ROOFTOP UNIT SCHEDULE - TRANE

MARK	TOTAL COOLING MBH	SENSIBLE COOLING MBH	HEATING INPUT MBH	HEATING OUTPUT MBH	SUPPLY (CFM)	OA (CFM)	HP	# OF FANS	ESP (in-wg)	EER	IEER/ SEER	VOLTAGE (V)	PHASE	MCA (A)	MOCP (A)	MODEL	MANUFACTURER	REMARKS
AC#1	271.1	202.4	400	324	8,125	1,750	3	2	0.8	9.8	13	208	3	125	150	YSJ300A3S	TRANE	1,3,4,5,7,8,9,10,11,12,13,14,16
AC#2	150.9	114.9	250	202.5	4,375	1,075	4.6	1	0.8	10.8	14	208	3	73	100	YSJ150A3S	TRANE	1,3,4,5,7,8,9,10,11,12,13,14,16
AC#3	184.3	140.4	400	324	5,250	1,275	3	2	0.8	10.8	14	208	3	83	110	YSJ180A3S	TRANE	1,3,4,5,7,8,9,10,11,12,13,14,16
AC#4	58.1	44.2	130	104	1,750	425	1	1	0.8	13	17.2	208	3	33	45	YHC067E3R	TRANE	2,3,4,5,6,7,8,9,10,11,12,15,16

NOTES
- MECHANICAL CONTRACTOR TO VERIFY TRANE SUBMITTAL WITH CONSTRUCTION DOCUMENTS. NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
1. PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST. PROVIDE FACTORY FAULT DETECTION AND DIAGNOSTICS.
2. PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST. PROVIDE FACTORY FAULT DETECTION AND DIAGNOSTICS.
3. PROVIDE 14" HIGH ROOF CURB.
4. SEE DETAIL 2/M-701 FOR CONTROL WIRING BY MC.
5. PROVIDE FACTORY INSTALLED SUPPLY AND RETURN AIR SMOKE DETECTORS.
6. PROVIDE FACTORY INSTALLED NON-FUSED DISCONNECT.
7. PROVIDE 2" MERV 8 THROW AWAY FILTERS.
8. PROVIDE HINGED PANELS FOR ACCESS TO FILTER(S), FAN BLOWER & MOTOR, COMPRESSOR(S) ACCESS AND CONTROLS.
9. PROVIDE FACTORY INSTALLED COIL HAIL GUARD.
10. PROVIDE HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
11. PROVIDE FACTORY CONFIGURED PHASE LOSS PROTECTION.
12. PROVIDE FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
13. PROVIDE WITH 65K SCCR RATING AND FACTORY CIRCUIT BREAKER.
14. PROVIDE FACTORY INSTALLED 115V, 20 AMP GFI SERVICE OUTLET. SEPERATE 115V CIRCUIT PROVIDED BY ELECTRICAL CONTRACTOR.
15. PROVIDE FACTORY INSTALLED AND POWERED 115V GFI SERVICE OUTLET.
16. PROVIDE FRESH AIR TEMPERING KIT.

HOOD SCHEDULE

MARK	EXHAUST CFM	SP @ TAB PORT (in-wg)	CAPTURE JET CFM & S.P.	TYPE	COLLAR SIZE	WIDTH	DEPTH	HEIGHT	MANUFACTURER	MODEL	REMARKS
HOOD#1L	1,204	0.13	80 @ 0.30"	BACKSHELF	14"X8"	107"	36"	38"	HALTON	KVL-2 IC	1
HOOD#1R	709	0.13	47 @ 0.30"	BACKSHELF	8"X8"	63"	36"	38"	HALTON	KVL-2 IC	1
HOOD#2	701	0.3	30 @ 0.29"	BACKSHELF	8"X8"	45"	34"	38"	HALTON	KVL-C-IC	1
HOOD#3	701	0.3	30 @ 0.29"	BACKSHELF	8"X8"	42"	34"	38"	HALTON	KVL-C-IC	1

NOTES
- DIMENSIONS OF HOODS INCLUDE BACK AND SIDE SPACERS (HEIGHT DOES NOT INCLUDE CLOSURE PANELS). NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
1. REFER TO HOOD SHOP DRAWINGS FOR HOOD OPTIONS AND CONSTRUCTION. PRELIMINARY HOOD SHOP DRAWINGS ARE INCLUDED FOR REFERENCE ON SHEETS MH-1.1, MH-1.2, AND MH-1.3.

HEATER SCHEDULE

MARK	HEATIING INPUT ELECTRIC (kW)	HEATIING INPUT GAS (MBH)	FRAME LENGTH	FRAME WIDTH	FRAME DEPTH	MOUNTING TYPE	VOLTAGE (V)	PHASE	FLA (A)	MOCP (A)	MODEL	MFGR	REMARKS
EIH#1	6.00	0.0	56"	8.5"	3.5"	WALL BRACKET	208	1	28.9	40	BH0420035	BROMIC	1, 2, 3, 4
IRH	0.00	50.0	48"	13.4"	13.4"	BRACKET	120	1	0.4	20	WB50-N7-CM	SPACE-RAY	5, 6, 7

NOTES
- NATIONAL ACCOUNT NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.
- CONFIRM HEATER QUANTITY WITH CANOPY SHOP DRAWINGS.

REMARKS
1. STAINLESS STEEL LENS WITH BLACK EMISSIVE COATING.
2. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND.
3. PROVIDE BLACK HEATER WITH HIGH TEMPERATURE COATING, AND MANUFACTURER MOUNTING BRACKETS.
4. PROVIDE BROMIC WALL MOUNTED ELECTRIC HEATER MODEL: BH0420033 FOR 220-240V SITES.
5. STEEL BURNER WITH CERAMIC BURNER TILES.
6. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. MOUNT TO CANOPY DECK, FACING FORWARD, 12" LATERALLY FROM THE LONG SIDE OF THE HEATER.
7. STAINLESS STEEL HEAT SHIELDS.

FAN SCHEDULE

MARK	FAN CFM	ESP (in-wg)	MOTOR RPM	HP	AREA SERVED	VOLTAGE (V)	PHASE	FLA (A)	MOCP (A)	MODEL	MANUFACTURER	REMARKS
CF-1	1,900	0.01	1,625	0.1	OUTDOOR CANOPY	120	1	1.1	20	U-18-TE-HD	TPI	20,21,24
EF#1	1,913	0.75	1,331	0.75	HOOD#1	120	1	13.8	25	KEFB-14-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#2	1,402	0.95	1,199	0.75	HOOD#2 & HOOD#3	115	1	13.8	25	KEFB-14-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#3	300	0.375	1,550	0.125	RESTROOMS	120	1	2.2	20	XRED-095-VG	ACCUREX	1,3,11,12,13,14,15,16
EF#4	75	0.26	900	0.02	RESTROOMS	120	1	0.2	20	SP-A90	GREENHECK	1,22,23
TF#1	450	0.3	1,144	0.127	TECH CLOSET	120	1	2.5	20	SP-A510-VG	GREENHECK	1,17,18,19

NOTES
- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS
1. FANS SUPPLIED BY HALTON.
2. U.L. 705 LISTED AND LABELED FOR RESTUARANT APPLICATIONS.
3. FACTORY INSTALLED PREWIRED DISCONNECT SWITCH.
4. 19" HIGH ROOF CURB.
5. INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034.
6. FACTORY WEATHER HOUSING W/ HINGED ACCESS DOOR.
7. FACTORY DRAIN CONNECTION.
8. FACTORY BOLTED ACCESS DOOR ON SCROLL.
9. FACTORY INSTALLED BELT DRIVE WITH ADJUSTABLE MOTOR SHEAVE, SPARE BELT, AND BELT TENSIONER.
10. FACTORY INSTALLED OUTLET WITH QUICK RELEASE, HINGED ACCESS, AND GRAVITY BACKDRAFT DAMPER.
11. INTEGRAL THERMAL OVERLOAD.
12. BIRDSCREEN.
13. BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 5/M-501.
14. STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
15. 12" HIGH CURB.
16. FACTORY INSTALLED AND WIRED SPEED CONTROLLER.
17. PROVIDE NEMA 1 PREWIRED DISCONNECT.
18. INTEGRAL POTENTIOMETER ON FAN MOTOR. SET TO FULL SPEED.
19. PROVIDE THERMOSTAT / TEMPERATURE CONTROLLER, SET TO 76°F.
20. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
21. PROVIDE WITH ON/OFF SWITCH.
22. FAN SHALL BE CONTROLLED WITH THE ROOM LIGHTING. ALL WIRING IS BY THE ELECTRICAL CONTRACTOR.
23. DIRECT DRIVE CEILING FAN. PROVIDE DISCONNECT SWITCH. INTEGRAL BACKDRAFT DAMPER, AND MANUFACTURER'S FAN SPEED CONTROLLER.
24. FAN SUPPLIED BY TOM BARROW OR POWERS OF ARKANSAS FOR THE SOUTHWEST REGION.

AIR DEVICE SCHEDULE - LARGE BLDG

MARK	DESCRIPTION	LOCATION	NECK SIZE	FACE SIZE	FRAME TYPE	REMARKS
A	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING/ KITCHEN	VARIES	24"x24"	LAY-IN	1,7
B	VARITHERM PLAQUE DIFFUSER	OFFICE	10"	24"x24"	LAY-IN	1,7,8
C	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	ENTRY	14"x14"	19"x19"	BEVELLED	1,3,5,6
D	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING/ KITCHEN	VARIES	16"x16"	SURFACE	1,3,5,6
F	PRICE MODEL 80 EGGCRATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	KITCHEN / DINING / OFFICE	VARIES	24"x24"	LAY-IN	1,7
J	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	RESTROOMS	10"x10"	15"x15"	BEVELLED	1,2,3,5,6
K	PRICE MODEL APDDR ALUMINUM PERFORATED FACE RETURN AIR GRILLE.	RESTROOMS/ ENTRY	14"x14"	16"x16"	SURFACE	1,2,5,6

NOTES
- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS
1. STANDARD OFF WHITE FINISH.
2. PROVIDE MODEL VCS3 NECK DAMPER.
3. SEE DRAWING M-101 FOR THROW.
4. PROVIDE MODEL VCR7 NECK DAMPER ON GRILLES IN RESTROOMS SERVING EXHAUST FAN.
5. PROVIDE BACKPAN. MC TO SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY.
6. FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 3/M-501.
7. FACTORY INSULATED R-6 BACKPAN.
8. PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.

AIR DOOR SCHEDULE

MARK	CFM	VELOCITY (FPM)	HEATING (KW)	MOTOR HP	MCA (A)	MOCP (A)	VOLTAGE (V)	PHASE	AREA SERVED	MODEL	MANUFACTURER	REMARKS
AD#1	1,543	2,338	10	0.75	31.4	40	208	3	DRIVE THRU	CHA-1-48E	POWERED AIRE	1,2,3,5
AD#2	3,867	4,218	0	0.75	3.6	20	208	1	REAR DOOR	RBT-1-48	POWERED AIRE	4
AD#3	1,197	2,443	10	0.75	31.4	40	208	3	SERVING	CHA-1-36E	POWERED AIRE	1,2,3,4

NOTES
- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS
1. FACTORY PROVIDED, WIRED, AND UNIT MOUNTED SPEED CONTROLLER ABOVE CEILING.
2. FACTORY WIRED DISCONNECT.
3. FACTORY PROVIDED, FIELD INSTALLED BY MC, REMOTE WALL SWITCHES FOR HEATING ON/OFF AND FAN ON/AUTO SWITCH. SEE DETAILS ON M502.
4. FACTORY PROVIDED MAGNETIC DOOR CONTACT WITH FACTORY INSTALLED LOW VOLTAGE CONTROLS LOCATED IN AIR DOOR CABINET.
5. PROVIDE WITH A DIVERTER BOX. PROVIDE WITH MOUNTING BRACKETS PER MANUFACTURER'S RECOMMENDATIONS.

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646
STATE OF NEW JERSEY MARK T. KURZYNSKE NO. GE44646 LICENSED PROFESSIONAL ENGINEER
5/6/24

CHICK-FIL-A
WEST WINDSOR FSR

EMMONS DRIVE
WEST WINDSOR, NJ 08540

FSR#05482

BUILDING TYPE / SIZE: P14 LS BN
RELEASE: 23.11
PRINTED FOR
PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

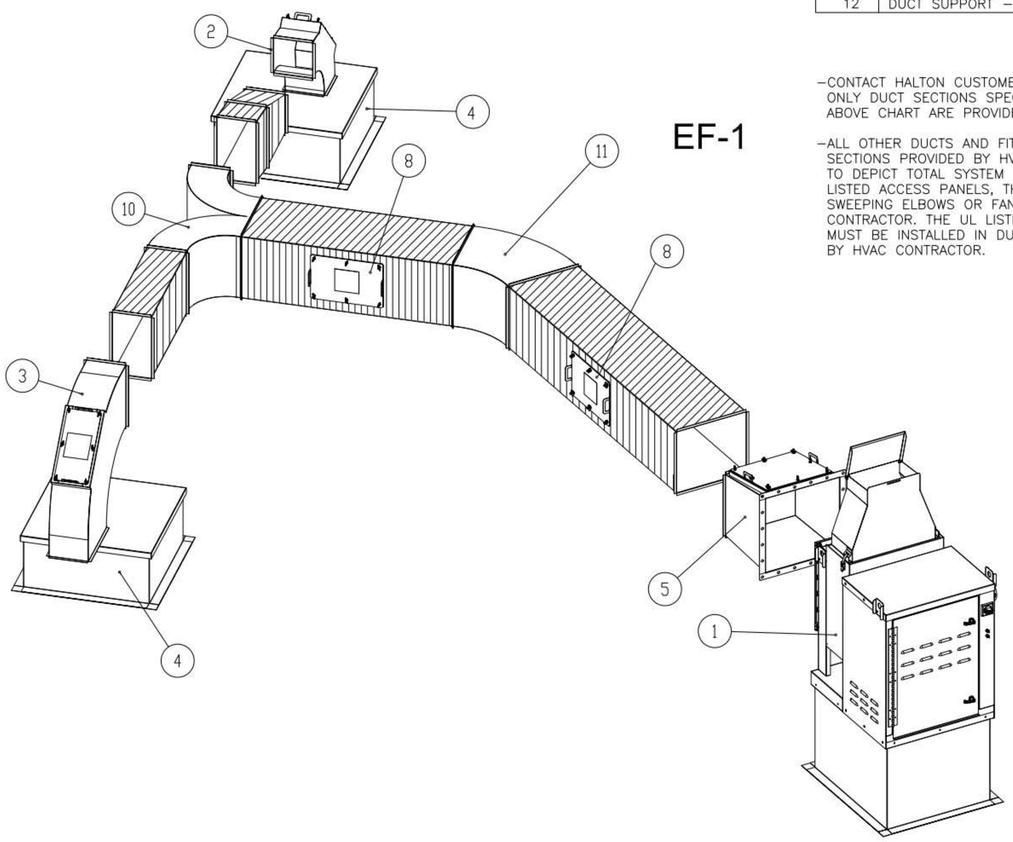
CONSULTANT PROJECT # 24054.EH.S
DATE 5/6/24
DRAWN BY BLM

SHEET
EQUIPMENT SCHEDULES - TRANE

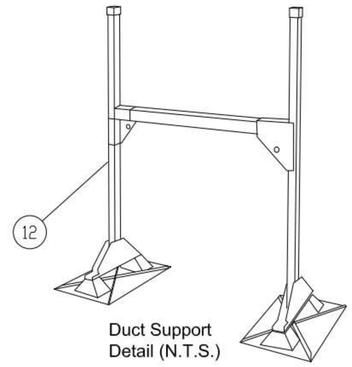
SHEET NUMBER
M-601

ITEM	DESCRIPTION	QTY
1	KEFB EXHAUST FAN W/ ROOF CURB	2
2	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 8X8	3
3	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 14X8	1
4	DUCT ROOF CURB W/ CAP 26X26X9	4
5	FAN TRANSITION W/ UL LISTED ACCESS PANEL 14X16	1
6	FAN TRANSITION W/ UL LISTED ACCESS PANEL 10X16	1
7	UL LISTED ACCESS PANEL 7X15	4
8	UL LISTED ACCESS PANEL 10X15	2
9	LONG SWEEPING WYE 8X10	1
10	LONG SWEEPING WYE 14X8	1
11	45° 14X16	1
12	DUCT SUPPORT – AS NEEDED, BY HVAC CONTRACTOR	

EF-1

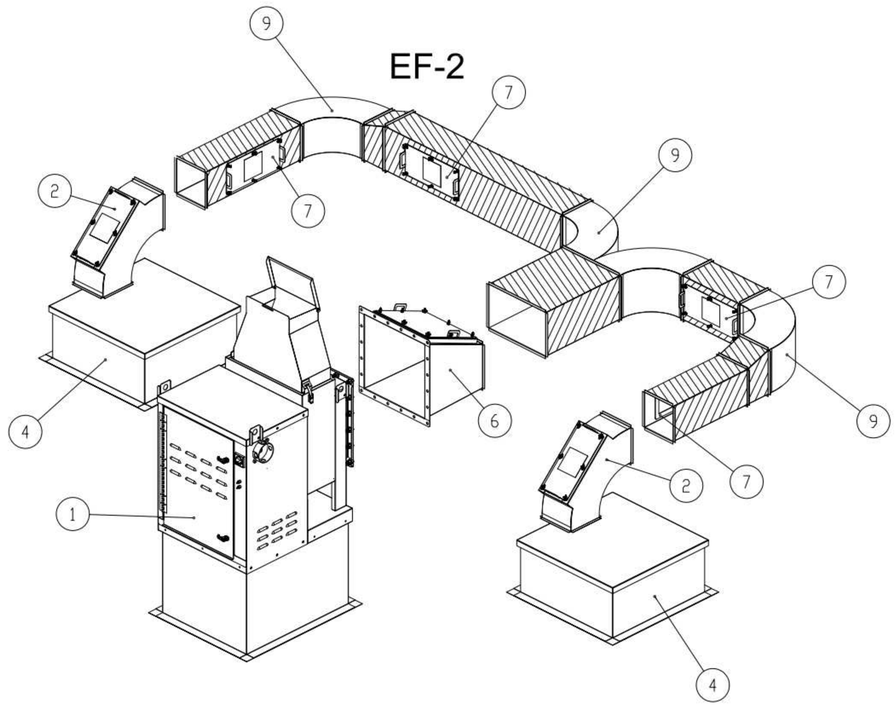


- CONTACT HALTON CUSTOMER SERVICE FOR HALTON PROVIDED ITEMS ONLY DUCT SECTIONS SPECIFIED BY NUMBERS AND SHOWN IN THE ABOVE CHART ARE PROVIDED BY HALTON
- ALL OTHER DUCTS AND FITTINGS BY HVAC CONTRACTOR. DUCT SECTIONS PROVIDED BY HVAC CONTRACTOR ARE SHOWN IN ORDER TO DEPICT TOTAL SYSTEM DESIGN. DUCT SECTIONS SHOWN WITH UL LISTED ACCESS PANELS, THAT ARE NOT HALTON PROVIDED LONG SWEEPING ELBOWS OR FAN TRANSITIONS, ARE PROVIDED BY HVAC CONTRACTOR. THE UL LISTED ACCESS PANELS PROVIDED BY HALTON MUST BE INSTALLED IN DUCT SECTIONS NOT PROVIDED BY HALTON BY HVAC CONTRACTOR.



Duct Support
Detail (N.T.S.)

EF-2



–ALL DUCTS AND FITTINGS DEPICTED BY HATCH AREAS ARE BY HVAC CONTRACTOR.

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:

1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE TO APPROVER

ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT SPECIFICATIONS MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR, A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

☐ REVISE AND RESUBMIT

APPROVED FOR FABRICATION

☐ WITH NO CHANGES ☐ WITH CHANGES AS NOTED

APPROVED BY _____ DATE _____

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (CANADA) ☐
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 3R7
1-905-624-0301

HALTON CO. (USA) ☒
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5600

WEBSITE: www.halton.com

REV.	BY	DATE	REVISION DESCRIPTION
1			
2			
3			
4			
5			
6			

PROJECT: CHICK-FIL-A FAN DETAILS
LOCATION: PROTO SE/LE/LS/LSR (BN & BP)
DRAWN BY: ACF DATE: 05.10.23
SCALE:
CONSULTANT:

Halton

DRAWING TITLE: CFA FAN DETAILS

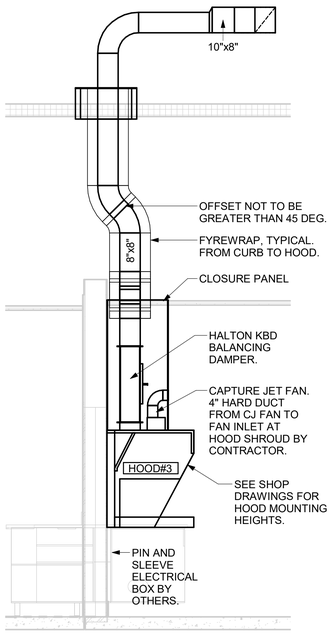
DRAWING No.: U23-459

REV. NO.: 0 SHEET NO.: 2 of 2

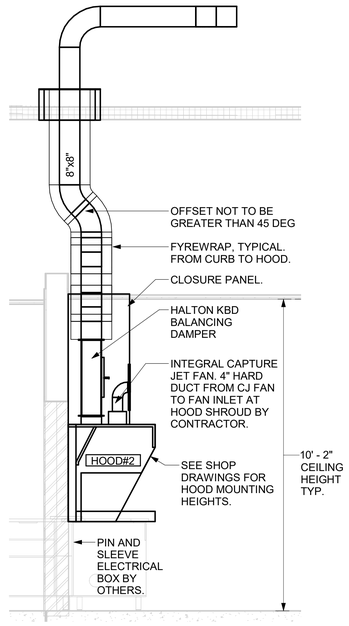
GREASE EXHAUST DUCT CLEARANCE NOTE:
CLEARANCES ABOVE CEILING ARE TIGHT. MECHANICAL CONTRACTOR TO FIELD VERIFY EXACT ROUTING AND CLEARANCES PRIOR TO FABRICATING GREASE EXHAUST DUCT.

CLEANOUT DOOR NOTE:
DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS, NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.

CRITICAL: SET RIGHT SIDE OF HOOD#3 FLUSH WITH FINISHED EDGE OF PASS THRU OPENING.

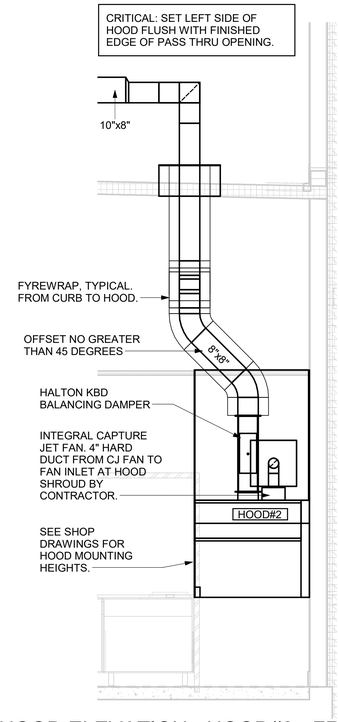


6 HOOD ELEVATION - HOOD#3
NOT TO SCALE

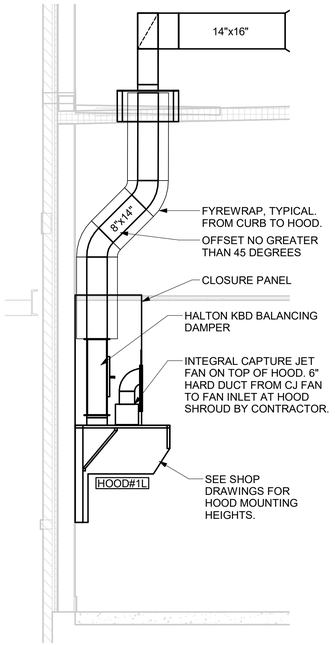


5 HOOD ELEVATION - HOOD#2 - SIDE
NOT TO SCALE

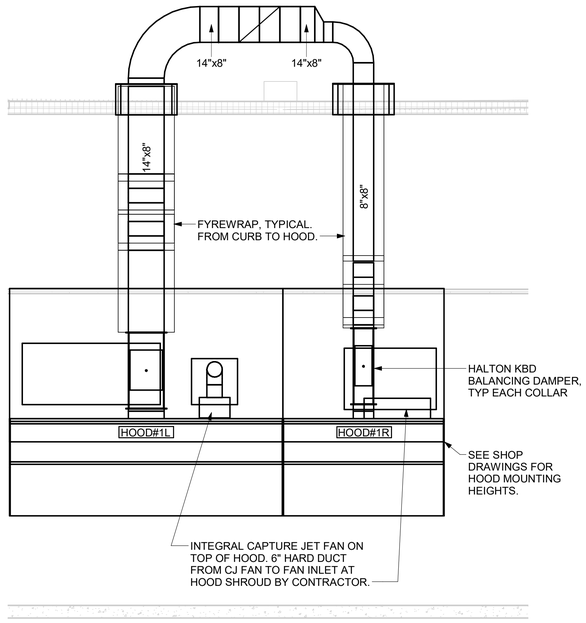
CRITICAL: SET LEFT SIDE OF HOOD FLUSH WITH FINISHED EDGE OF PASS THRU OPENING.



4 HOOD ELEVATION - HOOD#2 - FRONT
NOT TO SCALE



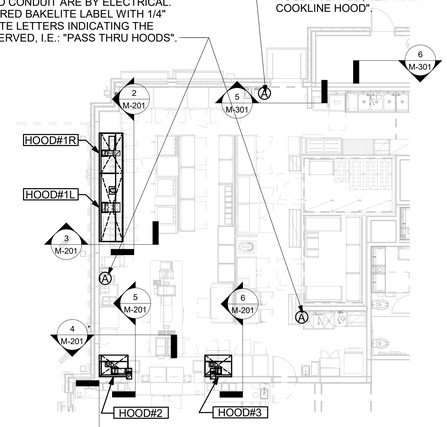
3 HOOD ELEVATION - HOOD#1 - SIDE
NOT TO SCALE



2 HOOD ELEVATION - HOOD#1 - FRONT
NOT TO SCALE

PULL STATION SERVING HOOD#1 ADJACENT TO HANDSINK. LOCATE PULL STATION BETWEEN 42" AND 48" AFF. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT ELEVATIONS. J-BOX AND CONDUIT ARE BY ELECTRICAL. PROVIDE RED BAKELITE LABEL WITH 1/4" HIGH WHITE LETTERS INDICATING THE HOODS SERVED, I.E.: "MAIN COOKLINE HOOD".

PULL STATIONS SERVING BOTH HOOD#2 AND HOOD#3 ON WALL WHERE SHOWN. LOCATE PULL STATION BETWEEN 42" AND 48" AFF. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT ELEVATIONS. J-BOX AND CONDUIT ARE BY ELECTRICAL. PROVIDE RED BAKELITE LABEL WITH 1/4" HIGH WHITE LETTERS INDICATING THE HOODS SERVED, I.E.: "PASS THRU HOODS".



1 HOOD LAYOUT
NOT TO SCALE 2 M-301

Autodesk Docs://NJ_05444_Sayreville_2023.8_FSR/05444_Sayreville_K&A_MEC.rvt
1/12/2024 10:06:34 AM
30-SE-05444-M-201-EXHAUST HOOD ELEVATIONS

Chick-fil-A
5200 Buffington Road
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MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646
STATE OF NEW JERSEY · MARK T. KURZYNSKE · NO. GE44646 · LICENSED PROFESSIONAL ENGINEER
01/15/24

CHICK-FIL-A SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

BUILDING TYPE / SIZE: P14 SE BN
RELEASE: 23.09
PRINTED FOR PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

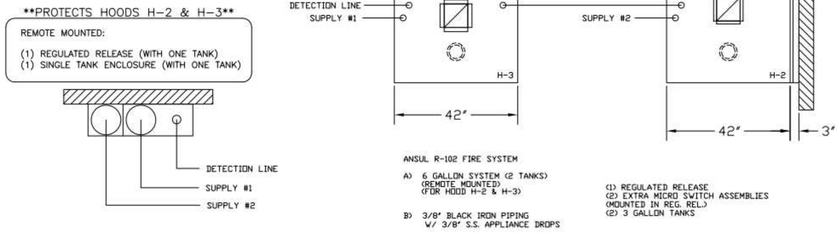
CONSULTANT PROJECT # 24003.EH.S
DATE 01/15/2024
DRAWN BY BLM

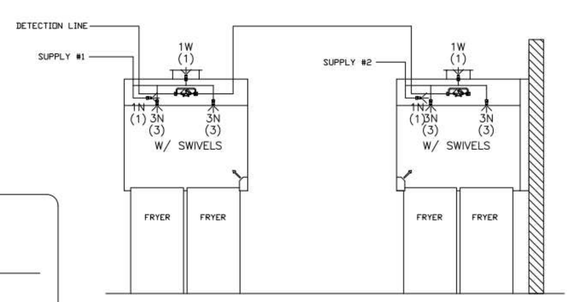
SHEET
EXHAUST HOOD ELEVATIONS

SHEET NUMBER
M-201

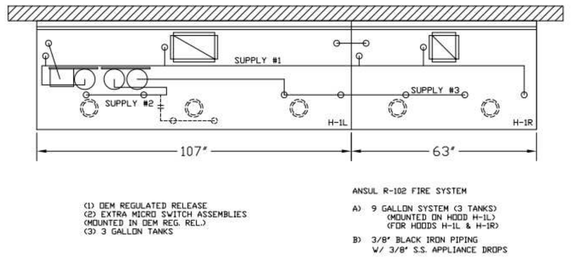
NOTE:

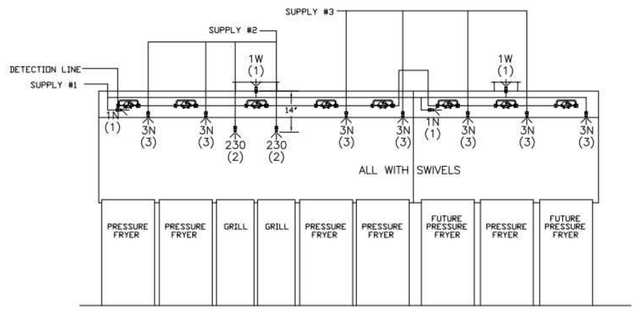
FIRE SYSTEM TYPE TO BE DETERMINED AT TIME OF ORDER RELEASE.





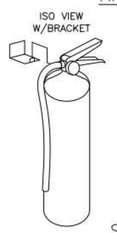
ANSUL R-102 FIRE SYSTEM LAYOUT





ANSUL R-102 FIRE SYSTEM LAYOUT

FIRE EXTINGUISHER



5 LBS. ABC
MODEL B402 QTY:_____

10 LBS. ABC
MODEL B456 QTY:_____

6 LTR CLASS K
MODEL C-260 QTY:_____

SUPPLIED BY HALTON

FUSIBLE LINK RATINGS

ITEM	TEMP
OPEN FRYERS	450°
2 BURNER / FLAT TOP	450°
PRESSURE FRYERS	450°
GRILL	450°
EXHAUST COLLARS	450°

ANSUL R-102 FIRE SYSTEM NOTES
THREE TANK SYSTEM MOUNTED ON TOP OF (H-1L)
MAXIMUM FLOW POINTS = 33

ANSUL R-102 FIRE SYSTEM NOTES
TWO TANK SYSTEM REMOTE MOUNTED
MAXIMUM FLOW POINTS = 22

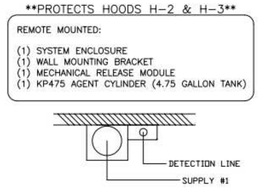
ITEM #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
1W	4	DUCT NOZZLES	4
1N	4	PLENUM NOZZLES	4
230	2	APPLIANCE NOZZLES	4
3N	11	APPLIANCE NOZZLES	33
		TOTAL FLOW POINTS - 45	

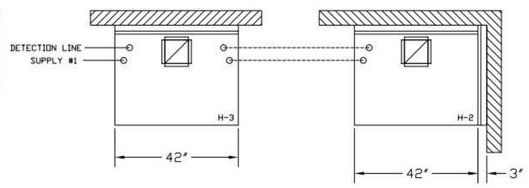
ITEM #	QTY	DESCRIPTION
#200	8	SERIES DETECTORS W/ FUSIBLE LINKS
#201	2	TERMINAL DETECTOR W/ FUSIBLE LINKS
#202	1	OEM REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH
#202	1	REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH
#203	5	3 GALLON TANKS
#204	1	SINGLE TANK ENCLOSURE
#205	2	REMOTE PULL STATION

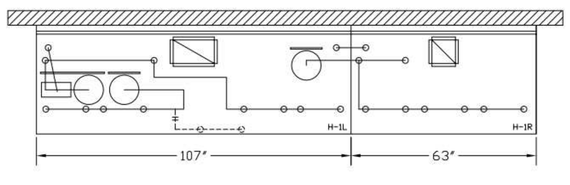
ANSUL R-102 FIRE SYSTEM
UL LISTED PER STD LATEST STD 300

1. FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICAPBLE CODES
2. ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN. MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY ANSUL INSTALLER
3. REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

1/2" BLACK IRON SUPPLY LINE REQ'D FROM TANK TO FIRST BRANCH LINE FOR 475 TANKS ONLY!

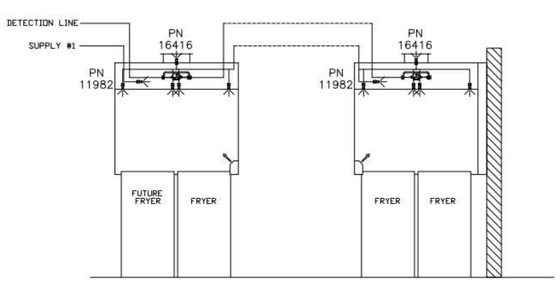




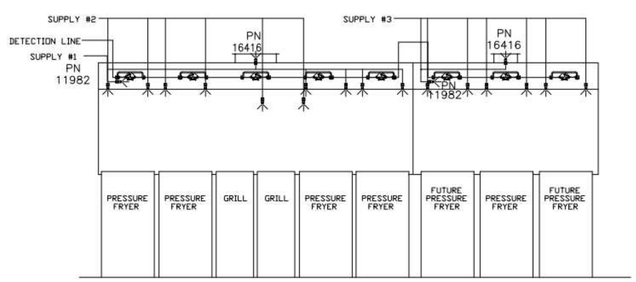


ALL APPLIANCE NOZZLES FOR H-2 & H-3 ARE PN 11982 NOZZLES W/ SWIVELS.

ALL APPLIANCE NOZZLES FOR PRESSURE FRYERS ARE PN 13729 NOZZLES W/ SWIVELS. ALL GRILL NOZZLES ARE 14178 NOZZLES W/ SWIVELS.



AMEREX FIRE SYSTEM LAYOUT



AMEREX FIRE SYSTEM LAYOUT

FUSIBLE LINK RATINGS

ITEM	TEMP
OPEN FRYERS	450°
2 BURNER / FLAT TOP	450°
PRESSURE FRYERS	450°
GRILL	450°
EXHAUST COLLARS	450°

AMEREX FIRE SYSTEM NOTES
(1) KP375 & (2) KP475 TANK SYSTEM MOUNTED ON TOP OF (H-1L)
MAXIMUM FLOW POINTS = 39

AMEREX FIRE SYSTEM NOTES
KP475 TANK SYSTEM REMOTE MOUNTED
(1) TANK
MAXIMUM FLOW POINTS = 14

ITEM #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
16416	4	DUCT NOZZLES	4
11982	4	PLENUM NOZZLES	4
11982	8	APPLIANCE NOZZLES	8
14178	2	APPLIANCE NOZZLES	4
13729	14	APPLIANCE NOZZLES	28
		TOTAL FLOW POINTS - 48	

ITEM #	QTY	DESCRIPTION
12508-P001	10	DETECTOR BRACKET ASSEMBLY
13334	1	KP375 AGENT CYLINDER
17379	3	KP475 AGENT CYLINDER
18001	1	MECHANICAL RELEASE MODULE W/ DOUBLE POLE MICRO SWITCH
25851	1	SYSTEM ENCLOSURE W/ DOUBLE POLE MICRO SWITCH
16920	1	WALL MOUNTING BRACKET
21481	3	REMOTE MANUAL PULL STATION

AMEREX FIRE SYSTEM
TESTED & LISTED BY UNDERWRITERS LABORATORIES, INC. TO UL STANDARD 300.

1. FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICAPABLE CODES
2. ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN. MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY AMEREX INSTALLER
3. REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

ANSUL

AMEREX

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFYING THE FOLLOWING:
1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.
NOTE TO APPROVER
ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR, A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.
☐ REVISE AND RESUBMIT
APPROVED FOR FABRICATION ☐ WITH CHANGES AS NOTED
☐ WITH NO CHANGES
APPROVED BY DATE

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (USA) ☐
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5600

HALTON CO. (CANADA)
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 3R7
1-905-624-0301

WEBSITE: WWW.HALTON.COM

REV.	BY	DATE	REVISION DESCRIPTION
1	–	–	
2			
3			
4			
5			
6			
7			

PROJECT: CHICK-FIL-A P14
LS/LE/SE/DTO/DTN BUILDING
LOCATION: – –
DRAWN BY: CG
SCALE: NTS
DATE: 08.09.22
Halton Dwg: U22-606-02FS

Halton
CARE FOR INDOOR AIR

Sheet
MH-1.2

VENTILATION SCHEDULE

General			Ventilation												Exhaust							Served by	
			People				Area								Area		Toilet						
Room #	Room Name	Area A_z ft^2	Occupant Density People/1,000 ft^2	Occupants People P_z	Outdoor Airflow Rate CFM/Person R_p	Outdoor Airflow CFM $P_z \times R_p$	Outdoor Airflow Rate CFM/ft^2 R_a	Outdoor Airflow CFM $A_z \times R_a$	Breathing Zone Outdoor Airflow CFM V_{bz}	Zone Air Distribution Effectiveness E_z	Zone Outdoor Airflow CFM V_{oz}	Primary Zone Airflow CFM V_{pz}	Primary Outdoor Air Fraction Z_p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft^2	Total Required Exhaust CFM	Exhaust Control/ Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust
1	Kitchen	1,060	20	22	7.5	165	0.12	127	292	0.8	366	7,700	0.05	1,658	1	742	-	-	-	3,315	AC#1 / ALT AC#1	EF-1 / EF-2
2	Kitchen (Dish Washing)	161	15	3	7.5	23	0.18	29	51	0.8	65	425	0.15	92	-	-	-	-	-	-	AC#1 / ALT AC#1	-
	Total Area	1,221							Total V_{bz}	344	Total Supply Airflow		8,125		1,750	Actual Outdoor Airflow						
									Diversity (D)	0.80			Maximum Zp	0.15								
									Uncorrected Outdoor Air Intake (V_{ou})	312	System Ventilation Efficiency (E_v)			0.90								
									Required Outdoor Air Intake (CFM)	347												

VENTILATION SCHEDULE

General			Ventilation												Exhaust							Served by	
			People				Area								Area		Toilet						
Room #	Room Name	Area A_z ft^2	Occupant Density People/1,000 ft^2	Occupants People P_z	Outdoor Airflow Rate CFM/Person R_p	Outdoor Airflow CFM $P_z \times R_p$	Outdoor Airflow Rate CFM/ft^2 R_a	Outdoor Airflow CFM $A_z \times R_a$	Breathing Zone Outdoor Airflow CFM V_{bz}	Zone Air Distribution Effectiveness E_z	Zone Outdoor Airflow CFM V_{oz}	Primary Zone Airflow CFM V_{pz}	Primary Outdoor Air Fraction Z_p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft^2	Total Required Exhaust CFM	Exhaust Control/ Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust
5	Meal Fulfillment Area	453	15	7	7.5	52.5	0.18	82	134	0.8	168	4,375	0.04	1,075	-	-	-	-	-	-	AC#2 / ALT AC#2	-
	Total Area	453							Total V_{bz}	134	Total Supply Airflow		4,375		1,075	Actual Outdoor Airflow						
									Diversity (D)	1.00			Maximum Zp	0.03								
									Uncorrected Outdoor Air Intake (V_{ou})	134	System Ventilation Efficiency (E_v)			1.00								
									Required Outdoor Air Intake (CFM)	134												

VENTILATION SCHEDULE

General			Ventilation												Exhaust							Served by	
			People				Area								Area		Toilet						
Room #	Room Name	Area A_z ft^2	Occupant Density People/1,000 ft^2	Occupants People P_z	Outdoor Airflow Rate CFM/Person R_p	Outdoor Airflow CFM $P_z \times R_p$	Outdoor Airflow Rate CFM/ft^2 R_a	Outdoor Airflow CFM $A_z \times R_a$	Breathing Zone Outdoor Airflow CFM V_{bz}	Zone Air Distribution Effectiveness E_z	Zone Outdoor Airflow CFM V_{oz}	Primary Zone Airflow CFM V_{pz}	Primary Outdoor Air Fraction Z_p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft^2	Total Required Exhaust CFM	Exhaust Control/ Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust
1	Dining	1,374	70	97	7.5	727.5	0.18	247	975	0.8	1219	3,900	0.312	947	-	-	-	-	-	-	AC#3 / ALT AC#3	-
2	Serving	300	15	5	7.5	38	0.18	54	92	0.8	115	500	0.23	121	-	-	-	-	-	-	AC#3 / ALT AC#3	-
3	Men's RR	155	-	-	-	-	-	-	-	0.8	-	100	-	24	-	-	Continuous	50	100	150	AC#3 / ALT AC#3	EF-3
4	Women's RR	156	-	-	-	-	-	-	-	0.8	-	100	-	24	-	-	Continuous	50	100	150	AC#3 / ALT AC#3	EF-3
5	RR Vestibule	100	-	-	-	-	0.06	6	6	0.8	8	50	0.15	12	-	-	-	-	-	-	AC#3 / ALT AC#3	-
6	Exit Vestibule	36	-	-	-	-	0.06	2	2	0.8	3	200	0.01	49	-	-	-	-	-	-	AC#3 / ALT AC#3	-
7	Entry Vestibule	77	-	-	-	-	0.06	5	5	0.8	6	400	0.01	97	-	-	-	-	-	-	AC#3 / ALT AC#3	-
	Total Area	2,198							Total V_{bz}	1,079	Total Supply Airflow		5,250		1,275	Actual Outdoor Airflow						
									Diversity (D)	0.80			Maximum Zp	0.312								
									Uncorrected Outdoor Air Intake (V_{ou})	1,018	System Ventilation Efficiency (E_v)			0.80								
									Required Outdoor Air Intake (CFM)	1,271												

VENTILATION SCHEDULE

General			Ventilation												Exhaust							Served by	
			People				Area								Area		Toilet						
Room #	Room Name	Area A_z ft^2	Occupant Density People/1,000 ft^2	Occupants People P_z	Outdoor Airflow Rate CFM/Person R_p	Outdoor Airflow CFM $P_z \times R_p$	Outdoor Airflow Rate CFM/ft^2 R_a	Outdoor Airflow CFM $A_z \times R_a$	Breathing Zone Outdoor Airflow CFM V_{bz}	Zone Air Distribution Effectiveness E_z	Zone Outdoor Airflow CFM V_{oz}	Primary Zone Airflow CFM V_{pz}	Primary Outdoor Air Fraction Z_p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft^2	Total Required Exhaust CFM	Exhaust Control/ Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust
1	Employee RR	62	-	-	-	-	-	-	-	0.8	-	40	-	10	-	-	Intermittent	70	70	75	AC#4 / ALT AC#4	EF-4
2	Service	122	-	-	-	-	0.12	15	15	0.8	19	385	0.05	94	-	-	-	-	-	-	AC#4 / ALT AC#4	-
3	Team Member Room	171	50	9	5	45	0.06	10	55	0.8	70	700	0.10	170	-	-	-	-	-	-	AC#4 / ALT AC#4	-
4	Office	70	5	1	5	5	0.06	4	9	0.8	12	200	0.06	49	-	-	-	-	-	-	AC#4 / ALT AC#4	-
5	Riser Room	107	-	-	-	-	0.12	13	13	0.8	17	425	0.04	103	-	-	-	-	-	-	AC#4 / ALT AC#4	-
	Total Area	532							Total V_{bz}	92	Total Supply Airflow		1,750		425	Actual Outdoor Airflow						
									Diversity (D)	0.90			Maximum Zp	0.09								
									Uncorrected Outdoor Air Intake (V_{ou})	88	System Ventilation Efficiency (E_v)			1.00								
									Required Outdoor Air Intake (CFM)	87												

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646

STATE OF NEW JERSEY · MARK T. KURZYNSKE · NO. GE44646 · LICENSED PROFESSIONAL ENGINEER

01/15/24

CHICK-FIL-A
SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

BUILDING TYPE / SIZE: P14 SE BN
RELEASE: 23.09
PRINTED FOR
PERMIT

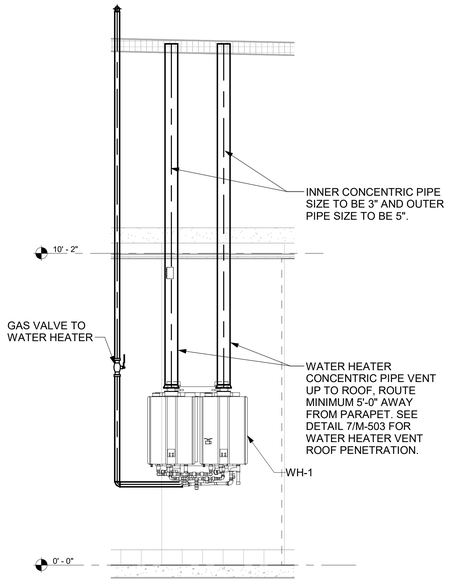
REVISION SCHEDULE

NO.	DATE	DESCRIPTION

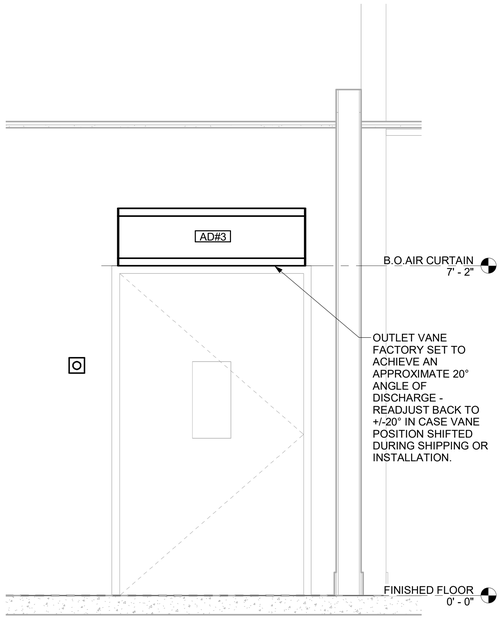
CONSULTANT PROJECT # 24003.EH.S
DATE 01/15/2024
DRAWN BY BLM

SHEET
VENTILATION SCHEDULES

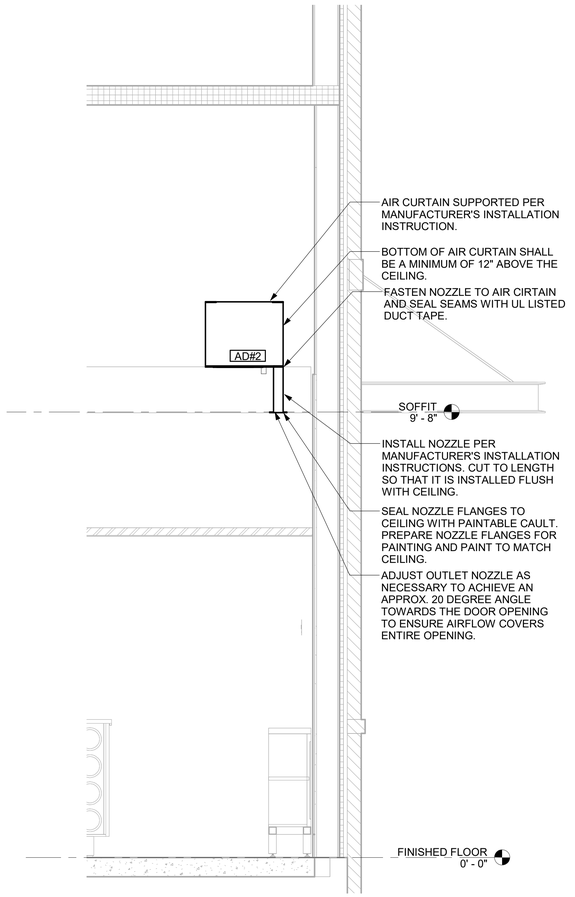
SHEET NUMBER
M-602



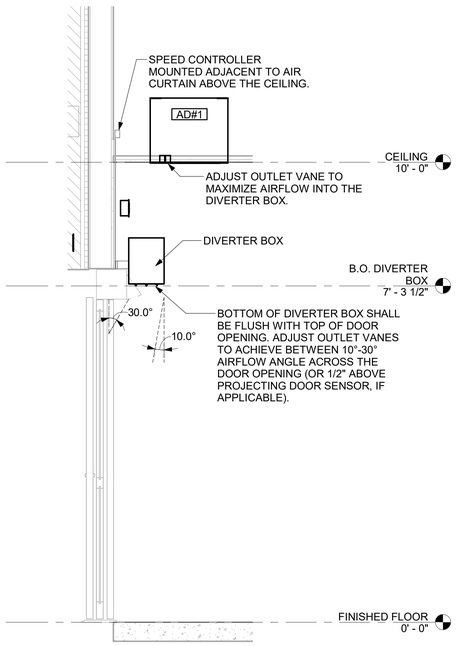
6 WATER HEATER GAS PIPING AND VENTING
NOT TO SCALE



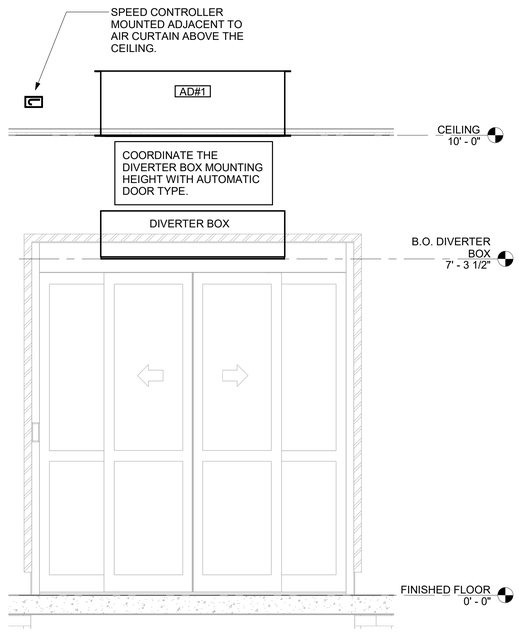
5 AD#3 FRONT VIEW
3/4" = 1'-0"



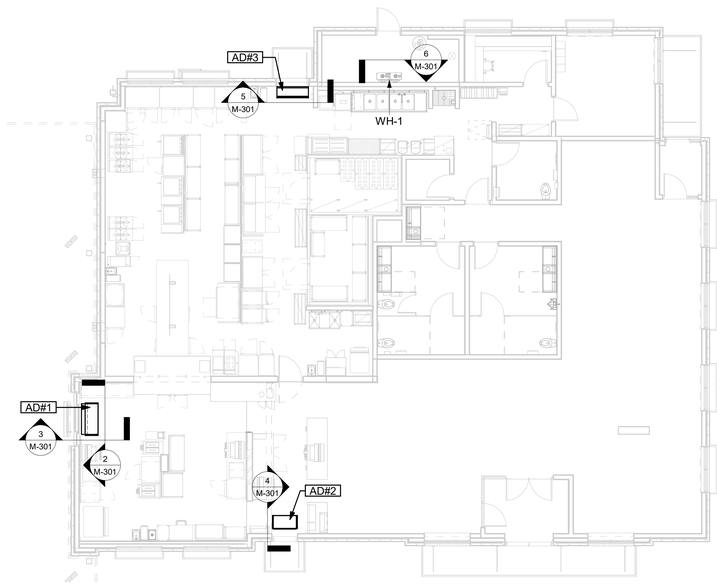
4 AD#2 SIDE VIEW
3/4" = 1'-0"



3 AD#1 SIDE VIEW
3/4" = 1'-0"



2 AD#1 FRONT VIEW
3/4" = 1'-0"



1 VARIOUS SECTIONS
1/8" = 1'-0"

Chick-fil-A
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NEW JERSEY LICENSE # GE44646
STATE OF NEW JERSEY · MARK T. KURZYNSKE · NO. GE44646 · LICENSED PROFESSIONAL ENGINEER
01/15/24

CHICK-FIL-A
SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

BUILDING TYPE / SIZE: P14 SE BN
RELEASE: 23.09
PRINTED FOR
PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT #	24003.EH.S
DATE	01/15/2024
DRAWN BY	BLM

SHEET
SECTIONS

SHEET NUMBER
M-301

ROOFTOP UNIT SCHEDULE - TRANE

MARK	TOTAL COOLING MBH	SENSIBLE COOLING MBH	HEATING INPUT MBH	HEATING OUTPUT MBH	SUPPLY AIRFLOW (CFM)	OA (CFM)	HP	# OF FANS	ESP (in-wg)	EER	IEER/ SEER	VOLTAGE (V)	PHASE	MCA (A)	MOCP (A)	MODEL	MFGR	REMARKS
AC#1	271.1	202.4	400	324	8,125	1,750	3	2	0.80	9.8	13	208	3	125	150	YSJ300A3S	TRANE	1,3,4,5,6,8,9,10,11,12,13,14,15,16
AC#2	150.9	114.9	250	202.5	4,375	1,075	4.6	1	0.80	10.8	14	208	3	71	90	YSJ150A3S	TRANE	1,3,4,5,6,8,9,10,11,12,13,14,15,16
AC#3	184.3	140.4	400	324	5,250	1,275	3	2	0.80	10.8	14	208	3	83	110	YSJ180A3S	TRANE	1,3,4,5,6,8,9,10,11,12,13,14,15,16
AC#4	58.1	44.2	130	104	1,750	425	1	1	0.80	13	17.2	208	3	33	45	YHC067E3R	TRANE	2,3,4,5,6,7,8,9,10,11,12,13,14,16

NOTES
- MECHANICAL CONTRACTOR TO VERIFY TRANE SUBMITTAL WITH CONSTRUCTION DOCUMENTS. NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
1. DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST. PROVIDE WITH FACTORY FAULT DETECTION AND DIAGNOSTICS.
2. DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST. PROVIDE WITH FACTORY FAULT DETECTION AND DIAGNOSTICS.
3. 14" HIGH ROOF CURB.
4. SEE DETAIL 2/M-701 FOR SETTING OF CONTROL PARAMETERS BY MC.
5. FACTORY INSTALLED 115V GFI SERVICE OUTLET. SEPERATE 115V CIRCUIT PROVIDED BY ELECTRICAL CONTRACTOR.
6. FACTORY INSTALLED RETURN AIR SMOKE DETECTOR.
7. FACTORY INSTALLED NON-FUSED DISCONNECT.
8. 2" MERV 8 THROW AWAY FILTERS.
9. HINGED PANELS FOR ACCESS TO FILTER(S), FAN BLOWER & MOTOR, COMPRESSOR(S) ACCESS AND CONTROLS.
10. FACTORY COIL HAIL GUARD, FIELD INSTALLED.
11. HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
12. FACTORY INSTALLED BELT TENSIONER.
13. FACTORY CONFIGURED PHASE LOSS PROTECTION.
14. FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
15. PROVIDE FACTORY HIGH FAULT (65K) SCCR AND FACTORY CIRCUIT BREAKER.
16. FRESH AIR TEMPERING KIT.

HOOD SCHEDULE

MARK	EXHAUST CFM	SP @ TAB PORT (in-wg)	CAPTURE JET CFM & S.P.	TYPE	COLLAR SIZE	WIDTH	DEPTH	HEIGHT	MANUFACTURER	MODEL	REMARKS
HOOD#1L	1,204	0.13	80 @ 0.30"	BACKSHELF	14"X8"	107"	37"	38"	HALTON	KVL-2 IC	1
HOOD#1R	709	0.13	47 @ 0.30"	BACKSHELF	8"X8"	63"	37"	38"	HALTON	KVL-2 IC	1
HOOD#2	701	0.3	30 @ 0.29"	BACKSHELF	8"X8"	45"	34"	38"	HALTON	KVL-C-IC	1
HOOD#3	701	0.3	30 @ 0.29"	BACKSHELF	8"X8"	42"	34"	38"	HALTON	KVL-C-IC	1

NOTES
- DIMENSIONS OF HOODS INCLUDE BACK AND SIDE SPACERS (HEIGHT DOES NOT INCLUDE CLOSURE PANELS). NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
1. REFER TO HOOD SHOP DRAWINGS FOR HOOD CONSTRUCTION AND OPTIONS. HOOD SHOP DRAWINGS ARE INCLUDED FOR REFERENCE ON SHEETS MH-1.1 AND MH-1.2.

HEATER SCHEDULE

MARK	HEATIING INPUT		FRAME LENGTH	FRAME WIDTH	FRAME DEPTH	MOUNTING TYPE	VOLTAGE (V)	PHASE	FLA (A)	MOCP (A)	MODEL	MFGR	REMARKS
	INPUT (kW)	INPUT (MBH)											
EIH#1	6.00	0.0	56"	8.5"	3.5"	WALL BRACKET	208	1	29	40	BH0420035	BROMIC	1,2,3
IRH	0.00	50.0	48"	13.4"	9.7"	BRACKET	120	1	0	0	WB50-N7-CM	SPACE RAY	5,6,7

NOTES
- CONFIRM HEATER QUANTITY WITH CANOPY SHOP DRAWINGS.
- NATIONAL ACCOUNT NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
1. STAINLESS STEEL LENS WITH BLACK EMISSIVE COATING.
2. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND.
3. PROVIDE BLACK HEATER WITH HIGH TEMPERATURE COATING, AND MANUFACTURER MOUNTING BRACKETS.
4. NOT USED.
5. STEEL BURNER WITH CERAMIC BURNER TILES.
6. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. MOUNT TO CANOPY DECK, FACING FORWARD, 12" LATERALLY FROM THE LONG SIDE OF THE HEATER.
7. STAINLESS STEEL HEAT SHIELDS PROVIDED BY TOM BARROW COMPANY.

FAN SCHEDULE

MARK	FAN CFM	ESP (in-wg)	MOTOR RPM	HP	AREA SERVED	VOLTAGE (V)	PHASE	FLA (A)	MOCP (A)	MODEL	MANUFACTURER	REMARKS
CF-1	1,900	0.01	1,625	0.1	OUTDOOR CANOPY	120	1	1.1	20	U-18-TE-HD	TPI	20,21,24
EF#1	1,913	0.75	1,331	0.75	HOOD#1	120	1	0	25	KEFB-14-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#2	1,402	0.95	1,199	0.75	HOOD#2 & HOOD#3	115	1	0	25	KEFB-14-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#3	300	0.375	1,550	0.125	RESTROOMS	120	1	2.2	20	XRED-095-VG	ACCUREX	1,3,11,12,13,14,15,16
EF#4	75	0.26	900	0.02	RESTROOMS	120	1	0.2	20	SP-A90	GREENHECK	1,22,23
TF#1	450	0.3	1,144	0.127	TECH CLOSET	120	1	2.5	0	SP-A510-VG	GREENHECK	1,17,18,19

NOTES
- GREASE EXHAUST FAN RPM BASED ON 80 DEGREE F AIR AT 1000 FEET ABOVE SEA LEVEL.

REMARKS
1. FANS SUPPLIED BY HALTON.
2. U.L. 705 LISTED AND LABELED FOR RESTUARANT APPLICATIONS.
3. FACTORY INSTALLED PREWIRED DISCONNECT SWITCH.
4. 19" HIGH ROOF CURB.
5. INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034.
6. FACTORY WEATHER HOUSING W/ HINGED ACCESS DOOR.
7. FACTORY DRAIN CONNECTION.
8. FACTORY BOLTED ACCESS DOOR ON SCROLL.
9. FACTORY INSTALLED BELT DRIVE WITH ADJUSTABLE MOTOR SHEAVE, SPARE BELT, AND BELT TENSIONER.
10. FACTORY INSTALLED OUTLET WITH QUICK RELEASE, HINGED ACCESS, AND GRAVITY BACKDRAFT DAMPER.
11. INTEGRAL THERMAL OVERLOAD.
12. BIRDSCREEN.
13. BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 5/M-501.
14. STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
15. 12" HIGH CURB.
16. FACTORY INSTALLED AND WIRED SPEED CONTROLLER.
17. PROVIDE NEMA 1 PREWIRED DISCONNECT.
18. INTEGRAL POTENTIOMETER ON FAN MOTOR. SET TO FULL SPEED.
19. PROVIDE THERMOSTAT / TEMPERATURE CONTROLLER, SET TO 76°F.
20. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
21. PROVIDE WITH ON/OFF SWITCH.
22. FAN SHALL BE CONTROLLED WITH THE ROOM LIGHTING. ALL WIRING IS BY THE ELECTRICAL CONTRACTOR.
23. DIRECT DRIVE CEILING FAN. PROVIDE DISCONNECT SWITCH. INTEGRAL BACKDRAFT DAMPER, AND MANUFACTURER'S FAN SPEED CONTROLLER.
24. FAN SUPPLIED BY TOM BARROW.

AIR DOOR SCHEDULE

MARK	CFM	VELOCITY (FPM)	HEATING (KW)	MOTOR HP	MCA (A)	MOCP (A)	VOLTAGE (V)	PHASE	AREA SERVED	MODEL	MANUFACTURER	REMARKS
AD#1	1,543	2,338	10	0.75	31.4	40	208	3	DRIVE THRU	CHA-1-48E	POWERED AIRE	1,2,3,5
AD#2	1,197	2,443	10	0.75	31.4	40	208	3	SERVING	CHA-1-36E	POWERED AIRE	1,2,3,6
AD#3	3,867	4,218	0	0.75	3.6	20	208	1	REAR DOOR	RBT-1-48	POWERED AIRE	4

NOTES
- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS
1. FACTORY PROVIDED, WIRED, AND UNIT MOUNTED SPEED CONTROLLER ABOVE CEILING.
2. FACTORY WIRED DISCONNECT.
3. FACTORY PROVIDED, FIELD INSTALLED BY MC, REMOTE WALL SWITCHES FOR HEATING ON/OFF AND FAN ON/AUTO SWITCH. SEE DETAILS ON M-702.
4. FACTORY PROVIDED MAGNETIC DOOR CONTACT WITH FACTORY INSTALLED LOW VOLTAGE CONTROLS LOCATED IN AIR DOOR CABINET.
5. PROVIDE WITH A DIVERTER BOX. PROVIDE WITH MOUNTING BRACKETS PER MANUFACTURER'S RECOMMENDATIONS.
6. PROVIDE WITH NOZZLE EXTENSION, SEE DETAIL 4/M-301 .

AIR DEVICE SCHEDULE

MARK	DESCRIPTION	LOCATION	NECK SIZE	FACE SIZE	FRAME TYPE	REMARKS
A	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING/KITCHEN	VARIES	24"x24"	LAY-IN	1,7
B	VARITHERM PLAQUE DIFFUSER	OFFICE	12"	24"x24"	LAY-IN	1,7,8
C	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	ENTRY	17"x17"	19"x19"	BEVELLED	1,3,5,6
D	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING	VARIES	16"x16"	SURFACE	1,3,5,6
F	PRICE MODEL 80 EGGCRATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	DINING/OFFICE/ KITCHEN	VARIES	24"x24"	LAY-IN	1,7
FF	PRICE MODEL 80FF STEEL FILTER RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND 2" FILTER FRAME.	MFA	18"x18"	24"x24"	LAY-IN	1
J	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	RESTROOMS	10"x10"	15"x15"	BEVELLED	1,2,3,5,6
K	PRICE MODEL APDDR ALUMINUM PERFORATED FACE RETURN AIR GRILLE.	RESTROOMS/ ENTRY	14"x14"	16"x16"	SURFACE	1,4,5,6

NOTES
- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS
1. STANDARD OFF WHITE FINISH.
2. PROVIDE MODEL VCS3 NECK DAMPER.
3. SEE DRAWING M-101 FOR THROW.
4. PROVIDE MODEL VCR7 NECK DAMPER ON GRILLES IN RESTROOMS SERVING EXHAUST FAN.
5. PROVIDE BACKPAN. MC TO SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY.
6. FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 3/M-501.
7. FACTORY INSULATED R-6 BACKPAN.
8. PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646

STATE OF NEW JERSEY — MARK T. KURZYNSKE — NO. GE44646 — LICENSED PROFESSIONAL ENGINEER

01/15/24

CHICK-FIL-A
SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

BUILDING TYPE / SIZE: P14 SE BN
RELEASE: 23.09
PRINTED FOR
PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT #	24003.EH.S
DATE	01/15/2024
DRAWN BY	BLM

SHEET
EQUIPMENT SCHEDULES - TRANE

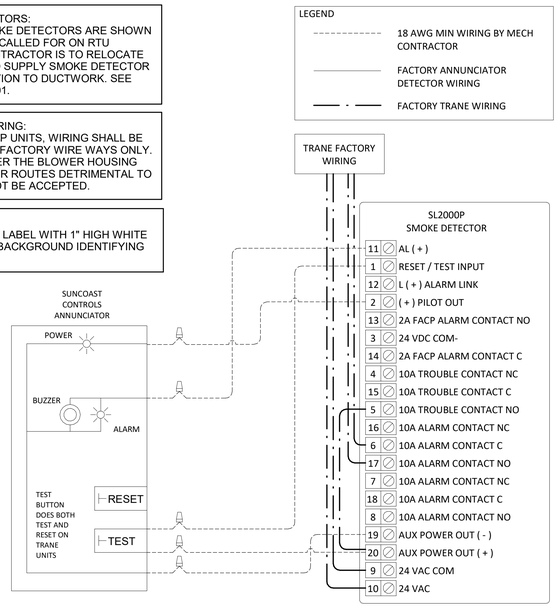
SHEET NUMBER
M-601

Autodesk Docs://NJ_05444_Sayreville_2023.8_FSR/05444_Sayreville_K&A_MEC.rvt
1/12/2024 10:06:45 AM
30-SE-05444-M-601-EQUIPMENT SCHEDULES - TRANE

SUPPLY SIDE DETECTORS:
IF SUPPLY SIDE SMOKE DETECTORS ARE SHOWN ON DWG M-101, AND CALLED FOR ON RTU SCHEDULE, THE CONTRACTOR IS TO RELOCATE FACTORY INSTALLED SUPPLY SMOKE DETECTOR FROM BLOWER SECTION TO DUCTWORK. SEE NOTES ON DWG M-101.

FIELD INSTALLED WIRING:
WITHIN THE ROOFTOP UNITS, WIRING SHALL BE ROUTED BY WAY OF FACTORY WIRE WAYS ONLY. WIRING ROUTED OVER THE BLOWER HOUSING OR BY WAY OF OTHER ROUTES DETRIMENTAL TO WIRING LIFE WILL NOT BE ACCEPTED.

LABELING:
PROVIDE ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON BLACK BACKGROUND IDENTIFYING UNIT SERVED.



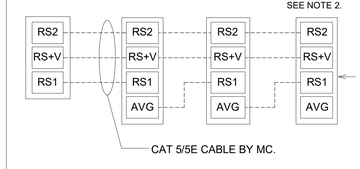
1 SMOKE DETECTOR AND ANNUNCIATOR WIRING DIAGRAM - TRANE
NOT TO SCALE

KEYED NOTES:
8. LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY.
9. WIRING TO HUMIDITY SENSOR TO BE MADE WITH SINGLE 18/2 SENSOR CABLE: W221P-2003NT ONLY
10. NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. SENSOR IS INTENDED TO BE SURFACE MOUNTED AND DOES NOT REQUIRE A SINGLE GANG BOX OR CONDUIT. FIELD CALIBRATE EACH SENSOR. SEAL CABLE PENETRATION AT ALL WALL LOCATIONS.

NOTES:
1. MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON INSIDE DOOR OF ROOFTOP UNIT CONTROL COMPARTMENT.
2. SEE DETAILS THIS SHEET FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.
3. SET ALL THERMOSTATS FOR AUTO CHANGEOVER.
4. PROVIDE PLAIC ENGRAVLABEL AT ALL NEW SENSORS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND, I.E. "AC#2 HUNIDITY SENSOR" OR "AC#2 TEMP SENSOR". PLACE LABELS ON WALL ADJACENT TO DEVICE, DO NOT APPLY DIRECTLY TO DEVICE.

PROVIDE A PROFESSIONALLY LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINENT. USE A SETON CHART FRAME STYLE # 68624, TELEPHONE NUMBER 800-243-6624, FOR MOUNTING THE DETAIL. ATTACH THE FRAME TO THE INTERIOR OF THE UNIT IN PLAIN AND EASY VIEW OF THE CONTROLS SECTION. CONTACT ENGINEER OF RECORD FOR A REPRODUCIBLE COPY OF THE DETAIL.

AVERAGING SENSORS (WHERE SHOWN ON PLANS)



NOTES:
1. SEE DWG M-101 FOR LOCATION AND ARRANGEMENT OF SENSORS.
2. MULTIPLE AVERAGING SENSORS COUNT AS ONE SENSOR. SEE NETWORK THERMOSTAT NT-URS INSTALLATION MANUAL FOR ADDITIONAL INFORMATION.

NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. FIELD CALIBRATE EACH SENSOR, TYP.

RS+V - GREEN W/ WHITE STRIPE
RS2 - BROWN W/ WHITE STRIPE
RS1 - GREEN
AVG - BROWN

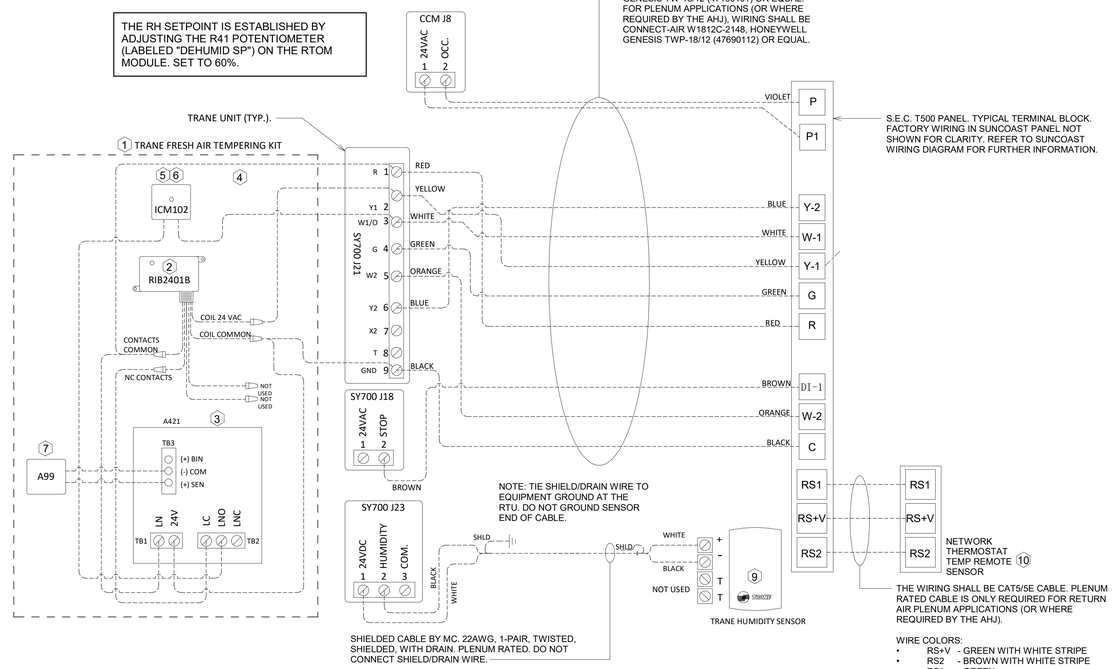
LEGEND

S.E.C.	SUNCOAST ENVIRONMENTAL CONTROLS (SUPPLIER OF TEMP/FAN CONTROL PANEL) LOCATED IN THE KITCHEN
(1)	KEY NOTE REFERENCE
MC	MECHANICAL CONTRACTOR
(AC)	SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL, ENERGIZED BY PUTTING STORE SWITCH IN "STORE OCCUPIED" POSITION
(AN)	SUNCOAST RELAY FACTORY INSTALLED AND WIRED N CFA -500 PANEL, DENERGIZED WHEN ANSUL FIRE SUPPRESSION SYSTEM IS ACTIVATED, AS NOTED.
----------	ALL LOW VOLTAGE CABLING BY MC. ONLY USE CABLE SPECIFIED. NO SUBSTITUTIONS.
----------	LOW VOLTAGE WIRING BY S.E.C.
————	LINE VOLTAGE BY ELECTRICIAN OR S.E.C.

