DESIGN WEATHER PARAMETERS

Design Parameters:

City Name	Savannah	
Location	Georgia	
Latitude	32.1	Deg.
Longitude	81.2	Deg.
Elevation	49.0	ft
Summer Design Dry-Bulb	95.0	°F
Summer Coincident Wet-Bulb	77.0	°F
Summer Daily Range	17.5	°F
Winter Design Dry-Bulb	26.0	°F
Winter Design Wet-Bulb	21.8	°F
Atmospheric Clearness Number	0.95	
Average Ground Reflectance	0.20	
Soil Conductivity	0.800	BTU/(hr-ft-°F)
Local Time Zone (GMT +/- N hours)	5.0	hours
Consider Daylight Savings Time	No	
Simulation Weather Data	Bridgeport (TM2)	
Current Data is	2001 ASHRAE Handbook	
Design Cooling Months	January to December	

HVAC LOAD CALCULATIONS

Air System Information

Air System Name	Express-Savannah RTU	Number of zones	1
Equipment Class	PKG ROOF	Floor Area	7505.0 ft²
Air System Type	SZCAV	Location	Savannah, Georgia

Sizing Calculation Information

Calculation Months	Jan to Dec	Zone CFM Sizing	Sum of space airflow rates
Sizing Data	Calculated	Space CFM Sizing	Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load	22.6	Tons	Load occurs at	Jun 1500	
Total coil load	271.7	MBH	OA DB / WB	94.0 / 77.0	°F
Sensible coil load	196.4	MBH	Entering DB / WB	80.1 / 67.4	°F
Coil CFM at Jun 1500	8089	CFM	Leaving DB / WB	57.6 / 56.5	°F
Max block CFM	8089	CFM	Coil ADP	55.1	°F
Sum of peak zone CFM	8089	CFM	Bypass Factor	0.100	
Sensible heat ratio	0.723		Resulting RH	57	%
ft²/Ton	331.5		Design supply temp.	56.3	°F
BTU/(hr-ft²)	36.2		Zone T-stat Check	1 of 1	OK
Water flow @ 10.0 °F rise	N/A		Max zone temperature deviation	0.0	°F

Central Heating Coil Sizing Data

Max coil load	164.3	MBH	Load occurs at	Des Htg	
Coil CFM at Des Htg	8089	CFM	BTU/(hr-ft²)	21.9	
Max coil CFM	8089	CFM	Ent. DB / Lvg DB	59.5 / 78.3	°F
Water flow @ 20.0 °F drop	N/A				

Supply Fan Sizing Data

Actual max CFM	8089	CFM	Fan motor BHP	1.41	BHP
Standard CFM	8074	CFM	Fan motor kW	1.12	kW
Actual max CFM/ft²	1.08	CFM/ft²	Fan static	1.00	in wg

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jun 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 94.0 °F / 77.0 °F			HEATING OA DB / WB 26.0 °F / 21.8 °F		
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	1216 ft²	24165	-	1216 ft²	-	-
Wall Transmission	1148 ft²	5721	-	1148 ft²	11384	-
Roof Transmission	7505 ft²	7785	-	7505 ft²	14886	-
Window Transmission	1216 ft²	17664	-	1216 ft²	41198	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	96 ft²	5842	-	96 ft²	2450	-
Floor Transmission	7505 ft²	35	-	7505 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	5146 W	10284	-	0	0	-
Task Lighting	3926 W	10806	-	0	0	-
Electric Equipment	4800 W	14826	-	0	0	-
People	110	19751	22492	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	11668	2249	25%	17479	0
>> Total Zone Loads	-	128564	24741	-	87397	0
Zone Conditioning	-	135144	24741	-	85874	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	70%	18164	-	0	0	-
Plenum Lighting Load	30%	5267	-	0	0	-
Return Fan Load	8089 CFM	0	-	8089 CFM	0	-
Ventilation Load	1778 CFM	34046	50511	1778 CFM	82188	0
Supply Fan Load	8089 CFM	3809	-	8089 CFM	-3809	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	196431	75253	-	164253	0
Central Cooling Coil	-	196430	75255	-	0	0
Central Heating Coil	-	0	-	-	164253	-
>> Total Conditioning	-	196430	75255	-	164253	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

