



2025-0038 ITB
HVAC Controls Upgrade
Addendum 001 September 4, 2025

Attention Bidders: The following changes and additions are made to the bid documents. **Bidders are advised that the Revised Bid Form included with this Addendum must be used when submitting a bid. Any bid submitted on a previous version of the bid form will be considered non-responsive and will not be evaluated.**

Question 1	Can contractors re-use existing equipment, as available, such as existing conduit?
Answer 1	The Contractor may reuse existing components where practical and appropriate to the new system. However, certain items, such as the CAT 5 cables connecting the VAV/FPBs to the DDC Controller, may not be suitable for reuse and may require replacement.
Question 2	Can you provide copies of the “As Built” control drawings and documentation or screenshots of all the “Points” that the new control system would be communication with and receiving information from?
Answer 2	“As Built”- and screenshots have been uploaded to the Procurement Portal.
Question 3	Do the fleet shop carbon monoxide sensors, the battery room hydrogen sensor, and the first-floor training/conference room carbon dioxide sensors all need to be replaced?
Answer 3	Yes, if replacement is required to ensure compatibility and full functionality with the new control system.
Question 4	Will any of the work be required to be done outside of normal business hours?
Answer 4	It is anticipated that most work may be performed during normal business hours, provided the Contractor coordinates in advance with the WTA Construction Manager regarding required access to specific areas. Work outside of normal business hours is permissible, as WTA Facilities Technicians are on duty and able to provide access from 0700 to 1900, Tuesday through Friday. On Mondays, WTA Facilities Technicians are available only during normal business hours.
Question 5	Will Contractor be responsible for moving furniture that may be in the way of their access to ceiling spaces, etc., that they need to get to?
Answer 5	The Contractor is generally not responsible for moving furniture. Where

	furniture obstructs access to ceiling spaces or other work areas, the Contractor shall coordinate in advance with the Construction Project Manager.
Question 6	Where is the building pressure sensor located?
Answer 6	Location of building static pressure sensor is unknown. Contractor shall install a new one as part of this project.
Question 7	Which HVAC unit currently does not have a VFD installed on the exhaust fan, and needs one installed as specified in the ITB? And can a photo of the nameplate for the unit be sent out to potential bidders?
Answer 7	MAH-1 currently does not have a VFD. VFD installation and supporting duct static pressure sensor for MAH-1 is to be bid as Alternate 001. A revised bid sheet is attached which must be used when submitting a bid. Any bid submitted on a previous version of the bid form will be considered non-responsive and will not be evaluated. The requested photos are attached to this Addendum. Update drawings showing alternate 001 will be provided in the forthcoming Addendum 002.
Question 8	To what extent are the natural gas Radiant Heaters communicating with the existing control system?
Answer 8	The existing DDC system is just providing on/off status. No controls.
Question 9	Are the outside lighting controls tied into the current DDC and will they need to be tied into the new DDC System?
Answer 9	Yes.
Question 10	Will the conduit routing from MOAB to the Fuel & Wash Building need to be excavated and replaced, or would the existing conduit be adequate?
Answer 10	There are two empty 4-inch conduits that travel from the Fuel & Wash building room #408 to the IT control room #250 on the second floor in the main building. Either of these conduits will be adequate to get from the Fuel & Wash building to the main building.
Question 11	Will the contractor have access, if needed, to a man lift on site?
Answer 11	The contractor will have access to a man lift on site with proper scheduling and notification with the Construction Project Manager ahead of time.
Question 12	Who will be responsible for obtaining proper permitting for this project?
Answer 12	All required permitting is the contractor's responsibility.

Question 13	What are the benefits of VFD on MAH-1 and should this be an alternative bid item?
Answer 13	Installing a VFD (Variable Frequency Drive) on the exhaust fan of MAH1 would help to balance the air pressure in the shop more effectively. This would require additional pressure sensors that are not currently installed. See Answer #7 stating this will be bid as alternate no. 001. Use updated bid sheet. Update drawings showing alternate 001 will be provided in the forthcoming Addendum 002.
Question 14	Will the engineer include the following minimum, testable requirements for the supervisory platform (these reflect common Niagara capabilities and market expectations for open access)? Proposed Language: The BAS supervisory platform shall, at minimum: 1. Multi-vendor ecosystem: Be supported by multiple independent system integrators in the region; not restricted to a single manufacturer's service channel. 2. Licensing & ownership: Perpetual runtime license; Owner is licensee; no subscription required for continued operation. Provide license transfer rights to Owner if service provider changes. 3. Engineering tools access: Deliver full administrator credentials and the native engineering tool to the Owner (e.g., Niagara Workbench or equal) so any qualified integrator can edit graphics, logic, databases, alarms, schedules, trends, and drivers. 4. Unlocked deliverables: Provide unlocked station/project databases, graphics source files, custom logic/blocks, driver configurations, and backups at project closeout. 5. Protocol interoperability: Native BACnet/IP client/server with BBMD/Foreign Device support; support for Modbus TCP/RTU and other common drivers without proprietary gateways.
Answer 14	Yes, the new system is required to meet these capabilities. These requirements will be incorporated into the specifications and issued as part of the forthcoming Addendum 002.
Question 15	Please confirm that the required supervisory software is Tridium Niagara 4.x (Niagara Supervisor with JACE/edge controllers) as the basis of design to meet the open access intent. Our proposed solution is that, added to the Controls spec is "Basis of Design: Tridium Niagara 4.x Framework. Equivalent platforms may be proposed only if they meet all 'Open Access/Interoperability Minimums' in RFI 02 and provide the same multi-vendor service ecosystem."
Answer 15	Confirmed, Basis of design is Tridium Niagara 4.x Framework. BOD framework will be incorporated into specifications and issued as part of

	the forthcoming Addendum 002.
Question 16	Will you be accepting native spec for controls - specifically Distech controls?
Answer 16	Substitutions will be considered when requested as laid out in "Section 2: Bid Conditions part 1. Request for Clarification, Deviation, or Substitution" on page 13 of the solicitation.
Question 17	Will DDC manufacturer/installer substitutions be considered during this bidding process?
Answer 17	See Answer 16.
Question 18	Please confirm that MacDonald-Miller Facility Solutions is added to the list of approved BAS bidders/integrators for this project.
Answer 18	See Answer 16. A list of approved substitutions will be issued following the clarification deadline via an addendum.

REVISED EXHIBIT B: BID FORM

Date: _____

TO: Whatcom Transportation Authority

This certifies that the Undersigned has examined the location of the project site(s) and the conditions of work; and has carefully read and thoroughly understands the contract documents entitled: **"HVAC Controls Upgrade 2025-038 ITB"** and the method by which payment will be made for said work. The Undersigned hereby proposes to undertake and complete the work in this project in accordance with said contract documents, and agrees to accept as payment for said work, the Schedule of Values as set forth in the Bid Form below.

The Undersigned acknowledges that payment will be based on the actual work performed and material used as measured or provided for in accordance with the said contract documents, and that the basis for payment will be the actual work performed and measured or provided for in accordance with the said contract documents.

Company Name: _____

This Project is Tax Exempt

Bid Total \$ _____

Bid Alternate No.001 Total \$ _____

*Bid Total Amount in Written Text
(must agree with figure above or Bid Total Amount in Written Text takes precedence).*

Project: WHATCOM TRANSIT AUTHORITY

Contract: WTA

??DRAWING????DRAWING DESCRIPTION???????????

??1 OF 30 RSR1-1????RISER DIAGRAM???????????

??2 OF 30 FPB1-1????FPB W/HEAT FLOW DIAGRAM???????????

??3 OF 30 FPB1-2????FPB W/O HEAT FLOW DIAGRAM

??4 OF 30 FPB1-3????FPB POINT SCHEDULE???????

??5 OF 30 EF1-1????EF FLOW DIAGRAM

??6 OF 30 VHEF1-1????VEHICLE EXHAUST / HOSE REEL FLOW DIAGRAM

??7 OF 30 VHEF1-2????VEHICLE EXHAUST / HOSE REEL POINT SCHEDULE

??8 OF 30 F1-1????FURNACE #1 FLOW DIAGRAM

??9 OF 30 F1-2????FURNACE #1 POINT SCHEDULE

??10 OF 30 FC1-1????FC-1/HP-1 FLOW DIAGRAM

??11 OF 30 RAC1-1????RAC-1 FLOW DIAGRAM

??12 OF 25 RAC1-2????RAC-1 POINT SHCEDULE

??13 OF 30 RAC2-1????RAC-2 FLOW DIAGRAM

??14 OF 30 RAC2-2????RAC-2 POINT SCHEDULE

??15 OF 30 MAH1-1????MAH-1 FLOW DIAGRAM

??16 OF 30 MAH1-2????MAH-1 POINT SHCEDULE

??17 OF 30 MAH2-1????MAH-2 FLOW DIAGRAM

??18 OF 30 MAH2-2????MAH-2 POINT SHCEDULE

??19 OF 30 MAH3-1????MAH-3 FLOW DIAGRAM

??20 OF 30 MAH3-2????MAH-3 POINT SHCEDULE

??21 OF 30 RHU1-1????RHU-1 FLOW DIAGRAM

??22 OF 30 RHU1-2????RHU-1 POINT SHCEDULE

??23 OF 30 UH1-1????UNIT HEATER FLOW DIAGRAM

??24 OF 30 UH1-2????UNIT HEATER POINT SCHEDULE

??25 OF 30 RS-1????1ST FLOOR ROOM SCHEDULE

??26 OF 30 RS-2????2ND FLOOR ROOM SCHEDULE???????????

- Creating a better climate for business.
- ☐

Environmental Control System
- ☐

Facility Management System
- ☐

Fire Management System
- ☐

Security System
- ☐

Lighting Services
- ☐

Instrumentation System
- ☐

Installation
- ☐

Building Operations Management
- ☐

Energy Conservation Control
- ☐

Training Programs
- ☐

Performance Contracting
- ☐

Planned Service Agreements
- ☐
- Air Conditioning
- Heating
- Diagnostic Services
- Coil Cleaning
- Refrigeration
- Automatic Temperature Controls
- Facility Management Systems
- Fire Management
- Security Management
- Building Operations and Management
- Water Treatment
- Electrical Equipment
- Emergency Generator / Lighting Equipment
- Industrial Controls / Recording / Indication
- Equipment

PROJECT

WTA

ARCHITECT

Zervas Group Architects
209 Prospect St. Suite One
Bellingham, WA 98225
(360) 734-4744
(360) 733-2696

ENGINEER

Berona Engineers Inc.
19400 3rd Ave. W Suite 100
Lynnwood, WA 98036
(425) 744-6033
(360) 744-6322

GENERAL CONTRACTOR

IMPERO CONTRACTING CO. LLC
1971 Midway Lane, Suite N
Bellingham, WA 98226-9175
(360) 733-7052
(360) 733-7141

ELECTRICAL CONTRACTOR

AS-BUILT

05/15/02

MWK

REFERENCE DRAWING

no.

revision-location

ecn

date

by

branch info

2101 196TH ST. SW
SUITE 125
LYNNWOOD WA,
98036
Ph. 425/673-4446
Fax 425/673-2886

SALES ENGINEER

PROJECT MANAGER

APPLICATION ENGINEER

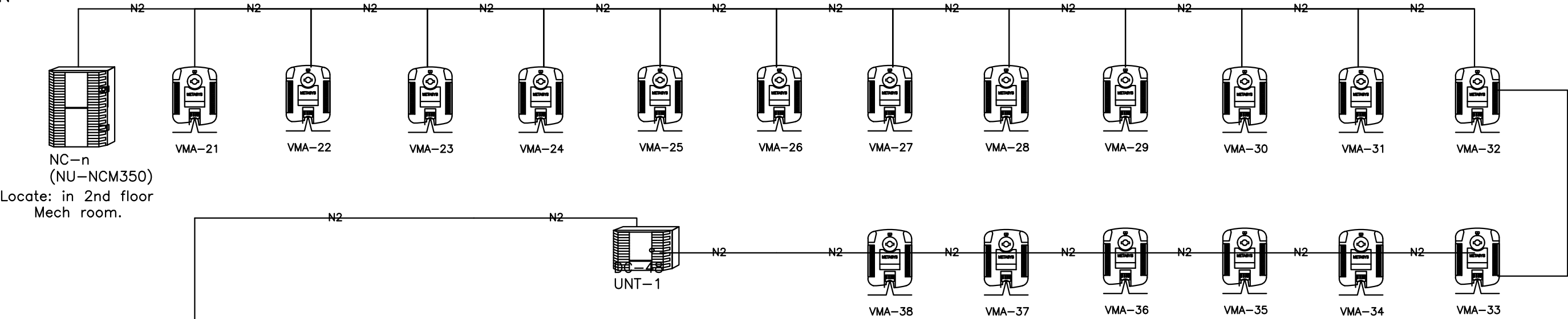
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05/15/02

