

### AIR BALANCE SCHEDULE

TAG	SUPPLY FLOW	RETURN FLOW	EXHAUST FLOW	SUBTOTAL
EF-1	0	0	1867	-1867
EF-2	0	0	2200	-2200
EF-3	0	0	150	-150
HMUA1	2387	0	0	2387
RTU-1	4000	3000	0	1000
RTU-2	4000	3500	0	500
RTU-3	4000	3500	0	500
Net Pressurization [CFM]				170

### CONTROL FUNCTIONS

A	THE MAIN COOKING EXHAUST FANS, EF-1 & EF-2, AND MAKE-UP AIR UNIT, HMUA-1, SHALL BE INTERLOCKED TO OPERATE TOGETHER. THIS CONTROL CIRCUIT IS ACTIVATED BY A SWITCH AND INCLUDES A FIRE PROTECTION OVERRIDE.
B	THE TEMPERATURE IN EACH ZONE IS CONTROLLED BY SPACE TEMPERATURE SENSORS CONNECTED TO THE THERMOSTATS LOCATED IN THE KITCHEN. ALL ZONES SHALL OPERATE WITH CONTINUOUS FAN OPERATION DURING OCCUPIED TIMES AND INTERMITTENTLY AS NEEDED TO MAINTAIN SET POINTS DURING UNOCCUPIED TIMES. OUTSIDE AIR DAMPERS SHALL BE OPEN CONTINUOUSLY WHEN EITHER IN OCCUPIED MODE OR WHEN HOOD SYSTEM IS ON AND SHALL BE CLOSED DURING UNOCCUPIED PERIODS.
C	THE RESTROOM EXHAUST FAN, EF-3, SHALL BE ENERGIZED BY THE TIMECLOCK FOR CONTINUOUS OPERATION AS SHOWN IN THE LIGHTING CONTROL DIAGRAM.

### VENTILATION SCHEDULE

CATEGORY	DEFAULT OCCUPANCY [PPL / 1,000 SF]	AREA [SF]	NUMBER OF RESTROOM FIXTURES	OCCUPANCY BY AREA	VENTILATION AIR RATE		VENTILATION REQUIRED [CFM]		EXHAUST AIR RATE		EXHAUST REQUIRED [CFM]		TOTAL VENTILATION REQUIRED [CFM]	VENTILATION PROVIDED [CFM]	TOTAL EXHAUST REQUIRED [CFM]	EXHAUST PROVIDED [CFM]
					CFM / PERSON	CFM / SF	OCCUPANCY	AREA	CFM / FIXTURE	CFM / SF	AREA	FIXTURES				
KITCHEN	20	1788	0	36	7.5	0.12	270	215	0	-0.70	-1252	0	552	565	-1252	-4773
DINING ROOM	70	1188	0	84	7.5	0.18	630	214	0	0.00	0	0	1001	1025	0	0
RESTROOMS	0	121	2	0	0.0	0	0	0	-50	0.00	0	-100	0	0	-100	-150
OFFICE	5	50	0	1	5.0	0.06	5	3	0	0.00	0	0	9	10	0	0

NOTES:  
 A. OCCUPANT DENSITY, VENTILATION AIR RATE & EXHAUST AIR RATE TAKEN FROM TABLE 403.3.1.1 2015 IMC  
 B. TOTAL VENTILATION REQUIRED INCLUDES ZONE AIR DISTRIBUTION EFFECTIVENESS OF 0.8 FOR CEILING SUPPLY & RETURN. (TABLE 403.3.1.1.2 2015 IMC).

### GRILLS, REGISTERS, AND DIFFUSERS SCHEDULE

TAG	DESCRIPTION	FACE SIZE	NECK SIZE	MATERIAL	FINISH	MOUNTING	FURN. BY	INST. BY	BASIS FOR DESIGN		REMARKS
								MAN.	MODEL		
CD2	PERFORATED CEILING DIFFUSER	12" x 12"	6"Ø	ALUMINUM	WHITE	GYP CEILING	GC	GC	TITUS	PAS-AA	PROVIDE INTEGRAL OBD
CD3	PERFORATED CEILING DIFFUSER	24" x 12"	8"Ø	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	TITUS	PAS-AA	PROVIDE INTEGRAL OBD, BORDER TYPE 3
CD4	PERFORATED CEILING DIFFUSER	24" x 24"	<varies>	ALUMINUM	WHITE	<varies>	GC	GC	TITUS	PAS-AA	<varies>
ER1	PERFORATED CEILING EXHAUST	12" x 12"	6/6	ALUMINUM	WHITE	GYP CEILING	GC	GC	TITUS	PAR	PROVIDE INTEGRAL OBD
RG1	PERFORATED CEILING RETURN	48" x 24"	46x22	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	TITUS	PAR-AA	BORDER TYPE 3
RG2	0" FIXED BLADE RETURN GRILLE	SEE NECK SIZE	36/18	ALUMINUM	MILL	WALL	GC	GC	TITUS	350RS	
SR2	DUCT MOUNTED DIFFUSER	SEE NECK SIZE	24/6	STEEL	TO MATCH DUCTWORK	DUCT			TITUS	530DF	PROVIDE INTEGRAL OBD
SRx				Aluminum	White				Titus	FBPI-10	Provide integral OBD

### CONDENSING UNIT SCHEDULE

TAG	DESCRIPTION	NUMBER OF COMPRESSORS	NUMBER OF CIRCUITS	REFRIG. TYPE	REFRIG. CHARGE	APPROX. WEIGHT	MOC	ELECTRICAL			FURN. BY	INST. BY	BASIS FOR DESIGN		REMARKS
								FLA	V/P/H				MAN.	MODEL	
30.2	WALK-IN COOLER CONDENSING UNIT	1	1	R-404A		260	15 A	13.3 A	208/3/60	FSE	GC	KOLPAK			FURNISHED WITH WALK-IN COOLER

### AIR DOOR SCHEDULE

TAG	Description	OPENING WIDTH	AIR FLOW			ELECTRICAL			FURN. BY	INST. BY	BASIS FOR DESIGN		REMARKS	
				MAX FPM	AVG FPM	CFM	MOC	FLA	V/P/H			MAN.	MODEL	
AD-1	UNHEATED AIR CURTAIN	42"	3269	1462	1243	15 A	5.5 A	120/1/60	GC	GC	POWERED AIRE	MP-1-42		PROVIDE DOOR SWITCH

### FAN SCHEDULE

TAG	DESCRIPTION	DRIVE TYPE	EXHAUST FLOW [CFM]	E.S.P. [in. W.C.]	APPROX. WEIGHT [lbs]	ELECTRICAL			FURN. BY	INST. BY	BASIS FOR DESIGN		REMARKS
						MOTOR POWER	V/P/H				MAN.	MODEL	
EF-1	TYPE I HOOD EXHAUST FAN	DIRECT	1867 CFM	1.75 in-wg	175	1.5 HP	208/3/60	FSE	GC	CAPTIVEAIRE	DU180HFA		FURNISHED WITH DISCONNECT, VARIABLE SPEED CONTROLLER, AND VENTED ROOF CURB
EF-2	TYPE I HOOD EXHAUST FAN	DIRECT	2200 CFM	1.75 in-wg	175	1.5 HP	208/3/60	FSE	GC	CAPTIVEAIRE	DU180HFA		FURNISHED WITH DISCONNECT, VARIABLE SPEED CONTROLLER, AND VENTED ROOF CURB
EF-3	TYPE I HOOD EXHAUST FAN	DIRECT	150 CFM	1.75 in-wg	75	1/3 HP	120/1/60	FSE	GC	CAPTIVEAIRE	DU33HFA		FURNISHED WITH DISCONNECT, VARIABLE SPEED CONTROLLER, BACKDRAFT DAMPER AND ROOF CURB
EF-4	TYPE I SMOKER EXHAUST FAN	DIRECT	5000 CFM	1.75 in-wg	125	3/4 HP	120/1/60	HS	GC	CAPTIVE-AIRE	DU85HFA		WITH DISCONNECT, VARIABLE SPEED CONTROLLER, AND VENTED ROOF CURB
EF-5	TYPE I SMOKER EXHAUST FAN	DIRECT	5000 CFM	1.75 in-wg	125	3/4 HP	120/1/60	HS	GC	CAPTIVE-AIRE	DU85HFA		WITH DISCONNECT, VARIABLE SPEED CONTROLLER, AND VENTED ROOF CURB
EF-6	TYPE I SMOKER EXHAUST FAN	DIRECT	5000 CFM	1.75 in-wg	125	3/4 HP	120/1/60	HS	GC	CAPTIVE-AIRE	DU85HFA		WITH DISCONNECT, VARIABLE SPEED CONTROLLER, AND VENTED ROOF CURB

### MAKEUP AIR UNIT SCHEDULE

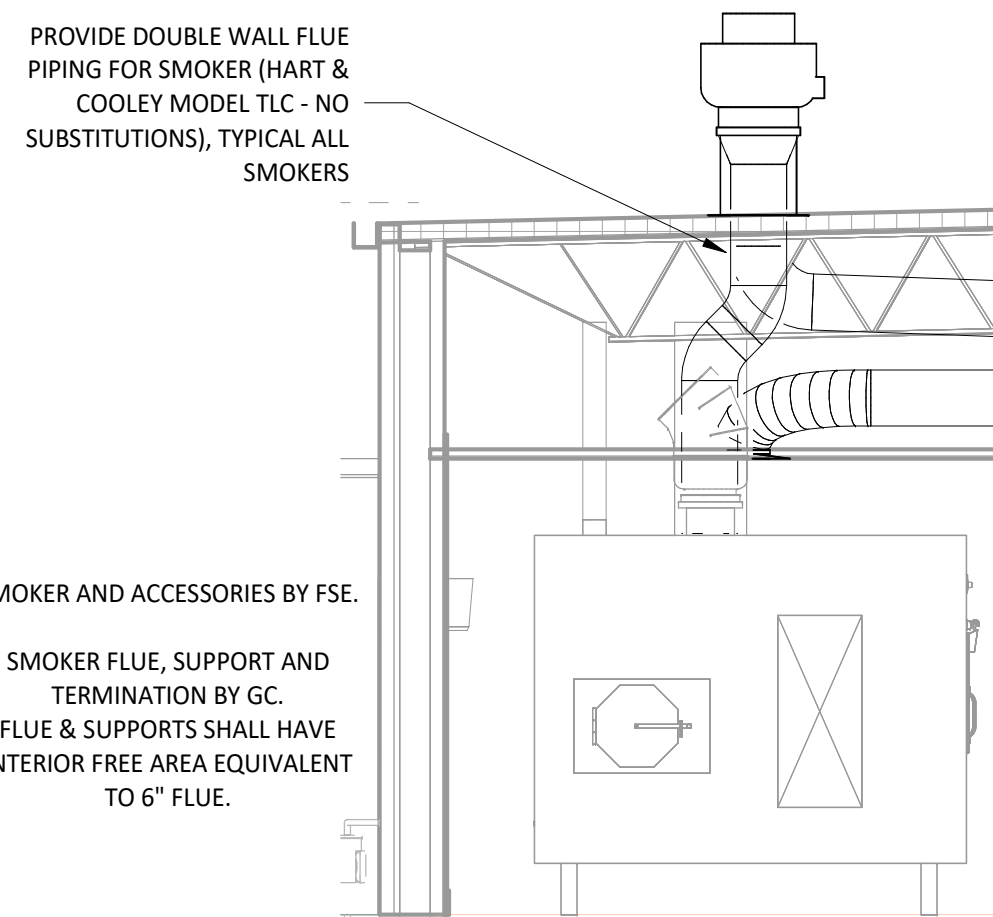
TAG	DESCRIPTION	AIRFLOW		HEATING CAPACITY			ELECTRICAL			FURN. BY	INST. BY	BASIS FOR DESIGN		REMARKS	
		SUPPLY FLOW [CFM]	E.S.P. [in. W.C.]	INPUT [MBH]	OUTPUT [MBH]	MAXIMUM TURNDOWN	EAT [Deg. F]	COND. EAT [Deg. F]	MOTOR POWER	V/P/H			MAN.	MODEL	
HMUA1	DIRECT FIRED MAKEUP AIR UNIT	2387	0.80	271	249	12.5:1	21°F	816	2 HP	208/3/60	FSE	GC	CAPTIVE-AIRE	A2-D-500-20D	FURNISHED WITH DISCONNECT, ROOF CURB, SCREEN INTAKE, WASHABLE ALUMINUM FILTERS, AND INVERTED SUPPLY ADAPTER

### ROOFTOP UNIT SCHEDULE

TAG	DESCRIPTION	NOMINAL CAPACITY [Tons]	EER	AIRFLOW			COOLING CAPACITY			HEATING CAPACITY			NUMBER OF COMPRESSORS / CIRCUITS	REFRIG. TYPE	REFRIG. CHARGE	APPROX. WEIGHT [Lbs]	ELECTRICAL			FURN. BY	INST. BY	BASIS FOR DESIGN		REMARKS	
				TOTAL [CFM]	OA [CFM]	ESP [in. w.c.]	TOTAL [MBH]	SENSIBLE [MBH]	EAT [Deg. F]	COND. EAT [Deg. F]	INPUT [MBH]	OUTPUT [MBH]					EAT [Deg. F]	MOC	FLA			V/P/H	MAN.		MODEL
RTU-1	DINING ROOM ROOFTOP UNIT	10	11.6	4000	1000	0.8	131	79	69	92	150	121	56	2	R-454B	8.0/5.0 Lbs	1600	80 A	60.0 A	208/3/60	GC	GC	TRANE	YHK120	FURNISHED WITH DEHUMIDIFICATION, COMPARATIVE ENTHALPY ECONOMIZER W/ BAROMETRIC RELIEF, HINGED PANELS, MERV 8 FILTERS, HAIL GUARD, CIRCUIT BREAKER, UNPOWERED CONVENIENCE RECEPTACLE, RETURN AIR SMOKE DETECTOR, TSTAT WITH REMOTE SENSOR, AND ROOF CURB
RTU-2	KITCHEN ROOFTOP UNIT	10	11.6	4000	500	0.8	137	58	72	92	150	121	68	2	R-454B	8.0/5.0 Lbs	1600	80 A	60.0 A	208/3/60	GC	GC	TRANE	YHK120	FURNISHED WITH COMPARATIVE ENTHALPY ECONOMIZER W/ BAROMETRIC RELIEF, HINGED PANELS, MERV 8 FILTERS, HAIL GUARD, CIRCUIT BREAKER, UNPOWERED CONVENIENCE RECEPTACLE, RETURN AIR SMOKE DETECTOR, TSTAT WITH REMOTE SENSOR, AND ROOF CURB
RTU-3	KITCHEN ROOFTOP UNIT	10	11.6	4000	500	0.8	135	59	71	92	150	121	68	2	R-454B	8.0/5.0 Lbs	1600	80 A	60.0 A	208/3/60	GC	GC	TRANE	YHK120	FURNISHED WITH COMPARATIVE ENTHALPY ECONOMIZER W/ BAROMETRIC RELIEF, HINGED PANELS, MERV 8 FILTERS, HAIL GUARD, CIRCUIT BREAKER, UNPOWERED CONVENIENCE RECEPTACLE, RETURN AIR SMOKE DETECTOR, TSTAT WITH REMOTE SENSOR, AND ROOF CURB

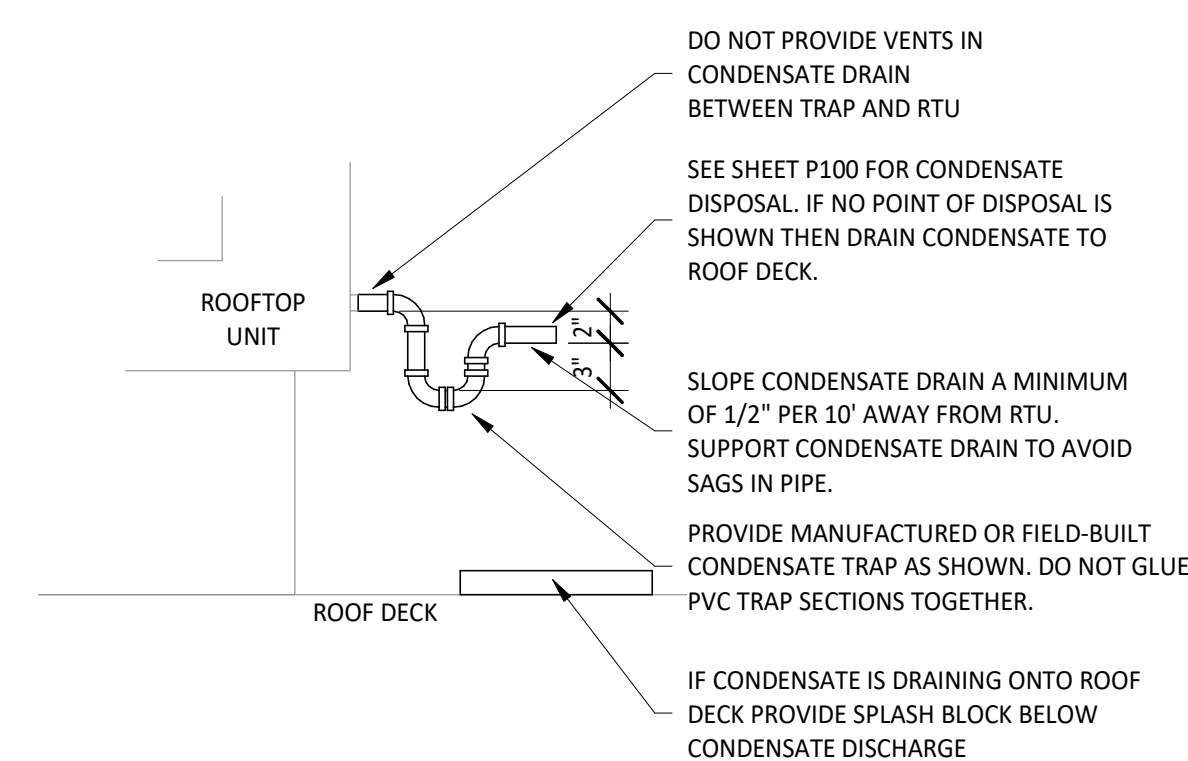
### KITCHEN HOOD SCHEDULE

TAG	DESCRIPTION	MAX COOKING TEMP.	EXHAUST PLENUM			PERFORATED SUPPLY PLENUMS										NUMBER OF LIGHT FIXTURES	APPROX. WEIGHT [lbs]	FURN. BY	INST. BY	BASIS FOR DESIGN		REMARKS				
			AIRFLOW [CFM]	SP [in. W.C.]	NO.	WIDTH	LENGTH	NO.	WIDTH	LENGTH	NO.	WIDTH	LENGTH	AIRFLOW [CFM]	NO.					WIDTH	DIAMETER		MAN.	MODEL		
HD-1	TYPE I CANOPY HOOD WITH PERFORATED MAU & AC SUPPLY PLENUMS	600°F	1973	0.77	1	10"	16"	10'-8"	4'-6"	0.1	11'-8"	24"	1700	3	10"	24"	500	2	16"	5	700	FSE	GC	CAPTIVEAIRE	5424 ND-2-ACPSF-F	MAT'L 18 GA. TYPE 430 SS. PROVIDE WITH (8) 16" x 16" HE S5 FILTERS, ANSUL SYSTEM, (1) QUARTER END PANEL, (1) VERTICAL END PANEL, DUCT COLLAR TEMPERATURE SENSOR & PREWIRE PACKAGE
HD-2	TYPE I CANOPY HOOD WITH PERFORATE MAU & AC SUPPLY PENUMS	600°F	2070	0.58	1	10"	20"	11'-0"	4'-3"	0.1	11'-0"	24"	1656	2	12"	28"	500	2	16"	5	915	FSE	GC	CAPTIVEAIRE	5424 ND-2-ACPSF-F	MAT'L 18 GA. TYPE 430 SS. PROVIDE WITH (8) 16" x 16" HE S5 FILTERS, ANSUL SYSTEM, (1) QUARTER END PANEL, (1) VERTICAL END PANEL, DUCT COLLAR TEMPERATURE SENSOR, INTEGRAL UTILITY CABINET & PREWIRE PACKAGE



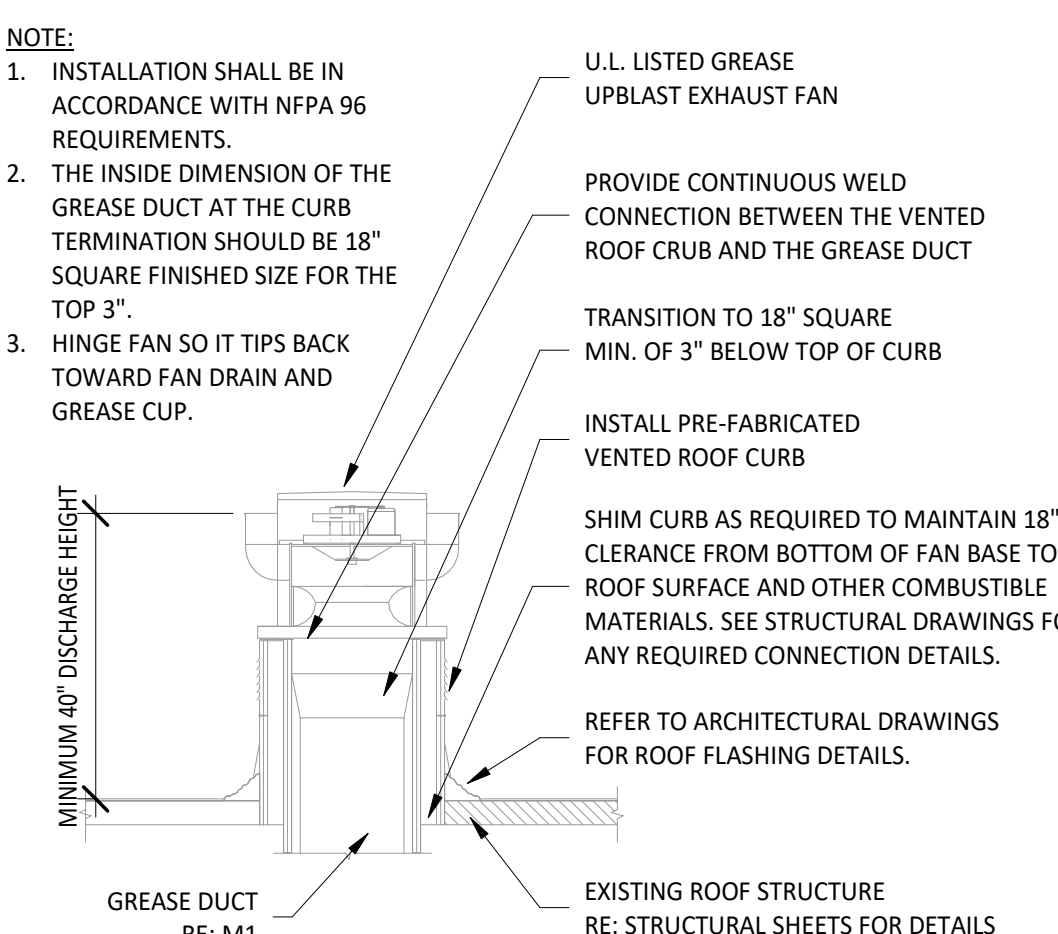
### 8 SMOKER SECTION

Not to scale



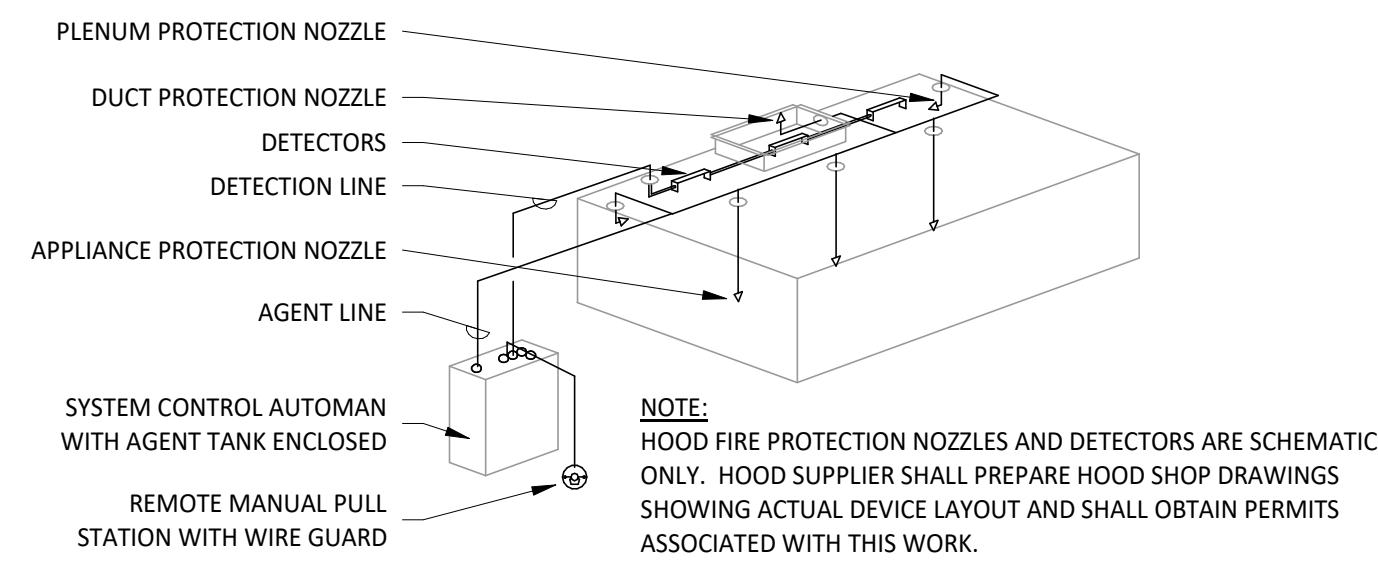
### 7 RTU CONDENSATE TRAP DETAIL

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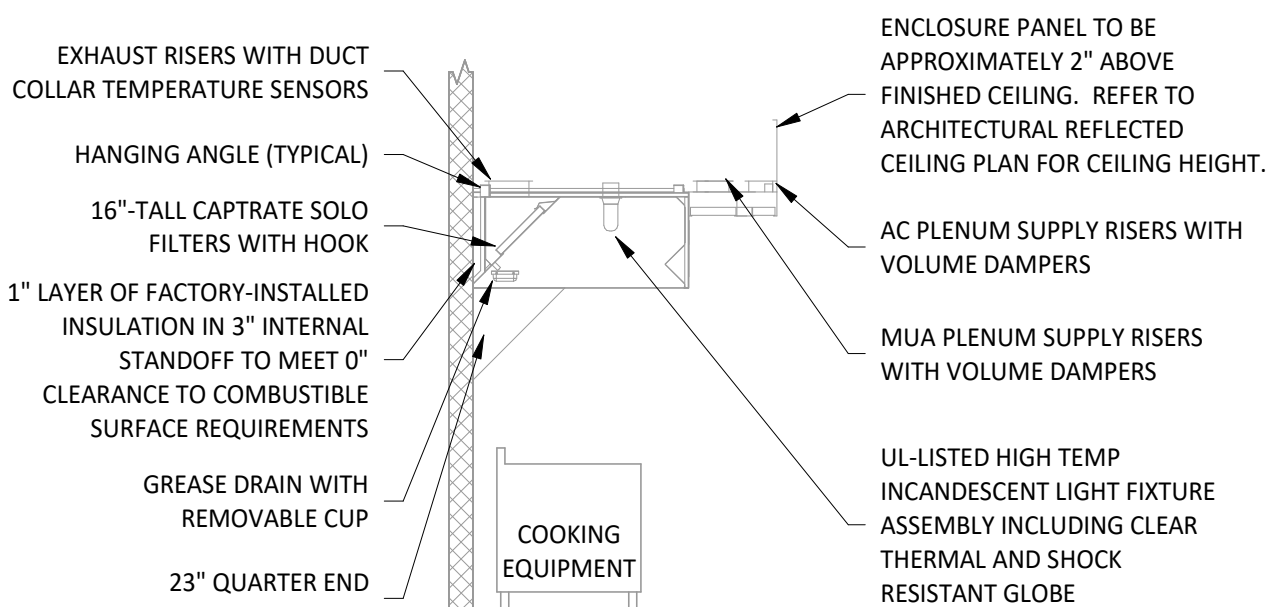
### 6 GREASE EXHAUST FAN DETAIL

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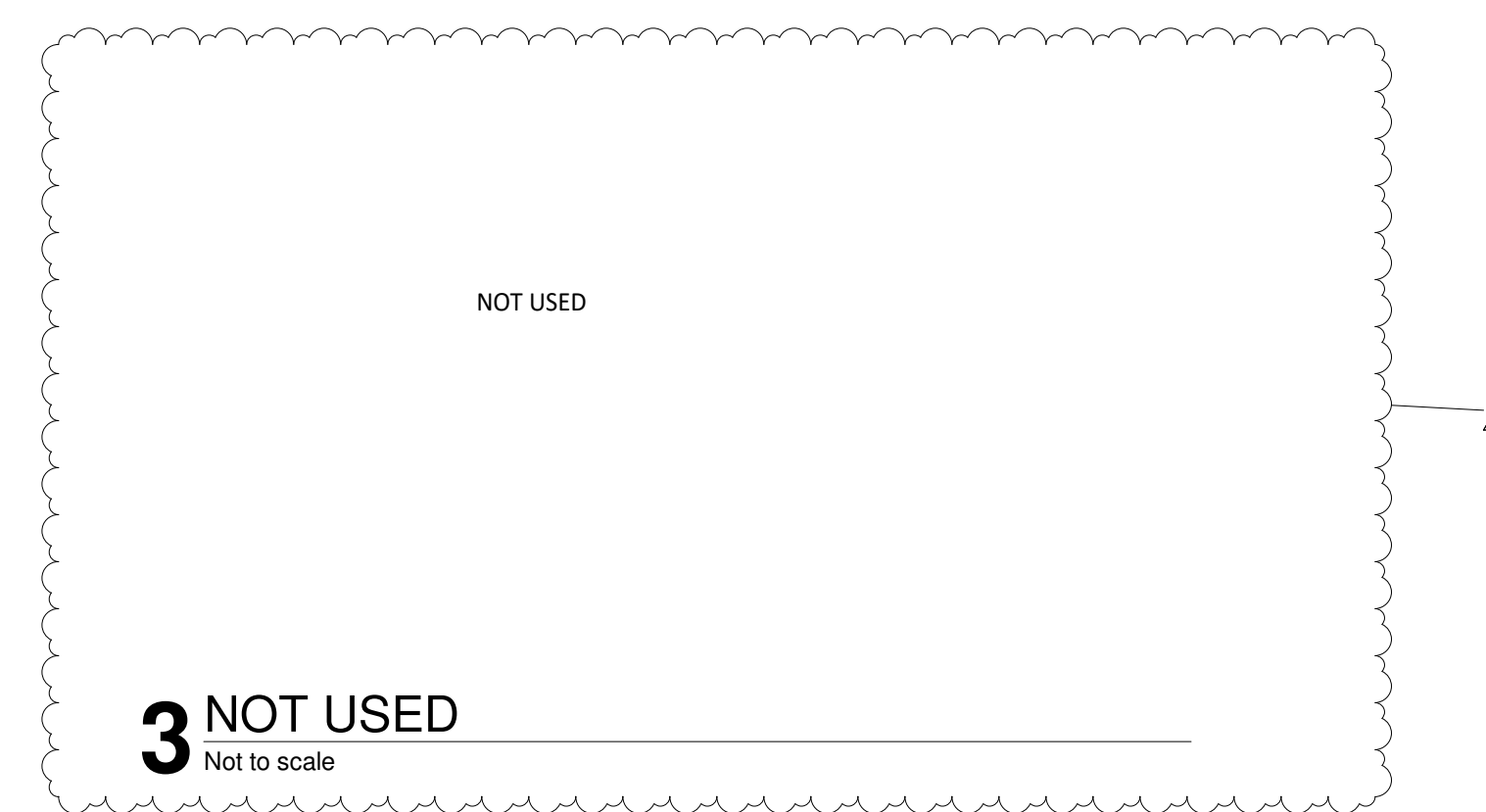
### 5 FIRE SUPPRESSION SYSTEM DETAIL

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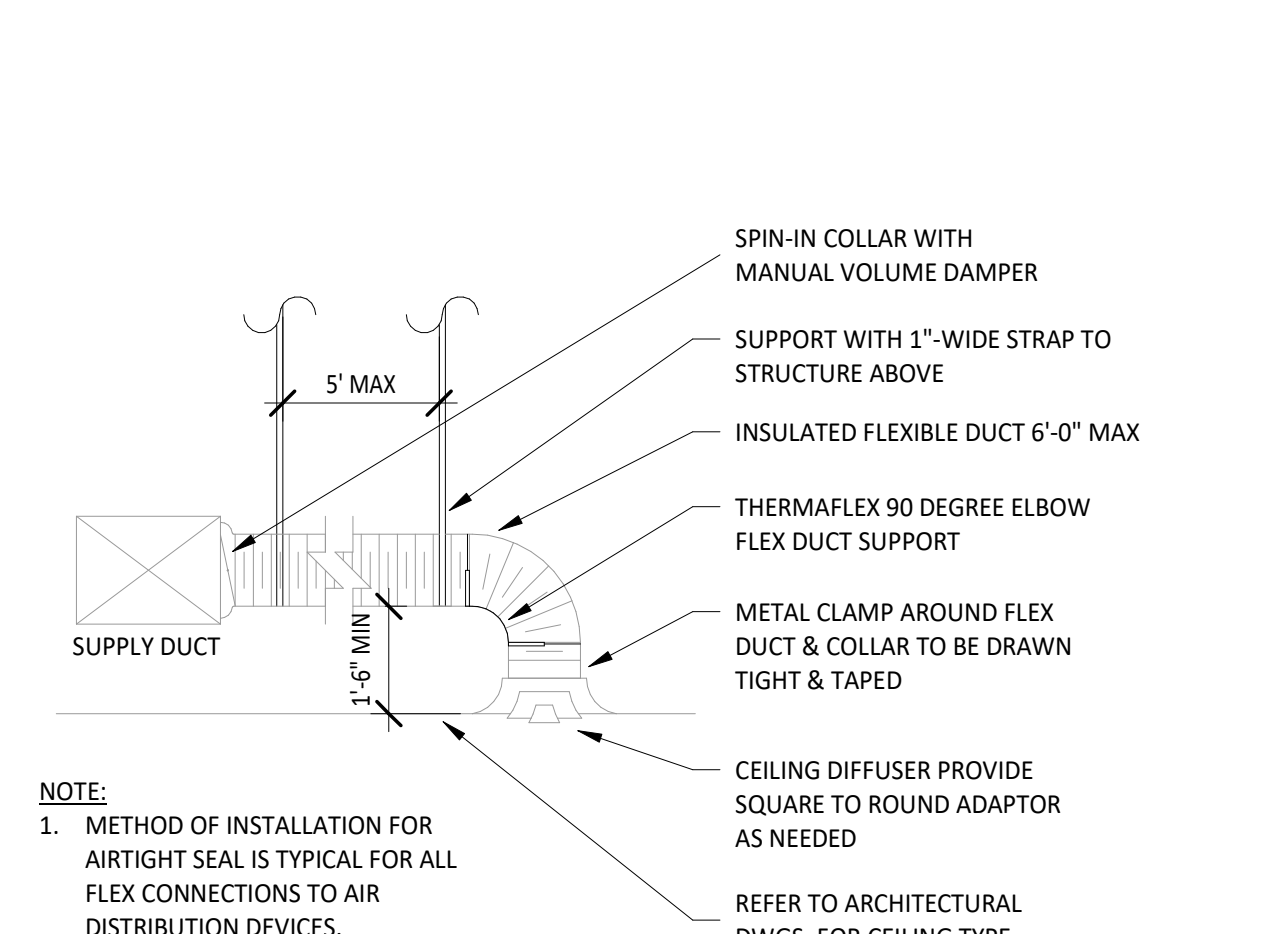
### 4 HOOD SECTION VIEW

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### 3 NOT USED

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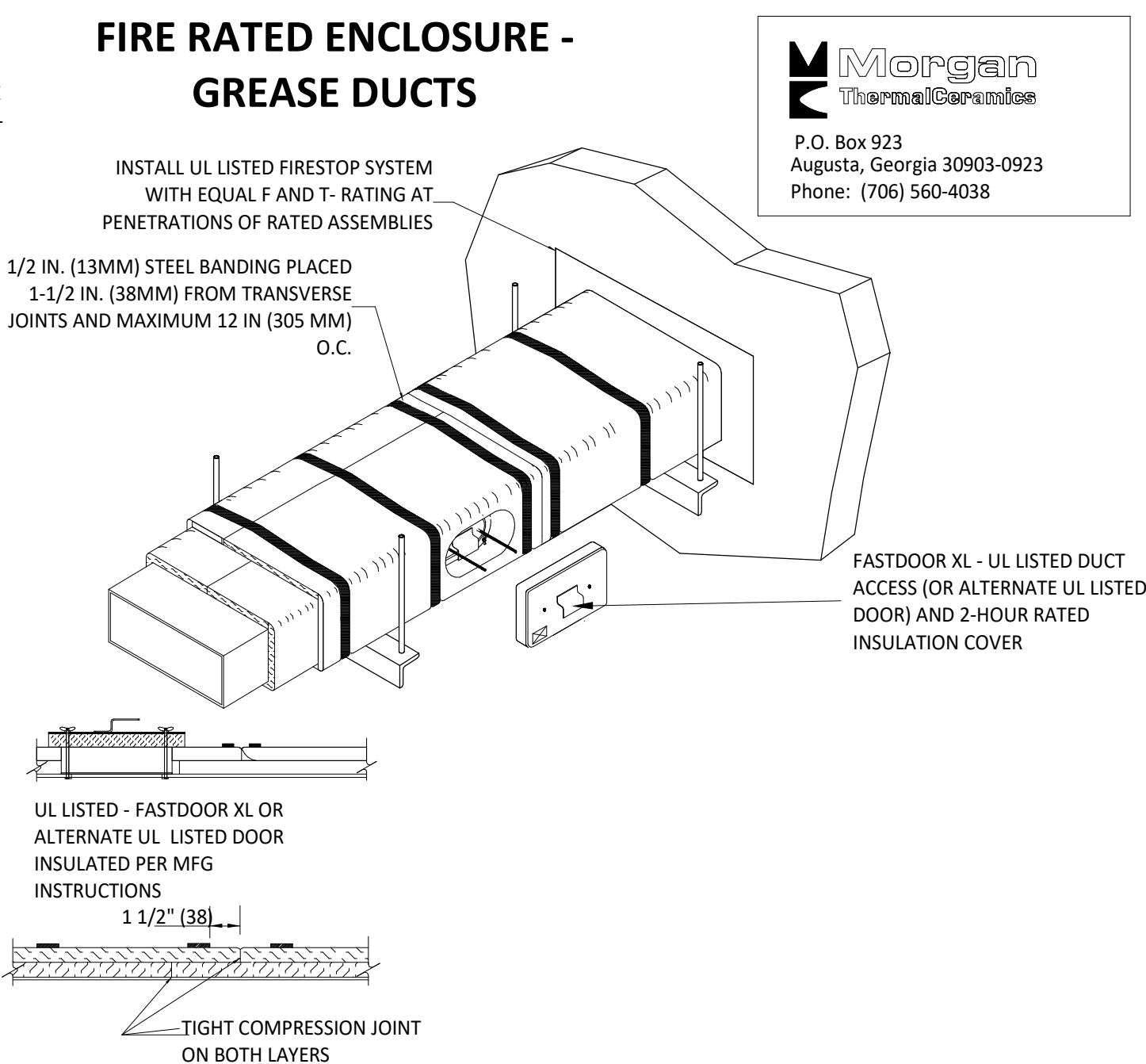


