FOR QUESTIONS, CALL THE
St. Louis Mechanical
REGION 109
PHONE: (636) 229-9777
EMAIL: reg109@captiveaire.com

PATENT NUMBERS

EXHAUST HOODS ND-2/BD-2/SND-2 (CANADA) - CA PATENT 2520435 C.

HOOD INFORMATION – JOB#5471869

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM		RISER(S)					HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP		END TO END	ROW
1	H1	6030 ND-2	CAPTIVEAIRE	12′ 6″	600 DEG	I	HEAVY	230	2875			4″	12″	1437	1830	-0.723″	430 SS WHERE EXPOSED	LEFT	ALONE
												4″	12″	1437	1830	-0.723″			
2	H2	6030 ND-2	CAPTIVEAIRE	14′ 6″	600 DEG	I	HEAVY	200	2900			4″	12″	1450	1846	-0.665″	430 SS WHERE EXPOSED	RIGHT	ALONE
												4″	12″	1450	1846	-0.665″			
3	H3	6030 ND-2	CAPTIVEAIRE	10′ 0″	600 DEG	I	HEAVY	200	2000			4″	14″	2000	1871	-0.801″	430 SS WHERE EXPOSED	LEFT	ALONE
4	H4	6030 ND-2	CAPTIVEAIRE	7′ 3″	600 DEG	I	HEAVY	200	1450			4″	12″	1450	1846	-0.665″	430 SS WHERE EXPOSED	RIGHT	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)					LIGHT(S)			UTILITY CABINET(S)						FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
												FIRE SYSTEM		ELECTRICAL	SWITCHES		
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE	SIZE	MODEL #	QUANTITY		
1	H1	CAPTRATE SOLO FILTER	9	20″	16″	85% SEE FILTER SPEC	4	RECESSED ROUND	NO							YES	683 LBS
2	H2	CAPTRATE SOLO FILTER	10	20″	16″	85% SEE FILTER SPEC	4	RECESSED ROUND	NO	RIGHT	12″x60″x30″	TANK FS	4.0/4.0/4.0/4.0			YES	1202 LBS
3	H3	CAPTRATE SOLO FILTER	7	20″	16″	85% SEE FILTER SPEC	3	RECESSED ROUND	NO							YES	552 LBS
4	H4	CAPTRATE SOLO FILTER	5	20″	16″	85% SEE FILTER SPEC	2	RECESSED ROUND	NO	RIGHT	12″x60″x30″	TANK FS	4.0/4.0	DCV-1011	1 LIGHT 1 FAN	YES	866 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	H1	FIELD WRAPPER 18.00″ HIGH FRONT, LEFT.
		BALANCE DAMPERS.
		STRUCTURAL FRONT PANEL.
		RISER SENSOR INSTALL 6IN PLEN.
		LEFT VERTICAL END PANEL 27″ TOP WIDTH, 21″ BOTTOM WIDTH, 80″ HIGH INSULATED 430 SS.
2	H2	FIELD WRAPPER 18.00″ HIGH FRONT, RIGHT.
		BALANCE DAMPERS.
		STRUCTURAL FRONT PANEL.
		RISER SENSOR INSTALL 6IN PLEN.
3	H3	FIELD WRAPPER 18.00″ HIGH FRONT, LEFT.
		BALANCE DAMPERS.
		LEFT VERTICAL END PANEL 27″ TOP WIDTH, 21″ BOTTOM WIDTH, 80″ HIGH INSULATED 430 SS.
4	H4	FIELD WRAPPER 18.00″ HIGH FRONT, RIGHT.
		BALANCE DAMPERS.
		RISER SENSOR INSTALL 6IN PLEN.

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

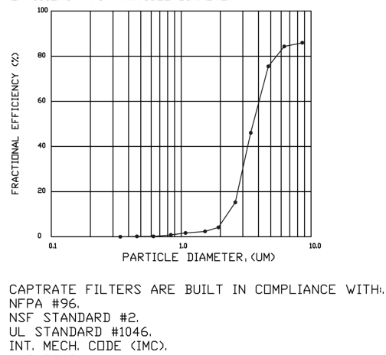
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

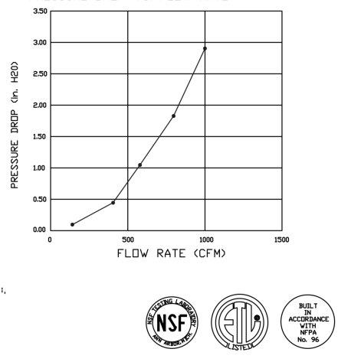
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.

EFFICIENCY VS. PARTICLE DIAMETER



PRESSURE DROP VS. FLOW RATE



CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:.
NFPA #96.
NSF STANDARD #2.
UL STANDARD #1046.
INT. MECH. CODE (IMC).
ULC-S649.

BUILT IN ACCORDANCE WITH NFPA No. 96

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12′ ON CENTER. PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16″ PER 12″, HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16″ PER 12″. DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

HVAC DISTRIBUTION NOTE

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

VERIFY CEILING HEIGHT

___' - ___"

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

CUSTOMER APPROVAL TO MANUFACTURE:

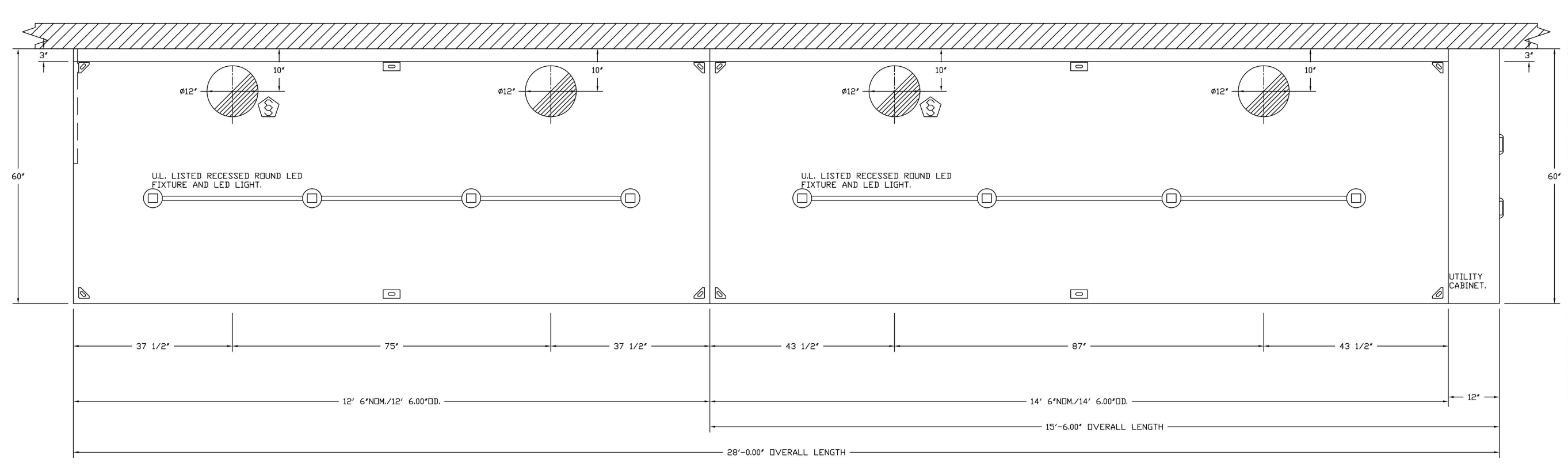
APPROVED AS NOTED ☐
APPROVED WITH NO EXCEPTION TAKEN ☐
REVISE AND RESUBMIT ☐
SIGNATURE ____________________
YOUR TITLE ____________ DATE ____________

REVISIONS
DESCRIPTION | DATE:

www.captiveaire.com
St. Louis Mechanical
2 City Place Drive, Suite #200, St. Louis, MO. 63141 PHONE: (636) 229-9777 EMAIL: reg109@captiveaire.com

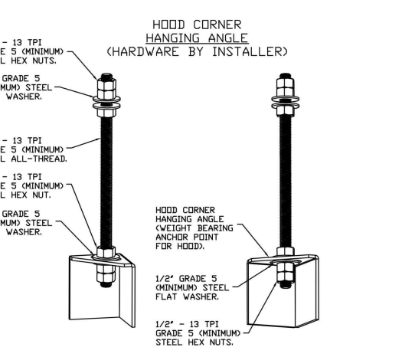
New Concept-Austin, TX_R6.1
AUSTIN, TX, 78710

DATE: 7/26/2022
DWG.#: 5471869
DRAWN BY: ML
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 1


Ø14"
Ø12"
11"
3"
60"
U.L. LISTED RECESSED ROUND LED FIXTURE AND LED LIGHT.
UTILITY CABINET.
37 1/2"
75"
37 1/2"
43 1/2"
87"
43 1/2"
12' 6"NOM./12' 6.00"OD.
14' 6"NOM./14' 6.00"OD.
12"
15'-6.00" OVERALL LENGTH
28'-0.00" OVERALL LENGTH

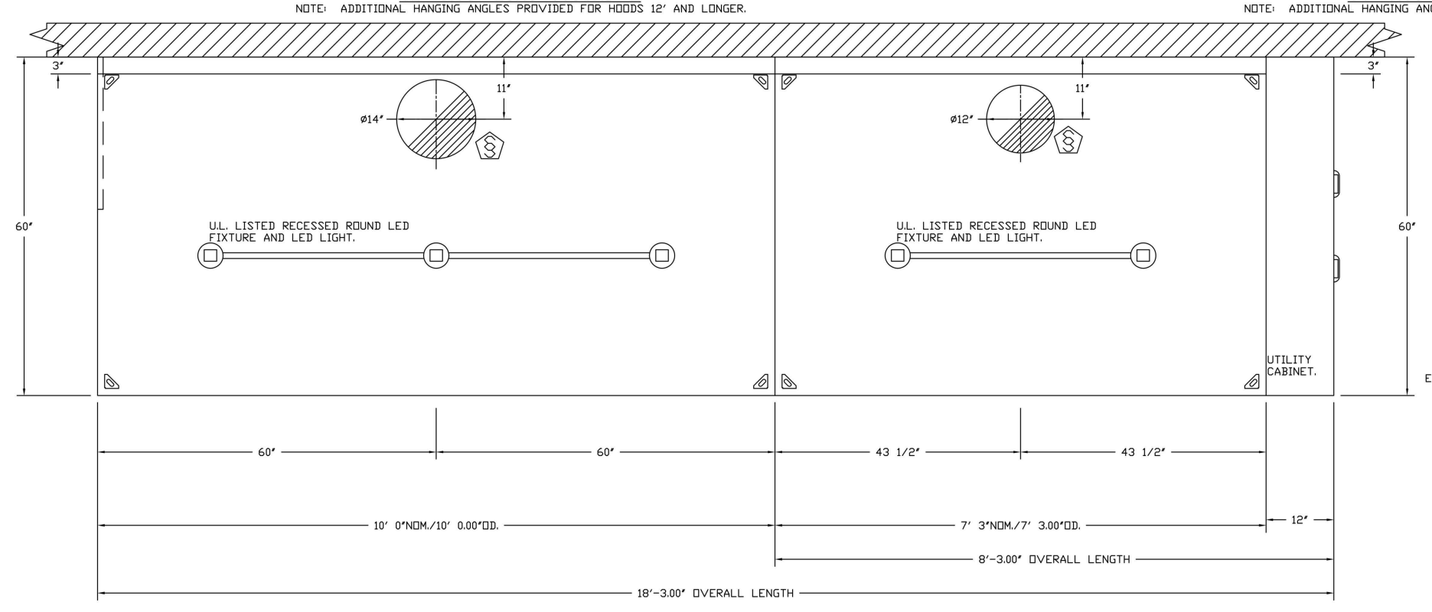
PLAN VIEW – HOOD #1 (H1)
12' 6.00" LONG 6030ND-2
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.

PLAN VIEW – HOOD #2 (H2)
14' 6.00" LONG 6030ND-2
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.


HOOD CORNER HANGING ANGLE (HARDWARE BY INSTALLER)
1/2" - 13 TPI GRADE 5 (MINIMUM) STEEL HEX NUTS.
1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHER.
1/2" - 13 TPI GRADE 5 (MINIMUM) STEEL ALL-THREAD.
HOOD CORNER HANGING ANGLE (WEIGHT BEARING ANCHOR POINT FOR HOOD).

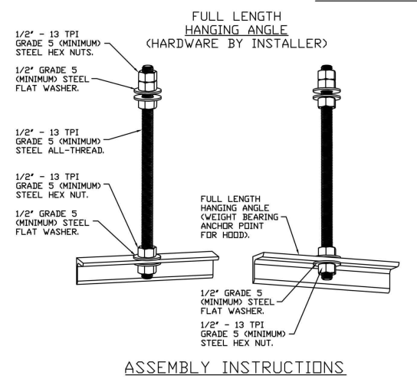
ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.


Ø14"
Ø12"
11"
3"
60"
U.L. LISTED RECESSED ROUND LED FIXTURE AND LED LIGHT.
UTILITY CABINET.
60"
60"
43 1/2"
43 1/2"
10' 0"NOM./10' 0.00"OD.
7' 3"NOM./7' 3.00"OD.
12"
8'-3.00" OVERALL LENGTH
18'-3.00" OVERALL LENGTH

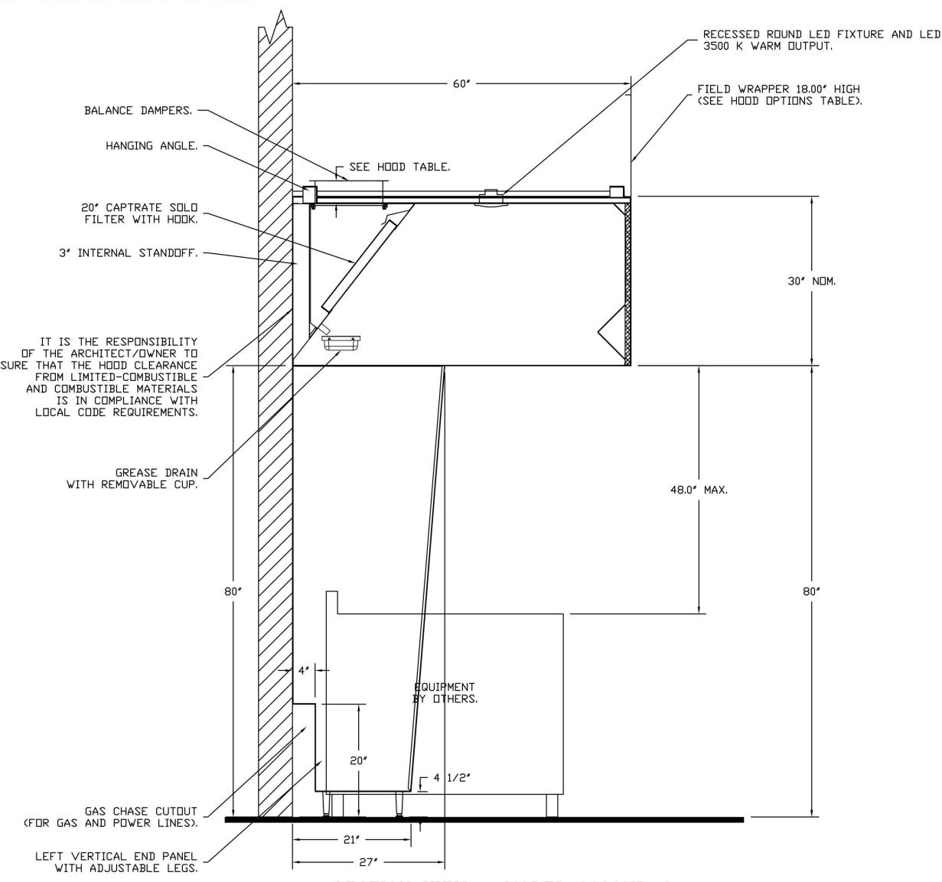
PLAN VIEW – HOOD #3 (H3)
10' 0.00" LONG 6030ND-2

PLAN VIEW – HOOD #4 (H4)
7' 3.00" LONG 6030ND-2


FULL LENGTH HANGING ANGLE (HARDWARE BY INSTALLER)
1/2" - 13 TPI GRADE 5 (MINIMUM) STEEL HEX NUTS.
1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHER.
1/2" - 13 TPI GRADE 5 (MINIMUM) STEEL ALL-THREAD.
1/2" - 13 TPI GRADE 5 (MINIMUM) STEEL HEX NUT.
1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHER.
FULL LENGTH HANGING ANGLE (WEIGHT BEARING ANCHOR POINT FOR HOOD).
1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHER.
1/2" - 13 TPI GRADE 5 (MINIMUM) STEEL HEX NUT.

ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR FULL LENGTH HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.


RECESSED ROUND LED FIXTURE AND LED LIGHT, 3500 K WARM OUTPUT.
FIELD WRAPPER 18.00" HIGH (SEE HOOD OPTIONS TABLE).
BALANCE DAMPERS.
HANGING ANGLE.
SEE HOOD TABLE.
20" CAPTRATE SOLO FILTER WITH HOOK.
3" INTERNAL STANDOFF.
IT IS THE RESPONSIBILITY OF THE ARCHITECT/OWNER TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED-COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS.
GREASE DRAIN WITH REMOVABLE CUP.
GAS CHASE CUTOUT (FOR GAS AND POWER LINES).
LEFT VERTICAL END PANEL WITH ADJUSTABLE LEGS.
60"
30" NOM.
48.0" MAX.
80"
80"
4"
20"
4 1/2"
21"
27"
EQUIPMENT BY OTHERS.

SECTION VIEW – MODEL 6030ND-2
HOOD – #1 (H1)

REVISIONS
DESCRIPTION | DATE:

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DATE: 7/26/2022
DWG.#: 5471869
DRAWN BY: ML
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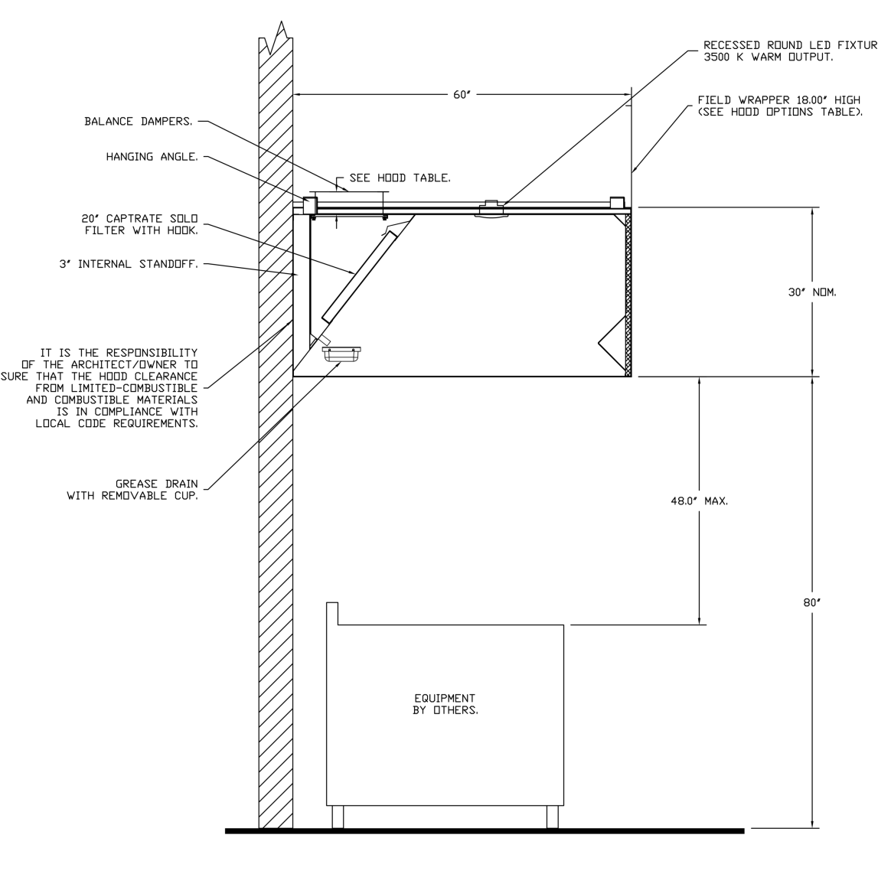
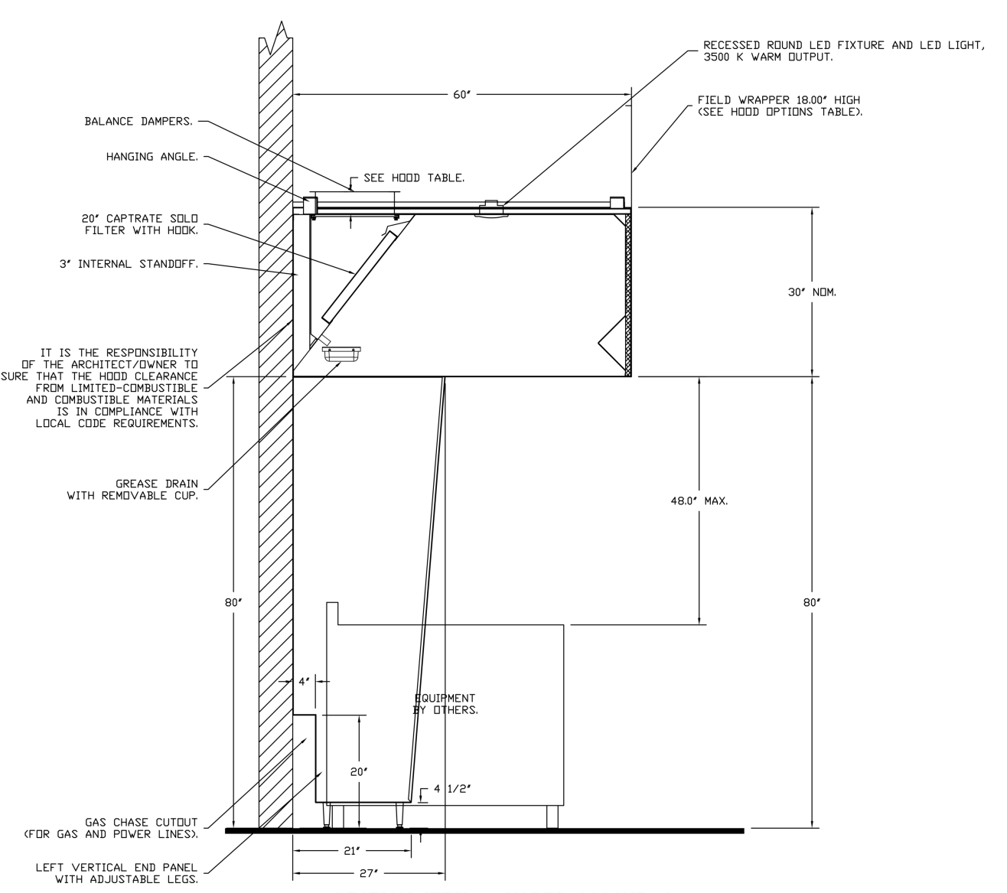
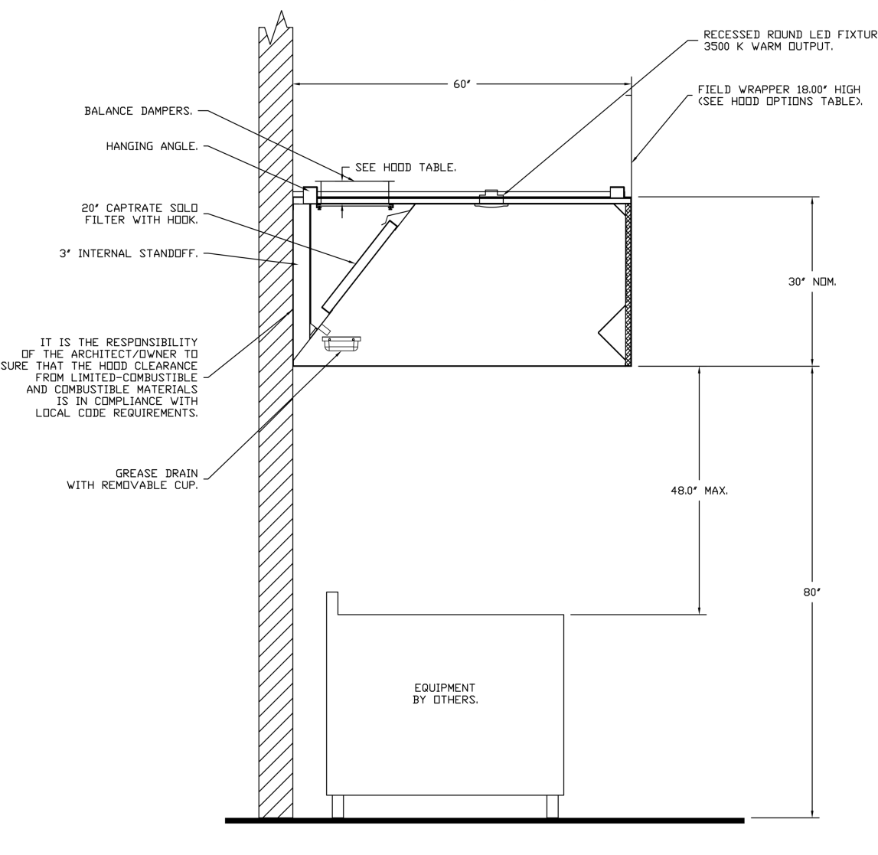
MASTER DRAWING
SHEET NO. 2


RECESSED ROUND LED FIXTURE AND LED LIGHT, 3500 K WARM OUTPUT.
FIELD WRAPPER 18.00" HIGH (SEE HOOD OPTIONS TABLE).
BALANCE DAMPERS.
HANGING ANGLE.
SEE HOOD TABLE.
20" CAPTRATE SOLO FILTER WITH HOOK.
3" INTERNAL STANDOFF.
IT IS THE RESPONSIBILITY OF THE ARCHITECT/OWNER TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED-COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS.
GREASE DRAIN WITH REMOVABLE CUP.
EQUIPMENT BY OTHERS.
60"
30" NOM.
48.0" MAX.
80"

SECTION VIEW – MODEL 6030ND-2
HOOD – #2 (H2)


RECESSED ROUND LED FIXTURE AND LED LIGHT, 3500 K WARM OUTPUT.
FIELD WRAPPER 18.00" HIGH (SEE HOOD OPTIONS TABLE).
BALANCE DAMPERS.
HANGING ANGLE.
SEE HOOD TABLE.
20" CAPTRATE SOLO FILTER WITH HOOK.
3" INTERNAL STANDOFF.
IT IS THE RESPONSIBILITY OF THE ARCHITECT/OWNER TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED-COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS.
GREASE DRAIN WITH REMOVABLE CUP.
GAS CHASE CUTOUT (FOR GAS AND POWER LINES).
LEFT VERTICAL END PANEL WITH ADJUSTABLE LEGS.
EQUIPMENT BY OTHERS.
60"
30" NOM.
48.0" MAX.
80"
20"
21"
27"

SECTION VIEW – MODEL 6030ND-2
HOOD – #3 (H3)


RECESSED ROUND LED FIXTURE AND LED LIGHT, 3500 K WARM OUTPUT.
FIELD WRAPPER 18.00" HIGH (SEE HOOD OPTIONS TABLE).
BALANCE DAMPERS.
HANGING ANGLE.
SEE HOOD TABLE.
20" CAPTRATE SOLO FILTER WITH HOOK.
3" INTERNAL STANDOFF.
IT IS THE RESPONSIBILITY OF THE ARCHITECT/OWNER TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED-COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS.
GREASE DRAIN WITH REMOVABLE CUP.
EQUIPMENT BY OTHERS.
60"
30" NOM.
48.0" MAX.
80"

SECTION VIEW – MODEL 6030ND-2
HOOD – #4 (H4)

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DESCRIPTION | DATE:

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2 City Place Drive, Suite #200, St. Louis, MO. 63141 PHONE: (636) 229-9777 EMAIL: reg109@captiveaire.com

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DATE: 7/26/2022
DWG.#: 5471869
DRAWN BY: ML
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 3

SECTION 23 38 13 13

SPECIFICATIONS
TAG: Commercial Kitchen Ventilation Hoods, Listed Commercial Kitchen Hoods

PART 1 – GENERAL

1.1 SUMMARY

A. The ND2 series is a Type I, wall canopy hood for use over 600°F cooking surface temperatures. The aerodynamic design includes a mechanical baffle and performance enhancing lip for exceptional capture and containment.

B. The hood shall have the size, shape, and performance specified on drawings.

1.2 SUBMITTALS

A. The manufacturer assumes no liability for the use or results of use from this document. Specifications are to be reviewed by the engineer to confirm the project's requirements and meet Federal, State, and Local codes and regulations.

B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.

C. The manufacturer shall supply complete computer generated submittal drawings, including hood section view(s) and hood plan view(s). These drawings must be available to the engineer, architect, and owner for their use in construction, operation, and maintenance.

1.3 QUALITY ASSURANCE

A. This hood is ETL-listed to standard UL710, ULC710, and ULC-S646 when installed in accordance with these installation instructions and National Fire Protection Association Standard "NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations."

B. Built-in compliance with NSF/ANSI Standard 2.

C. The hood shall be ETL Listed as:

1. "Exhaust Hood Without Exhaust Damper."

2. ETL Sanitation Listed and built in accordance with NFPA 96.

3. The ETL label shall list temperature rating(s) and minimum CFM/ft rating(s).

1.4 WARRANTY

A. All units shall be provided with the following standard warranty:

1. This equipment is warranted to be free from defects in materials and workmanship, under normal use and service, for a period of 2-years from date of shipment.

B. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 2-year warranty period, upon examination by the manufacturer, such part will be repaired or replaced by manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization, and all returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

C. Refer to Manufacturer's Operation, Installation, and Maintenance (OIM) Manual for detailed descriptions of what is/is not covered and contact information for warranty claims.

PART 2 – PRODUCTS

2.1 GENERAL

A. Construction shall be dependent on the structural application to minimize distortion and other defects. All seams, joints, and penetrations of the hood enclosure to the lower outermost perimeter, which directs and captures grease-laden vapor and exhaust gases, shall have a liquid-tight continuous external weld in accordance with NFPA 96.

B. Duct sizes, CFM, and static pressure requirements shall be as shown on drawings. Static pressure requirements shall be precise and accurate; air velocity and volume information shall be accurate within 1-ft increments along the length of the ventilator.

2.2 CONSTRUCTION

A. Construction shall be type 430 stainless steel.

B. Double wall insulated front to eliminate condensation and increase rigidity on wide sizes. The insulation shall have a flexural modulus of 475 EI, meet UL 181 requirements and be in accordance with NFPA 90A and 90B.

C. Hood shall be equipped with a minimum of four connections for hanger rods. Hood lengths greater than 12'will have added hangers.

D. Exhaust duct collar to be 4"high with flange.

E. The grease drain system shall be an enclosed integral part of the hood back and have slopes with an exposed, removable 1/2 grease cup to facilitate cleaning.

F. An integral baffle to direct grease laden vapors toward the exhaust filter bank.

G. Hood shall be furnished with UL classified filters, supplied in size and quantity as required by ventilator.

H. All seams shall be welded and have stainless steel on exposed surfaces.

2.3 LIGHTING

A. Recessed round LED fixture and LED light, 3500K Warm output.

2.4 FILTERS

A. Stainless Steel Captrate Solo filter with hook, ETL Listed. Particulate capture efficiency: 85% efficient at 9 microns, 76% efficient at 5 microns.

2.5 OPTIONS

A. Fire Suppression System: UL 300 fire suppression system.

B. Hood Mounted Utility Cabinet – Cabinet can store listed fire suppression system, listed components, pre-wired electrical controls.

2.6 ACCESSORIES

A. Balance Damper – Used to manually balance exhaust flow rate. Installed in hood plenum.

B. End Panel(s) maximize hood performance and eliminate the effects of cross drafts in the kitchen. Units constructed of stainless steel and sized according to hood width and cooking equipment. Exposed edges hemmed for safety and rigidity. Selected panels:

1. Vertical End Panel

C. Wrapper(s) may be installed from the factory or field installed. Wrapper(s) selected:

1. Wrapper

D. Miscellaneous option(s) selected:

1. Riser Sensor Install –Sensor set-up for 6"plenum.

2. Structural Front Panel –Front panel made with 18 gauge material.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions under which the system is installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.

REVISIONS
DESCRIPTION | DATE:

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2 City Place Drive, Suite #200, St. Louis, MO. 63141 PHONE: (636) 229-9777 EMAIL: reg109@captiveaire.com

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DATE: 7/26/2022
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DRAWN BY: ML
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 4

NOTE:
THE DOCUMENTATION CONTAINED ON THIS SHEET WAS NOT PREPARED BY HENDERSON ENGINEERS AND IS INCLUDED IN THIS SET FOR REFERENCE ONLY. HENDERSON ENGINEERS REVIEWED THE DOCUMENTATION ON THIS SHEET FOR GENERAL COMPLIANCE WITH DESIGN INTENT. SUPPLIER IS RESPONSIBLE THAT ALL FURNISHED EQUIPMENT ON THIS SHEET COMPLIES WITH APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, CODES, AND REGULATIONS.

Austin, TX 78731

FUTURE RESTAURANT

2701 Perseverance Drive

FIELD VERIFICATION
Contractor shall verify all figured dimensions and conditions at the job site and notify Aria Group Architects, Inc. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

NO.	DATE	REMARKS
2	11/17/22	ISSUED FOR CONSTRUCTION
1	08/18/22	PERMIT RESPONSE
	06/23/22	ISSUED FOR PERMIT/BID
	06/15/22	ISSUED FOR AEGB REVIEW
	06/08/22	ISSUED FOR TAS REVIEW
	05/23/22	ISSUED FOR LANDLORD REVIEW

REVISIONS

Drawing Title
CAPTIVEAIRE DRAWINGS

Job No. 214735
Drawn
Scale
Date Issue Date

Sheet No.
M-6.0

SECTION 904.12

COMMERCIAL COOKING SYSTEMS
TAG: CORE Fire Protection

PART 1 - GENERAL

1.1 SUMMARY

A. The CORE Fire Protection system is a pre-engineered wet chemical water based (surfactant) fire suppression system for use in commercial kitchens.

1.2 SUBMITTALS

A. The manufacturer assumes no liability for the use or results of use of this document. This specification is to be reviewed by the engineer to confirm requirements of the project and building codes are met.

B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.

1.3 QUALITY ASSURANCE

A. CORE Fire Protection System shall be UL & ULC listed in accordance with UL300, and ULC/ORD-C1254.6.

B. Microprocessor-based control board shall be ETL Listed to UL Standard 864 and CAN/ ULC-S527-11.

C. CORE Fire Protection System is intended for installation and for use in accordance with the National Fire Protection Association Standards:

1. Wet Chemical Extinguishing Systems, NFPA 17A
2. National Electrical Code, NFPA 70
3. National Fire Alarm & Signaling Code, NFPA 72
4. Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment, NFPA 96

D. The CORE Fire Protection System is approved for use in New York City per FDNY COA #5877.

1.4 WARRANTY

A. All units are provided with the following 5-year standard warranty from date of shipment. Warranty does not cover consumable products such as batteries, surfactant, and nozzle caps.

B. This warranty shall not apply if:

1. The equipment is not installed by a qualified installer per the manufacturer's installation instructions shipped with the product.
2. The equipment is not installed in accordance with Federal, State, and Local codes and regulations.
3. The equipment is misused, neglected, or not maintained per the manufacturer's maintenance instructions.
4. The equipment is not operated within its published capacity.
5. The invoice is not paid within the terms of the sales agreement.

C. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 5-year warranty period, upon examination by the manufacturer, such part will be repaired or replaced by the manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization. All returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

PART 2 - PRODUCTS

2.1 GENERAL ASSEMBLY

A. A pre-engineered, fixed pipe, automatic wet chemical (surfactant) fire suppression system for protection of all hazard areas associated with cooking operations, including exhaust hoods, plenums, ductwork, and cooking appliances.

B. The fire system shall be factory assembled, tested, and shipped as a complete unit.

C. The following specifications, delivering all capacities scheduled and conforming to the design indicated herein. Alternate layouts or dimensional changes will not be accepted.

2.2 COMPONENTS

A. Exhaust hood fire system components to be factory installed.

B. Distribution Nozzles

1. Nozzles shall be located to protect the exhaust ducts, plenums, and all cooking appliances requiring protection.
2. All nozzles shall be equipped with a metal blow off cap. The cap prevents contamination from entering the pipe network and is designed to pop-off upon system discharge, allowing agent to flow to the protected hazard area.
3. All nozzles shall incorporate a stamped part number to quickly identify nozzle type.

C. Distribution System

1. The distribution system shall consist of Copper, Schedule 40 black iron, chrome-plated or stainless-steel pipe and fittings. All exposed piping and fittings must be chrome-plated or stainless-steel.
2. Fittings shall be minimum class 150. Galvanized fittings shall not be used.
3. Flow rate for the hood, when in a fire condition, would be 1.5 gallons per minute per foot of hood.
4. Operating pressure for water lines, both hot water and dedicated line, is 30 to 70 psi, depending on the system configuration.
5. The maximum static pressure cannot exceed 125 psi; pressure reducing valves can be utilized to meet the correct operating water pressure

D. Suppression System

1. The system control equipment shall be capable of all functions associated with automatically and manually discharging surfactant from surfactant tank, including automatic shutdown of the heat source or fuel and electrical power to all protected areas upon system discharge.
2. For automatic activation, the system will be activated by a Firestat (heat) detector.
3. For manual activation, an electrically operated manual release shall be used to actuate the system manually.

E. Firestat

1. Hoods #1, 2, 3, 4: Normally Open, Close on Rise 360°F.
2. Additional firestats may be required based on hood temperature rating and length of ductwork. Refer to Installation, Operation, and Maintenance Manual for information.

F. Electrical

1. Electrical Division to provide shunt trip breakers at main power panel, or disconnects, as designated by the Electrical Engineer; interconnection provided at hood control panel for the signal to shut down all electricity in and under the exhaust hood. Shunt trips/disconnects to accomplish shut off of electricity in the event of fire system activation by others.
2. Printed circuit board with microprocessor-based controller that provides all the necessary monitoring, timing, and supervision functions required for the reliable operation of the fire system.
3. Independent supervised loops incorporate redundancy and fault detection.
4. Real-time cloud-based monitoring connection provided with system by ownership.
5. All wiring must be in accordance to NFPA 70 and the Authority Having Jurisdiction (AHJ).
6. Electric gas valve provided for equipment below exhaust hood. Coordinate size and installation with Plumbing Division.
7. All wiring is to be in accordance with the applicable manufacturer's instructions for the fire alarm control panel, gas shut-off valve, manual reset relay, and contractor supplied shut-off devices.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine all areas and conditions under which package(s) are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.2 INSTALLATION

A. Install the package in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.

3.3 CONNECTIONS

A. Electrical connections conform to applicable requirements in Division 26 Sections.

3.4 SYSTEM START-UP

A. System start-up is performed by a factory-trained Service Technician.

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AUSTIN, TX, 78710

DATE: 7/26/2022
DWG.#: 5471869
DRAWN BY: ML
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 5

FIRE SYSTEM INFORMATION - JOB#5471869

FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0/4.0/4.0	78	FIRE CABINET RIGHT	RIGHT, HOOD 2
2		TANK FS	4.0/4.0	34	FIRE CABINET RIGHT	RIGHT, HOOD 4

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	3.000	CAPTIVEAIRE SYSTEMS
2		SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1		0 - 0 - 12-F28021-32144-OT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F.	4	0
		0 - 0 - 361091 3/8" BRASS PLUG.	3	0
		0 - 0 - 79425 3/8" NPT FEMALE TO 1/2" MALE PROPRESS ADAPTER.	3	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	3	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5" BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	3	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	4	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	16	0
		0 - 0 - 9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	13	0
		0 - 0 - 9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	17	0
		0 - 0 - 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - BI145 3/8" BLACK IRON 90 ELL.	8	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - SLPCON-03FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 2' GAP. KIT CONTAINS 5 FEET OF BLACK MG WIRE, 5 FEET OF TAN MG WIRE, 3 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	2	0
		0 - 0 - SLPCON-30FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN HOODS WITH UPTO 29' GAP. KIT CONTAINS 32 FEET OF BLACK MG WIRE, 32 FEET OF TAN MG WIRE, 30 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	12	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	4	0
		16 - 16 - 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	18	0
		16 - 16 - OL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE)- 4 FLOW POINTS.	18	0
		26 - 26 - QSA-3/8 QUIK SEAL - 3/8" (UL).	18	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0
2		0 - 0 - 12-F28021-32144-OT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F.	2	0
		0 - 0 - 361091 3/8" BRASS PLUG.	3	0
		0 - 0 - 79425 3/8" NPT FEMALE TO 1/2" MALE PROPRESS ADAPTER.	3	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5" BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - 9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	7	0
		0 - 0 - 9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	8	0
		0 - 0 - 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - BI145 3/8" BLACK IRON 90 ELL.	4	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - SLPCON-03FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 2' GAP. KIT CONTAINS 5 FEET OF BLACK MG WIRE, 5 FEET OF TAN MG WIRE, 3 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	2	0
		0 - 0 - SLPCON-20FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN HOODS WITH UPTO 19' GAP. KIT CONTAINS 22 FEET OF BLACK MG WIRE, 22 FEET OF TAN MG WIRE, 20 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	6	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
		16 - 16 - 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	8	0
		16 - 16 - OL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE)- 4 FLOW POINTS.	8	0
		26 - 26 - QSA-3/8 QUIK SEAL - 3/8" (UL).	8	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0

