

5/14/19

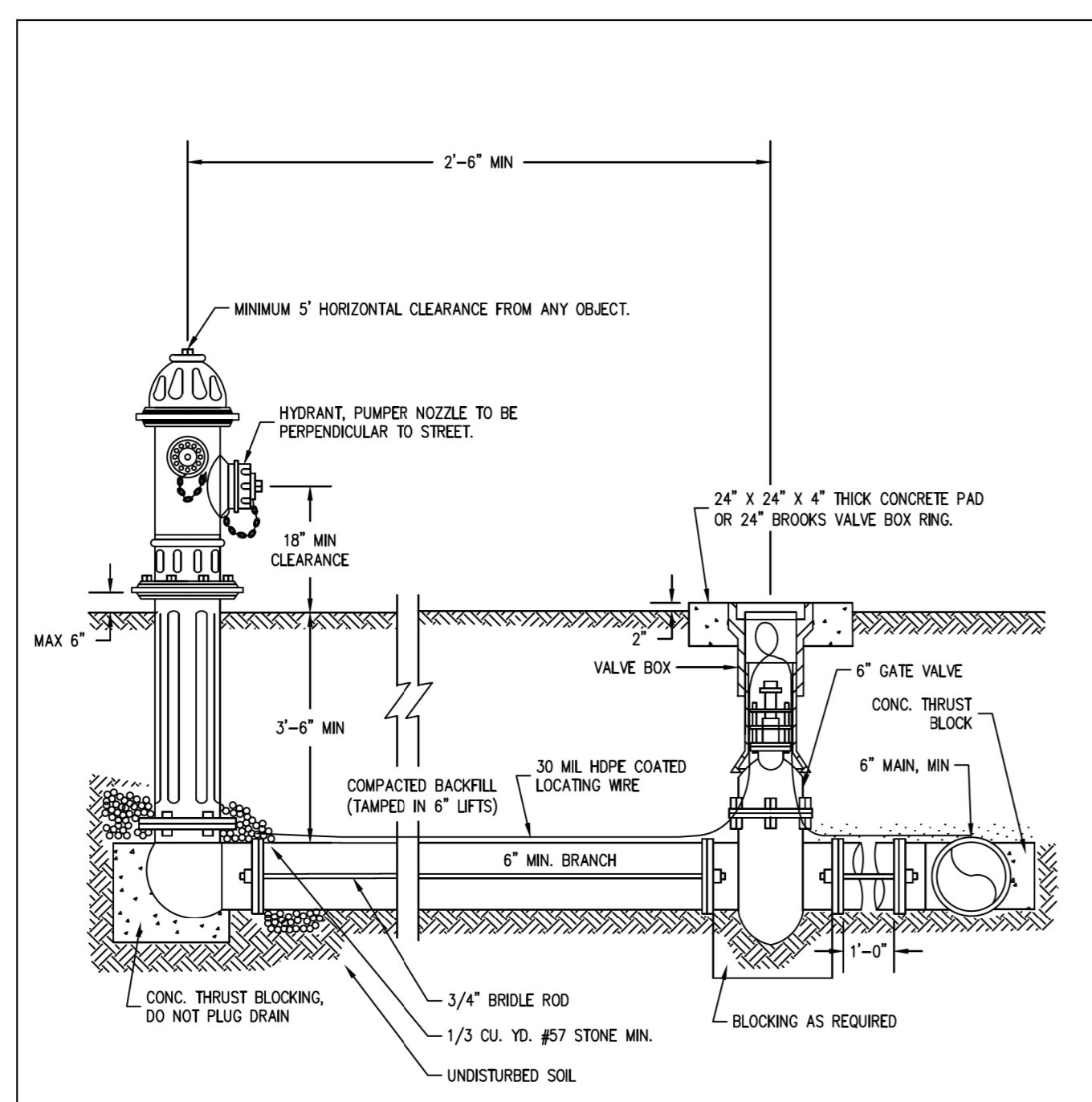
PROJECT TYPICAL DETAILS



REGISTERED PROFESSIONAL ENGINEER
STATE OF NORTH CAROLINA
LICENSE NO. 27947
PHONE: 919.881.9939
NC CON. No. F0209

PROJECT REFERENCE NO.	SHEET NO.
R-3825B	UC-3A0
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY 8/9/2018	

