

SARASOTA COUNTY GOVERNMENT
CAPITAL MANAGEMENT SERVICES, UTILITIES
Plans for Construction

ENGLEWOOD WATER DISTRICT
INTERCONNECT

SARASOTA COUNTY -
ENGLEWOOD WATER DISTRICT

C.I.P. NO. 55948
BID NO. 11305CS



These plans prepared for:
Sarasota County
Capital Management Services, Utilities
1001 Sarasota Center Boulevard
Sarasota, FL 34240

CMS Executive Director: Jim Harriott Jr., P.E.
County Administrator: James Ley

County Commissioners:

District 1: Carolyn Mason
District 2: Joseph A. Barbetta
District 3: Christine Robinson
District 4: Nora Patterson
District 5: Jon Thaxton

CMS Operations General Manager: Roger Rasbury
Operations Manager - Utilities/
Environmental: Gregory S. Rouse, P.E.
Utilities Project Manager: John Saraniero, P.E.
Phone: 941-861-5000
Fax: 941-861-0589

BID SET

ENGINEERING CERTIFICATION

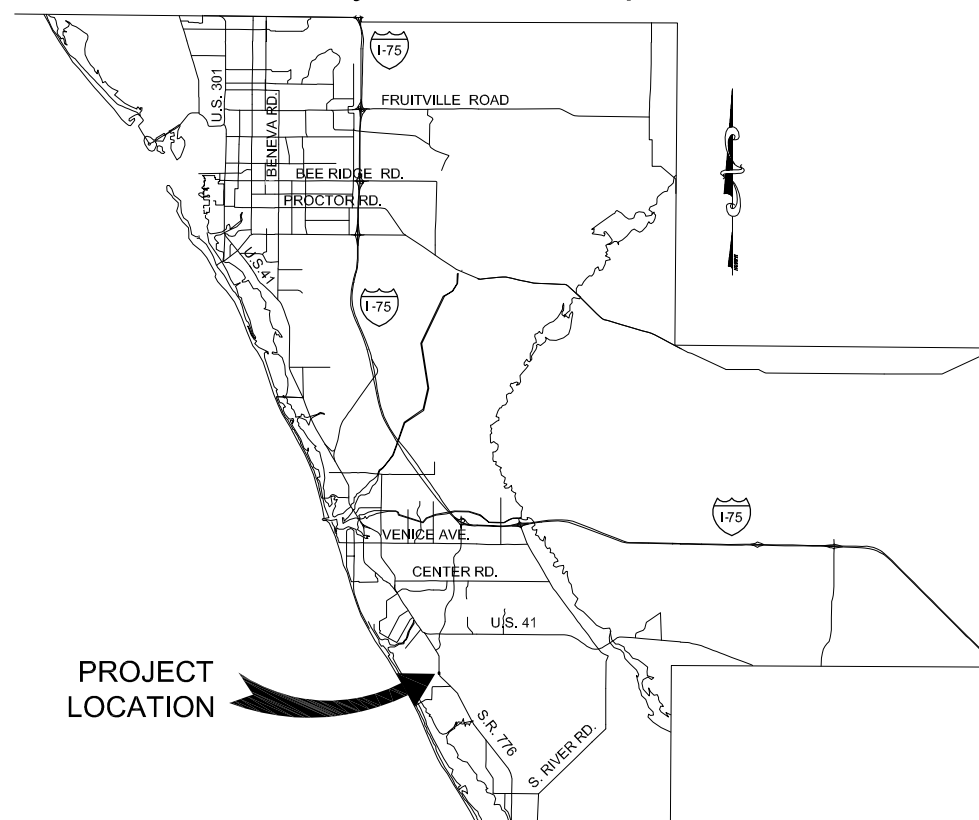
I HEREBY CERTIFY THAT THE DESIGN OF THIS PROJECT UNDER MY DIRECTION
COMPLIES WITH THE CURRENT MANUAL OF UNIFORM MINIMUM STANDARDS FOR
DESIGN, CONSTRUCTION, AND MAINTENANCE FOR STREETS AND HIGHWAYS AS
ADOPTED BY THE F.D.O.T. PURSUANT TO SUBSECTION 336.045 OF THE FLORIDA
STATUTES.

DATE

JONATHAN H. COLE, P.E. NO. 36384

SHEET NO. 01
PROJECT NO. 5988.00
AUGUST 17, 2010

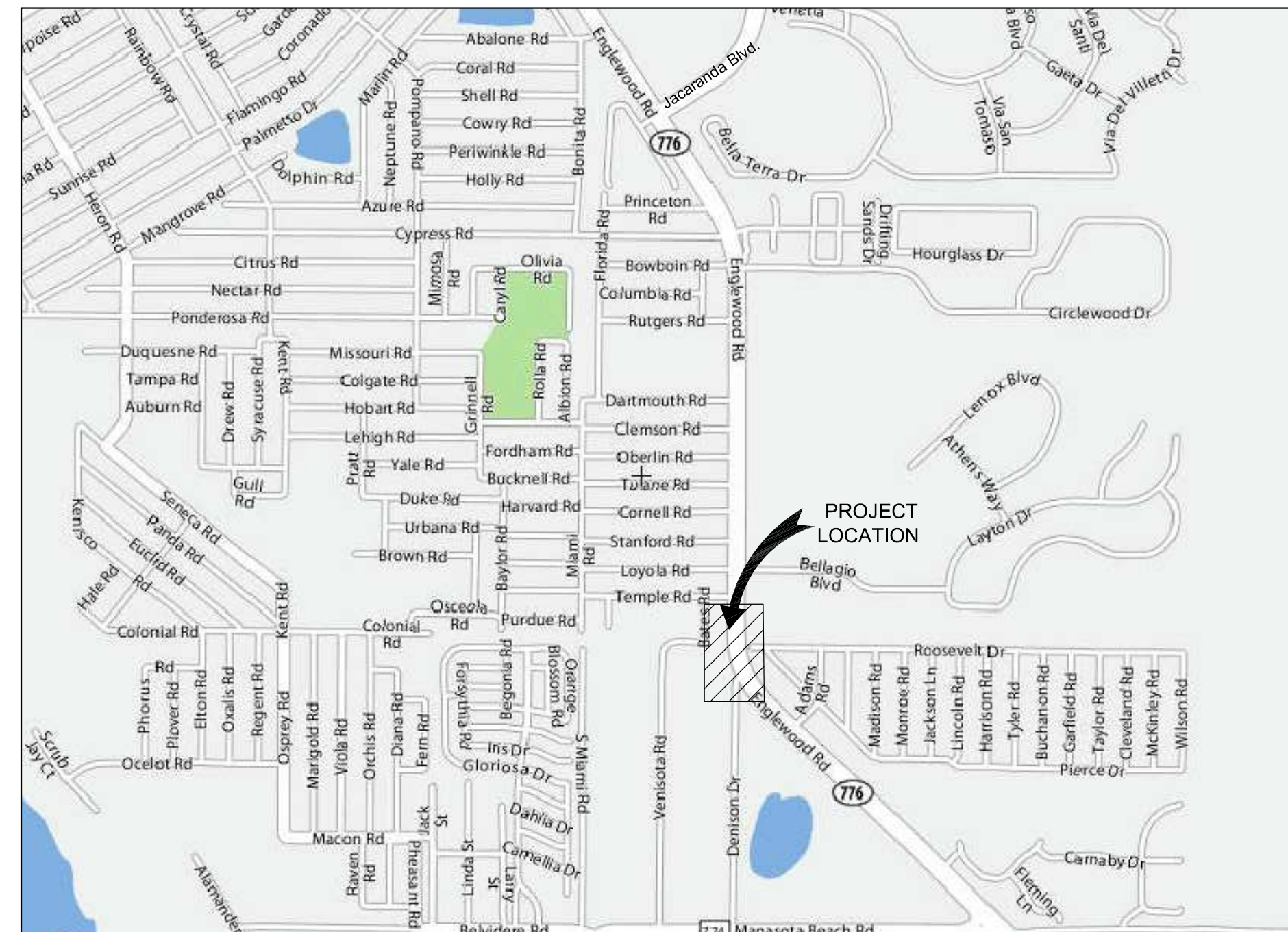
Sarasota County Location Map



SHEET INDEX

01	COVER
02	EXISTING CONDITIONS
03 - 04	PLAN & PROFILE SHEETS
05 - 07	DETAILS
MOT-1	MAINTENANCE OF TRAFFIC DETAILS

ATTENTION IS DIRECTED TO THE FACT THAT
THESE PLANS MAY HAVE BEEN REDUCED IN
SIZE BY REPRODUCTION. THIS MUST BE
CONSIDERED WHEN OBTAINING SCALED DATA.



PROJECT AREA

These plans prepared by:
Giffels-Webster Engineers, Inc.

