

NOTE:  
1. ALL ON-SITE WATER, RECLAIM AND SEWER UTILITIES WILL BE PRIVATE.

**WATER FITTING SCHEDULE**

- ① 1 - 4"x2" CLDI TAPPED TEE MECHANICALLY RESTRAINED
- 1 - 4" GATE VALVE & BOX
- 1 - 2" DIA x 6" LONG LOW-LED BRASS NIPPLE
- 1 - 2" GATE VALVE & BOX
- 1 - 2" BRASS PACK JOINT COUPLING FOR PVC
- 2" SCH 40 PVC WATER SERVICE PIPE (TEMP. 2" BLOW-OFF & SAMPLE POINT)
- ② 1 - 8"x4" CLDI ANCHOR TEE MECHANICALLY RESTRAINED
- 1 - 8" GATE VALVE & BOX
- 1 - 8" GATE VALVE & BOX
- 1 - 6" GATE VALVE & BOX
- 6" PVC WM (TYP)
- 1 - PRIVATE RED FIRE HYDRANT ASSEMBLY
- ④ 1 - 8"x6" CLDI ANCHOR TEE MECHANICALLY RESTRAINED
- 1 - 8" GATE VALVE & BOX
- 1 - 6" GATE VALVE & BOX
- 6" PVC WM (TYP)
- 1 - PRIVATE RED FIRE HYDRANT ASSEMBLY

NOTE: ALL GATE VALVES SHALL BE RESILIENT WEDGE WITH A SQUARE OPERATING NUT.

**SANITARY SEWER STRUCTURE TABLE**

STRUCTURE	STRUCTURE TYPE	TOP	INVERT ELEV	NORTHING & EASTING
MH-25	PRIVATE SS MANHOLE*	16.82'	7.61' SW (8") 7.51' N (8")	N: 2283392.15 E: 452040.23
MH-26	PRIVATE SS MANHOLE*	16.18'	9.58' SW (8") 7.98' NE (8")	N: 2283308.73 E: 452004.84

\* ALL PRIVATE SS MANHOLES SHALL BE PER JEA STANDARDS REFER TO PLATES S-1, S-2 & S-3 ON C3.67 FOR DETAILS MANHOLE COVER TO READ 'SANITARY SEWER'

12-2N-26-1602-0071-0000  
BWC LAND PLUMMER, LLC  
0.61 AC

**SITE BENCHMARK**  
1/2" REBAR AND CAP  
"MARKED TRAVERSE LB 5075"  
ELEVATION = 14.53

BASE Merchants Way, Ste. 103  
 Jacksonville, Florida 32222  
 www.chw-inc.com  
 est. 1988 FLORIDA  
 CA-5075

CHW

Professional Consultants

SCALE: 1"=20'

VERIFY SCALE ON ORIGINAL DRAWING  
IF ANY SCALE DISCREPANCY  
THIS SHEET, ADJUST  
SCALES ACCORDINGLY.

CONSTRUCTION REVISIONS

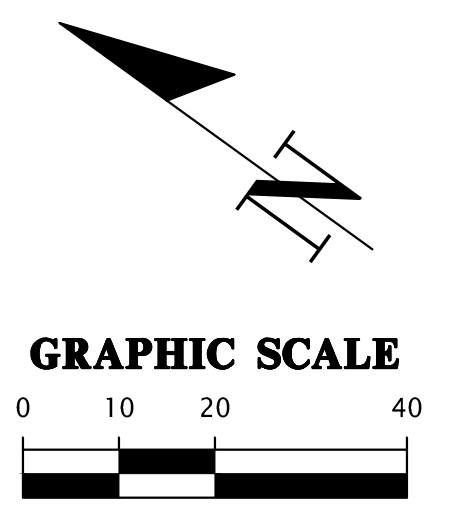
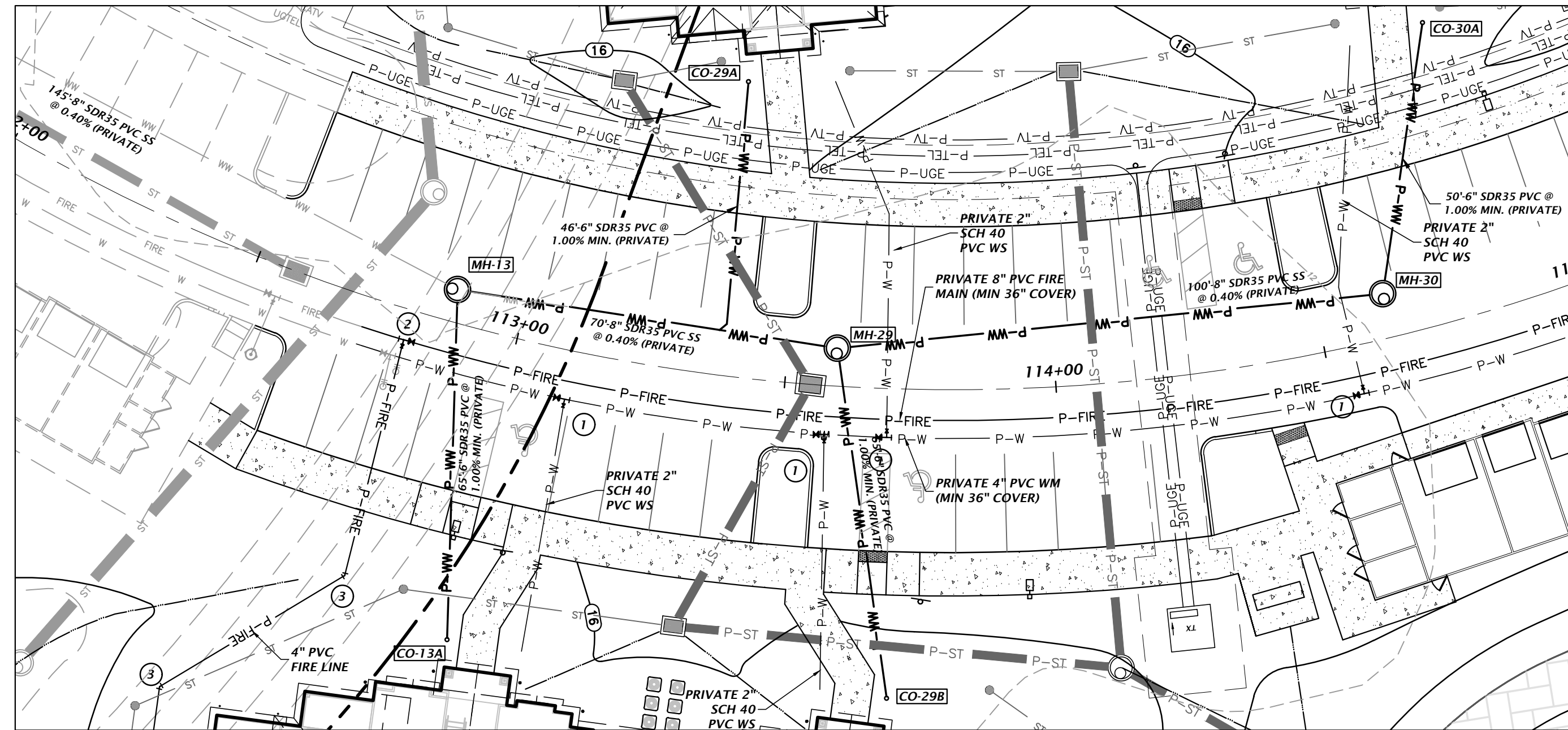
DATE: 5/17/23 - FIRST SUBMITTAL  
5/26/23 - SECOND SUBMITTAL

CLIENT: DAVIS & SONS  
PROJECT: MILLS CREEK PRESERVE PHASE 2  
SHEET TITLE: DETAILED UTILITY PLAN

DESIGNER: K. MERRITT  
PROJECT ENGINEER: M. MASON  
QUALITY CONTROL: D. YOUNG  
PROJECT NUMBER: 17-0279.01

MITCHELL G. MASON  
Mitchell G. Mason, P.E.  
State of Florida, Professional  
Engineer, License No. 92335  
This item has been digitally  
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G. Mason, P.E. on the date  
indicated here: 10/25/2023  
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FL PE No. 92335  
SHEET NO. **C3.15**



**WATER FITTING SCHEDULE**

①	1 - 4"x2" CLDI TAPPED TEE MECHANICALLY RESTRAINED 1 - 4" GATE VALVE & BOX 1 - 2" DIA x 6" LONG LOW-LED BRASS NIPPLE 1 - 2" GATE VALVE & BOX 1 - 2" BRASS PACK JOINT COUPLING FOR PVC 2" SCH 40 PVC WATER SERVICE PIPE (TEMP. 2" BLOW-OFF & SAMPLE POINT)
②	1 - 8"x4" CLDI ANCHOR TEE MECHANICALLY RESTRAINED 1 - 8" GATE VALVE & BOX 1 - 4" GATE VALVE & BOX
③	1 - 4" CLDI MJ 45° BEND

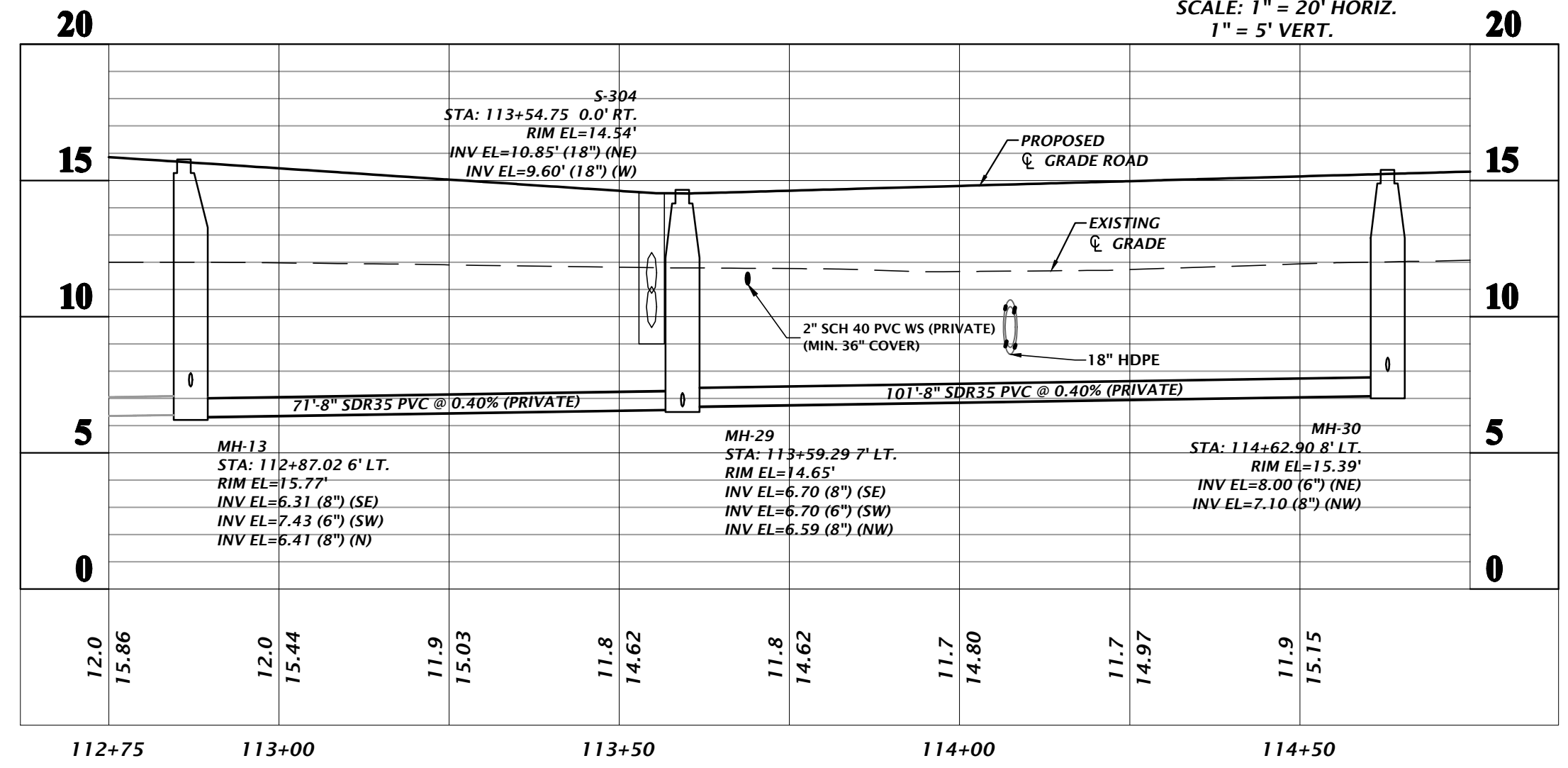
NOTE: ALL GATE VALVES SHALL BE RESILIENT WEDGE WITH A SQUARE OPERATING NUT.

**SANITARY SEWER STRUCTURE TABLE**

STRUCTURE	STRUCTURE TYPE	TOP	INVERT ELEV.	NORTHING & EASTING
MH-13	PRIVATE SS MANHOLE*	15.77'	6.31' SE (8") 6.41' N (8") 7.43' SW (6")	N: 2283360.21 E: 451394.78
MH-29	PRIVATE SS MANHOLE*	14.65'	6.70' SE (8") 6.59' NW (8") 6.70' SW (6")	N: 2283297.20 E: 451427.05
MH-30	PRIVATE SS MANHOLE*	15.39'	7.10' NW (8") 8.00' NE (6")	N: 2283221.68 E: 451494.05

**SANITARY SEWER RING ROAD MH-13 TO MH-30**

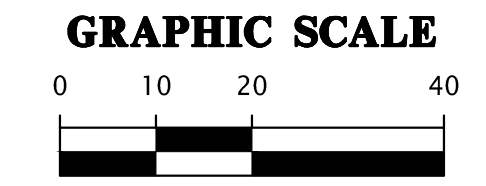
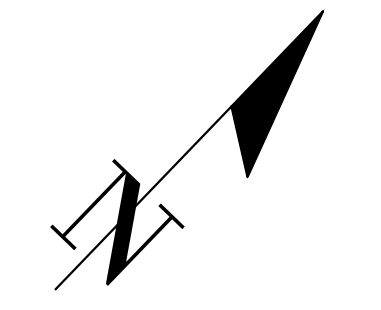
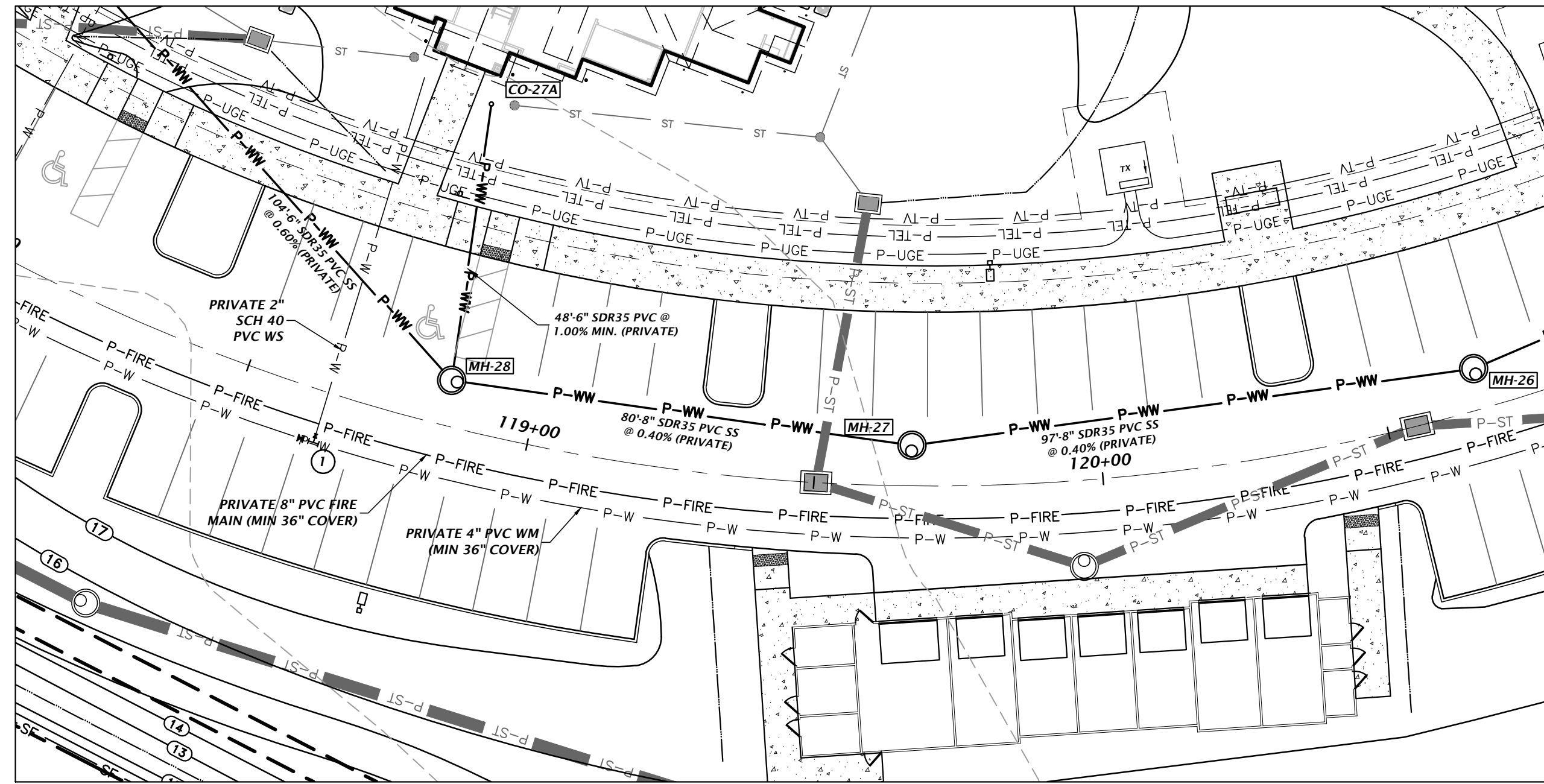
SCALE: 1" = 20' HORIZ.  
1" = 5' VERT.



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 User: k.merritt

CLIENT: DAVIS & SONS  
 PROJECT: MILLS CREEK PRESERVE PHASE 2  
 SHEET TITLE: SANITARY SEWER PLAN AND PROFILE  
 SHEET NUMBER: 17-0279.01  
 PROJECT NUMBER: 17-0279.01  
 DESIGNER: K. MERRITT  
 PROJECT ENGINEER: M. MASON  
 QUALITY CONTROL: D. YOUNG  
 PROJECT NUMBER: 17-0279.01  
 Mitchell G. Mason, P.E.  
 State of Florida, Professional Engineer, License No. 92335  
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 Professional Consultants  
 8455 Merchants Way, Ste. 102  
 Jacksonville, Florida 32222  
 (904) 619-8521  
 www.chw-inc.com  
 est. 1988 FLORIDA CA-3075



**WATER FITTING SCHEDULE**

- ① 1 - 4"x2" CLDI TAPPED TEE MECHANICALLY RESTRAINED
- 1 - 4" GATE VALVE & BOX
- 1 - 2" DIA x 6" LONG, LOW-LEAD BRASS NIPPLE
- 1 - 2" GATE VALVE & BOX
- 1 - 2" BRASS PACK JOINT COUPLING FOR PVC
- 2" SCH 40 PVC WATER SERVICE PIPE (TEMP. 2" BLOW-OFF & SAMPLE POINT)
- ② 1 - 8"x4" CLDI ANCHOR TEE MECHANICALLY RESTRAINED
- 1 - 8" GATE VALVE & BOX
- 1 - 4" GATE VALVE & BOX
- ③ 1 - 4" CLDI MJ 45° BEND

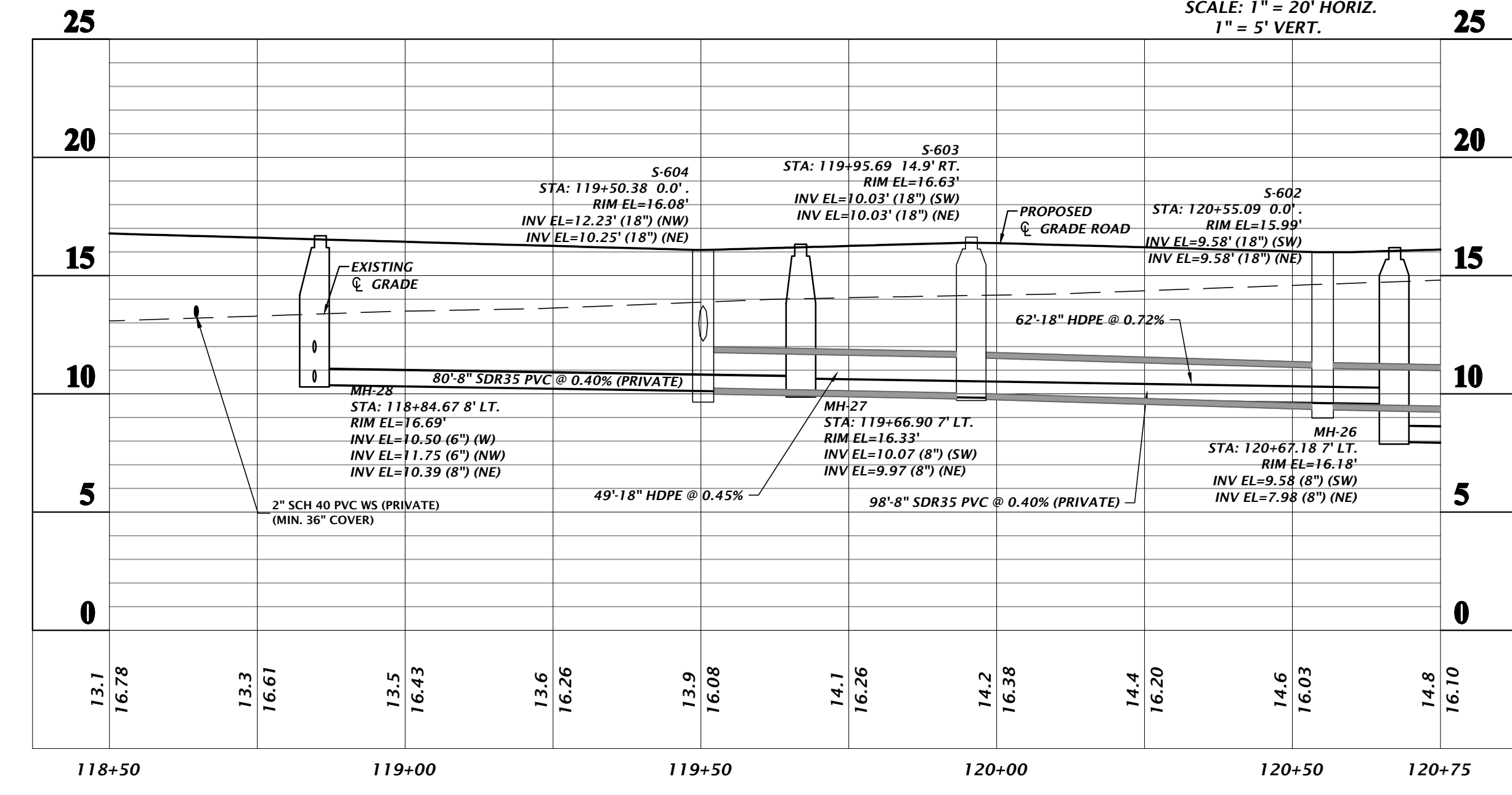
NOTE: ALL GATE VALVES SHALL BE RESILIENT WEDGE WITH A SQUARE OPERATING NUT.

**SANITARY SEWER STRUCTURE TABLE**

STRUCTURE	STRUCTURE TYPE	TOP	INVERT ELEV	NORTHING & EASTING
MH-26	PRIVATE SS MANHOLE*	16.18'	9.58' SW (8") 7.98' NE (8")	N: 2283308.73 E: 452004.84
MH-27	PRIVATE SS MANHOLE*	16.33'	10.07' SW (8") 9.97' NE (8")	N: 2283231.96 E: 451944.11
MH-28	PRIVATE SS MANHOLE*	16.69'	10.39' NE (8") 10.50' W (6") 11.75' NW (6")	N: 2283184.95 E: 451879.05

**SANITARY SEWER RING ROAD MH-28 to MH-26**

SCALE: 1" = 20' HORIZ.  
1" = 5' VERT.



