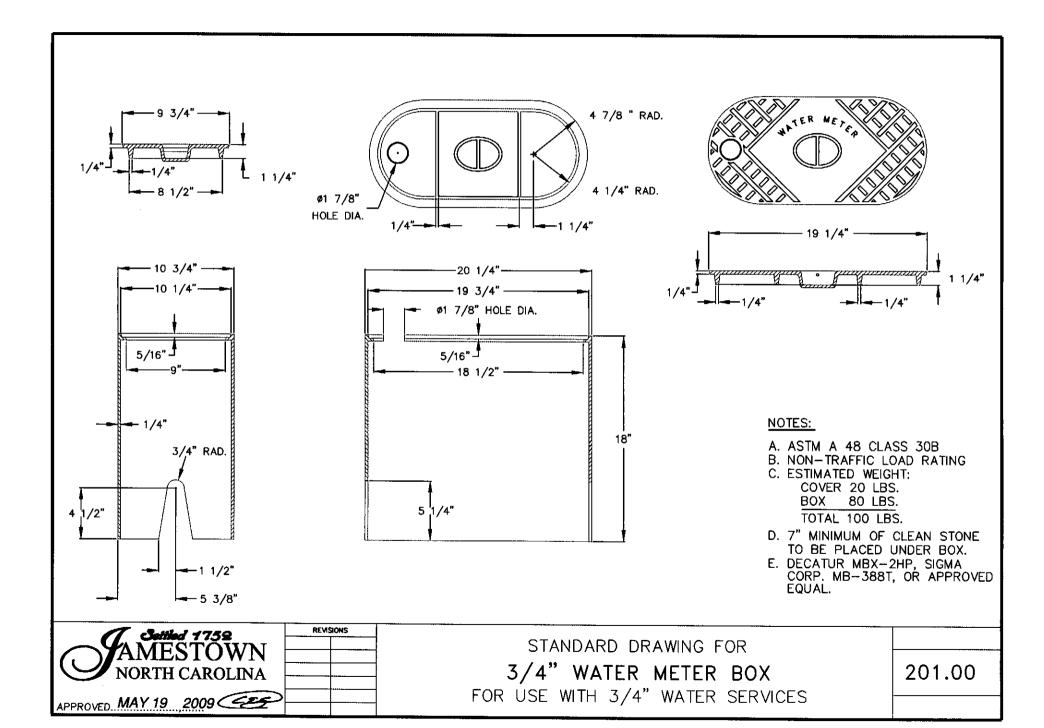
DRAWING NO.	TITLE
201.00	3/4" WATER METER BOX FOR USE WITH 3/4" WATER SERVICES
202.00	1" WATER METER BOX FOR USE WITH 1" WATER SERVICES
203.00	1 1/2" AND 2" WATER METER BOX FOR USE WITH 1 1/2" AND 2" WATER SERVICES
204.00	3" WATER METER VAULT FOR UNDERGROUND INSTALLATION
205.00	4" WATER METER VAULT FOR UNDERGROUND INSTALLATION
206.00	5/8" x 3/4" WATER METER SETTER FOR 3/4" WATER SERVICE
210.00	3/4" AND 1" SERVICE LINE INSTALLATION (REHAB.) FOR REHABILITATION OF 3/4" AND 1" WATER SERVICES
212.00	3/4" AND 1" SERVICE LINE INSTALLATION (NEW) FOR 3/4" AND 1" WATER SERVICES
230.00	WATER PIPE COVER REQUIREMENTS FOR 6" - 36" WATER PIPE
231.00	MAXIMUM JOINT DEFLECTION FOR DUCTILE IRON WATER LINE
232.00	THRUST BLOCKING FOR 6" - 12" WATER LINE
233.00	D.I. PIPE BEDDING AND MAXIMUM DEPTH OF COVER
234.00	SPIDER SUPPORT FOR DUCTILE IRON PIPE INSTALLED IN STEEL ENCASMENT PIPE
235.00 (1 OF 2)	FIRE HYDRANT INSTALLATION FOR 6" 3-WAY FIRE HYDRANTS
235.00 (2 OF 2)	FIRE HYDRANT INSTALLATION FOR 6" 3-WAY FIRE HYDRANTS
237.00	WATER VALVE BOX FOR ROADWAY AND UNPAVED AREAS

