

CITY OF WILMINGTON STANDARD NOTES

- PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO ENSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
- NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING IS INSTALLED AND APPROVED. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AND CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION METHODS.
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
- ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING REGARDING THE INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
- CALL TRAFFIC ENGINEERING AT 910-341-7888 FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING PRIOR TO ACTUAL STRIPING.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
- STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
- TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, OR CURBING WILL BE REPLACED.
- CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
- WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
- PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 910-343-3910 FOR INFORMATION.
- IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REGULATIONS. CALL 919-343-3910 FOR INFORMATION.
- ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZER SENSOR.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFCCOHR OR ASSE.
- CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.
- NO OBSTRUCTIONS ARE PERMITTED IN THE SPACE BETWEEN THIRTY (30) INCHES AND TEN (10) FEET ABOVE THE GROUND WITHIN THE TRIANGULAR SIGHT DISTANCE.
- CONTACT THE NORTH CAROLINA ONE CALL CENTER AT 1-800-632-4949 PRIOR TO DOING ANY DIGGING, CLEARING, OR GRADING.

FIRE & LIFE SAFETY NOTES

- THE TYPE OF BUILDING CONSTRUCTION ACCORDING TO THE INTERNATIONAL BUILDING CODE SHALL BE TYPE VI SPRINKLERED.
- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE
- HYDRANT MUST BE WITHIN 150' OF THE FDC (MEASURED AS THE TRUCK DRIVES FOR PRACTICAL USE)
- FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT
- LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC
- ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
- ALL ISOLATION VALVES WITHIN THE "HOT BOX" SHALL BE ELECTRONICALLY SUPERVISED. COORDINATE WITH THE FIRE SPRINKLER AND ALARM INSTALLER IN REGARDS TO RUNNING WIRE FOR TAMPER SWITCH.
- CONTRACTOR SHALL MAINTAIN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- UNDERGROUND FIRE LINE(S) MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-341-0696.

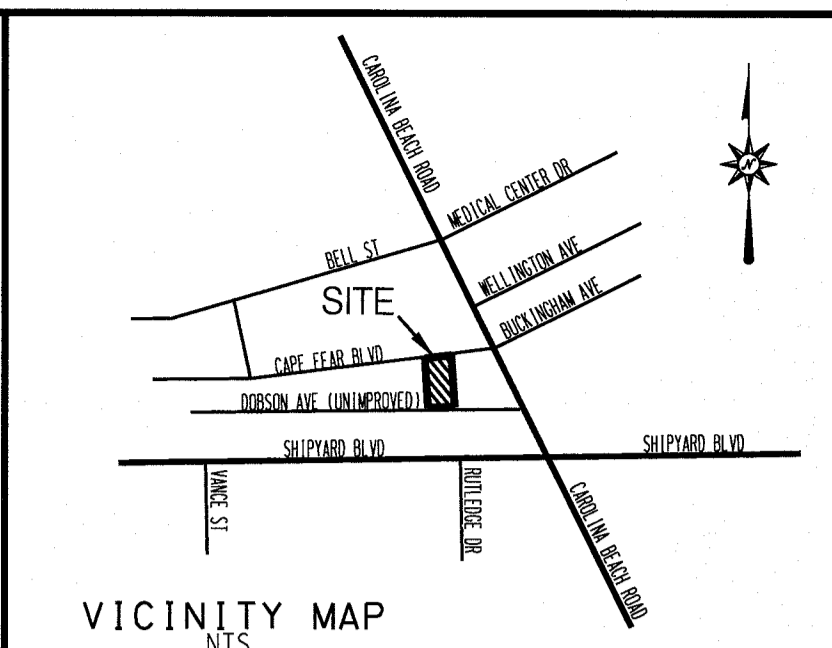
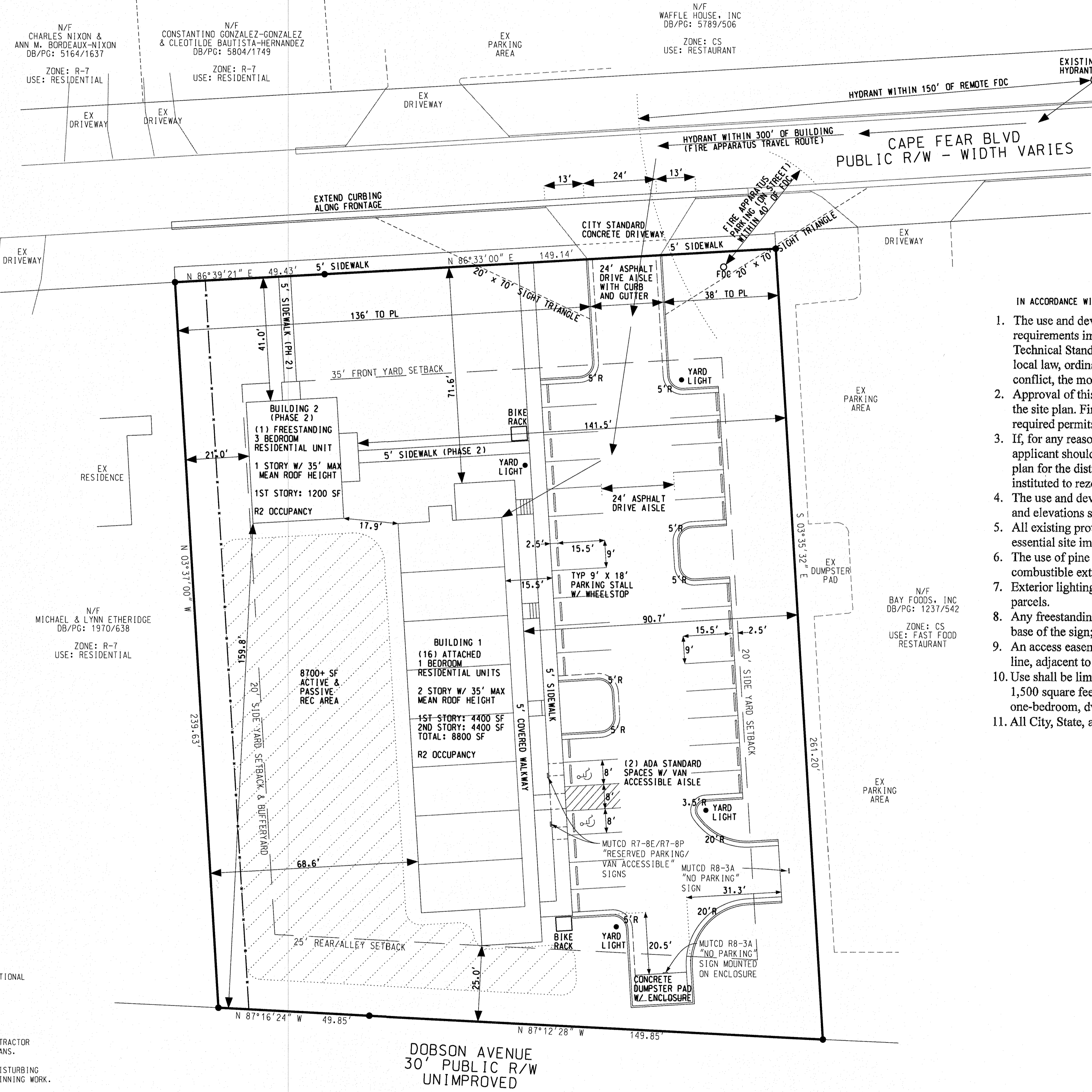
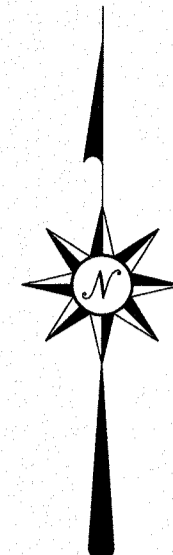
NOTES

- THE LAYOUT OF SITE IMPROVEMENTS IS BASED PLANS PREPARED BY DESIGN SOLUTIONS ENTITLED "CONDITIONAL DISTRICT CONCEPT PLAN - CASE # CD-6-917" DATED 7/24/2017 AND REVISED 9/19/2017.
- NO WETLANDS OR SURFACE WATERS EXIST WITHIN OR ADJACENT TO THE PROJECT AREA.
- THE PROJECT IS OUTSIDE THE 100 YEAR FLOOD ZONE PER FIRM PANEL 3720312600J.
- AN NHC EROSION CONTROL PERMIT IS NOT REQUIRED FOR PROJECTS DISTURBING LESS THAN 1 ACRE. CONTRACTOR SHALL INSTALL AND MAINTAIN SILT FENCING AND GRAVEL CONSTRUCTION ENTRANCE AS NOTED ON THE PLANS.
- NCDOT AND CITY OF WILMINGTON STORMWATER PERMITS ARE NOT REQUIRED FOR RESIDENTIAL PROJECTS DISTURBING LESS THAN 1 ACRE. CITY OF WILMINGTON DRAINAGE PLAN APPROVAL SHALL BE REQUIRED PRIOR TO BEGINNING WORK.
- NO EXTENSIONS OF PUBLIC WATER MAINS ARE PROPOSED. AN NCDOT PERMIT SHALL BE REQUIRED FOR EXTENSIONS OF PUBLIC SEWER MAINS. CFPUA PLAN APPROVAL SHALL BE REQUIRED PRIOR TO BEGINNING WORK.
- CITY OF WILMINGTON FIRE SERVICES AND CFPUA APPROVAL IS REQUIRED FOR 4" PRIVATE FIRE LINE
- NO EXTENSIONS OF PUBLIC OR PRIVATE RIGHTS OF WAY ARE PROPOSED. CITY OF WILMINGTON PLAN APPROVAL SHALL BE REQUIRED PRIOR TO BEGINNING WORK.

SHEET INDEX

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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 DATA

PARCEL ID	6018-006-012-000
DEEK BOOK/PAGE	5595/1265
PLAT BOOK/PAGE	53/332
ZONING	MF-M (CO)
PROPERTY AREA	1.14 AC
DISTURBANCE LIMITS	49,701 SF
PROPOSED USE	RESIDENTIAL
PROPOSED BUILDINGS	2
MAX BUILDING HEIGHT	35'
SETBACKS	
FRONT	35'
SIDE	20'
REAR (ALLEY)	25'
BUILDING 1 AREA	8,800 SF
BUILDING 2 AREA	1,200 SF
TOTAL BUILDING AREA	10,000 SF
PROPOSED 1 BR UNITS	16
PROPOSED 3 BR UNITS	1
TOTAL PROPOSED UNITS	17
UNITS PER ACRE	15
CAMA LAND CLASSIFICATION	URBAN

IN ACCORDANCE WITH CD-6-917, THE FOLLOWING CONDITIONS SHALL APPLY:

- The use and development of the subject property shall comply with all regulations and requirements imposed by the Land Development Code, the City of Wilmington Technical Standards and Specifications Manual, and any other applicable federal, state or local law, ordinance or regulation, as well as any condition stated below. In the event of a conflict, the more stringent requirement or higher standard shall apply.
- Approval of this conditional district rezoning does not constitute technical approval of the site plan. Final approval by the Technical Review Committee and the issuance of all required permits must occur prior to release of the project for construction.
- If, for any reason, any condition for approval is found to be illegal or invalid or if the applicant should fail to accept any condition following approval, the approval of the site plan for the district shall be null and void and of no effect and proceedings shall be instituted to rezone the property to its previous zoning classification.
- The use and development of the subject property shall be in accordance with the site plan and elevations submitted to and approved by City Council on October 3, 2017.
- All existing protected trees not located within the building footprint or impacted by essential site improvements shall be preserved or mitigated.
- The use of pine straw as ground cover shall be prohibited within ten (10) feet of any combustible exterior construction.
- Exterior lighting shall be installed so as not to shine directly onto adjacent residential parcels.
- Any freestanding sign on the site shall be monument style with landscaping around the base of the sign; no pole or feather flag signs shall be permitted.
- An access easement and stub connection shall be provided along the eastern property line, adjacent to the property located at 2518 Carolina Beach Road.
- Use shall be limited to a one-story single-family detached dwelling unit, not to exceed 1,500 square feet and a two-story, 8,800 square foot apartment building with 16, one-bedroom, dwelling units.
- All City, State, and Federal regulations shall be met.

BUA

BUILDINGS	6,887 SF
WALKWAYS	2,440 SF
PARKING	12,486 SF
TOTAL	21,813 SF
% OF PROPERTY (BUILDINGS)	0.50 AC
% OF PROPERTY (TOTAL BUA)	43.9 %

PARKING

1.50 MINIMUM SPACES / 1 BR UNIT X 16 UNITS = 24
2.25 MINIMUM SPACES / 3 BR UNIT X 1 UNIT = 2
TOTAL MINIMUM REQUIRED SPACES = 26
2.5 MAXIMUM ALLOWED SPACES / UNIT X 17 UNITS = 43
.. PROVIDE 30 SPACES (INCLUDING 2 ACCESSIBLE)
MINIMUM BIKE SPACES = 5
.. PROVIDE 10 SPACES

OPEN SPACE

REQUIRED OPEN SPACE = 35% X 49,701 SF (1.14 AC) SITE = 17,395 SF OPEN SPACE REQUIRED
PROVIDE TOTAL TRACT AREA LESS BUA (21,823 SF), INTERIOR LANDSCAPE ISLANDS (1,834 SF), FOUNDATION PLANTINGS (620 SF), AND FENCED BUFFERS (2,401 SF) = 23,223 SF OPEN SPACE

REQUIRED RECREATION AREA = 50% X REQUIRED OPEN SPACE = 8,698 SF RECREATION AREA

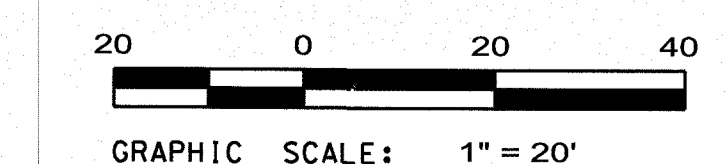
REQUIRED ACTIVE RECREATION AREA = 50% X REQUIRED RECREATION AREA = 4,349 SF ACTIVE RECREATION AREA

REQUIRED PASSIVE RECREATION AREA = 50% X REQUIRED RECREATION AREA = 4,349 SF PASSIVE RECREATION AREA

LEGEND

PROJECT BOUNDARY	---
EX WATER MAIN	---
EX SEWER MAIN	---
STORMDRAIN	---
EX CONTOURS	---
PROP CONTOURS	---
FLOW DIRECTION	---
SILT FENCE	---
TREE FENCE	---
DISTURBED AREA	---
DRAINAGE BOUNDARY	---

N/F SHIPYARD OFFICE WAREHOUSE POA CB/PG: 11/152
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 N/F DOBSON AVENUE UNIMPROVED

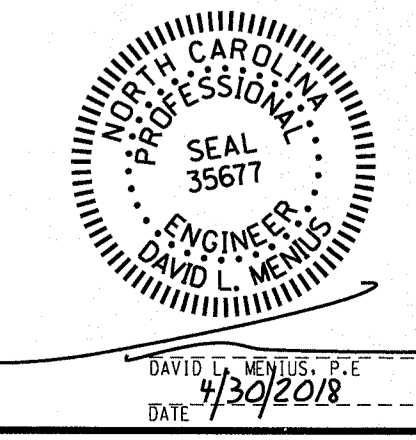


Approved Construction Plan

Name: *Arnell Smith* Date: *5/31/18*

Planning: *Arnell Smith* Traffic: *Arnell Smith* Fire: *Arnell Smith*

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED DRAINAGE PLAN
 Date: *05/08/2018* Permit # *2018020*
 Signed: *Frank Butler for RDG*



COVER/SITE PLAN

CAPE FEAR BOULEVARD APARTMENTS
 448 CAPE FEAR BOULEVARD WILMINGTON, NC 28401

CITY OF WILMINGTON NEW HANOVER COUNTY NORTH CAROLINA

OWNER: GREENHOUSE PROPERTIES CUSTOM, LLC
 ADDRESS: PO BOX 789 CASTLE HAYNE, NC 28429
 PHONE: 910-279-1582

DATE: *4/30/2018*

STROUD ENGINEERING, P.A.
 102-D CINEMA DRIVE WILMINGTON, NORTH CAROLINA 28403
 (910) 815-0775 LICENSE NO. C-0647

DRAWN: DLM
 SCALE: 1" = 20'
 SHEET: 1

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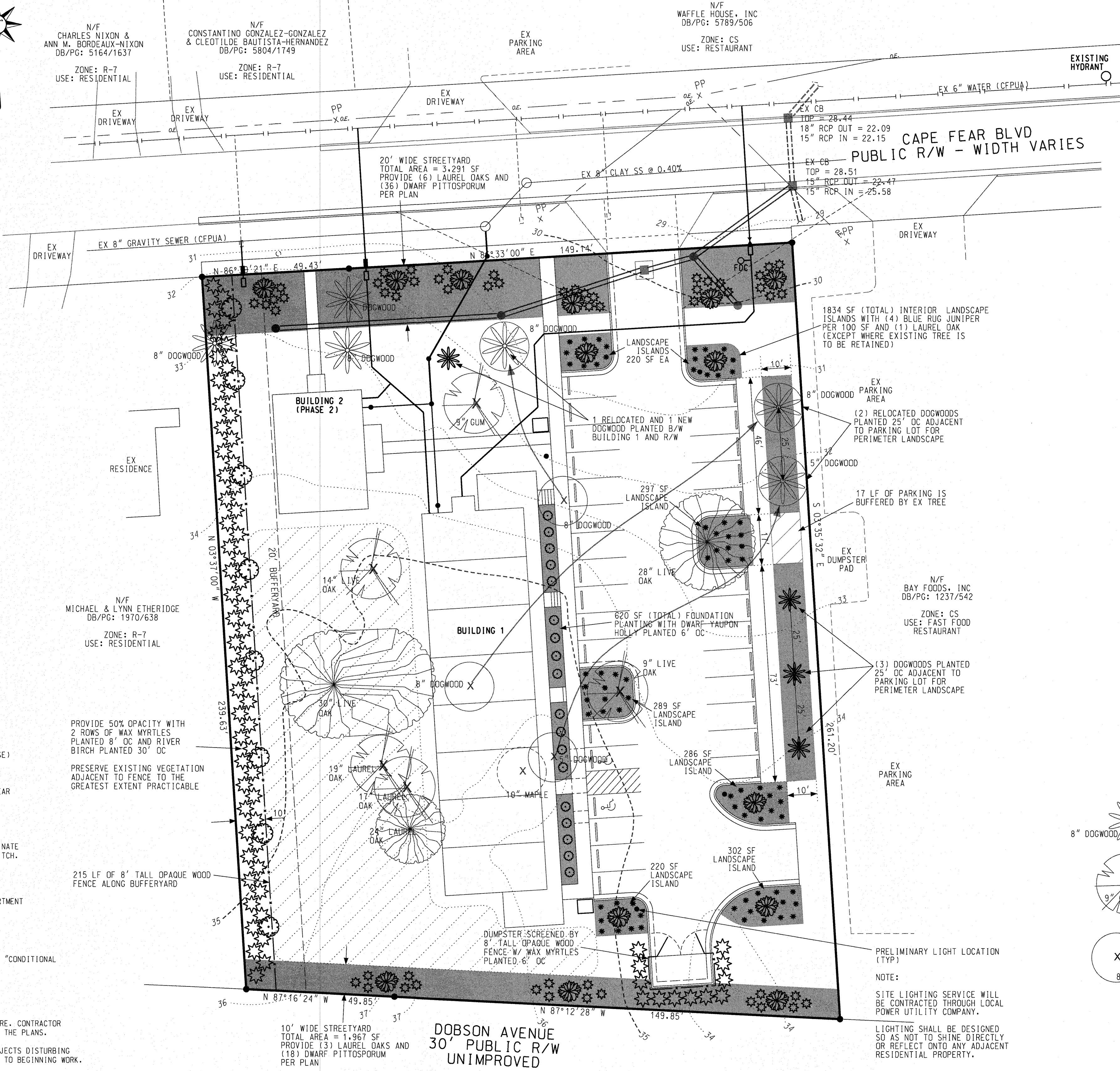
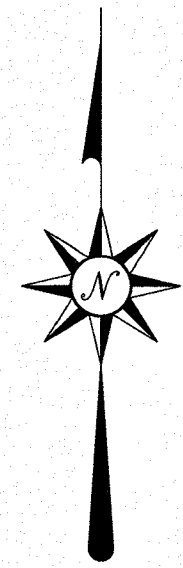
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PROVIDE 50% OPACITY WITH 2 ROWS OF WAX MYRTLES PLANTED 8' OC AND RIVER BIRCH PLANTED 30' OC

PRESERVE EXISTING VEGETATION ADJACENT TO FENCE TO THE GREATEST EXTENT PRACTICABLE

215 LF OF 8" TALL OPAQUE WOOD FENCE ALONG BUFFERYARD

10' WIDE STREETYARD TOTAL AREA = 1,967 SF PROVIDE (3) LAUREL OAKS AND (18) DWARF PITTOSPORUM PER PLAN

N/F SHIPYARD OFFICE WAREHOUSE POA
CB/PG: 11/152
ZONE: CS
USE: COMMERCIAL

N/F GEORGE HARRIS ENTERPRISES, INC
DB/PG: 5937/2946
ZONE: CS
USE: COMMERCIAL

Approved Construction Plan

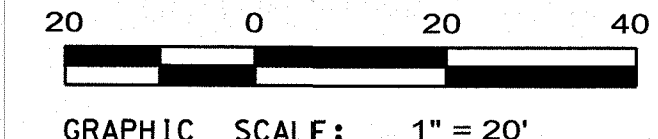
Name: *Nicole Smith* Date: *5/3/18*

Planning: *Nicole Smith* Traffic: *W. Schuman*

Date: *05/03/2018* Permit # *2018020*

Engineer: *David L. Reams* Date: *5/2/18*

WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED DRAINAGE PLAN
Date: 05/03/2018 Permit # 2018020
Signed: *David L. Reams* for RDG



LANDSCAPE SCHEDULE				
SYMBOL	SPECIES	CATEGORY	MINIMUM SIZE	NO.
	LAUREL OAK	LARGE SHADE TREE	2 INCH CALIPER	14
	RIVER BIRCH	LARGE SHADE TREE	2 INCH CALIPER	8
	DOGWOOD	SMALL SHADE TREE	8 FOOT HEIGHT	4
	WAX MYRTLE	SHRUB	12 INCH HEIGHT	72
	DWARF YAUPON HOLLY	SHRUB	12 INCH HEIGHT	18
	DWARF PITTOSPORUM	SHRUB	12 INCH HEIGHT	54
	BLUE RUG JUNIPER	GROUNDCOVER	2.5 QT POT	83

LANDSCAPE CALCULATIONS

CAPE FEAR BOULEVARD STREETYARD (PRIMARY)-
199 LF FRONTAGE - 24' DRIVEWAY = 175 LF X 18' = 3,150 SF REQUIRED (3,291 SF PROVIDED)

1 TREE PER 600 SF = 6 TREES REQUIRED (6 TREES PROVIDED)

6 SHRUBS PER 600 SF = 32 SHRUBS REQUIRED (32 SHRUBS PROVIDED)

DOBSON AVENUE STREETYARD (SECONDARY)-
200 LF FRONTAGE X 9' = 1,800 SF REQUIRED (1,967 SF PROVIDED)

1 TREE PER 600 SF = 3 TREES REQUIRED (3 TREES PROVIDED)

6 SHRUBS PER 600 SF = 18 SHRUBS REQUIRED (18 SHRUBS PROVIDED)

FOUNDATION PLANTING-
147 LF X 22' FACADE X 0.12 = 388 SF REQUIRED (620 SF PROVIDED)

PARKING LOT INTERIOR-
12,486 SF X 0.20 SHADING = 2,497 SF SHADING REQUIRED
5 PROPOSED CANDY TREES X 707 SF = 3,535 SF SHADING PROVIDED

PARKING LOT PERIMETER-
1 TREE PER 25 FEET X 119 LF = 5 TREES REQUIRED (5 TREES PROVIDED)
(THE REPORTED 119 LF PERIMETER IS BASED ON THE 46 LF AND 73 LF SECTIONS OF PARKING LOT THAT ARE NOT BUFFERED BY EXISTING TREES)

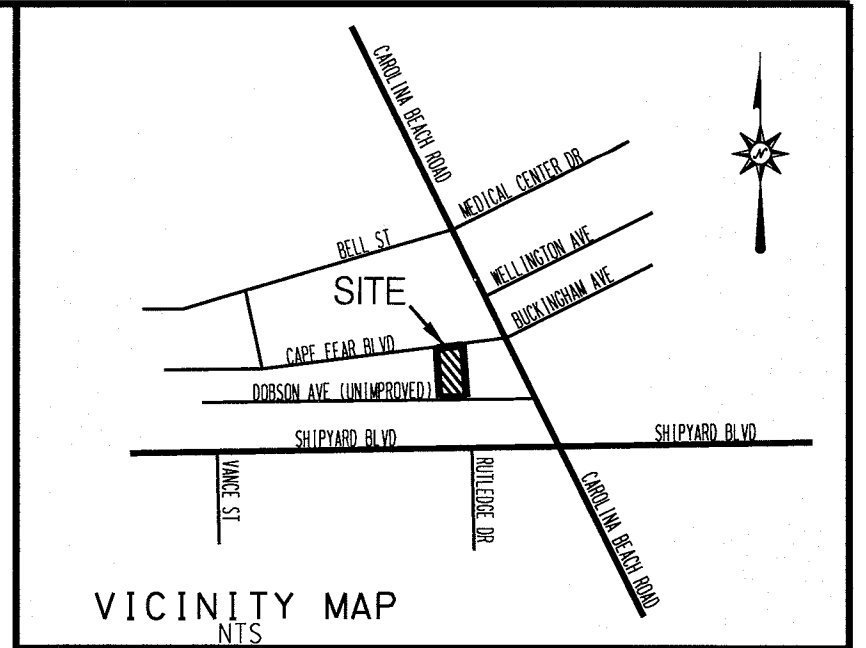
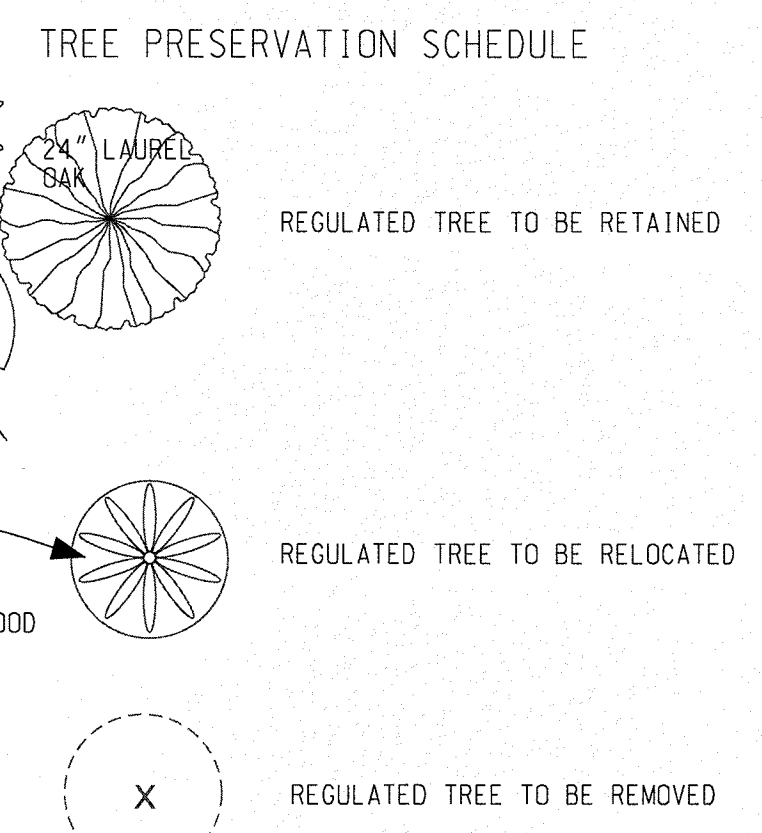
BUFFER YARD-
COMBINATION OF PLANTED/RETAINED VEGETATION WITH 8" OPAQUE FENCE WITHIN 20' BUFFER YARD WIDTH

240 LF BUFFER YARD LENGTH X 1 SHRUB PER 8 LF X 2 ROWS = 60 SHRUBS REQUIRED (60 SHRUBS PROVIDED)

240 LF BUFFER YARD LENGTH X 1 TREE PER 30 LF = 8 TREES REQUIRED (8 TREES PROVIDED)

SITE PLANTINGS-
15 TREES PER DISTURBED ACRE X 0.93 AC = 14 TREES REQUIRED (14+ TREES PROVIDED/RETAINED)

BUILDING 1 WALL LENGTH = 39 LF X 2 TREE PER 20 LF = 2 TREES REQUIRED (2 TREES PROVIDED)



SITE DATA

PARCEL ID 6018-006-012-000
DEEK BOOK/PAGE 5595/1265
PLAT BOOK/PAGE 53/332
ZONING MF-M (C0)
PROPERTY AREA 1.14 AC
49,701 SF
DISTANCE LIMITS 0.96 AC
PROPOSED USE RESIDENTIAL
PROPOSED BUILDINGS 2
MAX BUILDING HEIGHT 35'
SETBACKS
FRONT 35'
SIDE 20'
REAR (ALLEY) 25'
BUILDING 1 AREA 8,800 SF
BUILDING 2 AREA 1,200 SF
TOTAL BUILDING AREA 10,000 SF
PROPOSED 1 BR UNITS 16
PROPOSED 3 BR UNITS 1
TOTAL PROPOSED UNITS 17
UNITS PER ACRE 15
CAMA LAND CLASSIFICATION URBAN BUA

BUA

BUILDINGS 6,887 SF
WALKWAYS 2,440 SF
PARKING 12,486 SF
TOTAL 21,813 SF
% OF PROPERTY (BUILDINGS) 0.50 AC
% OF PROPERTY (TOTAL BUA) 43.9 %

EX BUA (TO BE REMOVED) 6,897 SF

PARKING

1.50 MINIMUM SPACES / 1 BR UNIT X 16 UNITS = 24
2.25 MINIMUM SPACES / 3 BR UNIT X 1 UNIT = 2
TOTAL MINIMUM REQUIRED SPACES = 26

2.5 MAXIMUM ALLOWED SPACES / UNIT X 17 UNITS = 43
.. PROVIDE 30 SPACES (INCLUDING 2 ACCESSIBLE)

MINIMUM BIKE SPACES = 5
.. PROVIDE 10 SPACES

OPEN SPACE

REQUIRED OPEN SPACE = 35% X 49,701 SF (1.14 AC) SITE = 17,395 SF OPEN SPACE REQUIRED

PROVIDE TOTAL TRACT AREA LESS BUA (21,823 SF), INTERIOR LANDSCAPE ISLANDS (1,834 SF), FOUNDATION PLANTINGS (620 SF), AND FENCED BUFFERS (2,401 SF) = 23,223 SF OPEN SPACE

REQUIRED RECREATION AREA = 50% X REQUIRED OPEN SPACE = 8,698 SF RECREATION AREA

REQUIRED ACTIVE RECREATION AREA = 50% X REQUIRED RECREATION AREA = 4,349 SF ACTIVE RECREATION AREA

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LEGEND

- PROJECT BOUNDARY
- EX WATER MAIN
- EX SEWER MAIN
- STORMDRAIN
- EX CONTOURS
- PROP CONTOURS
- FLOW DIRECTION
- SILT FENCE
- TREE FENCE
- DISTURBED AREA
- DRAINAGE BOUNDARY

LANDSCAPING

CAPE FEAR BOULEVARD APARTMENTS
448 CAPE FEAR BOULEVARD WILMINGTON, NC 28401
CITY OF WILMINGTON NEW HANOVER COUNTY NORTH CAROLINA

OWNER: GREENHOUSE PROPERTIES CUSTOM, LLC
ADDRESS: PO BOX 789 CASTLE HAYNE, NC 28429
PHONE: 910-279-1582

STRONG ENGINEERING, P.A.
102-D CINEMA DRIVE WILMINGTON, NORTH CAROLINA 28403 (910) 815-0775 LICENSE NO. C-0647

DRAWN: DLM
SCALE: 1" = 20'
SHEET: 3

CITY OF WILMINGTON STANDARD NOTES

1. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
2. ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO ENSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
3. NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING IS INSTALLED AND APPROVED. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AND CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION METHODS.
4. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
5. ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING REGARDING THE INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
6. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
7. CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
8. CALL TRAFFIC ENGINEERING AT 910-341-7888 FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
9. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING PRIOR TO ACTUAL STRIPING.
10. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
11. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
12. STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
13. TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
14. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET.
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17. WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
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19. IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
20. ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REGULATIONS. CALL 919-343-3910 FOR INFORMATION.
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22. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFCO/ASSE.
23. CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.
24. NO OBSTRUCTIONS ARE PERMITTED IN THE SPACE BETWEEN THIRTY (30) INCHES AND TEN (10) FEET ABOVE THE GROUND WITHIN THE TRIANGULAR SIGHT DISTANCE.
25. CONTACT THE NORTH CAROLINA ONE CALL CENTER AT 1-800-632-4949 PRIOR TO DOING ANY DIGGING, CLEARING, OR GRADING.

