

SECTION 15732 - PACKAGED ROOFTOP AIR-CONDITIONING UNITS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Shop Drawings.
- B. Comply with ASHRAE 15.
- C. EER: Equal to or greater than prescribed by the energy code adopted by the Authority Having Jurisdiction.
- D. Warranties: Submit a written warranty, signed by the manufacturer, agreeing to the repair or replacement of components that fail within 5 years of Substantial Completion.

PART 2 - PRODUCTS

2.1 PACKAGED UNITS, 5 TO 20 TONS

- A. Factory assembled and tested, consisting of compressors, condensers, evaporator coils, condenser and evaporator fans, refrigeration and temperature controls, filters, and dampers.
  - 1. Refer to Rooftop Heating/Cooling Unit Schedule on drawing **M600** for capacities, and manufacturers.
  - 2. Evaporator Fans: Belt or direct driven, forward curved centrifugal.
  - 3. Exhaust/Relief Fans: Direct drive, forward curved centrifugal or propeller.
  - 4. Condenser Fans: Direct drive propeller.
  - 5. Refrigerant Coils: Aluminum fins and copper coil.
  - 6. Compressors: Serviceable hermetic or fully hermetic, with safety controls, hot gas bypass, and timed off controls.
  - 7. Heat Exchangers: Gas fired, with gas controls, electronic ignition, high limit cutout, and forced draft proving switch.
  - 8. Economizer controls (Comparative Enthalpy, 100% capacity).
  - 9. Smoke Detectors: Photoelectric in supply and/or return as called for in schedule on sheet M600.
  - 10. Operating Controls: Two stage heating and two stage cooling on units 7-1/2 tons and over.
  - 11. Roof curb.
  - 12. Control Wiring from T-stat to rooftop unit: Shall be 18ga / 7 conductor, rated for plenum applications.
  - 13. Control Wiring from T-stat to remote sensor: Shall be a separate 18ga / 2 conductor shielded, rated for plenum applications.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install units level and plumb and firmly anchored.
- B. Connect gas piping to burner with pipe same size as gas train inlet, and provide union with sufficient clearance for burner removal and service.
- C. Install ducts to termination in roof mounting frames. Terminate ducts through roof structure.
- D. Connect units to wiring systems and to ground.

END OF SECTION 15732

SECTION 15810 - DUCTS AND ACCESSORIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data for fire and smoke dampers.
- B. Comply with NFPA 90A for systems serving spaces more than 25,000 cu. ft. in volume or building Types II, IV, and V construction more than 3 stories in height.
- C. Comply with NFPA 90B for systems serving spaces in 1 or 2 family dwellings or serving spaces less than 25,000 cu. ft..
- D. Comply with NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations," for kitchen hood ducts.
- E. Comply with UL 181 and UL 181A for ducts and closures.
- F. Testing, Adjusting, and Balancing Agency Qualifications: AABC certified (to be furnished by Tenant).

PART 2 - PRODUCTS

2.1 DUCTS

- A. Spiral Duct: Spiral Lock Seam, without insulation, G90 galvanized finish, ASTM A-653/924
  - 1. Basis of Design Manufacturers: Lindab SPIROsafe, alternates to the basis of design must be submitted for review.
  - 2. Fittings: Factory produced standing seam construction with internal sealing. Fittings with a major axis of 36" or smaller shall be 20 gauge. Fittings with a major axis of 37"-48" shall be 18 gauge.
- B. Galvanized Steel Sheet: Forming steel, ASTM A 653/653M, G90 coating designation.
- C. Duct Liner: ASTM C 1071, Type II, with an airstream surface coated with a temperature resistant coating. Thickness: 1-1/2 inch. R-value : 8.
  - 1. Adhesive: ASTM C 916, Type I
  - 2. Mechanical Fasteners: Galvanized steel pin, length as required to penetrate liner plus a 1/8 inch projection maximum into the airstream.
- D. Joint and Seam Tape: Comply with UL 181A.
- E. Joint and Seam Sealant: Comply with UL 181A.
- F. Rectangular Metal Duct Fabrication: Comply with SMACNA's "HVAC Duct Construction Standard" for metal thickness, reinforcing types and intervals, and joint types and intervals.

2.2 ACCESSORIES

- A. Volume-Control Dampers: Factory fabricated volume control dampers, complete with required hardware and accessories. Single blade and multiple opposed blade, standard leakage rating, and suitable for horizontal or vertical applications.
- B. Fire Dampers: Factory-fabricated fire dampers, complete with required hardware and accessories. UL labeled according to UL 555, "Fire Dampers".
- C. Flexible Connectors: Flame retardant or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1.
- D. Flexible Ducts: Factory fabricated, insulated, round duct, with an outer jacket enclosing 2 inch thick, glass fiber insulation, R-value: 6.0, around a continuous inner liner.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Duct System Pressure Class: Construct and install each duct system with 2 inch positive and negative duct pressure classifications.
- B. Conceal ducts from view in finished and occupied spaces. Except where noted as exposed.
- C. Avoid passing through electrical equipment spaces and enclosures.
- D. Support and connect metal ducts according to SMACNA's "HVAC Duct Construction Standard".
- E. Install duct accessories according to applicable portions of details of construction as shown in SMACNA standards.
- F. Install liner and/or insulation on ductwork per the material schedule on sheet M010.
- G. Install volume control dampers in lined duct with methods to avoid damage to liner and to avoid erosion of duct liner.
- H. Install fire and smoke dampers according to manufacturer's UL approved written instructions.
- I. Install fusible links in fire dampers.
- J. Provide saddle taps at tees for exposed ductwork.

3.2 TESTING, ADJUSTING, AND BALANCING

- A. The Tenant will supply an independent balance agent to to balance and adjust the HVAC installation. The balance agent will be responsible for any pulley or belt changes required.
- B. The GC is to have trained staffed available during the balancing to correct issues noted by the balance agent.
- C. The balance agent is to balance airflow within distribution systems, including submains, branches, and terminals to indicated quantities +/- 10%. The hood exhaust system shall be balanced to a tolerance of -0+10% and the make-up air system to a tolerance of -10+0%.
- D. The balance agent is to supply a copy of the balance report to the Tenant, engineer and general contractor for review.

END OF SECTION 15810

SECTION 15855 - DIFFUSERS, REGISTERS, AND GRILLES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: None.

PART 2 - PRODUCTS

2.1 OUTLETS AND INLETS

- A. All air terminal devices:
  - 1. Refer to Grills, Registers, and Diffusers Schedule for equipment schedule
  - 2. Manufacturer: As scheduled (NO SUBSTITUTIONS)
  - 3. Material: As scheduled.
  - 4. Finish: As scheduled.
  - 5. Mounting: As scheduled.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Coordinate location and installation with duct installation and installation of other ceiling and wall mounted items.
- B. Locate ceiling diffusers, registers, and grilles, as indicated on the architectural "reflected ceiling plans." Unless otherwise indicated, locate units in center of acoustical ceiling panels.

END OF SECTION 15855

MATERIAL SCHEDULE

CATEGORY	APPLICATION	ALLOWABLE MATERIAL
DUCT	EXPOSED SUPPLY	RECT. LINED OR ROUND AS SHOWN. PAINTED TO MATCH DECK
	EXPOSED RETURN	RECTANGULAR, PAINTED TO MATCH DECK
	EXPOSED GEN. EXHAUST	RECTANGULAR, PAINTED TO MATCH DECK
	CONCEALED, SUPPLY	RECT. OR ROUND AS SHOWN, LINED OR INSULATED
	CONCEALED, RETURN	RECT. OR ROUND AS SHOWN, LINED OR INSULATED
	CONCEALED, GEN. EXHAUST	RECT. OR ROUND AS SHOWN
	CONCEALED, TYPE I HOOD EXHAUST	RECTANGULAR 16 GA. BLACK IRON W/ WRAP OR UL1978 FACTORY-MANUFACTURED DUCT W/ WRAP (SUBMIT SHOP DRAWINGS FOR FACTORY-MANUFACTURED DUCT FOR APPROVAL PRIOR TO ORDERING")
	CONCEALED, TYPE II HOOD EXHAUST	0.032" THICKNESS ALUMINUM

HVAC GENERAL NOTES

- A. GENERAL NOTES APPLY TO HVAC SHEETS.
- B. WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE AUTHORITY HAVING JURISDICTION, INCLUDING APPLICABLE SECTIONS OF NFPA, THE MECHANICAL CODE, AND ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL. PURCHASE PERMITS ASSOCIATED WITH THE WORK. OBTAIN INSPECTIONS REQUIRED BY CODE. SEE ARCHITECTURAL TITLE SHEET FOR THE PREVAILING CODES.
- C. CONTRACTOR AND SUBCONTRACTORS SHALL REVIEW A COMPLETE SET OF THE CONSTRUCTION DOCUMENTS.
- D. COORDINATE WORK WITH THE WORK OF OTHER TRADES, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND OF THE EXISTING CONDITIONS AT THE PROJECT SITE.
- E. DRAWINGS FOR THE MECHANICAL WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWING SHALL NOT BE SCALED FOR EXACT MEASUREMENTS, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, OFFSETS, ACCESSORIES, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
- F. DUCT DIMENSIONS ON PLANS INDICATE DIMENSIONS OF INTERNAL FREE AREA.
- G. PERFORATED CEILING DIFFUSERS SHALL BE 4-WAY UNLESS NOTED OTHERWISE.
- H. COORDINATE ROOF WORK WITH THE OWNER'S CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
- I. UNLESS NOTED OTHERWISE RECTANGULAR DUCT ELBOWS GREATER THAN 45° SHALL BE MITERED ELBOWS WITH DOUBLE THICKNESS TURNING VANES AND RECTANGULAR DUCT ELBOWS 45° OR LESS SHALL BE RADIUSSED ELBOWS WITH AN INSIDE RADIUS OF AT LEAST 1/2 THE WIDTH OF THE DUCT.
- J. REPLACE AIR FILTERS WITH NEW, CLEAN MERV 13 AIR FILTERS AT TURNOVER.