OUTSIDE AIR CALCULATIONS

1. Summary

Ventilation Sizing Method	ASHRAE Std 62.1-2010	
Design Condition	Cooling operation	
Occupant Diversity	1.000	
Uncorrected Ventilation Airflow Rate	1727	CFM
System Ventilation Efficiency	0.972	
Design Ventilation Airflow Rate	1778	CFM

2. Space Ventilation Analysis Table

Zone Name / Space Name	Supply Air (CFM)	Floor Area (ft²)	Required Outdoor Air (CFM/ft²)	Time Averaged Occupancy	Required Outdoor Air (CFM/person)	Air Distribution Effectiveness	Required Outdoor Air (CFM)	Uncorrected Outdoor Air (CFM)	Space Ventilation Efficiency
Zone 1									
FITTING	331	327.0	0.12	5.5	7.50	1.00	80	89	0.972
NON-SALES	1055	817.0	0.12	4.1	10.00	1.00	139	139	1.082
OFFICE	82	91.0	0.06	0.5	5.00	1.00	8	8	1.119
SALES	6253	5861.0	0.12	97.7	7.50	1.00	1436	1436	0.984
RESTROOM	104	116.0	0.12	0.6	7.50	1.00	18	18	1.039
Transition	154	171.0	0.12	0.9	7.50	1.00	27	27	1.039
Corridor	110	122.0	0.12	0.6	7.50	1.00	19	19	1.039
Totals	8089						1727		0.972

HVAC LOAD CALCULATIONS — P

HVAC EQUIPMENT COMMISSIONING

DETAILED HVAC COMMISSIONING INFORMATION IS INCLUDED IN THE ESD&C SITE MANUAL PROVIDED TO THE CONTRACTOR AT THE START OF THE PROJECT.

CONTRACTOR MUST CONTACT HVAC EQUIPMENT MANUFACTURER/VENDOR DURING THE FIRST WEEK AFTER AWARD OF CONTRACT TO SET PRELIMINARY DATES FOR HVAC EQUIPMENT AND CONTROLS INSPECTION AND COMMISSIONING.

LIST TO BE COMPLETED BY THE MECHANICAL CONTRACTOR PRIOR TO HVAC INSPECTION / COMMISSIONING:

1. CONNECT AND BLEED CONDENSATE, DUCTWORK, NATURAL GAS, CHILLED WATER PIPING AND/OR CONDENSER WATER PIPING.
2. CHARGE HVAC SYSTEMS WITH REFRIGERANT FOLLOWING MANUFACTURER'S GUIDELINES AND INSTRUCTIONS. COLD WEATHER CONDITIONS REQUIRE SPECIFIC PROCESSES, CONTACT MANUFACTURER FOR TECHNICAL SUPPORT.
3. CONNECT POWER TO THE HVAC EQUIPMENT FOR A MINIMUM OF 24 HOURS. NOTE: IN COLD WEATHER SITUATIONS, DO NOT OPERATE THE UNITS PRIOR TO COMMISSIONING!

HVAC EQUIPMENT SHOULD BE STARTED UP EARLY IN THE PROJECT. COORDINATE EARLY START UP OF EQUIPMENT WITH MANUFACTURER.

NOTE: THE GC MAY BE BACK CHARGED FOR ADDITIONAL HVAC VENDOR SITE VISITS BEYOND THE FIRST THREE (3) NECESSARY TO DOCUMENT THE RESOLUTION OF THE HVAC PUNCHLIST ITEMS.