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2. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
3. HYDRANT MUST BE WITHIN 150' OF THE FDC (MEASURED AS THE TRUCK DRIVES FOR PRACTICAL USE)
4. FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT
5. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC
6. ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
7. ALL ISOLATION VALVES WITHIN THE "HOT BOX" SHALL BE ELECTRONICALLY SUPERVISED. COORDINATE WITH THE FIRE SPRINKLER AND ALARM INSTALLER IN REGARDS TO RUNNING WIRE FOR TAMPER SWITCH.
8. CONTRACTOR SHALL MAINTAIN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
9. UNDERGROUND FIRE LINE(S) MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-341-0696.

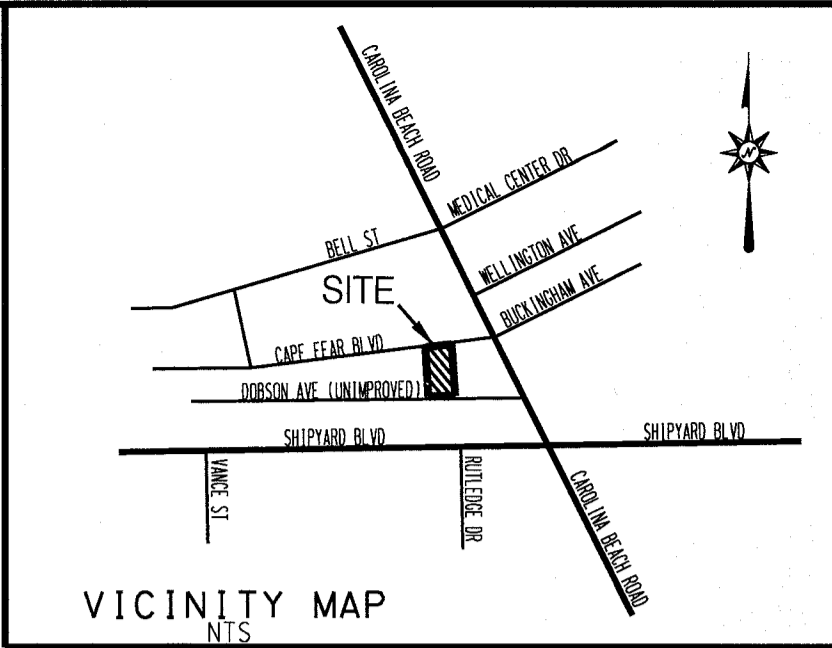
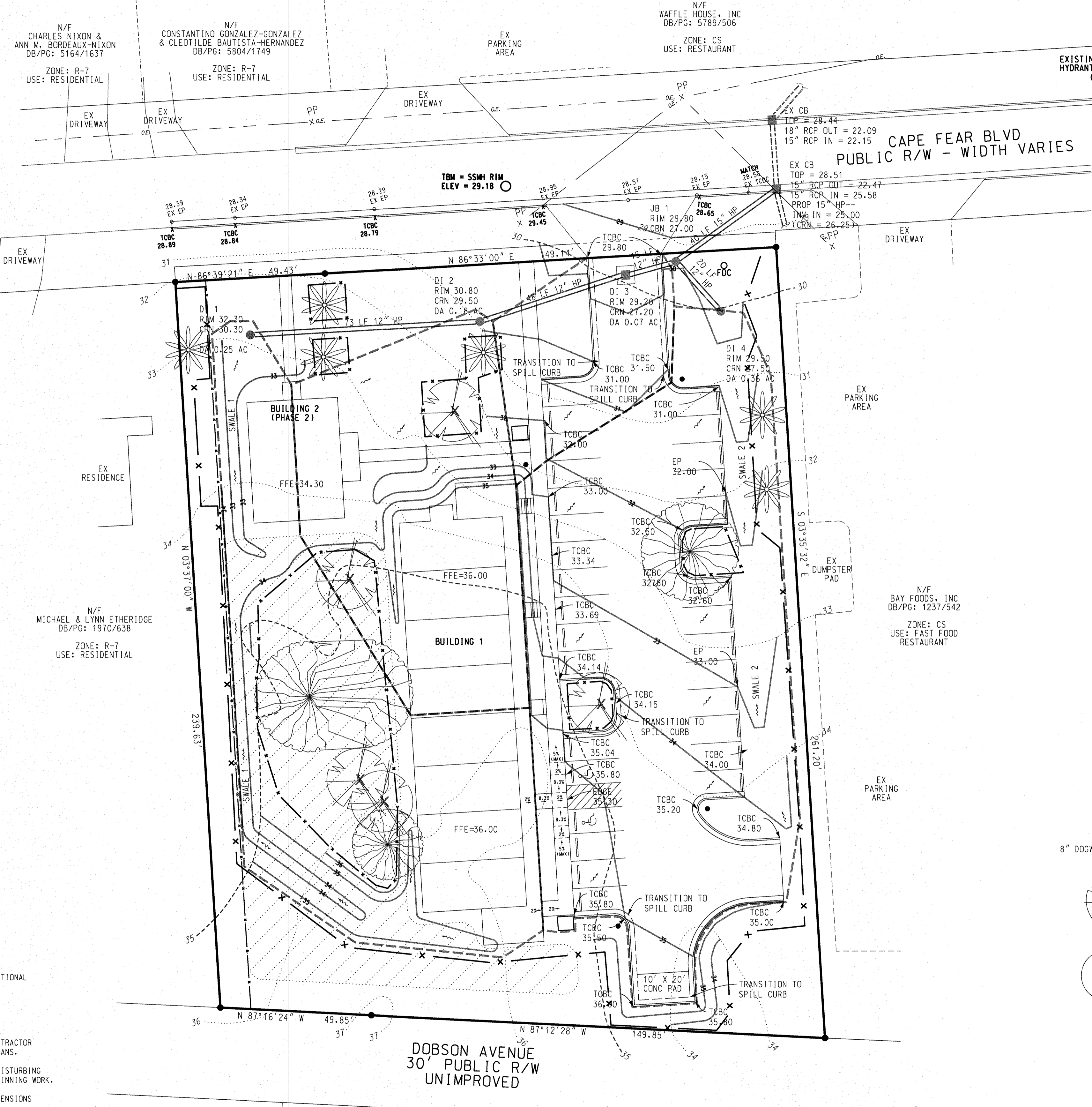
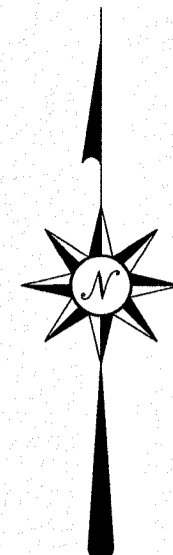
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SHEET INDEX

COVER/SITE PLAN	1
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LANDSCAPING	3
GRADING AND DRAINAGE	4
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CITY STANDARD DETAILS	7-8
SW AND GRADING DETAILS	9

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SITE DATA

PARCEL ID	6018-006-012-000
DEEK BOOK/PAGE	5595/1265
PLAT BOOK/PAGE	53/332
ZONING	MF-M (C0)
PROPERTY AREA	1.14 AC
	49,701 SF
DISTURBANCE LIMITS	0.96 AC
PROPOSED USE	RESIDENTIAL
PROPOSED BUILDINGS	2
MAX BUILDING HEIGHT	35'
SETBACKS	
FRONT	35'
SIDE	20'
REAR (ALLEY)	25'
BUILDING 1 AREA	8,800 SF
BUILDING 2 AREA	1,200 SF
TOTAL BUILDING AREA	10,000 SF
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TOTAL PROPOSED UNITS	17
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EX BUA (TO BE REMOVED) = 6,897 SF

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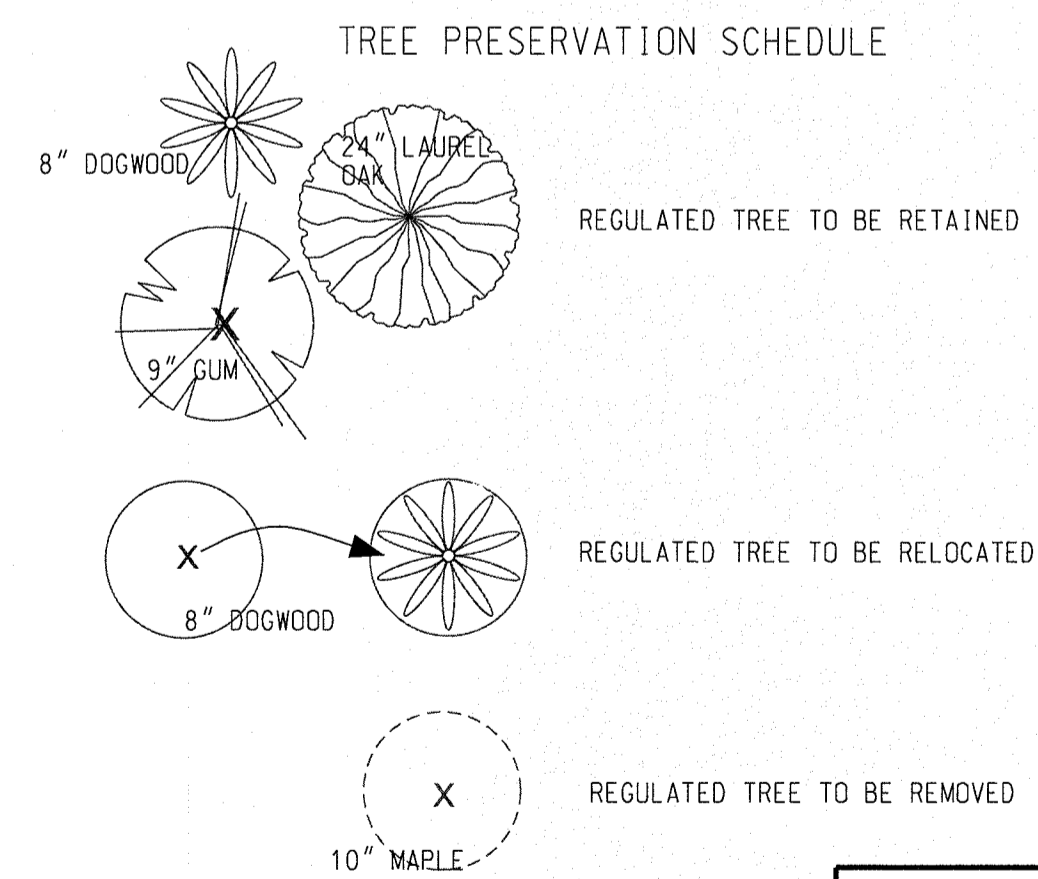
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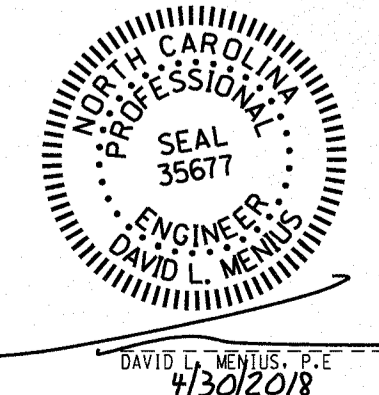
LEGEND

PROJECT BOUNDARY	---
EX WATER MAIN	—+—
EX SEWER MAIN	—X—
STORMDRAIN	---
EX CONTOURS	---
PROP CONTOURS	---
FLOW DIRECTION	---
SILT FENCE	---
TREE FENCE	---
DISTURBED AREA	---
DRAINAGE BOUNDARY	---

Approved Construction Plan

Name	Date
Planning <i>W. Smith</i>	5/31/18
Traffic <i>W. Smith</i>	5-7-18
File <i>W. Smith</i>	5/2/18

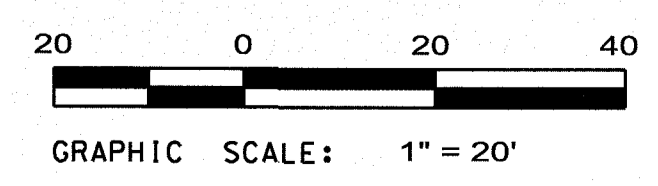
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED DRAINAGE PLAN
Date: 05/03/2018 Permit # 2018020
Signed: *T. R. Riddle for RDG*



GRADING AND DRAINAGE
CAPE FEAR BOULEVARD APARTMENTS
448 CAPE FEAR BOULEVARD WILMINGTON, NC 28401
CITY OF WILMINGTON NEW HANOVER COUNTY NORTH CAROLINA
OWNER: GREENHOUSE PROPERTIES CUSTOM, LLC
ADDRESS: PO BOX 789 CASTLE HAYNE, NC 28429
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STROUD ENGINEERING, P.A.
102-D CINEMA DRIVE WILMINGTON, NORTH CAROLINA 28403 (910) 815-0775 LICENSE NO. C-0647

DRAWN: DLM
SCALE: 1" = 20'
SHEET: 4



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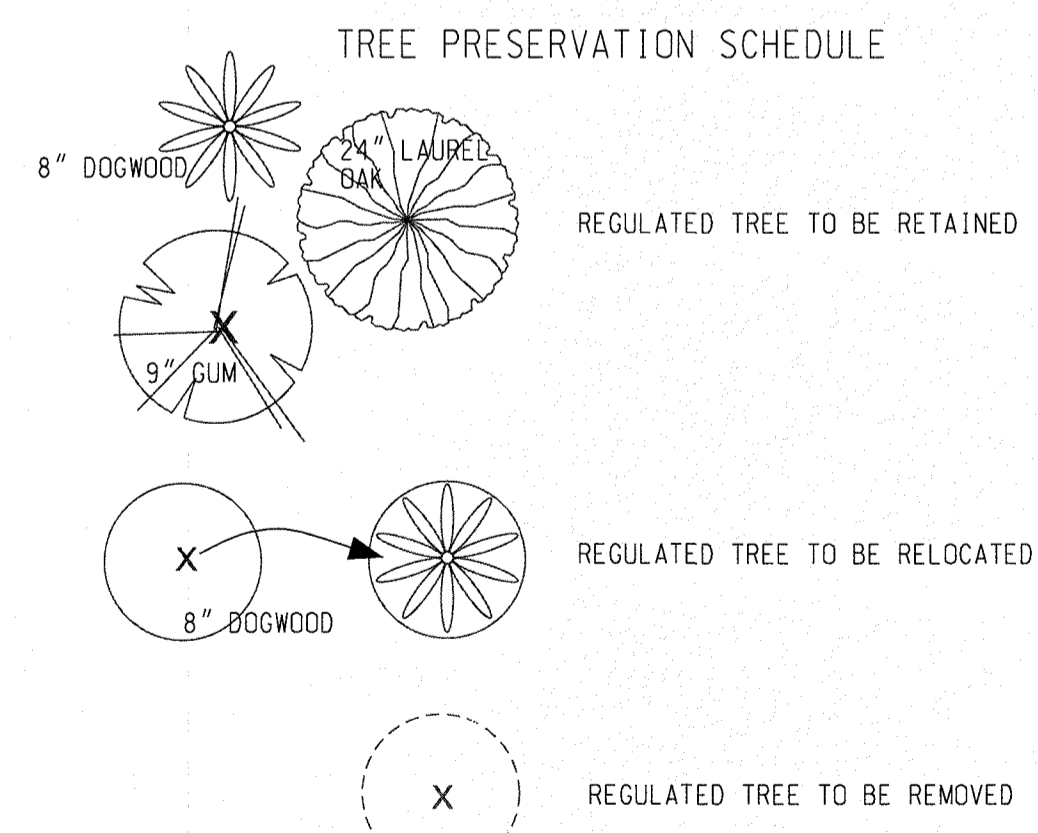
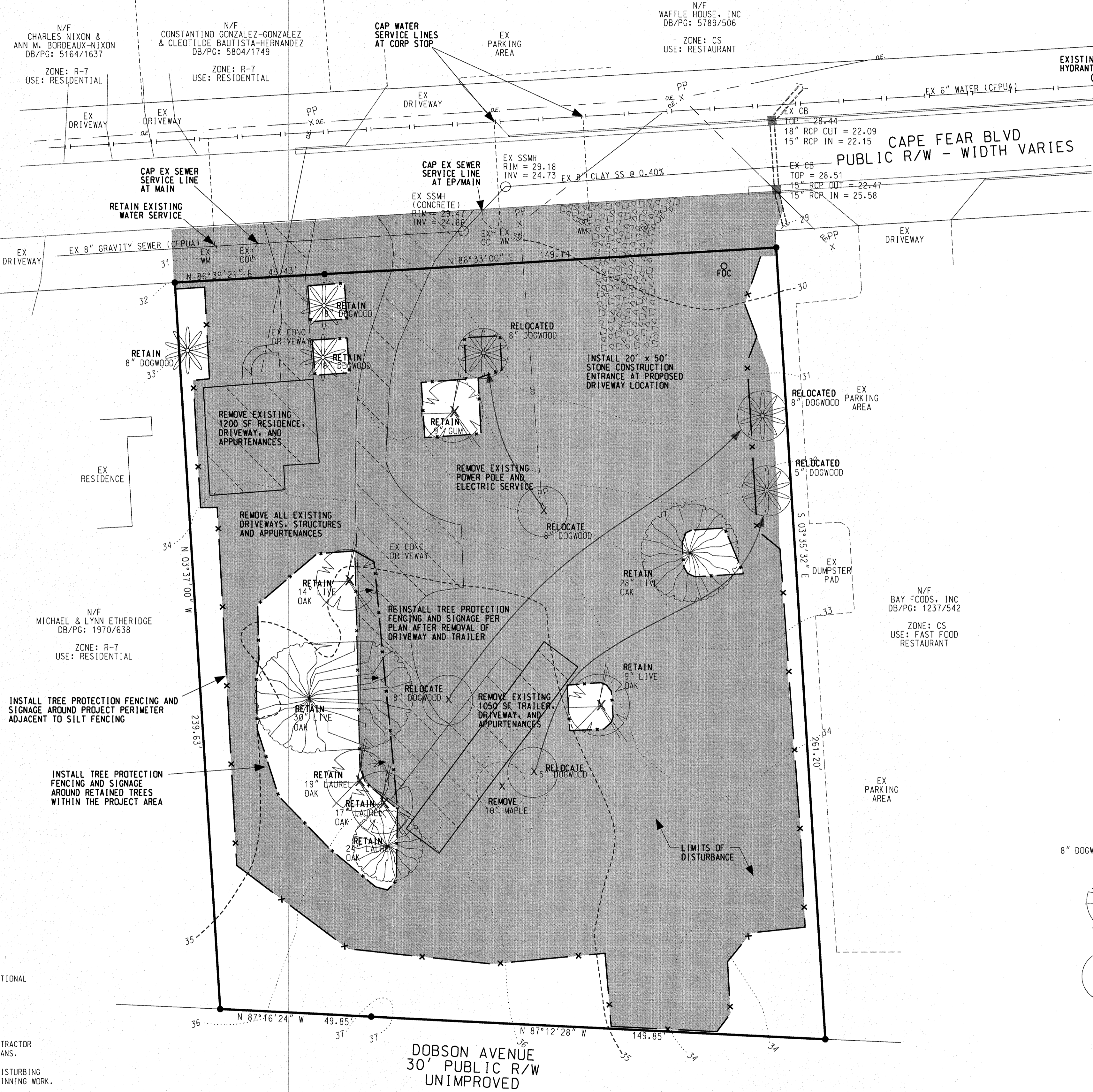
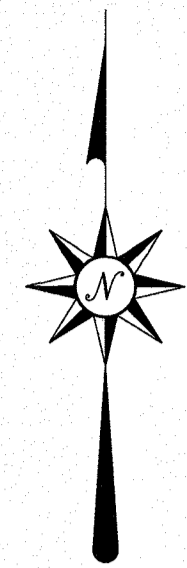
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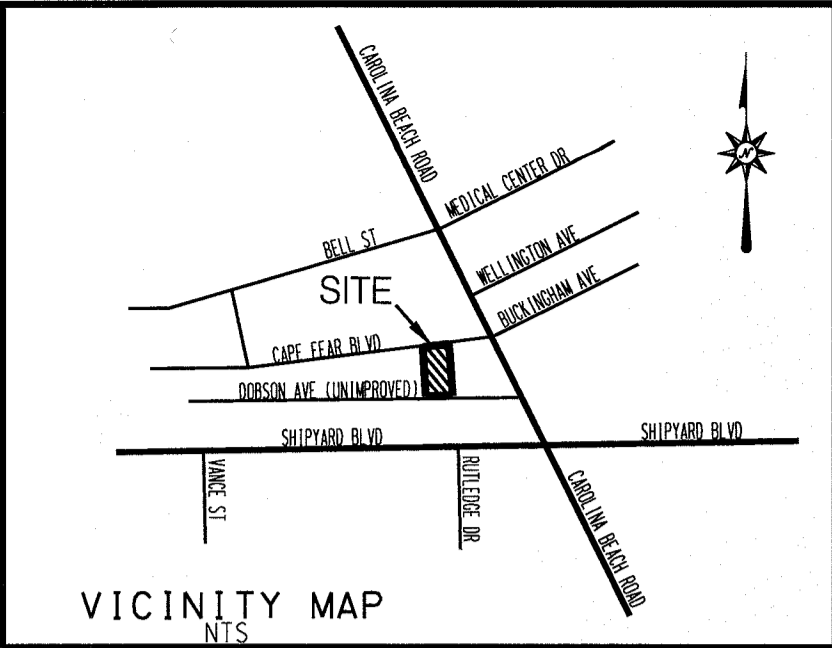
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TREE PROTECTION, EROSION CONTROL, & DEMOLITION PLAN

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PHONE: 910-279-1582

STROUD ENGINEERING, P.A.

102-D CINEMA DRIVE WILMINGTON, NORTH CAROLINA 28403 (910) 815-0775 LICENSE NO. C-0647

DRAWN: DLW

SCALE: 1" = 20'

SHEET: 2

Approved Construction Plan

Name: *Wm Smith* Date: *5/3/18*

Planning: *Wm Smith* Traffic: *Wm Smith* 5-8-18

Fire: *Wm Smith* 5/2/18

CITY OF WILMINGTON

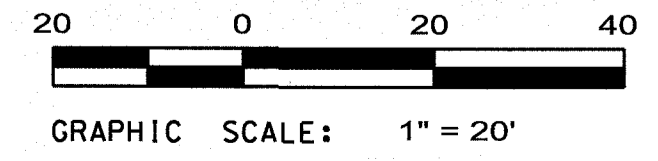
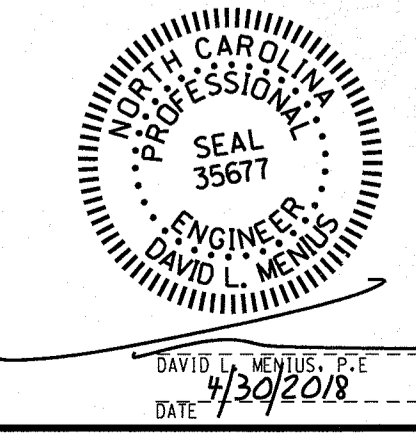
NORTH CAROLINA

Public Services • Engineering Division

APPROVED DRAINAGE PLAN

Date: *05/03/2018* Permit #: *2018020*

Signed: *Tudor* for RDG



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)

NOTE: 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 MATS 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	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING OFFICE 212 OPERATIONS CENTER DRIVE WILMINGTON, N.C. 28402 (910) 341-7807</p>
DRAWN BY: JSR	TREE PROTECTION DURING CONSTRUCTION	
CHECKED BY: RDK, P.E.	SHEET 1 of 2	
SCALE: NOT TO SCALE		SD 15-09

8" MAX.
VARIABLE AS DIRECTED BY THE ENGINEER
WARNING SIGN
PLASTIC OR WIRE TIES
TREE PROTECTION AREA DO NOT ENTER
ZONA PROTECTORA PARA LOS ARBOLES PROHIBIDO ENTRAR
ORANGE, UV RESISTANT HIGH-TENSILE STRENGTH POLY BARRICADE FABRIC (TYPICAL)
GRADE

FRONT VIEW

ORANGE, UV RESISTANT HIGH-TENSILE STRENGTH POLY BARRICADE FABRIC (TYPICAL)

STEEL POST
WARNING SIGN
ORANGE, UV RESISTANT HIGH-TENSILE STRENGTH POLY BARRICADE FABRIC (TYPICAL)

SIDE VIEW

40"
18"
TREE PROTECTION AREA DO NOT ENTER
ZONA PROTECTORA PARA LOS ARBOLES PROHIBIDO ENTRAR
WARNING SIGN DETAIL

NOTE: 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	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING OFFICE 212 OPERATIONS CENTER DRIVE WILMINGTON, N.C. 28402 (910) 341-7807</p>
DRAWN BY: JSR	TREE PROTECTION DURING CONSTRUCTION	
CHECKED BY: RDK, P.E.	SHEET 2 of 2	
SCALE: NOT TO SCALE		SD 15-09

OBLIQUE VIEW
VERTICAL CURB AND GUTTER
1/2" FILLED EXPANSION JOINT
CONTRACTION JOINT (1/4" X 1" DEEP SCORE)

VERTICAL CURB AND GUTTER
SLOPE CURB

MEDIAN VERTICAL CURB AND GUTTER
VERTICAL CURB
GRANITE CURB

VALLEY CURB
HEADER CURB

NOTE: 1. EXPANSION JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
2. 50' MAX EXPANSION JOINT SPACING, 10' MAX CONTRACTION JOINT SPACING.
3. MINIMUM INSTALLATION LENGTH IS 5 FT.
4. CONCRETE TO BE 3000 PSI MAX.
5. VERTICAL CURB AND GUTTER BASE CAN BE SLOPED 3/4" OR USE A FLAT BASE

DATE: AUGUST, 2011	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>
DRAWN: PBJ/SJR	CURBING	
CHECKED: DEC		
SCALE: NOT TO SCALE		SD 3-11

STANDARD DETAIL
COMMERCIAL DRIVEWAY PLAN

INSET

0.25' GUTTER RADIUS
3' APRON
0.5' CURB
BACK OF CURB
FACE OF CURB
GUTTER LINE
1.5' GUTTER

SEE INSET

NOTE: EXPANSION JOINTS: 1/2" WIDE, FULL-DEPTH, 10' MAX SPACING
CONTRACTION JOINTS: 1" DEPTH, 5' MAX SPACING

DATE: JUNE, 2015	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810, C.C. 28402 (910) 341-7807</p>
DRAWN BY: JSR	COMMERCIAL DRIVEWAY PLAN	
CHECKED BY: D.E.C. P.E.	1 of 2	
SCALE: NOT TO SCALE		SD 3-03.3

STANDARD DETAIL
COMMERCIAL DRIVEWAY SECTIONS

SECTION B-B

SECTION A-A

NOTE: 1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
3. MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
4. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" - 3000 PSI.
5. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL.
6. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS.
7. MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"
8. MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
9. MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2%. MAX LONGITUDINAL SLOPE IS 8.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

DATE: JUNE, 2015	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810, C.C. 28402 (910) 341-7807</p>
DRAWN BY: JSR	COMMERCIAL DRIVEWAY SECTIONS	
CHECKED BY: D.E.C. P.E.	2 of 2	
SCALE: NOT TO SCALE		SD 3-03.4

REFER TO CFPUA DETAILS AND SPECIFICATIONS FOR WATER AND SEWER SERVICE CONNECTIONS

EXISTING PAVEMENT
MATCH THICKNESS OF EXISTING ASPHALT (2" MIN.) SUPERPAVE S-9.5A (90% MIN.) OR S-9.5B (92% MIN.) IN LIFTS.
CLEAN SQUARE CUT W/ TACK
8" ABC BASE (100%)
12" SUBBASE (98%)
OVERFILL (95%)
SLOPE WALLS TO ANGLE OF REPOSE OR SHORING AS APPROVED BY ENGINEER
1" - 0" CUTBACK
PIPE OR STRUCTURE (95%)
PIPE BEDDING

NOTE: 1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
2. FILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
3. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
4. SOIL SHALL BE INSTALLED IN 6"-8" LIFTS AND 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.
5. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
6. COMPACT MATERIALS TO MINIMUM % DENSITY SHOWN IN DIAGRAM AS DETERMINED BY THE STANDARD PROCTOR METHOD ASTM D-698-A FOR SOILS; AND ASTM D-698-C FOR ABC STONE, AND BY NUCLEAR GAUGE OR CORE SAMPLE FOR ASPHALT.
7. CUTBACKS OF ASPHALT SHALL BE PREPARED ON EDGE OF EXCAVATION OVER TOP OF UNDISTURBED SOIL.

DATE: MAY, 2013	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING OFFICE 212 OPERATIONS CENTER DRIVE WILMINGTON, N.C. 28412 (910) 341-7807</p>
DRAWN BY: JSR	PAVEMENT REPAIRS- UTILITY CUTS	
CHECKED BY: D.E.C. P.E.		
SCALE: NOT TO SCALE		SD 1-05

20' MAX
OVERFILL SOIL
SOILS 90% MIN. COMPACTION 95% MIN. UNDER PAVEMENT
HAUNCH
PIPE
SPRINGLINE LOWER SIDE
OUTER BEDDING
MIDDLE BEDDING UNCOMPACTED
PIPE WIDTH ±24"
6" MIN. OR 12" MIN. STONE FOR PIPE >36"
FOR BEDDING AND HAUNCH USE NATIVE GRANULAR. SELECT BACKFILL OR STONE AS DIRECTED BY ENGINEER

NOTE: 1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR PIPE INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
2. CONTRACTOR TO INSTALL BEDDING AND PIPE BEFORE INSTALLING HAUNCH AND THEN OVERFILL. SOILS SHALL BE INSTALLED IN 6"-8" LIFTS AND COMPACTED TO MIN. % DENSITY AS DETERMINED BY THE STANDARD PROCTOR ASTM D-698-A METHOD.
3. WHERE IN PAVEMENT, CONTRACTOR SHALL ADHERE TO CITY STREET TAMP POLICY AND SD 1-04 OR SD 1-05 FOR ROAD AND PAVEMENT REBUILD.
4. 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.
5. THIS DETAIL IS REPRESENTATIVE AND PIPE TRENCH DESIGN IS SUBJECT TO SPECIFIC SOIL CATEGORY (I, II, III), AND INSTALLATION TYPE (1, 2, 3, 4), AS DIRECTED BY THE ENGINEER AND SITE CONDITIONS.

