

RESTAURANT DINING ROOM OCCUPANCY:  
NET OCCUPIABLE SPACE = 1869 SQ. FT.  
TOTAL PERSONS X 7.5 = .18 X NET SQ. FT. = REQ'D CFM.  
1869 X .18 = 336.42 CFM  
CUSTOMER SEATING: 86 PERSONS  
STAFF: 22 PERSONS  
TOTAL PERSONS X 7.5 = .18 X NET SQ. FT. = REQ'D CFM.  
(110 X 7.5) + (.18 X 1869) = 1161.42 CFM REQUIRED.  
OUTSIDE AIR PROVIDED:  
RTU-1 - 1300 CFM  
TOTAL: 1300 CFM - IN COMPLIANCE.  
  
RESTAURANT KITCHEN OCCUPANCY:  
NET OCCUPIABLE SPACE = 1480 SQ. FT.  
TOTAL PERSONS X 7.5 = .12 X NET SQ. FT. = REQ'D CFM.  
1273 X .12 = 152.76 CFM  
KITCHEN STAFF: 22 PERSONS  
TOTAL PERSONS X 7.5 = .12 X NET SQ. FT. = REQ'D CFM.  
(22 X 7.5) + (.12 X 1480) = 317.16 CFM REQUIRED.  
OUTSIDE AIR PROVIDED:  
RTU-2 - 1350 CFM  
TOTAL: 1350 CFM - IN COMPLIANCE.  
  
REGISTERED ENGINEER'S OUTSIDE AIR DESIGN NOTE:  
TABLE 403.3.1 DEFAULT OCCUPANCY IS NOT USED BECAUSE THE OCCUPANT IS A KNOWN FACTOR AND HENCE USED IN THIS CALCULATION AS DEMONSTRATED ABOVE AND CERTIFIED HEREIN.  
SECTION 403.3.1 EXCEPTION STATES: "The occupant load is not required to be determined based on the estimated maximum occupant load rate indicated in Table 403.3.1 where approved statistical data document the accuracy of an alternate anticipated occupant density."  
THIS OCCUPANCY IS DEMONSTRATED AND CERTIFIED BY THE REGISTERED ENGINEER IN THE BODY OF THIS CALCULATION.  
  
ENGINEER'S ADDITIONAL NOTE:  
THE DINING ROOM SEATING IS A KNOWN FACTOR THROUGH THE SEATING SHOWN WHICH JUSTIFIES THE OUTSIDE AIR CALCULATION AS SHOWN COMPLIES WITH CODE. THE DINING SQUARE FOOTAGE SHOWN IS THE TOTAL SQUARE FOOTAGE NOT THE NET OCCUPIABLE SPACE ALTHOUGH CODE ALLOWS "NET OCCUPIABLE SPACE". THE KITCHEN SQUARE FOOTAGE IS ALSO THE TOTAL SQUARE FOOTAGE. THE NUMBER OF STAFF SHOWN IN THE KITCHEN (20) IS ALMOST DOUBLE THE ACTUAL AND IS EXAGGERATED TO MORE CLEARLY DEMONSTRATE THAT THE OUTSIDE AIR REQUIREMENT IS BEING MET. FINALLY, THE DINING OUTSIDE AIR IS 1300 CFM WHICH IS 834.16 CFM MORE THAN REQUIRED. THE KITCHEN OUTSIDE AIR IS 1350 CFM WHICH IS 1630.28 CFM MORE THAN REQUIRED. TOTAL OUTSIDE AIR FOR BOTH ZONES IS EXCEEDED.

1. INSTALLATION SHALL COMPLY WITH 2012 IMC AND 2009 IECC AND ALL APPLICABLE LAWS, CODES AND ORDINANCES.  
2. DUCTWORK HAS BEEN COORDINATED WITH THE PROPOSED TRUSS LAYOUT. ACTUAL INSTALLED CONFIGURATION MAY DIFFER FROM ORIGINAL PLANS. COORDINATE WITH THE GENERAL CONTRACTOR AS TRUSSES ARE INSTALLED TO CONFIRM DUCT LAYOUT AS DESIGNED WILL WORK WITH THE INSTALLED TRUSS CONFIGURATION. MINOR MODIFICATIONS IN LOCATIONS MAY BE REQUIRED.  
3. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL OPERATING AND MAINTENANCE MANUALS FOR ALL EQUIPMENT TO THE OWNER AS REQUIRED PER 2009 IECC.  
4. THE ENTIRE BUILDING IS CONDITIONED EXCEPT FOR THE COOLER AND FREEZER. TOTAL BUILDING SQUARE FOOTAGE IS 4232. AREA OF COOLER/FREEZER IS 718 SQ. FT. TOTAL CONDITIONED SQUARE FOOTAGE IS 3514 SQ. FT.

NOTE:  
THE DESIGN, INSTALLATION, OPERATION, INSPECTION, AND MAINTENANCE OF ALL PUBLIC AND PRIVATE COMMERCIAL COOKING EQUIPMENT SHALL COMPLY WITH CHAPTER FPFC 130.01 AND VPPA § 86 STANDARD FOR VENTILATION CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS. KITCHEN HOOD PLANS, COMPLIANT WITH THE ABOVE, SHALL BE PERMITTED SEPARATELY.

NOTE:  
A SEPARATE PERMIT HAS BEEN SUBMITTED FOR THE MECHANICAL EXHAUST HOODS AND ANSUL SYSTEM BY THE MECHANICAL CONTRACTOR.

PLAN NOTES

KEYED NOTES:  
1 RTU-OA 100% OUTSIDE AIR UNIT WITH 3250 TOTAL CFM, 1250 CFM BALANCE BYPASS TO BLEND WITH 2000 CFM OUTSIDE AIR. EXTEND DUCTS TO RTU-1 AND RTU-2 AS INDICATED.  
2 EXHAUST DUCTS FROM CEILING EXHAUST FANS TO GREENHECK ROOF EXHAUST VENTILATOR. TRANSITION FROM THROAT TO 14X14 PLENUM DUCT AND EXTEND DOWN 12" BELOW JOISTS FOR CONNECTION OF EXHAUST DUCT(S).  
3 PRV-2 ON ROOF. TRANSITION FROM FAN OPENING TO 12X12 WELDED STEEL EXHAUST DUCT AND EXTEND DOWN TO HOOD EXHAUST OPENING. REFER TO DETAILS FOR ADDITIONAL INFORMATION.  
4 PRV-3 ON ROOF. TRANSITION FROM FAN OPENING TO 12X12 WELDED STEEL EXHAUST DUCT AND EXTEND DOWN TO HOOD EXHAUST OPENING. REFER TO DETAILS FOR ADDITIONAL INFORMATION.  
5 EXTEND 4" GALVANIZED SNAP-LOK DRYER VENT FROM DRYER UP TO ABOVE CEILING AND UP TO ROOF. TOTAL DEVELOPED LENGTH IS LESS THAN 25 FEET AND WELL UNDER THE MANUFACTURER'S MAXIMUM VENTING DISTANCE.  
6 PROVIDE SURFACE MOUNT FRAME FOR INSTALLATION IN GYP/HARD CEILING.  
7 UNIT WEIGHTS ARE LISTED FOR COORDINATION. VERIFY EXACT LOCATION WITH GC.  
8 INSTALL THERMOSTATS FOR RTU-1 & RTU-2 IN MANAGERS OFFICE WITH SENSORS AT INDIVIDUAL ZONES AS INDICATED.  
9 FLEX CONNECTIONS TO RETURN AIR DOWN DUCT THROUGH TRUSS WEBBING.  
10 EXTEND 12" OUTSIDE AIR DUCTS TO EACH RETURN AIR DOWN DUCT FOR RTU-1 & RTU-2. DUE TO SMALL SCALE AND CLARITY OUTSIDE AIR DUCTS ARE NOT SHOWN IN THEIR ENTIRETY.  
11 TRANSITION FROM RTU-2 RETURN AIR OPENING TO 30X20 AND EXTEND DOWN TO ELEVATION WHICH WILL ALLOW FOR EXTENDING THE 16" FLEX RUNS WITH VOLUME DAMPERS TO RETURN GRILLES AS INDICATED. FIELD COORDINATE PRIOR TO INSTALLATION.  
12 RIGID CONNECTIONS FOR TYPE "F" DIFFUSERS ON COOK LINE AND DIFFUSER OVER ICE MACHINE. SEE DETAIL 15 ON SHEET M2.  
13 STAINLESS STEEL WALL PANEL AT HOOD. FURNISHED AND INSTALLED BY GENERAL CONTRACTOR.  
14 PROVIDE PLENUM BOX ATTACHED TO RETURN GRILLE FOR TRANSFER AIR FROM OFFICE & UTILITY ROOM.  
15 PRV-4 ON ROOF. TRANSITION FROM FAN OPENING TO 1X1 SHEET METAL EXHAUST DUCT AND EXTEND DOWN TO HOOD EXHAUST OPENING. REFER TO DETAILS FOR ADDITIONAL INFORMATION.  
16 PROVIDE INDEPENDENT ON/OFF SWITCH FOR EF-2 ABOVE MOP BASIN.  
17 FLEX CONNECTION NOT SHOWN DUE TO CLARITY. MAKE 16" FLEX CONNECTION AS NECESSARY.

