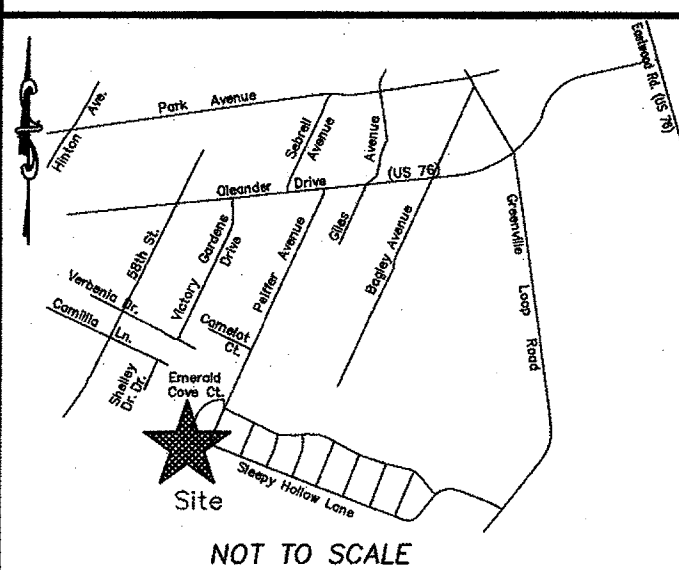


LOCATION MAP



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

Approved Construction Plan

Name _____ Date _____
 Planning *W. W. Walker* 5-13-19
 Traffic *W. W. Walker* 5-14-19
 Fire _____



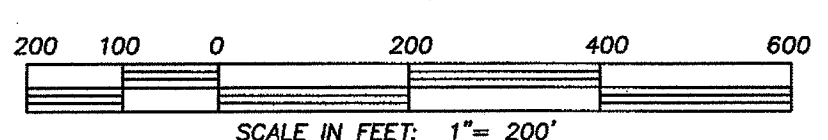
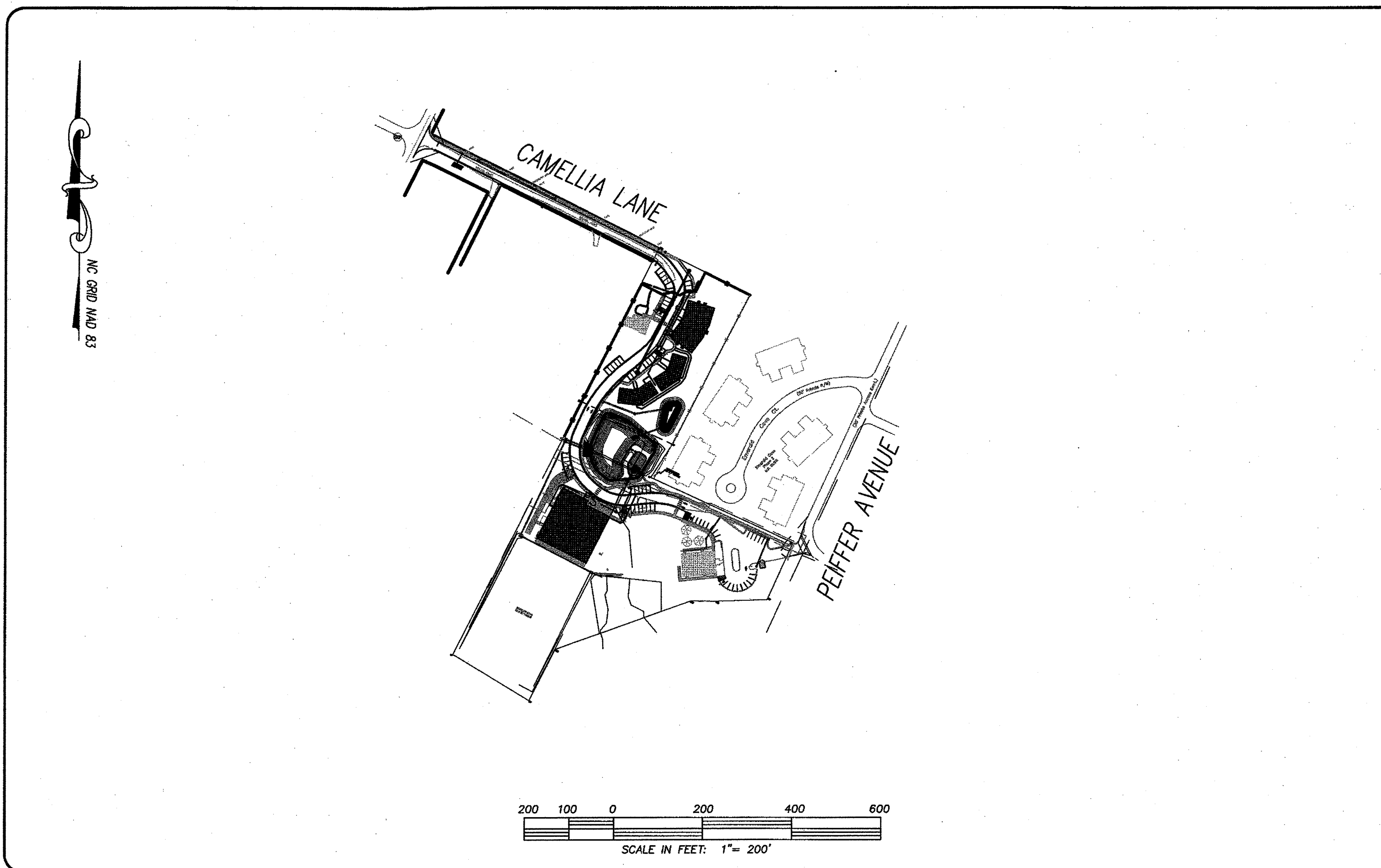
Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: 5/15/19 Permit # 2019028
 Signed: *Rob Christensen*

GENERAL NOTES:

- NEW HANOVER COUNTY PARCEL NUMBERS: PID = R06200-003-084-000
- TOTAL PROJECT AREA: 339,591 SF (7.80 AC.)
- EXISTING ZONING DISTRICT: R-15
- LAND CLASSIFICATION: RESOURCE PROTECTION
- THIS SITE IS LOCATED WITHIN ZONE "X" ACCORDING TO FEMA FIRM COMMUNITY PANEL NUMBER 3720314600J, EFFECTIVE DATE 4/18/05
- SITE ADDRESS 350 PEIFFER AVE.
- EXISTING IMPERVIOUS ONSITE = 44,649 SF
- BOUNDARY AND TOPOGRAPHIC SURVEY PERFORMED AND PROVIDED TO CSD ENGINEERING BY GARY W. KEYES LAND SURVEYING, P.C. C-4086
- VERTICAL DATUM = 88
- STORMWATER DRAINS TO UT TO HEMLETT'S CREEK, SA:HOW 18-87-26
- LAND OWNER - FRIENDS SCHOOL OF WILMINGTON INC 350 PEIFFER AVENUE WILMINGTON, NC 28409

CONSTRUCTION DRAWINGS for FRIENDS SCHOOL OF WILMINGTON

LOCATED IN THE CITY OF WILMINGTON
 NEW HANOVER COUNTY, NORTH CAROLINA



SEWER		
SIZE	8"	
TYPE	C-900	
LF	256	

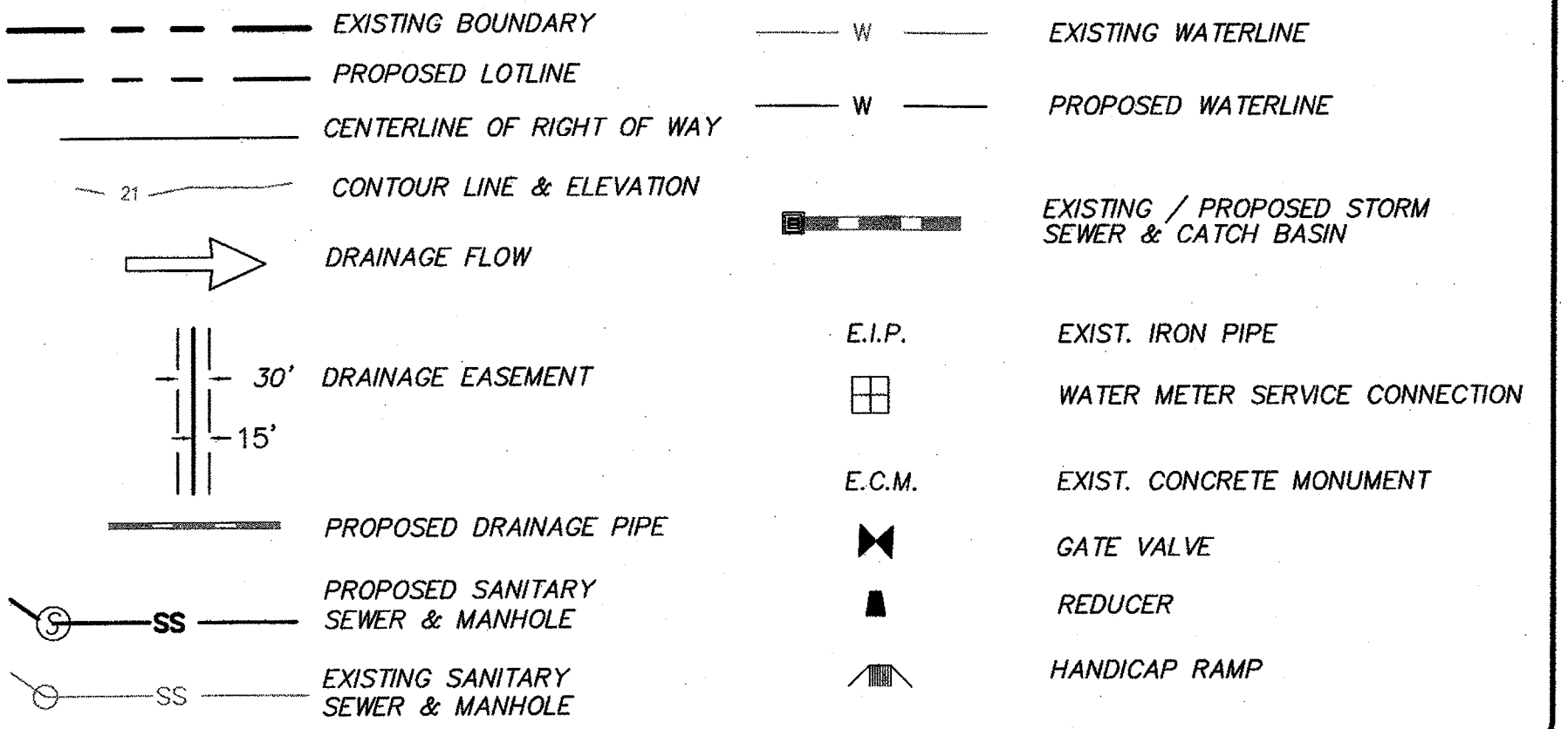
WATER (PRIVATE)		
SIZE	4"	2"
TYPE	C-900 SDR-21	
LF	268	315

WATER (PUBLIC)		
SIZE	6"	2"
TYPE	C-900 SDR-21	
LF	13	51

INDEX TO DRAWINGS

SHEET No.	DESCRIPTION	DRAWING No.
1 OF 14	COVER SHEET	COV
2 OF 14	EXISTING BOUNDARY AND TOPOGRAPHY	EX-COND
3 OF 14	TREE INVENTORY	TREE
4 OF 14	SITE PLAN	SP1
5 OF 14	CAMELIA DRIVE	PP1
6 OF 14	GRADING PLAN	GP
7 OF 14	GRADING PLAN	GP
8 OF 14	SITE PLAN DETAILS	SP1_DET1
9 OF 14	SITE PLAN DETAILS	SP1_DET2
10 OF 14	CFPUA INSTALLATION DETAILS	CFPUA_WAT_SEW_1
11 OF 14	CFPUA INSTALLATION DETAILS	CFPUA_WAT_SEW_2
12 OF 14	CFPUA WATER DETAILS	CFPUA_WATER
13 OF 14	CFPUA SEWER DETAILS	CFPUA_SEWER_1
14 OF 14	CFPUA SEWER DETAILS	CFPUA_SEWER_2
LP1 OF LP1	LANDSCAPE PLAN	LP
EC1 OF EC4	STORMWATER & EROSION CONTROL PLAN	EC1
EC2 OF EC4	POND DETAILS	EC2
EC3 OF EC4	STABILIZATION PLAN	EC3
EC4 OF EC4	EROSION CONTROL DETAILS	EC4
PLP1 OF PLP1	POND LANDSCAPING PLAN	POND_LP

LEGEND



OWNER: FRIENDS SCHOOL OF WILMINGTON INC.
 350 PEIFFER AVENUE
 WILMINGTON, NC 28409
 PH. 910-792-1811

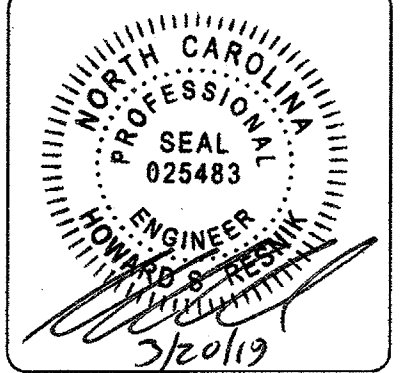
NOTES:

- BOUNDARY AND TOPOGRAPHY SURVEY PERFORMED BY GARY W. KEYES LAND SURVEYING, P.C.
- THIS MAP IS NOT FOR CONVEYANCE, RECORDATION, OR SALES.
- THIS PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA ACCORDING TO FEMA MAPS.
- THIS PROPERTY IS ZONED R-15
- CFPUA WATER
- CFPUA SEWER
- ALL CONSTRUCTION TO CONFORM TO CITY OF WILMINGTON STANDARDS AND APPLICABLE STATE & LOCAL CODES.
- CONTRACTOR TO COORDINATE ANY REQUIRED TRAFFIC CONTROL WITH CITY OF WILMINGTON AND OR NCDOT.
- CARE SHALL BE TAKEN DURING FINAL GRADING TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND TO RECEIVING STRUCTURES. ROOF DRAIN DOWNSPOUTS TO BE CONNECTED TO STORM DRAINAGE STUBOUTS OR DIRECTED TO STREET/PARKING AREAS.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY RELOCATIONS, RE-ALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING UTILITIES WITH APPLICABLE AUTHORITIES.
- CLEARING AND GRUBBING OF SITE TO INCLUDE REMOVAL OF EXISTING CURB, ASPHALT, INLETS, AND ANY OTHER STRUCTURES INCLUDING TREES, STUMPS AND DEBRIS EXISTING ON SITE. TREES NOT REQUIRED TO BE CLEARED FOR CONSTRUCTION SHALL REMAIN UNLESS OTHERWISE DIRECTED.
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT ELEVATIONS AND LOCATIONS OF ALL EXISTING UTILITIES AT ALL CROSSINGS PRIOR TO COMMENCING TRENCH EXCAVATION. IF ACTUAL CLEARANCES ARE LESS THAN INDICATED ON PLAN, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. ANY CONDITION DISCOVERED OR EXISTING THAT WOULD NECESSITATE A MODIFICATION OF THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
- NO CONSTRUCTION IS TO BEGIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NC ONE-CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL ADJUST ALL MANHOLES, VALVE & CURB BOXES TO FINAL GRADE UPON COMPLETION OF ALL CONSTRUCTION. ANY BOXES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST AND EROSION DURING CONSTRUCTION AT HIS EXPENSE. PARKING AREAS SHALL BE WATERED TO CONTROL DUST WHEN ORDERED BY THE ENGINEER.
- NO GEOTECHNICAL TESTING HAS BEEN PERFORMED ON SITE. NO WARRANTY IS MADE FOR SUITABILITY OF SUBGRADE, AND UNDERCUT AND ANY REQUIRED REPLACEMENT WITH SUITABLE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR TO ENSURE THAT PAVEMENT IS PLACED SO AS TO DRAIN POSITIVELY TO THE STREET INLETS AND CATCH BASINS. ALL FUTURE ROOF DRAIN DOWNSPOUTS TO BE DIRECTED TO THE STORM DRAINAGE STUBOUTS.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS.
- THIS PLAN IS FOR SITE GRADING, UTILITIES, SITING, AND DRAINAGE ONLY. SEE BUILDING PLANS FOR DETAILED HOOKUPS TO BUILDINGS, ETC.
- CONTRACTOR AND BUILDER ARE RESPONSIBLE FOR COORDINATING FINISHED FLOOR ELEVATION OF ALL BUILDINGS WITH THE OWNER. ELEVATIONS GIVEN ARE MINIMUM GROUND ELEVATIONS AT THE BUILDING SITE AND DO NOT PURPORT TO BE FINISHED FLOOR. MINIMUM RECOMMENDED FF ELEVATIONS SHOWN ON PLANS.
- AFFECTED NON-MUNICIPAL UTILITIES SHALL BE CONTACTED AND PROVIDED WITH PLANS AND OTHER PERTINENT INFORMATION, WHEN FEASIBLE, TO COORDINATE APPROPRIATE SCHEDULING AND PLACEMENT.
- EXTREME CARE SHALL BE TAKEN TO ENSURE MINIMUM SEPARATIONS AT ALL UTILITY CROSSINGS.
- MINIMUM SEPARATION SHALL BE MAINTAINED AS FOLLOWS:
 - HORIZONTAL SEPARATION OF 10 FEET BETWEEN SANITARY SEWER AND WATER MAINS AND STORM SEWER.
 - WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND WATER OR WHERE SEWER LINE CROSSES ABOVE WATER MAIN, BOTH PIPES SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING.
 - WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10 FEET EITHER SIDE OF CROSSING.
 - WHERE VERTICAL CLEARANCE IS LESS THAN 12" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING, AND BRIDGING SHALL BE INSTALLED PER APPLICABLE UTILITY AUTHORITY'S DETAILS.
 - IN NO CASE SHALL THERE BE LESS THAN 18" OF SEPARATION BETWEEN OUTSIDE OF WATER MAIN AND OUTSIDE OF SEWER OR STORM DRAINAGE.
 - MINIMUM COVER OF 36" SHALL BE PROVIDED FOR ALL BURIED WATER MAINS AND SANITARY SEWER MAINS.
- SEE DETAIL SHEETS FOR TYPICAL UTILITIES HOOKUPS.
- ALL SANITARY SEWER MAINS TO BE 8" UNLESS OTHERWISE INDICATED.
- ALL WATER MAINS TO BE 8" UNLESS OTHERWISE INDICATED.
- TWO VALVES ARE REQUIRED AT "T" INTERSECTIONS AND ONE VALVE ON THE WATER LINE TO FIRE HYDRANTS.
- A BLOW-OFF VALVE IS REQUIRED AT THE TERMINUS OF ALL "DEAD END" WATER LINES.

CSD ENGINEERING
 LICENSE # C-2710
 ENGINEERING
 LAND PLANNING
 COMMERCIAL / RESIDENTIAL
 P.O. BOX 4041
 WILMINGTON, NC 28406
 (910) 791-4441

COVER SHEET for FRIENDS SCHOOL OF WILMINGTON

CONSTRUCTION DRAWINGS for FRIENDS SCHOOL OF WILMINGTON
 LOCATED IN WILMINGTON TOWNSHIP
 NEW HANOVER COUNTY, NORTH CAROLINA
 OWNER: FRIENDS SCHOOL OF WILMINGTON INC
 350 PEIFFER AVENUE
 WILMINGTON, NC 28409
 PH. 910-792-1811



REV. NO.	DATE	BY	REMARKS
3	3/20/19	MB	REVISION PER CFPUA & COW ENGINEERING COMMENTS
2	1/7/19	MB	REVISION WATER MAIN TABLE & SHEET NUMBERS
1	7/18/18	MB	REVISION SHEET NUMBERS

DATE: 6-4-18
 HORZ. SCALE: 1" = 200'
 VERT. SCALE: N/A
 DRAWN BY: RLW
 CHECKED BY: HSR
 PROJECT NO.: 05-0040
 Sheet No. **1** of **14**

Point #	Raw Description
1	CREPE MYRTLE
5	12" CEDAR
8	6" MAG
11	18" PINE
12	22" PINE
13	8" OAK
14	7" MAG
15	23" PINE
16	10" HOLLY
19	SMALL PALM
20	8" MAG
21	16" OAK
22	10" OAK
23	14" OAK
24	8" OAK
25	19" PINE
27	20" PINE
28	14" PINE
29	16" PINE
30	8" DOGWOOD

Point #	Raw Description
31	24" LOBLOLLY
32	10" OAK
33	20" PINE
34	18" PINE
35	6" CHINESE PISTACHE
36	11" CHINESE PISTACHE
37	21" PINE
38	19" PINE
39	18" PINE
40	14" PINE
41	8" GUM
42	12" CAMPHOR
43	CREPE MYRTLE
44	10" MAG
45	20" HARDWOOD
46	5" DOGWOOD
47	11" MAG
48	12" OAK
49	18" PINE
50	15" PINE

Point #	Raw Description
51	14" PINE
52	14" PINE
53	14" PINE
54	10" CEDAR
55	8" CEDAR
56	9" CEDAR
57	13" GUM
58	11" GUM
59	13" PINE
60	24" LOBLOLLY
61	15" PINE
62	10" HARDWOOD
63	11" HARDWOOD
64	DAMAGED CHERRY
65	DAMAGED CHERRY
66	14" OAK
67	8" CHERRY
68	DAMAGED CHERRY
69	DAMAGED CHERRY
70	11" GUM

Point #	Raw Description
71	8" MAG
72	7" MAG
73	19" PINE
74	15" PINE
75	DAMAGED CHERRY
76	DAMAGED CHERRY
77	DAMAGED CHERRY
78	13" HARDWOOD
79	8" CEDAR
80	18" GUM
81	5" MAG
82	19" PINE
83	14" PINE
84	17" PINE
85	10" HARDWOOD
86	12" PINE
87	18" PINE
88	18" PINE
89	11" GUM
90	12" PINE

Point #	Raw Description
91	12" PINE
92	12" PINE
93	12" PINE
94	8" OAK
95	18" PINE
96	12" PINE
97	12" PINE
98	12" PINE
99	16" PINE
100	8" GUM
101	9" GUM
102	17" OAK
103	13" PINE
104	13" PINE
105	13" PINE
106	12" PINE
107	13" PINE
108	13" PINE
109	16" PINE
110	12" PINE

Point #	Raw Description
111	19" PINE
112	17" PINE
113	18" MAG
114	14" PINE
115	5" MAG
116	14" PINE
117	14" MAGNOLIA
118	10" CEDAR
119	16" PINE
120	16" PINE
121	16" MAG
122	19" HARDWOOD
123	20" OAK
124	8" OAK
125	DAMAGED CHERRY
126	12" CEDAR
127	11" CEDAR
128	13" CEDAR
129	9" HARDWOOD
130	14" HARDWOOD

Point #	Raw Description
244	28" LOBLOLLY
245	17" PINE
246	18" PINE
247	6" GUM

LEGEND

- EXISTING BOUNDARY
- EXISTING CONCRETE
- EXISTING WATER
- EXISTING SEWER
- EXISTING FIRE HYDRANT
- EXISTING CONTOUR
- EXISTING STORM DRAIN
- EXISTING TREE
- IMPERVIOUS TO BE REMOVED



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

Approved Construction Plan

Name: _____ Date: _____

Planning: *J. Walter* 5-13-19

Traffic: *Shelby* 5-14-19

Fire: _____

CITY OF WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: 5/15/19 Permit # 2019028

Signed: *Rich Anderson*

CSD ENGINEERING

LICENSE # C-2710

ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL

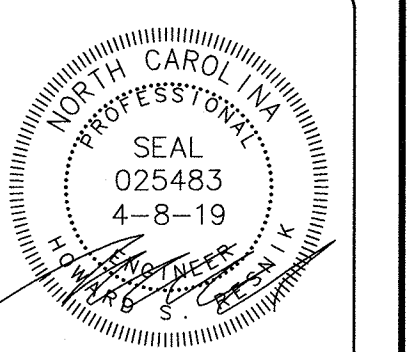
P.O. BOX 4041
WILMINGTON, NC 28406
(910) 791-4441

EXISTING CONDITIONS
for
FRIENDS SCHOOL OF WILMINGTON

Not to be used for any other project without the written consent of the Engineer. The Engineer is not responsible for any errors or omissions in this plan or for any consequences arising therefrom. The Engineer is not responsible for any damage to property or persons resulting from the use of this plan.

CONSTRUCTION DRAWINGS for
FRIENDS SCHOOL OF WILMINGTON
LOCATED IN WILMINGTON TOWNSHIP
NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: FRIENDS SCHOOL OF WILMINGTON INC
350 PEPPER AVENUE
WILMINGTON, NC 28409
PH: 910-792-1811



REV. NO.	REMARKS	BY	DATE
5	REVISED PER CIVIL ENGINEERING COMMENTS	RLW	4/9/19
4	REVISED PER TRC & CIVIL ENGINEERING COMMENTS	RLW	3/27/19
3	REVISED SHEET NUMBERS	MSB	1/7/19
2	REVISED TREES / REMOVED TREES DESTROYED DURING THE HURRICANE SEASON	MSB	11/12/18
1	REVISED SHEET NUMBERS	MSB	7/18/18

DATE: 6-4-18

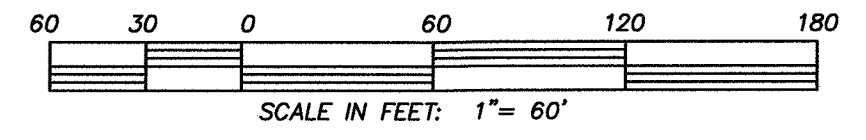
HORIZ. SCALE: 1" = 60'

VERT. SCALE: N/A

DRAWN BY: RLW

CHECKED BY: HSR

PROJECT NO.: 05-0040



TREES SCHEDULED FOR REMOVAL

Point #	Raw Description	Point #	Raw Description	Point #	Raw Description
11	18" PINE	59	13" PINE	92	12" PINE
12	22" PINE	60	24" LOBLOLLY	94	8" OAK
13	8" OAK	61	15" PINE	105	13" PINE
14	7" MAG	63	11" HARDWOOD	106	13" PINE
22	10" OAK	64	DAMAGED CHERRY	107	13" PINE
30	8" OAK	65	DAMAGED CHERRY	108	13" PINE
34	8" DOGWOOD	66	14" OAK	109	16" PINE
31	24" LOBLOLLY	67	8" CHERRY	110	12" PINE
35	6" CHINESE PISTACHE	68	DAMAGED CHERRY	112	17" PINE
36	11" CHINESE PISTACHE	69	DAMAGED CHERRY	113	18" MAG
37	21" PINE	70	11" GUM	114	14" PINE
38	19" PINE	71	8" MAG	115	5" MAG
39	18" PINE	72	7" MAG	116	14" PINE
40	14" PINE	73	19" PINE	118	10" CEDAR
41	8" GUM	76	DAMAGED CHERRY	119	16" PINE
45	20" HARDWOOD	77	DAMAGED CHERRY	120	16" PINE
46	5" DOGWOOD	78	13" HARDWOOD	121	16" MAG
55	8" CEDAR	79	8" CEDAR	246	18" PINE
56	9" CEDAR	81	5" MAG	247	6" GUM
57	13" GUM	84	17" PINE		
58	11" GUM	85	10" HARDWOOD		

● TO BE REMOVED

(ST) SIGNIFICANT TREES = HARDWOOD, LONG LEAF PINE, POCOSIN PINE, BLACK PINE, AND NON-PINE CONIFER AT LEAST 24 INCHES DBH, ALL OTHER PINES AT LEAST 32 INCHES DBH AND DOGWOOD, MAGNOLIAS, AMERICAN HOLLIES AND OTHER ORNAMENTAL FLOWERING TREES AT LEAST 8 INCHES DBH.

