN MOLLER, PLANNER
PH: 910-341-4695

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

TIME WARNER CABLE
PH: 910-763-4638

NCDENR PWSS WATER PERMIT □:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
WATER CAPACITY:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□GPD
DW□ SEWER PERMIT □:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
SEWER CAPACITY:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□GPD
SEWER SHED □AND PLANT:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)

For each open utility cut o□ City streets, a □325 permit shall be re□uired □rom the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Tra□ic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:□□□□□□□□□□□□□□Permit □□□□□□□□□□□□□□□□□□□□□□
Signed: □□

OWNER / DEVELOPER:
GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARAMEL COMMONS BLVD., STE. 207
CHARLOTTE, NORTH CAROLINA 28226
ATTN: TONY BERRY (704) 496-9617

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

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C-0.0	COVER SHEET
C-1.0	GENERAL NOTES
C-2.0	SITE PLAN
C-2.1	TREE REMOVAL PLAN
C-3.0 □ C-3.1	GRADING-DRAINAGE-EC PLAN
C-3.2	INLET AREA MAP
C-4.0	UTILITY PLAN
C-5.0-5.4	DETAILS
L-1.0	LANDSCAPE PLAN

811 Know what's below. Call before you dig.

PREPARED BY:

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
N.C License #: C-2846
PROJECT □17148.PE

NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLAND
03/02/18

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

COORDINATION NOTES:

1. THE CONTRACTOR IS RE□UIRED TO OBTAIN ANY/ALL PERMITS RE□UIRED FOR CONSTRUCTION OF THESE PLANS.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND WITH THE CITY OF WILMINGTON, NEW HANOVER COUNTY, 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 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. TREE INVENTORY AND TOPOGRAPHIC SURVEY COMPLETED BY PARAMOUNTE ENGINEERING, INC. THE SURVEY SHALL BE FIELD VERIFIED BY CONTRACTOR AND ANY DISCREPANCIES REPORTED TO THE OWNER AND ENGINEER.
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 ADE□UATE 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 USDOT.
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 THE NORTH CAROLINA ONE-CALL CENTER AT 811 AN ALLOW THE CENTER TO LOCATE EXISTING UTILITIES BEFORE DIGGING.
8. 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.
9. CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
10. ACCESS TO UTILITIES, FIRE HYDRANTS, STREET LIGHTING, ETC., SHALL REMAIN UNDISTURBED, UNLESS COORDINATED WITH THE RESPECTIVE UTILITY.
11. DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
12. THE GENERAL CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT AND AT LEAST ONCE A WEEK DURING CONSTRUCTION.
13. THE GENERAL CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
14. 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.
15. 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.
16. 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 DOCUMENTS SHALL BE MADE WITHOUT THE PERMISSION OF THE OWNER, THE CITY OF WILMINGTON, NEW HANOVER COUNTY, OR CFPUA, RESPECTIVELY.
17. 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.
18. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, E□UIPMENT, ETC., THAT MAY BE RE□UIRED.
19. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
20. ALL LOT STRIPING AND DIRECTIONAL ARROWS TO BE REFLECTIVE MARKINGS AND SHALL CONFORM TO MUTCD. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
21. LANDSCAPE PLANTINGS AT ENTRANCE/ EXITS WILL BE INSTALLED AND MAINTAINED SO AS NOT TO INTERFERE WITH SIGHT DISTANCE NEEDS OF DRIVERS IN THE PARKING AREA AND AT ENTRANCE/EXIT LOCATIONS PER LOCAL STANDARDS.
22. ALL DIMENSIONS AND RADII ARE TO OUTSIDE FACE OF BUILDING OR TO FACE OF CURB UNLESS OTHERWISE NOTED.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

1. THE EROSION CONTROL PLAN SHALL INCLUDE PROVISIONS FOR GROUNDCOVER 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.
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 WASTE AREAS STAGING OR STORAGE AREAS), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO NEW HANOVER COUNTY FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES RE□UIRED 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). NCDENR'S FINAL APPROVAL IS RE□UIRED.
13. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE RE□UIRED 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 □UALITY 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.

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 RE□UIRED. ALL DEMOLITION WORK RE□UIRED TO CONSTRUCT NEW SITE IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND WILL BE CONSIDERED UNCLASSIFIED EXCAVATION.
3. 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 GEOTECHNICAL 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. 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.
7. EXISTING CURB AND GUTTER, LIGHTS, SIDEWALK, AND UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED AND UNDISTURBED DURING DEMOLITION.
8. ALL EXISTING IMPROVEMENTS INDICATED OR RE□UIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM THE PROPERTY AND PROPER DISPOSAL.
9. 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.
10. CONTRACTOR SHALL MAINTAIN RE□UIRED DISTANCES FROM HIGH VOLTAGE OVERHEAD LINES AND REMOVE TREES SO THEY DO NOT FALL TOWARDS OVERHEAD ELECTRICITY.
11. PROVIDE SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND GUTTERS AND SIDEWALKS TO BE DEMOLISHED.
12. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS OSHA REGULATIONS.
13. EXISTING FIRE HYDRANTS ON OR NEAR THE SITE ARE TO REMAIN IN SERVICE.
14. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS.

TRAFFIC NOTES:

1. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY □ FOR DRIVEWAY(S) ARE TO BE THERMOPLASTIC □ MEET CITY OF WILMINGTON AND/OR NCDOT 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 IN ACCORDANCE WITH MUTCD STANDARDS.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. ANY OPEN CUTTING OF A CITY STREET RE□UIRES A UTILITY CUT PERMIT. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES, AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE RE□UIRED.
6. CONTACT TRAFFIC ENGINEERING, AT 341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND E□UIPMENT ARE SHOWN ON THE PLAN. CALL TRAFFIC ENGINEERING FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
7. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND/OR CURBING SHALL BE REPLACED.
8. TACTILE WARNING MATS TO BE INSTALLED AT ALL WHEELCHAIR RAMPS.

EROSION CONTROL AND SE□UENCE OF CONSTRUCTION NOTES:

NOTE: THESE EROSION CONTROL AND SE□UENCE 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 DISTURBANCE IS STABILIZED AND ALL IMPROVEMENTS WITHIN THE DISTURBANCE LIMITS ARE COMPLETE.

1. CONSTRUCT TEMPORARY GRAVEL CONSTRUCTION ENTRANCE(S), ESTABLISH THE LIMITS OF DISTURBANCE, TREE PROTECTION FENCING, AND TEMPORARY SILT FENCE.
2. CLEAR AND REMOVE FROM SITE TREES AS DESIGNATED, ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN THE DESIGNATED CLEARING LIMITS.
3. 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 WORKING DAYS OF CEASE OF ANY GRADING ACTIVITY.
5. IMMEDIATELY UPON THE INSTALLATION OF ANY STORM DRAINAGE CATCH BASIN, DROP INLET, ETC., THE CONTRACTOR SHALL INSTALL INLET PROTECTION TO PREVENT SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.
6. 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.
7. DURING GRADING AND AFTER GRADING HAS BEEN COMPLETE, THE CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL APPROVAL BY ENGINEER OR EROSION CONTROL INSPECTOR.
8. UPON RECEIVING FINAL APPROVAL, THE CONTRACTOR CAN REMOVE TEMPORARY EROSION CONTROL MEASURES.
9. THE CONTRACTOR SHALL CONTINUE TO WATER, FERTILIZE, MOW AND MAINTAIN GRASS □ PLANTED AREAS UNTIL ALL CONSTRUCTION IS COMPLETE.

EROSION CONTROL 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 HALF-FILLED AT THE FENCE. THE SEDIMENT FENCE WILL BE BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. SILT FENCE STAKES MUST BE STEEL, AND SPACED 6 FEET MAX. WITH EXTRA STRENGTH FABRIC AND NO WIRE BACKING. STAKE SPACING WILL BE 8 FEET MAX. WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS (OR EXCELSIOR WATTLES) ARE DESIGNED AT LOW POINTS IN THE SEDIMENT FENCE THE ROCK OR WATTLE WILL BE REPAIRED OR REPLACED IF IT BECOMES HALF FULL OF SEDIMENT, NO LONGER DRAINS AS DESIGNED OR IS DAMAGED.
4. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS ON THESE PLANS AND CONTRACT SPECIFICATIONS TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
5. INLET PROTECTION - INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (½ INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY SEDIMENT AND DEBRIS WHEN IT REACHES HALF OF THE DEPTH OF THE ROCK TO PROVIDE ADE□UATE FLOW FOR SUBSE□UENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED. USE DANDY SACKS ON INLETS AND REPLACE IF BROKEN OR NOT FUNCTIONING. SEE INFILTRATION TRENCH NOTES.

PERMANENT SEEDING

GRASS TYPE	LBS/ ACRE	TIME OF SEEDING	FERTILIZER LIMESTONE
BERMUDA, HULLED BERMUDA, UNHULLED	10-20 35	MARCH - AUGUST SEPT. - FEB.	BY SOIL TEST
CENTIPEDE	10	MARCH - AUGUST	BY SOIL TEST (NO HIGH PH)
TALL FESCUE (COASTAL CULTIVAR RECOMMENDED)	50	MARCH - AUGUST	300 LB/AC 10-20-20 OR BY SOIL TEST
SLOPES □= 2:1 CENTIPEDE SERICEA LESPEDEZA	5 20	JAN - DEC	BY SOIL TEST

TEMPORARY SEEDING

GRASS TYPE	LBS/ ACRE	TIME OF SEEDING	FERTILIZER LIMESTONE
RYE GRAIN	50	OCT. - APR.	400 LBS/AC. 10-20-20
SWEET SUDAN GRASS	50	JUNE - AUGUST	400 LBS/AC. 10-20-20
GERMAN or BROWNTOP MILLET	50	JUNE - AUGUST	400 LBS/AC. 10-20-20
STRAW MULCH AS NEEDED	4,000		

NEW HANOVER COUNTY LAND □UALITY STABILIZATION TIME FRAME NOTE:
DENUDED AREAS MUST BE STABILIZED WITH FIFTEEN (15) WORKING DAYS OF CEASE OF ANY PHASE OF ACTIVITY. ALL SLOPES MUST BE STABILIZED WITHIN TWENTY-ONE (21) CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY. THIS INCLUDES SLOPES, SWALES, CHANNELS AND STOCKPILES.

STABILIZATION TIME FRAMES:
□IN THE EVENT THAT THE GOVERNING AGENCIES TIMEFRAME FOR STABILIZATION VARY, CONTRACTOR SHALL MEET THE MORE STRINGENT RE□UIREMENT.

NPDES WATER □UALITY STABILIZATION TIME FRAMES

SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH □UALITY WATER (H□W) 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 H□W ZONES

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 RE□UIREMENTS. PARAMOUNTE ENGINEERING HAS DEVELOPED THESE NOTES AND DETAILS TO ASSURE THAT CONTRACTORS ARE AWARE OF THE RE□UIREMENTS AT THE POINT IN TIME WHEN THEY ARE BIDDING THE PROJECT. IN ADDITION, PARAMOUNTE ENGINEERING 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 RE□UIRED TO CONTACT THE OWNER IMMEDIATELY AND BEFORE MOVING FORWARD WITH THE WORK.
3. THE CONTRACTOR SHALL NOTIFY PARAMOUNTE ENGINEERING IMMEDIATELY OF ANY CONFLICT BETWEEN THESE NOTES AND DETAILS AND OTHER PROJECT DRAWINGS, WHETHER BY PARAMOUNTE ENGINEERING 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 RE□UIREMENTS 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 FLUSHAND 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 FORTY-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. .□SEE NOTE 7 ABOVE FOR NC CLEAR WIDTH OF EXTERIOR ACCESSIBLE ROUTES□
9. AN ACCESSIBLE ROUTE WITH A CLEAR WIDTH LESS THAN SIXTY (60) INCHES SHALLPROVIDE 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 RE□UIRED BY THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS), THE NC BUILDING CODE/ANSI A117.1 SHALL BE PERMITTED TO OVERLAP THE RE□UIRED 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 RE□UIRES 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 PEDESTRIANS 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 FULL WIDTH OF THE RAMP. REFERTO DETECTABLE WARNING DETAILS AND NOTES FOR PLACEMENT, ORIENTATION AND NOTES. THE NC BUILDING CODE DOES NOT CURRENTLY RE□UIRE DETECTABLE WARNINGS AT CURB RAMPS, NOR DO THE 2010 ADA STANDARDS - HOWEVER US DOT ADA REGULATIONS DO RE□UIRE THESE.
10. FLOOR SURFACES OF CURB RAMPS SHALL BE DEEP GROOVED, ½ INCH WIDE BY ¼ 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.

NC ACCESSIBILITY NOTES CONTD.

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 FORACCESSIBLE ROUTES. MARKED CROSSINGS SHALL BE PROVIDED WHERE THE ACCESSIBLE ROUTE MUST CROSS VEHICULAR TRAFFIC LANES. WHERE POSSIBLE, IT IS PREFERABLE 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 EXCEPTFOR 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 LEVEL ARE NOT PERMITTED.
9. PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2.0% IN ALL DIRECTIONS.
10. PARKED VEHICLE OVERHANGS SHALL NOT REDUCE THE RE□UIRED CLEAR WIDTH OF AN ACCESSIBLE ROUTE.
11. PARKING SPACES FOR VANS AND ACCESS AISLES AND VEHICULAR ROUTES SERVING THEM SHALL PROVIDE A VERTICAL CLEARANCE OF NINETY-EIGHT (98) INCHES MINIMUM. SIGNS SHALL BE PROVIDED AT ENTRANCES TO PARKING FACILITIES INFORMING DRIVERS OF CLEARANCES AND THE LOCATION OF VAN ACCESSIBLE PARKING SPACES.
12. EACH ACCESSIBLE PARKING SPACE SHALL BE PROVIDED WITH SIGNAGE DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. SIGNS SHALL BE INSTALLED AT A MINIMUM CLEAR HEIGHT OF SIXTY (60) INCHES ABOVE GRADE AND SHALL NOT INTERFERE WITH AN ACCESSIBLE ROUTE FROM AN ACCESS AISLE. SIGNS LOCATED WHERE THEY MAY BE HIT BY VEHICLES BEING PARKED SHALL BE INSTALLED WITH BOLLARD PROTECTION.
13. SIGNAGE AT ACCESSIBLE PARKING SPACES RE□UIRED BY THE NC BUILDING CODE SECTION 1106.1SHALL COMPLY WITH THE RE□UIREMENTS OF NORTH CAROLINA GENERAL STATUTE 20-37.6 AND 136-30 AND THE NCDOT UNIFORM MANUAL ON TRAFFIC CONTROL DEVICES. A SEPARATE SIGN IS RE□UIRED FOR EACH SPACE. SIGNS TO INDICATE THE MAXIMUM PENALTY MUST BE PROVIDED AT EACH ACCESSIBLE SPACE.
14. ACCESSIBLE PARKING SPACE, ACCESS AISLE STRIPING, AND INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE PAINTED BLUE (OR ANOTHER COLOR THAT CAN BE DISTINGUISHED FROM PAVEMENT).

PASSENGER LOADING ZONE NOTES:

1. PASSENGER LOADING ZONES SHALL PROVIDE VEHICULAR PULL-UP SPACE NINETY-SIX (96) INCHES WIDE MINIMUM AND TWENTY (20) FEET LONG MINIMUM.
2. PASSENGER LOADING ZONES SHALL PROVIDE A CLEARLY MARKED ACCESS AISLE THAT IS SIXTY (60) INCHES WIDE MINIMUM AND EXTENDS THE FULL LENGTH OF THE VEHICLE PULL-UP SPACE THEY SERVE.
3. ACCESS AISLE SHALL ADJOIN AN ACCESSIBLE ROUTE AND NOT OVERLAP THE VEHICULAR WAY.
4. VEHICLE PULL-UP SPACES AND ACCESS AISLES SERVING THEM SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2.0% IN ALL DIRECTIONS. ACCESS AISLES SHALL BE AT THE SAME LEVEL AS THE VEHICLE PULL-UP SPACE THEY SERVE. CHANGES IN LEVEL ARE NOT PERMITTED.
5. FLOOR SURFACES OF VEHICLE PULL-UP SPACES AND ACCESS AISLES SERVING THEM SHALL BE STABLE, FIRM AND SLIP RESISTANT.
6. VEHICLE PULL-UP SPACES, ACCESS AISLES SERVING THEM AND A VEHICULAR ROUTE FROM AN ENTRANCE TO THE PASSENGER LOADING ZONE, AND FROM THE PASSENGER LOADING ZONE TO A VEHICULAR EXIT SERVING THEM, SHALL PROVIDE A VERTICAL CLEARANCE OF ONE HUNDRED FOURTEEN (114) INCHES MINIMUM.

ACCESSIBLE ENTRANCE NOTES:

1. ACCESSIBLE ENTRANCES SHALL BE PROVIDED AS RE□UIRED BY THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS) AND THE NORTH CAROLINA BUILDING CODE, AND APPLICABLE LOCAL LAWS □ REGULATIONS.
2. ENTRANCE DOORS, DOORWAYS AND GATES SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (2010 ADA STANDARDS) THE NC BUILDING CODE/ANSI A117.1 AND SHALL BE ON AN ACCESSIBLE ROUTE.

GENERAL STORM SEWER NOTES:

1. ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF WILMINGTON RE□UIREMENTS 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 RCP 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.

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.

WETLAND NOTES:

1) THERE ARE NO WETLANDS FLAGGED AND SURVEYED ON THE PROPERTY.

811 Know what's below. Call before you dig.

For each open utility cut o□ City streets, a □325 permit shall be re□uired □rom the City prior to occupancy and/or project acceptance.

NCDENR PWSS WATER PERMIT □: □□□□□□□□□□□□□□□□□□□□□□□
WATER CAPACITY: □□□□□□□□□□□□□□□□□□□□GPD
DW□ SEWER PERMIT □: □□□□□□□□□□□□□□□□□□□□□□□
SEWER CAPACITY: □□□□□□□□□□□□□□□□□□□□GPD
SEWER SHED □AND PLANT: □□□□□□□□□□□□□□□□□□□□□□□
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

Approved Construction Plan

	Name	Date
Planning		
Tra□ic		
Fire		

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

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

CLIENT INFORMATION:
GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARAMEL COMMONS BLVD., STE 207
CHARLOTTE, NC 28226

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

GENERAL NOTES

GARRIS ROAD STORAGE
CITY OF WILMINGTON
NEW HANOVER COUNTY, NORTH CAROLINA

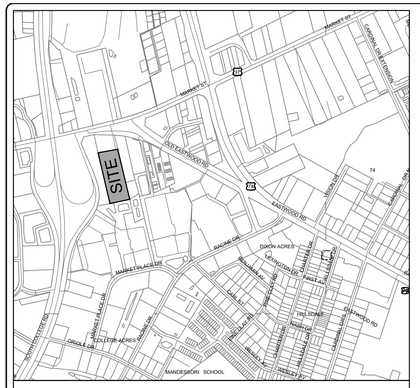
PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 01/19/18
SCALE: N.T.S.
DESIGNED: RPB
DRAWN: RPB
CHECKED: RPB

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLAND
01/19/18

C-1.0

PEI JOB□: 17148.PE



VICINITY MAP
SCALE: 1"=1,000'

NORTH

SITE INFORMATION

OWNER INFORMATION:	GARRIS ROAD STORAGE HOLDINGS I, LLC
PROJECT ADDRESS:	20 GARRIS ROAD WILMINGTON, NC 28403
TAX PARCEL IDENTIFICATION □:	R04912-004-002-000
RECORDED DEED BOOK:	BK 9908 PG 1013
CURRENT ZONING:	RB - REGIONAL BUSINESS
EXISTING USE:	UNDEVELOPED
PROPOSED USE:	PH1: MULTI-STORY STORAGE PH2: FUTURE DEVELOPMENT
FLOOD INFORMATION:	THE SUBJECT PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD ZONE AS INDICATED BY FEMA FLOOD ZONE PANEL 3720314800J BEARING AN EFFECTIVE DATE OF APRIL 3, 2006.
CAMA LAND USE CLASSIFICATION:	URBAN

SITE AREA

TOTAL SITE:	198,402SF (4.55 +/- ACRES)
LOT 2 (PH1):	88,980 SF (± 2.04 ACRES)
LOT 3 (FUTURE DEV.):	85,207 SF (±1.96 ACRES TOTAL; INCLUDES ± 0.25 ACRE EASEMENT, ± 1.71 AC DEVELOPMENT AREA)
GARRIS RD:	24,206 SF (0.55 AC)

DIMENSIONAL RE□UIREMENTS

RB - REGIONAL BUSINESS

- MINIMUM LOT AREA:	1 ACRE
- MINIMUM LOT WIDTH:	100'
- MAXIMUM LOT COVERAGE:	40%
- MINIMUM FRONT SETBACK:	25'
- MINIMUM REAR SETBACK:	15', 25' WHEN ABUTTING RESIDENTIAL USE (40' PROVIDED)
- MINIMUM INTERIOR SIDE SETBACK:	0', 20' WHEN ABUTTING RESIDENTIAL USE (4' PROVIDED)
- MINIMUM CORNER LOT SIDE SETBACK:	25'
- MAXIMUM BUILDING HEIGHT:	35'
- PROPOSED BUILDING HEIGHT:	44' MAX.
- ADDITIONAL BLDG HT. ALLOWED:	4' ADDITIONAL SETBACK FOR FIRST 10' IN HT. ADDED

IMPERVIOUS INFORMATION

EXISTING IMPERVIOUS AREA	0 SF
MAXIMUM IMPERVIOUS AREA	149,955 SF
PROPOSED IMPERVIOUS AREA	
TOTAL BUILDING (FOOTPRINT)	34,233 SF
ON-SITE PARKING, ACCESSORY STRUCTRES, □ DRIVEWAYS	24,000 SF
ON-SITE SIDEWALKS	250 SF
FUTURE BUILDING EXPANSION	0 SF
FUTURE IMPERVIOUS	91,472 SF
TOTAL PROPOSED IMP. AREA	149,955 SF (3.44 AC)
PROPOSED PERCENT IMPERVIOUS	148,058 / 174,334 = 86.0%

PHASE 1 MULTI-STORY STORAGE BUILDING INFORMATION

CONSTRUCTION TYPE	STEEL FRAME
NUMBER OF EXISTING BUILDINGS	0
NUMBER OF PROPOSED BUILDINGS	1 IN PH 1
PROPOSED BUILDING SF	100,200 SF TOTAL, 34,233 SF FOOTPRINT
MAX. HEIGHT	44'-0" (9' ABOVE BASE ALLOWED HT.)
MINIMUM PARKING RE□UIRED:	1/400SF OFFICE SPACE 1,000SF/400=3 SPACES 1/5,000SF INDOOR AREA 96,200SF/5,000=19 SPACES
TOTAL RE□UIRED:	22 SPACES
TOTAL PROVIDED:	22 SPACES
LOADING SPACES RE□UIRED:	4 SPACES
LOADING SPACES PROVIDED:	4 SPACES
HANDICAP PARKING RE□UIRED:	1 SPACES
HANDICAP PARKING PROVIDED:	1 SPACES
BICYCLE PARKING RE□UIRED:	N/A
BICYCLE PARKING PROVIDED:	N/A

LANDSCAPE CALCULATIONS

SEE SHEET L-1.0 LANDSCAPE PLAN FOR CALCULATIONS.

