

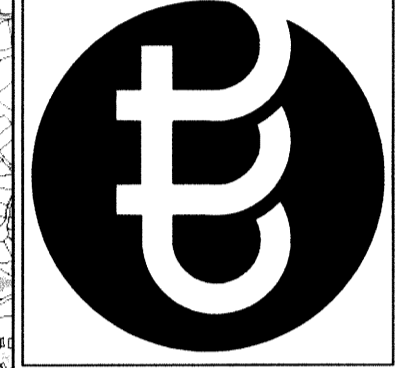


SPORTS CENTER

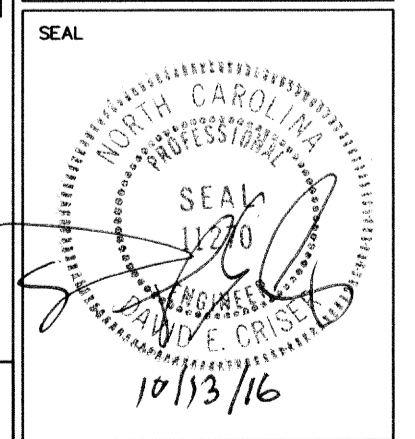
DATE	REVISIONS
10-10-16	1 TRC REVISIONS
10-13-16	2 GENERAL REVISIONS

CRISER TROUTMAN TANNER
CONSULTING ENGINEERS
3809 Peachtree Ave., Suite 402
Wilmington, NC 28403
910-397-2929 Ph.
www.ctt-engineering.com
Firm License Number: F-0113

CRISER TROUTMAN TANNER



PROJECT: LANDFALL SPORTS CENTER
ADDRESS: 1750 DRYSDALE DRIVE
WILMINGTON, NORTH CAROLINA 28405



DESIGNED BY: DEC
DRAWN BY: HWL
QUALITY CONTROL: DEC
SCALE: NOTED
FILE NUMBER: 7730.00
DATE: 08-26-16
COVER SHEET AND SITE INFORMATION
SHEET NUMBER: C0

EXISTING FITNESS CENTER
BUILDING FOOTPRINT = 15,603 SQ. FT.

EXISTING MECHANICAL YARD TO BE ENCLOSED
PROPOSED 510 SQ. FT. NEW ENCLOSED SPACE (NO ADDED FOOTPRINT)

EXISTING MECHANICAL YARD TO BE ENCLOSED
PROPOSED 310 SQ. FT. NEW ENCLOSED SPACE (NO ADDED FOOTPRINT)

NEW INTERNAL ADDITION: NEW FLAT ROOF & METAL ROOF
ADDITION FOOTPRINT = 913 SQ. FT.

NEW INTERNAL ADDITION: NEW FLAT ROOF
ADDITION FOOTPRINT = 515 SQ. FT.

EXISTING MECHANICAL YARD TO BE ENCLOSED
PROPOSED 703 SQ. FT. NEW ENCLOSED SPACE (NO ADDED FOOTPRINT)

NEW ADDITION: NEW FLAT ROOF
ADDITION FOOTPRINT = 90 SQ. FT.

ADDED FOOTPRINTS TO PROPERTY (ITEMS 3, 4 & 6) = 1,518 SQ.FT.
9.7% INCREASE TO EXISTING FOOTPRINT

EXISTING POOL FACILITIES, RENOVATED INTO KID'S CAMP
EXISTING FOOTPRINT 2,512
PROPOSED 960 SQ. FT. NEW ENCLOSED SPACE (NO ADDED FOOTPRINT)

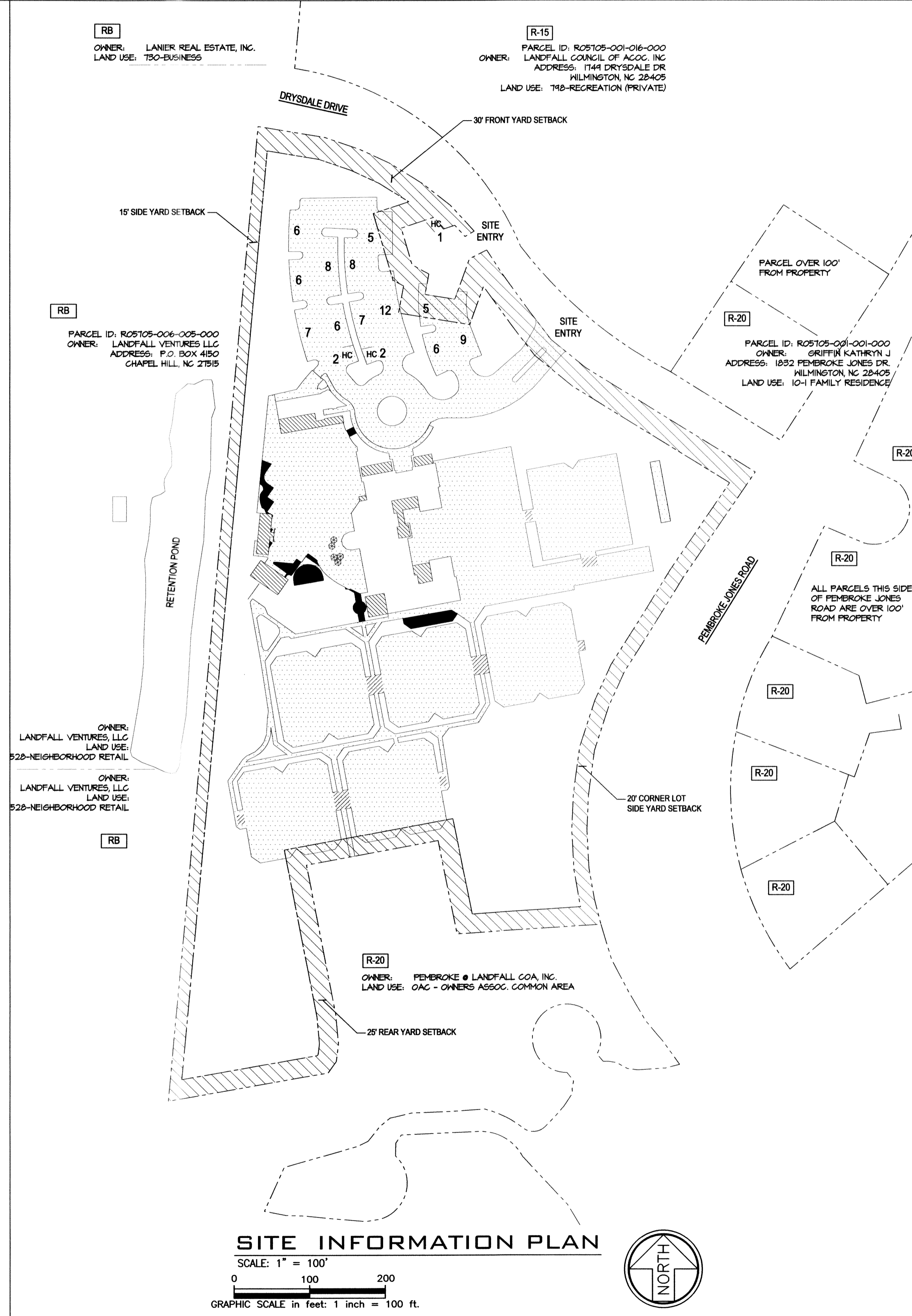
PROPOSED NEW POOL FACILITIES BUILDING
NEW BUILDING FOOTPRINT=828 SQ.FT.

EXISTING MAINTENANCE BUILDING (ACCESSORY BLDG)
BUILDING FOOTPRINT 525 SQ.FT.
PROPOSED NEW MAINTENANCE BUILDING ADDITION
ADDED BUILDING FOOTPRINT 830 SQ.FT.

EXISTING BUILDING FOOTPRINTS (A+B+D): 18,640 SQ.FT.
PROPOSED ADDED BUILDING FOOTPRINTS: 3,176 SQ.FT.
TOTAL: 21,816 (17.03% INCREASE)

LEGEND

- [R-20] ZONE CODE
- EXISTING SITE HARDSCAPE
- PROPOSED ADDED SITE HARDSCAPE
- PROPOSED NEW ENCLOSED SPACES
- SETBACK
- AREA OF WORK
- PROPERTY LINE



SITE INFORMATION PLAN
SCALE: 1" = 100'
GRAPHIC SCALE in feet: 1 inch = 100 ft.

DEVELOPMENT NAME: LANDFALL SPORTS CENTER
STREET ADDRESS: 1750 DRYSDALE DRIVE WILMINGTON, NORTH CAROLINA 28405

NEW HANOVER COUNTY TAX PARCEL IDENTIFICATION #(PARID): R05705-005-012-000
ALT ID 315710.46.8820.000

TOTAL SITE ACRES: 12.24 ACRES (533,174 SF)
ZONING DISTRICT(S): R-20
CLASS: COM-COMMERCIAL
CAMA LAND USE CLASSIFICATION: WATERSHED RESOURCE PROTECTION AREA
MUNICIPAL AREA: WM
FLOOD ZONE: (ZONE X) MINIMAL FLOOD RISK

CLIENT (Owner or Developer): COUNTRY CLUB OF LANDFALL
Name(s): JESSI REUTTER
Address: 800 SUN RUNNER PLACE WILMINGTON, NC 28405
Telephone: FAX: 910-256-8411
E-Mail Address: jessi.reutter@countrycluboflandfall.com

CONSULTANT/AGENT (Person to contact): DAVID E. CRISER
Address: 3809 PEACHTREE AVE., SUITE 102 WILMINGTON, NC 28403
Telephone: FAX: 910-397-2929 / 910-397-2971
E-Mail Address: dcriser@cttengineering.com

EXISTING BUILDINGS: 3
PROPOSED BUILDINGS: 1
TOTAL SITE BUILDINGS: 4

MAXIMUM ALLOWABLE BUILDING HEIGHT: 35 FT
TALLEST EXISTING BUILDING: 26 FT
TALLEST PROPOSED BUILDING: 19 FT

EXISTING BUILDING AREA: 18,640 SF
PROPOSED BUILDING AREA: 3,176 SF
TOTAL BUILDING AREA: 21,816 SF

REQUIRED YARD SETBACKS

FRONT:	30'
SIDE:	15'
CORNER:	20'
REAR:	25'

YARD SETBACK AREA

FRONT:	339'
SIDE:	50'
CORNER:	212'
REAR:	313'

PARKING

REQUIRED: MAX: 1 PER 200SF GFA (21,816 / 200) =	110
MIN: 1 PER 400SF GFA (21,816 / 400) =	55
EXISTING: REGULAR:	96
ACCESSIBLE:	5
TOTAL EXISTING PARKING:	101
PROPOSED:	0

BICYCLE PARKING

REQUIRED: FIRST 25 VEHICAL SPACES	5 BICYCLE SPACES
NEXT 100 VEHICAL SPACES	5 BICYCLE SPACES
TOTAL:	10 BICYCLE SPACES
EXISTING BICYCLE PARKING:	10 BICYCLE SPACES

IMPERVIOUS AREA

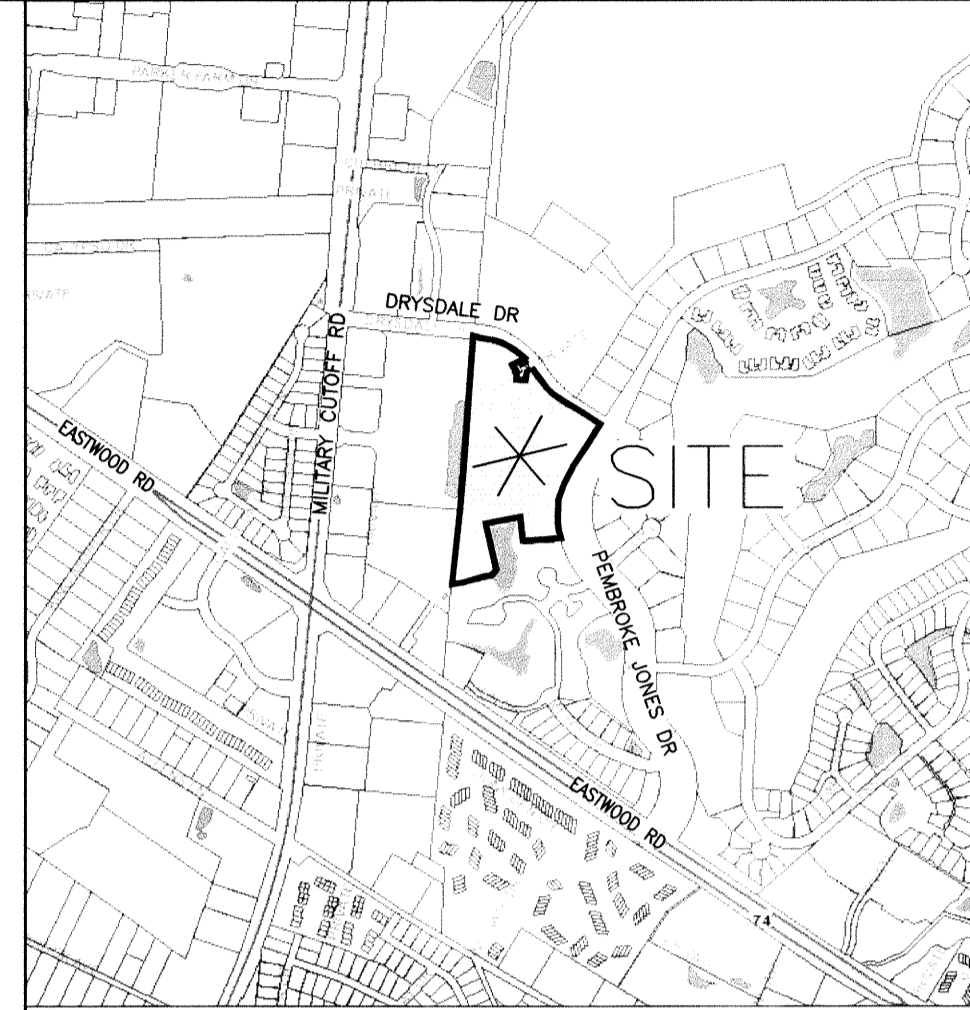
EXISTING FITNESS CENTER	15,603 SF
MAINTENANCE BLDG.	525 SF
POOL FACILITIES	2,512 SF
TOTAL (EX. BLDGS.)	18,640 SF
CONCRETE	156,862 SF
ASPHALT	49,650 SF
TOTAL EXIST. IMPERVIOUS:	225,152 SF

NEW ADDITIONS / BUILDINGS

FITNESS CENTER ADDITION	1,518 SF
MAINTENANCE BLDG. ADDITION	830 SF
POOL FACILITIES ADDITION	0 SF
NEW POOL FACILITIES	828 SF
TOTAL (NEW BLDGS.)	3,176 SF
CONCRETE	3,022 SF
ASPHALT	0 SF
TOTAL NEW IMPERVIOUS:	6,198 SF

LOT COVERAGE PERCENTAGE

ALLOWED:	50.00%
EXISTING:	42.23%
PROPOSED:	1.16%
TOTAL:	43.39%



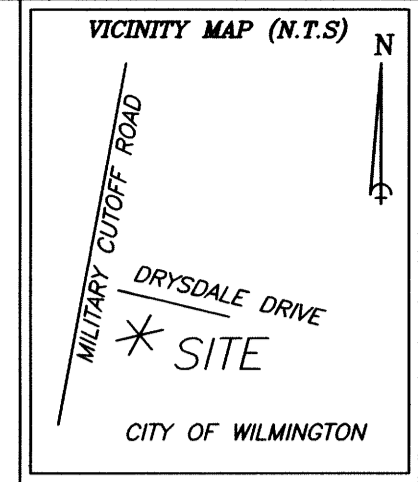
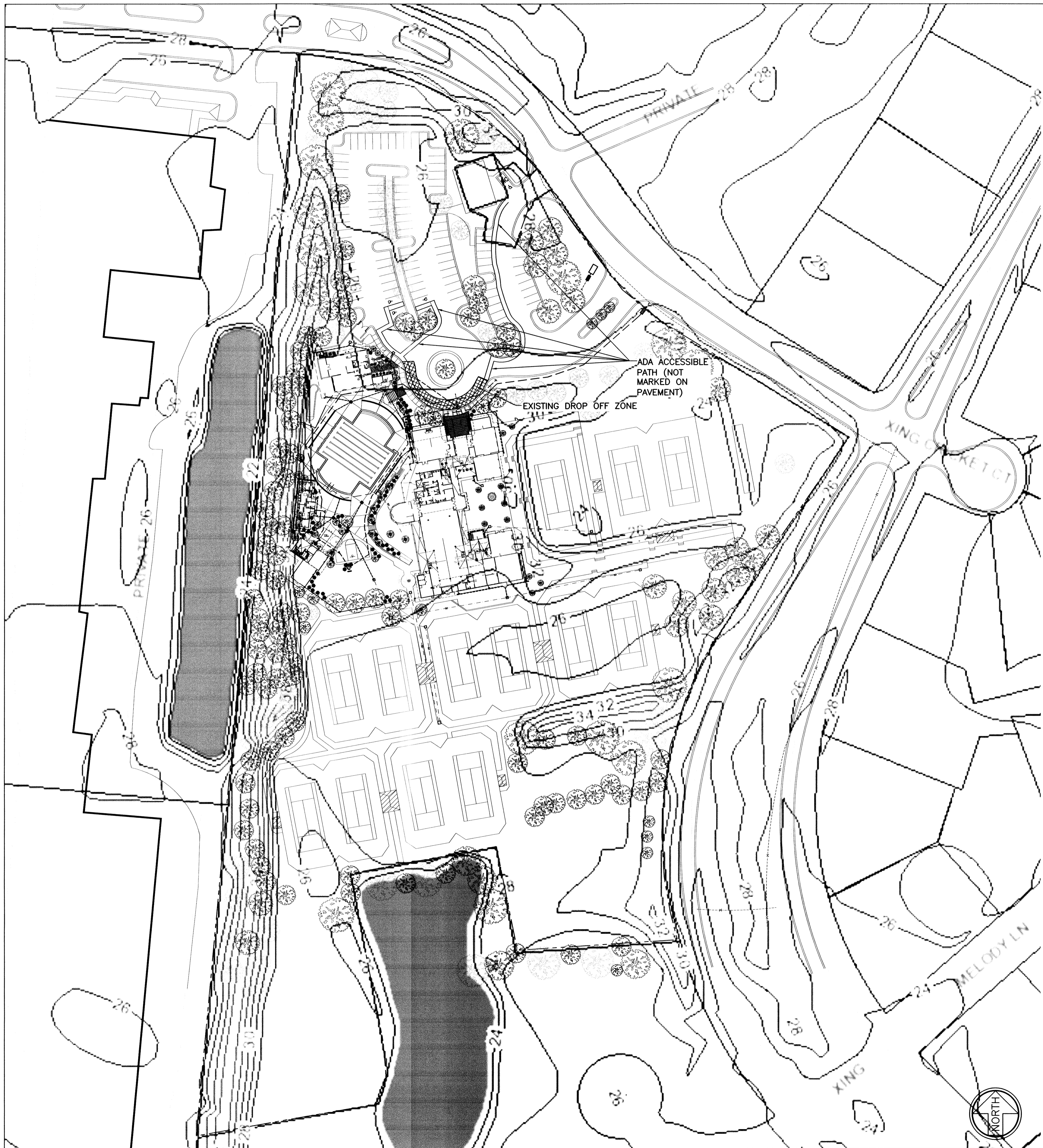
VICINITY MAP
SCALE: 1" = 1,000'
GRAPHIC SCALE in feet: 1 inch = 1000 ft.
NOTE: TAKEN FROM NEW HANOVER COUNTY GIS DATA

