GENERAL NOTES

ALL NOTES INCLUDED HEREIN ARE MADE PART OF EACH AND ALL MECHANICAL, ELECTRICAL AND PLUMBING SECTIONS OF WORK.

1. REFER TO LANDLORD'S SPECIFICATIONS AND TENANT DESIGN CRITERIA FOR NECESSARY INFORMATION AND COORDINATION WITH OTHER TRADES.
2. THE ABBREVIATION LSD&C WHEREVER IT APPEARS IN THE DRAWINGS, SHALL REFER TO "LIMITED STORE DESIGN AND CONSTRUCTION". ANY REFERENCE TO TENANT, BRAND SPECIFIC (EXPRESS, ETC.) OR FURNISHED BY ANY OF THE ABOVE REFERS TO LSD&C.
3. ANY DISCREPANCY BETWEEN LSD&C DRAWINGS AND TENANT CRITERIA, LSD&C DRAWINGS SHALL TAKE PRECEDENCE.
4. THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT ALL INSTALLED ITEMS AND LOCATIONS ARE NOT EXACTLY PLACED AND ARE NOT TO BE SCALED.
5. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELATED PERMITS AND INSPECTION FEES.
6. BEFORE COMMENCING ANY WORK, CONTRACTORS SHALL REVIEW THE LATEST NATIONAL, STATE AND LOCAL CODE REQUIREMENTS INCLUDING LANDLORD CRITERIA AND PERFORM THE WORK IN STRICT ACCORDANCE WITH THESE. IN CASE OF CONFLICT THE STRICTER REQUIREMENTS WILL PREVAIL.
7. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR ANY CHANGE ORDERS DUE TO CONTRACTOR'S FAILURE TO VISIT THE JOBSITE AND/OR PREDETERMINE ALL EXISTING CONDITIONS BEFORE SUBMITTING HIS BID.
   A. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. FOR THE PURPOSE OF SURVEYING EXISTING CONDITIONS, WHICH MAY AFFECT THE WORK TO BE DONE UNDER THIS SECTION, ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE GENERAL CONTRACTOR, LSD&C OR THE LANDLORD'S FIELD REPRESENTATIVE FOR CLARIFICATION.
   B. AFTER BID, ANY QUESTIONS RELATING TO SPECIFIC M, E, OR P ISSUES ARE TO BE DIRECTED AS RFI'S THROUGH THE LSD&C PROJECT MANAGER.
   C. SHOULD THE SPACE HAVE BEEN INACCESSIBLE FOR INSPECTION CONTRACTOR MUST INDICATE SO ON HIS BID.
8. THE GENERAL CONTRACTOR'S FIRE SPRINKLER SUBCONTRACTOR SHALL DESIGN AND INSTALL FIRE SPRINKLER SYSTEM CONFORMING TO LANDLORD'S CRITERIA, TENANT'S REQUIREMENTS AND PER LOCAL CODES AND NFPA STANDARDS.
9. THE CONTRACTOR, WITHIN FIFTEEN (15) DAYS OF THE AWARD OF THE CONTRACT, SHALL SUBMIT TO THE OWNER, SIX (6) COPIES OF A COMPLETE LIST OF MATERIALS AND EQUIPMENT PROPOSED FOR THE JOB INCLUDING ALL DATA, PART NUMBERS, RATING CAPACITY, SIZE, DIMENSIONS, ELECTRICAL DATA, GRADE, MANUFACTURER, AND ANY OTHER DESCRIPTIVE DATA FOR ALL EQUIPMENT OR SYSTEMS THAT DEVIATE FROM SPECIFIED ITEMS. ANY DELAYS OR COSTS DUE TO THESE DEVIATIONS, WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL UNUSED OR ABANDONED MATERIALS AND EQUIPMENT, AND ITS REMOVAL OFF THE LANDLORD'S PREMISES.
11. OWNER RESERVES THE RIGHT TO HAVE CONSTRUCTION REVIEWED BY AN OUTSIDE CONSULTANT PRIOR TO ACCEPTANCE OF THE PROJECT.
12. EACH CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP RELATED TO HIS WORK FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE WHICH THE OWNER ACCEPTS THE PROJECT. THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER OR TENANT SHALL CORRECT ANY DEFECTS IN MATERIALS OR WORKMANSHIP DURING THIS GUARANTEE PERIOD.
13. EACH CONTRACTOR SHALL BE RESPONSIBLE AND ENSURE A CLEAN INSTALLATION ESPECIALLY IN EXPOSED CEILING AREAS. THE FINAL APPROVAL OF THIS WORK WILL BE ISSUED BY LSD&C PROJECT MANAGER.
14. PROVIDE ONE SETS OF "AS-BUILT" DRAWINGS INTO PLAN TUBE AND ONE BOUND SETS OF ALL OPERATIONS MANUALS, DIAGRAMS, SERVICE CONTRACTS AND GUARANTEES IN BINDER TO STORE MANAGER. A REPORT PREPARED IN ACCORDANCE WITH MECHANICAL SPECIFICATIONS BY AN INDEPENDENT AIR BALANCE CONTRACTOR, HIRED BY GC, MUST BE INCLUDED IN THE CLOSE-OUT PACKAGE.

