SAN ANTONIO WATER SYSTEM
University Pump Station Improvements Project
SAWS Job No. 12-6002
Solicitation No. B-14-002-DD

ADDENDUM NO. 9
April 23, 2014

TO BIDDER OF RECORD:

The following changes, additions, and/or deletions are hereby made a part of the Contract Documents for the University Pump Station Improvements Project, for the San Antonio Water System, San Antonio, Texas, dated January 2014, as fully and completely as if the same were set forth therein.

PART 1 – TECHNICAL SPECIFICATIONS

1. Section 13300 Instrumentation and Controls General Provisions

   A. Replace in its entirety 13300-9, 1.06.C.2.k with: "The ASP shall provide 24-hour, 7-days a week remote support throughout the length of the warranty period. However if remote support is not sufficient to solve the problem, then an on-site resolution is required."

2. Section 13400 Control Loop Descriptions

   A. Revise 13400.3.02.F.1: "…Four new flow meters shall be installed and one existing flow meters shall be reused. The existing flow meters for pumps HSP No. 3, HSP No. 4, and HSP No. 5 shall be removed and replaced…"

3. Section 13410 Field Instrument List

   A. Revise Table 13410 Field Instrument List: Item 18, I-05, FE/FIT-105-5: Remove "Existing" from Comments.

PART 2 – DRAWINGS

1. SHEET C-1: Add the following note to the end of the General Notes:

   "9. Based upon age of the existing facility, the site may contain lead paint coatings on piping, valves, pumps and appurtenances. If lead materials are encountered during construction, the Contractor shall follow Pollution Abatement Compliance requirements per specification 01570, Temporary Controls."

2. Replace SHEET C-11 in its entirety with attached SHEET C-11.

3. SHEET E-04: Delete section 31/E-07; Add a junction box 24"x24"x12" next to each gate actuator. Refer to security riser diagram-1 on SHEET E-21

4. Replace SHEET E-06 in its entirety with attached SHEET E-06

5. Replace SHEET E-07 in its entirety with attached SHEET E-07

6. Replace SHEET E-07A in its entirety with attached SHEET E-07A

7. SHEET E-09: Change 4#14 to 6#14 for pumps HSP-4 and HSP-5 (four places total). The HSP-4 motor is new, show as dark.

8. SHEET E-10: Change 4#14 to 6#14 for pump HSP-3(two places total). Change 6#14 to 8#14 and 4#14 to 6#14 for pumps HSP-1 and HSP-2 (four places total). The HSP-3 motor is new, show as dark.

9. SHEET E-14: The flow transmitter FIT-105-5 and flow element FE-105-5 shall be shown as new. Add note 1 reference next to flow transmitter. Replace note 1 with: "Provide sunshield, surge suppressor, and wire way as per detail 5 on E-23."

10. SHEET E-15: Move Ductbank Section 45/E-07A to the East of EHH-2. Change scale from ½" to ¼" Add connection from FIT-105-1 to FE-105-1. Delete connection from FE-105-1 to JC12.

11. SHEET E-19: For Panelboard LB, circuit number 27 change the wire size from 12 to 10.

12. SHEET E-20: Delete PSL-105-1 and PSL-105-2 and associated wire and conduit tagged as SCP-121 and SCP-125.

13. SHEET E-21: Refer to Riser Diagram-1; Change 2" conduit for the card readers to 1". Replace note two with: "Refer to Section 13550 for card reader communication cable." Add note three: "Refer to section 02829 for gate actuator." Add note four: "The j-boxes as shown on riser diagram shall be installed next to the gate actuator. Exact location shall be coordinated in the field." Add note two references next to the card reader conduits (four total). Add note three references next to the gate actuators (two total). Add note four references next to the j-boxes.

14. SHEET E-23: Change JC-41 to JI-41 and JI-41 to JC-41.

15. Replace SHEET E-24 in its entirety with attached SHEET E-24

16. SHEET ED-01: Delete note 6 in Addendum 3 and replace with: "SAWS recommends the Contractor shall remove and dispose all underground ductbanks shown on sheet ED-01 and C-2 at all depths located within the facility."

17. SHEET ED-03: Replace note #3 with: "Existing flow sensor and transmitter shall be demolished. Demolish associated wire and conduit. Refer to ED-04 Photograph-3."

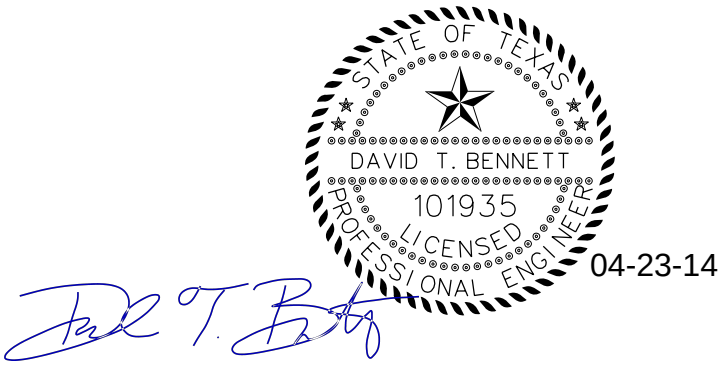
18. SHEET ED-04: Delete note 1 reference next to photo 3. Show flow transmitter and stand as demolish.

19. SHEET EZ-1: Delete in its entirety Detail 1 Above Grade Conduit Termination.

20. SHEET I-03: Show the flow meter for HSP No. 5 as a new magnetic flow meter.

21. SHEET I-05: Show the flow meter for HSP No. 5 as a new magnetic flow meter.

ALL BIDDERS SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM NO. 9 IN THE BID FORM AND BY HIS/HER SIGNATURE AFFIXED HERETO AND TO FILE SAME AS AN ATTCHMENT TO HIS/HER BID. BID FORMS SUBMITTED WITHOUT THIS ACKNOWLEDGEMENT WILL BE CONSIDERED INFORMAL.



David T. Bennett, P.E.

Freese and Nichols, Inc.

