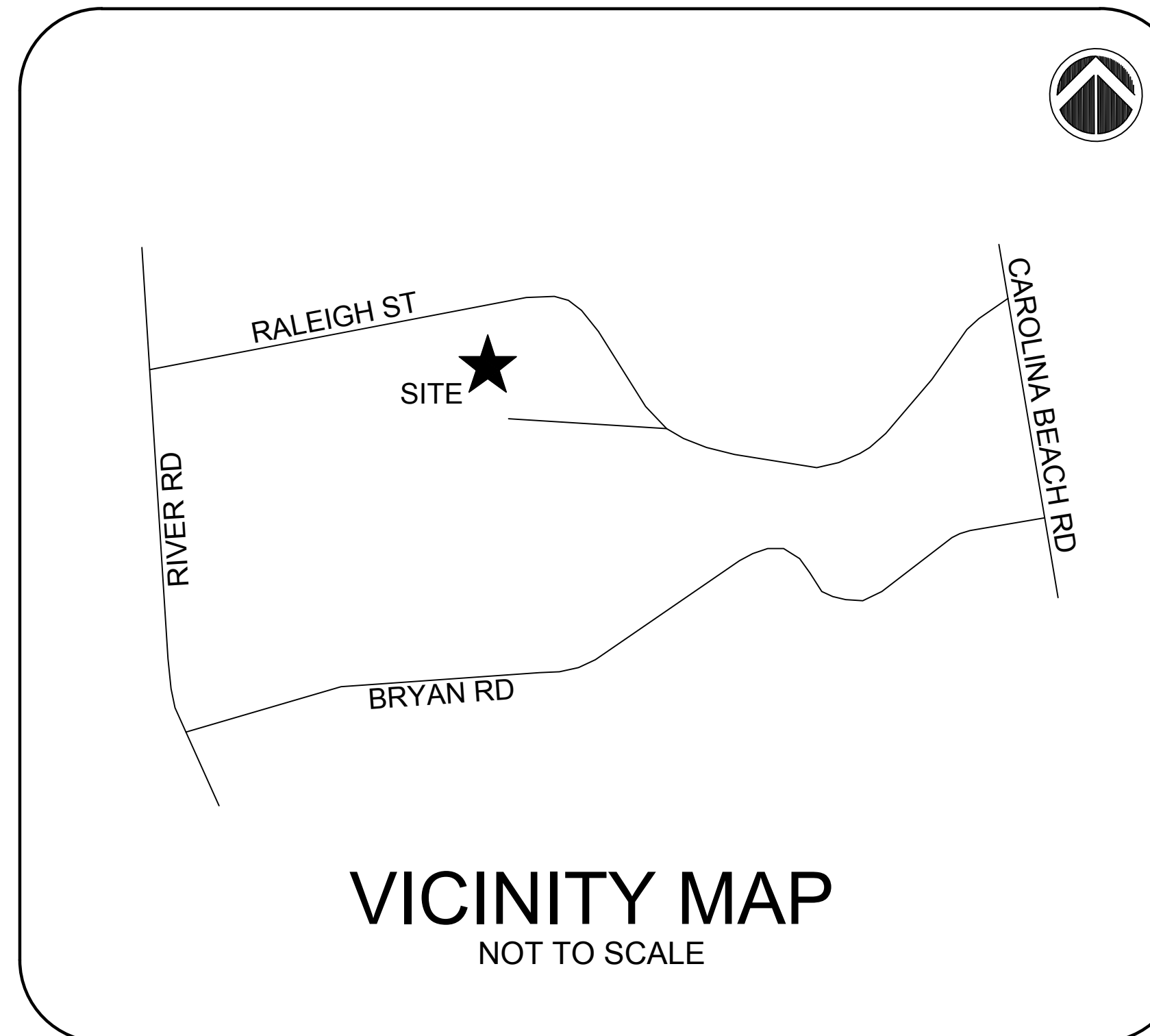


# CONSTRUCTION PLANS FOR CIVIL WORKS CONTRACTING

Wilmington, North Carolina



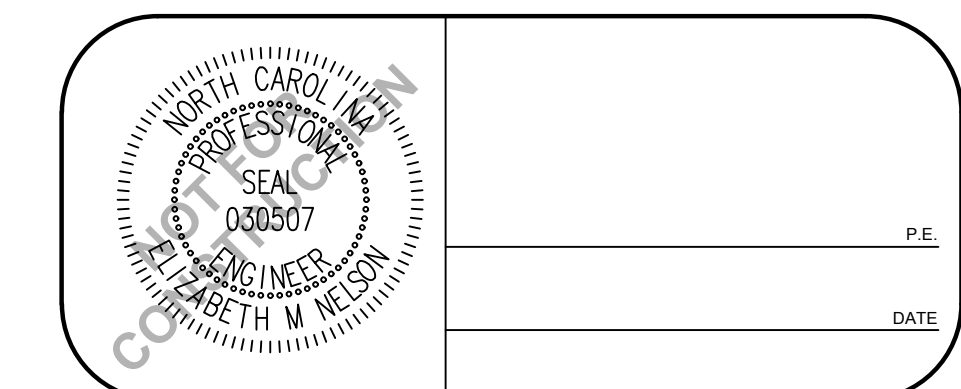
## INDEX

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CU100	OFFSITE UTILITY PLAN AND PROFILE
CU101	OFFSITE UTILITY PLAN AND PROFILE
CG100	STORMWATER & GRADING PLAN
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CG121	FINAL SEDIMENTATION & EROSION CONTROL PLAN (INCLUDING OFFSITE)
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TOTAL WATERLINE MAIN EXTENSION = 1,850 LF  
TOTAL GRAVITY SEWER MAIN EXTENSION = 334 LF

## CAPE FEAR ENGINEERING

151 Poole Rd., Suite 100; Belville, NC, 28451  
TEL (910) 383-1044; FAX (910) 383-1045  
www.capefearengineering.com  
N.C. LICENSE # C-1621



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

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



**EXISTING CONDITION NOTES:**

1. THE DRAWING IS BASED ON SURVEY BY CAPE FEAR ENGINEERING, INC. ON OCTOBER 10 THROUGH 14, AND OCTOBER 17, AND NOVEMBER 11, 2016.
2. ALL HORIZONTAL DATUM IS BASED ON NAD 83 NORTH CAROLINA STATE PLANE US FOOT. ALL VERTICAL DATUM IS BASED ON NAVD 88.
3. ADJOINING PROPERTY OWNERS BASED ON INFORMATION FOUND IN THE NEW HANOVER COUNTY REGISTER OF DEEDS.
4. REFERENCE: MAP BOOK 49, PAGE 176, DEED BOOK 5910, PAGE 2592.
5. NO BOUNDARY WORK PERFORMED. BOUNDARY BASED ON A MAP BY HANOVER DESIGNS FOR N.C. STATE PORTS AUTHORITY, RALEIGH STREET DIVISION.
6. NO WETLANDS ARE PRESENT WITHIN THE PROJECT BOUNDARY, AS DETERMINED BY NEEDHAM ENVIRONMENTAL INC. ON DECEMBER 02, 2016.
7. THE PROJECT SITE LIES WITHIN FLOOD ZONE "X" AS DESCRIBED ON THE FLOOD INSURANCE RATE MAP COMMUNITY MAP 372031 PANEL 2500J WITH AN EFFECTIVE DATE OF APRIL 3, 2006.
8. THIS PROJECT IS IN THE CAMA LAND USE CLASSIFICATION OF URBAN.
9. SOIL DATA DIGITIZED FROM MAP CREATED BY USDA NRCS WEB SOIL SURVEY.
10. THERE ARE NO KNOWN CONSERVATION RESOURCES WITHIN THE PROJECT BOUNDARY.
11. THERE ARE NO KNOWN LOCAL, STATE, OR FEDERALLY RECOGNIZED HISTORIC STRUCTURE(S) OR ARCHEOLOGICAL RESOURCES WITHIN THE PROJECT BOUNDARY.
12. THERE ARE NO EXISTING OR KNOWN PROPOSED THOROUGHFARES, BIKE ROUTES, PEDESTRIAN SIDEWALKS, PEDESTRIAN TRAILS OR TRANSIT FACILITIES WITHIN OR ADJACENT TO THE SUBJECT PROJECT BOUNDARY.
13. EXISTING UTILITY INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION, VERIFICATION, SUPPORT AND PROTECTION OF ALL ABOVE GROUND AND UNDERGROUND UTILITIES TO REMAIN IN PLACE, INCLUDING ANY UTILITIES NOT INDICATED ON THESE DRAWINGS. ANY CONFLICTS OR DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY.
14. CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, TREES, PAVEMENT, UTILITIES, AND OTHER PROPERTY UNLESS THEY ARE TO BE DEMOLISHED. ANY PROPERTY NOT AUTHORIZED FOR REMOVAL, BUT DAMAGED BY THE CONTRACTOR SHALL BE RESTORED BY THE CONTRACTOR TO THE ENGINEER'S OR OWNER'S SATISFACTION AT NO ADDITIONAL EXPENSE TO THE OWNER.
15. CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE PROPERTY IRONS, MONUMENTS, OTHER PERMANENT POINTS AND LINES OF REFERENCE AND CONSTRUCTION STAKES. PROPERTY IRONS, MONUMENTS, AND OTHER PERMANENT POINTS OF REFERENCE DESTROYED BY THE CONTRACTOR SHALL BE REPLACED BY A NORTH CAROLINA LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
16. THE CONTRACTOR SHALL MAKE SURE THAT WORK PERFORMED ON THIS PROJECT SHALL NOT IMPACT THE OPERATION OF ANY ADJACENT PROPERTIES.
17. THE CONTRACTOR SHALL SEQUENCE WORK AS NECESSARY TO ENSURE THAT ALL UTILITY SERVICES, INCLUDING FIRE HYDRANTS, REMAIN OPERATIONAL DURING CONSTRUCTION.
18. THE CONTRACTOR SHALL RESTORE ANY ACCESS ROADS AND STAGING AREAS USED BACK TO THEIR ORIGINAL CONDITION. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT PLANS.
19. THE CONTRACTOR SHALL TAKE ADEQUATE PROTECTIVE MEASURES TO ENSURE THAT EXISTING PAVEMENT SURFACES ARE NOT DAMAGED FROM TRACKED CONSTRUCTION EQUIPMENT OR ANY OTHER POSSIBLE SOURCE WHEN EQUIPMENT IS BEING MOVED DURING AND AFTER WORK IS BEING CONDUCTED. THE CONTRACTOR SHALL REPAIR ANY PAVED AREAS DAMAGED DURING CONSTRUCTION.
20. EXISTING PAVEMENTS AND ALL OTHER AREAS ADJACENT TO THE SITE SHALL BE KEPT CLEAN AT ALL TIMES. DO NOT ALLOW BUILD UP OF SOIL, MUD, DUST OR OTHER DEBRIS.
21. ANY AND ALL MATERIAL QUANTITIES INDICATED ON THIS PLAN SET ARE FOR REFERENCE ONLY. THE CONTRACTOR MUST VERIFY ALL MATERIALS QUANTITIES SHOWN.

**TREE PROTECTION NOTES:**

1. TREE PROTECTION FENCING SHALL BE INSTALLED AS REQUIRED PRIOR TO LAND DISTURBING OPERATIONS (INCLUDING TREE REMOVAL) AND IN SUCH A MANNER THAT CLEARLY AND ADEQUATELY SEPARATES ALL TREES TO BE REMOVED FROM TREES TO REMAIN.
2. AT THE START OF GRADING INVOLVING THE STRIPPING OF TOPSOIL OR LOWERING OF EXISTING GRADE AROUND A TREE TO REMAIN, A CLEAN, SHARP, VERTICAL CUT SHALL BE MADE AT THE EDGE OF THE TREE SAVE AREA AT THE SAME TIME AS OTHER EROSION CONTROL MEASURES ARE INSTALLED. THE TREE PROTECTION FENCING SHALL BE INSTALLED ON THE SIDE OF THE CUT FURTHEST AWAY FROM THE TREE TRUNK.
3. NO STORAGE OF MATERIALS, FILL, OR EQUIPMENT SHALL BE PERMITTED WITHIN THE PROTECTED AREA(S). NO TRESPASSING SHALL BE ALLOWED WITHIN THE BOUNDARY OF THE PROTECTED AREA(S), AND SHALL BE POSTED ON THE PROTECTION FENCE. A PROTECTION FENCE CONSTRUCTED OF MATERIAL RESISTANT TO DEGRADATION BY SUN, WIND, AND MOISTURE FOR THE DURATION OF CONSTRUCTION SHALL BE INSTALLED AT THE SAME

**TIME AS THE EROSION CONTROL MEASURES.**

4. THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION PRIOR TO THE CERTIFICATE OF OCCUPANCY (CO) IS SCHEDULED. FENCING SHALL BE REMOVED PRIOR TO FINAL INSPECTION.

**SITE NOTES:**

1. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION..
2. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE AND INSTALLED ACCORDING TO CFPWA STANDARDS.
3. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANTS.
4. ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
5. INTERNATIONAL BUILDING CODE TYPE IIB CONSTRUCTION IS PROPOSED.
6. WASTE DISPOSAL TO BE PROVIDED BY A ROLL-OUT CONTAINER.
7. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
8. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
9. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
10. CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.

**SITE DATA:**

PARID: R06400-002-009-000

SITE ADDRESS: 190 RALEIGH STREET

PROPERTY IS ZONED: IND- INDUSTRIAL DISTRICT.

OWNER: CS PROPERTY DEVELOPMENT, LLC  
3329-C WRIGHTSVILLE AVENUE  
WILMINGTON, NC 28403  
(910) 859-8574

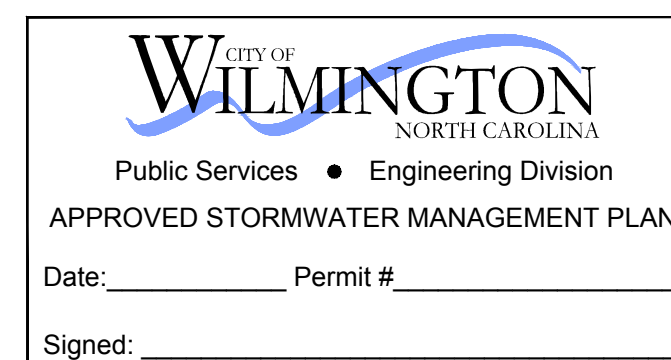
PROPOSED USE: CIVIL WORKS CONTRACTING  
CONTRACTOR'S OFFICE

AREA OF SITE IS 10.0 ACRES.

SETBACKS  
FRONT - 50'  
CORNER LOT SIDE - 50'  
INTERIOR LOT SIDE - 0'  
REAR - 0' (ABUTTING STREET 50')  
BUILDING HEIGHT: 35' MAXIMUM

**ABBREVIATIONS**

- GFA GROSS FLOOR AREA
- NRCS NATURAL RESOURCES CONSERVATION SERVICE
- USDA UNITED STATES DEPARTMENT OF AGRICULTURE
- EX EXISTING
- TC TOP OF CURB
- TP TOP OF PAVEMENT
- TSW TOP OF SIDEWALK



**Approved Construction Plan**

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

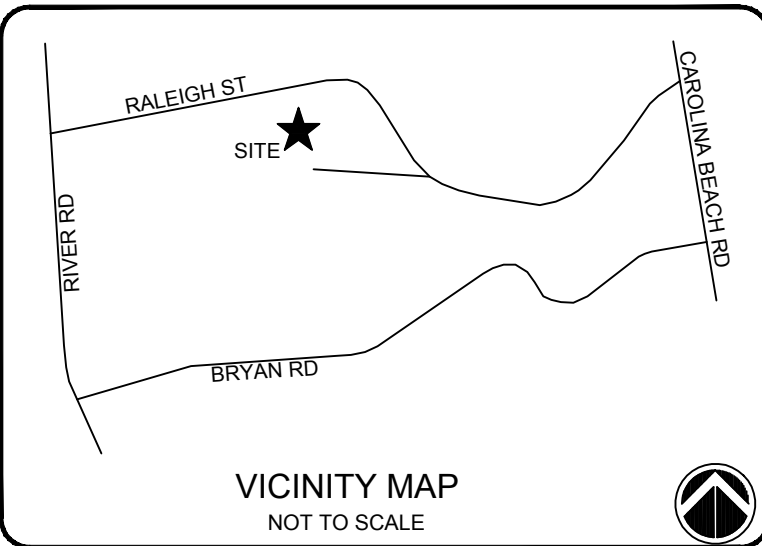
Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

**LEGEND**

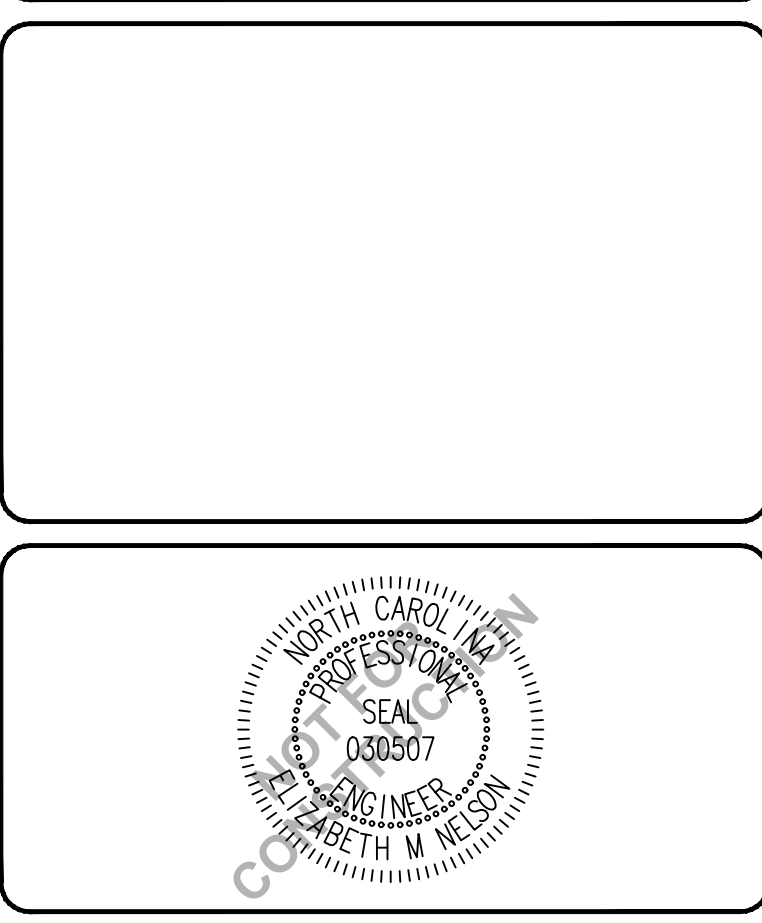
	EXISTING	PROPOSED
PROPERTY BOUNDARY	---	---
ADJACENT PROPERTY	---	---
EASEMENT	---	---
GAS LINE	---	---
ASPHALT PAVEMENT	---	---
ASPHALT TO BE DEMOLISHED	---	---
ASPHALT ROAD WIDENING	---	---
CHAIN LINK FENCE	---	---
TELEPHONE PEDESTAL	①	---
WOODS LINE	---	---
OAK TREE	○	---
PINE TREE	●	---
CEDAR TREE	⊗	---
MAGNOLIA	⊕	---
IRON ROD FOUND	•	---
EXISTING IRON PIPE	EIP	---
RIGHT-OF-WAY DISK	RW DISK	---
CONTOURS	19 20	19 20
LIMITS OF DISTURBANCE	---	LD
TEMPORARY CONSTRUCTION ENTRANCE	---	---
INLET PROTECTION	---	---
SILT FENCE	---	---
SILT FENCE OUTLET	---	---
GRASS (SEE VEGETATION SCHEDULE ON SHEET C-506)	---	---
TREE PROTECTION	---	TP
WATER LINE	---	W
WATERLINE VALVE	---	WV
FIRE HYDRANT	---	FH
SANITARY SEWER MANHOLE	---	SSMH
SANITARY SEWER LINE	---	SS
SOIL SURVEY BOUNDARY	---	---
BUILDING	---	---
CONCRETE PAVEMENT	---	---
ABC	---	---
CONCRETE SIDEWALK	---	---
CURB AND GUTTER	---	---
GATE	---	---
SIGN	---	---
STORMDRAIN PIPE	---	---
STORMDRAIN INLET	---	---
FLARED END SECTION	---	---
STORMWATER CONTROL MEASURE	---	---
SPOT ELEVATION	---	---
SETBACK LINE	---	---



**NOTES:**



REV. #	DESCRIPTION	REV. BY	DATE
E	REVISED PER CITY OF WILMINGTON COMMENTS	EMN	08/10/17
D	REVISED PER CITY OF WILMINGTON COMMENTS	EMN	07/21/17
C	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
B	ISSUED FOR TRC REVIEW	EMN	05/17/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17



**CAPE FEAR ENGINEERING**

151 Poole Rd., Suite 100, Belville, NC, 28451  
TEL (910) 383-1044; FAX (910) 383-1045  
www.capefearengineering.com  
N.C. LICENSE # C-1621

PROJECT NUMBER:	275-77
SCALE:	N/A
DATE:	21 FEB 17

CIVIL WORKS CONTRACTING  
RALEIGH STREET  
WILMINGTON, NC

**GENERAL NOTES & LEGEND**

PROJECT NUMBER	275-77
SHEET NUMBER	C-001

PATH: P:\275\275-77\_CWC OFFICE BLDG RALEIGH ST - ENGINEERING\DWG\CONSTRUCTION\275-77\_MASTER.DWG



PARID: R06400-002-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06400-002-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06400-022-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06400-002-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06500-007-037-000  
 OWNER: WILMINGTON RALEIGH LLC  
 CURRENT ZONING: IND  
 LAND USE CODE: 388-MISC DURABLE MFTG

PARID: R06500-007-037-000  
 OWNER: WILMINGTON RALEIGH LLC  
 CURRENT ZONING: IND  
 LAND USE CODE: 388-MISC DURABLE MFTG

**SITE NOTES:**

PARID: R06400-002-009-000

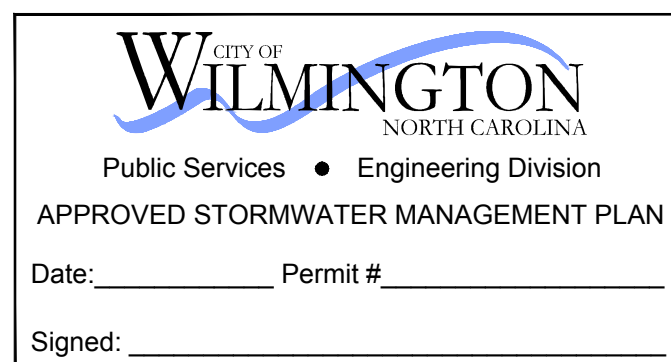
SITE ADDRESS: 190 RALEIGH STREET

PROPERTY IS ZONED: IND- INDUSTRIAL DISTRICT.

OWNER: CS PROPERTY DEVELOPMENT, LLC  
 3329-C WRIGHTSVILLE AVENUE  
 WILMINGTON, NC 28403  
 (910) 859-8574

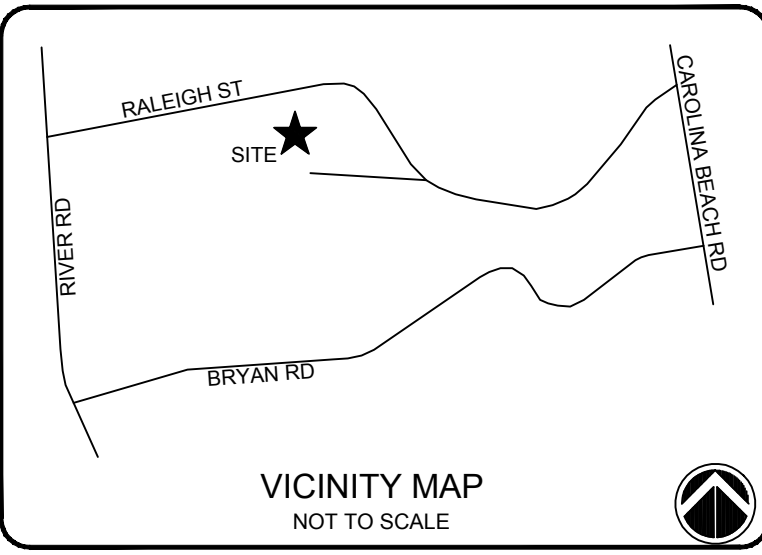
PROPOSED USE: CIVIL WORKS CONTRACTING  
 CONTRACTOR'S OFFICE W/ OUTSIDE STORAGE

AREA OF SITE IS 10.0 ACRES.



