SITE CONSTRUCTION PLANS
SQUARE ONE
QUEEN STREET BETWEEN 15TH ST. AND 16TH ST.
INFILL PROJECT

Approved Construction Plan	
	Name Date
Planning	
Traffic	
Fire	

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
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.

NOTES

1. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING (IF REQUIRED) WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION.

2. ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS 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 DRIVEWAY ARE TO BE THERMO PLASTIC 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 SIGN NAMES.

6. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS AND BE MAINTAINED BY THE OWNER.

7. CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.

8. TRAFFIC ENGINEERING TO BE NOTIFIED AT 341-7888 FORTY-EIGHT 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 PARKING AREAS SHALL BE WHITE. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS OF WAY FOR DRIVEWAY ARE TO BE THERMO PLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.

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 WHEEL CHAIR RAMPS.

14. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET.

15. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.

16. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.

17. WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY DETAILS AND SPECIFICATIONS.

18. PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METERS CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL.

19. IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST SUPPLY A RPZ BACKFLOW PREVENTION DEVICE ON THE DEVELOPERS SIDE OF THE WATER METER BOX.

20. ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA SHALL COMPLY WITH THE CFPUA CROSS CONNECTION REGULATIONS.

21. ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZE SENSOR.

22. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCCCHR.

23. CONTRACTOR TO FILED VERIFY EXISTING WATER AND SEWER LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF CONFLICTS.

24. AN ALL WEATHER DRIVING SURFACE FOR EMERGENCY VEHICLES MUST BE MAINTAINED DURING CONSTRUCTION.

25. UNDERGROUND FIRE LINE(S) MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC ROW TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENTDIVISON OF FIRE AND LIFE SAFETY AT 910-341-0696.

26. NO OBSTRUCTIONS ARE PERMITTED IN THE SPACE BETWEEN THIRTY (30) INCHES AND TEN (TEN) FEET ABOVE THE GROUND WITHIN THE TRIANGLE SIGHT DISTANCE.

27. CONTRACTOR IS TO NOTIFY (AT A MINIMUM) THE FOLLOWING COMPANIES FOR LOCATION SERVICES:
ULOCO .....1-800-632-4949, 48 HOURS IN ADVANCE
BELL SOUTH.....1-800-392-8712 (STEVE DAYVAULT)
CAROLINA ONE CALL CENTER 1-800-632-4949

28. THERE SHALL BE NO ENCUMBRANCES WITHIN THE NCDOT RIGHT OF WAY.

29. A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT (SD 15-14 CofW TECH STDS)

30. FIRE HYDRANTS CANNOT BE FURTHER THAN 8' FROM THE CURB.

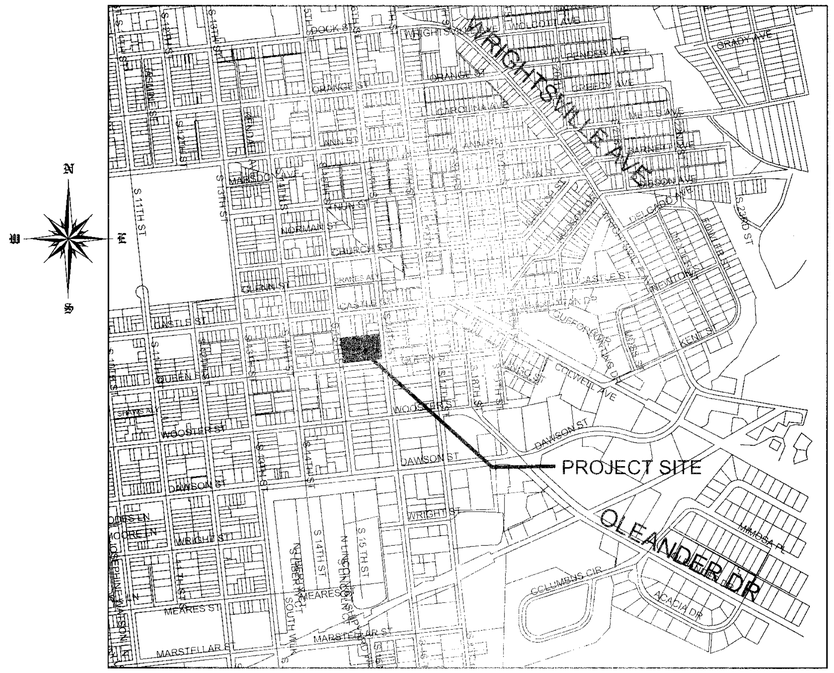
31. PARKING AND LANDSCAPING CANNOT BLOCK FIRE HYDRANTS OF FDC'S

32. FDC'S CAN BE NO FURTHER THAN 40' FROM FIRE DEPARTMENT VEHICLE PLACEMENT

33. FDC'S CAN BE NO FURTHER THAN 150' FROM A FIRE HYDRANT

34. BICYCLE PARKING IS PROVIDED ON THE SOUTHWEST CORNER OF PROPOSED BUILDING

BEFORE YOU DIG
STOP
CALL 1-800-632-4949
N.C. ONE-CALL CENTER
IT'S THE LAW



NOT TO SCALE

VICINITY MAP
FEBRUARY, 2016

LIST OF DRAWINGS

XX	COVER SHEET
C1	SITE PLAN
C2	GRADING, DRAINAGE & EROSION CONTROL
C3	DETAILS
C4	UTILITIES
A1	BUILDING ELEVATION
WSD-1	CFPUA WATER - STANDARD DETAILS
SSD-2	CFPUA SEWER - STANDARD DETAILS

OWNER/DEVELOPER
L.S. SMITH, INC.
MR. LESLIE SMITH
1607 QUEEN STREET
WILMINGTON, NC 28401
1-336-404-0009

CIVIL ENGINEER
JBS CONSULTING, PA
BRAD SEDGWICK, PE
7332 COTESWORTH DRIVE
WILMINGTON, NC 28405
1-910-619-9990

SURVEYOR
ROBERT SESSOMS & ASSOCIATES, PLLC
MR. ROBERT SESSOMS, PLS
4033 CHANDLER DRIVE
WILMINGTON, NC 28405
1-910-352-8846