HVAC ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
BC	BLOWER COIL
CD	CEILING DIFFUSER
CU	CONDENSING UNIT
EA	EXHAUST AIR
EF	TENANT EXHAUST FAN
ER	EXHAUST REGISTER
EXT'G	EXISTING
GD	GRAVITY DAMPER
HD	HOOD
HES	HVAC EQUIPMENT SUPPLIER
KEF	KITCHEN EXHAUST FAN
KES	KITCHEN EQUIPMENT SUPPLIER
LV	LOUVER
MAU	MAKEUP AIR UNIT
MD	MOTORIZED DAMPER
MUA	MAKEUP AIR
OB	OPPOSED BLADE DAMPER
RA	RETURN AIR
RG	RETURN GRILLE
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SR	SUPPLY REGISTER
THS	TENANT HOOD SUPPLIER
VAV	VARIABLE AIR VOLUME TERMINAL UNIT
VSC	VARIABLE SPEED CONTROL

HVAC SYMBOLS

	CEILING DIFFUSER
	CEILING-MOUNTED RETURN OR EXHAUST REGISTER
	SUPPLY REGISTER
	RETURN REGISTER
	FLEXIBLE DUCT
	MITERED CORNER WITH TURNING VANES
	DUCTWORK INTERNAL FREE DIMENSIONS (WIDTH/HEIGHT)
	RECTANGULAR TO ROUND DUCT TRANSITION
	DUCT-MOUNTED SMOKE DETECTOR
	MOTOR-OPERATED DAMPER
	MANUAL VOLUME DAMPER
	GREASE DUCT CLEANOUT
	MITERED CORNER WITHOUT TURNING VANES
	THERMOSTAT
	REMOTE TEMPERATURE SENSOR
	PLAN NOTE: SEE PLAN NOTES LISTED ON THE SAME SHEET FOR NOTE MEANING
	CONNECT TO EXISTING
	EQUIPMENT TAG: SEE EQUIPMENT SCHEDULE ON SHEET <b>M600</b> FOR EQUIPMENT INFORMATION
	AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET
	GRILL, REGISTER, OR DIFFUSER TAG: TAG NECK SIZE AIRFLOW [CFM]

DATE	ISSUED FOR	REV
2025 08 01	LL REVIEW SET	
2025 08 08	PERMIT SET	
2025 11 13	ISSUED FOR CONSTRUCTION	4

This drawing has been prepared solely for the use of MENDOCINO FARMS and there are no representations of any kind made by NATIONAL ENGINEERING to any party with whom NATIONAL ENGINEERING has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer

Consultants	
Survey:	N/A
Architecture:	NORR
Structural:	N/A
Mechanical:	NATIONAL ENGINEERING
Electrical:	NATIONAL ENGINEERING
Interiors:	N/A

Seal(s)

FOR CONSTRUCTION



Drawn	JCH
Checked	JCH

Client  
**MENDOCINO FARMS**

2004 PARK PL, EL SEGUNDO, CA 90245

Project  
**Vernon Hills**

913 NORTH MILWAUKEE AVE,  
VERNON HILLS, IL 60061

Drawing Title  
**MECHANICAL SPECIFICATIONS**

Scale  
1/4" = 1'-0"

Project No.  
2501107

Drawing No.  
**M010**

# COMcheck Software Version COMcheckWeb Mechanical Compliance Certificate

### Project Information

Energy Code: 2018 IECC  
Project Title: Mendo - Vernon Hills, IL  
Location: Vernon Hills, Illinois  
Climate Zone: 5a  
Project Type: Alteration

Construction Site: 913 N. Milwaukee Ave. Vernon Hills, Illinois 60061  
Owner/Agent: Mendocino Farms 2004 Park Pl. El Segundo, California 90245  
Designer/Contractor: National Engineering, Ltd 4635 Trueman Blvd #250 Hilliard, Ohio 43026 614-751-9610 main@nationaengineering.com

### Mechanical Systems List

- Quantity System Type & Description**
- 1 RTU-6 (Single Zone): Heating: 1 each - Central Furnace, Gas, Capacity = 110 kBtu/h Proposed Efficiency = 80.00% E1, Required Efficiency = 80.00 % E1 or 80% AFUE Cooling: 1 each - Single Package DX Unit, Capacity = 48 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 14.00 SEER, Required Efficiency = 14.00 SEER Proposed Part Load Efficiency = 0.00 - Required Part Load Efficiency = 0.00
  - 3 GKT-02: Gas Instantaneous Water Heater, Capacity: 1 gallons, Input Rating: 199 kBtu/h w/ Circulation Pump No minimum efficiency requirement applies

### Mechanical Compliance Statement

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Richard T. Jones, PE  
Name - Title  
Signature: [Signature]  
Signed On: 06/27/2025 4:54:57 PM  
Date

Project Title: Mendo - Vernon Hills, IL  
Data filename: Report date: 06/27/25  
Page 1 of 9

Section # & Req. ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C403.12.2 [FO9] 3	Snow/ice melting system and freeze protection systems have sensors and controls configured to limit service for pavement temperature and outdoor temperature. future connection to controls.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

### Additional Comments/Assumptions:

Section # & Req. ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41] 1	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-5.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.8.1 [ME65] 1	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Mechanical Systems list for values.
C403.8.3 [ME117] 1	Fans have efficiency grade (FEG) >= 67. The total efficiency of the fan at the design point of operation <= 13% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.12.1 [ME71] 1	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.2 [ME59] 1	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.7.1 [ME59] 1	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Spaces where the supply airflow rate minus makeup air and minus outgoing transfer air is less than 1200 cfm.
C403.7.2 [ME115] 1	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.7.6 [ME141] 1	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms. Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.7.4 [ME57] 1	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Where prohibited by the International Mechanical Code.
C403.7.5 [ME116] 1	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.11.1 [ME60] 2	HVAC ducts and plenums insulated in accordance with C403.11.1 and C403.11.2, verification may need to occur during foundation inspection.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Mendo - Vernon Hills, IL  
Data filename: Report date: 06/27/25  
Page 3 of 9

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Mendo - Vernon Hills, IL  
Data filename: Report date: 06/27/25  
Page 5 of 9

Section # & Req. ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL26] 1	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C405.7 [EL27] 1	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.8.2 [EL28] 1	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C405.9 [EL29] 1	Total voltage drop across the combination of feeders and branch circuits <= 5%.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

### Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Mendo - Vernon Hills, IL  
Data filename: Report date: 06/27/25  
Page 7 of 9

DATE	ISSUED FOR	REV
2025 08 01	LL REVIEW SET	
2025 08 08	PERMIT SET	
2025 11 13	ISSUED FOR CONSTRUCTION	4

This drawing has been prepared solely for the use of MENDOCINO FARMS and there are no representations of any kind made by NATIONAL ENGINEERING to any party with whom NATIONAL ENGINEERING has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer

Consultants  
Survey: N/A  
Architecture: NORR  
Structural: N/A  
Mechanical: NATIONAL ENGINEERING  
Electrical: NATIONAL ENGINEERING  
Interiors: N/A

Seal(s)

FOR CONSTRUCTION

**NATIONAL ENGINEERING**  
4635 Trueman Blvd, Suite 250  
Hilliard, OH 43026  
Phone: (614) 751-9610  
Fax: (614) 552-5240

Drawn  
JCH  
Checked  
JCH

Client  
**MENDOCINO FARMS**

2004 PARK PL, EL SEGUNDO, CA 90245

Project  
**Vernon Hills**

913 NORTH MILWAUKEE AVE,  
VERNON HILLS, IL 60061

Drawing Title  
**MECHANICAL ENERGY COMPLIANCE**

Scale  
3" = 1'-0"

Project No.  
2501107

Drawing No.  
**M020**

# COMcheck Software Version COMcheckWeb Inspection Checklist

### Energy Code: 2018 IECC

Requirements: 100.0% were addressed directly in the COMcheck software  
Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req. ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR2] 1	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C103.2 [PR3] 1	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

### Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Mendo - Vernon Hills, IL  
Data filename: Report date: 06/27/25  
Page 2 of 9

Section # & Req. ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6] 1	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.6.1, C404.6.2 [PL3] 1	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.6.3 [PL7] 1	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.7 [PL8] 1	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

### Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Mendo - Vernon Hills, IL  
Data filename: Report date: 06/27/25  
Page 4 of 9

Section # & Req. ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.4.1 [ME83] 4	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.3.3 [ME35] 1	Hot gas bypass limited to <=240 kBtu/h - 50% >240 kBtu/h - 25%	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.1 [ME53] 1	Air outlets and zone terminal devices have means for air balancing.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5, C403.5.1, C403.5.2 [ME123] 1	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.5.1 and refrigeration compressor systems that comply with C403.5.2.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

### Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Mendo - Vernon Hills, IL  
Data filename: Report date: 06/27/25  
Page 6 of 9

Section # & Req. ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.3 [F18] 3	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.2 [F127] 1	HVAC systems and equipment capacity does not exceed calculated loads.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4.1 [F147] 1	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.1 [F138] 1	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4.1.3 [F120] 1	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4.2 [F139] 1	Each zone equipped with setback controls using automatic time clock or programmable control system.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4.2.1, C403.2.4.2.2 [F140] 1	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.3 [F111] 1	Heat traps installed on supply and discharge piping of non-circulating systems.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.4 [F125] 1	All piping insulated in accordance with section details and Table C403.11.3.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.6.1 [F112] 1	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank. System return pipe is a dedicated return pipe or a cold water supply pipe.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.1.1 [F157] 1	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Mendo - Vernon Hills, IL  
Data filename: Report date: 06/27/25  
Page 8 of 9

Section # & Req ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.1 [F128]¹	Commissioning plan developed by registered design professional or approved agency.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.3.1 [F131]¹	HVAC equipment has been tested to ensure proper operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.3.2 [F110]¹	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.4 [F129]¹	Preliminary commissioning report completed and certified by registered design professional or approved agency.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5.1 [F17]¹	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5.3 [F143]¹	An air and/or hydronic system balancing report is provided for HVAC systems.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5.4 [F130]¹	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

**Additional Comments/Assumptions:**

1 | High Impact (Tier 1)   2 | Medium Impact (Tier 2)   3 | Low Impact (Tier 3)

Project Title: Mendo - Vernon Hills, IL      Report date: 06/27/25  
Data filename:      Page 9 of 9

DATE	ISSUED FOR	REV
2025 08 01	LL REVIEW SET	
2025 08 08	PERMIT SET	
2025 11 13	ISSUED FOR CONSTRUCTION	4

This drawing has been prepared solely for the use of MENDOCINO FARMS and there are no representations of any kind made by NATIONAL ENGINEERING to any party with whom NATIONAL ENGINEERING has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer

Consultants  
 Survey: N/A  
 Architecture: NORR  
 Structural: N/A  
 Mechanical: NATIONAL ENGINEERING  
 Electrical: NATIONAL ENGINEERING  
 Interiors: N/A

Seal(s)

