

# THE VAULT ON 17TH

## 1113 S. 17TH STREET

### WILMINGTON, NORTH CAROLINA 28401

## DESIGN DOCUMENTS

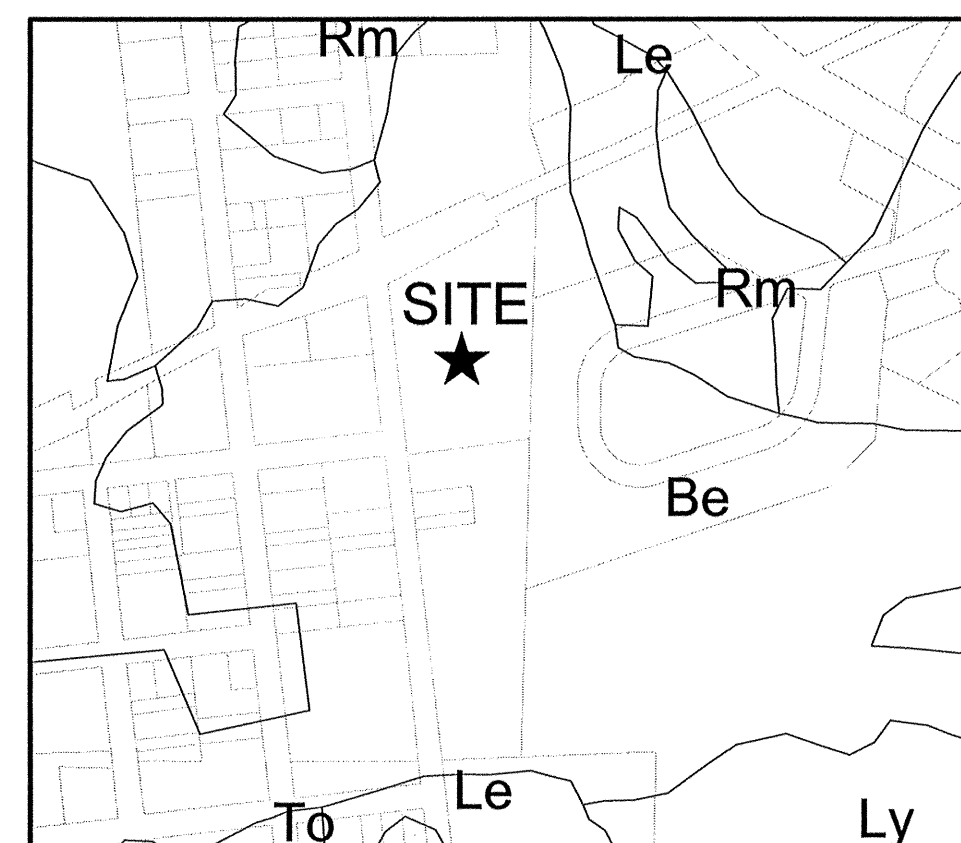
### APRIL 2017

PROJECT ADDRESS:  
1113 S. 17TH STREET  
WILMINGTON, NC 28401



VICINITY MAP

SCALE: 1"=1000'



SOILS MAP

SCALE: 1"=500'

**NOTICE REQUIRED**

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED PRIOR TO THE BEGINNING OF ANY CONSTRUCTION IN THE VICINITY OF SAID UTILITIES.

CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.

CONTRACTORS SHALL CONTACT OVERHEAD ELECTRIC PROVIDER TO COMPLY WITH FEDERAL OSHA 1910.333 MINIMUM APPROACH DISTANCE TO ENERGIZED POWERLINES AND OSH 29 CFR 1926.1407-1411 MUST BE FOLLOWED.

CONTRACTOR SHALL CONTACT AT&T PRIOR TO ANY DEMOLITION TO ALLOW FOR AT&T TO DISCONNECT COMMUNICATIONS CABLES COMING INTO THE SITE.

**CONTACT THESE UTILITIES**

**CITY OF WILMINGTON PLANNING & DEVELOPMENT**

ATTN: BRIAN CHAMBERS, PLANNER  
PH: 910-342-2782

ATTN: ZONING INSPECTIONS  
PH: 910-254-0900

**PIEDMONT NATURAL GAS**

ATTN: CATHY PLEASANT  
PH: 910-251-2827

EMERGENCY DIAL 911  
POLICE - FIRE - RESCUE



Know what's below.  
Call before you dig.

**CAPE FEAR PUBLIC UTILITY AUTHORITY (WATER & SEWER)**

ENGINEERING/INSPECTIONS  
PH: 910-332-8560

OPERATIONS/MAINTENANCE  
PH: 910-322-6550

**DUKE ENERGY**

DISTRIBUTION CONSTRUCTION SERVICE  
DEP CSC PH: 1-800-452-2777

TRANSMISSION AGENT  
BILL WILDER  
PH: 910-772-4903

**AT&T/BELL SOUTH**

ATTN: STEVE DAYVAULT (BUILDING ENGINEERING)  
PH: 910-341-0741

ATTN: JAMES BATSON, ENGINEERING  
PH: 910-341-1621

**TIME WARNER CABLE**

PH: 910-763-4638

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.	NCDENR PWSS WATER PERMIT #:	_____
	WATER CAPACITY:	_____ GPD
	DWQ SEWER PERMIT #:	_____
	SEWER CAPACITY:	_____ GPD
	SEWER SHED # AND PLANT:	_____
	SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)
<b>Approved Construction Plan</b>		
Name _____		Date _____
Planning _____		
Traffic _____		
Fire _____		
		Date: _____ Permit #: _____
		Signed: _____

**OWNER:**  
THE VAULT ON 17th, LLC  
1051 MILITARY CUTOFF RD., STE. 200  
WILMINGTON, NORTH CAROLINA 28405  
ATTN: MIKE BROWN (910) 344-1010

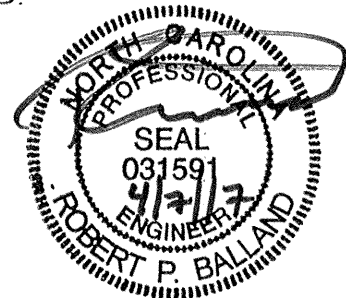
**SURVEYOR, ENGINEER (CIVIL), & LANDSCAPE ARCHITECT:**  
PARAMOUNTE ENGINEERING, INC.  
122 CINEMA DRIVE  
WILMINGTON, NORTH CAROLINA 28403  
ATTN: ROB BALLAND, P.E. (910) 791-6707

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C-0.0	COVER SHEET
C-1.0	GENERAL NOTES
C-2.0	SITE PLAN
C-2.1	TREE REMOVAL PLAN
C-3.0	EROSION CONTROL PLAN
C-3.1	GRADING & DRAINAGE PLAN
C-4.0	UTILITY PLAN
C-5.0-5.4	DETAILS
L-1.0	LANDSCAPE PLAN

PREPARED BY:

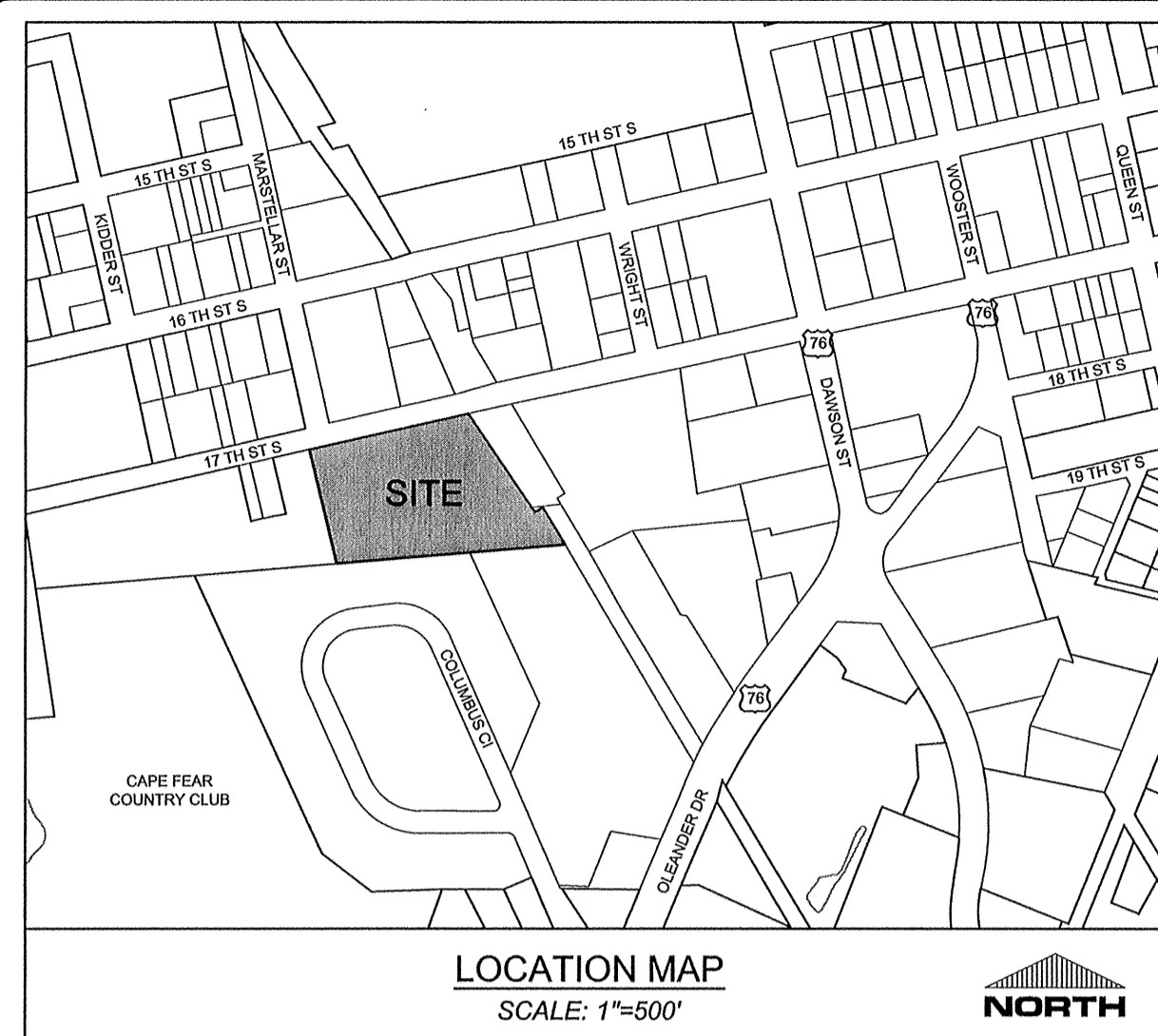
**PARAMOUNTE**  
ENGINEERING, INC.

122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846  
PROJECT # 16132.PE



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION





**SITE INFORMATION**  
OWNER INFORMATION: CA NORTH CAROLINA HOLDINGS, INC.  
PROJECT ADDRESS: 1113 S. 17TH STREET WILMINGTON, NC 28401  
TAX PARCEL IDENTIFICATION #: R05415-003-001-000  
RECORDED DEED BOOK: BK 5963 PG 014  
CURRENT ZONING: LI-1 LIGHT INDUSTRIAL  
EXISTING USE: UNDEVELOPED  
PROPOSED USE: MINI-WAREHOUSING  
TOTAL SITE AREA: 3.916 +/- ACRES

**FLOOD INFORMATION:** THIS PARCEL IS LOCATED IN FLOOD ZONE X, WHICH IS NOT A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY FEMA FLOOD PANEL 3720314800J, DATED APRIL 3, 2006

**CAMA LAND USE CLASSIFICATION:** URBAN

**DIMENSIONAL REQUIREMENTS**  
LI-1 LIGHT INDUSTRIAL  
- MINIMUM LOT AREA: 2 ACRE  
- MINIMUM LOT WIDTH: N/A  
- MAXIMUM LOT COVERAGE: N/A  
- MINIMUM FRONT SETBACK: 50'  
- MINIMUM REAR SETBACK: 0', 35' WHEN ABUTTING RESIDENTIAL USE  
- MINIMUM INTERIOR SIDE SETBACK: 0', 20' WHEN ABUTTING RESIDENTIAL USE  
- MINIMUM CORNER LOT SIDE SETBACK: 50'  
- MAXIMUM BUILDING HEIGHT: 12'

**IMPERVIOUS INFORMATION**  
EXISTING IMPERVIOUS AREA: 0 SF  
PROPOSED IMPERVIOUS AREA: 76,260 SF  
TOTAL BUILDING (FOOTPRINT) ON-SITE PARKING & DRIVEWAYS ON-SITE SIDEWALKS FUTURE BUILDING EXPANSION FUTURE IMPERVIOUS TOTAL PROPOSED IMP. AREA: 127,310 SF (2.92 AC)

**PROPOSED PERCENT IMPERVIOUS:** 127,310 / 170,628 = 74.6%

**BUILDING INFORMATION**  
CONSTRUCTION TYPE: TYPE IIB  
NUMBER OF PROPOSED BUILDINGS: 1  
PROPOSED BUILDING SF: 76,253 SF  
MAX. HEIGHT: 12'-0"  
LOT COVERAGE: 44.8% (PROPOSED)

**SITE PARKING**  
MINIMUM PARKING REQUIRED: 3 (1 PER 400 SF GFA OFFICE)  
MAXIMUM PARKING ALLOWABLE: N/A  
TOTAL PARKING PROVIDED: 7 SPACES  
HANDICAP PARKING REQUIRED: 1 SPACE  
HANDICAP PARKING PROVIDED: 2 SPACES  
BICYCLE PARKING REQUIRED: N/A  
BICYCLE PARKING PROVIDED: N/A

**LANDSCAPE CALCULATIONS**  
SEE SHEET L-1.0 LANDSCAPE PLAN FOR CALCULATIONS.

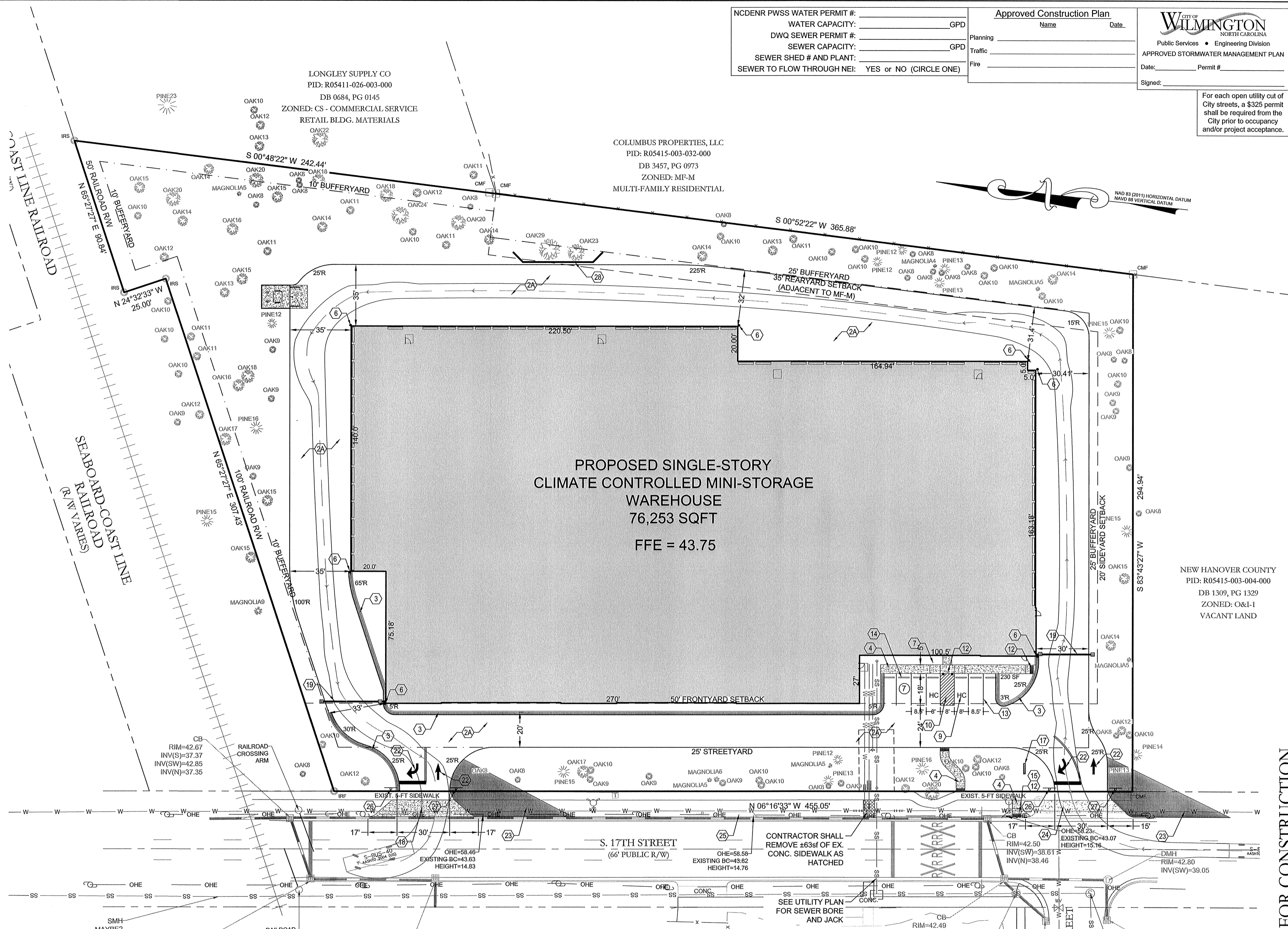
**SECURITY GATE NOTE:**  
ALL SECURITY GATES SHALL BE SIREN ACTIVATED FOR FIRE DEPARTMENT ACCESS.

**GENERAL NOTES:**

- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
- ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT OF WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
- THE MINI-WAREHOUSE UNITS SHALL BE USED FOR "DEAD" STORAGE ONLY, NO COMMERCIAL ENTERPRISE CAN BE CONDUCTED FROM AN INDIVIDUAL UNIT OR UNITS.
- THERE SHALL BE NO OUTSIDE STORAGE.
- THERE SHALL BE NO STORAGE OF HAZARDOUS OR FLAMMABLE MATERIALS.

**AUTOTURN NOTE:**

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



**LEGEND:**

[Symbol]	SPILL GUTTER
[Symbol]	PROPOSED HEAVY DUTY ASPHALT
[Symbol]	PROPOSED BUILDING
[Symbol]	PROPOSED CONCRETE
[Symbol]	PROPOSED CHAIN LINK FENCE
[Symbol]	PROPOSED TREE LINE
[Symbol]	PROPOSED LIGHT POLE
[Symbol]	PROPOSED STREETYARD BUFFER
[Symbol]	PROPOSED LANDSCAPE ISLAND
[Symbol]	PROPOSED FOUNDATION PLANTINGS
[Symbol]	PROPOSED TREE PROTECTION FENCE

**KEY NOTES:**

1	CONCRETE PAVING: REFER TO DETAIL C-5.0	16	HANDICAP PARKING SYMBOL: REFER TO DETAIL C-5.0	31	BICYCLE RACK (5 BIKE MIN. PER RACK): CONTRACTOR SHALL SUBMIT SHOP DWG. FOR REVIEW
2	LIGHT DUTY ASPHALT PAVING: REFER TO DETAIL C-5.0	17	HANDICAP ACCESS UNLOADING ZONE: SLOPE 2% MAX. EACH WAY (ADA COMPLIANT) AND STRIPE AS SHOWN.	32	SIGN LOCATION: SIGN FURNISHED AND INSTALLED BY OWNER. REFER TO ARCHITECTURAL PLANS FOR LOCATION
3	HEAVY DUTY ASPHALT PAVING: REFER TO DETAIL C-5.0	18	DESIGNATED ACCESSIBLE ROUTE: PROVIDE STRIPING AND SLOPE 5% MAXIMUM IN DIRECTION OF TRAVEL WITH 2% MAXIMUM CROSS SLOPE.	33	CONCRETE DRIVE APRON: NOT APPLICABLE
4	STANDARD 24" CURB & GUTTER: REFER TO DETAIL C-5.0	19	DETECTIBLE WARNING MAT: REFER TO DETAIL C-5.0	34	ELECTRONIC SECURITY GATE: REFER TO DETAIL C-5.1
5	CONCRETE SIDEWALK: REFER TO DETAIL C-5.0	20	STRIPING: PROVIDE 4" WIDE PARKING LOT STRIPING AS SHOWN. USE HIGHWAY MARKING PAINT - WHITE (2 COATS).	35	4" CHAINLINK FENCE (BLACK): NOT APPLICABLE
6	CONCRETE DOOR LANDING: NOT APPLICABLE	21	CONCRETE BUMPER BLOCK: 8"W x 4"H x 8'-0" LONG CONCRETE. ANCHOR TO PAVING WITH (2) 1"-Ø LONG #4 REBAR. REFER TO DETAIL C-5.0	36	6" CHAINLINK FENCE (BLACK) W/ VISION SLATS: NOT APPLICABLE
7	STEEL BOLLARD: REFER TO DETAIL C-5.0	22	HANDICAP PARKING SIGN: REFER TO DETAIL C-5.0	37	DIRECTIONAL ARROW STRIPING: PROVIDE DIRECTION ARROW STRIPING AS SHOWN. USE HIGHWAY MARKING PAINT - WHITE (2 COATS). REFER TO DETAIL C-5.0
8	CONCRETE SIDEWALK DETAIL: 6.5" EXPOSED FACE TO ASPHALT SEE DETAIL C-5.0	23	HANDICAP RAMP: REFER TO DETAIL C-5.0	38	SIGHT DISTANCE TRIANGLE: CITY OF WILMINGTON 20'X70' SIGHT TRIANGLE
9	CONCRETE DRIVE APRON: REFER TO DETAIL C-5.0	24	EXISTING DRIVEWAY APRON TO REMAIN: CITY OF WILMINGTON DRIVEWAY APRON TO REMAIN	39	EXISTING DRIVEWAY APRON TO REMAIN: CITY OF WILMINGTON DRIVEWAY APRON TO REMAIN

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

**GRAPHIC SCALE**  
SCALE: 1"=30'

NC DENR PWSS WATER PERMIT #: \_\_\_\_\_ GPD  
WATER CAPACITY: \_\_\_\_\_ GPD  
DWQ SEWER PERMIT #: \_\_\_\_\_ GPD  
SEWER CAPACITY: \_\_\_\_\_ GPD  
SEWER SHED # AND PLANT: \_\_\_\_\_  
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

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

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

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

**REVISIONS:**

**CLIENT INFORMATION:**  
THE VAULT ON 17th, LLC  
1051 MILITARY CUTOFF RD., STE. 200  
WILMINGTON, NC 28405

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

**SITE PLAN**  
THE VAULT ON 17TH  
1113 S. 17TH STREET  
CITY OF WILMINGTON  
NORTH CAROLINA

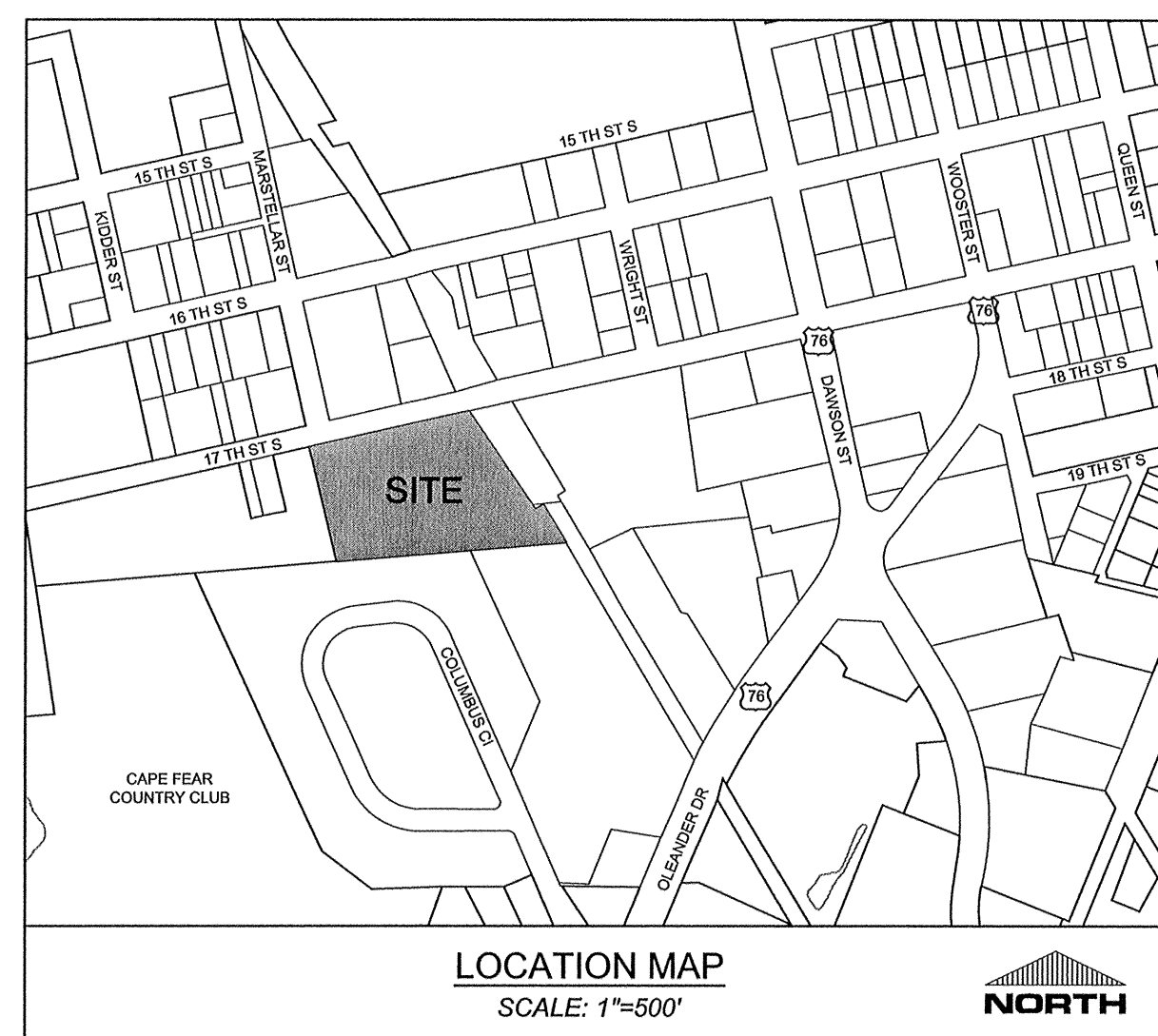
**PROJECT STATUS:**  
CONCEPTUAL LAYOUT:  
FINAL DESIGN:  
RELEASED FOR CONSTRUCTION:  
DATE: \_\_\_\_\_  
SCALE: \_\_\_\_\_  
DESIGNER: \_\_\_\_\_  
CHECKED: \_\_\_\_\_

**DRAWING INFORMATION:**  
DATE: \_\_\_\_\_  
SCALE: \_\_\_\_\_  
DESIGNER: \_\_\_\_\_  
CHECKED: \_\_\_\_\_

**SEAL**  
NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
ROBERT P. BAL AND  
031591

**C-2.0**  
PEI JOB#: 16312.PE

**FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION**



**SITE INFORMATION**

**OWNER INFORMATION:** CA NORTH CAROLINA HOLDINGS, INC.  
 1113 S. 17TH STREET  
 PITTSFORD, NY 14534

**PROJECT ADDRESS:** 1113 S. 17TH STREET  
 WILMINGTON, NC 28401  
 R06415-003-001-000  
 BK 5863 PG 014

**TAX PARCEL IDENTIFICATION #:** R06415-003-001-000

**RECORDED DEED BOOK:** BK 5863 PG 014

**CURRENT ZONING:** LI - LIGHT INDUSTRIAL

**EXISTING USE:** UNDEVELOPED

**PROPOSED USE:** MINI-WAREHOUSING

**TOTAL SITE AREA:** 3.916 +/- ACRES

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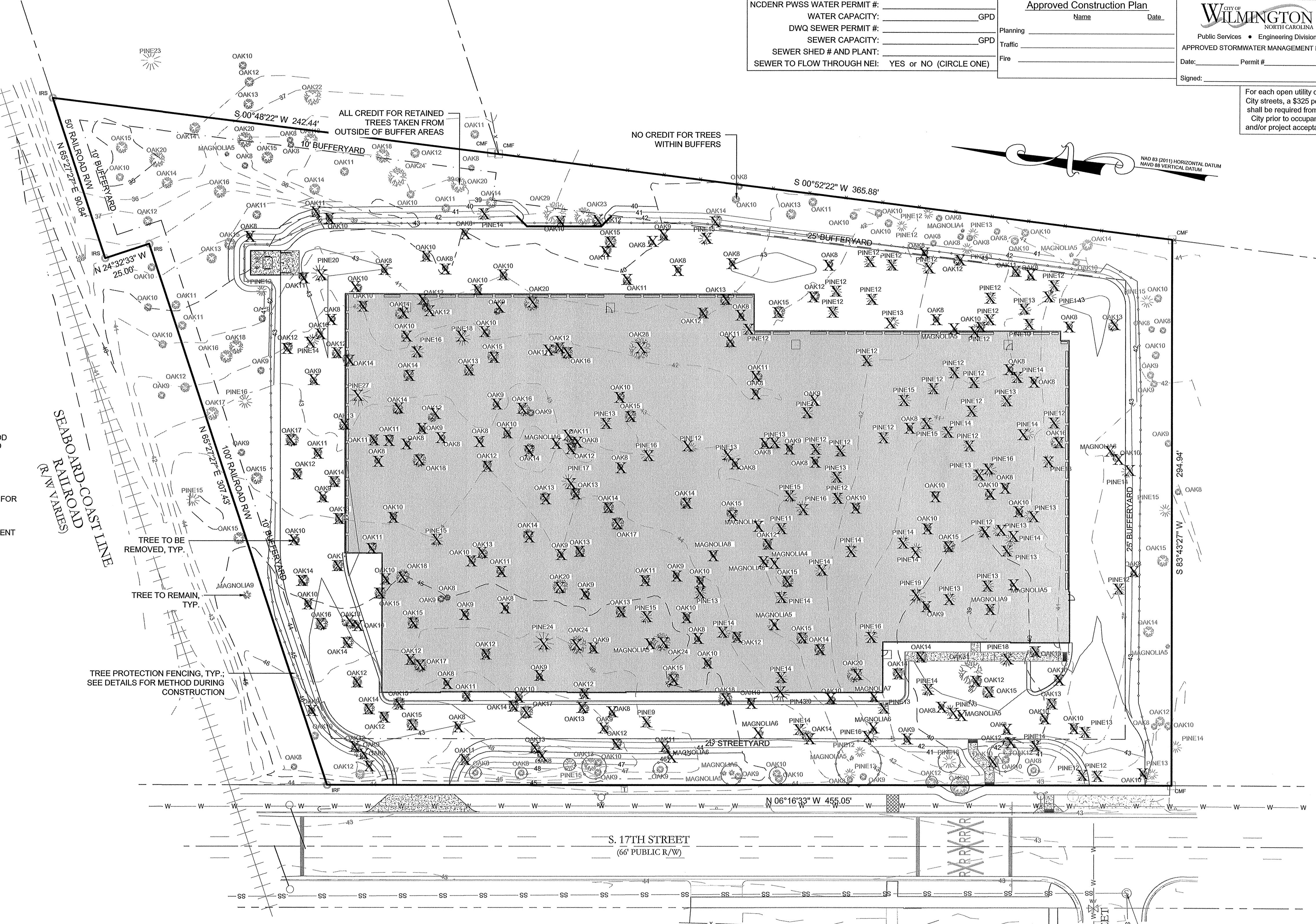
**TREE MITIGATION NOTES:**

- EXISTING TREES TO REMAIN WILL COUNT TOWARD CREDIT AGAINST MITIGATION AS PER TABLE 1 'CREDIT FOR PRESERVED TREES' IN SECTION 18-448 OF THE CITY OF WILMINGTON LOC.
- CREDIT CALCULATIONS ARE AS FOLLOWS:  
 331 CAL. INCHES OF PRESERVED TREES / 6 (AS PER TABLE 1) = 55 TREES FOR CREDIT
- TREE PROTECTION FENCING WILL BE INSTALLED AS PER CITY OF WILMINGTON STANDARDS AND BE PRESENT BEFORE AND DURING CONSTRUCTION TO PREVENT EQUIPMENT AND PERSONNEL FROM DAMAGING PRESERVED TREES.