900 Pine Street, Suite 225
Englewood, Florida 34223
941-475-7981

Certificate of Authorization No. 3607

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE FEDERAL, STATE, AND LOCAL AGENCY'S STANDARDS.
2. CALL SUNSHINE STATE ONE CALL FOR ALL UTILITY LOCATES 48 HOURS PRIOR TO CONSTRUCTION AT 1-800-432-4770.
3. ALL ELEVATIONS ARE BASED UPON MEAN SEA LEVEL, 1929 NVGD.
4. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS, BUT DOES NOT PURPORT TO BE ABSOLUTELY CORRECT. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.
5. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE NOTED.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY DAMAGED ITEMS INCLUDING, BUT NOT LIMITED TO, DRIVEWAYS, IRRIGATION SYSTEMS, MAILBOXES, SIDEWALKS, STREET SIGNS, AND PRIVATE FENCES AS REQUIRED BY E.O.R./OTHER GOVERNING ENTITIES WITHIN 10 DAYS.
7. THE CONTRACTOR SHALL USE EXTREME CARE NOT TO DAMAGE THE ROOT SYSTEMS OF TREES AND OTHER LANDSCAPE FEATURES WHICH ARE TO BE SAVED AND/OR SALVAGED FOR RESTORATION PURPOSES. NO EQUIPMENT, SUPPLIES OR VEHICLES SHALL BE STORED OR PARKED WITHIN THE DRIP LINE OF TREES TO REMAIN AND BE PRESERVED.
8. THE CONTRACTOR SHALL CLEAR THE SITE ONLY TO THE EXTENT NECESSARY TO CONSTRUCT THE REQUIRED IMPROVEMENTS. DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. AT HIS EXPENSE, IN A NORMAL AND EXPEDITIOUS MANNER, BUT IN NO CASE LONGER THAN 5 DAYS FROM REMOVAL.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS.
10. MAINTENANCE OF TRAFFIC SIGNS AND OTHER TRAFFIC CONTROL DEVICES SHALL BE PROVIDED BY THE CONTRACTOR DURING CONSTRUCTION AS REQUIRED BY THE F.D.O.T./S.D.O.T. ALL OPEN ROAD CUTS SHALL BE FILLED, COMPACTED AND COVERED WITH A TEMPORARY ASPHALT PATCH BEFORE DARK ON A DAILY BASIS DURING CONSTRUCTION. ALL OPEN CUTS SHALL BE RESTORED BY THE CONTRACTOR AS REQUIRED BY F.D.O.T., S.D.O.T. AND S.U.D.
11. THE CONTRACTOR SHALL PROVIDE ACCESS FOR TRAFFIC AT ALL TIMES DURING CONSTRUCTION. CONSTRUCTION SHALL BE CONDUCTED IN SUCH A MANNER THAT RESIDENTS RETAIN ACCESS TO THEIR DRIVEWAYS AT ALL TIMES.
12. THE INFORMATION PROVIDED IN THESE PLANS IS TO SOLELY ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS SHALL BE BASED.
13. THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THERE MAY BE SOME CONFLICTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, PROTECT, AND REPLACE (IF DAMAGED) ANY AND ALL EXISTING UTILITIES ON THIS PROJECT AT THEIR OWN EXPENSE.
14. DISRUPTIONS TO EXISTING RESIDENTIAL/COMMERCIAL WATER AND SEWER SERVICE SHALL BE KEPT TO A MINIMUM. ALL WATER SERVICE INTERRUPTIONS SHALL BE COORDINATED WITH CAPITAL MANAGEMENT SERVICES, UTILITIES IN ACCORDANCE WITH THE COUNTY'S PROCEDURES FOR SHUT DOWNS.
15. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT FPL/VERIZON FOR RESTRAINING OF POLES DURING CONSTRUCTION. ALL ASSOCIATED COSTS WILL BE AT CONTRACTORS EXPENSE.
16. DIRECTIONAL DRILL IS REQUIRED WHERE NOTED ON PLANS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
17. THE CONTRACTOR SHALL BE RESPONSIBLE TO IMPLEMENT APPROPRIATE EROSION CONTROL BEST MANAGEMENT PRACTICES, AS NECESSARY, TO PREVENT TURBID DISCHARGES FROM FLOWING ONTO ADJACENT PROPERTIES OR ROADWAYS.
18. CONTRACTOR TO ENSURE THAT HISTORIC STORM WATER FLOW PATTERNS ARE MAINTAINED.

BASED ON 3:1 SAFETY FACTOR

FITTING	4"	6"	8"	10"	12"
4"x 4" TEE (BRANCH)	48				
6"x 4" TEE (BRANCH)	46				
6"x 6" TEE (BRANCH)		68			
8"x 4" TEE (BRANCH)	44				
8"x 6" TEE (BRANCH)		65			
8"x 8" TEE (BRANCH)			89		
10"x 4" TEE (BRANCH)	41				
10"x 6" TEE (BRANCH)		62			
10"x 8" TEE (BRANCH)			86		
10"x10" TEE (BRANCH)				106	
12"x 4" TEE (BRANCH)	38				
12"x 6" TEE (BRANCH)		59			
12"x 8" TEE (BRANCH)			82		
12"x10" TEE (BRANCH)				103	
12"x12" TEE (BRANCH)					125
PLUG (DEAD END)	48	68	88	106	125
11.25' BEND (HORZ.)	2	3	4	4	5
22.5' BEND (HORZ.)	4	6	8	9	11
45' BEND (HORZ.)	9	12	16	19	22
45' BEND (VERT. UPPER)	20	28	37	44	52
45' BEND (VERT. LOW.)	4	6	8	10	12
90' BEND (HORZ.)	21	29	38	45	53
6"x 4" REDUCER		35			
8"x 4" REDUCER			64		
10"x 4" REDUCER				86	
12"x 4" REDUCER					108
8"x 6" REDUCER			37		
10"x 6" REDUCER				65	
12"x 6" REDUCER					91
10"x 8" REDUCER				35	
12"x 8" REDUCER					66
12"x 10" REDUCER					61

BASED ON 3:1 SAFETY FACTOR

FITTING	4"	6"	8"	10"	12"
4"x 4" TEE (BRANCH)	73				
6"x 4" TEE (BRANCH)	70				
6"x 6" TEE (BRANCH)		102			
8"x 4" TEE (BRANCH)	66				
8"x 6" TEE (BRANCH)		98			
8"x 8" TEE (BRANCH)			134		
10"x 4" TEE (BRANCH)	62				
10"x 6" TEE (BRANCH)		94			
10"x 8" TEE (BRANCH)			129		
10"x10" TEE (BRANCH)				160	
12"x 4" TEE (BRANCH)	57				
12"x 6" TEE (BRANCH)		89			
12"x 8" TEE (BRANCH)			124		
12"x10" TEE (BRANCH)				159	
12"x12" TEE (BRANCH)					189
PLUG (DEAD END)	75	106	139	166	196
11.25' BEND (HORZ.)	2	3	4	5	6
22.5' BEND (HORZ.)	5	7	9	11	12
45' BEND (HORZ.)	10	14	19	22	26
45' BEND (VERT. UPPER)	31	44	57	69	81
45' BEND (VERT. LOW.)	5	7	10	12	14
90' BEND (HORZ.)	25	35	45	53	63
6"x 4" REDUCER		55			
8"x 4" REDUCER			100		
10"x 4" REDUCER				135	
12"x 4" REDUCER					170
8"x 6" REDUCER			58		
10"x 6" REDUCER				102	
12"x 6" REDUCER					143
10"x 8" REDUCER				56	
12"x 8" REDUCER					104
12"x 10" REDUCER					96

- a) SAND-SILT SOIL (COHESIONLESS SOIL WITH 30° INTERNAL FRICTION ANGLE, PIPE FRICTION/SOIL FRICTION RATIO = 0.75, SOIL DENSITY 100 PCF).
- b) PIPE LAYING CONDITION 5 (NO SELECT BEDDING OR BACKFILL).
- c) 150 PSI DESIGN PRESSURE. FOR 200 PSI DESIGN PRESSURE (FIRE LINES), INCREASE RESTRAINED LENGTH BY 35%.
- d) 3 FOOT MINIMUM COVER ON THE PIPE.
- e) ALL RESTRAINED JOINT LENGTHS IN FEET.

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- d) 3 FOOT MINIMUM COVER ON THE PIPE.
- e) ALL RESTRAINED JOINT LENGTHS IN FEET.

RESTRAINED JOINT PIPE LENGTHS

DUCTILE IRON PIPE

NOT TO SCALE

RESTRAINED JOINT PIPE LENGTHS

C900 PVC PIPE

NOT TO SCALE

DATE	REVISION	BY	DATE	REVISION	BY
11-30-10	REV. METER ASSEMBLY DETAIL	KEF			
2-7-11	ADD. LUMP SUM (LS) TO METER ASSY.	KEF			
3-7-11	REV. METER SIZE	KEF			

GWE GIFFELS-WEBSTER
ENGINEERS, INC.
Certificate of Authorization No. 3607

900 Pine Street, Suite 225
Englewood, Florida 34223
Phone (941)475-7981
Fax (941)474-4285

DATE: 3/8/10
DRAWN: WST
DESIGN: JHC
APPROVED:

CKD. BY
JHC
JHC

DATE
3/10
3/10

SARASOTA COUNTY
UTILITIES DEPT. /
ENGLEWOOD WATER
DISTRICT

ENGLEWOOD WATER DISTRICT
INTERCONNECT
DETAILS

SCALE: N.T.S.
SHEET 5 OF 7
GWE NO. 5988.00

ENGINEER OF RECORD
JONATHAN H. COLE, P.E.
STATE OF FLORIDA, NO. 36384

Model FSAA-01

8" Model FSAA-01
FM Approved - 175 PSI Flanged
UL Listed, Fire Series Meter Assembly
with Strainer, Turbine Meter, Detector
Check Valve and By-Pass Meter

Technical
Brief

DESCRIPTION

MODEL FSAA-01 FIRE SERIES METER ASSEMBLY consists of at least a six times open area strainer, a 6" Recordall® Turbo Series Meter with AWWA class II measuring chamber, a Check Valve with by-pass piping, valves, and a 2" Recordall Turbo Series Meter. The Fire Series Meter Assembly is designed to measure both low flow domestic use and high volume usage, such as when a building's fire sprinklers are activated, through a single water supply line.

INSTALLATION is made similar to placing a length of flanged end pipe in the line. The 175 B, AWWA Class 17" steel flanged end design permits use in a wide range of applications. The meter must have a full flow of liquid for proper accuracy. It must be installed in horizontal applications only.

STRAINER is at least six times open area and is used exclusively in fire series systems to prevent clogging. The strainer is equipped with a 2" flushing port (optional valve) for flushing debris from the upstream side of the strainer screen.

TURBINE METER: Water flows into the meter's measuring element contacting the multi-vaned rotor. Flow readings are obtained by rotor revolutions transmitted by magnetic drive coupling through the meter's cover plate to the sealed register. Magnetic drive is achieved by a right angle worm drive, coupling the rotor to a vertical transmission spindle, driving a gear set rotating the magnet carrier. A ceramic magnet in a carrier rotates around a vertical axis. Rotor rotation is transmitted to the register gearing through this magnetic coupling.

CHECK VALVE is a spring loaded check valve on the downstream side of the clapper to hold the clapper in a normally closed position. Small water flows by-pass the clapper and are registered on the 2" by-pass meter. This allows for accurate registration of domestic use, leakage or misuse of water intended for wet stand-by fire protection. When a major flow is required, the water pressure will overcome the mechanical advantages of the spring loaded clapper and push it open, permitting full pipe capacity flow during a fire emergency. A small amount of water will continue to flow through the by-pass when the spring loaded clapper is fully open.

BY-PASS LINE consists of piping with a 2" Recordall Turbo Series Meter, an isolation valve, and back flow preventing check valve.

SPECIFICATIONS

TYPICAL OPERATING RANGE	4-4500 GPM
(100% ± 1.5%)	
MAXIMUM OPERATING PRESSURE	175 PSI
MAXIMUM OPERATING TEMPERATURE	120° F (49° C)
TYPICAL LOW FLOW (95% MIN)	2.5 GPM
MAXIMUM CONTINUOUS OPERATION	3500 GPM
MAXIMUM INTERMITTENT FLOW	4500 GPM

BadgerMeter, Inc.

