

GENERAL NOTES

- 1. PROPERTY LINES SHOWN HEREON ARE FOR REFERENCE ONLY AND WERE PLOTTED FROM INFORMATION FOUND ON THE NEW HANOVER COUNTY GIS SYSTEM.
2. TOPOGRAPHIC SURVEY BASED ON FIELD SURVEY COMPLETED BY W.K. DICKSON & CO., INC. DECEMBER 11, 2013.
3. THIS PROPERTY IS NOT LOCATED WITHIN THE 100-YEAR FLOOD PLAIN.
4. ELEVATIONS BASED ON VERTICAL DATUM NAVD - 88. HORIZONTAL DATUM - NAD83/2007.
5. LOCATION OF UNDERGROUND UTILITIES IS BASED UPON LOCATION OF VISIBLE ABOVE GROUND IMPROVEMENTS, DESIGN DRAWINGS, RECORD DRAWINGS AND PAINT MARKINGS BY THE NORTH CAROLINA ONE CALL CENTER.
6. THE SOIL TYPES PER SOIL SURVEY OF NEW HANOVER COUNTY, NORTH CAROLINA BY THE US DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCE CONSERVATION SERVICE ARE:
Be - BAYMADE FINE SAND
Ls - LEON SAND
Lo - LEON-URBAN LAND COMPLEX
7. THERE ARE NO CONSERVATION RESOURCES OR ASSOCIATED SETBACKS ON THE SITE.
8. THE CONTRACTOR IS REQUIRED TO OBTAIN ANY/ALL PERMITS REQUIRED FOR CONSTRUCTION OF THESE PLANS.
9. ALL WORK IS TO BE IN ACCORDANCE WITH THE CITY OF WILMINGTON, NEW HANOVER COUNTY AND THE STATE OF NORTH CAROLINA.
10. 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).
11. 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.
12. ALL WORK BY THE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR AFTER THE OWNER ACCEPTS THE WORK.
13. 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...
14. 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.
15. CONTRACTOR SHALL PLAN AND CONSTRUCT WORK SO AS TO CAUSE MINIMUM INCONVENIENCE TO THE OWNER AND THE PUBLIC. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN AT ALL TIMES DURING THE PROGRESS OR TEMPORARY SUSPENSION OF WORK, SUITABLE BARRIERS, FENCES, SIGNS OR OTHER ADEQUATE PROTECTION, INCLUDING FLAGMEN AND WATCHMEN AS NECESSARY TO INSURE THE SAFETY OF THE PUBLIC AS WELL AS THOSE ENGAGED IN THE CONSTRUCTION WORK. CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "CONSTRUCTION AND MAINTENANCE OPERATIONS SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE DOT.
16. CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL CENTER AT 1 (800) 632-4949 AND ALLOW THE CENTER TO LOCATE EXISTING UTILITIES BEFORE DIGGING.
17. THERE ARE NO WETLAND IMPACTS ASSOCIATED WITH THIS PROJECT.

DEMOLITION NOTES

- 1. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
2. ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
3. NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING IS INSTALLED AND APPROVED. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AND CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION METHODS.
4. 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.
5. CONTRACTOR TO COORDINATE WITH THE OWNER TO PROPERLY MAINTAIN OR RELOCATE EXISTING SERVICE CONNECTIONS WHEN NECESSARY.
6. CONTRACTOR IS TO WALK THE SITE AND BECOME FAMILIAR WITH THE SCOPE OF DEMOLITION REQUIRED. ALL DEMOLITION WORK REQUIRED TO CONSTRUCT NEW SITE IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND WILL BE UNCLASSIFIED EXCAVATION.
7. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE PADS, CONCRETE DITCHES, FOUNDATIONS, SLABS, STEPS, AND STRUCTURES; ABANDONED UTILITIES, BUILDINGS, PAVEMENTS AND ALL MATERIALS CLEARED AND STRIPPED TO THE EXTENT NECESSARY AS DIRECTED BY THE SOILS ENGINEER FOR THE INSTALLATION OF THE NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING AND AS SHOWN ON THESE PLANS.
8. 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.
9. ELECTRIC, TELEPHONE, SANITARY SEWER, WATER AND STORM SEWER UTILITIES THAT SERVICE OFF-SITE PROPERTIES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL PRODUCE A PHOTOGRAPHIC RECORD (DIGITAL) OF DEVELOPMENT COMMENCING WITH A RECORD OF THE SITE AS IT APPEARS BEFORE DEMOLITION IS 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.
11. EXISTING CURB AND GUTTER, LIGHTS, SIDEWALK, AND UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED AND UNDISTURBED DURING DEMOLITION.
12. 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.
13. PROVIDE SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND GUTTERS AND SIDEWALKS TO BE DEMOLISHED.
14. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS OSHA REGULATIONS.

SITE NOTES

- 1. 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.
2. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
3. CALL TRAFFIC ENGINEERING AT 910-341-7888 FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
4. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING PRIOR TO ACTUAL STRIPING.
5. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
6. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
7. STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
8. TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
9. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
10. CONTACT KAREN DIXON AT 910-341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
11. CONTRACTOR SHALL MAINTAIN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
12. NO OBSTRUCTIONS ARE PERMITTED IN THE SPACE BETWEEN THIRTY (30) INCHES AND TEN (10) FEET ABOVE THE GROUND WITHIN THE TRIANGULAR SITE DISTANCE.
13. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH PERMITS ISSUED AND ALL FEDERAL, STATE AND LOCAL CODES.
14. 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.
15. THE GENERAL CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND R.O.W.'S PUBLIC OR PRIVATE, PRIOR TO WORKING IN THESE AREAS.
16. CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
17. ACCESS TO UTILITIES, FIRE HYDRANTS, STREET LIGHTING, ETC., SHALL REMAIN UNDISTURBED, UNLESS COORDINATED WITH THE RESPECTIVE UTILITY.
18. DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
19. THE GENERAL CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT AND AT LEAST ONCE A WEEK DURING CONSTRUCTION.
20. THE GENERAL CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
21. THE SIGN CONTRACTOR WILL ERECT AND ILLUMINATE SITE IDENTIFICATION SIGNAGE PER OWNER'S SPECIFICATIONS. SEE ARCHITECTURAL PLANS.
22. 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.
23. 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.
24. 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.
25. FOR BUILDING DIMENSIONS, SEE ARCHITECTURAL DRAWINGS.
26. ALL DIMENSIONS AND RADII ARE TO OUTSIDE FACE OF BUILDING OR TO FACE OF CURB UNLESS OTHERWISE NOTED.
27. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC., THAT MAY BE REQUIRED.
28. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
29. ALL WEATHER ACCESS ROAD MUST BE MAINTAINED AROUND CONSTRUCTION SITE AT ALL TIMES.

GENERAL UTILITY NOTES

- 1. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR PERMIT DETAILS.
2. ALL UTILITIES TO SERVICE BUILDING SHALL BE INSTALLED UNDERGROUND, EXCEPT WHERE SUCH PLACEMENT IS PROHIBITED OR DEEMED IMPRACTICAL BY THE UTILITY PROVIDER. UNDERGROUND TERMINAL FACILITIES FOR STREET LIGHTING ALONG ALL PUBLIC STREETS ABUTTING THE SUBJECT SITE SHALL BE INSTALLED BY THE DEVELOPER.
3. WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
4. PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 910-343-3910 FOR INFORMATION.
5. IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
6. ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REGULATIONS. CALL 910-343-3910 FOR INFORMATION.
7. ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZER SENSOR.
8. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCOHR OR ASSE.
9. CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.
10. UNDERGROUND FIRE LINE(S) MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-341-0696.

- 11. THE GENERAL CONTRACTOR SHALL CONFIRM ALL NEW UTILITY TAP LOCATIONS WITH THE UTILITY OWNERS.
12. UNDERGROUND CONDUITS SHALL BE PLACED IN GRASS OR LANDSCAPE AREAS WHENEVER POSSIBLE. THE LOCATION OF THE CONDUIT SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD. PVC SCH. 40 SLEEVES SHALL BE INSTALLED FOR ALL CONDUIT CROSSINGS UNDER PAVED AREAS.
13. ALL WATER LINES SHALL HAVE FINAL COVER DEPTH OF 3'-0".
14. ALL SEWER LINES SHALL HAVE A FINAL COVER DEPTH OF 3'-0".
15. CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED CONSTRUCTION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO ANY EXCAVATION OR DEMOLITION.
16. CONTRACTOR TO LOCATE EXISTING UNDERGROUND UTILITIES AT WATERLINE CROSSINGS AND USE FITTINGS AND BENDS AS NECESSARY TO AVOID CONFLICTS.
17. CONTRACTOR TO COORDINATE THE RELOCATION OF THE EXISTING GAS LINE TO ACCOMMODATE PROPOSED UTILITY LINES.
18. CONTRACTOR TO SUPPORT AND/OR BRACE EXISTING UNDERGROUND UTILITIES AS NECESSARY TO CONSTRUCT PROPOSED UTILITY CONNECTIONS.
19. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.

DRAINAGE NOTES

- 1. ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF WILMINGTON & NCDOT SPECIFICATIONS AS SPECIFIED ON THE DRAWINGS AND IN THE PROJECT SPECIFICATIONS.
2. BEDDING FOR ALL STORM SEWER PIPES SHALL BE AS SPECIFIED IN THE DETAILS AND SPECIFICATIONS UNLESS OTHERWISE SHOWN 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.
4. MINIMUM COVER FOR STORM DRAINAGE PIPING SHALL BE 2-FEET. CONTRACTOR SHALL NOTIFY ENGINEER IF CONDITION CANNOT BE MET.
5. ALL PIPES SHALL BE FLUSH WITH INSIDE WALL OF STRUCTURE.
6. BACKFILLING OF TRENCHES SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PIPE IS LAID IN ACCORDANCE WITH DETAILS.
7. UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN UNBACKFILLED TRENCHES AFTER THE PIPE HAS BEEN PLACED.
8. MATERIAL DEEMED UNSUITABLE BY THE ENGINEER FOR BACKFILL PURPOSES SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH SPECIFICATIONS.
9. ALL PIPE LENGTHS ARE HORIZONTAL DISTANCES AND ARE APPROXIMATE.
10. THE STORM DRAINAGE SYSTEM WILL BE SUBJECT TO A VISUAL INSPECTION BY THE ENGINEER PRIOR TO BACKFILL.
11. RIM ELEVATIONS GIVEN ON THESE PLANS ARE APPROXIMATE AND ARE FOR INFORMATION PURPOSES ONLY. ACTUAL RIM ELEVATIONS SHALL BE SET BASED ON PROPOSED FINISHED GRADE AS STAKED IN THE FIELD.
12. THERE ARE NO WETLAND IMPACTS ASSOCIATED WITH THIS PROJECT.

GRADING NOTES:

- 1. GRADING SHOWN INDICATES FINISHED GRADES. ALL ELEVATIONS ARE IN REFERENCE TO THE TOPOGRAPHIC SURVEY BENCH MARK WHICH MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
2. PERMANENT CUT AND FILL SLOPES PLACED ON A SUITABLE FOUNDATION SHALL BE CONSTRUCTED AT 3:1 (HORIZONTAL TO VERTICAL) MINIMUM.
3. LIMITS OF CLEARING SHOWN ARE BASED ON CUT & FILL SLOPES AND OTHER GRADING REQUIREMENTS AND ARE APPROXIMATE. ACTUAL LIMITS SHALL BE STAKED BASED ON FINE GRADING REQUIREMENTS. CONTRACTOR SHALL NOT GRADE BEYOND THE APPROVED LIMITS OF CONSTRUCTION WITHOUT APPROVAL FROM THE ENGINEER.
4. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON DENUDED AREAS. ESTABLISH VEGETATION IN ACCORDANCE WITH EROSION CONTROL DETAILS AND SPECIFICATIONS.
5. CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES AS INDICATED. NO DEVICE SHALL BE REMOVED UNTIL THE SITE IS STABILIZED.
6. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY WITH EXISTING GRADE.
7. GRADING MORE THAN 1 ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS SUBJECT TO A FINE.
8. ALL DISTURBED AREAS OUTSIDE PROPOSED BUILDING FOOTPRINT ARE TO BE STABILIZED WITH SOD UNLESS OTHERWISE NOTED.

ALL DESIGNS, SKETCHES, DRAWINGS, SPECIFICATIONS, MODELS AND SAMPLES ARE THE EXCLUSIVE PROPERTY OF THE H. CHAMBERS COMPANY, WHETHER THE JOB FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. UNAUTHORIZED USE OF THESE DESIGNS ETC. FOR ANY OTHER PURPOSE IS PROHIBITED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS ON THE JOB, INCLUDING BUILDING, ELEVATOR AND CORRIDOR CLEARANCES WHERE JOB CONDITIONS PREVENT OBTAINING DIMENSIONS, OR RESULTS AS SHOWN OR SPECIFIED. CHECK WITH THE H. CHAMBERS COMPANY BEFORE PROCEEDING WITH THE WORK.

Issue

Table with 3 columns: TYPE, DATE. Rows include SCHEMATIC DESIGN (12.18.13), DESIGN DEVELOPMENT (05.23.14), 70% CD, PERMIT SET, FOR CONSTRUCTION.

Revisions

Table with 3 columns: NO., TYPE, DATE. Empty rows for revisions.

SEAL



CHAMBERS ARCHITECTURAL ASSOCIATES



ARCHITECT & INTERIORS CHAMBERS 1800 WASHINGTON BLVD. SUITE 111 BALTIMORE, MARYLAND 21230 PHONE: (410) 727-4535 FAX: (410) 727-6982

WK DICKSON community infrastructure consultants Transportation + Water Resources Urban Development + Geomatics

909 MARKET STREET WILMINGTON, NC 28401 (f) (910) 762-4200 (f) (910) 762-4201 www.wkdickson.com LICENSE NO. F-0374 DENISE L. FREUND, PE



FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB 1518 COUNTRY CLUB ROAD

Sheet Title

NOTES

Scale: AS SHOWN

Date: 05/23/14

Drawn By: HRW

Checked By: DLF

Job No.: 20130125.00.WL

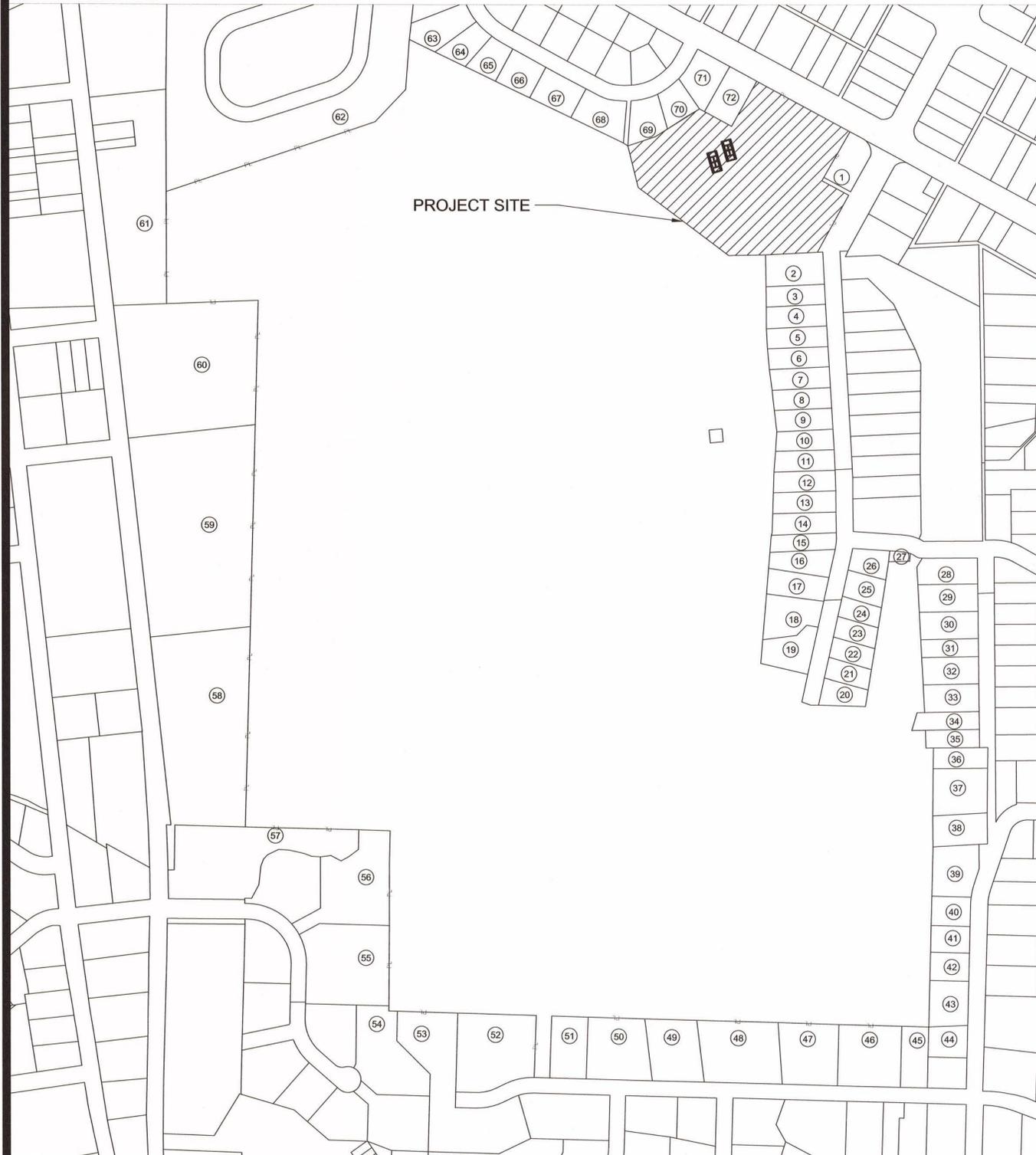
Sheet Number

C.00

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

**PROJECT AREA MAP**

SCALE 1" = 250'



NOTE:  
THE PARCEL LINES SHOWN HEREON ARE FOR REFERENCE ONLY AND WERE PLOTTED FROM INFORMATION FOUND ON THE NEW HANOVER COUNTY GIS SYSTEM.

PARCEL ID	OWNER	ZONING	LAND USE
1	CAPE FEAR COUNTRY CLUB INC	R-15-RESIDENTIAL DISTRICT	958-UNUSED LAND
2	TURLINGTON ROSCOE H REV TRUST ETAL	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
3	TURLINGTON HAROLD LESTER ETAL	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
4	POOLE WILLIAM E JEANNE W	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
5	RUSH GRANT A MARILYN C	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
6	BASHFORD CYNTHIA Q	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
7	JRS INVESTMENTS LLC	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
8	TAYLOR WALKER IV AMELIA F C	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
9	BROWNLOW DAVID K HANNAH H	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
10	STANFIELD WILLIAM W III ROBIN BULLARD	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
11	ZIMMER LONDON G	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
12	COOPER JOHN A MICHELLE	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
13	BARKER JAMES C ETAL	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
14	REID CHRISTOPHER N CLAIRE H	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
15	ERICHSEN DAVID H	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
16	CHERRY WILLIAM R KATHERINE S	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
17	WELLS ELIZABETH WEBB	R-15-RESIDENTIAL DISTRICT	958-UNDER CONSTRUCTION
18	UNDERWOOD NEIL L LINDA	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
19	DOZIER WILLIAM H ELIZABETH M	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
20	LEWIS FREDERICK W III ETAL	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
21	THOMAS MARTHA ROBINSON ETAL	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
22	LEWIS FREDERICK W III ETAL	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
23	TILLERY WADE H HRS	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
24	LYNCH JEAN FLOYD	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
25	RANEY WILLIAM A JR JANE H	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
26	EDWARD GEORGE RICHARD JR JESSICA	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
27	CAPE FEAR COUNTRY CLUB	R-15-RESIDENTIAL DISTRICT	958-UNUSED LAND
28	ARNETTE BARRY LYNN	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
29	REYNOLDS FRANK R	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
30	TILLERY WADE HAMPTON III	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
31	PITT WILLIAM HOWARD III MARY E	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
32	SIFLY HALL JOHNSTON	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
33	SPRINT KENNETH M JR GLORIA C	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
34	EDDENS BARBARA	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
35	MERTZ C OAKLEY MARY L	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
36	HAMILTON FRANK H III BERTA S	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
37	CAIN BARBARA E ETAL	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
38	WEINBERG ADAM W ELIZABETH S	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
39	WATSON JESSICA RAE	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
40	STOPHEL PHILIP W BRENDA D	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
41	CUSTER SCOTT M BETSY B	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
42	MAHAN JAMES S IV MARY CATHERINE	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
43	MASSEY DAVID S MARGARET A	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
44	WATSON JESSICA R	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
45	BONEY LILLIAN B	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
46	BONEY LILLIAN B	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
47	SNEEDEN ELNORA G	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
48	LENSCH DAVID P TERRLYN D	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
49	DEAN CHARLES D JR MARY K	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
50	BONEY CHARLES H	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
51	BONEY CHARLES H	R-15-RESIDENTIAL DISTRICT	958-UNUSED LAND
52	AG&D LLC	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
53	AG&D LLC	R-15-RESIDENTIAL DISTRICT	958-UNUSED LAND
54	AG&D LLC	O&I-1-OFFICE & INSTITUTION	958-UNUSED LAND
55	SBS II LLC	O&I-1-OFFICE & INSTITUTION	804-OTHER
56	WILCAR PROPERTIES LLC	O&I-1-OFFICE & INSTITUTION	804-OTHER
57	ROXANNA LLC	O&I-1-OFFICE & INSTITUTION	958-UNUSED LAND
58	WILMINGTON SURGCARE INC	O&I-1-OFFICE & INSTITUTION	801-PHYSICIAN
59	17TH STREET WPG LLC	O&I-1-OFFICE & INSTITUTION	958-UNUSED LAND
60	JOHNSTON BLAKELY LODGE	O&I-1-OFFICE & INSTITUTION	841-CULTURAL OR NATURE EXHIBITION
61	NEW HANOVER COUNTY	O&I-1-OFFICE & INSTITUTION	958-UNUSED LAND
62	COLUMBUS PROPERTIES LLC	MF-M-MULTI FAMILY MED DEN	12-3 + FAMILY RESIDENTIAL
63	BLALOCK V W JR ANN C LIFE EST	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
64	ROWE WILLIAM MERCER III ANGELA B	R-15-RESIDENTIAL DISTRICT	958-UNUSED LAND
65	ROWE WILLIAM MERCER III ANGELA B	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
66	SLOAN JAMES B BLAIR M	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
67	ROBISON MARVIN O MARGARET T	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
68	WRIGHT ELIZABETH L REVOCABLE TRUST	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
69	PERSECHINI ELLEN J ETAL	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
70	BENSON E S JR DR	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
71	PAGE SHANNON H	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL
72	ARTHUR CATHERINE H HRS	R-15-RESIDENTIAL DISTRICT	10-1 FAMILY RESIDENTIAL