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/ OR NCDOT STANDARDS.
2. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
3. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT OF WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
6. THERE SHALL BE NO OUTSIDE, UNCOVERED STORAGE.
7. THERE SHALL BE NO STORAGE OF HAZARDOUS OR FLAMMABLE MATERIALS.
8. 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 AC□UIRE 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.

AUTOTURN NOTE:

1. AASHTO 2004 (US) S-BUS-40 IS E□UIVALENT WHEEL BASE AS A TYPICAL ENGINE FIRE TRUCK AND GARBAGE TRUCK WITH ARMS OVER THE CAB.

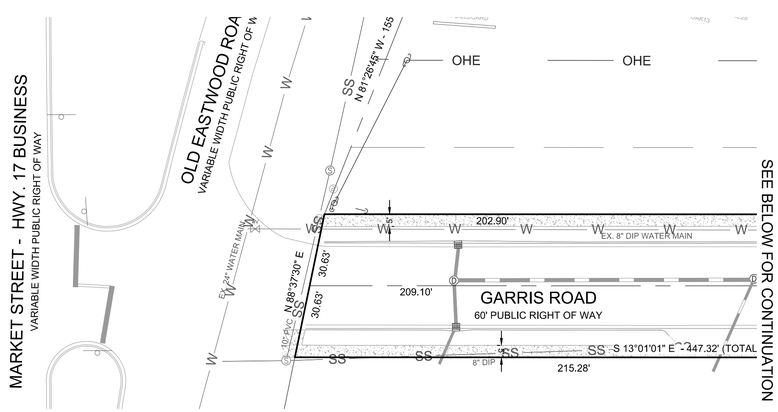
LEGEND:

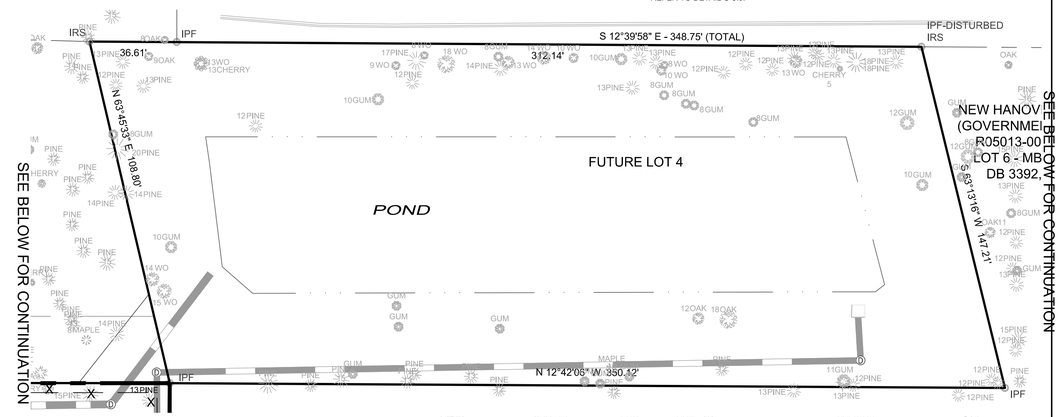
- SPILL GUTTER
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED CHAIN LINK FENCE
- PROPOSED TREE LINE
- PROPOSED LIGHT POLE
- PROPOSED STREETYARD BUFFER
- PROPOSED LANDSCAPE ISLAND
- PROPOSED TREE PROTECTION FENCE

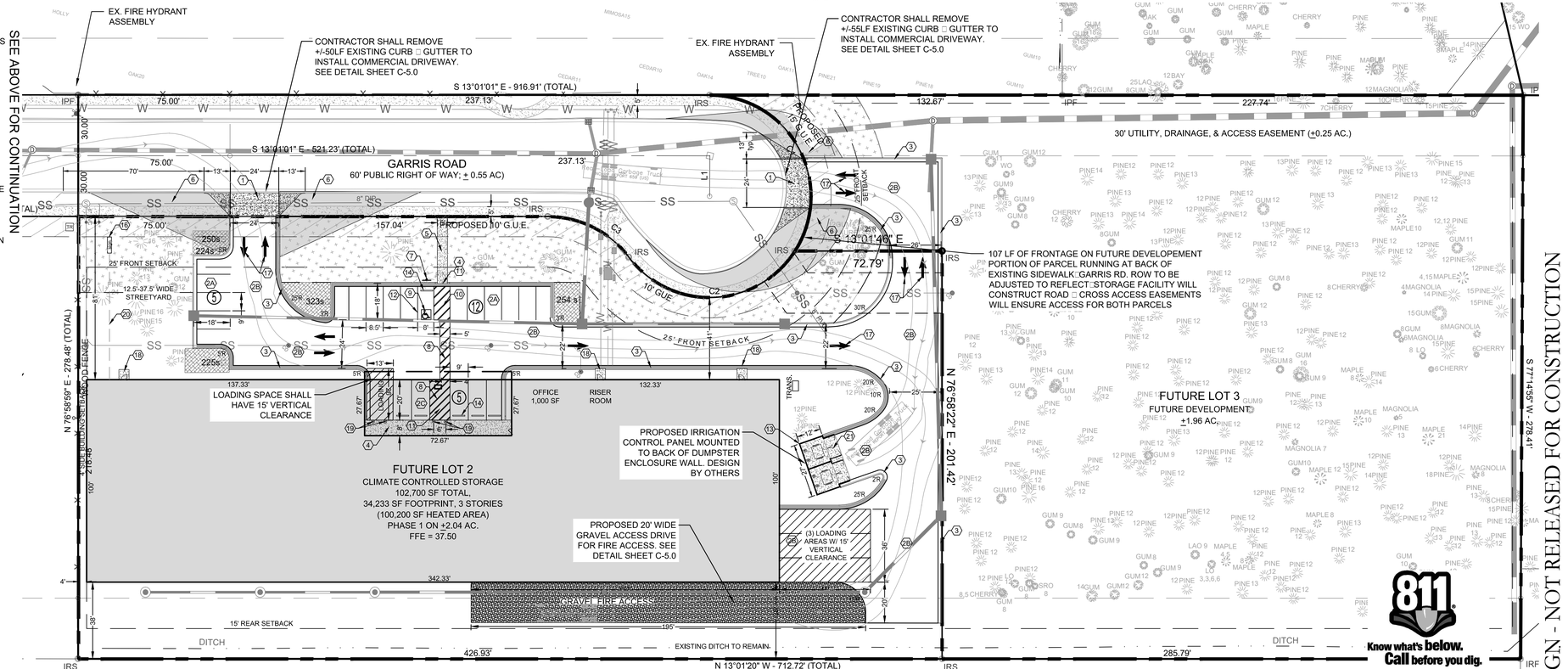
KEY NOTES:

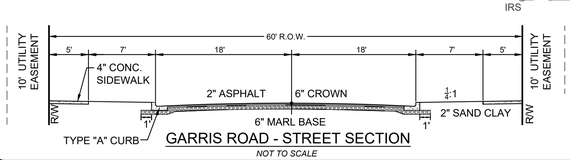
1. CONCRETE DRIVE APRON: CITY STD. DRIVEWAY SD 3-03
2A. LIGHT DUTY ASPHALT PAVING: REFER TO DETAIL C-5.0
2B. HEAVY DUTY ASPHALT PAVING: REFER TO DETAIL C-5.0
2C. HEAVY DUTY CONCRETE PAVING: REFER TO DETAIL C-5.0
3. STANDARD 24" CURB □ GUTTER: REFER TO DETAIL C-5.0
4. CONCRETE SIDEWALK FLUSH W/ ASPHALT REFER TO DETAIL C-5.0
5. PROPOSED 5' CONCRETE SIDEWALK REFER TO DETAIL C-5.0
6. SIGHT DISTANCE TRIANGLE: CITY OF WILMINGTON 20'X70' SIGHT TRIANGLE
7. HANDICAP PARKING SIGN: REFER TO DETAIL C-5.0
8. DESIGNATED ACCESSIBLE ROUTE: PROVIDE STRIPING AND SLOPE 5% MAXIMUM IN DIRECTION OF TRAVEL WITH 2% MAXIMUM CROSS SLOPE.
9. HANDICAP PARKING SYMBOL: REFER TO DETAIL C-5.0
10. HANDICAP ACCESS UNLOADING ZONE: SLOPE 2% MAX. EACH WAY (ADA-COMPLIANT) AND STRIPE AS SHOWN.
11. DETECTIBLE WARNING MAT: REFER TO DETAIL C-5.0
12. STRIPING: PROVIDE 4" WIDE PARKING LOT STRIPING AS SHOWN. USE HIGHWAY MARKING PAINT - WHITE (2 COATS).
13. MASONRY DUMPSTER ENCLOSURE □ GATES
14. CONCRETE BUMPER BLOCK: 8'w □4"h □6'-0 LONG CONCRETE. ANCHOR TO PAVING WITH (2) 1'-6" LONG □4 REBAR. REFER TO DETAIL C-5.0
15. HANDICAP RAMP: REFER TO DETAIL C-5.0.
16. SIGN LOCATION: SIGN FURNISHED AND INSTALLED BY OWNER.
17. DIRECTIONAL ARROW STRIPING: PROVIDE DIRECTION ARROW STRIPING AS SHOWN. USE HIGHWAY MARKING PAINT - WHITE (2 COATS). REFER TO DETAIL C-5.0
18. CONCRETE DOOR LANDING: SEE ARCHITECTURAL PLANS
19. STEEL BOLLARD: REFER TO DETAIL C-5.0
20. 2" PVC CONDUIT FROM SIGN TO BUILDING: COORDINATE WITH ARCHITECTURAL PLANS
21. CONCRETE DUMPSTER PAD: REFER TO DETAIL C-5.0

SIDEWALK NOTE:
IF SIDEWALK PANELS DO NOT MEET CITY STD. DRIVEWAY SD 3-03 THEY MUST BE REPLACED.









GARRIS ROAD - STREET SECTION
NOT TO SCALE

LINE TABLE

LINE	BEARING	DISTANCE
L1	S 77°14'03" W	20.00'

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA
C1	50.00'	107.01'	87.72'	S 48°23'44" W	122°37'27"
C2	50.00'	96.35'	82.12'	N 15°05'23" W	110°24'20"
C3	50.00'	46.36'	44.72'	N 13°32'53" E	53°07'48"

For each open utility cut o□ City streets, a □325 permit shall be re□uired from the City prior to occupancy and/or project acceptance.

NCDENR PWSS WATER PERMIT □:	
WATER CAPACITY:	GPD
DW□ SEWER PERMIT □:	
SEWER CAPACITY:	GPD
SEWER SHED □AND PLANT:	
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)

Approved Construction Plan

	Name	Date
Planning		
Tra□ic		
Fire		

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

NCGRID(NAD83/2011)

GRAPHIC SCALE
0 15 30 60 90
SCALE: 1"=30'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
REV.1 TRC COMMENTS 2/15/18

CLIENT INFORMATION:
GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARAMEL COMMONS BLVD., STE 207
CHARLOTTE, NC 28226

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

SITE PLAN

GARRIS ROAD STORAGE
CITY OF WILMINGTON
NEW HANOVER COUNTY, NORTH CAROLINA

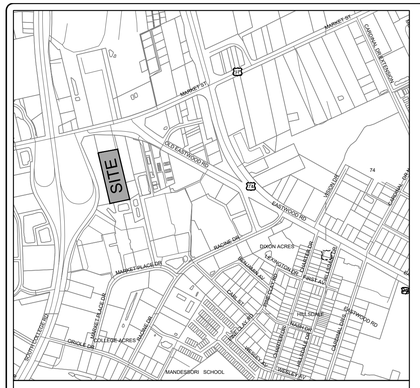
PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY PLAT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 01/23/18
SCALE: 1" = 30'
DESIGNED: MWB
DRAWN: JRC
CHECKED: AHE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031591 ROBERT P. BALLARD
03/02/18

C-2.0

PEI JOB□ 17148.PE



VICINITY MAP
SCALE: 1"=1,000'
NORTH

TREE REMOVAL NOTES:

1. PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.
2. CONTRACTOR SHALL CONTACT THE CITY OF WILMINGTON FOR TREE PROTECTION FENCING REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION.

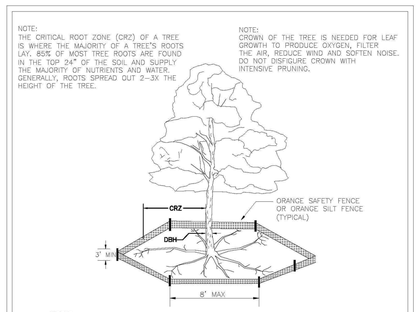
LEGEND:

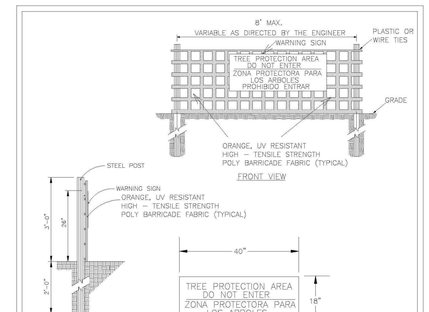
- SPILL GUTTER
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED CHAIN LINK FENCE
- PROPOSED TREE LINE
- PROPOSED STREETYARD BUFFER
- PROPOSED TREE PROTECTION FENCE

Garris Road Storage Tree Preservation Credit
(all trees saved on storage site, not future proposed subdivision tracts)

Qty of Trees	Caliper Inches *	Tree Common Name	Total Tree Caliper Inches to be Preserved	City Tree Mitigation Credit	Mitigation Credit for Preserved Trees (# of trees)
Note: * All listed as total caliper inches for entire tree cluster or single tree trunk caliper in compliance with City of Wilmington Land Development Code definition for " diameter at breast height"					
1	12	CHERRY	12	3	3
1	7	CHERRY LAUREL	7	2	2
1	6	GUM (SWEET GUM)	6	2	2
2	9	GUM (SWEET GUM)	18	2	4
1	10	GUM (SWEET GUM)	10	2	2
2	12	GUM (SWEET GUM)	24	3	6
1	20	GUM (SWEET GUM)	20	4	4
4	12	PINE (LOBLOLLY)	48	3	12
1	13	PINE (LOBLOLLY)	13	3	3
2	14	PINE (LOBLOLLY)	28	3	6
2	15	PINE (LOBLOLLY)	30	3	6
2	16	PINE (LOBLOLLY)	32	3	6
1	18	PINE (LOBLOLLY)	18	4	4
2	22	PINE (LOBLOLLY)	44	4	8
1	24	PINE (LOBLOLLY)	24	4	4
1	26	PINE (LOBLOLLY)	26	4.33	4
1	7	WATER OAK	7	2	2
TOTAL CALIPER INCHES RETAINED IN NATURAL CLUSTERS ON SITE			367		
				TOTAL TREE CREDITS	78

Retained trees meet exemption requirement in Section 18-460 (g), over 175 cal. Inches / acre retained



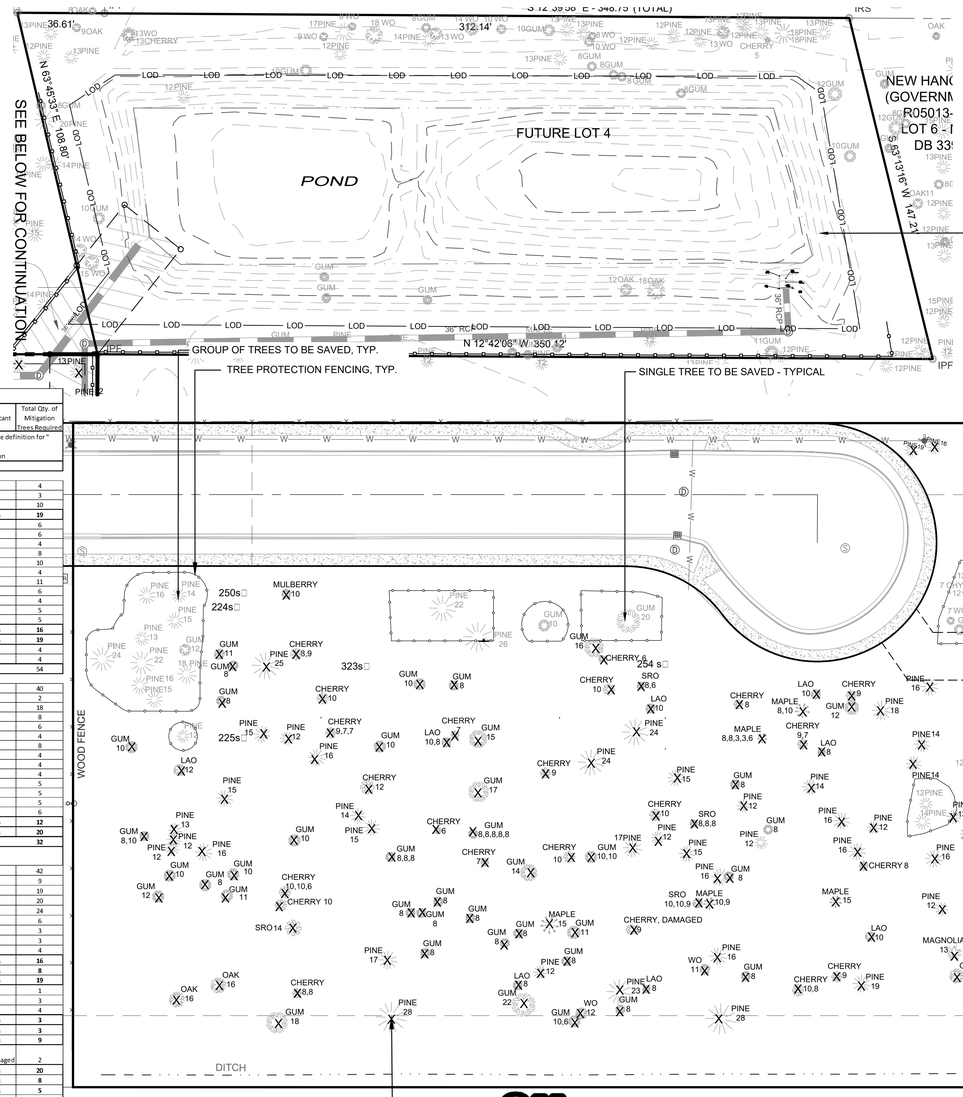


SITE INFORMATION

OWNER INFORMATION:	GARRIS ROAD MINI STORAGE
PROJECT ADDRESS:	5414 MARKET STREET WILMINGTON, NC 28403
TAX PARCEL IDENTIFICATION □	R04912-004-002-000
RECORDED DEED BOOK:	BK 9908 PG 1013
CURRENT ZONING:	RB - REGIONAL BUSINESS
EXISTING USE:	UNDEVELOPED
PROPOSED USE:	PH1: MULTI-STORY STORAGE PH2: FUTURE DEVELOPMENT

TREE MITIGATION NOTES:

1. ALL TREES ARE RE□UIRED FOR ESSENTIAL SITE IMPROVEMENTS.
2. SIGNIFICANT TREES ARE MITIGATED BY A MIXTURE OF TREES SAVED ON THE STORAGE SITE AND USED AS MITIGATION CREDIT, AND RETAINING NATURAL CLUSTER / COMPLIANCE WITH SECTION 18-460 (G).