SIGNIFICANT TREES SCHEDULED TO BE REMOVED

DESCRIPTION	MITIGATION %	
8" DOGWOOD	100	$(8 \times 2 \times 1.0) / 3 = 5.3$
8" CHERRY	75	$(8 \times 2 \times .75) / 3 = 4.0$
8" MAGNOLIA	100	$(8 \times 2 \times 1.0) / 3 = 5.3$
18" MAGNOLIA	100	$(18 \times 2 \times 1.0) / 3 = 12.0$
16" MAGNOLIA	100	$(16 \times 2 \times 1.0) / 3 = 10.7$
		TOTAL = 37.3 TREES

TREES SCHEDULED TO BE RETAINED

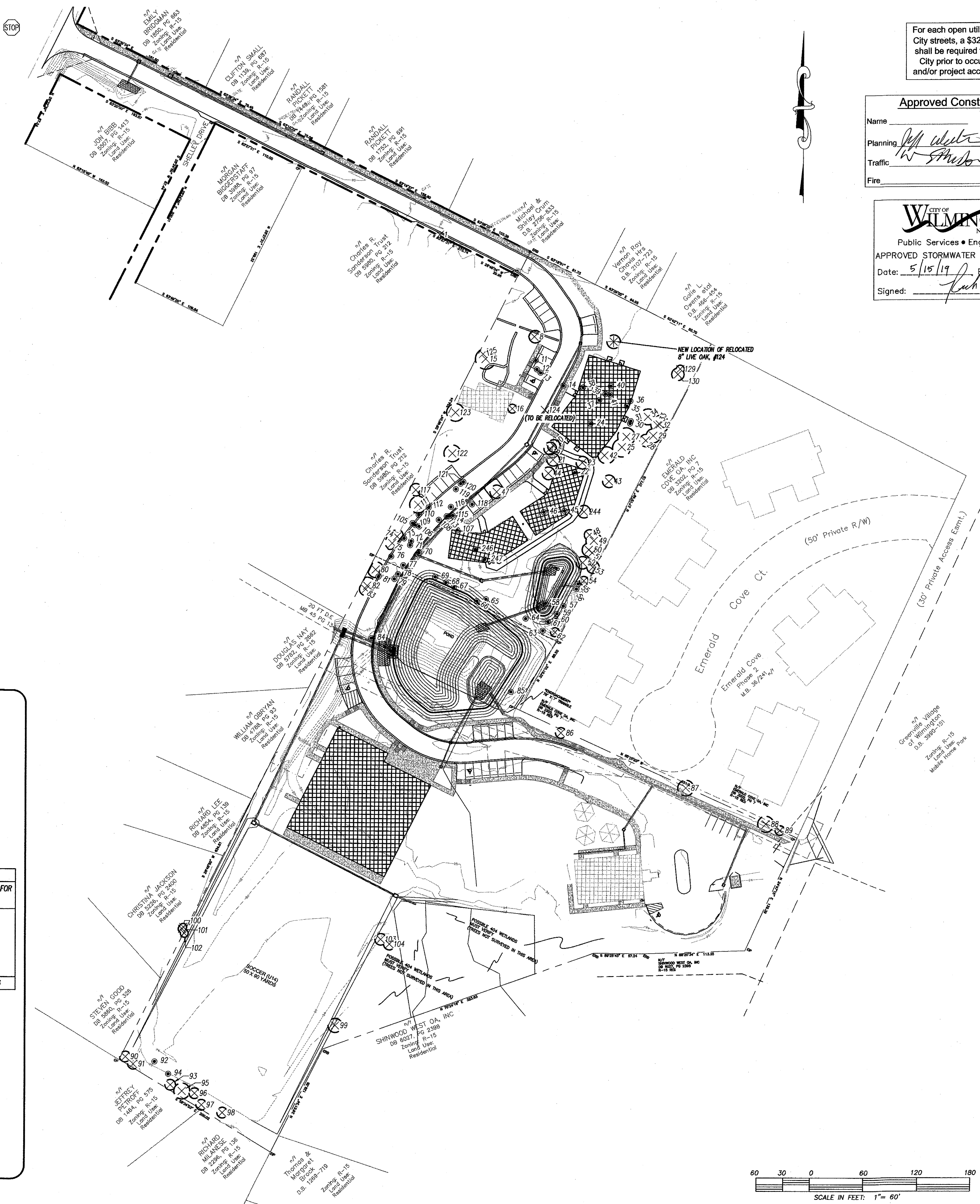
Point #	Raw Description	Point #	Raw Description	Point #	Raw Description
44	10" MAG	93	12" PINE		
47	11" MAG	95	18" PINE		
48	12" OAK	96	12" PIN*		
49	18" PINE	97	12" PINE		
50	15" PINE	98	12" PINE		
51	14" PINE	99	16" PINE		
52	14" PINE	100	8" GUM		
53	14" PINE	101	9" GUM		
54	10" CEDAR	102	17" OAK		
62	10" HARDWOOD	103	13" PINE		
74	15" PINE	104	13" PINE		
75	DAMAGED CHERRY	111	19" PINE		
80	18" GUM	117	14" MAGNOLIA		
82	19" PINE	122	19" HARDWOOD		
83	14" PINE	123	20" OAK		
86	12" PINE	124	8" OAK		
87	18" PINE	125	DAMAGED CHERRY		
88	18" PINE	129	9" HARDWOOD		
89	11" GUM	130	14" HARDWOOD		
90	12" PINE	244	28" LOBLOLLY		
91	12" PINE				

* TO BE RELOCATED

× TO BE RETAINED

CREDIT FOR PRESERVED TREES

PRESERVED TREES (INCHES CALIPER OR DBH)	CREDIT	NUMBER OF TREES	CREDIT FOR TREES
2-5	1	-	-
6-11	2	12	24
12-17	3	25	75
18-23	4	12	48
>24	DBH/6	1	4.6
		TOTAL	151.6



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

Approved Construction Plan

Name: _____ Date: _____

Planning: *[Signature]* 5-13-19

Traffic: *[Signature]* 5-14-19

Fire: _____

CITY OF WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: 5/15/19 Permit # 20190229

Signed: *[Signature]*

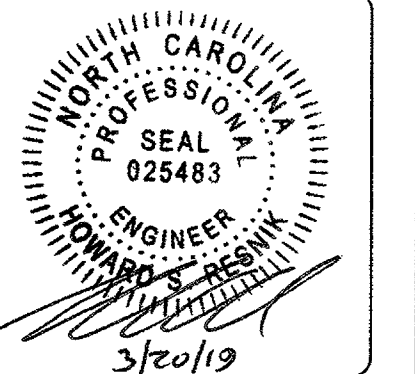


LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL

P.O. BOX 4041
WILMINGTON, NC 28406
(910) 791-4441

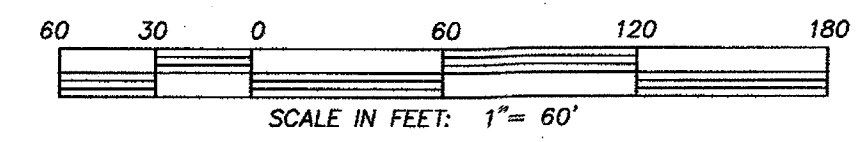
TREE INVENTORY-MITIGATION PLAN
for
FRIENDS SCHOOL OF WILMINGTON

TREE INVENTORY-MITIGATION PLAN
FRIENDS SCHOOL OF WILMINGTON
LOCATED IN WILMINGTON TOWNSHIP
NEW HANCOCK COUNTY, NORTH CAROLINA
OWNER: FRIENDS SCHOOL OF WILMINGTON INC
350 PEPPER AVENUE
WILMINGTON, NC 28409
PH: 910-792-1811

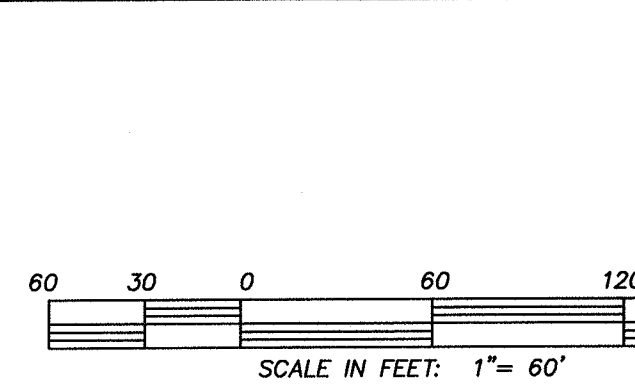
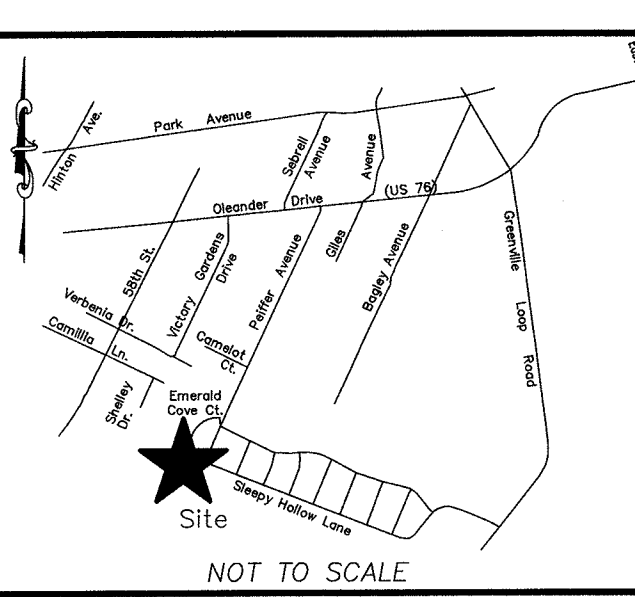


REV. NO.	DATE	BY	REMARKS
1	3/20/19	MBB	
2	11/12/19	JSM	
3	11/12/19	JSM	
4	3/20/19	MBB	

DATE: 6-4-18
HORZ. SCALE: 1" = 60'
VERT. SCALE: N/A
DRAWN BY: RLW
CHECKED BY: HSR
PROJECT NO.: 05-0040



LOCATION MAP



SITE & BUILDING DATA:

LOT AREA = 316,856 SF (7.27 AC)
 CAMELIA LANE ROW = 22,735 SF (0.52 AC)
 TOTAL PROJECT AREA = 339,591 SF (7.80 AC)

TOTAL OF 250 STUDENTS MAX
 PROPERTY ADDRESS IS 350 PEPPER AVENUE
 PID # R06200-003-064-000

EXISTING ON-SITE DATA:
 EXISTING BUILDINGS ON SITE = 14,834 SF
 EXISTING ASPHALT = 28,339 SF
 EXISTING SIDEWALK = 4,022 SF
TOTAL = 47,195 SF

47,195 SF / 316,856 SF = 0.149

EXISTING 15% IMPERVIOUS

EXISTING ON-SITE TO BE REMOVED:
 EXISTING BUILDINGS ON SITE = 7,596 SF
 EXISTING ASPHALT = 11,858 SF
 EXISTING SIDEWALK = 2,542 SF
TOTAL = 21,996 SF

21,996 SF / 316,856 SF = 0.315

PROPOSED ON-SITE IMPERVIOUS:
 PROPOSED BUILDINGS = 26,662 SF
 EXISTING BUILDINGS = 7,239 SF
 PROPOSED ASPHALT & CURBING = 29,216 SF
 EXISTING ASPHALT & CURBING = 16,478 SF
 PROPOSED SIDEWALKS = 13,685 SF
 EXISTING SIDEWALKS = 1,483 SF
 FUTURE = 5,000 SF
TOTAL = 99,762 SF

99,762 SF / 316,856 SF = 0.315

PROPOSED 32% IMPERVIOUS

PROPOSED IMPERVIOUS OFFSITE (CAMELIA LANE IMPROVEMENTS)
 ASPHALT & CURBING = 13,215 SF
 SIDEWALK = 2,841 SF

13,215 SF + 2,841 SF = 16,056 SF

16,056 SF / 316,856 SF = 0.051

PROPOSED 32% IMPERVIOUS

PROPOSED ASPHALT & CURBING = 13,215 SF

PROPOSED SIDEWALK = 2,841 SF

PROPOSED ASPHALT & CURBING = 13,215 SF

PROPOSED SIDEWALK = 2,841 SF

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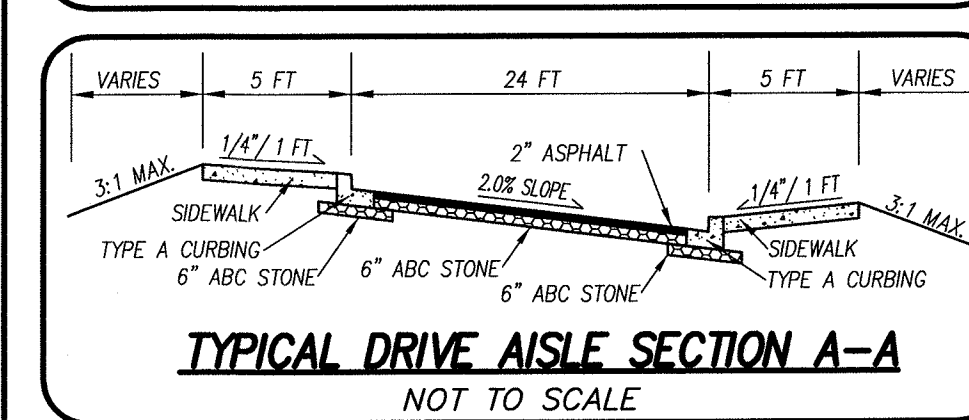
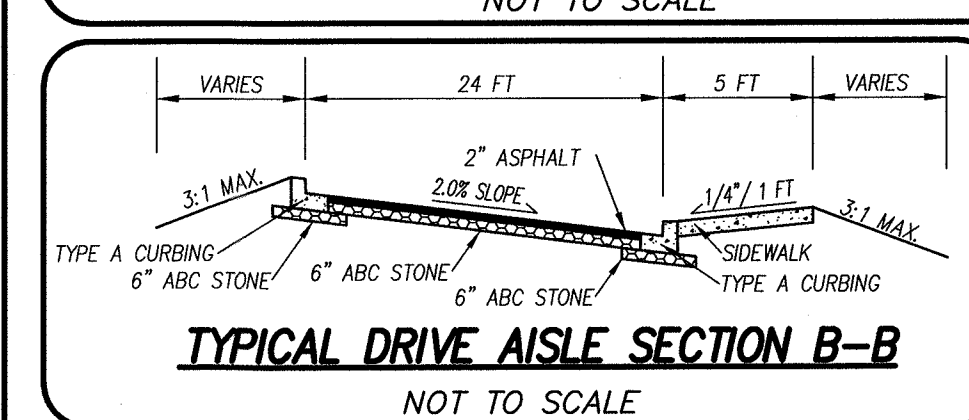
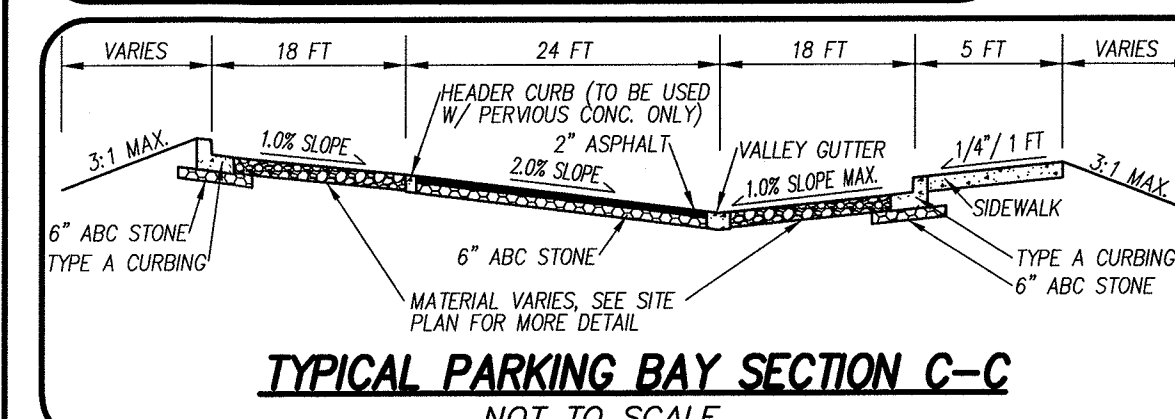
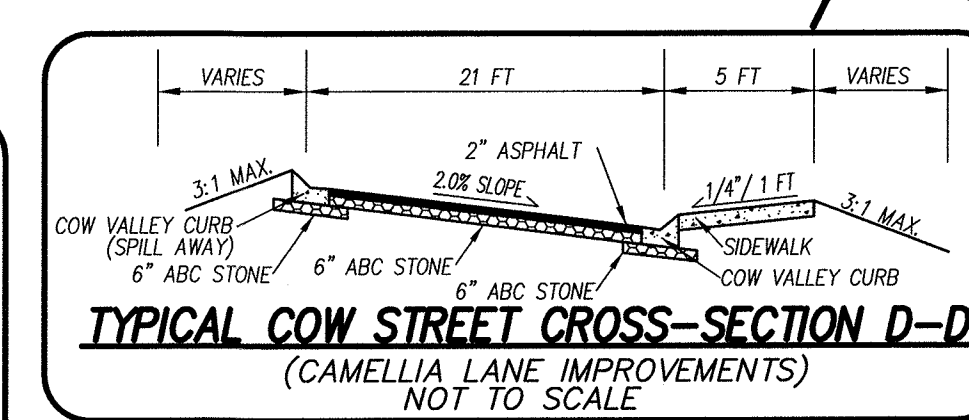
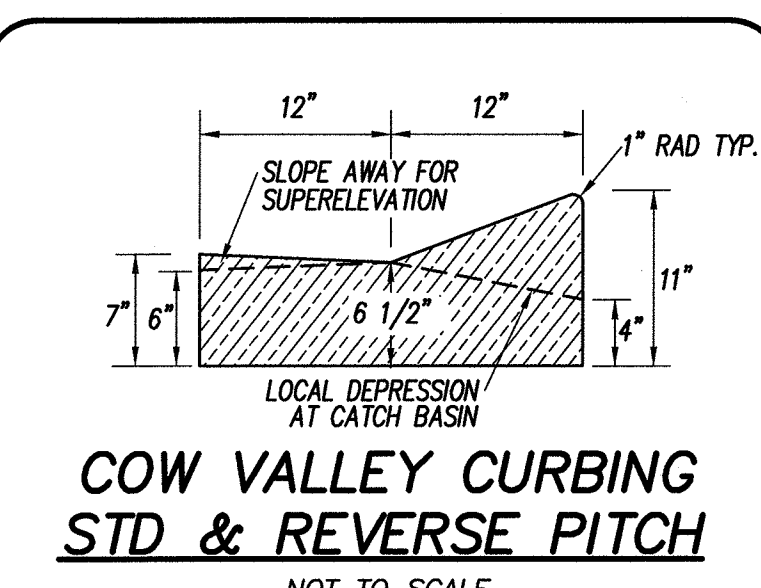
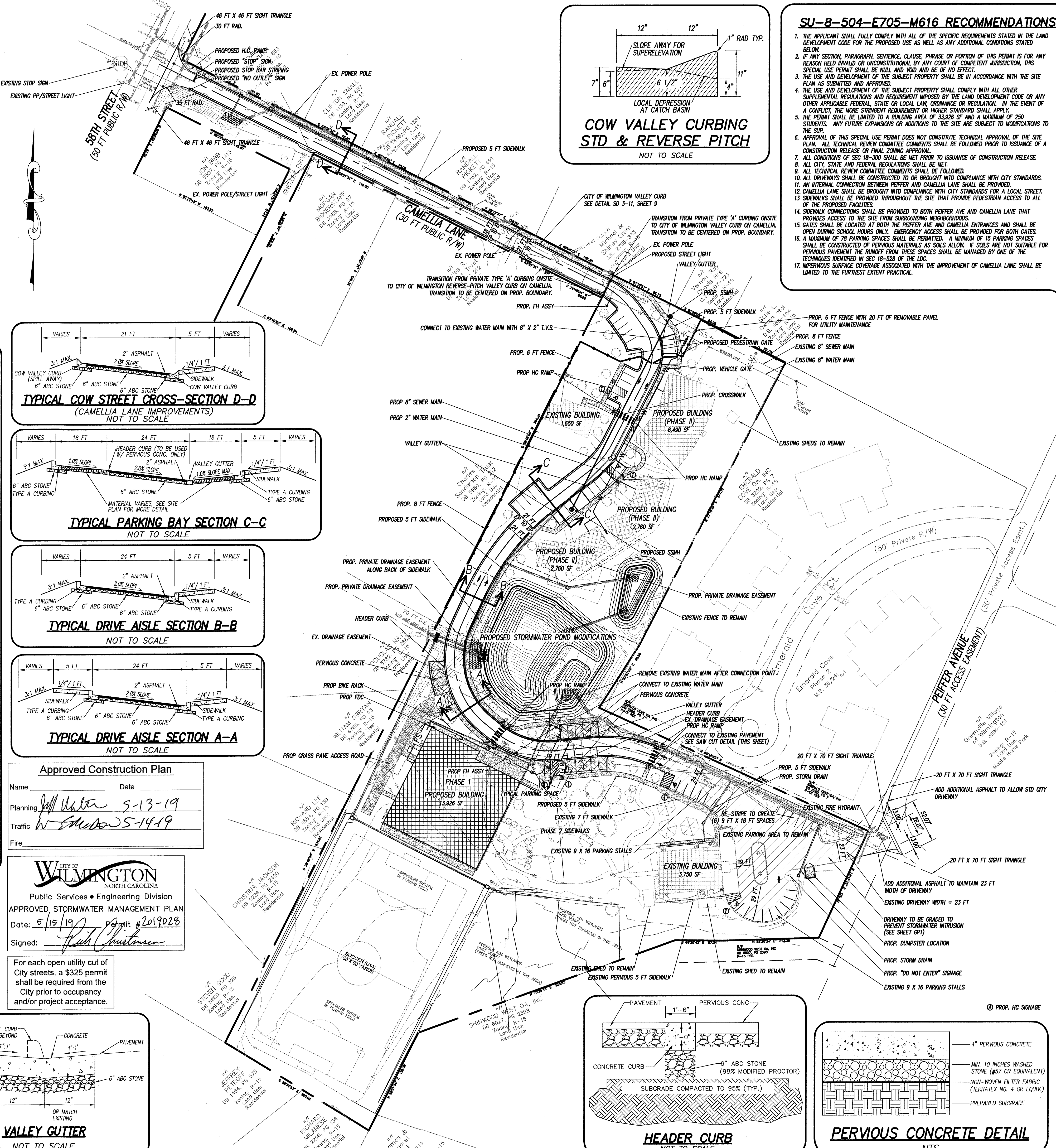
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PROPOSED ASPHALT & CURBING = 13,215 SF

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PROPOSED ASPHALT & CURBING = 13,215 SF

PROPOSED SIDEWALK = 2,841 SF



Approved Construction Plan

Name: _____ Date: _____

Planning: *[Signature]* 5-13-19

Traffic: *[Signature]* 5-14-19

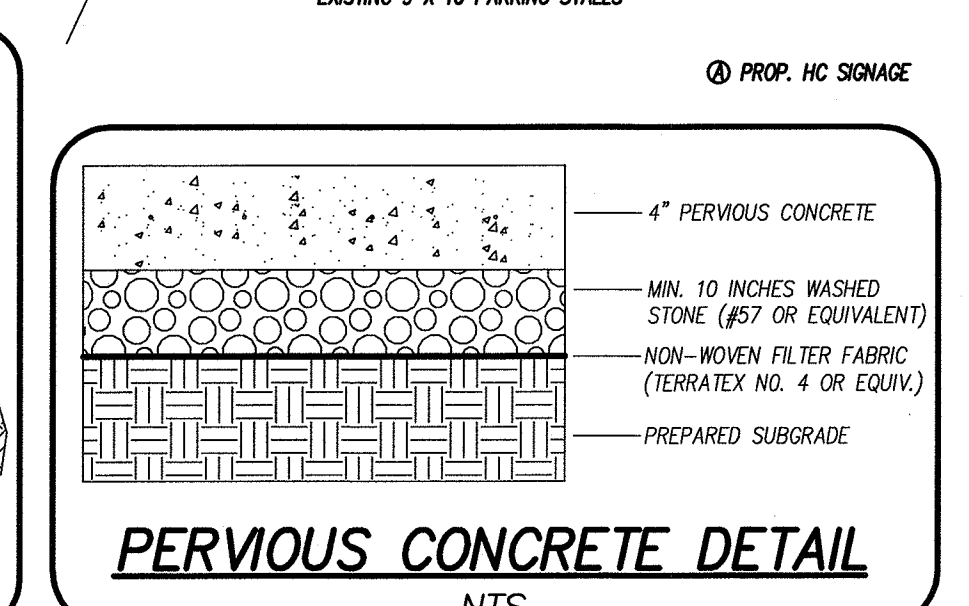
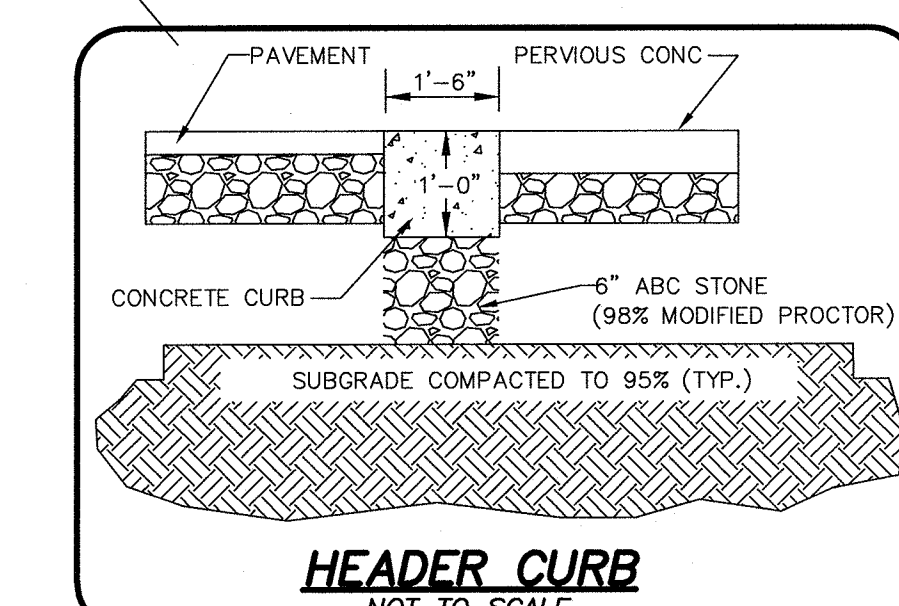
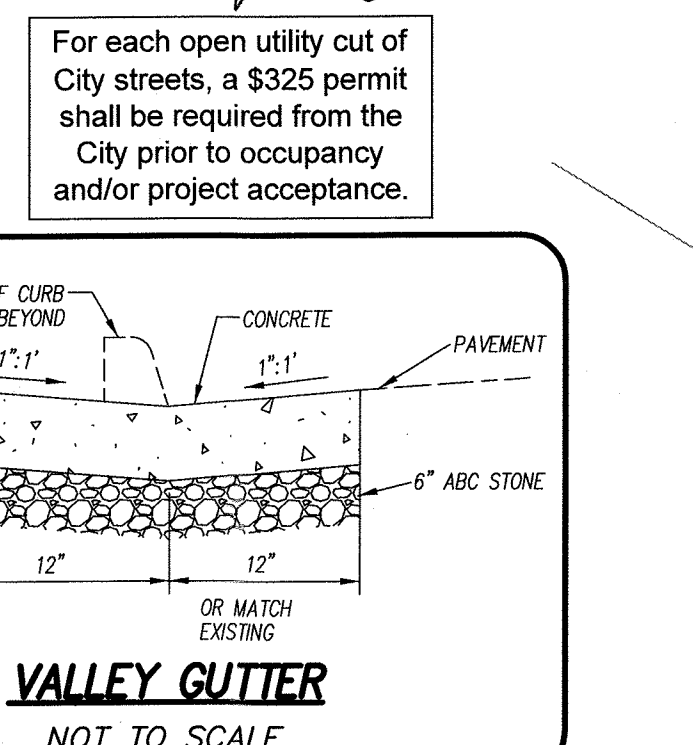
Fire: _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: 5/15/19 Permit # 2019028

Signed: *[Signature]*



SU-8-504-E705-M616 RECOMMENDATIONS

1. THE APPLICANT SHALL FULLY COMPLY WITH ALL OF THE SPECIFIC REQUIREMENTS STATED IN THE LAND DEVELOPMENT CODE FOR THE PROPOSED USE AS WELL AS ANY ADDITIONAL CONDITIONS STATED BELOW.
2. IF ANY SECTION, PARAGRAPH, SENTENCE, CLAUSE, PHRASE OR PORTION OF THIS PERMIT IS FOR ANY REASON HELD INVALID OR UNCONSTITUTIONAL BY ANY COURT OF COMPETENT JURISDICTION, THIS SPECIAL USE PERMIT SHALL BE NULL AND VOID AND BE OF NO EFFECT.
3. THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL BE IN ACCORDANCE WITH THE SITE PLAN AS SUBMITTED AND APPROVED.
4. THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL COMPLY WITH ALL OTHER SUPPLEMENTAL REGULATIONS AND REQUIREMENTS IMPOSED BY THE LAND DEVELOPMENT CODE OR ANY OTHER APPLICABLE FEDERAL, STATE OR LOCAL LAW, ORDINANCE OR REGULATION. IN THE EVENT OF A CONFLICT, THE MORE STRINGENT REQUIREMENT OR HIGHER STANDARD SHALL APPLY.
5. THE PERMIT SHALL BE LIMITED TO A BUILDING AREA OF 33,926 SF AND A MAXIMUM OF 250 STUDENTS. ANY FUTURE EXPANSIONS OR ADDITIONS TO THE SITE ARE SUBJECT TO MODIFICATIONS TO THE SITE PLAN.
6. APPROVAL OF THIS SPECIAL USE PERMIT DOES NOT CONSTITUTE TECHNICAL APPROVAL OF THE SITE PLAN. ALL TECHNICAL REVIEW COMMITTEE COMMENTS SHALL BE FOLLOWED PRIOR TO ISSUANCE OF A CONSTRUCTION RELEASE OR FINAL ZONING APPROVAL.
7. ALL CONDITIONS OF SEC 18-300 SHALL BE MET PRIOR TO ISSUANCE OF CONSTRUCTION RELEASE.
8. ALL CITY, STATE AND FEDERAL REGULATIONS SHALL BE MET.
9. ALL TECHNICAL REVIEW COMMITTEE COMMENTS SHALL BE FOLLOWED.
10. ALL DRIVEWAYS SHALL BE CONSTRUCTED TO OR BROUGHT INTO COMPLIANCE WITH CITY STANDARDS.
11. AN INTERNAL CONNECTION BETWEEN PEPPER AND CAMELIA LANE SHALL BE PROVIDED.
12. CAMELIA LANE SHALL BE BROUGHT INTO COMPLIANCE WITH CITY STANDARDS FOR A LOCAL STREET.
13. SIDEWALKS SHALL BE PROVIDED THROUGHOUT THE SITE THAT PROVIDE PEDESTRIAN ACCESS TO ALL OF THE PROPOSED FACILITIES.
14. SIDEWALK CONNECTIONS SHALL BE PROVIDED TO BOTH PEPPER AVE AND CAMELIA LANE THAT PROVIDES ACCESS TO THE SITE FROM SURROUNDING NEIGHBORHOODS.
15. GATES SHALL BE LOCATED AT BOTH THE PEPPER AVE AND CAMELIA ENTRANCES AND SHALL BE OPEN DURING SCHOOL HOURS ONLY. EMERGENCY ACCESS SHALL BE PROVIDED FOR BOTH GATES.
16. A MAXIMUM OF 78 PARKING SPACES SHALL BE PERMITTED. A MINIMUM OF 15 PARKING SPACES SHALL BE CONSTRUCTED OF PERVIOUS MATERIALS AS SOLE ALLOW. IF SOLES ARE NOT SUITABLE FOR PERVIOUS PAVEMENT THE RUNOFF FROM THESE SPACES SHALL BE MANAGED BY ONE OF THE TECHNIQUES IDENTIFIED IN SEC 18-528 OF THE LDC.
17. IMPERVIOUS SURFACE COVERAGE ASSOCIATED WITH THE IMPROVEMENT OF CAMELIA LANE SHALL BE LIMITED TO THE FURTHEST EXTENT PRACTICAL.

TRAFFIC ENGINEERING NOTES:

1. A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO RECORDING OF THE FINAL PLAN. PLAN SHALL ADHERE TO SD 15-17.
2. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
3. OPEN CUT NOTES:
 A. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 311-3488 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
 B. CONTRACTOR TO COORDINATE WITH CITY OF WILMINGTON FOR ACCEPTABLE HOURS OF CONSTRUCTION AND TRAFFIC CONTROL DURING INSTALLATION OF UTILITIES IN CITY ROADS.
 C. SUITABLE COMPACTOR AND APPROVED STONE & BASE COURSES TO BE INSTALLED IN PLACE OF OPEN CUT.
 D. OPEN CUT TO BE SAW CUT.
4. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS OF WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR MUTCD STANDARDS.
5. IT SHALL BE THE RESPONSIBILITY OF THE SUBMITTER TO DIRECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBMITTER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBMITTER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
6. CALL TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
7. TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR RAMPS.
8. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
9. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT OF WAY ARE TO BE MAINTAINED BY THE SUBMITTER.
10. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREA SHALL BE WHITE.
11. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
12. ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30 INCHES - 10 FT.

ENVIRONMENTAL NOTES:

1. NO LAND DISTURBANCE IS PERMITTED OUTSIDE THE DESIGNATED LIMITS OF DISTURBANCE FOR SITE IMPROVEMENTS OTHER THAN THAT WHICH IS NECESSARY TO TIE INTO EXISTING CONTOURS OR MEET LANDSCAPING REQUIREMENTS.