HYAC GENERAL NOTES

1. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS. VERIFY ALL DIMENSIONS AND LOCATIONS PRIOR TO FABRICATION OR INSTALLATION. ALL RECTANGULAR/SQUARE DUCTWORK SHALL BE FINEST QUALITY GALVANIZED SHEET STEEL WITH 2" 3/4 LB. DENSITY FOIL FACED EXTERNAL INSULATION WITH AN R-VALUE OF 6.0. COORDINATE DUCTS WITH STRUCTURE PRIOR TO INSTALLATION. ALL DUCT SHALL BE CONSTRUCTED AND INSTALLED PER SMACNA REQUIREMENTS.  
2. ALL FLEXIBLE DUCT CONNECTIONS SHALL BE CLASS ONE TYPE. PROVIDE TAB COLLARS AT MAIN DUCT WITH MANUAL VOLUME DAMPER WITH LOCKING QUADRANT.  
3. AN IONIZATION PRINCIPLE SMOKE DETECTOR SHALL BE INSTALLED IN THE SUPPLY & RETURN DUCTWORK OF ALL RTU/S AND PROVIDED BY LENNOX WITHIN UNIT. THE DETECTOR SHALL BE WIRED TO APPLICABLE FIRE ALARM SYSTEM BY THE FIRE ALARM CONTRACTOR. PROVIDE LED, AND HORN ALARM STATIONS (DUCT SMOKE DETECTOR'S REMOTE TEST SWITCH) LOCATED IN NORMALLY OCCUPIED AREA MOUNTED AT 48" AFF.  
4. ALL ROOF AND WALL PENETRATIONS SHALL BE SEALED BY THE GENERAL CONTRACTOR.  
5. CONTRACTOR SHALL COORDINATE WITH STRUCTURAL PLANS PRIOR TO BID TO VERIFY EXISTING CLEARANCES FOR DUCT. COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO TRUSS ORDER AND AS STRUCTURE IS BEING CONSTRUCTED TO ASSURE ALL CLEARANCES FOR DUCTWORK ARE COORDINATED.  
6. DEVIATION FROM MATERIALS METHODS, OR PROCEDURES SET FORTH HEREIN MUST BE PROVIDED, IN WRITING, BY ENGINEER PRIOR TO SUBMISSION OF BID, ORDER, FABRICATION OR INSTALLATION.  
7. ANY AND ALL QUESTIONS AS TO THE INTENT OF OR PROCEDURES SET FORTH IN THESE DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO SUBMISSION OF A BID. LACK OF KNOWLEDGE OR UNDERSTANDING OF THE PLANS SHALL NOT JUSTIFY ANY CLAIMS OR ADDITIONAL COMPENSATION.  
8. INSTALLATION SHALL COMPLY WITH 2012 IMC AND 2009 IECC AND ALL APPLICABLE LAWS, CODES AND ORDINANCES.  
9. THE HYAC CONTRACTOR SHALL COORDINATE ALL EQUIPMENT, DUCT, PIPING, LOUVERS, DIFFUSERS, ETC. INCLUDING LOCATIONS AND CLEARANCES WITH ALL OTHER TRADES ON PROJECT IN PRE-CONSTRUCTION MEETING, PRIOR TO ANY ORDER, FABRICATION OR INSTALLATION.  
10. COORDINATE WITH ELECTRICAL CONTRACTOR AND EQUIPMENT NATIONAL ACCOUNTS ON ALL ELECTRICAL DATA PRIOR TO ORDER.  
11. SUPPLY DUCTWORK SHALL BE CONSTRUCTED, FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA REQUIREMENTS FOR A 1" POSITIVE PRESSURE CLASSIFICATION.  
12. RETURN AND EXHAUST DUCTWORK SHALL BE CONSTRUCTED, FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA REQUIREMENTS FOR A 1" NEGATIVE STATIC PRESSURE.  
13. ALL EXHAUST FAN DISCHARGES AND PLUMBING VENTS SHALL BE A MINIMUM OF 10'-0" FROM FRESH-AIR INTAKES. COORDINATE WITH PLUMBING PLANS PRIOR TO INSTALLATION.  
14. THE MECHANICAL CONTRACTOR SHALL BALANCE ALL SYSTEMS TO WITHIN TEN PERCENT OF DESIGN VALUES SPECIFIED HEREIN.  
15. EXTEND CONDENSATE DRAIN LINES FROM RTU/S TO ROOF DRAINS AND/OR DOWNSPOUTS WHICH DRAIN TO STORM SEWER. REFER TO DETAILS ON SHEET M2.  
16. HOOD EXHAUST DUCT SHALL BE MINIMUM 16 GAUGE GALVANIZED SHEET STEEL WITH ALL SEAMS WELDED LIQUID-TIGHT. PROVIDE 3M FIREMASTER DUCT WRAP FROM HOOD TO TOP OF ROOF CURB.  
17. CONTROLS SHALL BE PER LENNOX NATIONAL ACCOUNTS. COORDINATE WITH LENNOX REPRESENTATIVE ON ALL NECESSARY CONTROLS PRIOR TO BID SUBMISSION.

REFER TO AIR DISTRIBUTION SCHEDULE ON SHEET M2 SHOWING DIFFUSER TYPE AND HOW TO DETERMINE DUCT CONNECTION SIZE FROM THIS DESIGNATION, TYPICAL.

PROVIDE 18"x12" DOOR LOUVER

EXTEND 4" DRYER VENT UP THRU ROOF TO ROOF CAP.

EXTEND GAS FLUE UP THROUGH ROOF TO 3" CONCENTRIC VENT KIT. WASHER & DRYER BY OWNER.

ORDER WAITING

MECHANICAL PLAN  
SCALE: 3/16" = 1'-0"

REVISIONS

BY

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Palm Harbor, FL 34683  
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Professional Seal No. 2221  
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New Free Standing  
  
US Hwy 90  
Lake City, Florida  
Columbia County

Date: 04.13.22  
Scale: AS NOTED  
Project Mgr: DG  
Drawn: BMD  
Job: 21-244  
Sheet  
M1



## CONTROL NOTES

- RTU-1, RTU-2, & RTU-0A WILL SHUT-DOWN UPON ACTIVATION OF FIRE SUPPRESSION SYSTEM.
- RTU-1, RTU-2, & RTU-0A WILL SHUT-DOWN ON ACTIVATION OF ANY DUCT DETECTOR.
- OCCUPIED MODE: FANS IN RTU-1 & RTU-2, EXHAUST FANS PRV-2, 3, & 4 TO RUN CONTINUOUSLY. RESTROOM EXHAUST TO BE INTERLOCKED WITH RR LIGHTS.
- UNOCCUPIED MODE: FANS IN RTU-1 & RTU-2 TO RUN ONLY WHEN COOLING OR HEATING IS CALLED FOR.
- RTU-0A SHALL BE INTERLOCKED WITH RTU-1 AND RTU-2 VIA LENNOX CONTROLS TO ASSURE SIMULTANEOUS OPERATION. COORDINATE ALL CONTROLS REQUIREMENTS WITH LENNOX PRIOR TO BID SUBMISSION.

