SAN ANTONIO WATER SYSTEM
PRESSURE REDUCING VALVE (PRV) FLOW MONITORING
AND PRESSURE MONITORING PROJECT
SAWS PROJECT NO. 09-6005
SOLICITATION NO. B-10-056-DG
ADDENDUM NO. 1

October 1, 2010

This addendum, applicable to work designated above, is an amendment to the bidding and specification documents and as such shall be a part of and included in the Contract. The original contract documents and any prior addenda remain in full force except s modified by the following which shall take precedence over any contrary provisions in prior documents.

Acknowledge receipt of this addendum by entering the addendum number and issue date in the spaces provided on all submitted copies of the proposal.

1.0 Addenda Purpose

The purpose of this addendum is to issue modifications to the plans and specifications, replies to submitted questions and responses, clarifications, and questions/comments at the mandatory pre-bid & site visit for the Pressure Reducing Valve (PRV) Flow Monitoring and Pressure Monitoring project (Saws Job No. 09-6005).

2.0 Modifications to the Plans

A. Sheet G3- ADD the following sentence to Note 51:

"Coordination of electrical service with CPS can be undertaken simultaneously for all sites."

B. Sheet G3 – DELETE Note 43 and REPLACE with the following:

"All unpaved disturbed areas shall be vegetated with 4 inches of compacted, conditioned topsoil followed by sodding to match existing areas. Sod shall be as approved by CoSA, Bexar County, City of Helotes, or TxDOT (as applicable). Seed hydromulching may be performed in lieu of sodding only if approved by the applicable entity."

C. Sheet C3 – DELETE the last sentence of "Existing PRV Abandonment Notes" Note 2 and REPLACE with the following:

"Remove any remaining debris, replace sidewalk, asphalt pavement, and curb and sod all remaining disturbed areas per Technical Specifications and Details."

D. Sheet C5 – DELETE the last two sentences of "Existing PRV Abandonment Notes" Note 2 and REPLACE with the following:

"Remove any remaining debris, replace asphalt pavement, curb, and brick pavers, and sod all remaining disturbed areas per Technical Specifications and Details. New brick pavers shall match existing."

E. Sheet C22 – REPLACE this sheet with the modified Sheet C22 included in this Addendum.

F. Sheet E4B – ADD this plan sheet to the Contract Documents.

G. Sheet E6 – REPLACE this sheet with the modified Sheet E6 included in this Addendum.

H. Sheet E6A – ADD this plan sheet to the Contract Documents.

I. Sheet E8 – REPLACE this sheet with the modified Sheet E8 included in this Addendum.

3.0 Modifications to Specifications

A. SPECIAL CONDITIONS – DELETE section SC–2.2 in its entirety.

B. Section 01720 PROJECT RECORD DOCUMENTS – ADD this specification to the Contract Documents.

C. Section 16920 SCADA SYSTEM AND LOCAL STATION CONTROL AND MONITORING – Part 2.2, REPLACE with the attached Part 2.2 included in this Addendum.

4.0 Questions and Responses

Q1: On this project we seem to be missing 01720 Project Record Documents from our specifications. Our specifications were downloaded from the website. Please send this section to us or advise as to the actions that should be taken.

Response: Technical Specification 01720 is included in this Addendum.

Q2: Will DIP be allowed inside the vaults (cumbersome small fabricated pieces for steel) as it will keep material consistent through out assembly instead of change?

Response: Ductile iron piping can be carried through the vault wall but the remaining piping within the vault must be steel.

Q3: There isn't room for restraint over FCA's. Will you allow FCA with restraint pins?

Response: Restraint pins will not be allowed. However, a Model 975 Dismantling Joint by Smith Blair (for restrained joint use) is acceptable instead.

Q4: The Vaults/Manholes cite spool pieces with Fl x Fl connections where penetrating the concrete...with double Link-seal connections...this will not work properly. Will grout be allowed around the pipe to allow instead?

Response: The wall penetration must be sealed with Link Seal as identified in the plans. However, ductile iron piping can be carried through the vault wall but the remaining piping within the vault must be steel.

Q5: DD-852-02 – is vented 24" R&C, The drawing and description look like a watertight 32" R&C what diameter ring and cover is required?

Response: Revised Sheet C22 is included in this Addendum. A manhole ring and cover assembly with a 32-inch clear opening is required.

Q6: Can Allen Bradley be substituted for Modicon on the PRV Monitoring and Pressure project?

Response: Allen Bradley will not be allowed as a substitute – only Modicon will be allowed, as identified in the specifications.

5.0 Clarifications

A. The facility numbers in the "Site Location/Azimuth Table" on Sheet T01 are no longer valid and do not match the facility numbers shown on the Cover Sheet (Sheet G1). Refer to the facility name to match up each location. These facility numbers will be updated for the Conformance Documents for construction.

B. PLC part numbers have been updated on Sheet E6 and Technical Specification 16920.

C. The SCADA Digital Input on Sheet E6 has been revised to clarify between PRV and Pressure sites.

D. Digital output drawings are now provided on Sheet E6A.

E. In reference to Technical Specification 01323 - only pre-construction video is required (no post-construction). Video is intended only for aboveground features; the only exception would be the inside of any existing PRV vaults that will require any modifications. No NASSCO-PACP certification is required.

6.0 Questions/Comments from the Pre-Bid Meeting

A. Only Contractors that signed the Sign in Sheets at both the Mandatory Pre-bid Meeting and the Mandatory Site Visit are allowed to bid on this project.

B. A question was asked to reduce the liquidated damages from $600/day to $400/day as per General Conditions.

SAWS response: The project Special Conditions Section 2.2 noted an increase in liquidated damages to $600/day.

C. A question was asked about using Ductile Iron pipe through vault walls in lieu of Flanged Steel Pipe as per plans.

SAWS response: This question should be submitted in writing and a response will be submitted in Addendum.

