Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
CINCINNATI, OH 45246

NATIONAL TAB

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Report: Commissioning

Date: 3/28/2022

PROJECT

Shake Shack (Lee's Summit) - Commissioning

2051 NW Lowenstein Drive

Lee's Summit, MO 64081

Client

24 Union Square East, 5th Fl

New York, NY 10003

National TAB

Project: Shake Shack (Lee's Summit) - Commissioning

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Shake Shack (Lee's Summit) - Commissioning

CheckList Information

Name :	(FIV) - ABOVE CEILING KVS, RESTROOM, AND HVAC DUCT	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

KVS - GREASE DUCT (HOOD SYSTEM)	
Grease duct is sized and routed per plan	
Grease duct is properly supported	
Grease duct has code required negative pitch from fan inlet back to the hood riser connection	
Grease duct has required clean-out doors installed, labeled, and accessible for removal/cleaning. Doors are located as required by code	
Grease duct clean-out doors are secured using tool less fasteners and seal fully when hand tightened	
Grease duct is centered in the curb and transitions as required to ensure the fan inlet is fully covered by the grease duct opening. Duct top plate flanges to the edges of the curb and is secured and flat so that the fan sits flush and square.	
Grease duct has has been pressure tested to ensure there is no pin-holes and is sealed liquid tight	
Grease duct inspection has been completed and passed by local AHJ	
Grease duct fire wrap layer #1 has been installed per MFG and local code requirements, inspected and passed by local AHJ	
Grease duct fire wrap layer #2 has been installed per MFG and local code requirements, inspected and passed by local AHJ	
KVS - MUA DUCT (HOOD SYSTEM)	

	MUA duct is routed and sized as per plan	
	MUA duct is properly supported	
	MUA duct seams are sealed air tight using proper sealant and application for SMACNA pressure rating of duct systems	
	MUA duct is externally insulated and taped to prevent vapor barrier from being breached	
	MUA duct drop box and transitions are done to encourage laminar flow and avoid restrictions	
	Branch take-off's have accessible dampers exposed for the TAB team to adjust each line as necessary	
	Flex duct (if used) is supported and straight with no more than one (1) hard 90 degree elbow and less than 5ft in total length	
	Connection to the hood MUA plenum is secured and foil taped to prevent air leakage	
RESTROOM DUCT		
	Restroom duct is routed and sized per plan	
	Restroom duct is properly supported	
	Duct seams are sealed	
	Dampers are accessible to TAB team for balancing	
	Flex duct (if used) is supported and straight with no more than one (1) hard 90 degree elbow and less than 5ft in total length	
	Duct is secured to exhaust register	
	Gravity damper is installed, opens and closes freely, and is sealed to prevent air leakage	
	Duct to curb transition is centered and sized to ensure it covers the entire fan inlet. Curb top plate is flush and secured to the ends of the curb.	
HVAC DUCT		
	Kitchen and Dining room duct is routed and sized as per plan	
	Ducts are properly supported	
	Duct seams are sealed air tight using proper sealant and application for SMACNA pressure rating of duct systems	

	Ducts are securely insulated as per specifications and foil taped to prevent air barrier from being breached	
	All branch lines are installed to serve required terminal diffusers and are equipped with accessible branch dampers for TAB team access and can be opened or closed fully with no impingements	
	Flex duct (if used) is supported and straight with no more than one (1) hard 90 degree elbow and less than 5ft in total length	
	Branch line to diffuser is installed securely to prevent slippage and air leakage	
	All diffuser neck or opening sizes are installed as planned	
	Supply and Return duct transitions to top of RTU curb, sized to full width and length of opening and is flashed fully to the sides of the curb.	

