DocuSign Envelope ID: 8190228C-E6F7-46BC-BEB4-377BA953EFB8

Kimley»Horn
P.O. BOX 33068
RALEIGH, N.C. 27636-3068

RIGHT-OF-WAY REV.

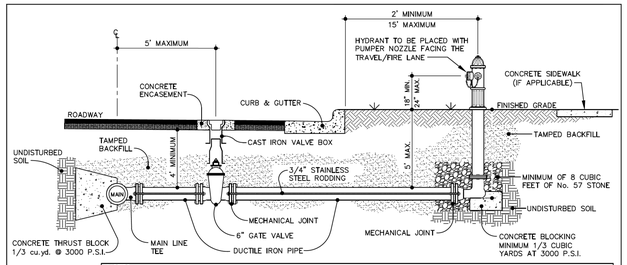
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
U-5828	UC-4A
R/W SHEET NO.	

UTILITY CONSTRUCTION ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 027670 ENGINEER MATTHEW A. SHOESMITH

DocuSigned by: Matthew A. Shoesmith
148970D76BF4408...
8/28/2017

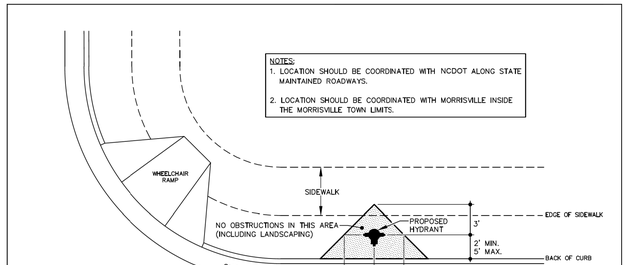


NOTES:
1. TOP OF BLOCKING TO BE 2 INCHES FROM HYDRANT WEEP HOLES.
2. HYDRANT TEE MAY BE SUBSTITUTED FOR D.I.P. NIPPLE AND RODDING TO VALVE.
3. IF HYDRANT IS LOCATED ON A DEPARTMENT OF TRANSPORTATION ROADWAY USE D.O.T. STANDARDS FOR LOCATION OF HYDRANT.
4. HYDRANT SHALL BE LOCATED FROM 2 TO 15 FEET FROM BACK OF CURB.
5. HYDRANT MAY BE LOCATED (AT LEAST 1-FT) BEHIND SIDEWALK WHEN IT CANNOT BE LOCATED INSIDE THE UTILITY STRIP.
6. HYDRANT SHALL BE INSTALLED AT LEAST 2 FEET BEYOND TOP SLOPE OF ANY DRAINAGE DITCHES. HYDRANT INSTALLATION WITHIN THE DITCH LINE OR SLOPE SHALL BE PROHIBITED.
7. STD. RODDING AND BLOCKING FROM GATE VALVE TO HYDRANT MAY BE SUBSTITUTED WITH A CONCENTRIC RING RESTRAINT SYSTEM SUCH AS MUELLER AQUAGRIP OR AN APPROVED EQUAL PRODUCT PROVIDED ALL PIPE SEGMENTS ARE RESTRAINED.
8. STD. RODDING MAY BE SUBSTITUTED WITH AN APPROVED WEDGE ACTION RETAINER GLAND.
9. HYDRANT EXTENSIONS ARE PROHIBITED.
10. WITHIN THE TOWN OF MORRISVILLE ONLY, HYDRANTS NEAR FDC'S SHALL BE PROVIDED WITH A STORZ CONNECTION.

EFFECTIVE: 12/10/09

STANDARD HYDRANT INSTALLATION FOR ROADS WITH CURB & GUTTER

DETAIL No. 06000.06 SHEET 1 OF 3

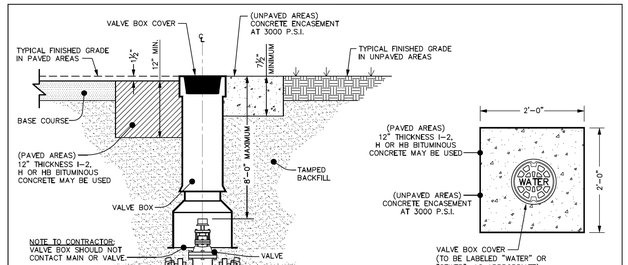


NOTES:
1. LOCATION SHOULD BE COORDINATED WITH NCDOT ALONG STATE MAINTAINED ROADWAYS.
2. LOCATION SHOULD BE COORDINATED WITH MORRISVILLE INSIDE THE MORRISVILLE TOWN LIMITS.