HVAC COMMISSIONING PROCESS

VISIT 1: HVAC INSPECTION AND EQUIPMENT START UP

1. MECHANICAL CONTRACTOR AND ELECTRICAL CONTRACTOR MUST BE ON SITE DURING THIS HVAC INSPECTION AND START-UP VISIT. EACH CONTRACTOR SHALL INCLUDE 5 HOURS FOR THE HVAC INSPECTION AND EQUIPMENT START-UP. (NOTE: THESE HOURS ARE TO BE USED FOR THE COMPLETION OF THE COMMISSIONING PROCESS ONLY. ADDITIONAL HOURS WILL NOT BE APPROVED FOR WORK THAT WAS IN SCOPE AND NOT COMPLETED PRIOR TO THE COMMISSIONING PROCESS.)
2. CONTRACTOR TO COMPLETE AND EMAIL (OR FAX) THE HVAC EQUIPMENT START UP SURVEY TO HVAC VENDOR PRIOR TO THIS VISIT.
3. MECHANICAL CONTRACTOR WILL COORDINATE THE HVAC EQUIPMENT COMMISSIONING AND SHALL BE RESPONSIBLE FOR COMMUNICATING SCHEDULE DATE CHANGES TO HVAC VENDOR AND SUBCONTRACTORS.
4. PROVIDED THERE ARE NO HVAC INSTALLATION ISSUES, SYSTEMS SHALL BE STARTED FOR TEMPORARY OPERATION ON LOCAL CONTROL DURING THIS VISIT.
5. IF THERE ARE HVAC INSTALLATION PUNCHLIST ITEMS, THE GC MUST CORRECT THEM AND RESCHEDULE INSPECTION VISIT WITH HVAC VENDOR.

VISIT 2: HVAC CONTROLS COMMISSIONING

THE CONTROLS COMMISSIONING IS PERFORMED BY THE HVAC VENDOR IN CONJUNCTION WITH THE GENERAL CONTRACTOR, MECHANICAL CONTRACTOR AND ELECTRICAL CONTRACTOR. EACH CONTRACTOR SHALL INCLUDE 4 HOURS TO COMPLETE THE CONTROLS COMMISSIONING. (NOTE: THESE HOURS ARE TO BE USED FOR THE COMPLETION OF THE CONTROLS COMMISSIONING PROCESS ONLY. ADDITIONAL HOURS WILL NOT BE APPROVED FOR WORK THAT WAS IN SCOPE AND NOT COMPLETED PRIOR TO THE COMMISSIONING PROCESS.)

FOLLOW THE CONSTRUCTION DRAWINGS AND MANUFACTURER'S DETAILS AND DRAWINGS DURING THE INSTALLATION OF THE HVAC CONTROL SYSTEMS.

1. CONTRACTOR TO COMPLETE AND EMAIL (OR FAX) THE CONTROLS COMMISSIONING SURVEY TO HVAC VENDOR PRIOR TO THE CONTROL COMMISSIONING.
2. CONNECT THE HVAC CONTROLS TO AN OPERATIONAL ANALOG PHONE LINE OR ETHERNET CONNECTION TO ALLOW COMMUNICATION. IF NECESSARY, UTILIZE SITE FAX LINE TO CONNECT TO THE CONTROLS MODEM IN THE IFS PANEL.
3. CONTACT HVAC VENDOR AT THE SCHEDULED TIME FOR THE CONTROLS COMMISSIONING.
4. PROVIDED THERE ARE NO OPEN ISSUES, VISIT 2 IS COMPLETE. IN THE EVENT THERE ARE OPEN ITEMS, THE GC MUST CORRECT THEM AND RESCHEDULE THE CONTROLS COMMISSIONING.

VISIT 3: FINAL HVAC INSPECTION

THIS VISIT IS TO DO A FINAL INSPECTION OF THE HVAC EQUIPMENT AND CONTROL INSTALLATION. THIS VISIT MUST TAKE PLACE PRIOR TO CONSTRUCTION COMPLETION.