**Approved Construction Plan**

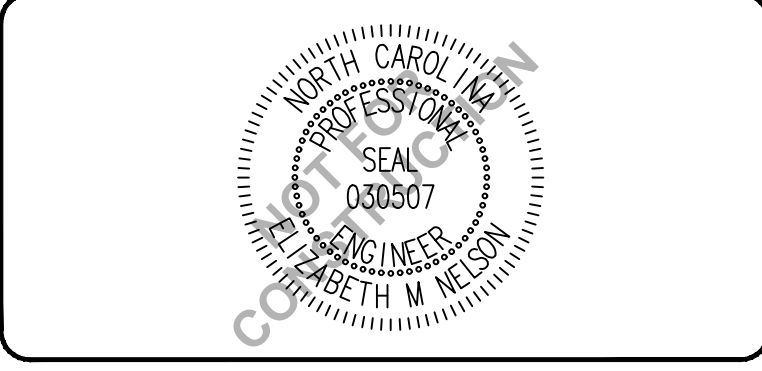
Name	Date
Planning _____	_____
Traffic _____	_____
Fire _____	_____



**NOTES:**  
 1. SEE SHEET C-001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
C	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR TRC REVIEW	EMN	05/17/17



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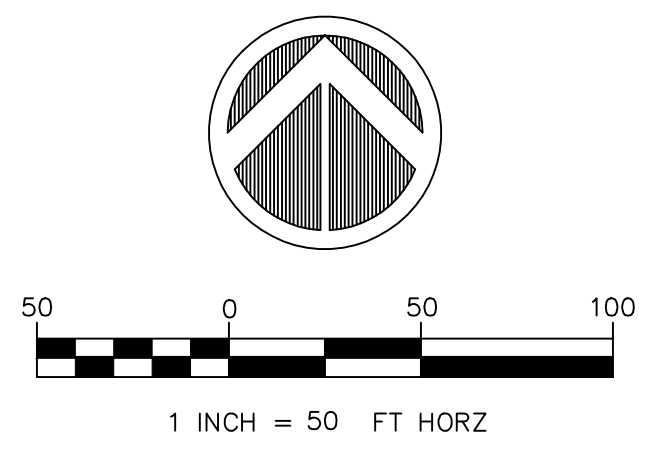
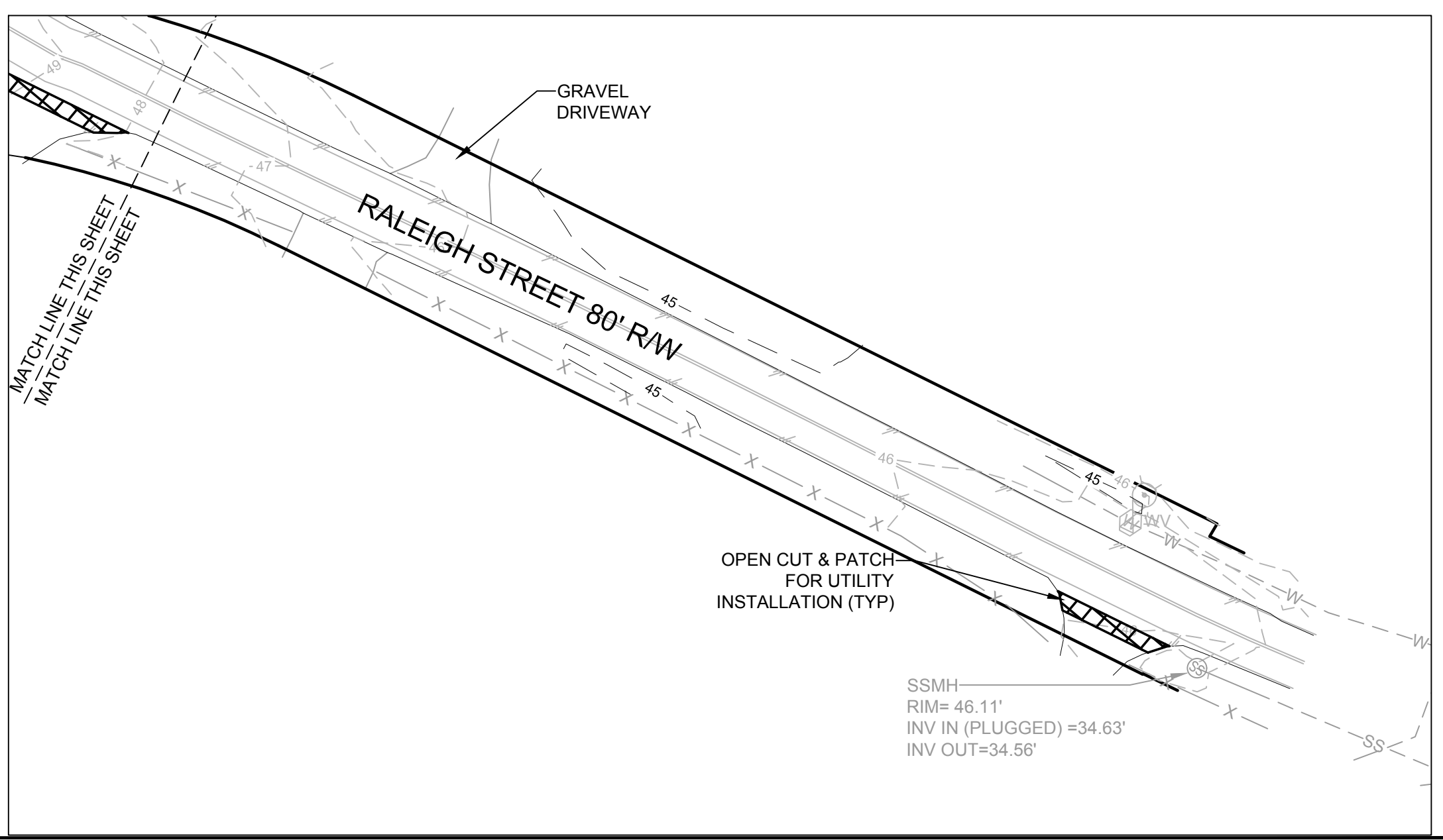
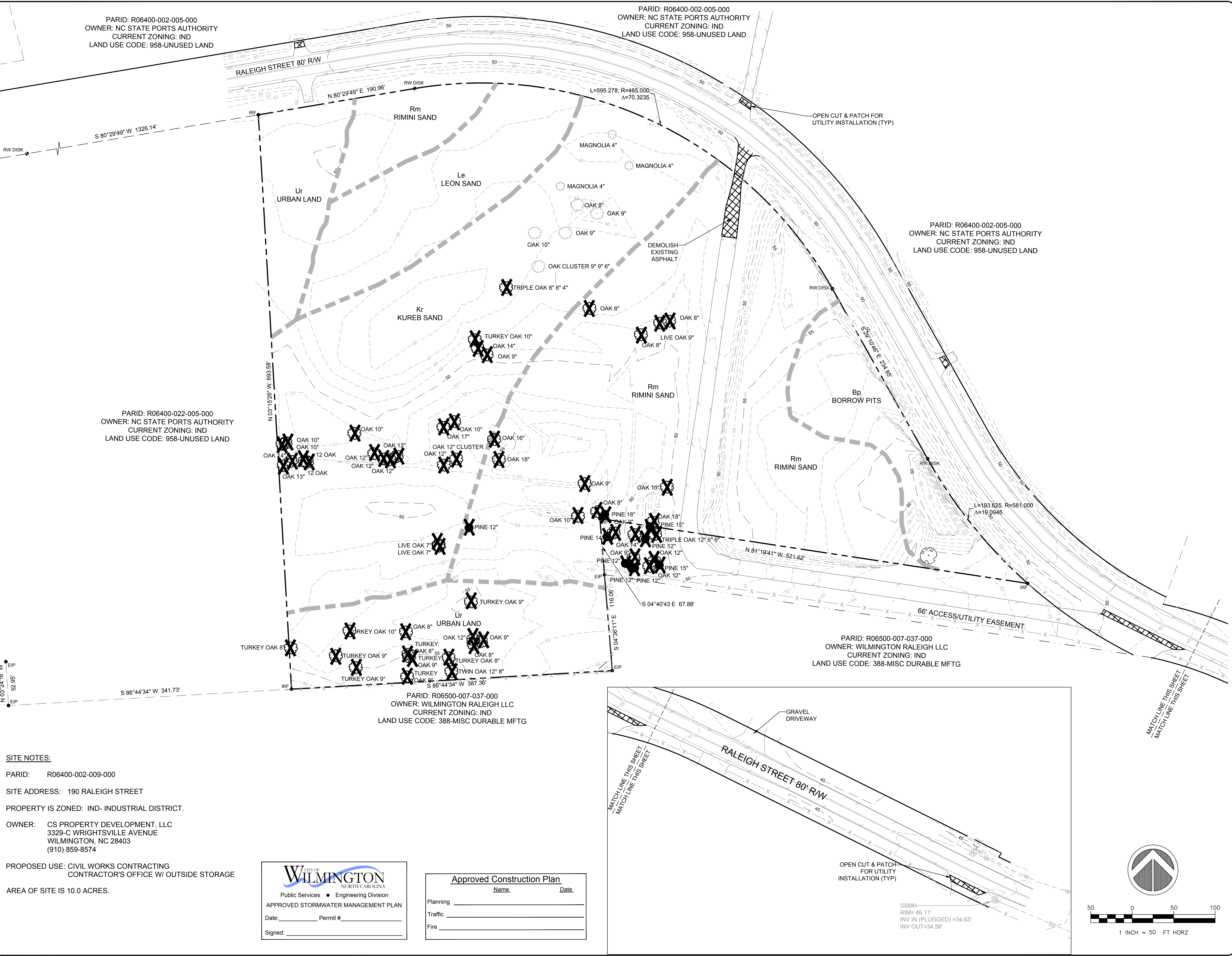
PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	17 FEB 17

**CIVIL WORKS CONTRACTING**  
 RALEIGH STREET  
 WILMINGTON, NC

**EXISTING CONDITIONS & DEMOLITION PLAN**

PROJECT NUMBER	SHEET NUMBER
275-77	VF100

PATH: P:\275\275-77\_CWC OFFICE BLDG\_RALEIGH\_ST - ENGINEERING\DWG\CONSTRUCTION\275-77\_MASTER.DWG



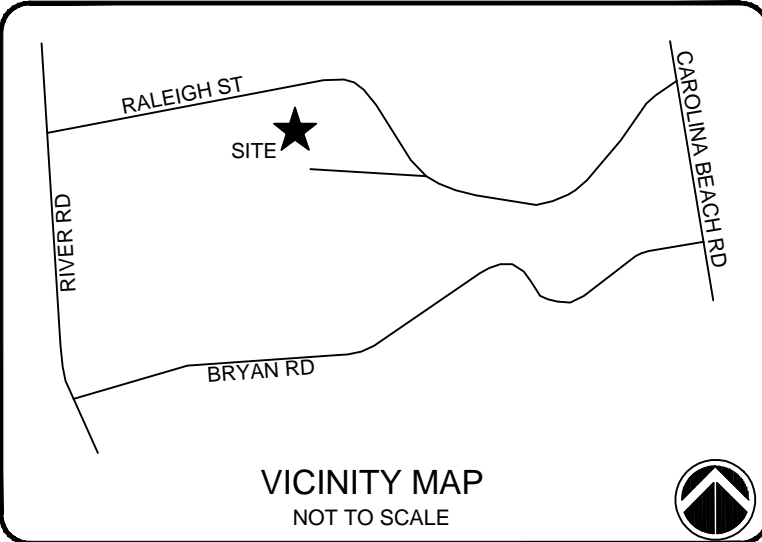


1 - 10" x 6" TEE  
1 - FIRE HYDRANT ASSEMBLY  
1 - 10" GATE VALVE

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

**Approved Construction Plan**

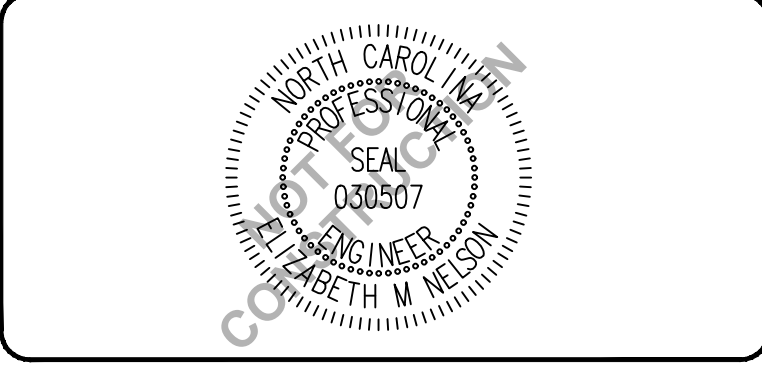
Name	Date
Planning	_____
Traffic	_____
Fire	_____



**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REVISIONS	DATE
F	REVISED PER COMMENTS	EMN	08/10/17
E	REVISED 8" WATERLINE TO 10" PER CFPUA COMMENTS	RAS	07/27/17
D	REVISED PER CITY OF WILMINGTON COMMENTS	EMN	07/21/17
C	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
B	ISSUED TO CITY OF WILMINGTON FOR TRC REVIEW	EMN	06/17/17
A	ISSUED TO CITY OF WILMINGTON FOR CONCEPT PLAN REVIEW	EMN	03/01/17



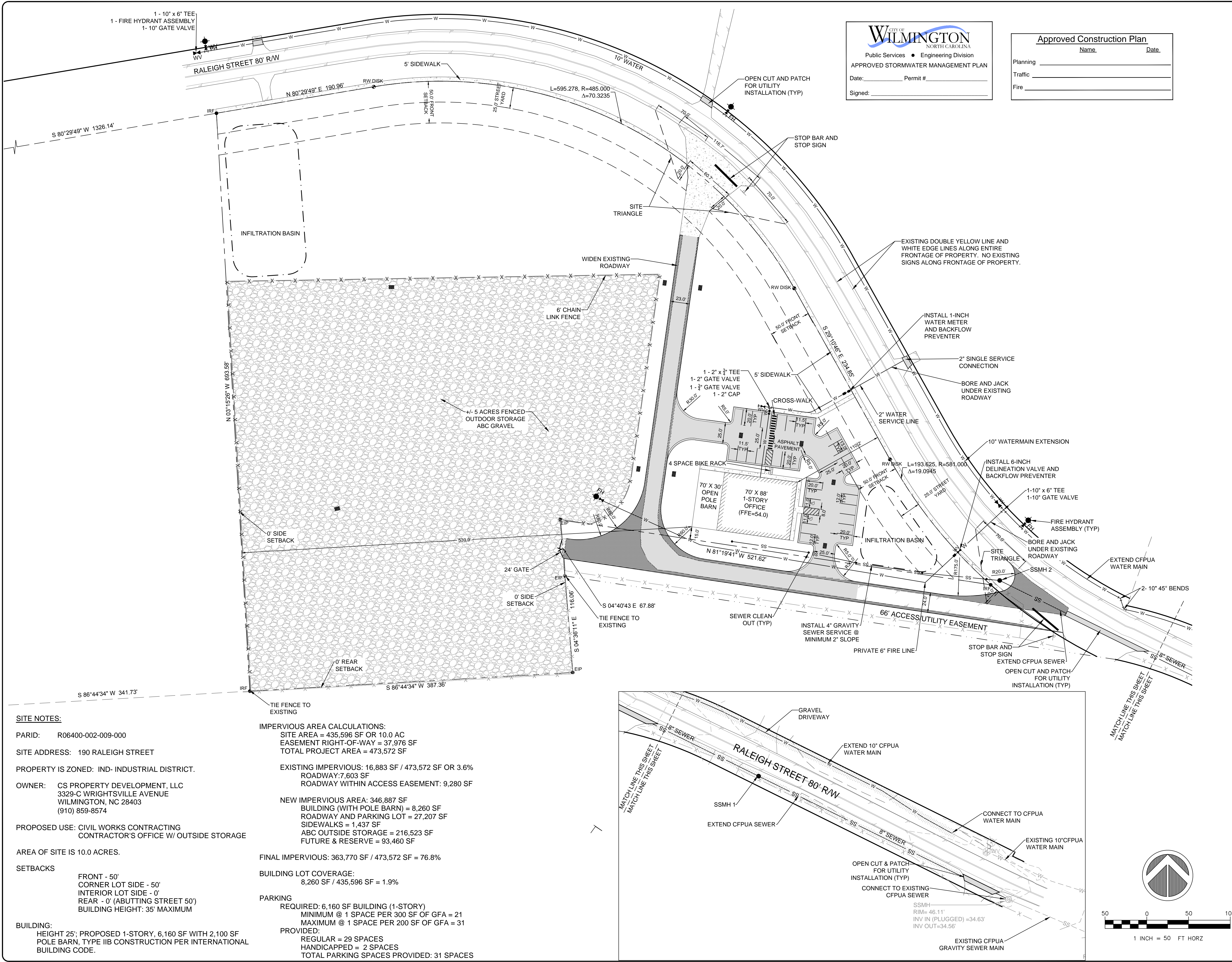
**CAPE FEAR ENGINEERING**  
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TEL (910) 383-1044; FAX (910) 383-1045  
www.capefearengineering.com  
N.C. LICENSE # C-1621

PROJECT NUMBER	275-77
SCALE	1" = 50'
DATE	01 MAR 17

**CIVIL WORKS CONTRACTING**  
RALEIGH STREET  
WILMINGTON, NC

**SITE & UTILITY PLAN**

PROJECT NUMBER	275-77	SHEET NUMBER	CS100
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PATH:P:\275\275-77 CWC OFFICE BLDG RALEIGH ST - ENGINEERING\DWG\CONSTRUCTION\275-77 MASTER.DWG



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 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

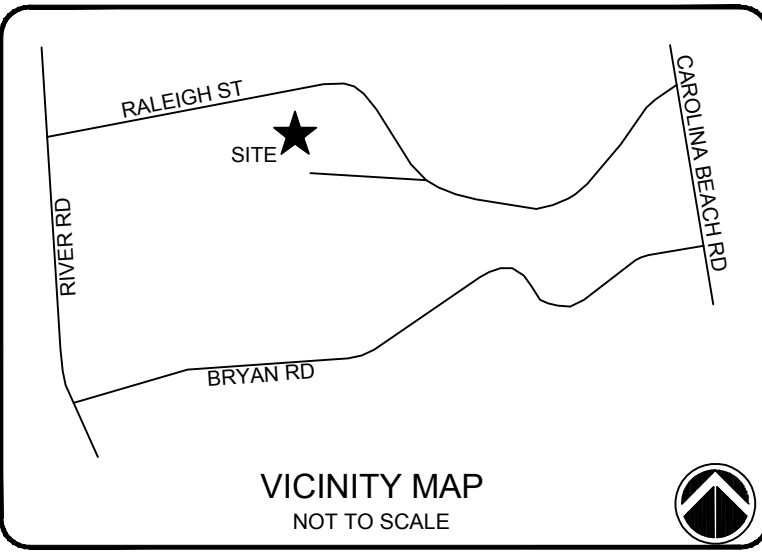
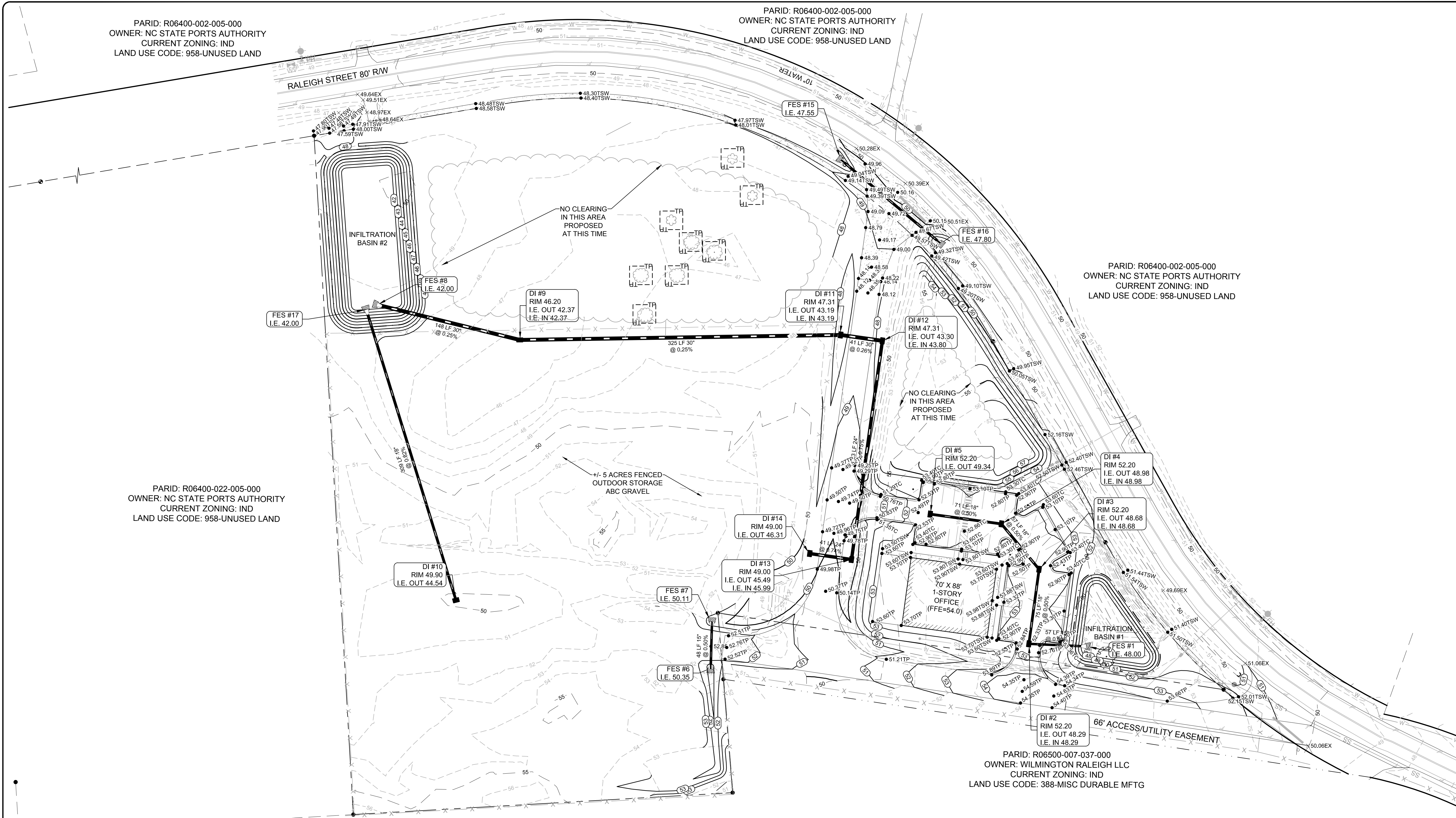
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 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06400-002-005-000  
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 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06400-022-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06500-007-037-000  
 OWNER: WILMINGTON RALEIGH LLC  
 CURRENT ZONING: IND  
 LAND USE CODE: 388-MISC DURABLE MFTG

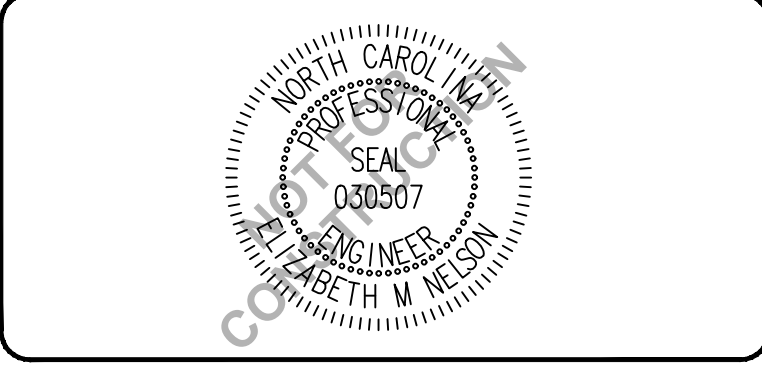
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 OWNER: WILMINGTON RALEIGH LLC  
 CURRENT ZONING: IND  
 LAND USE CODE: 388-MISC DURABLE MFTG



**NOTES:**  
 SEE SHEET C-001 FOR GENERAL NOTES AND LEGEND

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
B	REVISED PER CITY OF WILMINGTON COMMENTS	EMN	08/10/17
A	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED TO CITY OF WILMINGTON FOR TRC REVIEW	EMN	05/17/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17



**CAPE FEAR ENGINEERING**  
 151 Poole Rd., Suite 100, Belville, NC, 28451  
 TEL (910) 383-1044; FAX (910) 383-1045  
 www.capefearengineering.com  
 N.C. LICENSE # C-1621

PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	10 JULY 17

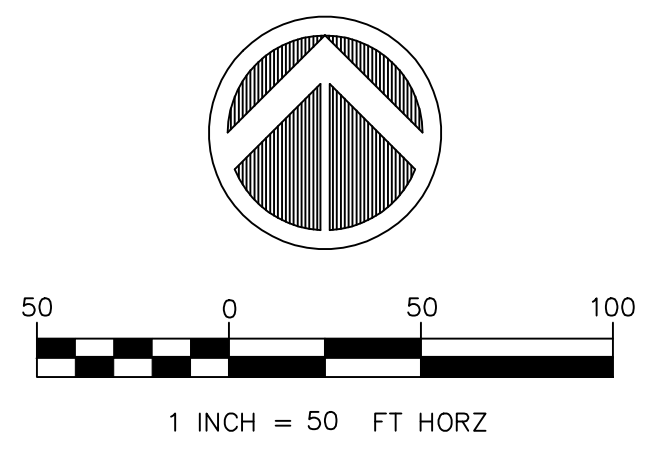
**CIVIL WORKS CONTRACTING**  
 RALEIGH STREET  
 WILMINGTON, NC

**STORMWATER & GRADING PLAN**

PROJECT NUMBER	SHEET NUMBER
275-77	CG100

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

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





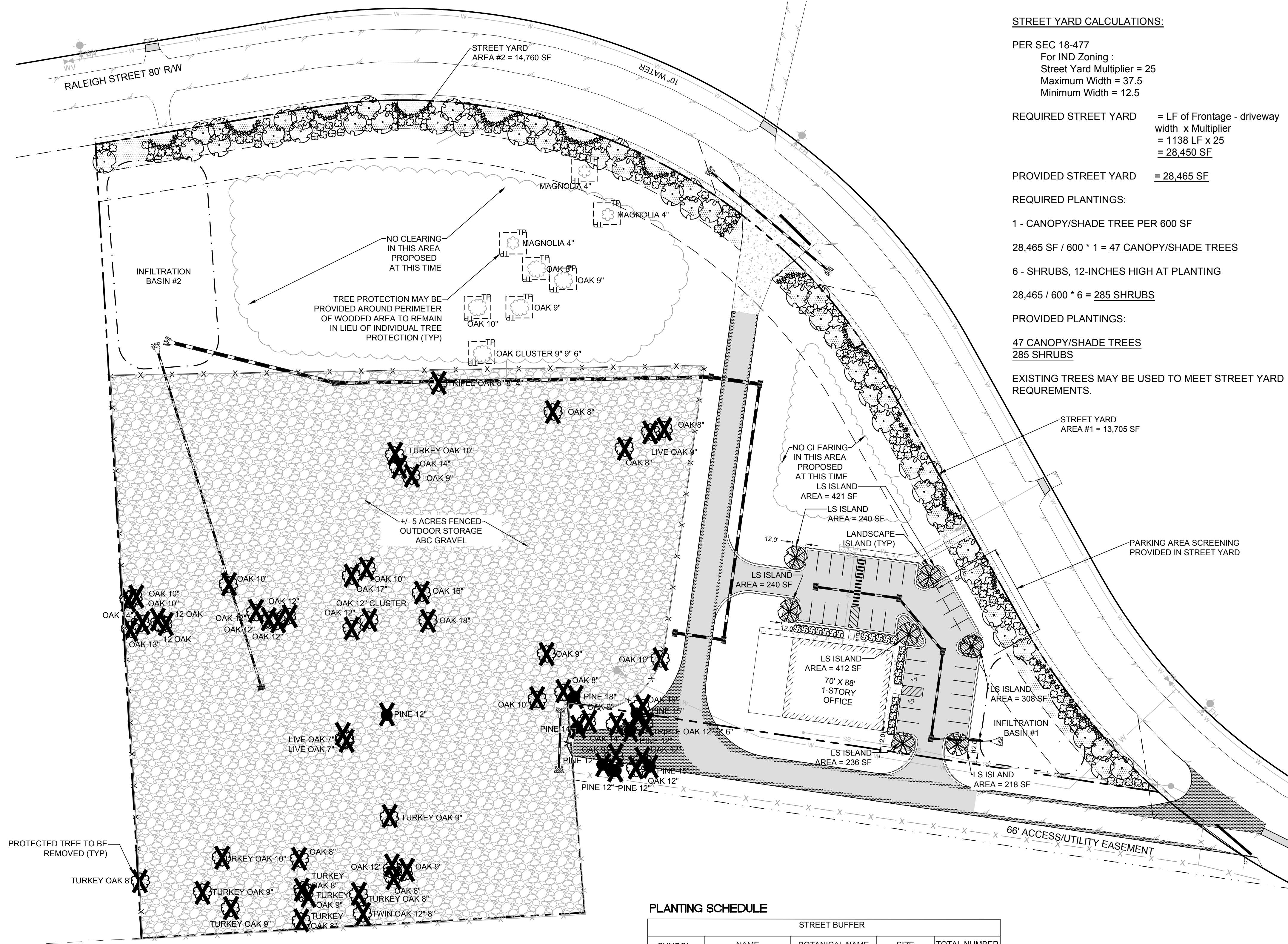
**TREE MITIGATION CALCULATIONS:**

PER SEC 18-456:  
 Regulated Trees  
 - Hardwoods > 8" DBH  
 - Conifer > 12" DBH  
 - Dogwoods, Magnolias, Ornamental Flowering, American Hollies > 4" DBH

Significant Trees  
 - Hardwood, Long Lead Pine, Pocosin (pond) Pine, Black Pine, and non-pine conifer trees > 24" DBH  
 - All other pines > 32" DBH  
 - Dogwoods, Magnolias, Ornamental Flowering, American Hollies > 8" DBH

Regulated Trees to be Removed and Required Mitigation (Per Section 18-460)  
 The total number of replacement trees shall be determined for regulated trees removed by multiplying the total DBH of the removed regulated tree(s) by the percentage for the type of tree in Table IV and dividing by three (3)

**ALL REGULATED TREES TO BE REMOVED INSIDE OF PROPOSED CONTRACTOR LAY DOWN AREA ARE CONSIDERED EXEMPT FROM MITIGATION PER SECTION 18-461 SINCE LAYDOWN AREA IS AN ESSENTIAL SITE IMPROVEMENT FOR PROPOSED FACILITY. ALL REGULATED TREES OUTSIDE OF LAYDOWN AREA HAVE BEEN PRESERVED.**



**STREET YARD CALCULATIONS:**

PER SEC 18-477  
 For IND Zoning:  
 Street Yard Multiplier = 25  
 Maximum Width = 37.5  
 Minimum Width = 12.5

REQUIRED STREET YARD = LF of Frontage - driveway width x Multiplier  
 = 1138 LF x 25  
 = 28,450 SF

PROVIDED STREET YARD = 28,465 SF

REQUIRED PLANTINGS:

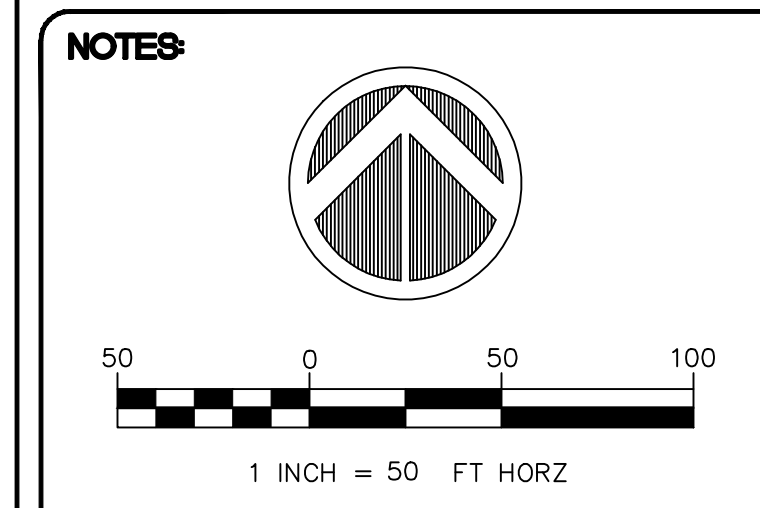
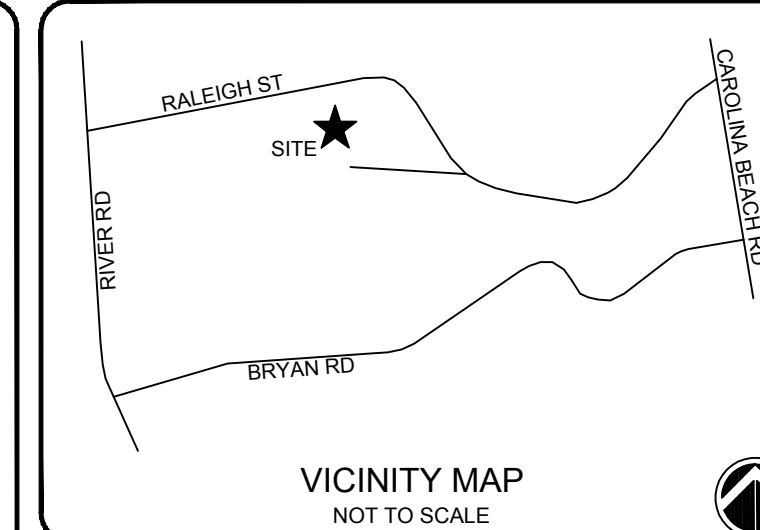
1 - CANOPY/SHADE TREE PER 600 SF  
 28,465 SF / 600 \* 1 = 47 CANOPY/SHADE TREES

6 - SHRUBS, 12-INCHES HIGH AT PLANTING  
 28,465 / 600 \* 6 = 285 SHRUBS

PROVIDED PLANTINGS:

47 CANOPY/SHADE TREES  
 285 SHRUBS

EXISTING TREES MAY BE USED TO MEET STREET YARD REQUIREMENTS.



**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
D	REVISED PER COMMENTS BY CITY OF WILMINGTON	EMN	08/10/17
C	REVISED PER COMMENTS BY CITY OF WILMINGTON	EMN	07/21/17
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR TRC REVIEW	EMN	05/17/17

**LANDSCAPING CALCULATIONS**

PER SEC 18-490  
 BUILDING HEIGHT = 25 FT  
 BUILDING FACE LENGTH NORTH = 88 FT  
 BUILDING FACE LENGTH EAST = 70 FT  
 PLANTING FOUNDATIONS REQUIRED:  
 12% OF BUILDING FACE AREA  
 BUILDING FACE AREA NORTH = 264 SF  
 BUILDING FACE AREA EAST = 210 SF  
 PLANTING FOUNDATIONS PROVIDED:  
 BUILDING FACE NORTH = 664 SF  
 BUILDING FACE EAST = 300 SF

**LANDSCAPING CALCULATIONS**

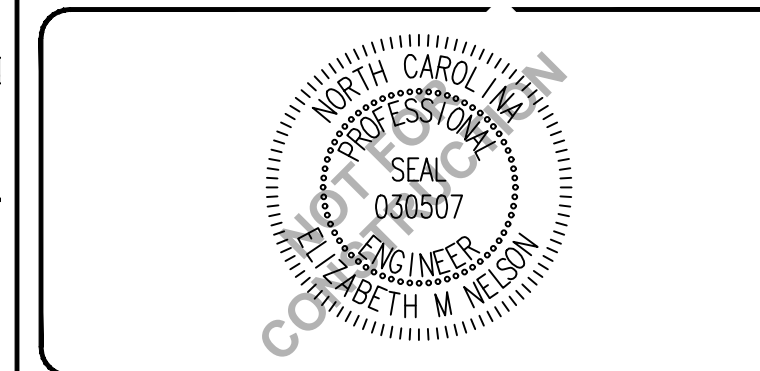
PER SEC 18-481  
 PARKING AREA = 14,021 SF  
 SHADING REQUIRED:  
 20% OF PARKING AREA = 2,804 SF  
 SHADING AREA PROVIDED:  
 7 - CANOPY TREES @ 707 SF EACH = 4,949 SF

**PLANTING SCHEDULE**

STREET BUFFER				
SYMBOL	NAME	BOTANICAL NAME	SIZE	TOTAL NUMBER
<b>TREES</b>				
(Symbol)	SHADE/CANOPY	QUERCUS VIRGINIANA	2" DIA.	47
<b>SHRUBS</b>				
(Symbol)	SHRUB 1	ABELIA GRANDIFLORA	3 Gal.	157
(Symbol)	SHRUB 2	PITOSPORUM TOBIRA	1 Gal.	127
<b>PARKING LOT LANDSCAPE ISLANDS</b>				
SYMBOL	NAME	BOTANICAL NAME	SIZE	TOTAL NUMBER
<b>TREES</b>				
(Symbol)	SHADE/CANOPY	LAGERSTROEMIA INDICA	2" DIA.	7
<b>GROUND COVERS</b>				
(Symbol)	GROUND COVER	JUNIPERUS HORIZONTALIS	3 Gal.	N/A
<b>FOUNDATIONS PLANTINGS</b>				
SYMBOL	NAME	BOTANICAL NAME	SIZE	TOTAL NUMBER
<b>SHRUBS</b>				
(Symbol)	SHRUB 1	BURFORDI NANA	1 Gal.	22

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

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



**CAPE FEAR ENGINEERING**  
 151 Poole Rd., Suite 100, Belville, NC, 28451  
 TEL (910) 383-1044; FAX (910) 383-1045  
 www.capefearengineering.com  
 N.C. LICENSE # C-1621

PROJECT NUMBER: 275-77  
 SCALE: 1" = 50'  
 DATE: 24 FEB 17

**CWC OFFICE**  
 RALEIGH STREET  
 WILMINGTON, NC

**LANDSCAPE PLAN**



**TEMPORARY SILT FENCE**

**TEMPORARY CONSTRUCTION ENTRANCE**

**ROCK CHECK DAM**

LAND DISTURBING ACTIVITIES MUST BE MANAGED TO AVOID SEDIMENT RUN-OFF AND POLLUTION FROM CONSTRUCTION SITES. WHERE PERMITTED LOCALLY BY NEW HAMPSHIRE COUNTY, AN EROSION AND SEDIMENT CONTROL (EASC) PLAN WILL CONTAIN DETAILS AND GUIDANCE. EASC PLANS ARE PERFORMANCE BASED AND OTHER REQUIREMENTS OR REPAIRS. AS PERMITTED BY NHDNR, DIVISIONS OF WATER QUALITY AND LAND RESOURCES, A STORMWATER PERMIT WILL REQUIRE SELF-MONITORING REPORTS (WEEKLY, >1" RAIN EVENT) OR SELF-INSPECTION REPORTS AFTER EACH CONSTRUCTION PHASE, BASED ON ELEMENTS OF THE EASC PLAN.

DATE: SEPTEMBER, 2012	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807</p>
DRAWN BY JSR	<b>GUIDELINES FOR SEDIMENT CONTROL BMPs</b>	
CHECKED BY BDR, P.E.	SHEET 1 OF 2	
SCALE NOT TO SCALE	SD 3-104	

**BLOCK AND GRAVEL INLET PROTECTION**

**FILTER FABRIC INSTALLATION**

**LOW FLOW INLET FILTERS**

**INLET PROTECTION-SEDIMENT TUBE**

DATE: SEPTEMBER, 2012	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807</p>
DRAWN BY JSR	<b>GUIDELINES FOR SEDIMENT CONTROL BMPs</b>	
CHECKED BY BDR, P.E.	SHEET 2 OF 2	
SCALE NOT TO SCALE	SD 3-104	

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

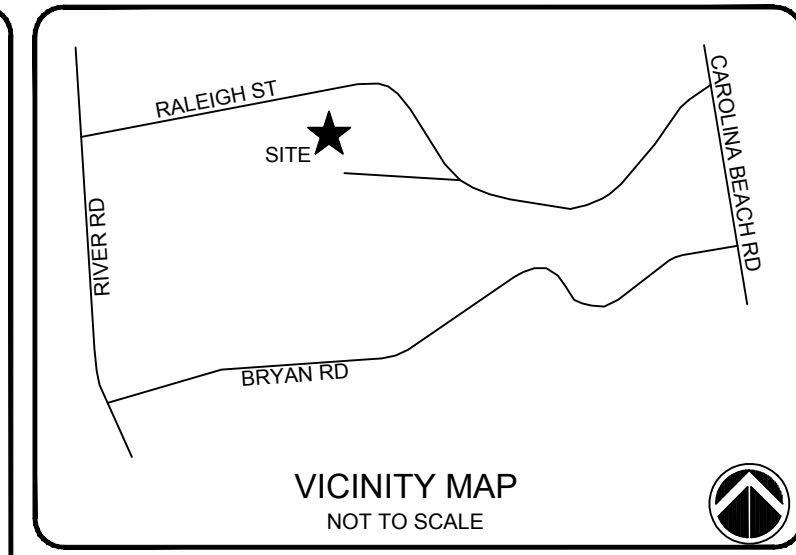
**NOTE:**  
CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.

**CRZ**  
**DBH**  
**ORANGE SAFETY FENCE OR ORANGE SILT FENCE (TYPICAL)**

**NOTES:**

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

DATE: JAN, 2015	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807</p>
DRAWN BY JSR	<b>TREE PROTECTION DURING CONSTRUCTION</b>	
CHECKED BY RDG, P.E.	SHEET 1 OF 2	
SCALE NOT TO SCALE	SD 15-09	



**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
C	REVISED PER NHC COMMENTS	EMN	07/31/17
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17

**FRONT VIEW**

**WARNING SIGN DETAIL**

**SIDE VIEW**

**NOTES:**

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

DATE: JAN, 2015	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807</p>
DRAWN BY JSR	<b>TREE PROTECTION DURING CONSTRUCTION</b>	
CHECKED BY RDG, P.E.	SHEET 2 OF 2	
SCALE NOT TO SCALE	SD 15-09	

Public Services • Engineering Division  
**APPROVED STORMWATER MANAGEMENT PLAN**

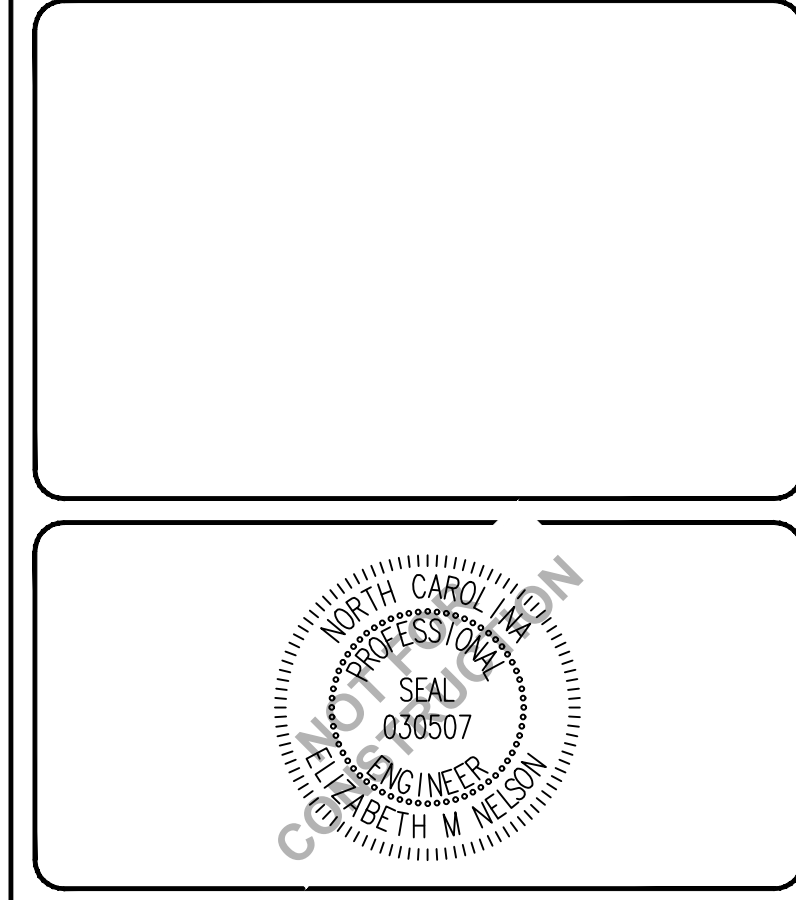
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