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SCALE: 3/4" = 1'-0"
MASTER DRAWING
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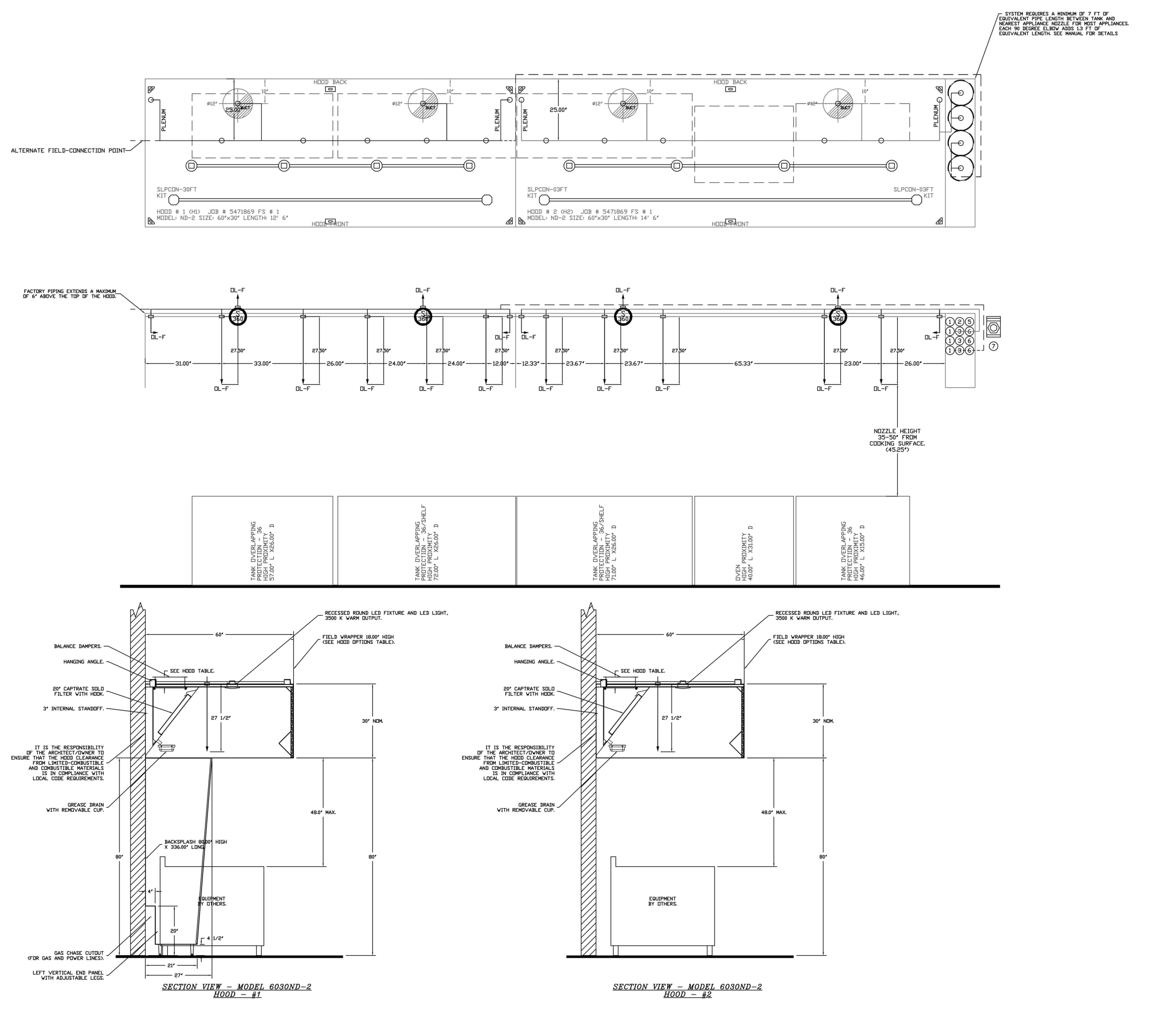

NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- OL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 5471869.
JOB NAME: NEW CONCEPT-AUSTIN, TX_R4.

SYSTEM SIZE: TANK-SP-4 TOTAL FP REQUIRED: 78.
HOOD # 1 12' 6.00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 SIZE: 12" DIA.
RISER # 2 SIZE: 12" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.
HOOD # 2 14' 6.00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 SIZE: 12" DIA.
RISER # 2 SIZE: 12" DIA.
HOOD # 2 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

LEGEND - FIRE CABINET TANK SYSTEM

1	4 GALLON TANK.
2	PRIMARY ACTUATOR RELEASE.
3	SECONDARY ACTUATOR RELEASE.
4	PRESSURE SUPERVISION SWITCH.
5	PRIMARY HOSE ASSEMBLY.
6	SECONDARY HOSE ASSEMBLY.
7	REMOTE MANUAL ACTUATION DEVICE.

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DATE: 7/26/2022
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DRAWN BY: ML
SCALE: 1/2" = 1'-0"
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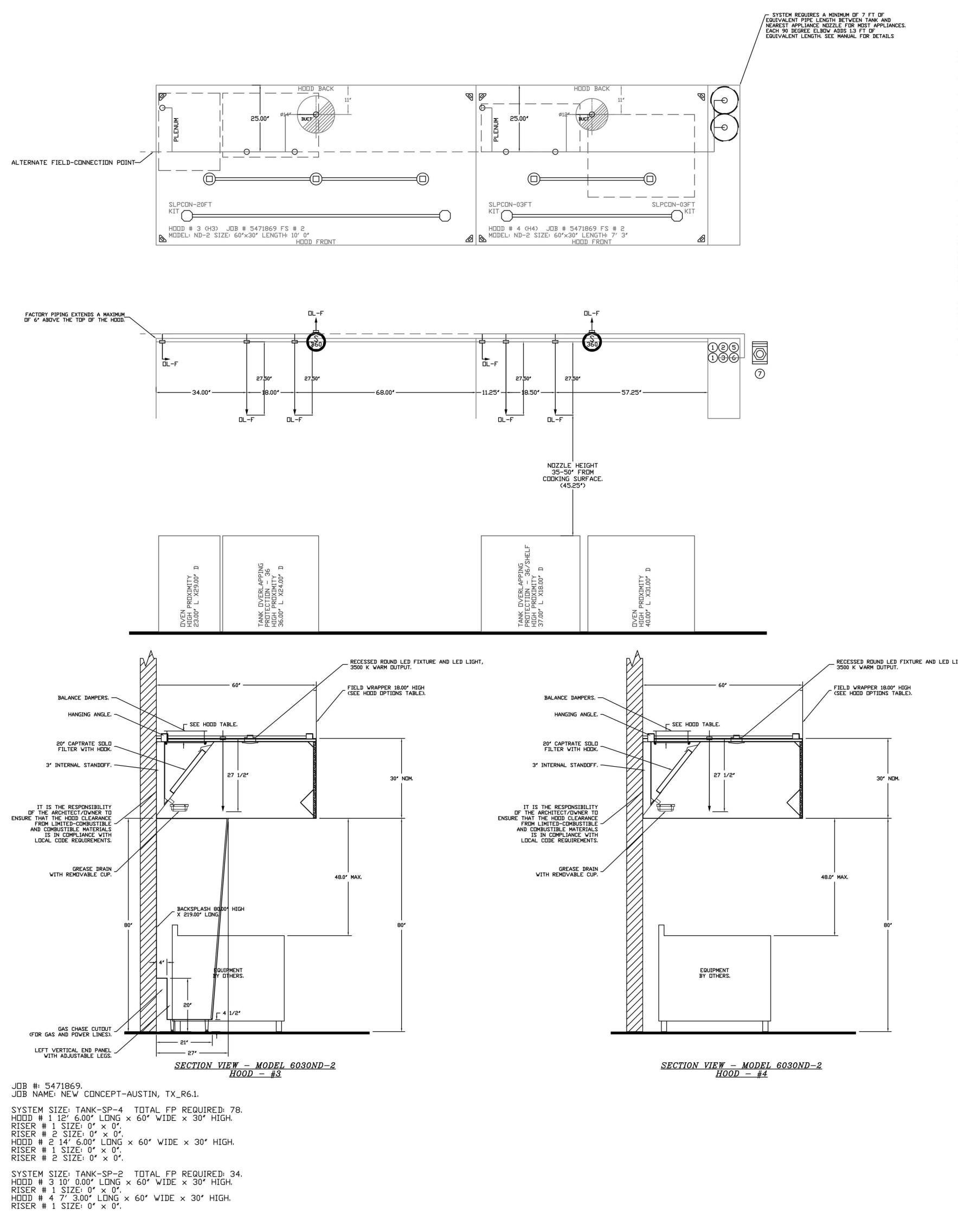
SHEET NO. 7



NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- OL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 5471869.
JOB NAME: NEW CONCEPT-AUSTIN, TX_R4.

SYSTEM SIZE: TANK-SP-2 TOTAL FP REQUIRED: 34.
HOOD # 3 10' 0.00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 SIZE: 14" DIA.
HOOD # 3 METAL BLOW-OFF CAPS INCLUDED.
HOOD # 4 7' 3.00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 SIZE: 12" DIA.
HOOD # 4 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

LEGEND - FIRE CABINET TANK SYSTEM

1	4 GALLON TANK.
2	PRIMARY ACTUATOR RELEASE.
3	SECONDARY ACTUATOR RELEASE.
4	PRESSURE SUPERVISION SWITCH.
5	PRIMARY HOSE ASSEMBLY.
6	SECONDARY HOSE ASSEMBLY.
7	REMOTE MANUAL ACTUATION DEVICE.

INCLUDES: FIELD INSTALLATION AND HOOKUP DURING NORMAL BUSINESS HOURS BY CERTIFIED INSTALLERS ONLY IN THE LOCATION NOTED ABOVE, TWO SITE VISITS ONLY (ONE VISIT TO SET PULL STATION & SYSTEM HOOKUP AND ONE VISIT FOR ONE TEST; ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES), ONE MECHANICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 2", PERMIT, AND SYSTEM TEST.
EXCLUDES: UNION LABOR & PREVAILING WAGE (LABOR & WAGES WILL BE ADDED IF APPLICABLE), GAS VALVE INSTALLATION, ELECTRICAL HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHUNT TRIP, HANDHELD EXTINGUISHER(S), ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.

NOTES
- FIELD PIPE DROPS AS SHOWN
  SLEEVING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 1 60IN LONG PIECE OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- MAXIMUM 9 ELBOWS IN SUPPLY LINE.
- MINIMUM 72 INCHES OF AGENT LINE FROM TANK TO FIRST NOZZLE COVERING A RANGE, FRYER, OR WOK TO REFLECT GENERAL PIPING REQUIREMENTS.
- IF APPLICABLE, PRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

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FUTURE RESTAURANT
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FIELD VERIFICATION
Contractor shall verify all figured dimensions and conditions at the job site and notify Aria Group Architects, Inc. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

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2	11/17/22	ISSUED FOR CONSTRUCTION
1	08/18/22	PERMIT RESPONSE
	06/23/22	ISSUED FOR PERMIT/BID
	06/15/22	ISSUED FOR AEGB REVIEW
	06/08/22	ISSUED FOR TAS REVIEW
	05/23/22	ISSUED FOR LANDLORD REVIEW

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Job No. 214735
Drawn
Scale
Date Issue Date

Sheet No.
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SECTION 21 23 00

WET- CHEMICAL FIRE-EXTINGUISHING SYSTEMS

TAG: TANK Fire Suppression

PART 1 - GENERAL

1.1 SUMMARY

A. TANK Fire Suppression is a pre-engineered, stored-pressure wet chemical solution extinguishing system.

1.2 SUBMITTALS

A. The manufacturer assumes no liability for the use or results of use from this document. Specifications are to be reviewed by the engineer to confirm the requirements of the project and meet Federal, State, and Local codes.

B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.

1.3 QUALITY ASSURANCE

A. TANK Fire Suppression System shall be UL & ULC listed in accordance with UL300, UL1254, ULCORD-C1254.6.

B. Microprocessor-based control board shall be ETL Listed to UL Standard 864 and CAN/ ULC-S527-11.

C. TANK Fire Suppression System intended for installation and for use in accordance with the National Fire Protection Association Standards:

1. Wet Chemical Extinguishing Systems, NFPA 17A
2. National Electrical Code, NFPA 70
3. National Fire Alarm & Signaling Code, NFPA 72

D. New York City and FDNY approved under COA# 5870.

E. California State Fire Marshal (CFSM), Listing No. 7085-2199:0502.

1.4 WARRANTY

A. All units shall be provided with the following standard warranties:

1. TANK Fire Suppression System is warranted to be free from defects in materials and workmanship, under normal use and service, for a period of 60-months from date of shipment.

B. Warranty does not cover consumable products such as batteries and nitrogen.

C. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 60-month warranty period, upon examination by the manufacturer, such part will be repaired or replaced by manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization, and all returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

D. Refer to Manufacturer's Operation, Installation, and Maintenance (OIM) Manual for detailed descriptions of what is/is not covered and contact information for warranty claims.

PART 2 - PRODUCTS

2.1 GENERAL

A. A pre-engineered, fixed pipe, automatic wet chemical agent fire suppression system for protection of all hazard areas associated with cooking operations, including exhaust hoods, plenums, ductwork, and cooking appliances.

2.2 COMPONENTS

A. Exhaust hood fire system components to be factory installed.

B. Cylinder and Valve Assembly

1. The cylinders shall have a tin-nickel alloy plated brass valve with pressure gauge.
2. Wet chemical agent shall be contained in one or more stored pressure DOT/TC rated steel cylinder and valve assemblies.
3. Each cylinder is factory-filled with liquid fire suppressant and pressurized to 200 PSIG at 70°F.

C. Distribution Nozzles

1. Nozzles shall be located to protect the exhaust ducts, plenums, and all cooking appliances requiring protection.
2. All nozzles shall be equipped with a metal blow off cap. The cap prevents contamination from entering the pipe network and is designed to pop-off upon system discharge, allowing agent to flow to the protected hazard area.
3. All nozzles shall incorporate a stamped part number to easily identify nozzle type.

D. Distribution System

1. The distribution system shall consist of Copper, Schedule 40 black iron, chrome-plated or stainless-steel pipe and fittings. All exposed piping and fittings must be chrome-plated or stainless steel.
2. Fittings shall be minimum class 150. Galvanized fittings shall not be used.

E. Suppression System

1. The system control equipment shall be capable of all functions associated with automatically and manually discharging the wet chemical agent from all cylinder and valve assemblies, including automatic shutdown of the heat source or fuel and electrical power to all protected areas upon system discharge.
2. Liquid Fire Suppressant shall be Aqueous Potassium Carbonate (APC).
3. All mechanical components of the actuator kit shall be enclosed.
4. The actuator kit shall be capable of automatic or manual activation means.
5. Supervisory Pressure Switch added to monitor operating system pressure.
6. For manual activation, an electrically operated manual release shall be used to actuate the system manually.
7. For automatic activation, the system will be activated by a Firestat (heat) detector.

F. Electrical

1. Electrical Division to provide shunt trip breakers at main power panel, or disconnects, as designated by the Electrical Engineer; interconnection provided at hood control panel for the signal to shut down all electricity in and under the exhaust hood. Shunt trips/disconnects to accomplish shut off of electricity in the event of fire system activation by others.
2. Printed circuit board with microprocessor-based controller that provides all the necessary monitoring, timing, and supervision functions required for the reliable operation of the fire system.
3. Independent supervised loops incorporate redundancy and fault detection.
4. Real-time cloud-based monitoring connection provided with system by ownership.
5. Primary power supply, with battery backup for power loss.
6. All wiring must be in accordance to NFPA 70 and the Authority Having Jurisdiction (AHJ).
7. Electric gas valve provided for equipment below exhaust hood. Coordinate size and installation with Plumbing Division.
8. All wiring is to be in accordance with the applicable manufacturer's instructions for the fire alarm control panel, gas shut-off valve, manual reset relay, and contractor supplied shut-off devices.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions under which the system is installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.

3.2 APPLICATION

A. Wet chemical-based fire suppression system for use in commercial kitchens. It can be mounted in the integral cabinet located at the end of the hood or offered as a wall mount package.

3.3 INSTALLATION

A. As part of this item, provide wall mounted type K handheld portable fire extinguisher, placard, and mounting bracket as required in the immediate vicinity of each cooking area, per NFPA-96 and NFPA-10. Additional fire extinguishers as required in the kitchen area are to be specified by the Architect and provided by the General Contractor.

B. Install in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.

C. Six-month and twelve-month inspections, servicing, and replacement of components as per NFPA 96 to be provided by the General Contractor or Owner.

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SHEET NO. 9

GAS VALVES AND STRAINERS

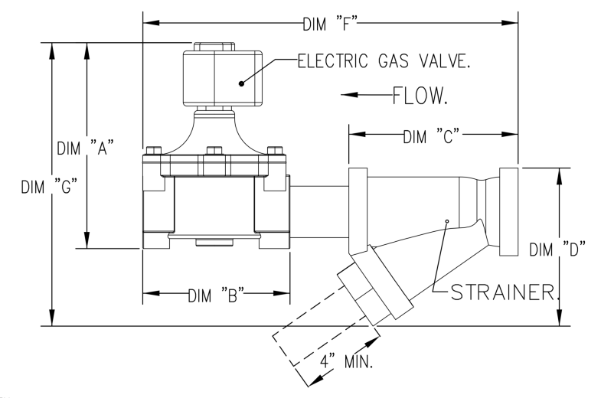
	GAS VALVE SIZING							GAS VALVE DIMENSIONS						INSTALLATION	PART NUMBERS		
	TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "F"	DIM "G"	MOUNTING ORIENTATION	GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT
GAS VALVE FOR FS#1→	ELECTRICAL	3"	120 VAC	0 PSI (0 IN.W.C.)	5 PSI (138 IN.W.C.)	5,661,700 BTU/HR	3,673,796 BTU/HR	10-5/16"	8-1/16"	10"	10-15/16"	20-1/16"	19-11/16"	HORIZONTAL	8214240	4417K71	(SC)EGVA3
GAS VALVE FOR FS#2→	ELECTRICAL	2"	120 VAC	0 PSI (0 IN.W.C.)	5 PSI (138 IN.W.C.)	2,940,500 BTU/HR	1,908,048 BTU/HR	7-5/8"	6-3/8"	7-1/4"	7-13-16"	15-5/8"	13-15/16"	HORIZONTAL/ VERTICAL	8214280	4417K68	(SC)EGVA2

ALL GAS VALVES/STRAINERS

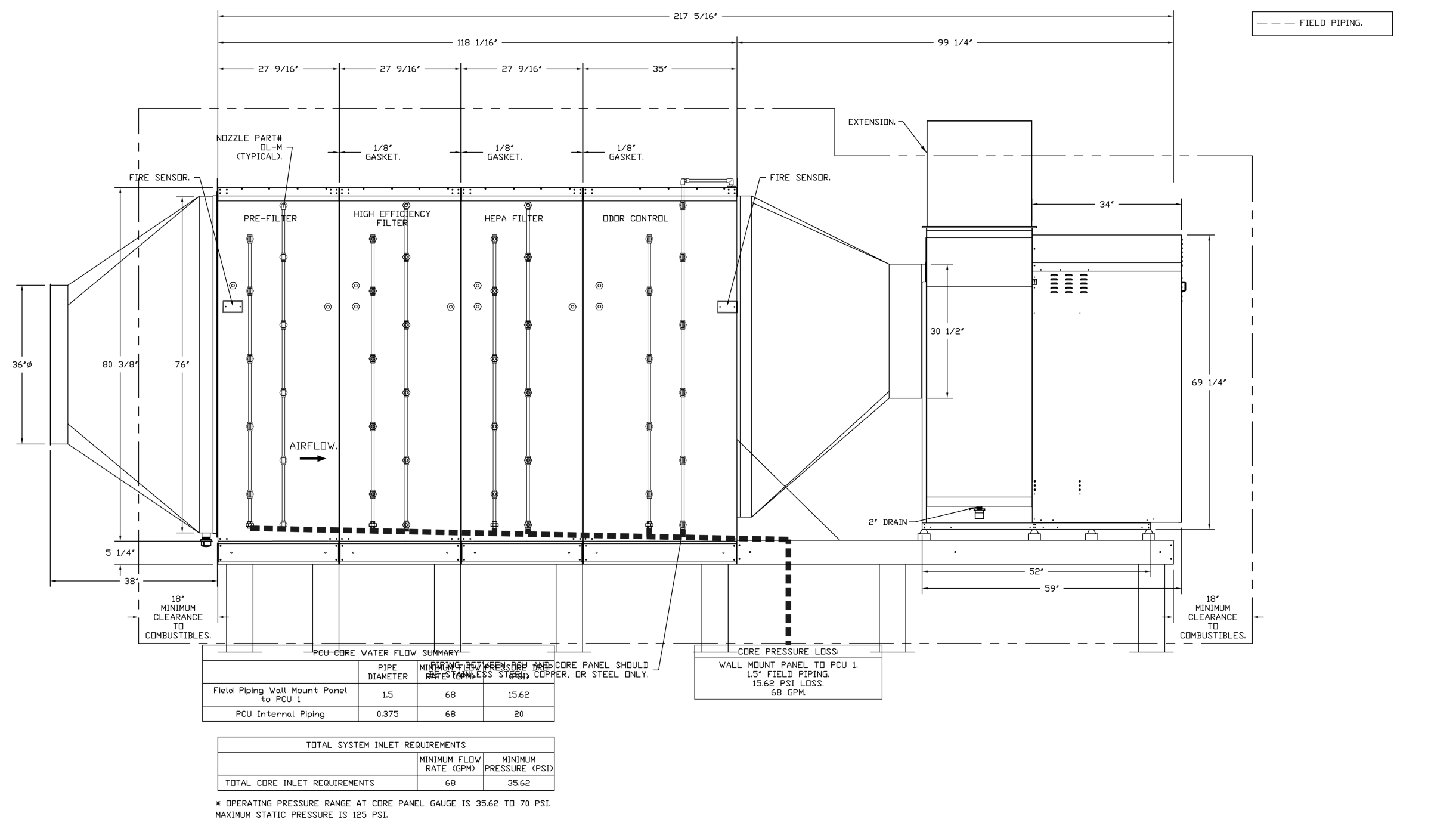
PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINERS A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.