**TREE REMOVAL NOTES:**

- PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.
- ALL TREES TO BE REMOVED SHALL BE DUE TO ESSENTIAL SITE IMPROVEMENTS. MITIGATION FOR ANY TREE REMOVAL SHALL ONLY BE APPLICABLE TO SIGNIFICANT TREES REMOVED.

17th Street Mini Storage Tree Removal						
Quantity of Trees	Caliper Inches/Tree	Tree Common Name	Tree Type	% Mitigation	Total Cal. Inches	Mitigation Req.
<b>Significant Trees</b>						
<b>Category I Mitigation (100%)</b>						
2	24	OAK	hardwood	100	48	32
1	28	OAK	hardwood	100	28	19
1	31	OAK	hardwood	100	31	21
<b>Category II Mitigation (75%)</b>						
2	8	MAGNOLIA	ornamental flowering	75	16	8
1	9	MAGNOLIA	ornamental flowering	75	9	5
<b>Total Significant Tree Caliper Inches to be Removed on Site</b>					<b>132</b>	-
<b>Total Mitigation Inches Required Due to Significant Tree Removal</b>						<b>84</b>
<b>Regulated Trees</b>						
<b>Category I Mitigation (100%)</b>						
39	8	OAK	hardwood	100	312	n/a
21	9	OAK	hardwood	100	189	n/a
35	10	OAK	hardwood	100	350	n/a
18	11	OAK	hardwood	100	198	n/a
24	12	OAK	hardwood	100	288	n/a
15	13	OAK	hardwood	100	195	n/a
18	14	OAK	hardwood	100	252	n/a
14	15	OAK	hardwood	100	210	n/a
4	16	OAK	hardwood	100	64	n/a
4	17	OAK	hardwood	100	68	n/a
3	18	OAK	hardwood	100	54	n/a
3	20	OAK	hardwood	100	60	n/a
<b>Category II Mitigation (75%)</b>						
1	4	MAGNOLIA	ornamental flowering	75	4	n/a
6	5	MAGNOLIA	ornamental flowering	75	30	n/a
5	6	MAGNOLIA	ornamental flowering	75	30	n/a
1	7	MAGNOLIA	ornamental flowering	75	7	n/a
<b>Category III Mitigation (50%)</b>						
1	9	PINE	conifer	50	9	n/a
1	10	PINE	conifer	50	10	n/a
1	11	PINE	conifer	50	11	n/a
27	12	PINE	conifer	50	324	n/a
18	13	PINE	conifer	50	234	n/a
19	14	PINE	conifer	50	266	n/a
6	15	PINE	conifer	50	90	n/a
6	16	PINE	conifer	50	96	n/a
1	17	PINE	conifer	50	17	n/a
2	18	PINE	conifer	50	36	n/a
1	19	PINE	conifer	50	19	n/a
2	20	PINE	conifer	50	40	n/a
1	24	PINE	conifer	50	24	n/a
1	27	PINE	conifer	50	27	n/a
<b>Total Regulated Tree Caliper Inches to be Removed on Site</b>					<b>3514</b>	-
<b>Total Mitigation Inches Required Due to Non-Essential Regulated Tree Removal</b>						<b>0</b>
<b>Total Caliper Inches to be Removed on Site</b>					<b>3646</b>	-
<b>Total Caliper Inches to be Mitigated</b>						<b>84</b>
<b>Total Mitigation Trees Required = 34</b>						
<i>84 cal. Inches / 2.5" cal trees = 33.6</i>						



Retained Tree Credits				
Qty	Cal	Tree Typ	Location	Credit
1	8	Oak		2
3	9	Oak		6
2	10	Oak		4
3	11	Oak		6
1	12	Oak		3
1	13	Oak		3
3	14	Oak		9
4	15	Oak		12
2	16	Oak		6
1	18	Oak		4
3	20	Oak		4
1	23	Oak		4
1	24	Oak		4
1	29	Oak		5
				<b>72</b>
1	5	Magnolia	Building	1
				<b>1</b>
1	12	Pine	Building	3
1	16	Pine	Building	3
				<b>6</b>
				<b>79</b>

**LEGEND:**

- PROPOSED TREE LINE
- ⊗ PROPOSED LIGHT POLE
- PROPOSED TREE PROTECTION FENCE
- X EXISTING TREE TO BE REMOVED

NCDENR PWSS WATER PERMIT #:

WATER CAPACITY: \_\_\_\_\_ GPD

DWQ SEWER PERMIT #:

SEWER CAPACITY: \_\_\_\_\_ GPD

SEWER SHED # AND PLANT:

SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

Approved Construction Plan Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

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

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

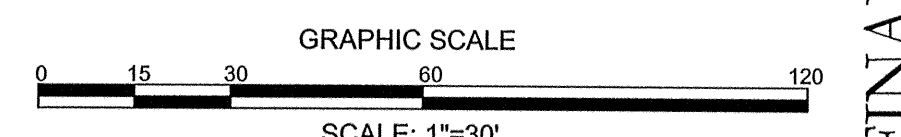
**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN

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

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

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

SITE INVENTORY DATA			
1. PREPARER OF THE PLAN:	PARAMOUNTE ENGINEERING 122 CINEMA DRIVE WILMINGTON, NC 28403	13. SOILS:	BAYMEADE (BE)
2. APPLICANT NAME:	THE VAULT ON 17TH, LLC	14. CAMA AEC & ASSOCIATED SETBACKS:	N/A
3. SITE ADDRESS:	1113 S. 17TH STREET WILMINGTON, NC 28401	15. CAMA LAND CLASSIFICATION:	URBAN
4. PROPERTY OWNER:	CA NORTH CAROLINA HOLDINGS, INC. PITTSFORD, NY 14534	16. CONSERVATION RESOURCES:	N/A
5. DEVELOPER:	THE VAULT ON 17TH, LLC	17. LOCAL, STATE, OR FEDERAL HISTORIC OR ARCHAEOLOGICAL SITE:	N/A
6. PROPERTY BOUNDARY:	SEE PLAN	18. LOCATION OF CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS:	N/A
7. ZONING:	L-I LIGHT INDUSTRIAL	19. SQUARE FOOTAGE OF FORESTED AREA, HABITAT, AND DOMINANT SPECIES:	N/A
8. ADJACENT PROPERTY INFORMATION (OWNER AND ZONING):	SEE PLAN	20. SECTION 404 WETLANDS AND SECTION 10 WATERS:	N/A
9. VICINITY MAP:	SEE MAP ABOVE	21. PROTECTED SPECIES OR HABITAT:	N/A
10. TOPOGRAPHY:	SEE PLAN	22. THOROUGHFARES, BIKE ROUTES, SIDEWALKS, TRANSIT FACILITIES (EXISTING OR PROPOSED):	SEE PLAN & VICINITY MAP
11. 100 YEAR FLOOD PLAIN BOUNDARY:	SITE IS NOT LOCATED IN THE 100 YEAR FLOOD PLAIN		
12. LOCATION OF EXISTING DITCHES, CREEKS, AND STREAMS:	SEE PLAN		



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

**REVISIONS:**

NO.	DESCRIPTION	DATE

**CLIENT INFORMATION:**

**THE VAULT ON 17th, LLC**  
 1051 MILITARY CUTOFF RD., STE. 200  
 WILMINGTON, NC 28405

**PARAMOUNTE ENGINEERING**  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6700 (C) (910) 791-6760 (F)  
 NC License #: C-2846

**SITE INVENTORY & TREE REMOVAL PLAN**  
 THE VAULT ON 17TH  
 1113 S. 17TH STREET  
 CITY OF WILMINGTON  
 NORTH CAROLINA

**PROJECT STATUS:**  
 ORIGINAL LAYOUT: \_\_\_\_\_  
 PRELIMINARY DESIGN: \_\_\_\_\_  
 FINAL DESIGN: \_\_\_\_\_  
 RELEASED FOR CONSTRUCTION: \_\_\_\_\_

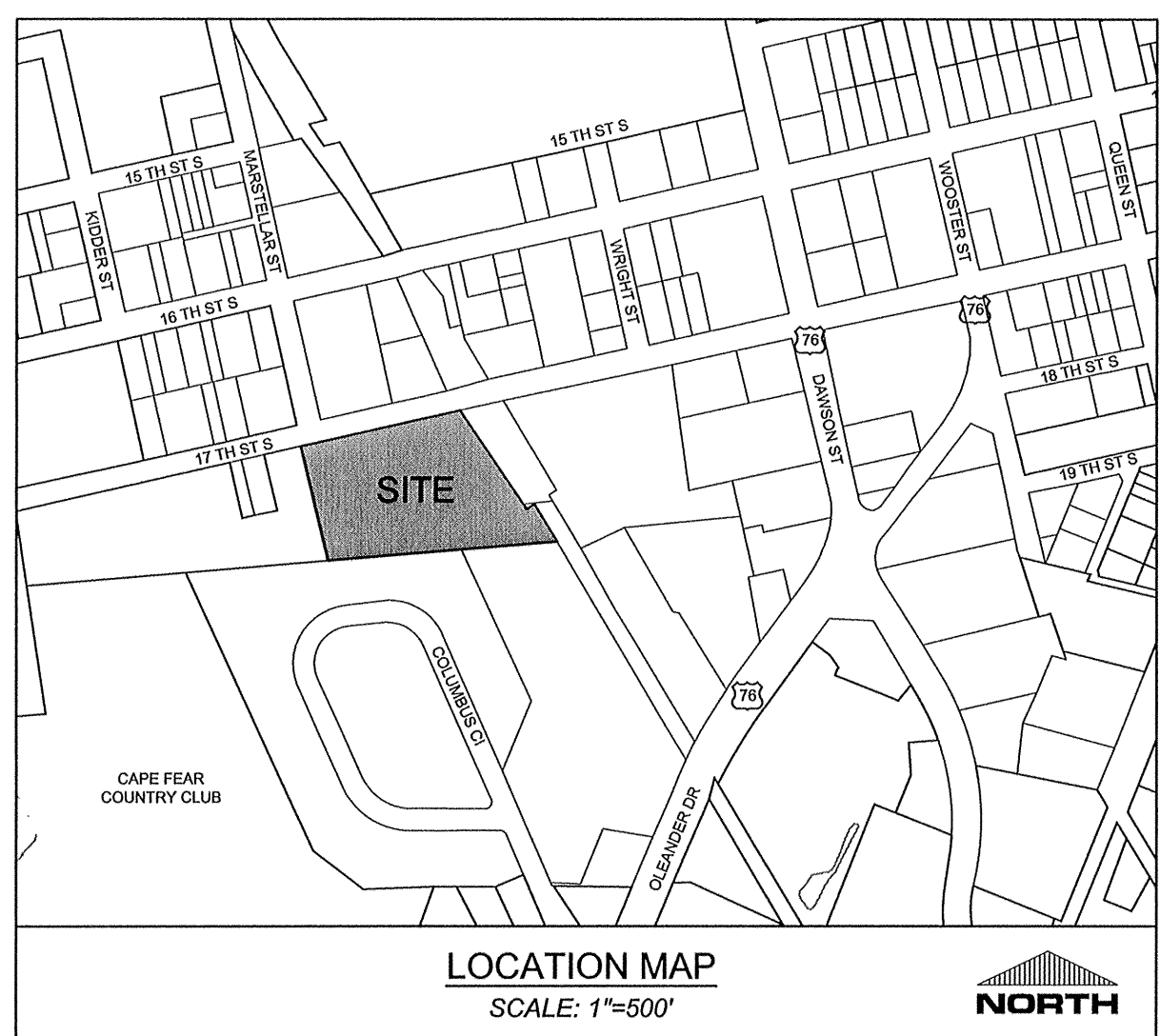
**DRAWING INFORMATION:**  
 DATE: 01/25/2017  
 SCALE: 1"=30'  
 DRAWN: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_

**SEAL:**  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 SEAL  
 03159  
 4/27/17  
 ROBERT P. BALL AND ASSOCIATES, P.A.  
 ENGINEERS, ARCHITECTS, PLANNERS

**C-2.1**

PEI JOB#: 16312.PE





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**Approved Construction Plan**

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

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

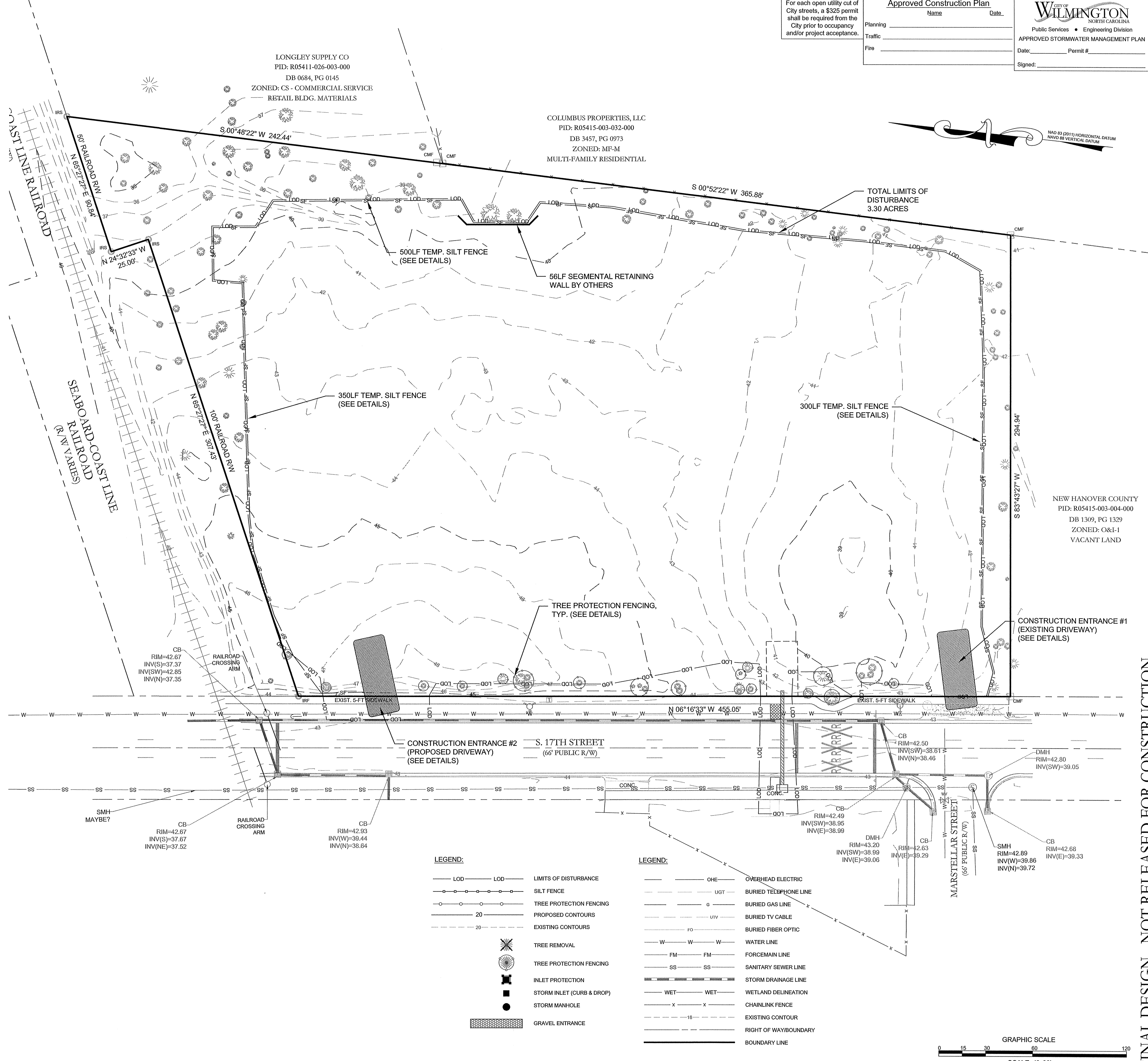
Signed: \_\_\_\_\_

**WILMINGTON**  
NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

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



- EROSION CONTROL AND GRADING NOTES:**
- SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL. SEE GENERAL NOTES SHEET FOR GRADING, DRAINAGE, AND EROSION CONTROL NOTES AND REQUIREMENTS. IN ADDITION, REFERENCE TECHNICAL SPECIFICATIONS AND DETAIL SHEETS FOR MORE INFORMATION.
  - SEE GRADING AND DRAINAGE PLANS FOR FINISH GRADES AND STORM PIPE SCHEDULE.
  - CONTRACTOR SHALL COORDINATE WITH OWNER OR OWNER'S REPRESENTATIVE REGARDING THE SITE'S EXISTING GRADE. EARTHWORK ACTIVITIES MAY HAVE TAKEN PLACE AFTER THE SURVEYED TOPOGRAPHY.
- ASPHALT, CONCRETE, AND BUILDING PAD NOTES:**
- SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE IN PAVEMENT AND STRUCTURAL AREAS. IN ACCORDANCE WITH ANY SUBSURFACE GEOTECHNICAL EXPLORATION REPORTS, OR GEOTECHNICAL FIELD ENGINEERING, AND/OR TECHNICAL SPECIFICATIONS.

- EROSION CONTROL SEQUENCE NOTES:**
- THE RETAINING WALL SHALL BE CONSTRUCTED IN THE BEGINNING TO ACT IN CONJUNCTION WITH THE SILT FENCE ON SITE.

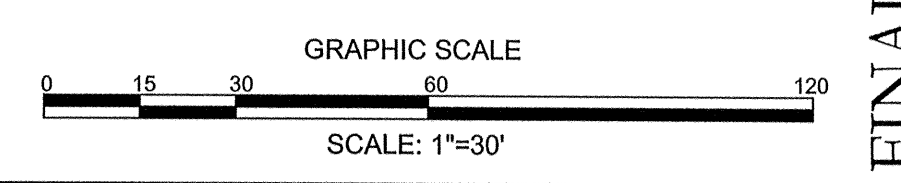
NEW HANOVER COUNTY  
PID: R05415-003-004-000  
DB 1309, PG 1329  
ZONED: O&I-1  
VACANT LAND

**LEGEND:**

- LOD — LOD — LIMITS OF DISTURBANCE
- S—S — SILT FENCE
- T—T — TREE PROTECTION FENCING
- 20 — PROPOSED CONTOURS
- 20 — EXISTING CONTOURS
- ☼ TREE REMOVAL
- ☼ TREE PROTECTION FENCING
- INLET PROTECTION
- STORM INLET (CURB & DROP)
- STORM MANHOLE
- ▨ GRAVEL ENTRANCE

**LEGEND:**

- O—O — OVERHEAD ELECTRIC
- U—U — BURIED TELEPHONE LINE
- G — BURIED GAS LINE
- U—U — BURIED TV CABLE
- F—F — BURIED FIBER OPTIC
- W — WATER LINE
- FM — FORCEMAIN LINE
- SS — SANITARY SEWER LINE
- SD — STORM DRAINAGE LINE
- W—W — WETLAND DELINEATION
- X — CHAINLINK FENCE
- 18 — EXISTING CONTOUR
- — RIGHT OF WAY/BOUNDARY
- — BOUNDARY LINE



NO.	REVISIONS:

**CLIENT INFORMATION:**

THE VAULT ON 17th, LLC  
1051 MILITARY CUTOFF RD., STE. 200  
WILMINGTON, NC 28405

**PARAMOUNT ENGINEERING**

122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (C) (910) 791-6700 (F)  
NC License #: C-2846

**EROSION CONTROL PLAN**  
**THE VAULT ON 17TH**  
1113 S. 17TH STREET  
CITY OF WILMINGTON  
NORTH CAROLINA

**PROJECT STATUS**

CONCEPTUAL LAYOUT: \_\_\_\_\_

FINAL DESIGN LAYOUT: \_\_\_\_\_

RELEASED FOR CONSTRUCTION: \_\_\_\_\_

**DRAWING INFORMATION**

DATE: 04/28/2017

SCALE: 1" = 30'

DESIGNED: \_\_\_\_\_

CHECKED: \_\_\_\_\_

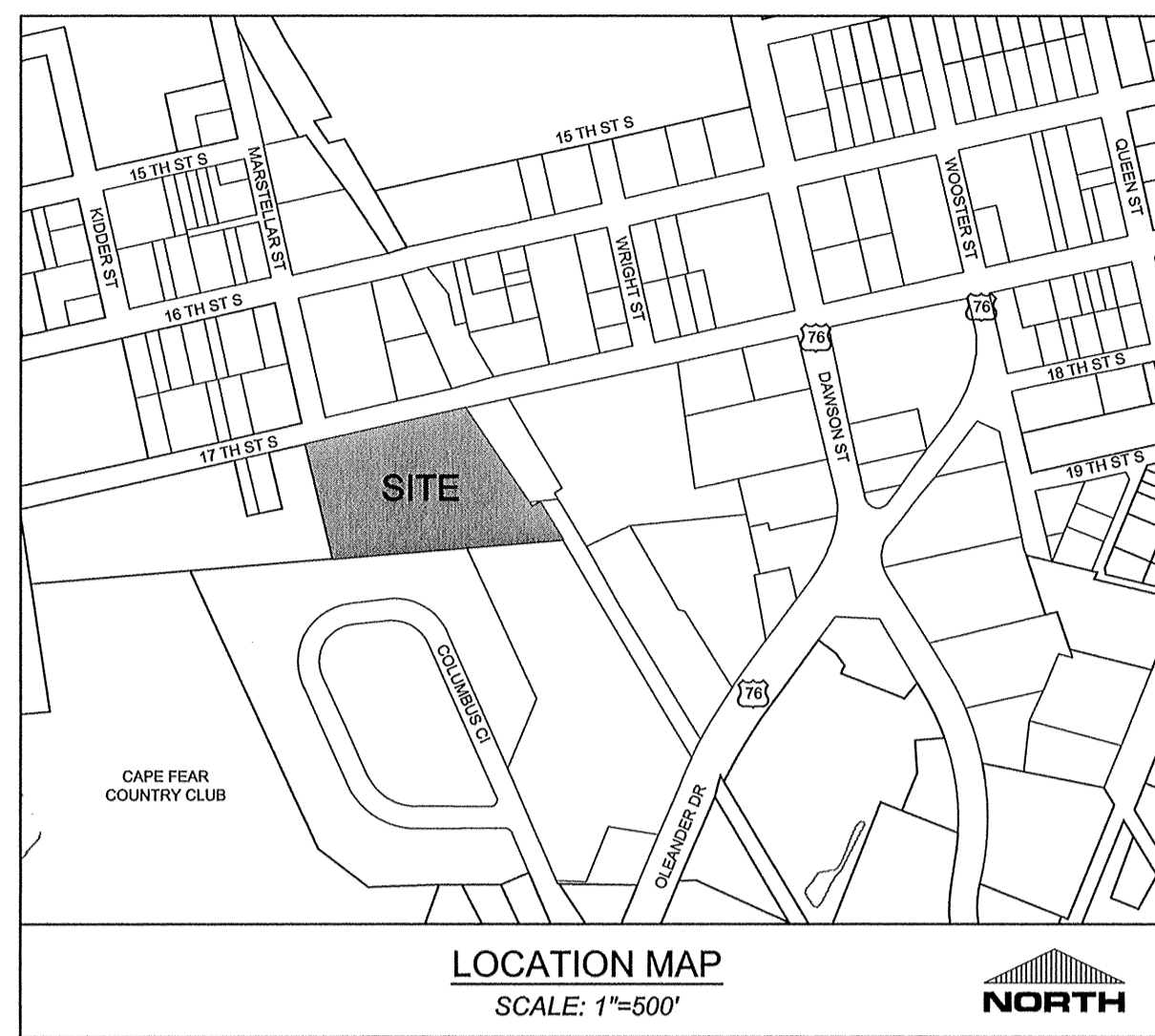
SEAL

**ROBERT P. BALL**  
PROFESSIONAL ENGINEER  
NO. 03159  
EXPIRES 12/31/2021

**C-3.0**

PEJ JOB#: 16312.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



**EROSION CONTROL AND GRADING NOTES:**

1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL. SEE GENERAL NOTES SHEET FOR GRADING, DRAINAGE, AND EROSION CONTROL NOTES AND REQUIREMENTS. IN ADDITION, REFERENCE TECHNICAL SPECIFICATIONS AND DETAIL SHEETS FOR MORE INFORMATION.

2. SEE GRADING AND DRAINAGE PLANS FOR FINISH GRADES AND STORM PIPE SCHEDULE.

3. CONTRACTOR SHALL COORDINATE WITH OWNER OR OWNER'S REPRESENTATIVE REGARDING THE SITE'S EXISTING GRADE. EARTHWORK ACTIVITIES MAY HAVE TAKEN PLACE AFTER THE SURVEYED TOPOGRAPHY.

**ASPHALT, CONCRETE, AND BUILDING PAD NOTES:**

1. SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE IN PAVEMENT AND STRUCTURAL AREAS, IN ACCORDANCE WITH ANY SUBSURFACE GEOTECHNICAL EXPLORATION REPORTS, OR GEOTECHNICAL FIELD ENGINEERING, AND/OR TECHNICAL SPECIFICATIONS.

**STORM DRAINAGE NOTES:**

1. DRAINAGE EASEMENT AND STORMWATER WET PONDS MAINTENANCE (INCLUDING THE STORM DRAINAGE NETWORK) IS THE RESPONSIBILITY OF THE DEVELOPER OR HOA.

2. NO OBSTRUCTIONS ARE ALLOWED IN DRAINAGE EASEMENTS, INCLUDING FENCES.

3. IMPERVIOUS MUST DRAIN TO THE DESIGNED STORMWATER SYSTEM UNLESS APPROVED PLANS SHOW OTHERWISE.

4. STORM DRAINAGE STRUCTURES WITHIN TRAFFIC AREAS SHALL BE TRAFFIC RATED FOR H-20 LOADS AT A MINIMUM.

5. CONTRACTOR SHALL ADJUST ALL FRAMES OF EX. UTILITY INFRASTRUCTURE WITHIN ASPHALT AND/OR CONCRETE AREAS TO MATCH PROPOSED GRADES.

6. PROPOSED SPOT ELEVATIONS SHOWN IN THE PARKING LOT ARE PROPOSED EDGE OF PAVEMENT, UNLESS NOTED OTHERWISE.

7. RIM ELEVATIONS ARE LISTED AS THE "GUTTER OF FLOWLINE ELEVATION" WITHIN A CURB INLET SECTION. THE CURB INLET RIM ELEVATION GIVEN IS 2 INCHES BELOW EDGE OF PAVEMENT (EP). FOR DROP INLETS, THE RIM ELEVATION IS LISTED AS THE CENTER OF GRATE FOR DROP INLETS. THE CONTRACTOR SHALL MAINTAIN A UNIFORM EDGE OF PAVEMENT (EP) WHEN PLACING THE STORM INLETS WITHIN THE CURB-LINE.