MATERIALS

NOSE CONE AND STRAIGHTENING VANES	thermoplastic
ROTOR	thermoplastic
ROTOR RADIAL BEARINGS	lubricated thermoplastic
ROTOR THRUST BEARINGS	sapphire jewels
ROTOR BEARING PIVOTS	precision 316 stainless steel
CALIBRATION MECHANISM	stainless steel and thermoplastic
MAGNET	ceramic
REGISTER LID AND SHROUD	thermoplastic, bronze
TRIM	stainless steel
STRAINER SCREEN	stainless steel
BY-PASS MEASURING CHAMBER	injector molded thermoplastic
TURBINE SHAFTS & BOLTS	stainless steel
METER HOUSING	fusion bonded epoxy coated ductile cast iron
BY-PASS METER HOUSING	cast bronze (B81), Low Lead Alloy (LL)
CLAPPER	stainless steel
CLAPPER SPRING	stainless steel
CLAPPER HINGE & PINS	elastomer, EPDM
CLAPPER SEAL	cast brass
VALVE SEAT	fusion bonded epoxy coated steel
VALVE & STRAINER COVER PLATE	elastomer sheet
COVER PLATE GASKET	brass
VALVE BUSHINGS	water works brass piping conforming to AWWA C500
BY-PASS	Stainless steel, coated inside and out with fusion bonded epoxy. Standard flange connections (ANSI E15.1)
VALVE BODY	stainless steel
STRAINER SCREEN	fusion epoxy coated steel
STRAINER BODY	

Includes transmitters with remote read capabilities, companion flanges, and various pipe sizes are available in CI or bronze. 787 pounds shipped fully assembled.

Valve conforms to UL 312 and FM 1045. Fire Series Meter Assembly conforms to UL 327, FM 1044 and AWWA C703. Strainer conforms to UL 321 and FM 5551. Strainer open area is at least six times the area of the nominal pipe size. Meter measuring chambers are AWWA class II.

Must be specified by the customer and includes: Size, minimum & maximum flow range, Rotolizer dial units, optional equipment desired. Standard side for by-pass meter is right hand (shown above) unless specified otherwise.

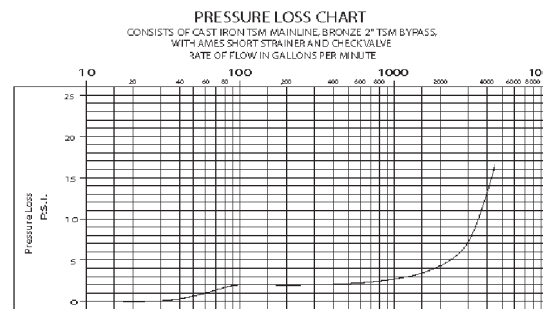
FSAA-T-08

5-06

8" MODEL FSAA-01



Mainline Registers



By-Pass Registers

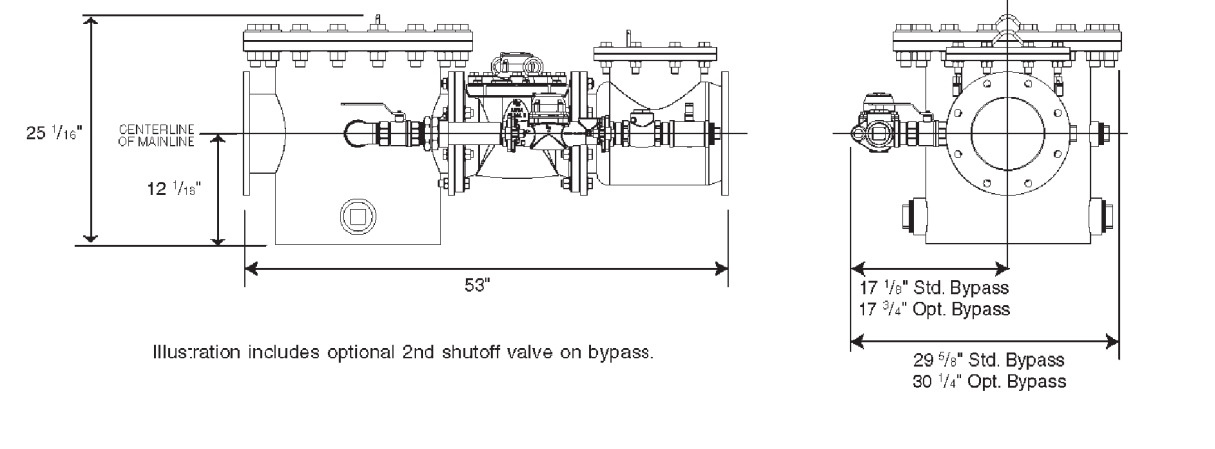
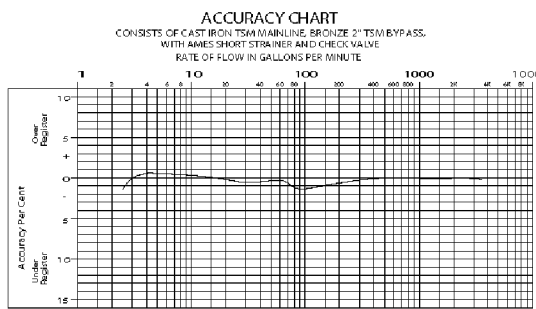


Illustration includes optional 2nd shut-off valve on bypass

Recordall® is a registered trademark of Badger Meter, Inc.

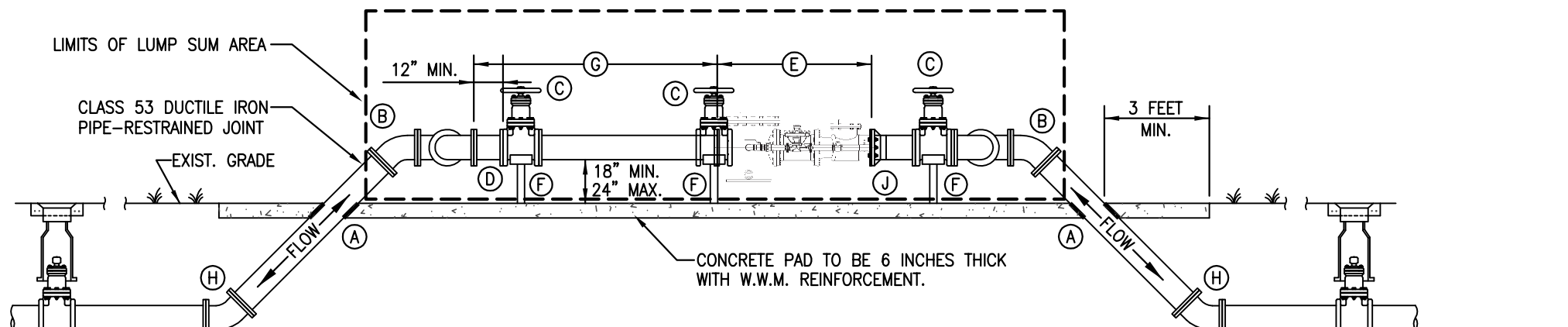


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Please see our website at
www.badgermeter.com
for specific contacts.

Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists.

BadgerMeter, Inc.
P.O. Box 245036, Milwaukee, WI 53224-9636
(800) 875-3837 / Fax: (888) 371-5582
www.badgermeter.com



- A) 1/2 INCH THICK NEOPRENE SLEEVE BETWEEN PIPE AND CONCRETE PAD.
- B) 45° BEND ABOVE GROUND FITTINGS ALL FLANGED.
- C) O. S. & Y. VALVE (RESILIENT WEDGE).
- D) SPOOL PIECE.
- E) FIRE SERIES METER ASSEMBLY WITH STRAINER, METER, AND CHECK VALVE WITH TEST PORT (BADGER METER, INC.- MODEL NO. FSAA-01)
- F) REINFORCED CONCRETE PAD AND PIPE SUPPORT OR GRINNELL STAINLESS STEEL PIPE SUPPORT SECURED TO CONCRETE PAD.
- G) METER PLACEMENT DISTANCE FROM DOWNSTREAM FLANGE OF TOP 90° BEND TO UPSTREAM STRAINER/METER FLANGE (SEE BELOW).
- H) 45° BEND BELOW GROUND FITTINGS ALL M4, RESTRAINED JOINT.
- J) FLANGE COUPLING ADAPTER
- K) 90° BEND ABOVE GROUND FITTINGS ALL FLANGED.
- L) CROSS ABOVE GROUND FITTINGS ALL FLANGED.
- PAIN T COLOR - OSHA SAFETY BLUE

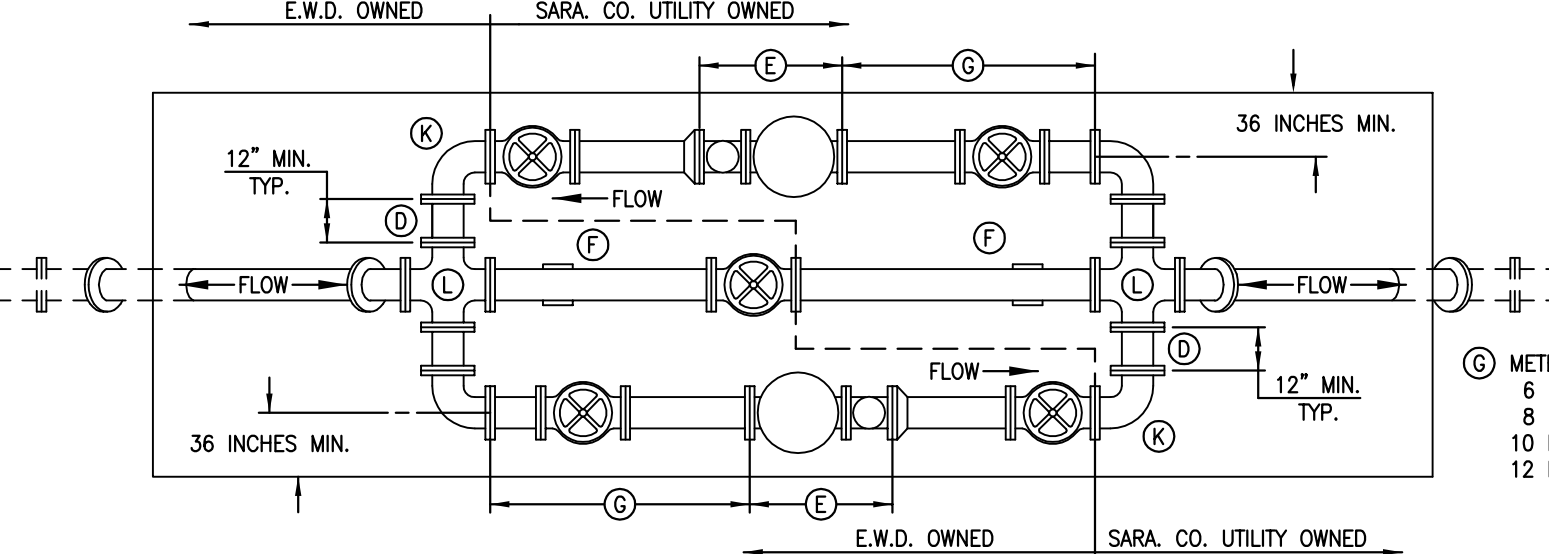
- NOTES:
1. ALL DIMENSIONS BASED ON ASSEMBLY PIPING SIZE. NOT METER SIZE. METERS MAY BE DOWN SIZED ONE PIPE SIZE ONLY. NO INTERCONNECT ASSEMBLY SMALLER THAN 6 INCH.
2. NO LANDSCAPING IS PERMITTED WITHIN 3 FEET OF CONCRETE SLAB.
3. ALL BOLTS AND NUTS TO BE STAINLESS STEEL.
4. ALL STAINLESS STEEL BOLTS AND NUTS, AND O. S. & Y. STEM SCREW SHALL NOT BE PAINTED.