DEVELOPMENT NOTES:

1. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION. CALL 311-3488 FOR MORE DETAILS. CONTRACTOR IS RESPONSIBLE FOR THE REPAIR AND REPLACEMENT OF ANY UTILITIES, CURB AND GUTTER, SIDEWALK PANELS, PAVEMENT, ETC., THAT MAY BE DAMAGED DURING CONSTRUCTION. DAMAGED ITEMS SHALL BE REPAIRED TO AT LEAST THE QUALITY OR WORKMANSHIP FOUND IN THE ORIGINAL ITEM.
3. SOLID WASTE DISPOSAL WILL BE HAND TOTES.
4. ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON ZONING ORDINANCE & SUBDIVISION REGULATIONS.
5. APPROVAL OF THIS SITE PLAN DOES NOT CONSTITUTE APPROVAL OF PROPOSED SIGNAGE FOR THIS SITE. A SEPARATE SIGN PERMIT MUST BE OBTAINED.
6. APPLICABLE STREET FRONTAGES SHALL HAVE NATURAL VEGETATIVE SCREENING MEETING CITY REQUIREMENTS.
7. THE DEVELOPMENT SHALL COMPLY WITH ALL CITY TECHNICAL STANDARDS AND DEVELOPMENT REGULATIONS.

WATER & SEWER USAGE NOTES:

CURRENT WATER USAGE 2,775 GPD PROPOSED WATER USAGE 3,750 GPD
 CURRENT SEWER USAGE 2,775 GPD PROPOSED SEWER USAGE 3,750 GPD

WATER - 250 STUDENTS MAX X 15 GPD = 3,750 GPD
 SEWER - 250 STUDENTS MAX X 15 GPD = 3,750 GPD

FIRE & LIFE SAFETY NOTES:

1. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE FIRE HYDRANTS OR FDC'S. A 3 FT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT.
2. CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
3. PRIVATE UNDERGROUND FIRE LINES REQUIRE A SEPARATE FIRE LINE PERMIT FROM COW FIRE AND LIFE SAFETY DIVISION, 910-343-0696.
4. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
5. HYDRANTS MUST BE WITHIN 150 FT OF THE FDC.
6. FDC MUST BE WITHIN 40 FT OF FIRE APPARATUS PLACEMENT.
7. ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
8. ALL ISOLATION VALVES WITHIN THE "HOT BOX" SHALL BE ELECTRICALLY SUPERVISED.

UTILITY NOTES:

1. PROJECT SHALL COMPLY WITH THE CITY OF WILMINGTON AND CPWA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE SET AND ACTIVATED ON NEW MAINS UNTIL ALL REQUIREMENTS ARE MET. CALL 343-3910 FOR INFORMATION.
2. IF THE CONTRACTOR DESIRES WATER FOR CONSTRUCTION HE/SHE 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.
3. ALL COMMERCIAL WATER SERVICES AND ANY IRRIGATION SYSTEMS SUPPLIED BY CPWA WATER SHALL HAVE A BACKFLOW PREVENTION DEVICE ACCEPTABLE TO THE CPWA AND APPROVED BY USPOCCOR OR ASSE. CALL 759-6094 FOR INFORMATION.
4. WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND STRAPPED TO THE PIPES AT 4 FT INTERVALS. THE INSULATED WIRE IS TO BE STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES AND FITTINGS. THE WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
5. 38MM WIRE COVER OVER ALL WATER MAINS SHALL COMPLY WITH CITY AND CPWA CROSS-CONNECTION REQUIREMENTS WITH APPROVED BACKFLOW PREVENTION DEVICES.
6. ANY SEPARATE CONNECTION FOR IRRIGATION SHALL COMPLY WITH CITY AND CPWA CROSS-CONNECTION REQUIREMENTS WITH APPROVED BACKFLOW PREVENTION DEVICES.
7. AT LOCATIONS WHERE WATER MAINS CROSS UNDER SANITARY SEWER, DUCTILE IRON PIPE SHALL BE USED ALONG WITH PROVIDING A MINIMUM OF VERTICAL SEPARATION.
8. WATER SERVICES CAN NOT BE ACTIVATED ON NEW WATER MAINS UNTIL ENGINEER'S CERTIFICATION AND APPLICANT'S CERTIFICATION HAVE BEEN PROVIDED TO NCDNR AND "FINAL APPROVAL" ISSUED.
9. UNDERGROUND UTILITIES- ALL NEW UTILITIES SHALL BE INSTALLED UNDERGROUND, EXCEPT WHERE SUCH PLACEMENT IS PROHIBITED OR DEEMED IMPRACTICAL BY THE UTILITY PROVIDER. UNDERGROUND FACILITIES FOR STREET LIGHTING ALONG ALL PUBLIC STREETS ADJACENT TO THE SUBJECT SITE SHALL BE INSTALLED BY THE DEVELOPER.

PARKING NOTES:

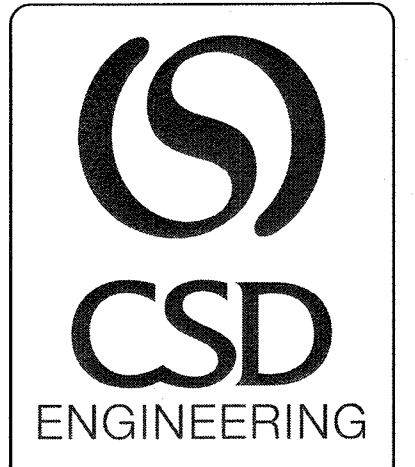
1. 1 PARKING SPACE FOR EACH TEACHER AND STAFF MEMBER. 42 SPACES REQUIRED. 66 TOTAL PARKING SPACES PROVIDED.
2. 3 HANDICAP SPACES REQUIRED. 6 HANDICAPPED PARKING SPACES PROVIDED.
3. 5 BICYCLE PARKING SPACES REQUIRED. 5 PROVIDED.
4. ALL PROPOSED PARKING SPACES TO BE 9 FT X 18 FT.
5. PARKING STOPS TO BE PLACED ON SPACES THAT ADJOIN SIDEWALK.

VARIANCE REQUESTS

1. SEE SPECIAL USE PLAN, # SU-8-504-E705-M616
2. DISTANCE FROM DRIVEWAY TO PROPERTY LINE IS LESS THAN 6.5 FT
3. 30 FT NORTH CORNER RADIUS AT CONNECTION OF 58 ST AND CAMELIA LANE.
4. 5 FT SIDEWALK ALONG BACK OF CURB INSTEAD OF 6 FT ALONG CAMELIA LANE.

GENERAL NOTES:

1. NEW HANOVER COUNTY PARCEL NUMBERS: PID = R06200-003-064-000
2. TOTAL PROJECT AREA: 339,591 SF (7.80 AC)
3. EXISTING ZONING DISTRICT: R-15
4. LAND CLASSIFICATION: RESOURCE PROTECTION
5. THIS SITE IS LOCATED WITHIN ZONE "C" ACCORDING TO FEMA FIRM COMMUNITY PANEL NUMBER 3720314600K, EFFECTIVE DATE 8/28/18
6. SITE ADDRESS 350 PEPPER AVE
7. EXISTING IMPERVIOUS ON-SITE = 47,195 SF
8. BOUNDARY AND TOPOGRAPHIC SURVEY PERFORMED AND PROVIDED TO CSD ENGINEERING BY GARY W. KEYES LAND SURVEYING, P.C. C-4086
9. VERTICAL DATUM = 88
10. STORMWATER DRAINS TO UT TO HEMLETT'S CREEK SA-HOW 18-87-26
11. LAND OWNER - FRIENDS SCHOOL OF WILMINGTON INC 350 PEPPER AVENUE WILMINGTON, NC 28409



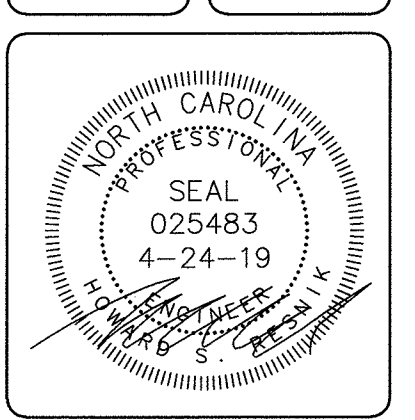
LICENSE # C-2710
 ENGINEERING
 LAND PLANNING
 COMMERCIAL / RESIDENTIAL

P.O. BOX 4041
 WILMINGTON, NC 28406
 (910) 791-4441

SITE PLAN for
FRIENDS SCHOOL OF WILMINGTON

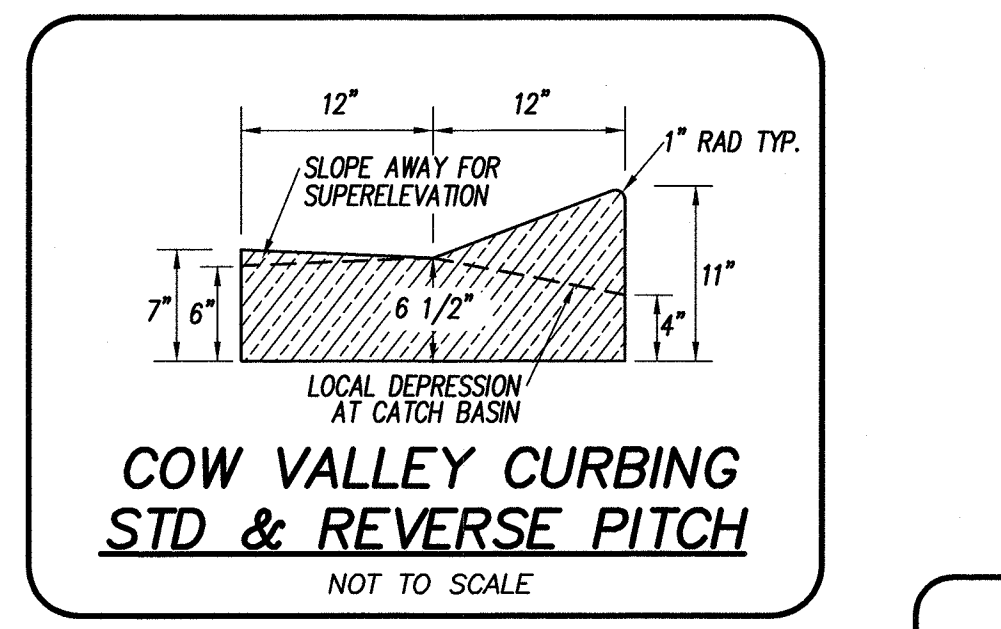
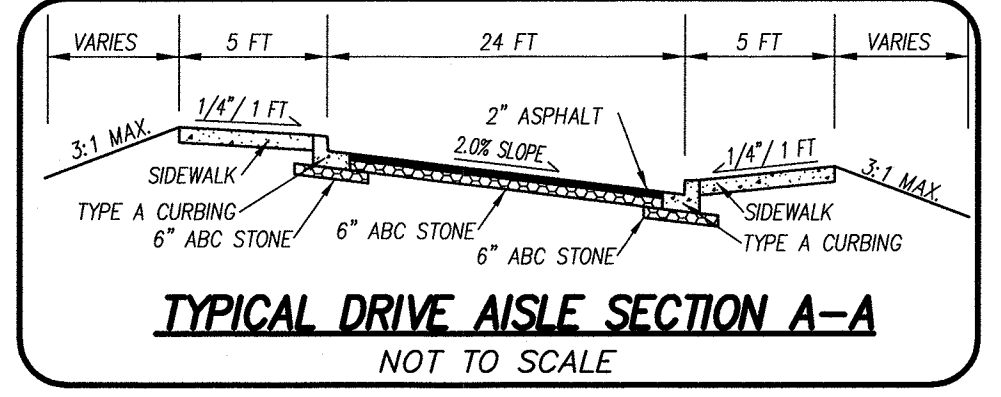
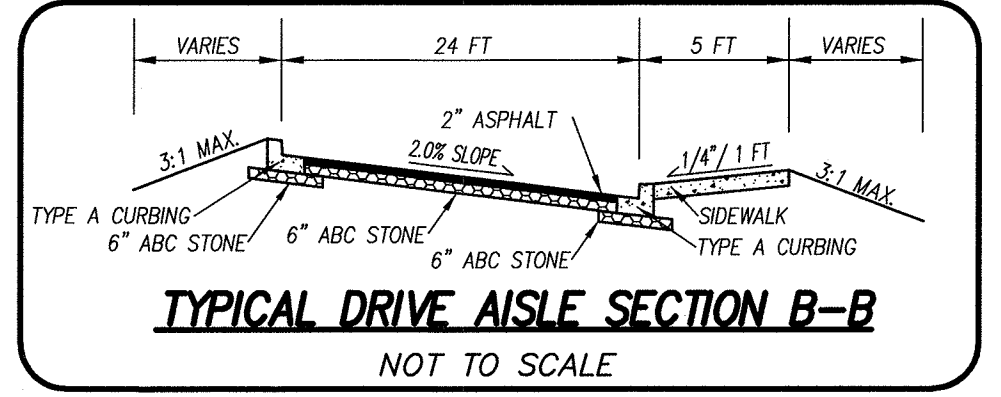
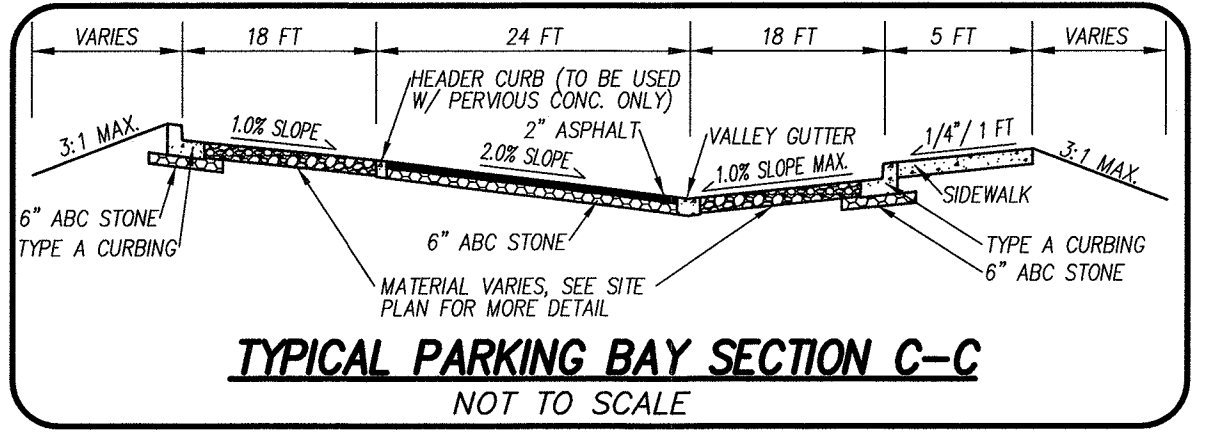
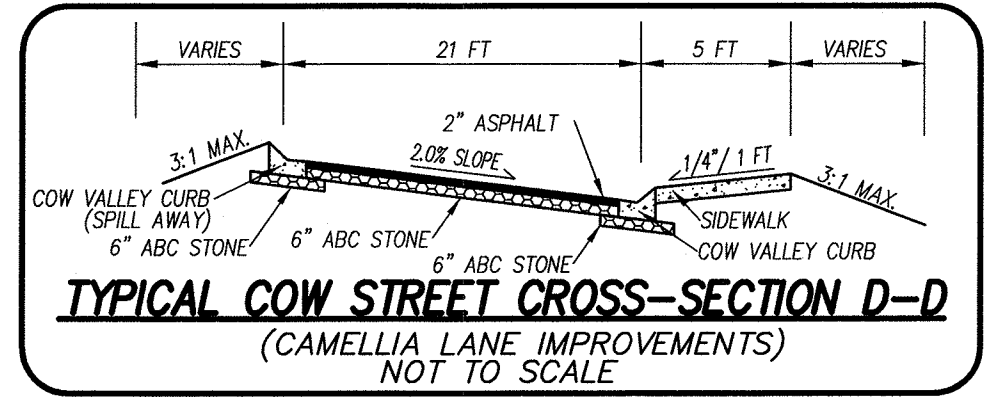
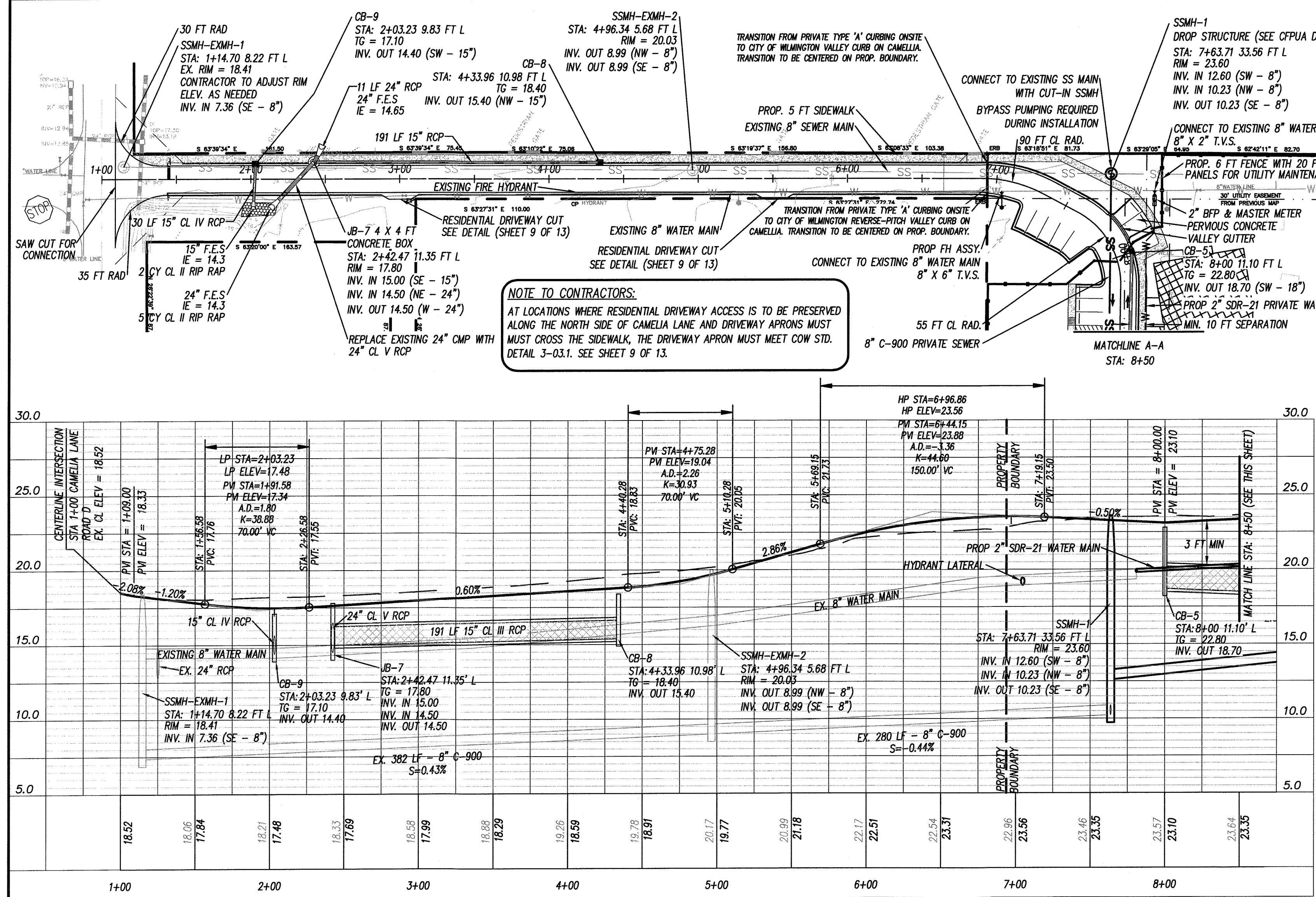
FRIENDS SCHOOL OF WILMINGTON
 LOCATED IN WILMINGTON TOWNSHIP
 NORTH CAROLINA
 NEW HANOVER COUNTY

OWNER: FRIENDS SCHOOL OF WILMINGTON INC
 350 PEPPER AVENUE
 WILMINGTON, NC 28409
 PH. 910-792-1811



REV.	DATE	BY	REMARKS
6	4/24/19	RLW	REVISED PER TRAFFIC COMMENTS
5	4/24/19	RLW	REVISED PER CIVIL ENGINEERING COMMENTS
4	3/20/19	RLW	REVISED PER TRAFFIC COMMENTS
3	1/27/19	MSB	REVISED PER WATER MAINS & SHEET NUMBERS
2	11/12/18	MSB	REVISED PER CLIENT AND TRIC COMMENTS
1	7/18/18	MSB	REVISED SHEET NUMBERS

DATE:	6-4-18
HORIZ. SCALE:	1" = 60'
VERT. SCALE:	N/A
DRAWN BY:	RLW
CHECKED BY:	HSR
PROJECT NO.:	05-0040



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

Approved Construction Plan

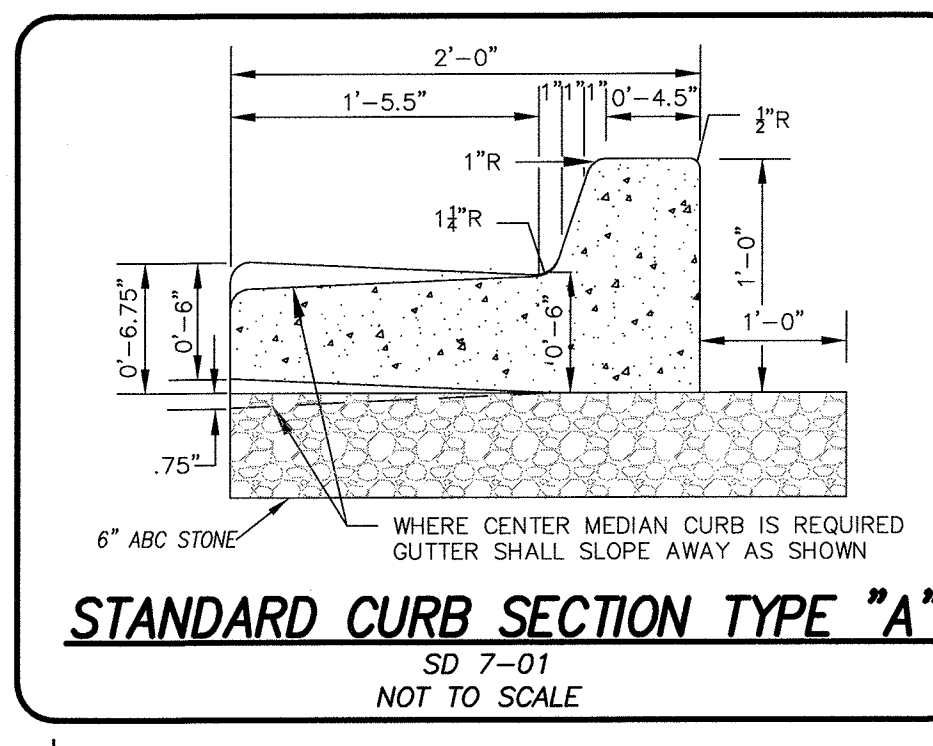
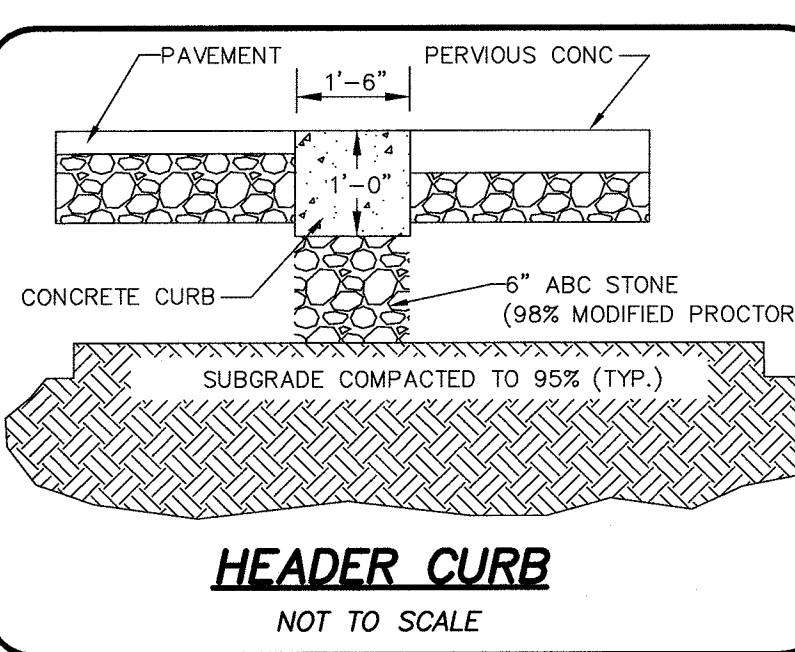
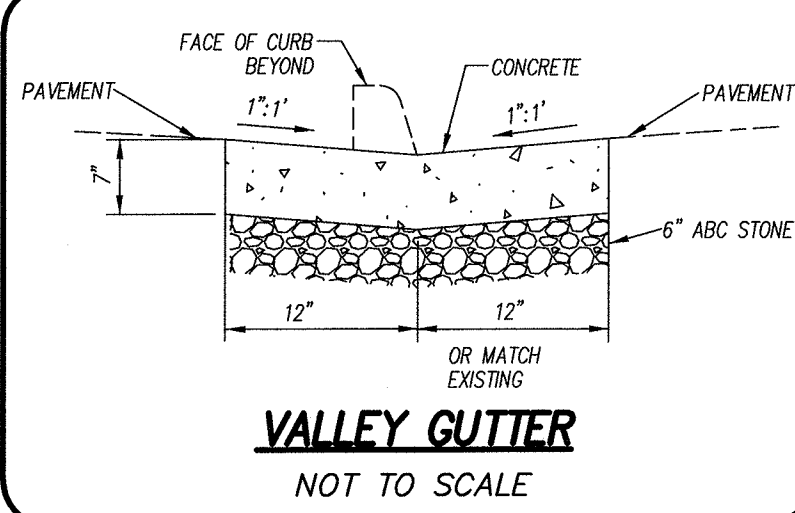
Name: _____ Date: _____

Planning: *M. Walter* 5-13-19

Traffic: *V. Shudo* 5-14-19

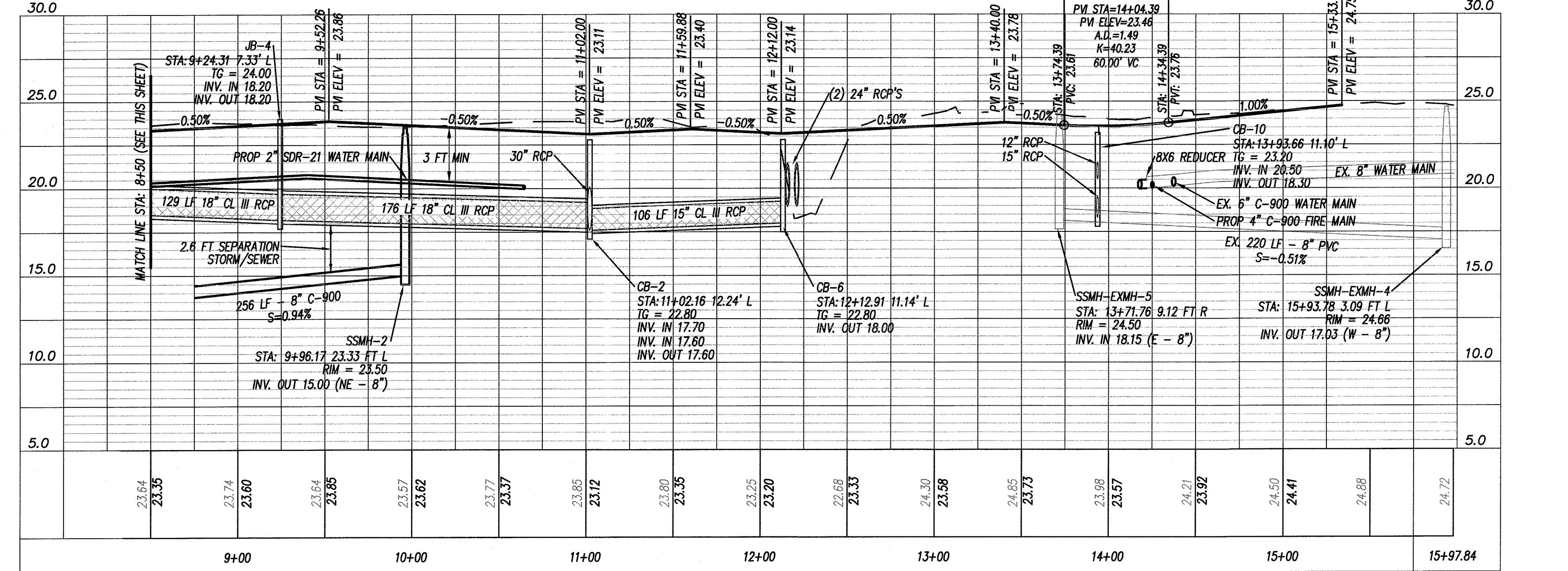
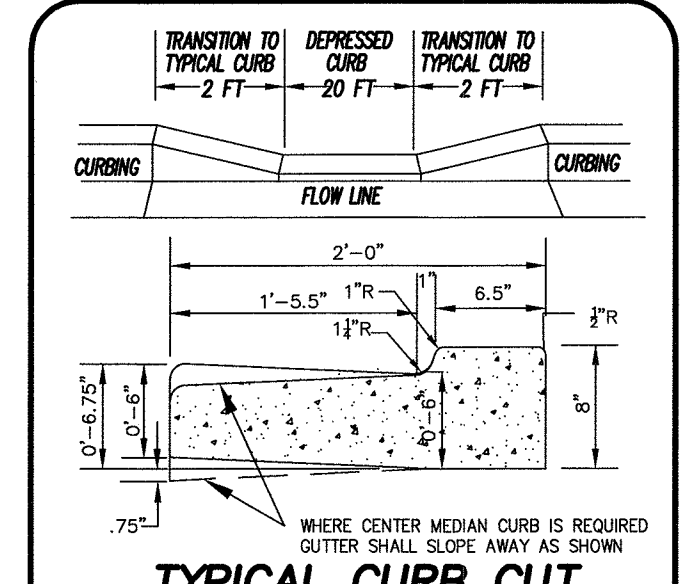
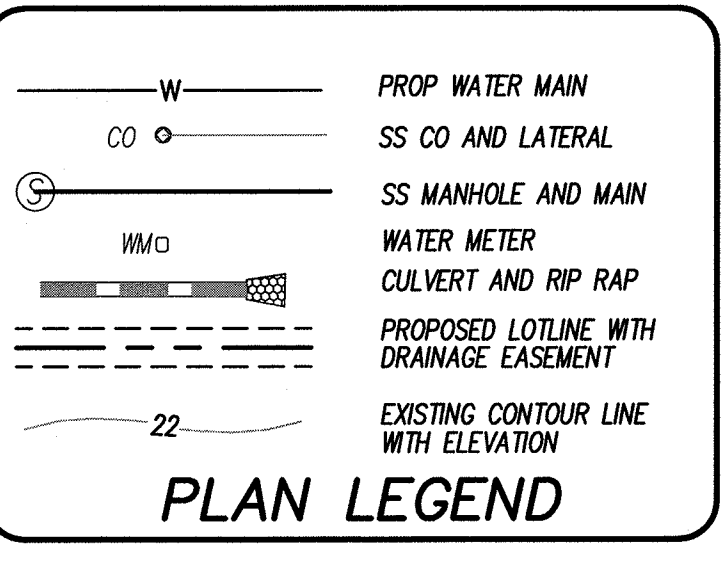
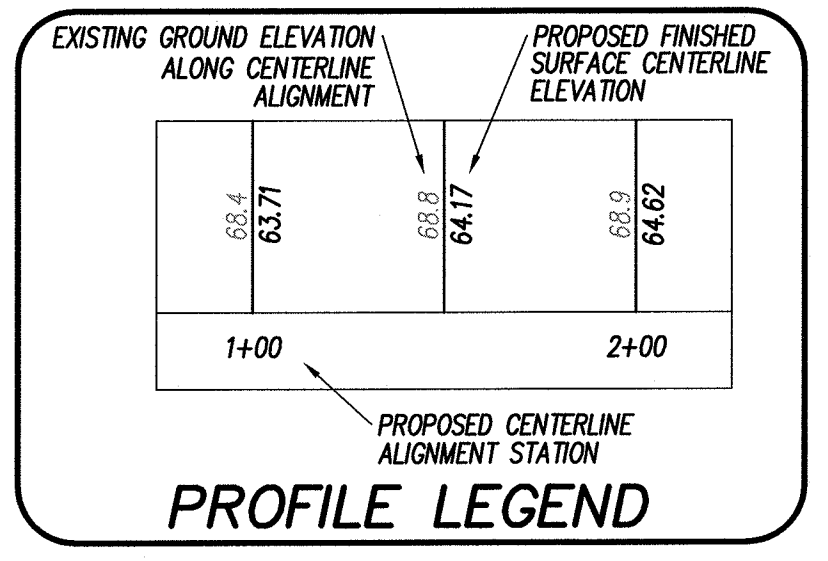
Fire: _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 5/15/19 Permit # 2019028
Signed: *Luc Christensen*



