

Architect's Supplemental Instructions

Architect's Project No:
04561.01

Architect's ASI No: 032

Project:
Webster University
Interdisciplinary Science
Building

Date Issued: 10/25/2016

Contract Date:

Reason Code: 05 A/E Scope

Discipline Code: 09 Mechanical / 03
Electrical

Owner:
Webster University

Architect:
Cannon Design
1100 Clark Avenue
St. Louis, MO 63102

Contractor:
Paric Construction

Contract For: General Construction

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Indicate your acceptance of these instructions for minor change to the Work as consistent with the Contract Documents and return a copy to the Architect within fourteen (14) business days of the date of issuance of these instructions. If you feel a change in Contract Sum or Contract Time is warranted, please submit an itemized quotation for the changes for approval within fourteen (14) business days of the date of issuance of these instructions prior to proceeding on the Work. Proceeding with the Work in accordance with these instructions indicates your acknowledgement that there will be no change.

Attachments:

Drawings:

Sheet M0603 – SCHEDULES - MECHANICAL

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Description:

Please submit an itemized proposal for changes in contract Sum and Contract Time for proposed modifications to the Contract Documents described herein:

DRAWING CHANGES

SHEET M0101.A – LEVEL 01 AREA A FLOOR PLAN

1. Change the following fire dampers to fire-smoke dampers:
 - 50x16 MP supply duct exiting south wall of main ductwork chase.
 - 70x20 RA exiting east wall of main ductwork chase.
 - 18" Round MP supply exiting north wall of main ductwork chase.
 - 14x14 Exhaust duct near Elevator 2.

SHEET M0101.B – LEVEL 01 AREA B FLOOR PLAN

1. Add fire damper to 6" round SA duct at west wall of Electrical Room 110B.

SHEET M0102.A – LEVEL 02 AREA A FLOOR PLAN

1. Change the following fire dampers to fire-smoke dampers:
 - 48x24 MP supply exiting south wall of main ductwork chase.
 - 36x20 RA exiting east wall of main ductwork chase.
 - 12x8 exhaust duct near Elevator 2.

SHEET M0102.B – LEVEL 02 AREA B FLOOR PLAN

1. Add fire damper in 6" round SA duct at west wall of Electrical Room 210B.

SHEET M0103.A – LEVEL 03 AREA A FLOOR PLAN

1. Change the following fire dampers to fire-smoke dampers:
 - 60x24 MP supply exiting south wall of main ductwork chase.
 - 56x26 RA exiting east wall of main ductwork chase.
2. Add a fire-smoke damper to 12x8 EA duct near Elevator 2.

SHEET M0103.B – LEVEL 03 AREA B FLOOR PLAN

1. Add fire damper to 6" round supply duct at east wall of Electrical Room 310A.

SHEET M0104.A – LEVEL 04 AREA A FLOOR PLAN

1. Change the following fire dampers to fire-smoke dampers:
 - 54x24 MP Supply exiting south wall of main ductwork chase.
 - 72x36 RA exiting east wall of main ductwork chase.
 - 24x14 EA and 12x8 EA at Chemical Waste 475.

SHEET M0104.B – LEVEL 04 AREA B FLOOR PLAN

1. Add fire damper to 6" round supply duct at west wall of Electrical Room 410.

SHEET E0101.A – LEVEL 01 AREA A FLOOR PLAN

1. Provide smoke detectors, 120 volt power, and fire alarm control module and associated wiring for each fire-smoke damper at each of the following locations:
 - 50x16 MP supply duct exiting south wall of main ductwork chase.
 - 70x20 RA exiting east wall of main ductwork chase.

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- 18" Round MP supply exiting north wall of main ductwork chase.
 - 14x14 Exhaust duct near Elevator 2.
2. Coordinate final quantity and type of required detectors with HVAC contractor.

SHEET E0102.A – LEVEL 02 AREA A FLOOR PLAN

1. Provide smoke detectors, 120 volt power, and fire alarm control module and associated wiring for each fire-smoke damper at each of the following locations:
 - 48x24 MP supply exiting south wall of main ductwork chase.
 - 36x20 RA exiting east wall of main ductwork chase.
 - 12x8 exhaust duct near Elevator 2.
2. Coordinate quantity and type of required detectors with HVAC contractor.

SHEET E0103.A – LEVEL 03 AREA A FLOOR PLAN

1. Provide smoke detectors, 120 volt power, and fire alarm control module and associated wiring for each fire-smoke damper at each of the following locations:
 - 60x24 MP supply exiting south wall of main ductwork chase.
 - 56x26 RA exiting east wall of main ductwork chase.
 - 12x8 EA duct near Elevator 2.
2. Coordinate quantity and type of required detectors with HVAC contractor.

