

PINELLAS COUNTY



STANDARD DETAILS

JUL / 2018

PINELLAS COUNTY **STANDARD DETAILS**

ROADWAY AND RELATED CONSTRUCTION:

1100 ENVIRONMENTAL

1105: Median Soil: Composition and Depth

1111: Tree Protection

1150 STORMWATER TREATMENT AND CONTROL

1200 DRAINAGE AND DRAINAGE STRUCTURES

1250: Storm Sewer Cover

1255: P.C.E.D Curb Inlets (Types RC-3, 4 and 5)

1260: P.C.E.D. J5 & J6 Curb Inlets

1265: Filter Fabric Wrap and Grout at Structures

1270: Anti-Clogging Device for Pond Outfall Control Structures

1281: Underdrain Inspection Manhole Type 1

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1291: Pavement Cuts, Excavation & Restoration

1300 CURBS, DRIVEWAYS, PAVEMENT AND SIDEWALKS

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1400 BARRIERS, BARRICADED AND FENCES

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1700 TRAFFIC

1700: Concrete Square CCTV Camera Pole

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1725: Mast Arm Conduit Entrance Detail

1730: Dynamic Message Sign

PINELLAS COUNTY

STANDARD DETAILS
INDEX SHEET 1 OF 3

DETAIL INDEX I.D.:

INDEX 1 OF 3

DATE:

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REVISION:

UTILITIES:

GENERAL DETAILS:

- PCU GD 1: Trench Backfill Detail (See 1291)
- PCU GD 2: Main Clearances Detail
- PCU GD 3: Tracer Wire Layout Detail
- PCU GD 3a: Tracer Wire Installation Detail
- PCU GD 4: Valve Box/Tracer Wire Installation Detail
- PCU GD 5: Concrete Valve Box and Collar Detail
- PCU GD 6: Reverse Deadman Restraint Detail
- PCU GD 7: Bollard Detail
- PCU GD 8: Jack and Bore Under Roadway Detail
- PCU GD 9: Jack and Bore Under Railway Detail
- PCU GD 10: Fusible PVC/HDPE Pipe Connections Detail
- PCU GD 10a: Fusible PVC/HDPE Pipe Connections Detail
- PCU GD 11: Pressure Main Restrained Joint Detail
- PCU GD 12: CUL-DE-SAC-Potable Water Detail
- PCU GD 13: Typical Pressure Offset Relocation Detail
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RECLAIM WATER DETAILS:

- PCU RD 1: 1" Reclaimed Service Connection (Non-metered) Detail
- PCU RD 2: 1½" or 2" Reclaimed Service Connection (Non-metered) Detail
- PCU RD 3: 1½" or 2 Metered Reclaimed Water Service Detail
- PCU RD 4: Reclaimed Water Flushing Assembly Detail
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SANITARY SEWER DETAILS:

- PCU SD 1: Manhole Construction Notes
- PCU SD 1a: Standard Manhole (Pre-cast) Detail
- PCU SD 1b: Inside Drop Manhole Connection Detail
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- PCU SD 1d: Doghouse Air Release Valve Manhole Detail
- PCU SD 2: Sewer Air Release/Air Vacuum Valve in Manhole (12" Pipe or Less) Detail
- PCU SD 3: Offset Air Release Assembly for 4"-12" and Larger Sanitary Sewer (Above Ground) Detail
- PCU SD 4: Sewer Service Connection and Clean-Out Detail
- PCU SD 5: Depth Limitations of Sanitary Sewer Pipe Detail

WATER DETAILS:

- PCU WD 1: Temporary Sampling Point Detail
- PCU WD 2: 2" Permanent Water Blow-Off Detail
- PCU WD 3: ¾" or 1" Potable Water Service Connection Detail
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- PCU WD 5: Typical Fire Hydrant Locations Detail
- PCU WD 6: Fire Hydrant Assembly Detail
- PCU WD 7: Parallel Fire Hydrant Detail
- PCU WD 8: Water Quality Sampling Detail

PINELLAS COUNTY

**STANDARD DETAILS
INDEX SHEET 2 OF 3**

DETAIL INDEX I.D.:

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DATE:

JUL / 2018

REVISION:

UTILITIES:

AIR RELEASE VALVES:

- PCU ARV 1A,1B: Air Release Vacuum Valve Matrix and Main Connection Detail
- PCU ARV 2A,2B: Air Release/Air Vacuum Valve Location Detail
- PCU ARV 3A,3B,3C: Above Grade Air release Assembly Detail
- PCU ARV 4A,4B,4C: Air Release/Air Vacuum Valve Vented/Odor Controlled Detail

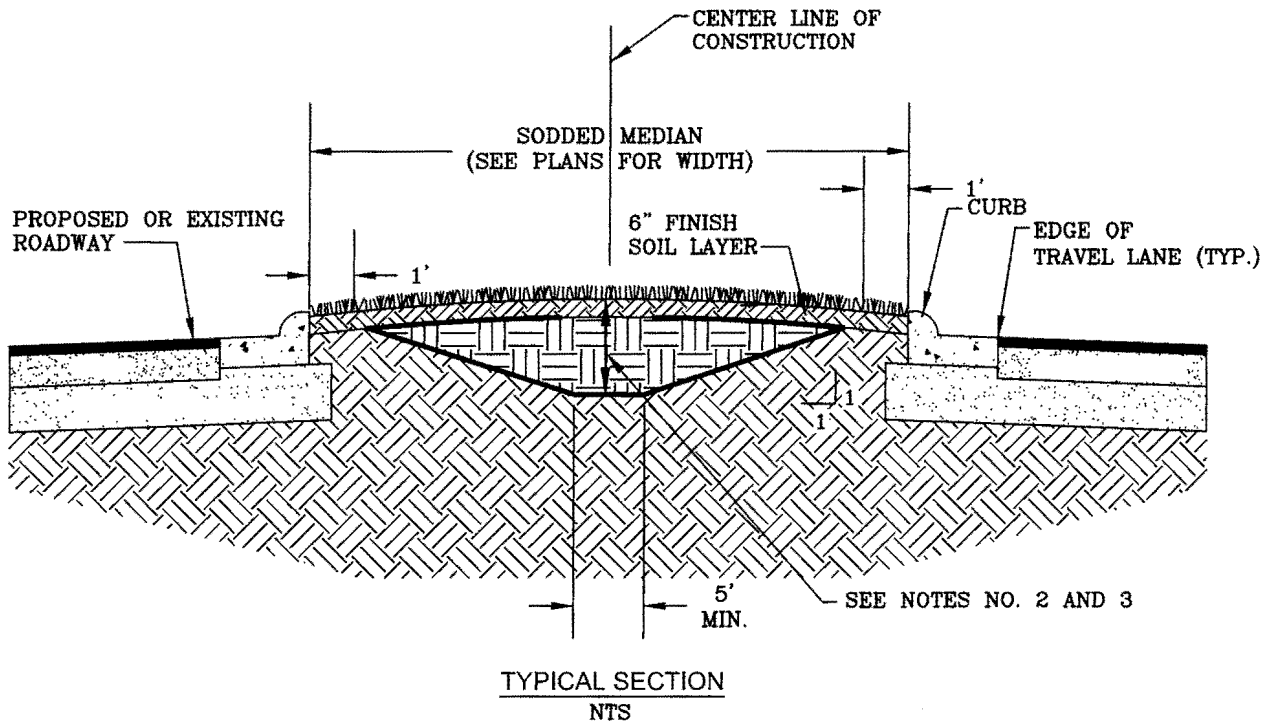
PINELLAS COUNTY

**STANDARD DETAILS
INDEX SHEET 3 OF 3**

DETAIL INDEX I.D.:	
INDEX 3 OF 3	
DATE:	JUL / 2018
REVISION:	

NOTES:

1. 6" FINISH SOIL LAYER SHALL COMPLY WITH SECTION 162 OF F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.
2. REMOVE UNSUITABLE MATERIAL (EXISTING PAVEMENTS, ROADWAY BASE, LIMEROCK, MILLINGS AND OTHER DEBRIS), TO A MAXIMUM DEPTH OF 18" BELOW FINISHED GRADE IN MEDIAN AREAS. MEDIAN FILL SOIL, FOR AREAS THAT ARE EXCAVATED, SHALL BE NATIVE SITE SOILS APPROVED BY THE ENGINEER. IN THE ABSENCE OF SUFFICIENT NATIVE SITE SOILS, REPLACEMENT FILL SHALL BE SUITABLE FOR PLANT GROWTH AND APPROVED BY THE ENGINEER. EXCAVATION AND REPLACEMENT SOIL SHALL BE INCLUDED IN PAY ITEM FOR "EXCAVATION OF UNSUITABLE MATERIAL."
3. DO NOT DISTURB EXISTING MEDIAN SOILS EXCEPT TO REMOVE EXISTING UNSUITABLE MATERIALS LISTED IN NOTE NO. 2, OR TO CONSTRUCT PROPOSED IMPROVEMENTS.
4. GROUND SURFACE ELEVATION OF MEDIAN SHALL BE AS SHOWN ON APPROVED PLANS.



PINELLAS COUNTY

MEDIAN SOIL; COMPOSITION AND DEPTH

DETAIL INDEX I.D.:

1105

DATE:

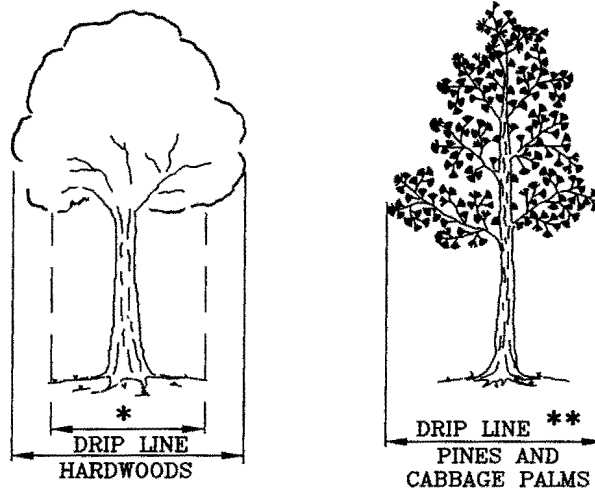
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REVISION:

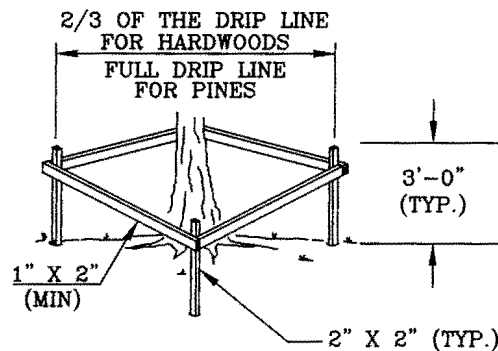
NOTES:

1. NO TREE SHALL BE REMOVED UNLESS SPECIFICALLY TAGGED FOR REMOVAL BY THE ENGINEER.
2. THE CONTRACTOR SHALL TAKE SPECIAL CARE NOT TO DAMAGE TREES THAT ARE TO REMAIN.
3. ROOTS GREATER THAN 1" DIAMETER SHALL NOT BE CUT UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4. ALL ROOT PRUNING SHALL BE PERFORMED BY AN ISA CERTIFIED ARBORIST IN ACCORDANCE WITH ANSI-A300 STANDARDS.
5. STOCKPILED MATERIALS OR UNNECESSARY VEHICULAR TRAFFIC SHALL NOT BE ALLOWED OVER ANY TREE ROOTS SYSTEM.
6. BARRIER SHALL BE CONSTRUCTED WHEN CALLED FOR ON PLANS OR AS DIRECTED BY THE ENGINEER. BARRIERS SHALL BE MAINTAINED IN PLACE UNTIL REMOVAL IS DIRECTED BY THE ENGINEER.
7. COST OF ALL TREE BARRICADES SHALL BE INCLUDED IN PAY ITEM 800-9004 (CLEARING & GRUBBING).
8. SUBSTITUTION FOR WOODEN (1"x 2" MIN.) BEAMS WITH OTHER MATERIALS REQUIRE PRE-APPROVAL BY THE COUNTY ENGINEER.



REQUIRED DISTANCES FROM TREE TRUNK

- * $\frac{2}{3}$ THE DRIP LINE OR 6 FEET, WHICHEVER IS GREATER.
- ** DRIP LINE FOR PINES/CONIFERS AND CABBAGE PALMS OR 6 FEET, WHICHEVER IS GREATER.



BARRIER

PINELLAS COUNTY

TREE PROTECTION

DETAIL INDEX I.D.:

1111

DATE:

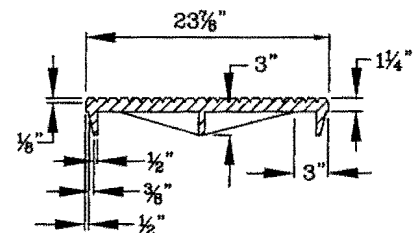
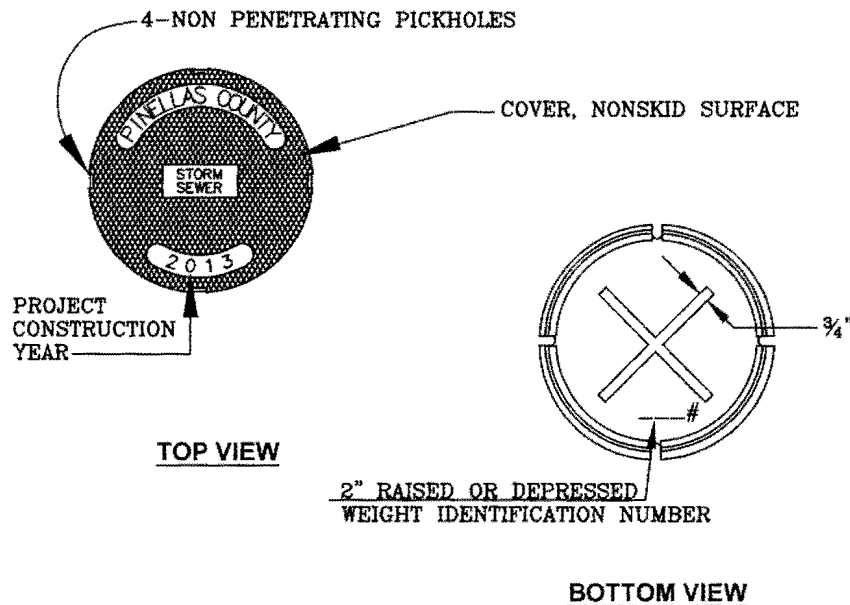
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REVISION:

NOTES:

1. THIS COVER IS NOT TO BE USED FOR SANITARY SEWER MANHOLES.
2. THIS COVER MAY BE USED WITH FRAME TYPE I, II OR III AS DETAILED IN F.D.O.T. INDEX No. 201. TYPE I SHALL BE USED UNLESS OTHERWISE SPECIFIED IN THE PLANS.
3. MATERIALS AND FABRICATION SHALL CONFORM TO SECTION 425 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
4. COVERS FOR UNDERDRAIN CLEANOUTS SHALL BE LABELED UNDERDRAIN AND NOT STORM SEWER.



PINELLAS COUNTY

STORM SEWER COVER

DETAIL INDEX I.D.:

1250

DATE:

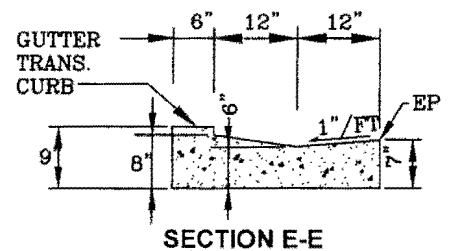
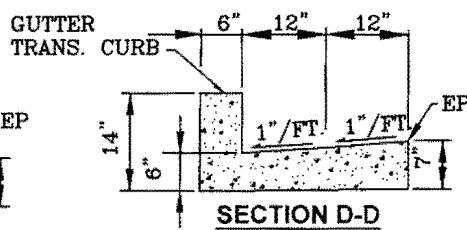
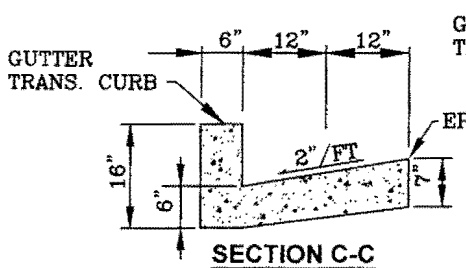
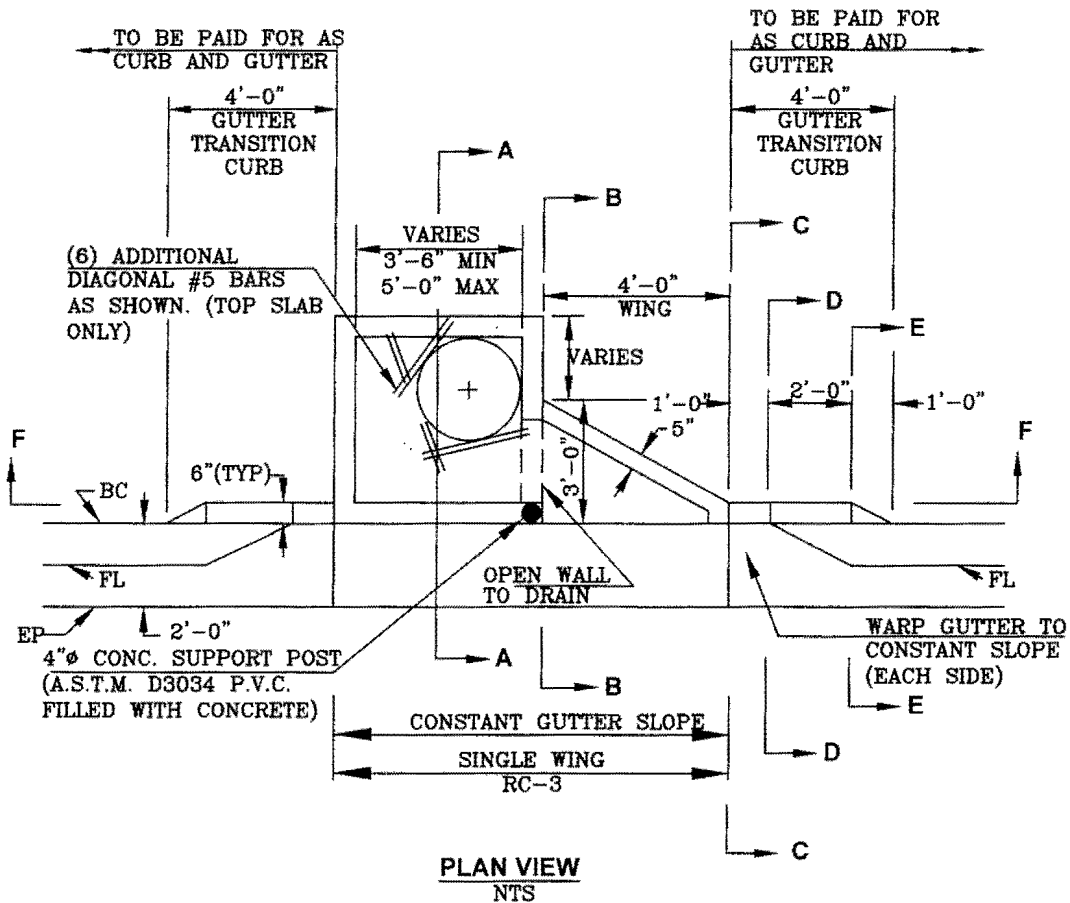
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REVISION:

NOTES:

1. SECTIONS 'A'-A' AND 'B'-B' ARE ON SHEET 2 OF 4.
2. SECTIONS 'C'-C', 'D'-D', AND 'E'-E' ON THIS SHEET SHOW TRANSITION FOR PINELLAS COUNTY TYPE 'A' CURB AND GUTTER (PC INDEX 1305).
3. TRANSITION FOR TYPE 'F' CURB IS ON SHEET 4 OF 4.
4. SECTION 'F'-F' IS ON SHEET 3 OF 4.
5. RC-4 IS SYMMETRICAL ABOUT THE CENTERLINE.
6. RC-5 IS CONSTRUCTED WITHOUT WINGS.



PINELLAS COUNTY

P.C.E.D. CURB INLET (TYPES RC-3, 4, AND 5)
SHEET 1 OF 4

DETAIL INDEX I.D.:

1255-SHT. 1

DATE:

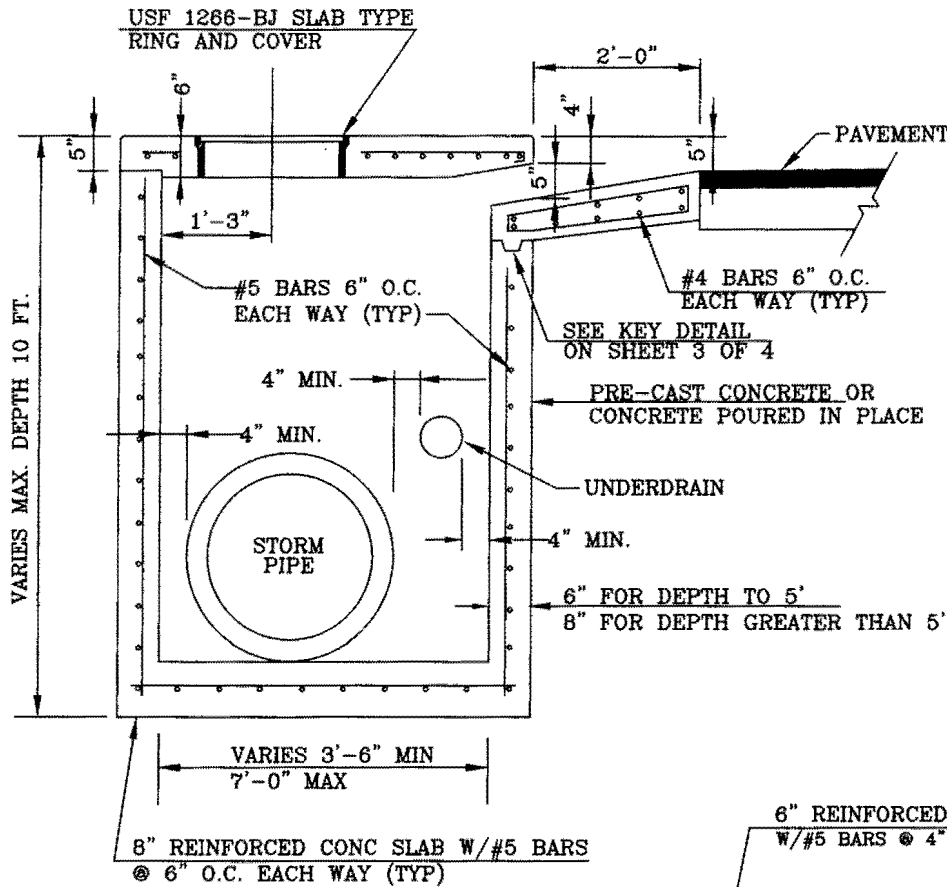
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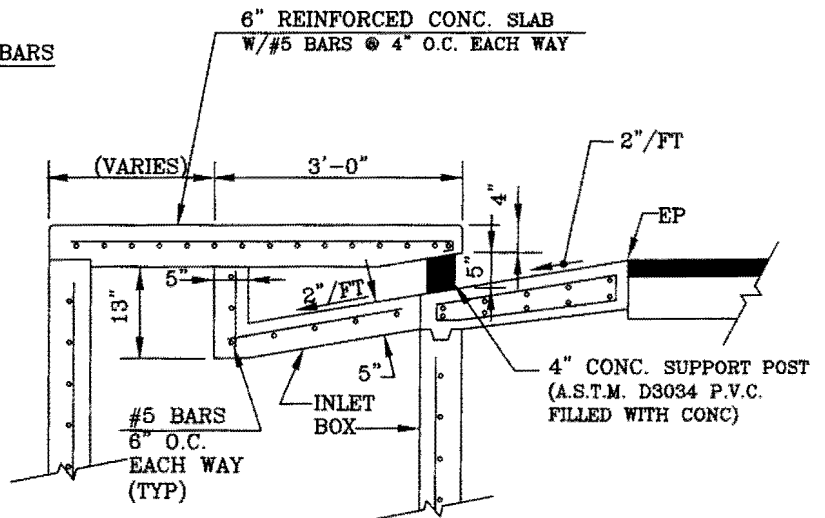
REVISION:

NOTES:

1. RC-4 IS SYMMETRICAL ABOUT THE CENTERLINE.
2. RC-5 IS CONSTRUCTED WITHOUT WINGS.



SECTION A-A
NTS



SECTION B-B
(VIEW THROUGH INLET BOX AND WING TRANSITION)

PINELLAS COUNTY

P.C.E.D. CURB INLET (TYPES RC-3, 4, AND 5)
SHEET 2 OF 4

DETAIL INDEX I.D.:

1255-SHT. 2

DATE:

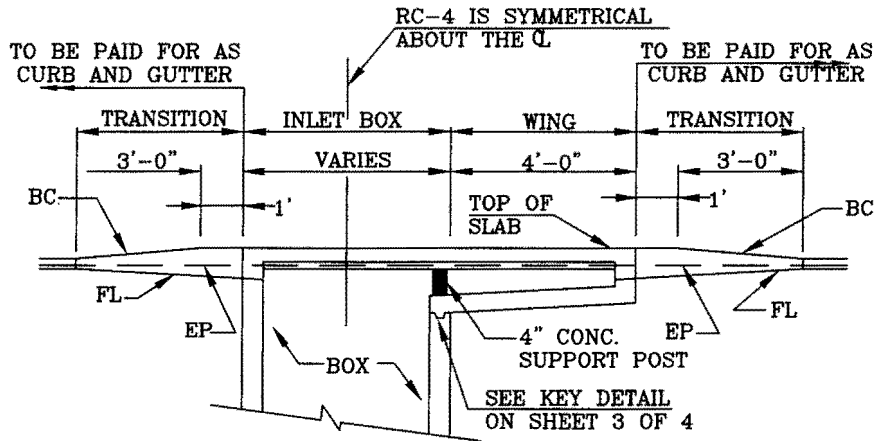
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REVISION: *[Signature]*

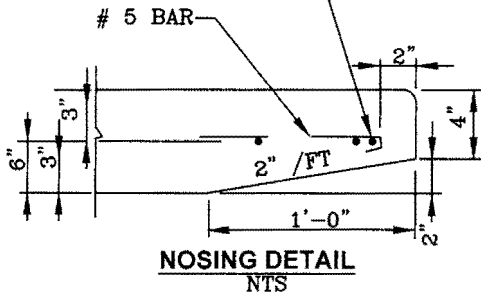
NOTES:

1. RC-4 IS SYMMETRICAL ABOUT THE CENTERLINE.
2. RC-5 IS CONSTRUCTED WITHOUT WINGS.

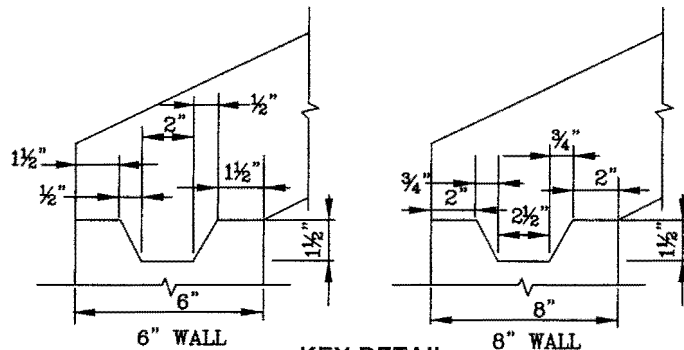


SECTION F-F
NTS

ADDITIONAL # 5 BAR ALONG
ENTIRE LENGTH OF NOSING



NOSING DETAIL
NTS



KEY DETAIL
NTS

PINELLAS COUNTY

P.C.E.D. CURB INLET (TYPES RC-3, 4, AND 5)
SHEET 3 OF 4

DETAIL INDEX I.D.:

1255-SHT 3

DATE:

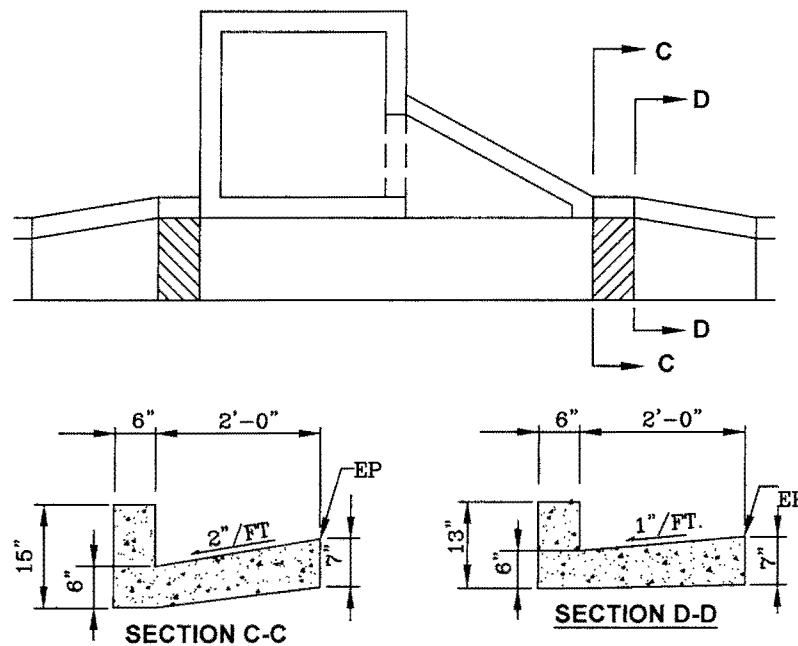
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REVISION:

NOTES:

1. THESE INLETS FOR USE WITH PINELLAS COUNTY AND WITH F.D.O.T. TYPE 'A' CURB AND GUTTER, AND WITH TYPE 'F' CURB (FOR USE WITH TYPE 'F', SEE DETAILS FOR TYPE 'F' CURB TRANSITION).
2. CENTERLINES OF INLETS SHOULD BE LOCATED AT PROPERTY LINES UNLESS OTHERWISE APPROVED.
3. COVER FOR ALL REINFORCING STEEL SHALL BE 2" MINIMUM.
4. SUGGESTED MAXIMUM INLET DESIGN FLOWS FOR 0.4% PROFILE GRADE AND 1/4"/FT. CROSS SLOPE.
 RC-3: 4.5 CFS (3'-6" WIDTH) / 5.5 CFS (5'-0" WIDTH)
 RC-4: 6.5 CFS (3'-6" WIDTH) / 7.5 CFS (5'-0" WIDTH)
 RC-5: 3 CFS (3'-6" WIDTH) / 4 CFS (5'-0" WIDTH)
5. INLETS SHALL BE CONSTRUCTED OF REINFORCED CONCRETE, AND MAY BE EITHER PRECAST OR POURED IN PLACE.
6. CONCRETE SHALL BE CLASS II, WITH $F_c' = 3400$ PSI (MIN.). ($F_c' = 4000$ PSI (MIN.) FOR TOP SLAB).
7. REINFORCING STEEL SHALL BE GRADE 60, DEFORMED, AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 615 (GRADE 60 TOP SLAB).
8. WHEN INLET TOPS EXTEND INTO SIDEWALK OR OTHER PAVED AREAS, THE FINISHED SURFACE OF THE INLET TOPS SHALL CONFORM TO THE FINISHED GRADE AND CROSS SLOPE OF THE ADJACENT SIDEWALK OR PAVEMENT. TO ACHIEVE THIS CONFORMITY THE DEPTH OF THE INLET SLAB MAY BE INCREASED WHERE NECESSARY, AND/OR THE HEIGHT OF THE INLET SIDE AND REAR WALLS MAY BE INCREASED OR DECREASED AS REQUIRED. HOWEVER, THE THICKNESS OF THE INLET SLAB AT ANY POINT SHALL NOT BE LESS THAN THAT SHOWN IN THE PLANS, AND NO ADJUSTMENT SHALL BE MADE TO THE DEPTH OF INLET OPENINGS OR THE HEIGHT OF THE TOP FRONT EDGE OF THE INLET SLAB.
9. UNLESS OTHERWISE NOTED, ALL EXPOSED EDGES AND CORNERS OF CONCRETE SHALL HAVE A 3/4" CHAMFER.
10. F.D.O.T. TYPE 'J' BOTTOM MAY BE USED WITH 'RC-3', 'RC-4' AND 'RC-5' INLETS. IN SUCH CASES THE STRUCTURE BOTTOM MAY BE ROTATED AS DIRECTED BY ENGINEER IN ORDER TO FACILITATE CONNECTIONS BETWEEN THE STRUCTURE WALLS AND STORM SEWER PIPES.
11. INLET SHOWN IS TYPE 'RC-3' (SINGLE WING). TYPE 'RC-4' (DOUBLE WING) IS THE SAME AS 'RC-3', EXCEPT THAT IT IS SYMMETRICAL ABOUT CENTERLINE OF BOX, AND RC-5 IS THE SAME, EXCEPT THAT IT IS CONSTRUCTED WITHOUT WINGS.
12. SECTIONS 'C'-C' AND 'D'-D' ON THIS SHEET SHOW TRANSITION FOR TYPE 'F' CURB.



PINELLAS COUNTY

P.C.E.D. CURB INLET (TYPES RC-3, 4, AND 5)
SHEET 4 OF 4

DETAIL INDEX I.D.:

1255-SHT. 4

DATE:

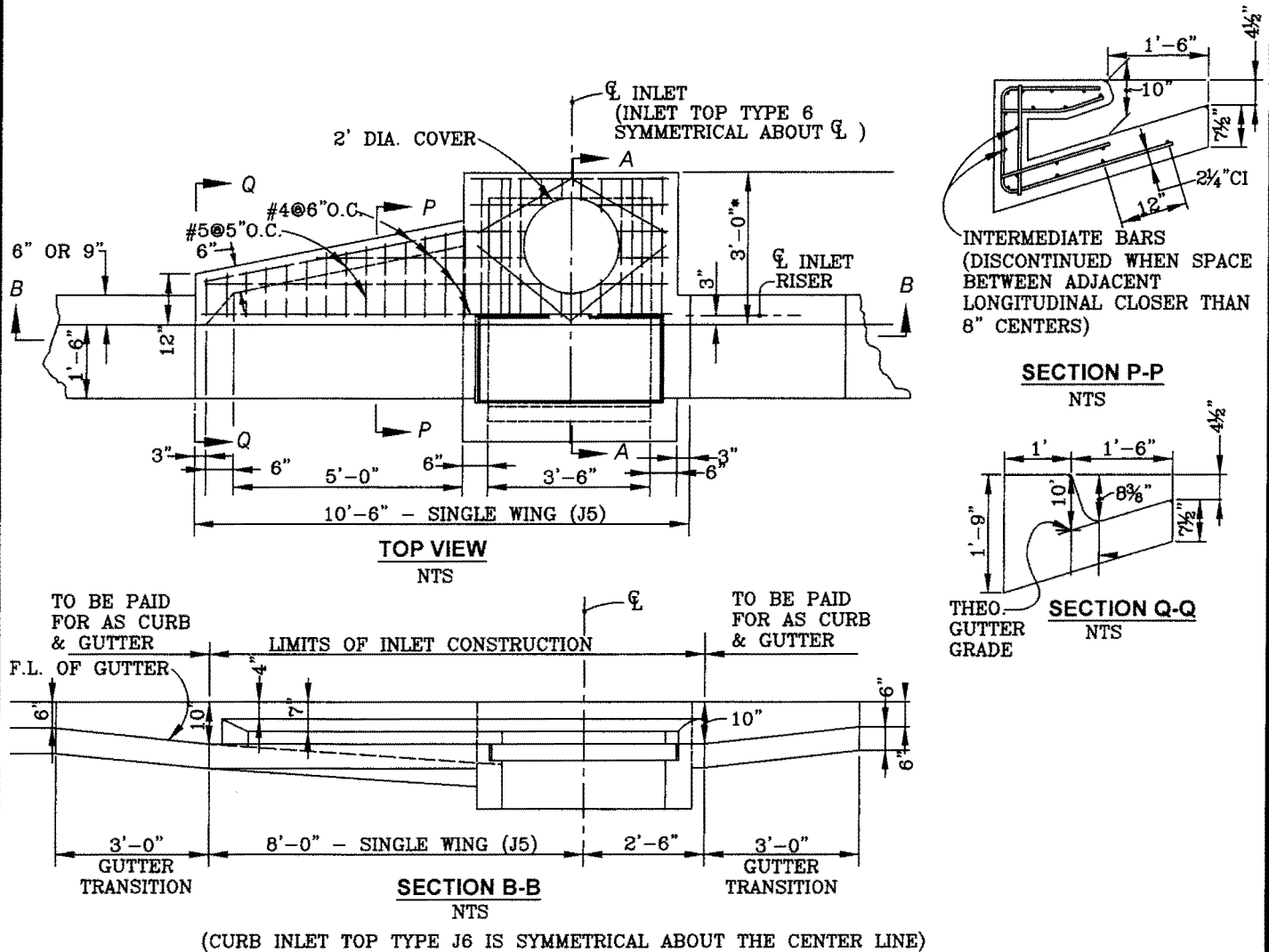
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REVISION:

NOTES:

1. COVER FOR ALL REINFORCING STEEL SHALL BE 2" MINIMUM.
2. INLETS SHALL BE CONSTRUCTED OF REINFORCED CONCRETE, AND MAY BE EITHER PRECAST OR POURED IN PLACE.
3. CONCRETE SHALL BE CLASS II, WITH $F_c' = 3400$ PSI (MIN). CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 346 OF F.D.O.T.'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
4. REINFORCING STEEL SHALL BE GRADE 60, DEFORMED, AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 615.
5. UNLESS OTHERWISE NOTED, ALL EXPOSED EDGES AND CORNERS OF CONCRETE SHALL HAVE A $\frac{3}{4}$ " CHAMBER.
6. SEE F.D.O.T. INDEX 211 FOR GRATE INFORMATION.



PINELLAS COUNTY

P.C.E.D. J5 & J6 CURB INLETS - SHEET 1 OF 2
(MODIFIED F.D.O.T. J5 & J6 CURB INLETS)

DETAIL INDEX I.D.:

1260 SHT. 1

DATE:

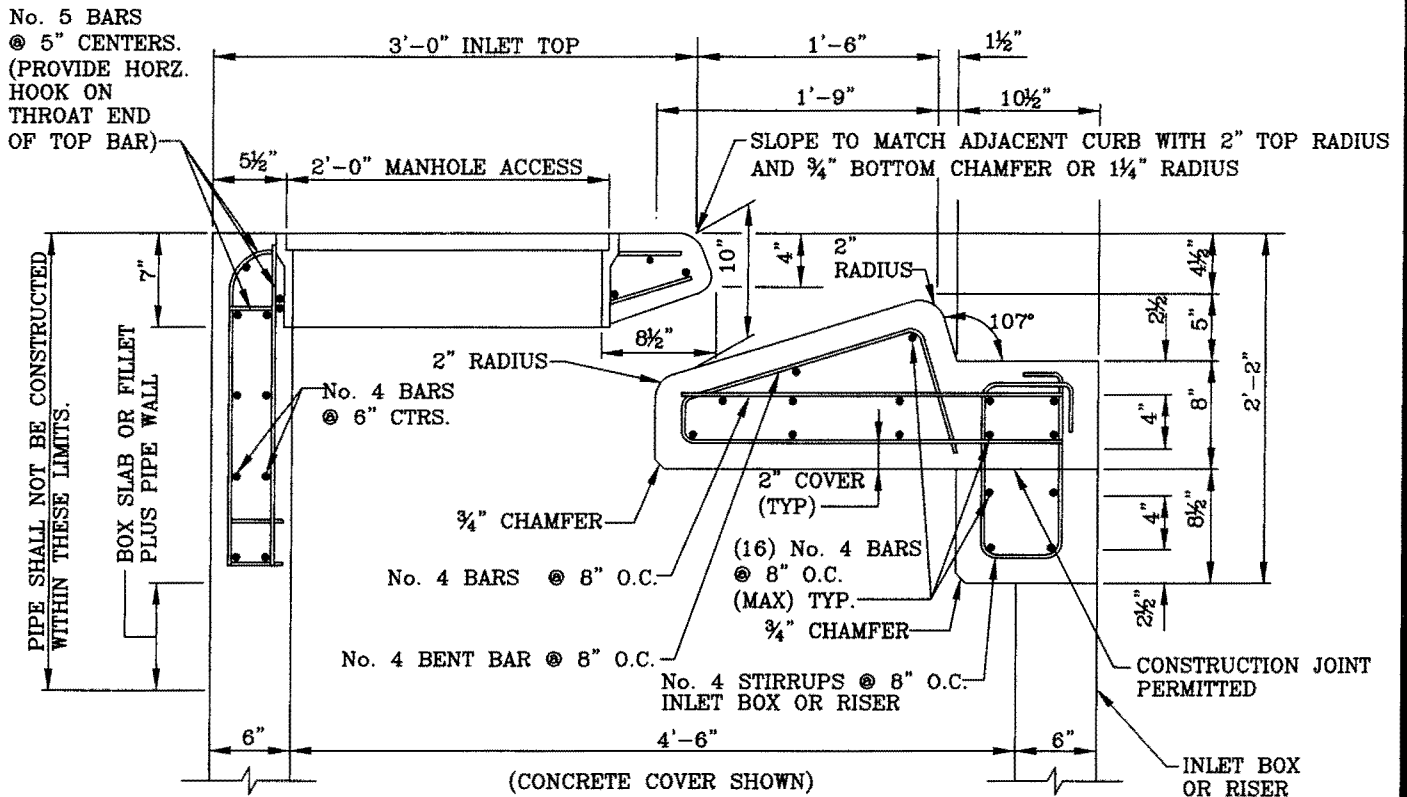
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REVISION:

NOTES:

1. MANHOLE COVER & FRAME TO BE F.D.O.T. INDEX No. 201, TYPE III.
2. CONTRACTOR TO SUBMIT SHOP DRAWING TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
3. J5 DESIGNATES A SINGLE WING INLET.
4. J6 DESIGNATES A DOUBLE WING INLET.



INLET TOP:
No. 4 TOP BARS @ 6" O.C.
No. 4 BOTTOM BARS @ 6" O.C.

SECTION A-A
N.T.S.

PINELLAS COUNTY

P.C.E.D. J5 & J6 CURB INLETS- SHEET 2 OF 2
(MODIFIED F.D.O.T. J5 & J6 CURB INLETS)

DETAIL INDEX I.D.:

1260-SHT. 2

DATE:

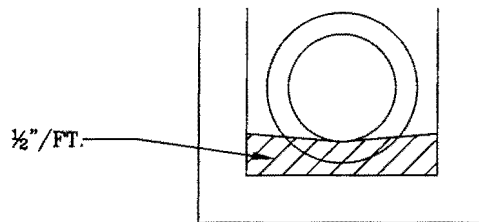
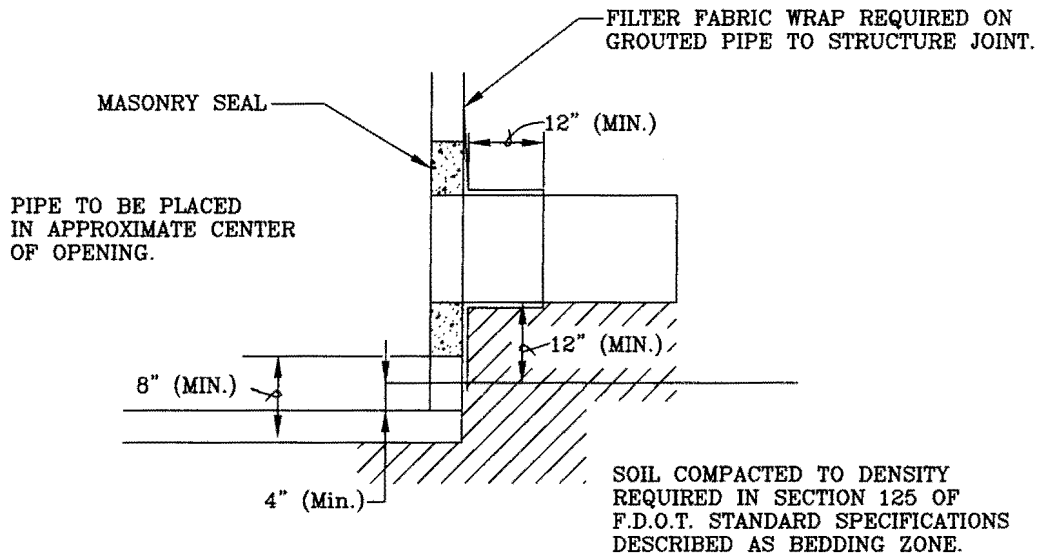
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REVISION:

NOTES:

1. GROUT TO CONSIST OF 3:1 SAND-CEMENT MIXTURE OR ANY CLASS CONCRETE.
2. FOR ALL STRUCTURES, UNLESS EXCLUDED BY SPECIAL DETAIL, BRICKS SHALL NOT BE USED IN THIS AREA, UNLESS THEY ARE COVERED WITH 4" THICK (MIN.) CONCRETE ABOVE THE BRICKS.