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**Issue**

TYPE	DATE
● SCHEMATIC DESIGN	12.18.13
● DESIGN DEVELOPMENT	05.23.14
70% CD	-
PERMIT SET	-
FOR CONSTRUCTION	-

**Revisions**

NO.	TYPE	DATE

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FAMILY ACTIVITY  
CENTER - CAPE FEAR  
COUNTRY CLUB  
1518 COUNTRY CLUB ROAD

Sheet Title

ADJACENT PROPERTY  
INFORMATION

Scale: AS SHOWN

Date: 05/23/14

Drawn By: HRW

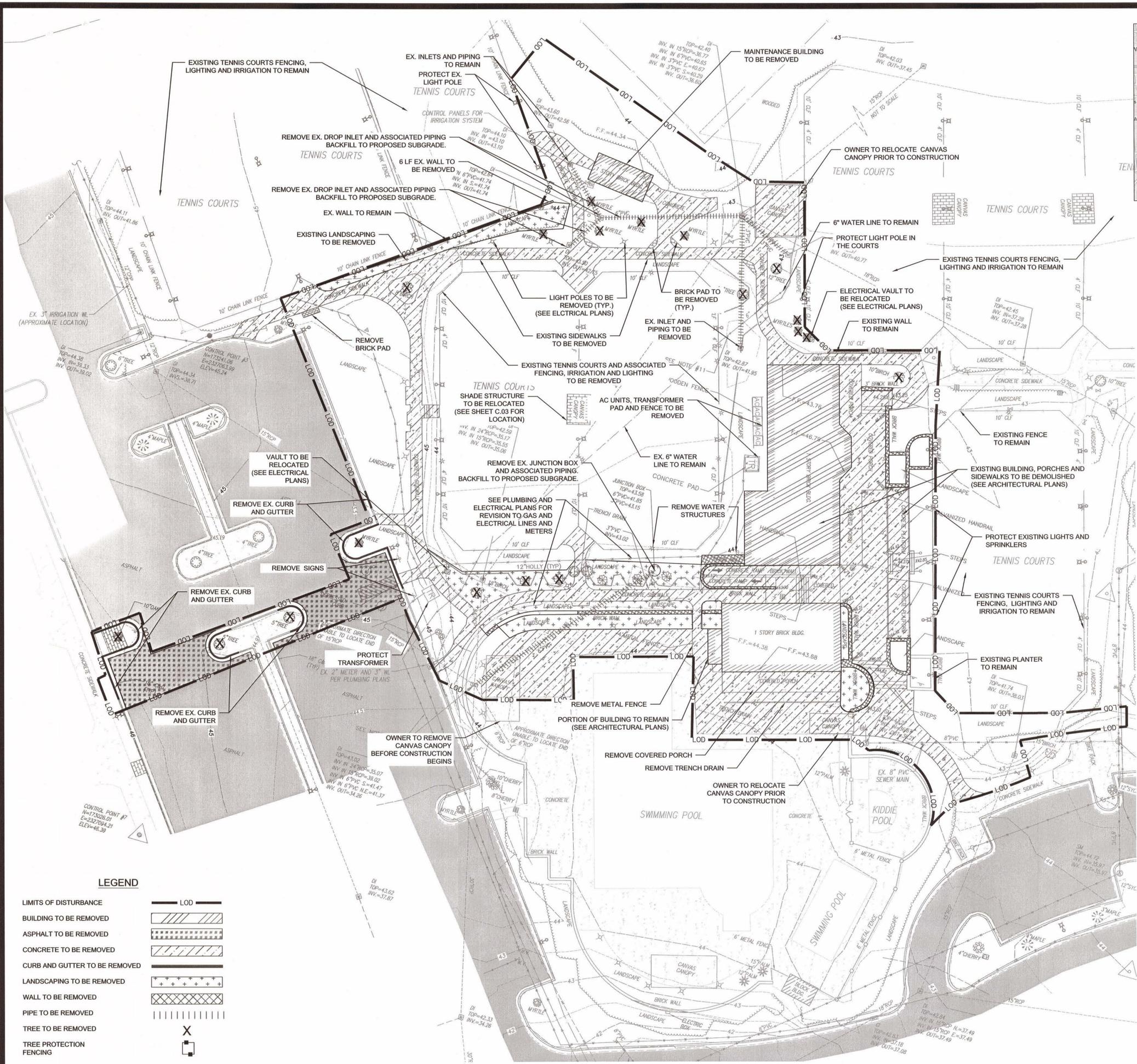
Checked By: DLF

Job No.: 20130125.00.WL

Sheet Number

**C.01**

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



VICINITY MAP  
SCALE 1" = 1,000'

NOTES:

- CONTRACTOR TO REMOVE IRRIGATION SYSTEMS FOR TWO EXISTING TENNIS COURTS AND LANDSCAPE AREAS WITHIN PROJECT LIMITS.
- CONTRACTOR TO PROVIDE WATER SUPPLY, POWER AND PIPING SUCH THAT IRRIGATION SYSTEMS OUTSIDE OF THE PROJECT AREA CONTINUE TO OPERATE THROUGHOUT CONSTRUCTION OPERATIONS.
- CONTRACTOR TO PROTECT EXISTING ELEMENTS TO REMAIN.
- CONTRACTOR TO COORDINATE WITH OWNER TO DETERMINE TENNIS COURT APPURTENANCES TO BE RETAINED BY OWNER AFTER REMOVAL (FENCE, LIGHTING, COURT ACCESSORIES, ETC.). CONTRACTOR TO DELIVER AND STOCKPILE THESE ITEMS TO LOCATION SPECIFIED BY OWNER. CONTRACTOR SHALL EXERCISE CARE IN REMOVAL OF THESE ITEMS TO AVOID DAMAGE DURING REMOVAL AND STORAGE. REMAINING ITEMS SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE.

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NO.	TYPE	DATE

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FAMILY ACTIVITY  
CENTER - CAPE FEAR  
COUNTRY CLUB  
1518 COUNTRY CLUB ROAD

Sheet Title

DEMOLITION PLAN

Scale: AS SHOWN

Date: 05/23/14

Drawn By: HRW

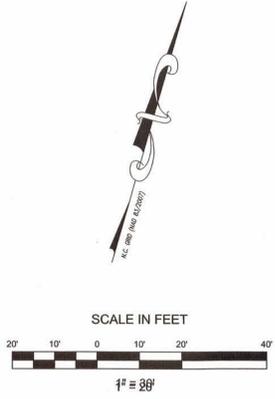
Checked By: DLF

Job No.: 20130125.00.WL

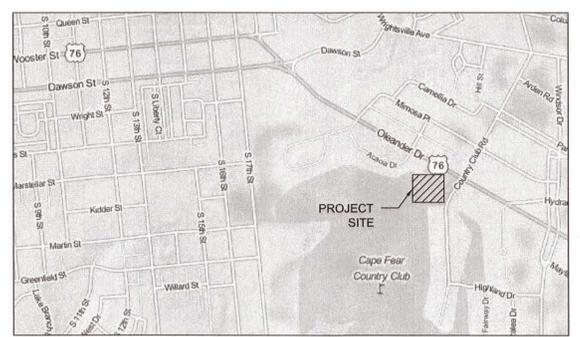
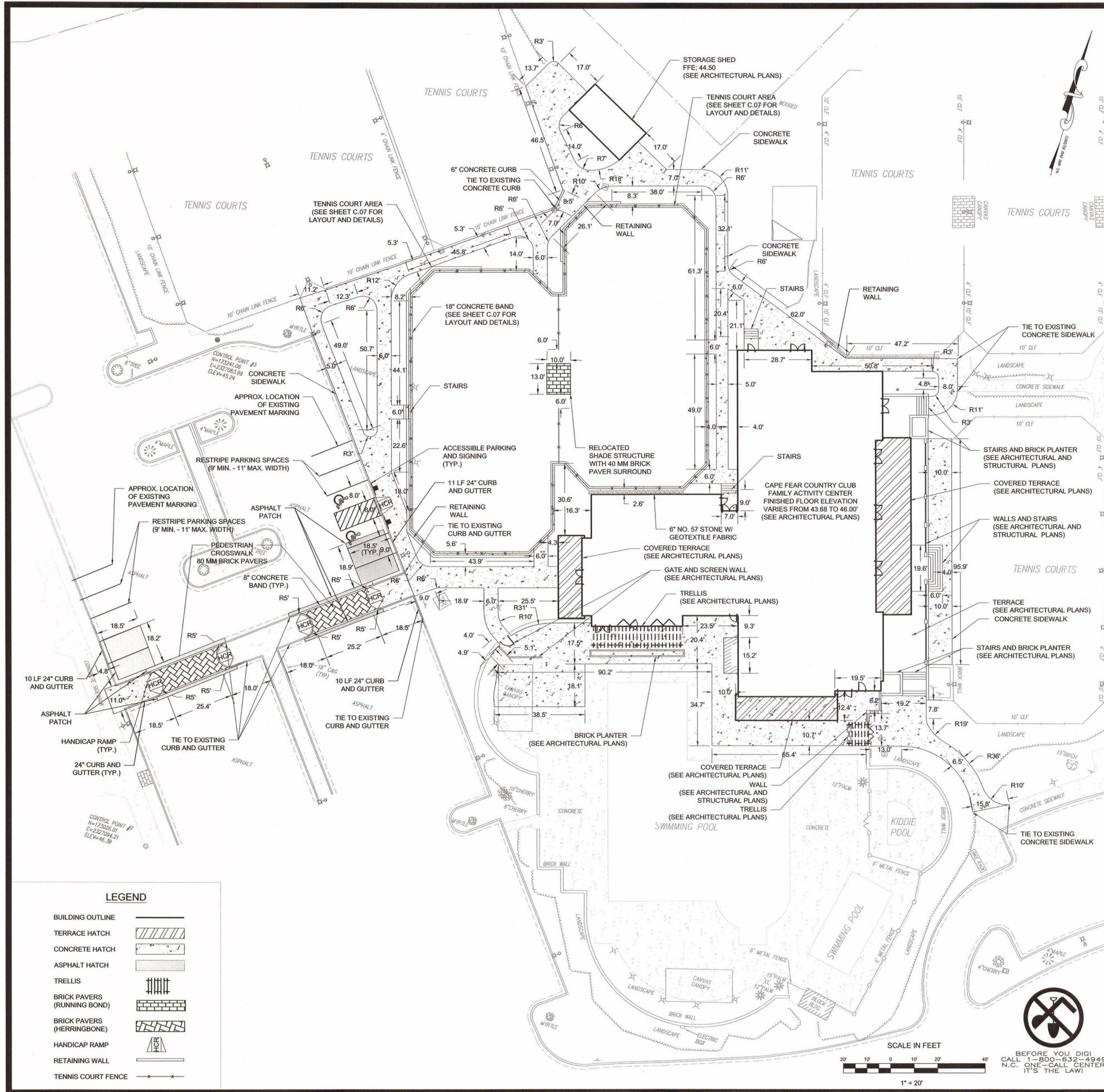
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VICINITY MAP  
SCALE 1" = 1,000'

SITE INFORMATION

PROJECT ADDRESS: 1518 COUNTRY CLUB ROAD  
 NEW HANOVER COUNTY P.I.N.: R05415-003-006-000  
 CURRENT ZONING DISTRICT: R-15, RESIDENTIAL  
 CURRENT LAND USE: RECREATION FACILITY (PRIVATE)  
 IBC BUILDING CONSTRUCTION TYPE: FAC - TYPE 5A / MAINTENANCE BLDG - TYPE 5B

BUILDING SETBACK:

	REQUIRED	PROPOSED BUILDING 1 (FAC)	PROPOSED BUILDING 2 (MAINT. BLDG)
NORTH (SIDE)	10'	219.4'	18.8'
SOUTH (SIDE)	10'	272.8'	99.4'
EAST (FRONT)	30'	310.7'	548'
WEST (REAR)	25'	1900'+	1900'+

LOT SIZE:  
 REQUIRED: 15,000 SF  
 PROVIDED: 2,522,124 SF (57.9 ACRES)

BUILDING SIZE:

EXISTING BUILDING(S) AREA	EXISTING BUILDING(S) CURRENT AREA	EXISTING BUILDING(S) AREA TO BE REMOVED	EXISTING BUILDING(S) AREA TO BE INCORPORATED INTO PROPOSED BUILDING (FAC)	EXISTING BUILDING(S) AREA TO REMAIN
	70,300 SF (5 EXISTING BUILDINGS)	2,800 SF (2 EXISTING BUILDINGS)	1,434 SF (1 EXISTING BUILDING)	66,066 SF (2 EXISTING BUILDINGS)

PROPOSED BUILDING(S):

BUILDING 1 (FAC)	BUILDING 2 (MAINTENANCE BUILDING)
HEIGHT: 33.22' (35' MAXIMUM FOR R-15 ZONING)	HEIGHT: 12.06' (35' MAXIMUM FOR R-15 ZONING)
FLOOR 1 AREA: 11,395 SF (INCLUDES 1,434 SF OF EXISTING BUILDING)	FLOOR 1 AREA: 480 SF
FLOOR 2 AREA: 11,333 SF	FLOOR 2 AREA: 480 SF
TOTAL AREA: 22,728 SF	TOTAL AREA: 960 SF

PROPOSED BUILDING TOTAL AREA: 23,208 sf

TOTAL BUILDING AREA:

EXISTING	66,066 SF
PROPOSED	23,208 SF
TOTAL	89,274 SF

% BUILDING LOT COVERAGE:  
 (89,274 SF / 2,522,124 SF) = 3.5%

IMPERVIOUS SURFACE AREAS:

IMPERVIOUS SURFACE AREA BEFORE DEVELOPMENT:	433,422 SF (9.95 AC)
NEW IMPERVIOUS SURFACE AREA WITH DEVELOPMENT:	
BUILDING, SIDEWALKS AND TENNIS COURTS:	6,214 SF (0.14 AC)
IMPERVIOUS SURFACE AREA AFTER DEVELOPMENT	439,636 SF (10.10 AC)
% IMPERVIOUS AFTER DEVELOPMENT	(439,636 SF / 2,522,124) = 17.4%

OFF STREET PARKING CALCULATIONS (1 SPACE PER 400 SF):

BUILDING AREA	89,274 SF
PARKING SPACES REQUIRED	89,274 SF / 400 SF = 224 SPACES
PARKING SPACES PROVIDED	307 EXISTING PARKING SPACES

NO NEW PARKING SPACES ARE PROPOSED WITH THIS PROJECT

CAMA LAND USE CLASSIFICATION: URBAN TRANSITION  
 RECEIVING STREAM, CLASS AND INDEX: GREENFIELD LAKE; C, SW, 18-76-1

LEGEND

BUILDING OUTLINE	—
TERRACE HATCH	▨
CONCRETE HATCH	▤
ASPHALT HATCH	▥
TRELLIS	
BRICK PAVERS (RUNNING BOND)	▧
BRICK PAVERS (HERRINGBONE)	▩
HANDICAP RAMP	♿
RETAINING WALL	—
TENNIS COURT FENCE	—

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**FC**  
 1896

FAMILY ACTIVITY  
 CENTER - CAPE FEAR  
 COUNTRY CLUB  
 1518 COUNTRY CLUB ROAD

Sheet Title

SITE LAYOUT PLAN

Scale: AS SHOWN  
 Date: 05/23/14  
 Drawn By: HRW  
 Checked By: DLF  
 Job No.: 20130125.00.WL  
 Sheet Number

**C.03**

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FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB  
1518 COUNTRY CLUB ROAD

Sheet Title

GRADING PLAN

Scale: AS SHOWN

Date: 05/23/14

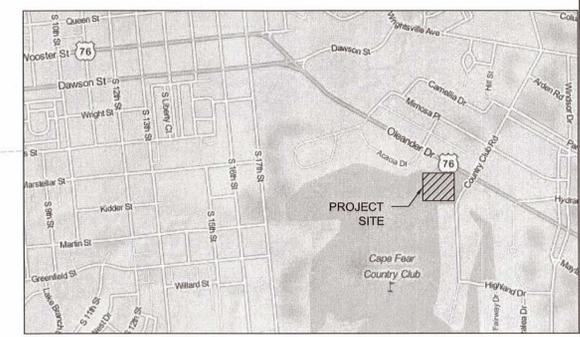
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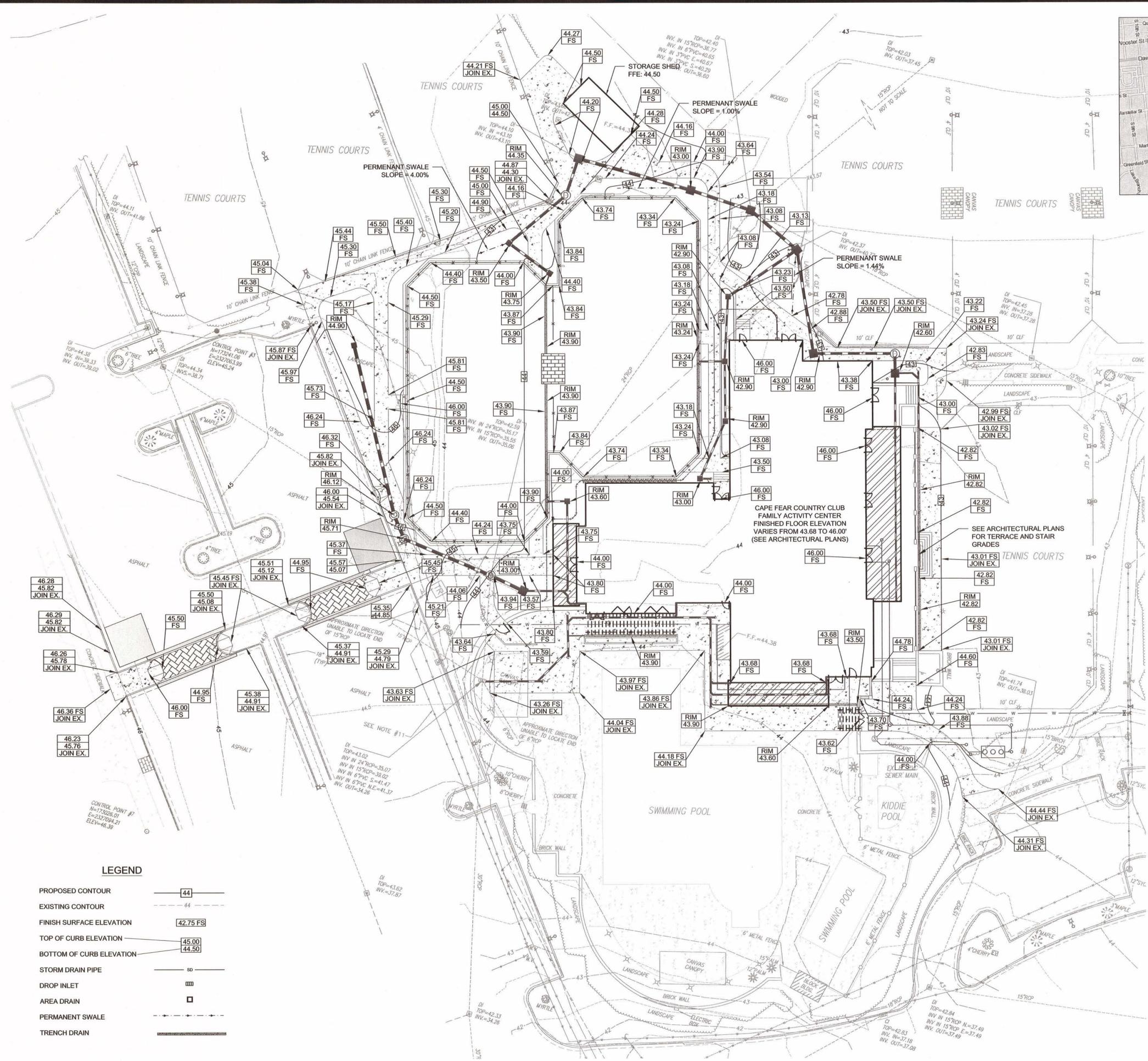
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Sheet Number

**C.04**

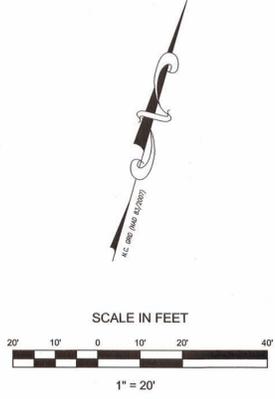


VICINITY MAP  
SCALE 1" = 1,000'



**LEGEND**

PROPOSED CONTOUR	— 44 —
EXISTING CONTOUR	- - - 44 - - -
FINISH SURFACE ELEVATION	42.75 FS
TOP OF CURB ELEVATION	45.00
BOTTOM OF CURB ELEVATION	44.50
STORM DRAIN PIPE	— 80 —
DROP INLET	■
AREA DRAIN	□
PERMANENT SWALE	—
TRENCH DRAIN	—



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**FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB**  
1518 COUNTRY CLUB ROAD

Sheet Title

**DRAINAGE AND EROSION CONTROL PLAN**

Scale: AS SHOWN

Date: 05/23/14

Drawn By: HRW

Checked By: DJF

Job No.: 20130125.00.WL

Sheet Number

**C.05**



**VICINITY MAP**  
SCALE 1" = 1,000'

**CONSTRUCTION SEQUENCE NOTES:**

- OBTAIN GRADING PERMIT AND ALL OTHER APPLICABLE PERMITS PRIOR TO ANY LAND DISTURBING ACTIVITY.
- SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE OWNER, ALL CONTRACTORS FOR LAND DISTURBANCE AND/OR EROSION CONTROL, AND NEW HANOVER COUNTY PERSONNEL TO DISCUSS THE PROJECT AND THE EROSION CONTROL PLAN.
- FLAG THE CONSTRUCTION LIMITS AND MARK ANY TREES, WETLANDS OR EXISTING STRUCTURES NOTED TO REMAIN.
- STABILIZE CONSTRUCTION ACCESSES, CONSTRUCTION ROUTES AND EQUIPMENT PARKING AREA WITH GRAVEL AND TEMPORARY VEGETATION.
- EXCAVATED MATERIAL FOR SILT FENCE INSTALLATION TO BE PLACED ON THE UPLAND SIDE OF SILT FENCE.
- INSTALL ALL EROSION CONTROL MEASURES AND DEVICES AS INDICATED ON PLANS.
- CALL FOR ON-SITE INSPECTION BY INSPECTOR. WHEN APPROVED, GRADING MAY BEGIN PER GRADING AND EROSION CONTROL PLAN.
- NO TREES MAY BE REMOVED FROM THE SITE WITHOUT FIRST IDENTIFYING TREES TO REMAIN IN THE FIELD WITH YELLOW FLAGGING.
- NO ENCROACHMENT OR WORK IS TO BE DONE OUTSIDE THE LIMITS OF DISTURBANCE AS INDICATED ON PLAN.
- CONTRACTOR SHALL INSTALL ANY ADDITIONAL EROSION CONTROL MEASURE REQUESTED BY THE ENGINEER OR NEW HANOVER COUNTY TO ACCOUNT FOR ANY FIELD CONDITION ENCOUNTERED.
- THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, US DEPT. OF AGRICULTURE.
- EROSION CONTROL DEVICES SHOULD BE CHECKED PERIODICALLY AND AFTER ANY MAJOR STORM EVENT. IF ANY FAILURES ARE FOUND THEY SHOULD BE REPAIRED AS SOON AS POSSIBLE.
- THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
- COORDINATE WITH EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING OFF-SITE BORROW OR WASTE SITES ARE PERMITTED THROUGH THE SEDIMENT POLLUTION CONTROL ACT AS A ONE-USE BORROW SITE, THROUGH THE MINING ACT, OR IS A LANDFILL REGULATED BY THE DIVISION OF WASTE MANAGEMENT.
- INSTALL TEMPORARY CONSTRUCTION FENCE AT LOCATIONS INDICATED ON PLANS.