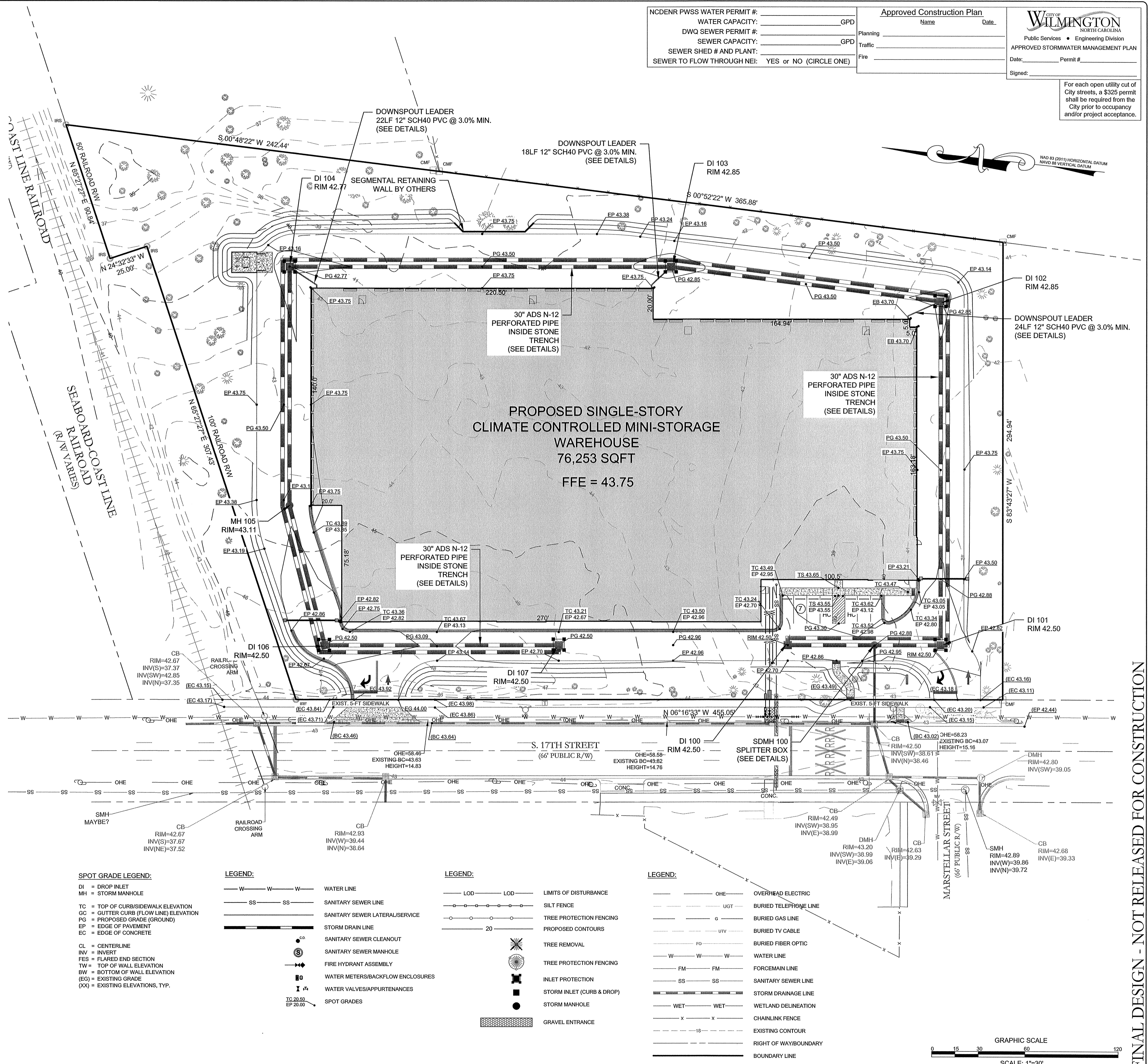
8. MANHOLE RIM ELEVATION SHOWN ABOVE IS FLUSH WITH PROPOSED GRADE. CONTRACTOR SHALL PROVIDE 3" CLEARANCE ABOVE PROPOSED GRADE WHEN PLACED IN A GRASS/PERVIOUS AREA; AND A FLUSH CONDITION WITH PROPOSED PAVEMENT OR IMPERVIOUS COVER.

9. PROPOSED BUILDINGS SHALL DIVERT ROOF DRAINAGE TO STORMWATER COLLECTION SYSTEM ONLY. SEE CIVIL OR ARCHITECTURAL DETAILS.

10. THE CONTRACTOR SHALL USE EITHER RCP (CL III) OR HDPE PIPE FOR THE STORM DRAINAGE SYSTEM. IF THE CONTRACTOR CHOOSES TO USE HDPE PIPE, IT SHALL BE ADS N-12 HP STORM PIPE OR APPROVED EQUAL AND SHALL BE INSTALLED TO MANUFACTURER SPECIFICATIONS.

**AS-BUILT SURVEY NOTE:**

1. THE CONTRACTOR WILL EMPLOY A LAND SURVEYOR LICENSED IN THE STATE OF NORTH CAROLINA TO PROVIDE ACCURATE REPRODUCIBLE AS-BUILT DRAWINGS OF THE WET DETENTION BASINS AND INFILTRATION BASIN TO THE OWNER UPON COMPLETION OF CONSTRUCTION. UPON CHECKING BY THE OWNER ANY DISCREPANCIES WILL BE INDICATED, THEN THESE PLANS SHALL BE RETURNED TO THE CONTRACTOR FOR CORRECTION PRIOR TO FINAL PAYMENT AND FINAL INSPECTION.



**SPOT GRADE LEGEND:**

- DI = DROP INLET
- MH = STORM MANHOLE
- TC = TOP OF CURB/SIDEWALK ELEVATION
- GC = GUTTER CURB FLOWLINE ELEVATION
- PG = PROPOSED GRADE (GROUND)
- EP = EDGE OF PAVEMENT
- EC = EDGE OF CONCRETE
- CL = CENTERLINE
- INV = INVERT
- FES = FLARED END SECTION
- TW = TOP OF WALL ELEVATION
- BW = BOTTOM OF WALL ELEVATION
- EG = EXISTING GRADE
- (XX) = EXISTING ELEVATIONS, TYP.

**LEGEND:**

- W — W — W — WATER LINE
- SS — SS — SS — SANITARY SEWER LINE
- — — — SANITARY SEWER LATERAL/SERVICE
- — — — STORM DRAIN LINE
- — — — SANITARY SEWER CLEANOUT
- — — — SANITARY SEWER MANHOLE
- — — — FIRE HYDRANT ASSEMBLY
- — — — WATER METERS/BACKFLOW ENCLOSURES
- — — — WATER VALVES/APPOINTMENTS
- — — — SPOT GRADES

**LEGEND:**

- LOD — LOD — LIMITS OF DISTURBANCE
- — — — SILT FENCE
- — — — TREE PROTECTION FENCING
- — — — PROPOSED CONTOURS
- — — — TREE REMOVAL
- — — — TREE PROTECTION FENCING
- — — — INLET PROTECTION
- — — — STORM INLET (CURB & DROP)
- — — — STORM MANHOLE
- — — — GRAVEL ENTRANCE

**LEGEND:**

- OHE — OVERHEAD ELECTRIC
- UGT — BURIED TELEPHONE LINE
- G — BURIED GAS LINE
- — — — BURIED TV CABLE
- FO — BURIED FIBER OPTIC
- W — W — W — WATER LINE
- FM — FM — FORCEMAIN LINE
- SS — SS — SANITARY SEWER LINE
- — — — STORM DRAINAGE LINE
- WET — WET — WETLAND DELINEATION
- X — X — CHAINLINK FENCE
- — — — EXISTING CONTOUR
- — — — RIGHT OF WAY/BOUNDARY
- — — — BOUNDARY LINE

NC DENR PWS WATER PERMIT #:  
WATER CAPACITY: \_\_\_\_\_ GPD  
DWQ SEWER PERMIT #:  
SEWER CAPACITY: \_\_\_\_\_ GPD  
SEWER SHED # AND PLANT:  
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

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

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

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

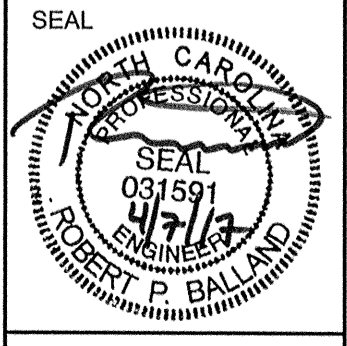
REVISIONS:

CLIENT INFORMATION:  
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1051 MILITARY CUTOFF RD., STE. 200  
WILMINGTON, NC 28405

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122 Cinema Drive  
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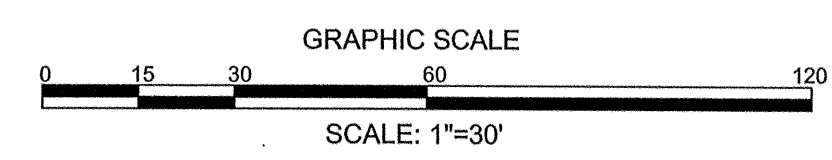
**GRADING AND DRAINAGE PLAN**  
THE VAULT ON 17TH  
1113 S. 17TH STREET  
CITY OF WILMINGTON  
NORTH CAROLINA

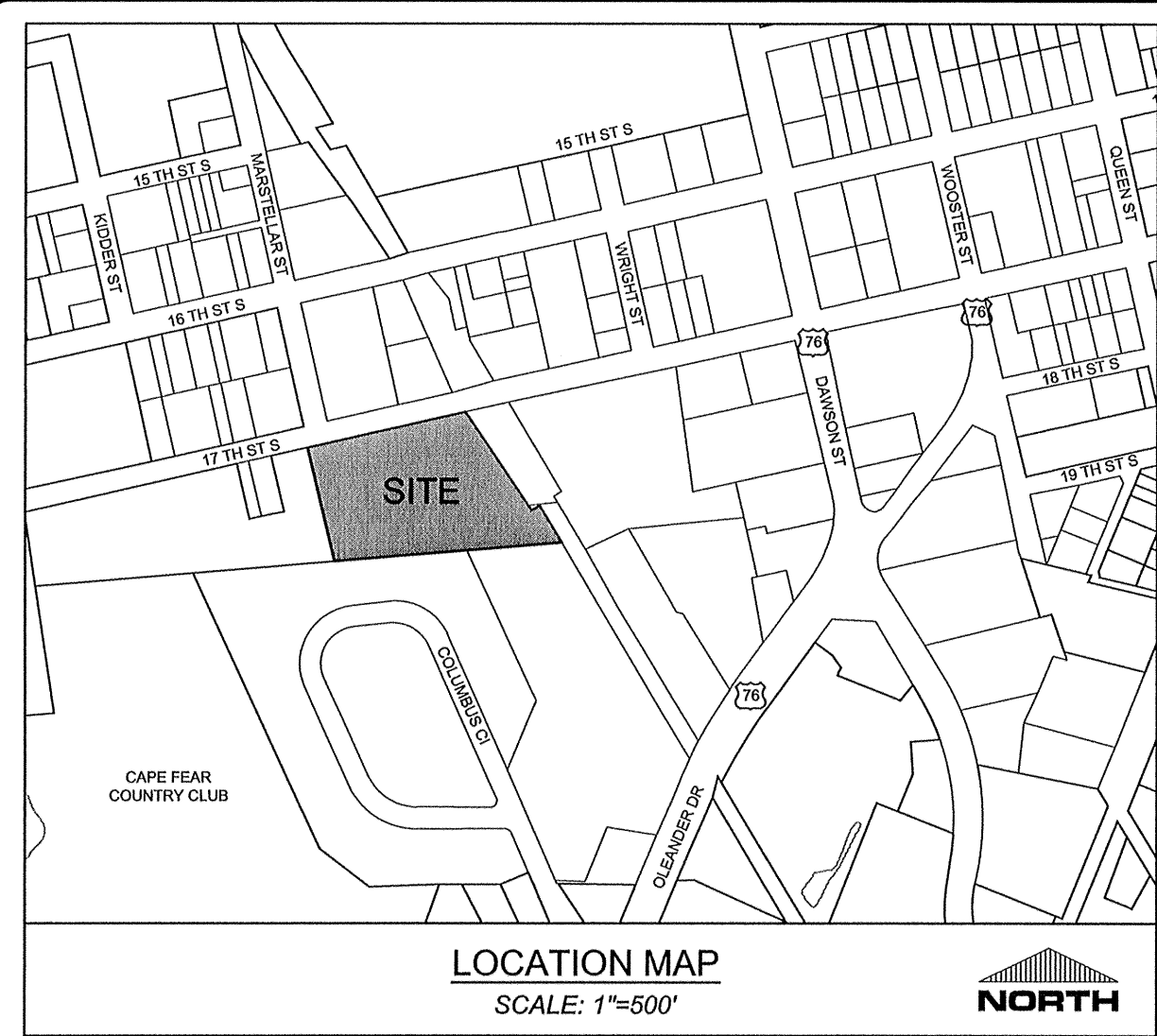
PROJECT STATUS:  
CONCEPT LAYOUT: \_\_\_\_\_  
FINAL DESIGN: \_\_\_\_\_  
RELEASED FOR CONSTRUCTION: \_\_\_\_\_  
DRAWING INFORMATION:  
DATE: \_\_\_\_\_  
SCALE: \_\_\_\_\_  
DESIGNED: \_\_\_\_\_  
CHECKED: \_\_\_\_\_



**C-3.1**  
PEI JOB#: 16312.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION





**SITE INFORMATION**  
**OWNER INFORMATION:** CA NORTH CAROLINA HOLDINGS, INC.  
 PITTSFORD, NY 14534  
**PROJECT ADDRESS:** 1101 S. 17TH STREET  
 WILMINGTON, NC 28401  
**TAX PARCEL IDENTIFICATION #:** R05415-003-001-000  
**RECORDED DEED BOOK:** BK 5863 PG 014  
**CURRENT ZONING:** LI - LIGHT INDUSTRIAL  
**EXISTING USE:** UNDEVELOPED  
**PROPOSED USE:** MINI-WAREHOUSING  
**TOTAL SITE AREA:** 3.916 +/- ACRES

**UTILITY INFORMATION**  
**SANITARY SEWER**  
 THIS PROJECT IS PROVIDING A NEW SEWER SERVICE TO AN EXISTING 8-INCH GRAVITY MAIN LOCATED WITHIN THE 17TH STREET RIGHT OF WAY. THIS PROJECT IS PROPOSING A 4-INCH SERVICE AND SANITARY SEWER ALLOCATION IS PROVIDED BY CFPWA.

**WATER**  
 A 8-INCH WATER MAIN IS LOCATED WITHIN THE 17TH STREET RIGHT OF WAY. THE PROPOSED BUILDING WILL HAVE A 8-INCH FIRE SERVICE AND A 3/4-INCH DOMESTIC SERVICE WILL BE CONNECTED TO THE EXISTING 8-INCH WATER MAIN. DOMESTIC WATER ALLOCATION PROVIDED BY CFPWA.

**NATURAL GAS**  
 THERE IS AN EXISTING GAS MAIN LOCATED WITHIN THE 17TH STREET RIGHT OF WAY. GAS IS PROVIDED BY PIEDMONT NATURAL GAS.

**UTILITY NOTES: (NCAC 15A.02T.0305 / T15A.18C.0906)**  
 1. WATER MAINS SHALL BE LAID SO AS TO PROVIDE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET FROM SEWERS. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN CAN BE INSTALLED AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, EITHER IN A SEPARATE TRENCH, OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH.

2. WHEN CROSSING A WATER MAIN OVER A SEWER, THE WATER MAIN SHALL BE LAID AT LEAST 18 INCHES ABOVE THE SEWER. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS THAT MEET WATER MAIN STANDARDS. THE DUCTILE IRON PIPE SHALL EXTEND 10 FEET ON EACH SIDE OF THE CROSSING WITH A SECTION OF WATER MAIN PIPE CENTERED ON THE CROSSING.

3. CROSSING A WATER MAIN UNDER A SEWER, WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

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

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

**FIRE & LIFE SAFETY NOTES:**  
 1. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS WITHIN ANY DEVELOPMENT.  
 2. HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.

3. CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION. THIS CAN BE SATISFIED BY INSTALLING THE BASE COURSE OF THE PROPOSED PAVEMENT SECTION.

4. A MINIMUM OF 6' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.

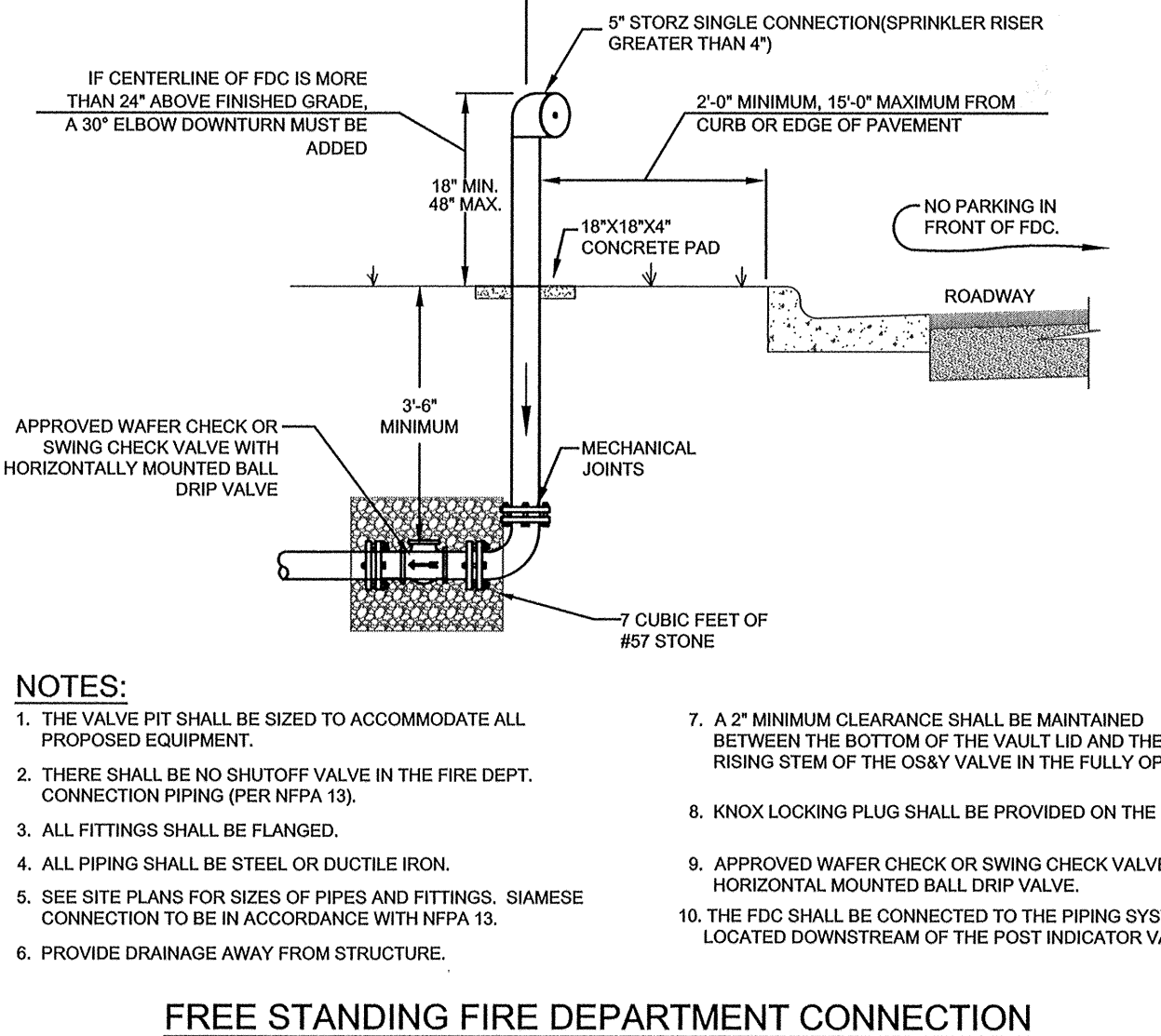
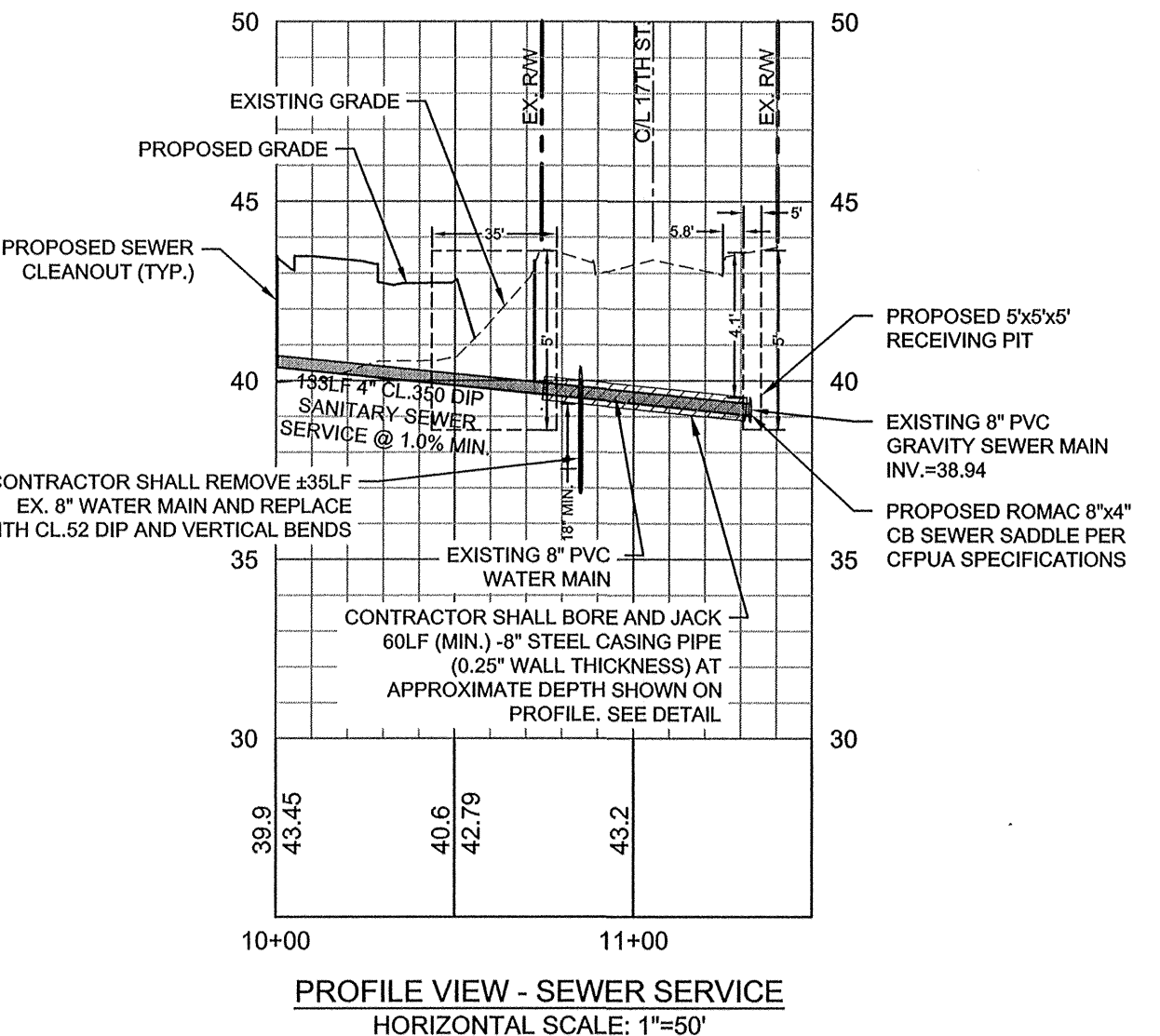
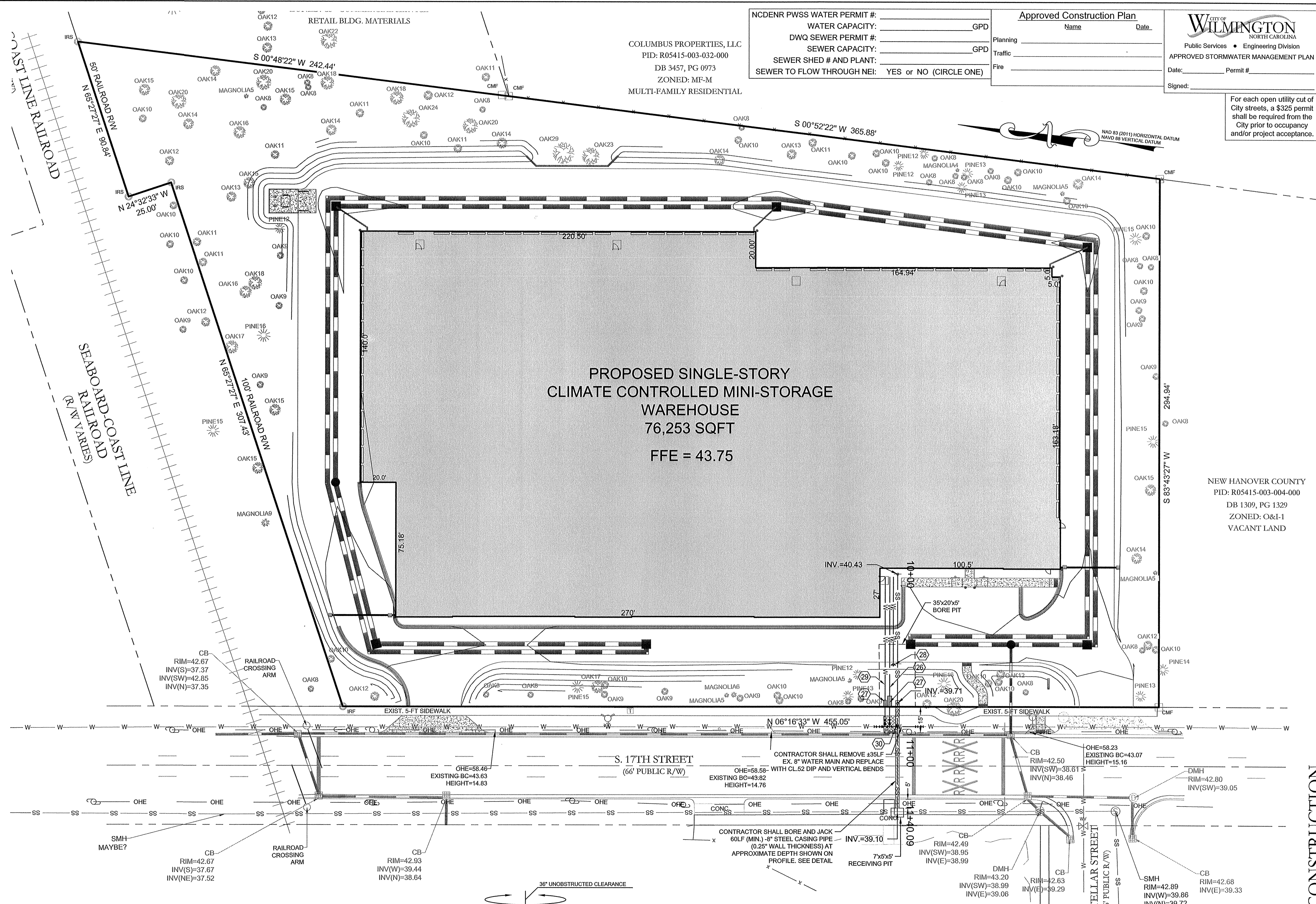
5. UNDERGROUND FIRE LINE & PRIVATE WATER MAINS MUST BE PERMITTED & INSPECTED BY NEW HANOVER COUNTY FIRE SERVICES FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING.

6. CONSTRUCTION TYPE - IIB, BUILDING WILL BE SPRINKLED.

7. ANY FDC MUST BE WITHIN 150' OF A FIRE HYDRANT & WITHIN 40' OF FIRE APPARATUS PLACEMENT.

8. LANDSCAPING OR PARKING CAN NOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT (3') CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC.

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



NC DENR PWSS WATER PERMIT #: \_\_\_\_\_  
 WATER CAPACITY: \_\_\_\_\_ GPD  
 DWQ SEWER PERMIT #: \_\_\_\_\_  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

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

**City of WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
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**UTILITY PLAN**  
 THE VAULT ON 17TH  
 1113 S. 17TH STREET  
 CITY OF WILMINGTON  
 NORTH CAROLINA

**PROJECT STATUS:**  
 CONCEPTUAL LAYOUT: \_\_\_\_\_  
 FINAL DESIGN: \_\_\_\_\_  
 RELEASED FOR CONSTRUCTION: \_\_\_\_\_

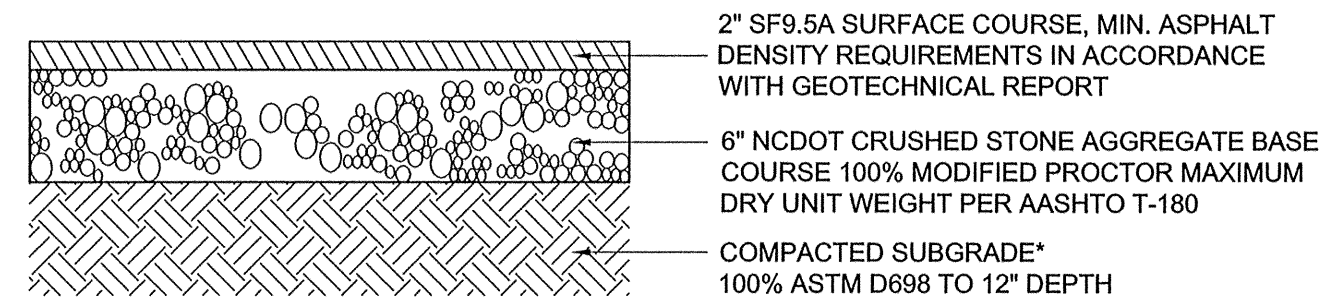
**DRAWING INFORMATION:**  
 DATE: \_\_\_\_\_  
 SCALE: \_\_\_\_\_  
 DESIGNED: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_

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

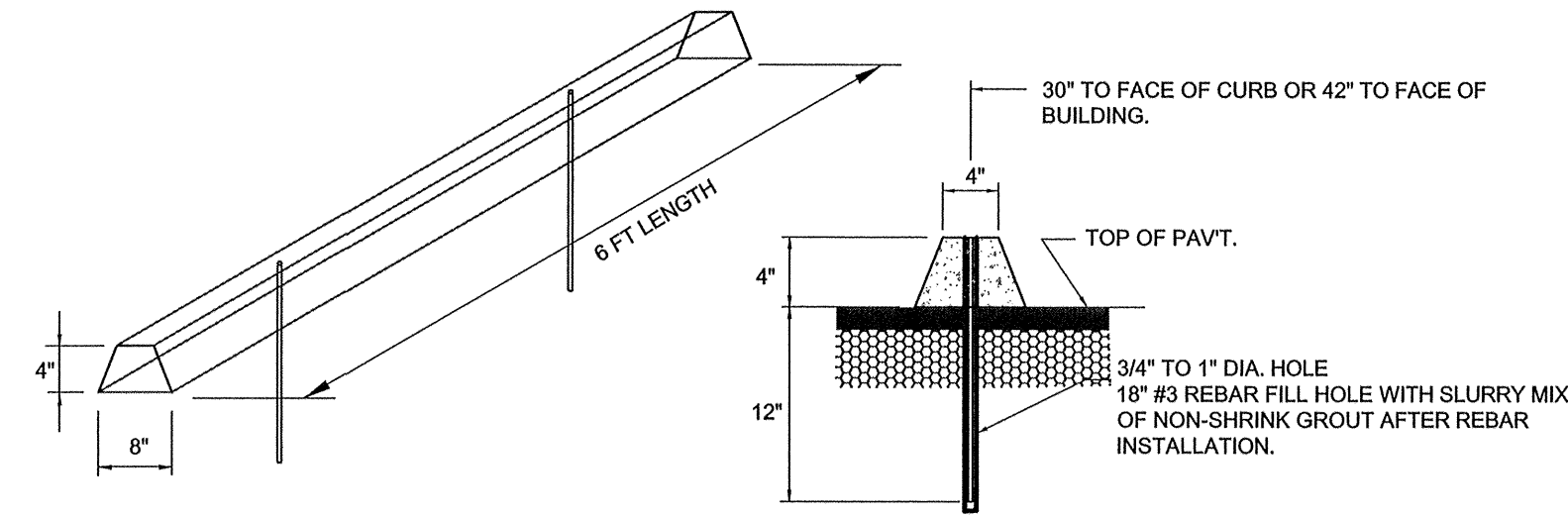
**C-4.0**

PEI JOB#: 16312.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

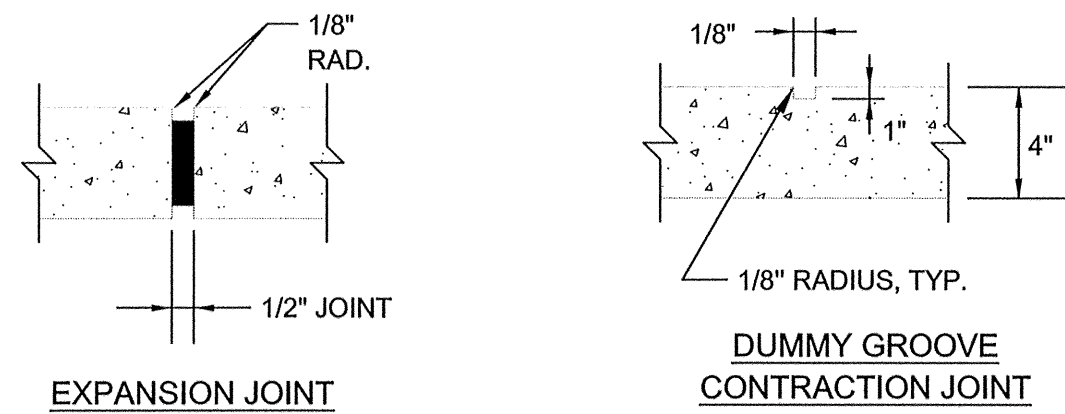


**LIGHT DUTY PAVEMENT SECTION**  
NOT TO SCALE



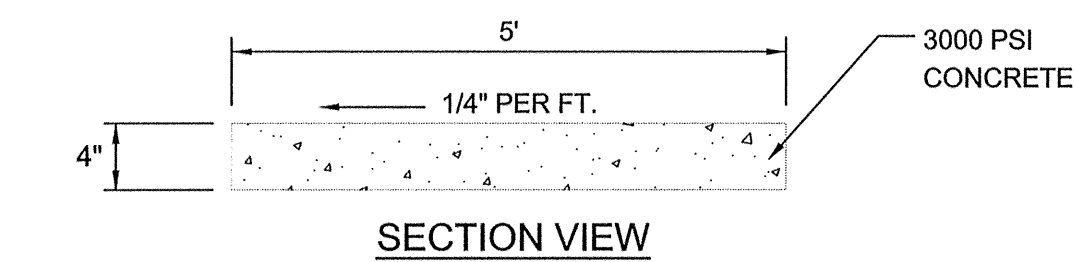
NOTE: REBAR SPACING AND HOLE SIZES SHALL BE COORDINATED WITH WHEEL STOP MANUFACTURER.