- SITE NOTES:**
- THERE IS NO CHANGE IN USE OF FACILITIES.
 - NO CHANGES ARE PROPOSED TO EXISTING PARKING AREAS.
 - NO CHANGES ARE PROPOSED TO EXISTING UTILITIES SERVICE CONNECTIONS
 - WATER SERVICE IS PROVIDED BY CFPWA.
 - WASTEWATER TREATMENT IS BY CFPWA.
 - NO CHANGES PROPOSED TO STREET/YARDS.
 - NO CHANGES ARE PROPOSED TO SETBACKS.
 - NO CHANGES ARE PROPOSED TO WATER USAGE ALLOCATIONS.
 - EXISTING SPOT ELEVATIONS PROVIDED BY FIELD SURVEY.
 - EXISTING CONTOURS TAKEN FROM NEW HANOVER COUNTY GIS DATA
 - EXISTING UTILITIES COVERED IN BLANKET EASEMENT.
 - LANDSCAPE CANNOT BLOCK OR IMPEDE ACCESS TO FDC OR FIRE HYDRANT. A 3' CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND THE FDC. SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND THE FDC.
 - ALL SIGNS & PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS. [DETAIL SD 15-13 CoFW TECH STDS.]
 - ALL TRAFFIC CONTROL SIGNS & MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
 - ALL PARKING STALL MARKINGS & LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
 - ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, & CURBING WILL BE REPLACED.
 - A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION & PARKS & RECREATION DEPARTMENT FOR REVIEW & APPROVAL PRIOR TO THE RECORDINGS OF THE FINAL PLAT.[SD 15-14 CoFW TECH STDS]
 - CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.

DRAWING INDEX	
SHT. NO.	TITLE
C0	COVER SHEET AND SITE INFORMATION
C1	PROPOSED SITE PLAN WITH EXISTING CONTOURS
C2	EXISTING SITE PLAN, TREE PROTECTION PLAN, AND PROPOSED SITE PLAN
C3	STORMWATER DEMO, GRADING, EROSION CONTROL AND STORMWATER PLANS
C4	UTILITY PLAN
C5	CIVIL DETAILS
C6	CIVIL DETAILS

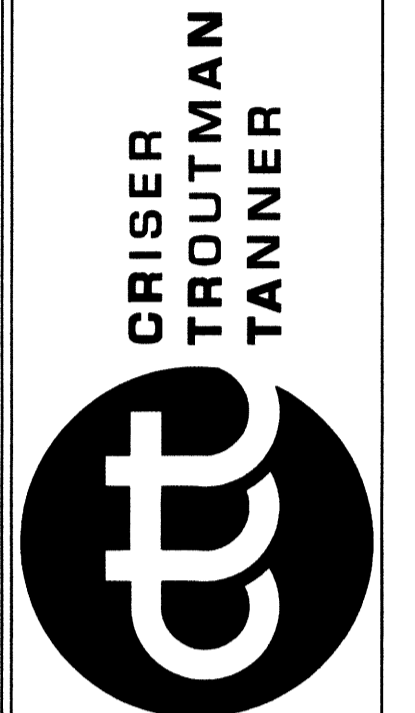
Designers Plan Certification:
"I hereby certify that this plan has been prepared in accordance with the latest New Hanover County Ordinances and Storm Water Design Manual."
Signature: _____
Printed Name and Title: _____
Date: _____
Registration Number: _____

Property Owner's Certification:
"I (we) hereby certify that I (we) am (are) the current owner of the property and that upon receipt of "Authorization-to-Construct" any clearing, grading, construction or development will be performed in accordance with this plan and that the applicable ordinances and rules of New Hanover County, the State of North Carolina and the Federal Government and its agencies which are hereby made part of this plan. As the owner, I (we) accept full responsibility for the construction and operation and maintenance of the proposed facilities. I (we) will not attempt to transfer this responsibility without the written authorization of New Hanover County."
Signature: _____
Printed Name and Title: _____
Date: _____



REVISIONS	DATE	NO.	BY	DESCRIPTION
	10-13-18	1	DEC	GENERAL REVISIONS

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CONSTRUCTION SEQUENCE:

1. REQUEST PRE-CONSTRUCTION CONFERENCE WITH NEW HANOVER COUNTY INSPECTOR.
2. INSTALL EROSION CONTROL DEVICES.
3. INSTALL STORM DRAIN LINES AND INLET PROTECTION IN THE SAME EFFORT TO MINIMIZE SEDIMENT.
4. COMMENCE GRADING OPERATIONS.
5. REMOVE ACCUMULATED SEDIMENT.
6. STABILIZE ALL DISTURBED AREAS AS SOON AS FINAL GRADES ARE ESTABLISHED.
7. REMOVE TEMPORARY CONTROL DEVICES (SILT FENCE, ETC.) ONCE PERMANENT VEGETATIVE COVER IS ESTABLISHED.

GRADING NOTES:

1. INITIATE CONSTRUCTION SEQUENCE BEFORE BEGINNING CLEARING AND GRADING OPERATIONS.
2. CLEAR AREAS TO BE GRADED OF ALL VEGETATION. PROTECT VEGETATION BEYOND GRADING LIMITS.
3. STRIP TOPSOIL TO FULL AREAS TO BE GRADED AND STOCKPILE OR REMOVE FROM SITE.
4. COMPACT ALL FILL AREAS TO 95% OF MAXIMUM DENSITY.
5. ALL BANKS AND SWALE SIDE SLOPES SHALL BE GRADED WITH NO STEEPER THAN 3:1 SLOPES.
6. PROPOSED SPOT ELEVATIONS ARE SHOWN AT FINISHED GRADE.
7. OPERATOR SHALL VERIFY EXISTING TOPOGRAPHY IN RELATION TO THE PROPOSED GRADES TO ENSURE DRAINAGE IN THE DIRECTIONS INDICATED ON THE PLAN.

EROSION CONTROL:

1. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION AND IS SUBJECT TO A FINE.
2. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY FIELD INSPECTOR, ENGINEER, AND OWNER.

GROUND STABILIZATION REQUIREMENTS		
Site Area Description	Stabilization	Timeframe Exceptions
Perimeter dikes, swales, ditches, and slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length & are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

MAINTENANCE PLAN:

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. SEDIMENT TRAPS SHALL BE CLEANED OUT WHEN THEY ARE HALF FULL.
3. ALL SEEDED AREAS WILL BE FERTILIZED, RESEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
4. CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS DEPOSITED ON THE ASPHALT AND STONE WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN 6" DEPTH.
5. SEDIMENT WILL BE REMOVED FROM BEHIND WATTLES WHEN IT BECOMES ABOUT 1/2 FULL AT THE WATTLE. THE WATTLE SHALL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.

SITE NOTES:

1. THE CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE THEMSELVES WITH FIELD CONSTRUCTION CONDITIONS.
2. BORROW MATERIAL: ALL BORROWED MATERIAL MUST COME FROM A LEGALLY OPERATED MINE OR OTHER SOURCE APPROVED BY NEW HANOVER COUNTY.
3. CLEARED, GRUBBED, STRIPPED, OR EXCAVATED SPOIL SHALL BE REMOVED FROM THE SITE OR USED IN LANDSCAPED ISLANDS.

SEEDING SPECIFICATIONS:

LIME: APPLY 100 POUNDS PER 1,000 SQUARE FEET
 FERTILIZER: APPLY 20 POUNDS 8-8-8 PER 1,000 SQUARE FEET
 SEED (NON-NC DOT RIGHT OF WAY): PER ACRE

NOVEMBER-MARCH	
BERMUDA (UNHULLED)	20 LBS.
WINTER RYE (GRAIN)	50 LBS.
FESCUE	80 LBS.
MARCH-NOVEMBER	
BERMUDA (HULLED)	30 LBS.
FESCUE	80 LBS.

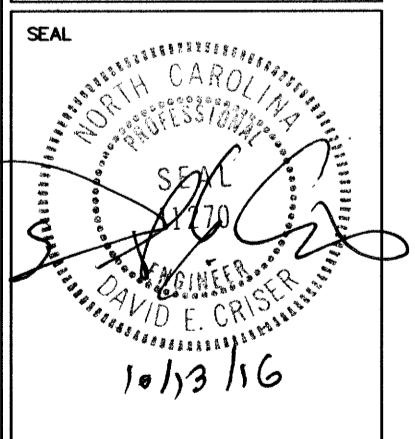
MULCH: APPLY 1-1/2 TONS/ACRE WHEAT STRAW (OR APPROVED EQUAL) ON ALL SEEDED AREAS.
 TACK: ALL SLOPES WITH STRAW MULCH EXCEEDING 3:1 TO HAVE ASPHALT TACK APPLIED AT THE RATE OF 225 GALLONS/ACRE.
 * AFTER SOIL PREPARATION AND SEEDING, INSTALL JUTE MATTING, OR EQUAL ON ALL DISTURBED AREAS.
 * MAINTAIN SEEDED AREAS UNTIL MINIMUM GROWTH IS ESTABLISHED AND/OR FOR CONTRACT TIME.

NOTE:
EXISTING CONTOURS TAKEN FROM
NEW HANOVER COUNTY GIS DATA
CONTOUR PLAN
SCALE: 1" = 60'
0 60 120
GRAPHIC SCALE in feet: 1 inch = 60 ft.

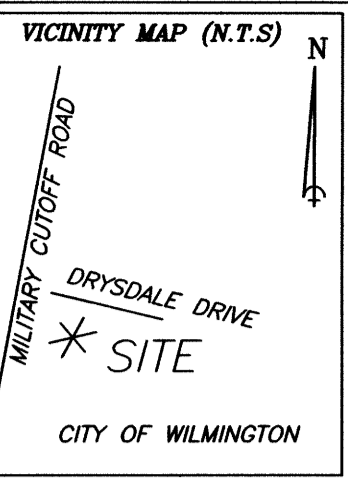
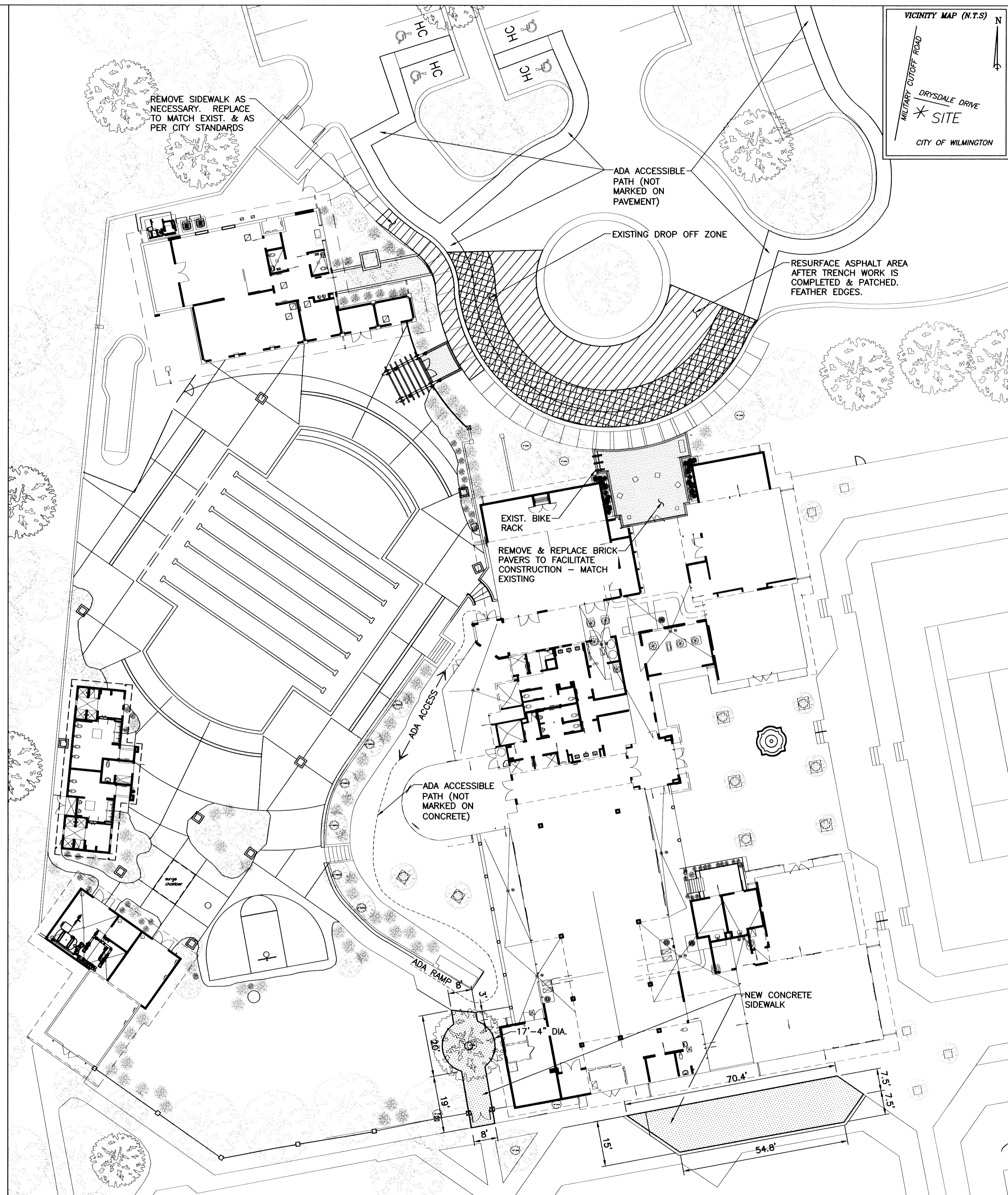
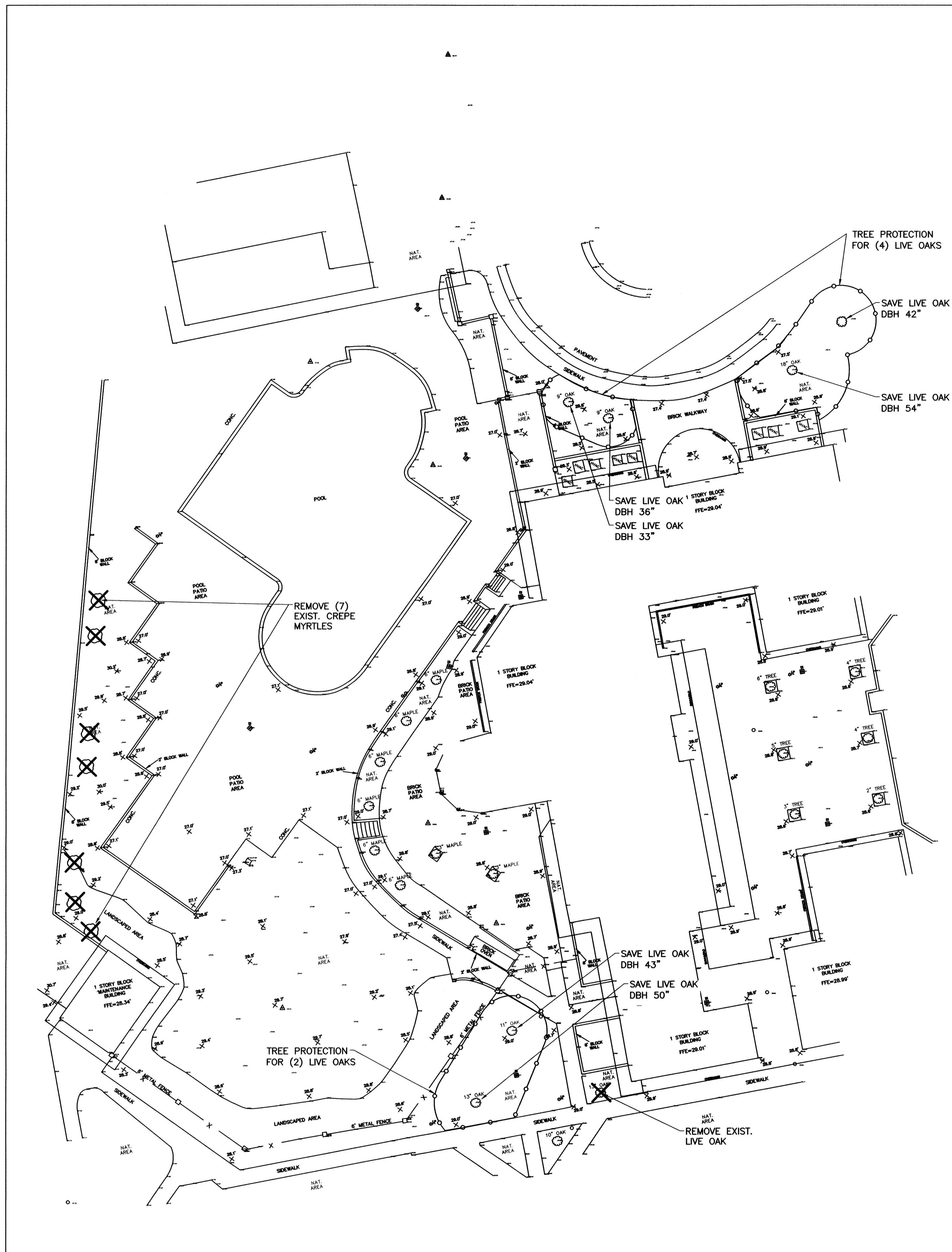
Designers Plan Certification:
I hereby certify that this plan has been prepared in accordance with the latest New Hanover County Ordinances and Storm Water Design Manual.
Signature: _____
Printed Name and Title: _____ Date: _____
Registration Number: _____

