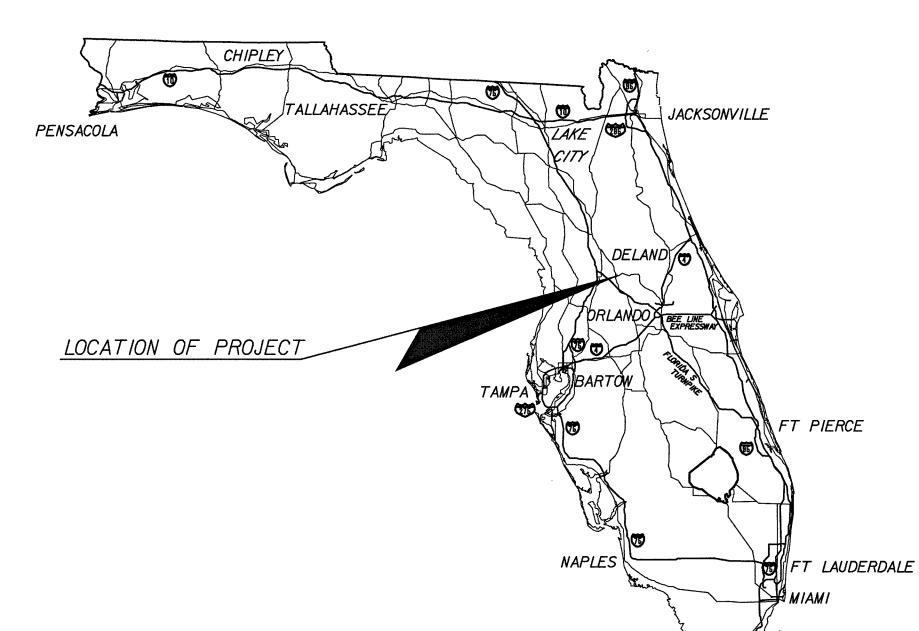
CITY OF FRUITLAND PARK COUNTY ROAD 466A PHASE 1 UTILITY ADJUSTMENT PLANS



INDEX OF UTILITY ADJUSTMENT PLANS

SHEET NO.

SHEET DESCRIPTION

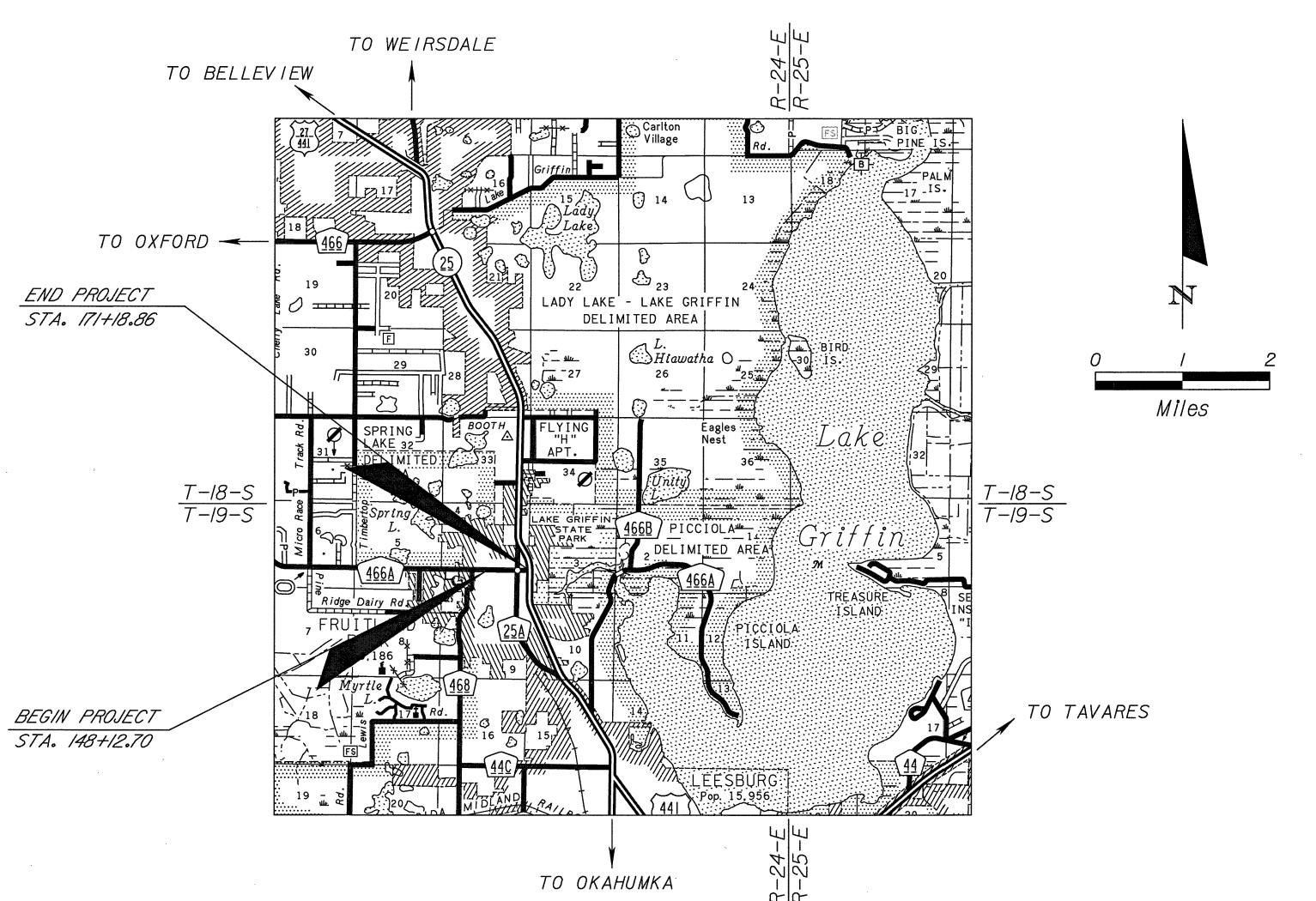
U-01 KET

KEY SHEET

U-02 - U-03 UTILITY ADJUSTMENT PLAN SHEETS
U-04 - U-05 UTILITY CROSS SECTION SHEETS

U-06 - U-10

UTILITY DETAIL SHEETS



UTILITY SHOP DRAWINGS TO BE SUBMITTED TO:

DUANE K. BOOTH, P.E.
BOOTH, ERN, STRAUGHAN, & HIOTT, INC.
902 NORTH SINCLAIR AVENUE
TAVARES, FLORIDA 32778
(352) 343-8481

PLANS PREPARED BY:

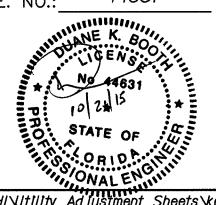
BOOTH ERN STRAUGHAN HIOTT, INC
ENGINEERS • SURVEYORS • LAND PLANNERS
902 North Sinclair Ave.
Tavares, Florida 32778 Office: 352.343.8481
www.besandh.com Fax: 352.343.8495
Certificate of Authorization Number: 27029

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

	KEY	SHEET	REVISIONS	
DATE	BY		DESCRIPTION	
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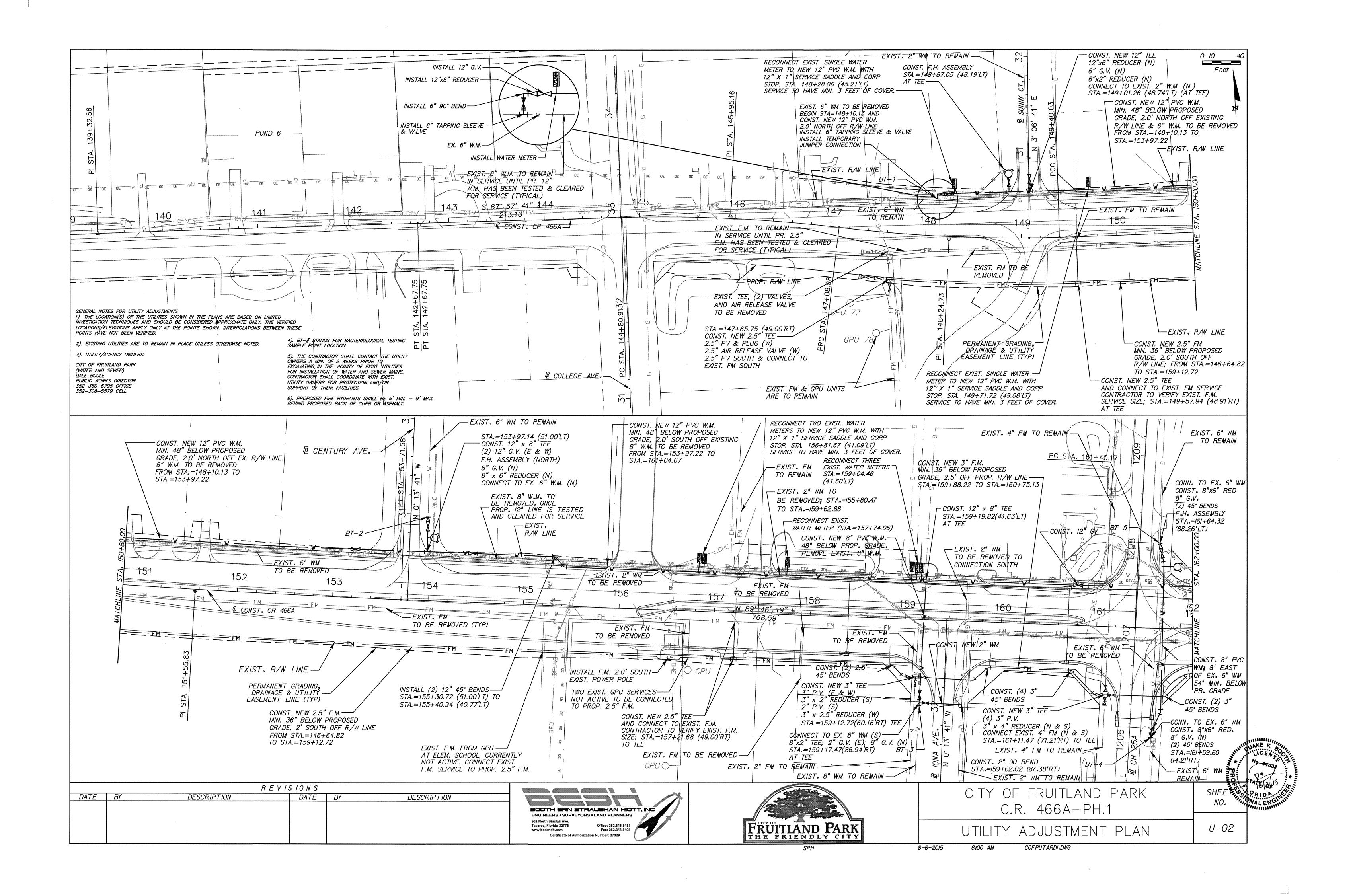
UTILITY WORK BY HIGHWAY CONTRACTOR
AGREEMENT PLANS
ENGINEER OF RECORD: DUANE K., BOOTH, P.E.