DATE: MAY, 2013	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING OFFICE 212 OPERATIONS CENTER DRIVE WILMINGTON, N.C. 28412 (910) 341-7807</p>
DRAWN: JSR	PIPE TRENCH TYPICAL	
CHECKED: BDR, P.E.		
SCALE: NOT TO SCALE		SD 1-07

FILLED EXPANSION JOINT
30'
CONTROL JOINT
FILLED EXPANSION JOINT
SCORE
SECTION A-A
SECTION B-B

NOTE: 1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
3. MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
4. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" - 3000 PSI.
5. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL.
6. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS.
7. MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"
8. MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
9. MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2%. MAX LONGITUDINAL SLOPE IS 8.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

DATE: OCTOBER, 2010	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>
DRAWN: PBJ/SJR	SIDEWALK	
CHECKED: DEC		
SCALE: NOT TO SCALE		SD 3-10

CITY STANDARD DETAILS

CAPE FEAR BOULEVARD APARTMENTS
448 CAPE FEAR BOULEVARD WILMINGTON, NC 28401

CITY OF WILMINGTON NEW HANOVER COUNTY NORTH CAROLINA

OWNER: GREENHOUSE PROPERTIES CUSTOM, LLC
ADDRESS: PO BOX 789 CASTLE HAYNE, NC 28429
PHONE: 910-279-1582

DESIGNED: DLM
DRAWN: DLM
APPROVED: JHF
DATE: 11/14/2017
SCALE: AS NOTED
SHEET: 7

STROUD ENGINEERING, P.A.
102-D CINEMA DRIVE
WILMINGTON, NORTH CAROLINA 28403
(910) 815-0775
LICENSE NO. C-0647

Approved Construction Plan

Name: David Smith Date: 5/3/18

Planned by: David Smith

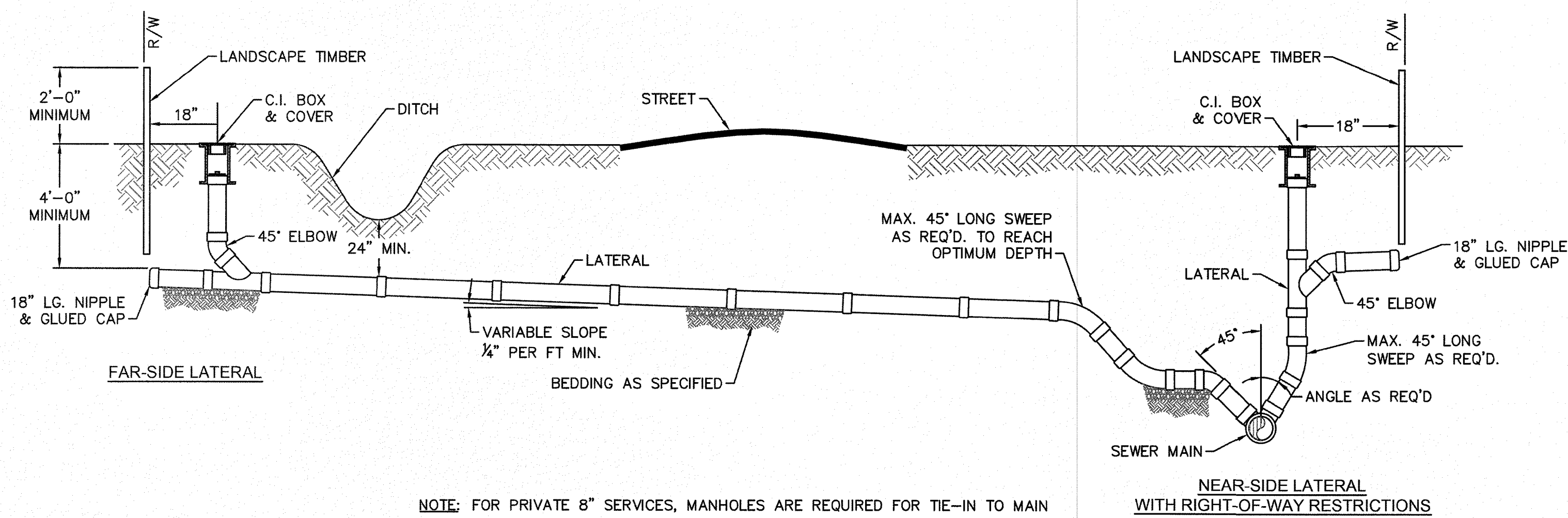
Traffic: Eric Davis 5-7-18

Fire: Bob Col 5/2/18

Public Services • Engineering Division
APPROVED DRAINAGE PLAN

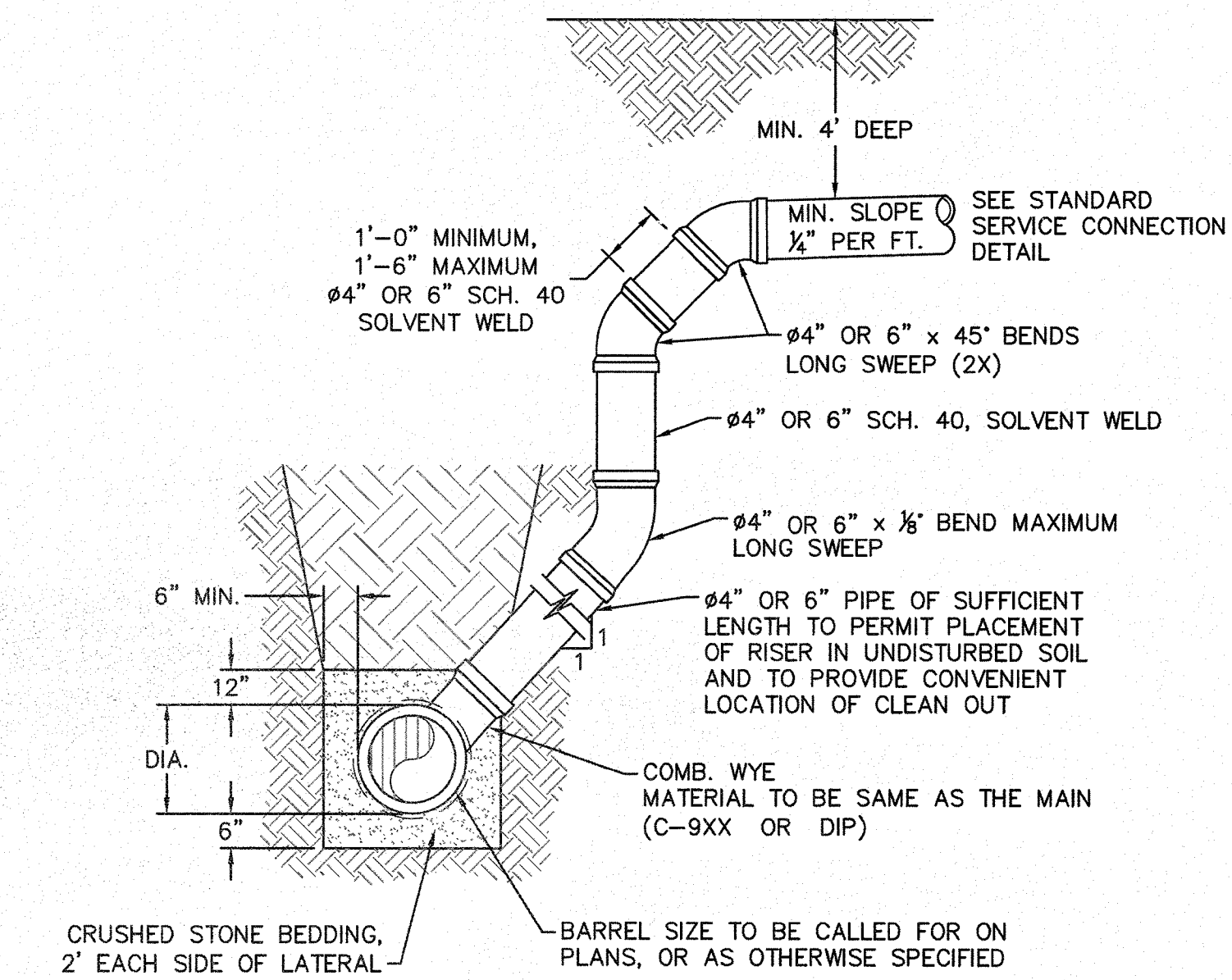
Date: 05/03/2018 Permit # 2018020

Signed: Tony Butler for RDG



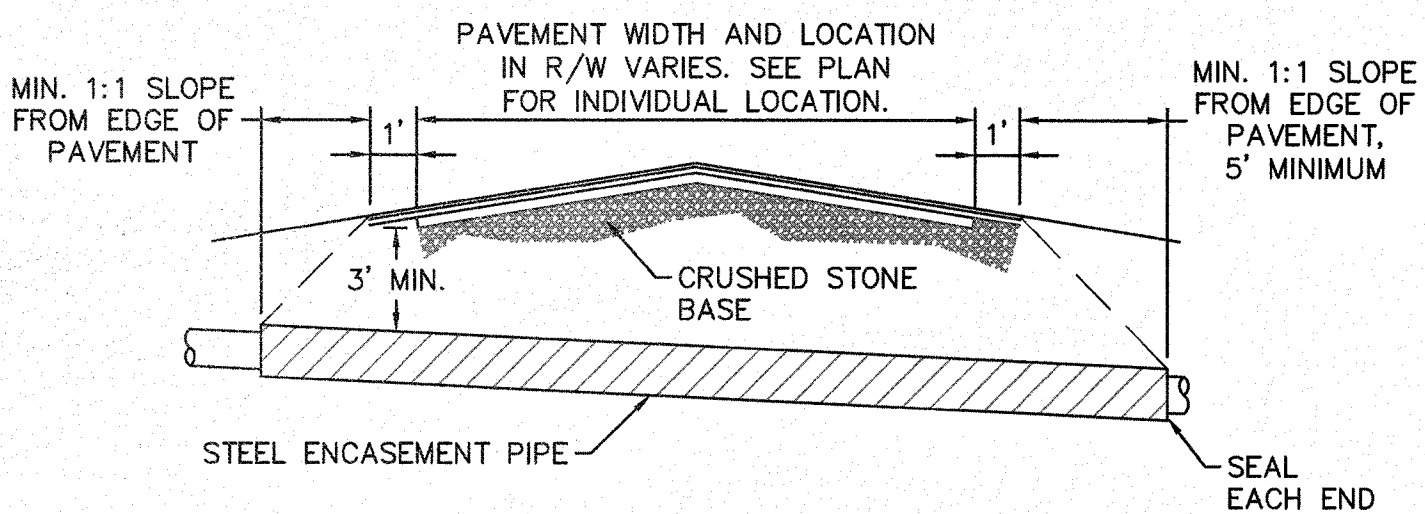
NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN

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



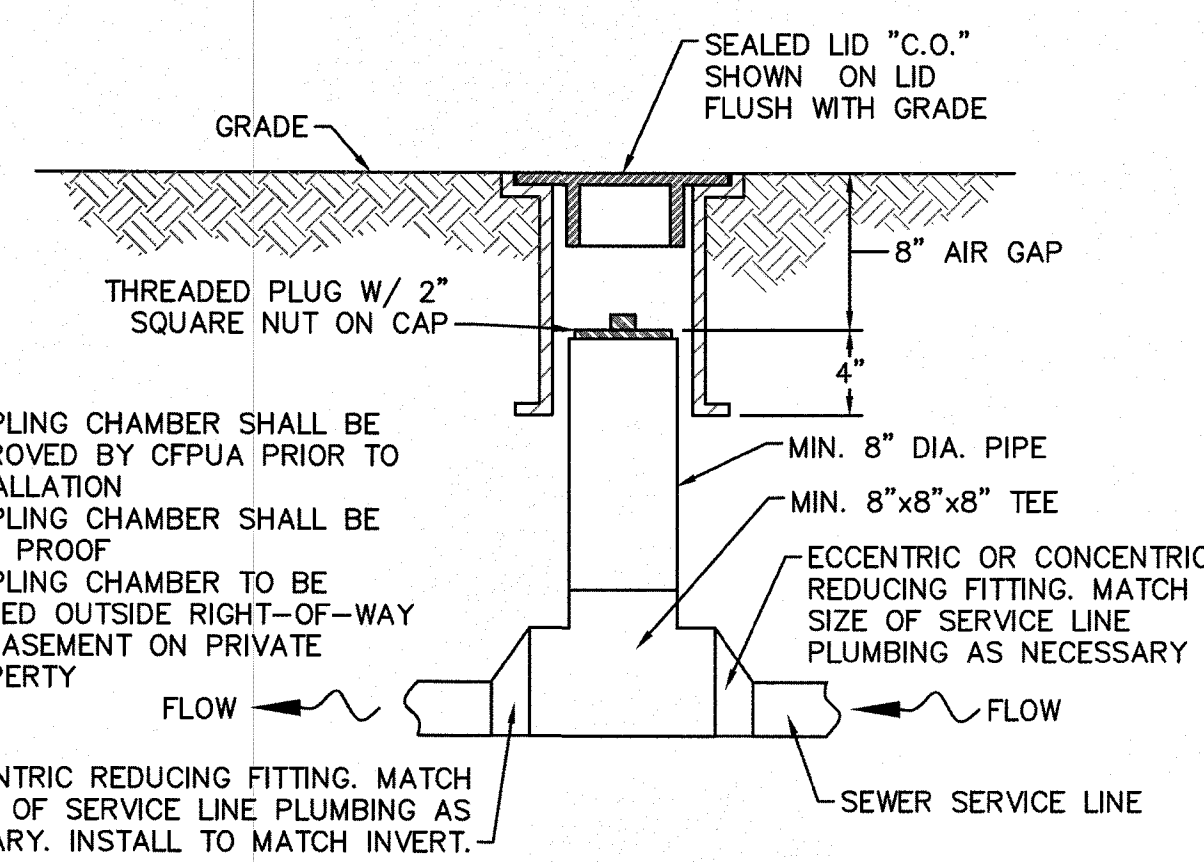
- NOTES:
- SPECIAL CARE SHALL BE TAKEN DURING BACKFILL OPERATIONS. THE RISER SHALL BE PLUMB AND TRUE AT ALL TIMES, AND REST ON FIRM, STABLE FOUNDATION.
 - FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

SD-12 DEEP SERVICE LATERAL
NOT TO SCALE



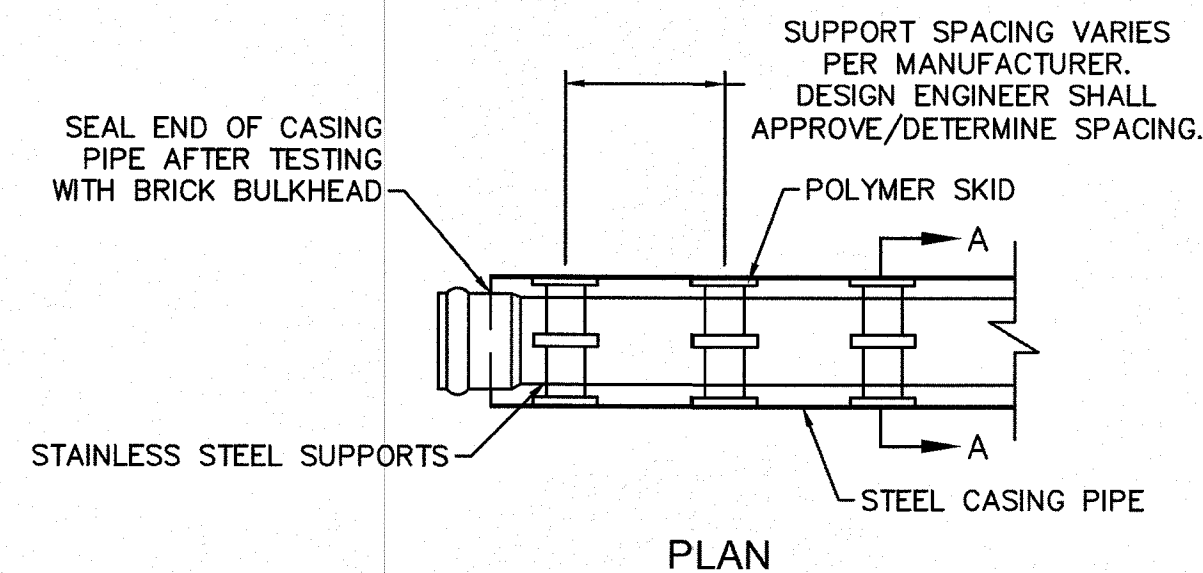
- NOTES:
- CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.
 - TRACER WIRE SHALL BE CONTINUED THROUGH CASING.

SD-16 TYPICAL BORING/JACKING DETAIL
NOT TO SCALE

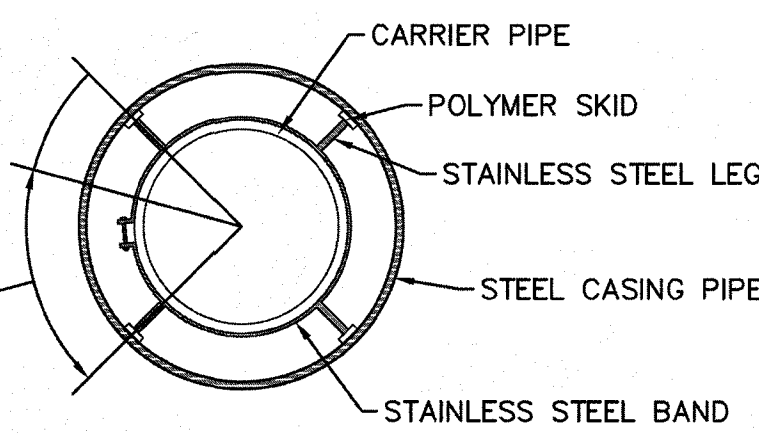


- NOTES:
- SAMPLING CHAMBER SHALL BE APPROVED BY CFPUA PRIOR TO INSTALLATION.
 - SAMPLING CHAMBER SHALL BE LEAK PROOF.
 - SAMPLING CHAMBER TO BE PLACED OUTSIDE RIGHT-OF-WAY OR EASEMENT ON PRIVATE PROPERTY.
- ECCENTRIC REDUCING FITTING. MATCH SIZE OF SERVICE LINE PLUMBING AS NECESSARY. INSTALL TO MATCH INVERT.

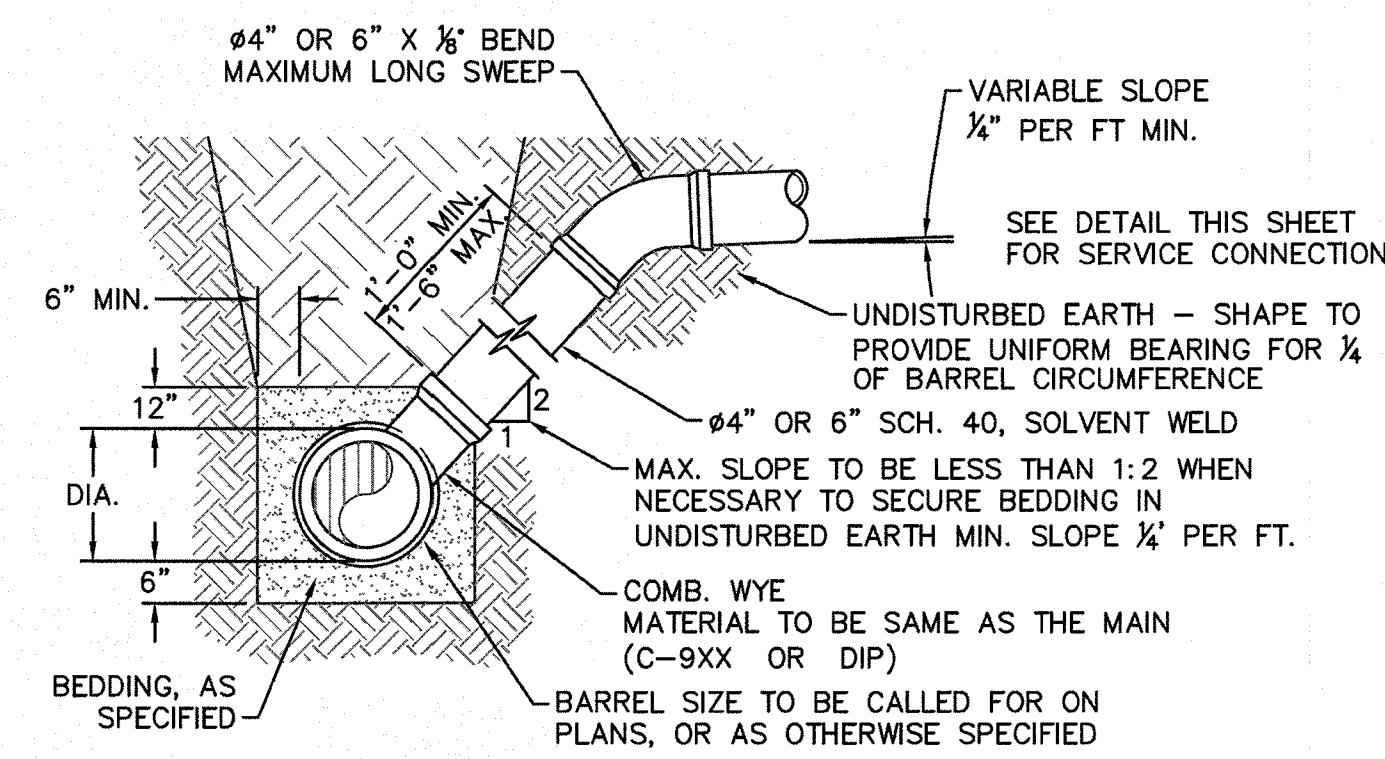
SD-13 SAMPLING CHAMBER
NOT TO SCALE



NOTE: PIPE SUPPORT TO BE PLACED TO PROVIDE PROPER SUPPORT, ALIGNMENT, AND GRADE AS SPECIFIED. CONTINUOUS SUPPORTS MAY BE USED AS ALTERNATIVE. OIL, GREASE, OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.

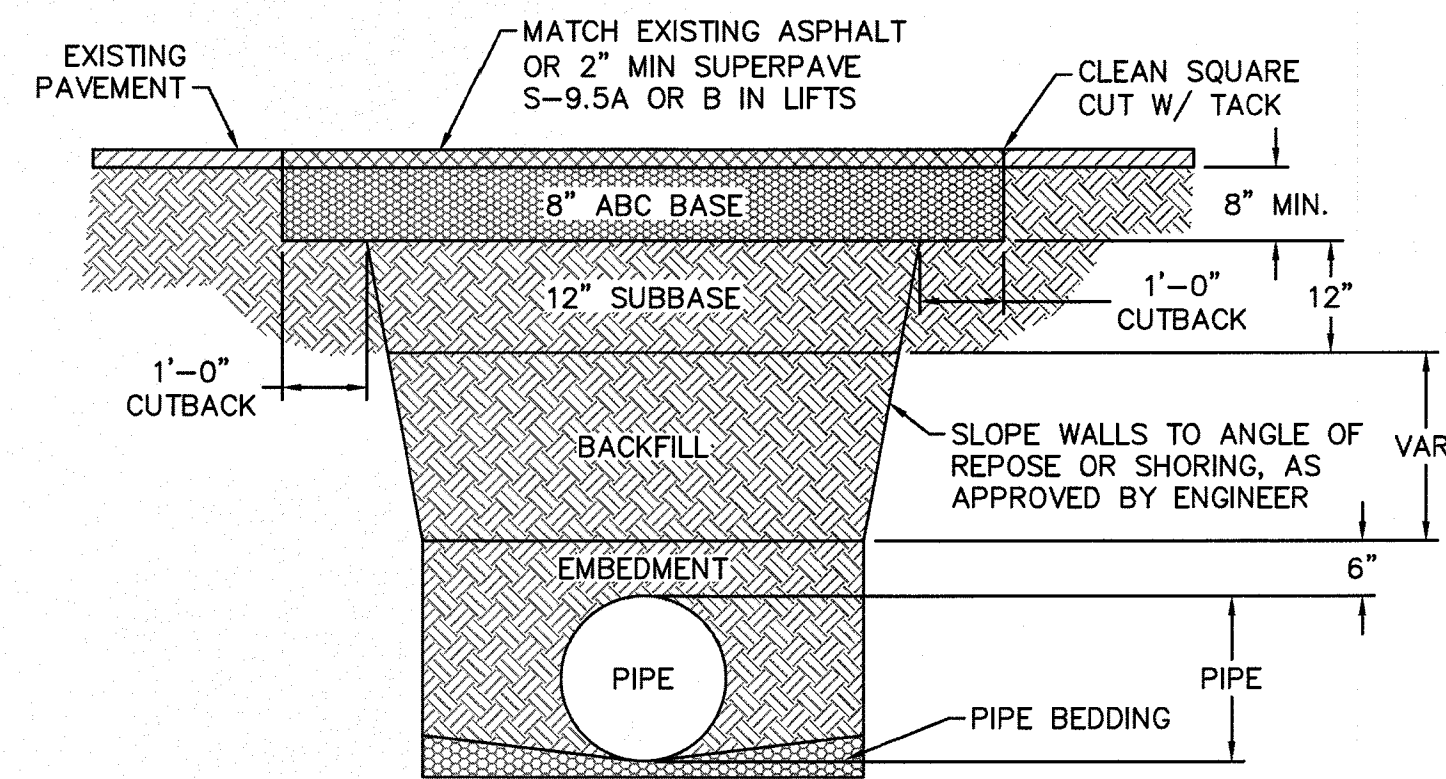


NOTE: ALL STAINLESS STEEL PARTS TO BE 316 SST.
SD-17 PIPE CASING SUPPORT DETAIL
NOT TO SCALE



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

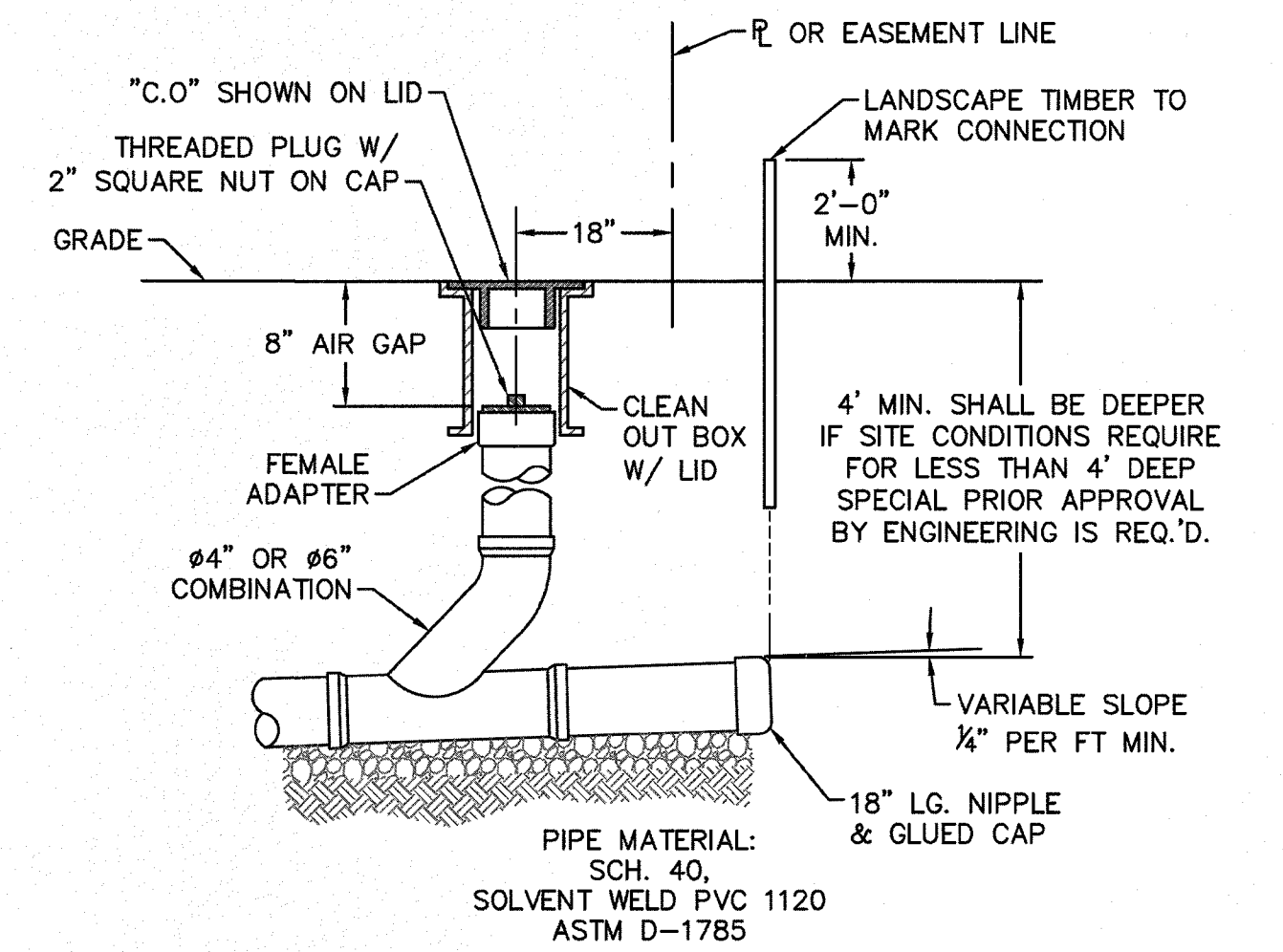
SD-10 STANDARD SERVICE LATERAL
NOT TO SCALE



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

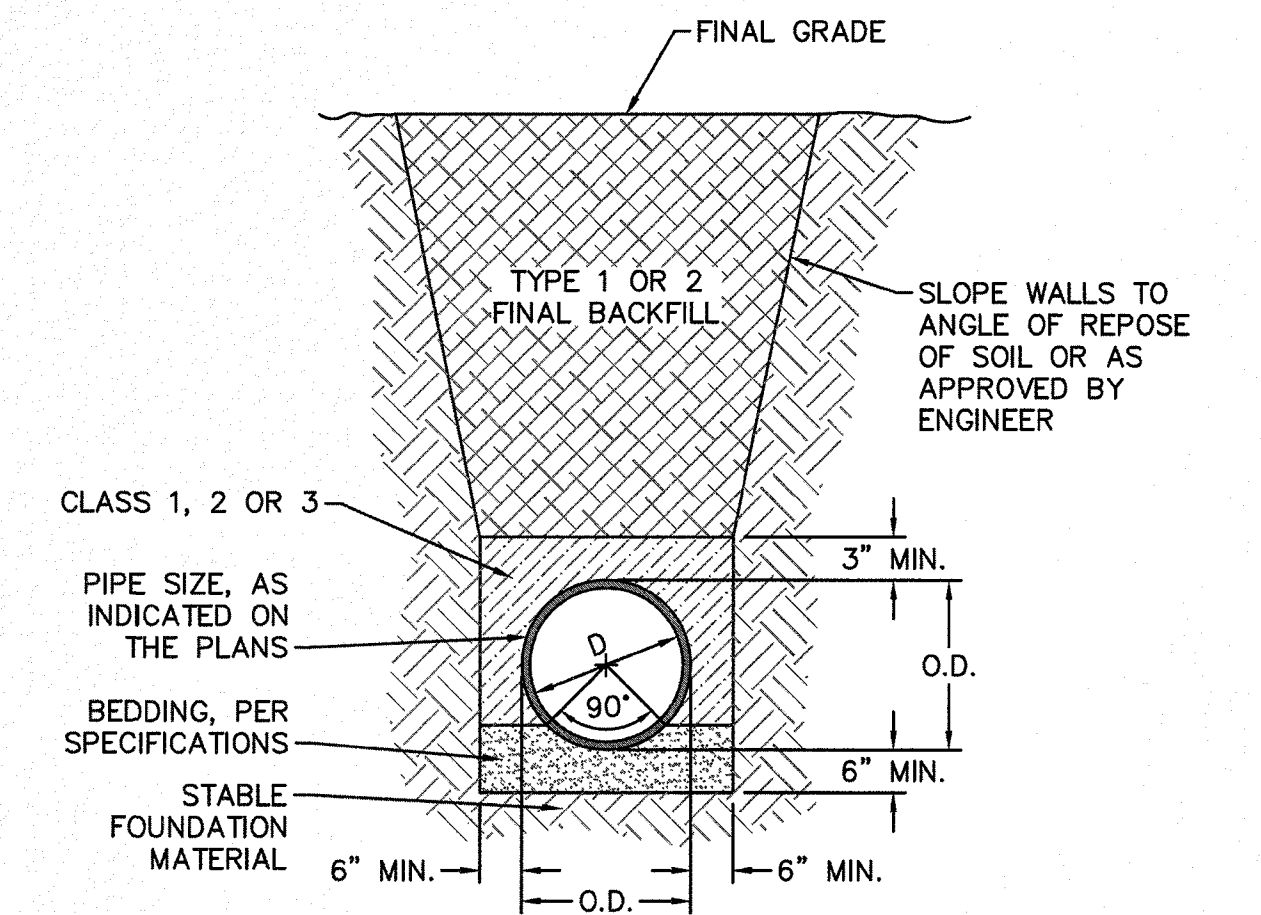
(FOR PRIVATE ROADS AND PAVED AREAS; CONTRACTOR TO MEET MIN. REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)