7.0 Additional Attachments

A. Sign-in sheets from pre-bid meeting and pre-bid site visits.
B. Revised Plans Sheets
C. Revised Specifications Sheets

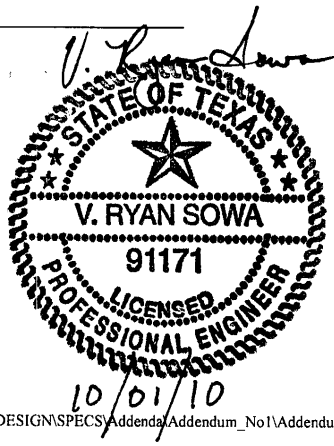
ACKNOWLEDGEMENT BY BIDDER

Each bidder is requested to acknowledge receipt of this Addendum No. 1 by his/her signature affixed hereto and to file same and attach with his/her bid.

The undersigned acknowledges receipt of this Addendum No.1 and the bid submitted herewith is in accordance with the information and stipulations set forth.

Date

Signature



10/01/10

Kimley-Horn and Associates, Inc.
Texas Registered Engineering Firm F-928
45 NE Loop 410, Ste. 890
San Antonio, TX 78216

San Antonio Water System

PRV FLOW & PRESSURE MONITORING PROJECT

Pre-~~construction~~ BID meeting

Date: 27-Sep-10

Name	Organization	Address	E-mail	Phone
Joe Isbell	SAWS	San Antonio TX	joe.isbell@saws.org	233-3613
Ryan Sowa	Kimley-Horn	45 NE Loop 410, Suite 890, 78216	ryan.sowa@kimley-horn.com	541-9166
Jesse Morales	Ad-Lite Electric -	1031 Donaldson Ave 78228	JMAD-lite@SATX.RR.com	7353420
Denyce Chavero	Kimley-Horn	45 NE Loop 410, Suite 890, 78216	denyce.chavero@kimley-horn.com	541-9166
Adam Sharp	Holloman utilities	13730 IH 10 East Converse TX 78109	Sherry Durghart@ Hollomancorp.com	(210) 667 9925
Jeremiah Jones	RL Jones	18946 Redland Road, 78259	admin@rljoneslp.com	4966223
Chuck Hazlewood	Shannon-monk Inc	PO Box 1049 Helotes TX 78023	chazlewood@shannon-monk.com	269-7192
Alton Hierholzer V	Hierholzer Eng. Inc.	P.O. Box 300, Seguin, TX 78156	ALTON@HEITX.com	830-372-4808
Phil White	AUE	975 W. Bitters, 78216	phil.white@alexufil.com	830-997-3079
Carlos Fermaintt	SAWS-	San Antonio, TX	cfermaintt@saws.org	233-3611
JK Bickley	Austin Eng Co Inc.	PO 342349, Austin TX 78734	mwhite@aecoi.net	512 327-1464
Bill Hunter	Pesado Const.	7054 Pipestone Schertz, TX 78154	billhunter2@msn.com	210-651-4452
Greg Arentz	HDSupply	~~1330~~ 1370 Judson Rd SATX 78233	greg.arentz@hdsupply.com	210 657-8632

San Antonio Water System

PRV FLOW & PRESSURE MONITORING PROJECT

Pre construction meeting

Date: 27-Sep-10

Name	Organization	Address	E-mail	Phone
Joe Isbell	SAWS	San Antonio TX	joe.isbell@saws.org	233-3613
CHRIS HOWARD	TEXSTAR ENT.	17090 JORDAN SELMA Tx. 78154	CHRISHOWARD@TEXSTARENTERPRISES	210-656-8775
LARRY RUCKER	TEXSTAR ENTERPRISES	17090 JORDAN, SELMA, TX 78154	larry@texstarenterprises.com	210-844-4469
Olaf Landgrebe	Wilsing Corp.	2655 Walsh Rd. SATX 78204	Corp Const@Yahoo.Com.	210-628-4000 FAX 628-4706
DAVID KALLFELZ	FUQUAY, INC.	4861 OLD HWY 81, NEW BRAUNFELS, TX 78132	DKALLFELZ@FUQUAY.COM	830-606-1882
CARL WARNKE	SHANNON-MONK	10030 BRAUN RD, SATX 78254	cwarnkee@shannonmonk.com	688-9461
ChrisRubio	NATIONAL POWER BORING	9810 FM 969 Austin TX 78724	art@idguerra.com	512-454-4456
CHESLEY SWANN	PIPELAYERS INC.	7550 GRISSOM Rd, SA, TX 78251	CHESLEY@PIPELAYERSINC.COM	210-684-7400

Site Visit

PRV FLOW & PRESSURE MONITORING PROJECT

Pre construction meeting

Date: 27-Sep-10

Name	Organization	Address	E-mail	Phone
Joe Isbell	SAWS	San Antonio TX	joe.isbell@saws.org	233-3613
Carl Warncke	Shannon-Monk Ink	" " "		688-9461
Chuck Harlewood	Shannon-Monk Inc	10030 Broadway Rd San Antonio Tx 78254	charlewood@shannonmonk.com	269-7192
J. K. Bickley	Austin Engineering Co	Austin TX	mwhite@aeci.net	512-327-1464
Jesse Morales	Ad-Lite Electric	1031 Donaldson Ave	JMAD-Lite@SATX.RR.Com	735-5428
LARRY RUCKER	TEXSTAR ENTERPRISES	17090 Jordan Rd Selma, Tx 78154	larry@texstarenterprises.com	210-844-4469
Chris Howard	" "	" "	chris.howard@texstarenterprises.com	210-[illegible]-8775
Greg Arentz	HD Supply	13790 Judson SATX 78233	greg.arentz@hdsupply.com	210 657-1632