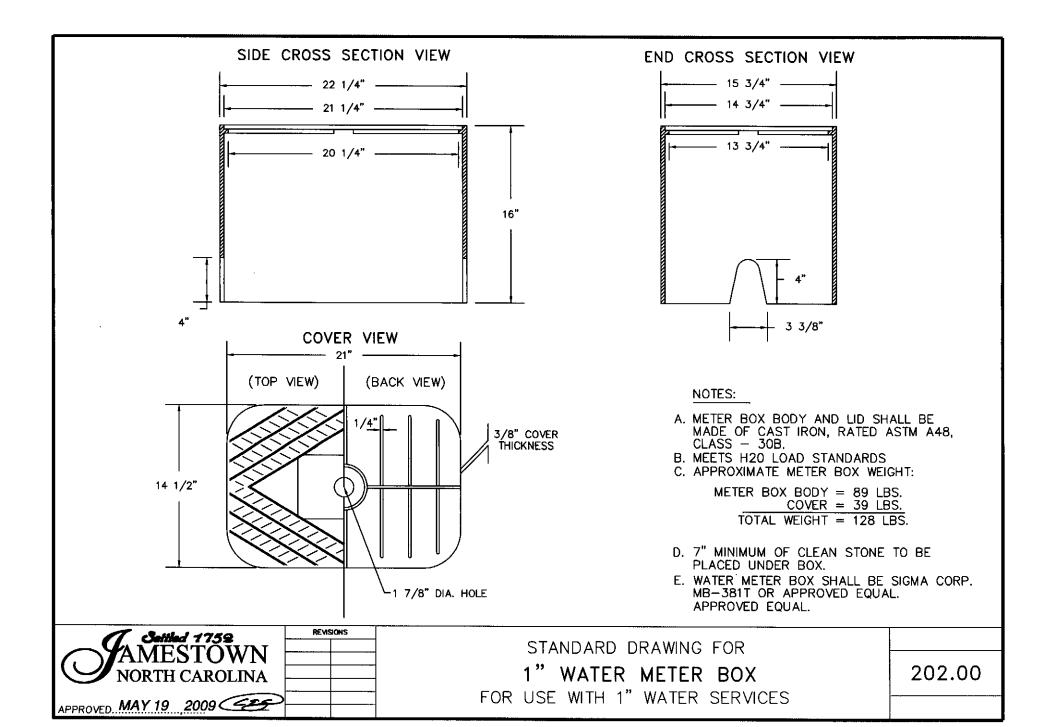


STANDARD DRAWING FOR

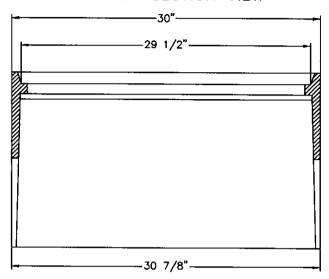
TABLE OF CONTENTS

FOR WATER LINE DRAWING TITLES

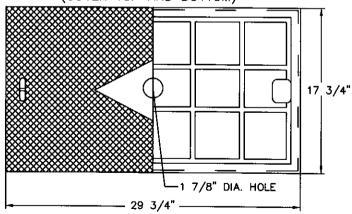




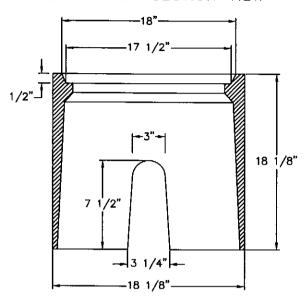
SIDE CROSS SECTION VIEW



PLAN VIEW (COVER TOP AND BOTTOM)



END CROSS SECTION VIEW



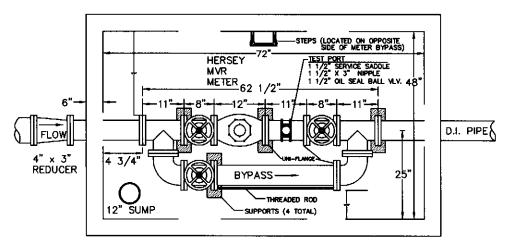
NOTES:

- A. METER BOX BODY AND LID SHALL BE MADE OF CAST IRON, RATED ASTM A48, CLASS 30B.
- B. APPROXIMATE METER BOX AND COVER WEIGHT: 272 LB.
- C. 7" MINIMUM OF CLEAN STONE TO BE PLACED UNDER BOX.
- D. WATER METER BOX SHALL BE SIGMA CORP. MB-2202T METER BOX AND LID OR APPROVED EQUAL.
- E. MEETS H20 LOADING REQUIREMENTS