Property Owner's Certification:
I (we) hereby certify that I (we) am (are) the current owner of the property and that upon receipt of "Authorization-To-Construct" any clearing, grading, construction or development will be performed in accordance with this plan and that the applicable ordinances and rules of New Hanover County, the State of North Carolina and the Federal Government and its agencies which are hereby made part of this plan. As the owner, I (we) accept full responsibility for the construction and operation and maintenance of the proposed facilities. I (we) will not attempt to transfer this responsibility without the written authorization of New Hanover County.
Signature: _____
Printed Name and Title: _____ Date: _____

PROJECT: **LANDFALL SPORTS CENTER**
ADDRESS: 1750 DRYSDALE DRIVE
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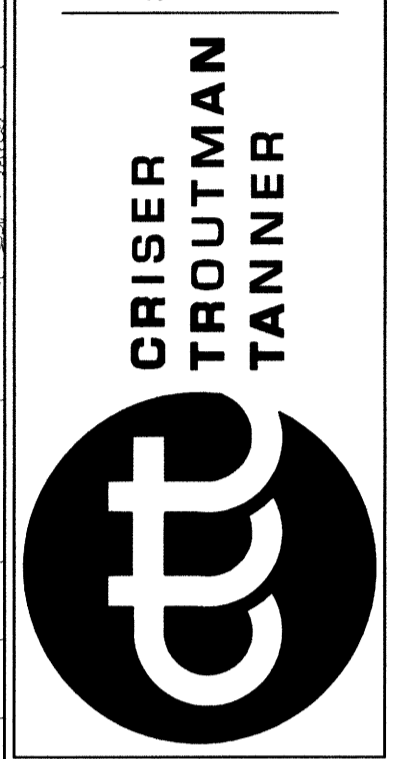


DESIGNED BY: DEC
 DRAWN BY: HWL
 QUALITY CONTROL: DEC
 SCALE: NOTED
 FILE NUMBER: 7730.00
 DATE: 08-26-16
PROPOSED SITE PLAN WITH EXISTING CONTOURS
 SHEET NUMBER:
C1

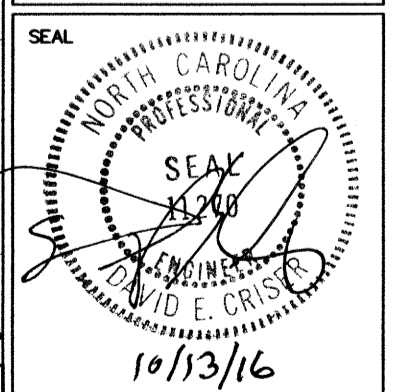


REVISIONS	DATE	BY	COMMENT
1	10-13-16	SEAN	GENERAL REVISION
2	10-13-16	SEAN	GENERAL REVISION
3	10-13-16	SEAN	GENERAL REVISION

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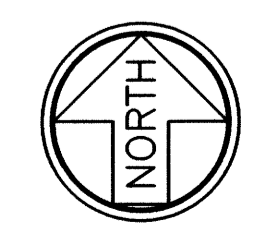
PROJECT: **LANDFALL SPORTS CENTER**
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NOTE:
TOPOGRAPHICAL DATA BASED ON PRELIMINARY SURVEY
BY GEOINOVATIONS. SURVEY NOT FINALIZED.

**EXISTING SITE PLAN,
TREE PROTECTION, &
TREE REMOVAL PLAN**

SCALE: 1" = 20'
GRAPHIC SCALE in feet: 1 inch = 20 ft.



NOTES:
1. CONTRACTOR TO REMOVE AND REPLACE ALL SURFACES (CONCRETE, ASPHALT, PAVERS, GRASS, POOL DECK, ETC.) DISTURBED FOR THE SITE WORK CONSTRUCTION.

LEGEND

- REMOVE TREE
- TEMPORARY TREE PROTECTION FENCING
- REPLACE / RESURFACE CONCRETE / ASPHALT
- NEW CONCRETE SIDEWALK

PROPOSED SITE PLAN

SCALE: 1" = 20'
GRAPHIC SCALE in feet: 1 inch = 20 ft.

NOTE: SEE C1 FOR NOTES: CONSTRUCTION SEQUENCE, GRADING, MAINTENANCE PLAN, SITE, & SEEDING SPECIFICATIONS

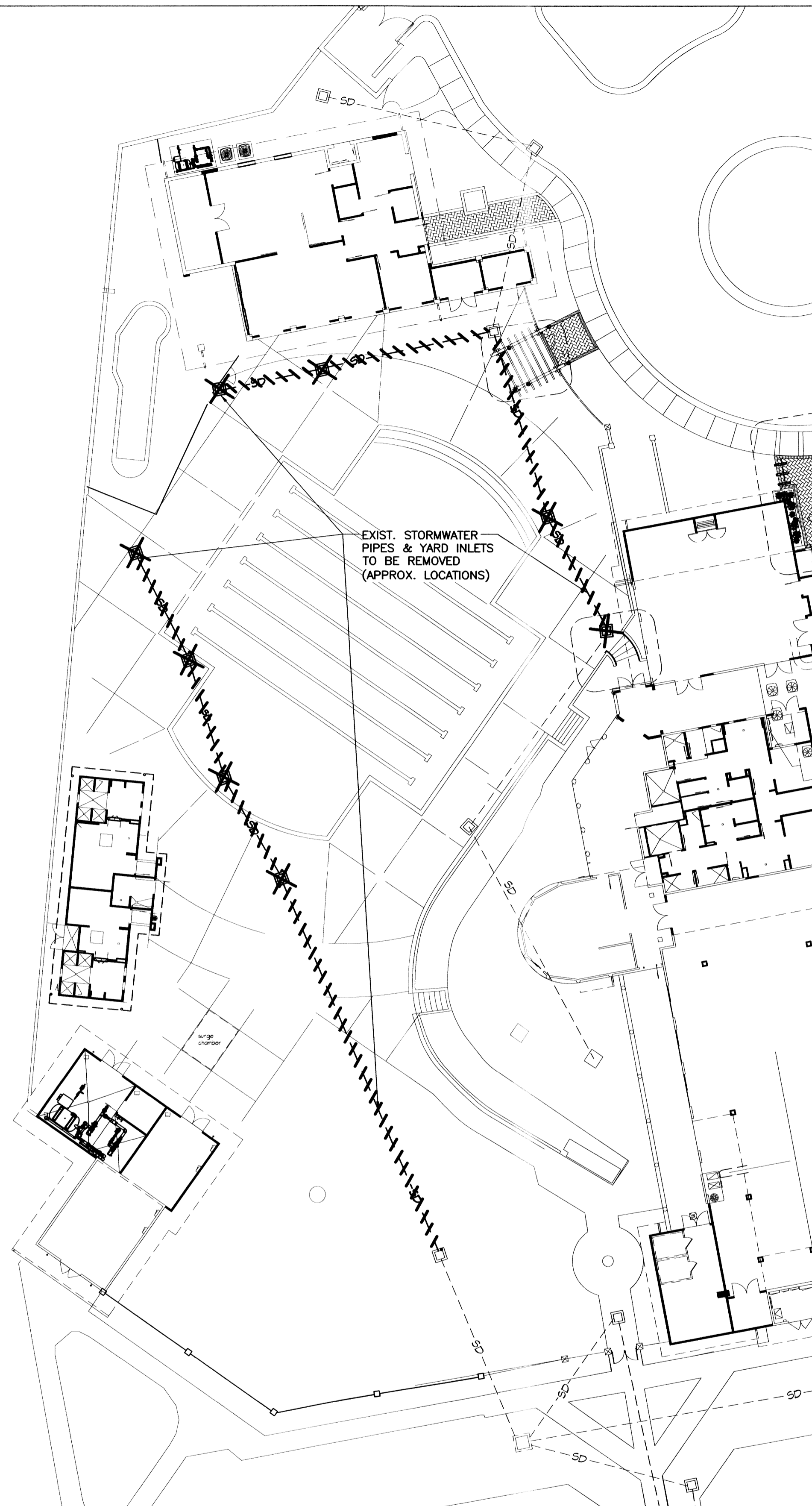
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Signature: _____
Printed Name and Title: _____
Date: _____
Registration Number: _____

Property Owner's Certification:
I hereby certify that I (we) am (are) the current owner of the property and that upon receipt of "Authorization-to-Construct" any clearing, grading, construction or development will be performed in accordance with this plan and that the applicable ordinances and rules of New Hanover County, the State of North Carolina and the Federal Government and its agencies which are hereby made part of this plan. As the owner, I (we) accept full responsibility for the construction and operation and maintenance of the proposed facilities. I (we) will not attempt to transfer this responsibility without the written authorization of New Hanover County.

Signature: _____
Printed Name and Title: _____
Date: _____

DESIGNED BY: DEC
DRAWN BY: HWL
QUALITY CONTROL: DEC
SCALE: NOTED
FILE NUMBER: 7730.00
DATE: 08-04-16
EXISTING SITE PLAN & TREE PROTECTION PLAN & PROPOSED SITE PLAN
SHEET NUMBER:
C2

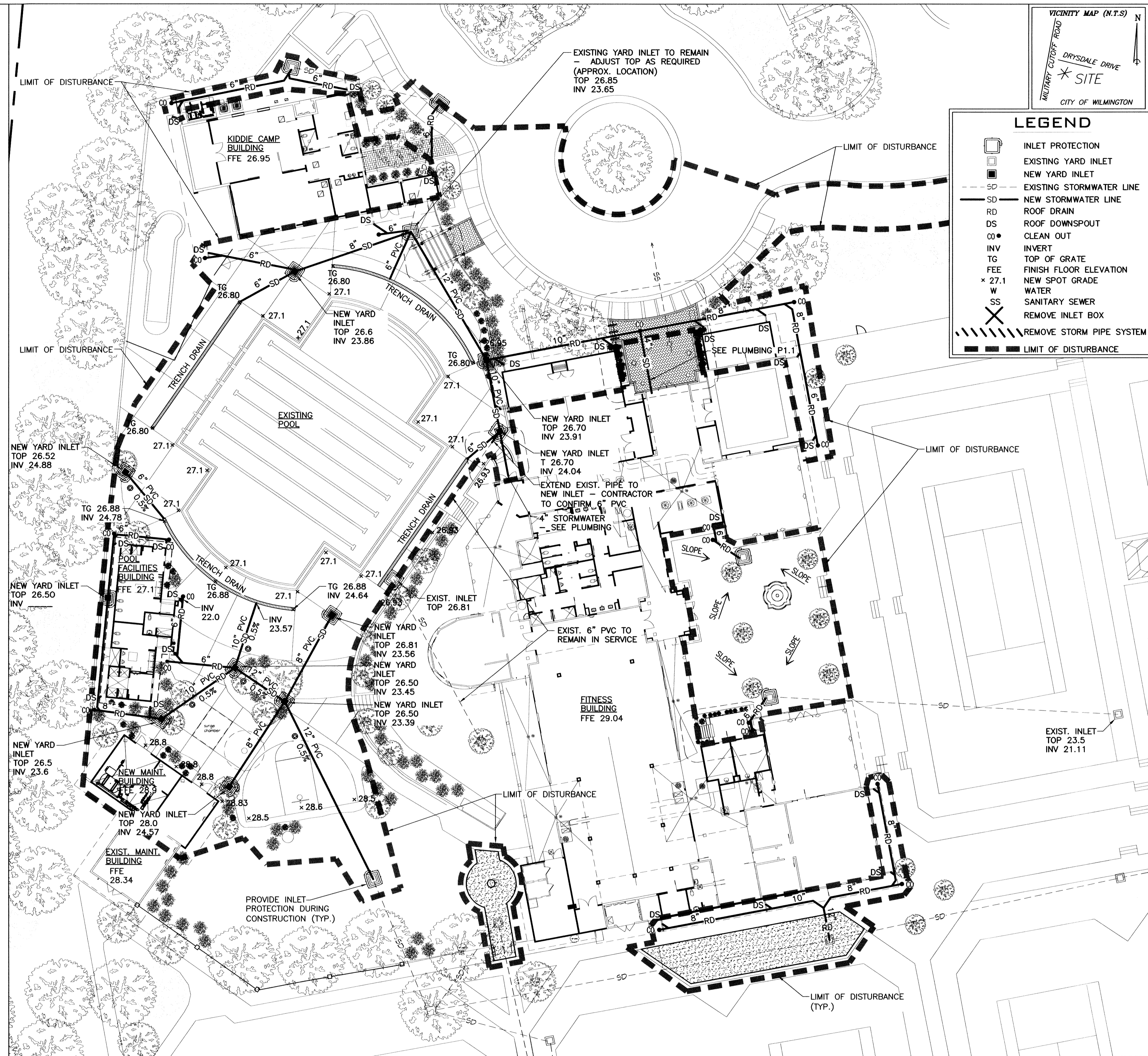


STORMWATER DEMOLITION PLAN

SCALE: 1" = 20'
 GRAPHIC SCALE in feet: 1 inch = 20 ft.

NOTES:

1. CONTRACTOR TO REMOVE AND REPLACE ALL SURFACES (CONCRETE, ASPHALT, PAVERS, GRASS, POOL DECK, ETC.) DISTURBED FOR THE SITE WORK CONSTRUCTION.
2. CONTRACTOR TO PROVIDE SOD OR RESTORE LANDSCAPE AREAS AS DIRECTED BY OWNER.
3. CONTRACTOR TO PREVENT EROSION AND SEDIMENTATION INTO THE POOL WATER.
4. CONTRACTOR TO SLOPE ALL AREAS FOR POSITIVE DRAINAGE.
5. CONTRACTOR TO CONFIRM ALL ELEVATIONS OF EXISTING UTILITIES AND YARD INLETS TO CONFIRM THAT PROPOSED GRADES AND SLOPES ARE CORRECT PRIOR TO CONSTRUCTION.



GRADING, EROSION CONTROL, AND STORMWATER PLAN

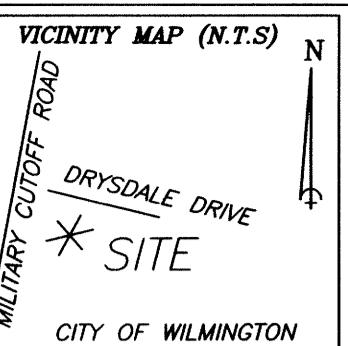
SCALE: 1" = 20'
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DISTURBED AREA = 0.98 ACRES

NOTE: SEE C1 FOR NOTES:
 CONSTRUCTION SEQUENCE,
 GRADING, MAINTENANCE PLAN,
 SITE, & SEEDING SPECIFICATIONS

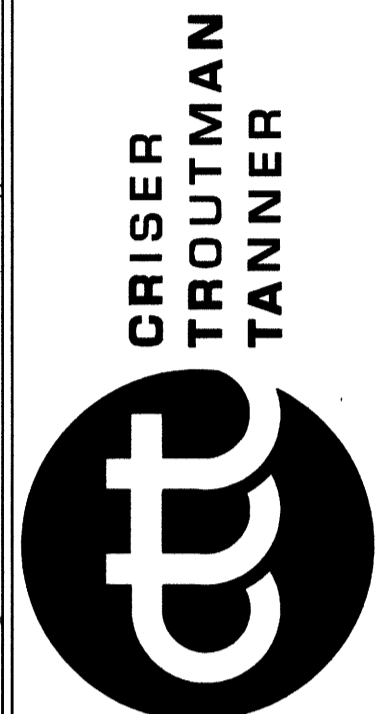
LEGEND

- INLET PROTECTION
- EXISTING YARD INLET
- NEW YARD INLET
- EXISTING STORMWATER LINE
- NEW STORMWATER LINE
- RD ROOF DRAIN
- DS ROOF DOWNSPOUT
- CO CLEAN OUT
- INV INVERT
- TG TOP OF GRATE
- FEE FINISH FLOOR ELEVATION
- x 27.1 NEW SPOT GRADE
- W WATER
- SS SANITARY SEWER
- X REMOVE INLET BOX
- REMOVE STORM PIPE SYSTEM
- LIMIT OF DISTURBANCE