FOR CONSTRUCTION



Drawn

JCH

Checked

JCH

Client  
**MENDOCINO FARMS**

2004 PARK PL, EL SEGUNDO, CA 90245

Project  
**Vernon Hills**

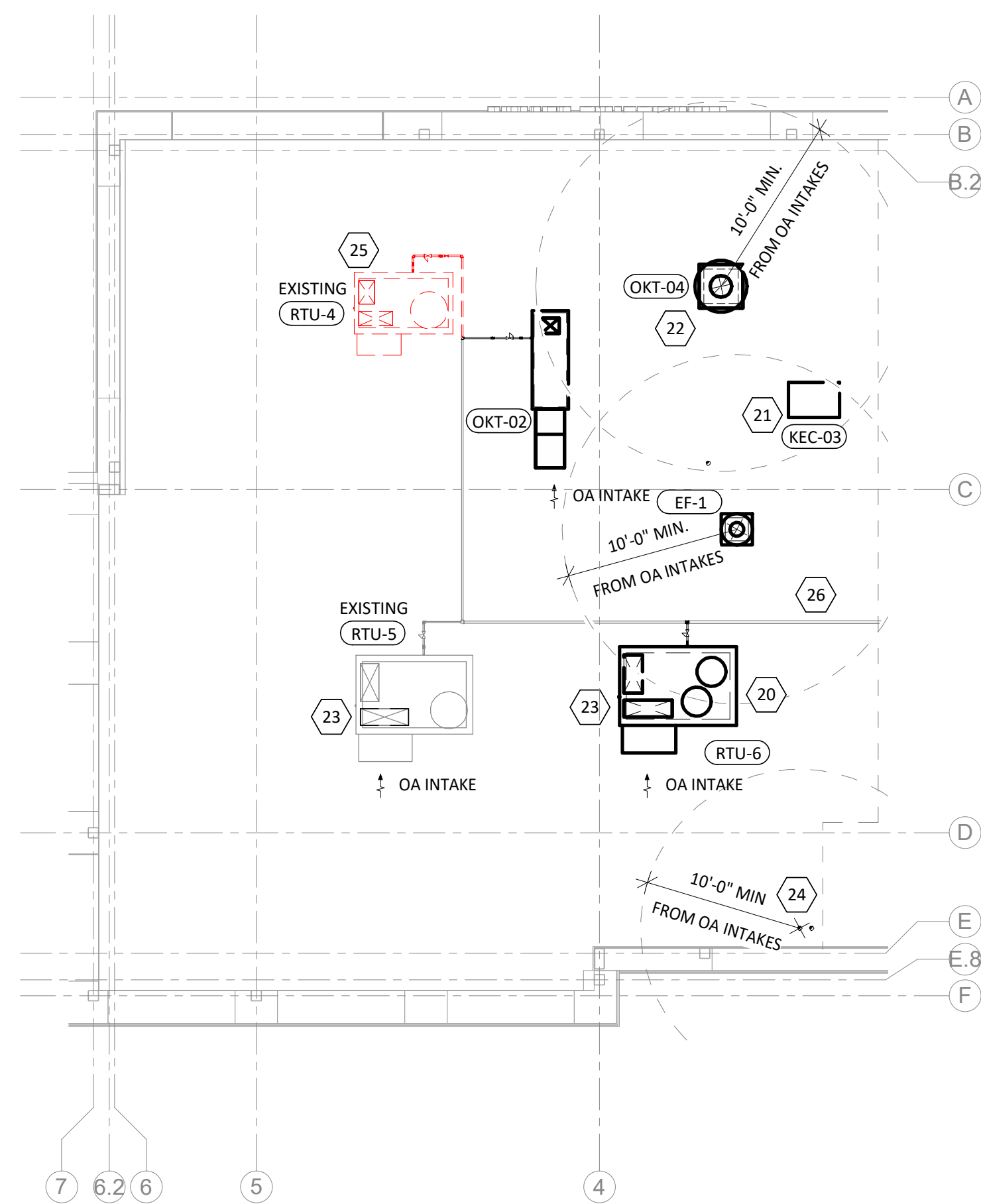
913 NORTH MILWAUKEE AVE,  
VERNON HILLS, IL 60061

Drawing Title  
**MECHANICAL ENERGY COMPLIANCE**

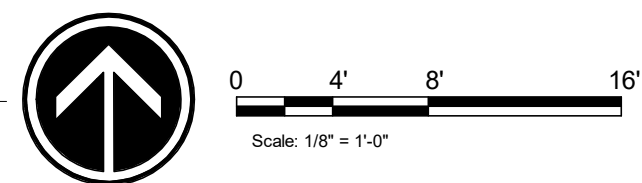
Scale  
3" = 1'-0"

Project No.  
2501107

Drawing No.  
**M021**

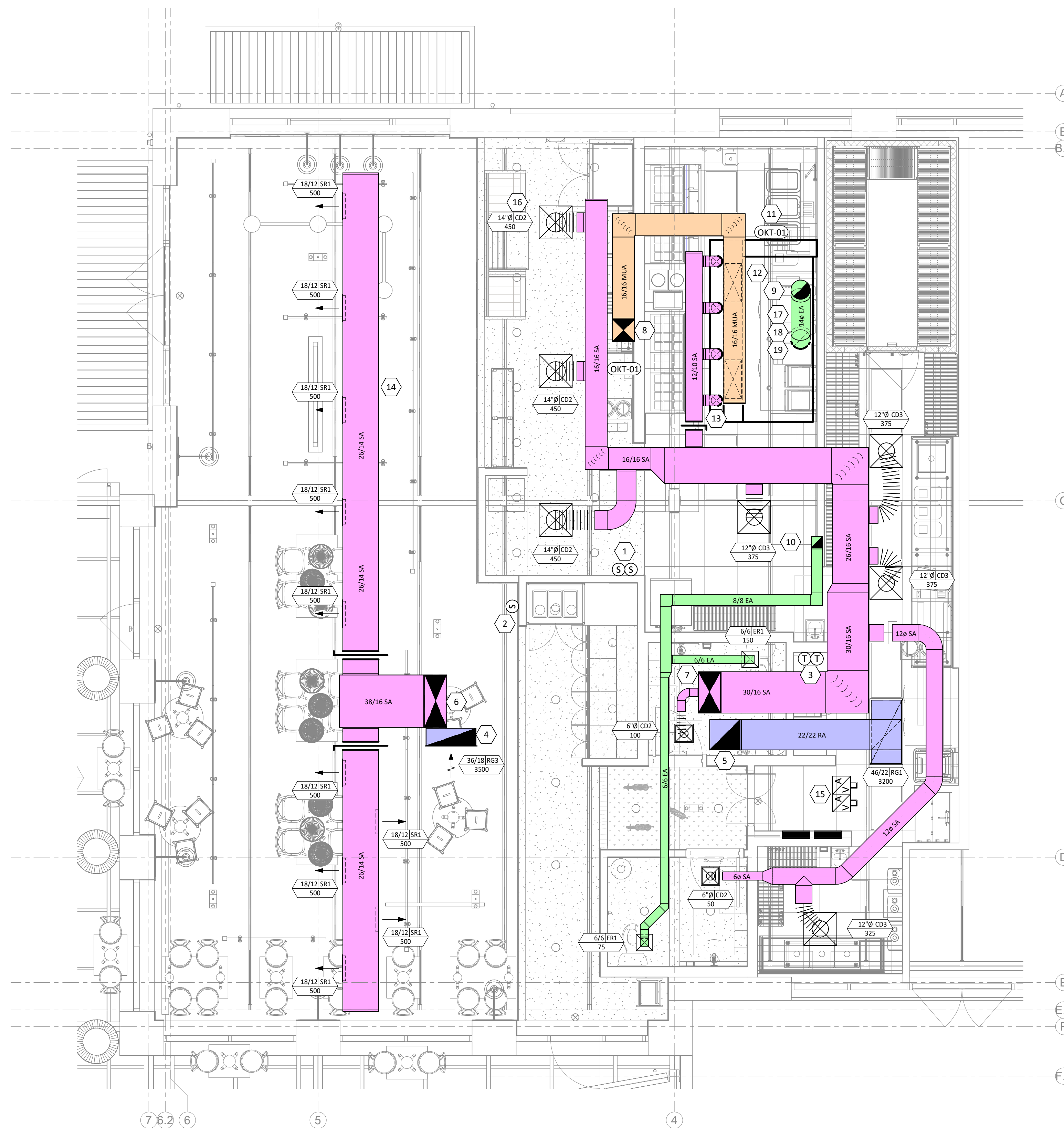


**2 HVAC ROOF PLAN**  
Scale: 1/8" = 1'-0"

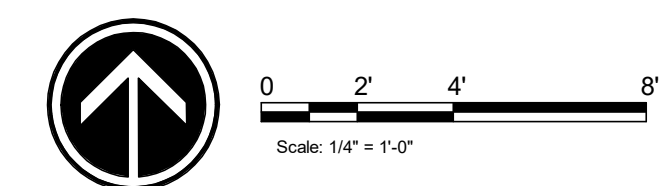


**X HVAC PLAN NOTES**

- 1 PROVIDE REMOTE TEMPERATURE SENSOR FOR KITCHEN HVAC SYSTEM AND HOOD AT THIS LOCATION @ 5'-0" AFF. COORDINATE LOCATION WITH EQUIPMENT.
- 2 PROVIDE REMOTE TEMPERATURE SENSOR FOR DINING HVAC SYSTEM AT THIS LOCATION @ 5'-0" AFF. COORDINATE LOCATION WITH ARTWORK.
- 3 PROVIDE HONEYWELL VISION PRO 8000 24/7 PROGRAMMABLE THERMOSTAT FOR EACH RTU AT THIS LOCATION AT 48" AFF. LABEL THERMOSTAT ACCORDING TO UNIT/AREA SERVED. COORDINATE THERMOSTAT LOCATION WITH WALL-MOUNTED EQUIPMENT SO THAT THERMOSTATS ARE NOT BLOCKED BY SHELVING, COAT RACKS, OR DOORS.
- 4 14/36 DUCT UP FOR TRANSITION TO EXISTING RTU-5 RETURN CONNECTION IN ROOF CURB. RTU SHALL HAVE AN INTEGRAL SMOKE DETECTOR MOUNTED IN THE RETURN AIR STREAM. INTERLOCK SMOKE DETECTOR TO RTU OPERATION.
- 5 22/22 DUCT UP FOR TRANSITION TO RTU-6 RETURN CONNECTION IN ROOF CURB.
- 6 16/38 DUCT UP FOR TRANSITION TO EXISTING RTU-5 SUPPLY CONNECTION IN ROOF CURB.
- 7 16/30 DUCT UP FOR TRANSITION TO RTU-6 SUPPLY CONNECTION IN ROOF CURB.
- 8 16/16 DUCT UP THROUGH ROOF. TRANSITION TO MAKEUP AIR UNIT, OKT-01, SUPPLY CONNECTION IN ROOF CURB.
- 9 14/8 DUCT UP FROM HOOD THROUGH ROOF TO EXHAUST FAN, OKT-04, COMPLIANT WITH NFPA 96. INSTALL DUCT PER DETAIL 7/M300.
- 10 8/8 DUCT UP THROUGH ROOF TO RESTROOM EXHAUST FAN, EF-1.
- 11 INSTALL KITCHEN HOOD, OKT-01. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL HOOD ACCORDING TO THE REQUIREMENTS OF ITS LISTING, IN COMPLIANCE WITH NFPA 96, THE BUILDING CODE, AND AUTHORITIES HAVING JURISDICTION. HOOD SHALL HAVE AN INTEGRAL DUCT COLLAR TEMPERATURE SENSOR TO AUTOMATICALLY ENERGIZE THE EXHAUST AND MAKEUP AIR FANS IF COOKING TEMPERATURES ARE DETECTED. EXHAUST DUCT SYSTEM TO BE WELDED OR FACTORY-MANUFACTURED WATER AND AIR TIGHT. INSTALL CLEANOUTS PER CODE. INSTALL HOOD PER DETAIL 3/M300.
- 12 28/12 DUCT DOWN TO MAKEUP AIR PSP DUCT CONNECTION. TRANSITION TO SUPPLY PLENUM OPENING SIZE. TYPICAL OF 2.
- 13 8/8 DUCT DOWN TO AC PSP DUCT CONNECTION. TRANSITION TO SUPPLY PLENUM OPENING SIZE. TYPICAL FOR 4.
- 14 HOLD DUCT AS TIGHT AS POSSIBLE TO BOTTOM OF ROOF STRUCTURE.
- 15 PROVIDE AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET. WIRE A UNIT BACK TO EACH SMOKE DETECTOR. MOUNT UNIT ON CEILING. TYPICAL.
- 16 PROVIDE SUPPLY DIFFUSER CONNECTION TO SUPPLY SYSTEM PER DETAIL 1/M300. TYPICAL.
- 17 PROVIDE FIRE RESISTANT INSULATION ON TYPE I HOOD EXHAUST DUCT FROM CONNECTION TO HOOD TO CONNECTION TO EXHAUST FAN PER DETAIL 2/M300.
- 18 SLOPE HORIZONTAL GREASE DUCT A MINIMUM OF 1/4" PER FOOT DOWN TOWARD THE CONNECTION TO THE HOOD.
- 19 PROVIDE UL-LISTED DUCT CLEANOUTS IN TYPE I EXHAUST DUCT AS REQUIRED.
- 20 INSTALL ROOFTOP UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 21 INSTALL REMOTE CONDENSING UNIT FOR WALK-IN COOLER ON ROOF PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, AND LOW AMBIENT CONTROLS. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. INSTALLATION SHALL COMPLY WITH ASHRAE/ANSI STANDARD 15.
- 22 INSTALL EXHAUST FAN OKT-04 PER DETAIL 4/M300 AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- 23 RTU SHALL HAVE AN INTEGRAL SMOKE DETECTOR MOUNTED IN THE SUPPLY AIR STREAM INTERLOCKED WITH OPERATION.
- 24 MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER FLUE TERMINATION AND OUTSIDE AIR INTAKES.
- 25 DEMOLISH EXISTING 4-TON ROOFTOP UNIT, 'RTU-4', AND PROVIDE INSULATED AND SEALED CURB CAP.
- 26 REFER TO PLUMBING PLANS FOR GAS PIPING SIZING AND DETAILS.