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CheckList Information

Name :	(FIV) - THERMOSTAT, HUMIDITY SENSORS, AND CONTROLS	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Space sensors and humidity sensors are installed per plan in the proper location and orientation	Pass
Thermostats are installed in the office and properly tagged for the location/sensor they serve	Pass
Thermostats are wired to each sensor(s)	Pass
Thermostats are wired to their respective RTU	Pass
Validate the humidity sensor is wired from the thermostat to each RTU	N/A
Validate the occupancy sensor is wired to the RTU for proper control based on the thermostat call for occupied or unoccupied periods	Pass
Ensure the sensors are insulated from any external wall if placed on external walls	N/A
Ensure the sensors are installed in areas that are not affected by radiant, HVAC air systems, or other appliance which would cause false readings	Pass
Ensure the sensors are not located in a area that would require additional protection to prevent inadvertent physical harm.	Pass

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CheckList Information

Name :	(FIV) - RTU'S	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

RTU - IDENTIFICATION, ORIENTATION & LOCATION	
Identify and ensure the RTU tag information and size is correct	Pass
Each RTU is Tagged for identification and is sized and located for visual ease	Pass
Ensure proper location of unit	Pass
Ensure orientation of curb & RTU is per plan	Pass
Ensure Packing in the blower compartment has been removed	Pass
RTU - INSTALLATION DETAILS	
With disconnect switch "off" spin the indoor and outdoor fan wheel's by hand and ensure they spin freely	Pass
Ensure Roof Curb is fully flashed by roofing material and secured and curb is level	Pass
Inspect the interior of the supply heat exchange compartment and return air compartment - validate that the duct is flashed and sealed to the top of the curb to prevent leakage or short cycling	Pass
Hail guards installed on outdoor condenser coils	Pass
RTU - ACCESSORIES	
Power connected & disconnect installed	Pass
Gas line connected per specification (size, painting, supports, shut-off valves, traps)	Pass

Evaporator coil filters are properly installed with specified MERV rating	Pass
OA hood & filters installed	Pass
Economizer wired to control board	Pass
Economizer damper is installed properly	Pass
Economizer OA temperature / enthalpy sensors installed and wired	Pass
Relief Fan or barametric relief damper is installed per submittal	Pass
Space thermostat and humidity control and occupied wires are properly landed to RTU terminals	Pass
Condensate drain installed per specification	Pass
Condensate line drains away from unit to a approved roof drain (water is not allowed to pool on the roof)	Pass

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CheckList Information

Name : (FPT) - PACKAGED RTU (DINING)

Status : NotSubmitted

Assigned Organization : National TAB

Asset :

Requesting Organization : National TAB

CheckList Item Details

THERMOSTAT PROGRAMMING AND CALIBRATION	
Occupied Time	10:30 AM
Occupied Heat setpoint - Cooling Setpoint - Dehumidification Setpoint	70 / 74 / No dehumidification
Unoccupied Time	10:30 PM
Unoccupied Heat Setpoint - Cooling Setpoint - Dehumidification Setpoint	64 / 78 / No Dehumidification
Space Sensor (TSTAT) Temp and RH reading / Commissioning Agent Space Temp and RH reading	70 space Avg Thermostat Reading: 70.2 (Window Sensor CxA reading) 70.9 (Dining Corridor Sensor CxA reading): Sensors are calibrated within +/- 1.5 degrees
Sensor Calibration Is within +/- 1.5 degree	Pass
CONTROL WIRING VALIDATION	
Economizer Dry Bulb sensor wired	Pass
Economizer Dry Bulb sensor operational	Pass
Occupied stat wired correctly	Pass
Thermostat Wired correctly (R,C,Y1,Y2,W1,W2)	Pass
Humidity Sensor Wired correctly	No dehumidification is specified for RTU's at this location.
CALIBRATION & PROGRAMMING	
Local Weather Data Temperature	63 degree

