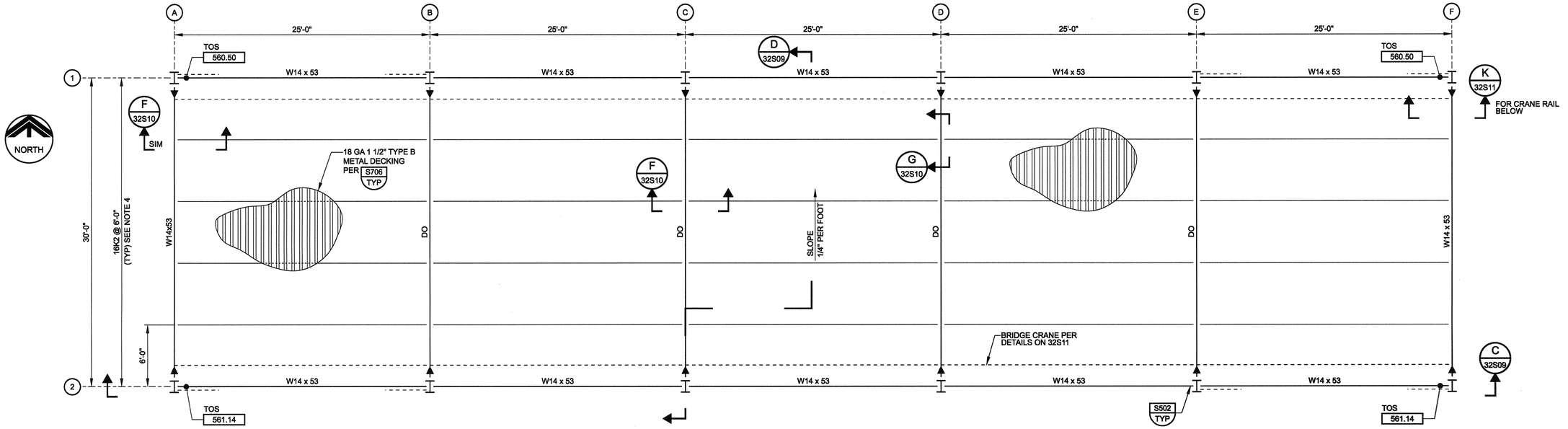
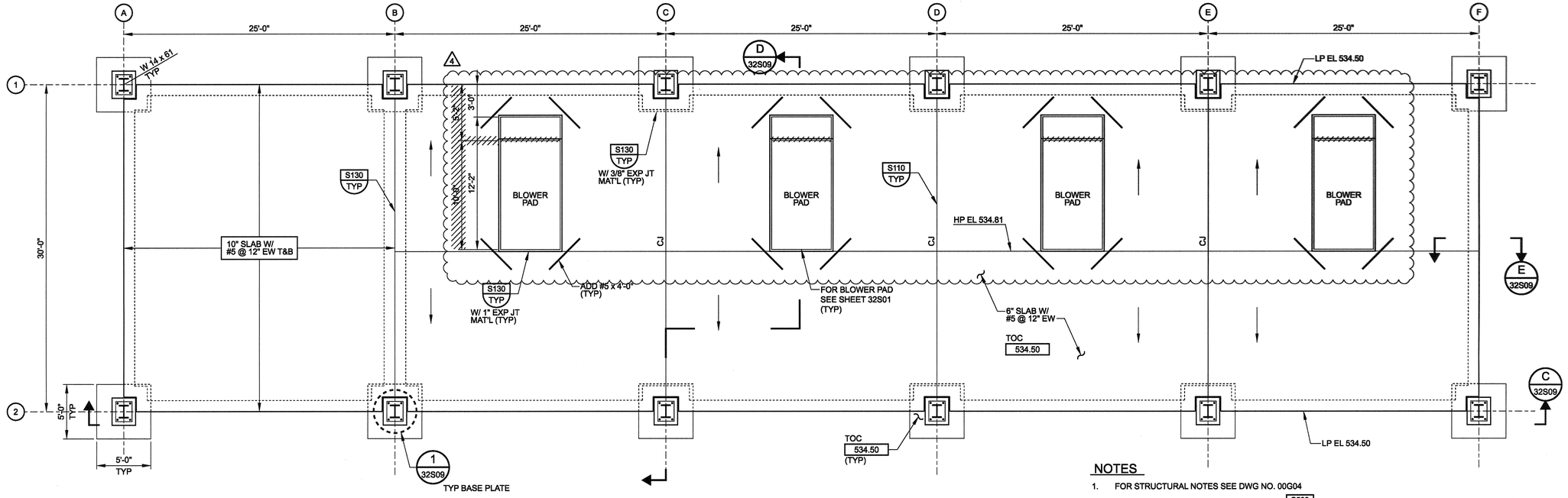


A ROOF FRAMING PLAN

SCALE: 3/16 = 1'-0"
FILE: LC-06-650-032-0101



B FOUNDATION PLAN

SCALE: 3/16 = 1'-0"
FILE: LC-06-650-032-0100

NOTES

1. FOR STRUCTURAL NOTES SEE DWG NO. 00G04
2. ▶ DENOTES MOMENT CONNECTION, SEE S503 TYP
3. TOS: DENOTES TOP OF STRUCTURAL STEEL ELEVATION
4. JOISTS SHALL BE DESIGNED FOR THE FOLLOWING:
   A.) DEAD LOAD (EXCLUDING JOIST SELF WEIGHT) = * PLF
   B.) LIVE LOAD = * PLF
   C.) WIND LOAD (NET UPLIFT) = * PLF
   D.) PROVIDE BRIDGING AS NECESSARY PER --- REQUIREMENTS

CONTRACT DOCUMENTS DATED JULY 2008, AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

Note:
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No.	DATE	REVISIONS	APP.
4	10/08	ADDENDUM NO. 4	REK

CONFORMED DRAWINGS

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Engineers...Working Wonders With Water™

SAN ANTONIO WATER SYSTEM

JERRY R. COOMBES 53394 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

SAWS JOB No. 06-6502
LEON CREEK WRC
IMPROVEMENTS PROJECT

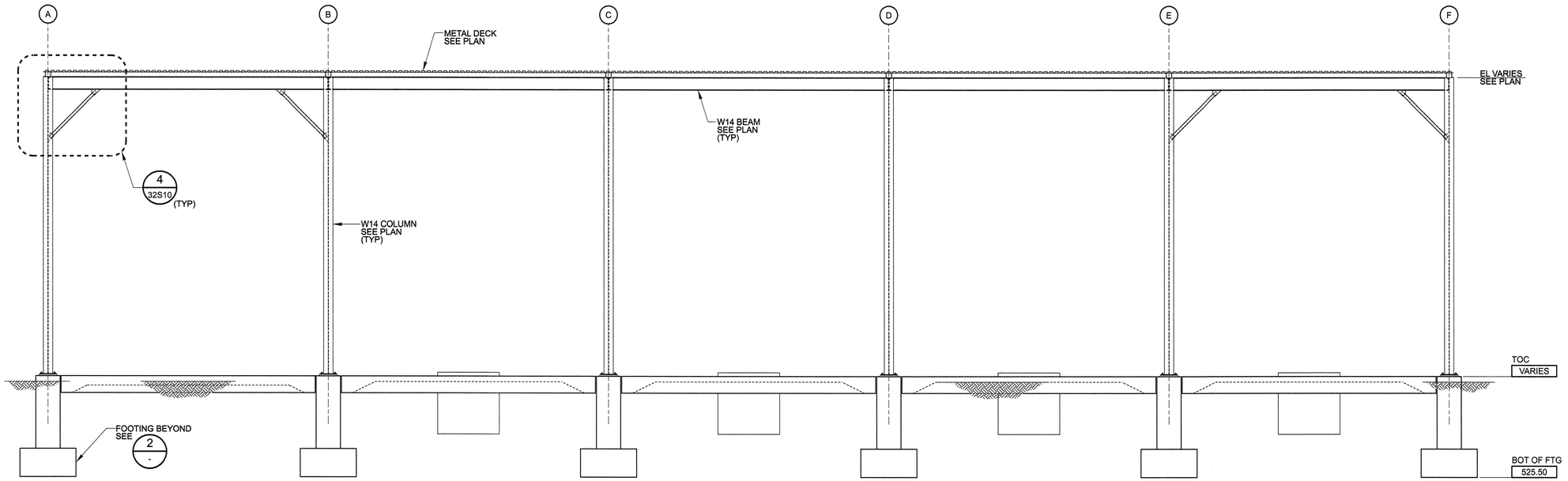
STRUCTURAL
AERATION BLOWER PLANS

Designed by: KD
Drawn by: DE
Checked by: MJF

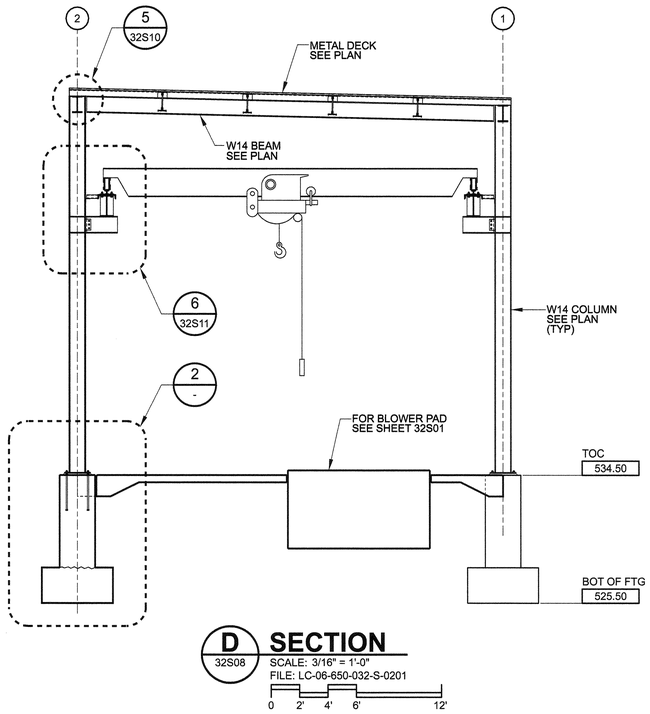
Drawing 32S08

Sheet 56 of 472

LAST SAVED BY: jlazo DATE: 16-DEC-2008 16:06 PROJECT NO. 7473A.10 FILE NAME: LC-06-650-032-S08.dgn



C SECTION
32S08
SCALE: 3/16" = 1'-0"
FILE: LC-06-650-032-S-0202
0 2' 4' 6' 12'



D SECTION
32S08
SCALE: 3/16" = 1'-0"
FILE: LC-06-650-032-S-0201
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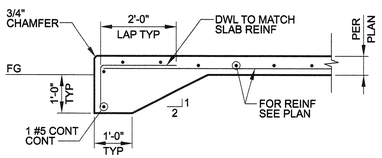

E SECTION
32S08
SCALE: 1/2" = 1'-0"
FILE: LC-06-650-032-S-0201
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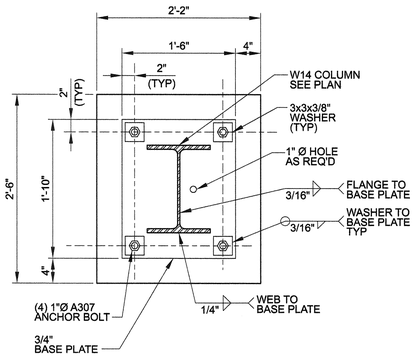
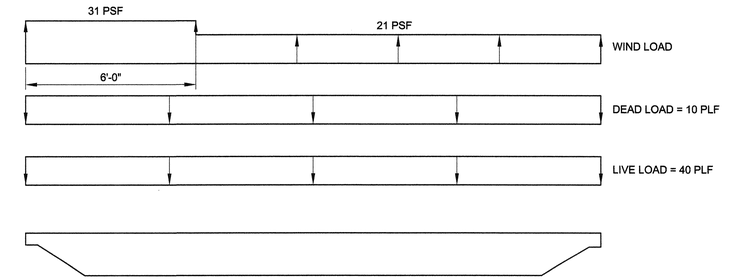


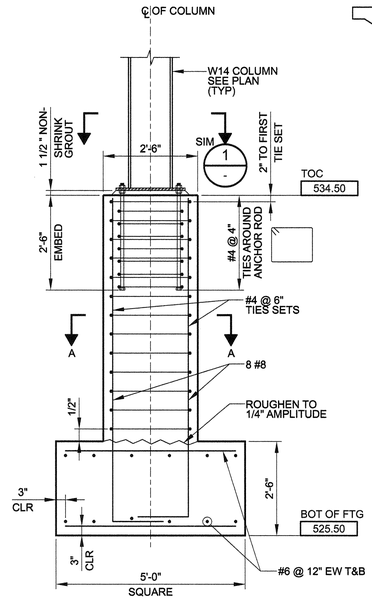
1 DETAIL
32S08
SCALE: 1" = 1'-0"
FILE: LC-06-650-032-S-0100
0 6" 1' 2'



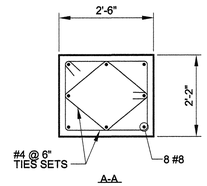
NOTE:-
1. ALL LOADING SHOWN ABOVE ARE UN FACTORED LOADS TO BE USED WITH ALLOWABLE STRESS DESIGN
2. DEAD LOADS DO NOT INCLUDE THE JOIST SELF WEIGHT
3. LIVE LOADS SHALL NOT BE REDUCED
4. WIND LOADS ARE NOT NET UPLIFT
5. PROVIDE 5" JOIST SEATS AT ALL JOIST
6. PROVIDE BRIDGING AS NECESSARY PER SJI REQUIREMENTS
7. CONTRACTOR SHALL PROVIDE BIRD NETTING SURROUNDING THE STRUCTURE

OPEN WEB STEEL JOIST LOADING DIAGRAM

3 DETAIL
32S08
SCALE: NTS
FILE: LC-06-650-032-S-0207



2 DETAIL
32S08
SCALE: 1/2" = 1'-0"
FILE: LC-06-650-032-S-0201
0 1' 2' 4'



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No.	DATE	REVISIONS	APP.

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Engineers...Working Wonders With Water™

SAN ANTONIO WATER SYSTEM

STATE OF TEXAS
DAVID D. COMBS
53394
LICENSED PROFESSIONAL ENGINEER

SAWS JOB No. 06-6502
LEON CREEK WRC
IMPROVEMENTS PROJECT

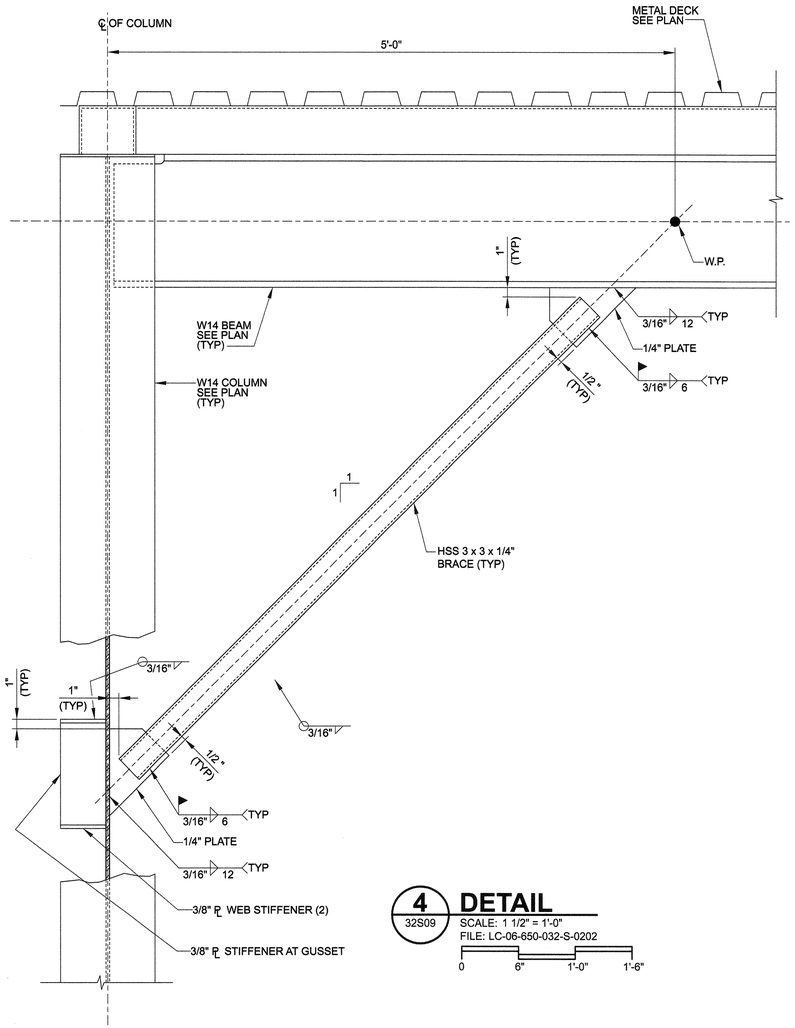
STRUCTURAL
AERATION BLOWER
SECTIONS AND DETAILS I

Designed by:
Drawn by: DE
Checked by:

Drawing 32S09

Sheet 57 of 472

LAST SAVED BY: dennquez DATE: 30-MAY-2008 06:12 PROJECT NO. 7473A.10 FILE NAME: LC-06-650-032-S09.dgn



4 DETAIL
32S09
SCALE: 1 1/2" = 1'-0"
FILE: LC-06-650-032-S-0202
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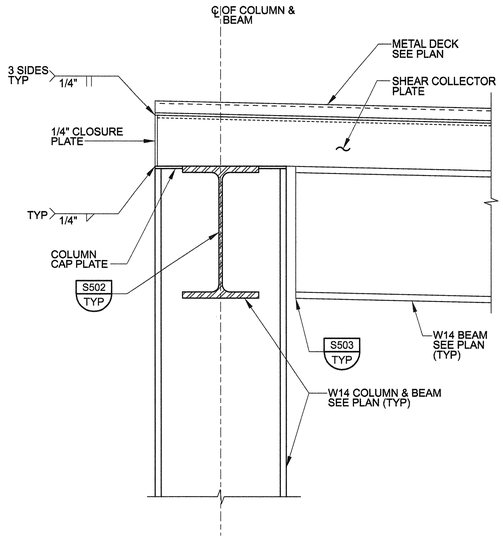
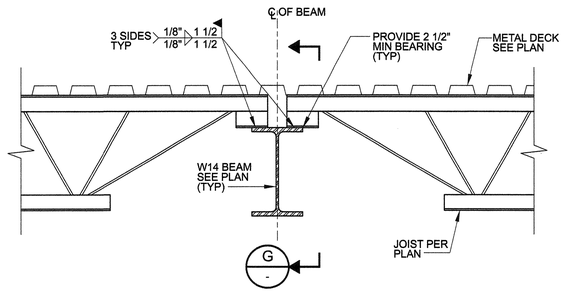
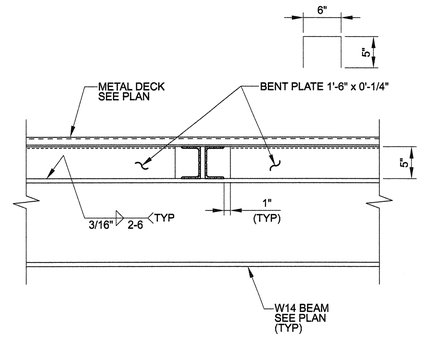


5 DETAIL
32S09
SCALE: 1 1/2" = 1'-0"
FILE: LC-06-650-032-S-0201
0 6" 1'-0" 1'-6"



F SECTION
32S08
SCALE: 1" = 1'-0"
FILE: LC-06-650-032-S-0204
0 6" 1'-0" 1'-6"



G SECTION
32S08
SCALE: 1" = 1'-0"
FILE: LC-06-650-032-S-0203
0 6" 1'-0" 1'-6"

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No.	DATE	REVISIONS	APP.