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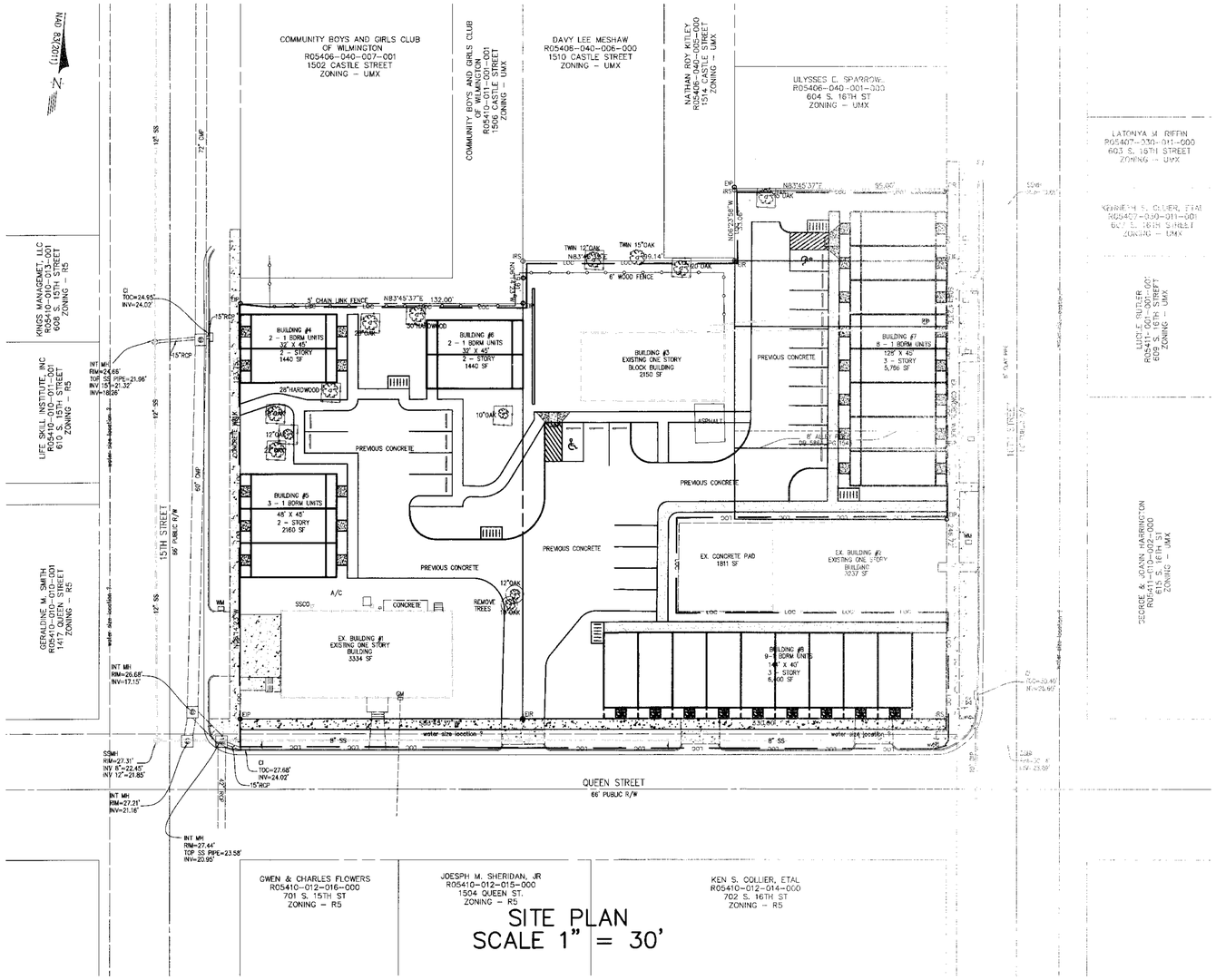


SITE PLAN
SCALE 1" = 30'

SITE INFORMATION

FIVE PARCELS

ADDRESSES/PARCL ID NUMBERS/DB REFERANCE

1) 615 S. 15TH STREET (R05410-011-001-000) (DB 5864 PG 1547)
2) 614 S. 16TH STREET (R05410-011-002-000) (DB 5864 PG 1525)
3) 612 S. 16TH STREET (R05410-011-003-000) (DB 5864 PG 1543)
4) 614 S. 16TH STREET (R05410-011-004-000) (DB 5864 PG 1543)
5) 614 S. 16TH STREET (R05410-011-005-000) (DB 5864 PG 1543)

ZONING

UMX - URBAN MIXED USE

LOT AREAS

1) 0.61 ACRES
2) 0.66 ACRES
3) 0.07 ACRES
4) 0.18 ACRES
5) 0.19 ACRES

TOTAL = 1.71 ACRES

CAMA LAND USE CLASSIFICATION - URBAN

PROPOSED USE - MIXED USE, RESIDENTIAL AND COMMERCIAL

NUMBER OF BUILDINGS - 3-EXISTING, 5-PROPOSED

EXISTING
BUILDING #1 3,334 SF
BUILDING #2 2,150 SF
BUILDING #3 3,222 SF
PROPOSED
BUILDING #4 1,440 SF
BUILDING #5 2,160 SF
BUILDING #6 1,440 SF
BUILDING #7 5,120 SF
BUILDING #8 6,400 SF

TOTAL XX,XXX SF

UMX - REQUIREMENTS

	REQUIRED	PROPOSED
MIN. LOT AREA	N/A	1.71 ACRES
MIN. LOT WIDTH	N/A	330 FT
MAX. LOT COVERAGE	N/A	18,764 / 74,488 = 25.2%
FRONT BUILDING SETBACK	0'	0'
SIDE BUILDING SETBACK	0'	5'
MAX. BLDG HEIGHT	40'	>40'

PARKING REQUIREMENTS

NO MINIMUM PARKING REQUIREMENTS

PARKING PROVIDED 24 REGULAR + 2 H/C = 26 TOTAL

PROPOSED BUA

BUILDINGS 18,764 SF
CONCRETE SIDEWALKS XX,XXX SF
PARKING LOT 15,711 SF

TOTAL XX,XXX SF

OVERLAY DISTRICTS

THE SITE IS NOT IN A KNOWN OVERLAY DISTRICT

FLOOD INFORMATION

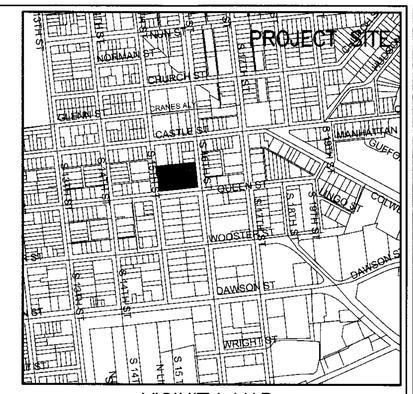
PER FLOOD MAP 3720312700J DATED 4/3/2006 THIS AREA IS CLASSIFIED AS ZONE X - MINIMAL FLOOD RISK

WATER/SEWER INFORMATION

WATER USE - CURRENT XXX GPD
WATER USE - PROPOSED XXX GPD
SEWER USE - CURRENT XXX GPD
SEWER USE - PROPOSED XXX GPD

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES

1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GAURDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
2. SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERDENDICULAR, OR ORGINATE IN 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' UTILITY 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 FASTNERS SHALL BE 316.