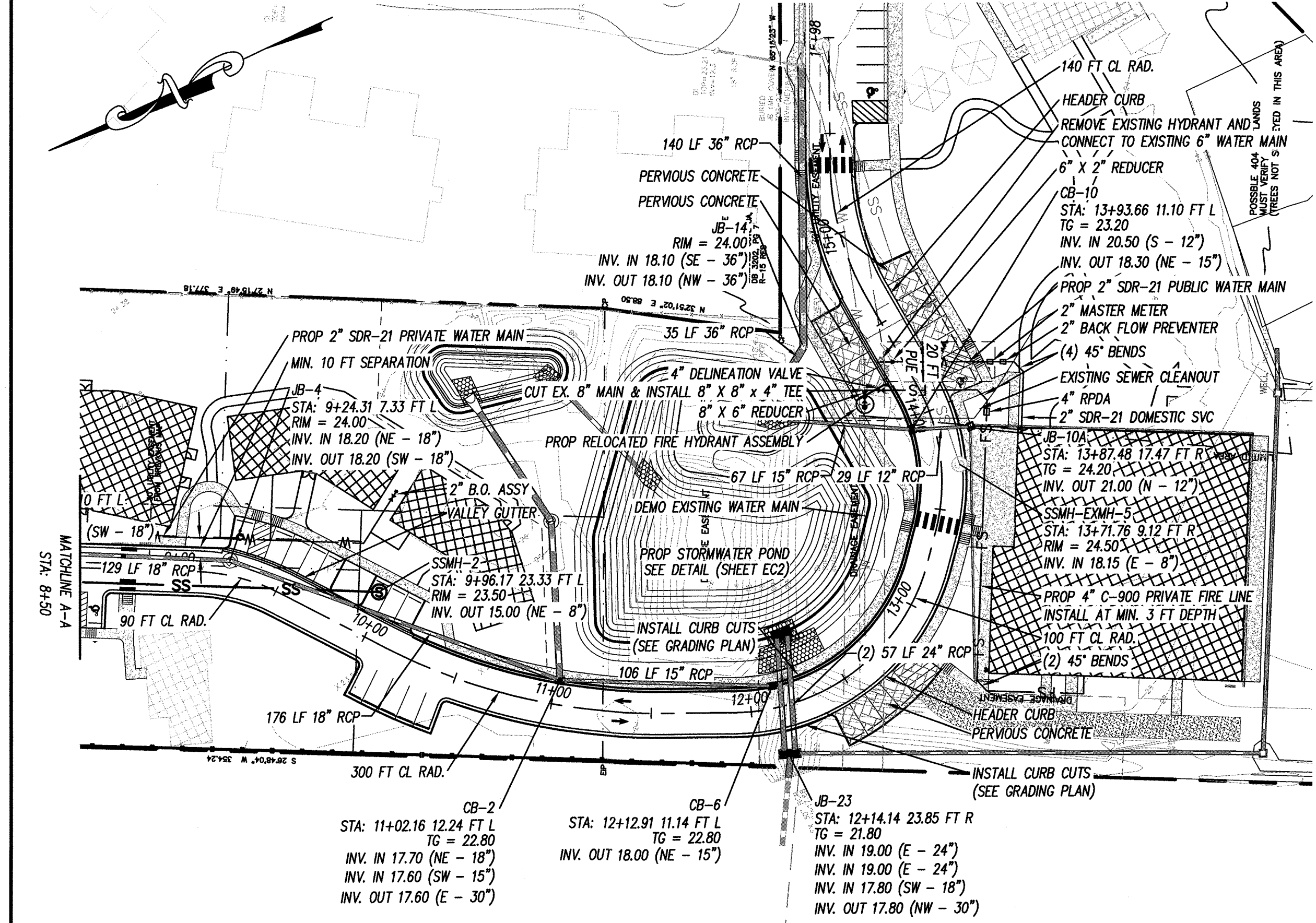
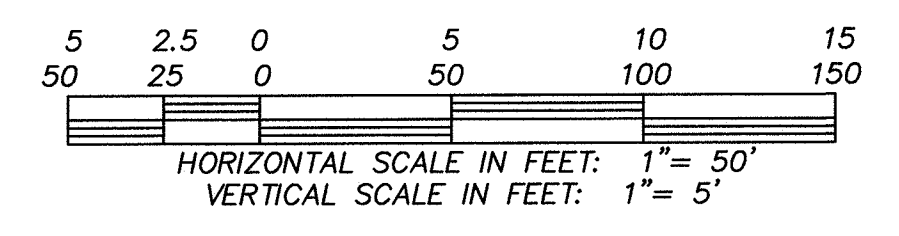
- CFPIA STANDARD NOTES:**
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
 - WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE R/W LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE & TERMINATE 18" INSIDE RIGHT-OF-WAY LINE.
 - ALL SERVICES TYPING 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 FITTINGS SHALL BE TYPE 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.
 - UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
 - A MINIMUM OF 10 FT OF MAIN LINE SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.

- STORMWATER DRAINAGE STRUCTURE NOTES:**
- CONTRACTOR AND PRECASTER TO DETERMINE STORM STRUCTURE SIZES.
 - FRAME AND GRATES TO BE NCDOT STD 840.03 OR EQUIV. EXCEPT #823 WHICH IS TO USE NCDOT STD 840.16.
 - RING AND COVERS TO BE NCDOT STD. 840.54 OR EQUIV.
 - PRECAST STORM STRUCTURES TO MEET HS-20-44 LOADING.
 - CB11-15 TO HAVE ADA GRATES.
 - ALL RCP TO BE CL III UNLESS OTHERWISE NOTED.
 - ALL DOUBLE WALL HOPE TO BE ADS-N12 OR ADS HP STORM OR EQUAL.
 - CB'S 6, 8 & 9 TO BE US FOUNDRY 5290/6290 OR EQUAL.



WATER & SEWER SERVICE NOTES

- CONTRACTOR SHALL INSTALL WATER & SEWER SERVICE LATERALS TO ALL LOTS PER CFPIA STANDARD DETAILS & SPECIFICATIONS.



CSD ENGINEERING

LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL

P.O. BOX 4041
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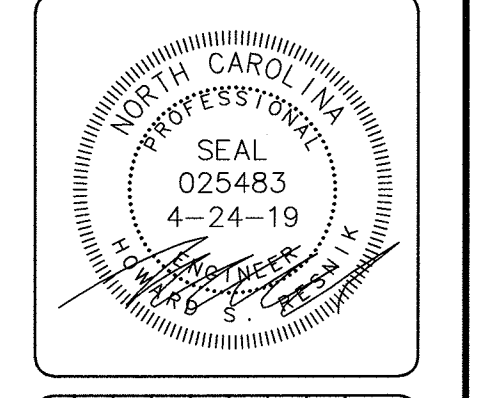
STATION 0+78 THROUGH 14+26

FRIENDS SCHOOL OF WILMINGTON

CONSTRUCTION DRAWINGS for

FRIENDS SCHOOL OF WILMINGTON
LOCATED IN WILMINGTON TOWNSHIP
NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: FRIENDS SCHOOL OF WILMINGTON INC
350 TEPPER AVENUE
WILMINGTON, NC 28409
PH: 910-792-1811



REV. NO.	DATE	BY	REMARKS
5	4/24/19	RLW	REVISED PERVIOUS CONCRETE
4	4/24/19	RLW	REVISED PER CIVIL ENGINEERING COMMENTS
3	3/20/19	ARB	REVISED PER CFPIA COMMENTS
2	1/7/19	ARB	REVISED WATER MAINS & SHEET NUMBERS
1	7/18/18	ARB	REVISED SHEET NUMBERS

DATE: 6-4-18

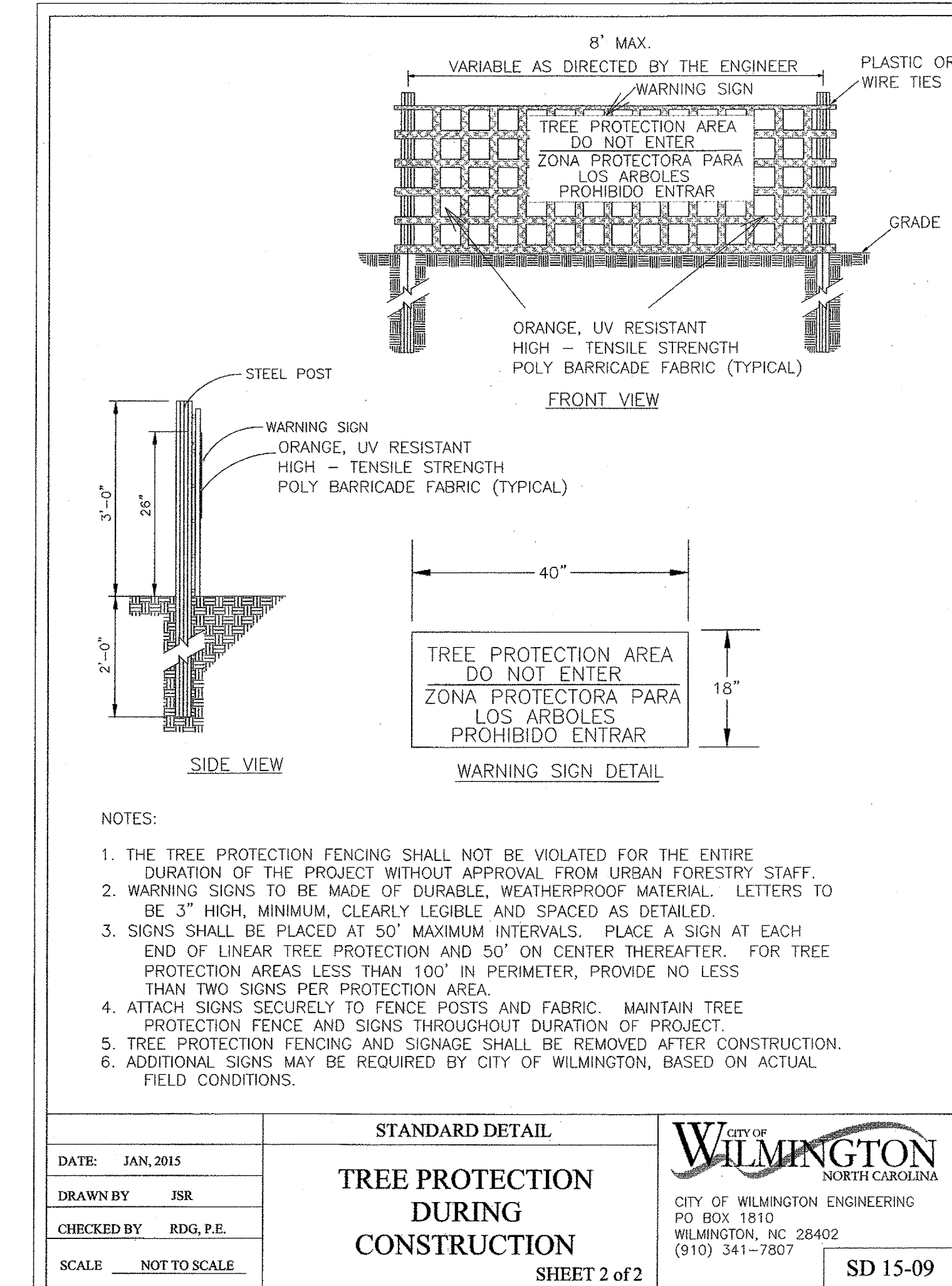
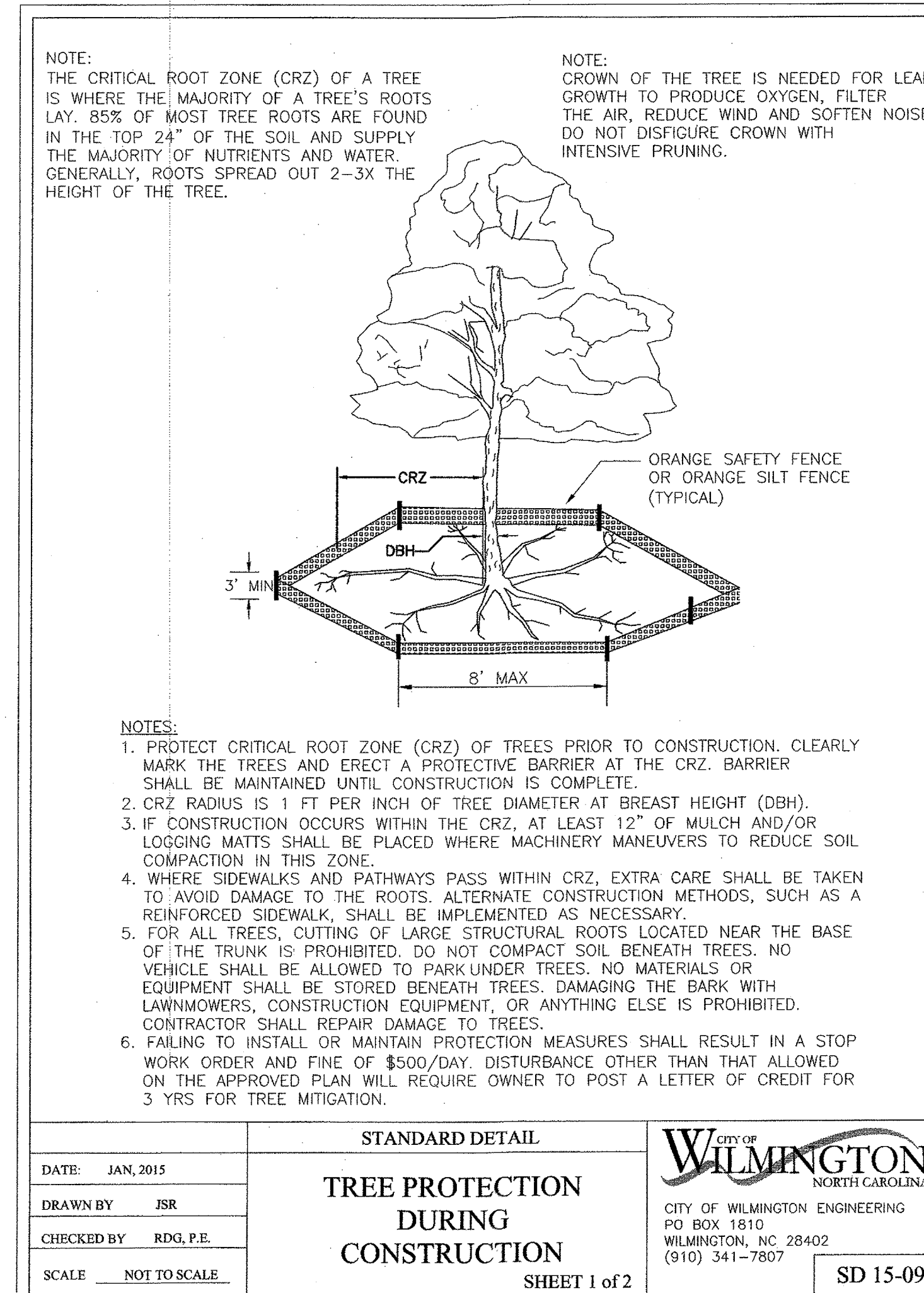
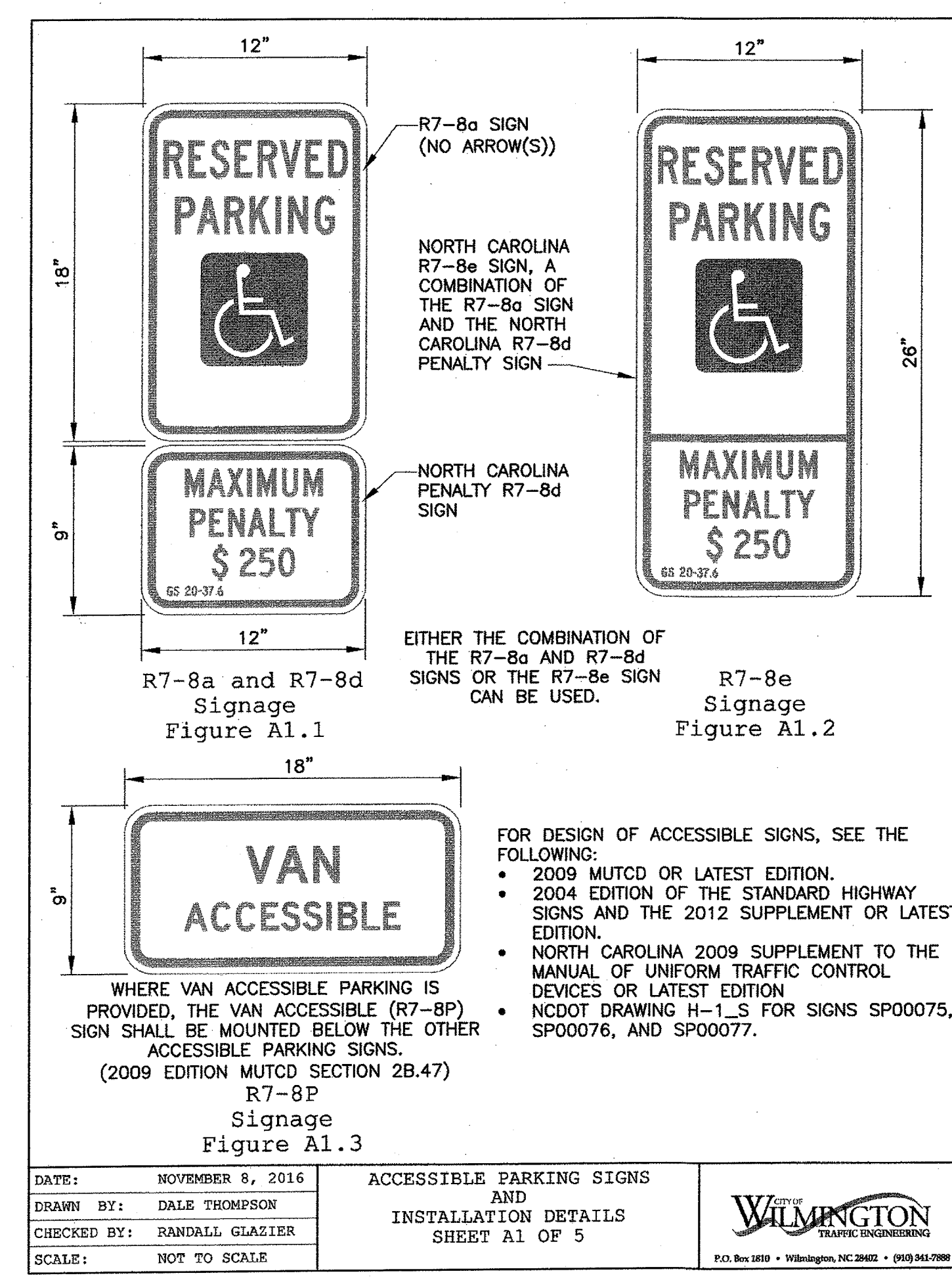
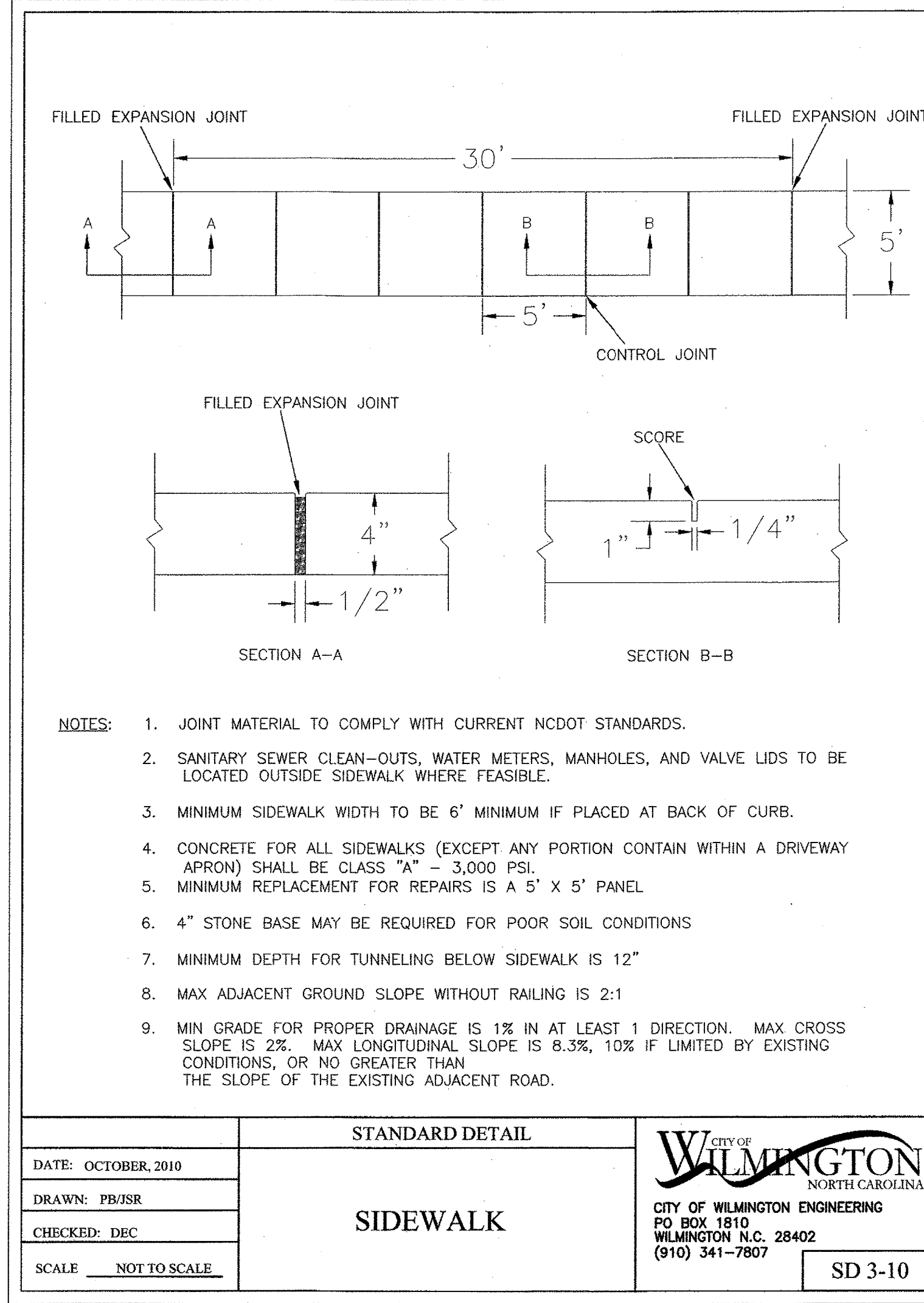
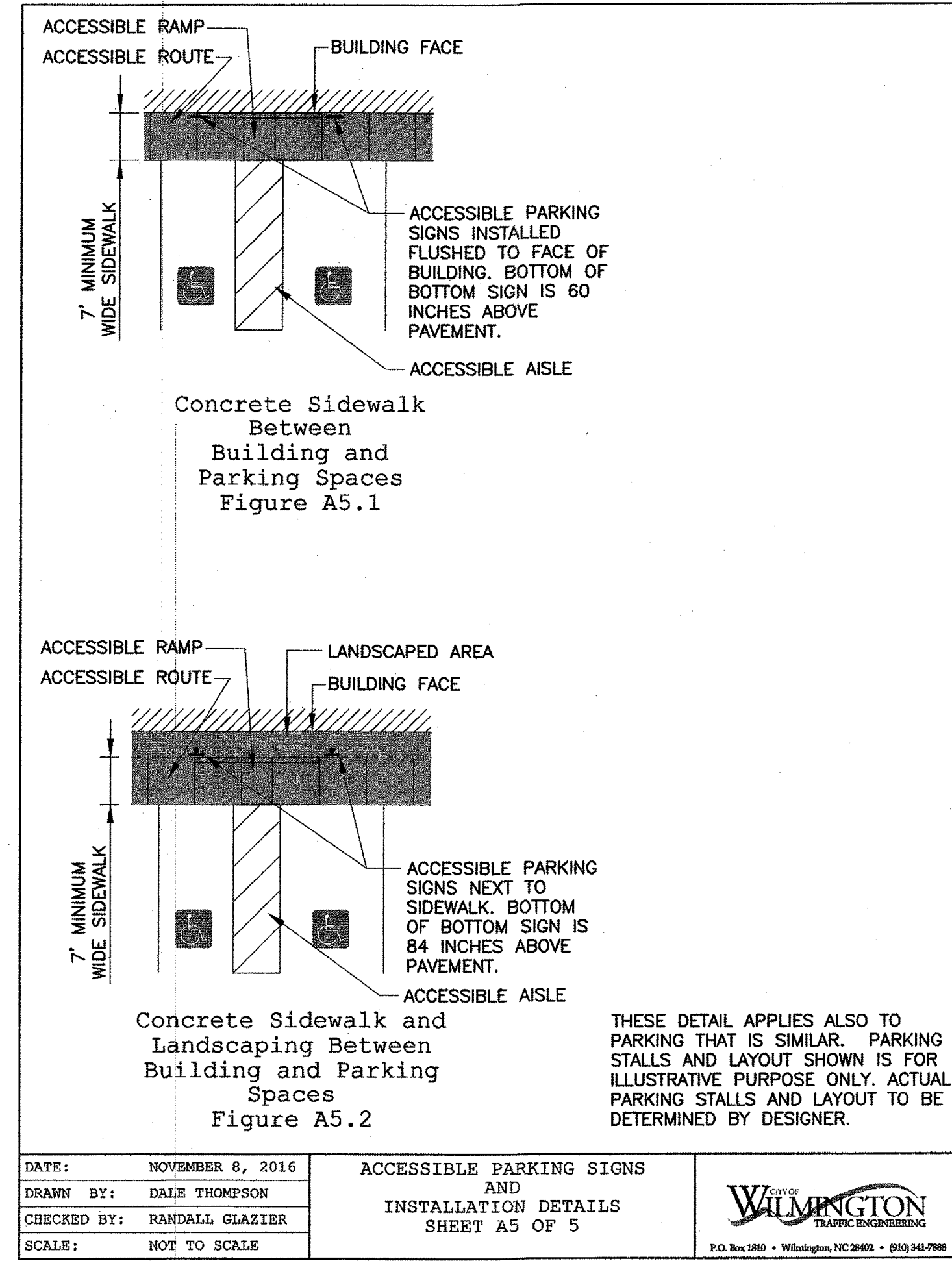
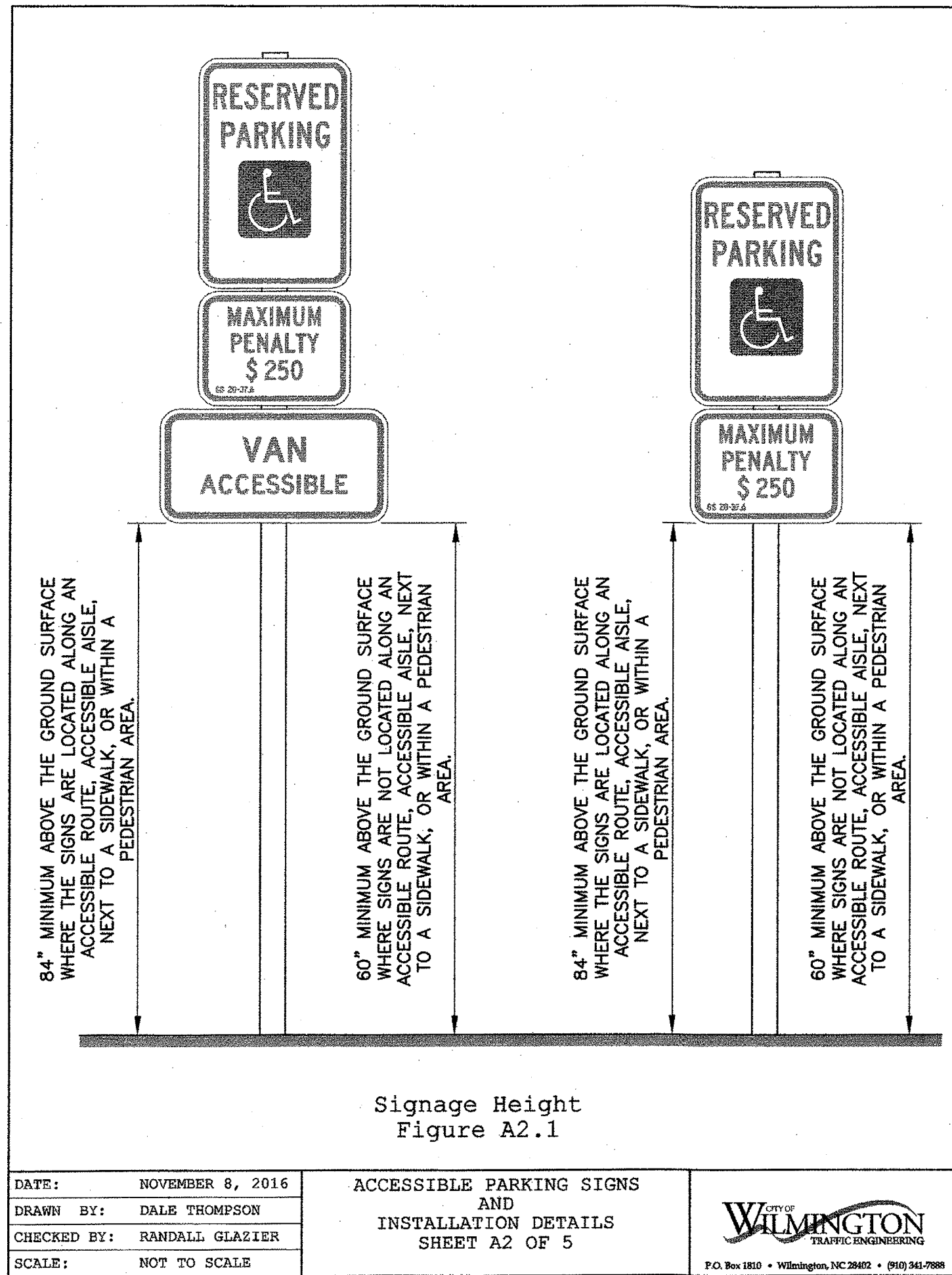
HORIZ. SCALE: 1" = 50'