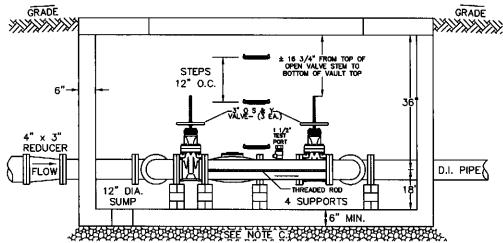


STANDARD DRAWING FOR

1 1/2" AND 2" WATER METER BOX FOR USE WITH 1 1/2" AND 2" WATER SERVICES



TYPICAL PLAN



#57 STONE. D. 3" METER ASSEMBLY SHALL BE PURCHASED FROM TYPICAL ELEVATION

STANDARD DRAWING FOR 3" WATER METER VAULT

FOR UNDERGROUND INSTALLATION

TOP 6" REINFORCED PCC SLAB

NOTES:

6"

WALL

− 12"

1 7/8" DIA. HOLE- FIELD -DRILLED BY METER SHOP REPRESENTATIVE

- A. ALUMINUM DOUBLE DOOR ACCESS:
 - 1). 300 PSF LOADING
- 2). CAST INTO 6" PCC SLAB
- 3). MANUFACTURED BY U.S. FOUNDRY & MANUFACTURING COMPANY OR BY AN APPROVED EQUAL
- 4). SHALL BE LOCKABLE BY USE OF LOCKING BOLTS

STEPS-

X 48"

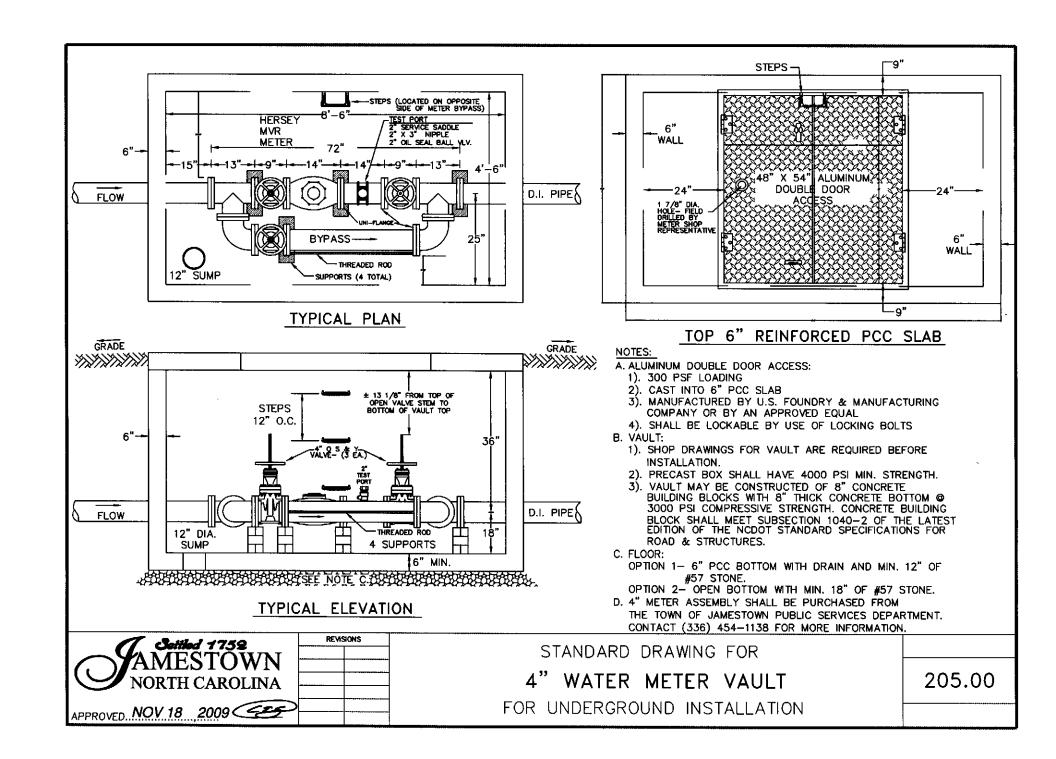
DOUBLE DOOR

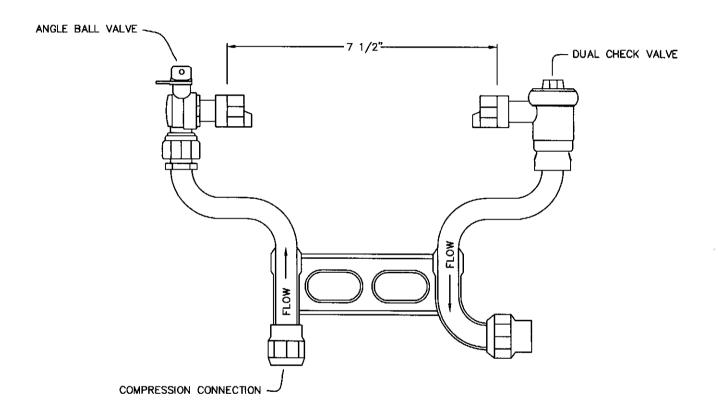
10"

