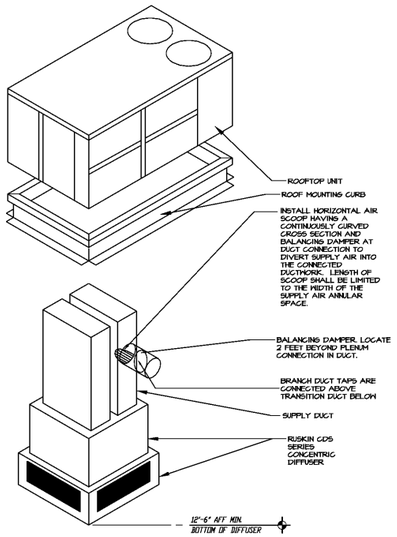
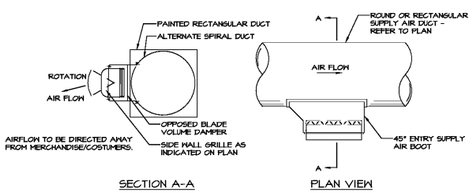
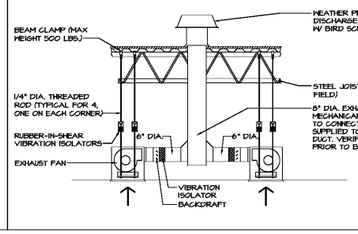


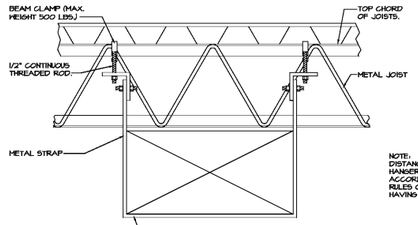
12 CONCENTRIC DIFFUSER DETAIL



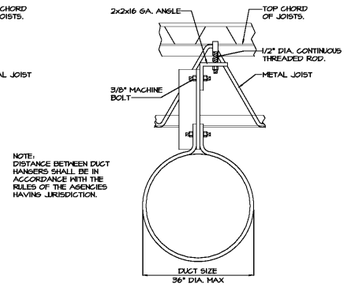
8 DUCT MOUNTED SUPPLY AIR GRILLE DETAIL



6 TOILET EXHAUST DETAIL



DUCTWORK SUPPORT DETAIL
NOT TO SCALE



ROUND DUCT SUPPORT DETAIL
NOT TO SCALE

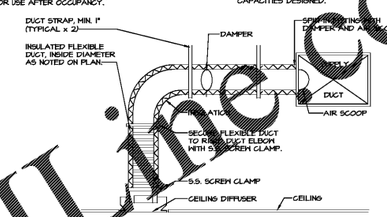
DIAMETER INCHES	SPIRAL SEAM DUCT STEEL MIN. GALV. SHT. GAUGE	ROUND DUCTS LONGITUDINAL SEAM DUCT STEEL MIN. GALV. SHT. GAUGE	FITTINGS STEEL MIN. GALV. SHT. GAUGE
THROUGH 12	28 (0.014 IN)	26 (0.018 IN)	26 (0.022 IN)
13 THROUGH 15	26 (0.022 IN)	24 (0.028 IN)	24 (0.028 IN)
16 THROUGH 28	24 (0.028 IN)	22 (0.034 IN)	22 (0.034 IN)
29 THROUGH 36	22 (0.034 IN)	20 (0.040 IN)	20 (0.040 IN)
37 THROUGH 52	20 (0.040 IN)	18 (0.052 IN)	18 (0.052 IN)

7 DUCT SUPPORT DETAIL

MAX. SIDE INCHES	RECTANGULAR DUCTS MIN. GALV. SHT. GAUGE	ALUMINUM MIN. B & S GAUGE
THROUGH 12	26 (0.022 IN)	24 (0.020 IN)
13 THROUGH 30	24 (0.028 IN)	22 (0.025 IN)
31 THROUGH 54	22 (0.034 IN)	20 (0.032 IN)
55 THROUGH 84	20 (0.040 IN)	18 (0.040 IN)
OVER 84	18 (0.052 IN)	16 (0.051 IN)