FRESH AIR TEMPERING KEYED NOTES:
1. INSTALL FRESH AIR TEMPERING KIT AS RECOMMENDED BY TRANE.
2. RIB2401B SPDT RELAY PROVIDED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
3. JCI A421 TEMPERATURE CONTROLLER PROVIDED BY TRANE AND INSTALLED BY CONTRACTOR. DIN-MOUNTED IN THE RTU CONTROL CABINET. SET TO 58F. LOCATE TRANE PROVIDED JCI A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH TE6001-1 SENSOR DUCT MOUNTING PLATE PROVIDED BY TRANE; DO NOT RUN WIRING INSIDE DUCTWORK.
4. 18 AWG MIN. LOW VOLTAGE WIRING BY MC.
5. ICM102 TIME DELAY RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
6. SET TIME DELAY RELAY (ICM102) TO 2 MINUTES.
7. PROVIDE JCI TE6001-1 TEMPERATURE ELEMENT HOLDER FOR SUPPLY AIR TEMPERATURE SENSOR (A99).

THE RH SETPOINT IS ESTABLISHED BY ADJUSTING THE R41 POTENTIOMETER (LABELED "DEHUMID SP") ON THE RTOM MODULE. SET TO 60%.

8 THERMOSTAT CABLE BY MC.THE WIRING SHALL BE SOLID 18 AWG, 12 CONDUCTOR THERMOSTAT WIRE SUCH AS HONEYWELL GENESIS TW-18/12 (47190101) OR EQUAL. FOR PLENUM APPLICATIONS (OR WHERE REQUIRED BY THE AHJ), WIRING SHALL BE CONNECT-AIR W1812C-2148, HONEYWELL GENESIS TWP-18/12 (47690112) OR EQUAL.



2 ROOFTOP UNIT CONTROL WIRING - TRANE
NOT TO SCALE

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MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646
STATE OF NEW JERSEY MARK T. KURZYNSKE NO. GE44646 LICENSED PROFESSIONAL ENGINEER
01/15/24

CHICK-FIL-A
SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

BUILDING TYPE / SIZE: P14 SE BN
RELEASE: 23.09
PRINTED FOR PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 24003.EH.S
DATE 01/15/2024
DRAWN BY BLM

SHEET
CONTROL WIRING DIAGRAMS - TRANE

SHEET NUMBER
M-701

Product Information Sheet

FyreWrap® Elite® 1.5 Duct Insulation – Grease Duct ASTM E2336 System

FyreWrap® Elite® 1.5 Duct Insulation

Introduction

Unifrax's FyreWrap® Elite® 1.5 Duct Insulation is a two-layer flexible enclosure for two-hour rated commercial kitchen grease ducts. FyreWrap Elite 1.5 Duct Insulation is tested per ASTM E2336 and is acceptable as an alternate to a traditional fire-rated shaft. Installed as a two-layer system, FyreWrap Elite 1.5 complies with the International Mechanical Code (IMC) and Uniform Mechanical Code (UMC). FyreWrap Elite 1.5 Duct Insulation offers the following product features:

- 2-hour fire-resistance rating
- Alternate to shaft enclosure
- Complies with IMC and UMC
- Tested per ASTM E2336
- Two-layer system
- High-temperature, biosoluble insulation
- Zero clearance to combustibles, at any location
- GREENGUARD listed for Microbial Resistance

Typical Product Parameters

Thickness	1.5"
Nominal Density	6pcf
Standard Product Form	Scrim Encapsulated
Product Availability	24"w x 25LF 48"w x 25LF

Typical Product Properties

ICC Evaluation Services	Evaluation Report ESR-2224
Intertek Laboratories Listed	Duct System: Design No. UNI/BI 120-02, UNI/BI 120-14, UNI/WA 120-01
ASTM E2336	Passes all tests
ASTM E2336 Internal Grease Duct Test	Zero Clearance to Combustibles at all locations on wrap
ASTM E119 Full Scale Engulfment Test	2-hour Fire Resistance Rating
ASTM E119 Vertical Wall Test	2-hour Fire Resistance Rating
ASTM E84, UL 723, ULC S102.2 – UL File No. R14514	Unfaced Blanket Encapsulated
Flame Spread/Smoke Developed Rating	Zero/Zero <25/<50
ASTM E814 Firestop Test	Firestop System: UNI/FRD 120-19, UNI/BI 120-02,
F-Rating = 2 Hrs., T-Rating = 2 Hrs.	UNI/BI 120-14
ASTM E136 Non-Combustibility Test	Passes
ASTM C518 Durability Test	Passes; R-Value = 4.8 per inch at 75°F
ASTM C518 Thermal Resistance	R-Value of Elite 1.5 (1½") = 7.2
ASTM D6329-03 Microbial Resistance	Highly Resistant to Mold Growth
California State Fire Marshal Listing	No: 2440-1478:100

Complies with: NFPA 96 (all editions), 1997 ICBO Uniform Mechanical Code (UMC), 1997 ICBO Uniform Building Code (UBC), 2018 International Mechanical Code (IMC), 2018 IAPMO UMC (Uniform Mechanical Code).

ESR-2224 · Intertek · Complies with: NFPA 96

Installation (Figure 1)

To minimize waste, FyreWrap Elite 1.5 should be rolled out tautly before measuring and making any material cuts. Install both layers of wrap with transverse (perimeter) and longitudinal butted joints. Between the first and second layers of wrap stagger transverse joints and offset longitudinal joints to different corners. All visually exposed blanket edges are to be sealed with minimum 3" wide aluminum foil tape and the use of filament tape is not required but is permitted to ease installation. The installation materials must comply with the options listed in Table 1.

Note: 3" material overlaps can be substituted for compression butt joints.

Table 1: Material Requirements

Item	Type and Specification
Bands	• Carbon steel or Stainless steel • Min. ½" wide & nom. 0.015" thick
Crimp clips	• Carbon steel or Stainless steel • Min 1" long
Pins	• Steel • Weld Pins or Cup Head • Min. 12 Gauge
Washers	• Galvanized Steel • Min. 2½" square or 1½" round

Attachment Options

Banding only

Place bands at 11½" on both sides of all second layer transverse butt joints and add additional bands as needed to ensure spacing is max. 10½" on center. Tighten banding to firmly hold the wrap system in place but not so tight as to cut or damage the blanket. Secure bands with crimp clips.

Note: No bands are required on the first layer.

Banding and Pins

For ducts greater than 24", in addition to installing bands as described in the Banding Option, weld steel insulation pins in rows to the underside of horizontal runs[1]. Locate pins on both sides of all second layer transverse butt joints 3" apart. Add additional rows as needed to ensure longitudinal spacing is max. 10". Pins in each row are to be max. 6" from each duct edge and max. 12" on center. Impale FyreWrap Elite 1.5 Duct Insulation over the pins and secure with washers (cup head pins also permitted).

[1] Pins are not required on vertical duct sections when using this option.

Note: In lieu of banding, pins installed on all sides of the duct is permitted.

Access Door (Figure 2)

Field fabricated and prefabricated grease duct access doors are permitted for use with FyreWrap Elite 1.5 Duct Insulation.

Field fabricated access doors are protected with three layers of FyreWrap Elite 1.5 Duct Insulation. A gasket of 0.5" thick unfaced FyreWrap or ceramic fiber blanket is initially installed between the duct and the access door cover. Weld threaded rod to each corner of the access door opening. Cover with hollow steel tubes (optional) for easy removal of blanket. Weld at least four steel insulation pins to the outside of the door cover panel, 1" from each corner. Cut through the two layers of FyreWrap Elite 1.5 Duct Insulation already covering the duct and access door opening. Leave the interior piece in place. Cut back the outer layer to form an opening with perimeter dimensions that extend 1" beyond the inner layer. Cut a piece of FyreWrap Elite 1.5 Duct Insulation that matches the dimensions of the opening and install over pins to fit tightly within the existing material. Cut an additional piece of insulation with perimeter dimensions that extend 1" beyond the layer below. Install over the insulation pins. Throughout the installation process, seal all cut edges with aluminum foil tape. Secure with washers and bend over excess pin lengths to eliminate safety hazards. Place washers on threaded rod and secure with nuts. Do not install banding over this area.

Prefabricated – Ductmate Ultimate and Ductmate F2-HT prefabricated access doors are permitted and must be installed in accordance with Ductmate Industries, Inc. installation instructions and the applicable code. The prefabricated access door is protected with three layers of FyreWrap Elite 1.5 Duct Insulation. The first layer is cut to the size of the door. A successive layer (two additional layers) is sized to create an overlap of 1" beyond the layer immediately below. All edges of insulation blanket must be protected with aluminum foil tape. A No. 16 gauge outer plate the same dimension as the outer layer of insulation blanket is held in place over the insulation using threaded rod and wing nuts. The outer plate is supplied with the Ultimate door and F2-HT doors. Access doors are available from Ductmate Industries, Inc. Contact www.ductmate.com or 1-800-245-3188 for additional information or local distributors. Ask for the Access Door Product Line Manager.

Firestop Systems (Figures 3 and 4)

Where ducts insulated with FyreWrap Elite 1.5 Duct Insulation pass through fire-rated walls and floors, the penetration opening shall be firestopped to maintain the fire rating of the assembly. Firestop Systems acceptable for use with FyreWrap Elite 1.5 Duct Insulation ASTM E2336 System at the time of printing are detailed on pages 4 and 5.

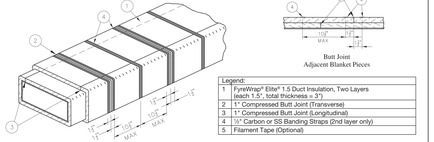
Duct Support (Figure 5)

Horizontal duct support systems do not require FyreWrap insulation when constructed using a minimum ½" diameter uninsulated all-threaded steel rod and 1½" x 1½" x ⅛" uninsulated steel angle spaced a maximum 60" on center along the length of the duct. A minimum clearance of 1" is required between the protected duct and the steel rod. To increase hanger spacing to 72" on center, ⅛" all-thread steel rod and 2" x 2" x ¼" steel angle are required. Vertical duct support systems do not require FyreWrap insulation when constructed using minimum 1½" x 1½" x ¼" steel angle brackets located on opposite sides of the duct, on the top and bottom of each floor-ceiling assembly. The supports are attached to the duct with welds. Maximum spacing between vertical supports shall be established by structural calculations in accordance with the applicable code, that are submitted to the building official for approval.

Figure 1. Butt Joint Technique

FyreWrap® Elite® 1.5 Duct Insulation
Commercial Kitchen Grease Duct System
ASTM E2336
2-Hour Fire-Rated Enclosure, Shaft Alternative
Zero Clearance To Combustibles
Butt Joint System

FP-959



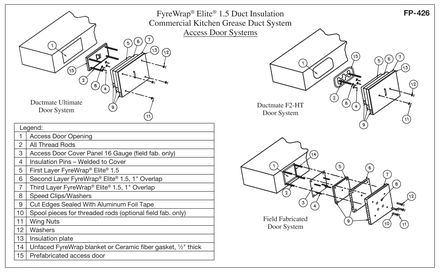
Legend:	
1	FyreWrap® Elite® 1.5 Duct Insulation, Two Layers (each 1.5", total thickness = 3")
2	1" Compressed Butt Joint (Transverse)
3	1" Compressed Butt Joint (Longitudinal)
4	½" Carbon or SS Banding Straps (2nd layer only)
5	Filament Tape (Optional)

*Applies to both horizontal and vertical duct orientations.
**Review page 2 prior to installation for detailed instructions.

Figure 2. Access Door

FyreWrap® Elite® 1.5 Duct Insulation
Commercial Kitchen Grease Duct System
Access Door Systems

FP-426

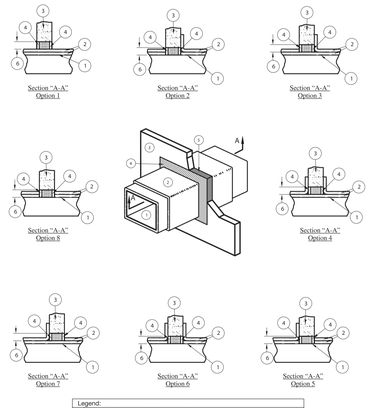


Legend:	
1	Access Door Opening
2	All Thread Rods
3	Access Door Cover Panel 16 Gauge (field fab. only)
4	Insulation Pins – Welded to Cover
5	First Layer FyreWrap® Elite® 1.5
6	Second Layer FyreWrap® Elite® 1.5, 1" Overlap
7	Third Layer FyreWrap® Elite® 1.5, 1" Overlap
8	Speed Clips/Washers
9	Cut Edges Sealed With Aluminum Foil Tape
10	Spool pieces for threaded rods (optional field fab. only)
11	Wing Nuts
12	Washers
13	Insulation plate
14	Unfaced FyreWrap blanket or Ceramic fiber gasket, ½" thick
15	Prefabricated access door

Figure 3. Firestop Installation

FyreWrap® Elite® 1.5 Duct Insulation Through Penetration Firestops Wall
Intertek Design No. UNI/BI 120-02 & 120-14, F-Rating = 2 Hrs. T-Rating = 2 Hrs.

FP-690

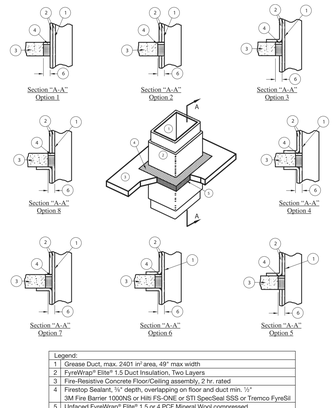


Legend:	
1	Grease Duct, max. 2401 in² area, 49" max width
2	FyreWrap® Elite® 1.5 Duct Insulation, Two Layers
3	Fire-Resistive Concrete, Gypsum, or CMU block wall assembly, 2 hr. rated
4	Firestop Sealant, ¾" depth, overlapping on wall and duct min. ½" 3M Fire Barrier 1000NS or Hilti FS-ONE or STI SpecSeal or Tremco FyreSil
5	Unfaced FyreWrap® Elite® 1.5 or 4 PCF Mineral Wool compressed 50% option 1 and 33% options 2-8, recessed ¼" from both sides of wall
6	Annular space, ½" to 4½"

Figure 4. Firestop Installation

FyreWrap® Elite® 1.5 Duct Insulation Through Penetration Firestops Floor
Intertek Design No. UNI/BI 120-02 & 120-14, F-Rating = 2 Hrs. T-Rating = 2 Hrs.

FP-691

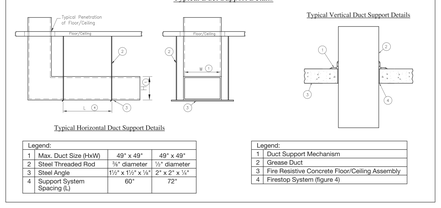


Legend:	
1	Grease Duct, max. 2401 in² area, 49" max width
2	FyreWrap® Elite® 1.5 Duct Insulation, Two Layers
3	Fire-Resistive Concrete Floor/Ceiling assembly, 2 hr. rated
4	Firestop Sealant, ¾" depth, overlapping on floor and duct min. ½" 3M Fire Barrier 1000NS or Hilti FS-ONE or STI SpecSeal SSS or Tremco FyreSil
5	Unfaced FyreWrap® Elite® 1.5 or 4 PCF Mineral Wool compressed 50% option 1 and 33% options 2-8, recessed ¼" from top side of floor
6	Annular space, ½" to 4½"

Figure 5. Support System

FyreWrap® Elite® 1.5 Duct Insulation
Typical Duct Support Details

FP-625R1



Legend:			
1	Max. Duct Size (HxW)	49" x 49"	49" x 49"
2	Steel Threaded Rod	⅜" diameter	½" diameter
3	Steel Angle	1½" x 1½" x ⅛"	2" x 2" x ¼"
4	Support System Spacing (L)	60"	72"

Legend:	
1	Duct Support Mechanism
2	Grease Duct
3	Fire Resistive Concrete Floor/Ceiling Assembly
4	Firestop System (figure 4)

For additional information about product performance or to identify the recommended product for your fire protection application, please contact Unifrax at 716-768-6500 and ask for Fire Protection Application Engineering.

Refer to the product Safety Data Sheet (SDS) for recommended work practices and other product safety information.

FyreWrap
Unifrax I LLC
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Canada: 1-800-635-4464
Internet: www.unifrax.com
Email: info@unifrax.com

FYREWRAP MUST CONTINUE FROM HOOD TO UNDERSIDE OF CURB CAP.

SHEET ADDED TO SET

Chick-fil-A
5200 Buffington Road
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30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646
07/22/24

CHICK-FIL-A
SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

BUILDING TYPE / SIZE: P14 SE BN
RELEASE: 23.09
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REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	7-15-24	DESIGN NOTES

CONSULTANT PROJECT #	24003.EH.S
DATE	01/15/2024
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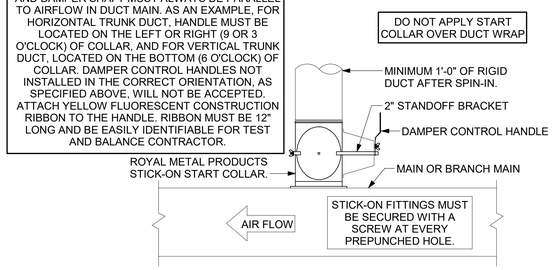
SHEET
FYREWRAP DETAILS

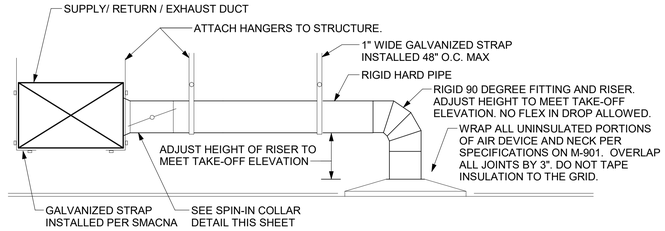
SHEET NUMBER
M-503

CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE ROYAL METAL PRODUCTS START COLLARS FOR BOTH WITH AND WITHOUT A MANUAL BALANCING DAMPER. THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE ROYAL METAL PRODUCTS START COLLARS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. ROYAL METAL PRODUCTS START COLLARS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

DAMPER CONTROL HANDLE MUST BE EXPOSED, AND DAMPER SHAFT MUST ALWAYS BE PARALLEL TO AIRFLOW IN DUCT MAIN. AS AN EXAMPLE, FOR HORIZONTAL TRUNK DUCT, HANDLE MUST BE LOCATED ON THE LEFT OR RIGHT (9 OR 3 O'CLOCK) OF COLLAR, AND FOR VERTICAL TRUNK DUCT, LOCATED ON THE BOTTOM (6 O'CLOCK) OF COLLAR. DAMPER CONTROL HANDLES NOT INSTALLED IN THE CORRECT ORIENTATION, AS SPECIFIED ABOVE, WILL NOT BE ACCEPTED. ATTACH YELLOW FLUORESCENT CONSTRUCTION RIBBON TO THE HANDLE. RIBBON MUST BE 12" LONG AND BE EASILY IDENTIFIABLE FOR TEST AND BALANCE CONTRACTOR.

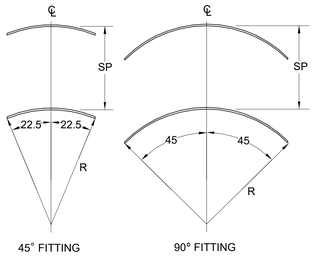


2 START COLLAR
NOT TO SCALE



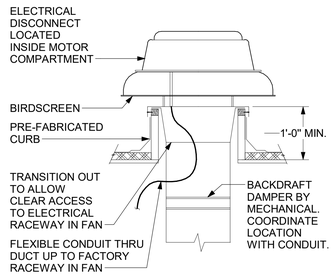
1 SAG/RAG/GRILLE TAKE-OFF
NOT TO SCALE

TURNING VANE SCHEDULE		
R	SP	GA
2"	1.5"	24
1. NO TRAILING EDGE. 2. SINGLE THICKNESS CONSTRUCTION.		



4 TURNING VANES
NOT TO SCALE

SECURE FAN TO CURB WITH SHEET METAL SCREWS (#10 x 1-1/2") 6" O.C. ALL AROUND

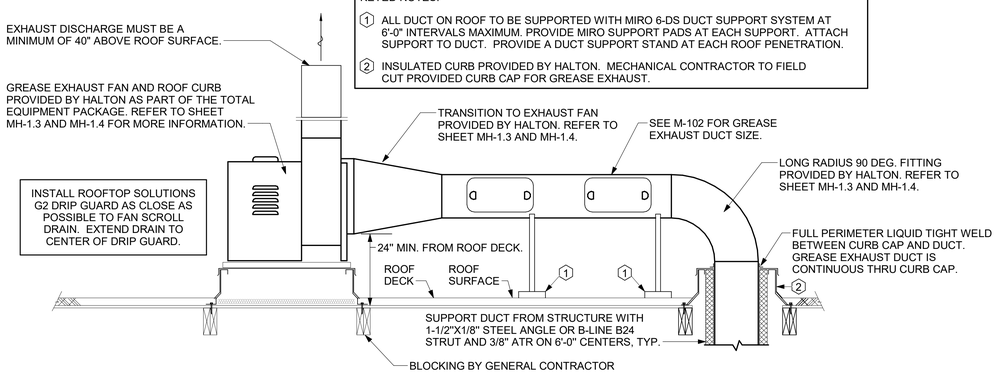


3 RESTROOM EXHAUST FAN
NOT TO SCALE

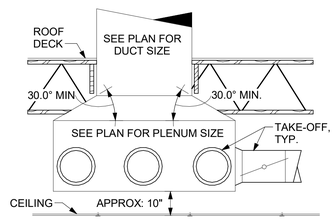
ALL DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLIAMS B66-200 SERIES DTM WHITE ACRYLIC SEMI-GLOSS INDUSTRIAL MAINTENANCE COATING. DEGREASE AND PRIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLIAMS DTM ACRYLIC PRIMER PRIOR TO PAINTING.

KEYED NOTES:

1. ALL DUCT ON ROOF TO BE SUPPORTED WITH MIRO 6-DS DUCT SUPPORT SYSTEM AT 6'-0" INTERVALS MAXIMUM. PROVIDE MIRO SUPPORT PADS AT EACH SUPPORT. ATTACH SUPPORT TO DUCT. PROVIDE A DUCT SUPPORT STAND AT EACH ROOF PENETRATION.
2. INSULATED CURB PROVIDED BY HALTON. MECHANICAL CONTRACTOR TO FIELD CUT PROVIDED CURB CAP FOR GREASE EXHAUST.



6 KITCHEN HOOD EXHAUST FANS
NOT TO SCALE



5 RETURN DROP GEOMETRY
NOT TO SCALE

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NEW JERSEY LICENSE # GE44646
STATE OF NEW JERSEY · MARK T. KURZYNSKE · NO. GE44646 · LICENSED PROFESSIONAL ENGINEER
01/15/24

CHICK-FIL-A
SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

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REVISION SCHEDULE

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CONSULTANT PROJECT # 24003.EH.S
DATE 01/15/2024
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SHEET
DETAILS

SHEET NUMBER
M-501

Autodesk Docs://NJ_05444_Sayreville_2023.8_FSR/05444_Sayreville_K&A_MEC.rvt
1/12/2024 10:06:41 AM
30-SE-05444-M-501-DETAILS

KEY NOTES

1 10" DIA. DUCT UP THRU ROOF.

2 PROVIDE DUCT AS SHOWN. TERMINATE DUCT 24" ABOVE ROOF WITH ALUMINUM WEATHER CAP WITH INTEGRAL BIRD SCREEN. EXHAUST DUCT DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.

4 AIR CURTAIN MOUNTED OVER DOOR HEADER AT 7'-2" AFF TO BOTTOM OF UNIT. PROVIDE BLOCKING IN WALL BEHIND AIR CURTAIN. USE FACTORY PRE-PUNCHED MOUNTING HOLES ON BACK SIDE OF AIR CURTAIN ONLY. ATTACH AIR CURTAIN TO WALL USING 3/8" LAG BOLTS, LENGTH AS REQUIRED TO FULLY PENETRATE BLOCKING. LOCATE MAGNETIC CONTACT TYPE MICROSWITCH IN DOOR FRAME ON STRIKE SIDE.

9 BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.

21 HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.

26 MECHANICAL CONTRACTOR TO ADJUST PATTERN DEFLECTORS TO THROW STRAIGHT DOWN.

27 MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.

35 MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.

38 MOUNT REMOTE SENSOR ON WALL AT 5-0" AFF U.N.O. AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL. FOR SENSOR SERVING AC#1, COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT.

43 ROUTE DUCT WITHIN STRUCTURE.

46 TRANSFER DUCT. NO BALANCING DAMPER.

47 TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. SEE DETAIL 6/M-501 FOR REQUIRED TRANSITION GEOMETRY. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITHOUT TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).

48 TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITH TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).

53 RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.

54 SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.

61 PROVIDE RUSKIN CD35 MANUAL BALANCING DAMPER WITH 6" MAXIMUM BLADE WIDTH. OPPOSED BLADE ACTION, LOCKING QUADRANT HANDLE WITH 2" STANDOFF AND 16 GA GALVANIZED BLADE AND FRAME CONSTRUCTION.

65 TO AC#4, SENSOR #1. SEE 2/M-701.

66 TO AC#4, SENSOR #2. SEE 2/M-701.

67 TO AC#4, SENSOR #3. SEE 2/M-701.

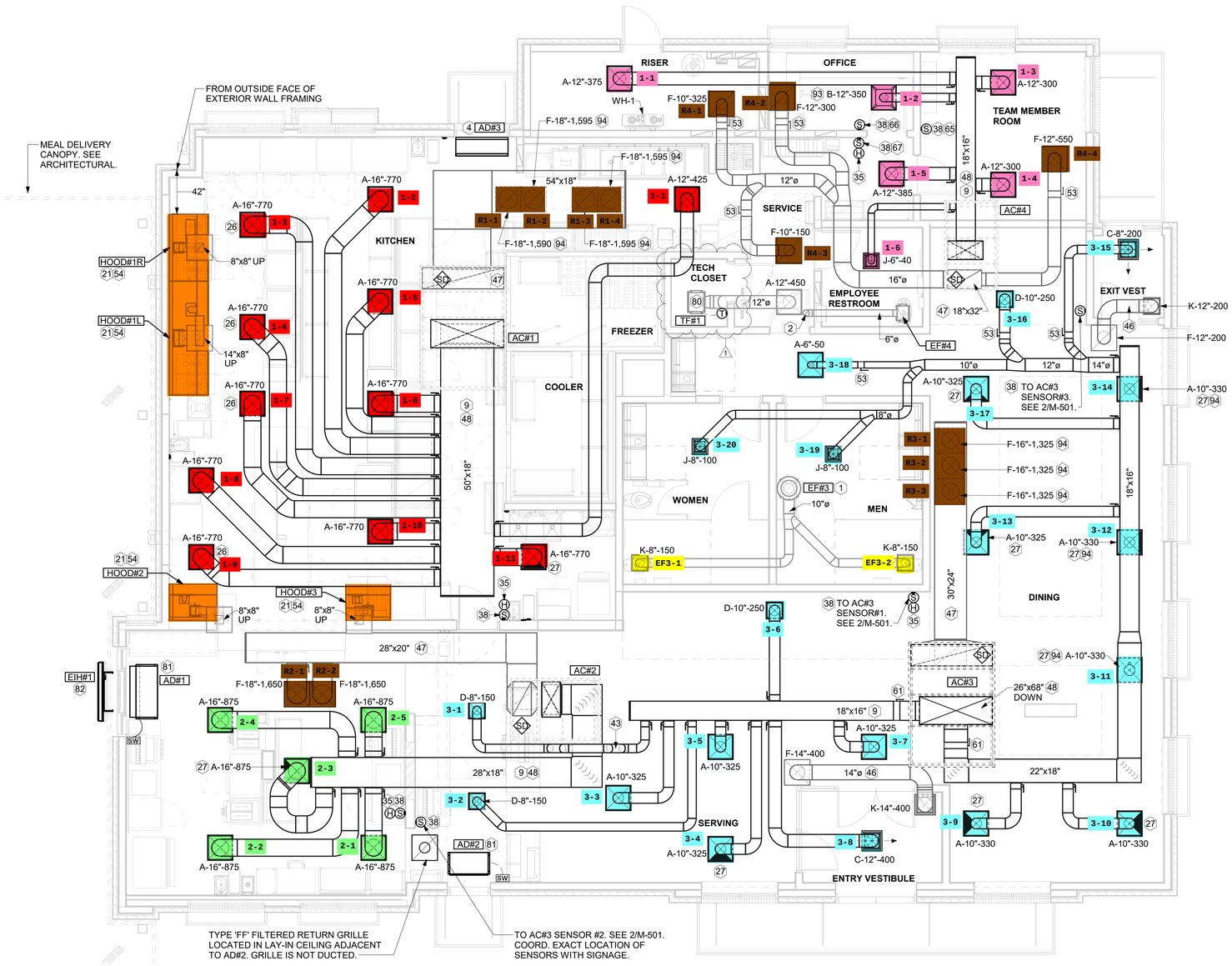
80 CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE TO TYPE 'A' DIFFUSER AS SHOWN.

81 MOUNT AIR DOOR IN CEILING. CENTERED ON DRIVE-THRU/MFA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET M-702 FOR MORE INFORMATION.

82 ELECTRIC HEATER. MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.

93 MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 25 CFM.

94 TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK, TYP.



1 EQUIPMENT AND DUCTWORK PLAN
1/4" = 1'-0"

H.E.S. SYSTEM

MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

AIR BALANCE SCHEDULE TRANE

Mark	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST AIR	BUILDING POSITIVE PRESSURE
AC#1	8,125	6,375	1,750	0	
AC#2	4,375	3,300	1,075	0	
AC#3	5,250	3,975	1,275	0	
AC#4	1,750	1,325	425	0	
EF#1	0	0	0	1,913	
EF#2	0	0	0	1,402	
EF#3	0	0	0	300	
EF#4	0	0	0	75	
	19,500	14,975	4,525	3,690	835

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MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646
07/22/24

CHICK-FIL-A
SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

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RELEASE: 23.09
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CONSULTANT PROJECT # 24003.EH.S
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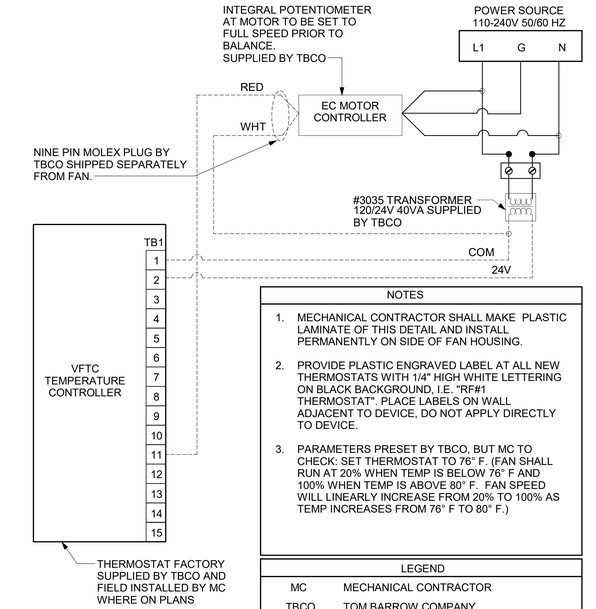
SHEET
EQUIPMENT AND DUCTWORK PLAN - TRANE
SHEET NUMBER
M-101



NOTES

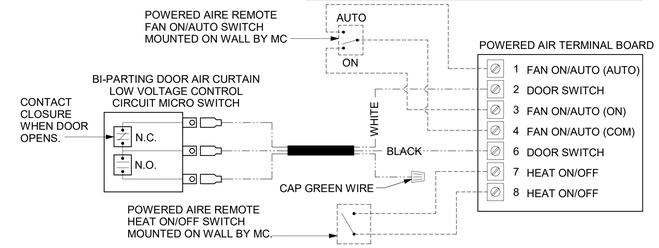
1. MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON SIDE OF FAN HOUSING.
2. PROVIDE PLASTIC ENGRAVED LABEL AT ALL NEW THERMOSTATS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND, I.E. "RF#1 THERMOSTAT". PLACE LABELS ON WALL ADJACENT TO DEVICE, DO NOT APPLY DIRECTLY TO DEVICE.
3. PARAMETERS PRESET BY TBCO, BUT MC TO CHECK: SET THERMOSTAT TO 76° F. (FAN SHALL RUN AT 20% WHEN TEMP IS BELOW 76° F AND 100% WHEN TEMP IS ABOVE 80° F. FAN SPEED WILL LINEARLY INCREASE FROM 20% TO 100% AS TEMP INCREASES FROM 76° F TO 80° F.)

LEGEND	
MC	MECHANICAL CONTRACTOR
TBCO	TOM BARROW COMPANY
- - - -	18 AWG MIN LOW VOLTAGE WIRING BY MC.
———	LINE VOLTAGE BY ELECTRICAL CONTACTOR

1 TECH CLOSET CONTROL DIAGRAM
NOT TO SCALE

AD#2 DOES NOT INCLUDE BI-PARTING DOOR MICROSWITCH. AD#2 SHALL BE PROVIDED WITH FACTORY MAGNETIC DOOR CONTACT SWITCH.

LEGEND	
- - - -	18 AWG MIN LOW VOLTAGE WIRING BY MC, U.N.O.
-·-·-	22 AWG LOW VOLTAGE WIRING PROVIDED BY TORMAX. WIRING INSTALLED BY MC.



2 AIR CURTAIN WIRING DIAGRAM
NOT TO SCALE

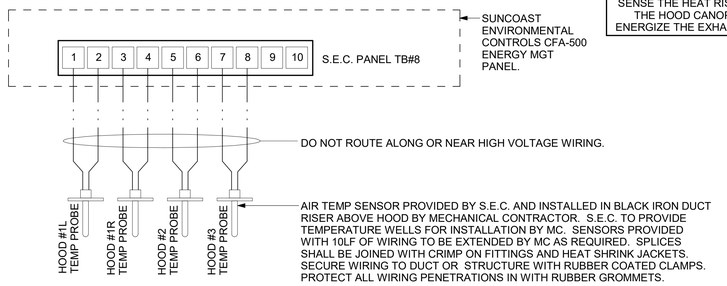
LEGEND	
S.E.C.	SUNCOAST ENVIRONMENTAL CONTROLS CFA-500 ENERGY MGT PANEL
M.C.	MECHANICAL CONTRACTOR
— · · —	18 AWG MIN UNSHIELDED LOW VOLTAGE WIRING BY MC, U.N.O.

GENERAL NOTES

1. THE SUNCOAST H.E.S. SYSTEM HAS BEEN INTEGRATED INTO THE SUNCOAST ENVIRONMENTAL CONTROLS CFA-500 ENERGY MGT PANEL.

S.E.C. H.E.S. OPERATION

IN THE EVENT THAT ANY COOKING EQUIPMENT ITEM BENEATH ANY HOOD IS STARTED WITHOUT THE 'STORE SWITCH' BEING IN THE 'OCCUPIED' POSITION, THE H.E.S. CONTROLLER WILL SENSE THE HEAT RISE WITHIN THE HOOD CANOPY AND ENERGIZE THE EXHAUST FANS.