Garris Road Storage Tree Removal & Required Mitigation

Qty of Trees	Caliper Inches*	Individual Trunk Calipers AND Individual Cluster	Tree Common Name	City Tree Type Classification	Total Cal. Inches to be Removed	% Mitigation	Significant	Total Qty. of Mitigation Trees Required
Note: * All listed as total caliper inches for entire tree cluster or single tree trunk caliper in compliance with City of Wilmington Land Development Code definition for " diameter at breast height"								
Essential Site Improvements: It is anticipated that all trees will be removed for essential site improvements, so only significant trees require mitigation								
REGULATED & SIGNIFICANT TREES								
Category 1 (100% Mitigation)								
1	13	13	MAG	ornamental flowering	13	100%		4
1	8	8	MAG	ornamental flowering	8	100%		3
1	15	15	MAP (RED MAPLE)	hardwood	30	100%		10
1	28	8 8 6 3 3	MAP (RED MAPLE)	hardwood	28	100%	yes	19
1	18	8 10	MAP (RED MAPLE)	hardwood	18	100%		6
1	19	10 9	MAP (RED MAPLE)	hardwood	19	100%		6
1	13	7 6	OAK (LIVE OAK)	hardwood	13	100%		4
3	8	8	OAK (LAUREL OAK)	hardwood	24	100%		8
3	10	10	OAK (LAUREL OAK)	hardwood	30	100%		10
1	12	12	OAK (LAUREL OAK)	hardwood	12	100%		4
2	16	16	OAK (LAUREL OAK)	hardwood	32	100%		11
1	18	10 8	OAK (LAUREL OAK)	hardwood	18	100%		6
1	12	12	OAK (SOUTHERN RED OAK)	hardwood	12	100%		4
1	14	14	OAK (SOUTHERN RED OAK)	hardwood	14	100%		5
1	14	8 6	OAK (SOUTHERN RED OAK)	hardwood	14	100%		5
1	24	8 8 8	OAK (SOUTHERN RED OAK)	hardwood	24	100%	yes	16
1	29	10 10 9	OAK (SOUTHERN RED OAK)	hardwood	29	100%	yes	19
1	11	11	WATER OAK	hardwood	11	100%		4
1	12	12	WATER OAK	hardwood	12	100%		4
					Total Category 1 Significant Trees:			54
Category 2 (75% Mitigation)								
20	8	8	GUM (SWEETGUM)	hardwood	160	75%		40
1	9	9	GUM (SWEETGUM)	hardwood	9	75%		2
7	10	10	GUM (SWEETGUM)	hardwood	70	75%		18
3	11	11	GUM (SWEETGUM)	hardwood	33	75%		8
2	12	12	GUM (SWEETGUM)	hardwood	24	75%		6
1	14	14	GUM (SWEETGUM)	hardwood	14	75%		4
2	15	15	GUM (SWEETGUM)	hardwood	30	75%		8
1	16	16	GUM (SWEETGUM)	hardwood	16	75%		4
1	16	10 6	GUM (SWEETGUM)	hardwood	16	75%		4
1	17	17	GUM (SWEETGUM)	hardwood	17	75%		4
1	18	18	GUM (SWEETGUM)	hardwood	18	75%		5
1	18	8 10	GUM (SWEETGUM)	hardwood	18	75%		5
1	20	10 10	GUM (SWEETGUM)	hardwood	20	75%		5
1	22	22	GUM (SWEETGUM)	hardwood	22	75%		6
1	24	8 8 8	GUM (SWEETGUM)	hardwood	24	75%	yes	12
1	40	8 8 8 8 8 8	GUM (SWEETGUM)	hardwood	40	75%	yes	20
					Total Category 2 Significant Trees:			32
Category 3 (50% Mitigation)								
21	12	12	PINE (LOBLOLLY)	conifer	252	50%		42
4	13	13	PINE (LOBLOLLY)	conifer	52	50%		9
8	14	14	PINE (LOBLOLLY)	conifer	112	50%		19
8	15	15	PINE (LOBLOLLY)	conifer	120	50%		20
9	16	16	PINE (LOBLOLLY)	conifer	144	50%		24
2	17	17	PINE (LOBLOLLY)	conifer	34	50%		6
1	18	18	PINE (LOBLOLLY)	conifer	18	50%		3
1	19	19	PINE (LOBLOLLY)	conifer	19	50%		3
1	23	23	PINE (LOBLOLLY)	conifer	23	50%		4
2	24	24	PINE (LOBLOLLY)	conifer	48	50%	yes	16
1	25	25	PINE (LOBLOLLY)	conifer	25	50%	yes	8
2	28	28	PINE (LOBLOLLY)	conifer	56	50%	yes	19
1	4	4	CHERRY (BLACK CHERRY)	conifer	4	50%		1
3	6	6	CHERRY (BLACK CHERRY)	conifer	18	50%		3
3	7	7	CHERRY (BLACK CHERRY)	conifer	21	50%		4
1	8	8	CHERRY (BLACK CHERRY)	conifer	8	50%	yes	3
1	8	4 4	CHERRY (BLACK CHERRY)	conifer	8	50%	yes	3
3	9	9	CHERRY (BLACK CHERRY)	conifer	27	50%	yes	9
1	9	9	CHERRY (BLK CH, BASE DAMAGED)	conifer	9	50%	no, damaged	2
6	10	10	CHERRY (BLACK CHERRY)	conifer	60	50%	yes	20
2	12	12	CHERRY (BLACK CHERRY)	conifer	24	50%	yes	8
1	16	8 8	CHERRY (BLACK CHERRY)	conifer	16	50%	yes	5
1	16	9 7	CHERRY (BLACK CHERRY)	conifer	16	50%	yes	5
1	17	8 9	CHERRY (BLACK CHERRY)	conifer	17	50%	yes	6
1	18	10 8	CHERRY (BLACK CHERRY)	conifer	18	50%	yes	6
1	23	9 7 7	CHERRY (BLACK CHERRY)	conifer	23	50%	yes	8
1	26	10 10 6	CHERRY (BLACK CHERRY)	conifer	26	50%	yes	9
						Total Category 3 Significant Trees		124
Category 3 (25% Mitigation)								
1	10	10	MULBERRY	hardwood	10	25%	yes	2
						Total Category 4 Significant Trees		2
Total Qty. of Mitigation Trees (Significant trees only as all removals are for essential site improvements):								232
Total Tree Credits (including Trees on Storage Site, Future Lot 2, Only):								78
Total Qty. of Mitigation Trees Required on Site or Pay in Lieu:								134

811 Know what's below. Call before you dig.

For each open utility cut o□ City streets, a □325 permit shall be re□uired from the City prior to occupancy and/or project acceptance.

NCDENR PWSS WATER PERMIT □:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□
WATER CAPACITY:	□□□□□□□□□□□□□□□□□□□□□□□□GPD
DW□ SEWER PERMIT □:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□
SEWER CAPACITY:	□□□□□□□□□□□□□□□□□□□□□□□□GPD
SEWER SHED □AND PLANT:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)

Approved Construction Plan

	Name	Date
Planning		
Tra□ic		
Fire		

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

NCGRID(NAD83/2011)
GRAPHIC SCALE
0 15 30 60 90
SCALE: 1"=30'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
REV-1 TRC COMMENTS 2/15/18

CLIENT INFORMATION:
GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARAMEL COMMONS BLVD., STE 207
CHARLOTTE, NC 28226

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
N.C License #: C-2846

TREE REMOVAL PLAN
GARRIS ROAD STORAGE
CITY OF WILMINGTON
NEW HANOVER COUNTY, NORTH CAROLINA

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 01/23/18
SCALE: 1" = 30'
DESIGNED: RDO
DRAWN: JOM
CHECKED: AHE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031591 ROBERT P. BALLARD
02/15/18

C-2.1

PEI JOB□ 17148.PE

ASPHALT AREA NOTE:

1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

BUILDING PAD NOTE:

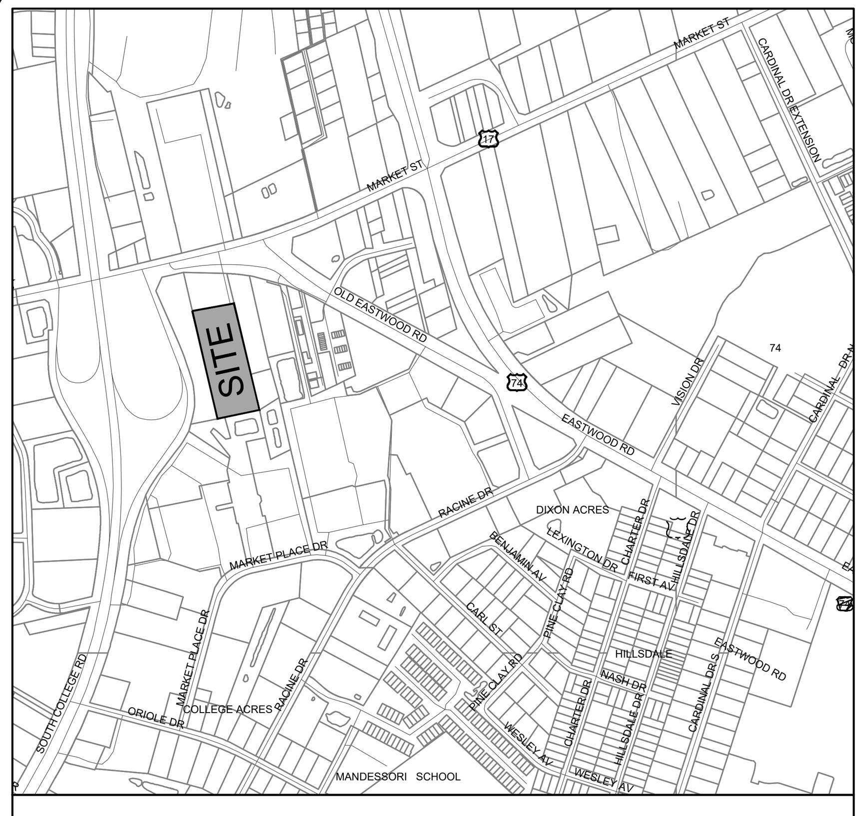
1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

STORMWATER NOTE:

1. THIS PROJECT DRAINS TO AN EXISTING OFF-SITE STORM WET DETENTION BASIN.

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 PARKING LOT IS 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 IN THE PARKING LOT ARE PROPOSED EDGE OF PAVEMENT OR FACE OF CURB GUTTER FOR CURB SECTIONS, UNLESS NOTED OTHERWISE.
5. ALL ROOF DRAINS SHALL BE DIRECTED TOWARDS ON-SITE COLLECTION SYSTEM. NO ROOF DRAINS SHALL BE DIRECTED OFF-SITE WITHOUT ENTERING THE ON-SITE COLLECTION 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 HDPE PIPE FOR THE STORM DRAINAGE SYSTEM. IF THE CONTRACTOR CHOOSES TO USE HDPE PIPE, IT SHALL BE ADS N-12 WT STORM PIPE OR APPROVED EQUAL AND 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 HDPE PIPE IS CHOSEN.
8. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL ENGINEERING REPORT FOR GARRIS ROAD MINI STORAGE - WILMINGTON, NC, PREPARED BY ECS CAROLINAS, LLP, PROJECT NUMBER: 22.25596R1, AND DATED AUGUST 2, 2017 FOR SITE CONSTRUCTION RECOMMENDATIONS.
9. CONTRACTOR SHALL STAKE SILT FENCE ALONG LIMITS OF DISTURBANCE LINE. THE SILT FENCE LINETYPE IS OFFSET ON THE DRAWING FOR CLARITY.



VICINITY MAP
SCALE: 1"=1,000'

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

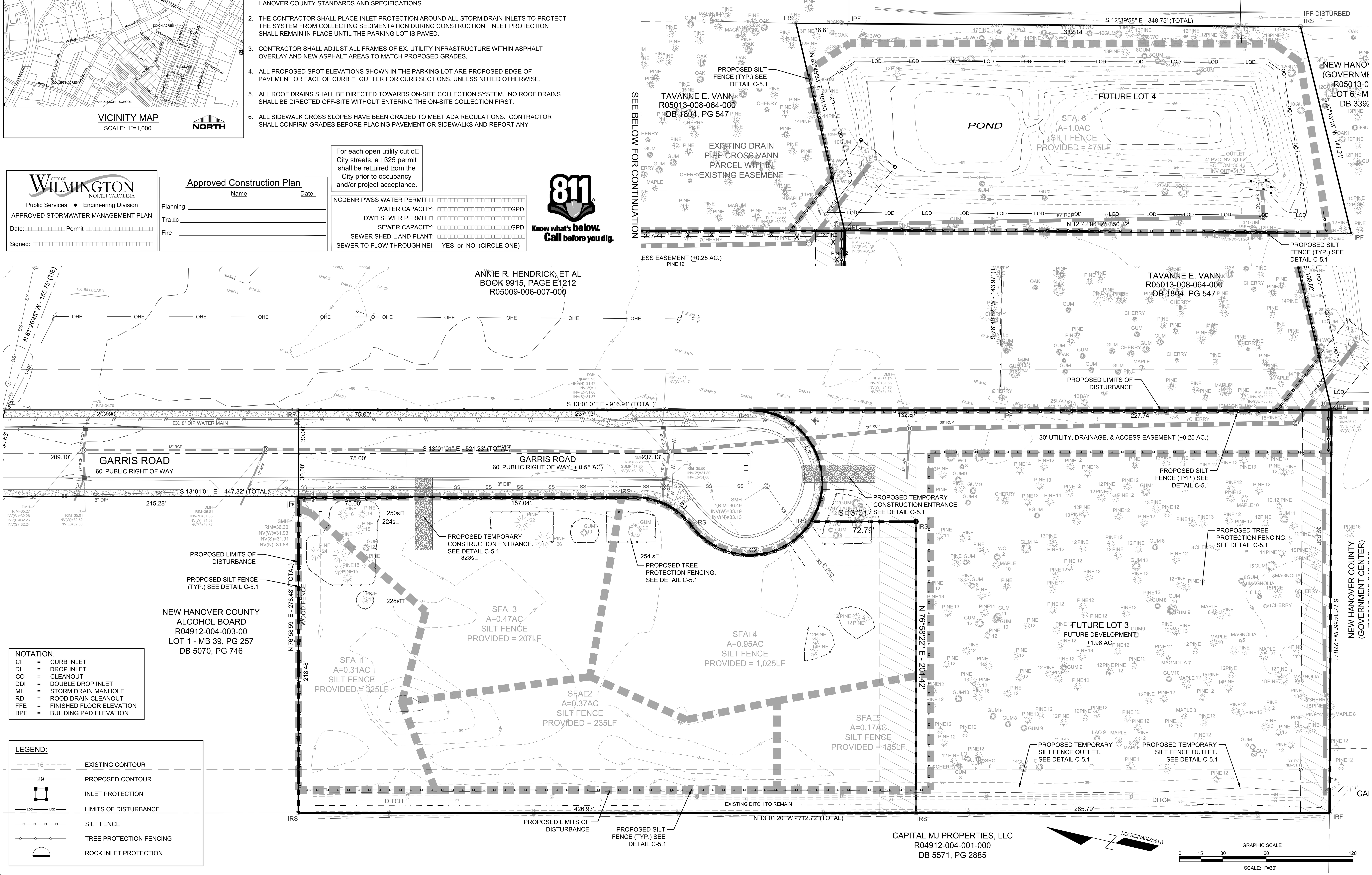
Approved Construction Plan

	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)

811 Know what's below. Call before you dig.



NOTATION:

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

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- INLET PROTECTION
- LIMITS OF DISTURBANCE
- SILT FENCE
- TREE PROTECTION FENCING
- ROCK INLET PROTECTION

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
REV.1 TRC COMMENTS 2/15/18

CLIENT INFORMATION:
GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARMEL COMMONS BLVD., STE. 207
CHARLOTTE, NC 28226

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

PH. I EROSION CONTROL PLAN

GARRIS RD. MINI STORAGE
CITY OF WILMINGTON
NORTH CAROLINA

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST.:

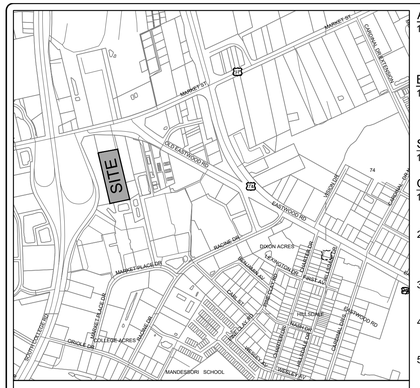
DRAWING INFORMATION

DATE:	01/23/18
SCALE:	1" = 30'
DESIGNED:	RPB
DRAWN:	RPB
CHECKED:	RPB

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031591 ROBERT P. BALLAND
03/02/18

C-3.0

PEI JOB#: 17148.PE



VICINITY MAP
SCALE: 1"=1,000'

NORTH

ASPHALT AREA NOTE:
1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

BUILDING PAD NOTE:
1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

STORMWATER NOTE:
1. THIS PROJECT DRAINS TO AN EXISTING OFF-SITE STORM WET DETENTION BASIN.

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 PARKING LOT IS 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 IN THE PARKING LOT ARE PROPOSED EDGE OF PAVEMENT OR FACE OF CURB □ GUTTER FOR CURB SECTIONS, UNLESS NOTED OTHERWISE.
5. ALL ROOF DRAINS SHALL BE DIRECTED TOWARDS ON-SITE COLLECTION SYSTEM. NO ROOF DRAINS SHALL BE DIRECTED OFF-SITE WITHOUT ENTERING THE ON-SITE COLLECTION 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 HDPE PIPE FOR THE STORM DRAINAGE SYSTEM. IF THE CONTRACTOR CHOOSES TO USE HDPE PIPE, IT SHALL BE ADS N-12 WT STORM PIPE OR APPROVED E□UAL AND 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 HDPE PIPE IS CHOSEN.
8. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL ENGINEERING REPORT FOR GARRIS ROAD MINI STORAGE - WILMINGTON, NC, PREPARED BY ECS CAROLINAS, LLP, PROJECT NUMBER: 22.25596R1, AND DATED AUGUST 2, 2017 FOR SITE CONSTRUCTION RECOMMENDATIONS.
9. CONTRACTOR SHALL STAKE SILT FENCE ALONG LIMITS OF DISTURBANCE LINE. THE SILT FENCE LINETYPE IS OFFSET ON THE DRAWING FOR CLARITY.

STORM SEWER SCHEDULE:

Upstream Node	Downstream Node	Diameter (in)	Upstream Pipe Invert (ft)	Downstream Pipe Invert(ft)	Pipe Length (ft)	Slope (%)	Upstream Rim Elev (ft)	Downstream Rim Elev (ft)	Pipe Material
CI-3	CI-2	15	32.83	32.26	192	0.30	36.08	36.55	RCP III
CI-2	MH-1	18	32.07	31.80	60	0.45	36.55	35.50	RCP III
CI-4	CI-2	15	32.56	32.26	100	0.30	36.55	36.55	RCP III
CO-13	CO-12	12	34.63	34.35	57	0.50	37.00	37.00	HDPE
CO-12	CO-11	12	34.25	34.07	57	0.32	37.00	37.00	HDPE
CO-11	CO-10	15	33.97	33.79	57	0.32	37.00	37.18	HDPE
CO-10	CO-9	15	33.69	33.51	57	0.32	37.18	37.14	HDPE
CO-9	CO-8	15	33.41	33.24	54	0.32	37.14	37.21	HDPE
CO-8	CO-7	18	33.14	32.87	75	0.36	37.21	37.00	HDPE
CO-7	CI-6	18	32.77	32.60	53	0.32	37.00	36.12	RCP III
CI-6	CI-5	18	32.50	31.73	176	0.44	36.12	35.92	RCP III

CITY OF WILMINGTON
NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: □□□□□□□□□□ Permit □□□□□□□□□□□□□□□□□□□□
Signed: □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

Approved Construction Plan

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Planning		
Tra□ic		
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NCDENR PWSS WATER PERMIT □:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□
WATER CAPACITY:	□□□□□□□□□□□□□□□□□□□□□□□□GPD
DW□ SEWER PERMIT □:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□
SEWER CAPACITY:	□□□□□□□□□□□□□□□□□□□□□□□□GPD
SEWER SHED □AND PLANT:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□
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NOTATION:
CI = CURB INLET
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FFE = FINISHED FLOOR ELEVATION
BPE = BUILDING PAD ELEVATION

LEGEND:
16 EXISTING CONTOUR
29 PROPOSED CONTOUR
EG=25.05 EXISTING GRADE SPOT ELEVATION
EP=25.05 PROPOSED EDGE OF PAVEMENT
TW=25.05 PROPOSED SIDEWALK ELEVATION
PG=25.05 PROPOSED GRADE
TC=25.05 PROPOSED TOP OF CURB ELEVATION
INLET PROTECTION
LOD LIMITS OF DISTURBANCE
SILT FENCE
TREE PROTECTION FENCING
DRAINAGE FLOW PATH
CB-202 DRAINAGE INLET LABEL
SPILL GUTTER
ROCK INLET PROTECTION
S-01 ELEV. 33.5 GEOTECH BORING LOCATION
1.5% DRAINAGE FLOW PATH □ SLOPE

SMITH CREEK STATION, LLC
R05009-006-007-000
TRACT 1
(3RD REVISION)
MB 40, PG 90
DB 4893, PG 1784

TAVANNE E. VANN
R05013-008-064-000
DB 1804, PG 547

NEW HANOVER COUNTY
(GOVERNMENT CENTER)
R05013-008-043-002
LOT 6 - MB 28, PG 31
DB 3392, PG 655

CAPITAL MJ PROPERTIES, LLC
R04912-004-001-000
DB 5571, PG 2885

SEE BELOW FOR CONTINUATION

PROPOSED LIMITS OF DISTRUBANCE

PROPOSED SILT FENCE (TYP.) SEE DETAIL C-5.1

EXISTING DRAIN PIPE CROSS VANN PARCEL WITHIN EXISTING EASEMENT

FUTURE LOT 4
SFA_6
A=1.0AC
SILT FENCE
PROVIDED = 475LF

POND

CONTRACTOR SHALL REPAIR EXISTING OUTLET STRUCTURE TO MATCH DETAIL ON SHEET C-5.2

EXISTING STORM WATER RETENTION BASIN TO BE CLEARED OUT FROM ALL DEBRIS INCLUDING TREES AND STUMPS, FINE GRADED AND SEEDED OR SODED.