VICINITY MAP
NTS

LEGEND

ASPAHLT PAVEMENT
CONC. PAVEMENT
PROPOSED SPOT ELEVATION X 41.5'
WAVE STYLE BIKE RACK 8 BIKE SPOTS EACH
TREE PROTECTION FENCING SEE DETAIL

BEFORE YOU DIG
STOP
CALL 1-800-632-4949
N.C. ONE CALL CENTER
IT'S THE LAW

NUMBER	DATE	REVISION

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DRAWN BY:	BDS
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DATE	FEBRAURY, 2016

SITE PLAN
SQUARE ONE
WILMINGTON, NC

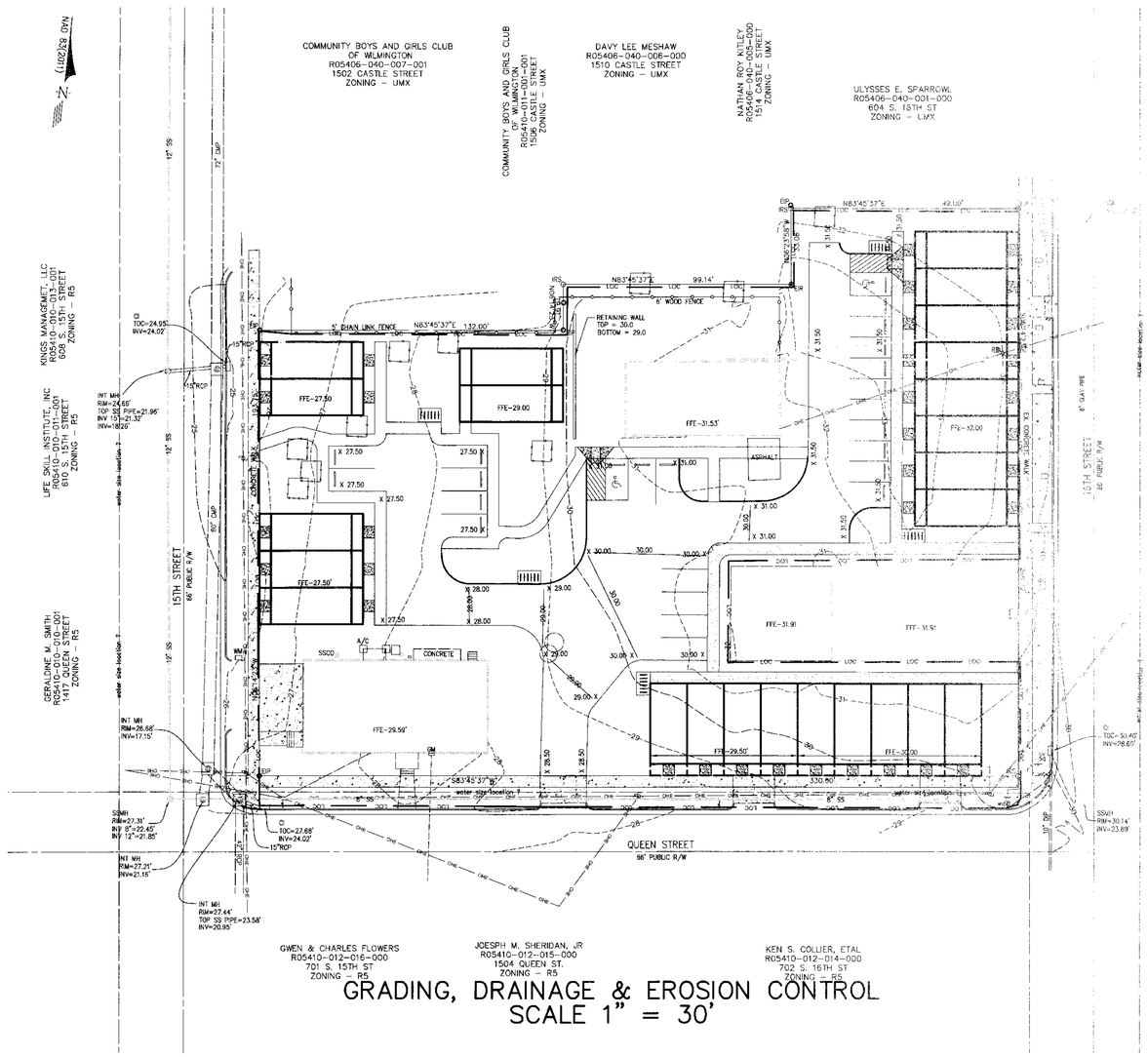
L S SMITH, INC.
1607 Queen Street
Wilmington, NC 28401-5526
910-409-8782

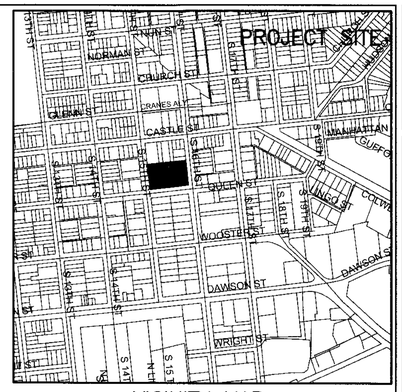
2-15-16

JBS CONSULTING, PA
7332 Colesworth Drive
Wilmington, NC 28405
(910) 619-9990
License Number C-2525
PLANNING - ENGINEERING - PROJECT MANAGEMENT