## LENNOX SETTINGS FOR CULVERS

### Kitchen Unit

Parameter 3.01 HEAT DELAY NEEDS TO BE SET TO "DISABLED". CONTROL PARAMETER 3.01=0 Pg. 92  
ECONOMIZER DIP SWITCHES A56 (EM) NEED TO BE SET TO "GLOBAL" MODE. 1=ON 2=OFF (Pg. 5 FIG 8)  
ECONOMIZER MIN POSITION POTENTIOMETER NEEDS TO BE DETERMINED AND SET BY AIR BALANCER (Pg. 52 FIG 33)  
BOTH THE THERMOSTAT AND THE HOOD FANS MUST BE TIED INTO TBI TERMINAL 849 FOR OCC/UNOCC CONTROL.  
FRESH AIR TEMPERING (HEATING) CONTROL PARAMETER 6.20=160 "55F" (KITCHEN IS USUALLY IN COOLING MODE)  
(PARAMETER 6.20 Pg. 93+ x CHARTS Pg. 103)

### Dining Room Unit

PARAMETER 3.01 HEAT DELAY NEEDS TO BE SET TO "DISABLED". CONTROL PARAMETER 3.01=0 Pg. 92  
ECONOMIZER DIP SWITCHES A56 (EM) NEED TO BE SET TO ECONOMIZER TYPE PURCHASED/INSTALLED. 1=1 2=1  
(Pg. 5 FIGURE 8)  
ECONOMIZER MIN POSITION POTENTIOMETER NEEDS TO BE DETERMINED AND SET BY AIR BALANCER. (Pg. 52 FIGURE 33)  
THE THERMOSTAT MUST BE TIED INTO TBI TERMINAL 849 FOR OCC/UNOCC CONTROL.  
FRESH AIR TEMPERING (HEATING) CONTROL PARAMETER 6.20=142 "68F" (ROOM NEUTRAL)  
(PARAMETER 6.20 PAGE 93+ x CHARTS PAGE 103)

OTHER PARAMETERS THAT WE DIDN'T SET, BUT ARE PART OF START-UP:

ROOM SET POINT  
REMOTE SENSOR OPERATION  
TEMP DEADBANDS

CHECK FOR CORRECT OPERATION AND WIRING OF ALL SENSORS.

NOTE : VERIFY ALL COLORS WITH  
OWNER AND ARCHITECT

## NATIONAL ACCOUNT PROGRAM

### 1. LENNOX INDUSTRIES, INC. - ROOFTOP HVAC EQUIPMENT

National Accounts Sales: (800) 367-6285 Option #1 lennoxind.com

National Account Technical Support: (800) 367-6285 Option #2 lennoxind.com

### 2. ACCRUREX/ GREENHECK FAN CORPORATION - KITCHEN HOODS, EXHAUST FANS, ROOF CURBS, ANSUL SYSTEMS, AND ACCESSORIES

CONTACT Patrick Smith @ 1-612-670-2938 OR patrick.smith@accurex.com

### 3. CARNES COMPANY - DIFFUSERS AND GRILLES

National Accounts Rep: Brian Baker @ (608) 845-6411 bbaker@carnes.com

National Accounts Sales: Chris Stratton @ (608) 845-6411 cstratton@carnes.com

RTU - 1

**LENNOX LCH-156-H4B** COMBINATION ELECTRIC HEATING AND ELECTRIC COOLING ROOFTOP UNIT w/HUMIDITROL AND FACTORY UNIT MOUNT  
ELECTRIC 15.0 KW HEATER. UNIT FED 1000 CFM OF PRE-TREATED OUTSIDE AIR FROM RTU-0A. BALANCE RETURNS PER PLANS.  
**152,000 NET. COOLING** CAPACITY, 12.0 EER. 208 / 230 VOLT, 3 PHASE, 70.0 AMPS & DRIVE KIT 1. UNIT WEIGHT IS 2,130lbs. BLOWER MOTOR SET FOR  
**NOMINAL 5,200 CFM** & FRESH AIR INTAKE DAMPER SET FOR MINIMUM **900 CFM**. PROVIDE MANUFACTURES' 18" HIGH ROOF CURB, TWO STAGE CONTROL,  
DUCT DISCHARGE CONTROL, IN-DUCT SMOKE DETECTORS, BELT TENSIONER WITH SPARE BELT, MERV 4 FILTERS, LOOSE SHIPPED CONDENSATE TRAP AND  
HONEYWELL OR EQUAL T7350 NIGHT SET BACK THERMOSTAT AND DISCONNECT SWITCH. MOTORIZED OUTSIDE AIR INTAKE DAMPER. NO ECONOMIZER.  
**NO SUBSTITUTIONS.**

RTU - 2

**LENNOX LCH-156-H4B** COMBINATION ELECTRIC HEATING AND ELECTRIC COOLING ROOFTOP UNIT w/HUMIDITROL AND FACTORY UNIT MOUNT ELECTRIC  
15.0 KW HEATER. UNIT FED 1000 CFM OF PRE-TREATED OUTSIDE AIR FROM RTU-0A. BALANCE RETURNS PER PLANS.  
**152,000 NET COOLING** CAPACITY, 12.0 EER. 208 / 230 VOLT, 3 PHASE, 70.0 AMPS & DRIVE KIT 1. UNIT WEIGHT IS 2,130lbs. BLOWER MOTOR SET FOR  
**NOMINAL 5,000 CFM** & FRESH AIR INTAKE DAMPER SET FOR MINIMUM **950 CFM**. PROVIDE MANUFACTURES' 18" HIGH ROOF CURB, TWO STAGE CONTROL,  
DUCT DISCHARGE CONTROL, IN-DUCT SMOKE DETECTORS, BELT TENSIONER WITH SPARE BELT, MERV 4 FILTERS, LOOSE SHIPPED CONDENSATE TRAP AND  
HONEYWELL OR EQUAL T7350 NIGHT SET BACK THERMOSTAT AND DISCONNECT SWITCH. MOTORIZED OUTSIDE AIR INTAKE DAMPER. NO ECONOMIZER.  
**NO SUBSTITUTIONS.**

RTU - 0A

**LENNOX LCH-156-H4B** COMBINATION ELECTRIC HEATING AND ELECTRIC COOLING ROOFTOP UNIT w/HUMIDITROL AND FACTORY UNIT MOUNT ELECTRIC  
30.0 KW HEATER. UNIT FEEDS 1000 CFM OF PRE-TREATER OUTSIDE TO RTU-1 AND RTU-2.  
**152,000 NET COOLING** CAPACITY, 12.0 EER. 208 / 230 VOLT, 3 PHASE, 90.0 AMPS & DRIVE KIT 1. UNIT WEIGHT IS 2,130lbs. BLOWER MOTOR SET FOR SUPPLY  
FAN TOTAL FLOW 3250 CFM. 1250 CFM BALANCE BYPASS TO BLEND WITH 2000 CFM OUTSIDE AIR. 2000 CFM THEN DELIVERED TO RTU'S.  
**NOMINAL 2,000 CFM** 100% OA UNIT, PROVIDE MANUFACTURES' 18" HIGH ROOF CURB, RUSKIN MODEL #50-307-52 BYPASS MIXING BOX. PROVIDE MIXING BOX  
SUPPORT. CONTROL, DUCT DISCHARGE CONTROL, IN-DUCT SMOKE DETECTORS, BELT TENSIONER WITH SPARE BELT, MERV 4 FILTERS, LOOSE SHIPPED PROVIDE  
FRESH AIR TEMPERING. MOTORIZED OUTSIDE AIR INTAKE DAMPER.  
CONDENSATE TRAP & HONEYWELL OR EQUAL DISCHARGE TEMP CONTROLLER AND DISCONNECT SWITCH. INTERLOCK WITH RTU-1 AND RTU-2.  
**NO SUBSTITUTIONS.**

GRV - 1

**GREENHECK MODEL FGR** GRAVITY RELIEF VENTILATOR WITH INTEGRAL FACTORY BIRDSCREEN. PROVIDE FACTORY CURB,  
MINIMUM 12" HIGH, 12"x12" THROAT WITH 12x12 PLENUM DUCT DOWN FOR EXHAUST DUCT CONNECTION.**NO SUBSTITUTIONS.**

PRV - 2

(ITEM #49)

**ACCUREX MODEL XRUB-161XP-15 KITCHEN FAN** UPBLAST EXHAUST FAN W/CLEAN-OUT PORT, MOUNTED HINGE BASE, & AUTO  
BELT TENSIONER, SPARE BELT, & ROOF CURB w/VENTED CURB EXTENSION. **1500 CFM** AT **2.33" SP, 1.5 HP MOTOR**, 208 VOLTS,  
THREE PHASE FAN TO RUN CONTINUOUSLY DURING OCCUPIED MODE. **NO SUBSTITUTIONS.**

PRV - 3

(ITEM #59)

**ACCUREX MODEL XRUB-141-7 KITCHEN FAN** UPBLAST EXHAUST FAN W/CLEAN-OUT PORT, MOUNTED HINGE BASE, & AUTO  
BELT TENSIONER, SPARE BELT, & ROOF CURB w/VENTED CURB EXTENSION. **1500 CFM** AT **1.00" SP, .75 HP MOTOR**, 208 VOLTS,  
THREE PHASE FAN TO RUN CONTINUOUSLY DURING OCCUPIED MODE. **NO SUBSTITUTIONS.**

PRV - 4

(ITEM #25)

**ACCUREX MODEL XRED-090-D** CONDENSATE DOWNBLAST EXHAUST FAN WITH ROOF CURB AND BACKDRAFT DAMPER. **350 CFM** AT  
**.6" SP, .0667 HP MOTOR**, 115 VOLTS, SINGLE PHASE. FAN TO RUN w/STARTING OF DISHWASHER & FOR ONE MINUTE AFTER THE CYCLE  
IS COMPLETE. **NO SUBSTITUTIONS.**

EF - 1

**ACCUREX MODEL XCR-A200** CEILING EXHAUST FAN, BACK DRAFT DAMPER. EXTEND EXHAUST DUCT TO GRAVITY RELIEF VENTILATOR.  
**220 CFM** AT **.125" SP**, 115 VOLT, SINGLE PHASE. FAN TO BE INTERLOCKED WITH RESTROOM LIGHTS. NO SUBSTITUTIONS.

EF - 2

**ACCUREX MODEL XCR-B50** CEILING EXHAUST FAN, BACK DRAFT DAMPER. EXTEND EXHAUST DUCT TO GRAVITY RELIEF VENTILATOR, WALL CAP FOR MOP BASIN FAN.  
**50 CFM** AT **.125" SP**, 115 VOLT, SINGLE PHASE. INDEPENDENT SWITCH FOR FAN OVER MOP BASIN. NO SUBSTITUTIONS.

EF - 3

**ACCUREX MODEL XCR-B70** CEILING EXHAUST FAN, BACK DRAFT DAMPER. EXTEND EXHAUST DUCT TO GRAVITY RELIEF VENTILATOR.  
**70 CFM** AT **.100" SP**, 115 VOLT, SINGLE PHASE. FAN TO BE INTERLOCKED WITH RESTROOM LIGHTS. NO SUBSTITUTIONS.

EF - 4

**ACCUREX MODEL XRED-065** CENTRIFUGAL EXHAUST FAN WITH ROOF CURB AND BACKDRAFT DAMPER.

ITEM #49

(HOOD 2)

**GRIDDLE EXHAUST HOOD - ACCUREX MODEL XGEP-5.33S** 64" X 26" X 36" HIGH, LOW PROXIMITY w/FLUE BYPASS. **1500 CFM**  
AT **1.918" SP, 12" x 12" DUCT COLLAR**. INCLUDES THE 3" INTEGRAL AIR SPACE ON BACK OF HOOD & AN ADDITIONAL 3" REAR FILLER  
PANEL. STAINLESS STEEL WHERE EXPOSED, w/ **GREASE GRABBER** TWO-STAGE FILTRATION SYSTEM. 26" HIGH ENCLOSURE PANELS,  
FRONT, LEFT AND RIGHT SIDES. GREASE TROUGH SHALL BE PITCHED TO THE LEFT END OF THE HOOD. APPROVALS SHALL INCLUDE UL LISTING  
AND THE NSF SEAL. THE VENTILATOR SHALL CONFORM TO THE REQUIREMENTS OF **NFPA-96** & TO ALL PREVAILING LOCAL CODE REQUIREMENTS.  
**NO SUBSTITUTIONS.**

ITEM #59

(HOOD 1)

**FRYER EXHAUST HOOD - ACCUREX MODEL XXEP-FB-6.92-S** 83" X 26" X 36" HIGH, LOW PROXIMITY w/FLUE BYPASS. **1500 CFM**  
AT **.518" SP, 12" x 12" DUCT COLLAR**. INCLUDES THE 3" INTEGRAL AIR SPACE ON BACK OF HOOD & AN ADDITIONAL 3" REAR FILLER  
PANEL. STAINLESS STEEL WHERE EXPOSED, w/ **X-TRACTOR STAINLESS STEEL FILTERS** TWO-STAGE FILTRATION SYSTEM. 26" HIGH ENCLOSURE PANELS,  
FRONT, LEFT AND RIGHT SIDES. GREASE TROUGH SHALL BE PITCHED TO THE LEFT END OF THE HOOD. APPROVALS SHALL INCLUDE UL LISTING  
AND THE NSF SEAL. THE VENTILATOR SHALL CONFORM TO THE REQUIREMENTS OF **NFPA-96**  
**NO SUBSTITUTIONS.**

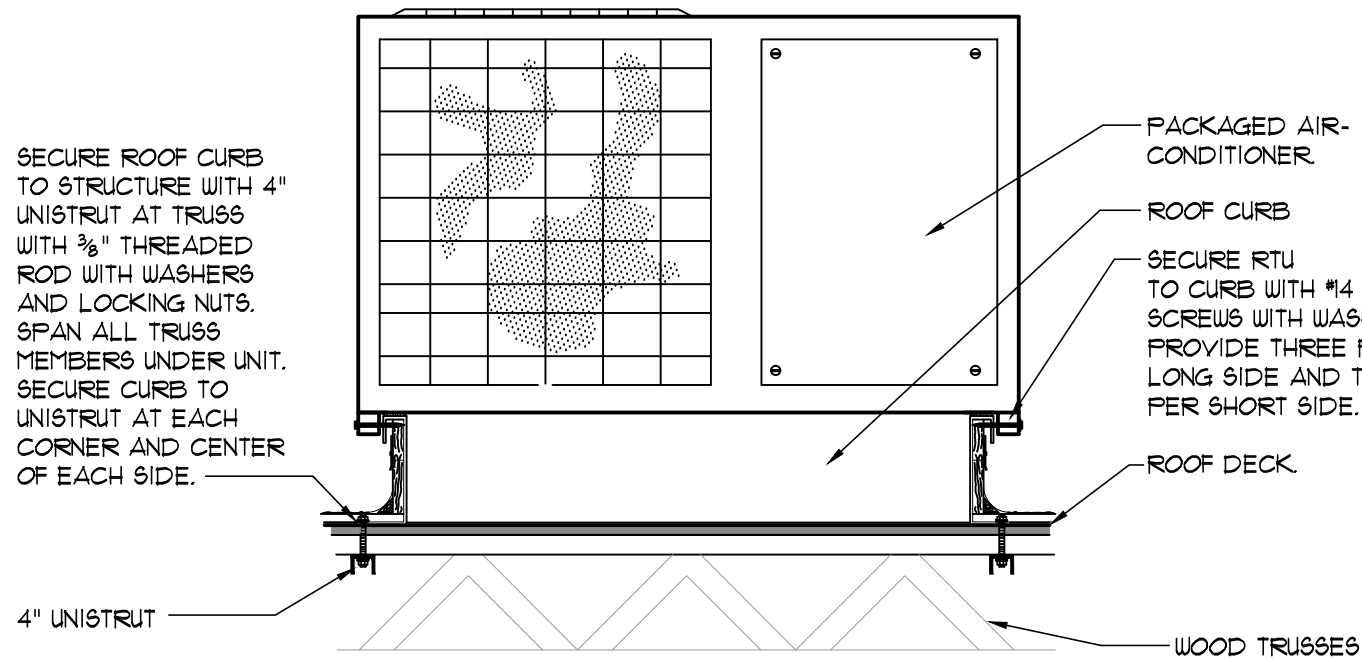
ITEM #25A

(HOOD 3)

**DISHWASHER CONDENSATE HOOD - ACCUREX MODEL XD3-3.5-S** CONDENSATE HOOD w/BAFFLE, 42" X 42" X 24" HIGH, STAINLESS STEEL  
WHERE EXPOSED. **350 CFM** AT **.127 SP, 7 X 7 DUCT COLLAR**. COLLAR. APPROVALS SHALL INCLUDE THE NSF SEAL. (UL LABEL NOT  
REQUIRED FOR NON-GREASE APPLICATION). THE VENTILATOR SHALL CONFORM TO THE REQUIREMENTS OF **NFPA-96** & TO ALL PREVAILING  
LOCAL CODE REQUIREMENTS. **NO SUBSTITUTIONS.**

## MECHANICAL EQUIPMENT SPECIFICATIONS

SCALE: NONE

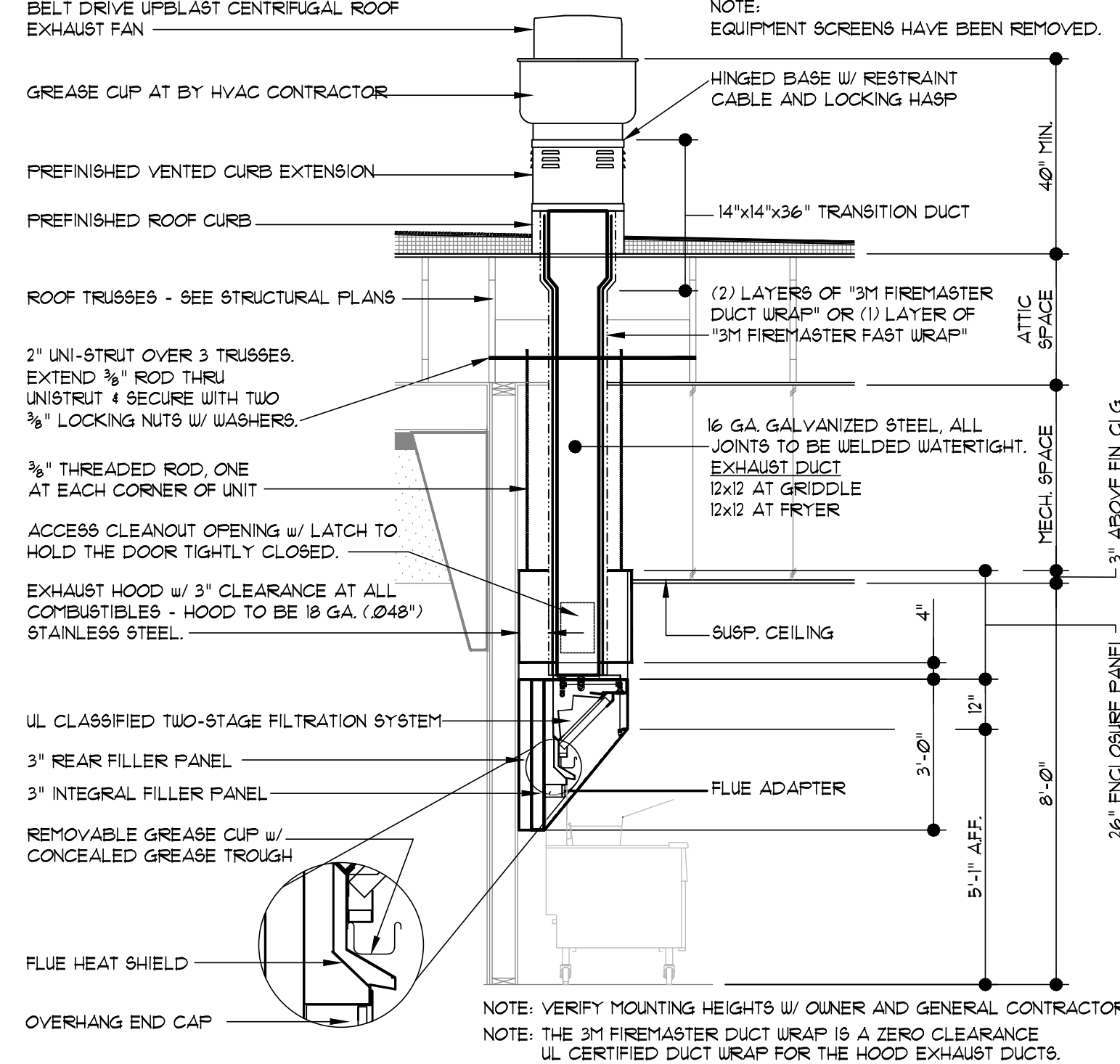


### NOTES:

- SET PACKAGED AIR CONDITIONER ON CURB AND SECURE AS INDICATED ABOVE WITH AT LEAST THREE SCREWS PER LONG SIDE OF UNIT AND TWO PER SHORT SIDE OF UNIT. CURB SHALL BE MINIMUM 18" HIGH SO RTU IS AT LEAST 8" ABOVE FINISHED ROOF SURFACE WITH NO ROOFING BENEATH CURB PER FBC 1609.1.
- THIS DETAIL IS PROVIDED FOR FLORIDA HURRICANE 146 MPH TIE-DOWN COMPLIANCE.
- PROVIDE WASHERS BETWEEN SCREWS/BOLTS AND STRAPS, TYPICAL.
- ALL STRUCTURAL ELEMENTS BY GENERAL CONTRACTOR. SECURING OF CURB TO STRUCTURE SHALL BE BY GENERAL CONTRACTOR.