PROPOSED SILT FENCE (TYP.) SEE DETAIL C-5.1

PROPOSED TEMPORARY CONSTRUCTION ENTRANCE. SEE DETAIL C-5.1

S 13°01'01" E - 916.91' (TOTAL)

S 13°01'01" E - 521.23' (TOTAL)

S 13°01'01" E - 447.32' (TOTAL)

GARRIS ROAD
60' PUBLIC RIGHT OF WAY

GARRIS ROAD
60' PUBLIC RIGHT OF WAY; ± 0.55 AC)

EX. 8" DIP WATER MAIN

EX. DRAINAGE MANHOLE TO REMAIN

PROPOSED TEMPORARY CONSTRUCTION ENTRANCE. SEE DETAIL C-5.1

PROPOSED LIMITS OF DISTURBANCE

PROPOSED SILT FENCE (TYP.) SEE DETAIL C-5.1

PROPOSED TREE PROTECTION FENCING. SEE DETAIL C-5.1

FUTURE LOT 2
CLIMATE CONTROLLED STORAGE
102,700 SF TOTAL,
34,233 SF FOOTPRINT, 3 STORIES
(100,200 SF HEATED AREA)
PHASE 1 ON ±2.04 AC.
FFE = 37.50

OFFICE 1,000 SF

RISER ROOM

GRAVEL FIRE ACCESS

FUTURE LOT 3
FUTURE DEVELOPMENT
±1.96 AC.

CONTRACTOR SHALL REMOVE +/-20LF EX. 18" RCP TO INSTALL PROPOSED CURB INLET

PROPOSED INLET PROTECTION (TYP.). SEE DETAIL C-5.1

PROPOSED TEMPORARY SILT FENCE OUTLET. SEE DETAIL C-5.1

PROPOSED TREE PROTECTION FENCING. SEE DETAIL C-5.1

PROPOSED LIMITS OF DISTURBANCE

30' UTILITY, DRAINAGE, & ACCESS EASEMENT (±0.25 AC.)

EXISTING DITCH TO REMAIN

N 13°01'20" W - 712.72' (TOTAL)

NCGRID(NAD83/2011)

GRAPHIC SCALE
0 15 30 60 120
SCALE: 1"=30'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
REV.1 TRC COMMENTS 2/15/18

CLIENT INFORMATION:
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CHARLOTTE, NC 28226

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

GRADING-DRAINAGE-EC PLAN

GARRIS RD. MINI STORAGE
CITY OF WILMINGTON
NORTH CAROLINA

PROJECT STATUS
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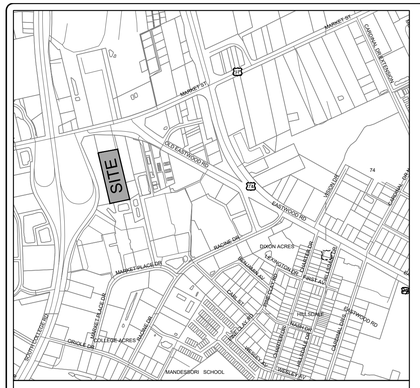
DESIGNED: RPB
DRAWN: RPB
CHECKED:

SEAL NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLARD 03/02/18

C-3.1

PEI JOB□ 17148.PE



VICINITY MAP
SCALE: 1"=1,000'
NORTH

CITY OF WILMINGTON
NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: Permit
Signed:

Approved Construction Plan

	Name	Date
Planning		
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- LOD LIMITS OF DISTURBANCE
- SILT FENCE
- TREE PROTECTION FENCING
- DRAINAGE FLOW PATH
- CB-202 DRAINAGE INLET LABEL
- SPILL GUTTER
- ROCK INLET PROTECTION
- S-01 ELEV. 33.5 GEOTECH BORING LOCATION
- 1.5% DRAINAGE FLOW PATH □ SLOPE

ANNIE R. HENDRICK, ET AL
BOOK 9915, PAGE E1212
R05009-006-007-000

TAVANNE E. VANN
R05013-008-064-000
DB 1804, PG 547

NCGRID(NAD83/2011)

GARRIS ROAD
60' PUBLIC RIGHT OF WAY

GARRIS ROAD
60' PUBLIC RIGHT OF WAY; ± 0.55 AC)

EX. 8" DIP WATER MAIN

30' UTILITY, DRAINAGE, & ACCESS EASEMENT (+0.25 AC.)

DA□3 A=0.32 C=0.50
DA□2 A=0.49 C=0.57
DA□4 A=0.06 C=0.65
DA□5 A=0.15 C=0.68
DA□6 A=0.23 C=0.74
DA□7 C=0.95
DA□8 A=0.11 C=0.95
DA□9 A=0.39 C=0.95

PROPOSED TREE PROTECTION FENCING. SEE DETAIL C-5.1

FUTURE LOT 3
FUTURE DEVELOPMENT
±1.96 AC.

NEW HANOVER COUNTY
(GOVERNMENT CENTER)

GRAVEL FIRE ACCESS

EXISTING DITCH TO REMAIN

CAPITAL MJ PROPERTIES, LLC
R04912-004-001-000
DB 5571, PG 2885

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INLET AREA MAP

GARRIS RD. MINI STORAGE
CITY OF WILMINGTON
NORTH CAROLINA

PROJECT STATUS
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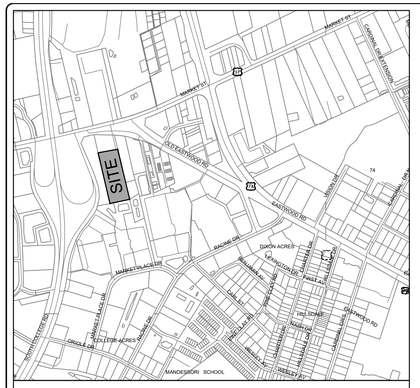
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLARD
03/02/18

C-3.2

PEI JOB□ 17148.PE



VICINITY MAP
SCALE: 1"=1,000'
NORTH

UTILITY INFORMATION

SANITARY SEWER
THIS PROJECT IS PROVIDING A NEW SEWER SERVICE TO AN EXISTING 8-INCH GRAVITY MAIN LOCATED WITHIN THE SHORT SIDE OF GARRIS ROAD RIGHT OF WAY. THIS PROJECT IS PROPOSING A 4-INCH SERVICE AND SANITARY SEWER ALLOCATION IS PROVIDED BY CFPUA.

WATER
A 8-INCH WATER MAIN IS LOCATED WITHIN THE LONG SIDE OFGARRIS ROAD RIGHT OF WAY. THE PROPOSED BUILDING WILL HAVE A 8-INCH FIRE SERVICE AND A 1-INCH DOMESTIC SERVICE WILL BE CONNECTED TO THE EXISTING 8-INCH WATER MAIN. DOMESTIC WATER ALLOCATION PROVIDED BY CFPUA.

FLOOD NOTE

THE SUBJECT PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD ZONE AS INDICATED BY FEMA FLOOD ZONE PANEL 3720314800J BEARING AN EFFECTIVE DATE OF APRIL 3, 2006.

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

2. 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.

3. 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.

4. 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 E□UIVALENT 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.

5. WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.

6. WHERE VERTICAL CLEARANCE IS LESS THAT 18" BETWEEN WATER MAIN AND STORM DRAIN, WATER MAIN SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.

FIRE □ LIFE SAFETY NOTES:

1. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS WITHIN ANY DEVELOPMENT.
2. HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
3. CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION. THIS CAN BE SATISFIED BY INSTALLING THE BASE COURSE OF THE PROPOSED PAVEMENT SECTION.
4. A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
5. UNDERGROUND FIRE LINE □ PRIVATE WATER MAINS MUST BE PERMITTED □ INSPECTED BY CITY OF WILMINGTON FIRE □ LIFE SAFETY FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING.
6. CONSTRUCTION TYPE - IIB, BUILDING WILL BE SPRINKLED.
7. ANY FDC MUST BE WITHIN 150' OF A FIRE HYDRANT □ WITHIN 40' OF FIRE APPARATUS PLACEMENT.
8. LANDSCAPING OR PARKING CAN NOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT (3') CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC.

CITY OF WILMINGTON
NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: □□□□□□□□□□□□ Permit □□□□□□□□□□□□□□□□□□□□
Signed: □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

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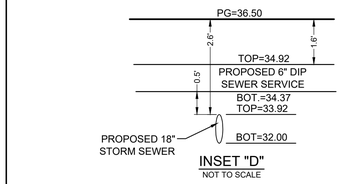
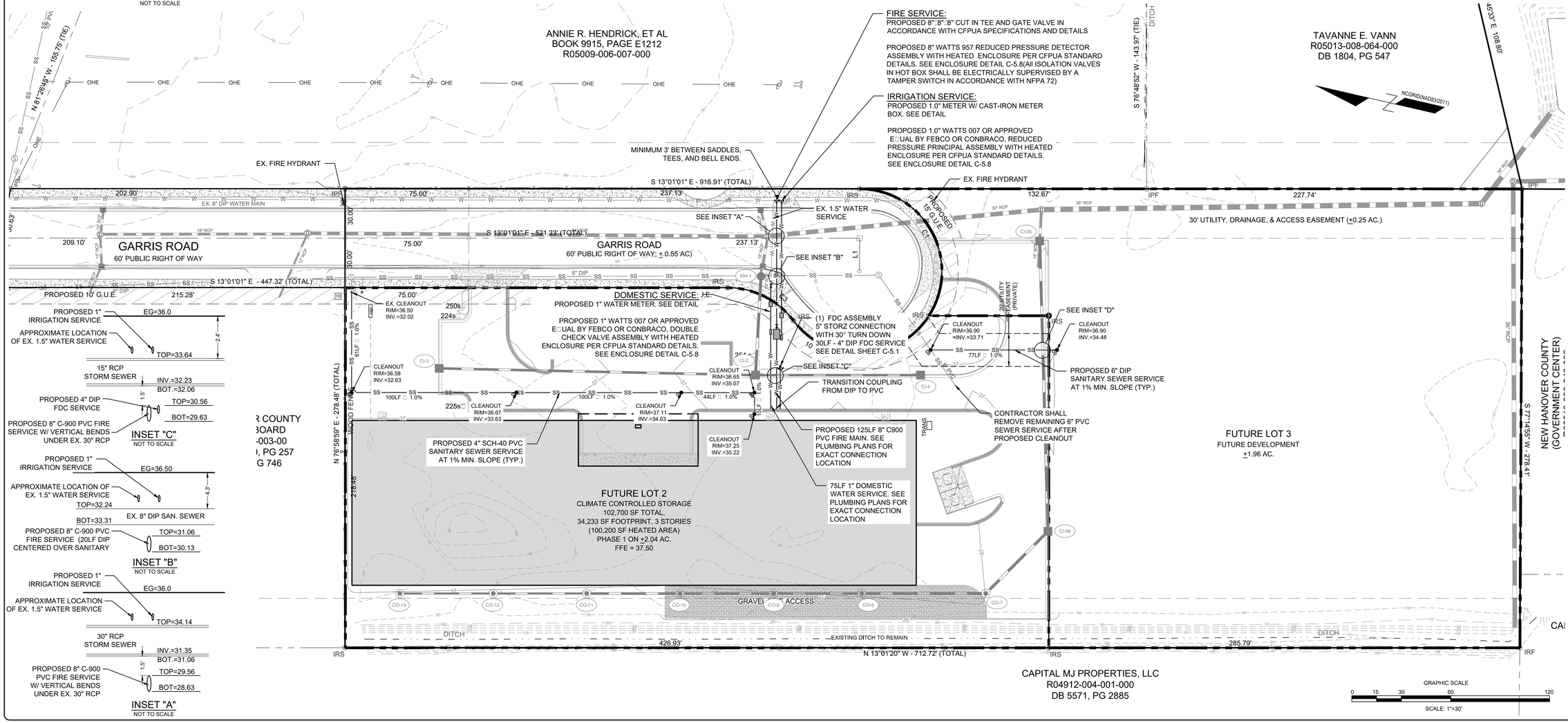
SEWER SHED □ AND PLANT:	□□□□□□□□□□□□□□□□□□□□□□□□□□□□
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

1. SEWER GUARDS RE□UIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS RE□UIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
2. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT R/W LINE. SEWER SERVICES IN CUL-DE-SACS ARE RE□UIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
3. ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
4. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
5. NO FLEXIBLE COUPLINGS SHALL BE USED.
6. ALL STAINLESS STEEL FASTENERS SHALL BE 316.
7. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.



INSET "D"
NOT TO SCALE



PROPOSED 10' G.U.E.

INSET "C"
NOT TO SCALE

INSET "B"
NOT TO SCALE

INSET "A"
NOT TO SCALE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
REV.1 TRC COMMENTS 3/2/18

CLIENT INFORMATION:
GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARMEL COMMONS BLVD., STE. 207
CHARLOTTE, NC 28226

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

UTILITY PLAN

GARRIS RD. MINI STORAGE
CITY OF WILMINGTON
NORTH CAROLINA

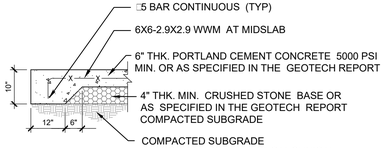
PROJECT STATUS
CONCEPTUAL LAYOUT: 02/27/18
PRELIMINARY LAYOUT: 1" = 30'
FINAL DESIGN: RPB
RELEASED FOR CONST: RPB

DRAWING INFORMATION
DATE: 02/27/18
SCALE: 1" = 30'
DESIGNED: RPB
DRAWN: RPB
CHECKED: RPB

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLAND
02/27/18

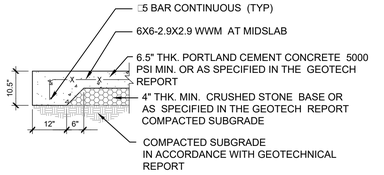
C-4.0

PEI JOB□ 17148.PE



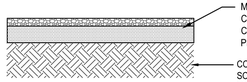
LIGHT-DUTY CONCRETE PAVEMENT SECTION

NOT TO SCALE



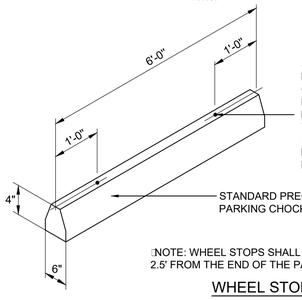
HEAVY-DUTY CONCRETE PAVEMENT SECTION

NOT TO SCALE



20' GRAVEL FIRE ACCESS DIRVE SECTION

N.T.S.

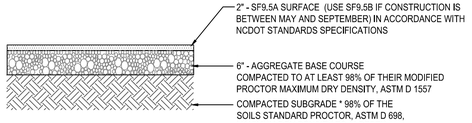


SECURELY ATTACH WHEEL STOPS INTO PAVEMENT WITH NOT LESS THAN TWO GALVANIZED STEEL DOWELS EMBEDDED IN HOLES CAST INTO WHEEL STOPS. FIRMLY BOND EACH DOWEL TO WHEEL STOP AND TO PAVEMENT. EXTEND UPPER PORTION OF DOWEL 5 INCHES INTO WHEEL STOP AND LOWER PORTION AS NOTED ON THE DRAWINGS INTO PAVEMENT

□NOTE: WHEEL STOPS SHALL BE PLACED 2.5' FROM THE END OF THE PARKING STALL

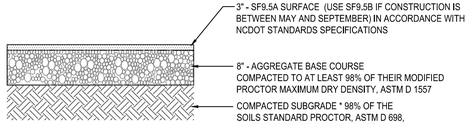
WHEEL STOP

NOT TO SCALE



LIGHT DUTY ASPHALT PAVEMENT SECTION

N.T.S.



HEAVY DUTY ASPHALT PAVEMENT SECTION

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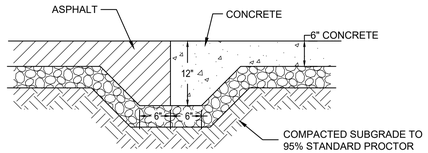
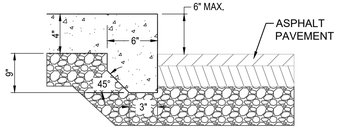


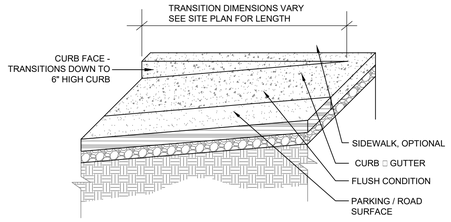
ASPHALT TO CONCRETE PAVEMENT TRANSITION

NOT TO SCALE



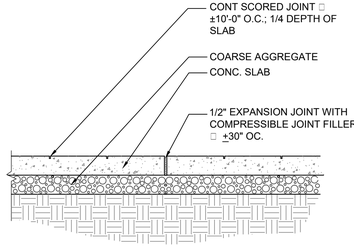
EXPOSED FACE CONCRETE WALK TO ASPHALT DETAIL

NOT TO SCALE



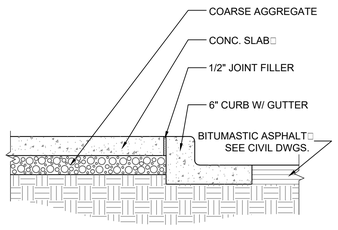
TRANSITION CURB DETAIL

N.T.S.



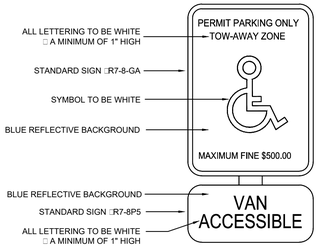
TYPICAL SIDEWALK DETAIL

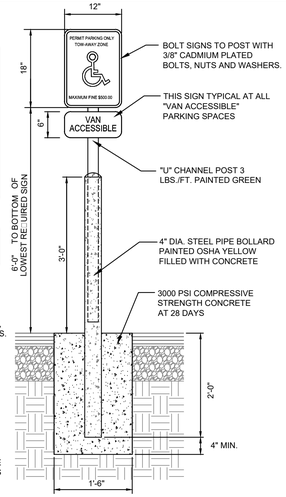
N.T.S.



TYPICAL SIDEWALK □ CURB

N.T.S.





NOTES:
1. ALL SIGNS TO BE 0.080" THICK ALUMINUM
2. ALL SIGNS SHALL CONFORM WITH ALL CURRENT A.D.A., FEDERAL, STATE AND LOCAL CODES AND REGULATIONS.
3. PLACE "VAN ACCESSIBLE" SIGN IN FRONT OF VAN ACCESSIBLE SPACES ONLY.
4. MOUNT ON BUILDING OR METAL POST AS DIRECTED.

HANDICAP SIGN DETAIL

NOT TO SCALE

ONE AT EACH HANDICAP SPACE. WHERE HANDICAP SPACES FACE EACH OTHER WITHOUT WALKWAY, THERE SHALL BE ONE POST WITH SIGNS MOUNTED BOTH SIDES

NCDENR PWSS WATER PERMIT □	
WATER CAPACITY:	GPD
DW□ SEWER PERMIT □	
SEWER CAPACITY:	GPD
SEWER SHED □ AND PLANT:	
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)

Approved Construction Plan

	Name	Date
Planning		
Tra□3c		
Fire		

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: Permit
Signed:

For each open utility cut o□ City streets, a □325 permit shall be re□uired from the City prior to occupancy and/or project acceptance.

WARNING DOME NOTES:
1. USE CONTRASTING COLORS, RED OR BLACK ON WHITE PAVEMENT.
2. USE CAST IN PLACE PAVERS FOR NEW CONSTRUCTION.
3. RUBBER MATS ARE PERMITTED FOR RETROFITS.
4. LANDING AND RAMP WIDTH MAY BE REDUCED TO 3' WHERE SPACE IS LIMITED AND DESIGN IS APPROVED BY THE CITY ENGINEER.