VERT. SCALE: 1" = 5'

DRAWN BY: RLW

CHECKED BY: HSR

PROJECT NO.: 05-0040



Approved Construction Plan

Name: _____ Date: _____
 Planning: *JM Walker* 5-13-19
 Traffic: *W Simons* 5-14-19
 Fire: _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: 5/15/19 Permit # 2019028
 Signed: *Rich Christensen*

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

CSD ENGINEERING

LICENSE # C-2710
 ENGINEERING
 LAND PLANNING
 COMMERCIAL / RESIDENTIAL

P.O. BOX 4041
 WILMINGTON, NC 28406
 (910) 791-4441

SITE DETAILS
for
FRIENDS SCHOOL OF WILMINGTON

FRIENDS SCHOOL OF WILMINGTON
 LOCATED IN WILMINGTON TOWNSHIP
 NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: FRIENDS SCHOOL OF WILMINGTON INC
 350 PEIFFER AVENUE
 WILMINGTON, NC 28409
 PH. 910-792-1811

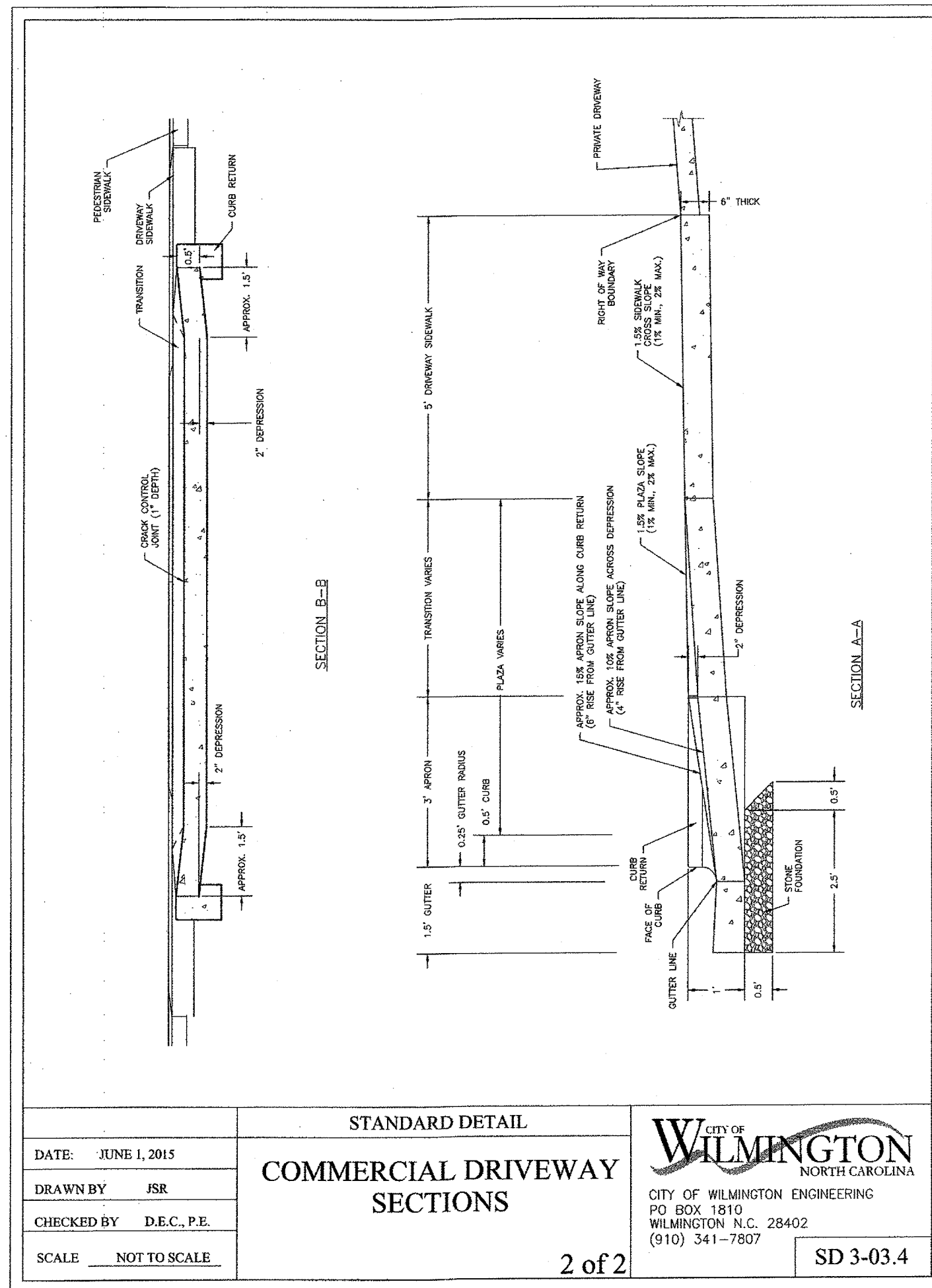
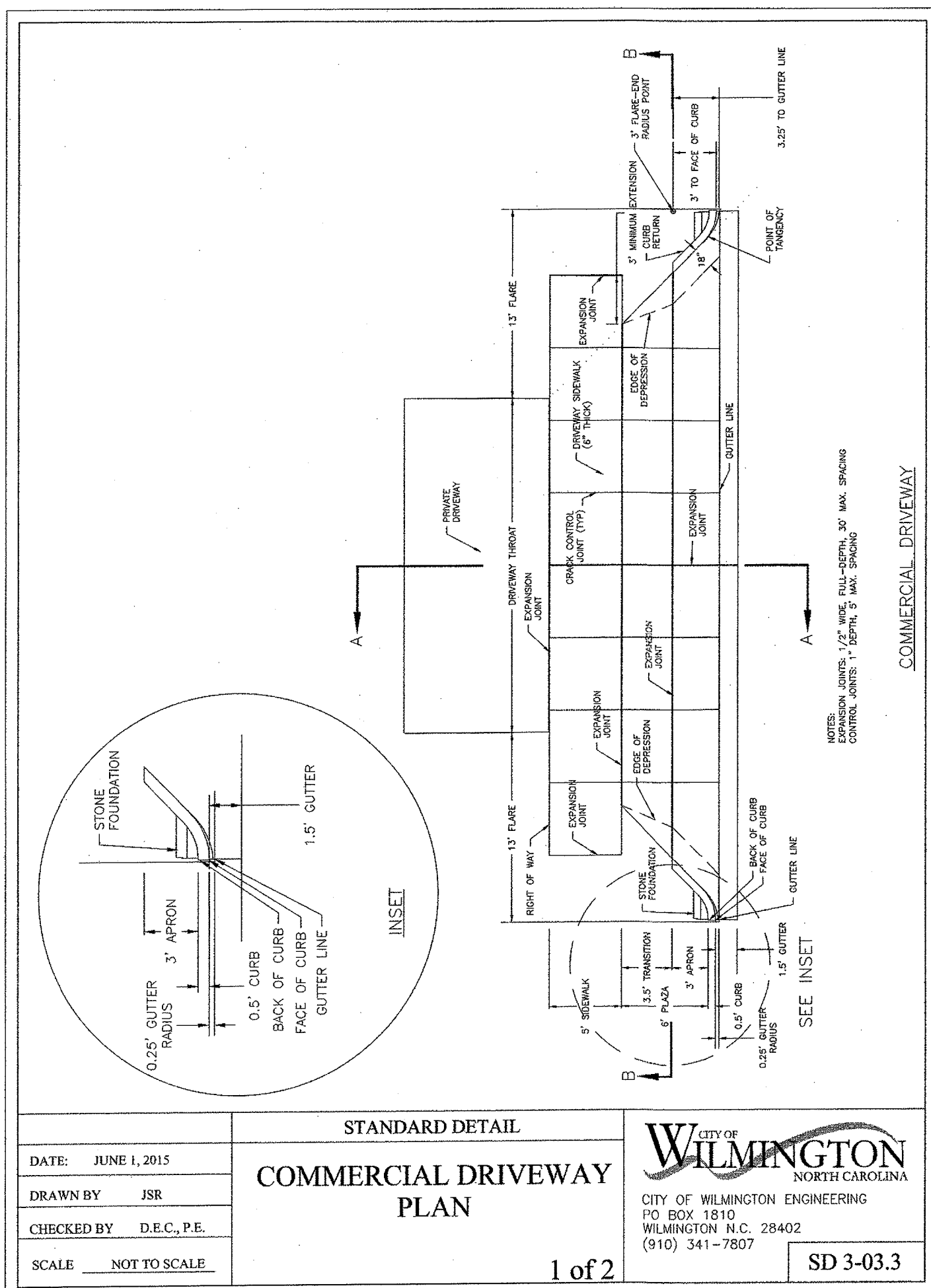
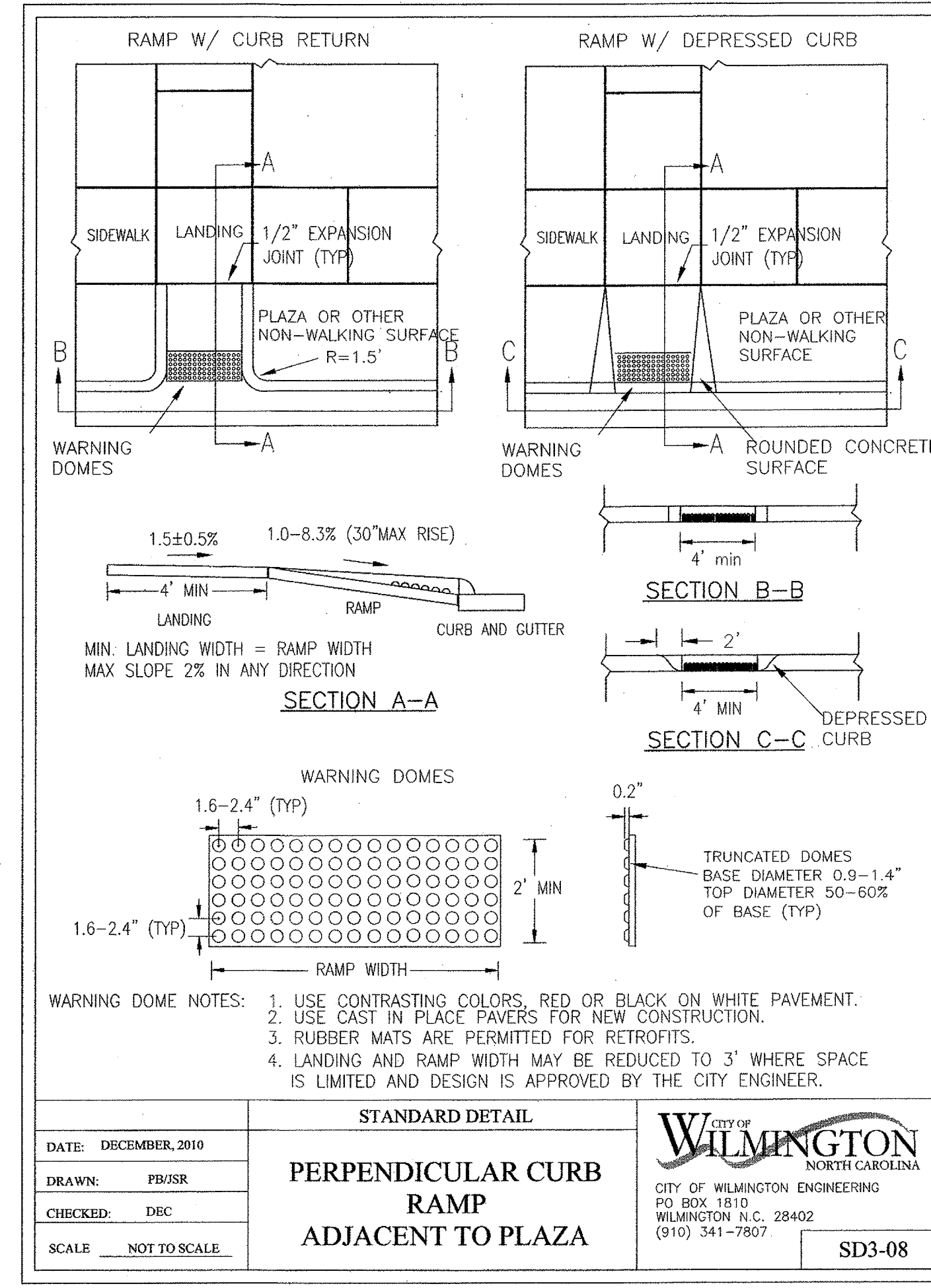
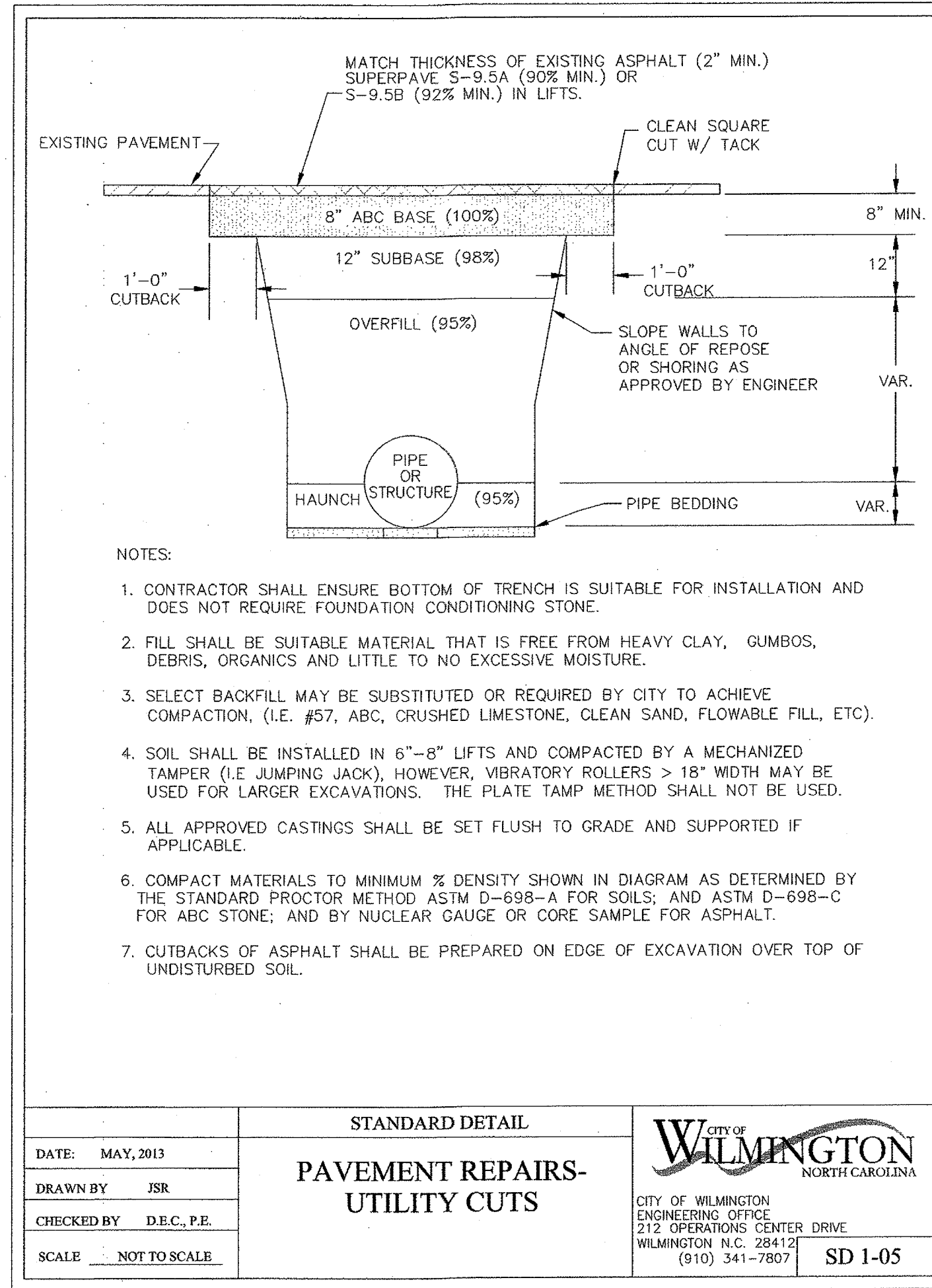
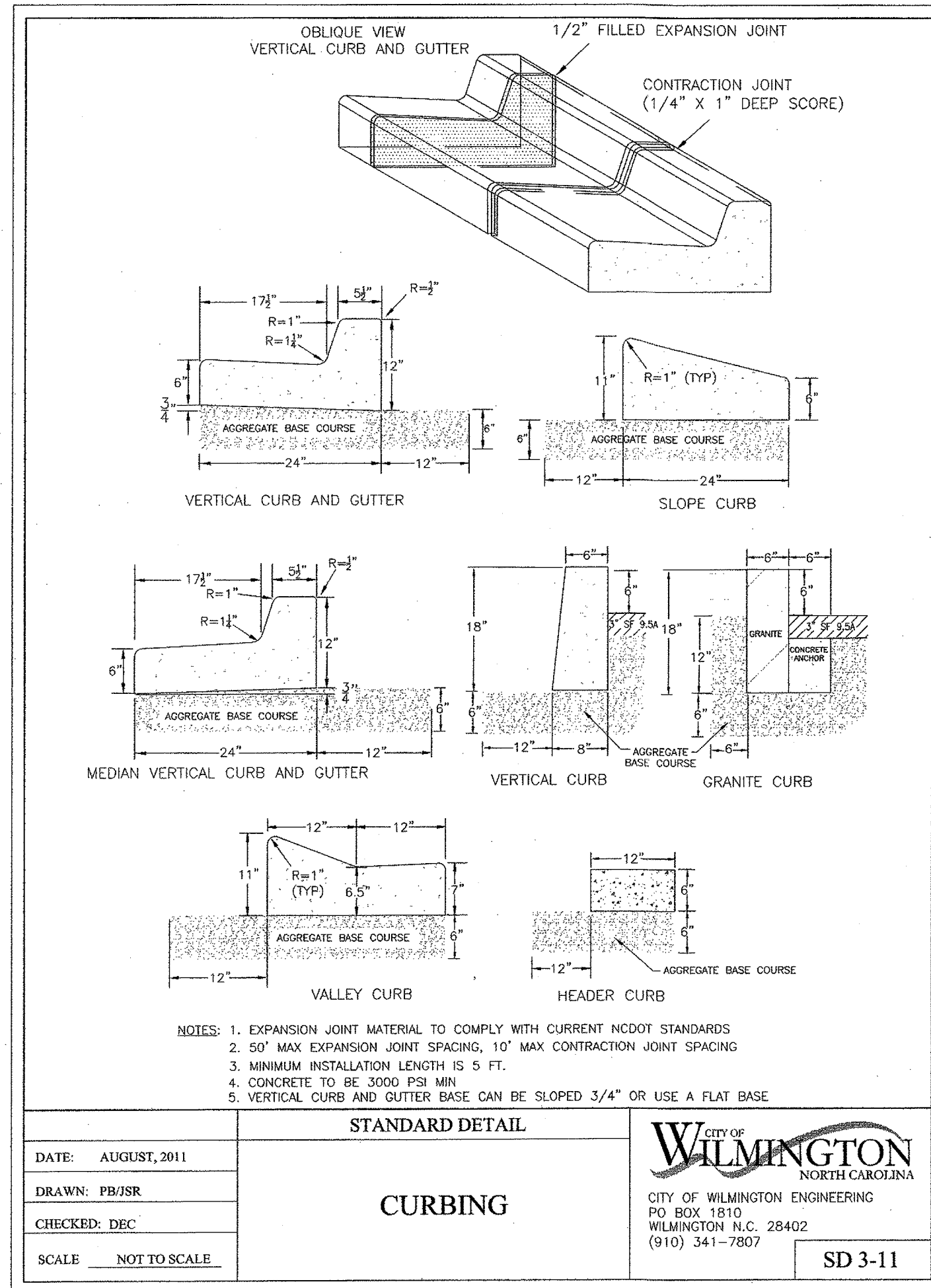
PROFESSIONAL SEAL
 025483
 ENGINEER
 3/20/19

REV.	NO.	DATE	BY	REMARKS
3	1	3/20/19	MSB	ADDED CITY OF PLAIN SIGNATURE BLOCK
2	1	1/7/19	MSB	REVISED SHEET NUMBERS
1	1	7/19/18	MSB	REVISED SHEET NUMBERS

DATE: 6-4-18
 HORZ. SCALE: AS SHOWN
 VERT. SCALE: N/A

DRAWN BY: RLW
 CHECKED BY: HSR

PROJECT NO.: 05-0040



Approved Construction Plan

Name: _____ Date: _____
 Planning: *J. Walter* 5-18-19
 Traffic: *W. H. D.* 5-14-19
 Fire: _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: 5/18/19 Page: #19028
 Signed: *Rich Christner*

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

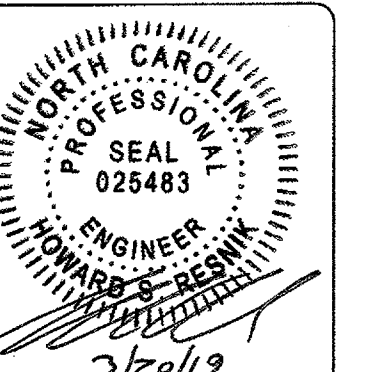


LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL

P.O. BOX 4041
WILMINGTON, NC 28406
(910) 791-4441

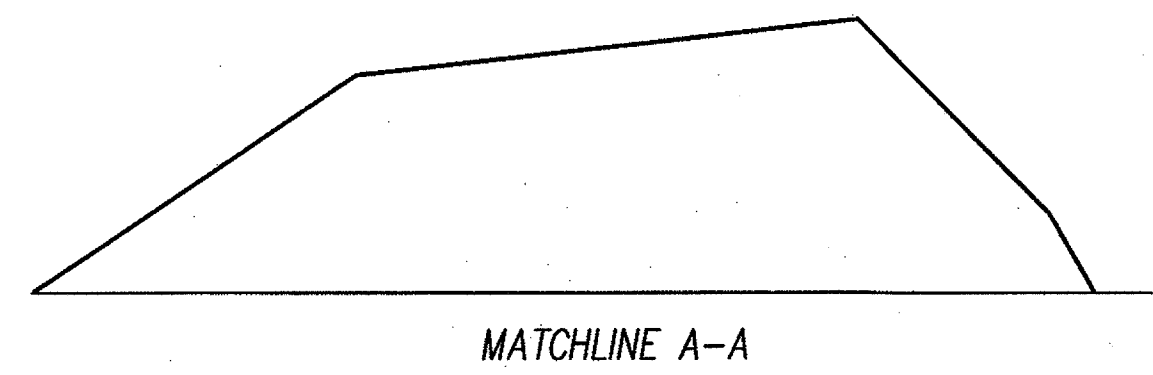
SITE PLAN DETAILS
for
FRIENDS SCHOOL OF WILMINGTON

FRIENDS SCHOOL OF WILMINGTON
LOCATED IN WILMINGTON TOWNSHIP
NEW HANOVER COUNTY, NORTH CAROLINA
OWNER: FRIENDS SCHOOL OF WILMINGTON INC
350 PEPPER AVENUE
WILMINGTON, NC 28409
PH: 910-792-1811

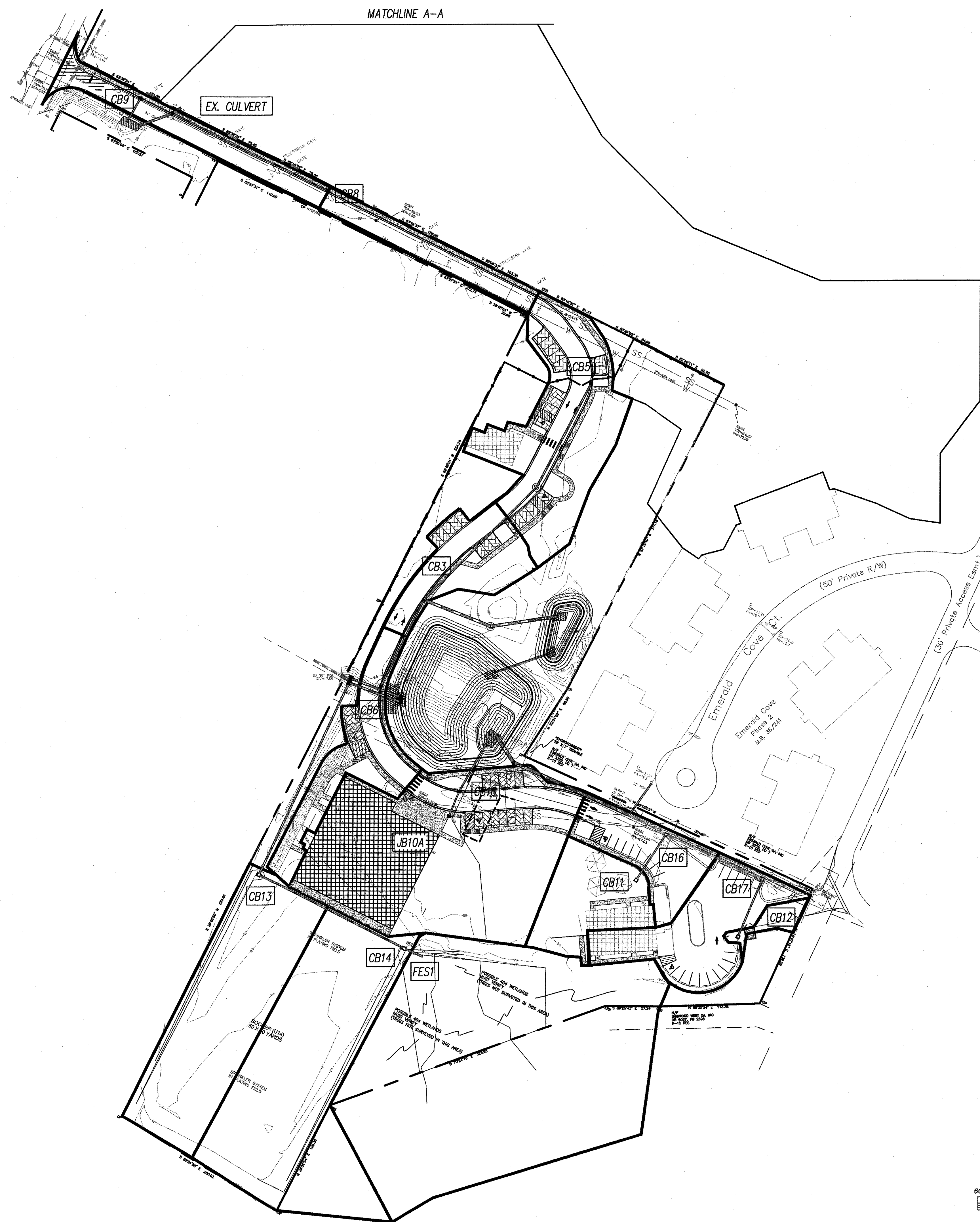


REV. NO.	REMARKS	DATE	BY
3	REVISION PER TRC COMMENTS	3/20/19	MB
2	REVISION PER TRC COMMENTS	1/7/19	MB
1	REVISION PER TRC COMMENTS	7/19/18	MB

DATE: 6-4-18
 HORZ. SCALE: AS NOTED
 VERT. SCALE: N/A
 DRAWN BY: RLW
 CHECKED BY: HSR
 PROJECT NO.: 05-0040



MATCHLINE A-A



Approved Construction Plan

Name _____ Date _____

Planning *M. Walters* 5-13-19

Traffic *W. Frudo* 5-14-19

Fire _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

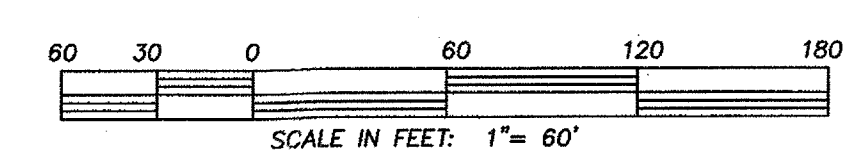
Date: *5/15/19* Permit # *2019028*

Signed: *[Signature]*

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

DRAINAGE AREAS

STRUCTURE	AREA
CB3	0.24
CB5	0.59
CB6	0.30
CB8	0.16
CB9	0.21
CB10	0.66
JB10A	0.37
CB11	0.25
CB12	0.04
CB13	0.68
CB14	0.96
CB16	0.23
CB17	0.35
FES1	1.85
EX. CULVERT	5.06