RTU-Honeywell setpoint: Economizer DB StPt, Reading Accuracy (+/- 2 degrees / 10 minute time to calibrate to actual reading) Comment	Occupied : (Pass) Control : (Pass) 55 degree, Sensor is +1.4 degree from reading
RTU-Honeywell setpoint: MAT StPt, Reading Accuracy (+/- 2 degrees / 10 minute time to calibrate to actual reading) Comment	Occupied : (Pass) Control : (Pass) 53 degree, Sensor is within + 2 degrees (full cool)
RTU-Honeywell setpoint: MAT Low StPt	45 degree
RTU-Honeywell setpoint: Low T Lockout	32 degree
Ventilation Mode Sequence Comment	Occupied : (Pass) Control : (Pass) Fan Low speed, OA damper to low speed TAB position, Space temp satisfied
Unoccupied - Fan Auto Comment	Unoccupied : (Pass) Control : (Pass) Fan off, OA damper shut, Space temp satisified
Stage 1 Heat Sequence Comment	Occupied : (Pass) Control : (Pass) Fan high speed, OA damper to high speed TAB position, Stage 1 heat energized (W1: 22.7v), Thermostat Display "Heat on"
Stage 2 Heat Sequence Comment	Occupied : (Pass) Control : (Pass) Fan high speed, OA damper to high speed TAB position, Stage 2 heat energized (W1: 22.1v, W2: 22.1v), Thermostat Display "Heat on 2"
Heat Sequence (Unoccupied) Comment	Unoccupied : (Pass) Control : (Pass) Fan high speed, OA damper remains closed when heat cycles on
Stage 1 Cooling Sequence Comment	Occupied : (Pass) Control : (Pass) Fan low speed, OA damper to low speed TAB position, Stage 1 cool energized (Y1:23.4 v), Thermostat Display "Cool On"
Stage 2 Cooling Sequence Comment	Occupied : (Pass) Control : (Pass) Fan high speed, OA damper to high speed TAB position, Stage 2 cool energized (Y1:23.1v, Y2: 23.1v), Thermostat Display "2 Cool On"
Cooling Sequence (Unoccupied) Comment	Unoccupied : (Pass) Control : (Pass) Fan speed, OA damper remains closed when cooling cycles on

Stage 1 cooling Temperature	Occupied : (Pass) Control : (Pass)
Comment	56 deg [mix air 69 deg]
Stage 2 cooling Temperature	Occupied : (Pass) Control : (Pass)
Comment	44 deg [mix air 69 deg] (MAT low temp alarm)
Stage 1 Heating Temperature	Occupied : (Pass) Control : (Pass)
Comment	113 deg (approx 41 deg T-Rise)
Stage 2 Heating Temperature	Occupied : (Pass) Control : (Pass)
Comment	132 deg (approx 60 deg T-Rise)
OUTDOOR AIR / RELIEF DAMPER	
Open Free cooling and confirm OA damper opens 100% RA air damper closes 0% and relief fan energizes	Occupied : (Pass) Control : (Pass)
Comment	OA damper opened 100%, Relief Fan energized
OCCUPANCY VALIDATION	
Place the thermostat in "unoccupied" - Does the OA damper close fully	Unoccupied : (Pass) Control : (Pass)
Comment	
Stage cooling and Heating in "unoccupied" - Does the unit properly stage and does the OA damper remain closed	Unoccupied : (Pass) Control : (Pass)
Comment	OA damper remains closed on cooling and heating being energized
Place the thermostat in "Occupied" - Does the OA damper open to the TAB preset minimum position in High speed (heat stage 1, heat stage 2, cooling stage 2)	Occupied : (Pass) Control : (Pass)
Comment	
Place the thermostat in "Occupied" - Does the OA damper open to the TAB preset minimum position in ventilation or Stage 1 cooling mode, Low speed	Yes

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CheckList Information

Name :	(FPT) - PACKAGED RTU (KITCHEN)	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

THERMOSTAT PROGRAMMING AND CALIBRATION	
Occupied Time	6:00 AM
Occupied Heat setpoint - Cooling Setpoint - Dehumidification Setpoint	70 / 74 / No Dehumidification
Unoccupied Time	11:00 PM
Unoccupied Heat Setpoint - Cooling Setpoint - Dehumidification Setpoint	64 / 78 / No Dehumidification
Space Sensor (TSTAT) Temp and RH reading / Commissioning Agent Space Temp and RH reading	Space Sensor Thermostat: 69 Deg, CxA reading: 68 Deg. +1 degree of reading
Sensor Calibration is within +/- 1 degree	Pass
CONTROL WIRING VALIDATION	
Economizer Dry Bulb sensor wired	Pass
Economizer Dry Bulb sensor operational	Pass
Occupied stat wired correctly	Pass
Thermostat Wired correctly (R,C,Y1,Y2,W1,W2)	Pass
Humidity Sensor Wired correctly	No Dehumidification specified for RTU's at this location
CALIBRATION & PROGRAMMING	
Local Weather Data Temperature	63 degree