HVAC GENERAL NOTES

1. THESE PLANS MAY BE USED FOR CONSTRUCTION ONLY AFTER APPROVAL IS OBTAINED FROM THE BUILDING DEPARTMENT MECHANICAL PLAN CHECK DIVISION AND THAT DIVISION'S STAMPED APPROVAL AND AUTHORIZED SIGNATURE APPEAR ON THE PLANS.
2. COORDINATE ALL WORK WITH ALL TRADES INCLUDED BUT NOT LIMITED TO ELECTRICAL, PLUMBING, FIRE PROTECTION AND STRUCTURAL CONTRACTORS. INSTALL ALL WORK TO CLEAR NEW AND EXISTING ARCHITECTURAL AND STRUCTURAL MEMBERS. NO ITEM SUCH AS PIPE, DUCT, ETC. IS TO COME IN CONTACT WITH ANY EQUIPMENT.
3. REFER TO ARCHITECTURAL DRAWINGS FOR DEMOLITION WORK.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT FIXTURE LOCATION.
5. CONTRACTOR SHALL PROVIDE CUT SHEETS TO LSD&C FOR ALL EQUIPMENT AND DEVICES FURNISHED BY THE CONTRACTOR THAT DEVIATE FROM SPECIFIED ITEM FOR REVIEW AND APPROVAL PRIOR TO THE PURCHASE OF ANY SUCH EQUIPMENT OR DEVICES.
6. HVAC CONTRACTOR IS RESPONSIBLE TO INQUIRE WITH THE LANDLORD'S REPRESENTATIVE ON ANY SMOKE EVACUATION SYSTEM IN USE AT THE MALL AT THE TIME OF THE BID. IF THE SAID SYSTEM IS NOT ADEQUATELY DESCRIBED ON THE DRAWINGS, THE MECHANICAL CONTRACTOR IS RESPONSIBLE TO INFORM THE GENERAL CONTRACTOR AND INCLUDE THE COST AS A SEPARATE LINE ITEM IN THE BID. NO ADDITIONAL MONEYS SHALL BE AWARDED FOR TIE-IN REQUIREMENTS TO A LANDLORD'S SMOKE EVACUATION SYSTEM THAT IS IN EXISTENCE AT THE TIME OF THE BID, WITHOUT HAVING IDENTIFIED A SEPARATE LINE ITEM FOR THE SMOKE EVACUATION SYSTEM AT THE TIME OF THE BID.
7. ACCESS TO ALL COMPONENTS AND EQUIPMENT MUST BE PROVIDED TO MEET CODE AND SERVICE/MAINTENANCE EASE.
8. PRIOR TO STARTUP OF HVAC EQUIPMENT, MECHANICAL CONTRACTOR WILL CONFIRM WITH ONE OF THE LISTED HVAC MANUFACTURER REPRESENTATIVES THAT CORRECT POWER FOR EQUIPMENT HAS BEEN PROVIDED TO LSD&C PROVIDED HVAC UNITS AND HAS BEEN TURNED ON FOR A MINIMUM OF 24 HOURS. LSD&C RESERVES THE RIGHT TO CHECK CONSTRUCTION COMPLIANCE WITH PLANS AND SPECIFICATIONS. SHOULD THE OWNER FIND CORRECTIVE WORK TO BE NECESSARY, HE WILL NOTIFY CONTRACTOR OF SUCH WORK IN WRITING AND EXPECT COMPLIANCE PERFORMED WITH DUE DILIGENCE. IF ANY CORRECTIVE WORK IS DEEMED TO BE NECESSARY, THE COST OF REINSPECTIONS WILL BE BORNE BY THE CONTRACTOR. THE MECHANICAL CONTRACTOR WILL THEN ENSURE THAT THE EQUIPMENT IS POWERED FOR A MINIMUM OF 24 HRS BEFORE START-UP.
9. IF WORK IS REQUIRED BY LSD&C IN ORDER TO IMPROVE, CHANGE OR CORRECT AIR CONDITIONING OPERATIONAL CONDITIONS DUE TO: PART MALFUNCTION, WARRANTY OR OTHER INABILITY TO PROVIDE THE COMFORT CONDITIONS REQUIRED BY THE STORE, CONTRACTOR SHALL BE DIRECTED BY LSD&C TO ADDRESS THIS WORK IN A TIMELY MANNER. IF IT BECOMES EVIDENT THAT THE CONTRACTOR CANNOT ACCOMPLISH THE TASK, THEN AFTER 72 HOURS OF WRITTEN NOTICE THE OWNER MAY, AT HIS DISCRETION, TAKE OVER SUCH WORK AND BACK CHARGE THE CONTRACTOR FOR ANY CORRECTIVE WORK THAT WAS REQUIRED DUE TO LACK OF PERFORMANCE, WORKMANSHIP AND/OR ADHERENCE TO PLANS AND SPECIFICATIONS.
10. UPON COMPLETION OF THE WORK, CONTRACTOR SHALL VERIFY THE PROPER WORKING ORDER OF THE SYSTEM(S) AND MAKE ANY ADJUSTMENTS AS REQUIRED.
11. PROVIDE FILTER CHANGES THROUGHOUT CONSTRUCTION AS REQUIRED FOR ALL HVAC EQUIPMENT. PROVIDE FILTER CHANGES AT LEAST TWICE MONTHLY ONCE STARTED, PRIOR TO TEST AND BALANCE, AND LASTLY, PRIOR TO MERCHANDISING. ANY EQUIPMENT OR DUCTWORK THAT BECOMES SOILED DUE TO A LACK OF FILTER CHANGES, AS DETERMINED SOLELY BY THE LSD&C PROJECT MANAGER, SHALL BE CORRECTED ON BEHALF OF THE CONTRACTOR AND CHANGES BILLED TO THE CONTRACTOR.