WATER METER INTERCONNECT

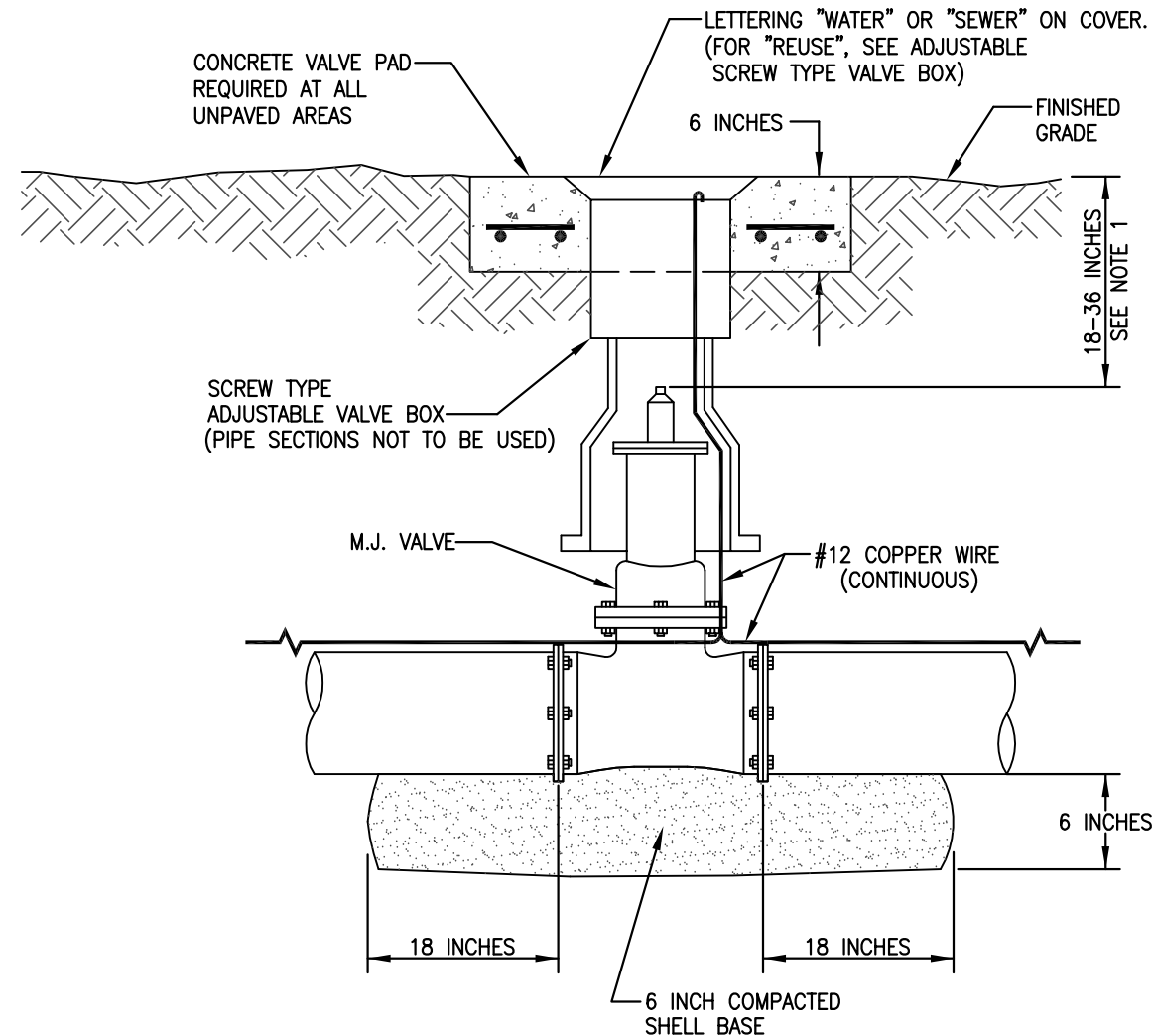
DETAIL - 2 WAY

NOT TO SCALE

METERS 6" THRU 12" DIAMETER



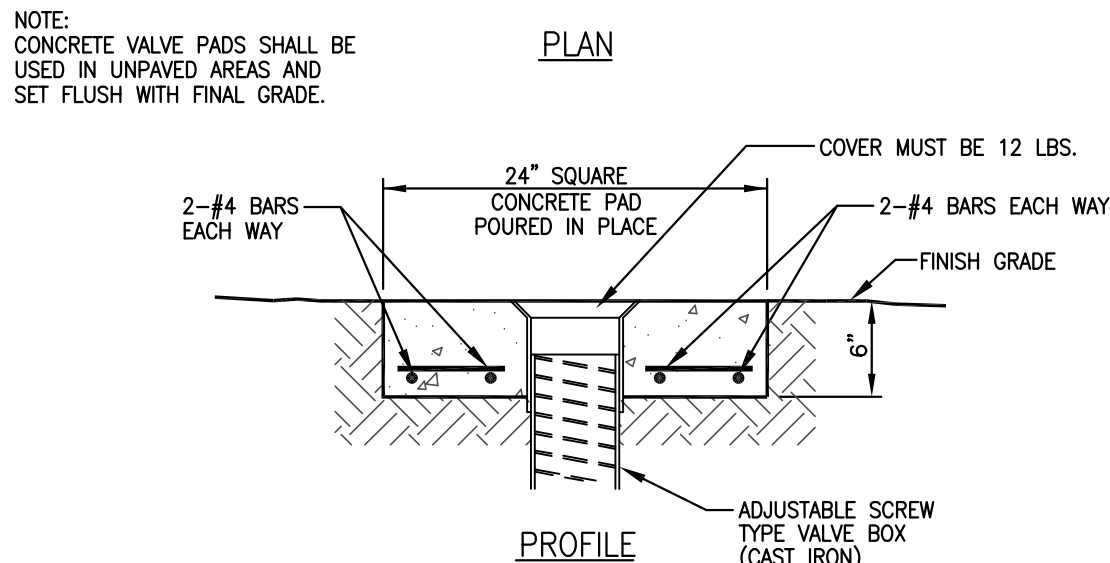
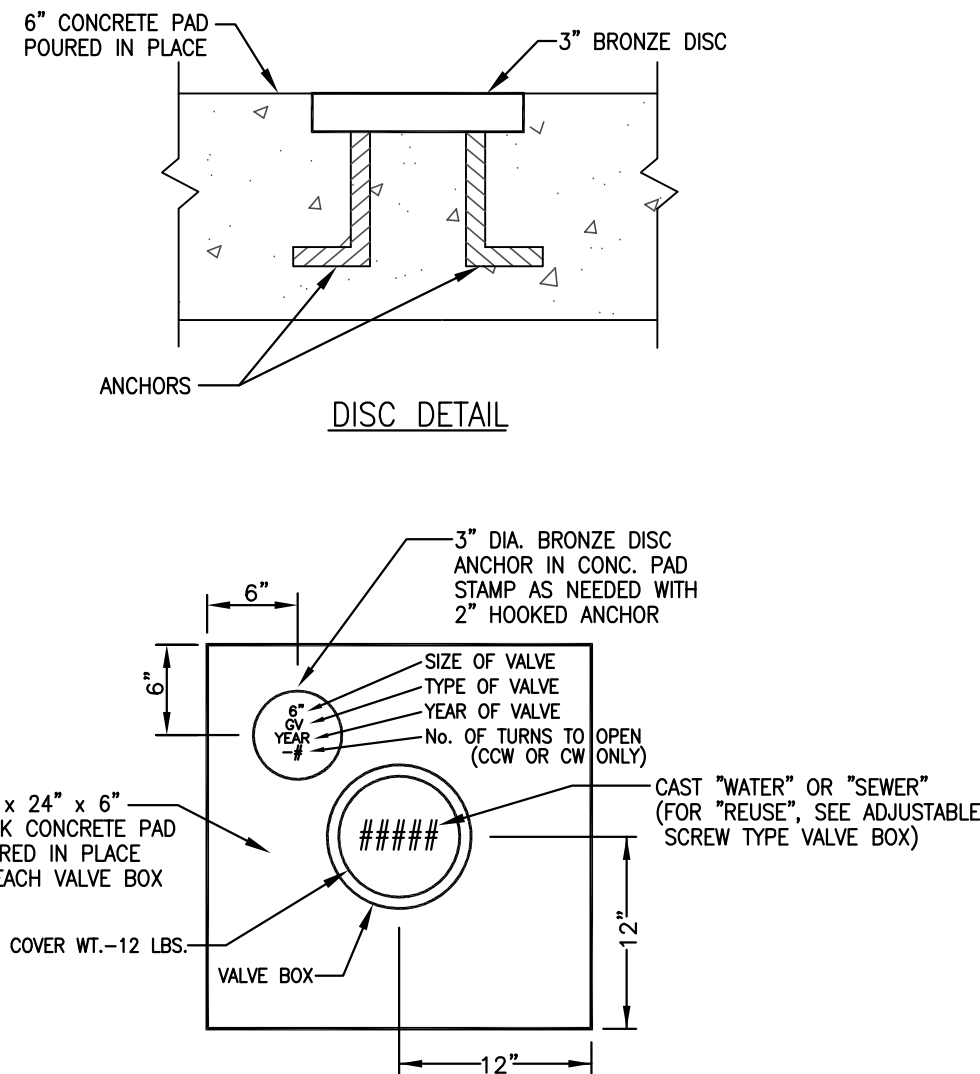
VALVEBOX.DWG 04/15/03



- NOTES:
1. VALVE STEM 18-36 INCHES TO FINISHED GRADE FROM OPERATING NUT OR EXTENSION.
 2. VALVE STEM EXTENSION SHALL BE SECURED WITH A STAINLESS STEEL SET SCREW TO THE OPERATING NUT, AND SUPPLIED WITH A STAINLESS STEEL CENTERING RING(S) 3 FEET ON CENTER. CENTERING RINGS SHALL BE PROVIDED AT THE TOP AND BOTTOM OF THE EXTENSION.
 3. VALVE BOX RISER SHALL BE SUPPLIED BY VALVE BOX MANUFACTURER. P.V.C. RISER SHALL NOT BE ALLOWED.
 4. THE 6 INCH THICK COMPACTED SHELL BASE SHALL EXTEND 18 INCHES PAST THE VALVE IN THE DIRECTION OF THE PIPE AND 12 INCHES ON EITHER SIDE OF THE VALVE.
 5. PROVIDE CONCRETE VALVE PAD PER GEN. DWG. NO. 1.