SD-14 PAVEMENT REPAIR WHERE PIPE INSTALLED
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



SD-15 TYPICAL TRENCH 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.
 - 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

OWNER:
GREENHOUSE PROPERTIES CUSTOM, LLC
PO BOX 789
CASTLE HAYNE, NC 28429
910-279-1582

ENGINEER:
STROUD ENGINEERING, P.A.
102 D CINEMA DRIVE
WILMINGTON, NC 28403
910-815-0775

REV:	DESCRIPTION:	DATE:
1	SAMPLING CHAMBER REVISED	10/28/12
2	Revised Multiple Details	02/15/16

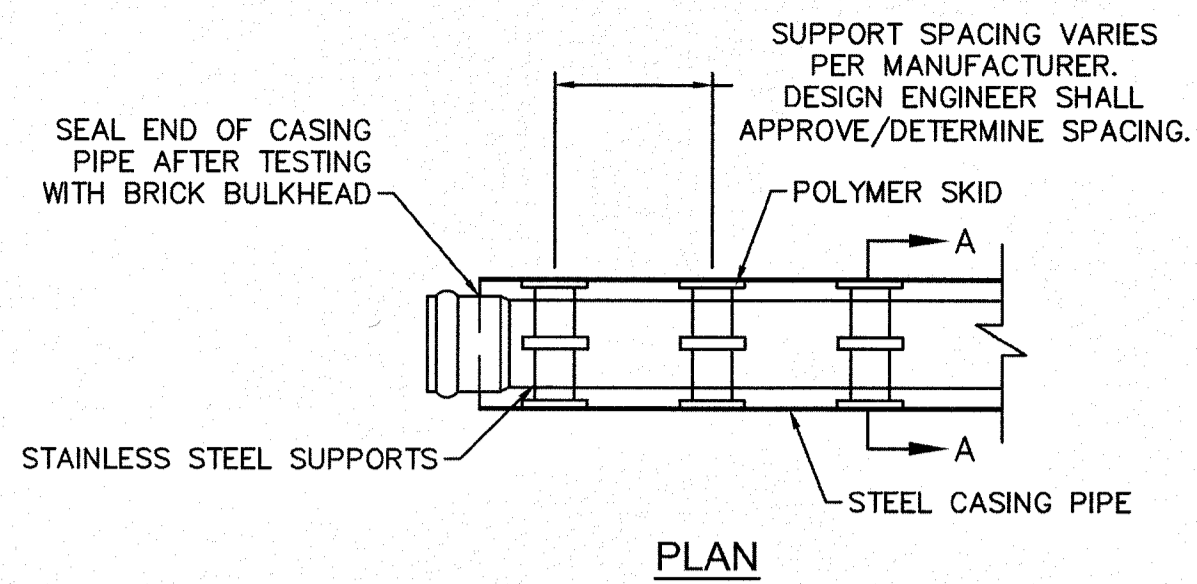
CFPUA SANITARY SEWER

STANDARD DETAILS

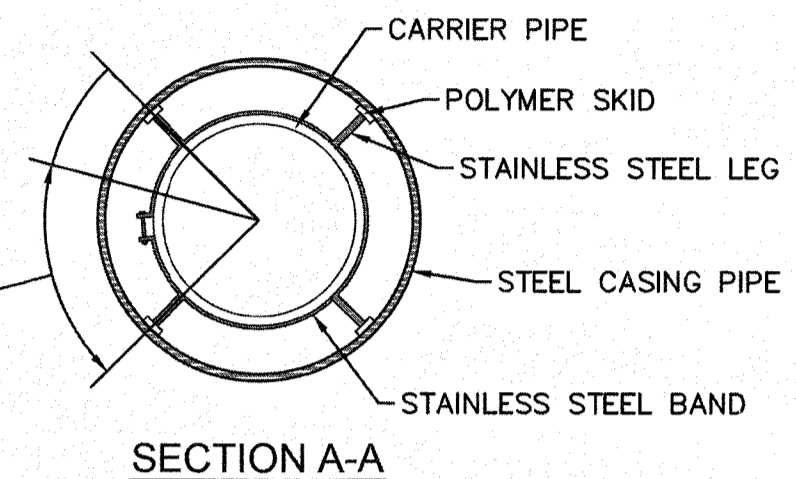
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

DATE: 1/9/12
SCALE: N/A
DRAWN BY: CFPUA
CHECKED BY: CFPUA
PROJECT NO.:
SHEET NO: SSD-2

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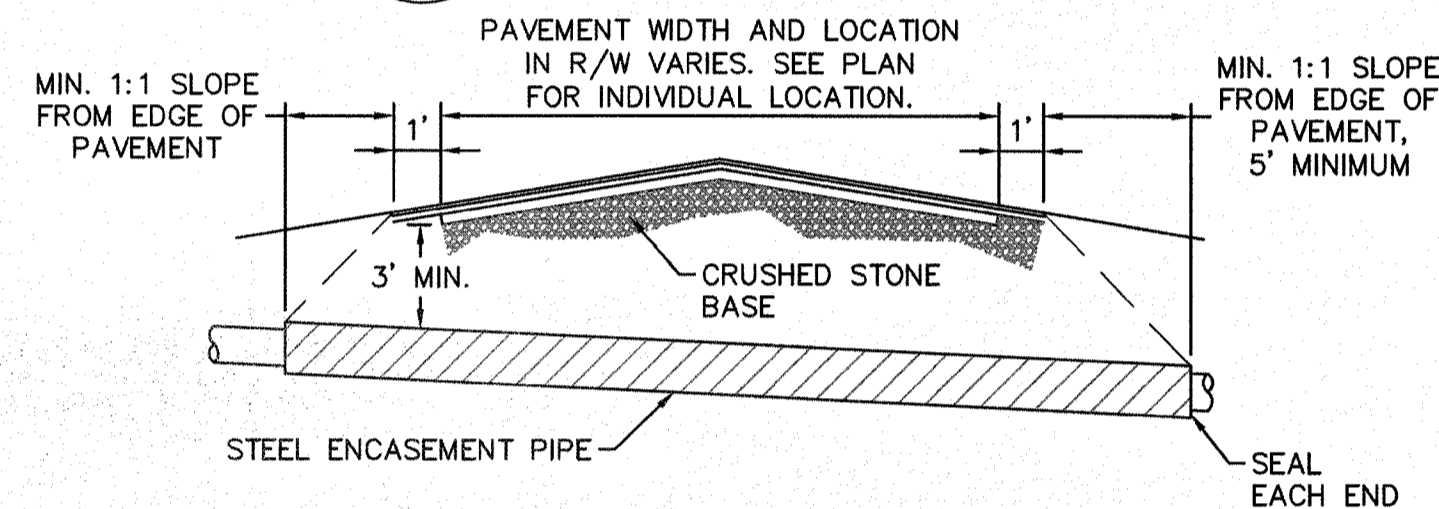


NOTE: PIPE SUPPORT TO BE PLACED TO PROVIDE PROPER SUPPORT, ALIGNMENT, AND GRADE AS SPECIFIED. CONTINUOUS SUPPORTS MAY BE USED AS ALTERNATIVE. OIL, GREASE, OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.



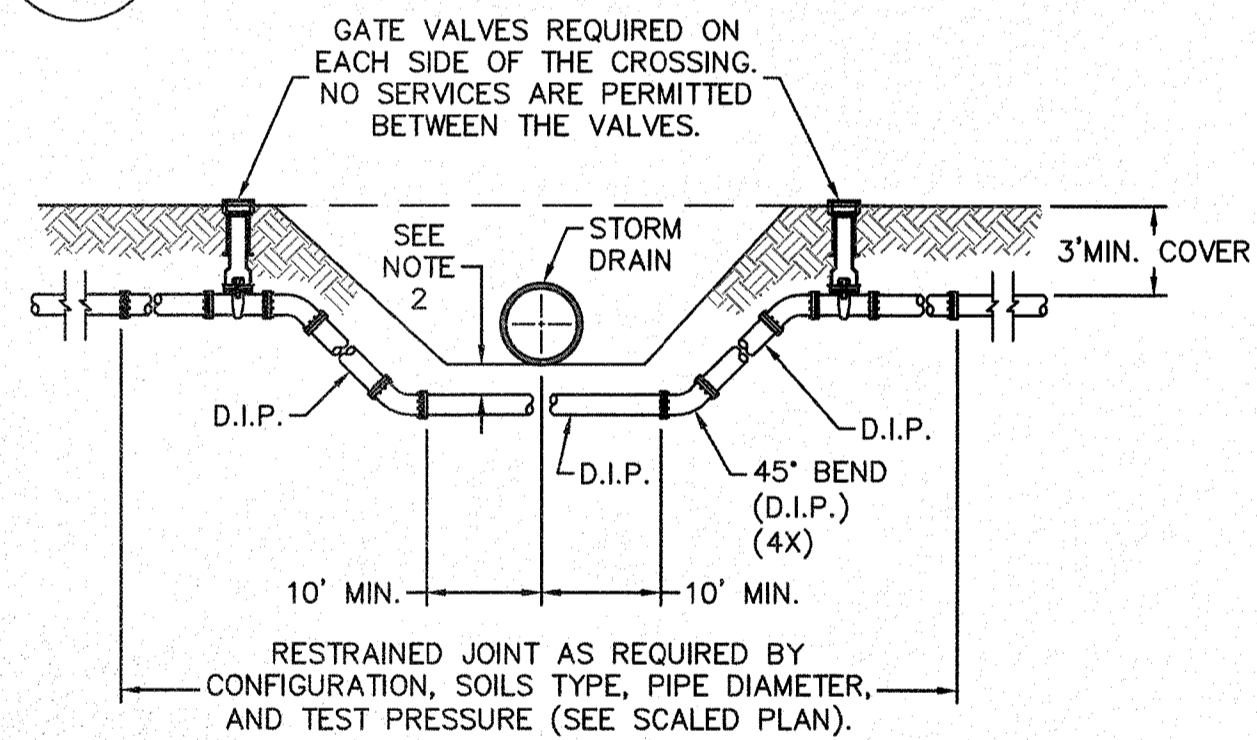
NOTE: ALL STAINLESS STEEL PARTS TO BE 316 SST.

WD-15 PIPE CASING SUPPORT DETAIL
NOT TO SCALE



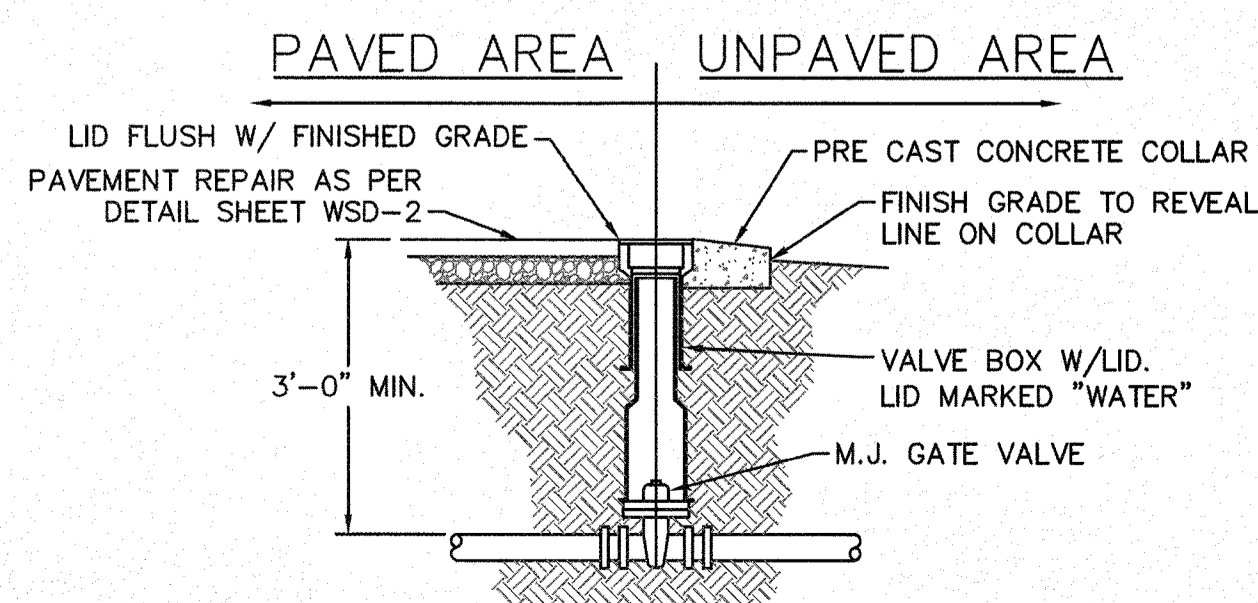
NOTES:
1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.
2. TRACER WIRE SHALL BE CONTINUED THROUGH CASING.

WD-16 TYPICAL BORING/JACKING DETAIL
NOT TO SCALE

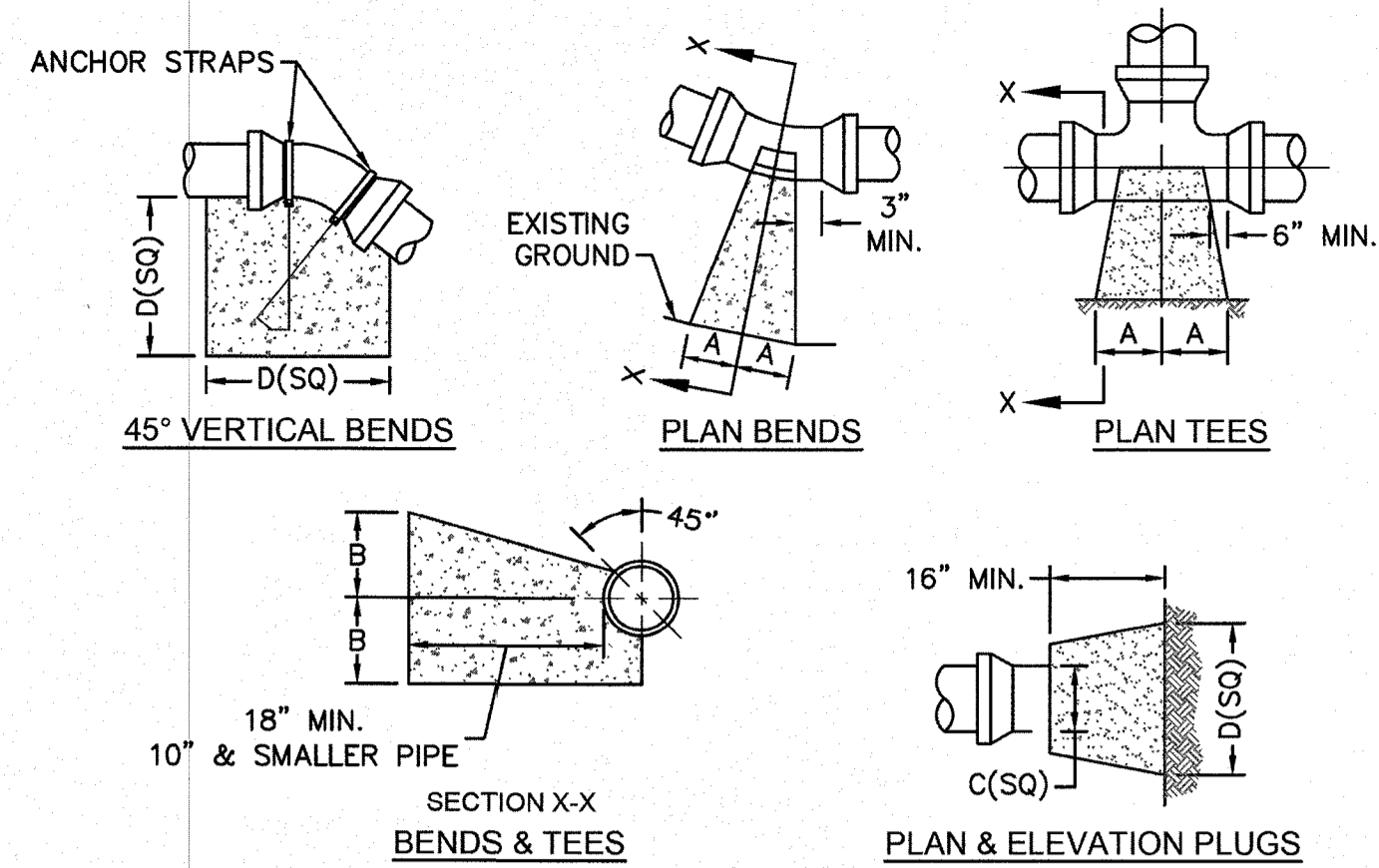


NOTES:
1. USE PRESSURE CLASS 350 DIP, UNLESS SPECIFIED OTHERWISE.
2. MINIMUM DEPTH REQUIRED, UNLESS SPECIFIED OTHERWISE BY CFPWA:
a. IN DOT R/W, 36" MIN. TYPICAL, OR 24" MIN. WHEN CROSSING A DITCH LINE.
b. ALL OTHER LOCATIONS, 30" MIN.
c. WHEN STORM DRAIN INVERT IS BURIED AT OR BELOW ABOVE DEPTHS, 18" MIN. CLEARANCE IS REQUIRED.

WD-2 WATER MAIN DITCH AND STORM DRAIN CROSSING
NOT TO SCALE



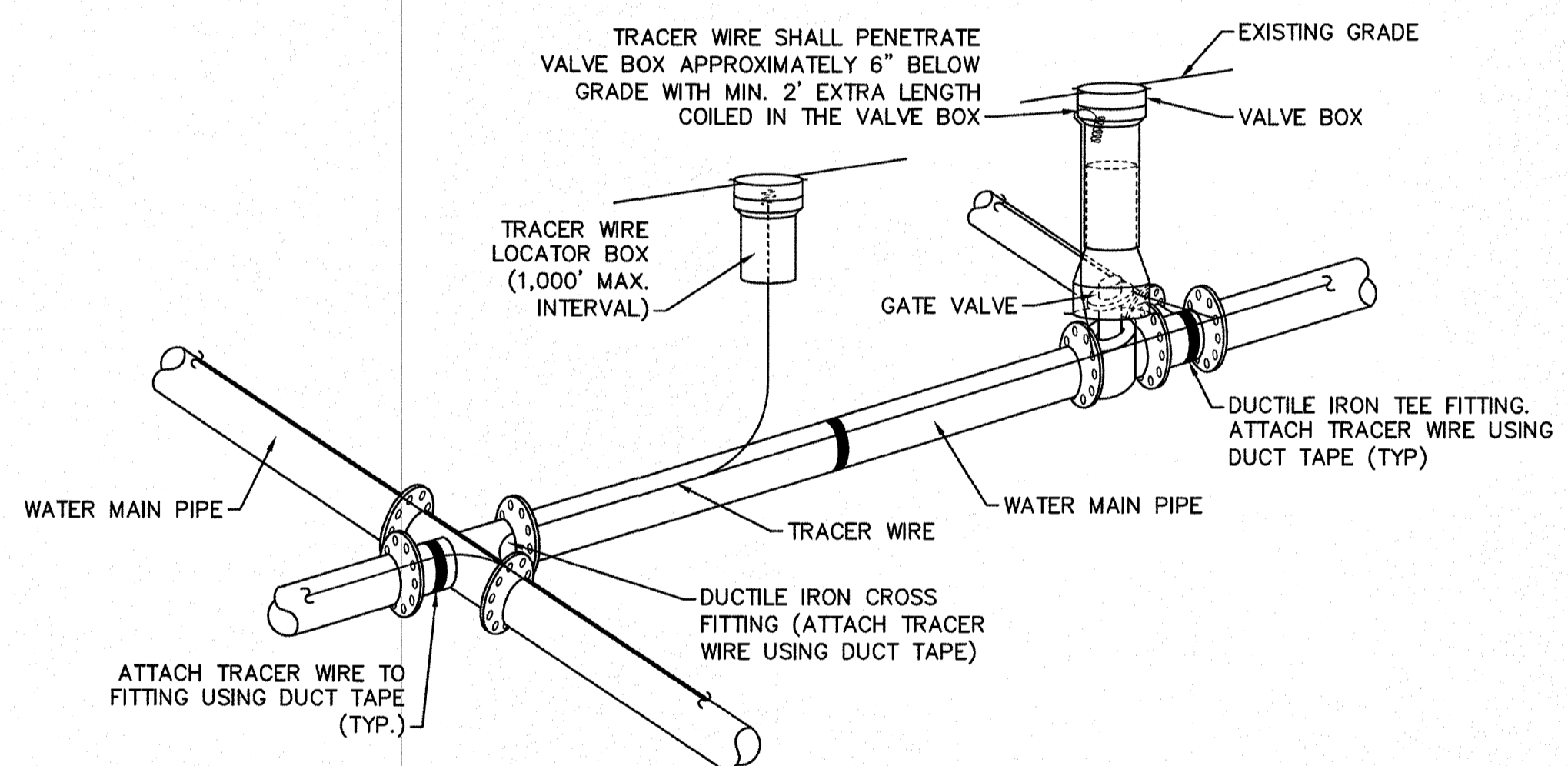
WD-3 VALVE DETAIL
NOT TO SCALE



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

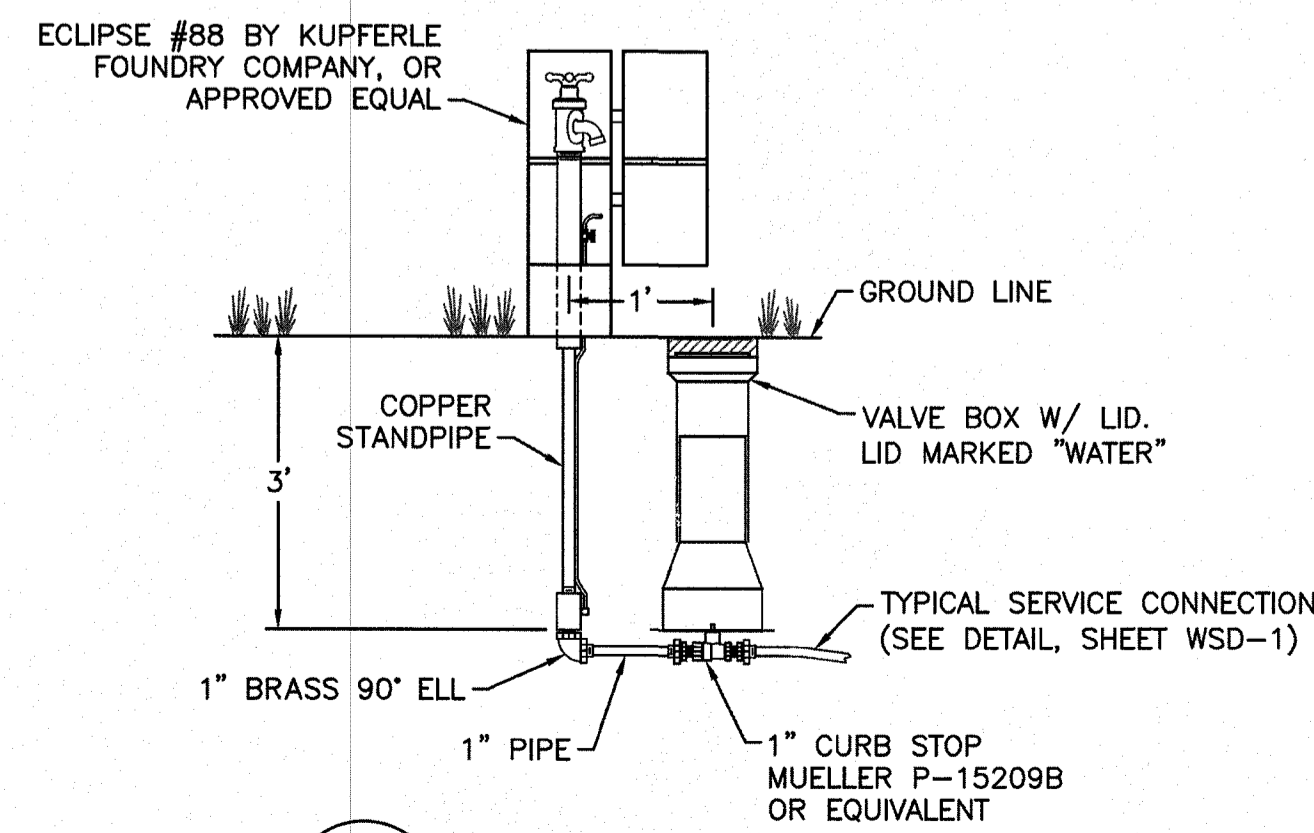
NOTES:
1. BASED ON 160 PSI TEST PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.
2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.
3. USE MEG-A-LUG (PREFERRED) IN LIEU OF BLOCKING AND RODDING.

WD-4 THRUST BLOCK DETAIL
NOT TO SCALE

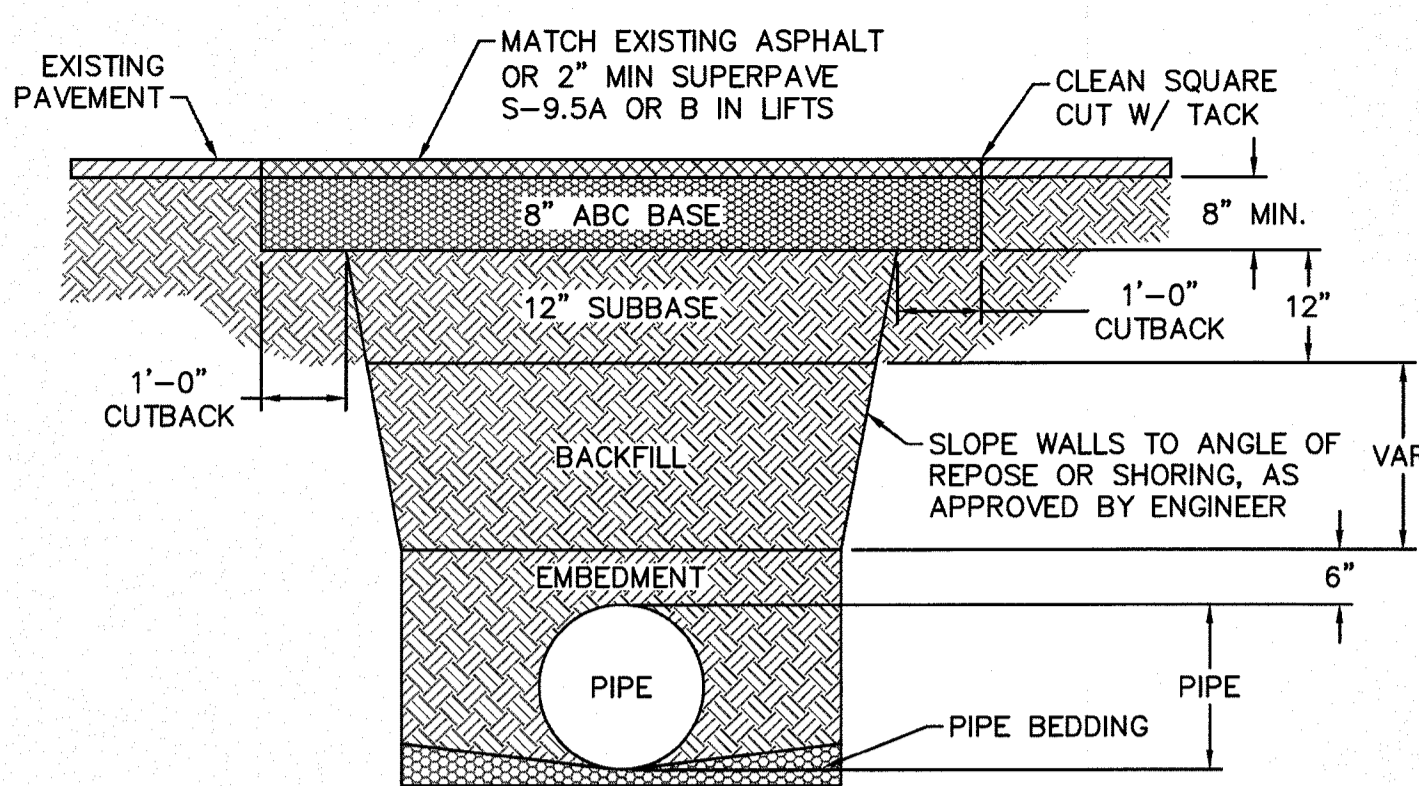


NOTES:
1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION.
2. WIRE SHALL BE STRAPPED TO ALL PVC WATER MAIN PIPING WITH DUCT TAPE AT 12 FOOT INTERVALS ALONG THE PIPE.
3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS WITH DUCT TAPE.
4. ALL SPLICES IN THE WIRE SHALL BE MADE WITH 3M DBR DIRECT BURY SPLICE KIT AN UNDERGROUND RATED, WATERTIGHT, AND APPROVED SPLICE CONNECTOR OR APPROVED EQUAL.