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

ACKNOWLEDGEMENT BY BIDDER

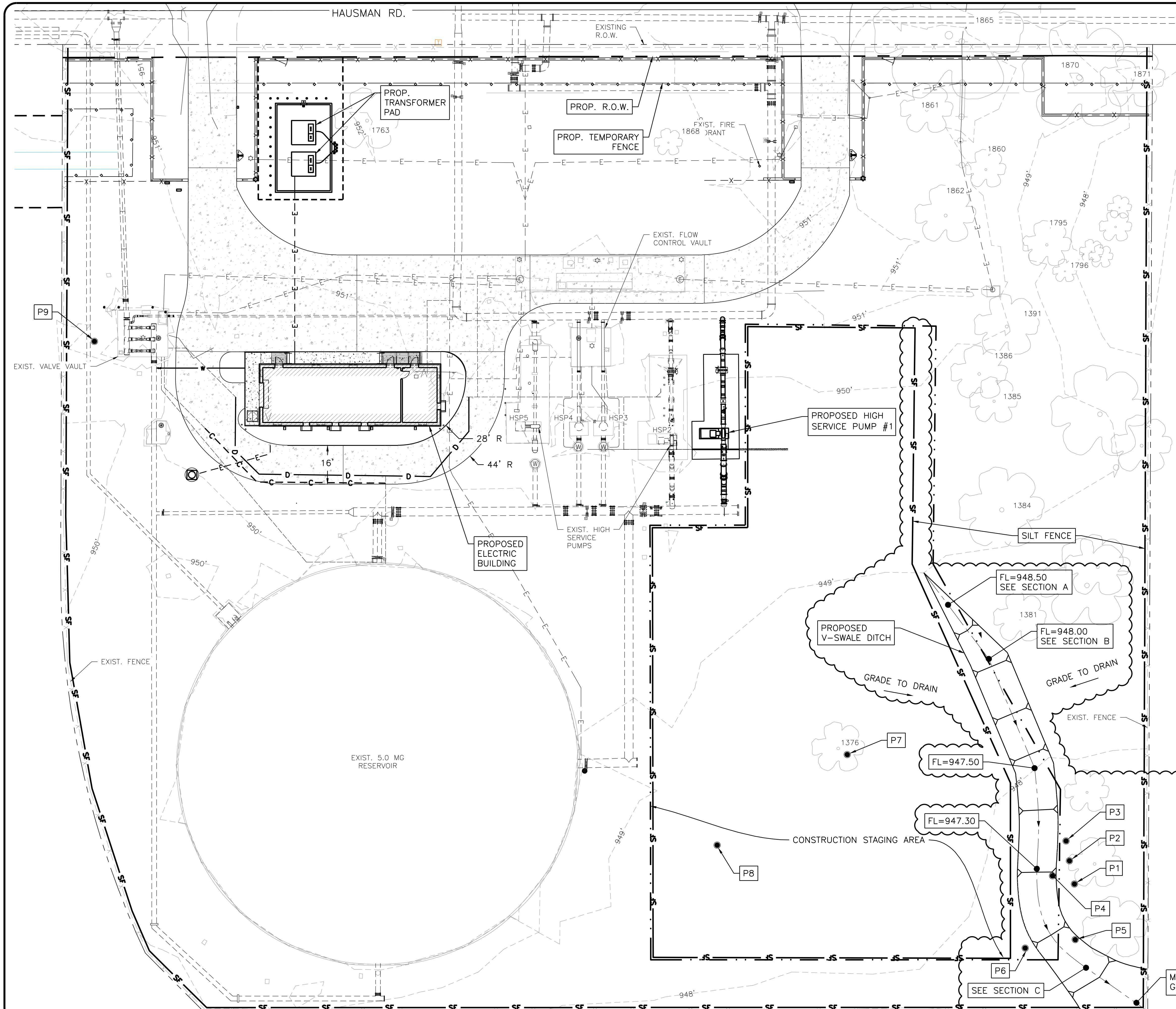
THE UNDERSIGNED ACKNOWLEDGES RECEIPT OF THIS ADDENDUM NO. 9 AND THE BID SUBMITTED HEREWITH IS IN ACCORDANCE WITH THE INFORMATION AND STIPULATION SET FORTH.

Date Signature of bidder

Appended hereto and part of Addendum No. 9 are:

1. Sheet C-11
2. Sheet E-06
3. Sheet E-07
4. Sheet E-07A
5. Sheet E-24
6. Questions and Answers

END OF ADDENDUM NO. 9

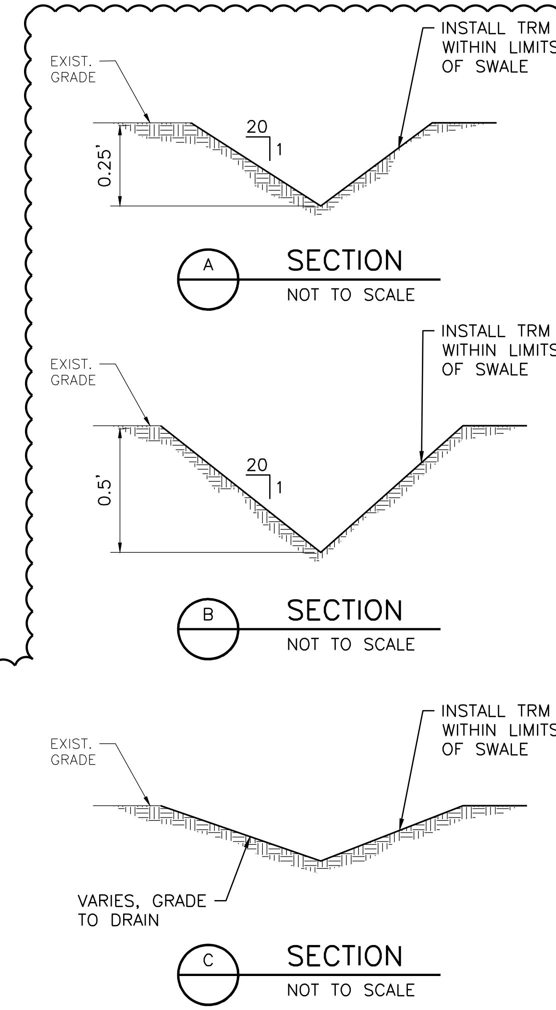


LEGEND:

● GEOLOGIC SITE DATA (P#)

GENERAL NOTES:

1. ALL TREES TO BE PROTECTED PER TABLE A, SEE SHEET C-1.
2. REFERENCE SHEETS C-8 AND C-9 FOR EROSION CONTROL DETAILS.
3. EXISTING VEGETATIVE BUFFERS WILL BE MAINTAINED AS MUCH AS POSSIBLE DURING CONSTRUCTION AND WILL BE RESTORED UPON PROJECT COMPLETION
4. REFERENCE SHEET C-12 FOR TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES.



Freese And Nichols, Inc. Job No.
SWB12322

No.	Date	Revisions	App.
2	4/23/14	ADDENDUM NO. 9	DTB
1	2/20/14	ADDENDUM NO. 2	DTB

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

STATE OF TEXAS — DAVID T. BENNETT — 101935 — LICENSED PROFESSIONAL ENGINEER

Date: 01/22/14
Designed by: DTB
Drawn by: NC
Checked by: RLG
Scale: N.T.S.

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SAN ANTONIO WATER SYSTEM

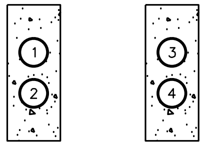
SAWS JOB NO. 12-6002
UNIVERSITY PUMP STATION
IMPROVEMENTS PROJECT

EROSION & SEDIMENTATION CONTROL PLAN

Sheet C-11

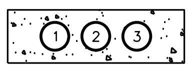
NOTES BY SYMBOL "⬡":

1. REFER TO STANDARD DUCTBANK DETAILS.



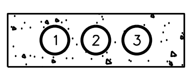
DUCTBANK SECTION 1 (E-04) NTS ①

TABLE FOR SECTION 1			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	CPS-P1	5"C	POWER POLE TO UT-1
2	SPARE	5"C	SPARE
3	CPS-P1	5"C	POWER POLE TO UT-2
4	SPARE	5"C	–



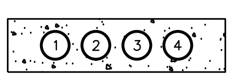
DUCTBANK SECTION 2 (E-04) NTS ①

TABLE FOR SECTION 2			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1-2	UT2-P1	5"C	UT-1 TO SWITCHGEAR
3	SPARE	5"C	–



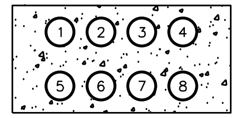
DUCTBANK SECTION 3 (E-04) NTS ①

TABLE FOR SECTION 3			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1-2	UT1-P1	5"C	UT-2 TO SWITCHGEAR
3	SPARE	5"C	–