SHEET E0104.A – LEVEL 04 AREA A FLOOR PLAN

1. Provide smoke detectors, 120 volt power, and fire alarm control module and associated wiring for each fire-smoke damper at each of the following locations:
 - 54x24 MP Supply exiting south wall of main ductwork chase.
 - 72x36 RA exiting east wall of main ductwork chase.
 - 24x14 EA and 12x8 EA at Chemical Waste 475.
2. Coordinate quantity and type of required detectors with HVAC contractor.

SPECIFICATION CHANGES

1. Section 23 95 00, PART 3, Article 3.9 Sequence of Operation, J. add 4.

“4. Hood Exhaust Fan System (HEF-1): consists of three high plume exhaust fans (A, B, & C) mounted on a heat recovery plenum with coil. Hoods on each floor are connected together and each individual floor duct riser is connected to the common exhaust plenum on the roof. The plenum includes bypass control dampers to maintain plume height and inlet plenum static pressure. Provide damper actuators, duct static pressure sensor, and interface with Variable Frequency Drives (VFD) to control fume hood exhaust airflow as described below. Lead-Lag fan designation shall rotate on a periodic basis as scheduled by operations staff.

a. Bypass dampers shall close and the fans shall be off, if building is designated unoccupied and all chemicals are stored properly.

b. Staging ON Fans: During occupied periods the Lead fan “A” shall start and ramp up to minimum speed setting (66 percent of full speed (adj.)) and as required to maintain static pressure set point of negative

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2.0-inches (adj.) at the inlet plenum. This setting shall be determined during air balancing and shall be at the lowest practice negative static pressure.

c. Once the fan speed reaches 75 percent (adj.) of full flow or above for 10-minutes (adj.), the Lag fan "B" shall start and ramp up to minimum speed setting (66 percent of full speed (adj.)). Both fans shall modulate to maintain negative static pressure set point (adj.). Then start the third fan "C" in the same manner.

d. The bypass dampers shall modulate to maintain inlet plenum negative static pressure setting (adj.) anytime the fans are operating at minimum speed and the inlet negative static pressure is 0.5-inches (adj.) above set point.

e. Stage fans OFF when all fans are operating at minimum speed and the bypass damper is open 50 percent or greater (adj.) (as determined during air balancing) for more than 10-minutes (adj.).

f. Reset minimum fan speed setting based on wind speed as follows:
Minimum fan speed = 66 percent at wind speeds between 0 and 20 mph (adj.)

- 1) Minimum fan speed = 75 percent at wind speeds between 20 and 40 mph (adj.)
- 2) Minimum fan speed = 100 percent at wind speeds above 40 mph (adj.).

g. If any fan stops for any reason or fails to start when called to run by the automation system, the next available fan shall start.

h. Safeties:

- 1) Provide high negative static pressure alarm.
- 2) Provide fan and drive fault alarms."

2. Add Section 23 95 00 PART 3, Article 3.10 –

"3.10 FIRE-SMOKE DAMPERS

A. Provide and install fire-smoke dampers as specified in Section 238800, as indicated on drawing, and as required to meet codes. Dampers shall close upon a detection of smoke by a duct mounted smoke detector. Coordinate with fire alarm system for connections and operations."

Issued by Architect: Mark Schaefer & Mark de la Fuente,
William Tao & Associates, Inc.

Accepted by Contractor:

VARIABLE AIR VOLUME BOX WITH HOT WATER (VAV) SCHEDULE

#	TAG NO	MANUFACTURER & MODEL NO.	INLET SIZE (INCHES)	COOLING CFM			HEATING COIL										NOTES
				MIN	MAX	DISCH. MAX NC	CFM	AIR TEMP. (F°)		WATER TEMP. (F°)			MAX WATER PD (FT)	COIL CAPACITY (MBH)	MAX AIR PD (IN W.G.)		
								EAT	LAT	GPM	EWT	LWT					
VAV	101	PRICE SDV	6"	90 CFM	300 CFM	25	135 CFM	55	86.9	0.5	140	100	2	4.8	0.35	1, 2, 3, 4	
VAV	102	PRICE SDV	8"	230 CFM	460 CFM	25	280 CFM	55	77.0	0.5	140	100	2	6.8	0.35	1, 3, 4	
VAV	103	PRICE SDV	9"	180 CFM	600 CFM	25	280 CFM	55	86.9	0.8	140	100	2	9.8	0.35	1, 2, 3, 4	
VAV	104	PRICE SDV	6"	65 CFM	210 CFM	25	105 CFM	55	75.0	0.5	140	100	2	2.3	0.35	1, 3, 4	
VAV	105	PRICE SDV	6"	70 CFM	275 CFM	25	95 CFM	55	74.0	0.5	140	100	2	1.9	0.35	1, 3, 4	
VAV	106	PRICE SDV	7"	105 CFM	350 CFM	25	350 CFM	55	93.0	1.1	140	100	2	14.6	0.35	1, 2, 3, 4	
VAV	107	PRICE SDV	6"	65 CFM	200 CFM	25	170 CFM	55	86.9	0.5	140	100	2	6.0	0.35	1, 2, 3, 4	
VAV	108	PRICE SDV	7"	110 CFM	360 CFM	25	360 CFM	55	95.0	1.4	140	100	2	18.7	0.35	1, 2, 3, 4	
VAV	109	PRICE SDV	8"	170 CFM	495 CFM	25	490 CFM	55	95.0	2.0	140	100	2	26.6	0.35	1, 2, 3, 4	
VAV	110	PRICE SDV	10"	480 CFM	800 CFM	25	600 CFM	55	83.2	1.4	140	100	2	18.6	0.35	1, 2, 3, 4	
VAV	111	PRICE SDV	7"	120 CFM	390 CFM	25	230 CFM	55	86.9	0.6	140	100	2	8.1	0.35	1, 2, 3, 4	
VAV	112	PRICE SDV	6"	50 CFM	150 CFM	25	75 CFM	55	73.5	0.5	140	100	2	1.2	0.35	1, 3, 4	
VAV	113	PRICE SDV	10"	480 CFM	800 CFM	25	500 CFM	55	86.9	1.3	140	100	2	17.6	0.35	1, 2, 3, 4	
VAV	114	PRICE SDV	9"	190 CFM	730 CFM	25	730 CFM	55	86.9	2.0	140	100	2	26.0	0.35	1, 2, 3, 4	
VAV	115	PRICE SDV	14"	600 CFM	1820 CFM	25	1130 CFM	55	86.9	2.9	140	100	2	39.8	0.35	1, 2, 3, 4	
VAV	116	PRICE SDV	7"	125 CFM	370 CFM	25	280 CFM	55	77.0	0.5	140	100	2	6.7	0.35	1, 3, 4	
VAV	117	PRICE SDV	9"	225 CFM	685 CFM	25	550 CFM	55	76.5	0.9	140	100	2	12.8	0.35	1, 2, 3, 4	
VAV	118	PRICE SDV	12"	270 CFM	1135 CFM	25	1135 CFM	50	89.0	3.2	140	100	2	42.4	0.35	1, 2, 3, 4	
VAV	119	PRICE SDV	8"	175 CFM	490 CFM	25	320 CFM	55	86.9	0.9	140	100	2	11.2	0.35	1, 2, 3, 4	
VAV	120	PRICE SDV	6"	100 CFM	285 CFM	25	225 CFM	55	86.9	0.6	140	100	2	7.9	0.35	1, 2, 3, 4	
VAV	121	PRICE SDV	6"	60 CFM	215 CFM	25	185 CFM	55	86.9	0.5	140	100	2	6.5	0.35	1, 2, 3, 4	
VAV	122	PRICE SDV	6"	60 CFM	210 CFM	25	160 CFM	55	86.9	0.5	140	100	2	5.6	0.35	1, 2, 3, 4	
VAV	123	PRICE SDV	14"	700 CFM	1955 CFM	25	1085 CFM	55	86.9	2.9	140	100	2	38.2	0.35	1, 2, 3, 4	
VAV	124	PRICE SDV	14"	700 CFM	1955 CFM	25	1085 CFM	55	86.9	2.9	140	100	2	38.2	0.35	1, 2, 3, 4	
WTA LEVEL 01: 24				5420 CFM 15240 CFM			10555 CFM										
VAV	201	PRICE SDV	6"	65 CFM	200 CFM	25	200 CFM	55	93.4	0.7	140	100	2	8.4	0.35	1, 2, 3, 4	
VAV	202	PRICE SDV	10"	280 CFM	920 CFM	25	555 CFM	55	75.5	1.0	140	100	2	12.4	0.35	1, 2, 3, 4	
VAV	203	PRICE SDV	4"	45 CFM	80 CFM	25	80 CFM	55	86.9	0.5	140	100	2	1.6	0.35	1, 3, 4	
VAV	204	PRICE SDV	10"	180 CFM	840 CFM	25	505 CFM	55	84.0	1.2	140	100	2	16.0	0.35	1, 2, 3, 4	
VAV	205	PRICE SDV	6"	85 CFM	310 CFM	25	310 CFM	55	86.9	0.8	140	100	2	10.8	0.35	1, 2, 3, 4	
VAV	206	PRICE SDV	6"	85 CFM	310 CFM	25	310 CFM	55	86.9	0.8	140	100	2	10.7	0.35	1, 2, 3, 4	
VAV	207	PRICE SDV	7"	85 CFM	325 CFM	25	325 CFM	55	86.9	0.9	140	100	2	11.2	0.35	1, 2, 3, 4	
VAV	208	PRICE SDV	6"	195 CFM	195 CFM	25	195 CFM	55	86.9	0.5	140	100	2	6.8	0.35	1, 2, 3, 4	
VAV	209	PRICE SDV	14"	480 CFM	1900 CFM	25	990 CFM	55	86.9	2.6	140	100	2	34.7	0.35	1, 2, 3, 4	
VAV	210	PRICE SDV	14"	420 CFM	1500 CFM	25	600 CFM	55	84.0	1.5	140	100	2	19.1	0.35	1, 2, 3, 4	
VAV	212	PRICE SDV	12"	450 CFM	1500 CFM	25	1470 CFM	55	86.9	3.9	140	100	2	51.8	0.35	1, 2, 3, 4	
VAV	213	PRICE SDV	6"	50 CFM	210 CFM	25	140 CFM	55	75.5	0.5	140	100	2	3.1	0.35	1, 3, 4	
VAV	214	PRICE SDV	7"	105 CFM	305 CFM	25	155 CFM	55	75.5	0.5	140	100	2	3.5	0.35	1, 3, 4	
VAV	215	PRICE SDV	5"	65 CFM	200 CFM	25	120 CFM	55	75.5	0.5	140	100	2	2.4	0.35	1, 3, 4	
VAV	216	PRICE SDV	6"	70 CFM	275 CFM	25	95 CFM	55	75.5	0.5	140	100	2	1.9	0.35	1, 3, 4	
VAV	217	PRICE SDV	12"	360 CFM	1200 CFM	25	640 CFM	50	86.9	1.8	140	100	2	23.8	0.35	1, 2, 3, 4	
WTA LEVEL 02: 16				3020 CFM 10270 CFM			6690 CFM										
VAV	301	PRICE SDV	6"	65 CFM	250 CFM	25	250 CFM	55	89.6	0.7	140	100	2	9.5	0.35	1, 2, 3, 4	
VAV	302	PRICE SDV	6"	110 CFM	360 CFM	25	270 CFM	55	82.0	0.6	140	100	2	8.0	0.35	1, 2, 3, 4	
VAV	303	PRICE SDV	6"	65 CFM	200 CFM	25	110 CFM	55	86.9	0.5	140	100	2	3.9	0.35	1, 2, 3, 4	
VAV	304	PRICE SDV	10"	260 CFM	680 CFM	25	475 CFM	55	86.9	1.3	140	100	2	16.6	0.35	1, 2, 3, 4	
VAV	305	PRICE SDV	10"	200 CFM	735 CFM	25	80 CFM	55	95.5	1.6	140	100	2	21.4	0.35	1, 2, 3, 4	
VAV	306	PRICE SDV	9"	165 CFM	630 CFM	25	540 CFM	55	90.5	1.6	140	100	2	21.2	0.35	1, 2, 3, 4	
VAV	307	PRICE SDV	10"	165 CFM	660 CFM	25	0 CFM	55	93.0	1.7	140	100	2	22.6	0.35	1, 2, 3, 4	
VAV	308	PRICE SDV	10"	240 CFM	935 CFM	25	690 CFM	55	86.9	1.8	140	100	2	24.3	0.35	1, 2, 3, 4	
VAV	309	PRICE SDV	12"	360 CFM	1320 CFM	25	660 CFM	55	86.9	1.8	140	100	2	23.2	0.35	1, 2, 3, 4	
VAV	310	PRICE SDV	14"	540 CFM	1920 CFM	25	975 CFM	55	86.9	2.6	140	100	2	34.3	0.35	1, 2, 3, 4	