DATE:	DECEMBER, 2010
DRAWN:	PB/JSR
CHECKED:	DSC
SCALE	NOT TO SCALE

STANDARD DETAIL
PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON N.C. 28402
(910) 341–7807

SD 3-07

1–PAVEMENT MARKINGS AND SYMBOLS SHALL BE DESIGNED PER MUTCD WITH APPROVAL FROM CITY TRAFFIC ENGINEERING, AND INSTALLED IN ACCORDANCE WITH NCDOT DIVISION 12 SPECIFICATIONS.

2–GENERALLY, PERMANENT MARKINGS WILL BE UNIFORM AND SMOOTH AND WILL CONSIST OF 120MIL OF THERMOPLASTIC FOR ALL LINES AND SYMBOLS; TEMPORARY MARKINGS SHALL CONSISTS OF 15 MIL PAINT, EVERY 6 MONTHS.

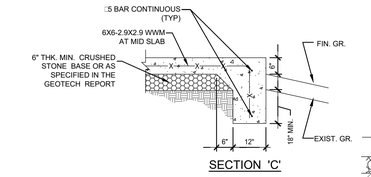
3–DURING APPLICATION THE EXISTING PAVEMENT SHALL NOT SHOW SIGNS OF MOISTURE AND BE CLEAN, FREE OF DIRT AND OIL, ETC. THERMOPLASTIC SHALL ONLY BE INSTALLED WHERE PAVEMENT IS 50° F AND RISING. PAINT SHALL ONLY BE INSTALLED WHERE PAVEMENT IS 40° F AND RISING.

DATE:	DECEMBER, 2011
DRAWN BY	JSR
CHECKED BY	BDR, P.E.
SCALE	NOT TO SCALE

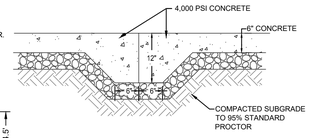
STANDARD DETAIL
PAVEMENT MARKINGS LINE TYPES

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341–7807

SD 11-01

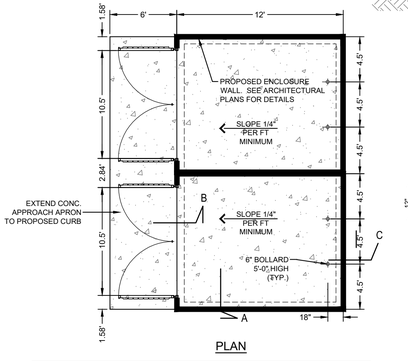


SECTION 'C'



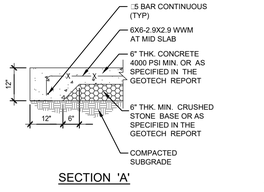
SECTION 'B'

(SEE SECTION 'A' FOR SIMILAR NOTES)

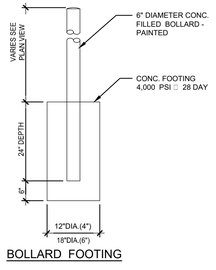


PLAN

NOTE □- CONTRACTOR SHALL PROVIDE PHOTOGRAPHIC OR SIMILAR ACCEPTABLE EVIDENCE TO THE OWNER'S CONSTRUCTION MANAGER UPON COMPLETION OF STEEL PLACEMENT.



SECTION 'A'

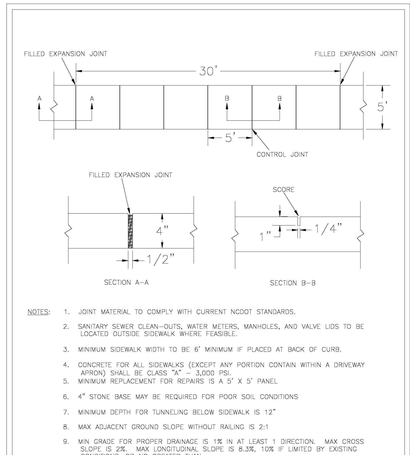


BOLLARD FOOTING

NOTES:
1. FOOTINGS SHALL EXTEND 18" MINIMUM BELOW ADJACENT EXISTING GRADE BELOW FROST DEPTHS PER LOCAL CODES. SEE SOILS REPORT FOR ANY ADDITIONAL DESIGN CRITERIA.
2. ENCLOSURE SHALL BE MASONRY WALL, SEE ARCHITECTURAL FOR DETAILS.

DUMPSTER PAD DETAILS

NOT TO SCALE



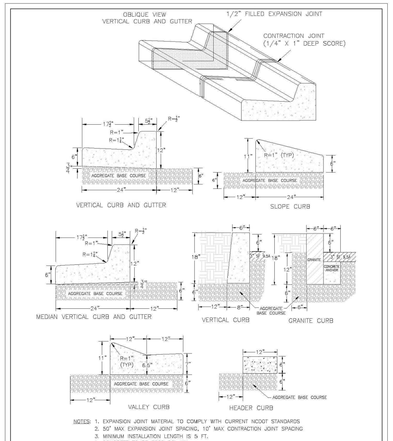
NOTES:
1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
2. SANITARY SEWER CLEAN–OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
3. MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
4. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" – 3,000 PSI.
5. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL
6. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS
7. MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"
8. MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
9. MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2% MAX LONGITUDINAL SLOPE IS 8.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

DATE:	OCTOBER, 2010
DRAWN:	PB/JSR
CHECKED:	DSC
SCALE	NOT TO SCALE

STANDARD DETAIL
SIDEWALK

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON N.C. 28402
(910) 341–7807

SD 3-10



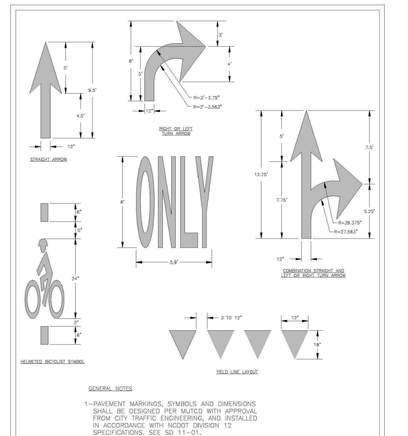
NOTES: 1. EXPANSION JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS
2. 50' MAX EXPANSION JOINT SPACING, 10' MAX CONTRACTION JOINT SPACING
3. MINIMUM INSTALLATION LEVIATH IS 5 FT.
4. CONCRETE TO BE 3000 PSI MIN.
5. VERTICAL CURB AND GUTTER BASE CAN BE SLOPED 3/4" OR USE A FLAT BASE

DATE:	AUGUST, 2011
DRAWN:	PB/JSR
CHECKED:	DSC
SCALE	NOT TO SCALE

STANDARD DETAIL
CURBING

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON N.C. 28402
(910) 341–7807

SD 3-11



GENERAL NOTES

1–PAVEMENT MARKINGS, SYMBOLS AND DIMENSIONS SHALL BE DESIGNED PER MUTCD WITH APPROVAL FROM CITY TRAFFIC ENGINEERING, AND INSTALLED IN ACCORDANCE WITH NCDOT DIVISION 12 SPECIFICATIONS. SEE SD 11–01.

DATE:	OCTOBER, 2012
DRAWN BY	JSR
CHECKED BY	BDR, P.E.
SCALE	NOT TO SCALE

STANDARD DETAIL
GUIDELINES FOR PAVEMENT MARKINGS AND SYMBOLS

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341–7807

SD 11-03

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

CLIENT INFORMATION:

GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARAMEL COMMONS BLVD., STE 207
CHARLOTTE, NC 28226

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

DETAILS

GARRIS ROAD STORAGE
CITY OF WILMINGTON
NEW HANOVER COUNTY, NORTH CAROLINA

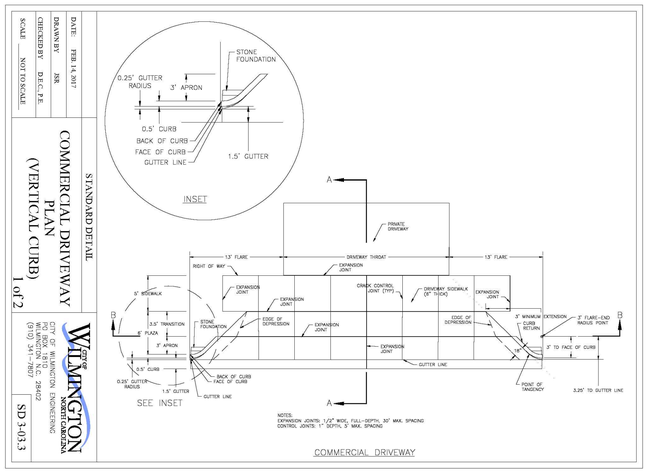
PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 01/19/18
SCALE: AS SHOWN
DESIGNED: RPS
DRAWN: RPB
CHECKED: RPB

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLARD
03/02/18

C-5.0

PEI JOB□ 17148.PE



STANDARD DETAIL

COMMERCIAL DRIVEWAY PLAN (VERTICAL CURB)

1 of 2

CITY OF WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 3-03.3

SCALE: NOT TO SCALE | CHECKED BY: D.E.C., P.E. | DRAWN BY: JSR | DATE: FEB 14, 2007

STANDARD DETAIL

COMMERCIAL DRIVEWAY SECTIONS (VERTICAL CURB)

2 of 2

CITY OF WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 3-03.4

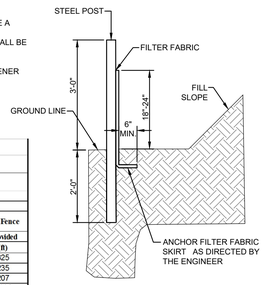
SCALE: NOT TO SCALE | CHECKED BY: D.E.C., P.E. | DRAWN BY: JSR | DATE: FEB 14, 2007

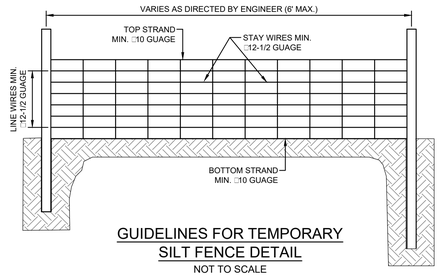
NOTES:
1. WIRE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES W/12" STAY SPACING
2. FILTER FABRIC SHALL BE A MINIMUM OF 36" IN WIDTH AND SHALL BE FASTENED ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER
3. STEEL POST SHALL BE 5' 0" IN HEIGHT AND BE OF SELF FASTENER ANGLE STEEL TYPE

Temporary Sediment Fence - Ph1 EC

Requirement = 100 ft per 0.25 acres disturbed

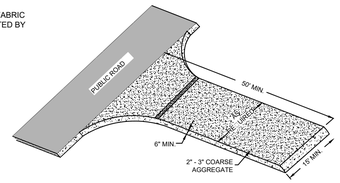
SFDA #	Disturbed area (ac)	Total drainage area (ac)	Silt Fence Required (ft)	Silt Fence Provided (ft)
1		0.31 ac	124	325
2		0.37 ac	148	235
3		0.47 ac	188	207
4		0.95 ac	380	1025
5		0.17 ac	68	185
6		1.00 ac	400	475



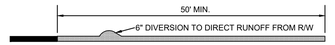


GUIDELINES FOR TEMPORARY SILT FENCE DETAIL

NOT TO SCALE



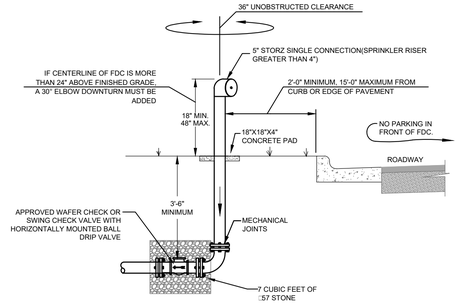
PLAN VIEW



SECTION VIEW

TEMPORARY CONSTRUCTION ENTRANCE

NOT TO SCALE

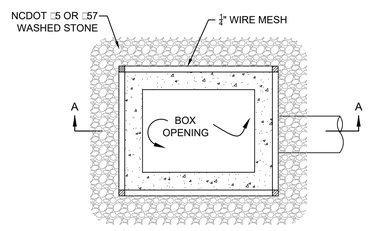


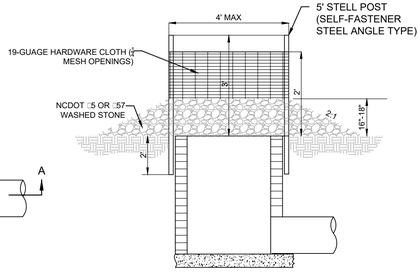
NOTES:

1. THE VALVE PIT SHALL BE SIZED TO ACCOMMODATE ALL PROPOSED EQUIPMENT.
2. THERE SHALL BE NO SHUTOFF VALVE IN THE FIRE DEPT. CONNECTION PIPING (PER NFPA 13).
3. ALL FITTINGS SHALL BE FLANGED.
4. ALL PIPING SHALL BE STEEL OR DUCTILE IRON.
5. SEE SITE PLANS FOR SIZES OF PIPES AND FITTINGS. SIAMESE CONNECTION TO BE IN ACCORDANCE WITH NFPA 13.
6. PROVIDE DRAINAGE AWAY FROM STRUCTURE.
7. A 2" MINIMUM CLEARANCE SHALL BE MAINTAINED BETWEEN THE BOTTOM OF THE VAULT LID AND THE RISING STEM OF THE OS&Y VALVE IN THE FULLY OPEN POSITION.
8. KNOX LOCKING PLUG SHALL BE PROVIDED ON THE FDC INLET
9. APPROVED WAFER CHECK OR SWING CHECK VALVE WITH HORIZONTAL MOUNTED BALL DRIP VALVE.
10. THE FDC SHALL BE CONNECTED TO THE PIPING SYSTEM LOCATED DOWNSTREAM OF THE POST INDICATOR VALVE.

FREE STANDING FIRE DEPARTMENT CONNECTION

NOT TO SCALE





SECTION A - A

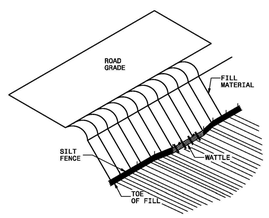
NOTE:
1. FOR CURB INLETS AND DROP INLETS

INLET PROTECTION

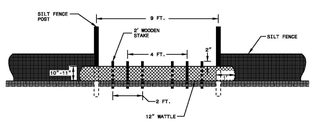
NOT TO SCALE

SILT FENCE WATTLE BREAK DETAIL

PROJECT REFERENCE NO.	SHEET NO.
FHWA	
STATE PROJECT NO.	
ROADWAY DESIGNER	STRUCTURES ENGINEER



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

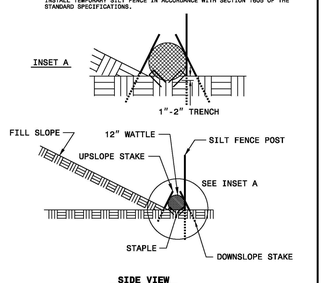
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

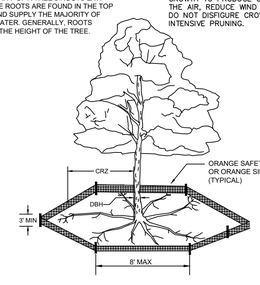
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.



SIDE VIEW

NOTE:
THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

NOTE:
CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.



NOTES:
1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATTS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
4. WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
5. FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF $500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

STANDARD DETAIL

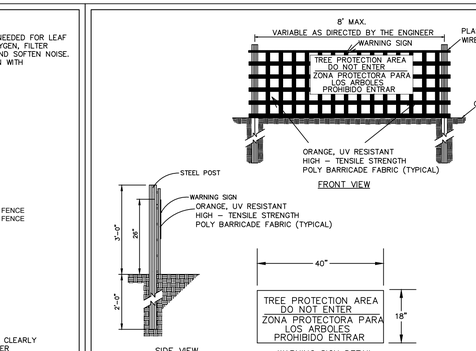
TREE PROTECTION DURING CONSTRUCTION

SHEET 1 of 2

CITY OF WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 15-09

DATE: JAN, 2015 | DRAWN BY JSR | CHECKED BY RDG, P.E. | SCALE NOT TO SCALE



NOTES:

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

STANDARD DETAIL

TREE PROTECTION DURING CONSTRUCTION

SHEET 2 of 2

CITY OF WILMINGTON NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

SD 15-09

DATE: JAN, 2015 | DRAWN BY JSR | CHECKED BY RDG, P.E. | SCALE NOT TO SCALE

For each open utility cut on 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)

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

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

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

CLIENT INFORMATION:

GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARAMEL COMMONS BLVD., STE 207
CHARLOTTE, NC 28226

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

DETAILS

GARRIS ROAD STORAGE
CITY OF WILMINGTON
NEW HANOVER COUNTY, NORTH CAROLINA

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 01/23/18
SCALE: AS SHOWN
DESIGNED: RPB
DRAWN: RPB
CHECKED:

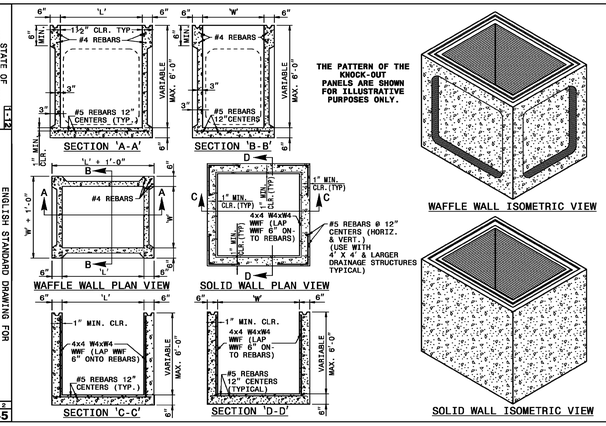
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BRILLIANT
03/02/18

C-5.1

PEI JOB# 17148.PE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. | 1-12 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR **PRECAST DRAINAGE STRUCTURE** (SOLID AND WAFFLE WALL)

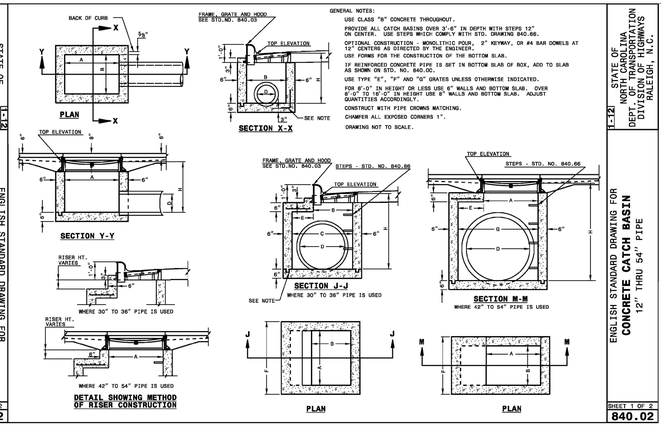


THE PATTERN OF THE KNOCK-OUT PANELS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

SHEET 1 OF 2 **840.45**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. | 1-12 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR **CONCRETE CATCH BASIN** 12" THRU 54" PIPE

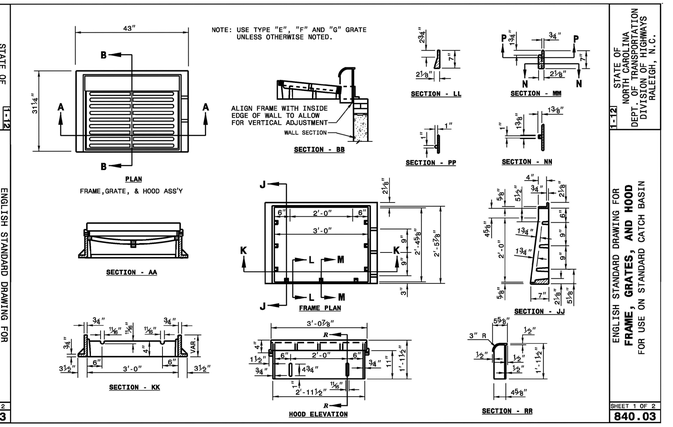


GENERAL NOTES:
USE CLASS "B" CONCRETE THROUGHOUT.
PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
OPTIONAL CONSTRUCTION: MONOLITHIC POUR, 3" KEYWAY, OR #4 BAR DOWELS AT 24" CENTERS AT CONSTRUCTION JOINT IN BOTTOM SLAB.
USE FORMS 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.
USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 12'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.
CONSTRUCT WITH PIPE CHORDS MATCHING.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.