PINELLAS COUNTY

**FILTER FABRIC WRAP AND
GROUT AT STRUCTURES**

DETAIL INDEX I.D.:

1265

DATE:

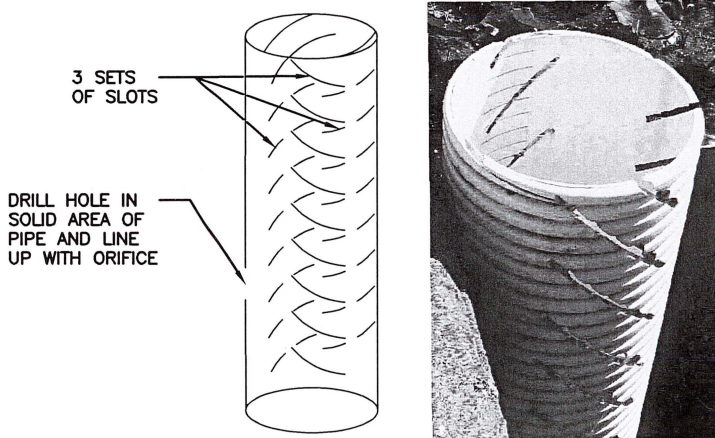
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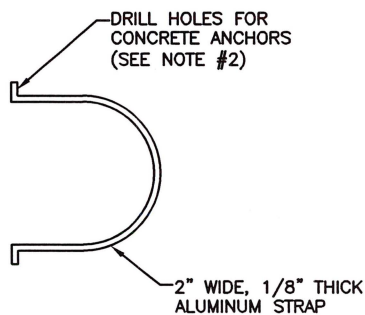
NOTES:

1. THIS ANTI-CLOGGING DEVICE SHALL ONLY BE USED ON ORIFICES THAT ARE LESS THAN ONE INCH IN DIAMETER AND WHEN AN EXTERNAL SKIMMER IS PRESENT.
2. ALUMINUM STRAPS SHALL BE ANCHORED TO OUTFALL STRUCTURE WITH 1/4" x 2-3/4" HEX HEAD STAINLESS STEEL TAPCON® CONCRETE SCREWS (OR APPROVED EQUIVALENT). A MINIMUM OF 2 SCREWS PER STRAP IS REQUIRED.
3. TO PROVIDE SUFFICIENT FLOW CAPACITY, A MINIMUM CLEARANCE OF 1-INCH BETWEEN THE BOTTOM OF THE 6" SLOTTED PIPE AND THE SCOUR PAD IS REQUIRED.
4. CONTRACTOR SHALL CUT 3 SETS OF SLOTS SPACED EQUIDISTANT AROUND THE CIRCUMFERENCE OF THE 6" SLOTTED PVC PIPE. THE SLOTS SHALL BE 1/8" WIDE, 5" LONG, 2" APART, AND EXTEND THE ENTIRE LENGTH OF THE PIPE. SLOTS SHALL BE CUT ON A 45 DEGREE ANGLE. REFER TO DETAIL.
5. CONTRACTOR SHALL DRILL A HOLE 1/4" LARGER THAN THE ORIFICE INTO THE 6" SLOTTED PVC PIPE AND LINE UP THE PIPE HOLE WITH THE ORIFICE WHEN INSTALLING THE PIPE. THE PIPE HOLE SHALL BE LOCATED IN A SOLID SECTION OF PIPE BETWEEN TWO OF THE SETS OF THE 1/8" SLOTS.
6. CONCRETE PAD SHALL BE PRE-CAST AND EXTEND AT LEAST ONE FOOT BEYOND ALL SIDES OF SKIMMER. CONCRETE MINIMUM SPECS. ARE: 4" THICKNESS; 2500 PSI WITH #5 REBAR ON 1' CENTERS; TWO #5 REBARS SHALL BE LOCATED 4" FROM EDGE AND DOWELED INTO OUTFALL STRUCTURE. ENGINEER SHALL ASSESS SITE CONDITIONS AND OUTFALL STRUCTURE DESIGN TO STRENGTHEN PAD ACCORDINGLY.
7. TERM "ENGINEER" REFERS TO PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.



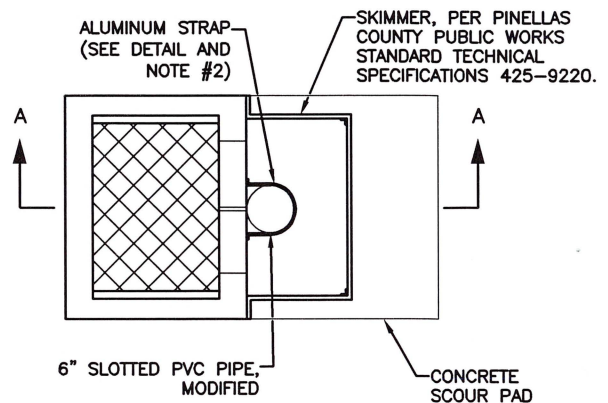
MODIFIED 6" SLOTTED PVC PIPE DETAIL

N.T.S.



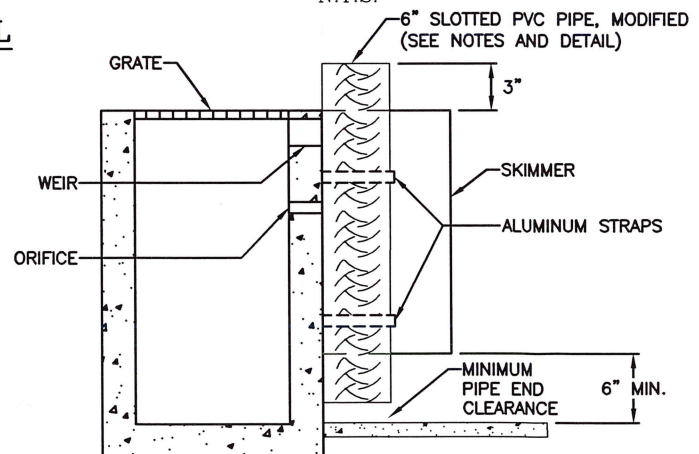
ALUMINUM STRAP DETAIL

N.T.S.



PLAN VIEW

N.T.S.



SECTION A-A

N.T.S.

PINELLAS COUNTY

ANTI-CLOGGING DEVICE FOR POND
OUTFALL CONTROL STRUCTURES

DETAIL INDEX I.D.:

1270

DATE:

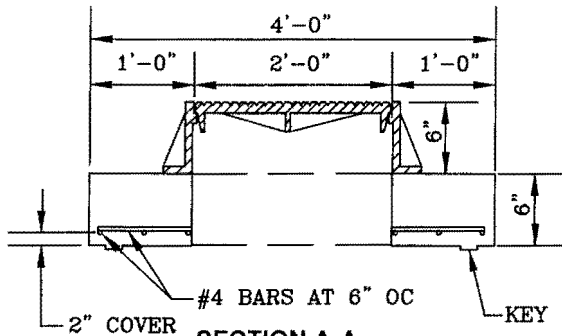
NOV/2017

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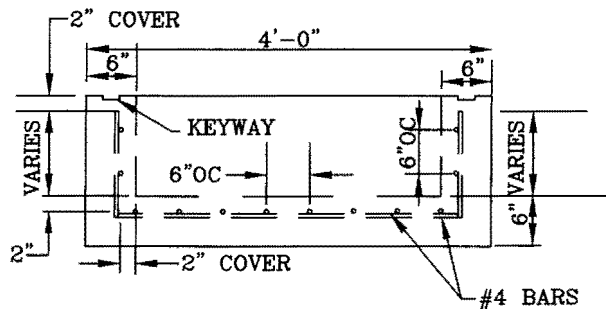
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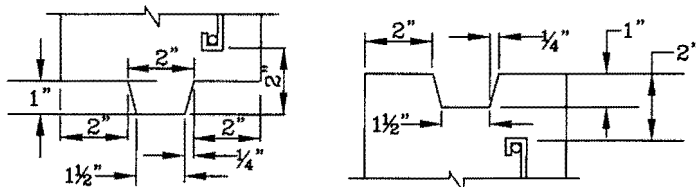
1. THIS MANHOLE SHALL BE CONSTRUCTED OF PRECAST CONCRETE.
2. CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO SECTION 425 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
3. LIFTING HOLES SHALL BE LOCATED AS NEEDED.
4. NO INVERTS SHALL BE POURED.
5. 2" CLEARANCE COVER FOR REINFORCING STEEL.
6. OPENING AROUND UNDERDRAIN PIPE SHALL BE GROUT-FILLED.



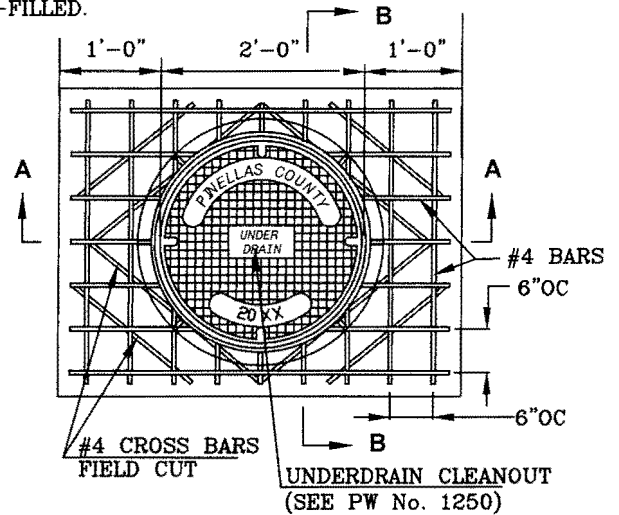
**SECTION A-A
TOP SLAB**



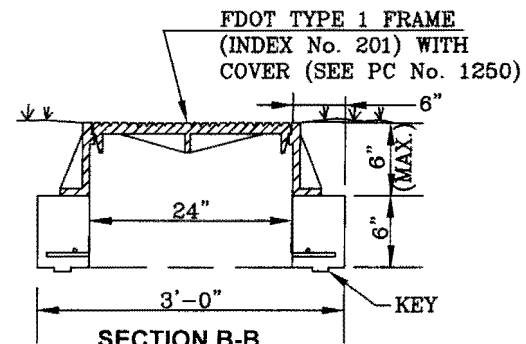
**SECTION A-A
BOTTOM UNIT**



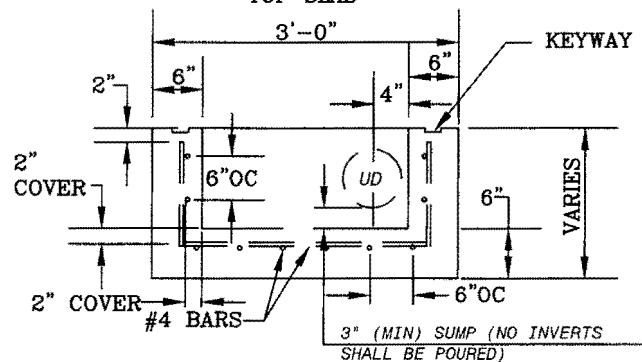
KEY DETAIL



**PLAN VIEW
TOP SLAB**



**SECTION B-B
TOP SLAB**



**SECTION B-B
BOTTOM UNIT**

PINELLAS COUNTY

UNDERDRAIN INSPECTION MANHOLE TYPE 1

DETAIL INDEX I.D.:

1281

DATE:

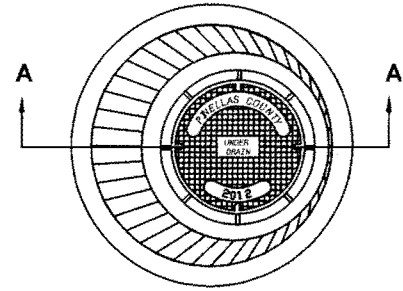
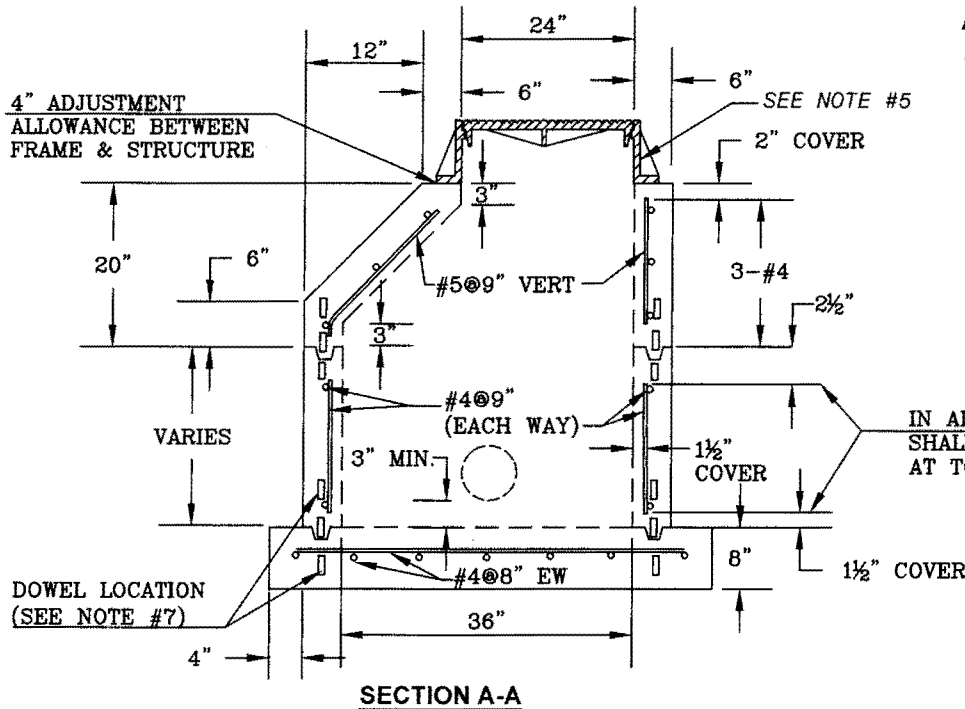
FEB/2016

IVAN J. FERNANDEZ, P.E.

REVISION:

NOTES:

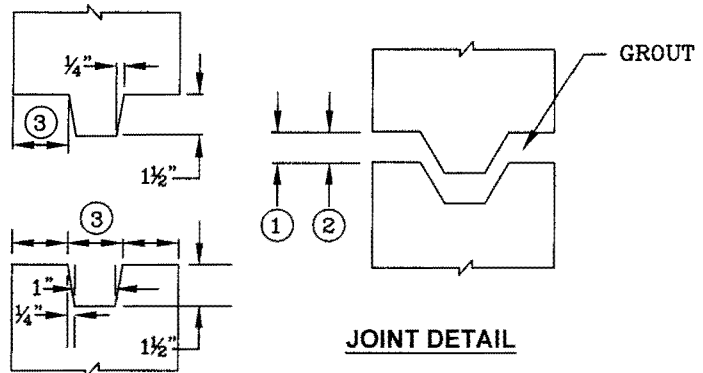
1. CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO SECTION 425 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
2. OPENING AROUND UNDERDRAIN PIPE SHALL BE GROUT-FILLED.
3. MANHOLE COVERS SHALL COMPLY WITH PC No. 1250.
4. WHEN AUTHORIZED BY THE ENGINEER AND AT NO ADDITIONAL EXPENSE TO THE COUNTY, F.D.O.T. INDEX No. 200 MANHOLE TYPE P (ALTERNATE A), MAY BE USED IN PLACE OF A COUNTY UNDERDRAIN INSPECTION MANHOLE.
5. EXCEPT AS OTHERWISE NOTED ON THE PLANS, FRAME FOR MANHOLE COVERS SHALL BE F.D.O.T. INDEX No. 201, TYPE I.
6. MINIMUM WALL THICKNESS: $4\frac{1}{2}$ " FOR PREFAB AND 6" FOR POURED IN PLACE.
7. FOR POURED IN PLACE CONSTRUCTION, DOWELS MAY BE USED IN LIEU OF JOINT KEY AND GROUTING. DOWELS SHALL EXTEND A MINIMUM OF 6" INTO ADJACENT SECTIONS.



PLAN VIEW
(SEE FDOT INDEX No. 200)

JOINT DIMENSIONS

- ① 1" PRIOR TO PLACEMENT OF UPPER SECTION
- ② $\frac{1}{2}$ " MAXIMUM AFTER FINAL SETTLEMENT OF UPPER SECTION
- ③ $1\frac{1}{2}$ " WIDE ($4\frac{1}{2}$ " WALL)
2" WIDE (6" WALL)



PINELLAS COUNTY

UNDERDRAIN INSPECTION MANHOLE TYPE 2

DETAIL INDEX I.D.:

1282

DATE:

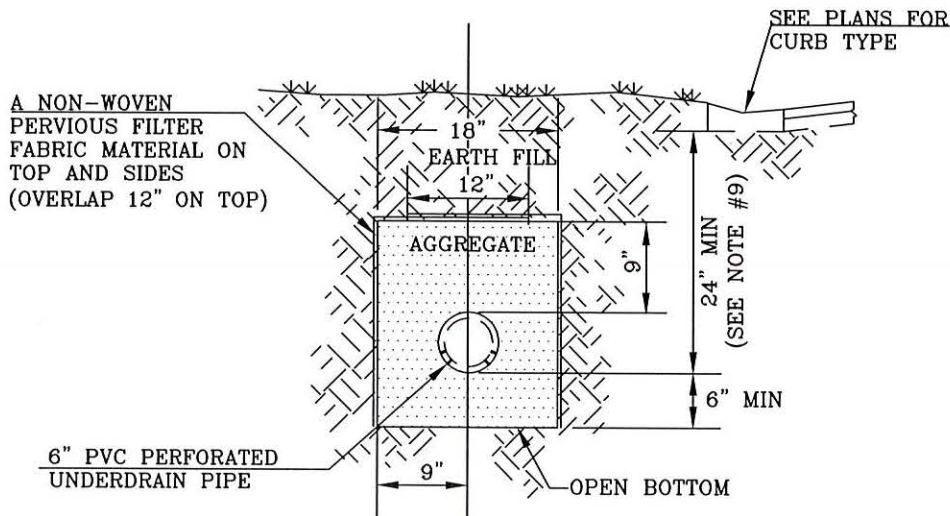
FEB/2016

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REVISION:

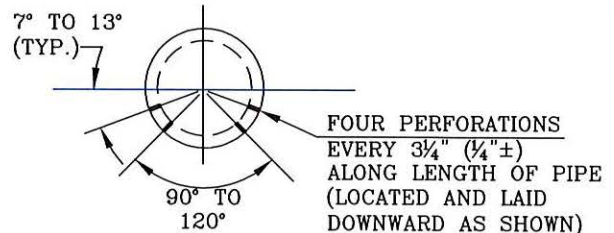
NOTES:

1. ALL VALUES EXCEPT A.O.S. AND ELONGATION ARE MINIMUM AVERAGE ROLL VALUES IN THE WEAKEST PRINCIPAL DIRECTION. VALUES FOR A.O.S. AND ELONGATION ARE MAXIMUM AVERAGE ROLL VALUES.
2. FOR ADDITIONAL NOTES SEE F.D.O.T. STANDARD INDEX NO. 286.
3. PAYMENT FOR UNDERDRAIN (L.F.) SHALL BE FOR THE COMPLETED ASSEMBLY, NOT FOR INDIVIDUAL COMPONENTS REGARDLESS IF THEY EXIST IN THE BID SUBMITTAL SHEETS.
4. PVC PIPE SHALL CONFORM TO EITHER ASTM F758 OR ASTM D3034, EXCEPT THAT THE PIPE AND ARRANGEMENT OF PERFORATIONS SHALL CONFORM TO THE PERFORATION DETAIL ON THIS SHEET.
5. AGGREGATE SHALL BE AS SPECIFIED IN THE F.D.O.T. STANDARD SPECIFICATIONS, SECTION 901, AND SHALL BE SIZE 57.
6. DIAMETER OF PERFORATIONS SHALL BE $\frac{3}{16}$ " TO $\frac{3}{8}$ ".
7. MAXIMUM ALLOWABLE BEND SHALL BE $22\frac{1}{2}$ ", WITH A STRAIGHT 2' MINIMUM PIPE SEPARATION BETWEEN BENDS.
8. DO NOT USE PERFORATED PVC PIPE OR AGGREGATE UNDERNEATH ROADWAYS.
9. SEE PLANS FOR EXACT DIMENSIONS. DIMENSIONS LESS THAN 24" REQUIRES COUNTY APPROVAL.



SECTION VIEW

STANDARD CRITERIA	UNIT	TEST METHOD	VALUE
Permittivity	sec ⁻¹	ASTM-D-4491	0.2
A.O.S.	U.S. Sieve #	ASTM-D-4751	100+
Elongation	%	ASTM-D-4632	50
Grab Tensile Strength	N	ASTM-D-4632	1100
Sewn Strength	N	ASTM-D-4884	990
Puncture	N	ASTM-D-4833	400
Trapezoidal Tear	N	ASTM-D-4533	400
U.V. Resistance	AT 500 Hrs.	ASTM-D-4355	50%



PERFORATION DETAIL

PINELLAS COUNTY

ROADSIDE UNDERDRAIN INSTALLATION

DETAIL INDEX I.D.:

1290

DATE:

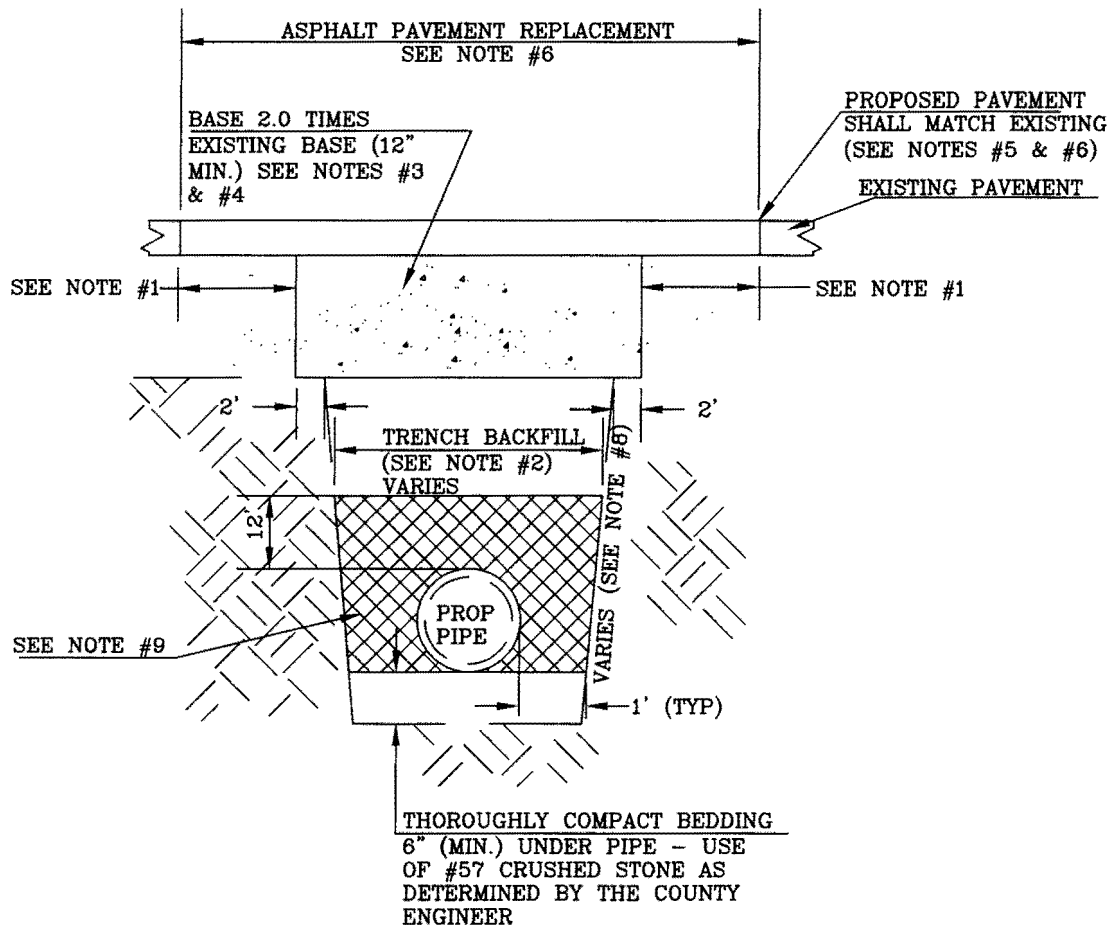
MAY/2017

IVAN J. FERNANDEZ, P.E.

REVISION:

NOTES:

1. MILLING AND RESURFACING LIMITS: 3'-0" FOR RESIDENTIAL ROADWAYS; 25'-0" FOR ALL OTHER TYPES OF ROADWAYS. SHALL INCLUDE ENTIRE LANE WIDTH.
2. BACKFILL FOR TRENCH SHALL BE PLACED IN 6" COMPACTED LAYERS TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99. (EXCAVATABLE FLOWABLE FILL OPTION IS SUBJECT TO COUNTY ENGINEER'S APPROVAL). TEST REPORTS ARE REQUIRED AND SHALL BE SUBMITTED TO PINELLAS COUNTY.
3. BASE MATERIAL SHALL BE LIME ROCK OR CRUSHED CONCRETE (MIN. LBR 100) AND SHALL BE PLACED IN 6" COMPACTED LAYERS TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 (MODIFIED) (TEST REPORTS ARE REQUIRED AND SHALL BE SUBMITTED TO PINELLAS COUNTY).
4. AS AN ALTERNATIVE TO COMPACTED BASE AND IN WET AREAS, FULL-LIFT ASPHALTIC CONCRETE, FINE TRAFFIC LEVEL C TYPES SP9.5 OR 12.5, SHALL BE PLACED IN 2" COMPACTED LAYERS WITH A MINIMUM THICKNESS EQUAL TO THE EXISTING BASE (6" MIN.).
5. ASPHALTIC CONCRETE PAVEMENT JOINTS SHALL BE SAW-CUT AND ALL SURFACES TACK COATED.
6. ASPHALT SURFACE SHALL BE CONSISTENT WITH EXISTING GRADE. IN ACCORDANCE WITH PINELLAS COUNTY SPECIFICATIONS, THE FOLLOWING ROADWAY CLASSIFICATION TYPE/THICKNESS ARE REQUIRED: ARTERIAL-3" MIN. TYPE SP-12.5 FINE TRAFFIC LEVEL "C"; COLLECTOR-2" MIN. TYPE SP-12.5 FINE TRAFFIC LEVEL "C"; RESIDENTIAL-1½" MIN. TYPE SP-9.5 TRAFFIC LEVEL "C" (TEST REPORTS ARE REQUIRED AND SHALL BE SUBMITTED TO PINELLAS COUNTY).
7. OVERLAY OF CONSTRUCTION SCARS TO PAVEMENT AND TRENCH SHALL BE REQUIRED AS DIRECTED BY THE COUNTY ENGINEER.
8. EXCAVATION SHALL COMPLY WITH THE TRENCH SAFETY ACT REQUIREMENTS.
9. INSTALL DRY COMPACTABLE MATERIAL AROUND THE PIPE.
10. ALL MATERIAL, WORK AND TESTING SHALL MEET PINELLAS COUNTY STANDARD SPECIFICATIONS.
11. CONTRACTOR SHALL RESTORE PAVEMENT TO MATCH THE GRADES THAT EXISTED PRIOR TO CONSTRUCTION. ANY ADDITIONAL SURVEY NECESSARY TO ENSURE THAT THIS REQUIREMENT IS MET SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.



PINELLAS COUNTY

PAVEMENT CUTS, EXCAVATION AND RESTORATION

DETAIL INDEX I.D.:

1291

DATE:

FEB/2016

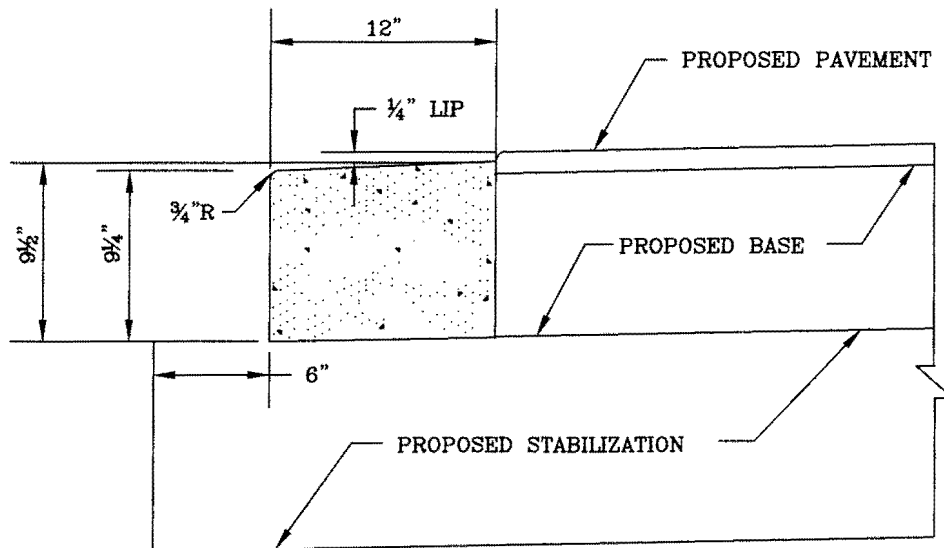
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REVISION:

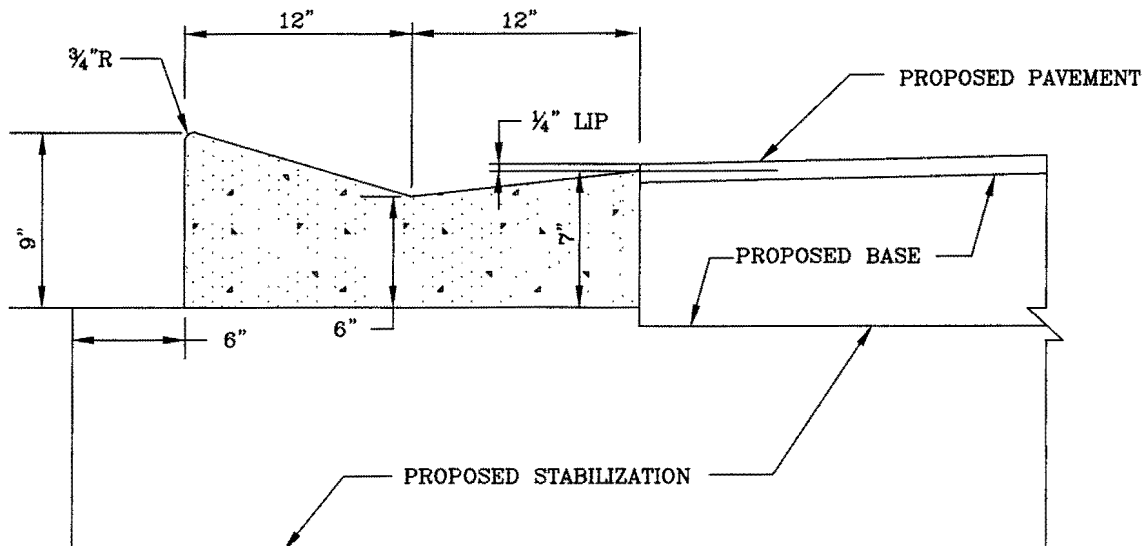
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6

NOTE:

1. $\frac{1}{2}$ " EXPANSION JOINT EVERY 500', BETWEEN CURB SECTIONS, AT RADII, END OF POUR AND STRUCTURES. (FALSE JOINTS EVERY 10', LONGITUDINALLY. SEE SECTION 520 OF THE F.D.O.T. STANDARD SPECIFICATIONS.)



PROFILE VIEW OF HEADER CURB



PROFILE VIEW OF CURB & GUTTER

PINELLAS COUNTY

**CURB AND GUTTER TYPE A
AND HEADER CURB**

DETAIL INDEX I.D.:

1305

DATE:

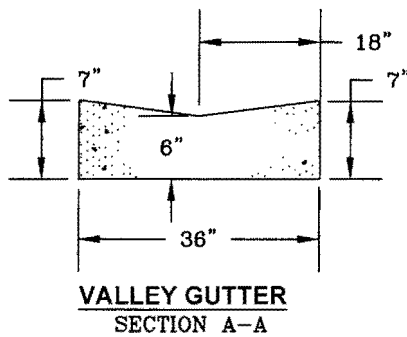
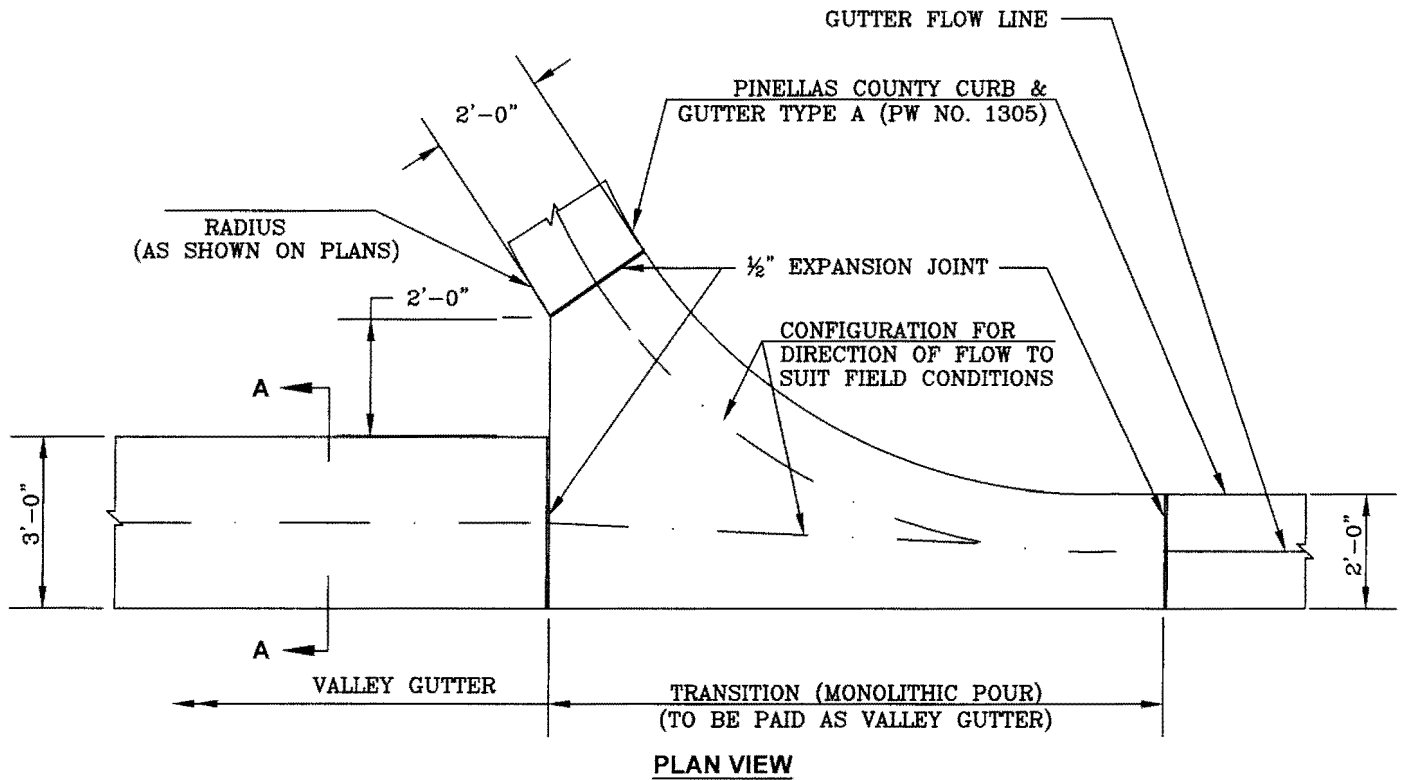
FEB/2016

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REVISION:

NOTES:

1. SURFACE OF PAVEMENT SHALL BE $\frac{1}{4}$ " ABOVE LIP OF GUTTER.
2. $\frac{1}{2}$ " EXPANSION JOINT (AS SHOWN) AND CENTERLINE OF SIDE STREET, WITH (SAWCUT) FALSE JOINTS EVERY 10', LONGITUDINALLY. (SEE SECTION 520 OF THE F.D.O.T. STANDARD SPECIFICATIONS).



PINELLAS COUNTY

VALLEY GUTTER AND TRANSITION

DETAIL INDEX I.D.:

1315

DATE:

FEB/2016

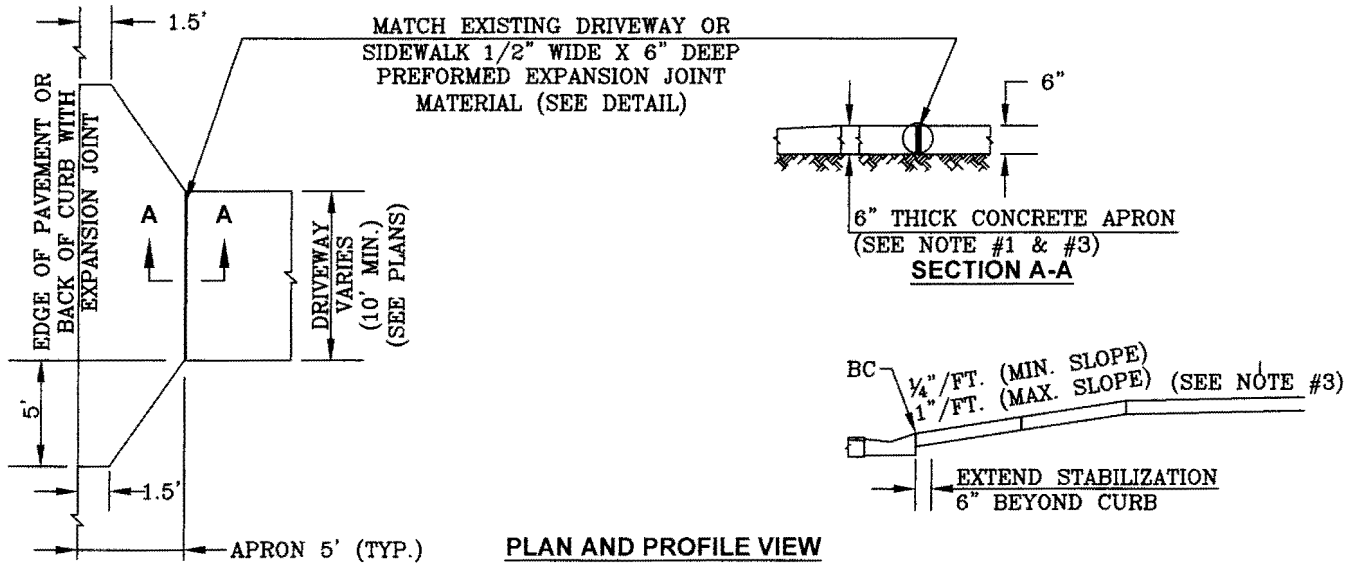
IVAN J. FERNANDEZ, P.E.

Ivan J. Fernandez

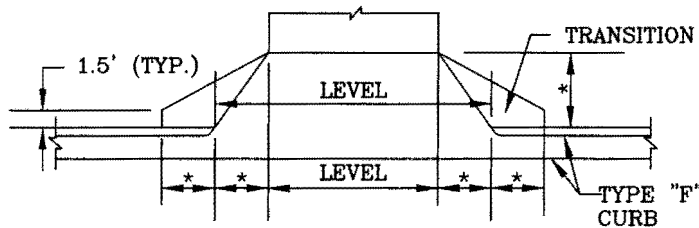
REVISION:

NOTES:

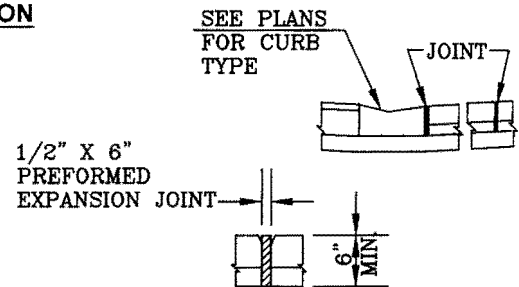
1. CONCRETE DRIVEWAY APRONS AND SIDEWALK CROSSINGS SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT (3000 PSI), 6" THICK REINFORCED WITH 6" X 6" #10/#10 WELDED WIRE FABRIC, (2" MINIMUM COVER FROM THE BOTTOM.)
2. FIBER REINFORCED CONCRETE 3000 PSI (MIN.) MAY BE USED IN PLACE OF THE REQUIREMENTS OF NO. 1 ABOVE.
3. CONSTRUCTION OF APRON/DRIVEWAY CROSS SLOPES AND SIDEWALK CROSS SLOPE THROUGH THE DRIVEWAY SHALL COMPLY WITH F.D.O.T. INDEX NO. 515 FOR ADA REQUIREMENTS.
4. REMOVE TREE ROOTS WITHIN 10" OF PROPOSED GRADE.
5. WHEN THERE IS EXISTING SIDEWALK CROSSING THE PROPOSED DRIVEWAY, IT MUST BE REMOVED TO THE NEAREST JOINT BEYOND THE DRIVEWAY.
6. SIDEWALKS ADJACENT TO LOT PROPERTY LINES SHALL NOT HAVE A CROSS SLOPE GREATER THAN 2% PER F.D.O.T. INDEX 310.
7. CORNER LOTS INVOLVING HANDICAP RAMPS SHALL BE IN ACCORDANCE WITH F.D.O.T. INDEX 304 FOR SIDEWALK AND RAMP CONSTRUCTION.