EFFECTIVE: 12/10/09

STANDARD HYDRANT LOCATION

DETAIL No. 06000.07 SHEET 1 OF 2

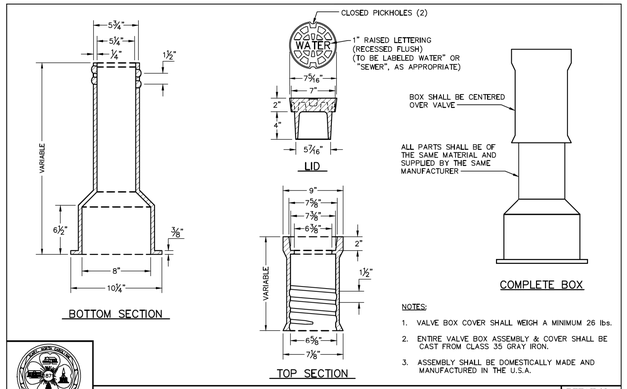


NOTES:
1. ONLY MANUFACTURED VALVE BOX EXTENSIONS SHALL BE ALLOWED.
2. VALVE OPERATING NUT MUST BE EXTENDED SO THAT THE DEPTH IS NO GREATER THAN 8' (ft.) FROM THE SURFACE USING A MANUFACTURER APPROVED EXTENSION KIT.
3. PRECAST CONCRETE ENCASEMENT IS ALLOWED OUTSIDE OF PAVED AREAS.

EFFECTIVE: 12/10/09

STANDARD VALVE BOX INSTALLATION

DETAIL No. 06000.08 SHEET 1 OF 2

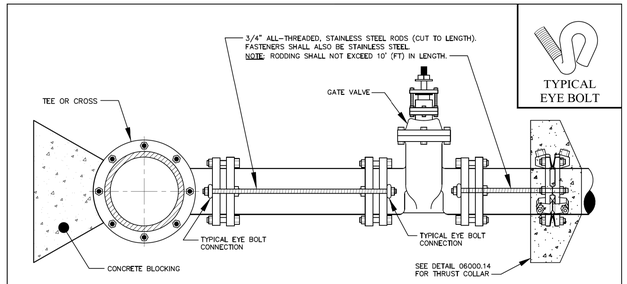


NOTES:
1. VALVE BOX COVER SHALL WEIGH A MINIMUM 26 lbs.
2. ENTIRE VALVE BOX ASSEMBLY & COVER SHALL BE CAST FROM CLASS 35 GRAY IRON.
3. ASSEMBLY SHALL BE DOMESTICALLY MADE AND MANUFACTURED IN THE U.S.A.

EFFECTIVE: 12/10/09

STANDARD VALVE BOX INSTALLATION

DETAIL No. 06000.08 SHEET 2 OF 2



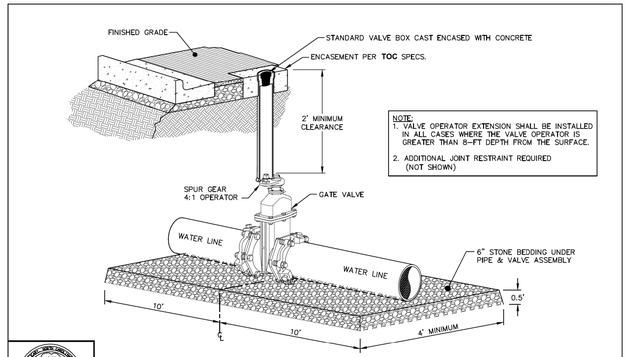
STAINLESS STEEL ROD REQUIREMENTS	
BRANCH SIZE	No. OF RODS
4"	2
6"	2
8"	4
12"	6
16"	8
24"	10

GENERAL NOTES:
1. SEE STANDARD THRUST BLOCK DETAIL.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL FITTINGS.
3. RODS SHALL NOT BE COUPLED.

EFFECTIVE: 12/10/09

STANDARD VALVE RESTRAINT

DETAIL No. 06000.09 SHEET 1 OF 2



NOTE:
1. VALVE OPERATOR EXTENSION SHALL BE INSTALLED IN ALL CASES WHERE THE VALVE OPERATOR IS GREATER THAN 8-FT DEPTH FROM THE SURFACE.
2. ADDITIONAL JOINT RESTRAINT REQUIRED (NOT SHOWN)