SHEET
C1
of 4

JOB NO.
104-001

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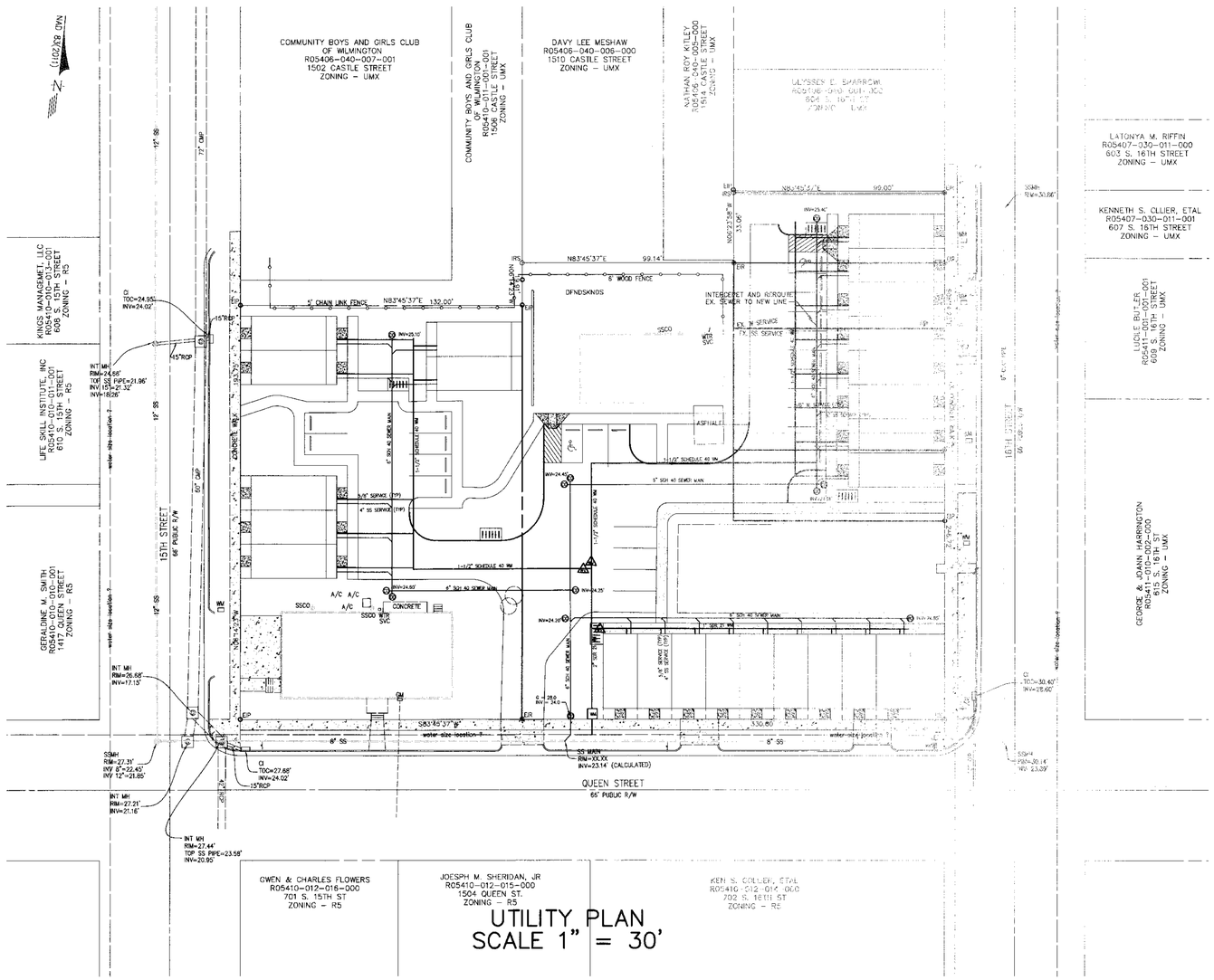
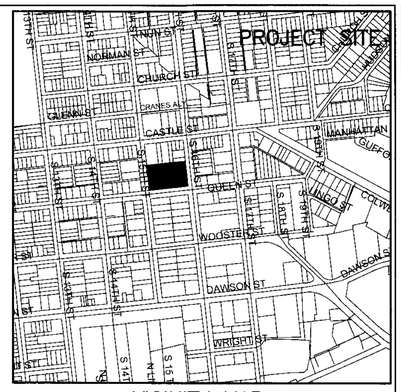


UTILITY PLAN
SCALE 1" = 30'



VICINITY MAP
NTS

UTILITY INFORMATION

FIVE PARCELS

ADDRESSES/PARCEL ID NUMBERS/DB REFERANCE

1) 615 S. 15TH STREET (R05410-011-001-000) (DB 5864 PG 1547)
2) 614 S. 16TH STREET (R05410-011-002-000) (DB 5864 PG 1525)
3) 612 S. 16TH STREET (R05410-011-003-000) (DB 5864 PG 1543)
4) 614 S. 16TH STREET (R05410-011-004-000) (DB 5864 PG 1543)
5) 614 S. 16TH STREET (R05410-011-005-000) (DB 5864 PG 1543)

ZONING

UMX - URBAN MIXED USE

LOT AREAS

1) 0.61 ACRES
2) 0.66 ACRES
3) 0.07 ACRES
4) 0.18 ACRES
5) 0.19 ACRES

TOTAL = 1.71 ACRES

CAMA LAND USE CLASSIFICATION - URBAN

PROPOSED USE - MIXED USE, RESIDENTIAL AND COMMERCIAL

NUMBER OF BUILDINGS - 3-EXISTING, 5-PROPOSED

EXISTING
BUILDING #1 3,334 SF
BUILDING #2 2,150 SF
BUILDING #3 3,222 SF
PROPOSED
BUILDING #4 1,440 SF
BUILDING #5 2,160 SF
BUILDING #6 1,440 SF
BUILDING #7 5,120 SF
BUILDING #8 6,400 SF

TOTAL XX,XXX SF

UMX - REQUIREMENTS

	REQUIRED	PROPOSED
MIN. LOT AREA	N/A	1.71 ACRES
MIN. LOT WIDTH	N/A	330 FT
MAX. LOT COVERAGE	N/A	18,764 / 74,488 = 25.2%
FRONT BUILDING SETBACK	0'	0'
SIDE BUILDING SETBACK	0'	5'
MAX. BLDG HEIGHT	40'	>40'

PARKING REQUIREMENTS

NO MINIMUM PARKING REQUIREMENTS

PARKING PROVIDED 24 REGULAR + 2 H/C = 26 TOTAL

PROPOSED BUA

BUILDINGS	18,764 SF
CONCRETE SIDEWALKS	XX,XXX SF
PARKING LOT	15,711 SF
TOTAL	XX,XXX SF

OVERLAY DISTRICTS

THE SITE IS NOT IN A KNOWN OVERLAY DISTRICT

FLOOD INFORMATION

PER FLOOD MAP 3720312700J DATED 4/3/2006 THIS AREA IS CLASSIFIED AS ZONE X - MINIMAL FLOOD RISK

WATER/SEWER INFORMATION

WATER USE - CURRENT	XXX GPD
WATER USE - PROPOSED	XXX GPD
SEWER USE - CURRENT	XXX GPD
SEWER USE - PROPOSED	XXX GPD

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES

1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GAURDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
2. SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERDENDICULAR, OR ORGINATE IN 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' UTILITY 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 FASTNERS SHALL BE 316.

UTILITY INFORMATION

24 - 1 BEDROOM UNITS

120 GPD PER 24 UNITS = 2,880 GPD
1 - EXISTING BLDG (3 BDRMS) = 3 X 120 = 360 GPD

EXPECTED WASTE WATER FLOW = 2,640 GPD

EXPECTED WATER DEMAND = 2,640 GPD
(NO IRRIGATION PLANNED ON SITE)

DESIGN BY:	BDS
DRAWN BY:	BDS
CHECKED BY:	BDS
DATE	FEBRUARY, 2016

UTILITES
SQUARE ONE
WILMINGTON, NC

L S SMITH, INC.
1607 Queen Street
Wilmington, NC 28401-5526
910-409-8782

2-15-16

JBS CONSULTING, PA
7332 Colesworth Drive
Wilmington, NC 28405
(910) 619-9990
License Number C-2525
PLANNING - ENGINEERING - PROJECT MANAGEMENT

NUMBER	DATE	REVISION

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C3
of 4

JOB NO.
104-001

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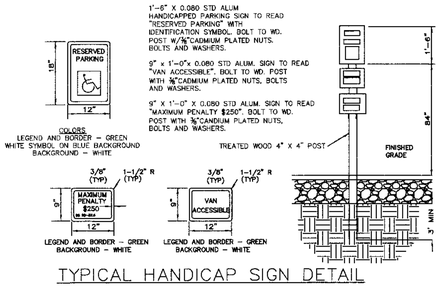
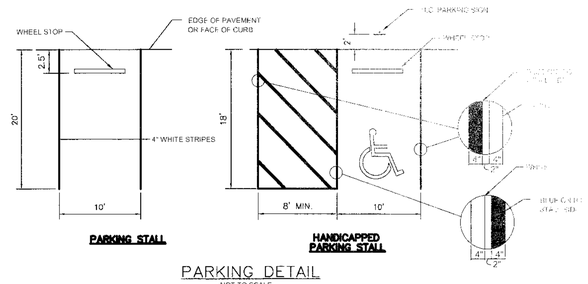
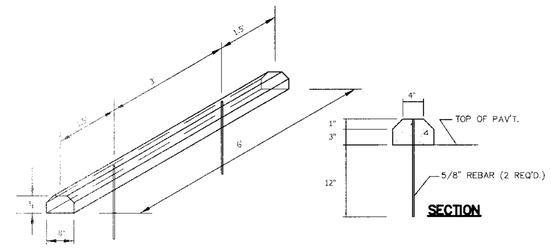


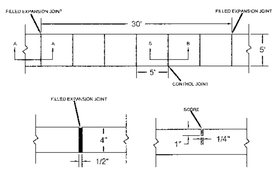
TYPICAL HANDICAP SIGN DETAIL



PARKING DETAIL
NOT TO SCALE

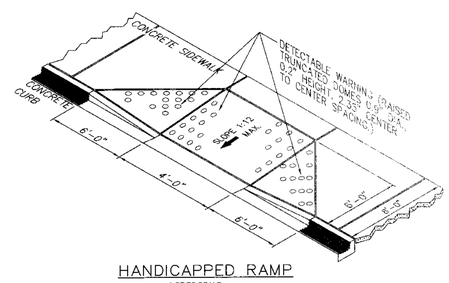


WHEEL STOP DETAIL
NOT TO SCALE

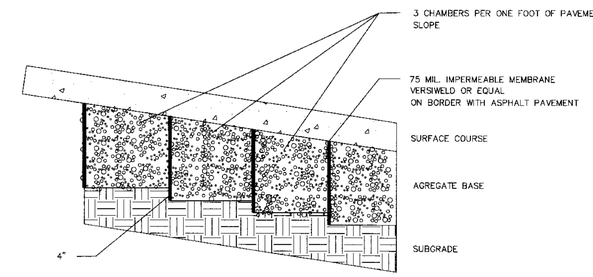


NOTES: 1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS
2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE
3. MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB
4. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) TO HAVE 3000 PSI AT 28 DAYS
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 ATLEAST 1 DIRECTION. MAX CROSS SLOPE IS 2%. MAX LONGITUDINAL SLOPE IS 8.3%. 10% IF LIMITED BY EXISTING CONDITIONS, OR NO CREEPER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

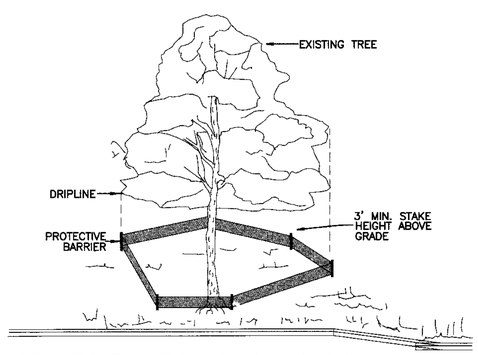
SIDEWALK
SD 5-10



HANDICAPPED RAMP
NOT TO SCALE

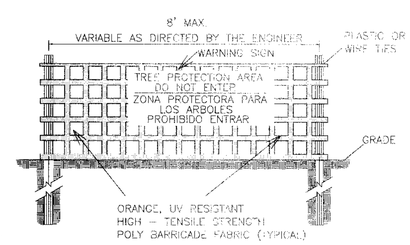


PERVIOUS CONCRETE SUBGRADE SLOPE
NOT TO SCALE

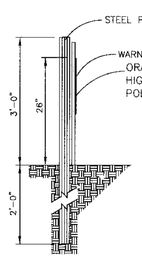


TREES TO BE SAVED WILL BE CLEARLY MARKED PRIOR TO CONSTRUCTION AND A PROTECTIVE BARRIER IS TO BE INSTALLED AT THE DRIPLINE.
DRIP LINE – THE AREA OF SOIL DIRECTLY BENEATH THE TREE EXTENDING OUT TO THE TIPS OF THE OUTERMOST BRANCHES.
CONTRACTOR TO COMPLIE WITH COW SIGN ORDINACE FOR MARKING FENCING

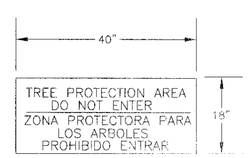
METHOD OF TREE PROTECTION DURING CONSTRUCTION
SD 15–08
NOT TO SCALE



FRONT VIEW



SIDE VIEW

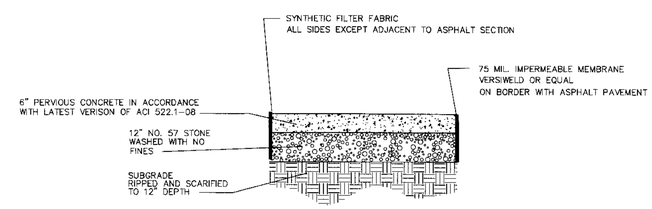


WARNING SIGN DETAIL

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 MAIERIAL. 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.

TREE PROTECTION DURING CONSTRUCTION
SD 15–09
NOT TO SCALE



PERVIOUS CONCRETE PAVEMENT SECTION
NOT TO SCALE

NOTE TO CONTRACTOR

DURING CONSTRUCTION, PRIOR TO INSTALLATION OF THE SUB-GRADE, INFILTRATION/HYDRAULIC CONDUCTIVITY TESTING MUST BE PREFORMED IN THE SURFACE OF THE UNDERLYING SOIL. TWO TEST SPOTS, RANDOM SHALL BE PREFORMED. RESULTS OF TESTING TO BE REVIEWED BY CIVIL ENGINEER PRIOR TO THE INSTALLATION OF THE SUB-GRADE STONE.

NUMBER	DATE	REVISION

2/15/2016 10:53:14 AM

DESIGN BY	BDS
DRAWN BY	BDS
CHECKED BY	BDS
DATE	FEBRUARY, 2016

DETAILS
SQUARE ONE
WILMINGTON, NC

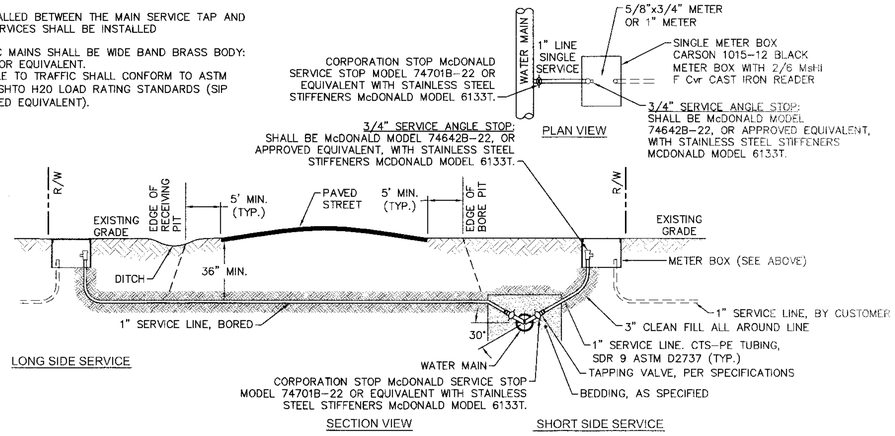
L S SMITH, INC.
1607 Queen Street
Wilmington, NC 28401–5526
910–409–8782

2-15-16

JBS CONSULTING, PA
7332 Coteswarth Drive
Wilmington, NC 28405
(910) 619-9990
License Number C-2525
PLANNING – ENGINEERING – PROJECT MANAGEMENT

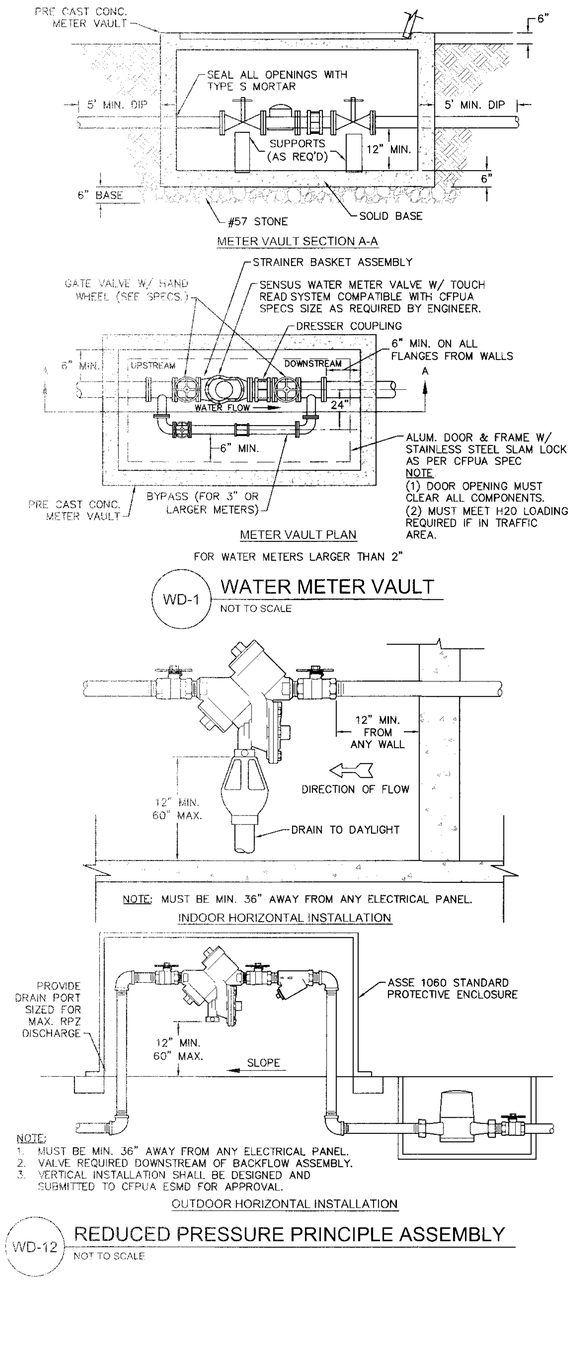
SHEET
C4
of 4
JOB NO.
104–001

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



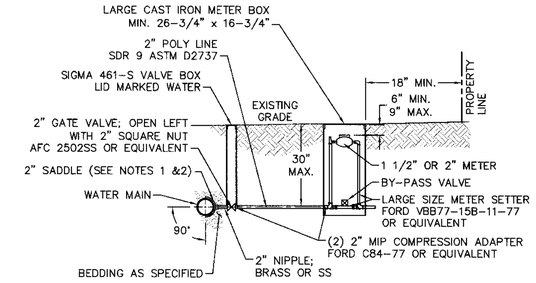
NOTE:
TYPICAL WATER SERVICE CONNECTION FOR RESIDENTIAL SINGLE FAMILY HOME ON CFPUA WATER SYSTEM

WD-18 SINGLE SERVICE CONNECTION
NOT TO SCALE



FOR WATER METERS LARGER THAN 2"

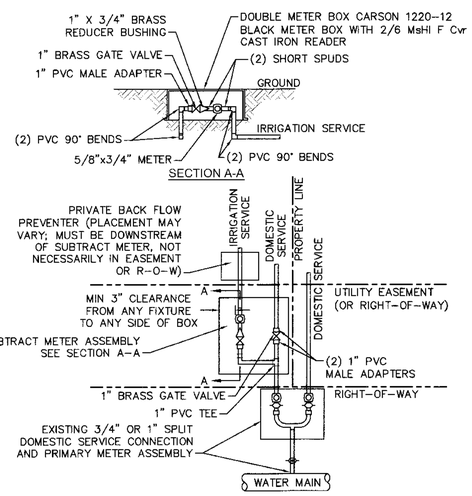
WD-1 WATER METER VAULT
NOT TO SCALE



NOTES:
1. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
2. SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: McDONALD 3800, FORD S90 (DOUBLE STRAP) OR EQUIVALENT.
3. 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).
4. 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).
5. NON-TRAFFIC METER BOXES SHALL BE SIGMA MB2203 OR APPROVED EQUIVALENT.
6. 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

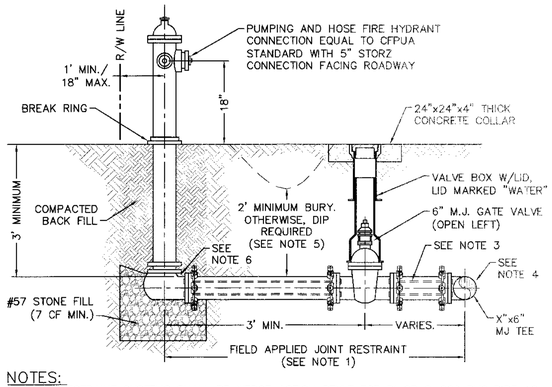


NOTES:
1. BEYOND THE PRIMARY DOMESTIC METER ASSEMBLY, CFPUA IS ONLY RESPONSIBLE FOR METER AND WASHERS OF SUBTRACT METER ASSEMBLY.
2. ALL PIPE AND FITTINGS UP TO FINAL SERVICE LINE TO BE 1" EXCLUDING METERS.

PLAN VIEW

(MULTIPLE DOMESTIC SERVICES PER TAP)

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



NOTES:
1. JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI OR C-900 PVC PIPE AS MANUFACTURED BY EBAA IRON, SIGMA, STAR PIPE PRODUCTS OR APPROVED EQUAL.
2. WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
3. 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.
4. HYDRANT TEE SHALL BE RESTRAINED ON EACH SIDE OF MAIN PLUS ANY VALVE, FITTING, OR JOINT IN MAIN WITHIN 10-FEET OF HYDRANT TEE.
5. HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
6. WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.

WD-10 FIRE HYDRANT ASSEMBLY
NOT TO SCALE

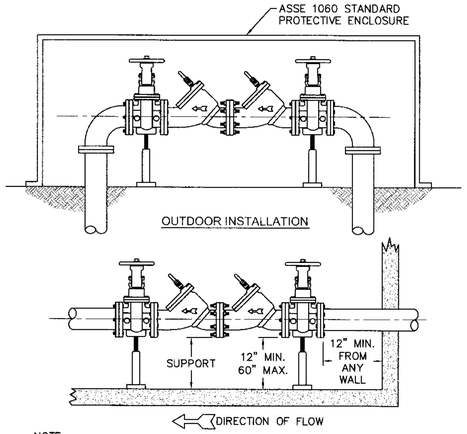
NOTE: MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.

INDOOR HORIZONTAL INSTALLATION

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

OUTDOOR HORIZONTAL INSTALLATION

WD-12 REDUCED PRESSURE PRINCIPLE ASSEMBLY
NOT TO SCALE



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

INDOOR INSTALLATION

WD-7 DOUBLE CHECK VALVE ASSEMBLY
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 CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

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

CFPUA WATER DISTRIBUTION SYSTEM

STANDARD DETAILS

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

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

SHEET NO: WSD-1

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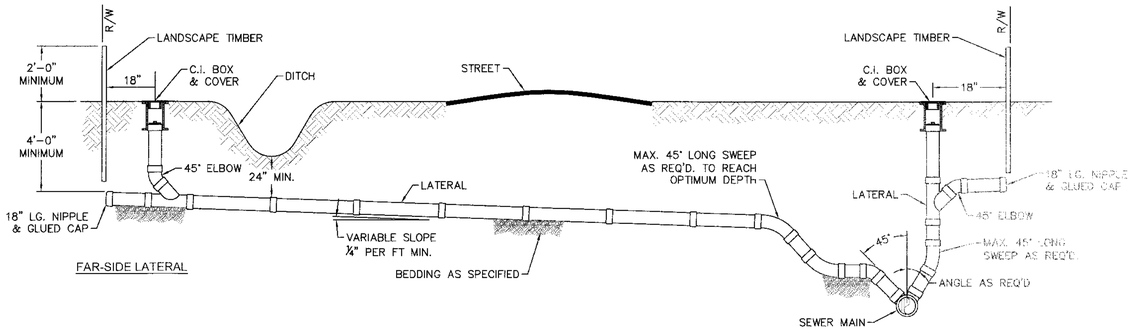


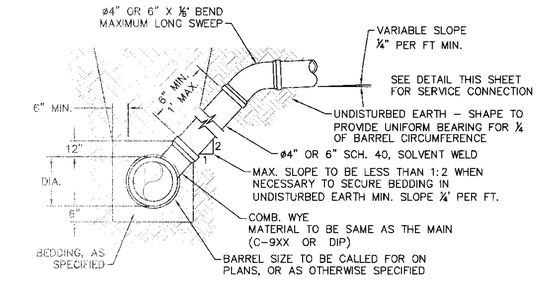
FAR-SIDE LATERAL

NEAR-SIDE LATERAL WITH RIGHT-OF-WAY RESTRICTIONS

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

SD-19 STANDARD SERVICE CONNECTION TO SANITARY SEWER

NOT TO SCALE

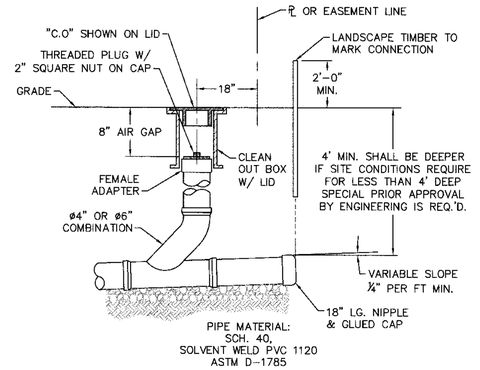


NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN

MAIN DEPTH LESS THAN 8 FT

SD-10 STANDARD SERVICE LATERAL

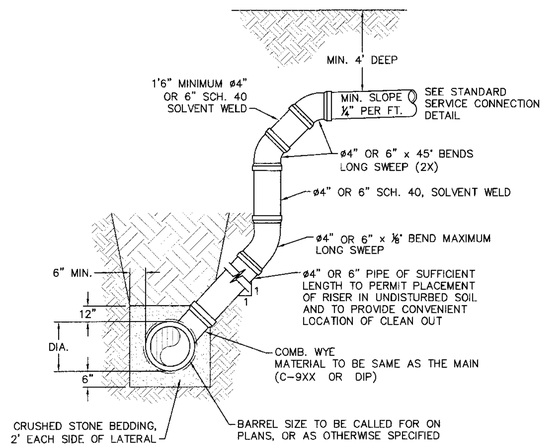
NOT TO SCALE



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

SD-11 SERVICE CONNECTION AND CLEAN-OUT

NOT TO SCALE

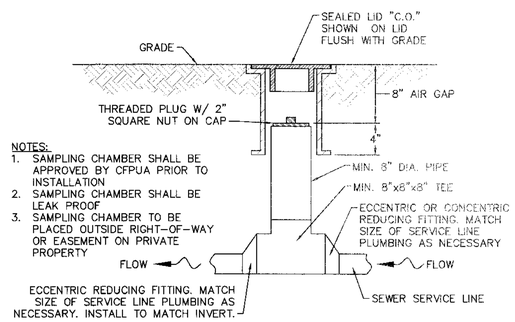


NOTES:
1. SPECIAL CARE SHALL BE TAKEN DURING BACKFILL OPERATIONS. THE RISER SHALL BE PLUMB AND TRUE AT ALL TIMES, AND REST ON FIRM, STABLE FOUNDATION.
2. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN.

MAIN DEPTH GREATER THAN 8 FT

SD-12 DEEP SERVICE LATERAL

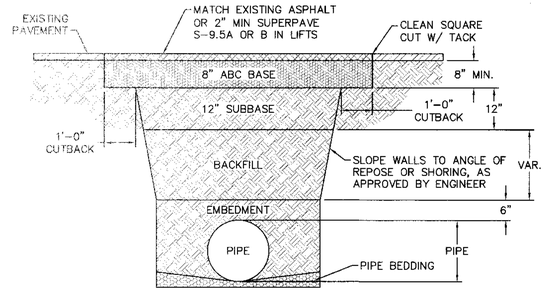
NOT TO SCALE



NOTES:
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

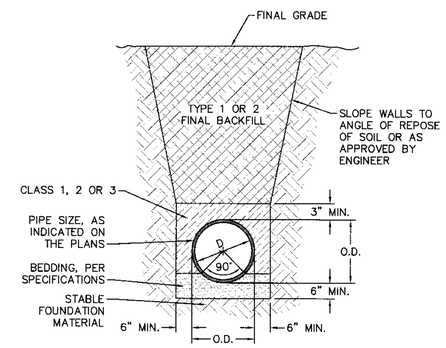


NOTES:
1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
3. 8-INCH OF ABC 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)

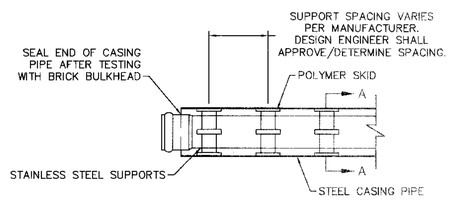
SD-14 PAVEMENT REPAIR WHERE PIPE INSTALLED

NOT TO SCALE



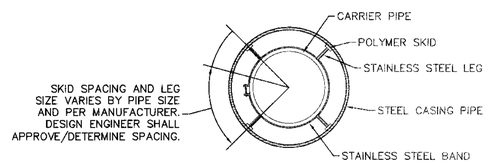
SD-15 TYPICAL TRENCH DETAIL

NOT TO SCALE



PLAN

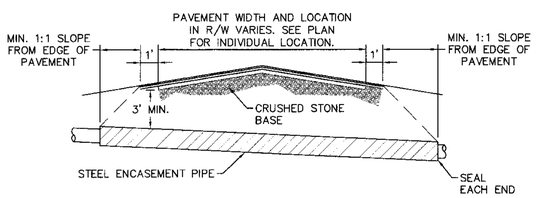
NOTE: PIPE SUPPORT TO BE PLACED TO PROVIDE PROPER SUPPORT, ALIGNMENT, AND GRADE AS SPECIFIED. CONTINUOUS SUPPORTS MAY BE USED AS ALTERNATIVE. OIL, GREASE, OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.



SECTION A-A

SD-17 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.

SD-16 TYPICAL BORING/ JACKING DETAIL

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 CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

REV:	DESCRIPTION:	DATE:
1	SAMPLING CHAMBER REVISED	10/26/12

CFPUA SANITARY SEWER

STANDARD DETAILS

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

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

SHEET NO: SSD-2

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