THE FOLLOWING ITEMS MUST BE COMPLETED PRIOR TO THE INSPECTION:

1. HVAC SYSTEM INSTALLATION IS COMPLETE – NO OPEN PUNCHLIST ITEMS EXCEPT FOR POSSIBLY THE PERMANENT PHONE LINE.
2. AIR BALANCE IS COMPLETE. NOTE: AIR BALANCE IS IN THE CONTRACTOR'S SCOPE OF WORK.

THE GC MUST COMPLETE THE HVAC VENDOR SITE VISIT #3 SURVEY FORM PRIOR TO SCHEDULING THIS VISIT.

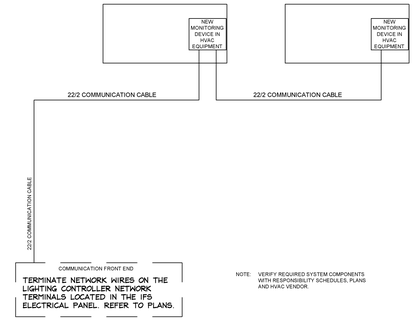
THE GENERAL CONTRACTOR, MECHANICAL CONTRACTOR AND ELECTRICAL CONTRACTOR SHALL BE ON SITE DURING THE FINAL INSPECTION. EACH CONTRACTOR SHALL INCLUDE 4 HOURS FOR THE FINAL HVAC INSPECTION. (NOTE: THESE HOURS ARE TO BE USED FOR THE COMPLETION OF THE INSPECTION ONLY. ADDITIONAL HOURS WILL NOT BE APPROVED FOR WORK THAT WAS IN SCOPE AND NOT COMPLETED PRIOR TO THE FINAL INSPECTION).

1. MECHANICAL CONTRACTOR WILL COORDINATE THE HVAC EQUIPMENT COMMISSIONING AND SHALL BE RESPONSIBLE FOR COMMUNICATING SCHEDULE DATE CHANGES TO HVAC VENDOR AND SUBCONTRACTORS.
2. FILTERS SHALL BE REPLACED DURING THIS VISIT. FILTERS ARE TO BE PROVIDED BY THE MECHANICAL CONTRACTOR AND SHALL BE ON SITE WHEN THE HVAC VENDOR TECHNICIAN ARRIVES.
3. THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF SHEAVES, PULLEYS, AND BELTS AS NEEDED FOR PROPER AIR BALANCE.
4. WHEN COMPLETE AND ALL OPEN CONTRACTOR HVAC ISSUES ARE RESOLVED A CONTROL NUMBER IS ISSUED BY THE HVAC VENDOR. IT IS RECORDED INSIDE THE CONTROL PANEL DOOR IN THE IFS ELECTRICAL PANEL AND ON THE FINAL VISIT CHECK LIST.
5. IN THE EVENT THERE ARE OPEN ITEMS, THE CONTRACTOR MUST CORRECT THEM AND RESCHEDULE THE FINAL INSPECTION WITH HVAC VENDOR.
6. THE HVAC CONTROL NUMBER WILL BE ISSUED AT THE END OF THE VISIT PROVIDED THERE ARE NO UNRESOLVED HVAC PUNCHLIST ITEMS.

THE HVAC VENDOR TECHNICIAN WILL WRITE THE HVAC CONTROL NUMBER ON THE STICKER INSIDE THE CONTROL PANEL (OR THE CONTROL SECTION OF THE IFS PANEL) AND ON THE FINAL VISIT CHECK LIST.