12. NOTES TO EQUIPMENT SCHEDULES USE THE WORDS "FURNISH" AND "PROVIDE". WHERE THE WORD "FURNISH" IS USED, SOME FIELD INSTALLATION IS REQUIRED BY THE CONTRACTOR. WHERE THE WORD "PROVIDE" IS USED, NO FIELD INSTALLATION IS REQUIRED AS THE DEVICES OR ACCESSORIES ARE FURNISHED AND INSTALLED BY THE MANUFACTURER AS PART OF THE EQUIPMENT WHEN SHIPPED.
13. UNLESS OTHERWISE SPECIFIED, CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIAL, LABOR AND SUPERVISION NECESSARY TO COMPLETE THE HEATING, VENTILATING AND AIR CONDITIONING WORK IN ACCORDANCE WITH THE SPECIFICATIONS AND STANDARDS AS OUTLINED HEREIN. SEE RESPONSIBILITY SCHEDULE ON SHEET M04.01.
14. MECHANICAL CONTRACTOR SHALL FIELD MEASURE EXISTING ROOF CURB(S) FOR CURB ADAPTER(S), WHERE APPLICABLE, AND SHALL SUPPLY DIMENSIONS TO LSD&C HVAC SUPPLIER PRIOR TO START OF CONSTRUCTION.
15. ALL HEATING VENTILATING AND AIR CONDITIONING EQUIPMENT SHALL BE CLEARLY IDENTIFIED WITH TENANT'S NAME, SPACE NUMBER AND UNIT DESIGNATION AND SHALL BE STENCILED IN 4" HIGH BLACK LETTERS.
16. FURNISH AND INSTALL ALL NEW DUCTWORK INCLUDING INSTALLATION OF OWNER SUPPLIED PLENUM BOOTS, SUPPLY AIR DIFFUSERS, AND RETURN AIR GRILLES. (SEE AIR DEVICE SCHEDULE ON THIS SHEET).
   A. ALL MATERIAL SHALL BE NEW AND OF COMMERCIAL GRADE AND BEAR UNDERWRITER'S LABORATORY AND UNION LABELS WHERE SUCH LABELING APPLIES.
   B. ALL PLENUMS SHALL BE FABRICATED FROM GALVANIZED SHEET METAL OF THE APPROPRIATE GAUGE AND BE INSULATED WITH A MINIMUM OF 1" THICK, 0.75 LB/CU.FT. DENSITY FIBERGLASS INSULATION WITH ALUMINUM FOIL BACKED VAPOR BARRIER.
   C. WHERE DESIGNATED, BRANCHES FROM MAIN LOW VELOCITY TRUNK DUCTWORK SHALL BE FURNISHED WITH SPLITTERS, DAMPERS OR SIMILAR BALANCING DEVICES IN ACCORDANCE WITH THE STANDARDS OF SMACNA.
   D. ALL DUCTS FOR FINAL CONNECTION TO DIFFUSERS SHALL BE CLASS 1. UL LISTED (SL 181) FLEXIBLE AIR DUCT NOT TO EXCEED 4'-0" IN LENGTH (THERMAFLEX, GLASFLEX, OR APPROVED EQUAL).
   E. SUPPLY AND RETURN DUCTWORK SHALL BE LINED AND WITH CODE COMPLYING BLANKET INSULATION. ACOUSTICAL LINER MAY BE PROVIDED. ALL MATERIALS SHALL COMPLY WITH N.F.P.A. 90A AND 90B. SEE SPECIFICATIONS ON SHEET M01.01.
   F. HANGER WIRES, DUCT STRAPS, FASTENING DEVICES, ETC. SHALL BE FASTENED TO THE STEEL JOISTS AND/OR BEAMS ABOVE. DO NOT ATTACH ANY SUCH ITEMS DIRECTLY TO FLOOR SLABS, PIPING, OTHER DUCTWORK, ELECTRICAL CONDUITS OR THE ROOF DECK ABOVE.
   G. ADDITIONAL FIRE DAMPERS SHOULD BE INSTALLED AS REQUIRED BY ANY APPLICABLE CODES AND/OR JURISDICTIONAL AUTHORITIES.
17. SEAL AROUND PIPES AND DUCTS PENETRATING FIRE SEPARATIONS WITH LISTED AND APPROVED FIRE SEAL MATERIAL. ONLY LISTED AND APPROVED SEALANTS AND METHODS FOR THE SPECIFIC USE WILL BE PERMITTED.
18. MECHANICAL CONTRACTOR SHALL INSTALL TEMPERATURE SENSORS AND AS SHOWN ON THE PLAN (VERIFY LOCAL CODES. IF PLAN LOCATION IS NOT ACCEPTABLE, IMMEDIATELY CONTACT LSD&C PROJECT MANAGER FOR DIRECTION.)
19. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL FULLY PRESSURE CHECK AND CHARGE ALL REFRIGERANT SYSTEMS (IF REQUIRED).
20. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF AN INDEPENDENT, AIR/WATER BALANCING COMPANY THAT IS A NEBB CERTIFIED CONTRACTOR OR HAS AN AABC CERTIFIED TEST & BALANCE ENGINEER. THIS COMPANY SHALL PERFORM THE BALANCING OF AIR/WATER SYSTEM(S) AND MAKE ANY REQUIRED ADJUSTMENTS TO ENSURE PROPER WORKING ORDER. UPON COMPLETION, THE BALANCING COMPANY SHALL PROVIDE A COMPLETE SYSTEM REPORT.