**CONCRETE WHEEL STOP DETAIL**  
NOT TO SCALE

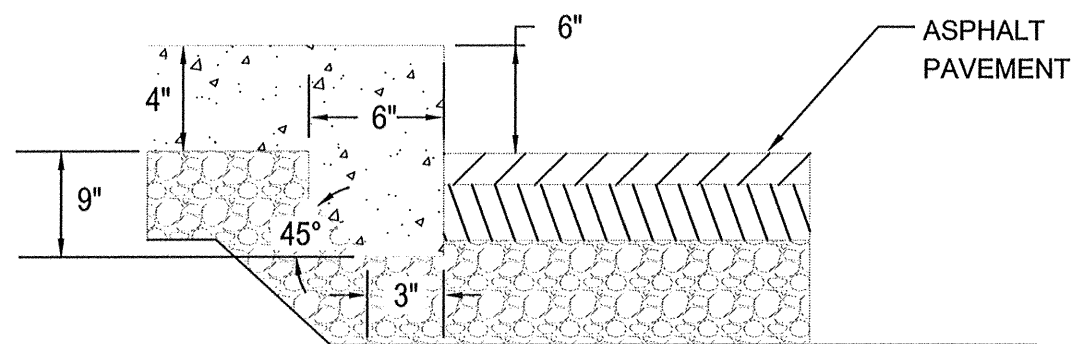


**EXPANSION JOINT**

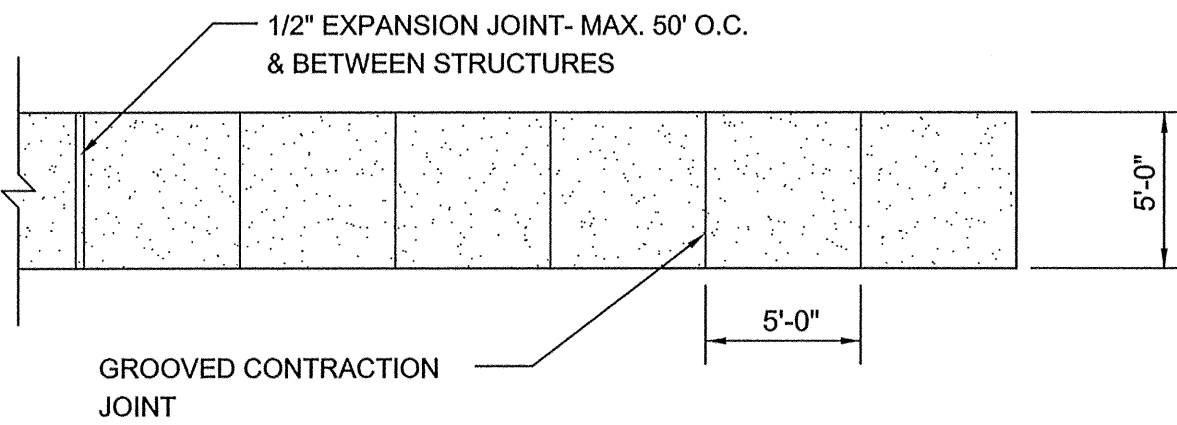
**DUMMY GROOVE CONTRACTION JOINT**



**SECTION VIEW**

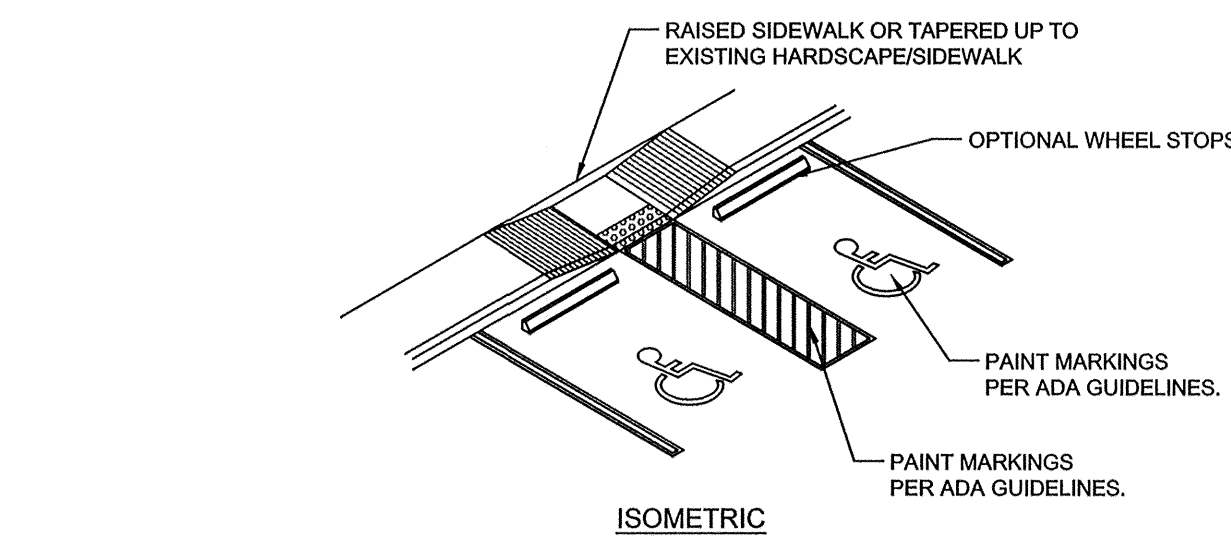


**PLAN VIEW**

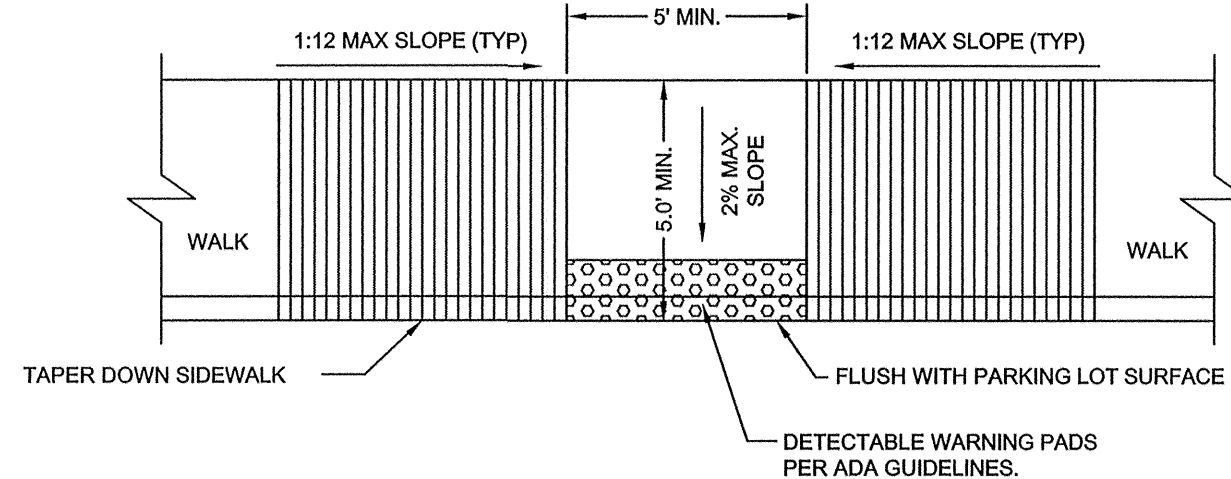


**PLAN VIEW**

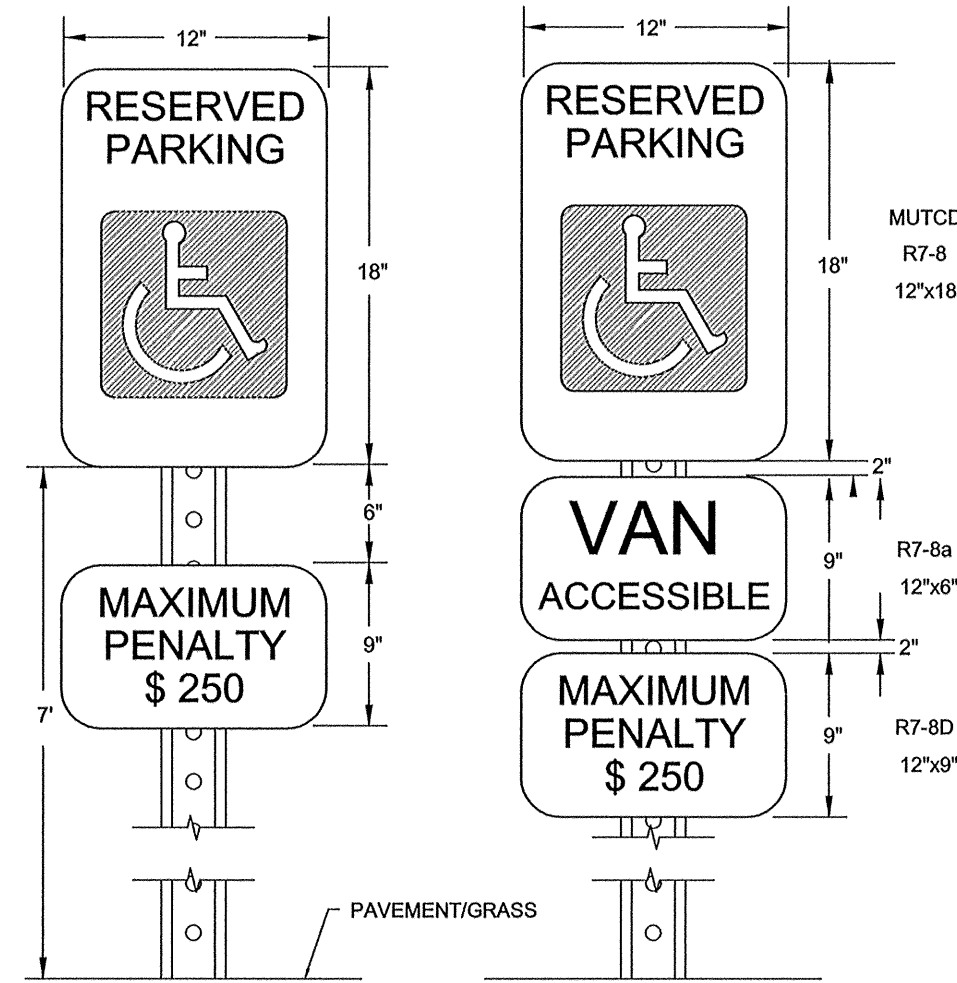
**SIDEWALK DETAILS**  
NOT TO SCALE



**ISOMETRIC**



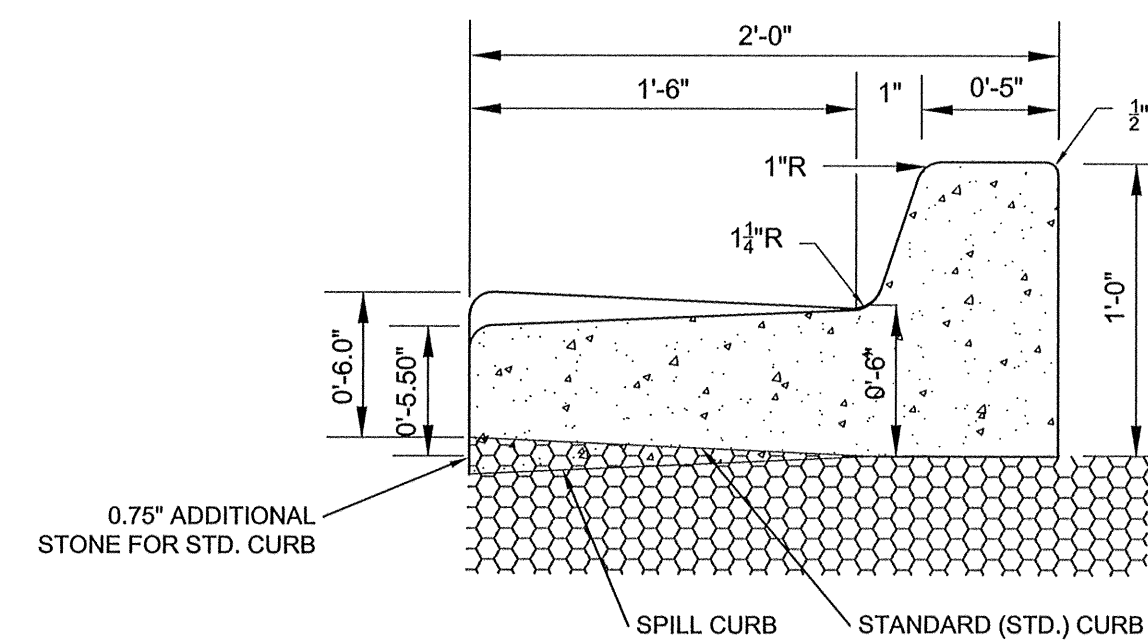
**HANDICAP CURB ACCESS RAMP AND MARKINGS DETAIL**  
NOT TO SCALE



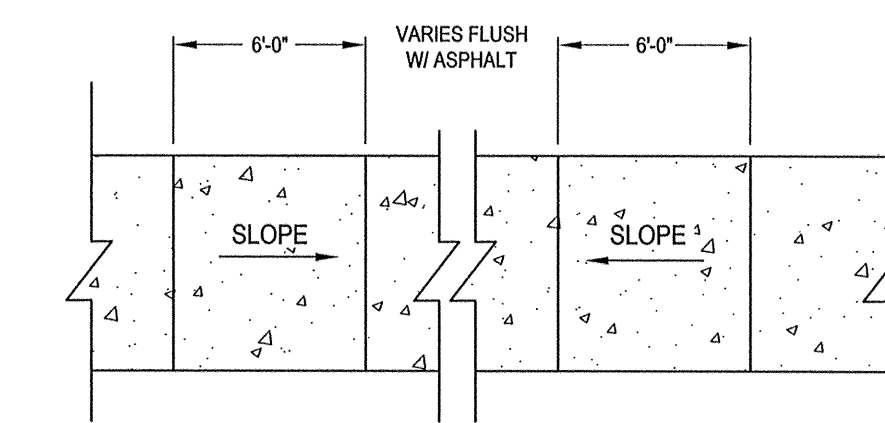
**HANDICAP SIGN DETAIL**  
NOT TO SCALE

**NOTES:**

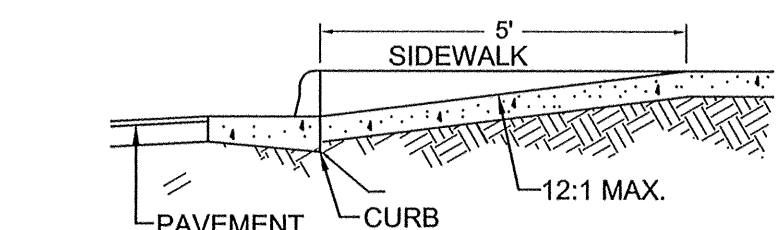
- METAL POST AND ALL HARDWARE SHALL BE GALVANIZED STEEL, ASTM A307-90.
- POST HOLES SHALL BE FILLED WITH GRANULAR BACKFILL IN 3-INCH TO 4-INCH LIFTS. THOROUGHLY HAND TAMP EACH LIFT AND CROWN BACKFILL AT TOP TO SHED WATER.
- CONCRETE FOR FOOTING SHALL BE PORTLAND CEMENT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
- SIGNS SHALL BE CONSTRUCTED OF ALUMINUM, TYPE 6061-T6 AND IN CONFORMANCE WITH ASTM STD B-209. THICKNESS SHALL BE 0.80 INCHES.
- TOP EDGE TREATMENT FILM SHALL BE 3" WIDE, CLEAR AND TRANSPARENT WITH A SUB-RESISTANT PRESSURE SENSITIVE NON-YELLOWING ADHESIVE, "SKOTCHCAL" TRANSPARENT FILM #639.
- REFLECTIVE FACING MATERIAL SHALL BE SCOTCHLITE HIGH INTENSITY, MANUFACTURED BY 3M COMPANY.
- SIGN LETTERING SHALL BE NPS MODIFIED CLARENDON TYPEFACE. UPPERCASE LETTERS SHALL BE 3.75" HEIGHT AND LOWERCASE LETTERS SHALL BE 2.5" HEIGHT WITH 3.75" SPACING BETWEEN LINES.
- CORNER RADIUS OF SIGNS SHALL BE 2.5" ARROWS SHALL BE 5.625" LONG BY 3.75" HIGH.
- MOUNT ON BUILDING OR METAL POST AS DIRECTED.



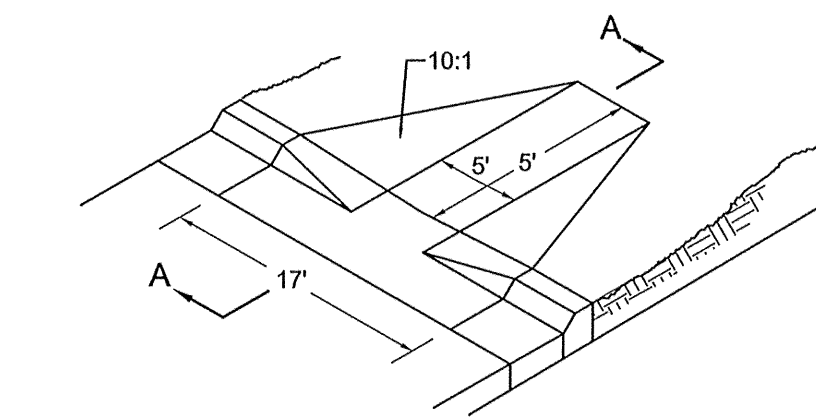
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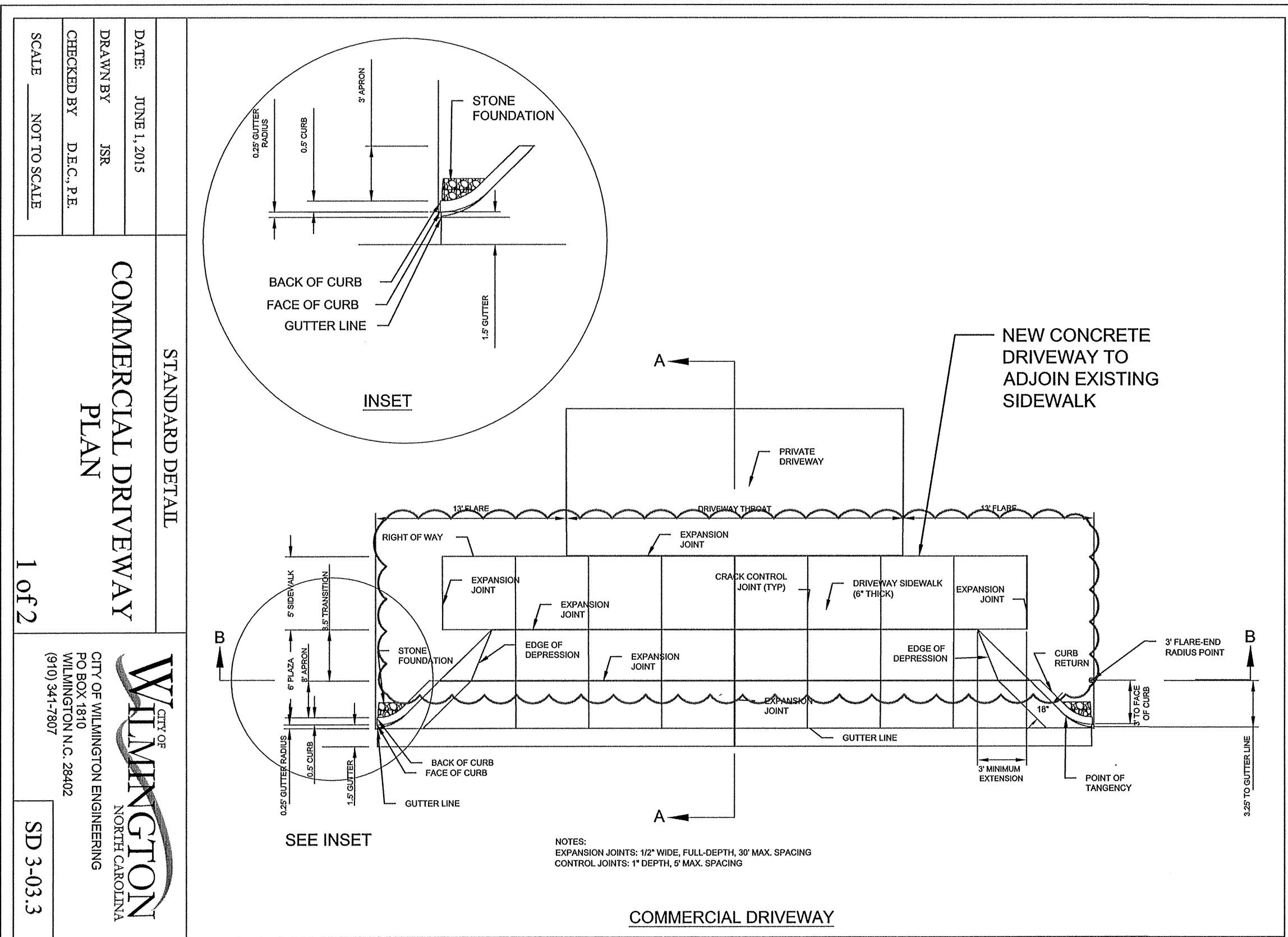
**HANDICAP RAMP**  
NOT TO SCALE



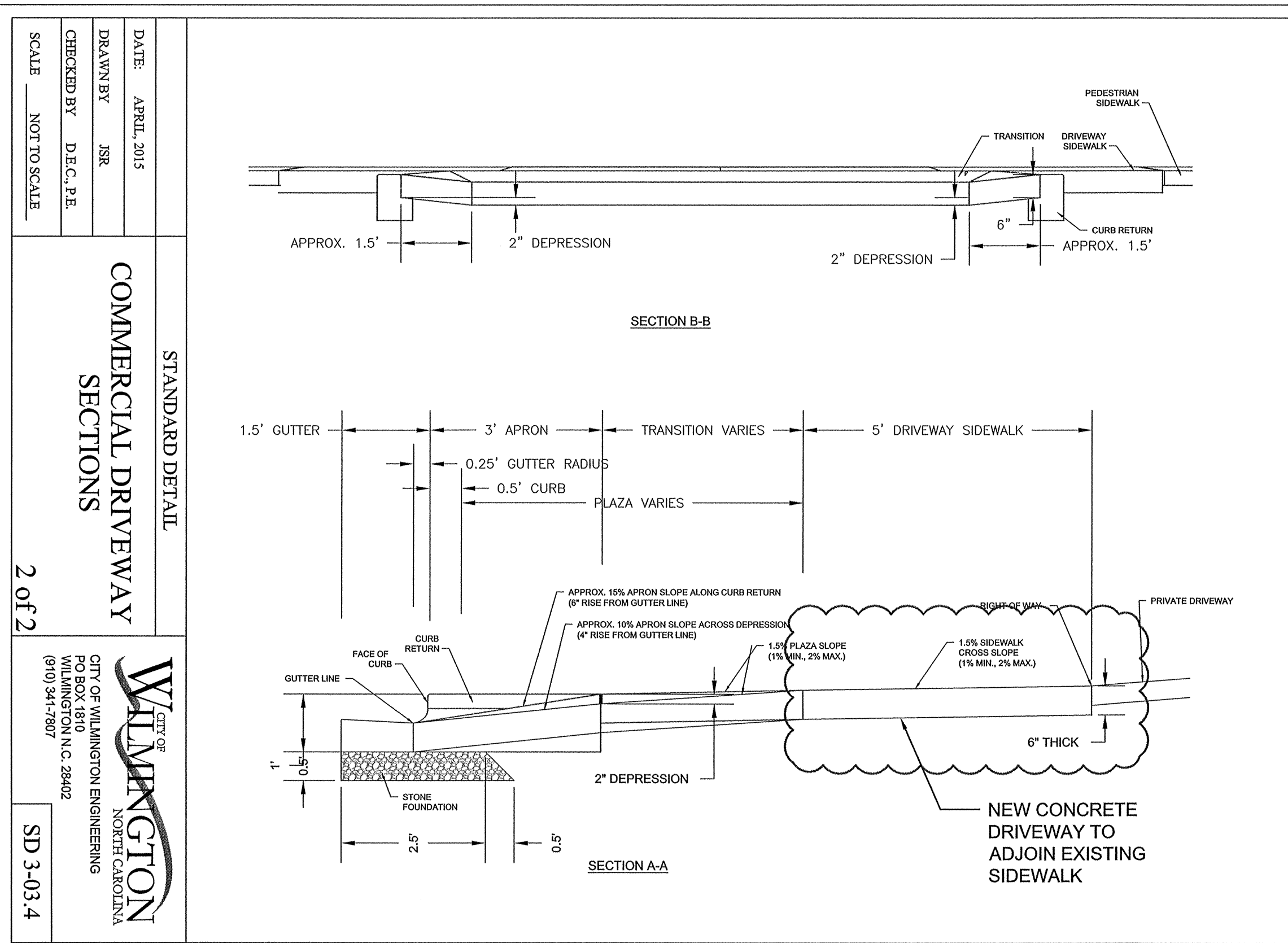
**SECTION A-A**



**WHEEL CHAIR RAMP (DROP CURB)**  
NOT TO SCALE



**COMMERCIAL DRIVEWAY**



**STANDARD DETAIL COMMERCIAL DRIVEWAY SECTIONS**

**SD 3-03.3**

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

NCDENR PWSS WATER PERMIT #: \_\_\_\_\_  
 WATER CAPACITY: \_\_\_\_\_ GPD  
 DWQ SEWER PERMIT #: \_\_\_\_\_  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

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

City of Wilmington  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
 Signed: \_\_\_\_\_

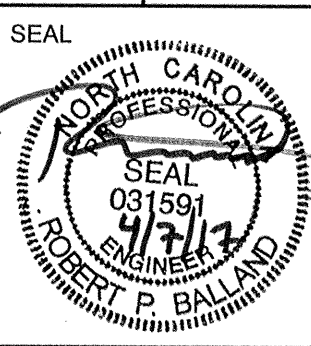
REVISIONS:

CLIENT INFORMATION:  
 THE VAULT ON 17th, LLC  
 1051 MILITARY CUTOFF RD., STE. 200  
 WILMINGTON, NC 28405

**PARAMOUNT ENGINEERING**  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (C) (910) 791-6700 (F)  
 NC License #: C-2846

**DETAILS THE VAULT ON 17TH**  
 1113 S. 17TH STREET  
 CITY OF WILMINGTON  
 NORTH CAROLINA

PROJECT STATUS:  
 CONCEPTUAL LAYOUT:  
 FINAL DESIGN:  
 RELEASED FOR CONSTRUCTION:  
 DRAWING INFORMATION:  
 DATE: \_\_\_\_\_  
 SCALE: \_\_\_\_\_  
 DESIGNED: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_