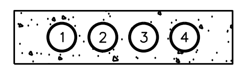
DUCTBANK SECTION 4 (E-04) NTS ①

TABLE FOR SECTION 4			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1 △2	LA-8	1"C	POWER TO GATE △1
2	FSP2-1 △2	1"C	SECURITY CABINET TO CAMERA 2 △1
3	SPARE	1"C	–
4	FSP1-2,3,4 △2	2"C	SECURITY CABINET



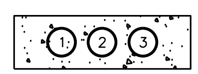
DUCTBANK SECTION 5 (E-04) NTS ①

TABLE FOR SECTION 5			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MC1-4RP	1"C	FROM MCC-1 TO PANEL LD
2	SPARE	1"C	–
3	SCP-101,102,103,103A	2"C	FROM SCP TO ALTITUDE VALVES
4	SCP-104	1"C	FROM SCP TO ALTITUDE VAULT PREASURE
5 △2	LB-27	1"C	POWER TO SECURITY PANEL AND GATE
6	FSP1-1 △2	1"C	SECURITY CABINET TO CAMERA 1 △1
7	SPARE	1"C	SPARE
8	FSP1-2,3,4 △2	2"C	SECURITY CABINET △1



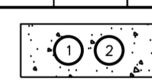
DUCTBANK SECTION 6 (E-04) NTS ①

TABLE FOR SECTION 6			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MC1-4RP	1"C	FROM MCC-1 TO PANEL LD
2	SPARE	1"C	–
3	SCP-101,102,103,103A	2"C	FROM SCP TO ALTITUDE VALVES
4	SCP-104	1"C	FROM SCP TO ALTITUDE VAULT PREASURE



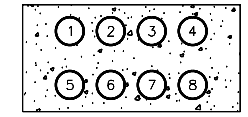
DUCTBANK SECTION 7 (E-04) NTS ①

TABLE FOR SECTION 7			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SCP-160	1"C	PLC-UNPS TO FLOW METER
2	SPARE	1"C	–
2	LB-29,31	1"C	POWER TO VAULT



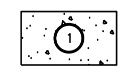
DUCTBANK SECTION 8 (E-04) NTS ①

TABLE FOR SECTION 8			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SCP-221	2"C	SCP TO ANTENNA TOWER
2	SPARE	2"C	–



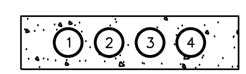
DUCTBANK SECTION 9 (E-04) NTS ①

TABLE FOR SECTION 9			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	LB-1,3,5	2"C	PANEL LB TO DISCHARGE VAULT VALVES
2	LA-7,9,11	2"C	PANEL LA TO DISCHARGE VAULT VVALVE
3	MC1-4LP	2"C	MCC-1 TO PANEL LC
4	SCP-131,132 △1	2"C	DISCHARGE VAULT VALVES TO SWGR-1 & SCP
5	SCP-145, 146, 147	1"C	SCP TO DISCHARGE VAULT PRESSURE SWITCHES
6	SCP-141, 142, 143, 144	2"C	SCP TO DISCHARGE VAULT LIT AND PIT
7	SPARE	2"C	–
8	SPARE	2"C	–



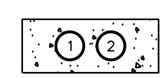
DUCTBANK SECTION 10 (E-14) NTS ①

TABLE FOR SECTION 10			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-3LP1	3"C	POWER TO HSP-5



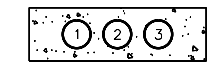
DUCTBANK SECTION 10A (E-14) NTS ①

TABLE FOR SECTION 10A			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SCP-135	2"C	FLOW METER
2	SCP-134 △2 △1	2"C	VALVE CONTROL △2
3	LA-2,4,6, LB-15,30,32	2"C	POWER TO VALVE (HSP-5) SPACE HEATER, HEAT TRACE AND FLOW METER
4	SPARE △2	2"C	SPARE △2



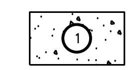
DUCTBANK SECTION 11 (E-14) NTS ①

TABLE FOR SECTION 11			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-3LA1	3"C	MOTOR HSP-5 RTD'S
2	SWGR1-3LC	1"C	E-STOP WIRE



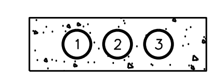
DUCTBANK SECTION 12 (E-14) NTS ①

TABLE FOR SECTION 12			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-2LA1	3"C	MOTOR HSP-4 RTD'S
2	SWGR1-2LC	1"C	E-STOP WIRE
3	LB-13,26	1"C	SPACE HEATER, HEAT TRACE



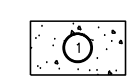
DUCTBANK SECTION 13 (E-14) NTS ①

TABLE FOR SECTION 13			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-2LP1	3"C	POWER TO HSP-4



DUCTBANK SECTION 14 (E-14) NTS ①

TABLE FOR SECTION 14			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-2RA1	3"C	HSP-3, RTD'S
2	SWGR1-2RC	1"C	E-STOP WIRE
3	LA-18,33	1"C	SPACE HEATER, HEAT TRACE



DUCTBANK SECTION 15 (–) NTS ①

TABLE FOR SECTION 15			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-2RP1	3"C	POWER TO HSP-3

No.	Date	Revisions	App.
△2	2/20/14	ADDENDUM NO.2	NKN
△9	4/23/14	ADDENDUM NO.9	NKN

Freese And Nichols, Inc. Job No. SWB12322

02/20/2014

Date 01/22/2014
Designed by: MA
Drawn by: ER
Checked by: VKG
Scale: N.T.S.

GAI Gupta & Associates, Inc. consulting engineering

FREESE NICHOLS 4040 Broadway Street, Suite 600 San Antonio, Texas 78209-6350 Phone - (210) 298-3800 Fax - (210) 298-3801

SAN ANTONIO WATER SYSTEM

SAWS JOB NO. 12-6002
UNIVERSITY PUMP STATION IMPROVEMENTS PROJECT
ELECTRICAL
DUCTBANK SECTIONS AND SCHEDULES - I

Sheet E-06

NOTES BY SYMBOL "⬡":

1. REFER TO STANDARD DUCTBANK DETAILS.

DUCTBANK SECTION 16
NTS

TABLE FOR SECTION 16			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SCP-128 △1	2"C	FLOW METER
2	SCP-127 △2	2"C	VALVE CONTROL △2
3	LA-2,4,6 LA-16,29,31	2"C	POWER TO VALVE (HSP-3) SPACE HEATER, HEAT TRACE AND FLOW METER

DUCTBANK SECTION 17
NTS

TABLE FOR SECTION 17			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-3RA1	3"C	MOTOR HSP-2, RTD'S
2	SWGR1-3RC	1"C	HEATER WIRE
3	SPARE △2 △1	2"C	SPARE △2

DUCTBANK SECTION 18
NTS

TABLE FOR SECTION 18			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-3RP1	3"C	POWER TO HSP-2

DUCTBANK SECTION 19
NTS

TABLE FOR SECTION 19			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SCP-124 △1	2"C	FLOW METER
2	SPARE △2 △1	2"C	SPARE △2
3	LA-1,3,5 LA-14,25,27	2"C	POWER TO VALVE (HSP-1) SPACE HEATER, HEAT TRACE AND FLOW METER
4	SCP-123 △2	2"C	VCP-1

DUCTBANK SECTION 20
E-04
NTS

TABLE FOR SECTION 20			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-4RA1	3"C	MOTOR HSP-1, RTD'S
2	SWGR1-4RC1	1"C	HEATER WIRE
3	SPARE △2 △1	2"C	SPARE △2