TYPICAL VALVE AND VALVE BOX
N.T.S.

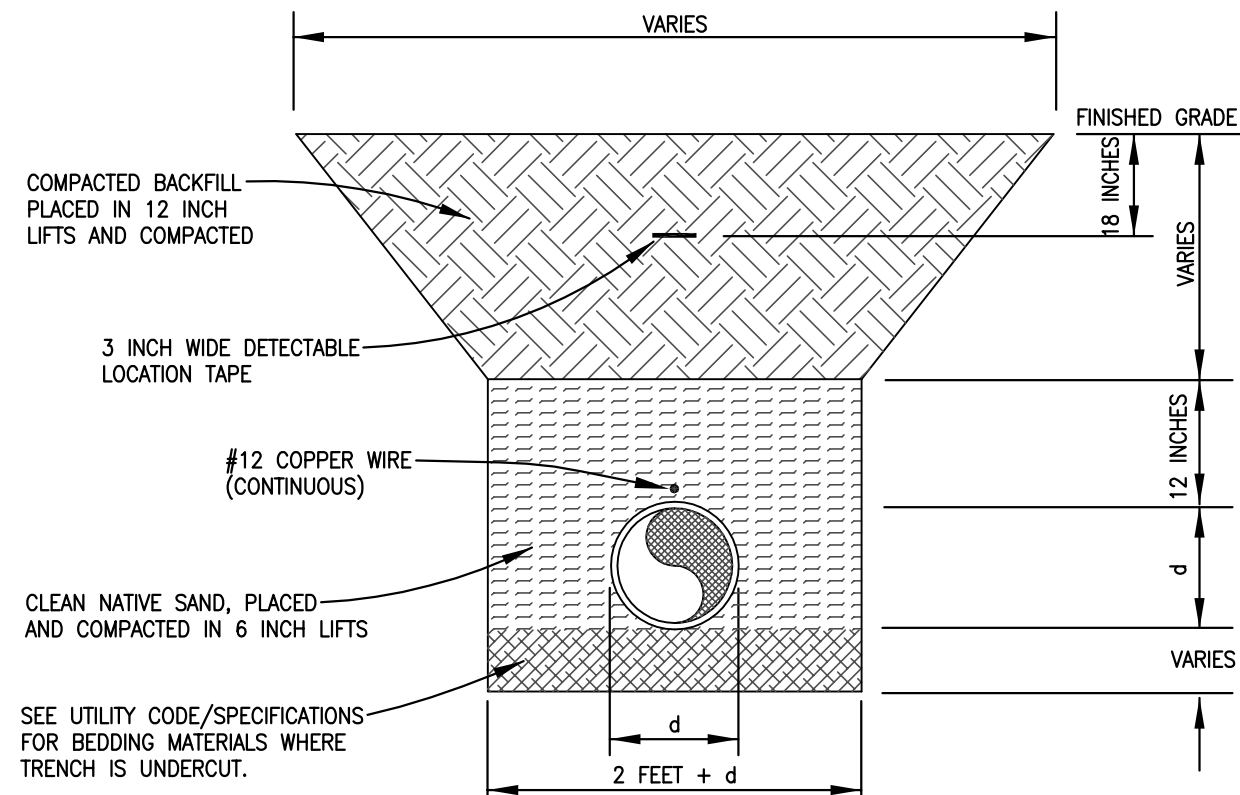
SARASOTA COUNTY TYPICAL VALVE AND VALVE BOX N.T.S. GEN. DWG. NO. 2



CONCRETE VALVE PAD
N.T.S.

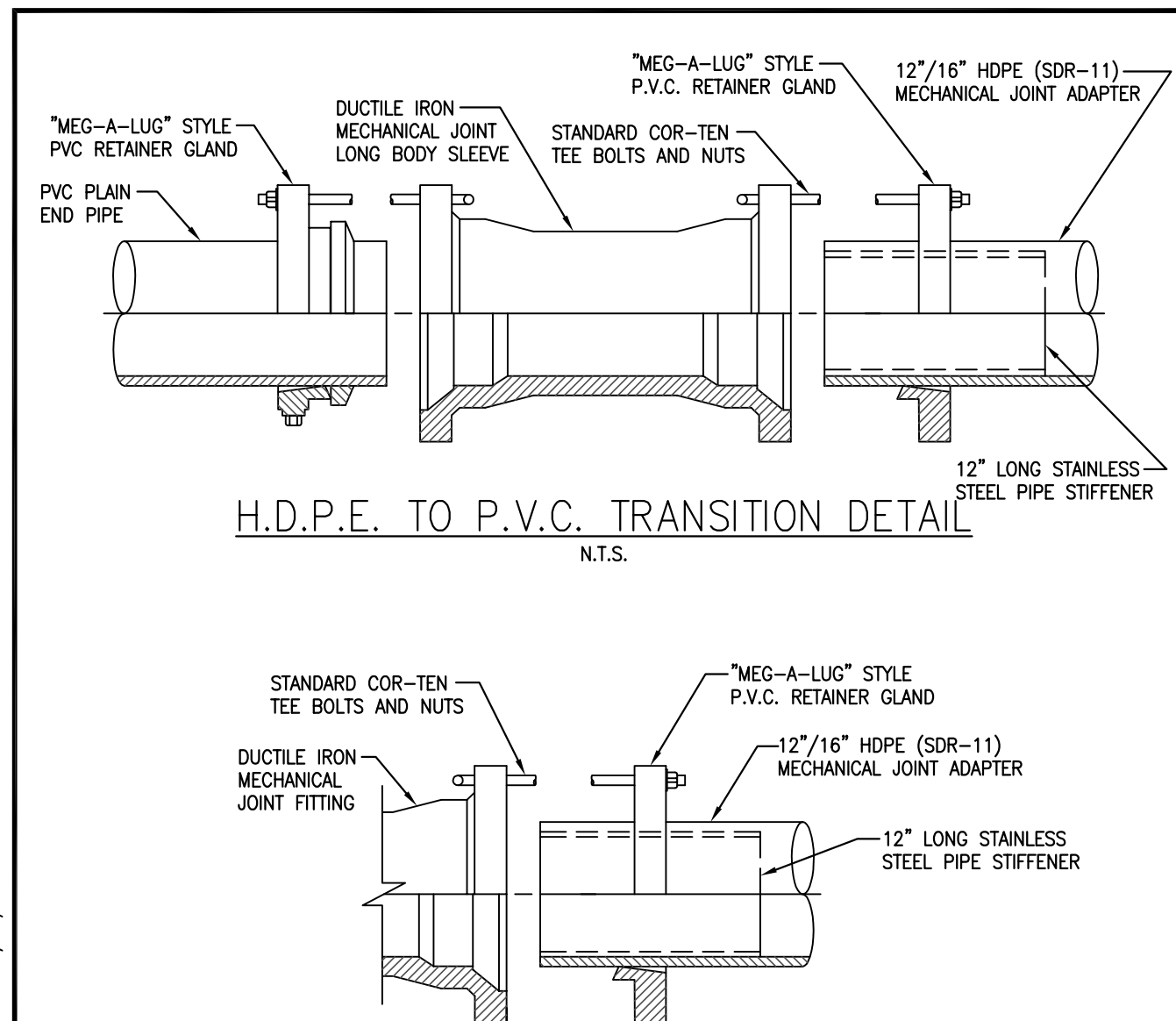
SARASOTA COUNTY CONCRETE VALVE PAD N.T.S. GEN. DWG. NO. 1

- NOTES:
1. TRENCH WIDTH SHALL BE APPROX. EQUAL TO THE PIPE DIA. + 2 FEET OR AS PER AWWA AND THE MANUFACTURERS RECOMMENDATIONS.
 2. PROVIDE SHEETING AND SHORING AS NECESSARY IN ACCORDANCE WITH OSHA STANDARDS.
 3. BACKFILL MATERIALS SHALL BE APPROVED BY THE ENGINEER WHERE THE PIPE IS UNDERCUT.
 4. WATER, SEWER, AND REUSE MAINS TO BE INSTALLED WITH A MINIMUM 36 INCHES OF COVER.
 5. FOR COUNTY R/W, REFER TO LAND DEVELOPMENT REGULATIONS FOR ROADWAY REPLACEMENT, PAVEMENT OVERLAY AND DENSITY REQUIREMENTS.
 6. FOR STATE R/W, REFER TO F.D.O.T. REGULATIONS FOR ROADWAY REPLACEMENT, PAVEMENT OVERLAY AND DENSITY REQUIREMENTS.



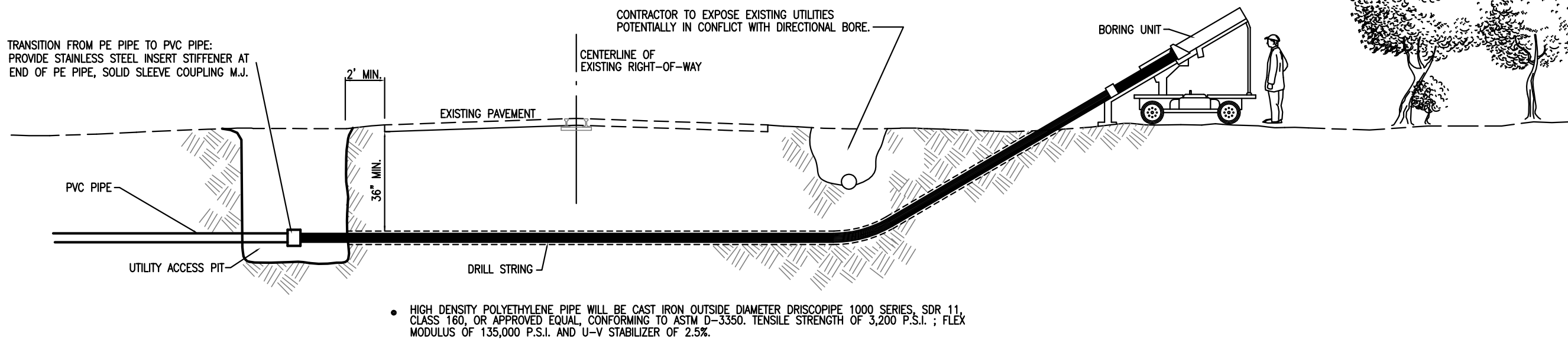
TRENCH DETAIL
N.T.S.