RTU-Honeywell setpoint: Economizer DB StPt, Reading Accuracy (+/- 2 deg / 10 minute time to calibrate to actual reading) Comment	Occupied : (Pass) Control : (Pass) 52 degree, +2 degree
RTU-Honeywell setpoint: MAT StPt, Reading Accuracy (+/- 2 deg / 10 minute time to calibrate to actual reading) Comment	Occupied : (Pass) Control : (Fail) 53 degree, +6 degree (slow to respond, consider moving sensor)
RTU-Honeywell setpoint: MAT Low StPt	45 degree
RTU-Honeywell setpoint: Low T Lockout	32 degree
Ventilation Mode Sequence Comment	Occupied : (Pass) Control : (Pass) Fan Low speed, OA damper to preset TAB position, Space Temp Satisfied
Unoccupied Fan Auto Sequence Comment	Unoccupied : (Pass) Control : (Pass) Fan off, OA damper shut, Space Temp satisfied
Stage 1 Heat Sequence Comment	Occupied : (Pass) Control : (Pass) Fan high speed, OA damper to high speed TAB position, Stage 1 heat energized (W1: 22v), Thermostat Display "Heat On"
Stage 2 Heat Sequence Comment	Occupied : (Pass) Control : (Pass) Fan high speed, OA damper to high speed TAB position, Stage 2 heat energized (W1: 22v, W2: 22v), Thermostat Display "Heat On 2"
Heat Sequence (unoccupied) Comment	Unoccupied : (Pass) Control : (Pass) Fan high speed, OA damper remains closed when heat cycles on
Stage 1 Cooling Sequence Comment	Occupied : (Pass) Control : (Pass) Fan Low speed, OA damper to low speed TAB position, Stage 1 cool energized (Y1 22.1v) Thermostat Display "Cool On"
Stage 2 Cooling Sequence Comment	Occupied : (Pass) Control : (Pass) Fan High speed, OA damper to low speed TAB position, Stage 2 cool energized (Y1 22.1v, Y2 22.1v) Thermostat Display "2 Cool On"
Cooling Sequence (Unoccupied) Comment	Unoccupied : (Pass) Control : (Pass) OA damper remains closed when cooling cycles on in unoccupied

Stage 1 Cooling Temperature	Occupied : (Pass) Control : (Pass)
Comment	50.2 (mix air 67 Deg)
Stage 2 Cooling Temperature	Occupied : (Pass) Control : (Pass)
Comment	46.9 Deg (mix air 67 Deg)
Stage 1 Heating Temperature	Occupied : (Pass) Control : (Pass)
Comment	128.4 Deg (approx 55 deg T-Rise)
Stage 2 Heating Temperature	Occupied : (Pass) Control : (Pass)
Comment	140 Deg (approx 65 deg T-Rise)
OUTDOOR AIR / RELIEF DAMPER	
Open Free cooling and confirm OA damper opens 100% RA air damper closes 0% and relief fan energizes	Occupied : (Pass) Control : (Pass)
Comment	OA damper opens 100%, Relief Fan energizes, Fan low speed in stage 1 free cooling, Fan high speed in stage 2 free cooling
OCCUPANCY VALIDATION	
Place the thermostat in "unoccupied" - Does the OA damper close fully	Unoccupied : (Pass) Control : (Pass)
Comment	
Stage cooling and Heating in "unoccupied" Does the unit properly stage and does the OA damper remain closed	Unoccupied : (Pass) Control : (Pass)
Comment	OA damper opens to TAB position, needs to remain closed
Place the thermostat in "Occupied" - Does the OA damper open to the TAB preset minimum position in High speed (heat stage 1, heat stage 2, cooling stage 2)	Occupied : (Pass) Control : (Pass)
Comment	
Place thermostat in "occupied" Does the OA damper open to the TAB minimum position in ventilation or Stage 1 cooling, low speed	Occupied : (Pass) Control : (Pass)
Comment	