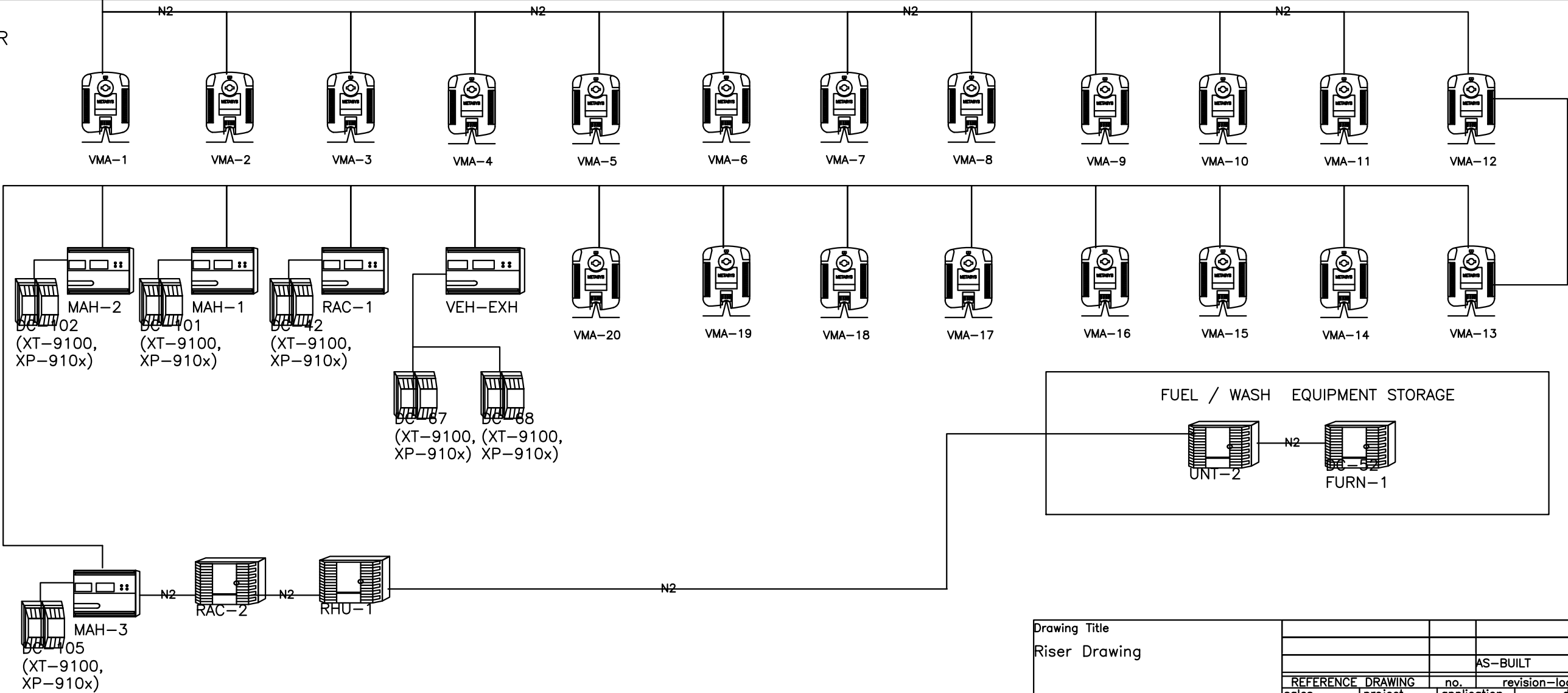
contract number

WTA

2ND FLOOR
ADMIN



1ST FLOOR
ADMIN



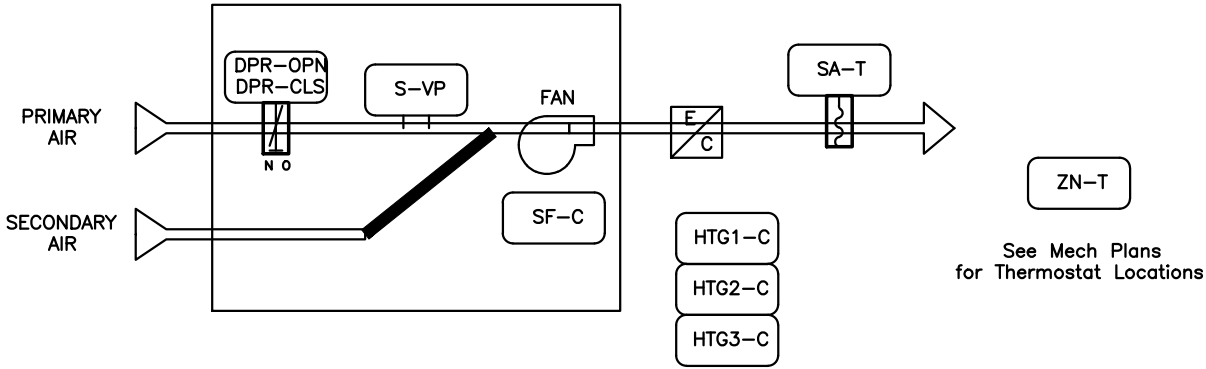
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	200	200	200	branch information		contract number		2000-026	
	WTA			2100 NORTH ST. SW SUITE 125 LYNNWOOD WA, 98036 Ph. 425/673-4446 Fax 425/673-2886		drawing number of 30		RSR1-1	

SINGLE DUCT fpb?S

WITH 3 STAGE OF ELECTRIC HEAT
AND series FAN

TYPICAL OF 31

See Room Schedule for box information



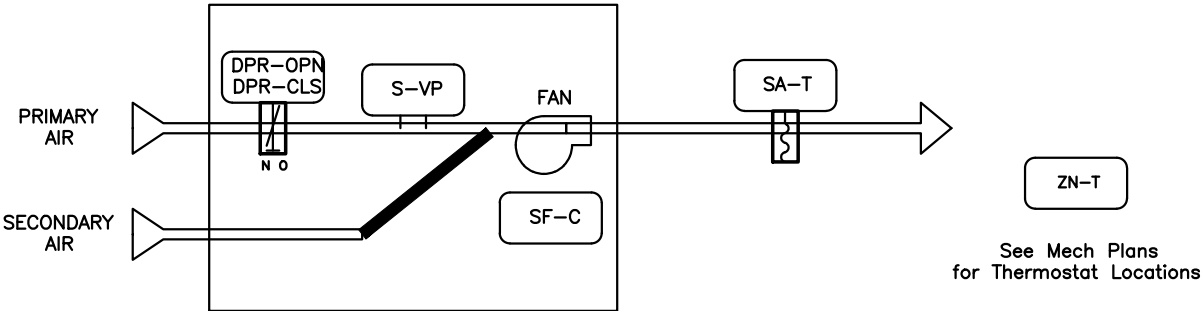
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??			
Designation	?	Qty?	Part Number?Description
Field Devices:			
VMA CONTROLLER?31?AP-VMA1420-0?VAV MODULAR ASSY -			
CLG W/ REHEAT			
SA-T?31?TE-6300-601?SENSOR ELEMENT,NICKEL,8IN,1K			
Other Devices:			
ZN-T?31?TMZ-1600?T-STAT			

Drawing Title FPB With Heat Flow Diagram							
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		REFERENCE DRAWING	no.	revision-location	ecn	date	by
Project Title WTA		sales engineer	project manager	application engineer	drawn by MAS	date01/02/01	approved by date 0
				2900 96TH ST. SW Suite 125 LYNNWOOD WA, 98036 Ph. 425/673-4446 Fax 425/673-2886		contract number 2000-026 drawing number of 30 FPB1-1	

SINGLE DUCT FPB'S
series FAN

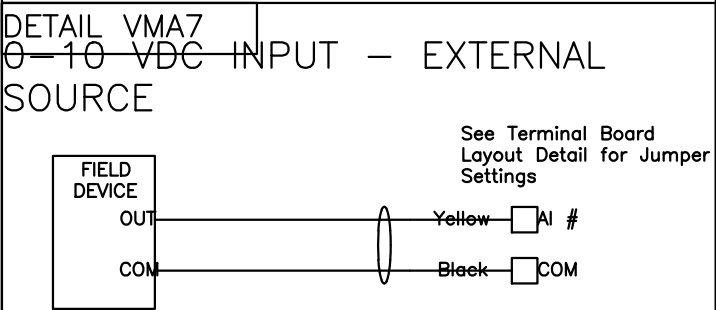
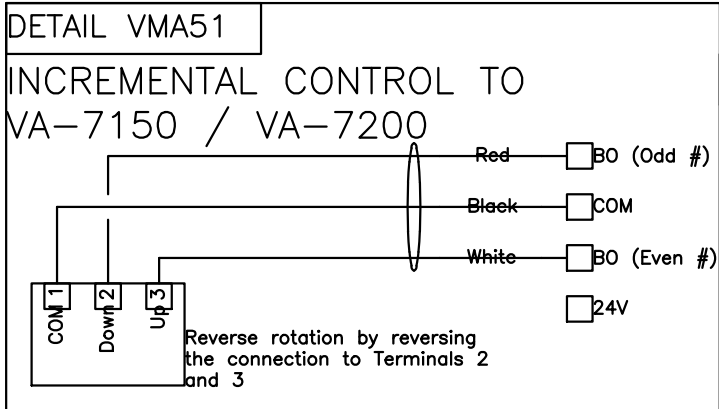
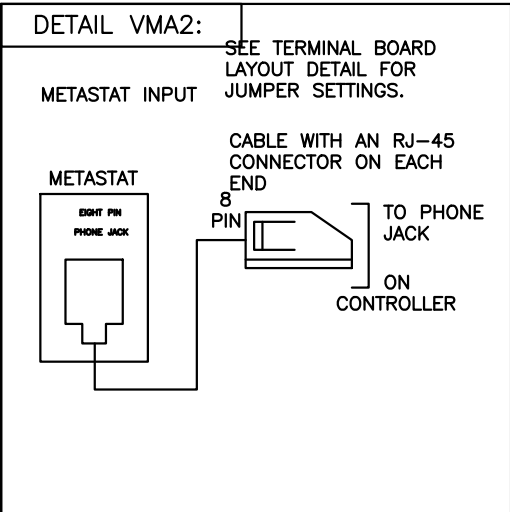
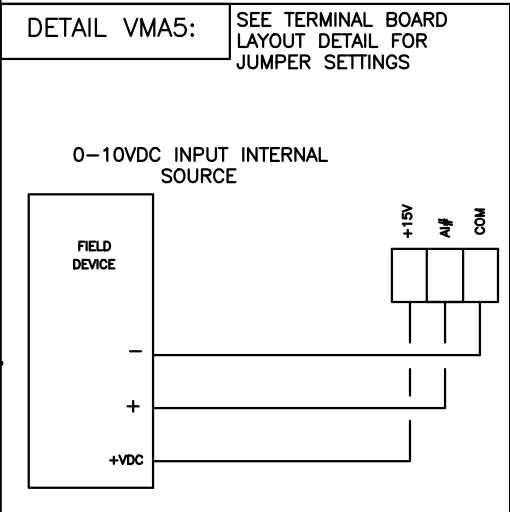
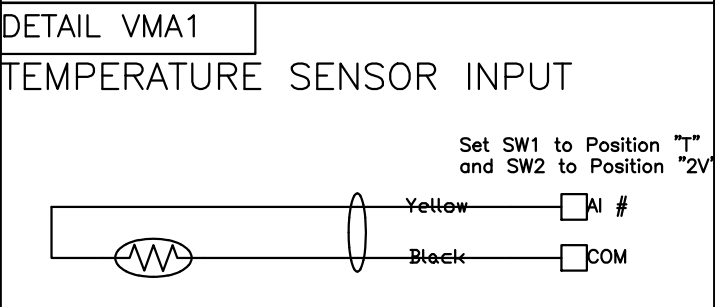
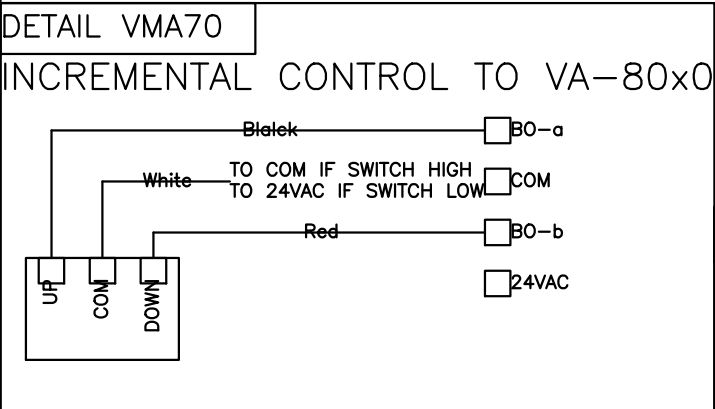
TYPICAL OF 8

See Room Schedule for box information



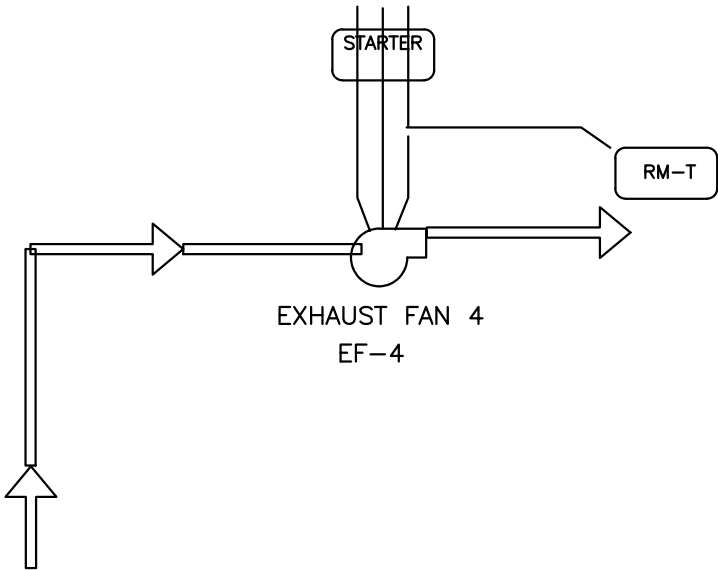
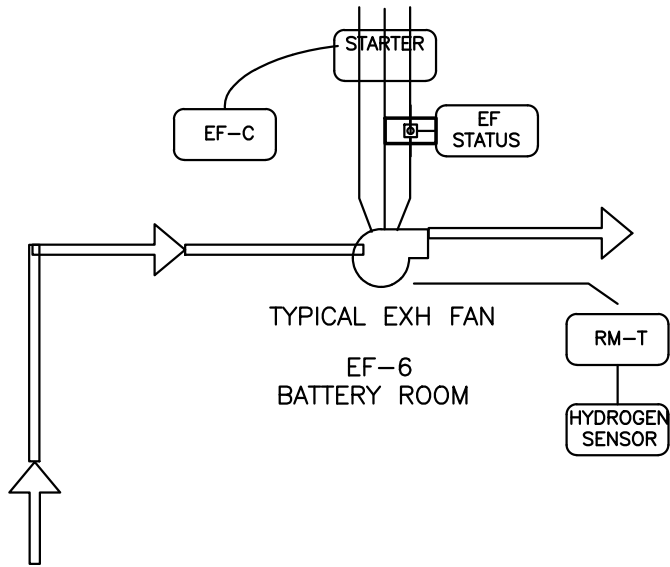
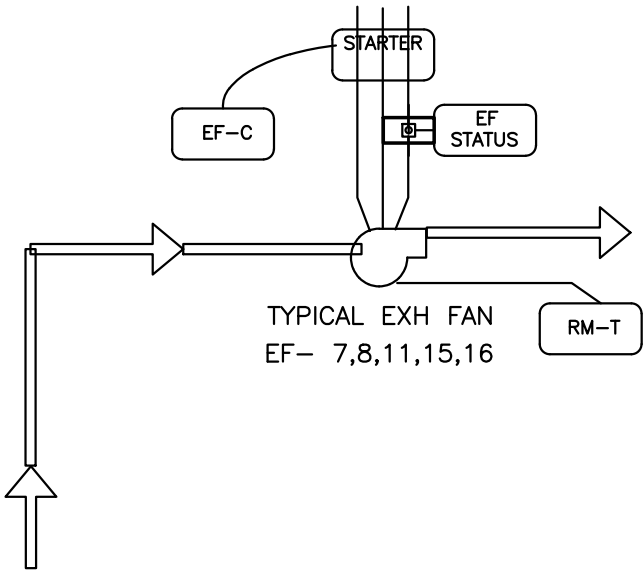
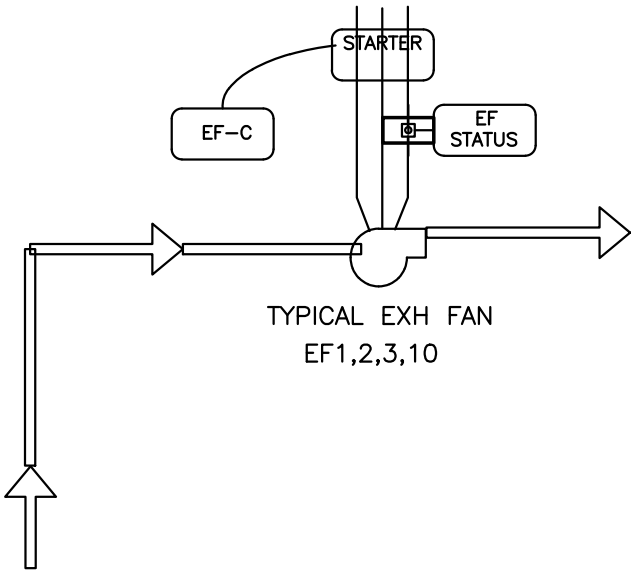
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Designation	?	Qty?	Part Number?Description
Field Devices:	VMA CONTROLLER?8?AP-VMA1420-0?VAV MODULAR ASSY -		
CLG W/ REHEAT	?0?TE-6300-601?SENSOR ELEMENT,NICKEL,8IN,1K		
Other Devices:	ZN-T?8?TMZ-1600?T-STAT		