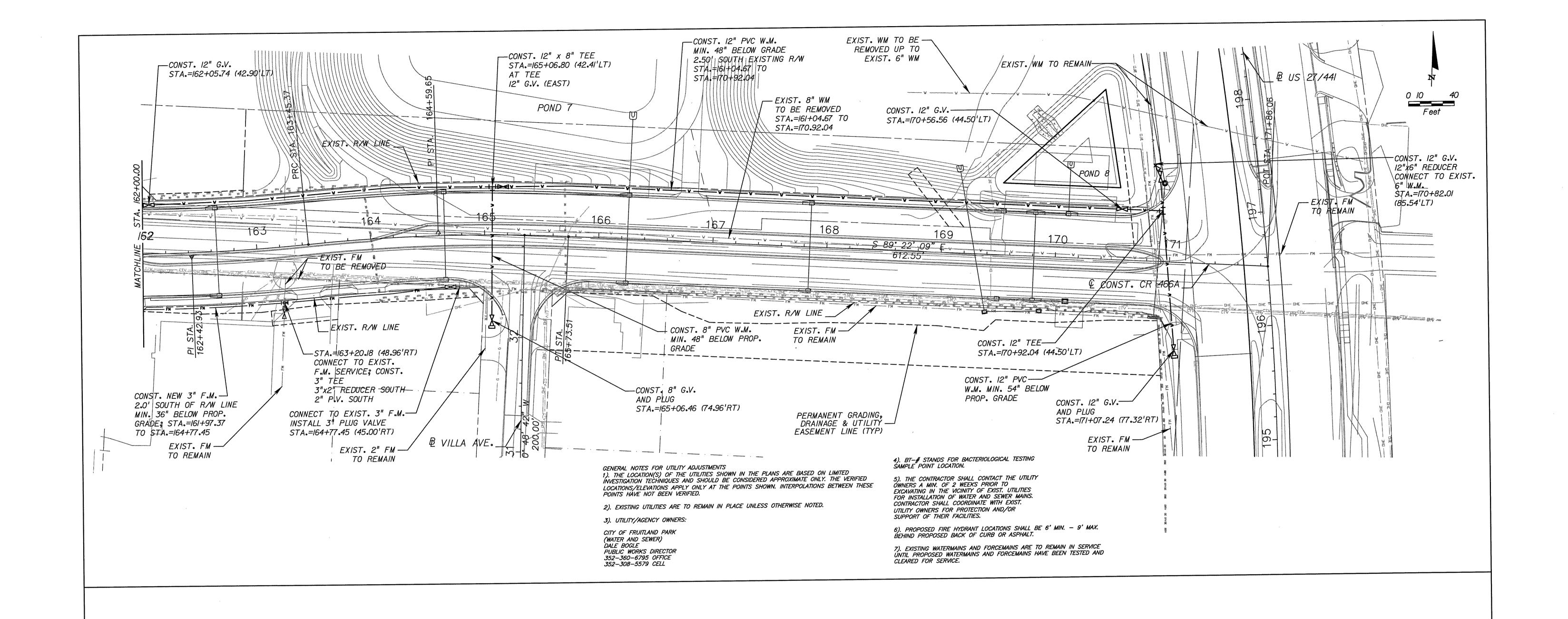
P.E. NO.: 4463



SHEET NO. U-OI

GOVERNING STANDARDS AND SPECIFICATIONS:
CITY OF FRUITLAND PARK
UTILITY CONSTRUCTION STANDARDS AND DETAILS





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CITY OF FRUITLAND PARK C.R. 466A-PH.1	
UTILITY ADJUSTMENT PLAN	

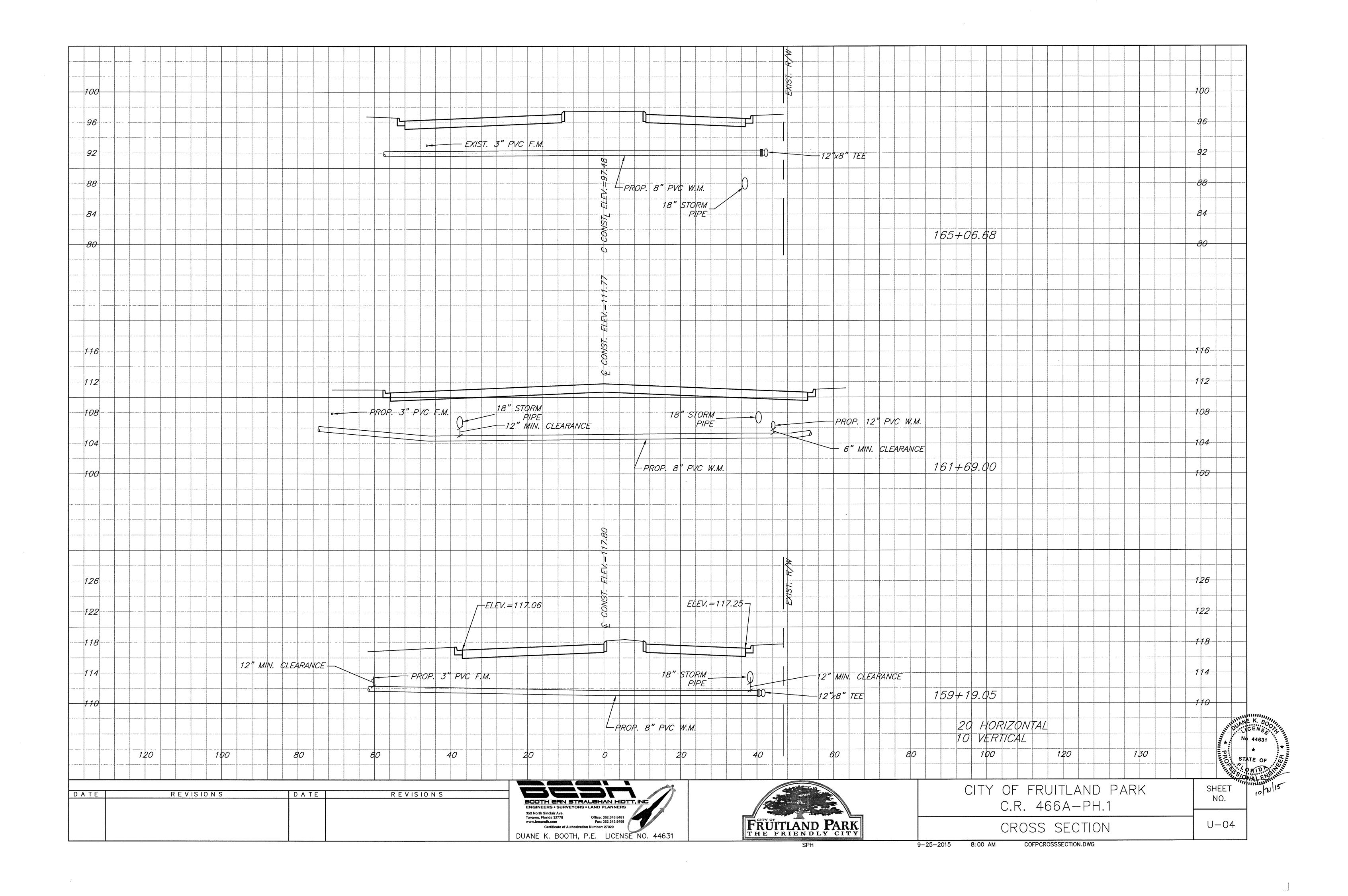
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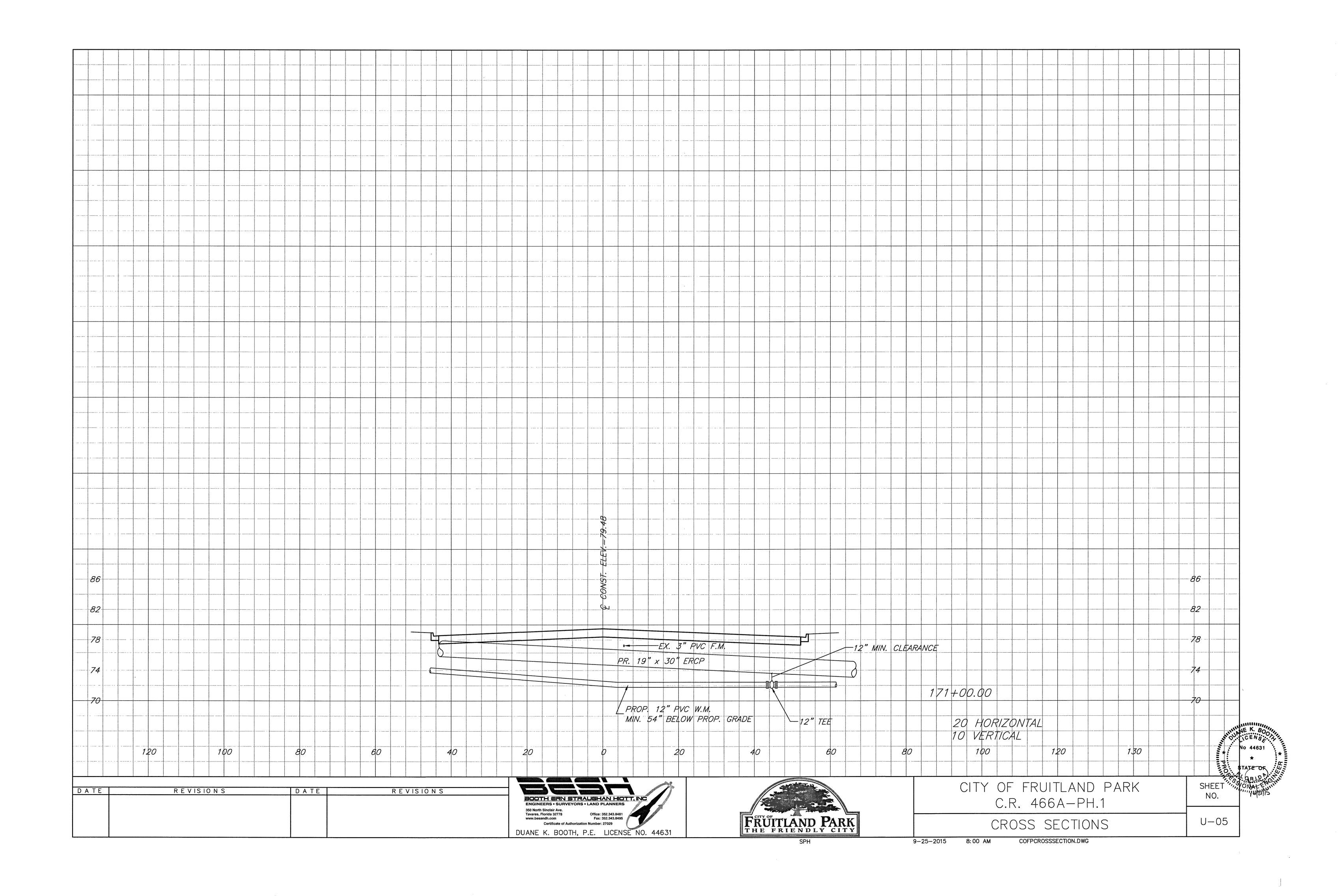
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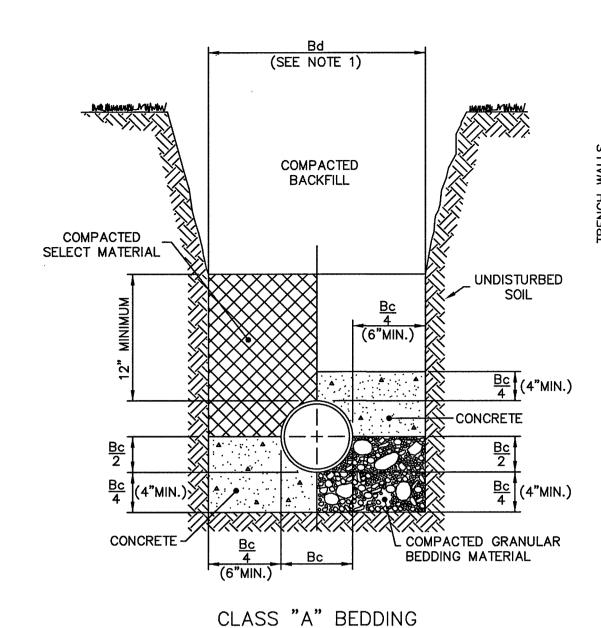
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GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL CONFORM TO FDOT AND THE CITY OF FRUITLAND PARK STANDARDS.
- 2. PROJECT BASELINE STATIONING SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL LOCATE ALL PORTIONS OF THE WORK USING ALL INFORMATION PROVIDED HEREIN AND SHALL MAINTAIN RECORDS OF ALL LOCATIONS PER THE CONTRACT SPECIFICATIONS.
- 3. STATIONING IS PROVIDED FOR THE REFERENCE IN HORIZONTAL PLANE ONLY, AND DOES NOT REFLECT VERTICAL ALIGNMENT OF PIPE.
- INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES HAS BEEN OBTAINED FROM RESPECTIVE UTILITY OWNER USING THE LATEST INFORMATION AVAILABLE. HOWEVER, THESE LOCATIONS, AS SHOWN ON THE PLANS, ARE NOT CONSIDERED TO BE ALL INCLUSIVE. THE ENGINEER HAS ATTEMPTED TO SHOW AS MUCH AS POSSIBLE ALL MAIN ELECTRICAL AND TELEPHONE UNDERGROUND CABLES AND DUCTS. THE ENGINEER HAS NOT SHOWN ELECTRICAL AND TELEPHONE SERVICE CONNECTIONS WHICH MAY EXIST WITHIN THE PRIVATE RIGHTS-OF-WAY WITHIN THIS PROJECT. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL UNDERGROUND FACILITIES WITH A FIELD REPRESENTATIVE OF EACH RESPECTIVE UTILITY.
- THE CONTRACTOR PRIOR TO EXCAVATING IN THE VICINITY OF A GAS PIPELINE SHALL NOTIFY THE GAS UTILITY OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF FLORIDA STATUTES, PROTECTION OF UNDERGROUND PIPELINES, F.S. 553.851, CH. 77-143.
- 6. THE CONTRACTOR SHALL INSURE ALL NECESSARY PERMITS ARE IN HAND BEFORE COMMENCEMENT OF CONSTRUCTION.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING ALL REQUIREMENTS OF REGULATORY AGENCY PERMITS WITH REGARDS TO CONSTRUCTION ACTIVITIES AND CONDITIONS STATED THEREIN. ALL WORK WITHIN THE CITY OF FRUITLAND PARK & F.D.O.T. RIGHT-OF-WAYS SHALL CONFORM WITH ALL REQUIREMENTS AND SPECIAL CONDITIONS OF THE APPROVED CITY OF FRUITLAND PARK AND F.D.O.T. UTILITY PERMITS.
- 8. D.I.P. LOCATED LESS THAN 10 FEET FROM A GAS MAIN SHALL BE WRAPPED IN POLYETHYLENE.
- ALL PROPOSED MAINS SHALL HAVE A MINIMUM OF 36" COVER OVER TOP OF PIPE. COVER SHALL VARY TO PROVIDE UNIFORM GRADIENT OR SLOPE TO PIPE, UNLESS OTHERWISE NOTED.
- 10. WHERE A CONNECTION IS TO BE MADE IN THE FIELD TO AN EXISTING PIPE, THE CONTRACTOR WILL EXCAVATE THE AREA TO VERIFY THE TYPE OF PIPE AND THE PIPE SIZE, AND OBTAIN THE OWNER'S APPROVAL OF THE PROPOSED METHOD OF CONNECTION PRIOR TO ORDERING AND INSTALLING
- 11. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AT ALL INTERSECTIONS OF PROPOSED WORK AND EXISTING UTILITIES. THE EXPLORATORY EXCAVATIONS SHALL BE MADE 48 HOURS OR 1,000 FEET IN ADVANCE OF THE WORK, WHICHEVER IS GREATER. IF THERE IS A POTENTIAL CONFLICT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. INFORMATION ON THE OBSTRUCTION TO BE FURNISHED BY THE CONTRACTOR SHALL INCLUDE: LOCATION, ELEVATION, UTILITY TYPE, MATERIAL
- 12. ALL WATER OR SEWER SERVICE CONNECTIONS, INTERRUPTIONS OR RELOCATION'S SHALL BE COORDINATED IN ADVANCE WITH FIELD REPRESENTATIVES OF THE CITY OF CLERMONT.
- ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH RESTRAINING DEVICES AT ALL DIRECTION CHANGES, UNLESS OTHERWISE NOTED. SEE THRUST RESTRAINT SPECIFICATION DETAILS AND NOTES.
- 14. ALL AREAS WHERE LANDSCAPING, SOD, OR IRRIGATION HAS BEEN REMOVED OR DISTURBED BY CONTRACTOR'S OPERATIONS SHALL BE RESODDED, LANDSCAPED, OR REPAIRED WITH LIKE KIND.
- 15. ALL EXISTING PROPERTY, FENCING, DRIVEWAYS, PIPING, SIDEWALKS, SIGNS AND OTHER ITEMS SHALL BE RESTORED TO ORIGINAL LINE AND GRADE UNLESS APPROVED BY THE ENGINEER. ACCESS TO ADJOINING PROPERTY ALONG THE PROPOSED ROUTE SHALL BE MAINTAINED AT ALL TIMES.
- 16. IN THE EVENT THAT THE POTABLE WATER SYSTEM IS CONTAMINATED (I.E., WATER DOES NOT MEET FEDERAL AND STATE REQUIREMENTS) DUE TO CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL BE RESPONSIBLE, UNDER THE DIRECTION OF THE OWNER, OR STATE AND LOCAL REGULATORY AGENCY FOR CORRECTING ANY SUCH CONTAMINATION PROBLEM INCLUDING DISINFECTION, TESTING AND OTHER CORRECTIVE ACTION.
- 17. WHEN CONSTRUCTION ACTIVITIES DISTURB AREAS WITHIN 10 FEET OF A TOP OF BANK FOR ANY WATERWAY OR WATER SURFACE, THE CONTRACTOR SHALL PROVIDE CROSSING AND SEDIMENTATION CONTROL MEASURES AS DETAILED, SPECIFIED OR AS REQUIRED BY THE JURISDICTIONAL REGULATORY AGENCIES: WHICHEVER REQUIREMENT IS MORE STRINGENT.
- 18. THE SHOWN LOCATIONS OF RIGHTS-OF-WAY AND UTILITIES ARE APPROXIMATE. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO EXACTLY LOCATE ALL RIGHTS-OF-WAY AND UTILITY LINES IN THE CONSTRUCTION AREA PRIOR TO EXCAVATION. ANY DAMAGE TO ANY EXISTING UTILITY, STRUCTURE OR SERVICE SHALL BE REPAIRED, AT THE CONTRACTOR'S EXPENSE, IN A MANNER APPROVED BY THE RESPECTIVE UTILITY OWNER.
- 19. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES AS PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ROADWAY AND TRAFFIC DESIGN STANDARDS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITIONS.
- 20. REMOVAL OF TREES GREATER THEN 4-INCH BASAL DIAMETER SHALL BE ONLY AS DIRECTED BY THE OWNER/ENGINEER. CONTRACTOR SHALL LIMIT TO A MINIMUM THE AMOUNT OF TREE REMOVAL, CLEARING AND GRUBBING REQUIRED BY TRIMMING TREES WHEREVER POSSIBLE.
- 21. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH AFFECTED PROPERTY OWNERS AND OWNER/ENGINEER ONE WEEK IN ADVANCE OF TREE CLEARING AND GRUBBING. ALL DEBRIS FROM TREE CLEARING AND GRUBBING SHALL BE REMOVED. AT THE CONTRACTORS EXPENSE.
- 22. ALL ELEVATIONS SHOWN ON THESE DRAWINGS REFER TO NATIONAL GEODETIC VERTICAL DATUM (NGVD): 88 DATUM.
- 23. THE CONTRACTOR SHALL REPLACE ALL PAVING, SODDING, STABILIZED EARTH, LANDSCAPING, DRIVEWAYS, SIDEWALKS, IRRIGATION SYSTEMS, UNDERGROUND PIPING, ETC., DISTURBED OR DAMAGED BY THE CON-STRUCTION. THE CONTRACTOR SHALL REPLACE WITH EQUAL MATERIAL OR AS DIRECTED BY THE ENGINEER.
- 24. UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS OR IN THE SPECIFI-CATIONS, ALL ITEMS NOTED TO BE REMOVED SHALL REMAIN THE PROPERTY OF CITY OF CLERMONT (OWNER). ALL ITEMS REMOVED SHALL BE STORED BY THE CONTRACTOR ON-SITE AS DIRECTED BY THE OWNER OR ENGINEER.



SPECIAL CONDITIONS

NOTES: FOR BEDDING AND TRENCHING

3. All backfill and select material under all roadways, drives (including

material under all other areas shall be compacted as follows: From

bottom of trench to 12" above top of pipe — 95% of modified proctor

maximum dry density (AASHTO T-180). From 12" above top of pipe to

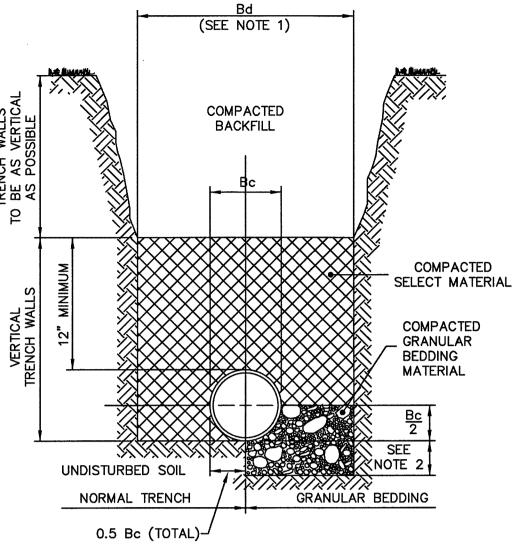
top of backfill — 90% of modified proctor maximum dry density (AASHTO

1. Dimension Bc = Pipe O.D.

Maximum Bd = Bc + 30"

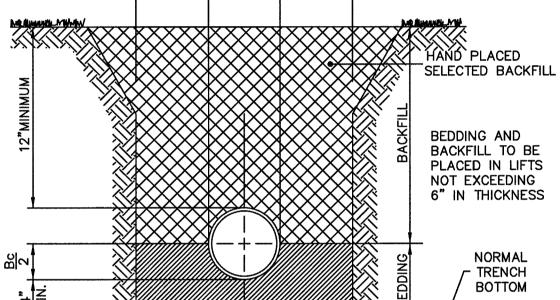
shall be 6" below bottom of utility.