VAV	311	PRICE SDV	10"	225 CFM	750 CFM	25	600 CFM	55	86.9	1.6	140	100	2	21.1	0.35	1, 2, 3, 4	
VAV	312	PRICE SDV	12"	430 CFM	1420 CFM	25	810 CFM	50	86.9	2.1	140	100	2	28.4	0.35	1, 2, 3, 4	
VAV	313	PRICE SDV	12"	300 CFM	1180 CFM	25	540 CFM	55	86.9	1.4	140	100	2	18.9	0.35	1, 2, 3, 4	
VAV	314	PRICE SDV	14"	480 CFM	1600 CFM	25	1040 CFM	55	86.3	2.7	140	100	2	36.4	0.35	1, 2, 3, 4	
VAV	315	PRICE SDV	10"	265 CFM	935 CFM	25	795 CFM	55	85.3	2.3	140	100	2	30.8	0.35	1, 2, 3, 4	
VAV	316	PRICE SDV	12"	265 CFM	1040 CFM	25	680 CFM	55	90.0	1.8	140	100	2	23.9	0.35	1, 2, 3, 4	
VAV	317	PRICE SDV	6"	65 CFM	210 CFM	25	205 CFM	55	86.9	0.5	140	100	2	4.1	0.35	1, 3, 4	
VAV	318	PRICE SDV	7"	110 CFM	390 CFM	25	295 CFM	55	75.0	0.5	140	100	2	6.3	0.35	1, 3, 4	
VAV	319	PRICE SDV	6"	75 CFM	320 CFM	25	180 CFM	55	75.0	0.5	140	100	2	6.3	0.35	1, 3, 4	
VAV	320	PRICE SDV	10"	120 CFM	710 CFM	25	215 CFM	55	86.9	0.5	140	100	2	7.6	0.35	1, 2, 3, 4	
VAV	321	PRICE SDV	9"	455 CFM	650 CFM	25	455 CFM	55	86.9	0.6	140	100	2	9.1	0.35	1, 3, 4	
VAV	322	PRICE SDV	6"	70 CFM	275 CFM	25	70 CFM	55	74.0	0.7	140	100	2	1.4	0.35	1, 3, 4	
VAV	411	PRICE SDV	8"	165 CFM	540 CFM	25	325 CFM	50	86.9	0.9	140	100	2	11.3	0.35	1, 2, 3, 4	
WTA LEVEL 03: 23				5195 CFM 17710 CFM			10260 CFM										
VAV	401	PRICE SDV	6"	90 CFM	300 CFM	25	240 CFM	55	86.9	0.8	140	100	2	8.4	0.35	1, 2, 3, 4	
VAV	402	PRICE SDV	7"	135 CFM	440 CFM	25	440 CFM	55	89.0	1.2	140	100	2	16.4	0.35	1, 2, 3, 4	
VAV	403	PRICE SDV	10"	215 CFM	720 CFM	25	665 CFM	55	86.9	1.8	140	100	2	23.4	0.35	1, 2, 3, 4	
VAV	404	PRICE SDV	9"	180 CFM	610 CFM	25	545 CFM	55	86.9	1.5	140	100	2	19.2	0.35	1, 2, 3, 4	
VAV	405	PRICE SDV	8"	130 CFM	420 CFM	25	355 CFM	55	86.9	1.0	140	100	2	12.5	0.35	1, 2, 3, 4	
VAV	406	PRICE SDV	10"	255 CFM	850 CFM	25	510 CFM	55	86.9	1.4	140	100	2	18.0	0.35	1, 2, 3, 4	
VAV	407	PRICE SDV	10"	300 CFM	1000 CFM	25	480 CFM	55	86.9	1.3	140	100	2	16.9	0.35	1, 2, 3, 4	
VAV	408	PRICE SDV	10"	200 CFM	670 CFM	25	325 CFM	55	86.9	0.9	140	100	2	11.3	0.35	1, 2, 3, 4	
VAV	409	PRICE SDV	8"	150 CFM	500 CFM	25	385 CFM	50	86.9	1.0	140	100	2	13.5	0.35	1, 2, 3, 4	
VAV	410	PRICE SDV	9"	165 CFM	550 CFM	25	440 CFM	55	86.8	1.2	140	100	2	15.4	0.35	1, 2, 3, 4	
VAV	412	PRICE SDV	7"	100 CFM	320 CFM	25	145 CFM	55	86.8	0.5	140	100	2	5.1	0.35	1, 2, 3, 4	
VAV	413	PRICE SDV	10"	270 CFM	900 CFM	25	565 CFM	55	86.9	1.5	140	100	2	19.8	0.35	1, 2, 3, 4	
VAV	414	PRICE SDV	8"	130 CFM	425 CFM	25	255 CFM	55	77.0	1.5	140	100	2	6.2	0.35	1, 3, 4	
VAV	415	PRICE SDV	10"	175 CFM	585 CFM	25	355 CFM	55	81.5	0.8							