HVAC EQUIPMENT COMMISSIONING — L

NOT USED — J



NOTES:
1. 18/3 PLENUM RATED CONTROL WIRE SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR.
2. 22/2 PLENUM RATED CONTROL WIRE SHALL BE FURNISHED BY HVAC VENDOR AND INSTALLED BY CONTRACTOR.
3. SCHEMATIC IS FOR REFERENCE ONLY. THE HVAC VENDOR WILL PROVIDE A WIRING DIAGRAM FOR INSTALLATION. SEE RESPONSIBILITY SCHEDULES ON SHEET M01.2 FOR A LIST OF ALL CONTROL COMPONENTS AND SENSORS.

CONTROLS SCHEMATIC — NTS — H

NATIONAL ACCOUNTS HVAC SUPPLIER GENERAL NOTES

HVAC EQUIPMENT NOTED HAS BEEN PRE-PURCHASED BY EXPRESS STORE DESIGN & CONSTRUCTION. THE MECHANICAL CONTRACTOR SHALL CONTACT THE HVAC VENDOR VIA EMAIL PRIOR TO THE END OF THE FIRST WEEK OF CONSTRUCTION USING THE CONTACT INFORMATION BELOW.

THE EMAIL SHALL STATE THE PHONE NUMBER, EMAIL ADDRESS AND DELIVERY ADDRESS OF THE CONTACT PERSON RESPONSIBLE FOR SCHEDULING AND RECEIVING THE HVAC EQUIPMENT AND ACCESSORIES. THE EMAIL SHOULD ALSO STATE ANY SPECIAL SHIPPING INSTRUCTIONS REQUIRED OR REQUESTED.

CONTRACTOR MUST ALLOW FOR A MINIMUM OF TWO WEEKS AFTER EMAIL FOR DELIVERY OF EQUIPMENT AND ACCESSORIES UNLESS SPECIAL ARRANGEMENTS ARE MADE PRIO TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL SHIPPING COST INCURRED IF DELIVERY IS REQUIRED PRIOR TO THE STANDARD TWO WEEK SCHEDULE.

IF THIS INFORMATION IS NOT SENT TO THE HVAC VENDOR (NATIONAL ACCOUNT SUPPLIER), THEN THE EQUIPMENT AND ACCESSORIES WILL BE SHIPPED IN ACCORDANCE WITH THE PURCHASE ORDER DATE AND INSTRUCTIONS ISSUED BY ESD&C AND THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR UNLOADING AND STORAGE OF EQUIPMENT UNTIL SUCH TIME AS REQUIRED FOR INSTALLATION ON PROJECT.

IF AN OWNER REPRESENTATIVE IS PERFORMING START-UP, THEN MECHANICAL CONTRACTOR MUST COORDINATE WITH HVAC VENDOR NATIONAL ACCOUNT SUPPLIER REPRESENTATIVE AT LEAST 2 WEEKS PRIOR TO CONSTRUCTION END DATE.

CONTACT INFORMATION

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EQUIPMENT VENDOR CONTACT INFORMATION — G

SEQUENCE OF OPERATION — K

PRELIMINARY SEQUENCE OF OPERATION

A COMPLETE HVAC CONTROL SYSTEM (PROGRAMMABLE, COMMUNICATING, REMOTE ADJUSTABLE, DDC SYSTEM) SHALL BE FURNISHED BY HVAC VENDOR AND INSTALLED BY MECHANICAL CONTRACTOR. REFER TO RESPONSIBILITY SCHEDULES AND HVAC VENDOR SUPPLIED CONTROLS INFORMATION. THE FINAL SEQUENCE OF OPERATION SHALL BE BY THE HVAC VENDOR. THE FOLLOWING IS A BRIEF DESCRIPTION OF THE CONTROL SEQUENCE OF OPERATION:

UNIT SUPPLY AIR FANS SHALL ACTIVATE AND OUTSIDE AIR DAMPER SHALL OPEN TO MINIMUM POSITION DURING OCCUPIED MODE. OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND UNIT SUPPLY AIR FANS SHALL ACTIVATE ONLY ON A CALL FOR HEATING OR COOLING DURING UNOCCUPIED MODE. COOLING MODE SHALL ACTIVATE IF SPACE TEMPERATURE RISES ONE DEGREE FAHRENHEIT (1°F) ABOVE COOLING SETPOINT. HEATING MODE SHALL ACTIVATE IF SPACE TEMPERATURE FALLS ONE DEGREE FAHRENHEIT (1°F) BELOW HEATING SETPOINT. ANY APPLICABLE OVERRIDE MODES SHALL TAKE PRECEDENCE OVER COOLING OR HEATING MODE. ECONOMIZER MODE (IF APPLICABLE) SHALL TAKE PRECEDENCE OVER COOLING MODE.

ADDITIONAL CONTROL MODES (REFER TO RESPONSIBILITY SCHEDULE TO DETERMINE WHICH MODES ARE APPLICABLE) MAY INCLUDE: ECONOMIZER OVERRIDE, POWER RELIEF, CO2 OVERRIDE, SMOKE OVERRIDE, FIRE ALARM OVERRIDE/INTERLOCK, FREEZE PROTECTION OVERRIDE, AIRFLOW HEAT OVERRIDE, DRAIN PAN HIGH WATER OVERRIDE, AUXILIARY HEAT INTERLOCK, HEAT PUMP REVERSING TXV, VARIABLE SPEED FAN MODULATION, CONTROL VALVE MODULATION, LANDLORD HEATING/COOLING SIGNAL INTERLOCK, MODULATING OUTSIDE DAMPER OPERATION OR OTHERS AS DETERMINED BY PROJECT SPECIFIC REQUIREMENTS.

SETPOINTS:
OCCUPIED: HEATING: 69°F COOLING: 72°F
UNOCCUPIED: HEATING: 60°F COOLING: 85°F

NOT USED — J

FAN SCHEDULE — D

EXISTING TO REMAIN EXHAUST AND VENTILATION FAN SCHEDULE

MARK	EF-1	EF-1	EF-1	RAF-2	EF-3
MANUFACTURER	LOREN COOK	LOREN COOK	LOREN COOK	LOREN COOK	LOREN COOK
MODEL	GEMINI 122	GEMINI GN-184	ACEB-60	195-SQN-B	ACRUB-369
TYPE	CEILING MOUNTED	INLINE FAN	ROOF MOUNTED	INLINE FAN	ROOF MOUNTED
DRIVE TYPE	DIRECT	DIRECT	BELT	BELT	BELT
PERFORMANCE					
AIR FLOW (CFM)	60	240	160	4700	16,800
EXT. STATIC (IN W.C.)	0.375	0.375	0.5	0.5	0.125
FAN SPEED (RPM)	1500	1500	1491	1176	607
ELECTRICAL					
VOLTS/6/HZ	120/1/60	120/1/60	120/1/60	208/3/60	208/3/60
FAN MOTOR WATTS	70	224	0.167 HP	1.5 HP	5.0 HP
APPROX. WEIGHT (LBS)	15	16	30	225	420
SERVES	RESTROOM	RESTROOMS	RESTROOMS	RETURN AIR	SMOKE EVAC
ACCESSORIES	1,2,4	1,2	1,2,3	1,2,3,4,A,B	1,2,3
NOTES	1	1	1	2	3

ACCESSORIES FURNISHED BY MANUFACTURER (VERIFY FIELD INSTALLATION REQUIREMENTS):
1. BACKDRAFT DAMPER
2. DISCONNECT SWITCH
3. BELT GUARD
4. FLANGED INLET AND OULET

ACCESSORIES FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR:
A. ROOF OUTLET (GOOSENECK OR MUSHROOM CAP) WITH BIRD SCREEN AND CURB.
B. SHEAVES/PULLEYS AS REQUIRED FOR FAN AIR BALANCE.