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SAN ANTONIO WATER SYSTEM

REGISTERED PROFESSIONAL ENGINEER 53394 LICENSED TO PRACTICE IN ONTARIO

SAWS JOB No. 06-6502
LEON CREEK WRC
IMPROVEMENTS PROJECT

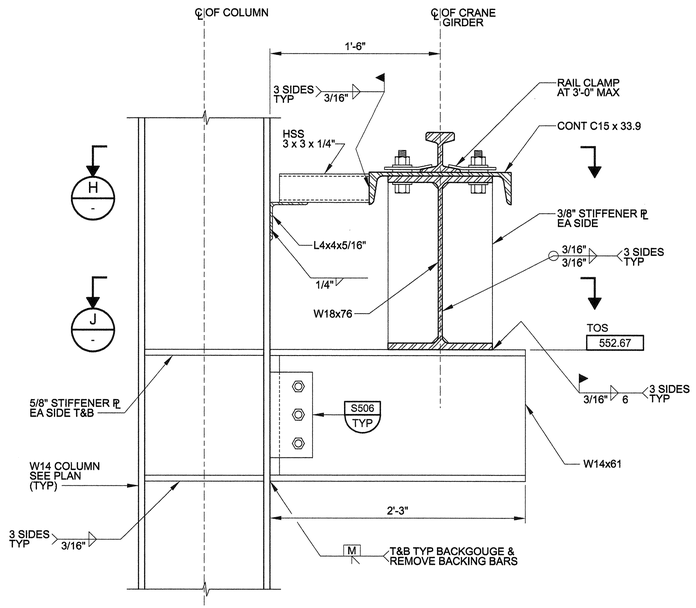
STRUCTURAL
AERATION BLOWER
SECTIONS AND DETAILS II

Designed by:
Drawn by: DE
Checked by:

Drawing 32S10

Sheet 58 of 472

FILE NAME: LC-06-650-032-S10.dgn
DATE: 30-MAY-2008 06:12
PROJECT NO. 7473A.10
LAST SAVED BY: jstrawn



6 DETAIL (32S09)
SCALE: 1 1/2" = 1'-0"
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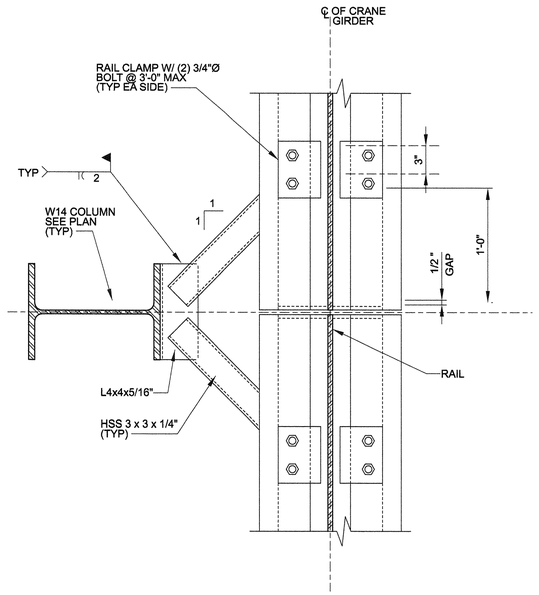

H SECTION (32S10)
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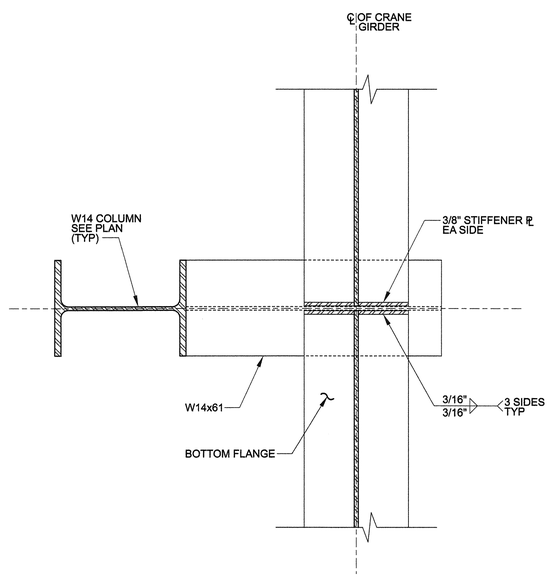
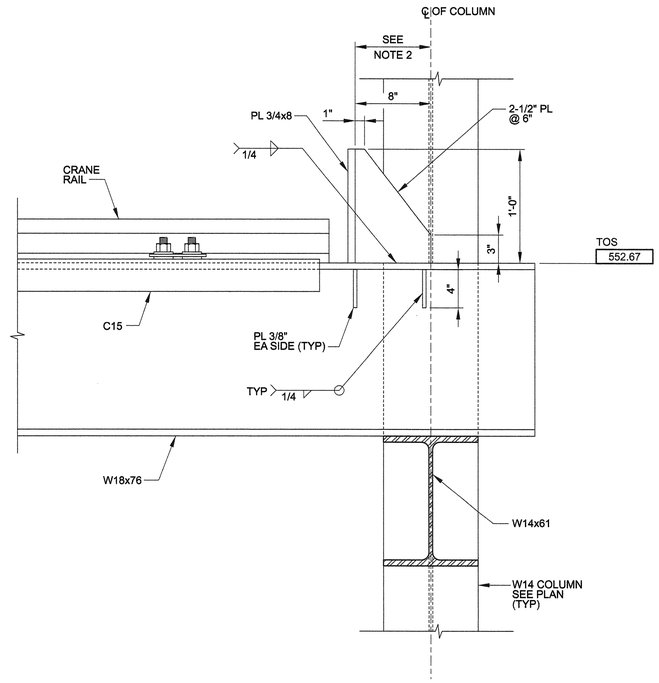


J SECTION (32S10)
SCALE: 1 1/2" = 1'-0"
FILE: LC-06-650-032-S-0206
0 6" 1'-0" 1'-6"



K SECTION (32S10)
SCALE: 1 1/2" = 1'-0"
FILE: LC-06-650-032-S-0208
0 6" 1'-0" 1'-6"

NOTES

1. FOR STRUCTURAL NOTES SEE DWG NO. 00G05
2. COORDINATE DIMENSION WITH CRANE MANUFACTURER TO PROVIDE THE REQUIRED HOISTING HOOK TRAVEL

Note:
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No.	DATE	REVISIONS	APP.

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SAN ANTONIO WATER SYSTEM

JENNY D. COOMBS 53394 LICENSED PROFESSIONAL ENGINEER

SAWS JOB No. 06-6502
LEON CREEK WRC
IMPROVEMENTS PROJECT

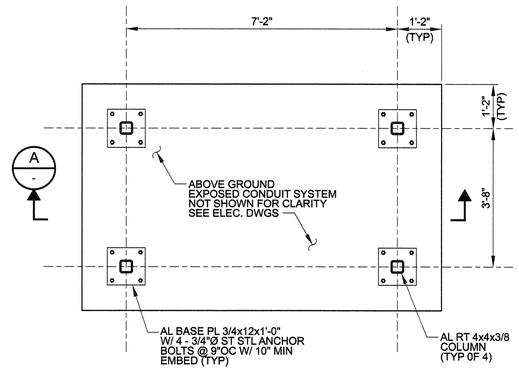
STRUCTURAL
AERATION BLOWER
SECTIONS & DETAILS III

Designed by:
Drawn by: DE
Checked by:

Drawing 32S11

Sheet 59 of 472

LAST SAVED BY: dsmiquez DATE: 30-MAY-2008 06:12 PROJECT NO. 7473A.10 FILE NAME: LC-06-650-032-S11.dgn



1 DETAIL
32C01
SCALE: 1/2" = 1'-0"
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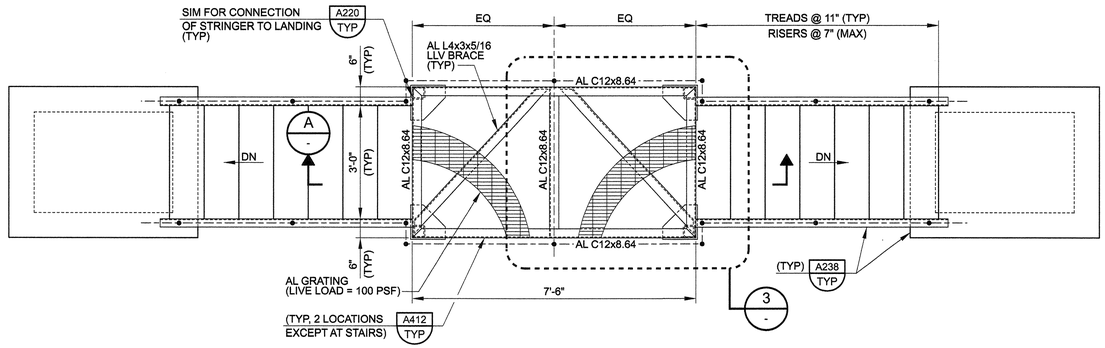
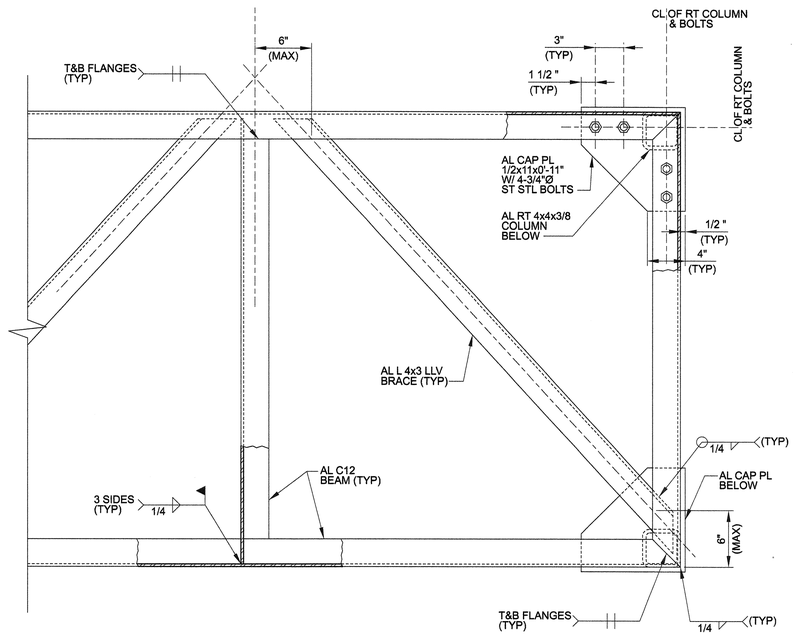
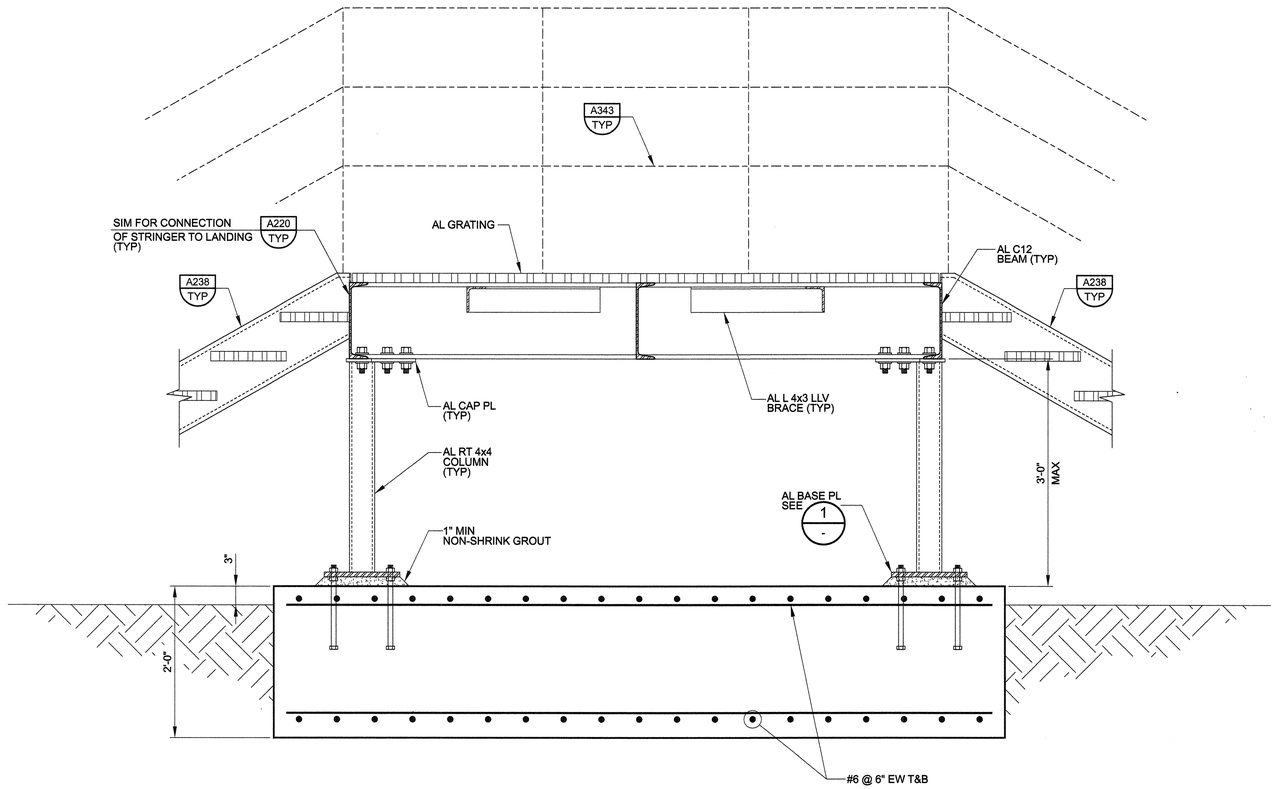


2 DETAIL
32C01
SCALE: 1/2" = 1'-0"
FILE: LC-06-650-032-S-0105
0 1' 2' 4'



3 DETAIL
32C01
SCALE: 1 1/2" = 1'-0"
FILE: LC-06-650-032-S-0105
0 1' 2' 4'



A SECTION
32C01
SCALE: 1" = 1'-0"
FILE: LC-06-650-032-S-0210
0 1' 2' 4'

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No.	DATE	REVISIONS	APP.