SARASOTA COUNTY TRENCH DETAIL N.T.S. GEN. DWG. NO. 4

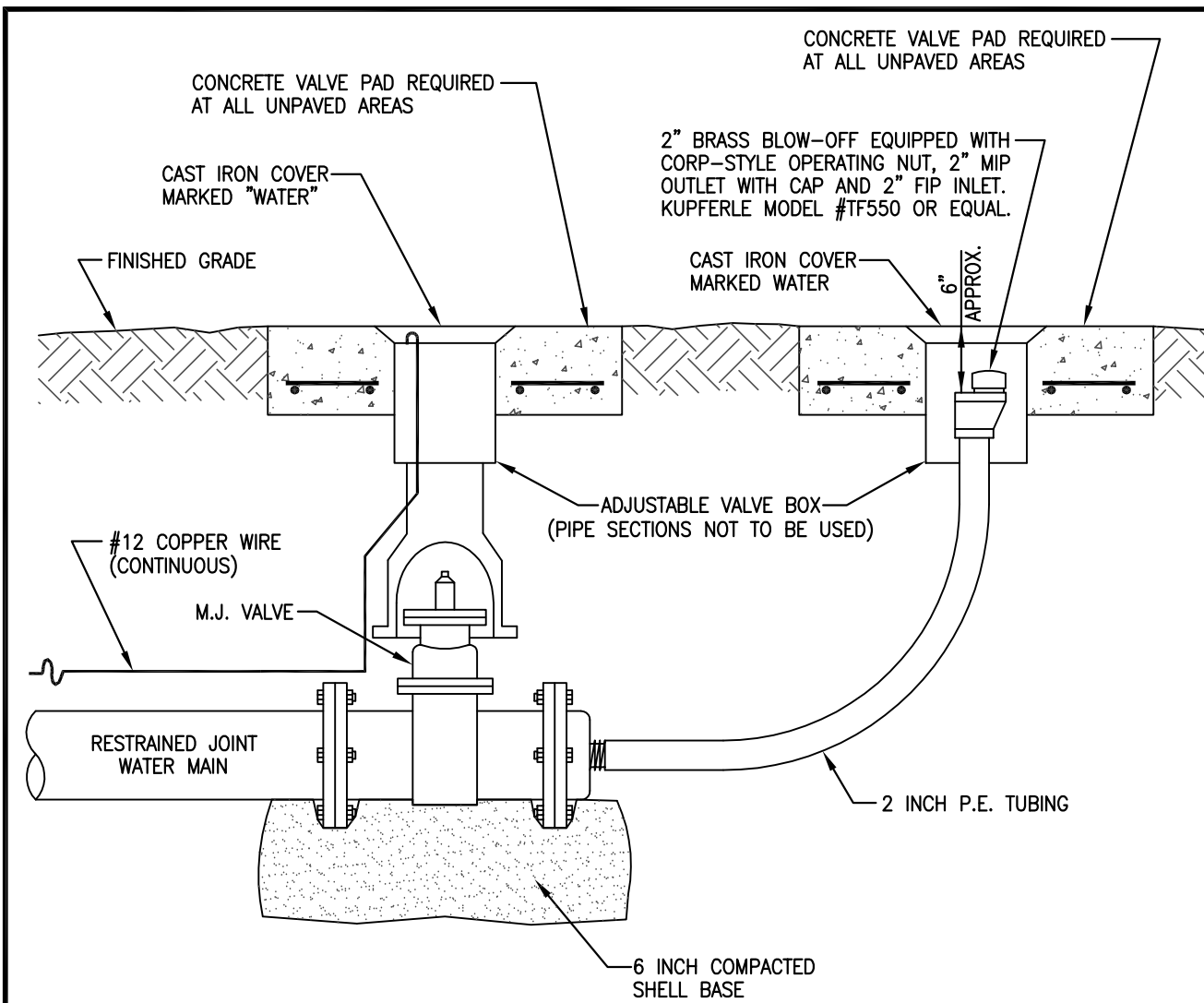


H.D.P.E. TO P.V.C. TRANSITION DETAIL
N.T.S.

SARASOTA COUNTY H.D.P.E. TRANSITION DETAIL N.T.S. WATER DWG. NO. W



DIRECTIONAL DRILL DETAIL



- NOTES:
1. VALVE STEM MAXIMUM DEPTH 36 INCHES TO FINISHED GRADE.
 2. VALVE STEM EXTENSION SHALL BE SECURED WITH A STAINLESS STEEL SET SCREW TO THE OPERATING NUT, AND SUPPLIED WITH A STAINLESS STEEL CENTERING RING(S).
 3. VALVE BOX RISER SHALL BE SUPPLIED BY VALVE BOX MANUFACTURER. P.V.C. RISER SHALL NOT BE ALLOWED.
 4. ALL FITTINGS TO BE RESTRAINED JOINT.

2" BLOW-OFF FOR 12" WATER MAIN AND SMALLER
N.T.S.

SARASOTA COUNTY 2" BLOW-OFF FOR 12" WATER MAIN AND SMALLER N.T.S. WATER DWG. NO. 1

DATE	REVISION	BY	DATE	REVISION	BY
1-18-11	ADDED CONC. VALVE PAD DETAIL	KEF			

GWE GIFFELS-WEBSTER
ENGINEERS, INC.
Certificate of Authorization No. 3607

900 Pine Street, Suite 225
Englewood, Florida 34223
Phone (941)475-7981
Fax (941)474-4285

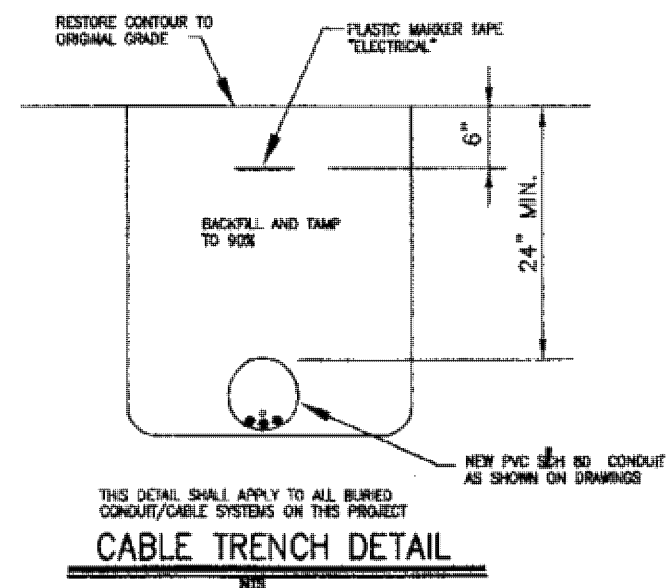
DATE: 3/8/10	CKD. BY: JHC	DATE: 3/10
DRAWN: WST	JHC	3/10
DESIGN: JHC		
APPROVED:		

SARASOTA COUNTY
UTILITIES DEPT. /
ENGLEWOOD WATER
DISTRICT

ENGLEWOOD WATER DISTRICT
INTERCONNECT
DETAILS

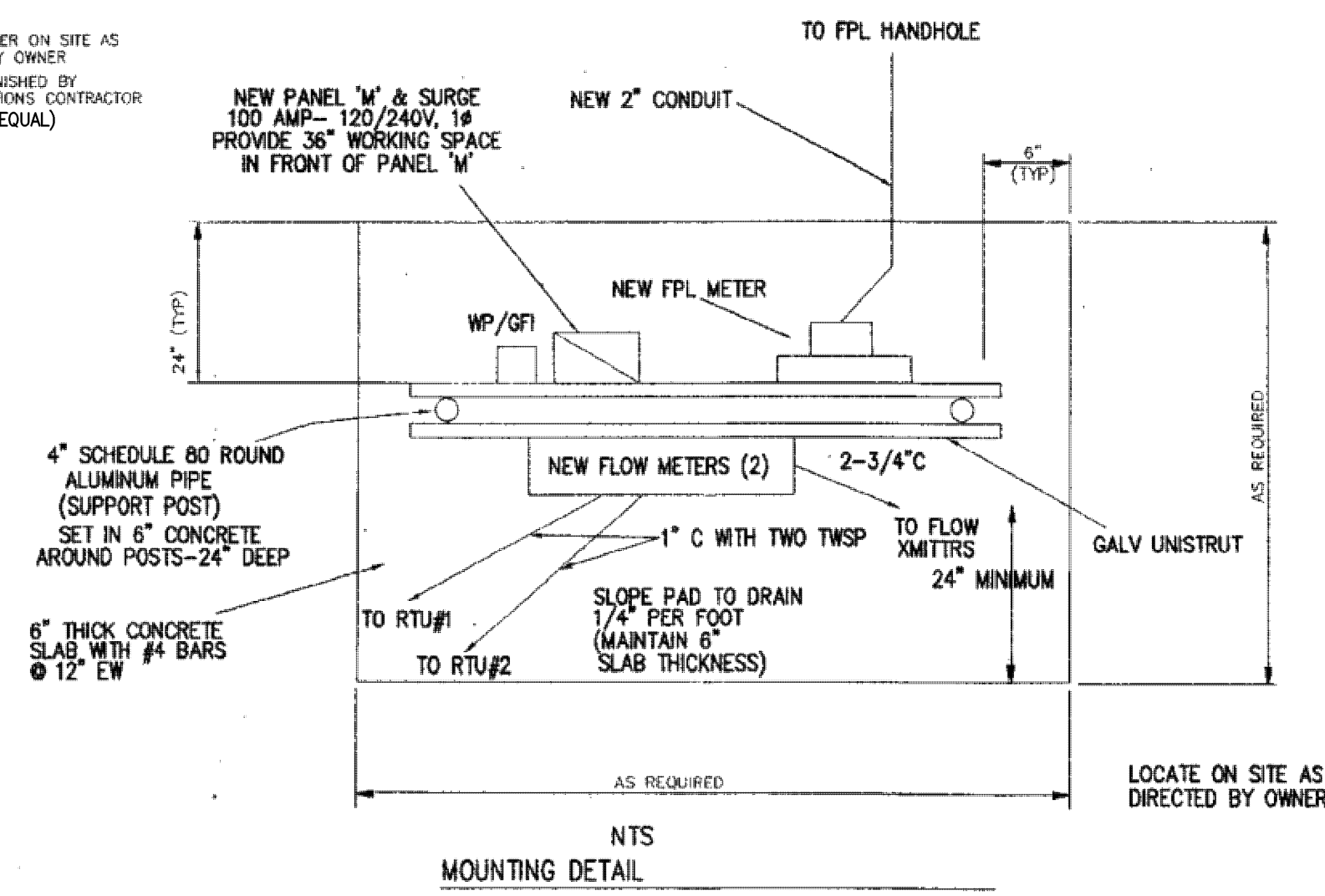
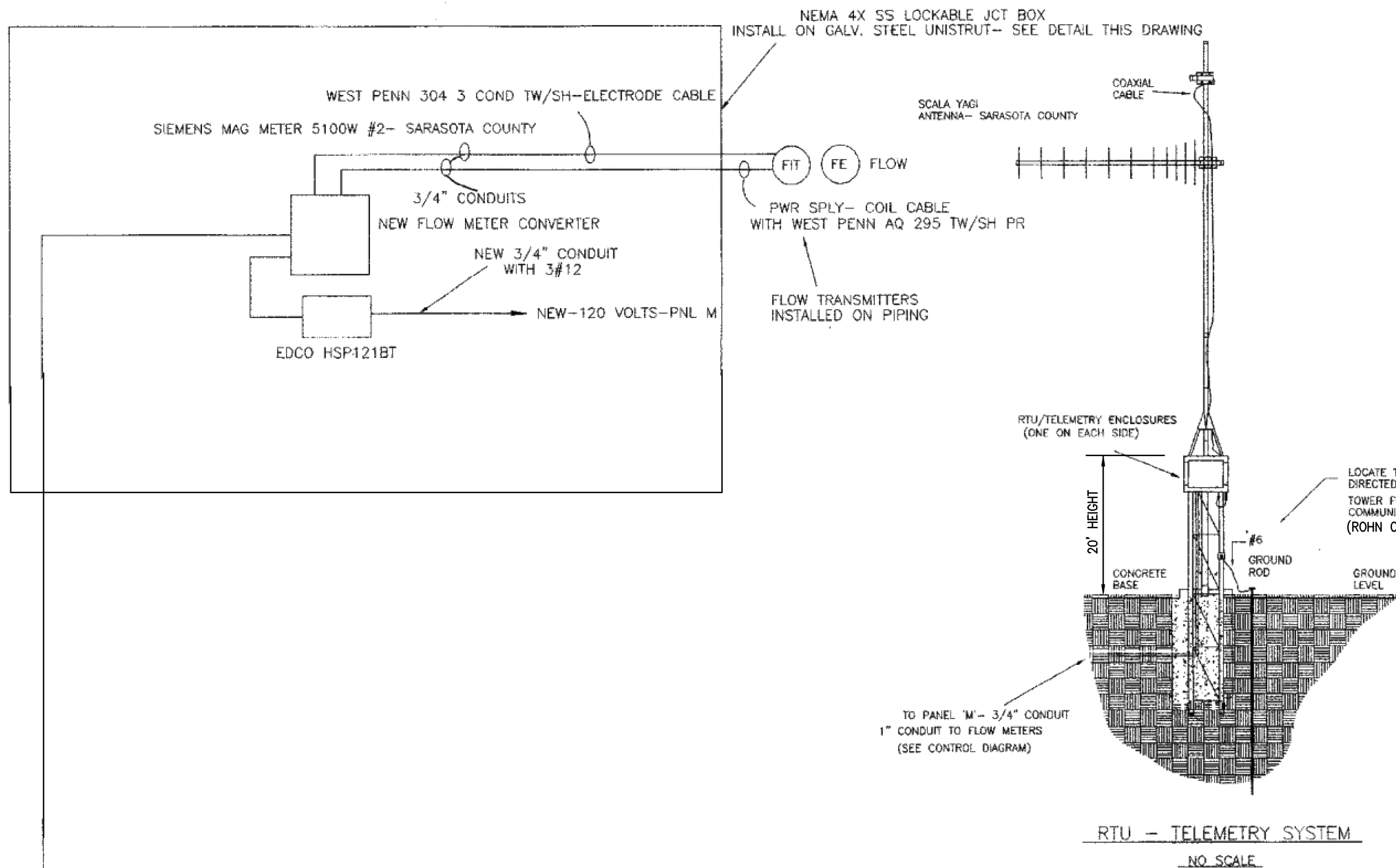
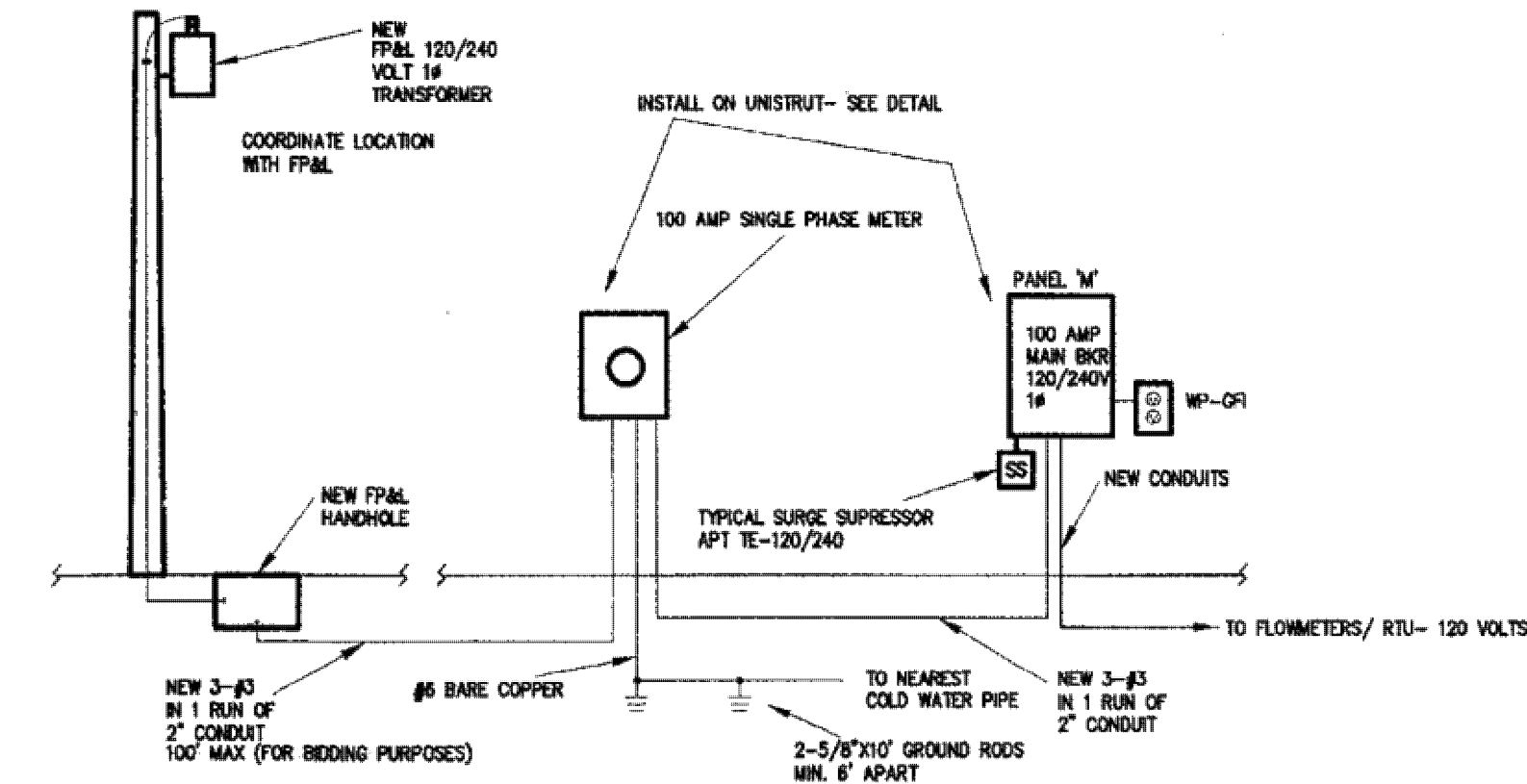
SCALE: N.T.S.
SHEET 6 OF 7
GWE NO. 5988.00

ENGINEER OF RECORD
JONATHAN H. COLE, P.E.
STATE OF FLORIDA NO. 36384

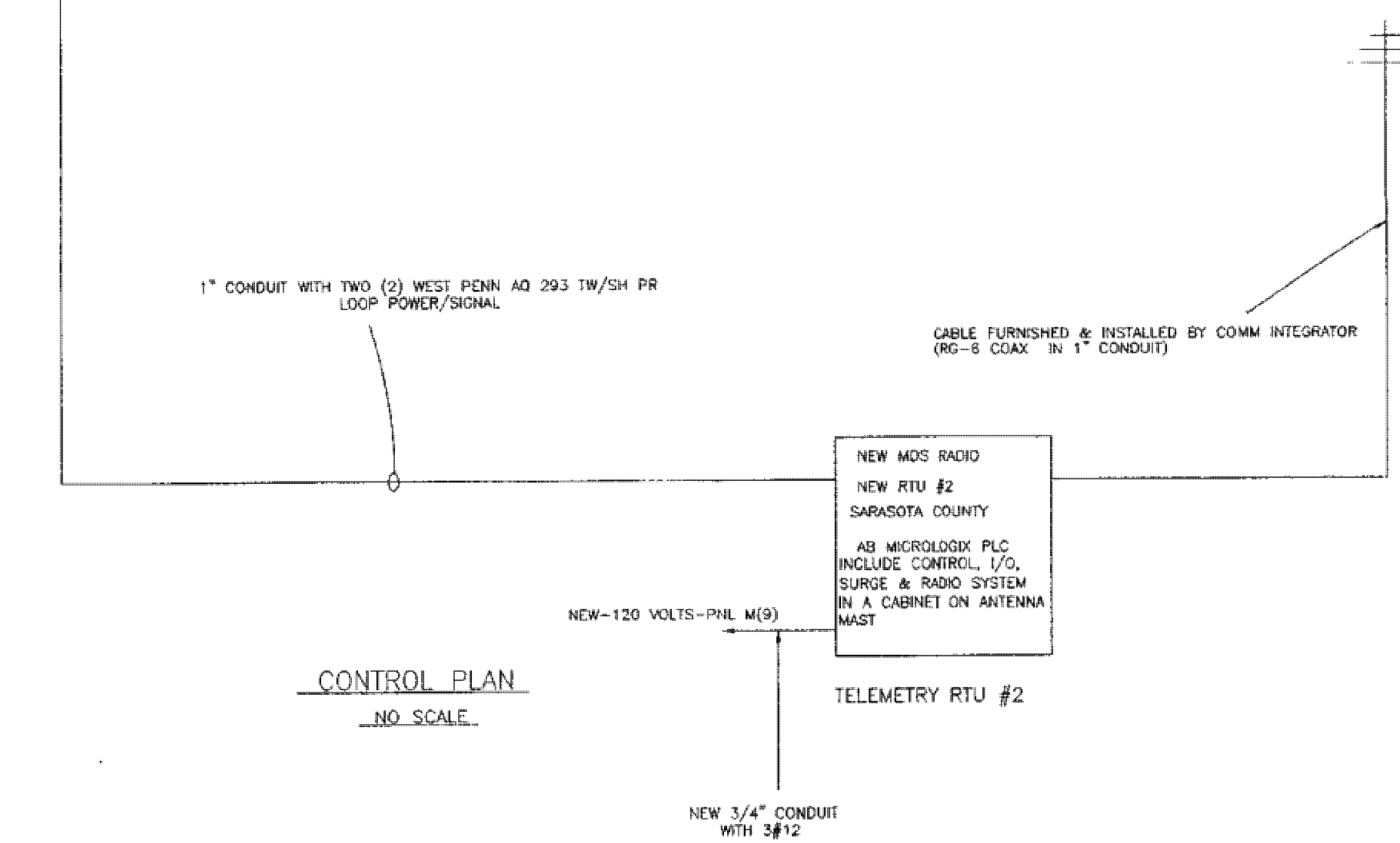


PANEL M, 100 AMP MAIN BREAKER, 120/240V, 1 PHASE, 3W, ULSE, NEMA 4X, SURFACE, 10,000 AIC RATED, 24 POLES, LOAD CENTER

CKT. NO.	WIRE SIZE	DESCRIPTION	POLES	AMP	BT	GT	POLES	DESCRIPTION	WIRE SIZE	CKT. NO.
1	12	FLOWMETER NP	1	20	1	1	30	2	10	2
3	12	FLOWMETER SC	1	20	1	1			10	4
5	-	SPARE	1	20	1	1			10	6
7	12	TELEMETRY #1	1	20	1	1			10	8
9	12	TELEMETRY #2	1	20	1	1			10	10
11	12	WP-GFI-OUTLET	1	20	1	1			10	12
13									10	14
15									10	16
17									10	18
19									10	20
21									10	22
23									10	24