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CheckList Information

Name :	(FIV) - IAQ PHI DEVICES	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

IAQ Phi device tag information is as designed and submitted	Pass
IAQ Phi device is located and installed securely in the blower compartment	Pass
IAQ Phi device is properly wired to the RTU Transformer, the Transformer is properly sized for the PHI device, if not a separate 24vac transformer is installed for PHI operation.	Pass
All wiring from the electrical control cabinet to the blower housing is neatly done and secured (not loose) with zip ties to prevent any loose wiring from interfering with other electrical or mechanical components	Pass
Installation of the PHI device does not obscure or prevent maintenance from other components of the RTU	Pass
PHI unit transformer is wired to be energized at all times unless the RTU disconnect is turned "off"	Pass
A Sticker has been located on the unit to indicate UV light in the blower cabinet and to turn the unit off before servicing	Pass
A Sticker is located inside the electrical compartment to indicate the make, model, SN and electrical data of the installed PHI unit.	Pass

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CheckList Information

Name : (FPT) - IAQ RTU DINING ROOM

Status : NotSubmitted

Assigned Organization : National TAB

Asset :

Requesting Organization : National TAB

CheckList Item Details

IAQ RGF PHI SYSTEM

National TAB sticker on electrical panel with Install date, Serial No., replacement cell date	Yes, Installed: 11/11/21, SN: X1VPKG14011: cell replacement date: 11/11/23
Transformer input VAC	211 VAC
Transformer output VAC	24.3 VAC
PHI amperage	1.0 / 0.98 AMPS
Total running load VA	24.1 VA
Transformer rated VA	40VA
Transformer Amp Size	1.67 Amps
PHI - UV light is on when disconnect is "on"	Pass
PHI - UV light is off when disconnect is "off"	Pass

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CheckList Information

Name :	(FPT) - IAQ RTU KITCHEN	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

IAQ RGF PHI SYSTEM

National TAB sticker on electrical panel with Install date, Serial No., replacement cell date	Yes, Installed: 11/11/21, SN: X1VPKG14042: cell replacement date: 11/11/23
Transformer input VAC	211 VAC
Transformer output VAC	24.7 VAC
PHI amperage	0.87 / 0.81 AMPS
Total running load VA	20.7 VA
Transformer rated VA	40VA
Transformer Amp Size	1.67 Amps
PHI - UV light is on when disconnect is "on"	Pass
PHI - UV light is off when disconnect is "off"	Pass

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CheckList Information

Name :	(FIV) - KITCHEN HOOD	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

HOOD INSTALLATION DETAILS	
Kitchen hoods TAG's match design and submitted information	Pass
Kitchen hoods are hung Level using 1/2" threaded rod	Pass
Kitchen hoods are supported using beam clamps and/or Unistrut per required structural and local AHJ requirements	Pass
Kitchen hoods are hung level front to back and side to side	Pass
Kitchen hoods are hung at 80" AFF	Pass
Kitchen Hoods are flush against the wall along the bottom and each of it's side walls.	Pass
Caulk is applied (less than 1/8" thick) from the hood against all wall surfaces or between connecting side to side hoods to prevent grease accumulation inside any crevice.	Pass
There are no penetrations into the hood canopy other than fire system nozzles	Pass
The hood is in "As New" condition with no visible damage, rust, pitting, or other blemishes	Pass
All protective film has been peeled away from the wall or other areas of impingement to assure it can be easily and fully removed prior to cleaning.	Pass
HOOD ACCESSORIES	
End panels are installed	Pass

Hood filters are installed	Pass
Grease cups are installed	Pass
Ceiling Wrappers are installed and the ceiling grid is fixed to the top of the ceiling wrappers	Pass
Hood control panel has been identified and is located as per plan, is accessible, and contains all components and temperature sensors to meet local interlock (normal and abnormal conditions) and heat auto on/off functionality.	Pass

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CheckList Information

Name :	(FPT) - KITCHEN HOOD SYSTEM	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Kitchen hood On/Off switch is properly interlocked to energize/de-energize the hood exhaust fans and MUA simultaneously along with the Halton Capture jet fan	Pass
Hood Lights properly function	Pass
Hood TAB was completed and set to within design rates	Pass
TAB firm completed and observed hot smoke test with 100% capture rate	Pass
Hood life safety test was performed with all proper interlocks per local fire code	Pass