SHEET 1 OF 2 **840.02**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. | 1-12 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN



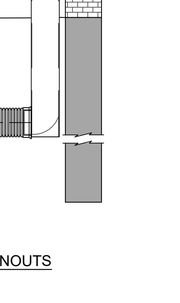
SHEET 1 OF 2 **840.03**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. | 1-12 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR **PRECAST DRAINAGE STRUCTURE** (GENERAL NOTES AND DETAILS)

GENERAL NOTES:

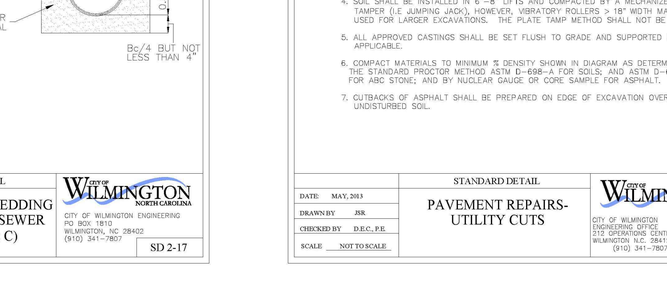
- THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.01, 840.02, 840.04, 840.05, 840.11, 840.12, 840.14, 840.15, 840.17, 840.18, 840.19, 840.26, 840.27, 840.28, 840.31, 840.32 AND 840.41.
- INSTALL PRECAST DRAINAGE STRUCTURES AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 840.
- DO NOT PLACE PRECAST DRAINAGE STRUCTURES UNDER TRAFFIC OR WHERE TRAFFIC WILL BE DETOURED.
- USE 4000 PSI CONCRETE.
- PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185.
- LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB FOR WAFFLE WALL STRUCTURE TO 10'-0"; LIMIT SOLID WALL STRUCTURE TO 15'-0".
- PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
- CUT OR FORM OPENINGS FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION. ORIENT WAFFLE WALL STRUCTURES SO THAT PIPES ENTER THROUGH THE KNOCKOUT/WAFFLE PANELS ONLY. PIPES MAY ENTER THROUGH THE CORNERS OF SOLID WALL BOXES IF A MINIMUM OF 6" OF WALL IS PROVIDED ABOVE THE HOLE.
- ALL ELEMENTS PRECAST TO MEET ASTM C913.
- FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
- PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS AS DIRECTED BY THE ENGINEER.
- WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
- SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATION SS-S-21A, AASHTO M-198, TYPE B - BUTYL RUBBER.
- LIMIT MAXIMUM STRUCTURE SIZE TO INSIDE CLEAR DIMENSIONS OF 5'-0" X 5'-0".
- THE OUTSIDE PIPE DIAMETER PLUS 2" OR THE OPENING REQUIRED FOR FRAME AND GRATE IS THE MINIMUM STRUCTURE SIZE WHICHEVER IS GREATER.
- USE MANHOLE FRAME AND COVER AS INDICATED ON THE PLANS. REINFORCE OPENING AS SHOWN ON THIS SHEET.



SHEET 2 OF 2 **840.45**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. | 1-12 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR **CONCRETE CATCH BASIN** 12" THRU 54" PIPE



MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, h, WITH NO RISER) *

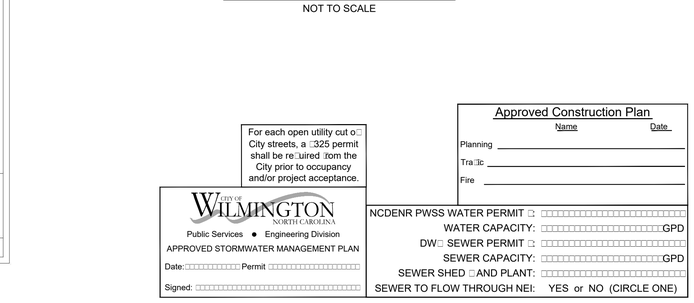
PIPE	DIMENSIONS OF BOX AND PIPE: SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT	COVER DIMENSION		BARS-U		BARS-V		BARS-W		TOTAL WT.	TOP SLAB	CONC. IN BOX: BOTTOM SLAB	WALLS	DEDUCTIONS ONE PIPE: C.Y.	S.F.	L.F.
D	A	B	C	S	h	E	F	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	LBS.						
12"	3'-0"	2'-8"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	0.235	0.772	0.515	0.209	
15"	3'-0"	2'-8"			3'-0"											0.235	0.829	0.553	0.209	
18"	3'-0"	2'-8"			3'-3"											0.235	0.887	0.593	0.049	
24"	3'-0"	2'-8"			3'-9"											0.235	1.001	0.669	0.065	
30"	3'-0"	2'-8"	3'-4"		4'-3"	1'-3"	4'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.992	0.127	
36"	3'-0"	2'-8"	3'-10"		4'-9"	1'-3"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.161	0.398	1.714	0.132	0.176	
42"	3'-0"	2'-8"		4'-5"	5'-3"	1'-3"	3'-3"	4	1'-8"	2	2'-11"	3	2'-11"	32	0.112	0.318	1.758	0.180	0.243	
48"	3'-0"	2'-8"		5'-0"	5'-9"	1'-3"	2'-9"	4	2'-3"	3	2'-11"	3	2'-11"	36	0.145	0.352	2.062	0.233	0.312	
54"	3'-0"	2'-8"		5'-7"	6'-3"	2'-7"	3'-3"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.386	2.387	0.297	0.401	

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

SHEET 2 OF 2 **840.02**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. | 1-12 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN



SHEET 2 OF 2 **840.03**

ENGLISH STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN

NOTES:
* INJECTION MOLDED FITTINGS ARE AVAILABLE IN TEES, WYES, REDUCERS, 45° BENDS AND BELL/BELL COUPLERS.

ROOF DRAIN DETAIL WITH CLEANOUTS
NOT TO SCALE

DATE: 2001	STANDARD DETAIL	CITY OF WILMINGTON NORTH CAROLINA
DRAWN BY JSR/CMR	GUIDELINES FOR BEDDING DETAILS, STORM SEWER CLASSES (B & C)	CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
CHECKED BY B.P., P.E.		SD 2-17
SCALE NOT TO SCALE		

NOTES:
1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
2. FILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
3. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
4. SOIL SHALL BE INSTALLED IN 6"–8" LIFTS AND COMPACTED BY A MECHANIZED TAMPER (I.E JUMPING JACK), HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
5. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
6. COMPACT MATERIALS TO MINIMUM % DENSITY SHOWN IN DIAGRAM AS DETERMINED BY THE STANDARD PROCTOR METHOD ASTM D-698-A FOR SOILS, AND ASTM D-698-C FOR ABC STONE; AND BY NUCLEAR GAUGE OR CORE SAMPLE FOR ASPHALT.
7. CUTBACKS OF ASPHALT SHALL BE PREPARED ON EDGE OF EXCAVATION OVER TOP OF UNDISTURBED SOIL.

DATE: MAY, 2013	STANDARD DETAIL	CITY OF WILMINGTON NORTH CAROLINA
DRAWN BY JSR	PAVEMENT REPAIRS- UTILITY CUTS	CITY OF WILMINGTON ENGINEERING OFFICE 212 OPERATIONS CENTER DRIVE WILMINGTON N.C. 28412 (910) 341-7807
CHECKED BY D.E.C., P.E.		SD 1-05
SCALE NOT TO SCALE		

EX. POND OUTLET STRUCTURE
NOT TO SCALE

For each open utility cut o□ City streets, a □325 permit shall be re□uired □rom the City prior to occupancy and/or project acceptance.

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:□□□□□□□□□□□□ Permit □□□□□□□□□□□□□□□□□□□□
Signed: □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

Approved Construction Plan

Name	Date
Planning	
Tra□ic	
Fire	

NCDENR PWSS WATER PERMIT □: □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
WATER CAPACITY: □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□GPD
DW□ SEWER PERMIT □: □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
SEWER CAPACITY: □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□GPD
SEWER SHED □AND PLANT: □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

CLIENT INFORMATION:

REVISIONS:

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

DETAILS

GARRIS ROAD STORAGE
CITY OF WILMINGTON
NEW HANOVER COUNTY, NORTH CAROLINA

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST.:

DRAWING INFORMATION
DATE: 01/23/18
SCALE: AS SHOWN
DESIGNED: RPB
DRAWN: RPB
CHECKED:

SEAL NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLARD
03/02/18

C-5.2

PEI JOB□: 17148.PE

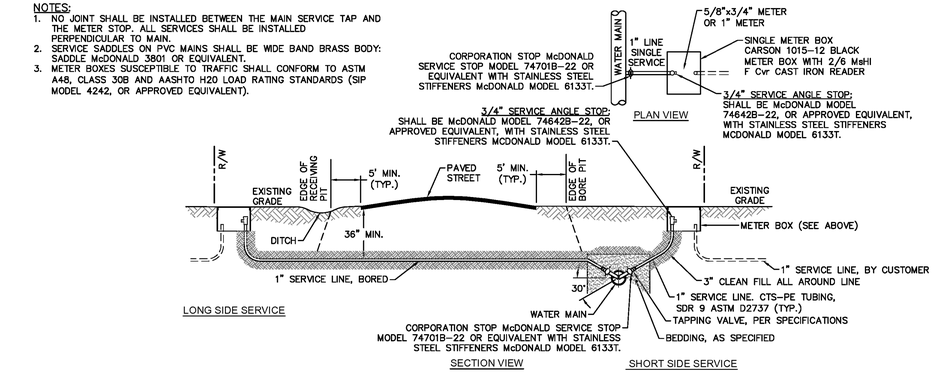
For each open utility cut o□ City streets, a □325 permit shall be re□uired from the City prior to occupancy and/or project acceptance.	NCDENR PWSS WATER PERMIT □: □□□□□□□□□□□□□□□□□□□□□□□□ WATER CAPACITY: □□□□□□□□□□□□□□□□□□□□□□GPD DW□ SEWER PERMIT □: □□□□□□□□□□□□□□□□□□□□□□□□ SEWER CAPACITY: □□□□□□□□□□□□□□□□□□□□□□GPD SEWER SHED □ AND PLANT: □□□□□□□□□□□□□□□□□□□□□□□□ SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

Approved Construction Plan

	Name	Date
Planning		
Tra□c		
Fire		

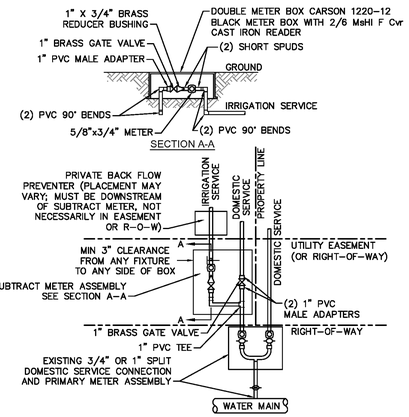
CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: □□□□□□□□□□ Permit □□□□□□□□□□□□□□□□□□□□□□
Signed: □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

NOTES:
1. NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
2. SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: SADDLE McDONALD 3801 OR EQUIVALENT.
3. METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (SIP MODEL 4242, OR APPROVED EQUIVALENT).



NOTE:
TYPICAL WATER SERVICE CONNECTION FOR RESIDENTIAL SINGLE FAMILY HOME ON CFPUA WATER SYSTEM

WD-18 SINGLE SERVICE CONNECTION
NOT TO SCALE

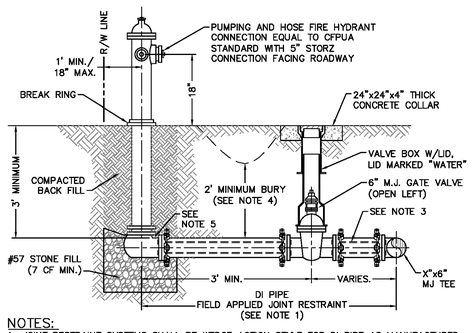


NOTES:
1. BEYOND THE PRIMARY DOMESTIC METER ASSEMBLY, CFPUA IS ONLY RESPONSIBLE FOR METER AND WASHERS OF SUBTRACT METER ASSEMBLY.
2. ALL PIPE AND FITTINGS UP TO FINAL SERVICE LINE TO BE 1" EXCLUDING METERS.

PLAN VIEW

(MULTIPLE DOMESTIC SERVICES PER TAP)

WD-8 DOUBLE SERVICE CONNECTION USING SUBTRACT METER
NOT TO SCALE



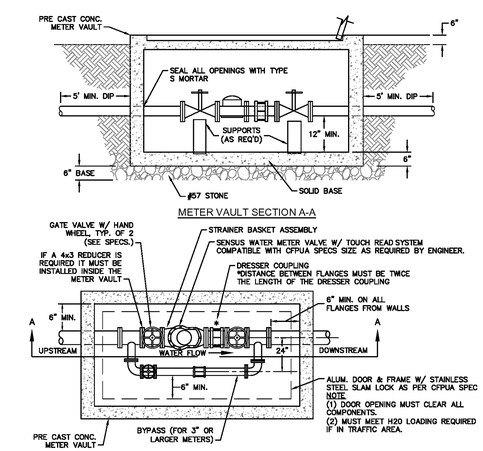
NOTES:
1. JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI PIPE AS MANUFACTURED BY EBAA IRON, SIGMA, STAR PIPE PRODUCTS OR APPROVED EQUAL.
2. WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
3. CONTINUOUS 316 STAINLESS STEEL RODS (TEE TO VALVE AND VALVE TO HYDRANT) MAY BE USED WITH COR-BLUE MJ T-BOLT AND GASKET KITS, AS AN ALTERNATIVE.
4. HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
5. WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.

WD-10 FIRE HYDRANT ASSEMBLY
NOT TO SCALE

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:

1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
2. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
3. ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
4. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
5. NO FLEXIBLE COUPLINGS SHALL BE USED.
6. ALL STAINLESS STEEL FASTENERS SHALL BE 316.
7. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

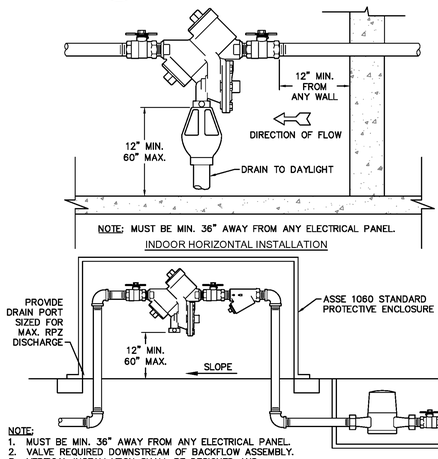
WD-19 STANDARD NOTES
(REQUIRED ON ALL PLAN AND PROFILE SHEETS)



METER VAULT PLAN

FOR WATER METERS LARGER THAN 2"

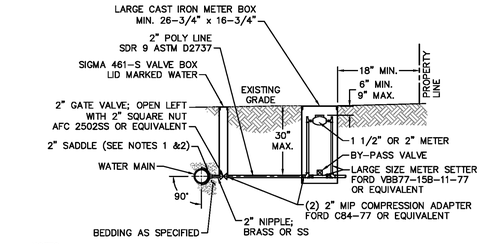
WD-1 WATER METER VAULT
NOT TO SCALE



NOTE:
1. MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
2. VALVE REQUIRED DOWNSTREAM OF BACKFLOW ASSEMBLY.
3. VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPUA ESMD FOR APPROVAL.

OUTDOOR HORIZONTAL INSTALLATION

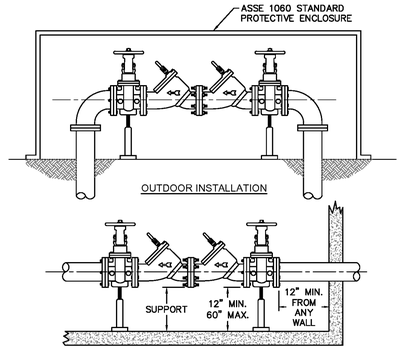
WD-12 REDUCED PRESSURE PRINCIPLE ASSEMBLY
NOT TO SCALE



NOTES:
1. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
2. SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: McDONALD 3800, FORD S90 (DOUBLE STRAP) OR EQUIVALENT.
3. METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (OLDCASTLE PRECAST MODEL B1730 OR APPROVED EQUIVALENT).
4. METER BOXES SUSCEPTIBLE TO INCIDENTAL, NON-DELIBERATE TRAFFIC SHALL CONFORM TO ANSI/SCTE 77 TIER 15 LOAD RATING STANDARDS (SYNERTECH MODEL DUO 17x30 OR APPROVED EQUIVALENT).
5. NON-TRAFFIC METER BOXES SHALL BE SIGMA MB2203 OR APPROVED EQUIVALENT.
6. 3" CLEAN FILL REQUIRED ALL AROUND 2" POLY SERVICE LINE.

FOR 1-1/2" OR 2" WATER SERVICES

WD-11 LARGE METER
NOT TO SCALE



NOTE:
1. MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
2. VALVE REQUIRED DOWNSTREAM OF BACKFLOW ASSEMBLY.
3. VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPUA ESMD FOR APPROVAL

INDOOR INSTALLATION

WD-7 DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE

GENERAL NOTES:
1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
4. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
5. THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

REV:	DESCRIPTION:	DATE:
1	Single Service Connection, Double Service Connection, and Large Meter Revised	10/26/12
2	Single Service Connection and Fire Hydrant Details Revised	7/23/13
3	Fire Hydrant Detail Revised	01/03/14
4	Revised Fire Hydrant Assembly To Show 5" STORZ Connection	04/10/15
5	Revised Fire Hydrant Assembly To Show Full DIP Hydrant Leg	01/19/16
6	Revised Water Meter Vault and Large Meter Details, Added Standard Notes	02/15/16

CFPUA WATER DISTRIBUTION SYSTEM

STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.

DATE: 1/9/12
SCALE: N/A
DRAWN BY: CFPUA
CHECKED BY: CFPUA
PROJECT NO:
SHEET NO: WSD-1

REVISIONS:

CLIENT INFORMATION:
GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARAMEL COMMONS BLVD., STE 207
CHARLOTTE, NC 28226

PARAMOUNTE ENGINEERING, P.C.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
N.C License #: C-2846

DETAILS

GARRIS ROAD STORAGE
CITY OF WILMINGTON
NEW HANOVER COUNTY, NORTH CAROLINA

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 01/19/18
SCALE: AS SHOWN
DESIGNED: RPB
DRAWN: RPB
CHECKED:

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031591 ROBERT P. BALLARD
03/02/18

C-5.3

PEI JOB□: 17148.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

S:\Engineering\CFPUA Standard Details\CAD Files\CFPUA Water Details.dwg, 2/7/2019 1:51:12 PM, johnson

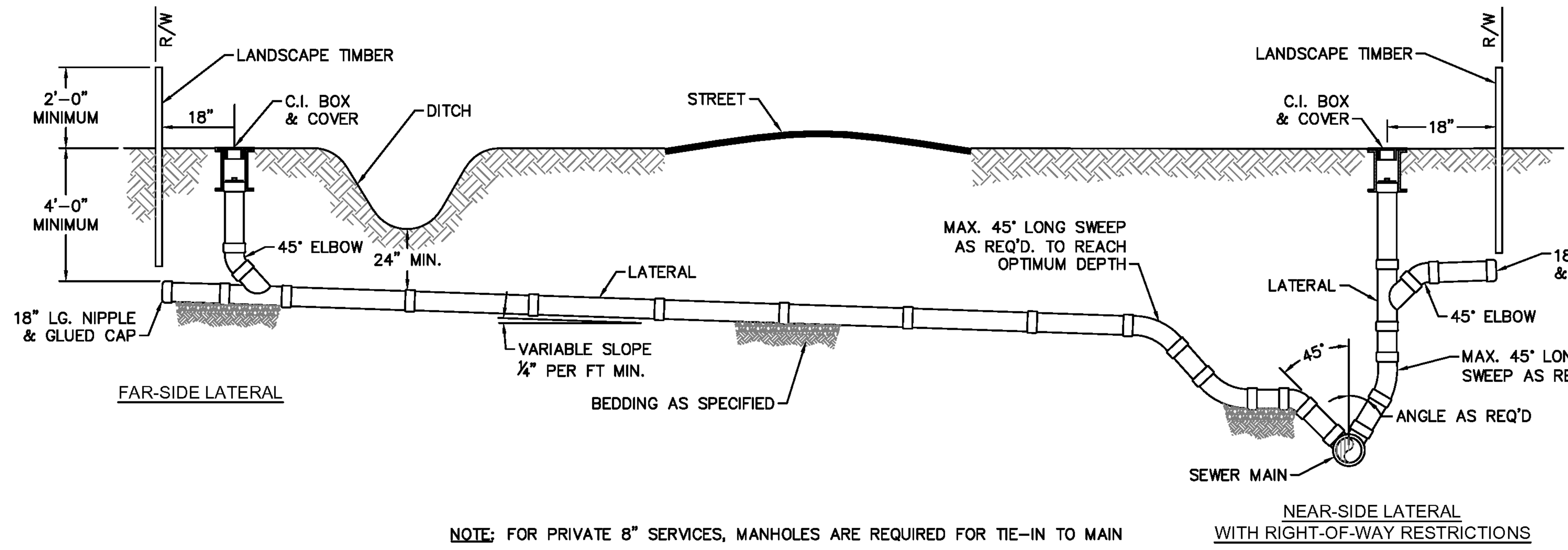
For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.	