DUCTBANK SECTION 21
NTS

TABLE FOR SECTION 21			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-4RP1	3"C	POWER TO HSP-1

DUCTBANK SECTION 27
E-04
NTS

TABLE FOR SECTION 27			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1,2	TX-1P	3"C	POWER TO MCC
3	SWGR1-1LP	3"C	PRIMARY POWER TRANSFORMER
4	SWGR1-1RP	3"C	PRIMARY POWER TRANSFORMER
5,6	TX-2P	3"C	POWER TO MCC

DUCTBANK SECTION 28
E-04
NTS

TABLE FOR SECTION 28			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	LA-36, 34	1"C	POWER CATHODIC PROTECTION, LEVEL RELAY PANEL
2	SPARE	1"C	SPARE
3	SCP-111	1"C	LEVEL PROBE FROM TANK

DUCTBANK SECTION 29
E-04
NTS

TABLE FOR SECTION 29			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	LA-36	1"C	POWER CATHODIC PROTECTION

DUCTBANK SECTION 30
E-04
NTS

TABLE FOR SECTION 30			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1 △2	LB-27	1"C	POWER TO SECURITY PANEL AND GATE
2	FSP1-1 △2	1"C	SECURITY CABINET TO CAMERA 1 △2
3	SPARE	1"C	SPARE
5	FSP1-2,3,4 △2	2"C	SECURITY PANEL

△2

DUCTBANK SECTION 32
E-04
NTS

TABLE FOR SECTION 32			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	FSP1-2,3 △1	1"C	SECURITY CABINET TO CARD READERS △1
2	FSP1-1 △2	1"C	CAMERA 1 △2

DUCTBANK SECTION 33
E-04
NTS

TABLE FOR SECTION 33			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	LA-8	1"C	POWER TO GATE ACTUATOR
2	SPARE △2 △1	1"C	SPARE △2
3	F2P2-1	1"C	SECURITY CABINET TO CAMERA △1
4	F2P2-2,3,4 △2 △1	2"C	SECURITY CABINET TO CARD READERS AND GATE ACTUATOR △2

DUCTBANK SECTION 34
E-04
NTS

TABLE FOR SECTION 34			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	FSP2-2,3 △1	1"C	SECURITY CABINET TO CARD READERS △1
2	FSP2-1 △2	1"C	CAMERA 2 △2

DUCTBANK SECTION 35
NTS

TABLE FOR SECTION 35			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	LB-40,42	1"C	POWER TO LIGHT POLES
2	SC-1	1"C	CAMERA CM-3

Freese And Nichols, Inc. Job No.
SWB12322

No.	Date	Revisions	App.
△2	2/20/14	ADDENDUM NO.2	NKN
△9	4/23/14	ADDENDUM NO.9	NKN

MOTI L. AGGARWAL 45314
02/20/2014

Date 01/22/2014
Designed by: MA
Drawn by: ER
Checked by: VKG
Scale: N.T.S.

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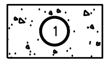
SAN ANTONIO WATER SYSTEM

SAWS JOB NO. 12-6002
UNIVERSITY PUMP STATION IMPROVEMENTS PROJECT
ELECTRICAL
DUCTBANK SECTIONS AND SCHEDULES - II

Sheet E-07

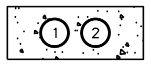
NOTES BY SYMBOL "⬡":

1. REFER TO STANDARD DUCTBANK DETAILS.



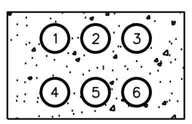
DUCTBANK SECTION 36 (1)
NTS

TABLE FOR SECTION 36			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	LB-40,42	1"C	POWER TO LIGHT POLES



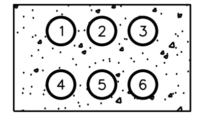
DUCTBANK SECTION 37 (1)
NTS

TABLE FOR SECTION 37			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	LB-40,42	1"C	POWER TO LIGHT POLES
2	SC-2	1"C	CAMERA CM-4



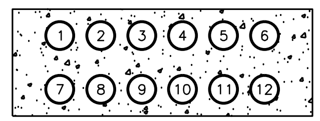
DUCTBANK SECTION 40 E-04 (1)
NTS

TABLE FOR SECTION 40			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR-2LP1	3"C	POWER TO HSP-4
2	SWGR-3LP1	3"C	POWER TO HSP-5
3	SWGR-4LP1	3"C	POWER TO HSP-6 (FUTURE)
4	SPARE	3"C	–
5	SPARE	3"C	–
6	SPARE	3"C	–



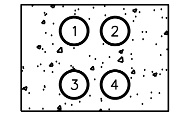
DUCTBANK SECTION 41 E-04 (1)
NTS

TABLE FOR SECTION 41			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR-2RP1	3"C	POWER TO HSP-3
2	SWGR-3RP1	3"C	POWER TO HSP-2
3	SWGR-4RP1	3"C	POWER TO HSP-1
4	SWGR-5RP1	3"C	POWER TO HSP-7 (FUTURE)
5	SPARE	3"C	–
6	SPARE	3"C	–



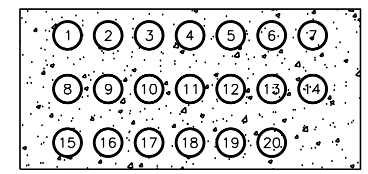
DUCTBANK SECTION 42 E-04 (1)
NTS

TABLE FOR SECTION 42			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-2LP1	3"C	POWER TO HSP-4
2	SWGR1-3LP1	3"C	POWER TO HSP-5
3	SWGR1-4LP1	3"C	POWER TO HSP-6 (FUTURE)
4	SWGR1-2RP1	3"C	POWER TO HSP-3
5	SWGR1-3RP1	3"C	POWER TO HSP-2
6	SWGR1-4RP1	3"C	POWER TO HSP-1
7	SPARE	3"C	SPARE
8	SPARE	3"C	SPARE
9	SPARE	3"C	SPARE
10	SWGR1-5RP1	3"C	POWER TO HSP-7 (FUTURE)
11	SPARE	3"C	SPARE
12	SPARE	3"C	SPARE



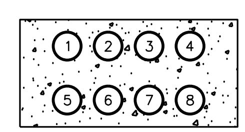
DUCTBANK SECTION 43 E-15 (1)
NTS

TABLE FOR SECTION 43			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-4LP1	3"C	POWER TO HSP-6 (FUTURE)
2	SWGR1-5RP1	3"C	POWER TO HSP-7 (FUTURE)
3	SPARE	3"C	–
4	SPARE	3"C	–



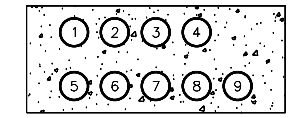
DUCTBANK SECTION 44 E-07A (1)
NTS

TABLE FOR SECTION 44			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SCP-124 △1	2"C	FLOW METER
2	SWGR-4RA1	2"C	EMERGENCY STOP/(HSP)
3	LA-1,3,5 LA-14,25,27	2"C	POWER TO VALVE (HSP-1) SPACE HEATER, HEAT TRACE AND FLOW METER
4	SCP-	2"C	VCP-1
5	SWGR1-4RA1	3"C	MOTOR HSP-1, RTD'S
6	SWGR1-4RC1	1"C	HEATER WIRE
7	SCP-121 △1	2"C	PSL-105-1
8-11	SPARE	2"C	– FOR FUTURE PUMP HSP-6
12-15	SPARE	2"C	– FOR FUTURE PUMP HSP-6
16,17	SPARE	3"C	–
18	LA-36, 34	3"C	POWER CATHODIC PROTECTION, LEVEL RELAY PANEL
19	SPARE	1"C	SPARE
20	SCP-111	1"C	LEVEL PROBE FROM TANK