WD-17 TRACER WIRE DETAIL
NOT TO SCALE



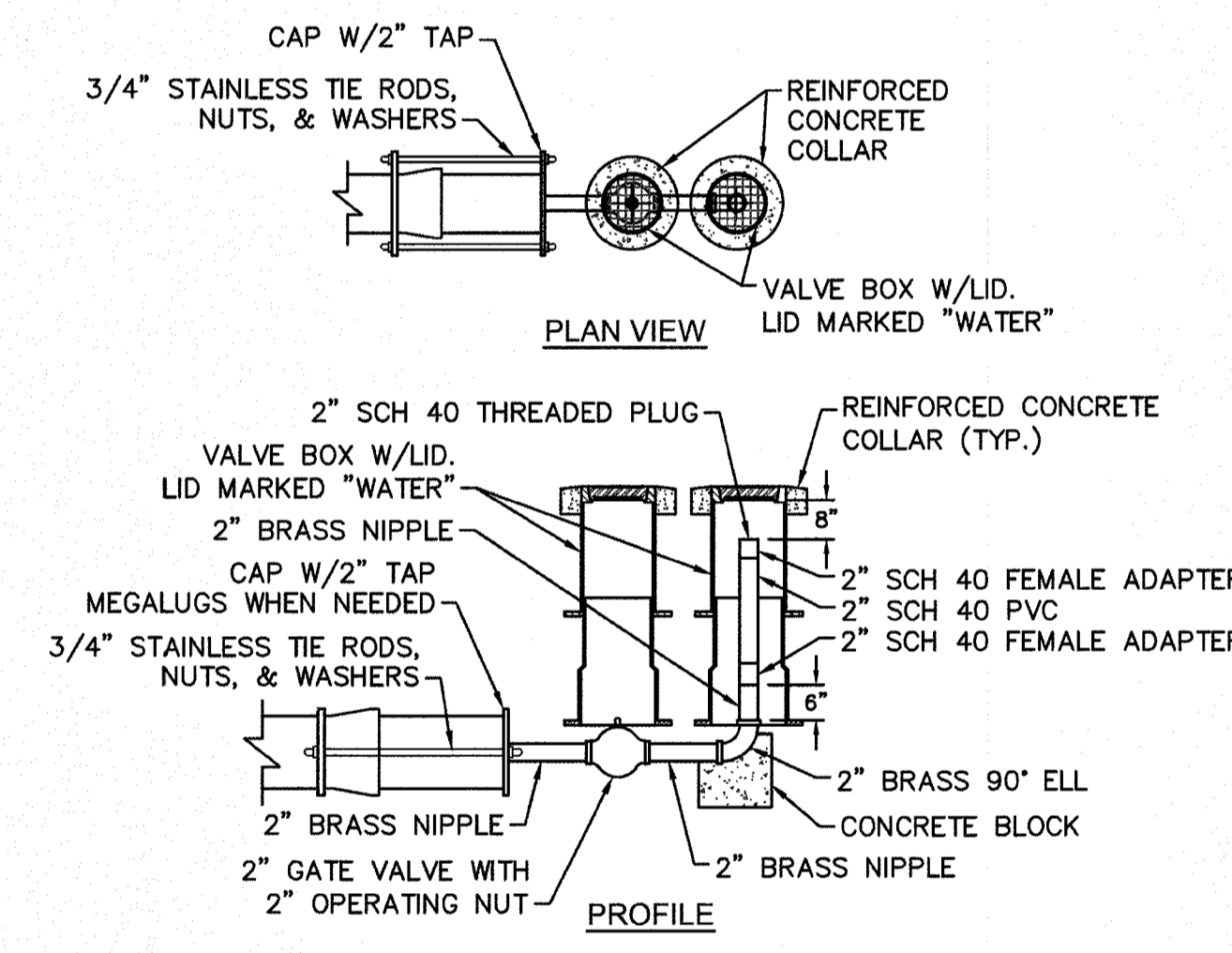
WD-6 SAMPLING STATION
NOT TO SCALE



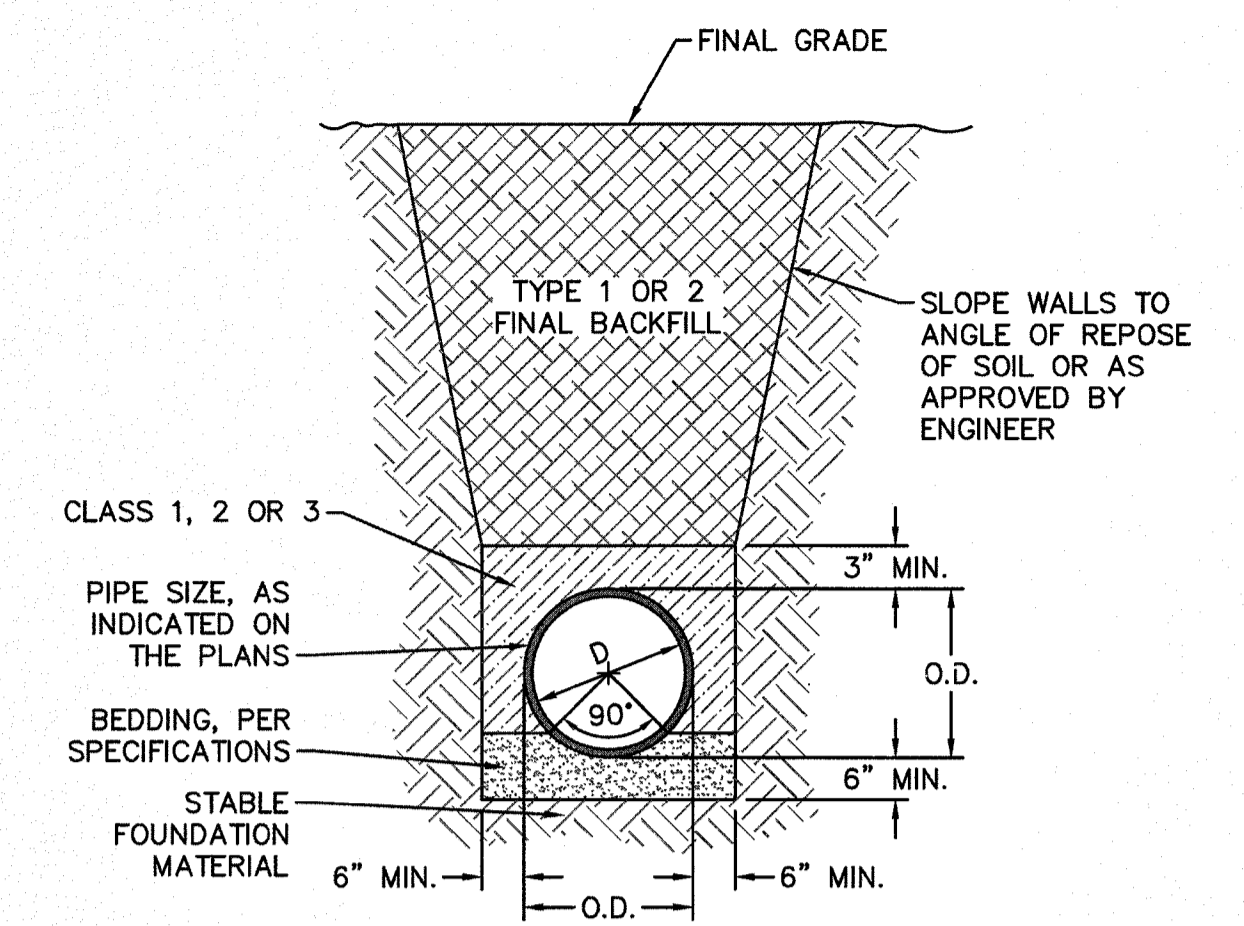
NOTES:
1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
3. 8-INCH OF ABC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

(FOR PRIVATE ROADS AND PAVED AREAS, CONTRACTOR TO MEET MIN. REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)

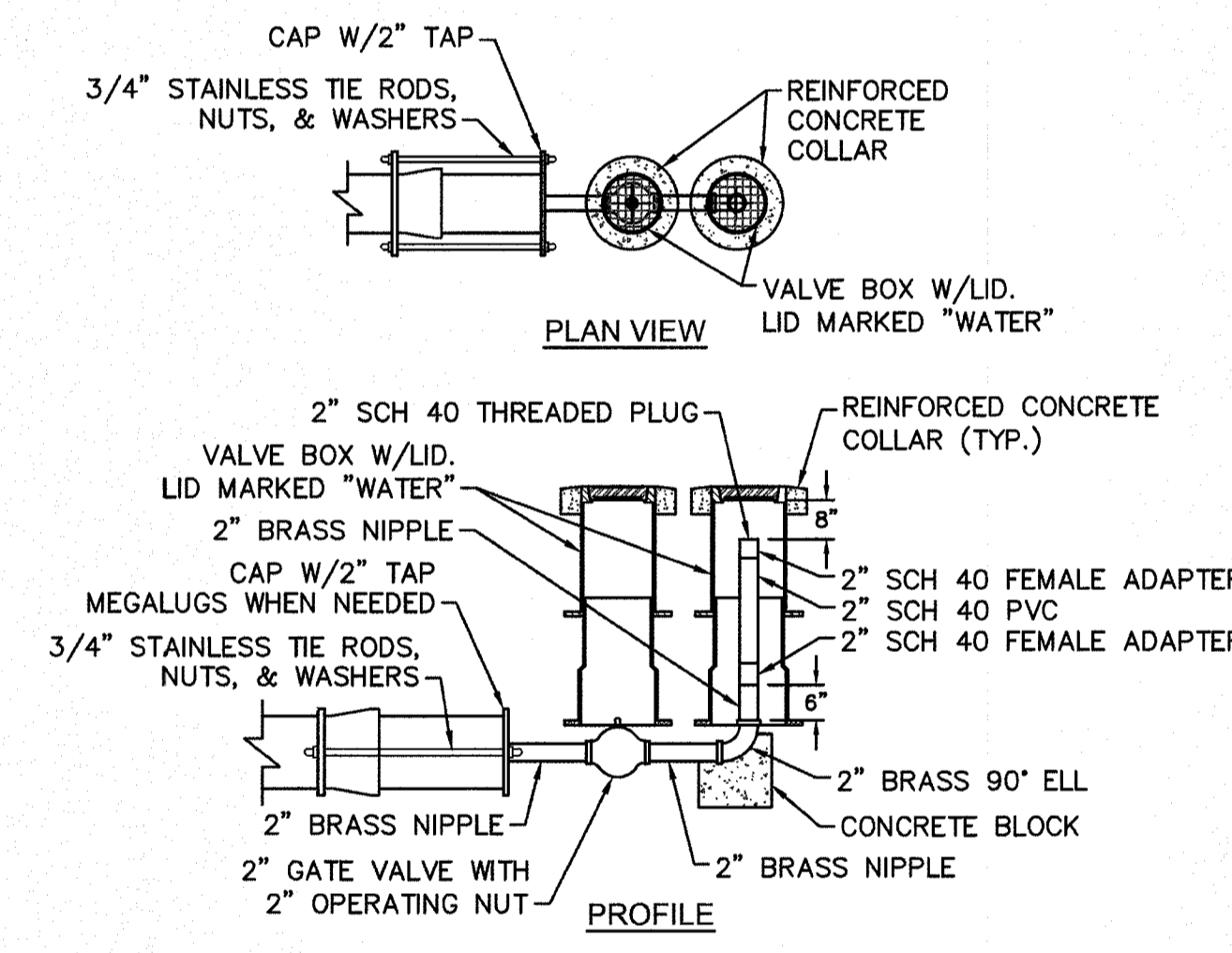
WD-14 PAVEMENT REPAIR WHERE PIPE INSTALLED
NOT TO SCALE



WD-5 2" BLOW-OFF
NOT TO SCALE



WD-13 TYPICAL TRENCH DETAIL
NOT TO SCALE



WD-9 DOUBLE SERVICE CONNECTION
NOT TO SCALE

GENERAL NOTES:
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).

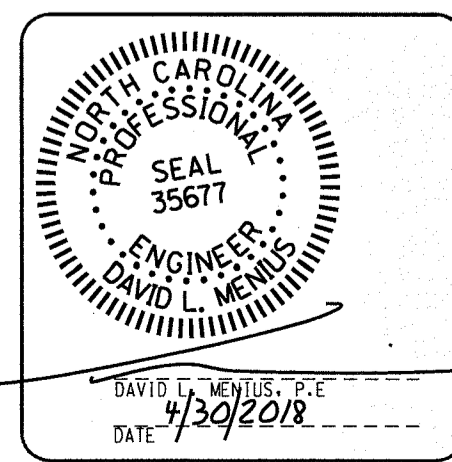
THE DETAILS SHOWN HEREON SUPERCEDE CFPWA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

OWNER:
GREENHOUSE PROPERTIES CUSTOM, LLC
PO BOX 789
CASTLE HAYNE, NC 28429
910-279-1582

ENGINEER:
STROUD ENGINEERING, P.A.
102 D CINEMA DRIVE
WILMINGTON, NC 28403
910-815-0775

REV.	DESCRIPTION:	DATE:
1	Revised Water Main Ditch and Storm Crossing Detail	11/12/13
2	Revised Water Main Ditch and Storm Crossing Detail	05/05/14
3	Revised Tracer Wire Detail	10/20/15
4	Added Backflow Preventer to Double Service Connection Detail	02/01/16
5	Revised Sampling Station Detail	02/15/16

CFPUA WATER DISTRIBUTION SYSTEM



STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)382-6560

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

SHEET NO:
WSD-2

CITY OF WILMINGTON STANDARD NOTES

- PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO ENSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
- NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING IS INSTALLED AND APPROVED. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AND CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION METHODS.
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
- ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING REGARDING THE INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
- CALL TRAFFIC ENGINEERING AT 910-341-7888 FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING PRIOR TO ACTUAL STRIPING.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
- STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
- TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, OR CURBING WILL BE REPLACED.
- CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
- WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
- PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 910-343-3910 FOR INFORMATION.
- IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REGULATIONS. CALL 910-343-3910 FOR INFORMATION.
- ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZER SENSOR.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCCHR OR ASSE.
- CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.
- NO OBSTRUCTIONS ARE PERMITTED IN THE SPACE BETWEEN THIRTY (30) INCHES AND TEN (10) FEET ABOVE THE GROUND WITHIN THE TRIANGULAR SIGHT DISTANCE.
- CONTACT THE NORTH CAROLINA ONE CALL CENTER AT 1-800-632-4949 PRIOR TO DOING ANY DIGGING, CLEARING, OR GRADING.

FIRE & LIFE SAFETY NOTES

- THE TYPE OF BUILDING CONSTRUCTION ACCORDING TO THE INTERNATIONAL BUILDING CODE SHALL BE TYPE VI SPRINKLERED.
- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
- HYDRANT MUST BE WITHIN 150' OF THE FDC (MEASURED AS THE TRUCK DRIVES FOR PRACTICAL USE)
- FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT
- LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC
- ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
- ALL ISOLATION VALVES WITHIN THE "HOT BOX" SHALL BE ELECTRONICALLY SUPERVISED. COORDINATE WITH THE FIRE SPRINKLER AND ALARM INSTALLER IN REGARDS TO RUNNING WIRE FOR TAMPER SWITCH.
- CONTRACTOR SHALL MAINTAIN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- UNDERGROUND FIRE LINE(S) MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-341-0696.

NOTES

- THE LAYOUT OF SITE IMPROVEMENTS IS BASED PLANS PREPARED BY DESIGN SOLUTIONS ENTITLED "CONDITIONAL DISTRICT CONCEPT PLAN - CASE # CD-6-917" DATED 7/24/2017 AND REVISED 9/19/2017.
- NO WETLANDS OR SURFACE WATERS EXIST WITHIN OR ADJACENT TO THE PROJECT AREA.
- THE PROJECT IS OUTSIDE THE 100 YEAR FLOOD ZONE PER FIRM PANEL 3720312600J.
- AN NRC EROSION CONTROL PERMIT IS NOT REQUIRED FOR PROJECTS DISTURBING LESS THAN 1 ACRE. CONTRACTOR SHALL INSTALL AND MAINTAIN SILT FENCING AND GRAVEL CONSTRUCTION ENTRANCE AS NOTED ON THE PLANS.
- NCDOT AND CITY OF WILMINGTON STORMWATER PERMITS ARE NOT REQUIRED FOR RESIDENTIAL PROJECTS DISTURBING LESS THAN 1 ACRE. CITY OF WILMINGTON DRAINAGE PLAN APPROVAL SHALL BE REQUIRED PRIOR TO BEGINNING WORK.
- NO EXTENSIONS OF PUBLIC WATER MAINS ARE PROPOSED. AN NCDOT PERMIT SHALL BE REQUIRED FOR EXTENSIONS PUBLIC SEWER MAINS. CFPUA PLAN APPROVAL SHALL BE REQUIRED PRIOR TO BEGINNING WORK.
- CITY OF WILMINGTON FIRE SERVICES AND CFPUA APPROVAL IS REQUIRED FOR 4" PRIVATE FIRE LINE
- NO EXTENSIONS OF PUBLIC OR PRIVATE RIGHTS OF WAY ARE PROPOSED. CITY OF WILMINGTON PLAN APPROVAL SHALL BE REQUIRED PRIOR TO BEGINNING WORK.

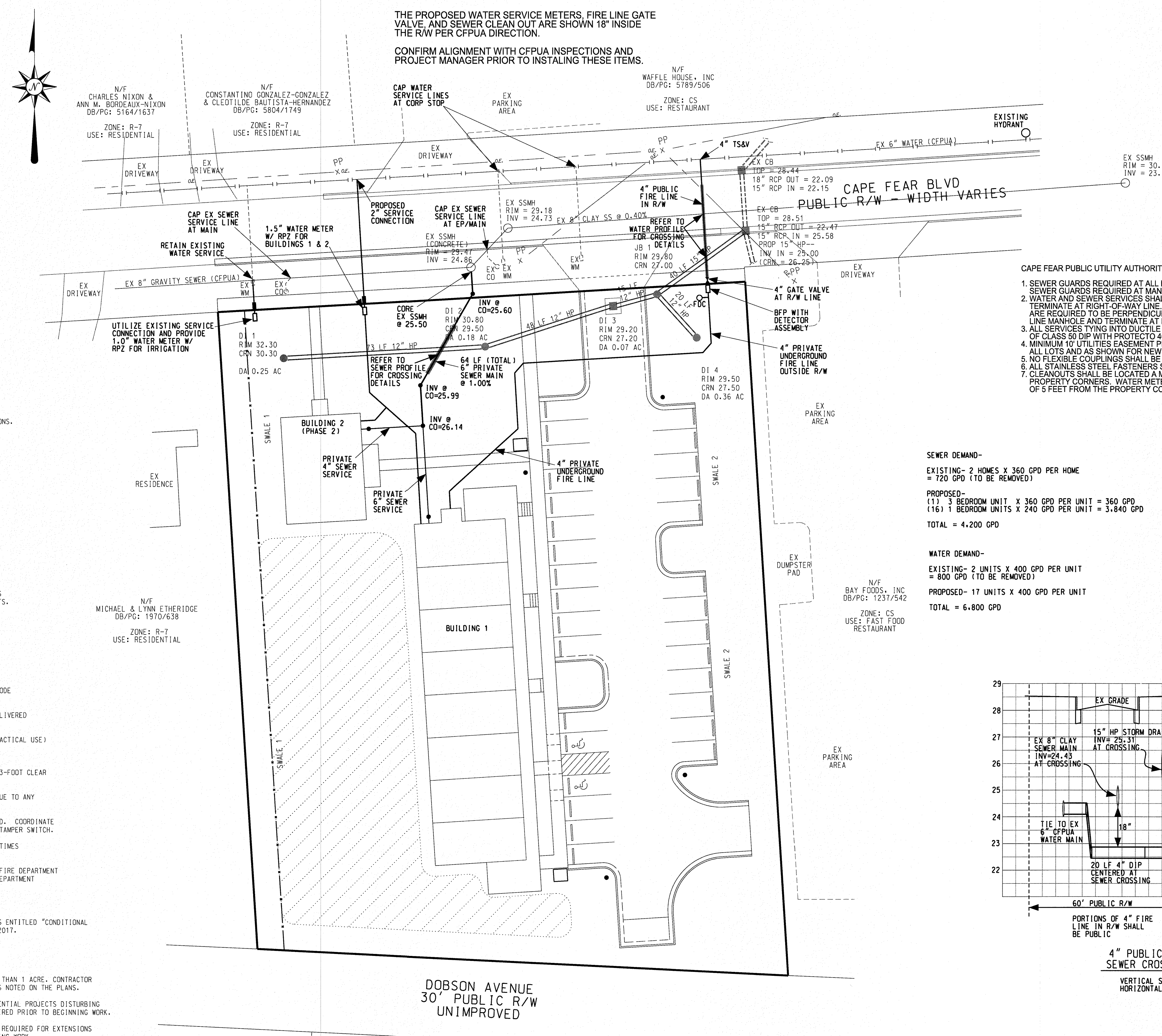
SHEET INDEX

COVER/SITE PLAN	1
TREE PROTECTION, EROSION CONTROL, & DEMOLITION PLAN	2
LANDSCAPING	3
GRADING AND DRAINAGE	4
UTILITIES	5
ROADWAY INVENTORY	6
CITY STANDARD DETAILS	7-8
SW AND GRADING DETAILS	9

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

THE PROPOSED WATER SERVICE METERS, FIRE LINE GATE VALVE, AND SEWER CLEAN OUT ARE SHOWN 18" INSIDE THE R/W PER CFPUA DIRECTION.

CONFIRM ALIGNMENT WITH CFPUA INSPECTIONS AND PROJECT MANAGER PRIOR TO INSTALING THESE ITEMS.

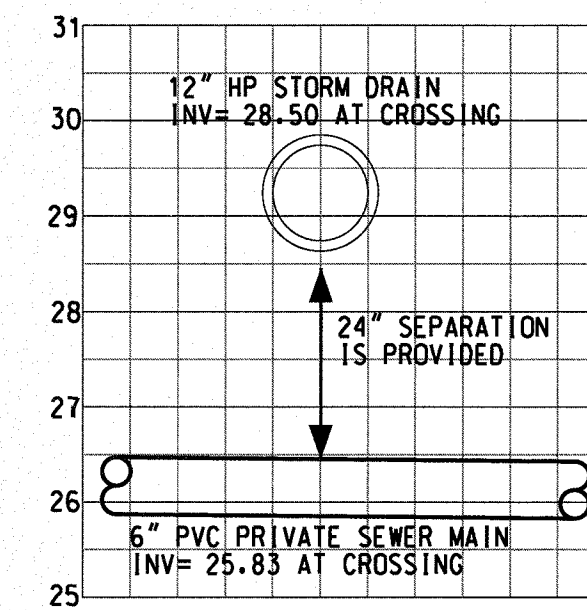


CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

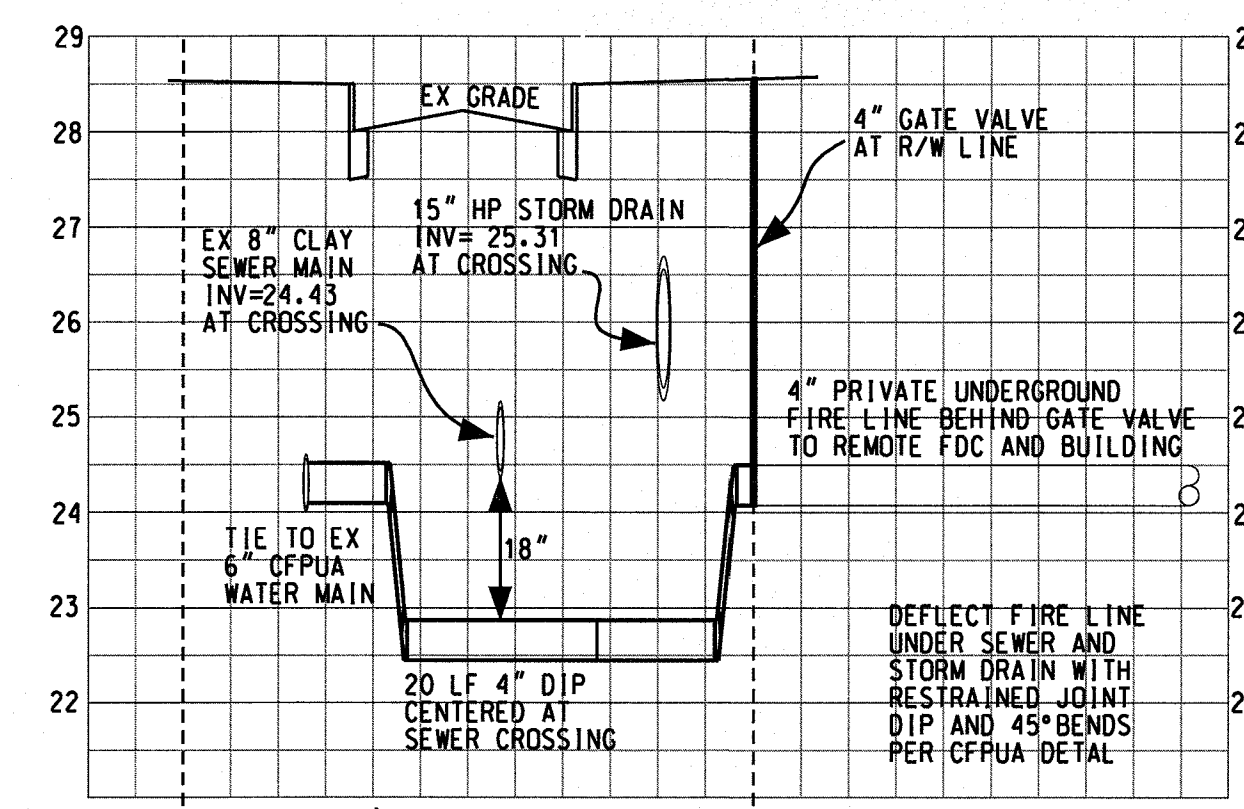
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF 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.

SEWER DEMAND-
 EXISTING- 2 HOMES X 360 GPD PER HOME = 720 GPD (TO BE REMOVED)
PROPOSED-
 (1) 3 BEDROOM UNIT X 360 GPD PER UNIT = 360 GPD
 (16) 1 BEDROOM UNITS X 240 GPD PER UNIT = 3,840 GPD
TOTAL = 4,200 GPD

WATER DEMAND-
 EXISTING- 2 UNITS X 400 GPD PER UNIT = 800 GPD (TO BE REMOVED)
PROPOSED- 17 UNITS X 400 GPD PER UNIT
TOTAL = 6,800 GPD



6" PRIVATE SEWER/STORMDRAIN CROSSING DETAIL
 SCALE 1" = 2'



4" PUBLIC FIRE LINE/SEWER CROSSING DETAIL
 VERTICAL SCALE 1" = 2'
 HORIZONTAL SCALE 1" = 20'

LEGEND

PROJECT BOUNDARY	---
EX WATER MAIN	---
EX SEWER MAIN	---
STORMDRAIN	---
EX CONTOURS	---
PROP CONTOURS	---
FLOW DIRECTION	---
SILT FENCE	---
TREE FENCE	---
DISTURBED AREA	---
DRAINAGE BOUNDARY	---

VICINITY MAP

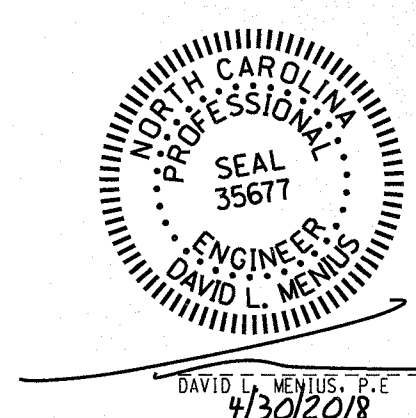
SITE DATA

PARCEL ID	6018-006-012-000
DECK BOOK/PAGE	5595/1265
PLAT BOOK/PAGE	53/332
ZONING	MF-4 (CD)
PROPERTY AREA	1.14 AC
	49,701 SF
DISTANCE LIMITS	0.96 AC
PROPOSED USE	RESIDENTIAL
PROPOSED BUILDINGS	2
MAX BUILDING HEIGHT	35'
SETBACKS	
FRONT	35'
SIDE	20'
REAR (ALLEY)	25'
BUILDING 1 AREA	8,800 SF
BUILDING 2 AREA	1,200 SF
TOTAL BUILDING AREA	10,000 SF
PROPOSED 1 BR UNITS	16
PROPOSED 3 BR UNITS	1
TOTAL PROPOSED UNITS	17
UNITS PER ACRE	15
CAMA LAND CLASSIFICATION	URBAN
BUA	
BUILDINGS	6,887 SF
WALKWAYS	2,440 SF
PARKING	12,486 SF
TOTAL	21,813 SF
	0.50 AC
% OF PROPERTY (BUILDINGS)	13.9 %
% OF PROPERTY (TOTAL BUA)	43.9 %
EX BUA (TO BE REMOVED)	6,897 SF
PARKING	
1.50 MINIMUM SPACES / 1 BR UNIT X 16 UNITS = 24	
2.25 MINIMUM SPACES / 3 BR UNIT X 1 UNIT = 2	
TOTAL MINIMUM REQUIRED SPACES = 26	
2.5 MAXIMUM ALLOWED SPACES / UNIT X 17 UNITS = 43	
PROVIDE 30 SPACES (INCLUDING 2 ACCESSIBLE)	
MINIMUM BIKE SPACES = 5	
PROVIDE 10 SPACES	
OPEN SPACE	
REQUIRED OPEN SPACE = 35% X 49,701 SF (1.14 AC) SITE = 17,395 SF OPEN SPACE REQUIRED	
PROVIDE TOTAL TRACT AREA LESS BUA (21,823 SF), INTERIOR LANDSCAPE ISLANDS (1,834 SF), FOUNDATION PLANTINGS (620 SF), AND FENCED BUFFERS (2,401 SF) = 23,223 SF OPEN SPACE	
REQUIRED RECREATION AREA = 50% X REQUIRED OPEN SPACE = 8,698 SF RECREATION AREA	
REQUIRED ACTIVE RECREATION AREA = 50% X REQUIRED RECREATION AREA = 4,349 SF ACTIVE RECREATION AREA	
REQUIRED PASSIVE RECREATION AREA = 50% X REQUIRED RECREATION AREA = 4,349 SF PASSIVE RECREATION AREA	

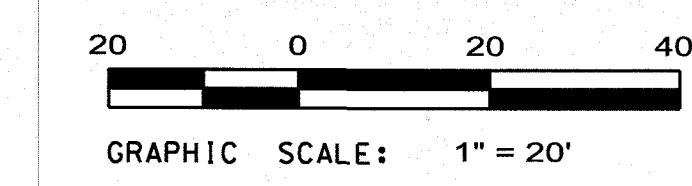
Approved Construction Plan

Name	Date
Planning	5/31/18
Traffic	5-7-18
Fire	5/2/18

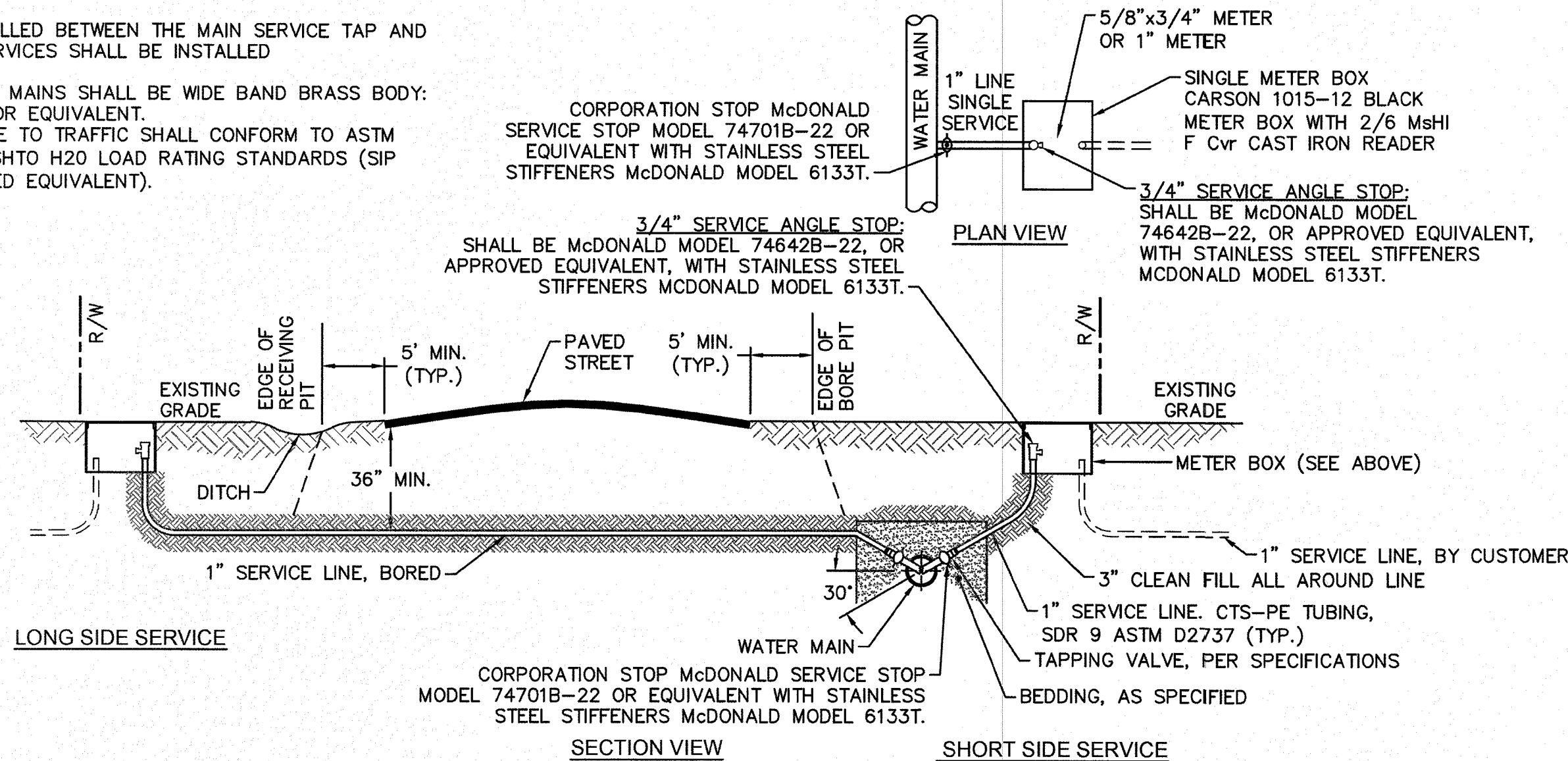
CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED DRAINAGE PLAN
 Date: 05/03/2018 Permit # 2018020
 Signed: *T. Smith for RDG*



UTILITIES
CAPE FEAR BOULEVARD APARTMENTS
 448 CAPE FEAR BOULEVARD WILMINGTON, NC 28401
 CITY OF WILMINGTON NEW HANOVER COUNTY NORTH CAROLINA
OWNER: GREENHOUSE PROPERTIES CUSTOM, LLC
 ADDRESS: PO BOX 789 CASTLE HAYNE, NC 28429
 PHONE: 910-279-1582
STROUD ENGINEERING, P.A.
 102-D CINEMA DRIVE WILMINGTON, NORTH CAROLINA 28403 (910) 815-0775 LICENSE NO. C-0647
DRAWN: DLM
SCALE: 1" = 20'
SHEET: 5

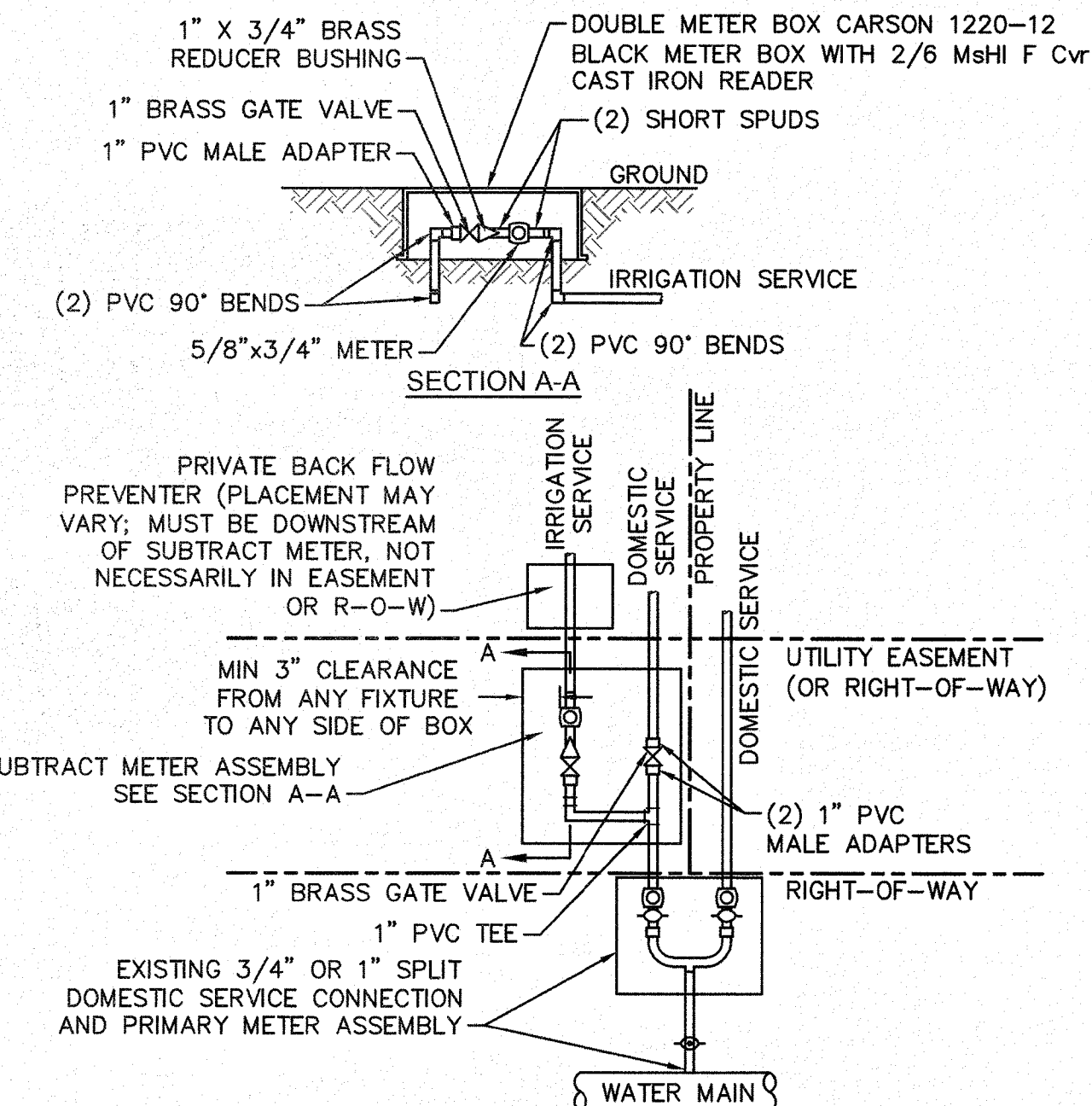


- NOTES:**
- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
 - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: SADDLE McDONALD 3801 OR EQUIVALENT.
 - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM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



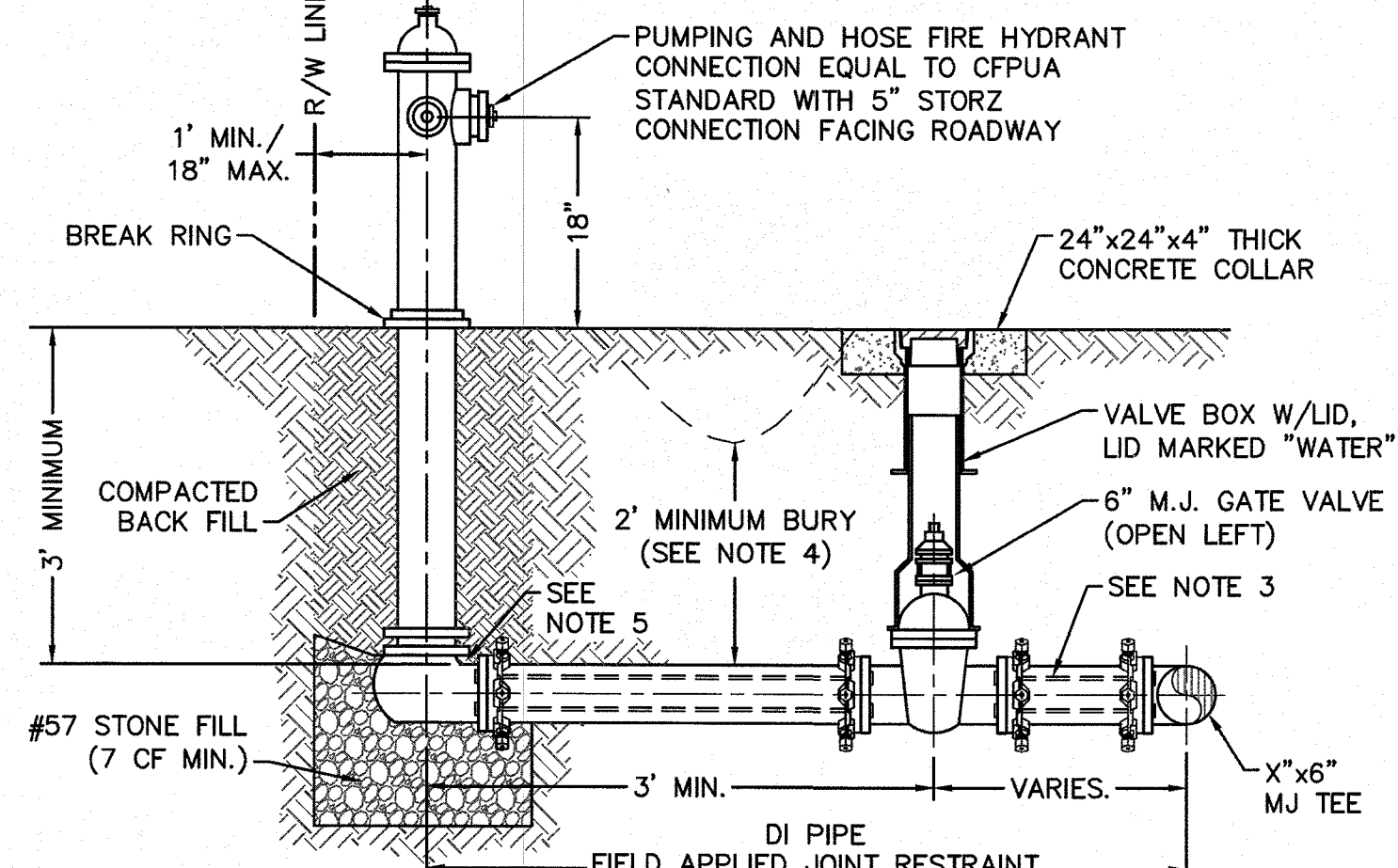
NOTE:
TYPICAL WATER SERVICE CONNECTION FOR RESIDENTIAL SINGLE FAMILY HOME ON CFPUA WATER SYSTEM

WD-18 SINGLE SERVICE CONNECTION
NOT TO SCALE



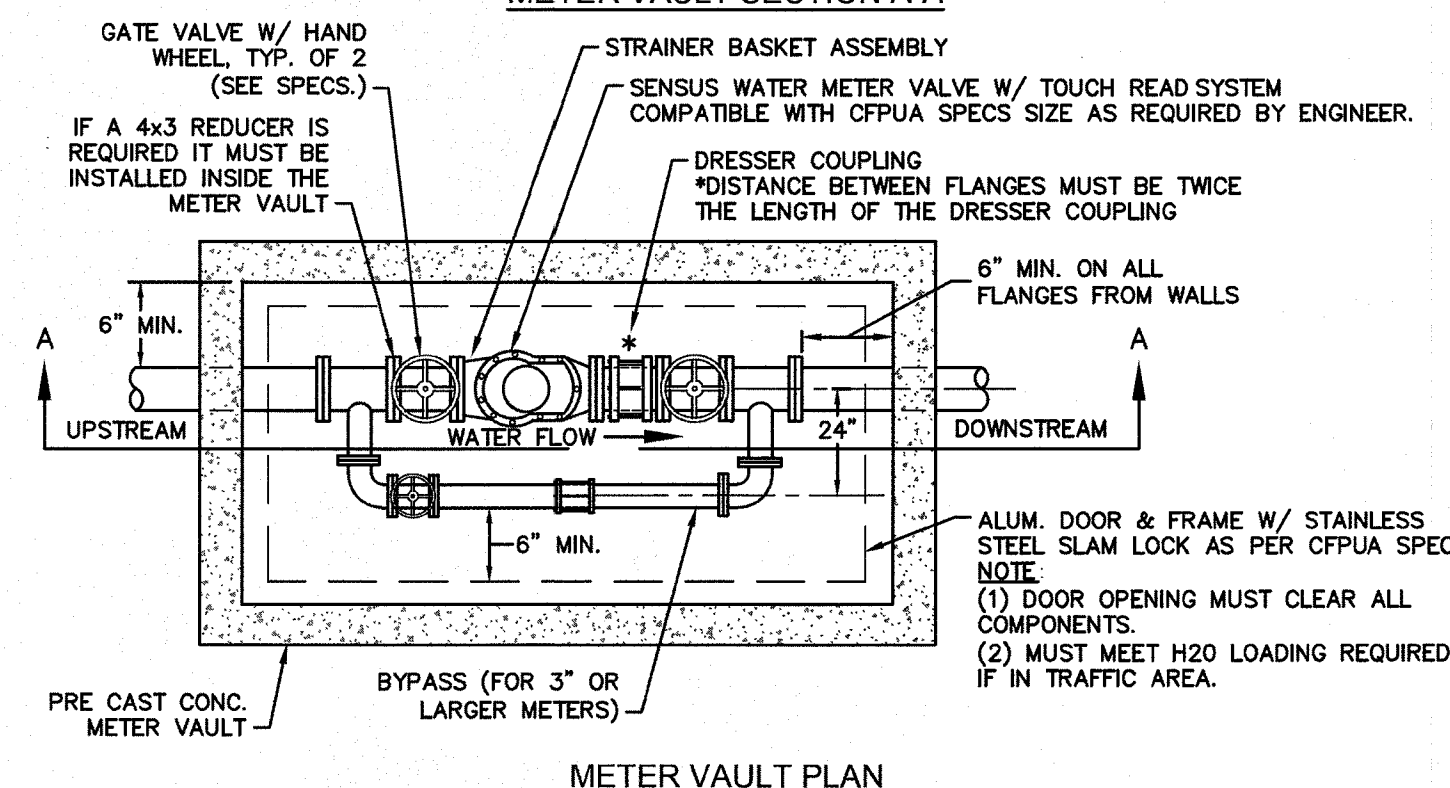
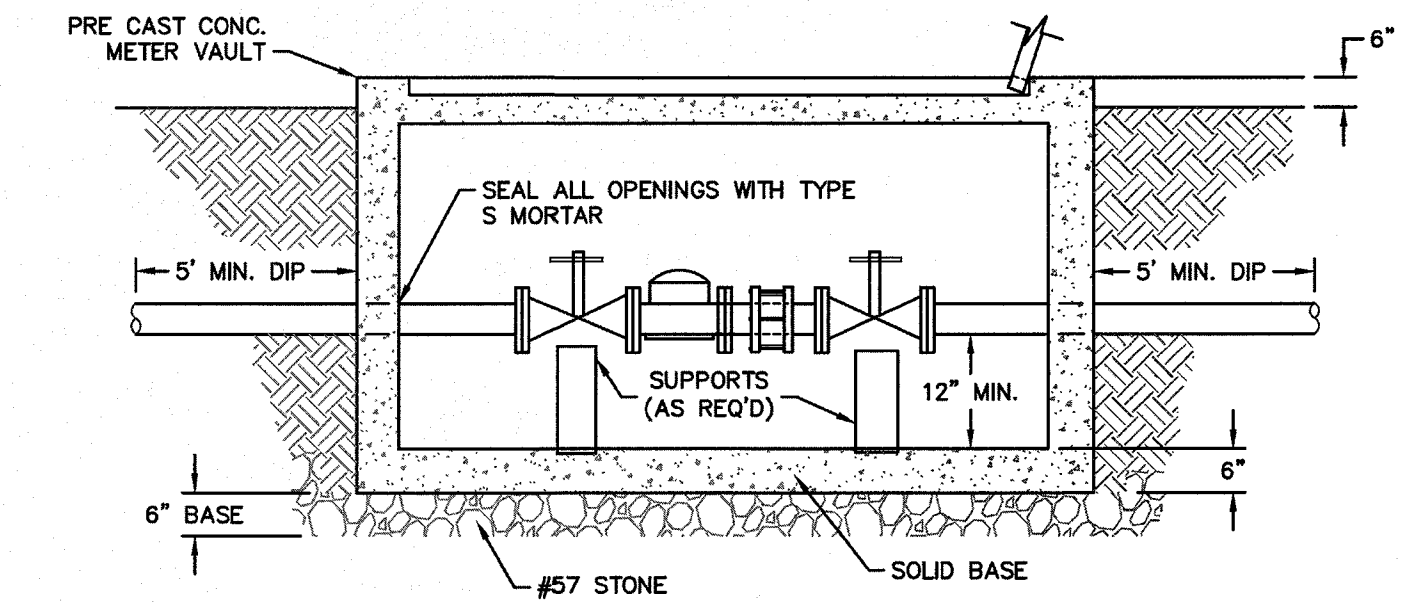
- NOTES:**
- BEYOND THE PRIMARY DOMESTIC METER ASSEMBLY, CFPUA IS ONLY RESPONSIBLE FOR METER AND WASHERS OF SUBTRACT METER ASSEMBLY.
 - ALL PIPE AND FITTINGS UP TO FINAL SERVICE LINE TO BE 1" EXCLUDING METERS.

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

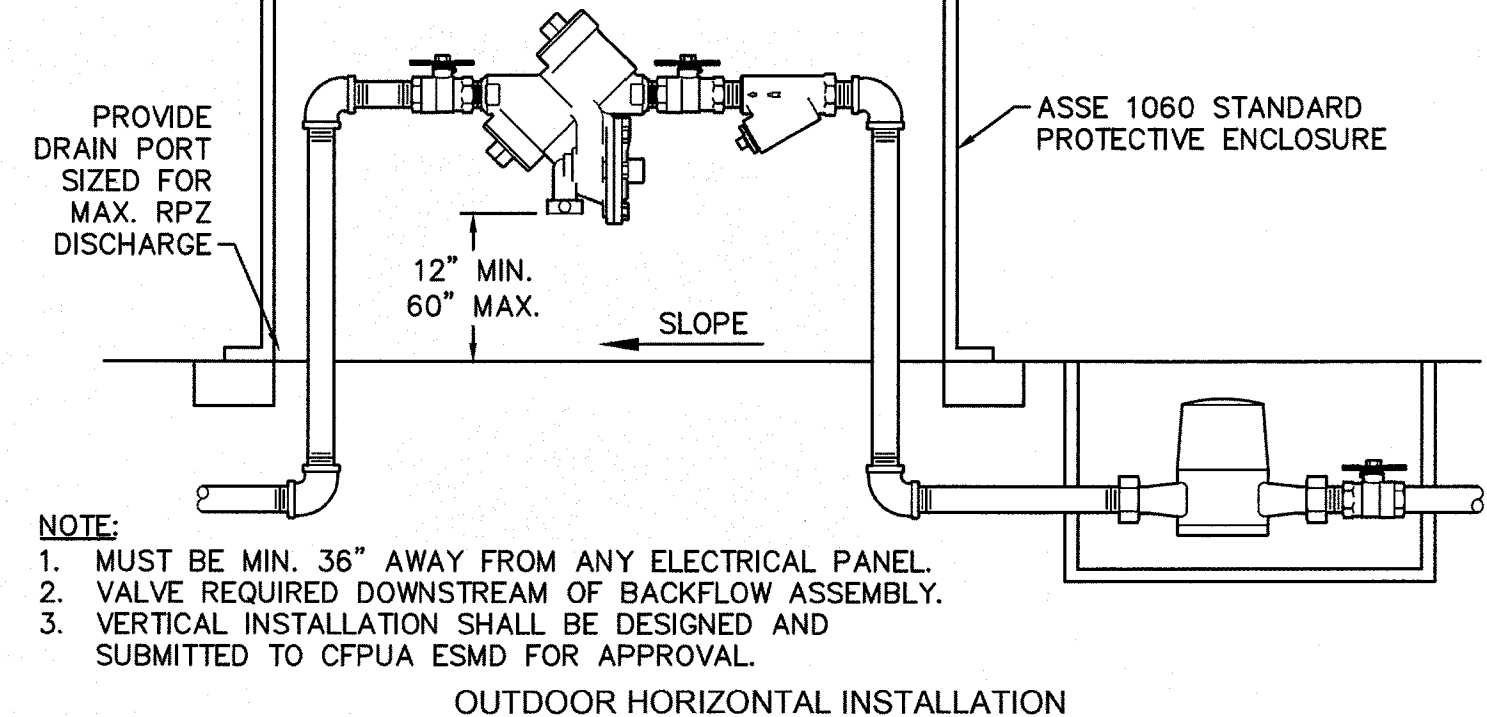
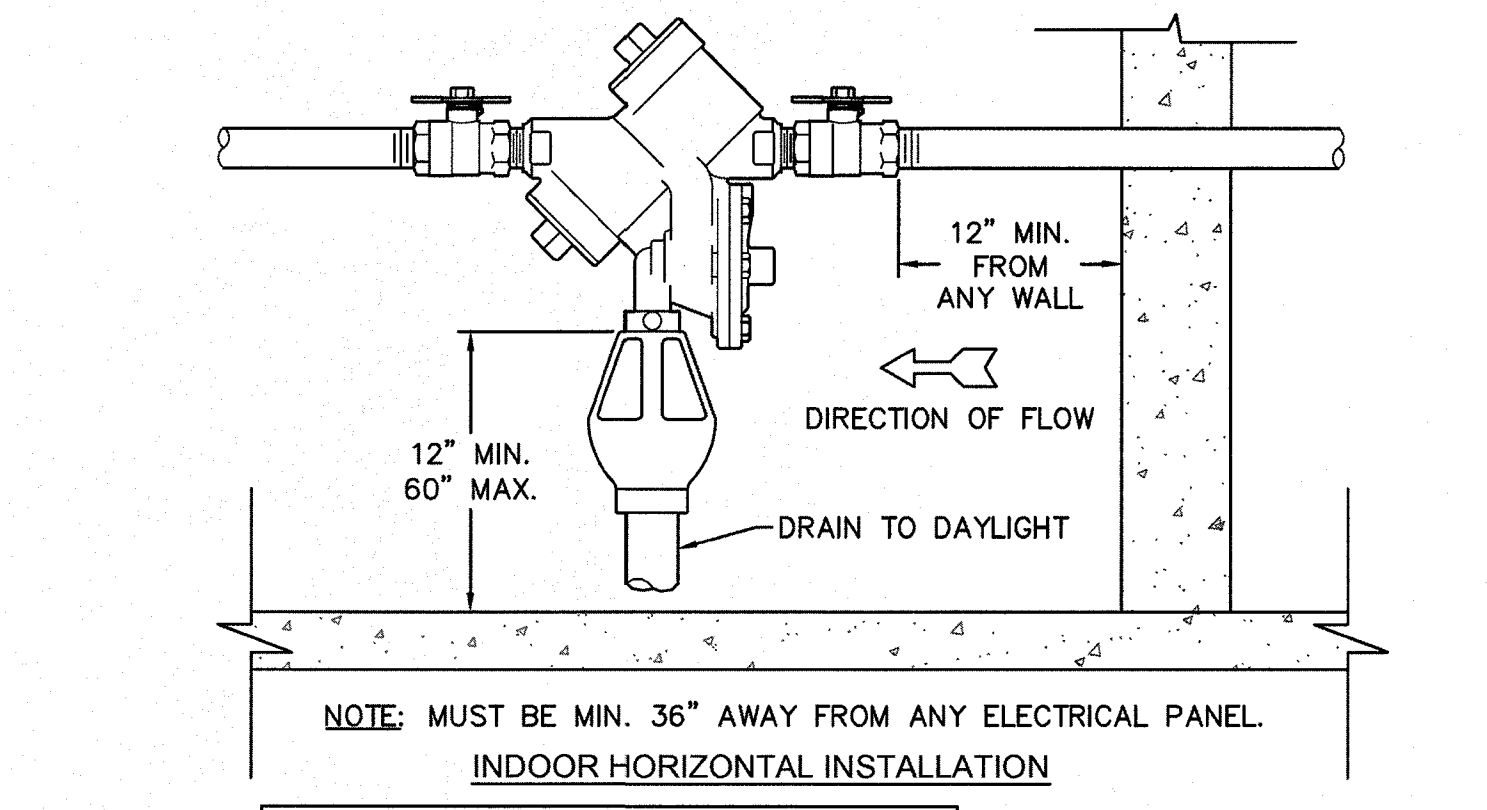


- NOTES:**
- JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI PIPE AS MANUFACTURED BY EBAA IRON, SIGMA, STAR PIPE PRODUCTS OR APPROVED EQUAL.
 - WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
 - CONTINUOUS 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.

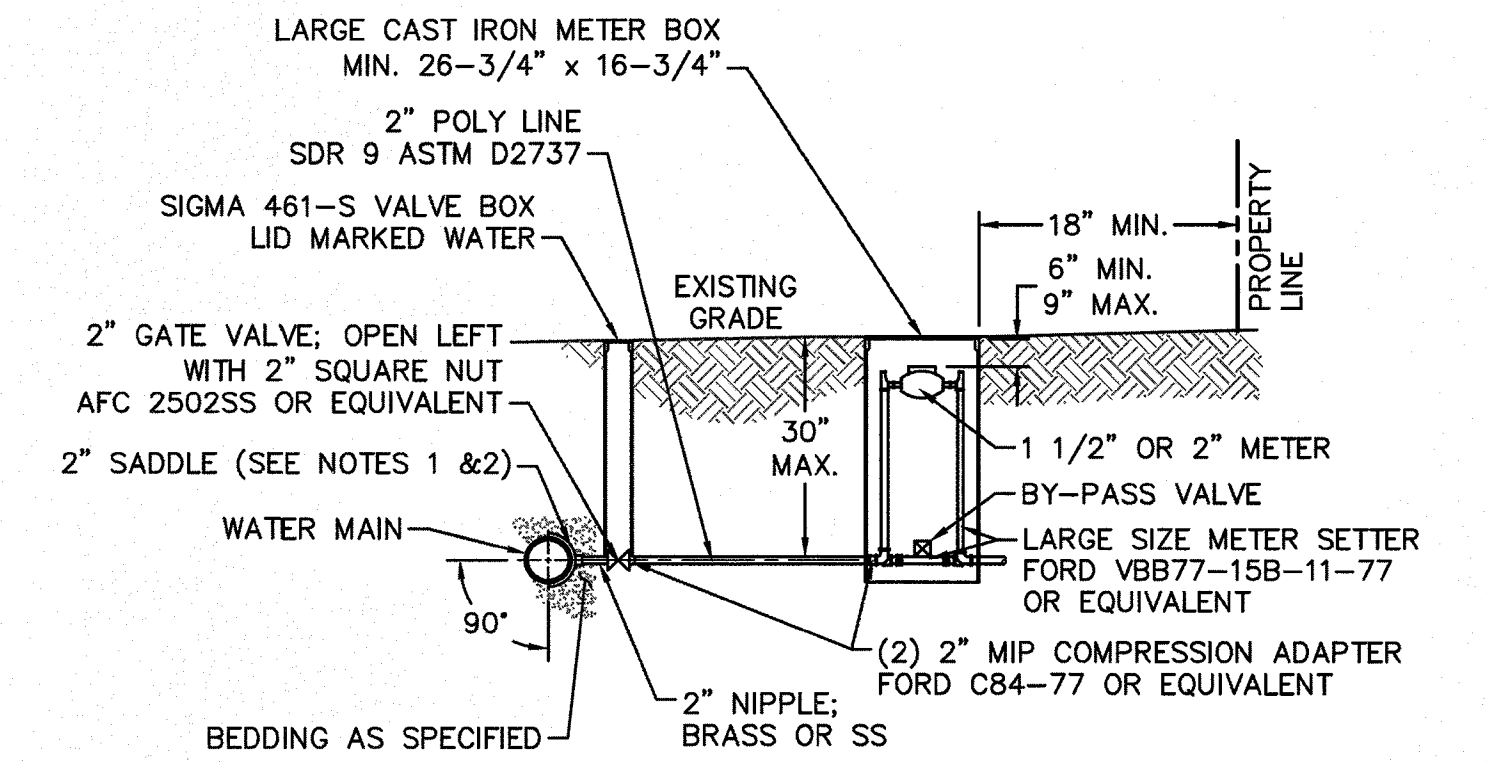
WD-10 FIRE HYDRANT ASSEMBLY
NOT TO SCALE



WD-1 WATER METER VAULT
NOT TO SCALE

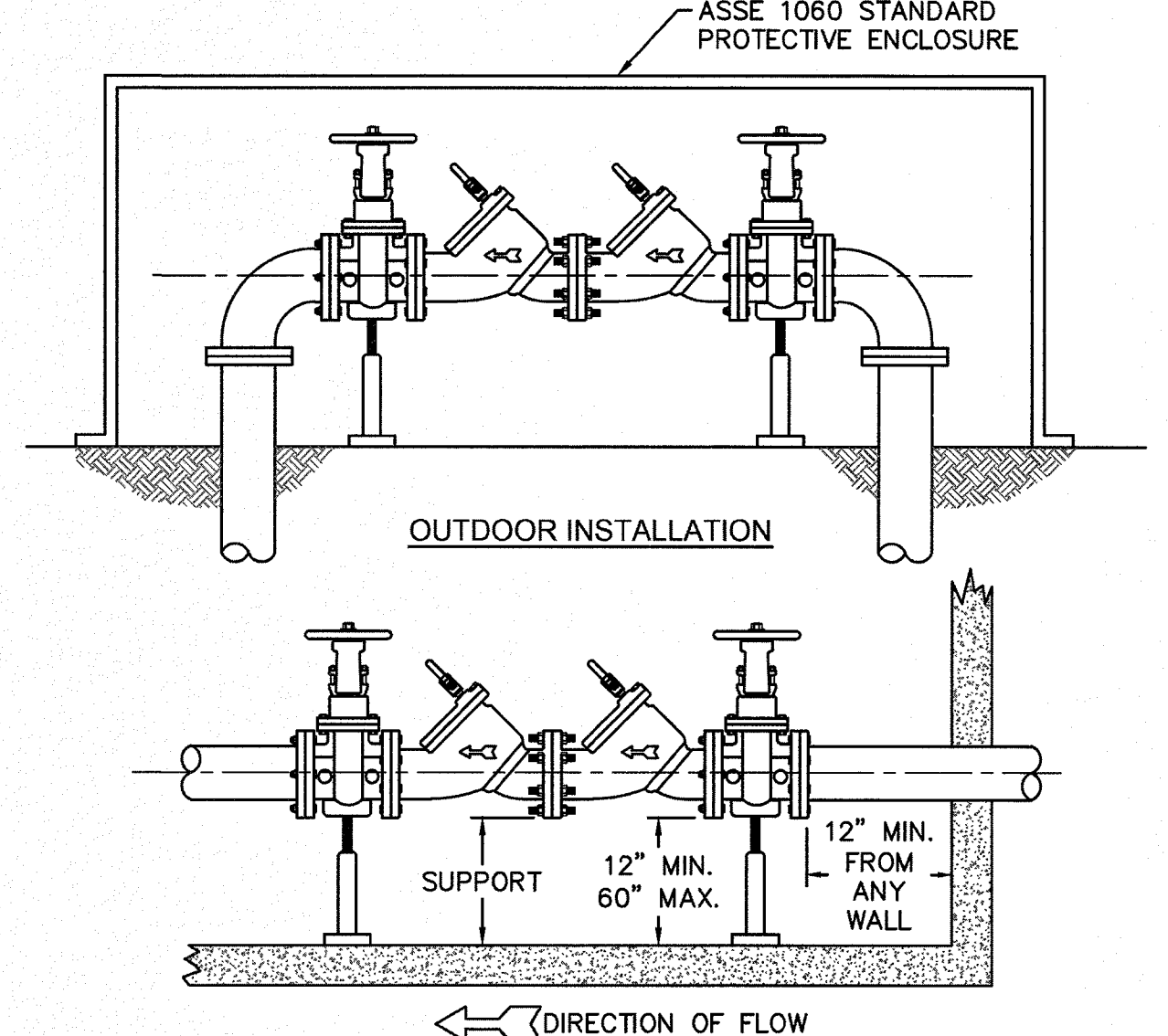


WD-12 REDUCED PRESSURE PRINCIPLE ASSEMBLY
NOT TO SCALE



- 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.

WD-11 LARGE METER
NOT TO SCALE



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

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.

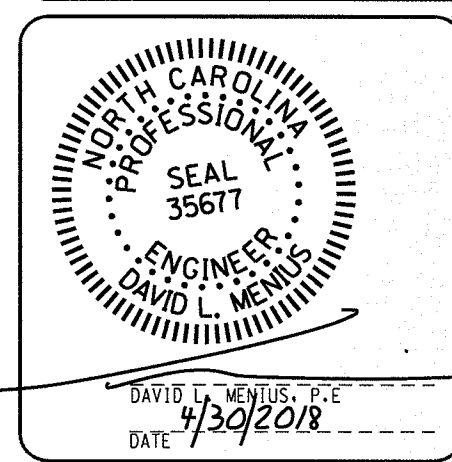
WD-19 STANDARD NOTES
(REQUIRED ON ALL PLAN AND PROFILE SHEETS)

OWNER:
GREENHOUSE PROPERTIES CUSTOM, LLC
PO BOX 789
CASTLE HAYNE, NC 28429
910-279-1582

ENGINEER:
STROUD ENGINEERING, P.A.
102 D CINEMA DRIVE
WILMINGTON, NC 28403
910-815-0775

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	02/15/16

CFPUA WATER DISTRIBUTION SYSTEM

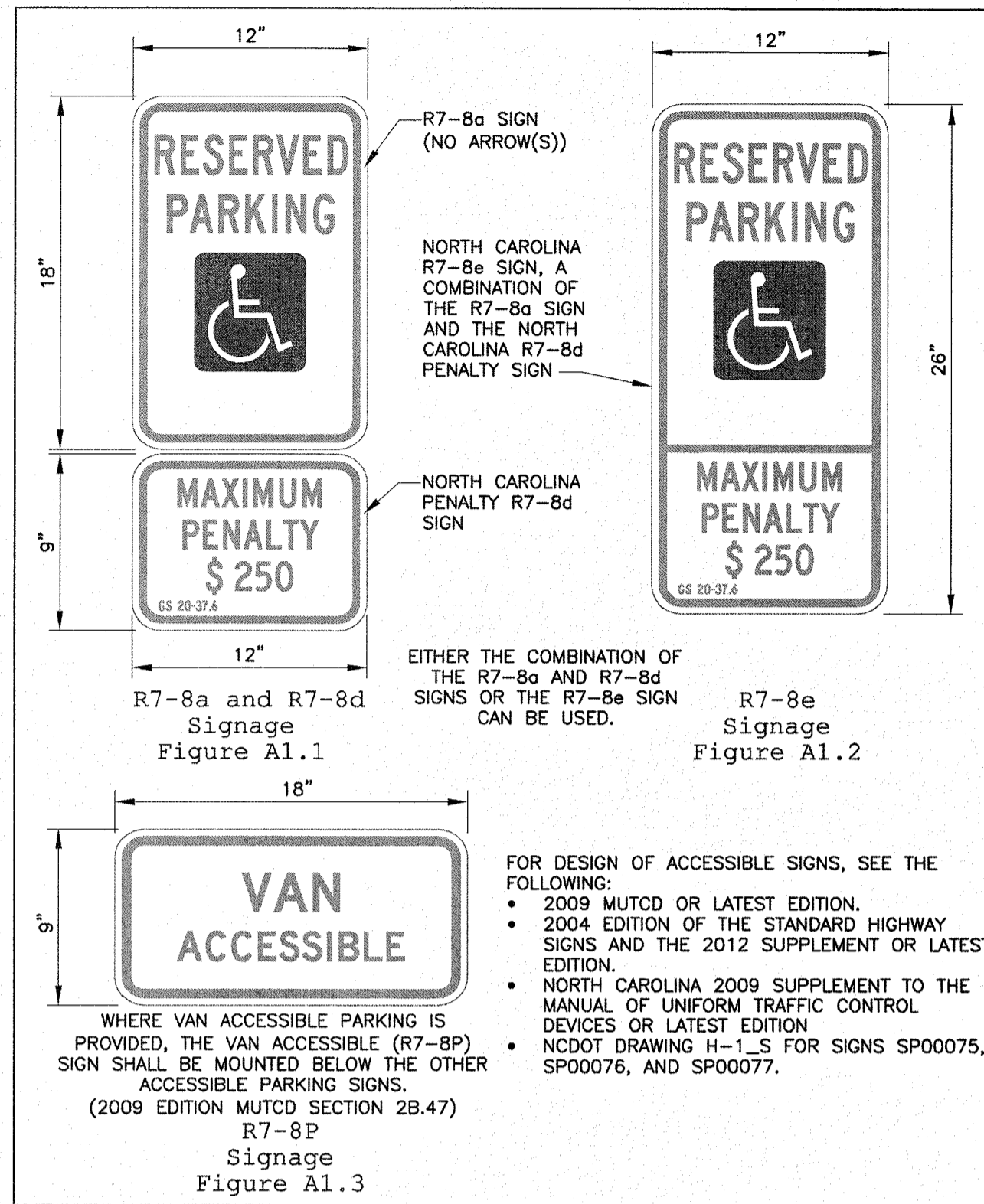


STANDARD DETAILS

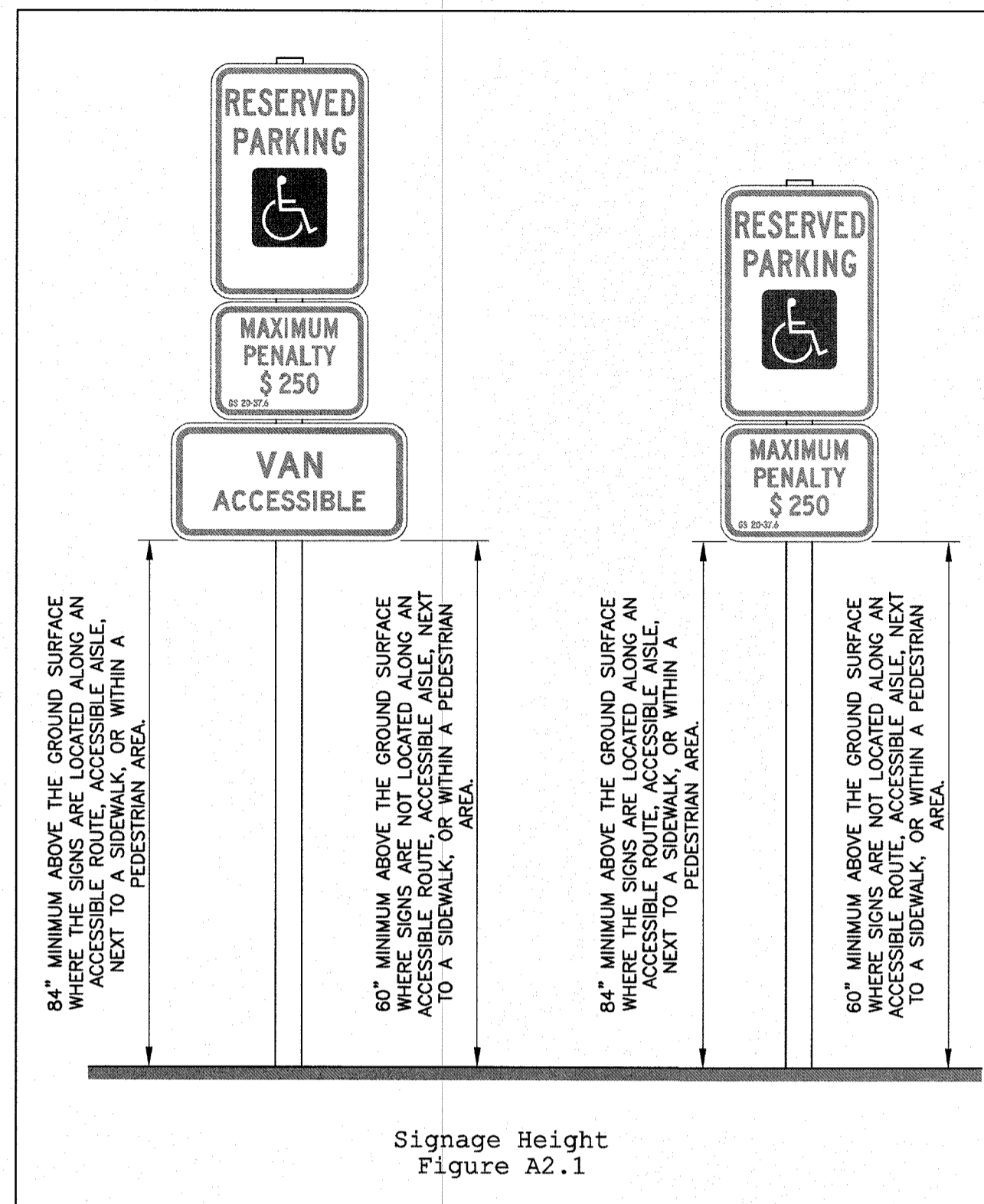
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

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

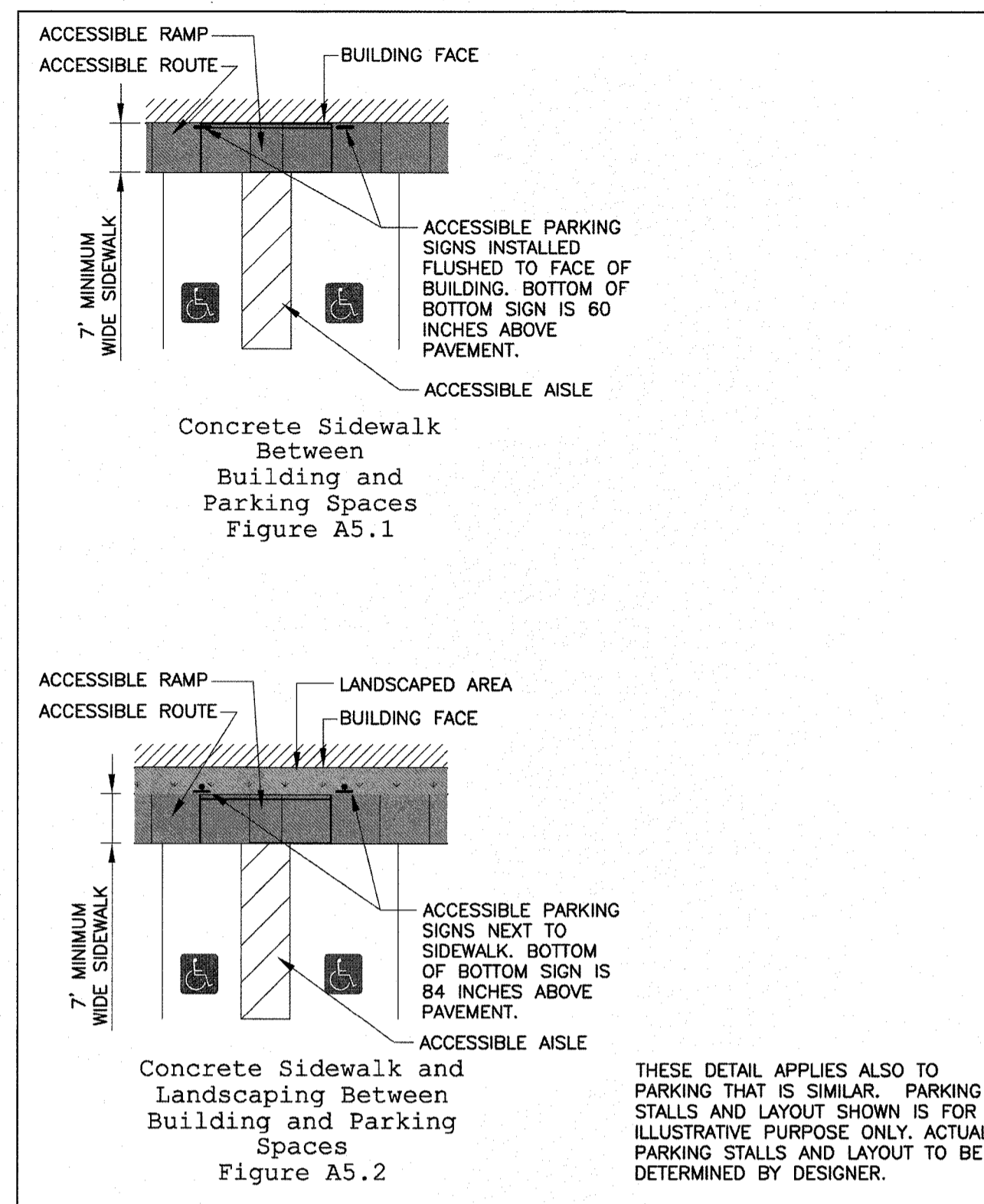
SHEET NO:
WSD-1



DATE: NOVEMBER 9, 2016	ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS SHEET A1 OF 5	
DRAWN BY: DALE THOMPSON		
CHECKED BY: RANDALL GLAZIER		



DATE: NOVEMBER 9, 2016	ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS SHEET A2 OF 5	
DRAWN BY: DALE THOMPSON		
CHECKED BY: RANDALL GLAZIER		



DATE: NOVEMBER 9, 2016	ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS SHEET A5 OF 5	
DRAWN BY: DALE THOMPSON		
CHECKED BY: RANDALL GLAZIER		

DATE: NOVEMBER 9, 2016	ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS SHEET A1 OF 5	
DRAWN BY: DALE THOMPSON		
CHECKED BY: RANDALL GLAZIER		

DATE: NOVEMBER 9, 2016	ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS SHEET A2 OF 5	
DRAWN BY: DALE THOMPSON		
CHECKED BY: RANDALL GLAZIER		

DATE: NOVEMBER 9, 2016	ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS SHEET A5 OF 5	
DRAWN BY: DALE THOMPSON		
CHECKED BY: RANDALL GLAZIER		

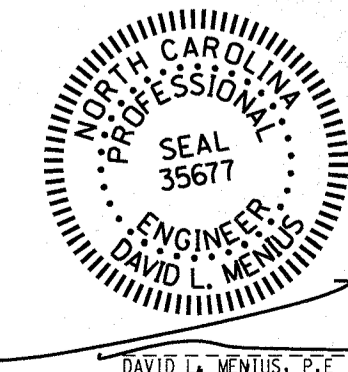
Approved Construction Plan	
Name	Date
Planning <i>Nicole Smith</i>	<i>5/31/18</i>
Traffic <i>W Smith</i>	<i>5-7-18</i>
Fire <i>SS Col</i>	<i>5/2/18</i>

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division

APPROVED DRAINAGE PLAN

Date: *05/03/2018* Permit # *2018020*

Signed: *Trent Butler for RDG*



CITY STANDARD DETAILS

CAPE FEAR BOULEVARD APARTMENTS
448 CAPE FEAR BOULEVARD WILMINGTON, NC 28401

CITY OF WILMINGTON NEW HANOVER COUNTY NORTH CAROLINA

OWNER: GREENHOUSE PROPERTIES CUSTOM, LLC	DESIGNED: DLM
ADDRESS: PO BOX 789 CASTLE HAYNE, NC 28429	DRAWN: DLM
PHONE: 910-279-1582	APPROVED: JHF

STROUD ENGINEERING, P.A.
102-D CINEMA DRIVE WILMINGTON, NORTH CAROLINA 28403 (910) 815-0775 LICENSE NO. C-0647

DATE: 11/14/2017
SCALE: AS NOTED
SHEET: 8

COASTAL PLAIN SITE STABILIZATION SCHEDULE

1. Fertilize and lime per recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.
2. Incorporate lime/fertilizer 4-6 inches.
3. Roughen steep slopes by tracked machinery.
4. Select species based on season. Refer to tables.
5. Broadcast seeds evenly and cover by raking or dragging a chain. Firm soil by rolling.
6. Apply straw mulch at a rate 1-2 tons per acre. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool.
7. A disk with blades set nearly straight can be used as a mulch anchoring tool.
8. Re-fertilize if growth is not fully adequate. Reseed, re-fertilize and mulch immediately following erosion or other damage.

PERMANENT SEEDING TABLE 1		
Seeding Dates	Recommended Planting	Rate (lb/ac)
Feb. 15 - Apr. 1	Tall Fescue Mixture	see table 2
May 1 - Nov. 1	Pensacola Bahiagrass	see table 2
Apr. 1 - Aug. 1	Hybrid Bermudagrass	see table 2
Apr. 1 - Jul. 15	Common Bermudagrass	see table 2
Mar. 1 - Jul. 1	Centipede grass	see table 2

PERMANENT SEEDING TABLE 2a-LOW MAINTENANCE MIXTURES		
Site Description	Recommended Planting	Rate (lb/ac)
Well to poorly drained soils	Tall Fescue Mixture	80
	Pensacola Bahiagrass	50
	Kobe Lespedeza	40
Dry to well drained soils	Pensacola Bahiagrass	50
	Common Bermudagrass	30
	Kobe Lespedeza	10
	German Millet	10
Swailes	Common Bermudagrass	40-80

PERMANENT SEEDING TABLE 2b-HIGH MAINTENANCE MIXTURES		
Site Description	Recommended Planting	Rate (lb/ac)
Well to poorly drained soils	Tall Fescue Mixture	200
	Rye Grain	25
Dry to well drained soils	Hybrid Bermudagrass	50
Well drained sandy loam to sandy loams.	Centipede grass	10-20

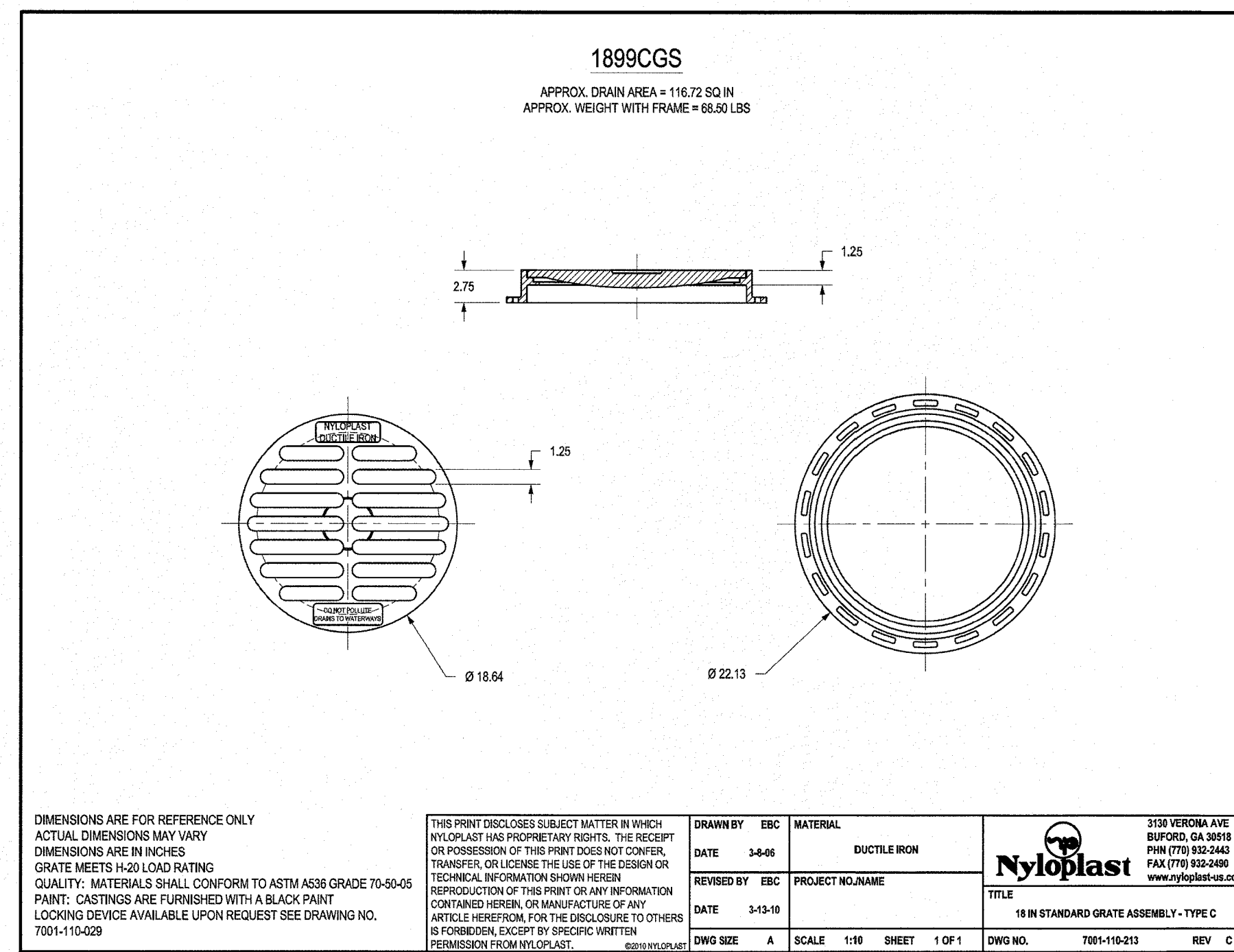
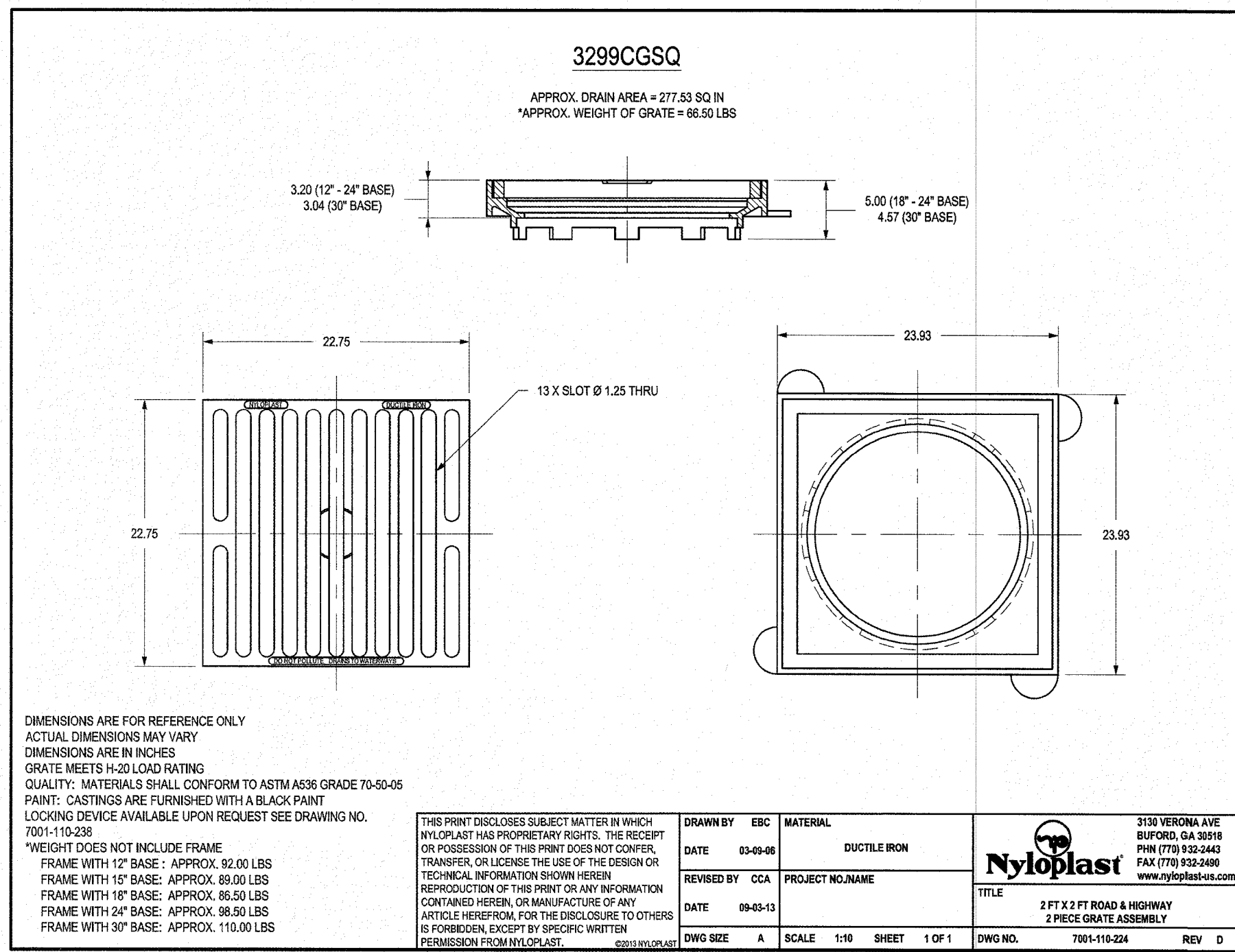
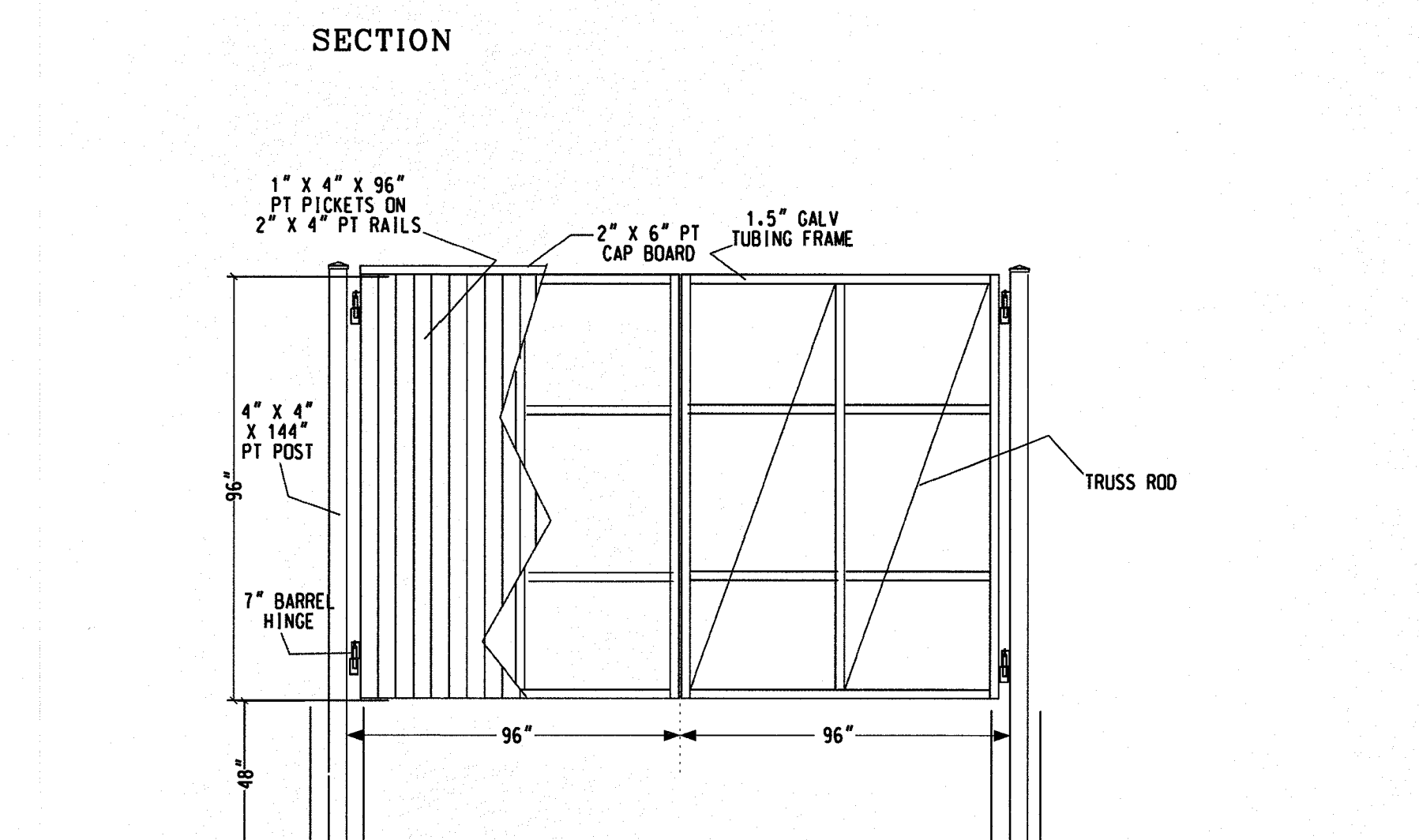
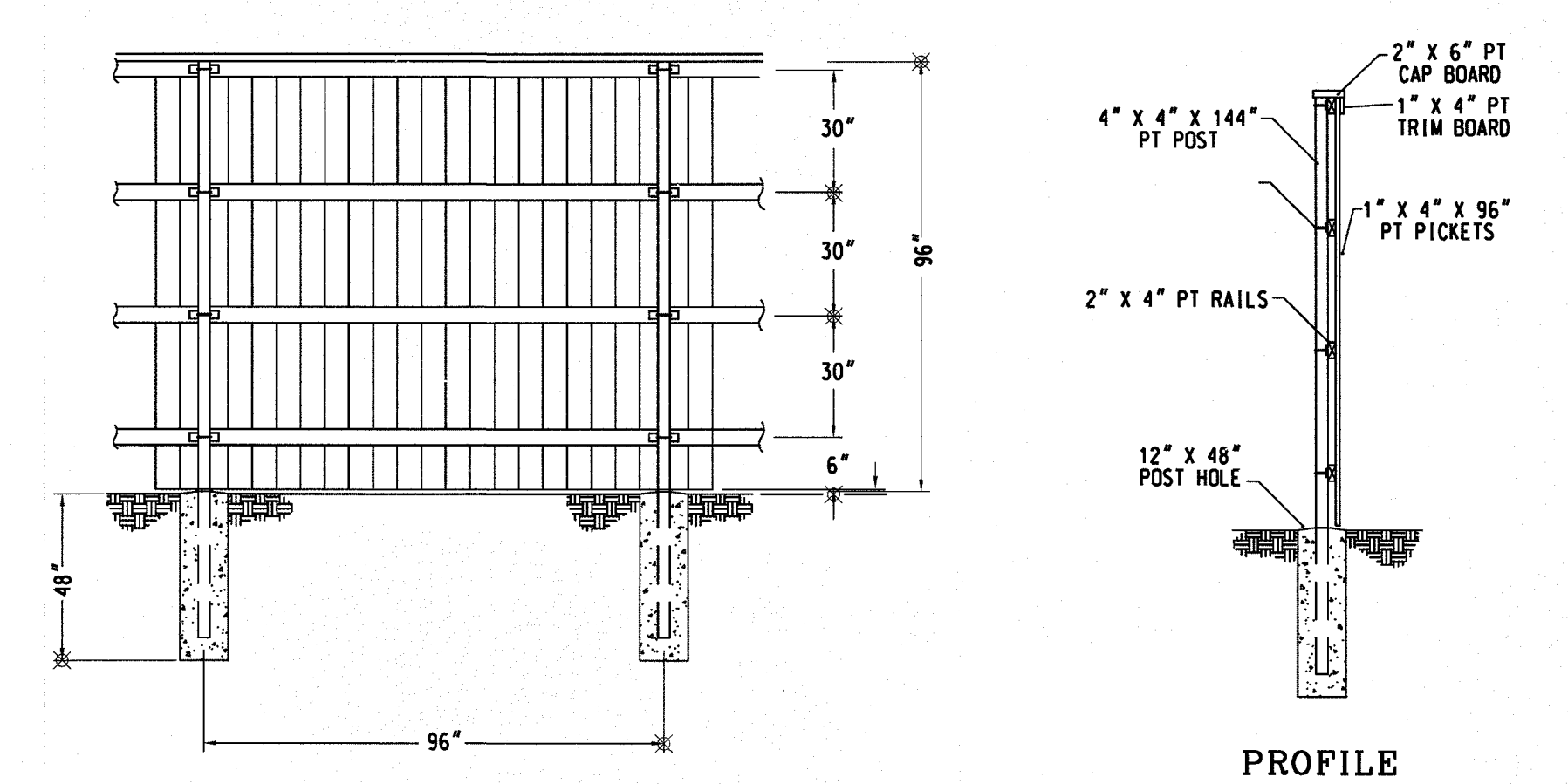
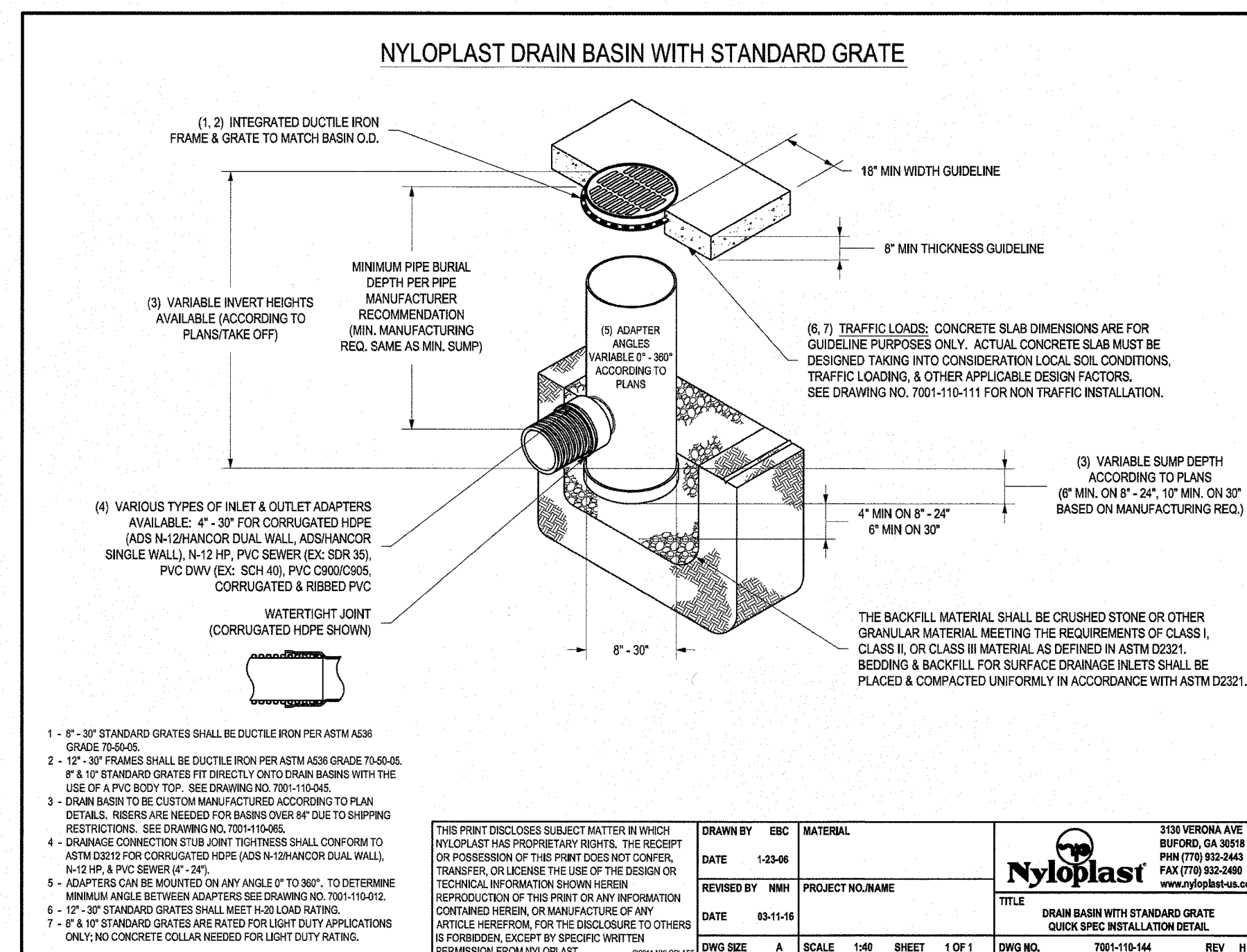
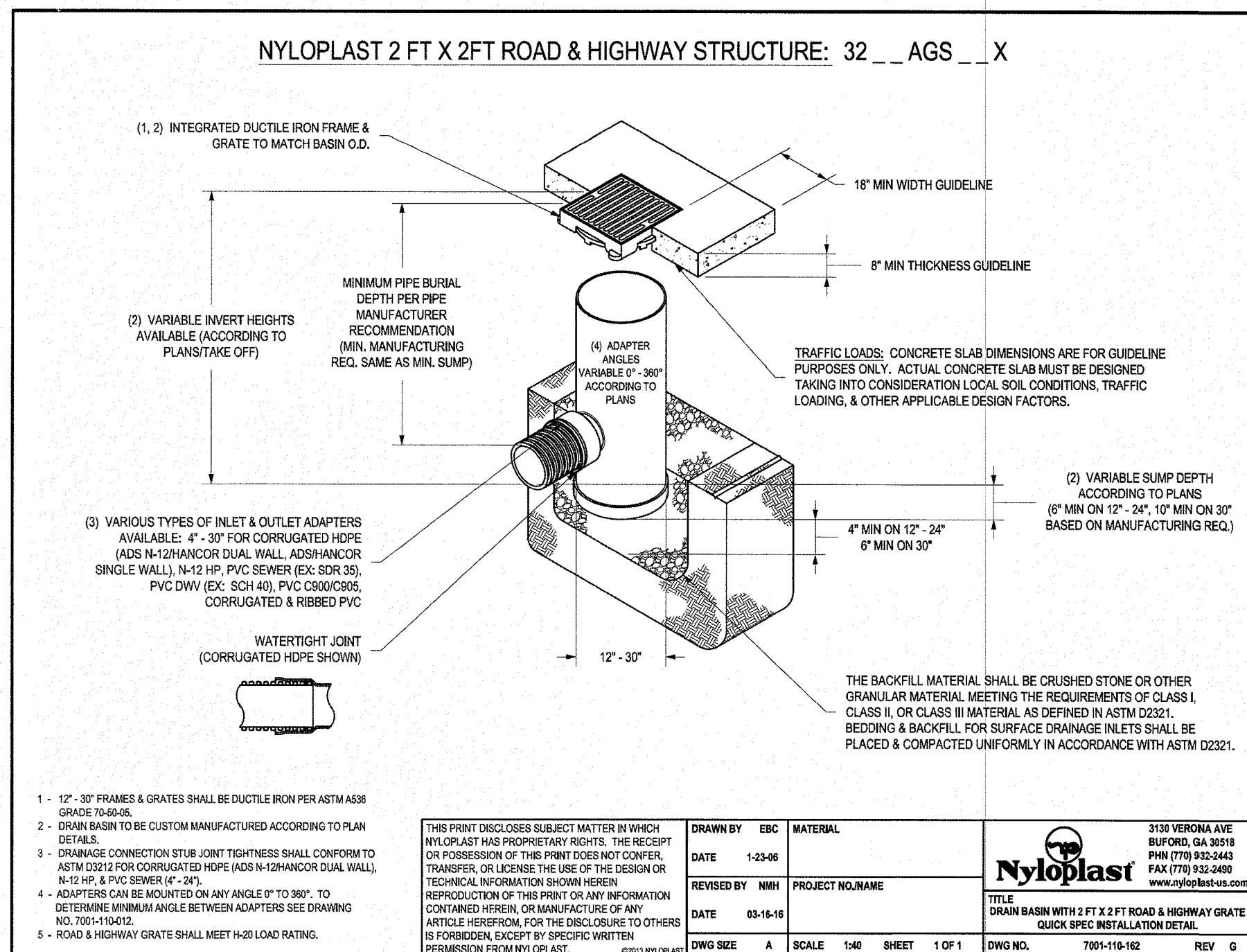
Notes:
For seeding outside of recommended dates and/or for temporary stabilization refer to temporary seeding table.

For highly erodible areas or as directed by an engineer, sod shall be provided.

TEMPORARY SEEDING TABLE		
Seeding Dates	Recommended Planting	Rate (lb/ac)
Dec. 1 - Apr. 15	Kobe Lespedeza with Rye Grain	50 120
Apr. 15 - Aug. 15	German Millet	40
Aug. 15 - Dec. 1	Rye Grain	120

SOD INSTALLATION

1. Fertilize and lime per recommendations of soil tests or apply 100 lb/1,000 sq ft ground agricultural limestone and 25 lb/1,000 sq ft fertilizer. In the fall, use 10-10-10. In the spring, use 5-10-10.
2. Incorporate lime/fertilizer 4-6 inches.
3. Rake or harrow to achieve a smooth final grade.
4. Roll to achieve a smooth, firm surface on which to lay the sod.
5. Lightly rake and irrigate top layer of soil just prior to installation.
6. Lay sod in a staggered, brick-like pattern with the longest dimension perpendicular to the slope. Avoid gaps. Use a knife to fit irregular shapes.
7. Roll sod lightly after installation to ensure good sod to soil contact.
8. Irrigate initially to wet soil to a depth of 4". Keep soil moist for 2-3 weeks thereafter or until sod has taken root.



DUMPSTER GATE

OPAQUE WOOD FENCE/ DUMPSTER ENCLOSURE DETAILS

NTS

Approved Construction Plan

Name: David Smith Date: 5/31/18

Planning: Steve Smith 5-7-18

Traffic: Steve Smith 5-7-18

Fire: Steve Smith 5/2/18

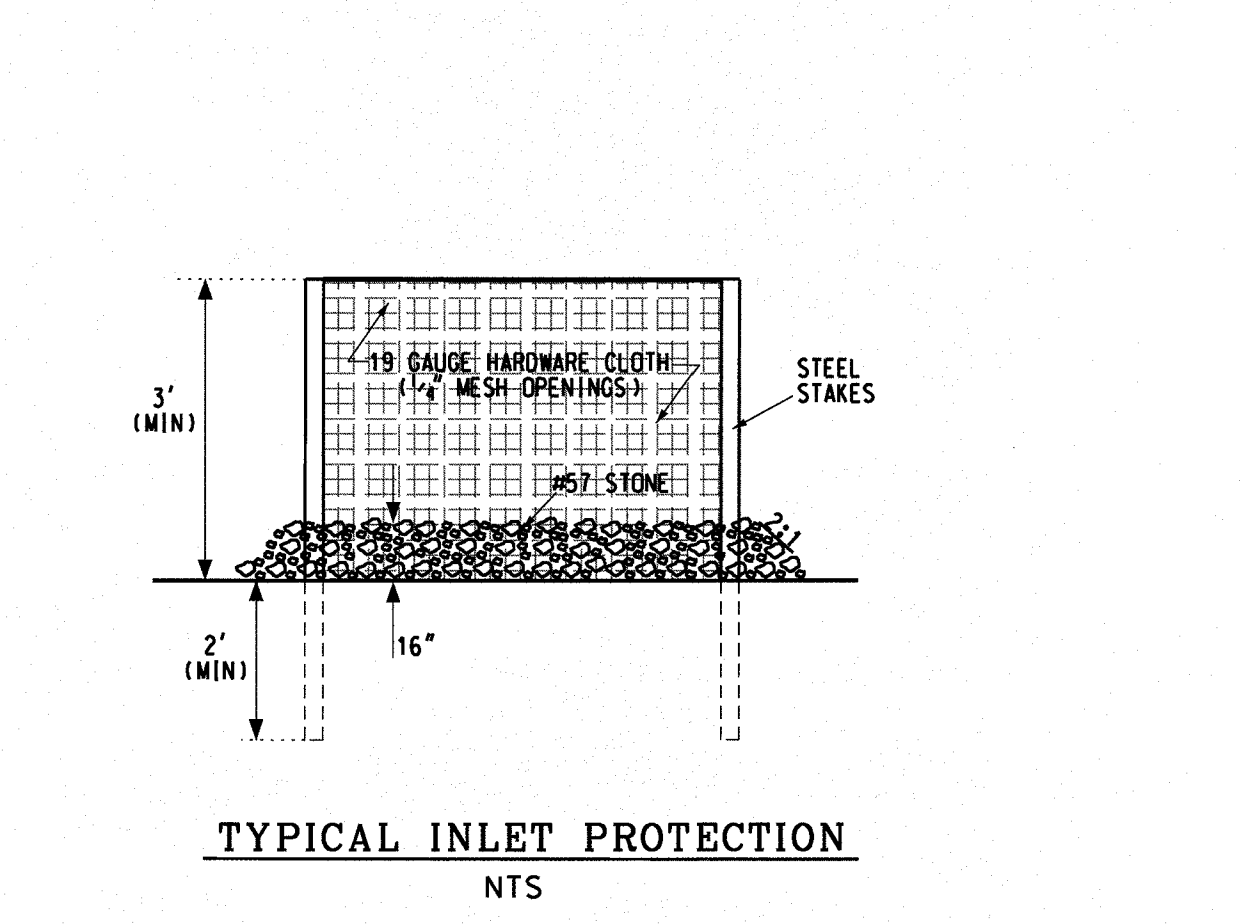
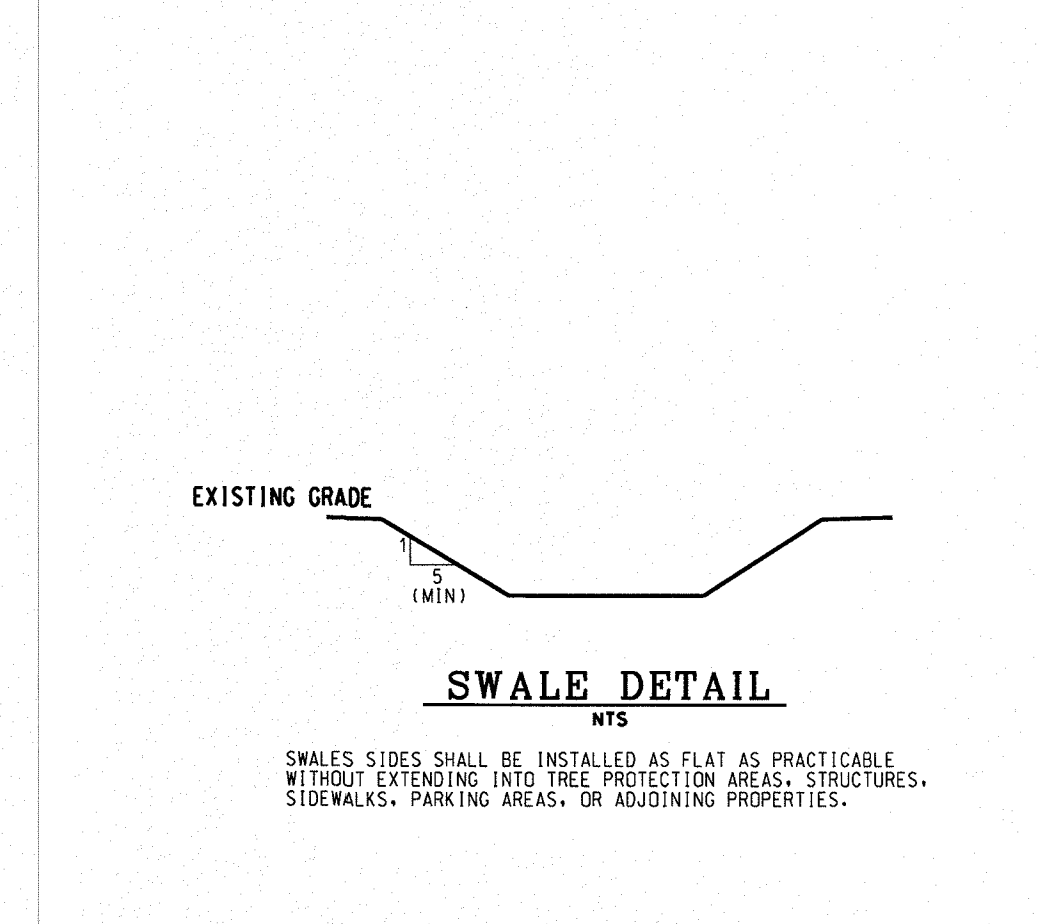
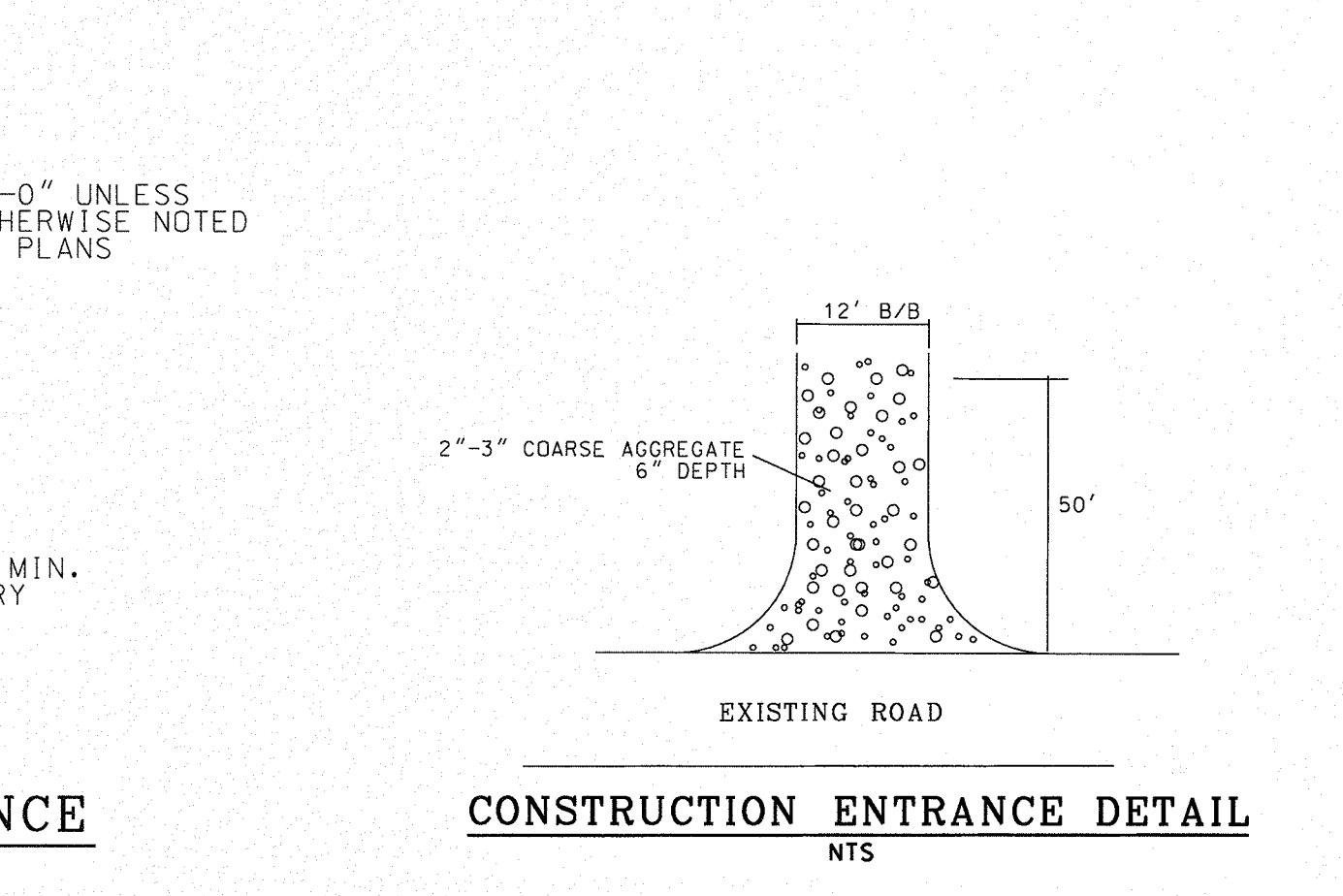
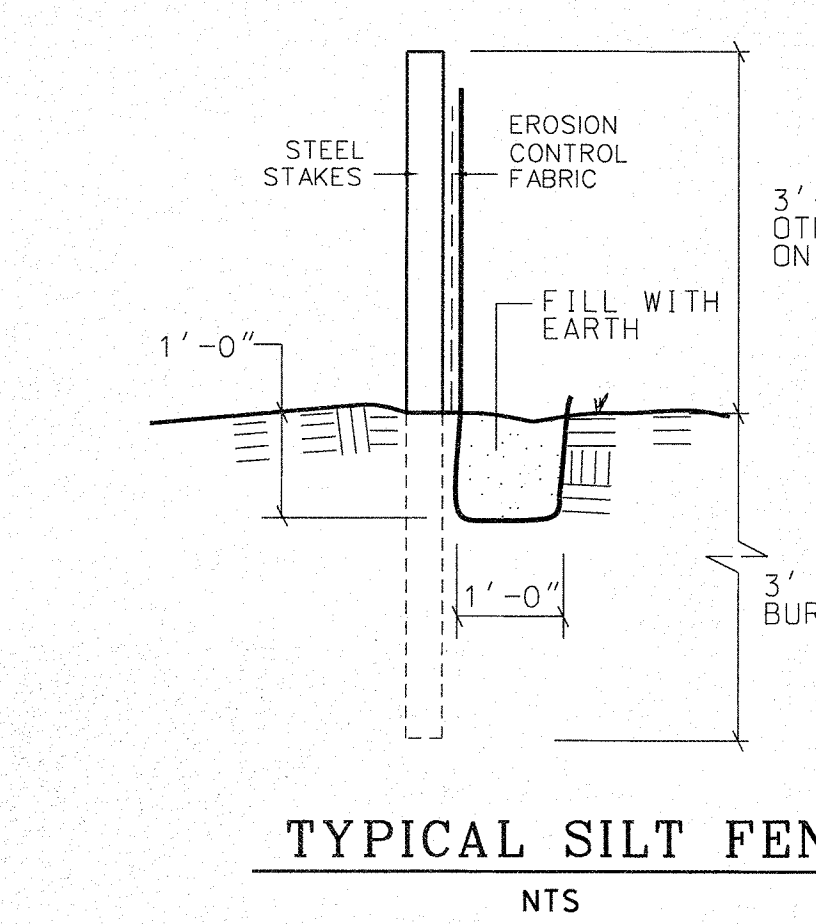
CITY OF WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division

APPROVED DRAINAGE PLAN

Date: 05/03/2018 Permit # 2018020

Signed: David Smith for RDG



REFER TO CFPUA DETAILS AND SPECIFICATIONS FOR WATER AND SEWER SERVICE CONNECTIONS

SW AND GRADING DETAILS

CAPE FEAR BOULEVARD APARTMENTS

448 CAPE FEAR BOULEVARD WILMINGTON, NC 28401

CITY OF WILMINGTON NEW HANOVER COUNTY NORTH CAROLINA

OWNER: GREENHOUSE PROPERTIES CUSTOM, LLC

ADDRESS: PO BOX 789 CASTLE HAYNE, NC 28429

PHONE: 910-279-1582

DESIGNED: DLM

DRAWN: DLM

APPROVED: JHF

DATE: 11/14/2017

SCALE: AS NOTED

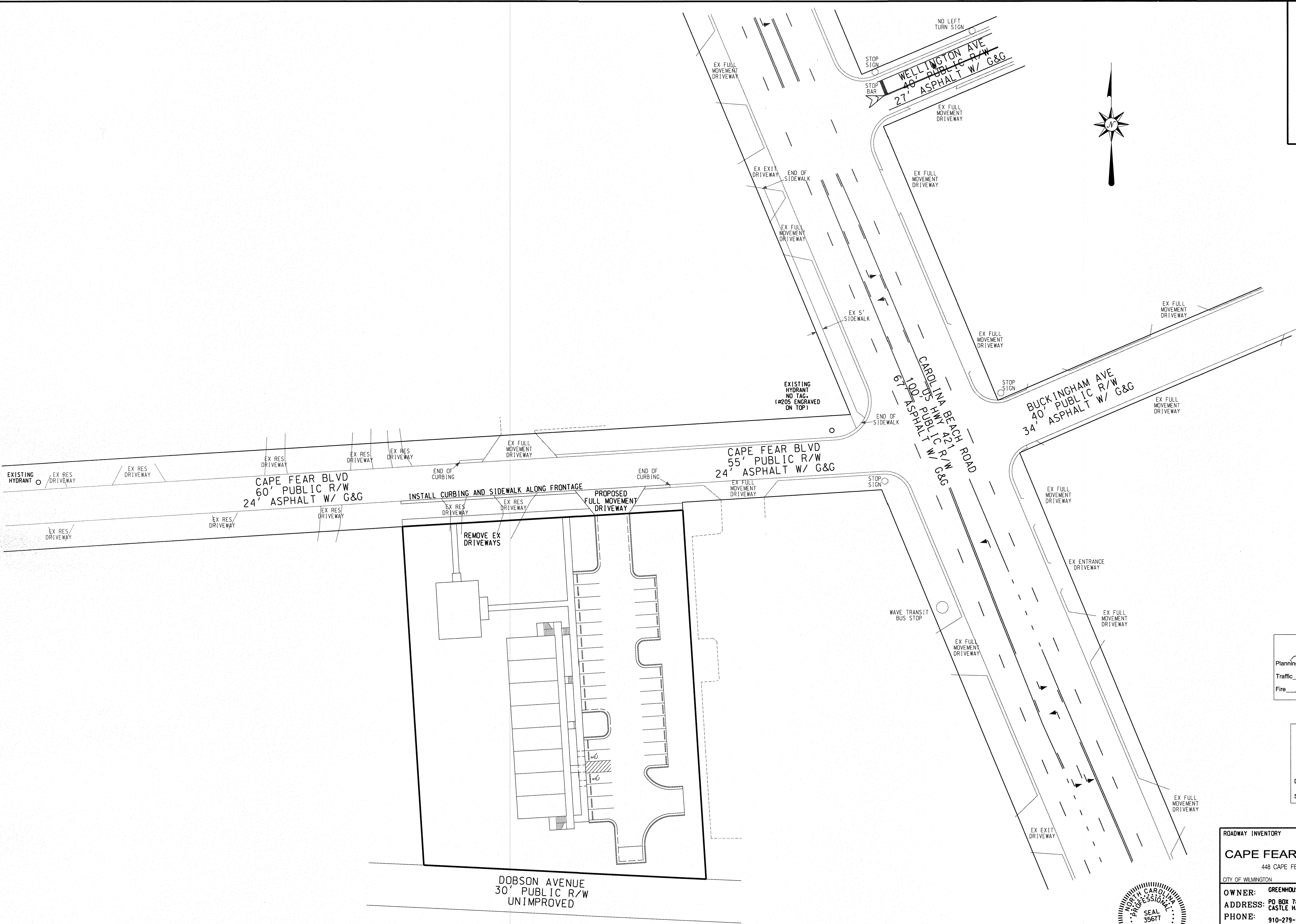
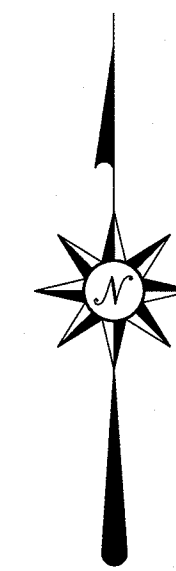
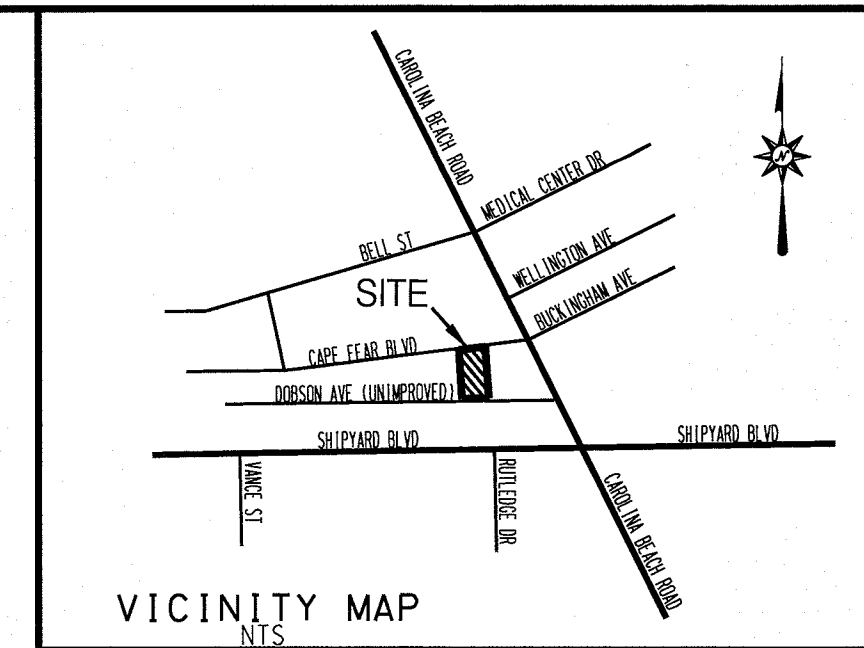
SHEET: 9

STROUD ENGINEERING, P.A.

102-D CINEMA DRIVE WILMINGTON, NORTH CAROLINA 28403 (910) 815-0775 LICENSE NO. C-0647

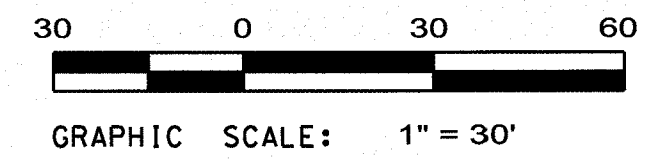
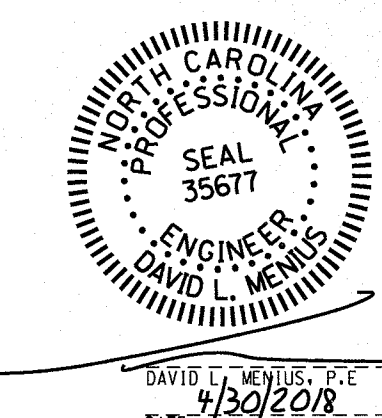
DAVID L. MENDES, P.E. ENGINEER

DATE: 4/30/2018



Approved Construction Plan	
Name	Date
Planning: <i>M. Smith</i>	5/31/18
Traffic: <i>W. Smith</i>	5-7-18
Fire: <i>SD Col</i>	5/2/17

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED DRAINAGE PLAN
Date: *05/03/2018* Permit # *2018020*
Signed: *Traci Butler* for RDG



ROADWAY INVENTORY		
CAPE FEAR BOULEVARD APARTMENTS		
448 CAPE FEAR BOULEVARD WILMINGTON, NC 28401		
CITY OF WILMINGTON	NORTH CAROLINA	
OWNER: GREENHOUSE PROPERTIES CUSTOM, LLC	DESIGNED: DLM	
ADDRESS: PO BOX 789 CASTLE HAYNE, NC 28429	DRAWN: DLM	
PHONE: 910-279-1582	APPROVED: JHF	
STROUD ENGINEERING, P.A. 102-D CINEMA DRIVE WILMINGTON, NORTH CAROLINA 28403 (910) 815-0775 LICENSE NO. C-0647		
		DATE: 1/11/2018
		SCALE: 1" = 30'
SHEET: 6		