3 HOOD FAN/EQUIPMENT INTERLOCK
NOT TO SCALE

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CHICK-FIL-A
SAYREVILLE FSR

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SHEET
CONTROL WIRING DIAGRAMS

SHEET NUMBER
M-702

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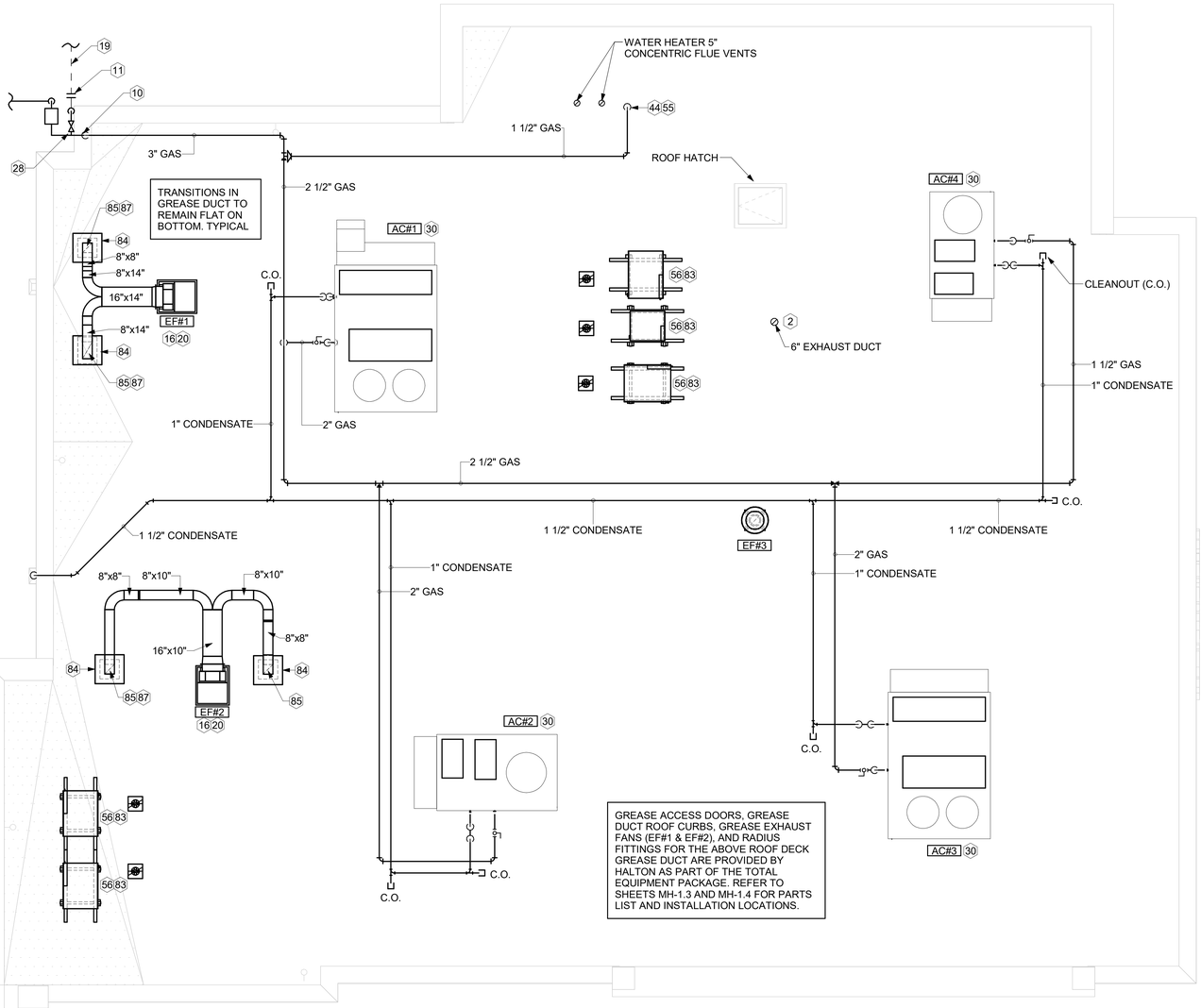
1/12/2024 10:06:50 AM
30-SE-05444-M-702-CONTROL WIRING DIAGRAMS

KEY NOTES

2	PROVIDE DUCT AS SHOWN. TERMINATE DUCT 24" ABOVE ROOF WITH ALUMINUM WEATHER CAP WITH INTEGRAL BIRD SCREEN. EXHAUST DUCT DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.
10	TURN 3" GAS UP WITHIN WALL, THRU PARAPET AND ONTO ROOF.
11	ROUTE POLYETHYLENE GAS BELOW GRADE FROM THE METER. FOR TRANSITION FROM POLYETHYLENE PIPING BELOW GRADE TO STEEL AT THE METER, INSTALL ANODELESS RISER WITH INTEGRAL CONSTAB PE-TO-IPS TRANSITION FITTING BY CONTINENTAL INDUSTRIES OR EQUAL BY ELSTER.
16	VERIFY EXHAUST TERMINATION IS A MINIMUM 10'-0" FROM PARAPETS AND OUTSIDE AIR INTAKES. REFER TO MH-1.3 AND MH-1.4 FOR DETAILS.
19	1-1/2" GAS BELOW GRADE TO ORDER CANOPY, SEE DETAIL 2 SHEET M-103.
20	GREASE EXHAUST DUCT LOCATED ON ROOF SHALL SLOPE 1/4" PER FOOT TOWARDS THE HOOD, THE FAN, OR A COMBINATION OF THE TWO SUCH THAT NO PORTION OF THE RADIUS ELBOW AT THE CURB IS BELOW THE CURB CAP AND SUCH THAT THE FAN BASE SETS DIRECTLY ON THE CURB RAILS. THE BOTTOM OF THE RADIUS ELBOW MAY BE EVEN OR FLUSH WITH THE CURB CAP, BUT NOT BELOW THE CAP. THE DUCT AT THE FAN MUST BE CENTERED ON THE FAN INLET.
28	PROVIDE FULL PORT BALL VALVE EQUAL TO APOLLO 50GB SERIES WITH WINGS HANDLE OPTION ABOVE GRADE AT THE METER. PROVIDE BRASS VALVE TAG WITH JACK CHAIN AT VALVE MARKED "SERVICE SHUTOFF FOR CANOPY HEATERS."
30	MECHANICAL CONTRACTOR TO SEE ARCHITECTURAL ROOF PLAN FOR NOTES REGARDING LEVELING FRAMES FOR RTUS. COORDINATE WITH GENERAL CONTRACTOR EXACT LOCATIONS AND SIZE NEEDED.
44	1-1/2" GAS DOWN THRU ROOF TO WATER HEATER. SEE DETAIL 2/M-502 FOR MORE INFORMATION ON CONSTRUCTION AND PENETRATION.
55	SEE ARCHITECTURAL DETAILS FOR ROOFTOP PIPE PENETRATIONS.
56	GC SHALL PROVIDE EQUIPMENT STANDS AS MANUFACTURERED BY AVCOA OR EQUAL. STANDS SHALL BE INSTALLED PRIOR TO ROOF INSULATION SO THAT THE INSULATION IS CONTINUOUS UP TO THE PIPE POSTS. POSTS SHALL BE FLASHED IN ACCORDANCE WITH ROOFING MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE BLOCKING BELOW THE ROOF DECK AS REQUIRED.
83	DO NOT DISCHARGE OF CONDENSING UNITS INTO CONDENSER SECTION OF ROOFTOP UNITS, TYP.
84	ROOF CURB FOR DUCT PENETRATION. REFER TO MH-1.3 AND MH-1.4 FOR DETAILS.
85	TURN DOWN THRU ROOF. SEE M-101 FOR CONTINUATION.
87	DUCT PENETRATIONS ON ROOF MUST BE AT LEAST 18" FROM ADJACENT PARAPETS.



1 EQUIPMENT ROOF PLAN -TRANE
1/4" = 1'-0"

3. GAS LOAD SCHEDULE

EQUIPMENT	GAS LOAD
AC#1	400,000 BTUS
AC#2	250,000 BTUS
AC#3	400,000 BTUS
AC#4	130,000 BTUS
IRH (2 @ 50,000 BTU EA.)	100,000 BTUS
IRH (FUTURE 4 @ 50,000 BTU EA.)	200,000 BTUS
WATER HEATER	398,000 BTUS
TOTAL FUTURE CONNECTED LOAD	1,878,000 BTUS
REMARKS:	1. EQUIVALENT TO 1,878.0 CFH 2. 7" W.C. DELIVERY PRESSURE 3. DEVELOPED LENGTH: 180 FT, (METER TO AC#4) 4. GAS PIPING SIZED FOR FUTURE LOAD

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NEW JERSEY LICENSE # GE44646

01/15/24

CHICK-FIL-A
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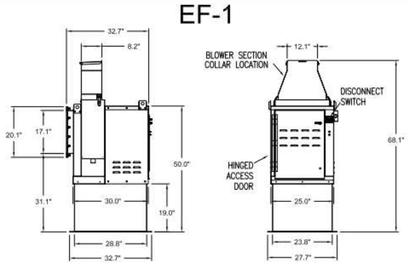
SHEET
EQUIPMENT ROOF PLAN - TRANE

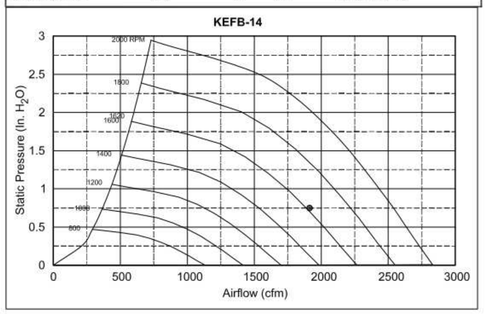
SHEET NUMBER
M-102

EF-1

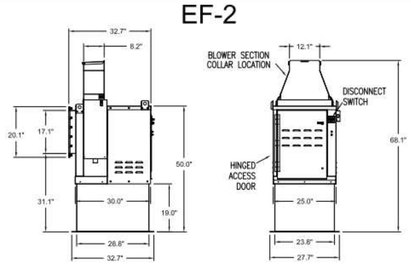


Halton KEFB Exhaust Fan

Job Name	Chick-fil-A				
Location	EF-1				
Date	1/26/2023	Item No	Qty		
Model		KEFB-14	Fan RPM	1,620	Volts/Ph/Amps: 115/1/60
Airflow, cfm		1,913	Fan BHP	0.55	Motor HP 0.75
Static Pressure, in WC		0.75	dB	85.3	TAB Port, in WC 4.6

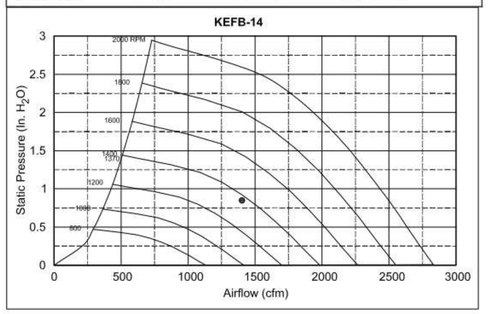


EF-2



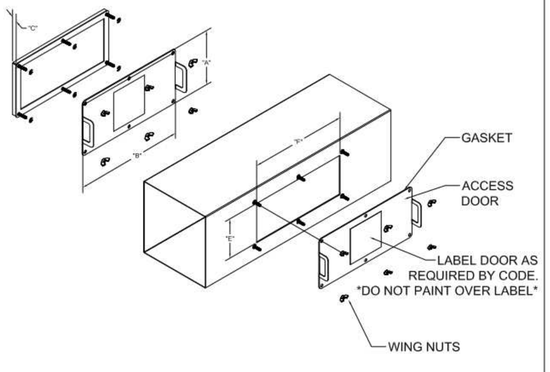
Halton KEFB Exhaust Fan

Job Name	Chick-fil-A				
Location	EF-2				
Date	1/26/2023	Item No	Qty		
Model		KEFB-14	Fan RPM	1,370	Volts/Ph/Amps: 115/1/60
Airflow, cfm		1,402	Fan BHP	0.34	Motor HP 0.75
Static Pressure, in WC		0.95	dB	81	TAB Port, in WC 2.6

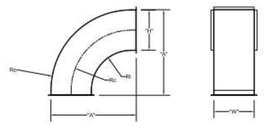


GREASE ACCESS DOOR SCHEDULE					
	DOOR SIZE		OPTIONAL FLANGE	OPENING SIZE	
MODEL	"A"	"B"	"C"	"E"	"F"
KAP0715	7	15	FLAT	5.5	13.5
KAP1015	10	15	1/2	7	12

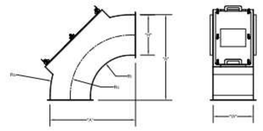
ACCESS DOORS SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEREE GASKET MATERIAL



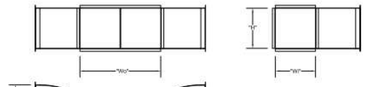
INSTALL PER MANUFACTURER'S INSTRUCTIONS

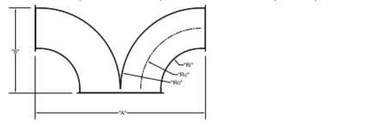


	"H"	"W"	"A"	Ro	Rc	Ri
EF-2	8	8	17	16	12	8
EF-2	8	10	17	16	12	8

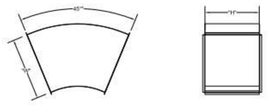


"H"	"W"	"A"	Ro	Rc	Ri
14	8	29	28	21	14
8	8	17	16	12	8

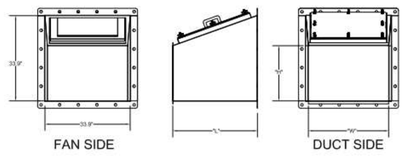




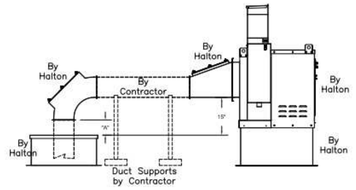
	"Wi"	"H"	Wo	Ro	Rc	Ri	"A"	"B"
EF-1	8	14	16	16	12	8	34	17
EF-2	8	10	16	16	12	8	34	17



	"W"	"H"
EF-1	16	14



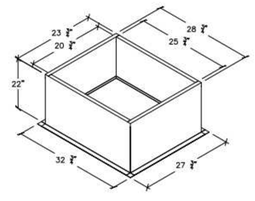
TRANSITION	"H"	"W"	"L"
EF-1 (5)	14	16	25
EF-2 (6)	10	16	17



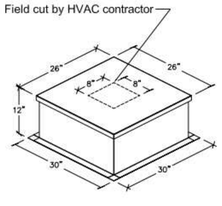
"A" DISTANCE AVAILABLE FOR DUCT SLOPE

	ELBOW	"A"
EF-1	14X8	8
EF-2	8X8	10

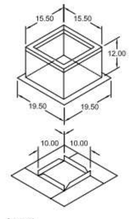
Halton Kitchen Exhaust Fan Curb
Insulated Duct Curb



Kitchen Exhaust Fan Roof Curb
Standard Construction Features:
– Roof Curb fits between the building roof and the fan mounted directly to the roof support structure – Constructed of 18 ga aluminized steel – Straight Sided without a cant – 2 in. mounting flange – Height is 22 in.



Insulated Duct Curb
Standard Construction Features:
– Duct Curb fits between the building roof and the fan mounted directly to the roof support structure – Constructed of 18 ga aluminized steel – Straight Sided without a cant – 2 in. mounting flange – Height is 12 in. – 16 ga. cap



Model: GPI
For Model: XRED–090–G
Curb & Damper Tray

Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1	R4.3

General

Tag	Qty.	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
EF–3	1	GPI–17	Nominal	1.5	14	Yes	No Preference

Dimensions

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Flange Width (in.)	Flange Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	17	17	15.5	15.5	12	12		19.5	16	

*May not be applicable

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:
1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE TO APPROVER
ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT LOCATIONS MAY AFFECT EXHAUST AIRFLOW. IF SUCH CHANGES OCCUR, A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

☐ REVISE AND RESUBMIT

APPROVED FOR FABRICATION
☐ WITH NO CHANGES ☐ WITH CHANGES AS NOTED

APPROVED BY: _____ DATE: _____

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (USA) ☐
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1–270–237–5600

HALTON CO. (CANADA)
1021 BRÉVIK PLACE
MISSISSAUGA, ON L4W 3R7
1–905–624–0301

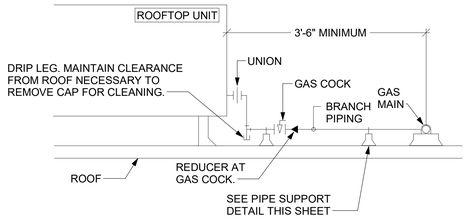
WEBSITE: www.halton.com

REV.	REVISION DESCRIPTION	BY	DATE
0			

PROJECT: CHICK–FIL–A FAN DETAILS
LOCATION: PROTO SE/LE/LS/LSR (BN & BP)
DRAWN BY: ACF DATE: 05.10.23
SCALE:
CONSULTANT:

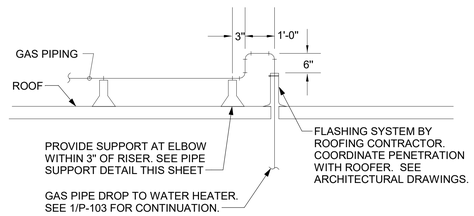
DRAWING TITLE: CFA FAN DETAILS
DRAWING No.: U23–459
REV. NO.: 0 SHEET NO.: 1 of 2

NOTES:
1. INSTALL GAS PIPING SUCH THAT HVAC EQUIPMENT ACCESS PANELS AND/OR DOORS ARE IN NO WAY OBSTRUCTED BY PIPING, VALVES, OR SUPPORTS.
2. TO AVOID CONFLICT WITH AC UNIT ACCESS DOORS, INSTALL GAS PIPING NO CLOSER THAN 3'-6" FROM AC UNIT. (EXCEPT FOR BRANCH LINE CONNECTED TO AC UNIT.)
3. ROUTE BRANCH TAKE-OFF DIRECTLY FROM MAIN TO ROOFTOP UNIT AS SHOWN ON PLAN AND DETAILS WITHOUT LATERAL OFFSETS WHICH MAY OBSTRUCT UNIT ACCESS DOORS.



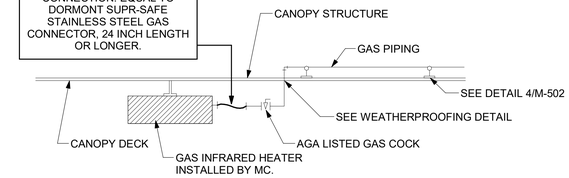
3 GAS PIPING AT RTU
NOT TO SCALE

OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.

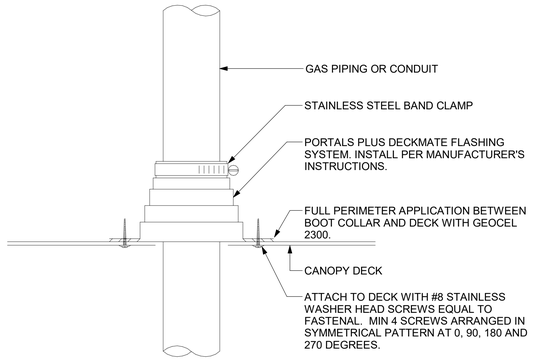


2 GAS PIPE DROP TO WATER HEATER
NOT TO SCALE

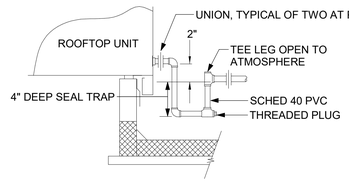
AGA LISTED FLEXIBLE CSST CONNECTION. EQUAL TO DORMONT SUPR-SAFE STAINLESS STEEL GAS CONNECTOR, 24 INCH LENGTH OR LONGER.



1 GAS CONNECTION AT APPLIANCE
NOT TO SCALE

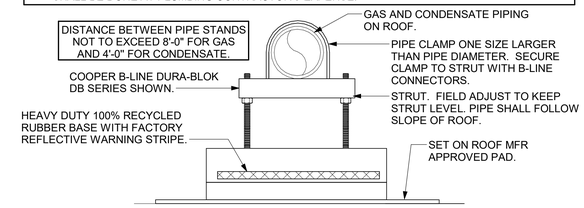


6 WEATHERPROOFING AT CANOPY PENETRATION
NOT TO SCALE

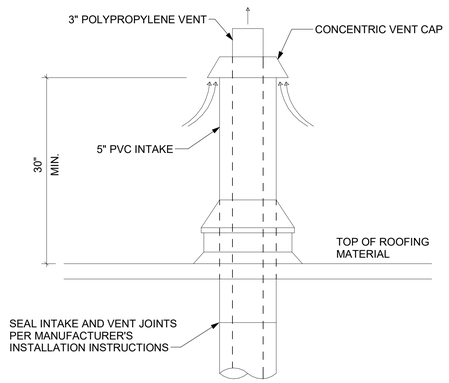


5 CONDENSATE DRAIN PIPING
NOT TO SCALE

NOTES:
1. NON ADJUSTABLE MODEL DB610 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
2. PROVIDE MODEL DBE 10-8 OR DBE 10-12 OR DBE 10-16 AS NEEDED FOR ELEVATING CONDENSATE PIPING TO MAINTAIN PROPER SLOPE AND FOR GAS PIPING CROSSING OVER CONDENSATE PIPING.
3. ENSURE GAS AND CONDENSATE PIPING DO NOT OBSTRUCT ROOFTOP EQUIPMENT ACCESS OPENINGS. RE-PIPING OF SYSTEMS DUE TO CONFLICTS WITH EQUIPMENT ACCESS OPENINGS SHALL BE DONE AT PLUMBING CONTRACTOR'S EXPENSE.



4 PIPING SUPPORT ON ROOF
NOT TO SCALE



7 WATER HEATER VENT ROOF PENETRATION
NOT TO SCALE

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646
STATE OF NEW JERSEY · MARK T. KURZYNSKE · NO. GE44646 · LICENSED PROFESSIONAL ENGINEER
01/15/24

CHICK-FIL-A
SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

BUILDING TYPE / SIZE: P14 SE BN
RELEASE: 23.09
PRINTED FOR
PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 24003.EH.S
DATE 01/15/2024
DRAWN BY BLM

SHEET
DETAILS

SHEET NUMBER
M-502

Autodesk Docs://NJ_05444_Sayreville_2023.8_FSR/05444_Sayreville_K&A_MEC.rvt
1/12/2024 10:06:42 AM
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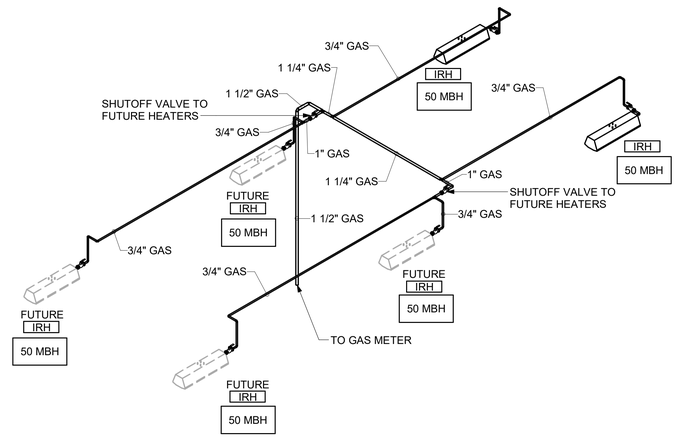
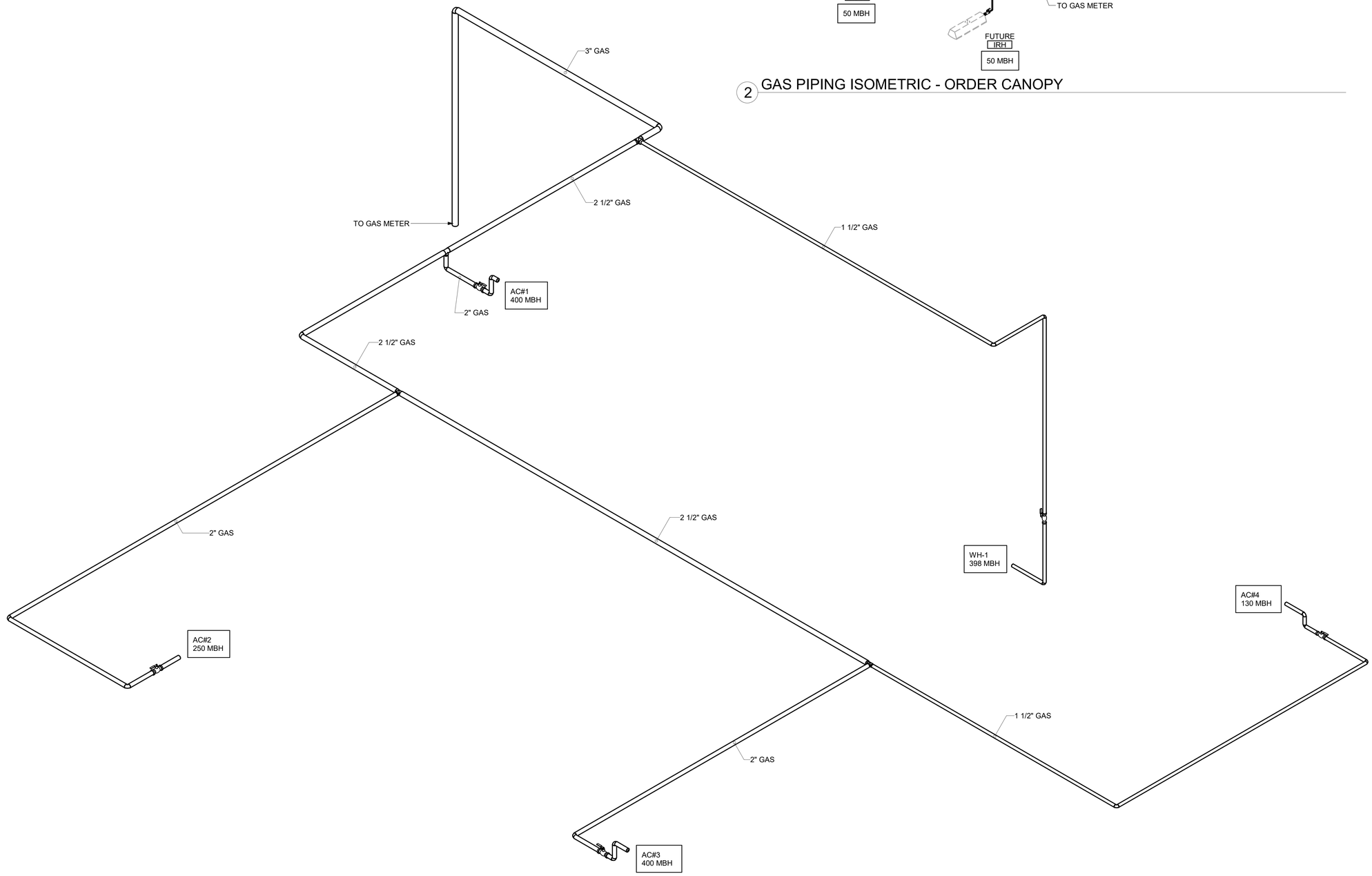


2 GAS PIPING ISOMETRIC - ORDER CANOPY



1 GAS AND CONDENSATE ISOMETRIC - TRANE

Autodesk Docs://NJ_05444_Sayreville_2023.8_FSR/05444_Sayreville_K&A_MEC.rvt
1/12/2024 10:06:51 AM
30-SE-05444-M-901-GAS PIPING ISOMETRICS - TRANE

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske
& Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646

01/15/24

CHICK-FIL-A
SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

BUILDING TYPE / SIZE: P14 SE BN
RELEASE: 23.09
PRINTED FOR
PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

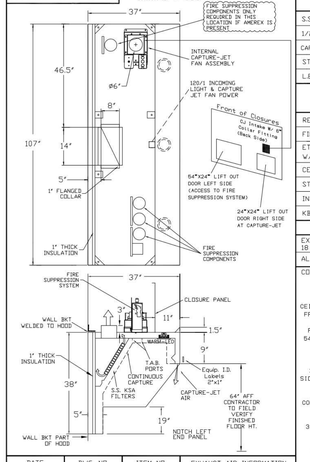
CONSULTANT PROJECT #	24003.EH.S
DATE	01/15/2024
DRAWN BY	BLM

SHEET
GAS PIPING ISOMETRICS - TRANE

SHEET NUMBER
M-901

MODEL: KVL-2-IC

FACTORY MUST BE ADVISED OF ANY SPECIAL ✱ REQUIREMENTS OF THE "AUTHORITY HAVING JURISDICTION" AT TIME OF QUOTE



STANDARD FEATURES	
S.S. FILTERS (KSA)	5
1/2 S.S. FILTERS (KSA)	–
CAPTURE-JET	✱
STAND-OFF	✱
L.E.D. LIGHTS	3
OPTIONS	
REMOTE SWITCH PANEL	
FIRE PROTECTION	✱
ETL LISTED W/O EXHAUST DAMPER	✱
CEILING CLOSURE	2
STD. BACKSPLASH	
INSULATED BACKSPLASH	
KBD DAMPER	✱
MATERIAL	
EXPOSED SURFACES 18 GA. S.S.	✱
ALL 18 GA. S.S.	

COMMENTS:
CLOSURE HEIGHT = 51" (TWO SIDES)
CEILING HEIGHT = 122"
CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF

FRONT CLOSURE PANEL WITH 64"x24" LIFT OUT DOOR LEFT SIDE (ADDESS TO FIRE SUPPRESSION)

24"x24" LIFT DOOR RIGHT SIDE AT CAPTURE-JET W/ FRONT CJ INTAKE

CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT

3" REAR STAND-OFF TO HAVE 1" THICK INSULATION

NOTCHED LEFT END PANEL

EQUIPMENT COVERED (4)PRESSURE FRYERS (2)GRILLS

FIRE SUPPRESSION WEIGHT = ANSUL 63 LBS / AMEREX 264LBS
HOOD WEIGHT= 669 LBS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION		
08.09.22	U22-606-01	H-1L	CFM	TAB	SP
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING			1204	.13"	.22"
LOCATION: --			CAPTURE AIR INFORMATION		
			CFM		SP
SUBMITTED BY: HALTON CO.			80		.30"

4123

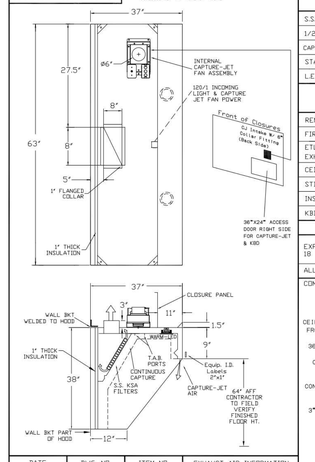
K FACTOR EQUATION: CFM = K FACTOR ✱ √ΔP

K FACTOR = 3365

Halton

MODEL: KVL-2-IC

FACTORY MUST BE ADVISED OF ANY SPECIAL ✱ REQUIREMENTS OF THE "AUTHORITY HAVING JURISDICTION" AT TIME OF QUOTE



STANDARD FEATURES	
S.S. FILTERS (KSA)	3
1/2 S.S. FILTERS (KSA)	–
CAPTURE-JET	✱
STAND-OFF	✱
L.E.D. LIGHTS	2
OPTIONS	
REMOTE SWITCH PANEL	
FIRE PROTECTION	✱
ETL LISTED W/O EXHAUST DAMPER	✱
CEILING CLOSURE	2
STD. BACKSPLASH	
INSULATED BACKSPLASH	
KBD DAMPER	✱
MATERIAL	
EXPOSED SURFACES 18 GA. S.S.	✱
ALL 18 GA. S.S.	

COMMENTS:
CLOSURE HEIGHT = 51" (TWO SIDES)
CEILING HEIGHT = 122"
CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF

36"x24" ACCESS DOOR RIGHT SIDE FOR ACCESS TO CAPTURE-JET W/ FRONT CJ INTAKE & KBD

CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT

3" REAR STAND-OFF TO HAVE 1" THICK INSULATION

EQUIPMENT COVERED (3)PRESSURE FRYERS

HOOD WEIGHT = 394 LBS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION		
08.09.22	U22-606-01	H-1R	CFM	TAB	SP
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING			709	.13"	.23"
LOCATION: --			CAPTURE AIR INFORMATION		
			CFM		SP
SUBMITTED BY: HALTON CO.			47		.30"

4123

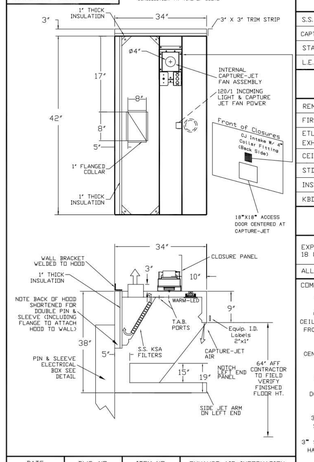
K FACTOR EQUATION: CFM = K FACTOR ✱ √ΔP

K FACTOR = 1959

Halton

MODEL: KVL-C-IC

FACTORY MUST BE ADVISED OF ANY SPECIAL ✱ REQUIREMENTS OF THE "AUTHORITY HAVING JURISDICTION" AT TIME OF QUOTE



STANDARD FEATURES	
S.S. FILTERS (KSA)	2
CAPTURE-JET	✱
STAND-OFF	✱
L.E.D. LIGHTS	1
OPTIONS	
REMOTE SWITCH PANEL	
FIRE PROTECTION	✱
ETL LISTED W/O EXHAUST DAMPER	✱
CEILING CLOSURE	2
STD. BACKSPLASH	
INSULATED BACKSPLASH	
KBD DAMPER	✱
MATERIAL	
EXPOSED SURFACES 18 GA. S.S.	✱
ALL 18 GA. S.S.	

COMMENTS:
CLOSURE HEIGHT = 51" (TWO SIDES)
CEILING HEIGHT = 122"
CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF

18"x18" ACCESS DOOR CENTERED AT CAPTURE-JET W/ FRONT CJ INTAKE

NOTCH LEFT END PANEL

DOUBLE RECEPTACLE PIN & SLEEVE

3" X 3" TRIM STRIP FOR STANDOFF ON RIGHT END

3" SIDE & REAR STAND-OFF TO HAVE 1" THICK INSULATION

EQUIPMENT COVERED (2)FRYERS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION		
08.09.22	U22-606-01	H-2	CFM	T.A.B.	SP
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING			701	.30"	.39"
LOCATION: --			CAPTURE AIR INFORMATION		
			CFM		SP
SUBMITTED BY: HALTON CO.			30		.29"

4123

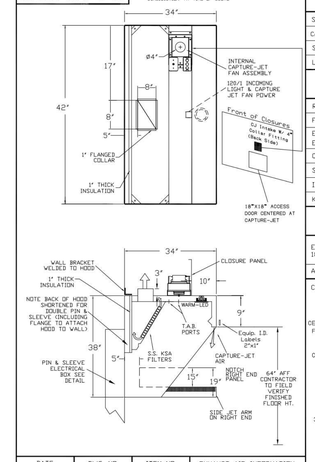
K FACTOR EQUATION: CFM = K FACTOR ✱ √ΔP

K FACTOR = 1291

Halton

MODEL: KVL-C-IC

FACTORY MUST BE ADVISED OF ANY SPECIAL ✱ REQUIREMENTS OF THE "AUTHORITY HAVING JURISDICTION" AT TIME OF QUOTE



STANDARD FEATURES	
S.S. FILTERS (KSA)	2
CAPTURE-JET	✱
STAND-OFF	✱
L.E.D. LIGHTS	1
OPTIONS	
REMOTE SWITCH PANEL	
FIRE PROTECTION	✱
ETL LISTED W/O EXHAUST DAMPER	✱
CEILING CLOSURE	3
STD. BACKSPLASH	
INSULATED BACKSPLASH	
KBD DAMPER	✱
MATERIAL	
EXPOSED SURFACES 18 GA. S.S.	✱
ALL 18 GA. S.S.	