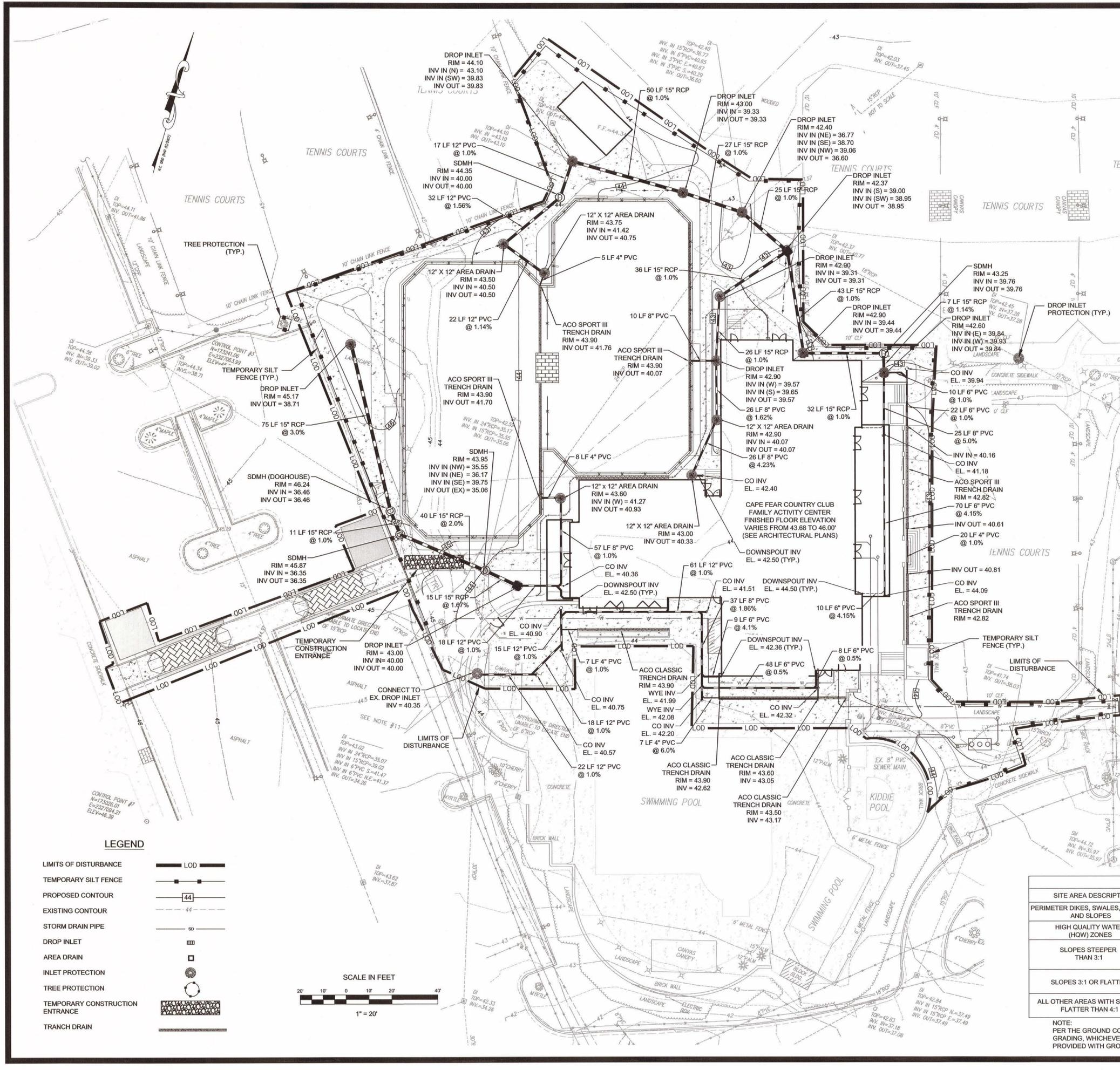
**DRAINAGE NOTES:**

- ALL ROOF DRAIN PIPES ARE 6" PVC UNLESS OTHERWISE NOTED.
- SITE CONTRACTOR TO CONNECT DOWNSPOUT PIPING TO STORM DRAINAGE SYSTEM USING CAST IRON DOWNSPOUT BOOT.

**GROUND COVER SCHEDULE**

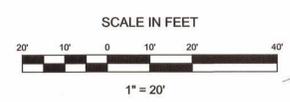
SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES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

NOTE:  
PER THE GROUND COVER SCHEDULE SHOWN HERE, OR AT THE COMPLETION OF ANY PHASE OF GRADING, WHICHEVER PERIOD IS SHORTER, DISTURBED AREAS SHALL BE PLANTED OR OTHERWISE PROVIDED WITH GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.



**LEGEND**

- LIMITS OF DISTURBANCE — LOD
- TEMPORARY SILT FENCE — [Symbol]
- PROPOSED CONTOUR — [Symbol]
- EXISTING CONTOUR — [Symbol]
- STORM DRAIN PIPE — [Symbol]
- DROP INLET — [Symbol]
- AREA DRAIN — [Symbol]
- INLET PROTECTION — [Symbol]
- TREE PROTECTION — [Symbol]
- TEMPORARY CONSTRUCTION ENTRANCE — [Symbol]
- TRANCH DRAIN — [Symbol]



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**FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB**  
1518 COUNTRY CLUB ROAD

Sheet Title

UTILITY PLAN

Scale: AS SHOWN

Date: 05/23/14

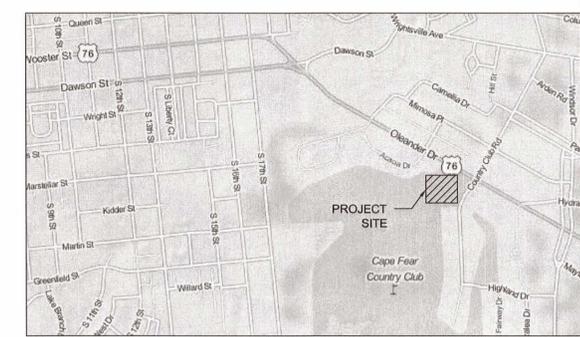
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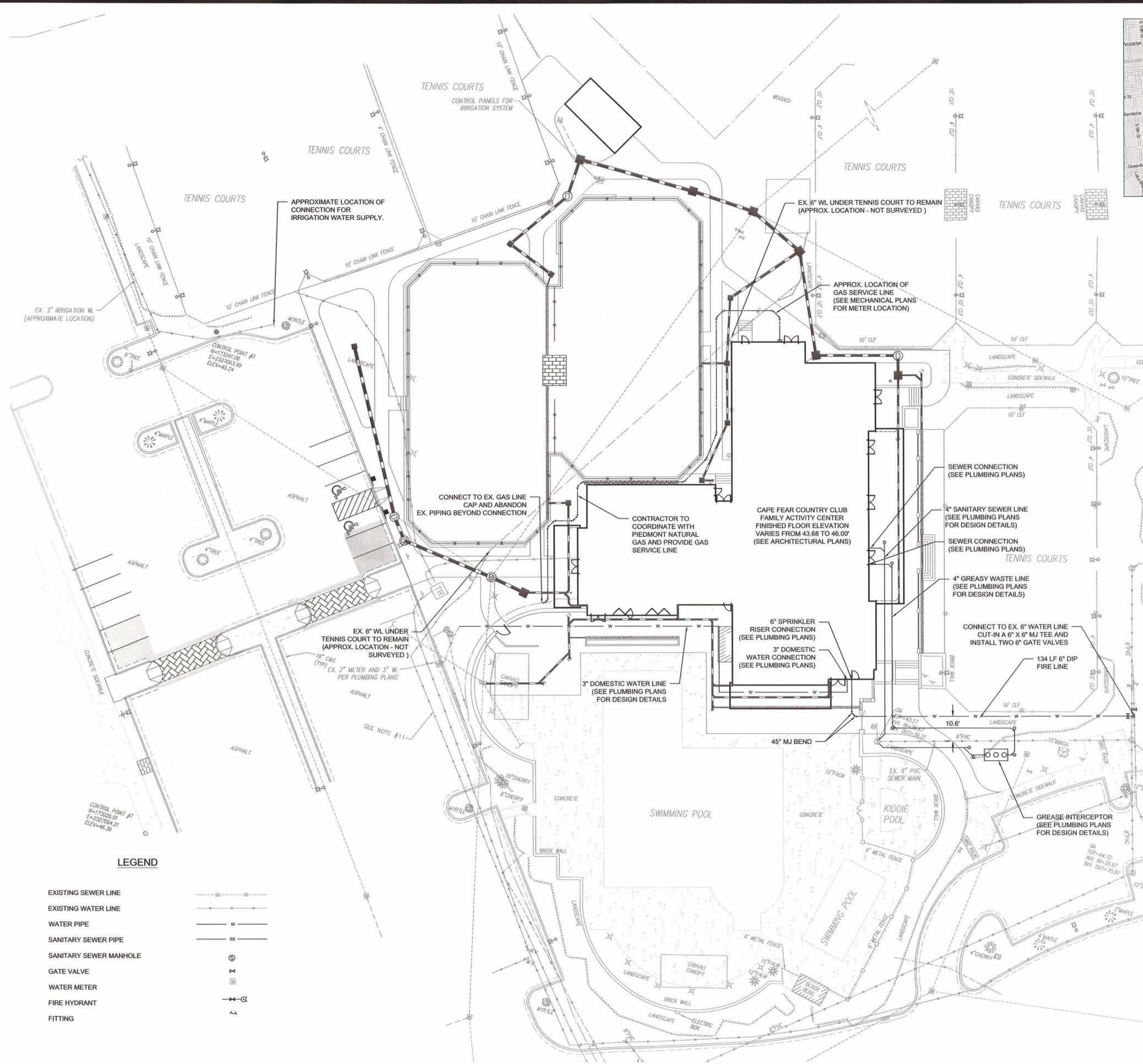
**C.06**



**VICINITY MAP**  
SCALE 1" = 1,000'

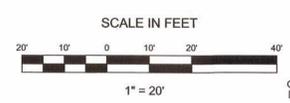
**NOTES:**

1. DOMESTIC AND FIRE RPDA INSIDE BUILDING.
2. DO NOT EXCEED MAXIMUM JOINT DEFLECTION TO ACHIEVE HORIZONTAL AND VERTICAL ALIGNMENT.
3. COORDINATE UTILITY WORK WITH THE CAPE FEAR PUBLIC UTILITY AUTHORITY.
4. SEE ELECTRICAL PLANS FOR SITE ELECTRICAL AND SITE LIGHTING.
5. CONTRACTOR TO PROVIDE CONTINUOUS SUPPLY OF WATER FOR IRRIGATION SYSTEMS, TENNIS COURT AND LANDSCAPING OUTSIDE THE PROJECT LIMITS.
6. CONTRACTOR TO DESIGN, PERMIT AND PROVIDE IRRIGATION SYSTEMS FOR CLAY COURTS AND LANDSCAPING IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
7. THERE IS NO INCREASE IN WATER AND SEWER DEMAND ASSOCIATED WITH THIS PROJECT AS DEMAND IS BASED ON NUMBER OF MEMBERS. FACILITY IMPROVEMENTS ARE BEING MADE TO IMPROVE FACILITIES FOR EXISTING MEMBERS.
8. CONTRACTOR TO PROTECT EXISTING COURT, FENCE AND RELATED APPURTENANCES WHEN INSTALLING THE DIP FIRE LINE.



**LEGEND**

- EXISTING SEWER LINE
- EXISTING WATER LINE
- WATER PIPE
- SANITARY SEWER PIPE
- SANITARY SEWER MANHOLE
- GATE VALVE
- WATER METER
- FIRE HYDRANT
- FITTING

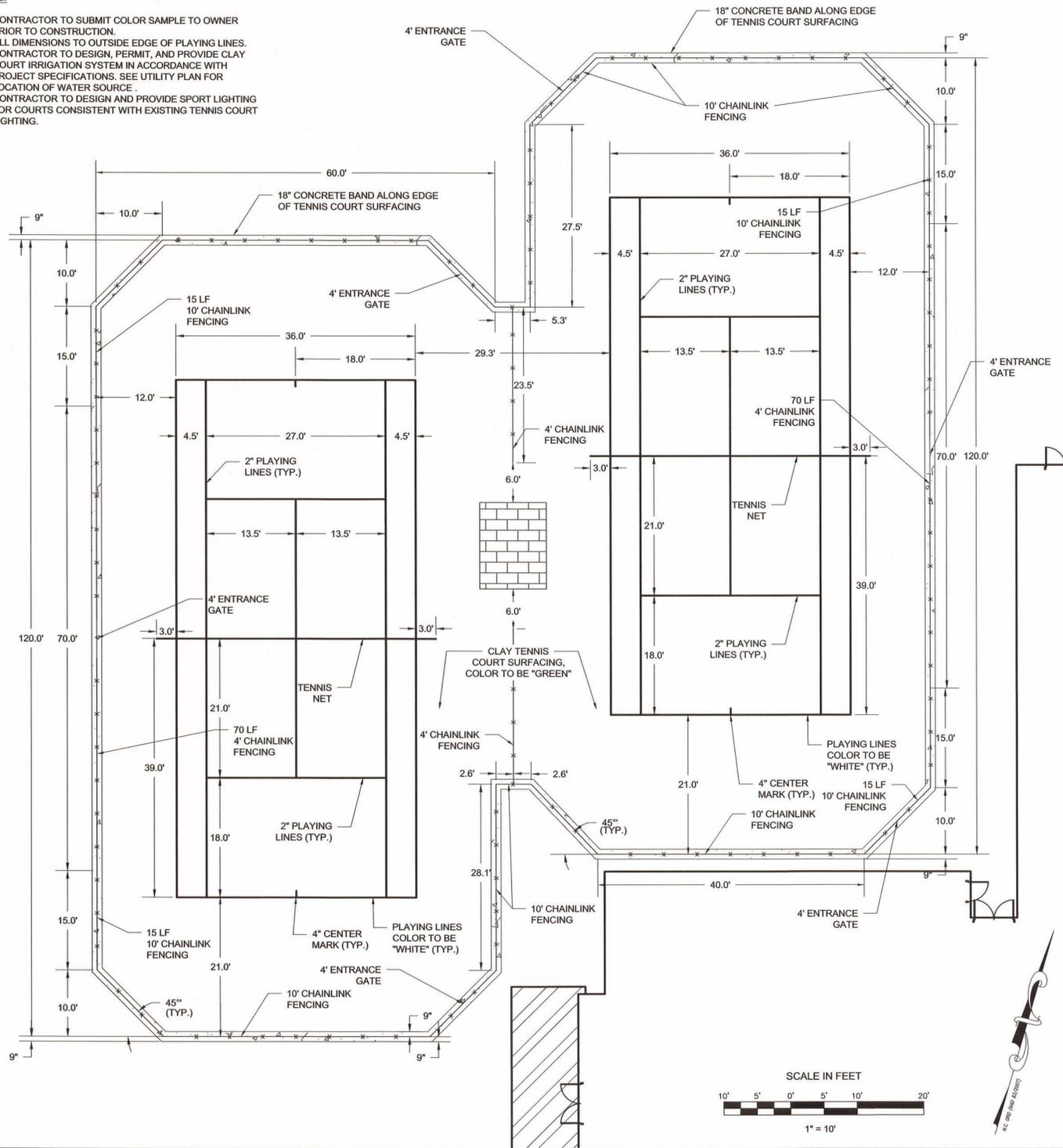


BEFORE YOU DIG!  
CALL 1-800-832-4949  
N.C. ONE-CALL CENTER  
IT'S THE LAW!

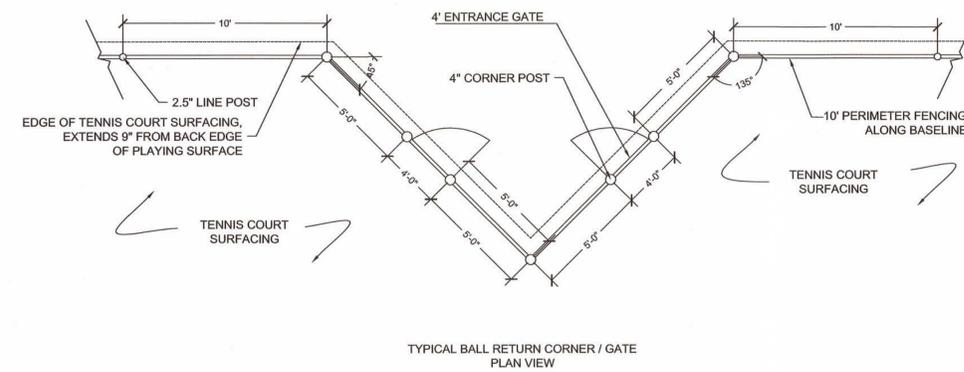
FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

**NOTES:**

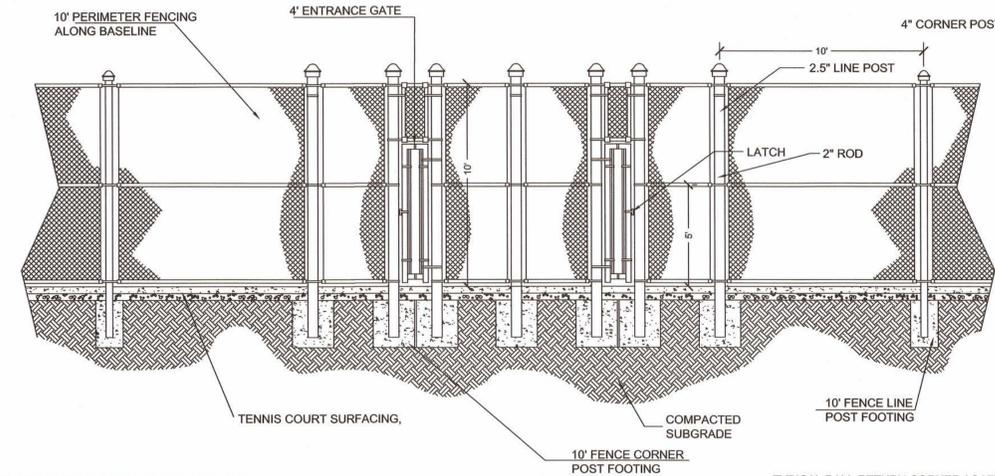
1. CONTRACTOR TO SUBMIT COLOR SAMPLE TO OWNER PRIOR TO CONSTRUCTION.
2. ALL DIMENSIONS TO OUTSIDE EDGE OF PLAYING LINES.
3. CONTRACTOR TO DESIGN, PERMIT, AND PROVIDE CLAY COURT IRRIGATION SYSTEM IN ACCORDANCE WITH PROJECT SPECIFICATIONS. SEE UTILITY PLAN FOR LOCATION OF WATER SOURCE.
4. CONTRACTOR TO DESIGN AND PROVIDE SPORT LIGHTING FOR COURTS CONSISTENT WITH EXISTING TENNIS COURT LIGHTING.



CLAY TENNIS COURT LAYOUT AND DIMENSIONS



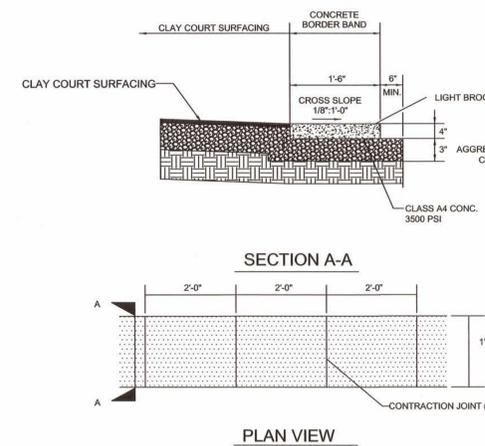
TYPICAL BALL RETURN CORNER / GATE PLAN VIEW



TYPICAL BALL RETURN CORNER / GATE ELEVATION VIEW

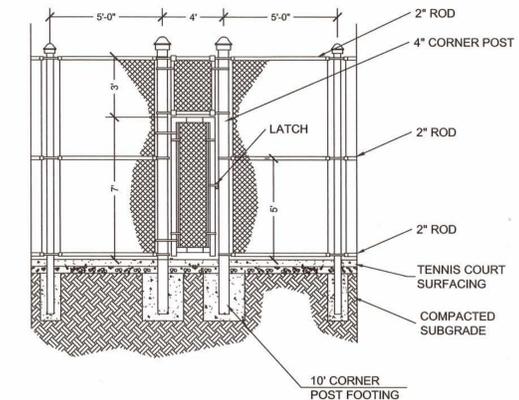
ALL FENCE FABRIC SHALL BE INSTALLED ON INSIDE FACE OF FENCE FRAME, (COURT SIDE) TYP.

TYPICAL BALL RETURN CORNER / GATE PLAN VIEW AND ELEVATION VIEW N.T.S.



PLAN VIEW

CONCRETE BORDER BAND N.T.S.



4' TENNIS COURT ENTRANCE GATE N.T.S.