Site Visit

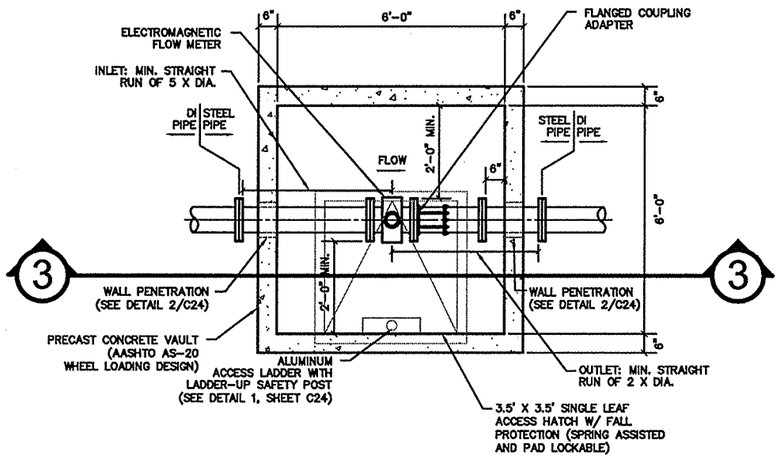
San Antonio Water System

PRV FLOW & PRESSURE MONITORING PROJECT

Pre construction meeting

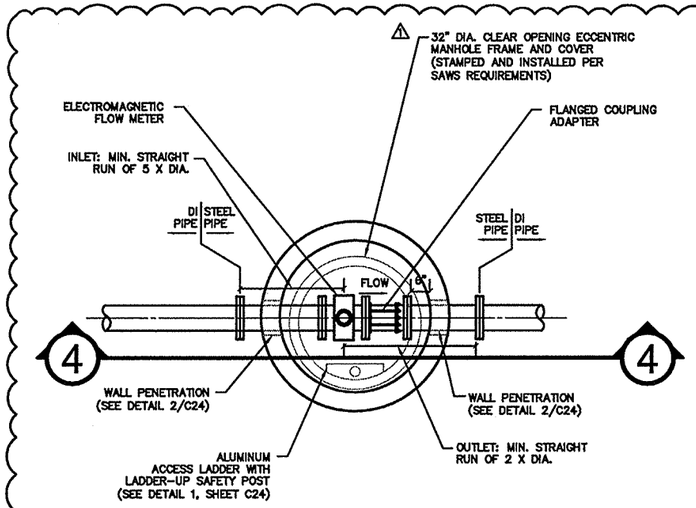
Date: 27-Sep-10

Name	Organization	Address	E-mail	Phone
Joe Isbell	SAWS	San Antonio TX	joe.isbell@saws.org	233-3613
Denyce Chavero	Kimley-Horn	45 NE Loop 410 Suite 890 78216	denyce.chavero@kimley-horn.com	561-4186
Bill Hunter	Pesado	7054 Pipestone Schertz, TX 78154	billhunter2@msn.com	651-4452
DAVID KALFELZ	FUQUAY, INC.	4861 old Hwy 81, New Braunfels, TX	DKALFELZ@FUQUAY.com	830-606-1882
Phil White	AUE	975 W. Bitters, 78216	phil.white@[illegible]	830-997-3[illegible]
ALTON HIERHOLZER	HIERHOLZER ENG. INC	P.O. BOX 300, SEGUIN TX 78156	ALTON@HEITX.com	830-743-0003 cell
[illegible] Landgrebe	Wilking Corp.	2655 [illegible] Rd.		(210) 628-4000
Adam Sharp	Holloman utilities	13730 IH10 Converse 78109	Sherry.Burghart@hollomancorp.com	(210) 667-9928
CHESLEY SWANN	PIPELAYERS INC	7580 GRISSOM Rd, SA TX 78251	CHESLEY@PIPELAYERSINC.COM	210-684-7400
Chris Rubio	NATIONAL Power Rodding	9810 FM 969 Austin TX 78724	art@idguerra.com	512-454-4450



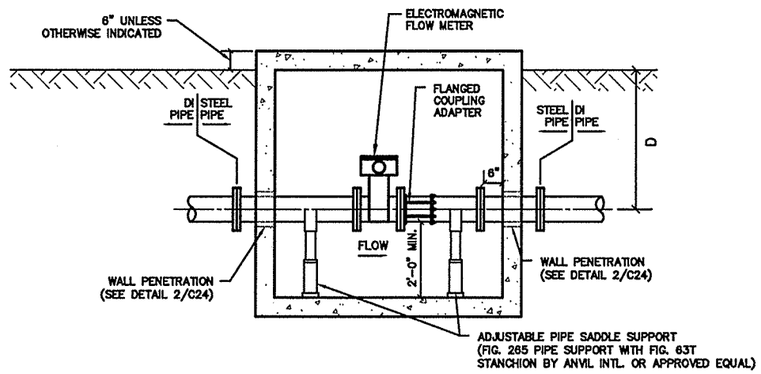
FLOW METER VAULT
PLAN

1 SCALE: 1/4" = 1' (11" X 17")



FLOW METER MANHOLE - W. LOOP 1604
PLAN

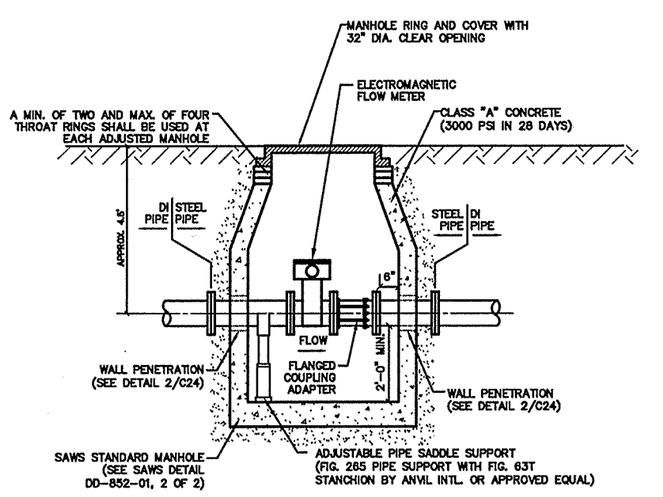
2 SCALE: 1/4" = 1' (11" X 17")



METER VAULT LOCATION	APPROXIMATE DEPTH "D" (FT.)
MILITARY DR.	5.0
IH-10 WEST FRONTAGE	4.0
TREELINE PARK	4.5
LACKLAND	3.5

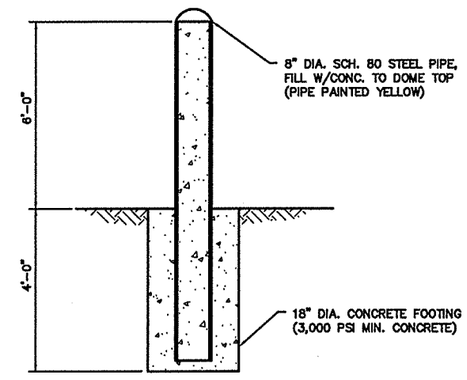
FLOW METER VAULT
SECTION

3 SCALE: 1/4" = 1' (11" X 17")



FLOW METER MANHOLE - W. LOOP 1604
SECTION

4 SCALE: 1/4" = 1' (11" X 17")



PERMANENT BOLLARD
DETAIL

5 SCALE: NTS

⚠ MANHOLE DIA. REVISED TO 32"