GRAINGER NATIONAL ACCOUNT INFORMATION

COORDINATE WITH LSD&C PROJECT MANAGER FOR MORE INFORMATION.

HVAC EQUIPMENT COMMISSIONING

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

MANUFACTURER WILL CONTACT THE CONTRACTOR EARLY IN THE PROJECT TO SET PRELIMINARY DATES FOR HVAC INSPECTION, COMMISSIONING AND HVAC CONTROLS COMMISSIONING.

PRIOR TO HVAC INSPECTION / COMMISSIONING (TO BE COMPLETED BY MECHANICAL SUBCONTRACTOR)

1. CONNECT AND BLEED CONDENSATE, DUCTWORK, NATURAL GAS, CHILLED WATER PIPING, AND/OR CONDENSER WATER PIPING.
2. CHARGE HVAC SYSTEMS WITH REFRIGERANT FOLLOWING MANUFACTURERS' 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 AC SITE VISITS BEYOND THE FIRST THREE (3) NECESSARY TO DOCUMENT THE RESOLUTION OF THE HVAC PUNCHLIST ITEMS.

HVAC COMMISSIONING PROCESS

VISIT 1: HVAC EQUIPMENT START UP

1. CONTRACTOR SHALL HAVE THE MECHANICAL AND ELECTRICAL SUBCONTRACTOR ON SITE DURING THE HVAC INSPECTION AND COMMISSIONING. BUDGET 5 HOURS FOR THE HVAC INSPECTION AND COMMISSIONING. (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 MANUFACTURER PRIOR TO THE HVAC STARTUP.
3. MANUFACTURER COORDINATES THE HVAC EQUIPMENT COMMISSIONING. CONTRACTOR IS RESPONSIBLE FOR COMMUNICATING SCHEDULE DATE CHANGES TO MANUFACTURER AND SUBCONTRACTORS.
4. PROVIDED THERE ARE NO HVAC INSTALLATION ISSUES. SYSTEMS SHALL BE STARTED FOR TEMPORARY OPERATION ON LOCAL CONTROL.
5. IF THERE ARE HVAC INSTALLATION PUNCHLIST ITEMS, THE GC MUST CORRECT THEM AND RESCHEDULE COMMISSIONING WITH MANUFACTURER.

VISIT 2: HVAC CONTROLS COMMISSIONING

THE CONTROLS COMMISSIONING IS PERFORMED BY THE MANUFACTURER IN CONJUNCTION WITH THE GENERAL CONTRACTOR AND THE MECHANICAL AND ELECTRICAL SUBCONTRACTORS. ALLOW FOR 4 HOURS TO COMPLETE THE CONTROLS COMMISSIONING. (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.)

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

1. CONTRACTOR TO COMPLETE AND EMAIL, OR FAX, THE CONTROLS COMMISSIONING SURVEY TO MANUFACTURER 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 MANUFACTURER 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 TRANE'S SITE VISIT #3 SURVEY PRIOR TO THE VISIT BEING SCHEDULED.

THE CONTRACTOR IS RESPONSIBLE FOR HAVING THE MECHANICAL SUBCONTRACTOR AND THE ELECTRICAL SUBCONTRACTOR ON SITE DURING THE FINAL INSPECTION. BUDGET 4 HOURS FOR THE FINAL INSPECTION.

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

THE TRANE TECHNICIAN WILL WRITE THE HVAC CONTROL NUMBER ON THE STICKER INSIDE THE WR CONTROLS PANEL (IFS PANEL) AND ON THE FINAL VISIT CHECK LIST.