**1 HVAC PLAN**  
Scale: 1/4" = 1'-0"



**DUCT LEGEND**

- SA SUPPLY AIR
- RA RETURN AIR
- EA EXHAUST AIR
- OA OUTSIDE AIR
- MUA MAKEUP AIR

DATE	ISSUED FOR	REV
2025 08 01	LL REVIEW SET	
2025 08 08	PERMIT SET	
2025 11 13	ISSUED FOR CONSTRUCTION	4

This drawing has been prepared solely for the use of MENDOCINO FARMS and there are no representations of any kind made by NATIONAL ENGINEERING to any party with whom NATIONAL ENGINEERING has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer

Consultants  
 Survey: N/A  
 Architecture: NORR  
 Structural: N/A  
 Mechanical: NATIONAL ENGINEERING  
 Electrical: NATIONAL ENGINEERING  
 Interiors: N/A

Seal(s)

FOR CONSTRUCTION



Drawn  
JCH  
 Checked  
JCH

Client  
**MENDOCINO FARMS**

2004 PARK PL, EL SEGUNDO, CA 90245  
 Project  
**Vernon Hills**

913 NORTH MILWAUKEE AVE,  
 VERNON HILLS, IL 60061

Drawing Title  
**MECHANICAL PLAN**

Scale  
As indicated

Project No.  
2501107

Drawing No.  
**M100**

**VENTILATION SCHEDULE**

CATEGORY	DEFAULT OCCUPANCY [PPL / 1,000 SF]	AREA [SF]	NUMBER OF RESTROOM FIXTURES	OCCUPANCY BY AREA	VENTILATION AIR RATE		VENTILATION REQUIRED [CFM]		EXHAUST AIR RATE		EXHAUST REQUIRED [CFM]		SUBTOTAL VENTILATION REQUIRED [CFM]	SUBTOTAL EXHAUST REQUIRED [CFM]	EFFECT.	TOTAL VENTILATION REQUIRED [CFM]	VENTILATION PROVIDED [CFM]	TOTAL EXHAUST REQUIRED [CFM]	EXHAUST PROVIDED [CFM]
					CFM / PERSON	CFM / SF	OCCUPANCY	AREA	CFM / FIXTURE	CFM / SF	AREA	FIXTURES							
KITCHEN	20	807	0	17	7.5	0.12	128	97	0	-0.70	-565	0	224	-565	0.8	280	300	-706	-2000
DINING ROOM	70	778	0	55	7.5	0.18	413	140	0	0.00	0	0	553	0	0.8	691	950	0	0
RESTROOMS	0	109	3	0	0.0	0	0	0	-50	0.00	0	-150	0	-150	0.8	0	0	-188	-225
CORRIDOR	0	395	0	0	0.0	0.06	0	24	0	0.00	0	0	24	0	0.8	30	50	0	0

**GRILLS, REGISTERS, AND DIFFUSERS SCHEDULE**

TAG	DESCRIPTION	QTY	FACE SIZE	NECK SIZE	MATERIAL	FINISH	MOUNTING	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		NOTES
										MANUFACTURER	MODEL	
CD2	PERFORATED CEILING DIFFUSER	2	12" X 12"	6"Ø	ALUMINUM	WHITE	GYP CEILINGS	GC	GC	NAILOR	4320A TYPE S	PROVIDE INTEGRAL OBD
CD2	PERFORATED CEILING DIFFUSER	3	24" X 24"	14"Ø	ALUMINUM	WHITE	GYP CEILINGS	GC	GC	NAILOR	4320A TYPE S	PROVIDE INTEGRAL OBD
CD3	PERFORATED CEILING DIFFUSER	4	24" X 24"	12"Ø	ALUMINUM	WHITE	LAY-IN CEILINGS	GC	GC	NAILOR	4320A TYPE L	PROVIDE INTEGRAL OBD
ER1	PERFORATED CEILING EXHAUST	2	12" X 12"	6/6	ALUMINUM	WHITE	GYP CEILINGS	GC	GC	NAILOR	4330R TYPE S	PROVIDE INTEGRAL OBD
RG1	PERFORATED CEILING RETURN	1	48" X 24"	46/22	ALUMINUM	WHITE	LAY-IN CEILINGS	GC	GC	NAILOR	4330R TYPE L	
RG3	0" FIXED BLADE RETURN GRILLE	1	SEE NECK SIZE	36/18	ALUMINUM	TO MATCH DUCTWORK	DUCT	GC	GC	NAILOR	51FH	
SR1	DOUBLE DEFLECTION SUPPLY REGISTER	10	SEE NECK SIZE	18/12	ALUMINUM	MILL	DUCT	GC	GC	NAILOR	51DH	PROVIDE INTEGRAL OBD

**MAKEUP AIR UNIT SCHEDULE**

TAG	DESCRIPTION	AIRFLOW		APPROXIMATE WEIGHT [lbs]	ELECTRICAL				FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
		SUPPLY FLOW [CFM]	E.S.P. [in. W.C.]		MOTOR POWER	MOCP	FLA	V/P/H			MANUFACTURER	MODEL	
OKT-02	MAKEUP AIR UNIT	1200	0.80	650	1.0 HP	15 A	6.9	208/1/60	THS	GC	CAPTIVE-AIRE	A1-D.500-15D	FURNISHED WITH MOTORIZED DAMPER, DISCONNECT, ROOF CURB, SCREEN INTAKE, AND WASHABLE ALUMINUM FILTERS

**EXHAUST FAN SCHEDULE**

TAG	DESCRIPTION	DRIVE TYPE	EXHAUST FLOW [CFM]	E.S.P. [in. W.C.]	WEIGHT [lbs]	ELECTRICAL		FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
						MOTOR POWER	V/P/H			MANUFACTURER	MODEL	
EF-1	EXHAUST FAN RESTROOM	DIRECT	225 CFM	0.60 in-wg	100	0.18 HP	120/1/60	THS	GC	CAPTIVE-AIRE	DR12HFA	FURNISHED WITH DISCONNECT, VARIABLE SPEED CONTROLLER, BACKDRAFT DAMPER AND ROOF CURB
OKT-04	TYPE I EXHAUST FAN	DIRECT	2000 CFM	1.75 in-wg	250	2 HP	208/3/60	THS	GC	CAPTIVE-AIRE	DU180HFA	WITH DISCONNECT, VARIABLE SPEED CONTROL, AND VENTED ROOF CURB

**CONDENSING UNIT SCHEDULE**

TAG	DESCRIPTION	NOMINAL CAPACITY [TONS]	NUMBER OF COMPRESSORS	NUMBER OF CIRCUITS	REFRIGERANT TYPE	REFRIGERANT CHARGE	WEIGHT	ELECTRICAL			FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
								MOCP	FLA	V/P/H			MANUFACTURER	MODEL	
KEC-03	WALK-IN COOLER CONDENSING UNIT	--	1	1	R-404A		260	20 A	13.9 A	208/1/60	KES	KES	TBD	TBD	FURNISHED WITH WALK-IN COOLER

**KITCHEN HOOD SCHEDULE**

TAG	DESCRIPTION	MAX COOKING TEMP.	EXHAUST PLENUM				PERFORATED SUPPLY PLENUMS								NUMBER OF LIGHT FIXTURES	APPROXIMATE WEIGHT [lbs]	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS				
			AIRFLOW [CFM]	SP [in. W.C.]	DUCT COLLAR(S)		SP [in. W.C.]	SUPPLY PLENUM LENGTH	SUPPLY PLENUM WIDTH	MAU PLENUM			AC PLENUM						MANUFACTURER	MODEL					
					NO.	DIAMETER				LENGTH	WIDTH	AIRFLOW [CFM]	DUCT COLLARS NO.	LENGTH								DIAMETER			
OKT-01	TYPE I CANOPY HOOD	600°F	2000	0.49	1	14"	10' - 0"	4' - 6"	0.5	11' - 0"	24"	1200	2	12"	28"	500	4	8"	3	1050	THIS	GC	CAPTIVE-AIRE	5424 ND-2-ACPSF-F	MAT'L: 18 GA. TYPE 430 SS. PROVIDE WITH (7) 20" X 16" HE SS FILTERS, INTEGRAL UTILITY CABINET, ANSUL SYSTEM, DUCT COLLAR TEMPERATURE SENSOR & PREWIRE PACKAGE

**ROOFTOP UNIT SCHEDULE**

TAG	DESCRIPTION	NOMINAL CAPACITY [TONS]	EER	AIRFLOW			COOLING CAPACITY				HEATING CAPACITY				ELECTRICAL			FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS				
				TOTAL [CFM]	OA [CFM]	ESP [in. w.c.]	NET TOTAL [MBH]	NET SENSIBLE [MBH]	EAT [Deg. F]		COND. EAT [Deg. F]	INPUT [MBH]	OUTPUT [MBH]	EAT [Deg. F]	NUMBER OF COMPRESSORS	NUMBER OF CIRCUITS	REFRIGERANT TYPE			APPROX. WEIGHT [Lbs]	MOCP		MCA	V/P/H	MANUFACTURER	MODEL
									DB	WB																
RTU-5	EXISTING DINING ROOM ROOFTOP UNIT	12.5	10.8	4500	1000	0.8	138	77	76	67	95	224	181	56	2	2	R-410A	1900	80 A	67.0 A	208/3/60	EXT'G	EXT'G	CARRIER	48TCE14	*** EXISTING UNIT ***
RTU-6	KITCHEN ROOFTOP UNIT	10	11	3500	300	0.8	107	73	74	63	95	180	148	64	2	1	R-454B	1500	60 A	54.0 A	208/3/60	GC	GC	CARRIER	48FE_M12	FURNISHED WITH HINGED ACCESS PANELS, STANDARD ECONOMIZER W/ DUAL ENTHALPY CONTROLS, BAROMETRIC RELIEF, RET., MERV-8 FILTERS, CURB, HAIL GUARD, DISCONNECT, & UNIT-MOUNTED NON-POWERED CONVENIENCE RECEPTACLE

DATE	ISSUED FOR	REV
2025 08 01	LL REVIEW SET	
2025 08 08	PERMIT SET	
2025 11 13	ISSUED FOR CONSTRUCTION	4

This drawing has been prepared solely for the use of MENDOCINO FARMS and there are no representations of any kind made by NATIONAL ENGINEERING to any party with whom NATIONAL ENGINEERING has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer

Consultants  
 Survey: N/A  
 Architecture: NORR  
 Structural: N/A  
 Mechanical: NATIONAL ENGINEERING  
 Electrical: NATIONAL ENGINEERING  
 Interiors: N/A

Seal(s)

FOR CONSTRUCTION

**AIR BALANCE SCHEDULE**

TAG	SUPPLY FLOW	RETURN FLOW	EXHAUST FLOW	SUBTOTAL
EF-1	0	0	225	-225
OKT-02	1200	0	0	1200
OKT-04	0	0	2000	-2000
RTU-5	4500	3500	0	1000
RTU-6	3500	3200	0	300
Net Pressurization [CFM]				275

**CONTROL FUNCTIONS**

A	THE MAIN COOKING EXHAUST FAN AND MAKE-UP AIR UNIT SHALL BE INTERLOCKED TO OPERATE TOGETHER. THIS CONTROL CIRCUIT IS ACTIVATED BY A SWITCH AND INCLUDES A FIRE PROTECTION OVERRIDE.
B	THE TEMPERATURE IN EACH ZONE IS CONTROLLED BY SPACE TEMPERATURE SENSORS CONNECTED TO THE THERMOSTATS LOCATED IN THE KITCHEN. ALL ZONES SHALL OPERATE WITH CONTINUOUS FAN OPERATION DURING OCCUPIED TIMES AND INTERMITTENTLY AS NEEDED TO MAINTAIN SET POINTS DURING UNOCCUPIED TIMES. OUTSIDE AIR DAMPERS SHALL BE OPEN CONTINUOUSLY WHEN EITHER IN OCCUPIED MODE OR WHEN HOOD SYSTEM IS ON AND SHALL BE CLOSED DURING UNOCCUPIED PERIODS.



Drawn  
JCH  
Checked  
JCH

Client  
**MENDOCINO FARMS**

2004 PARK PL., EL SEGUNDO, CA 90245  
 Project  
**Vernon Hills**

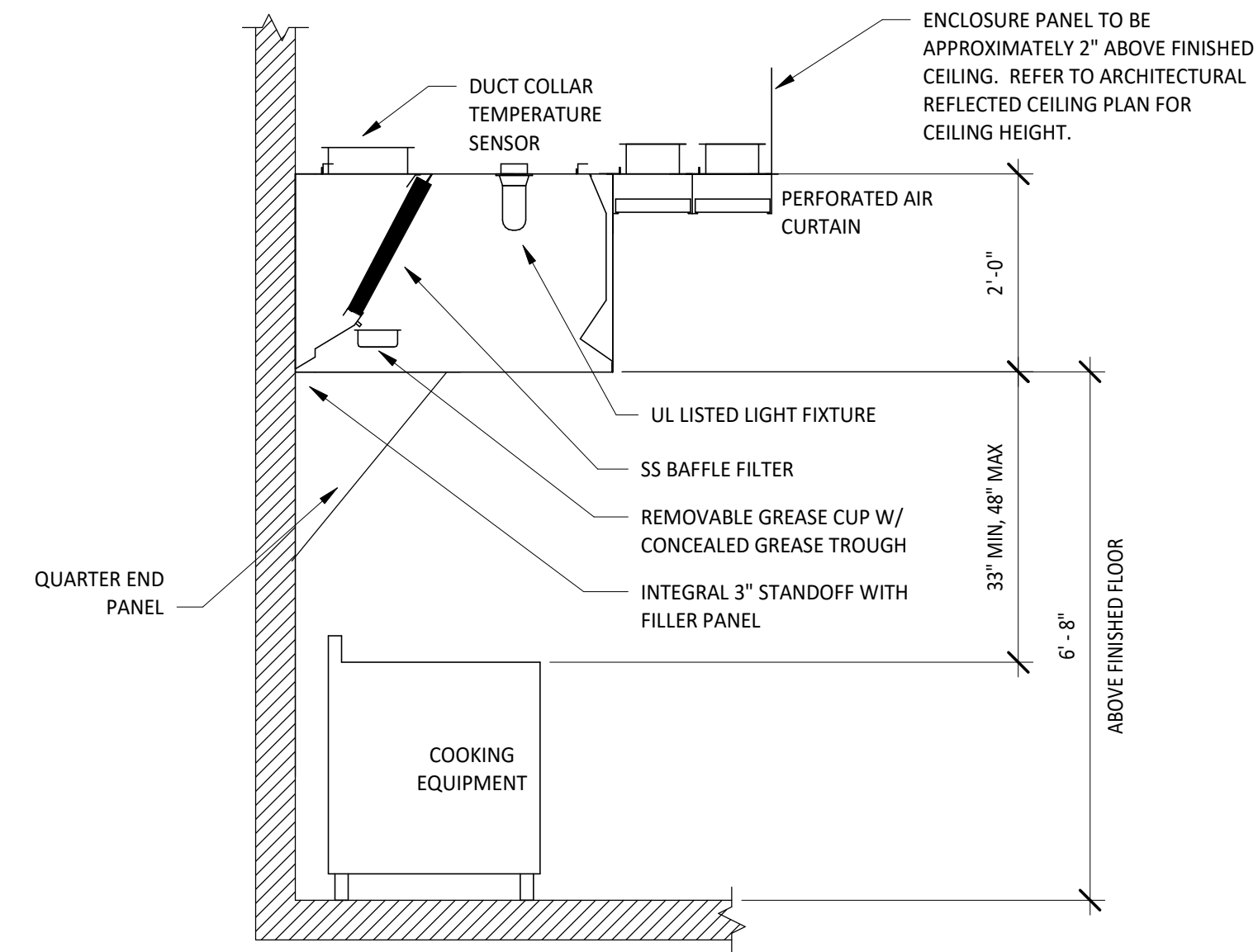
913 NORTH MILWAUKEE AVE.,  
 VERNON HILLS, IL 60061