**C-5.0**

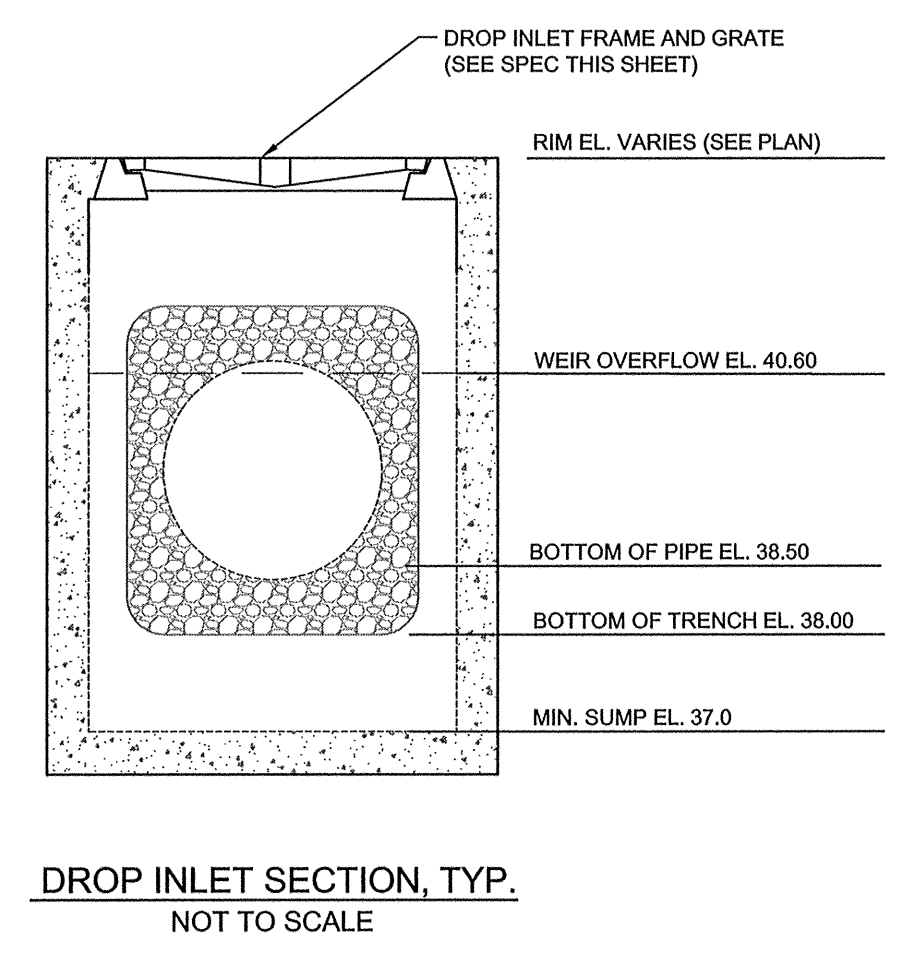
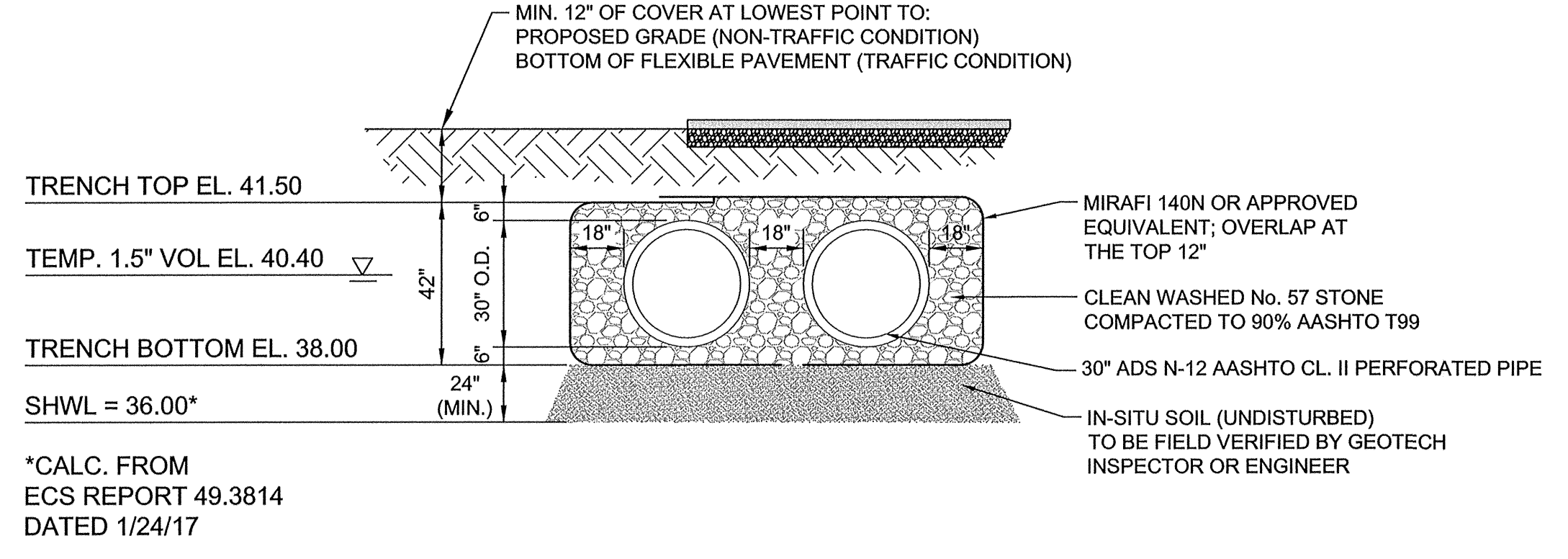
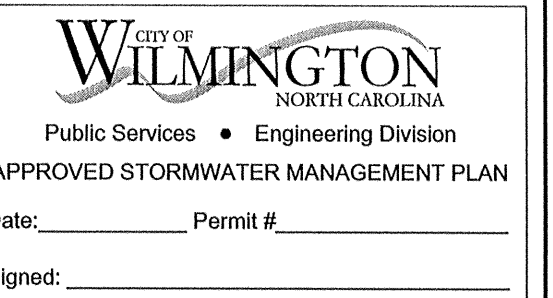
PEI JOB#: 16312.PE



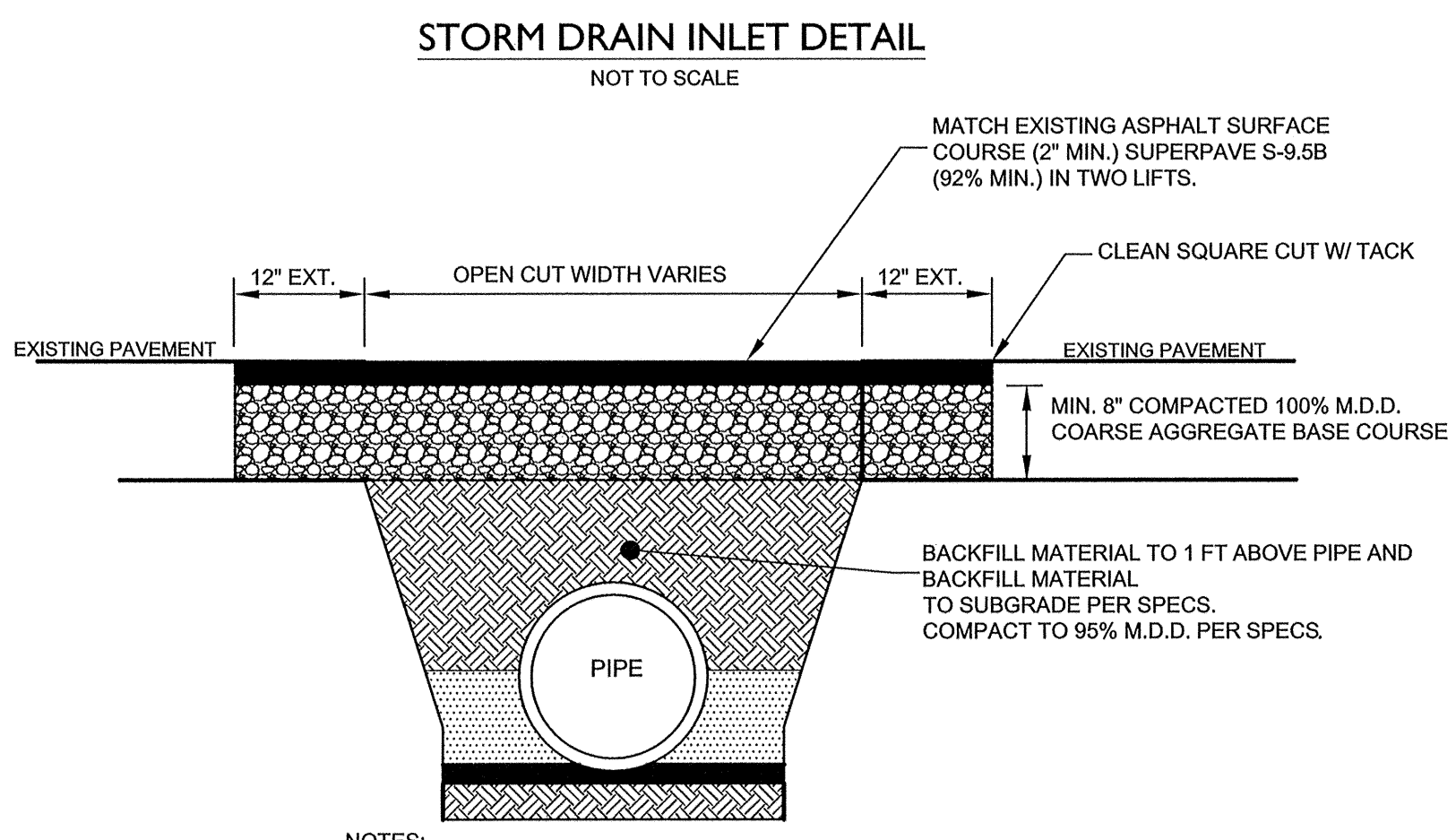
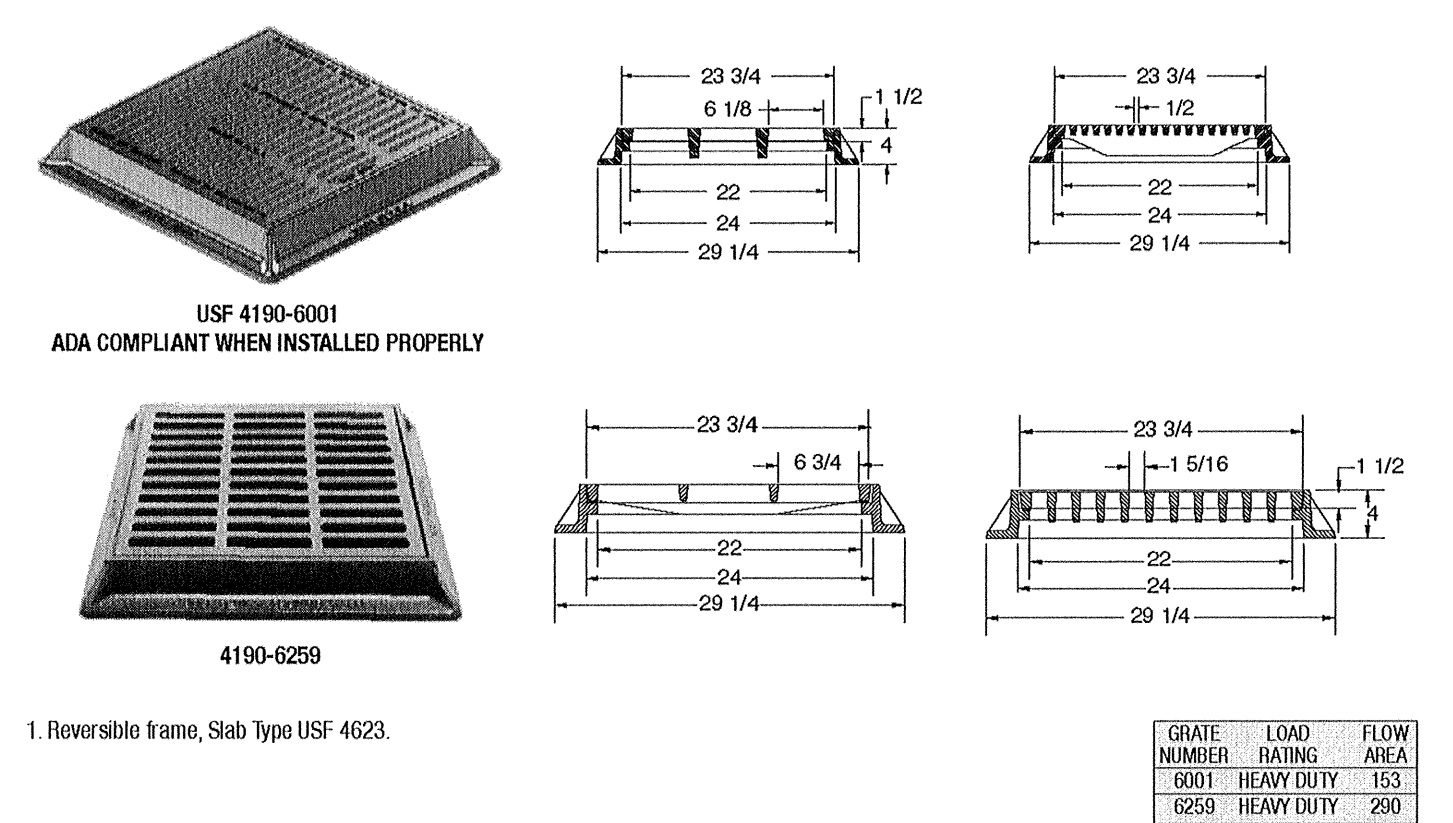
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NCDENR PWSS WATER PERMIT #: \_\_\_\_\_ GPD  
 WATER CAPACITY: \_\_\_\_\_  
 DWQ SEWER PERMIT #: \_\_\_\_\_  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

Approved Construction Plan  
 Name \_\_\_\_\_ Date \_\_\_\_\_  
 Planning \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
 Signed: \_\_\_\_\_



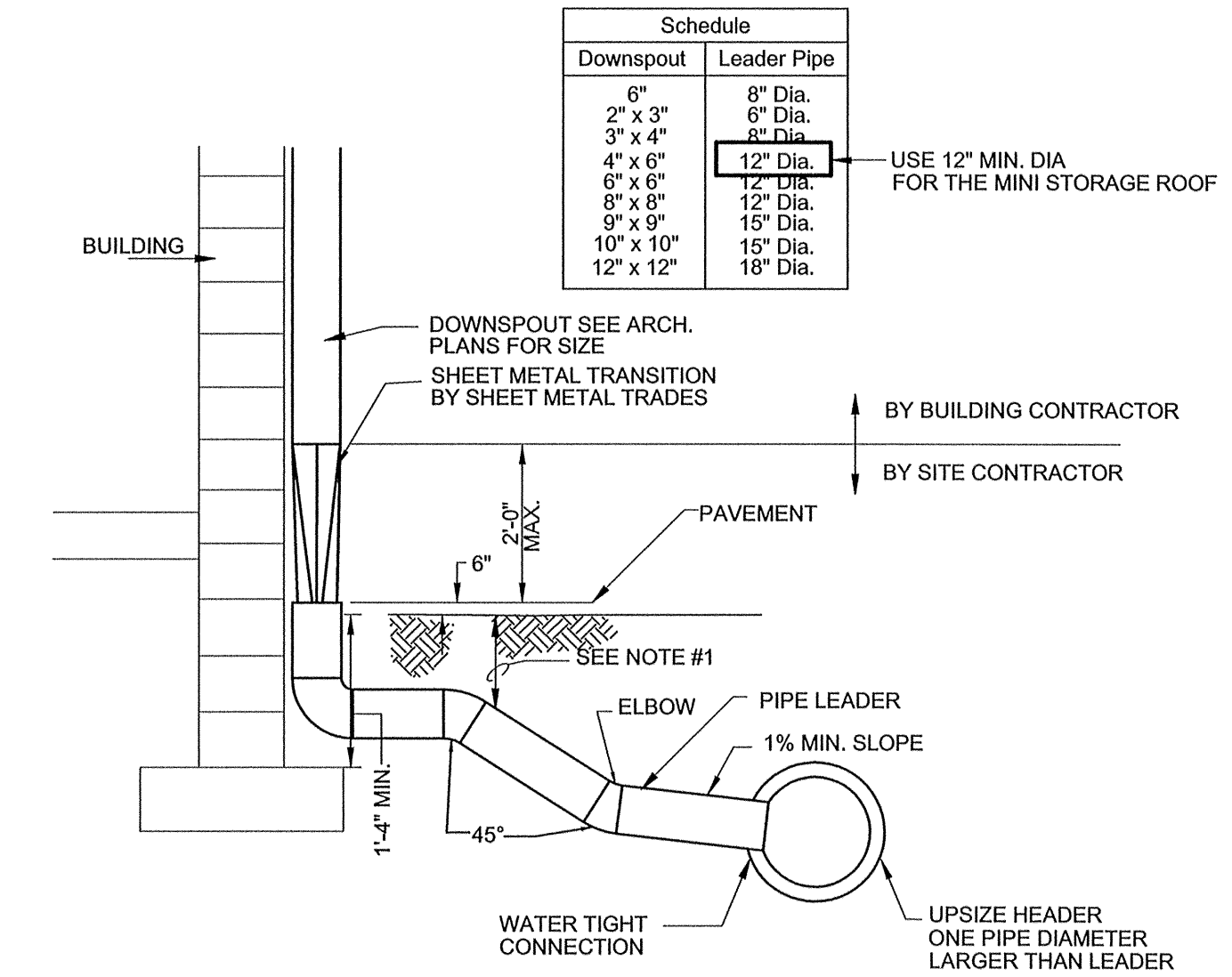
**USF 4190 FRAME AND GRATE SERIES**



- NOTES:
- CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
  - BACKFILL SHALL BE FREE OF UNSUITABLE SOILS (GUMBO, HEAVY CLAYS, ORGANICS, WET SOIL).
  - SOIL TO BE BACKFILLED IN 6" - 8" LIFTS AND COMPACTED PER SPECS OR MECHANIZED TAMPER.
  - ALL CITY CASTINGS SHALL BE FLUSH WITH CONCRETE AND REPAIRED IF NECESSARY.

**PAVEMENT AND TRENCH REPAIR DETAIL**

NOT TO SCALE (REF. CITY STD. SD 1-05)



- NOTES:
- FOR ALL DEPTHS OF COVER LESS THAN TWO (2) FEET, PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS OF COVER GREATER THAN TWO (2) FEET, FLEXIBLE PIPE MAY BE USED. REFER TO SPECIFICATIONS FOR ALLOWABLE PIPE TYPES.
  - THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING. SITE WORK CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK TO AND INCLUDING THE CAP. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR EXTENDING DOWNSPOUT THROUGH CAP.
  - INSTALL PIPES CLEAR OF PORCHES, BOLLARDS, AND OTHER BUILDING APPURTENANCES.

**DOWNSPOUT CONNECTION DETAIL**

NOT TO SCALE

**ADS N-12® ST IB PIPE (per AASHTO) SPECIFICATION:**

**Scope**  
 This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 ST IB pipe (per AASHTO) for use in gravity-flow drainage applications.

**Pipe Requirements**  
 ADS N-12 ST IB pipe (per AASHTO) shall have a smooth interior and annular exterior corrugations.

- 4- through 10-inch (100 to 250 mm) shall meet AASHTO M252, Type S or SP.
- 12- through 60-inch (300 to 1500 mm) shall meet AASHTO M294, Type S or SP or ASTM F2306.
- Manning's "n" value for use in design shall be 0.012.

**Joint Performance**  
 Pipe shall be joined using a bell & spigot joint meeting AASHTO M252, AASHTO M294 or ASTM F2306. The joint shall be soil-tight and gaskets, when applicable, shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly.

**Fittings**  
 Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the soil-tight joint performance requirements of AASHTO M252, AASHTO M294 or ASTM F2306.

**Material Properties**  
 Virgin material for pipe and fitting production shall be high density polyethylene conforming with the minimum requirements of cell classification 424420C for 4- through 10-inch (100 to 250 mm) diameters, or 435400C for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The 12- through 60-inch (300 to 1500 mm) virgin pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306, respectively.

**Installation**  
 Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be one foot (0.3 m) and for 54- and 60-inch (1350 and 1500 mm) diameters, the minimum cover shall be 2 ft. (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1, Class 2 (minimum 90% SPD) or Class 3 (minimum 90% material. Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.01. Contact your local ADS representative or visit our website at www.ads-pipe.com for a copy of the latest installation guidelines.

**ADS N-12® WT IB PIPE (per AASHTO) SPECIFICATION:**

**Scope**  
 This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 WT IB pipe (per AASHTO) for use in gravity-flow applications.

**Pipe Requirements**  
 N-12 WT IB pipe (per AASHTO) shall have a smooth interior and annular exterior corrugations.

- 4- through 10-inch (100 to 250 mm) shall meet AASHTO M252, Type S.
- 12- through 60-inch (300 to 1500 mm) shall meet AASHTO M294, Type S or ASTM F2306.
- Manning's "n" value for use in design shall be 0.012.

**Joint Performance**  
 Pipe shall be joined with the N-12 WT IB joint meeting the requirements of AASHTO M252, AASHTO M294, or ASTM F2306.

4- through 60-inch (100 to 1500 mm) shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

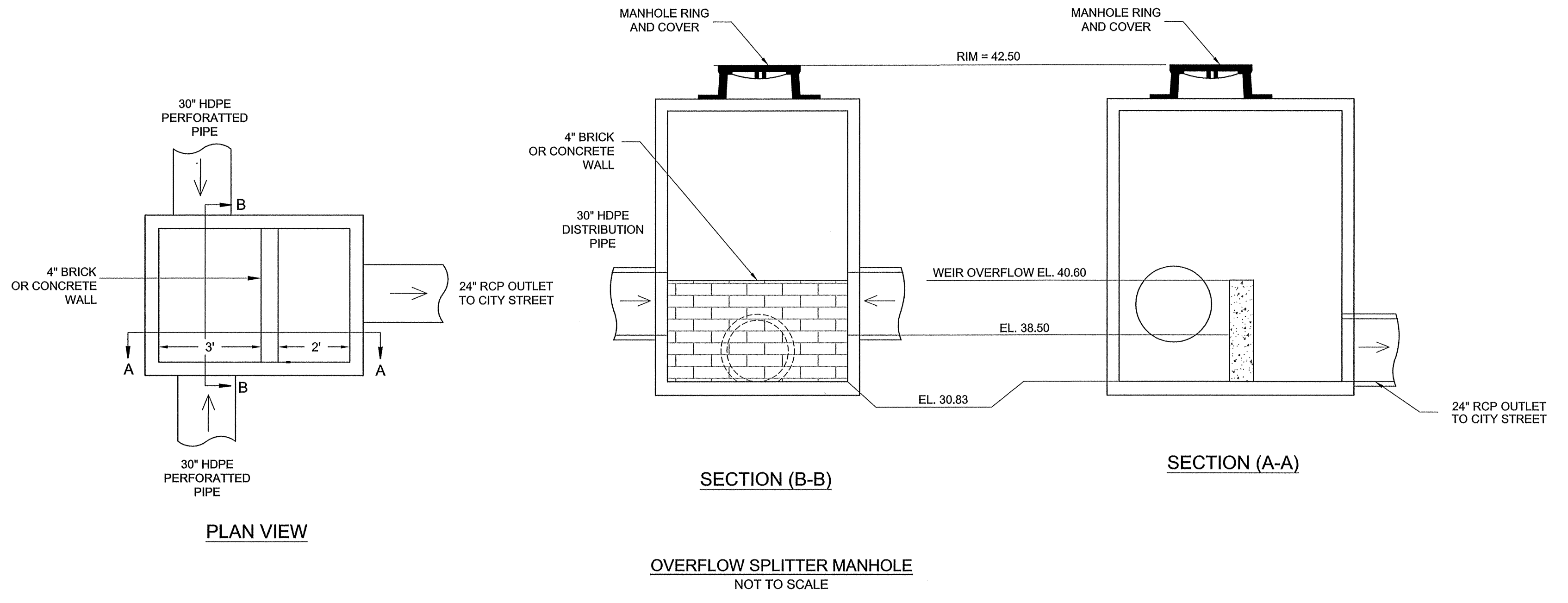
12- through 60-inch (300 to 1500 mm) diameters shall have an exterior bell wrap installed by the manufacturer.

**Fittings**  
 Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the watertight joint performance requirements of AASHTO M252, AASHTO M294 or ASTM F2306.

**Field Pipe and Joint Performance**  
 To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F2487. Appropriate safety precautions must be used when field-testing any pipe material. Contact the manufacturer for recommended leakage rates.

**Material Properties**  
 Virgin material for pipe and fitting production shall be high-density polyethylene conforming with the minimum requirements of cell classification 424420C for 4- through 10-inch (100 to 250 mm) diameters, and 435400C for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The 12- through 60-inch (300 to 1500 mm) virgin pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306 respectively.

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REVISIONS:

CLIENT INFORMATION:

THE VAULT ON 17th, LLC  
 1051 MILITARY CUTOFF RD., STE. 200  
 WILMINGTON, NC 28405

PARAMOUNT ENGINEERING

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

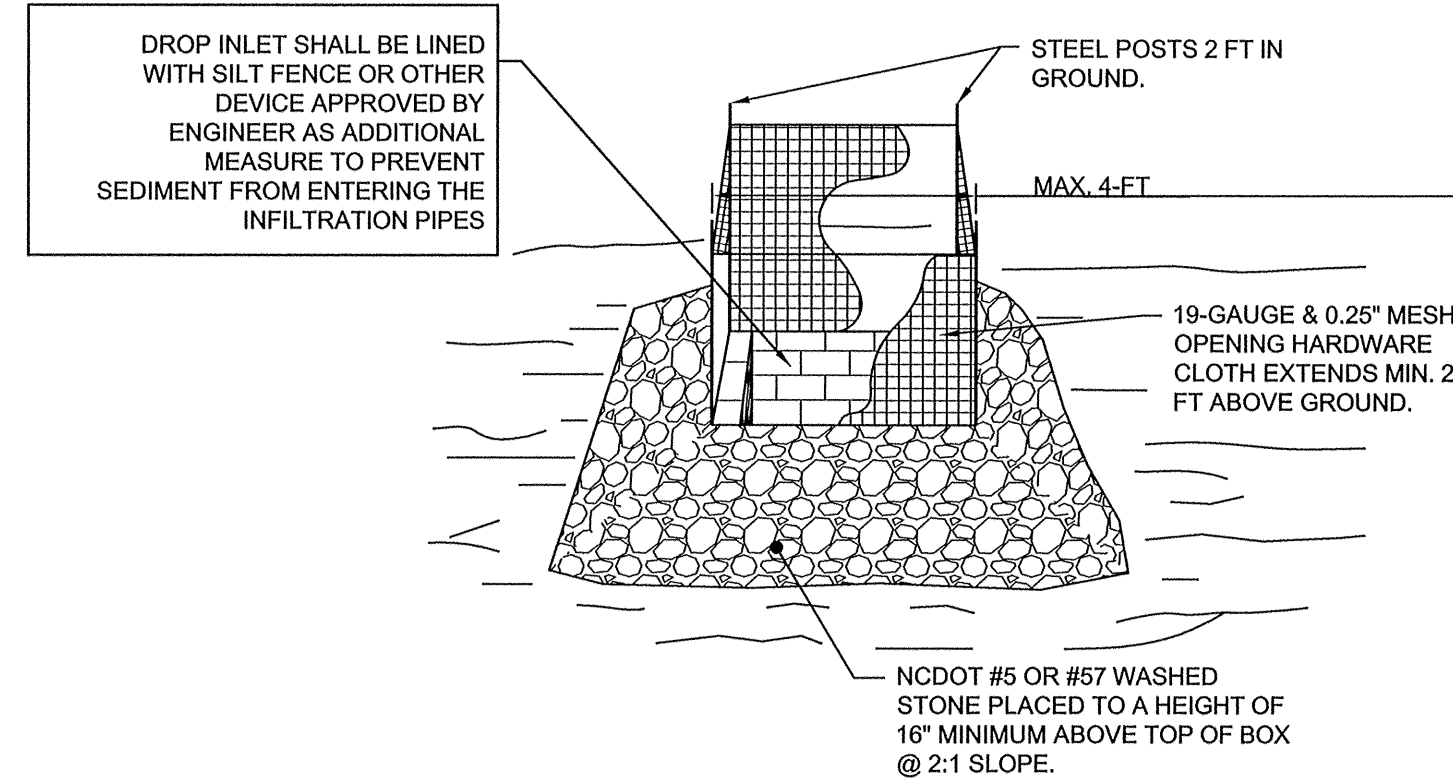
DETAILS THE VAULT ON 17TH  
 1113 S. 17TH STREET  
 CITY OF WILMINGTON  
 NORTH CAROLINA

PROJECT STATUS:  
 CONCEPTUAL LAYOUT:  
 FINAL DESIGN LAYOUT:  
 RELEASED FOR CONSTRUCTION:

DRAWING INFORMATION:  
 DATE: 03/15/17  
 SCALE: AS SHOWN  
 DESIGNED: P. BAL AND  
 CHECKED: \_\_\_\_\_

C-5.1  
 PEI JOB#: 16312.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

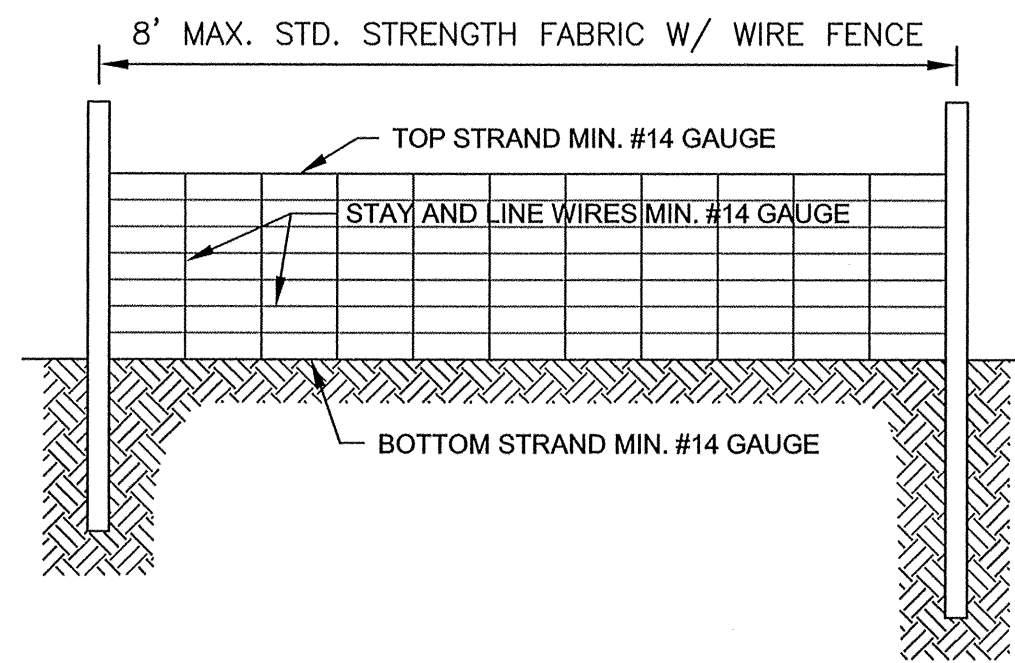


**NOTES:**

1. DRIVE 5-FOOT STEEL POSTS (1.25 lb/lf steel) 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
2. SURROUND THE POSTS WITH AT LEAST 19-GAUGE HARDWARE CLOTH WITH A 1/4-INCH MESH OPENING. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM FOR A MIN. 2 FEET ABOVE THE GROUND. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING AND REMOVAL IS RECOMMENDED.
3. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET. THE TOP ELEVATION OF THE STRUCTURE MUST BE AT LEAST 12-INCHES LOWER THAN THE SURROUNDING GROUND ELEVATION DOWNSLOPE FROM THE INLET TO ENSURE THAT STORM FLOWS GET INTO THE INTENDED INLET; UNLESS OTHER SEDIMENT-CONTROL DEVICES ARE INSTALLED TO PREVENT OFF-SITE SEDIMENT-RUNOFF.