TYPE "A" CURB DRIVEWAY APRON



TYPE "F" CURB DRIVEWAY APRON



JOINT DETAIL

PINELLAS COUNTY

CONCRETE DRIVEWAY APRON

DETAIL INDEX I.D.:

1340

DATE:

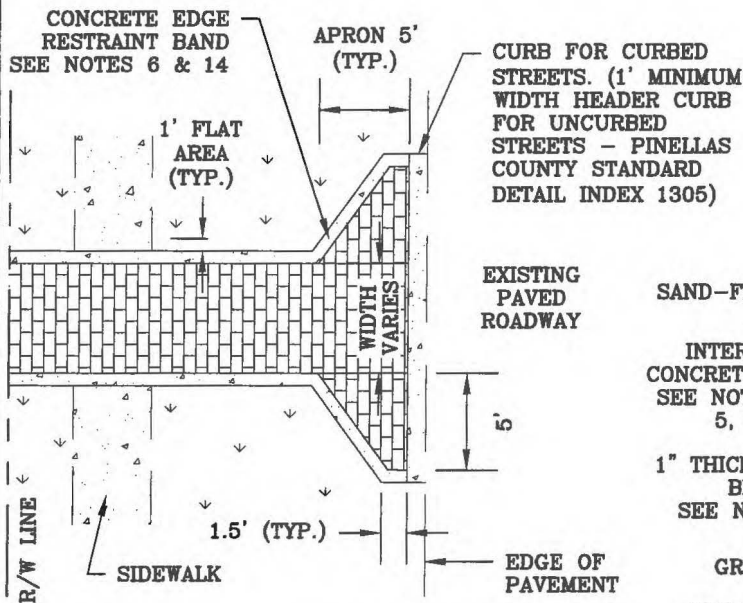
FEB/2016

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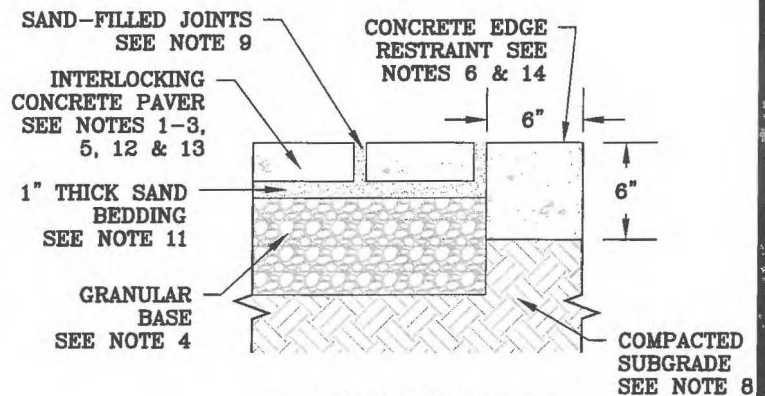
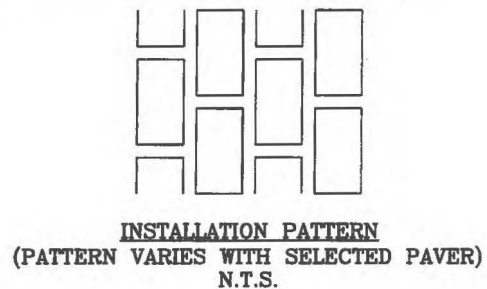
REVISION:

NOTES:

1. Interlocking paving units shall generally be installed in accordance with manufacturer's requirements.
2. Minimum Paver Thickness: 2-3/8" (Concrete), 2-1/4" (Clay Brick).
3. Concrete Pavers to conform to ASTM C936. Clay Brick Pavers to conform to ASTM C902.
4. Granular Base shall be in accordance with manufacturer's requirements (6" min.). Granular base shall be Limerock (LBR 100) or Crushed Concrete (Graded Aggregate) compacted to at least 98% modified Proctor Density (ASTM D1557).
5. Coloring or dye shall be uniform throughout each concrete paver unit. Dipped or externally colored paver units are unacceptable.
6. Curb will need to be constructed along the roadway edge of pavement at the driveway. As an alternate, on streets without curbing, a minimum 12-inch width is acceptable (per Pinellas County Standard Details Index 1305). A minimum of 6-inch wide and 6-inch deep concrete edge restraint band is required along each side of the driveway to contain the architectural pavers, on top of soil compacted to 98% modified Proctor density (ASTM D1557). All concrete shall meet FDOT specifications for Class I Concrete.
7. Final finished surface shall be of uniform elevation or slope.
8. Subgrade shall be free of clay, organics, or other materials which will allow future settlement and compacted to 98% AASHTO T-180-57 or ASTM D1557.
9. Polymeric sand or other joint filling material, as approved by the County Engineer, shall be installed between pavers. Joint sand shall meet the grading requirements of ASTM C144 or CSA-A179. Bedding sand may be used for joint sand. Joint width shall not exceed 1/8".
10. The cross slope on any required pedestrian path crossing a driveway and/or drive apron cannot exceed 2%.
11. Sand Bedding material shall be a clean, non-plastic bedding and joint sand, free from deleterious or foreign matter, natural or manufactured from crushed rock, and shall meet the grading requirements of ASTM C33 or CSAA23.1-FA1. Do not use joint sand for bedding. Sand bedding should be placed to an even thickness of 1-inch. Do not use the sand to fill depressions in the granular base.
12. In accordance with the 2010 ADA (Americans with Disabilities Act) Standards for Accessible Design (403, 405, 406) the surface texture of pavers shall be vibration free with a limit of 1/4" or less rise not more than every 30 inches. Pavers shall be installed in a tight uniform configuration that provides a smooth surface for wheelchair users.
13. Pavers shall not impede drainage or result in any ponding of water. Existing drainage flows shall not be altered.
14. Alternate edge treatments may be submitted for approval to the county by the property owner.



TYPICAL LAYOUT
N.T.S.



TYPICAL CROSS SECTION
N.T.S.

PINELLAS COUNTY

RESIDENTIAL DRIVEWAY/SIDEWALK PAVER DETAIL

DETAIL INDEX I.D.:

1345

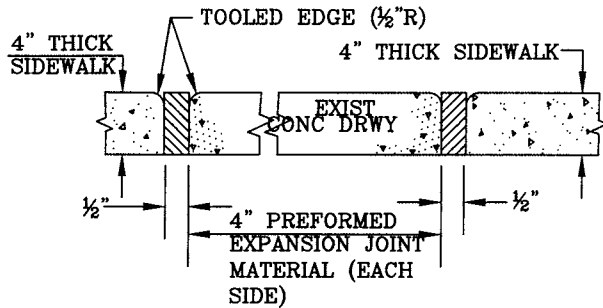
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REVISION:

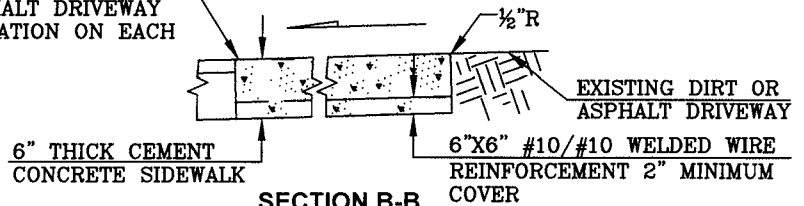
NOTES:

1. SEE PLANS FOR LIMITS OF SIDEWALKS AT ALL DRIVEWAYS.
2. PLACE $\frac{1}{2}$ " EXPANSION JOINT WHERE CONCRETE ABUTS CONCRETE CURBS, SIDEWALKS DRIVEWAYS.
3. SIDEWALK SHALL COMPLY WITH F.D.O.T. INDEX No. 515 AND PINELLAS COUNTY ORDINANCES.
(SEE INDEX No. 1340)
4. REMOVE TREE ROOTS WITHIN 10" OF PROPOSED GRADE.
5. SIDEWALKS ALONG RURAL CROSS SECTION ROADWAYS WHERE VEHICLES CAN CROSS THE SIDEWALK SHALL BE 6" THICK.

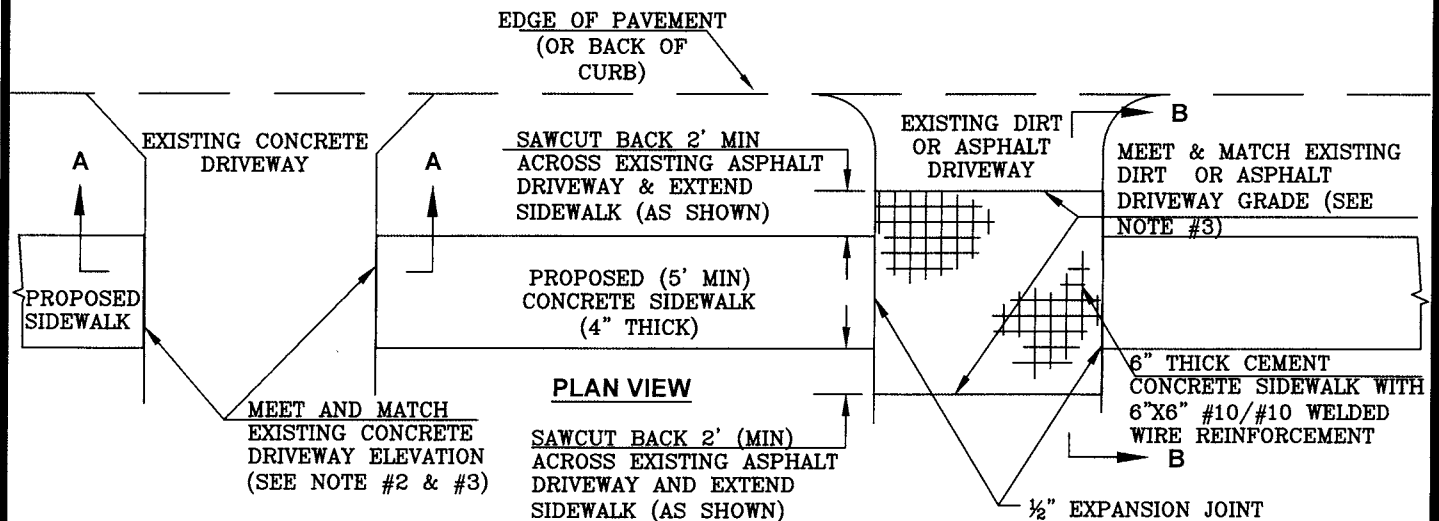


SECTION A-A

MEET AND MATCH
EXISTING DIRT OR
ASPHALT DRIVEWAY
ELEVATION ON EACH
SIDE



SECTION B-B



PINELLAS COUNTY

**SIDEWALK THROUGH EXISTING
DRIVEWAYS**

DETAIL INDEX I.D.:

1353

DATE:

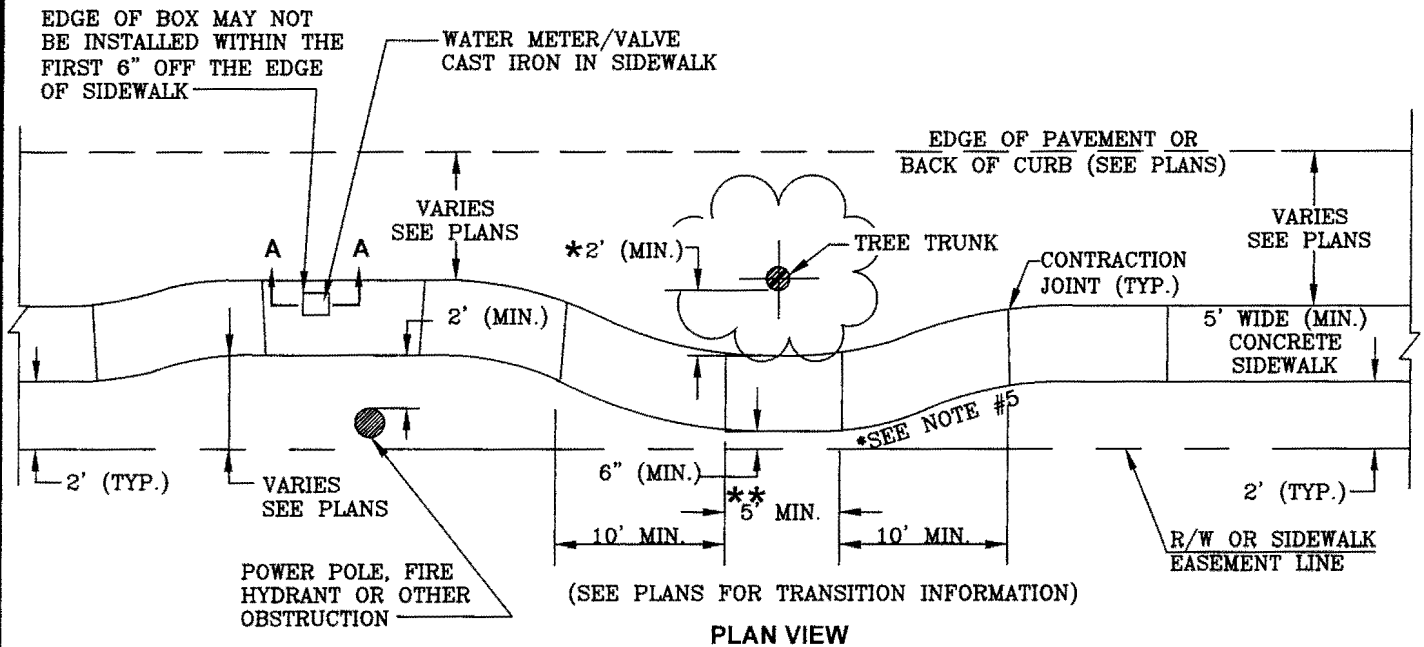
FEB/2016

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REVISION:

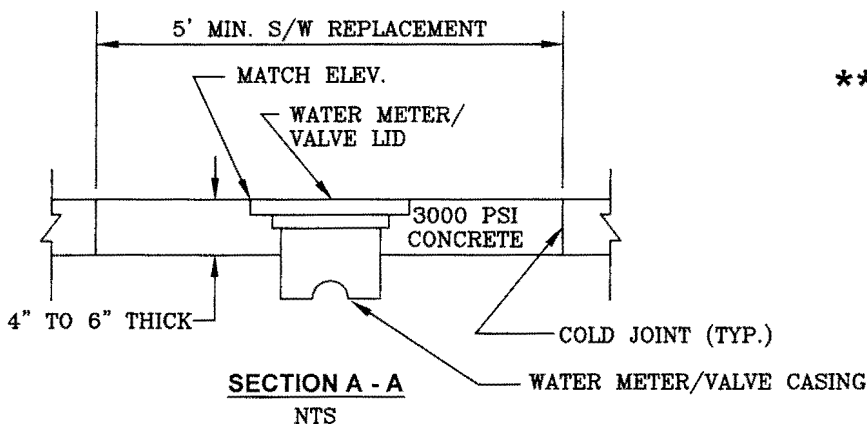
NOTES:

1. ADJUST SIDEWALK TO AVOID OBSTRUCTIONS, AS SHOWN, OR AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH F.D.O.T. MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION, AND MAINTENANCE FOR STREETS AND HIGHWAYS - LATEST EDITION ("FLORIDA GREEN BOOK").
2. CONSTRUCTION OF SIDEWALKS SHALL MEET ADA REQUIREMENTS AS SPECIFIED IN F.D.O.T. INDEX NOS. 515 AND 304.
3. POWER POLES SHALL BE MOVED WHEN POSSIBLE.
4. TREES SHALL BE PRUNED BY AN ISA CERTIFIED ARBORIST IN ACCORDANCE WITH ANSI-A300 GUIDELINES TO MAINTAIN VERTICAL CLEARANCE: 9 FT. FOR SIDEWALKS AND 18 FT. FOR ROADS.
5. MAXIMUM LATERAL DEFLECTION SHALL BE 5:1.
6. REMOVE TREE ROOTS WITHIN 10" OF PROPOSED GRADE.
7. CONTRACTION JOINTS SHALL MEET F.D.O.T. INDEX No. 310.
8. ANY NECESSARY PRUNING SHALL BE PERFORMED BY AN ISA CERTIFIED ARBORIST IN ACCORDANCE WITH ANIS-A300 STANDARDS.



*THIS MINIMUM DIMENSION MAY NEED ADJUSTMENT BASED ON THE DIAMETER, HEALTH AND SPECIES OF THE TREE. ADJUSTMENTS REQUIRE PRE-APPROVAL OF THE COUNTY ENGINEER

**CENTERED ON VERTICAL OBSTRUCTION- SIDEWALK SHALL BE 6" THICK ALONG THIS LENGTH (5'-0" MIN.)



PINELLAS COUNTY

**GUIDELINES FOR SIDEWALK
ALIGNMENT**

DETAIL INDEX I.D.:

1357

DATE:

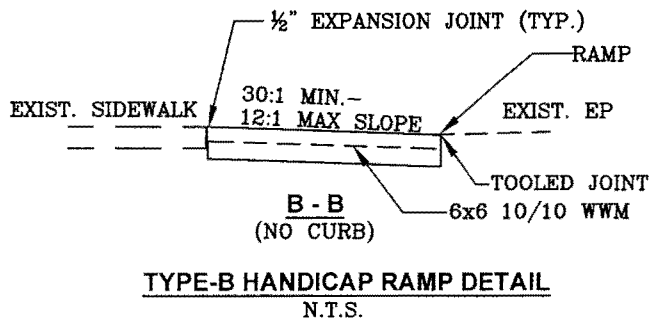
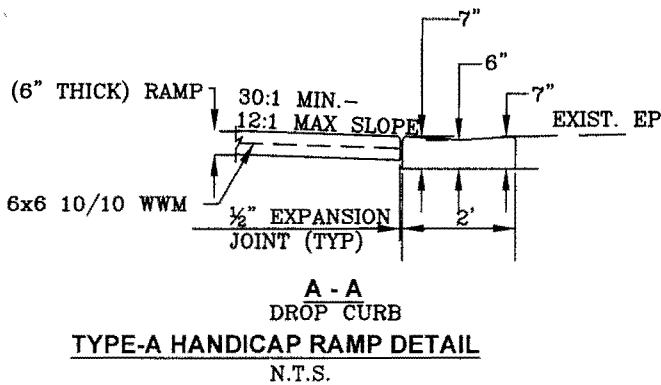
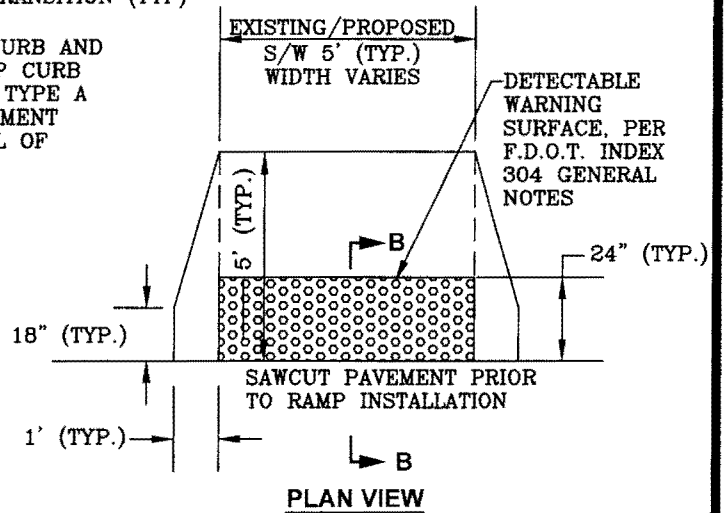
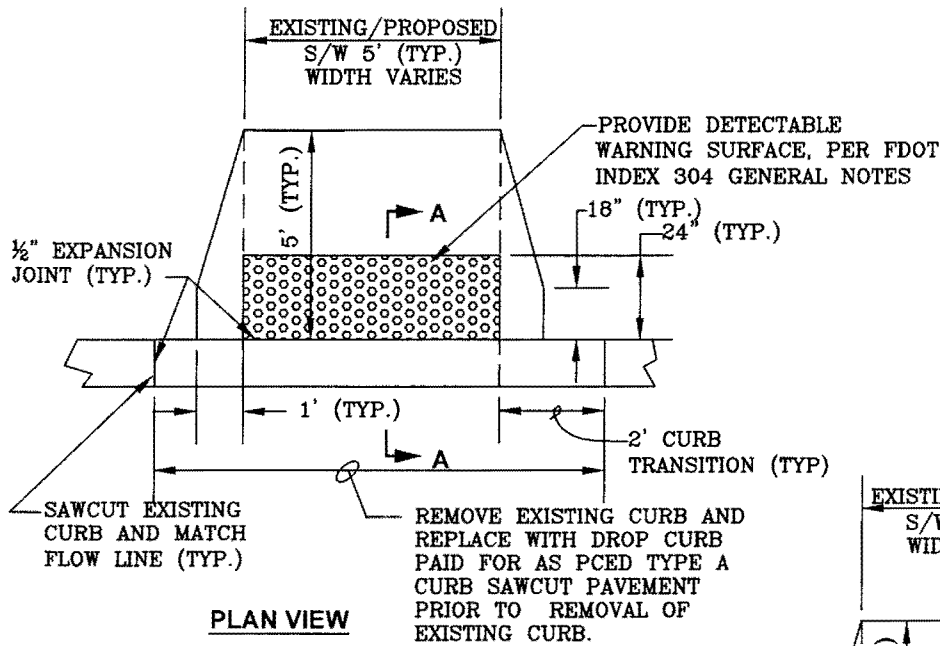
FEB/2016

IVAN J. FERNANDEZ, P.E.

REVISION:

NOTE:

1. 6" THICK w/6x6 10/10 WWM REINFORCED CLASS I (3000 PSI) CONCRETE RAMP (TYP. FOR TYPE A & B).



PINELLAS COUNTY

**P.C.E.D. TYPE "A" AND "B"
HANDICAP RAMP DETAIL**

DETAIL INDEX I.D.:

1360

DATE:

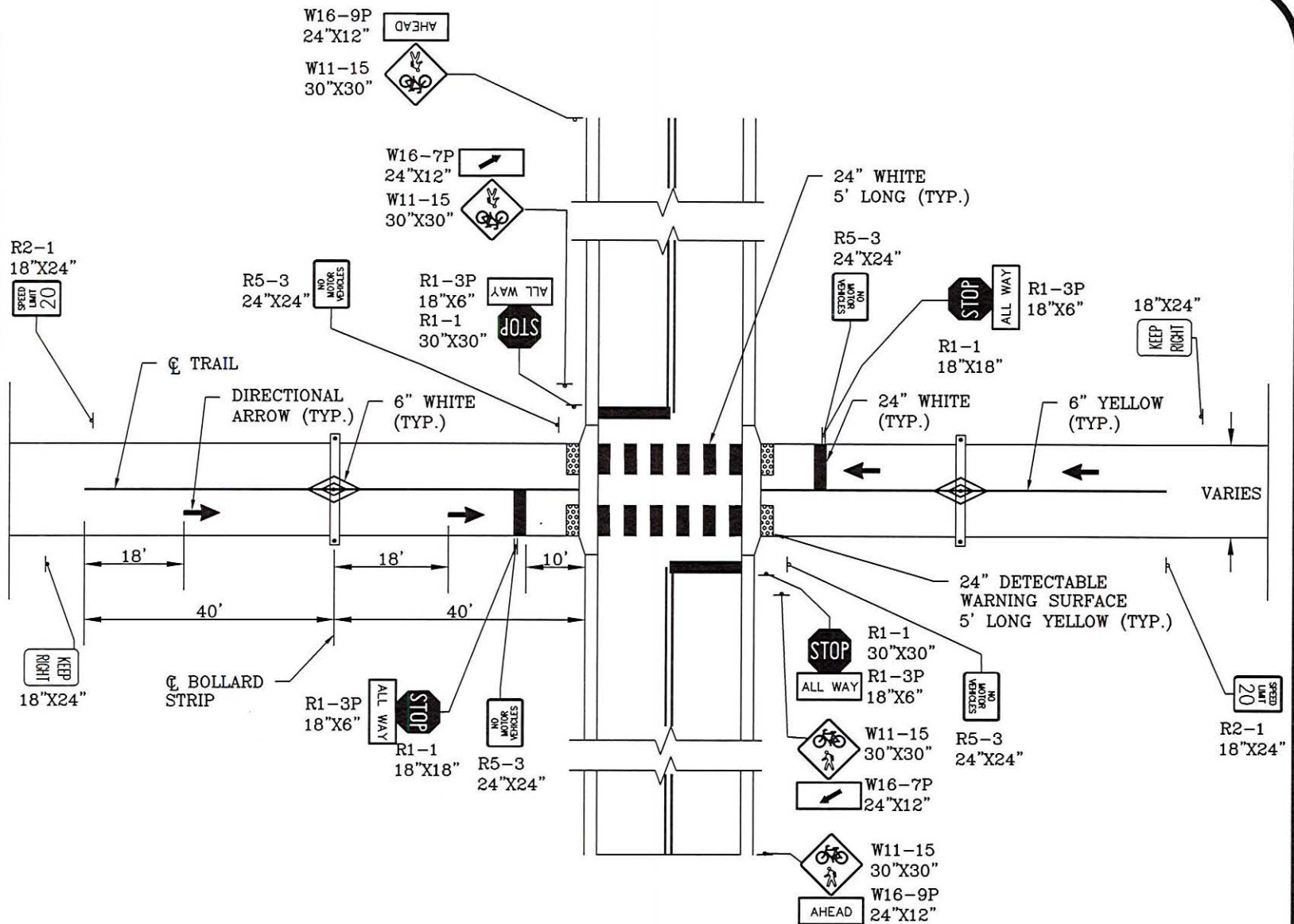
FEB/2016

IVAN J. FERNANDEZ, P.E.

REVISION:

P.C.E.D. TRAIL INTERSECTION CROSSING DETAIL - SHEET 1 OF 4

PINELLAS COUNTY



NOTES:

1. WARNING SIGNS W11-5, W16-9P, W16-7P SHALL BE IN ACCORDANCE WITH THE MUTCD, SECT. 1A-12, COLOR CODE "F"-FLUORESCENT YELLOW-GREEN.
2. OFFSET DISTANCES FOR SIGNS SHALL BE IN ACCORDANCE WITH FDOT STANDARD PLANS AND/OR DIMENSIONS PROVIDED IN THE CONSTRUCTION PLANS.
3. DETECTABLE WARNINGS SHALL BE IN ACCORDANCE WITH PINELLAS COUNTY SPECIFICATION 522
4. TRAIL WIDTHS VARY. SOLID YELLOW PAVEMENT MARKING SHALL BE PLACED ALONG THE CENTERLINE OF THE TRAIL

**TRAIL INTERSECTION
DETAIL
NOT TO SCALE**

DETAIL INDEX I.D.:

1365-SHT. 1

DATE:

JULY 1 2018

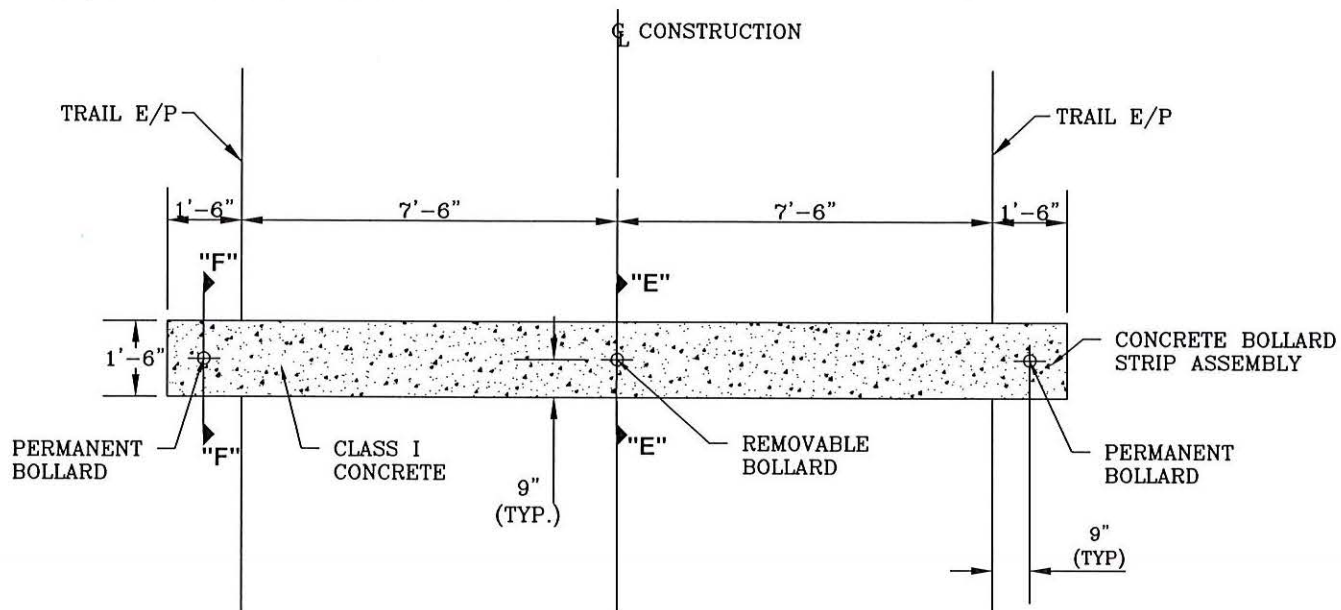
MAN: FERNANDEZ, P/E

REVISION:

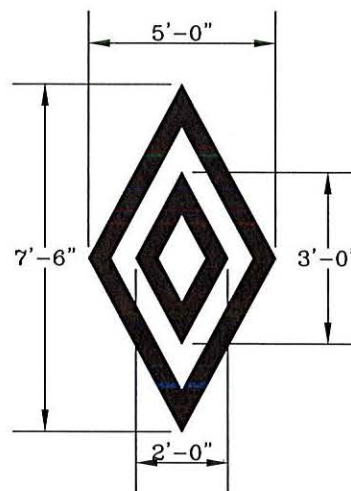
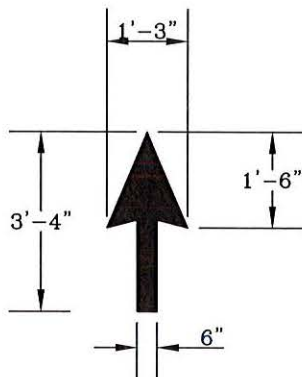
Chuan

NOTES:

1. ALL BOLLARDS CONSTRUCTED WITHIN THE CONCRETE BOLLARD ASSEMBLY ARE PAID FOR UNDER CONCRETE BOLLARD STRIP ASSEMBLY.
2. ALL BOLLARDS CONSTRUCTED OUTSIDE OF THE CONCRETE BOLLARD STRIP ASSEMBLY ARE PAID FOR UNDER A SEPARATE PAY ITEM UNLESS OTHERWISE NOTED.
3. TYPICAL TRAIL WIDTH IS 15 FEET; HOWEVER, TRAIL WIDTHS MAY VARY. WIDTH OF BOLLARD STRIP SHALL BE ADJUSTED TO FIT ACTUAL TRAIL WIDTH
4. E/P REPRESENTS EDGE OF PAVEMENT



BOLLARD STRIP PLAN VIEW
NOT TO SCALE



PAVEMENT MESSAGE DIMENSIONS
ALL MARKINGS ARE WHITE
NOT TO SCALE

PINELLAS COUNTY

P.C.E.D. TRAIL INTERSECTION
CROSSING DETAIL - SHEET 2 OF 4

DETAIL INDEX I.D.:

1365-SHT. 2

DATE:

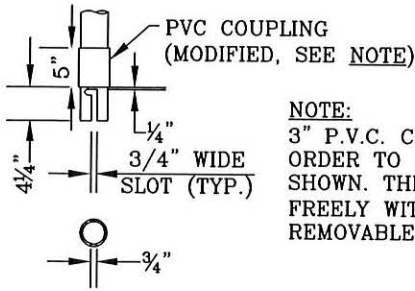
JULY 2018

IVAN J. FERNANDEZ P.E.

REVISION:

NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. ALL SIGNAGE TO BE ERECTED ALONG TRAIL IS TO BE OFFSET 4' FROM EDGE OF PAVEMENT TO NEAREST EDGE OF SIGN AND 7' FROM THE PROPOSED GRADE TO THE BOTTOM OF THE SIGN.
3. 6" WIDE 3MTM PRESSURE SENSITIVE, HIGH-INTENSITY GRADE RED REFLECTIVE SHEETING, TO BE PLACED ON ALL BOLLARDS. OVERLAP ENDS OF SHEETING BY $\frac{1}{4}$ " MINIMUM.
4. ALL BOLLARDS CONSTRUCTED WITHIN THE CONCRETE BOLLARD ASSEMBLY ARE PAID FOR UNDER CONCRETE BOLLARD STRIP ASSEMBLY.
5. ALL BOLLARDS CONSTRUCTED OUTSIDE OF THE CONCRETE BOLLARD STRIP ASSEMBLY ARE PAID FOR UNDER A SEPARATE PAY ITEM UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL USE DURABLE REFLECTIVE PAINT DESIGNED FOR APPLICATION ON PVC AND/OR STEEL COMPONENTS. SPECIFICATIONS OF PROPOSED PAINT SHALL BE SUBMITTED TO THE COUNTY FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF PAINTING OPERATIONS. CONTRACTOR SHOULD PREPARE SURFACE ACCORDING TO MANUFACTURER'S DIRECTION.

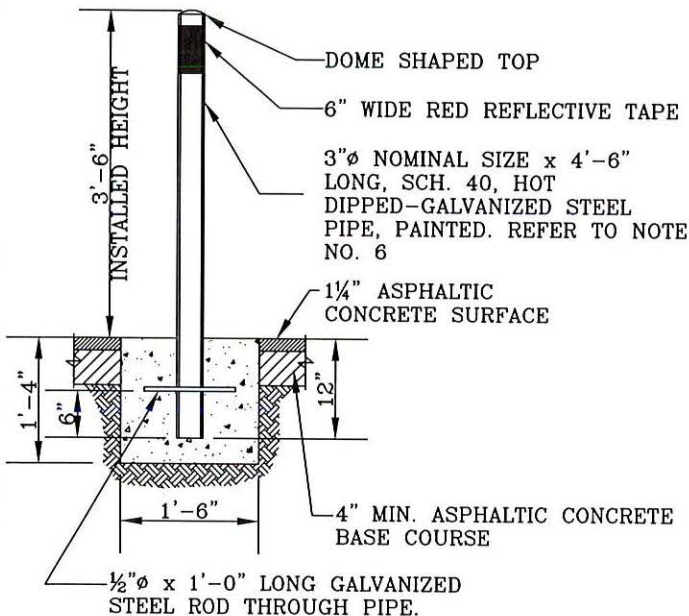


NOTE:

3" P.V.C. COUPLING SHALL BE MACHINED FOR A SLIP-FIT. UNIFORM INSIDE ϕ IN ORDER TO ALLOW THE COUPLING TO BE SOLVENT WELDED AT THE POSITION SHOWN. THE OUTSIDE ϕ SHALL BE MACHINED TO ALLOW THE COUPLING TO SLIDE FREELY WITHIN THE 4" P.V.C. PIPE EMBEDDED IN CONCRETE AS SHOWN IN THE REMOVABLE BOLLARD DETAIL.

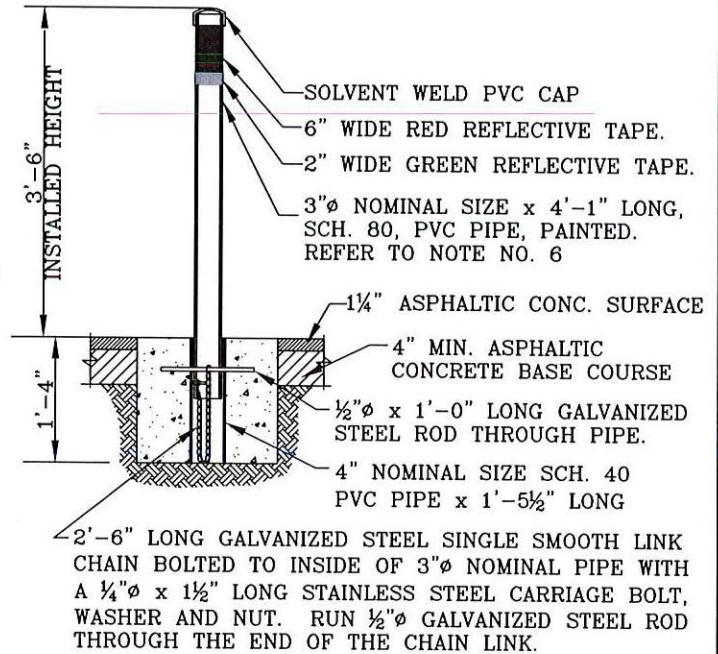
SLOT AND COUPLING DETAIL

NOT TO SCALE



PERMANENT BOLLARD DETAIL "F"

NOT TO SCALE



REMOVABLE BOLLARD DETAIL "E"

NOT TO SCALE

PINELLAS COUNTY

P.C.E.D. TRAIL INTERSECTION
CROSSING DETAIL - SHEET 3 OF 4

DETAIL INDEX I.D.:

1365-SHT. 3

DATE:

JULY/2018

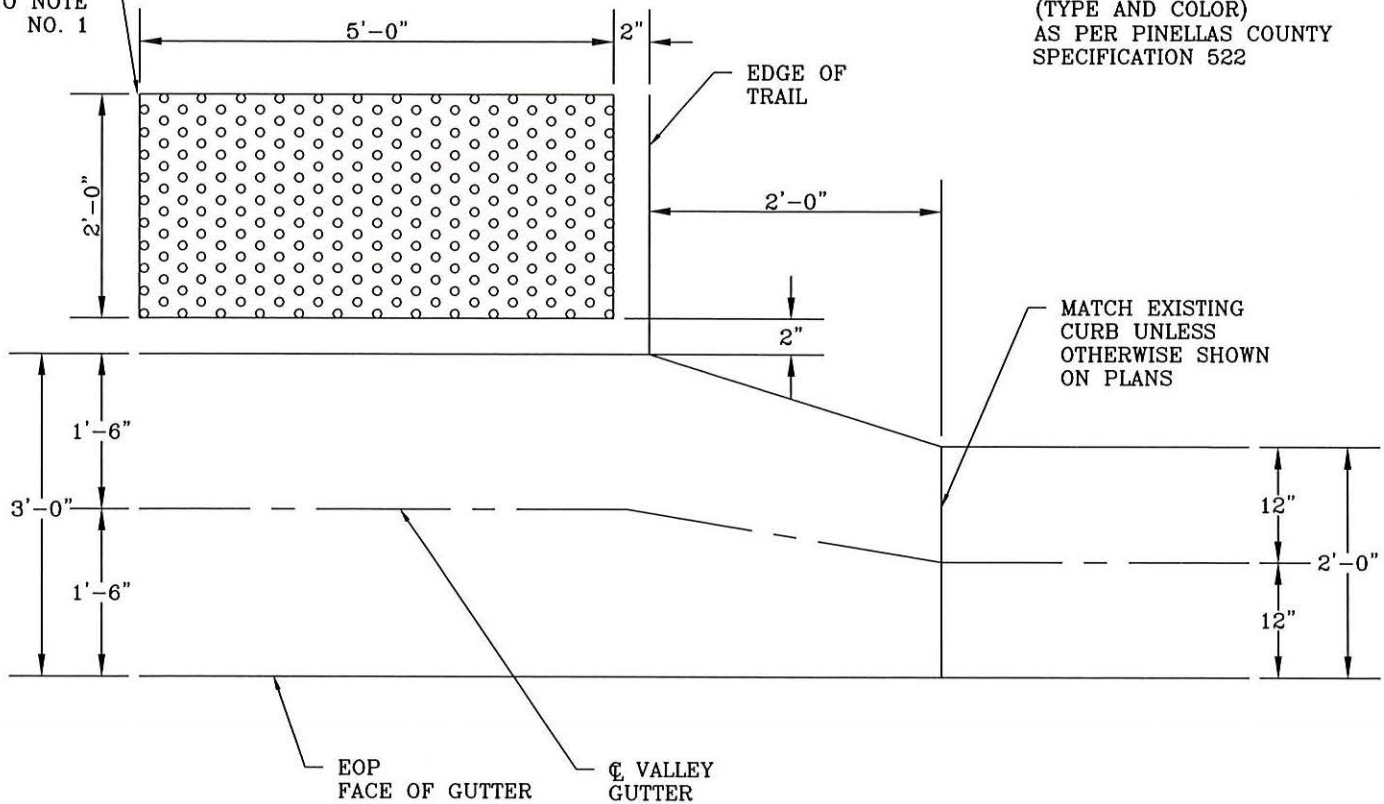
IVAN J. FERNANDEZ P.E.

REVISION:

REFER
TO NOTE
NO. 1

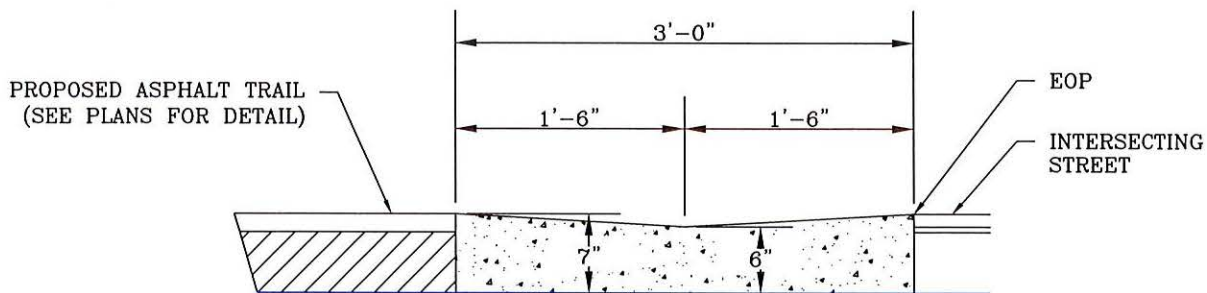
NOTES:

1. TRUNCATED DOME
(TYPE AND COLOR)
AS PER PINELLAS COUNTY
SPECIFICATION 522



VALLEY GUTTER TRANSITION

NOT TO SCALE



VALLEY GUTTER DETAIL

NOT TO SCALE

PINELLAS COUNTY

P.C.E.D. TRAIL INTERSECTION
CROSSING DETAIL - SHEET 4 OF 4

DETAIL INDEX I.D.:

1365-SHT.4

DATE:

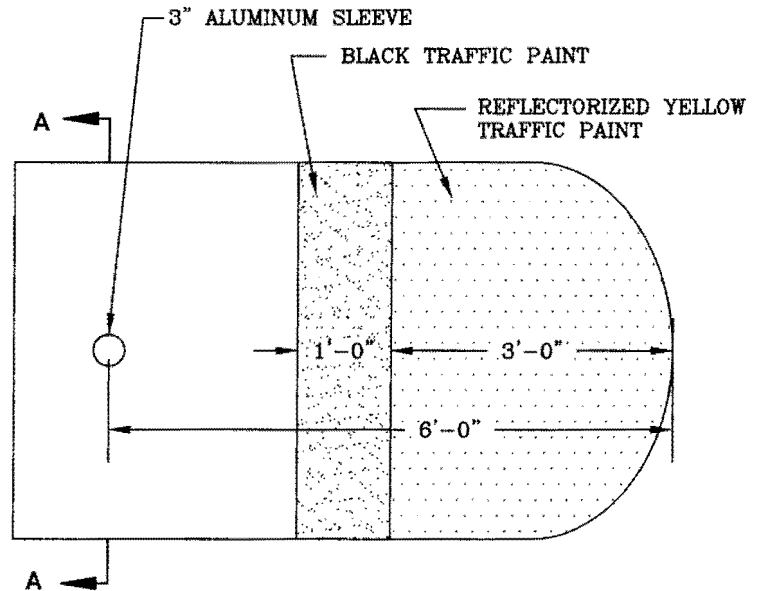
JULY/2018

IVAN J. FERNANDEZ, P.E.

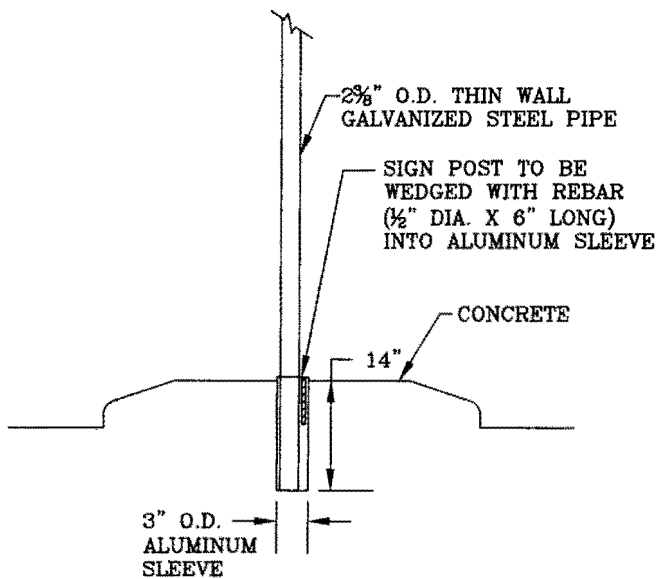
REVISION:

NOTE:

1. THE USE OF ALUMINUM SLEEVES SHALL BE APPLICABLE FOR ALL CASES WHERE A SIGN POST IS PLACED IN CONCRETE (I.E., SIDEWALKS, ETC.). WHEN PLACED IN A CONCRETE MEDIAN OR TRAFFIC SEPARATOR, IT SHALL BE CENTERED 6' FROM NOSE END, UNLESS OTHERWISE SPECIFIED IN THE PLANS.



TOP VIEW
MEDIAN NOSE
N.T.S.



SECTION A-A
N.T.S.