HVAC GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT TO INSTALL A COMPLETE AND OPERATING HEATING AND COOLING SYSTEM.
2. CONTRACTOR SHALL PROVIDE ALL REQUIRED HVAC PERMITS.
3. THE CONTRACTOR SHALL COMPLY WITH NFPA-90A AND ALL APPLICABLE CODES.
4. ALL HVAC WORK TO BE PERFORMED SHALL BE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES.
5. FLEXIBLE DUCT SHALL COMPLY WITH SMACNA, ALL LOCAL CODES, U.L. RATING, AND NOT EXCEED FIVE FEET 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.
6. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SWITCHES, DISCONNECTS AND CONTROL WIRING.
7. ALL DUCTS SIZES ARE CLEAR INSIDE DIMENSIONS, ALLOW FOR DUCT INSULATION.
8. 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.
9. FILTERS SHALL BE OF THE DISPOSABLE TYPE AND HAVE INITIAL SHARE HEIGHT ARRESTANCE OF 10% AND A CLEAN PRESSURE DROP OF 0.25 IN.G., PROVIDE TWO SETS, ONE DURING CONSTRUCTION AND ONE FOR USE AFTER OCCUPANCY.
10. CONTRACTORS SHALL INSTALL AL NECESSARY OFFSETS, BENDS, AND TRANSITIONS REQUIRED TO PROVIDE A COMPLETE SYSTEM AT NO ADDITIONAL COST TO THE OWNER.
11. COORDINATE LOCATION OF ALL CEILING DIFFUSERS, GRILLES AND REGISTERS IN THE FIELD WITH THE ELECTRICIAN TO PREVENT CONFLICT WITH LIGHTS AND ARCHITECTURAL ELEMENTS.
12. ALL WORK OF THIS TRADE SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID ANY INTERFERENCES THAT MAY DELAY PROGRESS DURING CONSTRUCTION.
13. THE G.C. MECHANICAL SUB-CONTRACTOR SHALL TEST AND BALANCE TO THE AIR QUANTITIES ON THE PLAN AND PROVIDE A T4B REPORT.
14. CONTRACTOR SHALL INSTALL THERMOSTAT IN ACCORDANCE WITH THERMOSTAT SPEC'S.
15. CONTRACTOR SHALL INSTALL MANUAL BALANCING DAMPERS AT ALL SUPPLY AIR BRANCH DUCTWORK RUN OUTS.
16. CONTRACTOR SHALL INSTALL TURNING VANES AT ALL DUCTWORK TEES AND 90 DEGREE ELBOWS.
17. 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.
18. ALL SHEET METAL DUCTWORK SHALL CONFORM WITH SMACNA STANDARDS. ALL DUCTWORK JOINTS SHALL BE TAPED AND SEALED.
19. CONTRACTOR SHALL PROVIDE EQUIPMENT TO MEET THE SCHEDULED CAPACITIES DESIGNED.



FLEXIBLE DUCT CONNECTION DETAIL
NOT TO SCALE

2 DUCT CONNECTION DETAIL AND NOTES

ZONE LOADS	DESIGN COOLING COOLING DATA AT Jul 1500 COOLING OA DB / WB 96.0 °F / 78.0 °F Details	Sensible (BTU/hr)	Latent (BTU/hr)	DESIGN HEATING HEATING DATA AT DES HTG HEATING OA DB / WB 24.0 °F / 20.1 °F Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	341 ft²	10290	-	341 ft²	-	-
Wall Transmission	2308 ft²	8071	-	2308 ft²	23318	-
Roof Transmission	8464 ft²	14800	-	8464 ft²	17550	-
Window Transmission	341 ft²	2868	-	341 ft²	7852	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	76 ft²	244	-	76 ft²	851	-
Floor Transmission	8271 ft²	0	-	8271 ft²	7033	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	10764 W	33903	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	6360 W	20376	-	0	0	-
People	127	25749	25980	0	0	0
Infiltration	-	3400	3447	-	14897	0
Miscellaneous	-	9235	0	-	0	0
Safety Factor	10% / 10%	12684	2943	10%	7110	0
>> Total Zone Loads	-	141838	32370	-	78212	0
Zone Conditioning	-	161090	32370	-	80827	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Return Fan Load	10800 CFM	0	-	10800 CFM	0	-
Ventilation Load	2260 CFM	47489	51938	2260 CFM	112149	0
Supply Fan Load	10800 CFM	12099	-	10800 CFM	-12099	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	220588	84367	-	180867	0
Central Cooling Coil	-	220588	84324	-	0	0
Central Heating Coil	-	0	-	-	180967	-
>> Total Conditioning	-	220588	84324	-	180867	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Design Parameters:

City Name	D'Iberville
Location	Mississippi
Latitude	30.4 Deg
Longitude	88.9 Deg
Elevation	13.0 ft
Summer Design Dry-Bulb	96.0 °F
Summer Coincident Wet-Bulb	78.0 °F
Summer Daily Range	21.0 °F
Winter Design Dry-Bulb	24.0 °F
Winter Design Wet-Bulb	20.1 °F
Atmospheric Clearness Number	0.99
Average Ground Reflectance	0.20
Soil Conductivity	0.800 BTU/(hr ft °F)
Local Time Zone (GMT +/- N hours)	6.0 hours
Consider Daylight Savings Time	No
Simulation Weather Data	N/A
Current Data is	User Modified
Design Cooling Months	January to December

OUTSIDE AIR SCHEDULE

DESCRIPTION	AREA (SQ. FT.)	AREA OUTDOOR AIR RATE PER FMC TABLE 403.3 (Ra)	AREA OUTDOOR AIR (RaAz)	OCCUPANT LOAD RATE PER FMC TABLE 403.3 (PEOPLE/1000 SQ.FT.)	OCCUPANCY Cx (CFM/0 (Pz)	OCCUPANT OUTDOOR AIR RATE PER FMC TABLE 403.3 (Rp)	OCCUPANT OUTDOOR AIR (RpPz)	BREATHING ZONE OUTDOOR AIR (Vbz = RpPz + RaAz)	ZONE AIR DISTRIBUTION EFFECTIVENESS (Ez)	ZONE OUTDOOR AIR (Voz = Vbz/Ez)	ZONE OUTDOOR AIR REQUIRED	SUPPLY AIR DESIGN (Vps)	OUTDOOR AIR FRACTION (Fp = Voz/Vps)
SALES	7304	0.12	876.5	10	330.0	7.5	825.0	1701.5	0.8	2126.9	2127.0	9350	0.23
STOCK	688	0.12	79.0		0.0		0.0	79.0	0.8	98.7	99.0	1100	0.09
OFFICE	65	0.06	3.9	5	1.0	5	5.0	8.9	0.8	11.1	12.0	100	0.11
HALL	136	0.06	8.2		0.0		0.0	8.2	0.8	10.2	11.0	150	0.07
TOTALS	8193									2246.9	2249.0		

TOTAL REQUIRED OUTDOOR AIR	2247	TOTAL OUTDOOR AIR PROVIDED BY HVAC UNITS 2260

CALCULATIONS BASED ON 2018 IMC
NOTE: TOILET ROOM SQUARE FOOTAGE IS NOT INCLUDED IN THE OUTSIDE AIR AND TOTAL CFM AMOUNTS FOR THIS SCHEDULE

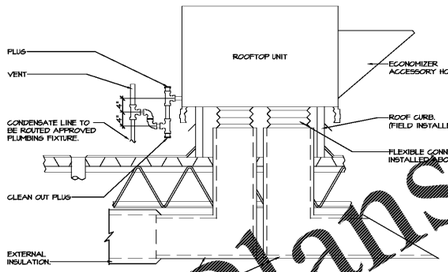
LANDLORD'S MECHANICAL CONTRACTOR SHALL REMOVE AND DISPOSE OF THE FOLLOWING:

1. THIS CONTRACTOR SHALL REMOVE EXISTING DUCTWORK, DIFFUSERS, REGISTERS AND ALL WORK PERTAINING TO THE EXISTING HVAC SYSTEM.