Dimension Bd = Trench Width at Top of Pipe



CLASS "B" BEDDING NORMAL CONDITIONS

12" MAX



, 12" MAX

BEDDING AND BACKFILL COMPACTION DENSITY TO 95% MODIFIED PROCTOR A.A.S.H.O. T-180 (ASTM D-1557)

> SANITARY SEWER PIPE BEDDING

Minimum Bd = Maximum Dimension of Bell + 8" (Unsheeted Trench) 2. Depth for removal for unsuitable material shall be as required to reach suitable foundation. For rock or other non-cushioning material, depth dirt drives), and parking greas shall be compacted to 98% of the modified proctor maximum dry density. (AASHTO T-180). Backfill and select

-FILTER FABRIC DIRECTION OF FLOW -GRANULAR BACKFILL

SILT BARRIER DETAIL

<u> 200TH ERN STRAUGHAN HIOT</u>T, INC

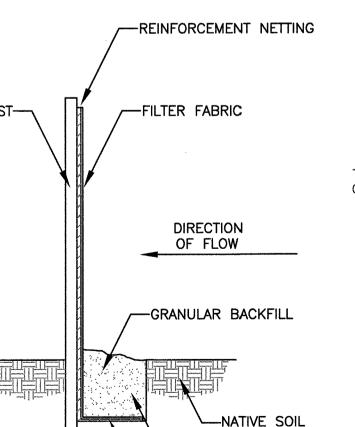
Certificate of Authorization Number: 27029

Fax: 352.343.849

902 North Sinclair Ave. Tavares, Florida 32778

www.besandh.com

BEDDING DETAILS



AIR RELEASE VALVE AND VALVE **VAULT FOR WATER MAIN**

1. THE MINIMUM DIMENSION FROM TOP OF PIPE TO FINISHED GRADE

2. DOUBLE STRAP SADDLE AND WRAP WITH TWO LAYERS OF WIDE PLASTIC OR POLY TAPE WITH STAINLESS STEEL STRAP.

3. PIPE INSTALLATION SHALL BE SUCH THAT THE ARV IS LOCATED AT THE HIGHEST POINT IN THE RESPECTIVE SEGMENT.

INTERIOR AND EXTERIOR CONCRETE SURFACES SHALL RECEIVE

CAST IRON FRAME, COVER AND ACCESS LID SHALL BE INSTALLED FLUSH WITH FINISHED GRADE.

PROTECTIVE COATING AS SPECIFIED FOR STANDARD MANHOLES

---DELINEATOR

(PER F.D.O.T. SPECS.)

CONCRETE VAULT OR 4' DIA. MANHOLE

U.S. FOUNDRY MODEL #170E CAST IRON FRAME AND COVER

2" AIR RELEASE VALVE VAL-MATIC MODEL #38

SEE NOTE 1

- 8" x 16" CONCRETE

1/2" GALV. STELL

20-MESH ST. STL

SCREEN ON OUTLET OF DOWN FACING

FINISHED GRADE

PREMOLDED PLASTIC --

5" WALLS (MIN.)

2" MIPxMIP

CORPORATION -

AIR RELEASE VALVES SHALL BE BRASS

BEDDING ROCK -

SHALL BE 3.0 FEET.

6. COVER SHALL READ "WATER".

JOINT FILLER

(PAINT ALL PIPE AND

FITTING ABOVE GRADE SAFETY YELLOW

NOTES:

- 1. TEMPORARY EROSION CONTROL STRUCTURE TO BE UTILIZED DURING CONSTRUCTION AT AREAS DESIGNATED BY ENGINEER OR AREAS ON-SITE WHERE UNSTABILIZED GRADES MAY CAUSE EROSION PROBLEMS. EROSION CONTROL STRUCTURE MAY BE REMOVED AFTER UPSLOPE AREA HAS BEEN STABILIZED BY SOD, OR COMPACTED AS DETERMINED BY CONTRACTOR.
- 2. CONSTRUCT STORMWATER SYSTEMS BEFORE ANY BUILDING OR ROAD CONSTRUCTION IS STARTED.
- a.)PROTECT SYSTEM FROM SILTING AND DEBRIS BY METHODS PROVIDED IN DETAILS.
- b.) PROTECT SWALE BOTTOM FROM SEALING BY EXCAVATING ALL SILT DEPOSITS DURING CONSTRUCTION. THIS SHALL BE DONE BEFORE SOD & SEEDING & MULCHING IS FINISHED

EROSION CONTROL STRUCTURE

NOT TO SCALE

THE FOLLOWING LIST REPRESENTS A BASIC EROSION AND SEDIMENT CONTROL PROGRAM WHICH IS TO BE IMPLEMENTED TO HELP PREVENT OFF-SITE SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROJECT.

PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AT THE EARLIEST PRACTICAL TIME CONSISTENT WITH GOOD CONSTRUCTION PRACTICES. ONE OF THE FIRST CONSTRUCTION ACTIVITIES SHOULD BE THE PLACEMENT OF PERMANENT AND TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AROUND THE PERIMETER OF THE PROJECT OR THE INITIAL WORK AREA TO PROTECT THE PROJECT, ADJACENT PROPERTIES AND WATER RESOURCES.

TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL. EFFECTIVE AND CONTINUOUS CONTROL THROUGHOUT THE CONSTRUCTION PHASE. TEMPORARY MEASURES SHALL NOT BE CONSTRUCTED FOR EXPEDIENCY IN LIEU OF PERMANENT MEASURES.

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADEQUATELY MAINTAINED TO PERFORM THEIR INTENDED FUNCTION DURING CONSTRUCTION OF THE PROJECT.

NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

MATERIAL FROM SEDIMENT TRAPS SHALL NOT BE STOCKPILED OR DISPOSED OF IN A MANNER WHICH MAKES THEM READILY SUSCEPTIBLE TO BEING WASHED INTO ANY WATERCOURSE BY RUNOFF OR HIGH WATER.

ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIERS ARE NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

REVISIONS DESCRIPTION DESCRIPTION DATE BY DATE BY

THE FRIENDLY CITY

---6"x6" TRENCH

-BOTTOM 6" OF FILTER FABRIC

CITY OF FRUITLAND PARK C.R. 466A-PH.1

GENERAL NOTES & DETAILS

SHEE

COFPDETAILS.DWG 8-6-2015 8:00 AM

GENERAL WATER NOTES

- WATER SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND REGULATIONS, CLEANED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND CHAPTER 62-555 FLORIDA ADMINISTRATIVE CODE.
- 2. ALL PIPING SHALL BEAR THE "NSF" SEAL FOR POTABLE WATER.
- WATER MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 FOR PIPE SIZES 4"-12". PIPES 14" OR LARGER SHALL BE AWWA C-905, DR 18. ALL COUPLINGS COMPOUNDS, SOLVENTS, LUBRICANTS AND PIPE PREPARATION, FOR LAYING, SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURERS LATEST RECOMMENDATIONS.
- 4. DEPTH OF WATER LINES TO BE MINIMUM 36" BELOW FINISHED GRADE.
- 5. WATER MAINS TO BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- 6. ALL PIPING CLEARANCES SHALL BE IN ACCORDANCE WITH CHAPTER 62-555.314, F.A.C., AND APPROVED BY THE CITY.
- 7. ALL WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON AND SHALL EXTEND 5' BEYOND THE BACK OF CURB. OR DIRECTIONAL BORES, WHICH SHALL BE SDR-11 HDPE.
- 8. ALL SLEEVES UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE BACK OF CURB.

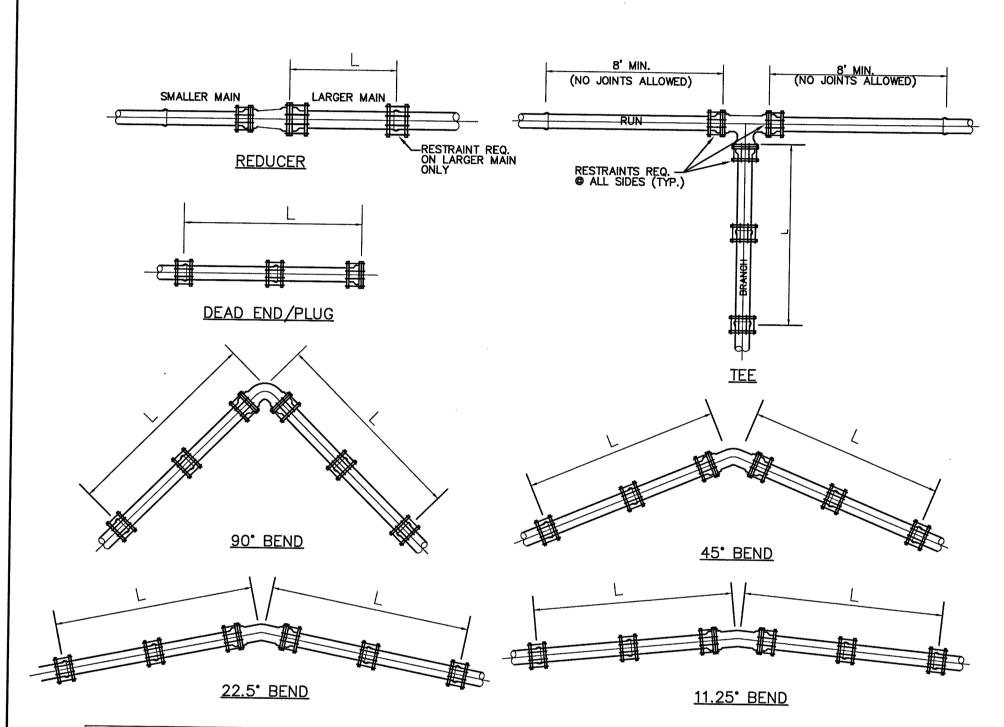
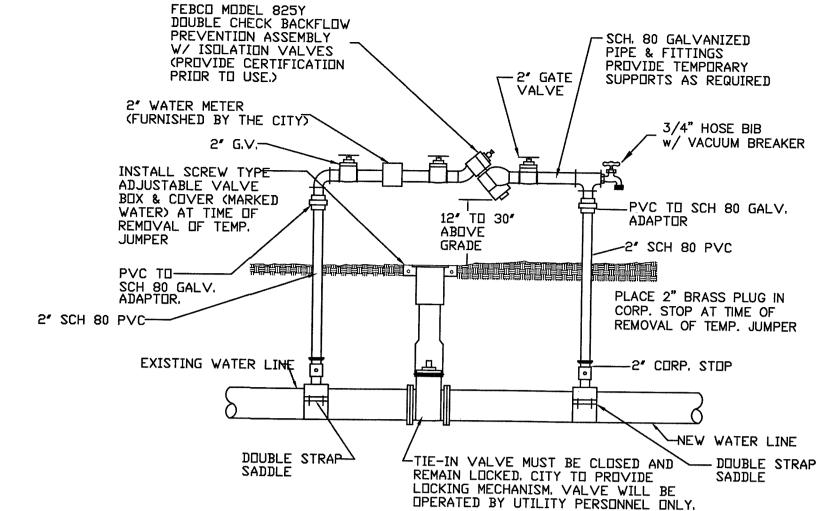