### 2 DIFFUSER CONNECTION DETAIL

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### FIRE RATED ENCLOSURE - GREASE DUCTS

- THERMAL CERAMICS FIREMASTER FASTWRAP XL IS TESTED TO ASTM E2386 AND U.L. LISTED PER HNK1-G18 TO PROVIDE ZERO CLEARANCE TO COMBUSTIBLES AND TO PROVIDE A 1- OR 2- HOUR ENCLOSURE. THROUGH PENETRATIONS FIRESTOP SYSTEMS ARE TESTED IN ACCORDANCE WITH ASTM E 814 (UL 1479). ICC CODE EVALUATION PER REPORT UL ER 14229-01.
- COMPLIANT TO THE FOLLOWING CODES:  
 NFPA 96  
 INTERNATIONAL MECHANICAL CODES  
 UNIFORM MECHANICAL CODE  
 CALIFORNIA MECHANICAL CODE
- INSULATION APPLIED IN TWO LAYERS WITH TIGHT COMPRESSION JOINT ON BOTH LAYERS AT ALL JOINTS.
- MINIMUM 16 GAUGE CARBON STEEL (OR 18 GAGE STAINLESS STEEL) RECTANGULAR OR ROUND GREASE EXHAUST DUCT
- INSTALL U.L. LISTED AND LIQUID TIGHT THERMAL CERAMICS FASTDOOR XL ACCESS DOORS, OR ALTERNATE DOOR U.L. LISTED PER UL1978, AT ALL CHANGES IN DIRECTION AND AT MINIMUM EVERY 20 FT ON HORIZONTAL RUNS.
- SUPPORT HANGER SYSTEMS DO NOT NEED TO BE WRAPPED PROVIDED THE HANGER RODS ARE MINIMUM OF 3/8 IN. DIAMETER AND SUPPORTS ARE MINIMUM 2 X 2 X 1/8 IN. STEEL ANGLE OR 3/4" DIA. EQUIVALENT SUPPORT SYSTEM.
- THERMAL CERAMICS DUCT WRAP SHALL BE INSTALLED DIRECTLY ONTO THE DUCT AND APPLIED FROM THE HOOD CONNECTION TO THE CONNECTION TO THE FAN.
- THERMAL CERAMICS DUCT ENCLOSURE SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND U.L. LISTINGS.



### 1 FIREMASTER DUCT WRAP - UL HNK1-G18

Not to scale

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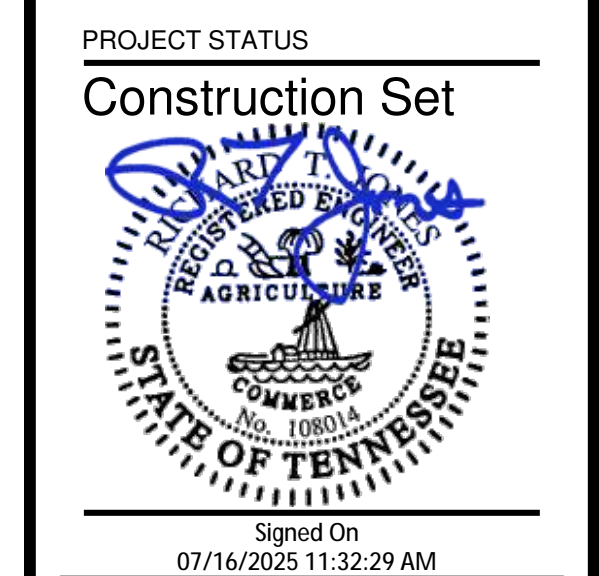
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**PROJECT STATUS**  
**Construction Set**

**City Barbeque, LLC - JOHNSON CITY**  
 City Barbeque, LLC  
 City Barbeque, LLC  
 421 N State of Franklin Rd.  
 Johnson City, TN 37604

#	Description	Date
1	VE UPDATES	06.26.2025

INITIAL ISSUE DATE  
**13 MAY 2025**

PROJECT NO.  
**2402051**