CSD ENGINEERING

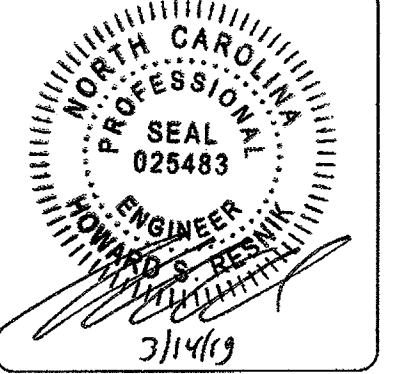
LICENSE # C-2710
 ENGINEERING
 LAND PLANNING
 COMMERCIAL / RESIDENTIAL

P.O. BOX 4041
 WILMINGTON, NC 28406
 (910) 791-4441

INLET DRAINAGE AREAS
 STORMWATER PLAN FOR
FRIENDS SCHOOL OF WILMINGTON

INLET DRAINAGE AREAS
FRIENDS SCHOOL OF WILMINGTON
 LOCATED IN WILMINGTON TOWNSHIP
 NEW HANOVER COUNTY, NORTH CAROLINA

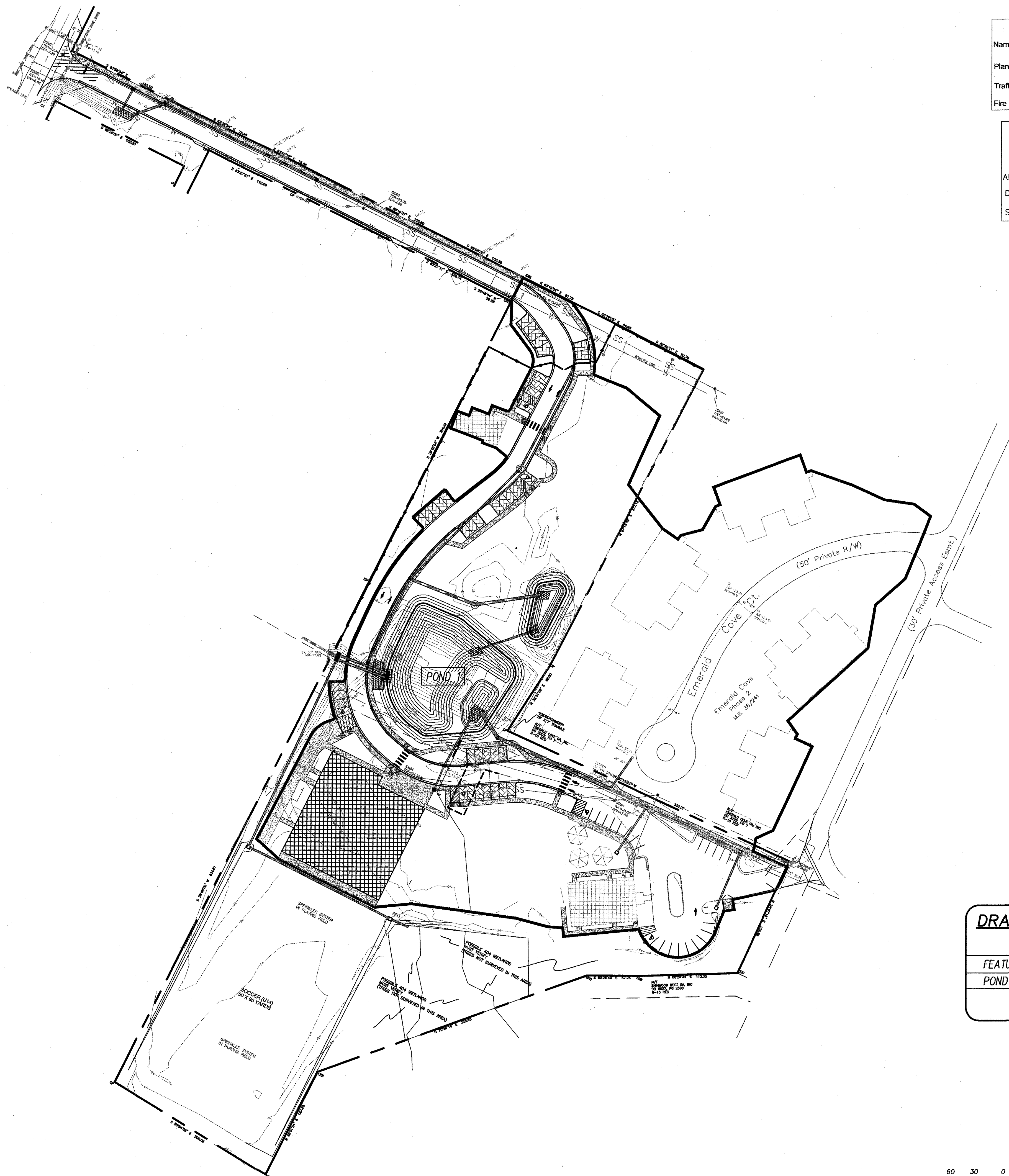
OWNER: FRIENDS SCHOOL OF WILMINGTON INC
 500 WILMINGTON BLVD
 WILMINGTON, NC 28409
 PH: 910-792-1811



REV. NO.	BY	DATE	REMARKS
1		3-14-19	REVISED PER CIVIL ENG. COMMENTS

DATE: 11-15-18
 HORZ. SCALE: 1" = 60'
 VERT. SCALE: N/A
 DRAWN BY: RLW
 CHECKED BY: HSR
 PROJECT NO.: 05-0040

Sheet No. **DA1** of **DA2**

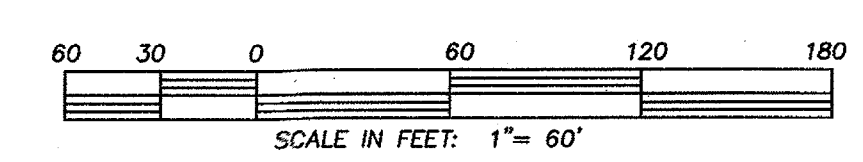


Approved Construction Plan
 Name _____ Date _____
 Planning *J. Walter* 5-13-19
 Traffic *W. Schuber* 5-14-19
 Fire _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
 Date: *5/15/19* Permit *12019028*
 Signed: *Rub. Christensen*

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

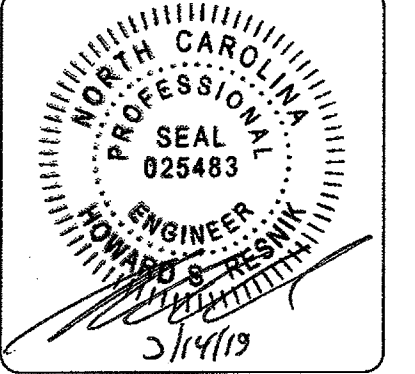
DRAINAGE AREA	
FEATURE	AREA
POND 1	6.92



CSD ENGINEERING
 LICENSE # C-2710
 ENGINEERING
 LAND PLANNING
 COMMERCIAL / RESIDENTIAL
 P.O. BOX 4041
 WILMINGTON, NC 28406
 (910) 791-4441

WET BASIN DRAINAGE AREA
 STORMWATER PLAN FOR
FRIENDS SCHOOL OF WILMINGTON

WET BASIN DRAINAGE AREA
FRIENDS SCHOOL OF WILMINGTON
 LOCATED IN WILMINGTON TOWNSHIP
 NEW HANOVER COUNTY, NORTH CAROLINA
 OWNER: FRIENDS SCHOOL OF WILMINGTON INC
 350 PEPPER AVENUE
 WILMINGTON, NC 28409
 PH. 910-792-1811

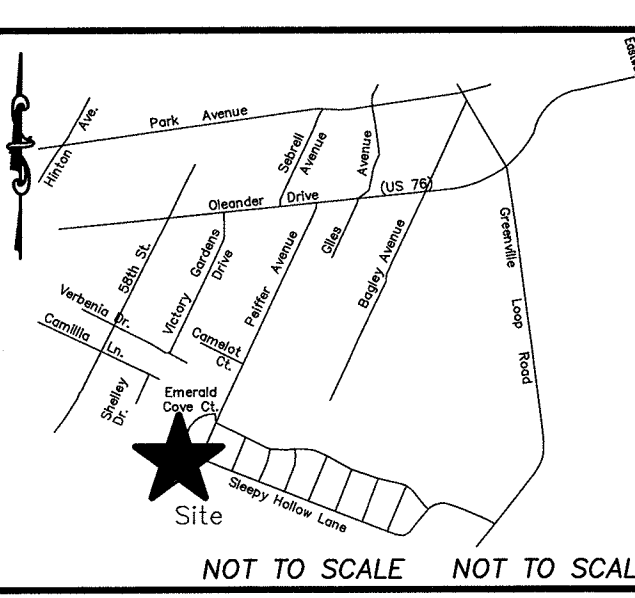


REV. NO.	BY	DATE	REMARKS
1	RLW	3-14-19	REVISED PER CIV ENG COMMENTS

DATE: 11-15-18
 HORZ. SCALE: 1" = 60'
 VERT. SCALE: N/A
 DRAWN BY: RLW
 CHECKED BY: HSR
 PROJECT NO.: 05-0040

Sheet No. **DA2** of **DA2**

LOCATION MAP



CONSTRUCTION SEQUENCE FOR PERVIOUS PAVEMENT:
 STEP 1 - ENSURE ACCEPTABLE CONDITIONS FOR CONSTRUCTION
 STEP 2 - EXCAVATE THE PAVEMENT AREA AND PREPARE SUBGRADE SURFACE
 STEP 3 - PLACE CATCH BASINS, OBSERVATION WELLS(S) AND UNDERDRAIN SYSTEM
 STEP 4 - PLACE AND COMPACT AGGREGATE BASE
 STEP 5 - INSTALL CURB AND PAVEMENT BARRIERS
 STEP 6 - INSTALL BEDDING AND PAVEMENT COURSES
 STEP 7 - PROTECT THE PAVEMENT THROUGH PROJECT COMPLETION

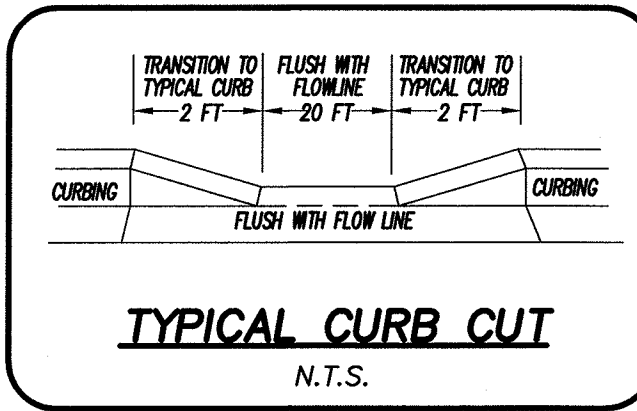
* SEQUENCE ABOVE SHOULD BE UTILIZED AFTER OTHER SITE IMPROVEMENTS IN AREA WHERE PERVIOUS PAVEMENT WILL BE INSTALLED HAVE BEEN COMPLETED AND WHEN HEAVY EQUIPMENT WILL NO LONGER BE MOVING ONTO THE AREA WHERE THE PERVIOUS MATERIAL WILL BE INSTALLED.

** REFERENCE NCDOT STORMWATER BMP MANUAL PART C: SECTION C-5 FOR EXPANDED PROCEDURES UNDER EACH STEP LISTED ABOVE.

- PLANNED EROSION AND SEDIMENT CONTROL PRACTICES -**
- TEMPORARY GRAVEL CONSTRUCTION ENTRANCE**
Practice 6.06
SHALL BE INSTALLED AT THE ENTRANCES TO THE PROJECT FROM AN EXISTING ROADWAY. DRAINAGE SHOULD BE AWAY FROM THE ROAD AND EROSION WILL BE CONTROLLED WITH DOWNSLOPE PRACTICES. DURING WET WEATHER IT MAY BE NECESSARY TO WASH TRUCK TIRES AT THESE LOCATIONS.
 - LAND GRADING**
Practice 6.02
GRADING SHOULD BE LIMITED TO AREAS SHOWN ON THE PLANS. CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER EXCEPT WHERE SPECIFICALLY INDICATED. CARE SHALL BE TAKEN DURING LAND GRADING ACTIVITIES NOT TO DAMAGE EXISTING TREES THAT ARE IDENTIFIED AS TO BE PRESERVED.
 - SEDIMENT FENCE**
Practice 6.62
SEDIMENT FENCING SHOULD BE INSTALLED AS SHOWN ON THE PLAN, TO DELINEATE AND PROTECT WETLANDS AND SPECIFIED AREAS AND AROUND ANY TEMPORARY STOCKPILE AREAS AS NECESSARY TO PREVENT ANY GRADED INTERIOR AREAS FROM ERODING INTO ADJACENT LANDS OR ROADWAY, OR INTO DITCHES, OR AS DIRECTED BY ENGINEER OR NEW HAMPSHIRE COUNTY EROSION CONTROL PERSONNEL.
 - CONSTRUCTION ROAD STABILIZATION**
PRACTICE 6.80
UPON REACHING FINAL GRADE AND AFTER UTILITIES HAVE BEEN INSTALLED, ROADWAY/PARKING AREAS ARE TO BE STABILIZED BY PLACING ROAD BASE AS SHOWN IN THE TYPICAL STREET CROSS-SECTION DETAIL ON THE PLAN, TO REDUCE EROSION AND DUST DURING THE REMAINDER OF BUILDING CONSTRUCTION.
 - SEDIMENT BASIN**
Practice 6.61
THE SEDIMENT BASIN IS TO BE CONSTRUCTED FIRST (SEE CONSTRUCTION SCHEDULE) AND IS THE PRIMARY PRACTICE TO PREVENT SEDIMENT FROM LEAVING THE SITE. DETAILED DESIGN AND SPILLWAY CONFIGURATIONS ARE SPECIFIED IN THE DETAIL SHEET.
 - SOMMER**
Practice 6.64
A SEDIMENTATION BASIN DRAINAGE CONTROL DEVICE THAT WITHDRAWS WATER FROM THE BASINS WATER SURFACE, thus removing the highest quality water for delivery to the UNCONTROLLED ENVIRONMENT.
 - BAFFLE**
Practice 6.65
A POROUS BARRIER INSTALLED INSIDE A TEMPORARY SEDIMENT TRAP, SOMMER BASIN OR SEDIMENT BASIN TO REDUCE THE TURBULENCE OF WATER FLOWING THROUGH THE MEASURE AND TO FACILITATE THE SETTLING OF SEDIMENT FROM WATER BEFORE DISCHARGE.
 - OUTLET STABILIZATION**
Practice 6.41
RIPRAP APPROX WILL BE LOCATED AT THE DOWNSTREAM END OF ALL DISCHARGE PIPES TO PREVENT SCOUR.
 - TREE PROTECTION**
Practice 6.05
RESTRICT ACCESS TO TPZ WITH TALL BRIGHT PROTECTIVE FENCING ON AREAS INDICATED ON PLAN.

STORMWATER DRAINAGE STRUCTURE NOTES:

- CONTRACTOR AND PRECASTER TO DETERMINE STORM STRUCTURE SIZES.
- FRAME AND GRATES TO BE NCDOT STD. 840.03 OR EQUIV. EXCEPT #823, WHICH IS TO USE NCDOT STD. 840.16
- RING AND COVERS TO BE NCDOT STD. 840.54 OR EQUIV.
- PRECAST STORM STRUCTURES TO MEET HS-20-44 LOADING.
- CB#1-15 TO HAVE ADA GRATES.
- ALL RCP TO BE CL II UNLESS OTHERWISE NOTED.
- ALL DOUBLE WALL HOPE TO BE ADS-H12 OR ADS HP STORM OR EQUAL.
- CB# 6, 8 & 9 TO BE US FOUNDRY 5298/6298 OR EQUAL.



NOTE WELL:

- SOIL STABILIZATION TIMEFRAMES:**
- | SITE AREA DESCRIPTION | STABILIZATION | TIMEFRAME EXCEPTIONS |
|----------------------------------------------|---------------|------------------------------------------------------------------------------------------|
| PERIMETER DITCHES/SWALES | 7 DAYS | NONE |
| DITCHES AND SLOPES | 7 DAYS | NONE |
| HIGH QUALITY ZONES (HQW) | 7 DAYS | NONE |
| SLOPES STEEPER THAN 3:1 | 7 DAYS | IF SLOPES ARE 10 FT 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 FT IN LENGTH. |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS | NONE, EXCEPT FOR PERIMETER AND HQW ZONES |
- DENUDED AREAS MUST BE STABILIZED WITHIN FIFTEEN (15) WORKING DAYS OF CEASE OF ANY PHASE OF ACTIVITY. ALL SLOPES MUST BE STABILIZED WITHIN TWENTY-ONE (21) CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY. THIS INCLUDES SLOPES, SWALES, CHANNELS AND STOCKPILES.
 - THIS PLAN TO BE UTILIZED AND REVISED ONLY IN CONJUNCTION WITH THE WRITTEN NARRATIVE, WHICH IS AN INTEGRAL PART OF THIS EROSION AND SEDIMENT CONTROL PLAN.
 - ALL SLOPES SHALL BE 3:1 OR FLATTER.
 - NO WETLANDS EXIST WITHIN LIMITS OF DISTURBANCE.
 - BOUNDARY, TOPOGRAPHIC AND ASBLUT SURVEY PERFORMED BY KEYES SURVEYING.
 - ELEVATION DATUM: NAVD 88
 - DEVELOPER/HQA ARE RESPONSIBLE FOR MAINTENANCE OF THE STORMWATER SYSTEM.

Approved Construction Plan

Name: _____ Date: _____

Planning: *John White* 5-13-19

Traffic: *W. G. White* 5-14-19

Fire: _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: 5/15/19 Permit # 2019028

Signed: *Jack Christian*

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

NPDES GENERAL PERMIT NCG01 REQUIREMENTS

GROUND STABILIZATION:

- GROUND STABILIZATION SHALL FOLLOW NOTE 1 ON ECI.

BUILDING WASTES HANDLING:

- NO PAINT OR LIQUID WASTES IN STREAM OR STORM DRAINS.
- DEDICATED AREAS FOR DEMOLITION, CONSTRUCTION AND OTHER WASTES MUST BE LOCATED 50 FT FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES ARE AVAILABLE.
- EARTHEN-MATERIAL STOCKPILES MUST BE LOCATED 50 FT FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES ARE AVAILABLE.
- CONCRETE MATERIALS MUST BE CONTROLLED TO AVOID CONTACT WITH SURFACE WATERS, WETLANDS OR BUFFERS.

INSPECTIONS:

- ALL BMPs TO BE INSPECTED WEEKLY.
- ALL BMPs TO BE INSPECTED AFTER ANY 0.5" RAIN EVENT.
- INSPECTIONS ARE ONLY REQUIRED DURING "NORMAL BUSINESS HOURS".
- INSPECTION REPORTS MUST BE AVAILABLE ON-SITE DURING BUSINESS HOURS UNLESS A SITE SPECIFIC EXEMPTION IS APPROVED.
- RECORDS MUST BE KEPT FOR 3 YEARS AND AVAILABLE UPON REQUEST.
- ELECTRONICALLY AVAILABLE RECORDS MAY BE SUBSTITUTED UNDER CERTAIN CONDITIONS.

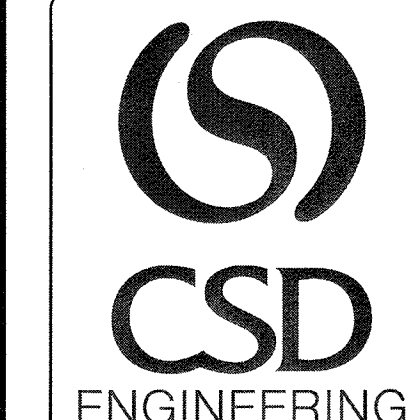
SEDIMENT BASINS:

- OUTLET STRUCTURES MUST WITHDRAW FROM BASIN SURFACE UNLESS DRAINAGE AREA IS LESS THAN ONE ACRE.
- USE ONLY APPROVED FLOCCULANTS.

NPDES-SPECIFIC PLAN SHEETS NOTES:

- THIS PAGE IS SUBMITTED TO COMPLY WITH NPDES GENERAL STORMWATER PERMIT NCG00000.
- THIS PAGE CAN BE APPROVED BY THE COUNTY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG00000 ONLY.
- THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG00000.
- THE COUNTY IS NOT AUTHORIZED TO ENFORCE THIS PAGE OF THE PLANS AND IT IS NOT A PART OF THE APPROVED PLANS FOR THE PURPOSES OF ENFORCEMENT ACTION UNDER THE COUNTY CODE.

- CONSTRUCTION SCHEDULE -**
- OBTAIN APPROVAL OF PLAN AND ANY NECESSARY PERMITS, AND HOLD A PRE-CONSTRUCTION CONFERENCE PRIOR TO COMMENCING ANY WORK.
 - FLAG WORK LIMITS AND STAKE-OUT ROW, STORM DRAIN BOXES AND SED. BASINS FOR PRELIMINARY GRADING.
 - INSTALL GRAVEL CONSTRUCTION ENTRANCES.
 - INSTALL SILT FENCING PRIOR TO ROUGH GRADING THE REMAINING SITE AND MATERIAL STOCKPILING OF MATERIAL AND TOPSOIL, NECESSARY.
 - CONSTRUCT SEDIMENT BASIN AND ANY OTHER SEDIMENT CONTROL PRACTICES SHOWN, PRIOR TO ROUGH GRADING SITE, STOCKPILING TOPSOIL, AS NECESSARY.
 - ESTABLISH ROUGH ROAD GRADES AND STABILIZE ROAD WITH TEMPORARY OR PERMANENT SEEDING.
 - ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSPECTED WEEKLY AND AFTER ANY RAINFALL, AND REPAIRED AS NECESSARY.
 - AFTER SITE STABILIZATION, TEMPORARY MEASURES ARE TO BE REMOVED.
 - NET BASIN NEEDS TO BE CLEANED OUT TO DESIGN ELEVATIONS, BEFORE IT WILL BE ALLOWED TO FUNCTION AS A STORMWATER BMP.
- MAINTENANCE PLAN -**
 (GENERAL NOTES, NOT ALL ITEMS ARE APPLICABLE TO THIS PROJECT)
- ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RAINFALL-PRODUCING RAINFALL, BUT IN NO CASE, LESS THAN ONCE EVERY WEEK AND DURING HOURS OF EVERY RAINFALL.
 - ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES THAT WILL PERIODICALLY TOP-DRESS WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. THEY WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTABLE MATERIAL SPILLED, WASHED OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.
 - SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTION, BLOCK AND GRAVEL INLET PROTECTION, ROCK DOWNSLOPE INLET PROTECTION AND ROCK PIPE INLET PROTECTION WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS AS DESIGNED OR WHEN THE SEDIMENT FENCE WILL BE REPAIRED PROMPTLY. SEDIMENT WILL BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SOMMERS WILL BE INSPECTED WEEKLY AND WILL BE KEPT CLEAN.
 - SEDIMENT WILL BE REMOVED FROM THE SEDIMENT BASIN WHEN THE DESIGN STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR WHEN THE ROCK IS DISCLOSED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED FROM BAFFLES WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SOMMERS WILL BE INSPECTED WEEKLY AND WILL BE KEPT CLEAN.
 - ALL SEEDED AREAS WILL BE FERTILIZED, RESEED AS NECESSARY AND MULCHED ACCORDING TO THE SPECIFICATIONS IN THE NARRATIVE PLAN TO MAINTAIN A WOODRUM'S VEGETATIVE COVER. ALL SLOPES WILL BE STABILIZED WITHIN 21 CALENDAR DAYS. ALL OTHER AREAS WILL BE STABILIZED WITH 15 WORKING DAYS.
 - FLOCCULANTS WILL BE USED TO ADDRESS TURBIDITY ISSUES. THE PUMPS, TANKS, HOSES AND INJECTION SYSTEMS WILL BE CHECKED FOR PROBLEMS OR TURBO DISCHARGES DAILY.
- VEGETATIVE PLAN -**
- PERMANENT VEGETATION TO BE ESTABLISHED IN ACCORDANCE WITH NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, SECTION 6.11, LATEST VERSION.



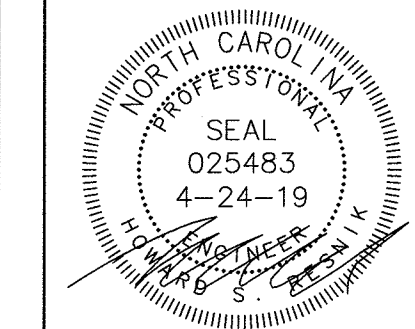
LICENSE # C-2710
 ENGINEERING
 LAND PLANNING
 COMMERCIAL / RESIDENTIAL

P.O. BOX 4041
 WILMINGTON, NC 28406
 (910) 791-4441

EROSION CONTROL AND STORMWATER PLAN FOR FRIENDS SCHOOL OF WILMINGTON

EROSION CONTROL AND STORMWATER PLAN FOR FRIENDS SCHOOL OF WILMINGTON
 LOCATED IN WILMINGTON TOWNSHIP
 NEW HAMPSHIRE COUNTY, NORTH CAROLINA

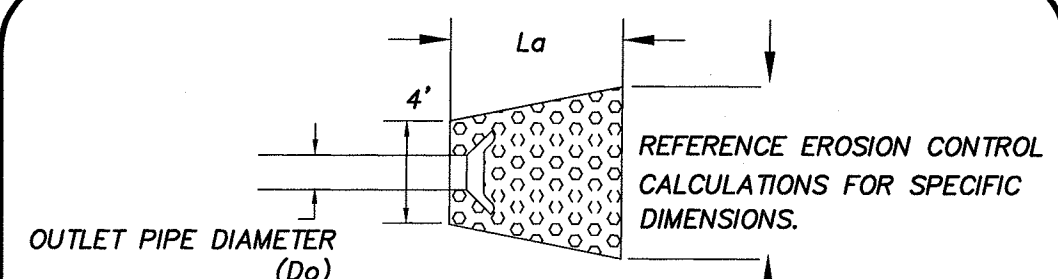
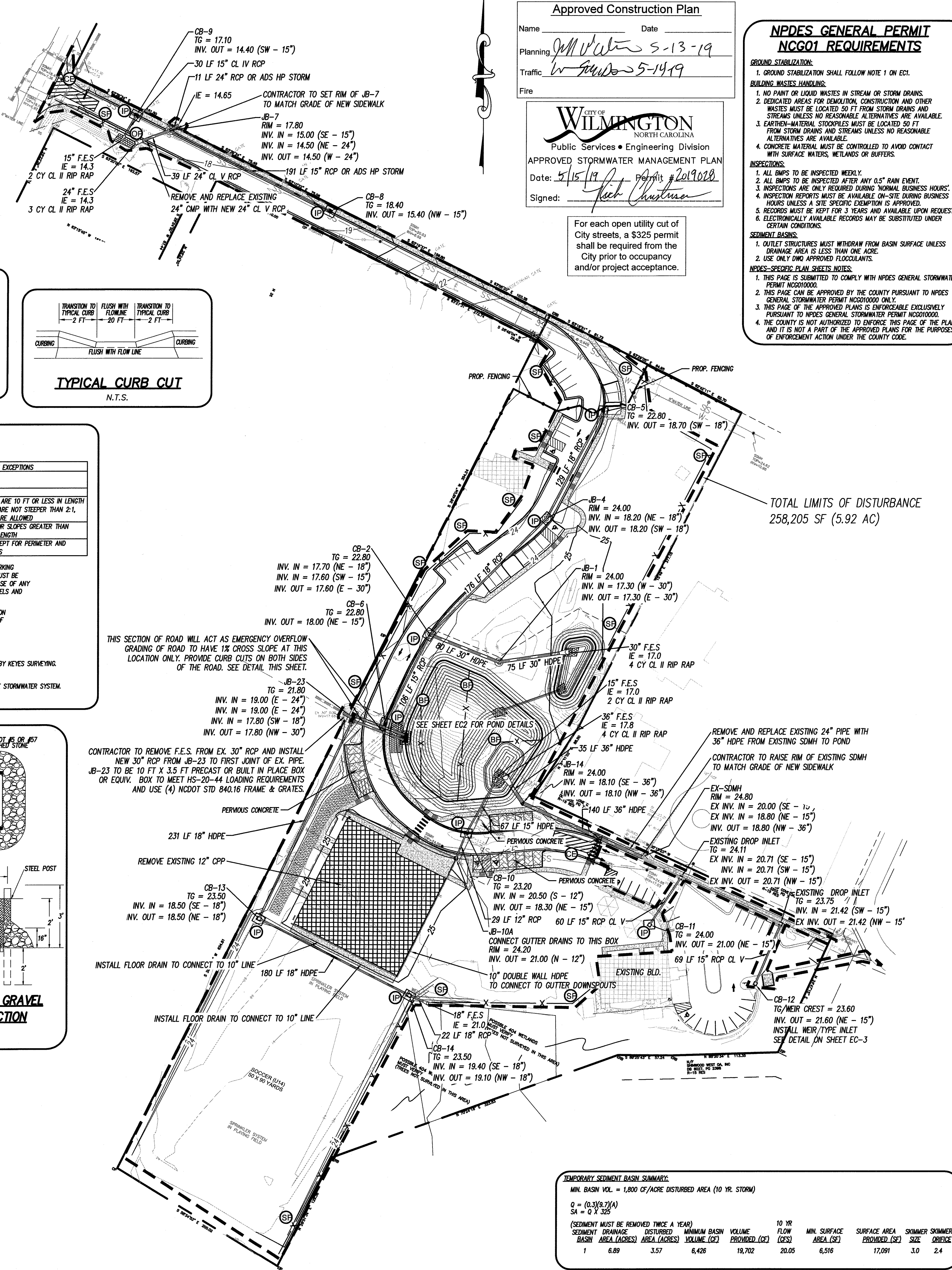
OWNER: FRIENDS SCHOOL OF WILMINGTON INC
 350 WELFFER AVENUE
 WILMINGTON, NC 28409
 PH: 910-792-1811



REV.	DATE	BY	REMARKS
1	4-24-19	RLW	REVISED PER CIVIL ENGINEERING COMMENTS
2	5-14-19	RLW	REVISED PER CIVIL ENGINEERING COMMENTS
3	12-19-18	MBB	REVISED PER CIVIL ENGINEERING COMMENTS

DATE: 4-12-18
 HORIZ. SCALE: 1" = 60'
 VERT. SCALE: N/A
 DRAWN BY: RLW
 CHECKED BY: HSR
 PROJECT NO.: 05-0040

Sheet No. **EC1** of **EC4**



OUTLET PROTECTION DETAIL
 NOT TO SCALE

NOTE: GEOTEX NONWOVEN FILTER FABRIC (TERRATEX NO4 OR EQUAL) TO BE PLACED UNDER ALL STONE OUTLET PROTECTION.