TABLE OF THRUST RESTRAINT LENGTHS															
3125			45° BEND		22 1/2* BEND		11 1/4" BEND		TEES		DEAD END & PLUG		REDUCER		
(inches)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	PIPE SIZES	P.V.C. (L)	DUCTILE
4	20'	16'	8'	7'	4'	3'	2'	2'	15'	10'	45'	29'	6"x4"	33'	IRON (L) 21'
6	28'	22'	12'	9'	6'	4'	3'	2'	33'	21'	63'	40'	8"x6"	34'	22'
8	36'	29'	15'	12'	7'	6'	4'	3'	52'	33'	82'	52'	10"x8"	33'	21'
10	43'	34'	18'	14'	9'	7'	4'	3'	68'	43'	98'	63'	12"x10"	34'	22'
12	50'	40'	21'	17'	10'	8,	5'	4'	84'	54'	116'	74'	16"x12"	63'	40'
16	63'	51'	26'	21'	13'	10'	6'	5'	116'	74'	148'	94'	18"x16"	33'	
18	70,	56'	29'	23'	14'	11'	7'	6'	131'	83'	163'	103'	20"x18"	33'	21'
20	75'	61'	31'	25'	15'	12'	7'	6'	145'	92'	178'	113'	20 x18		21'
24	86'	70'	36'	29'	17'	14'	9,	7'	173'	110'	207'	132'	20 X20	62'	39'

- THRUST RESTRAINT DESIGN NOTES
- 1. RESTRAINT JOINTS, FITTINGS, & VALVE REQUIREMENTS CALCULATED BY THE THRUST RESTRAINT DESIGN PROGRAM PROVIDED BY UNI-FLANGE, THE FORD METER BOX COMPANY, INC.
- 2. DATA BASED ON MAX. PRESSURE OF 150 p.s.i., THE UNIFIED SOILS CLASSIFICATION SYSTEM (SOIL TYPE SP), THE PIPE BEDDED IN NATIVE SOIL W/ A MINIMUM OF 2.5' COMPACTED FILL OVER THE PIPE, AND USING A SAFETY FACTOR OF 1.5 FOR THE DATA.
- 3. ALL FITTINGS & VALVES SHALL HAVE RESTRAINED JOINTS PER SPECIFICATIONS & ALL BELL & SPIGOT JOINTS TO BE RESTRAINED WITH A RESTRAINING HARNESS WITHIN THE REQUIRED LENGTH OF RESTRAINED PIPE (L).
- 4. THRUST BLOCKS SHALL BE USED ONLY AS SPECIFIED BY PROJECT

THRUST RESTRAINT DETAILS

NOT TO SCALE



TEMPORARY JUMPER CONNECTION DETAIL

NOT TO SCALE

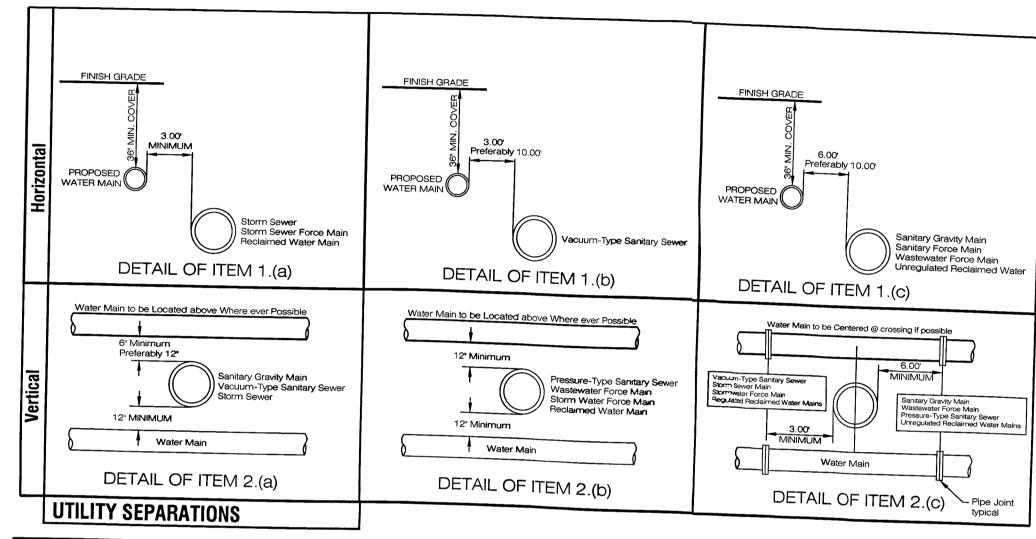
NOTE: LOCATION TO BE DETERMINED AT TIME OF PRECONSTRUCTION CONFERENCE W/ CITY.

TEMPORARY JUMPER CONNECTION NOTES

- 1. A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS.
- 2. THE DETAILS TO BE USED FOR FILLING ANY WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS AND FOR FLUSHING OF NEW MAINS UP TO 8" DIAMETER (2.5 FPS MINIMUM VELOCITY) AND FOR PULLING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL AFTER FILLING, FLUSHING, TESTING AND DISINFECTION OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED. THE JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM PRESSURE OF 20 psi IN THE NEW MAINS ALL THE TIME AFTER DISINFECTION AND UNTIL THE FDEP CLEARANCE LETTER IS OBTAINED. ADEQUATE THRUST BLOCKING AND/OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY, AS REQUIRED. PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651, 1992 EDITION. THIS TAPPING SLEEVE AND THE EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABBING PER SECTION II OF AWWA C561-92.
- FLUSHING OF 10" DIAMETER AND LARGE WATER MAINS MAY BE DONE THROUGH THE TIE-IN VALVE, IN THE PRESENCE OF THE UTILITY DEPART. THE UTILITY DEPARTMENT WILL BE NOTIFIED IN WRITING 48 HOURS PRIOR TO THE FLUSHING OF SAID MAINS.

THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

- A. THE TIE-IN VALVES SHALL BE OPERATED AND PRESSURE TESTED IN THE PRESENCE OF THE UTILITY COMPANY AND ENGINEER TO VERIFY WATER TIGHTNESS PRIOR TO THE TIE-IN. VALVES WHICH ARE NOT WATERTIGHT SHALL BE REPLACED OR A NEW VALVE INSTALLED IMMEDIATELY ADJACENT TO THE LEAKING VALVE.
- B. THE TEMPORARY JUMPER CONNECTION SHALL BE CONSTRUCTED AS DETAILED. THE JUMPER CONNECTION SHALL BE USED TO FILL THE NEW WATER MAIN AND FOR PROVIDING WATER FOR BACTERIOLOGICAL SAMPLING OF THE NEW MAIN AS REQUIRED BY THE FDEP PERMIT.
 - FLUSHING SHALL NOT BE ATTEMPTED DURING PEAK DEMAND HOURS OF THE EXISTING WATER MAIN.
 - ALL DOWNSTREAM VALVES IN THE NEW SYSTEM MUST BE OPEN PRIOR TO OPENING THE TIE-IN VALVE.
 - PROVIDE FOR AND MONITOR THE PRESSURE AT THE TIE-IN POINT, THE PRESSURE IN THE EXISTING MAIN MUST NOT DROP BELOW 35 psi.
 - TIE-IN VALVE SHALL BE OPENED A FEW TURNS ONLY, ENSURING A PRESSURE DROP ACROSS THE VALE IS ALWAYS GRATER THAN 10 psi.
- C. THE TIE-IN VALVE SHALL BE LOCKED CLOSED BY THE CITY UNTIL FLUSHING BEGINS.
- D. THE TIE-IN VALVE SHALL BE OPENED ONLY A FEW TURNS FOR FLUSHING OF THE NEW MAIN. THE PROCEDURE SHALL BE DIRECTED BY THE CITY AND OBSERVED BY THE ENGINEER.
- AFTER FLUSHING, THE TIE-IN VALVE SHALL BE CLOSED AND LOCKED IN THE CLOSED POSITION BY THE CITY.
- 4. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE RPZ BACKFLOW PREVENTION DEVICE HAS BEEN TESTED WITHIN ONE YEAR AT THE TIME OF INSTALLATION AND IS IN GOOD WORKING ORDER AT THE TIME OF INSTALLATION. THE TEST SHALL BE PERFORMED BY A QUALIFIED BACKFLOW PREVENTION TECHNICIAN.
- EXCEPT AS REQUIRED TO FLUSH LINES OF GREATER THAN 8" IN DIAMETER, THE TIE-IN VALVE SHALL REMAIN CLOSED AND SHALL BE LOCKED IN THE CLOSED POSITION BY THE CITY. THE TIE-IN VALVE SHALL REMAIN LOCKED CLOSED UNTIL THE NEW SYSTEM HAS BEEN CLEARED FOR USE BY FDEP AND ALL OTHER PERTINENT AGENCIES.
- 6. UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER PERTINENT AGENCIES, THE CONTRACTOR SHALL REMOVE THE JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS.
- ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION DEVICE FITTINGS, VALVE, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.