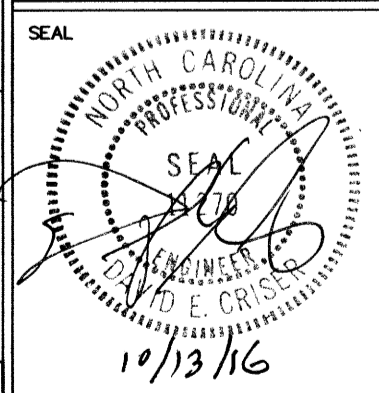


NO.	DATE	REVISIONS
1	10-10-17	ISSUE FOR PERMITS
2	10-13-18	GENERAL REVISIONS

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 CONSULTING ENGINEERS
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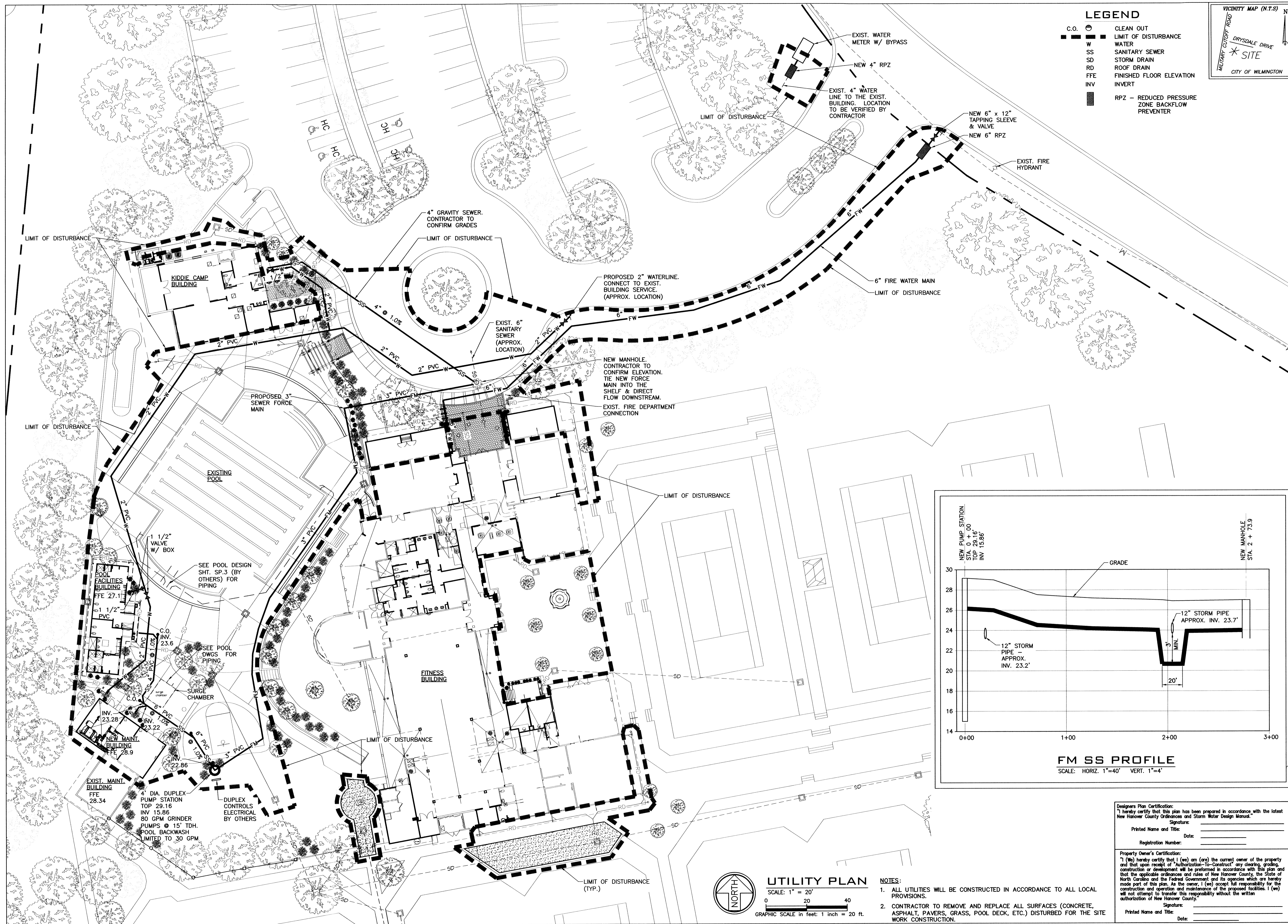
Designer's Plan Certification:
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Signature: _____
 Printed Name and Title: _____
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Property Owner's Certification:
 I (we) hereby certify that I (we) am (are) the current owner of the property and that upon receipt of Authorization-to-Construct any clearing, grading, construction or development will be performed in accordance with this plan and that the applicable ordinances and rules of New Hanover County, the State of North Carolina and the Federal Government and its agencies which are hereby made part of this plan. As the owner, I (we) accept full responsibility for the construction and operation and maintenance of the proposed facilities. I (we) will not attempt to transfer this responsibility without the written authorization of New Hanover County.

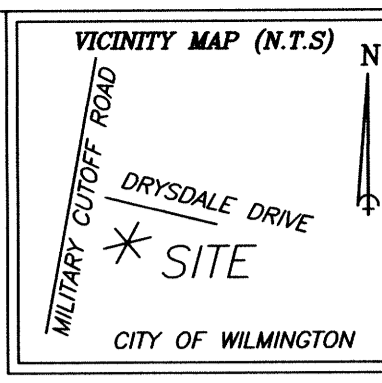
Signature: _____
 Printed Name and Title: _____
 Date: _____

DESIGNED BY:	DEC
DRAWN BY:	HWL
QUALITY CONTROL:	DEC
SCALE:	NOTED
FILE NUMBER:	7730.00
DATE:	10-07-16
PROJECT:	STORMWATER DEMO, GRADING, EROSION CONTROL, & STORMWATER PLANS
SHEET NUMBER:	C3



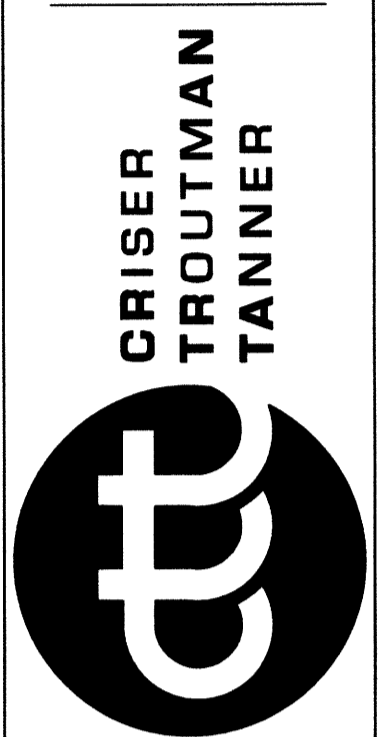
LEGEND

- C.O. ○ CLEAN OUT
- W ■ LIMIT OF DISTURBANCE
- SS ■ WATER
- SD ■ SANITARY SEWER
- RD ■ STORM DRAIN
- RD ■ ROOF DRAIN
- FFE ■ FINISHED FLOOR ELEVATION
- INV ■ INVERT
- RPZ ■ RPZ - REDUCED PRESSURE ZONE BACKFLOW PREVENTER

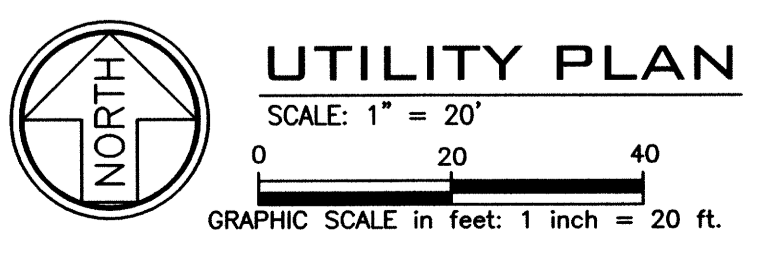
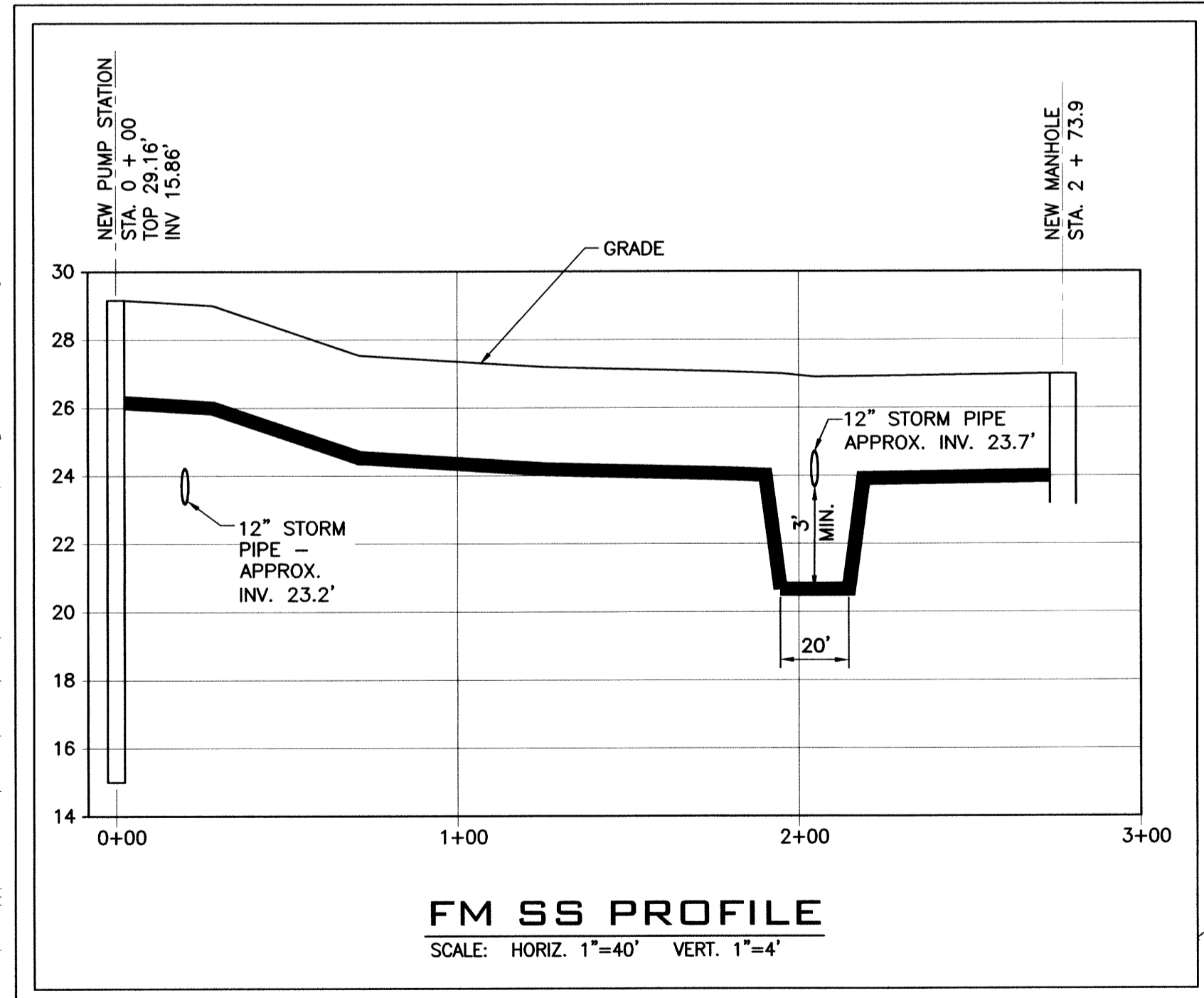


DATE	BY	REVISIONS
8-28-16	1	GENERAL REVISIONS
10-10-16	2	IRC GENERAL REVISIONS
10-13-16	3	GENERAL REVISIONS

CRISER TROUTMAN TANNER
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 Wilmington, NC 28403
 910.397.2929 Ph.
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 www.ctteengineering.com
 Firm License Number: F-0113



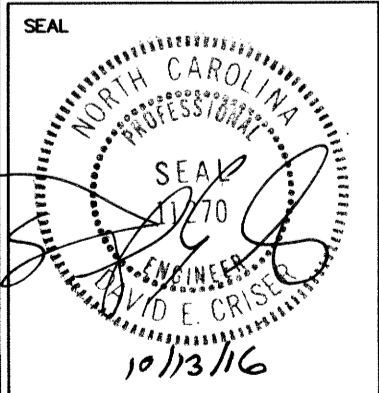
PROJECT: **LANDFALL SPORTS CENTER**
 ADDRESS: 1750 DRYSDALE DRIVE
 WILMINGTON, NORTH CAROLINA 28405