Drawing Title  
**MECHANICAL SCHEDULES**

Scale

Project No.  
2501107

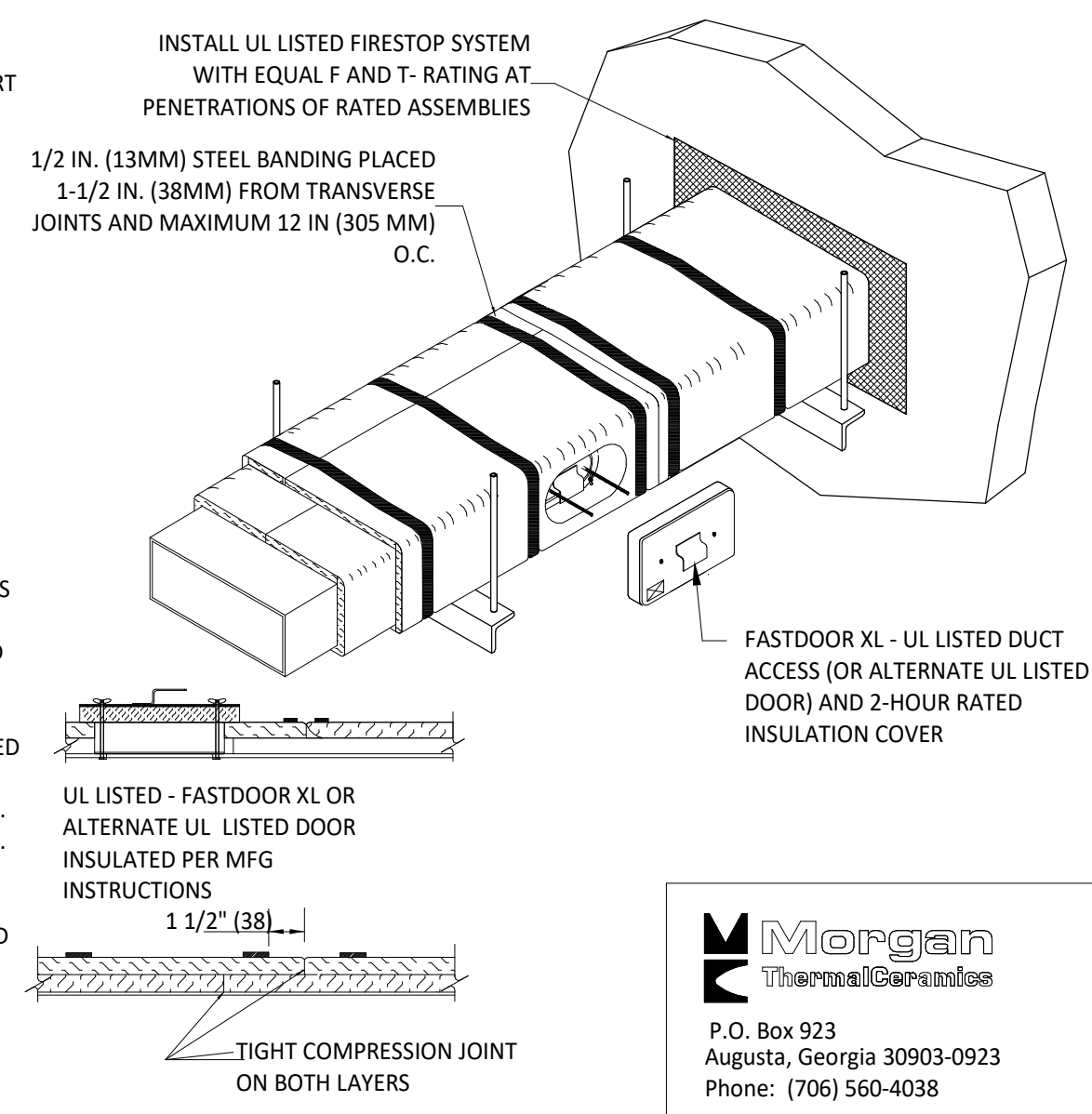
Drawing No.  
**M600**



**3 HOOD SECTION VIEW**  
Scale: N.T.S.

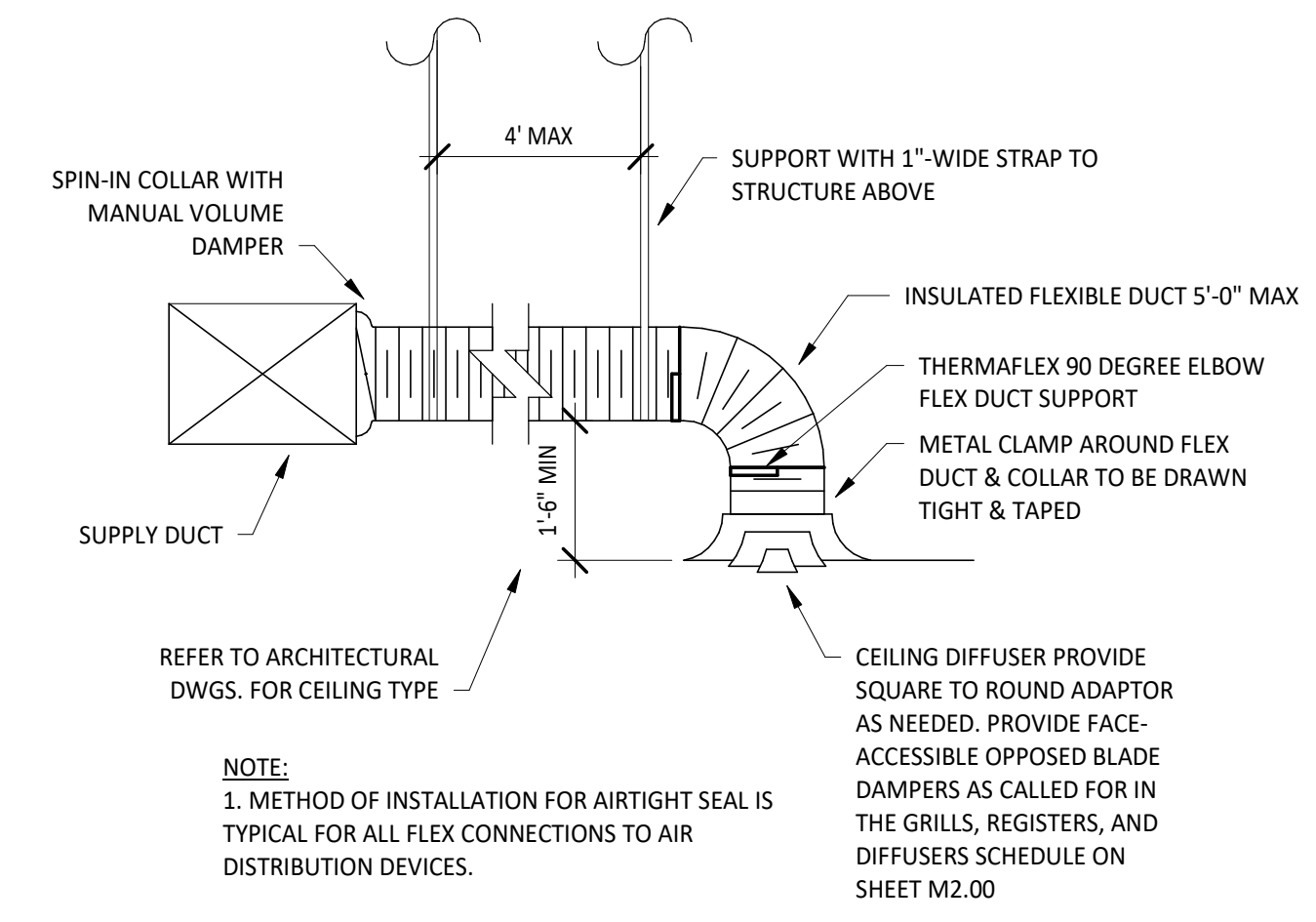
1. THERMAL CERAMICS FIREMASTER FASTWRAP XL IS TESTED TO ASTM E2336 AND UL LISTED PER HNKT.G18 TO PROVIDE ZERO CLEARANCE TO COMBUSTIBLES AND TO PROVIDE A 1- OR 2- HOUR ENCLOSURE. THROUGH PENETRATIONS FIRESTOP SYSTEMS ARE TESTED IN ACCORDANCE WITH ASTM E 814 (UL 1479). ICC CODE EVALUATION PER REPORT UL ER 14229-01.
2. COMPLIANT TO THE FOLLOWING CODES:  
NFPA 96  
INTERNATIONAL MECHANICAL CODES  
UNIFORM MECHANICAL CODE.  
CALIFORNIA MECHANICAL CODE
3. INSULATION APPLIED IN TWO LAYERS WITH TIGHT COMPRESSION JOINT ON BOTH LAYERS AT ALL JOINTS.
4. MINIMUM 16 GAUGE CARBON STEEL (OR 18 GAGE STAINLESS STEEL) RECTANGULAR OR ROUND GREASE EXHAUST DUCT
5. INSTALL UL LISTED AND LIQUID TIGHT THERMAL CERAMICS FASTDOOR XL ACCESS DOORS, OR ALTERNATE DOOR UL LISTED PER UL1978, AT ALL CHANGES IN DIRECTION AND AT MINIMUM EVERY 20 FT ON HORIZONTAL RUNS.
6. SUPPORT HANGER SYSTEMS DO NOT NEED TO BE WRAPPED PROVIDED THE HANGER RODS ARE MINIMUM OF 3/8 IN. DIAMETER AND SUPPORTS ARE MINIMUM 2 X 2 X 1/8 IN. STEEL ANGLE OR SMACNA EQUIVALENT SUPPORT SYSTEM.
7. THERMAL CERAMICS DUCT WRAP SHALL BE INSTALLED DIRECTLY ONTO THE DUCT AND APPLIED FROM THE HOOD CONNECTION TO THE CONNECTION TO THE FAN.
8. THERMAL CERAMICS DUCT ENCLOSURE SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND UL LISTINGS.

**FIRE RATED ENCLOSURE - GREASE DUCTS**

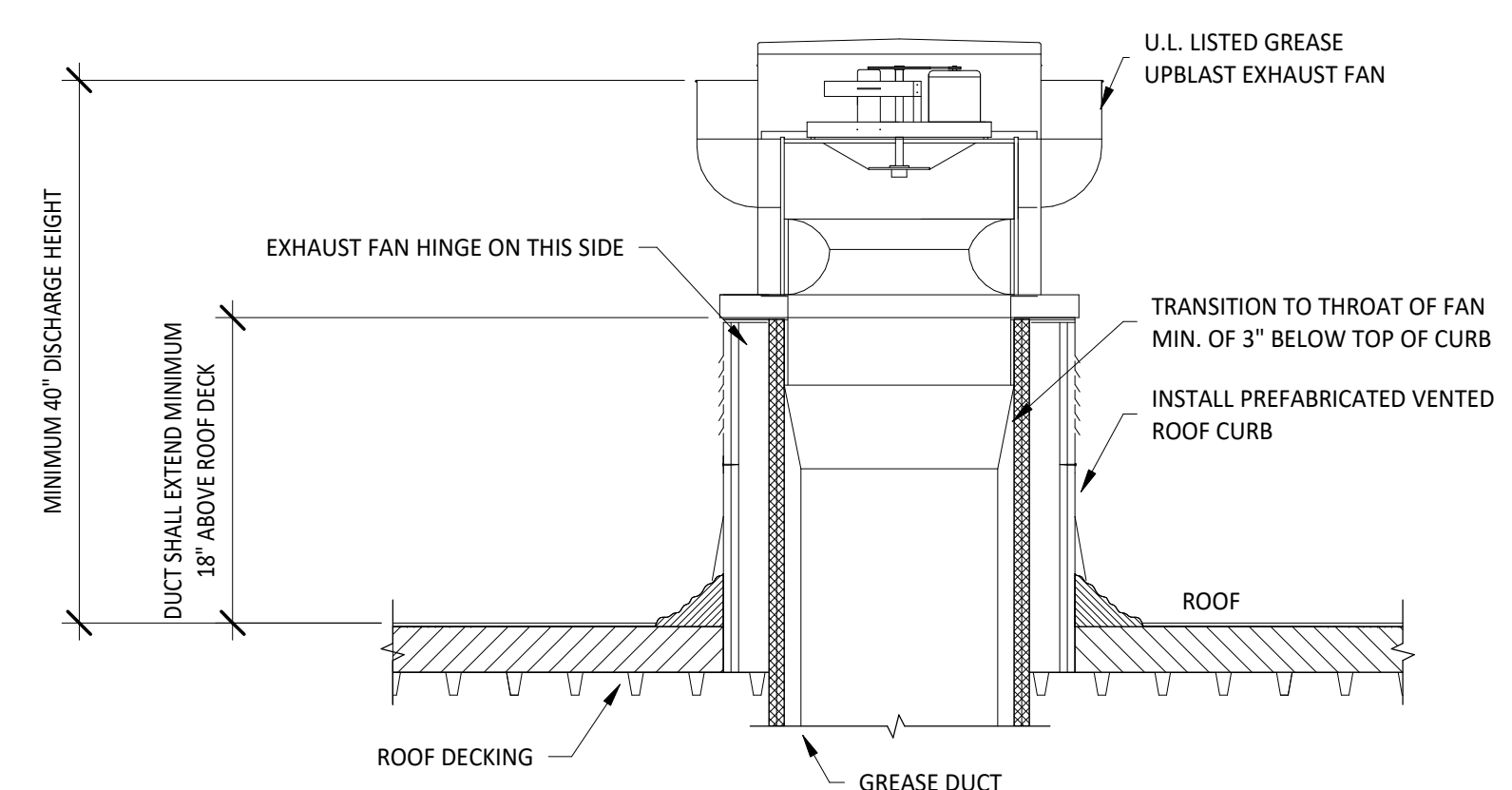


**Morgan**  
ENGINEERING  
P.O. Box 923  
Augusta, Georgia 30903-0923  
Phone: (706) 560-4038

**2 FIREMASTER DUCT WRAP - UL HNKT-G18**  
Scale: N.T.S.



**1 DIFFUSER/DAMPER CONNECTION**  
Scale: N.T.S.



- NOTE:**  
1. INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 96 REQUIREMENTS.  
2. HINGE FAN SO IT TIPS BACK TOWARD FAN DRAIN

**4 GREASE EXHAUST FAN**  
Scale: N.T.S.

DATE	ISSUED FOR	REV
2025 08 01	LL REVIEW SET	
2025 08 08	PERMIT SET	
2025 11 13	ISSUED FOR CONSTRUCTION	4

This drawing has been prepared solely for the use of MENDOCINO FARMS and there are no representations of any kind made by NATIONAL ENGINEERING to any party with whom NATIONAL ENGINEERING has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer

Consultants

Survey:	N/A
Architecture:	NORR
Structural:	N/A
Mechanical:	NATIONAL ENGINEERING
Electrical:	NATIONAL ENGINEERING
Interiors:	N/A

Seal(s)

FOR CONSTRUCTION

**NATIONAL ENGINEERING**  
4635 Trueman Blvd, Suite 250  
Hilliard, OH 43026  
Phone: (614) 751-9610  
Fax: (614) 552-5240