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SAN ANTONIO WATER SYSTEM

STATE OF COLORADO
DENNIS E. QUINONES
53394
LICENSED PROFESSIONAL ENGINEER

SAWS JOB No. 06-6502
LEON CREEK WRC
IMPROVEMENTS PROJECT

STRUCTURAL
AERATION BLOWER STAIR
PLANS, SECTIONS AND DETAILS

Designed by: KD
Drawn by: DE
Checked by:

Drawing 32S12

Sheet 60 of 472

LAST SAVED BY: denriquez DATE: 30-MAY-2008 06:12 PROJECT NO. 7473A.10 FILE NAME: LC-06-650-032-S12.dgn

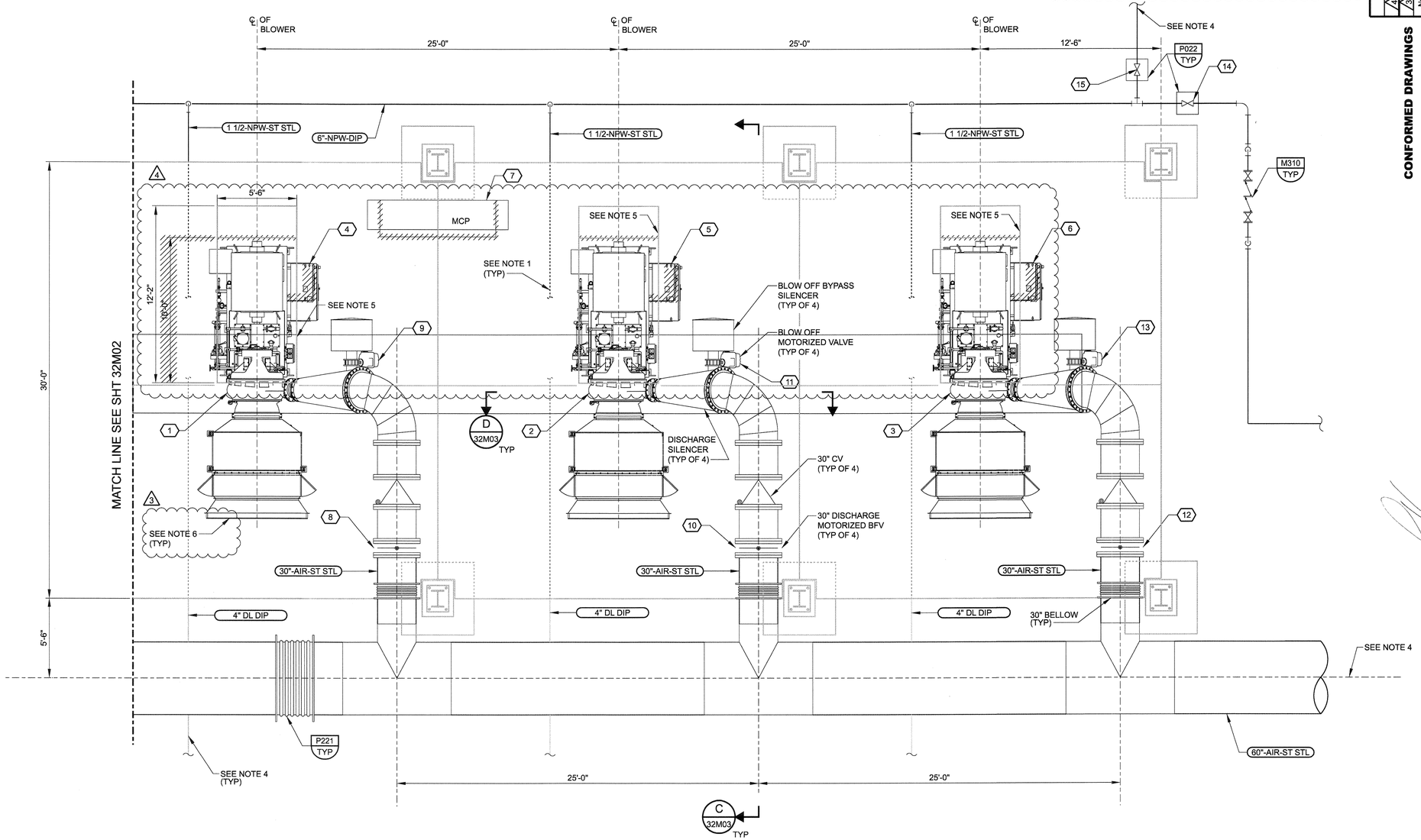
NORTH

KEY TAG

1	LC-AASBC02	8	LC-AASV16
2	LC-AASBC03	9	LC-AASV17
3	LC-AASBC04	10	LC-AASV20
4	AIS-LCP-02 ~~LCP-2~~	11	LC-AASV21
5	AIS-LCP-03 ~~LCP-3~~	12	LC-AASV24
6	AIS-LCP-04 ~~LCP-4~~	13	LC-AASV25
7	AIS-MCP-02 ~~MCP-1~~	14	LC-AYWV01
		15	LC-AYWV02

NOTES

1. WATER PIPING FOR THE OIL COOLER SHALL BE INSTALLED AS REQUIRED FOR THE EQUIPMENT SUPPLIED AND AS ACCEPTED BY THE ENGINEER. ALL OF THE REQUIRED PIPING AND FITTING SHALL BE PROVIDED, TYPICAL FOR EACH BLOWER. PROVIDE BALL VALVE FOR ISOLATION TYPICAL FOR EACH BLOWER.
2. RETURN WATER PIPING FOR THE OIL COOLER SHALL BE ROUTED BY THE CONTRACTOR TO THE DRAIN PIPING CONNECTION PROVIDED BY THE EQUIPMENT MANUFACTURER TRANSITION AS REQUIRED TO ACCOMMODATE CONNECTION AT BLOWER. PROVIDE BALL VALVE AND CHECK VALVE FOR ISOLATION AND BACK FLOW PROTECTION. TYPICAL FOR EACH BLOWER
3. INSTALL PIPE SUPPORTS PER 32C-03
4. FOR CONTINUATION PIPING SEE DWG 32C-01
5. FOR BLOWER EQUIPMENT PADS REFER TO SHEET 32S01
6. PROVIDE WEATHER LOUVERS IN ACCORDANCE WITH SECTION 11375 (TYP)



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A BLOWER PIPE PLAN

SCALE: 1/4" = 1'-0"
FILE: LC-06-650-032-M-0100
LC-06-650-032-S-0100
LC-06-650-035-C-0100

0 2' 4' 8'

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No.	DATE	REVISIONS	APP.
2	9/08	ADDENDUM NO. 3	REK
4	10/08	ADDENDUM NO. 4	REK

CONFORMED DRAWINGS

carollo
Engineers...Working Wonders With Water™

SAN ANTONIO WATER SYSTEM

R.E. KILIAN 94203 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

SAWS JOB No. 06-6502
LEON CREEK WRC IMPROVEMENTS PROJECT

MECHANICAL
AERATION BLOWER PLAN I

Designed by: LAH
Drawn by: DE
Checked by:

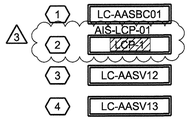
Drawing 32M01

Sheet 61 of 472

LAST SAVED BY: kbequette DATE: 05-DEC-2008 17:28 PROJECT NO. 7473A.10 FILE NAME: LC-06-650-032-M01.dgn

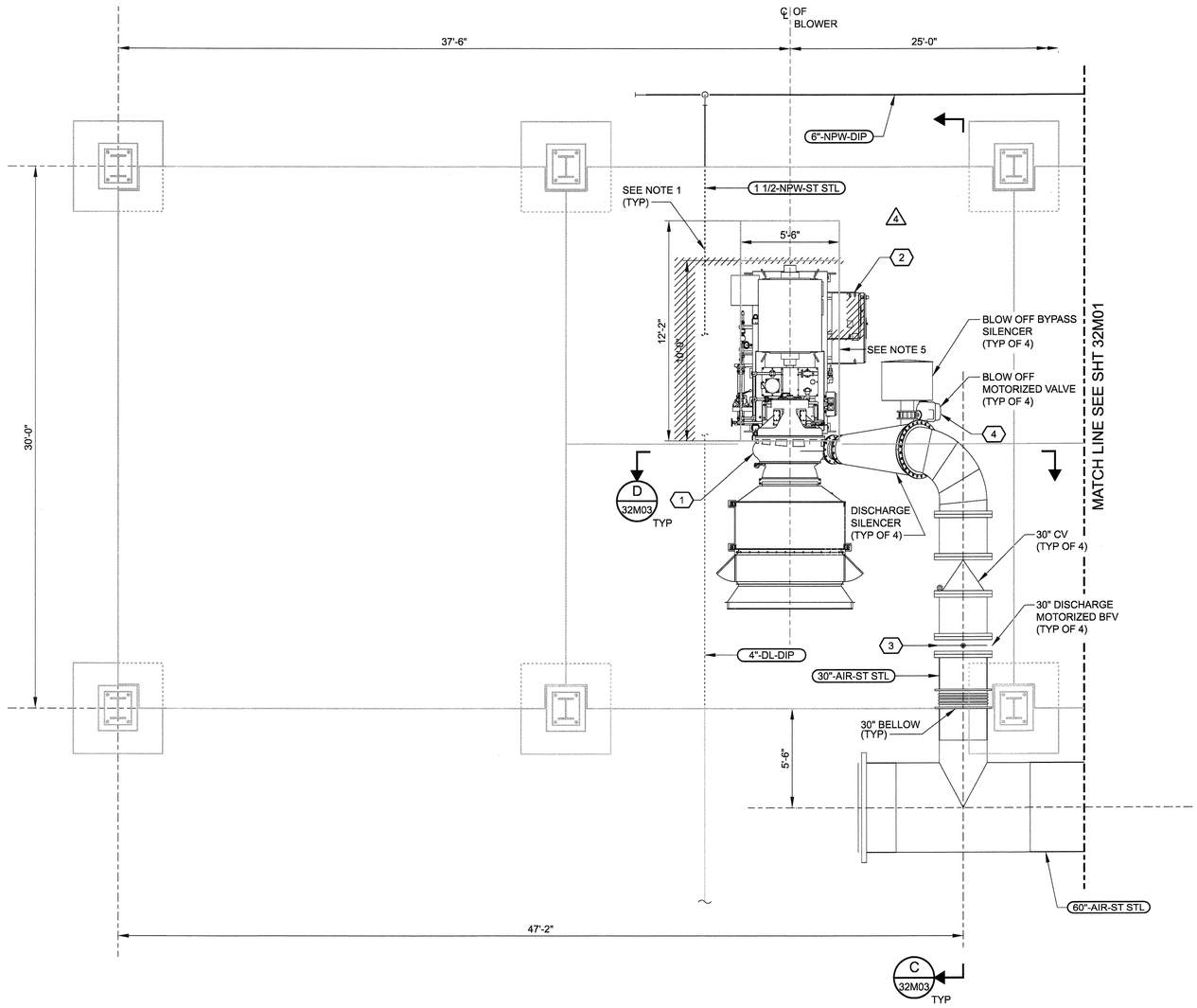
NORTH

KEY TAG



NOTES

1. WATER PIPING FOR THE OIL COOLER SHALL BE INSTALLED AS REQUIRED FOR THE EQUIPMENT SUPPLIED AND AS ACCEPTED BY THE ENGINEER. ALL OF THE REQUIRED PIPING AND FITTING SHALL BE PROVIDED. TYPICAL FOR EACH BLOWER. PROVIDE BALL VAVLE FOR ISOLATION. TYPICAL FOR EACH BLOWER.
2. RETURN WATER PIPING FOR THE OIL COOLER SHALL BE ROUTED BY THE CONTRACTOR TO THE DRAIN PIPING CONNECTION PROVIDED BY THE EQUIPMENT MANUFACTURER. TRANSITION AS REQUIRED TO ACCOMMODATE CONNECTION AT BLOWER. PROVIDE BALL VALVE AND CHECK VALVE FOR ISOLATION AND BACK FLOW PROTECTION. TYPICAL FOR EACH BLOWER
3. INSTALL PIPE SUPPORTS PER 32C-03
4. FOR CONTINUATION PIPING SEE DWG 32C-01
5. FOR BLOWER EQUIPMENT PADS REFER TO SHEET 32S01



B BLOWER PIPE PLAN

SCALE: 1/4" = 1'-0"
FILE: LC-06-650-032-M-0100
LC-06-650-032-S-0100
LC-06-650-035-C-0100

0 2' 4' 8'

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No.	DATE	REVISIONS	APP.
3	9/08	ADDENDUM NO. 3	REK

CONFORMED DRAWINGS

carollo
Engineers...Working Wonders With Water™

SAN ANTONIO WATER SYSTEM

STATE OF TEXAS
R.E. KILIAN
94203
LICENSED PROFESSIONAL ENGINEER
9/19/08

SAWS JOB No. 06-6502
LEON CREEK WRC
IMPROVEMENTS PROJECT

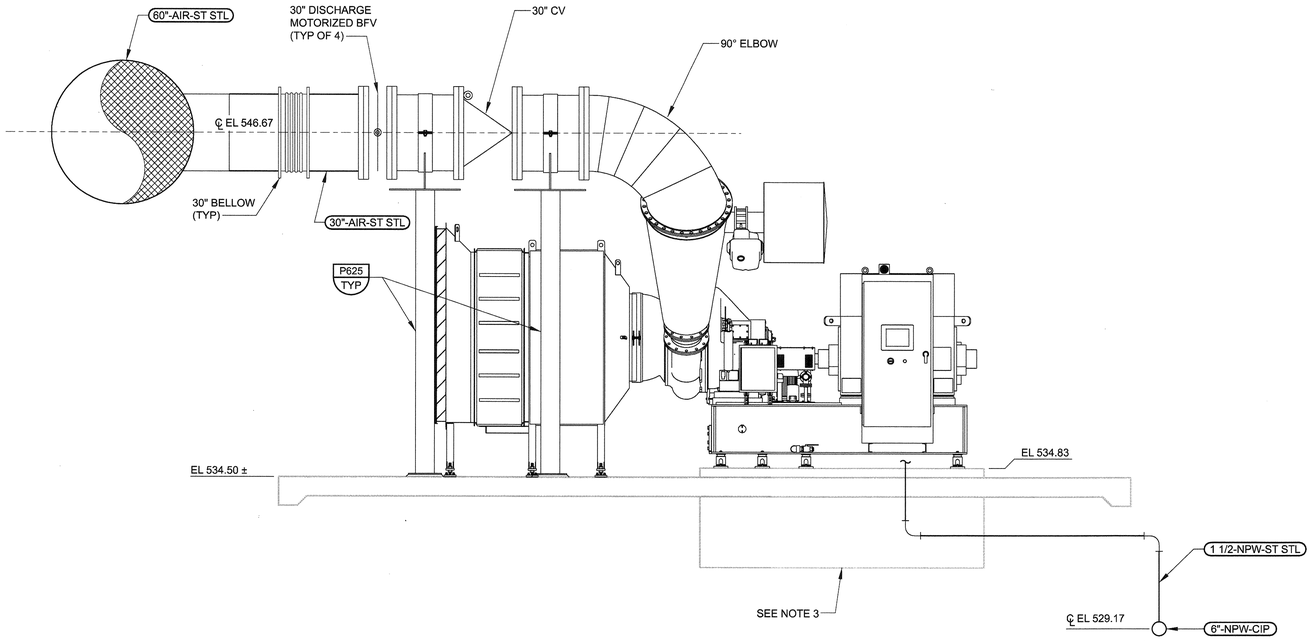
MECHANICAL
AERATION BLOWER
PLAN II

Designed by: LAH
Drawn by: DE
Checked by:

Drawing 32M02

Sheet 62 of 472

LAST SAVED BY: kbequette DATE: 05-DEC-2008 17:28 PROJECT NO. 7473A-10 FILE NAME: LC-06-650-032-M02.dgn



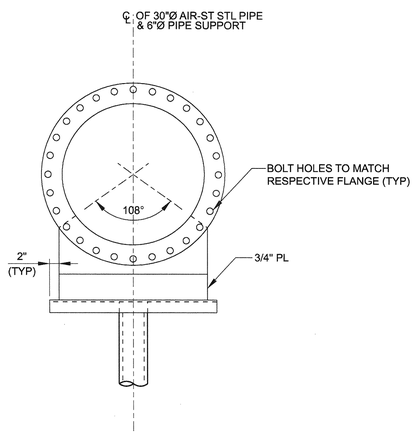
C SECTION

32M01, 32M02

SCALE: 3/8" = 1'-0"

FILE: LC-06-650-032-M-0200
LC-06-650-032-S-0200

0 2' 4' 6'



E SECTION

-

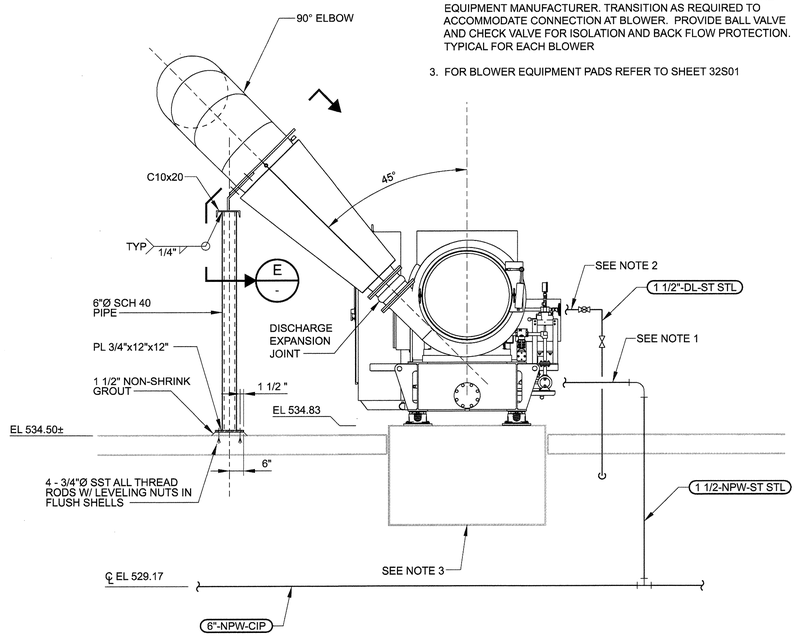
SCALE: 1" = 1'-0"

FILE: LC-06-650-032-M-0202

0 2' 4' 6'

NOTES

1. WATER PIPING FOR THE OIL COOLER SHALL BE INSTALLED AS REQUIRED FOR THE EQUIPMENT SUPPLIED AND AS ACCEPTED BY THE ENGINEER, ALL OF THE REQUIRED PIPING AND FITTING SHALL BE PROVIDED. TYPICAL FOR EACH BLOWER. PROVIDE BALL VALVE FOR ISOLATION TYPICAL FOR EACH BLOWER.
2. RETURN WATER PIPING FOR THE OIL COOLER SHALL BE ROUTED BY THE CONTRACTOR TO THE DRAIN PIPING PROVIDED BY THE EQUIPMENT MANUFACTURER. TRANSITION AS REQUIRED TO ACCOMMODATE CONNECTION AT BLOWER. PROVIDE BALL VALVE AND CHECK VALVE FOR ISOLATION AND BACK FLOW PROTECTION. TYPICAL FOR EACH BLOWER
3. FOR BLOWER EQUIPMENT PADS REFER TO SHEET 32S01



D SECTION

32M01, 32M02

SCALE: 3/8" = 1'-0"

FILE: LC-06-650-032-M-0201

0 2' 4' 6'

Note:

The following drawings have been extracted from the Conformed Set of drawings for this project. All changes shown in these drawings shall be confirmed in the field by the Contractor. The record set for these drawings will be made available to the Contractor upon their completion.

CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

No.	DATE	REVISIONS	APP.