NOTES:
1. INTERLOCK WITH RESTROOM LIGHTS
2. INTERLOCK WITH SUPPLY AIR FAN, VERIFY REQUIREMENTS WITH HVAC EQUIPMENT VENDOR
3. INTERLOCK WITH FIRE ALARM SYSTEM, VERIFY REQUIREMENTS WITH FIRE ALARM CONTRACTOR AND LANDLORD

EXISTING ROOFTOP UNIT WITH ELECTRIC HEAT SCHEDULE

MARK	RTU-1	RTU-2			
CARRIER MODEL NUMBER	50TCQD14	50TCQD14			
ENERGY RATING (EER)	10.6	10.6			
SUPPLY AIR CFM	4000	4000			
OUTSIDE AIR CFM	900	900			
OUTSIDE AIR AMBIENT TEMP	95	95			
EXTERNAL STATIC PRESSURE	0.5	0.5			
COOLING					
ENTERING AIR TEMP (DB/WB)	80 / 67	80 / 67			
TOTAL CAPACITY (MBH)	148.6	148.6			
SENSIBLE CAPACITY (MBH)	113.9	113.9			
HEATING					
POWER INPUT (KH)	25.2	25.2			
HEAT OUTPUT (MBH)	143.0	143.0			
STAGES	2	2			
ELECTRICAL					
VOLTS/6/HZ	208/3/60	208/3/60			
MOTOR HORSEPOWER	2.9	2.9			
MCA	150.9	150.9			
MOCP	175	175			
APPROXIMATE WEIGHT (LBS)	1575	1575			
ACCESSORIES	1,2,3,5,A	1,2,3,5,A			
NOTES	1,2	1,2			

ACCESSORIES FURNISHED BY TRANE (VERIFY FIELD INSTALLATION REQUIREMENTS):
1. EXISTING DISCONNECT SWITCH
2. NEW MONITORING ONLY DISCHARGE AIR SENSORS, INSTALLED BY MC
3. EXISTING TO REMAIN 14" TALL FACTORY FABRICATED SEISMIC ROOF CURB
4. VERIFY EXISTING SMOKE DETECTOR TO BE IN RETURN AIR PATH TO REMAIN, FAC TO PROVIDE IF NONE EXISTING
5. EXISTING ECONOMIZER HOOD WITH BIRDSCREEN AND ENTHALPY SENSOR/CONTROLS
6. EXISTING TO REMAIN POWER EXHAUST FOR RELIEF AIR

ACCESSORIES FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR:
A. FLEXIBLE CONNECTION AND DUCT TRANSITION AT NEW SUPPLY CONNECTIONS
B. RE-LOCATE EXISTING THERMOSTAT CONTROLS

NOTES:
1. OUTSIDE AIR DAMPER MIN. OPEN POSITION TO BE SET AS SPECIFIED ABOVE AND SHALL FULLY CLOSE ON UNIT SHUTDOWN
2. AIR BALANCE SHALL BE DONE BY LANDLORD'S CONTRACTOR AT TENANT GC'S EXPENSE

GRILLE, REGISTER, AND DIFFUSER (GRD) SCHEDULE

MARK	SD-1	SD-2	SD-3	SG-4	LD-5	SD-6
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	ACUTHERM
MODEL	OMNI	LL-2	TMSA	350RL	ML-39	TK-HC
NECK SIZE (L"xW")	SEE PLAN	36"x12"	SEE PLAN	10"x8"	10"x8"	6"ø
FRAME SIZE (L"xW")	24"x24"	38"x14"	12"x22"	12"x10"	6"x(2)14" SLOTS	13"x13"
FRAME TYPE	LAY-IN	SURFACE	LAY-IN	DUCT MOUNTED	SURFACE	LAY-IN
FINISH	TITUS #27	WHITE	TITUS #27	TITUS #27	TITUS #27	WHITE
NOISE CRITERIA LEVEL	<30	<30	<30	<30	<30	<30
ACCESSORIES	2,3	1,4	2,3	1	5,6	3,8
NOTES	1,3	3	1,3	3	3	1,3,4

