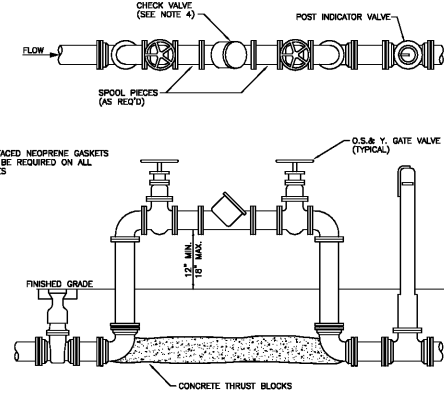
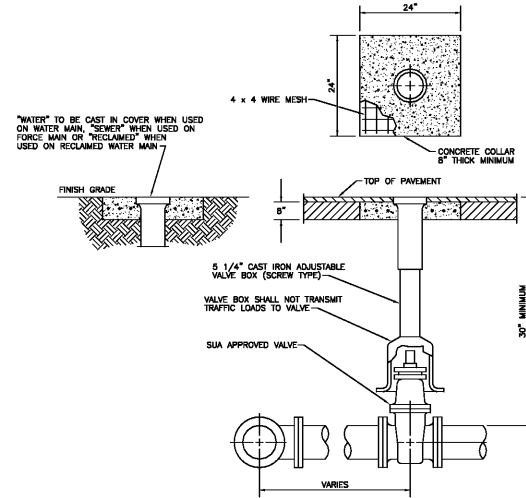


PLOT DATE: Oct 26, 2017 TIME: 3:03pm BY: agreen
 DRAWING: P:\16-1147 Benjamin School STEM Bldg\KA DWG\C07_161147_DET-WATR-SEWR-dwg_LAYOUT-C07



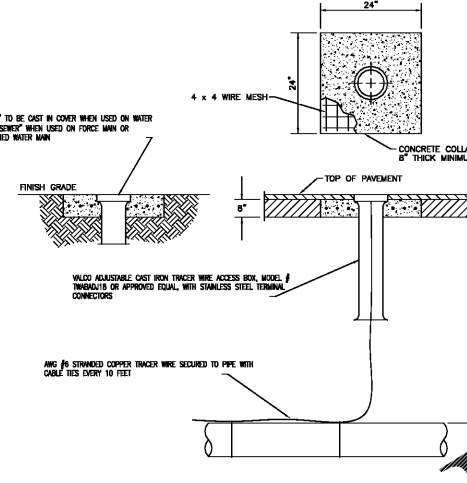
- NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)
- MECHANICAL JOINT FITTINGS SHALL BE REQUIRED UNDERGROUND AND FLANGED FITTINGS FOR ABOVE GROUND USE, NO UNFLANGES PERMITTED.
 - PUMP THE ABOVE GROUND ASSEMBLY INCLUDING EXTERIOR LENGTH OF THE ROOD, IN ACCORDANCE WITH SVA CONSTRUCTION STANDARD SECTION 8, ITEM 7, AFTER MANUFACTURER'S RECOMMENDED SURFACE PREP IS COMPLETE. DO NOT PAINT OVER PAINT/SERIAL PLATE, STAINLESS STEEL, OR BRASS FITTINGS.
 - WHEN PROTECTIVE PIPE STANCHIONS OR A SCREEN WALL IS REQUIRED, SEE "PROTECTIVE ENCLOSURES FOR ABOVE GROUND DEVICES" DETAIL.
 - APPROVED CHECK VALVE ASSEMBLIES WITH SILICONE RUBBER SEAL RINGS OR O-RINGS:
 - A) NIBS MODEL 7
 - B) NIBS MODEL 9
 - C) RPOLO MODEL 7
 - ALL TEST PORTS SHALL BE PLUGGED WITH BRASS PLUGS.