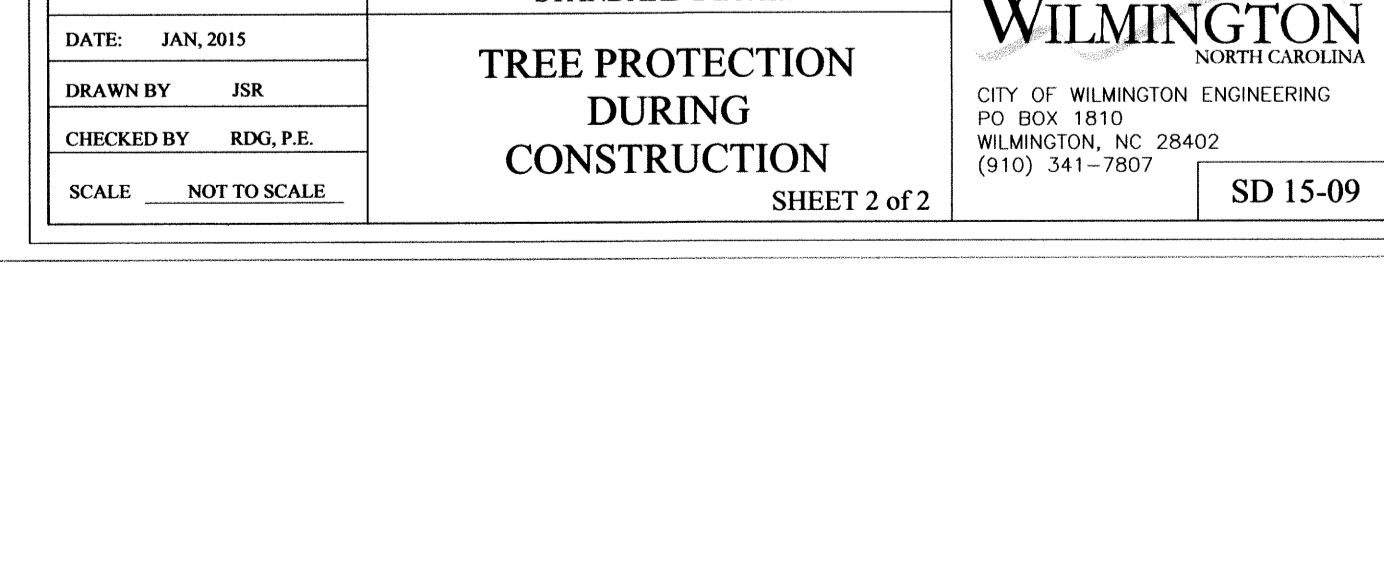
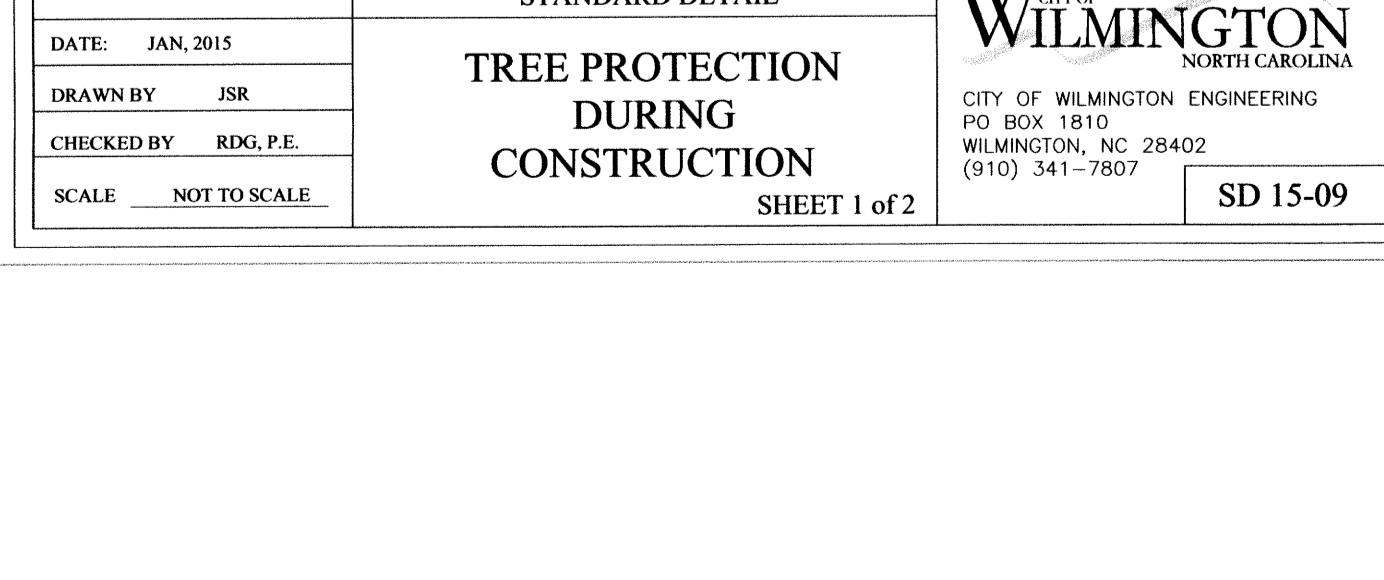
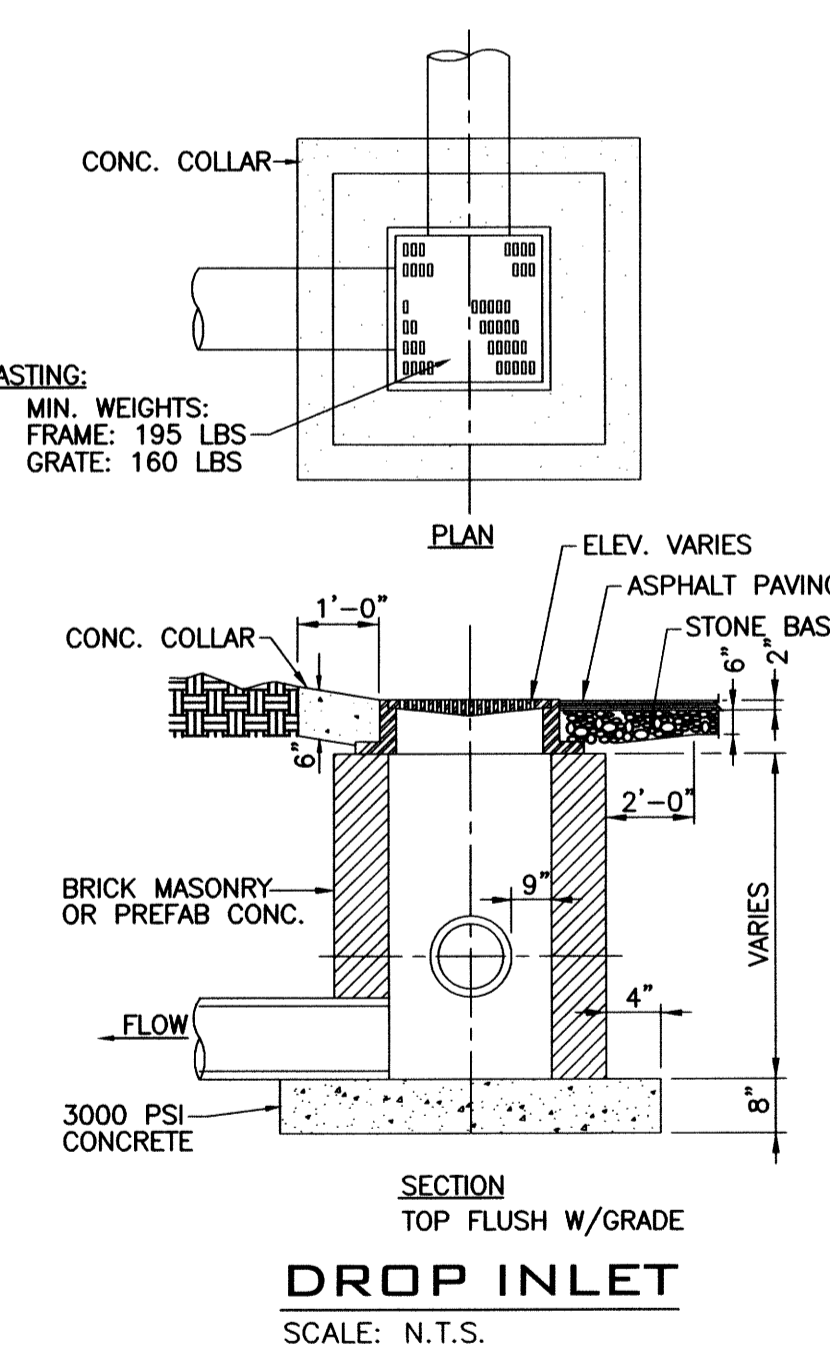
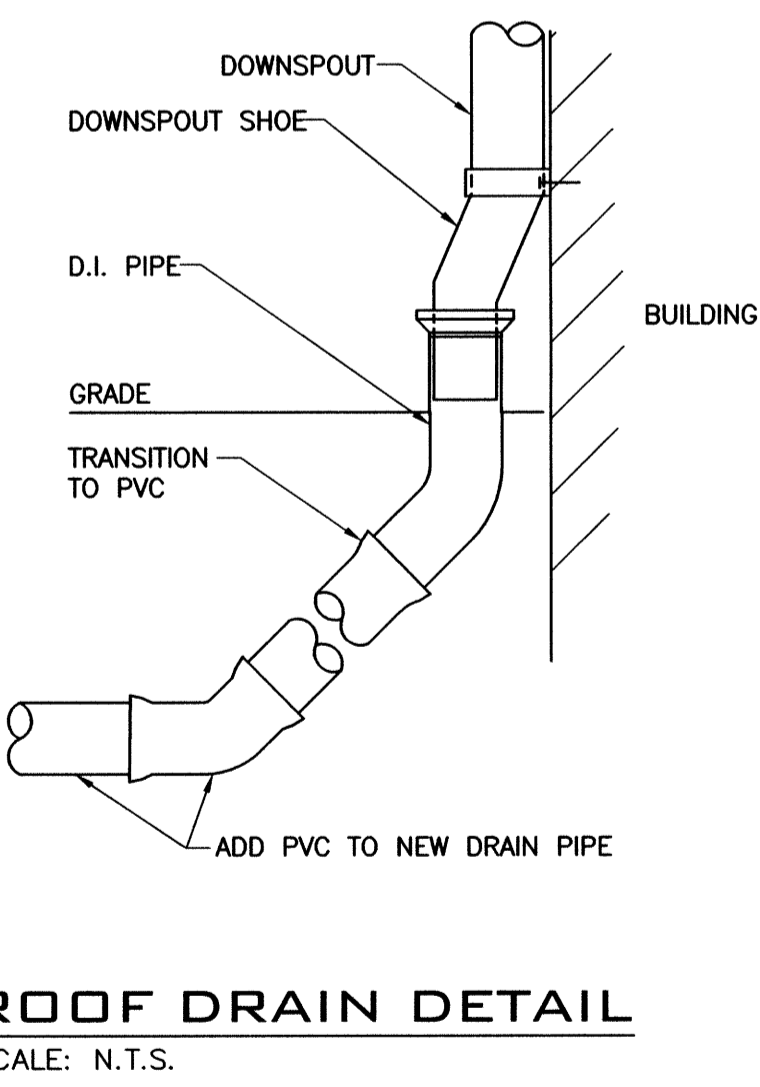
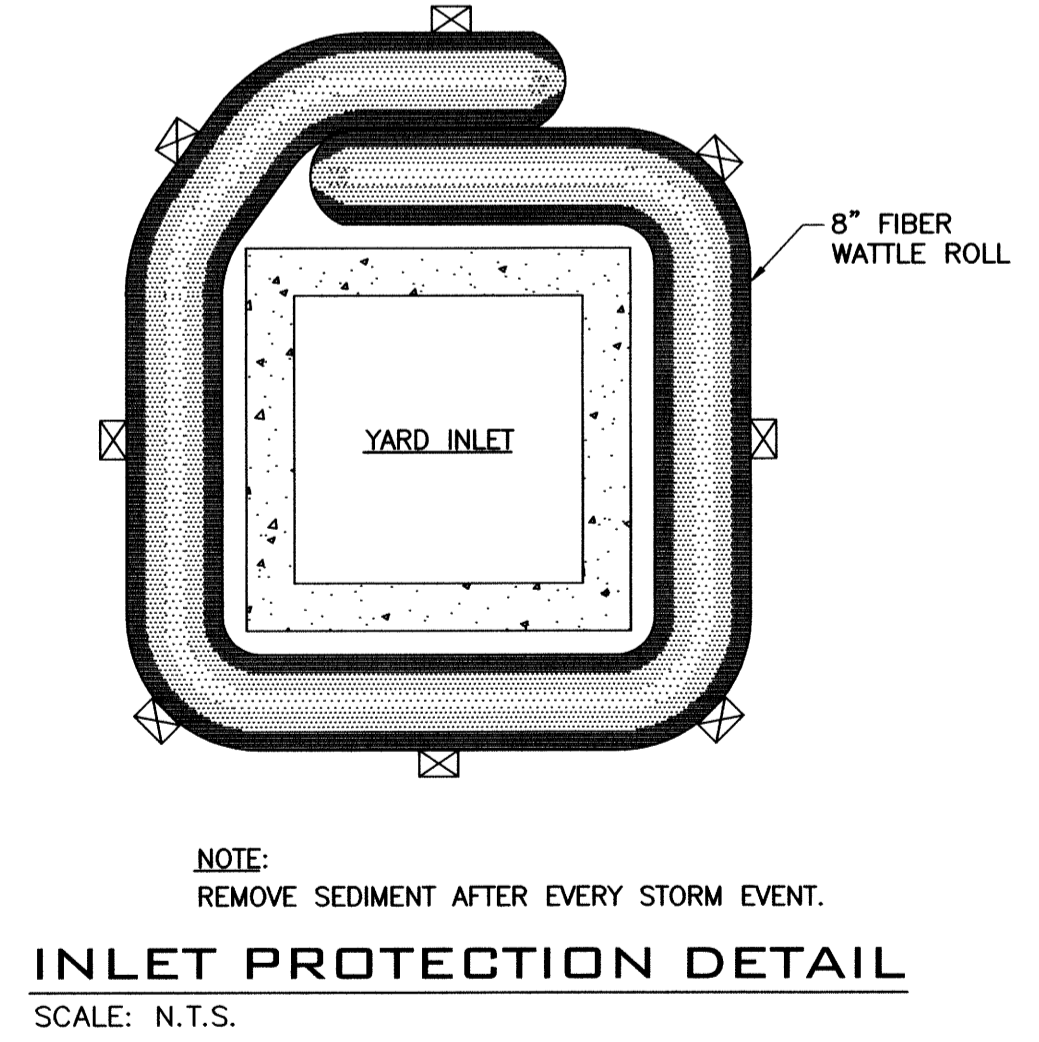
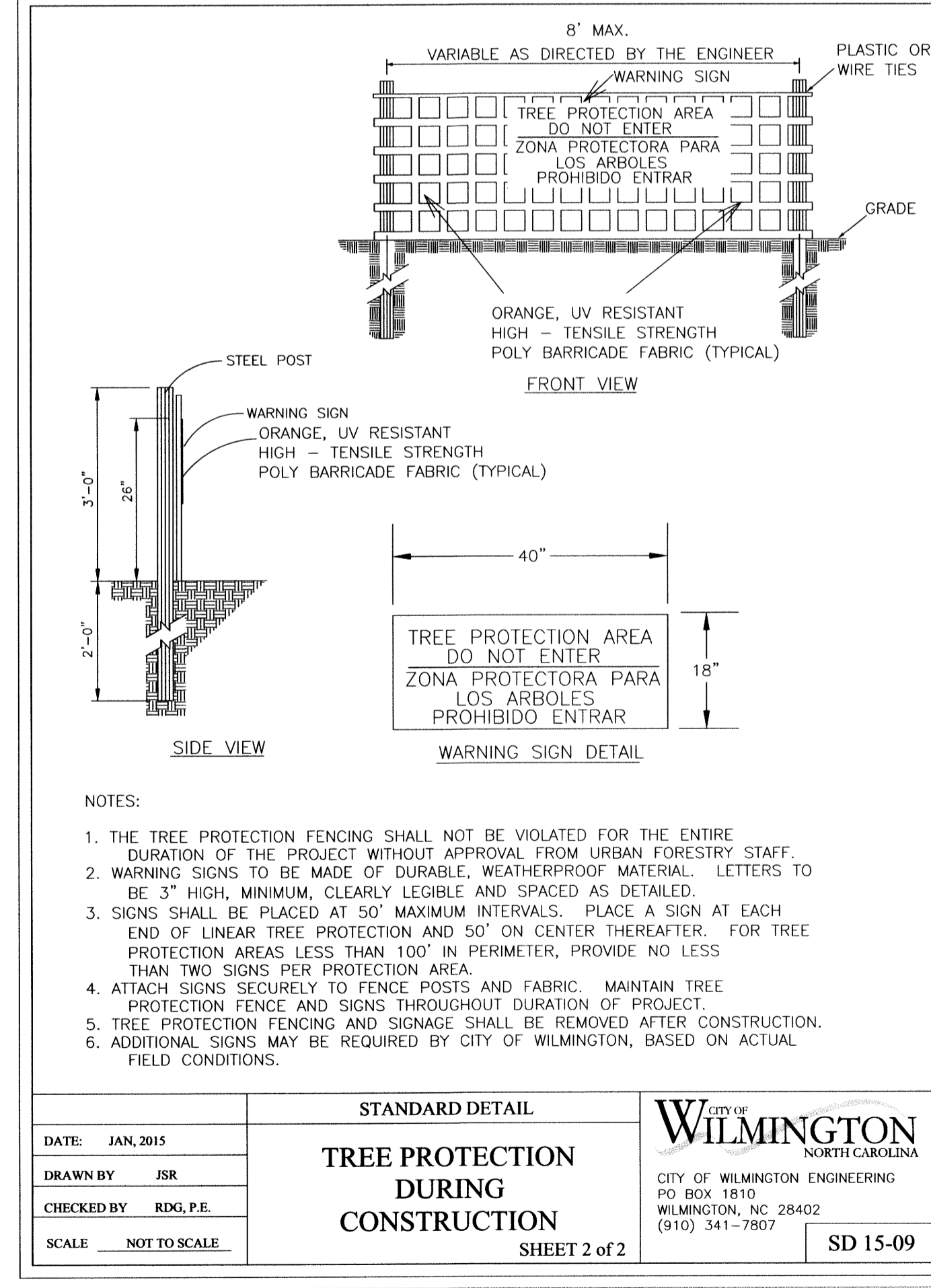
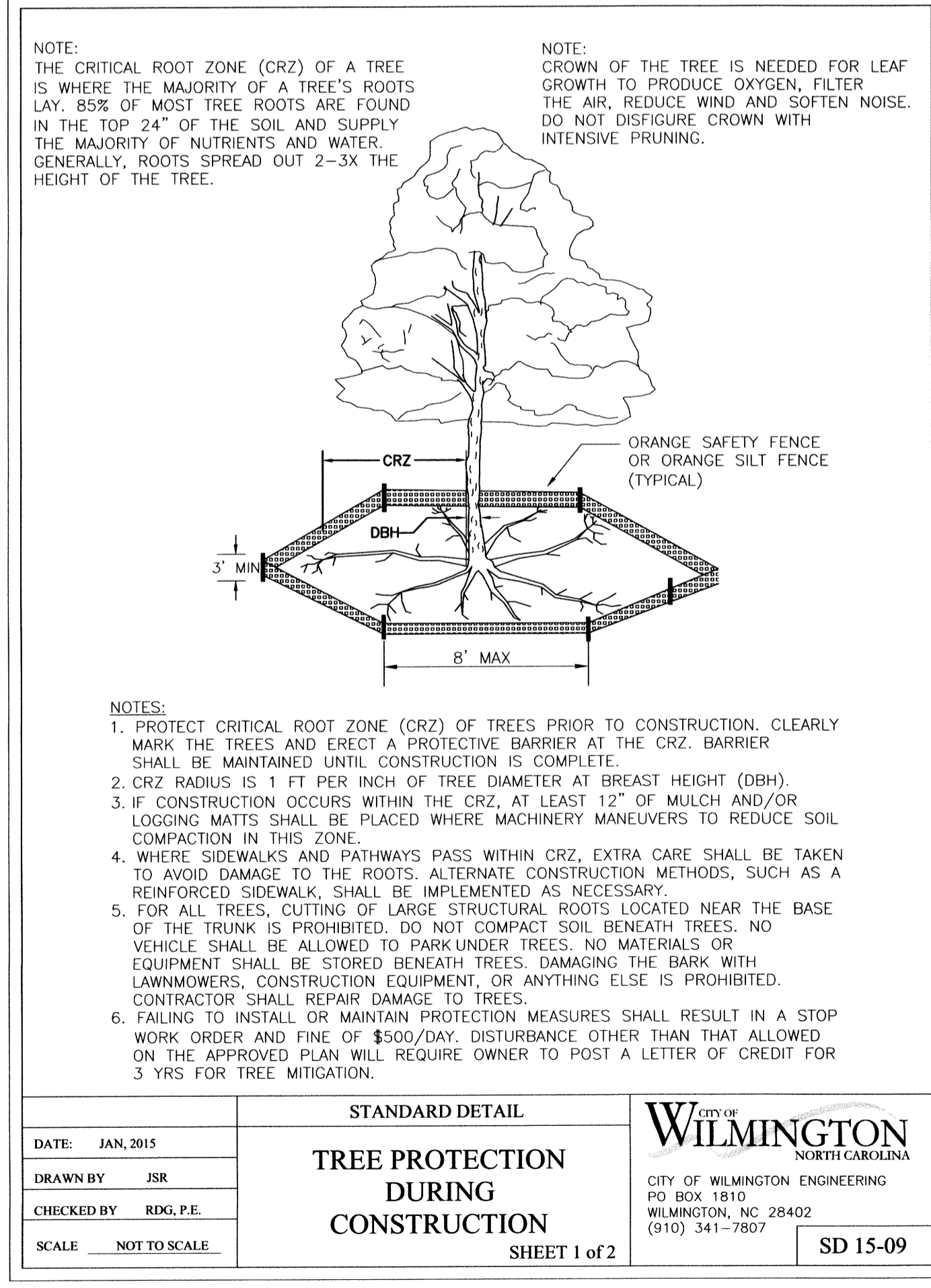
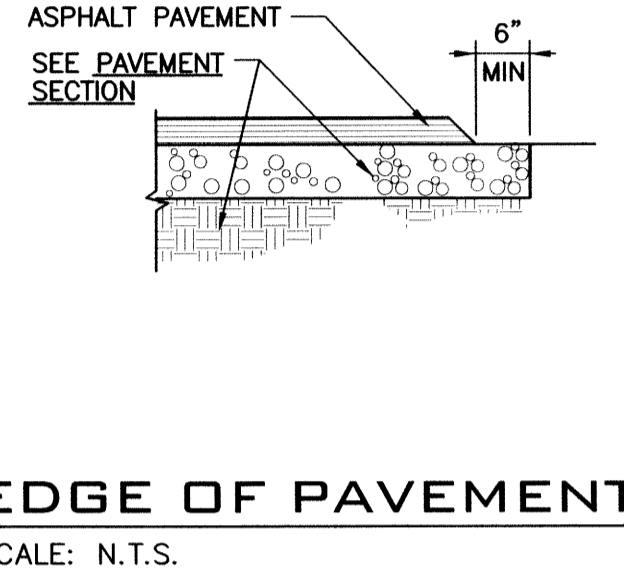
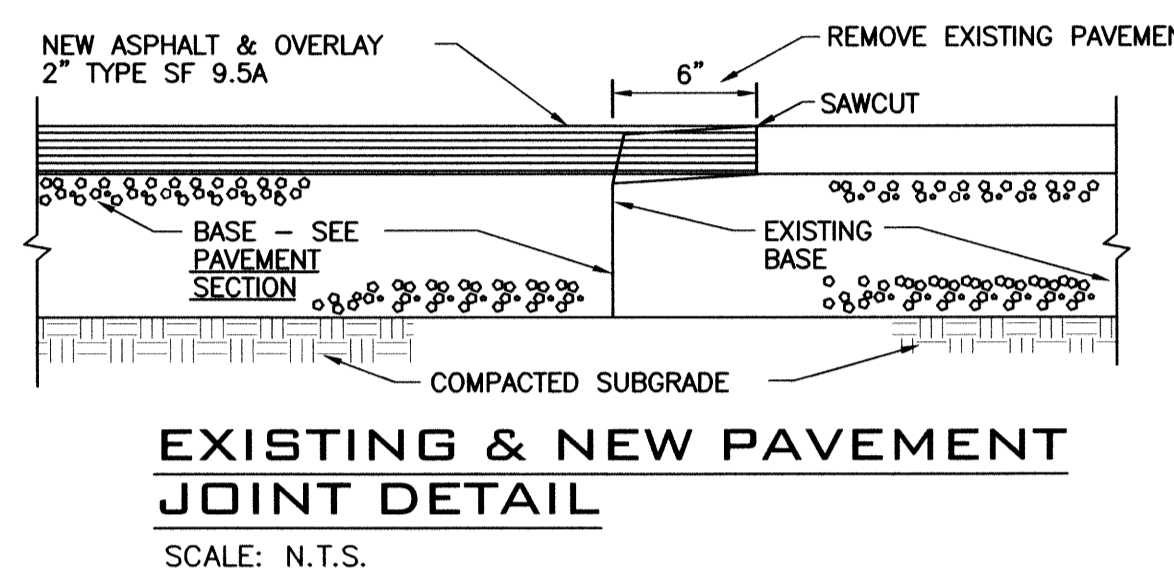
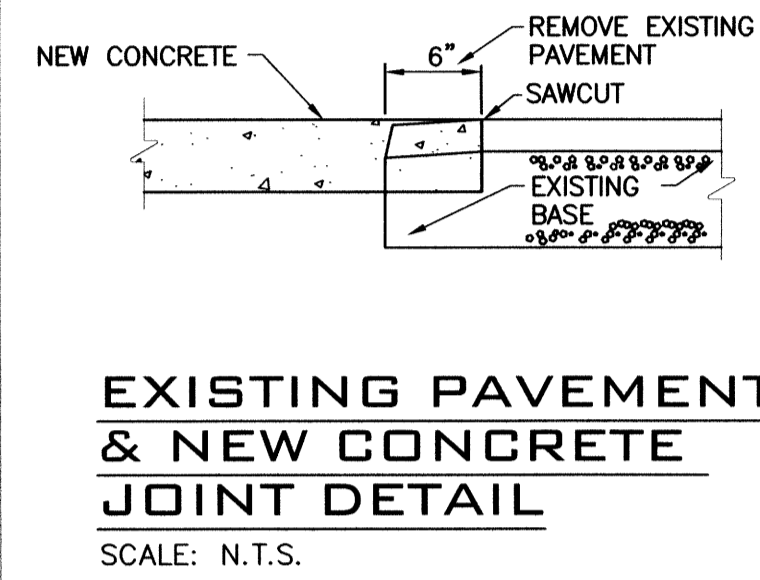
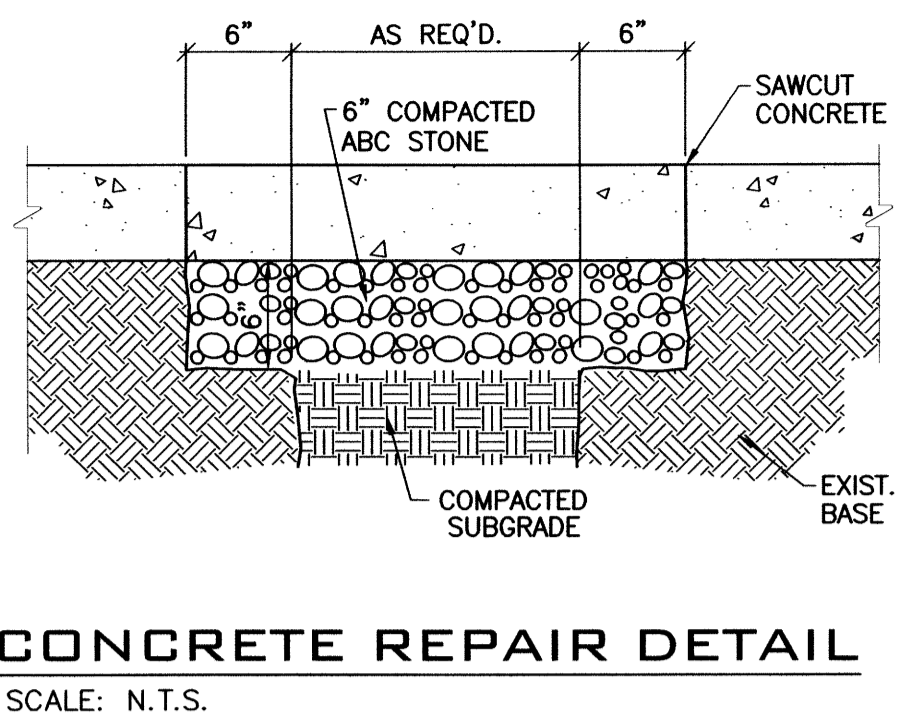
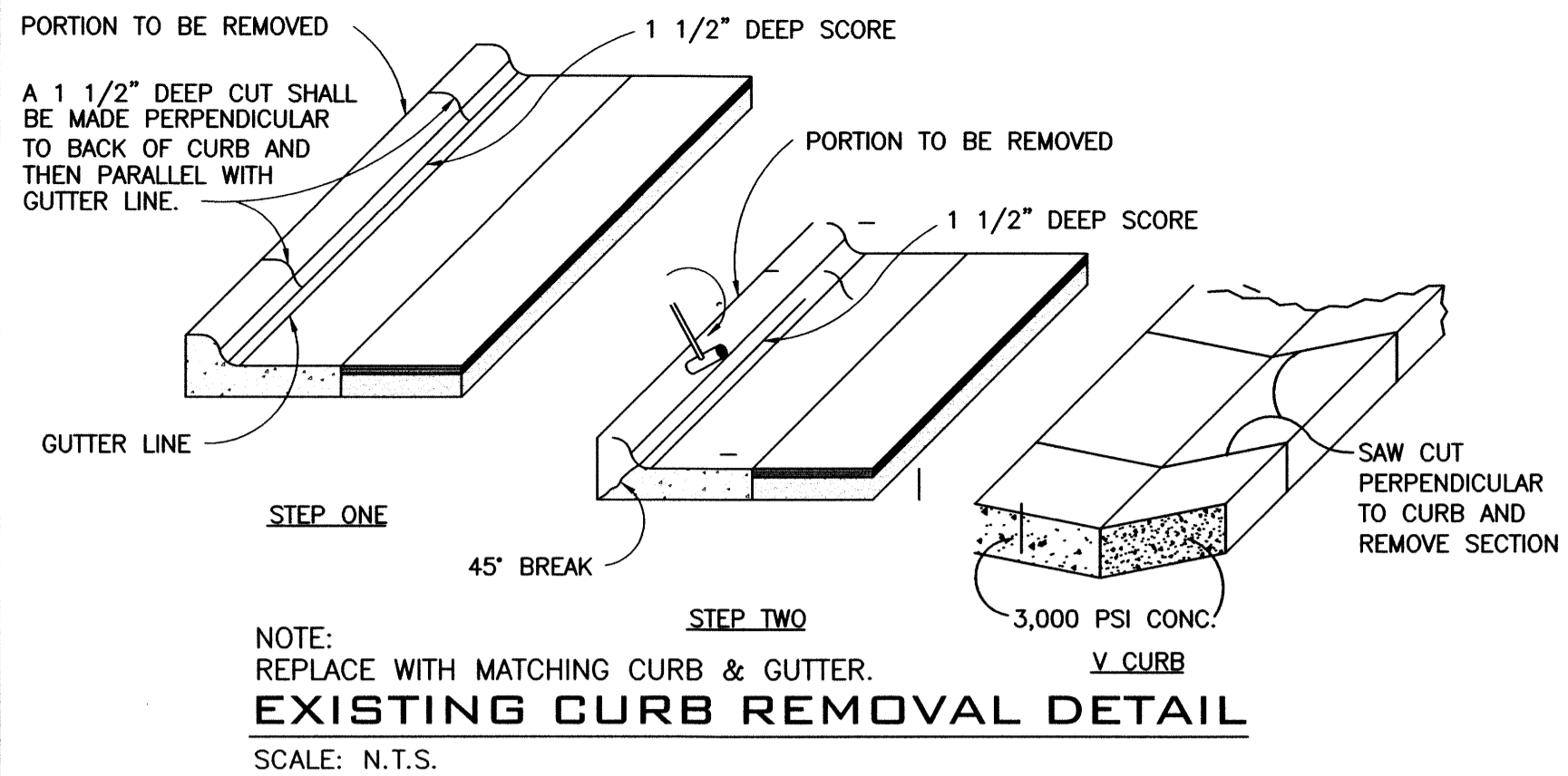
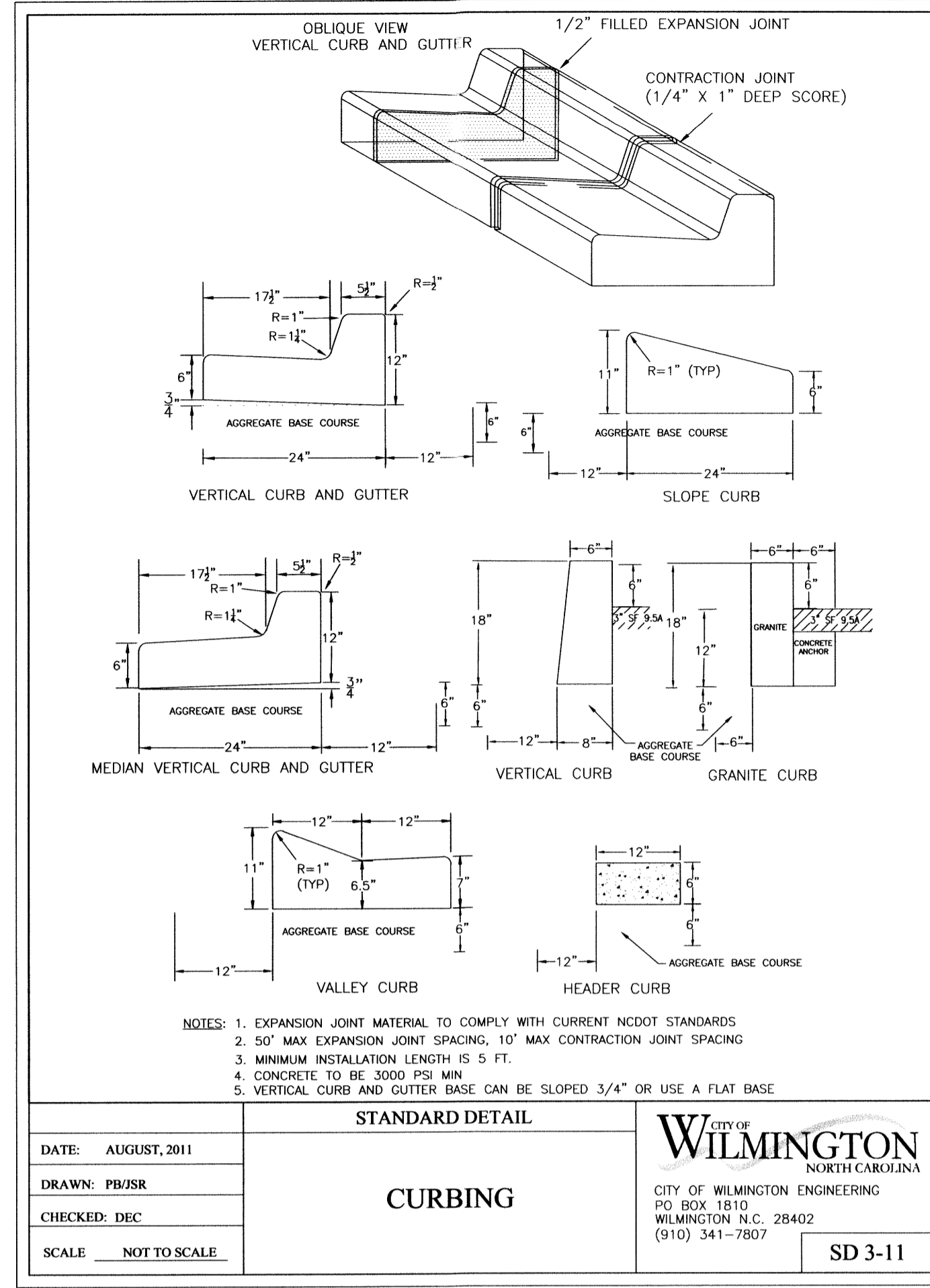
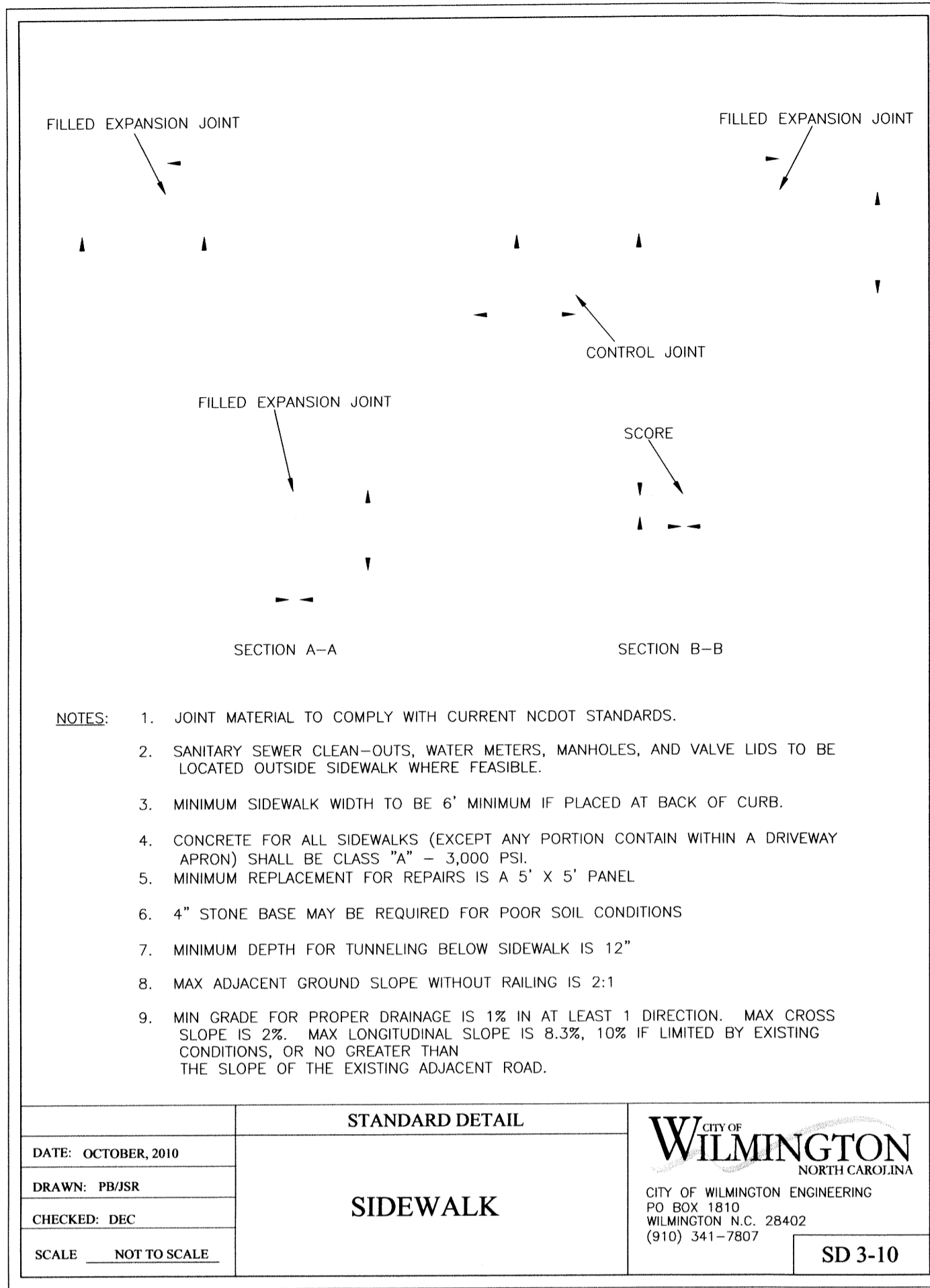
- NOTES:**
- ALL UTILITIES WILL BE CONSTRUCTED IN ACCORDANCE TO ALL LOCAL PROVISIONS.
 - CONTRACTOR TO REMOVE AND REPLACE ALL SURFACES (CONCRETE, ASPHALT, PAVERS, GRASS, POOL DECK, ETC.) DISTURBED FOR THE SITE WORK CONSTRUCTION.