CALCULATIONS

TO CALCULATE GAS FLOW FOR OTHER THAN 1 IN.W.C. PRESSURE DROP
NEW BTU/HR = (BTU/HR AT 1 IN.W.C. PRESSURE DROP) X NEW PRESSURE DROP$^{0.5}$
TO CALCULATE GAS FLOW FOR OTHER THAN 0.64 SPECIFIC GRAVITY
NEW BTU/HR = (BTU/HR AT 0.64) X (0.64 / NEW SPECIFIC GRAVITY)$^{0.5}$.



POLLUTION CONTROL UNIT FIRE SYSTEM



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EXHAUST FAN INFORMATION – JOB#5471869

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	PCU-1	1	USBI36DD-RM	CAPTIVEAIRE	9225	2.000	880	TEFC,PREMIUM	10.000	8.6690	3	460	13.4	1503 FPM	5397	36
5	EF-1	1	SIF11DD	CAPTIVEAIRE	450	0.400	1108	TEAO-ECM	0.500	0.1190	1	115	6.3		158	5.9
6	EF-2	1	SIF11DD-SS	CAPTIVEAIRE	600	0.400	1253	TEAO-ECM	0.500	0.1740	1	115	6.3		163	7.5

DOAS/RTU FAN SCHEDULE – JOB#5471869

FAN INFORMATION											ELECTRICAL INFORMATION					COOLING INFORMATION									REHEAT INFORMATION					GAS HEAT INFORMATION				NOTES
FAN UNIT NO	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	WEIGHT (LBS)	ESP	HP	ø	VOLT	MCA	MOCP	OUTSIDE AIR		LEAVING AIR			CAPACITY		IEER	ISMRE	DISCHARGE		CAPACITY		MOISTURE REMOVAL RATE	GAS TYPE	INPUT BTUs	OUTPUT BTUs	TEMP RISE	
																DB	WB	DB	WB	DP	TOTAL	SENS.			DB	WB	DESIRED	MAX						
2	DOAS-1	1	CASRTU4-I.400-24-30T-DOAS	CAPTIVEAIRE	24P-4	0	4765	4765	4638	0.750	5.00	3	460	77.9A	80A	100.0°F	75.4°F	49.4°F	48.5°F	47.8°F	384.0 MBH	245.3 MBH	17.8	4.8	70.0°F	60.3°F	108.9 MBH	260 MBH	126.2 LBS/HR	NATURAL	400000	324000	59°F	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15
3	DOAS-2	1	CASRTU4-I.300-20-30T-DOAS	CAPTIVEAIRE	20P-4	0	3835	3835	4548	0.500	5.00	3	460	77.4A	80A	100.0°F	75.4°F	41.5°F	41.3°F	41.1°F	364.1 MBH	228.4 MBH	17.8	4.8	70.0°F	55.4°F	122.9 MBH	260 MBH	127.0 LBS/HR	NATURAL	300000	243000	55°F	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15
4	DOAS-3	1	CASRTU3-I.250-18-20T-DOAS	CAPTIVEAIRE	18P-3	0	2600	2600	2598	0.750	2.00	3	460	43A	45A	81.0°F	77.5°F	49.3°F	44.9°F	40.6°F	264.0 MBH	87.6 MBH	18.2	6.0	70.0°F	54.1°F	59.6 MBH	129.6 MBH	158.9 LBS/HR	NATURAL	250000	202500	68°F	1,2,3,4,5,6,7,8,9,10,11,12,13,14,16

NOTES:

1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL
2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE
3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER
4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE
5. EC MOTOR CONDENSING FANS
6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE
7. SUCTION LINE ACCUMULATOR
8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER
9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT)
10. 2" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM 20GA EXTERIOR W/ 14GA BASE
11. 80% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP
12. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE
13. FULLY MODULATING HOT GAS REHEAT
14. HAIL GUARD FOR CONDENSING COIL
15. SIDE DISCHARGE/NO RETURN
16. DOWN DISCHARGE/NO RETURN

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FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	PCU-1	1	UTILITY SET GREASE CUP
		1	BI36 - 24" DISCHARGE EXTENSION
		1	BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE
		1	BI36 - INLET CONNECTION STANDARD 30" FLANGED GREASE DUCT
		1	POLLUTION CONTROL UNIT WITH PREFILTER, HIGH EFFICIENCY, HEPA, AND ODOR CONTROL FILTERS WITH INSTALLED ELECTRICAL DETECTION SYSTEM. SIZE 7
		1	PCU-SIZE 7 USBI-36 DD
		1	RUBBER VIBRATION ISOLATORS FOR BI UTILITY SETS (SET OF 8)
		1	FIRE STAT (360 DEGREE) MOUNTED IN EXHAUST FAN. FOR SIF FANS, MOUNT STAT ON BACK POST OPPOSITE THE DISCONNECT, ABOVE THE COOLING TUBE
		1	LOAD REACTOR MOUNTED IN FAN
		1	LINE REACTOR MOUNTING BRACKET FOR DIRECT DRIVE FANS (UP TO 25 HP)
		1	2 YEAR PARTS WARRANTY
2	DOAS-1	1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	RTU TOTAL CFM MONITORING
		1	SHIP LOOSE GAS STRAINER 3/4"
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU. 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE CONTROLS THIS UNIT, THE #28, #47, "MA", OR "E2" PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	2" MERV 13 FILTERS FOR RTU4 (QTY. 12)
		1	2" MERV 8 FILTERS FOR RTU4 (QTY. 12)
		1	OVERHEAT STAT
		1	VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE
		1	30 TON MODULATING COOLING OPTION, 460/480V. R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS
		1	30 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL
		1	RTU FIXED 100% OA INTAKE CONTROL
		1	RTU4 NO RETURN - 100% OA
		1	REMOTE TEMPERATURE AND HUMIDITY SPACE SENSOR
		1	RTU4 CURB DUCT HANGER
		1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
		1	OCCUPIED SCHEDULING
		1	CLOGGED FILTER SWITCH - NOTIFICATION ON HMI
		1	RTU4 POWERED CONVENIENCE OUTLET (GFCI), 15 AMP
		1	RTU4 HAIL GUARD
		1	FREEZESTAT
		1	VAV PACKAGE W/ MANUAL/DDC CONTROL (571 VFD INCLUDED)
		1	LOAD REACTOR MOUNTED IN FAN
		1	RTU4 SIDE DISCHARGE
		1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)
3	DOAS-2	1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	RTU TOTAL CFM MONITORING
		1	SHIP LOOSE GAS STRAINER 3/4"
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU. 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE CONTROLS THIS UNIT, THE #28, #47, "MA", OR "E2" PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	2" MERV 13 FILTERS FOR RTU4 (QTY. 12)
		1	2" MERV 8 FILTERS FOR RTU4 (QTY. 12)
		1	OVERHEAT STAT
		1	VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE
		1	30 TON MODULATING COOLING OPTION, 460/480V. R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS
		1	30 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL
		1	RTU FIXED 100% OA INTAKE CONTROL
		1	RTU4 NO RETURN - 100% OA
		1	REMOTE TEMPERATURE AND HUMIDITY SPACE SENSOR
		1	RTU4 CURB DUCT HANGER
		1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
		1	OCCUPIED SCHEDULING
		1	CLOGGED FILTER SWITCH - NOTIFICATION ON HMI
		1	RTU4 POWERED CONVENIENCE OUTLET (GFCI), 15 AMP
		1	RTU4 HAIL GUARD
		1	FREEZESTAT
		1	VAV PACKAGE W/ MANUAL/DDC CONTROL (571 VFD INCLUDED)
		1	LOAD REACTOR MOUNTED IN FAN
		1	RTU4 SIDE DISCHARGE
		1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)
4	DOAS-3	1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	RTU TOTAL CFM MONITORING
		1	SHIP LOOSE GAS STRAINER 3/4"
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU. 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE CONTROLS THIS UNIT, THE #28, #47, "MA", OR "E2" PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	RTU3 DOWN DISCHARGE
		1	2" MERV 13 FILTERS FOR RTU3 (QTY. 4)
		1	2" MERV 8 FILTERS FOR RTU3 (QTY. 4)
		1	OVERHEAT STAT
		1	VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE
		1	RTU FIXED 100% OA INTAKE CONTROL
		1	RTU3 NO RETURN - 100% OA
		1	REMOTE TEMPERATURE AND HUMIDITY SPACE SENSOR
		1	RTU3 CURB DUCT HANGER
		1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
		1	OCCUPIED SCHEDULING
		1	CLOGGED FILTER SWITCH - NOTIFICATION ON HMI
		1	RTU3 POWERED CONVENIENCE OUTLET (GFCI), 15 AMP
		1	RTU3 HAIL GUARD
		1	FREEZESTAT
		1	VAV PACKAGE W/ MANUAL/DDC CONTROL (571 VFD INCLUDED)
		1	LOAD REACTOR MOUNTED IN FAN
		1	20 TON MODULATING COOLING OPTION, 460/480V. R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS
		1	20 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL
		1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)
5	EF-1	1	SIF11 - INLET - STANDARD 12" DUCT CONNECTION
		1	SIF - HORIZONTAL OVERHEAD MOUNT - PRE-INSTALLED MOUNTS (11-36)
		1	ECM WIRING PACKAGE - EXHAUST - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -MSC- (TELCO), CCW ROTATION
		1	I 15-BDD DAMPER
		1	HANGING SPRING VIBRATION ISOLATORS (SET OF 4), FOR INDOOR OR OUTDOOR USE WITH SQUARE INLINE FANS (HSA125)
		1	SIF 11- SS LOW SP STRAIGHT DISCHARGE- SQUARE TO ROUND DISCHARGE ADAPTER
		1	2 YEAR PARTS WARRANTY
6	EF-2	1	SIF 11- SS LOW SP STRAIGHT DISCHARGE- SQUARE TO ROUND DISCHARGE ADAPTER
		1	SIF11 - INLET - STANDARD 12" DUCT CONNECTION
		1	SIF - HORIZONTAL OVERHEAD MOUNT - PRE-INSTALLED MOUNTS (11-36)
		1	ECM WIRING PACKAGE - EXHAUST - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -MSC- (TELCO), CCW ROTATION
		1	HANGING SPRING VIBRATION ISOLATORS (SET OF 4), FOR INDOOR OR OUTDOOR USE WITH SQUARE INLINE FANS (HSA125)
		1	I 15-BDD DAMPER
		1	2 YEAR PARTS WARRANTY

FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	PCU-1	YES						
5	EF-1		YES					
6	EF-2		YES					

CURB ASSEMBLIES

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1			301 LBS	RAIL	6.000"W X 68.000"L X 20.000"H ALONG LENGTH, RIGHT.
				RAIL	6.000"W X 68.000"L X 20.000"H ALONG LENGTH, RIGHT.
				RAIL	6.000"W X 68.000"L X 20.000"H ALONG LENGTH, RIGHT.
				RAIL	6.000"W X 68.000"L X 20.000"H ALONG LENGTH, RIGHT.
				RAIL	6.000"W X 68.000"L X 20.000"H ALONG LENGTH, RIGHT.
				RAIL	6.000"W X 68.000"L X 20.000"H ALONG LENGTH, RIGHT.
				RAIL	6.000"W X 68.000"L X 20.000"H ALONG LENGTH, RIGHT.
2	# 2	DOAS-1	179 LBS	CURB	80.000"W X 111.000"L X 14.000"H ALONG WIDTH, RIGHT INSULATED 16 GAUGE.
3	# 3		179 LBS	CURB	80.000"W X 111.000"L X 14.000"H ALONG WIDTH, RIGHT INSULATED 16 GAUGE.
4	# 4	DOAS-3	68 LBS	CURB	59.500"W X 91.000"L X 12.000"H ALONG WIDTH, RIGHT INSULATED.

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NOTE:
THE DOCUMENTATION CONTAINED ON THIS SHEET WAS NOT PREPARED BY HENDERSON ENGINEERS AND IS INCLUDED IN THIS SET FOR REFERENCE ONLY. HENDERSON ENGINEERS REVIEWED THE DOCUMENTATION ON THIS SHEET FOR GENERAL COMPLIANCE WITH DESIGN INTENT. SUPPLIER IS RESPONSIBLE THAT ALL FURNISHED EQUIPMENT ON THIS SHEET COMPLIES WITH APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, CODES, AND REGULATIONS.

FUTURE RESTAURANT

Austin, TX 78731

2701 Perseverance Drive

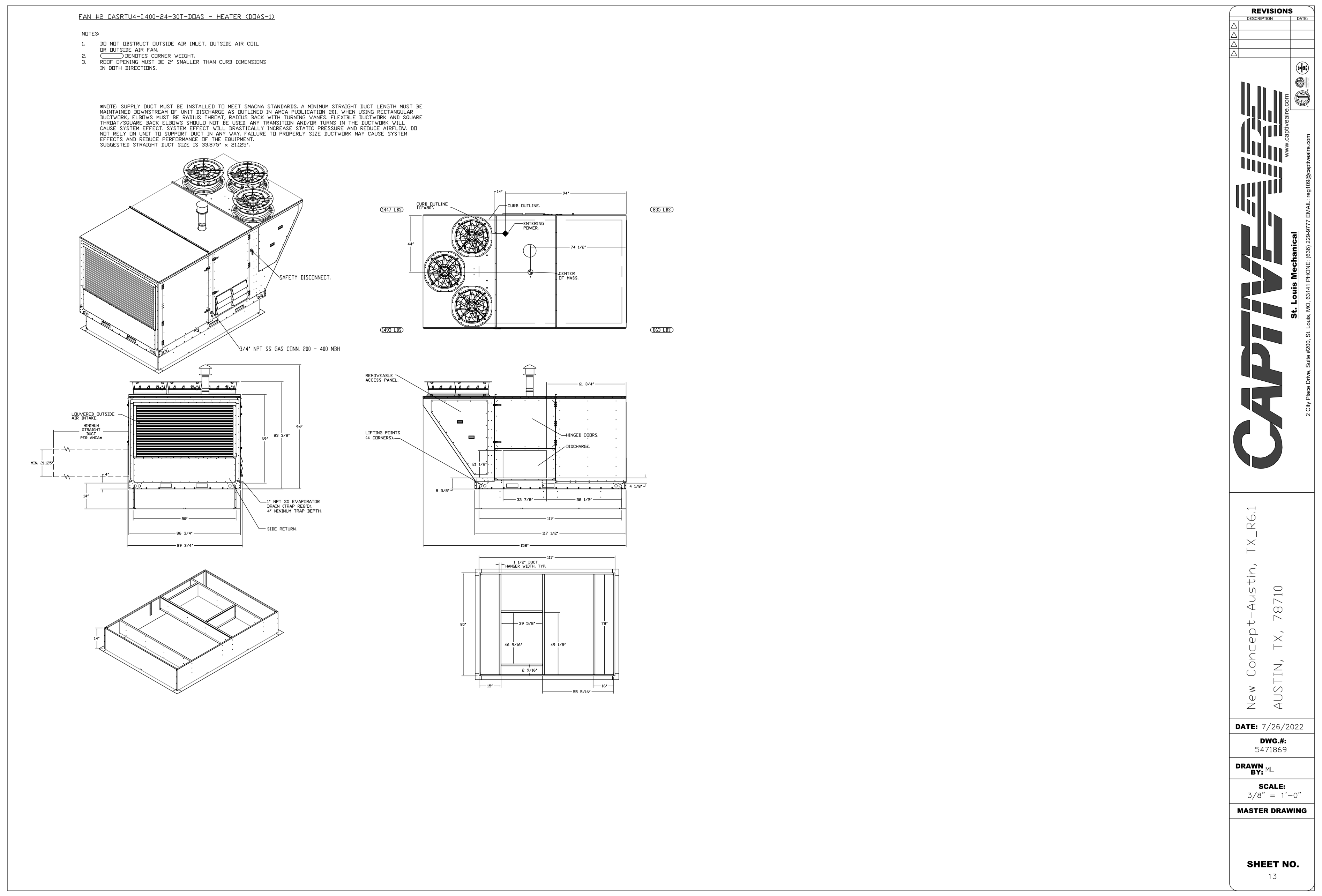
FIELD VERIFICATION
Contractor shall verify all figured dimensions and conditions at the job site and notify Aria Group Architects, Inc. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

NO.	DATE	REMARKS
2	11/17/22	ISSUED FOR CONSTRUCTION
1	08/18/22	PERMIT RESPONSE
	06/23/22	ISSUED FOR PERMIT/BID
	06/15/22	ISSUED FOR AEGB REVIEW
	06/08/22	ISSUED FOR TAS REVIEW
	05/23/22	ISSUED FOR LANDLORD REVIEW

REVISIONS

Drawing Title
CAPTIVEAIRE DRAWINGS

Job No. 214735
Drawn
Scale
Date Issue Date
Sheet No.
M-6.2


REVISIONS
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DATE:
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2 City Place Drive, Suite #200, St. Louis, MO, 63141 PHONE: (636) 229-9777 EMAIL: reg109@captiveaire.com
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AUSTIN, TX, 78710
DATE: 7/26/2022
DWG.#: 5471869
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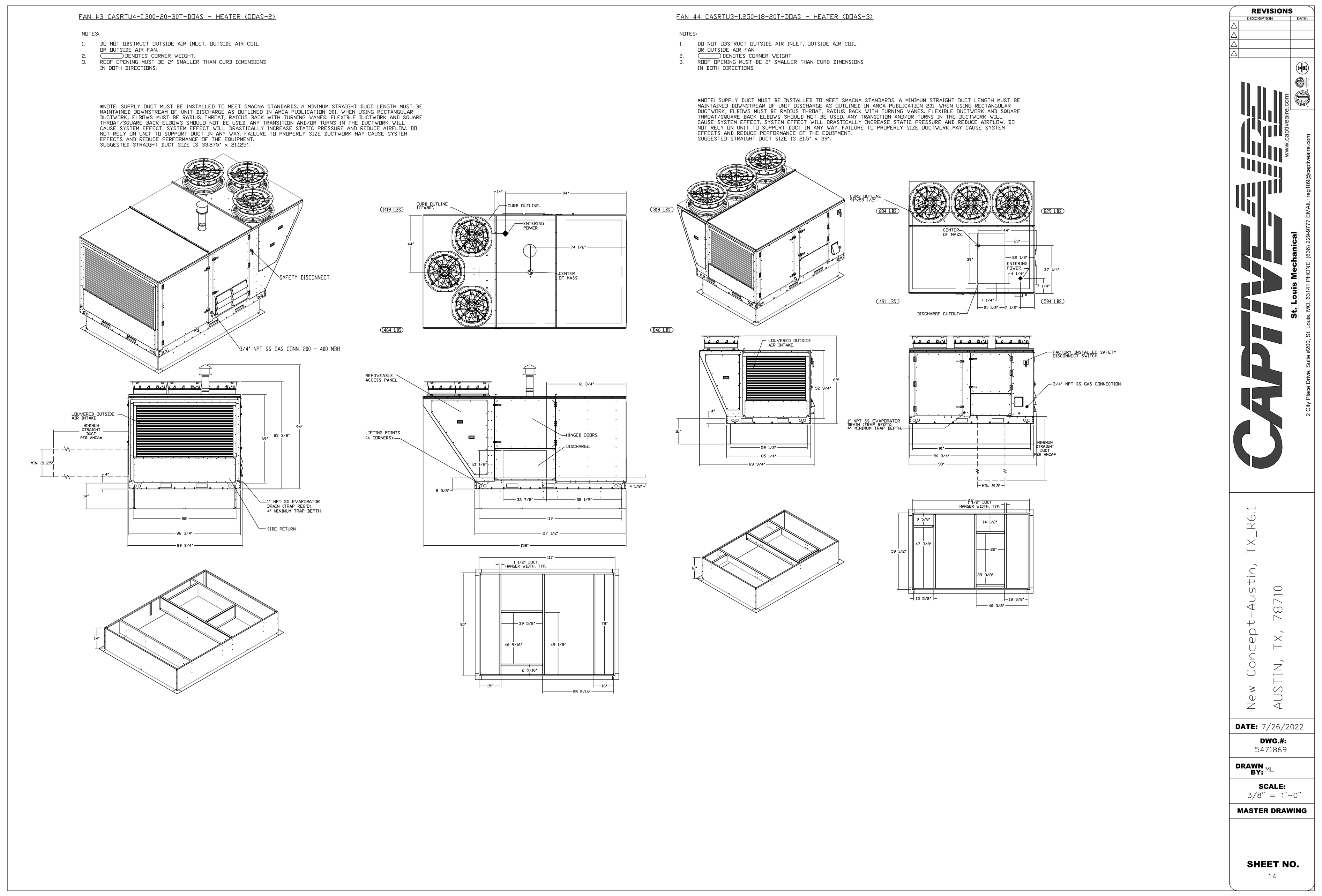
SCALE: 3/8" = 1'-0"
MASTER DRAWING
SHEET NO. 13
1447 LBS
835 LBS
CURB OUTLINE 111"x80".
CURB OUTLINE.
ENTERING POWER.
CENTER OF MASS.
SAFETY DISCONNECT.
14"
94"
44"
74 1/2"

FAN #2 CASRTU4-I.400-24-30T-DOAS - HEATER (DOAS-1)

NOTES:

1. DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
2. ( ) DENOTES CORNER WEIGHT.
3. ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.