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**Issue**

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● DESIGN DEVELOPMENT	05.23.14
70% CD	-
PERMIT SET	-
FOR CONSTRUCTION	-

**Revisions**

NO.	TYPE	DATE



**CHAMBERS ARCHITECTURAL ASSOCIATES**

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- ARCHITECTURE
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1896  
 FAMILY ACTIVITY  
 CENTER - CAPE FEAR  
 COUNTRY CLUB  
 1518 COUNTRY CLUB ROAD

Sheet Title

TENNIS COURT  
 LAYOUT AND DETAILS

Scale: AS SHOWN

Date: 05/23/14

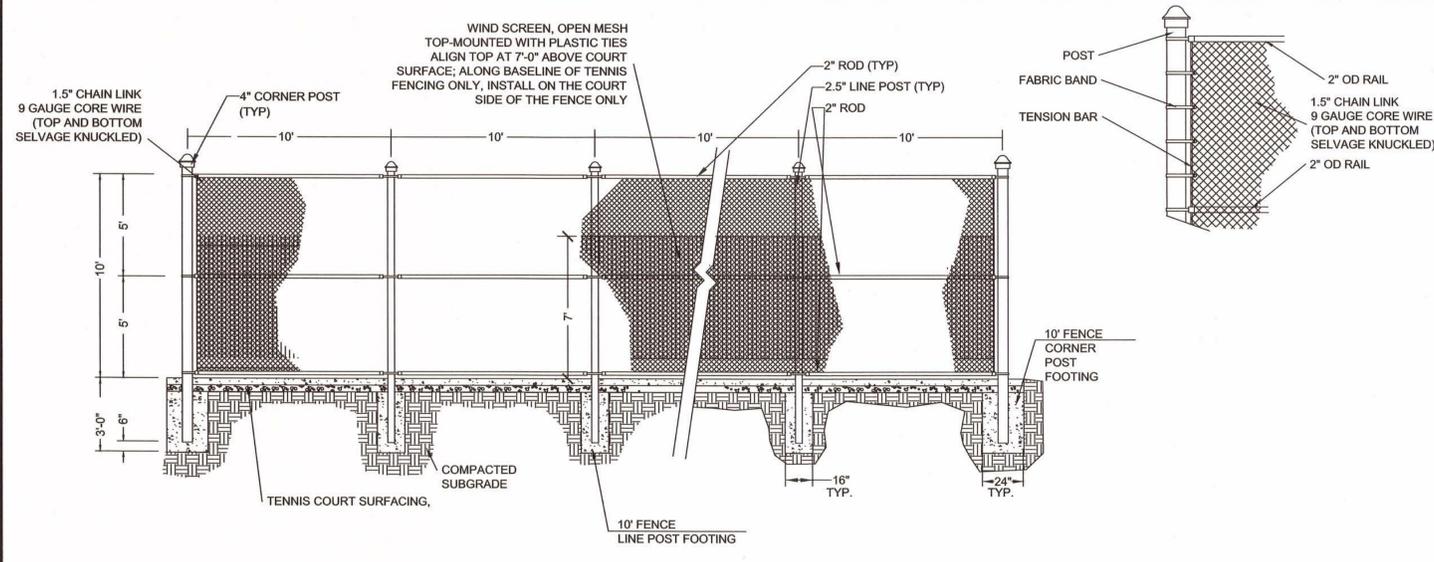
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Checked By: DLF

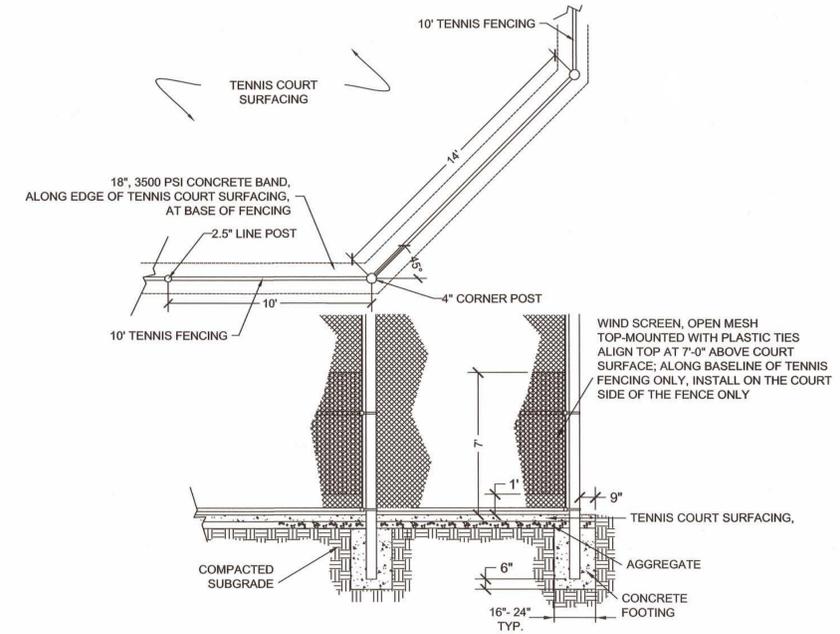
Job No.: 20130125.00.WL

Sheet Number

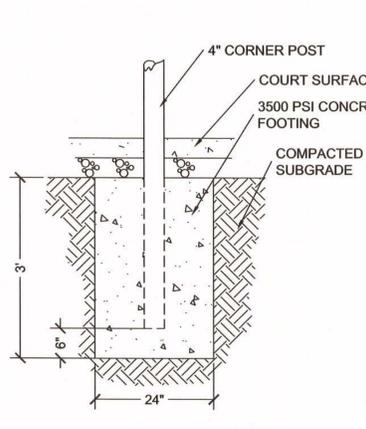
**C.07**



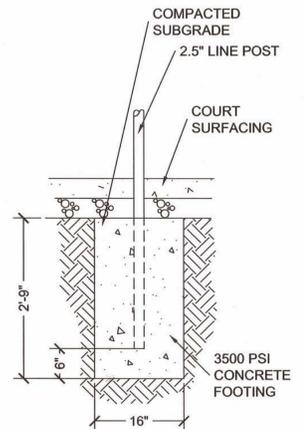
TYPICAL 10' PERIMETER FENCING  
ALONG BASELINE OF COURTS  
N.T.S



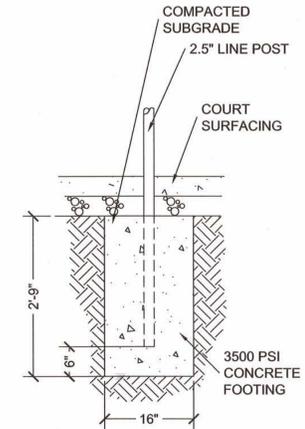
COURT EDGE  
FENCE POST  
N.T.S



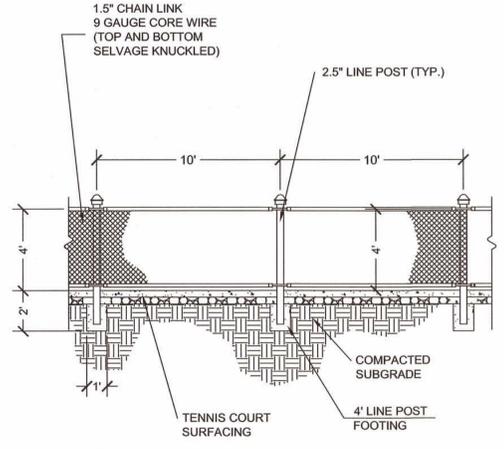
10' FENCE CORNER  
POST FOOTING  
N.T.S



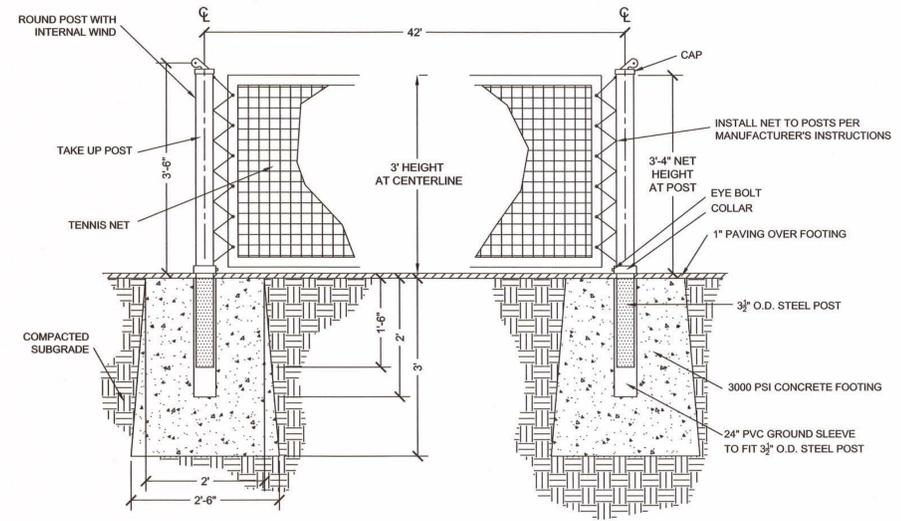
10' FENCE LINE  
POST FOOTING  
N.T.S



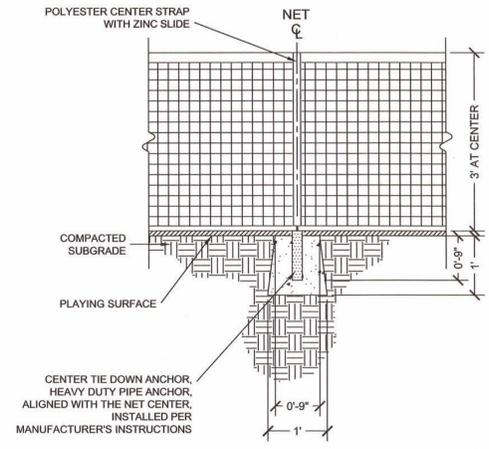
4' FENCE LINE  
POST FOOTING  
N.T.S



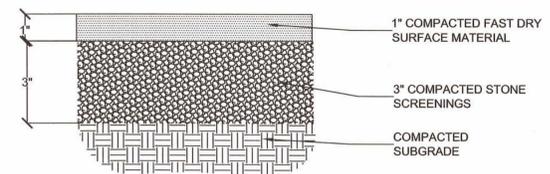
TYPICAL 4' FENCING  
ALONG SIDELINE OF COURTS  
N.T.S



TYPICAL TENNIS NET  
AND POST SECTIONS  
N.T.S



TENNIS NET CENTER SECTION  
WITH CENTER TIE DOWN ANCHOR  
N.T.S



TYPICAL CLAY COURT SECTION

- NOTES:
1. COMPACTED STONE SCREENINGS SHALL BE SLOPED @ 1" PER 24'.
  2. CONTRACTOR IS TO PROVIDE SHOP DRAWINGS FOR APPROVAL ON COURT SURFACE PAINT PREPARATION AND PAINT COLOR FOR TENNIS COURTS.

CLAY COURT  
TENNIS SURFACING  
N.T.S

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**FC**  
1896

FAMILY ACTIVITY  
CENTER - CAPE FEAR  
COUNTRY CLUB  
1518 COUNTRY CLUB ROAD

Sheet Title

TENNIS COURT  
DETAILS

Scale: AS SHOWN

Date: 05/23/14

Drawn By: HRW

Checked By: DLF

Job No.: 20130125.00.WL

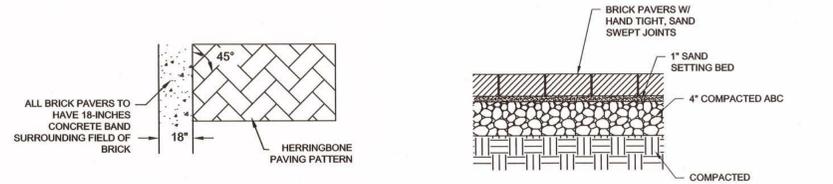
Sheet Number

**C.08**

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

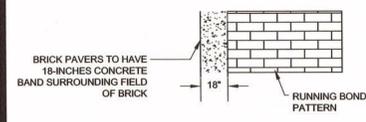
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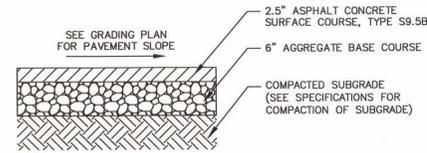


**HERRINGBONE PAVER**  
NOT TO SCALE

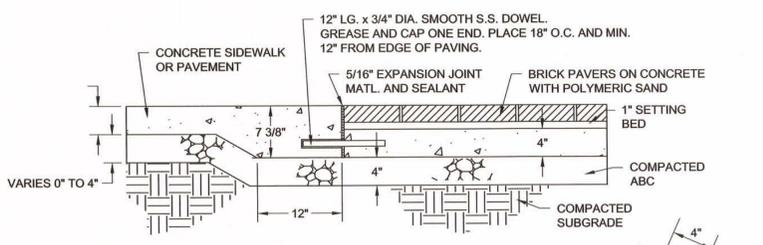
**40 MM BRICK PAVERS IN PEDESTRIAN AREAS**  
NOT TO SCALE



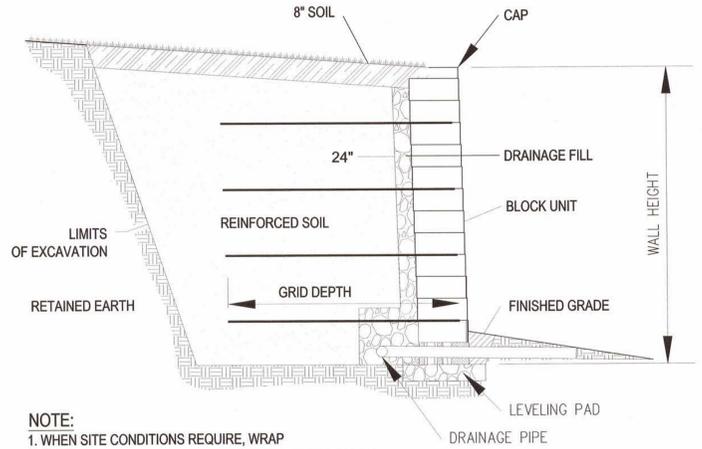
**RUNNING BOND PAVER**  
NOT TO SCALE



**LIGHT DUTY PAVEMENT DETAIL**  
NOT TO SCALE



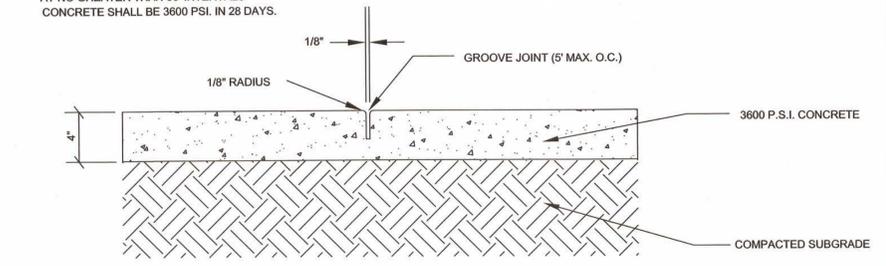
**80 MM BRICK PAVERS IN TRAFFIC AREAS**  
NOT TO SCALE



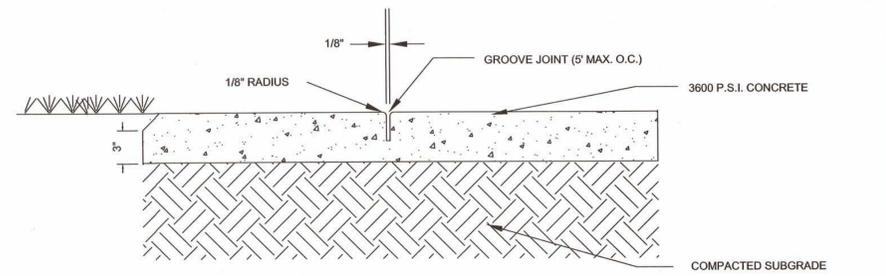
**NOTE:**  
1. WHEN SITE CONDITIONS REQUIRE, WRAP DRAINAGE PIPE IN 3/4" AGGREGATE AND FILTER FABRIC WITH DRAINAGE COMPOSITE OR AGGREGATE BACK DRAIN SYSTEM, AS DIRECTED BY GEOTECHNICAL ENGINEER.  
2. CONTRACTOR IS RESPONSIBLE FOR RETAINING A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA TO DESIGN THE SEGMENTAL CONCRETE BLOCK WALLS AND INSPECT THE CONSTRUCTION OF THE WALLS. WALL PLANS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY THE LICENSED PROFESSIONAL ENGINEER.

**SEGMENTAL CONCRETE BLOCK WALL**  
NOT TO SCALE

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

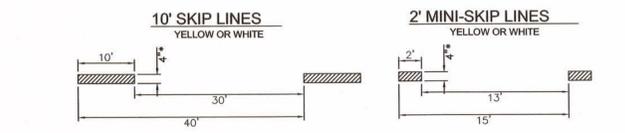


**CONCRETE SIDEWALK DETAIL**



**SIDEWALK ADJACENT TO GRASSED AREAS AND PLANTERS**

**CONCRETE SIDEWALK**  
NOT TO SCALE



\*NOTE: ALL PAVEMENT MARKING SHALL HAVE A MINIMUM DRY THICKNESS OF 20 MILS. WIDTH APPLIES FOR A "WIDE" LINE. "WIDE" LINES ARE

\*NOTE: WHERE TWO WIDTHS ARE INDICATED, THE FIRST WIDTH APPLIES FOR A "NORMAL" WIDTH LINE. THE SECOND WIDTH APPLIES FOR A "WIDE" LINE. "WIDE" LINES ARE REQUIRED WHEN DESIGNATED IN THE PLANS, OR WHEN DIRECTED BY THE ENGINEER.

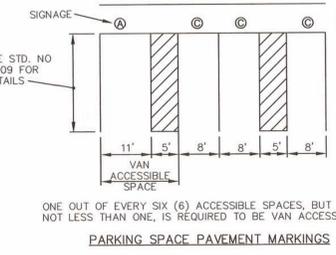
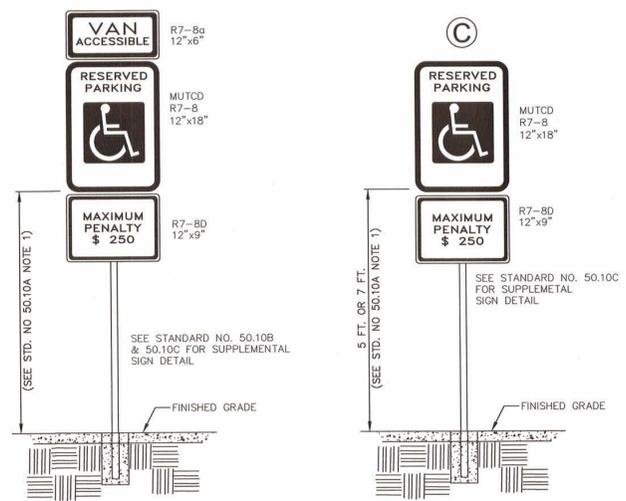
**PAVEMENT MARKINGS LINE TYPES**  
NOT TO SCALE

**ACCESSIBLE PARKING REQUIREMENTS**

TOTAL PARKING SPACES PROVIDED	MINIMUM NUMBER OF ACCESSIBLE SPACES REQUIRED
1 TO 25	1
26 TO 50	2
51 TO 75	3
76 TO 100	4
101 TO 150	5
151 TO 200	6
201 TO 300	7
301 TO 400	8
401 TO 500	9
501 TO 1000	2% OF TOTAL
1001 AND OVER	20, PLUS 1 FOR EACH 100, OR FRACTION THEREOF, OVER 1000

ADAAG 208.2 - GENERAL NUMBER OF ACCESSIBLE SPACES;  
208.2.1 - HOSPITAL OUTPATIENT FACILITIES  
208.2.2 - REHABILITATION FACILITIES AND OUTPATIENT PHYSICAL THERAPY FACILITIES

**NOTES:**  
1. ALL 12"x18" ACCESSIBLE SIGNS (R7-8 & R7-1) SHALL BE MOUNTED AT 7 FEET FROM GRADE TO BOTTOM EDGE OF SIGN FACE (MUTCD). MOUNTING HEIGHT CAN BE REDUCED TO 5 FEET IF PLACED IN AN AREA BETWEEN SIDEWALK AND BUILDING FACE IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.  
2. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) U.S. DEPARTMENT OF TRANSPORTATION AND NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SUPPLEMENT.  
3. IF ACCESSIBLE ROUTE IS A RAISED SIDEWALK AREA, THEN RAMPS ARE REQUIRED AT LOADING ZONE AREA.



**HANDICAP PARKING DETAIL**  
NOT TO SCALE

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**1896**  
FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB  
1518 COUNTRY CLUB ROAD

Sheet Title

SITE DETAILS

Scale: AS SHOWN

Date: 05/23/14

Drawn By: HRW

Checked By: DLF

Job No.: 20130125.00.WL

Sheet Number

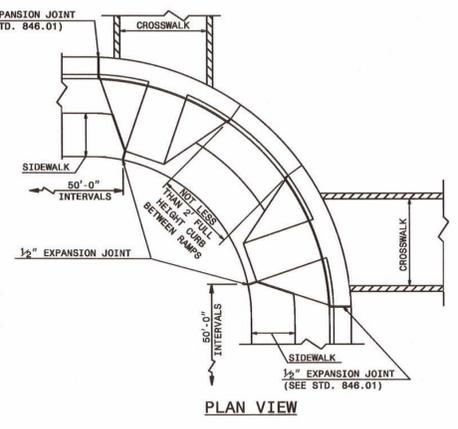
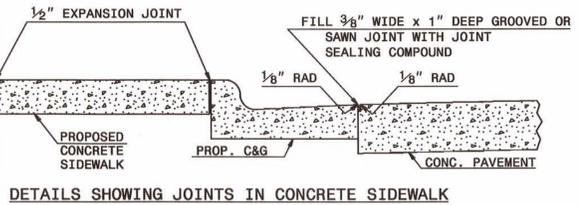
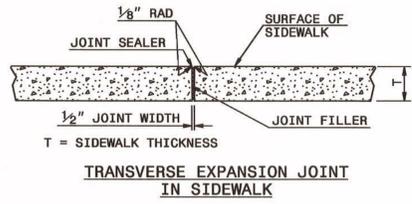
**C.09**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR CONCRETE SIDEWALK

SHEET 1 OF 1  
848.01

NOTES:  
CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.  
PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.  
SEE STD. DWG. 848.05 FOR WHEELCHAIR RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

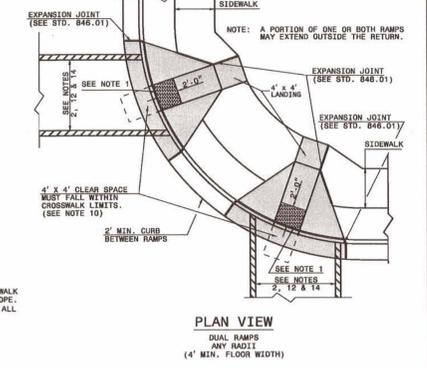
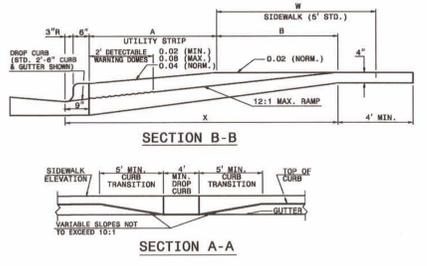
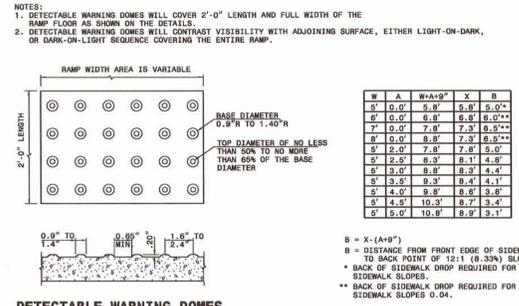
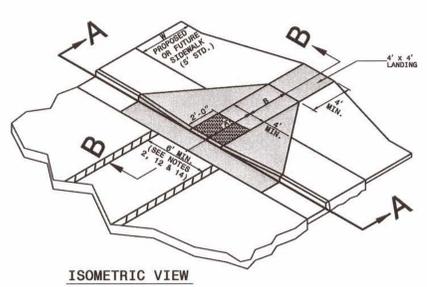
ENGLISH STANDARD DRAWING FOR CONCRETE SIDEWALK

SHEET 1 OF 1  
848.01

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR PROPOSED CURB AND GUTTER

SHEET 1 OF 3  
848.05



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

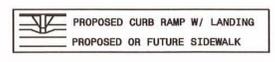
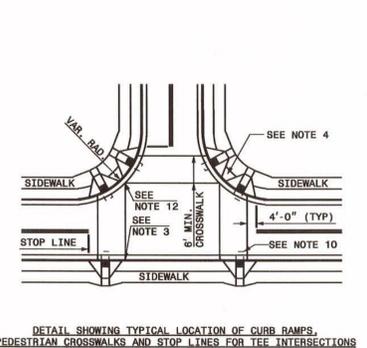
ENGLISH STANDARD DRAWING FOR PROPOSED CURB AND GUTTER

SHEET 1 OF 3  
848.05

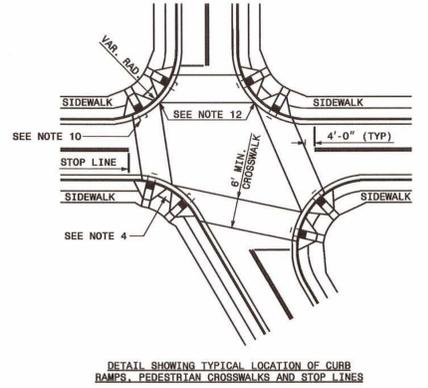
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ENGLISH STANDARD DRAWING FOR PROPOSED CURB AND GUTTER

SHEET 2 OF 3  
848.05



ALLOWABLE LOCATIONS  
DUAL RAMP RADII.....ANY



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR PROPOSED CURB AND GUTTER

SHEET 2 OF 3  
848.05

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR PROPOSED CURB AND GUTTER

SHEET 3 OF 3  
848.05

- NOTES:
- CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
  - LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
  - COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
  - SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
  - REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
  - TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
  - CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
  - CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
  - ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
  - CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
  - CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
  - CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
  - TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
  - SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'x5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
  - CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
  - PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
  - PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
  - CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR PROPOSED CURB AND GUTTER

SHEET 3 OF 3  
848.05

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Issue

TYPE	DATE
SCHEMATIC DESIGN	12.18.13
DESIGN DEVELOPMENT	05.23.14
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PERMIT SET	-
FOR CONSTRUCTION	-

Revisions

NO.	TYPE	DATE



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1896  
FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB  
1518 COUNTRY CLUB ROAD

Scale: AS SHOWN  
Date: 05/23/14  
Drawn By: HRW  
Checked By: DLF  
Job No.: 20130125.00.WL  
Sheet Number

C.10

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR CONCRETE DROP INLET 12" THRU 30" PIPE

1-12 SHEET 1 OF 1 840.14

GENERAL NOTES:  
 USE CLASS "B" CONCRETE THROUGHOUT.  
 PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.  
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.  
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.  
 IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.  
 CONSTRUCT WITH PIPE JOINTS MATCHING.  
 SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.  
 INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.  
 INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 70M STONE IN A POROUS FABRIC BAG OR MAT, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.  
 CHAMFER ALL EXPOSED CORNERS 1".  
 DRAWING NOT TO SCALE.