NOTES:
1. ALL COUPLING ADAPTERS SHALL HAVE A MINIMUM GAP OF 1" AND A MAXIMUM GAP OF 2".
2. SEE SAWS DETAIL DD-902-02, SHEET C25, FOR FLANGED COUPLING ADAPTER DIMENSIONS.
3. ALL WELDED COUPLINGS SHALL BE RATED FOR 3000 LBS.
4. INSTALL CLOTH GASKET ISOLATION KITS BETWEEN ALL DISSIMILAR METALS.
5. ALL PROPOSED VALVES WITHIN VAULTS SHALL BE "OPEN LEFT". ALL PROPOSED VALVES TO BE DIRECTLY BURIED SHALL BE "OPEN RIGHT" AND THE VALVE LID SHALL BE STAMPED "OPEN RIGHT".
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR PRECAST VAULTS. SHOP DRAWING SUBMITTAL SHALL INCLUDE BUOYANCY CALCULATIONS ASSUMING THE WATER TABLE ELEVATION IS TO TOP OF GROUND. STRUCTURAL CALCULATIONS SHALL BE SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF TEXAS. INSTALLATION OF VAULTS SHALL CONFORM TO SAWS CONSTRUCTION SPECIFICATIONS NO. 808 (REINFORCED CONCRETE VAULTS).

BAR IS ONE INCH IN LENGTH ON ORIGINAL DRAWING. CHECK SCALE AND ADJUST ACCORDINGLY.

ONE INCH

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Firm Registration No. 928
10 NE Loop 410 Suite 690, San Antonio, TX 78216 210-541-9166
Revision
NO. | By | Date
1 ADDENDUM NO.1 | DC | 09/30/10

STATE OF TEXAS
Y. RYAN SOWA
91171
REGISTERED PROFESSIONAL ENGINEER
09/30/10

SAN ANTONIO WATER SYSTEM
PRESSURE REDUCING VALVE (PRV)
FLOW MONITORING AND PRESSURE MONITORING PROJECT

PRV/FLOW METER VAULT DETAILS 2

Scale: AS SHOWN
Designed by: VRS
Drawn by: DC
Checked by: FCW
Date: SEPTEMBER 2010
Project No. 068665004
SAWS No. 09-6005

SHEET
C22

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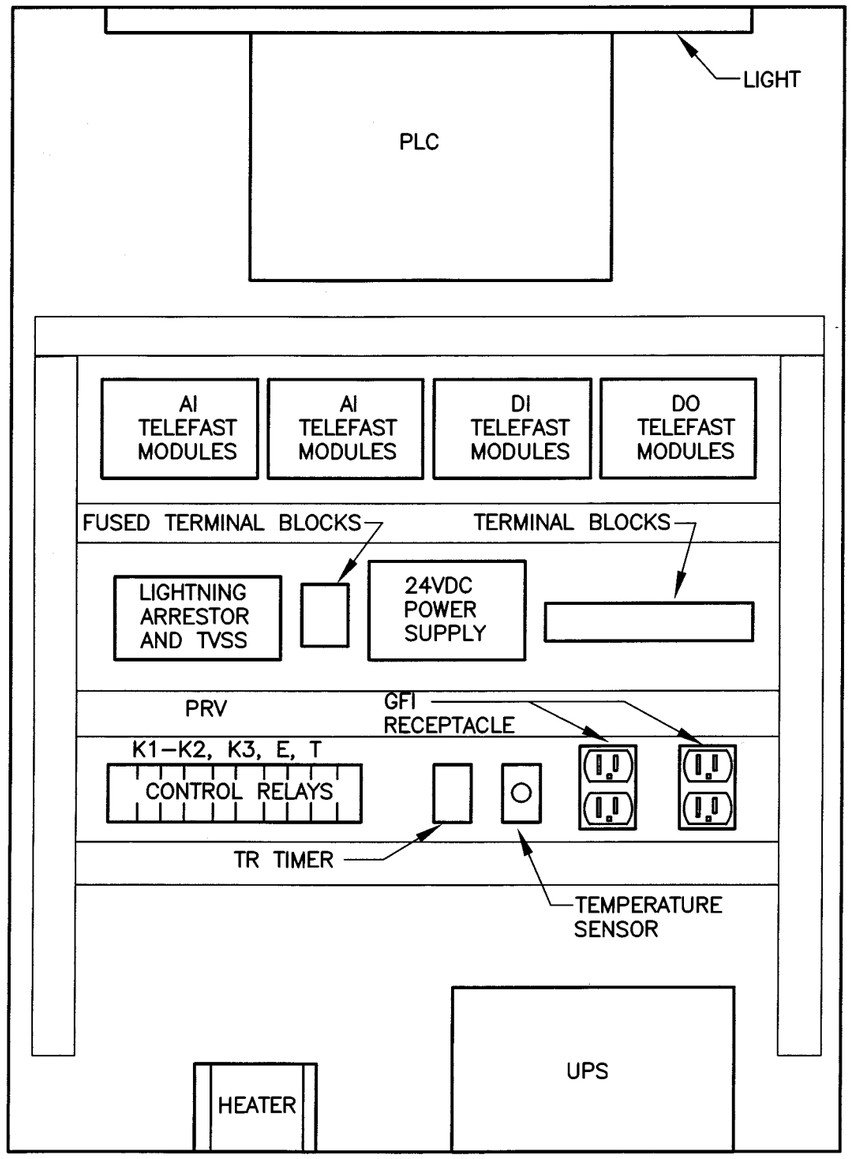
PLOTTED BY
DWG NAME
LAST SAVED