*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.
SUGGESTED STRAIGHT DUCT SIZE IS 33.875" x 21.125".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DESCRIPTION
DATE:
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AUSTIN, TX, 78710
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SCALE: 3/8" = 1'-0"
MASTER DRAWING
SHEET NO. 14
1419 LBS
819 LBS
684 LBS
829 LBS
CURB OUTLINE 111"x80".
CURB OUTLINE 91"x59 1/2".
CURB OUTLINE.
ENTERING POWER.
CENTER OF MASS.
SAFETY DISCONNECT.
14"
94"
44"
74 1/2"
20"
22 1/2"
39"
37 1/4"
4 1/4"
7 1/4"

FAN #3 CASRTU4-I.300-20-30T-DOAS - HEATER (DOAS-2)

NOTES:

1. DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
2. ( ) DENOTES CORNER WEIGHT.
3. ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.

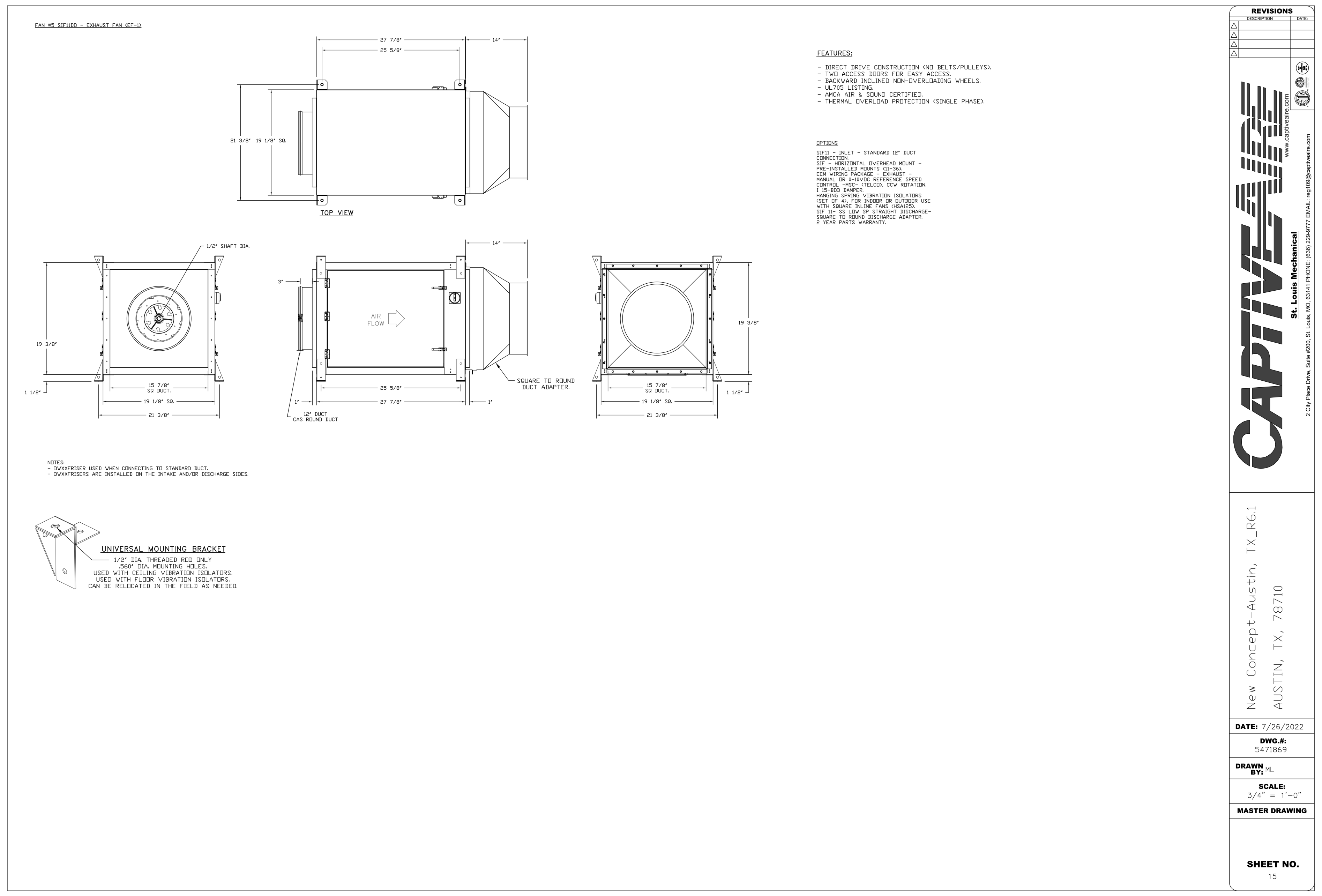
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.
SUGGESTED STRAIGHT DUCT SIZE IS 33.875" x 21.125".

FAN #4 CASRTU3-I.250-18-20T-DOAS - HEATER (DOAS-3)

NOTES:

1. DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
2. ( ) DENOTES CORNER WEIGHT.
3. ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.

*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.
SUGGESTED STRAIGHT DUCT SIZE IS 21.5" x 39".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New Concept-Austin, TX_R6.1
AUSTIN, TX, 78710
DATE: 7/26/2022
DWG.#: 5471869
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MASTER DRAWING
SHEET NO. 15
27 7/8"
25 5/8"
14"
21 3/8"
19 1/8" SQ.
TOP VIEW
1/2" SHAFT DIA.
19 3/8"
1 1/2"
15 7/8" SQ DUCT.
3"
1"
AIR FLOW
12" DUCT CAS ROUND DUCT
SQUARE TO ROUND DUCT ADAPTER.

FAN #5 SIF11DD - EXHAUST FAN (EF-1)

FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- TWO ACCESS DOORS FOR EASY ACCESS.
- BACKWARD INCLINED NON-OVERLOADING WHEELS.
- UL705 LISTING.
- AMCA AIR & SOUND CERTIFIED.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).

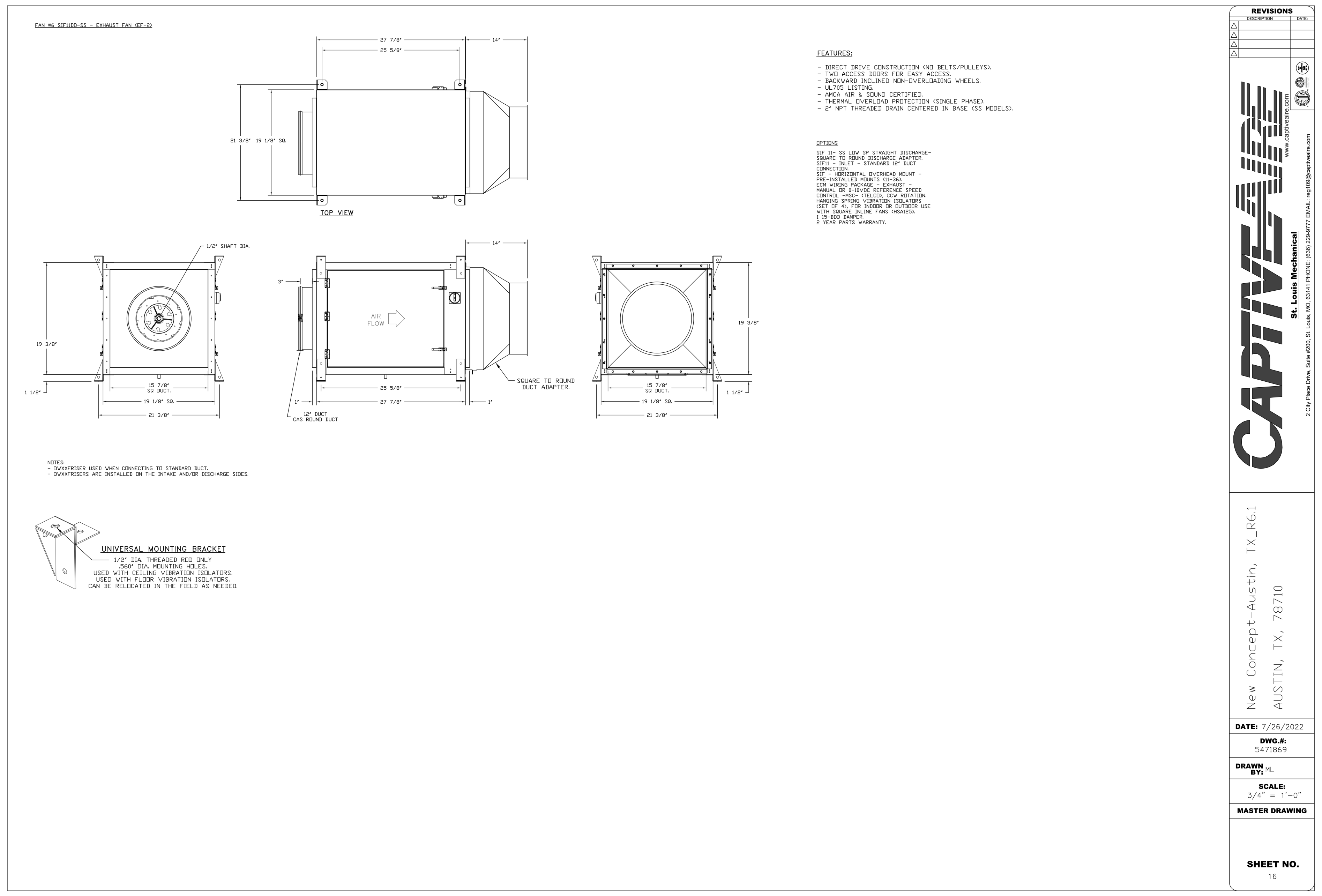
OPTIONS

SIF11 - INLET - STANDARD 12" DUCT CONNECTION.
SIF - HORIZONTAL OVERHEAD MOUNT - PRE-INSTALLED MOUNTS (11-36).
ECM WIRING PACKAGE - EXHAUST - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -MSC- (TELCO), CCW ROTATION.
I 15-BDD DAMPER.
HANGING SPRING VIBRATION ISOLATORS (SET OF 4), FOR INDOOR OR OUTDOOR USE WITH SQUARE INLINE FANS (HSA125).
SIF 11- SS LOW SP STRAIGHT DISCHARGE- SQUARE TO ROUND DISCHARGE ADAPTER.
2 YEAR PARTS WARRANTY.

NOTES:
- DWXXFRISER USED WHEN CONNECTING TO STANDARD DUCT.
- DWXXFRISERS ARE INSTALLED ON THE INTAKE AND/OR DISCHARGE SIDES.

UNIVERSAL MOUNTING BRACKET

1/2" DIA. THREADED ROD ONLY
.560" DIA. MOUNTING HOLES.
USED WITH CEILING VIBRATION ISOLATORS.
USED WITH FLOOR VIBRATION ISOLATORS.
CAN BE RELOCATED IN THE FIELD AS NEEDED.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MASTER DRAWING
SHEET NO. 16
27 7/8"
25 5/8"
14"
21 3/8"
19 1/8" SQ.
TOP VIEW
1/2" SHAFT DIA.
19 3/8"
15 7/8" SQ DUCT.
AIR FLOW
12" DUCT CAS ROUND DUCT
SQUARE TO ROUND DUCT ADAPTER.

FAN #6 SIF11DD-SS - EXHAUST FAN (EF-2)

FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- TWO ACCESS DOORS FOR EASY ACCESS.
- BACKWARD INCLINED NON-OVERLOADING WHEELS.
- UL705 LISTING.
- AMCA AIR & SOUND CERTIFIED.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- 2" NPT THREADED DRAIN CENTERED IN BASE (SS MODELS).

OPTIONS

SIF 11- SS LOW SP STRAIGHT DISCHARGE- SQUARE TO ROUND DISCHARGE ADAPTER.
SIF11 - INLET - STANDARD 12" DUCT CONNECTION.
SIF - HORIZONTAL OVERHEAD MOUNT - PRE-INSTALLED MOUNTS (11-36).
ECM WIRING PACKAGE - EXHAUST - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -MSC- (TELCO), CCW ROTATION.
HANGING SPRING VIBRATION ISOLATORS (SET OF 4), FOR INDOOR OR OUTDOOR USE WITH SQUARE INLINE FANS (HSA125).
I 15-BDD DAMPER.
2 YEAR PARTS WARRANTY.

NOTES:
- DWXXFRISER USED WHEN CONNECTING TO STANDARD DUCT.
- DWXXFRISERS ARE INSTALLED ON THE INTAKE AND/OR DISCHARGE SIDES.

UNIVERSAL MOUNTING BRACKET

1/2" DIA. THREADED ROD ONLY
.560" DIA. MOUNTING HOLES.
USED WITH CEILING VIBRATION ISOLATORS.
USED WITH FLOOR VIBRATION ISOLATORS.
CAN BE RELOCATED IN THE FIELD AS NEEDED.