6" WALL

- B. VAULT:
- 1). SHOP DRAWINGS FOR VAULT ARE REQUIRED BEFORE INSTALLATION.
- 2). PRECAST BOX SHALL HAVE 4000 PSI MIN. STRENGTH.
- 3). VAULT MAY BE CONSTRUCTED OF 8" CONCRETE BUILDING BLOCKS WITH 8" THICK CONCRETE BOTTOM . 3000 PSI COMPRESSIVE STRENGTH. CONCRETE BUILDING BLOCK SHALL MEET SUBSECTION 1040-2 OF THE LATEST EDITION OF THE NCDOT STANDARD SPECIFICATIONS FOR ROAD & STRUCTURES.
- C. FLOOR:
 - OPTION 1- 6" PCC BOTTOM WITH DRAIN AND MIN. 12" OF
 - OPTION 2- OPEN BOTTOM WITH MIN. 18" OF #57 STONE.
- THE TOWN OF JAMESTOWN PUBLIC SERVICES DEPARTMENT. CONTACT (336) 454-1138 FOR MORE INFORMATION.







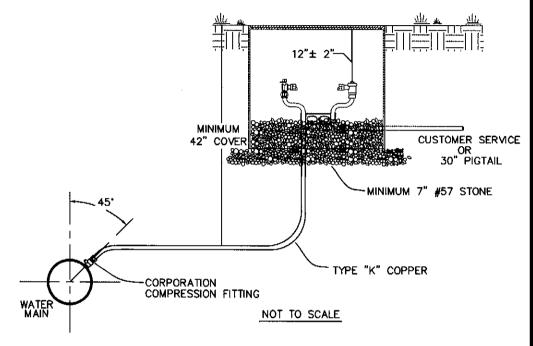
APPROVED MANUFACTURERS INCLUDE:

- 1. MUELLER B2404R-2 2. FORD VBH70 w/PW

17 Bullet 1750	REVISIONS
AMESTOWN	
AMESIOWN	
NORTH CAROLINA	
APPROVED MAY 19 2009	
711 1100 1401111111111111111111111111111	

STANDARD DRAWING FOR

TYPICAL 5/8" x 3/4" WATER METER SETTER FOR 3/4" WATER SERVICE



A. THE CITY SERVICE LATERAL SHALL EXTEND PARALLEL FROM THE WATER MAIN
TO THE METER SETTER AND MAINTAIN THE SAME COVER AS REQUIRED FOR THE WATER MAIN.
THE ONLY EXCEPTION IS IN A CUL-DE-SAC.
IN THIS CASE, ONE HORIZONTAL BEND WILL BE ALLOWED. HOWEVER, THE BEND MUST BE FIELD LOCATED AND SHOWN ON THE AS-BUILTS.
B. ALL WATER TAPS SHALL BE WET TAPS.

C. APPROVED CORPORATIONS: COMPRESSION

3/4": -MUELLER 300 BALL CORPORATION VALVE B-25008 SERIES -FORD FB1000-3-Q

1": -MUELLER 300 BALL CORPORATION VALVE B-25008 SERIES -FORD FB1000-4-Q

FLARED (OPTIONAL)