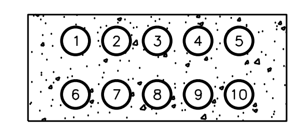
DUCTBANK SECTION 45 E-07A (1)
NTS

TABLE FOR SECTION 44			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1-4	SPARE	2"C	SPARE FOR FUTURE PUMP HSP-6
5-8	SPARE	2"C	SPARE FOR FUTURE PUMP HSP-7



DUCTBANK SECTION 46 E-07A (1)
NTS

TABLE FOR SECTION 46			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SCP-135 △1	2"C	FLOW METER
2	SCP-132 △1	2"C	STARTER/SCP
3	LA-2,4,6, LB-15,30,32	2"C	POWER TO VALVE (HSP-5) SPACE HEATER, HEAT TRACE AND FLOW METER
4	SWGR1-3LA1	2"C	VALVE CONTROL (OPEN/CLOSE)
5	SWGR1-3LA1	3"C	MOTOR HSP-5 RTD'S
6	SWGR1-3LC	1"C	E-STOP WIRE
7	SWGR1-2LA1	3"C	MOTOR HSP-4 RTD'S
8	SWGR1-2LC	1"C	E-STOP WIRE
9	LB-13,26	1"C	SPACE HEATER, HEAT TRACE



DUCTBANK SECTION 47 E-07A (1)
NTS

△2

TABLE FOR SECTION 47			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SWGR1-2RA1	3"C	HSP-3, RTD'S
2	SWGR1-2RC	1"C	E-STOP WIRE
3	SWGR1-4RA1	3"C	HSP-1, RTD'S
4	SWGR1-4RC	1"C	E-STOP, PSL
5	SWGR1-3LA1	3"C	HSP-5, RTD'S
6	SWGR1-3LC	1"C	E-STOP
7	SWGR1-2LA1	3"C	HSP-4, RTD'S
8	SWGR1-3RA1	3"C	HSP-2, RTD'S
9	SWGR1-3RC	1"C	E-STOP, PSL
10	SWGR1-2LC	1"C	E-STOP

Freese And Nichols, Inc.
Job No.
SWB12322

No.	Date	Revisions	App.
△1	2/20/14	ADDENDUM NO.2	NKN
△2	4/23/14	ADDENDUM NO.9	NKN

02/20/2014

Date 01/22/2014
Designed by: MA
Drawn by: ER
Checked by: VKG
Scale: N.T.S.

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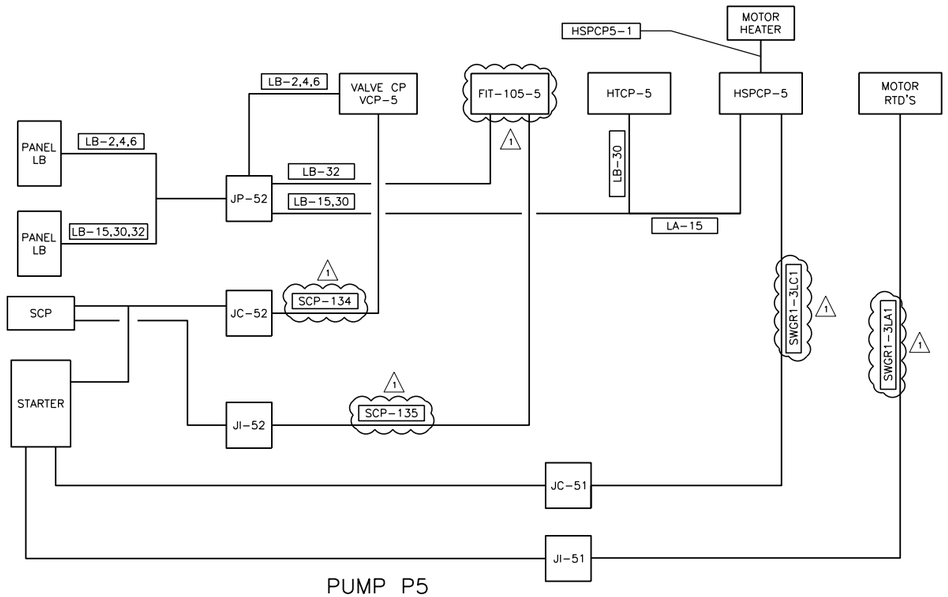
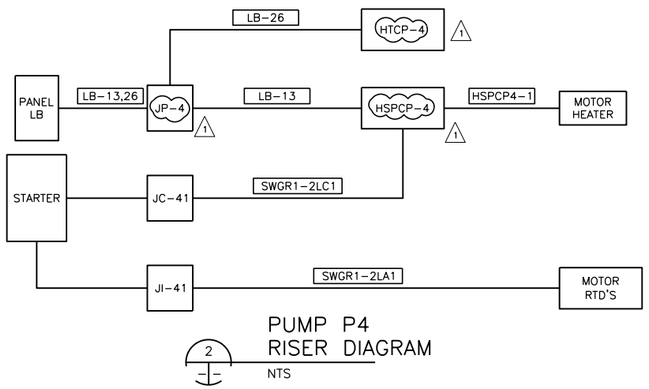
SAN ANTONIO WATER SYSTEM