Drawing Title FPB FLOW DIAGRAM						
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		sales engineer	project manager	application engineer	drawn by	approved by
Project Title WTA		by MAS	date01/02/01	by	date	0
		2100 196TH ST. SW			contract number	
		LYNNWOOD WA, 98036			2000-026	
		Ph. 425/673-4446			drawing number of 30	
		Fax 425/673-2886			FPB1-2	

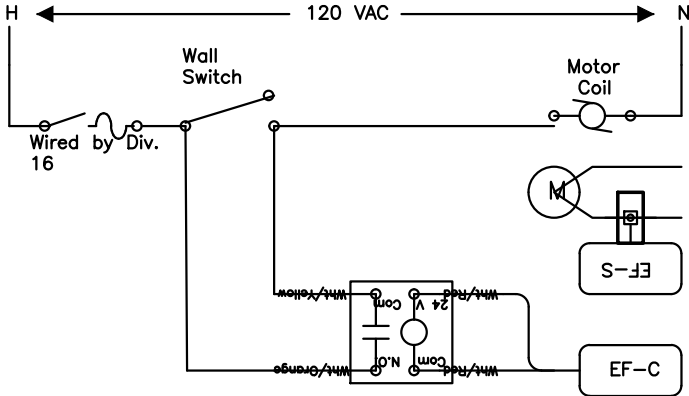


Drawing Title	
FPB Point Schedules	
Project Title	
WTA	

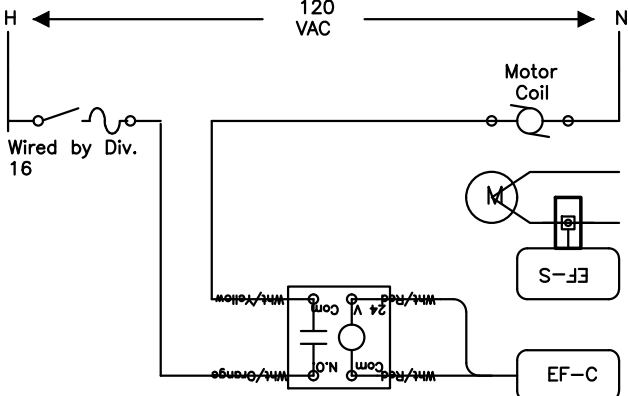
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		by		date		approved	
		0		0		0	
		2000-026		contract number		drawing number	
		2000-026		2000-026		of 30	
						FPB1-3	



Exhaust Fan Control For
EF-7, 8, 10



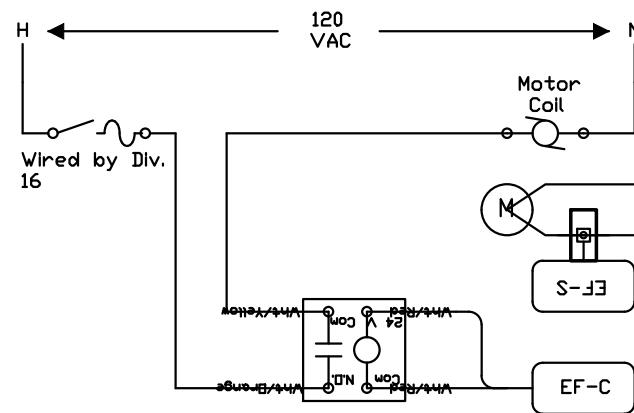
Typical Exhaust Fan
Control



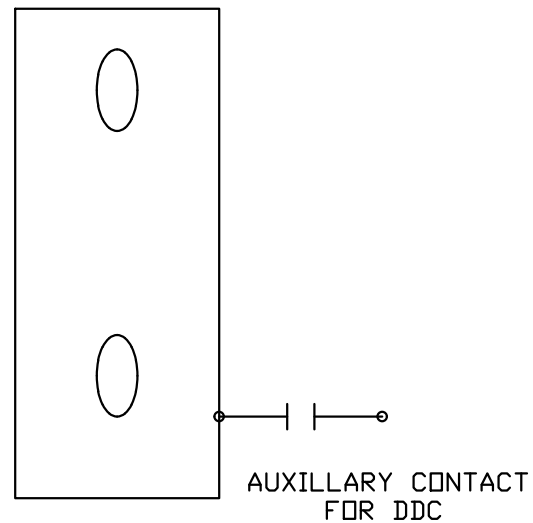
??Bill of Materials?
??
Designation ?Qty?Part Number?Description
Field Devices:
EF-STATUS?13?H-720?SENS,CURR,4-20MA,HI-ACC,SOLID
RM-T?7?TE-6410W-2100?METASTAT,NI,BOX,TB,PB
Other Devices:
EF-C?12?RIB1US?RIB W/HOA
HYDROGEN SEN.?1??HYDROGEN SENSOR

EXHAUST FAN	CONTROLLER	OUTPUT	INPUT
EF-1	FPB-2-18	BO-3	BI-2
EF-2	FPB-1-20	BO-3	BI-3
EF-3	FPB-2-18	BO-4	BI-3
EF-6	UNT#1	BO-1	BI-1
EF-7	UNT#1	BO-2	BI-2
EF-8	UNT#2	BO-1	BI-2
EF-10	UNT#2	BO-2	BI-3
EF-11	UNT#3	BO-1	BI-1
EF-15	UNT#3	BO-2	BI-2
EF-16	UNT#1	BO-3	BI-3

Drawing Title EF Flow Diagram							
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	REFERENCE DRAWING		no.	revision—location		ecn	date by
Project Title WTA	sales engineer	project manager	application engineer	drawn by MAS date 1/02/01		approved date	
				branch 196TH ST. SW SOLIFER LYNNWOOD WA, 98036		contract number 2000-026	
				Ph. 425/673-4446 Fax 425/673-2886		drawing number 5 of 30 EF1-1	



HOSEREEL



HOSEREEL	VEHICLE EXHAUST FAN
H.R. #1	VEH-1
H.R. #2	VEH-1
H.R. #3	VEH-1
H.R. #4	VEH-2
H.R. #5	VEH-2
H.R. #6	VEH-3
H.R. #7	VEH-3
H.R. #8	VEH-3
H.R. #9	VEH-3
H.R. #10	VEH-2

IFR-ENA

☐

120 VAC

4 Hour Twist Timer

Motor Coil

Motor

Wired by Div. 16

Wh/Red

Wh/Yellow

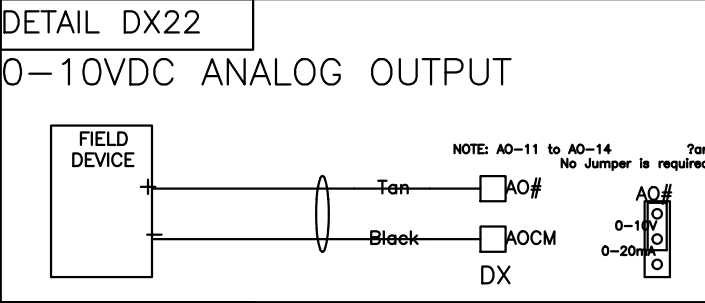
Wh/Blue

Wh/Brown

IR-C

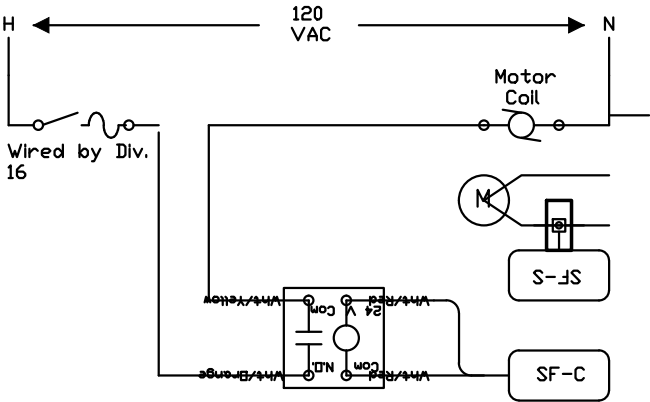
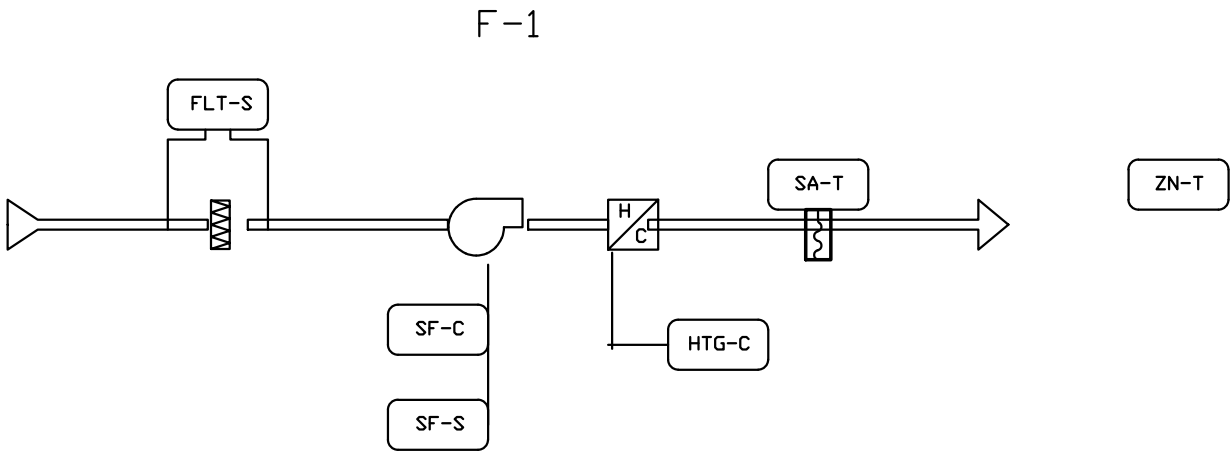
71XT-9103-8304?CNTRLR,DIG,DX EXTENSION MODULE,8/DX

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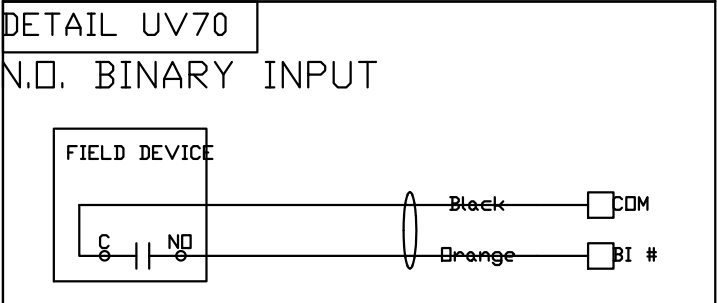
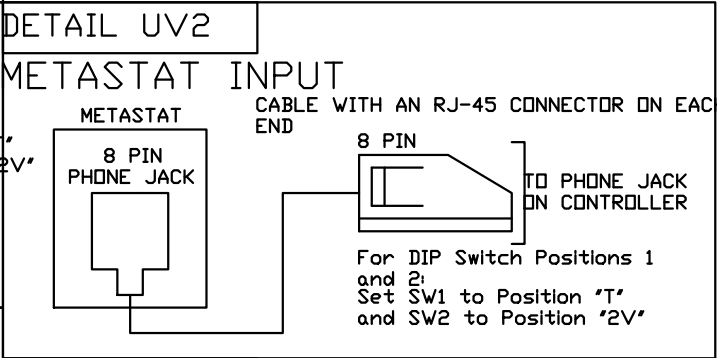
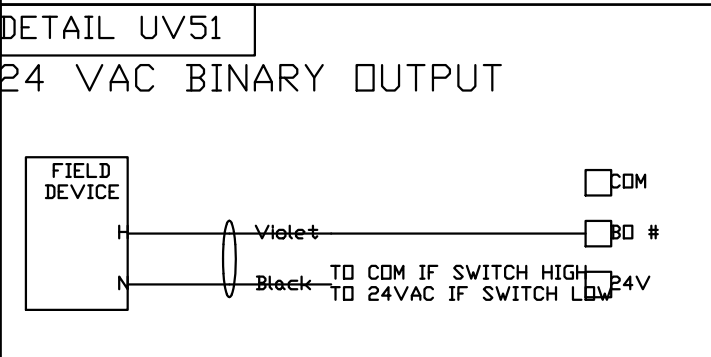
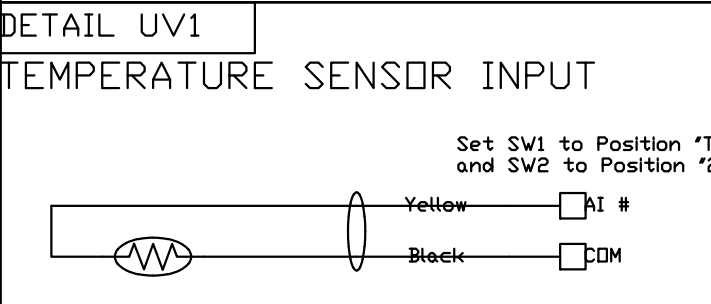
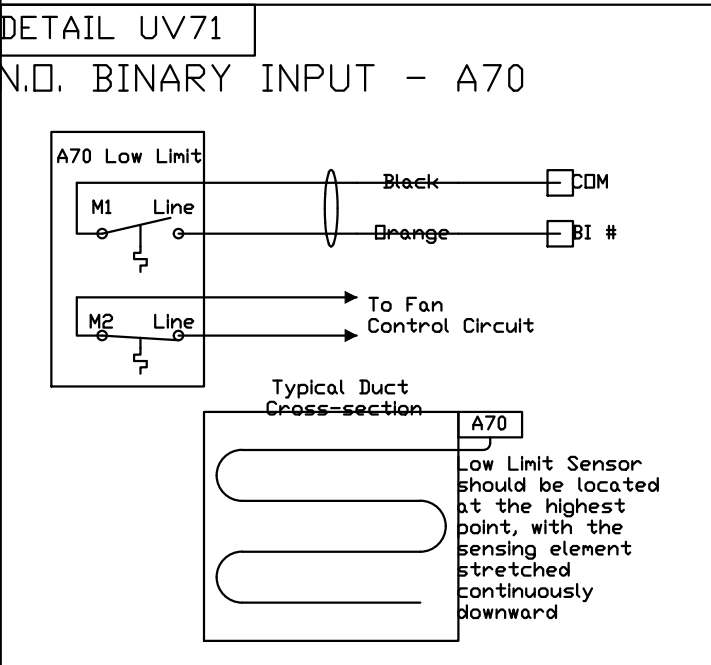


??Bill of Materials?
??
Designation ?Qty?Part Number?Description
Field Devices:

CONTROLLER?1?AS-UNT111-101?CNTRLR,DIG,UNT,6AI,4BI,6BO,2AO,ENCL,50VA
FILTER?1?DPT-2015-1?0-1.5" DIFF PRESS TO ELECTRIC TRANSP
STATUS?1?H-720?SENS,CURR,4-20MA,HI-ACC,SOLID
SA-T?1?TE-6311P-1?SENSOR,T-NI,0.1%,8IN DUCT
Other Devices:
FAN-C?1?RIB1US?RIB W/HOA
HEAT-C?1?RIBU1C?RELAY
RM-T?1?TMZ-1600?