3/4": -MUELLER B-25000 SERIES WITH H-15063 EIGHTH BEND -FORD FB600-34 WITH LA02-33 EIGHTH BEND

1": -MUELLER B-25000 SERIES WITH H-15063 EIGHTH BEND

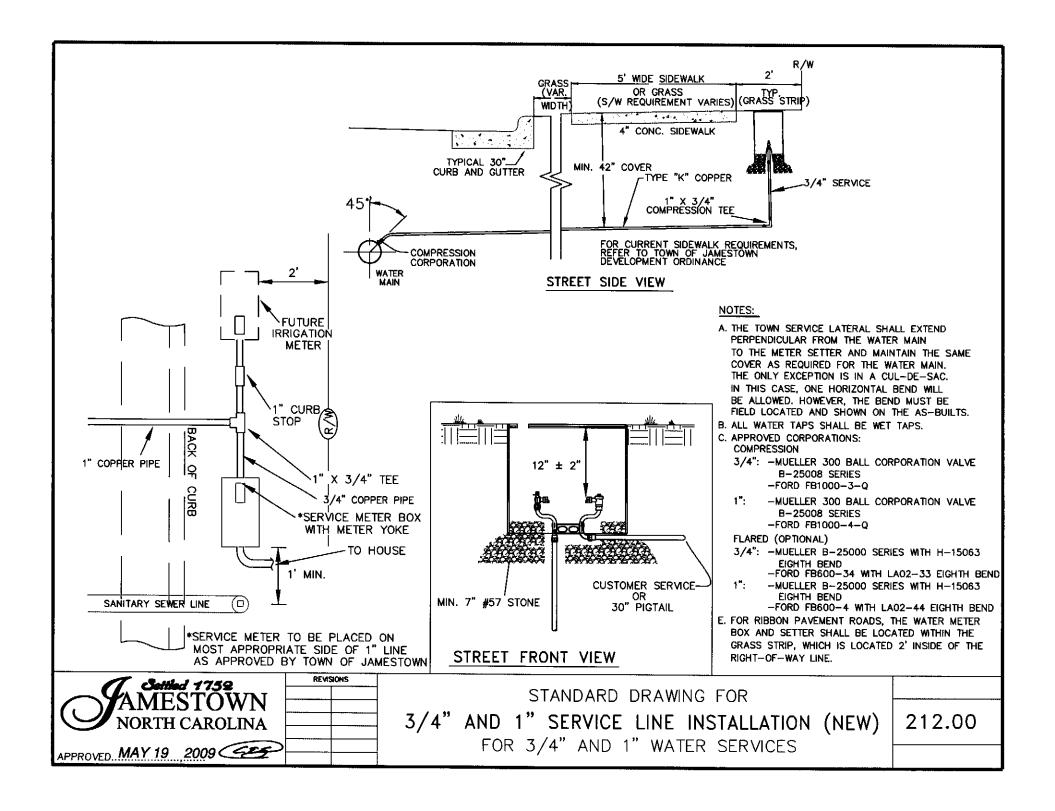
-FORD FB600-4 WITH LA02-44 EIGHTH BEND

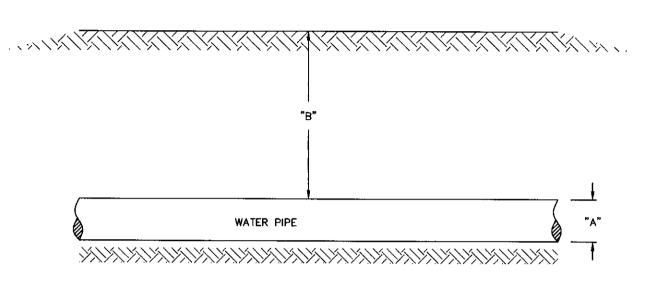


STANDARD DRAWING FOR

3/4" AND 1" SERVICE LINE INSTALLATION

FOR REHABILITATION OF 3/4" AND 1" WATER SERVICES





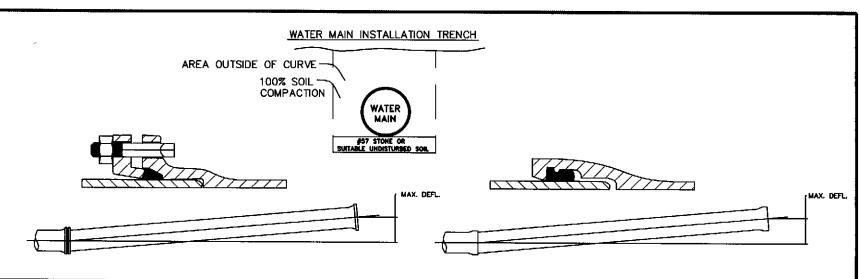
"A"	" B"
6" - 10"	48" MIN. COVER
12" - 36"	54" MIN. COVER

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NORTH CAROLINA
APPROVED MAY 19 2009

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STANDARD DRAWING FOR WATER PIPE COVER REQUIREMENTS

FOR 6" - 36" WATER PIPE



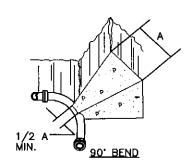
		PUSH ON JOINT								
		Laying Length					Laying Length			
			<u>18 ft.</u>		20 ft.			18 ft.		20 ft.
Size	Deflection Angle	Max Defl.	Approx. Radius	Max. Defl.	Approx. Radius	Deflection Angle	Max Defl.	Approx. Radius	Max. Defl.	Approx. Radius
in.	degmin.	in.	ft.		ft.	degmin.	in.	ft.	in.	ft.
3	8-18	31	125	35	140	5	19	205	21	230
4	8-18	31	125	35	140	5	19	205	21	230
6	7-07	27	145	30	160	5	19	205	21	230
. 8	5-21	20	195	22	220	5	19	205	21	230
10	5-21	20	195	22	220	5	19	205	21	230
12	5-21	20	195	22	220	5	19	205	21	230
14*	3-35	13.5	285	15	320	3	11	340	12	380
16*	3-35	13.5	285	15	320	3	11	340	12	380