General Water Notes

WATER SYSTEM COMPONENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND REGULATIONS, CLEANED DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN

- ACCORDANCE WITH THE LATEST AWWA STANDARDS AND CHAPTER &-555 FLORIDA ADMINISTRATIVE CODE. . ALL PIPING SHALL BEAR THE "NSF" SEAL FOR POTABLE WATER. 3. WATER MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 F0R PIPE SIZES 4"-12". PIPES 14" OR LARGER SHALL BE AWWA C-905, DR 18. ALL COUPLINGS, CLEANING COMPOUNDS, SOLVENTS, LUBRICANTS, AND PIPE PREPARATION, FOR LAYING, SHALL BE IN ACCORDANCE WITH THE PIPE
- MANUFACTURERS LATEST RECOMMENDATIONS. DEPTH OF WATER LINES TO BE 36" MINIMUM COVER FROM FINISH GRADE. 5. WATER MAINS TO BE LOCATED 6.00' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED
- ALL SLEEVES UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE BACK
- . DISINFECTING: FOLLOWING THE PRESSURE TESTING, THE CONTRACTOR SHALL DISINFECT ALL SECTIONS OF THE WATER DISTRIBUTION SYSTEM. DISINFECTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF AWWA STANDARD C651 *DISINFECTING WATER MAINS*, AND ALL APPROPRIATE AGENCY APPROVAL.
- . ALL HYDROSTATIC TEST SHALL BE IN ACCORDANCE WITH AWWA C600 FOR DUCTILE IRON PIPE AND C605/M23 FOR PVC PIPE.
- ALL WATER MAINS SHALL BE INSTALLED. PRESSURE AND LEAK TESTED IN ACCORDANCE WITH AWWA C600, (62-555.320(21)(b)1 AND
- 62-555.330, F.A.C. ALL INSTALLATION, TESTING AND FIELD PROCEDURES MUST BE PROVIDED AND MUST CONFORM TO THE APPLICABLE AWWA STANDARDS.
- . ALL PIPING MATERIALS AND SPECIFICATIONS COVERING PIPES, JOINTS AND PACKING MATERIALS INTERNAL COATING AND LININGS, FITTINGS, SPECIALS AND APPURTENANCES SHALL ALL BE IN ACCORDANCE WITH THE CORRESPONDING AWWA STANDARDS AND BE CONFORMING TO NSF REQUIREMENTS, AS MAY
- BE APPLICABLE, WITH EXCEPTIONS ALLOWED ONLY IF DOCUMENTATION AND ASSURANCES ARE PROVIDED IN COMPLIANCE WITH PARAGRAPHS 62-555.320(3) (d) 62-555.320 (3) (b), AND 62-555.320 (21) (c), F.A.C. THE LEAD USE PROHIBITION IN RULE 62-555.322, F.A.C. SHALL ALSO APPLY. POLYETHYLENE TUBING SHALL BE PER AWWA C901. UNDERGROUND SERVICE LINES,

AND VALVES SHALL BE PER AWWA C800.

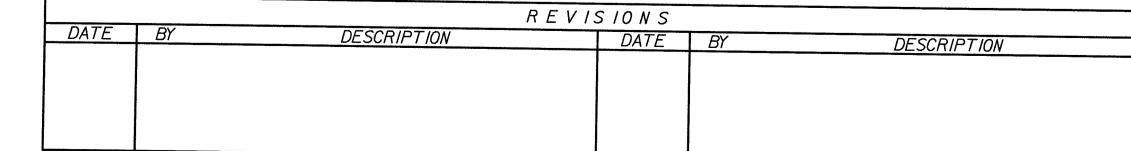
COLOR CODING

All water main pope, including fittings, installed on or after August 28, 2003, except pipe installed under a construction permit for which the Department received a complete application before August 28, 2003, shall be color coded or marked using blue as a predominate color to differentiate drinking water from reclaimed or other water. Underground plastic pipe shall be solid-wall blue pipe, shall have a co-extruded blue external skin, or shall be white or black pipe with blue stripes incorporated into, or applied to, the pipe wall; and underground metal or concrete pipe shall have blue stripes applied to the pipe wall. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90° intervals around the pipe, and will remain intact during and after installation of the pipe. If tape or paint is used to stripe pipe during installation of the pipe, the tape or paint shall be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe; for pipes with an internal diameter of 24 inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe. Aboveground pipe as drinking water treatment plants shall be color coded and labeled in accordance with subsection 62-555.320(10), F.A.C., and all other aboveground pipe shall be painted blue or shall be color coded or marked like underground pipe.

Utility Construction Notes (DEP)

- 62-555.314 Location of Public Water System Mains: For the purpose of this section, the phrase "Water Mains" shall mean Mains, including treatment Plant process piping, conveying either raw, partially treated, or finished drinking water; Fire Hydrant
- leads; and service lines that are under the control of a Public Water System and that have an inside diameter of three (3") inches or greater. (1) Horizontal Separation Between Underground Water Mains water or Storm water Force Mains, Reclaimed Water Pipelines, and On-site Sewage
- Treatment and Disposal Systems: (a) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (3) Three Feet between the outside of the WATER MAIN and the outside of any existing or proposed Storm Sewer, Storm water Force Main, or pipeline conveying reclaimed water rec) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance
- of at least (3) three feet, and preferably (10) Ten Feet, between the outside of the WATER MAIN and the outside of any existing or proposed vacuum-type Sanitary Sewer. (c) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (6) Six Feet, and preferably (10) Ten Feet, between the outside of the WATER MAIN and the outside of any existing or proposed Gravity- or Pressure-type Sanitary Sewer, Wastewater Force Main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610 F.A.C. The Minimum Horizontal Separation distance between WATER MAINS and Gravity-type Sanitary Sewer
- shall be reduced to (3) Three Feet where the BOTTOM of the WATER MAIN is laid at least (6) Six Inches (d) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (10) Ten Feet between the outside of the WATER MAIN and all parts of any existing or proposed On site Sewage Treatment and Disposal System as defined in Section 381.0065(2). F.S. and Rule
- (2) Vertical Separation Between Underground WATER MAINS and Sanitary or Storm Sewers, Wastewater or Storm water Force Mains, and Reclaimed
- Water Pipelines: (a) New or relocated underground WATER MAINS crossing any existing or proposed gravityor vacuum-type sanitary sewer or storm sewer shall be laid so the outside of the WATER MAIN is at least (6) Six inches, and preferably 12 inches above, or at least 12 Inches below the outside of the other pipeline. However, it is preferable to lay the WATER MAIN
- (b) New or relocated, Underground WATER MAINS crossing any existing or proposed pressure-type sanitary sewer, wastewater or stormwater Force Main, or Pipeline conveying reclaimed water shall be laid so the outside of the WATER MAIN is at least (12) inches ABOVE or BELOW the Outside of the other pipeline. However, it is preferable to lay the WATER
- MAIN above the other pipeline. (c) At the Utility crossings described in paragraphs (a) & (b) Above, one full length of Water Main Pipe shall be centered above or below the other pipeline so the WATER MAIN Joints will be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all WATER MAIN Joints are at least (3) Three feet from all joints in Vacuum-type Sanitary Sewers, Storm Sewers, Stormwater Force Mains, or pipelines conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., and at least (6) Six Feet from all Joints in Gravity- or Pressure-
- type Sanitary Sewers, Wastewater force mains, or pipelines conveyir reclaimed water not regulated under Part III of Chapter 62-610, F.A.C. (3) Separation Between WATER MAINS and Sanitary or Storm Sewer Manholes: (a) No WATER MAIN shall pass thru, or come into contact with any part
- of a Sanitary Manhole or a Storm Sewer Manhole. Separation Between Fire Hydrant Drains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, reclaimed Water Pipelines, and On-Site Sewage Treatment and Disposal Systems. New or relocated Fire Hydrants with underground Drains shall be located so that the drains are at least (3) Three Feet from any existing or proposed storm sewer, Stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.; at least (3) Three Feet, and preferably (10) Ten Feet, from any existing or proposed gravity- or Pressure-type Sanitary Sewer, Wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.; and at least (10) Ten Feet from any
- existing or proposed 'on-site sewage treatment and disposal system" as defined in Section 381.0065(2), F.S. and Rule 64E-6.002, F.A.C. Exceptions/Mitigation: Adherence to the above Constraints and Separations in Items 1 through 4 shall be Complied to, "WITHOUT EXCEPTION". If for some reason where it is not technically feasible or Economically Sensible that Items 1 through 4 cannot be complied with, Contractor will Stop Work and Notify the Engineer of record for the appropriate

solution, which will be submitted to The Department of Environmental Protection" for APPROVAL, prior to work commencement.





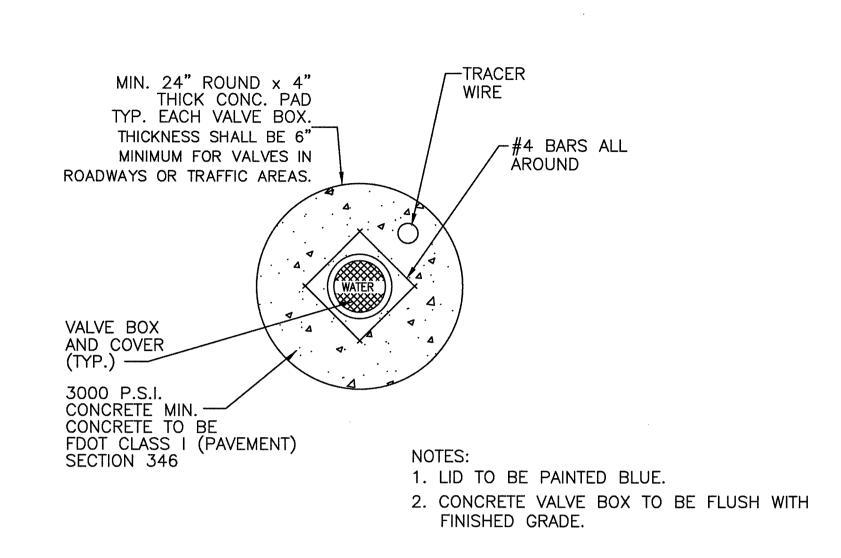


CITY OF FRUITLAND PARK C.R. 466A-PH.1

POTABLE WATER DETAILS

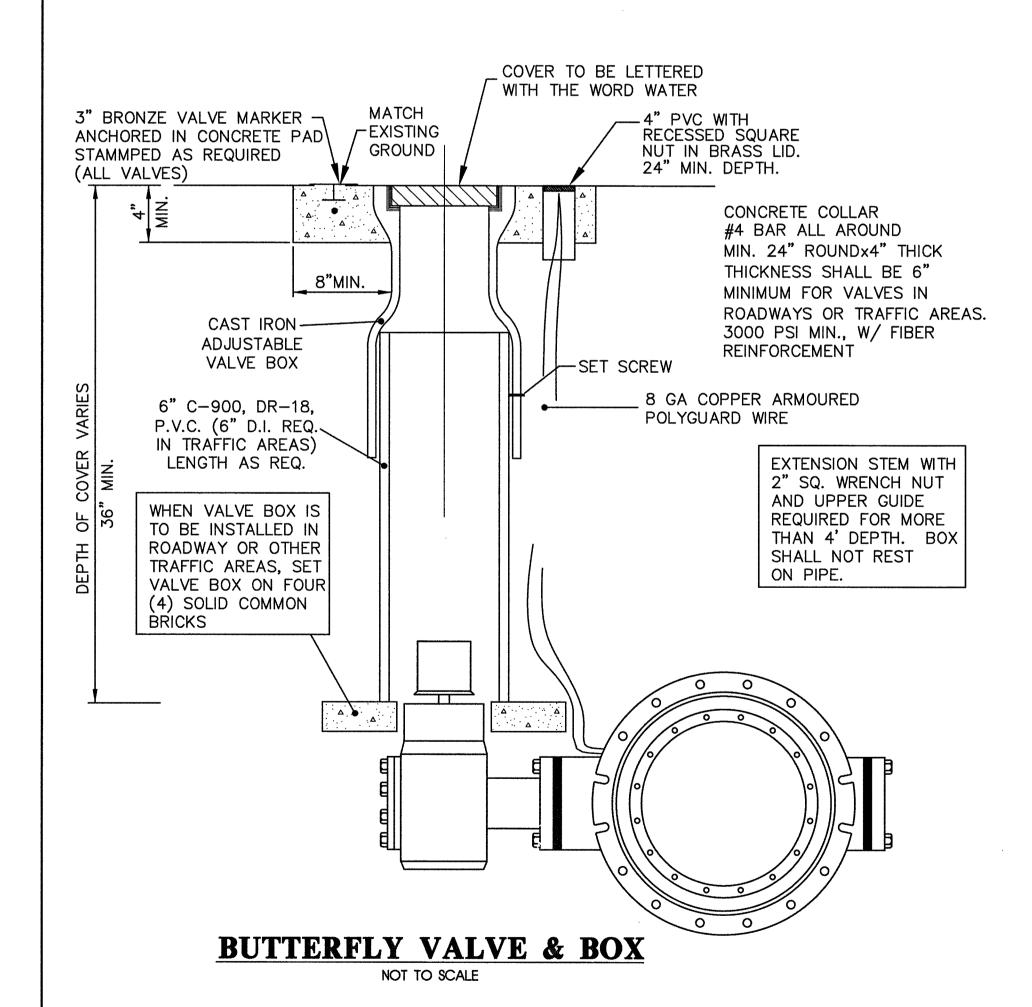
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ROUND VALVE COVER FOR GRASSED AREAS