RIP RAP DIMENSIONS

STRUCTURE	L	W	X	D	CLASS	QUANTITY
OUTFALL FROM JB1	11'	8'	8'	1'	II	4 CY
OUTFALL FROM CB10	8'	5'	5'	1'	II	2 CY
OUTFALL FROM JB14	11'	9'	9'	1'	II	4 CY
OUTFALL FROM CB9	8'	5'	5'	1'	II	2 CY
OUTFALL FROM JB7	10'	6'	6'	1'	II	3 CY

LEGEND

- EXISTING BOUNDARY
- LIMITS OF DISTURBANCE
- EXISTING CULVERT
- CONSTRUCTION ENTRANCE
- SILT FENCE
- PROPOSED CULVERT
- INLET PROTECTION
- PERVIOUS CONCRETE

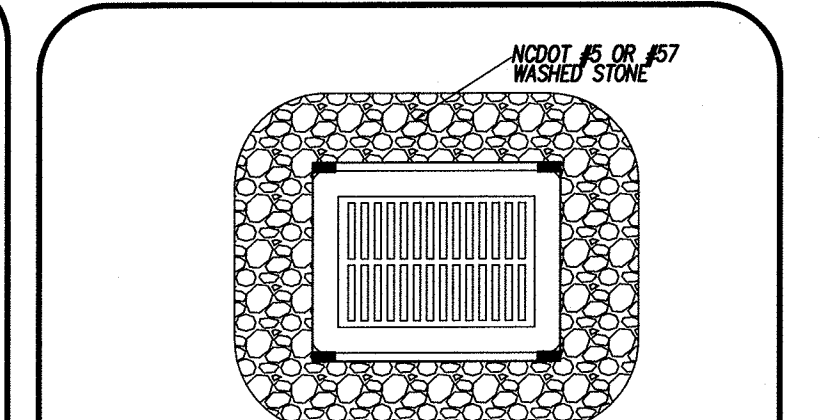
SITE DATA:
 LOT AREA = 316,856 SF (7.27 AC)
 CAMELIA LANE ROW = 22,735 SF (0.52 AC)
 TOTAL PROJECT AREA = 339,591 SF (7.80 AC)

SOIL TYPE(S):
 LE - 155,903 SF (3.12 AC)
 MU - 84,787 SF (1.95 AC)
 KR - 1,471 SF (0.03 AC)
 SE - 94,695 SF (2.17 AC)

PROPOSED BUILDINGS = 26,662 SF
EXISTING BUILDINGS = 7,238 SF
PROPOSED ASPHALT & CURBING = 29,216 SF
EXISTING ASPHALT & CURBING = 16,478 SF
PROPOSED SIDEWALKS = 13,665 SF
EXISTING SIDEWALKS = 1,483 SF
FUTURE = 4,000 SF

TOTAL = 99,762 SF

SQUARE FOOTAGE OF DISTURBANCE = 258,205 SF (5.92 AC)



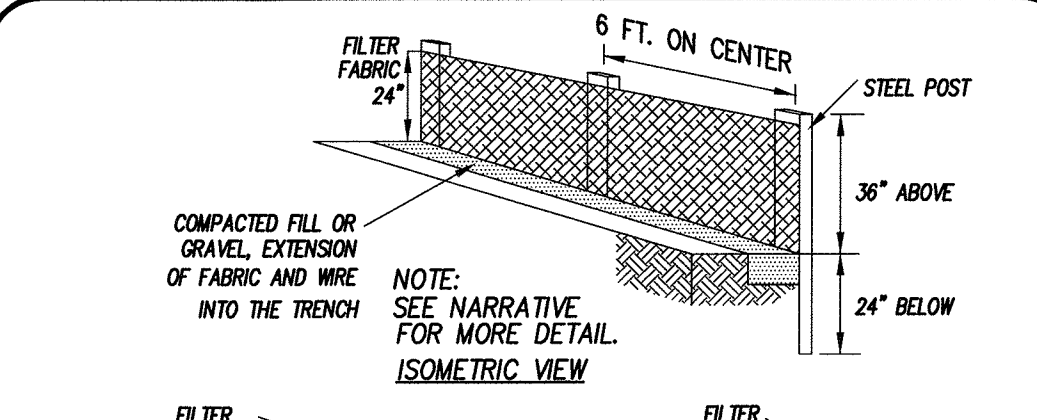
HARDWARE CLOTH & GRAVEL DROP INLET PROTECTION
 PRACTICE 6.51
 NOT TO SCALE

TEMPORARY SEDIMENT BASIN SUMMARY:

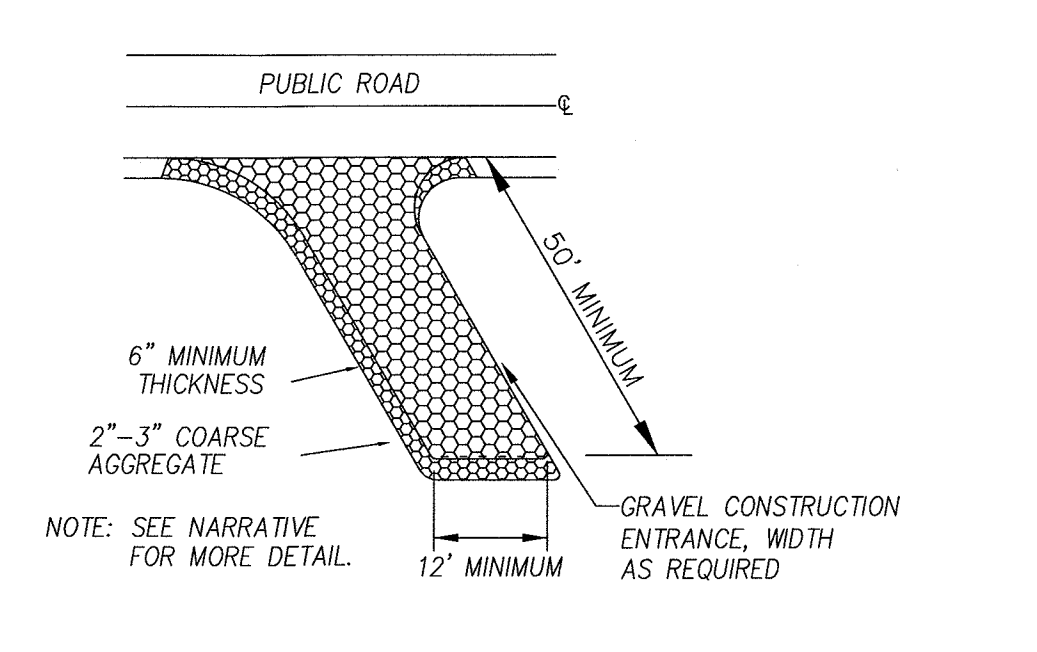
MIN. BASIN VOL. = 1,800 CF/ACRE DISTURBED AREA (10 YR. STORM)

$Q = (0.3)(97)(A)$
 $SA = Q \times 325$

SEDIMENT BASIN AREA (ACRES)	MINIMUM BASIN VOLUME (CF)	10 YR. SURFACE AREA (SQ FT)	MIN. SURFACE AREA (SQ FT)	SKIMMER SPACING (FEET)	SKIMMER WIDTH (FEET)
1	6,826	18,702	20,05	6,516	17,091
3	20,478	56,106	60,150	19,548	51,273
4	27,296	74,136	80,200	26,064	68,364

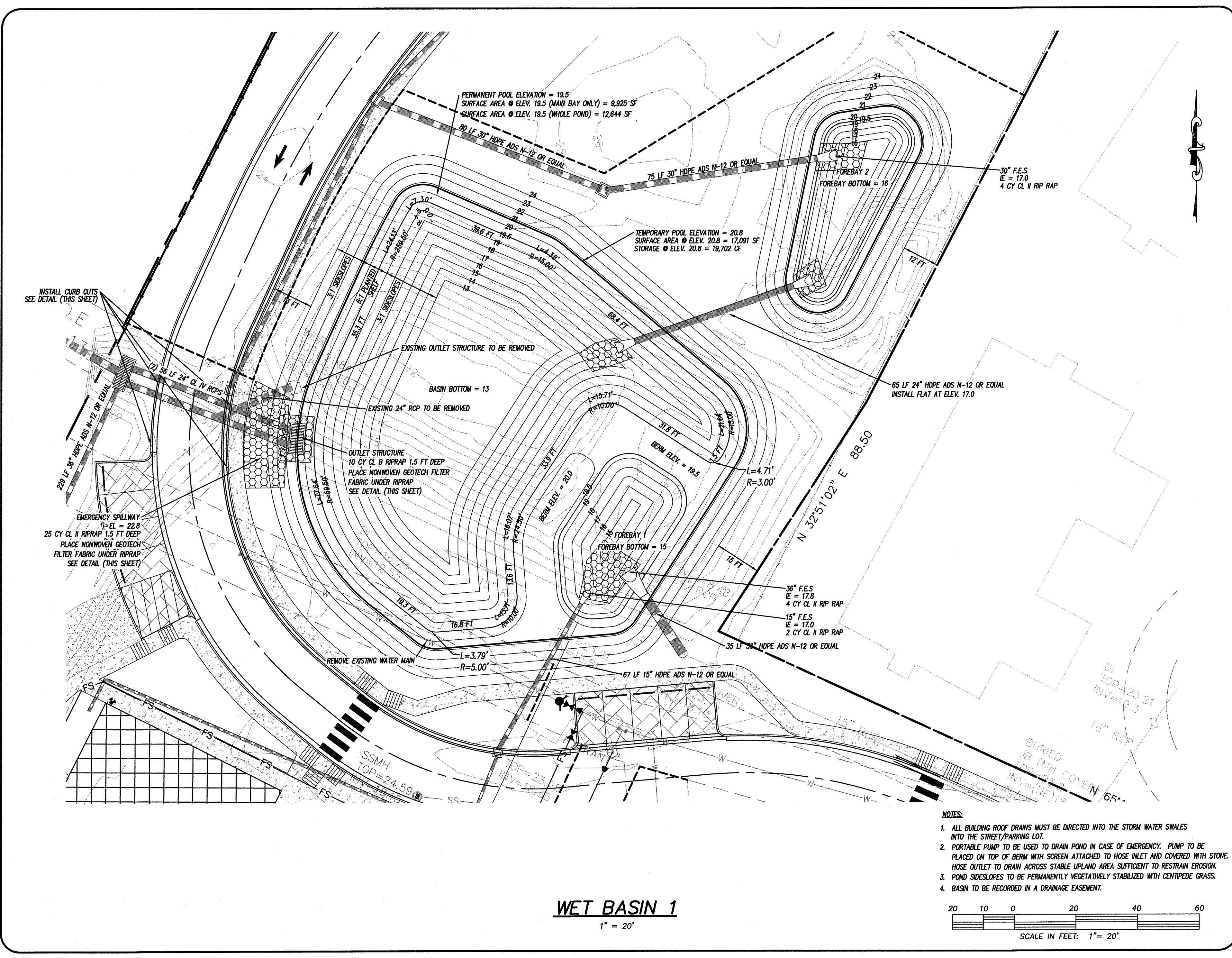
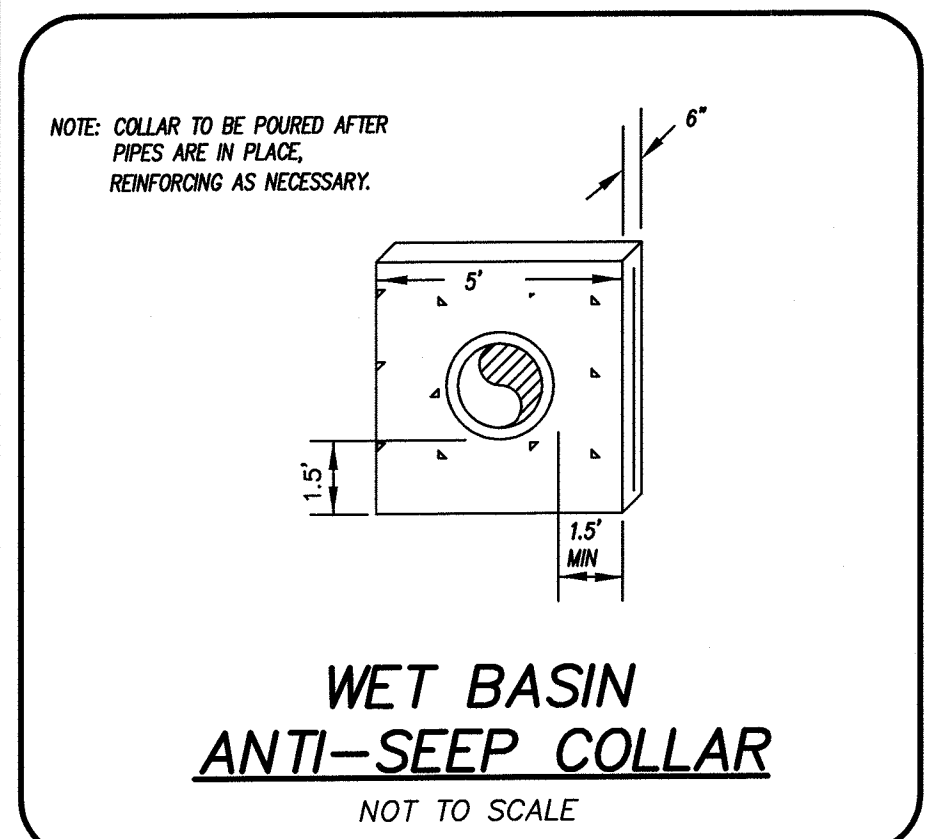
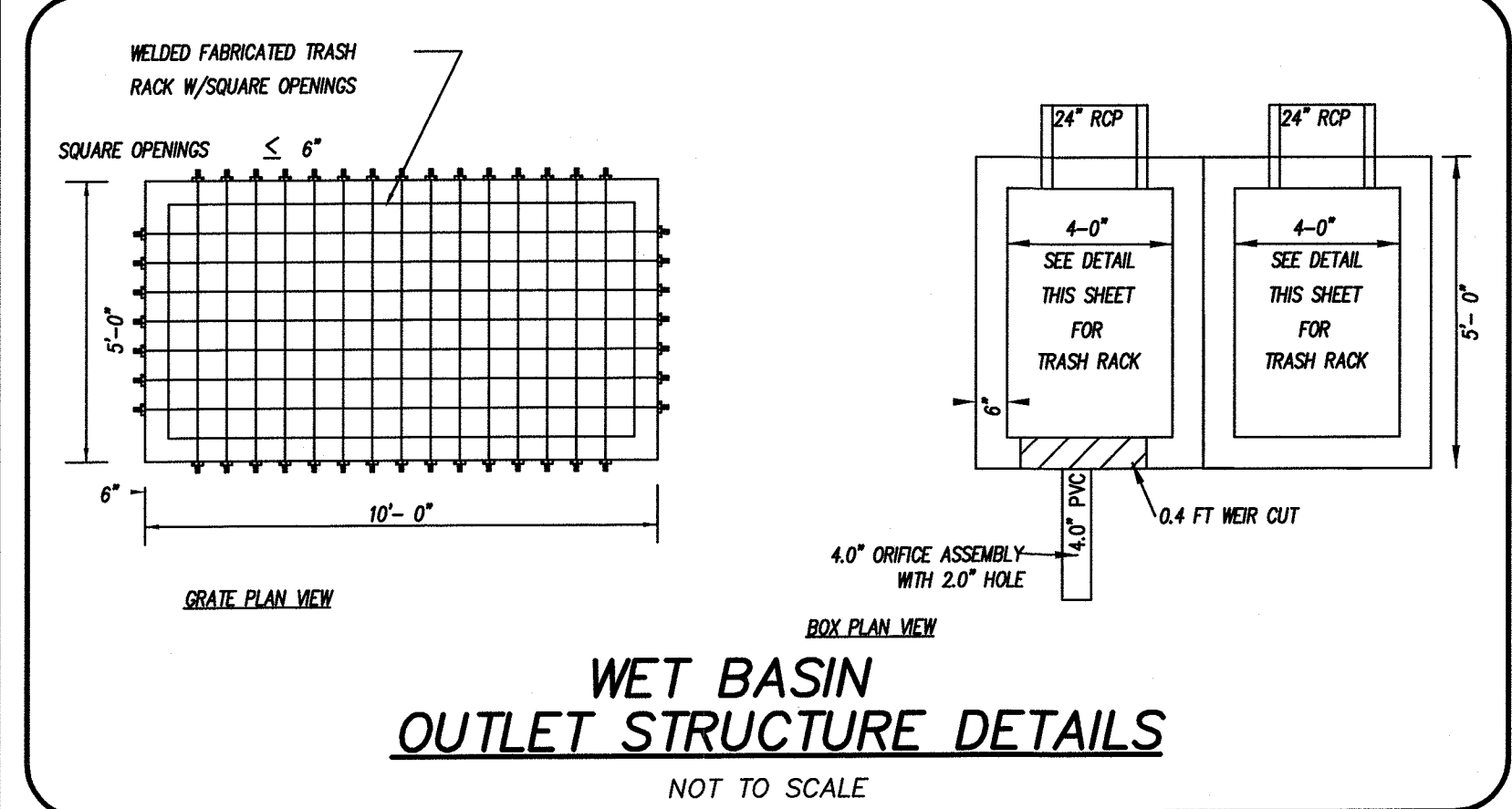
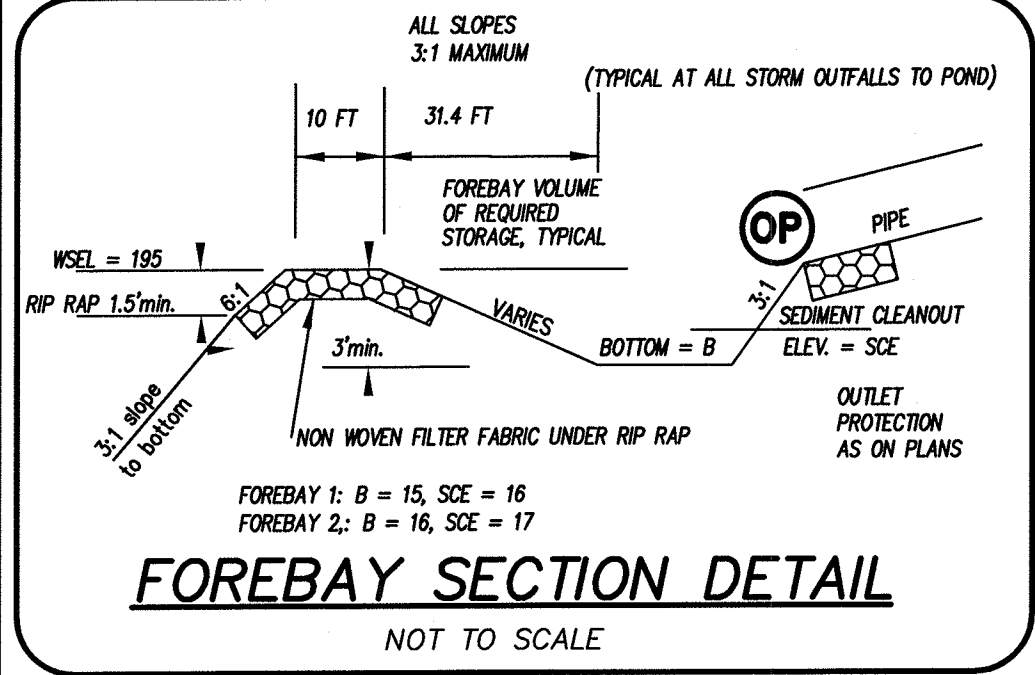
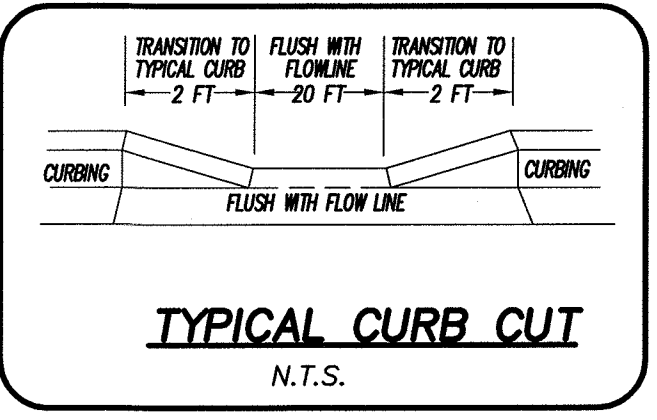
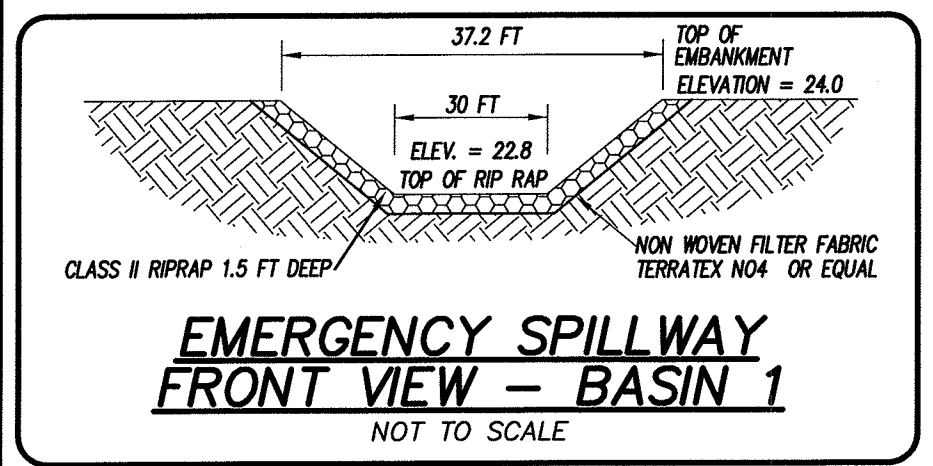


SEDIMENT FENCE (SILT FENCE)
 PRACTICE 6.62
 NTS



TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT DETAIL
 PRACTICE 6.06
 NTS

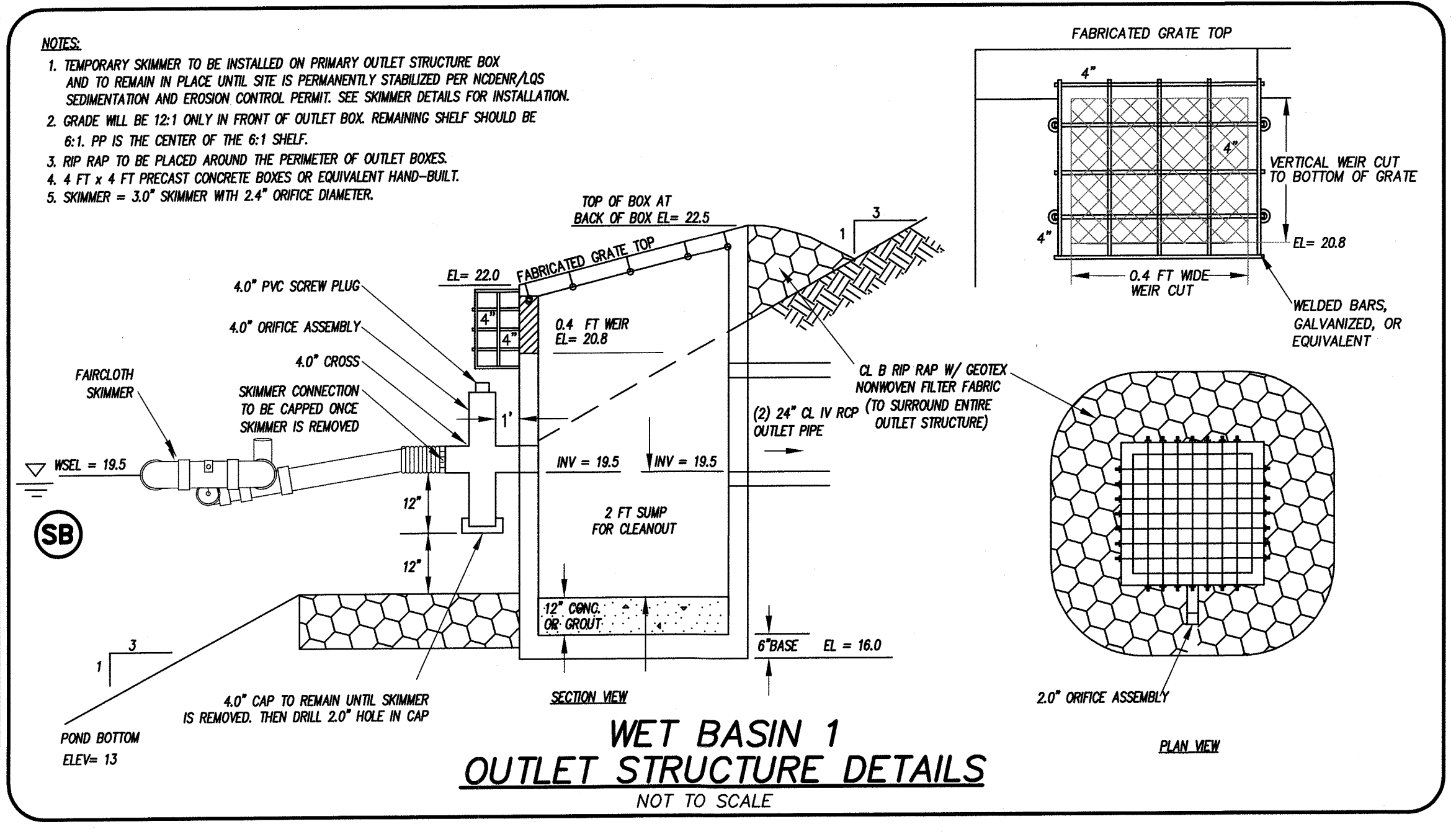
SCALE IN FEET: 1" = 60'



NOTES:

- ALL BUILDING ROOF DRAINS MUST BE DIRECTED INTO THE STORM WATER SWALES INTO THE STREET/PARKING LOT.
- PORTABLE PUMP TO BE USED TO DRAIN POND IN CASE OF EMERGENCY. PUMP TO BE PLACED ON TOP OF BERM WITH SCREEN ATTACHED TO HOSE INLET AND COVERED WITH STONE. HOSE OUTLET TO DRAIN ACROSS STABLE UPLAND AREA SUFFICIENT TO RESTRAIN EROSION.
- POND SIDESLOPES TO BE PERMANENTLY VEGETATIVELY STABILIZED WITH CENTIPEDE GRASS.
- BASIN TO BE RECORDED IN A DRAINAGE EASEMENT.

SCALE IN FEET: 1" = 20'



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

Approved Construction Plan

Name: _____ Date: _____

Planning: *[Signature]* 5-13-19

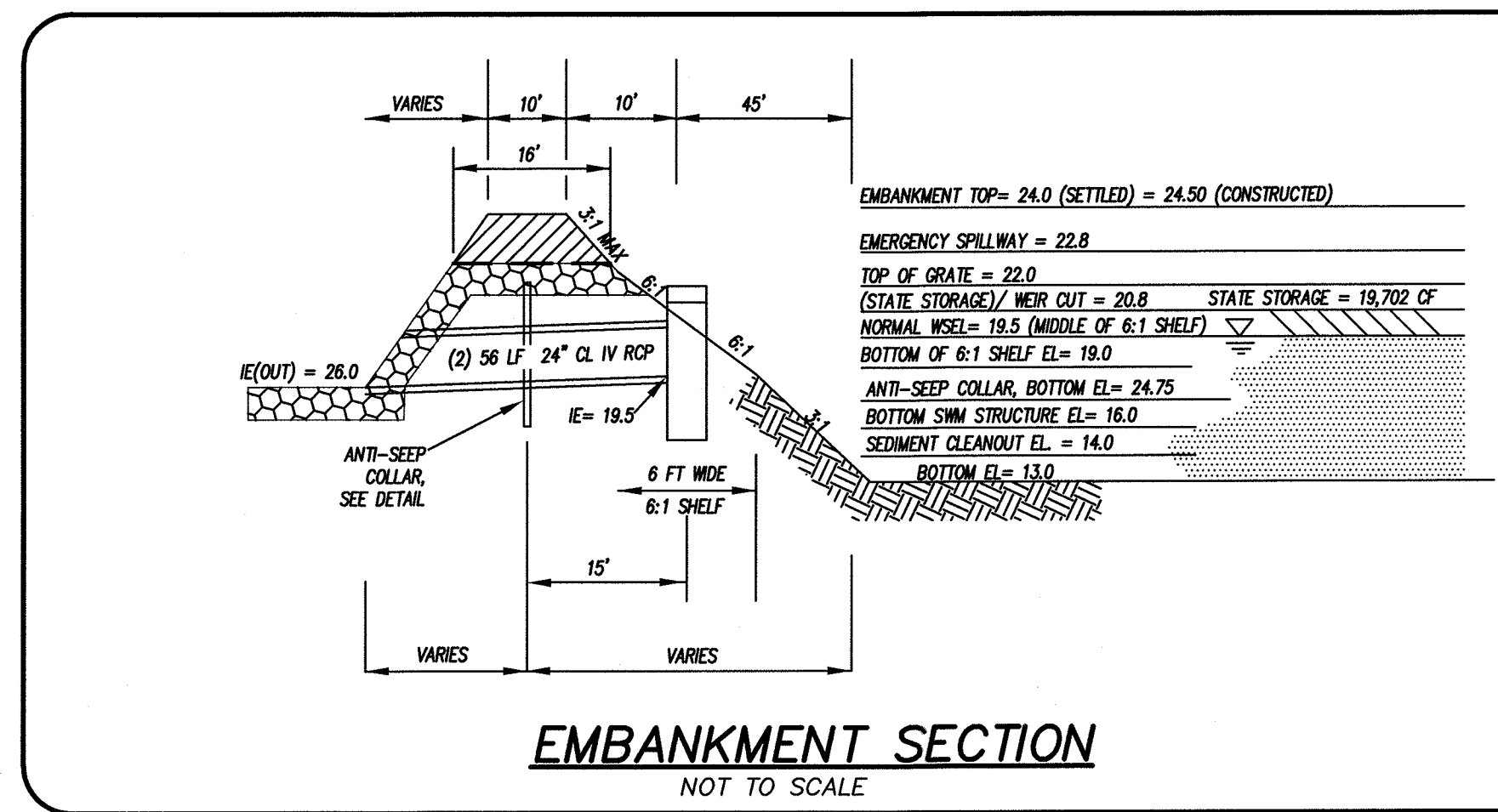
Traffic: *[Signature]* 5-14-19

Fire: _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: 5/15/19 Permit # 2019028

Signed: *[Signature]*



CSD ENGINEERING

LICENSE # C-2710
ENGINEERING
LAND PLANNING
COMMERCIAL / RESIDENTIAL

P.O. BOX 4041
WILMINGTON, NC 28406
(910) 791-4441

POND DETAIL SHEET

FRIENDS SCHOOL OF WILMINGTON

EROSION CONTROL AND STORMWATER PLAN FOR
FRIENDS SCHOOL OF WILMINGTON
LOCATED IN WILMINGTON TOWNSHIP
NEW HANOVER COUNTY, NORTH CAROLINA