Designers Plan Certification:
 "I hereby certify that this plan has been prepared in accordance with the latest New Hanover County Ordinances and Storm Water Design Manual."
 Signature: _____
 Registered Name and Title: _____
 Date: _____
 Registration Number: _____

Property Owner's Certification:
 "I (we) hereby certify that I (we) am (are) the current owner of the property and that upon receipt of 'Authorization-to-Construct' any clearing, grading, construction or development will be performed in accordance with this plan and that the applicable ordinances and rules of New Hanover County, the State of North Carolina and the Federal Government and its agencies which are hereby made part of this plan. As the owner, I (we) accept full responsibility for the construction and operation and maintenance of the proposed facilities. I (we) will not attempt to transfer this responsibility without the written authorization of New Hanover County."
 Signature: _____
 Printed Name and Title: _____
 Date: _____



DESIGNED BY:	DEC
DRAWN BY:	HWL
QUALITY CONTROL:	DEC
SCALE:	NOTED
FILE NUMBER:	7730.00
DATE:	08-04-16
UTILITY PLAN	
SHEET NUMBER: C4	



REVISIONS

NO.	DATE	BY	COMMENTS
1	10-10-18	JSR	GENERAL REVISIONS
2	10-13-18	JSR	GENERAL REVISIONS

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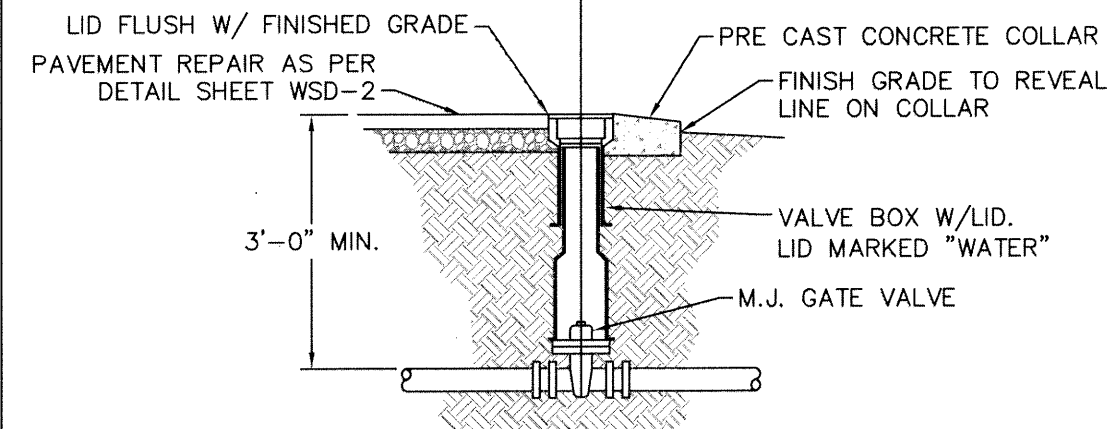
CRISER TROUTMAN TANNER