MARK	RG-1	RG-2	TG-3	EG-4	RG-5	RG-6
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL	355-RL	355-RL	355RL	355-RL	PAR	50F
NECK SIZE (L"xW")	22"x10"	10"x10"	22"x10"	10"x10"	20"x22"	22"x22"
FRAME SIZE (L"xW")	24"x12"	12"x12"	24"x12"	12"x12"	24"x24"	24"x24"
FRAME TYPE	LAY-IN	LAY-IN	SURFACE	LAY-IN	LAY-IN	LAY-IN
FINISH	TITUS #27	TITUS #27	TITUS #26	TITUS #27	TITUS #26	TITUS #27
NOISE CRITERIA LEVEL	<30	<30	<30	<30	<30	<30
ACCESSORIES	3	3		2,3	3	3
NOTES	2,3	2,3	2,3	2,3	3	

ACCESSORIES:
1. OPPOSED BLADE DAMPER OPERABLE FROM FACE OF GRD, PROVIDED BY MANUFACTURER.
2. LOCKING QUADRANT VOLUME DAMPER, PROVIDED BY MECHANICAL CONTRACTOR. SEE MECHANICAL SPECIFICATIONS ON SHEET M01.1.
3. RAPID MOUNT FRAME FURNISHED BY MANUFACTURER AND INSTALLED BY MECHANICAL CONTRACTOR WHERE LAY-IN GRD TO BE INSTALLED IN DRYWALL CEILINGS.
4. 12" TALL INSULATED PLENUM, LENGTH AND WIDTH TO BE DIFFUSER NECK SIZE, PROVIDED BY MECHANICAL CONTRACTOR.
5. INSULATED ENGINEERED LINEAR SLOT PLENUM FOR CONCEALED MOUNTING FURNISHED BY MANUFACTURER AND INSTALLED BY MECHANICAL CONTRACTOR.
6. YOUNG'S REGULATOR REMOTE DAMPER WITH CABLE CONTROL SYSTEM, MODEL #5020-CC, PROVIDED BY MECHANICAL CONTRACTOR.
7. RUSKIN MODEL CFD OR CFDR FIRE DAMPER WITH VOLUME CONTROL PROVIDED BY MECHANICAL CONTRACTOR.
8. FURNISH WITH ACUTHERM ADJUSTER-D DIGITAL WALL ADJUSTER AND REMOTE MASTER OPTION FOR MASTER DIFFUSERS OR REMOTE OPTION FOR SLAVE DIFFUSERS. ONE MASTER DIFFUSER CONTROLS UP TO 4 SLAVE DIFFUSERS. ORDER REMOTE MASTER OPTION FOR SINGLE DIFFUSERS.

NOTES:
1. ALL DIFFUSERS TO BE 4-WAY THROW UNLESS INDICATED OTHERWISE ON PLANS. WHEN SHADED ON PLANS, MECHANICAL CONTRACTOR IS TO ORDER BAFFLES FROM MANUFACTURER FOR INSTALLATION. INSTALL BAFFLES SO THAT SHADED QUADRANT IS BLOCKED FOR 1-WAY, 2-WAY OR 3-WAY THROW.
2. MINIMIZE VIEW TO ABOVE CEILING AREAS. FOR CEILING MOUNTED GRD, INSTALL LOUVERS FACING THE BACK OF STORE, CABINET, OR WALL. FOR WALL MOUNTED GRD, INSTALL LOUVERS FACING UP.
3. GC TO FIELD PAINT GRD WITH ENAMEL FINISH TO TO MATCH SURROUNDING CEILING OR WALL COLOR.
4. MECHANICAL CONTRACTOR TO PROVIDE 24V POWER TO DIFFUSER AND FROM DIFFUSER TO WALL ADJUSTER.

GRD SCHEDULE — E

HVAC EQUIPMENT SCHEDULES — A

EXPRESS

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