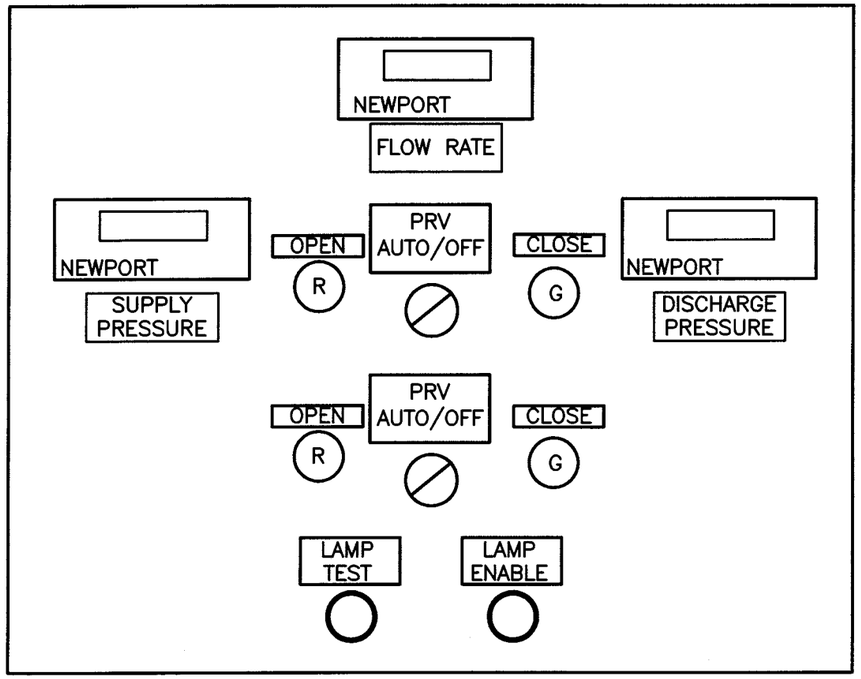


1 E4B E4B

PRV SCADA PANEL LAYOUT

NOT TO SCALE

APPLICABLE ONLY FOR WOODLAND GREEN PRV (PRV 11) AND IH10 WEST FRONTAGE ROAD PRV (PRV 12)



2 E4B E4B

PRV SCADA PANEL: SWING-OUT PANEL LAYOUT

NOT TO SCALE

JOSHUA ENGINEERING GROUP, INC.
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(210) 340-2322
TBPE REGISTERED FIRM F-002974

STATE OF TEXAS
JESSE E. GONZALEZ
56124
REGISTERED PROFESSIONAL ENGINEER
10/1/10

Kimley-Horn and Associates, Inc.
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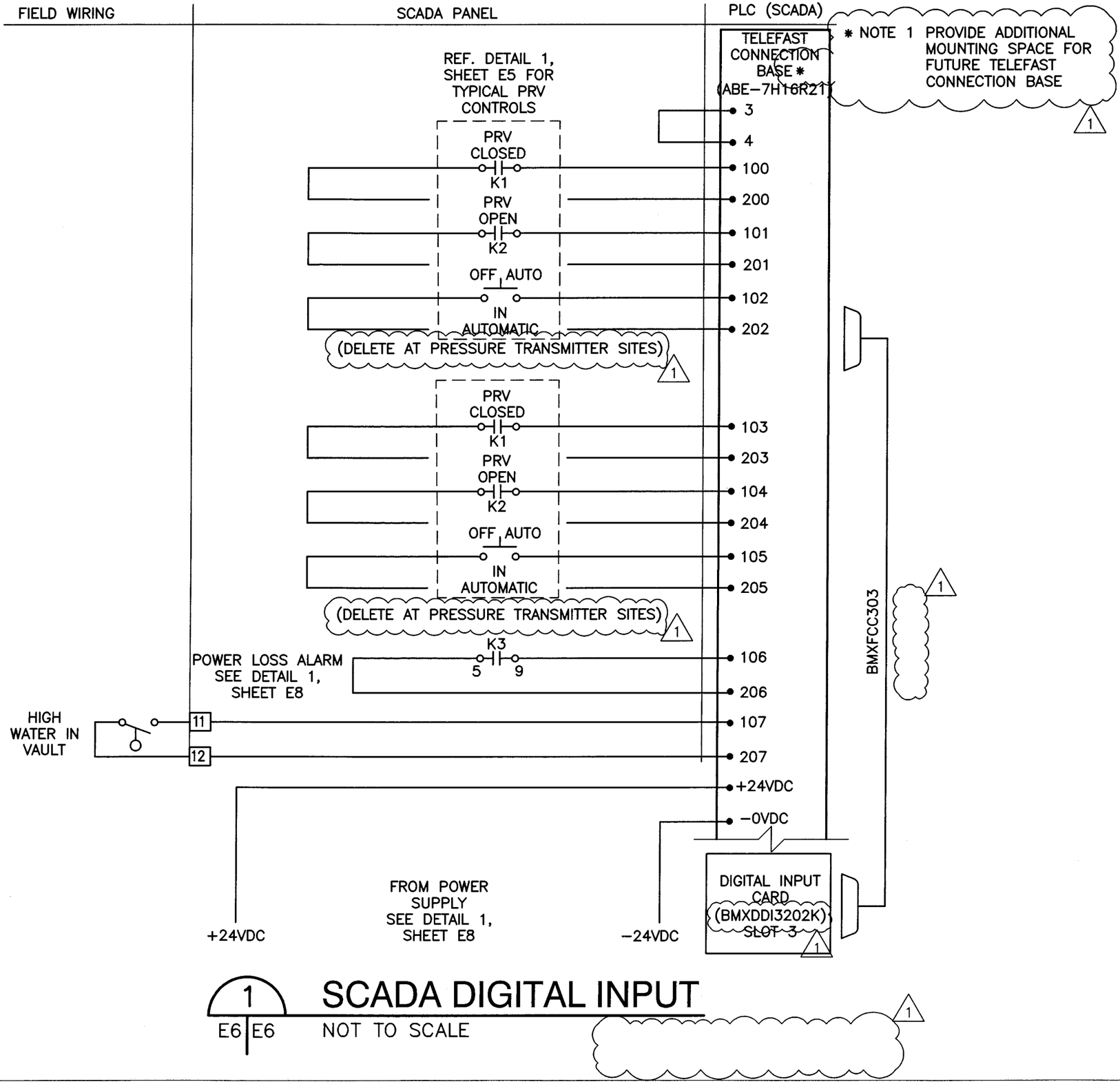
No.	Revision	By	Date
1	ADDENDUM NO. 1	EER	10/1/10