FDC CHECK VALVE ASSEMBLY
Modified from "Above Ground Fintline" detail August 24, 2016 (Rev B-16)



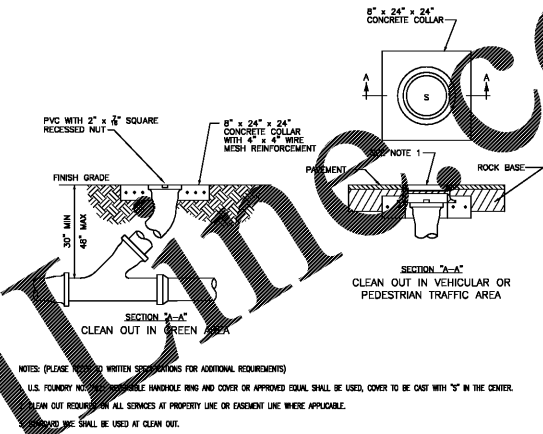
- NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)
- CONCRETE COLLAR MAY NOT BE REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO FINAL INSPECTION AND VALVE BOX LID IS AT FINISHED GRADE.
 - WHEN VALVE IS DEEPER THAN 48" AN OVERSIZE SHALL BE REQUIRED TO BRING OVERSIZE NUT TO 24" OF FINISHED GRADE.
 - TWO OF THE FOLLOWING TYPES OF RESTRAINT SHALL BE USED WHEN PIPE IS GREATER THAN 12":
 - A) APPROVED MECHANICAL JOINT RESTRAINT (S.A. METALLOID)
 - B) THE ROOD AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH HOT-DIP 300-M OR APPROVED EQUAL.

Typical Underground Valve Installation
August 24, 2016 (Rev A-15)



- NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)
- REQUIRED FOR 100 AND LOW PRESSURE PVC FORCE MAINS OR AS DIRECTED BY SVA.

Tracer Wire Access Box
August 24, 2016 (Rev B-5)



- NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)
- U.S. FOUNDRY NOTES FOR CLEANABLE HANDLE RING AND COVER OR APPROVED EQUAL SHALL BE USED. COVER TO BE CAST WITH "X" IN THE CENTER.
 - CLEAN OUT REQUIRED FOR ALL SERVICES AT PROPERTY LINE OR EASEMENT LINE WHERE APPLICABLE.
 - WIRE SHALL BE USED AT CLEAN OUT.

Sanitary Service Clean Out
August 24, 2016 (Rev B-16)

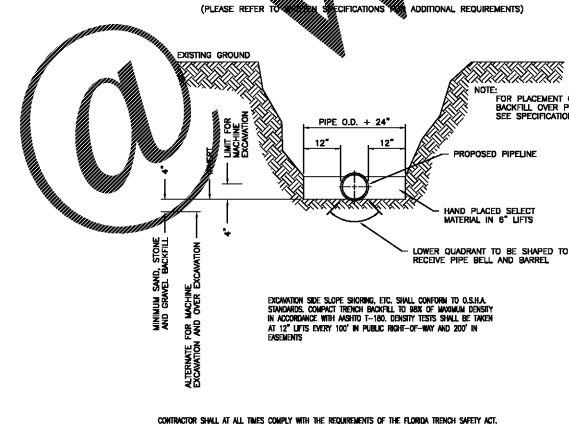
PUSH ON JOINT PIPE RESTRAINT REQUIREMENTS AT FITTINGS, VALVES AND DEAD ENDS

PIPE SIZE	90° BEND	45° BEND	22½° BEND	11¼° BEND	REDUCER	VALVE	DEAD END	TEE
4"	54"	54"	36"	36"	54"	72"	72"	72"
6"	54"	54"	36"	36"	54"	72"	72"	72"
8"	54"	54"	36"	36"	54"	72"	72"	72"
10"	54"	54"	36"	36"	54"	108"	108"	108"
12"	72"	72"	54"	54"	72"	108"	108"	108"
14"	72"	72"	54"	54"	72"	108"	108"	108"
16"	72"	72"	54"	54"	72"	154"	154"	154"
18"	72"	72"	54"	54"	72"	154"	154"	154"
20"	90"	90"	54"	54"	90"	154"	154"	154"
24"	90"	90"	54"	54"	90"	172"	172"	172"
30"	90"	90"	54"	54"	90"	180"	180"	180"
36"	90"	90"	54"	54"	90"	270"	270"	270"
42"	108"	108"	54"	54"	108"	270"	270"	270"
48"	108"	108"	54"	54"	108"	270"	270"	270"
54"	108"	108"	54"	54"	108"	270"	270"	270"