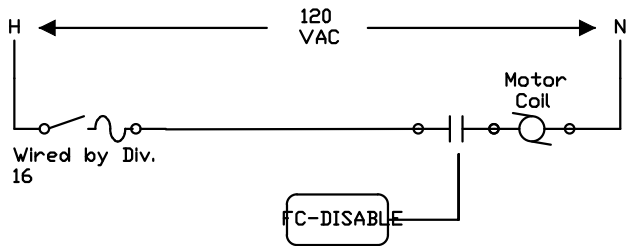
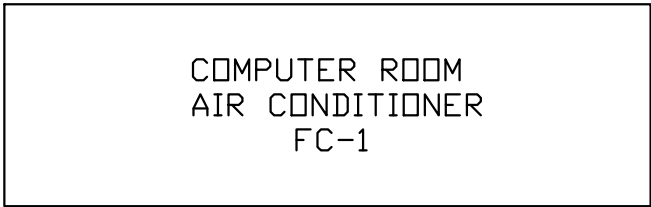


Drawing Title Furnace 1 Flow Diagram						
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	REFERENCE DRAWING		no.	revision-location		ecn
Project Title WTA	sales	project	application	drawn		approved
	engineer	manager	engineer	by	date	by
				by	date	by
				by	date	by
				2100 15TH ST. SW		contract
				LYNNWOOD WA,		number
				98036		2000-026
				Ph. 425/673-4446		drawing
				Fax 425/673-2886		number
						30 F1-1

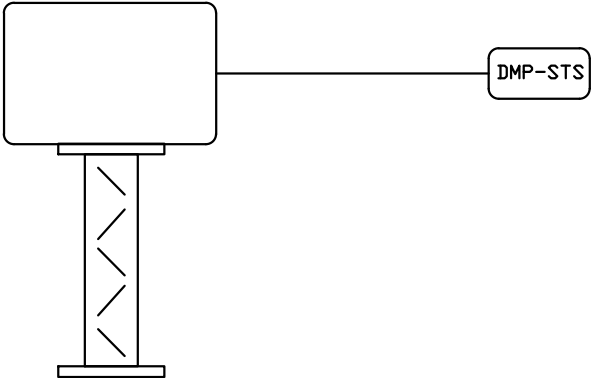


Drawing Title						
Furnace 1 Point Schedule						
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REFERENCE DRAWING		no.	revision-location	ecn	date	by
sales engineer	project manager	application engineer	drawn by	approved by	date	0
Project Title		2000-026		contract number		
WTA		3010 125TH ST. SW LYNNWOOD WA, 98036 Ph. 425/673-4446 Fax 425/673-2886		drawing number		
				30 F1-2		

Computer Room Air
Conditioner



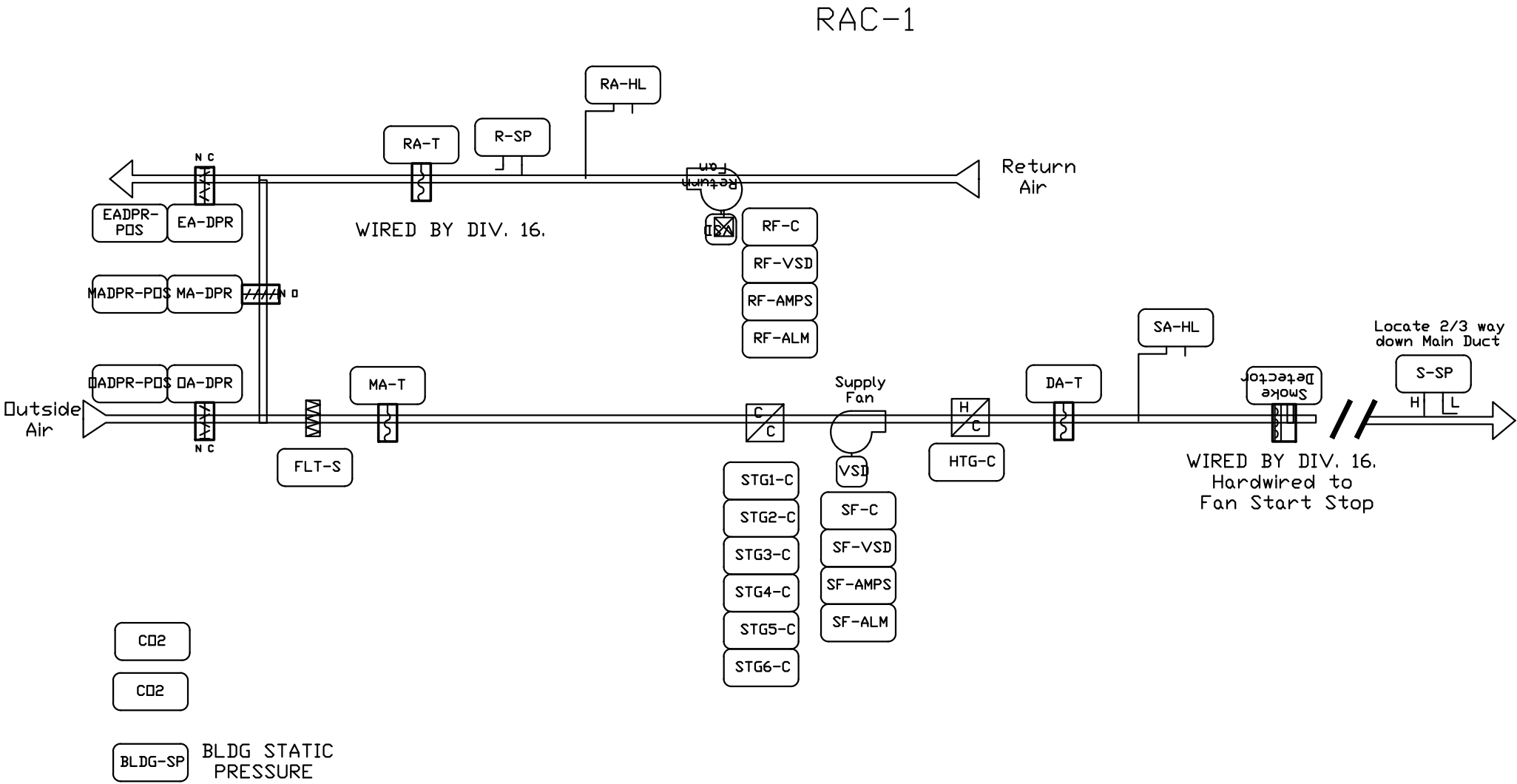
Smoke Damper Status



DAMPER	CONTROLLER	INPUT
I-54-2B	VMA-34	BI-1
I-54-2A	UNT-1	BI-4
I-54-1A	VMA-15	BI-2
I-54-1B	VMA-13	BI-2
FSD1	VEH-EXH	XT1DI6
FSD2	VEH-EXH	XT1DI7
FSD3	VEH-EXH	XT1DI8

??Bill of Materials?
??
Designation ?Qty?Part Number?Description
Other Devices:
FC-DISABLE?1?RIBU1C?RELAY

Drawing Title						
FC-1 Flow Diagram						
		1	AS-BUILT		5/14/02	MWK
REFERENCE DRAWING		no.	revision-location	ecn	date	by
sales	project	application	drawn	approved		
engineer	manager	engineer	byMAS	date01/02/01	by	date 0
Project Title				contract		
WTA				number		
				2000-026		
				drawing		
				number		
				10 of 30 FC1-1		

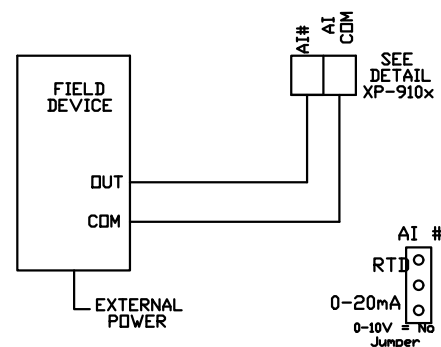


??Bill of Materials?
??
Designation QtyPart NumberDescription
Field Devices:
FLT-S?1?DPT-2015-1?0-1.5" DIFF PRESS TO ELECTRIC TRANS
S-SP, R-SP?2?DPT2640-005D?DP TRANS DIF, 0 TO 5 WC
BLDG-SP?1?DPT2640-0R5B?DP TRANS DIF, -0.5 TO 0.5
SF,RF-AMPS?2?H-720?SENS,CURR,4-20MA,HI-ACC,SOLID
EA,RA,DA-DPR?3?M9216-HGA-2?ACT,PRODP,140IN #,SR,0-10V-FB
SA-HL, RA-HL?2?AFS-460-DSS?PRESS SW,DP,DPDT,12IN
WC,L-BRKT
DA-T,RA-T?2?TE-6311P-1?SENSOR,T-NI,0.1%,8IN DUCT
MA-T?1?TE-6315P-1?SENSOR,T-NI,0.1%,8FT AVG
?3?T-275-101?HOLDER, AVG ELEMENT
?3?TE-6001-8?CLIP F/AVG ELEMENT,QTY 10
Panel Devices:
CONTROLLER?1?DX-9100-8454?CNTRLR,DIG,DX,8AI,8AO,6BI
?1?DX-9100-8990?CNTRLR,DIG,DX,MTG BASE,F/ DX-91?0-8454
?1?DX-9100-8991?KIT,CNTRLR,DIG,DX,WIRING PROTECTION
?1?XP-9106-8304?CNTRLR,DIG,DX EXPN MOD,6AI,2AO
?1?XT-9100-8304?CNTRLR,DIG,DX EXTENSION MODULE,8/DX
?1?XP-9106-8304?CNTRLR,DIG,DX EXPN MOD,6AI,2AO
?1?XT-9100-8304?CNTRLR,DIG,DX EXTENSION MODULE,8/DX
Other Devices:
SF-C, RF-C?2?RIB1UC?RELAY
STG1-C TO STG6-C?6?RIBU1C?RELAY
CO2?2??CARBON DIOXIDE SENSOR

Drawing Title						
RAC-1 Flow Diagram						
??AS-BUILT		1				ML109/02
REFERENCE DRAWING		no.	revision-location		ecn	date by
sales engineer	project manager	application engineer	drawn by		approved by	
			by MAS date 01/02/01		date 0	
Project Title			branch 2108 196TH ST. SW		contract number	
WTA			30147 Reson LYNNWOOD WA, 98036		2000-026	
			Ph. 425/673-4446		drawing number	
			Fax 425/673-2886		1 of 30RAC1-1	

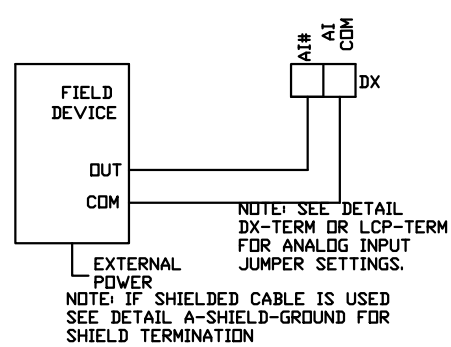
DETAIL XP5:

0-10VDC INPUT EXTERNAL
SOURCE



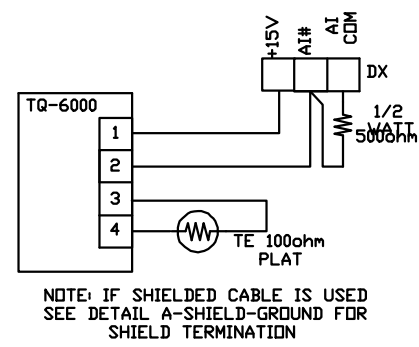
DETAIL DX6:

0-10VDC ANALOG INPUT
EXTERNAL SOURCE



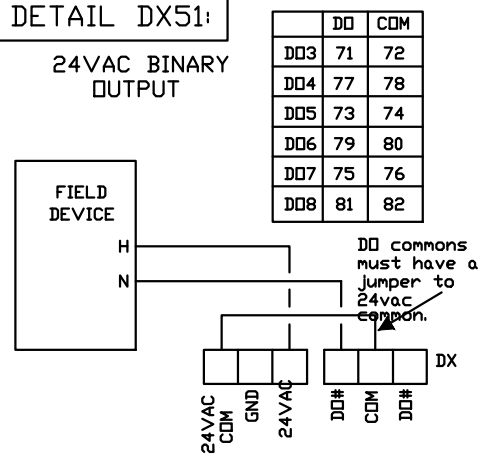
DETAIL DX8:

TQ-6000 0-20mA
ANALOG INPUT



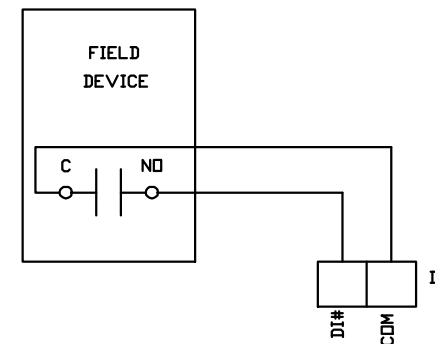
DETAIL DX51:

24VAC BINARY
OUTPUT



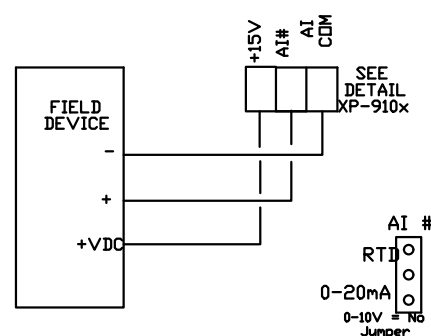
DETAIL DX70:

N.O. BINARY INPUT



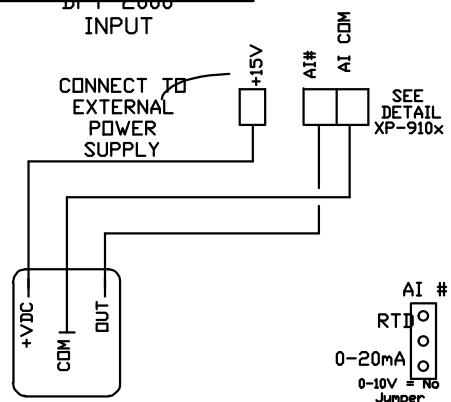
DETAIL XP6:

0-10VDC INPUT INTERNAL
SOURCE



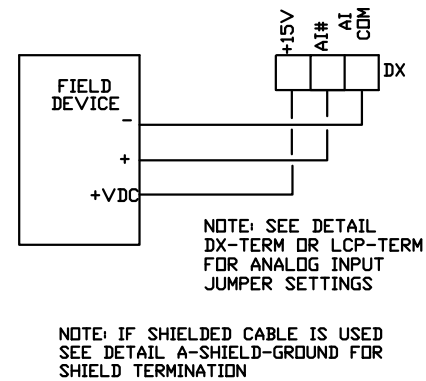
DETAIL XP9:

~~FILE 7~~
~~DPT-2000~~
INPUT



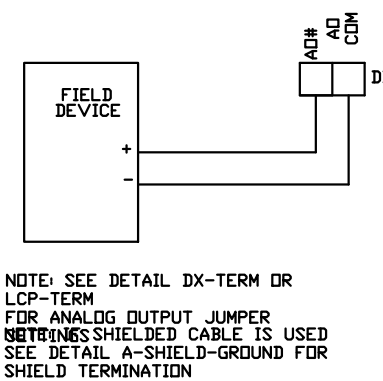
DETAIL DX7:

0-10VDC ANALOG INPUT
INTERNAL SOURCE



DETAIL DX22:

0-10VDC ANALOG OUTPUT



Drawing Title

RAC-1 Point Schedule

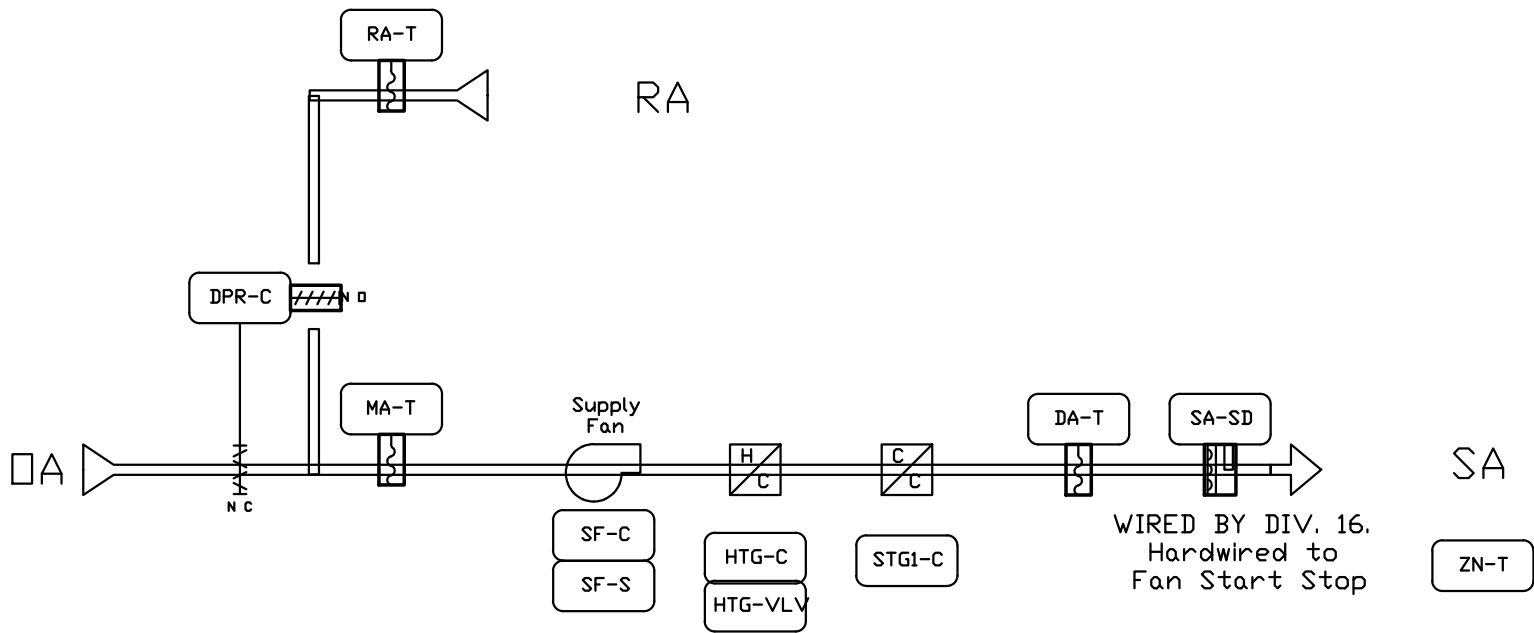
Project Title

WTA

??AS-BUILT								MVA 15/0	
REFERENCE DRAWING		no.		revision-location		ecn		date by	
sales engineer		project manager		application engineer		drawn by		approved by	
22		MS		by MAS		date 01/02/01		date 0	
				2000-026 301E 1E LYNNWOOD WA, 98036 Ph. 425/673-4446 Fax 425/673-2886		contract number 2000-026		drawing of 30 number RAC1-2	

RAC-2

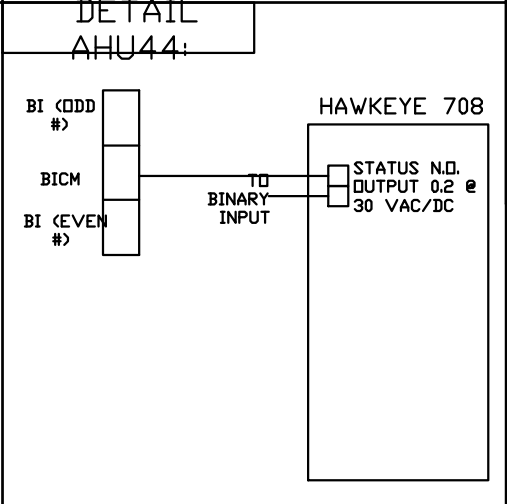
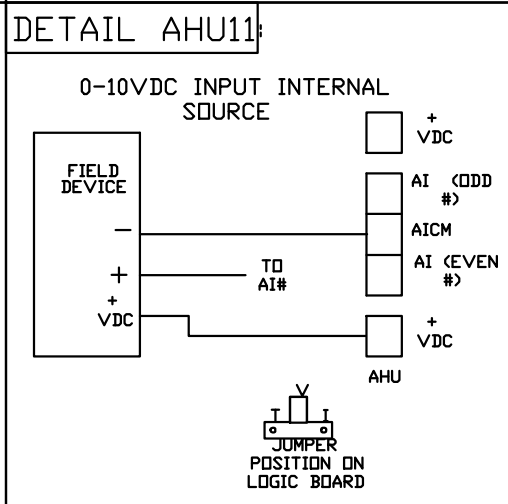
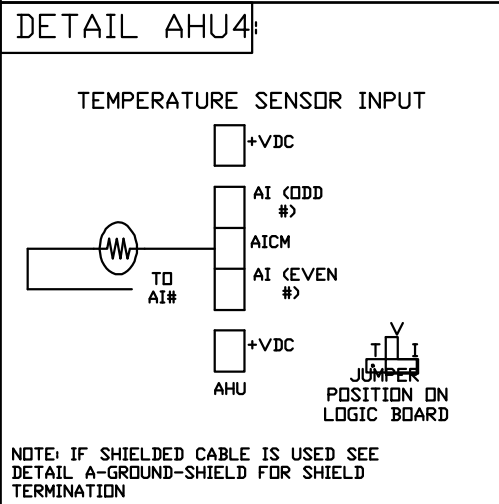
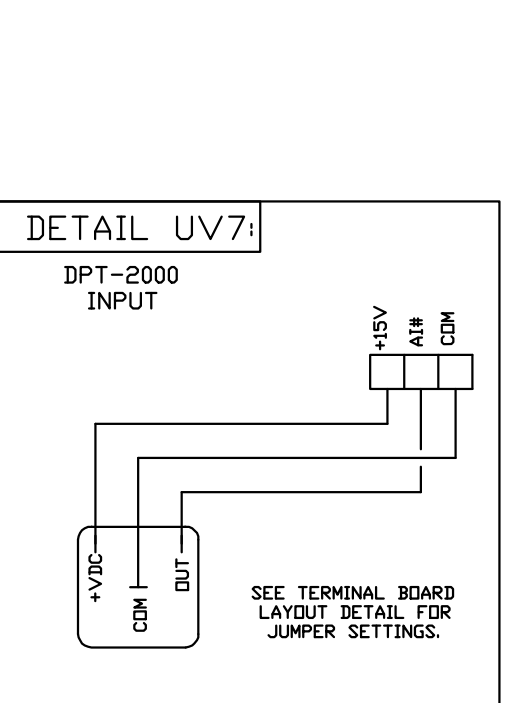
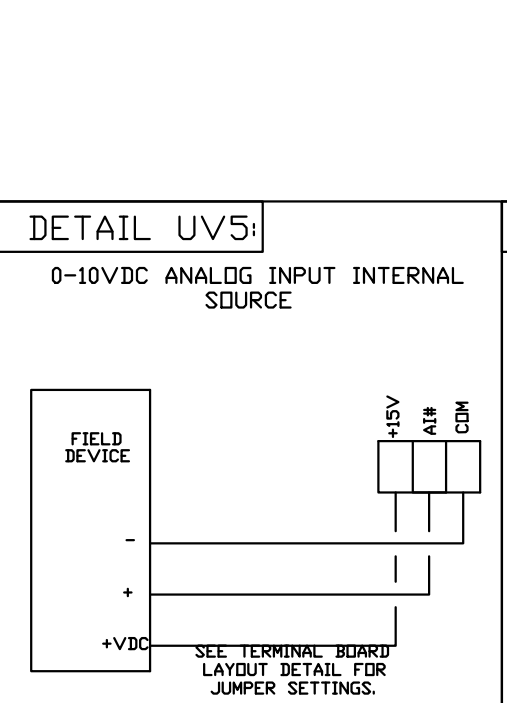
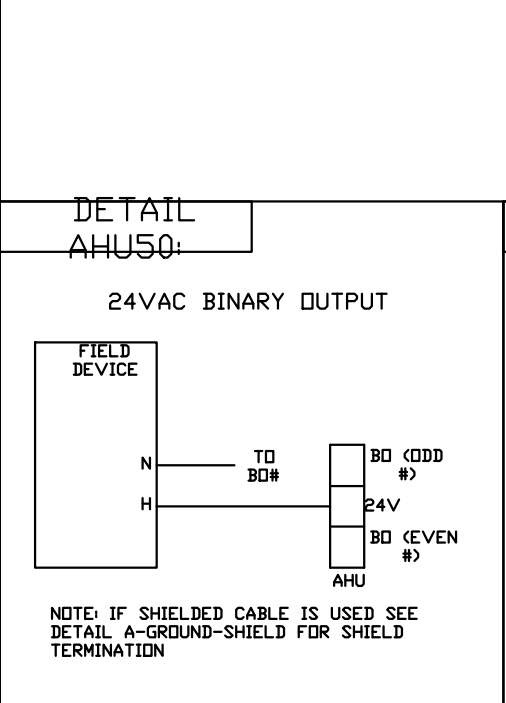
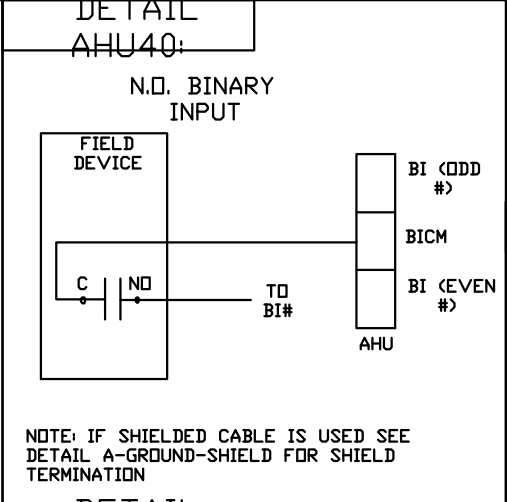
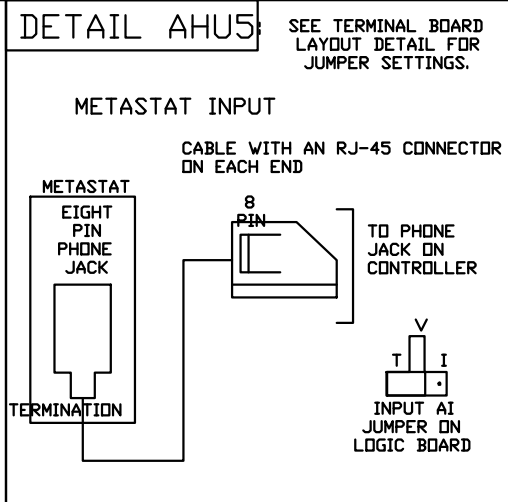
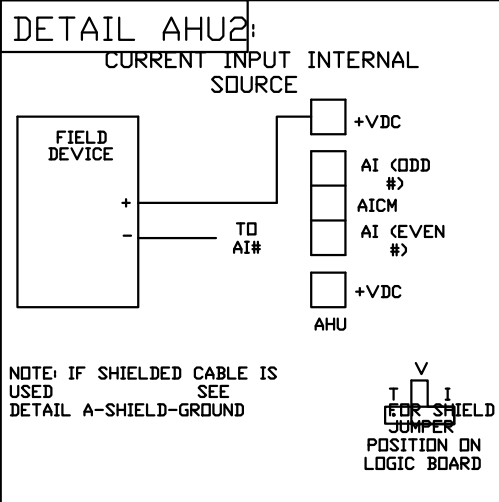
RA



??Bill of Materials?
??