WITH GRATE & FRAME REMOVED

BRICK COPING (INCIDENTAL)  
 TOP ELEVATION  
 STD. 840.16 FRAME & GRATE  
 SECTION X-X  
 SECTION Y-Y  
 DOWEL (SEE NOTE)  
 MAX. PIPE THIS SIDE - 18"

DIMENSIONS AND QUANTITIES FOR DROP INLET (BASED ON MIN. HEIGHT, H)					
DIMENSIONS OF BOX & PIPE			CUBIC YARDS CONC. IN BOX	DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH		MIN.	HEIGHT
D	A	B	H	BOTTOM SLAB	WALL PER CONG. IN BOX
12"	3'-0"	2'-0"	2'-0"	0.222	0.592
15"	3'-0"	2'-3"	2'-3"	0.648	0.623
18"	3'-0"	2'-6"	2'-6"	0.703	0.633
24"	3'-0"	3'-0"	3'-0"	0.814	0.659
30"	3'-0"	3'-6"	3'-6"	0.925	0.692

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR MANHOLE FRAME AND COVER

1-12 SHEET 1 OF 1 840.54

SOLID COVER SHOWN PERFORATED. PERFORATED AVAILABLE IF SPECIFIED.  
 STATE USE OF SYSTEM ON COVER (I.E.: SEWER, STORM DRAIN, ELECTRICAL)

TOP OF COVER  
 BOTTOM OF COVER  
 PLAN OF COVER  
 PLAN OF FRAME  
 SECTION A-A  
 SECTION B-B  
 TYPE #1  
 ALTERNATE  
 TYPE #2

MINIMUM WEIGHTS - LBS.  
 FRAME - 180  
 COVER - 120  
 TOTAL - 300

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

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

1-12 SHEET 1 OF 1 840.16

SECTION G-G  
 PLAN OF FRAME  
 CAST IRON  
 PLAN OF GRATING  
 CAST IRON  
 SECTION E-E  
 SECTION F-F  
 SECTION H-H

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR PRECAST MANHOLE 4', 5' AND 6' DIAMETER 12" THRU 48" PIPE

1-12 SHEET 1 OF 1 840.52

GENERAL NOTES:  
 USE 4000 PSI MINIMUM COMPRESSIVE STRENGTH CONCRETE.  
 FABRICATE, ASSEMBLE AND DESIGN PRECAST MANHOLE COMPONENTS ACCORDANCE WITH AASHTO M199.  
 ASSEMBLE RISER AND GRADE RINGS WITH THE STEPS SPACED 12" FROM THE TOP TO THE BOTTOM OF THE MANHOLE.  
 WHERE THE MANHOLE IS EXPOSED TO ROAD TRAFFIC, CONSTRUCT THE TOP OF THE MANHOLE FLUSH WITH THE GROUND AND A MINIMUM OF 9" ABOVE THE GROUND AT OTHER LOCATIONS.  
 LIMIT DEPTH OF FILL TO 30'-0" FROM FINISH GRADE TO TOP OF BOTTOM SLAB.  
 THE MIN. SLAB THICKNESS 'T' IS THE DIMENSION OF THE THINNEST PORTION OF THE TOP/BOTTOM SLAB.  
 \* TOP MAT OF REINFORCEMENT MAY BE NEGLECTED IF TOP SLAB HAS A DISTINGUISHABLE TOP AND BOTTOM.

D	W	T	As
INTERNAL DIAMETER (FT.)	MIN. WALL THICKNESS (IN.)	MIN. TOP/BOTTOM SLAB THICKNESS (IN.)	MIN. CIRCUMFERENTIAL AREA OF STEEL PER VERTICAL FT. (SQ. IN.)
4	4	6	0.12
5	5	8	0.15
6	6	8	0.18

CONCENTRIC CONE SECTION  
 ALTERNATE CONE SECTION  
 FLAT TOP SLAB  
 TYPICAL MANHOLE SECTION  
 GRATED INLET OPTION  
 MANHOLE OPTION

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**CC**  
 1896

FAMILY ACTIVITY  
 CENTER - CAPE FEAR  
 COUNTRY CLUB  
 1518 COUNTRY CLUB ROAD

Sheet Title

DRAINAGE DETAILS

Scale: AS SHOWN

Date: 05/23/14

Drawn By: HRW

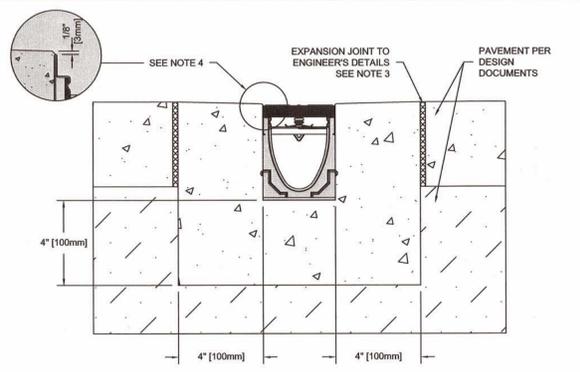
Checked By: DLF

Job No.: 20130125.00.WL

Sheet Number

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

**ACO SPORT®** System 4000: Full Concrete, Grass & Non-Porous Synthetic Surface  
 DRWG# 1583 Date: 7.26.02  
 WWW.ACOUSA.COM



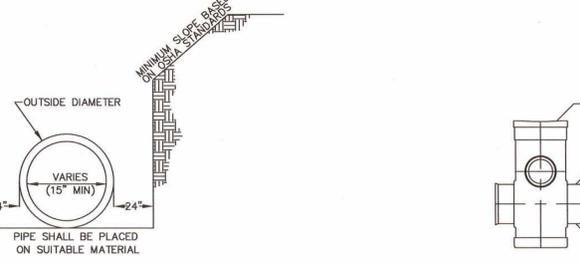
**NOTES:**  
 1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. ENGINEERING ADVICE MAY BE REQUIRED.  
 2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.  
 3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. ENGINEERING ADVICE MAY BE REQUIRED.  
 4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" (3mm) ABOVE THE TOP OF THE CHANNEL EDGE.  
 5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.  
 6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

**SPECIFICATION CLAUSE**  
**K100 KLASSIKDRAIN - LOAD CLASS A**  
**GENERAL**  
 THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K100 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.  
**MATERIALS**  
 CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:  
 COMPRESSIVE STRENGTH: 14,000 PSI  
 FLEXURAL STRENGTH: 4,000 PSI  
 TENSILE STRENGTH: 1,500 PSI  
 WATER ABSORPTION: 0.07%  
 FROST PROOF: YES  
 DILUTE ACID AND ALKALI RESISTANT: YES  
 B117 SALT SPRAY TEST COMPLIANT: YES  
 THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 5.1" (130mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.  
 THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.  
 CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING "QUICKLOK" BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

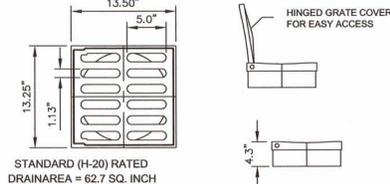
**ACO SPORT®** System 4000: Full Concrete, Grass & Non-Porous Synthetic Surface  
 DRWG# 1583 Date: 7.26.02  
 WWW.ACOUSA.COM

The surface drainage system shall be System 4002\* as manufactured by ACO Polymer Products, Inc., Chardon, Oh. Channels shall be manufactured from polyester resin polymer concrete.  
 Standard ACO Drain grates and locking devices are used, see separate specification sheets for information.  
 The system shall be 4 inches (100mm) nominal inside width with a 6.1 in. (155mm) overall width.  
 All channels shall be interlocking with a male/female joint.  
 The complete drainage system shall be by ACO Polymer Products, Inc. Any deviation or partial system design and/or improper installation will void any and all warranties provided by ACO Polymer Products, Inc.  
 Polymer Concrete shall have material properties of: compressive strength range between 14,000-14,500 psi; flexural strength between 3600-4500 psi; tensile strength of 1500 psi. The material water absorption rate shall not exceed 0.1% by weight and shall be resistant to prolonged salt exposure, and repetitive frost cycles.  
 The system shall be installed in accordance with the manufacturer's instructions and recommendations. Refer to Architect's plans for trench and catch basin location.

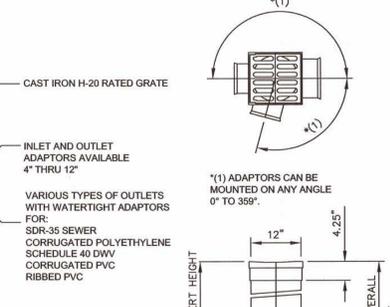
- NOTES:**
- A MINIMUM OF 24" FROM OUTSIDE DIAMETER OF PIPE TO SIDE OF TRENCH MUST BE ALLOWED FOR COMPACTION OF FILL MATERIAL. BACKFILLING OF TRENCHES SHALL BE ACCOMPLISHED IMMEDIATELY AFTER THE PIPE IS LAID. THE FILL AROUND THE PIPE SHALL BE PLACED IN LAYERS NOT TO EXCEED 6". UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN UNBACKFILLED TRENCHES AFTER THE PIPE HAS BEEN PLACED. COMPACTION REQUIREMENTS SHALL BE ATTAINED BY THE USE OF MECHANICAL TAMPS ONLY. EACH AND EVERY LAYER OF BACKFILL SHALL BE PLACED LOOSE AND THOROUGHLY COMPACTED INTO PLACE.
  - ALL BACKFILL MATERIAL SHALL HAVE AN IN PLACE COMPACTED DENSITY OF 95%.
  - STANDARD PROCTOR. THE FINAL 2' BELOW FINISHED GRADE SHALL BE 100%.
  - ALL TRENCHING OPERATIONS SHALL MEET OSHA STANDARDS.
  - BACKFILL MATERIAL BENEATH ROADWAY SHALL BE SELECT BACKFILL MATERIAL.



**TRENCH DETAIL FOR STORM DRAIN PIPES**  
 NOT TO SCALE

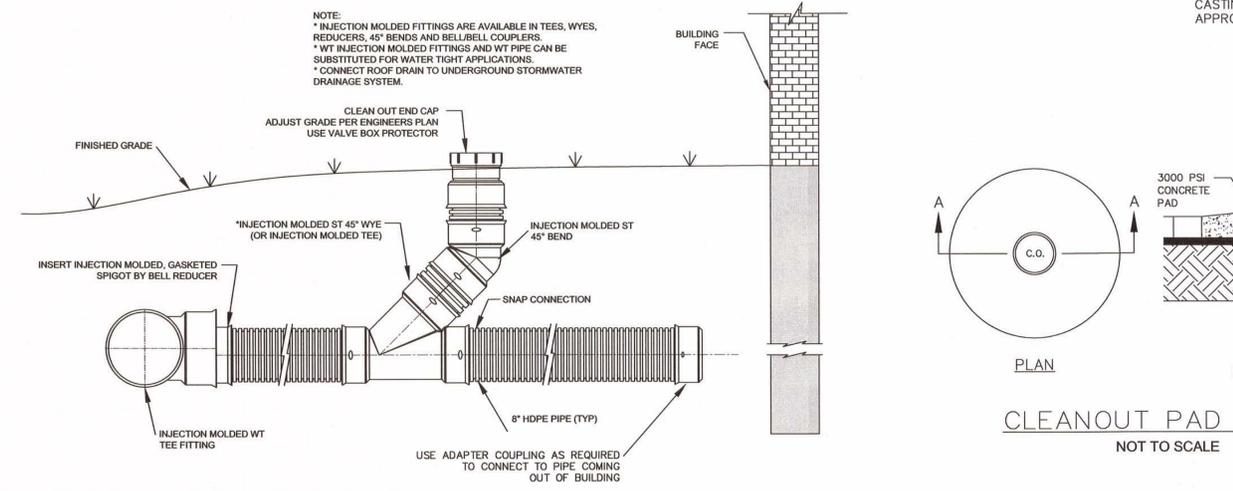


**12" CAST IRON GRATE**  
 NOT TO SCALE

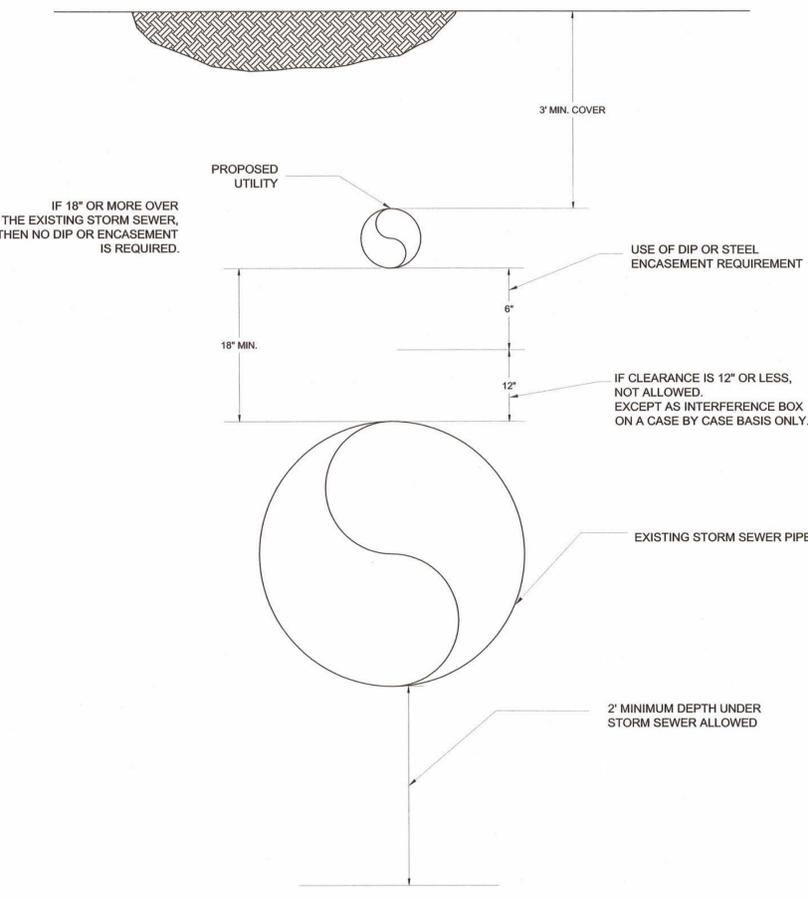


**NOTES:**  
 1. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF DRAIN BASIN AND CASTING FOR REVIEW AND APPROVAL.

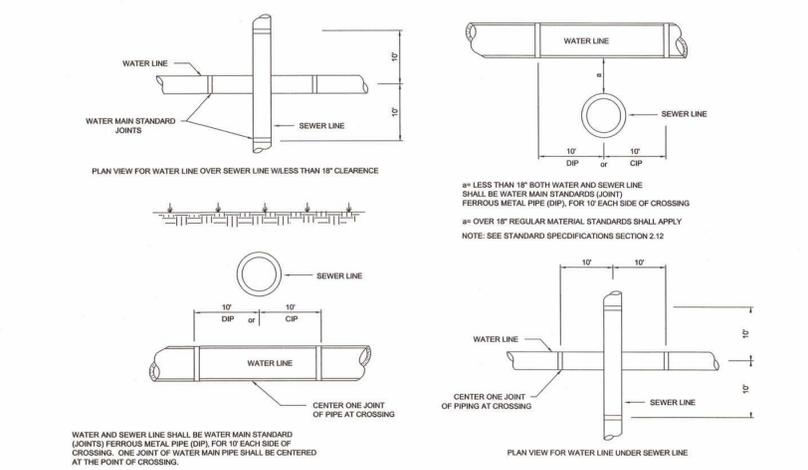
**12" DRAIN BASIN**  
 NOT TO SCALE



**ROOF DRAIN DETAIL WITH CLEANOUT**  
 NOT TO SCALE



**PROPOSED UTILITY OVER EXISTING STORM SEWER**  
 NOT TO SCALE



**WATER AND SEWER CROSSINGS**  
 NOT TO SCALE

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**FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB**  
 1518 COUNTRY CLUB ROAD

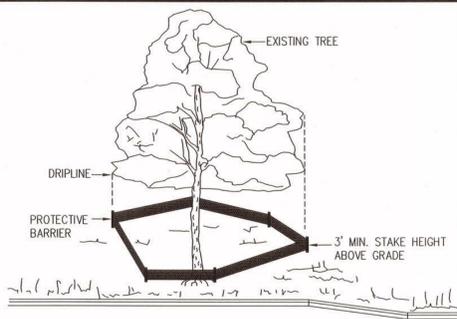
Sheet Title

**DRAINAGE AND UTILITY DETAILS**

Scale: AS SHOWN  
 Date: 05/23/14  
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**C.12**

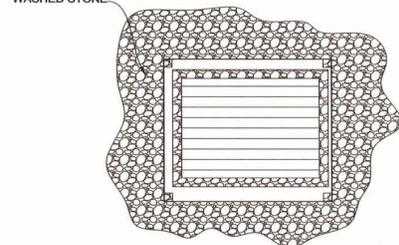
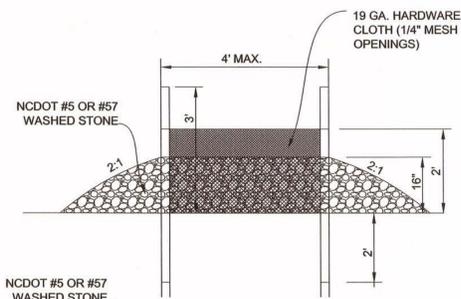
FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



NOTE: CLEARLY MARK TREES TO BE SAVED PRIOR TO CONSTRUCTION AND PROVIDE A PROTECTIVE BARRIER AT THE DRIP LINE.  
 DRIP LINE - THE AREA OF SOIL DIRECTLY BENEATH THE TREE EXTENDING OUT TO THE TIPS OF THE OUTERMOST BRANCHES.

**TREE PROTECTION FENCE**

NOT TO SCALE

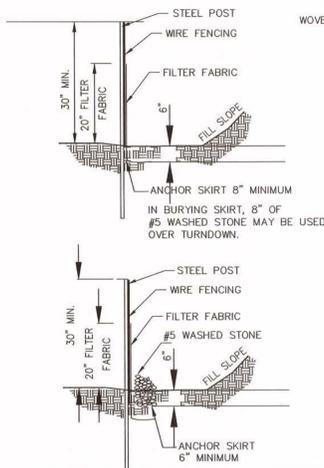


**CONSTRUCTION SPECIFICATIONS:**

- UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
- DRIVE 6\"/>

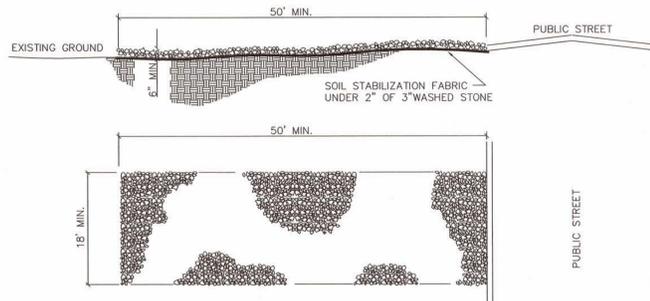
**DROP INLET PROTECTION**

NOT TO SCALE



**EROSION AND SEDIMENT CONTROL NOTES:**

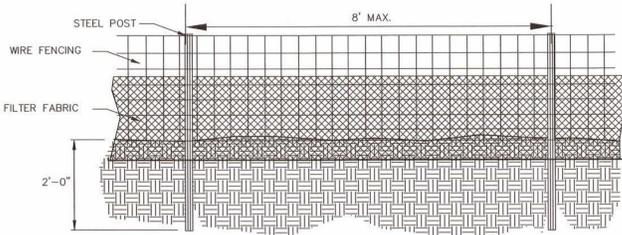
- STABILIZATION MEASURES INCLUDING TEMPORARY GRASSING SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.  
 -WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED EVERY SEVEN (7) DAYS. IF SITE INSPECTIONS IDENTIFY DEVICES THAT ARE DAMAGED OR ARE NOT OPERATING EFFECTIVELY, MAINTENANCE MUST BE PERFORMED AS SOON AS PRACTICAL OR AS REASONABLY POSSIBLE AND BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE.
- PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED.
- ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
- THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
- TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
- LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
- INLET PROTECTION IS TO BE PROVIDED AT ALL EXISTING INLETS THAT RECEIVE FLOW FROM THE DISTURBED AREAS.
- CONTRACTOR SHALL PROVIDE ONE STABILIZED CONSTRUCTION ENTRANCE AT ALL TIMES DURING CONSTRUCTION. LOCATION SHALL BE FIELD LOCATED AND COORDINATED WITH THE OWNER.