SAWS JOB NO. 12-6002
UNIVERSITY PUMP STATION IMPROVEMENTS PROJECT
ELECTRICAL
DUCTBANK SECTIONS AND SCHEDULES – III

Sheet E-07A

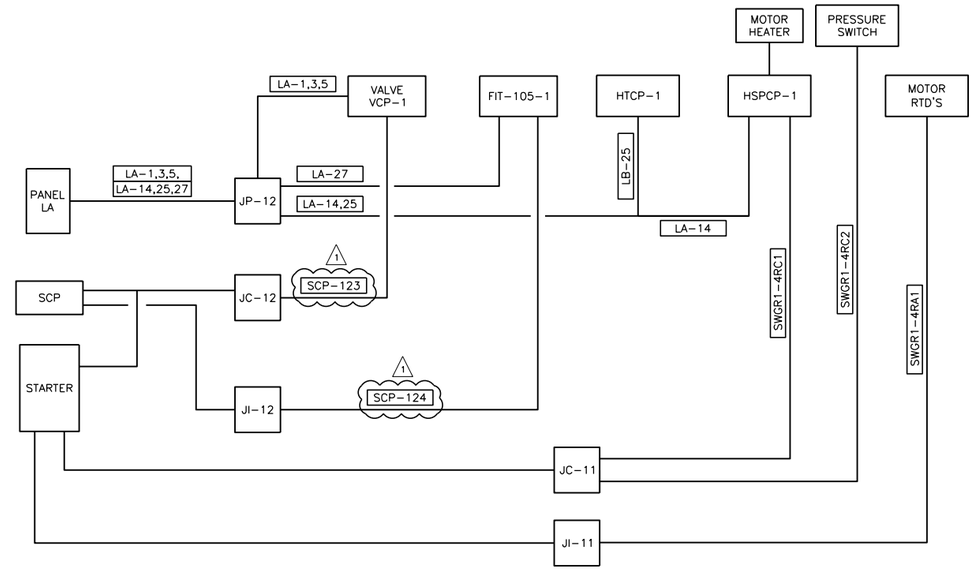


PUMP P5
RISER DIAGRAM
NTS

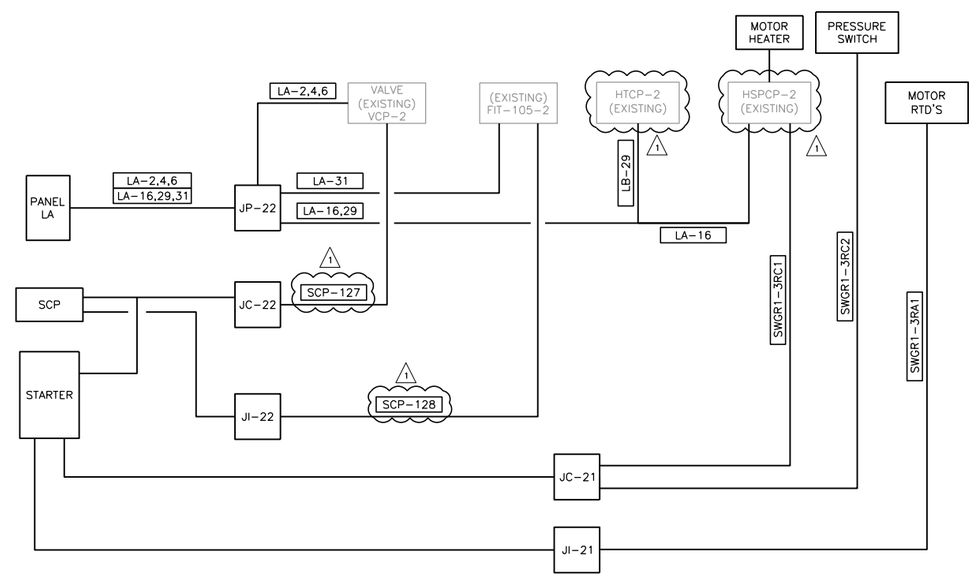


PUMP P4
RISER DIAGRAM
NTS

PUMP P3
RISER DIAGRAM
NTS



PUMP P1
RISER DIAGRAM
NTS



PUMP P2
RISER DIAGRAM
NTS

No.	Date	Revisions	App.
1	4/23/14	ADDENDUM NO.9	NKN

Freese And Nichols, Inc.
Job No.
SWB12322

NOEL L. AGGARWAL
45,514
LICENSED PROFESSIONAL ENGINEER
01/22/2014

Date 01/22/2014
Designed by: MA
Drawn by: MV
Checked by: VKG
Scale: N.T.S.

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SAN ANTONIO WATER SYSTEM

SAWS JOB NO. 12-6002
UNIVERSITY PUMP STATION
IMPROVEMENTS PROJECT
ELECTRICAL
RISER DIAGRAM

Sheet E-24

QUESTIONS AND ANSWERS

1. **Question:** Is the contractor supposed to interpret Part 1, Item 3, SC-14 to be adding a "Buy American" clause? This is a **significant** change at a very late stage. Often times, pump cases, concrete reinforcement, pipe fittings, and other common iron and steel items are produced oversees and later assembled or shop fabricated in the United States. Please confirm and clarify the intent of this change by Addendum #3 because it will significantly affect pricing.

   Answer: This was addressed in Addendum #8.

2. **Question**: Why did SAWS add the "Pollution Abatement" form to the contract documents? Before signing the form we need to know if SAWS conducted a study of the site to identify any hazardous or regulated materials such as asbestos or lead. It was stated at the prebid meeting that there should be no asbestos, but we would like assurance before signing a document stating that we have familiarized ourselves with the "Pollution Abatement" plans and specifications. We do not see any such plans or specs.

   Answer: Based upon age of the existing facility, the site may contain lead paint coatings on piping, valves, pumps and appurtenances. If lead materials are encountered during construction, the Contractor shall follow Pollution Abatement Compliance requirements per specification 01570, Temporary Controls. See Addendum #9, Part 2, Item #1.

3. **Question**: Part 3, Item 10 does very little to clarify contractor question 30 regarding removal of existing electrical duct banks. Since the drawings are unclear about quantity and depth of all existing duct bank please provide the linear footage, depth and width of all electrical duct bank that is to be removed under this contract. There is a significant difference in price associated with demo to 2' below grade and demo all duct bank to 3' depth as most duct bank is buried 24" below grade.

   Answer: Contractor to remove/dispose all shown ductbanks at all depths located within the facility. See Addendum #9, Part 2, Item #16.

4. **Question:** The response to contractor question #25 indicates there will be an Addendum #4 addressing removing and replacing existing valves. Please confirm this is correct and when the Addendum will be issued as we are fast approaching bid day. If bid day is going to be extended please indicate when as it also affects our work plan which would need to be modified for the added scope of work.

   Answer: Addendum #4 was posted on March 13, 2014. The bid date has been extended to May 2, 2014 per Addendum #7.

5. **Question**: It appears that two new shut downs (New number 1 and 2) have been added to the scope of work and it appears 3 new valves need to be supplied as part of these shut downs. Please identify on the plans the exact location of the 24" and 36" Butterfly

Valves that are to be removed and replaced? With such little information and the contractor's limited knowledge of how we are to isolate and accomplish these added shut downs it is going to be very difficult to precisely estimate the cost at this late stage of the game.

Answer: Valve locations were shown in Addendum #4.

6. **Question**: We've been asked by one or more of our electrical partners to provide pricing for the controls portion of the aforementioned project. Can you tell me how to go about getting on the approved controls contractors list? Any help that you could provide would be greatly appreciated. www.tmtsolutionsproviders.com

   Answer: SAWS has prequalified control contractors for the project. A contractor is required to submit approval information to be qualified.

7. **Question**: Specification Section 13300 1.06 C. 2. K. *"ASP shall provide 24-hour Service Contract for the length of the warranty period."* What level of service is required during the two year warranty period? i.e., is 24 x 7 remote support sufficient or is on-site support expected/required? Any additional information that can be provided to define this requirement further will assist us in estimating costs more accurately.

   Answer: The ASP shall provide 24-hour, 7-days a week remote support throughout the length of the warranty period. However if remote support is not sufficient to solve the problem, then an on-site resolution is required. See Addendum #9, Part 1, Item #1.

8. **Question**: On sheet E-24, the SCP wire number identification doesn't relate to the SCP wire numbers per sheet E-20 per Addendum #2. Please clarify.

   Answer: The SCP wire identification on sheet E-24 will be revised and issued as Addendum # 9, to match the sheet E-20, which was revised in Addendum #2. See Addendum #9, Part 2, Item #15.

9. **Question**: On sheet E-14 and E-06, ductbank 11/E-06 on sheet E-14 has SWGR1-3LA1 wire in a 3" conduit, and in ductbank 10A/E-06 has SWGR1-3LA1 wire in a 2" conduit. Please clarify. Pump 5 has some issues with the wires going to where they are suppose to per the drawings.

   Answer: The conduit in duct bank 10A/ E-06 will be 2" spare. See Addendum #9, Part 2, Item #4.

10. **Question**: On sheet E-14, at HSP 3 and 4, do you want conduit covers over the conduit? You show the cover for HSP 5.

    Answer: No conduit covers are required as there is no existing slab.

11. **Question**: On sheet E-14, it tells me that FIT-105-5 should stay existing, but on sheet P-2 it is telling me to install a new 12" mag meter. Please clarify.
    Answer: FIT-105-5 will be a new flow meter. See Addendum #9, Part 2, Item #9.