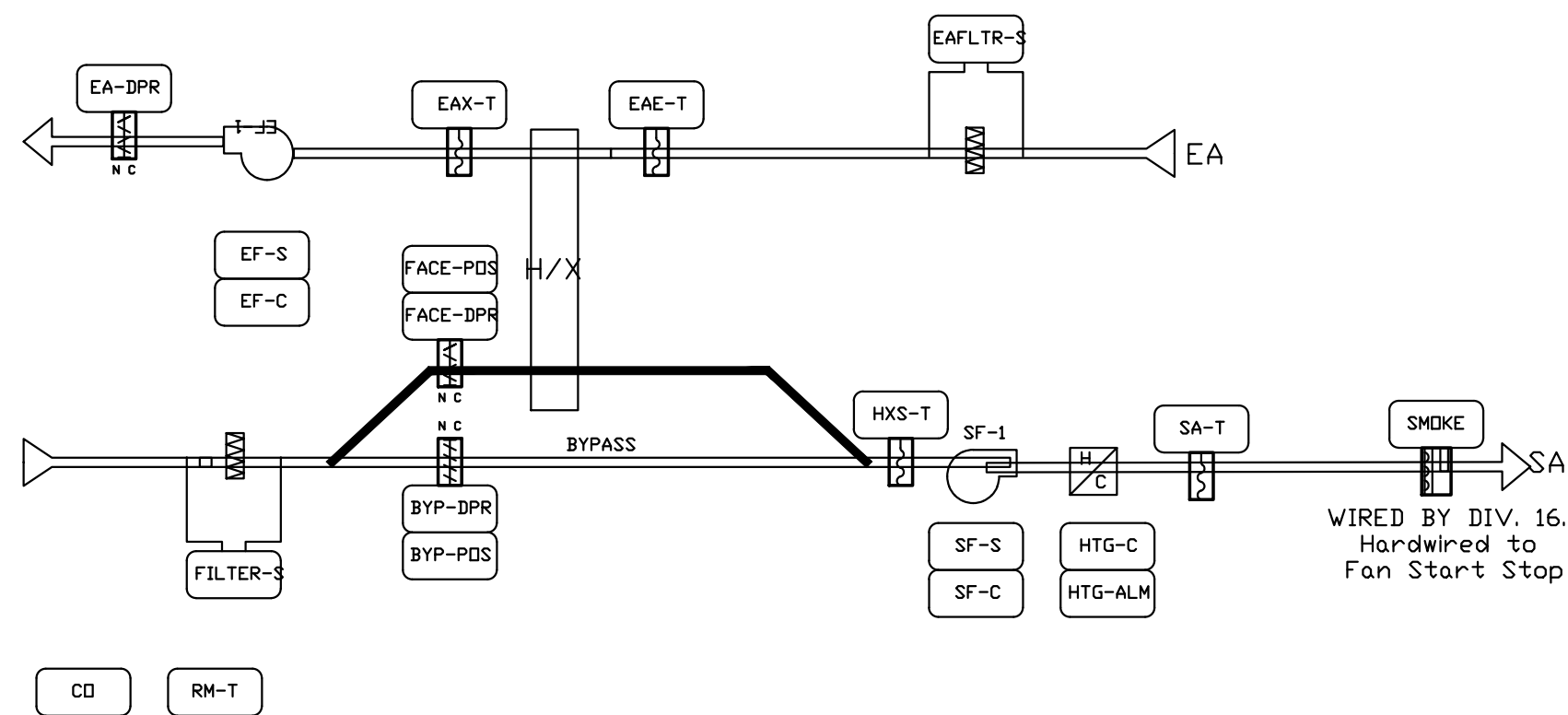
Designation	Qty	Part Number	Description
Field Devices:			
SF-S	1	H-720	SENS,CURR,4-20MA,HI-ACC,SOLID
UNT	1	CONTROLLER	111-1
RA,DA	1	DPR	M9216-HGA-2
DAT	1	TE-6311P	1
MAT	1	TE-6100-2	2
RAT	1	TE-6311P	1
SF-C	1	RIB1US	1
STG1-C	1	HTG-C	2
RM-T	1	TMZ-1600	1

Drawing Title RAC-2 Flow Diagram									
	AS-BUILT		2						MWK 1/19
	REFERENCE DRAWING		no.	revision-location			ecn	date	by
Project Title WTA	sales engineer	project manager	application engineer	drawn by			approved by		
				MAS date 01/02/01			date 0		
				2000 NORTH ST. SW SUITE 100 LYNNWOOD WA, 98036 Ph. 425/673-4446 Fax 425/673-2886			contract number 2000-026		
							drawing number of 30 RAC2-1		



Drawing Title		RAC-2 Point Schedule		Project Title		WTA	
AS-BUILT		2		revision-location		ecn	
REFERENCE DRAWING		no.		revision-location		ecn	
sales engineer		project manager		application engineer		drawn	
				by KLB		date 01/02/01	
				approved		date 0	
				contract number		2000-026	
				drawing number		1 of 30 RAC2-2	

MAH-1

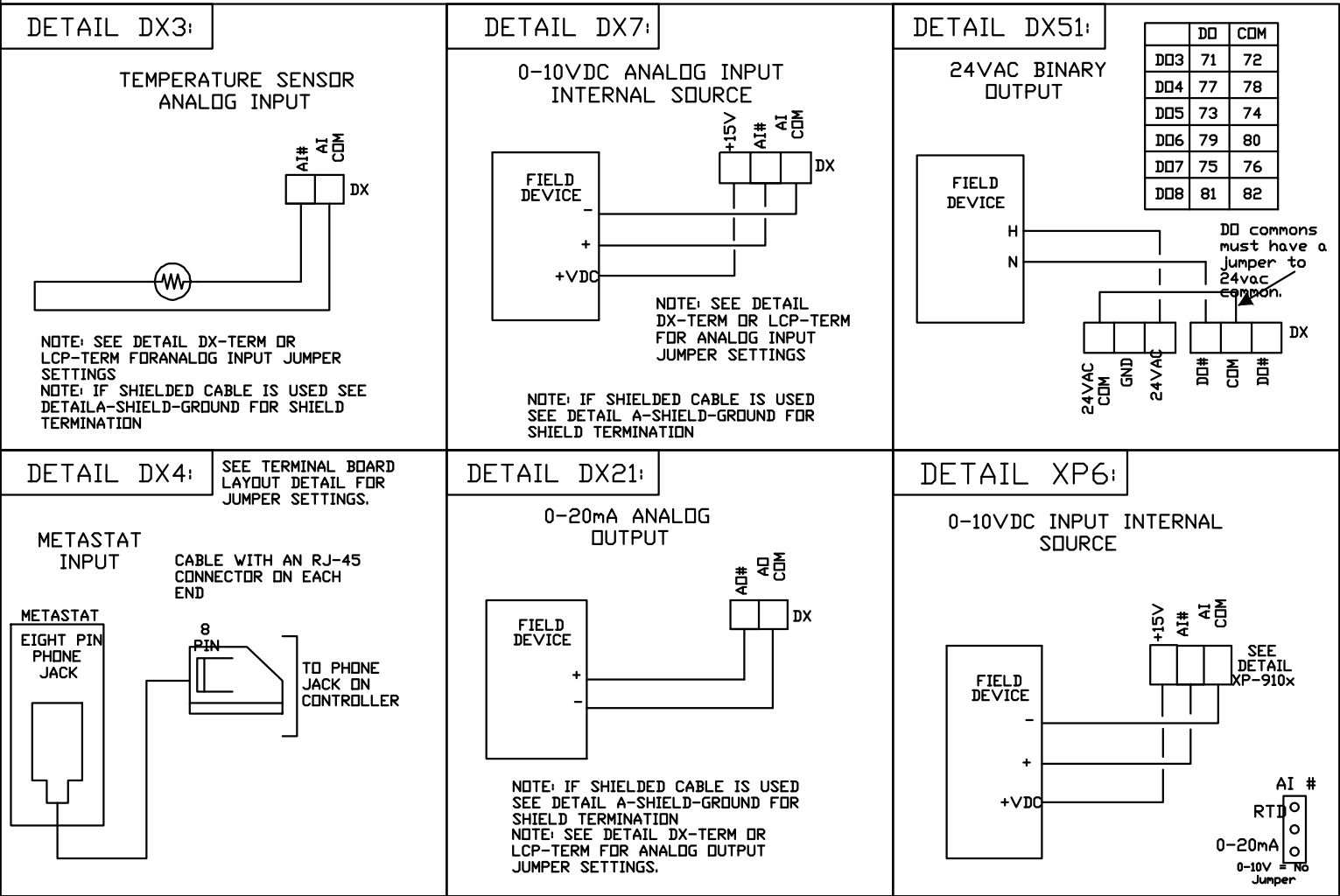


??Bill of Materials?
??

Designation	Qty	Part Number	Description
Field Devices:			
CONTROLLER	1	DX-9100-8454	CNTRLR,DIG,DX,8AI,8AO,6BO,8BI
?	1	DX-9100-8990	CNTRLR,DIG,DX,MTG BASE,F/DX-9100-8454
?	1	DX-9100-8991	KIT, CNTRLR,DIG,DX,WIRING PROTECTION
?	1	XT-9106-8304	CNTRLR,DIG,DX EXPN MOD
?	1	XP-9102-8304	CNTRLR,DIG,EXTENSION 6AI,2AO
			FILTER-S
			DPT-2015-1
			10-1.5" DIFF PRESS TO ELECTRIC
			TRANSP
			SF-S, EF-S
			H-720
			SENS,CURR,4-20MA,HI-ACC,SOLID
			FACE,BYP-DPR
			2
			NF24-SR
			ACT,PROP,SR,2-10V-FB
			EA-DPR
			1
			M9216BGC-2
			ACT.2POS.SR,AUX SWITCH
			HXS-T, EAX-T,
			EAE-T, SA-T
			4
			TE-6311P-1
			SENSOR,T-NI,0.1%,8IN DUCT
			SF-C,EF-C
			2
			RIBU1C
			RELAY
			RM-T
			1
			TE-6411S-2100
			METASTAT
			CO
			1
			RTS451
			REMOTE CARBON MONOXIDE DETECTOR

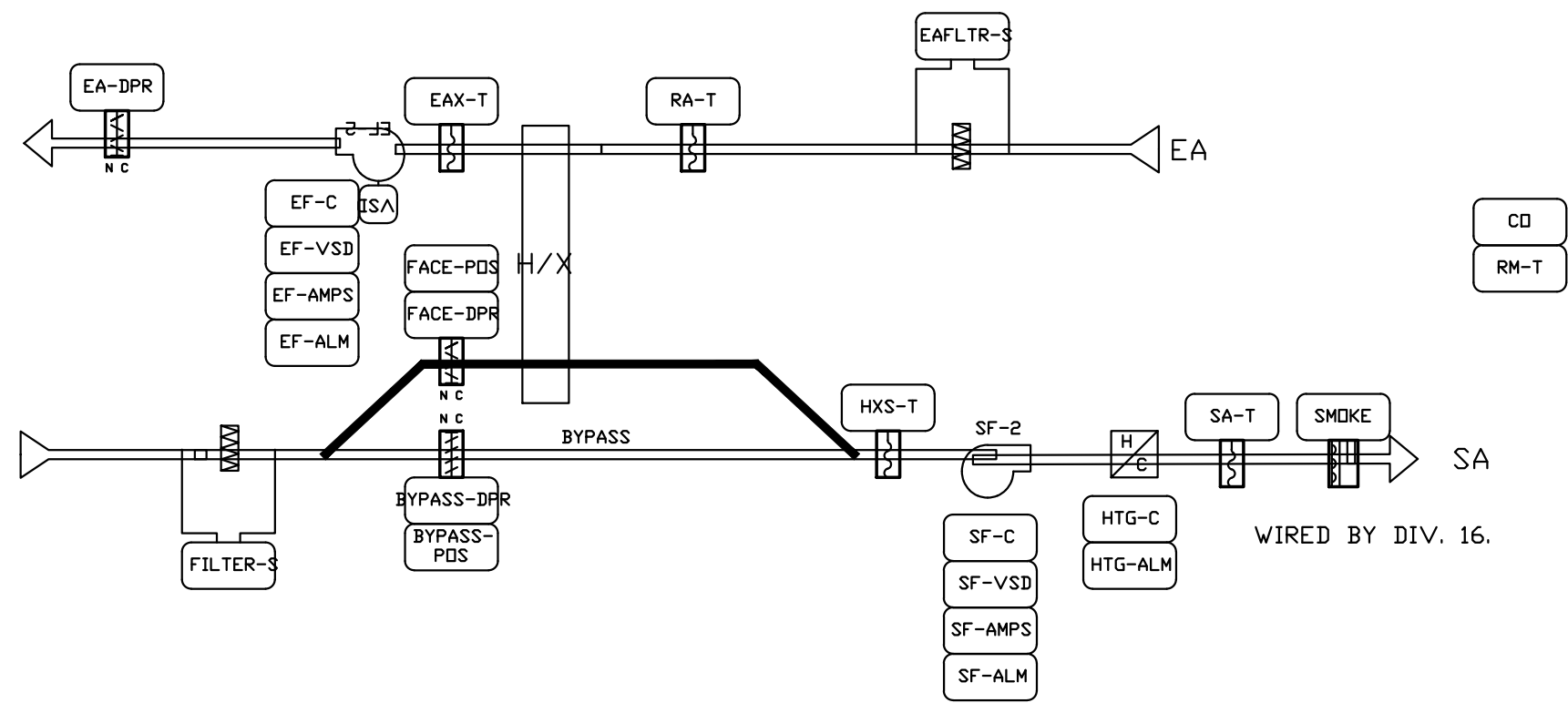
WIRED BY DIV. 16.
Hardwired to
Fan Start Stop

Drawing Title MAH-1 Flow Diagram							
		1		AS-BUILT		5/14/02 MWK	
		REFERENCE DRAWING		no.		revision-location	
		sales engineer		project manager		application engineer	
Project Title WTA		drawn by		approved by		date	
		1/02/01		0		0	
		2000-026		drawing number		of 30	
		MAH1-1					



Drawing Title						
MAH-1 Point Schedule						
			AS-BUILT		5/15/02	MWK
REFERENCE DRAWING		no.	revision	location	ecn	date
sales engineer		project manager	application engineer	drawn by	approved by	date
Project Title		by MAS		date 01/02/01	contract number	date 0
WTA		2000-026		30TH ST. SW LYNNWOOD WA, 98036 Ph. 425/673-4446 Fax 425/673-2886	drawing number	of 30
						MAH1-2