NATIONAL ACCOUNTS HVAC SUPPLIER GENERAL NOTES

EXCEPT AS OTHERWISE INDICATED ON THE DRAWINGS:

HVAC EQUIPMENT NOTED HAS BEEN PREPURCHASED BY LIMITED STORE DESIGN & CONSTRUCTION. WITHIN THE FIRST WEEK OF CONSTRUCTION, THE GENERAL CONTRACTOR OR THEIR MECHANICAL SUBCONTRACTOR SHALL NOTIFY SUPPLIER VIA EMAIL.

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. EQUIPMENT AND ACCESSORIES ARE TO BE SHIPPED BY ANY SPECIAL SHIPPING INSTRUCTIONS REQUIRED OR REQUESTED. ALLOW A MINIMUM OF TWO WEEKS AFTER CONSTRUCTION STARTS FOR DELIVERY UNLESS SPECIAL ARRANGEMENTS ARE MADE PRIOR TO THE START OF CONSTRUCTION.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL SHIPPING COST INCURRED IF DELIVERY IS REQUIRED PRIOR TO THE STANDARD TWO WEEKS SCHEDULED.

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

IF OWNER'S REPRESENTATIVE IS PERFORMING START UP, THEN GC AND/OR MECHANICAL CONTRACTOR MUST COORDINATE WITH MANUFACTURER REP. 2 WEEKS PRIOR TO CONSTRUCTION END DATE.

TRANE CONTACT INFORMATION

JODY SOWERS
TRANE TECHNICAL SUPPORT, PRIMARY
EMAIL: JSOWERS@TRANE.COM
PHONE NO: 866.415.2499

ROLLAND SCOTT
TRANE TECHNICAL SUPPORT, SECONDARY
EMAIL: ROLLAND.SCOTT@TRANE.COM
PHONE NO: 866.415.2499

JOHN D'AGOSTINO
EQUIPMENT SUPPORT
EMAIL: JOHN.DAGOSTINO@TRANE.COM
PHONE NO: 866.415.2499

SCOTT DAVIS
PROJECT MANAGER AND HVAC COMMISSIONING
EMAIL: SCOTT.DAVIS@TRANE.COM
PHONE NO: 866.415.2499

ABBREVIATIONS – MECHANICAL

AABC	AMERICAN AIR BALANCE COUNCIL
A/C	AIR CONDITIONING UNIT
ABV	ABOVE
AD	ACCESS DOOR
AFD	APPROVED FIRE DAMPER
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS
BDD	BACK DRAFT DAMPERS
BEL	BELOW
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTUH	BRITISH THERMAL UNIT PER HOUR
CAP	CAPACITY
CD	CEILING DIFFUSER OR CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	CEILING, COOLING
CO2	CARBON DIOXIDE
CONN	CONNECTION OR CONNECTOR
CONT	CONTINUOUS
CONTR	CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DB	DRY BULB, DECIBEL
DEG	DEGREE
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DISCH	DISCHARGE
DL	DOOR LOUVER
DN	DOWN
DTR	DOWN THRU ROOF
DWG	DRAWING
EA	EXHAUST AIR
EAG	EXHAUST AIR GRILLE
EAR	EXHAUST AIR REGISTER
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
ELEC	ELECTRIC
ELV	ELEVATION
ENCL	ENCLOSURE

EQUIV	EQUIVALENT
ESP	EXTERNAL STATIC PRESSURE
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
F	FAHRENHEIT
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
G	GAS
GAL	GALLONS
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HORSEPOWER
HTR	HEATER
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INSIDE DIAMETER
IN	INCH
KW	KILOWATT
LL	LANDLORD
L	LONG
LB	POUND
LF	LINEAR FEET
LIN DIFF	LINEAR DIFFUSER
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MFR	MANUFACTURER
MOCP	MAXIMUM OVER CURRENT PROTECTION
MTD	MOUNTED
MTR	MOTOR
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
N.C.	NORMALLY CLOSED
N.I.C.	NOT IN CONTRACT
N.O.	NORMALLY OPEN
N/A	NOT APPLICABLE
NTS	NOT TO SCALE

OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION OR DIAMETER
OPNG	OPENING
OA	OUTDOOR AIR
P	PUMP
PD	PRESSURE DROP
PLBG	PLUMBING
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
RAG	RETURN AIR GRILLE
RAR	RETURN AIR REGISTER
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAG	SUPPLY AIR GRILLE
SAR	SUPPLY AIR REGISTER
SCH	SCHEDULE
SENS	SENSIBLE
SF	SUPPLY FAN, SQUARE FOOT
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SOV	SHUT-OFF VALVE
SP	STATIC PRESSURE
SQ	SQUARE
SQ FT	SQUARE FEET
SS	STAINLESS STEEL
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL
UC	UNDERCUT
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UTR	UP THRU ROOF
VAV	VARIABLE AIR VOLUME
VENT	VENTILATION, VENTILATOR
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF
W	WATT
WB	WET BULB
WCO	WALL CLEANOUT
WG	WATER GAUGE
WT	WEIGHT