COMMENTS:
CLOSURE HEIGHT = 51" (THREE SIDES)
CEILING HEIGHT = 122"
CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF

18"x18" ACCESS DOOR CENTERED AT CAPTURE-JET W/ FRONT CJ INTAKE

NOTCH RIGHT END PANEL

DOUBLE RECEPTACLE PIN & SLEEVE

3" REAR SIDE STAND-OFF TO HAVE 1" THICK INSULATION

EQUIPMENT COVERED (2)FRYERS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION		
08.09.22	U22-606-01	H-3	CFM	T.A.B.	SP
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING			701	.30"	.39"
LOCATION: --			CAPTURE AIR INFORMATION		
			CFM		SP
SUBMITTED BY: HALTON CO.			30		.29"

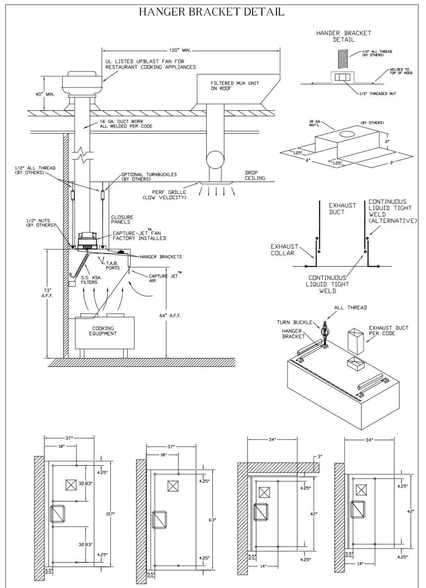
4123

K FACTOR EQUATION: CFM = K FACTOR ✱ √ΔP

K FACTOR = 1291

Halton

HANGER BRACKET DETAIL



H-1L H-1R H-2 H-3

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFYING THE FOLLOWING:

1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE: ANY CHANGES INCLUDING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR, A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

☐ REVISE AND RESUBMIT

APPROVED FOR FABRICATION ☐ WITH CHANGES AS NOTED

☐ WITH NO CHANGES

APPROVED BY: _____ DATE: _____

MODEL: KBD
KITCHEN BALANCING DAMPER
EXHAUST VOLUME DAMPER

TAG	"L"	"W"	QUANTITY
H-1L	14"	8"	1
H-1R	8"	8"	1
H-2	8"	8"	1
H-3	8"	8"	1

MATERIAL:
FRAME - 16GA CONT. WELDED GALV.
ADJUSTABLE PANEL 18 GA S.S.

"KVL-2-IC" TYPICAL INSTALLATION

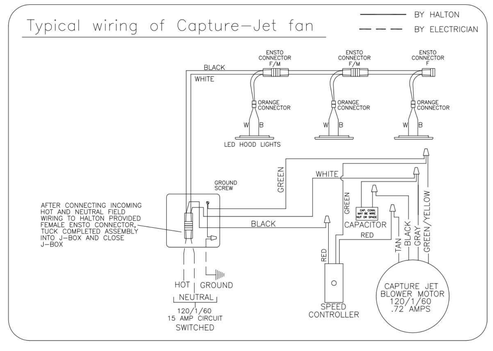
"KVL-C-IC" TYPICAL INSTALLATION

60143

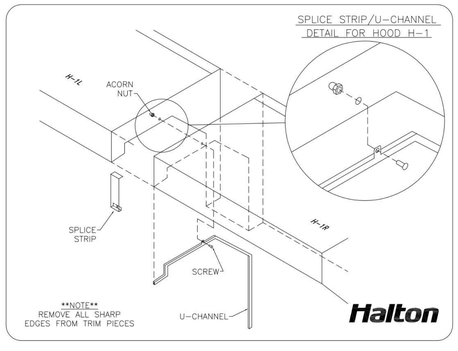
NOTE
THIS DETAIL DEPICTS THE INSTALLATION OF THE DOUBLE RECEPTACLE PIN & SLEEVE ASSEMBLY AT HOOD H-2 & HOOD H-3.

H2 DOUBLE PIN AND SLEEVE
H3 DOUBLE PIN AND SLEEVE

Typical wiring of Capture-Jet fan



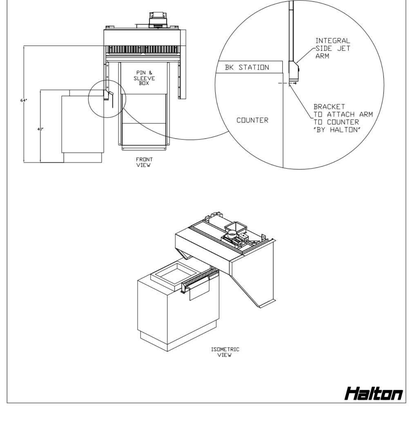
SPLICE STRIP/U-CHANNEL DETAIL FOR HOOD H-1



NOTE
REMOVE ALL SHARP EDGES FROM TRIM PIECES

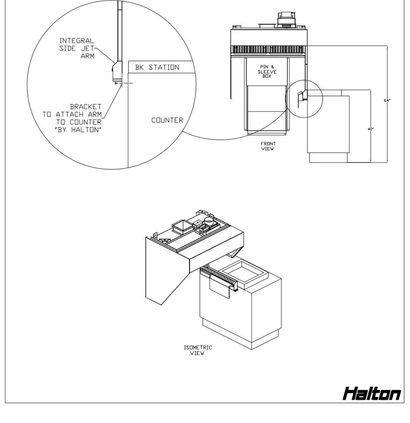
Halton

Integral Side Jet Arm H-2

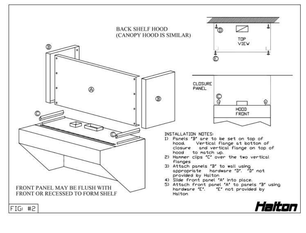


Halton

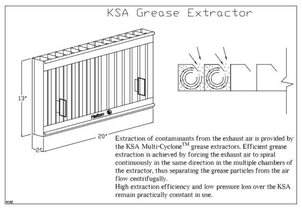
Integral Side Jet Arm H-3



Halton



KSA Grease Extractor



Extraction of contaminants from the exhaust air is provided by the KSA Multi-Cyclone™ grease extractors. Efficient grease extraction is achieved by forcing the exhaust air to spiral continuously in the same direction in the multiple chambers of the extractor, thus separating the grease particles from the air flow centrifugally.
High extraction efficiency and low pressure loss over the KSA remain practically constant in use.

HALTON HOODS
– ETL LISTED PER LATEST 710 STANDARD
– BUILT PER NFPA 96
– NSF LISTED

NSF Halton ETL CONFORMS TO UL STD UL STD 710 CERTIFIED TO ULC STD S646 INTERTEK 3012225

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO. KVL-C-IC | SERIAL NO. | ITEM NO.

GENERAL REQUIREMENTS

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS
THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE HOOD HAS BEEN CERTIFIED BY ETL FOR 0 INCH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96.
THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES
REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER
SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN		MIN EXHAUST VOLUME FOR HOOD LENGTH
	FRONT, IN	SIDE, IN	MIN	MAX	
MEDIUM	6	(C)	20	30	138
JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.30 IN H20					

NSF Halton ETL CONFORMS TO UL STD UL STD 710 CERTIFIED TO ULC STD S646 INTERTEK 3012225

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO. KVL-2-IC | SERIAL NO. | ITEM NO.

GENERAL REQUIREMENTS

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS
THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE HOOD HAS BEEN CERTIFIED BY ETL FOR 0 INCH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96.
THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES
REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER
SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN		MIN EXHAUST VOLUME FOR HOOD LENGTH
	FRONT, IN	SIDE, IN	MIN	MAX	
MEDIUM	6 (+)	0	20	30	121
MEDIUM	6	0	20	32	106
MEDIUM	6	0	20	36	133
HEAVY	0	2	20	25	196
HEAVY	0	2	20	30	256
+ – SETBACK/OVERHANG DISTANCE					
JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.26 IN H20					

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (CANADA)
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 3R7
1-905-624-0301

WEBSITE: WWW.HALTON.COM

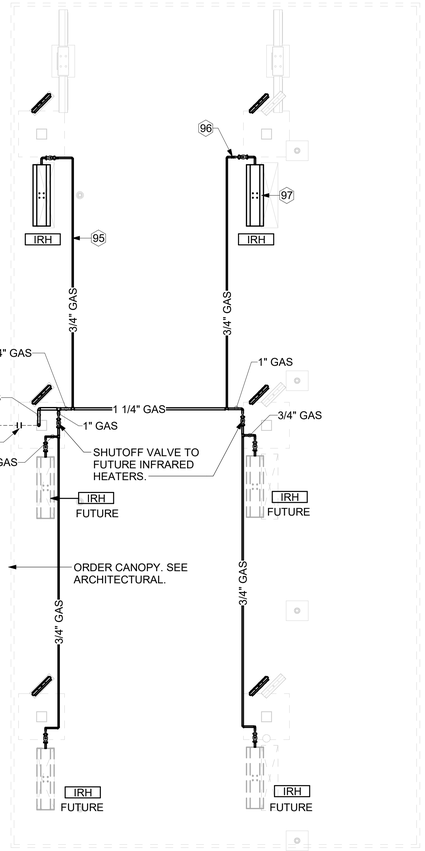
HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5600

REV.	BY	DATE	REVISION DESCRIPTION
1	–	–	–
2			
3			
4			
5			
6			
7			

PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING
LOCATION: -- | DATE: 08.09.22
DRAWN BY: CG | SCALE: NTS
Halton Dwg: U22-606-01

Halton CARE FOR INDOOR AIR

Sheet MH–1.1



2 ORDER CANOPY GAS PIPING PLAN

1/4" = 1'-0"

KEY NOTES

95 GAS PIPING TO BE ROUTED ABOVE CANOPY, ON TOP OF STRUCTURAL MEMBERS, EXCEPT WHERE ROUTED DOWN THROUGH PENETRATIONS AS INDICATED.

96 GAS PIPING DOWN THROUGH DECK. WEATHERPROOF DECK PENETRATION PER DETAIL 6/M-502, TYPICAL.

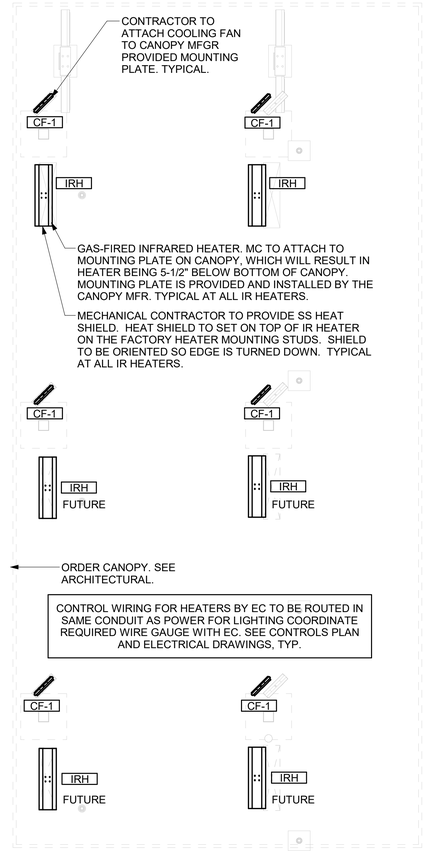
97 SEE DETAIL 1/M-502 FOR PIPING AT IRH, TYPICAL.

98 GAS TRANSITION FITTING TO GAS PIPE STUB-OUT. GAS PIPING INSIDE COLUMN AND STUB-OUTS BY CANOPY MFR. JOIN UNDERGROUND POLYETHYLENE GAS PIPING TO TRANSITION FITTING WITH ELSTER PERMASERT COUPLING. CANOPY MFR'S EXPOSED STEEL PIPING BELOW GRADE SHALL BE PROTECTED WITH TWO COATS ASPHALT TUM BASE PAINT AND POLY SLEEVE.

99 1-1/2" GAS B/G TO METER SEE 1/M-102.

CANOPY GENERAL NOTES

1. COORDINATE WORK WITH CONDUIT, STRUCTURE, AND PIPING. FIELD VERIFY CONDITIONS PRIOR TO START OF WORK.
2. COORDINATE LOCATION AND RESPONSIBILITIES FOR UNDERGROUND PIPING AND ASSOCIATED TRENCHING WITH GENERAL CONTRACTOR PRIOR TO START OF WORK.
3. EXPOSED GAS PIPING SHALL BE COVERED WITH A RUST INHIBITING PAINT SUCH AS RUST-OLEUM 5200. PAINT COLOR SHALL MATCH STRUCTURE. ROOF MOUNTED GAS PIPING COLOR SHALL BE YELLOW.
4. CONTROL WIRING FOR HEATERS BY EC. COORDINATE REQUIRED WIRE GAUGE WITH EC. SEE CONTROLS PLAN AND ELECTRICAL DRAWINGS, (TYP.).



1 MECHANICAL FLOOR PLAN - ORDER CANOPY

1/4" = 1'-0"

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646

STATE OF NEW JERSEY · MARK T. KURZYNSKE · NO. GE44646 · LICENSED PROFESSIONAL ENGINEER

01/15/24

CHICK-FIL-A SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

BUILDING TYPE / SIZE: P14 SE BN
RELEASE: 23.09
PRINTED FOR
PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT #	24003.EH.S
DATE	01/15/2024
DRAWN BY	BLM

SHEET
CANOPY HVAC PLAN

SHEET NUMBER
M-103

Autodesk Docs://NJ_05444_Sayreville_2023.8_FSR/05444_Sayreville_K&A_MEC.rvt
1/12/2024 10:06:27 AM
30-SE-05444-M-103-CANOPY HVAC PLAN

DIVISION 15 SPECIFICATIONS

PART I - GENERAL

1.01 SCOPE

A. IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY FOR COORDINATION.

B. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.

C. SYSTEM LAYOUT IS SCHEMATIC AND EXACT LOCATIONS SHALL BE DETERMINED BY STRUCTURAL CONDITIONS, COORDINATION WITH OTHER TRADES, COORDINATION WITH FINISHES AND OTHER CONDITIONS. STRUCTURAL SUPPORTS SHALL NOT BE CUT OR ALTERED TO ASSURE FIT OF HVAC SYSTEM. TEN FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN OUTSIDE AIR INTAKES AND EXHAUST FANS AND PLUMBING VENT TERMINALS.

D. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER FINAL PAYMENT IS APPROVED. CONTRACTOR SHALL HONOR FACTORY WARRANTIES ON ALL EQUIPMENT PROVIDED AS PART OF THIS SYSTEM.

E. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO CONDITION ACCEPTABLE TO THE OWNERS REPRESENTATIVE. ALL EQUIPMENT, COMPONENTS, DUCTWORK AND AIR DEVICES SHALL BE INSPECTED AND THOROUGHLY CLEANED, CLEARED OF DEBRIS, AND READY FOR USE. AT COMPLETION OF JOB, ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.

F. CONTRACTOR SHALL PROVIDE TWO SETS OF 2" MERV 8 OR HIGHER THROW AWAY TYPE FILTERS. A CLEAN SET SHALL BE PROVIDED PRIOR TO TEST AND BALANCE AND AGAIN PRIOR TO OPENING.

PART II - PRODUCTS

2.01 HEATING AND COOLING EQUIPMENT

A. FURNISH AND INSTALL R-410A ROOFTOP SINGLE PACKAGE COMBINATION ELECTRIC COOLING AND NATURAL GAS FIRED HEATING UNITS AS SHOWN ON DRAWINGS. EQUIPMENT SHALL BE ARI CERTIFIED AND A.G.A. AND U.L. LISTED.

B. ACCESSORIES SHALL INCLUDE LOW AND HIGH PRESSURE SAFETIES, CRANK CASE HEATER, OVERCURRENT AND OVERTEMPERATURE SAFETY, COMPRESSOR VIBRATION ISOLATORS, FILTER DRIERS, REFRIGERANT SERVICE VALVES, COIL HAIL GUARDS WHERE SCHEDULED, CONVENIENCE OUTLETS FACTORY INSTALLED ON SCHEDULED UNITS, UNIT MOUNTED NON-FUSED DISCONNECTS, LOW AMBIENT OPERATION DOWN TO 30 DEGREES F AND EVAPORATOR FREEZE STAT.

C. COMPRESSORS SHALL BE HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.

D. THE UNIT HEAT EXCHANGERS SHALL BE ALUMINIZED STEEL COATING. HEATING CONTROLS SHALL CONSIST OF REDUNDANT GAS VALVES, INTERMITTENT PILOT WITH ELECTRONIC SPARK OR HOT PLATE IGNITION SYSTEM, COMBUSTION/EXHAUST FAN PROTECTED BY CENTRIFUGAL SWITCHES, HEAT LIMIT SWITCHES, TIME-DELAY RELAY, FLAME, AND PILOT SENSORS. HEAT EXCHANGERS SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.

2.02 DUCTWORK (C15735)

A. ACCEPTABLE MANUFACTURERS OF INSULATION SHALL BE: JOHNS MANVILLE, OWENS CORNING OR KNAUF.

B. ALL DUCTWORK SHALL BE SHEET METAL, UNLESS NOTED OTHERWISE (U.N.O.).

C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS, U.N.O.

D. CONSTRUCTION OF DUCTWORK SHALL MEET SMACNA 1" W.C. PRESSURE CLASS STANDARD AND RECOMMENDATIONS. SMACNA SHALL BE FOLLOWED WITH RESPECT TO GAGE THICKNESS, JOINTS, REINFORCING, CONSTRUCTION, INSTALLATION AND SUPPORT FOR PRESSURE CLASS STATED. ALL TRANSVERSE JOINTS IN RECTANGULAR AND ROUND DUCT INCLUDING DUCT CONNECTION TO AIR DEVICE COLLAR SHALL BE SEALED PER SMACNA SEAL CLASS C WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. DUCT TAPE IS NOT AN ACCEPTABLE SUBSTITUTE FOR MASTIC UNLESS EQUAL TO HARDCAST FOIL-GRIP 1402 BUTYL RUBBER ADHESIVE TAPE.

E. DUCT SHALL BE SUPPORTED AT BASE OF DUCT DROPS. CURB DUCT RAILS ARE NOT INTENDED TO AND SHALL NOT SUPPORT THE WEIGHT OF THE DUCT.

F. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 6 R-VALUE INSTALLED WITH EITHER A VAPOR BARRIER WITH MAXIMUM PERMEANCE 0.05 OR A MINIMUM 2 MIL ALUMINUM REINFORCED FOIL/KRAFT FACING.

G. ALL DUCT DROPS FROM THE ROOFTOP UNITS SHALL BE EXTERNALLY INSULATED.

H. SUPPLY AND RETURN AIR DUCTWORK SERVING ALL AREAS SHALL BE EXTERNALLY INSULATED.

I. ALL AIR CONVEYANCE COMPONENTS SUCH AS, BUT NOT LIMITED TO DUCT, DUCT PLENUMS, GRILLES/DIFFUSERS, BACK PANS, AND BOOTS SHALL BE INSULATED. INSULATION TYPE IS COVERED ELSEWHERE IN THIS SPECIFICATION.

J. RESTROOM RECTANGULAR EXHAUST AIR DUCTWORK SHALL BE LINED WITH 1" THICK, 1-1/2 PCF INSULATION. RESTROOM ROUND EXHAUST DUCT SHALL BE EXTERNALLY INSULATED PER SECTION 2.02F.

K. DUCT DROPS SHALL BE ISOLATED FROM UNIT VIBRATION WITH THE USE OF NFPA AND U.L. APPROVED FLEXIBLE CONNECTORS INSTALLED AT THE TOP OF BOTH SUPPLY AND RETURN DROPS.

L. INSULATED FLEXIBLE DUCT MAY BE UTILIZED FOR RUNOUTS TO GRILLES AND DIFFUSERS ONLY IN THE HORIZONTAL POSITION AND IN MAXIMUM LENGTHS OF 4'-0", NO EXCEPTIONS.

M. CONSTRUCTION OF FLEXIBLE DUCTWORK SHALL INCLUDE SPIRAL METAL HELIX BONDED TO A POLYESTER CORE, FIBERGLASS INSULATION WITH POLYETHYLENE OR MYLAR VAPOR BARRIER. ALL COMPONENTS SHALL HAVE APPROPRIATE U.L. APPROVAL AND SHALL BE EQUIVALENT TO THERMAFLEX MKE. FLEX DUCT SHALL HAVE A MINIMUM R-VALUE OF 6.

N. FLEXIBLE DUCT SHALL BE INSTALLED PER THE "ADC FLEXIBLE DUCT PERFORMANCE AND INSTALLATION STANDARDS, 4TH ED" USING FOIL TAPE AND DRAWBAND ON THE INNER CORE AND TAPE OR DRAWBAND ON THE OUTER JACKET.

O. DUCT TAPE SHALL BE EQUAL TO FASSON 181-B FX, 2-1/2" WIDE.

P. SINGLE THICKNESS TURNING VANES SHALL BE INSTALLED AT ALL 90 DEGREE ELBOWS WHERE THE CENTERLINE RADIUS (R) IS LESS THAN THE WIDTH OF THE DUCT AND ANY ONE DIMENSION IS GREATER THAN 12".

Q. EXTERNAL INSULATION ON BOTTOM OF DUCTS 24" OR WIDER SHALL BE SUPPORTED WITH STICK PINS ON 18" CENTERS. STICK PIN WASHERS SHALL BE COVERED WITH DUCT TAPE OR MASTIC.

2.03 CONTROLS

A. SYSTEMS SHALL BE COMPLETE WITH CONNECTIONS TO CFA-500 TEMPERATURE CONTROL PANEL AS MANUFACTURED BY SUNCOAST ENVIRONMENTAL CONTROLS (S.E.C.) (PH: 877-544-6679). THE PANEL IS PROVIDED AND MOUNTED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING TERMINATIONS ARE BY THE MECHANICAL CONTRACTOR WHERE PERMITTED BY AHJ.

B. THE SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND WIRED BY THE ROOFTOP UNIT MANUFACTURER.

C. A FACTORY INSTALLED SMOKE DETECTOR IN THE RETURN AIR SECTION OF EACH AIR CONDITIONING UNIT SHALL STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER IN THE EVENT OF EXCESSIVE TEMPERATURE OR SMOKE. SMOKE DETECTOR SHALL BE LOCATED PRIOR TO ANY EXHAUST FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP. UPON DETECTION, THE SYSTEM SHALL NOT RESTART UNTIL THE DEVICE IS MANUALLY RESET. DEVICES SHALL BE LOCATED WHERE THEY CAN BE EASILY ACCESSED AND WHERE CLEAR OF FILTERS.

D. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE SMOKE DETECTOR TEST/RESET ANNUNCIATOR STATIONS. THE TEST/RESET STATIONS WILL BE PURCHASED BY THE ELECTRICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE AND TURNED OVER TO THE MECHANICAL CONTRACTOR FOR INSTALLATION.

E. THE REMOTE TEST/RESET ANNUNCIATORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUNCIATORS AND ALL WIRING FROM EACH DEVICE TO THE RTU. ELECTRICAL WILL PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION AS SHOWN ON THE ELECTRICAL PLANS. ANNUCIATOR SHALL BE SUNCOAST CONTROLS REMOTE TEST/RESET STATION WITH POWER LED, TROUBLE LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.

F. THE RESTROOM FAN SHALL BE INTERLOCKED TO THE LIGHTS SERVING THE MEN AND WOMEN'S RESTROOMS. THE HOOD FANS SHALL BE CONTROLLED VIA THE SUNCOAST CFA-500 CONTROL PANEL. WIRING, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.

G. THERMOSTATS ARE PROVIDED AND INTEGRATED INTO THE TEMPERATURE CONTROL PANEL BY SUNCOAST ENVIRONMENT CONTROLS. SUNCOAST WILL PROVIDE A NETWORK THERMOSTAT US32-CFA THERMOSTAT PRE-WIRED IN THE TEMPERATURE CONTROL PANEL. REMOTE TEMPERATURE SENSOR(S) FOR EACH THERMOSTAT IS ALSO PROVIDED. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THE THERMOSTAT, THE REMOTE SENSOR(S) AND THE ROOFTOP UNIT.

H. MECHANICAL CONTRACTOR SHALL INSTALL CONTROL WIRING IN 1/2" CONDUIT WHERE REQUIRED BY CODE. WHERE NOT REQUIRED TO BE IN CONDUIT, ALL WIRING SHALL BE RUN PARALLEL TO STRUCTURAL MEMBERS OR PERPENDICULAR WITH NO DIAGONAL ROUTING. ALL WIRING SHALL BE SECURED TO THE FRAMING TO PREVENT SAGGING IN RUNS. WIRING TO ROOFTOP UNITS SHALL BE ROUTED THROUGH THE FACTORY THRU-BASE FITTING IN THE UNIT BASE. NO SPLICING OF WIRING WILL BE ACCEPTED. ALL WIRING ABOVE THE ROOF SHALL BE INSTALLED IN EXTERIOR GRADE FLEXIBLE CONDUIT. ALL CONTROL WIRING AND CONTROL WIRING CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF NEC. ALL LOW VOLTAGE CONTROL WIRING SHALL BE NO LESS THAN 18 AWG MIN. CONTROL WIRING CONDUCTORS SHALL BE SIZED TO ACCOUNT FOR LOAD AND LENGTH OF RUN TO ALLOW SUFFICIENT VOLTAGE AVAILABLE AT CONTROLLED DEVICE TO OPERATE THE SYSTEM RELIABLY.

2.04 PIPING

A. ALL ABOVE GRADE NATURAL GAS PIPING SHALL BE SCHEDULE 40 STEEL MEETING ASTM A53 WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. FOR SCREWED PIPING, PIPING SHALL BE JOINED WITH BLACK 150 POUND MALLEABLE IRON SCREWED FITTINGS AS ALLOWED BY LOCAL AUTHORITY. CONTRACTOR SHALL VERIFY THE NEED FOR WELDED PIPING AS REQUIRED BY THE LOCAL GAS CODE AND/OR APPLICABLE LOCAL ORDINANCES AND AMENDMENTS.

B. ALL BELOW GRADE NATURAL GAS PIPING SHALL BE MEDIUM DENSITY POLYETHYLENE (PE) MEETING ASTM D2513 AS MANUFACTURED BY GASTITE WITH JOINING SYSTEM AS MANUFACTURED BY CON-STAB. TRANSITIONS FROM ABOVE GRADE RIGID PIPING TO PE BELOW GRADE PIPING SHALL BE MADE WITH ANODE-LESS RISER ASSEMBLY AS MANUFACTURED BY CON-STAB.

C. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE DIRT LEG AT CONNECTION TO EACH GAS-FIRED PIECE OF EQUIPMENT. INSTALL PIPING AT AND AROUND EQUIPMENT SO AS TO NO WAY OBSTRUCT EQUIPMENT ACCESS PANELS AND/OR ACCESS DOORS.

D. ALL GAS PIPING ABOVE ROOF SHALL BE CLEANED FREE OF RUST AND PAINTED WITH COAT OF ZINC RUST PRIMER AND ONE COAT OF ALUMINUM BASE PAINT. METER AND GAS RISER SHALL BE PRIMED AND PAINTED TO MATCH BUILDING.

E. NATURAL GAS PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

PART III - EXECUTION

3.01 SCOPE

A. FURNISH AND INSTALL SYSTEM IN ACCORDANCE WITH REFERENCED STANDARDS, APPLICABLE CODES, MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.

B. CONTRACTOR SHALL INSTRUCT THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT THROUGH DEMONSTRATION AND EXPLANATION OF OPERATING & MAINTENANCE MANUALS.

C. CONTRACTOR SHALL PROVIDE A "SAMPLE MAINTENANCE PROPOSAL" TO THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.

D. CONTRACTOR SHALL COMPLETE A/C EQUIPMENT STARTUP DOCUMENTATION PROVIDED BY OWNER AND/OR MANUFACTURER. THIS SHALL INCLUDE RE-TORQUE OF ALL FIELD AND FACTORY HIGH VOLTAGE CONNECTIONS.

3.02 LEED PROJECTS

A. CONTRACTOR SHALL COMPLETE RECEIPT INSPECTION CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN WITHIN 5 DAYS OF RECEIVING EQUIPMENT ON SITE.

B. CONTRACTOR SHALL COMPLETE PRE-FUNCTIONAL CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN. CHECKLISTS SHALL BE RETURNED AT LEAST 5 DAYS PRIOR TO SCHEDULING FUNCTIONAL PERFORMANCE TESTING.

C. CONTRACTOR SHALL PROVIDE A TECHNICIAN TO ASSIST THE THIRD PARTY COMMISSIONING AUTHORITY WITH FUNCTIONAL TESTING. FUNCTIONAL TESTING SHALL OCCUR AFTER ALL CONTROLS HAVE BEEN INSTALLED AND VERIFIED AND AFTER TEST AND BALANCE IS COMPLETE. THE FUNCTIONAL PERFORMANCE TEST PROCEDURES CAN BE FOUND IN THE COMMISSIONING PLAN.

D. IF THE TOTAL TIME REQUIRED TO CORRECT PROBLEMS DURING TESTING IS GREATER THAT FORTY-FIVE (45) MINUTES (UNLESS EXTENUATING CIRCUMSTANCES EXIST), THE TEST SHALL BE CONSIDERED FAILED AND MUST BE REPEATED IN ITS ENTIRETY.

E. RE-TESTING: DURING THE COURSE OF THE RETEST, IF AT ANY POINT A MAJOR DEFICIENCY IS DISCOVERED, THE TEST WILL BE STOPPED. REPEAT TESTS UNTIL ACCEPTABLE RESULTS ARE ACHIEVED. IF MORE THAN TWO FUNCTIONAL PERFORMANCE TESTS (ONE INITIAL TEST AND ONE RETEST) FOR ANY TYPE OF EQUIPMENT DUE TO ISSUES THAT THE CONTRACTOR HAD DIRECT OR INDIRECT CONTROL OVER ARE REQUIRED, THE COSTS FOR THE CXA TO WITNESS RETESTING OF SIMILAR TYPES OF EQUIPMENT UNTIL SATISFACTORY RESULTS ARE OBTAINED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3.03 TEST & BALANCE

A. OWNER SHALL TEST AND BALANCE MECHANICAL SYSTEM IN ACCORDANCE WITH NEBB, NBC OR AABC STANDARDS TO ASSURE CONFORMANCE WITH DESIGN. G.C. WILL MAKE MECHANICAL CONTRACTOR AVAILABLE DURING TEST AND BALANCE TO ASSIST TESTING AGENCY AND TO MAKE CORRECTIONS IMMEDIATELY NECESSARY. CONTRACTOR SHALL CORRECT ITEMS ON WRITTEN TEST AND BALANCE REPORT.

B. ALL EQUIPMENT TO BE BALANCED MUST HAVE GONE THRU SUCCESSFUL START-UP PROCEDURE BY THE MECHANICAL CONTRACTOR (MC) PRIOR TO TAB VISIT.

C. THE FLOOR OF THE RESTAURANT SHALL BE CLEARED OF DEBRIS, STAGED CONSTRUCTION MATERIALS, EQUIPMENT, ETC. WHICH MAY, IN THE OPINION OF THE TAB TECHNICIAN, OBSTRUCT ACCESS TO AIR DISTRIBUTION COMPONENTS IN AND ABOVE THE CEILING.

D. EQUIPMENT ACCESS PANELS, DUCT AIR DEVICES SUCH AS BALANCING DAMPERS AND ACTUATORS SHALL BE ACCESSIBLE AND CLEAR OF PIPING, CONDUIT, FRAMING, SUPPORTS ETC...

E. PROVIDE AN 8 FT PORTABLE A-FRAME STYLE LADDER DEDICATED FOR THE TAB TECHNICIAN'S USE DURING THE ENTIRE TAB EFFORT DURATION.

KITCHEN HOOD SYSTEMS NOTES

1. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT WITH HALTON CO. FOR THE HOODS. CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
2. THE FIRE SUPPRESSION SYSTEM SHALL CONSIST OF A COMPLETE WET CHEMICAL SYSTEM FURNISHED BY HALTON. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON.
3. THE FIRE SUPPRESSION SYSTEM EXTERNAL TO THE HOODS SHALL BE INSTALLED IN ACCORDANCE WITH HOOD MANUFACTURER'S SHOP DRAWINGS BY AN AUTHORIZED INSTALLER SELECTED AND HIRED BY HALTON. COST FOR INSTALLATION INCLUDED IN PRICE OF HOODS TO CFA.
4. HOOD EXHAUST DUCTWORK SHALL BE 16 GA. BLACK STEEL WITH CONTINUOUS LIQUID TIGHT WELD OF JOINTS & SEAMS.
5. TURNS IN GREASE EXHAUST DUCTWORK SHALL BE LONG RADIUS TYPE, WITH A CENTERLINE RADIUS R=3W/2, UNLESS OTHERWISE NOTED. NO MITERED FITTINGS ALLOWED.
6. ALL STAINLESS STEEL CLOSURE PANELS SHALL BE SUPPLIED BY HOOD MANUFACTURER AND INSTALLED BY THE MECHANICAL CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. SLOPE ALL GREASE EXHAUST DUCT BACK TO HOOD AT 1/4" PER FOOT OF RUN.
8. WRAP NEW GREASE DUCT WITH UNIFRAX FYREWRAP. INSULATION ON ACCESS DOORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS. UNIFRAX FYREWRAP PRODUCT USED SHALL MEET LOCAL CODE REQUIREMENTS.
9. SUPPORT ALL HOODS WITH THREADED ROD AT EACH FACTORY SUPPORT POINT. EACH SUPPORT POINT MUST SUPPORT THE HOOD WEIGHT EQUALLY. ATTACH TO STRUCTURE AS DETAILED ON STRUCTURAL DRAWINGS. ATTACH HOOD TO WALL AT 16" INTERVALS ALONG FULL LENGTH OF HOOD ON TOP AND BOTTOM. ATTACHMENT TO WALL REQUIRES FIELD DRILLING OF SUPPORT ANGLE AT BACK OF HOODS. EACH WALL ATTACHMENT POINT MUST OCCUR AT A WALL STUD. ATTACHMENT HARDWARE TO BE #12-24 HEX HEAD SHEET METAL SCREW EQUAL TO TEXTRON SDS EDT265, LENGTH AS REQUIRED TO FULLY PENETRATE THE STUD.
10. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

LEGEND

A-12-400	TYPE - NECK SIZE - CFM	EF#1	EXHAUST FAN #1 (TYP.)
	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP	AC#1	AIR CONDITIONING UNIT #1 (TYP.)
	SPIN-IN HARD⌀ FLEXIBLE⌀ DIFFUSER		RETURN/EXHAUST (TYP.)
S	REMOTE TEMPERATURE SENSOR		SUPPLY DIFFUSER, SQ FACE (TYP.)
H	HUMIDITY SENSOR	1	PLAN NOTE REFERENCE
SD	SMOKE DETECTOR		MANUAL VOLUME DAMPER
12x18	DUCT SIZE (reverse for elevation views) 1ST NUMBER - HORIZONTAL DIMENSION 2ND NUMBER - VERTICAL DIMENSION		DIRECTION OF THROW ON DIFFUSER
			CLOSED AIR PATTERN DEFLECTOR
SW	AIR DOOR SWITCH	GIH	GAS INFRARED HEATER (TYP.)
EIH	ELECTRIC INFRARED HEATER	B/G	BELOW GRADE
		T	THERMOSTAT

ABBREVIATIONS

EC	ELECTRICAL CONTRACTOR
GC	GENERAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
PC	PLUMBING CONTRACTOR
O.C.	ON CENTER
IRH	INFRARED HEATER
CF	CIRCULATING FAN
TF	TRANSFER FAN
EF	EXHAUST FAN

GENERAL NOTES

1. DUCT SIZES SERVING DIFFUSERS AND GRILLES ARE SAME SIZE AS DIFFUSER OR GRILLE NECK UNLESS NOTED OTHERWISE.
2. FLEXIBLE DUCT AND INSULATION NOT SHOWN FOR CLARITY.
3. FOR ALL ROOF EQUIPMENT, PROVIDE A PLASTIC ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. WITH A SELF ADHESIVE BACKING.
4. UNLESS NOTED OTHERWISE, MC TO ADJUST ALL DIFFUSER AIR PATTERN DEFLECTORS TO THROW HORIZONTALLY ALONG THE CEILING.
5. ALL EXHAUST DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLAIMS PRO INDUSTRIAL DTM ACRYLIC COATING, SEMI-GLOSS, WHITE. DEGREASE AND PRIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLAIMS PRO INDUSTRIAL PRO-CRYLACRYLIC UNIVERSAL PRIMER, WHITE, PRIOR TO PAINTING.
6. MAINTAIN 18" CLEARANCE FROM GREASE EXHAUST DUCTWORK ABOVE ROOF TO ANY COMBUSTIBLE CONSTRUCTION INCLUDING PARAPET WALLS.

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646

01/15/24

CHICK-FIL-A
SAYREVILLE FSR

MAIN STREET EXTENSION
SAYREVILLE, NJ 08872

FSR#05444

BUILDING TYPE / SIZE: P14 SE BN
RELEASE: 23.09
PRINTED FOR
PERMIT

REVISION SCHEDULE

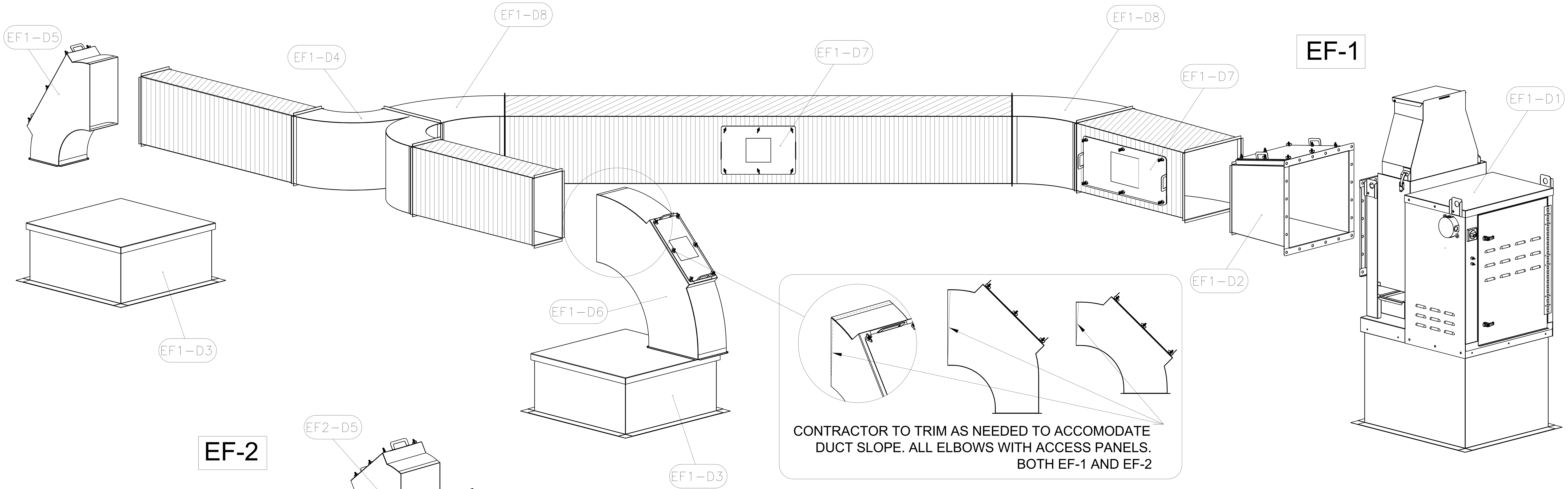
NO.	DATE	DESCRIPTION

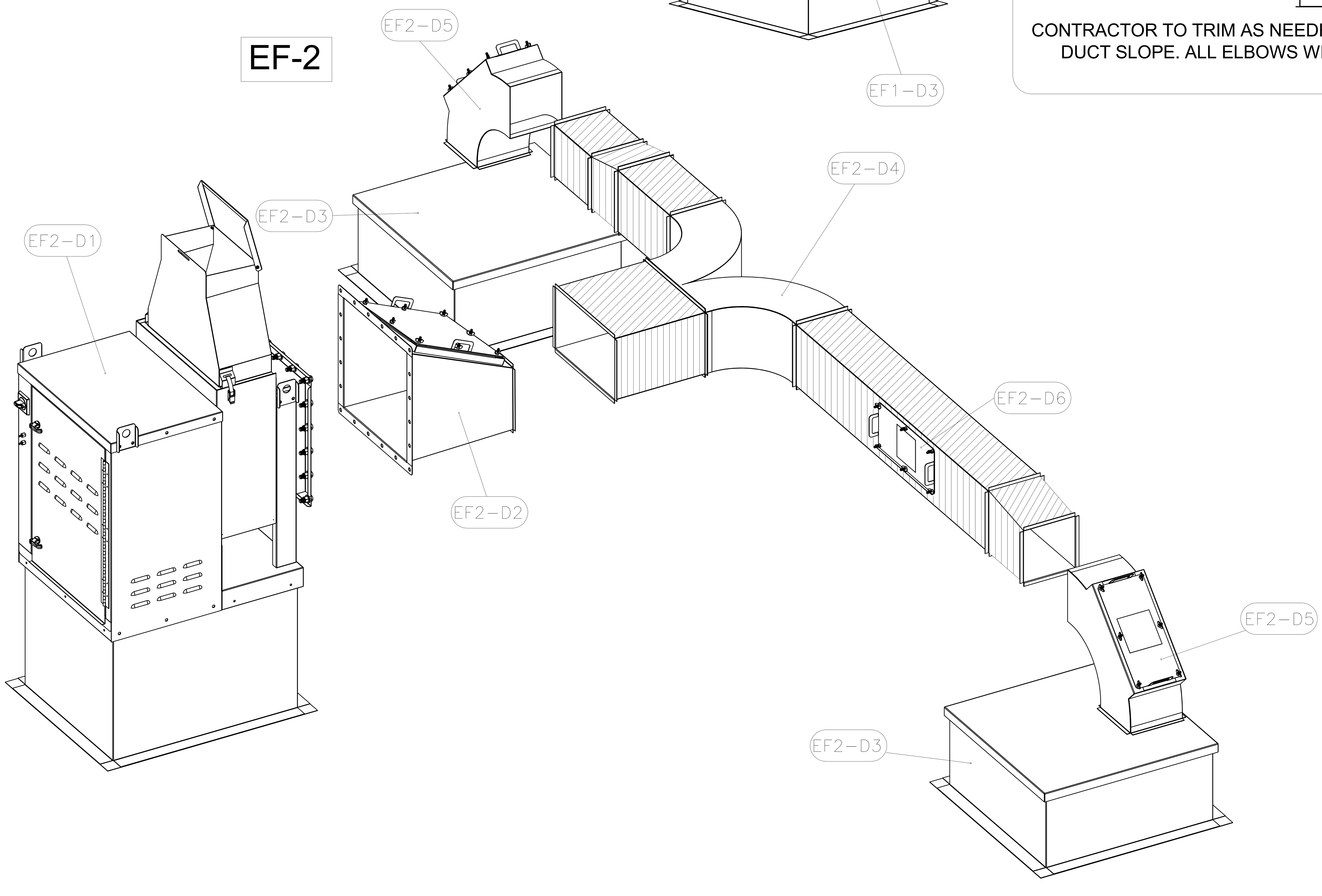
CONSULTANT PROJECT #	24003.EH.S
DATE	01/15/2024
DRAWN BY	BLM

SHEET
GENERAL NOTES, LEGENDS, SYMBOLS, AND ABBREVIATIONS
SHEET NUMBER
M-001

Autodesk Docs://NJ_05444_Sayreville_2023.8_FSR/05444_Sayreville_K&A_MEC.rvt
1/12/2024 10:06:19 AM
30-SE-05444-M-001-GENERAL NOTES, LEGENDS, SYMBOLS, AND ABBREVIATIONS

FOR REFERENCE ONLY





EXHAUST FAN #1 (EF-1)		
ITEM	DESCRIPTION	QTY
EF1-D1	KEFB EXHAUST FAN W/ ROOF CURB	1
EF1-D2	FAN TRANSITION W/ UL LISTED ACCESS PANEL 14X16	1
EF1-D3	DUCT ROOF CURB W/ CAP 26X26X12	2
EF1-D4	LONG SWEEPING WYE 14X8	1
EF1-D5	LONG SWEEPING ELBOW TRANS W/ UL LISTED ACCESS PANEL 8X8 TO 8X14	1
EF1-D6	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 14X8	1
EF1-D7	UL LISTED ACCESS PANEL 10X15	2
EF1-D8	45° 14X16	2

EXHAUST FAN #2 (EF-2)		
ITEM	DESCRIPTION	QTY
EF2-D1	KEFB EXHAUST FAN W/ ROOF CURB	1
EF2-D2	FAN TRANSITION W/ UL LISTED ACCESS PANEL 10X16	1
EF2-D3	DUCT ROOF CURB W/ CAP 26X26X12	2
EF2-D4	LONG SWEEPING WYE 8X10	1
EF2-D5	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 8X8	2
EF2-D6	UL LISTED ACCESS PANEL 7X15	1

-CONTACT HALTON CUSTOMER SERVICE FOR HALTON PROVIDED ITEMS ONLY DUCT SECTIONS SPECIFIED BY NUMBERS AND SHOWN IN THE ABOVE CHART ARE PROVIDED BY HALTON

-ALL OTHER DUCTS AND FITTINGS BY HVAC CONTRACTOR. DUCT SECTIONS PROVIDED BY HVAC CONTRACTOR ARE SHOWN IN ORDER TO DEPICT TOTAL SYSTEM DESIGN. DUCT SECTIONS SHOWN WITH UL LISTED ACCESS PANELS, THAT ARE NOT HALTON PROVIDED LONG SWEEPING ELBOWS OR FAN TRANSITIONS, ARE PROVIDED BY HVAC CONTRACTOR. THE UL LISTED ACCESS PANELS PROVIDED BY HALTON MUST BE INSTALLED IN DUCT SECTIONS NOT PROVIDED BY HALTON BY HVAC CONTRACTOR.

-ALL DUCTS AND FITTINGS DEPICTED BY HATCH AREAS ARE BY HVAC CONTRACTOR.

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW WEBSITE: WWW.HALTONCOMPANY.COM

HALTON CO. (CANADA)
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 3R7
1-905-624-0301

HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5600

REV.	REVISION DESCRIPTION	BY	DATE
1			
2			
3			
4			
5			
6			
7			

PROJECT: **CHICK-FIL-A**

LOCATION: WEST WINDSOR FSR

SN#: 05482

DRAWN BY:

DATE: 5/6/24

SCALE: NTS

Halton Dwg:

Halton CARE FOR INDOOR AIR

Sheet MH-1.5

DIVISION 23 SPECIFICATIONS

PART I - GENERAL

1.01 SCOPE

A. IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY FOR COORDINATION.

B. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.

C. SYSTEM LAYOUT IS SCHEMATIC AND EXACT LOCATIONS SHALL BE DETERMINED BY STRUCTURAL CONDITIONS, COORDINATION WITH OTHER TRADES, COORDINATION WITH FINISHES AND OTHER CONDITIONS. STRUCTURAL SUPPORTS SHALL NOT BE CUT OR ALTERED TO ASSURE FIT OF HVAC SYSTEM. TEN FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN OUTSIDE AIR INTAKES AND EXHAUST FANS AND PLUMBING VENT TERMINALS.

D. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER FINAL PAYMENT IS APPROVED. CONTRACTOR SHALL HONOR FACTORY WARRANTIES ON ALL EQUIPMENT PROVIDED AS PART OF THIS SYSTEM.

E. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO CONDITION ACCEPTABLE TO THE OWNERS REPRESENTATIVE. ALL EQUIPMENT, COMPONENTS, DUCTWORK AND AIR DEVICES SHALL BE INSPECTED AND THOROUGHLY CLEANED, CLEARED OF DEBRIS, AND READY FOR USE. AT COMPLETION OF JOB, ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.

F. CONTRACTOR SHALL PROVIDE TWO SETS OF 2" MERV 8 OR HIGHER THROW AWAY TYPE FILTERS. A CLEAN SET SHALL BE PROVIDED PRIOR TO TEST AND BALANCE AND AGAIN PRIOR TO OPENING.

PART II - PRODUCTS

2.01 HEATING AND COOLING EQUIPMENT

A. FURNISH AND INSTALL R-410A ROOFTOP SINGLE PACKAGE COMBINATION ELECTRIC COOLING AND NATURAL GAS FIRED HEATING UNITS AS SHOWN ON DRAWINGS. EQUIPMENT SHALL BE ARI CERTIFIED AND A.G.A. AND U.L. LISTED.

B. ACCESSORIES SHALL INCLUDE LOW AND HIGH PRESSURE SAFETIES, CRANK CASE HEATER, OVERCURRENT AND OVERTEMPERATURE SAFETY, COMPRESSOR VIBRATION ISOLATORS, FILTER DRIERS, REFRIGERANT SERVICE VALVES, COIL HAIL GUARDS WHERE SCHEDULED, CONVENIENCE OUTLETS FACTORY INSTALLED ON SCHEDULED UNITS, UNIT MOUNTED NON-FUSED DISCONNECTS, LOW AMBIENT OPERATION DOWN TO 30 DEGREES F AND EVAPORATOR FREEZE STAT.

C. COMPRESSORS SHALL BE HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.

D. THE UNIT HEAT EXCHANGERS SHALL BE ALUMINIZED STEEL COATING. HEATING CONTROLS SHALL CONSIST OF REDUNDANT GAS VALVES, INTERMITTENT PILOT WITH ELECTRONIC SPARK OR HOT PLATE IGNITION SYSTEM, COMBUSTION/EXHAUST FAN PROTECTED BY CENTRIFUGAL SWITCHES, HEAT LIMIT SWITCHES, TIME-DELAY RELAY, FLAME, AND PILOT SENSORS. HEAT EXCHANGERS SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.

2.02 DUCTWORK (C15735)

A. ACCEPTABLE MANUFACTURERS OF INSULATION SHALL BE: JOHNS MANVILLE, OWENS CORNING OR KNAUF.

B. ALL DUCTWORK SHALL BE SHEET METAL, UNLESS NOTED OTHERWISE (U.N.O.).

C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS, U.N.O.

D. CONSTRUCTION OF DUCTWORK SHALL MEET SMACNA 1" W.C. PRESSURE CLASS STANDARD AND RECOMMENDATIONS. SMACNA SHALL BE FOLLOWED WITH RESPECT TO GAGE THICKNESS, JOINTS, REINFORCING, CONSTRUCTION, INSTALLATION AND SUPPORT FOR PRESSURE CLASS STATED. ALL TRANSVERSE JOINTS IN RECTANGULAR AND ROUND DUCT INCLUDING DUCT CONNECTION TO AIR DEVICE COLLAR SHALL BE SEALED PER SMACNA SEAL CLASS C WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. DUCT TAPE IS NOT AN ACCEPTABLE SUBSTITUTE FOR MASTIC UNLESS EQUAL TO HARDCAST FOIL-GRIP 1402 BUTYL RUBBER ADHESIVE TAPE.

E. DUCT SHALL BE SUPPORTED AT BASE OF DUCT DROPS. CURB DUCT RAILS ARE NOT INTENDED TO AND SHALL NOT SUPPORT THE WEIGHT OF THE DUCT.

F. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 6 R-VALUE INSTALLED WITH EITHER A VAPOR BARRIER WITH MAXIMUM PERMEANCE 0.05 OR A MINIMUM 2 MIL ALUMINUM REINFORCED FOIL/KRAFT FACING.

G. ALL DUCT DROPS FROM THE ROOFTOP UNITS SHALL BE EXTERNALLY INSULATED.

H. SUPPLY AND RETURN AIR DUCTWORK SERVING ALL AREAS SHALL BE EXTERNALLY INSULATED.

I. ALL AIR CONVEYANCE COMPONENTS SUCH AS, BUT NOT LIMITED TO DUCT, DUCT PLENUMS, GRILLES/DIFFUSERS, BACK PANS, AND BOOTS SHALL BE INSULATED. INSULATION TYPE IS COVERED ELSEWHERE IN THIS SPECIFICATION.

J. RESTROOM RECTANGULAR EXHAUST AIR DUCTWORK SHALL BE LINED WITH 1" THICK, 1-1/2 PCF INSULATION. RESTROOM ROUND EXHAUST DUCT SHALL BE EXTERNALLY INSULATED PER SECTION 2.02F.

K. DUCT DROPS SHALL BE ISOLATED FROM UNIT VIBRATION WITH THE USE OF NFPA AND U.L. APPROVED FLEXIBLE CONNECTORS INSTALLED AT THE TOP OF BOTH SUPPLY AND RETURN DROPS.

L. INSULATED FLEXIBLE DUCT MAY BE UTILIZED FOR RUNOUTS TO GRILLES AND DIFFUSERS ONLY IN THE HORIZONTAL POSITION AND IN MAXIMUM LENGTHS OF 4'-0", NO EXCEPTIONS.

M. CONSTRUCTION OF FLEXIBLE DUCTWORK SHALL INCLUDE SPIRAL METAL HELIX BONDED TO A POLYESTER CORE, FIBERGLASS INSULATION WITH POLYETHYLENE OR MYLAR VAPOR BARRIER. ALL COMPONENTS SHALL HAVE APPROPRIATE U.L. APPROVAL AND SHALL BE EQUIVALENT TO THERMAFLEX MKE. FLEX DUCT SHALL HAVE A MINIMUM R-VALUE OF 6.

N. FLEXIBLE DUCT SHALL BE INSTALLED PER THE "ADC FLEXIBLE DUCT PERFORMANCE AND INSTALLATION STANDARDS, 4TH ED" USING FOIL TAPE AND DRAWBAND ON THE INNER CORE AND TAPE OR DRAWBAND ON THE OUTER JACKET.

O. DUCT TAPE SHALL BE EQUAL TO FASSON 181-B FX, 2-1/2" WIDE.

P. SINGLE THICKNESS TURNING VANES SHALL BE INSTALLED AT ALL 90 DEGREE ELBOWS WHERE THE CENTERLINE RADIUS (R) IS LESS THAN THE WIDTH OF THE DUCT AND ANY ONE DIMENSION IS GREATER THAN 12".

Q. EXTERNAL INSULATION ON BOTTOM OF DUCTS 24" OR WIDER SHALL BE SUPPORTED WITH STICK PINS ON 18" CENTERS. STICK PIN WASHERS SHALL BE COVERED WITH DUCT TAPE OR MASTIC.

2.03 CONTROLS

A. SYSTEMS SHALL BE COMPLETE WITH CONNECTIONS TO CFA-500 TEMPERATURE CONTROL PANEL AS MANUFACTURED BY SUNCOAST ENVIRONMENTAL CONTROLS (S.E.C.) (PH: 877-544-6879). THE PANEL IS PROVIDED AND MOUNTED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING TERMINATIONS ARE BY THE MECHANICAL CONTRACTOR WHERE PERMITTED BY AHJ.

B. THE SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND WIRED BY THE ROOFTOP UNIT MANUFACTURER.

C. A FACTORY INSTALLED SMOKE DETECTOR IN THE SUPPLY & RETURN AIR SECTION OF EACH AIR CONDITIONING UNIT SHALL STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER IN THE EVENT OF EXCESSIVE TEMPERATURE OR SMOKE. SMOKE DETECTOR SHALL BE LOCATED PRIOR TO ANY EXHAUST FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP. UPON DETECTION, THE SYSTEM SHALL NOT RESTART UNTIL THE DEVICE IS MANUALLY RESET. DEVICES SHALL BE LOCATED WHERE THEY CAN BE EASILY ACCESSED AND WHERE CLEAR OF FILTERS.

D. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE SMOKE DETECTOR TEST/RESET ANNUNCIATOR STATIONS. THE TEST/RESET STATIONS WILL BE PURCHASED BY THE ELECTRICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE AND TURNED OVER TO THE MECHANICAL CONTRACTOR FOR INSTALLATION.

E. THE REMOTE TEST/RESET ANNUNCIATORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUNCIATORS AND ALL WIRING FROM EACH DEVICE TO THE RTU. ELECTRICAL WILL PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION AS SHOWN ON THE ELECTRICAL PLANS. ANNUCIATOR SHALL BE SUNCOAST CONTROLS REMOTE TEST/RESET STATION WITH POWER LED, TROUBLE LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.

F. THE RESTROOM FAN SHALL BE INTERLOCKED TO THE LIGHTS SERVING THE MEN AND WOMEN'S RESTROOMS. THE HOOD FANS SHALL BE CONTROLLED VIA THE SUNCOAST CFA-500 CONTROL PANEL. WIRING, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.

G. THERMOSTATS ARE PROVIDED AND INTEGRATED INTO THE TEMPERATURE CONTROL PANEL BY SUNCOAST ENVIRONMENT CONTROLS. SUNCOAST WILL PROVIDE A NETWORK THERMOSTAT US32-CFA THERMOSTAT PRE-WIRED IN THE TEMPERATURE CONTROL PANEL. REMOTE TEMPERATURE SENSOR(S) FOR EACH THERMOSTAT IS ALSO PROVIDED. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THE THERMOSTAT, THE REMOTE SENSOR(S) AND THE ROOFTOP UNIT.

H. MECHANICAL CONTRACTOR SHALL INSTALL CONTROL WIRING IN 1/2" CONDUIT WHERE REQUIRED BY CODE. WHERE NOT REQUIRED TO BE IN CONDUIT, ALL WIRING SHALL BE RUN PARALLEL TO STRUCTURAL MEMBERS OR PERPENDICULAR WITH NO DIAGONAL ROUTING. ALL WIRING SHALL BE SECURED TO THE FRAMING TO PREVENT SAGGING IN RUNS. WIRING TO ROOFTOP UNITS SHALL BE ROUTED THROUGH THE FACTORY THRU-BASE FITTING IN THE UNIT BASE. NO SPLICING OF WIRING WILL BE ACCEPTED. ALL WIRING ABOVE THE ROOF SHALL BE INSTALLED IN EXTERIOR GRADE FLEXIBLE CONDUIT. ALL CONTROL WIRING AND CONTROL WIRING CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF NEC. ALL LOW VOLTAGE CONTROL WIRING SHALL BE NO LESS THAN 18 AWG MIN. CONTROL WIRING CONDUCTORS SHALL BE SIZED TO ACCOUNT FOR LOAD AND LENGTH OF RUN TO ALLOW SUFFICIENT VOLTAGE AVAILABLE AT CONTROLLED DEVICE TO OPERATE THE SYSTEM RELIABLY.

2.04 PIPING

A. ALL ABOVE GRADE NATURAL GAS PIPING SHALL BE SCHEDULE 40 STEEL MEETING ASTM A53 WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. FOR SCREWED PIPING, PIPING SHALL BE JOINED WITH BLACK 150 POUND MALLEABLE IRON SCREWED FITTINGS AS ALLOWED BY LOCAL AUTHORITY. CONTRACTOR SHALL VERIFY THE NEED FOR WELDED PIPING AS REQUIRED BY THE LOCAL GAS CODE AND/OR APPLICABLE LOCAL ORDINANCES AND AMENDMENTS.

B. ALL BELOW GRADE NATURAL GAS PIPING SHALL BE MEDIUM DENSITY POLYETHYLENE (PE) MEETING ASTM D2513 AS MANUFACTURED BY GASTITE WITH JOINING SYSTEM AS MANUFACTURED BY CON-STAB. TRANSITIONS FROM ABOVE GRADE RIGID PIPING TO PE BELOW GRADE PIPING SHALL BE MADE WITH ANODE-LESS RISER ASSEMBLY AS MANUFACTURED BY CON-STAB.

C. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE DIRT LEG AT CONNECTION TO EACH GAS-FIRED PIECE OF EQUIPMENT. INSTALL PIPING AT AND AROUND EQUIPMENT SO AS TO NO WAY OBSTRUCT EQUIPMENT ACCESS PANELS AND/OR ACCESS DOORS.

D. ALL GAS PIPING ABOVE ROOF SHALL BE CLEANED FREE OF RUST AND PAINTED WITH COAT OF ZINC RUST PRIMER AND ONE COAT OF ALUMINUM BASE PAINT. METER AND GAS RISER SHALL BE PRIMED AND PAINTED TO MATCH BUILDING.

E. NATURAL GAS PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

PART III - EXECUTION

3.01 SCOPE

A. FURNISH AND INSTALL SYSTEM IN ACCORDANCE WITH REFERENCED STANDARDS, APPLICABLE CODES, MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.

B. CONTRACTOR SHALL INSTRUCT THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT THROUGH DEMONSTRATION AND EXPLANATION OF OPERATING & MAINTENANCE MANUALS.

C. CONTRACTOR SHALL PROVIDE A "SAMPLE MAINTENANCE PROPOSAL" TO THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.

D. CONTRACTOR SHALL COMPLETE A/C EQUIPMENT STARTUP DOCUMENTATION PROVIDED BY OWNER AND/OR MANUFACTURER. THIS SHALL INCLUDE RE-TORQUE OF ALL FIELD AND FACTORY HIGH VOLTAGE CONNECTIONS.

3.02 LEED PROJECTS

A. CONTRACTOR SHALL COMPLETE RECEIPT INSPECTION CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN WITHIN 5 DAYS OF RECEIVING EQUIPMENT ON SITE.

B. CONTRACTOR SHALL COMPLETE PRE-FUNCTIONAL CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN. CHECKLISTS SHALL BE RETURNED AT LEAST 5 DAYS PRIOR TO SCHEDULING FUNCTIONAL PERFORMANCE TESTING.

C. CONTRACTOR SHALL PROVIDE A TECHNICIAN TO ASSIST THE THIRD PARTY COMMISSIONING AUTHORITY WITH FUNCTIONAL TESTING. FUNCTIONAL TESTING SHALL OCCUR AFTER ALL CONTROLS HAVE BEEN INSTALLED AND VERIFIED AND AFTER TEST AND BALANCE IS COMPLETE. THE FUNCTIONAL PERFORMANCE TEST PROCEDURES CAN BE FOUND IN THE COMMISSIONING PLAN.

D. IF THE TOTAL TIME REQUIRED TO CORRECT PROBLEMS DURING TESTING IS GREATER THAT FORTY-FIVE (45) MINUTES (UNLESS EXTENUATING CIRCUMSTANCES EXIST), THE TEST SHALL BE CONSIDERED FAILED AND MUST BE REPEATED IN ITS ENTIRETY.

E. RE-TESTING: DURING THE COURSE OF THE RETEST, IF AT ANY POINT A MAJOR DEFICIENCY IS DISCOVERED, THE TEST WILL BE STOPPED. REPEAT TESTS UNTIL ACCEPTABLE RESULTS ARE ACHIEVED. IF MORE THAN TWO FUNCTIONAL PERFORMANCE TESTS (ONE INITIAL TEST AND ONE RETEST) FOR ANY TYPE OF EQUIPMENT DUE TO ISSUES THAT THE CONTRACTOR HAD DIRECT OR INDIRECT CONTROL OVER ARE REQUIRED, THE COSTS FOR THE CXA TO WITNESS RETESTING OF SIMILAR TYPES OF EQUIPMENT UNTIL SATISFACTORY RESULTS ARE OBTAINED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3.03 TEST & BALANCE

A. OWNER SHALL TEST AND BALANCE MECHANICAL SYSTEM IN ACCORDANCE WITH NEBB, NBC OR AABC STANDARDS TO ASSURE CONFORMANCE WITH DESIGN. G.C. WILL MAKE MECHANICAL CONTRACTOR AVAILABLE DURING TEST AND BALANCE TO ASSIST TESTING AGENCY AND TO MAKE CORRECTIONS IMMEDIATELY NECESSARY. CONTRACTOR SHALL CORRECT ITEMS ON WRITTEN TEST AND BALANCE REPORT.

B. ALL EQUIPMENT TO BE BALANCED MUST HAVE GONE THRU SUCCESSFUL START-UP PROCEDURE BY THE MECHANICAL CONTRACTOR (MC) PRIOR TO TAB VISIT.

C. THE FLOOR OF THE RESTAURANT SHALL BE CLEARED OF DEBRIS, STAGED CONSTRUCTION MATERIALS, EQUIPMENT, ETC. WHICH MAY, IN THE OPINION OF THE TAB TECHNICIAN, OBSTRUCT ACCESS TO AIR DISTRIBUTION COMPONENTS IN AND ABOVE THE CEILING.

D. EQUIPMENT ACCESS PANELS, DUCT AIR DEVICES SUCH AS BALANCING DAMPERS AND ACTUATORS SHALL BE ACCESSIBLE AND CLEAR OF PIPING, CONDUIT, FRAMING, SUPPORTS ETC...

E. PROVIDE AN 8 FT PORTABLE A-FRAME STYLE LADDER DEDICATED FOR THE TAB TECHNICIAN'S USE DURING THE ENTIRE TAB EFFORT DURATION.

KITCHEN HOOD SYSTEMS NOTES

1. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT WITH HALTON CO. FOR THE HOODS. CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
2. THE FIRE SUPPRESSION SYSTEM SHALL CONSIST OF A COMPLETE WET CHEMICAL SYSTEM FURNISHED BY HALTON. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON.
3. THE FIRE SUPPRESSION SYSTEM EXTERNAL TO THE HOODS SHALL BE INSTALLED IN ACCORDANCE WITH HOOD MANUFACTURER'S SHOP DRAWINGS BY AN AUTHORIZED INSTALLER SELECTED AND HIRED BY HALTON. COST FOR INSTALLATION INCLUDED IN PRICE OF HOODS TO CFA.
4. HOOD EXHAUST DUCTWORK SHALL BE 16 GA. BLACK STEEL WITH CONTINUOUS LIQUID TIGHT WELD OF JOINTS & SEAMS.
5. TURNS IN GREASE EXHAUST DUCTWORK SHALL BE LONG RADIUS TYPE, WITH A CENTERLINE RADIUS R=3W/2, UNLESS OTHERWISE NOTED. NO MITERED FITTINGS ALLOWED.
6. ALL STAINLESS STEEL CLOSURE PANELS SHALL BE SUPPLIED BY HOOD MANUFACTURER AND INSTALLED BY THE MECHANICAL CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. SLOPE ALL GREASE EXHAUST DUCT BACK TO HOOD AT 1/4" PER FOOT OF RUN.
8. WRAP NEW GREASE DUCT WITH UNIFRAX FYREWRAP. INSULATION ON ACCESS DOORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS. UNIFRAX FYREWRAP PRODUCT USED SHALL MEET LOCAL CODE REQUIREMENTS.
9. SUPPORT ALL HOODS WITH THREADED ROD AT EACH FACTORY SUPPORT POINT. EACH SUPPORT POINT MUST SUPPORT THE HOOD WEIGHT EQUALLY. ATTACH TO STRUCTURE AS DETAILED ON STRUCTURAL DRAWINGS. ATTACH HOOD TO WALL AT 16" INTERVALS ALONG FULL LENGTH OF HOOD ON TOP AND BOTTOM. ATTACHMENT TO WALL REQUIRES FIELD DRILLING OF SUPPORT ANGLE AT BACK OF HOODS. EACH WALL ATTACHMENT POINT MUST OCCUR AT A WALL STUD. ATTACHMENT HARDWARE TO BE #12-24 HEX HEAD SHEET METAL SCREW EQUAL TO TEXTRON SDS EDT265, LENGTH AS REQUIRED TO FULLY PENETRATE THE STUD.
10. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

GENERAL NOTES

1. DUCT SIZES SERVING DIFFUSERS AND GRILLES ARE SAME SIZE AS DIFFUSER OR GRILLE NECK UNLESS NOTED OTHERWISE.
2. FLEXIBLE DUCT AND INSULATION NOT SHOWN FOR CLARITY.
3. FOR ALL ROOF EQUIPMENT, PROVIDE A PLASTIC ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. WITH A SELF ADHESIVE BACKING.
4. UNLESS NOTED OTHERWISE, MC TO ADJUST ALL DIFFUSER AIR PATTERN DEFLECTORS TO THROW HORIZONTALLY ALONG THE CEILING.
5. ALL EXHAUST DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLAIMS PRO INDUSTRIAL DTM ACRYLIC COATING, SEMI-GLOSS, WHITE. DEGREASE AND PRIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLAIMS PRO INDUSTRIAL PRO-CRYLACRYLIC UNIVERSAL PRIMER, WHITE, PRIOR TO PAINTING.
6. MAINTAIN 18" CLEARANCE FROM GREASE EXHAUST DUCTWORK ABOVE ROOF TO ANY COMBUSTIBLE CONSTRUCTION INCLUDING PARAPET WALLS.

LEGEND

A-12-400	TYPE - NECK SIZE - CFM	EF#1	EXHAUST FAN #1 (TYP.)
	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP	AC#1	AIR CONDITIONING UNIT #1 (TYP.)
	SPIN-IN HARD∅ FLEXIBLE∅ DIFFUSER		RETURN/EXHAUST (TYP.)
S	REMOTE TEMPERATURE SENSOR		SUPPLY DIFFUSER, SQ FACE (TYP.)
H	HUMIDITY SENSOR	1	PLAN NOTE REFERENCE
SD	SMOKE DETECTOR		MANUAL VOLUME DAMPER
12x18	DUCT SIZE (reverse for elevation views) 1ST NUMBER - HORIZONTAL DIMENSION 2ND NUMBER - VERTICAL DIMENSION		DIRECTION OF THROW ON DIFFUSER
			CLOSED AIR PATTERN DEFLECTOR
SW	AIR DOOR SWITCH	GIH	GAS INFRARED HEATER (TYP.)
EIH	ELECTRIC INFRARED HEATER	B/G	BELOW GRADE
		T	THERMOSTAT

ABBREVIATIONS

EC	ELECTRICAL CONTRACTOR
GC	GENERAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
PC	PLUMBING CONTRACTOR
O.C.	ON CENTER
IRH	INFRARED HEATER
CF	CIRCULATING FAN
TF	TRANSFER FAN
EF	EXHAUST FAN

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NEW JERSEY LICENSE # GE44646
STATE OF NEW JERSEY · MARK THOMAS KURZYNSKE · NO. GE44646 · LICENSED PROFESSIONAL ENGINEER
5/6/24

CHICK-FIL-A
WEST WINDSOR FSR

EMMONS DRIVE
WEST WINDSOR, NJ 08540

FSR#05482

BUILDING TYPE / SIZE: P14 LS BN
RELEASE: 23.11
PRINTED FOR
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REVISION SCHEDULE

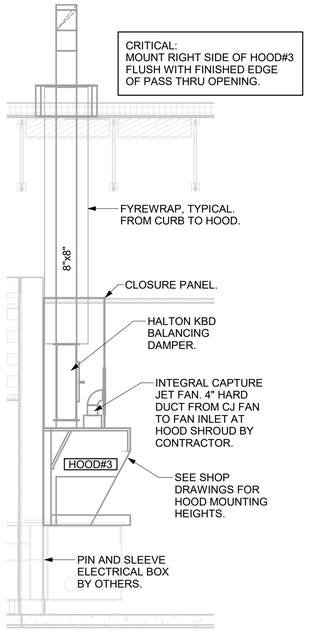
NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 24054.EH.S
DATE 5/6/24
DRAWN BY BLM

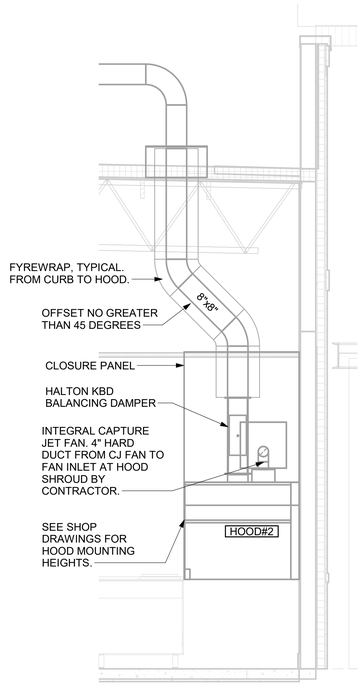
SHEET
GENERAL NOTES, LEGENDS, SYMBOLS, AND ABBREVIATIONS
SHEET NUMBER
M-001

GREASE EXHAUST DUCT CLEARANCE NOTE:
CLEARANCES ABOVE CEILING ARE TIGHT. MECHANICAL CONTRACTOR TO FIELD VERIFY EXACT ROUTING AND CLEARANCES PRIOR TO FABRICATING GREASE EXHAUST DUCT.

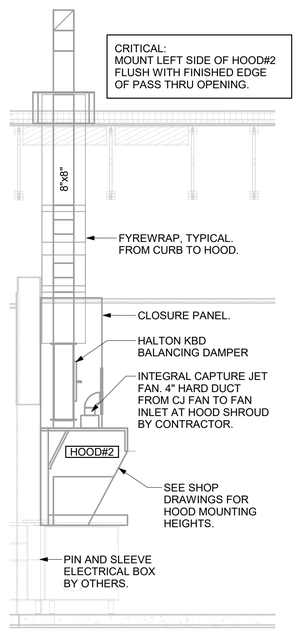
CLEANOUT DOOR NOTE:
DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS, NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.



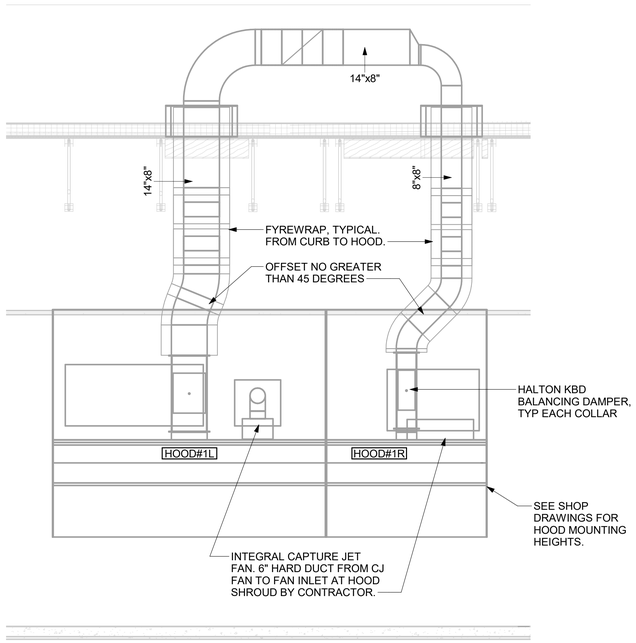
6 HOOD ELEVATION - HOOD#3
NOT TO SCALE



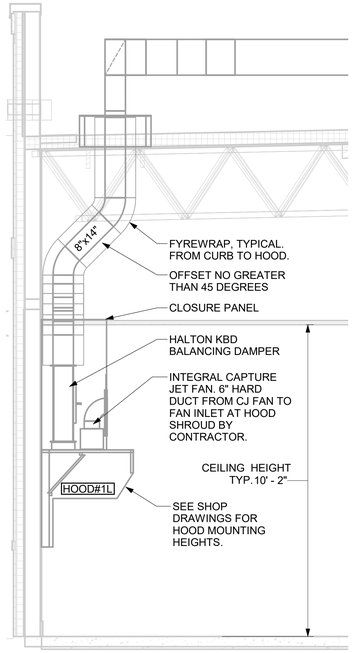
5 HOOD ELEVATION - HOOD#2 - FRONT
NOT TO SCALE



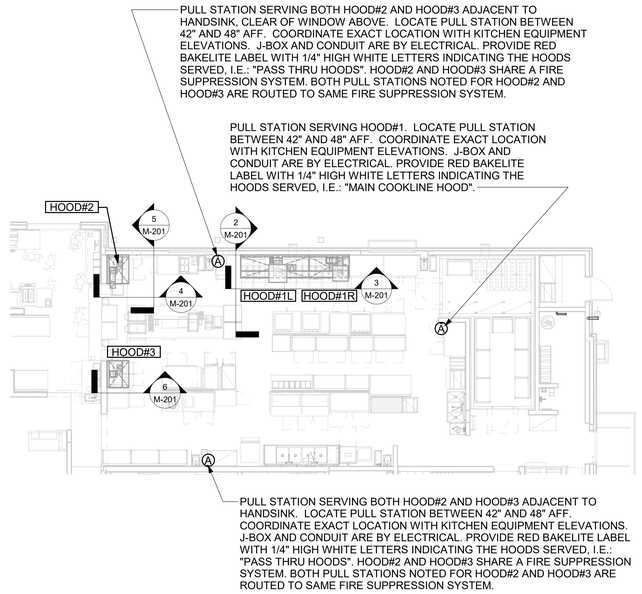
4 HOOD ELEVATION - HOOD#2 - SIDE
NOT TO SCALE



3 HOOD ELEVATION - HOOD#1 - FRONT
NOT TO SCALE



2 HOOD ELEVATION - HOOD#1 - SIDE
NOT TO SCALE



1 HOOD LAYOUT
NOT TO SCALE

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5/6/24

CHICK-FIL-A
WEST WINDSOR FSR

EMMONS DRIVE
WEST WINDSOR, NJ 08540

FSR#05482

BUILDING TYPE / SIZE: P14 LS BN
RELEASE: 23.11
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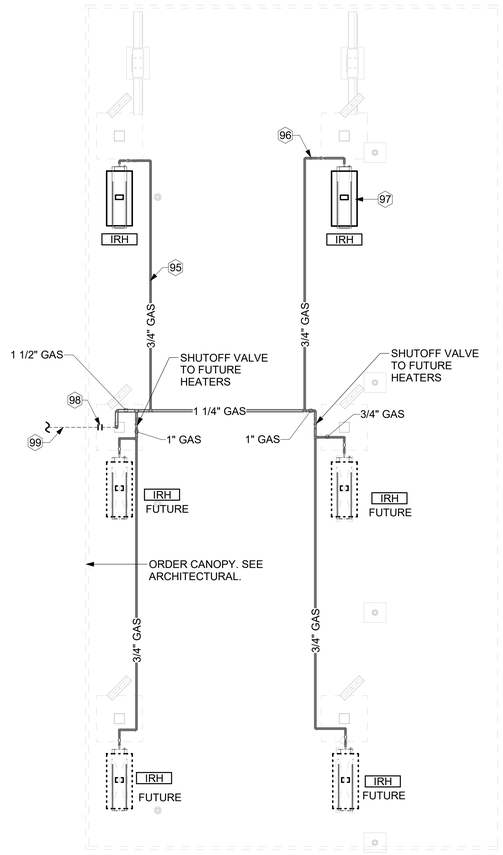
REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT #	24054.EH.S
DATE	5/6/24
DRAWN BY	BLM

SHEET
EXHAUST HOOD
ELEVATIONS

SHEET NUMBER
M-201



2 ORDER CANOPY GAS PIPNG PLAN

1/4" = 1'-0"

KEY NOTES

95 GAS PIPING TO BE ROUTED ABOVE CANOPY, ON TOP OF STRUCTURAL MEMBERS, EXCEPT WHERE ROUTED DOWN THROUGH PENETRATIONS AS INDICATED.

96 GAS PIPING DOWN THROUGH DECK. WEATHERPROOF DECK PENETRATION PER DETAIL 6/M-502, TYPICAL.

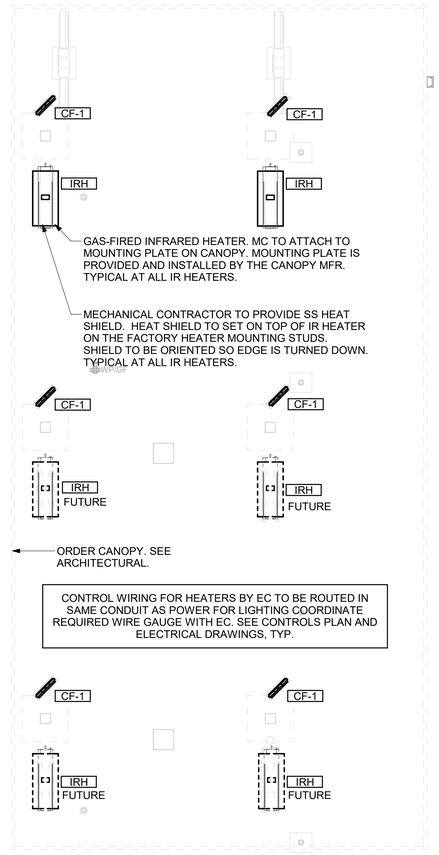
97 SEE DETAIL 1/M-502 FOR PIPING AT IRH, TYPICAL.

98 GAS TRANSITION FITTING TO GAS PIPE STUB-OUT. GAS PIPING INSIDE COLUMN AND STUB-OUTS BY CANOPY MFR. JOIN UNDERGROUND POLYETHYLENE GAS PIPING TO TRANSITION FITTING WITH ELSTER PERMASERT COUPLING. CANOPY MFR'S EXPOSED STEEL PIPING BELOW GRADE SHALL BE PROTECTED WITH TWO COATS ASPHALT TUM BASE PAINT AND POLY SLEEVE.

99 1-1/2" GAS B/G TO METER SEE 1/M-102.

CANOPY GENERAL NOTES

1. COORDINATE WORK WITH CONDUIT, STRUCTURE, AND PIPING. FIELD VERIFY CONDITIONS PRIOR TO START OF WORK.
2. COORDINATE LOCATION AND RESPONSIBILITIES FOR UNDERGROUND PIPING AND ASSOCIATED TRENCHING WITH GENERAL CONTRACTOR PRIOR TO START OF WORK.
3. EXPOSED GAS PIPING SHALL BE COVERED WITH A RUST INHIBITING PAINT SUCH AS RUST-OLEUM 5200. PAINT COLOR SHALL MATCH STRUCTURE. ROOF MOUNTED GAS PIPING COLOR SHALL BE YELLOW.
4. CONTROL WIRING FOR HEATERS BY EC. COORDINATE REQUIRED WIRE GAUGE WITH EC. SEE CONTROLS PLAN AND ELECTRICAL DRAWINGS, (TYP.).



1 MECHANICAL FLOOR PLAN - ORDER CANOPY

1/4" = 1'-0"

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5/6/24

CHICK-FIL-A
WEST WINDSOR FSR

EMMONS DRIVE
WEST WINDSOR, NJ 08540

FSR#05482

BUILDING TYPE / SIZE: P14 LS BN
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DATE	5/6/24
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SHEET
CANOPY HVAC PLAN

SHEET NUMBER
M-103

VENTILATION SCHEDULE

General			Ventilation												Exhaust							
			People				Area								Area		Toilet					
Room #	Room Name	Area A_z ft²	Occupant Density People/1,000 ft²	Occupants People P_z	Outdoor Airflow Rate CFM/Person R_p	Outdoor Airflow CFM $P_z \times R_p$	Outdoor Airflow Rate CFM/ft² R_a	Outdoor Airflow CFM $A_z \times R_a$	Breathing Zone Outdoor Airflow CFM V_{bz}	Zone Air Distribution Effectiveness E_z	Zone Outdoor Airflow CFM V_{oz}	Primary Zone Airflow CFM V_{pz}	Primary Outdoor Air Fraction Z_p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft²	Total Required Exhaust CFM	Exhaust Control/ Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Served by Supply	Served by Exhaust
1	Kitchen	1,245	20	25	7.5	187.5	0.12	149	337	0.8	422	7,700	0.05	1,658	1	872	-	-	-	3,315	AC#1 / ALT AC#1	EF-1 / EF-2
2	Scullery	126	15	2	7.5	15	0.18	23	38	0.8	48	425	0.11	92	-	-	-	-	-	-	AC#1 / ALT AC#1	-
	Total Area	1,371						Total V_{bz}	375		Total Supply Airflow	8,125		1,750	Actual Outdoor Airflow							
								Diversity (D)	0.74			Maximum Zp	0.11										
								Uncorrected Outdoor Air Intake (V_{oz})	330		System Ventilation Efficiency (E_v)		1.00										
								Required Outdoor Air Intake (CFM)	329														

VENTILATION SCHEDULE

General			Ventilation												Exhaust							
			People				Area								Area		Toilet					
Room #	Room Name	Area A_z ft²	Occupant Density People/1,000 ft²	Occupants People P_z	Outdoor Airflow Rate CFM/Person R_p	Outdoor Airflow CFM $P_z \times R_p$	Outdoor Airflow Rate CFM/ft² R_a	Outdoor Airflow CFM $A_z \times R_a$	Breathing Zone Outdoor Airflow CFM V_{bz}	Zone Air Distribution Effectiveness E_z	Zone Outdoor Airflow CFM V_{oz}	Primary Zone Airflow CFM V_{pz}	Primary Outdoor Air Fraction Z_p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft²	Total Required Exhaust CFM	Exhaust Control/ Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Served by Supply	Served by Exhaust
5	Meal Fulfillment Area	543	15	9	7.5	67.5	0.18	98	165	0.8	207	4,375	0.05	1,075	-	-	-	-	-	-	AC#2 / ALT AC#2	-
	Total Area	543						Total V_{bz}	165		Total Supply Airflow	4,375		1,075	Actual Outdoor Airflow							
								Diversity (D)	0.89			Maximum Zp	0.04										
								Uncorrected Outdoor Air Intake (V_{oz})	154		System Ventilation Efficiency (E_v)		1.00										
								Required Outdoor Air Intake (CFM)	154														

VENTILATION SCHEDULE

General			Ventilation												Exhaust							
			People				Area								Area		Toilet					
Room #	Room Name	Area A_z ft²	Occupant Density People/1,000 ft²	Occupants People P_z	Outdoor Airflow Rate CFM/Person R_p	Outdoor Airflow CFM $P_z \times R_p$	Outdoor Airflow Rate CFM/ft² R_a	Outdoor Airflow CFM $A_z \times R_a$	Breathing Zone Outdoor Airflow CFM V_{bz}	Zone Air Distribution Effectiveness E_z	Zone Outdoor Airflow CFM V_{oz}	Primary Zone Airflow CFM V_{pz}	Primary Outdoor Air Fraction Z_p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft²	Total Required Exhaust CFM	Exhaust Control/ Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Served by Supply	Served by Exhaust
1	Dining	1,393	70	98	7.5	735	0.18	251	986	0.8	1233	4,000	0.308	971	-	-	-	-	-	-	AC#3 / ALT AC#3	-
2	Serving	191	15	3	7.5	23	0.18	34	57	0.8	72	500	0.14	121	-	-	-	-	-	-	AC#3 / ALT AC#3	-
3	Men's RR	151	-	-	-	-	-	-	-	0.8	-	100	-	24	-	-	Continuous	50	100	150	AC#3 / ALT AC#3	EF-3
4	Women's RR	167	-	-	-	-	-	-	-	0.8	-	135	-	33	-	-	Continuous	50	100	150	AC#3 / ALT AC#3	EF-3
5	RR Vestibule	117	-	-	-	-	0.06	7	7	0.8	9	115	0.08	28	-	-	-	-	-	-	AC#3 / ALT AC#3	-
6	Entry Vestibule	63	-	-	-	-	0.06	4	4	0.8	5	400	0.01	97	-	-	-	-	-	-	AC#3 / ALT AC#3	-
	Total Area	2,082						Total V_{bz}	1,053		Total Supply Airflow	5,250		1,275	Actual Outdoor Airflow							
								Diversity (D)	0.77			Maximum Zp	0.308										
								Uncorrected Outdoor Air Intake (V_{oz})	986		System Ventilation Efficiency (E_v)		0.80										
								Required Outdoor Air Intake (CFM)	1,232														

VENTILATION SCHEDULE

General			Ventilation												Exhaust							
			People				Area								Area		Toilet					
Room #	Room Name	Area A_z ft²	Occupant Density People/1,000 ft²	Occupants People P_z	Outdoor Airflow Rate CFM/Person R_p	Outdoor Airflow CFM $P_z \times R_p$	Outdoor Airflow Rate CFM/ft² R_a	Outdoor Airflow CFM $A_z \times R_a$	Breathing Zone Outdoor Airflow CFM V_{bz}	Zone Air Distribution Effectiveness E_z	Zone Outdoor Airflow CFM V_{oz}	Primary Zone Airflow CFM V_{pz}	Primary Outdoor Air Fraction Z_p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft²	Total Required Exhaust CFM	Exhaust Control/ Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Served by Supply	Served by Exhaust
1	Team Member Room	172	50	9	5	45	0.06	10	55	0.8	70	650	0.11	158	-	-	-	-	-	-	AC#4 / ALT AC#4	-
2	Riser Room	41	-	-	-	-	0.12	5	5	0.8	7	225	0.03	55	-	-	-	-	-	-	AC#4 / ALT AC#4	-
3	Service / Beverage	141	-	-	-	-	0.12	17	17	0.8	22	700	0.03	170	-	-	-	-	-	-	AC#4 / ALT AC#4	-
4	Office	68	5	1	5	5	0.06	4	9	0.8	12	135	0.08	33	-	-	-	-	-	-	AC#4 / ALT AC#4	-
5	Employee RR	68	-	-	-	-	-	-	-	0.8	-	40	-	10	-	-	Intermittent	70	70	75	AC#4 / ALT AC#4	EF-4
	Total Area	490						Total V_{bz}	86		Total Supply Airflow	1,750		425	Actual Outdoor Airflow							
								Diversity (D)	0.80			Maximum Zp	0.11										
								Uncorrected Outdoor Air Intake (V_{oz})	79		System Ventilation Efficiency (E_v)		1.00										
								Required Outdoor Air Intake (CFM)	78														

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CHICK-FIL-A
WEST WINDSOR FSR

EMMONS DRIVE
WEST WINDSOR, NJ 08540

FSR#05482

BUILDING TYPE / SIZE: P14 LS BN
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CONSULTANT PROJECT # 24054.EH.S
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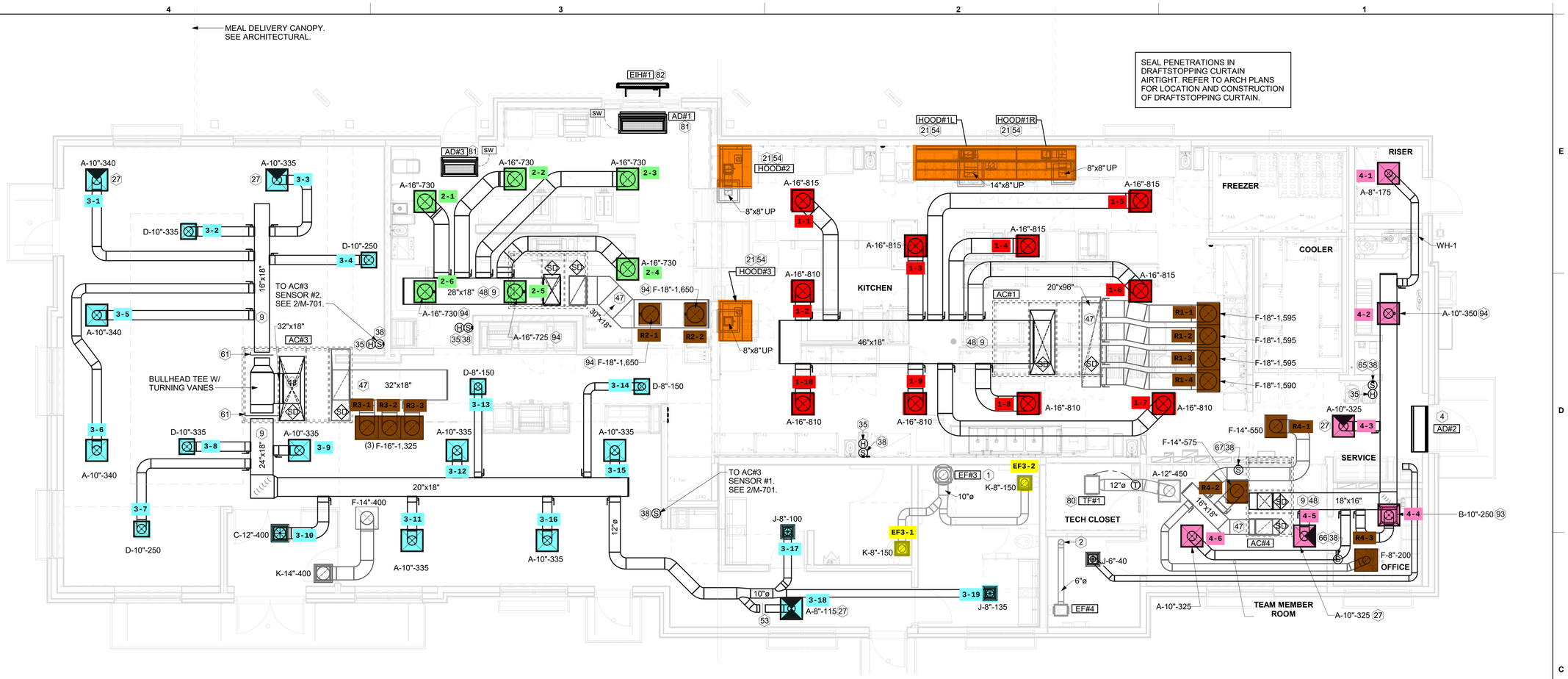
SHEET
VENTILATION SCHEDULES

SHEET NUMBER
M-602



1 EQUIPMENT AND DUCTWORK PLAN

1/4" = 1'-0"

H.E.S. SYSTEM

MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

AIR BALANCE SCHEDULE TRANE

Mark	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST AIR	BUILDING POSITIVE PRESSURE
AC#1	8,125	6,375	1,750	0	
AC#2	4,375	3,300	1,075	0	
AC#3	5,250	3,975	1,275	0	
AC#4	1,750	1,325	425	0	
EF#1	0	0	0	1,913	
EF#2	0	0	0	1,402	
EF#3	0	0	0	300	
EF#4	0	0	0	75	
	19,500	14,975	4,525	3,690	835

KEY NOTES

1 10" DIA. DUCT UP THRU ROOF.

2 PROVIDE DUCT AS SHOWN. TERMINATE DUCT 24" ABOVE ROOF WITH ALUMINUM WEATHER CAP WITH INTEGRAL BIRD SCREEN. EXHAUST DUCT DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.

4 AIR CURTAIN MOUNTED OVER DOOR HEADER AT 7'-2" AFF TO BOTTOM OF UNIT. PROVIDE BLOCKING IN WALL BEHIND AIR CURTAIN. USE FACTORY PRE-PUNCHED MOUNTING HOLES ON BACK SIDE OF AIR CURTAIN ONLY. ATTACH AIR CURTAIN TO WALL USING 3/8" LAG BOLTS, LENGTH AS REQUIRED TO FULLY PENETRATE BLOCKING. LOCATE MAGNETIC CONTACT TYPE MICROSWITCH IN DOOR FRAME ON STRIKE SIDE.

9 BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.

21 HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.

27 MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.

35 MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.

38 MOUNT REMOTE SENSOR ON WALL AT 5-0" AFF U.N.O. AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL. FOR SENSOR SERVING AC#1, COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT.

47 TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. SEE DETAIL 5/M-501 FOR REQUIRED TRANSITION GEOMETRY. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITHOUT TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).

48 TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITH TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).

53 RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.

54 SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.

61 PROVIDE RUSKIN CD35 MANUAL BALANCING DAMPER WITH 6" MAXIMUM BLADE WIDTH. OPPOSED BLADE ACTION, LOCKING QUADRANT HANDLE WITH 2" STANDOFF AND 16 GA GALVANIZED BLADE AND FRAME CONSTRUCTION.

65 TO AC#4, SENSOR #1. SEE 2/M-701.

66 TO AC#4, SENSOR #2. SEE 2/M-701.

67 TO AC#4, SENSOR #3. SEE 2/M-701.

80 CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE TO TYPE 'A' DIFFUSER AS SHOWN.

81 MOUNT AIR DOOR IN CEILING. CENTERED ON DRIVE-THRU/MFA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET M-702 FOR MORE INFORMATION.

82 ELECTRIC HEATER. MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.

93 MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 25 CFM.

94 TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK, TYP.

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646
STATE OF NEW JERSEY MARK T. KURZYNSKE NO. GE44646 LICENSED PROFESSIONAL ENGINEER
5/6/24

CHICK-FIL-A
WEST WINDSOR FSR

EMMONS DRIVE
WEST WINDSOR, NJ 08540

FSR#05482

BUILDING TYPE / SIZE: P14 LS BN
RELEASE: 23.11
PRINTED FOR
PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

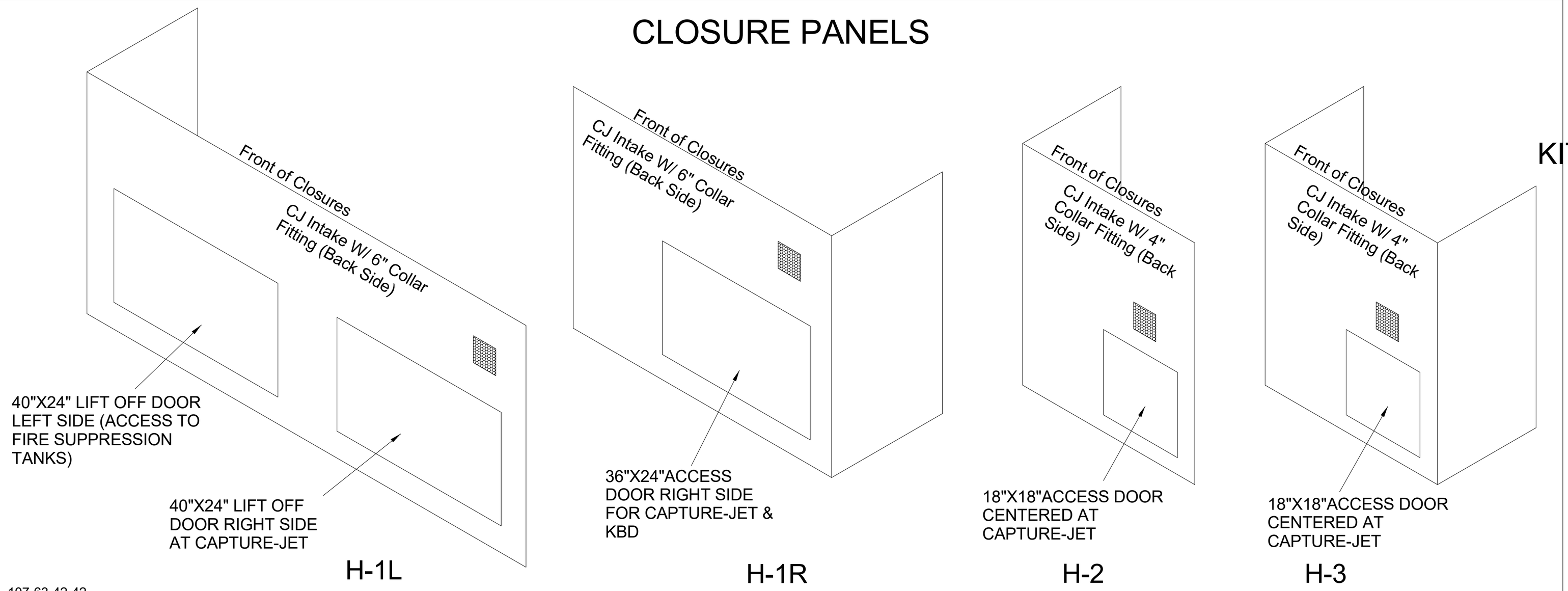
CONSULTANT PROJECT #	24054.EH.S
DATE	5/6/24
DRAWN BY	BLM

SHEET
EQUIPMENT AND DUCTWORK PLAN - TRANE
SHEET NUMBER
M-101

		EXHAUST COLLAR			EXHAUST AIR INFORMATION			CAPTURE AIR INFORMATION		S.S. KSA FILTERS			CEILING CLOSURES						
HOOD MODEL	HOOD NUMBER	QTY	LENGTH	WIDTH	CFM	TAB	SP	CFM	SP	FULL	HALF	LED LIGHTS	QTY	CLOSURE HEIGHT	CEILING HEIGHT	HOOD WEIGHT	KBD DAMPER	K FACTOR (CFM = K FACTOR * √DP)	MATERIAL
KVL-2-IC	H-1L	1	14"	8"	1204	0.13"	0.22"	80	0.30"	5	-	3	2	51"	122"	669 LBS	*	3365	EXPOSED SURFACES 18 GA. S.S.
KVL-2-IC	H-1R	1	8"	8"	709	0.13"	0.23"	47	0.30"	3	-	2	2			394 LBS	*	1959	
KVL-C-IC	H-2	1	8"	8"	701	0.30"	0.39"	30	0.29"	2	-	1	2			245 LBS	*	1291	
KVL-C-IC	H-3	1	8"	8"	701	0.30"	0.39"	30	0.29"	2	-	1	3			245 LBS	*	1291	

FOR REFERENCE ONLY

CLOSURE PANELS

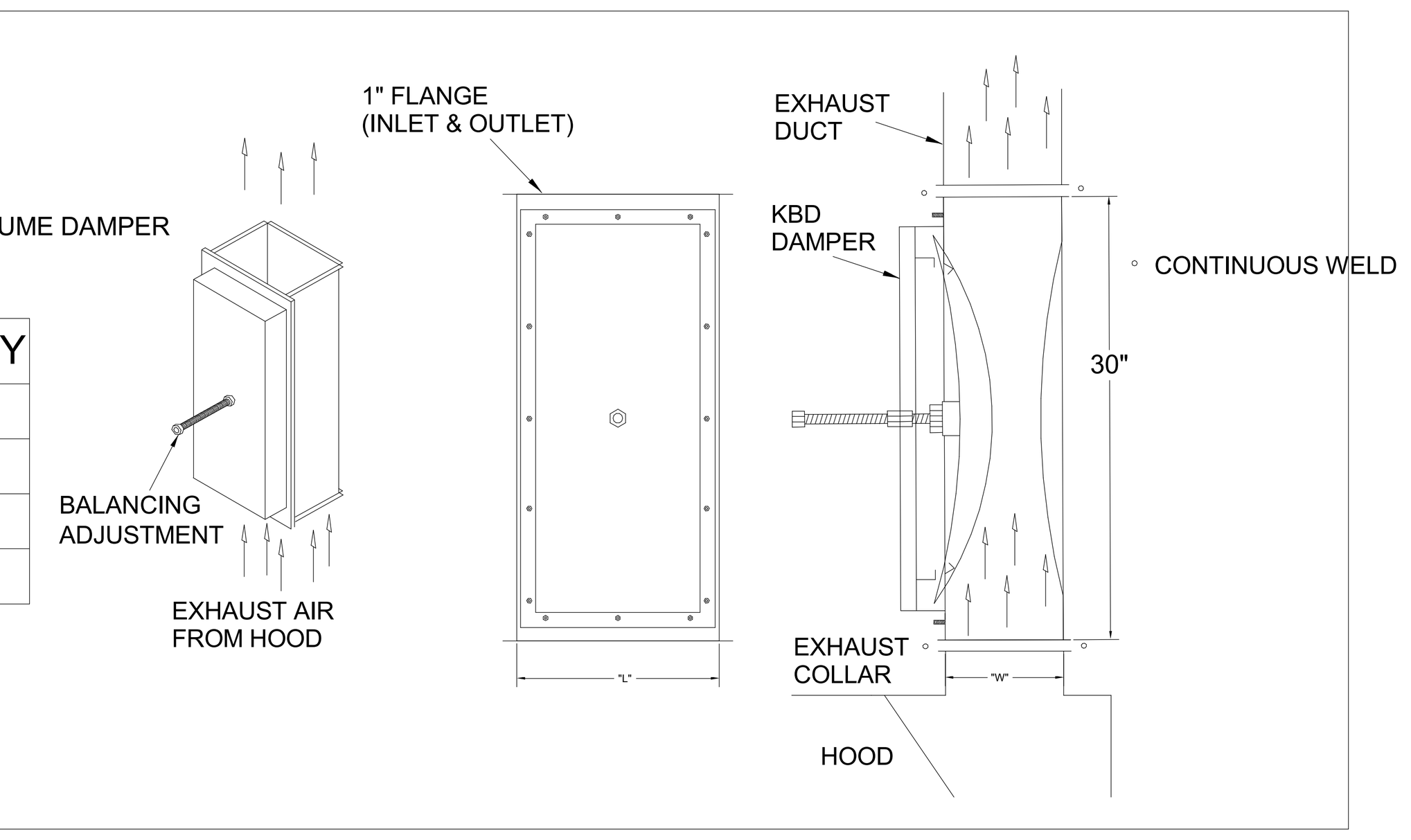


MODEL:KBD CALIBRATED

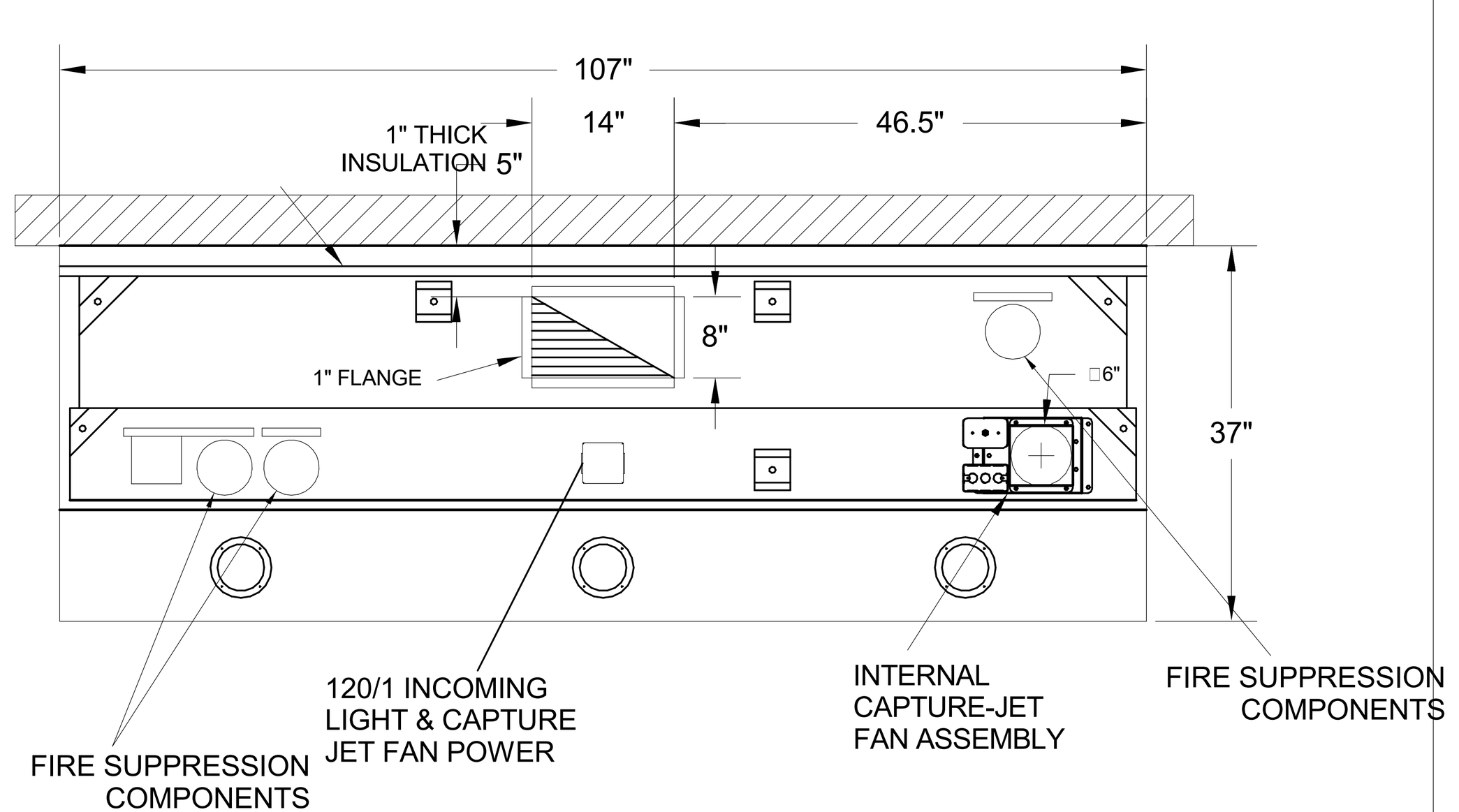
KITCHEN BALANCING DAMPER

TAG	"L"	"W"	QUANTITY
H-1L	14"	8"	1
H-1R	8"	8"	1
H-2	8"	8"	1
H-3	8"	8"	1

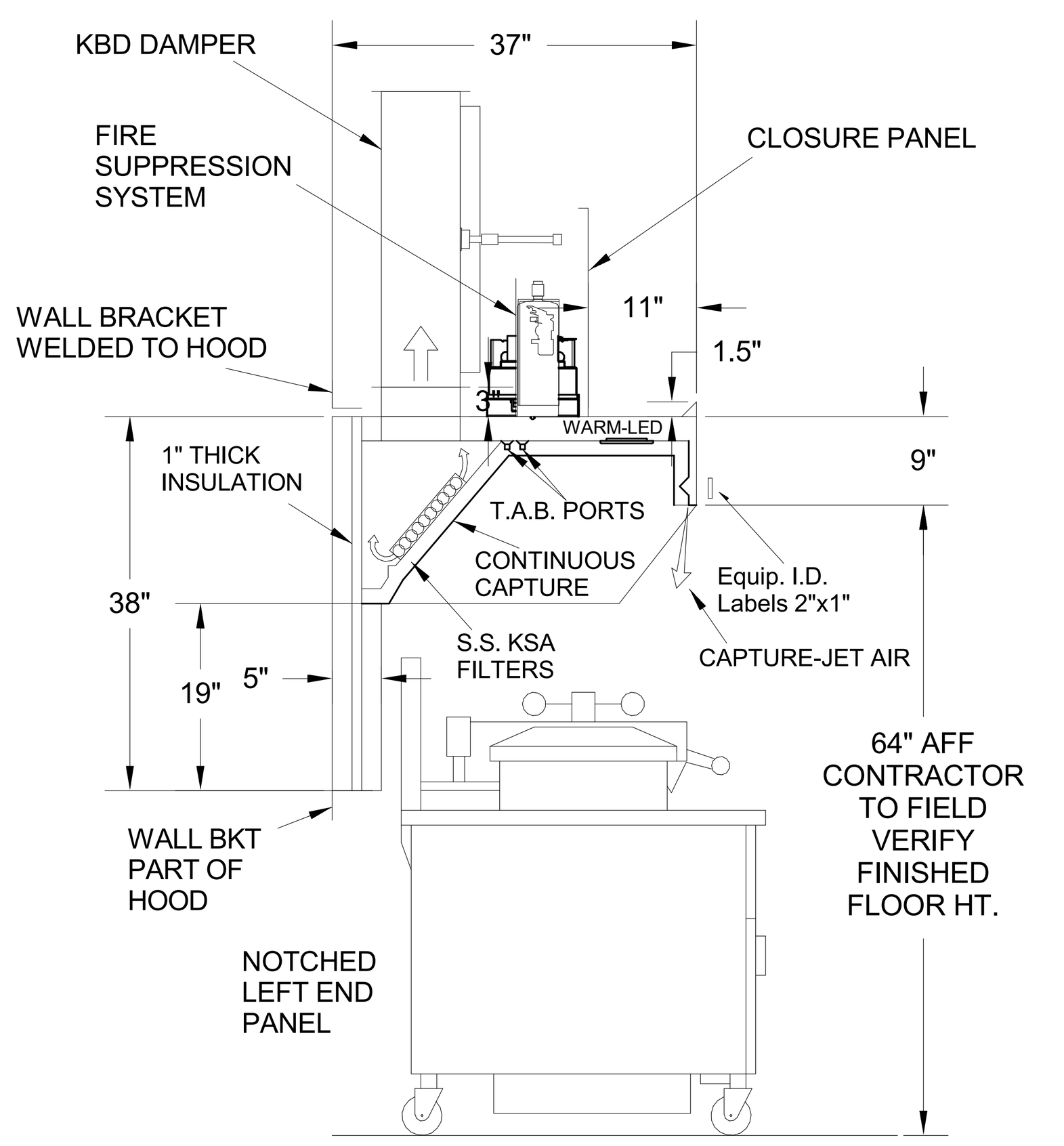
MATERIAL: FRAME - 16GA CONT. GALV.
ADJUSTABLE PANEL 18GA S.S.



H-1L

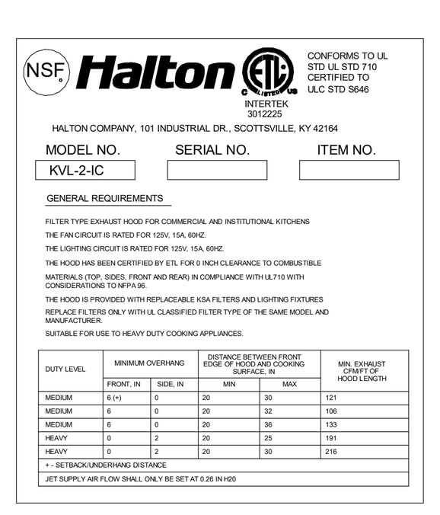


PLAN VIEW

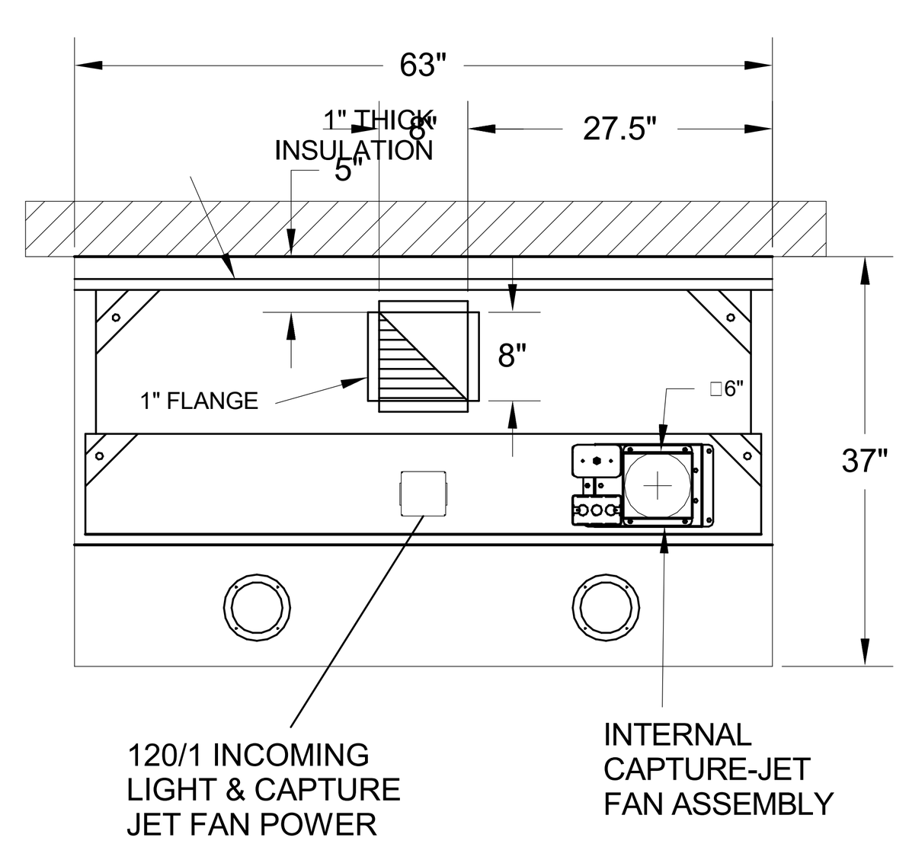


H-1L SECTION VIEW

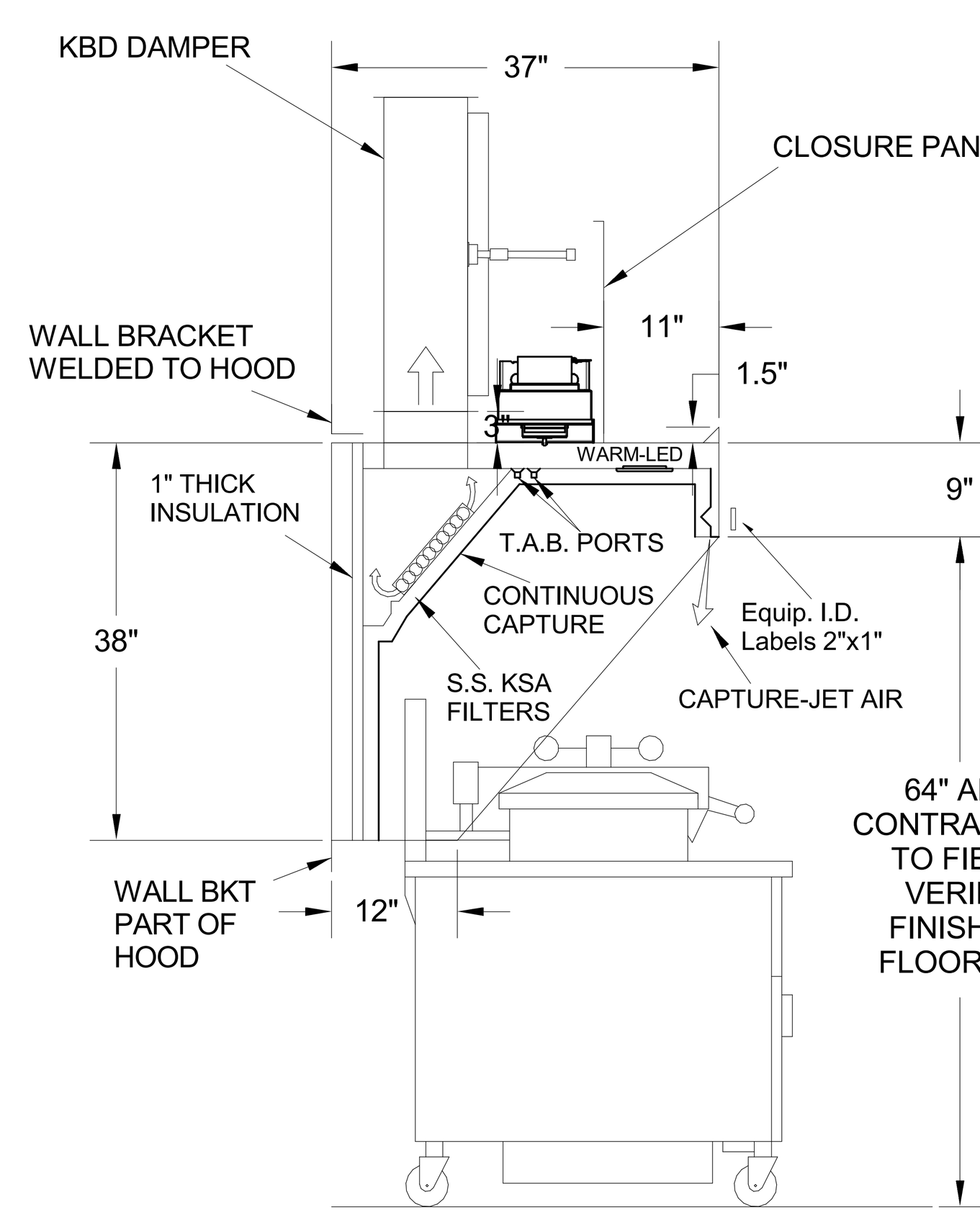
- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
  - FRONT CLOSURE PANEL WITH 40"X24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION
  - 40"X24" LIFT DOOR RIGHT SIDE AT CAPTURE-JET WITH FRONT CJ INTAKE
  - CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT
  - 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
  - NOTCHED LEFT END PANEL
  - EQUIPMENT COVERED:
    (4) PRESSURE FRYERS
    (2) GRILLS
- ANSUL WEIGHT = 286 LBS
- AMEREX WEIGHT = 264 LBS



H-1R

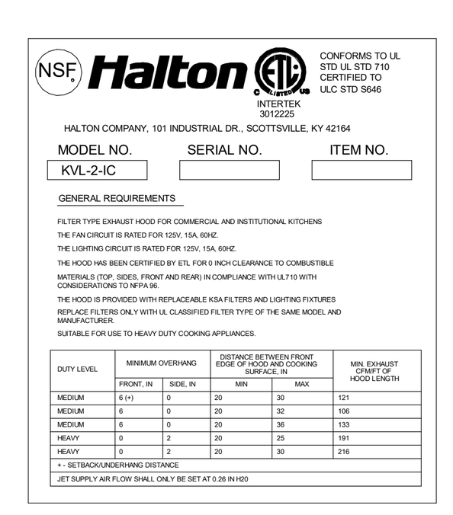


PLAN VIEW

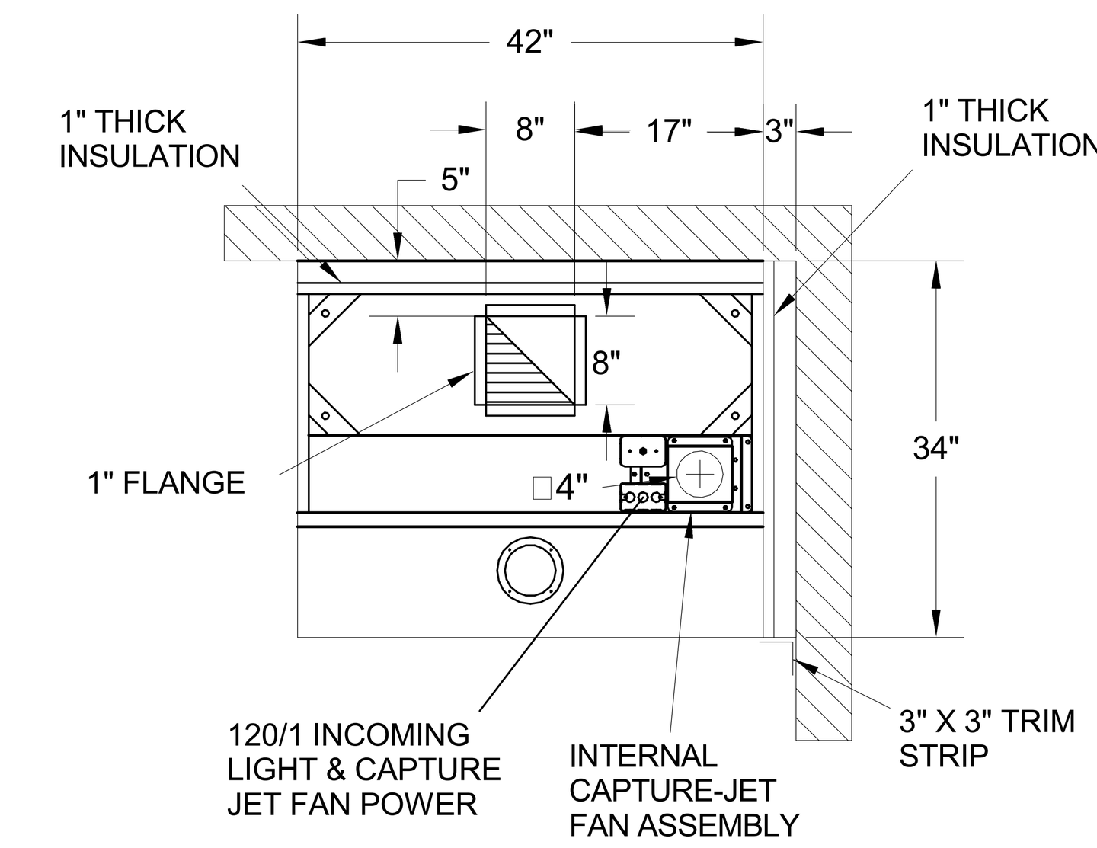


H-1R SECTION VIEW

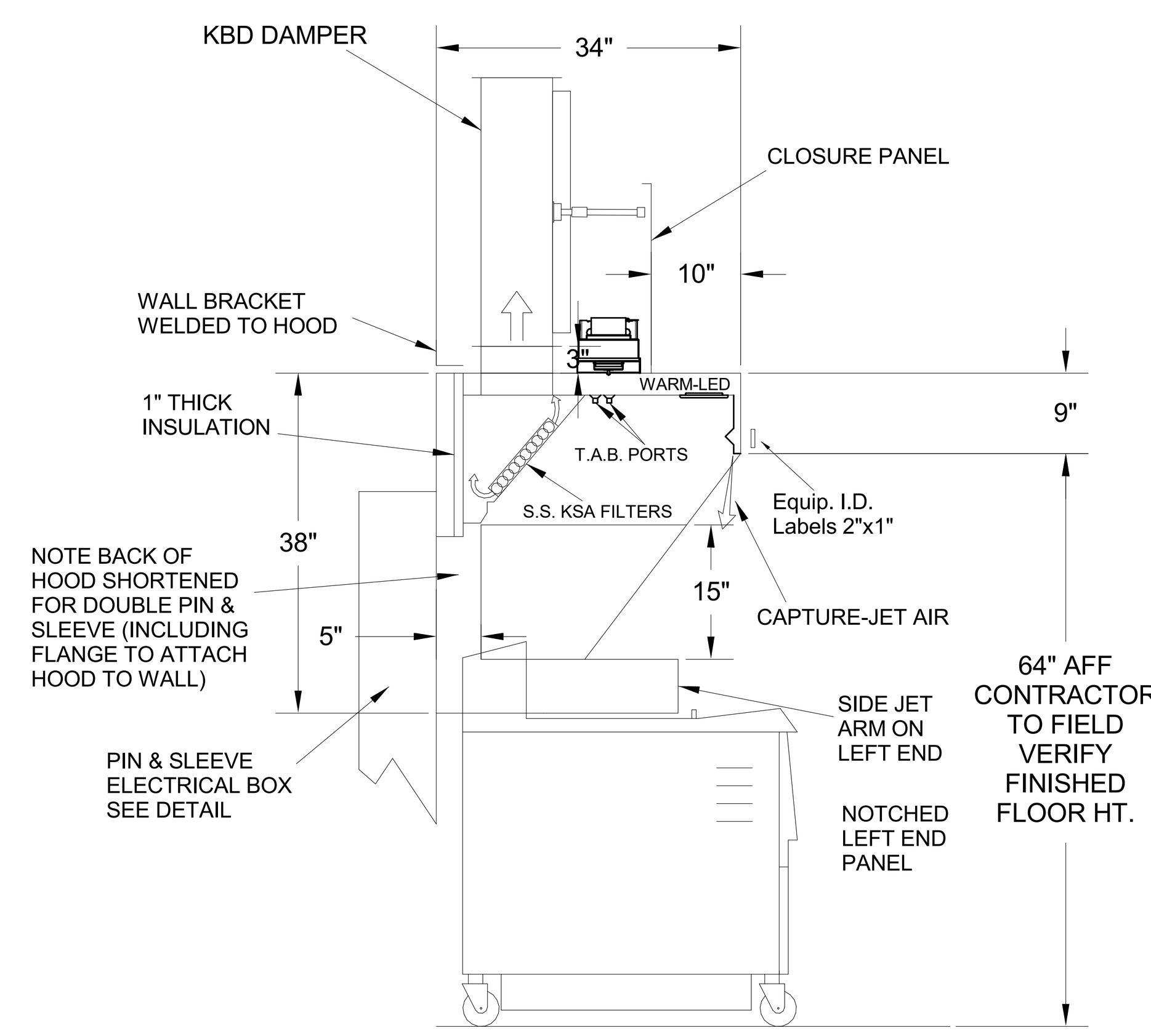
- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- 36"X24" ACCESS DOOR RIGHT SIDE FOR ACCESS TO CAPTURE-JET WITH FRONT CJ INTAKE & KBD
- CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED:
  (3) PRESSURE FRYERS



H-2



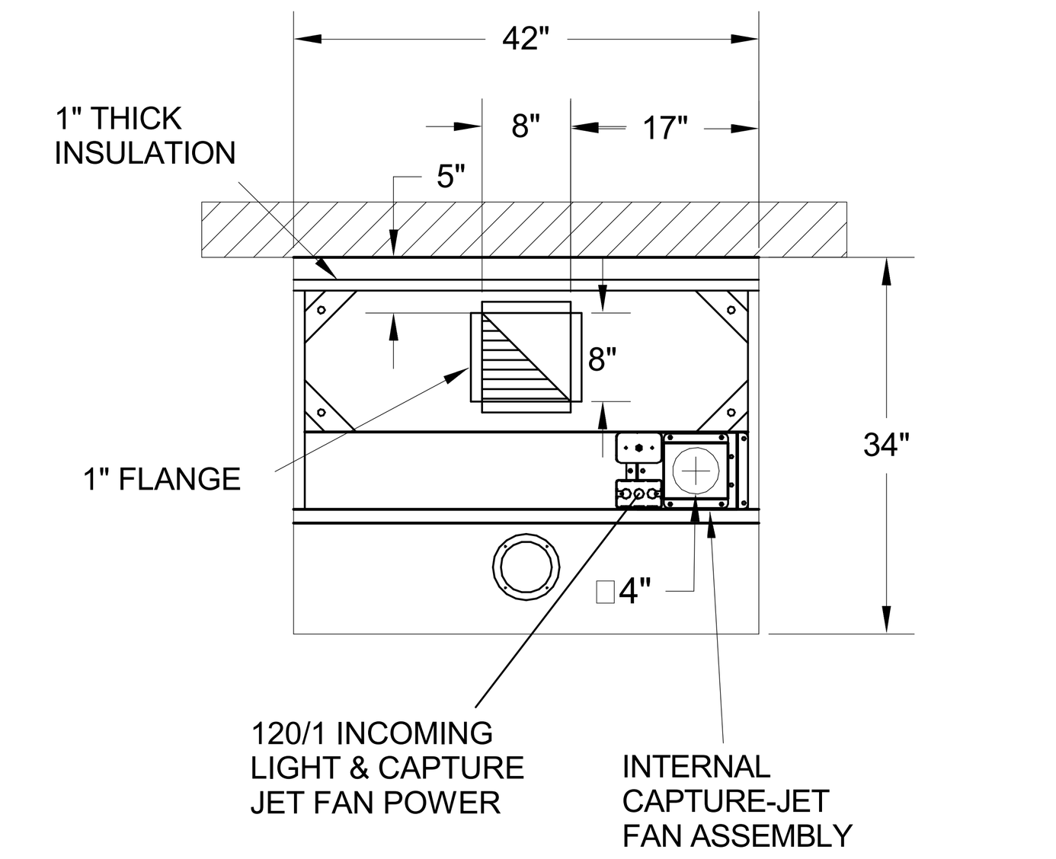
PLAN VIEW



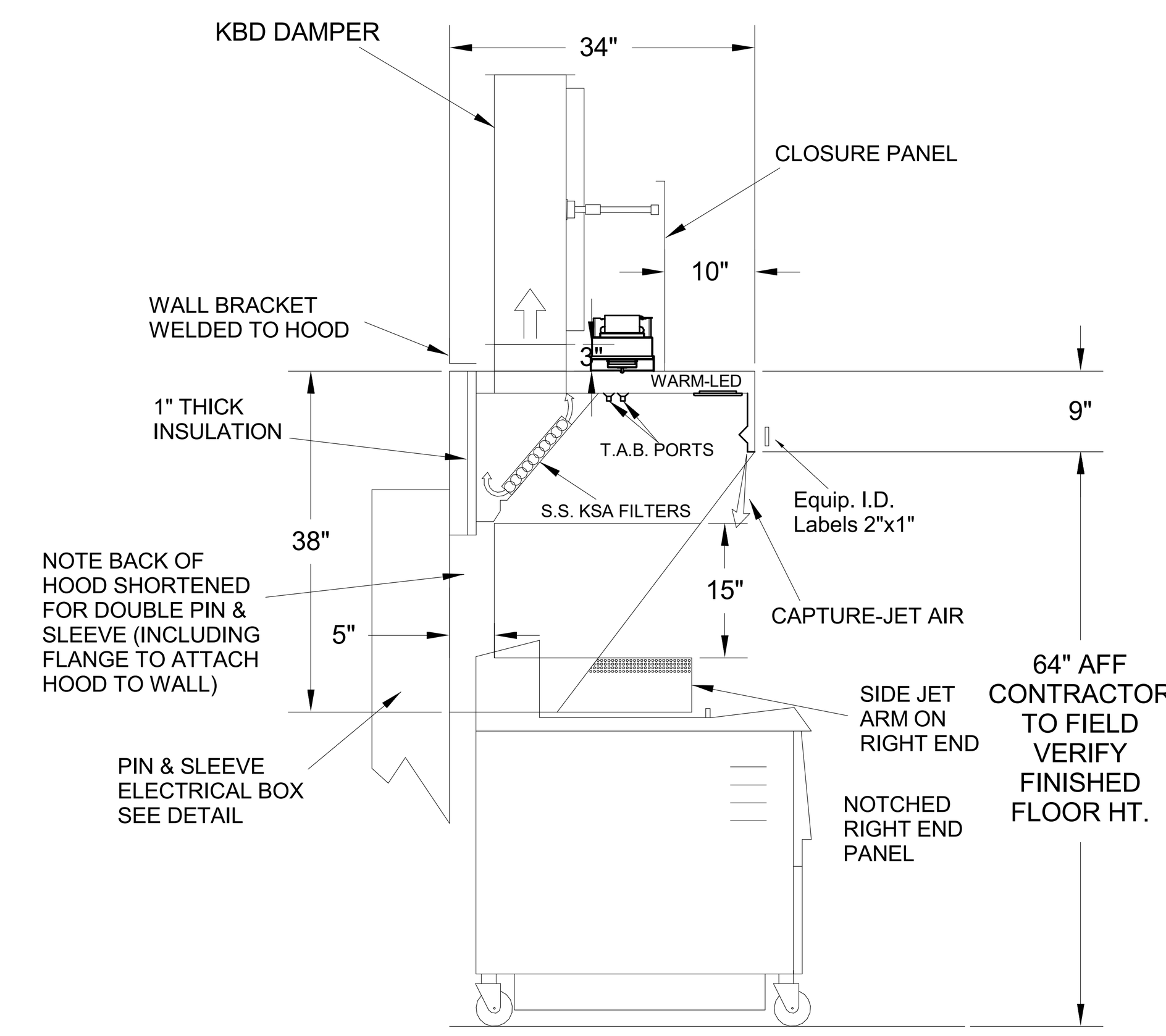
H-2 SECTION VIEW

- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"X18" ACCESS DOOR CENTERED AT CAPTURE-JET WITH FRONT CJ INTAKE
- NOTCHED LEFT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3"X3" TRIM STRIP FOR STANDOFF ON RIGHT END
- 3" SIDE & REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED:
  (2) FRYERS

H-3



PLAN VIEW



H-3 SECTION VIEW

- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"X18" ACCESS DOOR CENTERED AT CAPTURE-JET WITH FRONT CJ INTAKE
- NOTCHED RIGHT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED:
  (2) FRYERS

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW WEBSITE: WWW.HALTONCOMPANY.COM

HALTON CO. (CANADA)
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 3R7
1-905-624-0301

HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5600

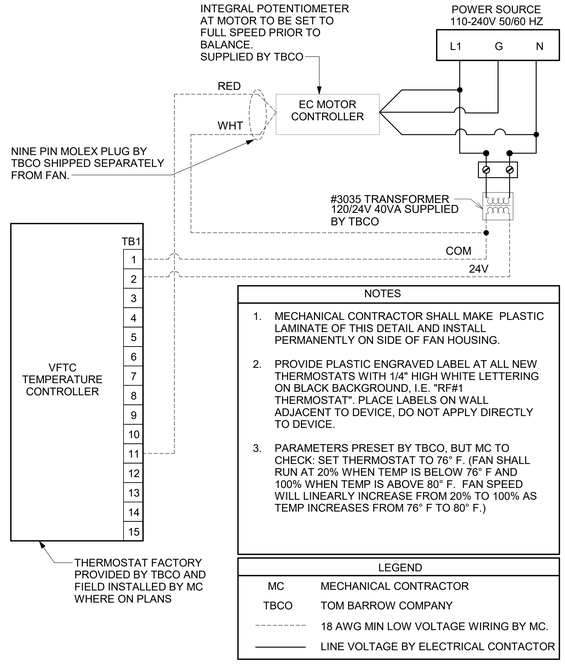
REV. | REVISION DESCRIPTION | BY | DATE

SN#: 05482

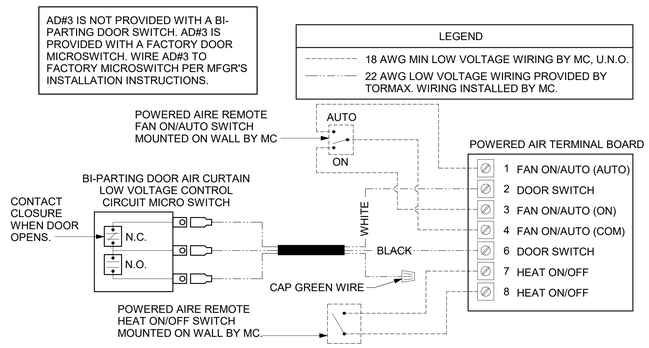
PROJECT: CHICK-FIL-A
LOCATION: WEST WINDSOR FSR
DRAWN BY:
DATE: 5/6/24
SCALE: NTS
Halton Dwg:

Halton
CARE FOR INDOOR AIR

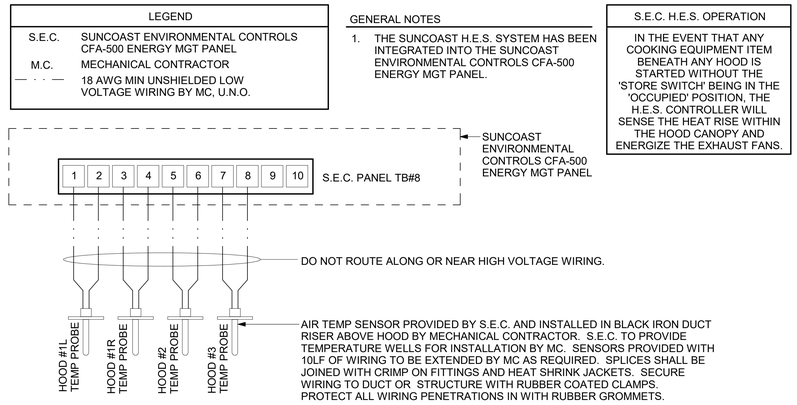
Sheet
MH-1.1



1 TECH CLOSET CONTROL DIAGRAM
NOT TO SCALE



2 AIR CURTAIN WIRING DIAGRAM
NOT TO SCALE



3 HOOD FAN/EQUIPMENT INTERLOCK - 3 Hood (4 Collars) - CFA500 Integrated
1/4" = 1'-0"

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646
STATE OF NEW JERSEY MARK T. KURZYNSKE NO. GE44646 LICENSED PROFESSIONAL ENGINEER
5/6/24

CHICK-FIL-A
WEST WINDSOR FSR

EMMONS DRIVE
WEST WINDSOR, NJ 08540

FSR#05482

BUILDING TYPE / SIZE: P14 LS BN
RELEASE: 23.11
PRINTED FOR
PERMIT

REVISION SCHEDULE

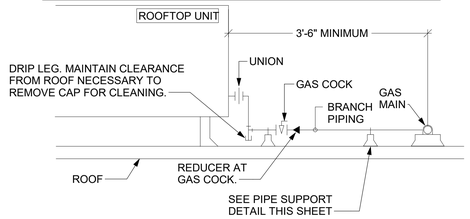
NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 24054.EH.S
DATE 5/6/24
DRAWN BY BLM

SHEET
CONTROL WIRING DIAGRAMS

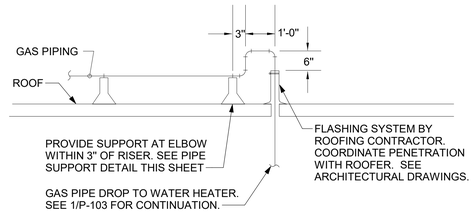
SHEET NUMBER
M-702

NOTES:
1. INSTALL GAS PIPING SUCH THAT HVAC EQUIPMENT ACCESS PANELS AND/OR DOORS ARE IN NO WAY OBSTRUCTED BY PIPING, VALVES, OR SUPPORTS.
2. TO AVOID CONFLICT WITH AC UNIT ACCESS DOORS, INSTALL GAS PIPING NO CLOSER THAN 3'-6" FROM AC UNIT. (EXCEPT FOR BRANCH LINE CONNECTED TO AC UNIT.)
3. ROUTE BRANCH TAKE-OFF DIRECTLY FROM MAIN TO ROOFTOP UNIT AS SHOWN ON PLAN AND DETAILS WITHOUT LATERAL OFFSETS WHICH MAY OBSTRUCT UNIT ACCESS DOORS.



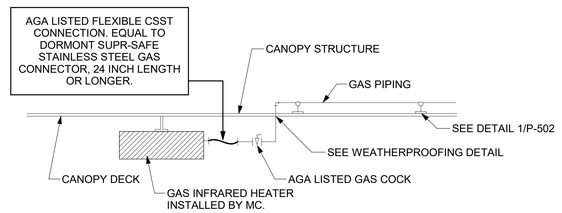
3 GAS PIPING AT RTU
NOT TO SCALE

OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.

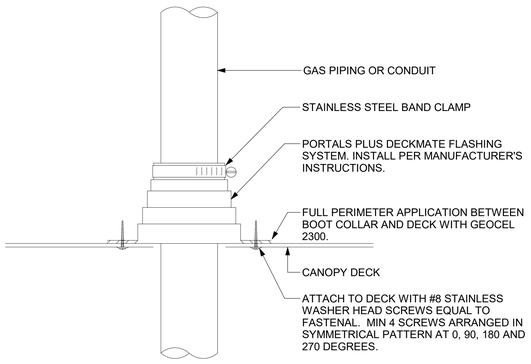


2 GAS PIPE DROP TO WATER HEATER
NOT TO SCALE

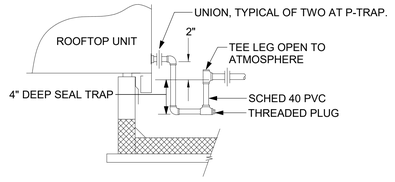
AGA LISTED FLEXIBLE CSST CONNECTION. EQUAL TO DORMONT SUPR-SAFE STAINLESS STEEL GAS CONNECTOR, 24 INCH LENGTH OR LONGER.



1 GAS CONNECTION AT APPLIANCE
NOT TO SCALE



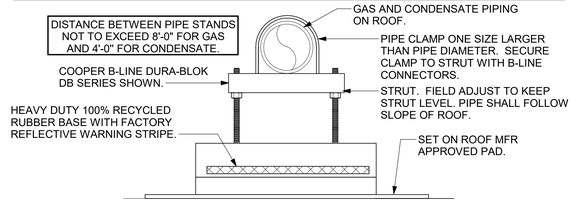
6 WEATHERPROOFING AT CANOPY PENETRATION
NOT TO SCALE



5 CONDENSATE DRAIN PIPING
NOT TO SCALE

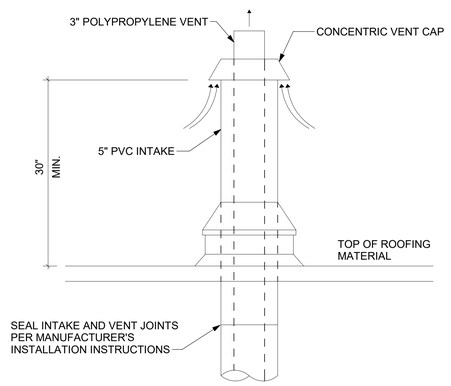
NOTES:
1. NON ADJUSTABLE MODEL DB610 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
2. PROVIDE MODEL DBE 10-8 OR DBE 10-12 OR DBE 10-16 AS NEEDED FOR ELEVATING CONDENSATE PIPING TO MAINTAIN PROPER SLOPE AND FOR GAS PIPING CROSSING OVER CONDENSATE PIPING.
3. ENSURE GAS AND CONDENSATE PIPING DO NOT OBSTRUCT ROOFTOP EQUIPMENT ACCESS OPENINGS. RE-PIPING OF SYSTEMS DUE TO CONFLICTS WITH EQUIPMENT ACCESS OPENINGS SHALL BE DONE AT PLUMBING CONTRACTOR'S EXPENSE.

DISTANCE BETWEEN PIPE STANDS NOT TO EXCEED 8'-0" FOR GAS AND 4'-0" FOR CONDENSATE.



4 PIPING SUPPORT ON ROOF
NOT TO SCALE

VENT MUST BE MIN. 10' FROM OUTSIDE AIR INTAKES



7 WATER HEATER VENT ROOF PENETRATION
NOT TO SCALE

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

MARK T. KURZYNSKE
NEW JERSEY LICENSE # GE44646

STATE OF NEW JERSEY — MARK T. KURZYNSKE — NO. GE44646 — LICENSED PROFESSIONAL ENGINEER

5/6/24

CHICK-FIL-A
WEST WINDSOR FSR

EMMONS DRIVE
WEST WINDSOR, NJ 08540

FSR#05482

BUILDING TYPE / SIZE: P14 LS BN
RELEASE: 23.11
PRINTED FOR PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 24054.EH.S
DATE 5/6/24
DRAWN BY BLM

SHEET: DETAILS

SHEET NUMBER: **M-502**