MAH-2



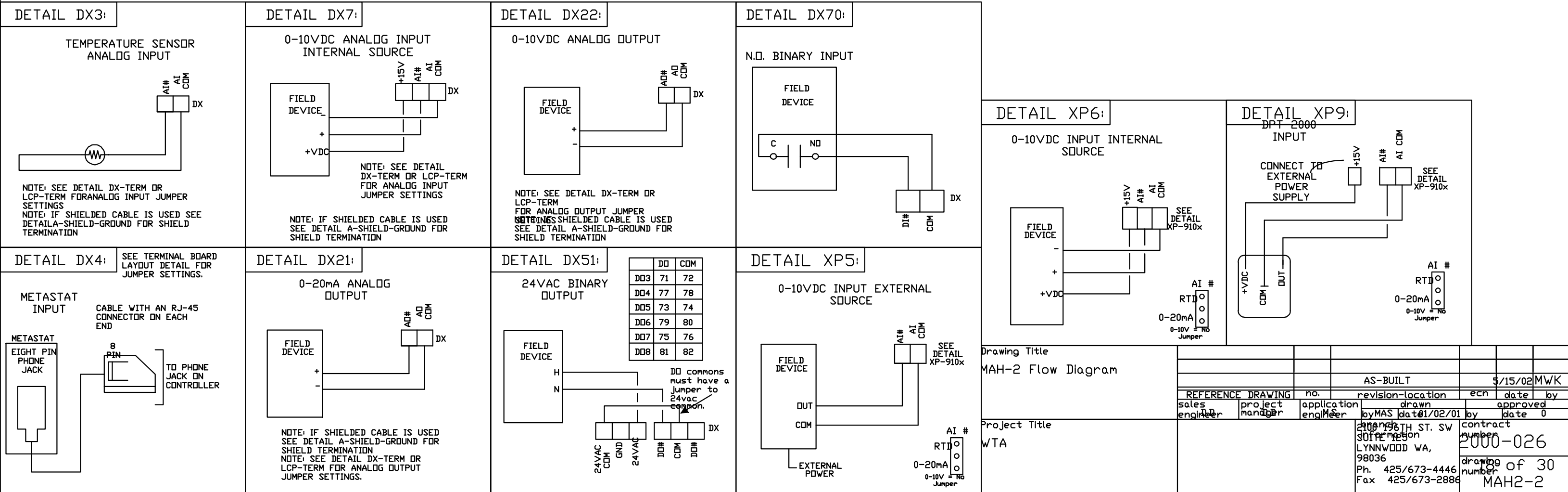
BLDG-SP

Located in Bay

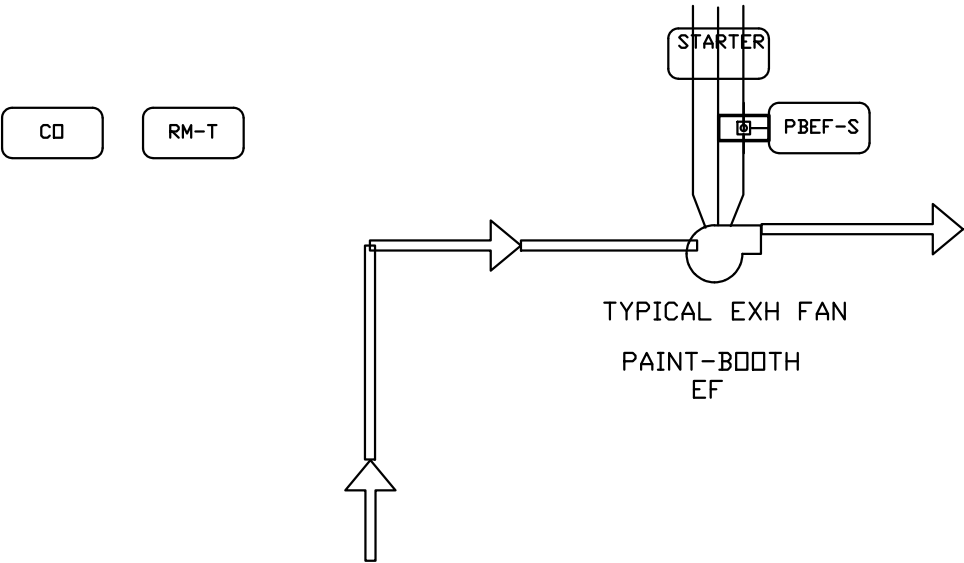
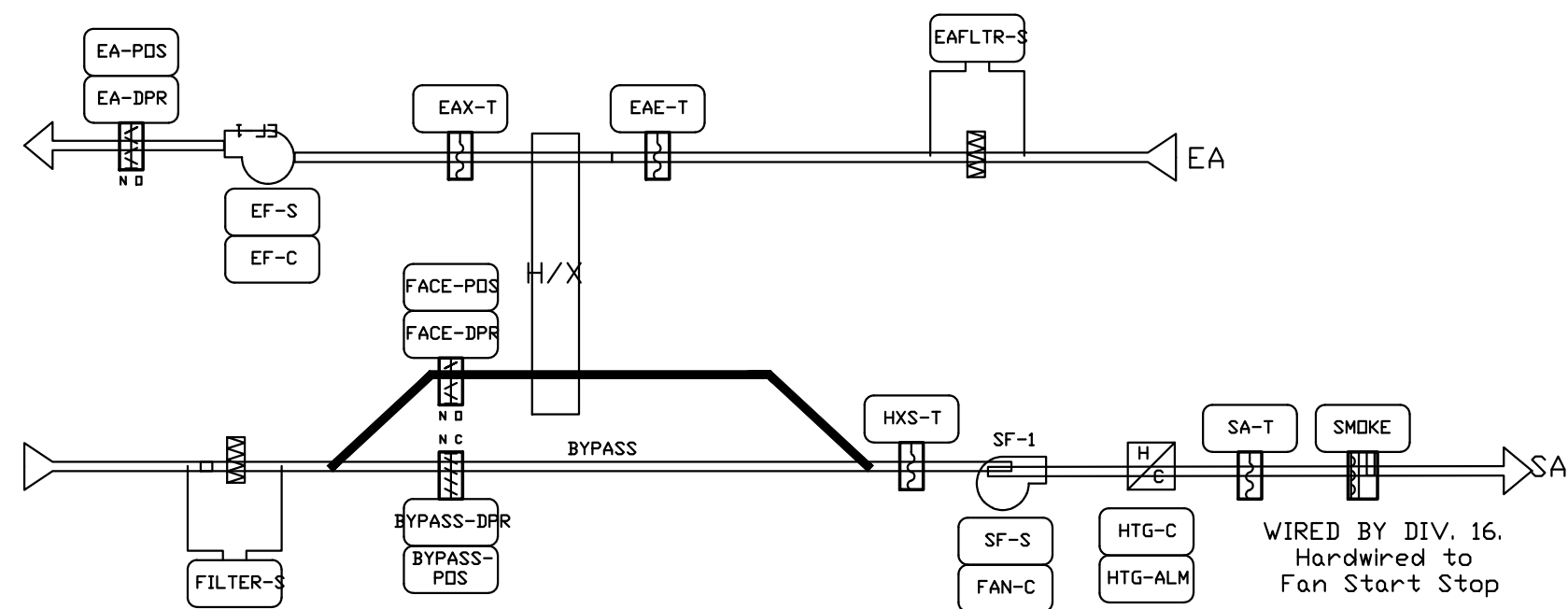
??Bill of Materials?
??

Designation	Qty	Part Number	Description
Field Devices:			
CONTROLLER	1	DX-9100-8454	CNTRLR,DIG,DX,8AI,8AO,6BO,8BI
	1	DX-9100-8990	CNTRLR,DIG,DX,MTG BASE,F/DX9100
	1	DX-9100-8991	KIT,CNTRLR,DIG,DX,WIRING PROTECTION
	1	XT-9106-8004	CNTRLR,DIG,EXTRENSION MODULE
	1	XP-9102-8004	CNTRLR,DIG,EXPN MODULE,6AI,2AO
EAFLTR-S, FILTER-S			
	2	DPT-2015-1	70-1.5" DIFF PRESS TO ELECTRIC TRANSP
BLDG-SP	1	DPT2640-0R5B	DP TRANS DIF, -0.5 TO 0.5
SF-S,EF-S	2	H-720	SENS,CURR,4-20MA,HI-ACC,SOLID
FACE-DPR, BYPASS-DPR	2	NF24-SR	ACT,PROP,S.R.2-10V-FB
EA-DPR	1	M9216-BGC-2	ACT,2-PDS,SR,SW
SA-T, RA-T, EAX-T,			
HXS-T	4	TE-6311P-1	SENSOR,T-NI,0.1%,8IN DUCT
SF-C	2	RIBU1C	RELAY
RM-T	1	TE-6411S-2100	METATSTAT
CD	1	RTS451	REMOTE CARBON MONOXIDE DETECTOR

Drawing Title MAH-2 Flow Diagram									
					AS-BUILT		5/14/02	MWK	
		REFERENCE DRAWING	no.	revision	location	ecn	date	by	
Project Title WTA	sales engineer	project manager	application engineer	drawn by	checked by	approved by	date	date	
				by MAS			01/02/01		0
				2000-026	contract number				
				drawing number	of 30				
					MAH2-2				

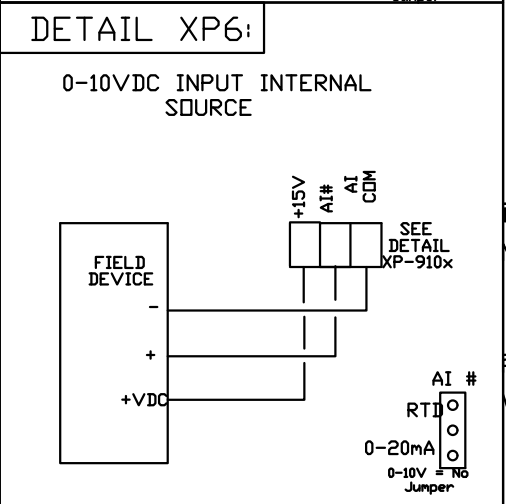
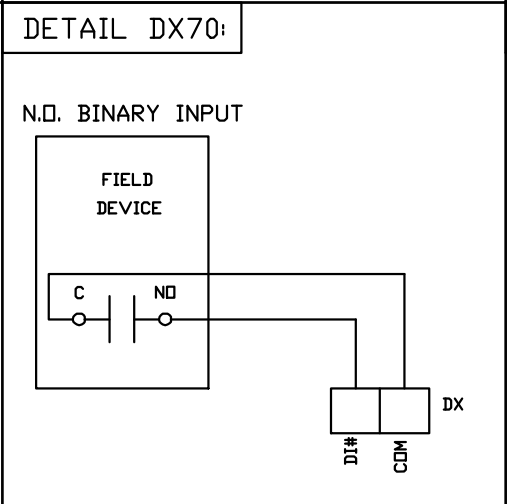
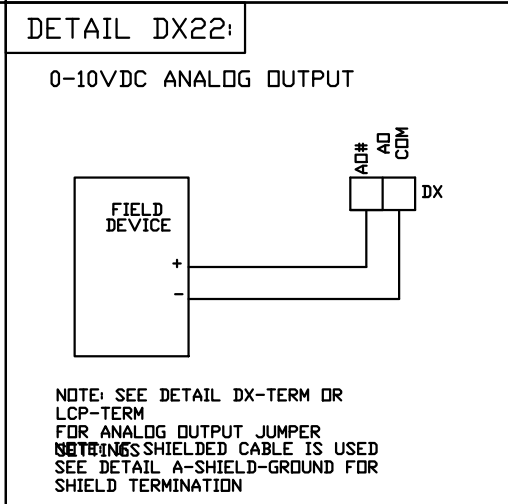
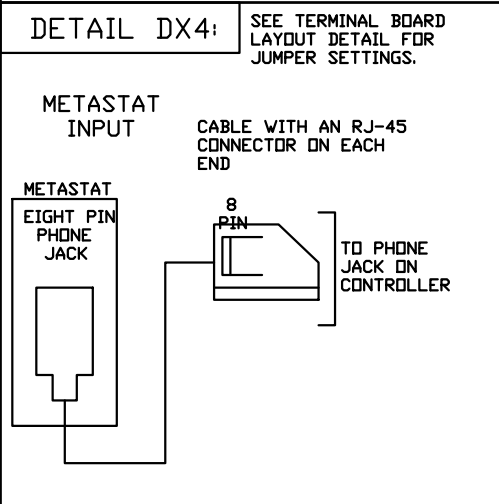
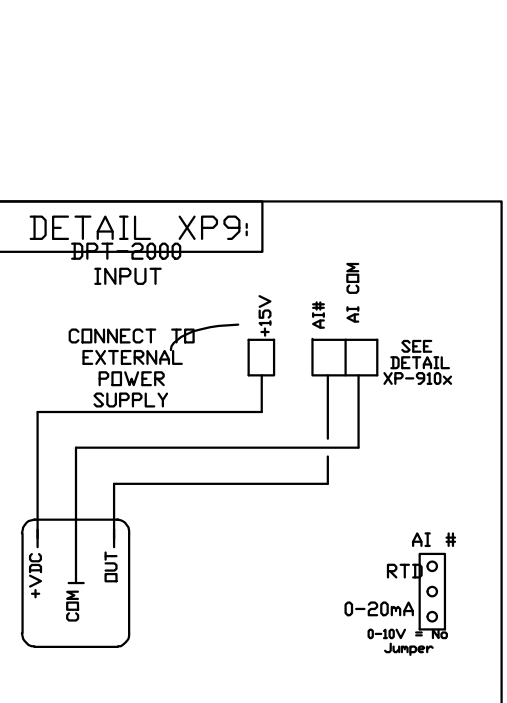
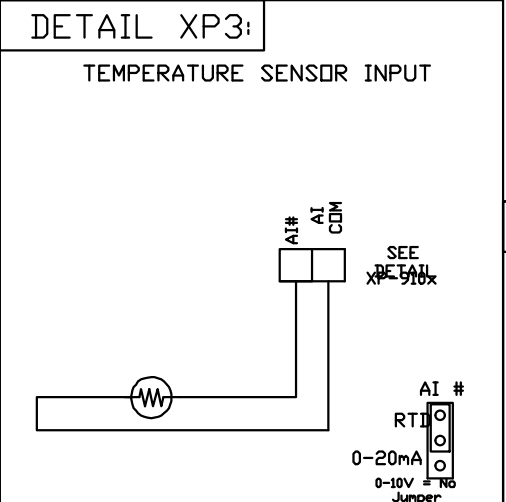
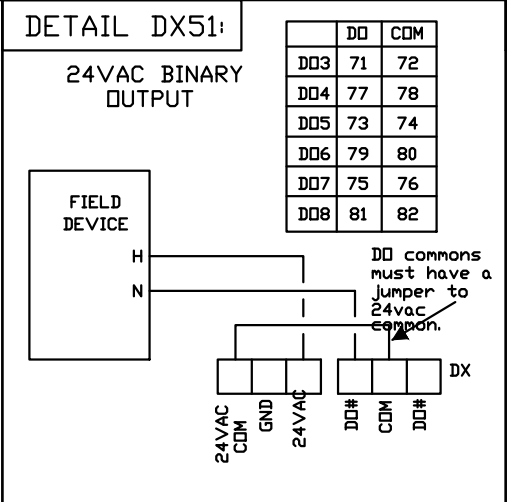
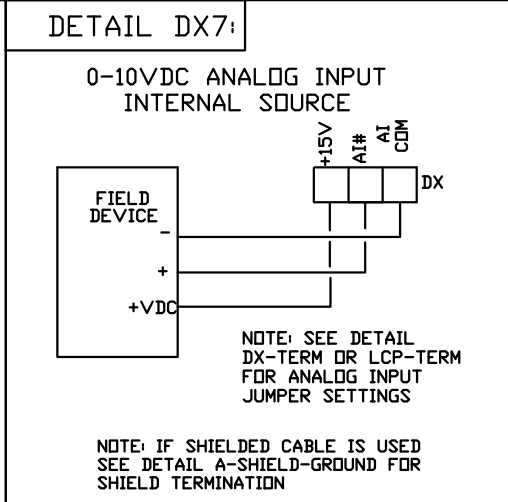
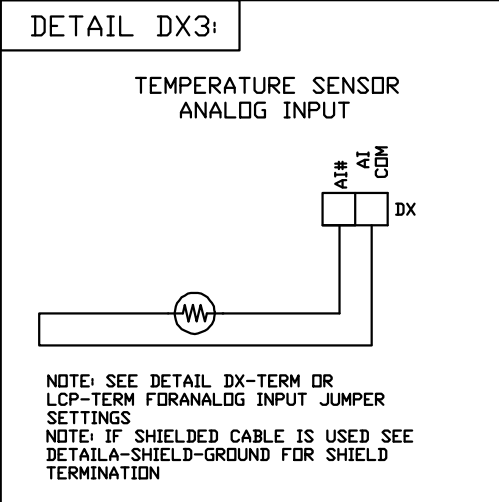