- NOTES:
- A STABILIZED ENTRANCE PAD OF 2\"/>

**STABILIZED CONSTRUCTION ENTRANCE**

NOT TO SCALE



**GENERAL NOTES:**

- FILTER FABRIC FENCE SHALL BE A MINIMUM OF 32\"/>

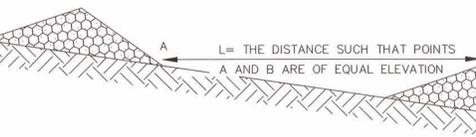
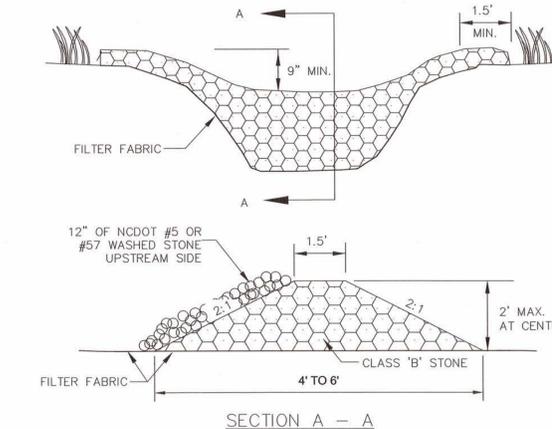
**SILT FENCE**

NOT TO SCALE

**MAINTENANCE REQUIREMENTS**

- RESEED AND MULCH SEEDED AREAS WHERE SEEDLING EMERGENCE IS POOR, OR WHERE EROSION OCCURS, AS SOON AS POSSIBLE. DO NOT MOW. PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE.
- MOW SEEDED AREAS NO MORE THAN ONCE A YEAR. RESEED, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY.
- RIPRAP SHOULD BE INSPECTED PERIODICALLY FOR SCOUR OR DISLODGED STONES. CONTROL OF WEED AND BRUSH GROWTH MAY BE NEEDED IN SOME LOCATIONS.
- INSPECT PERMANENT DIVERSIONS AFTER EVERY RAINFALL DURING THE CONSTRUCTION OPERATION. IMMEDIATELY REMOVE ANY OBSTRUCTIONS FROM THE FLOW AREA, AND REPAIR THE DIVERSION RIDGE. CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. MAINTAIN THE VEGETATION IN A VIGOROUS, HEALTHY CONDITION AT ALL TIMES.
- INSPECT CHANNELS AT REGULAR INTERVALS AS WELL AS AFTER MAJOR RAINS AND MAKE REPAIRS PROMPTLY. GIVE SPECIAL ATTENTION TO THE OUTLET AND INLET SECTIONS OTHER POINTS WHERE CONCENTRATED FLOW ENTERS. SCOUR HOLES OR BANK FAILURES. MAKE REPAIRS IMMEDIATELY. MAINTAIN ALL VEGETATION ADJACENT TO THE CHANNEL IN A HEALTHY, VIGOROUS CONDITION TO PROTECT THE AREA FROM EROSION AND SCOUR DURING OUT-OF-BANK FLOW.
- INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.
- INSPECT SILT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SILT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY; REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- ALL CONSTRUCTION ENTRANCES WILL BE PERIODICALLY TOP DRESSED WITH AN ADDITIONAL 2 INCHES OF NO. 4 STONE TO MAINTAIN PROPER DEPTH. ANY SEDIMENT THAT IS TRACKED INTO THE STREET WILL BE IMMEDIATELY REMOVED.
- INSPECT CHECK DAMS AND CHANNELS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMBS, OR OTHER DEBRIS THAT COULD CLOG THE CHANNEL WHEN NEEDED.

ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, ADDITIONAL MEASURES CAN BE TAKEN SUCH AS, INSTALLING A PROTECTIVE RIPRAP LINER IN THAT PORTION OF THE CHANNEL.  
 REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.



- PLACE STONE TO THE LINES AND DIMENSIONS SHOWN IN THE PLAN ON A FILTER FABRIC FOUNDATION.
- KEEP THE CENTER STONE SECTION AT LEAST 9 INCHES BELOW NATURAL GROUND LEVEL WHERE THE DAM ABUTS THE CHANNEL BANKS.
- EXTEND STONE AT LEAST 1.5 FT. BEYOND THE DITCH BANK TO KEEP WATER FROM CUTTING AROUND THE ENDS OF THE CHECK DAM.
- SET SPACING BETWEEN DAMS TO ASSURE THAT THE ELEVATION AT THE TOP OF THE LOWER DAM IS THE SAME AS THE TOE ELEVATION OF THE UPPER DAM.
- PROTECT THE CHANNEL AFTER THE LOWEST CHECK DAM FROM HEAVY FLOW THAT COULD CAUSE EROSION.
- MAKE SURE THAT THE CHANNEL REACH ABOVE THE MOST UPSTREAM DAM IS STABLE.
- ENSURE THAT OTHER AREAS OF THE CHANNEL, SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS, ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.

**TEMPORARY ROCK CHECK DAM**

NOT TO SCALE

**EROSION CONTROL NOTES**

**SEEDBED PREPARATION NOTES**

- SURFACE WATER CONTROL MEASURES TO BE INSTALLED ACCORDING TO PLAN. COMPLETE GRADING BEFORE PREPARING SEEDBED.
- AREAS TO BE SEEDBED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL 3\"/>

**PERMANENT SEEDING SPECIFICATIONS - (FS)**

**LOW MAINTENANCE AREAS**

DATES	TYPE	RATE
AUG. 25 - SEPT. 15	TALL FESCUE	100 LB/ACRE
FEB. 15 - MAR. 21	SERICA LESPEDeza KOBÉ LESPEDeza	30 LB/ACRE 10 LB/ACRE

**GENTLE SLOPES, AVERAGE SOILS**

DATES	TYPE	RATE
AUG. 25 - SEPT. 15	TALL FESCUE	80 LB/ACRE
FEB. 15 - MAR. 21	SERICA LESPEDeza KOBÉ LESPEDeza	20 LB/ACRE 10 LB/ACRE

**HIGH MAINTENANCE AREAS**

GENTLE SLOPES, SOILS WITH AVERAGE OR BETTER MOISTURE, COOL SITES

DATES	TYPE	RATE
AUG. 25 - SEPT. 15	BLENDED TWO TURF-TYPE 200 - 250 LB/ACRE TALL FESCUES (90%) AND TWO OR MORE KENTUCKY BLUEGRASS VARIETIES (10%)	

GENTLE SLOPES, DRIER SOILS, PHYSICAL LIMITATIONS

DATES	TYPE	RATE
AUG. 25 - SEPT. 15	BLENDED 50% KY-31 TALLT00 - 250 LB/ACRE FESCUE AND 50% MIXTURE OF TWO OR MORE TURF TYPE TALL FESCUES	

GRASS-LINED CHANNELS, AVERAGE SOILS

DATES	TYPE	RATE
AUG. 25 - OCT.	TALL FESCUE	200 LB/ACRE OR 4 - 5 LB/1000 SF

GRASS-LINED CHANNELS, DRY SOILS

DATES	TYPE	RATE
APRIL 15 - JUNE 30	COMMON BERMUDA GRASS	40 - 80 LB/ACRE OR 1 - 2 LB/1000 SF

AMENDMENTS SHALL BE APPLIED AT THE RATE OF 4000 LB/ACRE OF GROUND AGRICULTURAL LIMESTONE AND 1000 LB/ACRE OF 10-10-10 FERTILIZER. DRY SOIL GRASS-LINED CHANNELS SHALL USE 3000 LB/ACRE OF GROUND AGRICULTURAL LIMESTONE AND 500 LB/ACRE OF 10-10-10 FERTILIZER. MULCH SHALL BE APPLIED AT THE RATE OF 4000 LB/ACRE OF STRAW. STRAW SHALL BE ANCHORED BY TACKING WITH ASPHALT. NETTING OR MULCH ANCHORING TOOL. JUTE OR EXCELISOR MATTING SHALL BE USED IN GRASS LINED CHANNELS TO CALCULATED HIGH WATER DEPTH.

**TEMPORARY SEEDING SPECIFICATIONS - (TS)**

DATES	TYPE	RATE	AMENDMENTS
JAN. 1 - MAY 1	RYE (GRAIN)	120 LB/ACRE	2000 LB/ACRE GROUND AGRICULTURAL LIME-STONE AND 750 LB/ACRE OF 10-10-10 FERTILIZER
FEB. 15 - MAR. 21	ANNUAL LESPEDeza OR LOBE	50 LB/ACRE	

DATES	TYPE	RATE	AMENDMENTS
MAY 1 - AUG. 15	GERMAN MILLET	40 LB/ACRE	2000 LB/ACRE GROUND AGRICULTURAL LIME-STONE AND 750 LB/ACRE OF 10-10-10 FERTILIZER

DATES	TYPE	RATE	AMENDMENTS
AUG. 15 - DEC. 30	RYE (GRAIN)	120 LB/ACRE	2000 LB/ACRE GROUND AGRICULTURAL LIME-STONE AND 1000 LB/ACRE OF 10-10-10 FERTILIZER

MULCH SHALL BE APPLIED AT THE RATE OF 4000 LB/ACRE STRAW. STRAW SHALL BE ANCHORED BY TACKING WITH ASPHALT. NETTING OR MULCH ANCHORING TOOL.

GRADED SLOPES AND FILLS - THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE WHICH CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED SHALL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING BE PLANTED OR OTHERWISE PROVIDED WITH GROUND COVER, DEVICES OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

GROUND COVER - WHENEVER LAND DISTURBING ACTIVITY IS UNDERTAKEN ON A TRACT COMPRISING MORE THAN ONE ACRE, IF MORE THAN ONE

CONTIGUOUS ACRE IS UNCOVERED A GROUND COVER SUFFICIENT TO RESTRAIN EROSION MUST BE PLANTED OR OTHERWISE PROVIDED WITHIN 21 CALENDAR DAYS ON THAT PORTION OF THE TRACT UPON WHICH FURTHER ACTIVE CONSTRUCTION IS NOT BEING UNDERTAKEN, PROVIDED THAT THIS SHALL NOT APPLY TO CLEARED LAND FORMING THE BASIN OF A RESERVOIR LATER TO BE INUNDATED.

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**Issue**

TYPE	DATE
SCHEMATIC DESIGN	12.18.13
DESIGN DEVELOPMENT	05.23.14
70% CD	-
PERMIT SET	-
FOR CONSTRUCTION	-

**Revisions**

NO.	TYPE	DATE



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**FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB**  
 1518 COUNTRY CLUB ROAD

Sheet Title

**EROSION CONTROL DETAILS**

Scale: AS SHOWN

Date: 05/23/14

Drawn By: HRW

Checked By: DLF

Job No.: 20130125.00.WL

Sheet Number

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**FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB**  
1518 COUNTRY CLUB ROAD

Sheet Title

SEWER DETAILS

Scale: AS SHOWN

Date: 05/23/14

Drawn By: HRW

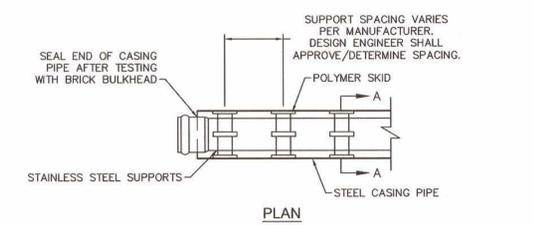
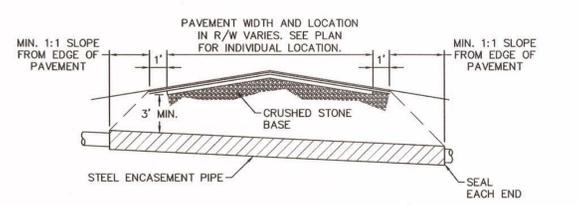
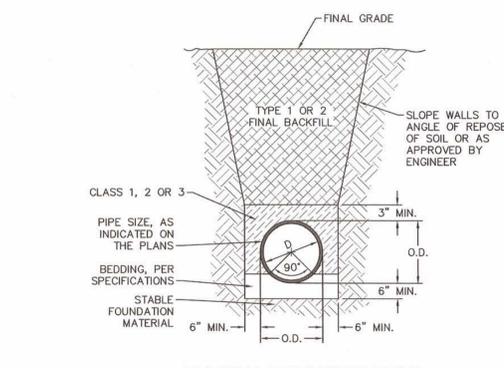
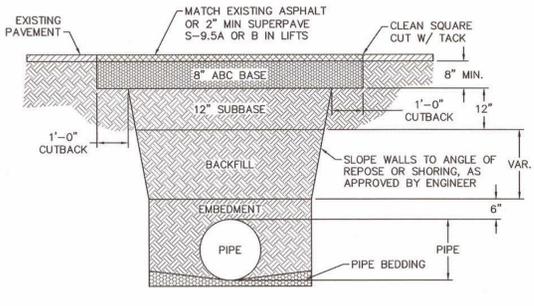
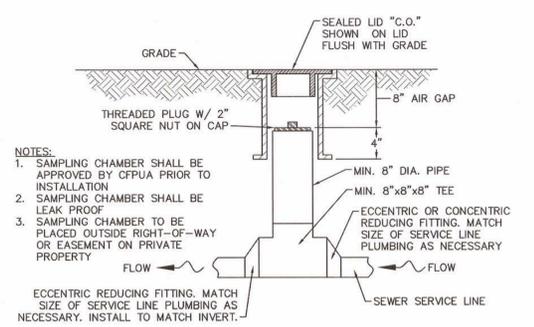
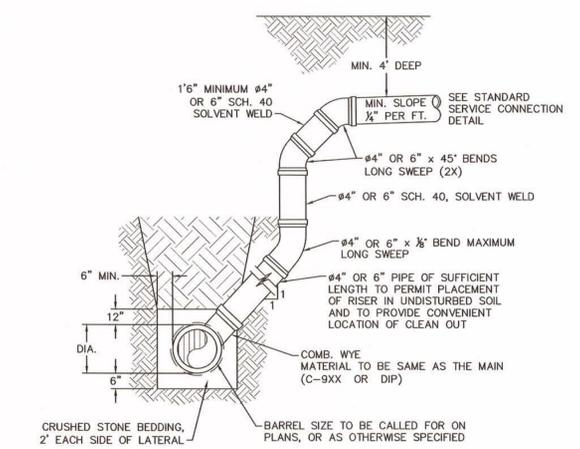
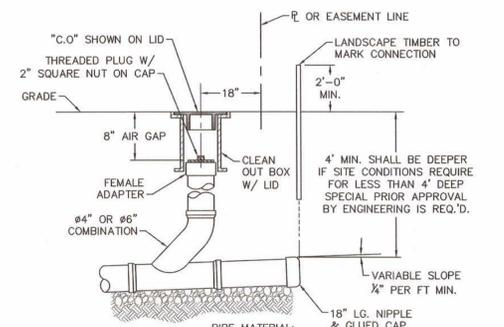
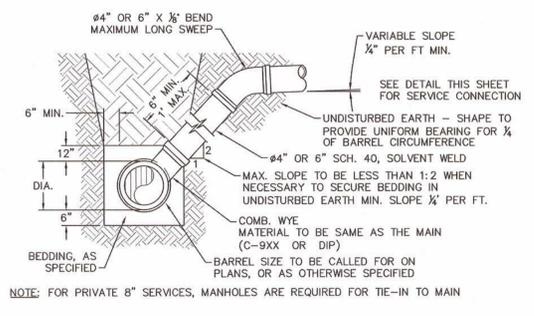
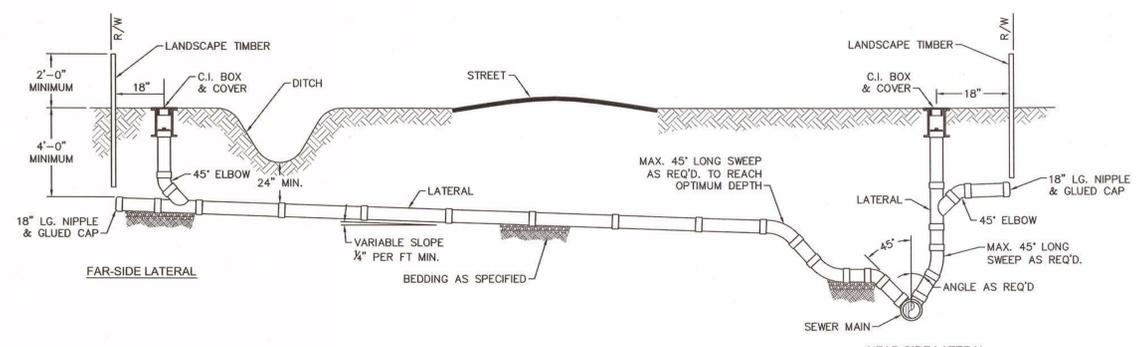
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Job No.: 20130125.00.WL

Sheet Number

**C.15**

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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 CFPWA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04**

<b>CFPUA SANITARY SEWER</b>			DATE: 1/9/12
<b>STANDARD DETAILS</b>			SCALE: N/A
			DRAWN BY: CFPLUA
CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560			CHECKED BY: CFPLUA
Stewardship. Sustainability. Service.			PROJECT NO.:
SHEET NO: <b>SSD-2</b>			

REV:	DESCRIPTION:	DATE:
1	SAMPLING CHAMBER REVISED	10/26/12

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70% CD	-
PERMIT SET	-
FOR CONSTRUCTION	-

NO.	TYPE	DATE



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1896  
FAMILY ACTIVITY  
CENTER - CAPE FEAR  
COUNTRY CLUB  
1518 COUNTRY CLUB ROAD

Sheet Title

SEWER DETAILS

Scale: AS SHOWN

Date: 05/23/14

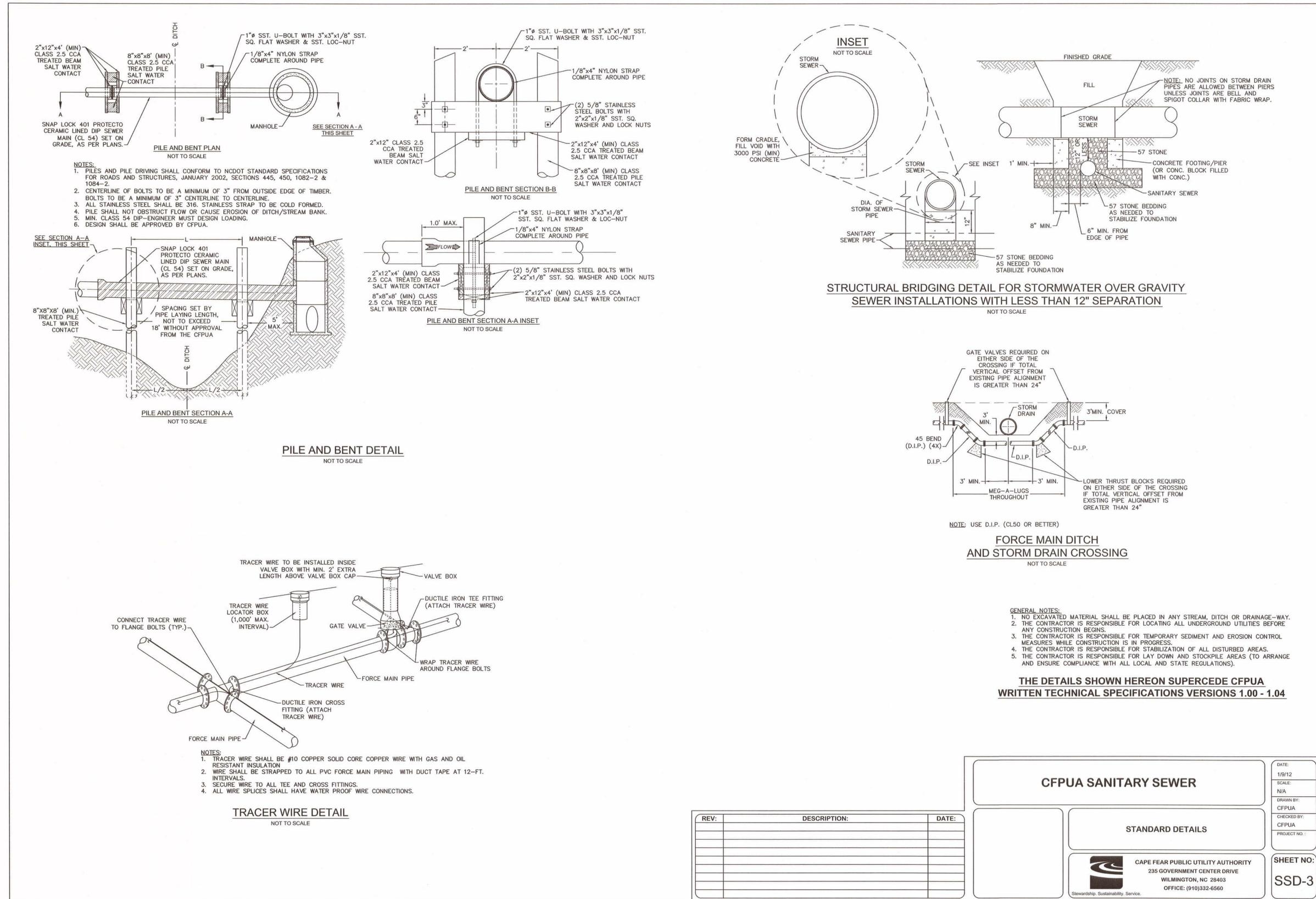
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Job No.: 20130125.00.WL

Sheet Number

**C.16**



- NOTES:**
1. PILES AND PILE DRIVING SHALL CONFORM TO NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, JANUARY 2002, SECTIONS 445, 450, 1082-2 & 1084-2.
  2. CENTERLINE OF BOLTS TO BE A MINIMUM OF 3" FROM OUTSIDE EDGE OF TIMBER. BOLTS TO BE A MINIMUM OF 3" CENTERLINE TO CENTERLINE.
  3. ALL STAINLESS STEEL SHALL BE 316. STAINLESS STRAP TO BE COLD FORMED.
  4. PILE SHALL NOT OBSTRUCT FLOW OR CAUSE EROSION OF DITCH/STREAM BANK.
  5. MIN. CLASS 54 DIP-ENGINEER MUST DESIGN LOADING.
  6. DESIGN SHALL BE APPROVED BY CFPWA.