NOT TO SCALE



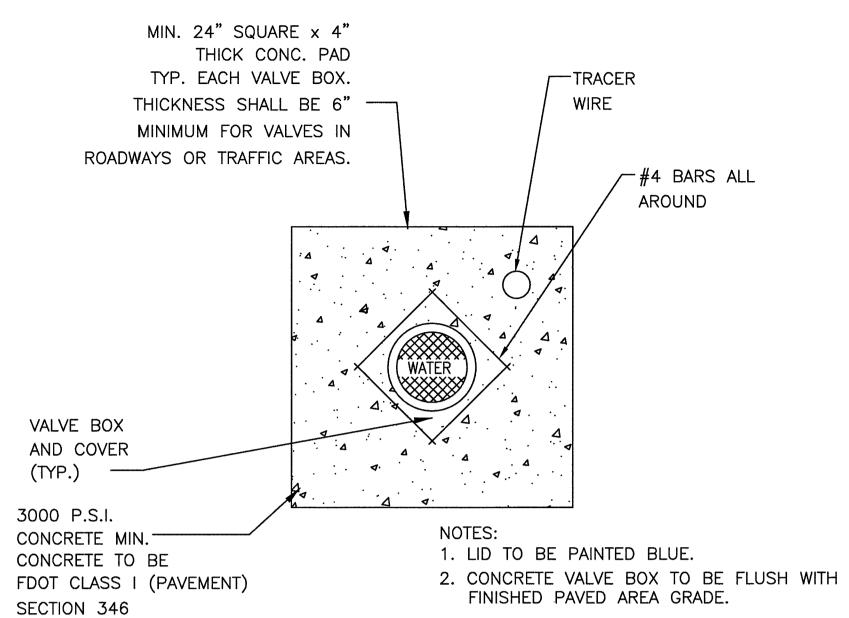
REVISIONS

DATE BY

DESCRIPTION

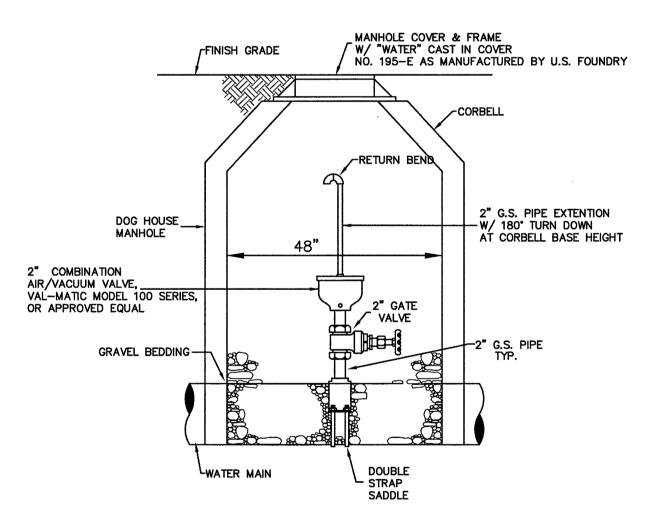
DESCRIPTION

DATE BY



SQUARE VALVE COVER FOR PAVED AREAS

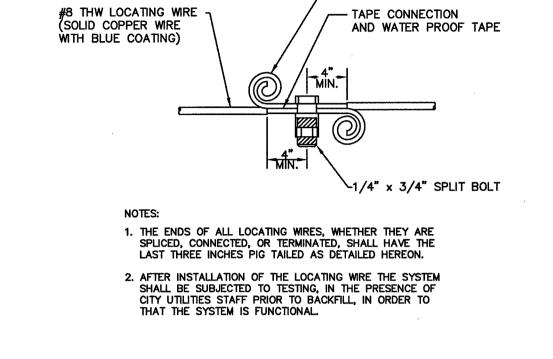
NOT TO SCALE



COMBINATION AIR RELEASE & AIR / VACUUM VALVE FOR WATER MAINS

NOT TO SCALE NOTES:

- 1. THE MINIMUM DIMENSION FROM TOP OF PIPE TO FINISHED GRADE SHALL BE 3.0 FEET.
- 2. DOUBLE STRAP SADDLE AND WRAP WITH TWO LAYERS OF WIDE PLASTIC OR POLY TAPE WITH STAINLESS STEEL STRAP.
- 3. PIPE INSTALLATION SHALL BE SUCH THAT THE ARV IS LOCATED
- AT THE HIGHEST POINT IN THE RESPECTIVE SEGMENT. 4. INTERIOR AND EXTERIOR CONCRETE SURFACES SHALL RECEIVE
- PROTECTIVE COATING AS SPECIFIED FOR STANDARD MANHOLES.
- 5. CAST IRON FRAME, COVER AND ACCESS LID SHALL BE INSTALLED FLUSH WITH FINISHED GRADE.
- 6. COVER SHALL READ "WATER".



- PIG TAIL WIRE AFTER

- TAPE CONNECTION

AND WATER PROOF TAPE

LOCATING WIRE SPLICING NOT TO SCALE

COVER TO BE LETTERED - WITH THE WORD WATER MATCH 4"/O PVC WITH —— RECESSED SQUARE 3" BRONZE VALVE MARKER **EXISTING** ANCHORED IN CONCRETE PAD ~ GROUND NUT IN BRASS LID STAMPED AS REQUIRED EXTENDED MINIMUM (ALL VALVES) 24" BELOW GRADE CONCRETE COLLAR #4 BAR ALL AROUND MIN. 24"ROUND x4" THICK, THICKNESS SHALL BE 6" MINIMUM FOR VALVES IN ROADWAYS OR TRAFFIC AREAS. 3000 PSI MIN., W/ FIBER CAST IRON-REINFORCEMENT **ADJUSTABLE** VALVE BOX SET SCREW 8 GA COPPER ARMOURED 6" C-900, DR-18, POLYGUARD WIRE P.V.C. (6" D.I. REQ. IN TRAFFIC AREAS) MECHANICAL JOINT GATE LENGTH AS REQ. _ VALVE RESILIENT SEALED MUELLER, AVK WHEN VALVE BOX IS OR CLOW BRAND. TO BE INSTALLED IN ROADWAY OR OTHER EXTENSION STEM WITH TRAFFIC AREAS, SET 2" SQ. WRENCH NUT VALVE BOX ON FOUR AND UPPER GUIDE (4) SOLID COMMON REQUIRED FOR MORE BRICKS THAN 4' DEPTH. BOX SHALL NOT REST ON PIPE. -DETECTOR WIRE -WATER MAIN (C-900) -MECHANICAL JOINTS TO CONFORM TO AWWA CIII -CONCRETE SUPPORT