SAN ANTONIO WATER SYSTEM
PRESSURE REDUCING VALVE (PRV) / FLOW MONITORING AND PRESSURE MONITORING PROJECT

ELECTRICAL DETAILS

Scale:	AS SHOWN
Designed by:	EER
Drawn by:	EER
Checked by:	JEG P.E.
Date:	SEPT 2010
Project No.	08666004
SAWS No.	09-6005

SHEET 1 E4B



1 SCADA DIGITAL INPUT

E6 | E6 NOT TO SCALE

Kimley-Horn and Associates, Inc.
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No.	Revision	By	Date
1	ADDENDUM NO. 1	EER	10/7/10

SAN ANTONIO WATER SYSTEM

PRESSURE REDUCING VALVE (PRV) FLOW MONITORING AND PRESSURE MONITORING PROJECT

ELECTRICAL DETAIL

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STATE OF TEXAS
JESSE E. GONZALEZ
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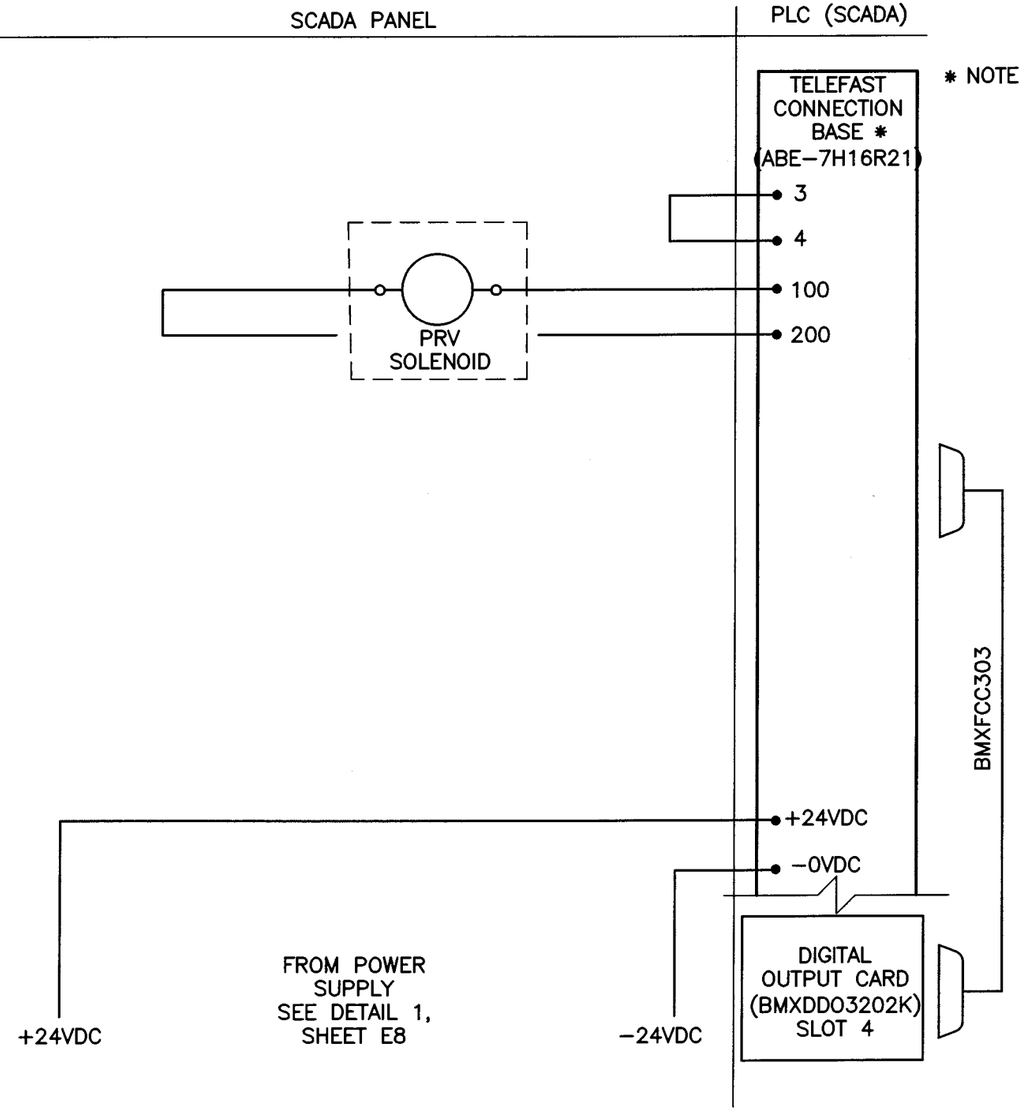
10/7/10

Scale:	AS SHOWN
Designed by:	EER
Drawn by:	EER
Checked by:	JEG P.E.
Date:	AUG 2010
Project No.	068665004
SAWS No.	09-6005

SHEET

E6



* NOTE 1 PROVIDE ADDITIONAL MOUNTING SPACE FOR FUTURE TELEFAST CONNECTION BASE

1 / E6A | E6A

SCADA DIGITAL OUTPUT

NOT TO SCALE

Kimley-Horn and Associates, Inc.
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No.	Revision	By	Date
1	ADDENDUM NO. 1	EER	10/1/10