MECHANICAL GENERAL NOTES AND ABBREVIATIONS | NTS | 00N-M0101-J00-NOTE | J | 12/11/13

FAN TERMINAL UNIT SCHEDULE

MARK (FPVAV-#)	1	2	3	4
MANUFACTURER	TITUS	TITUS	TITUS	TITUS
MODEL	DTQS	DTQS	DTQS	DTQS
FAN SIZE	3	4	2	6
INLET SIZE	10" DIA.	12" DIA.	8" DIA.	14" DIA.
MAXIMUM PRIMARY AIR FLOW (CFM)	800	1200	600	1560
MINIMUM AIR FLOW (CFM)	200	300	150	350
FAN PERFORMANCE				
MAXIMUM AIR FLOW (CFM)	800	1200	600	1560
EXTERNAL STATIC (IN W.C.)	0.5	0.5	0.5	0.5
FAN MOTOR HP	1/4	1/3	1/6	3/4
ELECTRIC HEAT				
POWER INPUT (WATTS)	5,000	5,000	N/A	N/A
HEAT OUTPUT (BTU/HR)	17,000	17,000		
STAGES	1	1		
ELECTRICAL				
VOLTS/Ø/HZ	460/3/60	460/3/60	277/1/60	277/1/60
FAN MOTOR AMPS (277/1/60)	2.4	2.9	1.3	5.4
ELECTRIC HEATER AMPS	6.0	6.0		
MCA (AMPS)	10.5	11.2	1.6	6.8
MOCP (AMPS)	15	15	15	15
APPROX. WEIGHT (LBS)	175	180	145	225
ACCESSORIES	1-2	1-2	1-2	1-2
NOTES	1	1	1	1

ACCESSORIES ("S" INDICATES STANDARD; "O" INDICATES OPTIONAL):
1. S-FACTORY PROVIDED DISCONNECT SWITCH.
2. S-FACTORY PROVIDED CONTROL TRANSFORMER.

NOTES:
1. REFER TO CONTROL WIRING SCHEMATICS FOR ANY FIELD INSTALLED CONTROL DEVICES NOT FACTORY INSTALLED.

FAN TERMINAL UNIT SCHEDULE

MARK (FPVAV-#)	5			
TRANE PACKAGE NUMBER	TITUS			
MODEL	DTQS			
FAN SIZE	6			
INLET SIZE	14" DIA.			
MAXIMUM PRIMARY AIR FLOW (CFM)	1850			
MINIMUM AIR FLOW (CFM)	350			
FAN PERFORMANCE				
MAXIMUM AIR FLOW (CFM)	1850			
EXTERNAL STATIC (IN W.C.)	0.5			
FAN MOTOR HP	3/4			
ELECTRIC HEAT				
POWER INPUT (WATTS)	N/A			
HEAT OUTPUT (BTU/HR)				
STAGES				
ELECTRICAL				
VOLTS/Ø/HZ	277/1/60			
FAN MOTOR AMPS	5.4			
ELECTRIC HEATER AMPS				
MCA (AMPS)	6.8			
MOCP (AMPS)	15			
APPROX. WEIGHT (LBS)	225			
ACCESSORIES	1-2			
NOTES	1			

ACCESSORIES ("S" INDICATES STANDARD; "O" INDICATES OPTIONAL):
1. S-FACTORY PROVIDED DISCONNECT SWITCH.
2. S-FACTORY PROVIDED CONTROL TRANSFORMER.

NOTES:
1. REFER TO CONTROL WIRING SCHEMATICS FOR ANY FIELD INSTALLED CONTROL DEVICES NOT FACTORY INSTALLED.

MECHANICAL EQUIPMENT SCHEDULES | NTS | 00N-M0101-F03-SCHD | F | 12/11/13

THIS SET IS PART OF THE CONSTRUCTION DOCUMENTS, OTHER SHEETS INCLUDING PLANS, DETAILS AND SPECIFICATIONS APPLY. THAT SHOWN HEREON IS SCHEMATIC IN NATURE AND NOT TO BE USED AS A SHOP DRAWING; THEREFOR, INCLUDE ALL MODIFICATIONS REQUIRED TO CONFORM TO SITE CONDITIONS AND THE EQUIPMENT AND MATERIAL USED. VERIFY LOCATIONS AND DIMENSIONS OF ALL ARCHITECTURAL AND STRUCTURAL ELEMENTS AS SHOWN ON THEIR RESPECTIVE DOCUMENTS, THESE ELEMENTS ARE SHOWN FOR REFERENCE AND SHALL BE VERIFIED PRIOR TO CONSTRUCTION AND THE ENGINEER ASSUMES NO LIABILITY FOR THE ACCURACY OF THESE ELEMENTS. NO DESIGN RESPONSIBILITY IS ASSUMED FOR ANY PORTION OF THE WORK THAT THE PROFESSIONAL ENGINEER HAS NOT SIGNED AND SEALED PER STATE OR PROVINCE REQUIREMENTS.