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SAN ANTONIO WATER SYSTEM

R.E. KILIAN 94203 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS

SAWS JOB No. 06-6502
LEON CREEK WRC
IMPROVEMENTS PROJECT

MECHANICAL

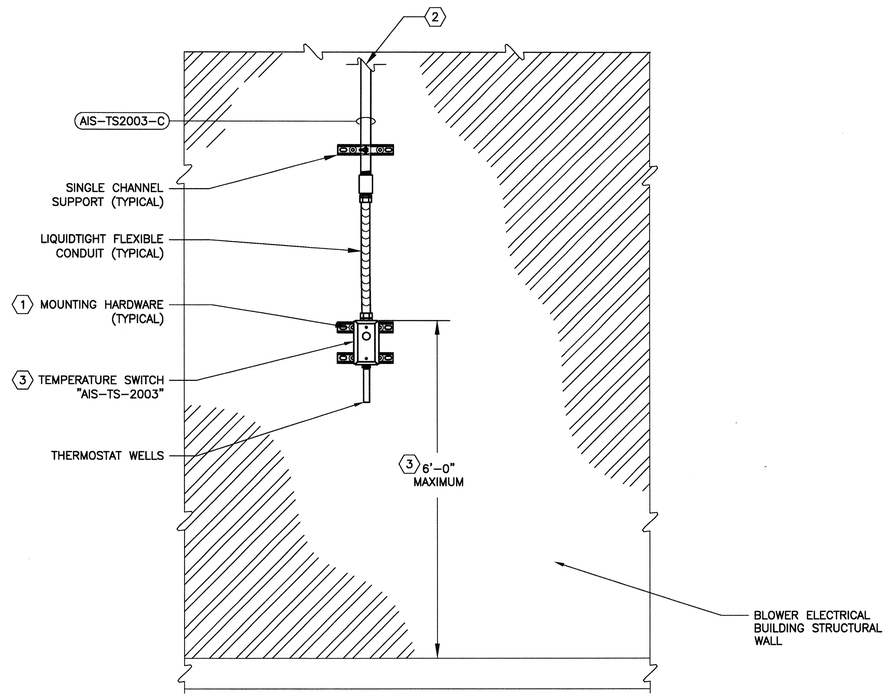
AERATION BLOWER
SECTION AND DETAILS

Designed by: LAH
Drawn by: DE
Checked by:

Drawing 32M03

Sheet 63 of 472

LAST SAVED BY: denriquez DATE: 02-JUL-2008 18:50 PROJECT NO. 7479A.10 FILE NAME: LC-06-650-032-M03.dgn



BLOWER ELECTRICAL BUILDING HIGH TEMPERATURE ALARM "AIS–TS–2003" (1 / 32E28)

SCALE: NTS

KEY NOTES:

1. MOUNT PROPOSED INSTRUMENTS TO PROPOSED CONDUIT SUPPORT CHANNEL WITH MINIMUM 1/4" HARDWARE.
2. CONDUIT CONTINUES TO/FROM PULLBOX "AIS–PBOX1–C1". WIRE CONTINUES TO BLOWER MAIN CONTROL PANEL "AIS–MCP–01" VIA PULLBOX "AIS–PBOX1–C1". REFER TO DRAWING NOS. 32E26 AND 32E28 FOR CONTINUATION AND ADDITIONAL INFORMATION.
3. REFER TO PLANS ON DRAWING NO. 32E28 FOR LOCATION OF TEMPERATURE SWITCH. INSTALL TEMPERATURE SWITCH AT ELEVATION OF 6'–0" MAXIMUM HEIGHT ABOVE FINISHED FLOOR TO THE TOP OF THE TEMPERATURE SWITCH ENCLOSURE.

GENERAL NOTES:

1. ALL HARDWARE SHALL BE #316 STAINLESS STEEL UNLESS OTHERWISE NOTED ON THIS DRAWING.
2. PROPOSED ITEMS ARE SHOWN IN DARK LINEWORK. EXISTING ITEMS ARE SHOWN IN LIGHT LINEWORK, UNLESS NOTED OTHERWISE.
3. NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE SHOWN ON THIS DRAWING. REFER TO ELECTRICAL/ MECHANICAL/STRUCTURAL/CIVIL DRAWINGS, AS APPLICABLE, FOR ADDITIONAL INFORMATION.
4. EXACT LOCATIONS OF MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE NOT SHOWN ON THIS DRAWING. REFER TO MECHANICAL/ STRUCTURAL/CIVIL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL/STRUCTURAL/CIVIL ITEMS.

REFERENCE DRAWINGS:

32E26 – DUCT BANK PLAN

32E28 – ELECTRICAL AND I&C PLAN

00E23 – 00E28 – CONDUIT AND WIRE SCHEDULE

Note:
The following drawings have been extracted from the Conformed Set of drawings for this project. All changes shown in these drawings shall be confirmed in the field by the Contractor. The record set for these drawings will be made available to the Contractor upon their completion.

CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

No.	DATE	REVISIONS	APP.

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WARNING
0 1/2 1
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SAN ANTONIO WATER SYSTEM

STATE OF TEXAS · KEVIN L. HARUTUNIAN · 59181 · REGISTERED PROFESSIONAL ENGINEER

7/2/2008

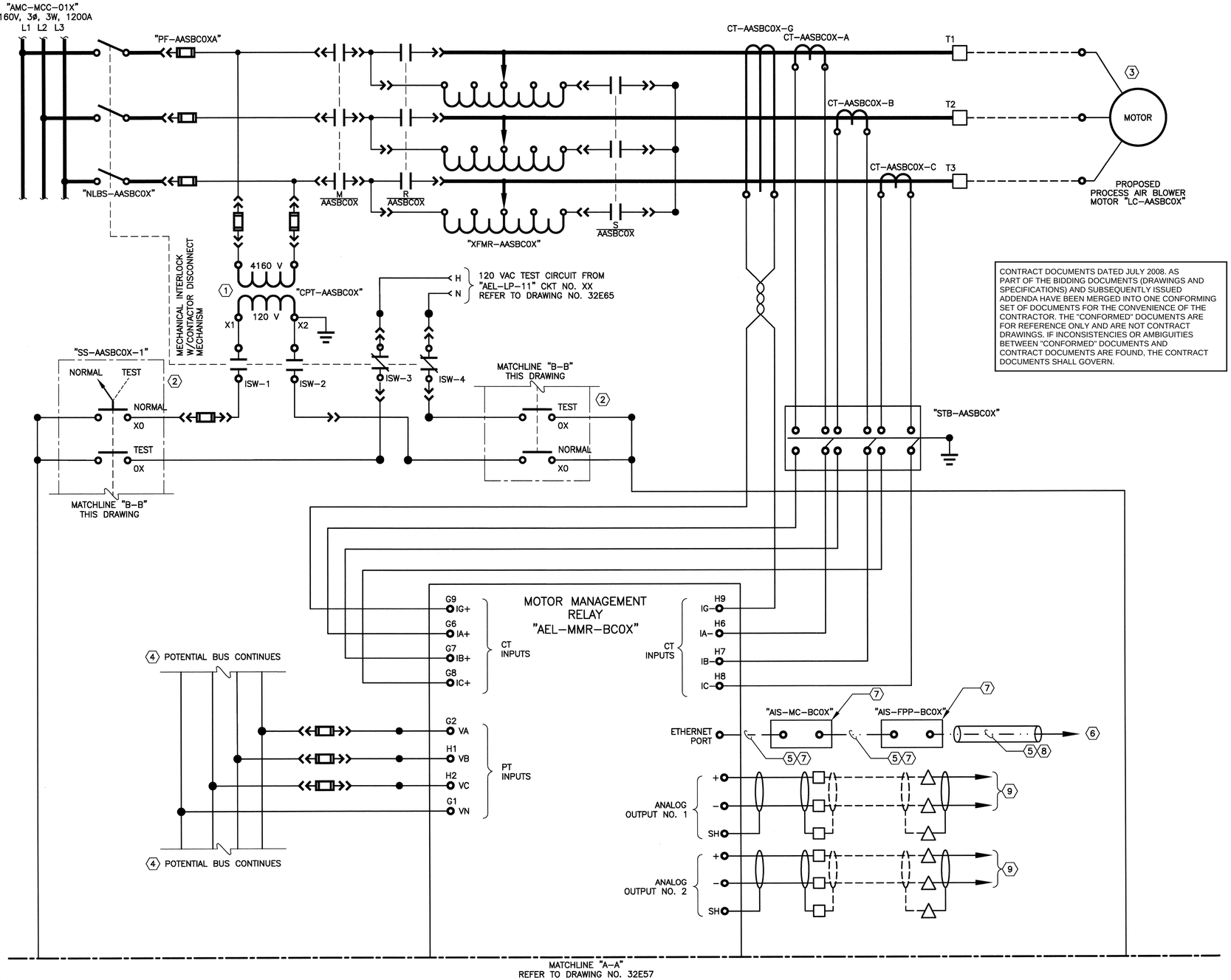
SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

PROPOSED BLOWER AREA
TEMPERATURE SWITCH
INSTALLATION DETAIL

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32E55

Sheet 373 of 472



CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

WIRING AND TERMINAL DEVICE LEGEND:

- INDICATES WIRING BETWEEN PANELS OR TO A FIELD MOUNTED DEVICE.
- FIBER OPTIC PATCH CABLE.
- LOOSE TUBE FIBER OPTIC CABLE.
- ETHERNET COPPER.
- WIRE JUMPER CONNECTION.
- DEVICE WIRING TERMINAL.
- PROPOSED TERMINAL BLOCK, UNLESS OTHERWISE NOTED, LOCATED IN BLOWER SYSTEM SUPPLIER CONTROL PANEL "AIS–LCP–0X" AS NOTED, ANY DEVICE SHOWN WITH DEVICE WIRING TERMINALS CONNECTED DIRECTLY TO THESE SYMBOLS WITH SOLID LINES ARE LOCATED IN OR ON THE EQUIPMENT.
- PROPOSED TERMINAL BLOCK LOCATED IN 4160V MOTOR CONTROL CENTER (MCC) "AMC–MCC–01A" OR "AMC–MCC–01B" AS APPLICABLE. ANY DEVICE SHOWN WITH DEVICE WIRING TERMINALS CONNECTED DIRECTLY TO THESE SYMBOLS WITH SOLID LINES IS ALSO LOCATED IN PROPOSED 4160V MCC "AMC–MCC–01A" OR "AMC–MCC–01B" AS APPLICABLE.
- PROPOSED TERMINAL BLOCK LOCATED IN BLOWER MOTOR LOW VOLTAGE TERMINATION BOX.

KEY NOTES:

1. CONTROL POWER TRANSFORMER SHALL HAVE MINIMUM RATING OF 2000VA. TRANSFORMER SHALL BE SIZED ACCORDING TO CONTRACT SPECIFICATIONS.
2. LOCATED ON BACKPLANE OF LOW VOLTAGE COMPARTMENT OF THE 4160V MOTOR CONTROL CENTER "AMC–MCC–01X".
3. POWER FACTOR CORRECTION CAPACITORS MOUNTED/LOCATED IN HIGH VOLTAGE BOX CONNECTED TO MOTOR. CAPACITORS ARE TO BE SIZED AND SUPPLIED BY EQUIPMENT MANUFACTURER. REFERENCE LEON CREEK WATER RECYCLING CENTER IMPROVEMENTS PURCHASE OF AERATION BLOWERS, DRIVES, AND APPURTENANCES PROCUREMENT DOCUMENTS.
4. INTERCONNECT POTENTIAL TRANSFORMER BUS WITH MOTOR MANAGEMENT RELAYS LOCATED ON MOTOR STARTER COMPARTMENTS CONTAINED WITHIN THE MOTOR CONTROL CENTER AND DEDICATED FOR PROCESS AIR BLOWER. ALSO REFER TO DRAWING NO. 32E11 OR 32E14, AS APPLICABLE, FOR ADDITIONAL INFORMATION.
5. REFER TO SPECIFICATIONS FOR REQUIRED COPPER AND FIBER COMMUNICATION CABLING AND EQUIPMENT.
6. TO/FROM ETHERNET SWITCH LOCATED INSIDE CONTROL PANEL "AIS–LCP–0X". REFER TO PLC SYSTEM ARCHITECTURE DRAWING 32I12 AND ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
7. FURNISHED AND INSTALLED BY MOTOR CONTROL CENTER VENDOR.
8. CONTRACTOR FURNISH AND MAKE ALL FINAL TERMINATIONS.
9. ANALOG SIGNAL TO BLOWER CONTROL PANEL "AIS–LCP–0X" FURNISHED BY BLOWER SYSTEM SUPPLIER. MOTOR CONTROL CENTER MANUFACTURER TO CONFIGURE THE MOTOR MANAGEMENT RELAY TO GENERATE REQUIRED ANALOG SIGNAL OUTPUTS IN ACCORDANCE WITH REQUIREMENTS OF BLOWER SYSTEM SUPPLIER. COORDINATE WITH BLOWER SYSTEM SUPPLIER FOR MOTOR MANAGEMENT RELAY ANALOG OUTPUT SIGNAL REQUIRED CONFIGURATION.

GENERAL NOTES:

1. ALL ITEMS SHOWN ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.
2. ALTHOUGH TYPICAL CONTROL WIRING SCHEMATICS ARE PRESENTED FOR EQUIPMENT, THE CONTRACTOR SHALL GENERATE SPECIFIC EQUIPMENT CONTROL WIRING SCHEMATIC DRAWINGS (I.E., INDIVIDUAL CONTROL WIRING SCHEMATIC DRAWINGS DEDICATED FOR EACH SPECIFIC EQUIPMENT) BASED UPON THE TYPICAL CONTROL WIRING SCHEMATIC DRAWINGS AND THE TAG REPLACEMENT SCHEDULES. ALSO REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. THIS DRAWING IS TYPICAL FOR MULTIPLE EQUIPMENT. THE ACTUAL TAG FOR EACH EQUIPMENT WILL DIFFER FROM THAT SHOWN HERE. REFER TO THE APPLICABLE TAG REPLACEMENT SCHEDULE DRAWING TO DERIVE THE CORRESPONDING TAGS FOR EACH EQUIPMENT.
4. DRAWING DEPICTS ONLY THAT PORTION OF THE BLOWER CONTROL LOGIC WHICH RESIDES WITHIN THE MOTOR CONTROL CENTER. COORDINATE WITH BLOWER SYSTEM SUPPLIER FOR REMAINDER OF BLOWER CONTROL LOGIC.

Note:
The following drawings have been extracted from the Conformed Set of drawings for this project. All changes shown in these drawings shall be confirmed in the field by the Contractor. The record set for these drawings will be made available to the Contractor upon their completion.

REFERENCE DRAWINGS:

32E11 – 32E14 – ONE–LINE DIAGRAMS

32E67 – TAG REPLACEMENT SCHEDULE

THIS DRAWING IS TYPICAL FOR BLOWERS "LC–AASBC01", "LC–AASBC02", "LC–AASBC03", AND "LC–AASBC04".

ISW CONTACT DEVELOPMENT

CONTACTOR DISCONNECT POSITION		OFF	ON
ISW CONTACT STATUS	ISW–1	OPEN	CLOSED
	ISW–2	OPEN	CLOSED
	ISW–3	CLOSED	OPEN
	ISW–4	CLOSED	OPEN

No.	DATE	REVISIONS	APP.

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SUITE 500
AUSTIN, TEXAS
78704

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WARNING
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0 1/2 1

SAN ANTONIO WATER SYSTEM

STATE OF TEXAS
KENNETH A. HARUTUNIAN
90181
REGISTERED PROFESSIONAL ENGINEER
7/21/2008

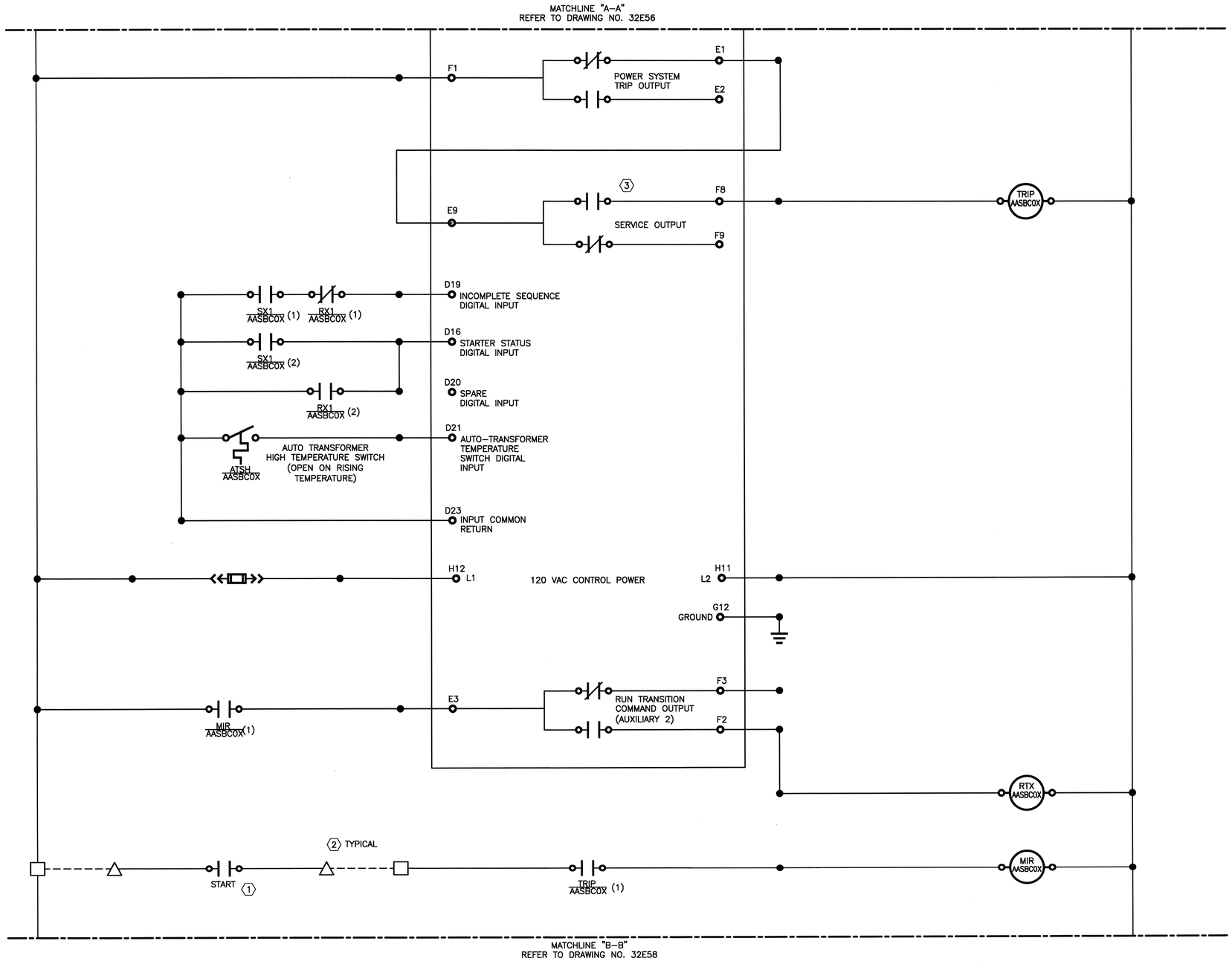
SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