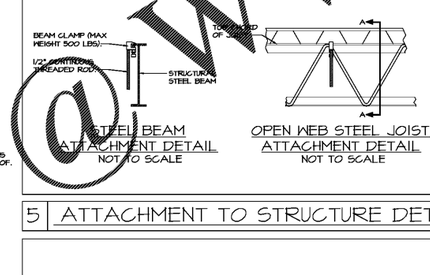
LANDLORD'S MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING:

1. THIS CONTRACTOR SHALL FURNISH AND INSTALL THREE (3) NEW ROOFTOP UNITS, CURBS, TWO (2) NEW TOILET EXHAUST FANS, ONE (1) NEW ELECTRICAL UNIT HEATER, DUCTWORK, DIFFUSERS, REGISTERS, HANGERS, PROGRAMMABLE THERMOSTATS, SMOKE DETECTOR TEST STATION AND ALL ITEMS REQUIRED TO PRODUCE A COMPLETE AND OPERABLE HVAC SYSTEM.
2. DUCTWORK: THE MECHANICAL CONTRACTOR IS TO FURNISH AND INSTALL, IN COMPLIANCE WITH THE MOST RECENT SMACNA STANDARDS FOR LOW AND MEDIUM PRESSURE, NEW DUCTWORK, INSULATION, FLEX DUCT, GRILLES, REGISTERS, DIFFUSERS, VOLUME DAMPERS, FIRE DAMPERS, SMOKE DETECTORS, SECONDARY CONDENSATE DRAIN, ETC. NECESSARY TO RENDER THE SYSTEM OPERATIONAL AS DESCRIBED IN THESE PLANS AND SPECIFICATIONS AND AS REQUIRED BY THE LANDLORD, LOCAL AND STATE CODES.
3. CONTROL WIRING AND CONTROLS: THE MECHANICAL CONTRACTOR IS TO FURNISH AND INSTALL ALL NECESSARY WIRING (IN CONDUIT IF REQUIRED) AND CONTROLS REQUIRED TO PROVIDE A COMPLETE AND OPERATING SYSTEM. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL PROGRAMMABLE THERMOSTATS WHERE SHOWN ON THE DRAWINGS.
4. ALL DUCTWORK SHALL BE RUNS AS HIGH AS POSSIBLE TO MAINTAIN ARCHITECTURAL CEILING HEIGHT REQUIREMENTS.
5. ALL UNEXPOSED DUCTWORK SHALL BE INSULATED WITH 2" THICK FIBERGLASS FIRE RETARDANT VAPOR SEAL INSULATION. DUCTWORK WITHIN 10' OF THE UNIT SHALL BE INTERNALLY LINED WITH 1 1/2" ACOUSTICAL INSULATION. DUCT DIMENSIONS ARE NET FREE AREA ONLY. DUCT SIZE MUST ACCOMMODATE INSULATION THICKNESS.
6. FIRE DAMPERS MUST BE INSTALLED AT ALL LOCATIONS WHERE DUCTWORK PENETRATES A FIRE RATED WALL. PROVIDE ACCESS DOORS AS REQUIRED. FIRE DAMPERS TO BE OF THE TYPE APPROVED BY THE AGENCIES HAVING JURISDICTION.
7. WHEN NEW DUCTWORK CONFLICTS WITH EXISTING DUCTWORK, PIPING, ETC., NEW DUCTWORK SHALL BE SET UP OR DOWN AS REQUIRED.
8. PROVIDE SPLITTER OR VOLUME DAMPERS ON ALL NEW SUPPLY AIR DUCT SPLITS AND TAPS AND AIR EXTRACTORS ON ALL SUPPLY AIR REGISTERS.
9. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL CEILING DIFFUSERS AND REGISTERS.
10. WHEN THE SMOKE DETECTOR, IN RETURN DUCTWORK, ACTIVATES IT SHALL SHUT DOWN THE ROOFTOP UNIT.
11. THE MECHANICAL CONTRACTOR IS TO FURNISH AND INSTALL A CONDENSATE DRAIN SYSTEM PER THE MANUFACTURER'S RECOMMENDATIONS AND THE LANDLORD'S REQUIREMENTS. INSTALL CONDENSATE DRAIN LINE SHALL BE INSULATED WITH 1/2" THICK ARMAFLEX.
12. THIS CONTRACTOR IS TO HIRE LANDLORD'S QUALIFIED CONTRACTOR FOR ALL ROOF PENETRATIONS.
13. THE MECHANICAL CONTRACTOR, AS PART OF THIS WORK, IS TO CONFIRM THE TENANT NAME AND SPACE NUMBER ON ALL ROOFTOP EQUIPMENT WITH 4" HIGH BLOCK LETTERS (2" HIGH BLOCK LETTERS ON ALL SMALL EQUIPMENT WHERE 4" WILL NOT FIT) IN A COLOR APPROVED BY THE BUILDING MANAGER / CONSTRUCTION INDIVIDUAL.
14. IF STRUCTURAL DRAWINGS FOR HVAC EQUIPMENT SUPPORTS ARE NOT ALREADY INCORPORATED INTO THIS SET OF PLANS AND SPECIFICATIONS, THE MECHANICAL CONTRACTOR, AT THEIR OWN COST AND EXPENSE, AND AS PART OF THE BID TO THE G.C., IS TO HIRE A STRUCTURAL ENGINEER TO DESIGN THE SUPPORTS FOR THE NEW HVAC UNIT AND A STRUCTURAL SUBCONTRACTOR TO FURNISH AND INSTALL SUCH HANGERS / SUPPORTS, COLUMNS, BEAMS, BRACING, ETC. TO HANG FROM THE STRUCTURAL AND / OR SUPPORT AT THE ROOF TOP FOR ALL NEW HVAC EQUIPMENT. G.C. TO SUBMIT AS REQUIRED ALL STRUCTURAL SHOP DRAWINGS TO THE LANDLORD'S ARCHITECT, AS REQUIRED, FOR APPROVAL, PRIOR TO STARTING WORK.