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Job No.
214735

Drawn

Scale

Date
Issue Date

Sheet No.
M-6.3

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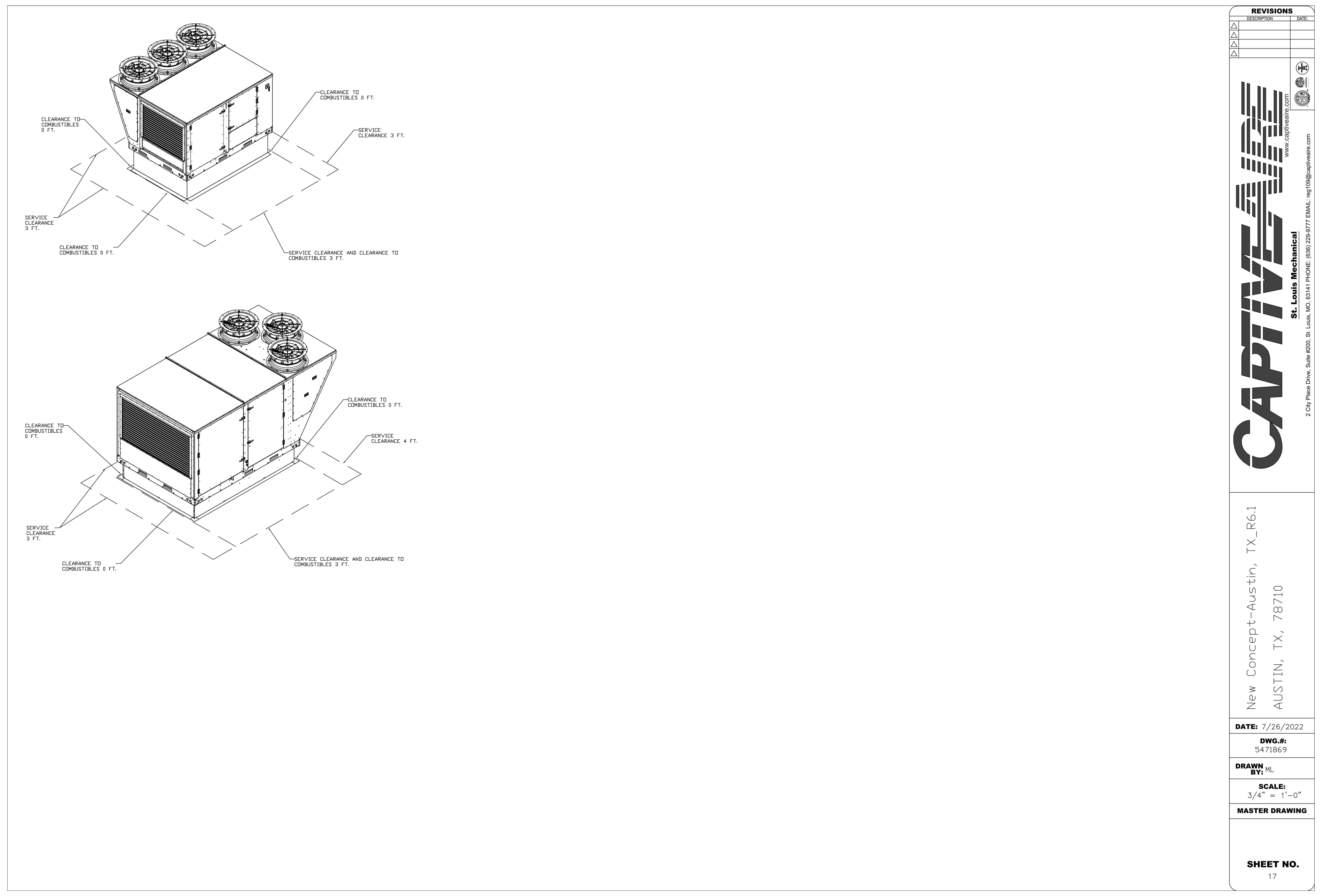
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SERVICE CLEARANCE 3 FT.
SERVICE CLEARANCE 3 FT.
CLEARANCE TO COMBUSTIBLES 0 FT.
SERVICE CLEARANCE AND CLEARANCE TO COMBUSTIBLES 3 FT.
CLEARANCE TO COMBUSTIBLES 0 FT.
CLEARANCE TO COMBUSTIBLES 0 FT.
SERVICE CLEARANCE 4 FT.
SERVICE CLEARANCE 3 FT.
CLEARANCE TO COMBUSTIBLES 0 FT.
SERVICE CLEARANCE AND CLEARANCE TO COMBUSTIBLES 3 FT.
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DESCRIPTION
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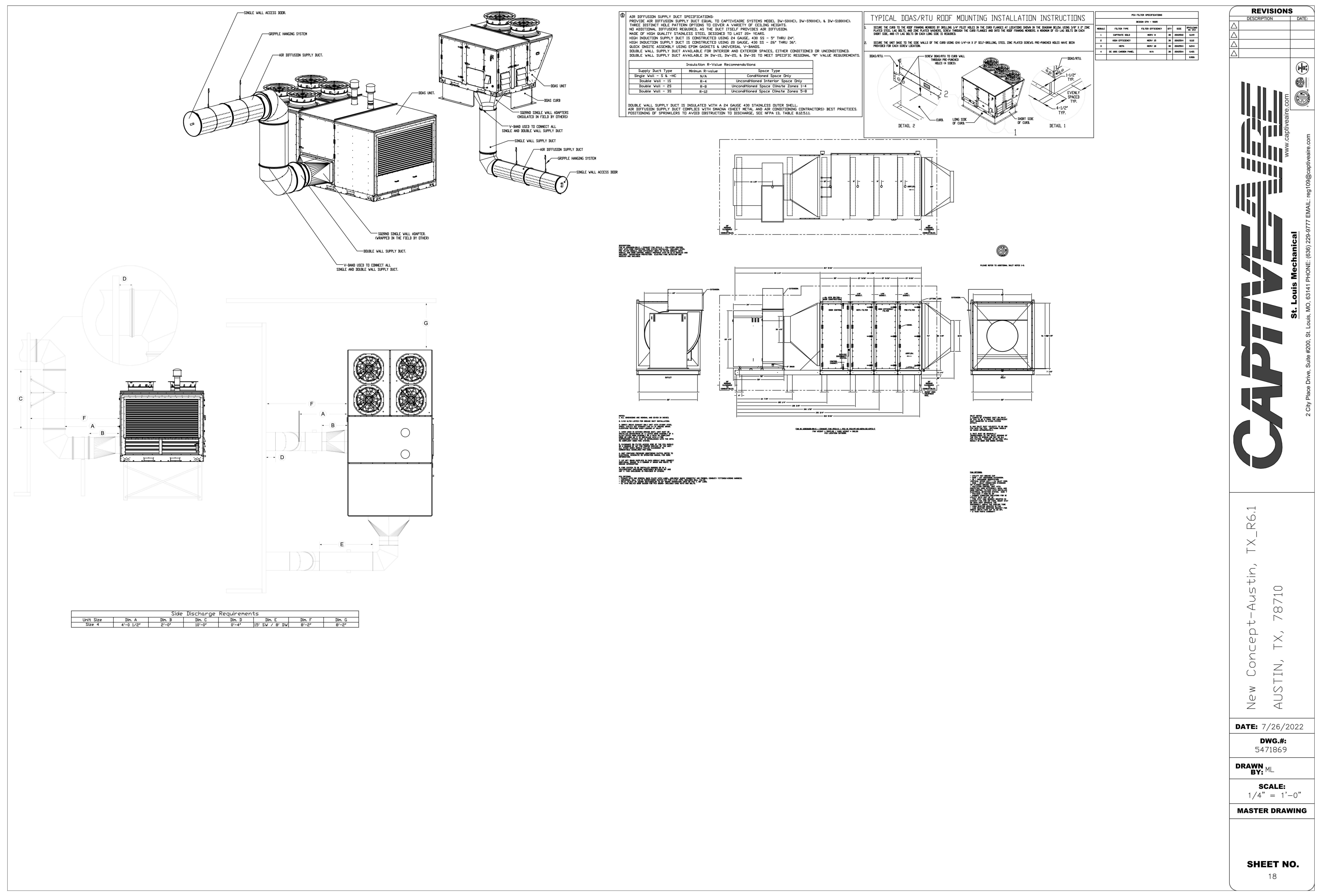
TYPICAL DOAS/RTU ROOF MOUNTING INSTALLATION INSTRUCTIONS
Side Discharge Requirements
REVISIONS
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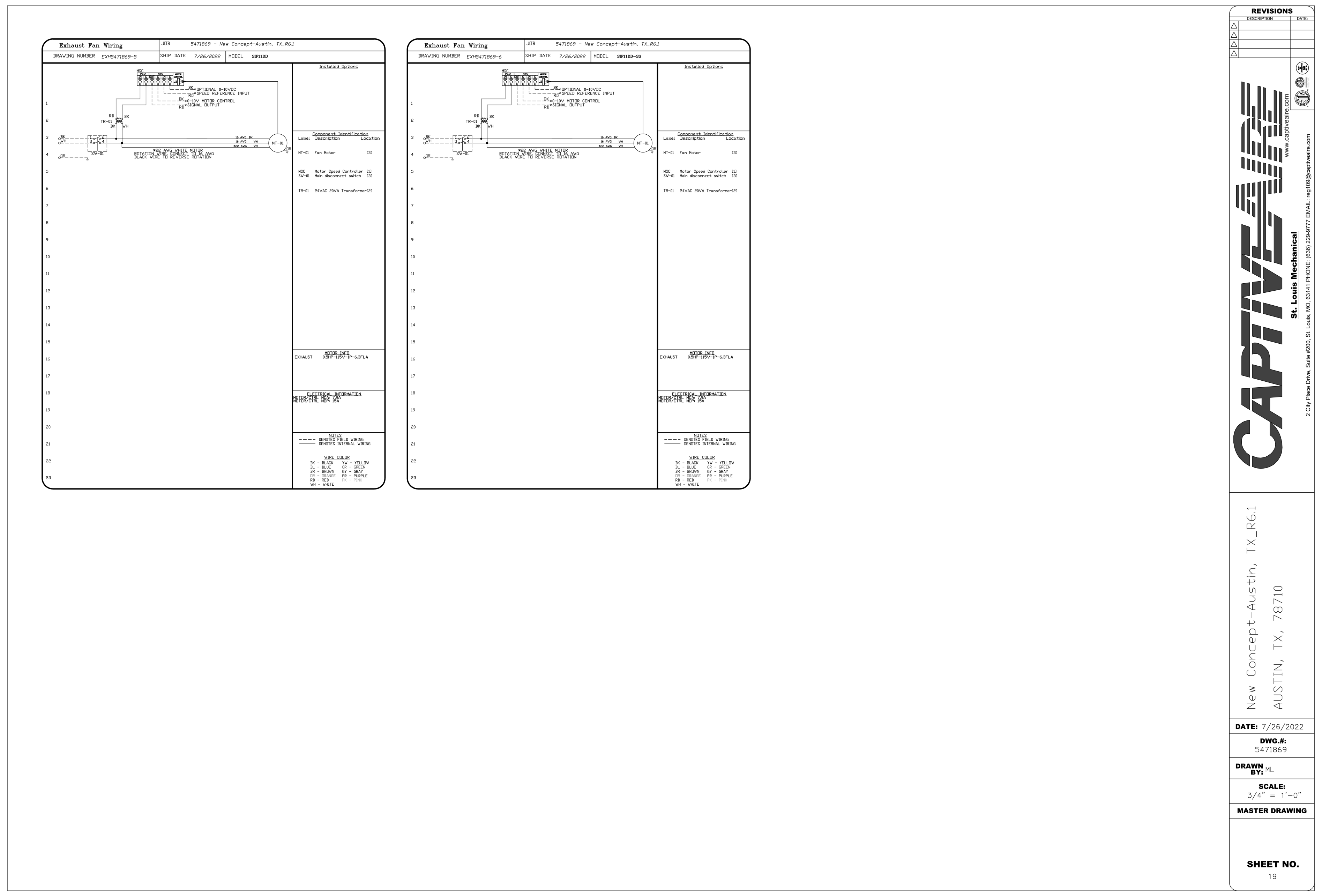
Exhaust Fan Wiring
Exhaust Fan Wiring
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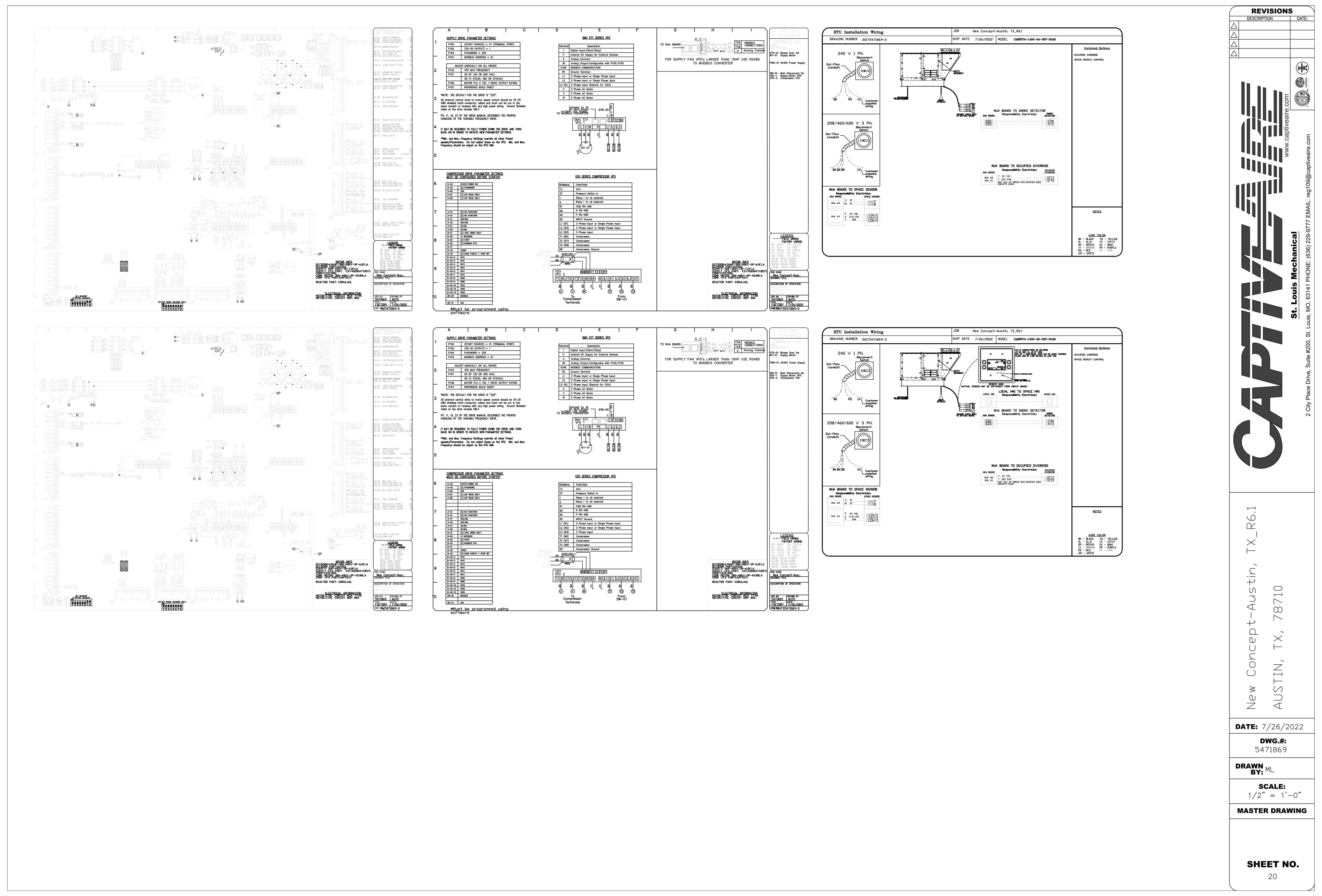
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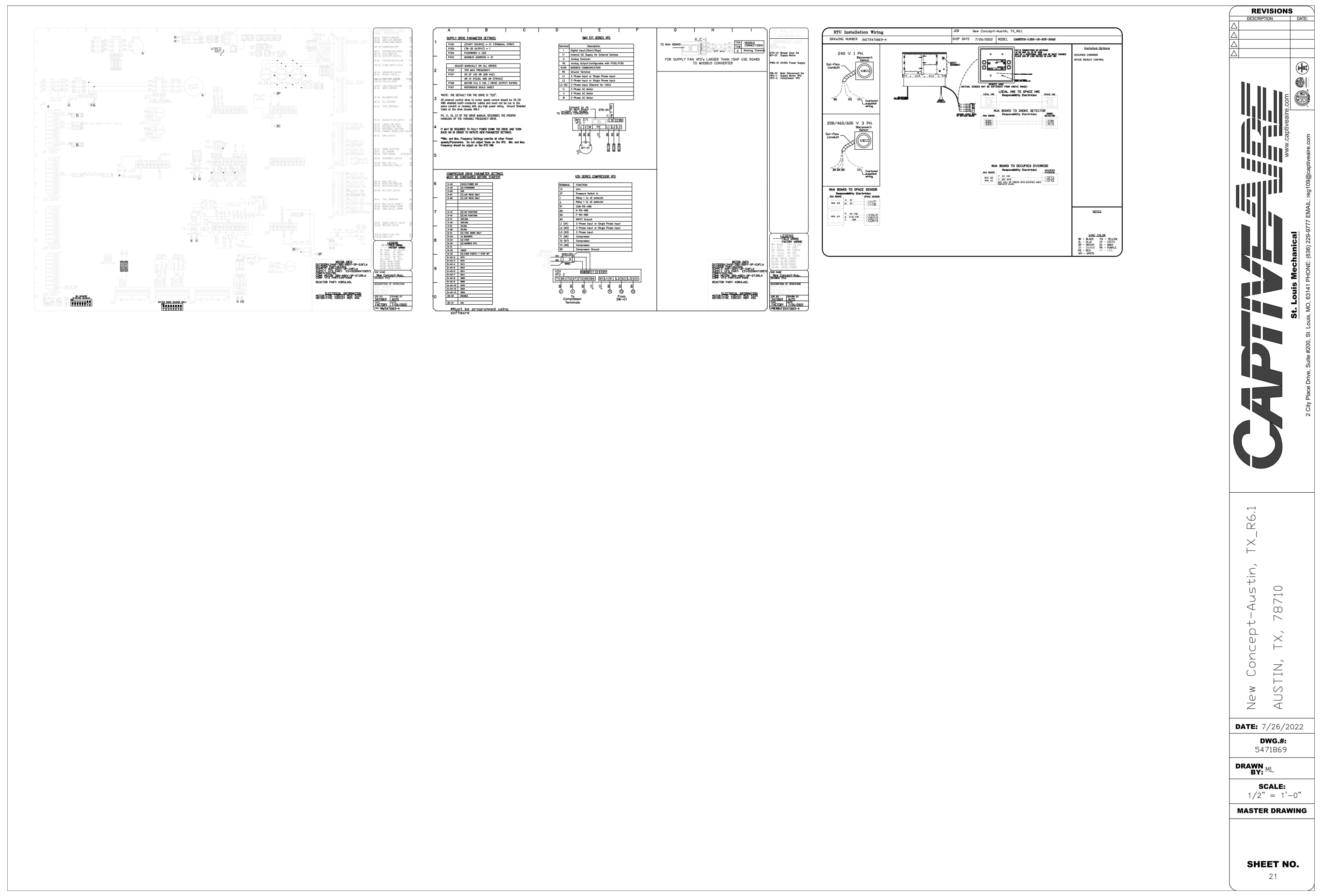

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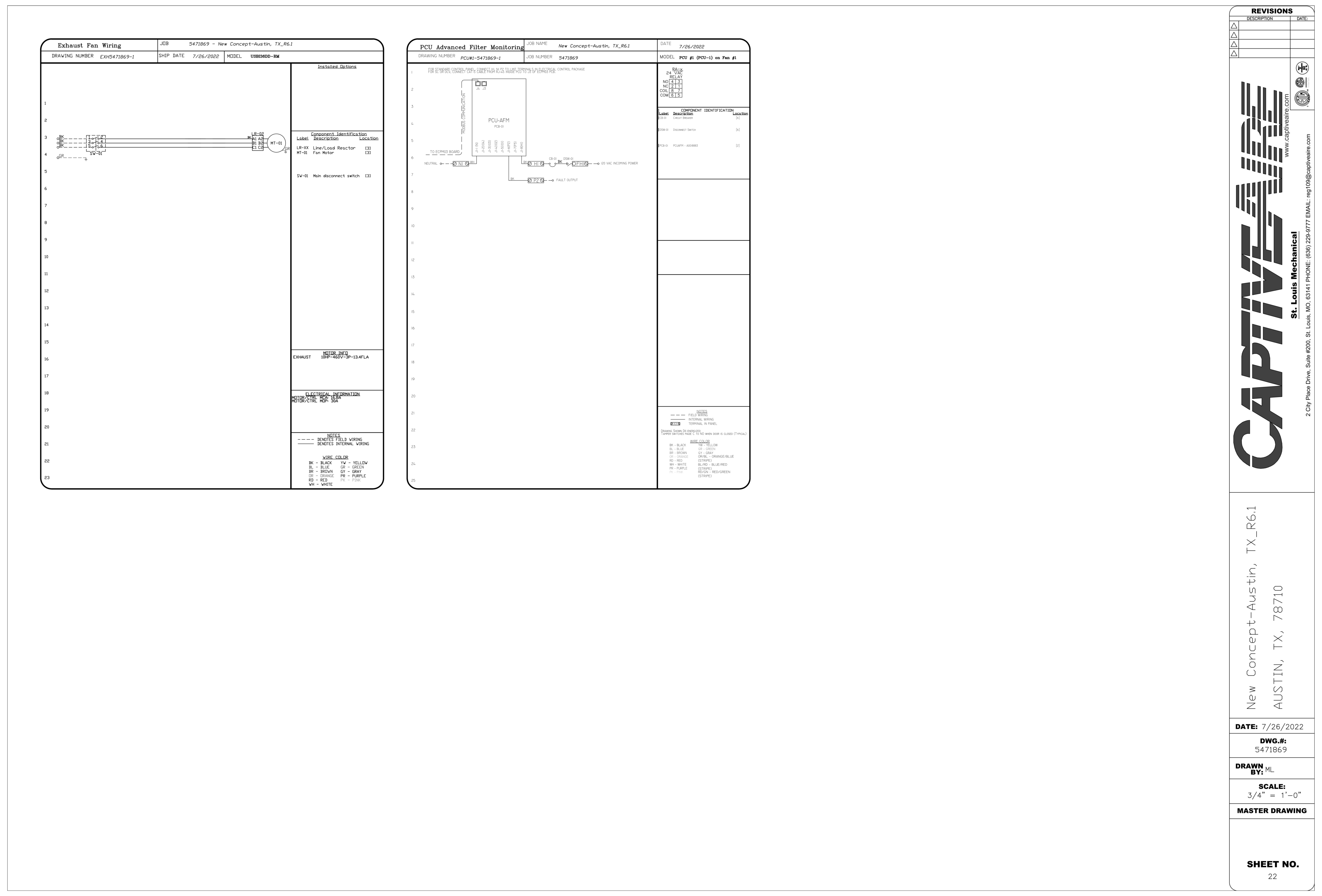

Exhaust Fan Wiring

JOB 5471869 - New Concept-Austin, TX_R6.1
DRAWING NUMBER EXH5471869-1
SHIP DATE 7/26/2022
MODEL USBI36DD-RM

Installed Options

Component Identification

Label	Description	Location
LR-XX	Line/Load Reactor	[3]
MT-01	Fan Motor	[3]
SW-01	Main disconnect switch	[3]

PCU Advanced Filter Monitoring

JOB NAME New Concept-Austin, TX_R6.1
DATE 7/26/2022
DRAWING NUMBER PCU#1-5471869-1
JOB NUMBER 5471869
MODEL PCU #1 (PCU-1) on Fan #1

FOR STANDARD CONTROL PANEL, CONNECT H1, N1 P2 TO LIKE TERMINALS IN ELECTRICAL CONTROL PACKAGE
FOR SC OR DCV, CONNECT CAT-5 CABLE FROM RJ-45 INSIDE PCU TO J3 OF ECPM03 PCB.

COMPONENT IDENTIFICATION

Label	Description	Location
CB-01	Circuit Breaker	[6]
DSW-01	Disconnect Switch	[6]
PCB-01	PCUAFM - A0018883	[2]

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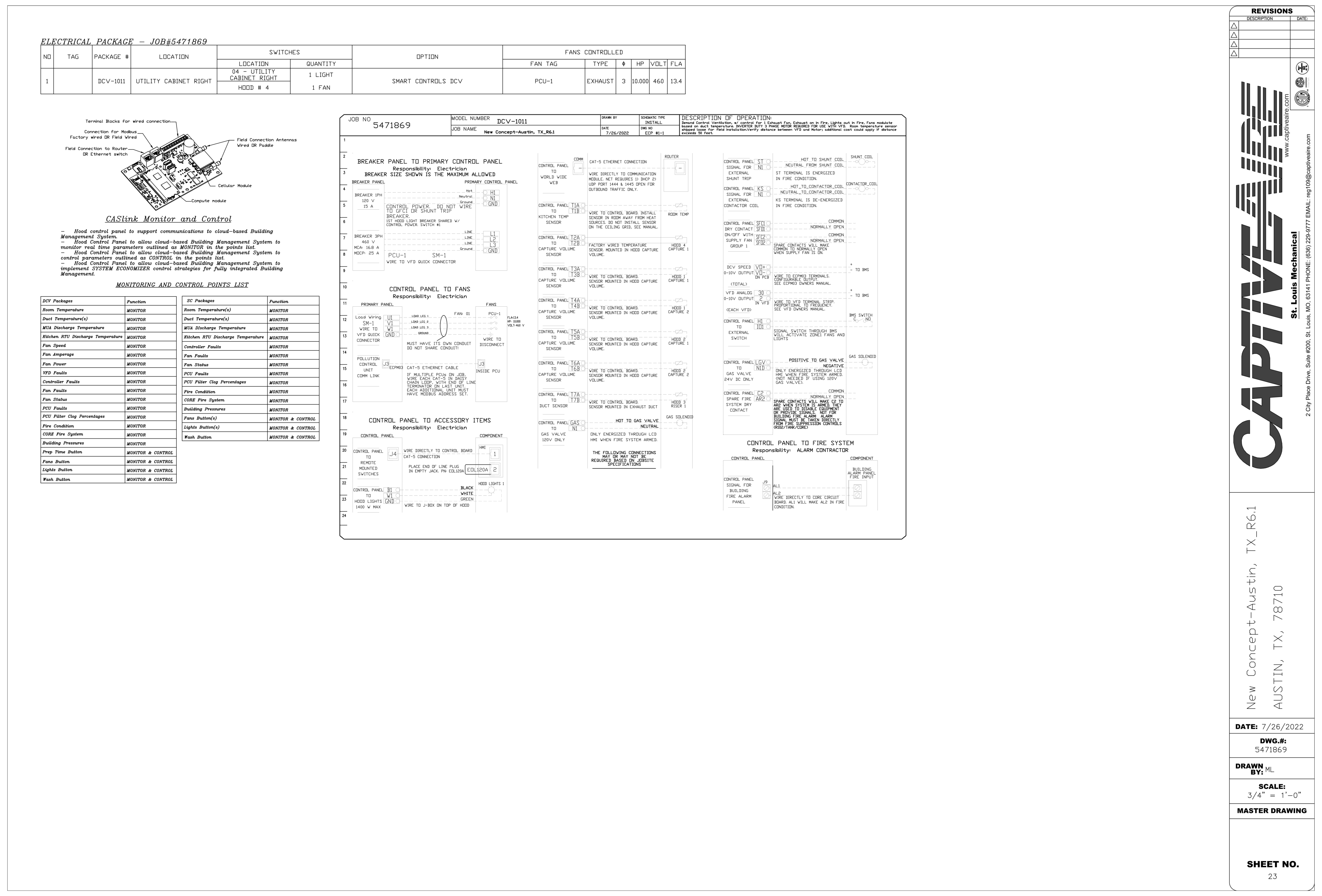

ELECTRICAL PACKAGE - JOB#5471869

NO	TAG	PACKAGE #	LOCATION	SWITCHES LOCATION	SWITCHES QUANTITY	OPTION	FAN TAG	TYPE	ϕ	HP	VOLT	FLA
1		DCV-1011	UTILITY CABINET RIGHT	04 - UTILITY CABINET RIGHT	1 LIGHT	SMART CONTROLS DCV	PCU-1	EXHAUST	3	10.000	460	13.4
				HOOD # 4	1 FAN							

CASlink Monitor and Control

- Hood control panel to support communications to cloud-based Building Management System.
- Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.
- Hood Control Panel to allow cloud-based Building Management System to control parameters outlined as CONTROL in the points list.
- Hood Control Panel to allow cloud-based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.

MONITORING AND CONTROL POINTS LIST

DCV Packages	Function
Room Temperature	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR
Fan Amperage	MONITOR
Fan Power	MONITOR
VFD Faults	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Prep Time Button	MONITOR & CONTROL
Fans Button	MONITOR & CONTROL
Lights Button	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

SC Packages	Function
Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Fans Button(s)	MONITOR & CONTROL
Lights Button(s)	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

JOB NO 5471869
MODEL NUMBER DCV-1011
JOB NAME New Concept-Austin, TX_R6.1
DATE 7/26/2022
SCHEMATIC TYPE INSTALL
DWG NO ECP #1-1
DESCRIPTION OF OPERATION:

BREAKER PANEL TO PRIMARY CONTROL PANEL
Responsibility: Electrician
BREAKER SIZE SHOWN IS THE MAXIMUM ALLOWED

CONTROL PANEL TO FANS
Responsibility: Electrician

CONTROL PANEL TO ACCESSORY ITEMS
Responsibility: Electrician

THE FOLLOWING CONNECTIONS MAY OR MAY NOT BE REQUIRED BASED ON JOBSITE SPECIFICATIONS

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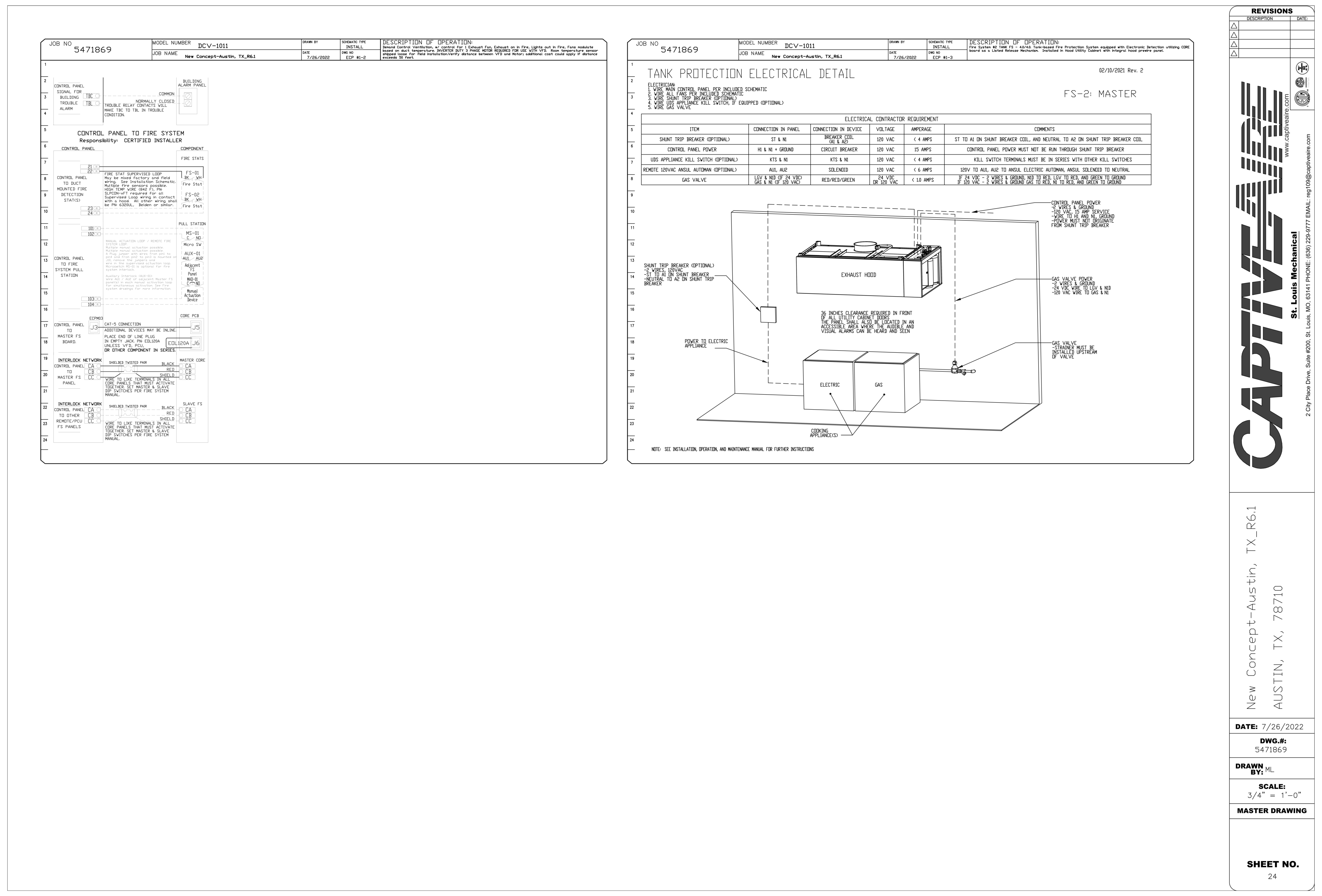

JOB NO 5471869
MODEL NUMBER DCV-1011
JOB NAME New Concept-Austin, TX_R6.1

CONTROL PANEL TO FIRE SYSTEM
Responsibility: CERTIFIED INSTALLER

JOB NO 5471869
MODEL NUMBER DCV-1011
JOB NAME New Concept-Austin, TX_R6.1
DATE 7/26/2022
SCHEMATIC TYPE INSTALL
DWG NO ECP #1-3

DESCRIPTION OF OPERATION:
Fire System #2 TANK FS - 4.0/4.0. Tank-based Fire Protection System equipped with Electronic Detection utilizing CORE board as a Listed Release Mechanism. Installed in Hood Utility Cabinet with integral hood prewire panel.

TANK PROTECTION ELECTRICAL DETAIL

02/10/2021 Rev. 2

FS-2: MASTER

ELECTRICIAN:
1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC
2. WIRE ALL FANS PER INCLUDED SCHEMATIC
3. WIRE SHUNT TRIP BREAKER (OPTIONAL)
4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
5. WIRE GAS VALVE

ELECTRICAL CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	LGV & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 2 WIRES & GROUND, N1D TO RED, LGV TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND

CONTROL PANEL POWER
-2 WIRES & GROUND
-120 VAC, 15 AMP SERVICE
-WIRE TO H1 AND N1, GROUND
-POWER MUST NOT ORIGINATE FROM SHUNT TRIP BREAKER
SHUNT TRIP BREAKER (OPTIONAL)
-2 WIRES, 120VAC
-ST TO A1 ON SHUNT BREAKER
-NEUTRAL TO A2 ON SHUNT TRIP BREAKER
EXHAUST HOOD
GAS VALVE POWER
-2 WIRES & GROUND
-24 VDC WIRE TO LGV & N1D
-120 VAC WIRE TO GAS & N1
36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS

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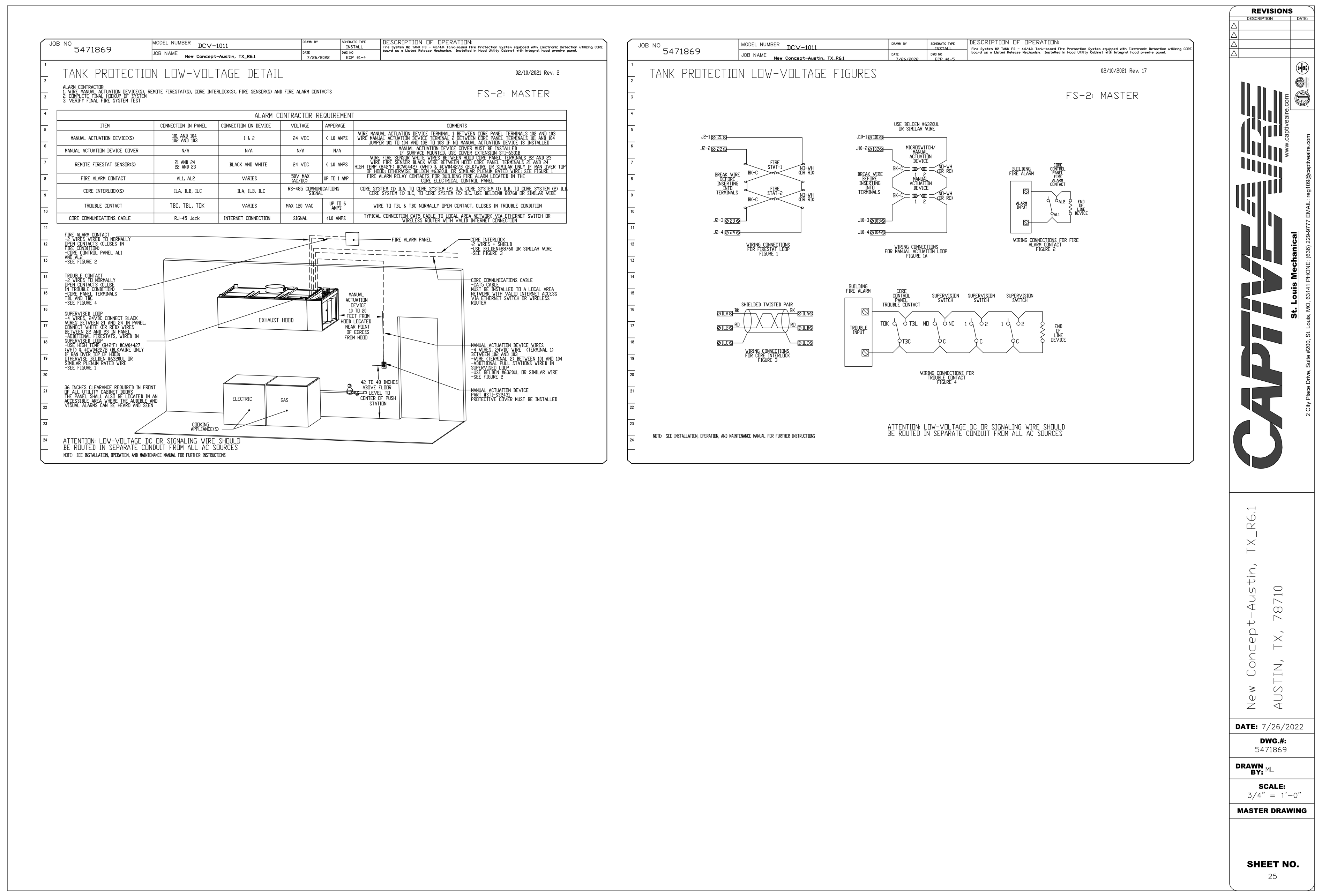
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TANK PROTECTION LOW-VOLTAGE DETAIL
FS-2: MASTER
TANK PROTECTION LOW-VOLTAGE FIGURES
FS-2: MASTER
EXHAUST HOOD
ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES
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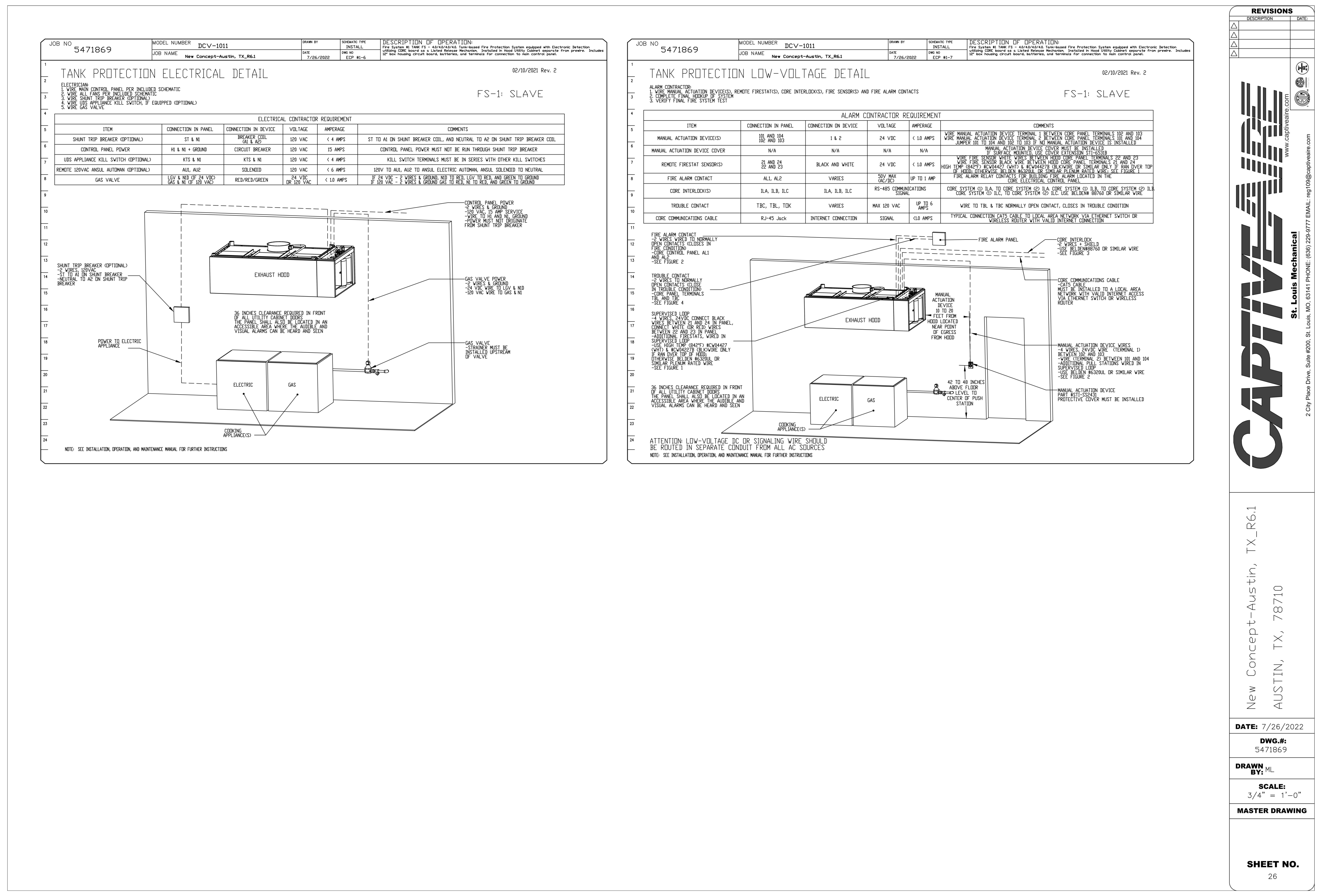
5471869
TANK PROTECTION ELECTRICAL DETAIL
FS-1: SLAVE
TANK PROTECTION LOW-VOLTAGE DETAIL
FS-1: SLAVE
EXHAUST HOOD
ELECTRIC
GAS
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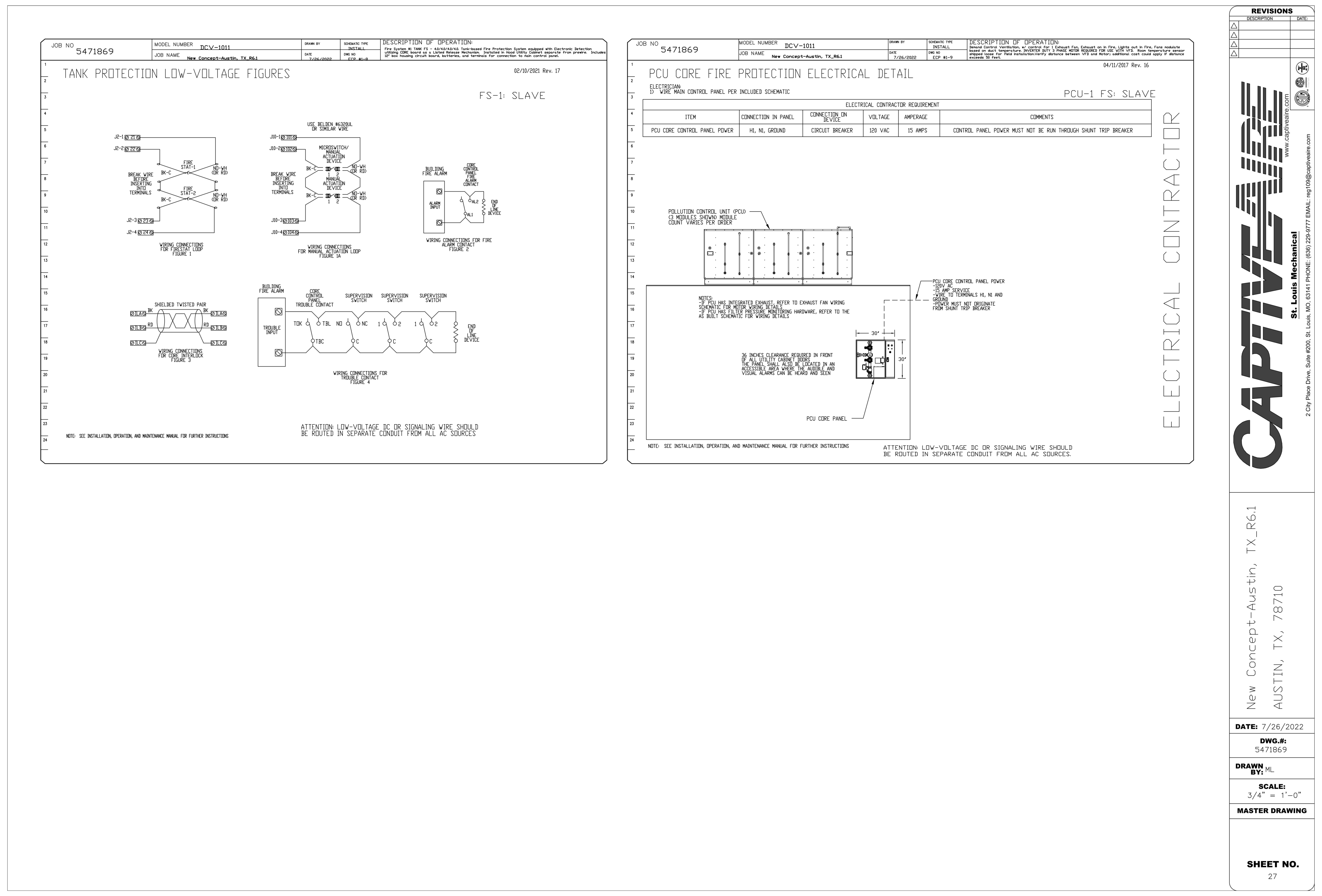
DATE: 7/26/2022
DWG.#: 5471869
DRAWN BY: ML
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 26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TANK PROTECTION LOW-VOLTAGE FIGURES
FS-1: SLAVE
PCU CORE FIRE PROTECTION ELECTRICAL DETAIL
PCU-1 FS: SLAVE
PCU CORE PANEL
ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES
ELECTRICAL CONTRACTOR
REVISIONS
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AUSTIN, TX, 78710
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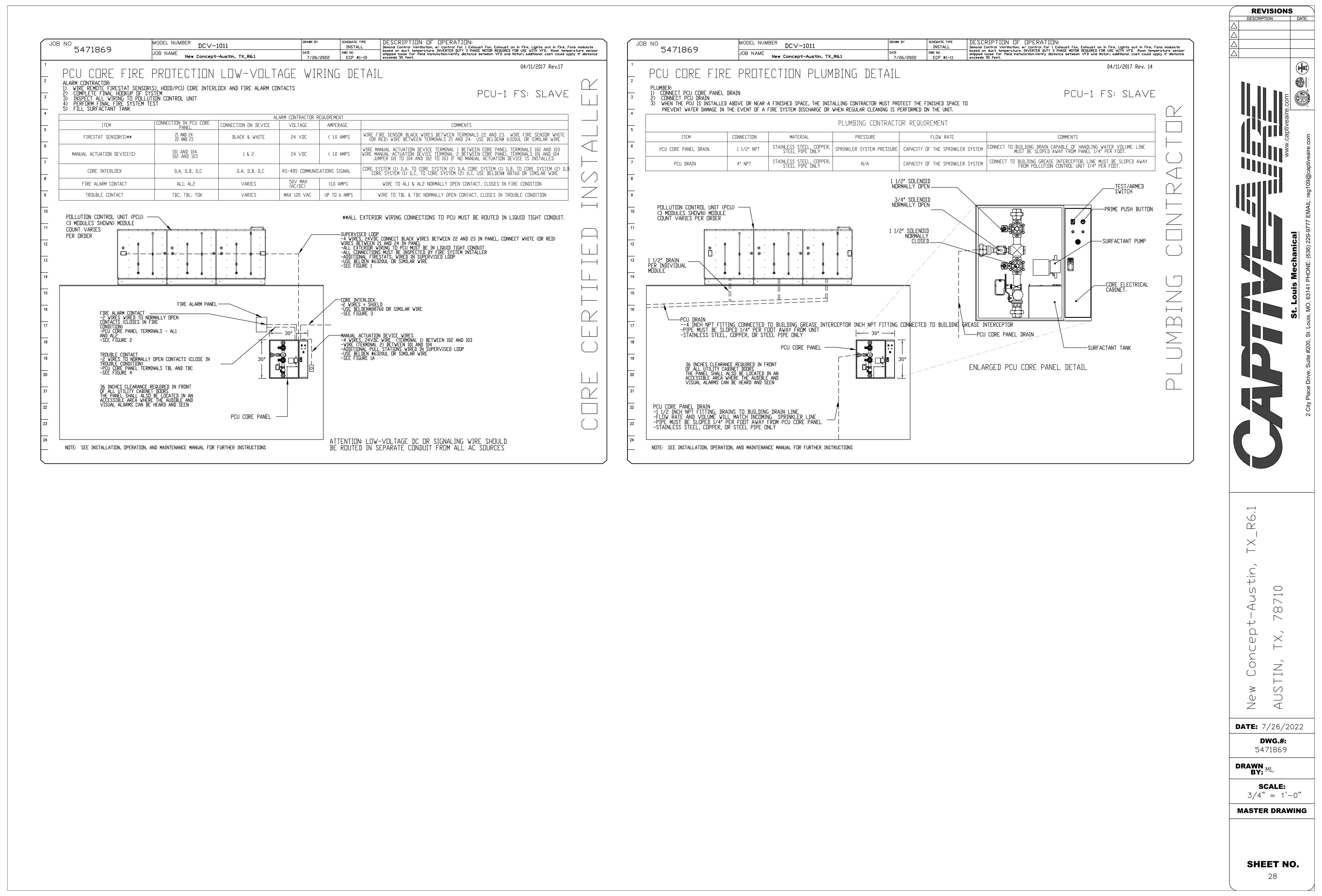
5471869
PCU CORE FIRE PROTECTION LOW-VOLTAGE WIRING DETAIL
PCU-1 FS: SLAVE
CORE CERTIFIED INSTALLER
PCU CORE FIRE PROTECTION PLUMBING DETAIL
PCU-1 FS: SLAVE
ENLARGED PCU CORE PANEL DETAIL
PLUMBING CONTRACTOR
REVISIONS
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New Concept-Austin, TX_R61
AUSTIN, TX, 78710
DATE: 7/26/2022
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Austin, TX 78731