12. **Question**: On sheet E-24 (Pump P5 Riser Diagram), the conduit from [JC-51] to [HSPCP-5] is tagged [SWGR1-3RC1]. On sheet E-09, the same conduit is tagged [SWGR1-3LC1]. Please clarify.
    Answer: Yes, the conduit should be tagged as SWGR1-3LC1. See Addendum #9, Part 2, Item #15.

13. **Question**: On sheet E-24(Pump P5 Riser Diagram), the conduit from [JI-51} to [Motor RTD's] is tagged [SWGR1-3RA1]. On sheet E-09 the same conduit is tagged [SWGR1-3LA1]. Please clarify.
    Answer: Yes, the conduit should be tagged as SWGR1-3LA1. See Addendum #9, Part 2, Item #15.

14. **Question**: On sheet E-24 (Pump P4 Riser Diagram), the conduit from [JC-52] to the existing flow meter is tagged [SCP-132] and the existing flow meter is tagged [FIT-105-3]. On sheet E-20, the conduit is tagged [SCP-135] and the flow meter is tagged [FIT-105-5]. Please clarify.
    Answer: Yes, the conduit should be tagged as SCP-135. See Addendum #9, Part 2, Item #15.

15. **Question**: On sheet E-24 (Pump P4 Riser Diagram), the Heat Trace Control Panel and the High Service Pump Control Panel are labeled [HTCP-3] and [HSPCP-3]. On sheet E-14, the same control panels are labeled [HTCP-4] and [HSPCP-4]. Please clarify.
    Answer: Yes, the label should be tagged as HTCP-4 and HSPCP-4. See Addendum #9, Part 2, Item #15.

16. **Question**: On sheet E-24 (Pump 4 Riser Diagram), conduit [LB-13, 26] terminates in J-box [JP-41]. On sheet E-14, this J-box is labeled [JP-4]. Also on sheet E-14, there is a box labeled [JP-41] that connects to ductbank #13. Which box is referenced on sheet E-24 in the Riser Diagram? Please clarify.
    Answer: Yes, on sheet E-24 the JP- 41 should be JP-4. See Addendum #9, Part 2, Item #15.

17. **Question**: The mounting detail on sheet E-23 (Detail 1) does not match the (Pump P4 Riser Diagram) on sheet E-24. Are we to assume that J-box [JC-41] on the detail should actually be J-box [JI41] and vice versa? If so the detail shows conduit [SWGR1-2LC1]

terminating in [HTCP-4] and the Riser Diagram on sheet E-24 shows the same conduit terminating in [HSPCP-4]. Please clarify.

Answer: The JC-41 should be JI-41 and JI-41 should be JC-41. There is no conduit designated on sheet E-23. See Addendum #9, Part 2, Item #14.

18. **Question**: On sheet E-24 9Pump P3 Riser Diagram), conduit [LA-18,33] terminates in J-box [JP-31]. On sheet E-14, this J-box is labeled [JP-3]. Also on sheet E-14, there is a J-box labeled [JP31] that connects to ductbank #15. Which J-box is referenced on sheet E-24 in the Riser Diagram? Please clarify.

    Answer: The JC-31 should be JP-3. See Addendum #9, Part 2, Item #15.

19. **Question**: On sheet E-24 (Pump P3 Riser Diagram), the conduit from [JC-31] to [HSPCP-3] is tagged [SWGR1-2LC1]. On sheet E-10, the same conduit is tagged [SWGR1-2RC1]. Please clarify.

    Answer: Yes, the conduit should be tagged as SWGR1-3RC1. See Addendum #9, Part 2, Item #15.

20. **Question**: On sheet E-24 (Pump P2 Riser Diagram), the conduit from [JI-22] to [FIT-105-2] is tagged [SCP-125]. On sheet E-20 the same conduit is tagged [SCP-128]. Please clarify.

    Answer: Yes, the tag should be SCP-128. See Addendum #9, Part 2, Item #15.

21. **Question**: On sheet E-24 (Pump P2 Riser Diagram), the conduit from [JC-22] to [VCP-2] is tagged [SCP-126]. However on the sheet E-07 (Ductbank Section 16), conduit [SCP-126] is not shown in this ductbank as a conduit that is routed to [JC-22]. Also on sheet E-20, conduit [SCP-126] is shown to connect the Supervisory Control Panel [PLC-UNPS] to [SWGR/MCC]. Please clarify.

    Answer: The conduit from VCP-126 should be SCP-127. On E-07 conduit should be SCP-127 instead of SWGR-3RP1. See Addendum #9, Part 2, Item #5.

22. **Question**: On sheet E-24 (Pump P1 Riser Diagram), the conduit from [JI-12] to [FIT-105-1] is tagged [SCP-123]. On sheet E-20, the same conduit is tagged [SCP-124]. Please clarify.

    Answer: Yes, the tag should be SCP-124. See Addendum #9, Part 2, Item #15.

23. **Question**: On sheet E-24 (Pump P1 Riser Diagram), the conduit from [JC-12] to [VCP-1] is tagged [SCP-122]. On sheet E-07 (Ductbank Section #19), the conduit tag is only [SCP-]. Is [SCP122] the correct tag for conduit #4 in this ductbank? Please clarify.

Answer: On E-24 and E-07 the conduit tag should be SCP-123. See Addendum #9, Part 2, Items #5 and #15.

24. **Question**: On sheet E-15, ductbank #45 is shown leaving [EHH-2] on the east side of the hand hole. Should ductbank #45 be leaving the west side of the hand hole to connect with [EHH-1]? Please clarify.
    Answer: Yes, the duct bank section should be moved to east side of the manhole EHH-2 to connect with EHH-1. See Addendum #9, Part 2, Item #10.

25. **Question**: On sheet E-24 (Pump P2 Riser Diagram), the Heat Trace Control Panel and the High Service Pump Control Panel are labeled [HTCP-3] and [HSPCP-3]. On sheet E-15, these same control panels are labeled [HTCP-2] and [HSPCP-2]. Please clarify.
    Answer: Yes the panels should be HTCP-2 and HSPCP-2. See Addendum #9, Part 2, Item #15.

26. **Question**: On sheet E-15, a conduit is shown form [JC-12] to [FE-105-1]. This conduit is not shown on sheet E-24 (Pump P1 Riser Diagram). Please clarify.
    Answer: The conduit is not required for FE-105-1 from JC-12.

27. **Question**: On sheet E-07 (Ductbank Section 20), conduit #3 [SCP-121] is shown. This conduit does not appear on sheet E-24 (Pump P1 Riser Diagram). Please clarify.
    Answer: On sheet E-07, in Ductbank Section 20, conduit #3 will be a spare. See Addendum #9, Part 2, Item #5.

28. **Question**: On sheet E-15, a conduit is shown form [JC-22] to [FE-105-2]. This conduit is not shown on sheet E-24 (Pump P2 Riser Diagram). Please clarify.
    Answer: The conduit is not required for FE-105-2 from JC-22.

29. **Question**: On sheet E-07 (Ductbank Section 17), conduit #3 [SCP-125] is shown. This conduit does not appear on sheet E-24(Pump P2 Riser Diagram). Please clarify.
    Answer: In Ductbank Section -17 conduit # 3 will be a 2" spare. See Addendum #9, Part 2, Item #5.