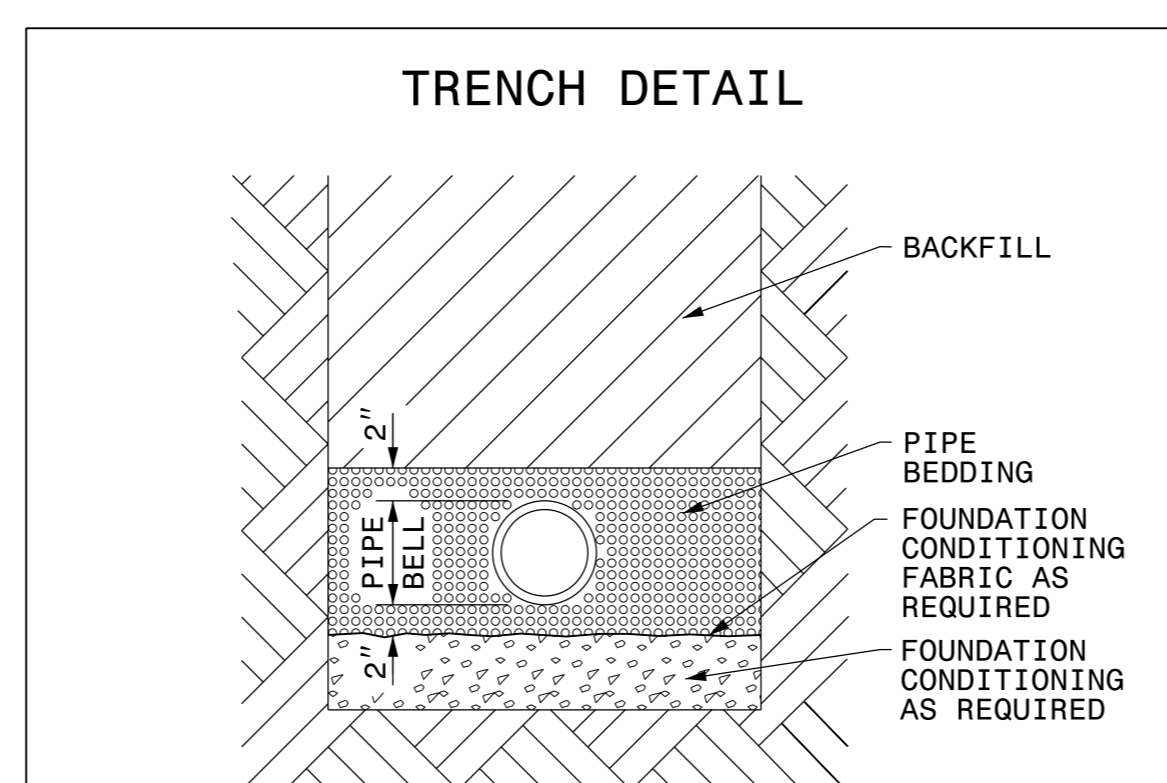
UTILITY CONSTRUCTION



- NOTES:**
1. ALL HYDRANTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AWWA STANDARD C503-82.
 2. HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITIONS.
 3. ALL BENDS, TEES, VALVES AND BLOW-OFFS SHALL BE BLOCKED IN ACCORDANCE WITH AWWA STANDARDS.
 4. HYDRANTS SHALL HAVE NATIONAL STANDARD THREADS.

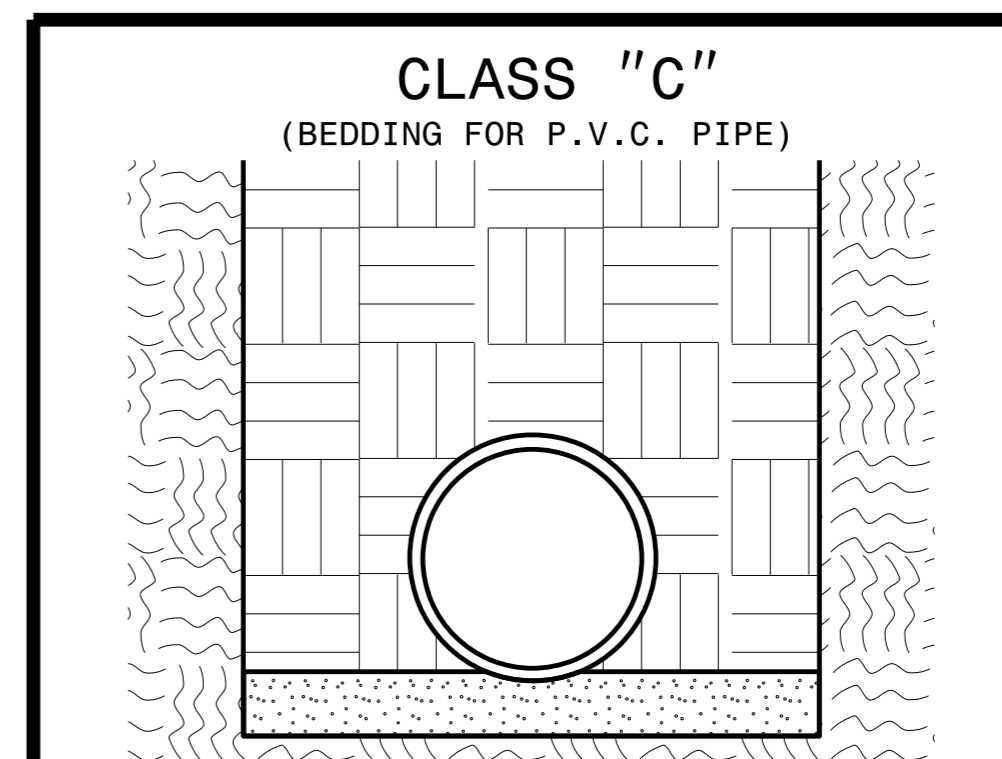
DRAWING NO.	HYDRANT DETAIL	AQUA Aqua North Carolina, Inc.
REVISION DATE	01/2017	

WATER

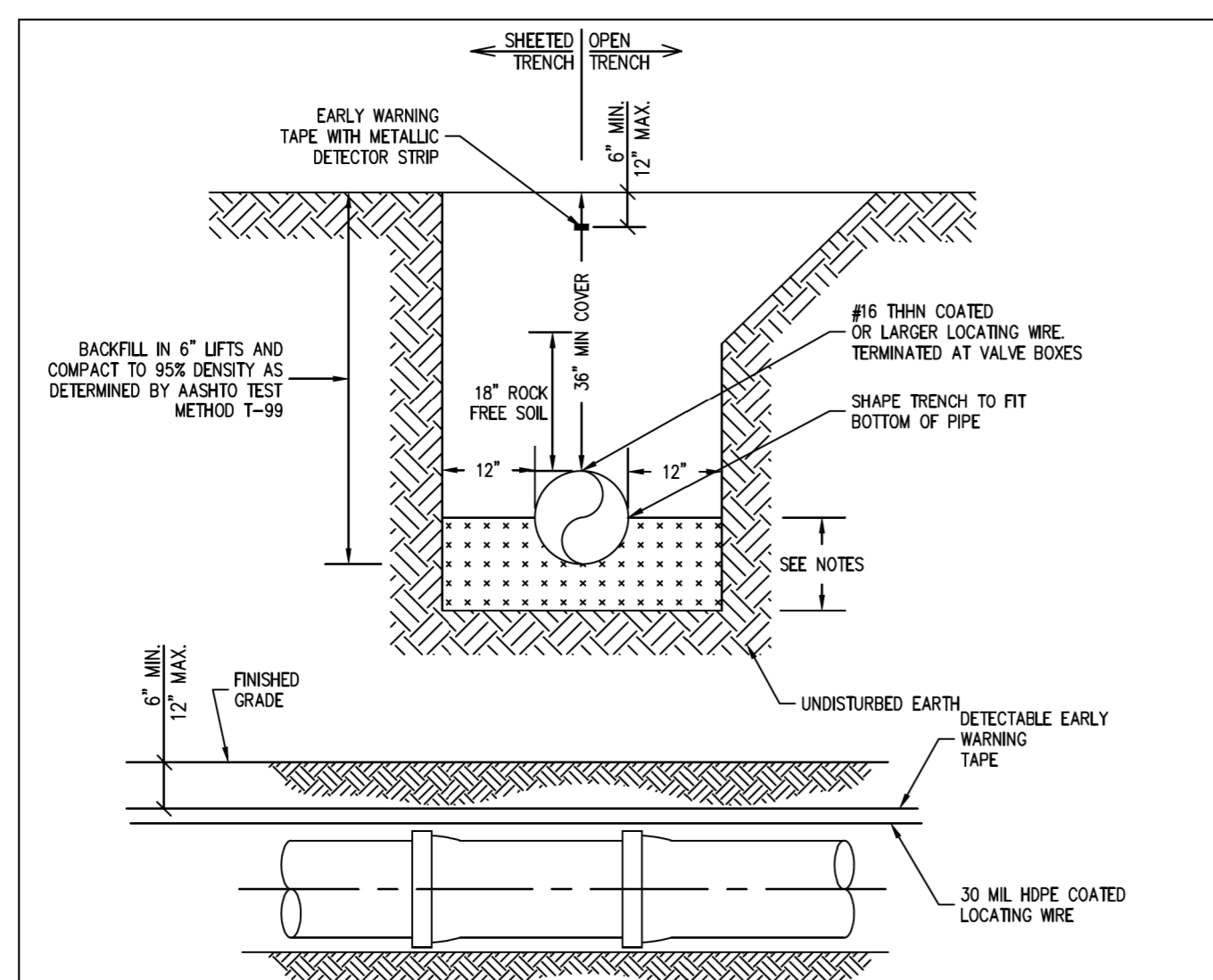


PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

WATER & SEWER



WATER & SEWER



- NOTES:**
1. WHERE ROCK OR NON-CUSHIONING MATERIAL IS ENCOUNTERED IN TRENCH, USE #5 STONE FOR A DEPTH OF 8" UNDER PIPE.
 2. WHERE UNSUITABLE SOIL OR MUCK IS ENCOUNTERED, EXCAVATE THE SOIL AND BACKFILL WITH #5 STONE TO FORM A PIPE BED.
 3. PVC AND DUCTILE IRON MAINS SHALL MEET ALL STANDARDS AS CALLED OUT IN THE SPECIFICATIONS (DIVISION 5, SECTION 1.3.3).
 4. ALL WATER MAINS SHALL HAVE A DETECTABLE "EARLY WARNING" PROTECTION TAPE AND HDPE LOCATING WIRE INSTALLED CONTINUOUSLY ALONG THE ALIGNMENT. THE PROTECTION TAPE AND WIRE SHALL BE INSTALLED DURING BACKFILL 6"-12" INCHES BELOW FINISHED GRADE DIRECTLY OVER THE PIPE AND BE CONTINUOUSLY MARKED "CAUTION, WATER MAIN BURIED BELOW." THE TAPE SHALL HAVE A METALLIC DETECTABLE STRIP INCLUDED AND BE GREEN IN COLOR. ALL PROTECTION TAPE SHALL BE AS TERRA-TAPE OR EQUAL.
 5. ALL P.V.C. WATER MAINS SHALL BE EITHER A SOLID BLUE COLOR OR WHITE BLUE LETTERING. ALL LETTERING SHALL APPEAR ON THREE SIDES OF THE PIPE AND SHALL RUN THE ENTIRE LENGTH OF THE PIPE AND SHALL BE A MINIMUM 3/4 INCH IN HEIGHT WITH THE APPROPRIATE WORDING APPEARING ONE OR MORE TIMES EVERY 21 INCHES ALONG THE LENGTH OF THE PIPE. THE LETTERING MUST BE PERMANENTLY STENCILED TO THE PIPE SURFACE. LETTERING SHALL READ AS IS ACCEPTABLE FOR THE INTENDED USE. ALL LETTERING SHALL BE APPLIED BY THE PIPE MANUFACTURER DURING PRODUCTION.