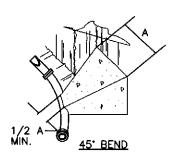
* FOR 14" AND LARGER PUSH ON JOINTS, MAX. DEFLECTION ANGLE MAY BE LARGER THAN SHOWN ABOVE. CONSULT THE MANUFACTURER

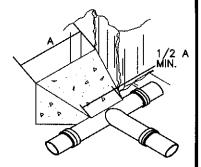


STANDARD DRAWING FOR MAXIMUM JOINT DEFLECTION FOR DUCTILE IRON WATER LINE

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		REAC1	HON BE			OR HORI	<u>ZONTAL</u> SSURE		
	ļ,		,	BASE	ON TE	ST PRE	SSURE	OF <u>,</u> 200	PSI
9 Size AWO DEGREE	S must w	**************************************	805 CAY 8057 SO CAY	1	28.7 28.7 28.7 28.7 28.7 28.7 28.7 28.7	2000 1 200 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	24 C C C C C C C C C C C C C C C C C C C	/ ~	PROJECT SOFT
13.8	STATIC TO	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	18.00	15.00.00 14.00.00.00.00.00.00.00.00.00.00.00.00.00	\$ 4 8.	1 2 5 6 S	S S S	\$ 90	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
6"									
11.25*	1108	1	1	1	1	1	1	1	
22.50	2207	1	2	2	1	1	1	1	
45"	4328	2	3	3	1	1	2	1	
90.	7996	2	4	5	1	1	2	1	
PLUG	5665	2	3	4	1	1	2	1	2- 1/2" DIA.
8"									
11.25*	1970	1	1	2	1	1	2	1	
22.50°	3922	1	2	3	1	1	3	1	
45'	7694	2	4	5	1	1	5	1	
90'	14215	4	8	9	2	2	8	2	
PLUG	10053	3	5	6	2	2	6	1	2- 5/8" DIA.
12"							·	<u> </u>	375 5
11.25*	4433	2	3	3	1	1	2	1	T
22.50°	8826	3	5	6	2	2	3	1	
45'	17312	5	9	11	3	3	5	2	
80 ,	31983	8	16	19	4	4	8	4	1
PLUG	22619	6	12	14	3	3	6	3	4- 3/4" DIA.







TEE INTERSECTION

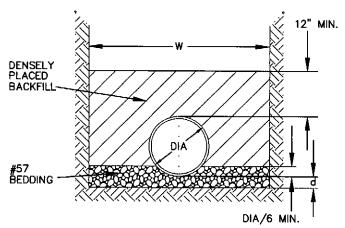
- 1. CONCRETE SHALL BE 3000 PSI.
- CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
- REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR
- ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.
- USE 6" 90" BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTORS.

AMESTOWN
NORTH CAROLINA

APPROVED MAY 19 2009

STANDARD DRAWING FOR THRUST BLOCKING

FOR 6" - 12" WATER LINE



GRANULAR FOUNDATION BEDDING CLASS C

DEPTH OF BEDDING MATERIAL BELOW PIPE

D	d (MIN.)
27" & SMALLER	3"
30" TO 60"	4"

TRENCH WIDTH:
MIN W = DIA + 16"
MAX W = THE LESSER OF
DIA + 40" OR
3*DIA

IF CONTRACTOR CHOOSES TO EXCAVATE PAST THE MAX W, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS IN THE EXCAVATION BEYOND THE MAX W LIMITS.

BACKFILLING NOTES ACCORDING TO CURRENT EDITION OF NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES:

- A EXCAVATION, TRENCHING, AND BACKFILLING SHALL BE DONE ACCORDING TO SECTION 1505.
- B. BACKFILLING SHALL ALSO BE IN ACCOR—
 DANCE WITH ARTICLE 300—7 AND COMPACTED
 TO 95% OF THE AASHTO T99 NCDOT
 MODIFIED PROCTOR.
- C. THE LAST 8" OF BACKFILL BELOW THE FINISHED SURFACE OF THE SUBGRADE SHALL BE COMPACTED TO 100% OF THE AASHTO T99 NCDOT MODIFIED PROCTOR.