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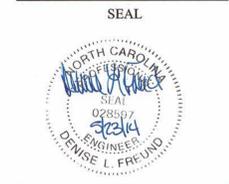
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FAMILY ACTIVITY  
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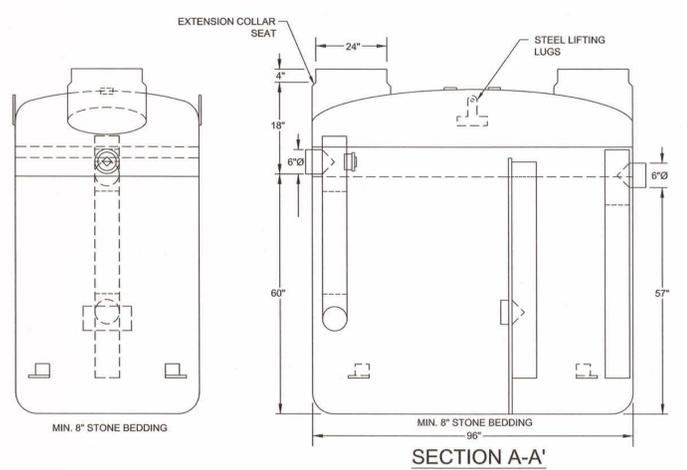
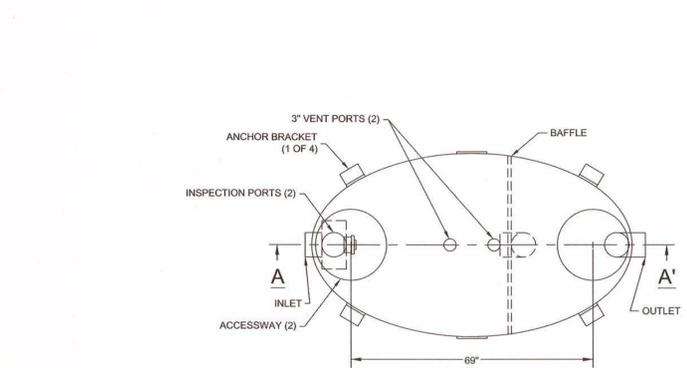
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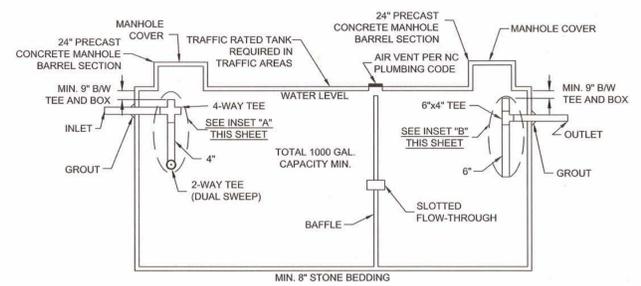
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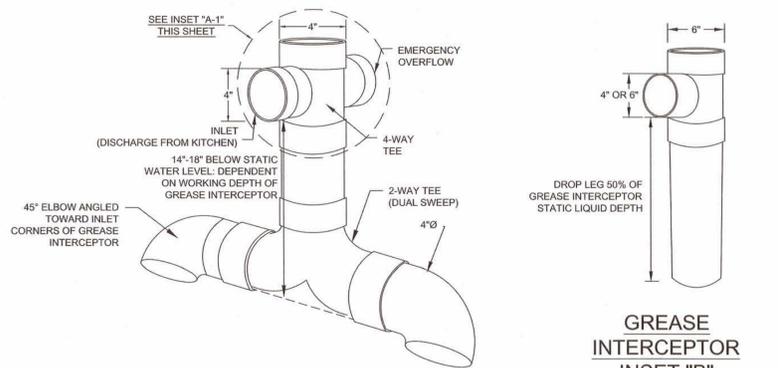


- NOTES:
- FOR GRAVITY APPLICATIONS ONLY
  - MIN. THICKNESS: 1/4" WALL AND 3/8" TOP AND BOTTOM BOWLS
  - STANDARD PIPE STUBS ARE SOCKET SDR 35 PVC
  - EXTENSION COLLARS SHALL BE CAULKED WITH SIKAFLEX OR EQUIVALENT FOR WATERTIGHT SEAL
  - FOLLOW MANUFACTURE'S SPECS FOR TRAFFIC OR PEDESTRIAN LOADING

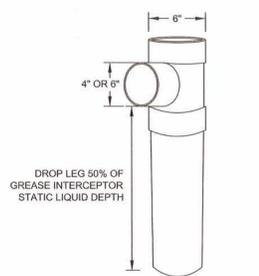
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NOT TO SCALE



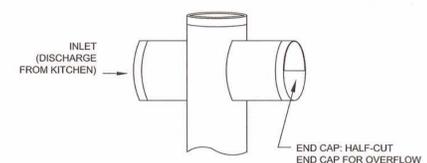
**CONCRETE GREASE INTERCEPTOR**  
NOT TO SCALE



**GREASE INTERCEPTOR INSET "A" 4" SANITARY TEE**  
NOT TO SCALE



**GREASE INTERCEPTOR INSET "B" 6" X 6" X 4" OUTLET SANITARY TEE**  
NOT TO SCALE



**GREASE INTERCEPTOR INSET "A-1" EMERGENCY OVERFLOW CLOSE-UP**  
NOT TO SCALE

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CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560		DRAWN BY: CFPPUA
Stewardship. Sustainability. Service.		CHECKED BY: CFPPUA
PROJECT NO.:		SHEET NO.:
		SSD-4

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SEAL



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**FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB**  
 1518 COUNTRY CLUB ROAD

Sheet Title

WATER DETAILS

Scale: AS SHOWN

Date: 05/23/14

Drawn By: HRW

Checked By: DLF

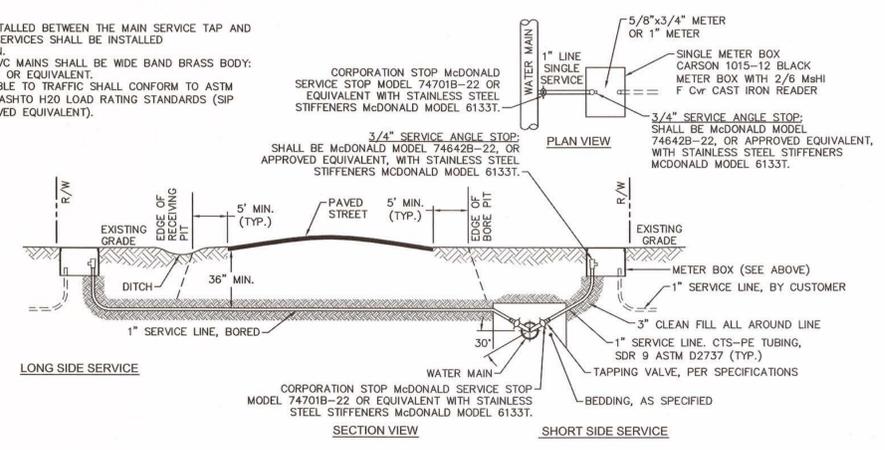
Job No.: 20130125.00.WL

Sheet Number

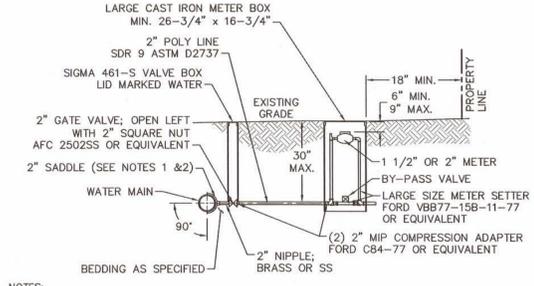
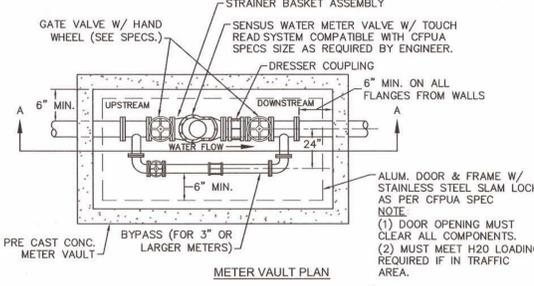
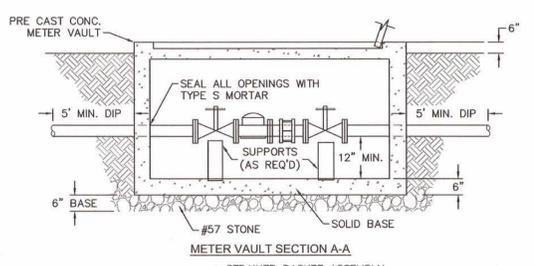
**C.18**

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

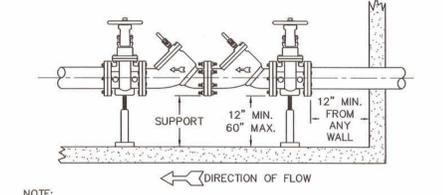
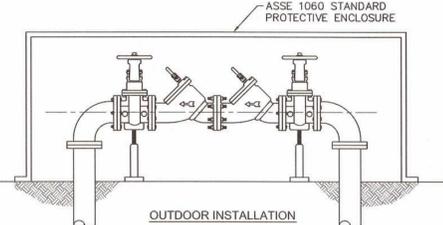
- NOTES:**
- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
  - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: SADDLE McDONALD 3801 OR EQUIVALENT.
  - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (SIP MODEL 4240 OR APPROVED EQUIVALENT).



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



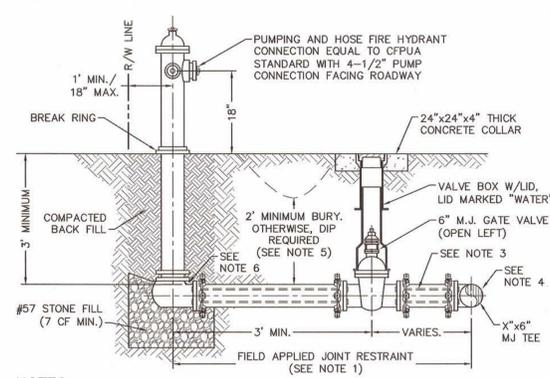
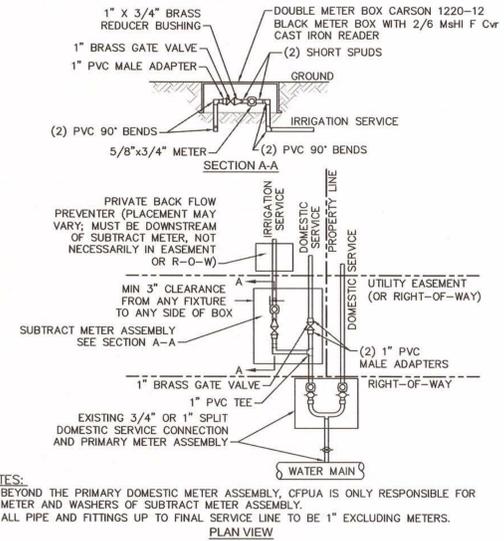
- NOTES:**
- ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
  - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: McDONALD 3800, FORD S90 (DOUBLE STRAP) OR EQUIVALENT.
  - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (DUCASTLE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



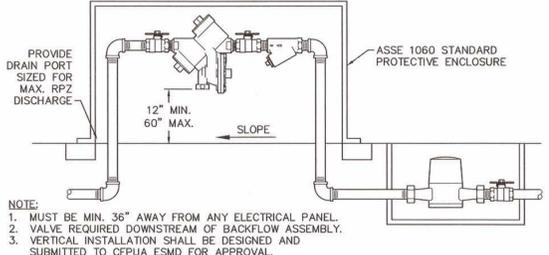
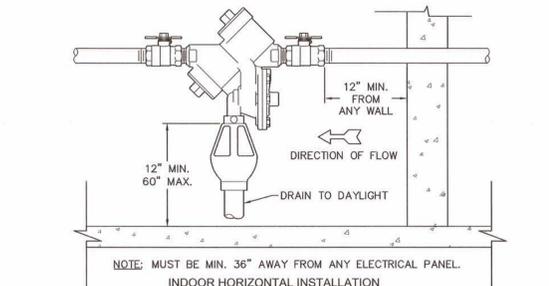
- NOTE:**
- MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
  - VALVE REQUIRED DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESMO FOR APPROVAL.

- GENERAL NOTES:**
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
  - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
  - THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
  - THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
  - 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 CFPWA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04**



- NOTES:**
- JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI OR C-900 PVC PIPE AS MANUFACTURED BY EBAA IRON, SIGMA, STAR PIPE PRODUCTS OR APPROVED EQUAL.
  - WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
  - 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.
  - HYDRANT TEE SHALL BE RESTRAINED ON EACH SIDE OF MAIN PLUS ANY VALVE, FITTING, OR JOINT IN MAIN WITHIN 10-FEET OF HYDRANT TEE.
  - HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
  - WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.



- NOTE:**
- MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
  - VALVE REQUIRED DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESMO FOR APPROVAL.

**CFPWA WATER DISTRIBUTION SYSTEM**

**STANDARD DETAILS**

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

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

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

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TYPE	DATE
SCHEMATIC DESIGN	12.18.13
DESIGN DEVELOPMENT	05.23.14
70% CD	-
PERMIT SET	-
FOR CONSTRUCTION	-

NO.	TYPE	DATE



**CHAMBERS ARCHITECTURAL ASSOCIATES**  
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 ARCHITECTURE  
 INTERIOR DESIGN  
 PURCHASING

**ARCHITECT & INTERIORS**  
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 1800 WASHINGTON BLVD.  
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 FAX: (410) 727-6982

**WK DICKSON**  
 community infrastructure consultants  
 Transportation + Water Resources  
 Urban Development + Geomatics

909 MARKET STREET  
 WILMINGTON, NC 28401  
 (t) (910) 762-4200  
 (f) (910) 762-4201  
 www.wkdickson.com  
 LICENSE NO. F-0374  
 DENISE L. FREUND, PE



**FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB**  
 1518 COUNTRY CLUB ROAD

Sheet Title

WATER DETAILS

Scale: AS SHOWN

Date: 05/23/14

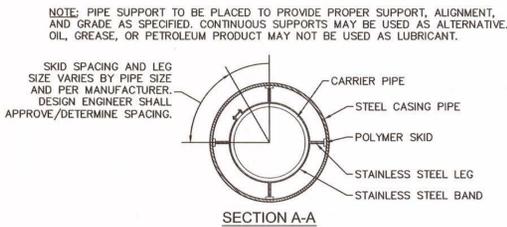
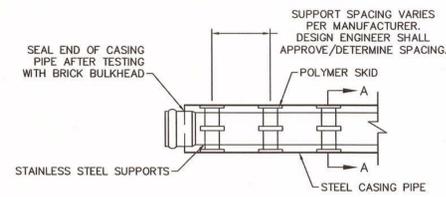
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Checked By: DLF

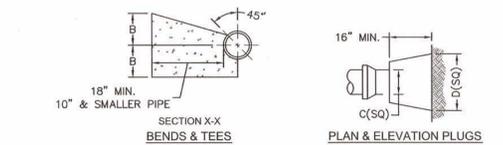
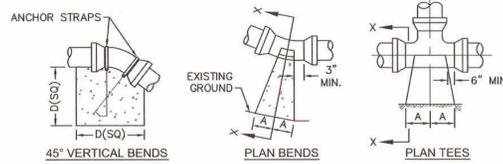
Job No.: 20130125.00.WL

Sheet Number

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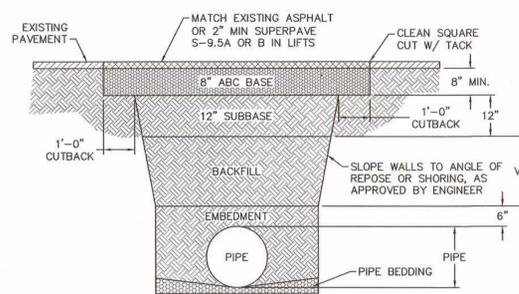
PIPE CASING SUPPORT DETAIL  
NOT TO SCALE



SIZE	90 BENDS		45 BENDS		22 1/2 BENDS		TEES/PLUGS		45 VERT. BENDS
	A	B	A	B	A	B	A	B	
3"	8"	6"	5"	6"	3"	7"	6"	8"	27"
4"	8"	9"	5"	8"	3"	11"	6"	9"	28"
6"	14"	11"	9"	9"	8"	8"	12"	9"	36"
8"	16"	16"	12"	12"	10"	13"	14"	13"	42"
10"	18"	22"	15"	14"	14"	16"	18"	15"	50"
12"	20"	28"	18"	17"	16"	16"	22"	18"	62"
14"	26"	29"	21"	19"	18"	18"	26"	20"	72"
16"	33"	29"	25"	21"	20"	21"	32"	21"	83"
18"	40"	30"	28"	24"	22"	23"	36"	24"	88"

- NOTES:  
 1. BASED ON 160 PSI TEST PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.  
 2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.  
 3. USE MEG-A-LUG (PREFERRED) IN LIEU OF BLOCKING AND RODDING.

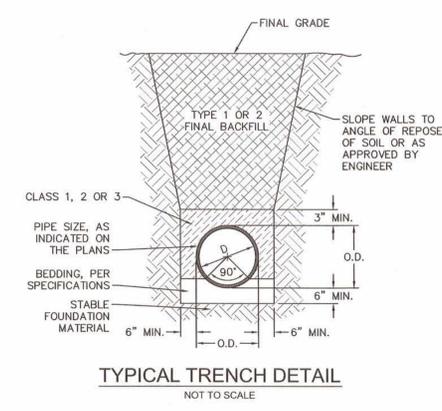
THRUST BLOCK DETAIL  
NOT TO SCALE



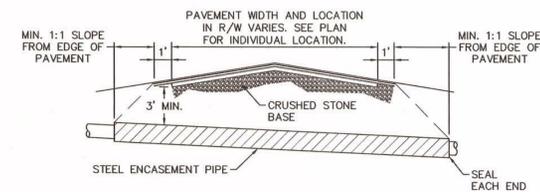
- NOTES:  
 1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.  
 2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).  
 3. 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)

PAVEMENT REPAIR WHERE PIPE INSTALLED  
NOT TO SCALE

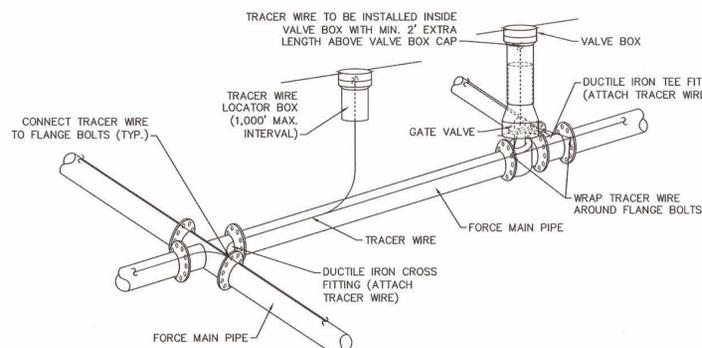


TYPICAL TRENCH DETAIL  
NOT TO SCALE



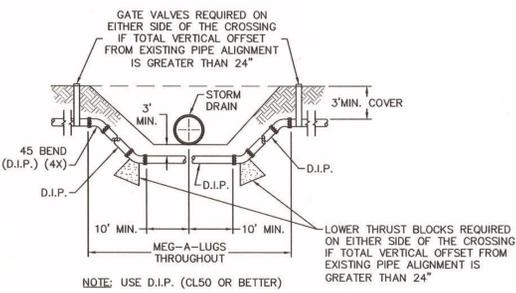
- NOTES:  
 1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.  
 2. TRACER WIRE SHALL BE CONTINUED THROUGH CASING.

TYPICAL BORING/JACKING DETAIL  
NOT TO SCALE

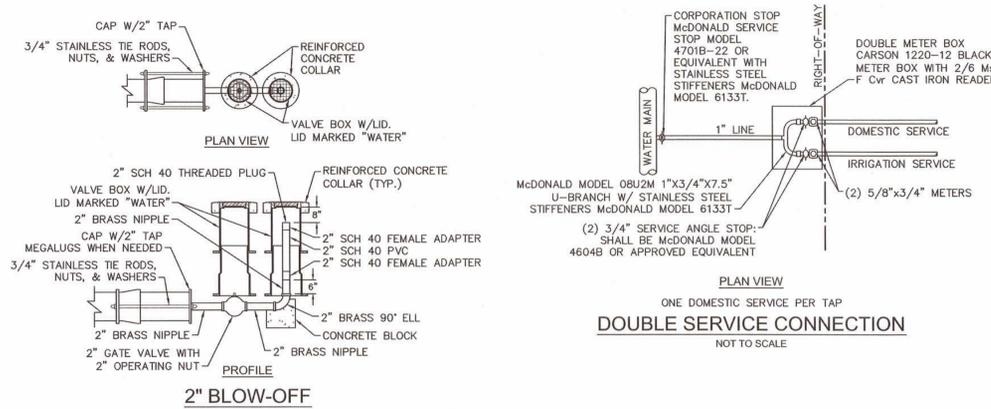


- NOTES:  
 1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION.  
 2. WIRE SHALL BE STRAPPED TO ALL PVC FORCE MAIN PIPING WITH DUCT TAPE AT 12"-FT. INTERVALS.  
 3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS.  
 4. ALL WIRE SPLICES SHALL HAVE WATER PROOF WIRE CONNECTIONS.

