

GENERAL NOTES

- A. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS... B. COORDINATE WITH THE WORK OF OTHER SECTIONS... C. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC... D. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS... E. INSTALL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS... F. CONTRACT LANDLORD APPROVED ROOFING CONTRACTOR... G. INSTALL EXHAUST FAN A MINIMUM OF 10 FT FROM INTAKE AIR OPENINGS.

HVAC SEQUENCE OF OPERATIONS

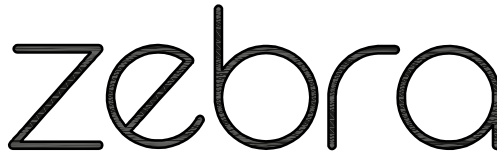
PROVIDE NECESSARY SENSORS, DAMPER ACTUATORS, CONTROL TRANSFORMERS WITH SECONDARY OVERLOAD PROTECTION, WIRING IN CONDUIT, AND ALL MISCELLANEOUS ITEMS TO ACCOMPLISH FOLLOWING SEQUENCE OF OPERATION: ROOFTOP UNIT: UNIT CONTROLLER SHALL BE SET TO DETERMINE OCCUPIED AND UNOCCUPIED HOURS OF OPERATION... COOLING: WHEN SPACE TEMPERATURE RISES ABOVE OCCUPIED COOLING SET POINT... HEATING: WHEN SPACE TEMPERATURE FALLS 2 DEGREES OR MORE BELOW HEATING SETPOINT... UNOCCUPIED MODE: UPON SIGNAL FROM UNIT CONTROLLER, SUPPLY FAN SHALL BE DEENERGIZED AND OUTSIDE AIR DAMPER SHALL CLOSE... MORNING WARM-UP/COOL DOWN: CONTROLS SHALL BE CAPABLE OF AUTOMATICALLY ADJUSTING DAILY START TIME OF UNIT... SET POINTS: OCCUPIED COOLING: 75F, OCCUPIED HEATING: 70F, UNOCCUPIED COOLING: 85F, UNOCCUPIED HEATING: 55F. SMOKE DETECTOR SHUT DOWN: SMOKE DETECTOR SHALL DEENERGIZE ROOFTOP UNIT FAN AND CLOSE OUTSIDE AIR DAMPER... KITCHEN HOOD INTERLOCKS AND FIRE SUPPRESSION SYSTEM: RTU-X1 AND X2 SHALL BE INTERLOCKED WITH HOOD EXHAUST FAN KEF-1... RTU-X2 SHALL BE DEENERGIZED UPON ACTIVATION OF THE KITCHEN HOOD FIRE SUPPRESSION SYSTEM.

MECHANICAL SPECIFICATIONS

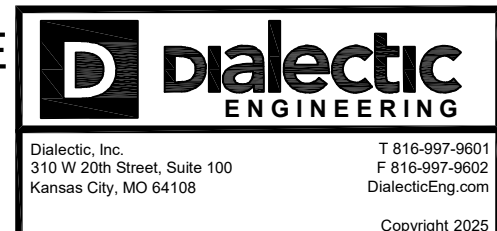
PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM. DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION... GREASE EXHAUST DUCTWORK: PROVIDE FACTORY BUILT DOUBLE WALL GREASE EXHAUST DUCT AS MANUFACTURED BY CAPTIVEAIRE OR APPROVED EQUAL... COMPOSITE GREASE DUCT FIRE PROTECTION INSULATION: PROVIDE FLEXIBLE BLANKET-TYPE INSULATION COMPOSED OF FIBER BLANKET ENCAPSULATED IN AN ALUMINUM FOIL SCRIM... MECHANICAL EQUIPMENT IDENTIFICATION: PROVIDE ENGRAVED PLASTIC LAMINATE LABEL FOR EACH MAJOR ITEM OF MECHANICAL EQUIPMENT... SHOP DRAWINGS/SUBMITTALS: SUBMIT ELECTRONIC SUBMITTALS AND SHOP DRAWINGS VIA EMAIL AS PDF ELECTRONIC FILES... SUBMITTALS SHALL INCLUDE (AS APPLICABLE): MANUFACTURER'S CATALOG CUTS, MANUFACTURER'S PRODUCT SPECIFICATIONS, STATEMENT OF COMPLIANCE WITH SPECIFIED REFERENCED STANDARDS, TESTING BY RECOGNIZED TESTING AGENCY, APPLICATION OF TESTING AGENCY LABELS AND SEALS, WIRING DIAGRAMS SHOWING FACTORY-INSTALLED WIRING, PERFORMANCE CURVES, OPERATIONAL RANGE DIAGRAMS, CLEARANCES REQUIRED TO OTHER CONSTRUCTION, IF NOT INDICATED ON SHOP DRAWINGS.