MINIMUM LENGTH OF PUSH ON JOINT PIPE WITH SPECIAL RESTRAINING GASKETS

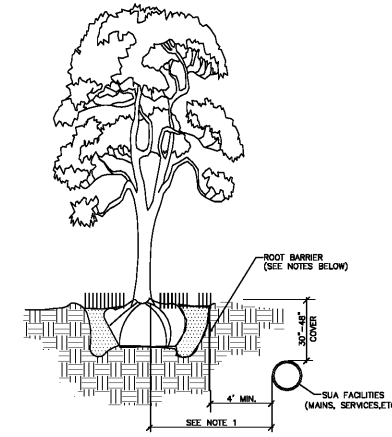
- NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)
- ALL BURIED PRESSURE MAINS SHALL INCLUDE A RESTRAINED JOINT SYSTEM. THE CONTRACTOR SHALL PROVIDE A DUCTILE IRON RESTRAINING SYSTEM AS MANUFACTURED BY EDNA IRON, INC. (METALLOID) OR APPROVED EQUAL FOR ALL MECHANICAL JOINT FITTINGS INCLUDING GASKETS. SEE PUSH ON JOINT DETAIL.
 - RESTRAINING LENGTHS SHOWN ARE THE MINIMUM LENGTHS REQUIRED BASED ON A TEST PRESSURE OF 150 PSI WITH A MINIMUM COVER OF 30".
 - THRUST BLOCKS, IN ADDITION TO THE ABOVE OUTLINED RESTRAINTS, SHALL ALSO BE REQUIRED AT ALL FITTINGS AND TAPPING TEES ON EXISTING LINES. ALL NEW FITTINGS, ALL ABOVE-GROUND ASSEMBLIES 3" AND LARGER AND HANGS GREATER THAN 12".
 - IF LENGTH BETWEEN MECHANICAL JOINT FITTINGS AND/OR VALVES IS LESS THAN THE MINIMUM LENGTHS SHOWN IN TABLE, THE CONTRACTOR SHALL RESTRAIN THE DRIVE LENGTH.

Pipe Restraint Table
August 24, 2016 (Rev B-5)



CONTRACTOR SHALL AT ALL TIMES COMPLY WITH THE REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.

Standard Trenching Procedure
August 24, 2016 (Rev A-15)



- NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)
- THIS DISTANCE SHALL BE 15' MINIMUM WITH ROOT BARRIER AND 10' MINIMUM IF NO ROOT BARRIER IS USED.
 - ALL ROOT BARRIERS SHALL BE 4' MINIMUM FROM ALL SEAWALL FACILITIES.
 - THE INSTALLATION OF ROOT BARRIERS SHALL BE COORDINATED WITH SEAWALL AND INSPECTED BY SEAWALL PRIOR TO SHOVELLING. ALL ROOT BARRIERS SHALL EXTEND UP TO FINISHED GRADE.
 - ROOT BARRIERS SHALL BE MINIMUM 3/4" DEEP. APPROVED PRODUCTS INCLUDE "DEEP ROOT" AND "ROOT SOLUTIONS".
 - ALL ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - LARGE PALM TREES INCLUDE ROYAL, WASHINGTONIAN, BEHAK AND SIMILAR SIZED SPECIES.

Typical Canopy Tree, Large or Exotic Palm Tree with Root Barrier
August 24, 2016 (Rev C-16)

VERTICAL DATUM ALL ELEVATIONS SHOWN ARE IN NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) CONVERSION FACTOR: NGVD29 - 1.512 = NAVD88	IT'S THE LAW! CALL TWO (2) BUSINESS DAYS BEFORE YOU DIG SUNSHINE 811
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PROJECT No. 16-1147 SHEET No. C07	Mark Williams P.E. 34944 Oct 26, 2017
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KESHAVARZ ASSOCIATES Civil Engineers • Landscape Architects 711 North Dixie Highway, Suite 101 West Palm Beach, Florida 33411 Tel: (561) 689-8800 • Fax: (561) 689-8897 Certificate of Authorization No. 6897	WATER AND WASTEWATER DETAILS BENJAMIN SCHOOL STEM BUILDING PALM BEACH COUNTY, FLORIDA
Description No. Date	CHECKED: LKW DESIGNED: MWW SCALE: NONE DATE: 10-26-17 APPROVED: PKC