11 WORK RESPONSIBILITY

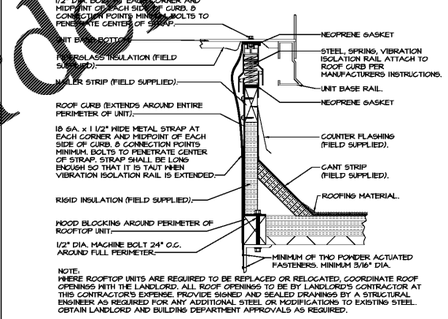


9 TYPICAL FLASHING DETAIL



3 ROOF PIPING SUPPORT DETAIL

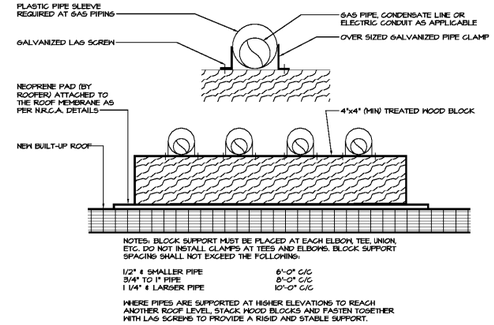
5 ATTACHMENT TO STRUCTURE DETAIL



TYPICAL FLASHING DETAIL FOR ROOF CURBS WITH 140 MPH WIND LOADS

10 ROOFTOP UNIT DETAIL

4 NOT USED



1 LOAD CALCULATION

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3950 CHAO ROAD SUITE 300
PH: (314) 416-8400
ST. LOUIS, MO 63146
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ENGINEER

ARCHITECTURAL SEAL

DATE ISSUE

DATE	REVISION	NAME
00/00/19	PERMIT / OWNER	

PROJECT NAME / LOCATION

five BELOW
THE PROMENADE
3942 PROMENADE PARKWAY
D'IBERVILLE, MS 39540

PROJECT INFORMATION

DATE: APRIL 26, 2019
PROJECT NO. 190219
DELIVERY TYPE: V-BOX

DRAWN: ELB
CHECKED: SLP

SHEET TITLE / NUMBER
MECHANICAL DETAILS AND SCHEDULES

M2.0