PROJECT: **LANDFALL SPORTS CENTER**
ADDRESS: 1750 DRYSDALE DRIVE
WILMINGTON, NORTH CAROLINA 28405

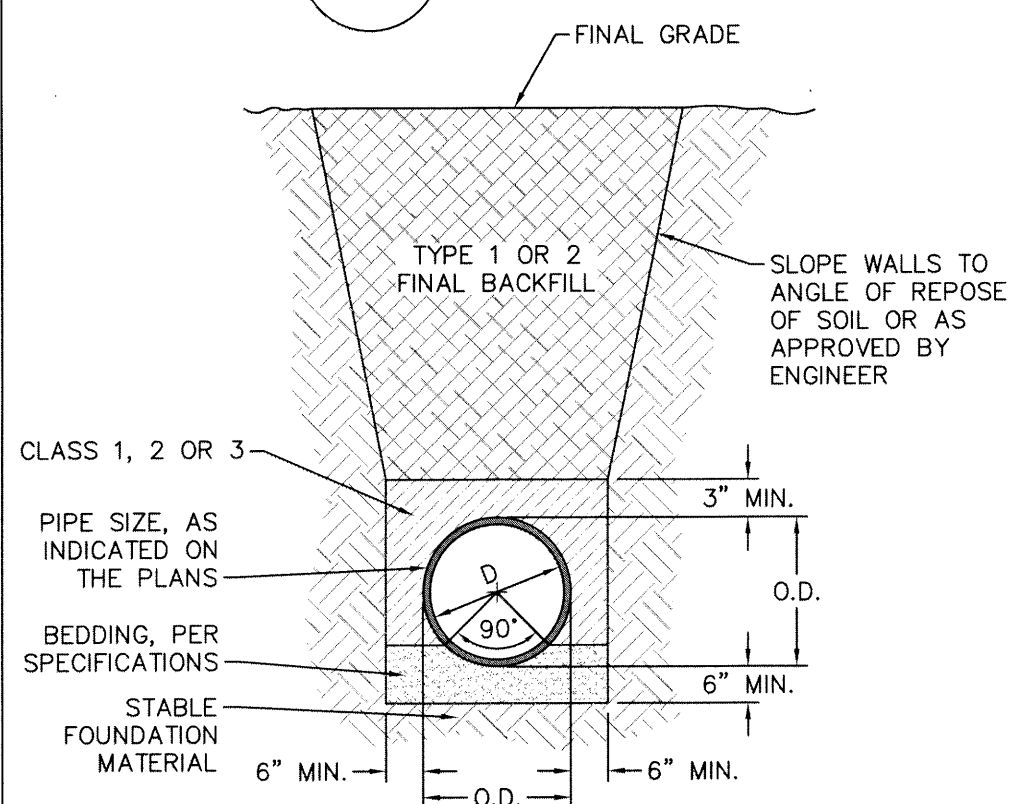
DESIGNED BY: DEC
DRAWN BY: HWL
QUALITY CONTROL: DEC
SCALE: NOTED
FILE NUMBER: 7730.00
DATE: 08-26-16

CIVIL DETAILS
SHEET NUMBER: **C5**

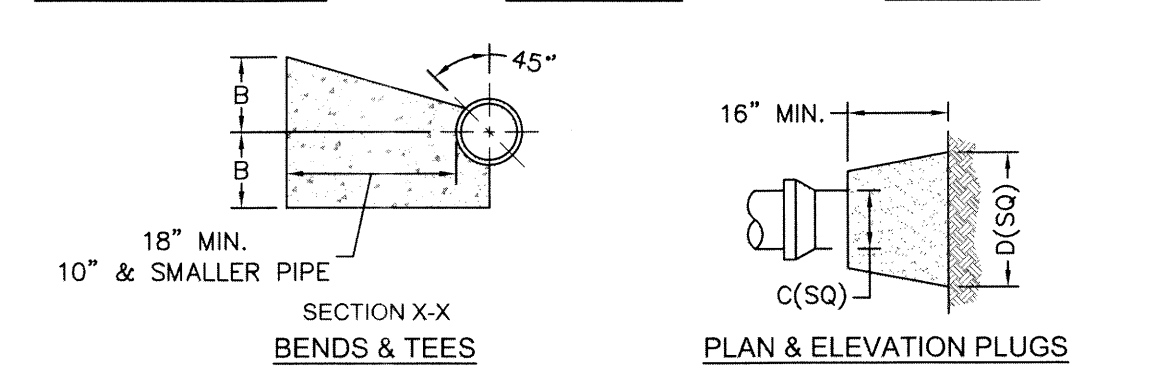
PAVED AREA UNPAVED AREA



WD-3 VALVE DETAIL
NOT TO SCALE



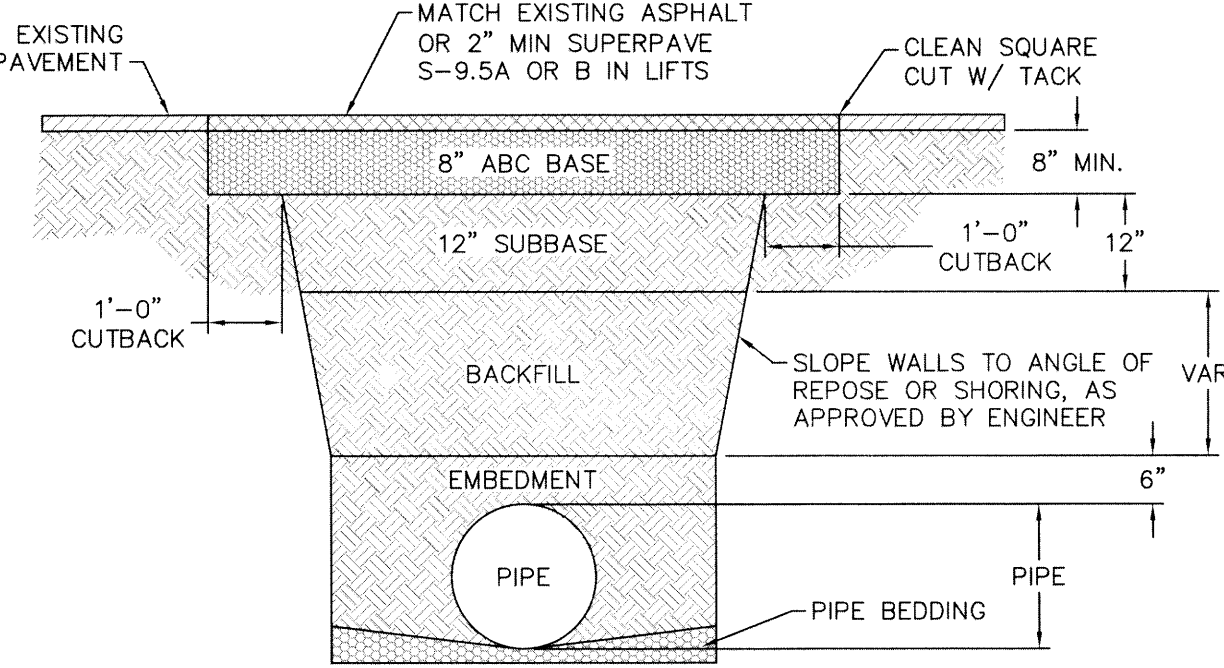
WD-13 TYPICAL TRENCH DETAIL
NOT TO SCALE



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"

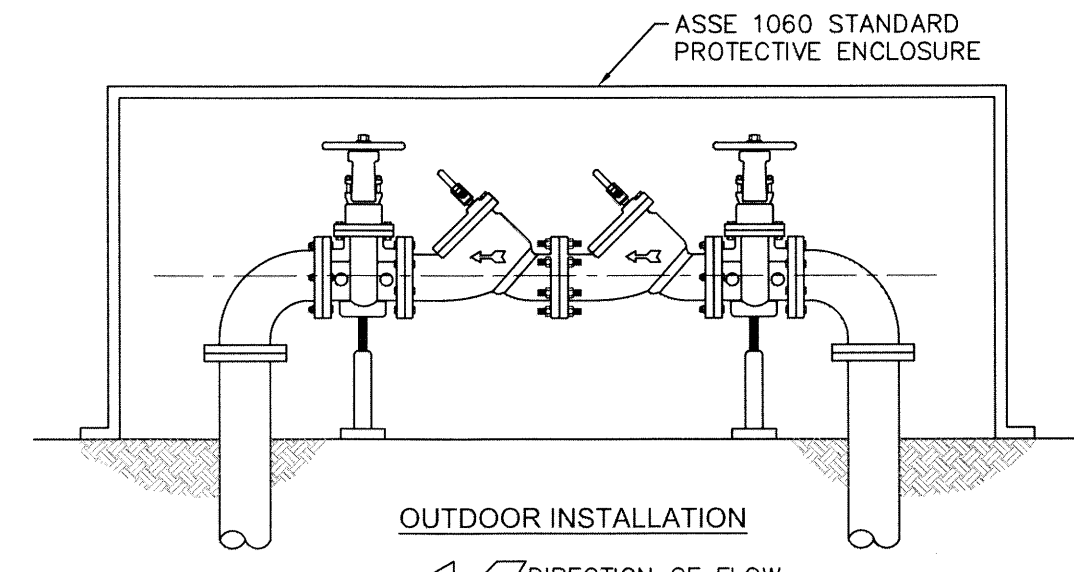
- NOTES:
- BASED ON 160 PSI TEST PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.
 - ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.
 - USE MEG-A-LUG (PREFERRED) IN LIEU OF BLOCKING AND RODDING.

WD-4 THRUST BLOCK DETAIL
NOT TO SCALE



- NOTES:
- BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
 - SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
 - 8-INCH OF ABC BASE MATERIAL SHALL BE USED ON CITY STREETS.
 - BACKFILL AND BASE MATERIALS SHALL BE COMPACTED 12" MINIMUM LIFTS
 - 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.
 - ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
 - ABC BASE AND SUBBASE COMPACTED TO 98% AND BACKFILL AND EMBEDMENT COMPACTED TO 90% AS DETERMINED BY THE MODIFIED PROCTOR AASHTO METHOD T-99.
 - 1-FOOT CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.

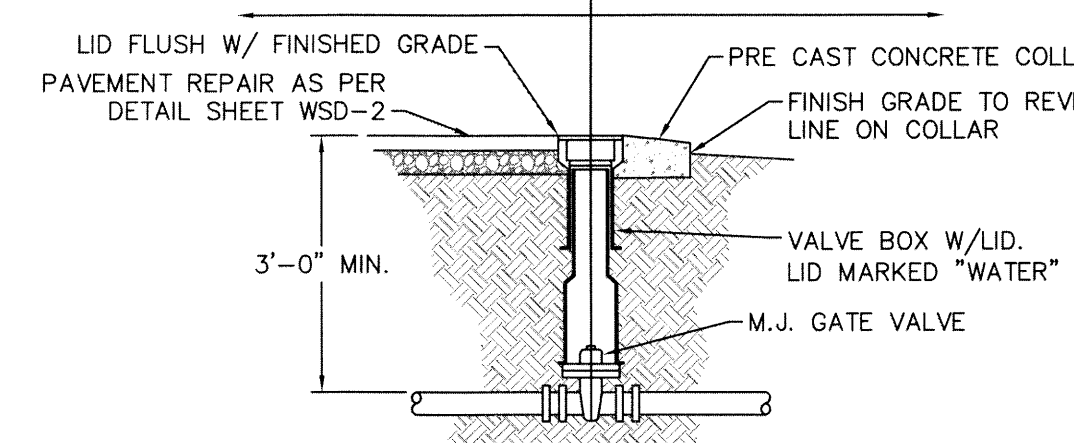
WD-14 PAVEMENT REPAIR WHERE PIPE INSTALLED
NOT TO SCALE (ALSO SAME DETAIL USED FOR "PAVEMENT REPAIR WHERE PIPE INSTALLED" CFPUA STANDARD SEWER DETAIL SD-14)



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

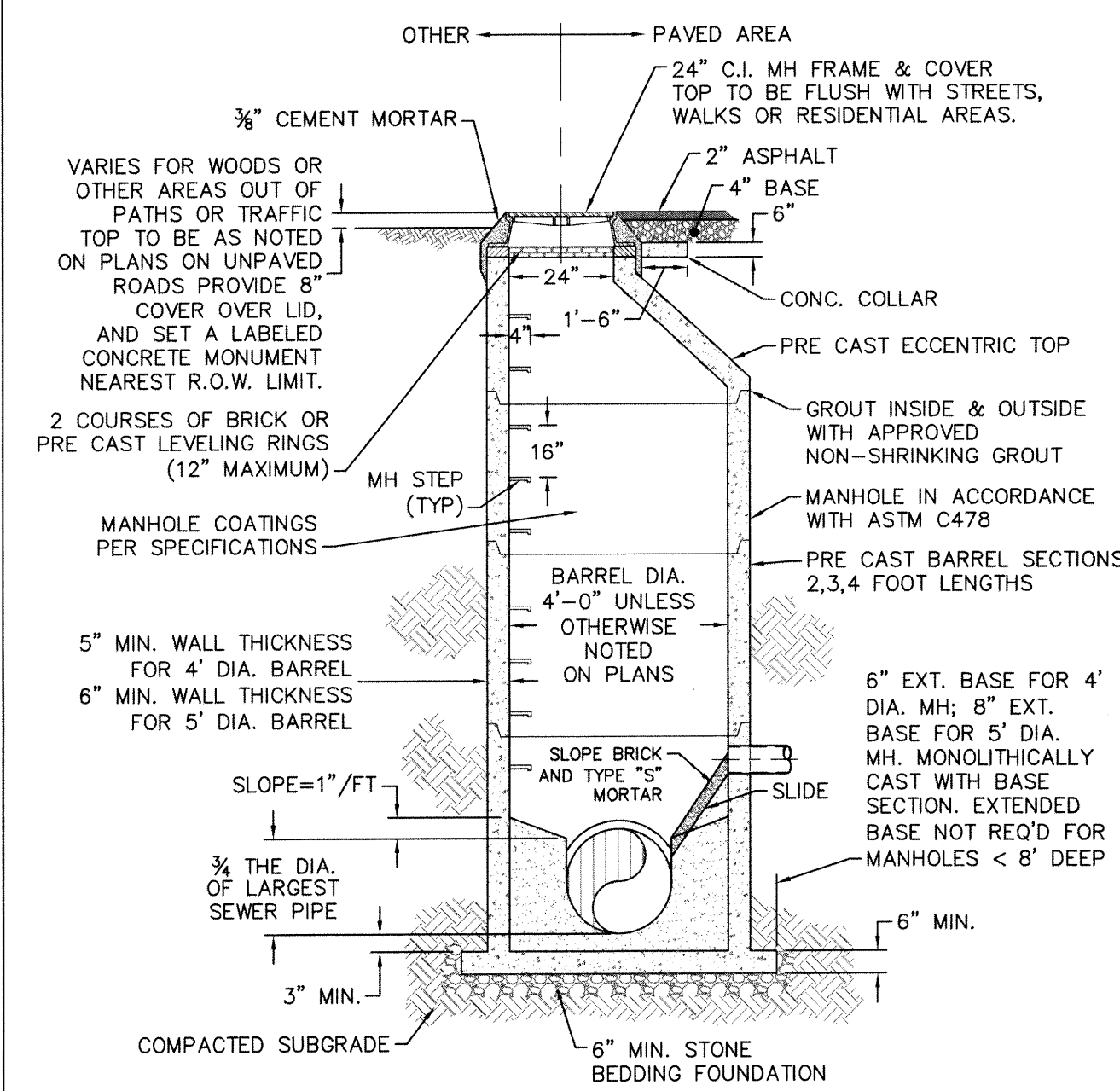
WD-7 DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE

PAVED AREA UNPAVED AREA

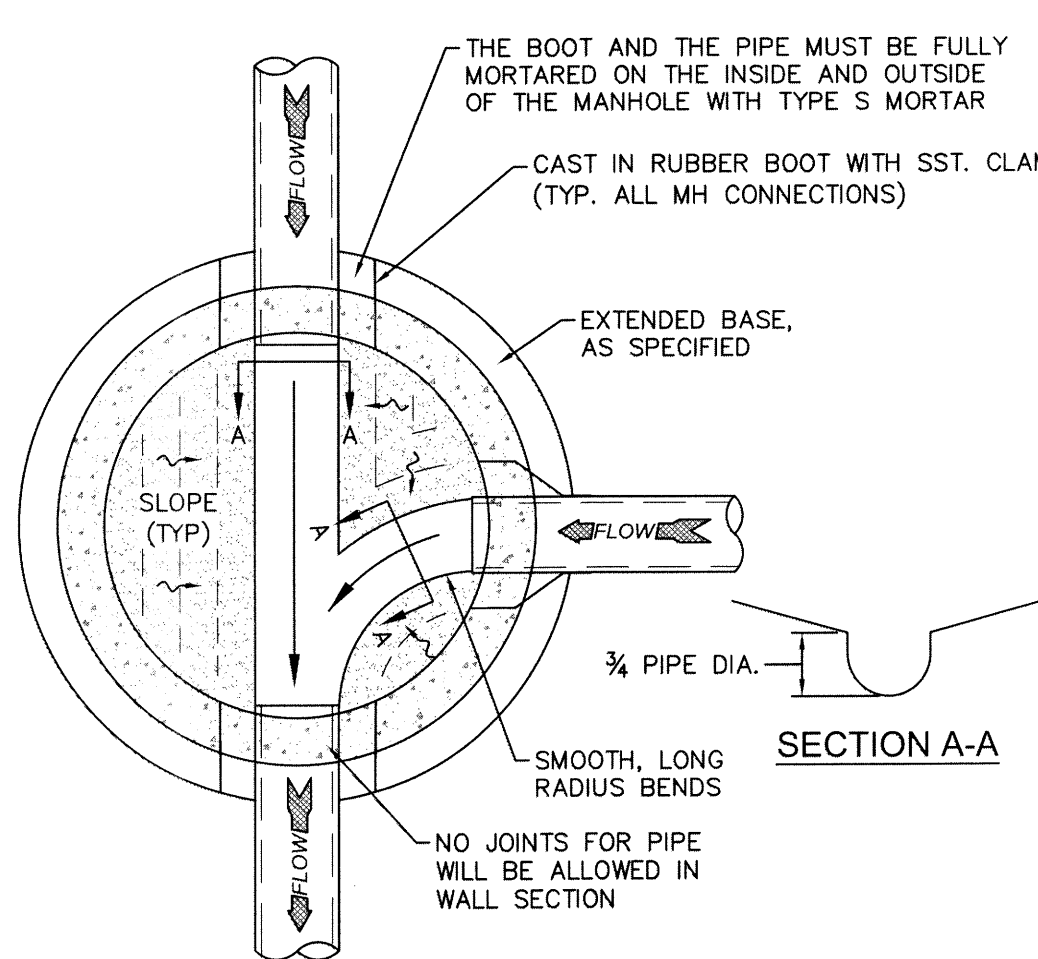


WD-3 VALVE DETAIL
NOT TO SCALE

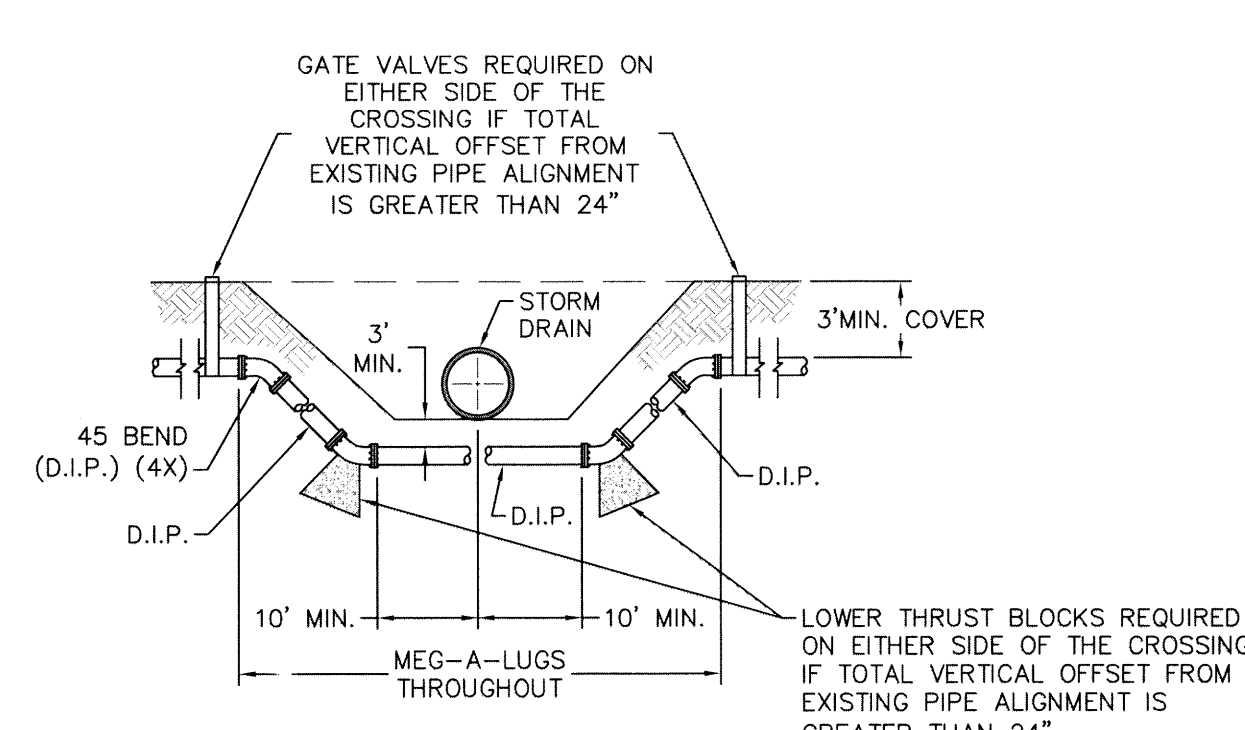
CFPUA STANDARD SEWER DETAILS (DOWNLOADED FROM WWW.CFPUA.ORG ON AUG 04, 2016)



SD-1 PRECAST CONCRETE OFFSET MANHOLE TYPICAL
NOT TO SCALE



SD-5 MANHOLE FLOOR PLAN
NOT TO SCALE

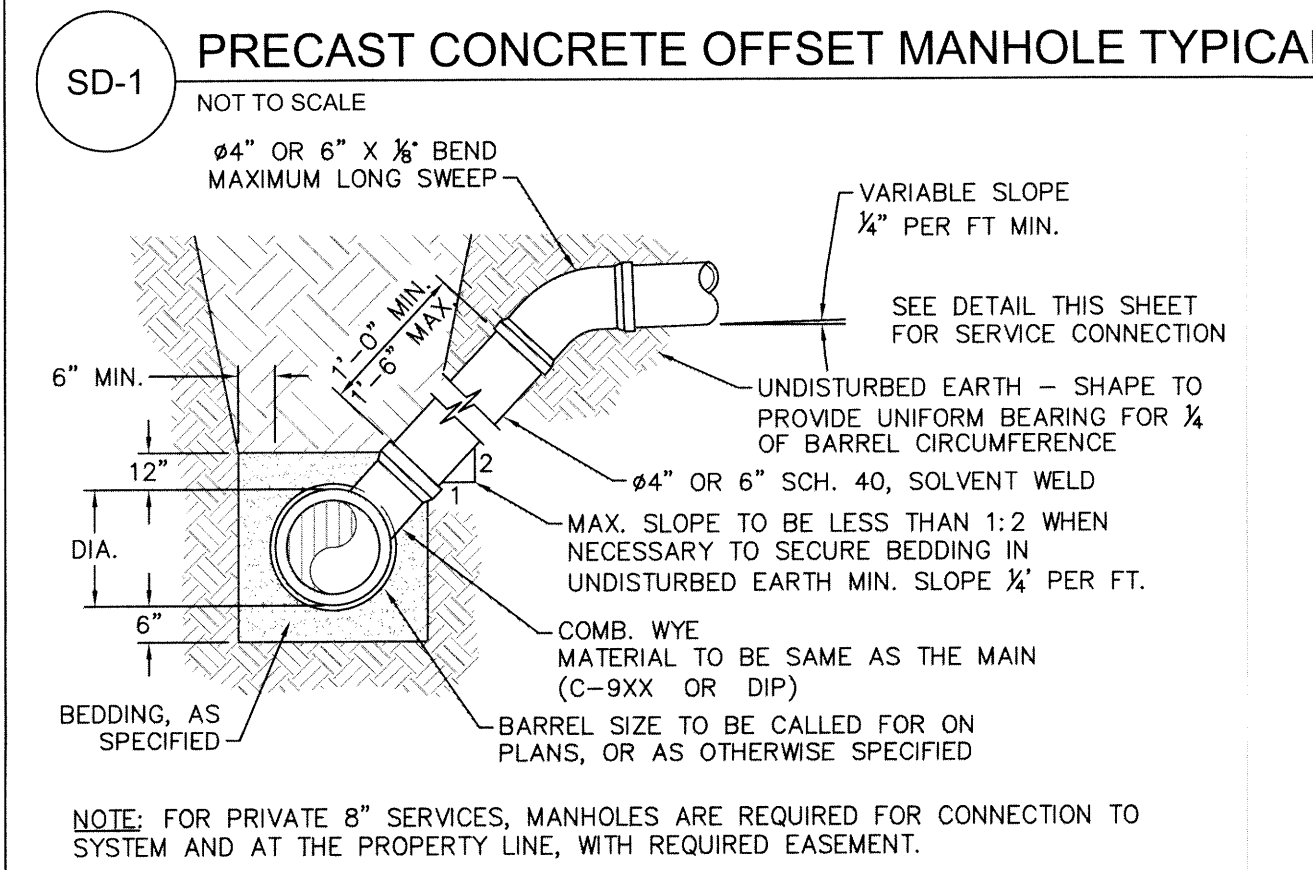


SD-18 FORCE MAIN DITCH AND STORM DRAIN CROSSING
NOT TO SCALE

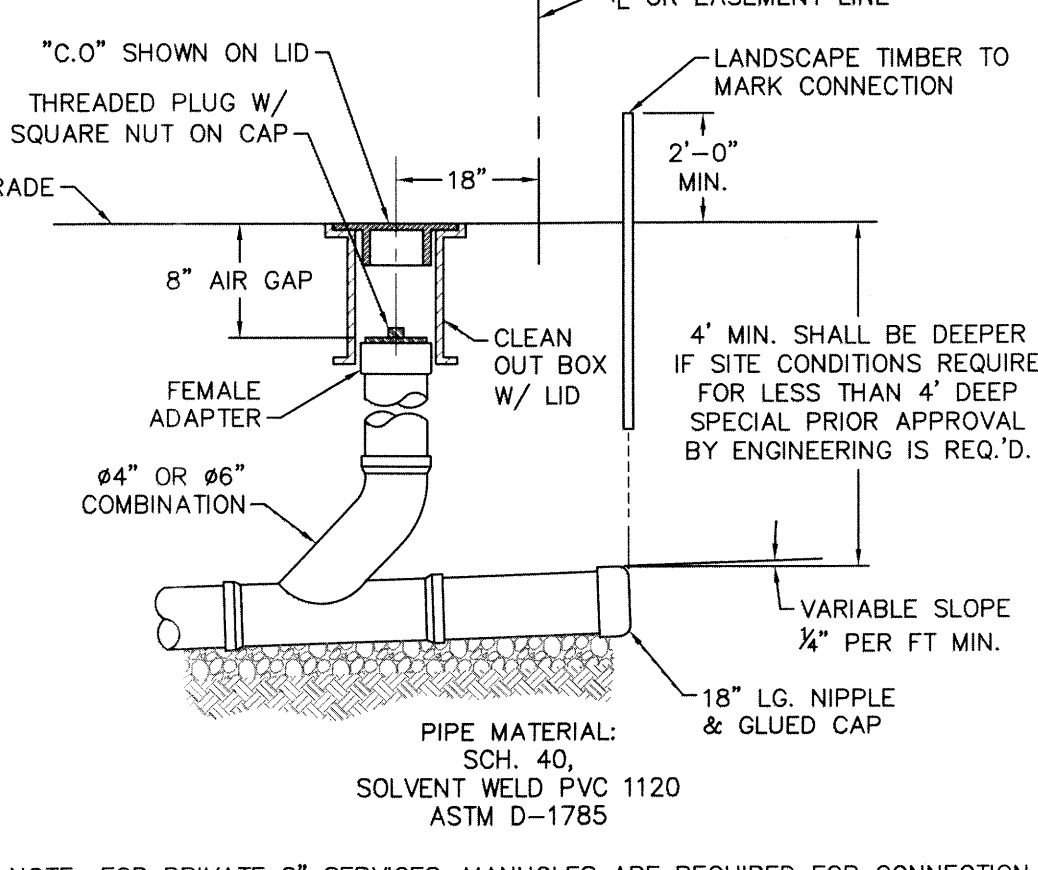
- GENERAL NOTES:
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
 - THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION 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).

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

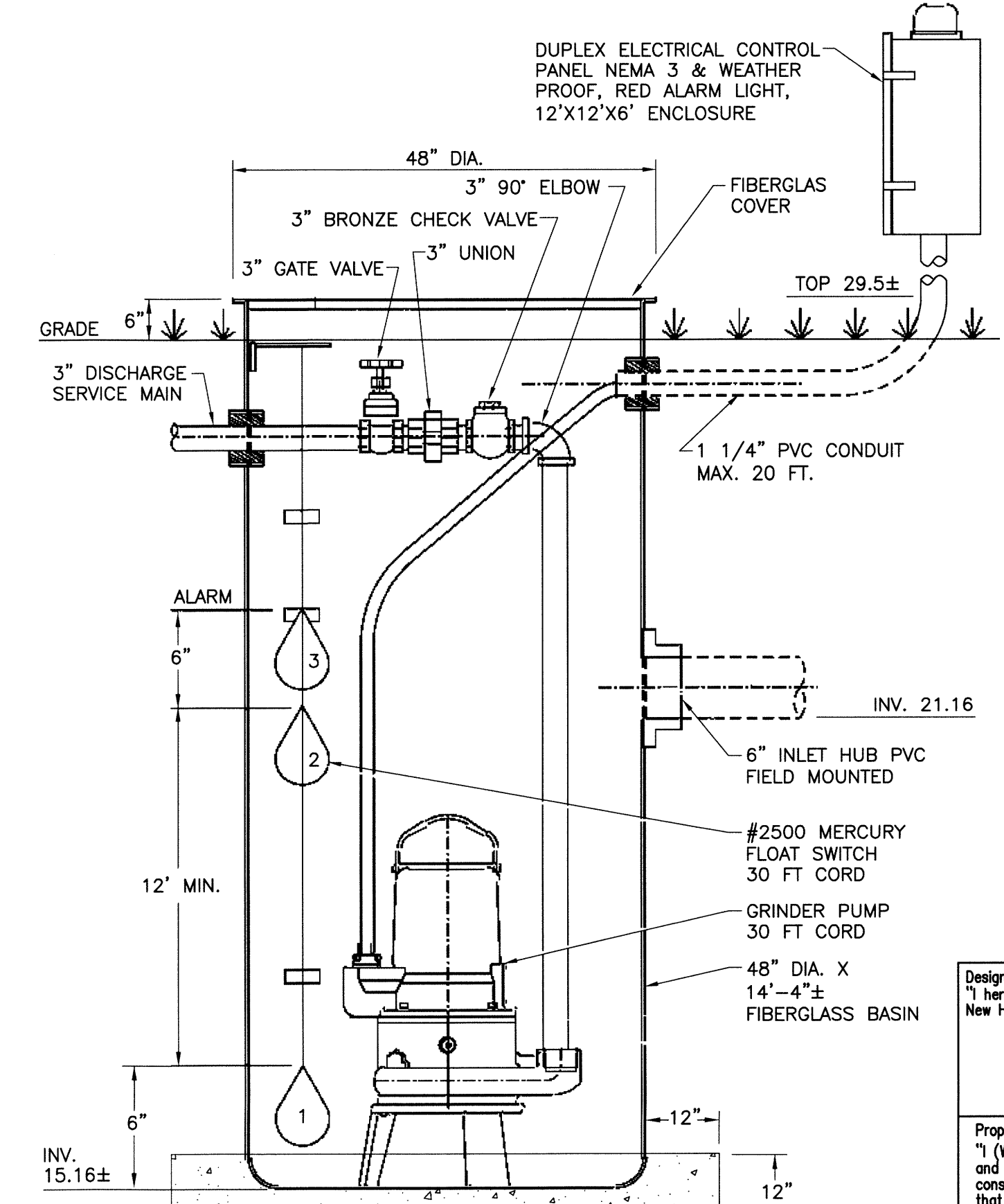
SD-9 STANDARD NOTES
(REQUIRED ON ALL PLAN AND PROFILE SHEETS)



SD-10 STANDARD SERVICE LATERAL
NOT TO SCALE



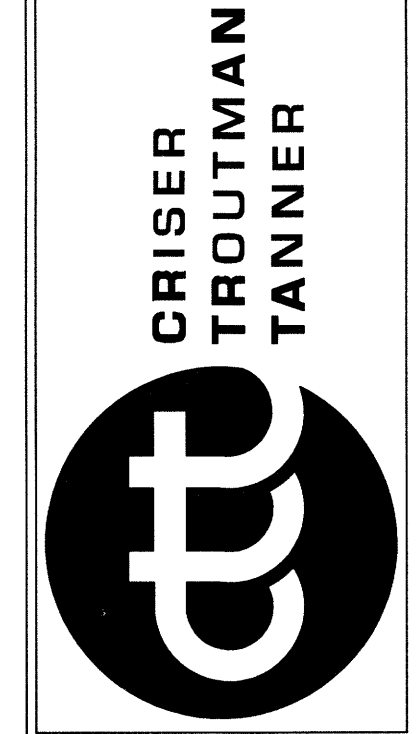
SD-11 SERVICE CONNECTION AND CLEAN-OUT
NOT TO SCALE



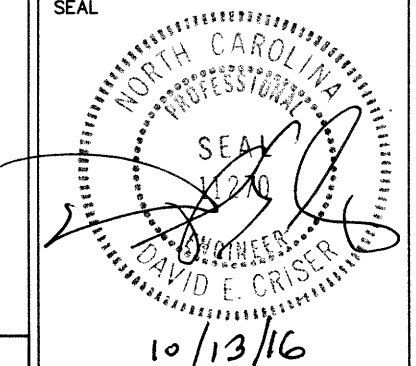
LIFT STATION DETAIL
SCALE: N.T.S.

DATE	NO.	REVISIONS
10-10-16	1	TRC REVISIONS
10-15-16	2	GENERAL REVISIONS

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www.ctteengineering.com
Firm License Number: PCL113



PROJECT: LANDFALL SPORTS CENTER
ADDRESS: 1750 DRYSDALE DRIVE
WILMINGTON, NORTH CAROLINA 28405



DESIGNED BY: DEC
DRAWN BY: HWL
QUALITY CONTROL: DEC
SCALE: NOTED
FILE NUMBER: 7730.00
DATE: 08-26-16

CIVIL DETAILS
SHEET NUMBER: C6

Designers Plan Certification:
I hereby certify that this plan has been prepared in accordance with the latest New Hanover County Ordinances and Storm Water Design Manual.
Signature: _____
Printed Name and Title: _____
Date: _____
Registration Number: _____
Property Owner's Certification:
I (we) hereby certify that I (we) am (are) the current owner of the property and that upon receipt of "Authorization-to-Construct" any clearing, grading, construction or development will be performed in accordance with this plan and that the applicable ordinances and rules of New Hanover County, the State of North Carolina and the Federal Government and its agencies which are hereby made part of this plan. As the owner, I (we) accept full responsibility for the construction and operation and maintenance of the proposed facilities. I (we) will not attempt to transfer this responsibility without the written authorization of New Hanover County.
Signature: _____
Printed Name and Title: _____
Date: _____