TRACER WIRE DETAIL  
NOT TO SCALE



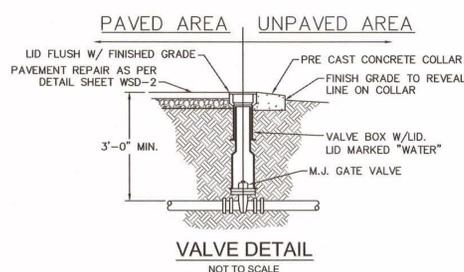
WATER MAIN DITCH AND STORM DRAIN CROSSING  
NOT TO SCALE



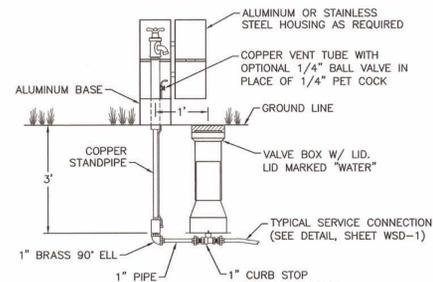
DOUBLE SERVICE CONNECTION  
NOT TO SCALE

- GENERAL NOTES:  
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 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 CFPWA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04



VALVE DETAIL  
NOT TO SCALE



SAMPLING STATION  
NOT TO SCALE

REV:	DESCRIPTION:	DATE:
1	Revised Water Main Ditch and Storm Crossing Detail	11/12/13

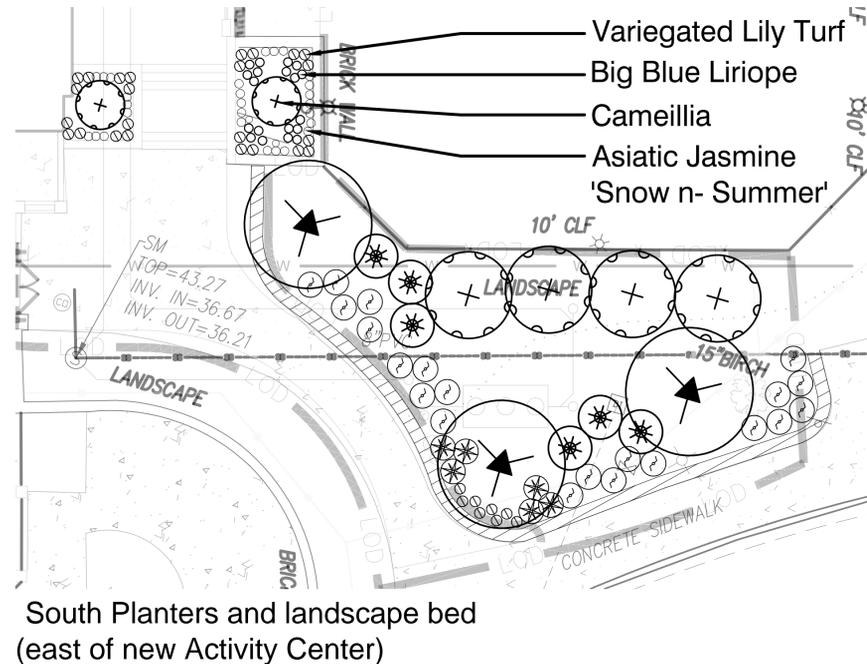
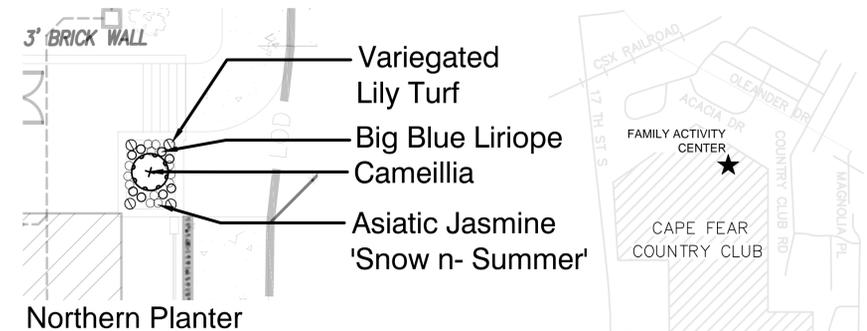
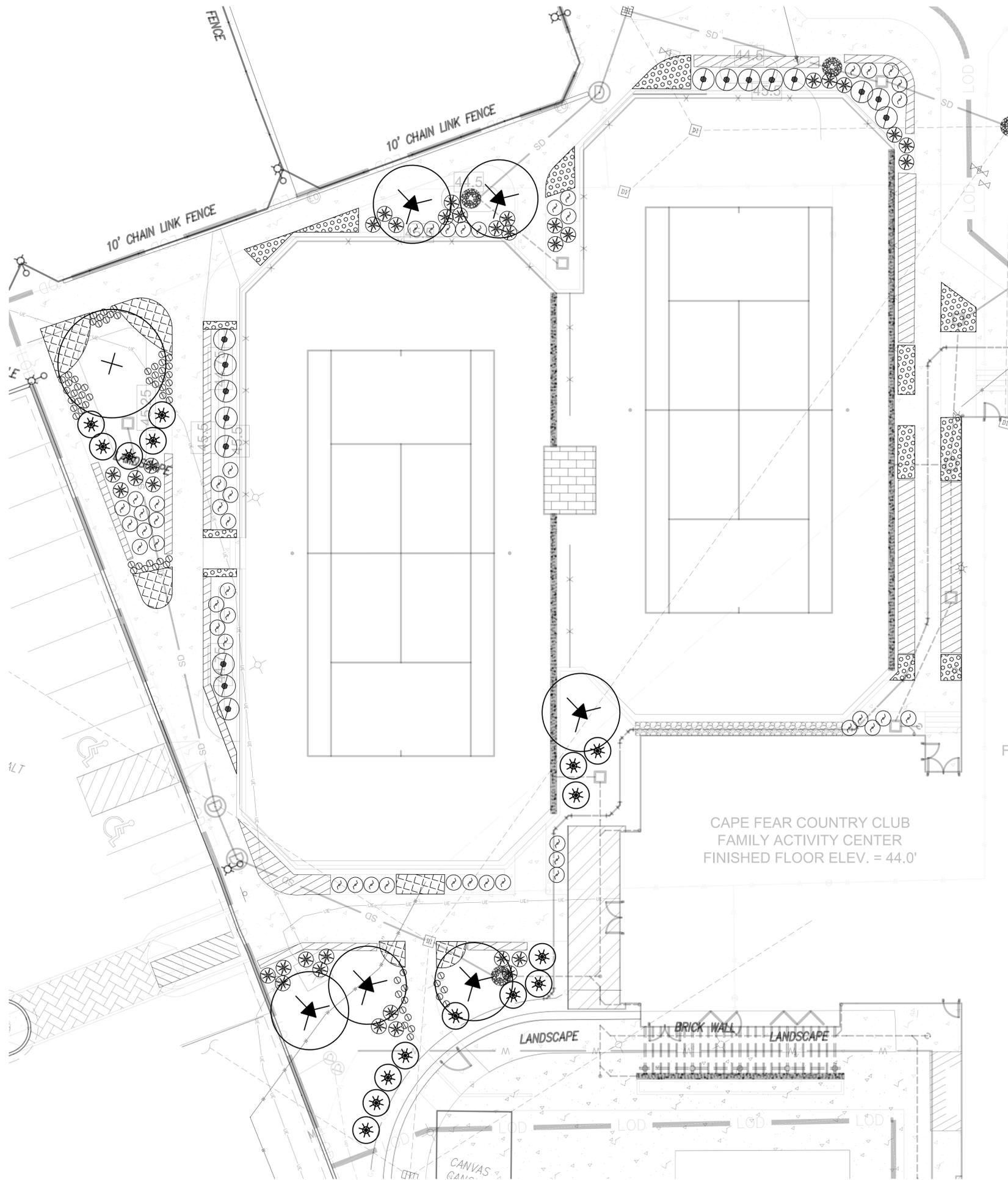
CFPUA WATER DISTRIBUTION SYSTEM

STANDARD DETAILS

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

DATE: 1/9/12  
 SCALE: N/A  
 DRAWN BY: CFPWA  
 CHECKED BY: CFPWA  
 PROJECT NO.:

SHEET NO.: WSD-2



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

City of Wilmington  
Public Services Engineering Division  
APPROVED DRAINAGE PLAN

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

City of Wilmington  
APPROVED CONSTRUCTION PLAN

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

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

**SageDesign**  
SageDesign PLLC  
Sara Burroughs, RLA  
228 North Front Street  
Suite 202D  
Wilmington, NC 28401  
Ph. (910) 232-3878  
sara@sagedesign.us

**BEFORE YOU DIG!  
CALL 1-800-632-4949  
N.C. ONE-CALL CENTER  
IT'S THE LAW!**

- PLANTING LEGEND**
- TREES**
- Live Oak High Rise  
Quercus virginiana High Rise  
10' High, 2.5 gallon min. Qty: 1
  - Crape Myrtle  
Lagerstroemia indica 'Natchez'  
6'10" High, multi-stem Qty: 8
- SHRUBS**
- Cameilla White  
Cameilla sasanqua 'Hana Aiman'  
(or other white variety)  
15 gal, 6'8" Hgt. Qty: 4
  - Cameilla White- for containers  
Cameilla sasanqua 'Hana Aiman'  
8 gallon 4' height Qty: 3
  - Gardenia Mead's Hardy  
Gardenia jasminoides 'Mead's Hardy'  
7 gal, 30" Ht, x 24" Sp. Qty: 58
  - Irishberry  
Ilex glabra  
5 gal, 30" Ht, x 24" Sp. Qty: 8
  - Dwarf Palm Yew  
Cephaelis thymifolia 'Intricate'  
3 gal, 12" Ht, x 12" Sp. Qty: 69
  - Purple Oriental Grass  
Perotisodon orientalis 'Kaley rose'  
3 gal, 12" Ht, x 12" Sp. Qty: 41
  - Blue gray sedge  
Carex glauca  
1.5 gal, 12" Ht, x 12" Sp. Qty: 65
  - Asiatic Jasmine 'snow n summer'  
Nandopogon asiaticum 'Hana snow n summer'  
1 gal Qty: 39
- GROUNDCOVERS AND MULCHES**
- Big Blue Liriope  
Liriope muscari 'Big blue'  
3648 or 1 gal divided @ 18" O.C.  
10,700 sf = 4790 plugs
  - Variegated Lily Turf  
Liriope muscari 'Variegated'  
Plugs or 1 Gal. divided @ 15" O.C.  
4330 sf = 2790 plugs
  - Seasonal Flowers to be determined by Staff  
& based upon installation season  
3190 sf @ 20" O.C. =
  - Dark Hardwood Mulch 3" deep - all beds

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**Issue**

TYPE	DATE
● SCHEMATIC DESIGN	12.18.13
● DESIGN DEVELOPMENT	05.23.14
70% CD	-
PERMIT SET	-
FOR CONSTRUCTION	-

**Revisions**

NO.	TYPE	DATE

SEAL

**CHAMBERS**  
ARCHITECTURAL ASSOCIATES

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ARCHITECTURE  
INTERIOR DESIGN  
PURCHASING

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community infrastructure consultants  
Transportation + Water Resources  
Urban Development + Geomatics

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WILMINGTON, NC 28401  
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(f) (910) 762-4201  
www.wkdickson.com  
LICENSE NO. F-0374

1896

**FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB**

Sheet Title

Landscape Plan

Scale: 1" = 10' - 0"

Date: 05/23/14

Drawn By: SLB

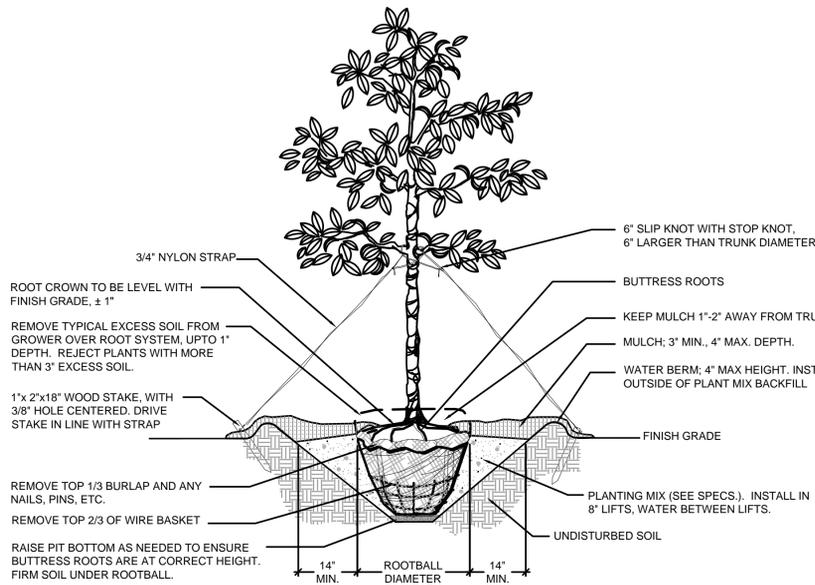
Checked By: SLB

Job No.:

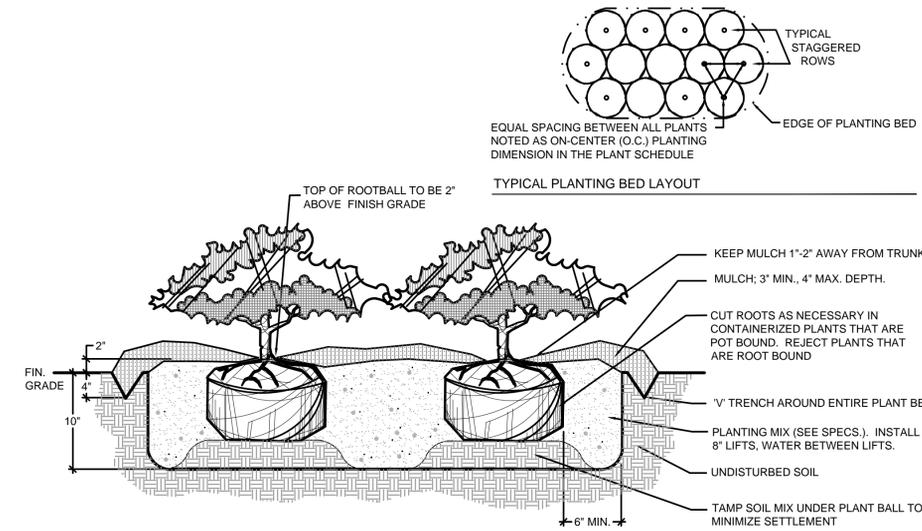
Sheet Number

**L01**

PRELIMINARY DESIGN - NOT RELEASED FOR CONSTRUCTION



**A** SINGLE STEM TREE INSTALLATION DETAIL  
SCALE: NTS



**B** SHRUB INSTALLATION DETAIL  
SCALE: NTS

**PLANT MATERIAL NOTES**

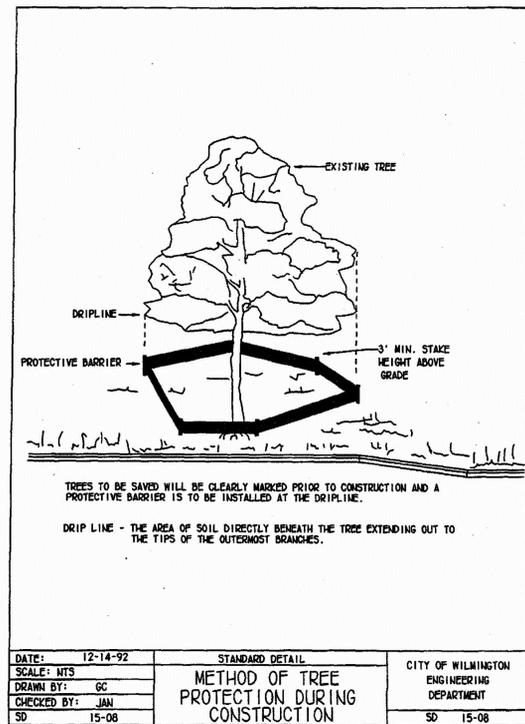
1. ALL PLANT MATERIAL SHALL CONFORM TO THE MOST CURRENT STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMAN.
2. CONTAINERIZED PLANTS SHALL HAVE A ROOT SYSTEM SUFFICIENT ENOUGH IN DEVELOPMENT TO HOLD THE SOIL INTACT WHEN REMOVED FROM THE CONTAINER. THE ROOT SYSTEM SHALL NOT BE ROOT BOUND, A CONDITION WHERE THE ROOT SYSTEM IS DENSE IN MASS, EXCESSIVELY INTERTWINED, AND HAS ESTABLISHED A CIRCULAR GROWTH PATTERN.
3. ALL PLANTS SHALL BE FRESHLY DUG, SOUND, HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.
4. PLANTS SHALL NOT BE PRUNED PRIOR TO DELIVERY UNLESS APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO SHIPMENT.
5. ALL TREE PITS, SHRUB BEDS AND PREPARED PLANTING BEDS ARE TO BE COMPLETELY EXCAVATED IN ACCORDANCE WITH THE PLANTING DETAILS.
6. TOPSOIL AMENDMENTS REQUIRED FOR SOIL MIXES SHALL BE PROVIDED BY CONTRACTOR AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. CONTRACTOR MUST LOAD, HAUL, MIX AND SPREAD ALL TOPSOIL AND OTHER SOIL ADDITIVES AS REQUIRED ON SITE.
7. CONTRACTOR SHALL VERIFY AND/OR AMEND ALL PLANTING SOILS TO ENSURE PROPER SUITABILITY INCLUDING STATE RECOMMENDED QUANTITIES OF NITROGEN, PHOSPHORUS, AND POTASH NUTRIENTS AND SOIL AMENDMENTS TO BE ADDED TO PRODUCE QUALITY PLANTING SOIL FOR ALL PLANT MATERIAL TO SURVIVE.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL PLANTING PITS PERCOLATE PROPERLY PRIOR TO PLANTING INSTALLATION.
9. SHRUBS, BULBS, AND GROUNDCOVERS SHALL BE TRIANGULARLY SPACED AT SPACING SHOWN ON PLANTING PLANS AND/OR IN THE PLANT SCHEDULE.
10. THE CONTRACTOR SHALL VERIFY EXTENT OF SEEDING OR SOD AREA WITH OWNER REPRESENTATIVE AND LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
11. INSTALLATION OF PLANT MATERIAL TO BE COMPLETED BY CITY CREW AND WILL BEGIN UPON COMPLETION OF PARKING LOT AND HARDSCAPE.
12. IRRIGATION LAYOUT AND PLAN BY OTHERS. NEW IRRIGATION LINES SHALL CONNECT TO THE EXISTING SYSTEM AND WATER SUPPLY AS INDICATED ON PLANS.

**TREE INSTALLATION NOTES**

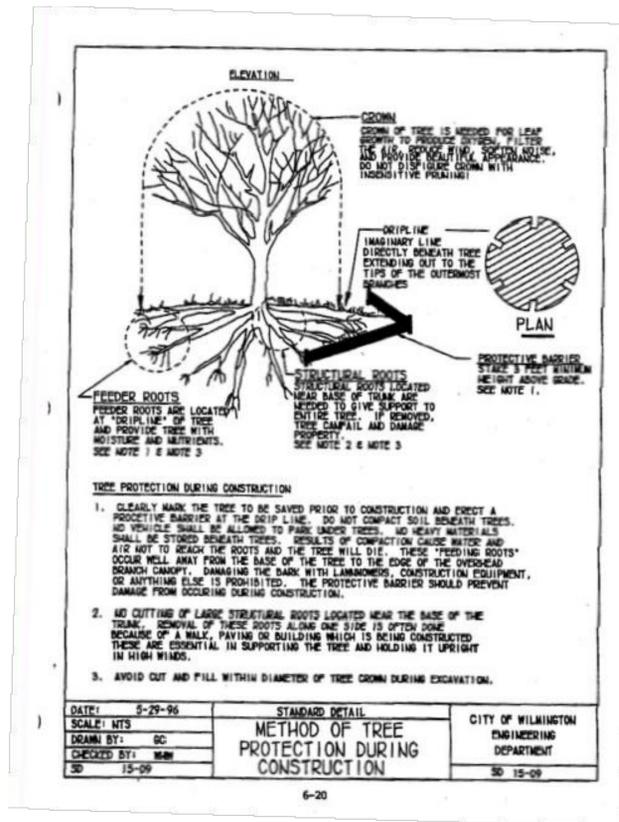
1. ALL TREES SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI, 1990, PART 1, "SHADE AND FLOWERING TREES").
2. TREES SUPPLIED MUST HAVE BEEN PROPERLY PLANTED AND GROWN IN THE NURSERY. THE ROOT CROWN (ALSO CALLED THE TRUNK FLARE) SHALL BE EVIDENT NEAR THE TOP OF THE GROUND. ANY EXCESS SOIL, UP TO 3 INCHES COVERING THE CROWN WILL HAVE TO BE REMOVED CAREFULLY BY HAND, IN ORDER TO PREVENT ROOT SCRAPES. THE TREE IS THEN TO BE PLANTED WITH THE ROOT CROWN IN PROPER RELATION TO THE SURROUNDING GRADE. ANY TREES WITH MORE THAN 3 INCHES OF SOIL ON TOP OF THE ROOT CROWN WILL BE REJECTED. THE NURSERY OWNERS MAY DIG OVERSIZE BALLS AND REMOVE THE SOIL IN ORDER FOR THE ROOT SYSTEM DIAMETER (WHICH IS THE REQUIRED ROOT BALL DIAMETER) TO MEET THE SPECIFICATION FOR THE TRUNK CALIPER REQUIRED.
3. BALL AND BURLAPPED (B&B) PLANTS MUST HAVE FIRM, NATURAL BALLS OF EARTH, OF DIAMETER NOT LESS THAN RECOMMENDED IN THE "TREE AND SHRUB TRANSPLANTING MANUAL", AND BE OF SUFFICIENT DEPTH TO INCLUDE THE FIBROUS AND FEEDING ROOTS. PLANTS MOVED WITH A BALL WILL NOT BE ACCEPTED IF THE BALL IS DRY, CRACKED OR BROKEN BEFORE OR DURING PLANTING OPERATIONS.
4. REMOVE ALL TREATED OR PLASTIC-COATED BURLAP, STRAPPING, WIRE OR NYLON TWINE FROM ROOT BALL. AFTER SETTING IN HOLE, CUT AWAY 2/3 OF WIRE BASKET, IF ANY, AND TOP 1/3 OF BURLAP.
5. SOAK ROOT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.
6. CONSTRUCT 4" HIGH SAUCER (WATER BERM) OUTSIDE OF PLANT MIX BACK FILL.
7. WHERE TREES ARE PLANTED IN ROWS, THEY SHALL BE UNIFORM IN SIZE AND SHAPE.
8. NO EXISTING TREES SHALL BE REMOVED WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER REPRESENTATIVE EXCEPT WHERE NOTED ON PLANS. NO GRUBBING SHALL OCCUR WITHIN EXISTING TREE AREAS.
9. THE CONTRACTOR SHALL STAKE THE LOCATIONS OF ALL PROPOSED TREES AND OBTAIN APPROVAL FROM THE LANDSCAPE ARCHITECT AND OWNER REPRESENTATIVE PRIOR TO INSTALLATION.
10. ALL TREES SHALL BE STAKED AT TIME OF INSTALLATION IN ACCORDANCE WITH PLANTING DETAILS.
11. THE CONTRACTOR SHALL ENSURE THAT TREES REMAIN VERTICAL AND UPRIGHT FOR THE DURATION OF THE GUARANTEE PERIOD.
12. STAKES FOR TREE SUPPORT SHALL BE CONSTRUCTED OF 2"x2" x18" UNTREATED PINE. GUYING FABRIC SHALL BE "ARBOR TAPE", AS MANUFACTURED BY NEPTCO, PAWTUCKET, RI. (401) 722-5500 (OR APPROVED EQUAL). COLOR SHALL BE OLIVE DRAB.

**SHRUB INSTALLATION NOTES**

1. CUT ROOTS AS NECESSARY IN CONTAINERIZED PLANTS THAT ARE POT BOUND. REJECT PLANTS THAT HAVE GIRDLED ROOT OR ARE BOUND.
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.



**C** CITY TREE PROTECTION FENCE DETAIL  
SCALE: NTS



DATE: 5-29-95	STANDARD DETAIL	CITY OF WILMINGTON
SCALE: NTS	METHOD OF TREE PROTECTION DURING CONSTRUCTION	ENGINEERING DEPARTMENT
DRAWN BY: GC		
CHECKED BY: SD		
SD 15-09		SD 15-09

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

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

**CITY OF WILMINGTON**  
NORTH CAROLINA  
Approved Construction Plan  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

See engineers demolition plans for tree protection locations

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**Issue**

TYPE	DATE
● SCHEMATIC DESIGN	12.18.13
● DESIGN DEVELOPMENT	05.23.14
70% CD	-
PERMIT SET	-
FOR CONSTRUCTION	-

**Revisions**

NO.	TYPE	DATE

SEAL

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**FC**  
1896  
FAMILY ACTIVITY CENTER - CAPE FEAR COUNTRY CLUB

Sheet Title

LANDSCAPE DETAILS

Scale: 1" = 10' - 0"  
Date: 05/23/14  
Drawn By: SLB  
Checked By: SLB  
Job No.:  
Sheet Number 20150725.00.WL

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