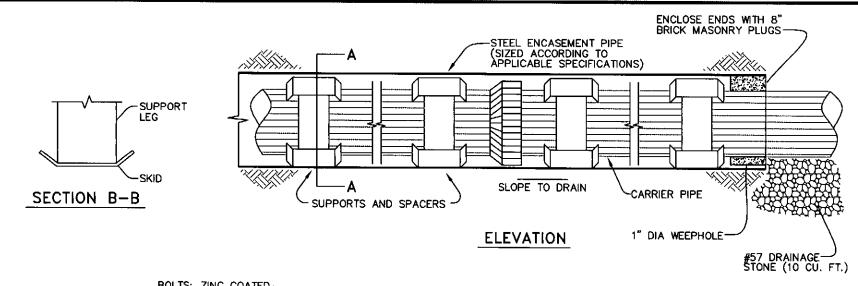
BEDDING

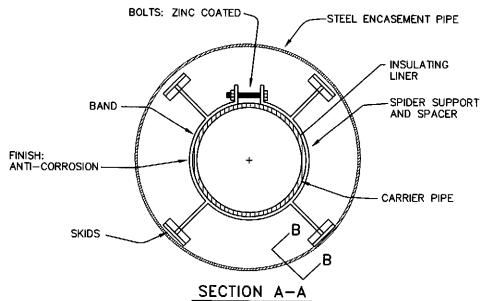
A. SUBGRADES SHOULD BE EXCAVATED OR OVER EXCAVATED, IF NECESSARY, SO A UNIFORM FOUNDATION FREE OF PROTRUDING ROCKS MAY BE PROVIDED.



STANDARD DRAWING FOR

D.I. PIPE BEDDING & MAXIMUM DEPTH OF COVER





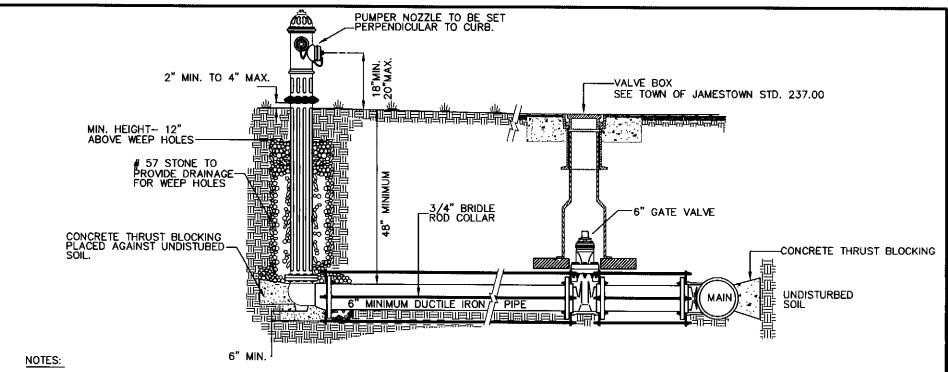
- A. THE CARRIER PIPE SUPPORTS SHALL BE MADE
 OF STRUCTURAL STEEL LOW CARBON HOT
 ROLLED FLAT PLATE ACCORDING TO ASTM A 36/A.
- B. THE CARRIER PIPE SUPPORTS SHALL BE MANUFACTURED BY SPIDER MANUFACTURING, INC. OR AN APPROVED EQUAL.
- C. 4" 16" CARRIER PIPE REQUIRES TWO "SPIDER" SUPPORTS PER SECTION OF PIPE.
- D. 18" 36" CARRIER PIPE REQUIRES THREE "SPIDER" SUPPORTS PER SECTION OF PIPE.
- E. 18" AND LARGER CARRIER PIPE SUPPORTS ARE MANUFACTURED AS TWO-PIECE COMPONENTS.
- F. INSULATING LINER SHALL BE EPDM NON-CONDUCTIVE RUBBER $3/16" \pm 1/16"$ THICKNESS (ASTM D-2000 75E).



STANDARD DRAWING FOR

SPIDER SUPPORT

FOR DUCTILE IRON PIPE INSTALLED IN STEEL ENCASEMENT PIPE



A. RESTRAINT SYSTEM

OPTION 1- HYDRANT LEAD PIPE SHALL BE SECURED BY (FOUR) 3/4" RODS. (SEE SHEET 1 OF 2)

OPTION 2- HYDRANT LEAD PIPE JOINTS SHALL BE RESTRAINED BY USING A RESTRAINED HYDRANT TEE AND USING RESTRAINED JOINT RETAINER GLANDS. (SEE SHEET 2 OF 2)

ALL OPTIONS— CONCRETE THRUST BLOCKING REQUIRED BEHIND
THE HYDRANT AND BEHIND THE TEE. BOLTS, NUTS, AND
WEEP HOLES TO BE FREE OF CONCRETE.

- B. HYDRANT PLACEMENT
 - 1) C&G ROAD- FACE OF HYDRANT SET 12" TO 30" FROM BACK OF CURB.
 - RIBBON PAVEMENT ROAD— CENTER OF HYDRANT PLACED 1' INSIDE RIGHT OF WAY LINE.
 - 3) <u>VARIABLES</u>— HYDRANT SHALL NOT FALL IN THE FLOW—LINE OF THE DITCH.