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

MARK	SD-1	SD-2	SD-3	SD-4	SD-5
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	ACUTHERM
MODEL	OMNI	OMNI	TMSA	TMSA	TK-HC
NECK SIZE (L"XW")	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	6"ø
FRAME SIZE (L"XW")	24"X24"	24"X24"	24"X24"	12"X12"	13"X13"
FRAME TYPE	LAY-IN	LAY-IN	LAY-IN	LAY-IN	LAY-IN
FINISH*	TITUS #26	TITUS #26	TITUS #26	TITUS #26	WHITE
NOISE CRITERIA LEVEL	<30	<30	<30	<30	<30
ACCESSORIES	2	2,6	2	4,6	7
NOTES	1	1	1	1	4,5
MARK	SD-6	SD-7	SD-8	SD-9	SD-10
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL	300RS	OMNI	TMSA	TDC	OMNI
NECK SIZE (L"XW")	8"X8"	SEE PLAN	SEE PLAN	9"X9" / 8"ø	SEE PLAN
FRAME SIZE (L"XW")	10"X10"	12"X12"	24"X24"	12"X12"	24"X24"
FRAME TYPE	SURFACE	LAY-IN	LAY-IN	TYPE 3 / G2	LAY-IN
FINISH*	TITUS #26	TITUS #26	TITUS #26	TITUS #26	TITUS #84
NOISE CRITERIA LEVEL	<30	<30	<30	<30	<30
ACCESSORIES	1	4,6	2,6	4,6	2,6
NOTES	3	1	1	8	1
MARK	SD-11	SD-12	SD-13		
MANUFACTURER	TITUS	TITUS	TITUS		
MODEL	OMNI	TDC	OMNI		
NECK SIZE (L"XW")	SEE PLAN	9"X9" / 8"ø	SEE PLAN		
FRAME SIZE (L"XW")	12"X12"	12"X12"	24"X24"		
FRAME TYPE	LAY-IN	TYPE 3 / A3	TYPE 3 / A3		
FINISH*	TITUS #84	TITUS #26	TITUS #84		
NOISE CRITERIA LEVEL	<30	<30	<30		
ACCESSORIES	4,6	4,6	2		
NOTES	1	1,8	1		
MARK	LD-1	LD-2	LD-3		
MANUFACTURER	PRICE	PRICE	PRICE		
MODEL	AS210	AS210	AS220		
NECK SIZE (L"XW")	SEE PLAN	SEE PLAN			
FRAME SIZE (L"XW")	4' X (2) 1" SLOTS	4' X (2) 1" SLOTS	4' X (1) 2" SLOT		
FRAME TYPE	TYPE 21P	TYPE 21P	TYPE 21P		
FINISH*	PRICE #B17	PRICE #B12	PRICE #B17		
NOISE CRITERIA LEVEL	<30	<30	<30		
ACCESSORIES	4,5,8	4,5,8	9		
NOTES					
MARK	RG-1	RG-2	RG-3/EAG-1	RG-4	RG-5
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL	355RL	355RL	355RL	50F	355RL
NECK SIZE (L"XW")	22"X10"	22"X10"	10"X10"	22"X22"	22"X10"
FRAME SIZE (L"XW")	24"X12"	24"X12"	12"X12"	24"X24"	24"X12"
FRAME TYPE	LAY-IN	LAY-IN	LAY-IN	LAY-IN	SURFACE
FINISH*	TITUS #26	TITUS #26	TITUS #26	TITUS #26	TITUS #26
NOISE CRITERIA LEVEL	<30	<30	<30	<30	<30
ACCESSORIES		6	6, SEE NOTES		6
NOTES	2	2	2,6		2
MARK	RG-6	RG-7	RG-8/EAG-2	RG-9	RG-10
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL	PAR	355RL	355RL	355RL	355RL
NECK SIZE (L"XW")	22"X22"	22"X22"	10"X10"	22"X10"	22"X22"
FRAME SIZE (L"XW")	24"X24"	24"X24"	12"X12"	24"X12"	24"X24"
FRAME TYPE	LAY-IN	LAY-IN	LAY-IN	LAY-IN	LAY-IN
FINISH*	TITUS #26	TITUS #26	TITUS #84	TITUS #84	TITUS #84
NOISE CRITERIA LEVEL	<30	<30	<30	<30	<30
ACCESSORIES		6	6, SEE NOTES	2,6	6
NOTES		2	2,6	2	2
MARK	RG-11				
MANUFACTURER	TITUS				
MODEL	355RL				
NECK SIZE (L"XW")	22"X10"				
FRAME SIZE (L"XW")	24"X12"				
FRAME TYPE	LAY-IN				
FINISH*	TITUS #26				
NOISE CRITERIA LEVEL	<30				
ACCESSORIES	2				
NOTES	2				