SAN ANTONIO WATER SYSTEM

PRESSURE REDUCING VALVE (PRV) FLOW MONITORING AND PRESSURE MONITORING PROJECT

ELECTRICAL DETAIL

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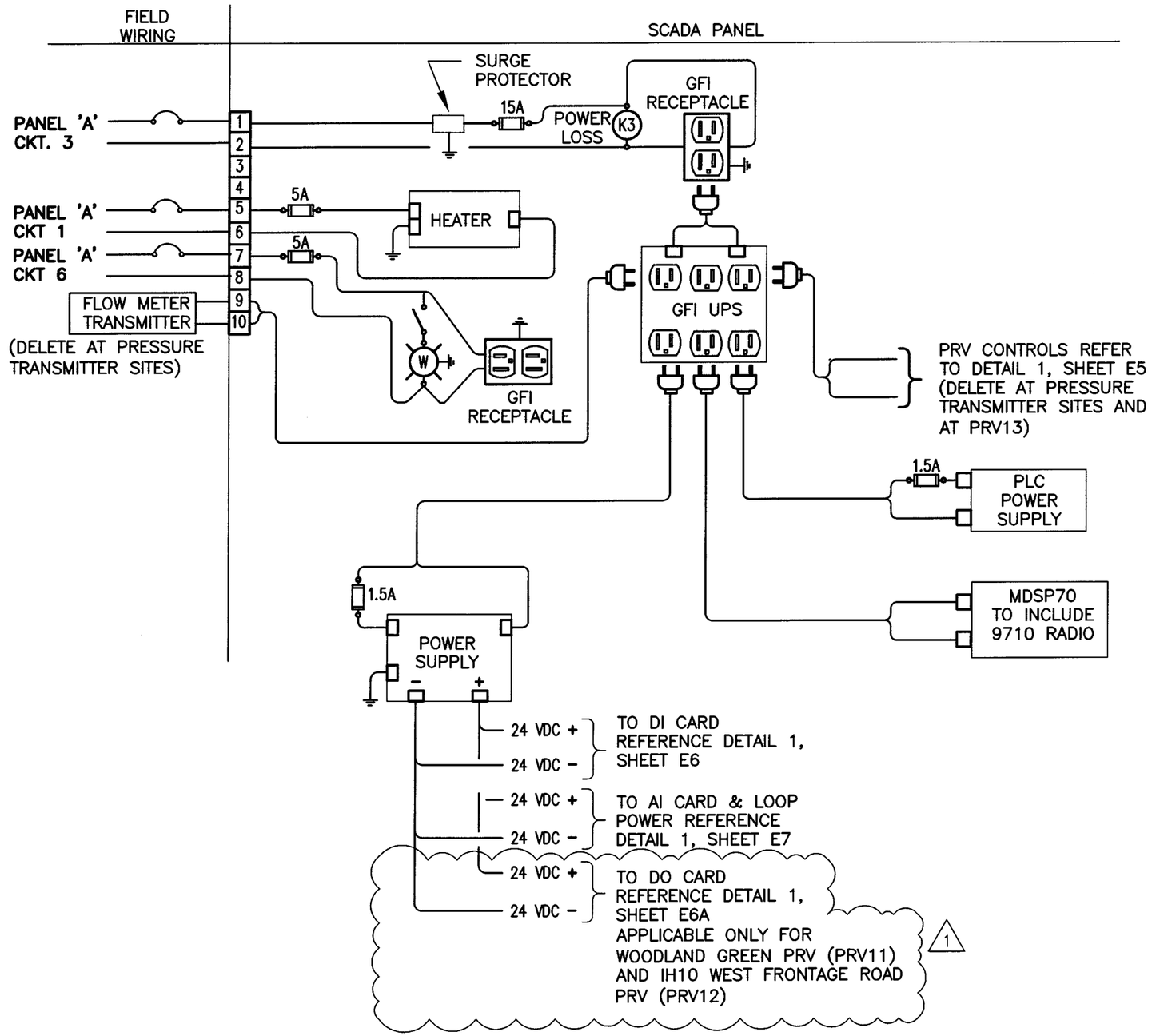
STATE OF TEXAS
JESSE E. GONZALEZ
56124
REGISTERED
PROFESSIONAL ENGINEER
30 SEPT '10

Scale:	AS SHOWN
Designed by:	EER
Drawn by:	EER
Checked by:	JEG P.E.
Date:	SEPT 2010
Project No.	068665004
SAWS No.	09-6005

SHEET 1 E6A



1 PRV SCADA POWER DISTRIBUTION

E8 | E8 NOT TO SCALE

Kimley-Horn and Associates, Inc.
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No.	Revision	By	Date
1	ADDENDUM NO. 1	EER	10/1/10

SAN ANTONIO WATER SYSTEM

PRESSURE REDUCING VALVE (PRV) FLOW MONITORING AND PRESSURE MONITORING PROJECT

ELECTRICAL DETAIL

JOSHUA ENGINEERING GROUP, INC.
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Scale:	AS SHOWN
Designed by:	EER
Drawn by:	EER
Checked by:	JEG P.E.
Date:	AUG 2010
Project No.	068665004
SAWS No.	09-6005

STATE OF TEXAS
JESSE E. GONZALEZ
56124
REGISTERED PROFESSIONAL ENGINEER
30 SEPT '10

SHEET

E8

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Work Included:

1. Throughout progress of the Work, the Contractor shall maintain an accurate record of changes in the Contract Documents, as described in Article 3.1 below.

2. Upon completion of the Work, the Contractor shall transfer the recorded changes to a set of Record Documents, as described in Article 3.2 below.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Special Conditions, and Sections in Division 1 of these Specifications.

2. Other requirements affecting Project Record Documents may appear in pertinent other Sections of these Specifications.

1.02 QUALITY ASSURANCE:

A. The Contractor shall delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff as approved by the Owner.

B. Accuracy of records:

1. The Contractor shall thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show the change properly.

2. Accuracy of records shall be such that future search for items shown in the Contract Documents may rely reasonably on information obtained from the approved Project Record Documents.

C. The Contractor shall make entries within 24 hours after receipt of information that the change has occurred.

1.03 SUBMITTALS:

A. Comply with pertinent provisions of Section 01340.

B. The Owner's approval of the current status of Project Record Documents may be a prerequisite to the Owner's approval of requests for progress payment and request for final payment under the Contract.

C. Prior to submitting each request for progress payment, secure the Owner's approval of the current status of the Project Record Documents.

D. Prior to submitting request for final payment, submit the final Project Documents to the Owner and Consultant and secure approval.

1.04 PRODUCT HANDLING:

A. The Contractor shall maintain the job set of Record Documents completely protected from deterioration and from loss and damage through completion of the Work and transfer of all recorded data to the final Project Record Documents.