 HYDRANT SHALL BE SET BEYOND THE HINGE POINT OF THE CUT OR FILL

C. THE HYDRANT SHALL BE GIVEN 2 COATS OF PAINT

FIRST COAT	FINAL FIELD COAT
SAFETY YELLOW	SAFETY YELLOW
DEVON PAINT #4308-9400	DEVON PAINT #4308-9400
WHITE	WHITE
DEVON PAINT #4308-0100	DEVON PAINT #4308-0100
TWO COATS OF	
PITCH TAR VARNISH	
OR BLACK ASPHALTUM	
PAINT	
	SAFETY YELLOW DEVON PAINT #4308-9400 WHITE DEVON PAINT #4308-0100 TWO COATS OF PITCH TAR VARNISH OR BLACK ASPHALTUM

LINE OR AS DIRECTED BY THE ENGINEER.

REVISIONS

AMESTOWN
NORTH CAROLINA

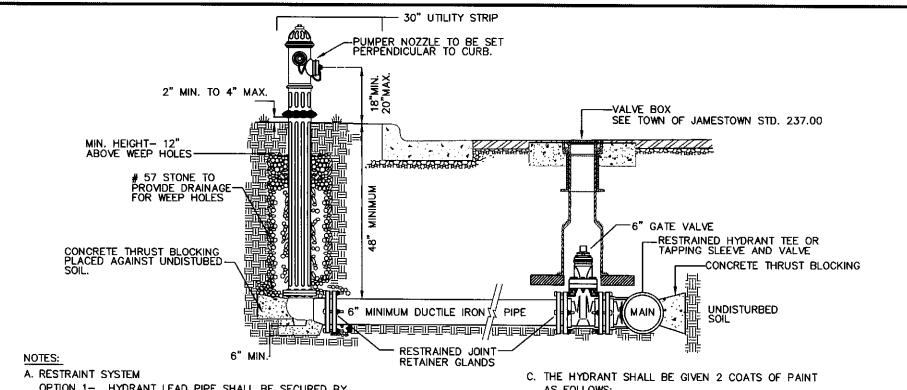
APPROVED. MAY 19 2009

STANDARD DRAWING FOR
FIRE HYDRANT INSTALLATION

FOR 6" 3-WAY FIRE HYDRANTS

235.00

SHEET 1 OF 2



OPTION 1- HYDRANT LEAD PIPE SHALL BE SECURED BY (FOUR) 3/4" RODS. (SEE SHEET 1 OF 2)

OPTION 2— HYDRANT LEAD PIPE JOINTS SHALL BE RESTRAINED
BY USING A RESTRAINED HYDRANT TEE AND USING
RESTRAINED JOINT RETAINER GLANDS. (SEE SHEET 2 OF 2)

ALL OPTIONS— CONCRETE THRUST BLOCKING REQUIRED BEHIND
THE HYDRANT AND BEHIND THE TEE. BOLTS, NUTS, AND
WEEP HOLES TO BE FREE OF CONCRETE.

B. HYDRANT PLACEMENT

- 1) C&G ROAD- FACE OF HYDRANT SET 12" TO 30" FROM BACK OF CURB.
- RIBBON PAVEMENT ROAD— CENTER OF HYDRANT PLACED 1' INSIDE RIGHT OF WAY LINE.
- 3) VARIABLES— HYDRANT SHALL NOT FALL IN THE FLOW-LINE OF THE DITCH.

 HYDRANT SHALL BE SET REYOND THE HINCE POINT OF THE CUT OR

HYDRANT SHALL BE SET BEYOND THE HINGE POINT OF THE CUT OR FILL LINE OR AS DIRECTED BY THE ENGINEER.

AS FULLUMS:		
	FIRST COAT	FINAL FIELD COAT
BARREL ABOVE	SAFETY YELLOW	SAFETY YELLOW
GROUND	DEVON PAINT #4308-9400	DEVON PAINT #4308-9400
BONNET AND	WHITE	WHITE
CAPS		DEVON PAINT #4308-0100
BARREL BELOW	TWO COATS OF	
GROUND	PITCH TAR VARNISH	
	OR BLACK ASPHALTUM	
	PAINT	

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AMESTOWN NORTH CAROLINA	
APPROVED MAY 19 2009	

STANDARD DRAWING FOR

FIRE HYDRANT INSTALLATION

FOR 6" 3-WAY FIRE HYDRANTS

235.00

SHEET 2 OF 2