ACCESSORIES:
1. OBD-OPPOSED BLADE DAMPER.
2. LQD-LOCKING QUADRANT VOLUME DAMPER (PROVIDED BY MECHANICAL CONTRACTOR). SEE MECHANICAL SPECIFICATIONS SECTION 233300.D.1.
3. CFD-RUSKIN MODEL CFD OR CFDR FIRE DAMPER WITH VOLUME CONTROL.
4. YRD-YOUNG'S REGULATOR REMOTE DAMPER WITH CABLE CONTROL SYSTEM (MODEL 5020-CC) (PROVIDED BY MECHANICAL CONTRACTOR).
5. ASPI-INSULATED ENGINEERED LINEAR SLOT PLENUM FOR CONCEALED MOUNTING PROVIDED BY FACTORY.
6. TRM-RAPID MOUNT FRAME FOR GYPSUM CEILINGS.
7. 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.
8. FURNISH WITH TYPE WW ENDCAPS AND PATTERN CONTROLLERS.
9. FURNISH WITH TYPE WW ENDCAPS AND RB220 SIGHT BAFFLE.

NOTES:
1. 4-WAY DIFFUSER (UNLESS 1-WAY, 2-WAY OR 3-WAY AS INDICATED ON PLAN).
2. INSTALL BLADES FACING THE BACK OF STORE, CABINET, OR WALL.
3. GC TO FIELD PAINT DIFFUSERS TO MATCH CEILING OR WALL WITH ENAMEL FINISH.
4. PROVIDE WITH GYP BOARD FRAME.
5. MC TO PROVIDE 24V POWER TO DIFFUSER FROM FPVAV-1 CONTROL TRANSFORMER AND FROM DIFFUSER TO WALL ADJUSTER.
6. PROVIDE ACCESSORY 1 FOR GRILLES LABELED EAG-1 OR EAG-2.
7. MC SHALL PROVIDE SQUARE TO ROUND ADAPTOR.
8. BORDER TYPE 3 IS LAY-IN STYLE. PATTERN TYPE G2 IS 2-WAY ADJACENT THROW PATTERN FOR SQUARE DIFFUSERS. PATTERN A3 IS A 3-WAY THROW PATTERN. INSTALL DIFFUSERS SO THROW IS AWAY FROM NEAREST WALLS.

* FINISH REFERENCE: TITUS #26 IS WHITE; TITUS #84 IS BLACK; PRICE #B12 IS WHITE; PRICE #B17 IS BLACK

AIR DEVICE SCHEDULE | NTS | 05N-M0101-B00-SCHD | B | 02/18/14

LEGEND & SYMBOLS

⊠	SUPPLY AIR DIFFUSER
⧄	RETURN AIR GRILLE
	ACCESS PANEL
	EXHAUST AIR REGISTER
S OR R	LINEAR DIFFUSER S=SUPPLY, R=RETURN
	NEW DUCTWORK
	EXISTING DUCTWORK TO REMAIN
	EXISTING DUCTWORK TO BE REMOVED
	FLEXIBLE AIR DUCT 4'-0" MAX.

	MANUAL VOLUME DAMPER
CFSD	COMBINATION FIRE/SMOKE DAMPER
FD	FIRE DAMPER
ABD	AUTOMATIC BACKDRAFT DAMPER
EOD	ELECTRONICALLY OPERATED DAMPER
U/C	UNDERCUT DOOR
CO2	CARBON DIOXIDE SENSOR
H	HUMIDISTAT
S	TEMPERATURE SENSOR
T	THERMOSTAT
S	DUCT SMOKE DETECTOR
	POINT OF CONNECTION

NOTE: (N)=NEW, (R)=RELOCATED, (E)=EXISTING

LEGEND & SYMBOLS | NTS | 00N-M0101-A00-LGND | A | 08/12/11

LARSON BINKLEY
Larson Binkley, Inc.
310 W 20th Street, Suite 200
Kansas City, Missouri 64108
T 816-997-9601
F 816-997-9602
larsonbinkley.com
Kentucky Certificate of Authorization Number 1127

Limitedbrands
LIMITED STORE PLANNING, INC.
d/b/a STORE DESIGN & CONSTRUCTION
Three Limited Parkway · Columbus, Ohio 43230
Telephone: 614.415.7000 · Fax: 614.415.7349

PROJECT INFORMATION:
010501726
PINK VICTORIA'S SECRET
FAYETTE MALL
3401 NICHOLASVILLE RD
SPACE # I-904
LEXINGTON, KY 40503

SCOPE: NEW | PACKAGE: A
DESIGN TYPE: PINK | GENERATION: 151Sa
LSD&C PROJECT #: 00062007 | A/E PROJECT #: 20140534

REVISIONS:
REQUIRED BY: DATE

ELITE CONSTRUCTION GROUP
LAKE JACKSON, TX
PHONE: 979-285-0712
NOTE: THESE PRINTS HAVE BEEN REDUCED BY 50 PERCENT. SCALE WILL BE 50 PERCENT OF WHAT IS NOTED ON PLANS

DATE ISSUED: 09-05-2014
DESIGNED BY: RGE
DRAWN BY: RGE
CHECKED BY: JMC

MECHANICAL NOTES AND SCHEDULES

DRAWING NUMBER:
M01.01