PROPOSED BLOWER AREA
BLOWER STARTER TYPICAL
CONTROL SCHEMATIC (SHEET 1 OF 3)

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32E56

Sheet 374 of 472



WIRING AND TERMINAL DEVICE LEGEND:

- INDICATES WIRING BETWEEN PANELS OR TO A FIELD MOUNTED DEVICE.
- FIBER OPTIC PATCH CABLE.
- LOOSE TUBE FIBER OPTIC CABLE.
- ETHERNET COPPER.
- WIRE JUMPER CONNECTION.
- DEVICE WIRING TERMINAL.
- PROPOSED TERMINAL BLOCK, UNLESS OTHERWISE NOTED, LOCATED IN BLOWER SYSTEM SUPPLIER CONTROL PANEL "AIS–LCP–0X" AS NOTED, ANY DEVICE SHOWN WITH DEVICE WIRING TERMINALS CONNECTED DIRECTLY TO THESE SYMBOLS WITH SOLID LINES ARE LOCATED IN OR ON THE EQUIPMENT.
- PROPOSED TERMINAL BLOCK LOCATED IN 4160V MOTOR CONTROL CENTER (MCC) "AMC–MCC–01A" OR "AMC–MCC–01B" AS APPLICABLE. ANY DEVICE SHOWN WITH DEVICE WIRING TERMINALS CONNECTED DIRECTLY TO THESE SYMBOLS WITH SOLID LINES IS ALSO LOCATED IN PROPOSED 4160V MCC "AMC–MCC–01A" OR "AMC–MCC–01B" AS APPLICABLE.
- PROPOSED TERMINAL BLOCK LOCATED IN BLOWER MOTOR LOW VOLTAGE TERMINATION BOX.

KEY NOTES:

1. LOCATED IN BLOWER SYSTEM SUPPLIER CONTROL PANEL.
2. TERMINAL BLOCK LOCATED IN CONTROL PANEL FURNISHED BY BLOWER SYSTEM SUPPLIER. THE CONTROL PANEL IS PRE–PURCHASED BY OWNER. REFERENCE LEON CREEK WATER RECYCLING CENTER IMPROVEMENTS PURCHASE OF AERATION BLOWERS, DRIVES, AND APPURTENANCES PROCUREMENT DOCUMENTS. CLOSELY AND CAREFULLY COORDINATE WITH BLOWER SYSTEM SUPPLIER FOR ALL REQUIRED WIRING AND TERMINATIONS TO/FROM CONTROL PANEL.
3. CONFIGURE CONTACT SUCH THAT CONTACT IS CLOSED ONLY IF MMR IS ENERGIZED AND HAS NO INTERNAL FAULT. CONTACT IS OPEN OTHERWISE.

GENERAL NOTES:

1. ALL ITEMS SHOWN ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.
2. ALTHOUGH TYPICAL CONTROL WIRING SCHEMATICS ARE PRESENTED FOR EQUIPMENT, THE CONTRACTOR SHALL GENERATE SPECIFIC EQUIPMENT CONTROL WIRING SCHEMATIC DRAWINGS (I.E., INDIVIDUAL CONTROL WIRING SCHEMATIC DRAWINGS DEDICATED FOR EACH SPECIFIC EQUIPMENT) BASED UPON THE TYPICAL CONTROL WIRING SCHEMATIC DRAWINGS AND THE TAG REPLACEMENT SCHEDULES. ALSO REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. THIS DRAWING IS TYPICAL FOR MULTIPLE EQUIPMENT. THE ACTUAL TAG FOR EACH EQUIPMENT WILL DIFFER FROM THAT SHOWN HERE. REFER TO THE APPLICABLE TAG REPLACEMENT SCHEDULE DRAWING TO DERIVE THE CORRESPONDING TAGS FOR EACH EQUIPMENT.
4. DRAWING DEPICTS ONLY THAT PORTION OF THE BLOWER CONTROL LOGIC WHICH RESIDES WITHIN THE MOTOR CONTROL CENTER. COORDINATE WITH BLOWER SYSTEM SUPPLIER FOR REMAINDER OF BLOWER CONTROL LOGIC.

REFERENCE DRAWINGS:

32E11 – 32E14 – ONE–LINE DIAGRAMS

32E67 – BLOWER TAG REPLACEMENT SCHEDULES

CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

THIS DRAWING IS TYPICAL FOR BLOWERS "LC–AASBC01", "LC–AASBC02", "LC–AASBC03", AND "LC–AASBC04".

Note:
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No.	DATE	REVISIONS	APP.

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SAN ANTONIO WATER SYSTEM

K. A. HARUTUNIAN 39181 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
7/1/2008

SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

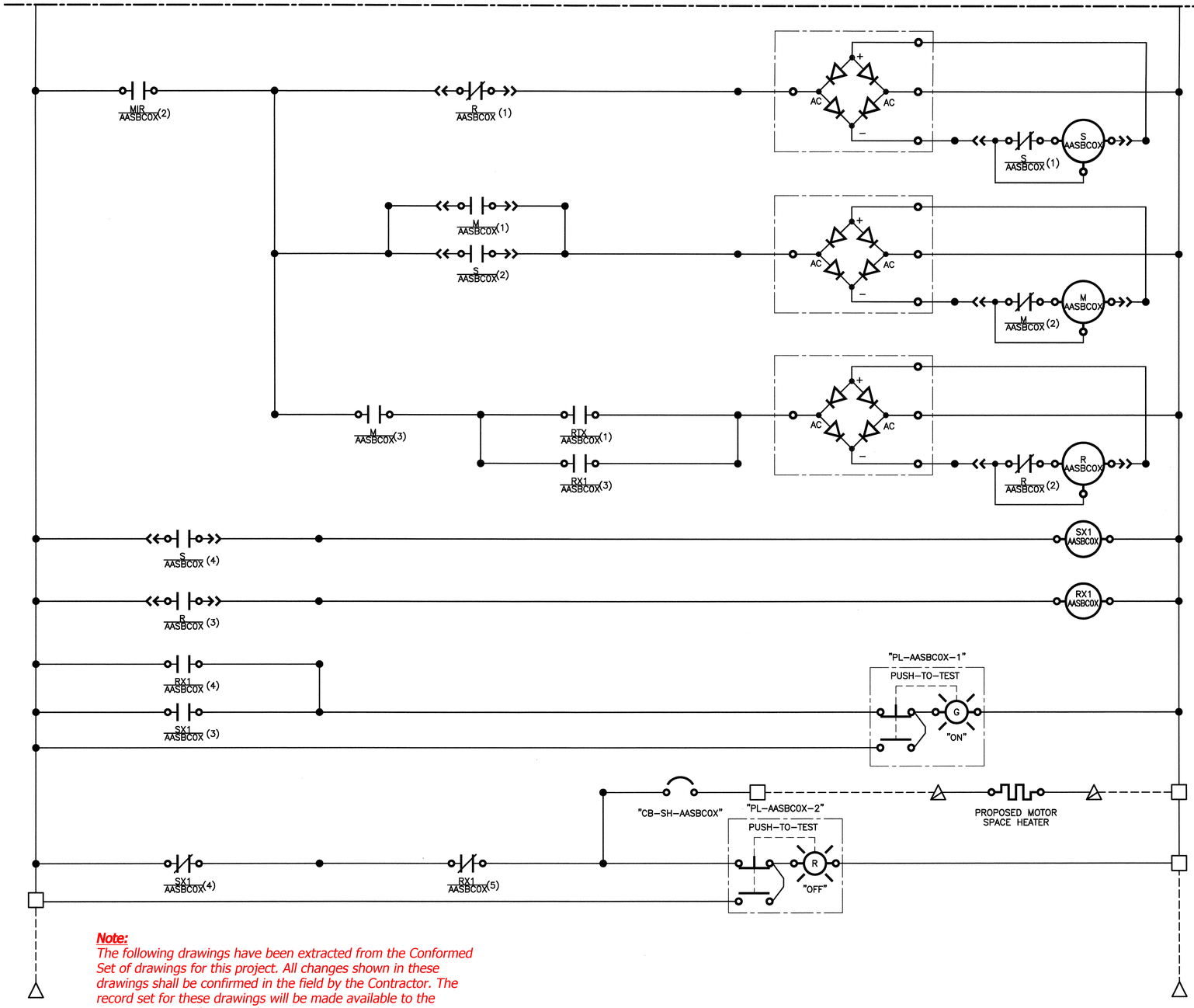
PROPOSED BLOWER AREA
BLOWER STARTER TYPICAL
CONTROL SCHEMATIC (SHEET 2 OF 3)

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32E57

Sheet 375 of 472

MATCHLINE "B–B"
REFER TO DRAWING NO. 32E57



Note:
The following drawings have been extracted from the Conformed Set of drawings for this project. All changes shown in these drawings shall be confirmed in the field by the Contractor. The record set for these drawings will be made available to the Contractor upon their completion.

WIRING AND TERMINAL DEVICE LEGEND:

- INDICATES WIRING BETWEEN PANELS OR TO A FIELD MOUNTED DEVICE.
- FIBER OPTIC PATCH CABLE.
- LOOSE TUBE FIBER OPTIC CABLE.
- ETHERNET COPPER.
- WIRE JUMPER CONNECTION.
- DEVICE WIRING TERMINAL.
- PROPOSED TERMINAL BLOCK, UNLESS OTHERWISE NOTED, LOCATED IN BLOWER SYSTEM SUPPLIER CONTROL PANEL "AIS–LCP–0X" AS NOTED, ANY DEVICE SHOWN WITH DEVICE WIRING TERMINALS CONNECTED DIRECTLY TO THESE SYMBOLS WITH SOLID LINES ARE LOCATED IN OR ON THE EQUIPMENT.
- PROPOSED TERMINAL BLOCK LOCATED IN 4160V MOTOR CONTROL CENTER (MCC) "AMC–MCC–01A" OR "AMC–MCC–01B" AS APPLICABLE. ANY DEVICE SHOWN WITH DEVICE WIRING TERMINALS CONNECTED DIRECTLY TO THESE SYMBOLS WITH SOLID LINES IS ALSO LOCATED IN PROPOSED 4160V MCC "AMC–MCC–01A" OR "AMC–MCC–01B" AS APPLICABLE.
- PROPOSED TERMINAL BLOCK LOCATED IN BLOWER MOTOR LOW VOLTAGE TERMINATION BOX.

GENERAL NOTES:

1. ALL ITEMS SHOWN ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.
2. ALTHOUGH TYPICAL CONTROL WIRING SCHEMATICS ARE PRESENTED FOR EQUIPMENT, THE CONTRACTOR SHALL GENERATE SPECIFIC EQUIPMENT CONTROL WIRING SCHEMATIC DRAWINGS (I.E., INDIVIDUAL CONTROL WIRING SCHEMATIC DRAWINGS DEDICATED FOR EACH SPECIFIC EQUIPMENT) BASED UPON THE TYPICAL CONTROL WIRING SCHEMATIC DRAWINGS AND THE TAG REPLACEMENT SCHEDULES. ALSO REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. THIS DRAWING IS TYPICAL FOR MULTIPLE EQUIPMENT. THE ACTUAL TAG FOR EACH EQUIPMENT WILL DIFFER FROM THAT SHOWN HERE. REFER TO THE APPLICABLE TAG REPLACEMENT SCHEDULE DRAWING TO DERIVE THE CORRESPONDING TAGS FOR EACH EQUIPMENT.
4. DRAWING DEPICTS ONLY THAT PORTION OF THE BLOWER CONTROL LOGIC WHICH RESIDES WITHIN THE MOTOR CONTROL CENTER. COORDINATE WITH BLOWER SYSTEM SUPPLIER FOR REMAINDER OF BLOWER CONTROL LOGIC.

REFERENCE DRAWINGS:

32E11 – 32E14 – ONE–LINE DIAGRAMS

32E67 – BLOWER TAG REPLACEMENT SCHEDULES

CONTRACT DOCUMENTS DATED JULY 2008, AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

THIS DRAWING IS TYPICAL FOR BLOWERS "LC–AASBC01", "LC–AASBC02", "LC–AASBC03", AND "LC–AASBC04".

No.	DATE	REVISIONS	APP.

WARNING 1/2 0 1
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SAN ANTONIO WATER SYSTEM

STATE OF TEXAS · K. A. HARUTUNIAN · 59188 · REGISTERED PROFESSIONAL ENGINEER · 7/9/2008

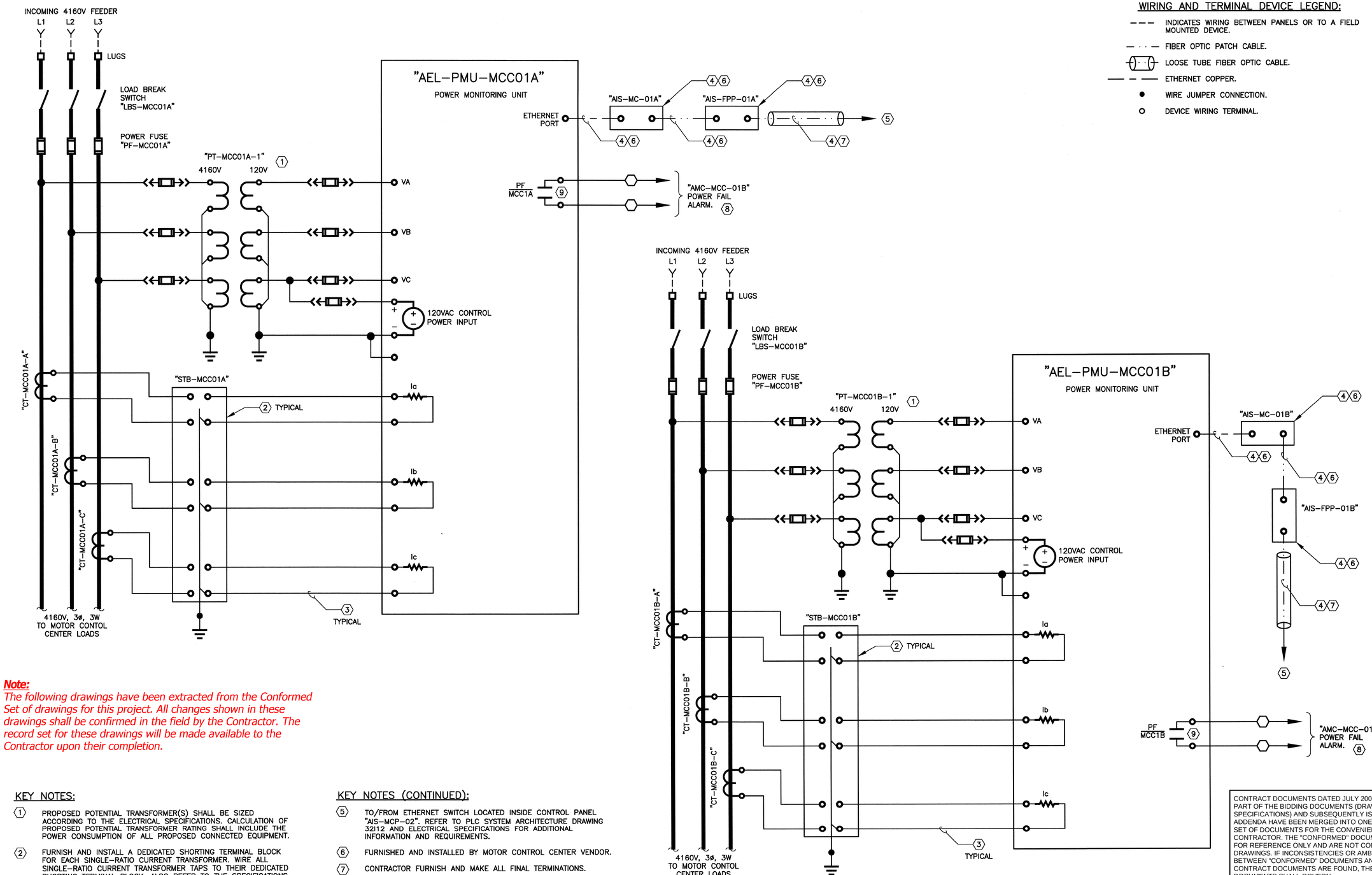
SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

PROPOSED BLOWER AREA
BLOWER STARTER TYPICAL
CONTROL SCHEMATIC (SHEET 3 OF 3)

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32E58

Sheet 376 of 472



Note:

The following drawings have been extracted from the Conformed Set of drawings for this project. All changes shown in these drawings shall be confirmed in the field by the Contractor. The record set for these drawings will be made available to the Contractor upon their completion.

