

EXISTING 10 HD-REMAIN

RECOMMENDED AIR DEVICE LOCATIONS SHOULD BE VALIDATED IN FIELD WITH GC/MC BASED UPON FINAL WALL LOCATION & LIGHTING PLAN

NEW FRY HOOD

Any diffusers next to hoods to be perforated or directional so it does not direct airflow directly on the hood(s)

DIFFUSERS SHALL BE EQUAL TO EGGER MODEL EA306H 2MT, 24 X 24 SQUARE FACE, PATTERN AS INDICATED ON THE PLANS, 4 ROUND NECKS SIZED AS FOLLOWS:

NECK SIZE → **D 3/2** → CFM

A - 6 1/2" NECK
 B - 8" NECK
 C - 10" NECK
 D - 12" NECK
 E - 14" NECK
 F - 16" NECK

DIFFUSERS SHALL BE EQUAL TO EGGER MODEL EA206, 24 X 24 SQUARE FACE, PATTERN AS INDICATED ON THE PLANS, 4 ROUND NECKS SIZED AS FOLLOWS:

NECK SIZE → **F 6/20** → CFM

G - 16" NECK
 H - 18" NECK

RETURN GRILLES SHALL BE 24x24 EQUAL TO EGGER ENCFORM-375 PERFORATED GRILLE WITH ROUND NECK, SIZED AS FOLLOWS:

GRILLE SIZE → **X 1**

Y - 10" NECK
 X - 18" NECK

ALL DIFFUSERS ARE EGGER ADVANTAGE PLASTIC AND SHALL BE FURNISHED WITH INSULATING BACKS.

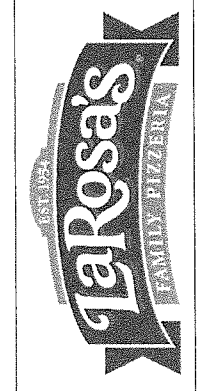
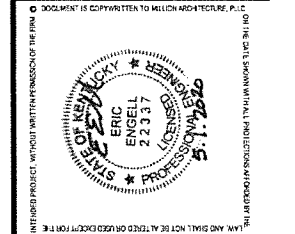
RECOMMEND HAVING ALL CEILING TILES ABOVE FREEZER & COOLER TO BE INSTALLED SO RTU DOES NOT PULL FROM CEILING.

NOTE: CONFIRM ALL SUPPLY & EXHAUST DUCT LOCATION AND SIZING WITH HOOD MANUFACTURER'S DRAWINGS

LOCATE THERMOSTATS IN OFFICE WITH REMOTE SENSORS AS INDICATED.

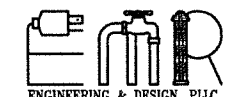
CONFERENCE / MEETING ROOM (SEPERATE FROM RESTAURANT)

HVAC PLAN
SCALE: 1/4" = 1'-0"



A NEW BUILDING FOR
LAROSA'S PIZZERIA
 2216 LANTIERE RIDGE DRIVE
 RICHMOND, KY 40475
 MADISON COUNTY

Pursuant to section 102 of the copyright act, 17 U.S.C., all concepts, ideas, designs, arrangements, drawings, and plans are the property of Million Architecture, PLLC (MA) and are copyrighted by MA. As such all concepts, ideas, designs, arrangements, drawings, and plans indicated by any document are owned by and the property of MA and were created, revised and developed for it and shall be used by or for the project only. No part of this document may be reproduced without the written permission of MA. Reproduction hereof is a criminal offense under 17 U.S.C. sec. 506. Unauthorized disclosure may constitute trade secret misappropriation in violation of 18 U.S.C. 2-31-7 et. seq. and other laws.



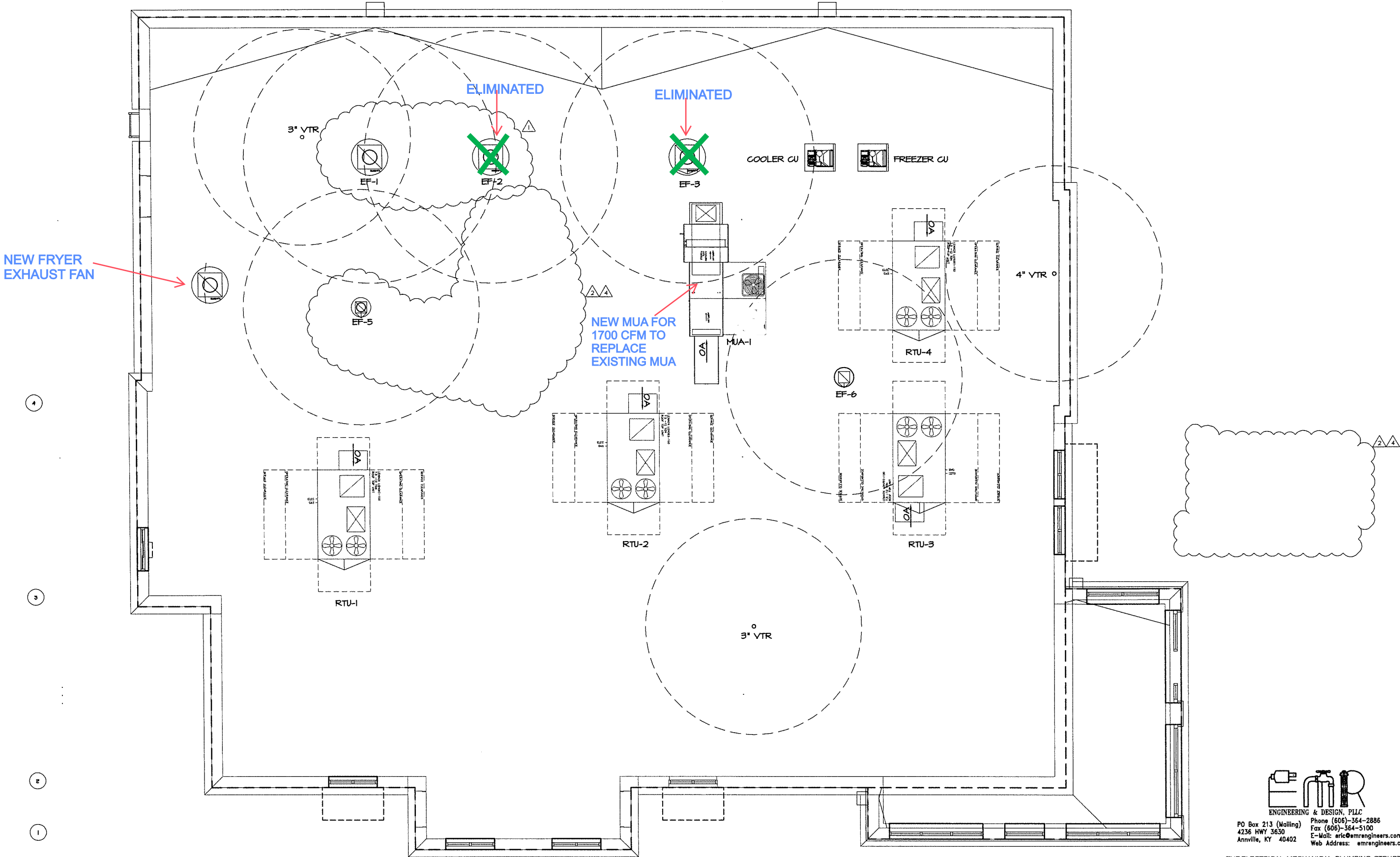
ENGINEERING & DESIGN, PLLC
 PO Box 213 (Mailing) Phone (606)-364-2886
 4236 HWY 3630 Fax (606)-364-5100
 Annville, KY 40402 E-Mail: eric@enrngineers.com
 Web Address: enrngineers.com

THE ELECTRICAL MECHANICAL PLUMBING, STRUCTURAL AND GENERAL CONTRACTORS SHALL COORDINATE THEIR WORK IN REGARDS TO ROUTING OF THEIR TRADES PIPING, CONDUIT, DUCTWORK, ETC. AND MAKE THE ARCHITECT/ENGINEER AWARE OF ANY CONFLICTS PRIOR TO FABRICATING OR INSTALLING ANY WORK.

ALL INSTALLATION SHALL BE ACCOMPLISHED IN A WORKMAN LIKE MANNER AND APPEARANCE.

Job No.	07/24/2020
Created by	EE
Checked by	EE
Date / Revision	01 / 12/17/19 / 01H REVISED
Date / Revision	02 / 12/16/19 / 02D ALTERNATE
Date / Revision	04 / 04/28/20 / 04H CHANGES

M1.1



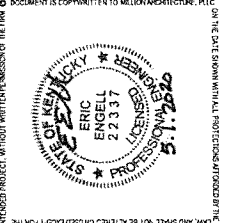
ROOF HVAC PLAN
SCALE: 1/4" = 1'-0"



AMR ENGINEERING & DESIGN, PLLC
 PO Box 213 (Mallory) Phone (606)-364-2886
 4236 HWY 3630 Fax (606)-364-5100
 Annsville, KY 40402 E-Mail: eric@amrengineers.com
 Web Address: amrengineers.com

THE ELECTRICAL, MECHANICAL, PLUMBING, STRUCTURAL AND GENERAL CONTRACTORS SHALL COORDINATE THEIR WORK IN REGARDS TO ROUTING OF THEIR TRADES PIPING, CONDUIT, DUCTWORK, ETC. AND MAKE THE ARCHITECT/ENGINEER AWARE OF ANY CONFLICTS PRIOR TO FABRICATING OR INSTALLING ANY WORK.

ALL INSTALLATION SHALL BE ACCOMPLISHED IN A WORKMAN LIKE MANNER AND APPEARANCE.



A NEW BUILDING FOR
LAROSA'S PIZZERIA
 2216 LANTERN RIDGE DRIVE
 RICHMOND, KY 40475
 MADISON COUNTY

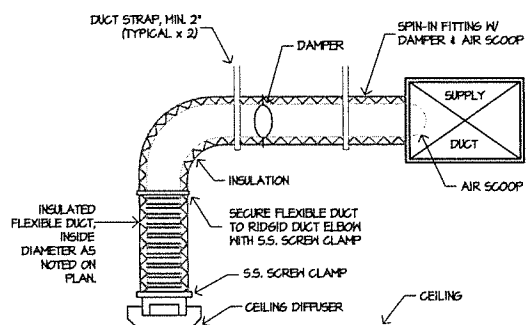
Pursuant to section 102 of the copyright act, 17 U.S.C., all concepts, ideas, designs, arrangements, drawings, and plans are the property of AMR ENGINEERING & DESIGN, PLLC (ME) and are copyrighted by ME, as such all concepts, ideas, designs, arrangements, drawings, and plans indicated by any document are owned by and the property of ME and were created, revised and developed for its own use and are not to be disclosed to any person, architectural or engineering firm, construction firm, or supplier, without the written permission of ME. Reproduction hereof is a criminal offense under section 102 of the copyright act, 17 U.S.C. 106. Any violation of this section may constitute trade secret misappropriation, in violation of s.c.24-2-31-1 et. seq and other laws.

DATE	BY	REVISION
07/24/2019	EE	Issue for EE
	ME	Check by ME
	ME	No. / Date / Revision
	01 / 02/07/19	/ 01 REVISIONS
	02 / 02/06/19	/ 02 ALTERNATE
	04 / 04/26/20	/ 04 CHANGE

M2.1

MECHANICAL LEGEND:

- ⊕ CONNECT TO EXISTING
- ⊙ APPROVED DUCT TYPE SMOKE DETECTOR
- ⊖ THERMOSTAT
- ⊕ PLUMBING FIXTURE DESIGNATOR
- CFM CUBIC FEET PER MINUTE
- NTS NOT TO SCALE
- RTU ROOFTOP UNIT
- ⊕ MECHANICAL EQUIPMENT DESIGNATOR
- ⊙ AIR DISTRIBUTION DEVICE DESIGNATOR
- ⊕ SUPPLY AIR DIFFUSER
- ⊖ RETURN AIR GRILLE
- ⊕ FLEXIBLE DUCT
- ⊕ MANUAL VOLUME DAMPER
- ⊕ DUCT TRANSITION
- ⊕ RECTANGULAR DUCT (WIDTH X DEPTH)
- ⊕ FIRE DAMPER



FLEXIBLE DUCT CONNECTION DETAIL
NOT TO SCALE

HVAC GENERAL NOTES:

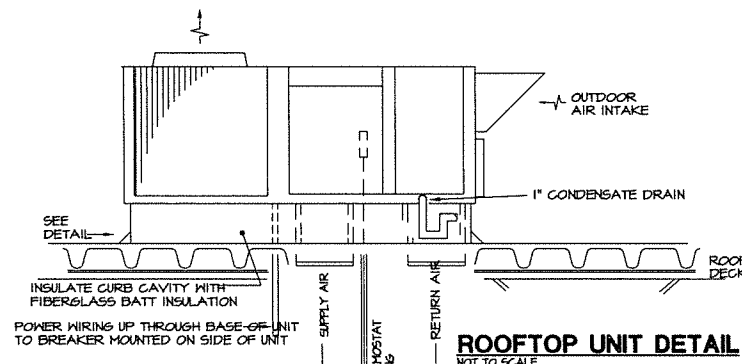
- CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT TO INSTALL A COMPLETE AND OPERATING HEATING AND COOLING SYSTEM.
- CONTRACTOR SHALL PROVIDE ALL REQUIRED HVAC PERMITS.
- THE CONTRACTOR SHALL COMPLY WITH NFPA-90A AND ALL APPLICABLE CODES.
- ALL HVAC WORK TO BE PERFORMED SHALL BE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES.
- FLEXIBLE DUCT SHALL COMPLY WITH SMACNA, ALL LOCAL CODES, U.L. LISTING, AND NOT EXCEED IN LENGTH. SHEET METAL DUCT, WHERE REQUIRED BY LOCAL CODES, SHALL BE LINED WITH 1" MATT FACED DUCTLINER IN THE FIRST 10 (TEN) FEET OF THE RETURN AND SUPPLY DUCT STARTING FROM THE HVAC UNIT. AFTER THE FIRST 10 (TEN) FEET THE USE OF 1" DUCT WRAP SHALL BE ACCEPTABLE. WORK MATERIAL TO BE VERIFIED WITH CEILING ASSEMBLY RATING. FIBERGLASS DUCTBOARD DUCTWORK IS ACCEPTABLE. IF LOCAL CODES AND INSPECTION WILL ALLOW IT.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SWITCHES, DISCONNECTS AND CONTROL WIRINGS.
- ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS, ALLOW FOR DUCT INSULATION.
- THE CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE THAT SHALL WARRANT ALL WORKMANSHIP AND MATERIALS FOR ONE (1) YEAR FROM THE FINAL WORK ACCEPTANCE BY THE OWNER AND A FIVE YEAR WARRANTY ON THE COMPRESSOR.
- FILTERS SHALL BE OF THE DISPOSABLE TYPE AND HAVE INITIAL SHARE WEIGHT ARRESTANCE OF 10% AND A CLEAN PRESSURE DROP OF 0.15 IN. PROVIDE TWO SETS, ONE DURING CONSTRUCTION AND ONE FOR USE AFTER OCCUPANCY.
- CONTRACTOR SHALL INSTALL ALL NECESSARY OFFSETS, BENDS, AND TRANSITIONS REQUIRED TO PROVIDE A COMPLETE SYSTEM AT NO ADDITIONAL COST TO THE OWNER.
- COORDINATE LOCATION OF ALL CEILING DIFFUSERS, GRILLES AND REGISTERS IN THE FIELD WITH THE ELECTRICIAN TO PREVENT CONFLICT WITH LIGHTS AND ARCHITECTURAL ELEMENTS.
- ALL WORK OF THIS TRADE SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID ANY INTERFERENCES THAT MAY DELAY PROGRESS DURING CONSTRUCTION.
- THE G.C. MECHANICAL SUB-CONTRACTOR SHALL TEST AND BALANCE TO THE AIR QUANTITIES ON THE PLAN AND PROVIDE A T & B REPORT.
- CONTRACTOR SHALL INSTALL THERMOSTAT IN ACCORDANCE WITH THERMOSTAT SPEC'S.
- CONTRACTOR SHALL INSTALL MANUAL BALANCING DAMPERS AT ALL SUPPLY AIR BRANCH DUCTWORK RUN OUTS.
- CONTRACTOR SHALL INSTALL TURNING VANES AT ALL DUCTWORK TEES AND 90 DEGREE ELBOWS.
- CONTRACTOR SHALL INSTALL A DUCT-TYPE MOUNTED SMOKE DETECTOR FOR UNIT SHUTDOWN. IN THE RETURN AIR DUCTWORK PLENUM AT ROOFTOP UNITS, THE CONTRACTOR SHALL VERIFY THE COMPATIBLE TYPE OF DETECTION DEVICE TO USE WITH THE BUILDING OPERATIONS MANAGER.
- ALL SHEET METAL DUCTWORK SHALL COMPLY WITH SMACNA STANDARDS. ALL DUCTWORK JOINTS SHALL BE TAPED AND SEALED.
- CONTRACTOR SHALL PROVIDE EQUIPMENT OF THE SCHEDULED CAPACITIES DESIGNED.
- A SEPARATE APPLICATION AND PERMIT WILL BE REQUIRED TO BE OBTAINED FOR THE INSTALLATION OF A FIRE DETECTION SYSTEM IN THE HOOD FIRE MAKEUP AIR MAKEUP SUPERVISORY MONITORING SYSTEM. THIS SHALL BE OBTAINED BY THE FIRE DETECTION CONTRACTOR. (REF: OMC 606)
- MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN ALL INTAKES & EXHAUST AND VENTS.

NOT USED

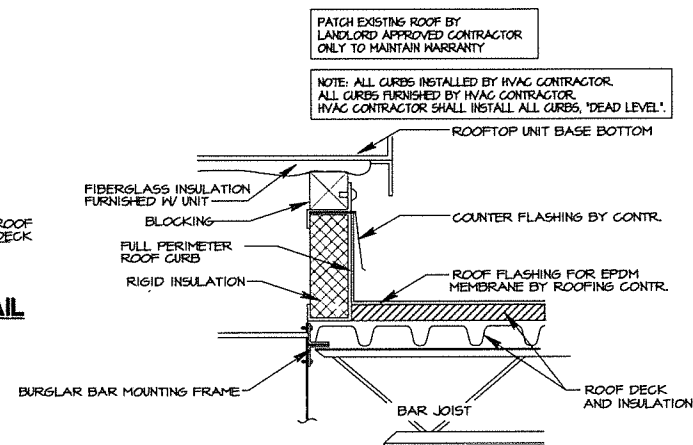
2015 IMC MINIMUM VENTILATION RATES

A	B	C	D	E	F	G	H
UNIT	AREA SERVED	AREA	OCCUPANCY DENSITY	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE CFM/PERSON	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE CFM/SQ FT	REQ'D OUTDOOR AIRFLOW RATE IN BREATHING ZONE - CFM [(C x D x E) + (C x F)]/Ez	ACTUAL OUTDOOR AIRFLOW RATE IN BREATHING ZONE CFM
1	CASHIERS	150	15 PE0/1000 SQ FT	7.5	0.12	(17 + 16) / 0.8 = 44	
	OFFICE	50	5 PE0/1000 SQ FT	5	0.06	(1 + 3) / 0.8 = 5	
	KITCHEN	570		0.7 CFM/SQ. FT.		399 CFM EXHAUST	400 CFM
1						44 + 5 = 49	400 CFM
2	DINING	1085	10 PE0/1000 SQ FT	7.5	0.18	(570 + 195) / 0.8 = 957	
	LOBBY	445	30 PE0/1000 SQ FT	7.5	0.06	(100 + 27) / 0.8 = 158	
2						957 + 158 = 1115	1120 CFM
3	DINING	1915	10 PE0/1000 SQ FT	7.5	0.18	(690 + 237) / 0.8 = 1158	
	CORRIDORS	285			0.06	17/0.8 = 21	
	RESTROOMS			6 FIXTURE x 75 CFM/FIXTURE		450 CFM EXHAUST	
3						1158 + 21 = 1179	1200 CFM
4	KITCHEN	1410		0.7 CFM/SQ. FT.		987 CFM EXHAUST	1000 CFM

Ez=0.8



ROOFTOP UNIT DETAIL
NOT TO SCALE



ROOFTOP CURB DETAIL
NOT TO SCALE

ROOFTOP HVA/C SCHEDULE (gas heat/elec. cool)

MARK	HES/MODEL	TONS	CFM	OUTSIDE AIR CFM	EER	ENTERING AIR CONDITIONS		COOLING CAPACITY (MBH)		HEATING CAPACITY (BTU)		ELECTRICAL VOLT / PH / HZ	REMARKS
						DB	WB	TOTAL	SENSIBLE	OUTPUT	INPUT		
RTU 1	LENNOX LGH20MBBY	10.0	3800	400	12.0	80 F DB / 67 F WB	45 F AMBIENT	120.0	92.0	144,000	180,000	208V / 3ph / 60	1-6
RTU 2	LENNOX LGH30MBBY	12.5	4550	700	11.0	80 F DB / 67 F WB	45 F AMBIENT	142.0	104.0	144,000	180,000	208V / 3ph / 60	1-6
RTU 3	LENNOX LGH30MBBY	12.5	4800	700	11.0	80 F DB / 67 F WB	45 F AMBIENT	142.0	104.0	144,000	180,000	208V / 3ph / 60	1-6
RTU 4	LENNOX LGH20MBBY	10.0	3600	600	12.0	80 F DB / 67 F WB	45 F AMBIENT	120.0	92.0	144,000	180,000	208V / 3ph / 60	1-6

ACCESSORY OPTIONS: 1) ECONOMIZER 2) GRAVITY BACKDRAFT, 3) HAIL GUARDS, 4) POWER EXHAUST, 5) STANDARD LENNOX PACKAGE, 6) SMOKE DETECTOR

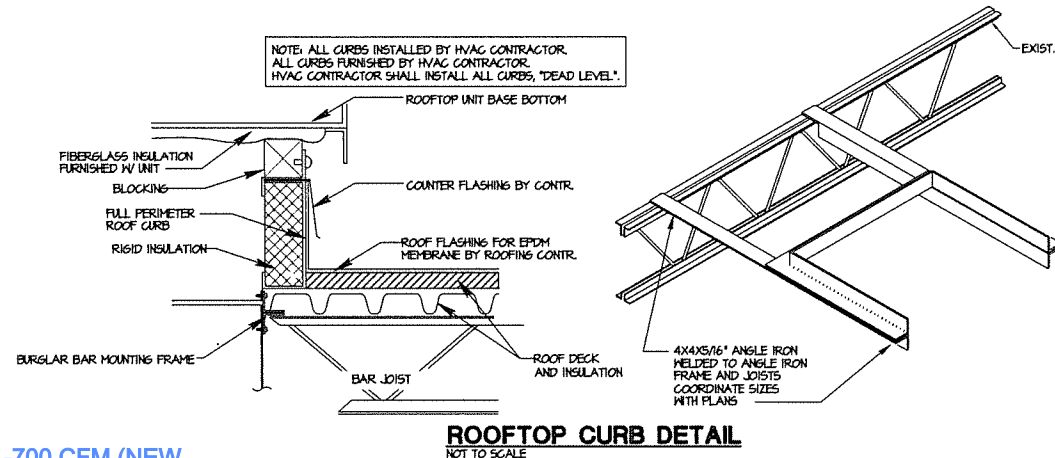
ADDITIONAL FEATURES TO PROVIDE ON UNIT: 1. AUTOMATIC HEATING/COOLING CHANGEOVER 2. LOW AMBIENT COOLING CAPACITY KIT

NEW EXHAUST FAN SCHEDULE

MARK	AREA SERVED	MANUFACTURER	MODEL	CFM	ESP. (M.C.)	MOTOR HP	V/PH	BAROMETRIC DAMPER	REMARKS
EF-1	COOK LINE HOOD	REFER TO HOOD DRAWINGS		2200	1.0	1 HP	208V/3P		INTERLOCK W/MAIA #1
EF-2	COOK LINE HOOD	REFER TO HOOD DRAWINGS		2000	1.0	1 HP	208V/3P		INTERLOCK W/MAIA #1
EF-3	PIZZA HOOD	REFER TO HOOD DRAWINGS		7750	1.0	1 HP	208V/3P		INTERLOCK W/MAIA #1
EF-5	WASHWASHER	REFER TO HOOD DRAWINGS		500	0.4	1/4HP	120V/1P		INTERLOCK W/WAREHOUSE DOOR
EF-6	RESTROOM	LOREN COOK	10015DL	480	0.25	1/2HP	120V/1P	YES	SWITCH WITH LIGHTS

- ① BY OTHER, REFER TO CAPTIVEAIRE DRAWINGS
- ② BY MECHANICAL CONTRACTOR

EF-FRY = -700 CFM (NEW FRYER HOOD)
NEW MAKE UP AIR UNIT = + 1700 CFM FOR BACK LINE 10 FT HOOD SYSTEM.



ROOFTOP CURB DETAIL
NOT TO SCALE

	RTU #1	RTU #2	RTU #3	RTU #4	MAIA #1	TOTAL
SUPPLY	4000	5000	3800	4000	5240	23,240
RETURN	3600	3880	3800	3000	0	14,280
EXHAUST	500	0	480	6450	0	7,430
OUTSIDE	400	1120	1200	1000	5240	8,060

MILLION ARCHITECTURE, PLLC
107 WOODSIDE WAY, NICHOLASVILLE, KY 40366
WWW.MILLIONARCHITECTURE.COM

REGISTERED PROFESSIONAL ENGINEER
NEW YORK STATE
ERIC ENGEL
22337
LICENSED PROFESSIONAL ENGINEER
MECHANICAL
5/11/2010

LaRosa's
FAMILY PIZZERIA

A NEW BUILDING FOR
LAROSA'S PIZZERIA
2216 LANTERN RIDGE DRIVE
RICHMOND, KY 40475
MADISON COUNTY

Pursuant to section 102 of the copyright act, 17 U.S.C., all concepts, ideas, designs, arrangements, drawings, and plans indicated or represented by any document produced by or on behalf of all concepts, ideas, designs, arrangements are owned by and the property of MA and were created, evolved and developed for MA's own use. None of the ideas, designs, or plans shall be used by or for any other person, firm, or organization without the written permission of MA. Reproduction hereof is a criminal offense under section 102 of the copyright act, 17 U.S.C., 18 U.S.C. 2381, and state laws. MA shall not be liable for any reproduction in violation of 17 U.S.C. 102-2-31-1 et. seq. and other laws.

EMR ENGINEERING & DESIGN, PLLC
PO Box 213 (Melling) Phone (606)-364-2886
4236 HWY 3630 Fax (606)-364-5100
Annville, KY 40402 E-Mail: eric@emrengineers.com
Web Address: emrengineers.com

THE ELECTRICAL, MECHANICAL, PLUMBING, STRUCTURAL AND GENERAL CONTRACTORS SHALL COORDINATE THEIR WORK IN REGARDS TO ROUTING OF THEIR TRADES PIPING, CONDUIT, DUCTWORK, ETC. AND MAKE THE ARCHITECT/ENGINEER AWARE OF ANY CONFLICTS PRIOR TO FABRICATING OR INSTALLING ANY WORK.

ALL INSTALLATION SHALL BE ACCOMPLISHED IN A WORKMAN LIKE MANNER AND APPEARANCE.

M3.1