Drawn	JCH
Checked	JCH

Client  
**MENDOCINO FARMS**

2004 PARK PL, EL SEGUNDO, CA 90245

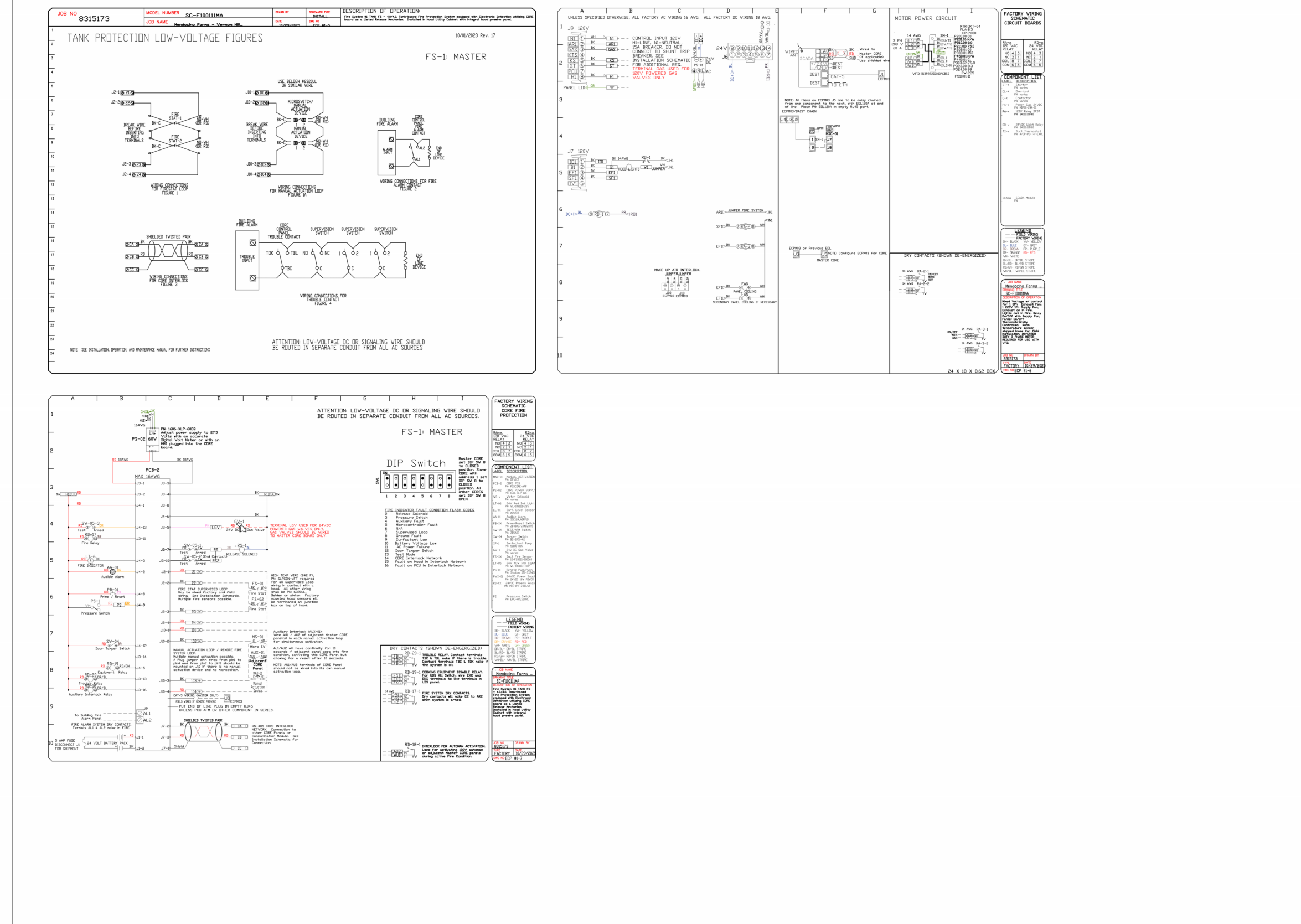
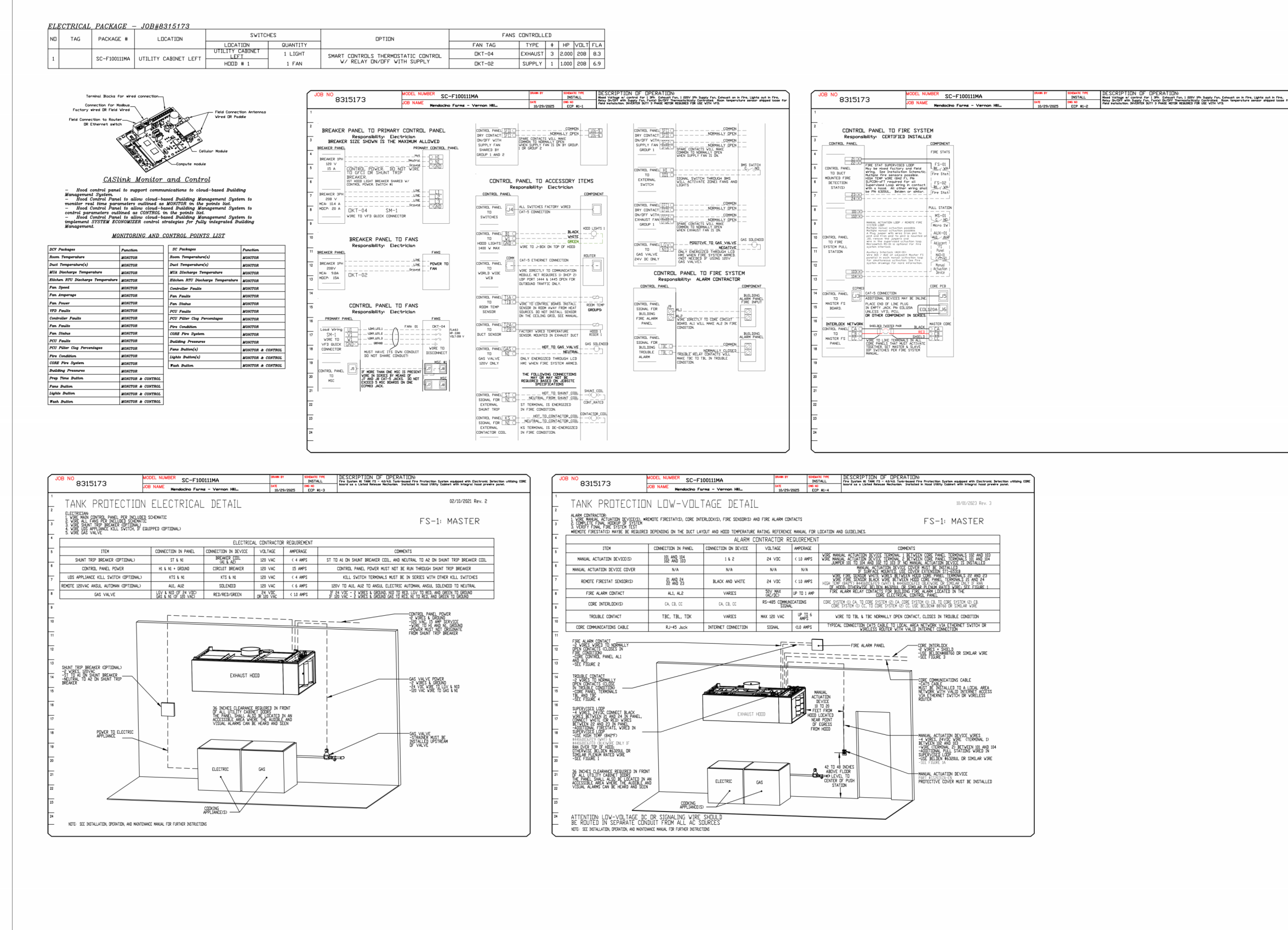
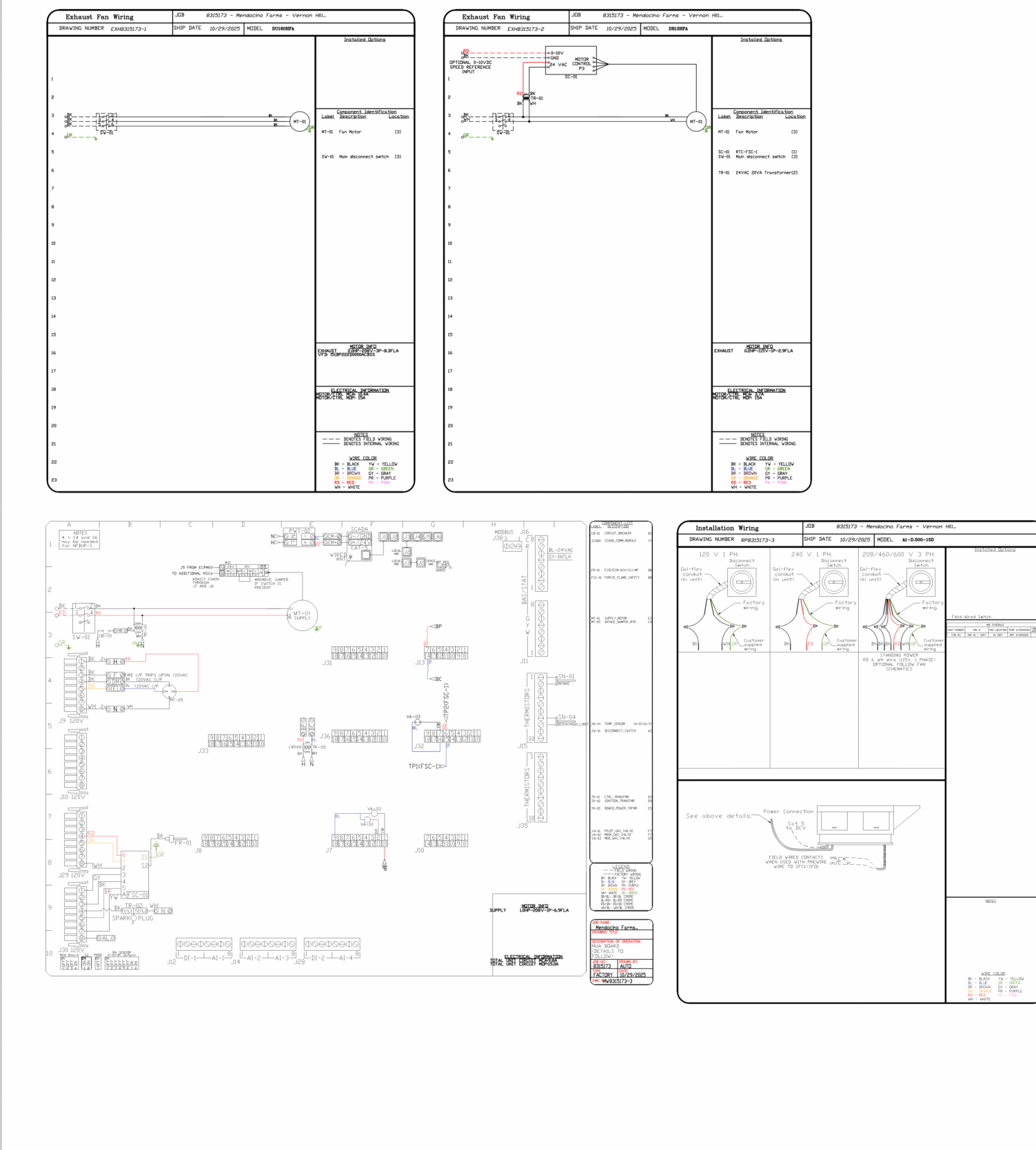
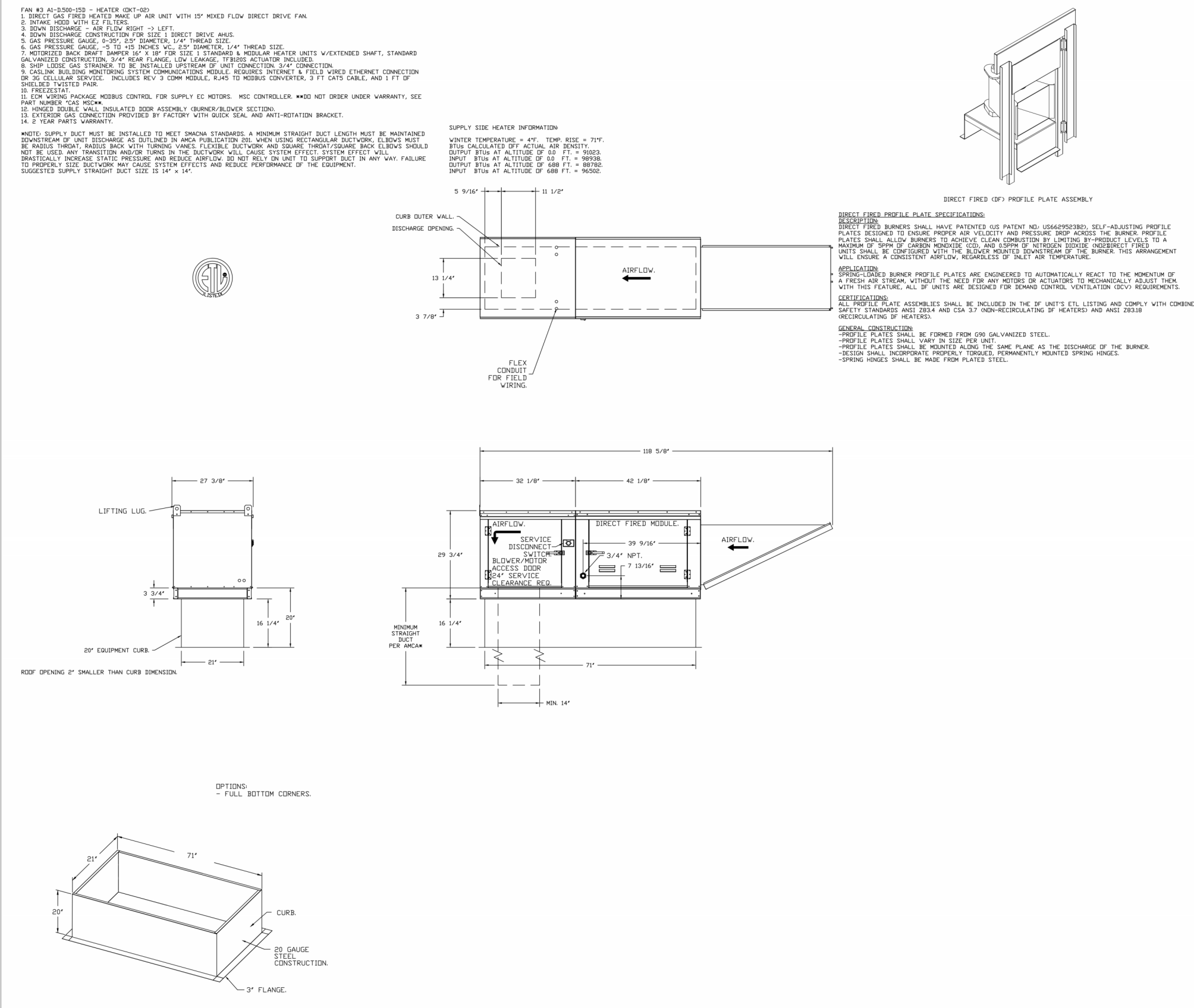
Project  
**Vernon Hills**