**ALTERNATE MEASURES:**  
THE USE OF A PRE-FAB STRUCTURES OR OTHERS MAY BE USED WITH APPROVAL FROM ENGINEER OR NCDEQ INSPECTOR.

**TEMPORARY INLET PROTECTION**  
NOT TO SCALE



**NOTES:**

1. WIRE FENCE (IF USED) SHALL BE MINIMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF 6-INCHES.
2. SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFIN'S OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461 AND ALSO SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS ACCORDING TO ASTM D 4355.
3. SEE THE NC EROSION CONTROL MANUAL FOR SPECIFICATIONS INSTALLING SEDIMENT FENCE USING THE SLICING METHOD MACHINERY.

**TEMPORARY SILT FENCE**  
NOT TO SCALE

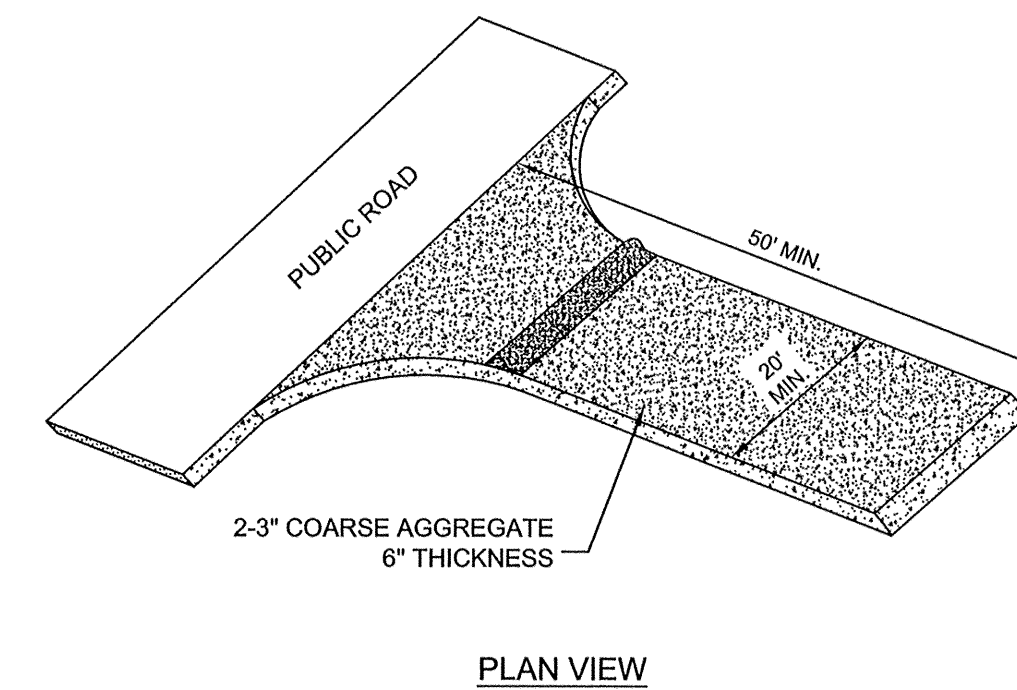
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

NCDENR PWSS WATER PERMIT #: \_\_\_\_\_  
 WATER CAPACITY: \_\_\_\_\_ GPD  
 DWQ SEWER PERMIT #: \_\_\_\_\_  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

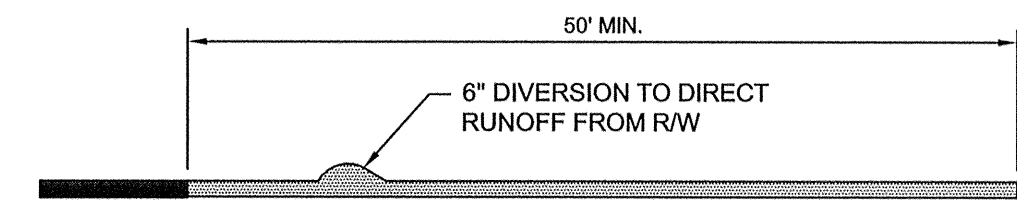
**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_  
 Planning \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
 Signed: \_\_\_\_\_

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

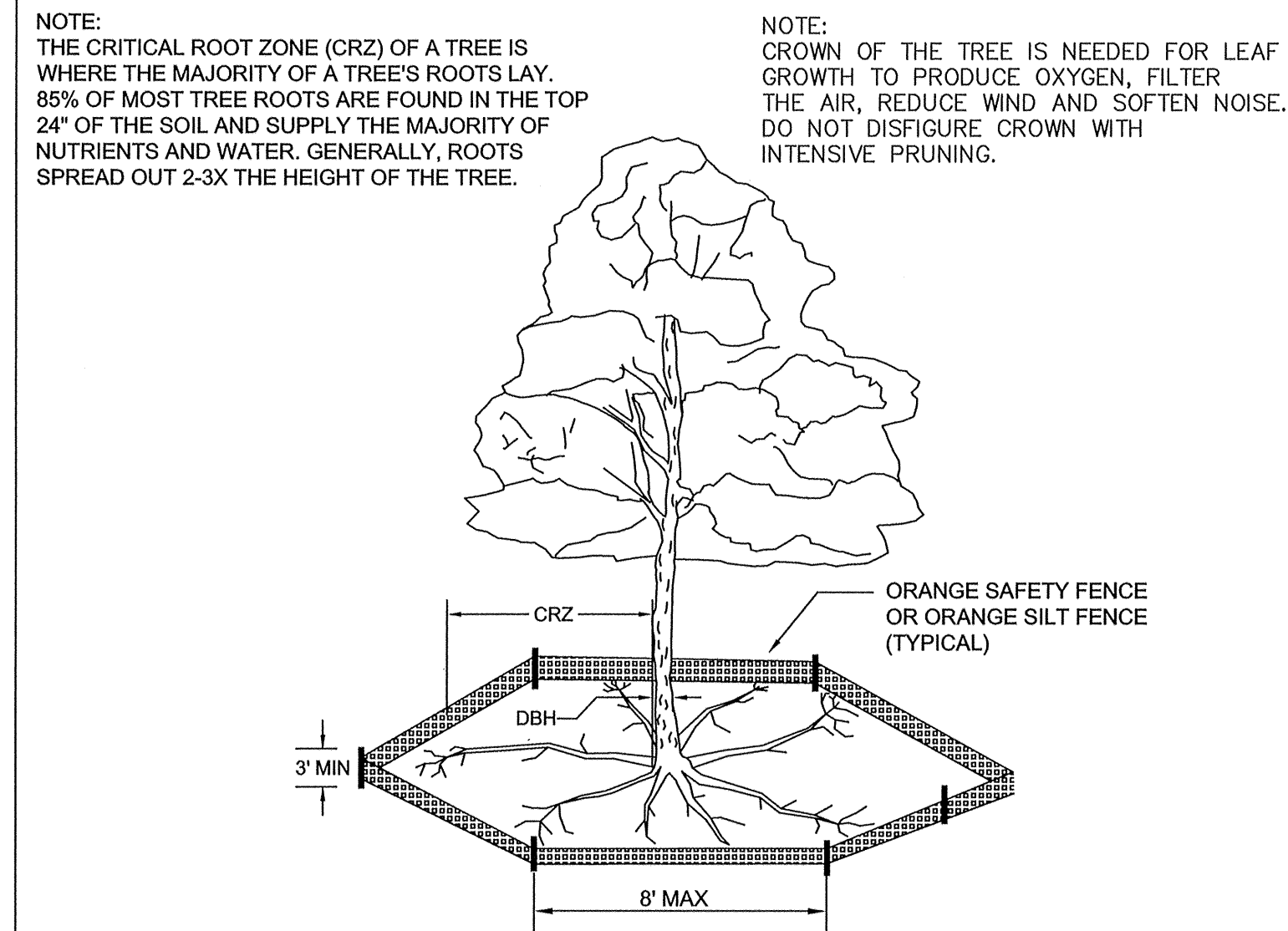


PLAN VIEW



SECTION VIEW

**TEMPORARY CONSTRUCTION ENTRANCE**  
NOT TO SCALE



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

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

**NOTES:**

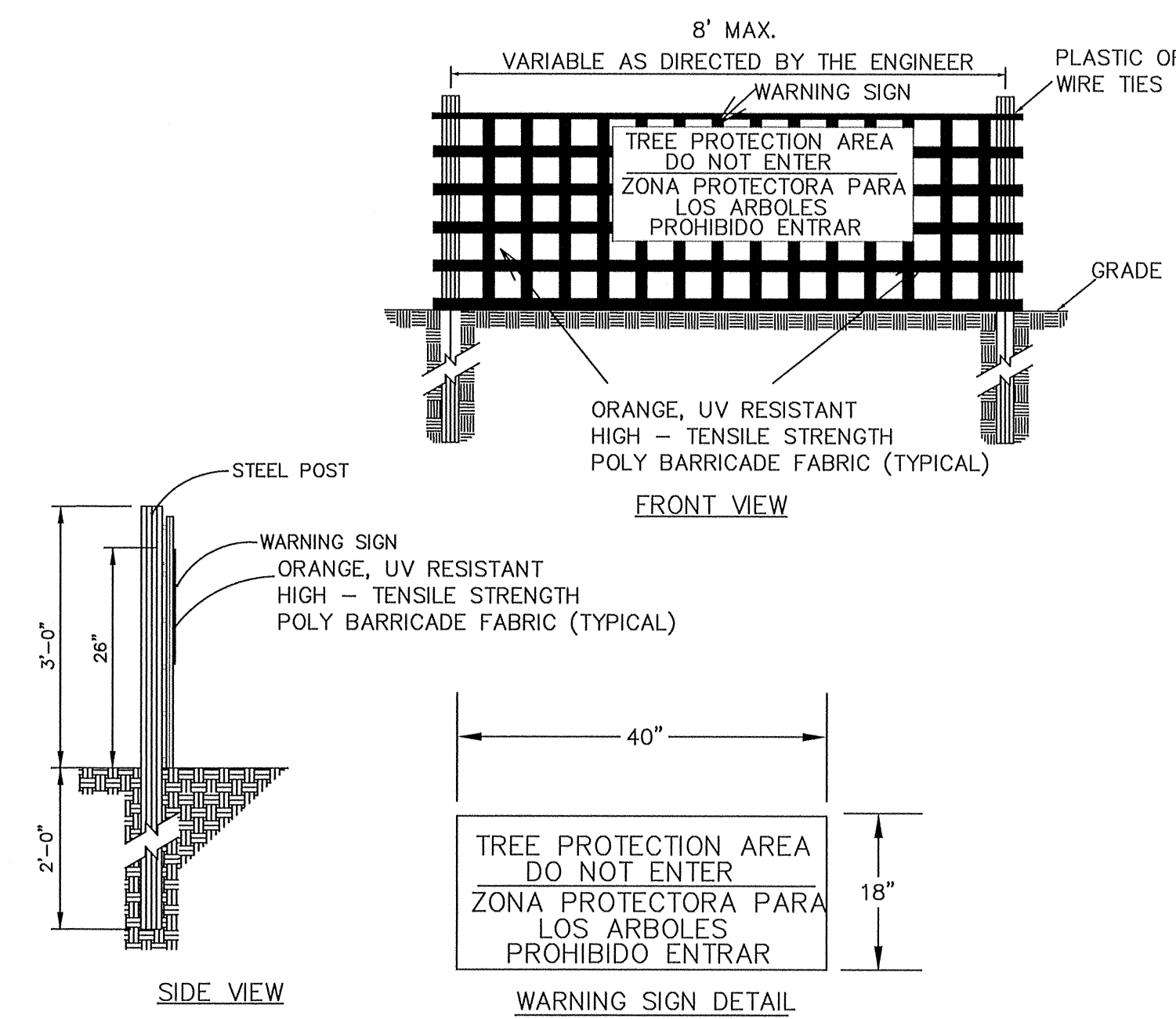
1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
3. IF CONSTRUCTION OCCURS WITHIN THE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

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

**STANDARD DETAIL**  
**TREE PROTECTION DURING CONSTRUCTION**  
 SHEET 1 of 2

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

SD 15-09



**NOTES:**

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

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

**STANDARD DETAIL**  
**TREE PROTECTION DURING CONSTRUCTION**  
 SHEET 2 of 2

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

SD 15-09

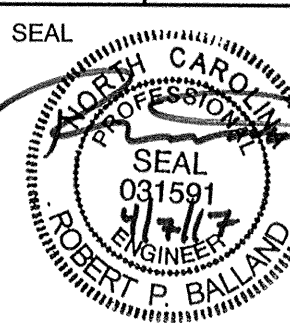
REVISIONS:

CLIENT INFORMATION:  
**THE VAULT ON 17th, LLC**  
 1051 MILITARY CUTOFF RD., STE. 200  
 WILMINGTON, NC 28405

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

**DETAILS**  
**THE VAULT ON 17TH**  
 1113 S. 17TH STREET  
 CITY OF WILMINGTON  
 NORTH CAROLINA

**PROJECT STATUS**  
 CONCEPTUAL LAYOUT: \_\_\_\_\_  
 FINAL LAYOUT: \_\_\_\_\_  
 RELEASED FOR CONSTRUCTION: \_\_\_\_\_  
**DRAWING INFORMATION**  
 DATE: \_\_\_\_\_  
 SCALE: \_\_\_\_\_  
 DESIGNED: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_



**C-5.2**

PEI JOB#: 16312.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

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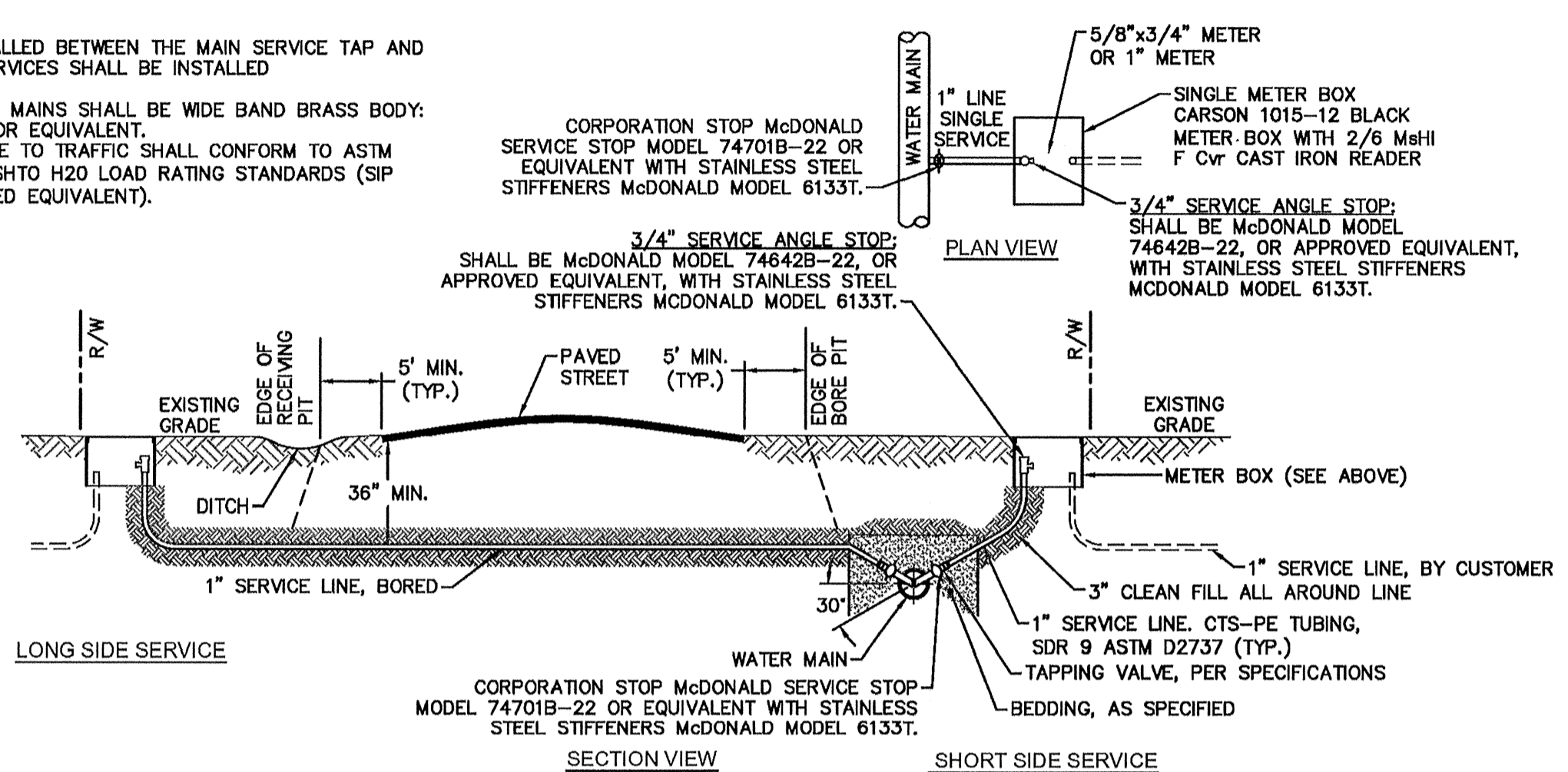
NC DENR PWSS WATER PERMIT #: \_\_\_\_\_ GPD  
 WATER CAPACITY: \_\_\_\_\_ GPD  
 DWQ SEWER PERMIT #: \_\_\_\_\_ GPD  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

Approved Construction Plan  
 Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_  
 Signed: \_\_\_\_\_

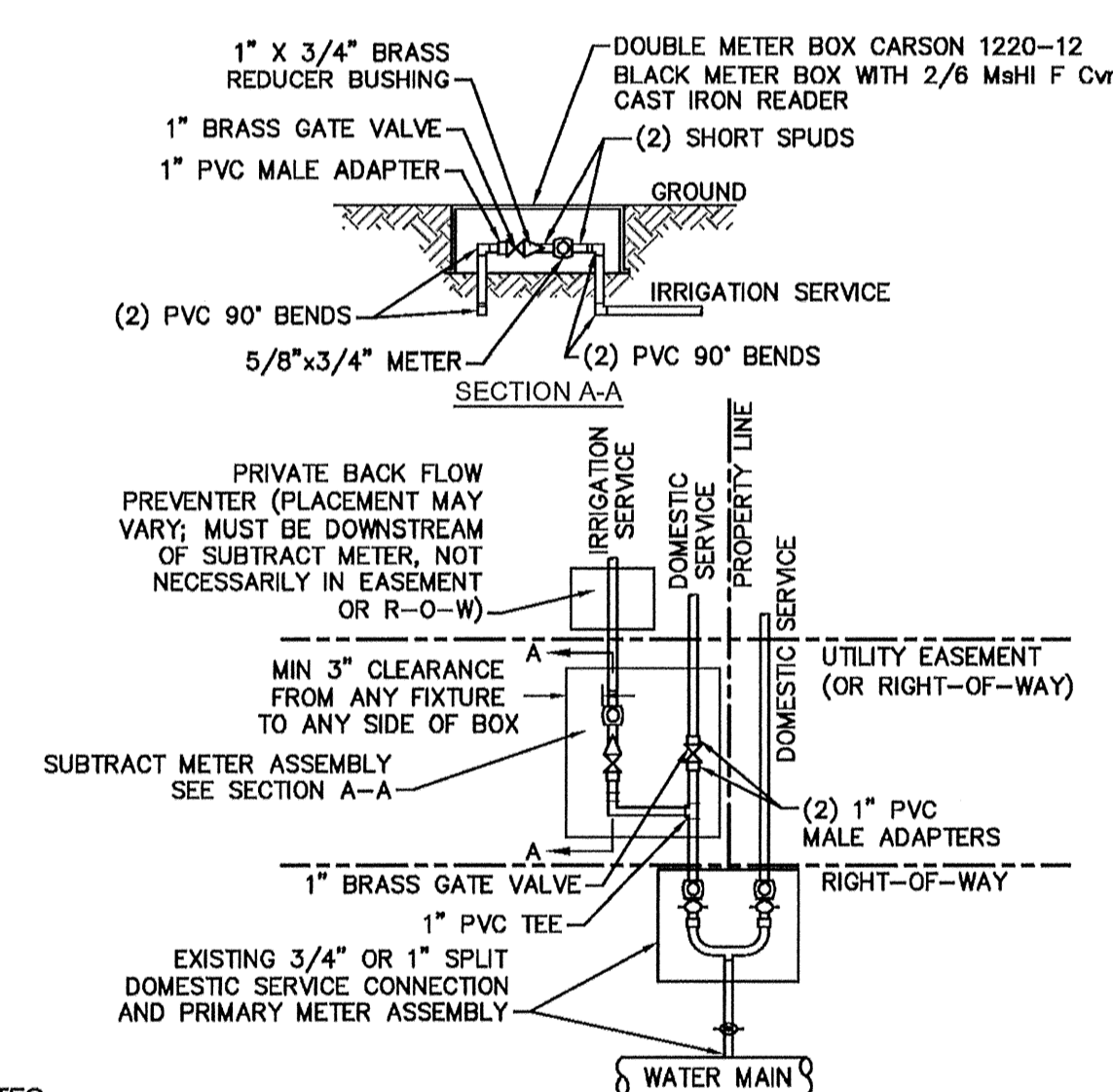
**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
 Signed: \_\_\_\_\_

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



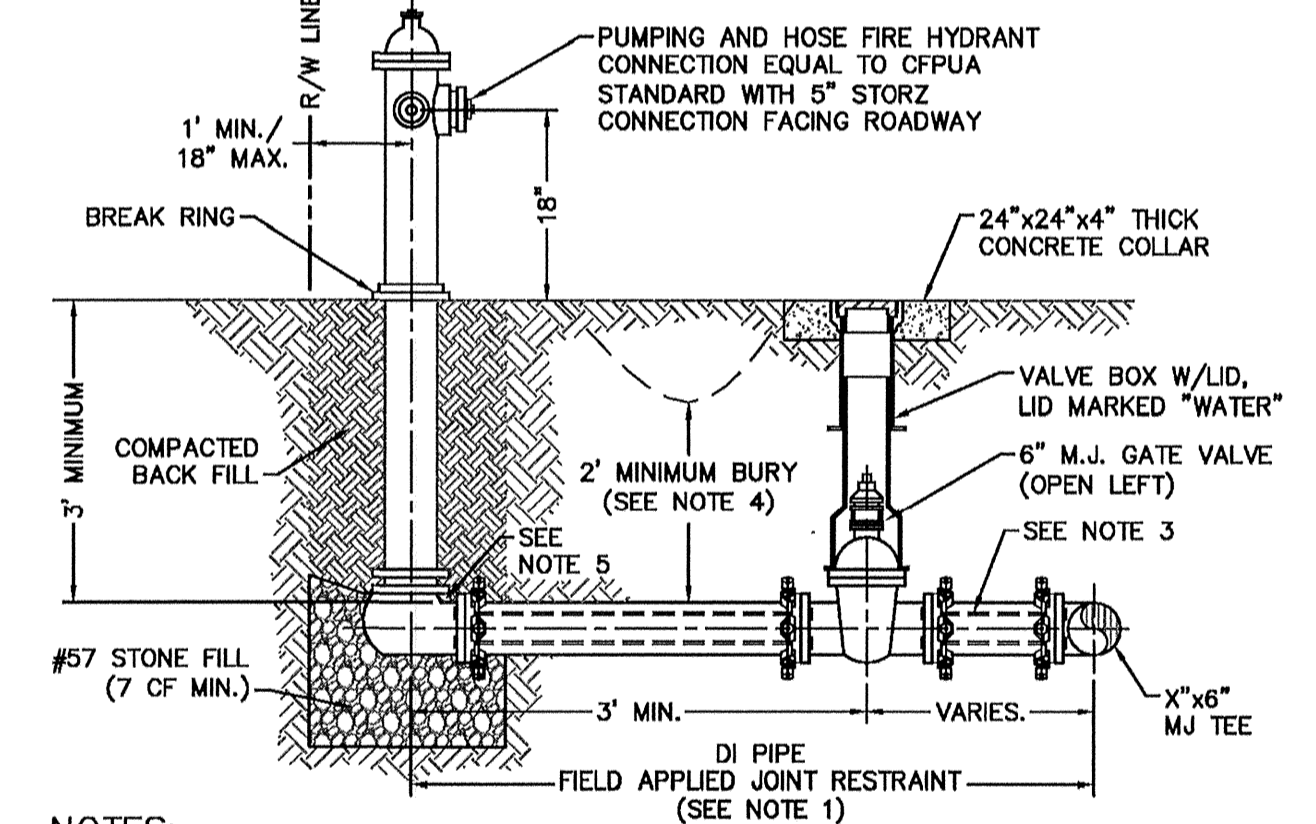
**NOTE:**  
 TYPICAL WATER SERVICE CONNECTION FOR RESIDENTIAL SINGLE FAMILY HOME ON CFPUA WATER SYSTEM

**WD-18 SINGLE SERVICE CONNECTION**  
 NOT TO SCALE



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

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

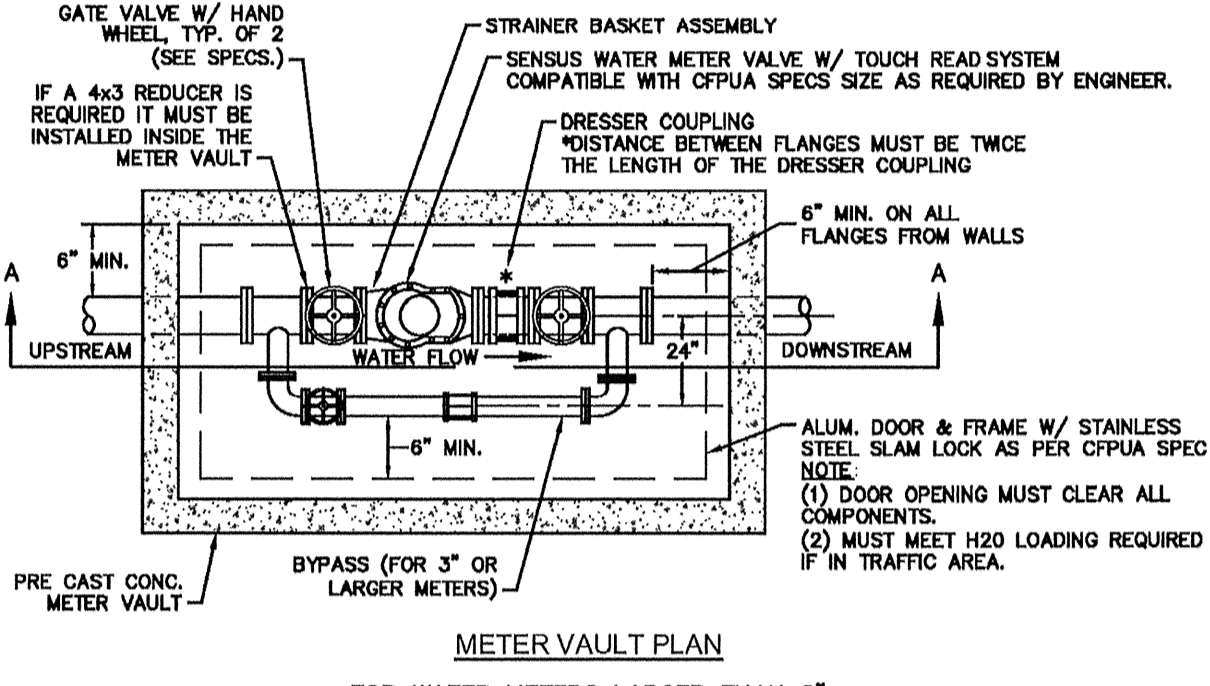
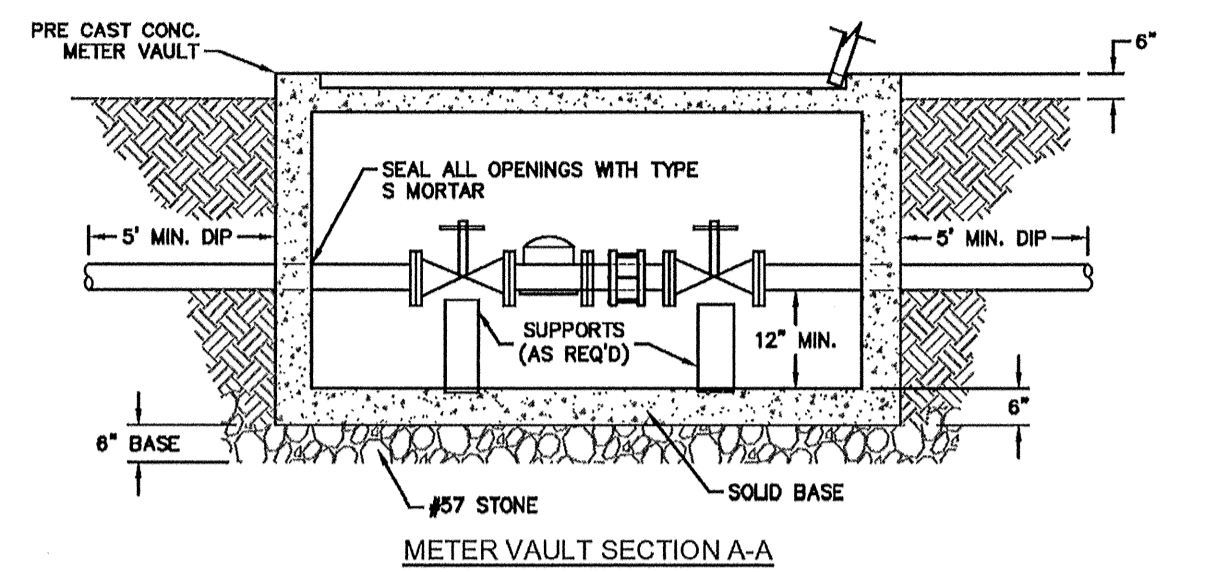