30. **Question**: Please see sheet E-07 (Ductbank Section 30, conduit #1) and sheet E-06 (Ductbank Section 5, conduit #5). These conduits include circuits [LU-5] and [LB-27]. However, on sheet E-19 (Panel Schedule for Panel LU), circuit 5 is listed as a [SPACE]. Please clarify.
    Answer: The circuit LU-5 is not required. See Addendum #9, Part 2, Item #5.

31. **Question**: Please see sheet E-07 (Ductbank Section 30, conduit #2) and sheet E-06 (Ductbank Section 5, conduit #6). These conduits include [SC-4]. However, on sheet E-21 (Security Cabinet Riser Diagram), [SC-4 is not shown. Please clarify.
    Answer: The conduit tag should be FSP1-1. See Addendum #9, Part 2, Items #4 and #5.

32. **Question**: Please see sheet E-07 (Ductbank Section 30, conduit #4) and sheet E-06 (Ductbank Section 5, conduit #8). These conduits include [FSP1-2,3,4,5,6]. However, on sheet E-21 (Security Cabinet Riser Diagram), only [FSP1-1,2,3,4] are shown. Please clarify.
    Answer: The conduit tag should be FSP1-2, 3, 4. See Addendum #9, Part 2, Items #4 and #5.

33. **Question**: On sheet E-07 (Ductbank Section 32), conduit #1 includes [FSP1-2,3]. It says the conduit size is 1". However, on sheet E-21 (Security Cabinet Riser Diagram), they are shown to be separate 2" conduits. Please clarify.
    Answer: On sheet change conduit to 1". See Addendum #9, Part 2, Item #13.

34. **Question**: On sheet E-07 (Ductbank Section 34), conduit #1 includes [FSP2-2,3]. It says the conduit size is 1". However, on sheet E-21 (Security Cabinet Riser Diagram), they are shown to be separate 2" conduits. Please clarify.
    Answer: On sheet change conduit to 1". See Addendum #9, Part 2, Item #13.

35. **Question**: On sheet E-21 (Security Cabinet Riser Diagram) shows 2 J-boxes between the Security Cabinet and the gate hardware. What size are these J-boxes and where are the located. Please clarify.
    Answer: The J box shall be 20"x20"x 12" and should be located by the gate operator. See Addendum #9, Part 2, Item #13.

36. **Question**: On sheet E-06 (Ductbank Section 4), conduit #1 includes circuits [LU-2] and [LA-8]. However, on sheet E-19 (Panel Schedule for Panel LU), circuit 2 is listed as a [SPACE]. Please clarify.
    Answer: The circuit LU-2 is not required. See Addendum #9, Part 2, Item #4.

37. **Question**: On sheet E-06 (Ductbank Section 4), conduit #2 includes [SC-5]. However, on sheet E-21 (Security Cabinet Riser Diagram), [SC-5] is not shown. Please clarify.
    Answer: The conduit tag should be FSP2-1. See Addendum #9, Part 2, Item #4.

38. **Question**: On sheet E-06 (Ductbank Section4), conduit #4 includes [FSP1-2,3,4,5,6]. Should this be [FSP2]? Also, on sheet E-21 (Security Cabinet Riser Diagram), only [FSP2-1,2,3,4] are shown.

    Answer: The conduit tag should be FSP2-2, 3, 4. See Addendum #9, Part 2, Item #4.

39. **Question**: On sheet E-07A (Ductbank Section 47), there are 4 conduits that I think might not belong in this section. There are conduit #'s 4-7 and are also in Ductbank Section 6, involving the Altitude Vault on the other side of the site. Ductbank 47 goes to EHH-3 and the conduits are to continue to feed the High Service Pumps in that area. Please clarify.

    Answer: Yes, the conduits are associated with HSP-1, HSP-2 and HSP-3. See Addendum #9, Part 2, Item #6.

40. **Question**: On sheet EZ-02 detail 2, it shows using a aluminum expansion fittings when stubbing up above grade, but on EZ-02 detail 1, it doesn't show using aluminum expansion fittings. Please clarify.

    Answer: Delete detail-1 on sheet EZ-02. See Addendum #9, Part 2, Item #19.

41. **Question**: On sheet E-06 (Ductbank sections 10A & 11) conduit tag [SWGR1-3LA1] is in both duct banks, They are shown with different conduit sizes and are shown to terminate in different locations. I believe it belongs in ductbank #11 (per sheet E-09). I have included the 2" conduit for [SWGR1-3LA'] in ductbank #10A, but I have not included any wire or cable. Please clarify conduits and what type of wire or cable that is required.

    Answer: Yes the conduit belongs to Ductbank-11. Label conduit in Ductbank-10A as spare. See Addendum #9, Part 2, Item #4.

42. **Question**: On sheet E-07 (Ductbank section16), I cannot find information on the type of wire or cable required in conduit tag [SWGR-3RP1]. Please clarify.

    Answer: The tag on conduit -2 in Ductbank Section -16 shall be SCP-127. See Addendum #9, Part 2, Item #5.

43. **Question**: On sheet E-07 (Ductbank section 19), I cannot find information on the type of wire or cable required in conduit tag [SWGR-4RA1]. Please clarify.

    Answer: The conduit -2 in Ductbank Section -19 shall be spare. See Addendum #9, Part 2, Item #5.

44. **Question**: Ductbanks 1A and 1B are routing the primary conduits from the utility transformers to the utility power poles. Note 3 on sheet E-04 states that the contractor shall coordinate the location of the poles with CPS. There are [2] 5" conduits in each of

these ductbanks. Please clarify where the CPS poles will be located or give a distance for the ductbanks that are required by CPS.

Answer: Assume that the power poles are located approximately 150' from the transformers.

45. **Question**: On sheet E-14, the scale of the drawings is ¼", but on sheet E-15 the scale of the drawings is ½". Please clarify. It looks like the drawings should be scaled with the ¼" scale.

    Answer: Yes the scale should be ¼". See Addendum #9, Part 2, Item #10.

46. **Question**: In Addendum #3 question #30, "on sheet ED-01 note 6, it tells me "approximate location of underground ductbank. Contractor shall demolish existing ductbanks. Not all underground electrical ductbanks are shown." Do you want us to demo the wire in the conduit and remove conduit above ground to approximately 2 feet below ground or do you want us to completely remove the ductbank form the site. With that said if you haven't listed or told us on the drawings, how are we supposed to figure this out without locations drawn on drawings." The answer to the question is in Addendum #3, Part 3 – Drawings, Item 10. It states Modify note #6 as follows, "Contractor shall field verify all utilities to include electrical duct bank prior to constructions; Contractor shall coordinate with Inspector to determine if duct bank shall be removed or remain. Contractor shall remove all existing conductors (wiring) and remove all duct bank that is three (3) feet below existing ground; all duct bank greater than three (3) feet depth shall remain in place." I need better clarification then what was given for the answer to this question. The contractor shall field verify all utilities to include electrical duct bank, there is no way we can do that until we dig down and find where the duct bank is. I understand about pulling the existing wire out and remove the conduit that is stub up down 3' feet below ground. The question is how deep is the duct banks below the ground. We (contractor) shall coordinate with Inspector to determine if duct bank shall be removed or remain, again that all depends on the depth or the location of the existing ductbank depending on where it is in relation to our new ductbank feeding the existing equipment.

    Answer: Delete the note #6 in Addendum #3. Modify note #6 on ED-01: Demolish all underground ductbanks as shown on drawing C2 and ED-01. See Addendum #9, Part 2, Item #16.

End of Questions and Answers