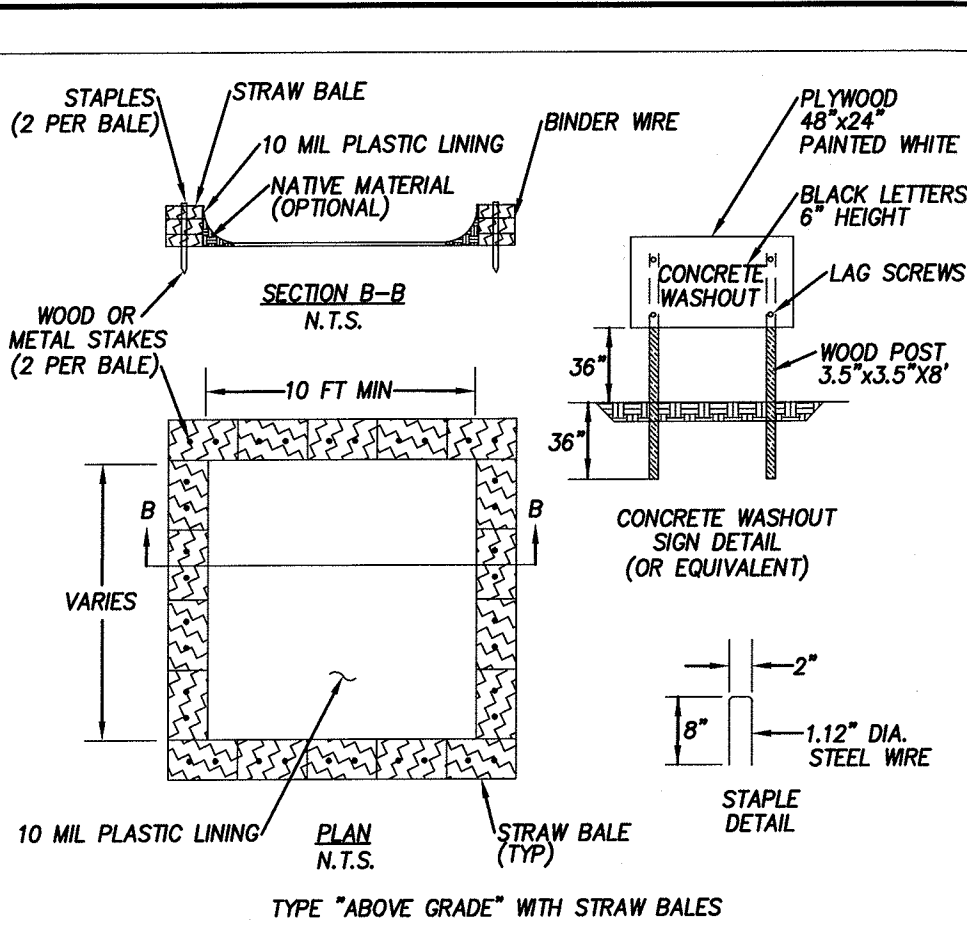
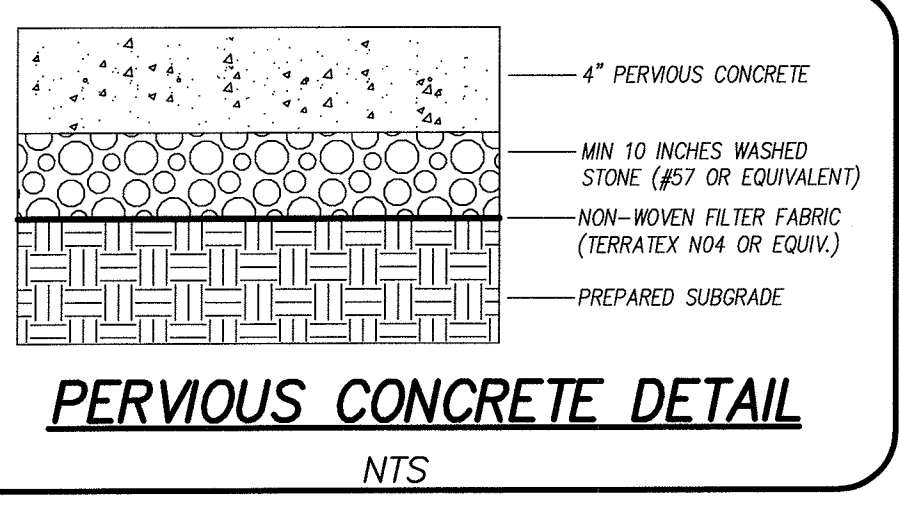
OWNER: FRIENDS SCHOOL OF WILMINGTON INC
350 PEPPER AVENUE
WILMINGTON, NC 28409
PH: 910-792-1811

PROFESSIONAL SEAL
025483
4-8-19

REV.	DATE	BY	REMARKS
1	4-08-19	RLW	
2	5-14-19	RLW	

DATE: 11-15-18
HORIZ. SCALE: 1" = 20'
VERT. SCALE: N/A
DRAWN BY: RLW
CHECKED BY: HSR
PROJECT NO.: 05-0040

EC2 or EC4



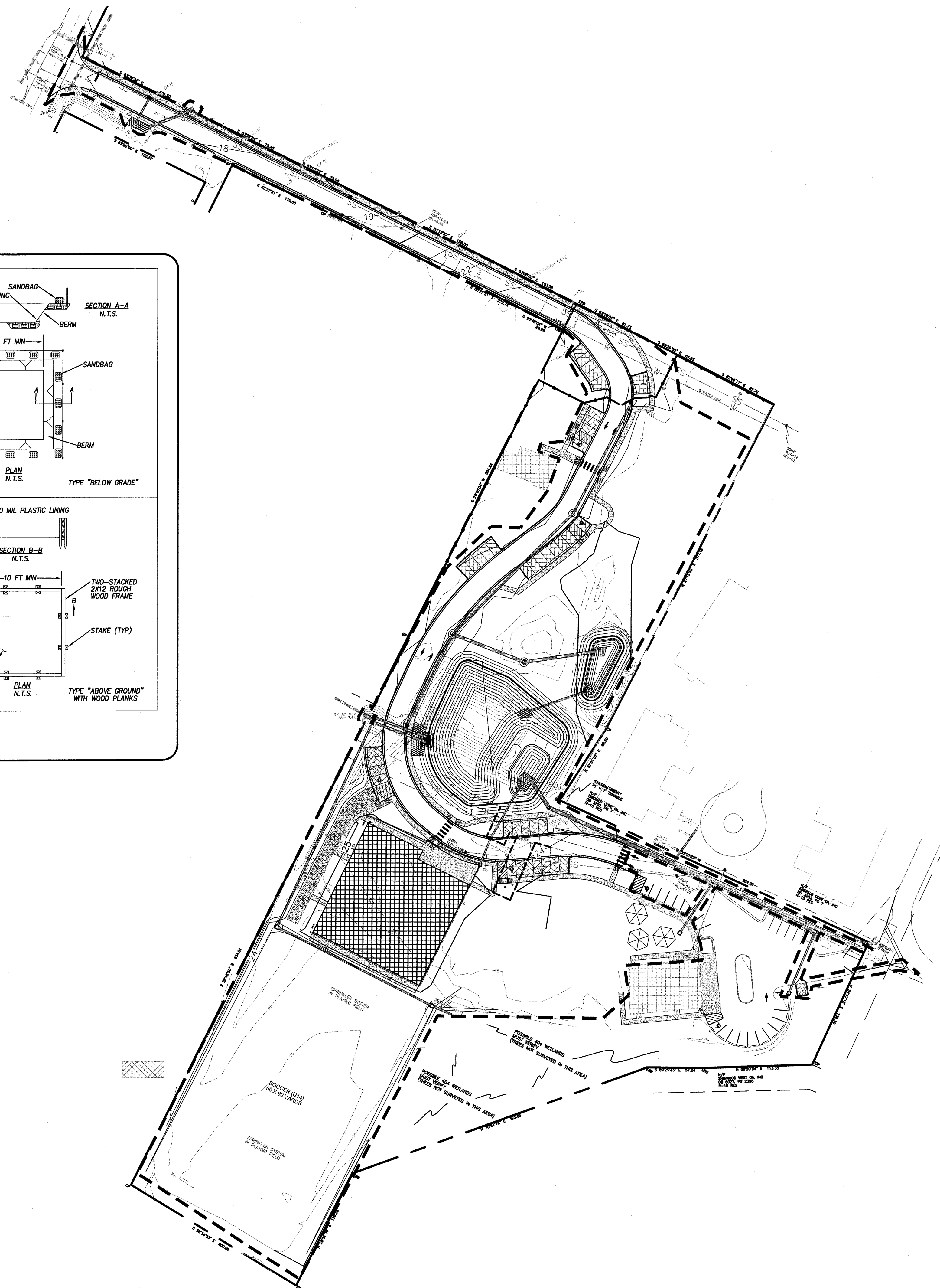
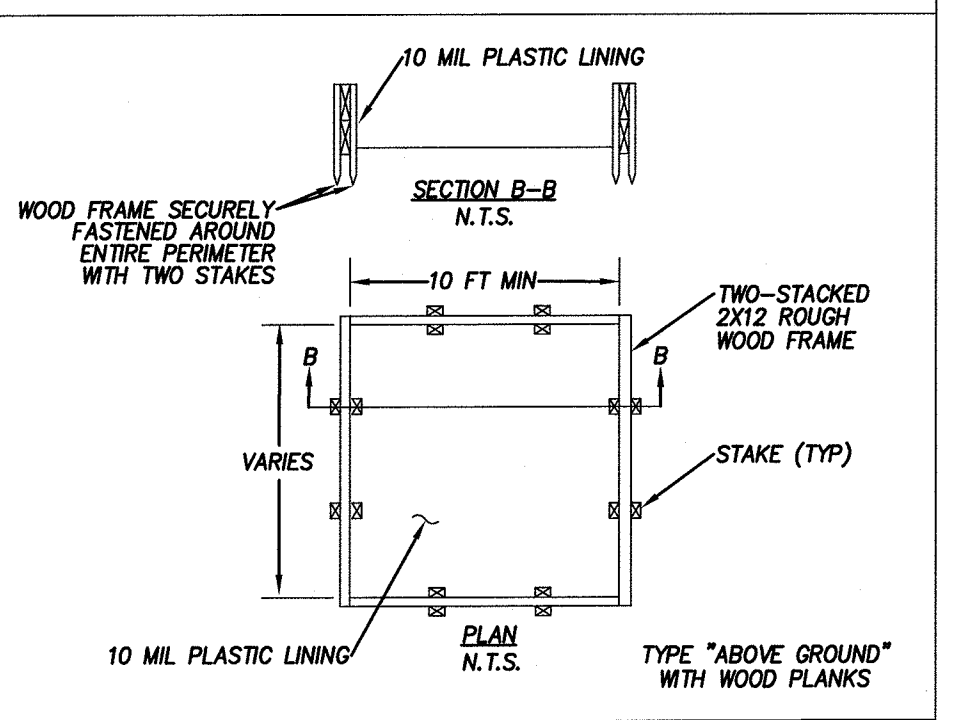
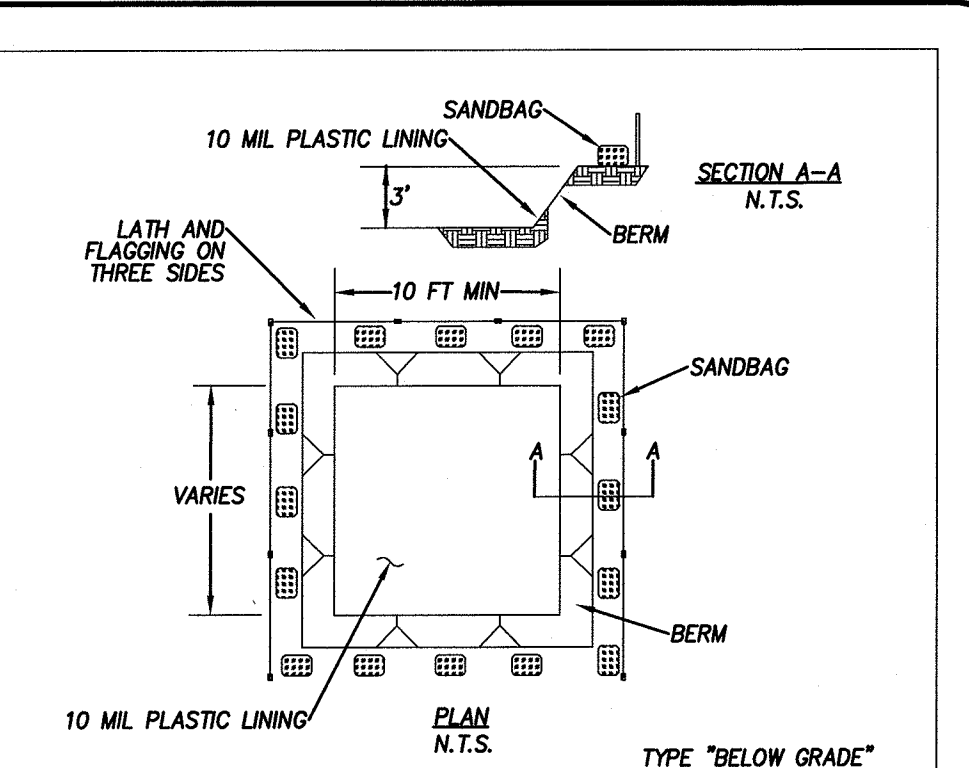
NOTES:

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED AND STABILIZED TO PREVENT EROSION.

MAINTENANCE:

1. CONCRETE WASHOUTS SHOULD BE INSPECTED DAILY AND AFTER HEAVY RAINS. DAMAGES SHOULD BE REPAIRED PROMPTLY. IF FILLED TO OVER 75% CAPACITY WITH RAIN WATER IT SHOULD BE VACUUMED OR ALLOWED TO EVAPORATE TO AVOID OVERFLOWS. BEFORE HEAVY RAINS THE CONTAINERS LIQUID LEVEL SHOULD BE LOWERED OR THE CONTAINER COVERED TO AVOID OVERFLOW DURING RAIN. WHEN SOLIDS HAVE HARDENED THEY SHOULD BE REMOVED AND RECYCLED.

CONCRETE WASHOUT DETAIL
NOT TO SCALE



Approved Construction Plan

Name _____ Date _____

Planning *JM Walters* 5-13-19

Traffic *W SMD* 5-14-19

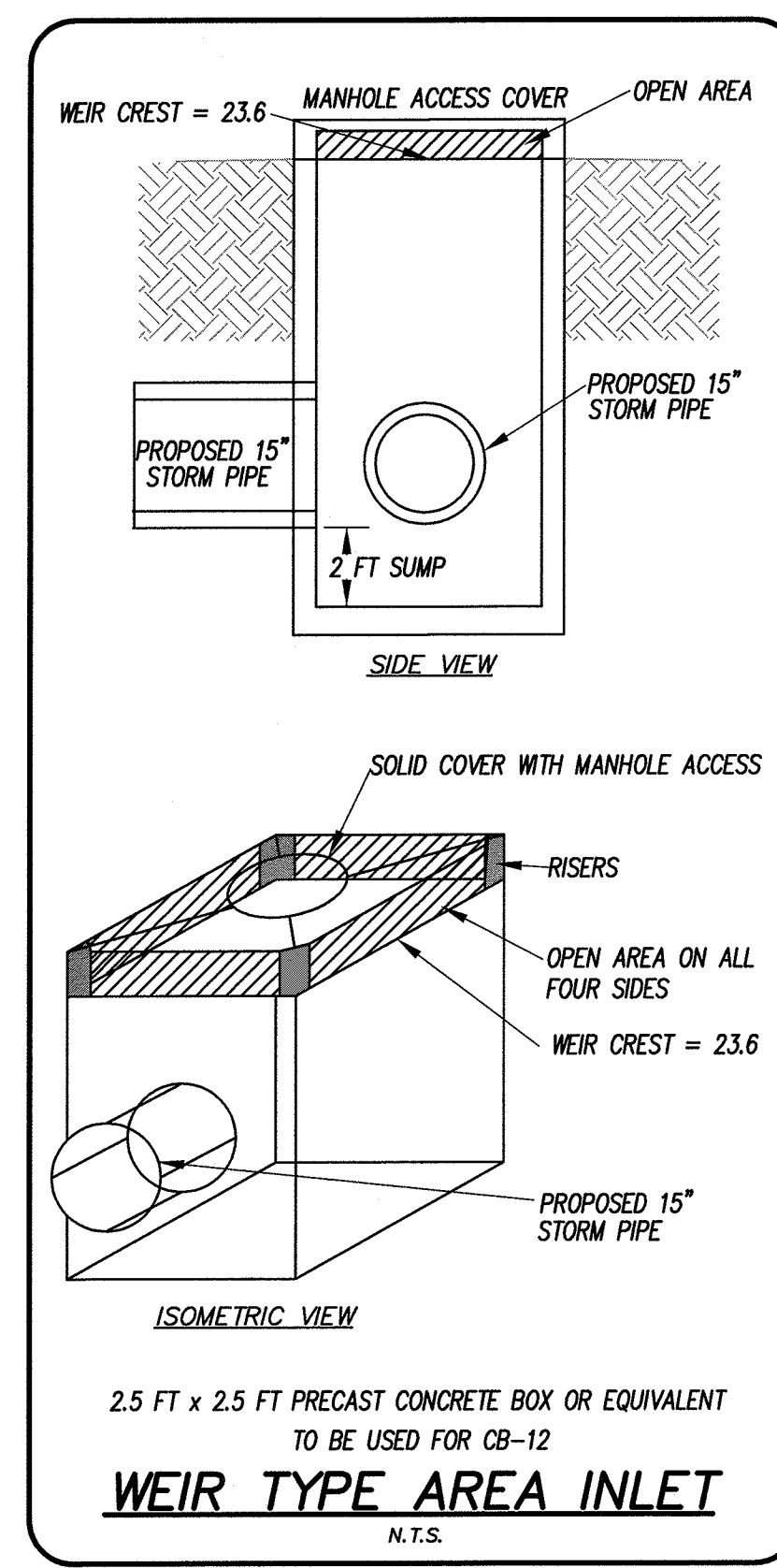
Fire _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: 5/15/19 Permit # 2019029

Signed: *Rich Christensen*

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



1. SOIL STABILIZATION TIMEFRAMES

SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
PERIMETER DICES, SWALES	7 DAYS	NONE
DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY ZONES (HOW)	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10 FT 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 FT IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETER AND HOW ZONES

60 30 0 60 120 180
SCALE IN FEET: 1" = 60'

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LICENSE # C-2710
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P.O. BOX 4041
WILMINGTON, NC 28406
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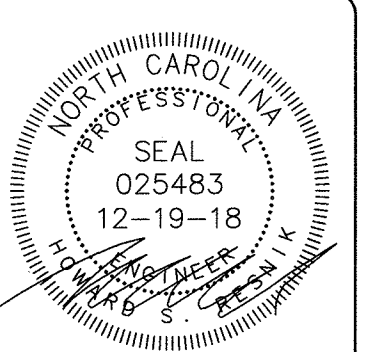
EROSION CONTROL AND STORMWATER PLAN FOR
FRIENDS SCHOOL OF WILMINGTON

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EROSION CONTROL AND STORMWATER PLAN FOR
FRIENDS SCHOOL OF WILMINGTON

LOCATED IN WILMINGTON TOWNSHIP
NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: FRIENDS SCHOOL OF WILMINGTON INC
350 PEPPER AVENUE
WILMINGTON, NC 28409
PH: 910-792-1811

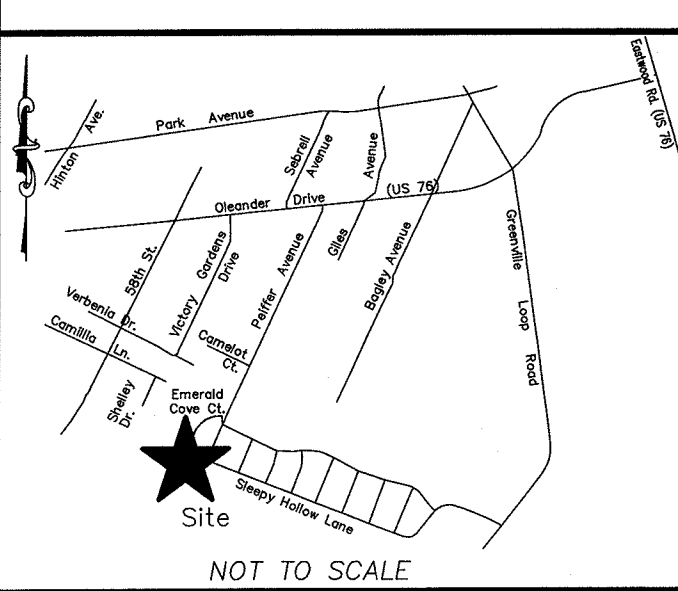


REV. NO.	BY	DATE	REMARKS
1	MB	12-19-18	REQUIRED TO ADD WEIR TYPE INLET DETAIL

DATE: 11-15-18
HORIZ. SCALE: 1" = 60'
VERT. SCALE: N/A
DRAWN BY: RLW
CHECKED BY: HSR
PROJECT NO.: 05-0040

Sheet No. **EC3** of **EC4**

LOCATION MAP



NOT TO SCALE

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

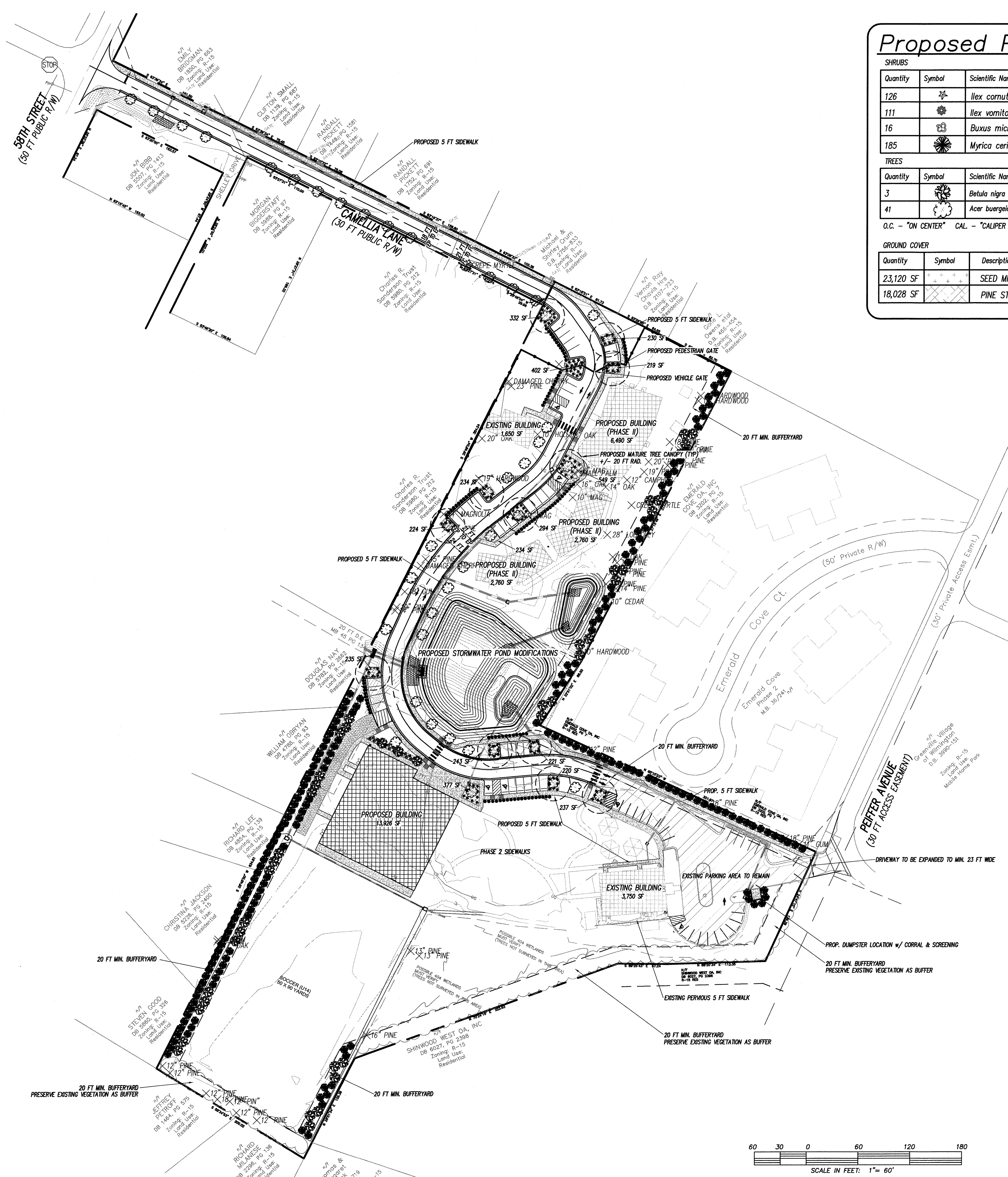
Approved Construction Plan

Name	Date
Planning <i>[Signature]</i>	9-13-19
Traffic <i>[Signature]</i>	9-14-19
Fire	

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 9/15/19 Permit # 2019028
Signed: *[Signature]*

LEGEND

- EXISTING BOUNDARY
- ▭ PROP. BUILDING
- ▭ EXISTING CONCRETE
- ▭ PERVIOUS MATERIAL
- W — EXISTING WATER
- SS — EXISTING SEWER
- ⊕ EXISTING FIRE HYDRANT
- EXISTING CONTOUR
- EXISTING STORM DRAIN
- ⊙ EXISTING TREE
- ⊙ PROPOSED TREE



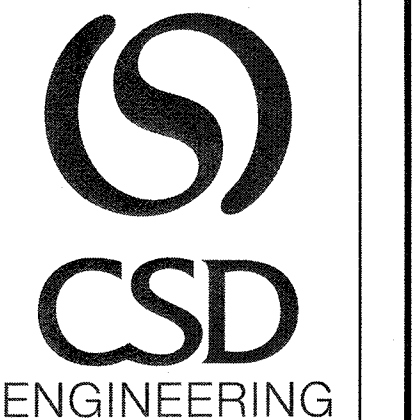
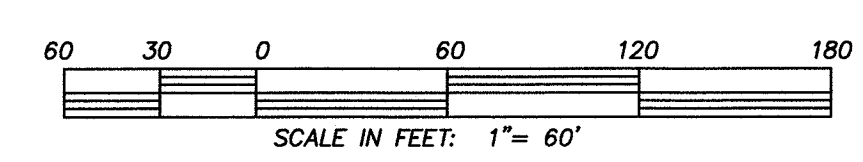
Proposed Plant Table

SHRUBS					
Quantity	Symbol	Scientific Name	Common Name	Planting Size	Planting Remarks
126	⊙	<i>Ilex cornuta</i>	Needlepoint Holly	7 GAL. 3' HT.	STREETYARD SHRUB
111	⊙	<i>Ilex vomitoria</i>	Dwarf Yaupon Holly	3 Gal.	PARKING LOT
16	⊙	<i>Buxus microphylla</i>	Wintergreen Boxwood	3 Gal.	FOUNDATION
185	⊙	<i>Myrica cerifera</i>	Wax Myrtle	7 Gal. 3' HT.	BUFFERYARD SHRUB
TREES					
Quantity	Symbol	Scientific Name	Common Name	Planting Size	Planting Remarks
3	⊙	<i>Betula nigra</i>	River Birch	3" CAL.	STREETYARD TREES
41	⊙	<i>Acer buergerianum</i>	Trident Maple	2" CAL.	PARKING LOT
GROUND COVER					
Quantity	Symbol	Description			
23,120 SF	⊙	SEED MIX			
18,028 SF	⊙	PINE STRAW			

O.C. - "ON CENTER" CAL. - "CALIPER AT 6" ABOVE GRADE" GAL. - "GALLON CONTAINER"

LANDSCAPE CALCULATIONS:

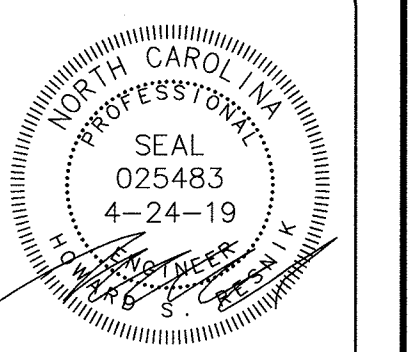
- FOUNDATION LANDSCAPING:**
3,300 SF BLDG FACE * 12% = 396 SF RECD FOUNDATION LANDSCAPING.
428 SF FOUNDATION LANDSCAPING PROVIDED.
- PARKING ISLAND LANDSCAPING:**
1 CANOPY TREE AND SHRUBBERY * 12 INTERIOR PARKING ISLANDS
12 CANOPY TREES AND SHRUBS RECD.
CANOPY TREES / SHADE TREES PLACED THROUGHOUT PARKING AREA TO AVOID CONFLICT WITH DESIGNED UTILITIES.
- TREES & SHRUBS IN THE SETBACK AREA SHALL BE MAINTAINED BY THE OWNER TO ENSURE THAT THE MATERIAL LIVES & PROSPERS.**
- PARKING AREA SCREENING:**
SHRUBBERY PROVIDE FOR MAXIMUM OPACITY OF VEHICLE HEADLIGHTS.
- LANDSCAPE CALCULATIONS BY TOTAL AREA AS FOLLOWS:**
TOTAL PROJECT LIMITS = 81,403 SF, TOTAL LANDSCAPED AREA = 6,383 SF
6,383 / 81,403 = 0.0785 OR 7.8%
2.38% > 8% (MINIMUM LANDSCAPED AREA)
-ONE (1) TREE AND SIX SHRUBS RECD FOR EVERY FIFTEEN (15) PARKING SPACES.
-1 / 15 = 0.0667 TREES PER PARKING SPACE, 6 / 15 = 0.4 SHRUBS PER PARKING SPACE.
40 PARKING SPACES PROVIDED; 40 X 0.0667 = 2.668 TREES RECD, 12 SHADE TREES PROVIDED
40 X 0.4 = 16 SHRUBS RECD, 126 VARIOUS SHRUBS PROVIDED
- STREET TREE CALCULATIONS [SEC. 18-194(C)(12)] AS FOLLOWS:**
-ONE (1) STREET TREE FOR EVERY THIRTY (30) FEET OF PROPERTY FRONTAGE.
-STREET TREES ADDED IN AND AMONGST EXISTING TREES TO MEET REQUIREMENT.
-STREET TREES NOT PROVIDED FOR CAMELLIA LANE IMPROVEMENTS DUE TO LIMITED SPACE.
STREET TREES REQUIRED: 34
STREET TREES PROVIDED: 32 (SIGHT DISTANCE TRIANGLES PROHIBIT THE PLACEMENT OF STREET TREES ALONG PROPOSED PROPERTY FRONTAGE. STREET TREE REQUIREMENTS SHALL BE MET BY MEANS OF A PAYMENT IN LIEU TO THE CITY OF WILMINGTON TREE FUND.)
- PARKING AREA SHADE CALCULATIONS:**
6,852 SF PARKING AREA; 20% SHADE RECD; 6,852 * 0.2 = 1,370.4 SF OF RECD SHADE.
2,263 SF OF SHADE AREA PROVIDED AT MATURITY.
- BUFFERYARDS - [SEC. 18-496]:**
PLANTED BUFFERYARDS TO PROVIDE 100% OPACITY.
RECD: 1 TREE EVERY 30 FT & SHRUBS PROVIDED TO PROVIDE OPACITY.
SELECT BUFFERYARDS TO EMPLOY EXISTING VEGETATION.
VARYING HEIGHT WOOD FENCING TO BE USED IN OTHER AREAS.



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LANDSCAPE PLAN for
FRIENDS SCHOOL OF WILMINGTON

LANDSCAPE PLAN for
FRIENDS SCHOOL OF WILMINGTON
LOCATED IN WILMINGTON TOWNSHIP
NEW HANOVER COUNTY, NORTH CAROLINA
OWNER: FRIENDS SCHOOL OF WILMINGTON INC
350 PEPPER AVENUE
WILMINGTON, NC 28409
PH: 910-792-1811



REV.	DATE	BY	REMARKS
1	4/24/19	RLW	
2	4/28/19	RLW	
3	3/20/19	RLW	
4	11/22/18	RLW	

DATE: 6-4-18
HORIZ. SCALE: 1" = 60'
VERT. SCALE: N/A
DRAWN BY: RLW
CHECKED BY: HSR
PROJECT NO.: 05-0040

Sheet No. **LP** of **LP**