- ELECTRICAL NOTES**
- 1) ALL ELECTRICAL CONTRACTING WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE WITH LOCAL AMENDMENTS.
 - 2) DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS BY ACTUAL FIELD MEASUREMENT. COORDINATE ALL WORK WITH CIVIL ENGINEERING DRAWINGS. COORDINATE ALL DIGGING ON SITE WITH OWNER.
 - 3) ELECTRICAL CONTRACTOR SHALL VISIT SITE TO BETTER ESTIMATE THE SCOPE OF WORK.
 - 4) MINOR DETAILS, NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER OPERATION, CONSISTENT WITH GOOD WORKMANSHIP, SHALL BE INCLUDED IN ESTIMATE, THE SAME AS IF SHOWN ON DRAWINGS.
 - 5) PRIOR TO ROUGH IN, OWNER/ENGINEER RESERVE THE RIGHT TO RELOCATE ANY OUTLET OR DEVICE 6" IN ANY DIRECTION WITHOUT ANY EXTRA CHARGES.
 - 6) ALL ELECTRICAL CONTRACTING WORK SHALL BE GUARANTEED ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER.
 - 7) COORDINATE ALL WORK WITH FLORIDA POWER AND LIGHT (WR, JEFF SUITS, TEL: 941/423-4855).
 - 8) ALL WIRE ON PROJECT SHALL BE COPPER, THIN/THIN. USE SCH 80 PVC FOR THIS PROJECT.
 - 10) COORDINATE ALL DIGGING ON SITE WITH OWNER-ALL TRENCHING SHALL BE APPROVED BY OWNER PRIOR TO STARTING WORK.
 - 11) FIELD VERIFY EXISTING UNDERGROUND UTILITIES ON SITE. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGED UNDERGROUND WATER, TELEPHONE OR ELECTRICAL LINES. CALL SUNSHINE ONE CALL 1-800-432-4770
 - 12) GENERAL CONTRACTOR SHALL PAY FPL HOOK UP FEE AND ANY 1" POLE CONNECTION CHARGES.



NOTE: CONTRACTOR TO RETAIN THE SERVICES OF ROCHA CONTROLS FOR THE FOLLOWING:
 FURNISH NEW ANTENNAS AND TERMINATE NEW COAXIAL CABLE ASSEMBLIES
 FURNISH RTU/PLC ENCLOSURE AND INSTALL NEW RTUS-MDS RADIOS AND ALLEN BRADLEY MICROLOGIX PROCESSOR IN RTU'S
 FURNISH AND INSTALL TWO (2) SIEMENS 5100W FLOW METERS
 TESTING OF RTU & RADIO COMMUNICATIONS LINK
 VERIFICATION OF TELEMETRY AT CENTRAL SITES
 CONTACT RAYMOND ROCHA TEL 813-267-3235

NOTE: CONTRACTOR TO COMPLETE THE FOLLOWING:
 CONTRACTOR TO FURNISH & INSTALL NEMA 4X STAINLESS STEEL ENCLOSURE FOR CONVERTERS.
 CONTRACTOR TO INSTALL ANTENNA MAST ASSEMBLY INCLUDING CONCRETE FOUNDATION, STRUCTURE ERECTION
 CABLE INSTALLATION AND GROUNDING.
 CONTRACTOR TO INSTALL ALL WIRES AND CONDUITS AS SHOWN ON THE DRAWINGS. CONTRACTOR WILL TERMINATE THE CONTROL & INSTRUMENTATION WIRES AT THE RTU AND TRANSMITTERS.

ANTENNA NOTE:
 SOLAR PANEL, BATTERY ARRAY AND TRICKLE CHARGER TO BE SUPPLIED BY COUNTY.
 CONTRACTOR RESPONSIBLE FOR COORDINATING PICK-UP AT COUNTY WAREHOUSE AND ALL INSTALLATION PROCEDURE MEETING COUNTY REGULATIONS AND MANUFACTURES RECOMMENDATIONS.

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Median

Work Area

Offset zone:
a) Behind an existing barrier,
b) More than 2' behind the curb,
c) 15' or more from the edge of travel way.

GENERAL NOTES

- If the work operation (excluding establishing and terminating the work area), requires that two or more work vehicles cross the offset zone in any one hour, traffic control will be in accordance with Index No. 612.
- No special signing is required.
- This Index also applies when work is being performed on a multilane undivided highway.
- This Index also applies to work performed in the median behind an existing barrier or more than 15' from the edge of travel way, both roadways. Work performed in the median behind curb and gutter shall be in accordance with Index No. 612.
- When a side road intersects the highway within the work area, additional traffic control devices shall be placed in accordance with other applicable TCZ Indexes.
- When construction activities encroach on a sidewalk, refer to Index No. 660.
- For general TCZ requirements and additional information, refer to Index No. 600.

SYMBOLS

Work Area

Lane Identification + Direction of Traffic

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE BEHIND AN EXISTING BARRIER, MORE THAN 2' BEHIND THE CURB, OR 15' OR MORE FROM THE EDGE OF TRAVEL WAY.

	2008 FDOT Design Standards	Last Revision 07/01/05	Sheet No. 1 of 1
MULTILANE, WORK OUTSIDE SHOULDER		Index No. 611	

Median

Work Area

Offset zone:
a) Behind an existing barrier,
b) More than 2' behind the curb,
c) 15' or more from the edge of travel way.

GENERAL NOTES

- If the work operation encroaches on the through traffic lanes or when four or more work vehicles enter the through traffic lanes in a one hour period (excluding establishing and terminating the work area), a flagger shall be provided and a FLAGGER sign shall be substituted for the WORKERS sign. The flagger shall be positioned at the point of vehicle entry or departure from the work area.
- This TCZ plan also applies to work performed in the median more than 2' but less than 15' from the edge of travelway.
- When work is being performed on a multilane undivided roadway the signs normally mounted in the median (as shown) shall be omitted.
- WORKERS signs to be removed or fully covered when no work is being performed.
- SHOULDER WORK sign may be used as an alternate to the WORKER symbol sign.
- When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
- For general TCZ requirements and additional information, refer to Index No. 600.

SYMBOLS

Work Area

Sign With 18"x18" (Min.)

Orange Flag And Type B Light

Channelizing Device (See Index No. 600)

Work Zone Sign

Lane Identification + Direction of Traffic

**Table I
Device Spacing**

Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

**Table II
Taper Length - Shoulder**

Speed (mph)	xL (ft.)			Notes
	8' Shldr.	10' Shldr.	12' Shldr.	
25	28	35	42	WS ² L = 60
30	40	50	60	
35	55	68	82	
40	72	90	107	
45	120	150	180	
50	133	167	200	L = WS
55	147	183	220	
60	160	200	240	
65	173	217	260	
70	187	233	280	

² minimum shoulder width.

xL = Length of shoulder taper in feet

W = Width of total shoulder in feet (combined paved and unpaved width)

S = Posted speed limit (mph)

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH THE AREA CLOSER THAN 15' BUT NOT CLOSER THAN 2' TO THE EDGE OF TRAVEL WAY.

	2008 FDOT Design Standards	Last Revision 07/01/07	Sheet No. 1 of 1
MULTILANE, WORK ON SHOULDER		Index No. 612	

MAINTENANCE OF TRAFFIC NOTES:

- THE CONTRACTOR SHALL MAINTAIN TRAFFIC IN ACCORDANCE WITH THE GUIDELINES SET FORTH IN INDICES 600 OF THE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS DATED JANUARY 2008. NO LANE CLOSURES WILL BE ALLOWED. REFER TO INDEX 600 SHEETS 1-12 FOR ADDITIONAL INFORMATION
- DURING NON-WORKING HOURS, NO EQUIPMENT OR MATERIALS SHALL BE PARKED OR STORED WITHIN 30 FEET OF THE ROADWAY CARRYING TRAFFIC. IF THE ABOVE IS NOT POSSIBLE, A STORAGE AREA APPROVED BY THE ENGINEER IN CHARGE SHALL BE USED PROVIDED PROPER DELINEATION AND ADVANCE WARNING IS PLACED.
- THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH MOT SUPERVISOR.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE HIS EXACT CONSTRUCTION SEQUENCE AND IMPLEMENT THE APPROPRIATE MOT REQUIREMENTS.
- MOT SHALL BE BASED ON FDOT STANDARD INDEX SERIES 600 GENERAL REQUIREMENTS, SPECIFICALLY INDICES 611 AND 612.

DATE	REVISION	BY	DATE	REVISION	BY

GWE GIFFELS-WEBSTER
ENGINEERS, INC.
Certificate of Authorization No. 3807

900 Pine Street, Suite 225
Englewood, Florida 34223
Phone (941)475-7981
Fax (941)474-4285

DATE: 9/8/10	CKD. BY	DATE
DRAWN: KEF	JHC	3/10
DESIGN: JHC	JHC	3/10
APPROVED:		

SARASOTA COUNTY
UTILITIES DEPT. /
ENGLEWOOD WATER
DISTRICT

ENGLEWOOD WATER DISTRICT
INTERCONNECT
MAINTENANCE OF TRAFFIC DETAILS

SCALE: N.T.S.
SHEET MOT-1
GWE NO. 5988.00

ENGINEER OF RECORD
JONATHAN H. COLE, P.E.
STATE OF FLORIDA NO. 36384