KEY NOTES:

1. PROPOSED POTENTIAL TRANSFORMER(S) SHALL BE SIZED ACCORDING TO THE ELECTRICAL SPECIFICATIONS. CALCULATION OF PROPOSED POTENTIAL TRANSFORMER RATING SHALL INCLUDE THE POWER CONSUMPTION OF ALL PROPOSED CONNECTED EQUIPMENT.
2. FURNISH AND INSTALL A DEDICATED SHORTING TERMINAL BLOCK FOR EACH SINGLE–RATIO CURRENT TRANSFORMER. WIRE ALL SINGLE–RATIO CURRENT TRANSFORMER TAPS TO THEIR DEDICATED SHORTING TERMINAL BLOCK. ALSO REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. COORDINATE THE LENGTH OF THE SHORTING TERMINAL BLOCK/POWER MONITORING UNIT INTERCONNECT WIRING TO ALLOW FOR WIRE TO CONNECT TO ANY OF THE SHORTING TERMINAL BLOCK TERMINALS CORRESPONDING TO THE SINGLE–RATIO CURRENT TRANSFORMER TAP SETTINGS.
4. REFER TO SPECIFICATIONS FOR REQUIRED COPPER AND FIBER COMMUNICATION CABLING AND EQUIPMENT.

KEY NOTES (CONTINUED):

5. TO/FROM ETHERNET SWITCH LOCATED INSIDE CONTROL PANEL "AIS–MCP–02". REFER TO PLC SYSTEM ARCHITECTURE DRAWING 32I12 AND ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
6. FURNISHED AND INSTALLED BY MOTOR CONTROL CENTER VENDOR.
7. CONTRACTOR FURNISH AND MAKE ALL FINAL TERMINATIONS.
8. CONTRACTOR SHALL ROUTE CONDUIT/WIRE TO/FROM PROPOSED POWER FAIL CONTACT FROM/TO PROPOSED PACKAGED CONTROL PANEL "AIS–MCP–02" PROVIDED BY BLOWER MANUFACTURER AND MAKE ALL FINAL TERMINATIONS. CONTRACTOR SHALL COORDINATE WITH THE BLOWER MANUFACTURER PRIOR TO INSTALLATION.
9. MCC VENDOR SHALL FURNISH AND INSTALL ALL NECESSARY PMU HARDWARE PROVISIONS AND PMU CONFIGURATION OF DRY RELAY CONTACT TO ANNUNCIATE MCC POWER FAILURE. THE CONTACT SHALL OPEN ON DETECTING MCC BUS POWER FAIL AND IN THE EVENT OF CONTROL POWER LOSS TO THE PMU AND/OR ITS I/O MODULE. THE CONTACT SHALL BE CLOSED OTHERWISE.

GENERAL NOTES:

1. NOT ALL PROPOSED EQUIPMENT IS SHOWN HERE FOR CLARITY.
2. CLOSELY AND CAREFULLY COORDINATE WITH THE SWITCHGEAR MANUFACTURER AND MAKE ALL FINAL CONNECTIONS.

REFERENCE DRAWINGS:

32E11 – 32E14 – ONE–LINE DIAGRAMS

32I12 – PLC ARCHITECTURE

CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

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SAN ANTONIO WATER SYSTEM

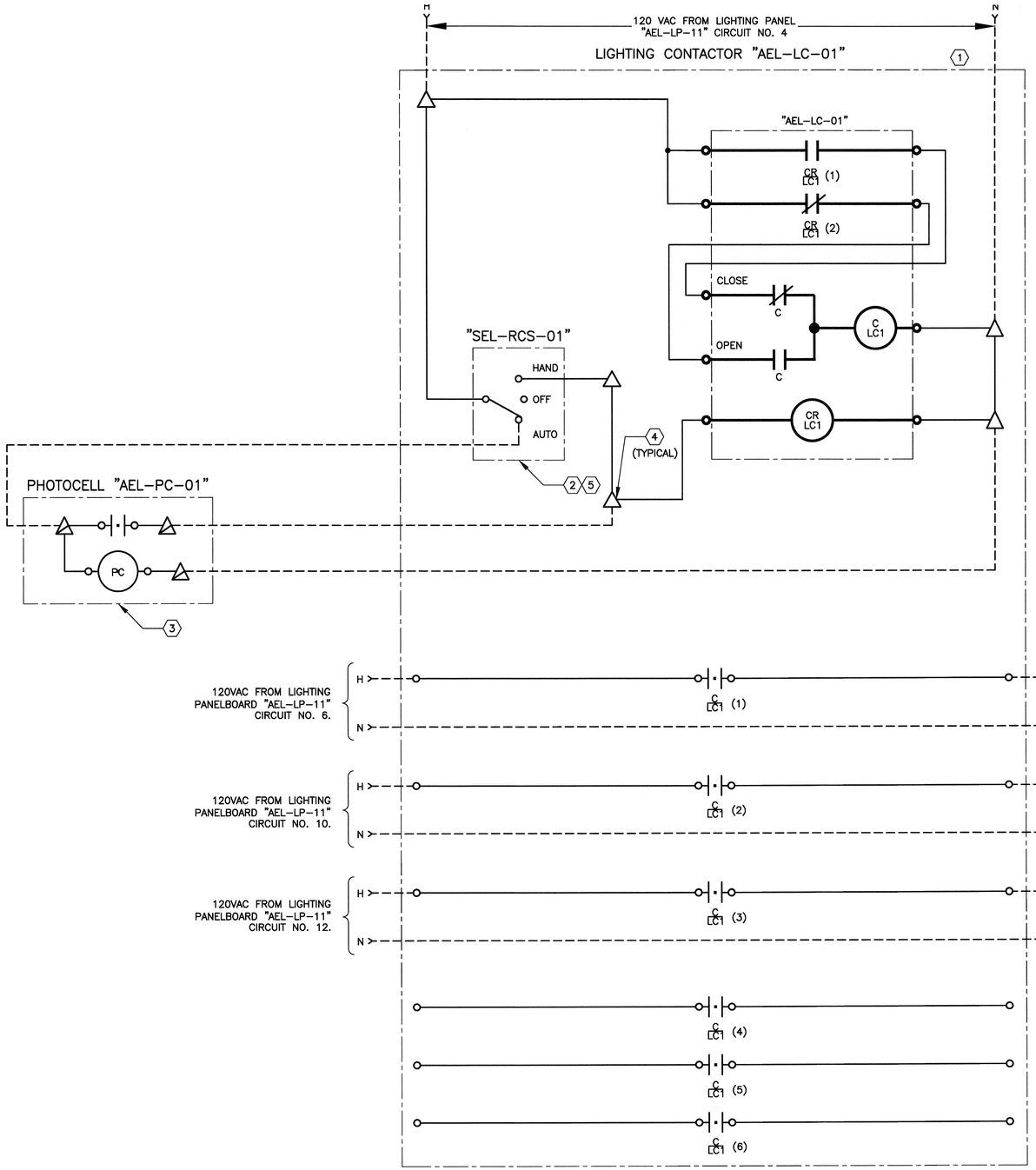
SAWS JOB No. 06-650
LEON CREEK WRC IMPROVEMENTS PROJECT

PROPOSED BLOWER AREA POWER MONITORING UNIT (PMU) WIRE SCHEMATIC

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32E59

Sheet 377 of 472



PROPOSED BLOWER BUILDING EXTERIOR LIGHTING CONTACTOR "AEL-LC-01" CONTROL WIRING SCHEMATIC

1

SCALE: NTS

WIRING AND TERMINAL DEVICE LEGEND:

- ○ DEVICE WIRING TERMINAL
- – – – WIRING BETWEEN PANELS OR TO A FIELD MOUNTED DEVICE.
- ● WIRE JUMPER CONNECTION
- △ PROPOSED TERMINAL BLOCK LOCATED IN LIGHTING CONTACTOR "AEL-LC-01" ENCLOSURE. ANY DEVICE SHOWN WITH DEVICE WIRING TERMINALS CONNECTED DIRECTLY TO THESE SYMBOLS WITH SOLID LINES IS ALSO LOCATED IN LIGHTING CONTACTOR "AEL-LC-01" ENCLOSURE.
- ◬ PROPOSED TERMINAL BLOCK LOCATED IN PHOTOCELL ENCLOSURE. ANY DEVICE SHOWN WITH DEVICE WIRING TERMINALS CONNECTED DIRECTLY TO THESE SYMBOLS WITH SOLID LINES IS ALSO LOCATED IN PHOTOCELL ENCLOSURE.

KEY NOTES:

1. LIGHTING CONTACTOR "AEL-LC-01". MOUNT ENTIRE PROPOSED LIGHTING CONTACTOR ASSEMBLY WITH ALL ACCESSORIES INSIDE A SINGLE ENCLOSURE MOUNTED INSIDE THE PROPOSED BLOWER ELECTRICAL BUILDING AND MAKE ALL FINAL CONNECTIONS. REFER TO THE BLOWER ELECTRICAL BUILDING EQUIPMENT ARRANGEMENT PLAN ON DRAWING NO. 32E28 FOR LOCATION.
2. SELECTOR SWITCH MOUNTED ON FACE OF CONTACTOR "AEL-LC-01" ENCLOSURE. FURNISH AND INSTALL ALL NECESSARY MOUNTING HARDWARE TO INSURE SECURE INSTALLATION AND MAKE ALL FINAL CONNECTIONS. FURNISH AND INSTALL THREE PLY PHENOLIC WHITE LETTERING ON BLACK BACKGROUND NAMEPLATE INSCRIBED WITH THE WORDS "BLOWER BUILDING LIGHTING CONTROL".
3. PROPOSED PHOTOCELL IS LOCATED ON EXTERIOR OF THE PROPOSED BLOWER ELECTRICAL BUILDING FURNISHED BY MOTOR CONTROL CENTER MANUFACTURER. ORIENT PROPOSED PHOTOCELL ACCORDING TO PHOTOCELL MANUFACTURER'S RECOMMENDATIONS. PHOTOCELL CONTACT IS SHOWN IN DAYLIGHT POSITION.
4. TERMINAL BLOCK IS FURNISHED AND INSTALLED BY REMOTE CONTROL SWITCH/LIGHTING CONTACTOR ASSEMBLER, AS APPLICABLE.
5. THE "HAND/OFF/AUTO" SELECTOR SWITCH NAMEPLATE PROVIDED BY THE SELECTOR SWITCH MANUFACTURER SHALL BE DISPLAYED ON THE FACE OF THE PROPOSED CONTACTOR ENCLOSURE.

GENERAL NOTES:

1. ALL ITEMS SHOWN ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL SIZE ALL ENCLOSURES PER, AND IN ACCORDANCE WITH, THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE (N.E.C.).

Note:
The following drawings have been extracted from the Conformed Set of drawings for this project. All changes shown in these drawings shall be confirmed in the field by the Contractor. The record set for these drawings will be made available to the Contractor upon their completion.

CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

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STATE OF TEXAS
KENNETH A. HARUTUNIAN
92151
REGISTERED PROFESSIONAL ENGINEER
7/2/2008

SAWS JOB No. 06-650
LEON CREEK WRC IMPROVEMENTS PROJECT

PROPOSED BLOWER BUILDING LIGHTING CONTROL SCHEMATICS

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32E60

Sheet 378 of 472

Note:
The following drawings have been extracted from the Conformed Set of drawings for this project. All changes shown in these drawings shall be confirmed in the field by the Contractor. The record set for these drawings will be made available to the Contractor upon their completion.

CIRCUIT BREAKER PANEL SCHEDULE–"AEL–LP–11"

(1)(2) VOLTS: 208/120 AMPS: 150A BUS MAIN: 150A PHASE/WIRE: 3ø, 4W

CONDUIT/WIRE DESCRIPTION	CIRCUIT BREAKER SIZE	CKT. NO.	LOAD DESCRIPTIONS	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	LOAD DESCRIPTIONS	CKT. NO.	CIRCUIT BREAKER SIZE	CONDUIT/WIRE DESCRIPTION
	20 1P	1	ELECTRICAL BUILDING RECEPTACLES	---			ELECTRICAL BUILDING EMERGENCY LIGHTING	2	20 1P	
	20 1P	3	ELECTRICAL BUILDING INDOOR LIGHTING		---		ELECTRICAL BUILDING LIGHTING CONTACTOR	4	20 1P	
	20 1P	5	ELECTRICAL BUILDING INDOOR LIGHTING			---	ELECTRICAL BUILDING OUTDOOR LIGHTING	6	20 1P	
3/4"–6#10(P),1#10(G)	20 1P	7	BLOWER BUILDING HID LIGHTING	720			BLOWER BUILDING RECEPTACLES	8	20 1P	3/4"–2#10(P),1#10(G)
INCLUDED IN CONDUIT WITH CIRCUIT NO. 7	20 1P	9	BLOWER BUILDING HID LIGHTING	1395	950		BLOWER BUILDING FLUORESCENT LIGHTING	10	20 1P	3/4"–3#10(P),1#10(G)
INCLUDED IN CONDUIT WITH CIRCUIT NO. 7	20 1P	11	BLOWER BUILDING HID LIGHTING		1395	950	BLOWER BUILDING FLUORESCENT LIGHTING	12	20 1P	INCLUDED IN CONDUIT WITH CIRCUIT NO. 10
INCLUDED IN CONDUIT WITH CIRCUIT NO. 7	20 1P	13	BLOWER BUILDING HID LIGHTING	---		1395	BLOWER NO. 1 CONTROL POWER TEST CIRCUIT	14	20 1P	3/4"–2#10(P),1#10(G)
3/4"–2#10(P),1#10(G)	20 1P	15	BLOWER NO. 2 CONTROL POWER TEST CIRCUIT		---		BLOWER NO. 3 CONTROL POWER TEST CIRCUIT	16	20 1P	3/4"–2#10(P),1#10(G)
3/4"–2#10(P),1#10(G)	20 1P	17	BLOWER NO. 4 CONTROL POWER TEST CIRCUIT			---	TRANSIENT VOLTAGE SURGE SUPPRESSOR "AEL–TVSS–14" (3)	18	20 3P	3/4"–3#10(P),1#10(G)
	20 1P	19	SPARE	---				20		
	20 1P	21	SPARE		---			22		
	20 1P	23	SPARE			---	SPARE	24	20 1P	
	20 1P	25	SPARE	---			SPARE	26	20 1P	
	20 1P	27	SPARE		---		SPARE	28	20 1P	
	20 1P	29	SPACE			---	SPACE	30	20 1P	
	20 1P	31	SPACE	---			SPACE	32	20 1P	
	20 1P	33	SPACE		---		SPACE	34	20 1P	
	20 1P	35	SPACE			---	SPACE	36	20 1P	
	20 1P	37	SPACE	---			SPACE	38	20 1P	
	20 1P	39	SPACE		---		SPACE	40	20 1P	
	20 1P	41	SPACE			---	SPACE	42	20 1P	

GENERAL NOTES:

1. PROPOSED ITEMS ARE SHOWN IN DARK LINEWORK. EXISTING ITEMS ARE SHOWN IN LIGHT LINEWORK, UNLESS NOTED OTHERWISE.
2. SHOULD A POWER OUTAGE TO A FACILITY BE REQUIRED, THE CONTRACTOR SHALL REQUEST SUCH AN OUTAGE IN WRITING NO LESS THAN TWO WEEKS IN ADVANCE. CONTRACTOR'S WRITTEN REQUEST SHALL IDENTIFY THE DESIRED DATE, TIME, DURATION, AND PURPOSE OF THE REQUESTED DAY UNLESS HE/SHE OBTAINS A WRITTEN APPROVAL FROM THE OWNER AUTHORIZING THE OUTAGE. THE OWNER RESERVES THE RIGHT TO MODIFY OR REJECT ANY REQUEST FOR SUCH AN OUTAGE. MODIFICATION OR REJECTION OF THE CONTRACTOR'S REQUEST BY THE OWNER SHALL NOT BE CONSIDERED REASON FOR DELAYS IN THE CONSTRUCTION SCHEDULE. UNLESS OTHERWISE NOTED, THE DURATION OF THE OUTAGE SHALL BE LIMITED TO FOUR (4) HOURS OR LESS. THE OWNER RESERVES THE RIGHT TO LIMIT THE DURATION OF THE OUTAGE TO LESS THAN 4 HOURS. MODIFICATION OF THE OUTAGE DURATION BY THE OWNER SHALL NOT BE CONSIDERED REASON FOR DELAYS IN THE CONSTRUCTION SCHEDULE.
3. TAKE CARE TO AVOID DAMAGE TO EXISTING FACILITIES; REPAIR ANY FACILITY DAMAGED IN THE COURSE OF CONSTRUCTION OF ANY PART OF THIS CONTRACT TO ITS ORIGINAL OPERATING CONDITION IMMEDIATELY, WITH REPAIR CREWS WORKING 24 HOURS PER DAY UNTIL THE DAMAGE IS REPAIRED AT NO ADDITIONAL COST TO OWNER.
4. THE ACTUAL REQUIRED LOCATIONS AND SIZES OF THE CONDUIT ENTRANCE AREAS ARE TO BE DETERMINED BY THE MANUFACTURER. CLOSELY AND CAREFULLY COORDINATE ALL CONDUIT ENTRANCE AREAS WITH THE EQUIPMENT MANUFACTURER.
5. FOR CONDUIT SIZE AND CONDUCTOR FILL NOT SPECIFIED ON THIS DRAWING, REFER TO CONDUIT AND WIRE SCHEDULE ON DRAWING NOS. 00E23 – 00E28.

KEY NOTES:

(1) FURNISH AND INSTALL PROPOSED PANELBOARD WITH A PAD LOCKABLE LOCKOUT MECHANISM FOR EACH CIRCUIT BREAKER (MAIN AND BRANCH CIRCUIT BREAKERS) IN THE PROPOSED PANELBOARD.

(2) REFER TO DRAWING NO. 32E28 FOR LOCATION OF PANELBOARDS.

(3) FURNISH TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS) WITH A MINIMUM PEAK SURGE CURRENT RATING OF 160kA PER PHASE AT 208VAC, 3ø, 4W, AS MANUFACTURED BY INNOVATIVE TECHNOLOGY, INC, #PTX160–3Y101–SD OR APPROVED EQUAL. SUBMIT OPERATION AND MAINTENANCE MANUALS FOR THE TVSS IN COMPLIANCE WITH SPECIFICATION SECTIONS 01782 AND 16500. SUBMIT SHOP DRAWINGS FOR THE TVSS IN COMPLIANCE WITH SPECIFICATION SECTIONS 01330 AND 16500. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND MAKE ALL FINAL CONNECTIONS.

CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

CIRCUIT BREAKER PANEL SCHEDULE–"AEL–CPP–11"

VOLTS: 120/208 AMPS: 125A BUS MAIN: 100A PHASE/WIRE: 3ø, 4W

CONDUIT/WIRE DESCRIPTION	CIRCUIT BREAKER SIZE	CKT. NO.	LOAD DESCRIPTIONS	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	LOAD DESCRIPTIONS	CKT. NO.	CIRCUIT BREAKER SIZE	CONDUIT/WIRE DESCRIPTION
3/4"–3#10(P),1#10(G)	20 3P	1	TRANSIENT VOLTAGE SURGE SUPPRESSOR "AEL–TVSS–13" (3)	---			CONTROL PANEL "AIS–MCP–02" CONTROL POWER	2	20 1P	3/4"–6#10(P),3#10(G)
		3			---		CONTROL PANEL "AIS–MCP–02" CONTROL POWER	4	20 1P	INCLUDED IN CONDUIT WITH CIRCUIT NO. 2
		5				---	CONTROL PANEL "AIS–MCP–02" CONTROL POWER	6	20 1P	INCLUDED IN CONDUIT WITH CIRCUIT NO. 2
	20 1P	7	SPARE	---			SPARE	8	20 1P	
	20 1P	9	SPARE		---		SPARE	10	20 1P	
	20 1P	11	SPARE			---	SPARE	12	20 1P	
	20 1P	13	SPARE	---			SPARE	14	20 1P	
	20 1P	15	SPARE		---		SPARE	16	20 1P	
		17	SPACE			---	SPACE	18		
		19	SPACE	---			SPACE	20		
		21	SPACE		---		SPACE	22		
		23	SPACE			---	SPACE	24		
		25	SPACE	---			SPACE	26		
		27	SPACE		---		SPACE	28		
		29	SPACE			---	SPACE	30		

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SAN ANTONIO WATER SYSTEM

STATE OF TEXAS — KEVIN A. HARUTUNIAN — 93181 — REGISTERED PROFESSIONAL ENGINEER — 7/2/2008

SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

PROPOSED BLOWER AREA
PANEL SCHEDULE

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32E65

Sheet 383 of 472

TAG REPLACEMENT TABLE FOR AERATION SYSTEM CENTRIFUGAL BLOWERS

EQUIPMENT TAG	EQUIPMENT DESCRIPTION	LC–AASBC0X	AASBC0X	CPT–AASBC0X	AEL–MMR–BC0X	NLBS–AASBC0X
LC–AASBC01	AERATION SYSTEM CENTRIFUGAL BLOWER NO. 1	LC–AASBC01	AASBC01	CPT–AASBC01	AEL–MMR–BC01	NLBS–AASBC01
LC–AASBC02	AERATION SYSTEM CENTRIFUGAL BLOWER NO. 2	LC–AASBC02	AASBC02	CPT–AASBC02	AEL–MMR–BC02	NLBS–AASBC02
LC–AASBC03	AERATION SYSTEM CENTRIFUGAL BLOWER NO. 3	LC–AASBC03	AASBC03	CPT–AASBC03	AEL–MMR–BC03	NLBS–AASBC03
LC–AASBC04	AERATION SYSTEM CENTRIFUGAL BLOWER NO. 4	LC–AASBC04	AASBC04	CPT–AASBC04	AEL–MMR–BC04	NLBS–AASBC04

TAG REPLACEMENT TABLE FOR AERATION SYSTEM CENTRIFUGAL BLOWERS (CONTINUED)

EQUIPMENT TAG	XFMR–AASBC0X	AMC–MCC–01X	AIS–LCP–0X	AIS–FPP–BC0X	AIS–MC–BC0X	CB–SH–AASBC0X	STB–AASBC0X	CKTXX
LC–AASBC01	XFMR–AASBC01	AMC–MCC–01A	AIS–LCP–01	AIS–FPP–BC01	AIS–MC–BC01	CB–SH–AASBC01	STB–AASBC01	14
LC–AASBC02	XFMR–AASBC02	AMC–MCC–01A	AIS–LCP–02	AIS–FPP–BC02	AIS–MC–BC02	CB–SH–AASBC02	STB–AASBC02	15
LC–AASBC03	XFMR–AASBC03	AMC–MCC–01B	AIS–LCP–03	AIS–FPP–BC03	AIS–MC–BC03	CB–SH–AASBC03	STB–AASBC03	16
LC–AASBC04	XFMR–AASBC04	AMC–MCC–01B	AIS–LCP–04	AIS–FPP–BC04	AIS–MC–BC04	CB–SH–AASBC04	STB–AASBC04	17

Note:
The following drawings have been extracted from the Conformed Set of drawings for this project. All changes shown in these drawings shall be confirmed in the field by the Contractor. The record set for these drawings will be made available to the Contractor upon their completion.

GENERAL NOTES:

1. ALTHOUGH TYPICAL CONTROL SCHEMATICS ARE PRESENTED FOR EQUIPMENT, THE CONTRACTOR SHALL GENERATE SPECIFIC EQUIPMENT CONTROL SCHEMATIC DRAWINGS (I.E., INDIVIDUAL CONTROL SCHEMATIC DRAWINGS DEDICATED FOR EACH SPECIFIC EQUIPMENT) BASED UPON THE TYPICAL CONTROL SCHEMATIC DRAWINGS, THE DEVICE IDENTIFICATION SCHEDULE, AND THE ADDITIONAL REQUIREMENTS OF THE CONTRACT SPECIFICATIONS. THE CONTRACTOR GENERATED SPECIFIC EQUIPMENT CONTROL SCHEMATICS SHALL FOLLOW THE SAME OVERALL PRESENTATION FORMAT AS THE TYPICAL EQUIPMENT CONTROL SCHEMATICS PRESENTED HEREIN. THE SPECIFIC EQUIPMENT CONTROL SCHEMATIC DRAWINGS, COMPLETE WITH ALL SPECIFIC EQUIPMENT/DEVICE TAGS (AS MINIMUM, ALSO REFER TO THE SPECIFICATIONS), SHALL BE GENERATED BY THE CONTRACTOR AND INCLUDED WITH THE PROJECT SUBMITTALS (I.E., PRIOR TO EQUIPMENT PURCHASE) AND THE "AS–BUILT" DRAWINGS. ANY CONTRACTOR GENERATED CONTROL SCHEMATIC SHOWN AS APPLICABLE TO MULTIPLE EQUIPMENT SHALL NOT BE ACCEPTED.
2. THIS DRAWING PRESENTS THE INDIVIDUAL DEVICE IDENTIFICATIONS WHICH ARE APPLICABLE TO THE INDIVIDUAL EQUIPMENT AS SHOWN. THIS DRAWING SHALL BE CROSS–REFERENCED WITH THE TYPICAL CONTROL SCHEMATIC DRAWING IN ORDER TO ASSIGN THE PROPER REQUIRED TAGS TO ALL OF THE SPECIFIC DEVICES FOR EACH EQUIPMENT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TAGS SHOWN HEREIN FOR EACH EQUIPMENT AS SHOWN.

REFERENCE DRAWINGS:

32E56 – 32E58 – TYPICAL BLOWER CONTROL SCHEMATIC

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SAN ANTONIO WATER SYSTEM

STATE OF TEXAS
K. A. HARUTUNIAN
59161
REGISTERED
PROFESSIONAL
ENGINEER
7/7/2008

SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

BLOWER SYSTEM
TAG REPLACEMENT SCHEDULE
RENOVATION

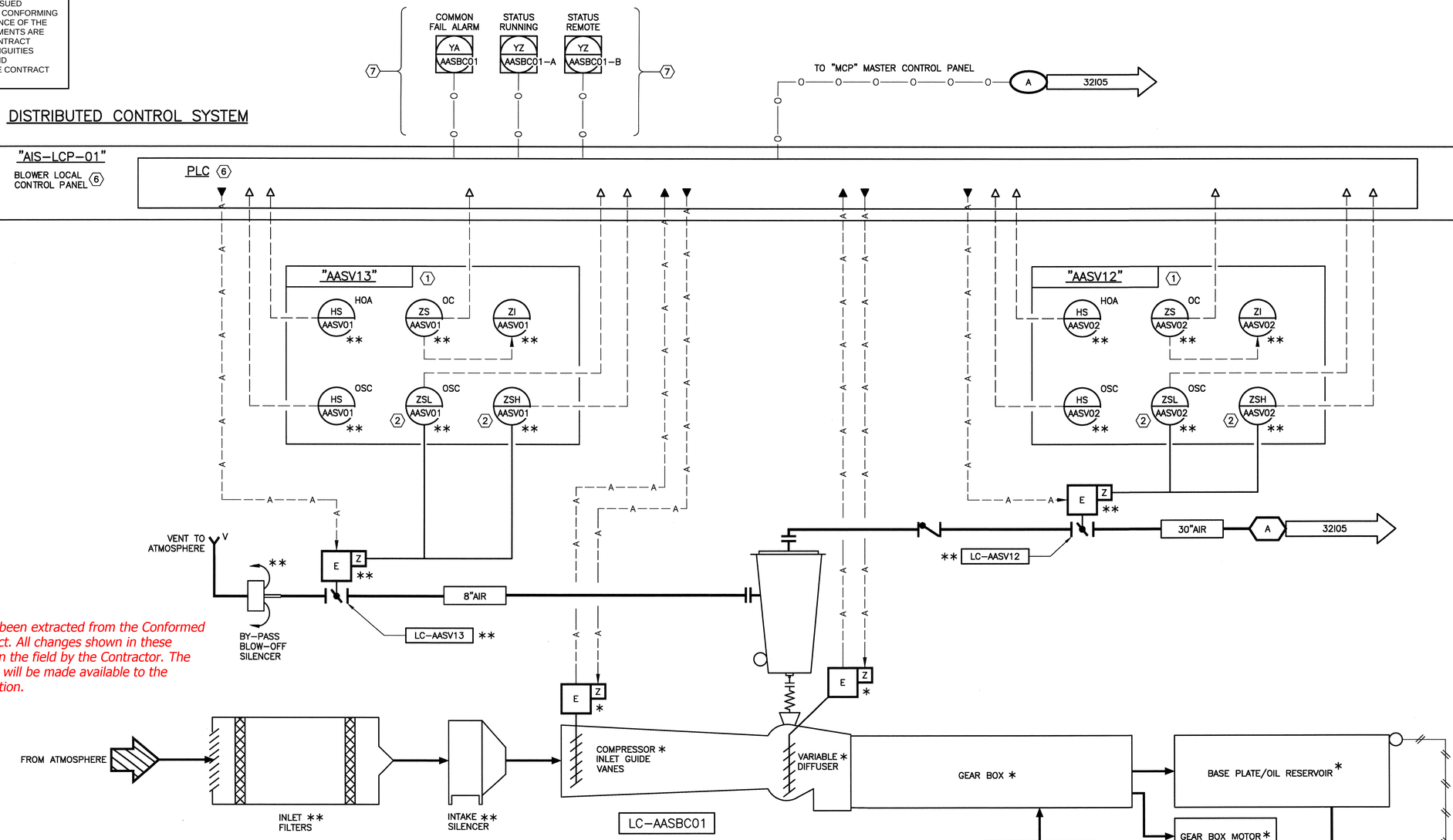
Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32E67

Sheet 385 of 472

CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

DISTRIBUTED CONTROL SYSTEM



Note:

The following drawings have been extracted from the Conformed Set of drawings for this project. All changes shown in these drawings shall be confirmed in the field by the Contractor. The record set for these drawings will be made available to the Contractor upon their completion.

KEY NOTES:

1. CONTROL STATION IS INTEGRAL AND EQUIPPED WITH VALVE OPERATOR.
2. VALVE EQUIPPED WITH END SWITCH.
3. OIL TEMPERATURE REGULATOR.
4. SOL – COOLING WATER SOLENOID.
5. AS A MINIMUM, CONFIGURE THE SHOWN SIGNALS. COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
6. BLOWER LOCAL CONTROL PANEL AND ASSOCIATED PLC PROVIDED BY BLOWER MANUFACTURER.
7. AS A MINIMUM, CONFIGURE THE SHOWN SIGNALS. COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SYMBOL NOTES:

* SUPPLIED ON VENDOR BLOWER PACKAGE SKID.

** SUPPLIED BY VENDOR, INSTALLED & WIRED BY CONTRACTOR.

GENERAL NOTES:

1. LIGHT LINEWORK DENOTES EITHER EXISTING OR FUTURE EQUIPMENT AS NOTED. PROPOSED ITEMS ARE SHOWN IN DARK LINEWORK.
2. NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE SHOWN ON THIS DRAWING. REFER TO ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL DRAWINGS, AS APPLICABLE, FOR ADDITIONAL INFORMATION.
3. CLOSELY AND CAREFULLY COORDINATE ALL CONTROL DEVICES, INDICATORS, ETC., REQUIREMENTS WITH THE APPLICABLE EQUIPMENT CONTROL SCHEMATICS/INSTRUMENT WIRING SCHEMATICS. ALSO REFER TO THE APPLICABLE CONTROL SCHEMATICS/INSTRUMENT WIRING SCHEMATICS FOR ADDITIONAL INFORMATION.
4. CLOSELY AND CAREFULLY COORDINATE INSTRUMENT INSTALLATION/LOCATION WITH STRUCTURAL/MECHANICAL DISCIPLINES AND OWNER REPRESENTATIVE.
5. BLOWER MANUFACTURE PRE-WIRED CONTROLS AND INSTRUMENTATION ARE NOT SHOWN FOR CONTRACTORS CLARITY.

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SAN ANTONIO WATER SYSTEM

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STATE OF TEXAS · K. A. HARUTUNIAN · 83781 · REGISTERED PROFESSIONAL ENGINEER
7/3/2008

SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

AERATION SYSTEM
P&ID (SHEET 1 OF 5)

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32I01

Sheet 388 of 472

CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

DISTRIBUTED CONTROL SYSTEM

"AIS-LCP-02"
BLOWER LOCAL CONTROL PANEL (6)

PLC (6)

COMMON FAIL ALARM YA AASBC02 (7)
STATUS RUNNING YZ AASBC02-A (7)
STATUS REMOTE YZ AASBC02-B (7)

TO "MCP" MASTER CONTROL PANEL — A — 32I05

"AASV17" (1)
HS AASV05 ** HOA
ZS AASV05 ** OC
ZI AASV05 **
HS AASV05 ** OSC
ZSL AASV05 ** (2) OSC
ZSH AASV05 ** (2)

"AASV16" (1)
HS AASV06 ** HOA
ZS AASV06 ** OC
ZI AASV06 **
HS AASV06 ** OSC
ZSL AASV06 ** (2) OSC
ZSH AASV06 ** (2)

VENT TO ATMOSPHERE V
BY-PASS BLOW-OFF SILENCER **
E Z **
8"AIR
LC-AASV17 **
E Z **
** LC-AASV16
E Z *
E Z *
30"AIR — A — 32I05

FROM ATMOSPHERE
INLET ** FILTERS
INTAKE ** SILENCER
COMPRESSOR * INLET GUIDE VANES
VARIABLE * DIFFUSER
GEAR BOX *
BASE PLATE/OIL RESERVOIR *
GEAR BOX MOTOR *
DUPLEX OIL FILTER *
LC-AASBC02

PI AASBC02
TI AASBC02
S
(3) (4)
TO OPEN DRAIN 32M01
COOLING WATER SUPPLY 32M01
LC-AASV19
LC-AASV18

Note:
The following drawings have been extracted from the Conformed Set of drawings for this project. All changes shown in these drawings shall be confirmed in the field by the Contractor. The record set for these drawings will be made available to the Contractor upon their completion.

KEY NOTES:

(1) CONTROL STATION IS INTEGRAL AND EQUIPPED WITH VALVE OPERATOR.

(2) VALVE EQUIPPED WITH END SWITCH.

(3) OIL TEMPERATURE REGULATOR.

(4) SOL – COOLING WATER SOLENOID.

(5) AS A MINIMUM, CONFIGURE THE SHOWN SIGNALS. COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

(6) BLOWER LOCAL CONTROL PANEL AND ASSOCIATED PLC PROVIDED BY BLOWER MANUFACTURER.

(7) AS A MINIMUM, CONFIGURE THE SHOWN SIGNALS. COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SYMBOL NOTES:

* SUPPLIED ON VENDOR BLOWER PACKAGE SKID.

** SUPPLIED BY VENDOR, INSTALLED & WIRED BY CONTRACTOR.

GENERAL NOTES:

1. LIGHT LINEWORK DENOTES EITHER EXISTING OR FUTURE EQUIPMENT AS NOTED. PROPOSED ITEMS ARE SHOWN IN DARK LINEWORK.
2. NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE SHOWN ON THIS DRAWING. REFER TO ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL DRAWINGS, AS APPLICABLE, FOR ADDITIONAL INFORMATION.
3. CLOSELY AND CAREFULLY COORDINATE ALL CONTROL DEVICES, INDICATORS, ETC., REQUIREMENTS WITH THE APPLICABLE EQUIPMENT CONTROL SCHEMATICS/INSTRUMENT WIRING SCHEMATICS. ALSO REFER TO THE APPLICABLE CONTROL SCHEMATICS/INSTRUMENT WIRING SCHEMATICS FOR ADDITIONAL INFORMATION.
4. CLOSELY AND CAREFULLY COORDINATE INSTRUMENT INSTALLATION/LOCATION WITH STRUCTURAL/MECHANICAL DISCIPLINES AND OWNER REPRESENTATIVE.
5. BLOWER MANUFACTURE PRE-WIRED CONTROLS AND INSTRUMENTATION ARE NOT SHOWN FOR CONTRACTORS CLARITY.

No.	DATE	REVISIONS	APP.