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CONSTRUCTION REVISIONS

DAVIS & SONS  
 CLIENT  
 MILLS CREEK PRESERVE PHASE 2  
 PROJECT  
 SANITARY SEWER PLAN AND PROFILE  
 SHEET TITLE  
 PROJECT NUMBER: 17-0279.01

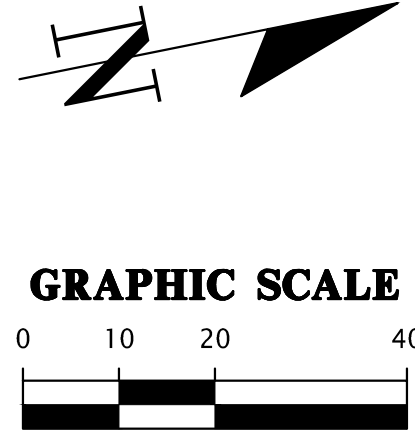
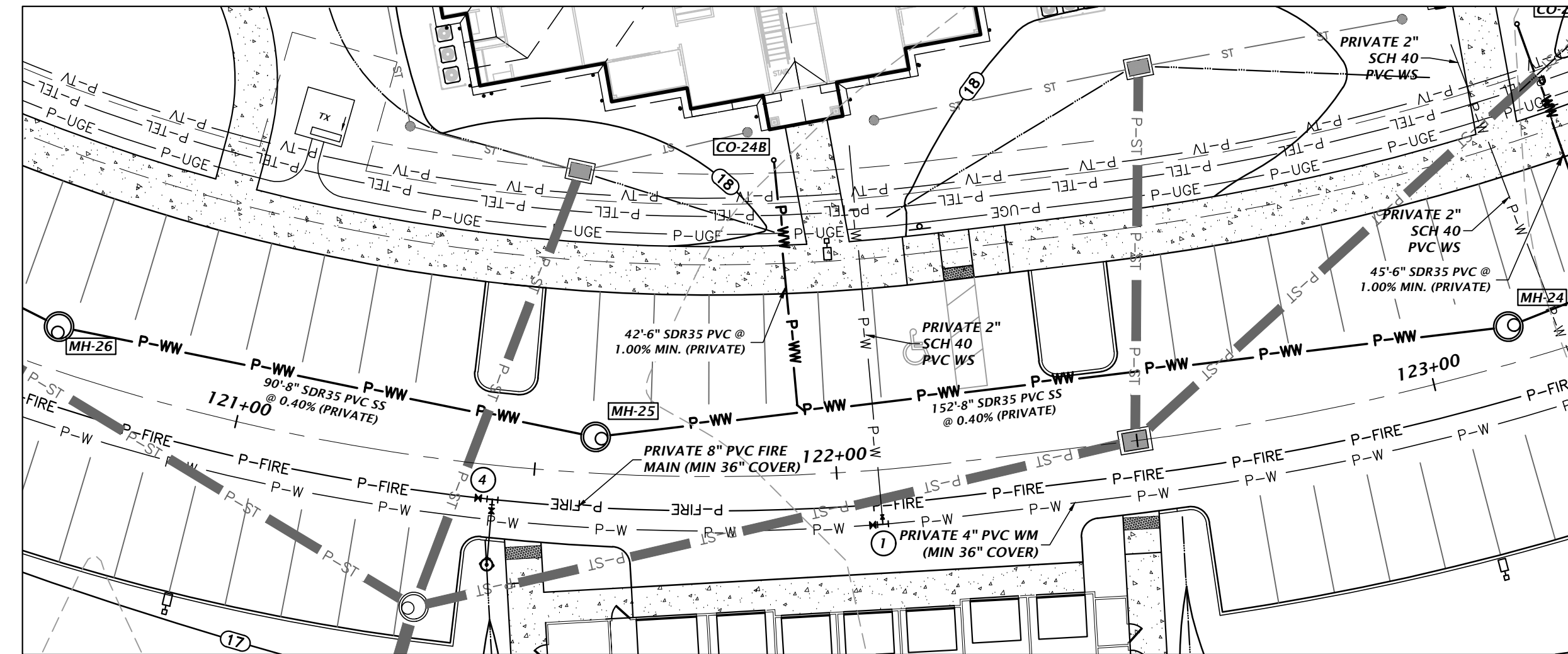
REVISION  
 K. MERRITT  
 PROJECT ENGINEER  
 M. MASON  
 QUALITY CONTROL  
 D. YOUNG  
 PROJECT NUMBER: 17-0279.01

MITCHELL G. MASON  
 Mitchell G. Mason, P.E.  
 State of Florida, Professional  
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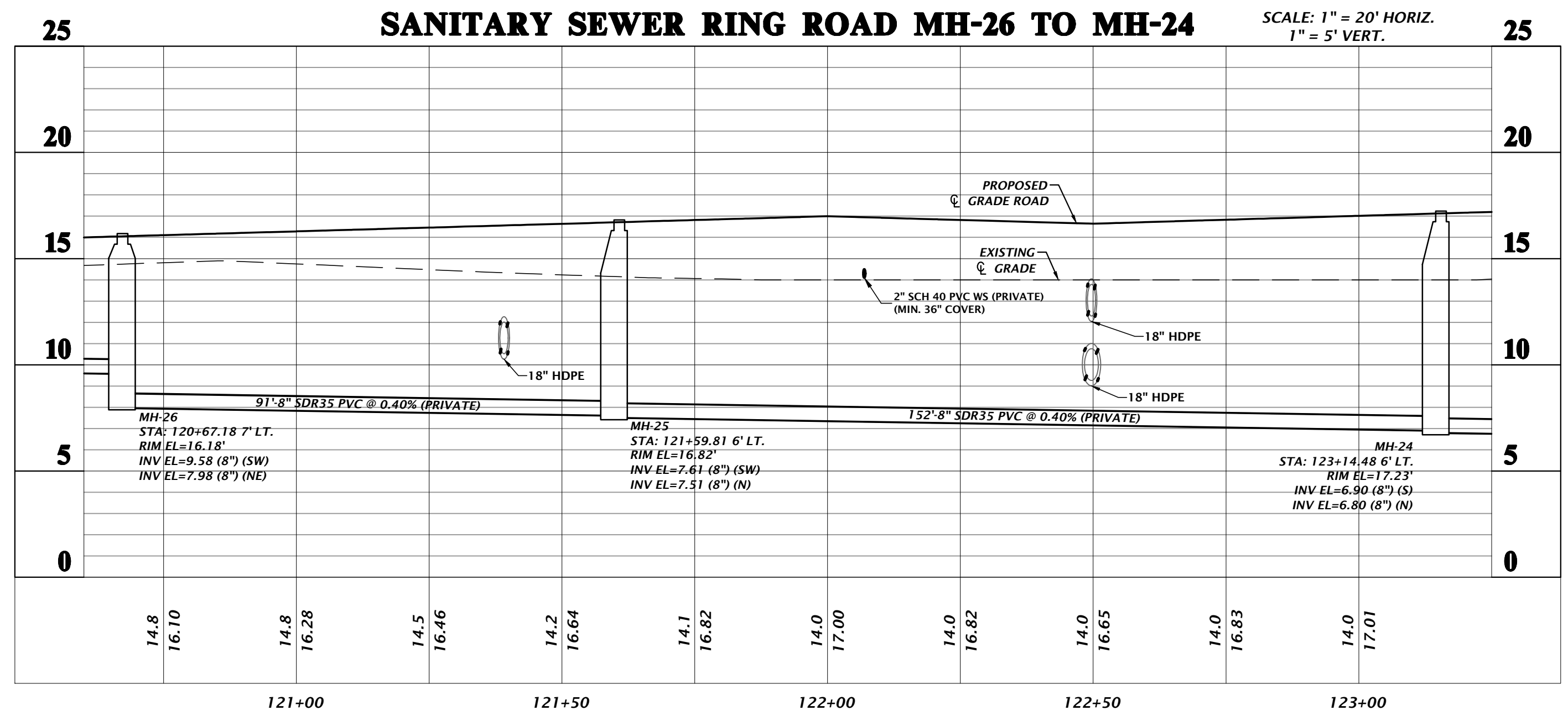
C3.41



**WATER FITTING SCHEDULE**

①	<ul style="list-style-type: none"> <li>1 - 4"x2" CLDI TAPPED TEE MECHANICALLY RESTRAINED</li> <li>1 - 4" GATE VALVE &amp; BOX</li> <li>1 - 2" DIA x 6" LONG LOW-LED BRASS NIPPLE</li> <li>1 - 2" GATE VALVE &amp; BOX</li> <li>1 - 2" BRASS PACK JOINT COUPLING FOR PVC</li> <li>2" SCH 40 PVC WATER SERVICE PIPE (TEMP. 2" BLOW-OFF &amp; SAMPLE POINT)</li> </ul>
②	<ul style="list-style-type: none"> <li>1 - 8"x6" CLDI ANCHOR TEE MECHANICALLY RESTRAINED</li> <li>1 - 8" GATE VALVE &amp; BOX</li> <li>1 - 6" GATE VALVE &amp; BOX</li> <li>6" PVC WM (TYP)</li> <li>1 - PRIVATE RED FIRE HYDRANT ASSEMBLY</li> </ul>

NOTE: ALL GATE VALVES SHALL BE RESILIENT WEDGE WITH A SQUARE OPERATING NUT.



**SANITARY SEWER STRUCTURE TABLE**

STRUCTURE	STRUCTURE TYPE	TOP	INVERT ELEV	NORTHING & EASTING
MH-24	PRIVATE SS MANHOLE*	17.23'	6.90' S (8') 6.80' N (8')	N: 2283543.71 E: 452052.16
MH-25	PRIVATE SS MANHOLE*	16.82'	7.61' SW (8') 7.51' N (8')	N: 2283392.15 E: 452040.23
MH-26	PRIVATE SS MANHOLE*	16.18'	9.58' SW (8') 7.98' NE (8')	N: 2283308.73 E: 452004.84

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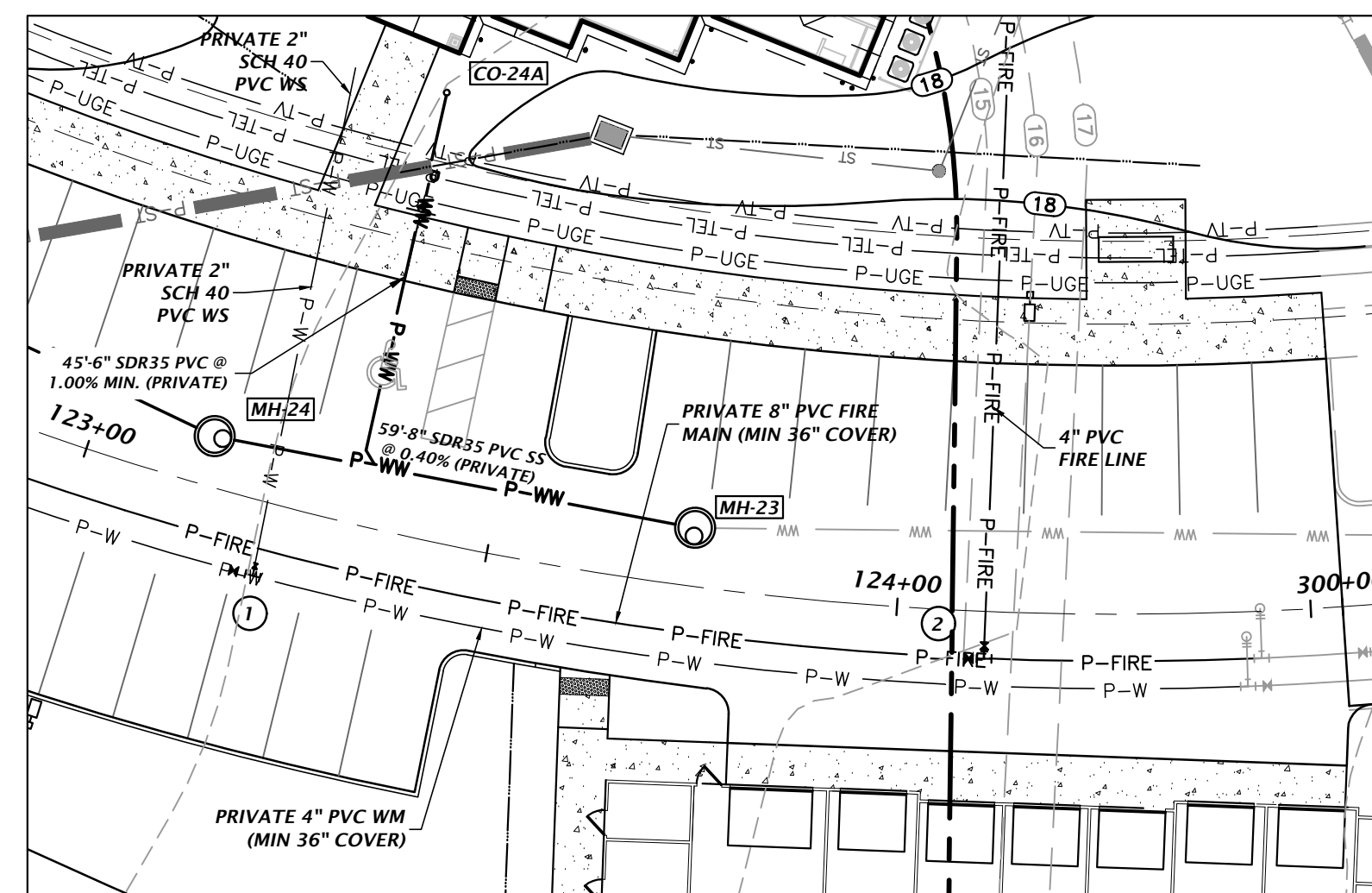
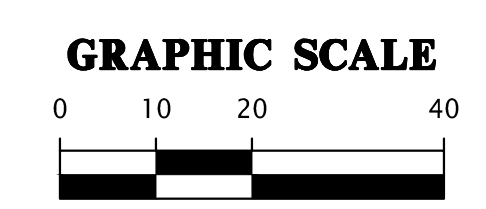
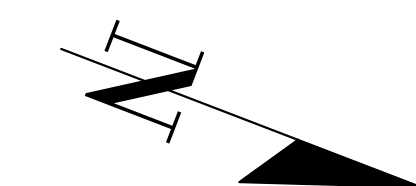
SUBMITTALS:  
 1/17/23 - FIRST SUBMITTAL  
 5/26/23 - SECOND SUBMITTAL

CLIENT: DAVIS & SONS  
 PROJECT: MILLS CREEK PRESERVE PHASE 2  
 SHEET TITLE: SANITARY SEWER PLAN AND PROFILE

DESIGNER: MITCHELL G. MASON  
 PROJECT ENGINEER: K. MERRITT  
 MASON QUALITY CONTROL: M. MASON  
 D. YOUNG  
 PROJECT NUMBER: 17-0279.01

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 SHEET NO. C3.42

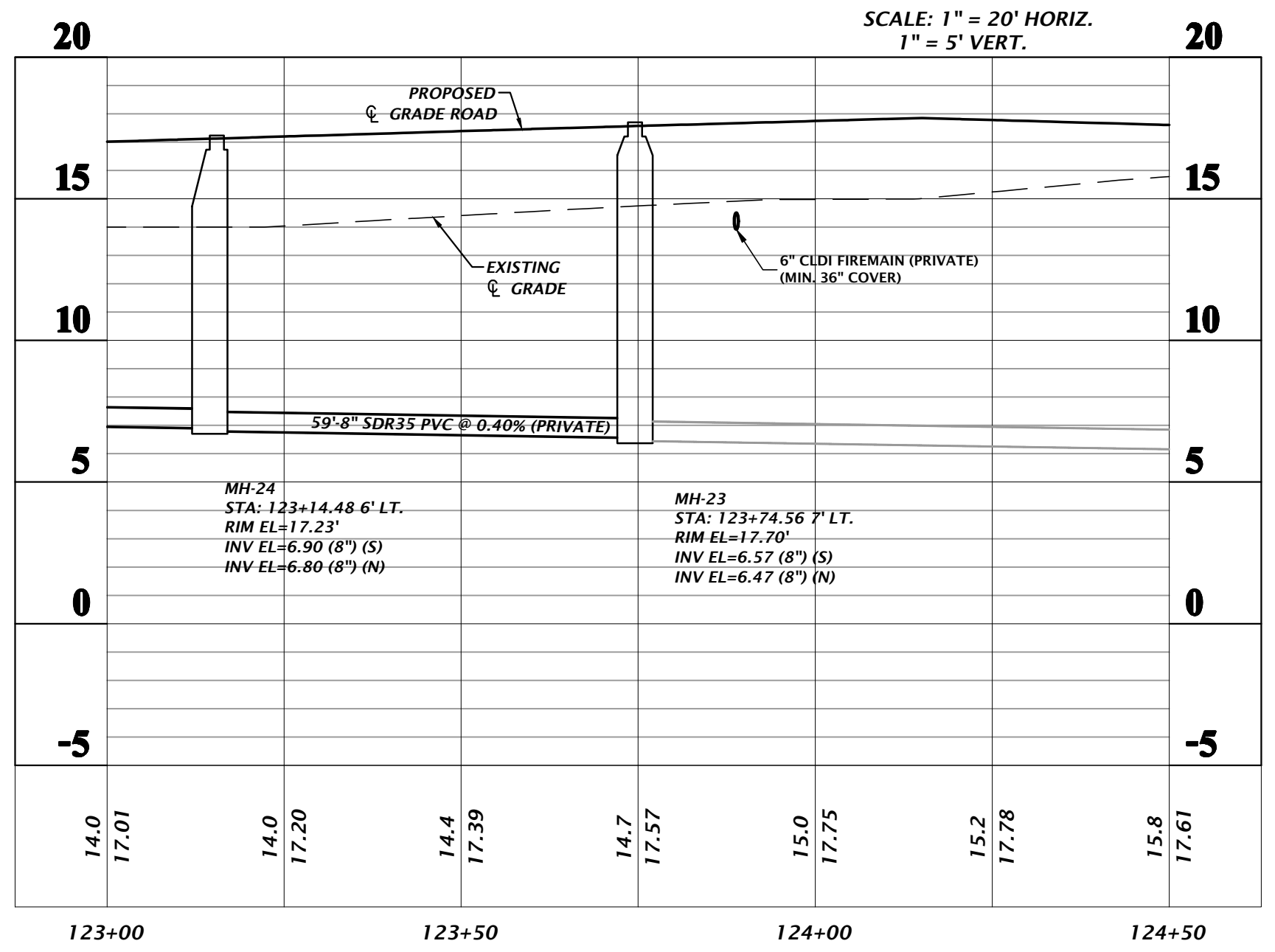


**WATER FITTING SCHEDULE**

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②	<ul style="list-style-type: none"> <li>1 - 8"x4" CLDI ANCHOR TEE MECHANICALLY RESTRAINED</li> <li>1 - 8" GATE VALVE &amp; BOX</li> <li>1 - 4" GATE VALVE &amp; BOX</li> </ul>

NOTE: ALL GATE VALVES SHALL BE RESILIENT WEDGE WITH A SQUARE OPERATING NUT.

**SANITARY SEWER RING ROAD MH-24 TO MH-23**

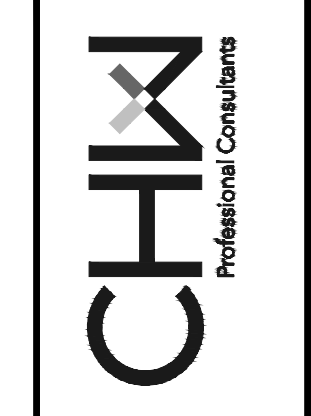


**SANITARY SEWER STRUCTURE TABLE**

STRUCTURE	STRUCTURE TYPE	TOP	INVERT ELEV	NORTHING & EASTING
MH-23	PRIVATE SS MANHOLE*	17.70'	6.57' S (8") 6.47' N (8")	N: 2283601.82 E: 452041.67
MH-24	PRIVATE SS MANHOLE*	17.23'	6.90' S (8") 6.80' N (8")	N: 2283543.71 E: 452052.16

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CONSTRUCTION REVISIONS

SUBMITTAL  
 1/17/23 - FIRST SUBMITTAL  
 5/26/23 - SECOND SUBMITTAL

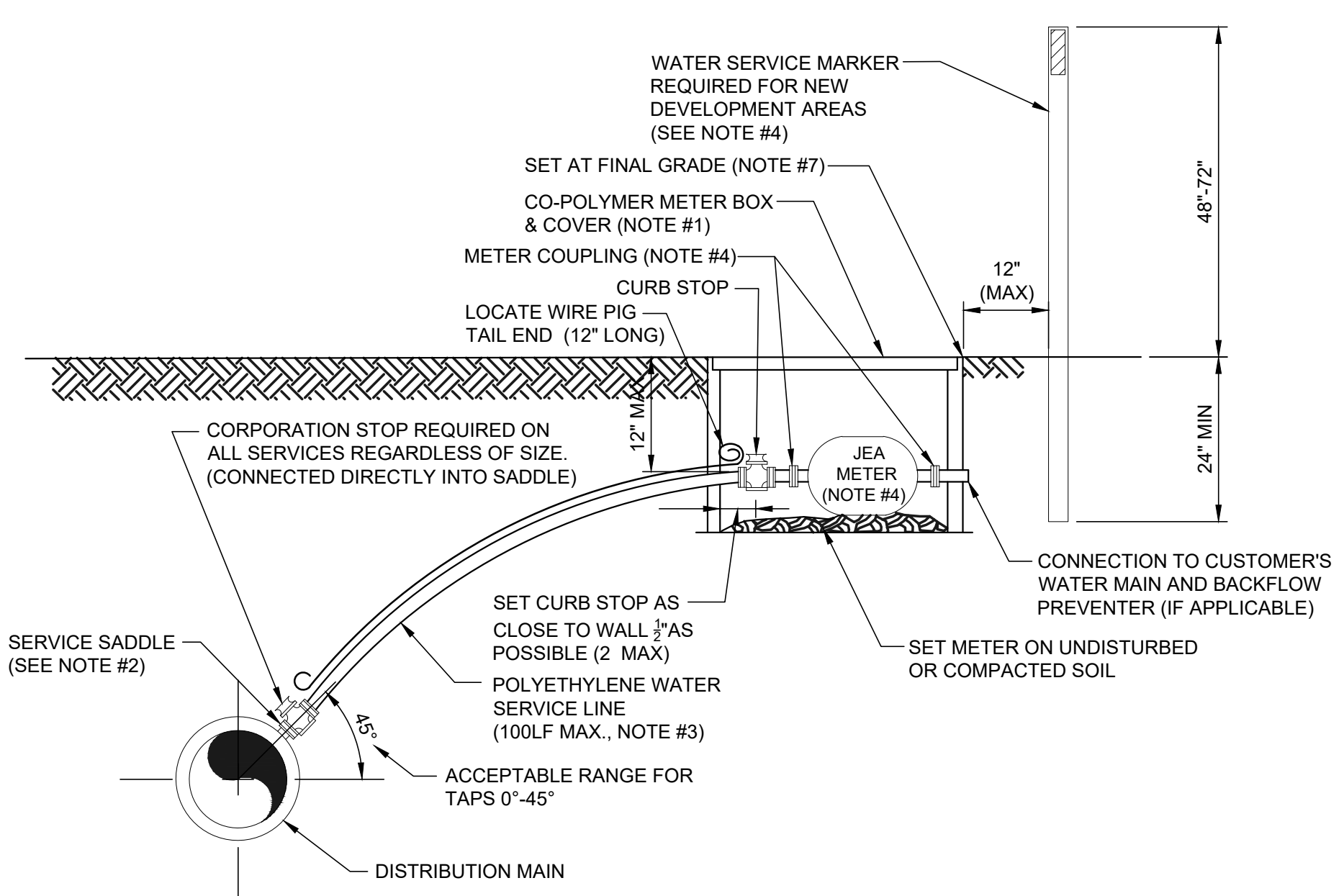
CLIENT: DAVIS & SONS  
 PROJECT: MILLS CREEK PRESERVE PHASE 2  
 SHEET TITLE: SANITARY SEWER PLAN AND PROFILE

DESIGNER: K. MERRITT  
 PROJECT ENGINEER: M. MASON  
 QUALITY CONTROL: D. YOUNG  
 PROJECT NUMBER: 17-0279.01

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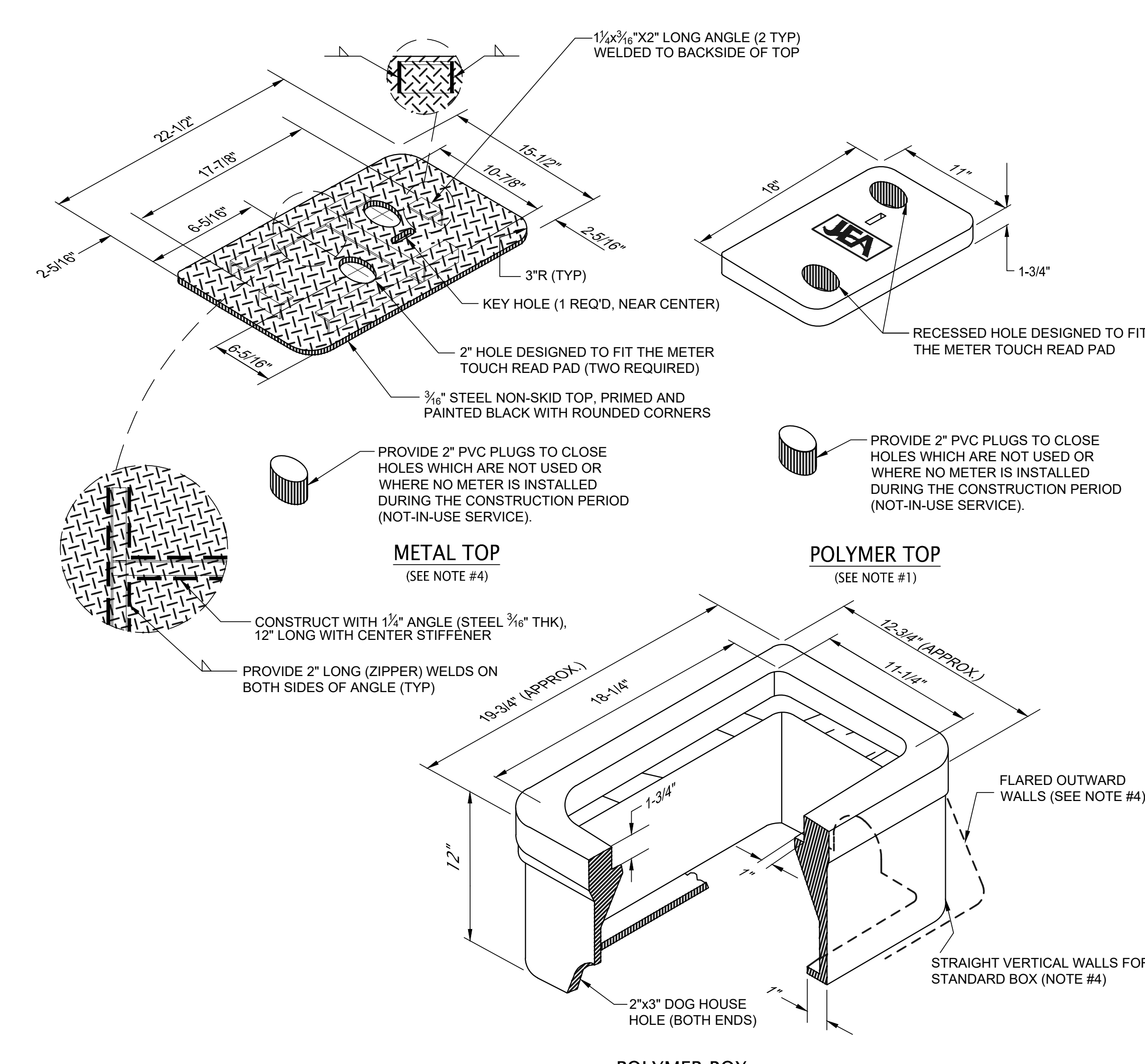
FL PE No. 92335  
 SHEET NO. C3.43

Title: Water Meter Box Details - 17-0279.dwg  
 Date: 1/17/2018  
 Author: MASON, MITCHELL G.  
 Project: MILLS CREEK PRESERVE PHASE 2  
 Sheet: 17-0279.01



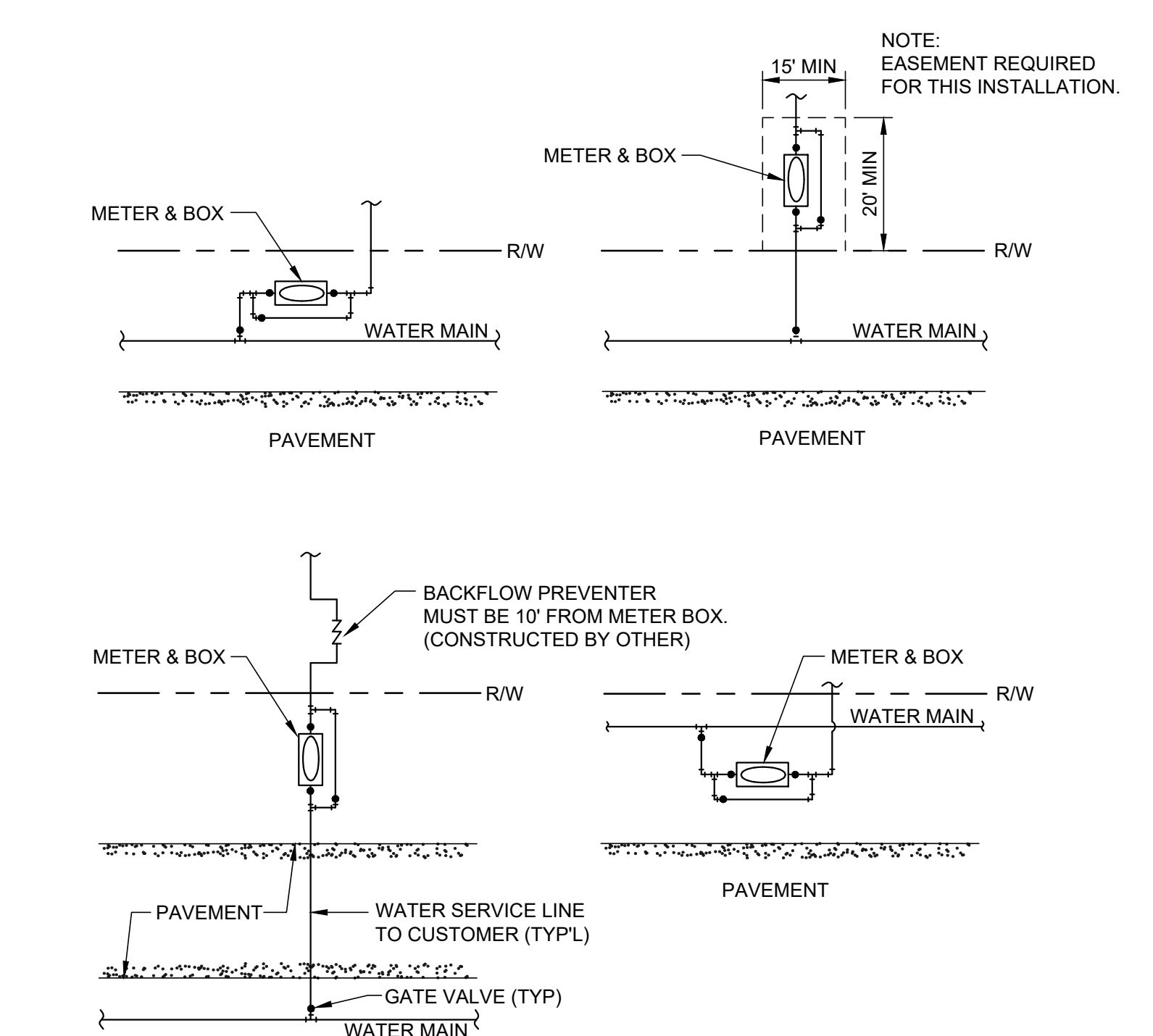
- NOTES:**
- SEE PLATE W-1 FOR METER LOCATION REQUIREMENTS.
  - SINGLE BAND SADDLES MAYBE UTILIZED ON NEW 1" WATER SERVICES WHICH ARE INSTALLED ON A DRY 10" SIZE OR SMALLER WATER MAIN (NEW WATER MAIN CONSTRUCTION). FOR WET TAPS OR WATER MAINS 12" SIZE AND LARGER, A DOUBLE BAND SADDLE IS REQUIRED. BRASS SADDLES MAY BE UTILIZED ON NEW 1 INCH AND SMALLER WATER SERVICES WHICH ARE INSTALLED ON A DRY 10 INCH OR SMALLER PVC WATER MAIN.
  - NO OPEN CUT UNDER ROADWAY PAVING ALLOWED UNLESS THE ROADWAY IS BEING RECONSTRUCTED OR IF DIRECTED OTHERWISE BY J.E.A. CONSTRUCT POLY LINE WITH 24" (MIN.) COVER UNDER ROADWAYS. THE POLY WATER SERVICE LINE SHALL BE SAME SIZE AS THE METER (1" MINIMUM) AND BE INSTALLED PERPENDICULAR TO THE MAIN AND NOT EXCEED 100LF UNLESS APPROVED OTHERWISE BY JEA.
  - INSTALL PVC PLUG IN ALL CURB STOPS IF WATER SERVICE IS "NOT IN USE" (I.E.: IF NO METER IS INSTALLED). WATER SERVICES SERVING VACANT LOTS (SERVICE NOT IN USE), SHALL INCLUDE A "W" CUT INTO THE CURB (CLOSEST TO THE METER BOX), AND PAINTED BLUE (PAINTED PURPLE FOR RECLAIMED WATER). IN ADDITION, FOR NEW DEVELOPMENT AREAS WHERE THE WATER SERVICE IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED BLUE OR PURPLE FOR RECLAIMED WATER). THE REMOVAL OR TRANSFER OF A WATER SERVICE SHALL INCLUDE BRASS METER COUPLINGS (HEX ON BARREL TYPE).
  - NO 2" AND SMALLER WATER SERVICE TAPS PERMITTED ON WATER MAINS WHICH ARE 20" AND LARGER SIZE.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE METER OR ELECTRONIC DEVICES IF DAMAGED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD.
  - METER BOX AND TOP SHALL BE CLEAR OF ALL DEBRIS TO ALLOW FULL ACCESS TO BOX (I.E. NO DIRT, TRASH OR OTHER DEBRIS PLACED ON TOP OF BOX).
  - LOCATE WIRING REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH. SEE PLATE W-44.

**WATER SERVICE DETAIL- 2" AND SMALLER METER**  
 JANUARY 2018 PLATE W-2



- NOTES:**
- THE STANDARD BOX (A-8 (ASTM C857) LOAD RATING WITH STRAIGHT VERTICAL WALLS) & TOP (A-8 (ASTM C857) RATING WITH 2 HOLES) SHALL BE MADE OF POLYMER CONCRETE. (SIMILAR TO OLD BROOKS SERIES 37 BOX). BOX WALLS SHALL BE FIBERGLASS. THE INSIDE LIP OF THE BOX SHALL BE RATED SAME AS THE BOX. THE ONE HOLE LIDS ARE FOR SPECIAL ORDERS ONLY AND REQUIRE JEA'S APPROVAL PRIOR TO USE.
  - ALL SIZES SHOWN ARE IN INCHES AND ARE APPROXIMATE SIZES.
  - POLYMER BOX APPROXIMATE WEIGHT 25lbs. POLYMER TOP APPROXIMATE WEIGHT 20lbs. SEE CONSTRUCTION DETAILS W-3A (TWO HOLES) AND W-3B (ONE HOLE) FOR MANUFACTURING DETAILS FOR COVERS.
  - UNLESS APPROVED OTHERWISE IN WRITING BY JEA, ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS (NOT IN THE ROADWAY, DRIVEWAYS OR SIDEWALKS). IF AN EXCEPTION TO THIS RULE IS APPROVED BY JEA, THEN THE FOLLOWING SHALL BE PROVIDED:
    - UNDER NO CIRCUMSTANCE SHALL A METER BOX BE LOCATED IN A COMMERCIAL TRAFFIC AREA.
    - IF AN EXCEPTION IS APPROVED IN WRITING THE METER BOX LOCATED IN A SIDEWALK OR RESIDENTIAL DRIVEWAY SHALL INCLUDE A POLYMER BOX WITH FLARED OUTWARD WALLS (NOT STRAIGHT WALLS) AND A POLYMER TOP. BOX AND TOP SHALL COMPLY WITH A-8 (ASTM C857), LOAD RATING.
    - METAL TOPS MAY BE UTILIZED IF SPECIFICALLY APPROVED BY JEA MANAGER OR JEA METER O&M STAFF.

**WATER METER BOX & COVER FOR 1" AND SMALLER METERS**  
 JANUARY 2018 PLATE W-3

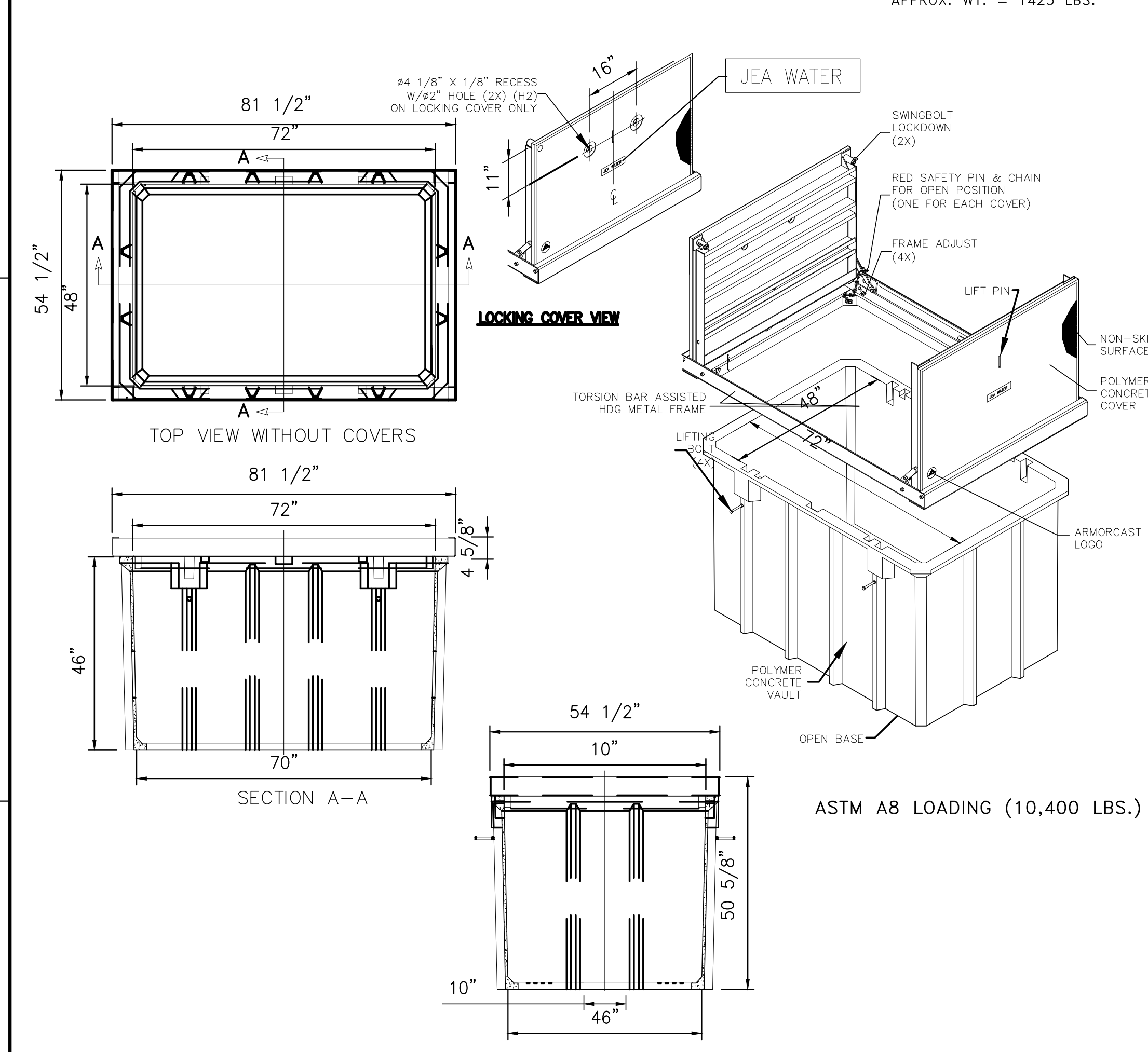


- NOTES:**
- THE SKETCHES ABOVE ARE SUGGESTIONS FOR SOME TYPICAL LARGE METER (3" AND LARGE SIZE METER) INSTALLATIONS. ACTUAL INSTALLATIONS WILL VARY ACCORDING TO FIELD CONDITIONS ENCOUNTERED. FOR OTHER LOCATION LIMITATIONS SEE PLATE NOS. W-10 & W-11.
  - THE WATER METER BOX SHALL BE CO-POLYMER MATERIAL. IF THE BOX IS LOCATED IN A DRIVEWAY OR ROADWAY, THE BOX SHALL BE CONCRETE WITH HEAVY-DUTY ALL GALVANIZED (WITH REINFORCED GALV.) TOP. BOXES LOCATED IN DRIVEWAYS OR ROADWAYS MUST BE APPROVED BY JEA, PRIOR TO CONSTRUCTION.
  - FOR TYPICAL BOX INSTALLATION DETAILS SEE PLATE NO. W-6 THRU W-8.
  - FOR TYPICAL MANIFOLD INSTALLATION, SEE PLATE NO. W-9.

**LARGE WATER METER INSTALLATIONS**  
 JANUARY 2018 PLATE W-5

<b>CHW</b> Professional Consultants	N/A	SCALE	CONSTRUCTION PERIOD	DATE	SHEET NO.
8455 Merchants Way, Ste. 103 Jacksonville, Florida 32222 www.chw-inc.com est. 1988 FLORIDA CA-3075	VERIFY SCALE ON ORIGINAL DRAWING IF ANY SCALE CHANGES THIS SHEET, ADJUST SCALES ACCORDINGLY.				17-0279.01
DAVIS & SONS PROJECT: MILLS CREEK PRESERVE PHASE 2 SHEET TITLE: WATER METER BOX DETAILS	PROJECT ENGINEER: M. MASON QUALITY CONTROL: D. YOUNG PROJECT NUMBER: 17-0279.01	DESIGNER: K. MERRITT	DATE: 1/17/2018	PROJECT: MILLS CREEK PRESERVE PHASE 2	SHEET NO.: 17-0279.01
Mitchell G. Mason, P.E. State of Florida, Professional Engineer, License No. 92335 This item has been digitally signed and sealed by Mitchell G. Mason, P.E. on the state indicated here: 15/03/2023 Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.	FL PE No. 92335				<b>C3.60</b>

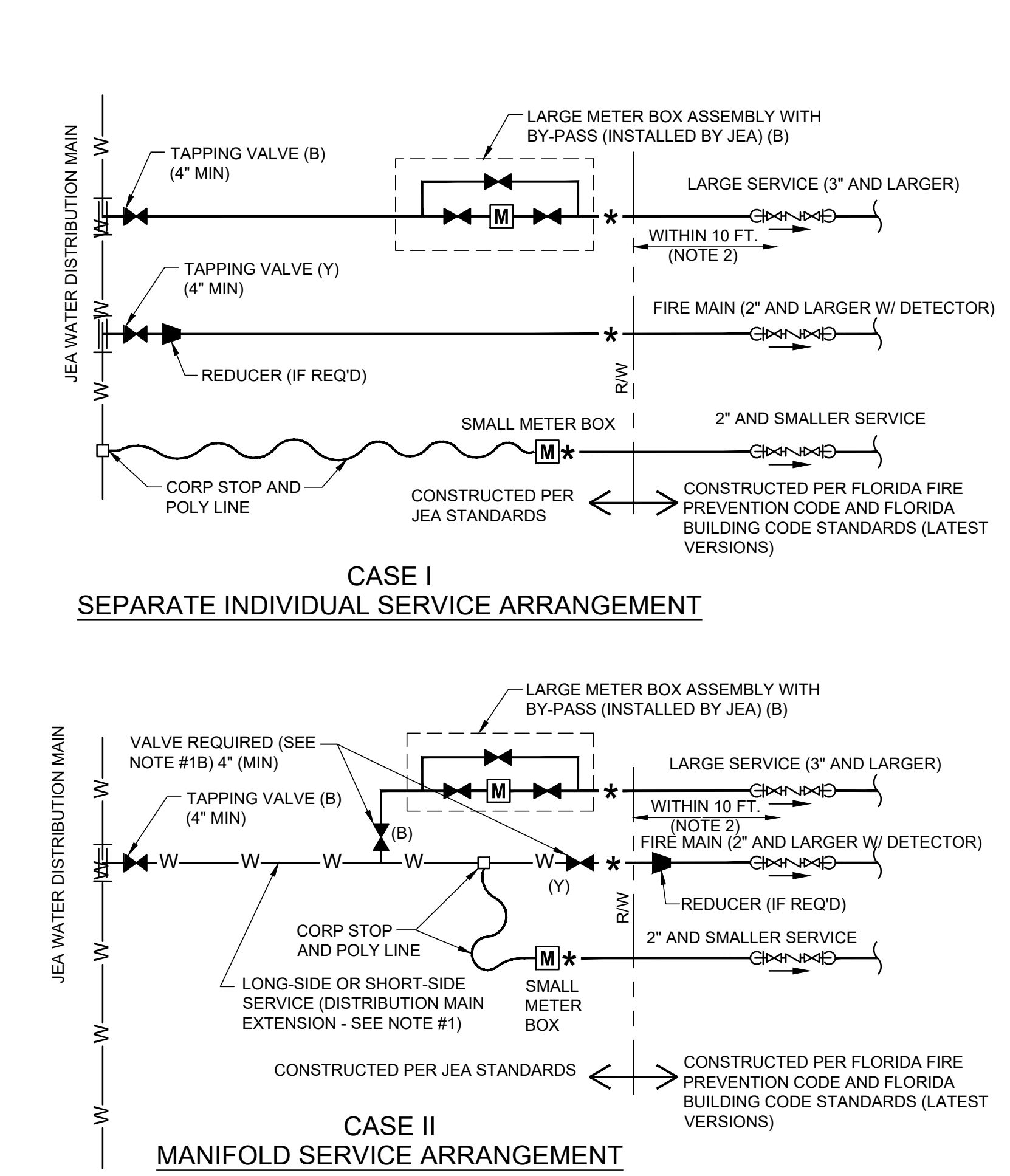
Title: Metric For Date: Apr 18, 2023 11:52am Filename: LV1017X\_17-0279A\_engineering\DWG\Production\Plate W-7A.dwg User: MAST\_ID\_17-0279A



- NOTES:**
- THE DIMENSIONS SHOWN ARE FOR A STANDARD 48" WIDE BY 72" LONG BY 48" DEEP BOX. DIMENSIONS VARY ACCORDING TO METER SIZE & TYPE. SEE PLATE W-8. ALL DIMENSIONS ARE SHOWN IN INCHES.
  - CONCRETE OR ASPHALT SLOPE: 1/8 IN./FT.
  - GRADE TO SLOPE AWAY FROM METER BOX.
  - DO NOT INSTALL METER BOX IN AREA SUBJECTED TO FLOODING.
  - LOCATING WIRING REQUIRED. SEE DETAIL W-44.
  - THE LARGE BOXES REQUIRE TWO 2" RECESSED HOLES TO FIT ANTENNA.
  - A 4" THICK CONCRETE BOTTOM SHALL BE CONSTRUCTED DURING THE BOX INSTALLATION.

**48" x 72" x 48" CO-POLYMER WATER METER BOX  
4" & 6" METERS**

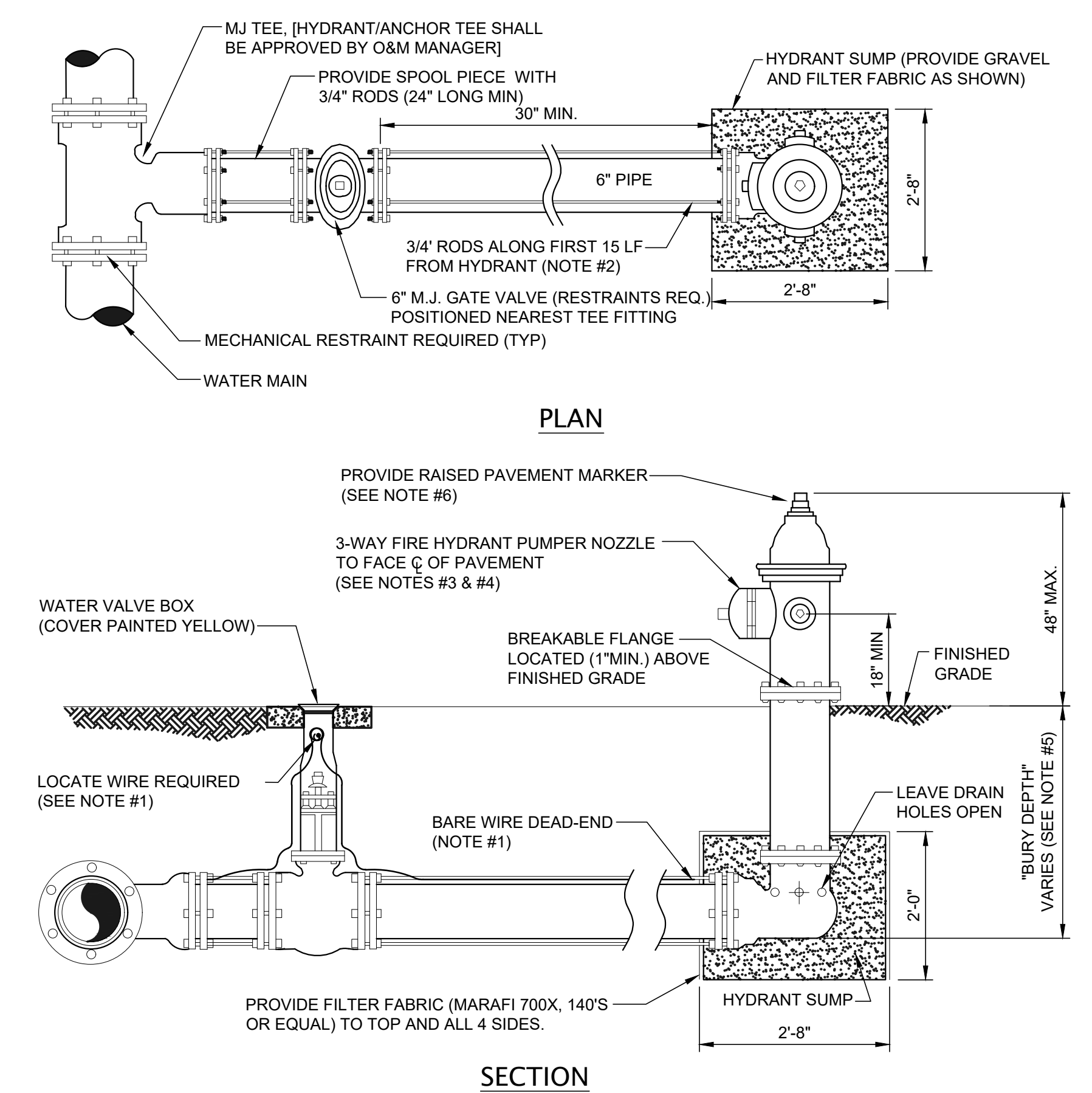
JANUARY 2018 PLATE W-7A



- KEY**
- GATE VALVE
  - VALVE COVER PAINT COLOR (B) = BLUE (Y) = YELLOW
  - JEA POINT OF SERVICE
  - BACKFLOW PREVENTER (NOTE #2)
  - JEA WATER DISTRIBUTION MAIN
  - JEA METER
- NOTES:**
- SHOULD AN INSTALLATION INCLUDE MULTIPLE WATER SERVICES FOR THE SAME CUSTOMER (i.e. DOMESTIC, IRRIGATION, FIRE) AND ONE OR MORE OF THOSE SERVICES ARE 3 INCH OR LARGER, A MANIFOLD ARRANGEMENT (SEE CASE II ABOVE) IS ACCEPTABLE PROVIDED:
    - THE PROJECT DESIGN ENGINEER (FLORIDA PROFESSIONAL ENGINEER) PROVIDES ACCEPTABLE HYDRAULIC CALCULATION (ENGINEERED, SIGNED AND SEALED) WHICH MEETS THE MOST HYDRAULICALLY DEMANDING CASE.
    - TO MEET JEA AND LOCAL FIRE CODE REQUIREMENTS, A SEPARATE ISOLATION VALVE (BELOW GROUND TYPE GATE VALVE OR CORP STOP) SHALL BE PROVIDED FOR EACH SERVICE ON A MANIFOLD ARRANGEMENT.
    - THE SPECIFIC PROPOSED WATER SERVICE ARRANGEMENT IS IN ACCORDANCE WITH JEA STANDARDS AND IS REVIEWED AND APPROVED BY JEA.
  - BACKFLOW PREVENTER (BFP) - THE ABOVE GROUND VALVE SHALL MEET JEA'S CROSS-CONNECTION CONTROL PROGRAM. THIS JEA APPROVED VALVE SHALL BE INSTALLED WITHIN TEN (10) FEET OF RIGHT-OF-WAY LINE OR JEA EASEMENT UNLESS APPROVED OTHERWISE BY JEA. ALL BFPs INSTALLED ON A FIRE MAIN SHALL INCLUDE A DETECTOR.

**WATER SERVICE MANIFOLD ARRANGEMENT**

JANUARY 2018 PLATE W-9



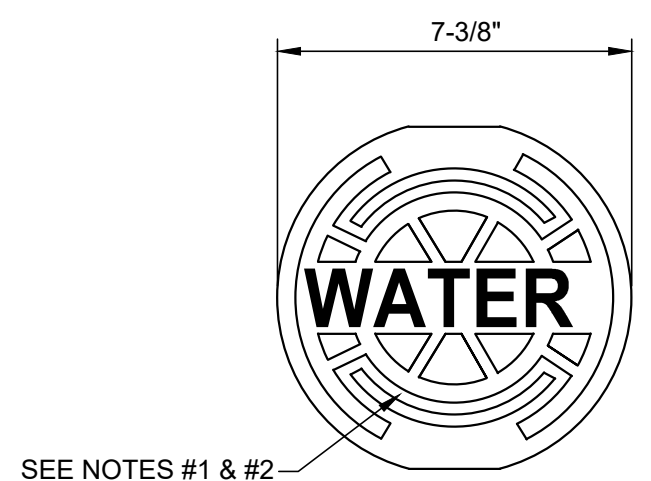
- NOTES:**
- LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MAIN. SEE SECTION 350, LOCATE WIRE INSTALLATION PARAGRAPH.
  - FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK AND NOT WITHIN SWALE/DITCH AREAS. THE DISTANCE RANGE FROM EDGE OF ADJACENT PAVEMENT, BACK OF CURB AND FACE OF SIDEWALK SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA AND APPLICABLE PERMITTING AGENCIES. DISTANCE SHALL BE MEASURED TO THE CLOSEST PART OF THE FIRE HYDRANT (I.E. THE PUMPER NOZZLE). THE MAXIMUM DISTANCE (BACK OF CURB) SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA. FOR OTHER LOCATION LIMITATIONS SEE PLATES W-10 AND W-11. IF PIPING BETWEEN TEE AND HYDRANT IS LONGER THAN 80 LF, AN ADDITIONAL 6" GATE VALVE IS REQUIRED AT THE HYDRANT LOCATION (PROVIDE 30" SEPARATION). ALL PIPING, VALVES AND FITTINGS ALONG THE HYDRANT BRANCH MAIN WHICH IS WITHIN 15 LF OF THE HYDRANT SHALL BE RESTRAINED UTILIZING ONLY TWO 3/4" DIA (THREADED ENDS) STEEL RODS AND EYE BOLTS (NO JOINT RESTRAINT DEVICES REQUIRED). A SPLIT SERRATED RING WITH RESTRAINT EARS (EBAA 15 PF06 OR EQUAL) MAYBE USED IN THIS ASSEMBLY. ALL OTHER JOINTS ALONG THE HYDRANT BRANCH MAIN OUTSIDE OF THE FIRST 15 LF SHALL INCLUDE JOINT RESTRAINTS.
  - OPERATION OF THE FIRE HYDRANT SHALL BE EITHER FULL OPEN POSITION OR TOTALLY CLOSED POSITION. THE HYDRANT SHALL NOT BE UTILIZED TO THROTTLE OUTLET FLOW.
  - PRIOR TO PROJECT FINAL INSPECTION, THE HYDRANT AND ALL ABOVE GROUND PIPING SHALL BE RE-OILED, GREASED AND REPAINTED (RUS-KIL ENAMEL-INTERNATIONAL YELLOW OR EQUAL), PRIVATELY OWNED AND MAINTAINED FIRE HYDRANTS SHALL BE PAINTED RED.
  - FIRE HYDRANTS SHALL BE ORDERED WITH PROPER "BURY DEPTH" TO MEET ACTUAL FIELD CONDITIONS. THIS IS ESPECIALLY IMPORTANT FOR BRANCH LINES WHICH TEE-OFF A 12" OR LARGER WATER MAIN. UNLESS APPROVED OTHERWISE BY JEA, THE INSTALLATION OF (45°) BENDS IS NOT ACCEPTABLE WHEN UTILIZED TO CORRECT AN IMPROPERLY FURNISHED HYDRANT. THE USE OF HYDRANT EXTENSIONS SHOULD BE MINIMIZED.
  - BLUE REFLECTIVE MARKERS SHALL BE INSTALLED IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.

**FIRE HYDRANT INSTALLATION  
USING MECHANICAL JOINT TEE**

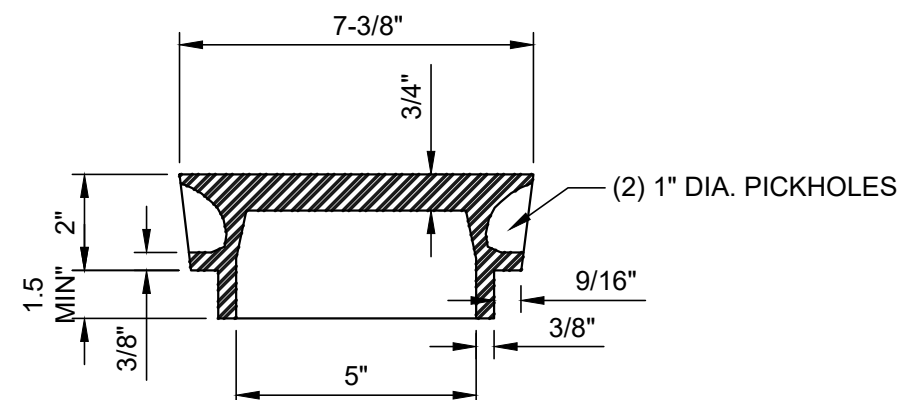
JANUARY 2018 PLATE W-13

	<b>CHW</b> Professional Consultants <small>CHW CONSULTING, INC. IS AN EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION EMPLOYER. THIS SHEET, DESIGN, AND SCALE ARE ACCORDINGLY.</small>
<small>SCALE:</small> N/A	<small>CONSTRUCTION INFORMATION:</small> 171723 - FIRST SUBMITTAL 5/26/23 - SECOND SUBMITTAL
<small>CLIENT:</small> DAVIS & SONS	<small>PROJECT:</small> MILLS CREEK PRESERVE PHASE 2
<small>DESIGNER:</small> K. MERRITT	<small>PROJECT NUMBER:</small> 17-0279.01
<small>PROJECT ENGINEER:</small> M. MASON	<small>QUALITY CONTROL:</small> D. YOUNG
<small>DESIGNER:</small> MITCHELL G. MASON	<small>PROJECT NUMBER:</small> 17-0279.01
<small>DESIGNER:</small> Mitchell G. Mason, P.E. State of Florida, Professional Engineer, License No. 92335	<small>PROJECT NUMBER:</small> 17-0279.01
<small>This item has been digitally signed and sealed by Mitchell G. Mason, P.E., on the date indicated here: 11/25/2023</small>	<small>Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.</small>
<small>FL PE No. 92335</small>	<small>SHEET NO.:</small> <b>C3.61</b>





**HEAVY DUTY RATING**



**NOTES:**

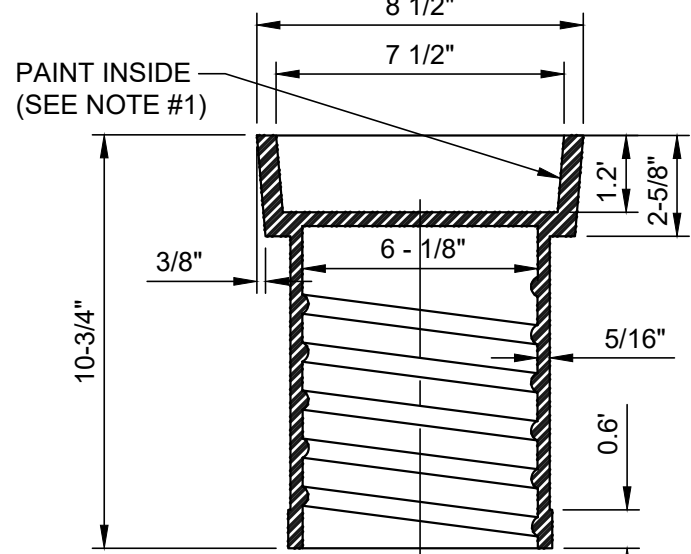
1. PAINT TOP OF THE COVER WITH ENAMEL PAINT (BLUE COLOR) FOR WATER.
2. FOR "REUSE" PAINT TOP PANTONE PURPLE.
3. LID WEIGHT: APPROX. 12 LBS.

**WATER SYSTEM VALVE BOX COVER**

JANUARY 2018

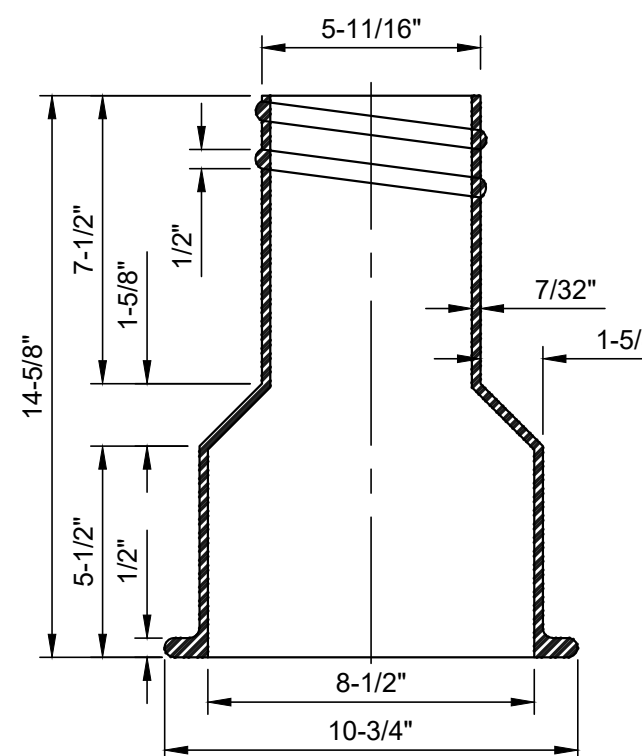
PLATE W-16

**HEAVY DUTY RATING**



**TOP SECTION VIEW**

(23 LBS. APPROX.)



**BOTTOM SECTION VIEW**

(26 LBS. APPROX.)

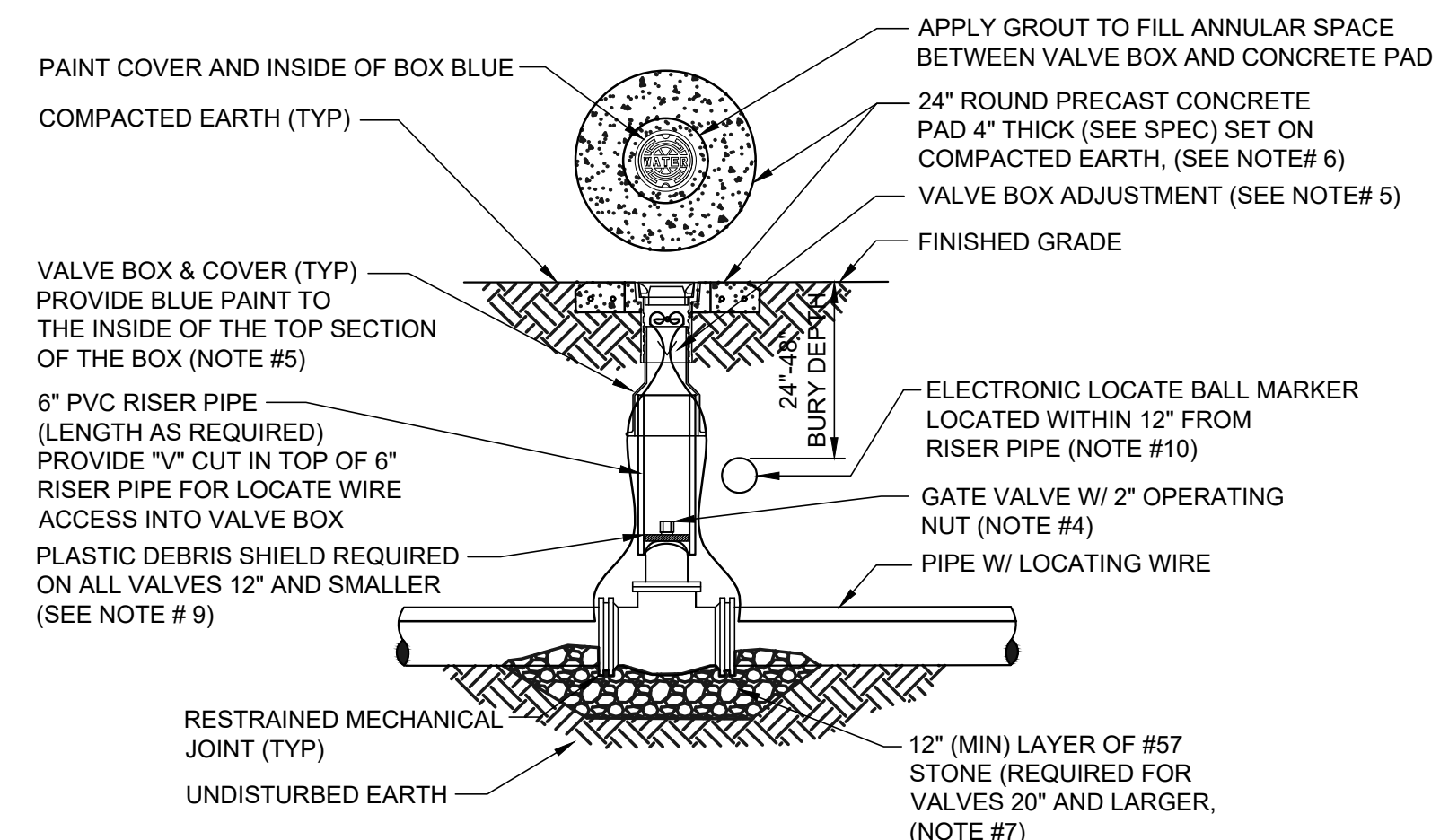
**NOTES:**

1. PAINT THE INSIDE OF THE TOP SECTION OF THE BOX WITH APPLICABLE COLOR (BLUE OR PURPLE)
2. HEAVY DUTY RATING (TOTAL WEIGHT APPROX. 50 LBS.)
3. REFERENCE SECTION 351, PARAGRAPH X.2.

**WATER SYSTEM VALVE BOX**

JANUARY 2018

PLATE W-17



**NOTES:**

1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED OTHERWISE.
2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAIL W-44).
3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/ADJACENT TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED GREEN.
4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.
5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 12" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.
6. BRASS IDENTIFICATION TAG INDICATING "WATER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A 1/4" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.
7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2 - #4 REBAR AROUND PERIMETER, MAY BE USED.
8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO 1/2 THE OVERALL HEIGHT OF THE VALVE.
9. FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC, BOXLOK OR APPROVED EQUAL.
10. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1403XR FOR WATER AND 1408XR FOR RECLAIMED WATER).

**WATER VALVE INSTALLATION DETAIL**

JANUARY 2018

PLATE W-18

**DUCTILE IRON PIPE RESTRAINT NOTES:**

1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
2. ASSUMPTIONS: DUCTILE IRON PIPE (WITHOUT POLY WRAP), SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE. FOR D.I.P. W/POLY WRAP, USE RESTRAINT JOINT SCHEDULE FOR PVC PIPE.
3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS. L<sub>u</sub> IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. L<sub>l</sub> IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
6. HDPE TO D.I.P. TRANSITIONS: THE D.I.P. PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).

LENGTH (L) TO BE RESTRAINED (SEE PLATE Nos. 38C & 38D FOR ADDITIONAL DETAILS)

NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL OFFSETS 45° BENDS (SEE NOTE 4)		VALVES OR DEAD ENDS	REDUCERS		TEE SEE NOTE 5		
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER L (FT.)	LOWER L (FT.)		SIZE (IN.)	L (FT.)	RUN SIZE (IN.)	BRANCH SIZE (IN.)	L (FT.)
4	17	7	4	2	11	3	30	6x4	22	4	4	F.O.
6	24	15	5	3	15	4	42	8x6	23	4	6	F.O.
8	31	13	6	3	20	5	55	8x4	39	8	8	19
10	36	15	8	4	23	6	65	10x8	22	6 < LESS	19	F.O.
12	42	18	9	5	27	7	77	10x6	40	10	10	29
14	48	20	10	5	31	7	87	12x10	23	8	8	9
16	53	22	11	6	35	8	97	12x8	41	6 < LESS	40	F.O.
18	58	24	12	6	39	9	107	16x12	42	12	12	40
20	63	27	13	6	42	10	118	16x10	58	8 < LESS	21	F.O.
24	63	27	13	7	49	12	118	20x18	22	16	16	60
30	75	31	15	8	59	14	141	20x16	42	12	25	F.O.
36	86	36	17	9	68	17	163	20x12	74	8 < LESS	3	F.O.
42	95	40	19	10	76	19	183	24x20	36	20	79	F.O.
48	117	43	21	11	84	21	203	24x18	51	16	48	F.O.
								24x16	64	12	9	F.O.
								30x24	50	10 < LESS	1	F.O.
								30x20	77	24	79	F.O.
								36x30	50	20	54	F.O.
								36x24	89	12 < LESS	23	F.O.
								42x36	48	30	101	F.O.
								42x30	89	24	66	F.O.
								48x42	48	20	38	F.O.
								48x36	88	16	4	F.O.
										36	122	F.O.
										30	90	F.O.
										24	53	F.O.
										20	21	F.O.
										16	1	F.O.
										12 < LESS	1	F.O.
										42	141	F.O.
										36	113	F.O.
										30	79	F.O.
										24	38	F.O.
										20	3	F.O.
										16	1	F.O.
										12 < LESS	1	F.O.
										48	160	F.O.
										42	133	F.O.
										36	103	F.O.
										30	66	F.O.
										24	22	F.O.
										20 < LESS	1	F.O.

**DUCTILE IRON PIPE RESTRAINT JOINT SCHEDULE**

JANUARY 2018

PLATE W -31B

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CONSTRUCTION REVISIONS

DATE: 1/17/23 - FIRST SUBMITTAL  
5/26/23 - SECOND SUBMITTAL

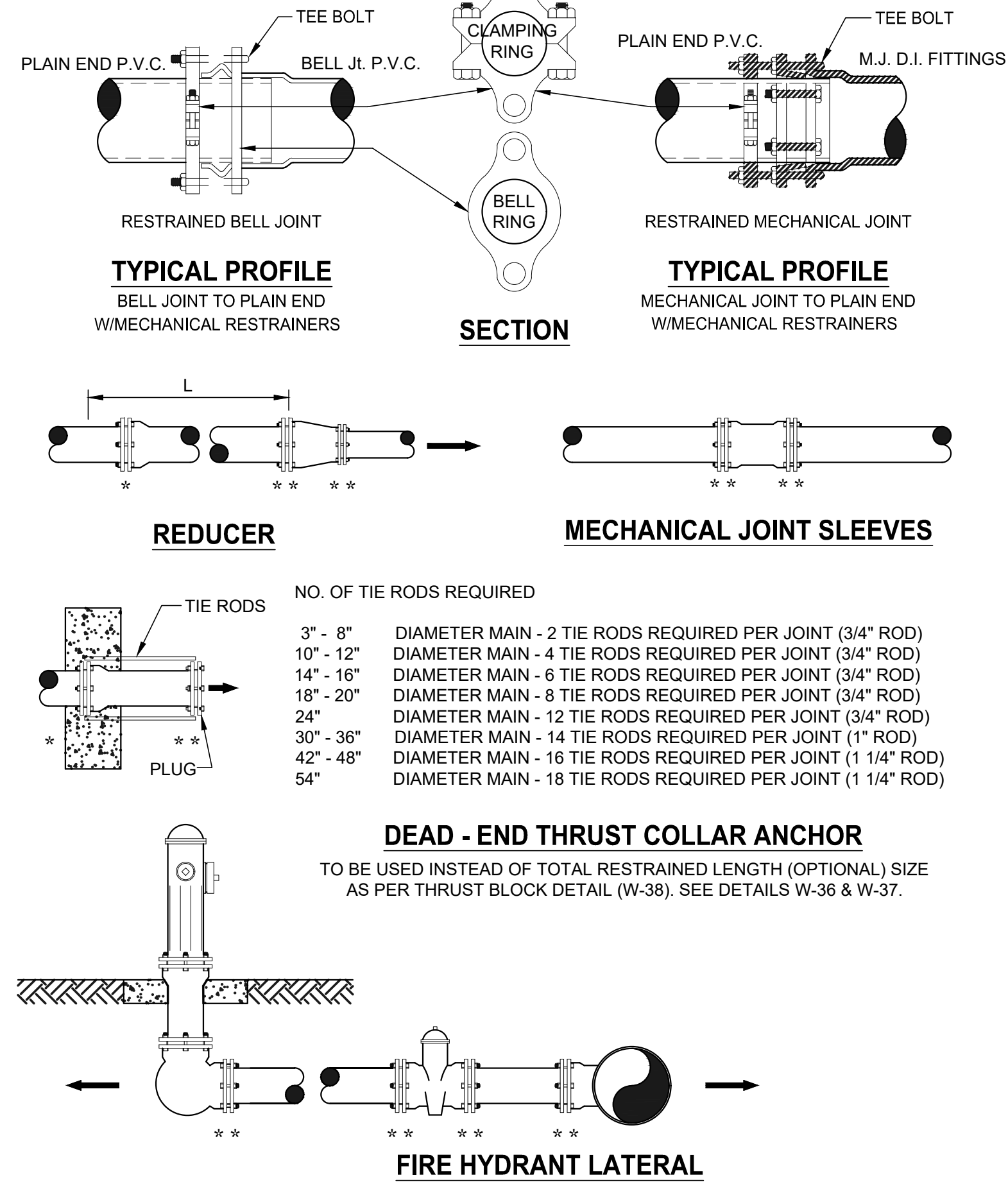
CLIENT: DAVIS & SONS  
PROJECT: MILLS CREEK PRESERVE PHASE 2  
SHEET TITLE: WATER MAIN WASTEWATER DETAILS

DESIGNER: K. MERRITT  
PROJECT ENGINEER: M. MASON  
QUALITY CONTROL: D. YOUNG  
PROJECT NUMBER: 17-0279.01

Mitchell G. Mason, P.E.  
State of Florida, Professional Engineer, License No. 92335  
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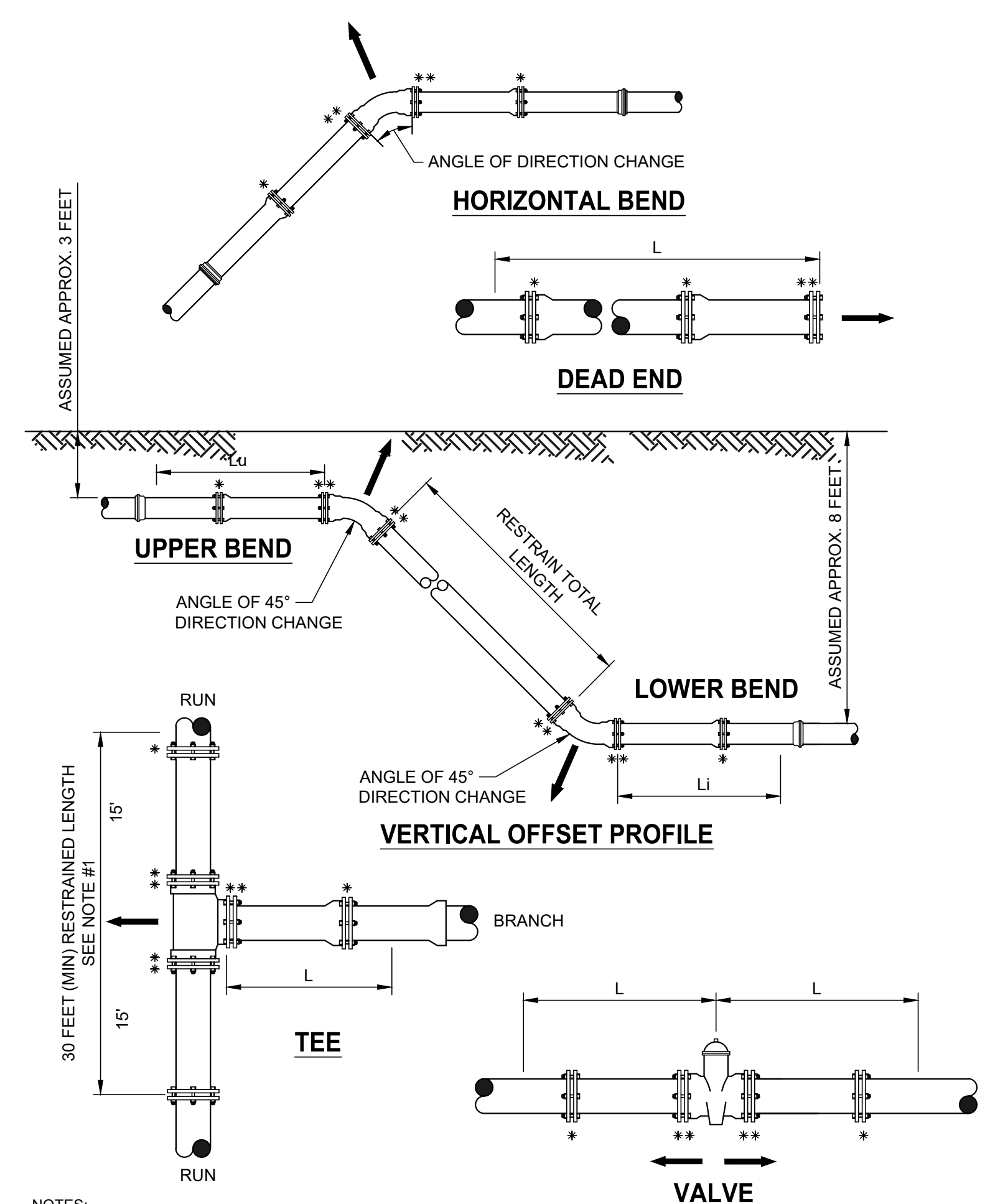
SHEET NO. C3.62



**GENERAL NOTE:**

- PAY ITEM \*\*\* DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIS.
- PAY ITEM \*\*\*\* DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.
- INDICATES DIRECTION OF THRUST FORCE.

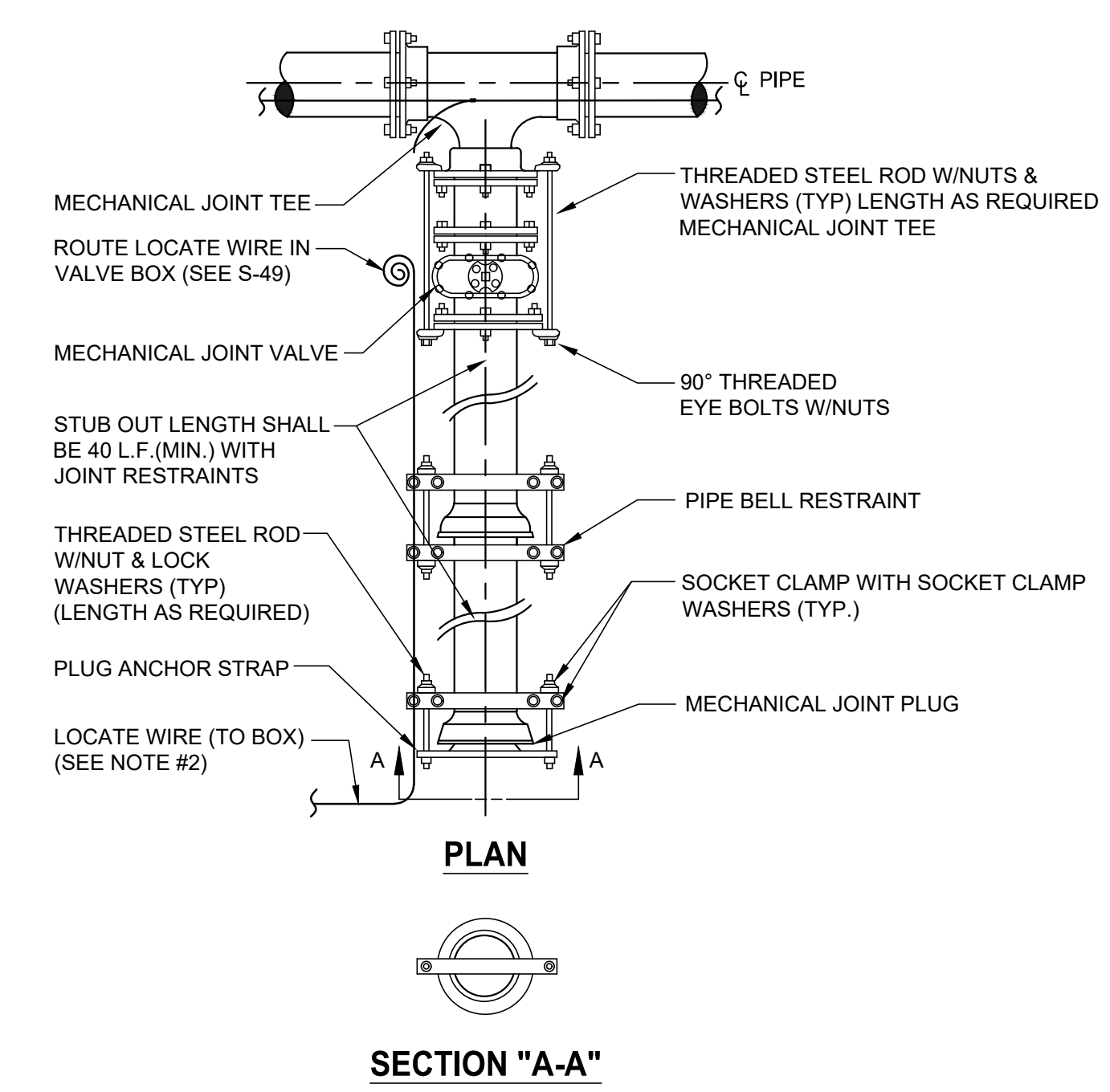
**MECHANICAL RESTRAINT DETAILS - I**  
JANUARY 2018 PLATE W-31C



**NOTES:**

- TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN.).
- PAY ITEM \*\*\* DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIS.
- PAY ITEM \*\*\*\* DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.

**MECHANICAL RESTRAINT DETAILS - II**  
JANUARY 2018 PLATE W-31D

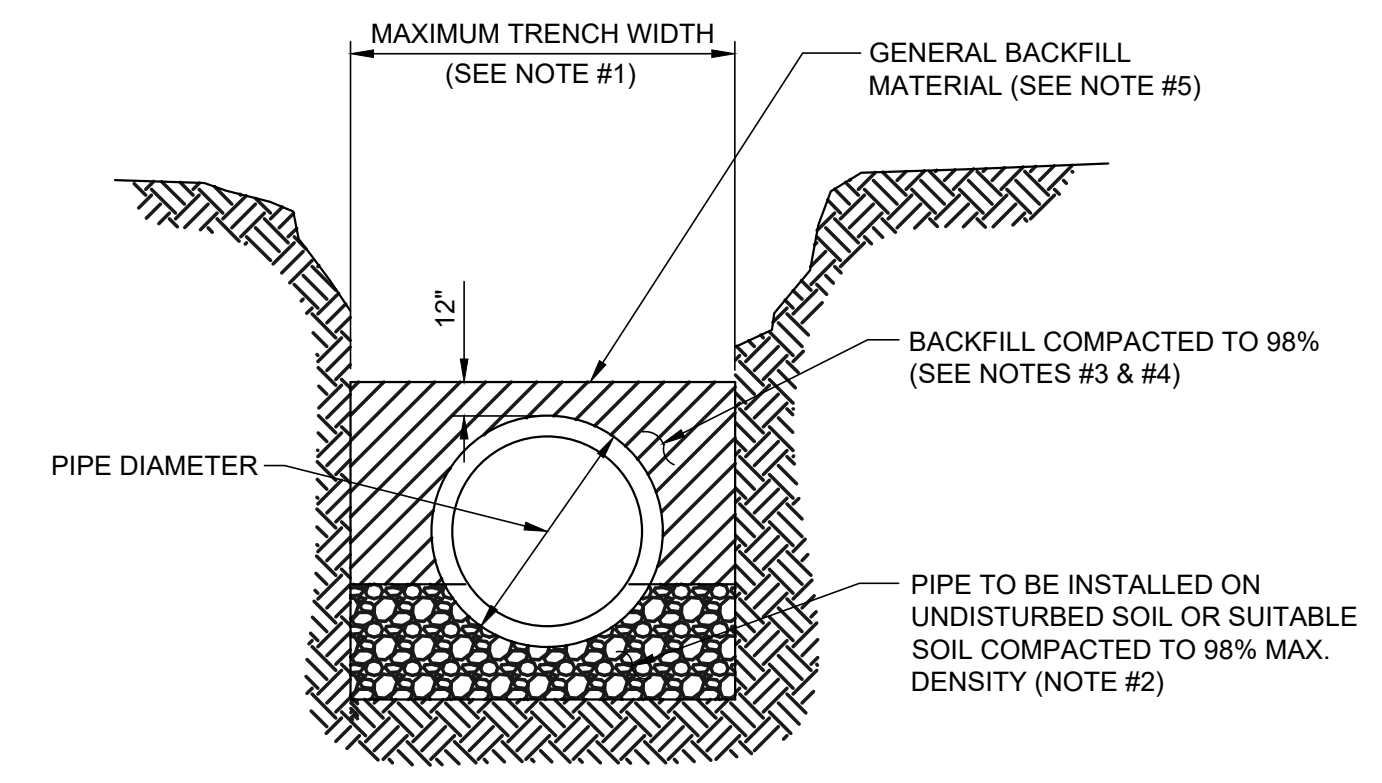


**NOTES:**

- IN LIEU OF BELL/ROD RESTRAINERS, MECHANICAL JOINT RESTRAINERS MAY BE USED.
- LOCATING WIRE REQUIRED, UTILIZING A LOCATE WIRE BOX INSTALLED AT PLUG LOCATION.
- NUMBER OF THE RODS REQUIRED IS AS FOLLOWS:  
 3" - 8" DIAMETER MAIN - 2 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
 10" - 12" DIAMETER MAIN - 4 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
 14" - 16" DIAMETER MAIN - 6 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
 18" - 20" DIAMETER MAIN - 8 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
 24" DIAMETER MAIN - 12 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
 30" - 36" DIAMETER MAIN - 14 TIE RODS REQUIRED PER JOINT (1" ROD)  
 42" - 48" DIAMETER MAIN - 16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)  
 54" DIAMETER MAIN - 18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)
- THE LOCATION OF THE DEAD END PLUG SHALL NOT BE UNDER PAVEMENT, IF POSSIBLE. THE STUB OUT SHALL EXTEND BEYOND THE INTERSECTION AREAS OR ROAD CROSSING BY 10 FEET (MIN.) WHERE POSSIBLE.

**PLUGGED DEAD END USING MECHANICAL RESTRAINERS**

JANUARY 2018 PLATE W-37



**NOTES:**

- TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE; OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4) TO DETERMINE MAXIMUM PAYLINE WIDTHS.
- BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOULDERS OR LOOSE ROCKS LARGER THAN 3/4 INCH IN SIZE WILL NOT BE PERMITTED IN BACKFILL UP TO 1 FOOT ABOVE THE TOP OF THE PIPE.
- BACK FILL MATERIAL UP TO A LEVEL OF 1 FOOT OVER THE PIPE SHALL CONSIST OF AASHTO CLASS A-3 SOIL (SUITABLE SOIL) AND SHALL EXCLUDE CLAY MATERIALS AND LOOSE ROCKS LARGER THAN 3/4 INCH SIZE.
- BACKFILL MATERIAL UP TO A LEVEL 1 FOOT OVER THE TOP OF PIPE OR BOTTOM OF STRUCTURES SHALL BE PLACED IN 6 INCH COMPACTED THICKNESS LAYERS AND SHALL BE COMPACTED TO 98% OF ITS MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D1557.
- SEE "EXCAVATION AND EARTHWORK", SECTION 408 FOR ADDITIONAL REQUIREMENTS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, DEWATERING, COMPACTION REQUIREMENTS AND DENSITY TESTING OF COMPACTED SOILS.

**OPEN CUT TRENCH FOR PRESSURE PIPE**  
JANUARY 2018 IN CITY RIGHT OF WAY PLATE W-42

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CONSTRUCTION REGION: FLORIDA

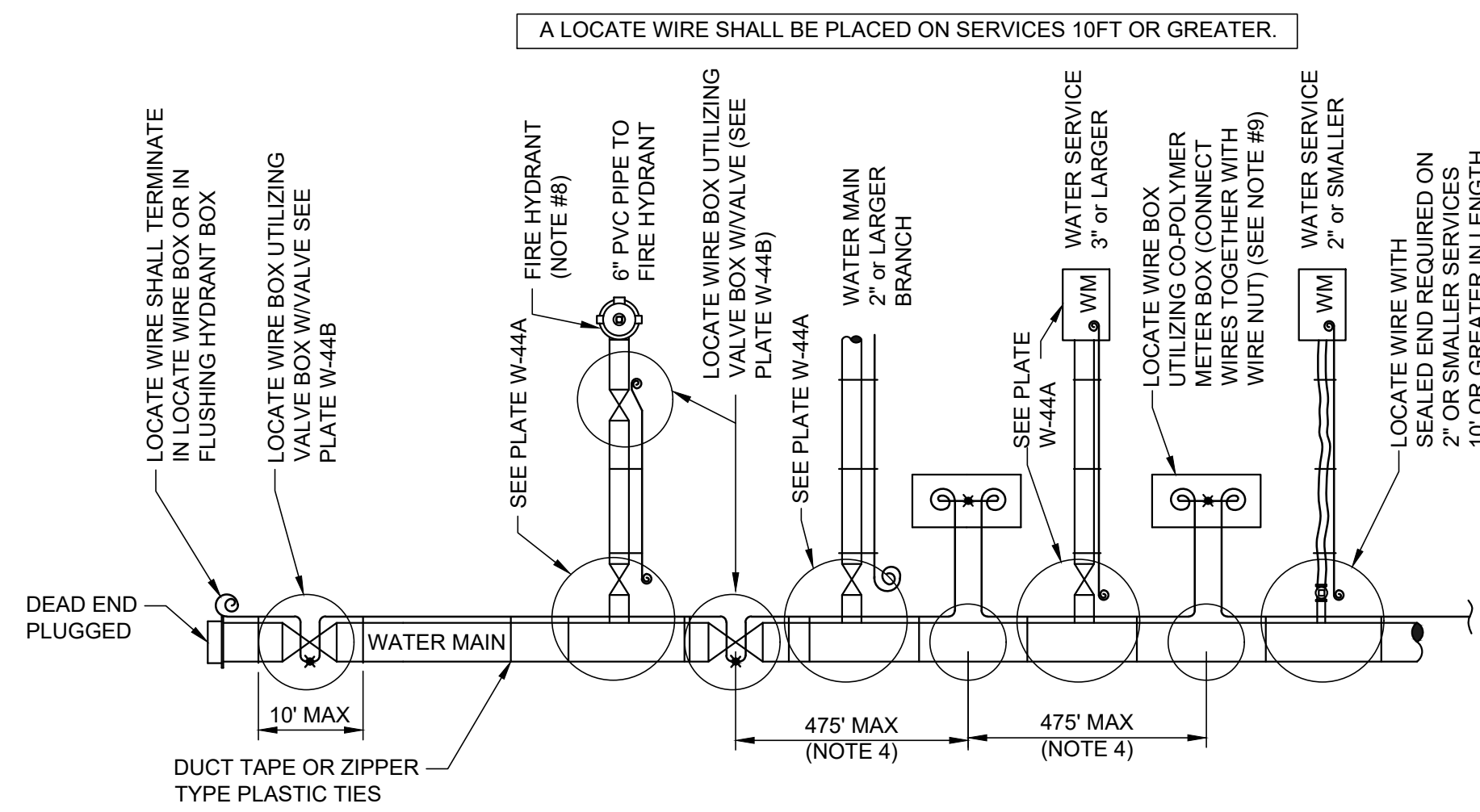
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DESIGNER: K. MERRITT  
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QUALITY CONTROL: D. YOUNG  
PROJECT NUMBER: 17-0279.01

MITCHELL G. MASON  
Mitchell G. Mason, P.E.  
State of Florida, Professional Engineer, License No. 92335  
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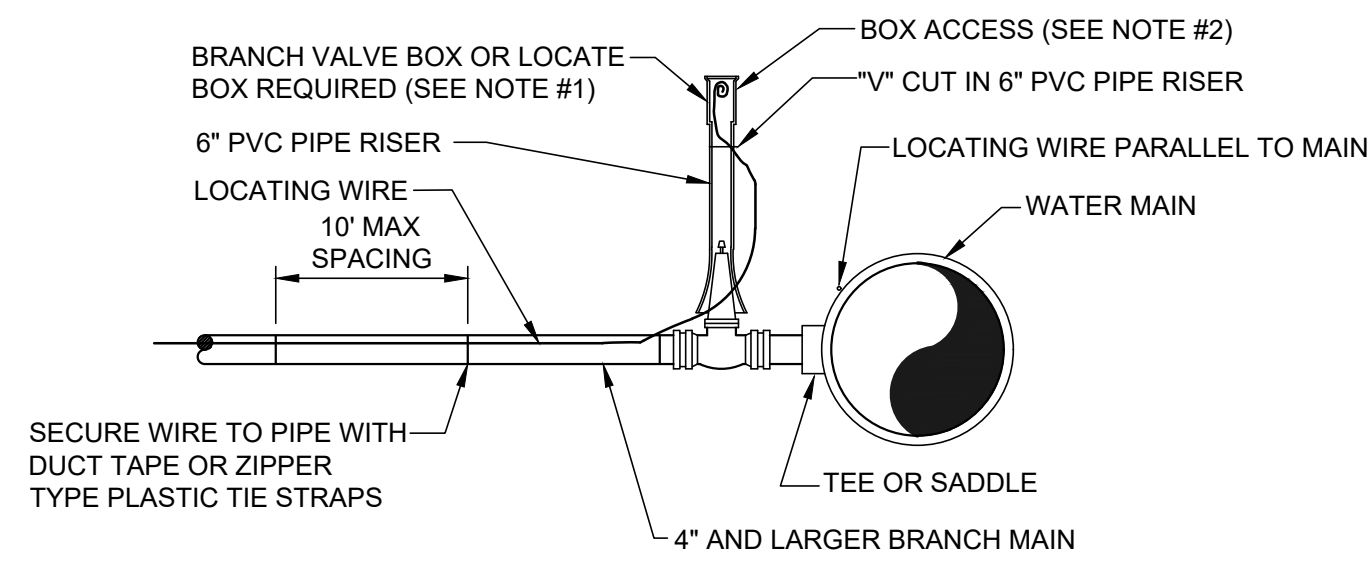


**LOCATE WIRE SYSTEM**

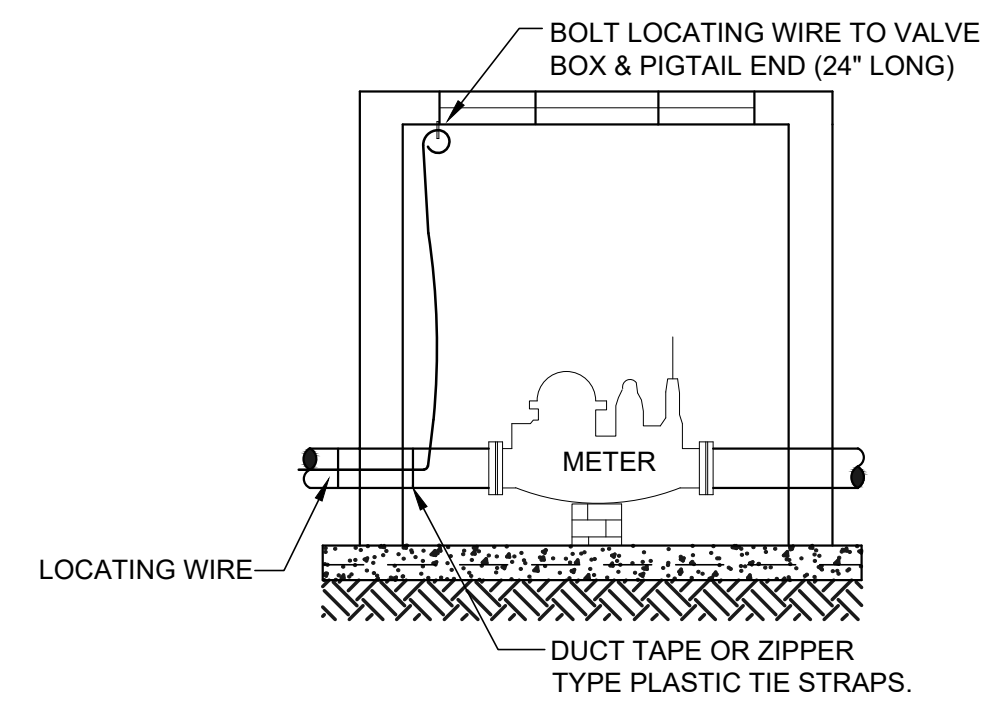
**NOTES:**

- LOCATING WIRE TO BE INSTALLED IN EITHER THE ONE OR ELEVEN O'CLOCK POSITION ON ALL DUCTILE IRON OR PVC (PRESSURE MAINS). LOCATE WIRE SHALL ALSO BE INSTALLED ON ALL (HDPE) POLY MAIN PIPING (1:00 OR 11:00 POSITION, IF POSSIBLE).
- SECURE LOCATING WIRE TO PVC & D.I.P. WATER MAIN BY USE OF DUCT TAPE OR ZIPPER TYPE PLASTIC TIE STRAPS SPACED AT A MAXIMUM DISTANCE OF TEN (10') AND AT EACH SIDE OF BELL JOINT OR FITTING.
- THE ENTIRE LOCATING SYSTEM SHALL BE SUBJECTED TO TESTING TO DETERMINE ITS RELIABILITY. WHERE INSTALLED UNDER PAVEMENT AREAS, TESTING SHALL BE DONE PRIOR TO THE PLACEMENT OF PAVEMENT, UNLESS APPROVED OTHERWISE BY JEA.
- LOCATING WIRE SHALL TERMINATE WITHIN AN ACTIVE VALVE BOX ( WITH A VALVE ) OR A METER BOX ( IF NO VALVE ) AT 475' INTERVALS. SEE DETAIL PLATE W-44B. WIRE CONNECTIONS BELOW GROUND (OUTSIDE OF A BOX) SHALL BE AVOIDED.
- REFER TO SECTION 350 FOR LOCATE WIRE SPECIFICATIONS.
- "\*" INDICATES THAT THE WIRES ARE CONNECTED TOGETHER.
- "@ 24\"/>

**LOCATE WIRE CONSTRUCTION FOR WATER MAINS**  
JANUARY 2018 PLATE W-44



**BRANCH FORCE MAIN**  
(2" AND LARGER WATER MAIN OR 3" AND LARGER WATER SERVICE PIPE)

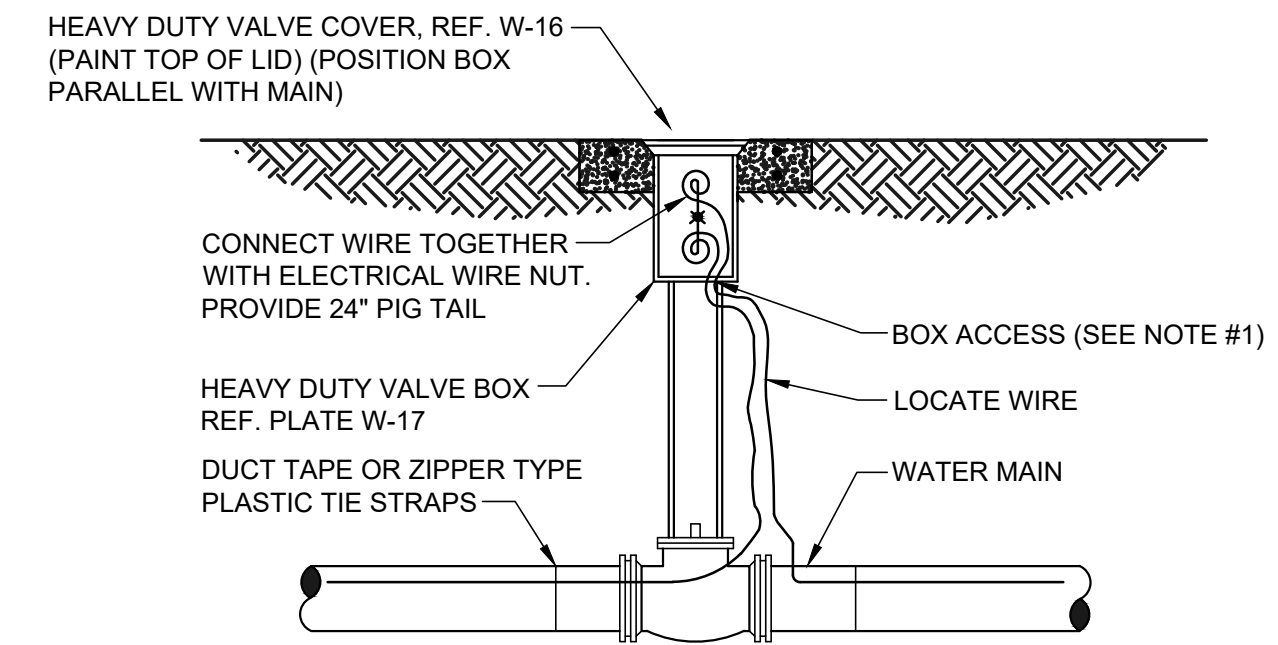


**CONNECTION AT LARGE METER BOX**  
(3" OR LARGER SERVICE)

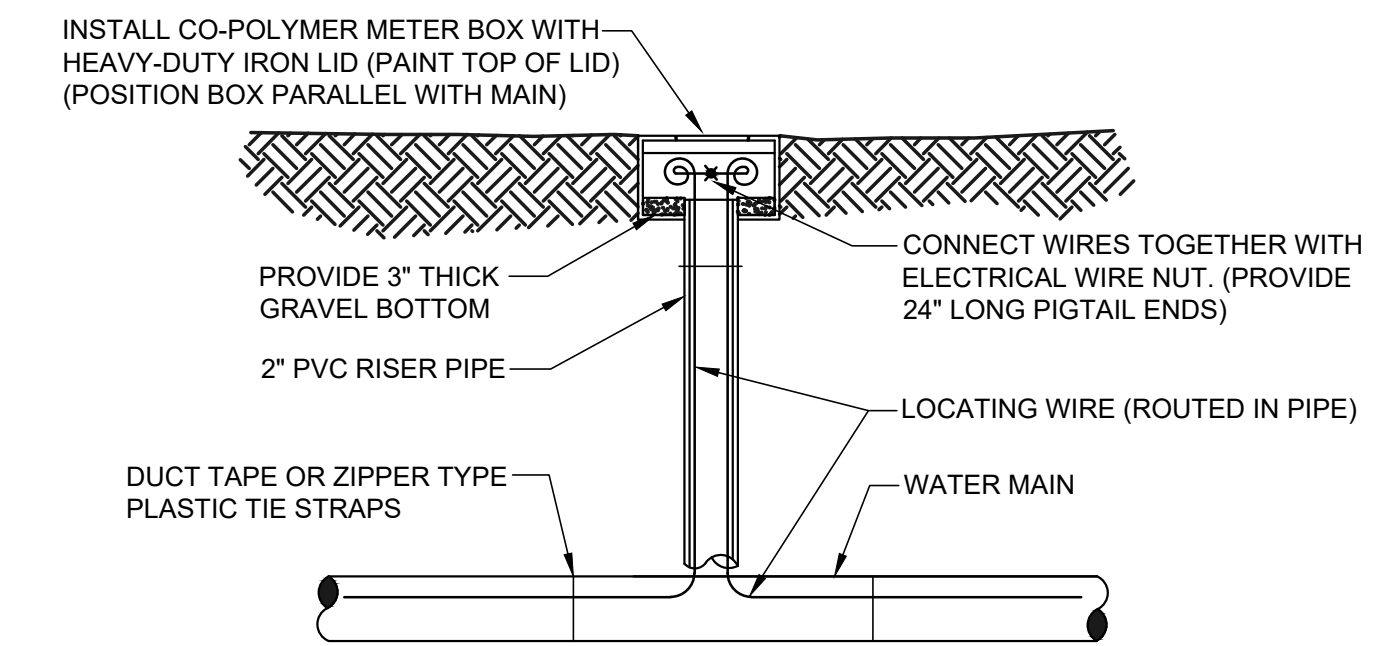
**NOTES:**

- NOTE THAT THE BRANCH WIRE IS NOT CONNECTED TO THE MAIN WIRE.
- LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE SECTION (SEE W-18).
- LOCATE WIRE SHALL HAVE 2' OF SLACK INSIDES VALVE AND LOCATE POINTS.

**LOCATE WIRE FOR BRANCH MAIN**  
JANUARY 2018 PLATE W-44A



**LOCATE WIRE BOX UTILIZING VALVE BOX**



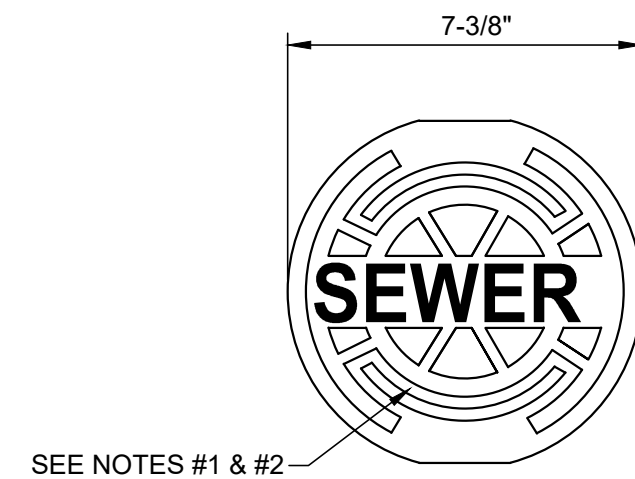
**LOCATE WIRE BOX UTILIZING METER BOX**

**NOTES:**

- LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE (SEE W-18).
- LOCATE WIRE SHALL HAVE 2' OF SLACK INSIDES VALVE AND LOCATE POINTS.

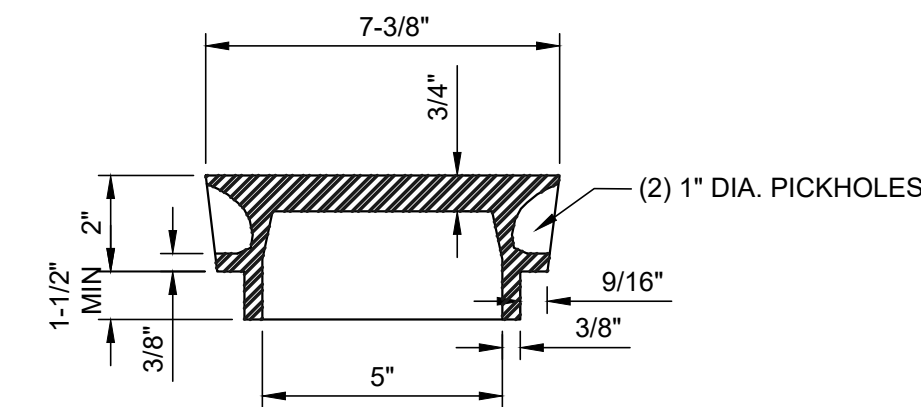
**LOCATE WIRE BOX**  
JANUARY 2018 PLATE W-44B

Title: Main For Date: Apr 18, 2023 11:53am Filename: LV\2017\17-0279\engineering\DWG\Production\FINA\C3.64\_WAL\_WAST\_LD\_17-0279\_p02.dwg



SEE NOTES #1 & #2

**HEAVY DUTY RATING**

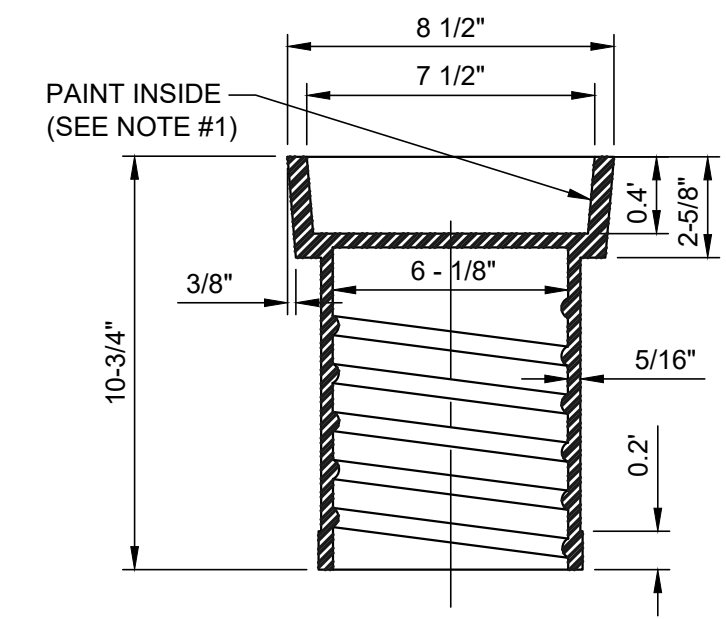


- NOTES:
1. PAINT TOP OF THE COVER WITH ENAMEL PAINT (GREEN COLOR).
  2. LID WEIGHT: APPROX. 12 LBS.