MAH-3

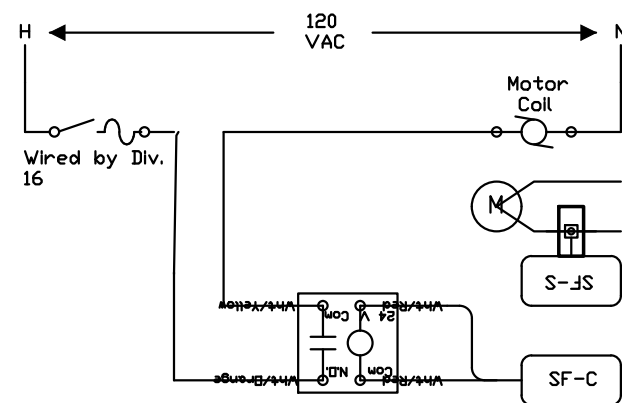


??Bill of Materials?
??
Designation ?Qty?Part Number?Description
Field Devices:
CONTROLLER?1?DX-9100-8454?CNTRLR,DIG,DX,8AI,8AO,6BO,8BI
?1 ?DX-9100-8990?CNTRLR,DIG,DX,MTG BASE,F/DX-9100-8454
?1?DX-9100-8991?KIT, CNTRLR,DIG,DX,WIRING PROTECTION
?1?XT-9106-8304?CNTRLR,DIG,DX EXPN MOD
?1?XP-9102-8304?CNTRLR,DIG,EXTENSION 6AI,2AO
FILTER-S?2?DPT-2015-1?0-1.5" DIFF PRESS TO ELECTRIC
TRANSP
SF-S, EF-S?2?H-720?SENS,CURR,4-20MA,HI-ACC,SOLID
FACE,BYP-DPR?2?NF24-SR?ACT,PROP,SR,2-10V-FB
EA-DPR?1?M9216BGC-2?ACT.2POS.SR,AUX SWITCH
HXS-T, EAX-T,
EAE-T, SA-T?4?TE-6311P-1?SENSOR,T-NI,0.1%,8IN DUCT
SF-C,EF-C?2?RIBU1C?RELAY
RM-T?1?TE-6411S-2100?METASTAT
CD?1?RTS451?REMOTE CARBON MONOXIDE DETECTOR

Drawing Title							
MAH-3 FLOW DIAGRAM		1		AS-BUILT		5/15/02 MWK	
REFERENCE DRAWING		no.	revision-location		ecn	date	by
sales	project	application	drawn		approved		
engineer	manager	engineer	by MAS date 01/02/01		by	date 0	
Project Title		2100 158TH ST. SW		contract			
WTA		LYNNWOOD WA, 98036		number		2000-026	
		Ph. 425/673-4446		drawing			
		Fax 425/673-2886		number			

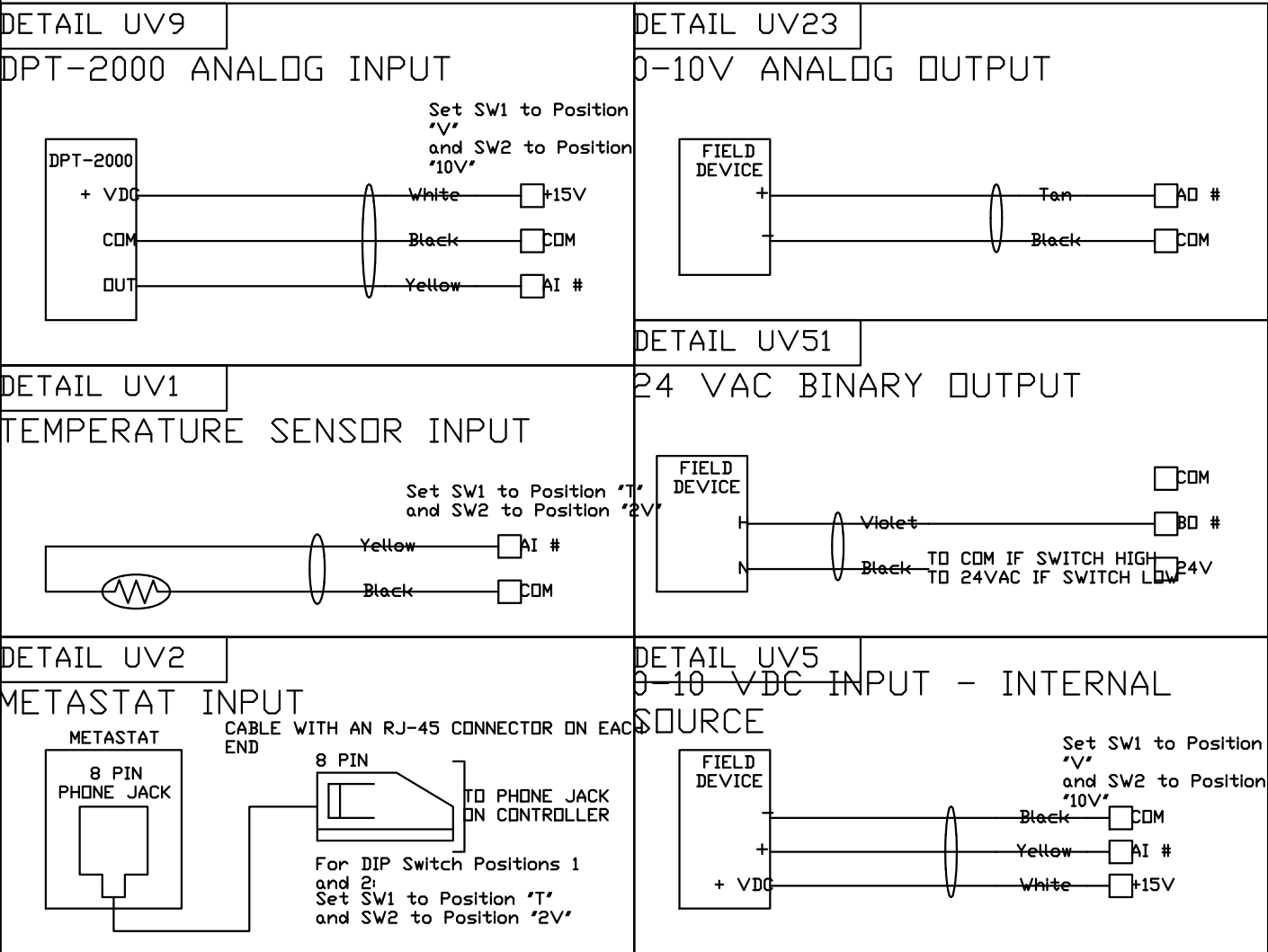


Drawing Title											
MAH3-2 POINT SCHEDULE											
										</	



ZN-T?1?TMZ-1600?

[illegible]



Drawing Title						
RHU-1 Point Schedule						
			AS-BUILT		\$/15/02	MWK
REFERENCE DRAWING	no.	revision	location	ecn	date	by
sales engineer	project manager	application engineer	drawn by	approved by	date	
			MAS		01/02/01	0
Project Title			2100 158TH ST. SW 301P LYNNWOOD WA, 98036 Ph. 425/673-4446 Fax 425/673-2882	contract number		
WTA				2000-026		
				drawing number		
				OF 30		RHU1-2

Qty	Part Number	Description
-----	-------------	-------------

CONTROLLER?2?AS-UNT111-1?APPLICATION SPECIFIC CONTROLLER

UNIT HEATER	CONTROLLER	OUTPUT
UH-1	UNT-2	BO-3
UH-2	UNT-2	BO-4
UH-3	UNT-1	BO-4

120 VAC

Wired by Div. 16

Motor Coil

S-HN

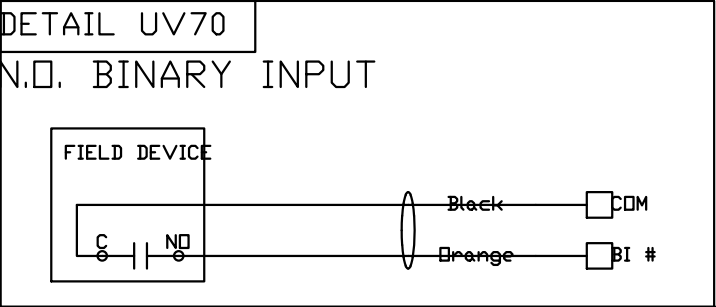
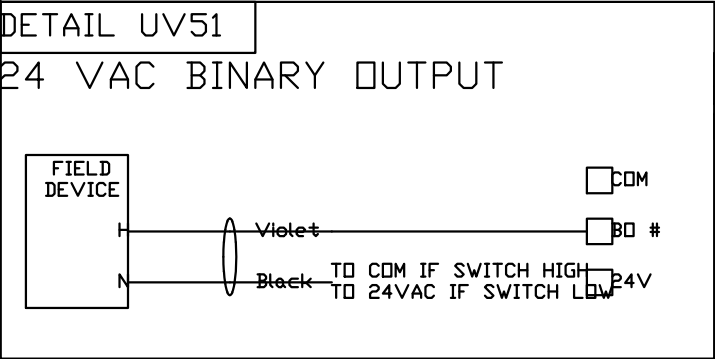
UH-C

24 V

24 V

24 V

Drawing Title								
Unit Heater Flow Diagram								
		1	AS-BUILT		5/15/02	MWK		
	REFERENCE DRAWING	no.	revision	location	ecn	date	by	
	sales engineer	project manager	application engineer	drawn by	checked by	approved date	approved date	0
Project Title				2000-026	contract number			
WTA				2000-026	contract number			
				LYNNWOOD WA, 98036	drawing number	of 30		
				Ph. 425/673-4446	drawing number	UH1-1		
				Fax 425/673-2886	drawing number			



Drawing Title						
Unit Heater Point Schedule						
			AS-BUILT		5/15/02	MWK
	REFERENCE DRAWING	no.	revision	location	ecn	date
	sales engineer	project manager	application engineer	drawn by	approved by	
Project Title			by MAS	date 01/02/01	date 0	
WTA			2000-026	30TH ST. SW SUITE 125 LYNNWOOD WA, 98036 Ph. 425/673-4446 Fax 425/673-2886	contract number	2000-026
					drawing number	of 30
						UH1-2

INDUSTRIAL/COMMERCIAL PACKAGE FURNACE

FOR GAS
 MODEL
 SERIAL

FOR OUTDOOR INSTALLATION ☒
 FOR INDOOR INSTALLATION ☐

CAPACITY IN BTU PER HOUR

MAX. INPUT MIN. INPUT
 BURNER MAKE BURNER MODEL
 MAN. PRESS. IN. W.C. MIN. SUPPLY PRESS. IN. W.C.
 OVERFIRE DRAFT RANGE IN. W.C.

BLOWER SPECIFICATIONS

BLOWER MODEL
 AIR THRUPUT CFM MAX. CFM MIN.
 ESP IN. W.C. MOTOR PULLEY IN. BLOWER PULLEY IN.
 BLOWER MOTOR HP TEMPERATURE RISE °F

ELECTRICAL SPECIFICATIONS

UNIT VOLTS PH Hz
 MIN. CIRCUIT AMPACITY
 CONTROL CIRCUIT VOLTS PH MAX. FUSE SIZE AMPS
 BLOWER MOTOR HP RPM V PH AMPS
 ID FAN MOTOR HP RPM V PH AMPS
 BURNER MOTOR HP RPM V PH AMPS

FILTER SPECIFICATION

DESIGNED FOR USE WITH X X X FILTERS
 X X X FILTERS
 X X X FILTERS
 X X X FILTERS

CLEARANCES

PROVIDE THE FOLLOWING CLEARANCES TO COMBUSTIBLE MATERIAL (IN.)

TOP 6 FRONT 6 FLUE 18 BACK 6 SIDES 6 FLOOR 0



ICE Industrial Commercial Equipment Manufacturing Ltd.



10392243WMC
 CONFORMS TO UL STD 795

☒ WINNIPEG, MB., CANADA
☐ BOLIVAR, TN., USA

PN 501213

INDUSTRIAL/COMMERCIAL PACKAGE FURNACE

FOR GAS
 MODEL RETURN AIR
 SERIAL
 FOR OUTDOOR INSTALLATION ☒
 FOR INDOOR INSTALLATION ☐

CAPACITY IN BTU PER HOUR

MAX. INPUT MIN. INPUT
 BURNER MAKE BURNER MODEL
 MAN. PRESS. IN. W.C. MIN. SUPPLY PRESS. IN. W.C.
 OVERFIRE DRAFT RANGE IN. W.C.

BLOWER SPECIFICATIONS

BLOWER MODEL 281 - AF - SWSI
 AIR THRUPUT 14000 CFM MAX. 6310 CFM MIN.
 ESP 0.75 IN. W.C. MOTOR PULLEY 5.4 IN. BLOWER PULLEY 6.5 IN.
 BLOWER MOTOR 15 HP TEMPERATURE RISE 50 F

ELECTRICAL SPECIFICATIONS

UNIT 450 VOLTS 3 PH 60 Hz
 MIN. CIRCUIT AMPACITY 54 MAX. FUSE SIZE 90 VDD AMPS
 CONTROL CIRCUIT VOLTS PH AMPS
 BLOWER MOTOR 15 HP 1750 RPM 460 V 3 PH 20.2 AMPS
 ID FAN MOTOR HP RPM V PH AMPS
 BURNER MOTOR HP RPM V PH AMPS

FILTER SPECIFICATION

DESIGNED FOR USE WITH ☐ X ☐ X ☐ X ☐ X
☐ X ☐ X ☐ X ☐ X ☐ X
☐ X ☐ X ☐ X ☐ X ☐ X
☐ X ☐ X ☐ X ☐ X ☐ X

CLEARANCES

PROVIDE THE FOLLOWING CLEARANCES TO COMBUSTIBLE MATERIAL (IN.)

TOP 6 FRONT 6 FLUE 18 BACK 6 SIDES 6 FLOOR 0



10382243WMC
 CONFORMS TO UL STD 795



Industrial
 Commercial
 Equipment
 Manufacturing Ltd



WINNIPEG, MB., CANADA
 BOLIVAR, TN, USA

PIN 501213

THIS EQUIPMENT HAS BEEN EXAMINED AND
 TESTED FOR COMPLIANCE WITH THE
 FOLLOWING C.S.A. STANDARDS: