

HVAC GENERAL NOTES

- HVAC SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES.
- ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED IRON SHEET METAL AND BE FABRICATED ACCORDING TO THE S.M.A.C.N.A. LOW VELOCITY DUCT MANUAL AND ASHRAE HANDBOOK EQUIPMENT VOLUME 1988. ALL ELBOWS SHALL HAVE PROPER RADII, OR HVAC CONTRACTOR SHALL PROVIDE DOUBLE THICKNESS AIRFOL TURNING VANES REQUIRED BY S.M.A.C.N.A. NO SQUARE THROAT ELBOWS SHALL BE INSTALLED WITHOUT DOUBLE THICKNESS TURNING VANES.
- THE HVAC CONTRACTOR SHALL INSTALL HVAC SYSTEMS AS SHOWN, NOTED AND SPECIFIED. EQUIPMENT MAY NOT BE SUBSTITUTED UNLESS WRITTEN APPROVAL BY THE ARCHITECT, ENGINEER, OR OWNER'S REPRESENTATIVE IS OBTAINED. ANY CHANGES TO THE DUCTWORK LAYOUT WILL NECESSITATE SUBMISSION OF SHEET METAL SHOP DRAWINGS FOR ENGINEER'S REVIEW. ANY UNAUTHORIZED CHANGES WILL BE REMOVED AT THE CONTRACTOR'S EXPENSE, IF DETEMED NECESSARY BY ARCHITECT, ENGINEER, OR OWNER'S REPRESENTATIVE.
- THE HVAC CONTRACTOR SHALL COORDINATE DUCTWORK INSTALLATION WITH ARCHITECT/OWNER'S REPRESENTATIVE IN FIELD AND OTHER TRADES. SET ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND HEIGHTS.
- ALL DUCT CONNECTIONS TO EQUIPMENT SHALL BE LOADED TYPE VINYL, VIBRATION ELIMINATION CONNECTIONS, (F.C.) FLEXIBLE CONNECTIONS.
- ALL DUCTWORK TRANSITIONS SHALL BE (FO1) "FLAT ON TOP" UNLESS OTHERWISE SPECIFIED ON PLAN.
- ALL DUCTWORK AND PIPING SHALL BE ROUTED ABOVE THE SUSPENDED CEILING SPACE UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF 10'-0" AWAY FROM EXHAUST DISCHARGE OPENINGS AND PLUMBING VENT STACKS.
- ALL BRANCH SUPPLY DUCTS SHALL HAVE (VD) MANUAL VOLUME DAMPERS INSTALLED FOR BALANCING.
- ALL NEW SHEET METAL SUPPLY AND RETURN AIR RECTANGULAR/ SQUARE DUCTWORK SHALL BE INSULATED WITH 1-1/2" THICK DUCT LINER. DUCT LINER SHALL BE FASTENED TO INSIDE OF DUCTWORK AS PER MANUFACTURER'S DIRECTIONS AND S.M.A.C.N.A. "DUCT LINER APPLICATION STANDARD". SIZE OF DUCTS SHALL BE INCREASED FOR DUCT LINER INSULATION. SIZES SHOWN ON PLAN ARE INSIDE FREE AREA. ALL NEW SUPPLY, RETURN AND OUTSIDE AIR ROUND/OVAL DUCTWORK SHALL BE INSULATED WITH 2" THICK FLEXIBLE INSULATION. 1 P.S.F. JOBSITE (FOL. REINFORCED) KNOX FACING. DUCT WRAP SHALL BE FASTENED TO DUCTWORK AS PER MANUFACTURER'S DIRECTIONS. ROUND/OVAL SUPPLY AND RETURN DUCTWORK EXPOSED TO VIEW AND LOCATED IN THE CONDITIONED SPACE SHALL NOT BE INSULATED. ALL INSULATION R-VALUES SHALL CONFORM TO ENERGY CODE, REGARDLESS OF THE DUCT SYSTEMS INDICATED ABOVE. PROVIDE RECTANGULAR LINED DUCTWORK FOR THE FIRST 15 LINEAR FEET DOWNSTREAM OF THE SUPPLY AIR UNIT. DUCTWORK BEYOND 15 LF OF THE SUPPLY AIR UNIT TO BE LINED IF RECTANGULAR OR WRAPPED IF ROUND/OVAL. CONTRACTOR MAY SUBSTITUTE EQUIVALENT SIZED SPIRAL ROUND DUCTWORK IF SPACE IS AVAILABLE AND WITH APPROVAL FROM THE ULTA CONSTRUCTION MANAGER.
- CORE-DRILL OR SAW-CUT EXISTING WALL, ROOF, ETC. AS REQUIRED FOR PIPING OR DUCTWORK AND FIRE-STOP OPENING AROUND PIPE OR DUCTWORK. VERIFY LOCATION OF STRUCTURAL BEAMS, JOISTS, ETC. BEFORE DRILLING.
- WHEREVER FOUNDATION WALLS, OUTSIDE WALLS, ROOFS, ETC. ARE CUT FOR INSTALLATION OF SYSTEMS, THEY SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION AND SEALED WEATHER TIGHT. WORK SHALL BE PERFORMED BY CRAFTSMEN SKILLED IN THEIR RESPECTIVE TRADES.
- THE MECHANICAL SYSTEMS SHALL BE COMPLETE WITH ALL NECESSARY APPURTENANCES FOR A COMPLETE OPERATING SYSTEM.
- HVAC CONTRACTOR SHALL INSTALL ALL CONTROL WIRING AS REQUIRED. THERMOSTATS SHALL BE AS SCHEDULED WITH THE EQUIPMENT. PROVIDE TRANSFORMERS AS REQUIRED.
- PROVIDE UL APPROVED FIRE DAMPERS FOR ALL PENETRATIONS THROUGH FIRE RATED WALLS, PARTITIONS, CEILING, AND FLOORS. INSTALL FIRE DAMPERS AS PER MANUFACTURER'S DIRECTIONS AND AS PER UL GUIDELINES.
- HVAC CONTRACTOR SHALL BALANCE SYSTEM TO AIR QUANTITIES SHOWN ON PLAN. BALANCING CONTRACTOR SHALL USE DUCT MOUNTED MANUAL DAMPERS FOR AIR SYSTEM BALANCING. USE OF TERMINAL DAMPER IS NOT ACCEPTABLE.
- THE VENTILATION/HEATING AND AIR CONDITIONING CONTRACTOR SHALL SUBMIT WRITTEN REPORTS OF ALL AIR FLOW READINGS, STATIC PRESSURES, TEMPERATURE READINGS, MOTOR AMPERAGE, ETC. TO DOCUMENT PROPERLY BALANCED AIR FLOW IN HVAC SYSTEMS IN ALL AREAS.
- ALL ROOF PENETRATIONS EXCEEDING 12" X 12" IN SIZE SHALL BE FURNISHED WITH BURGLAR BARS.
- THE CONTRACTOR SHALL WARRANTIE ALL MATERIAL AND GUARANTEE ALL WORKMANSHIP FOR ONE YEAR FROM SUBSTANTIAL COMPLETION.
- ALL CONTRACTOR FABRICATED AND MANUFACTURER FABRICATED COMPONENTS OF THE OUTSIDE AIR, SUPPLY AIR, RETURN AIR AND EXHAUST SYSTEMS SHALL BE CONSTRUCTED AND INSTALLED AIR-TIGHT. THE INSTALLED SYSTEMS SHALL BE PRESSURE TESTED AS SPECIFIED. PIPE OPENINGS IN SYSTEM COMPONENT SHALL HAVE SHEET METAL BAFFLES, SET IN SEALANT, TO PREVENT LEAKAGE.
- DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS AS REQUIRED. FURNISH AND INSTALL DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS AND MATERIALS NECESSARY TO FACILITATE THE SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED. THE WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES AND SUBJECT TO INSPECTION.
- FLEX DUCT: PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 181) WITH FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/WRAP BARRIER. FLEX DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50, AND SHALL BE RATED FOR 2" W.C. PRESSURE AND 0 TO 250 DEGREE TEMPERATURE. MAXIMUM LENGTH SHALL BE PER CODE AND NOT TO EXCEED 5'-0" LONG.
- ALL MECHANICAL EQUIPMENT ELECTRICAL'S & STRUCTURAL REQUIREMENTS SHALL BE COORDINATED WITH OTHER TRADES PRIOR TO PURCHASE AND INSTALLATION OF THE UNITS. NOTIFY ARCHITECT/ENGINEER WITH DISCREPANCIES IMMEDIATELY.
- GENERAL CONTRACTOR TO REROUTE FIRE SPRINKLER PIPING IF REQUIRED FOR THE NEW SUPPLY AIR AND RETURN AIR DUCTWORK LAYOUT.
- ULTA CEILING SPACE IS NOT PLENUM RATED AND SHALL NOT BE USED AS A RETURN AIR PLENUM.
- PRIOR TO CONSTRUCTION, FIELD VERIFY CEILING SPACE AVAILABILITY TO RUN DUCTWORK AGAINST EXISTING BUILDING STRUCTURAL CONDITION AND CEILING HEIGHT. NOTIFY ARCHITECT/ENGINEER WITH DISCREPANCIES IMMEDIATELY.
- ALL LOW VOLTAGE WIRING OR CABLING SHOULD RUN ADJACENT TO THE PERIMETER SOFFITS NOT MORE THAN 3" OFF THEIR DEMISING WALLS.
- MOUNT REMOTE SENSORS AT 60" ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL VERIFY AVAILABLE DEPTH FOR DUCTWORK PRIOR TO DUCTWORK FABRICATION.
- MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID. NO ADDITIONAL COMPENSATION WILL BE MADE FOR ANY EXTRAS DUE TO CONTRACTOR'S FAILURE TO VISIT THE JOBSITE AND/OR PREDETERMINE ALL EXISTING CONDITIONS BEFORE SUBMITTING HIS BID. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER FOR RESOLUTION.
- MECHANICAL CONTRACTOR SHALL TAG EACH INDIVIDUAL REMOTE SENSOR WITH THE ROOFTOP UNIT THEY ARE SERVING.
- PROVIDED MEANS FURNISH AND INSTALL.
- PAINT PORTION OF DUCTWORK VISABLE THRU GRILLE, DIFFUSER, LOUVER, ETC. WITH FLAT BLACK PAINT.
- REMOTE SENSORS, KEY PADS, ETC. ARE NOT TO BE MOUNTED ON MILLWORK. COORDINATE LOCATION WITH ARCHITECTURAL DRAWINGS.

LEGEND

AF1	ABOVE FINISHED FLOOR	DET.	DETAIL
CD	CONDENSATE	DN.	DOWN
DG	DOOR GRILLE, SEE ARCH. DWG'S.	DWG.	DRAWING
EF	EXHAUST AIR FAN	E.A.T.	ENTERING AIR TEMPERATURE
ER	EXISTING TO REMAIN	E.E.R.	ENERGY EFFICIENCY RATIO
ETC	FLEXIBLE CONNECTION	E.S.P.	EXTERNAL STATIC PRESSURE
EQ3	FLAT ON BOTTOM	E.T.R.	EXISTING TO REMAIN
ETD	FLAT ON TOP	GA.	GAUGE
MOD	MOTOR OPERATED CONTROL DAMPER	L.A.T.	LEAVING AIR TEMPERATURE
NC	NEW CONNECTION TO EXISTING	M'D	MOUNTED
NIS	NOT TO SCALE	NIC	NOT IN CONTRACT
RTU	ROOF TOP HVAC UNIT	REQD	REQUIRED
S	SENSOR	T.S.P.	TOTAL STATIC PRESSURE
T	THERMOSTAT	TV	TURNING VANE
ARCH	ARCHITECT OR ARCHITECTURAL	UCD	UNDERCUT DOOR
BLDG	BUILDING	VD	VOLUME DAMPER
B.H.P.	BRAKE HORSEPOWER	W.C.	WATER COLUMN
COL	COLUMN	W/	WITH
CONST	CONSTRUCTION	#	DIAMETER/ROUND

PLAN NOTES

- CONNECT 28x16 SUPPLY DUCT TO DUCT DROP FROM ROOFTOP UNIT RTU-1. PROVIDE TURNING VANE ELBOWS AT BOTTOM OF RISER.
- CONNECT 24x14 RETURN DUCT TO DUCT DROP FROM ROOFTOP UNIT RTU-1. PROVIDE TURNING VANE ELBOWS AT BOTTOM OF RISER.
- CONNECT 30x16 SUPPLY DUCT TO DUCT DROP FROM ROOFTOP UNIT RTU-2. PROVIDE TURNING VANE ELBOWS AT BOTTOM OF RISER.
- CONNECT 24x16 RETURN DUCT TO DUCT DROP FROM ROOFTOP UNIT RTU-2. PROVIDE TURNING VANE ELBOWS AT BOTTOM OF RISER.
- SMOKE DETECTOR PER CODE. PROVIDE EXTRA SMOKE DETECTOR HEAD FOR REPLACEMENT INSTALLATION AT SUBSTANTIAL COMPLETION FOR ALL DETECTORS.
- 18" CONNECTION W/ V.D. IN NECK. PROVIDE DUCTWORK, TURNING VANES AND AIR DEVICE.
- TEMPERATURE SENSOR LOCATION FOR RTU TAG NUMBER INDICATED ON THE DRAWINGS. SENSOR FURNISHED WITH RTU AND SHALL BE CALLED BY THE CONTRACTOR. EACH REMOTE SENSOR TO BE CALLED WITH ZONE SERVED. DO NOT LOCATE COLUMN MOUNTED SENSORS FACING FRONT OF THE STORE. LOCATE THE SENSORS ON THE SIDE BACK OF THE COLUMN WHEN VIEWED FROM THE FRONT OF THE STORE. SENSORS SHALL BE ATTACHED TO THE STORE FIXTURES. CONTACT ARCHITECT IF THERE ARE STORE FIXTURES TO BE ATTACHED TO ARCH. COORDINATE SENSOR LOCATIONS WITH ARCHITECT, ENGINEER, ETC.

MECHANICAL SYMBOLS

	MANUAL VOLUME DAMPER (VD) WITH LOCKING HAND QUADRANT HANDLE AND AIR-TIGHT END BEARINGS
	SENSOR WITH DEVICE CONTROLLED MOUNTED ON WALL
	DUCT MOUNTED SMOKE DETECTOR
	TYPICAL SUPPLY DIFFUSER.
	TYPICAL RETURN OR EXHAUST GRILLE.
	AIRFOIL TURNING VANES TYPICAL FOR ALL SQUARE TURNS.

TEMPERATURE ZONES

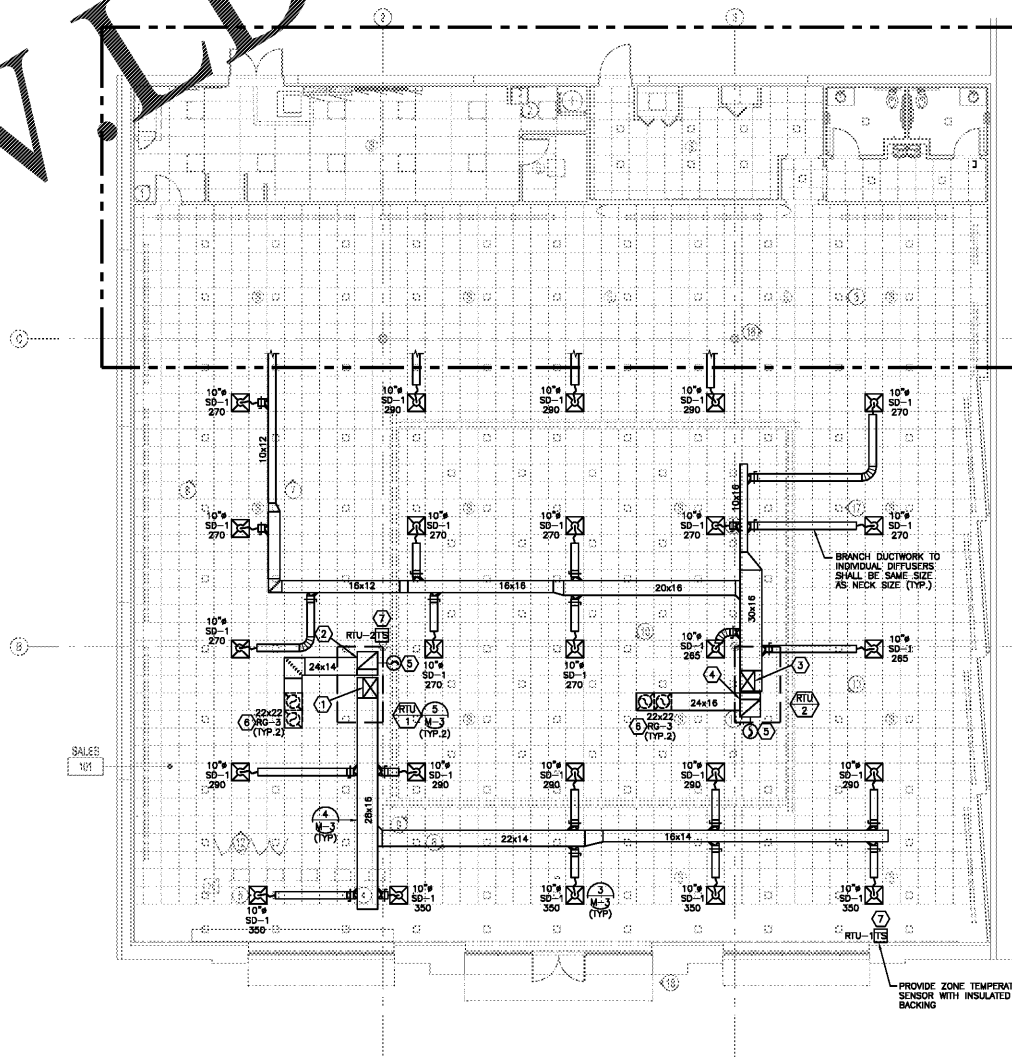
UNIT	ROOM
RTU-1	101
RTU-2	101
RTU-3	101, 104, 107, 108, 109, 110, 111
RTU-4	102, 103