PINELLAS COUNTY

**TRAFFIC SIGN INSTALLATION
INTO CONCRETE**

DETAIL INDEX I.D.:

1380

DATE:

FEB/2016

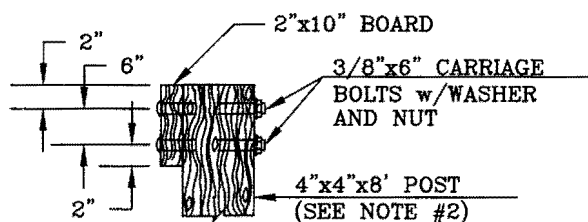
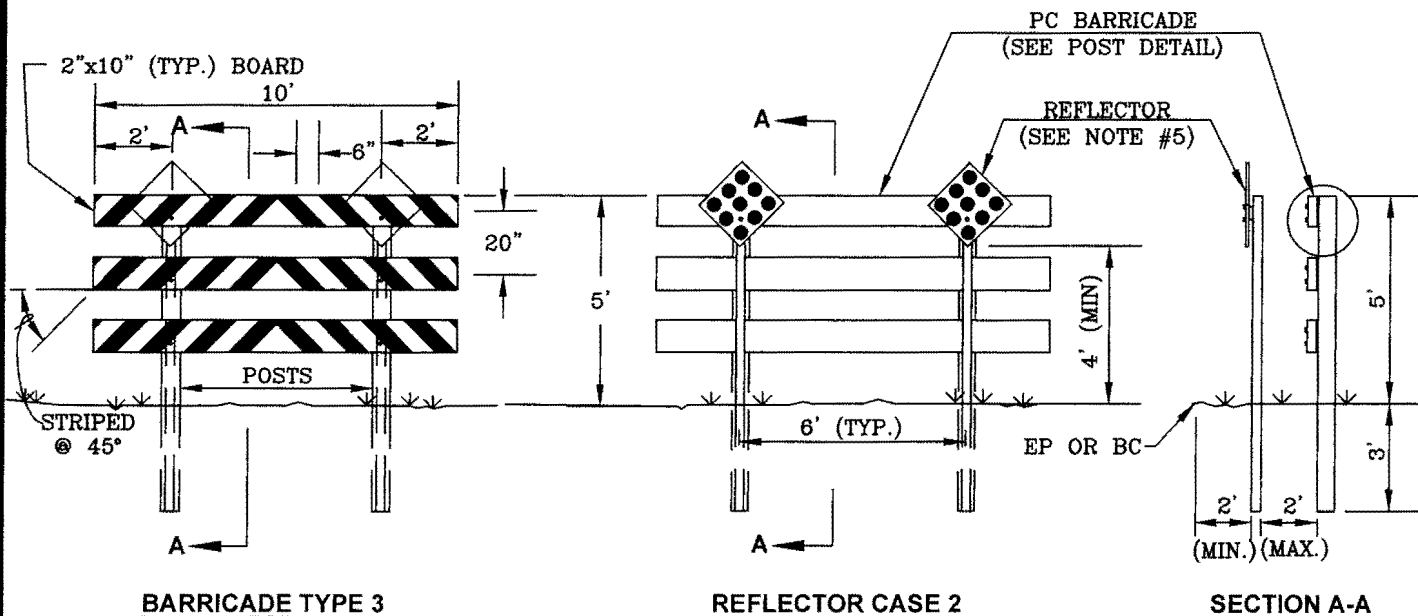
IVAN J. FERNANDEZ, P.E.

REVISION:

6

NOTES:

1. STRIPES SHALL BE WHITE AND ORANGE FOR TEMPORARY BARRICADE DURING CONSTRUCTION PHASE AND WHITE AND RED FOR PERMANENT BARRICADE WITH A MATERIAL THAT HAS A HIGH INTENSITY AND SMOOTH SEALED OUTER SURFACE. USE ONLY PRESSURE TREATED POSTS (ASTM D-1760 PRESSURE TREATMENT OF TIMBER PRODUCTS).
2. USE ONLY GALVANIZED COATED HARDWARE.
3. THE SPACING OF REFLECTORS SHALL ALIGN WITH BARRICADE POSTS.
4. REFLECTOR PANEL AND POST ASSEMBLY SHALL COMPLY WITH F.D.O.T. INDEX No.17349 FOR CASE 2 AND SECTION 994 OF F.D.O.T. SPECIFICATIONS.



WOOD POST

PINELLAS COUNTY

BARRICADE WITH REFLECTORS

DETAIL INDEX I.D.:

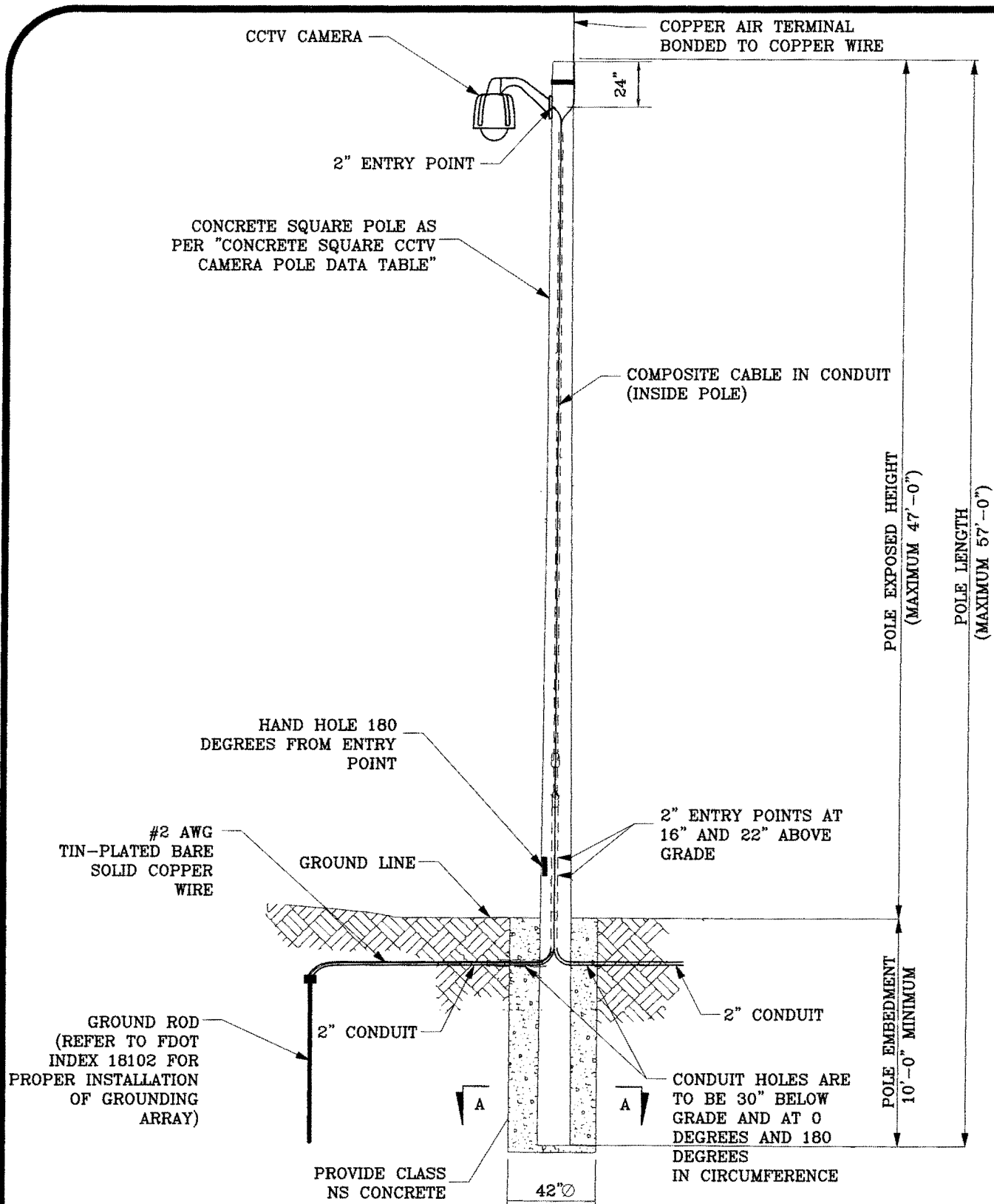
1406

DATE:

FEB/2016

IVAN J. FERNANDEZ, P.E.

REVISION:



PINELLAS COUNTY

CONCRETE SQUARE CCTV CAMERA POLE
SHEET 1 OF 2

DETAIL INDEX I.D.:

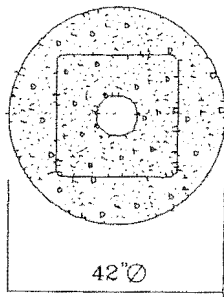
1700 - SH.1

DATE:

FEB/2016

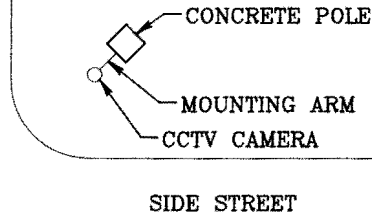
IVAN J. FERNANDEZ, P.E.

REVISION:



SECTION A-A

MAIN STREET



CCTV ORIENTATION DETAIL

CONCRETE SQUARE CCTV CAMERA POLE DATA TABLE					
EXPOSED POLE LENGTH (ft)	GRADE SLOPE	POLE TIP WIDTH (in)	POLE TAPER (in/ft)	EMBEDMENT DEPTH (ft)	TOTAL POLE LENGTH (ft)
47	Flat	8.5	0.162	10	57

NOTES:

1. ALL POLES SHALL BE FULLY EMBEDDED IN CLASS NS CONCRETE.
2. WORK THIS SHEET WITH FDOT INDEX 17725 STANDARD TYPE P-IV POLE DESIGN ONLY.
3. ONLY ATTACHMENT ALLOWED ON POLES IS THE CCTV CAMERA.

PINELLAS COUNTY

CONCRETE SQUARE CCTV CAMERA POLE
SHEET 2 OF 2

DETAIL INDEX I.D.:

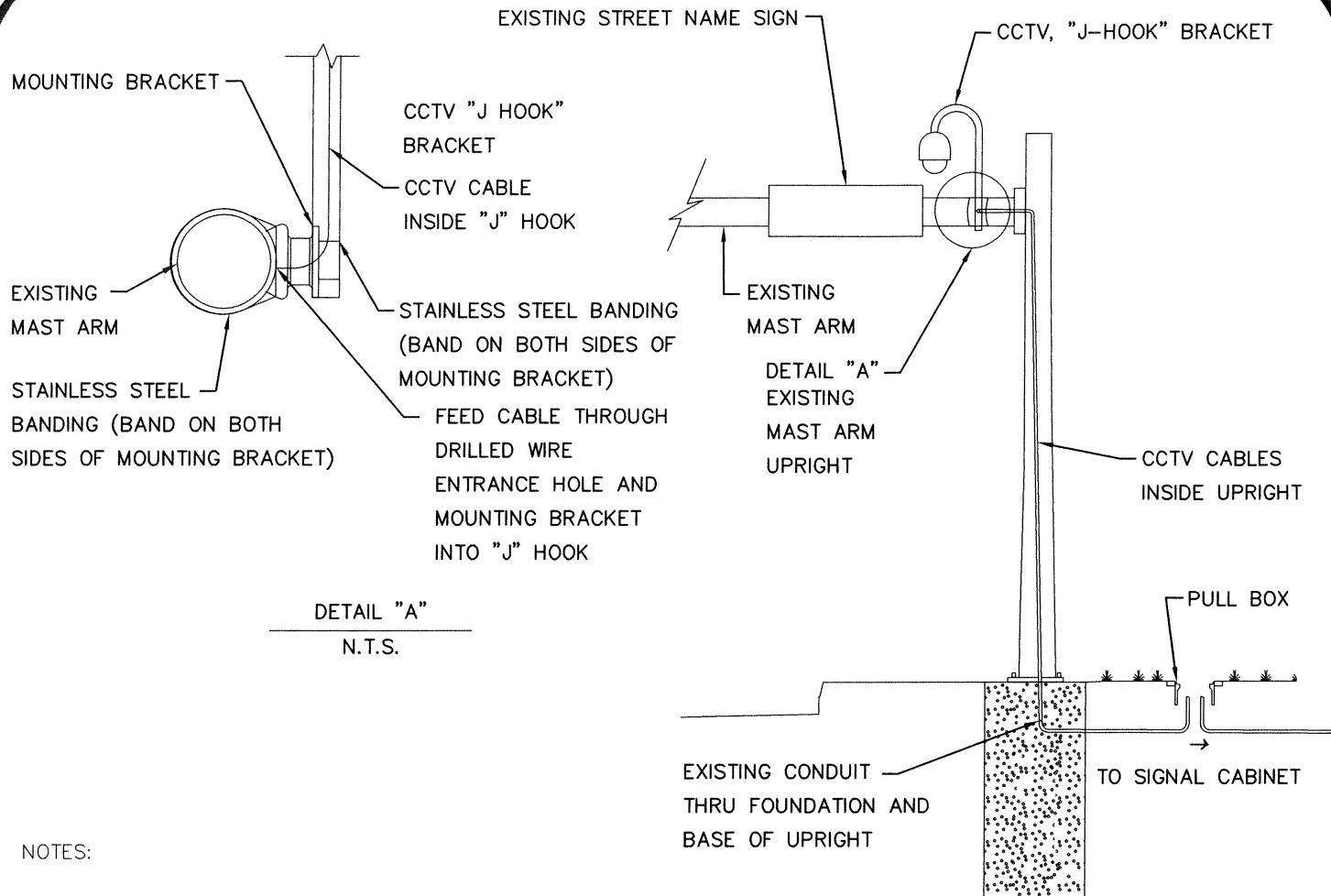
1700 - SH.2

DATE:

FEB/2016

IVAN J. FERNANDEZ, P.E.

REVISION:



NOTES:

1. ALL MOUNTING HARDWARE AND BRACKET SHALL BE PROVIDED BY PINELLAS COUNTY.
2. THE CONTRACTOR SHALL MOUNT THE "J HOOK" BRACKET AS HIGH AS POSSIBLE BUT SO THAT IT STILL SITS FIRMLY IN THE MOUNTING HARDWARE BRACKET. THE ATTACHMENT SHALL BE INSPECTED BY THE ENGINEER BEFORE THE CCTV CAMERA IS INSTALLED.
3. THE CONTRACTOR SHALL FIELD DRILL A HOLE IN THE MAST ARM OF A MINIMUM DIAMETER TO ACCOMMODATE THE CCTV COMPOSITE CABLE.
4. THE CONTRACTOR SHALL COLD GALVANIZE THE DRILLED HOLE AND PLACE A WEATHER-TIGHT GROMMIT IN THE HOLE PRIOR TO RUNNING THE CCTV COMPOSITE CABLE INTO THE ARM.
5. THE CONTRACTOR SHALL TOUCH UP THE MAST ARM PAINT DUE TO SCRATCHES OR CHIPS DURING THE INSTALLATION OF THE CCTV CAMERA AND COMPOSITE CABLE.
6. THE COST FOR LABOR AND MATERIALS FOR TOUCH UP AND GROMMITS SHALL BE INCLUDED UNDER THE CCTV PAY ITEM 682-1-30 OR 682-1-31.

PINELLAS COUNTY

CCTV MOUNTING DETAIL

DETAIL INDEX I.D.:

1705

DATE:

FEB/2016

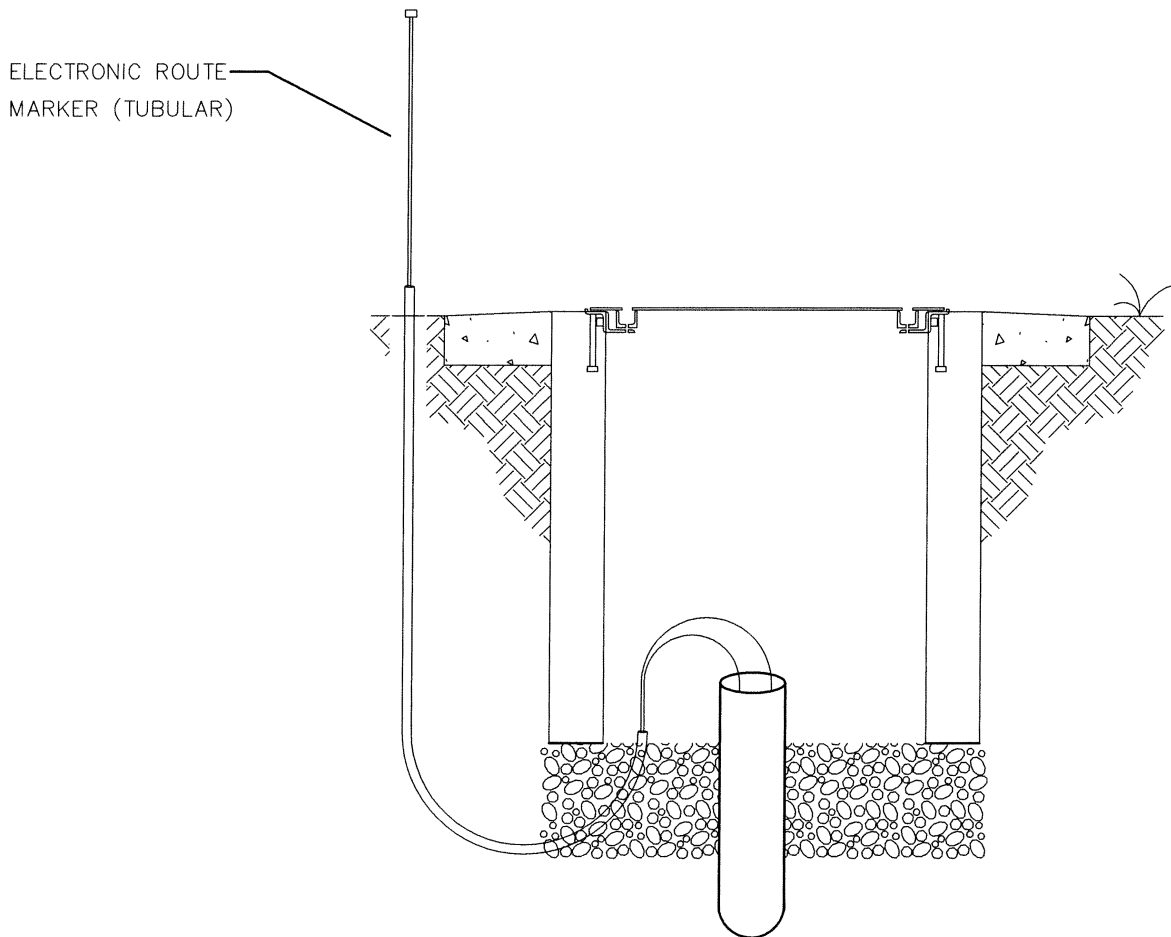
IVAN J. FERNANDEZ, P.E.

REVISION:

APRIL/2016

NOTES:

1. FOR MORE INFORMATION ON THE ELECTRONIC ROUTE MARKER (ERM), SEE SECTION 630 IN THE TECHNICAL SPECIFICATIONS AND THE GENERAL NOTES.
2. THE CONTRACTOR SHALL INSTALL THE ERM BEFORE PLACING THE CONCRETE APRON AROUND THE FIBER OPTIC PULL BOX OR SPLICE VAULT. HOWEVER, THE ERM SHALL NOT BE PLACED WITHIN THE CONCRETE APRON.
3. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE ERM AS SHOWN ON THIS SHEET, TECHNICAL SPECIFICATIONS SECTION 630, AND THE GENERAL NOTES.
4. THE CONTRACTOR SHALL ALSO INSTALL STANDARD ROUTE MARKERS (SRM) AT THE MIDPOINT OF THE CONDUIT RUN BETWEEN THE FIBER OPTIC PULL BOXES AND/OR SPLICE VAULTS. ROUTE MARKERS SHALL NOT BE INSTALLED IN DRIVEWAYS OR SIDEWALKS.
5. THE COST FOR THE ERMS SHALL BE PAID FOR UNDER PAY ITEMS 630-2 FOR CONDUIT.
6. THE TRACER WIRE FOR ALL CONDUIT LOCATING SHALL BE SPICED TOGETHER IN ONE CONTINUOUS LENGTH.



ELECTRONIC ROUTE MARKER (ERM) DETAILS FOR
FIBER OPTIC PULL BOXES AND SPLICE VAULTS
WITH CONCRETE APRONS

PINELLAS COUNTY

**ELECTRONIC ROUTE MARKER DETAIL
SHEET 1 OF 2**

DETAIL INDEX I.D.:

1710 - SH. 1

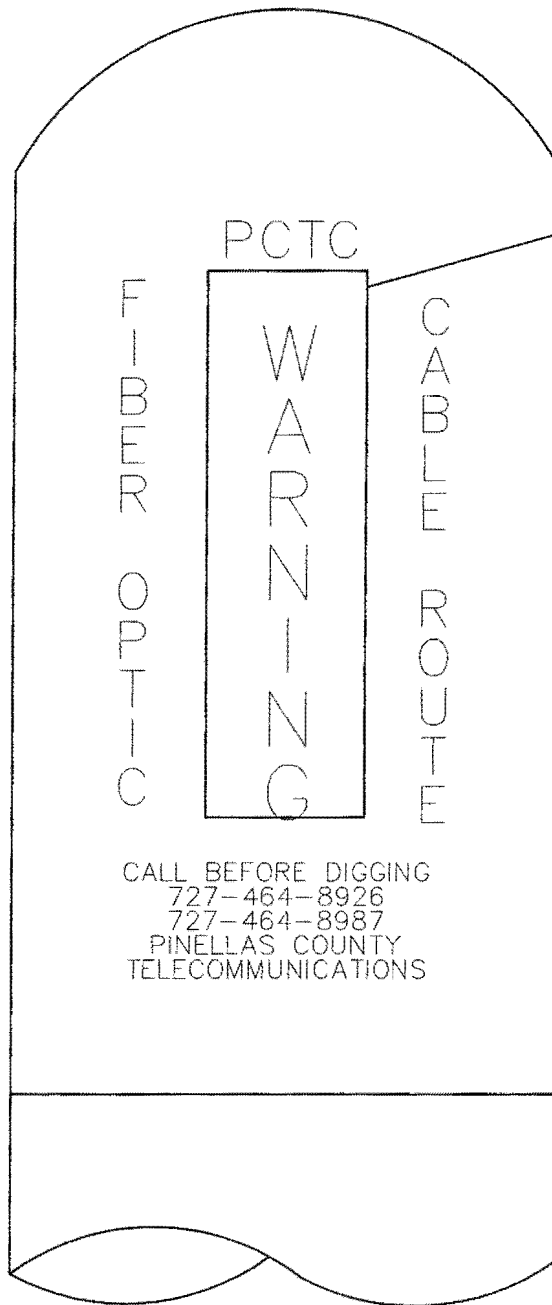
DATE:

FEB/2016

IVAN J. FERNANDEZ, P.E.

REVISION:

APRIL/2016



BLACK BACKGROUND
WITH ORANGE TEXT

LOGO ON BACK



ORANGE BACKGROUND
WITH BLACK TEXT

PINELLAS COUNTY

**ELECTRONIC ROUTE MARKER DETAIL
SHEET 2 OF 2**

DETAIL INDEX I.D.:

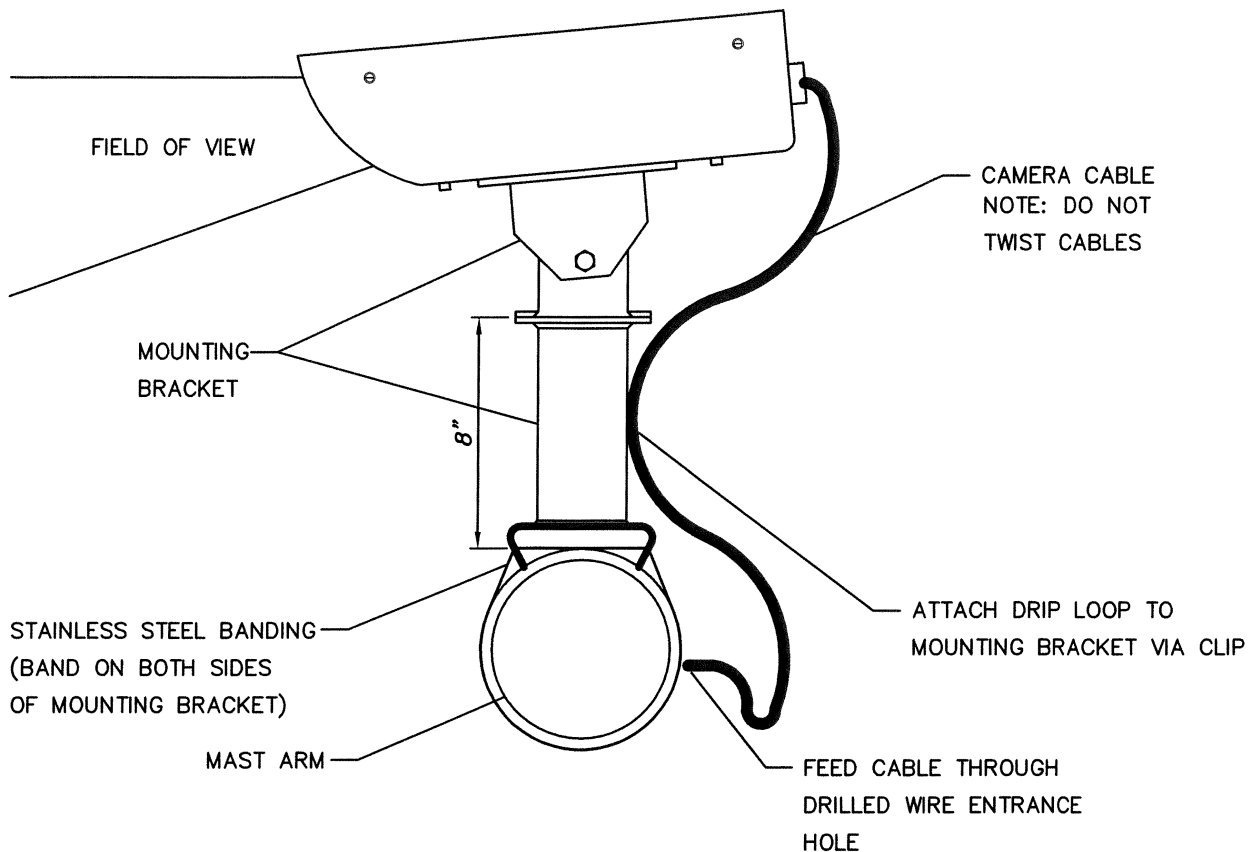
1710 - SH.2

DATE:

FEB/2016

IVAN J. FERNANDEZ, P.E.

REVISION:



VVDS ATTACHMENT FOR MAST ARMS

N.T.S.

NOTES:

1. THE CONTRACTOR SHALL FIELD DRILL A HOLE IN THE MAST ARM OF MINIMUM SIZE TO ACCOMMODATE THE VIDS CABLE.
2. THE CONTRACTOR SHALL COLD GALVANIZE THE DRILLED HOLE AND PLACE A WEATHER-TIGHT GROMMIT IN THE HOLE PRIOR TO RUNNING THE VIDS CABLE INTO THE ARM.
3. THE CONTRACTOR SHALL TOUCH UP THE MAST ARM PAINT DUE TO SCRATCHES OR CHIPS DURING THE INSTALLATION OF THE VIDS CAMERA AND CABLE.
4. THE COST FOR LABOR AND MATERIALS FOR TOUCH UP AND GROMMITS SHALL BE INCLUDED UNDER THE VIDS PAY ITEM 660-4-32.

PINELLAS COUNTY

VVDS INSTALLATION DETAILS

DETAIL INDEX I.D.:

1720

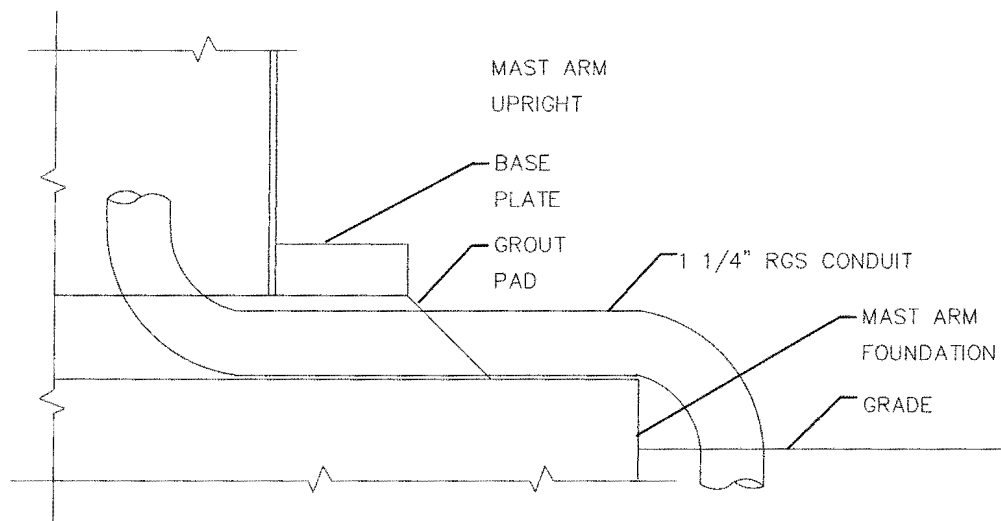
DATE:

FEB/2016

IVAN J. FERNANDEZ, P.E.

REVISION:

APRIL/2016



MAST ARM CONDUIT ENTRANCE DETAIL

N.T.S.

NOTES:

1. THE CONTRACTOR SHALL USE EXISTING UNDERGROUND CONDUIT TO FEED CABLE & CONDUCTORS INTO THE MAST ARM UPRIGHT. THIS DETAIL MAY BE USED IN THE EVENT THERE ARE NO EXISTING CONDUITS.
2. THE CONTRACTOR SHALL DRILL INTO THE MAST ARM STRUCTURE GROUT PAD AND FEED THE GALVANIZED STEEL CONDUIT INTO THE MAST ARM. THE DRILLED GROUT PAD SHALL BE SEALED AROUND THE CONDUIT.
3. ANY HIGH VOLTAGE CONDUCTORS SHALL BE IN A SEPARATE CONDUIT AND PULL BOXES WHERE NECESSARY.

PINELLAS COUNTY

MAST ARM CONDUIT ENTRANCE DETAIL

DETAIL INDEX I.D.:

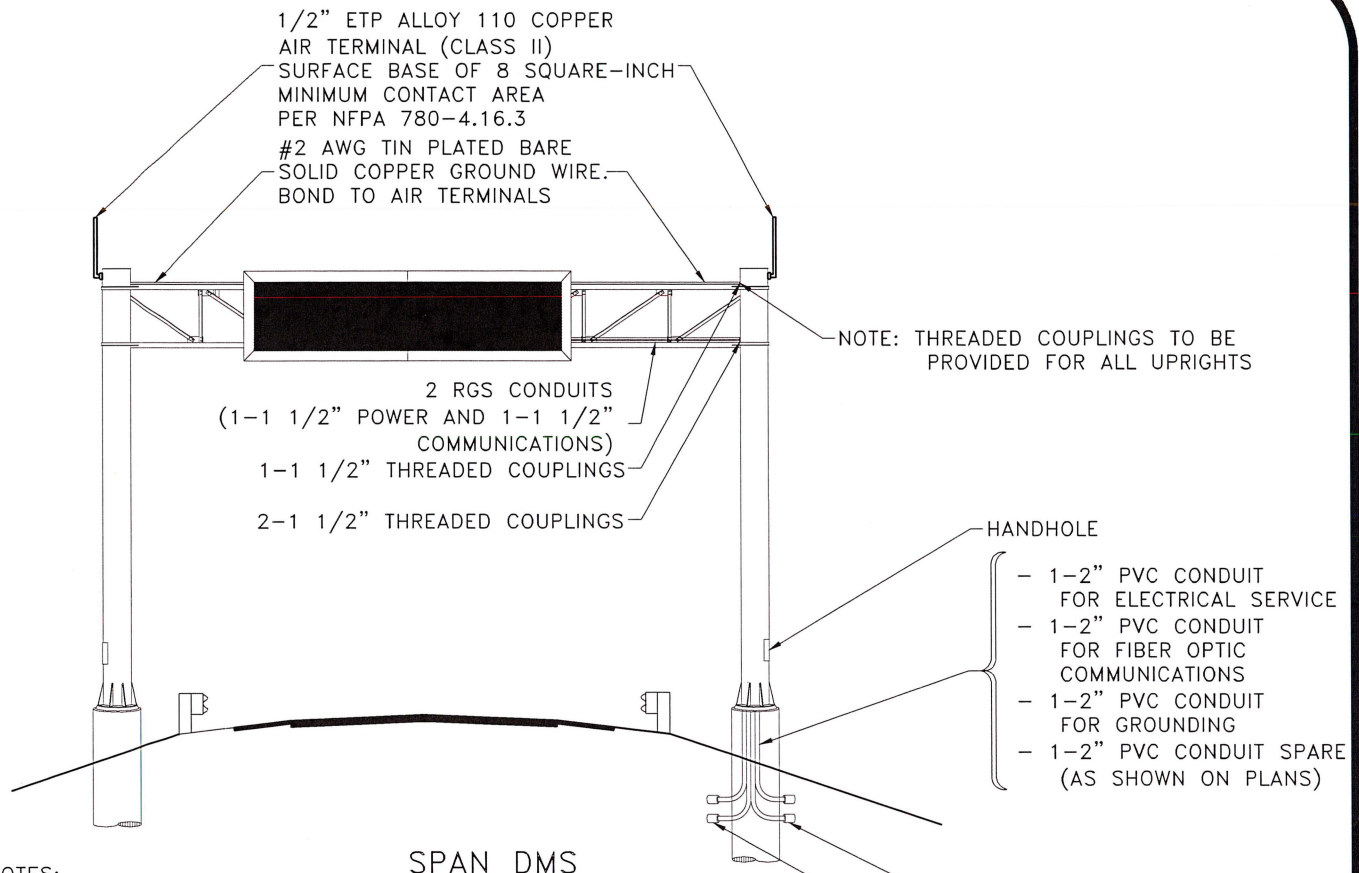
1725

DATE:

FEB/2016

IVAN J. FERNANDEZ, P.E.

REVISION:



NOTES:

1. CONDUCTORS FOR GROUNDING SHALL BE CONNECTED TO STEEL FRAMEWORK THAT HAS BEEN CLEANED TO BASE METAL BY USE OF BONDING PLATES HAVING CONTACT AREA OF NOT LESS THAN 8 SQUARE INCHES OR BY WELDING OR BRAZING. DRILLING AND TAPPING THE STEEL STRUCTURE TO ACCEPT A THREADED CONNECTOR IS ALSO AN ACCEPTABLE METHOD.

2. IF STEEL FRAMEWORK IS TO BE DRILLED AND TAPPED TO ACCEPT THREADED CONNECTOR, THE THREADED CONNECTOR SHALL BE GALVANIZED AND HAVE AT LEAST 5 THREADS FULLY ENGAGED AND SECURED WITH A JAM NUT TO THE STEEL FRAMEWORK.

3. BENDS IN THE CONDUIT SHALL NOT BE LESS THAN THE MINIMUM BENDING RADIUS FOR THE CABLE CONTAINED IN THE CONDUIT.

4. ALL DATA, FIBER OPTIC AND POWER CABLES FOR THE DMS SHALL BE COMPLETELY ENCASED WITHIN THE SIGN STRUCTURE OR IN CONDUIT.

5. PERMANENTLY STAMP/MARK FOUNDATION TO CONDUIT LOCATIONS.

6. TRANSITION CONDUIT IN FOUNDATION TO UNDERGROUND CONDUIT WITH APPROPRIATE REDUCER OUTSIDE THE LIMITS OF THE FOUNDATION.

7. DMS CONTROLLER CABINET TO BE GROUND MOUNTED. SEE SHEET 3 OF 5 FOR DETAILS.

PINELLAS COUNTY

DYNAMIC MESSAGE SIGN
SHEET 1 OF 5

DETAIL INDEX I.D.:

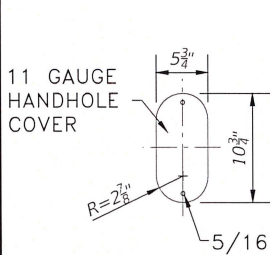
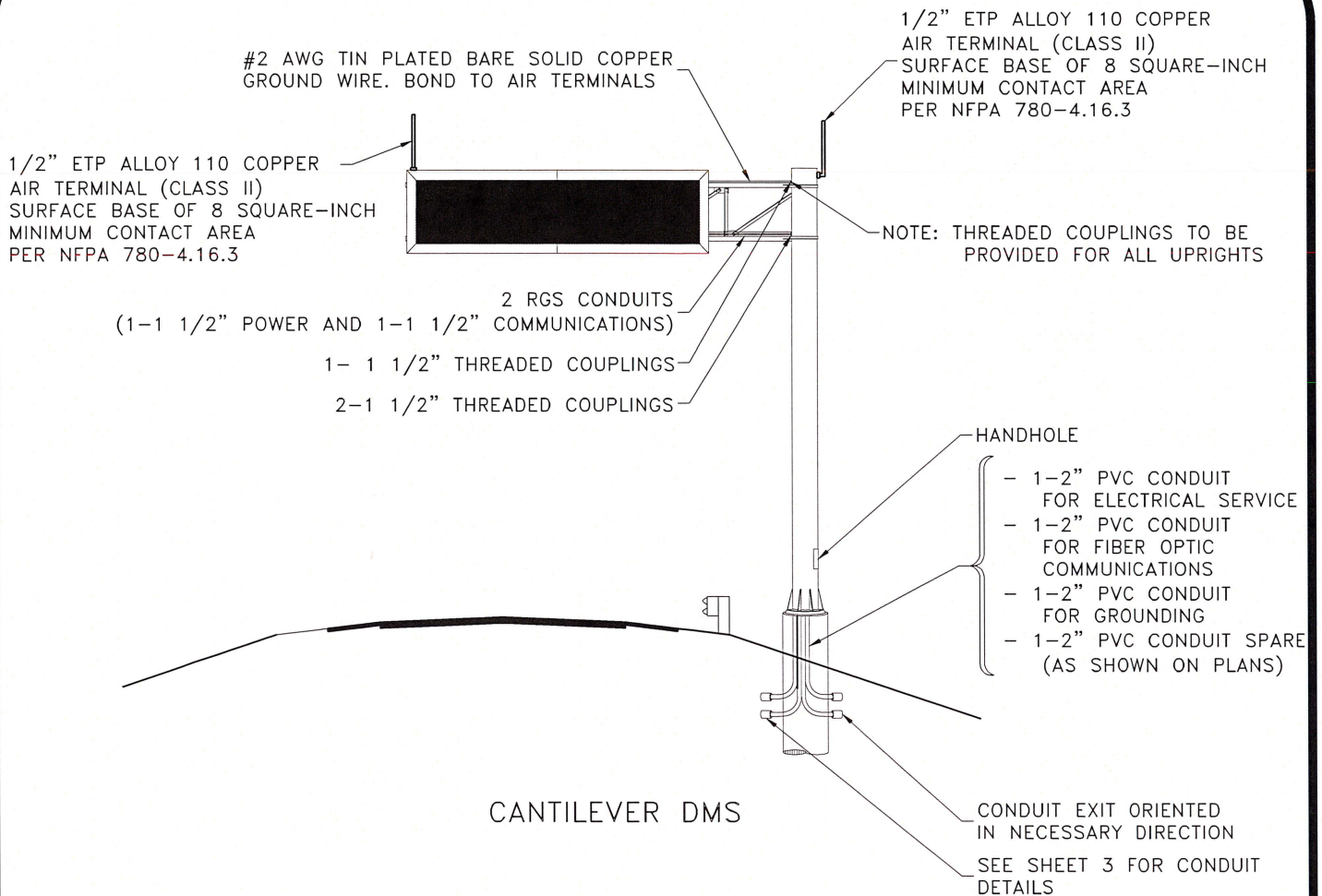
1730 - SH.1

DATE:

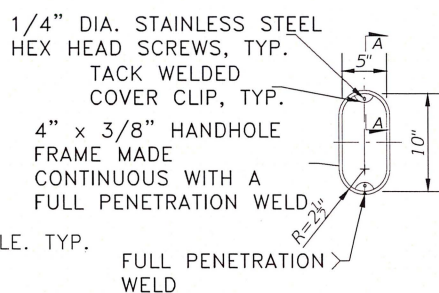
OCT/2017

IVAN G. FERNANDEZ, P.E.

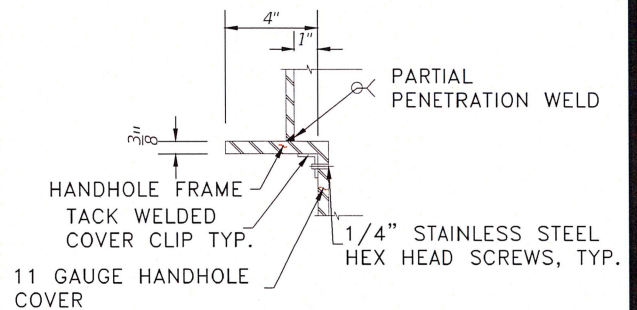
REVISION:



HANDHOLE COVER



HANDHOLE FRAME



SECTION A-A
(Thru Handhole)

PINELLAS COUNTY

DYNAMIC MESSAGE SIGN
SHEET 2 OF 5

DETAIL INDEX I.D.:

1730 - SH.2

DATE:

OCT/2017

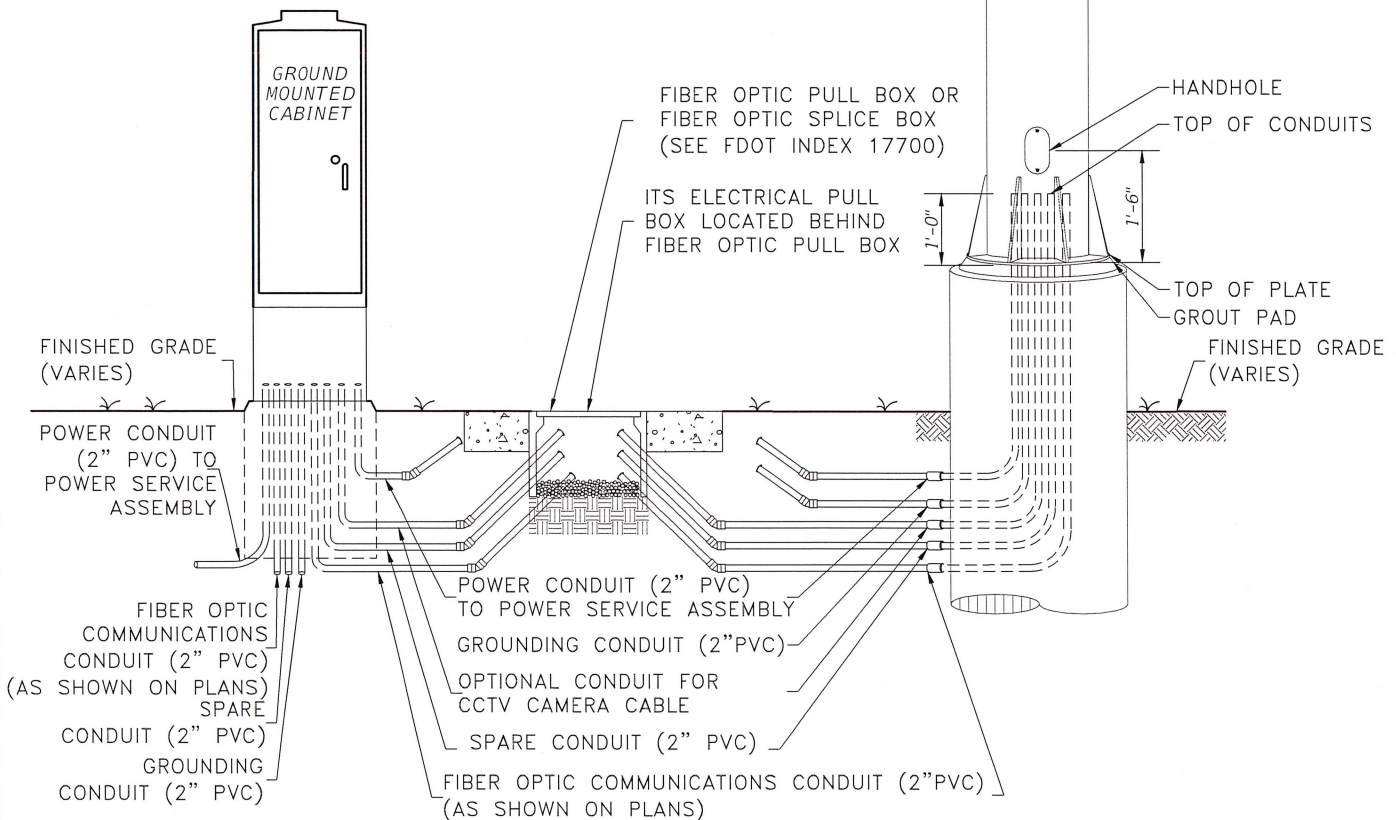
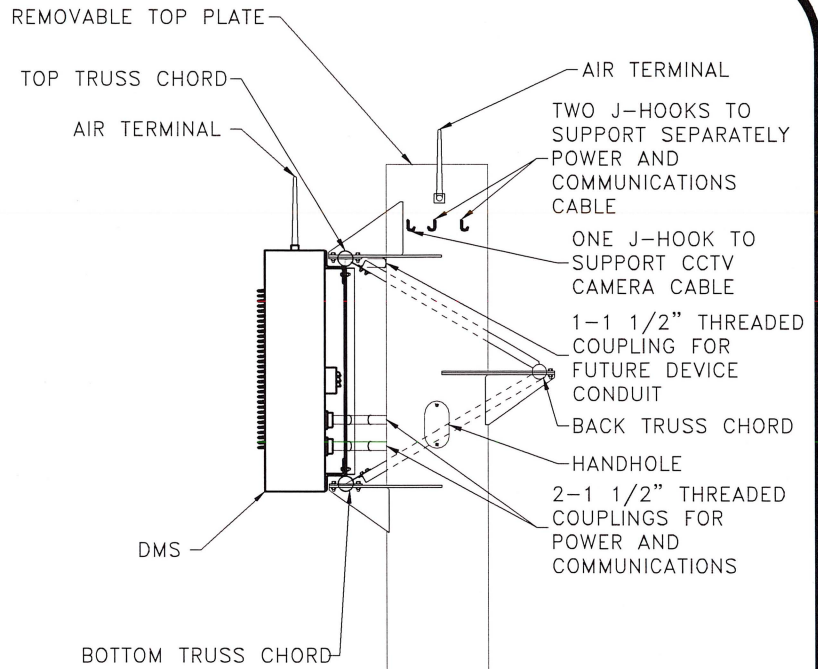
IVAN J. FERNANDEZ, P.E.

REVISION:

NOTES:

1. ALL CONDUIT ENTRANCES ON THE DMS STRUCTURE UPRIGHT SHALL BE INCLUDED IN THE DESIGN AND MANUFACTURED. NO FIELD DRILLING SHALL BE ALLOWED.

2. #2 AWG TIN-PLATED BARE SOLID COPPER GROUND WIRE TO BE BONDED TO AIR TERMINAL WITH EXOTHERMIC WELD AND RUN INTERNAL TO UPRIGHT AND THROUGH CONDUIT IN FOUNDATION.



PINELLAS COUNTY

**DYNAMIC MESSAGE SIGN
SHEET 3 OF 5**

DETAIL INDEX I.D.:

1730 - SH.3

DATE:

OCT/2017

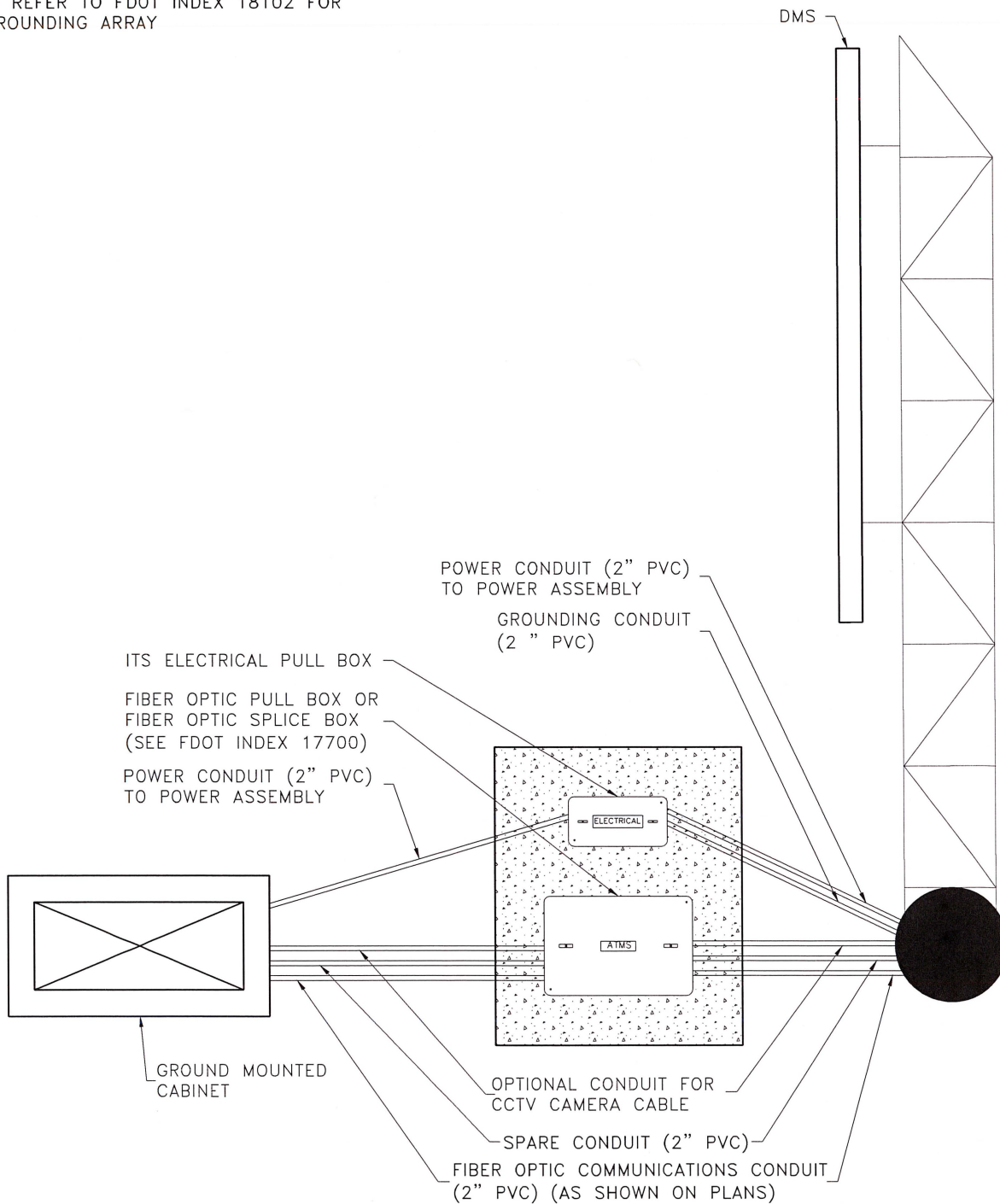
IVAN A. FERNANDEZ, P.E.

REVISION:

TYPICAL DMS CONDUIT DETAIL

NOTES:

1. REFER TO FDOT INDEX 18102 FOR GROUNDING ARRAY



PINELLAS COUNTY

DYNAMIC MESSAGE SIGN
SHEET 4 OF 5

DETAIL INDEX I.D.:

1730 - SH.4

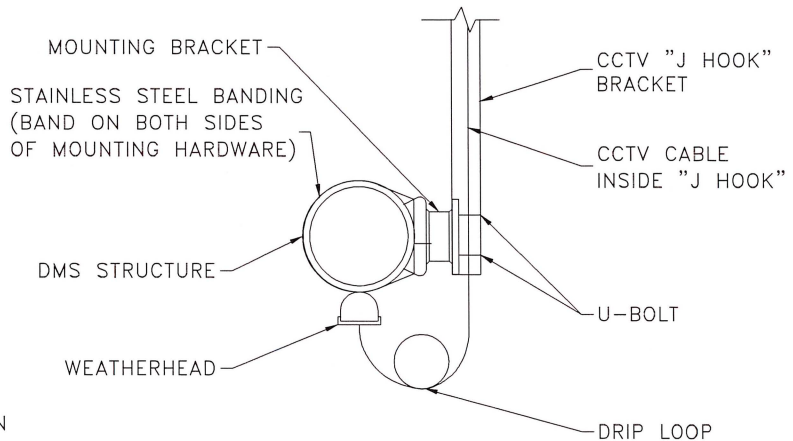
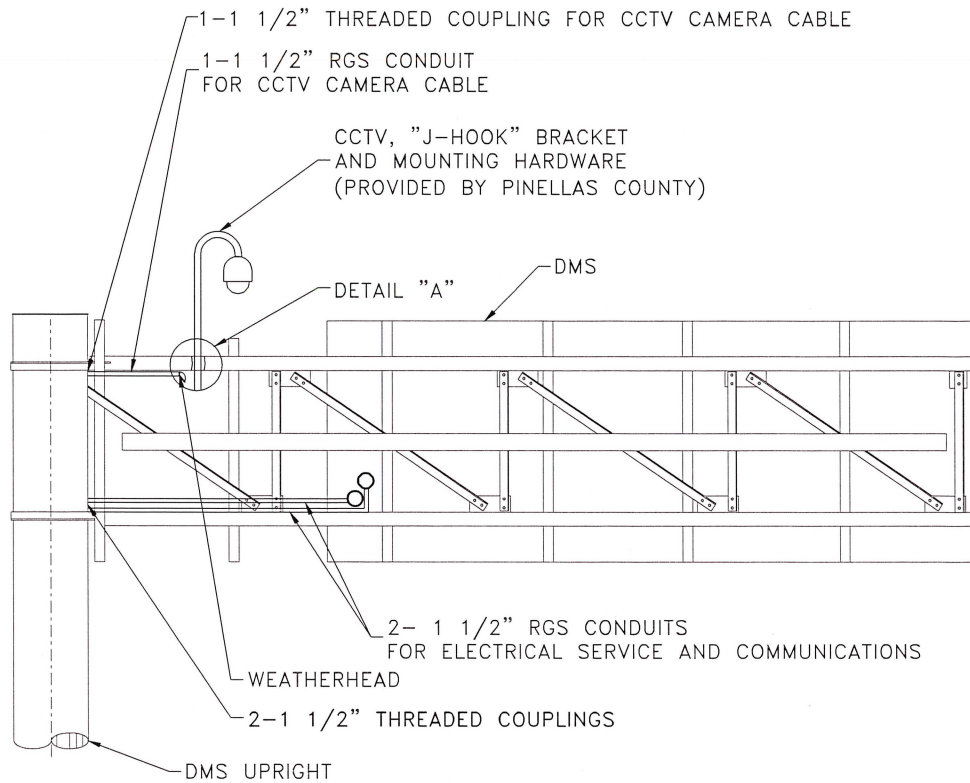
DATE:

OCT/2017

IVAN J. FERNANDEZ, P.E.

REVISION:

CCTV MOUNTING ON DMS DETAIL (OPTIONAL)



DETAIL "A"
N.T.S

NOTES:

1. LOCATION OF CAMERA ON THE DMS CAN BE ADJUSTED BY DIRECTION OF THE ENGINEER.
2. RGS CONDUIT RUNNING ON THE TRICORD SHALL BE STRAPPED EVERY 5 FEET.
3. 3-1 $\frac{1}{2}$ " THREADED COUPLINGS TO BE PROVIDED ON ALL DMS STRUCTURES AS SHOWN IN DETAIL ABOVE.
4. MOUNT CCTV CAMERA A MINIMUM OF 2.5 FEET ABOVE THE SIGN

PINELLAS COUNTY

**DYNAMIC MESSAGE SIGN
SHEET 5 OF 5**

DETAIL INDEX I.D.:

1730 - SH.5

DATE:

OCT/2017

IVAN J. FERNANDEZ, P.E.

REVISION:

SEE INDEX NO. 1291

PINELLAS COUNTY

**TRENCH BACKFILL
DETAIL**

DETAIL INDEX I.D.:

PCU GD 1

DATE:

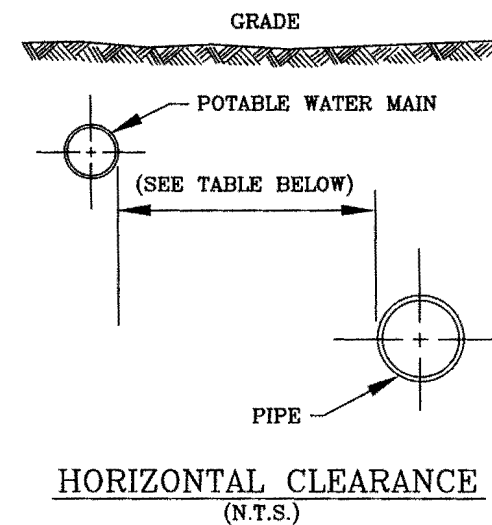
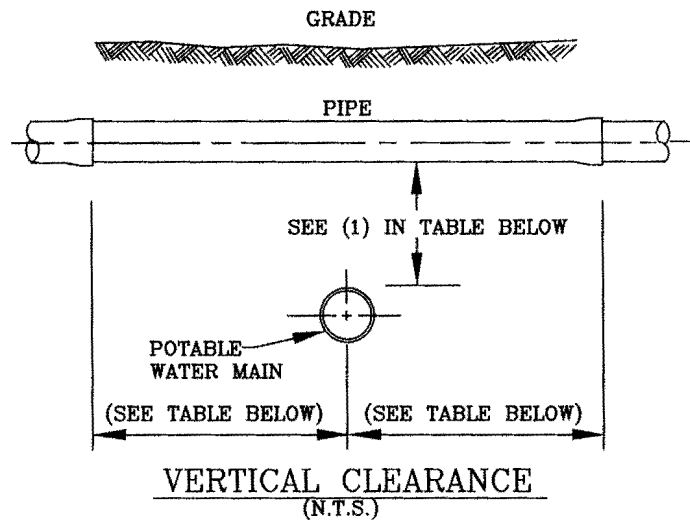
FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

PINELLAS COUNTY

MAIN CLEARANCES DETAIL



PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS
VACUUM-TYPE SANITARY SEWER, STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	3 FT. MINIMUM	12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	(FULL JOINT CENTERED, ALTERNATE 3 FT. MINIMUM FROM ALL JOINTS)
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	10 FT. PREFERRED 6 FT. MINIMUM (3)	12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	(FULL JOINT CENTERED, ALTERNATE 6 FT. MINIMUM FROM ALL JOINTS)
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM	-	-

NOTES: (IN ACCORDANCE WITH F.A.C. RULE 62-555.314)

- POTABLE WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN POTABLE WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
- RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
- RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIALS SPECIFICATIONS MANUAL.EE

DETAIL INDEX I.D.:

PCU GD 2

DATE:

FEB/2016

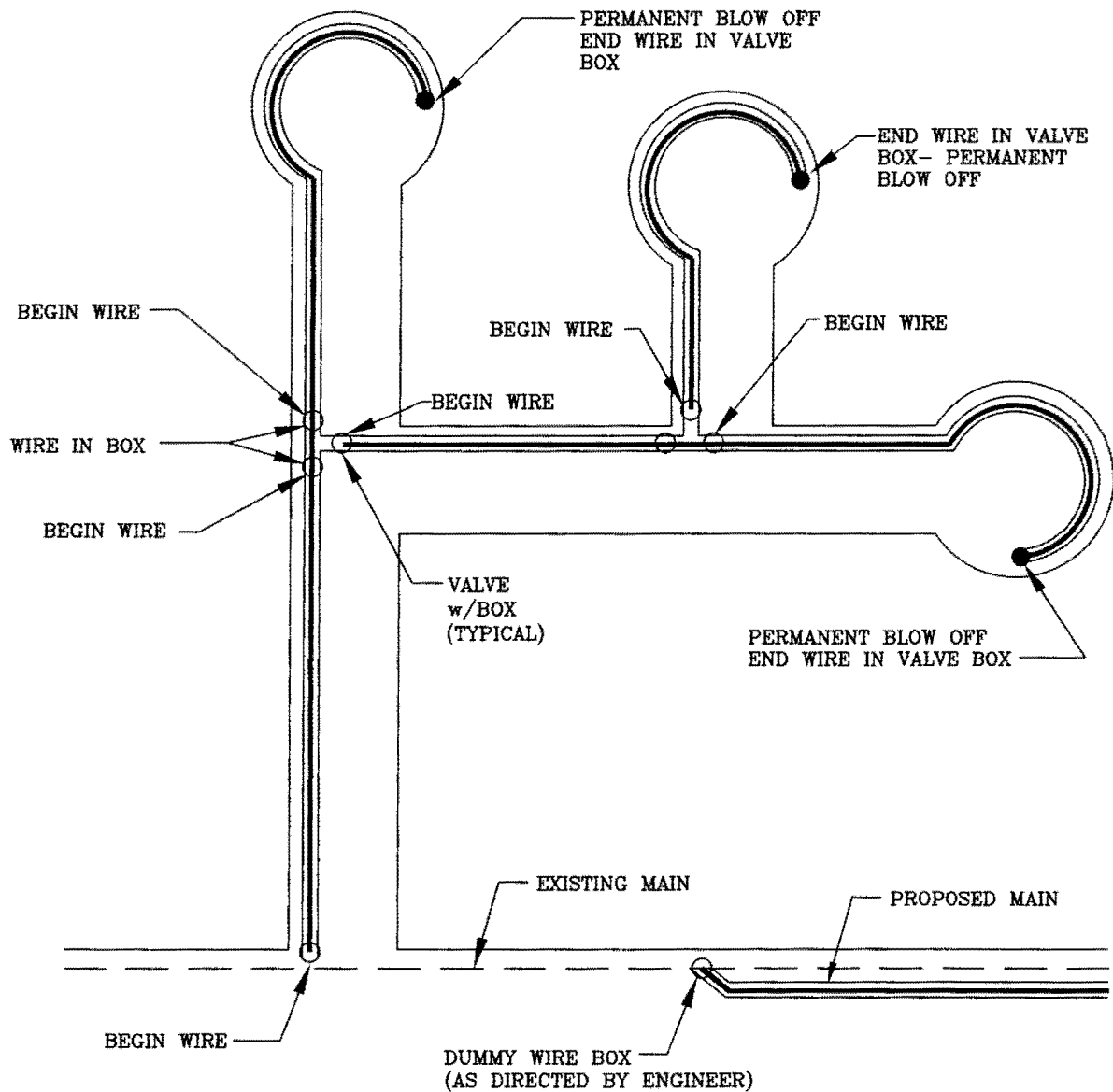
KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. IF STREET IS A SHORT CUL-DE-SAC, LOCATOR WIRE IS TO RUN FROM MAIN VALVE TO BLOW-OFF VALVE BOX.



PINELLAS COUNTY

**TRACER WIRE LAYOUT
DETAIL**

DETAIL INDEX I.D.:

PCU GD 3

DATE:

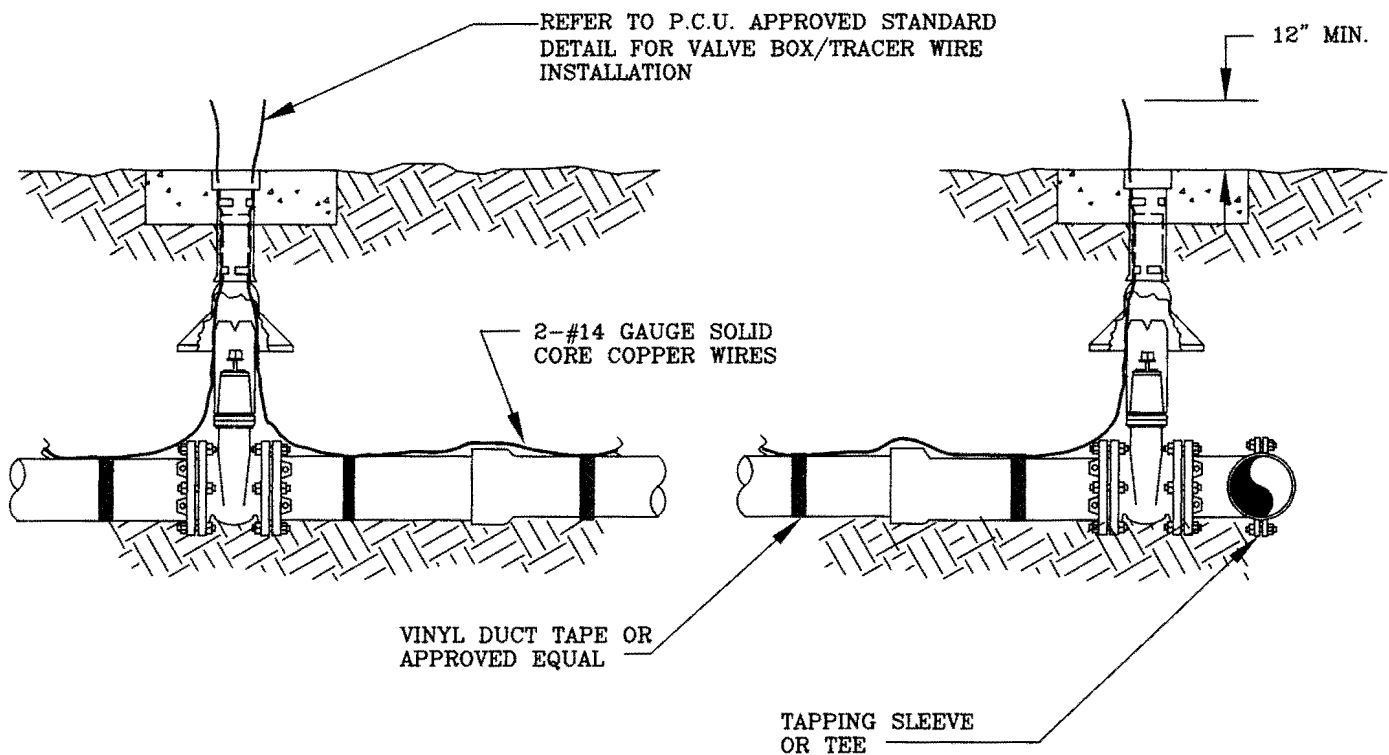
FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. USE 2-#14 GAUGE (MINIMUM), SOLID CORE COPPER WIRE WITH COLOR CODED INSULATION PER SERVICE.
3. THERE SHALL BE SUFFICIENT SLACK IN TRACER WIRE TO EXTEND A MIN. OF 12" ABOVE VALVE BOX.
4. WIRE IS TO CONTINUE THROUGH TEES ON MAIN LINE WHERE NO VALVES EXIST.
5. ATTACH WIRE TO TOP CENTER LINE OF MAIN USING DUCT TAPE OR APPROVED EQUAL @ 5'- 0" INTERVALS.
6. DUMMY BOXES ARE TO CONSIST OF A TOP SECTION OF A VALVE BOX ASSEMBLY ENCASED IN A CONCRETE VALVE BOX COLLAR PER P.C.U. APPROVED STANDARD DETAIL.



PINELLAS COUNTY

**TRACER WIRE INSTALLATION
DETAIL**

DETAIL INDEX I.D.:

PCU GD 3a

DATE:

FEB/2016

KEVIN BECOTTE, P.E.

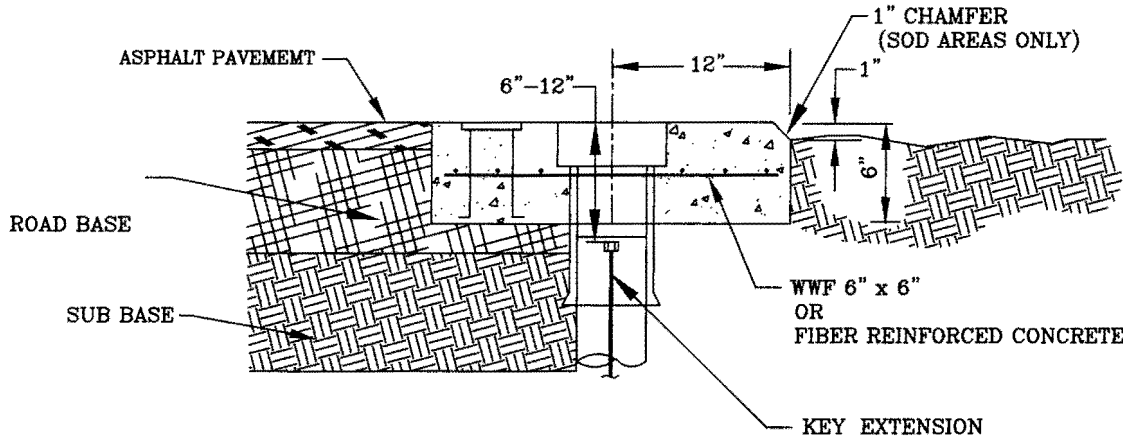
REVISION:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. FILTER FABRIC REQUIRED ON VALVES WHEN PIPE LINE HAS 5' OR MORE OF COVER
VALVE KEY EXTENSION REQUIRED ON VALVES WITH OPERATOR NUT OVER 3' DEEP.
COLOR CODED POLY WRAP REQUIRED ON ALL BURIED VALVES AND FITTINGS.

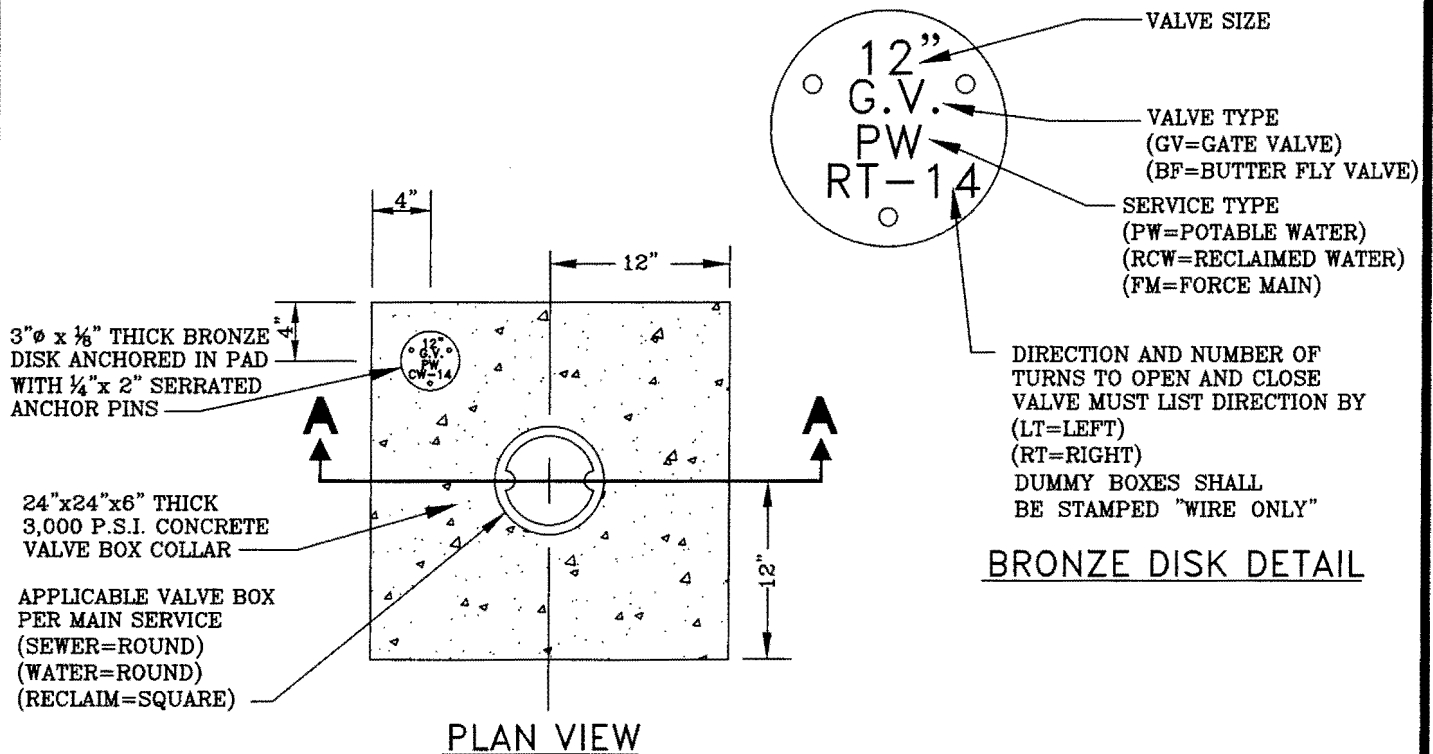


NOTES

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. IF VALVE IS LOCATED WITHIN A SIDEWALK CONCRETE COLLAR MAY BE ELIMINATED AND DISK SET FLUSH DIRECTLY IN SIDEWALK.
3. **BRONZE DISK REQUIRED:** FOR ALL VALVES, AND DUMMY BOXES.
4. THE 24"x24"x6" THICK CONCRETE VALVE BOX COLLAR CAN BE INSTALLED BELOW THE FRICTION COARSE AND THE BRONZE DISK ANCHORED IN A NEAR-BY CURB OR SIDEWALK.
5. ALL VALVES/BOXES SHALL BE LOCATED BY MEANS OF A PERPENDICULAR 6"x2' BLUE STRIPE ACROSS THE CURB. THE DISTANCE FROM THE BACK OF THE CURB TO THE VALVE SHALL BE STENCILED ON THE CURB WITH NUMBERS FOUR INCHES HIGH, PAINTED BLUE, BY THE CONTRACTOR.



SECTION A-A



PLAN VIEW

BRONZE DISK DETAIL

PINELLAS COUNTY

CONCRETE VALVE BOX AND COLLAR
DETAIL

DETAIL INDEX I.D.:

PCU GD 5

DATE:

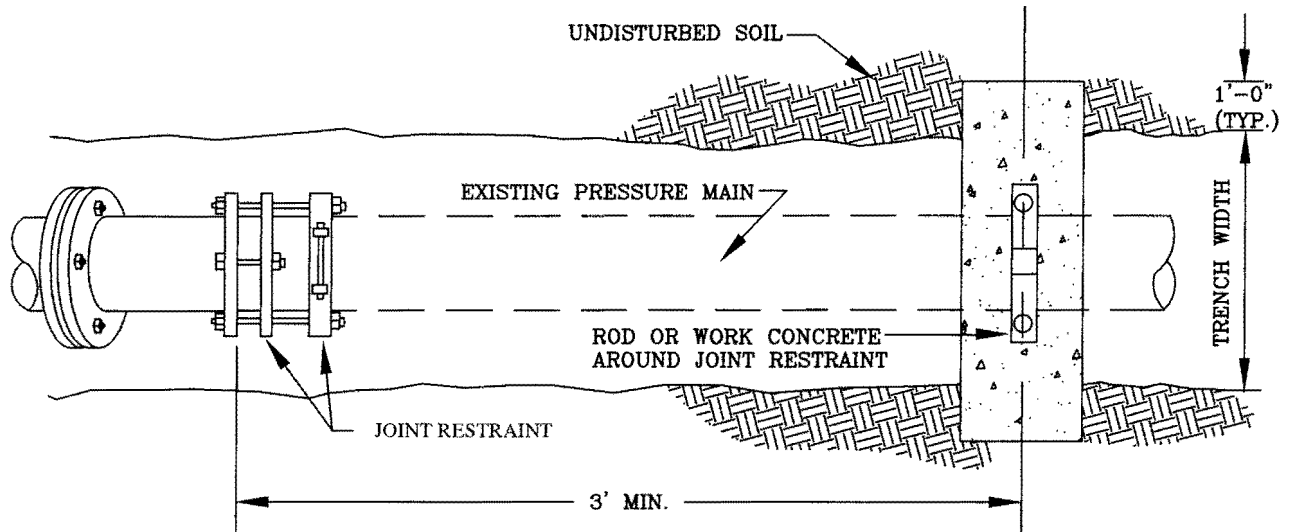
FEB/2016

KEVIN BECOTTE, P.E.

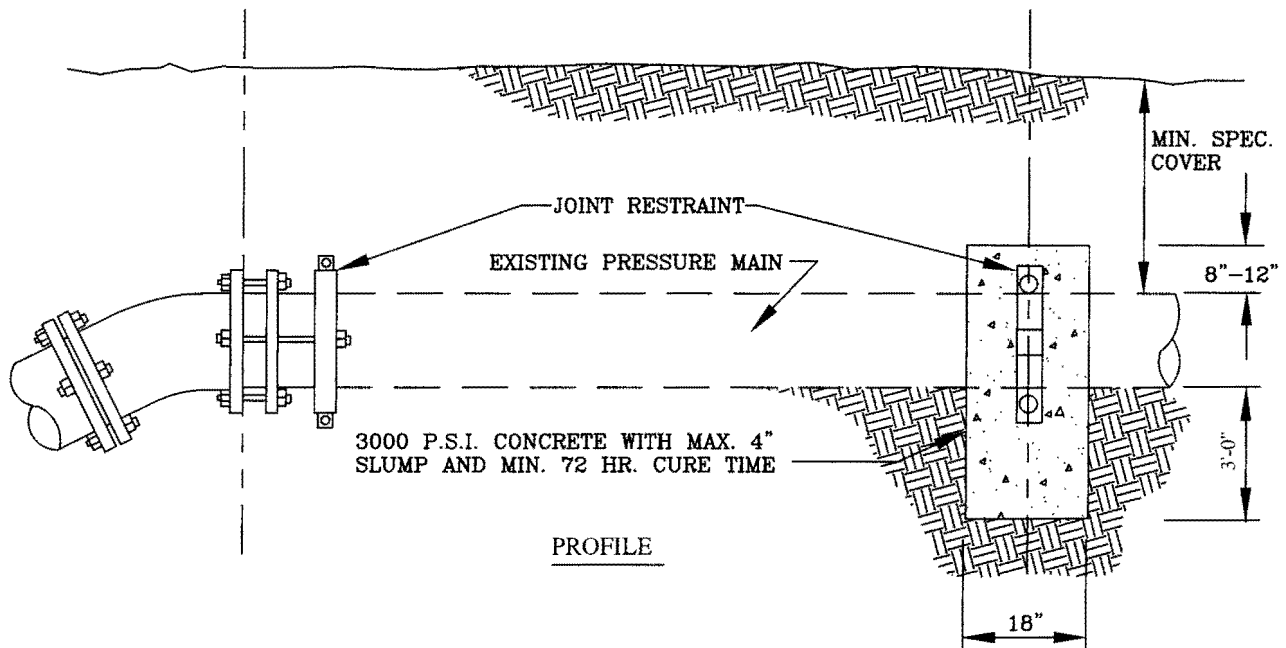
REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIAL SPECIFICATION MANUAL.
2. FITTING CONNECTION TO EXISTING PIPE AND REVERSE DEADMAN MUST BE PART OF ONE INTEGRAL JOINT OF PIPE.
3. REVERSE DEADMAN FOR 16" AND LARGER PIPES SHALL BE DESIGNED BY ENGINEER.



PLAN



PROFILE

PINELLAS COUNTY

**REVERSE DEADMAN RESTRAINT
DETAIL**

DETAIL INDEX I.D.:

PCU GD 6

DATE:

FEB/2016

KEVIN BECOTTE, P.E.

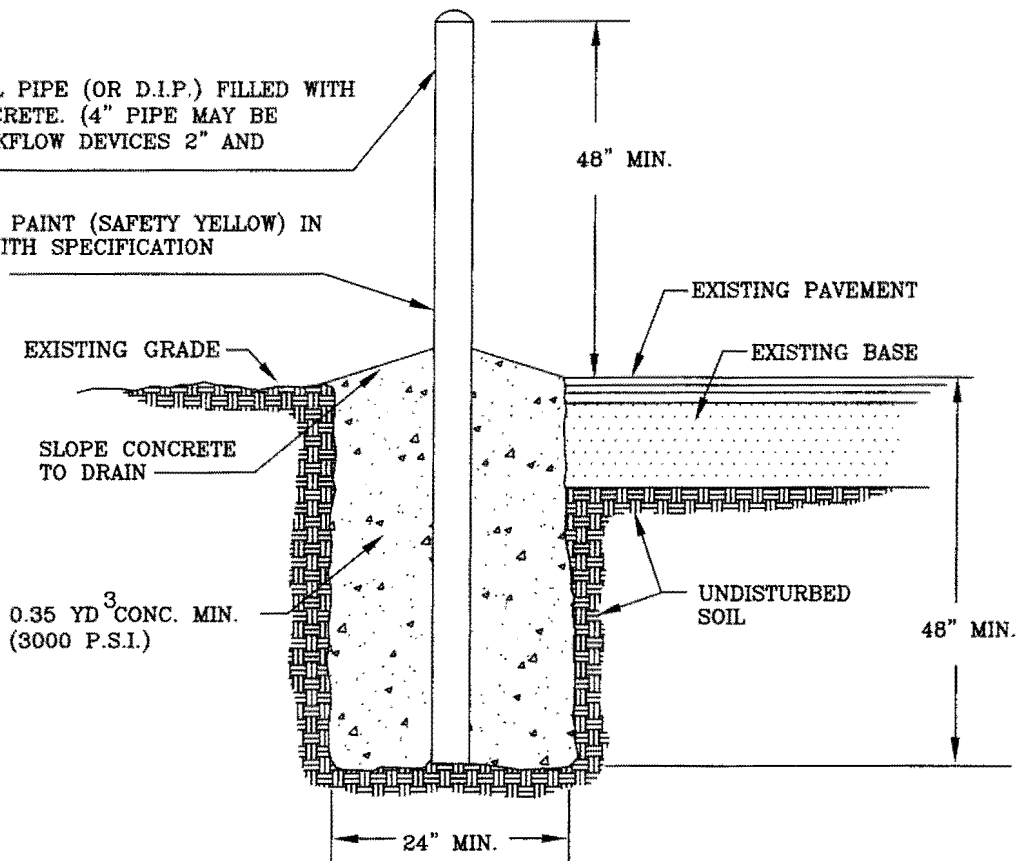
REVISION:

NOTE:

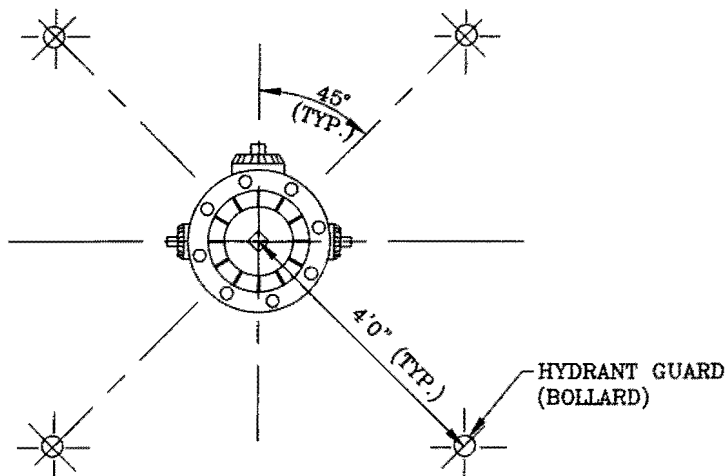
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIAL SPECIFICATION MANUAL.

6" SCH. 40 STEEL PIPE (OR D.I.P.) FILLED WITH
AND SET IN CONCRETE. (4" PIPE MAY BE
UTILIZED ON BACKFLOW DEVICES 2" AND
SMALLER)

TWO COATS OF PAINT (SAFETY YELLOW) IN
ACCORDANCE WITH SPECIFICATION
ASTM D422-05



INSTALLATION



LAYOUT

PINELLAS COUNTY

**BOLLARD
DETAIL**

DETAIL INDEX I.D.:

PCU GD 7

DATE:

FEB/2016

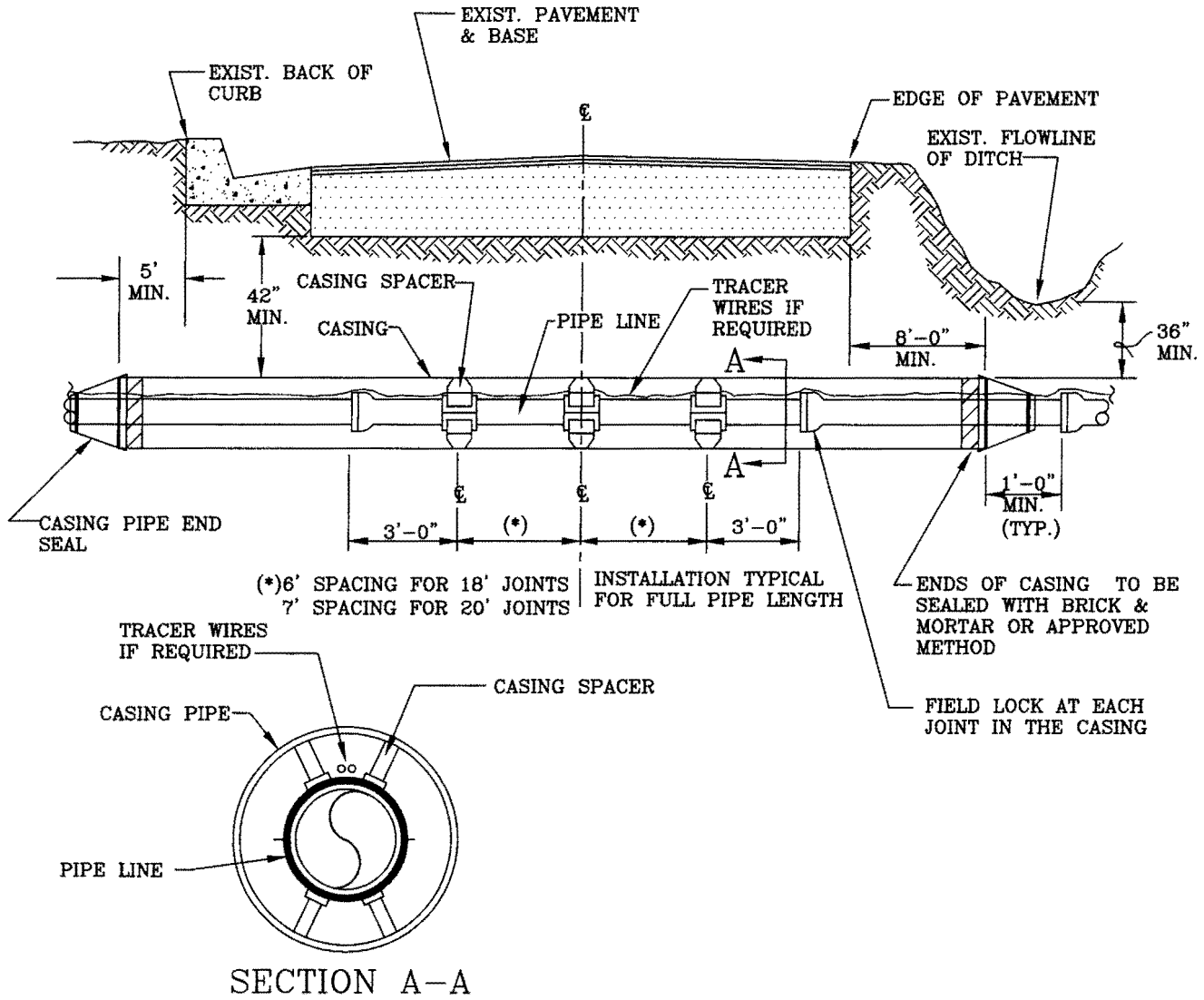
KEVIN BECOTTE, P.E.,

REVISION:

Kevin Becotte

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIAL SPECIFICATION MANUAL.
2. IF DISTANCE FROM PIPE JOINT TO END OF CASING IS 6' OR LESS, NO SPACER IS REQUIRED.
3. SPACER TO BE INSTALLED OVER POLY WRAP.
4. ALL PIPE IN JACK AND BORE CASING SHALL BE D.I. PIPE WITH ALL JOINTS RESTRAINED.



CARRIER & CASING SIZES									
WATER MAIN	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	8"	12"	16"	20"	24"	28"	32"	36"	40"
CASING / WALL THICKNESS	.188	.188	.219	.250	.281	.344	.406	.406	.500

PINELLAS COUNTY

JACK AND BORE UNDER ROADWAY DETAIL

DETAIL INDEX I.D.:

PCU GD 8

DATE:

FEB/2016

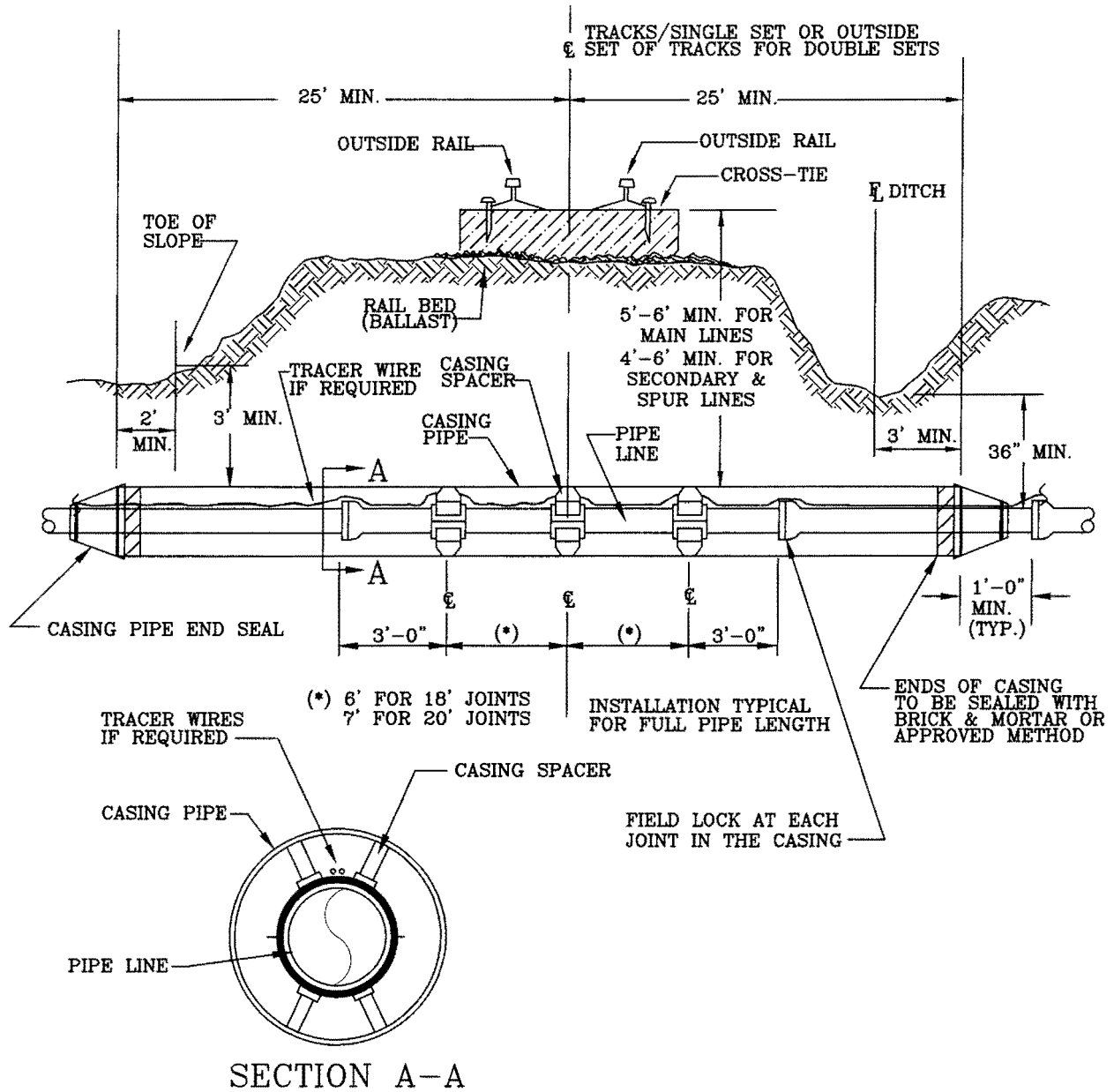
KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIAL SPECIFICATION MANUAL.
2. IF DISTANCE FROM PIPE JOINT TO END OF CASING IS 6' OR LESS, NO SPACER IS REQUIRED.
3. CENTERLINE OF TRACKS IS DETERMINED AS CENTERLINE OF A SINGLE TRACK SET OR OUTSIDE SET OF TRACKS FOR DOUBLE SET.
4. SPACER TO BE INSTALLED OVER POLY WRAP.
5. ALL PIPE IN JACK AND BORE CASING SHALL BE D.I. PIPE WITH ALL JOINTS RESTRAINED.



CARRIER & CASING SIZES									
CARRIER / WATER MAIN	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	8"	12"	16"	20"	24"	28"	32"	36"	40"
CASING / WALL THICKNESS	.188	.188	.219	.250	.281	.344	.406	.406	.500

PINELLAS COUNTY

JACK AND BORE UNDER RAILWAY
DETAIL

DETAIL INDEX I.D.:

PCU GD 9

DATE:

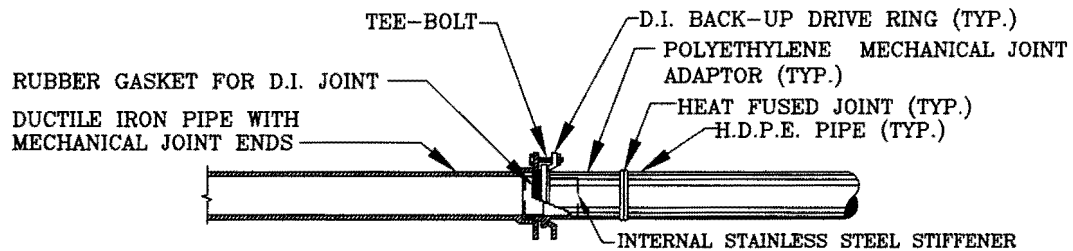
FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

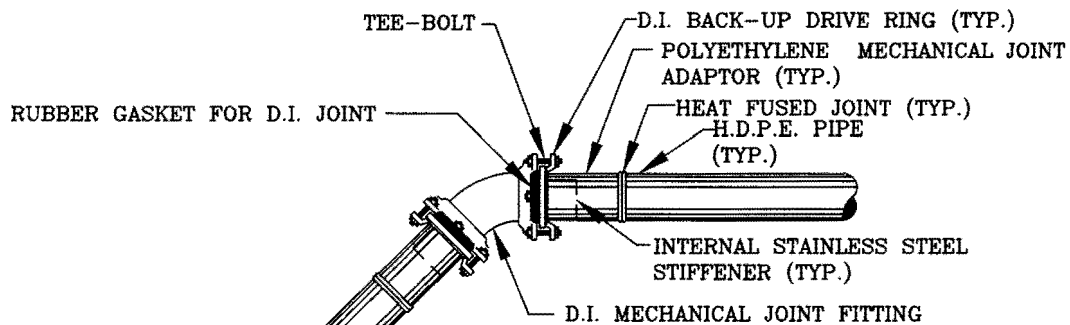
NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL DUCTILE IRON PIPE SHALL BE RESTRAINED.
3. RIGID PIPE CONNECTING TO H.D.P.E. PIPE WILL REQUIRE ADDITIONAL RESTRAINT METHODS OF THE RIGID PIPE AS DIRECTED BY ENGINEER.



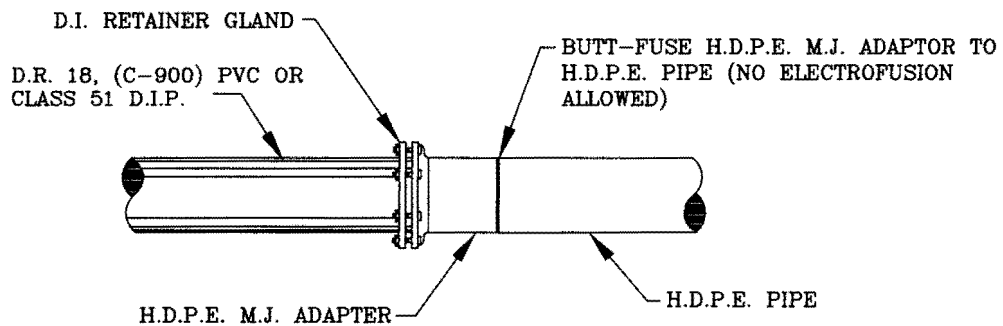
**TYPICAL D.I./HDPE PIPE
MECHANICAL JOINT ADAPTOR**

NOT TO SCALE



**TYPICAL D.I. FITTING/HDPE
PIPE CONNECTION DETAIL**

NOT TO SCALE



**TYPICAL PVC/HDPE PIPE
MECHANICAL JOINT ADAPTER**

NOT TO SCALE

PINELLAS COUNTY

**FUSIBLE PVC/HDPE PIPE CONNECTIONS
DETAIL**

DETAIL INDEX I.D.:

PCU GD 10

DATE:

FEB/2016

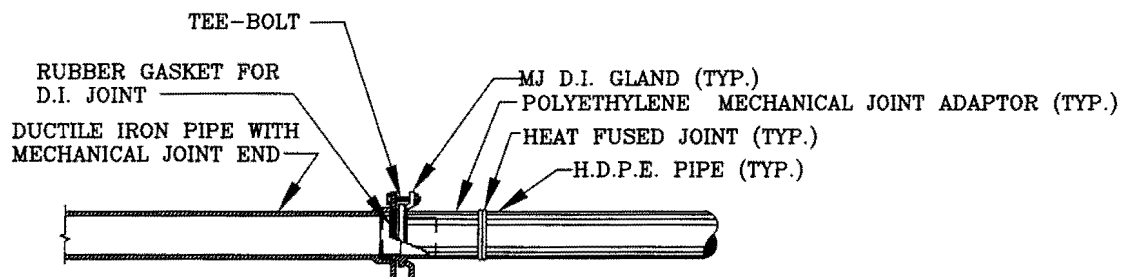
KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

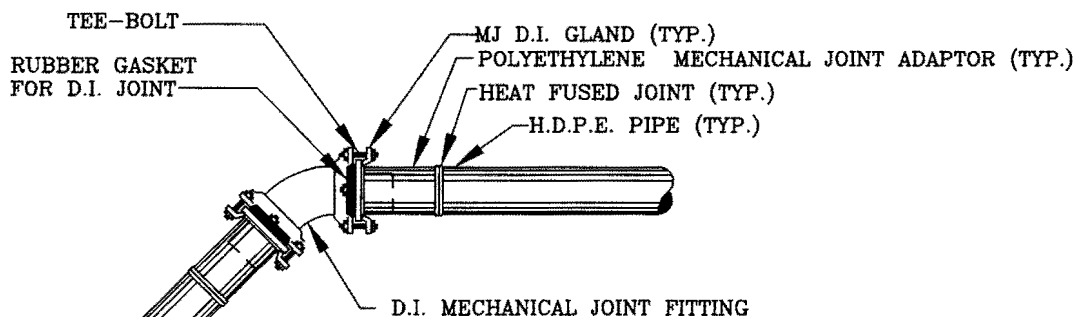
NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL DUCTILE IRON PIPE SHALL BE RESTRAINED.
3. RIGID PIPE CONNECTING TO H.D.P.E. PIPE WILL REQUIRE ADDITIONAL RESTRAINT METHODS OF THE RIGID PIPE AS DIRECTED BY ENGINEER.



PROFILE VIEW
TYPICAL D.I./HDPE PIPE
MECHANICAL JOINT ADAPTOR

NOT TO SCALE



PROFILE VIEW
TYPICAL D.I. FITTING/HDPE
PIPE CONNECTION DETAIL

NOT TO SCALE

PINELLAS COUNTY

FUSIBLE PVC/HDPE PIPE CONNECTIONS
DETAIL

DETAIL INDEX I.D.:

PCU GD 10a

DATE:

FEB/2016

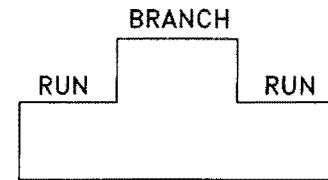
KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION.
2. MANUAL. THIS TABLE SHALL BE UTILIZED FOR ALL PRESSURE MAIN INSTALLATIONS. ALL FITTINGS SHALL BE RESTRAINED TO THE LENGTHS INDICATED, AT A MINIMUM.
3. THIS TABLE WAS DEVELOPED USING THE FOLLOWING ASSUMPTIONS:
 - o D.I. PIPE WITH POLY WRAP
 - o SAFETY FACTOR OF 1.5 TO 1
 - o TEST PRESSURE OF 150 P.S.I.
 - o SOIL TYPE = S.M.
 - o TYPE 3 TRENCH
 - o DEPTH OF COVER = 2.5' UP TO 18" AND 3' FOR 20" AND ABOVE.
4. WHEN A TEE HAS A VALVE ON THE RUN, THE BRANCH AND THE RUNS SHALL BE RESTRAINED AS A 90° BEND FOR THE SIZE OF THE PIPE.
5. ALL BENDS, TEES, AND VALVES SHALL BE RESTRAINED ON EACH SIDE OF THE FITTING.
6. ALL RESTRAINED PIPE LENGTHS ARE IN FEET.
7. "F" REPRESENTS THE RESTRAINED JOINTS AT THE FITTINGS.
8. HDPE TRANSITION VALVE IS FOR STRAIGHT TIE-INS, IF A BEND IS USED, THE VALVE FOR THE BEND MUST BE ADDED.
9. LINE VALVES SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM AS A DEAD END.



PIPE SIZE	FITTINGS					
	TEE BRANCH ONLY	90°	45°	22½°	11¼°	DEAD END
2"	F	40	17	F	F	40
4"	19	49	20	10	5	49
6"	33	69	28	14	7	69
8"	58	88	37	18	9	88
10"	76	107	44	21	11	107
12"	93	125	52	25	12	125
14"	110	142	59	28	14	142
16"	127	159	66	32	16	159
18"	143	175	73	35	17	175
20"	132	164	68	33	16	164
24"	159	192	79	38	19	192
30"	195	229	95	46	23	229
36"	230	264	109	53	26	264

FITTINGS			
REDUCERS			LARGER PIPE
LG. SIZE	SM. SIZE	LENGTH	
4"	2"	17'	24
6"	4"	50'	35
8"	4"	91'	64
	6"	53'	37
10"	4"	123'	87
	6"	93'	66
	8"	51'	36
12"	4"	154'	108
	6"	129'	91
	8"	94'	66
	10"	52'	37
14"	6"	160'	113
	8"	131'	92
	10"	95'	67
	12"	52'	36
16"	6"	190'	134
	8"	165'	116
	10"	134'	94
	12"	96'	67
18"	14"	52'	36
	8"	196'	137
	10"	169'	118
	12"	135'	95
20"	14"	96'	67
	16"	51'	36
	10"	172'	121
	12"	147'	103
24"	14"	117'	82
	16"	82'	58
	18"	44'	30
	12"	201'	141
30"	14"	177'	124
	16"	149'	104
	18"	117'	82
	20"	82'	57
36"	18"	206'	144
	20"	178'	125
	24"	115'	80
	20"	258'	180
36"	24"	207'	144
	30"	114'	80

PRESSURE MAIN RESTRAINED JOINT

PINELLAS COUNTY

PRESSURE MAIN RESTRAINED JOINT
DETAIL

DETAIL INDEX I.D.:

PCU GD 11

DATE:

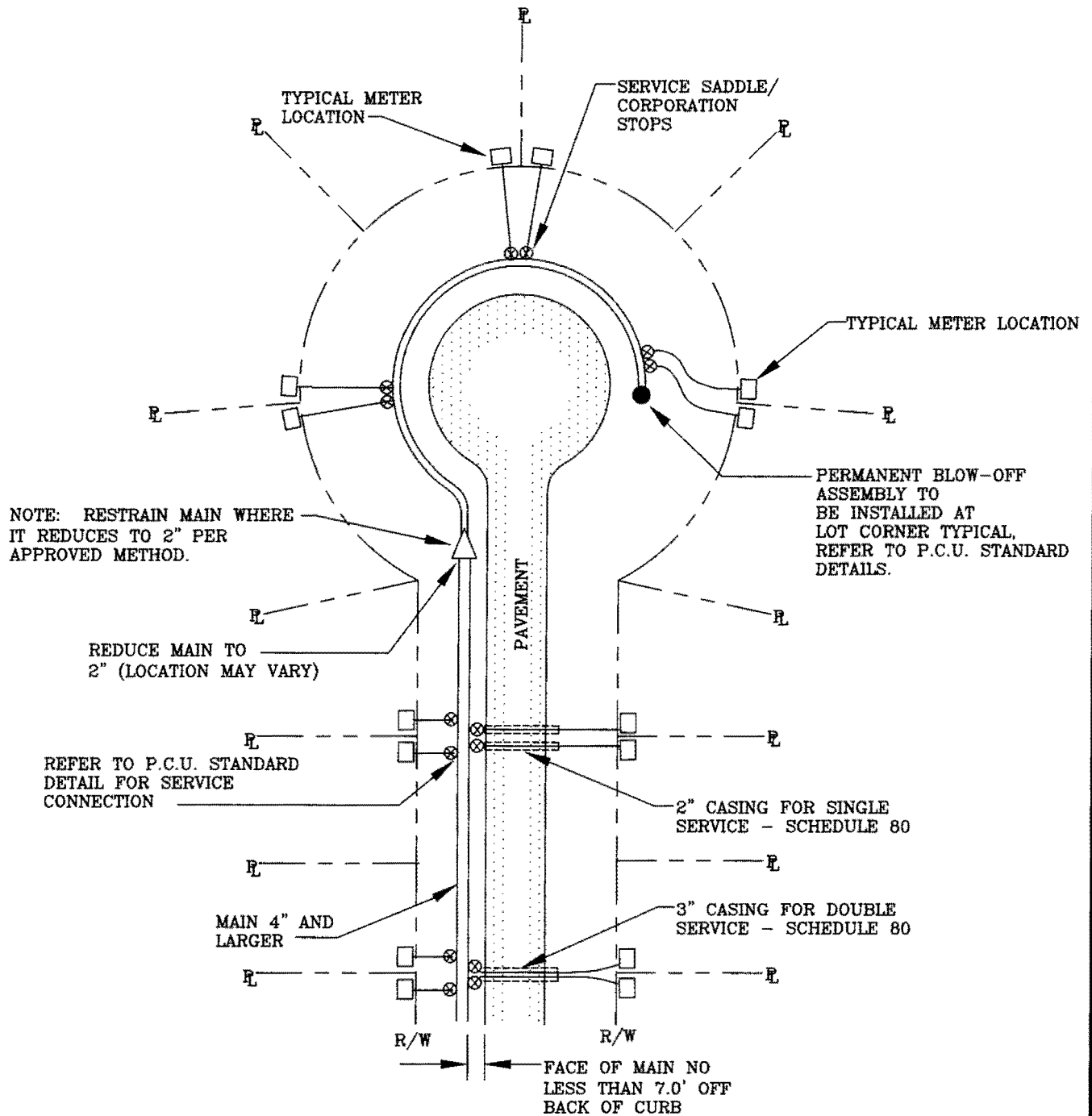
FEB/2016

KEVIN BECOTTE, P.E.

REVISION: *[Signature]*

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. NO MORE THAN SIX (6) METER CONNECTIONS SHALL BE INSTALLED BETWEEN BLOW-OFF AND REDUCTION TO 2" MAIN.
3. CASINGS TO BE EXTENDED A MINIMUM OF 5' BEYOND E.P. OR B.O.C. IN ACCORDANCE WITH P.C.U. STANDARD DETAILS.



PINELLAS COUNTY

**CUL-DE-SAC LAYOUT - POTABLE WATER
DETAIL**

DETAIL INDEX I.D.:

PCU GD 12

DATE:

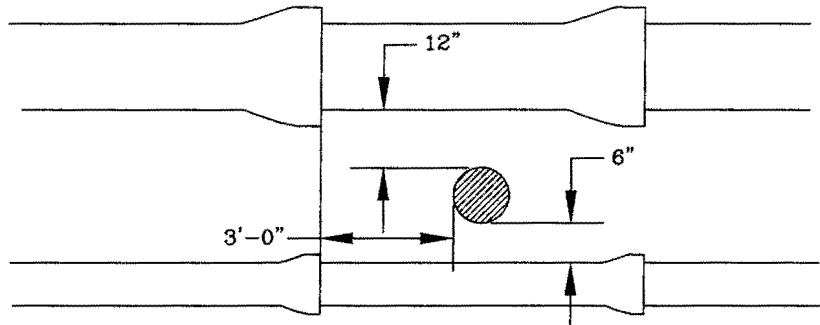
FEB/2016

KEVIN BECOTTE, P.E.

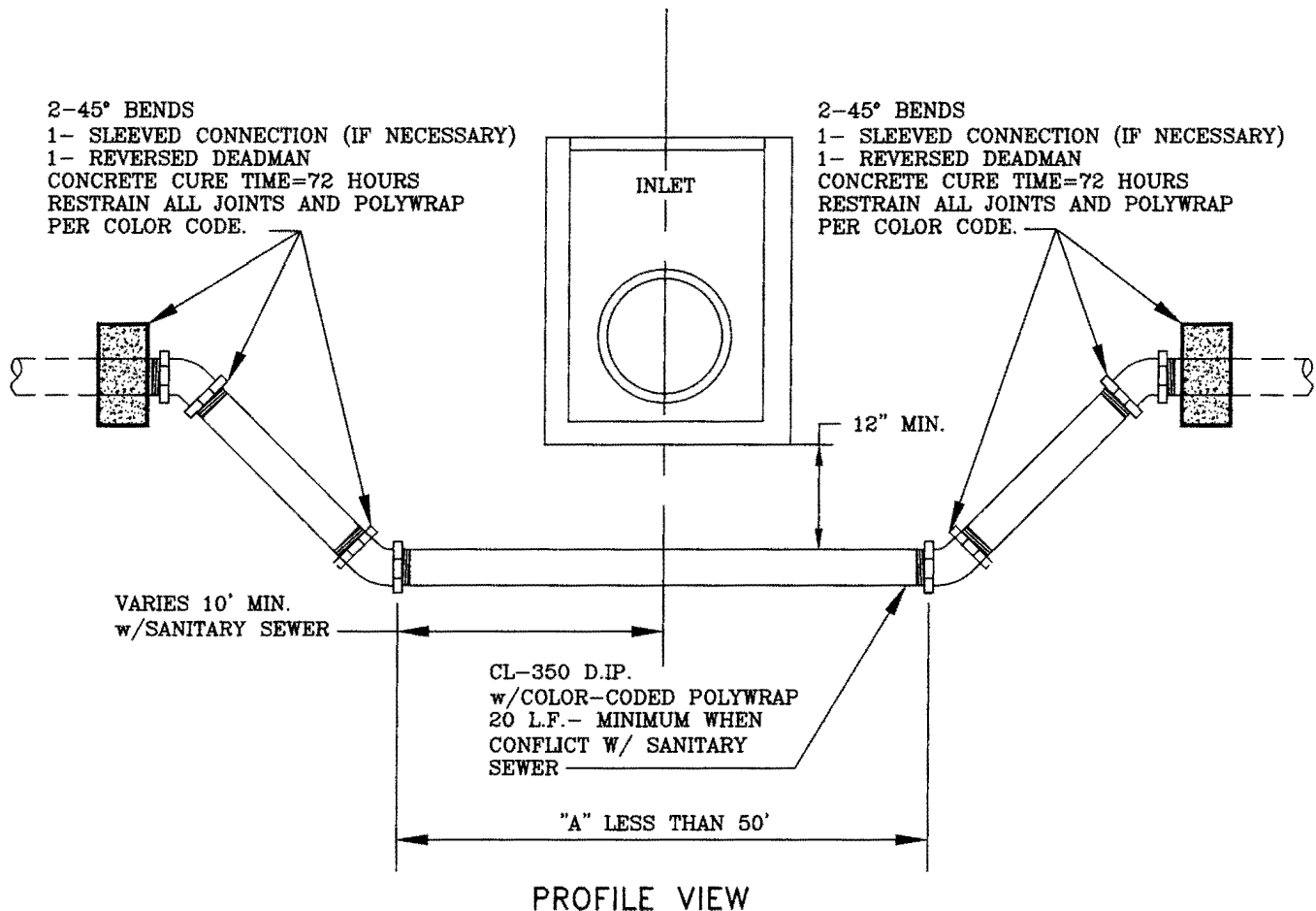
REVISION: *Kevin Becotte*

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL AND TECHNICAL SPECIFICATIONS.
2. ALL WORK SHOWN ON THIS DRAWING SHALL BE PAID FOR UNDER THE OFFSET PAY-ITEM FOR THE APPLICABLE SIZE OF THE EXISTING PIPE TO BE RELOCATED DUE TO CONFLICT; NO SEPARATE PAYMENT SHALL BE MADE UNDER INDIVIDUAL PAY-ITEMS UNLESS "A" IS GREATER THAN 50'.



PIPE SEPERATION-MINIMUM



PROFILE VIEW

PINELLAS COUNTY

TYPICAL PRESSURE LINE
OFFSET RELOCATION DETAIL

DETAIL INDEX I.D.:

PCU GD 13

DATE:

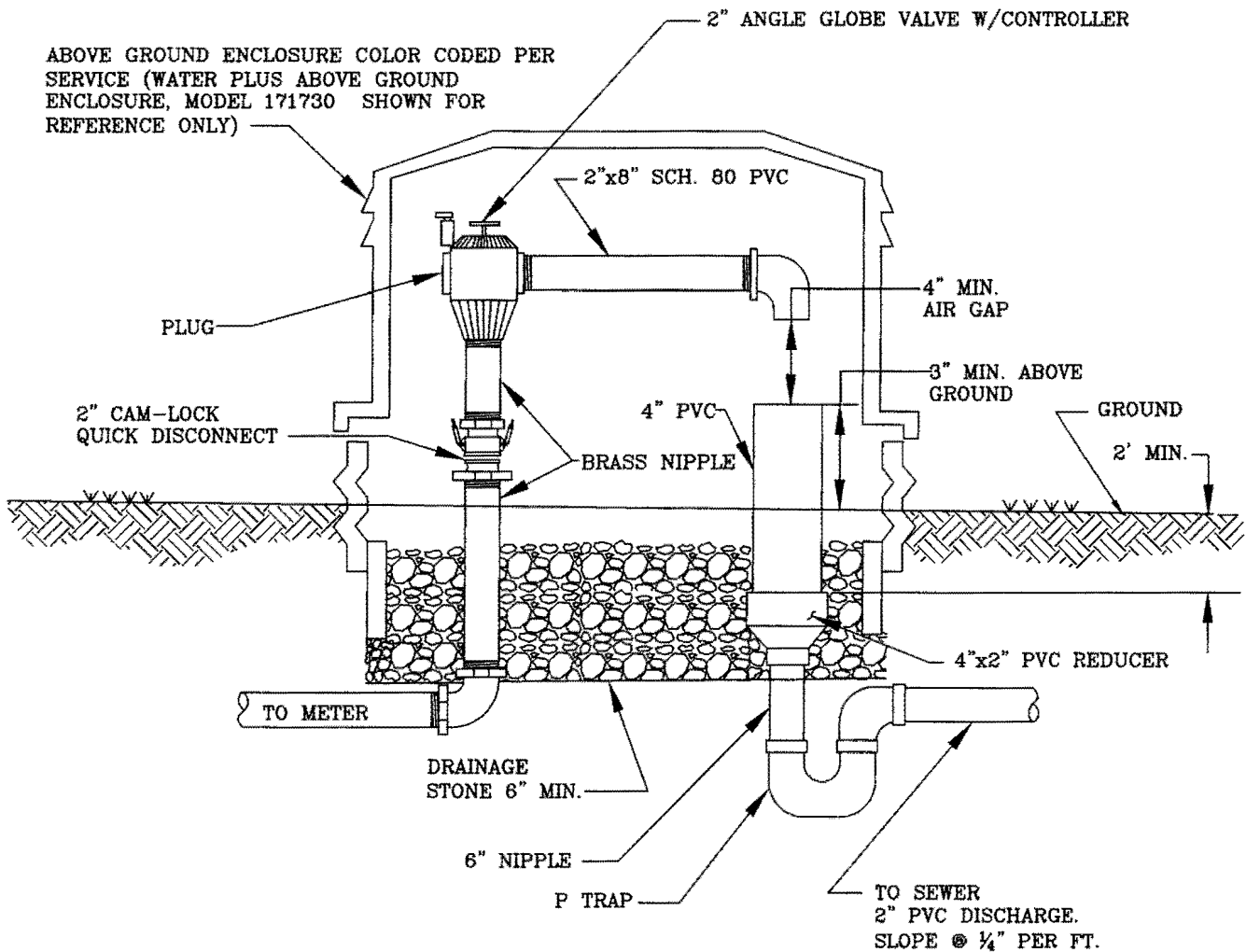
FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

NOTE:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.



PINELLAS COUNTY

AUTOMATIC FLUSHING ASSEMBLY DETAIL

DETAIL INDEX I.D.:

PCU GD 14

DATE:

FEB/2016

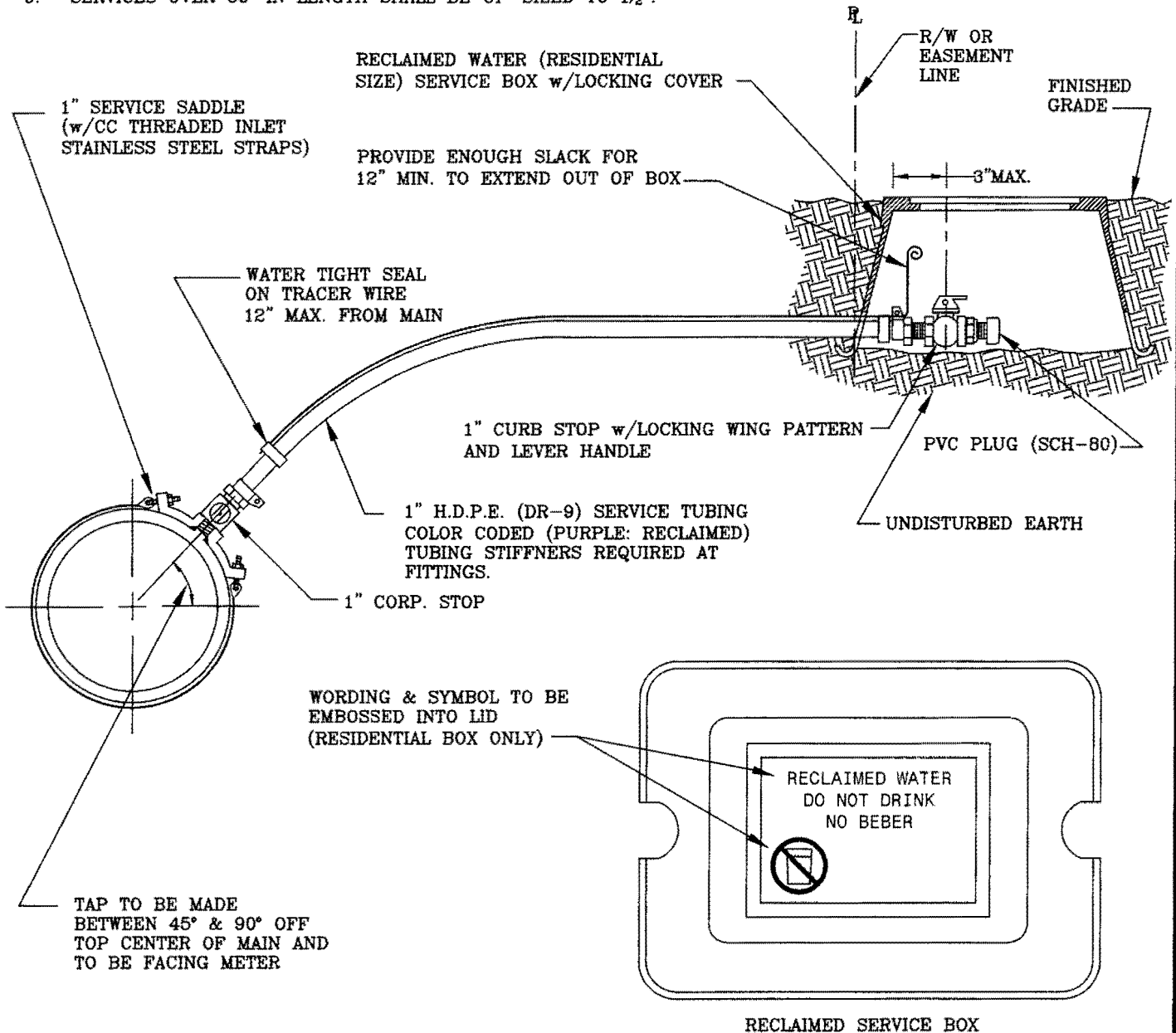
KEVIN BECOTTE, P.E.

Kevin Becotte

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. CORPORATION STOPS SHALL BE COMPATIBLE WITH DR 9 (C.T.S.) H.D.P.E. TUBING.
3. SERVICE SADDLE REQUIRED FOR ALL TAPS EXCEPT FOR 1" TAPS AND SMALLER ON D.I.P.
4. METER ONLY, TO BE FURNISHED BY P.C.U. (IF REQUIRED).
5. RESIDENTIAL SIZE RECLAIM METER BOX SHALL BE USED FOR UNMETERED SERVICES AND COMMERCIAL SIZE FOR METERED.
6. ALL METER BOXES LOCATED WITHIN VEHICULAR AREAS SHALL BE H-20 LOADING. ALL OTHERS SHALL BE H-10 LOADING.
7. TRACER WIRE REQUIRED ON ALL SERVICES.
8. TAP AND METER SHALL BE INSTALLED BY P.C.U. ON ALL PRIVATELY DEVELOPED PROJECTS.
9. SERVICES OVER 60' IN LENGTH SHALL BE UP-SIZED TO 1½".



PINELLAS COUNTY

**1" RECLAIMED SERVICE CONNECTION
(NON-METERED) DETAIL**

DETAIL INDEX I.D.:

PCU RD 1

DATE:

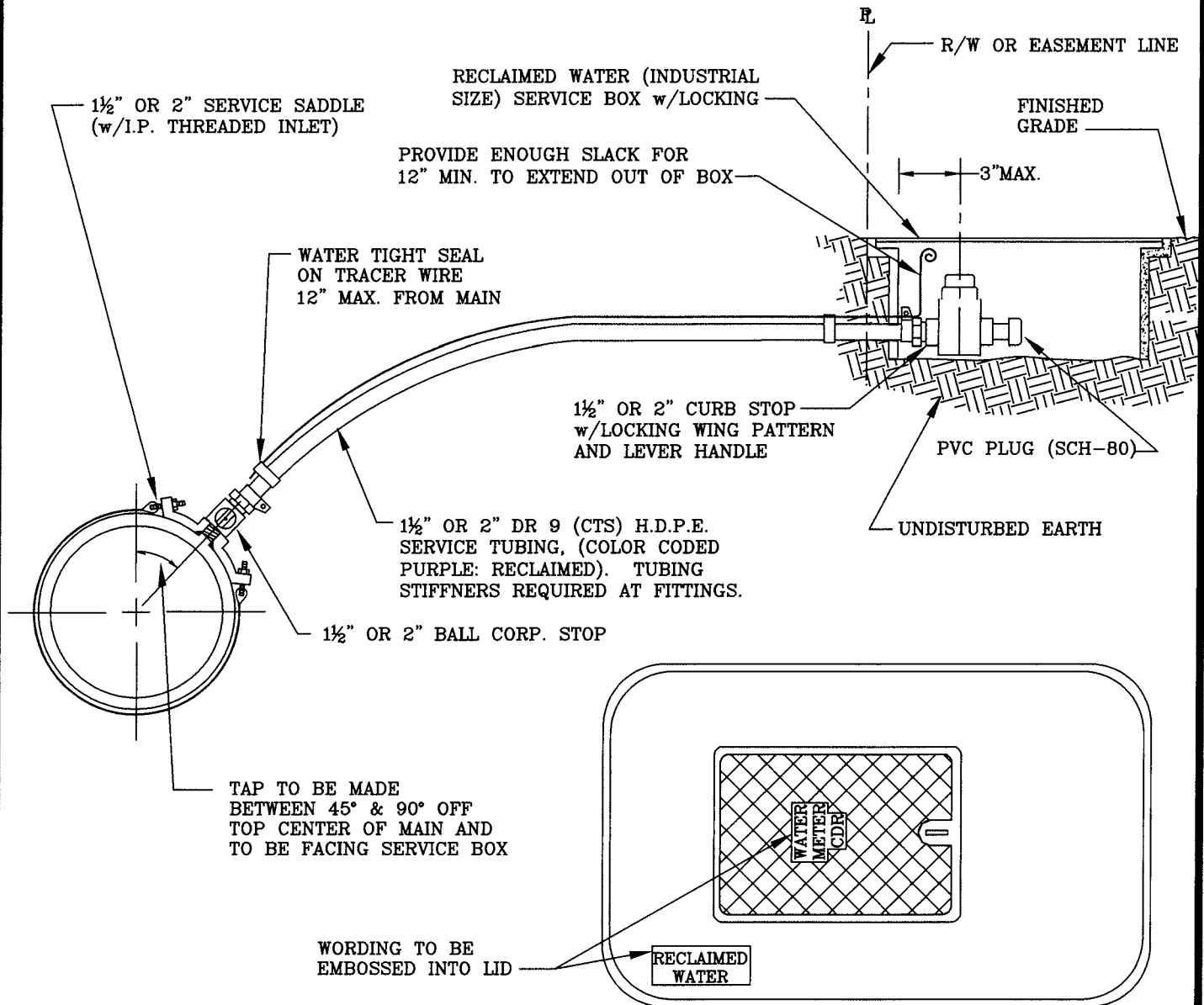
FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. CORPORATION STOPS SHALL BE COMPATIBLE WITH DR 9 (C.T.S.) H.D.P.E. TUBING.
3. SERVICE SADDLE REQUIRED FOR ALL TAPS.
4. SERVICE BOXES SHALL BE PER P.C.U. APPROVED MATERIAL SPECIFICATIONS.
5. ALL SERVICE BOXES LOCATED WITHIN VEHICULAR AREAS SHALL BE H-20 LOADING. ALL OTHERS SHALL BE H-10 LOADING.
6. TRACER WIRE REQUIRED ON ALL SERVICES.
7. TAP AND METER SHALL BE INSTALLED BY P.C.U. ON ALL PRIVATELY DEVELOPED PROJECTS.
8. SERVICES OVER 60' IN LENGTH SHALL BE UP-SIZED TO 2."
9. RESIDENTIAL RECLAIMED SERVICE BOXES SHALL BE USED ON ALL RESIDENTIAL PROPERTY REGARDLESS OF THE LENGTH AND SIZE OF THE SERVICE LINE.



PINELLAS COUNTY

1/2" OR 2" RECLAIMED SERVICE CONNECTION
(NON-METERED) DETAIL

DETAIL INDEX I.D.:

PCU RD 2

DATE:

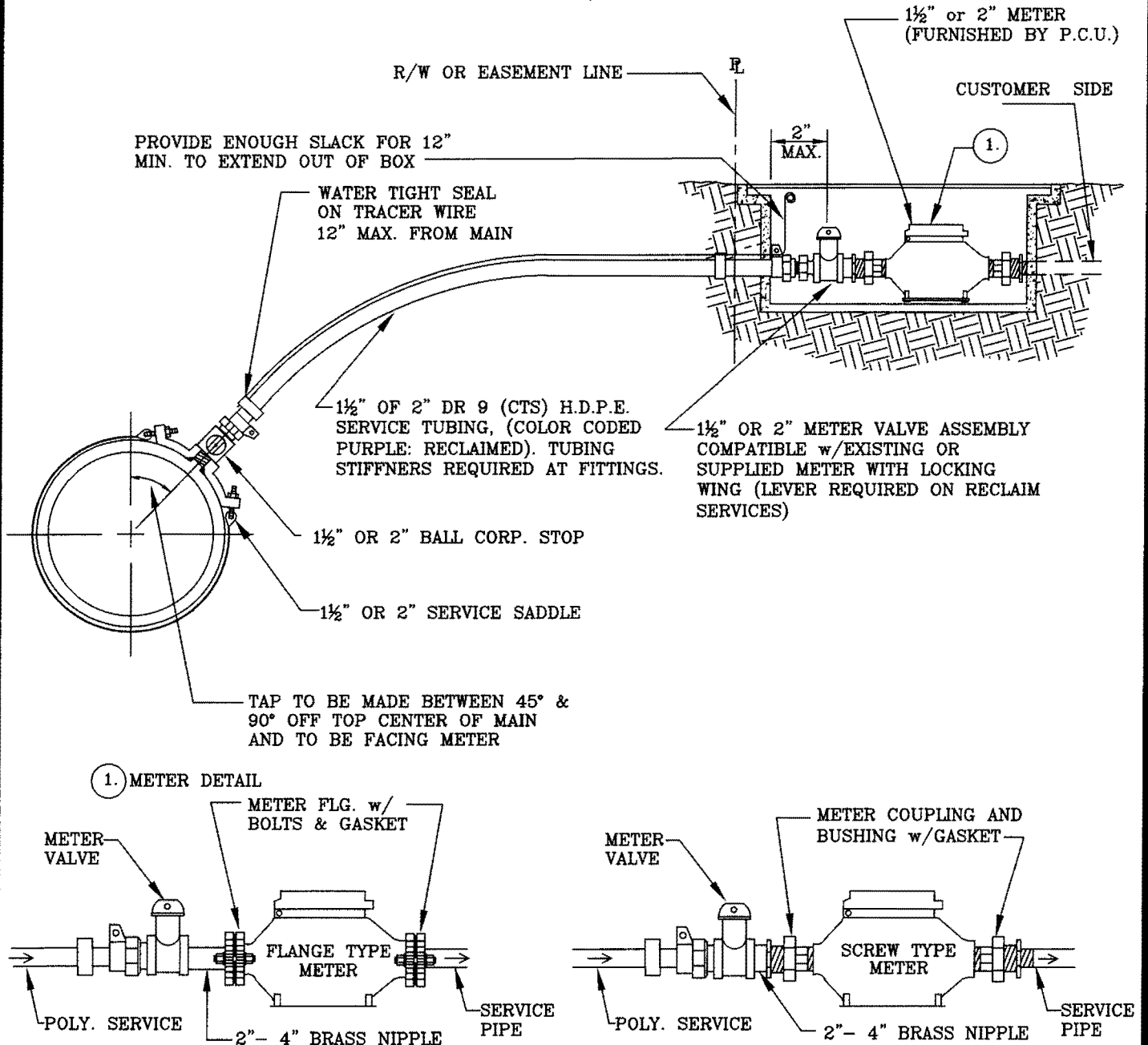
FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. CORPORATION STOPS SHALL BE COMPATIBLE WITH DR 9 (C.T.S.) H.D.P.E. TUBING.
3. SERVICE SADDLE REQUIRED FOR ALL TAPS.
4. METER ONLY, TO BE FURNISHED BY P.C.U.
5. METER BOXES SHALL BE INDUSTRIAL SIZE.
6. ALL METER BOXES LOCATED WITHIN VEHICULAR TRAVEL AREAS SHALL BE H-20 LOADING. ALL OTHERS SHALL BE H-10 LOADING.
7. TRACER WIRE REQUIRED ON ALL SERVICES.
8. TAP AND METER SHALL BE INSTALLED BY P.C.U. ON ALL PRIVATELY DEVELOPED PROJECTS.
9. SERVICES OVER 60' IN LENGTH SHALL BE UP-SIZED TO 2".
10. WORDING TO BE EMBOSSED INTO LID "RECLAIMED WATER,"



PINELLAS COUNTY

1 1/2" OR 2" METERED RECLAIMED WATER SERVICE DETAIL

DETAIL INDEX I.D.:

PCU RD 3

DATE:

FEB/2016

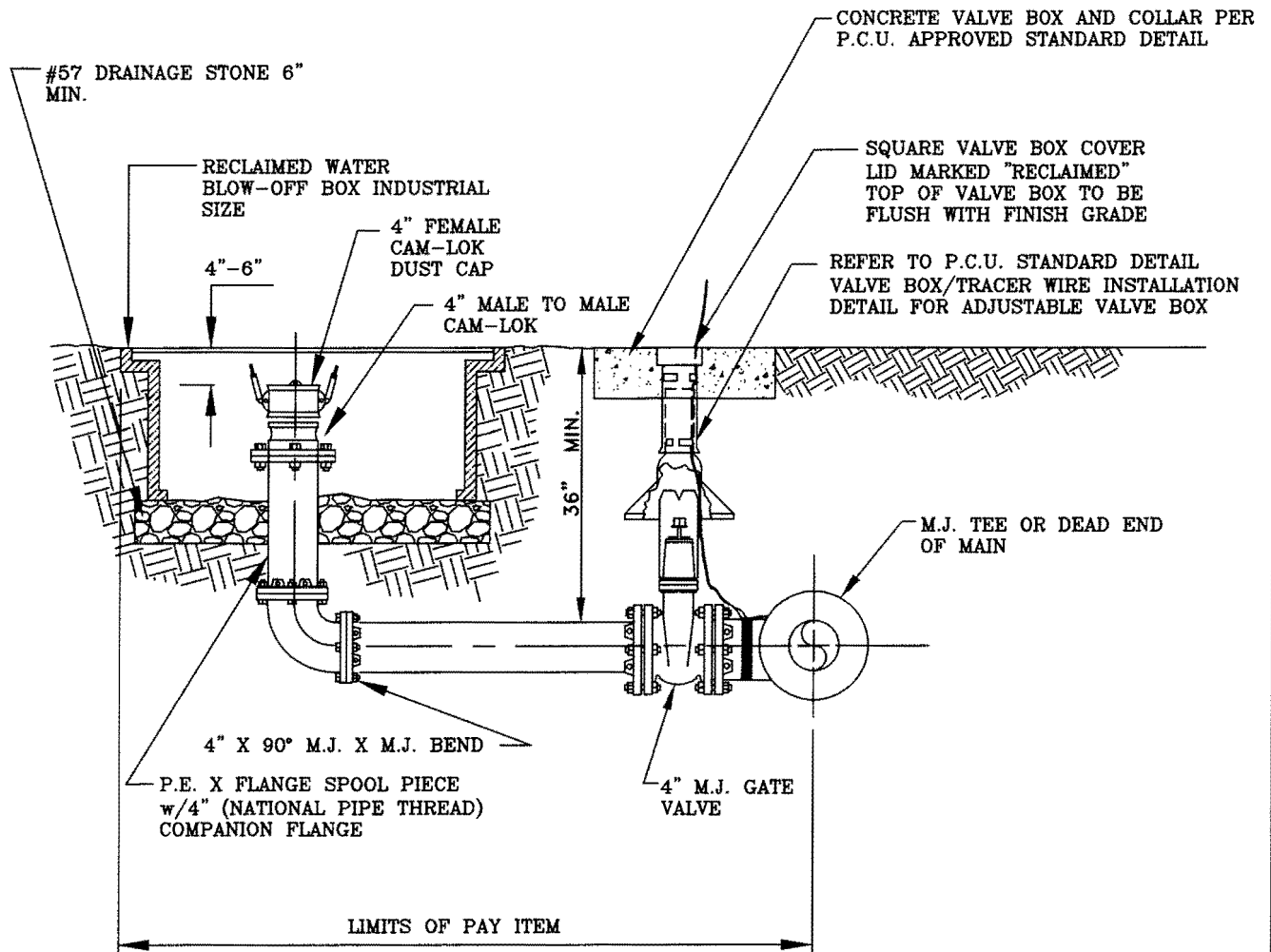
KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL BURIED JOINTS SHALL BE RESTRAINED MECHANICAL JOINTS (M.J.).



PINELLAS COUNTY

RECLAIMED WATER FLUSHING ASSEMBLY DETAIL

DETAIL INDEX I.D.:

PCU RD 4

DATE:

FEB/2016

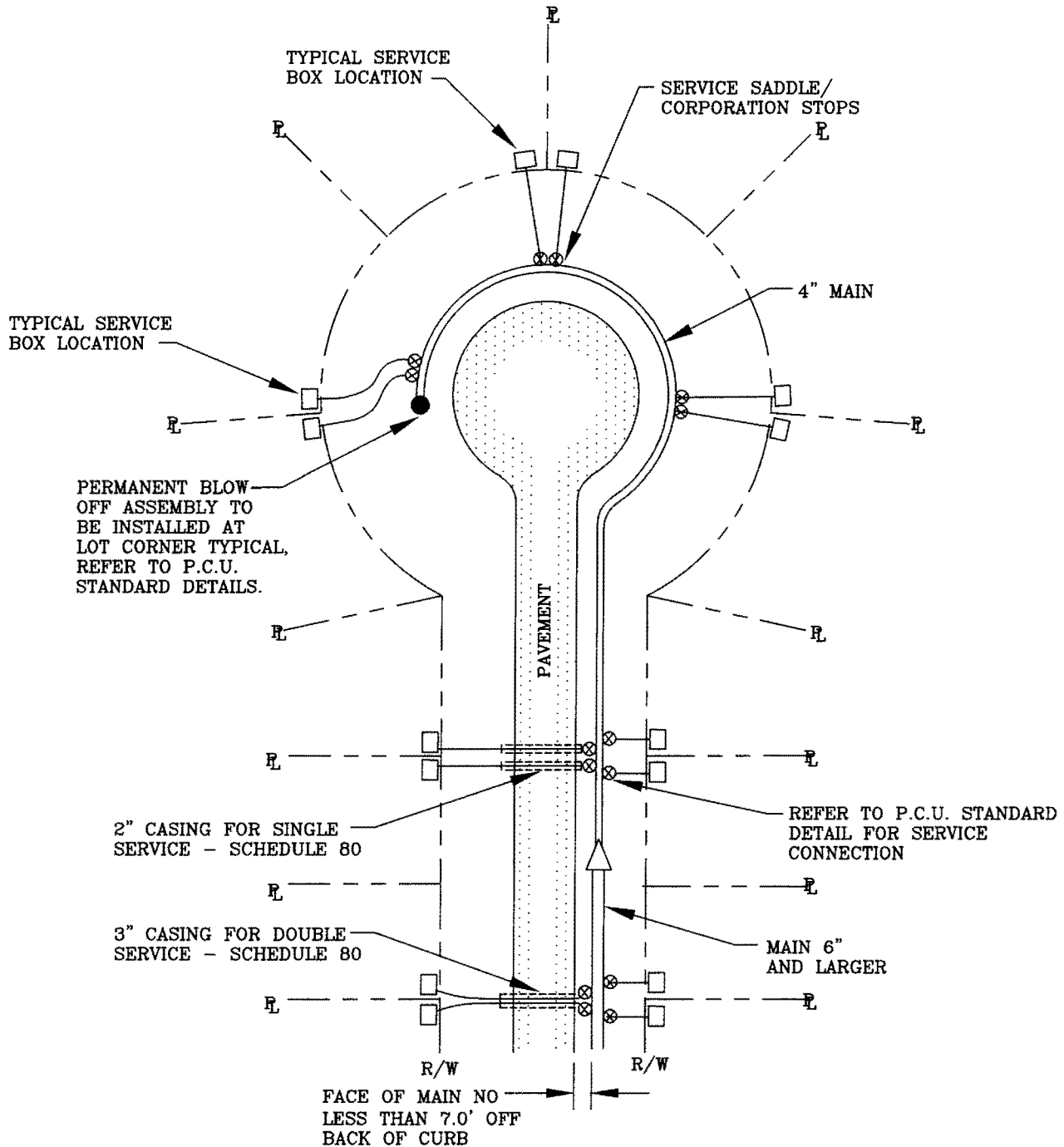
KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. NO MORE THAN EIGHT (8) TO TEN (10) METER CONNECTIONS SHALL BE INSTALLED BETWEEN BLOW-OFF AND REDUCTION TO 4" MAIN.
3. CASINGS TO BE EXTENDED BEYOND E.P. OR B.O.C. IN ACCORDANCE WITH P.C.U. STANDARD DETAILS.
4. A 3' HORIZONTAL SEPARATION BETWEEN RECLAIMED AND POTABLE WATER MAINS.



PINELLAS COUNTY

CUL-DE-SAC LAYOUT - RECLAIMED WATER DETAIL

DETAIL INDEX I.D.:

PCU RD 5

DATE:

FEB/2016

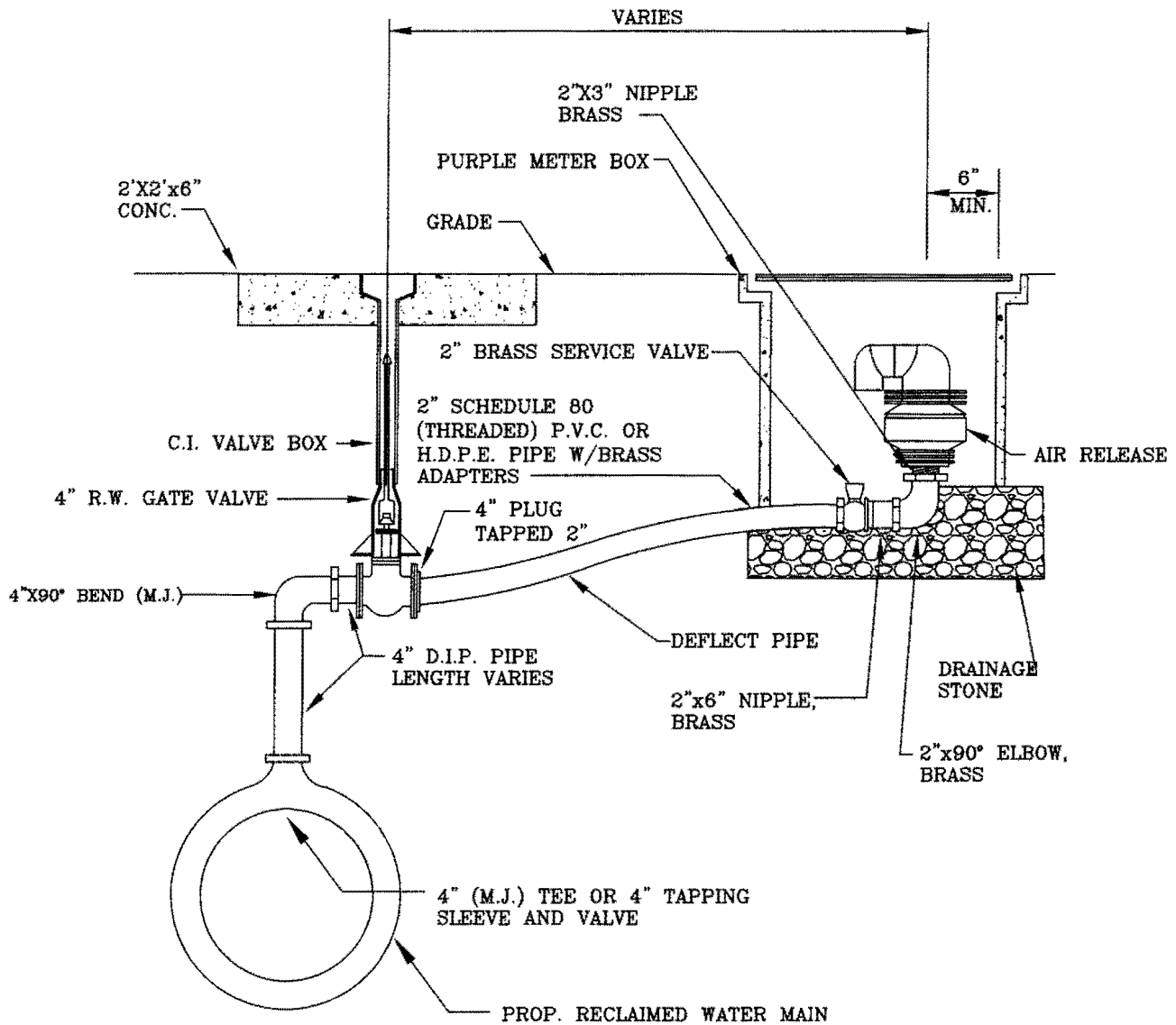
KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL JOINTS TO BE RESTRAINED.



NOTE:

CONTRACTOR SHALL EXERCISE CAUTION
WHILE MIXING ROADWAY STABILIZATION

PINELLAS COUNTY

2" OFFSET AIR RELEASE ASSEMBLY FOR RECLAIMED
WATER (BELOW GROUND) DETAIL

DETAIL INDEX I.D.:

PCU RD 6

DATE:

FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

SANITARY SEWER MANHOLE CONSTRUCTION NOTES

ALL MANHOLES

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. PRECAST MANHOLE SECTIONS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF ASTM C-478 WITH 4000 P.S.I., TYPE II PORTLAND CEMENT.
3. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH THE CONCENTRIC CONE SET BETWEEN $2\frac{1}{2}$ " AND $14\frac{1}{2}$ " BELOW THE BOTTOM OF MANHOLE COVER FRAME.
4. ALL KEYED JOINTS SHALL BE SEALED WITH TWO CONTINUOUS RINGS OF FLEXIBLE JOINT SEALANT, OR APPROVED EQUAL.
5. ALL INTERIOR AND EXTERIOR MANHOLE SURFACES SHALL BE PREPARED FOR COATING AND COATED IN ACCORDANCE WITH P.C.U. STANDARD SPECIFICATIONS AND APPROVED MATERIAL SPECIFICATIONS. INSIDE COATING OF MANHOLE MAY BE ELIMINATED IF USING P.C.U. APPROVED LINING SYSTEM.
6. MANHOLE BASE AND BOTTOM SECTION SHALL BE MONOLITHICALLY CAST.
7. ALL PIPE PENETRATIONS IN MANHOLE SHALL BE PRECAST OR CORE DRILLED.
8. MANHOLE COVER SHALL BE EQUIPPED WITH AN INFLOW PROTECTOR.
9. A DROP CONNECTION IS REQUIRED WHERE THE PIPE INVERT IS GREATER THAN 2' ABOVE THE MANHOLE INVERT. FOR DROPS 2' OR LESS A FLUME SHALL BE CONSTRUCTED.
10. ALL MANHOLES 5' IN DIAMETER OR GREATER SHALL REQUIRE THE USE OF A DOUBLE RING AND COVER.
11. ALL MANHOLES WITH A DEPTH OF 14' OR GREATER SHALL BE DESIGNED FOR ANTI-FLOATATION AND SHALL REQUIRE SUBMITTAL OF CALCULATIONS.

INSIDE DROP MANHOLES

12. THERE SHALL BE NO MORE THAN 2 INSIDE DROPS PER MANHOLE.
13. WHEN USING A 90° BEND ON RISER, IT SHALL BE ROTATED BETWEEN $22\frac{1}{2}$ ° AND 45° IN THE DIRECTION OF FLOW AND GROUTED INTO BENCH.
14. ALL FORCE MAIN CONNECTIONS REQUIRE THE USE OF A FORCE MAIN HOOD WITH INSIDE DROP BOWL.
15. ALL INSIDE DROPS SHALL BE CONSTRUCTED USING P.V.C. SDR-35 PIPE.

OUTSIDE DROP MANHOLES

16. OUTSIDE DROP PIPING SHALL BE CONSTRUCTED USING THE SAME MATERIAL AS THE MAIN LINE.

TABLE

DIA.	FOR PIPES	CASTING SIZE CLEAR OPENING
4'-0"	24" & UNDER	22.375"
5'-0"	30" & 36" ALL INSIDE DROP AND AIR RELEASE MANHOLES	35"
6'-0"	42" & OVER	48"

PINELLAS COUNTY

MANHOLE CONSTRUCTION NOTES

DETAIL INDEX I.D.:

PCU SD 1

DATE:

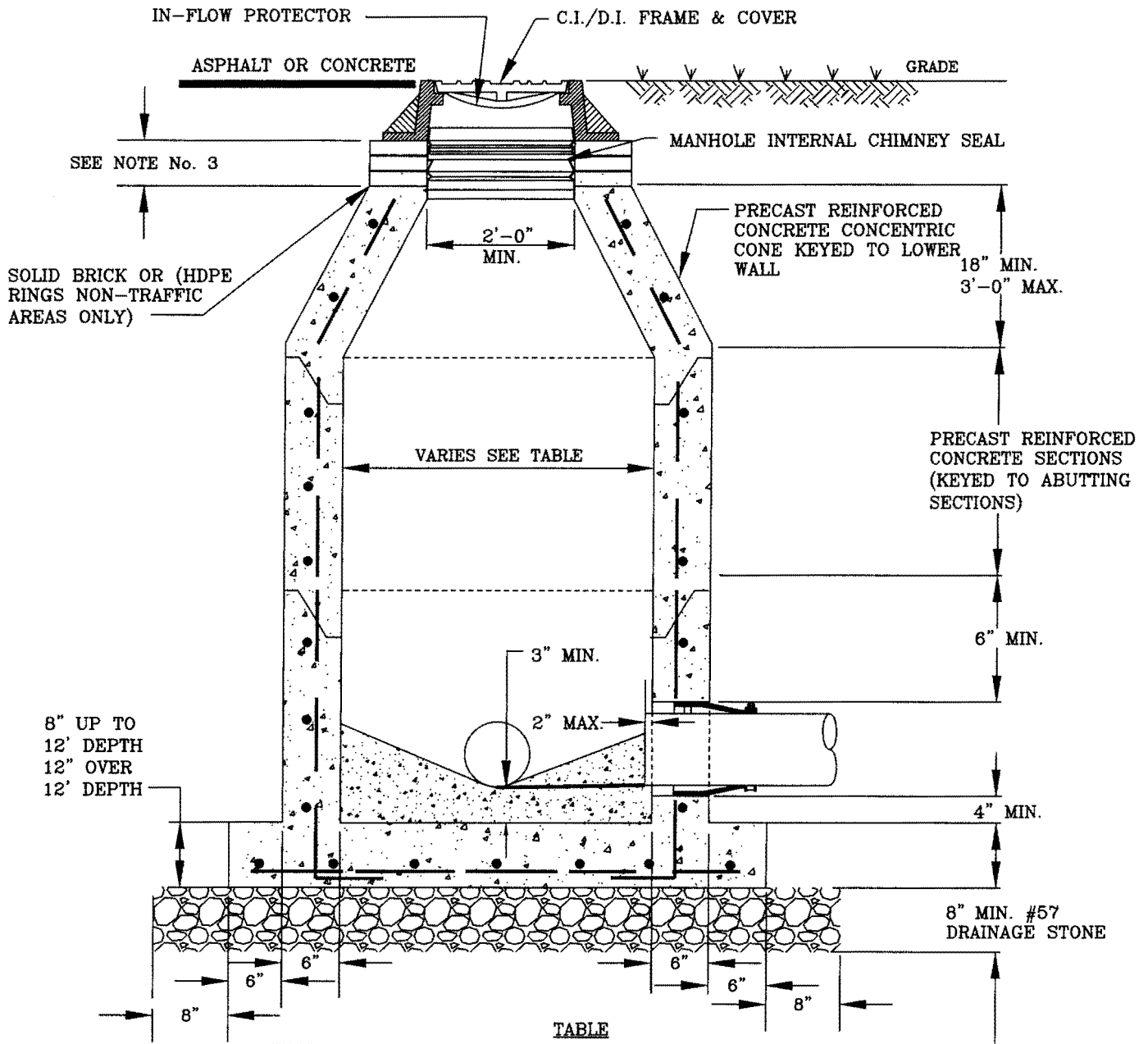
FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIALS SPECIFICATION MANUAL.
2. REFER TO P.C.U. STANDARD DETAIL ON MANHOLE CONSTRUCTION NOTES.
3. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER AND FRAME.



TABLE

DIA.	FOR PIPES	CASTING SIZE CLEAR OPENING
4'-0"	24" & UNDER	22.375"
5'-0"	30" & 36" ALL INSIDE DROP AND AIR RELEASE MANHOLES	35"
6'-0"	42" & OVER	48"

PINELLAS COUNTY

STANDARD MANHOLE (PRE-CAST) DETAIL

DETAIL INDEX I.D.:

PCU SD 1a

DATE:

FEB/2016

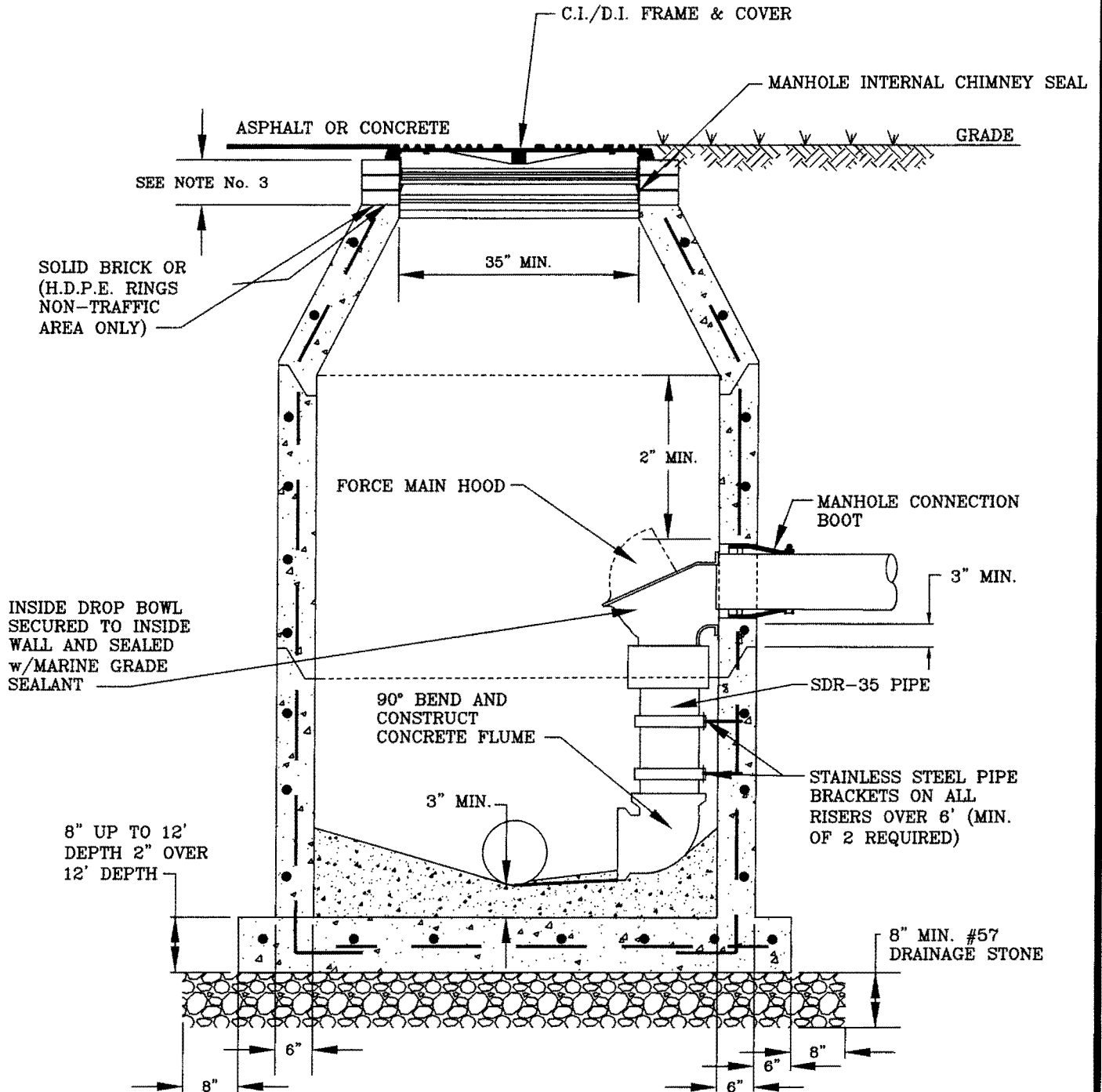
KEVIN BECOTTE, P.E.

Kevin Becotte

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. REFER TO P.C.U. STANDARD DETAIL ON MANHOLE CONSTRUCTION NOTES.
3. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER AND FRAME.



PINELLAS COUNTY

INSIDE DROP MANHOLE CONNECTION DETAIL

DETAIL INDEX I.D.:

PCU SD 1b

DATE:

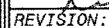
FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

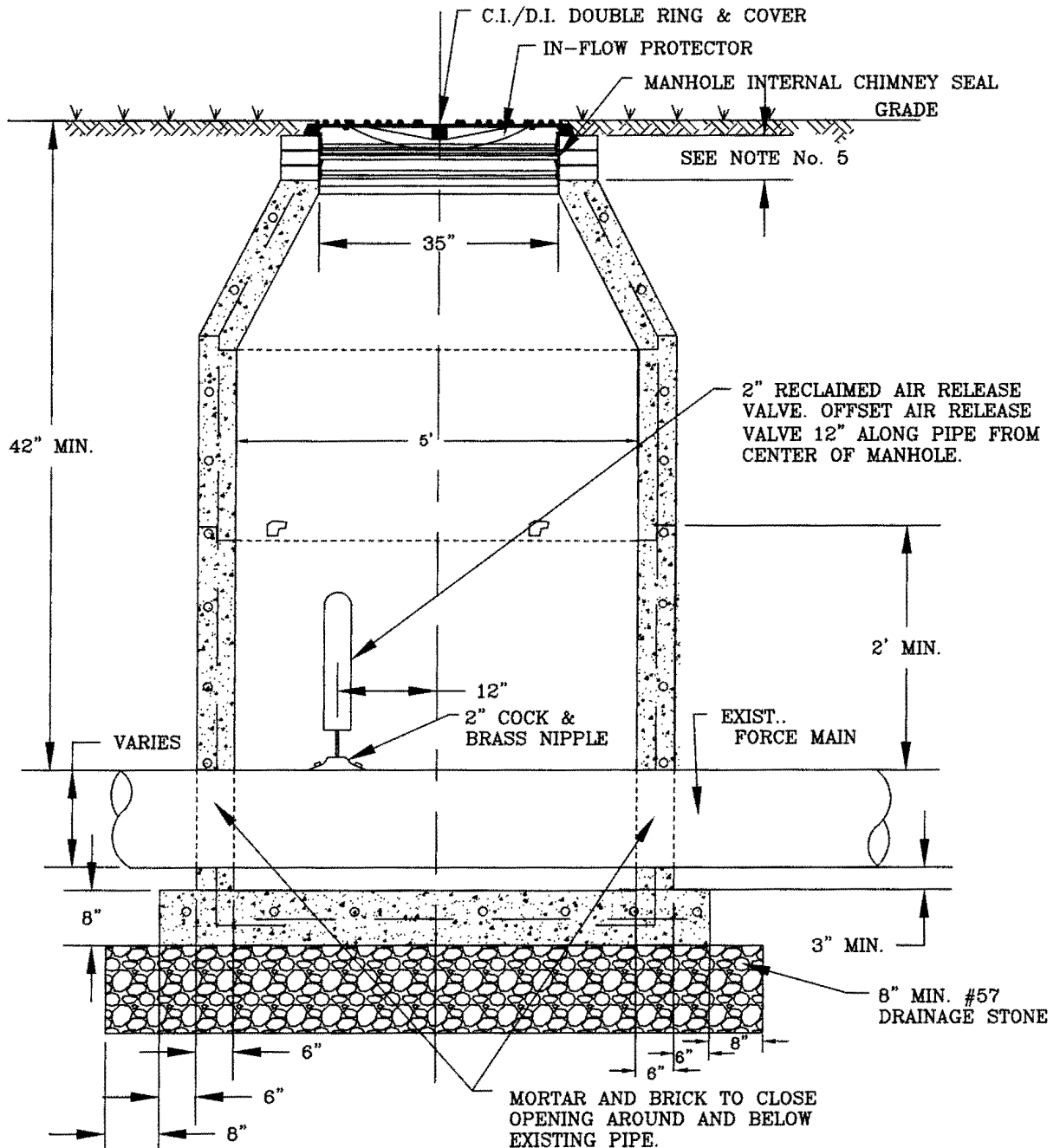
Kevin Becotte

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. REFER TO P.C.U. STANDARD DETAIL ON MANHOLE CONSTRUCTION NOTES.
3. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER AND FRAME.



NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. PRECAST MANHOLES SHALL BE USED AND SHALL BE CONSTRUCTED TO STANDARD MANHOLE SPECIFICATIONS.
3. DOGHOUSE OPENING MAY ONLY BE USED WHEN PLACING A NEW MANHOLE OVER AN EXISTING LINE. OTHERWISE, THE OPENING MUST BE CAST.
4. OPENINGS IN PRECAST UNITS ARE TO BE 4" MINIMUM TO 8" MAXIMUM LARGER THAN THE OUTSIDE DIAMETER OF THE EXISTING PIPE.
5. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER AND FRAME.



PINELLAS COUNTY

DOGHOUSE AIR RELEASE VALVE MANHOLE DETAIL

DETAIL INDEX I.D.:

PCU SD 1d

DATE:

FEB/2016

KEVIN BECOTTE, P.E.

REVISION: *Kevin Becotte*

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.

3. SEWER AIR RELEASE/VACUUM VALVE SHALL BE LOCATED AT THE HIGH ELEVATIONS ON THE FORCE MAIN.

4. LID SHALL INCLUDE HOLE OPENINGS TO ALLOW AIR RELEASE VALVE VENTING/

5. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT IF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER AND FRAME.



DETAIL INDEX I.D.:

PCU SD 2

DATE:

FEB/2016

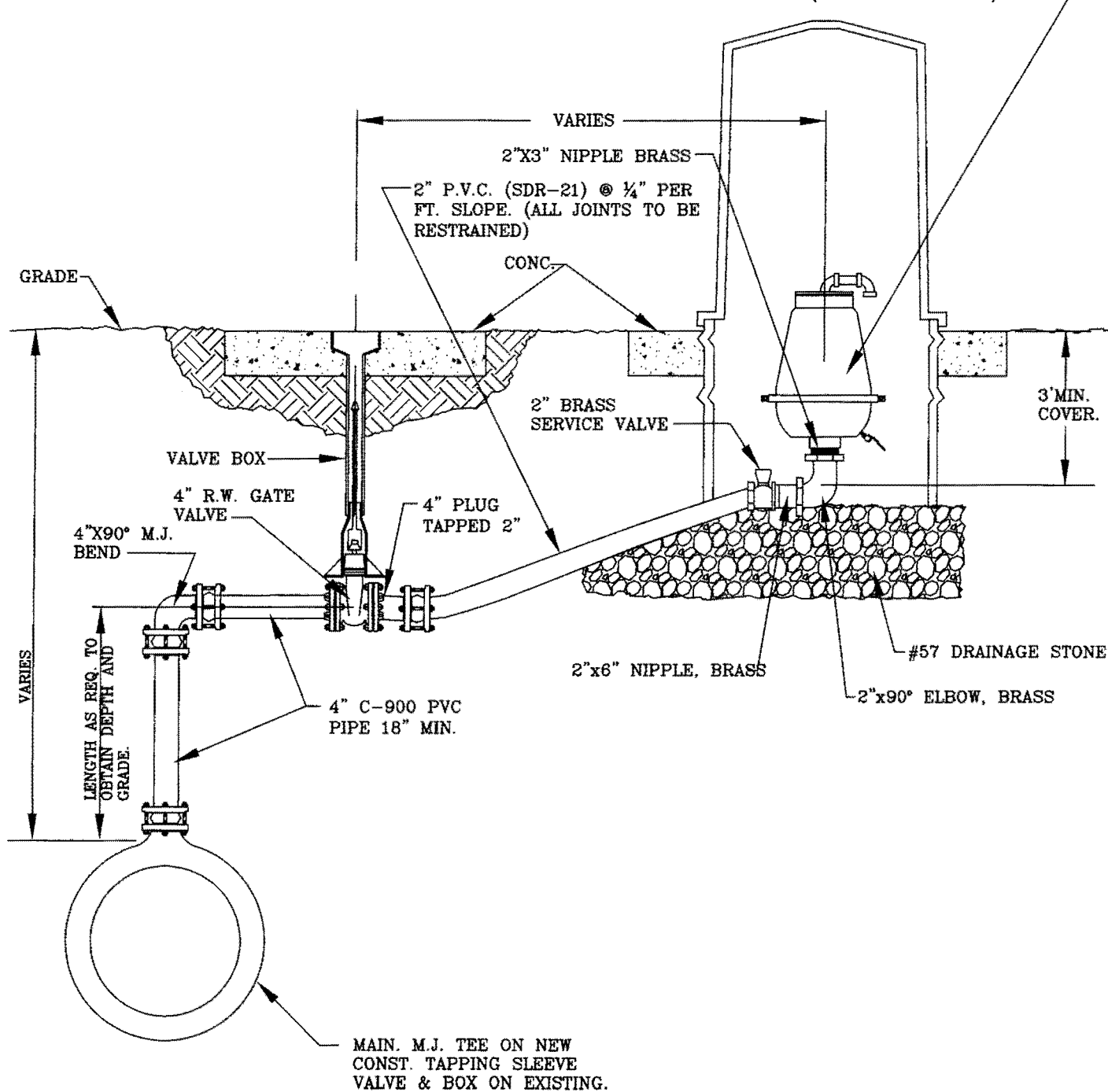
KEVIN BECOTTE, P.E.

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. SUPPORT/RESTRAINT MECHANISM FOR AIR RELEASE/AIR VACUUM VALVE SHALL REQUIRE APPROVAL BY COUNTY ENGINEER PRIOR TO INSTALLATION.

AIR RELEASE/AIR VACUUM VALVE
AS SPECIFIED IN CONSTRUCTION
PLANS. (A.R.I. MODEL SHOWN)



PINELLAS COUNTY

OFFSET AIR RELEASE ASSEMBLY
FOR 4"-12" AND LARGER SANITARY SEWER
(ABOVE GROUND) DETAIL

DETAIL INDEX I.D.:

PCU SD 3

DATE:

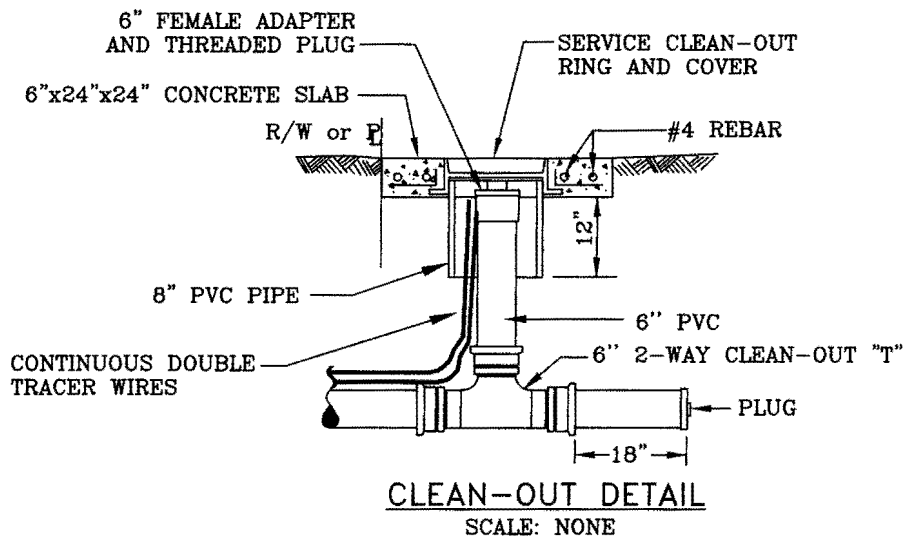
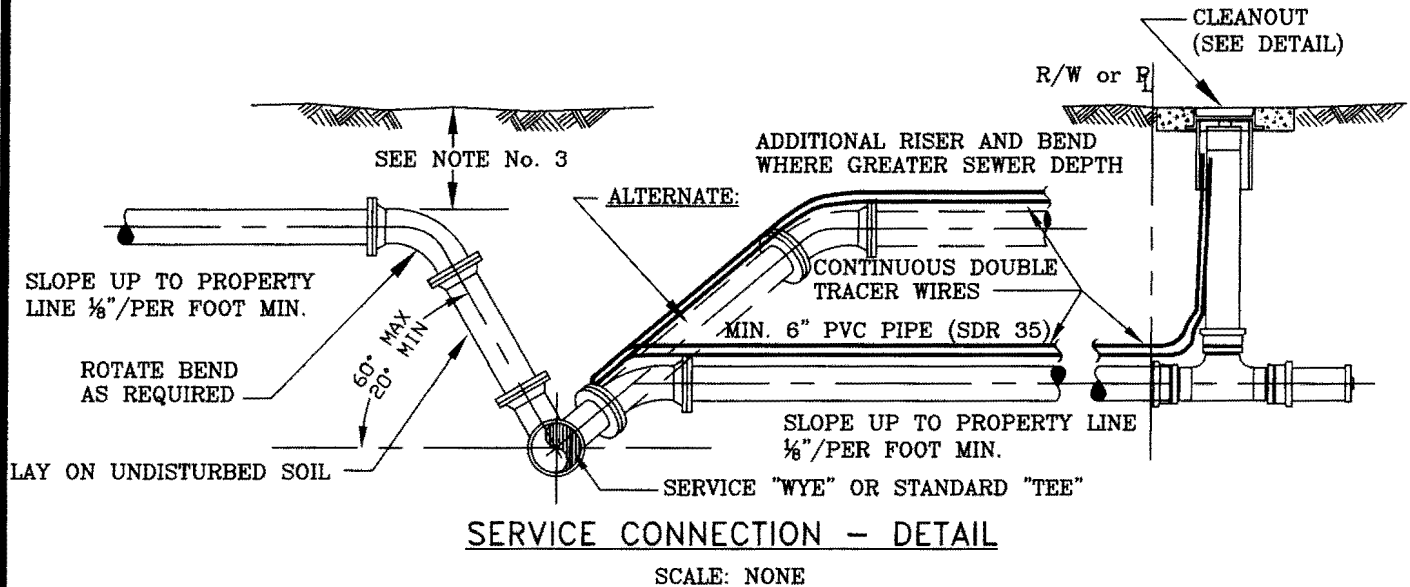
FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. SERVICE CONNECTIONS MAY NOT HAVE BEEN SHOWN ON PLAN/PROFILE SHEETS. SERVICE CONNECTION LOCATIONS SHALL BE DETERMINED IN THE FIELD AND CONNECTIONS CONSTRUCTED ACCORDANCE WITH P.C.U. APPROVED TECHNICAL SPECIFICATIONS, MATERIALS MANUAL & THESE DETAILS. FOR NEW DEVELOPMENT, THE SERVICE CONNECTION SHALL BE CONSTRUCTED IN THE CENTER OF THE LOT.
3. MINIMUM DEPTH UNDER ROADWAY 42" MINIMUM DEPTH AT PROPERTY LINE 36" (OR AS REQUIRED FOR SERVICE).
4. SERVICE LINES SHALL BE A MIN. OF 6" TO ALL RESIDENCES.
5. NO DOUBLE WYE UNITS SHALL BE PERMITTED ON SERVICE LINE. ALL RESIDENCES SHALL BE SERVED BY A SINGLE SERVICE.
6. RISERS SHALL BE INSTALLED ON ALL WYES (BOTH PRESENT & FUTURE SERVICES).
7. RISERS SHALL PREFERABLY FOLLOW SLOPE OF BANK TO REQUIRED DEPTH.
8. THE TRACER WIRE SHALL START AT THE CLEAN-OUT AND RUN ALONG THE SEWER SERVICE TO THE MAIN AND BACK TO THE CLEAN-OUT AS ONE CONTINUOUS WIRE.



PINELLAS COUNTY

**SEWER SERVICE CONNECTION
AND CLEAN-OUT DETAIL**

DETAIL INDEX I.D.:

PCU SD 4

DATE:

FEB/2016

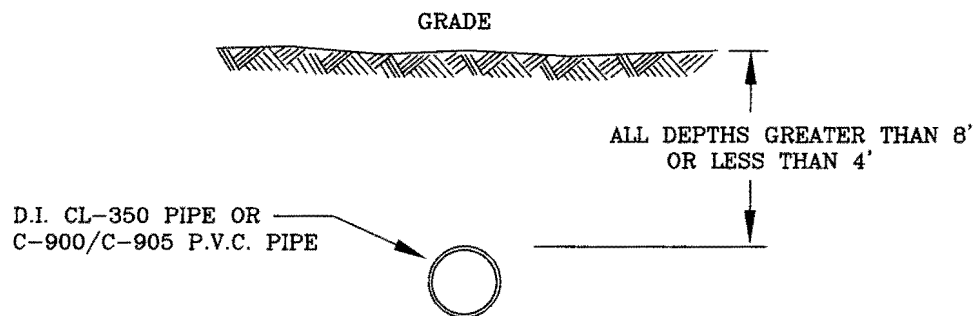
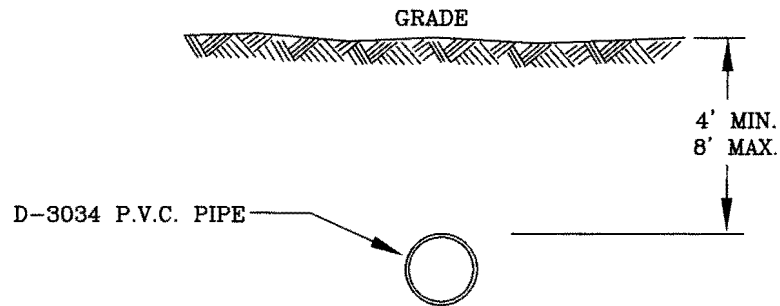
KEVIN BECOTTE, P.E.

Kevin Becotte

REVISION:

NOTE:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.



PINELLAS COUNTY

DEPTH LIMITATIONS OF SANITARY SEWER
PIPE DETAIL

DETAIL INDEX I.D.:

PCU SD 5

DATE:

FEB/2016

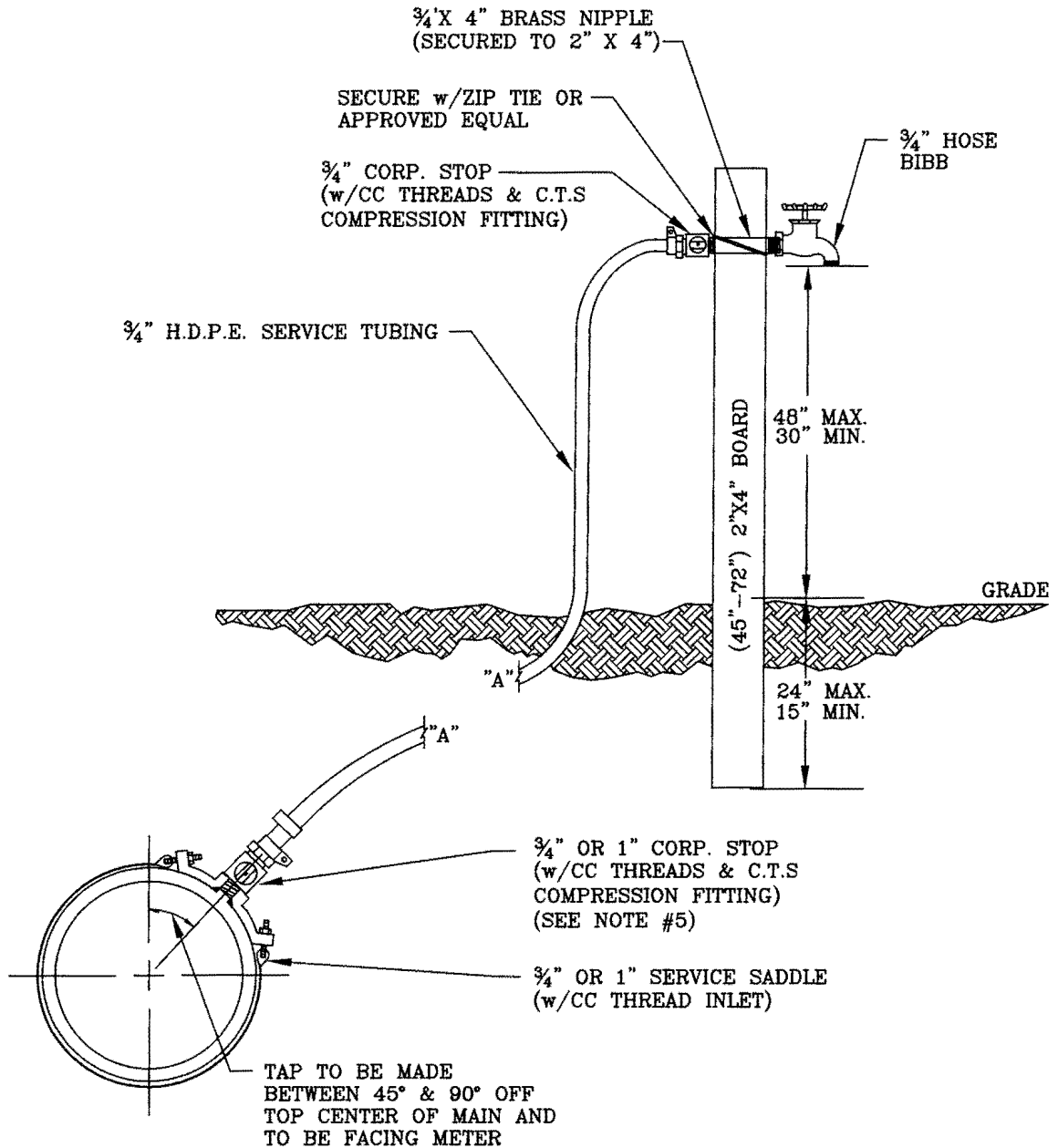
KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN LIMITS OF ROADWAY BUT ROUTED TO ROADWAY SHOULDER (NON-TRAFFIC AREA)
3. CONTRACTOR SHALL UTILIZE SERVICE LINE CONNECTIONS, WHERE POSSIBLE.
4. WHEN UTILIZING TEMPORARY SAMPLE POINT AS A SERVICE CONNECTION, THEN A TRACER WIRE IS REQUIRED.
5. SAMPLE POINTS TO BE ABANDONED AFTER USE SHALL BE FITTED WITH A $\frac{3}{4}$ " CC x F.I.P. CORP. STOP.
6. REMOVE ALL PIPE AND ABOVE GROUND FITTINGS AND PLUG CORP. STOP WITH $\frac{3}{4}$ " PLUG.



PINELLAS COUNTY

TEMPORARY SAMPLING POINT
DETAIL

DETAIL INDEX I.D.:

PCU WD 1

DATE:

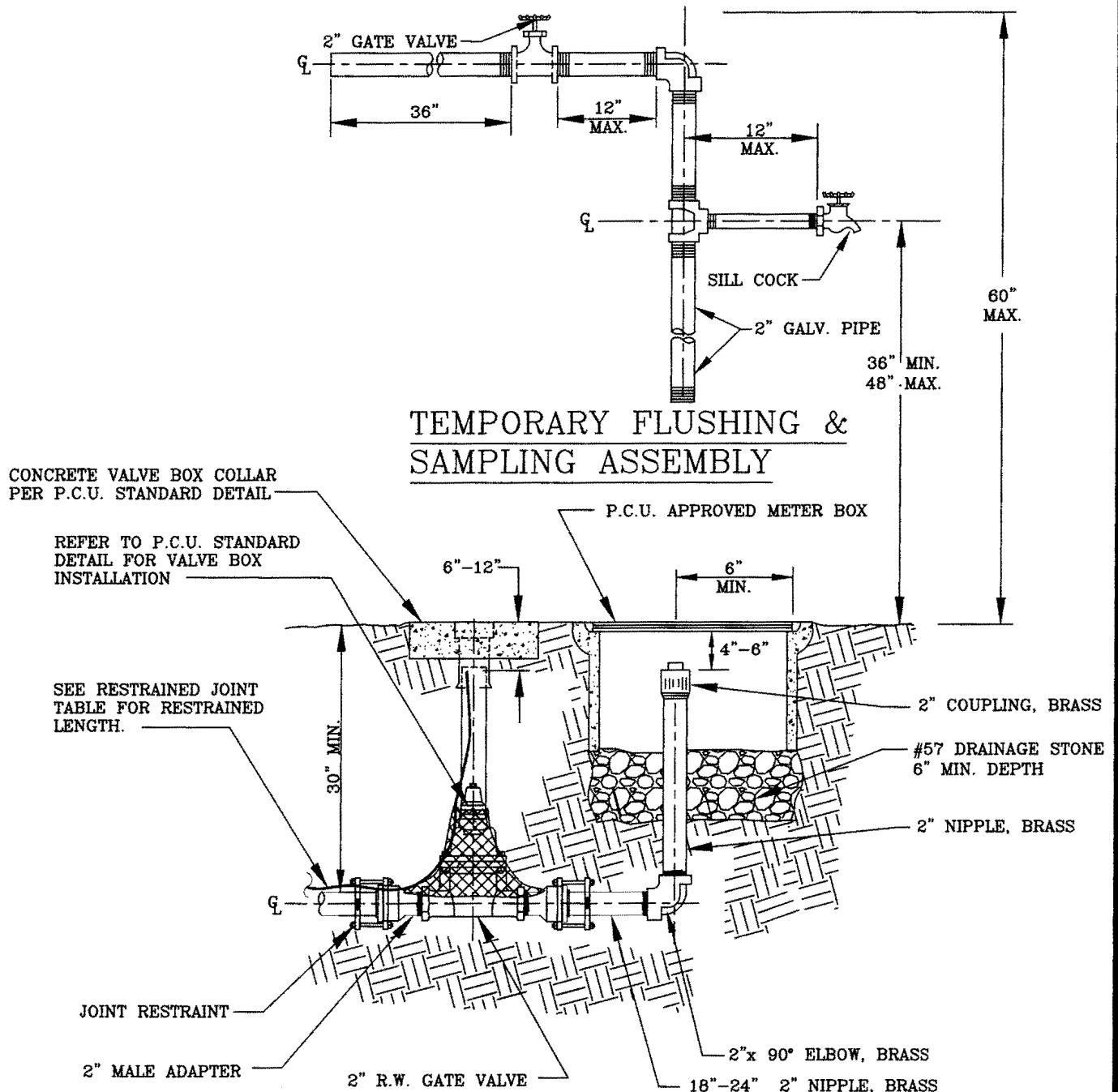
FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. A VALVE KEY EXTENSION SHALL BE REQUIRED ON VALVES WITH OPERATOR NUT OVER 3' DEEP.
3. INSTALL AND REMOVE TEMP. FLUSHING AND SAMPLING ASSEMBLY AT 2" COUPLING.
4. INSTALL 2" BRASS PLUG UPON CLEARANCE OF THE P.C. HEALTH DEPARTMENT.
5. RESTRAIN 2" PIPE UP TO VALVE



PINELLAS COUNTY

**2" PERMANENT WATER BLOW-OFF
DETAIL**

DETAIL INDEX I.D.:

PCU WD 2

DATE:

FEB/2016

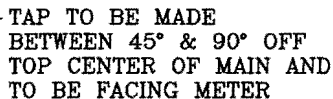
KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

NOTES:

10. METERS WITH DUAL CHECKS SHALL UTILIZE A METER BOX WITH OFFSET MOUSE HOLES.



PINELLAS COUNTY

3/4" OR 1" POTABLE WATER SERVICE CONNECTION DETAIL

DETAIL INDEX I.D.:

PCU WD 3

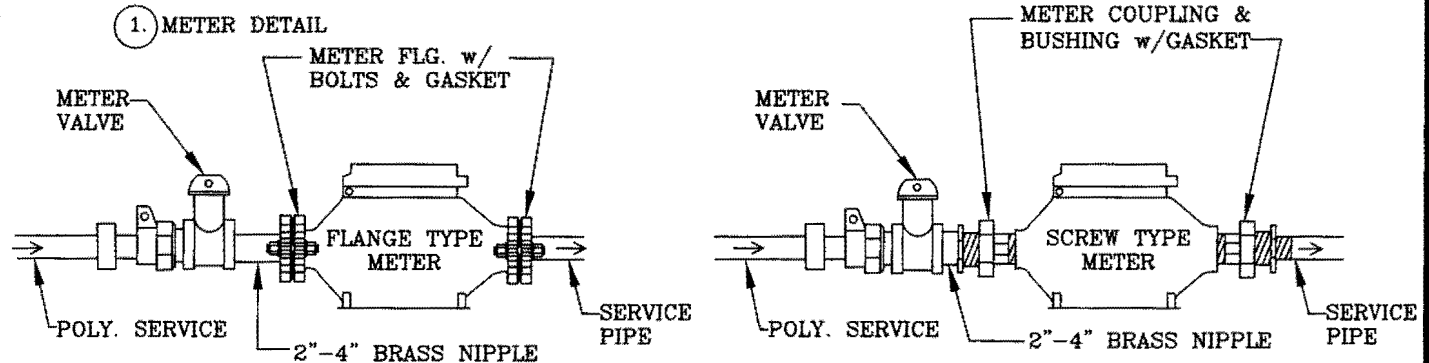
DATE:

FEB/2016

KEVIN BECOTTE, P.E.

REVISION:

9. TAP AND METER SHALL BE INSTALLED BY P.C.U. ON ALL PRIVATELY DEVELOPED PROJECTS.



PINELLAS COUNTY

1½" OR 2" POTABLE WATER SERVICE CONNECTION DETAIL

DETAIL INDEX I.D.:

PCU WD 4

DATE:

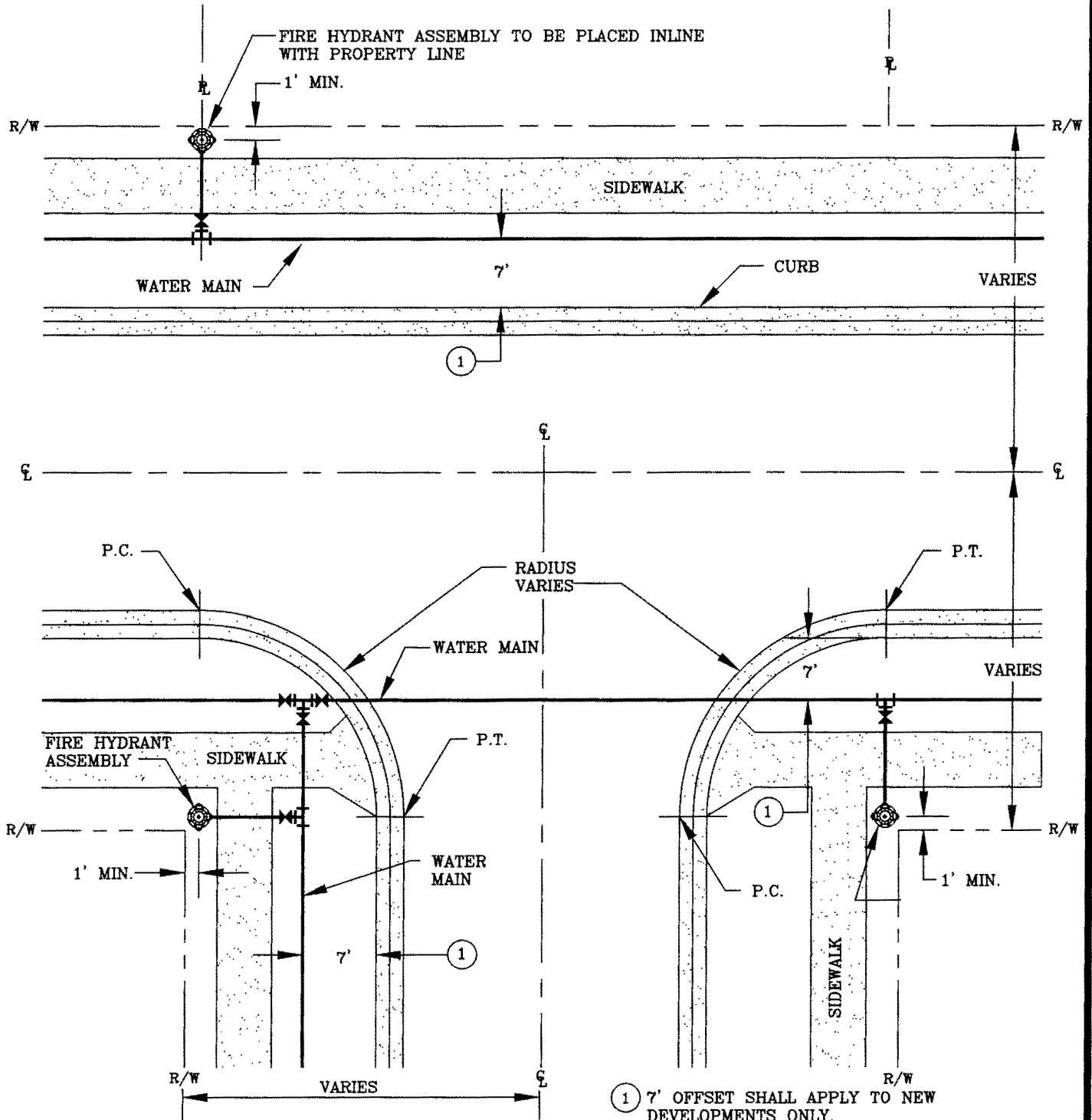
FEB/2016

KEVIN BECOTTE, P.F.

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. MATERIAL SPECIFICATION MANUAL.
2. HYDRANTS TO BE SET PARALLEL TO CURVE AT P.T. OR P.C. 1' MIN. FROM R/W LINE.



PINELLAS COUNTY

**TYPICAL FIRE HYDRANT LOCATIONS
DETAIL**

DETAIL INDEX I.D.:

PCU WD 5

DATE:

FEB/2016

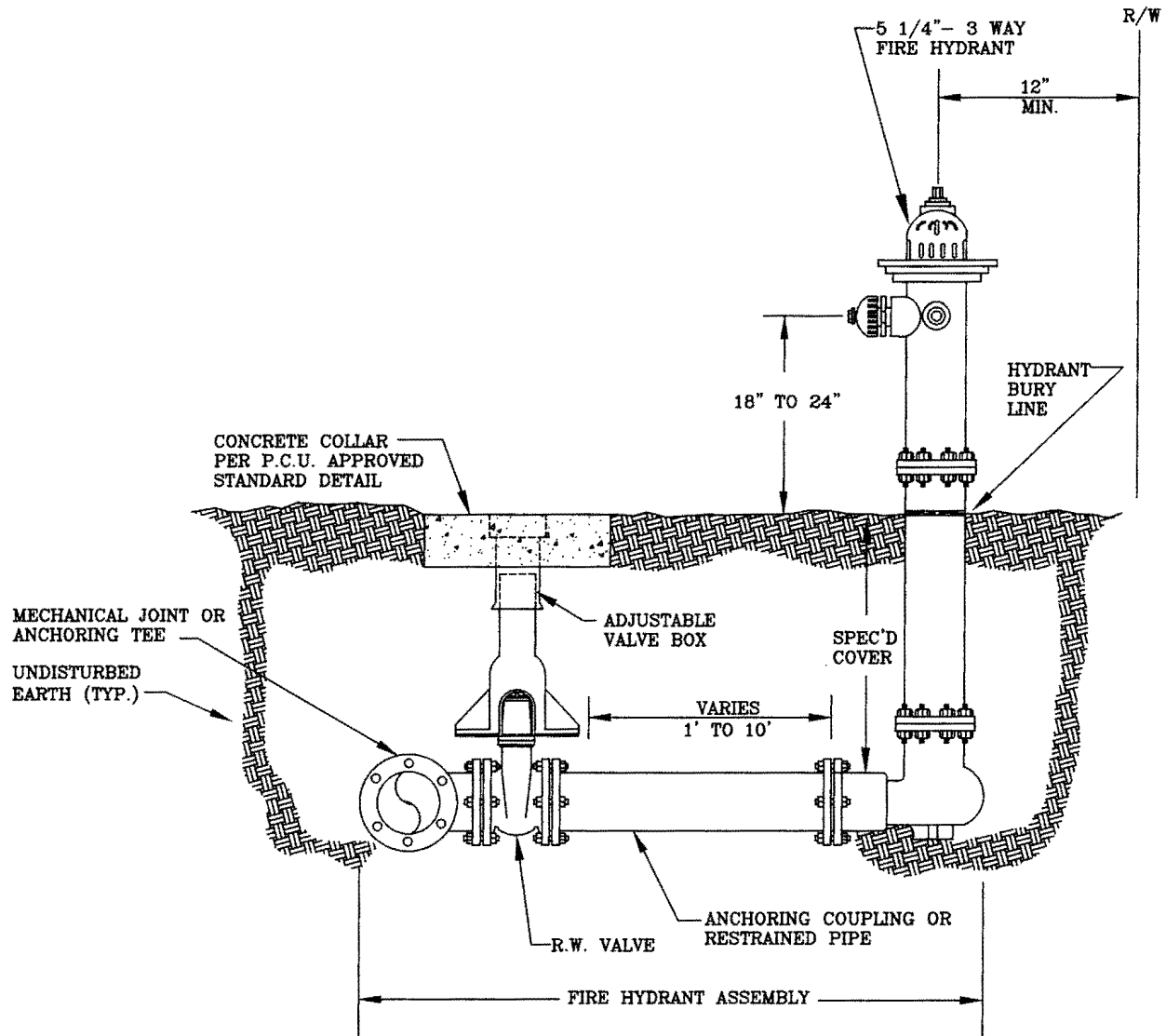
KEVIN BECOTTE, P.E.

Kevin Becotte

REVISION:

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL BOLTED FITTINGS SHALL BE POLYETHYLENE WRAPPED, COLOR CODED PER SERVICE.
3. VALVE BOX(ES) SHALL HAVE A CONCRETE COLLAR PER P.C.U. APPROVED STANDARD DETAIL.
4. IF FIRE HYDRANT IS INSTALLED WITHIN AN OFF-STREET VEHICULAR AREA, AND IS LOCATED WITHIN 10 FT. OR LESS OF A VEHICULAR USE AREA, GUARD POSTS (BOLLARDS) SHALL BE INSTALLED PER P.C.U. APPROVED STANDARD DETAIL UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF PINELLAS COUNTY UTILITIES ENGINEERING OR THEIR AUTHORIZED REPRESENTATIVE.
5. IF DISTANCE BETWEEN VALVE AND HYDRANT IS 10 FT. OR GREATER, AN ADDITIONAL VALVE SHALL BE INSTALLED FOR CONTROL OF HYDRANT UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF PINELLAS COUNTY UTILITIES ENGINEERING OR THEIR AUTHORIZED REPRESENTATIVE.
6. HYDRANT SHALL BE INSTALLED PLUMB.
7. HYDRANT SHALL BE PAINTED UPON INSTALLATION PER P.C.U. APPROVED MATERIAL SPECIFICATIONS.
8. ALL CHAINS SHALL BE REMOVED AFTER INSTALLATION.



PINELLAS COUNTY

**FIRE HYDRANT ASSEMBLY
DETAIL**

DETAIL INDEX I.D.:

PCU WD 6

DATE:

FEB/2016

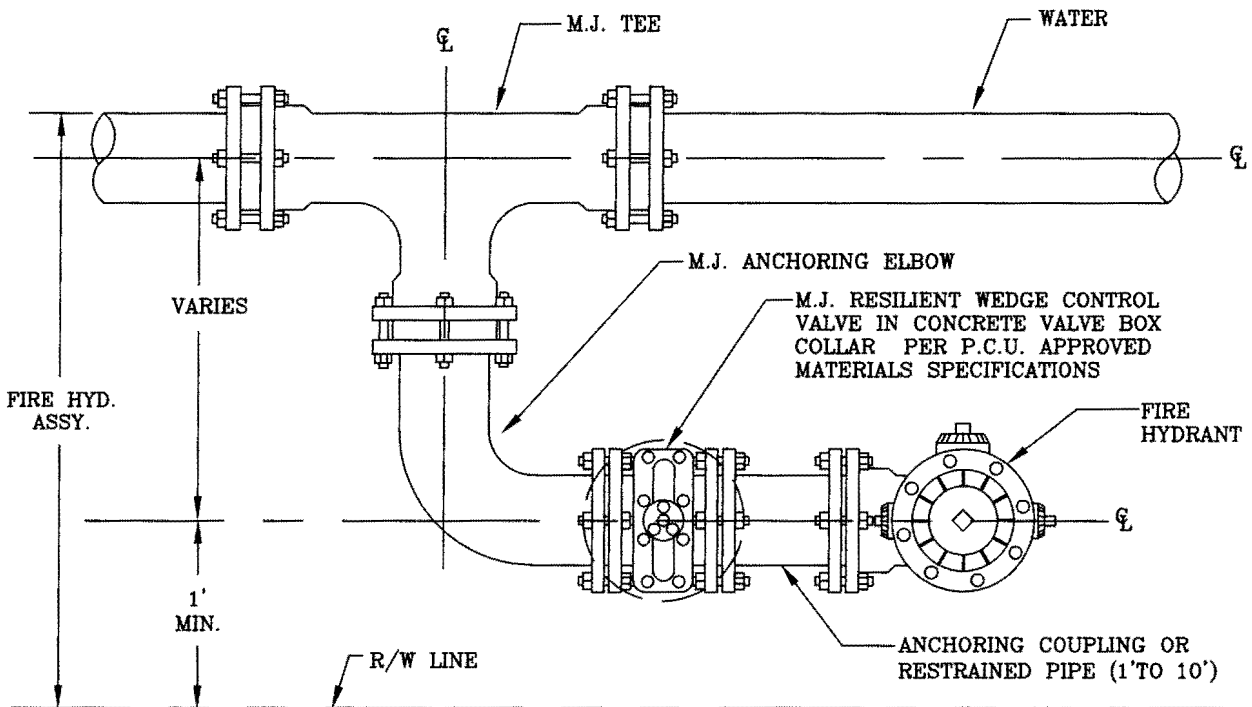
KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. ALL BOLTED FITTINGS SHALL BE POLYETHYLENE WRAPPED, COLOR CODED PER SERVICE.
3. VALVE BOX(ES) SHALL HAVE A CONCRETE COLLAR PER P.C.U. APPROVED STANDARD DETAIL.
4. HYDRANT SHALL BE INSTALLED PLUMB.
5. HYDRANT SHALL BE PAINTED AFTER INSTALLATION PER P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
6. TEE MAY BE ROTATED TO OBTAIN PROPER BURY ON FIRE HYDRANT.
7. ANCHORING ELBOW MAY BE SWITCHED (LONG vs. SHORT END) AND ROTATED TO SET FIRE HYDRANT IN OPPOSITE DIRECTION.
8. ANCHORING COUPLINGS MAY BE REPLACED WITH RESTRAINED PIPE.
9. ALL CHAINS SHALL BE REMOVED AFTER INSTALLATION.
10. IF FIRE HYDRANT IS INSTALLED WITHIN AN OFF-STREET VEHICULAR AREA, AND IS LOCATED WITHIN 10 FT. OR LESS OF A VEHICULAR USE AREA, GUARD POSTS (BOLLARDS) SHALL BE INSTALLED PER P.C.U. APPROVED STANDARD DETAIL UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF P.C.U. ENGINEERING OR THEIR REPRESENTATIVE.



PINELLAS COUNTY

**PARALLEL FIRE HYDRANT
DETAIL**

DETAIL INDEX I.D.:

PCU WD 7

DATE:

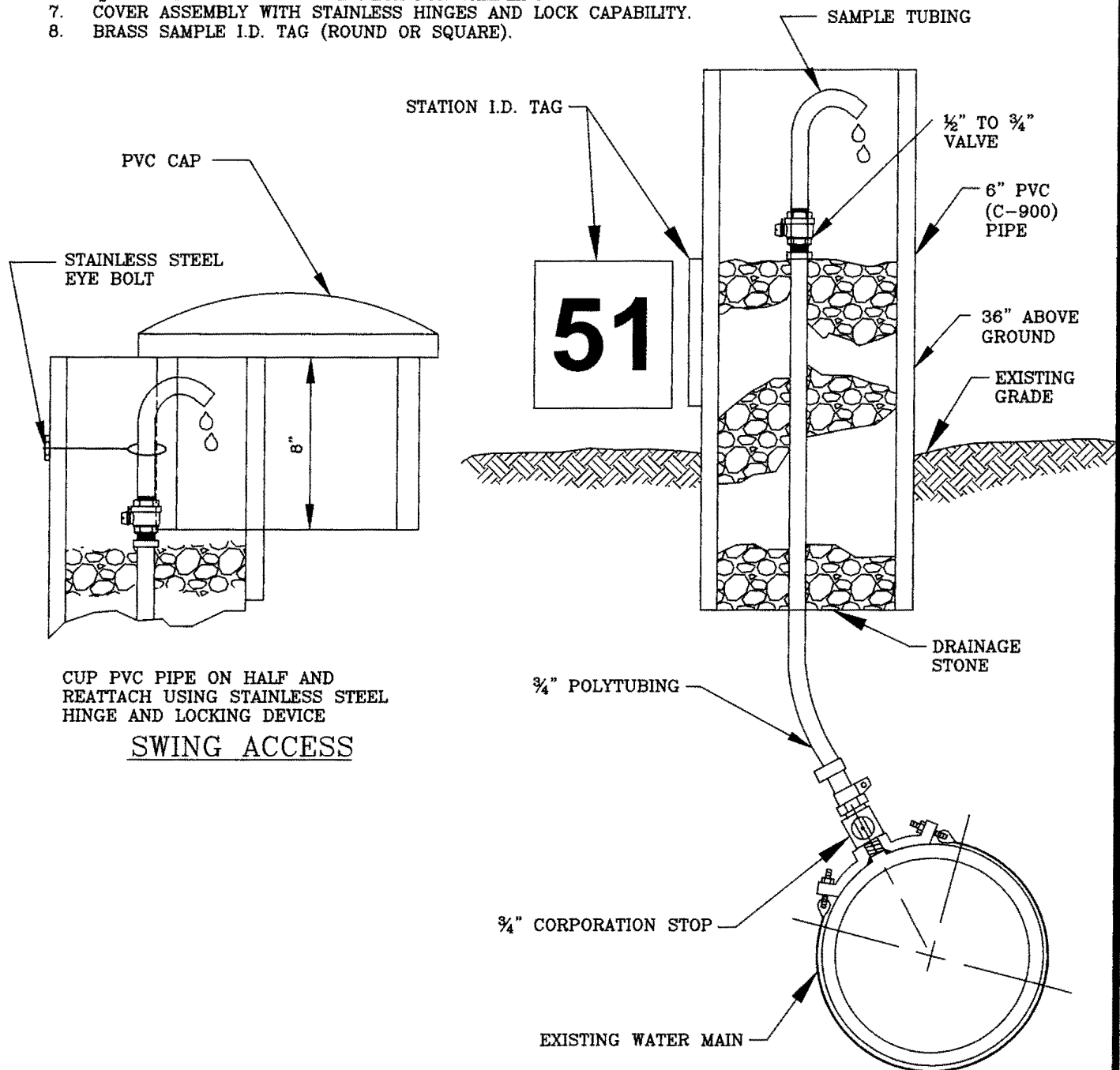
FEB/2016

KEVIN BECOTTE, P.E.

REVISION: *Kevin Becotte*

NOTE:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH P.C.U. APPROVED MATERIALS SPECIFICATION MANUAL.
2. $\frac{3}{4}$ "x2"x8" TAPPING SADDLE AND $\frac{3}{4}$ " CORPORATION VALVE INSTALLED AT 22 $\frac{1}{2}$ ".
3. ATTACH $\frac{3}{4}$ " POLY VINYL TUBING.
4. PEA GRAVEL FOR STABILITY AND EYEBOLT FOR TUBING.
5. $\frac{3}{4}$ " TO $\frac{1}{2}$ " COMPRESSION VALVE CAPABLE TO CONNECT WITH TUBING.
6. $\frac{1}{2}$ " STAINLESS STEEL GOOSE NECK FOR SAMPLING.
7. COVER ASSEMBLY WITH STAINLESS HINGES AND LOCK CAPABILITY.
8. BRASS SAMPLE I.D. TAG (ROUND OR SQUARE).



PINELLAS COUNTY

**WATER QUALITY
SAMPLING STATION DETAIL**

DETAIL INDEX I.D.:

PCU WD 8

DATE:

FEB/2016

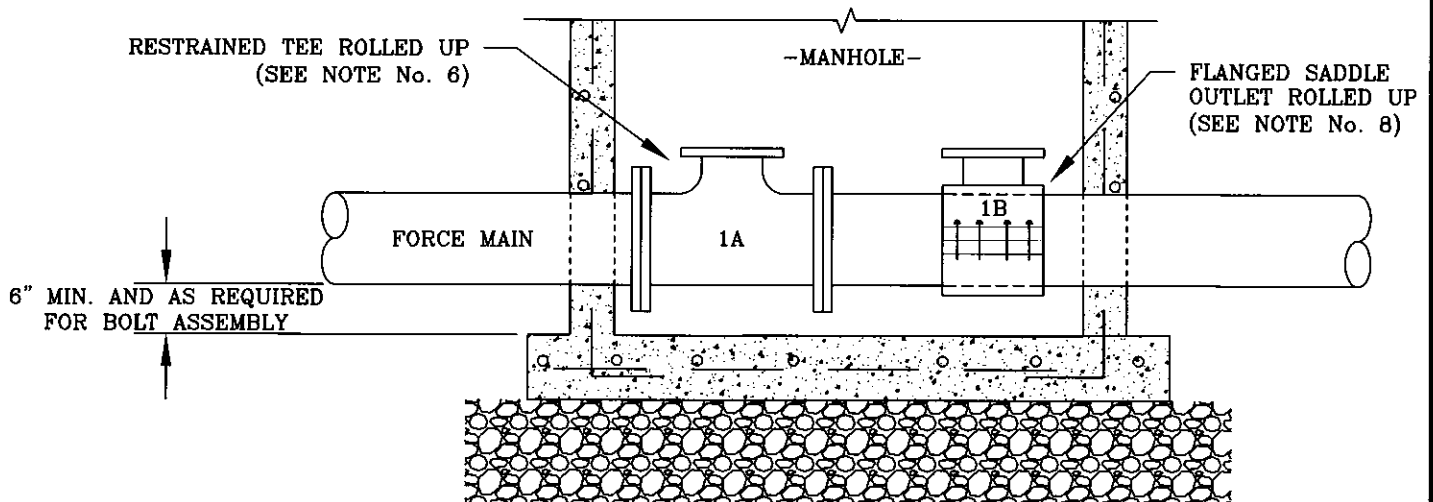
KEVIN BECOTTE, P.E.

REVISION:

AIR RELEASE VALVE CONFIGURATION DETAIL TABLE									
		ITEM NUMBER	NEW TEE	CLAMP-ON TEE	OFFSET	ON PIPE	VENTED TO NEAREST SANITARY	VENTED TO ODOR CONTROL	UNVENTED
DETAIL	MAIN CONNECTION	1	A	B					
	LOCATION	2			A	B			
	ABOVE GRADE ARV	3					A	B	C
	BELOW GRADE ARV	4					A	B	C

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. REFER TO P.C.U. STANDARD DETAIL ON MANHOLE CONSTRUCTION NOTES.
3. SEWER AIR RELEASE/VACUUM VALVE SHALL BE LOCATED AT THE HIGH ELEVATIONS ON THE FORCE MAIN.
4. LID SHALL INCLUDE HOLE OPENINGS TO ALLOW AIR RELEASE VALVE VENTING.
5. ALL RISER UNITS SHALL HAVE A MINIMUM HEIGHT OF 12" WITH THE CONCENTRIC CONE SET BETWEEN 2½" AND 14½" BELOW THE BOTTOM OF MANHOLE COVER AND FRAME.
6. SIZE TEE DOWN ONE NOMINAL DIAMETER LESS THAN FORCE MAIN (E.G. 12"x10").
7. SIZE MANHOLE DIAMETER TO ACCOMMODATE VALVE EQUIPMENT AND OPERATION/MAINTENANCE.
8. SIZE TAPPING SADDLE OUTLET AT LEAST ONE-HALF DIAMETER OF FORCE MAIN.



PINELLAS COUNTY

SEWER AIR RELEASE/AIR VACUUM VALVE
MATRIX AND MAIN CONNECTION DETAIL

DETAIL INDEX I.D.:

PCU ARV 1A, 1B

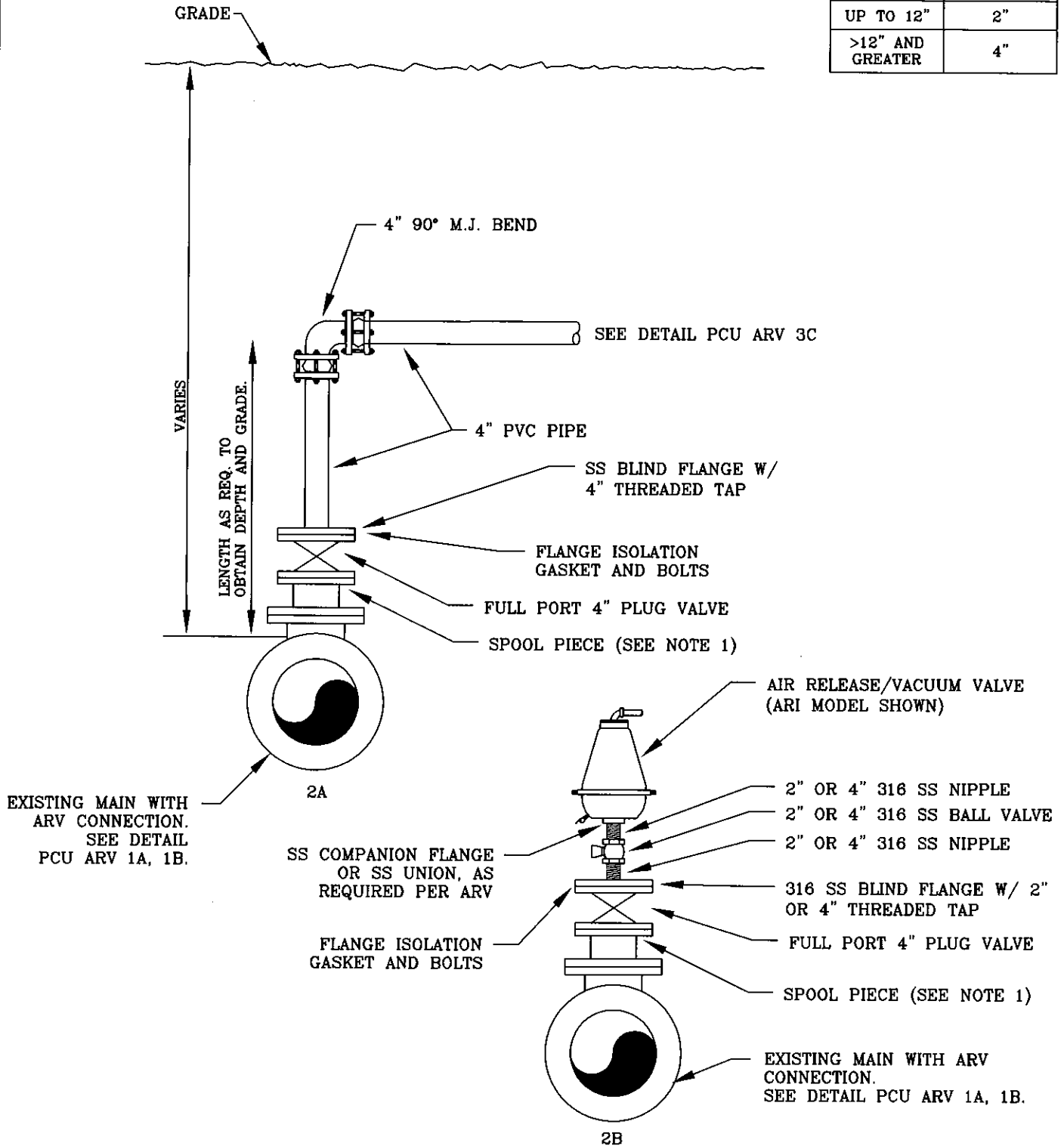
DATE: JUL / 2018

KEVIN BECOTTE, P.E.
REVISION: *Kevin Becotte*

NOTES:

1. DEPENDING ON PIPE SIZE, SPOOL PIECE CAN BE STANDARD, CUSTOM FABRICATED, OR THREADED FLANGE JOINED TO THREADED FLANGED COUPLING ADAPTER, E.G., 4" X 24" SPOOL PIECE.

ARV SIZE TABLE	
PIPE DIAMETER	ARV INLET SIZE
UP TO 12"	2"
>12" AND GREATER	4"



PINELLAS COUNTY

SEWER AIR RELEASE/AIR VACUUM VALVE LOCATION DETAIL

DETAIL INDEX I.D.:

PCU ARV 2A, 2B

DATE:

JUL/2018

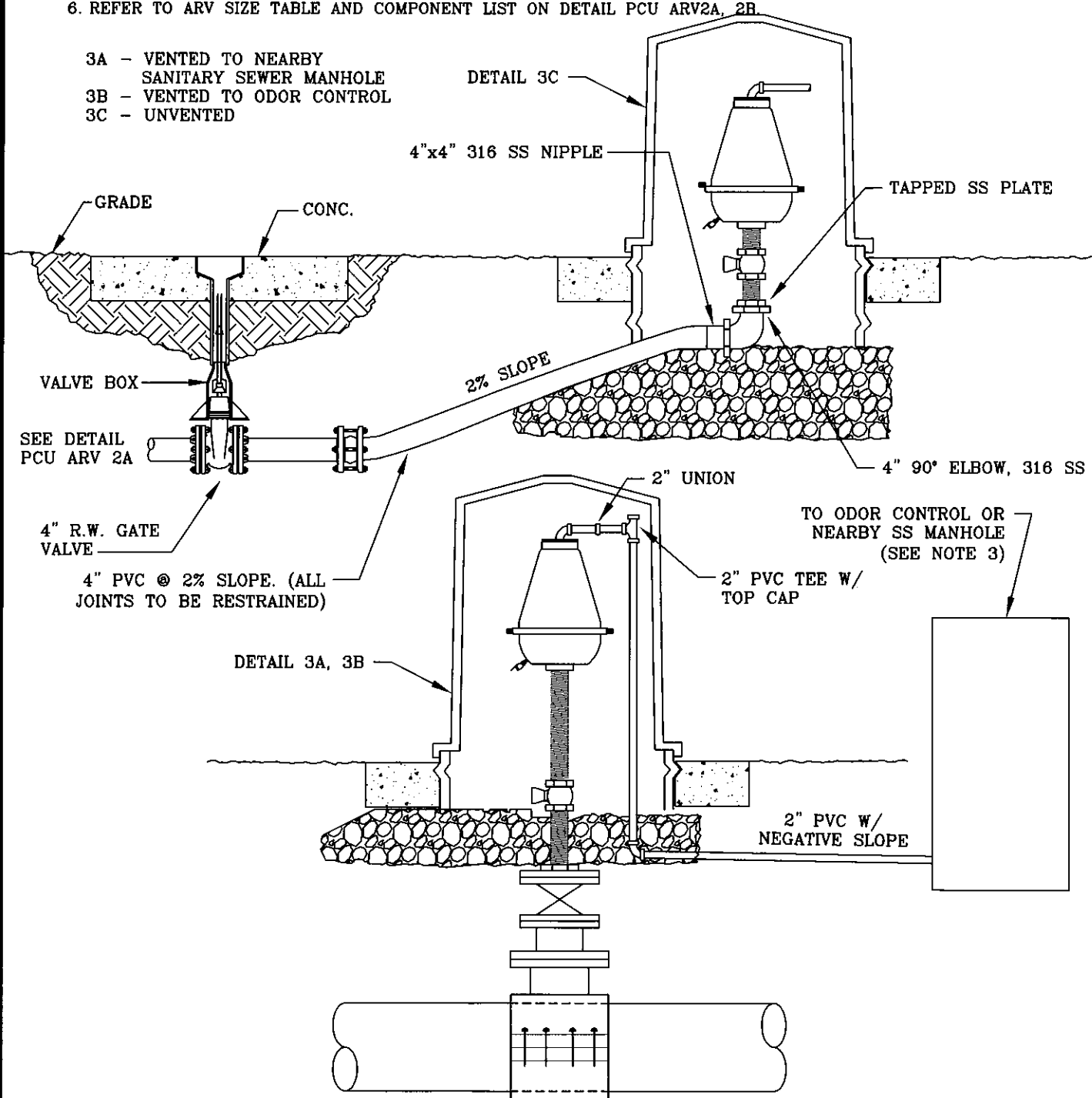
KEVIN BECOTTE, P.E.

REVISION: *[Signature]*

NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST P.C.U. APPROVED MATERIAL SPECIFICATION MANUAL.
2. SUPPORT/RESTRAINT MECHANISM FOR AIR RELEASE/AIR VACUUM VALVE SHALL REQUIRE APPROVAL BY COUNTY ENGINEER PRIOR TO INSTALLATION.
3. VENTING TO NEARBY SANITARY MANHOLE IS AT OWNER'S DISCRETION.
4. REFER TO ARV CONFIGURATION DETAIL TABLE ON DETAIL PCU ARV 1A, 1B.
5. IF USING DETAIL 3B, CONTRACTOR TO PROPOSE MEANS TO PENETRATE AND SEAL MANHOLE PENETRATION(S). REFER TO PINELLAS COUNTY STANDARD TECHNICAL SPECIFICATION (PC-STSS) GRAVITY SEWERS 33 33 01, SECTION 3.07 JOINING PIPE TO MANHOLES OR OTHER STRUCTURES.
6. REFER TO ARV SIZE TABLE AND COMPONENT LIST ON DETAIL PCU ARV2A, 2B.

- 3A - VENTED TO NEARBY
SANITARY SEWER MANHOLE
3B - VENTED TO ODOR CONTROL
3C - UNVENTED



PINELLAS COUNTY

**ABOVE GRADE SEWER AIR RELEASE ASSEMBLY
DETAIL**

DETAIL INDEX I.D.:

PCU ARV 3A, 3B, 3C

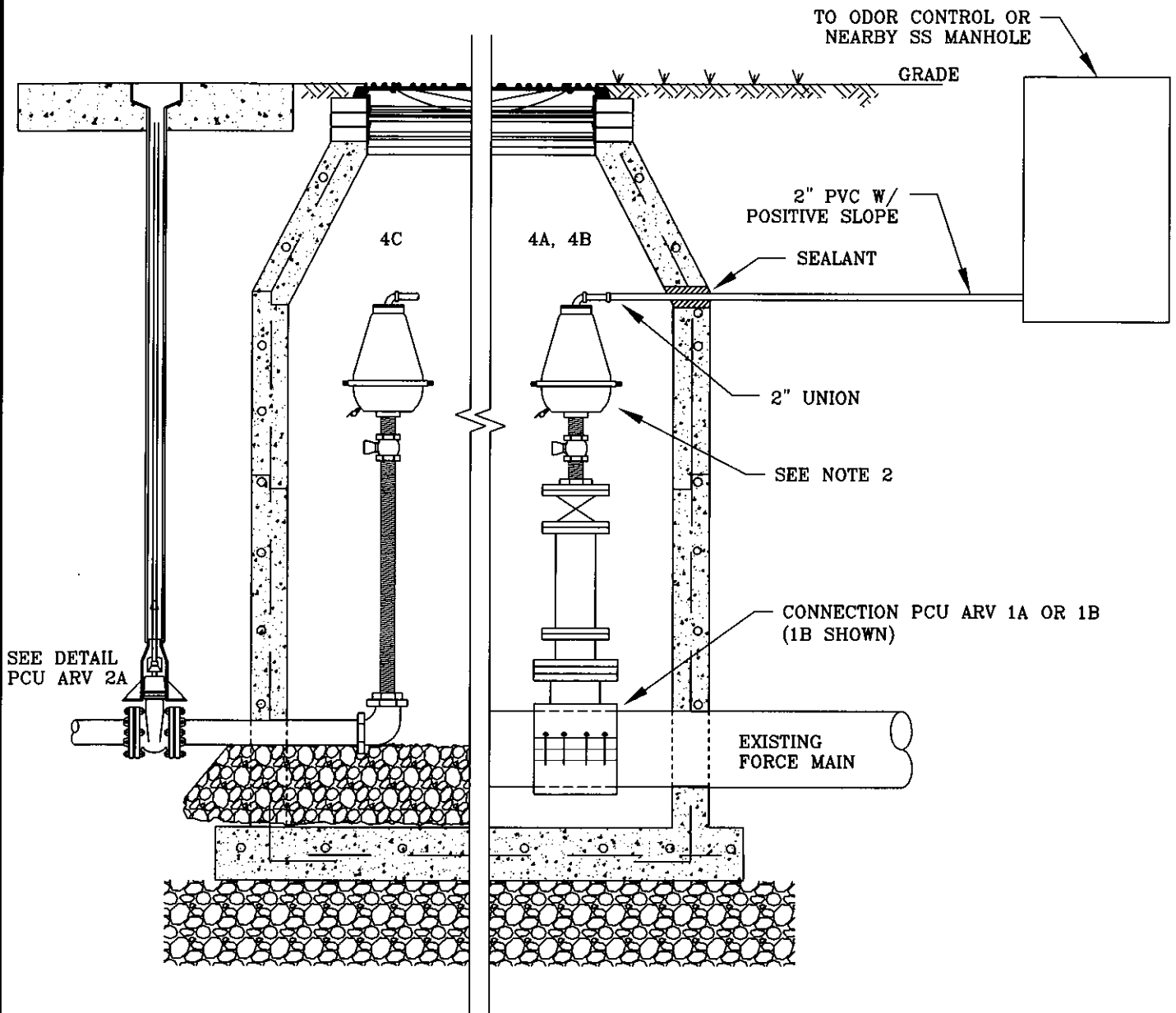
DATE:

JUL / 2018

KEVIN BECOTTE, P.E.

REVISION:

- 4A - VENTED TO NEARBY
SANITARY SEWER MANHOLE
4B - VENTED TO ODOR CONTROL
4C - UNVENTED



NOTES:

1. REFER TO ARV CONFIGURATION DETAIL TABLE ON DETAIL PCU ARV 1A, 1B.
2. REFER TO ARV SIZE TABLE AND COMPONENT LIST ON DETAIL PCU ARV 2A, 2B.
3. IF USING DETAIL 4B, CONTRACTOR TO PROPOSE MEANS TO PENETRATE AND SEAL MANHOLE PENETRATION(S). REFER TO PINELLAS COUNTY STANDARD TECHNICAL SPECIFICATION (PC-ST) GRAVITY SEWERS 33 33 01, SECTION 3.07 JOINING PIPE TO MANHOLES OR OTHER STRUCTURES.

PINELLAS COUNTY

SEWER AIR RELEASE/AIR VACUUM VALVE
VENTED/ODOR CONTROLLED DETAIL

DETAIL INDEX I.D.:

PCU ARV 4A, 4B, 4C

DATE:

JUL / 2018

KEVIN BECOTTE, P.E.

REVISION:

Kevin Becotte