## RTU TIE-DOWN DETAIL

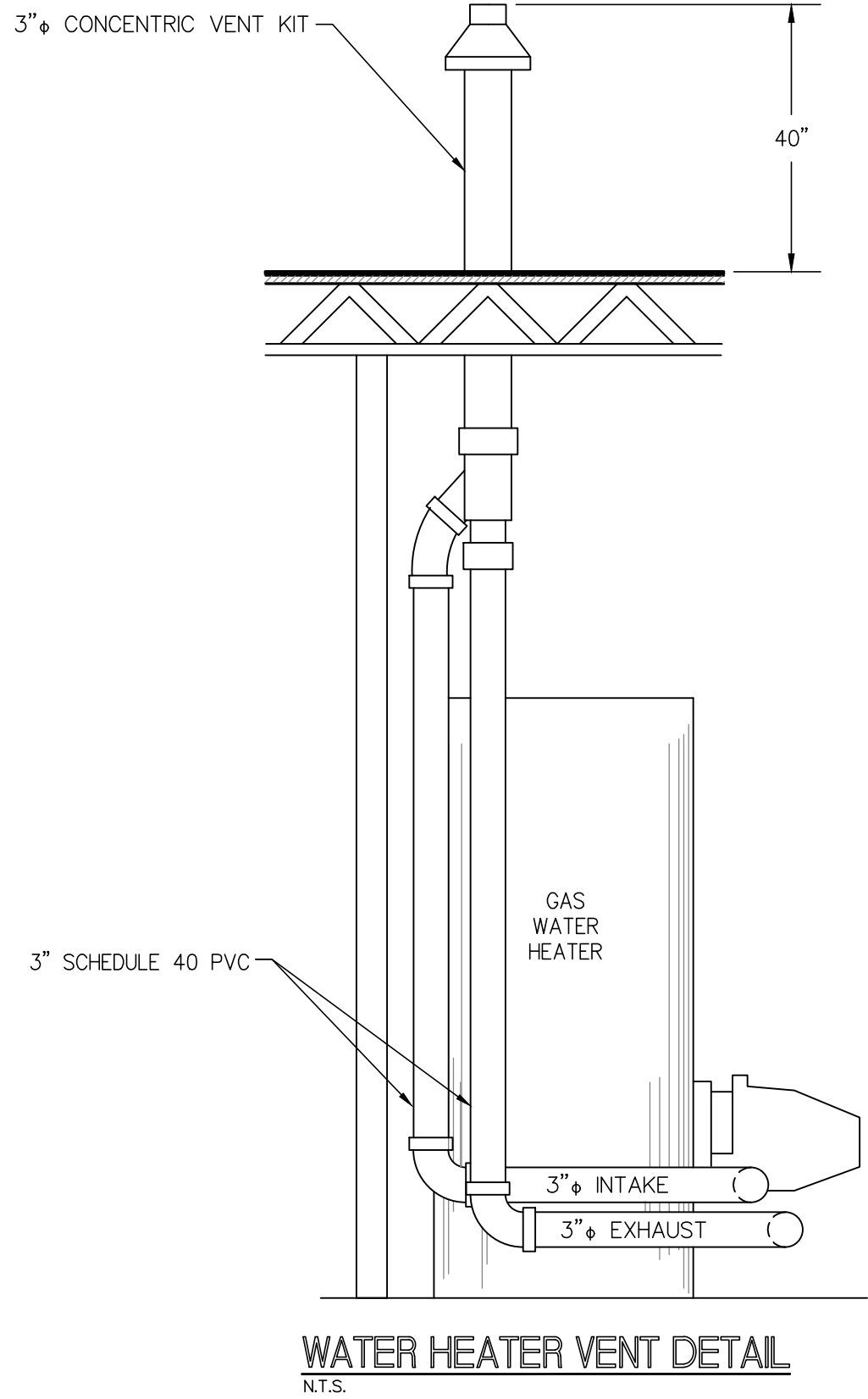
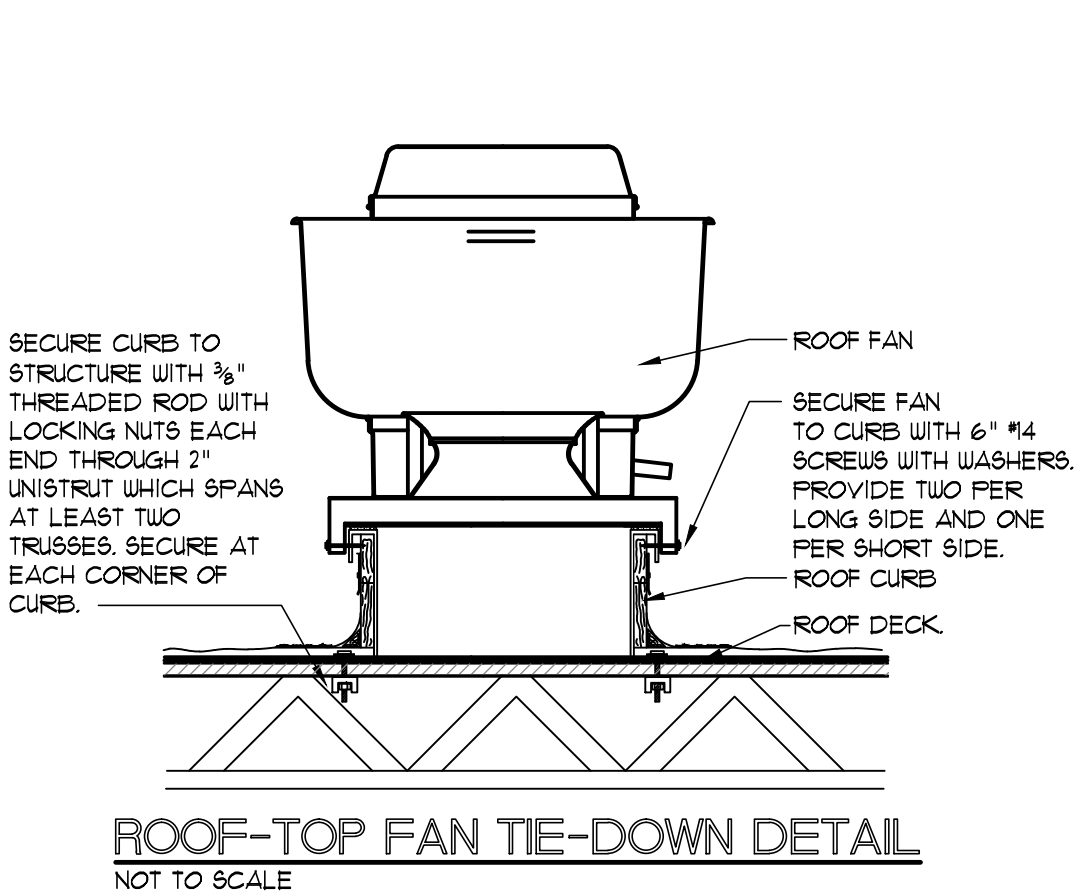
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