913 NORTH MILWAUKEE AVE,  
VERNON HILLS, IL 60061

Drawing Title  
**MECHANICAL DETAILS**

Scale	As indicated
Project No.	2501107
Drawing No.	<b>M700</b>





FOR REFERENCE ONLY

DATE	ISSUED FOR	REV
2025 08 01	LL REVIEW SET	
2025 08 08	PERMIT SET	
2025 11 13	ISSUED FOR CONSTRUCTION	4

This drawing has been prepared solely for the use of MENDOCINO FARMS and there are no representations of any kind made by NATIONAL ENGINEERING to any party with whom NATIONAL ENGINEERING has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer

Consultants  
 Survey: N/A  
 Architecture: NORR  
 Structural: N/A  
 Mechanical: NATIONAL ENGINEERING  
 Electrical: NATIONAL ENGINEERING  
 Interiors: N/A

Seal(s)

FOR CONSTRUCTION



Drawn  
JCH  
 Checked  
JCH

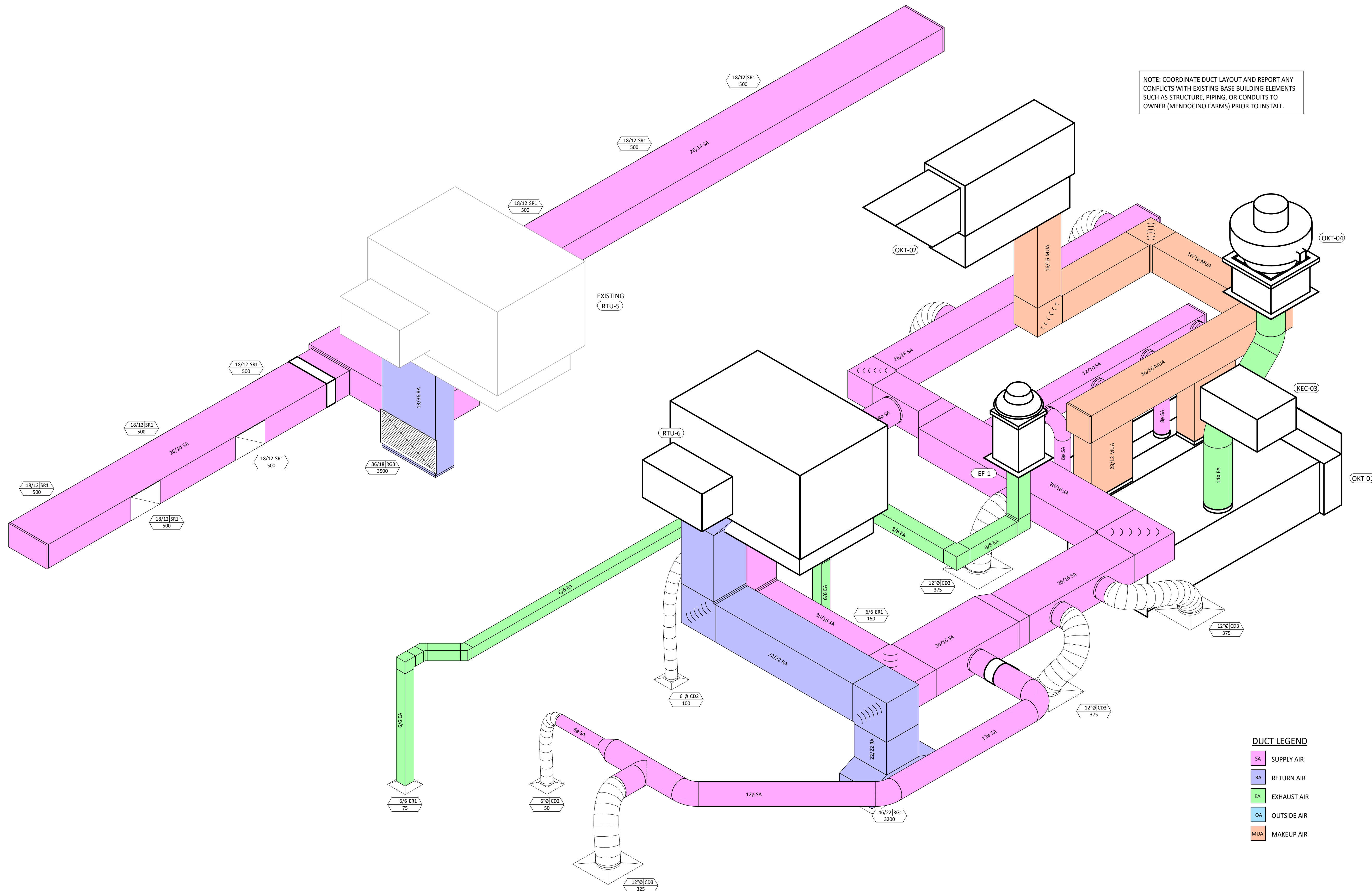
Client  
**MENDOCINO FARMS**

2004 PARK PL., EL SEGUNDO, CA 90245  
 Project  
**Vernon Hills**

913 NORTH MILWAUKEE AVE,  
VERNON HILLS, IL 60061

Drawing Title  
**HOOD DRAWINGS**

Scale  
1 1/2" = 1'-0"  
 Project No.  
2501107  
 Drawing No.  
**M810**



NOTE: COORDINATE DUCT LAYOUT AND REPORT ANY CONFLICTS WITH EXISTING BASE BUILDING ELEMENTS SUCH AS STRUCTURE, PIPING, OR CONDUITS TO OWNER (MENDOCINO FARMS) PRIOR TO INSTALL.

DATE	ISSUED FOR	REV
2025 08 01	LL REVIEW SET	
2025 08 08	PERMIT SET	
2025 11 13	ISSUED FOR CONSTRUCTION	4

This drawing has been prepared solely for the use of MENDOCINO FARMS and there are no representations of any kind made by NATIONAL ENGINEERING to any party with whom NATIONAL ENGINEERING has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer

Consultants

Survey:	N/A
Architecture:	NORR
Structural:	N/A
Mechanical:	NATIONAL ENGINEERING
Electrical:	NATIONAL ENGINEERING
Interiors:	N/A

Seal(s)

FOR CONSTRUCTION



Drawn  
JCH  
Checked  
JCH

Client  
**MENDOCINO FARMS**

2004 PARK PL, EL SEGUNDO, CA 90245

Project  
**Vernon Hills**

913 NORTH MILWAUKEE AVE,  
VERNON HILLS, IL 60061

Drawing Title  
**MECHANICAL ISOMETRIC**

Scale  
1/4" = 1'-0"

Project No.  
2501107

Drawing No.  
**M900**

**1 MECHANICAL ISOMETRIC**  
Scale: N.T.S.