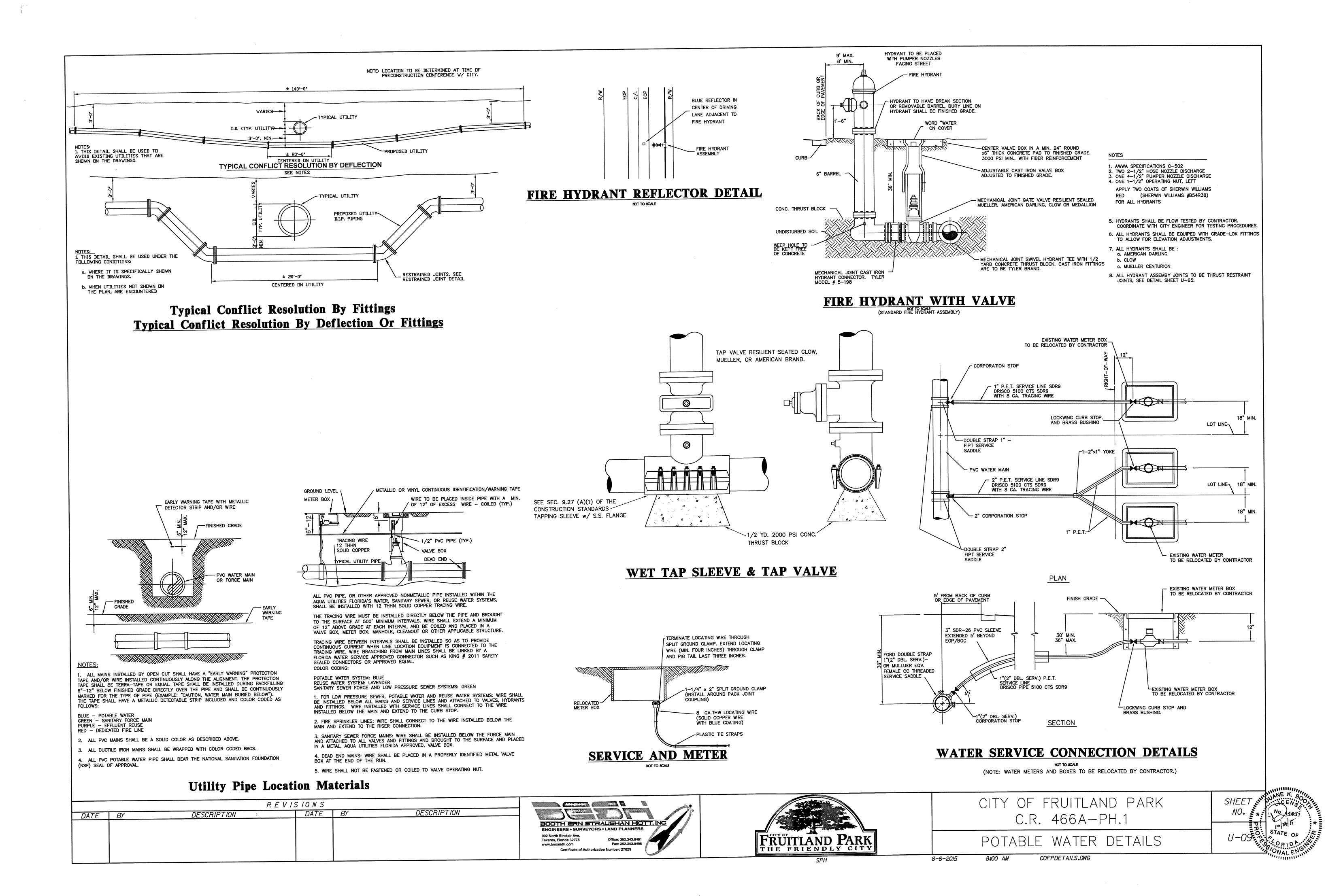
GATE VALVE & BOX NOT TO SCALE

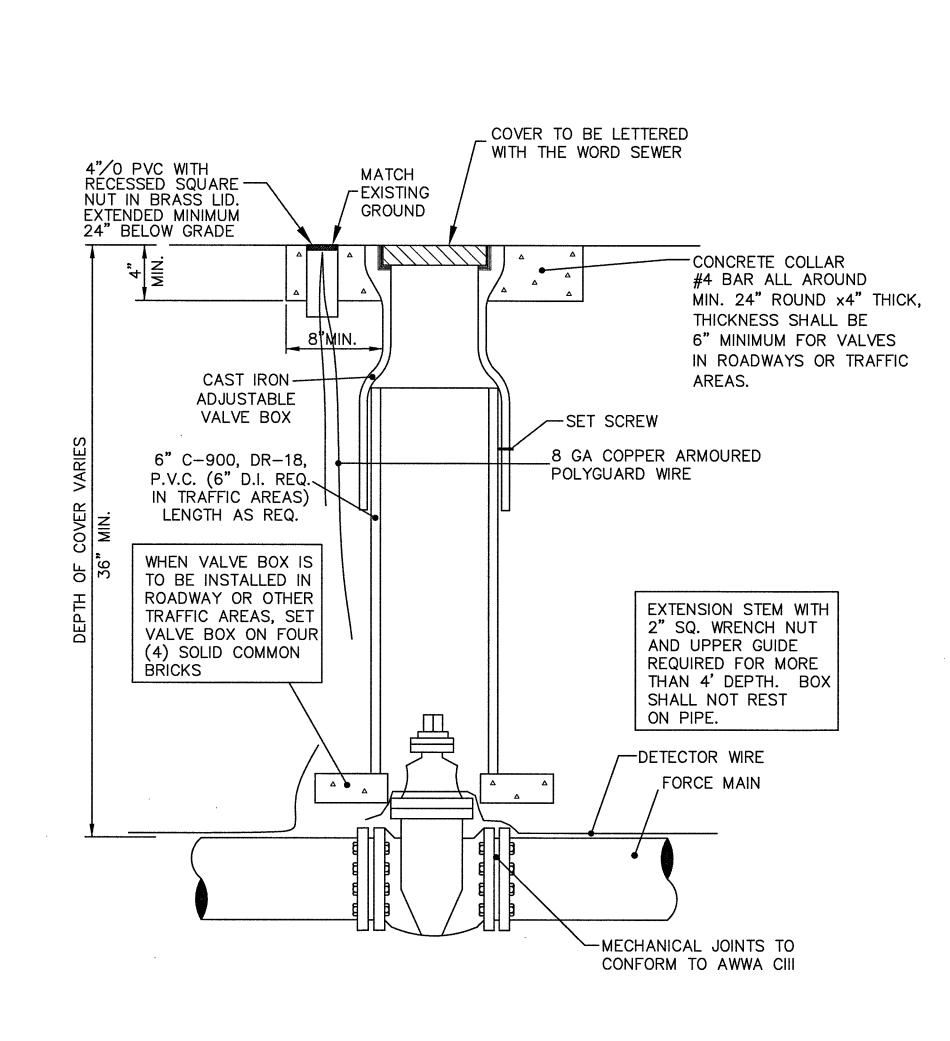
CITY OF FRUITLAND PARK C.R. 466A-PH.1 POTABLE WATER DETAILS SHEE7

BOOTH ERN STRAUGHAN HIOTT, INC 902 North Sinclair Ave. Tavares, Florida 32778 Certificate of Authorization Number: 27029



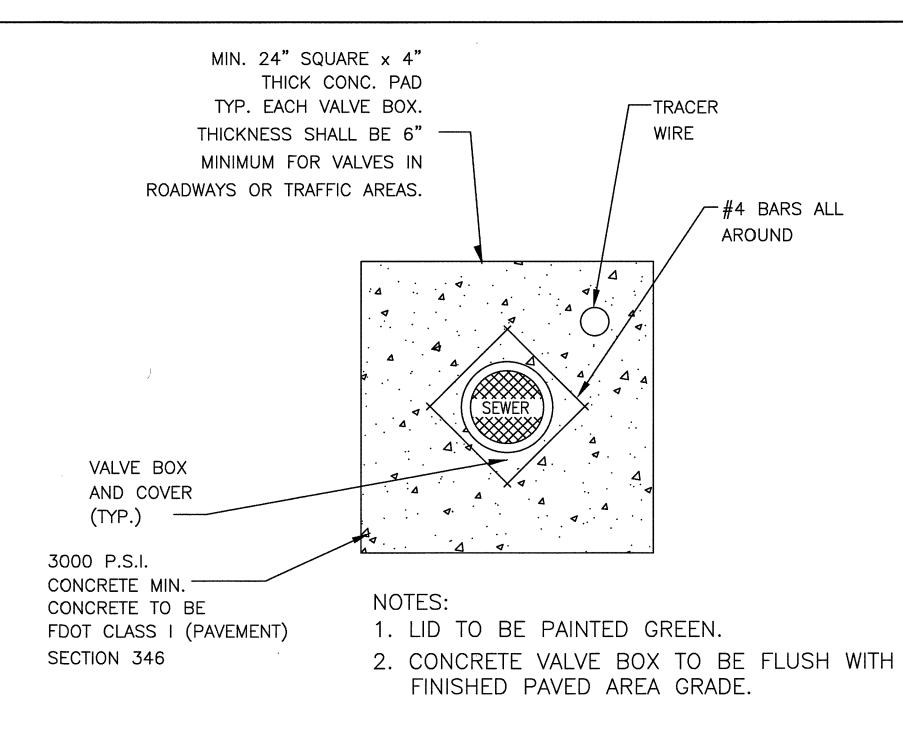
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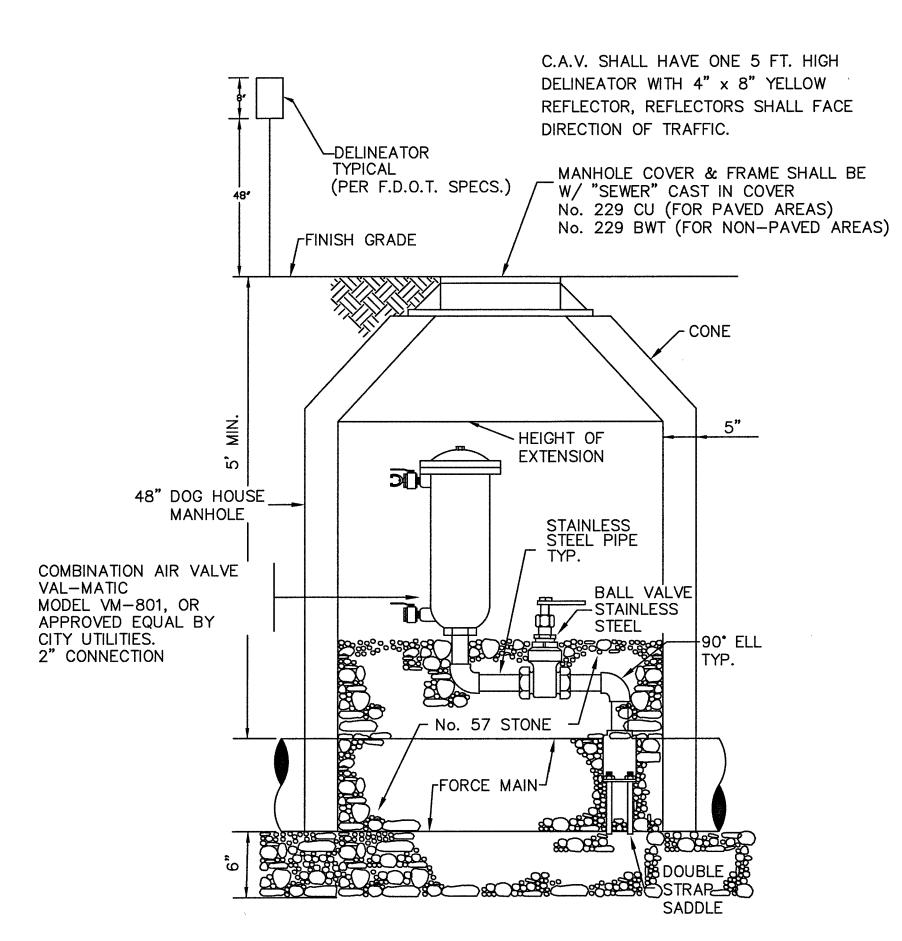
PLUG VALVE & BOX

NOT TO SCALE



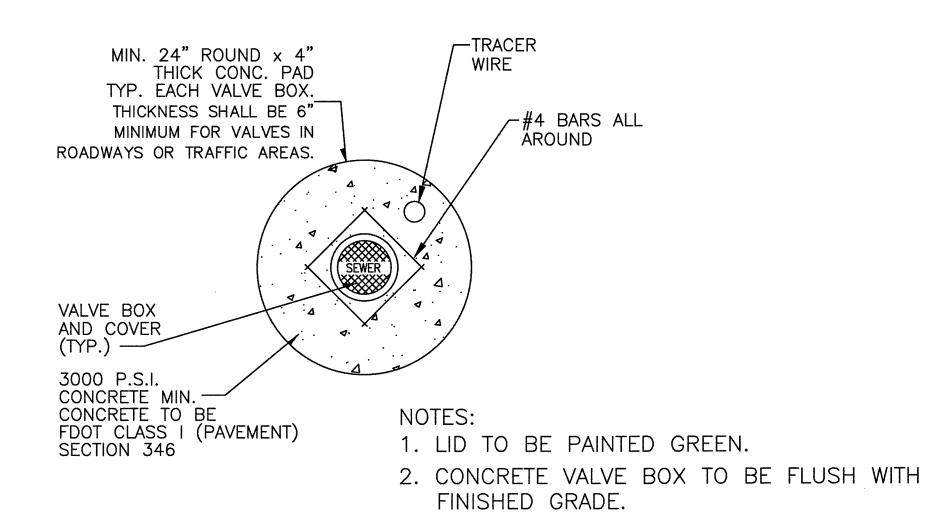
SQUARE VALVE COVER FOR PAVED AREAS

NOT TO SCALE



COMBINATION AIR VALVE FOR FORCE MAINS

NOT TO SCALE



ROUND VALVE COVER FOR GRASSED AREAS NOT TO SCALE

R E V IS IO N S						
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	BOOTH ERN STRAUGHAN HIOTT, INC ENGINEERS • SURVEYORS • LAND PLANNERS 902 North Sinclair Ave. Tavares, Florida 32778 Office: 352.343.8481 www.besandh.com Fax: 352.343.8495 Certificate of Authorization Number: 27029



CITY	OF	FRUITLAND PARK	
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SANITARY DETAILS

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