- NOTES:**
- JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI PIPE AS MANUFACTURED BY EBAA IRON, SIGMA, STAR PIPE PRODUCTS OR APPROVED EQUAL.
  - WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
  - CONTINUOUS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

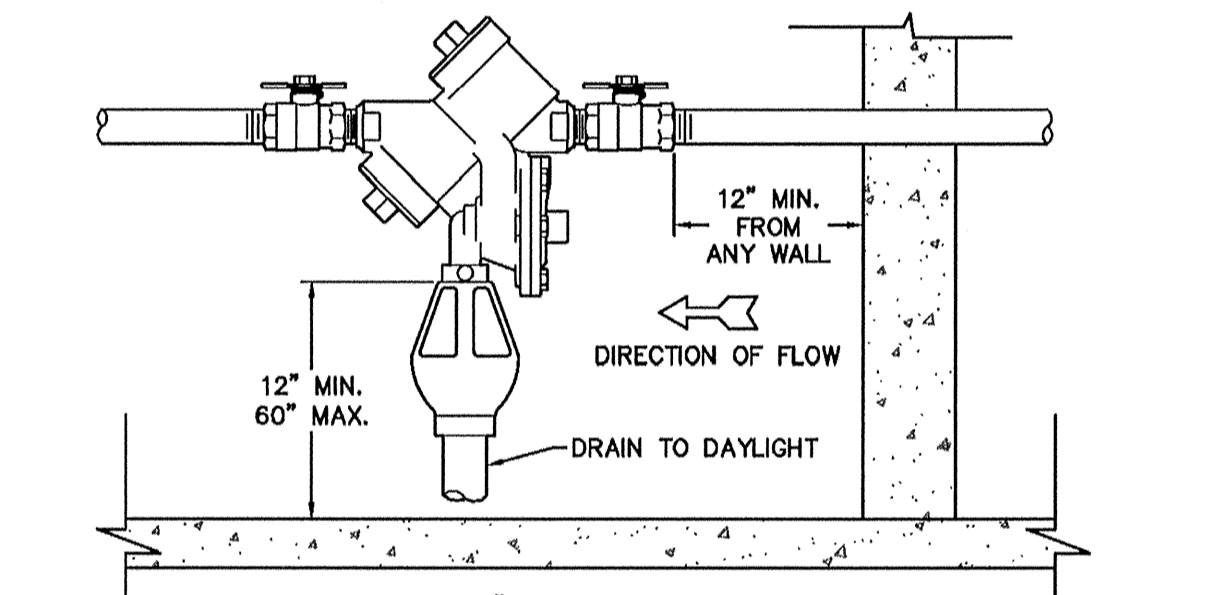
**WD-10 FIRE HYDRANT ASSEMBLY**  
 NOT TO SCALE

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

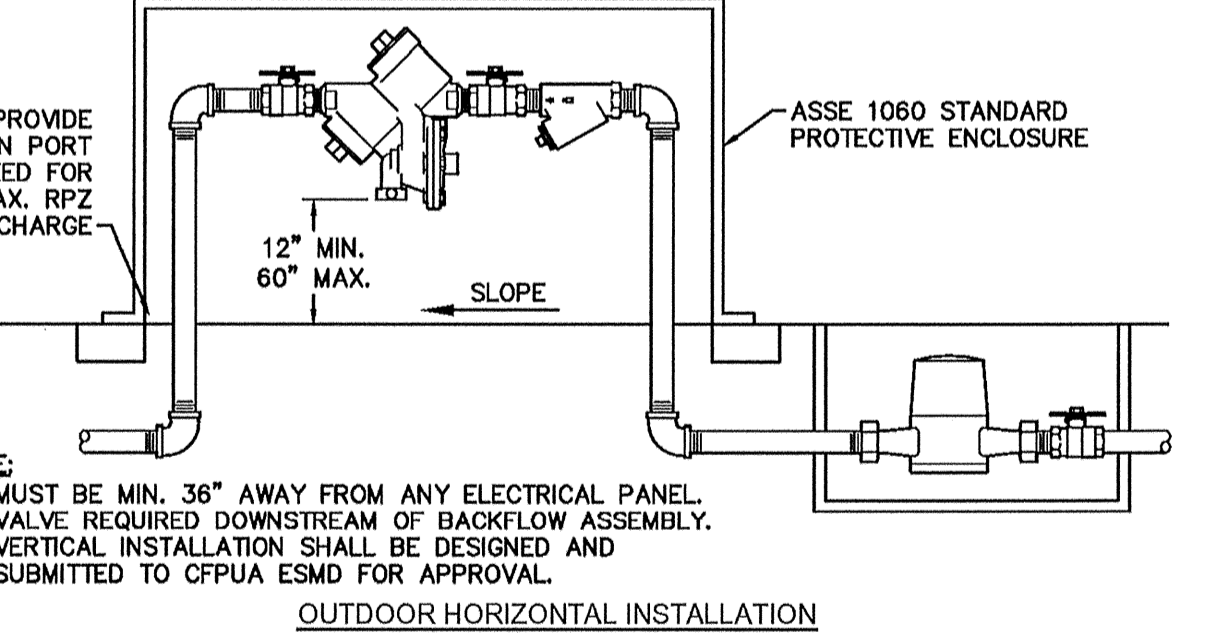
**WD-19 STANDARD NOTES**  
 (REQUIRED ON ALL PLAN AND PROFILE SHEETS)



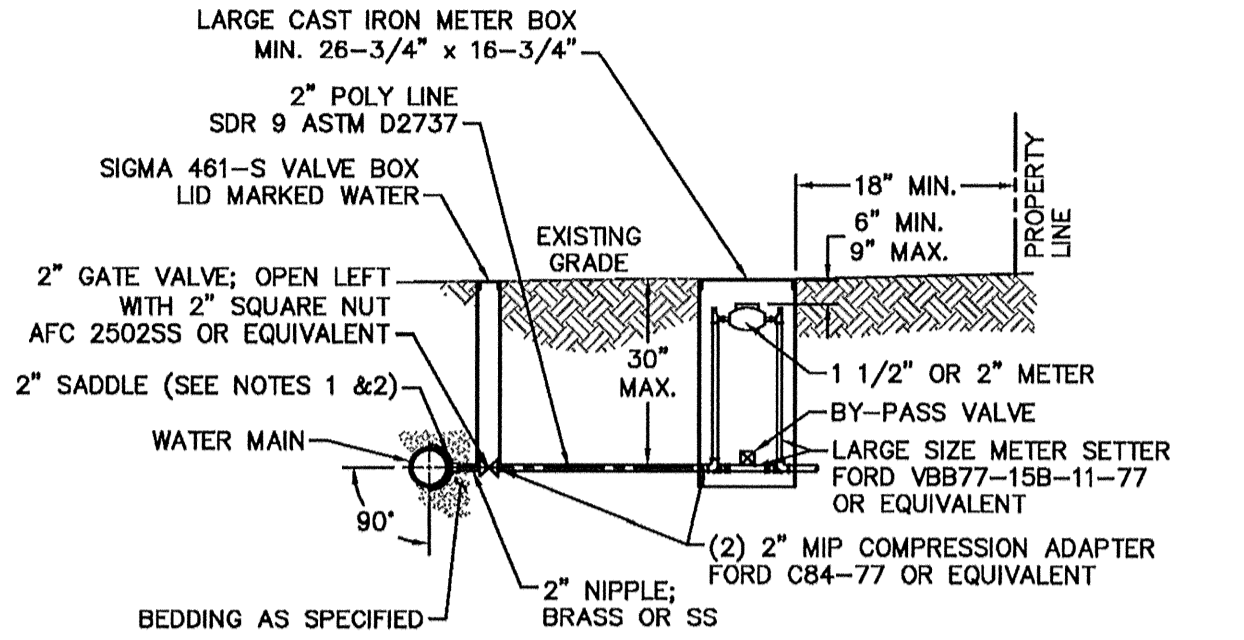
**WD-1 WATER METER VAULT**  
 NOT TO SCALE



**NOTE: MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.**  
**INDOOR HORIZONTAL INSTALLATION**

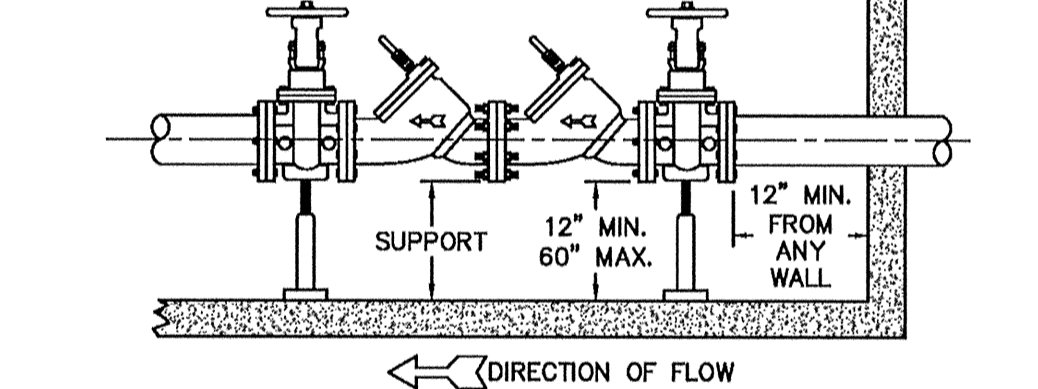
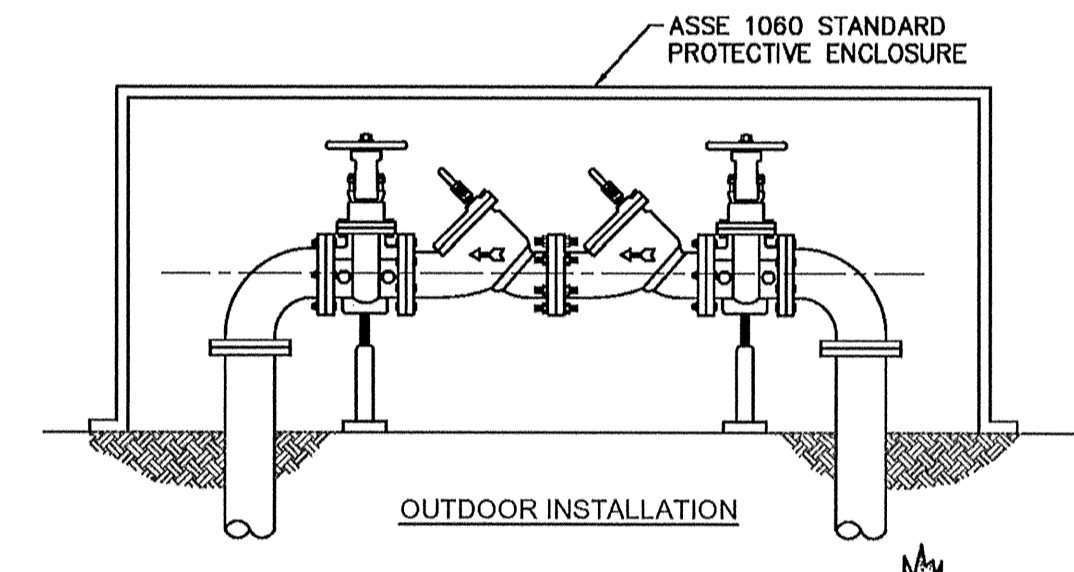


**WD-12 REDUCED PRESSURE PRINCIPLE ASSEMBLY**  
 NOT TO SCALE



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

FOR 1-1/2" OR 2" WATER SERVICES  
**WD-11 LARGE METER**  
 NOT TO SCALE



**NOTE:**

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

**WD-7 DOUBLE CHECK VALVE ASSEMBLY**  
 NOT TO SCALE

**GENERAL NOTES:**

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

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

**CFPUA WATER DISTRIBUTION SYSTEM**

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

**STANDARD DETAILS**

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

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

REVISIONS:

CLIENT INFORMATION:  
**THE VAULT ON 17th, LLC**  
 1051 MILITARY CUTOFF RD., STE. 200  
 WILMINGTON, NC 28405

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

**DETAILS THE VAULT ON 17TH**  
 1113 S. 17TH STREET  
 CITY OF WILMINGTON  
 NORTH CAROLINA

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

DRAWING INFORMATION:  
 SCALE:  
 DATE:  
 DESIGNED:  
 CHECKED:

**C-5.3**  
 PEI JOB#: 16312.PE

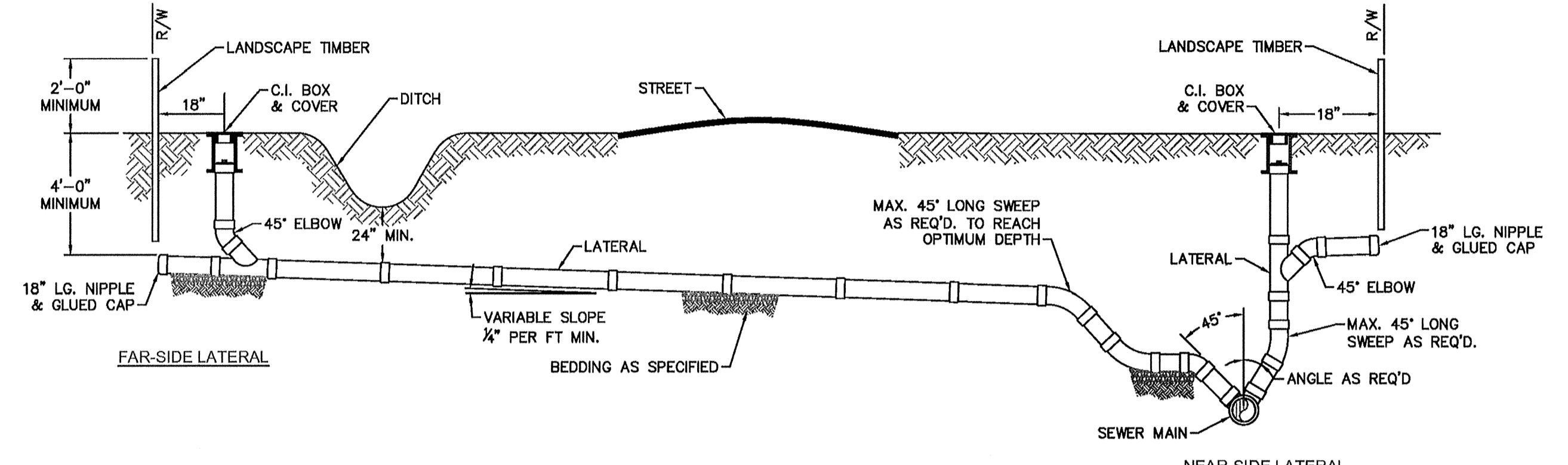
FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

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

NCDENR PWSS WATER PERMIT #: \_\_\_\_\_  
 WATER CAPACITY: \_\_\_\_\_ GPD  
 DWQ SEWER PERMIT #: \_\_\_\_\_  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NET: YES or NO (CIRCLE ONE)

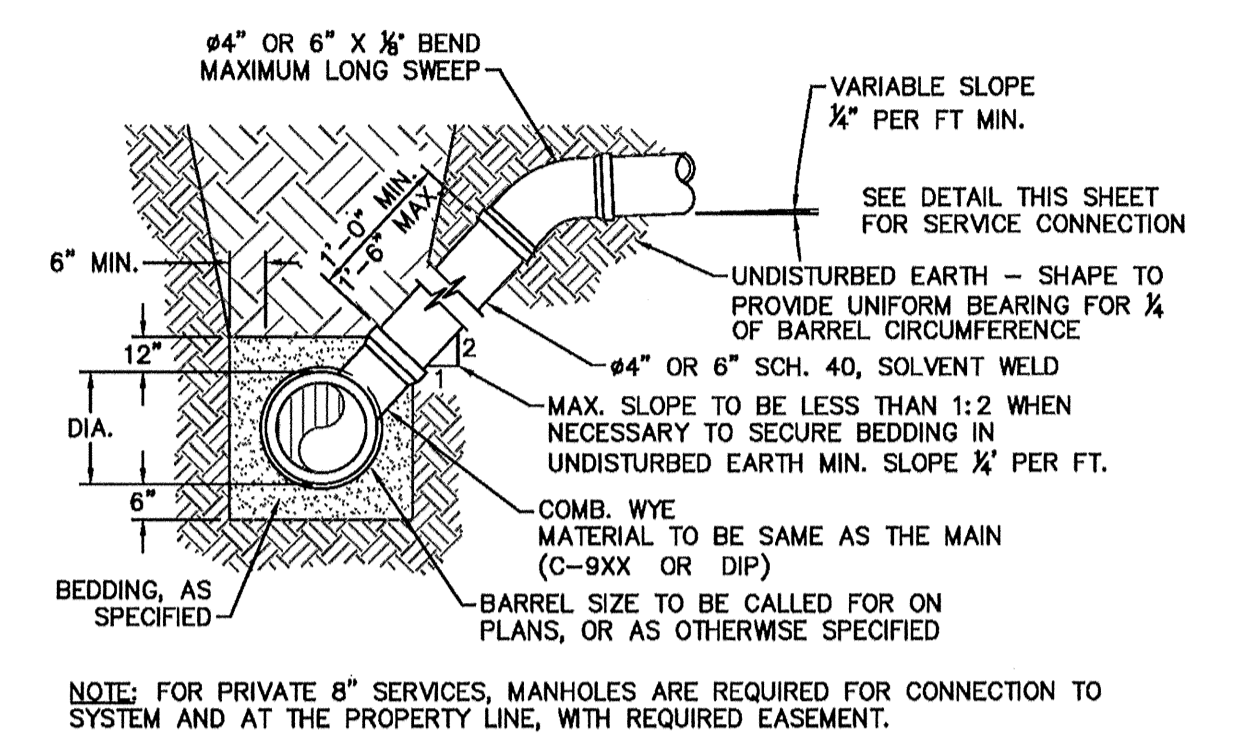
**Approved Construction Plan**  
 Name \_\_\_\_\_ Date \_\_\_\_\_  
 Planning \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_

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



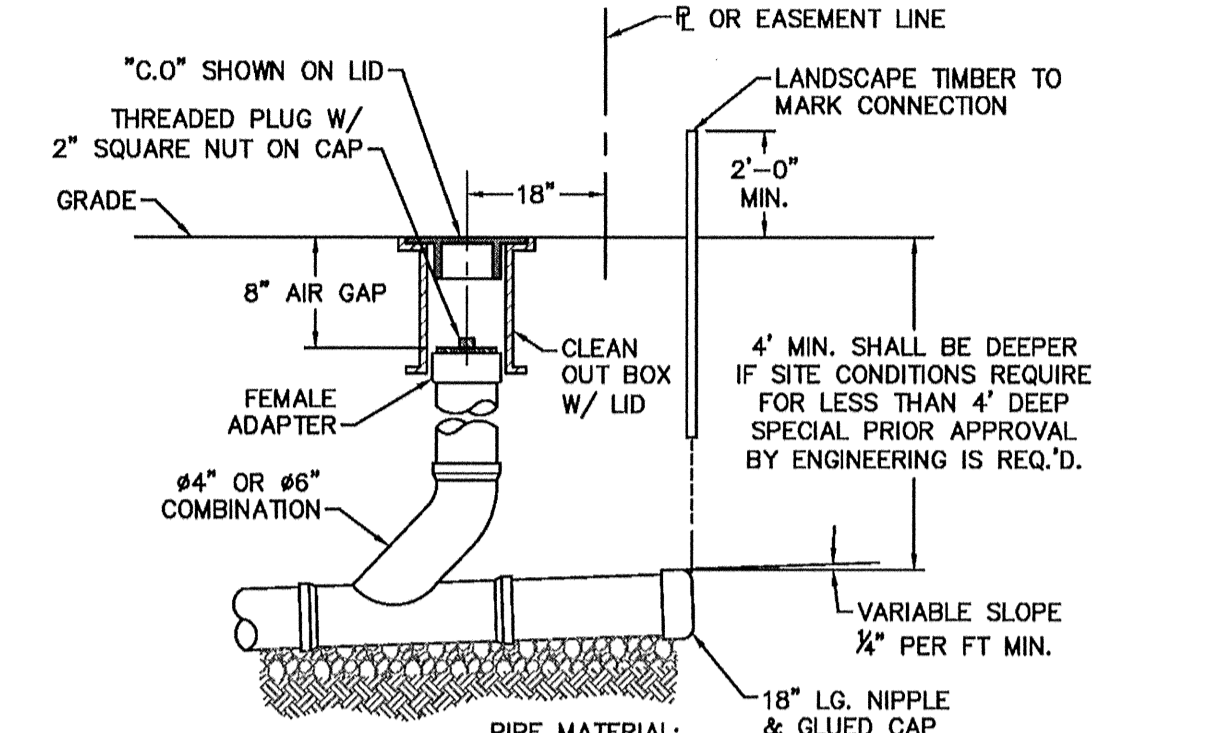
**NOTE:** FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN WITH RIGHT-OF-WAY RESTRICTIONS.

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



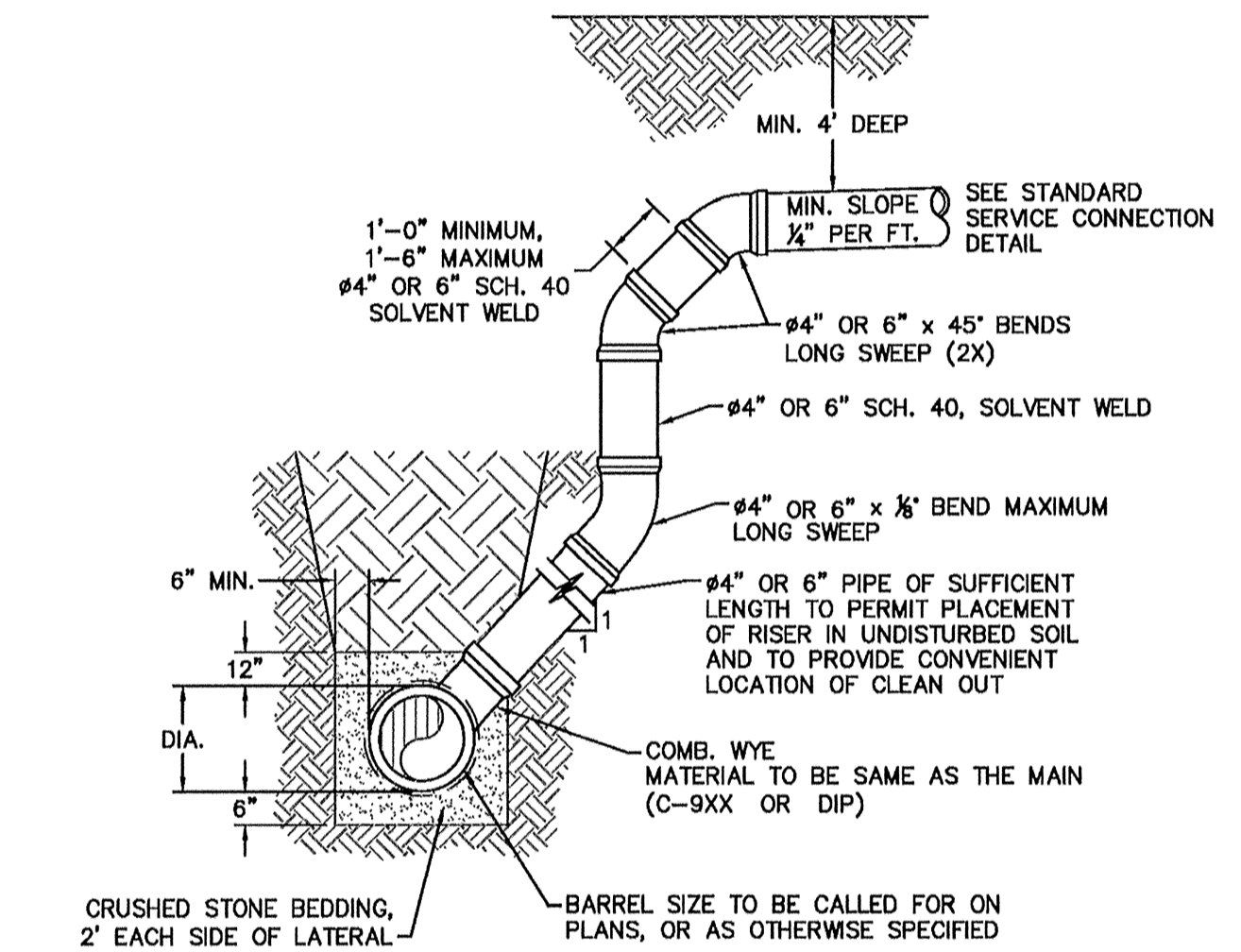
**NOTE:** FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

**SD-10**  
**STANDARD SERVICE LATERAL**  
 NOT TO SCALE



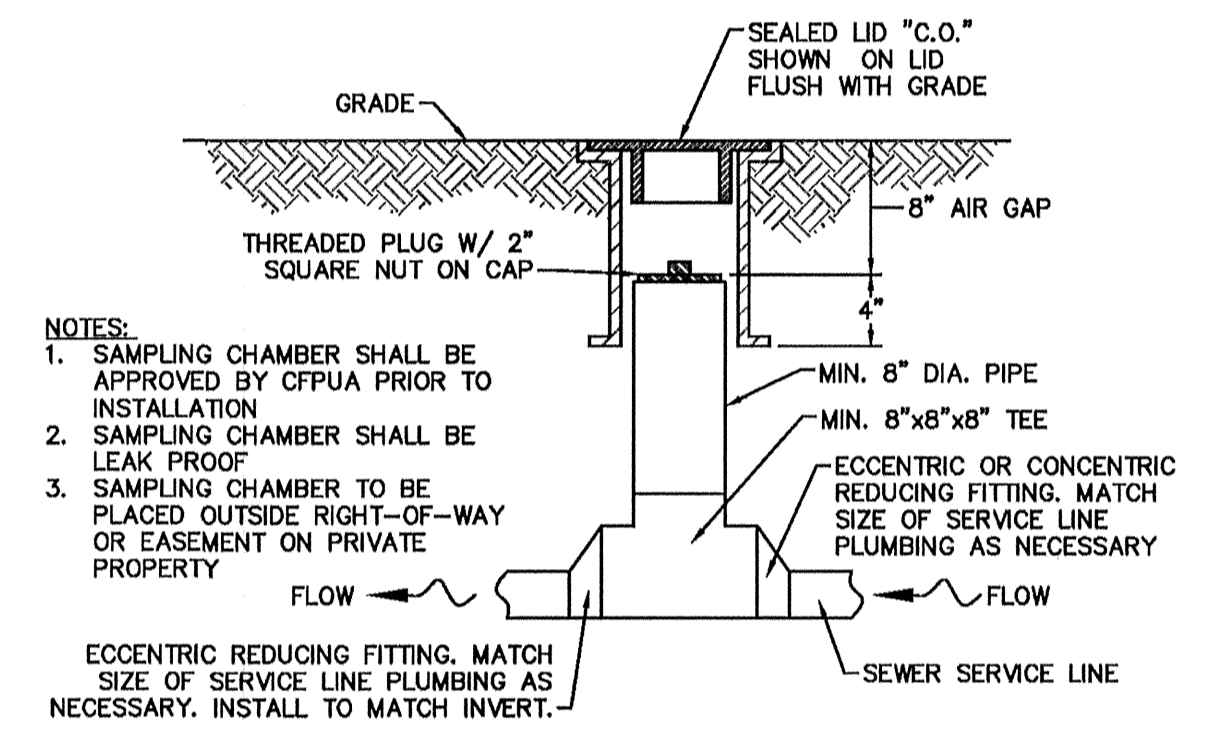
**NOTE:** FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

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



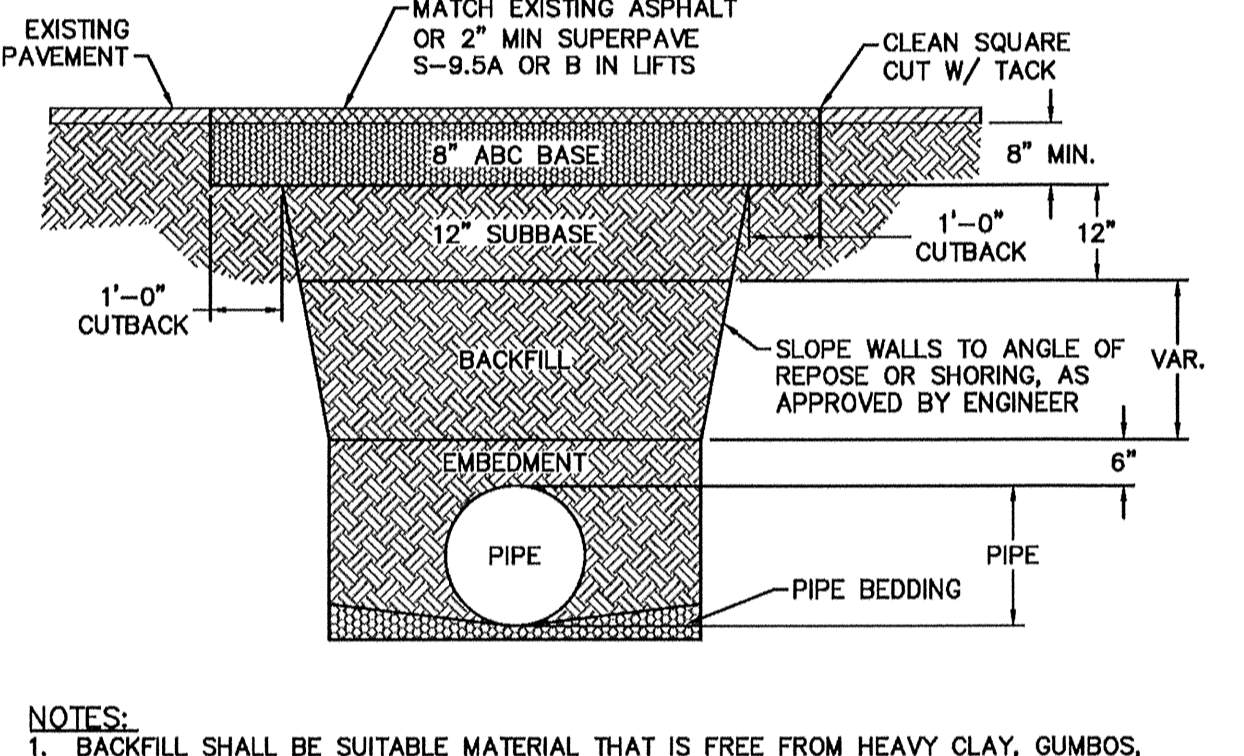
**NOTE:** 1. SPECIAL CARE SHALL BE TAKEN DURING BACKFILL OPERATIONS. THE RISER SHALL BE PLUMB AND TRUE AT ALL TIMES, AND REST ON FIRM, STABLE FOUNDATION.  
 2. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