**SEWER SYSTEM VALVE BOX COVER**

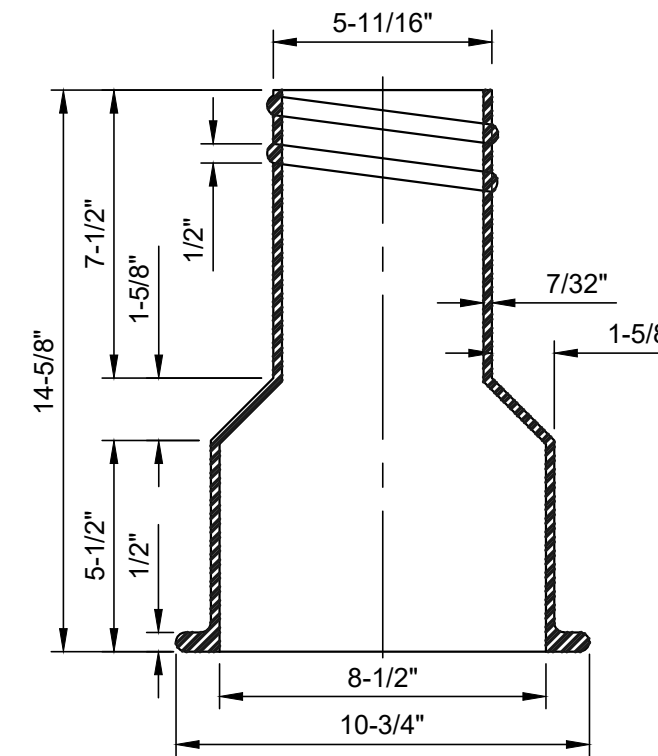
JANUARY 2018

PLATE S-31



**HEAVY DUTY RATING**

**TOP SECTION VIEW**  
(23 LBS. APPROX.)



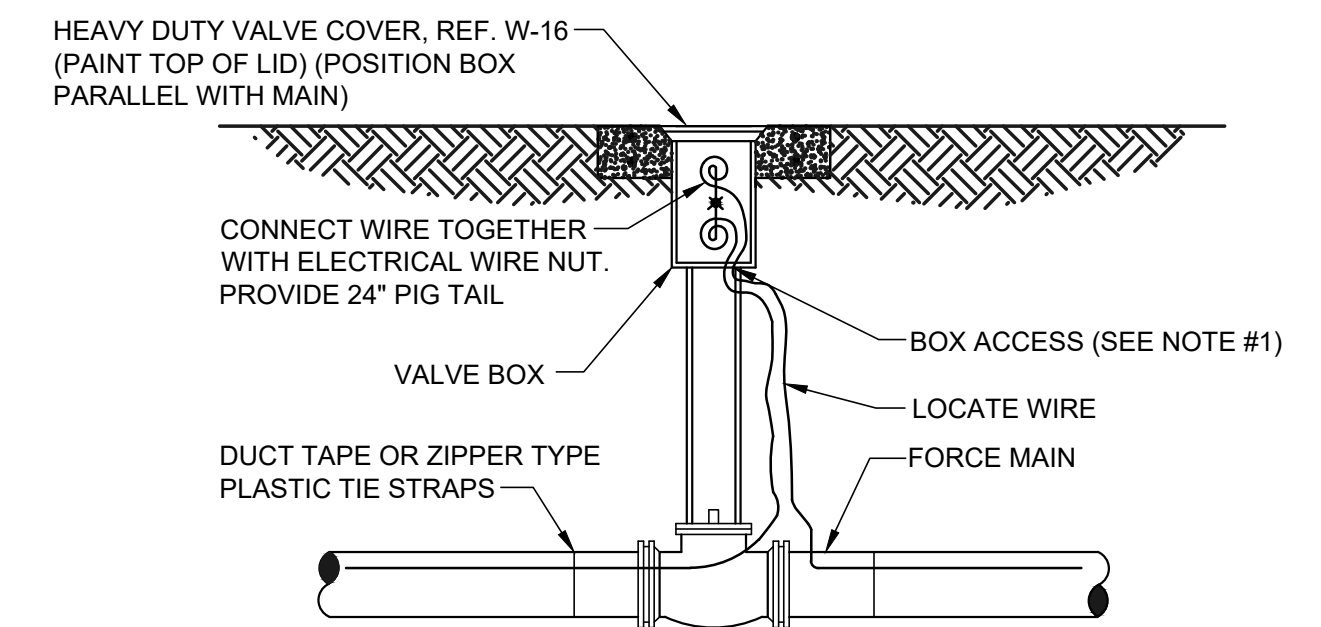
**BOTTOM SECTION VIEW**  
(26 LBS. APPROX.)

- NOTES:
1. PAINT THE INSIDE OF THE TOP SECTION OF THE BOX WITH GREEN COLOR.
  2. HEAVY DUTY RATING (TOTAL WEIGHT APPROX. 50 LBS.).
  3. REFERENCE SECTION 430, PARAGRAPH VI.2.

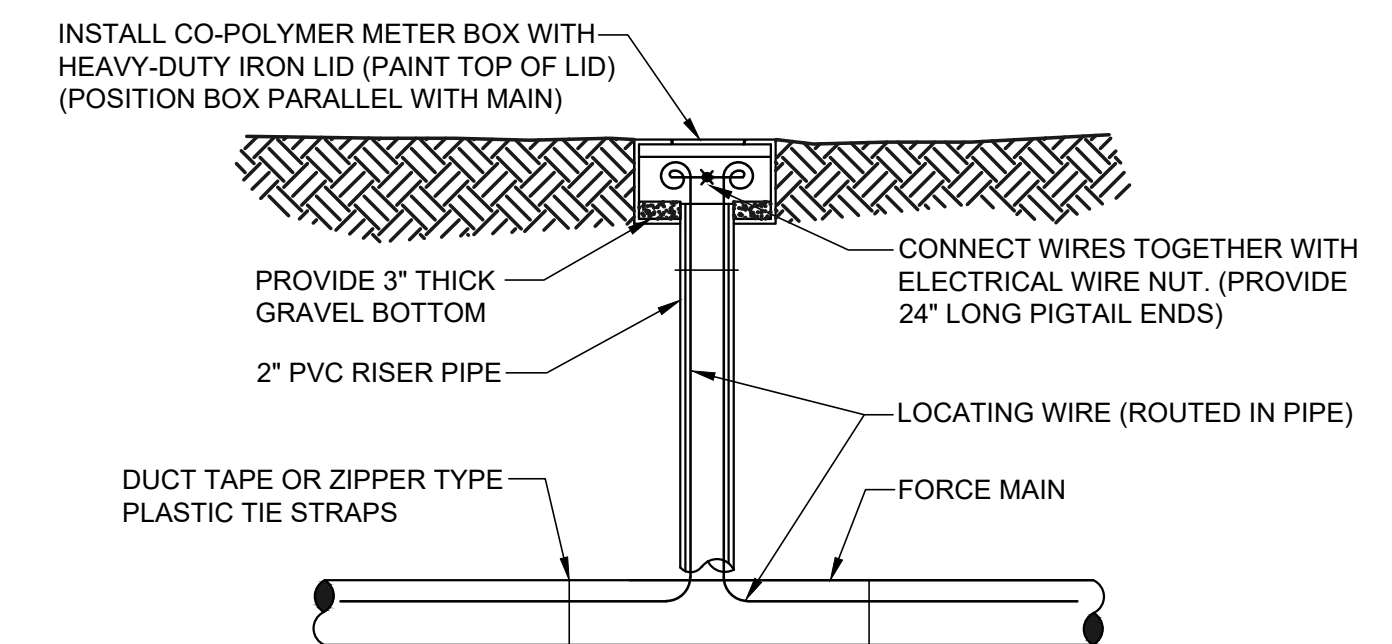
**SEWER SYSTEM VALVE BOX**

JANUARY 2018

PLATE S-32



**LOCATE WIRE BOX UTILIZING VALVE BOX**



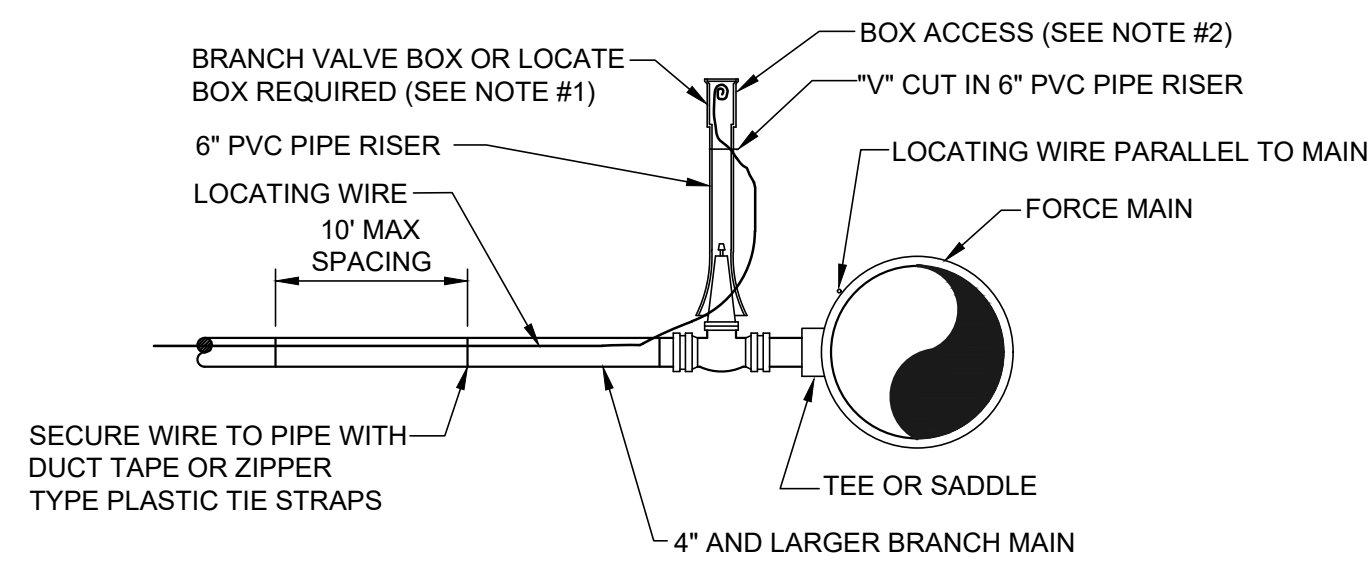
**LOCATE WIRE BOX UTILIZING METER BOX**

- NOTES:
1. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE (SEE S-30).
  2. LOCATE WIRE BOX SHALL BE INSTALLED OUTSIDE OF SIDEWALKS, DRIVEWAYS AND PAVEMENT.

**LOCATE WIRE BOX**

JANUARY 2018

PLATE S-49B



**BRANCH FORCE MAIN**  
(4" AND LARGER SEWER MAIN)

- NOTE:
1. NOTE THAT THE BRANCH WIRE IS NOT CONNECTED TO THE MAIN WIRE.
  2. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE SECTION (SEE S-30).
  3. LOCATE WIRE BOX SHALL BE INSTALLED OUTSIDE OF SIDEWALKS, DRIVEWAYS AND PAVEMENT.
  4. "Ⓞ" INDICATES A WIRE PIG-TAIL (24" LONG)

**LOCATE WIRE FOR BRANCH MAIN**

JANUARY 2018

PLATE S-49A

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CA-5075

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SCALE

CONSTRUCTION REVISIONS

DATE: 1/17/23  
BY: 5/26/23 - SECOND SUBMITTAL

CLIENT: DAVIS & SONS

PROJECT: MILLS CREEK PRESERVE PHASE 2

SHEET TITLE: WATER AND WASTEWATER DETAILS

PROJECT NUMBER: 17-0279.01

DESIGNER: MITCHELL G. MASON

PROJECT ENGINEER: MITCHELL G. MASON

QUALITY CONTROL: D. YOUNG

DATE: 1/17/23

STATE: FLORIDA

PROFESSIONAL ENGINEER LICENSE NO. 92335

THIS SHEET HAS BEEN DIGITALLY SIGNED AND SEALED BY MITCHELL G. MASON, P.E. ON THE DATE INDICATED HERE: 1/17/2023

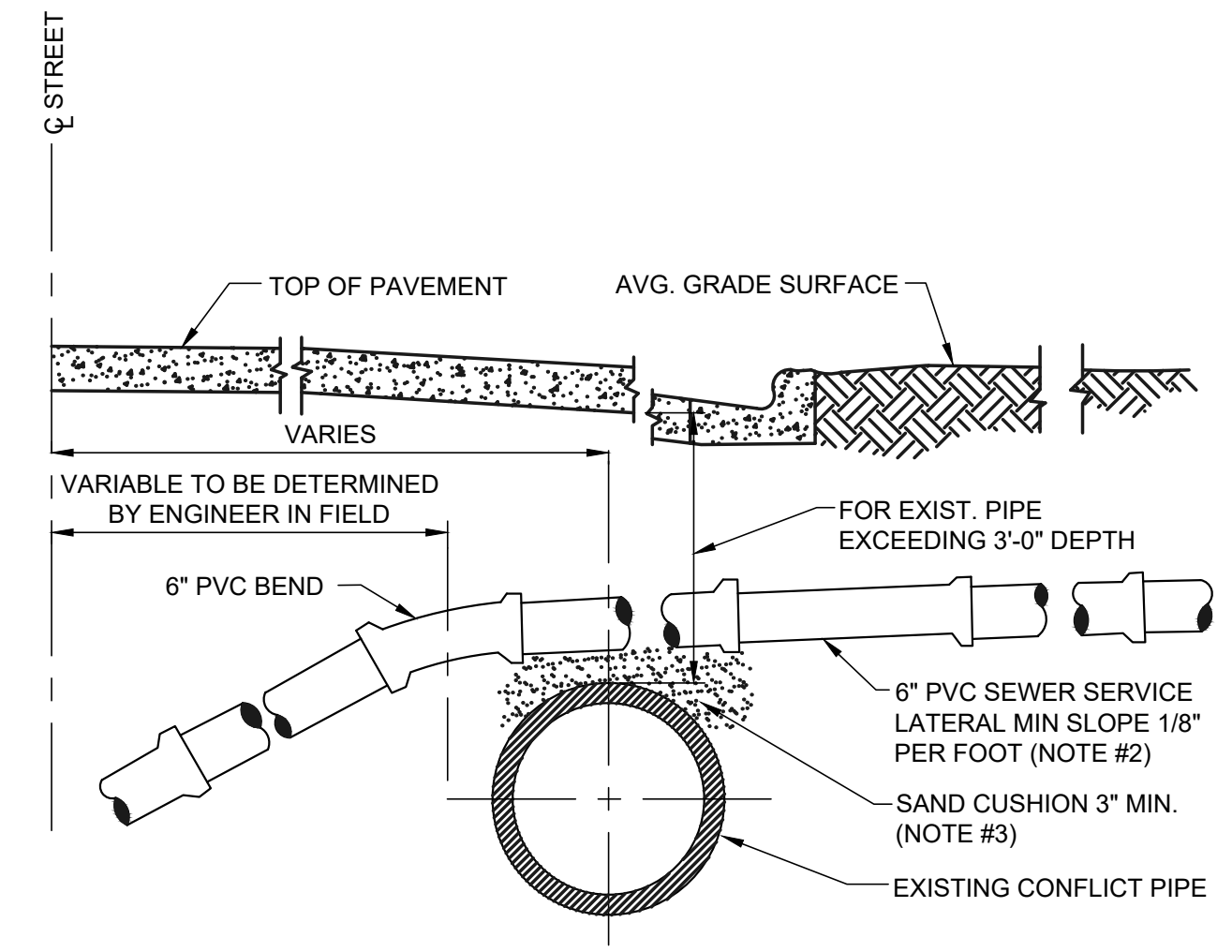
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SHEET NO.

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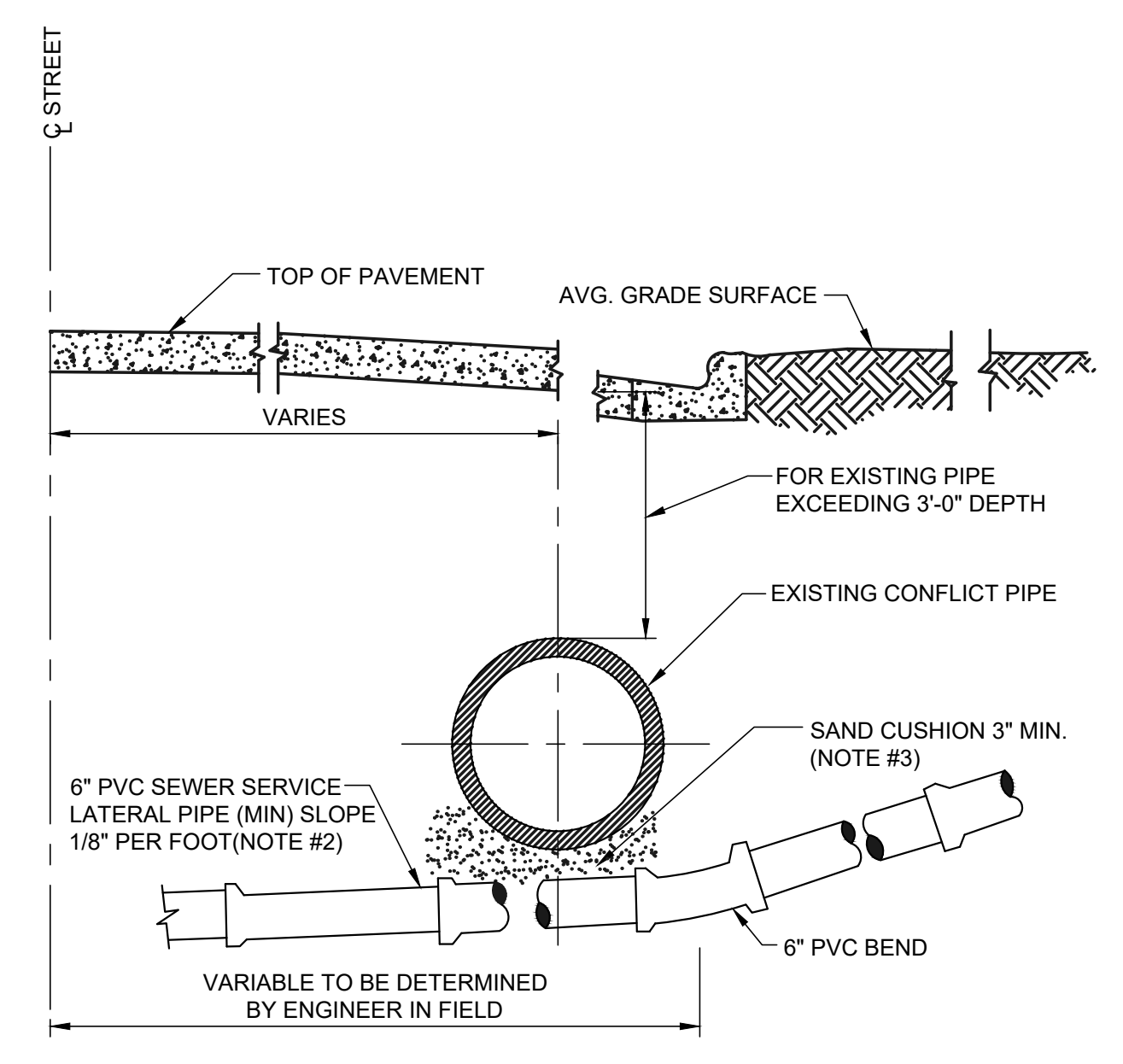
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- NOTES:**
1. ALTERNATE GRADIENT FOR 6 INCH LATERAL SEWERS AT CONFLICTS WITH EXISTING UTILITIES.
  2. FLATTER SLOPES MUST BE PRE-APPROVED BY JEA O&M MANAGER (ONLY) PRIOR TO CONSTRUCTION.
  3. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557.

### HOUSE LATERAL OVER CONFLICT PIPE

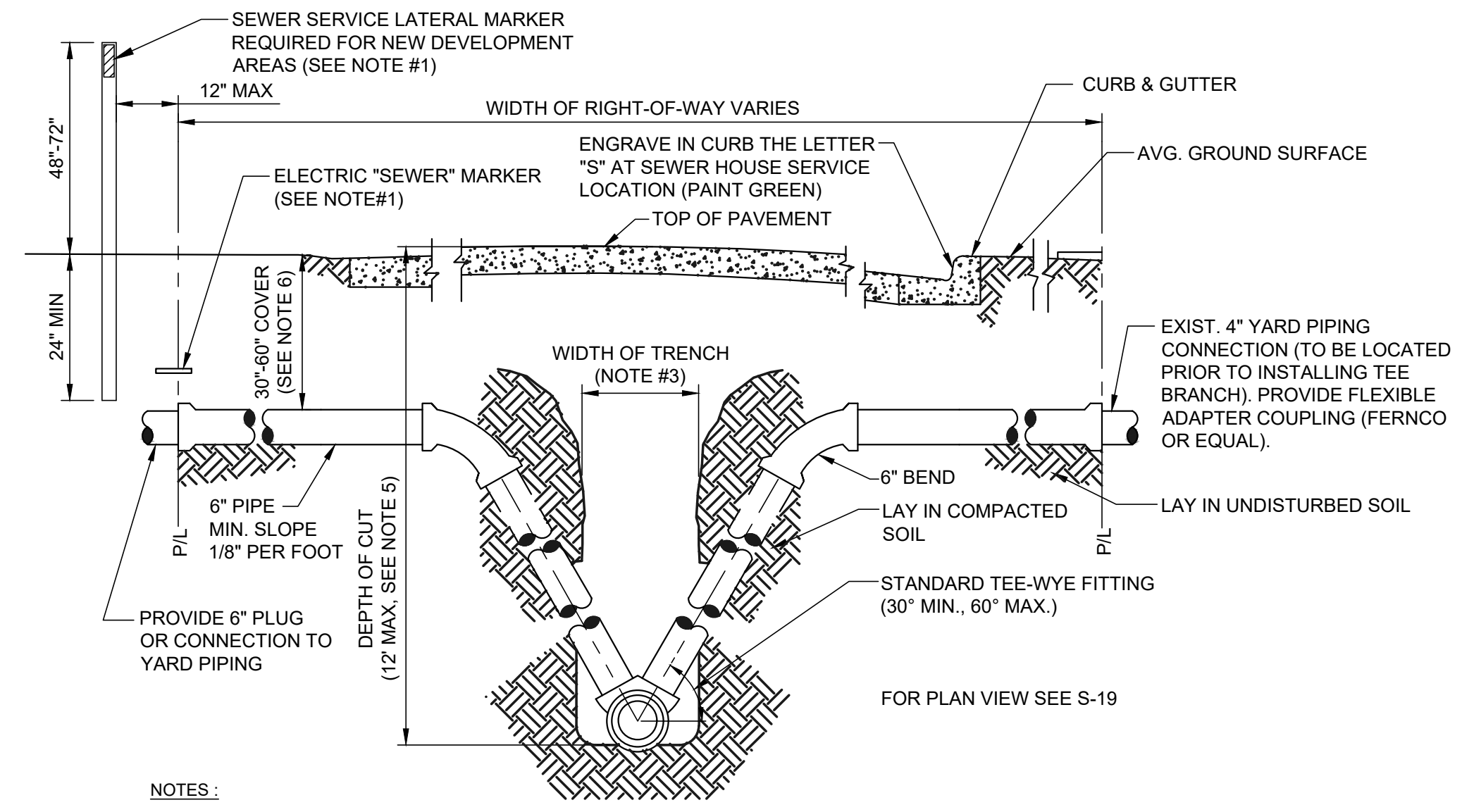
JANUARY 2018 PLATE S-23



- NOTES:**
1. ALTERNATE GRADIENT FOR 6 INCH LATERAL SEWERS AT CONFLICTS WITH EXISTING UTILITIES.
  2. FLATTER SLOPE MUST BE PRE-APPROVED BY JEA O&M MANAGER (ONLY) PRIOR TO CONSTRUCTION.
  3. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557.

### HOUSE LATERAL UNDER CONFLICT PIPE

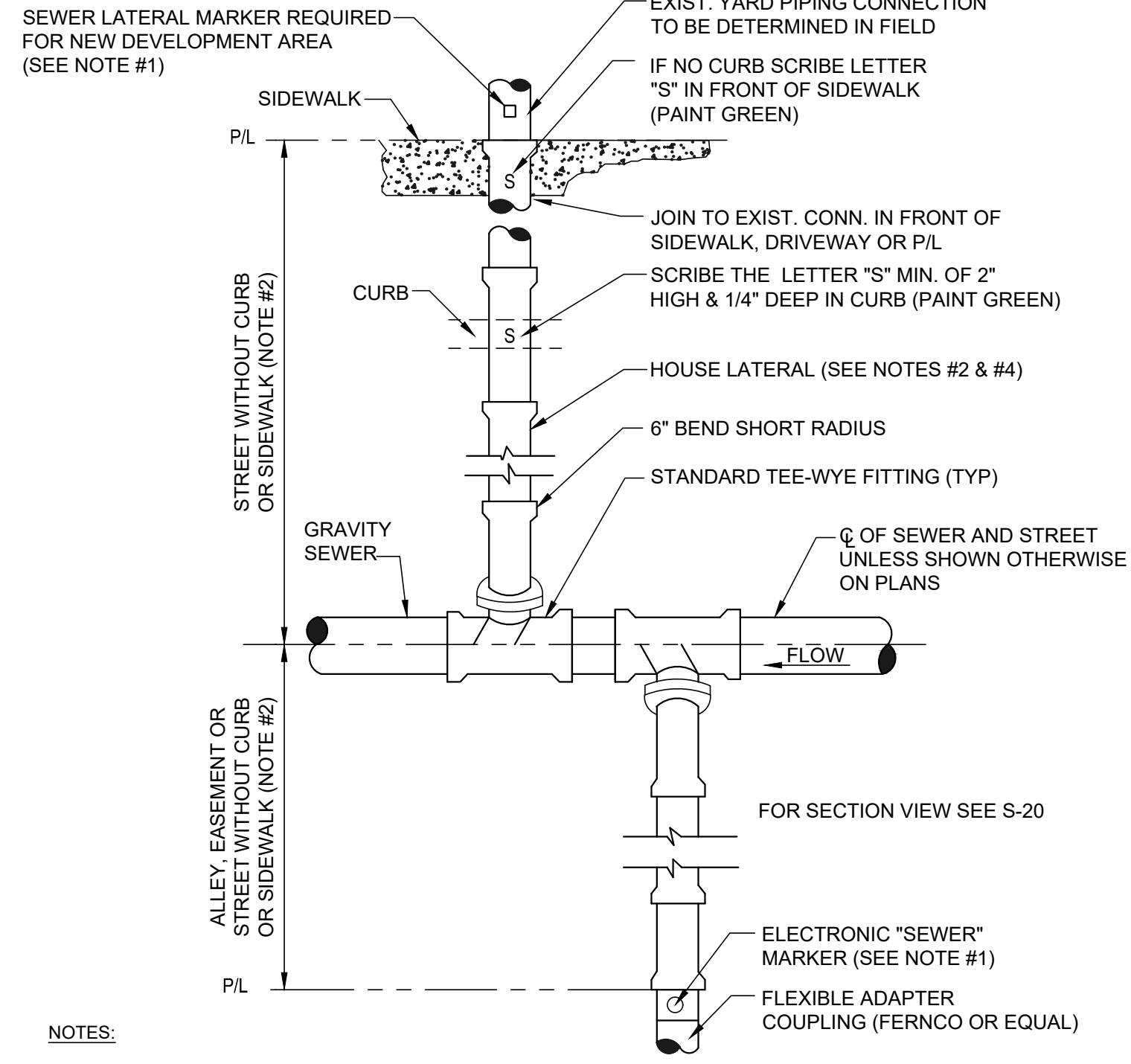
JANUARY 2018 PLATE S-24



- NOTES:**
1. TO MARK THE LOCATION OF THE 6" PLUG FOR NEW SERVICE: FOR PROJECTS WHERE NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER IS REQUIRED FOR ALL LATERALS WHICH ARE BEING INSTALL FOR FUTURE USE AT A MAX DEPTH OF 3' AT FINISH GRADE. FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED GREEN) SHALL BE INSTALLED. WHERE REQUIRED BY JEA OR NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER SHALL BE INSTALLED TO MARKER SHALL ALSO BE INSTALLED.
  2. THE MINIMUM SIZE OF ALL HOUSE LATERALS SHALL BE 6 INCHES. THE MAXIMUM LENGTH OF A HOUSE LATERAL SHALL BE 60 FEET (LENGTH BETWEEN SEWER MAIN OR MANHOLE TO CUSTOMERS PROPERTY LINE).
  3. SEE MEASUREMENT AND PAYMENT SECTION FOR MAXIMUM PAYMENT WIDTHS.
  4. ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTING) SHALL BE PVC SDR-26.
  5. UNLESS APPROVED OTHERWISE BY A JEA O&M MANAGER, NO GRAVITY SEWER MAIN WITH SEWER SERVICE LATERALS SHALL BE CONSTRUCTED WITH A "DEPTH OF CUT" GREATER THAN 12 FEET.
  6. SEWER SERVICE LATERALS ASSOCIATED WITH GRAVITY SEWER MAINS WHICH ARE DEEPER THAN 12 FEET, MUST BE ROUTED TO A GRAVITY SEWER HIGH-LINE, A MANHOLE OR OTHER JEA APPROVED METHOD.
  7. THE SEWER SERVICE LATERAL SHALL BE CONSTRUCTED AT A DEPTH TO ALLOW A GRAVITY CONNECTION BY THE CUSTOMER. WHERE POSSIBLE (CONTINGENT UPON MEETING THE CUSTOMER'S ON-SITE CONDITIONS AND LOCAL CONSTRUCTION STANDARDS), A LATERAL REQUIRING MORE THAN 60" OF COVER MUST BE APPROVED, PRIOR TO CONSTRUCTION, BY JEA.