B. In the event of loss of recorded data, the Contractor shall use means necessary to again secure the data to the Owner's approval.

1. Such means shall include, if necessary in the opinion of the Owner, removal and replacement of concealing materials.

2. In such case, provide replacements to the standards originally required by the Contract Documents.

PART 2 - PRODUCTS

2.01 RECORD DOCUMENTS:

A. Job set: Promptly following receipt of the Owner's Notice to Proceed, the Contractor shall secure from the Consultant at no charge to the Contractor one complete set of all Documents comprising the Contract.

PART 3 - EXECUTION

3.01 MAINTENANCE OF JOB SET:

A. Immediately upon receipt of the job set described in Paragraph 2.01-A above, identify each of the Documents with the title, "RECORD DOCUMENTS - JOB SET".

B. Preservation:

1. Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set to the approval of the Owner.

2. Do not use the job set for any purpose except entry of new data and for review by the Owner, until start of transfer of data to final Project Record Documents.

3. Maintain the job set at the site of Work as that site is designated by the Owner.

C. Making entries on Plans:

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required.

2. Date all entries.

3. Call attention to the entry by a "cloud" drawn around the area or areas affected.

4. In the event of overlapping changes, use different colors for the overlapping changes.

D. Make entries in the pertinent other Documents as approved by the Owner.

E. Conversion of schematic layouts:

1. In some cases on the Plans, arrangements of conduits, circuits, piping, ducts, and similar items, is shown schematically and is not intended to portray precise physical layout.

   a. Final physical arrangement is determined by the Contractor, subject to the Owner's approval.

   b. However, design of future modifications of the facility may require accurate information as to the final physical layout of items which are shown only schematically on the Plans.

2. Show on the job set of Record Drawings, by dimension accurate to within one inch, the centerline of each run of items such as are described in subparagraph 3.01-E-1 above.

   a. Final physical arrangement is determined by the Contractor, subject to the Owner's approval.

   b. Show, by symbol or note, the vertical location of the Item ("under slab", "in ceiling plenum", "exposed", and the like).

   c. Make all identification sufficiently descriptive that it may be related reliably to the Specifications.

3. The Owner may waive the requirements for conversion of schematic layouts where, in the Owner's judgment, conversion serves no useful purpose. However, do not rely upon waivers being issued except as specifically issued in writing by the Owner.

3.02 FINAL PROJECT RECORD DOCUMENTS:

A. The purpose of the final Project Record Documents is to provide factual information regarding all aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.

B. Approval of recorded data prior to transfer:

1. Following receipt of the documents described in Paragraph 2.01-A above, and prior to start of transfer of recorded data thereto, secure the Owner's approval of all recorded data.

2. Make required revisions.

C. Transfer of data by Contractor to Plans:

1. Carefully transfer change data shown on the job set of Record Drawings to the corresponding transparencies, coordinating the changes as required.

2. Clearly indicate at each affected detail a full description of changes made during construction, and the actual location of items described in subparagraph 3.01-C above.

3. Call attention to each entry by drawing a "cloud" around the area or areas affected.

4. Make changes neatly, consistently, and with the proper media to assure longevity and clear reproduction.

D. Transfer of data to other Documents:

1. If the Documents other than Plans have been kept clean during progress of the Work, and if entries thereon have been orderly to the approval of the Owner, the job set of those Documents other than Plans will be accepted as final Record Documents.

2. If any such Document is not so approved by the Owner, secure a new copy of that Document from the Consultant at the Consultant's usual charge for reproduction and handling, and carefully transfer the change data to the new copy to the approval of the Consultant.

E. Review and submittal:

1. Submit the completed set of Project Record Documents to the Consultant as described in Paragraph 1.03-C above.

2. Participate in review meetings as required.

3. Make required changes and promptly deliver the final Project Record Documents to the Owner.

3.03 CHANGES SUBSEQUENT TO ACCEPTANCE:

A. The Contractor has no responsibility for recording changes in the Work subsequent to Final Completion, except for changes resulting from work performed under Warranty.

END OF SECTION

TECHNICAL SPECIFICATION 16920

2.2 PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEM

A. The PLC shall be a complete system that includes but is not limited to the following:
   1. PLC Central Processing Unit (CPU)
   2. PLC modules, chassis, and power supply
   3. Connection bases
   4. Connection cables
   5. Program software deliverable to Owner (SAWS)

B. Approved Products – NO SUBSTITUTIONS

DESCRIPTIONS	MANUFACTURER	PART NUMBER
8 Slot Backplane *	Modicon	BMX XBP 0800
Power Supply Module *	Modicon	BMX CPS 3500
CPU *	Modicon	BMX P34 2020
32 Channel Digital Input Module *	Modicon	BMX DDI 3202K
4 Channel Analog Input Module *	Modicon	BMX AMI 0410
32 Channel Digital Output Module *	Modicon	BMX DDO 3202K
Digital Input and Output Telefast Connection Base *	Modicon	ABE 7H16R21
Digital Input and Output Telefast Connection Cable	Modicon	BMX FCC303
Analog Input and Output Telefast Connection Base *	Modicon	ABE 7CPA410
Analog Input and Output Telefast Connection Cable	Modicon	BMX FCA300
8-Slot Cable and Shielding Kit	Modicon	BMX XSP0800
Cable Shield Clamps (Package of 10)	Modicon	STB XSP3020
Empty Slot Protective Covers	Modicon	BMX XEM010

C. Communications:
   1. Modbus RS 232 communication ports shall be provided using the PLC CPU serial ports.

D. Programming:
   1. The PLC shall use Modicon Unity Pro 5.0 PLC programming software or the latest version.
   2. All the programs and licenses shall become the property of the Owner.
   3. Contractor to coordinate with the SCADA division of the SAWS Production Department.

E. Spare Materials:
   1. Furnish spare materials quantity, for each of the above listed products (Paragraph B) marked with an *, equal to 10 per cent of amount installed, but not less than one unit/type.
   2. Extra materials shall be packaged with protective covering and identified with labels describing contents.

F. All spare telefast I/O points shall be wired to terminal blocks.