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CheckList Information

Name : (FIV) - KITCHEN HOOD EXHAUST FANS **Status :** NotSubmitted

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

CheckList Item Details

Unit Tag matches the design and submittal MFG and Model	Pass
Each exhaust fan is proper tagged for proper identification with tags sized and placed on the fan for visual ease	Pass
Fans are installed in the correct location and orientation	Pass
All packing, material and debris has been removed from the blower/wheel housing and the motor compartment	Pass
Fan wheels turn easily by hand (turn power off prior to testing)	Pass
Fans grease duct curb top plate is properly transitioned to the fan inlet and flush on top of the curb, sealed to the fan base to prevent leakage	Pass
Exhaust fans have external disconnects and are are connected to allow full hinging of each exhaust fan	Pass
Fan is properly hinged and supported when hinged fully back for grease duct access (for Halton fans, ensure the base mounted disconnect is not hitting the fan base/curb when fully hinged back)	Pass
Grease cups are properly installed and connected to the fan base grease drain to prevent spilling outside of the grease cup	Fail
Exhaust fans are located 5ft from parapet wall and 10ft from any fresh air intake.	Pass
Top of fan discharges a minimum 40" above the finished roof	Pass

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CheckList Information

Name :	(FPT) - HOOD EXHAUST FANS	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Exhaust Fans Make, Model, and Location are per plan	Pass
Exhaust fans wheel rotation is correct	Pass
TAB firm has balanced the exhaust fans to proper design levels	Pass
All motor and electrical readings are below the full load rating of each fan	Pass
Exhaust Fans do not have any unusual noise or vibration while operating	Pass
Smoke and Grease from exhaust fans appear to properly elevate above the parapet wall and off the roof.	Pass

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CheckList Information

Name :	(FIV) - KITCHEN HOOD MUA	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

MUA Tag information matches design and submittal criteria	Pass
MUA Fan has a permanent tag for identification located on the unit located and sized for visual ease	Pass
MUA is installed in the proper location and orientation	Pass
MUA intake is a minimum 10ft from any exhaust, roof vent or dirty air source	Pass
Blower compartment and internal heater area is free of packing material, debris, and dirt	Pass
Blower wheel turns freely by hand (turn power off prior to testing)	Pass
All MUA compartment and control doors are fully accessible, minimum 36" clearance for service allowing the doors to fully open without restriction	Pass
MUA Electrical disconnect is external to the unit and properly wired	Pass
Outdoor air awning is installed and fitted with proper OA mesh filters	Pass
Condensate drain is installed (for cooling MUA's) with proper traps, clean-outs, and drain away from the unit to an acceptable roof drain	Pass
Refrigeration line sets are installed and connected properly with adequate supports per specifications	Pass
Condenser is installed away from any grease producing exhaust fans and located as per roof plan	Pass

Condenser's electrical disconnect is external to the unit and properly wired	Pass
Condenser hail guards are installed	Pass
All Condenser compartment and control doors are fully accessible, minimum 36" clearance for service allowing the doors to fully open without restriction	Pass
Gas line is installed per specification and properly supported	Pass
Gas line is installed per specification and properly supported and contains maintenance shut-off valve, trap, and regulator (if line pressure requires it). MUA is equipped with inlet gas pressure gauge to validate incoming gas pressure is suitable	Pass

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CheckList Information

Name : (FPT) - HOOD MUA

Status : NotSubmitted

Assigned Organization : National TAB

Asset :

Requesting Organization : National TAB

CheckList Item Details

Make, Model, and Location of MUA is as planned	Pass
TAB firm has balance the MUA to within proper design limits	Pass
Blower wheel rotation is correct	Pass
MUA does not have any any unusual noise or vibration while operating	Pass
Motor and electrical measurements are below the full load rating	Pass
Gas pressure to MUA is sufficient for full burner operation	Pass
MUA gas fired heater has been started up with proper low and high fire settings as per MFG instructions Comment	Occupied : (Pass) Control : (Pass) National TAB setup the heater with Halton Technical Support
MUA cooling coil has been started up and set for proper on/off command and staging requirements Comment	Occupied : (Pass) Control : (Pass) M.C and National TAB setup the DX cooling with Halton Technical Support. Due winter season unable to call for cooling to test