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)

Approved Construction Plan

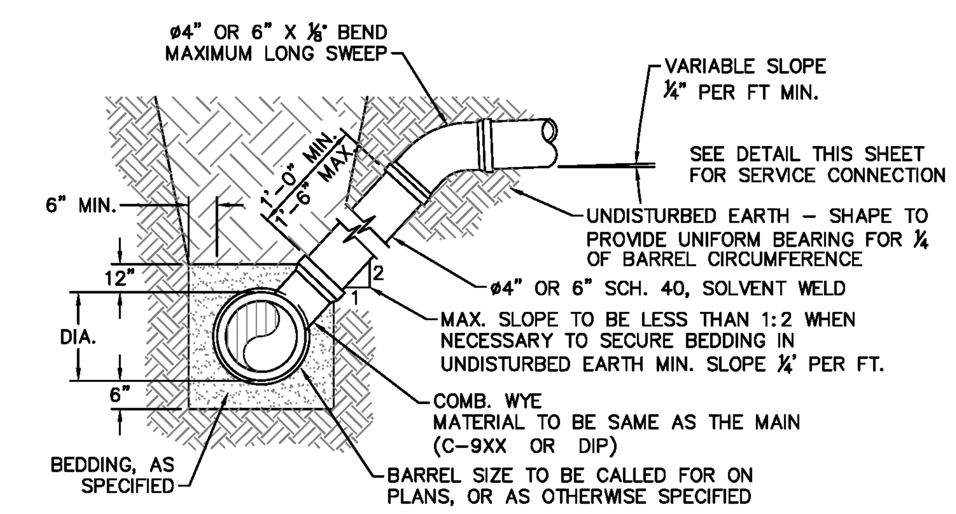
	Name	Date
Planning		
Traffic		
Fire		

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



NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN

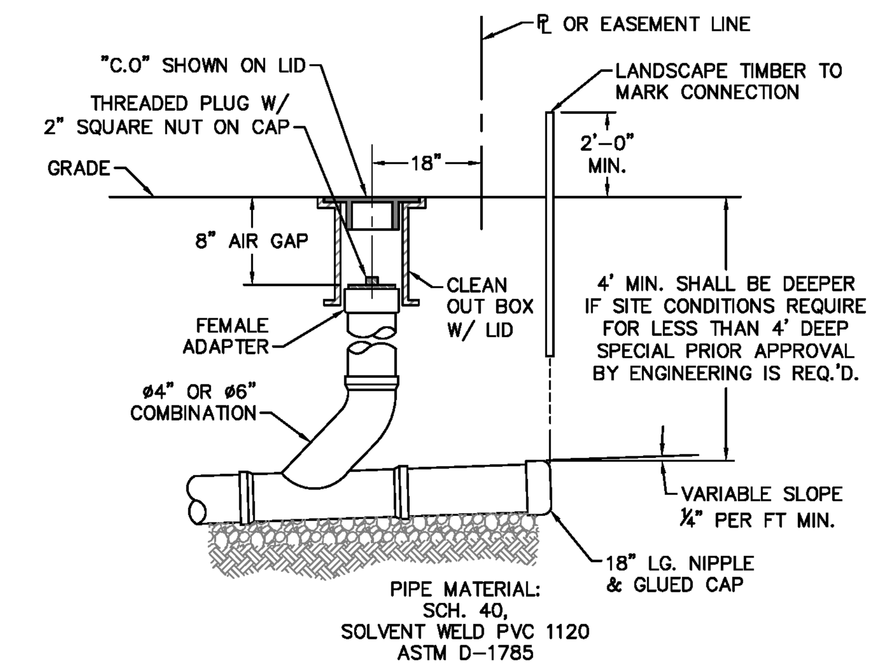
SD-19 STANDARD SERVICE CONNECTION TO SANITARY SEWER
NOT TO SCALE



NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

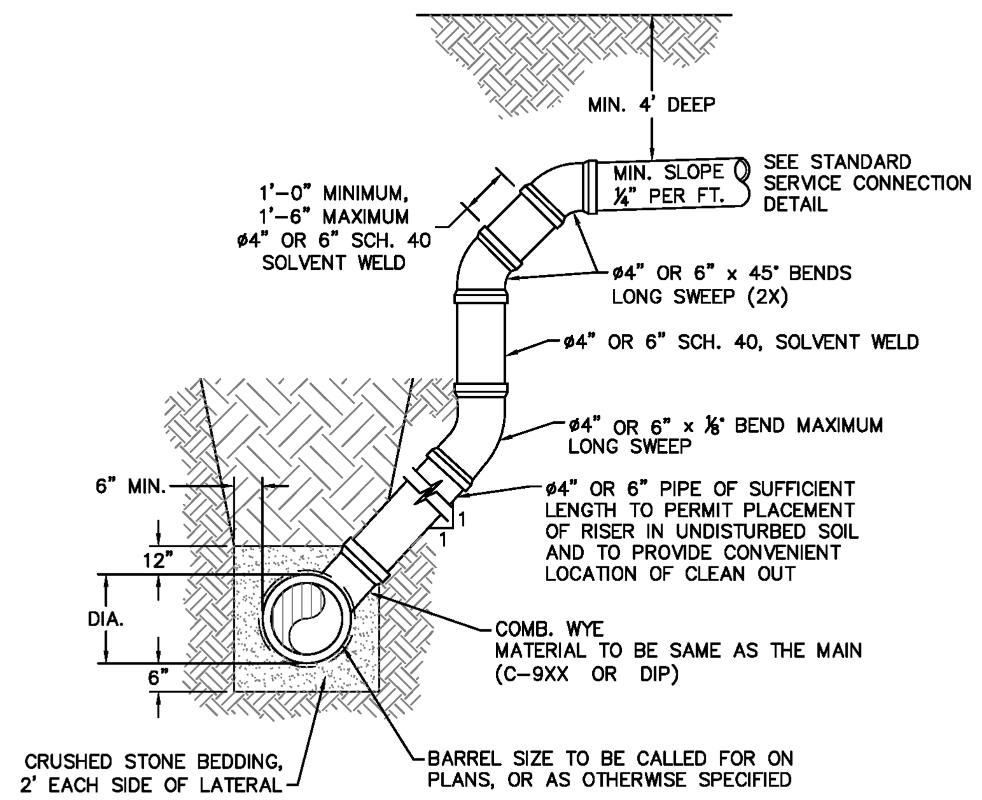
MAIN DEPTH LESS THAN 8 FT

SD-10 STANDARD SERVICE LATERAL
NOT TO SCALE



NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

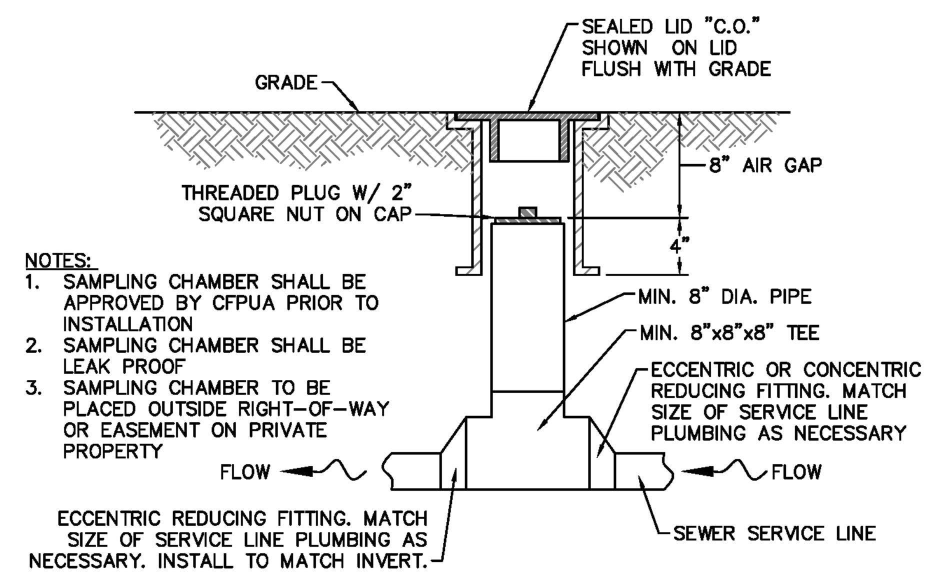
SD-11 SERVICE CONNECTION AND CLEAN-OUT
NOT TO SCALE



NOTES:
1. SPECIAL CARE SHALL BE TAKEN DURING BACKFILL OPERATIONS. THE RISER SHALL BE PLUMB AND TRUE AT ALL TIMES, AND REST ON FIRM, STABLE FOUNDATION.
2. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

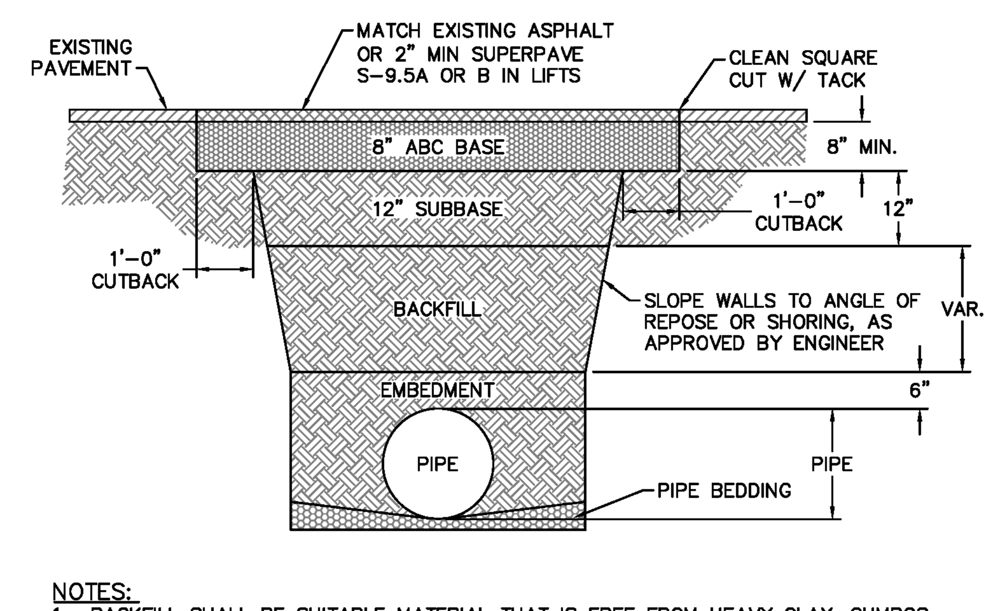
MAIN DEPTH GREATER THAN 8 FT

SD-12 DEEP SERVICE LATERAL
NOT TO SCALE



NOTES:
1. SAMPLING CHAMBER SHALL BE APPROVED BY CFPUA PRIOR TO INSTALLATION
2. SAMPLING CHAMBER SHALL BE LEAK PROOF
3. SAMPLING CHAMBER TO BE PLACED OUTSIDE RIGHT–OF–WAY OR EASEMENT ON PRIVATE PROPERTY

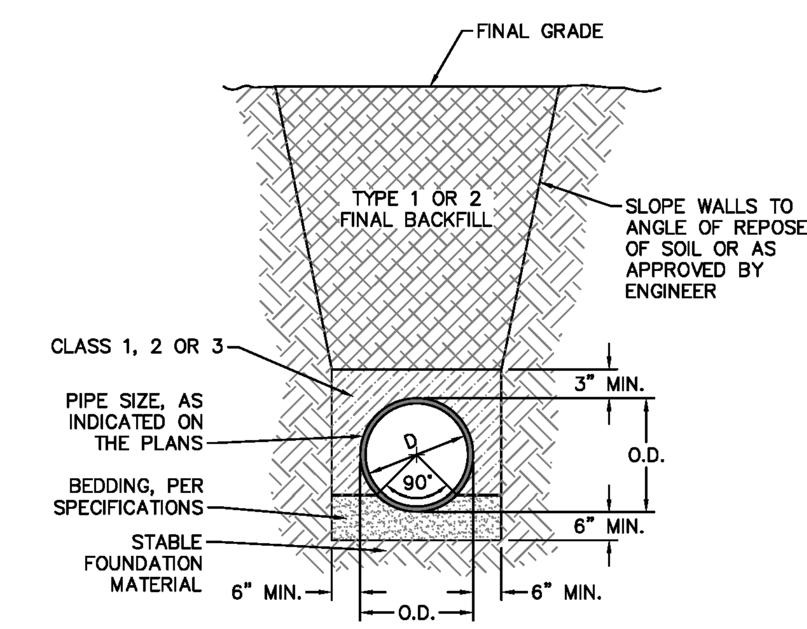
SD-13 SAMPLING CHAMBER
NOT TO SCALE



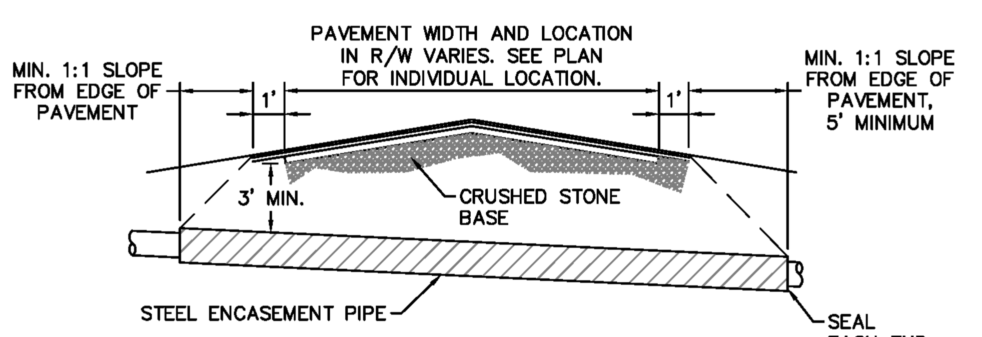
NOTES:
1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
3. 8–INCH OF ABC BASE MATERIAL SHALL BE USED ON CITY STREETS.
4. BACKFILL AND BASE MATERIALS SHALL BE COMPACTED 12" MINIMUM LIFTS
5. SOIL SHALL BE COMPACTED BY A MECHANIZED TAMPER (I.E JUMPING JACK), HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
6. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
7. ABC BASE AND SUBBASE COMPACTED TO 98% AND BACKFILL AND EMBEDMENT COMPACTED TO 90% AS DETERMINED BY THE MODIFIED PROCTOR AASHTO METHOD T–99.
8. 1–FOOT CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.

(FOR PRIVATE ROADS AND PAVED AREAS; CONTRACTOR TO MEET MIN. REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)

SD-14 PAVEMENT REPAIR WHERE PIPE INSTALLED
NOT TO SCALE

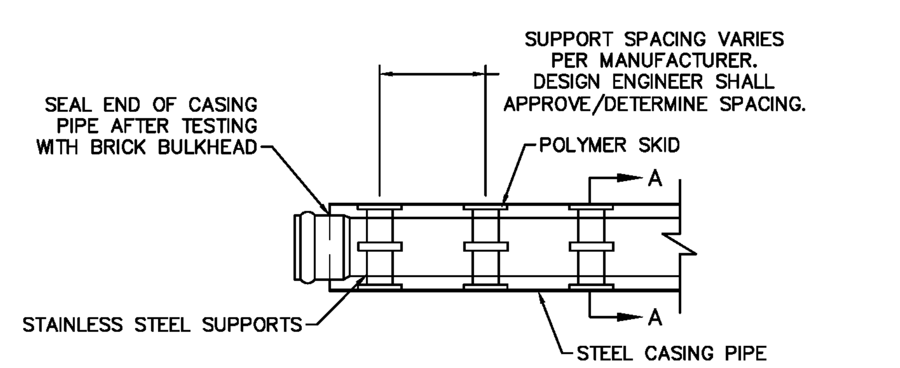


SD-15 TYPICAL TRENCH DETAIL
NOT TO SCALE



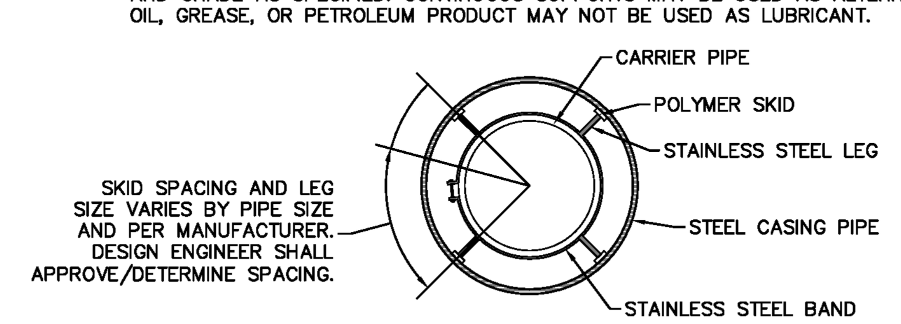
NOTES:
1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.
2. TRACER WIRE SHALL BE CONTINUED THROUGH CASING.

SD-16 TYPICAL BORING/ JACKING DETAIL
NOT TO SCALE



PLAN

NOTE: PIPE SUPPORT TO BE PLACED TO PROVIDE PROPER SUPPORT, ALIGNMENT, AND GRADE AS SPECIFIED. CONTINUOUS SUPPORTS MAY BE USED AS ALTERNATIVE. OIL, GREASE, OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.



SECTION A-A

NOTE: ALL STAINLESS STEEL PARTS TO BE 316 SST.

SD-17 PIPE CASING SUPPORT DETAIL
NOT TO SCALE

GENERAL NOTES:
1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE–WAY.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
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THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

REV:	DESCRIPTION:	DATE:
1	SAMPLING CHAMBER REVISED	10/26/12
2	Revised Multiple Details	02/15/16

CFPUA SANITARY SEWER

STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.

DATE: 1/9/12
SCALE: N/A
DRAWN BY: CFPUA
CHECKED BY: CFPUA
PROJECT NO.:
SHEET NO: SSD-2

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

CLIENT INFORMATION:
GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARAMEL COMMONS BLVD., STE 207
CHARLOTTE, NC 28226

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

DETAILS
GARRIS ROAD STORAGE
CITY OF WILMINGTON
NEW HANOVER COUNTY, NORTH CAROLINA

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST.:

DRAWING INFORMATION
DATE: 01/19/18
SCALE: AS SHOWN
DESIGNED: RPB
DRAWN: RPB
CHECKED: RPB

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031591 ENGINEER ROBERT P. BALLAND
03/02/18

C-5.4

PEI JOB#: 17148.PE

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VICINITY MAP
NOT TO SCALE

NORTH

SITE INFORMATION

OWNER INFORMATION:	GARRIS ROAD MINI STORAGE
PROJECT ADDRESS:	5414 MARKET STREET WILMINGTON, NC 28403
TAX PARCEL IDENTIFICATION #:	R04912-004-002-000
RECORDED DEED BOOK:	BK 9908 PG 1013
CURRENT ZONING:	RB - REGIONAL BUSINESS
EXISTING USE:	UNDEVELOPED
PROPOSED USE:	PH1: MULTI-STORY STORAGE PH2: FUTURE DEVELOPMENT
FLOOD INFORMATION:	THE SUBJECT PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD ZONE AS INDICATED BY FEMA FLOOD ZONE PANEL 3720314800J BEARING AN EFFECTIVE DATE OF APRIL 3, 2006.
CAMA LAND USE CLASSIFICATION:	URBAN

DIMENSIONAL REQUIREMENTS

RB - REGIONAL BUSINESS

- MINIMUM LOT AREA:	1 ACRE
- MINIMUM LOT WIDTH:	100'
- MAXIMUM LOT COVERAGE:	40%
- MINIMUM FRONT SETBACK:	25'
- MINIMUM REAR SETBACK:	15', 25' WHEN ABUTTING RESIDENTIAL USE
- MINIMUM INTERIOR SIDE SETBACK:	0', 20' WHEN ABUTTING RESIDENTIAL USE
- MINIMUM CORNER LOT SIDE SETBACK:	25'
- MAXIMUM BUILDING HEIGHT:	35'
- PROPOSED BUILDING HEIGHT:	44' MAX.
- ADDITIONAL BLDG HT. ALLOWED:	4' ADDITIONAL SETBACK FOR FIRST 10' IN HT. ADDED

LANDSCAPE CALCULATIONS:

STREETYARD (factor of 25)

Streetyard Calculation: 481.76 lf - 48 lf driveways = 433.76 lf

		REQ'D	PROV
434 lf x 25 = 10,850 sf		10,850 sf	12,749 sf
10,850 sf / 600 sf = 18	1 Canopy Tree / 600 SF	18	26 (11 new + 15 existing)
	6 Shrubs / 600 SF	108	132

PARKING LOT INTERIOR

	REQ'D	PROV
24,000 sf Paving x 20% = Landscaping sf	4,800 sf	4,935 sf 6 x 707sf = 4,242 sf Perimeter trees = 690 sf

FOUNDATION PLANTINGS

		REQ'D	PROV
Garris Rd. Building Face	(342 lf x 44' h) 15,048 sf x 12%	1,806 sf	1,926 sf
Side Drive Aisle Face	(100 lf x 44' h) 4,400 sf x 12%	528 sf	600 sf

MITIGATION CALCULATIONS

1. 26 Existing trees to be saved totaling 78 credits, 367 caliper inches. See C2.1 for credit calculations.