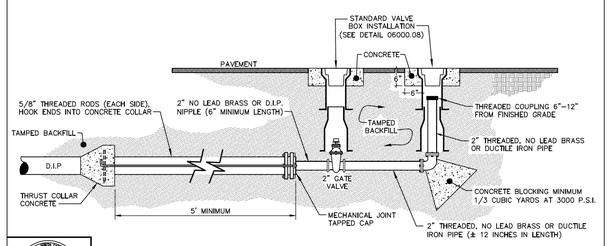
EFFECTIVE: 12/10/09

RESILIENT WEDGE GATE VALVE ASSEMBLY FOR VERTICAL INSTALLATIONS, 16" TO 24"

DETAIL No. 06000.10 SHEET 1 OF 2

MAIN SIZE	END PIPE SIZE
4" – 12"	2" BLOW-OFF
16" & GREATER	AS APPROVED BY TOWN ENGINEER

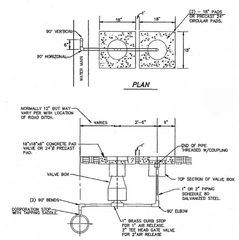
NOTES:
1. FOR MAINS THAT ARE TO BE EXTENDED, USE A VALVE EQUAL TO THE MAIN SIZE AS THE BLOW-OFF VALVE AND THEN REDUCE TO THE 2" STANDPIPE.
2. RODS SHALL BE "HOOKED" INTO THRUST COLLAR.



EFFECTIVE: 07/01/13

STANDARD 2" BLOW-OFF ASSEMBLY

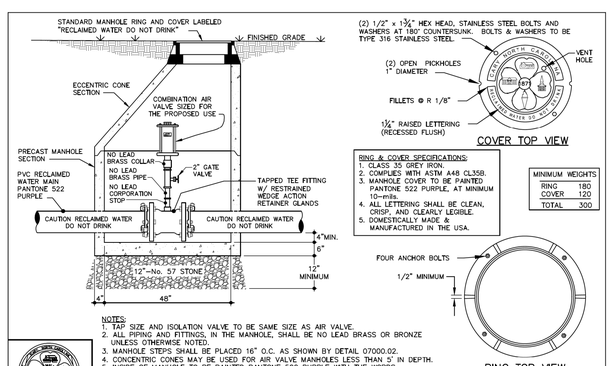
DETAIL No. 06000.11 SHEET 1 OF 2



NOTES:
1. INSTALL BLOWOFF VALVE AT LOW POINT OF LINE.
2. DO NOT PLACE VALVE AND BLOW OFF AT LOW POINT OF DITCH.
3. ALL PIPING AND FITTINGS WILL BE SCHEDULE 40 RED BRASS. GALVANIZED PIPING IS NOT ALLOWED FOR PERMANENT INSTALLATIONS.
4. INSTALL ADDITIONAL 90-DEGREE BENDS, IF REQUIRED, TO ORIENT BLOWOFF VALVE AS SHOWN ON PLANS. ADDITIONAL FITTINGS ARE SUBSIDIARY TO THIS DETAIL.

BLOWOFF VALVE DETAIL

DETAIL No. 06000.12 SHEET 1 OF 1



RING & COVER SPECIFICATIONS:
1. CLASS 35 GREY IRON.
2. COMPLIES WITH ASTM A48 CL35B.
3. MANHOLE COVER TO BE PAINTED PANTONE 522 PURPLE, AT MINIMUM 10-mils.
4. ALL LETTERING SHALL BE CLEAN, CRISP, AND CLEARLY LEGIBLE.
5. DOMESTICALLY MADE & MANUFACTURED IN THE USA.

MINIMUM WEIGHTS	
RING	180
COVER	120
TOTAL	300

NOTES:
1. TAP SIZE AND ISOLATION VALVE TO BE SAME SIZE AS AIR VALVE.
2. ALL PIPING AND FITTINGS, IN THE MANHOLE, SHALL BE NO LEAD BRASS OR BRONZE UNLESS OTHERWISE NOTED.
3. MANHOLE STEPS SHALL BE PLACED 16" O.C. AS SHOWN BY DETAIL 07000.02.
4. CONCENTRIC CONES MAY BE USED FOR AIR VALVE MANHOLES LESS THAN 5' IN DEPTH.
5. INSIDE OF MANHOLE TO BE PAINTED PANTONE 522 PURPLE WITH THE WORDS, **CAUTION RECLAIMED WATER DO NOT DRINK**, STENCILED ON TWO SIDES.

EFFECTIVE: 07/01/13

STANDARD COMBINATION AIR VALVE MANHOLE (FOR RECLAIMED WATER)

DETAIL No. 06500.05 SHEET 1 OF 1

8/28/2017 K:\RAL_Roadway\0\2108004 – McCrimmon Parkway\Phase I\Plan\Utility Construction\Phase2_0\2108004_ut_dtl_uc04_pshdgn