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SAN ANTONIO WATER SYSTEM

K. A. HARUTUNIAN 59151 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS 7/2/2008

SAWS JOB No. 06-650
LEON CREEK WRC IMPROVEMENTS PROJECT

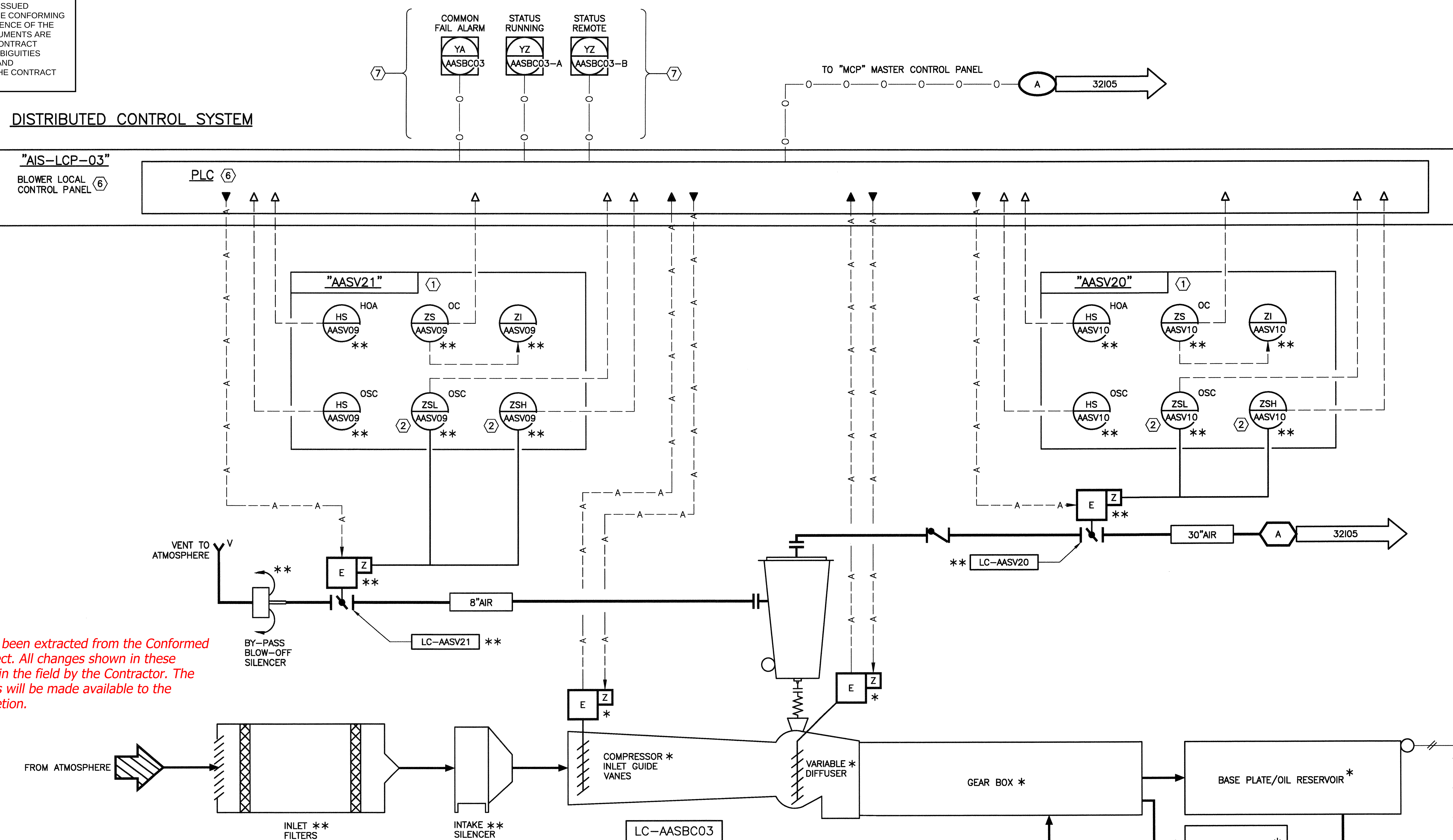
AERATION SYSTEM
P&ID (SHEET 2 OF 5)

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32I02

Sheet 389 of 472

CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.



Note:
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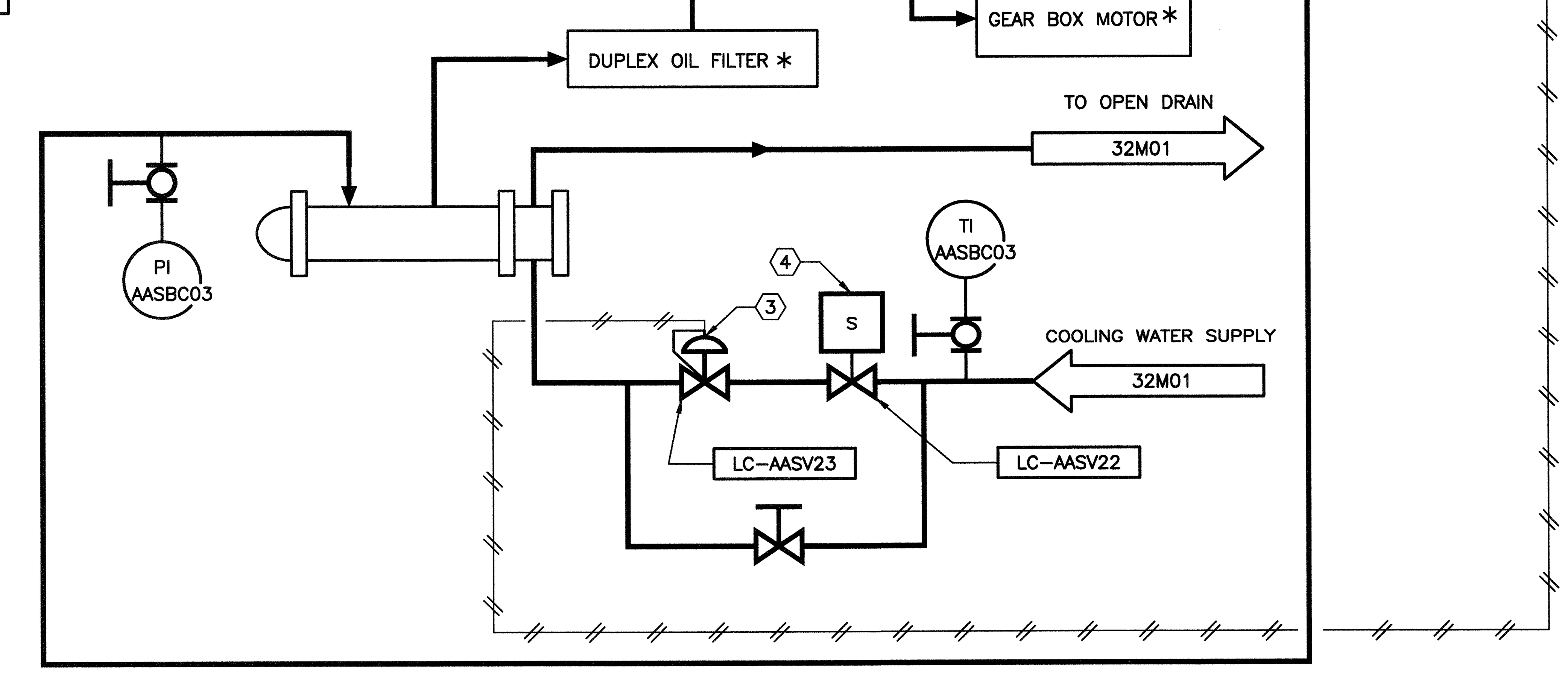

KEY NOTES:

1. CONTROL STATION IS INTEGRAL AND EQUIPPED WITH VALVE OPERATOR.
2. VALVE EQUIPPED WITH END SWITCH.
3. OIL TEMPERATURE REGULATOR.
4. SOL – COOLING WATER SOLENOID.
5. AS A MINIMUM, CONFIGURE THE SHOWN SIGNALS. COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
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HARUTUNIAN ENGINEERING INCORPORATED
ENGINEERING AND ENVIRONMENTAL CONSULTANTS, AUSTIN, TEXAS

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SAN ANTONIO WATER SYSTEM

STATE OF TEXAS — K. A. HARUTUNIAN — 59181 — REGISTERED PROFESSIONAL ENGINEER
7/2/2008

SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

AERATION SYSTEM
P&ID (SHEET 3 OF 5)

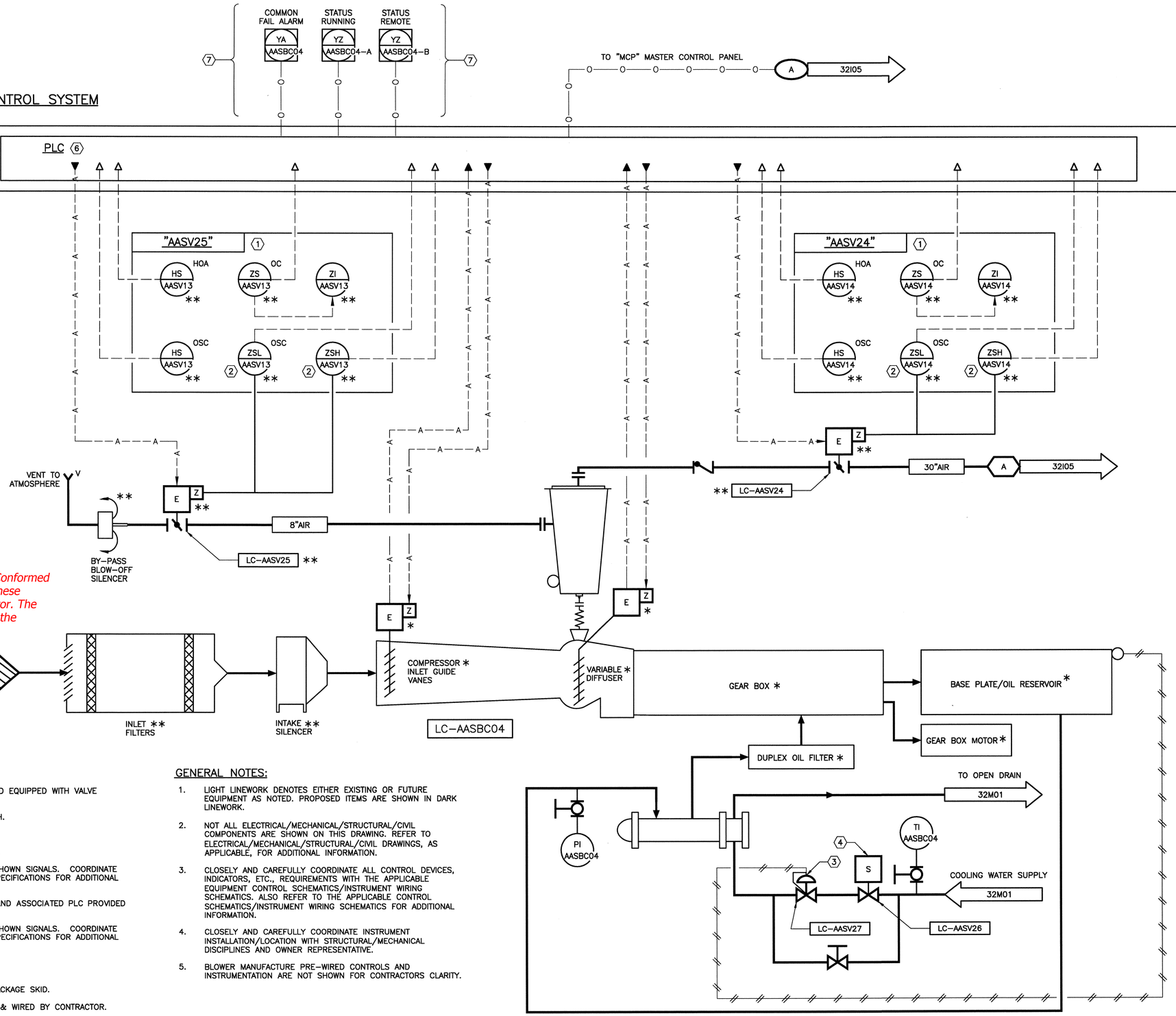
Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32I03

Sheet 390 of 472

CONTRACT DOCUMENTS DATED JULY 2008. AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUBSEQUENTLY ISSUED ADDENDA HAVE BEEN MERGED INTO ONE CONFORMING SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE "CONFORMED" DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES BETWEEN "CONFORMED" DOCUMENTS AND CONTRACT DOCUMENTS ARE FOUND, THE CONTRACT DOCUMENTS SHALL GOVERN.

DISTRIBUTED CONTROL SYSTEM



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KEY NOTES:

1. CONTROL STATION IS INTEGRAL AND EQUIPPED WITH VALVE OPERATOR.
2. VALVE EQUIPPED WITH END SWITCH.
3. OIL TEMPERATURE REGULATOR.
4. SOL – COOLING WATER SOLENOID.
5. AS A MINIMUM, CONFIGURE THE SHOWN SIGNALS. COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
6. BLOWER LOCAL CONTROL PANEL AND ASSOCIATED PLC PROVIDED BY BLOWER MANUFACTURER.
7. AS A MINIMUM, CONFIGURE THE SHOWN SIGNALS. COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SYMBOL NOTES:

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No.	DATE	REVISIONS	APP.

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SAN ANTONIO WATER SYSTEM

STATE OF TEXAS · KENNETH A. KRUTTSCHNITT · 92181 · REGISTERED PROFESSIONAL ENGINEER
7/2/2008

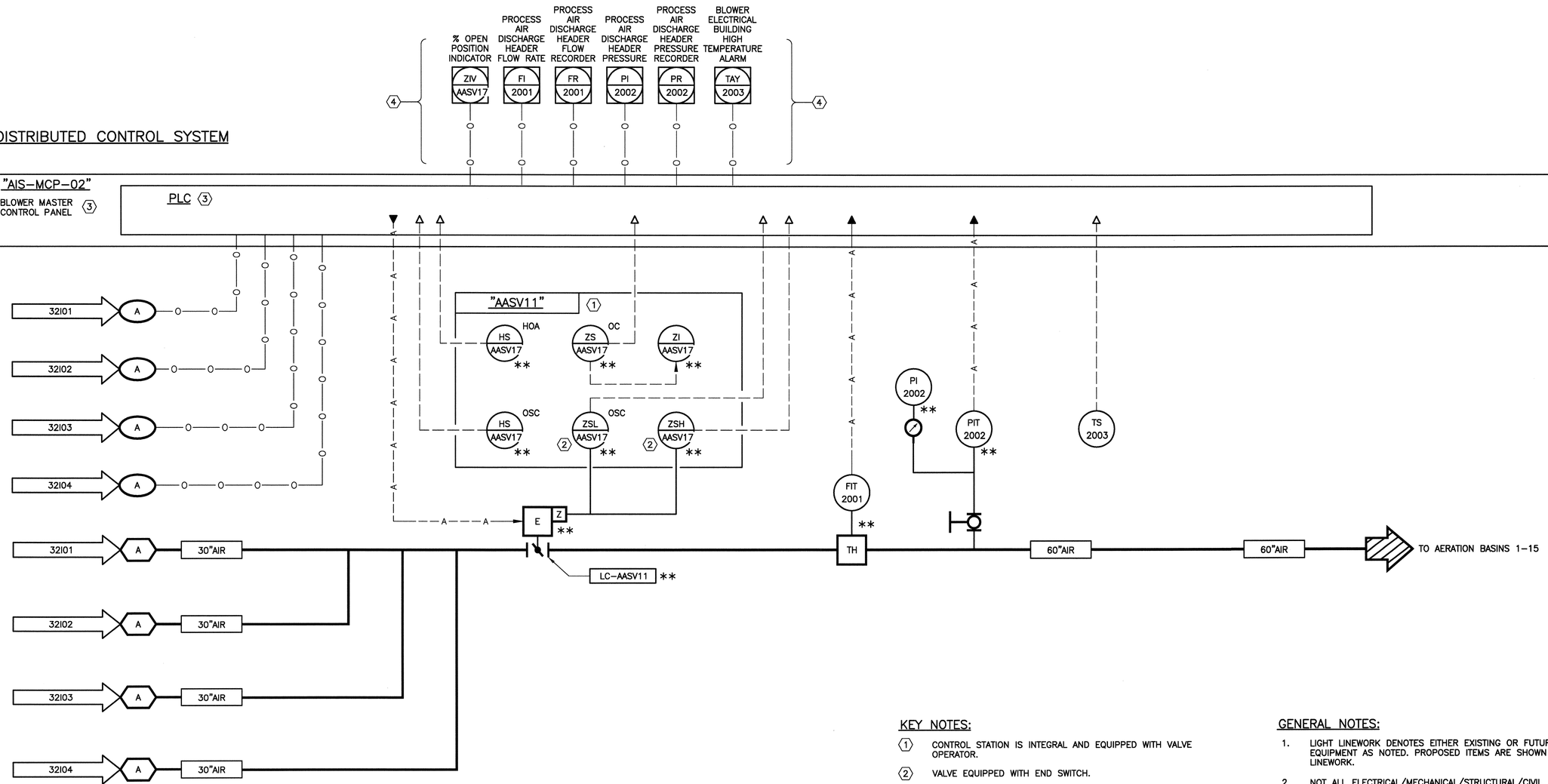
SAWS JOB No. 06-650
LEON CREEK WRC IMPROVEMENTS PROJECT

AERATION SYSTEM
P&ID (SHEET 4 OF 5)

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32104

Sheet 391 of 472



KEY NOTES:

1. CONTROL STATION IS INTEGRAL AND EQUIPPED WITH VALVE OPERATOR.
2. VALVE EQUIPPED WITH END SWITCH.
3. BLOWER MAIN CONTROL PANEL AND ASSOCIATED PLC PROVIDED BY BLOWER MANUFACTURER.
4. AS A MINIMUM, CONFIGURE THE SHOWN SIGNALS. COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

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KEVIN HARUTUNIAN
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7/24/2008

SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

AERATION SYSTEM
P&ID (SHEET 5 OF 5)

Designed by: HEI
Drawn by: HEI
Checked by: HEI

Drawing 32I05

Sheet 392 of 472