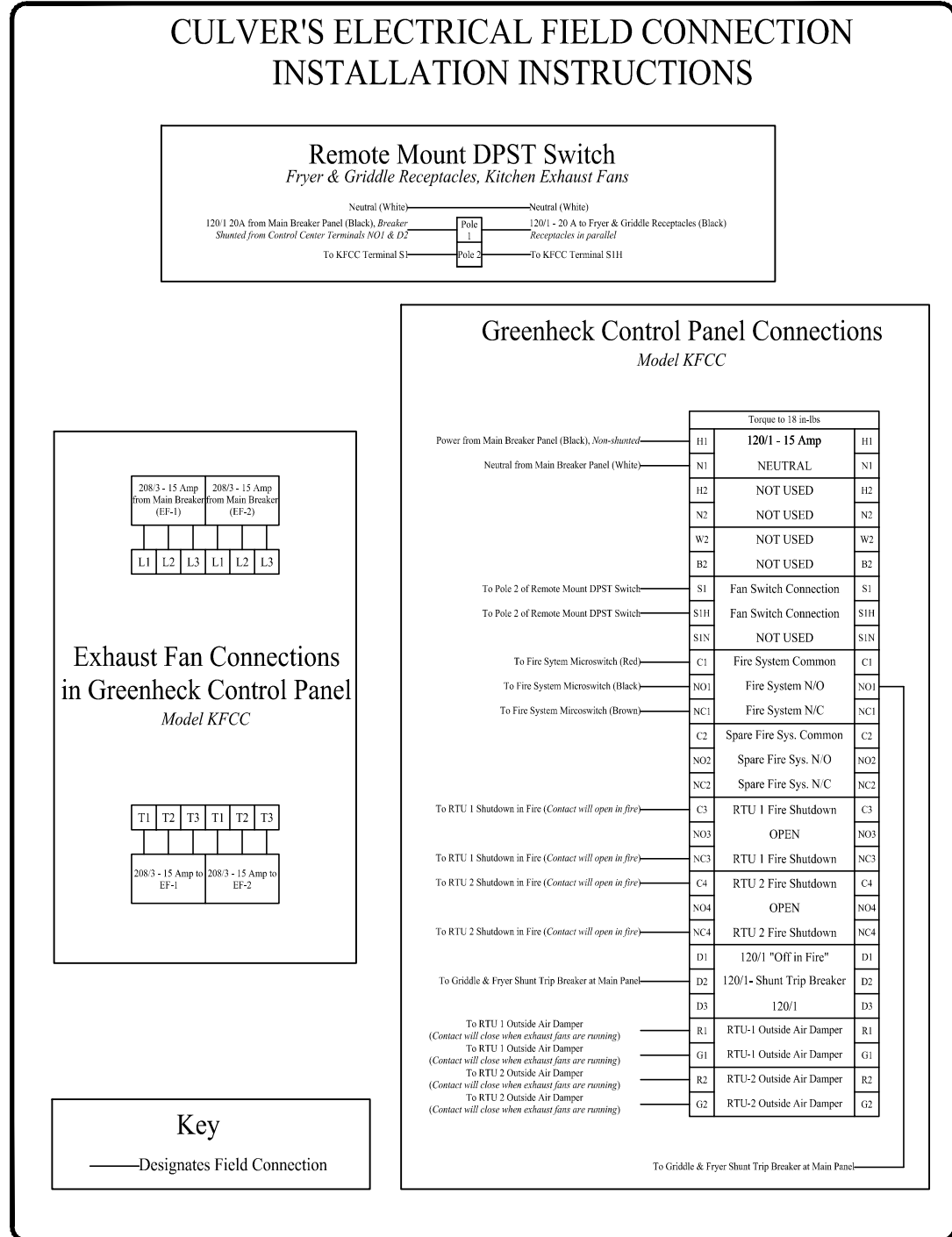
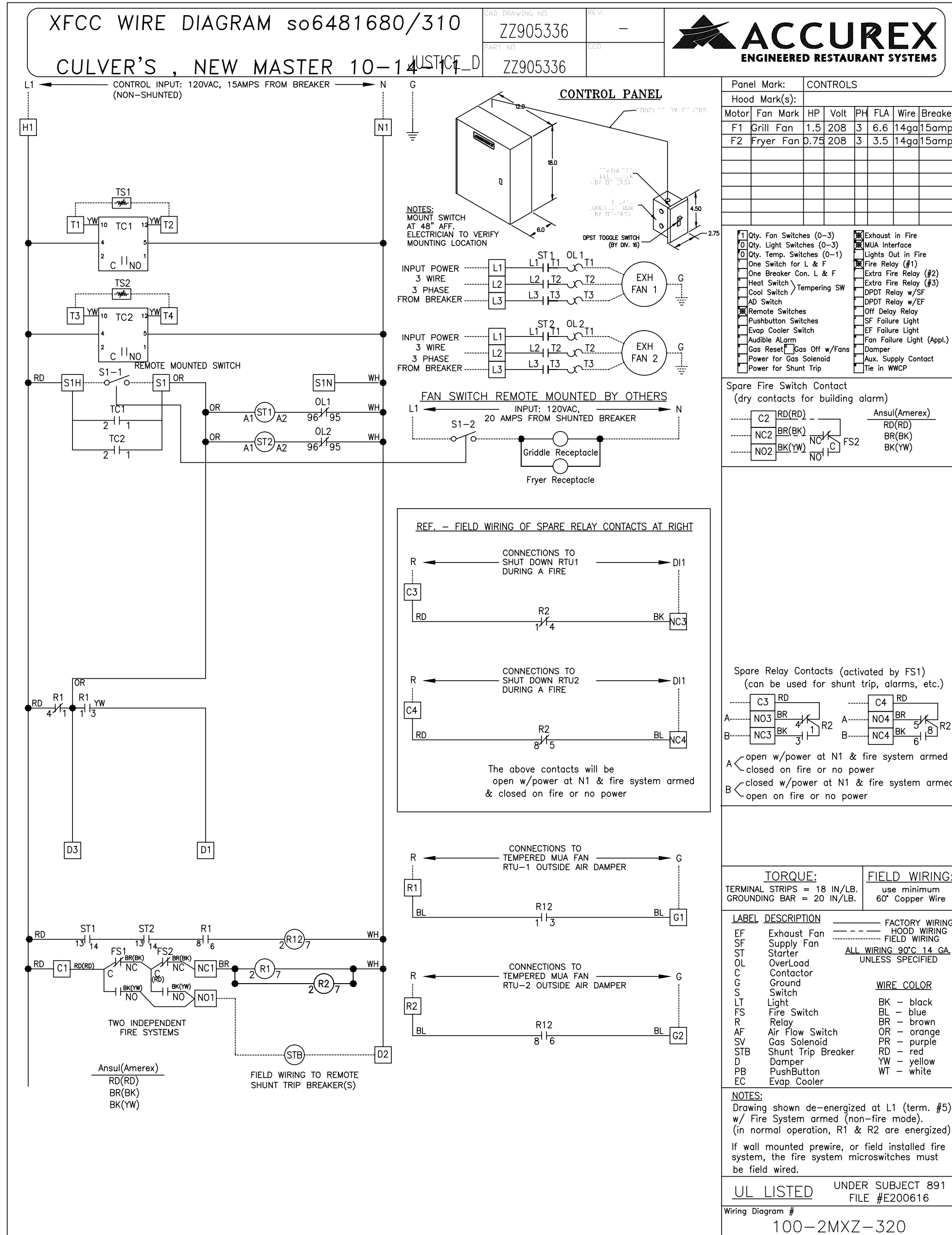
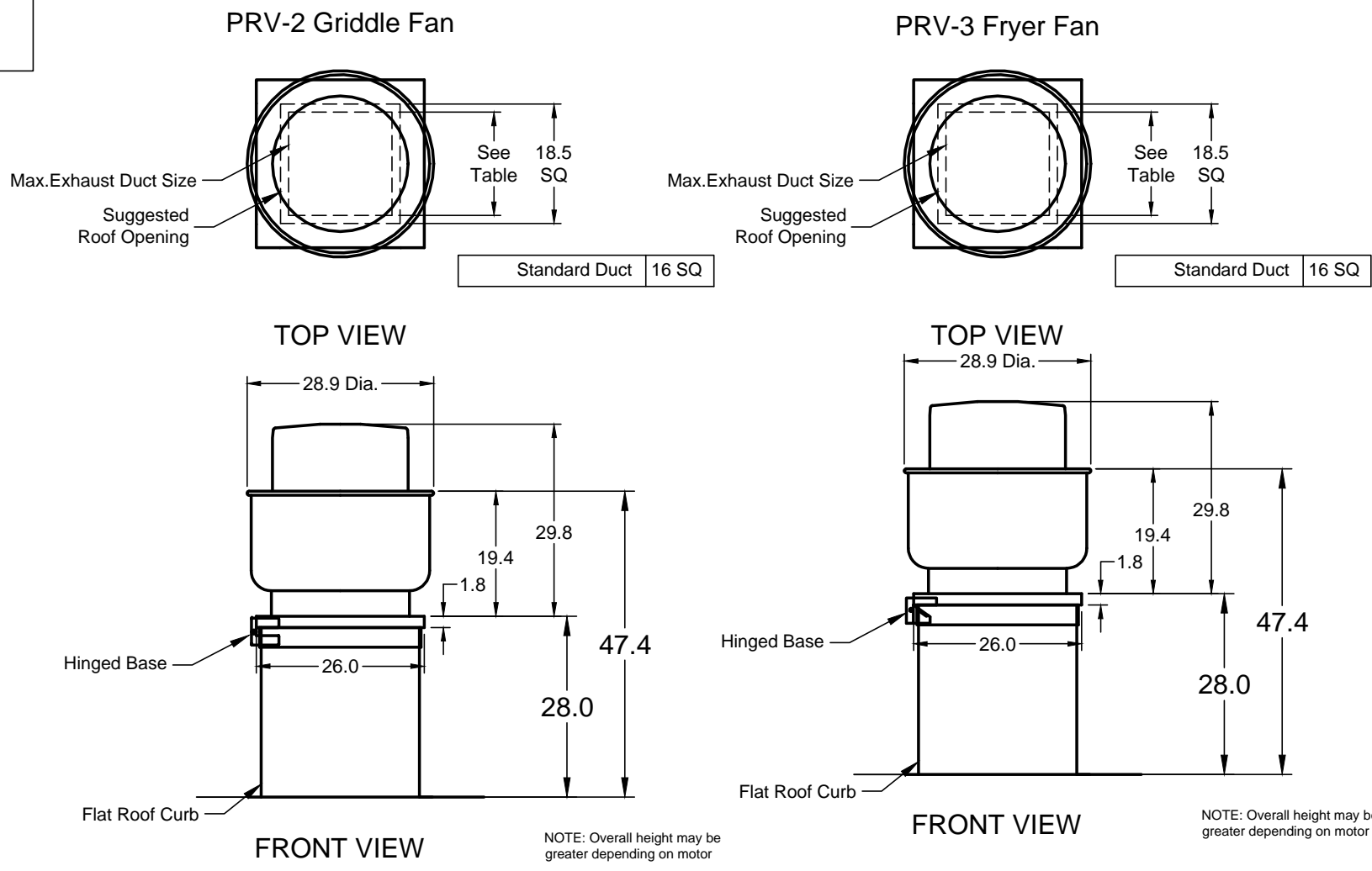
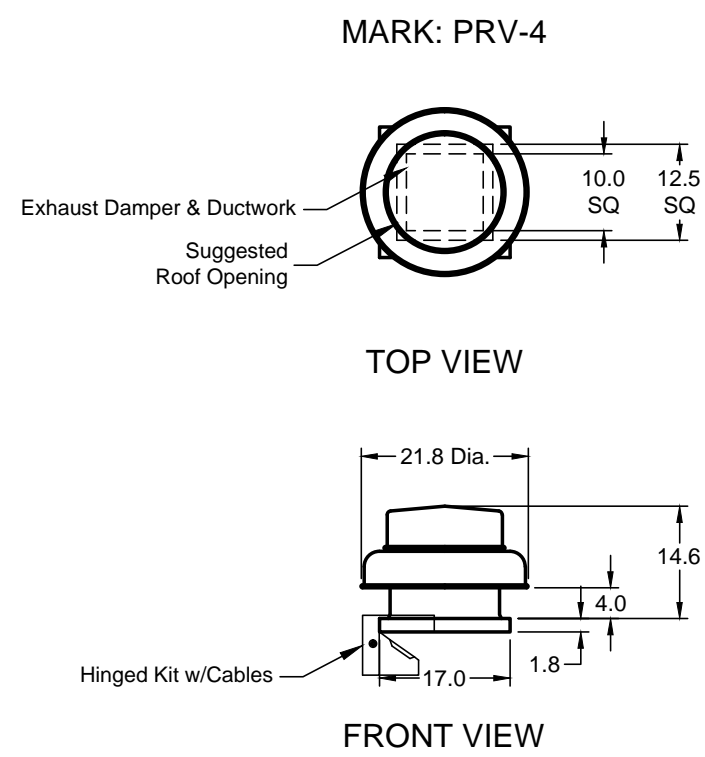