NOTE: MECHANICAL CONTRACTOR SHALL STENCIL THE ROOFTOP UNITS. STENCIL SHALL INDICATE STORE NAME, SPACE NUMBER AND EQUIPMENT DESIGNATION IN LETTERS A MINIMUM OF 2 INCHES IN HEIGHT.

EXISTING CONDITIONS NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD SURVEY AND DOCUMENTING OF EXISTING SYSTEMS. THESE CONTRACT DRAWINGS SHALL SERVE AS GUIDANCE FOR THE CONTRACTOR ALONG WITH FIELD SURVEY INFORMATION TO INSTALL THE DISTRIBUTION SYSTEMS REQUIRED FOR THE NEW EQUIPMENT AND DEVICES.
- REFER TO THE ARCHITECTURAL DRAWINGS FOR WALLS, CEILING, ETC. THAT ARE BEING REMOVED. ALL EXISTING SYSTEMS INCLUDING PIPING, WIRING, ANCHORING, ETC. THAT ARE EXPOSED SHOULD BE REMOVED OR RELOCATED, COORDINATE WITH LANDLORD.

THE CONTRACTORS ARE REQUIRED TO VISIT THE SITE AND FULLY ACCQUANT THEMSELVES WITH THE EXISTING CONDITIONS AND THE DIFFICULTIES INVOLVED IN ACCOMPLISHING THE NEW WORK. PROBLEMS, DISCREPANCIES OR INFORMATION NEEDED SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING PRIOR TO SUBMITTING A PROPOSAL. THE SUBMISSION OF PROPOSAL WILL INDICATE THAT THE CONTRACTOR HAS FULLY UNDERSTOOD AND HAS INCLUDED ALL COSTS FOR THIS PROJECT.



1 MECHANICAL PLAN
SCALE: 1/8"=1'-0"

RGLA
r gla solutions, inc.
5100 River Road, Ste 125
Schiller Park, IL 60176
F: 847.871.7422
www.rgla.com

REVISION	DATE
LL & ULTA REVIEW	06/03/19
BD ISSUE	06/03/19
PERM ISSUE	06/03/19

robert g. lyon + associates, inc.
1411 W. WASHINGTON ST. #111
5100 River Road, Ste 125
Schiller Park, IL 60176
F: 847.871.7422
www.rgla.com

THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY APPROVALS FROM THE LOCAL AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY APPROVALS FROM THE LOCAL AUTHORITIES.

ULTA BEAUTY
ULTA #613
SHOPES OF MADISON
8201 HIGHWAY 72 WEST
SUITE C
MADISON, AL 35758

MECHANICAL REFLECTED CEILING PLAN, NOTES, AND SYMBOLS

DESIGNED BY	SAK
CHECKED BY	RCB
JOB NUMBER	19047
SHEET NAME	M-1

HENDERSON ENGINEERS
8345 LENOVA DRIVE, SUITE 300
SHELBYVILLE, KY 40381
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

Order Plans @