**Approved Construction Plan**

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

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

Signed: \_\_\_\_\_



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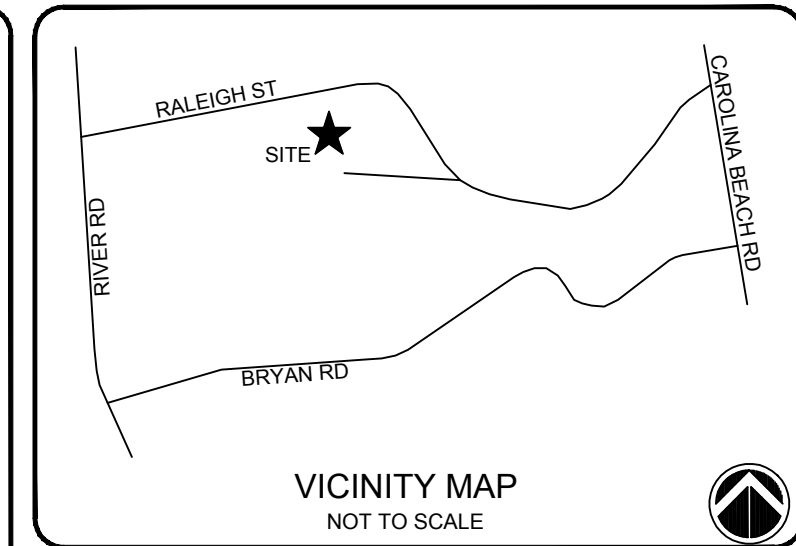
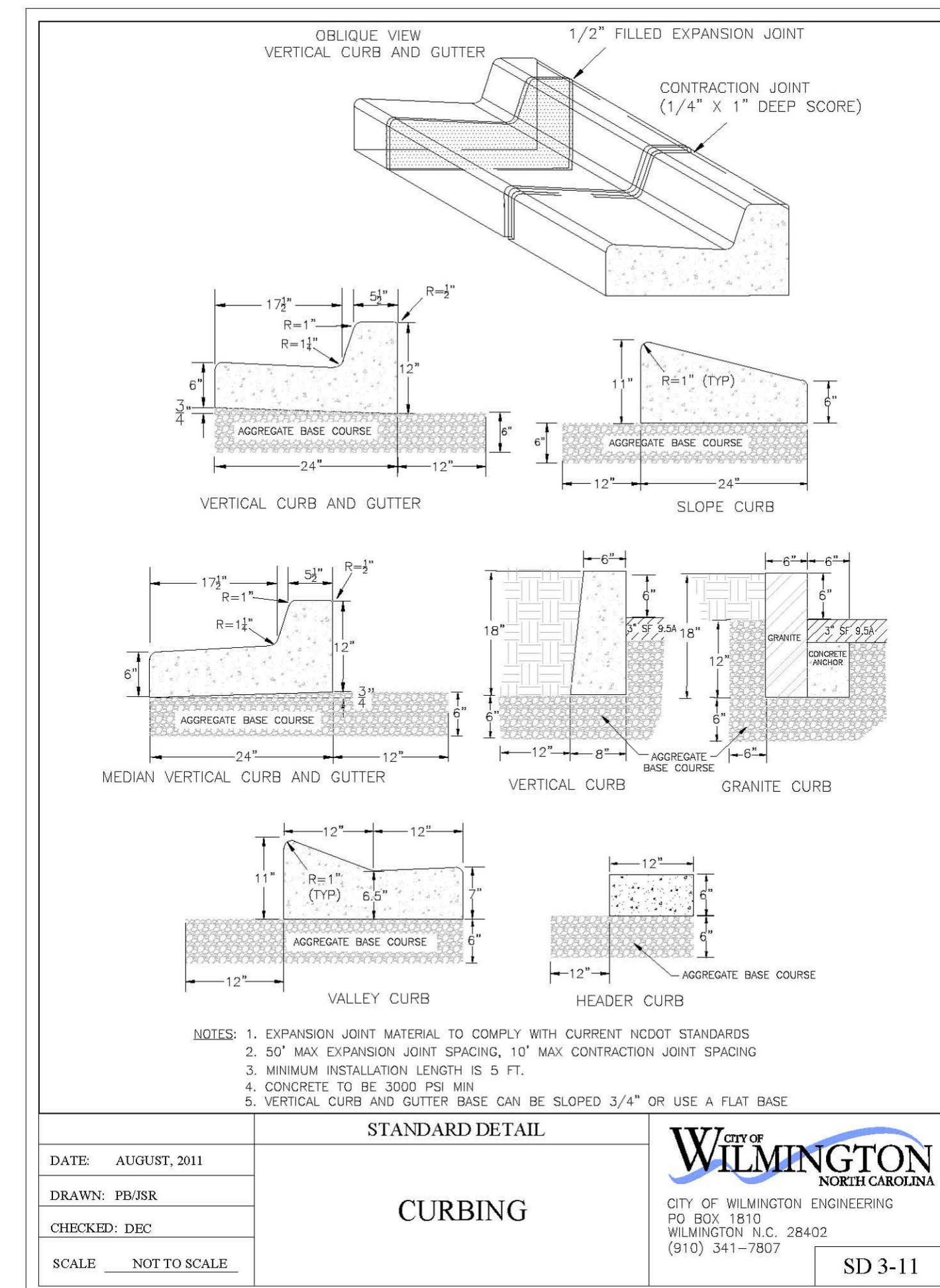
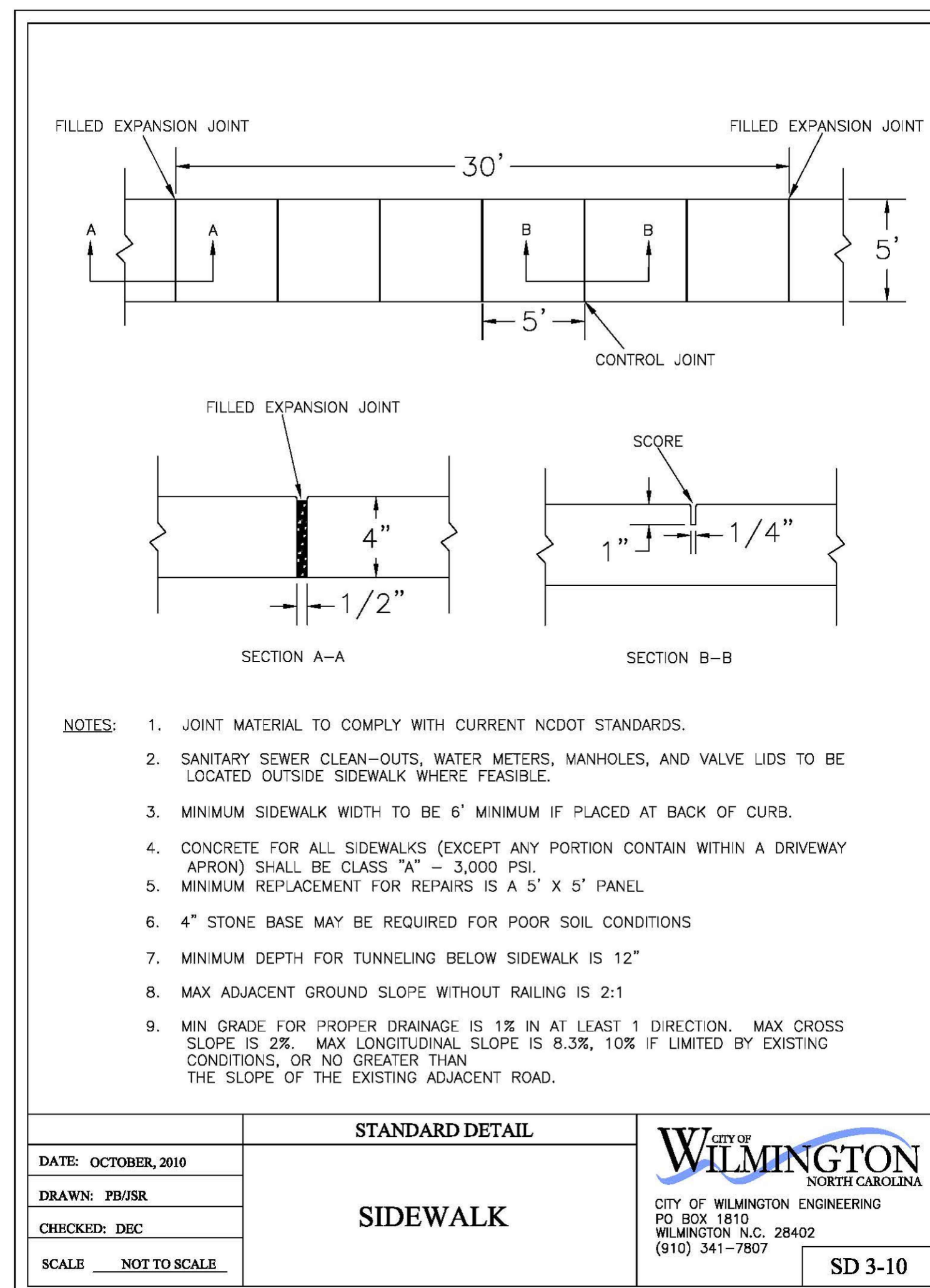
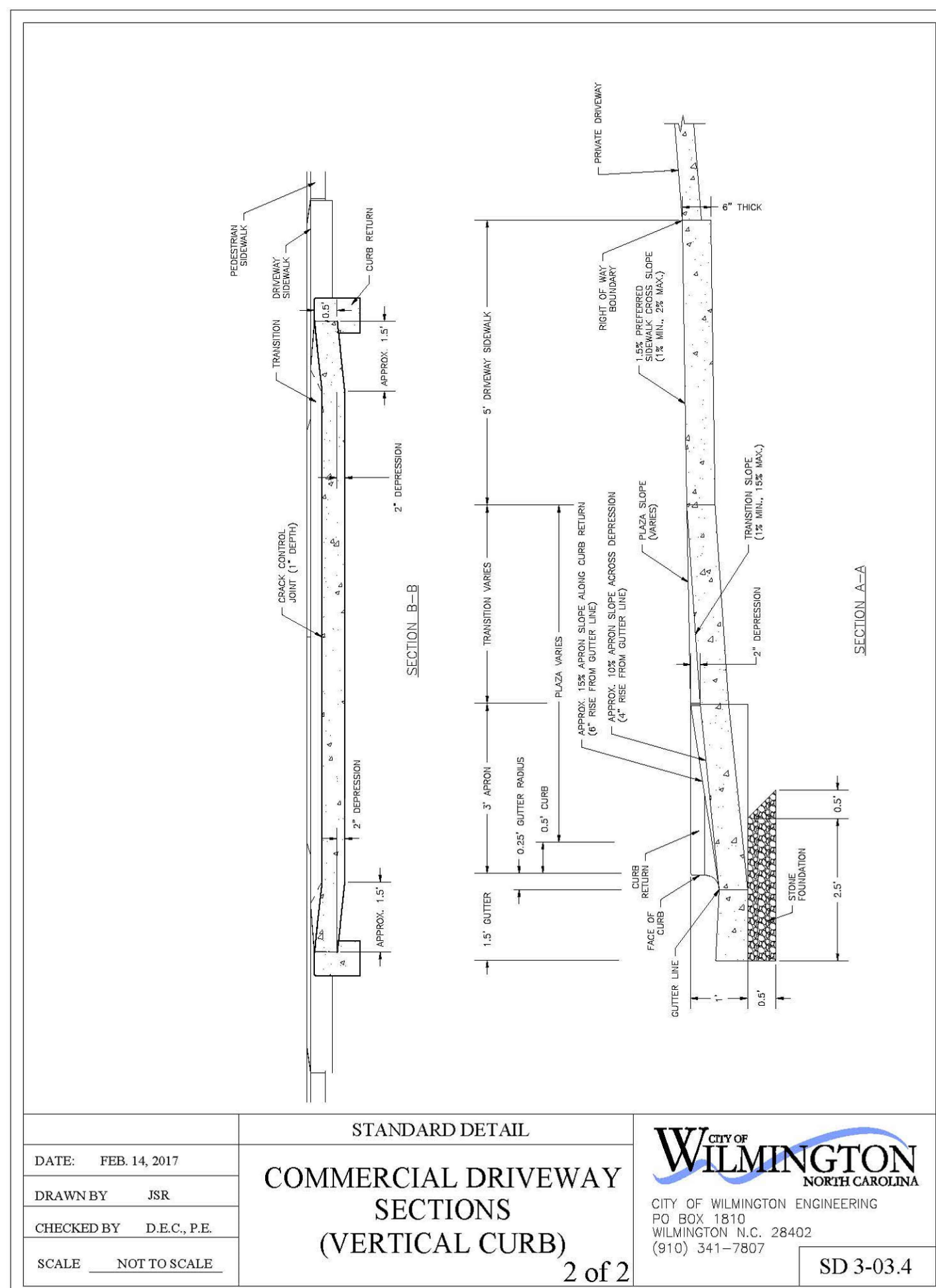
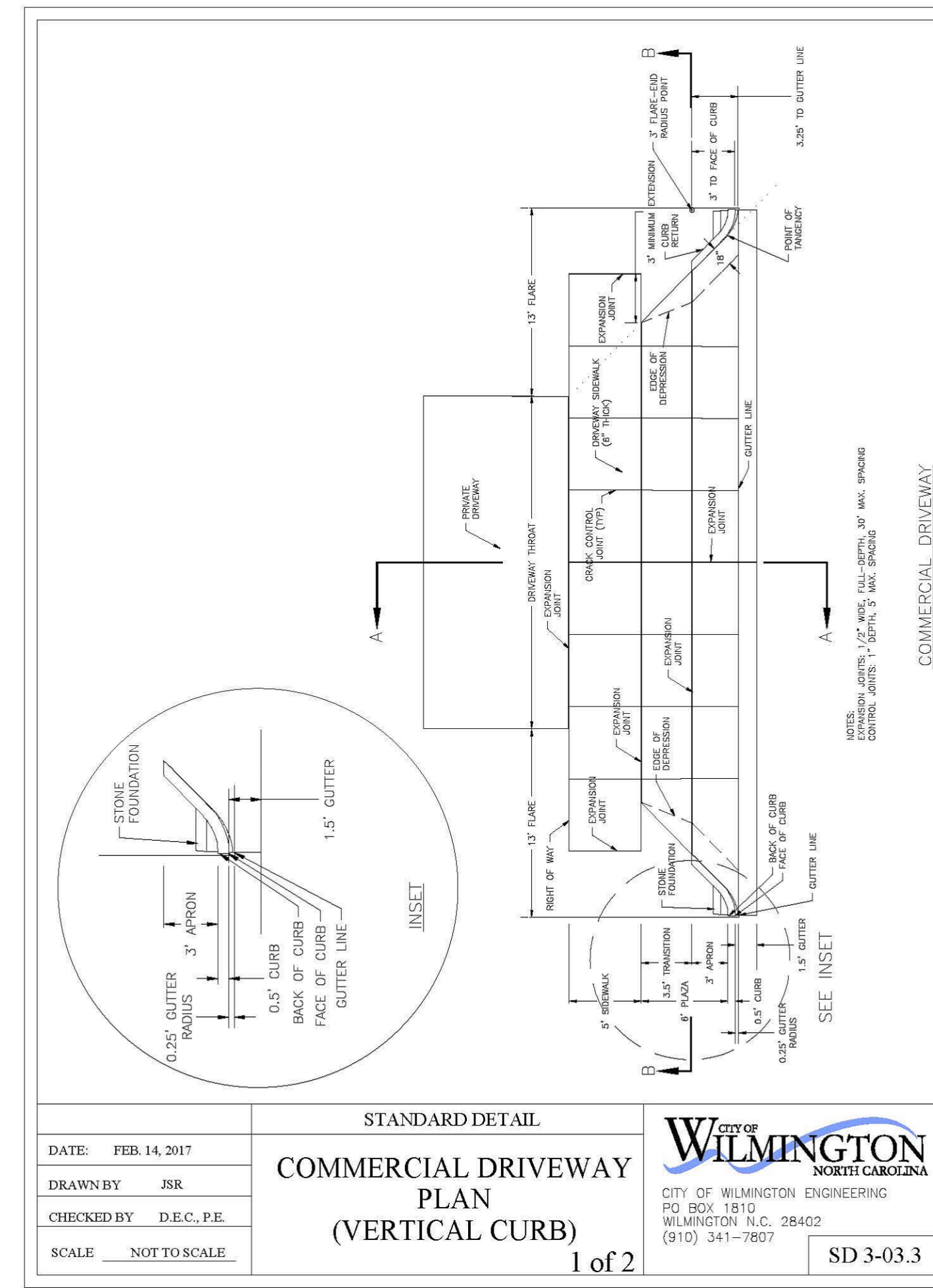
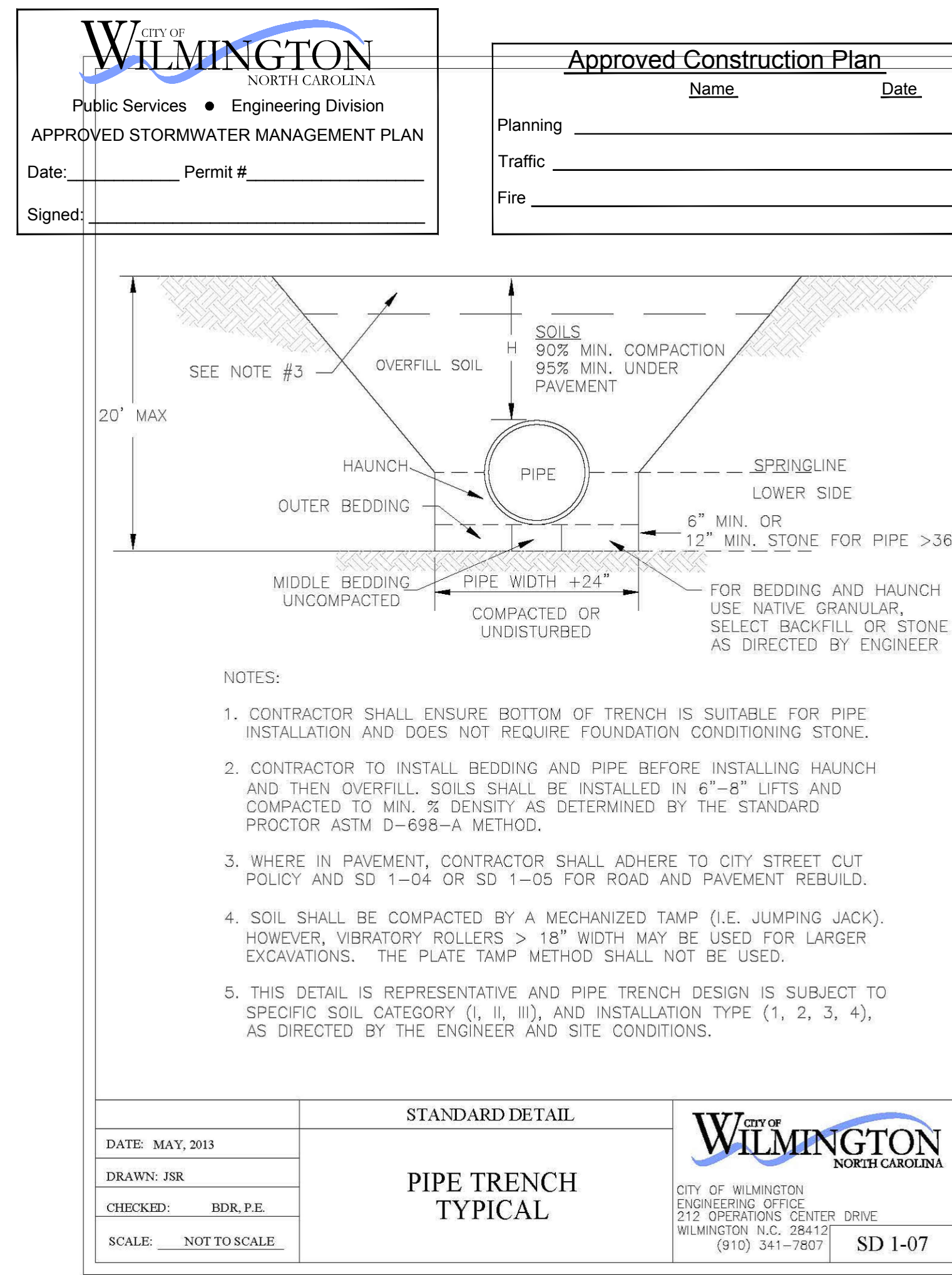
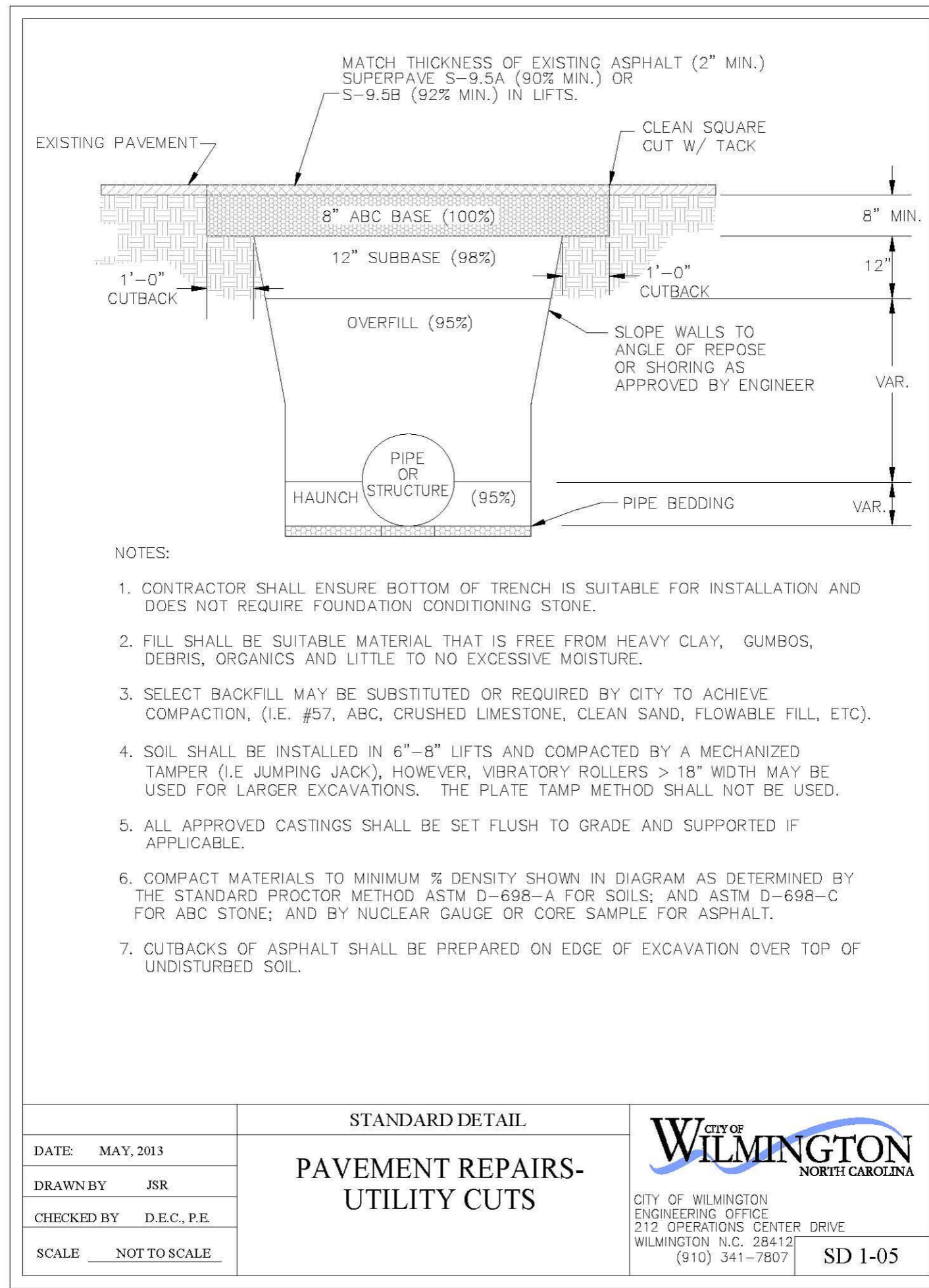
PROJECT NUMBER:	275-77
SCALE:	As Shown
DATE:	21 FEB 17

**CIVIL WORKS CONTRACTING**  
RALEIGH STREET  
WILMINGTON, NC

**SITE DETAILS**

PROJECT NUMBER	SHEET NUMBER
275-77	D-500

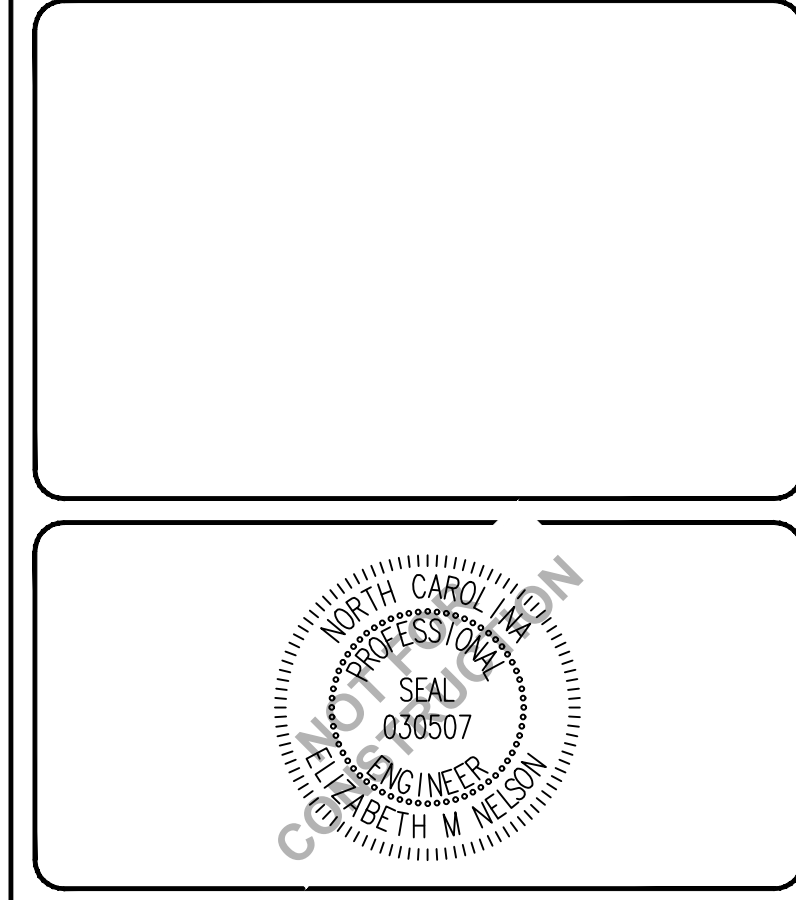




**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17



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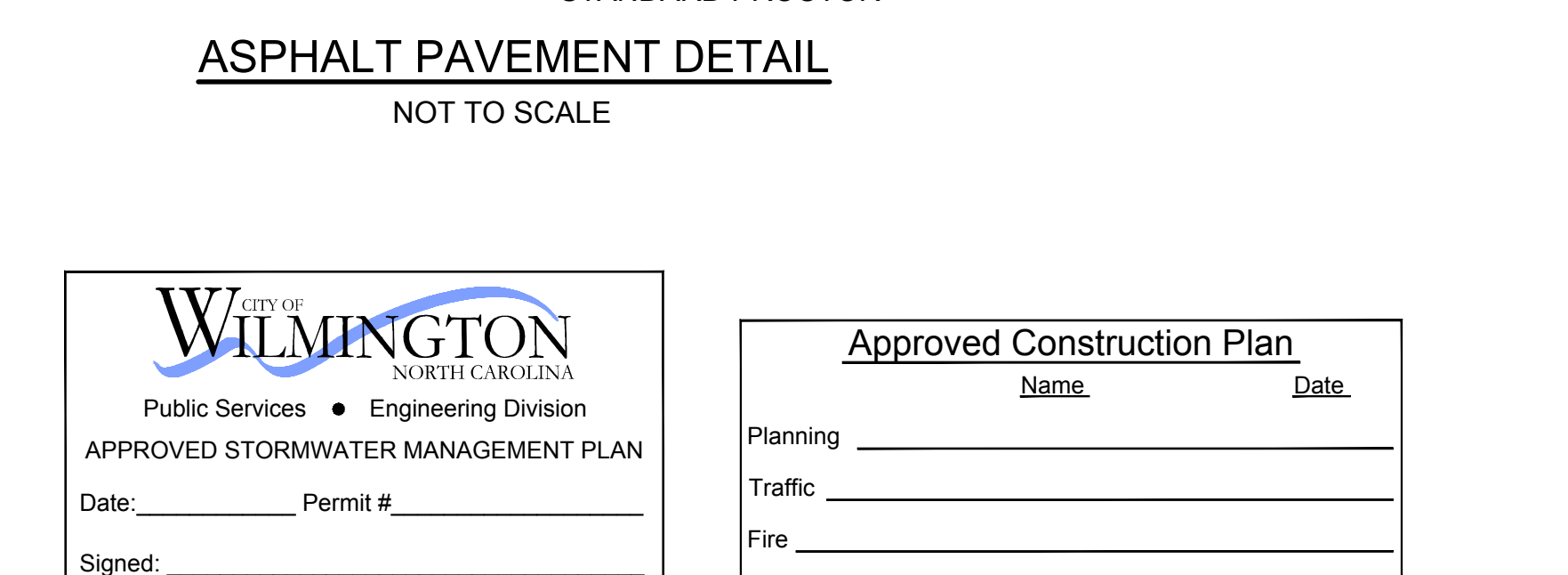
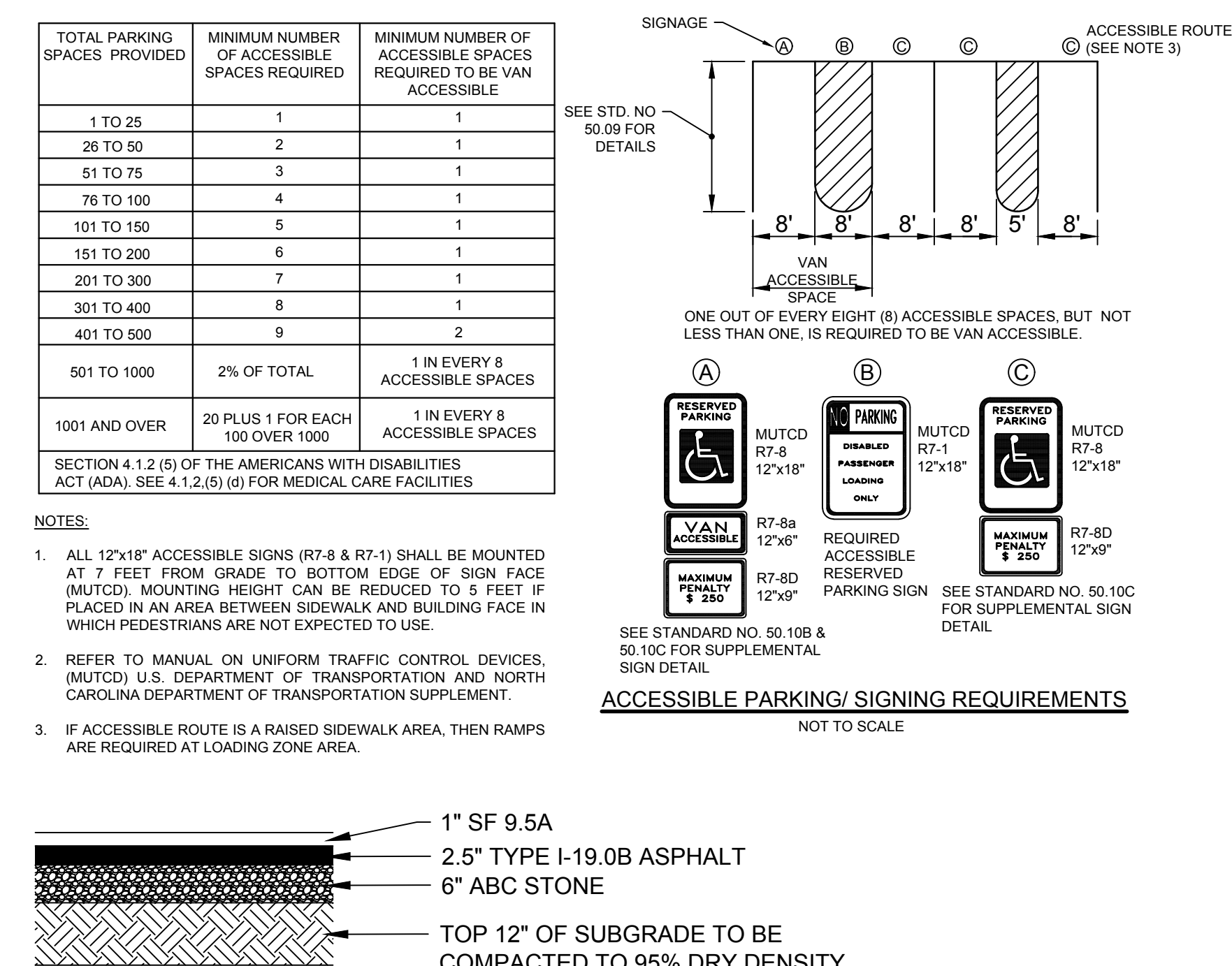
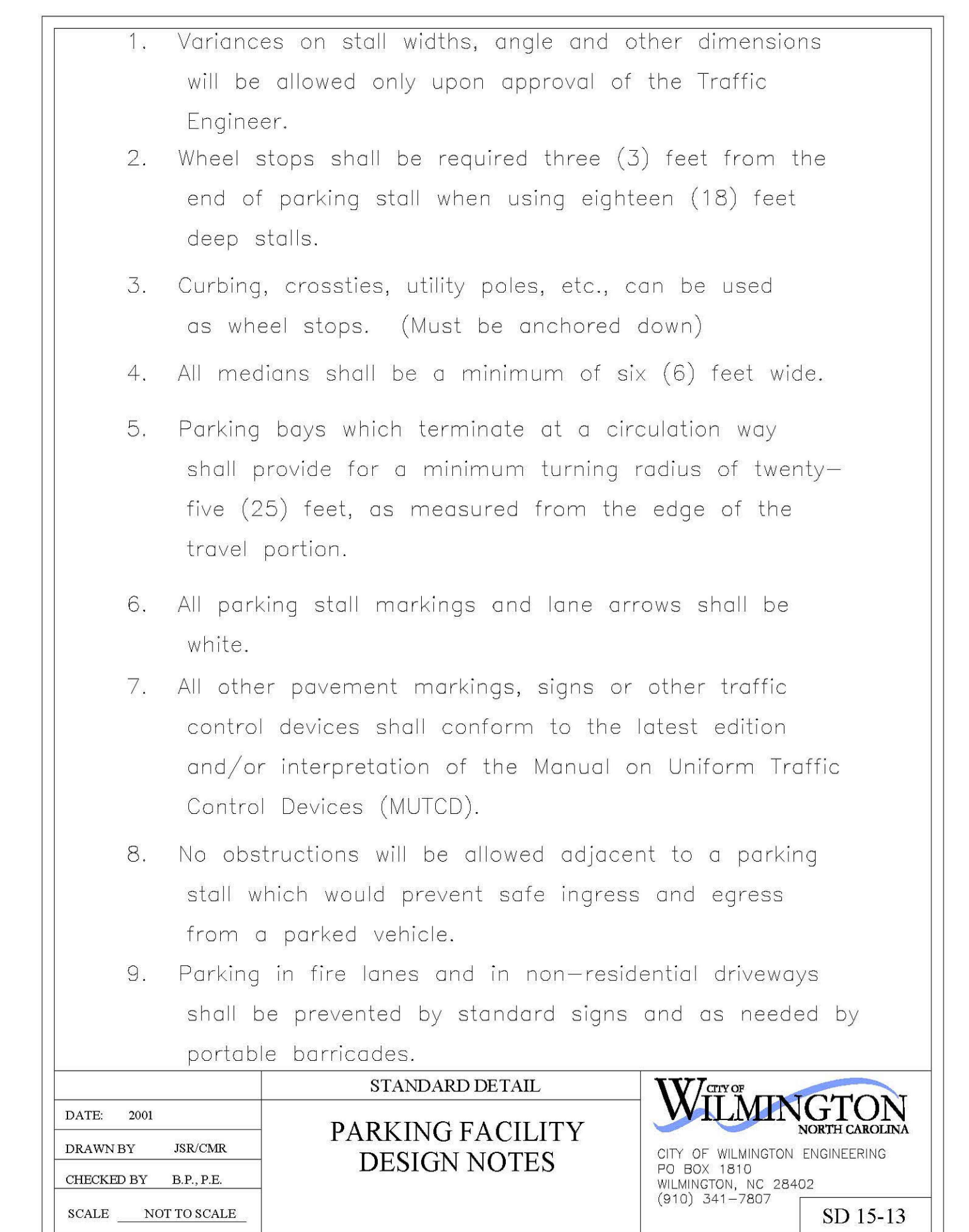
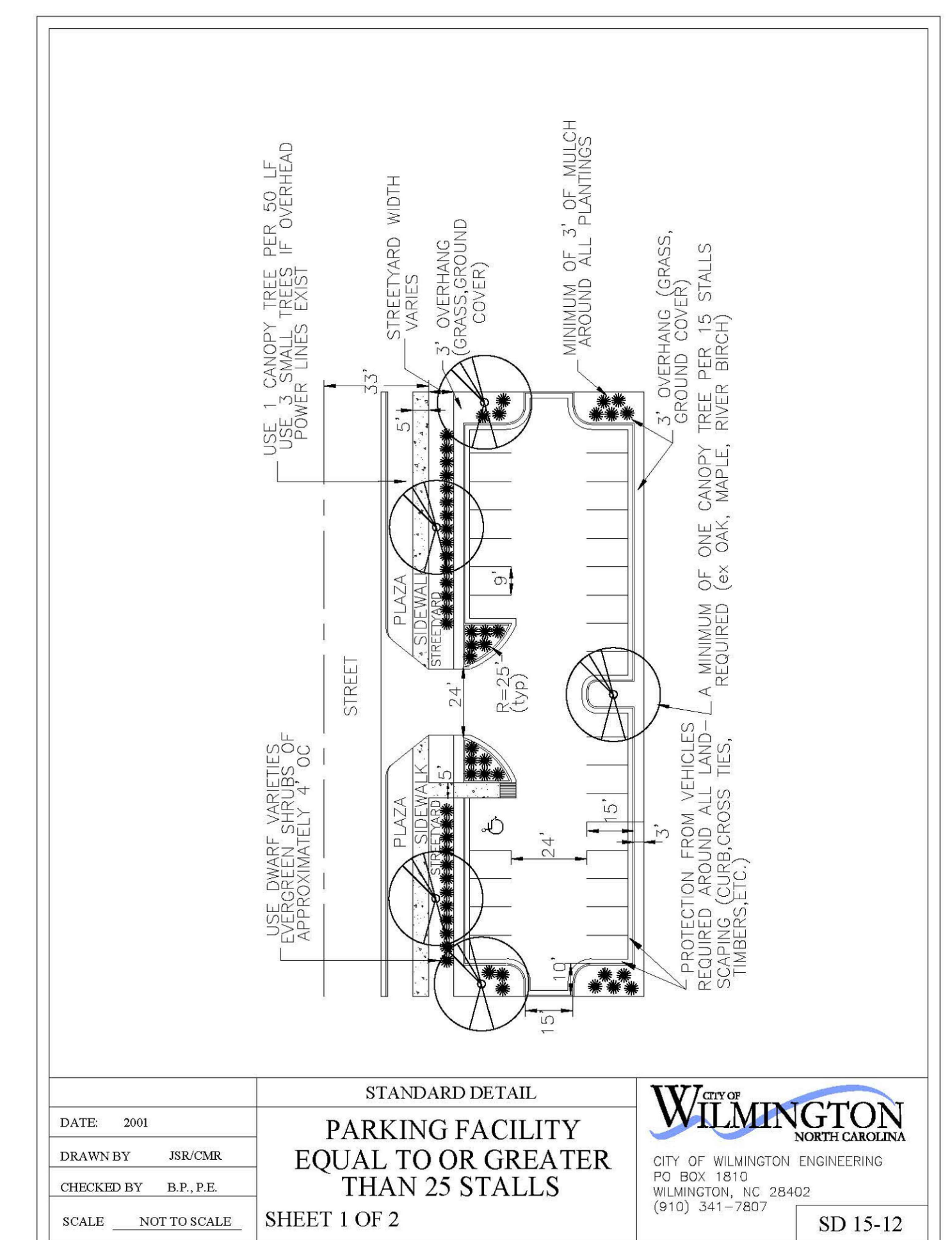
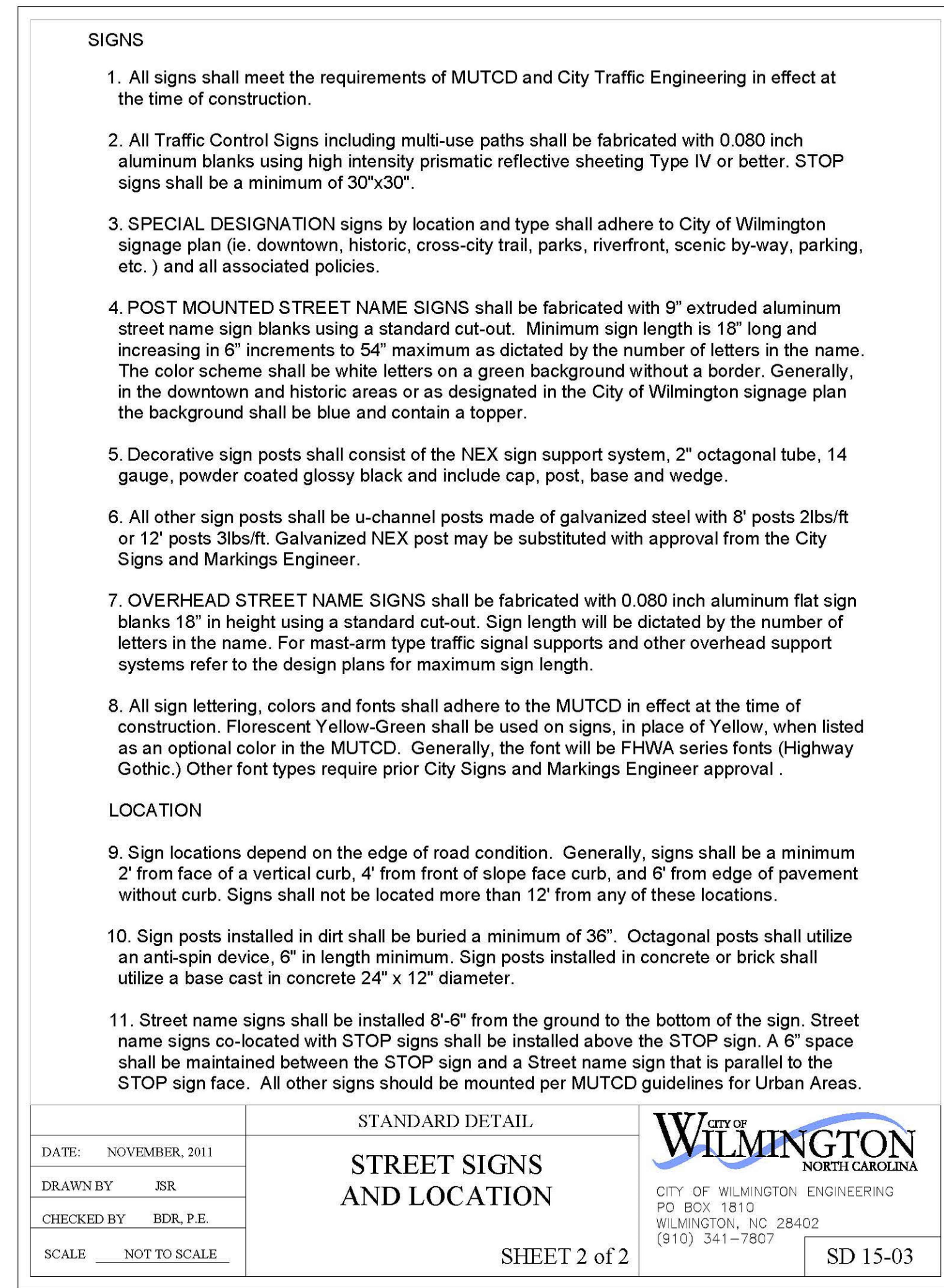
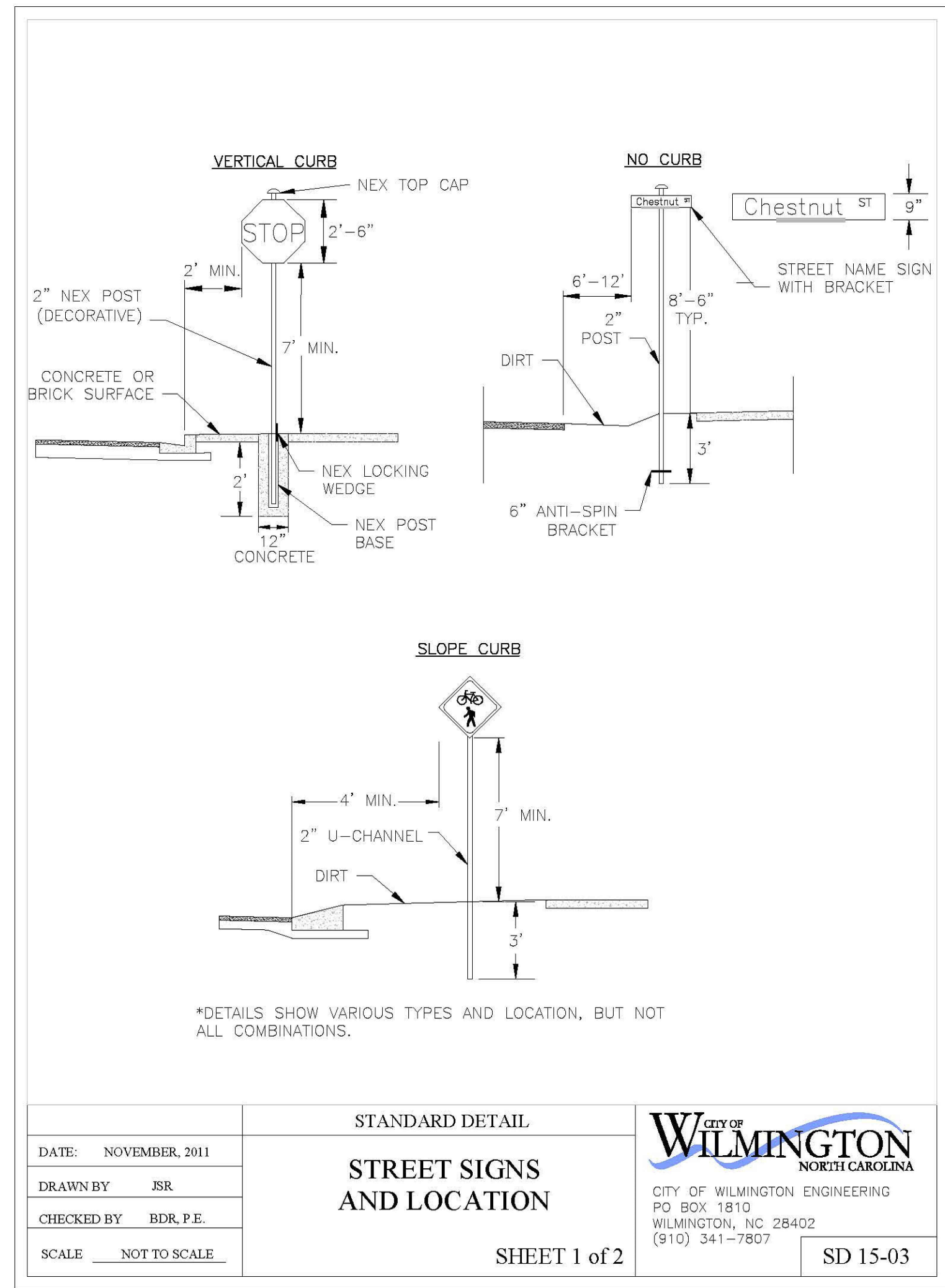
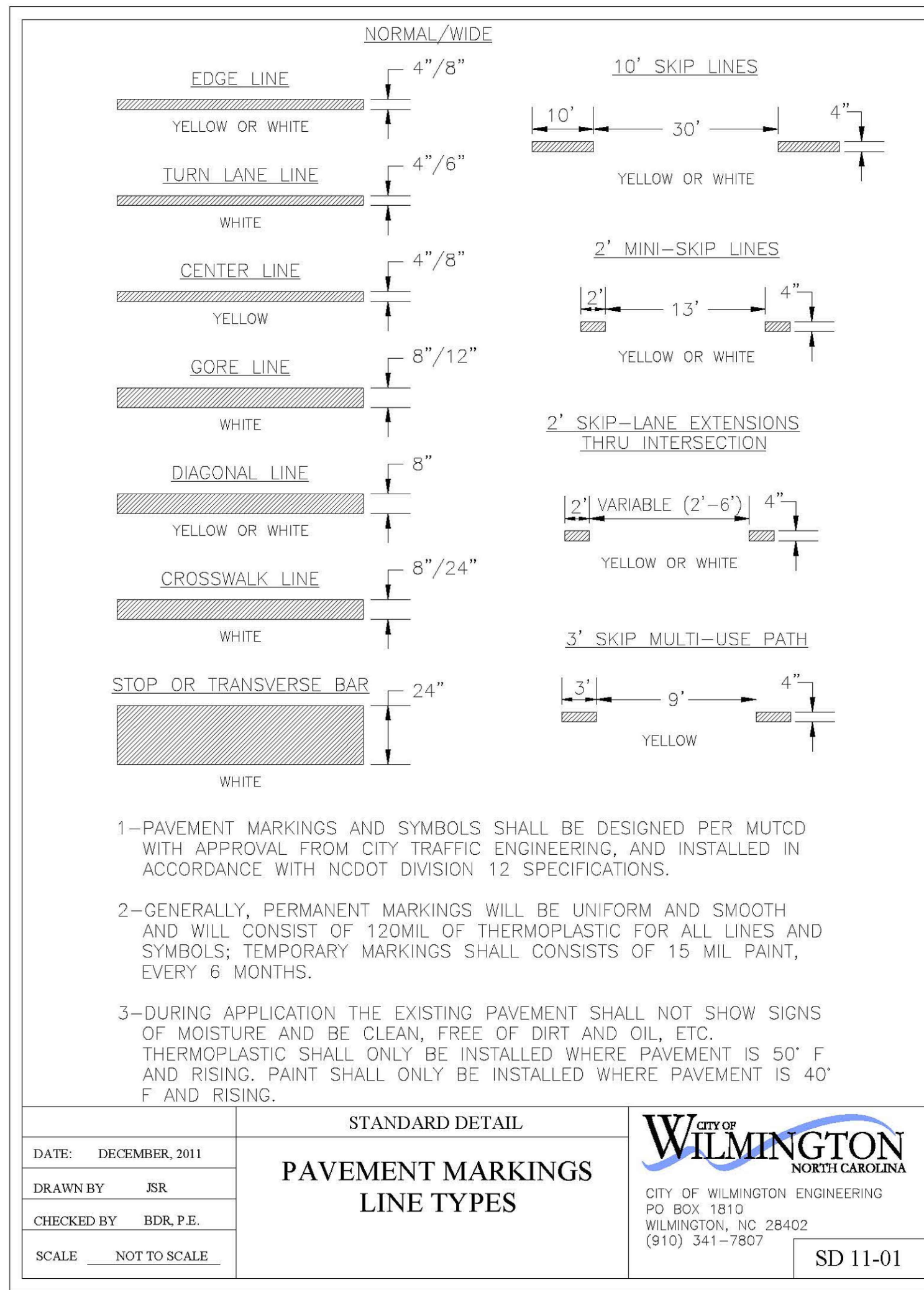
PROJECT NUMBER:	275-77
SCALE:	As Shown
DATE:	21 FEB 17

**CIVIL WORKS CONTRACTING**  
RALEIGH STREET  
WILMINGTON, NC

**SITE DETAILS**

PROJECT NUMBER	275-77	SHEET NUMBER	D-501
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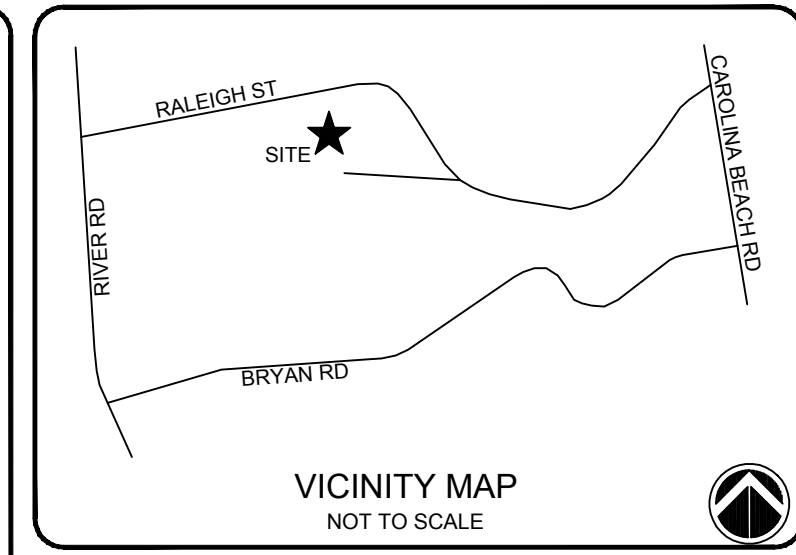
**CITY OF WILMINGTON**  
NORTH CAROLINA

Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN

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

**Approved Construction Plan**

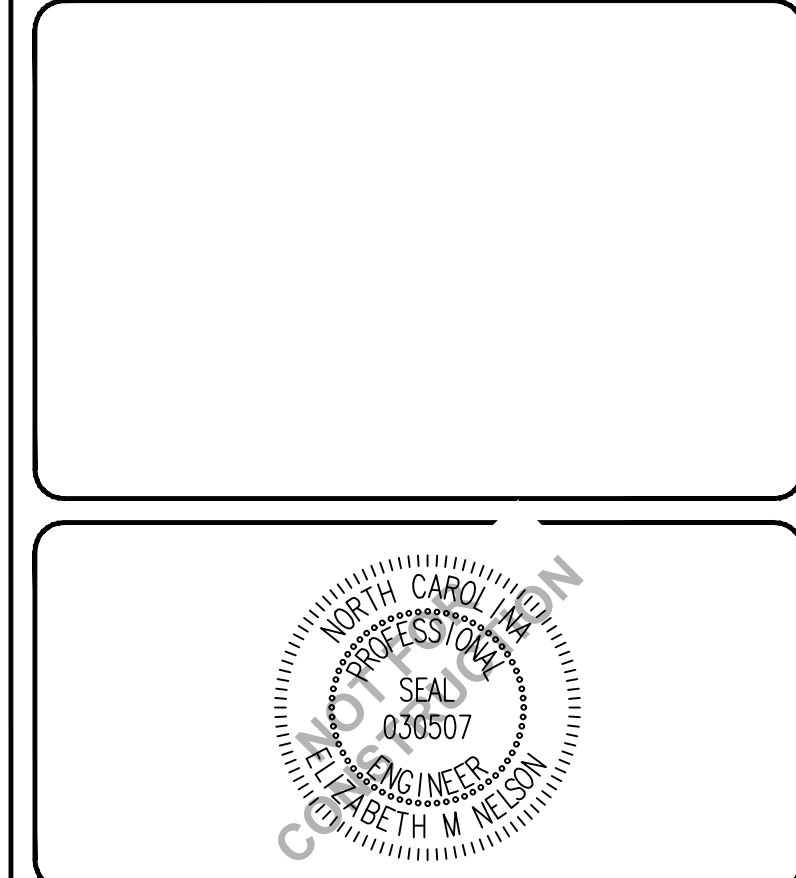
Name	Date
Planning	_____
Traffic	_____
Fire	_____



**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	EMN	REV. BY	DATE
A	ISSUED FOR REGULATORY REVIEW	EMN		02/21/17



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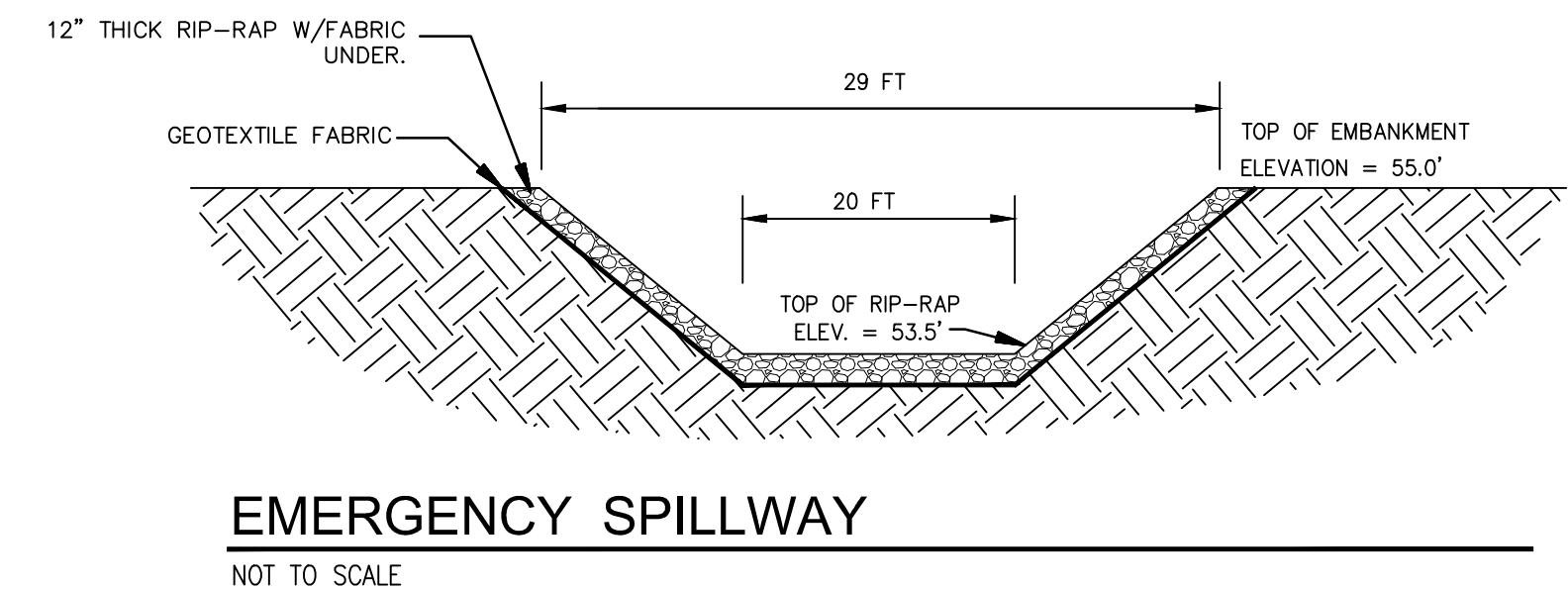
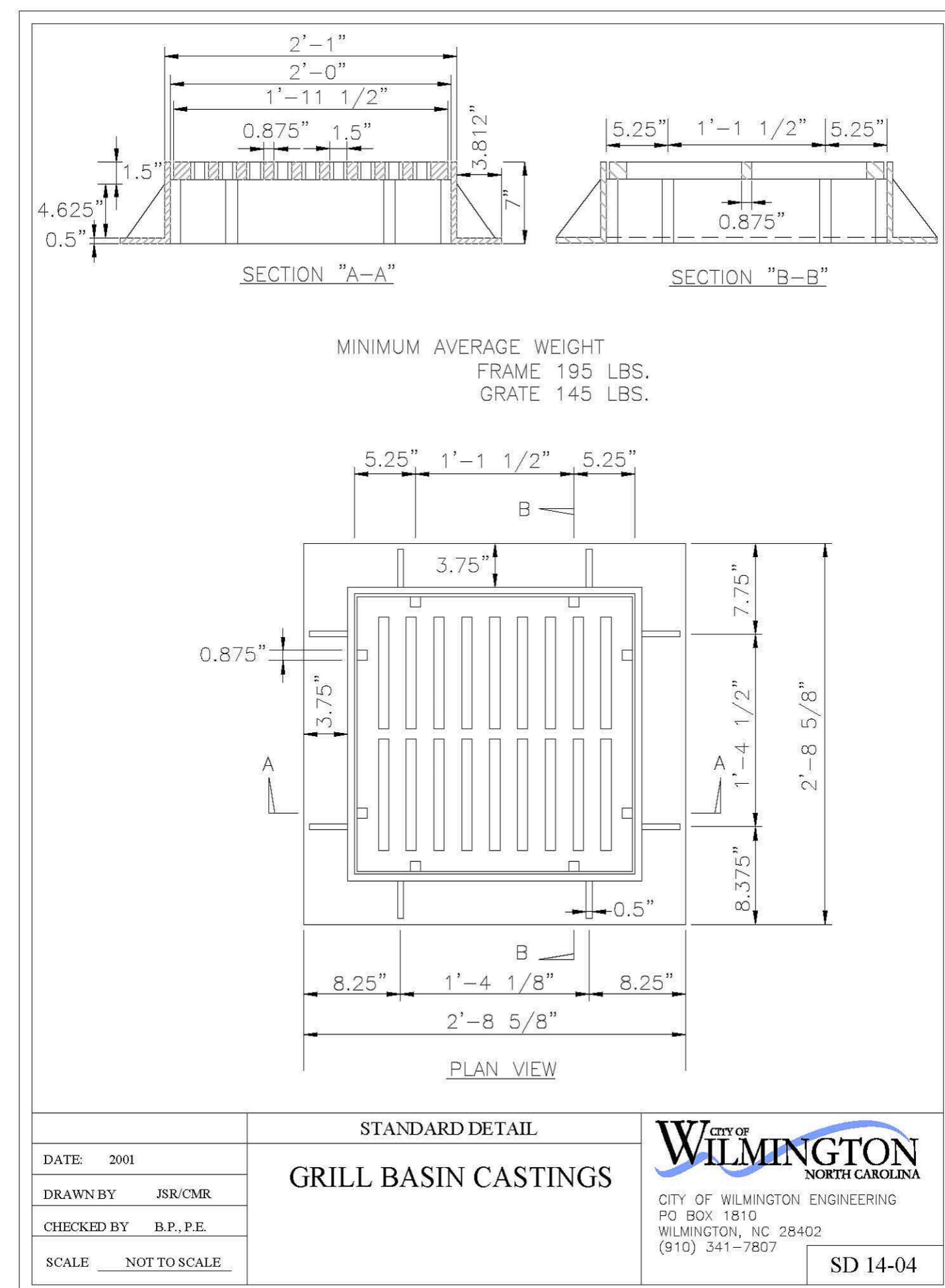
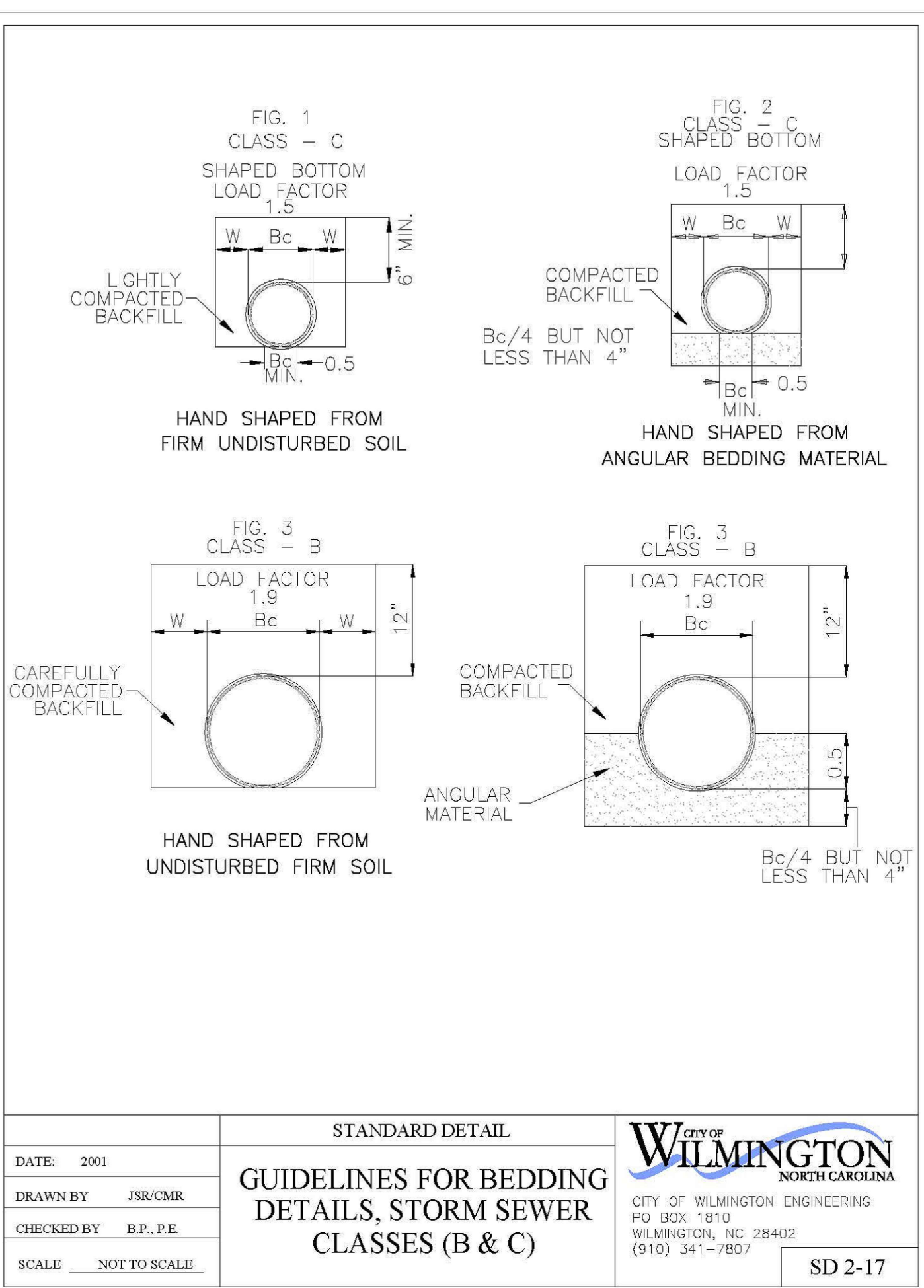
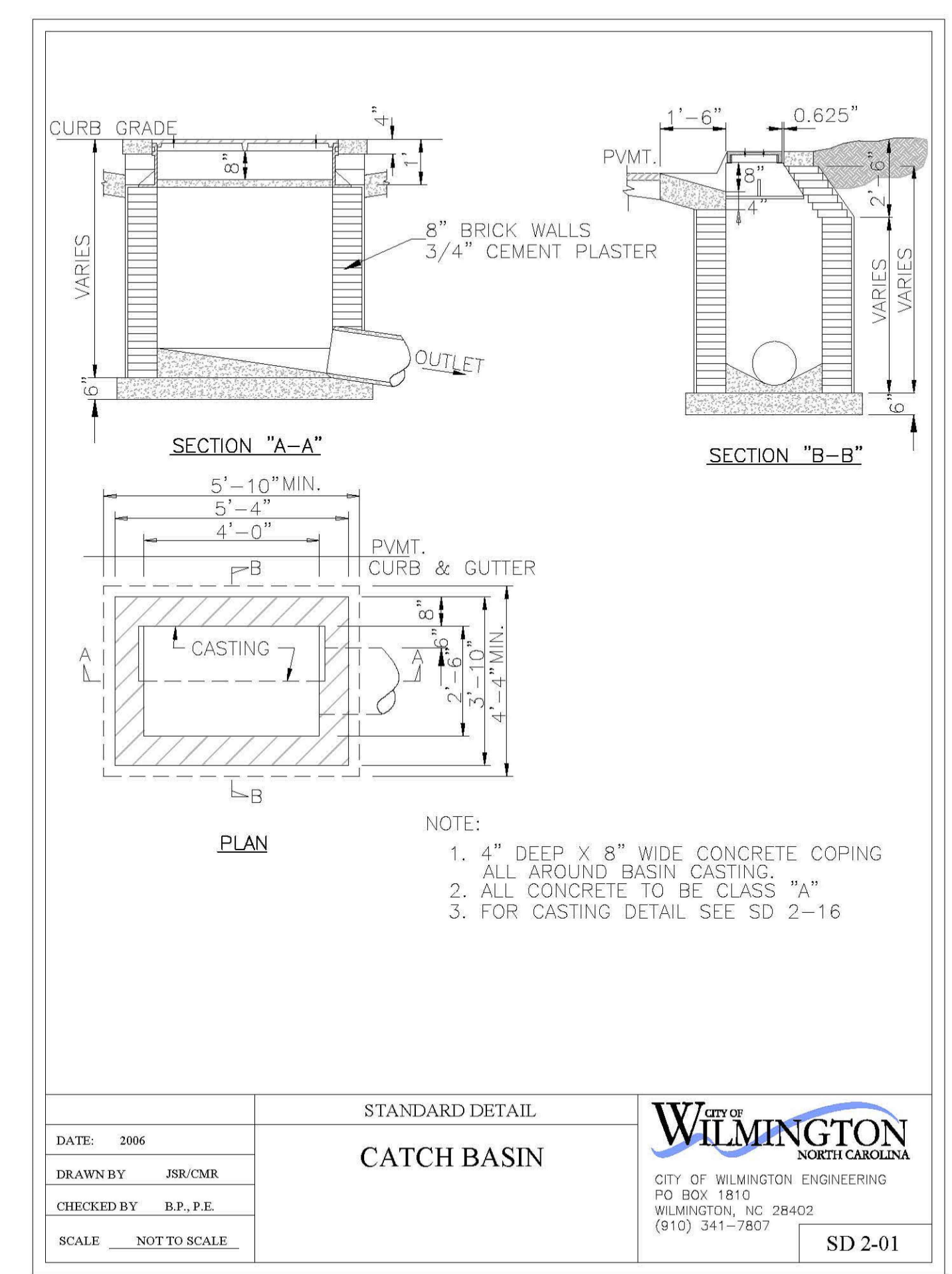
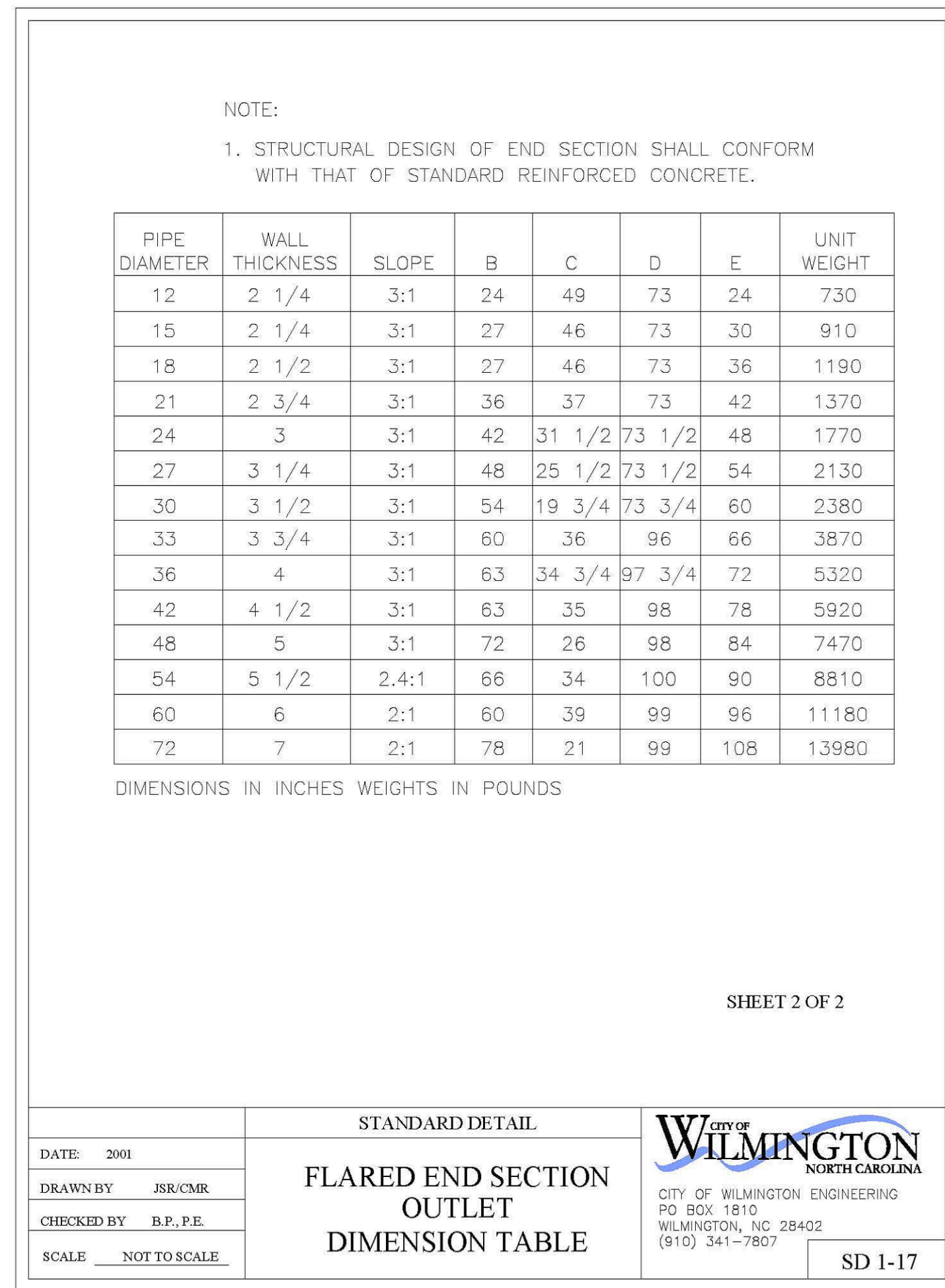
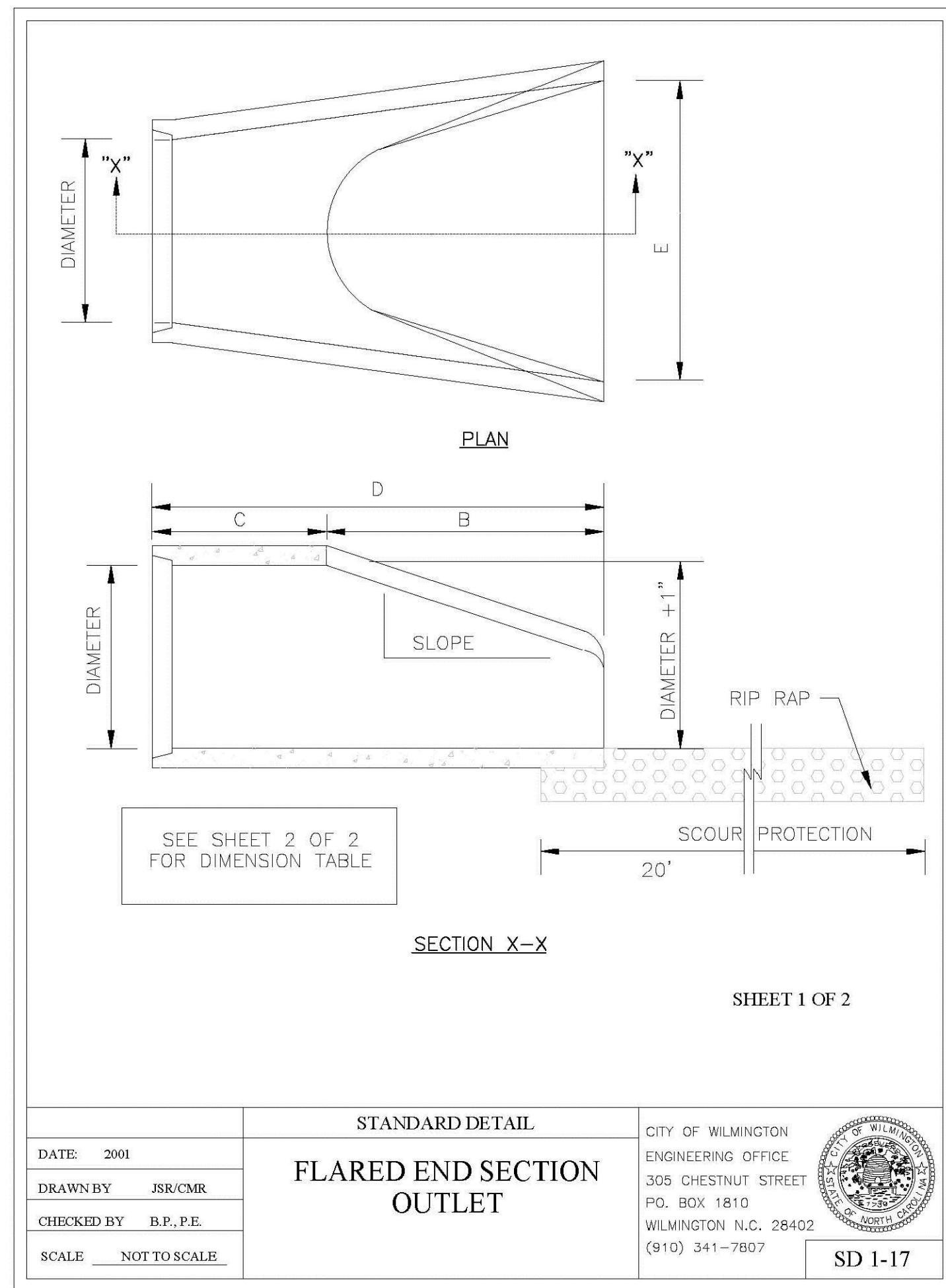
PROJECT NUMBER	275-77
SCALE	As Shown
DATE	21 FEB 17

**CIVIL WORKS CONTRACTING**  
RALEIGH STREET  
WILMINGTON, NC

**SITE DETAILS**

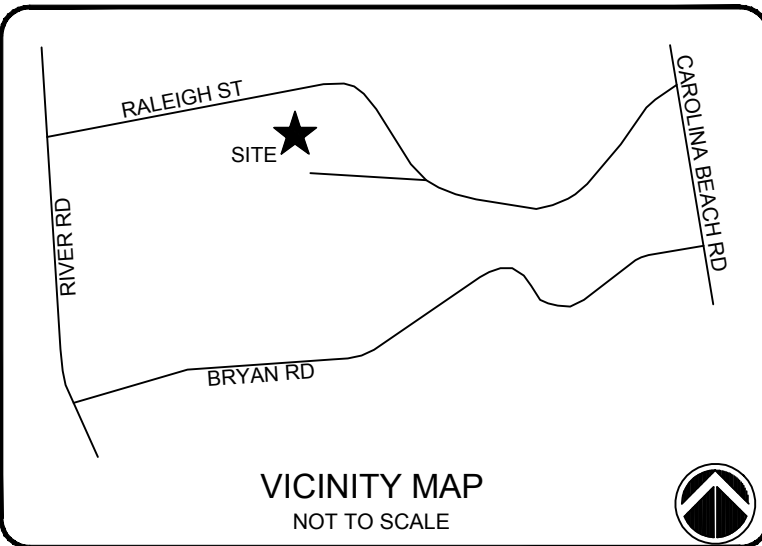
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CITY OF WILMINGTON  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

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

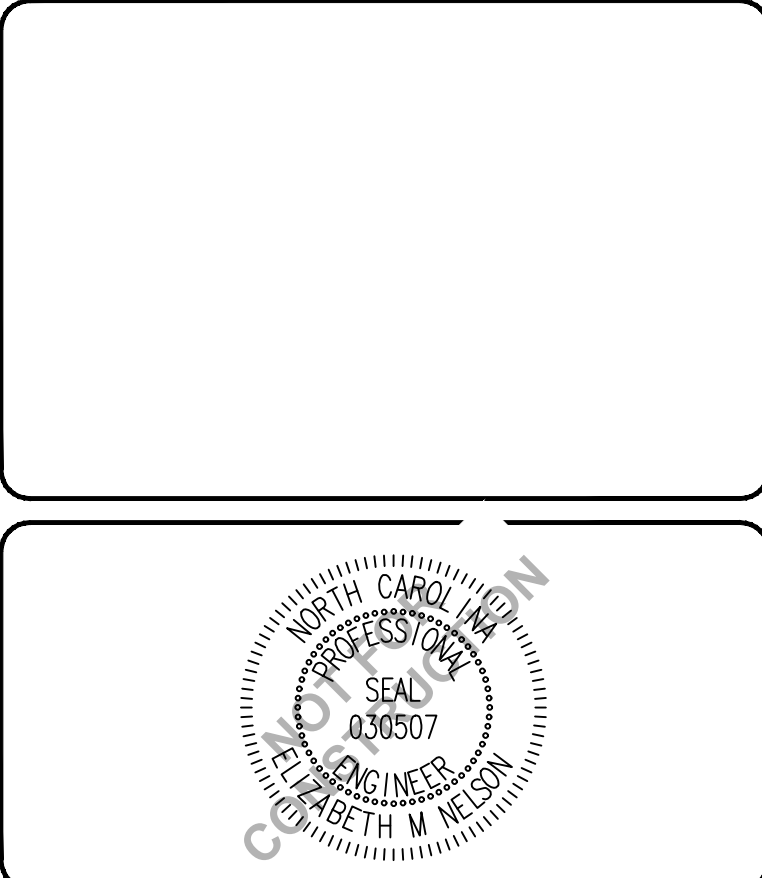


NOTES:

ISSUED FOR REGULATORY REVIEW

REV. #	DESCRIPTION	REV. BY	DATE
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17

REVISIONS



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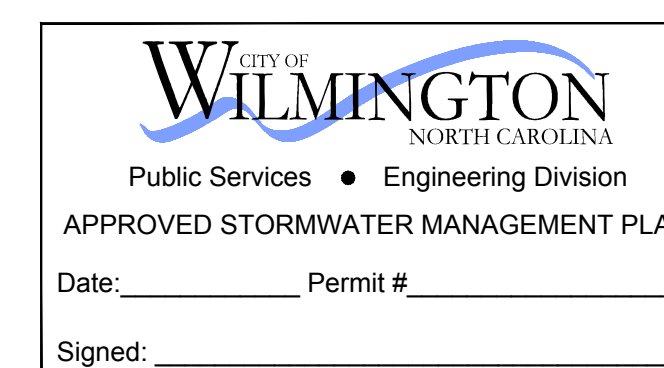
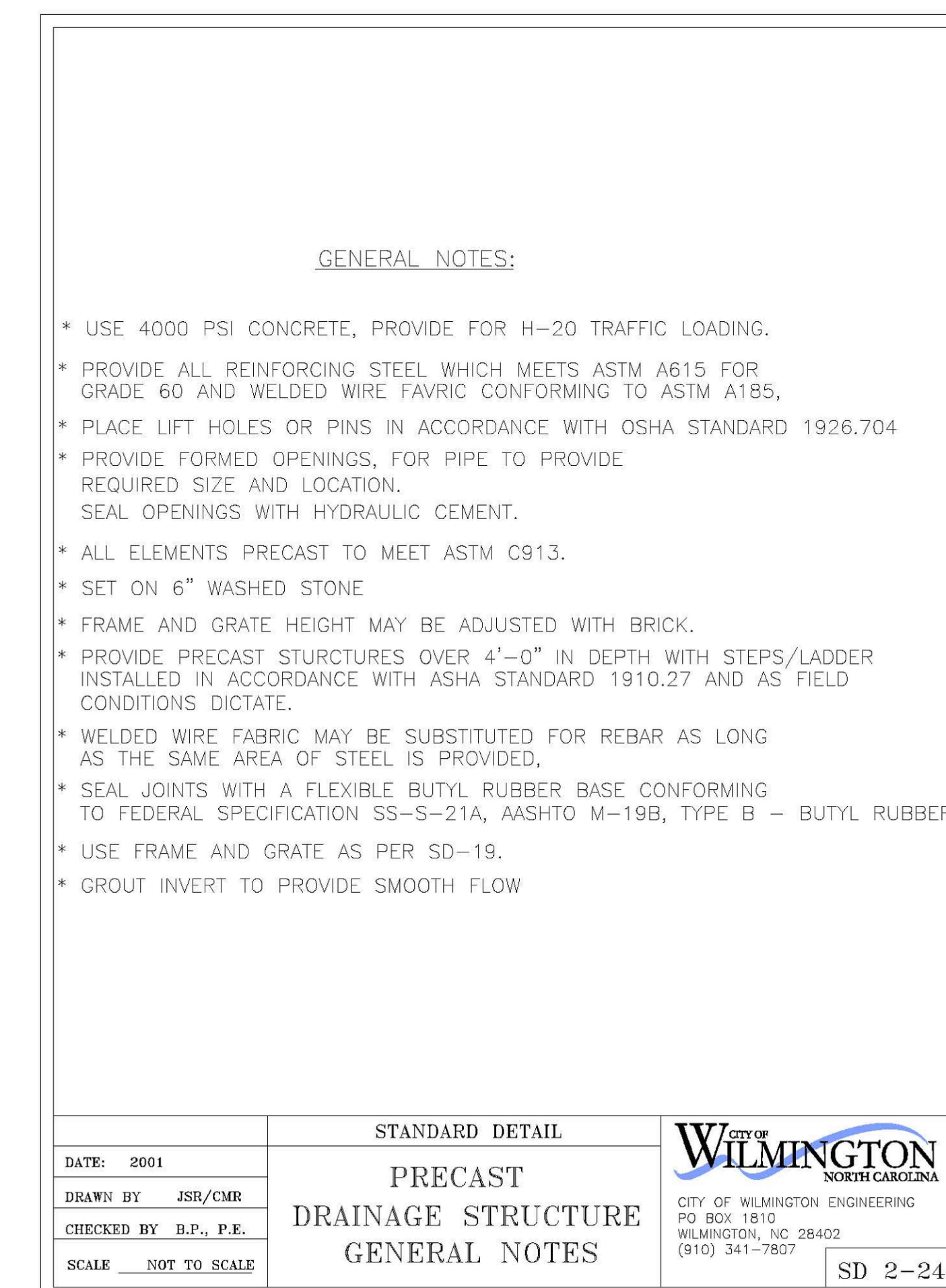
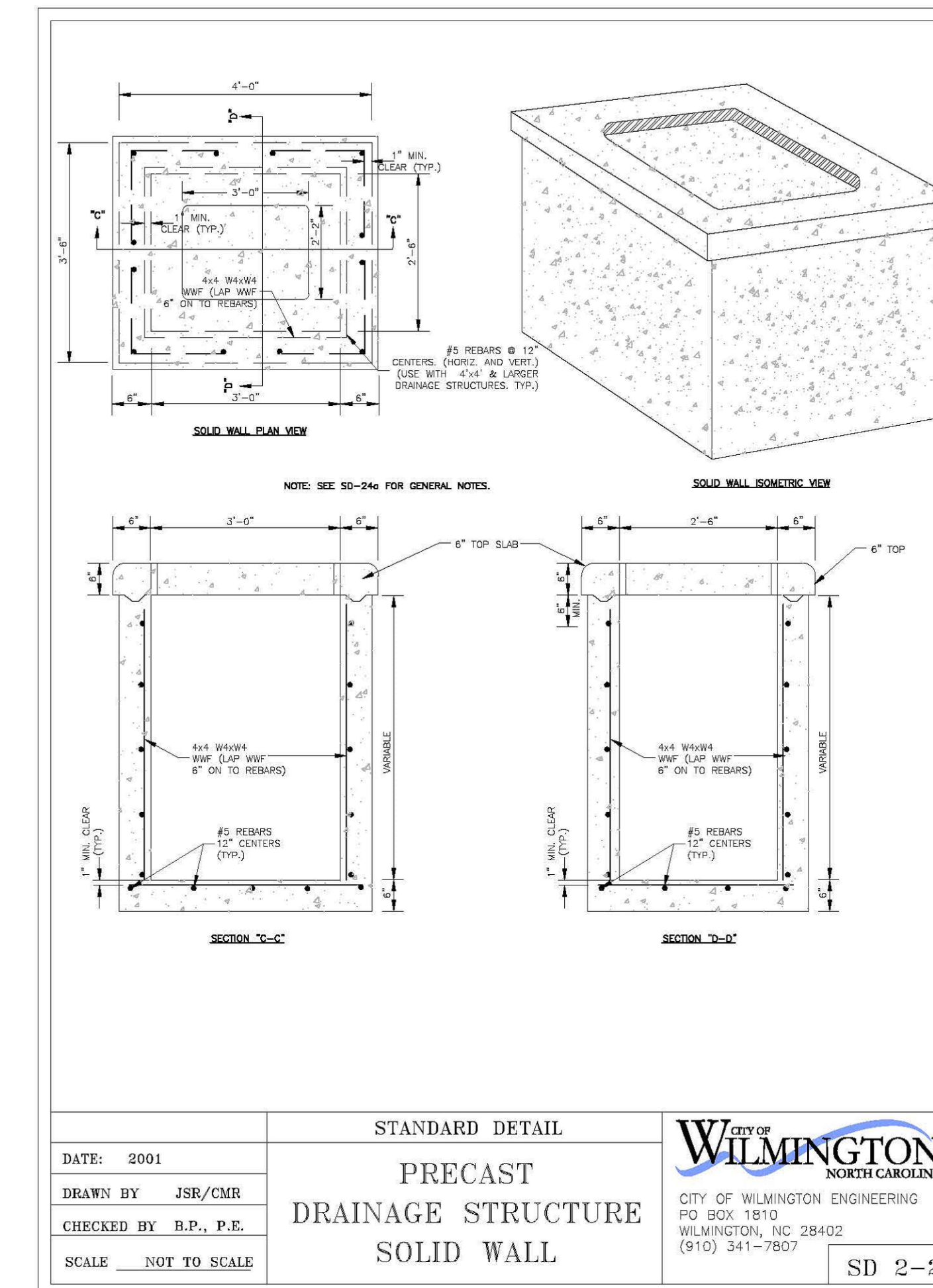
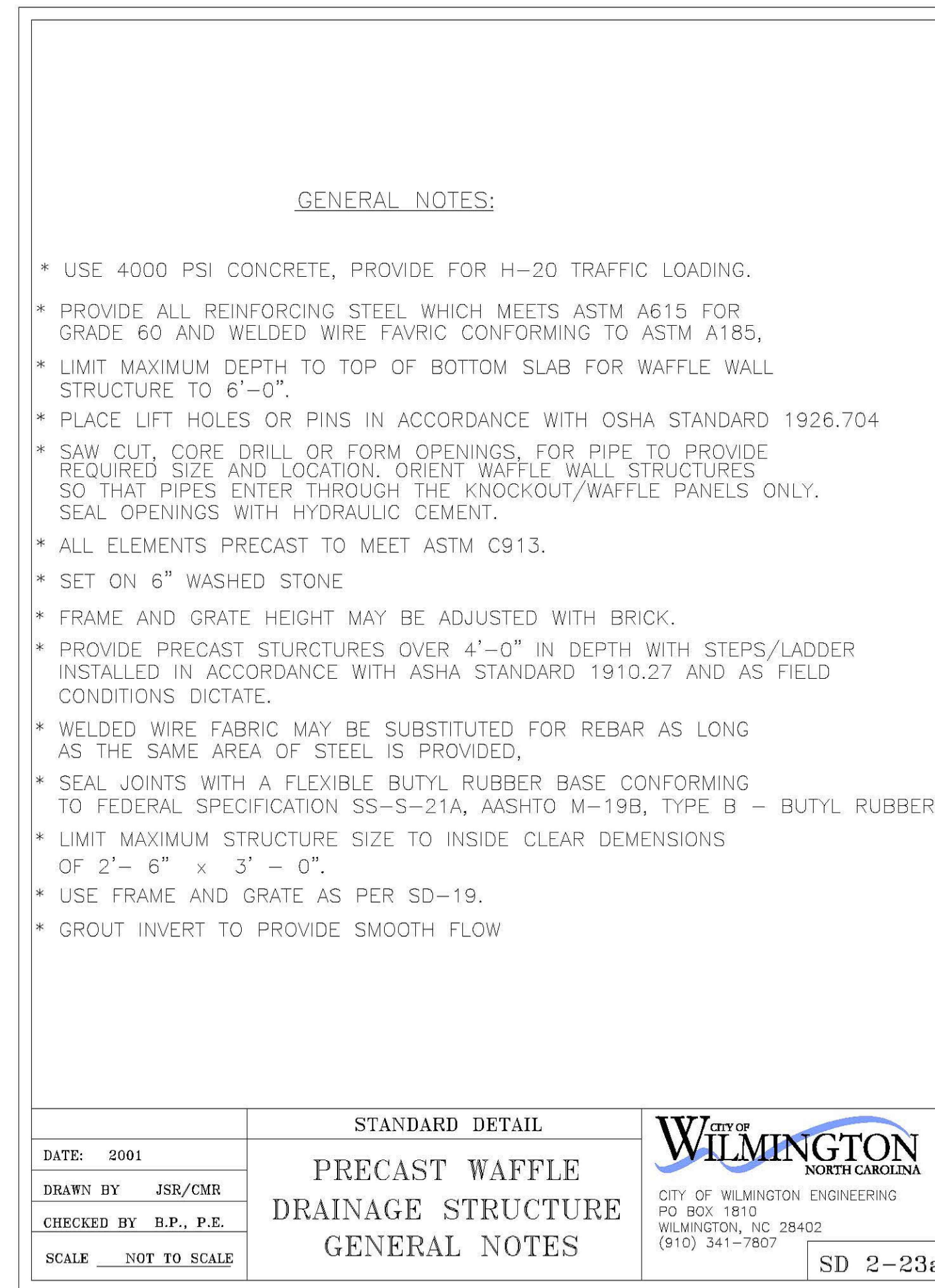
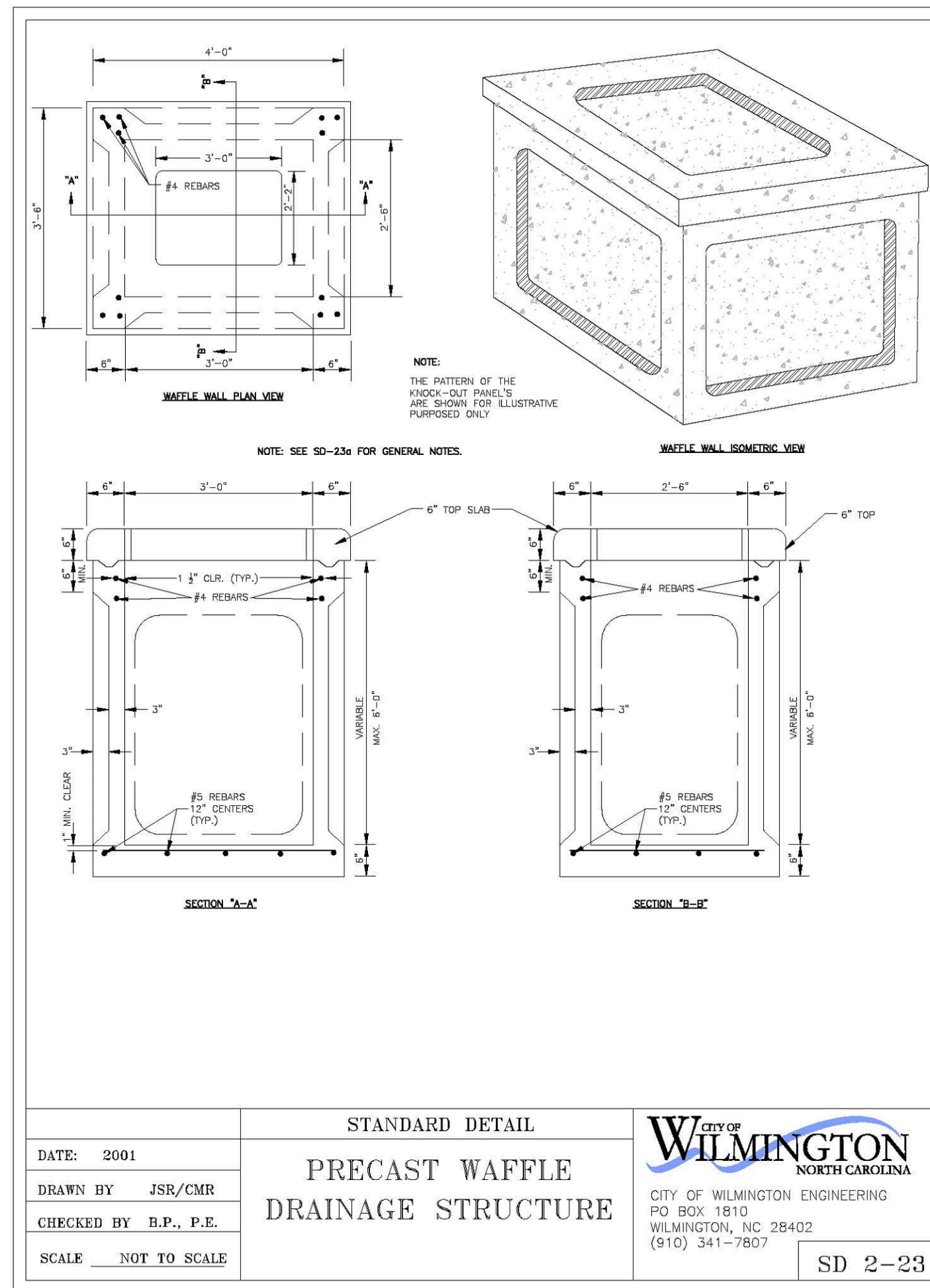
PROJECT NUMBER: 275-77  
SCALE: As Shown  
DATE: 21 FEB 17

CIVIL WORKS CONTRACTING  
RALEIGH STREET  
WILMINGTON, NC

STORMWATER DETAILS

PROJECT NUMBER: 275-77  
SHEET NUMBER: D-503





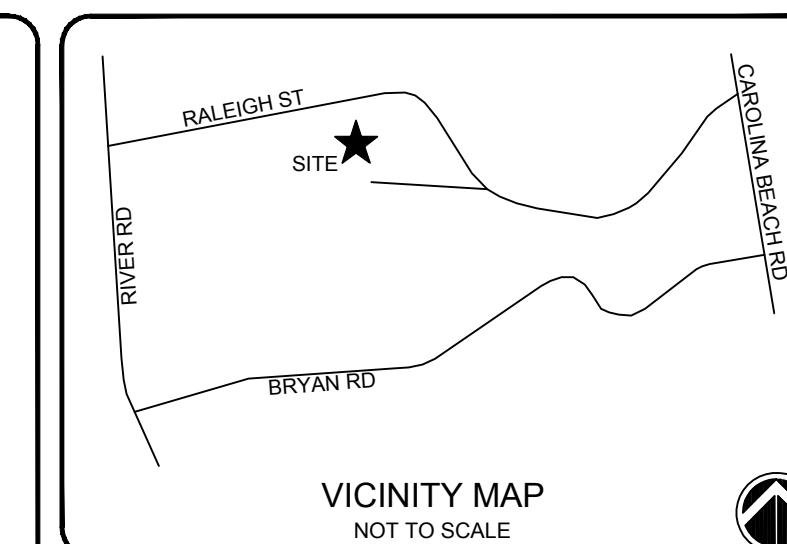
**Approved Construction Plan**

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

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_



**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17
REVISIONS			



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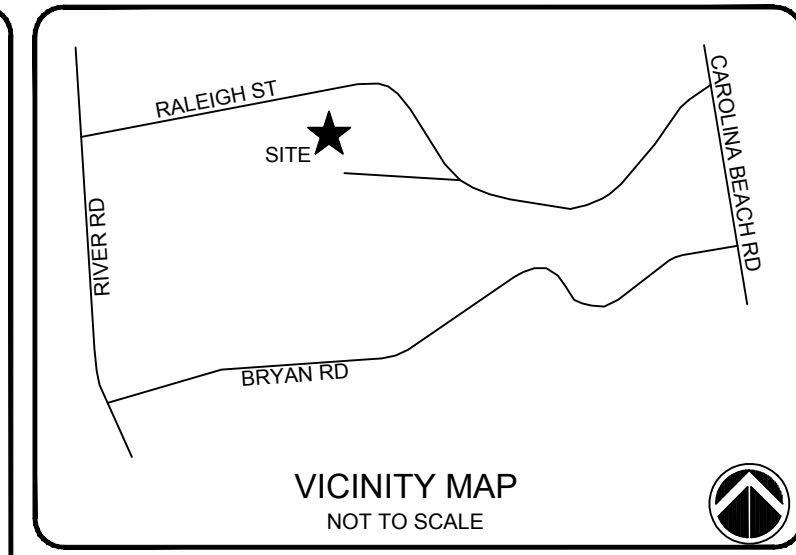
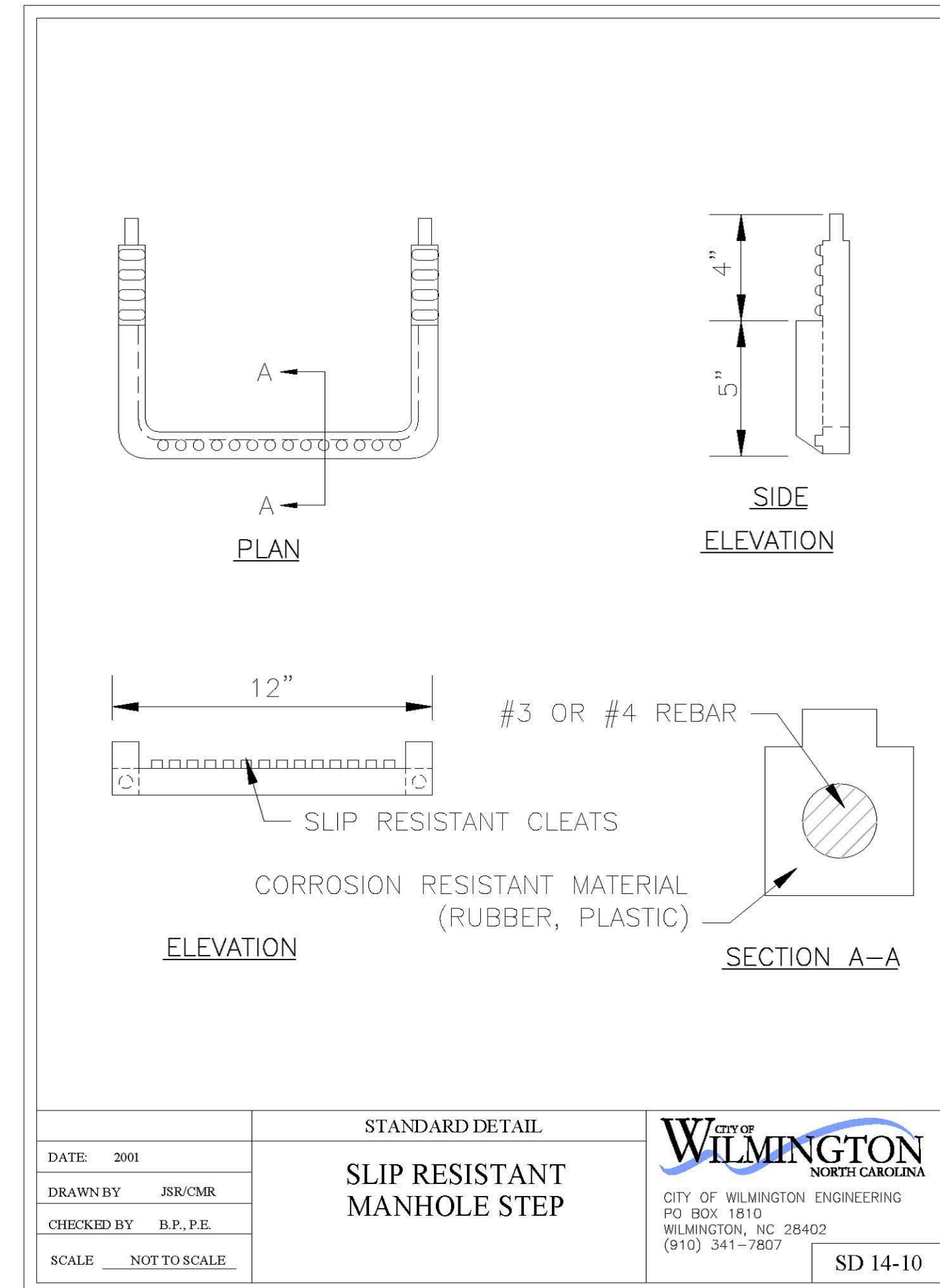
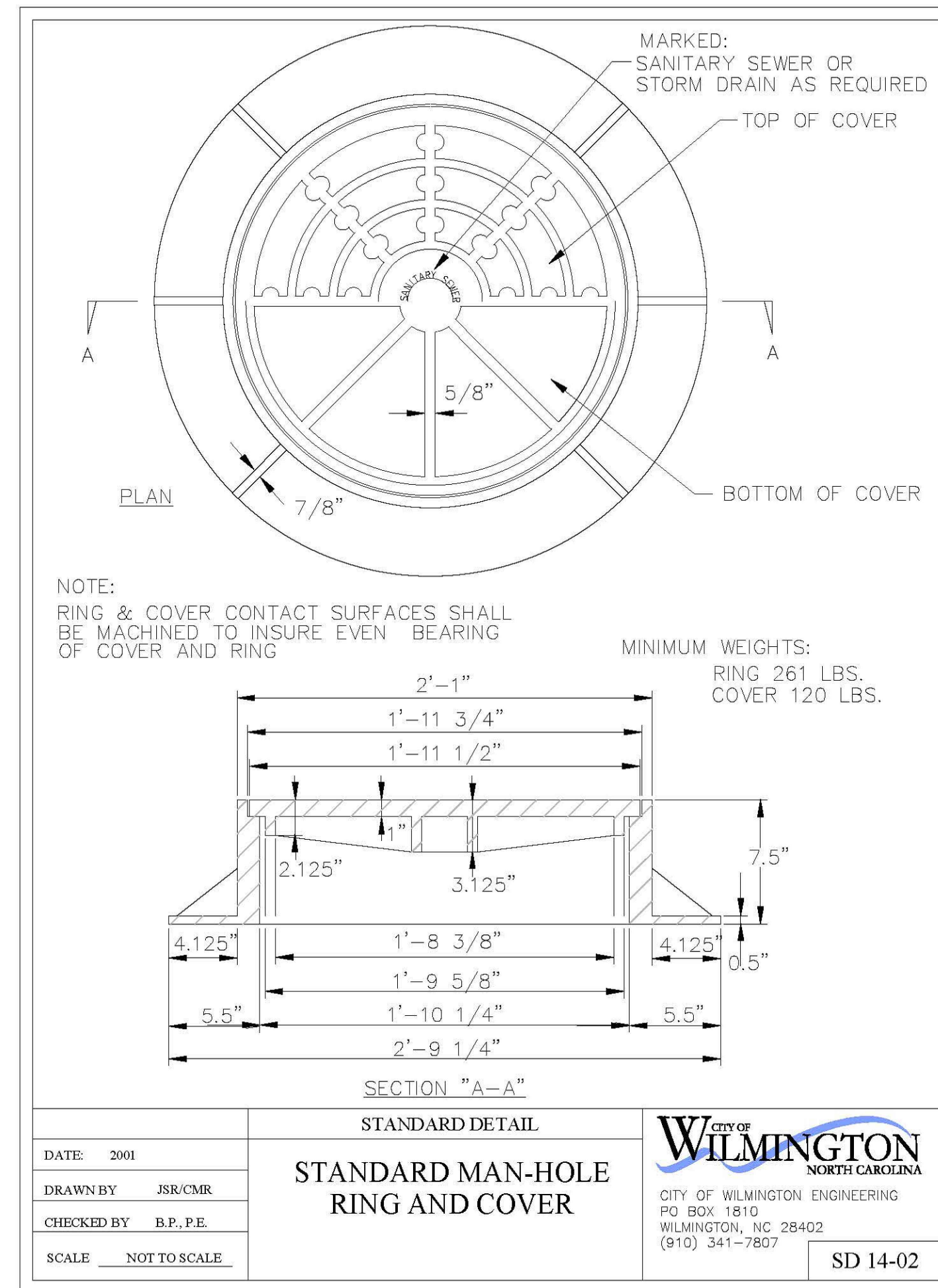
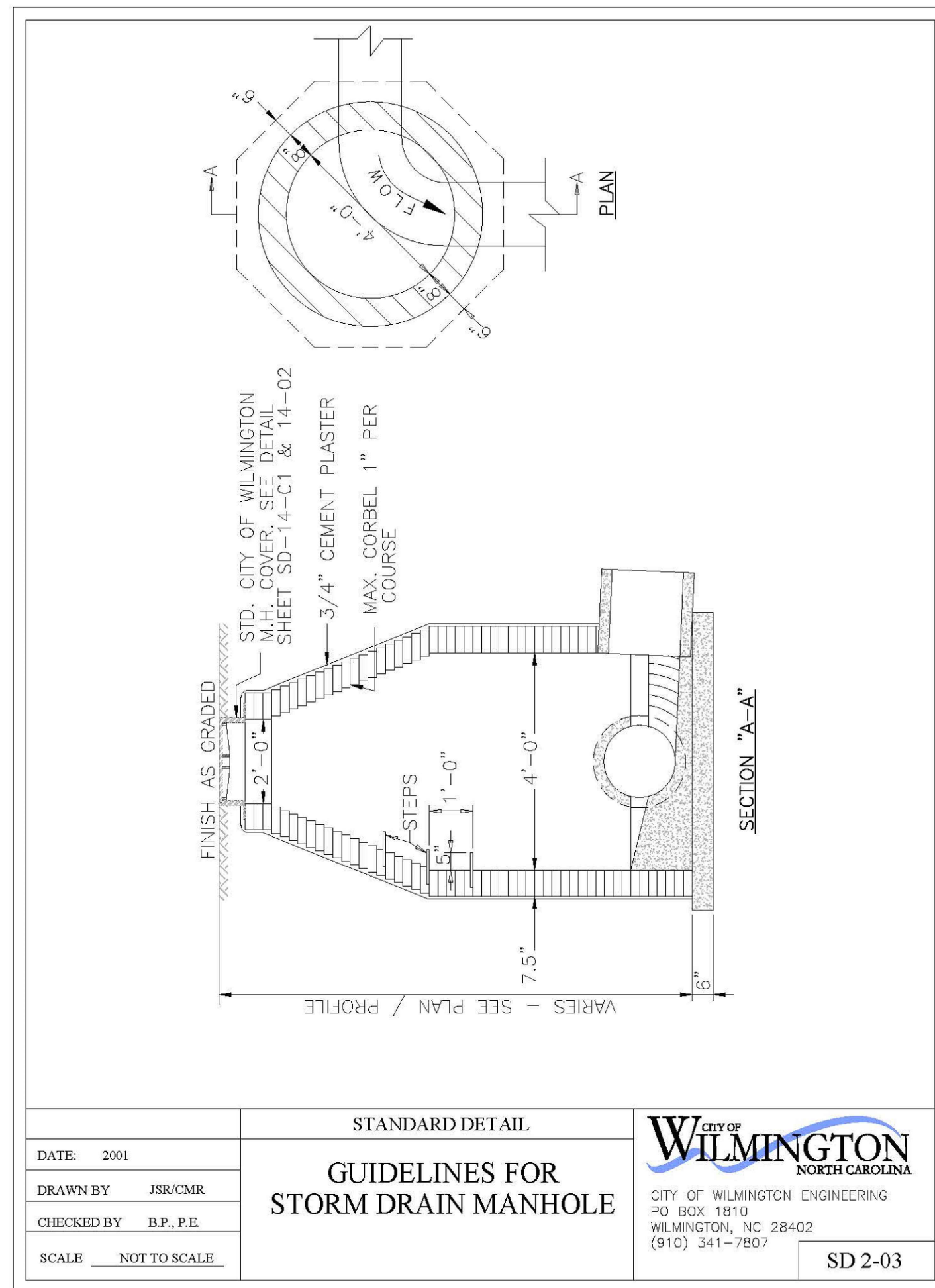
PROJECT NUMBER:	275-77
SCALE:	As Shown
DATE:	21 FEB 17

**CIVIL WORKS CONTRACTING**  
 RALEIGH STREET  
 WILMINGTON, NC

**STORMWATER DETAILS**

PROJECT NUMBER	275-77	SHEET NUMBER	D-504
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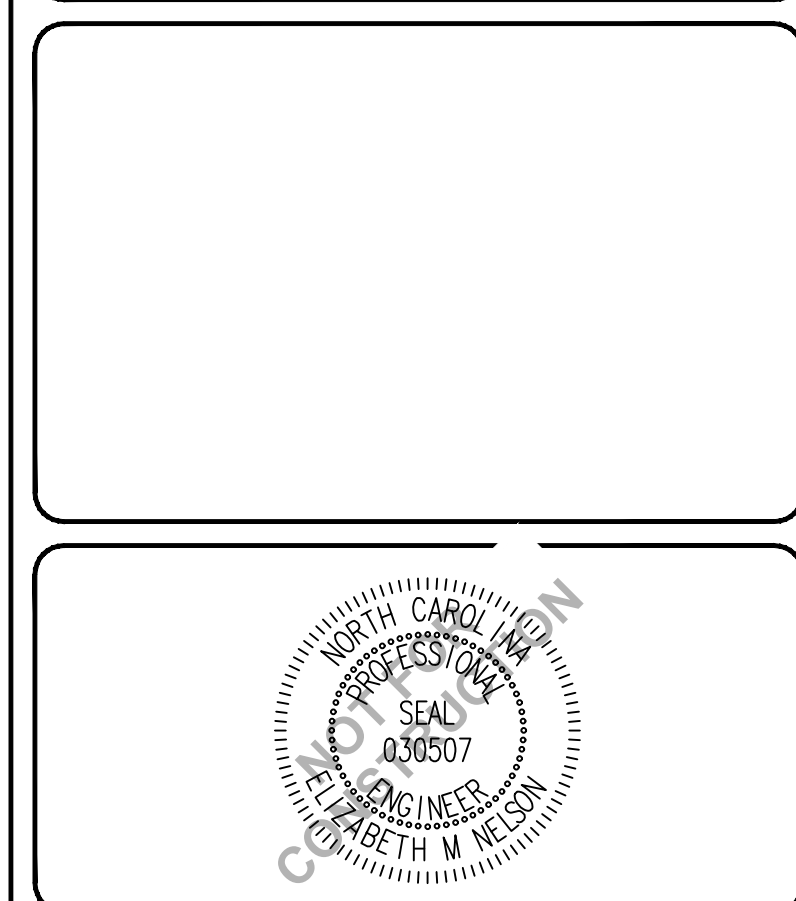




NOTES:

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REV. #	DESCRIPTION	REV. BY	DATE
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**CAPE FEAR ENGINEERING**  
151 Poole Rd., Suite 100, Belville, NC, 28451  
TEL (910) 383-1044; FAX (910) 383-1045  
www.capefearengineering.com  
N.C. LICENSE # C-1621

PROJECT NUMBER: 275-77  
SCALE: As Shown  
DATE: 21 FEB 17

CIVIL WORKS CONTRACTING  
RALEIGH STREET  
WILMINGTON, NC

STORMWATER DETAILS

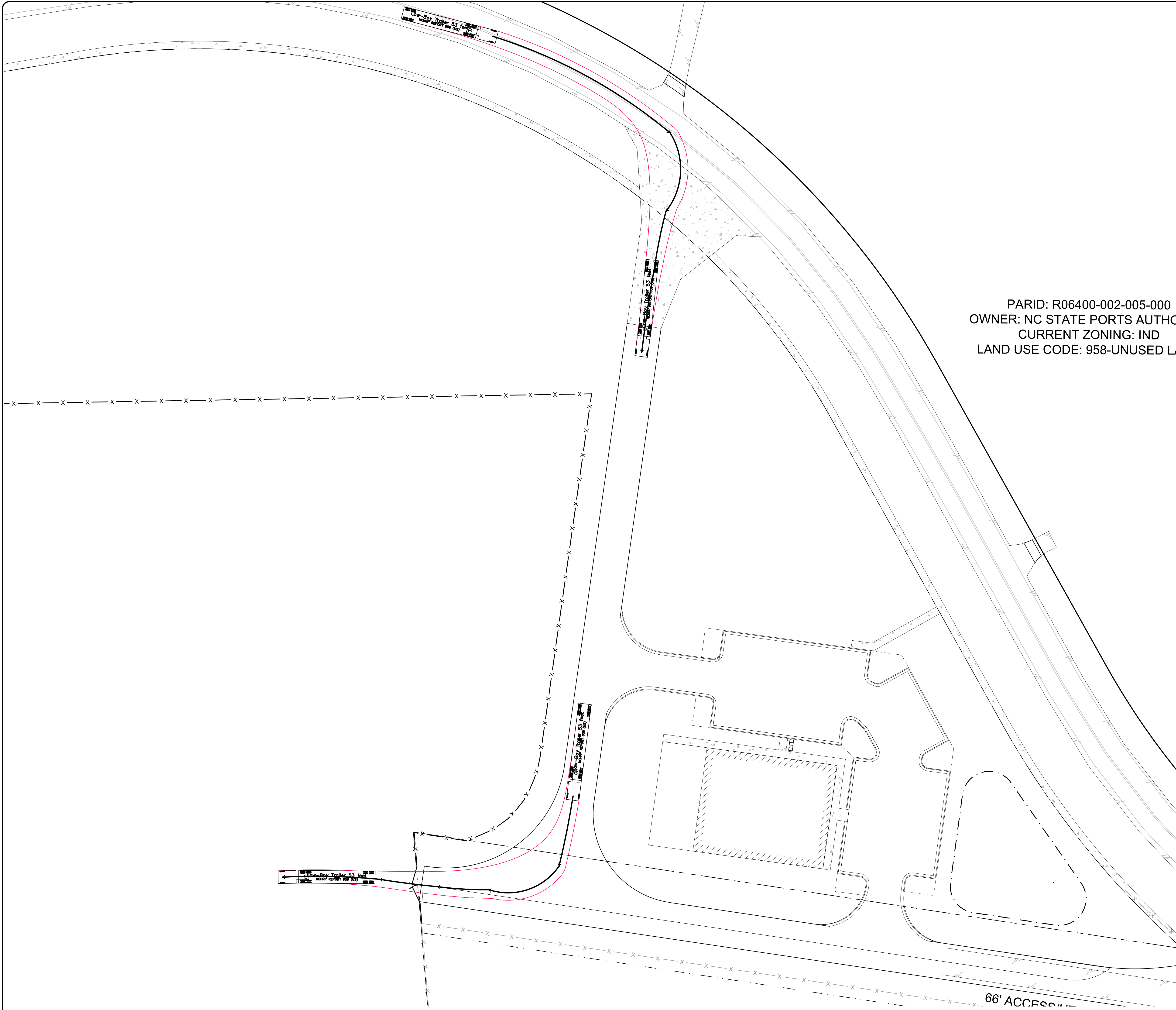
PROJECT NUMBER: 275-77  
SHEET NUMBER: D-505

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

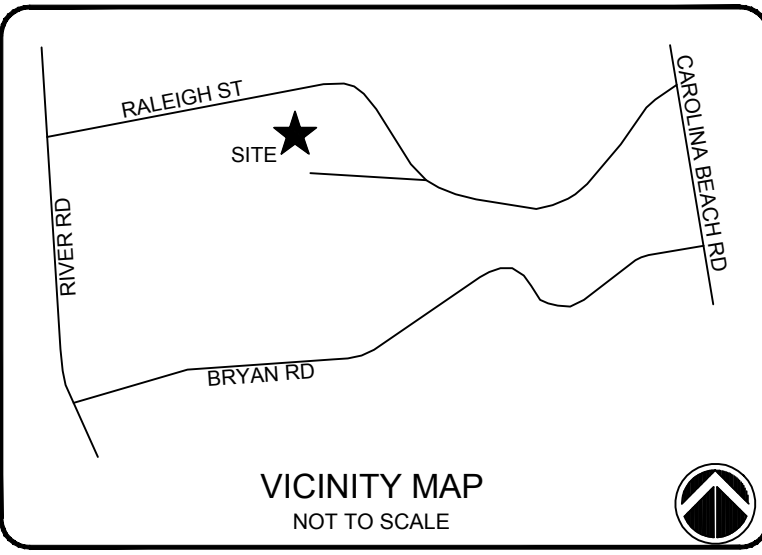
Approved Construction Plan  
Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Planning: \_\_\_\_\_  
Traffic: \_\_\_\_\_  
Fire: \_\_\_\_\_



PATH:P:\275\275-77 CMC OFFICE BLDG RALEIGH ST - ENGINEERING\DWG\CONSTRUCTION\WORKING\EXHIBITS.DWG



PARID: R06400-002-005-000  
OWNER: NC STATE PORTS AUTHO  
CURRENT ZONING: IND  
LAND USE CODE: 958-UNUSED LA



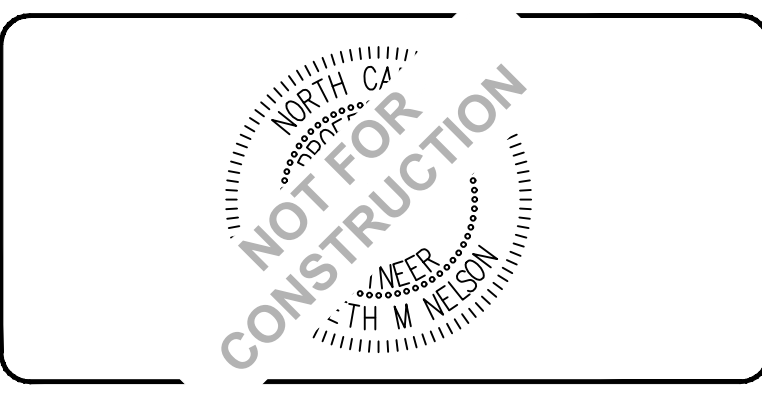
NOTES:

ISSUED FOR REGULATORY REVIEW

REV. #	DESCRIPTION	REVISIONS

A	ISSUED FOR REGULATORY REVIEW	EMN

REV. #	DESCRIPTION	REVISIONS



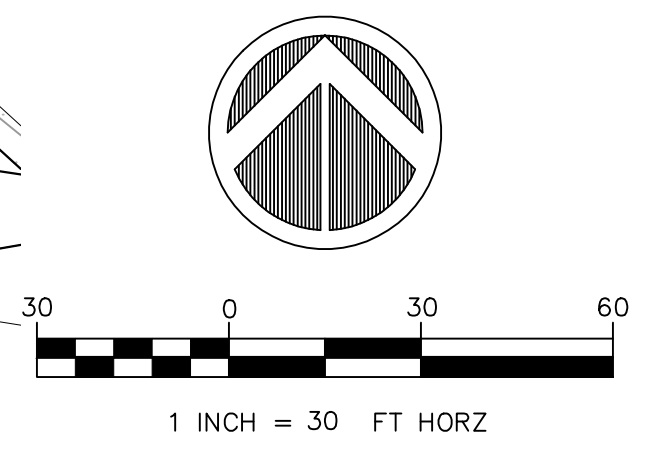
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N.C. LICENSE # C-1621

PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	01 MAR 17

CIVIL WORKS CONTRACTING  
RALEIGH STREET  
WILMINGTON, NC

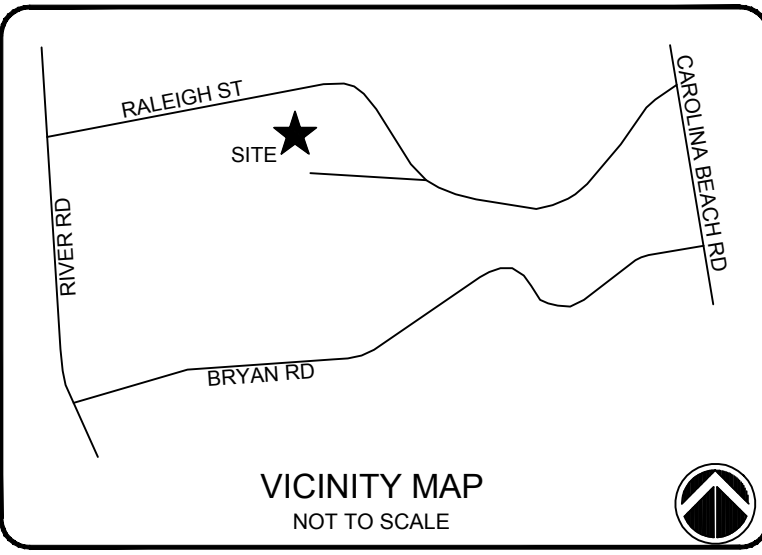
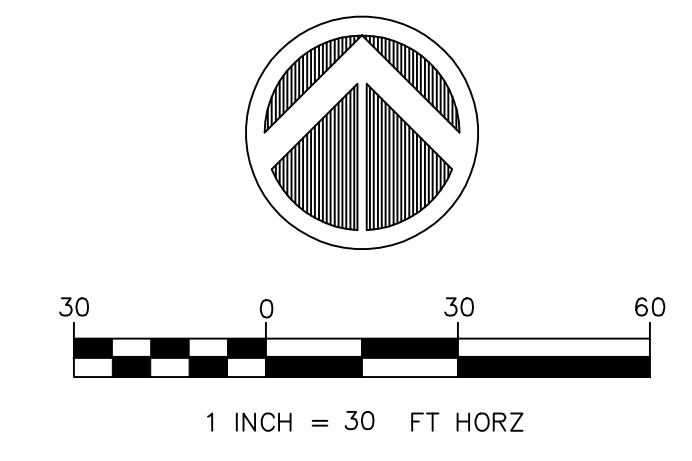
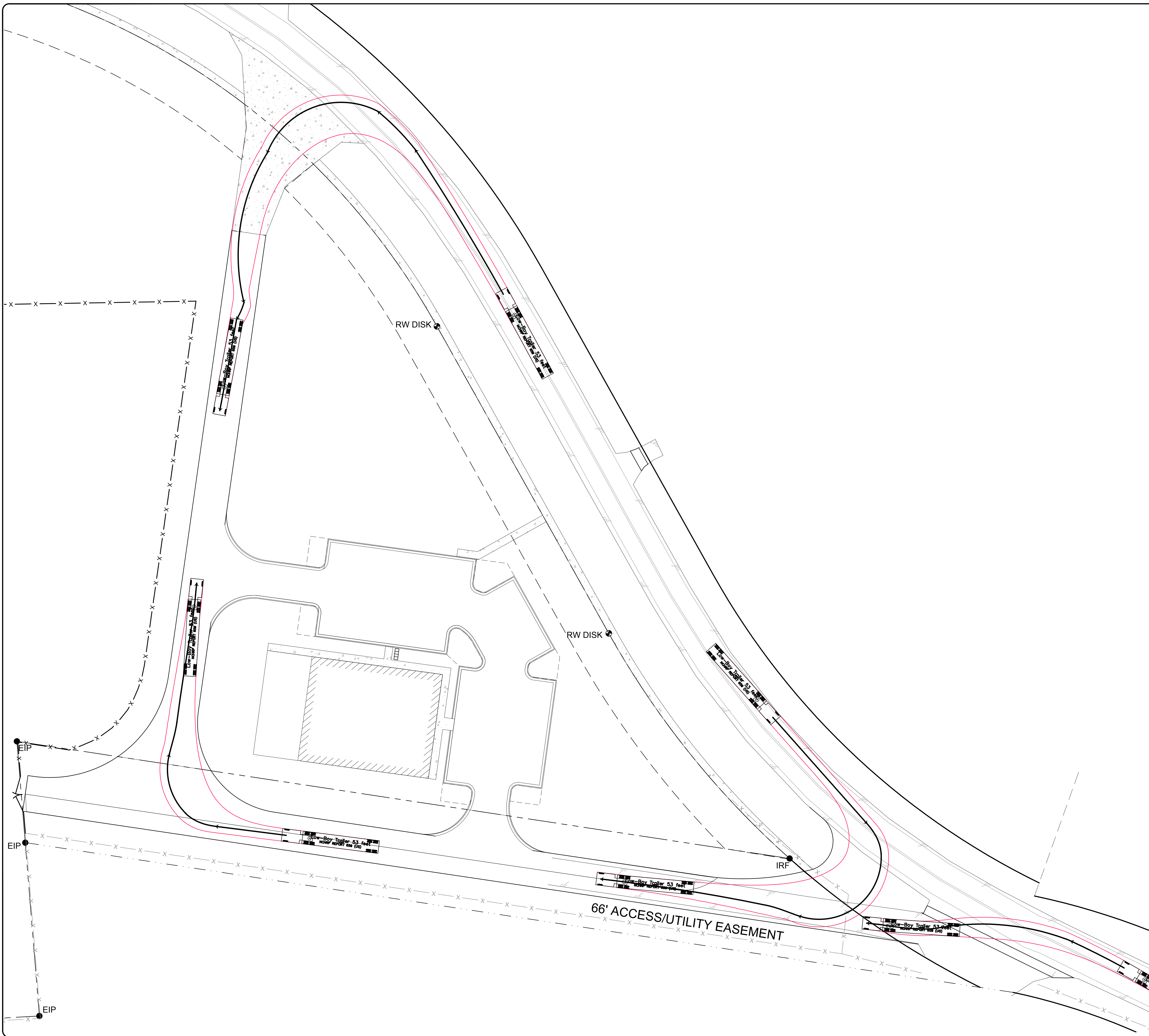
AUTOTURN EXHIBIT 1

PROJECT NUMBER	275-77	SHEET NUMBER	CS100
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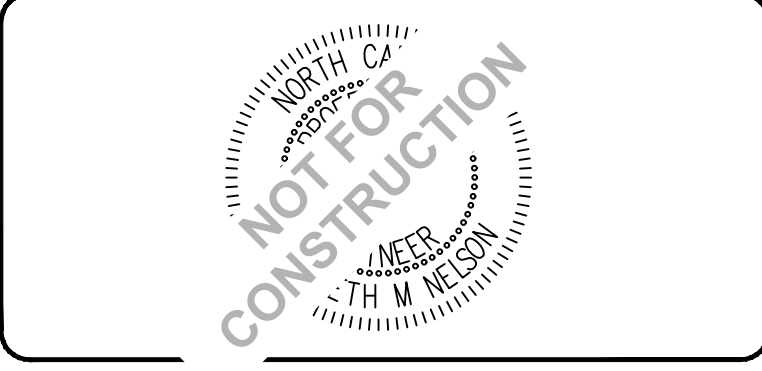
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**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
REVISIONS			
B	REVISED PER CITY OF WILMINGTON COMMENTS	EMN	08/10/17
A	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17



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PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	01 MAR 17

**CIVIL WORKS CONTRACTING**  
 RALEIGH STREET  
 WILMINGTON, NC

**AUTOTURN EXHIBIT EXHIBIT 2**

PROJECT NUMBER	SHEET NUMBER
<b>275-77</b>	<b>CS100</b>