LEGEND:

- SPILL GUTTER
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED CHAIN LINK FENCE
- EXISTING TREE LINE
- PROPOSED STREETYARD BUFFER
- PROPOSED LANDSCAPE ISLAND
- PROPOSED FOUNDATION PLANTINGS
- PROPOSED TREE PROTECTION FENCE

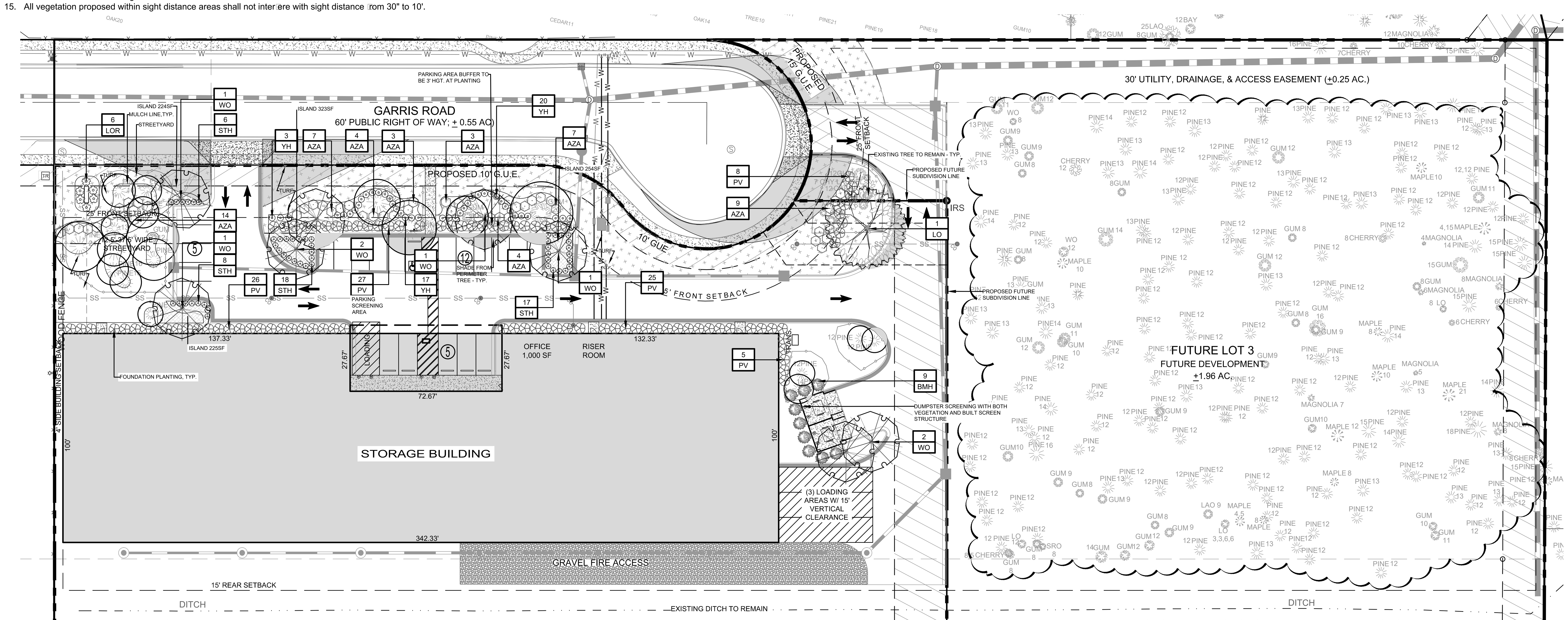
PLANT SCHEDULE

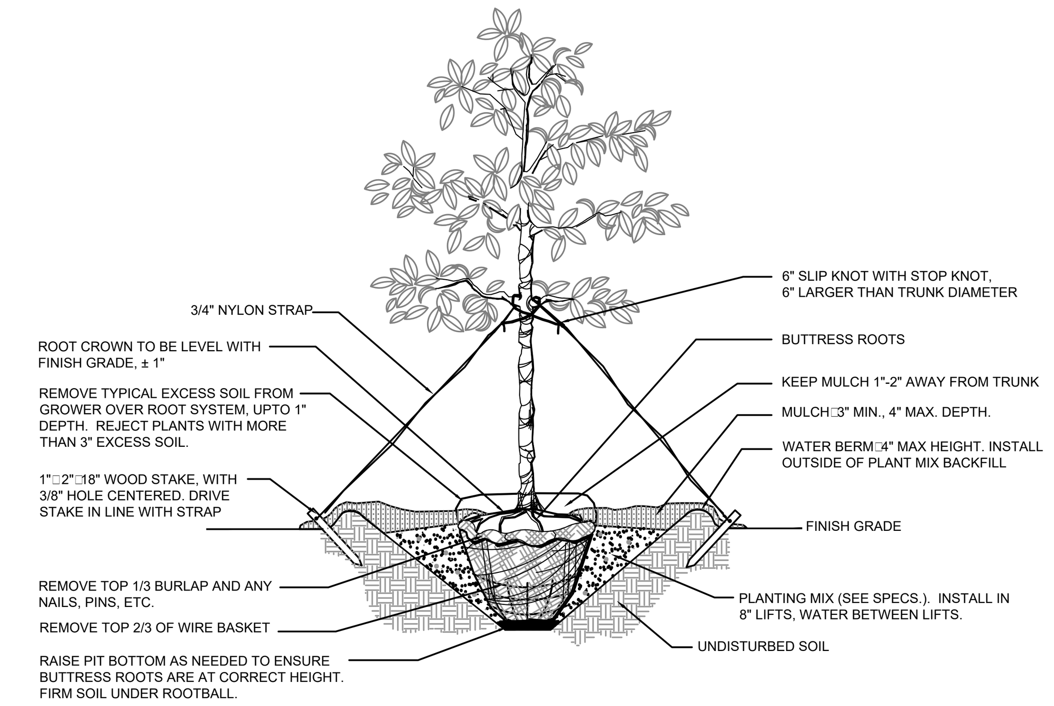
TREES	QTY	BOTANICAL NAME	SIZE		REMARKS	
WO	8	Quercus phellos Willow Oak	2.5"CAL			
LO	1	Quercus virginiana Southern Live Oak	2.5"CAL			

SHRUBS	QTY	BOTANICAL NAME	CONT	SPACING	DETAIL	REMARKS
AZA	51	Azalea i. 'Formosa' Formosa Azalea	12" HGT. MIN.	60" o.c.		
STH	49	Ilex c. 'Soft Touch' Soft Touch Holly	12" HGT. MIN.	30" o.c.		
YH	40	Ilex vomitoria 'Nana' Dwarf Yaupon	12" HGT. MIN.	36" o.c.		
BMH	9	Ilex x meserveae 'Blue Maid' TM Blue Maid Holly	12" HGT. MIN.	72" o.c.		
LOR	6	Loropetalum c. 'Ruby' Ruby Loropetalum	12" HGT. MIN.	48" o.c.		
PV	91	Pittosporum t. 'Variegata' Variegated Mock Orange	12" HGT. MIN.	60" o.c.		3' HGT. MIN. AT PLANTING IN PARKING SCREENING

LANDSCAPE NOTES:

1. Contractor is responsible for identifying all utilities prior to beginning construction.
2. Trees shall be located a minimum of 5 feet from sewer/water connections or as otherwise dictated by local regulations. contractor shall be liable for damage to any and all public or private utilities.
3. All plant material shall meet the current version of the American Association of Nurserymen's Standards.
4. No tree, other than those shown on approved plans for removal with these plans and/ or tree removal permit plans, shall be removed without written authorization from the landscape architect or owner's representative. All shrub beds and/or planting areas excluding turf areas shall be mulched with 3 inch minimum and 4 inch maximum depth pine straw mulch unless otherwise noted.
5. All plants, 4 feet or less apart, will be connected in one planting bed. All groups of plants should be within one planting bed with the edge of mulch extending 2 feet beyond the edge of plant mass. Single trees should have a circle of mulch not less than 5 feet diameter.
6. Planting soil mix: mix existing soil with the soil amendments and fertilizers in the quantities recommended by the soil testing laboratory, third party recognized by the State Department of Agriculture or as otherwise approved by the landscape architect or owner's representative.
7. Any and all substitutions of plant material shall be approved by landscape architect or owner's representative. Failure in obtaining approval may result in liability to the contractor.
8. The contractor shall replace dead and/or unhealthy plant material within 12 months of acceptance of the installed material from the owner or owner's representative.
9. The contractor shall prepare all seeded or sodded areas to assure that the subgrade has been razed and rolled to accept the sod/seed. All sod/seed areas must be irrigated or hand watered. All sod shall be placed with staggered joints and no gaps between sod joints. Sod should be rolled after installation. All seeded and/or sodded areas should provide a smooth surface free of dips and unleveled ground.
10. If an automated irrigation system is desired by owner, irrigation shall be designed and installed by a licensed irrigation contractor in the state of North Carolina.
11. Plans and specifications for the irrigation design shall be submitted to the owner or owner's representative for approval prior to purchase or installation of the materials.
12. If automated irrigation is not installed or is not installed and in operation prior to plant installation, the contractor is responsible for hand watering the installed plant material until the automated irrigation is in operation or for a period of 6 months from the acceptance from the owner or owner's representative if irrigation has not been installed at the time of substantial completion. All material including sod and seeded areas shall be hand watered once weekly or as needed to ensure survival of plants.
13. Contractor is responsible for removing trash, debris and excess materials from the job site once the project is complete. Securing any materials left on site during the course of the project is the contractor's responsibility.
14. All disturbed areas not designated for sod shall be seeded.
15. All vegetation proposed within sight distance areas shall not interfere with sight distance from 30" to 10'.

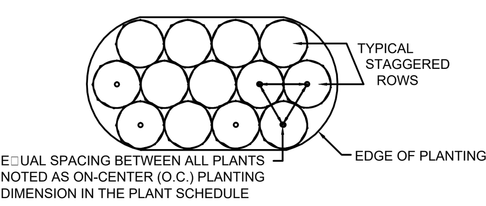




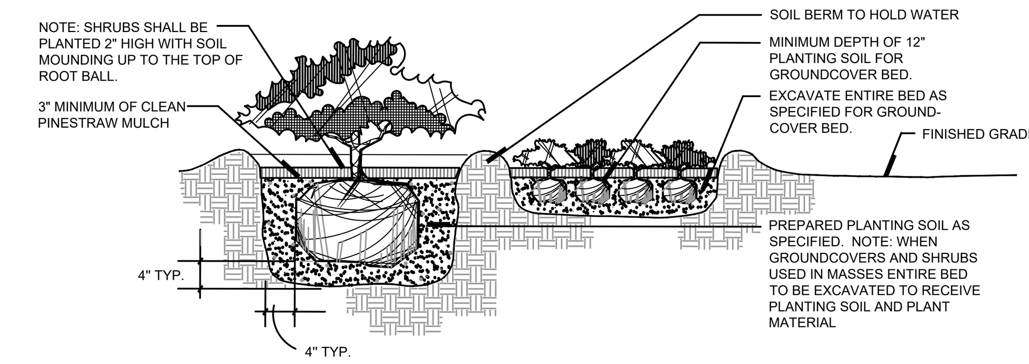
(A) SINGLE STEM TREE INSTALLATION DETAIL
NTS

NOTES:

1. OMIT COLLAR AROUND EACH SHRUB WHEN IRRIGATION SYSTEM IS PRESENT.
2. INSTALL TOP OF PLANT BALL 2" ABOVE ADJACENT GRADE
3. TAMP PLANT SOIL MIX FIRMLY IN 8" LIFTS AROUND PLANT BALL
4. SOAK PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.



TYPICAL PLANTING BED LAYOUT



(B) SHRUB INSTALLATION DETAIL
NTS

CITY OF 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 #:	
WATER CAPACITY:	GPD
DWQ SEWER PERMIT #:	
SEWER CAPACITY:	GPD
SEWER SHED & AND PLANT:	
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)

811 Know what's below. Call before you dig.

NCGRID(NAD83/2011)

GRAPHIC SCALE
0 15 30 60 90
SCALE: 1"=30'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

REV.1 TRC COMMENTS	2/15/18

CLIENT INFORMATION:
GARRIS ROAD STORAGE HOLDINGS I, LLC
11111 CARAMEL COMMONS BLVD., STE 207
CHARLOTTE, NC 28226

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

LANDSCAPE PLAN

GARRIS ROAD STORAGE
CITY OF WILMINGTON
NEW HANOVER COUNTY, NORTH CAROLINA

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST.:

DRAWING INFORMATION

DATE:	01/23/18
SCALE:	1" = 30'
DESIGNED:	RPB
DRAWN:	JRC
CHECKED:	AHE

SEAL
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1823 02/15/18 ALLISON H. ENGEBRETSON

L-1.0

PEI JOB#: 17148.PE

ELEVATION NOTES

THE R.O.W. FACING ELEVATION SHOWN IN DETAIL 01 THIS SHEET INCLUDES ELEMENTS AS DESCRIBED BELOW:

PER SECTION 18-196(H)(2b), THE EXTERIOR EXPRESSION OF HEIGHT AT 13' IS DELINEATED BY A 13' BAND A.F.F USING A SMOOTH METAL BAND MATERIAL THAT IS DISTINCT FROM THE SURROUNDING MASONRY AND STRIATED METAL PANELS.

PER SECTION 18-196(H)(2a), THE BUILDING FACADE IS DIVIDED INTO DISTINCT MASSING ELEMENTS TO COMPLY WITH A 2/3 TRANSITION. THE PARAPET HEIGHT OF 40'-4 HAS BEEN USED TO APPLY A MASSING DISTINCTION AT LINEAR INTERVALS OF NO LESS THAN 26'-10" HORIZONTALLY. A COMBINATION OF MASONRY, STRIATED METAL PANEL AND SMOOTH METAL PANEL HAVE BEEN ARRANGED TO PROVIDE THIS DISTINCTION.

PER SECTION 18-196(H)(3), THE FIRST LEVEL OF THE BUILDING FACING THE R.O.W SHALL BE PREDOMINATELY GLAZED WITH CLEAR OR LIGHTLY TINTED GLASS. THE AREA FROM 13' A.F.F. TO GRADE IS CALCULATED AT 4,450 SF. TO MEET A 50% GLAZING, A MINIMUM OF 2,225 SF OF GLASS SHALL BE PROVIDED. THE ELEVATION PRESENTED PROVIDES 2,307 SF OF GLASS, INCLUDING THE GLAZING THAT OCCURS WITHIN THE RECESSED LOADING AREA IN THE CENTER OF THE FACADE.

ELEVATION FINISH SCHEDULE

MATERIAL - TYPE	MANUFACTURER - MODEL	COLOR - TEXTURE
ALUMINUM STOREFRONT	KAWNEER - TRIFAB 451T	CLEAR ANODIZED
AUTOMATIC SLIDING DOOR	TBD	CLEAR ANODIZED
BRICK - RUNNING BOND	TAYLOR CLAY PRODUCTS	MODULAR RED BILTMORE
BRICK - ROWLOCK COURSE	TAYLOR CLAY PRODUCTS	MODULAR RED BILTMORE
BRICK - SOLDIER COURSE	TAYLOR CLAY PRODUCTS	MODULAR RED BILTMORE
EXTERIOR LIGHT FIXTURE	AS SPECIFIED	AS SPECIFIED
HOLLOW METAL DOOR/FRAME	AS SPECIFIED	TBD
METAL PANEL - RIBBED	ATAS - RIGID WALL II MFN160	TBD
METAL PANEL - SMOOTH	TBD	TBD
METAL CANOPY	TBD	TBD
METAL COPING CAP	AS SPECIFIED	MATCH ADJACENT WALL COLOR
METAL COLLECTOR HEAD	AS SPECIFIED	MATCH EIFS WALL COLOR
METAL DOWNSPOUT	AS SPECIFIED	MATCH EIFS WALL COLOR
SHEET METAL TRIM	TBD	TBD
STANDING SEAM METAL ROOF	TBD	TBD

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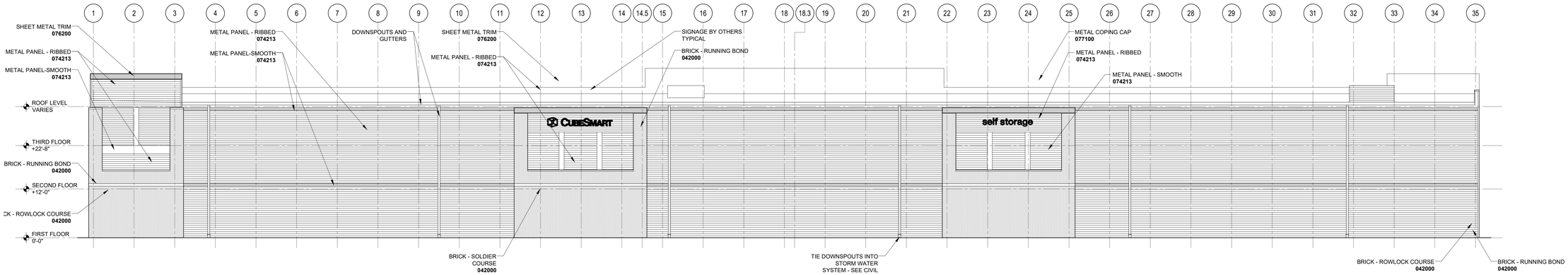
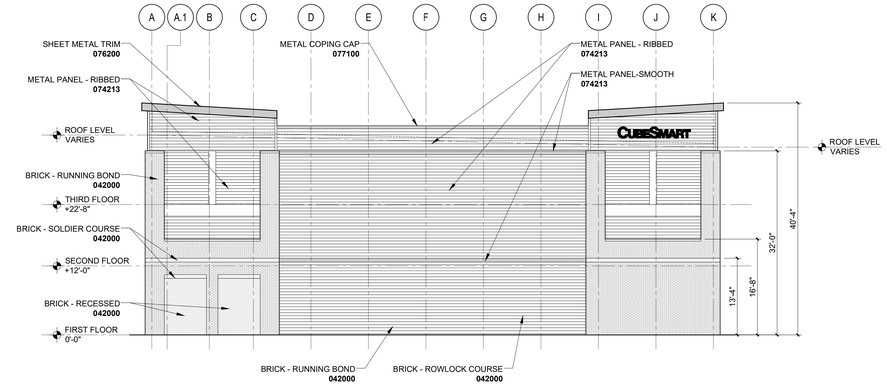
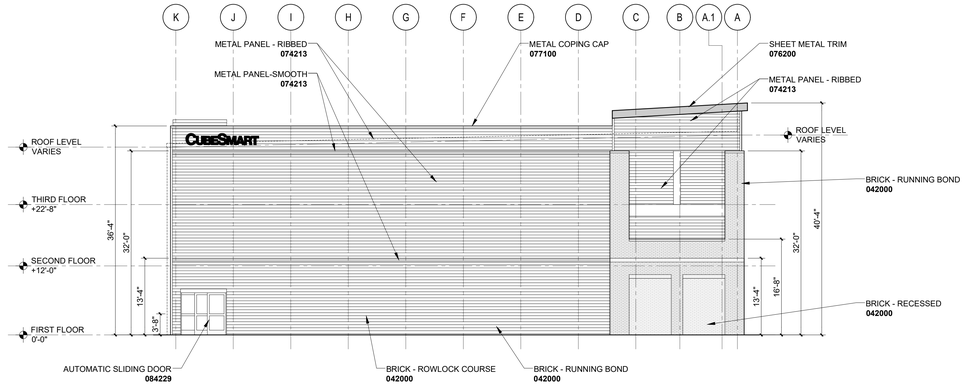
web.www.odarch.com



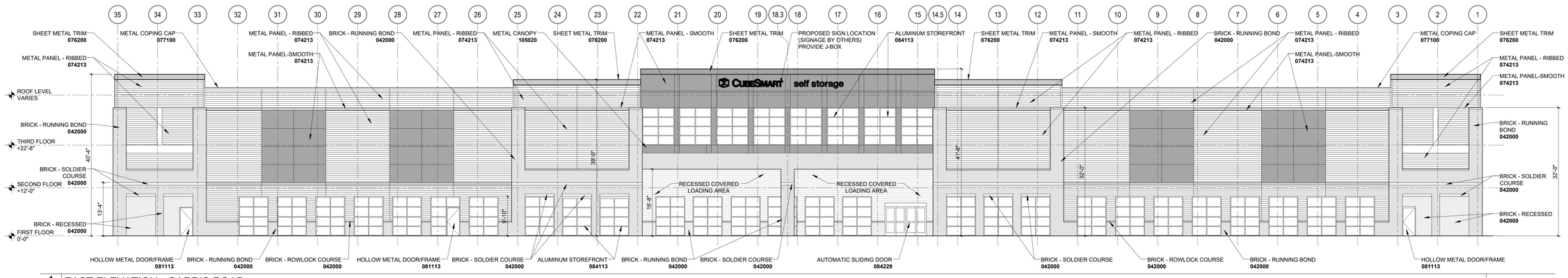
4 WEST ELEVATION — scale: 3/32" = 1'-0"



3 NORTH ELEVATION — scale: 3/32" = 1'-0"



2 SOUTH ELEVATION — scale: 3/32" = 1'-0"



1 EAST ELEVATION - GARRIS ROAD — scale: 3/32" = 1'-0"

WILMINGTON LIFESTYLE STORAGE GARRIS ROAD

WILMINGTON, NC

ODA Project No. 173197

NOT FOR CONSTRUCTION

REVISIONS

No.	Description	Date
2	50% Progress Review	02.27.18
3	Paramounte Submittal	03.01.18

ELEVATIONS

A-201

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