 6. ALL DUCTILE IRON WATER MAINS SHALL BE MARKED WITH A CONTINUOUS STRIPE LOCATED WITHIN THE 90° OF THE PIPE. SAID STRIPE SHALL BE A MINIMUM 2-INCHES IN WIDTH AND SHALL BE BLUE IN COLOR. BACKFILL SHALL NOT BE PLACED FOR 30 MINUTES FOLLOWING PAINT APPLICATION.
 7. ALL P.V.C. PIPE SHALL BEAR THE NATIONAL SANITATION FOUNDATION (NSF) SEAL OF APPROVAL FOR POTABLE WATER PIPE.

DRAWING NO.	TRENCH DETAIL	AQUA Aqua North Carolina, Inc.
REVISION DATE	01/2017	

WATER

ENGLISH STANDARD DRAWING FOR PAVEMENT REPAIRS FOR SUPERPAVE MIX TYPES

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

D	X	W
12"	1'-4"	7'-4"
15"	1'-7"	7'-7"
18"	1'-10"	7'-10"
24"	2'-6"	8'-6"
30"	3'-1"	9'-1"
36"	3'-8"	9'-8"
42"	4'-5"	10'-5"
48"	5'-0"	11'-0"

PAVEMENT REPAIRS ON ROADS NOT TO BE RESURFACED (PIPE IS TO BE PLACED UNDER EXISTING PAVEMENT)

PAVEMENT REPAIRS ON ROADS TO BE RESURFACED (PIPE IS PLACED UNDER EXISTING PAVEMENT)

Labels in diagrams: EXISTING, 2" BS.58 OR BS.5C SURFACE COURSE, 1" BS.58 OR BS.5C BASE COURSE, 1" BS.58 OR BS.5C SURFACE COURSE, 1" BS.58 OR BS.5C BASE COURSE, 2" BS.58 OR BS.5C SURFACE COURSE, 1" BS.58 OR BS.5C BASE COURSE.

ENGLISH STANDARD DRAWING FOR PAVEMENT REPAIRS FOR SUPERPAVE MIX TYPES

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

WATER & SEWER