NOTE:  
THE DESIGN, INSTALLATION, OPERATION, INSPECTION, AND MAINTENANCE OF ALL PUBLIC AND PRIVATE COMMERCIAL COOKING EQUIPMENT SHALL COMPLY WITH CHAPTER FFFC 15011 AND NFPA 96, STANDARD FOR VENTILATION CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS. KITCHEN HOOD PLANS, COMPLIANT WITH THE ABOVE, SHALL BE PERMITTED SEPARATELY.



Culver's Installation and Operation Guide  
Greenheck Control Panel and Exhaust Fan & Receptacle Switch

**Mechanical Scope of work**

- Mechanical contractor to mount Greenheck Control Panel (Model KFCC, 12"W x 18"H x 6"W) in specified location above drop ceiling. (PROVIDE DIFFERENT PANEL MODEL IF MODEL #KFCC CANNOT ACCOMMODATE RTU-OA) Mechanical Contractor to start up fans and electrical outlet by turning fan switch to the "ON" position. Verify power to fryer & griddle receptacles and exhaust fans.
- Mechanical Contractor to start up fans and electrical outlet by turning fan switch to the "ON" position. Verify power to fryer & griddle receptacles and exhaust fans.

**Electrical Scope of Work**

- Electrical contractor shall provide one 120 Volt - 20 Amp circuit with shunt trip breaker (120V trip) for fryer and griddle receptacles. This circuit will have two receptacles, one for the fryer and one for the griddle. Circuit will be controlled using a DPST (Double Pole Single Throw) switch for exhaust fan and electrical outlet control. Switch to be mounted on wall where specified on drawings.
- Electrical Contractor to provide and install DPST switch on wall. Wire one pole of switch to the receptacle outlet control. Wire other pole of DPST switch to terminals SH and ST in Greenheck Control Panel (Model KFCC) to complete fan control circuit.
- Electrical Contractor to run a separate 120 Volt - 15A circuit to terminals HI and NI to power the panel controls.
- Two 208/60/3 - 15A circuits must be run from the main breaker panel to each motor starter in the GREENHECK PANEL. (L1, L2, & L3) Run power from terminals T1, T2, & T3 on the bottom of motor starter in the panel to kitchen exhaust fans.
- Electrical Contractor to make connections from terminals NO1 and D2 (200 Volt normally open contact) to shunt-trip breaker for fryer and griddle receptacles.
- Electrical Contractor to wire fire system microswitch in fire system cabinet to terminals C1, NC1 and NO1 as indicated on Greenheck drawing.
- Electrical Contractor to wire RTU 1 & 2 damper control to terminals R1 and G1 and R2 and G2 as indicated on Greenheck drawing. PROVIDE SIMILAR CONTACTS FOR RTU-OA.
- Electrical Contractor to wire RTU 1 & 2 RTU-OA control (10 amp max) circuits to panel dry contacts C3 and NC3 for RTU 1 and C4 and NC4 for RTU 2 to shutdown units in a fire. PROVIDE CONTACTS FOR RTU-OA.

**Sequence of Operation**

- Turn fan switch on. Fans and fryer and griddle receptacles will be energized.
- Turn on RTU 1 & RTU 2, RTU-OA will shut down.
- Before fire system agent tanks are installed, manually trigger fire system while fan switch is on. This should accomplish the following:  
Shunt trip breaker will trip causing a loss of power to fryer and griddle receptacles.  
Gas valve will close shutting gas off to the fryer and griddle.  
Exhaust fans will remain on.

RTU-1, RTU-2, & RTU-OA will shut down.

- Put fire system in the "cocked" position and reset shunt trip breaker. Power will be restored to equipment and RTUs.
- Turn fan switch to "OFF" position. This will shut down power to receptacles and exhaust fans. RTU-OA will shut down and outside air dampers will close. RTUs 1 & 2 will remain operational providing 100% return air only.

ELECTRICAL CONTROL BOX										MARK: CONTROLS		
DESCRIPTION / ACCUREX MODEL MOUNTING LOCATION (CONTROL PANEL / SWITCHES)						EXHAUST FAN QTY		SUPPLY FAN QTY		POWER FREQUENCY		
KITCHEN FAN CONTROL CENTER / XFCC SHIP LOOSE / SHIP LOOSE FOR REMOTE MOUNTING						2		0		60 CYCLE		
CONTROL PANEL ENCLOSURE - 16 GA 304 STAINLESS STEEL ENCLOSURE (NEMA-1) - DIMENSIONS 12 X 18 X 6												
WIRING DIAGRAM #: T100-2 - 20												
STARTERS PROVIDED IN CONTROL PANEL - QTY 2												
2 POSITION FAN SWITCH - QTY 1												
INTEGRATED EXHAUST TEMPERATURE INTERLOCK SYSTEM												
-FACTORY MOUNTED EXHAUST TEMPERATURE SENSORS - QTY 2												
-COMPLIES WITH FLORIDA BUILDING CODE - MECHANICAL 2010 SECTION 507.2.1.1												
TURN ON EXHAUST IN FIRE												
THERMAL OVERLOADS IN CABINET												
1 SPEED FAN(S)												
SPECIAL DESIGN REQUESTS												
ZZ905336												
SDR #K0800240 - USE KIT # 852883, WIRING DIAG. # ZZ133721A												
Direct Drive Centrifugal Roof Exhaust Fan												
MARK: PRV-4												
Qty	Accurex Model	Volume (CFM)	SP (in wg)	FRPM	Operating Power (hp)	Weight (Lb.)	Motor Information					FLA
							Size (hp)	V/C/P	Enc:	Motor RPM	Windings	
1	XRED-090-D	350	0.6	1532	0.072	27	0.0667	115/60/1	OP	1550	1	NA
OPTIONS AND ACCESSORIES												
UL/CUL 705 Listed - "Power Ventilators" Switch, NEMA-1, Toggle, Junction Box Mounted & Wired Hipped Curb Cap Kit w/Cables (PN 851018) (Shipped Loose) Curb Seal (Attached) Damper, WD-100-PB-10X10, Gravity Operated (Loose) Solid State Speed Control, Shipped Loose (PN 5WSSC) CURB GPI-17-G12												
EQUIPMENT SCHEDULE												
Belt Drive Upblast Centrifugal Roof Exhaust Fan												
MARK: PRV-2												
Qty	Accurex Model	Volume (CFM)	SP (in wg)	FRPM	Operating Power (hp)	Weight (Lb.)	Motor Information					FLA
							Size (hp)	V/C/P	Enc:	Motor RPM	Windings	
1	XRUB-161XP-15	1500	2.337	2,411	1.29	171	1.5	208/60/3	OP	1725	1	6.6
OPTIONS AND ACCESSORIES												
UL/CUL 762 Listed - "Power Ventilators for Rest. Exh. Appliances" Switch, NEMA-1, (PN-N1TSNO-3-30) Toggle, Shipped with unit Larger curb cap size - 26" Square Roof curb-Galv., GPF-26-G28, Under sized 1.5" Total Hinged Base (Attached) High Temp Curb Seal Rated for Continuous duty at 2000F (Attached) Clean-out Port Grease Trap with Drain Connection (PN 475538) Heat Baffle (Attached) Bearings with Grease Fittings, L10 life of 100,000 hrs (L50 avg. life 500,000 hrs)												
EQUIPMENT SCHEDULE												
Belt Drive Upblast Centrifugal Roof Exhaust Fan												
MARK: PRV-3												
Qty	Accurex Model	Volume (CFM)	SP (in wg)	FRPM	Operating Power (hp)	Weight (Lb.)	Motor Information					FLA
							Size (hp)	V/C/P	Enc:	Motor RPM	Windings	
1	XRUB-141-7	1500	1	1377	0.5	160	0.75	208/60/3	OP	1725	1	3.5
OPTIONS AND ACCESSORIES												
UL/CUL 762 Listed - "Power Ventilators for Rest. Exh. Appliances" Switch, NEMA-1, Toggle, Shipped with unit Larger curb cap size - 26" square Roof curb-Galv., GPF-26-G28, Undersized 1.5" total Hinged Base (Attached) Curb Seal (Attached) Clean-out Port Grease Trap with Drain Connection (PN 475538) Heat Baffle (Attached)												
EQUIPMENT SCHEDULE												
XCR		MARK: EF-1, EF-2		QTY. 1 EA.								
MODEL NO.	VOLUME (CFM)	SP (IN WC)	FAN RPM	WEIGHT (LB)	MOTOR SPECS							
					AMPS	V/C/P	RPM					
SPA-110	100	0.10	700	9	.31	115/60/1	---					
UL/CUL-507 - "ELECTRIC FANS"												
MOTOR W/ THERMAL OVERLOADS												
INTERLOCK WITH RESTROOM LIGHTS.												