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CheckList Information

Name :	(FIV) - OFFICE FCU	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

FCU IDENTIFICATION	
Unit Manufacturer & Model matches specified unit	Pass
Unit Location is as planned	Pass
INSTALLATION AND CONTROLS	
Unit is properly supported by structure and not bearing weight on the ceiling grid	Pass
Condensate line is installed to appropriate drain line	Pass
4" outdoor air vent pipe is installed, insulated and connected to the FCU	Pass
Applied line voltage is per specification	Pass
Unit can be operated via the office remote control device	

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CheckList Information

Name : (FIV) - RESTROOM EXHAUST FAN **Status :** NotSubmitted

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

CheckList Item Details

Restroom exhaust fan tag matches design and submitted data	Fail
Restroom exhaust fan is tagged with appropriate size tag and located for visual ease	Pass
Restroom exhaust fan is installed in proper location and orientation	Pass
Restroom exhaust fan is a minimum 10ft from any fresh air intake	Pass
Blower wheel and motor housing has all packing, material, and debris removed	Pass
Blower wheel spins freely by hand (ensure the power is off before testing)	Pass
Gravity back draft damper is installed, opens fully by hand and does not hit the fan base or have any other impingement that would prohibit the damper from fully opening or closing	Pass
Gravity back draft damper is fully sealed to prevent any air leakage	Pass
Exhaust duct is fully flashed to the top of the curb and is centered so that the exhaust inlet is not blocked by the top plate. The plate is flush against the bottom of the fan base and sealed to prevent air leakage	Pass
Internal disconnect in the motor compartment is wired and properly powered	Pass

Electrical Whip is of sufficient length to allow the fan to be removed from the curb for maintenance/inspection of the gravity damper and is isolated outside of the air stream and through the curb top plate to prohibit duct air leakage	Pass
Fan is secured to the curb base	Pass
Curb extends a minimum 12" from top of the finished roof	Pass

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CheckList Information

Name :	(FPT) - RESTROOM EXHAUST FAN	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Unit matches specified brand	No
MFG	Twin City
Model	DCRD-095B
Unit is balanced and reported on the TAB report	Yes
ACFM vs DCFM Per TAB report is within 10% of deviation	236 ACFM / 300 DCFM deviation is greater than -10%. 1.56 RLA /1.7 FLA. Speed dial is at 100% (maximum)
Measured electrical tolerance is acceptable and below full load of motor rating	Yes
Gravity Damper is properly installed, sealed, and operational	Yes
Fan is properly fastened to curb and sealed to prevent air leakage	Yes
Fan is fitted with a bird screen or other suitable devices to prevent bird nesting	Yes

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CheckList Information

Name :	(FIV) - PATIO HEATERS	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Patio Heater tag information matches design and submitted information	Pass
All patio heater are located and orientated per plan	Pass
Electrician has applied power and validated on/off operation with proper voltage and amperage validating the amp draw is below the full load rating of each unit.	Pass
Patio heaters are equipped with timer clock for unoccupied off periods	N/A
Patio heaters are equipped with outdoor thermostats for occupied auto on operation	N/A
Patio heaters have remote manual switching for override of all automatic controls	Pass

Comfort. Under control.

Shake Shack (Lee's Summit) - Commissioning

CheckList Information

Name :	(FPT) - PATIO UNIT HEATERS	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

All unit heaters installed per plan: Type, Model, Location	Pass
Remote Sensors installed in the office, accessible and properly labeled	Pass
Stage each remote sensor on/off and ensure each remote sensor is correctly assigned to each patio heater Comment	Occupied : (Pass) Control : (Pass)
Patio heaters stage to full heat and fully off on command Comment	Occupied : (Pass) Control : (Pass) Remote's are wireless and due to distance are not able to operate UH's. Remotes are to be removed from wall and held within proper distance to cycle each UH on/off