**SD-12**  
**DEEP SERVICE LATERAL**  
 NOT TO SCALE



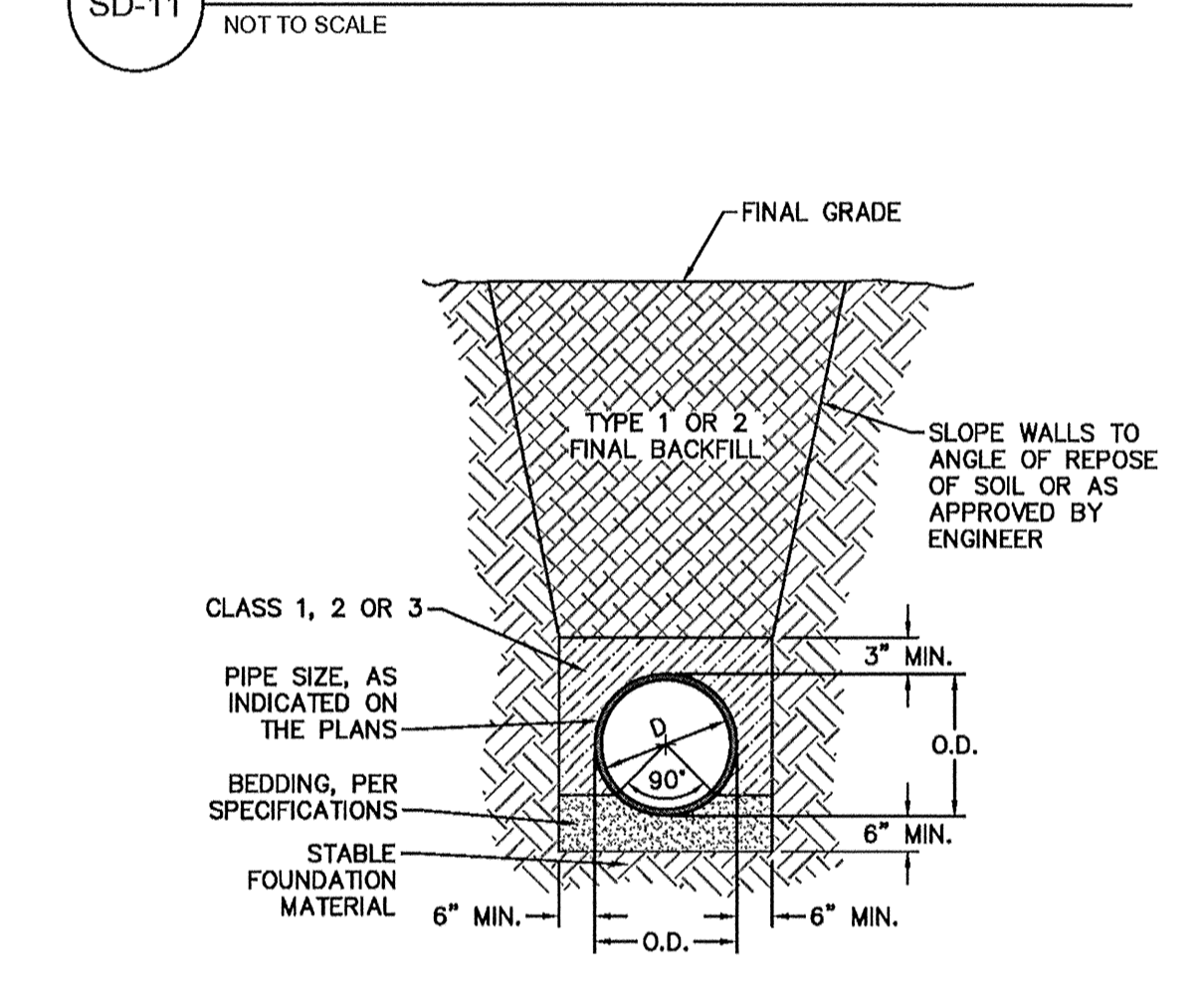
**NOTE:** 1. SAMPLING CHAMBER SHALL BE APPROVED BY CFPUA PRIOR TO INSTALLATION.  
 2. SAMPLING CHAMBER SHALL BE LEAK PROOF.  
 3. SAMPLING CHAMBER TO BE PLACED OUTSIDE RIGHT-OF-WAY OR EASEMENT ON PRIVATE PROPERTY.

**SD-13**  
**SAMPLING CHAMBER**  
 NOT TO SCALE



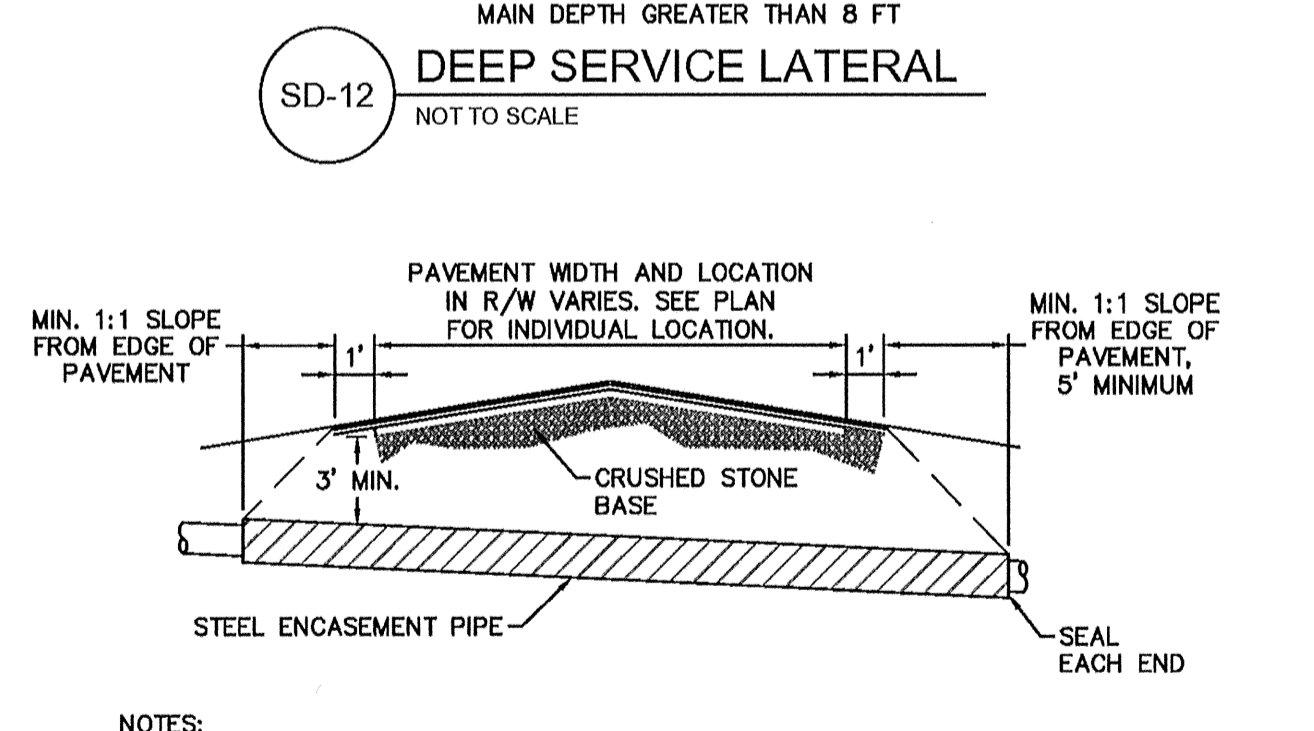
**NOTE:** 1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.  
 2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).  
 3. 8-INCH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

**SD-14**  
**PAVEMENT REPAIR WHERE PIPE INSTALLED**  
 NOT TO SCALE



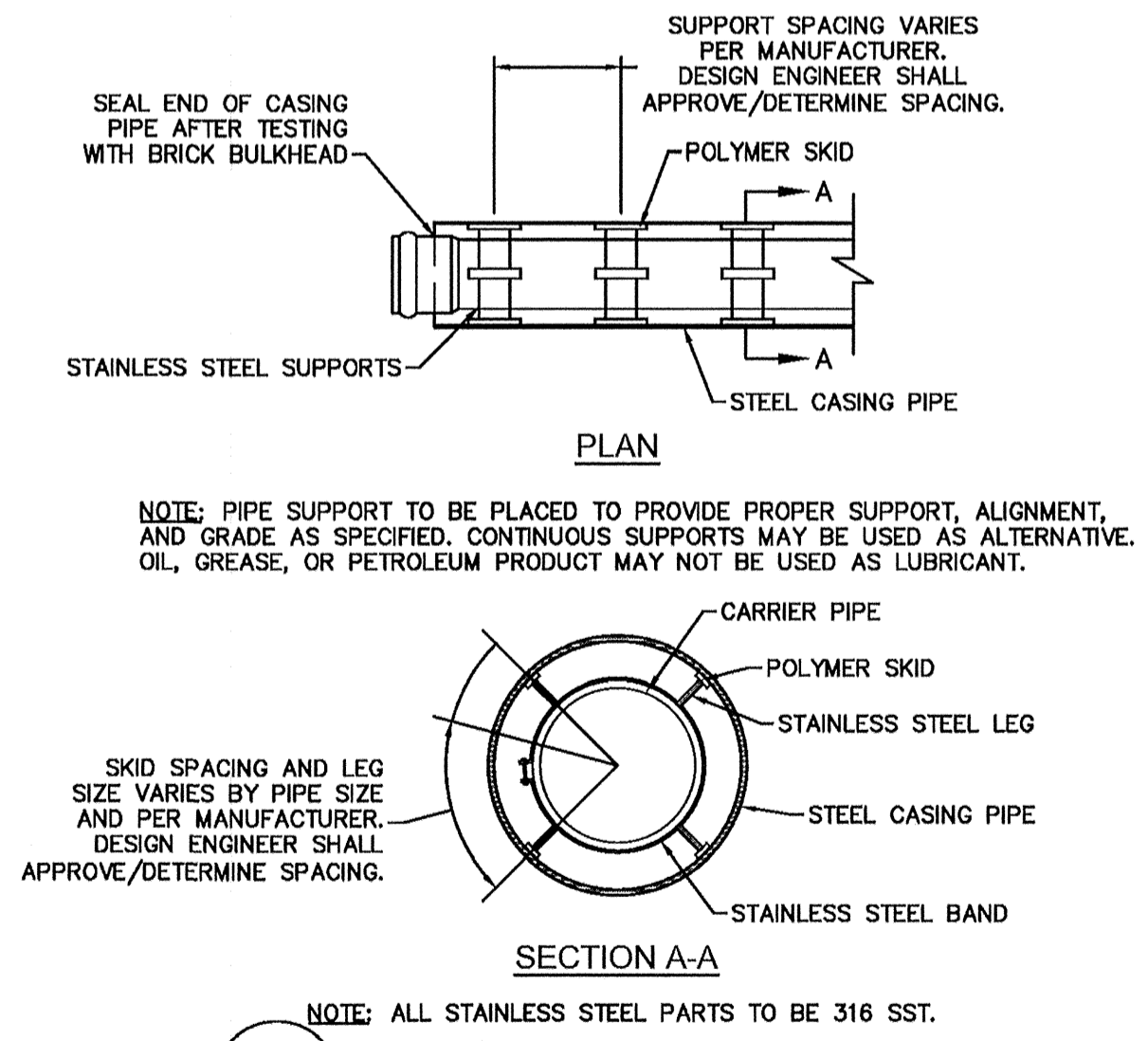
**NOTE:** 1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.  
 2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.  
 3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION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

**SD-15**  
**TYPICAL TRENCH DETAIL**  
 NOT TO SCALE



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

**SD-16**  
**TYPICAL BORING/JACKING DETAIL**  
 NOT TO SCALE



**NOTE:** ALL STAINLESS STEEL PARTS TO BE 316 SST.

**SD-17**  
**PIPE CASING SUPPORT DETAIL**  
 NOT TO SCALE

**GENERAL NOTES:**

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

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

**CFPUA SANITARY SEWER**

**STANDARD DETAILS**

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

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

Stewardship. Sustainability. Service.

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

CLIENT INFORMATION:

THE VAULT ON 17th, LLC  
 1051 MILITARY CUTOFF RD., STE. 200  
 WILMINGTON, NC 28405

PARAMOUNT ENGINEERING INC.  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6700 (F)  
 NC License #: C-2846

PROJECT STATUS:  
 CONCEPT LAYOUT:  
 FINAL DESIGN:  
 RELEASED FOR CONSTRUCTION:  
 DRAWING INFORMATION:  
 CHECKED BY:  
 DESIGNED BY:  
 PROJECT NO.:

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

SEAL  
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 PROJECT P. BALL AND  
 ENGINEER

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

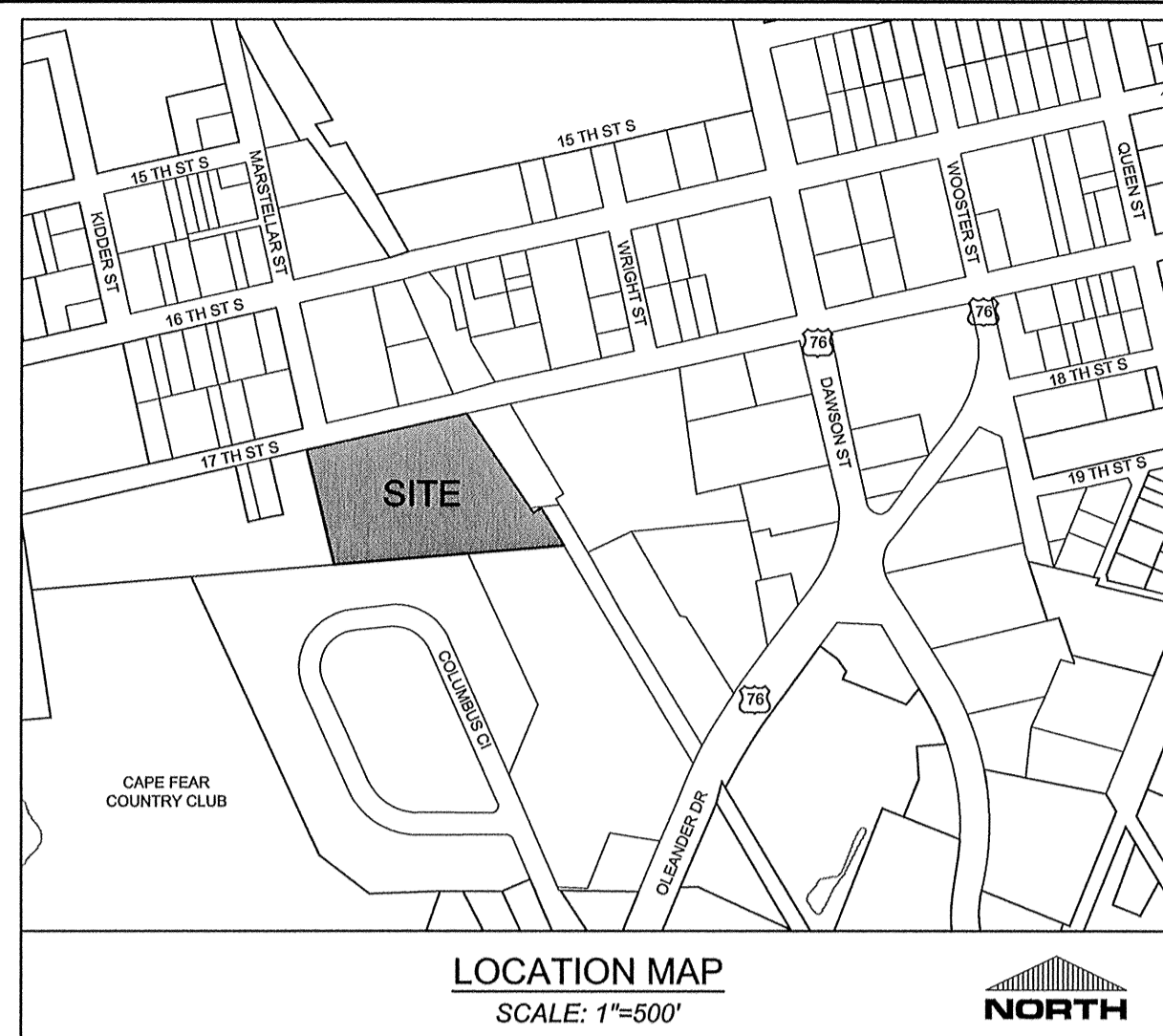
SHEET NO.:

SSD-2

C-5.4

PEI JOB#: 16312.PE

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**PLANT SCHEDULE**

TREES	CODE	BOTANICAL NAME	SIZE	QTY
	LO	QUERCUS VIRGINIANA SOUTHERN LIVE OAK	2.5" CAL	3
ORNAMENTAL TREES	CODE	BOTANICAL NAME	SIZE	QTY
	JM	ACER PALMATUM 'EMPEROR I' EMPEROR I JAPANESE MAPLE	2.5" CAL - 8' H	13
	KC	PRUNUS SERRULATA 'KWANZAN' FLOWERING CHERRY	2.5" CAL - 8' H	10
SHRUBS	CODE	BOTANICAL NAME	CONT	QTY
	FA	AZALEA L 'FORMOSA' FORMOSA AZALEA	3 GAL	114
	RRA	AZALEA 'RED RUFFLES' RED RUFFLES AZALEA	3 GAL	39
	DBH	ILEX CORNUTA 'BURFORDII NANA' DWARF BURFORD HOLLY	3 GAL	89
	BH	ILEX VOMITORIA 'BORDEAUX' BORDEAUX HOLLY	3 GAL	38
	WM	MYRTICA CERIFERA WAX MYRTLE	7 GAL	71
	PV	PITTIOSPORUM T. 'VARIEGATA' VARIEGATED MOCK ORANGE	3 GAL	51

**LANDSCAPE NOTES:**  
 1. ALL PLANT BEDS SHALL RECEIVE PINE STRAW MULCH 3" DEPTH MIN. - 4" DEPTH MAX  
 2. SEED ALL DISTURBED AREAS OUTSIDE OF MULCH AREAS WITH BERMUDA 'BLACKJACK'

**SITE INFORMATION**  
 OWNER INFORMATION: CA NORTH CAROLINA HOLDINGS, INC.  
 PROJECT ADDRESS: 1113 S. 17TH STREET  
 TAX PARCEL IDENTIFICATION #: R05415-003-001-000  
 RECORDED DEED BOOK: BK 5863 PG 014  
 CURRENT ZONING: LI - LIGHT INDUSTRIAL  
 EXISTING USE: UNDEVELOPED  
 PROPOSED USE: MINI-WAREHOUSING  
 TOTAL SITE AREA: 3.916 +/- ACRES

**FLOOD INFORMATION:** THIS PARCEL IS LOCATED IN FLOOD ZONE X, WHICH IS NOT A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY FEMA FLOOD PANEL 3720314800J, DATED APRIL 3, 2006

**CAMA LAND USE CLASSIFICATION:** URBAN

**BUILDING INFORMATION**  
 CONSTRUCTION TYPE: TYPE I OR II  
 NUMBER OF PROPOSED BUILDINGS: 1  
 PROPOSED BUILDING SF: 76,253 SF  
 MAX. HEIGHT: 12'-0"  
 LOT COVERAGE: 44.8% (PROPOSED)

**LANDSCAPE CALCULATIONS:**

**STREETYARDS**

17TH STREET	REQ'D	PROV
393 LF * 25' = 9,825 SF	9,825 SF	10,056 SF
9,825 SF / 600 SF = 16.375	17	EXISTING 105

**PARKING AREA INTERIOR**

13,561 SF * 20% SHADING	REQ'D	PROV
3 TREES @ 707 SF EACH = 2,121 SF	8,404 SF	9,252 SF
EXISTING CANOPY SHADE = 7,131 SF		
		9,252 SF

**FOUNDATION PLANTINGS**

753 LF * 12 FT HGT = 9,036 SF * 0.12	REQ'D	PROV
	1,084 SF	2,676 SF

**BUFFER PLANTINGS**

365 LF OF BOUNDARY ADJACENT TO MF-M	REQ'D	PROV
295 LF OF BOUNDARY ADJACENT TO O&I	13	10
	10	10
	8' TREES	8' TREES

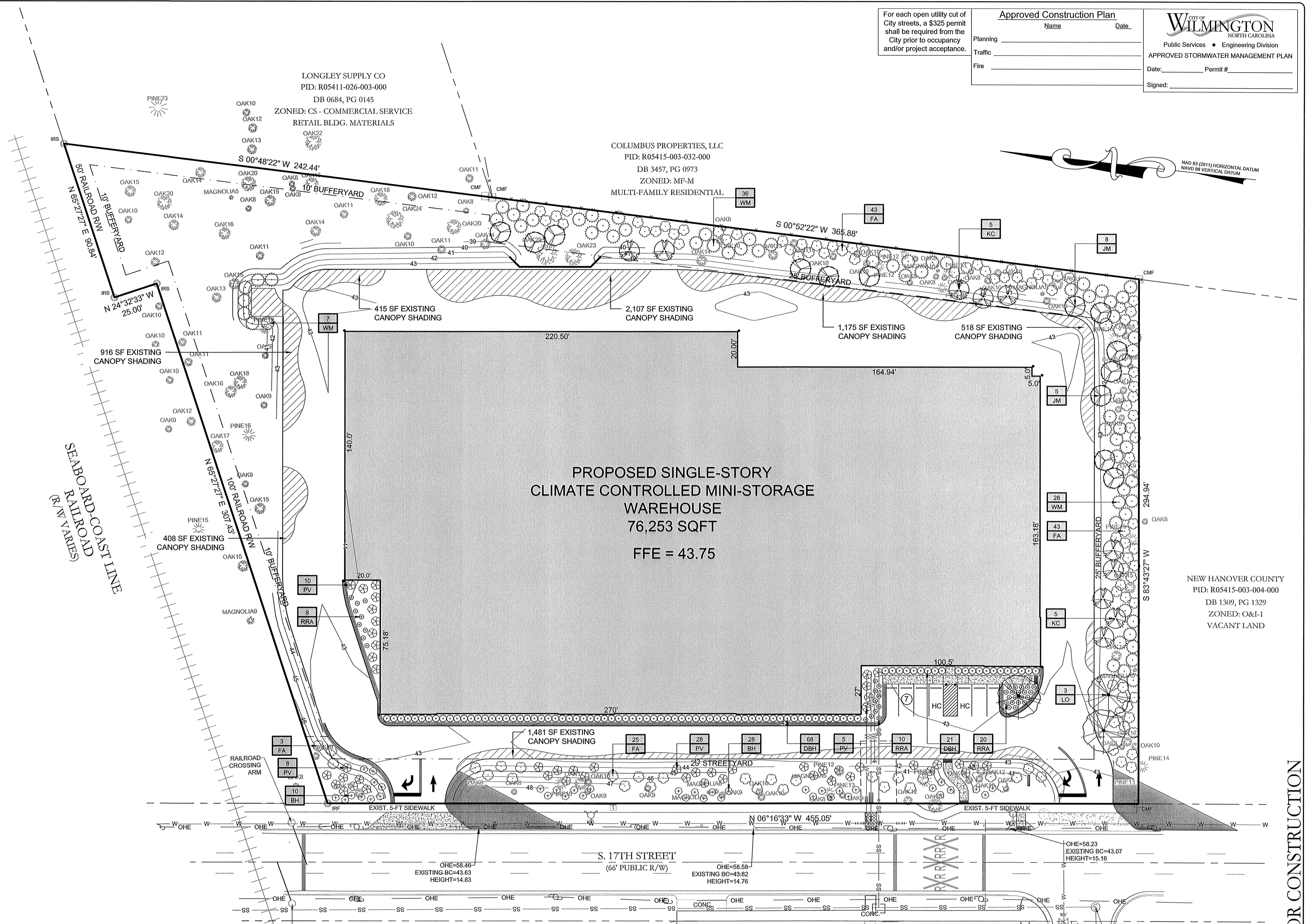
**OVERALL SITE TREE PLANTING REQUIREMENTS**

3.916 AC * 15 TREES / AC	REQ'D	PROV
	59	

PROTECTED MITIGATION TREES REQUIRED (84 CAL. INCHES / 2.5')  
 Refer to Tree Removal Plan Sheet C-2.1 for Calculations

TOTAL TREES REQ.	93
CREDITS FOR RETAINED TREES	79
2.5" CAL MIN. TREES PROVIDED	26
<b>TOTAL TREES PROVIDED</b>	<b>105</b>

\*No Additional Mitigation Planting/Payment Required\*



**LANDSCAPE NOTES:**

- CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
- ALL PLANT MATERIAL SHALL MEET THE CURRENT VERSION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
- NO TREE, OTHER THAN THOSE SHOWN ON APPROVED PLANS FOR REMOVAL WITH THESE PLANS AND/OR TREE REMOVAL PERMIT PLANS, SHALL BE REMOVED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL SHRUB BEDS AND/OR PLANTING AREAS EXCLUDING TURF AREAS SHALL BE MULCHED WITH 3 INCH MINIMUM AND 4 INCH MAXIMUM DEPTH PINE STRAW MULCH UNLESS OTHERWISE NOTED.
- ALL PLANTS, 4 FEET OR LESS APART, WILL BE CONNECTED IN ONE PLANTING BED. ALL GROUPS OF PLANTS SHOULD BE WITHIN ONE PLANTING BED WITH THE EDGE OF MULCH EXTENDING 2 FEET BEYOND THE EDGE OF PLANT MASS. SINGLE TREES SHOULD HAVE A CIRCLE OF MULCH NOT LESS THAN 5 FEET DIAMETER.
- PLANTING SOIL MIX: MIX EXISTING SOIL WITH THE SOIL AMENDMENTS AND FERTILIZERS IN THE QUANTITIES RECOMMENDED BY THE SOIL TESTING LABORATORY. THIRD PARTY RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
- ANY AND ALL SUBSTITUTIONS OF PLANT MATERIAL SHALL BE APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. FAILURE IN OBTAINING APPROVAL MAY RESULT IN LIABILITY TO THE CONTRACTOR.
- THE CONTRACTOR SHALL REPLACE DEAD AND/OR UNHEALTHY PLANT MATERIAL WITHIN 12 MONTHS OF ACCEPTANCE OF THE INSTALLED MATERIAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL PREPARE ALL SEEDED OR SODDED AREAS TO ASSURE THAT THE SUBGRADE HAS BEEN RAKED AND ROLLED TO ACCEPT THE SOD/SEED. ALL SOD/SEED AREAS MUST BE IRRIGATED OR HAND WATERED. ALL SOD SHALL BE PLACED WITH STAGGERED JOINTS AND NO GAPS BETWEEN SOD JOINTS. SOD SHOULD BE ROLLED AFTER INSTALLATION. ALL SEEDED AND/OR SODDED AREAS SHOULD PROVIDE A SMOOTH SURFACE FREE OF DIPS AND UNLEVELED GROUND.
- IRRIGATION SHALL BE DESIGNED AND INSTALLED BY A LICENSED IRRIGATION CONTRACTOR IN THE STATE OF NORTH CAROLINA. IRRIGATION IS REQUIRED AT THE BUILDING PERIMETER, FRONT ENTRY, AND THE PLAYGROUND FIELDS. PLANS AND SPECIFICATIONS FOR THE IRRIGATION DESIGN SHALL BE SUBMITTED TO THE OWNER OR OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE OR INSTALLATION OF THE MATERIALS. (BID ALT. #13)
- THE CONTRACTOR IS RESPONSIBLE FOR HAND WATERING THE EXCESS MATERIALS FROM THE JOB SITE ONCE THE PROJECT IS COMPLETE. SECURING ANY MATERIALS LEFT ON SITE DURING THE COURSE OF THE PROJECT IS THE CONTRACTOR'S RESPONSIBILITY. ALL DISTURBED AREAS NOT DESIGNATED FOR SOD SHALL BE SEEDED.
- ALL VEGETATION PROPOSED WITHIN SIGHT DISTANCE AREAS SHALL NOT INTERFERE WITH SIGHT DISTANCE FROM 30' TO 10'.

**LEGEND:**

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

**GRAPHIC SCALE:** SCALE: 1"=30'

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 \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

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

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

**REVISIONS:**

**CLIENT INFORMATION:**  
 THE VAULT ON 17th, LLC  
 1051 MILITARY CUTOFF RD., STE. 200  
 WILMINGTON, NC 28405

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

**LANDSCAPE PLAN**  
 THE VAULT ON 17TH  
 1113 S. 17TH STREET  
 CITY OF WILMINGTON  
 NORTH CAROLINA

**PROJECT STATUS:**  
 PRELIMINARY LAYOUT:  
 RELEASED FOR CONSTRUCTION:  
 DATE: 01/25/2017  
 SCALE: 1"=30'  
 DRAWN BY: RPB  
 CHECKED: RPB

**SEAL:**  
 NORTH CAROLINA  
 LANDSCAPE ARCHITECT  
 JOHN EVERETT PERMITS, INC.

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

**L-1.0**  
 PEI JOB#: 16312.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION