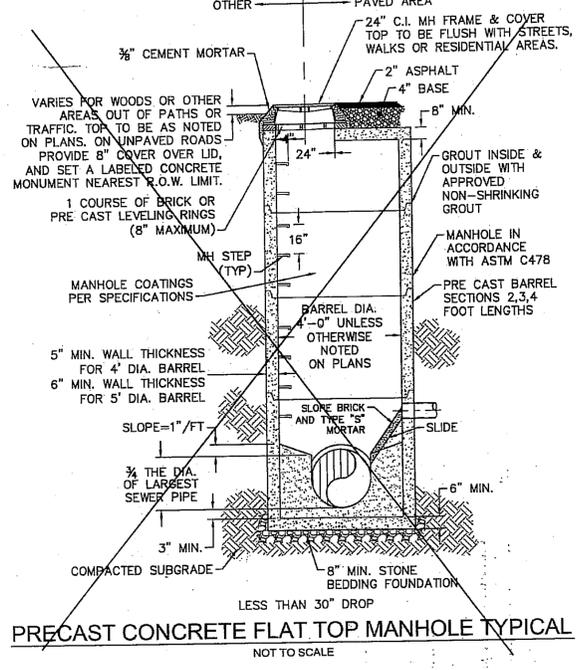
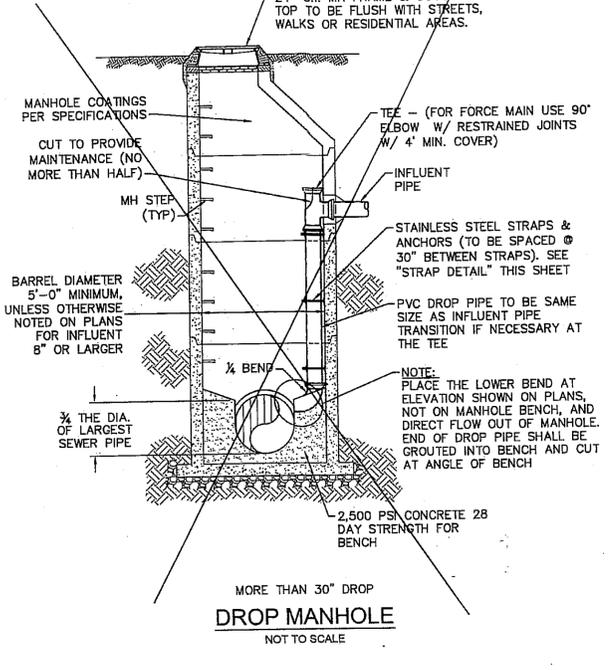


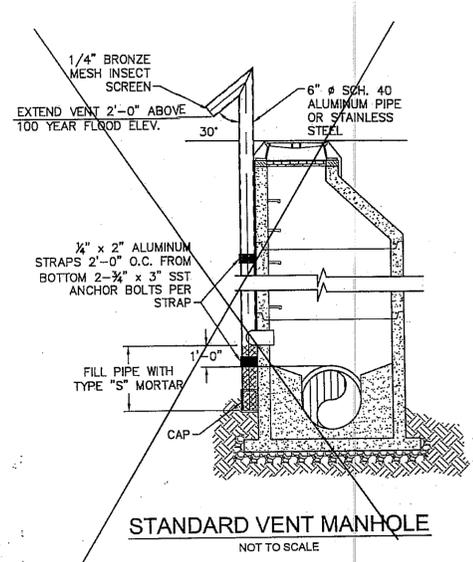
**PRECAST CONCRETE OFFSET MANHOLE TYPICAL**  
NOT TO SCALE



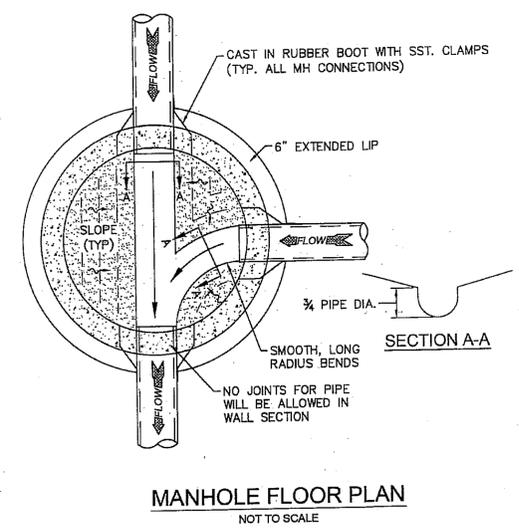
**PRECAST CONCRETE FLAT TOP MANHOLE TYPICAL**  
NOT TO SCALE



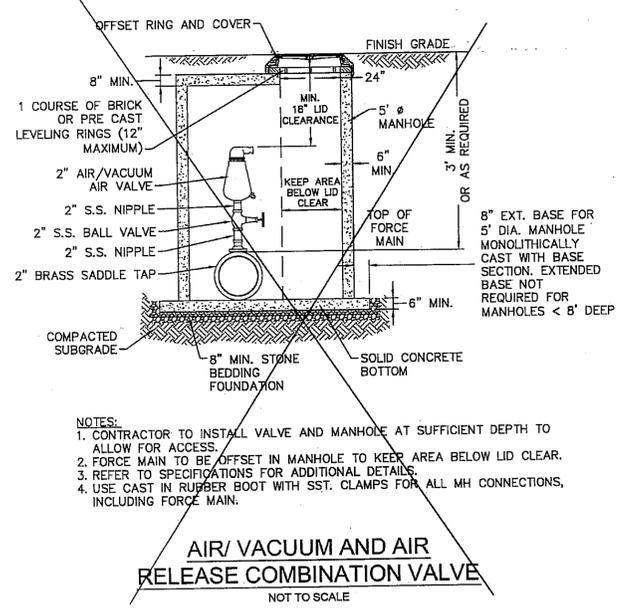
**DROP MANHOLE**  
NOT TO SCALE



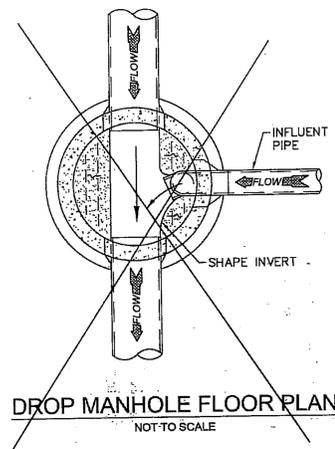
**STANDARD VENT MANHOLE**  
NOT TO SCALE



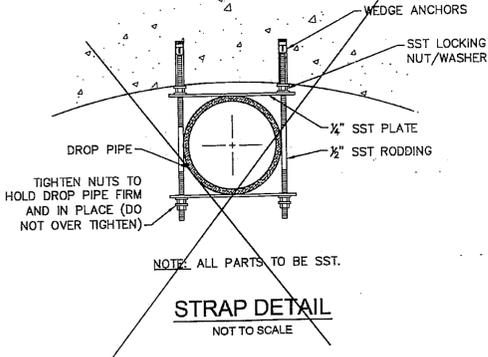
**MANHOLE FLOOR PLAN**  
NOT TO SCALE



**AIR/VACUUM AND AIR RELEASE COMBINATION VALVE**  
NOT TO SCALE



**DROP MANHOLE FLOOR PLAN**  
NOT TO SCALE



**STRAP DETAIL**  
NOT TO SCALE

**CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:**

1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
2. SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE 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' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
5. NO FLEXIBLE COUPLINGS SHALL BE USED.
6. ALL STAINLESS STEEL FASTENERS SHALL BE 316.

**STANDARD SEWER NOTES**  
(REQUIRED ON ALL SEWER PLAN AND PROFILE SHEETS)

- 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**

**PROJECT:**  
ECHO WEST

**OWNER:**  
HOOSIER DADDY, LLC  
6025 TARIN ROAD  
WILMINGTON, NC 28409  
(252) 412-9622

**ENGINEER:**  
STROUD ENGINEERING, P.A.  
102-D CINEMA DRIVE  
WILMINGTON, NC 28403  
(910) 815-0775  
LICENSE NO. C-0647

REV:	DESCRIPTION:	DATE:
1	AIR / VACUUM AND AIR RELEASE COMBINATION VALVE REVISED	10/26/12
2	STANDARD SEWER NOTE #6 REVISED	12/10/12
3	REVISED STANDARD VENT MANHOLE TO EXTEND VENT 2'-0" ABOVE 100 YR FLOOD	11/20/14

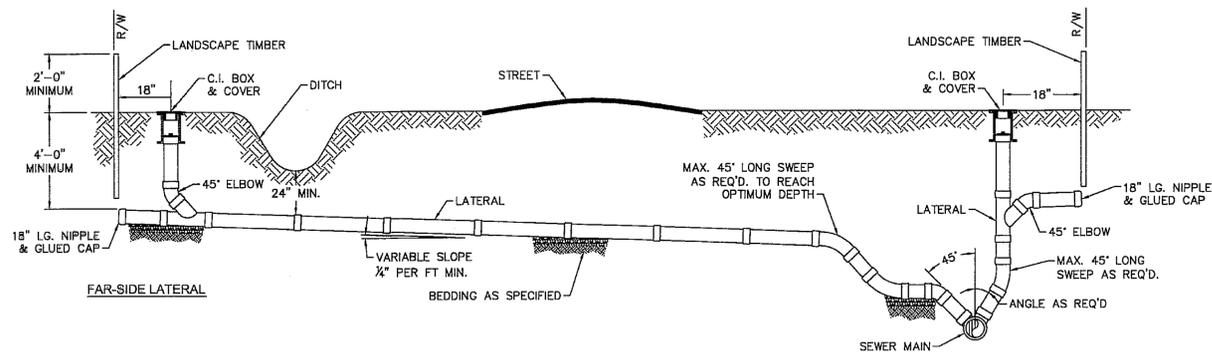
**CFPUA SANITARY SEWER**

**STANDARD DETAILS**

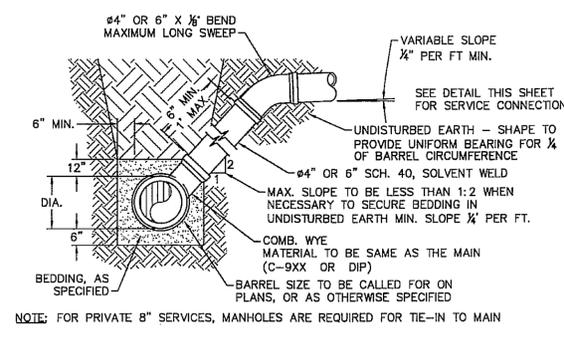
**CAPE FEAR PUBLIC UTILITY AUTHORITY**  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28403  
OFFICE: (910)332-6560

**SHEET NO:**  
**SSD-1**

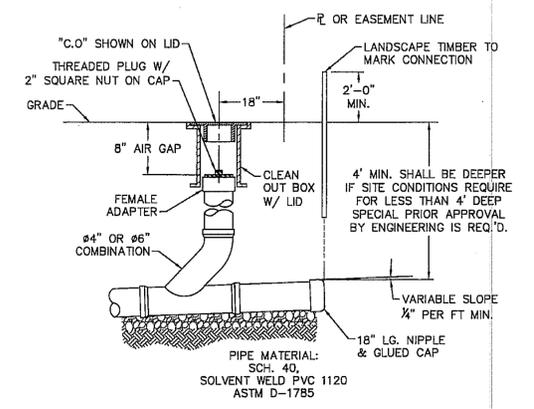
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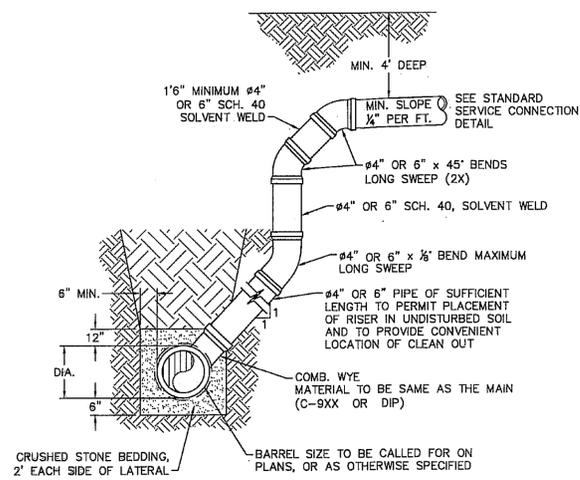
NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN



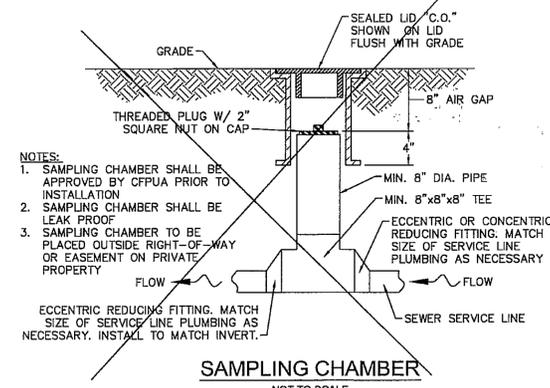
MAIN DEPTH LESS THAN 8 FT



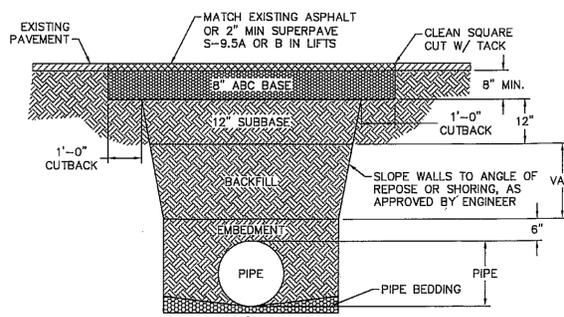
NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN



MAIN DEPTH GREATER THAN 8 FT

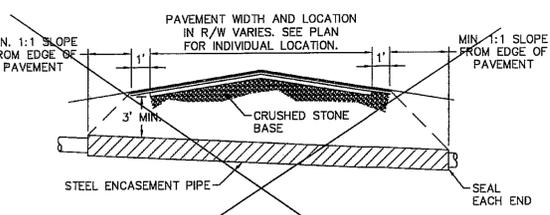


NOTE: 1. SAMPLING CHAMBER SHALL BE APPROVED BY CFPWA PRIOR TO INSTALLATION

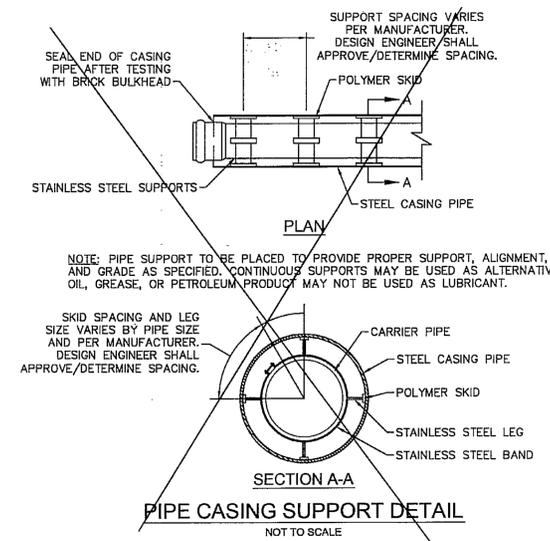


- NOTES:
- BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
  - SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
  - 8-INCH OF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

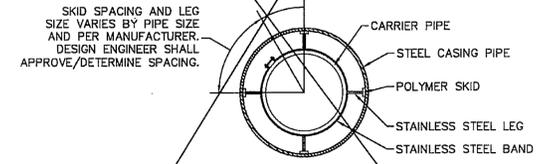
(FOR PRIVATE ROADS AND PAVED AREAS, CONTRACTOR TO MEET MIN. REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)



- 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.



- 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.



PROJECT:  
ECHO WEST

OWNER:  
HOOSIER DADDY, LLC  
6025 TARIN ROAD  
WILMINGTON, NC 28409  
(252) 412-9622

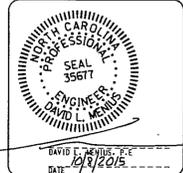
ENGINEER:  
STROUD ENGINEERING, P.A.  
102-D CINEMA DRIVE  
WILMINGTON, NC 28403  
(910) 815-0775  
LICENSE NO. C-0647

- 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.
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  - 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**

APPROVED CONST. PLAN

REV:	DESCRIPTION:	DATE:
1	SAMPLING CHAMBER REVISED	10/28/12

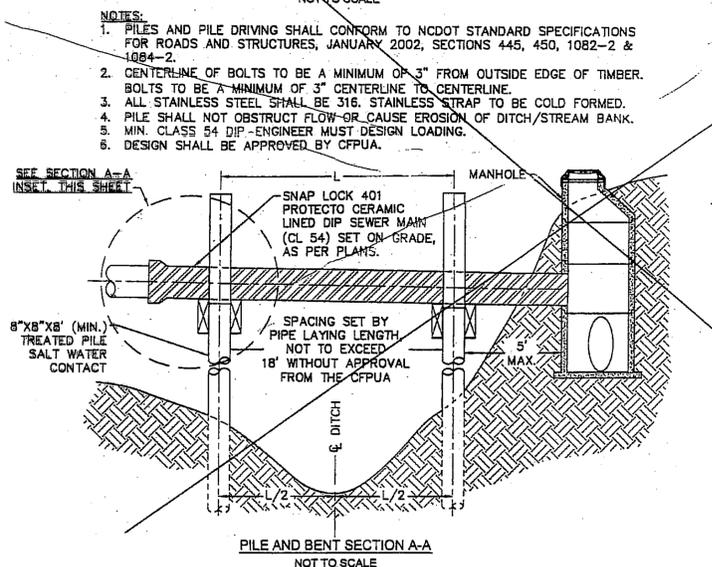
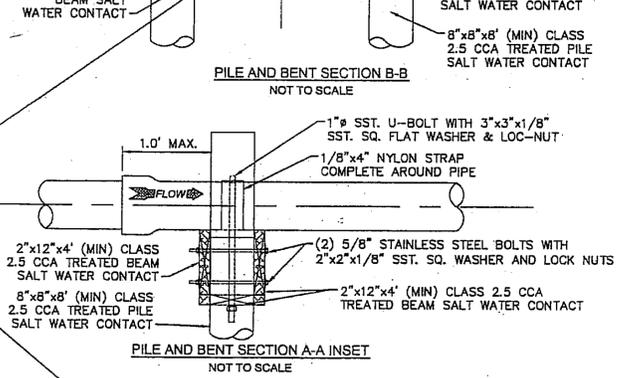
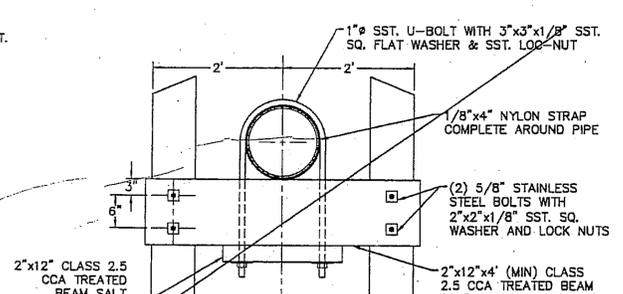
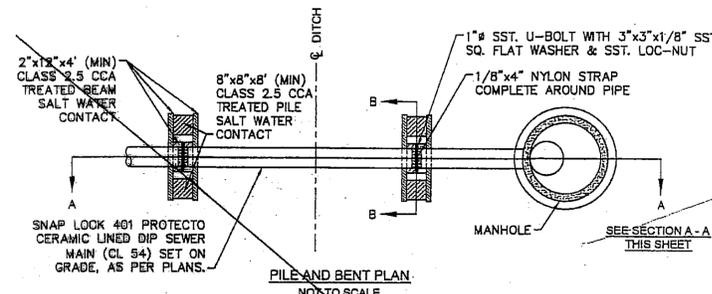


**CFPUA SANITARY SEWER**

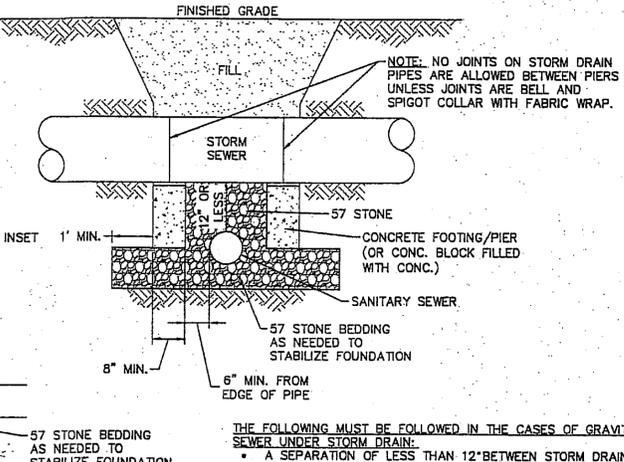
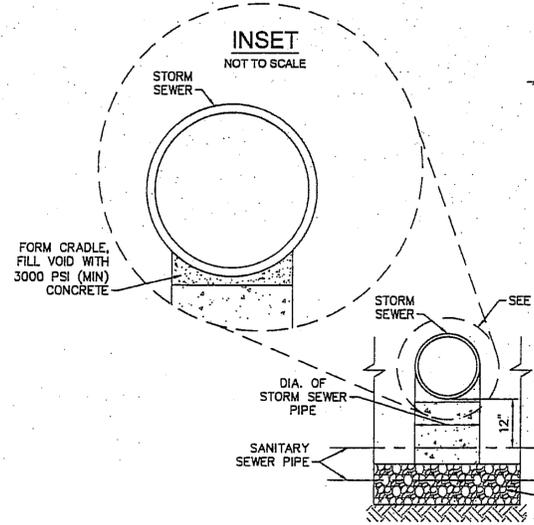
**STANDARD DETAILS**

CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28403  
OFFICE: (910) 332-6660

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

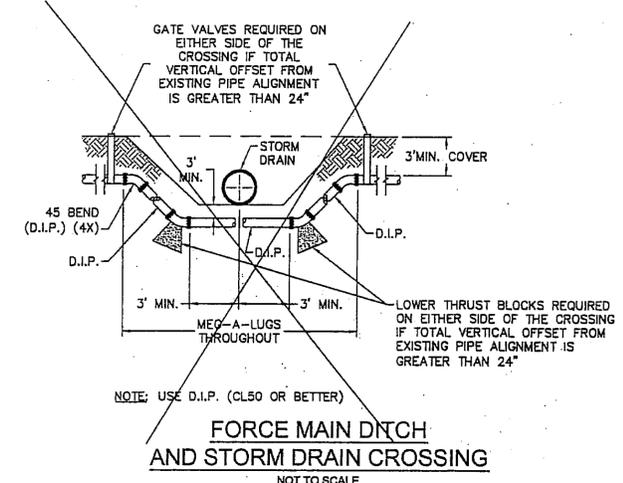


**PILE AND BENT DETAIL**  
NOT TO SCALE

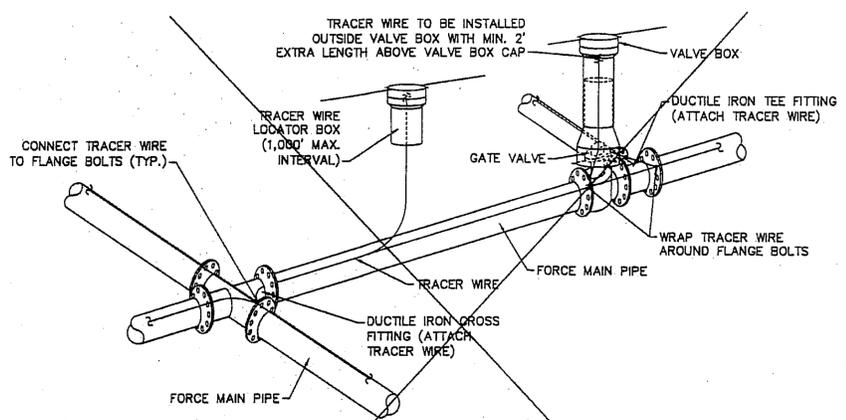


**STRUCTURAL BRIDGING DETAIL FOR STORMWATER OVER GRAVITY SEWER INSTALLATIONS WITH LESS THAN 12" SEPARATION**  
NOT TO SCALE

- THE FOLLOWING MUST BE FOLLOWED IN THE CASES OF GRAVITY SEWER UNDER STORM DRAIN:
- A SEPARATION OF LESS THAN 12" BETWEEN STORM DRAIN AND GRAVITY SEWER, STORM DRAIN MUST BE BRIDGED.
  - A SEPARATION OF 12" TO LESS THAN 24" BETWEEN STORM DRAIN AND GRAVITY SEWER, GRAVITY SEWER CAN BE DIP OR STORM DRAIN CAN BE BRIDGED. (PER DWR REGULATIONS)
  - A SEPARATION OF 24" OR GREATER BETWEEN STORM DRAIN AND GRAVITY SEWER REQUIRES NO BRIDGING OR DIP.



**FORCE MAIN DITCH AND STORM DRAIN CROSSING**  
NOT TO SCALE



- NOTES:**
- TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION
  - WIRE SHALL BE STRAPPED TO ALL PVC FORCE MAIN PIPING WITH DUCT TAPE AT 12-FT. INTERVALS.
  - SECURE WIRE TO ALL TEE AND CROSS FITTINGS.
  - ALL WIRE SPLICES SHALL HAVE WATER PROOF WIRE CONNECTIONS.

**TRACER WIRE 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 CFPWA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04**

**PROJECT:**  
ECHO WEST

**OWNER:**  
HOOSIER DADDY, LLC  
6025 TARIN ROAD  
WILMINGTON, NC 28409  
(252) 412-9622

**ENGINEER:**  
STROUD ENGINEERING, P.A.  
102-D CINEMA DRIVE  
WILMINGTON, NC 28403  
(910) 815-0775  
LICENSE NO. C-0647

REV:	DESCRIPTION:	DATE:
1	ADDED NOTES TO THE STRUCTURAL BRIDGING DETAIL	03/11/15

**CFPUA SANITARY SEWER**

APPROVED CONSTRUCTION PLAN

**STANDARD DETAILS**

DATE: 03/20/15

CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28403  
OFFICE: (910) 332-8560

DATE: 1/9/12

SCALE: N/A

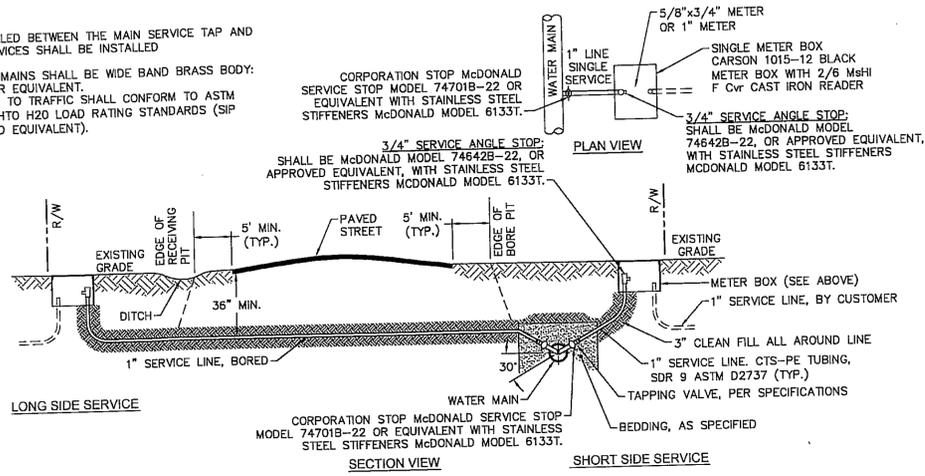
DRAWN BY: CFPWA

CHECKED BY: CFPWA

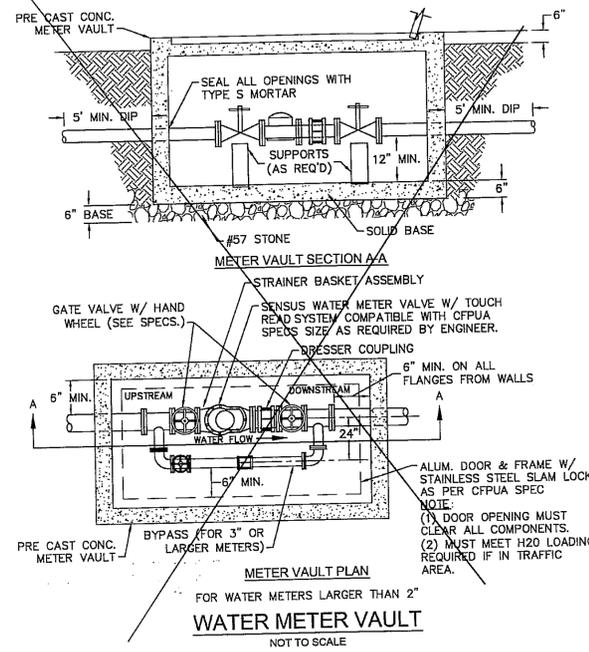
PROJECT NO.:

**SHEET NO:**  
SSD-3

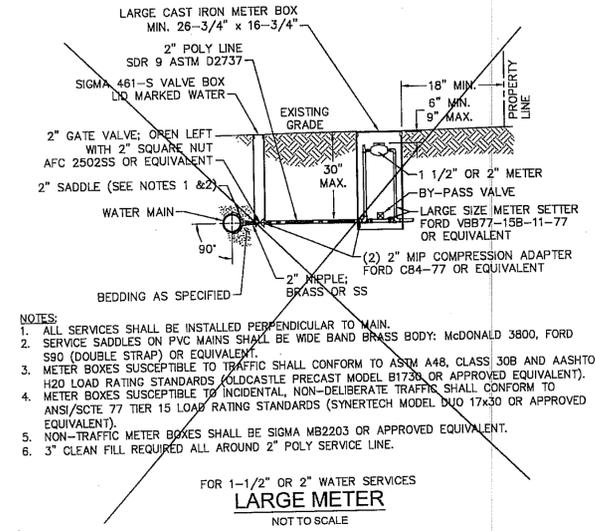
- NOTES:**
- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
  - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY; SADDLE McDONALD 3801 OR EQUIVALENT.
  - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 308 AND AASHTO H20 LOAD RATING STANDARDS (SIP MODEL 4242, OR APPROVED EQUIVALENT).



**SINGLE SERVICE CONNECTION**  
NOT TO SCALE

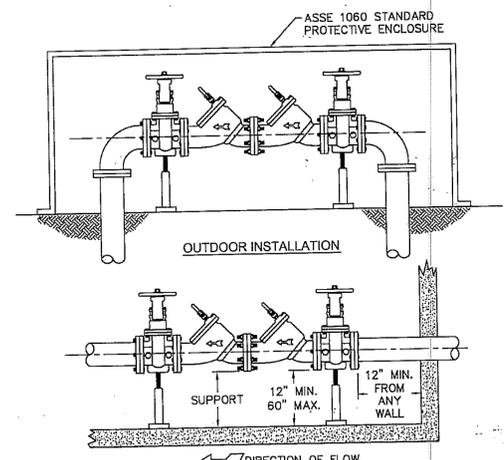


**WATER METER VAULT**  
NOT TO SCALE



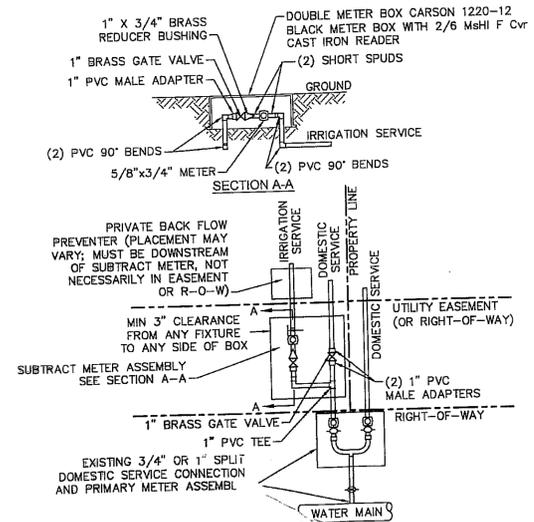
- NOTES:**
- ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
  - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY; McDONALD 3800, FORD S90 (DOUBLE STRAP) OR EQUIVALENT.
  - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 308 AND AASHTO H20 LOAD RATING STANDARDS (KALCASTLE PRECAST MODEL B1738 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\"/>

**LARGE METER**  
NOT TO SCALE



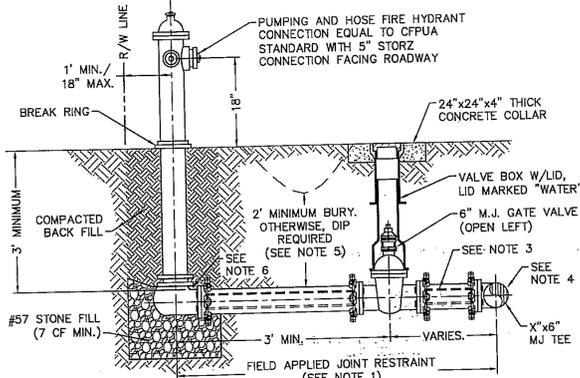
- NOTE:**
- MUST BE MIN. 36\"/>

**DOUBLE CHECK VALVE ASSEMBLY**  
NOT TO SCALE



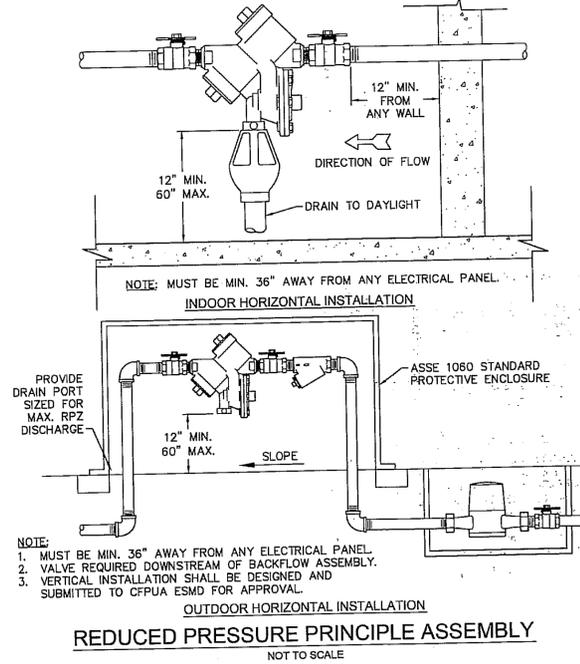
- NOTES:**
- BEYOND THE PRIMARY DOMESTIC METER ASSEMBLY, CFPUA IS ONLY RESPONSIBLE FOR METER AND WASHERS OF SUBTRACT METER ASSEMBLY.
  - ALL PIPE AND FITTINGS UP TO FINAL SERVICE LINE TO BE 1\"/>

**DOUBLE SERVICE CONNECTION USING SUBTRACT METER**  
NOT TO SCALE



- NOTES:**
- 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.
  - WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER-BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
  - CONTINUOUS 316 STAINLESS STEEL HARNESS AND FASTENERS TO HYDRANT) MAY BE USED WITH COR-BLUE MJ T-BOLT AND GASKET KITS, AS AN ALTERNATIVE.
  - HYDRANT TEE SHALL BE RESTRAINED ON EACH SIDE OF MAIN PLUS ANY VALVE, FITTING, OR JOINT IN MAIN WITHIN 10- FEET OF HYDRANT TEE.
  - HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
  - WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.

**FIRE HYDRANT ASSEMBLY**  
NOT TO SCALE



- NOTE:**
- MUST BE MIN. 36\"/>

**REDUCED PRESSURE PRINCIPLE ASSEMBLY**  
NOT TO SCALE

- GENERAL NOTES:**
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
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**THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04**

**PROJECT:**  
ECHO WEST

**OWNER:**  
HOOSIER DADDY, LLC  
6025 TARIN ROAD  
WILMINGTON, NC 28409  
(252) 412-9622

**ENGINEER:**  
STROUD ENGINEERING, P.A.  
102-D CINEMA DRIVE  
WILMINGTON, NC 28403  
(910) 815-0775  
LICENSE NO. C-0647

REV:	DESCRIPTION:	DATE:
1	Single Service Connection, Double Service Connection, and Large Meter Revised	10/28/12
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\"/>	04/10/15

**CFPUA WATER DISTRIBUTION SYSTEM**

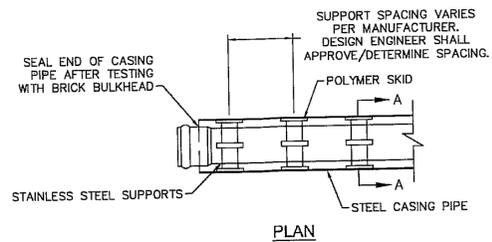
STANDARD DETAILS

DAVID W. STROUD  
ENGINEER  
NO. 35617  
STATE OF NORTH CAROLINA

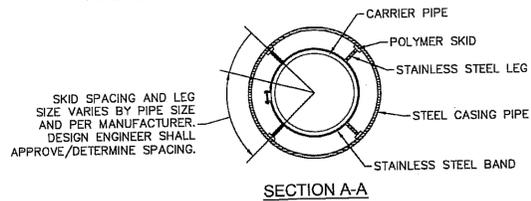
CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28403  
OFFICE: (910) 832-6560

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

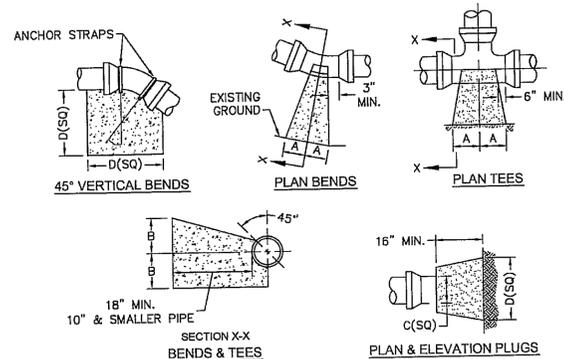
SHEET NO:  
**WSD-1**



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.



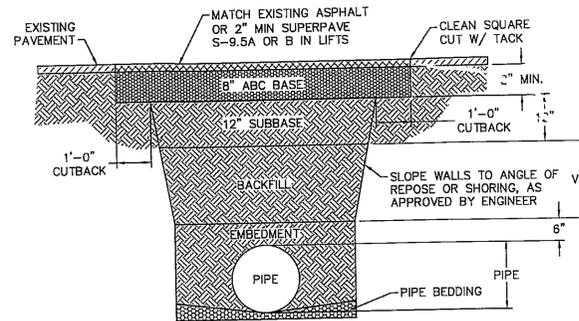
PIPE CASING SUPPORT DETAIL  
NOT TO SCALE



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"	26"	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"

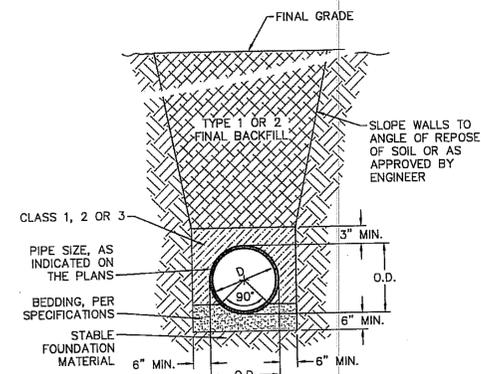
NOTES:  
1. BASED ON 160 PSI TEST PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.  
2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.  
3. USE MEG-A-LUG (PREFERRED) IN LIEU OF BLOCKING AND RODDING.

THRUST BLOCK DETAIL  
NOT TO SCALE

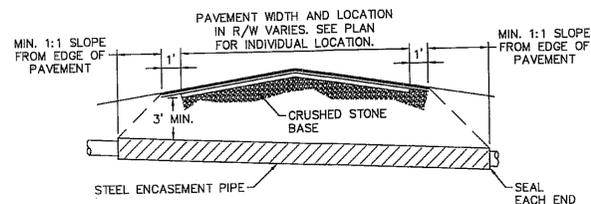


NOTES:  
1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.  
2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION. (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC.)  
3. 8-INCH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

PAVEMENT REPAIR WHERE PIPE INSTALLED  
NOT TO SCALE

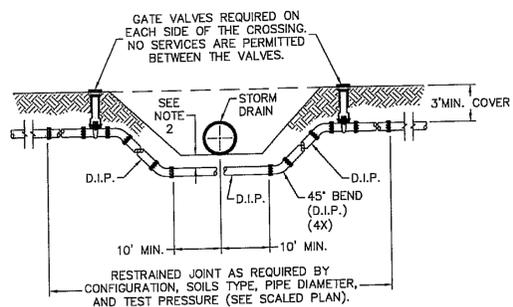


TYPICAL TRENCH DETAIL  
NOT TO SCALE



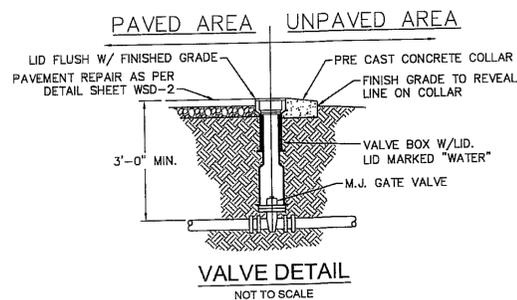
NOTES:  
1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.  
2. TRACER WIRE SHALL BE CONTINUED THROUGH CASING.

TYPICAL BORING/JACKING DETAIL  
NOT TO SCALE

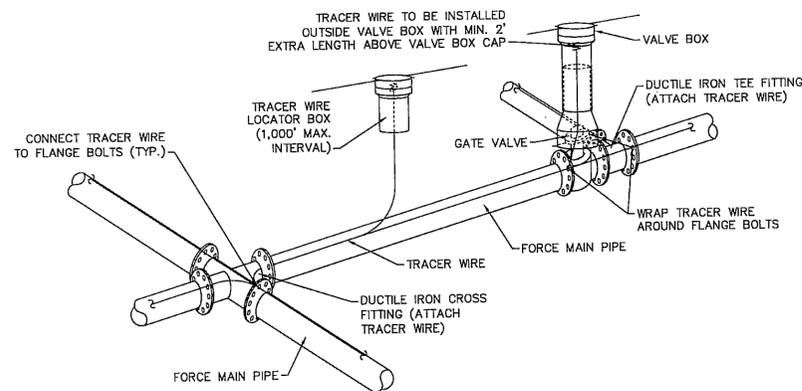


NOTES:  
1. USE PRESSURE CLASS 350 DIP, UNLESS SPECIFIED OTHERWISE.  
2. MINIMUM DEPTH REQUIRED, UNLESS SPECIFIED OTHERWISE BY CFPUA:  
a. IN DOT R/W, 36" MIN. TYPICAL, OR 24" MIN. WHEN CROSSING A DITCH LINE.  
b. ALL OTHER LOCATIONS, 30" MIN.  
c. WHEN STORM DRAIN INVERT IS BURIED AT OR BELOW ABOVE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

WATER MAIN DITCH AND STORM DRAIN CROSSING  
NOT TO SCALE

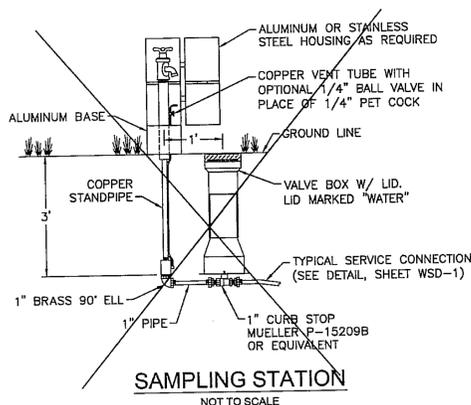


VALVE DETAIL  
NOT TO SCALE

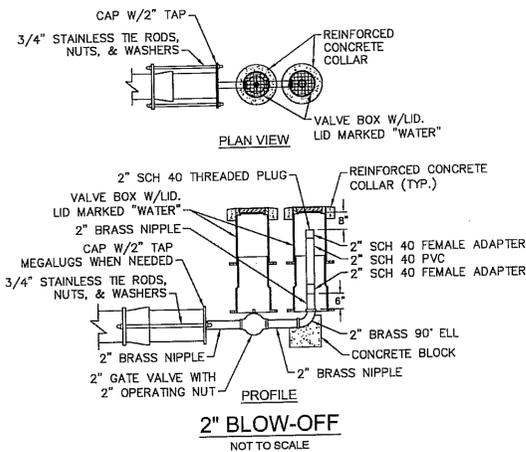


NOTES:  
1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION.  
2. WIRE SHALL BE STRAPPED TO ALL PVC FORCE MAIN PIPING WITH DUCT TAPE AT 12"-FT. INTERVALS.  
3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS.  
4. ALL WIRE SPLICES SHALL HAVE WATER PROOF WIRE CONNECTIONS.

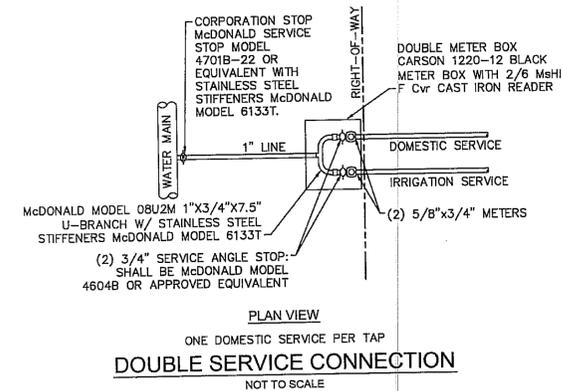
TRACER WIRE DETAIL  
NOT TO SCALE



SAMPLING STATION  
NOT TO SCALE



2" BLOW-OFF  
NOT TO SCALE



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 CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

PROJECT:  
ECHO WEST

OWNER:  
HOOSIER DADDY, LLC  
6025 TARIN ROAD  
WILMINGTON, NC 28409  
(252) 412-9622

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

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

**CFPUA WATER DISTRIBUTION SYSTEM**

STANDARD DETAILS

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

DATE: 1/8/12  
SCALE: N/A  
DRAWN BY: CFPUA  
CHECKED BY: CFPUA  
PROJECT NO.:  
**SHEET NO: WSD-2**