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Drawing Title
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Job No.	Drawn
214735	Author

Scale	Date
	Issue Date

Sheet No.
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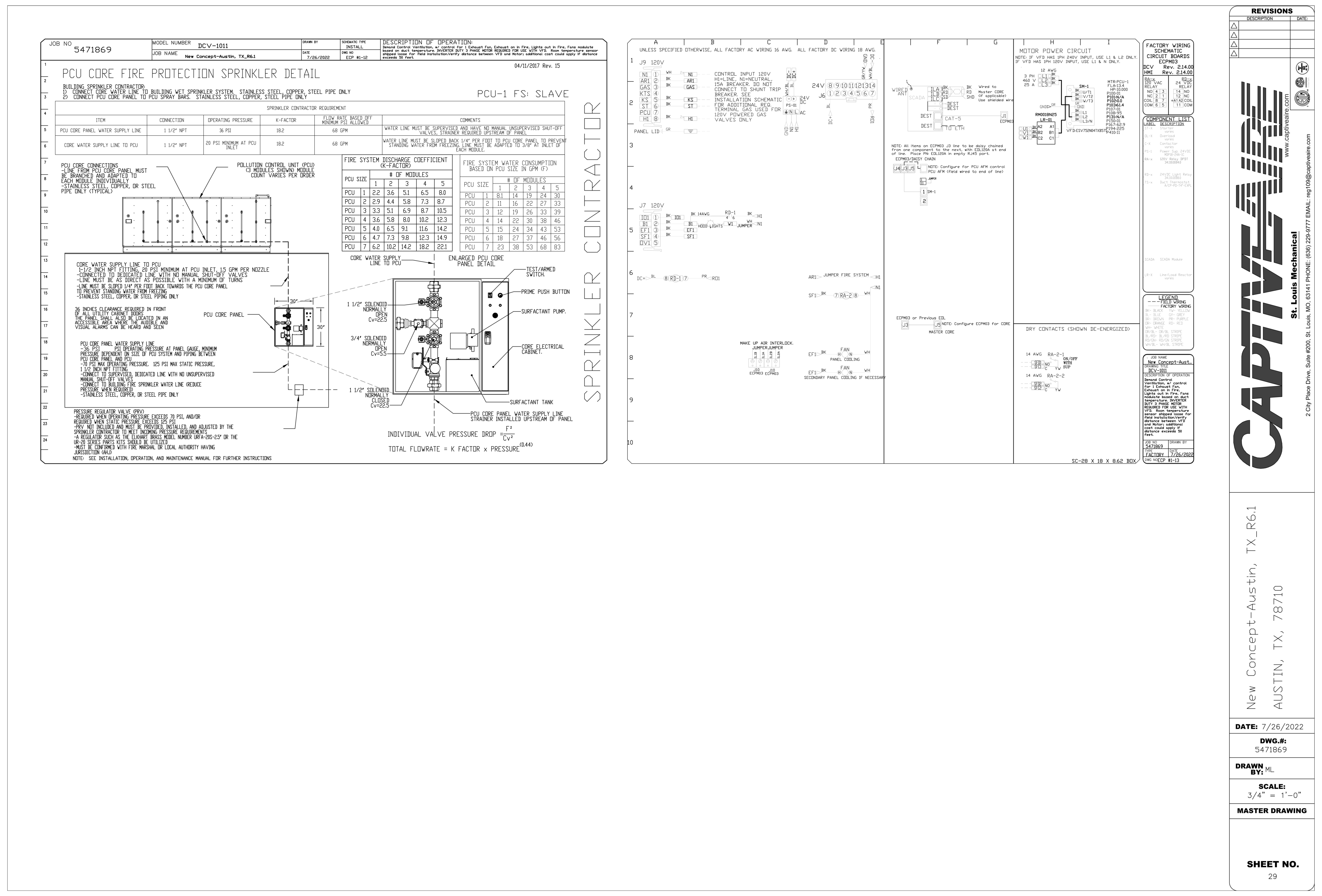
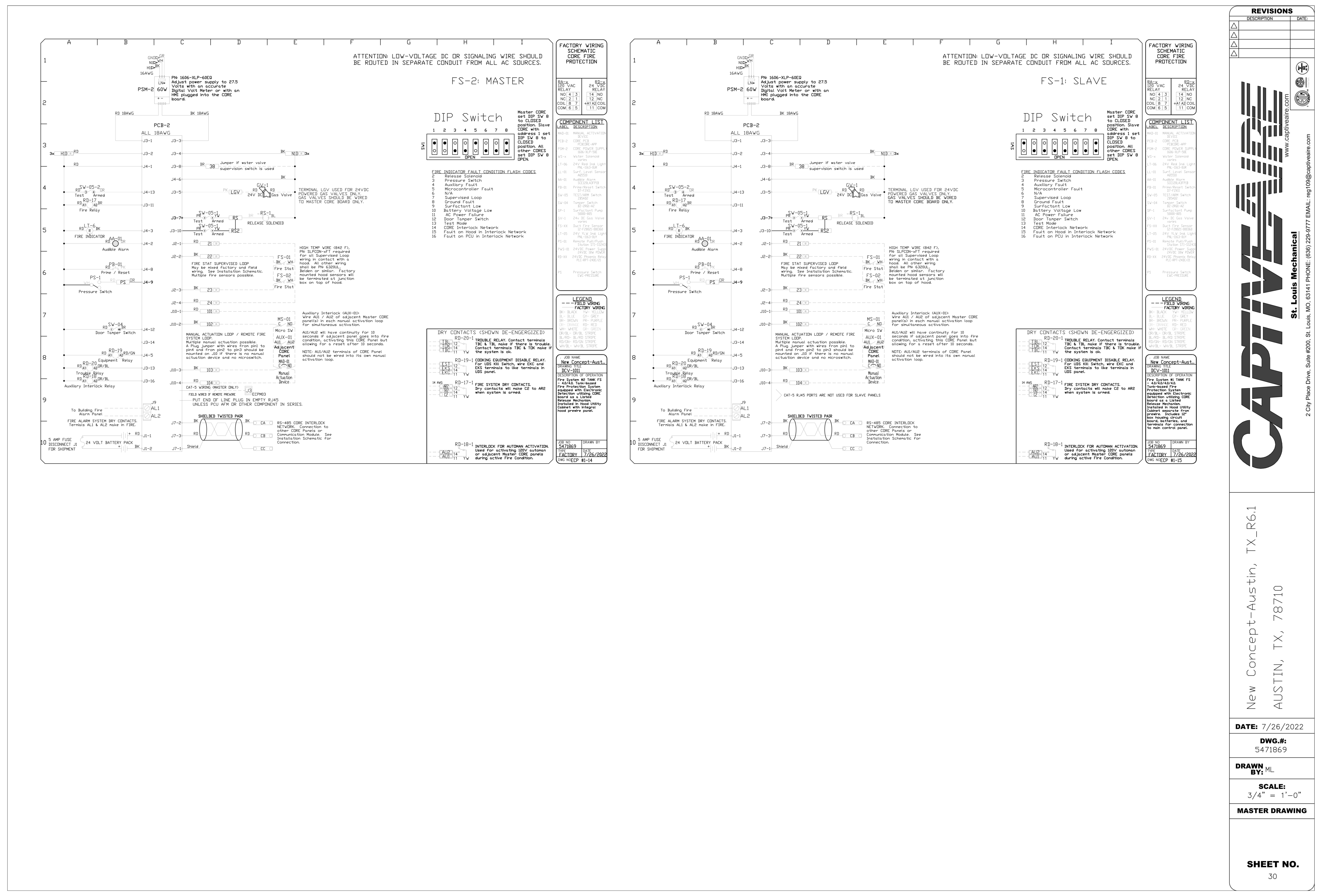
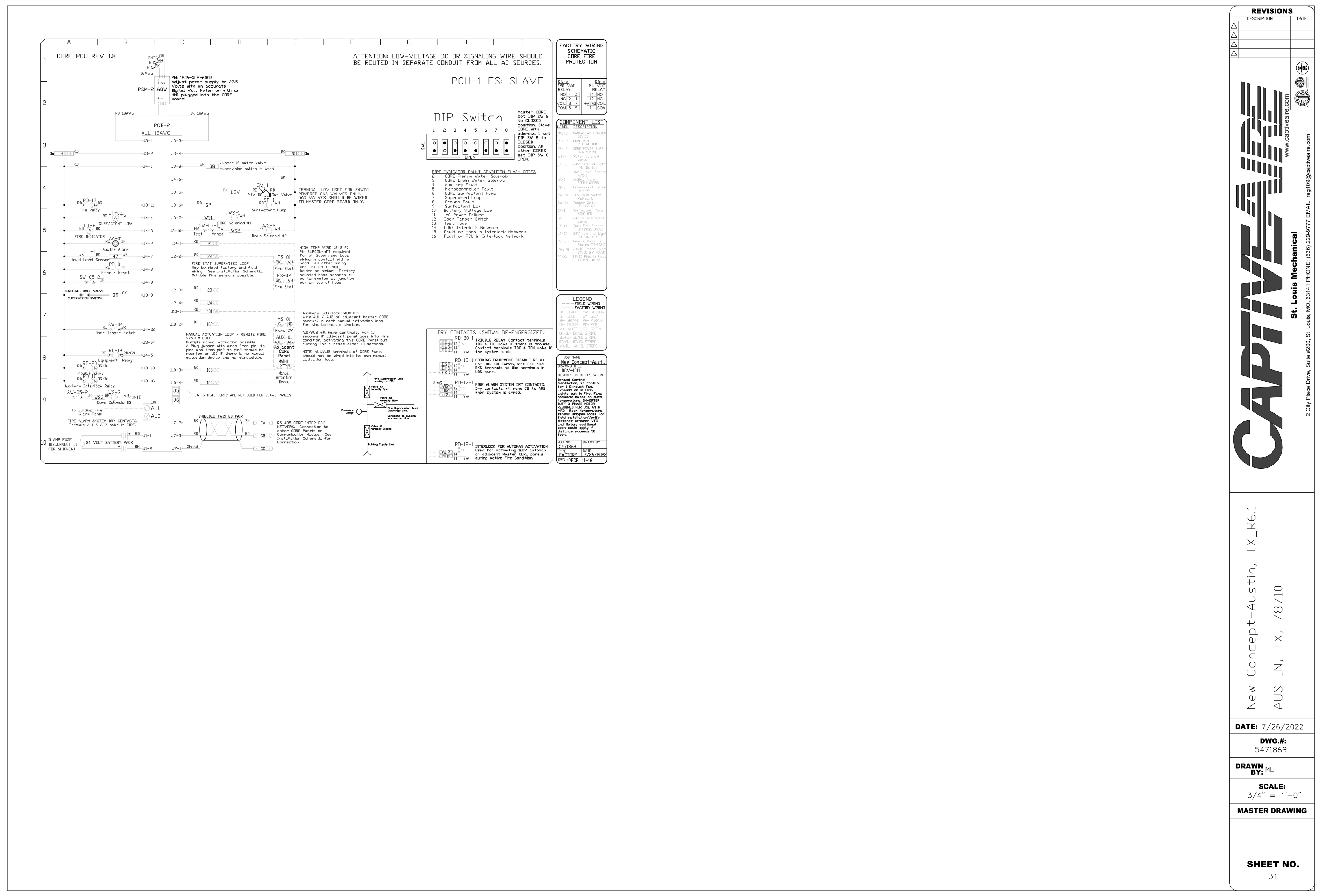
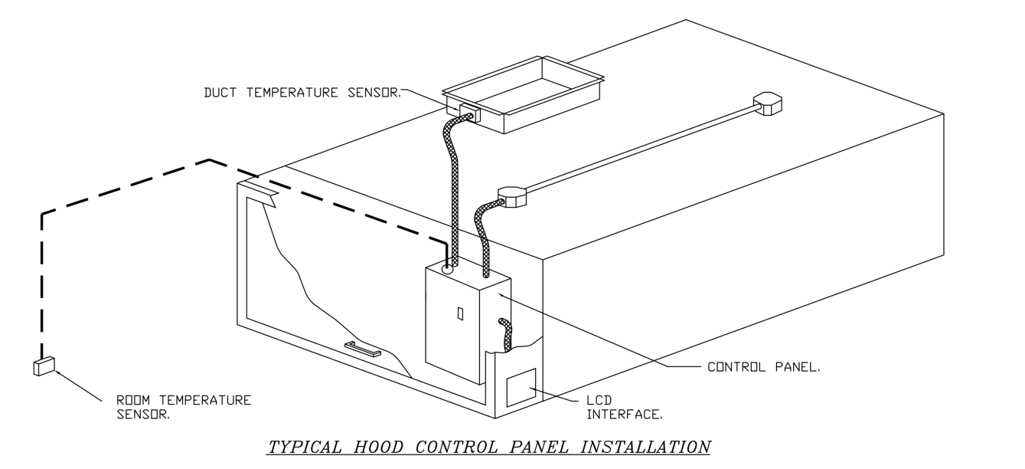






DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:

- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.2.8 (2015).
- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
  A. ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
  B. INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
  C. VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  D. DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  E. MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  F. A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
  G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.



TYPICAL HOOD CONTROL PANEL INSTALLATION

SEQUENCE OF OPERATIONS:

THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:

- AUTOMATIC: THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.2.8.
- MANUAL: THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
- SCHEDULE: A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
- OTHER: THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
- FIRE: UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

REVISIONS

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St. Louis Mechanical

2 City Place Drive, Suite #200, St. Louis, MO, 63141 PHONE: (636) 229-9777 EMAIL: reg109@captiveaire.com

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AUSTIN, TX, 78710

DATE: 7/26/2022

DWG.#: 5471869

DRAWN BY: ML

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NO.	**DATE**	**REMARKS**

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Job No. 214735	Drawn Author
Scale	Date Issue Date

Sheet No.

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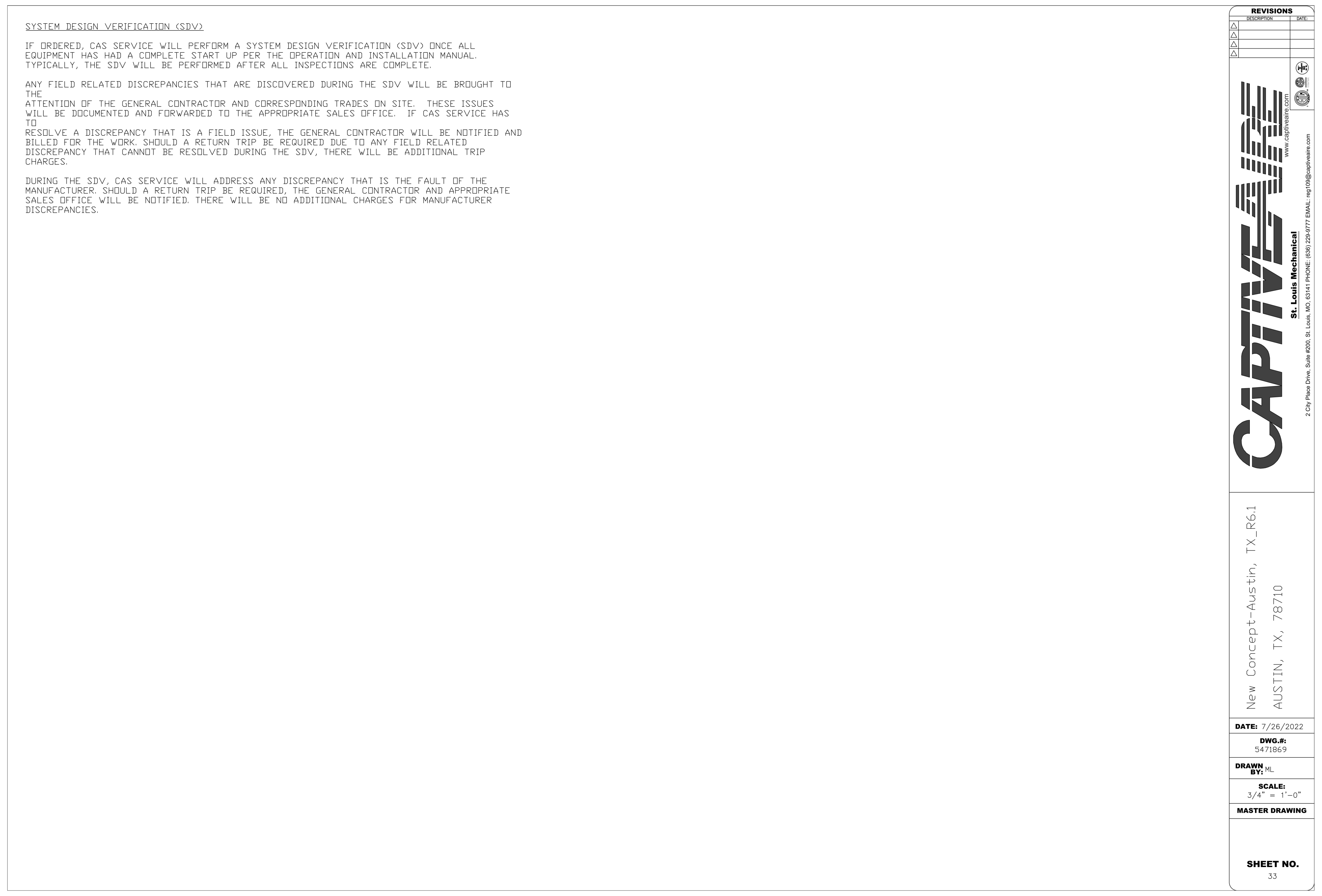

SYSTEM DESIGN VERIFICATION (SDV)

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

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SHEET NO. 33

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8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
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