### HOUSE LATERAL - SECTION VIEW

JANUARY 2018 PLATE S-20



- NOTES:**
1. TO MARK THE LOCATION OF THE 6" PLUG FOR NEW SERVICE: FOR PROJECTS WHERE NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER IS REQUIRED FOR ALL LATERALS WHICH ARE BEING INSTALL FOR FUTURE USE AT A MAX DEPTH OF 3' AT FINISH GRADE. FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED GREEN) SHALL BE INSTALLED. WHERE REQUIRED BY JEA OR NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER SHALL BE INSTALLED TO MARKER SHALL ALSO BE INSTALLED.
  2. THE MINIMUM SIZE OF ALL HOUSE LATERALS SHALL BE 6 INCHES. THE MAXIMUM LENGTH OF A HOUSE LATERAL SHALL BE 60 FEET (LENGTH BETWEEN SEWER MAIN OR MANHOLE TO CUSTOMERS PROPERTY LINE).
  3. NO SEWER SERVICE CONNECTIONS PERMITTED ON GRAVITY SEWER PIPE WHICH ARE 16" AND LARGER.
  4. ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTING) SHALL BE PVC SDR-26.

### HOUSE LATERAL - PLAN VIEW

JANUARY 2018 PLATE S-19

Title: Sewer Plan Date: Apr 18, 2023 11:53am Filename: L:\2017\17-0279\Engineering\DWG\Production\Plan\3.66\_WAL\_WAST\_ID\_17-0279\_p02.dwg

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est. 1988 FLORIDA  
CA-5075

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Professional Consultants

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CONSTRUCTION REVISIONS

DATE: 5/17/23 - FIRST SUBMITTAL  
5/26/23 - SECOND SUBMITTAL

CLIENT: DAVIS & SONS  
PROJECT: MILLS CREEK PRESERVE PHASE 2

DESIGNER: K. MERRITT  
PROJECT ENGINEER: M. MASON  
QUALITY CONTROL: D. YOUNG  
PROJECT NUMBER: 17-0279.01

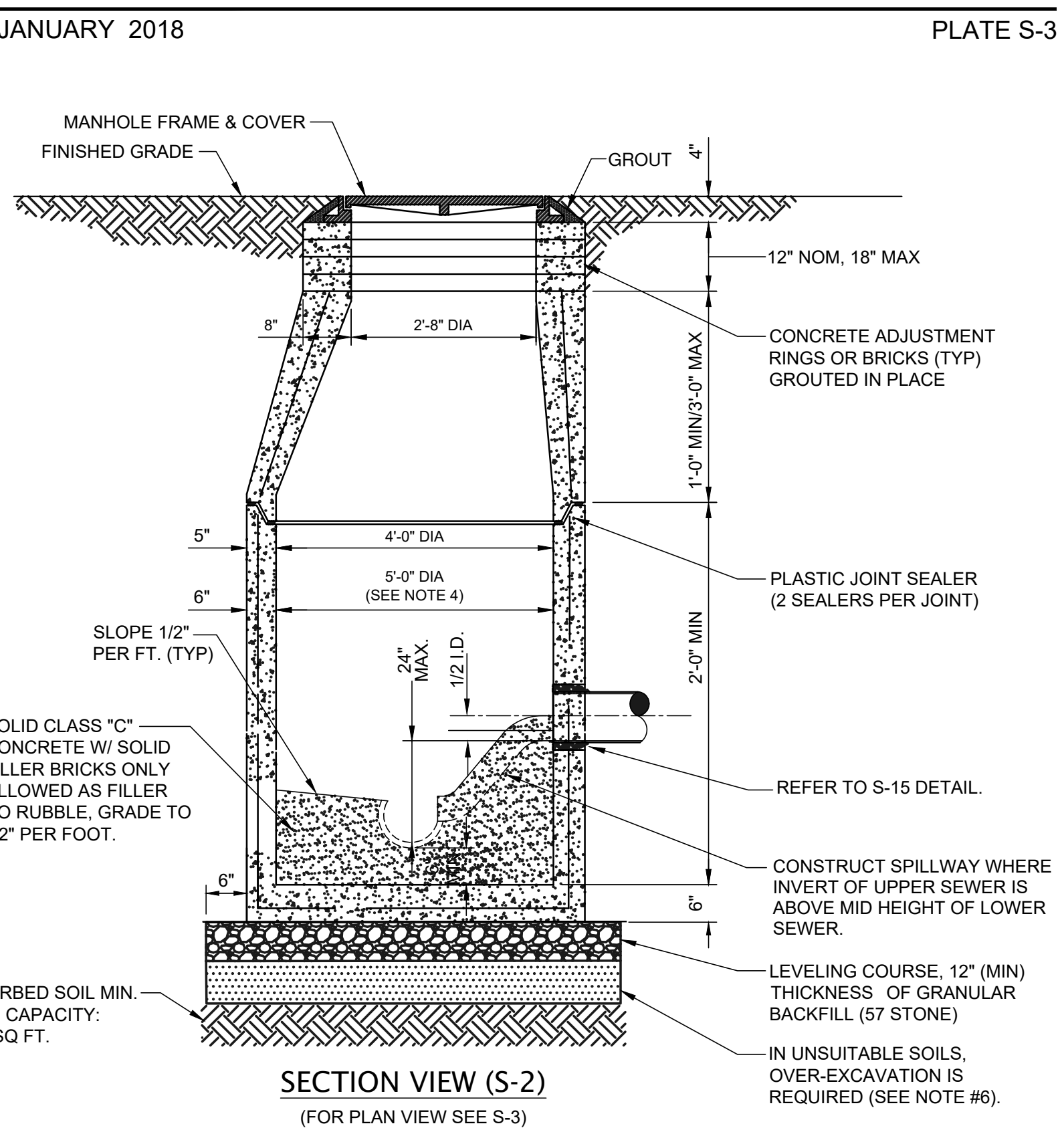
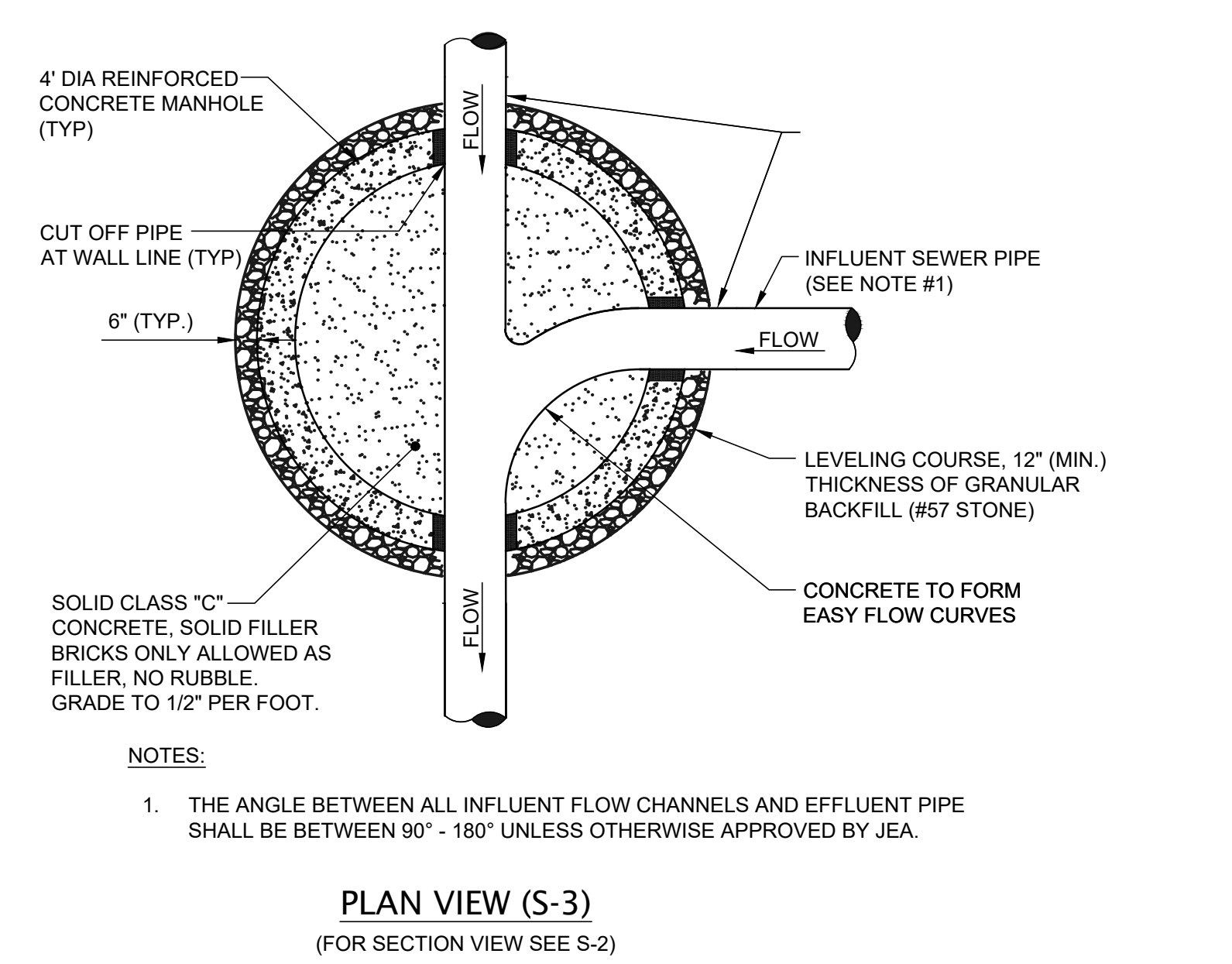
MITCHELL G. MASON  
Michael G. Mason, P.E.  
State of Florida, Professional Engineer, License No. 92335  
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1/17/23 - FIRST SUBMITTAL  
5/26/23 - SECOND SUBMITTAL  
DAVIS & SONS  
MILLS CREEK PRESERVE PHASE 2  
WATER MAIN  
WASTEWATER  
DETAILS  
17-0279-01  
C3.67

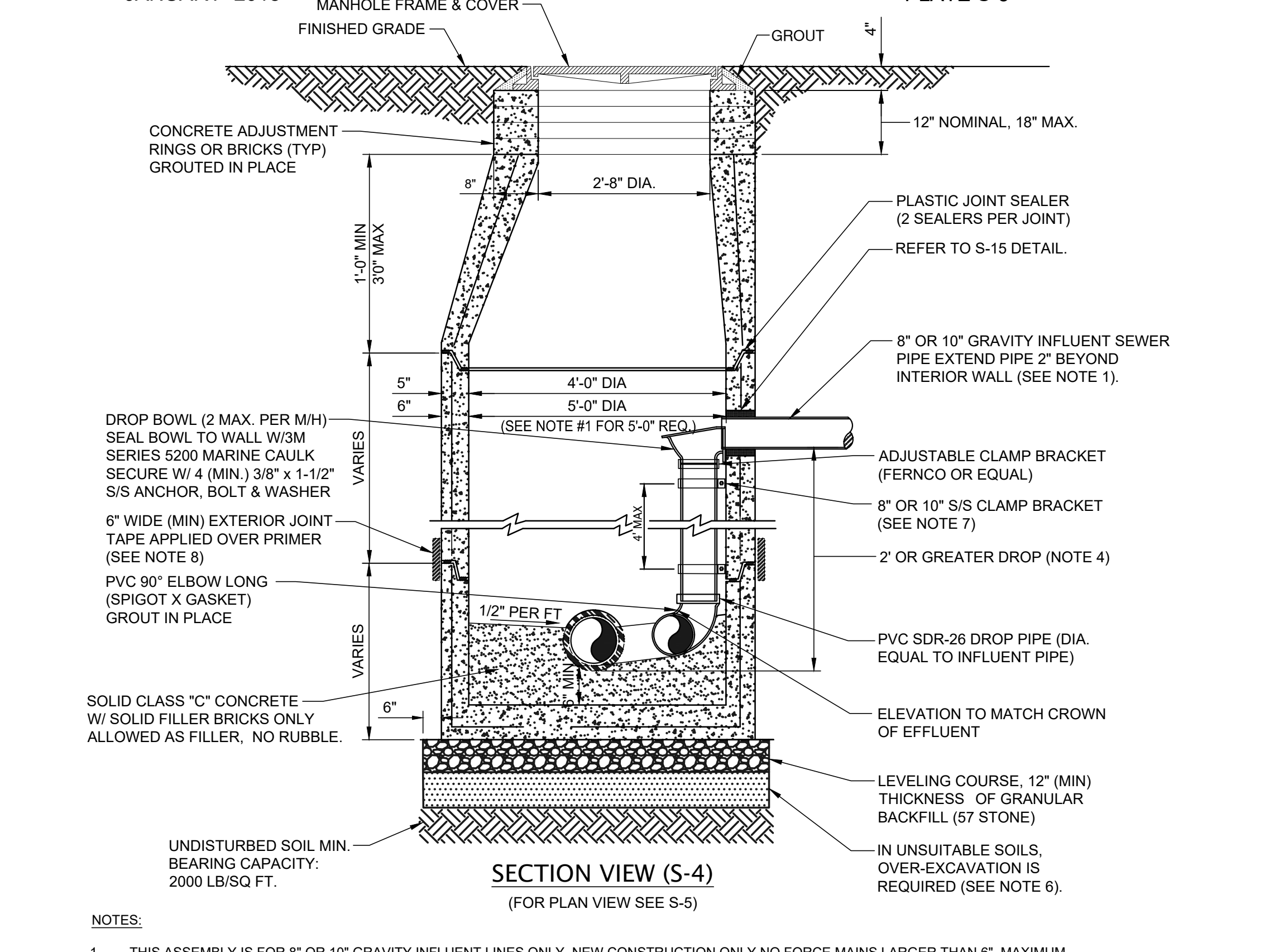
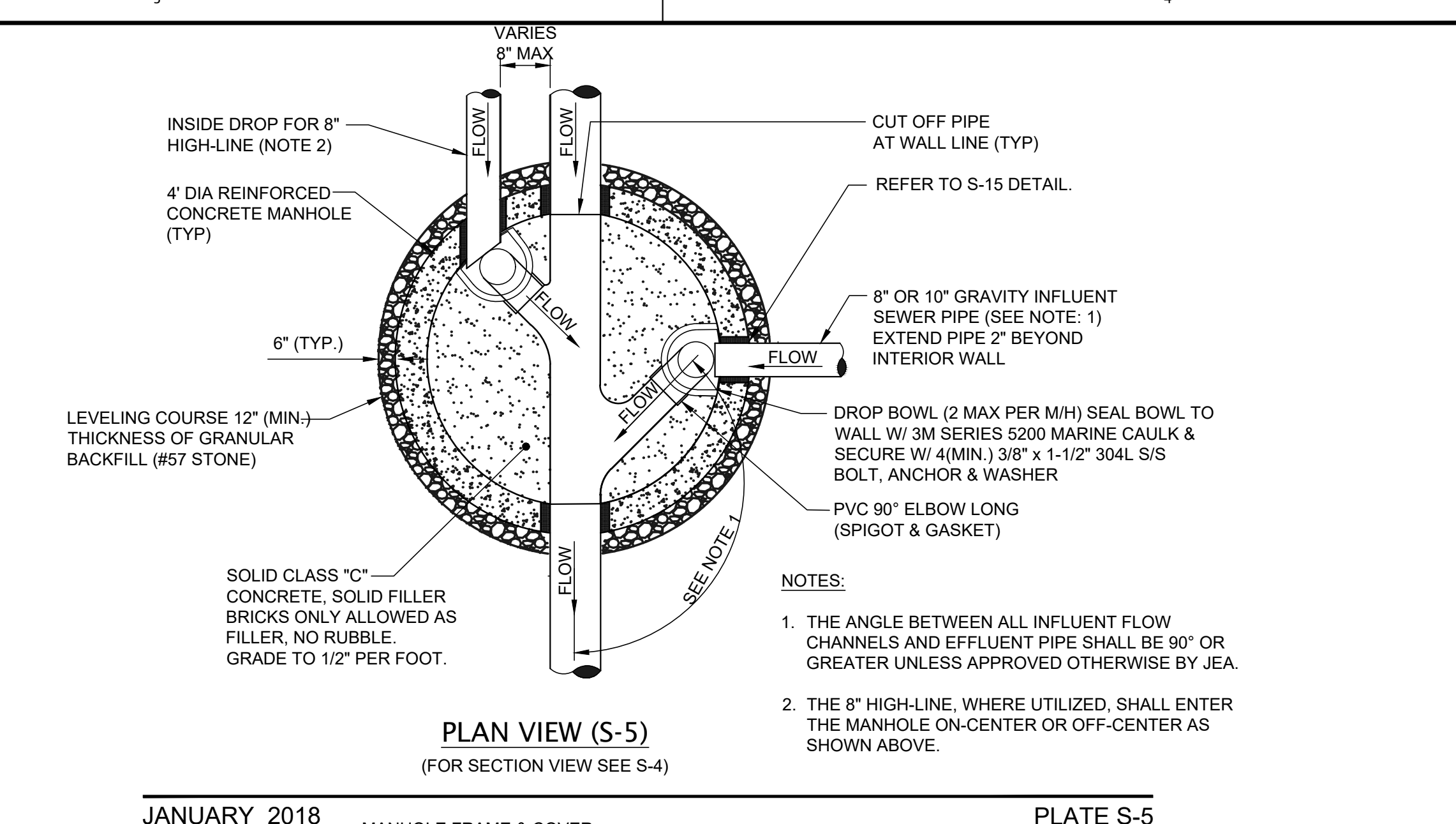


**NOTES:**

- PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
- THE INTERIOR AND EXTERIOR OF MANHOLE AND ADJUSTING RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
- IF SPECIALTY LINER IS TO BE INSTALLED ON INSIDE SURFACE OF MANHOLE, THE BITUMINOUS WATERPROOFING MATERIAL SHALL BE OMITTED ON THE INSIDE.
- JUNCTION MANHOLE (CLOSEST TO WETWELL) SHALL BE 5' DIA WITH SPECIALTY LINER.
- ALL MANHOLE JOINTS BELOW THE TOP COVER SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (WITH PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL. SEE PLATE S-17.
- IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (#57 STONE).

**SANITARY SEWER TYPE "A" MANHOLE**  
8"-21" SEWERS

JANUARY 2018  
PLATE S-3



**NOTES:**

- THIS ASSEMBLY IS FOR 8" OR 10" GRAVITY INFLUENT LINES ONLY. NEW CONSTRUCTION ONLY NO FORCE MAINS LARGER THAN 6". MAXIMUM OF 2 INSIDE DROP BOWLS PER MANHOLE. A 5'-0" DIA. MANHOLE (6" THICK WALLS) IS REQUIRED IF TWO INSIDE DROPS ARE CONSTRUCTED WITH ONE OR BOTH BEING 10" SIZE. DROP BOWL BY RELINER OR APPROVED EQUAL REQUIRED. THE INSIDE DROP FOR AN 8" HIGH-LINE SHALL BE CONSTRUCTED SIMILAR TO ABOVE (SEE PLATE S-5).
- PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
- THE INTERIOR AND EXTERIOR OF MANHOLE AND THE INTERIOR OF ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
- TYPE "B" MANHOLE MUST BE USED FOR 2' OR GREATER INFLUENT PIPE DROPS.
- THE DROP BOWL ASSEMBLY SHALL BE INSTALLED PRIOR TO APPLICATION OF SPECIALTY LINING MATERIAL.
- A TYPE "D" MANHOLE SHALL BE UTILIZED WHEN THREE OR MORE (2' OR GREATER) DROPS ARE INVOLVED OR WHEN INFLUENT PIPES AREA LARGER THAN 10" IN SIZE.
- ADJUSTABLE CLAMPING BRACKET (MIN. 2 PER DROP BOWL ASSY), 1-1/2" WIDE, 11 GA. W/ 3/8" DIA. 18-8 PINCH BOLTS AND NUTS. SECURE TO MH WALL WITH (2) 3/8" x 1" BOLT, ANCHOR & WASHER PER BRACKET ASSY. ALL 304 OR 316 STAINLESS STEEL MATERIALS.
- ALL M/H JOINTS BELOW THE TOP CONE SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (WITH PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL.
- IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH GRANULAR BACKFILL (#57 STONE).

**SANITARY SEWER TYPE "B" MANHOLE**  
8"-10" SEWERS

JANUARY 2018  
PLATES S-4, S-5

8455 Merchants Way, Ste. 102  
Jacksonville, Florida 32222  
(904) 619-6521  
www.chw-inc.com  
est. 1988 FLORIDA CA-3075

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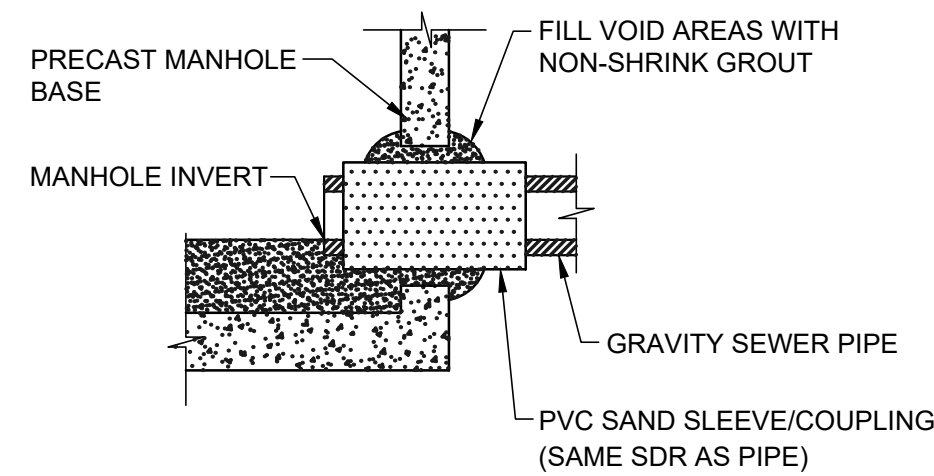
CONSTRUCTION TECHNOLOGIES

1/17/23 - FIRST SUBMITTAL  
5/26/23 - SECOND SUBMITTAL

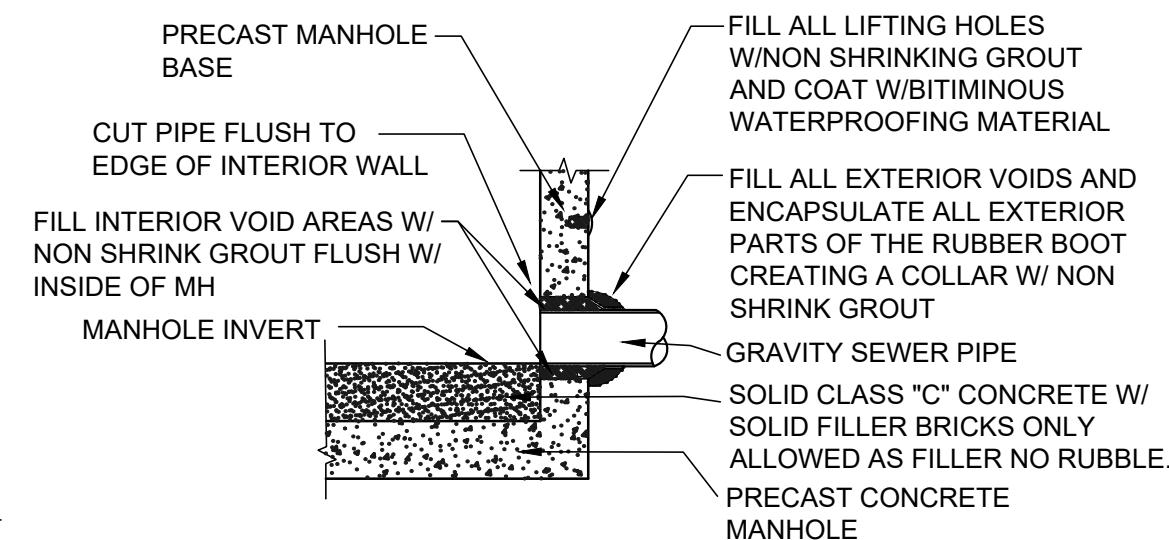
DAVIS & SONS  
MILLS CREEK PRESERVE PHASE 2  
WATER MAIN  
WASTEWATER  
DETAILS  
17-0279-01

MICHAEL G. MASON, P.E.  
State of Florida, Professional Engineer, License No. 92335  
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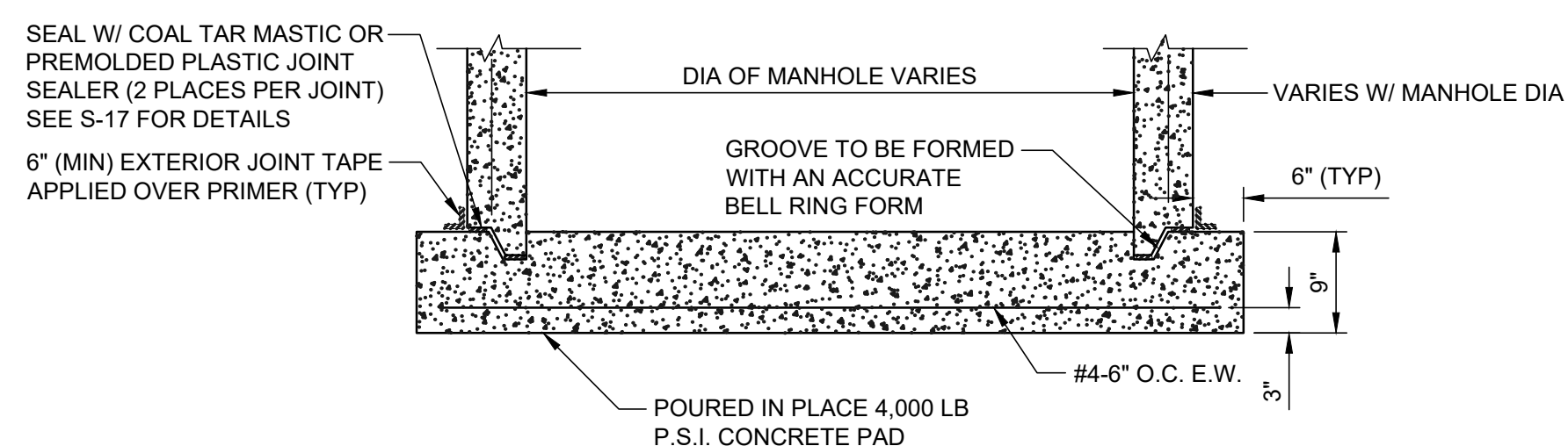


**PVC SAND SLEEVE**  
(FOR EXISTING AND NEW M/H CONSTRUCTION)



**NOTES:**  
RUBBER BOOT, DOUBLE BANDED, 316 S/S CLAMPS, MEETING THE ASTM C923 STANDARD. Kor-N-Seal® I EX SERIES CONNECTOR WITH DOUBLE STAINLESS STEEL BANDS OR EQUAL

**RUBBER BOOT**  
(FOR NEW M/H CONSTRUCTION ONLY, MAXIMUM DEPTH 15FT)

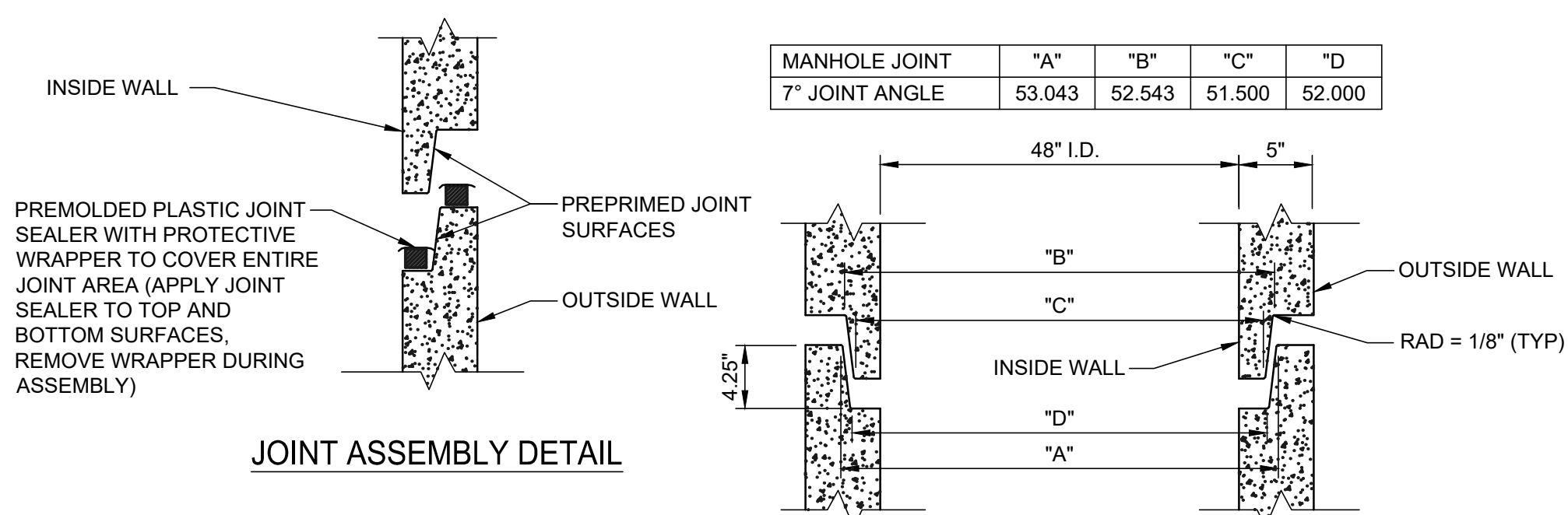


**NOTES:**  
THE USE OF THE POURED IN PLACE MANHOLE BOTTOM SHALL BE MINIMIZED AND SHALL BE SPECIFICALLY APPROVED BY JEA PRIOR TO CONSTRUCTION.

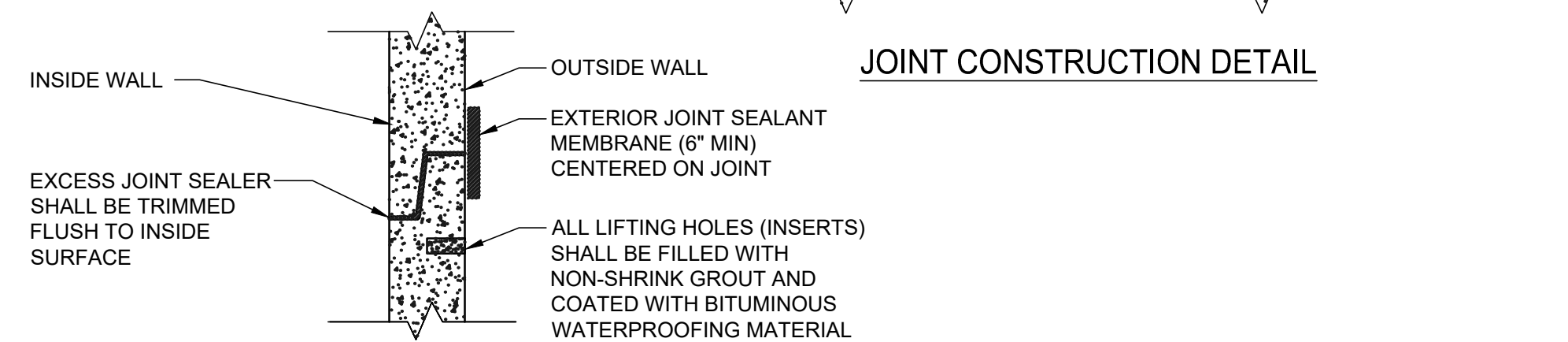
**MANHOLE BOTTOM**

**MANHOLE PIPE CONNECTION DETAIL**

JANUARY 2018 PLATE S-15



**JOINT ASSEMBLY DETAIL**



**JOINT CONSTRUCTION DETAIL**

**COMPLETED JOINT DETAIL**

**PRECAST SEWER MANHOLE JOINT DETAIL**

JANUARY 2018 PLATE S-17

Title: Nullm For Date: Apr 18, 2023 11:53am Filename: LV\2017\17-0279\engineering\DWG\Production\Plan\C3.68\_WAL\_WAST\_DET\_17-0279.plt.dwg

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(904) 619-8521  
www.chw-inc.com  
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CA-5075

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CONSTRUCTION REVISIONS

DATE: 1/17/23 - FIRST SUBMITTAL  
5/26/23 - SECOND SUBMITTAL

CLIENT: DAVIS & SONS  
PROJECT: MILLS CREEK PRESERVE PHASE 2  
SHEET TITLE: WATER MAIN WASTEWATER DETAILS

DESIGNER: K. MERRITT  
PROJECT ENGINEER: M. MASON  
QUALITY CONTROL: D. YOUNG  
PROJECT NUMBER: 17-0279.01

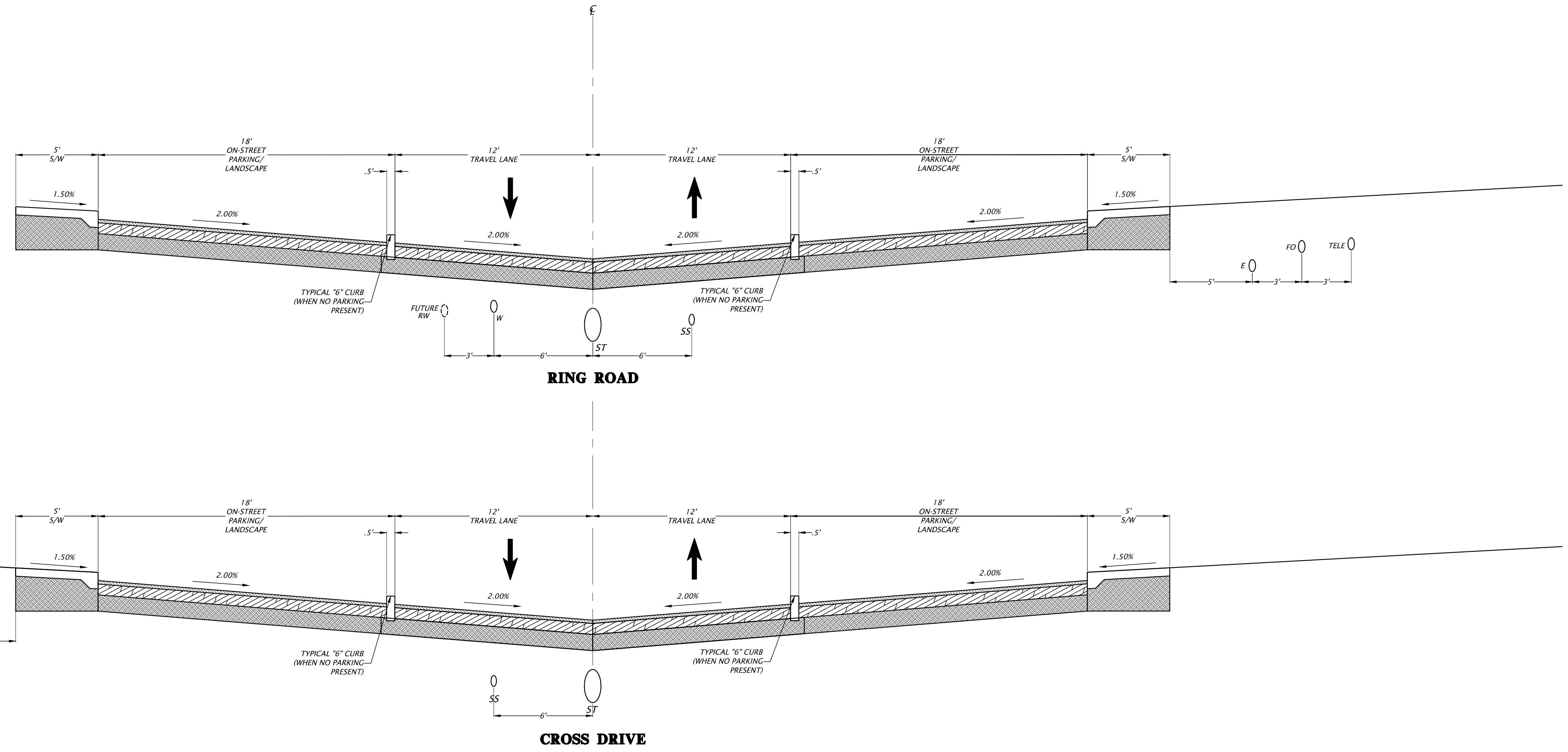
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State of Florida, Professional Engineer, License No. 92335  
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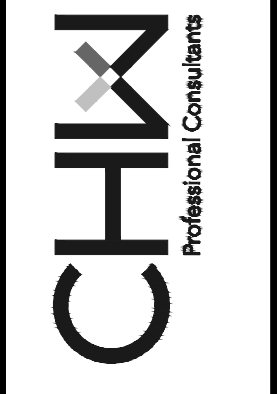
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 Jacksonville, Florida 32222  
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CONSTRUCTION REVISIONS

SUBMITTALS:  
 1/17/23 - FIRST SUBMITTAL  
 5/26/23 - SECOND SUBMITTAL

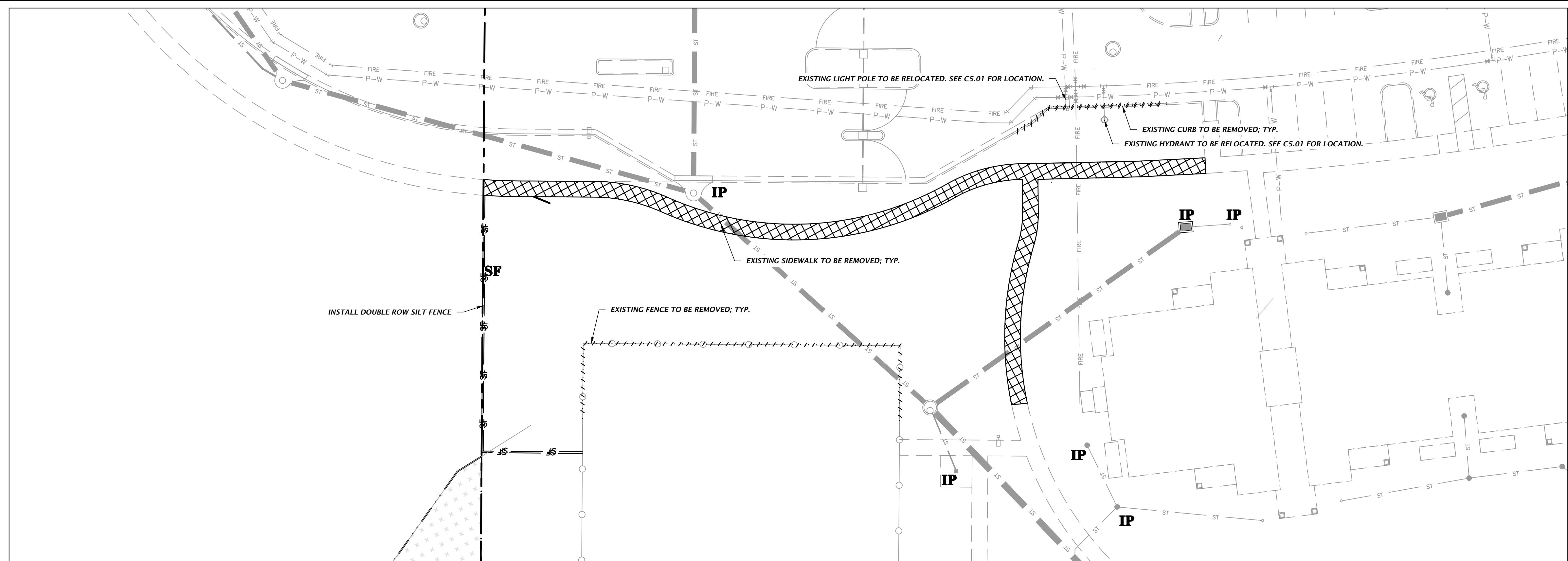
CLIENT: DAVIS & SONS  
 PROJECT: MILLS CREEK PRESERVE PHASE 2  
 SHEET TITLE: TYPICAL SECTIONS

DESIGNER:  
 PROJECT ENGINEER: K. MERRITT  
 M. MASON  
 QUALITY CONTROL: D. YOUNG  
 PROJECT NUMBER: 17-0279.01

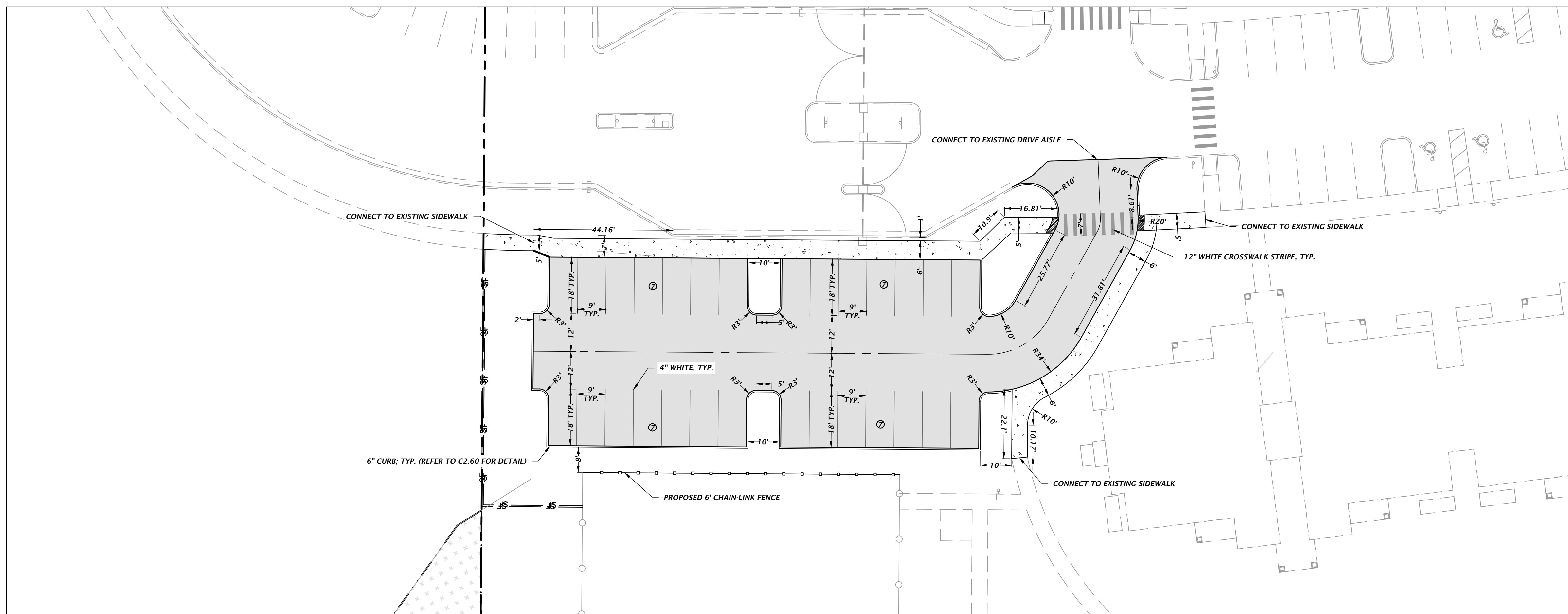
MITCHELL G. MASON  
 Mitchell G. Mason, P.E.  
 State of Florida, Professional Engineer, License No. 92335  
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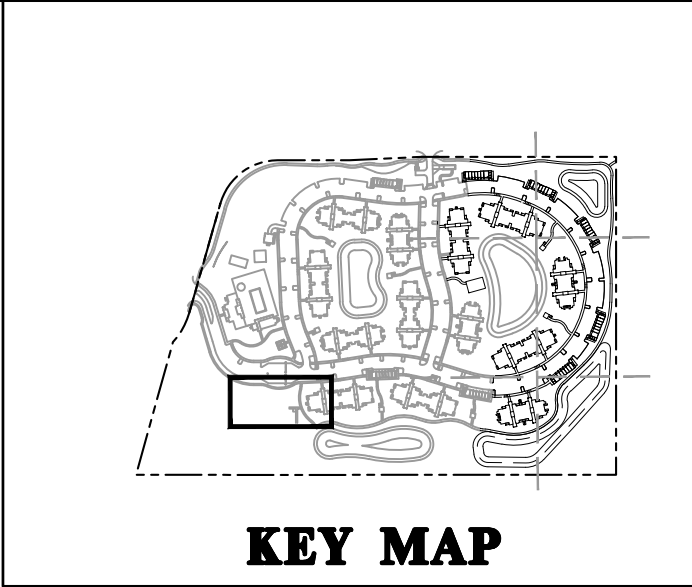
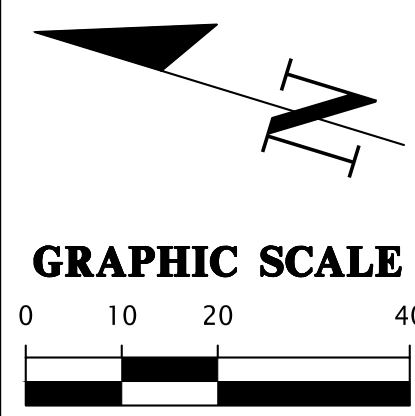




**EXISTING CONDITIONS, DEMOLITION AND STORMWATER POLLUTION PREVENTION PLAN**



**HORIZONTAL CONTROL AND SITE PLAN**



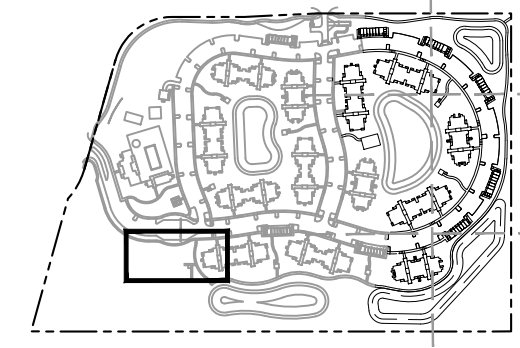
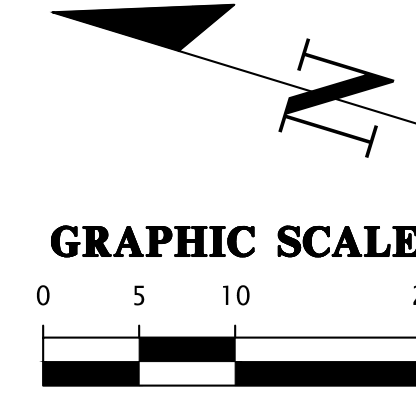
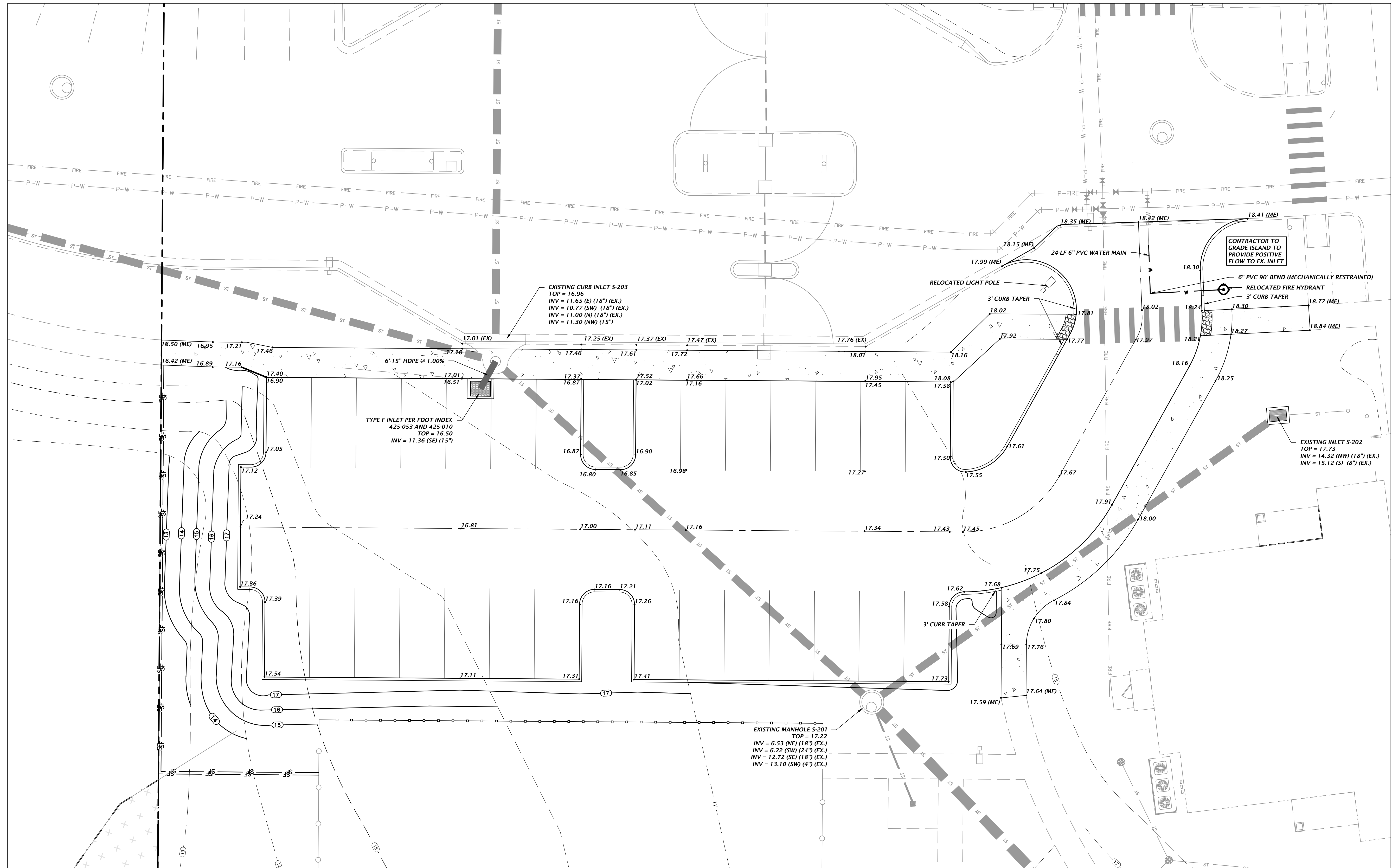
- LEGEND**
- PAVEMENT TO BE REMOVED
  - FEATURES TO BE REMOVED
  - PROPOSED CONCRETE PAVEMENT
  - PROPOSED ASPHALT PAVEMENT

- STORMWATER POLLUTION PREVENTION LEGEND**
- SF** DOUBLE ROW SILT BARRIER
  - IP** INLET PROTECTION

NOTE: CONTRACTOR TO SOD STABILIZE ALL DISTURBED AREAS BY COMPLETION OF CONSTRUCTION AND RESTORE TO EXISTING OR BETTER CONDITION

Title: gwpw For Date: Oct 23, 2023 4:03pm Filename: L:\2017\17-0279\Engineering\DWG\Production\Plan\C5.00\_P11\_17-0279.dwg

<p><b>CHW</b> Professional Consultants</p>	<p>8465 Merchants Way, Ste. 102 Jacksonville, Florida 32222 www.chw-inc.com 904.619.8521</p> <p>est. 1988 FLORIDA CA-3075</p>
<p>SCALE: 1"=20' VERIFY ALL DIMENSIONS BASED ON FIELD SURVEY ORIGINAL DRAWING IF ANY DIMENSIONS DO NOT MATCH THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<p>CONSTRUCTION REVISIONS</p>
<p>DATE: 5/17/23 - FIRST SUBMITTAL 5/26/23 - SECOND SUBMITTAL</p>	<p>CLIENT: DAVIS &amp; SONS PROJECT: MILLS CREEK PRESERVE PHASE 2 SHEET TITLE: PHASE 1 REVISIONS</p>
<p>DESIGNER: MITCHELL G. MASON PROJECT ENGINEER: K. MERRITT QUALITY CONTROL: M. MASON PROJECT NUMBER: 17-0279.01</p>	<p>MITCHELL G. MASON, P.E. State of Florida, Professional Engineer, License No. 92335 This item has been digitally signed and sealed by Mitchell G. Mason, P.E., on the date indicated here: 10/23/2023 Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.</p>
<p>FL PE No. 92335 SHEET NO. <b>C5.00</b></p>	



KEY MAP

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CONSTRUCTION REVISIONS

DATE: 5/17/23 - FIRST SUBMITTAL  
5/26/23 - SECOND SUBMITTAL

CLIENT: DAVIS & SONS  
PROJECT: MILLS CREEK PRESERVE PHASE 2  
SHEET TITLE: PHASE 1 REVISIONS

DESIGNER: K. MERRITT  
PROJECT ENGINEER: M. MASON  
QUALITY CONTROL: D. YOUNG  
PROJECT NUMBER: 17-0279.01

Mitchell G. Mason, P.E.  
State of Florida, Professional Engineer, License No. 92335  
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SHEET NO. C5.01

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