MECHANICAL SYMBOLS LEGEND

ABBREVIATIONS: AD ACCESS DOOR, AFF/AFG ABOVE FINISHED FLOOR/GRADE, AHU AIR HANDLING UNIT, AHJ AUTHORITY HAVING JURISDICTION, BDD BACKDRAFT DAMPER, BOD BOTTOM OF DUCT, BHP BRAKE HORSEPOWER, BTU BRITISH THERMAL UNIT, CD CONTROL DAMPER, CFM CUBIC FEET PER MINUTE, DB DRY BULB, EC ELECTRICAL CONTRACTOR, EA EXHAUST AIR, EAT ENTERING AIR TEMPERATURE, ESP EXTERNAL STATIC PRESSURE, ETR EXISTING TO REMAIN, EWT ENTERING WATER TEMPERATURE, FD FIRE DAMPER, FPC FIRE PROTECTION CONTRACTOR, FSD COMBINATION FIRE/SMOKE DAMPER, GC GENERAL CONTRACTOR, HZ FREQUENCY, LAT LEAVING AIR TEMPERATURE, MA MIXED AIR, MD MANUAL DAMPER, MC MECHANICAL CONTRACTOR, NFPA NATIONAL FIRE PROTECTION ASSOCIATION, NC NOISE CRITERIA, OA OUTSIDE AIR, PC PLUMBING CONTRACTOR, PD PRESSURE DROP, PSI POUNDS PER SQUARE INCH, RA RETURN AIR, RLF RELIEF AIR, RTU ROOFTOP UNIT, SA SUPPLY AIR, SD SMOKE DAMPER, TSP TOTAL STATIC PRESSURE, TYP TYPICAL, UNO UNLESS NOTED OTHERWISE, WC WATER COLUMN, WB WET BULB. DOUBLE LINE DUCT SYMBOLS: NEW SHEET METAL DUCTWORK, SUPPLY OR OUTSIDE AIR DUCT, RETURN AIR DUCT, EXHAUST AIR DUCT, DUCTWORK TRANSITION, DUCTWORK TRANSITION - RECTANGULAR TO ROUND, SUPPLY DUCT ELBOW UP OR DOWN, RETURN DUCT ELBOW UP OR DOWN, EXHAUST DUCT ELBOW UP OR DOWN, DUCT ELBOW WITH FIXED TURNING VANES, DUCT BRANCH TAKE-OFF, ROUND SPIN-IN WITH DAMPER, SQUARE TO ROUND TAP WITH DAMPER, FLEXIBLE DUCT CONNECTION, ELECTRIC OPERATED DAMPER, VOLUME DAMPER, FLEXIBLE DUCTWORK. EQUIPMENT: ROOF MOUNTED EXHAUST FAN, AIR CURTAIN, ROOFTOP UNIT, MAKE-UP AIR UNIT, THERMOSTAT - ELECTRIC, TEMPERATURE SENSOR, HUMIDITY SENSOR, DUCT SMOKE DETECTOR. GENERAL REFERENCES/NOTATIONS: CONNECT TO EXISTING, SQUARE NOTE DESIGNATION, REVISION DESIGNATION, MECHANICAL EQUIPMENT DESIGNATION, DIFFUSER DESIGNATION AND CFM. GRILLES/DIFFUSERS: SUPPLY DIFFUSER, SIDEWALL MOUNTED SUPPLY REGISTER, RETURN GRILLE, EXHAUST GRILLE. SYMBOLS LEGEND NOTES: 1. REFER TO SPECIFICATIONS AND PLAN NOTES FOR DETAILED DESCRIPTION OF ALL DEVICES SHOWN IN THIS SCHEDULE, PROVIDED BY THIS CONTRACTOR.



ZEBRA PROJECTS, INC. 14614 N KIERNLAND BLVD., SUITE N300 SCOTTSDALE, ARIZONA 85254 PHONE: 480.912.1169 zbr.global



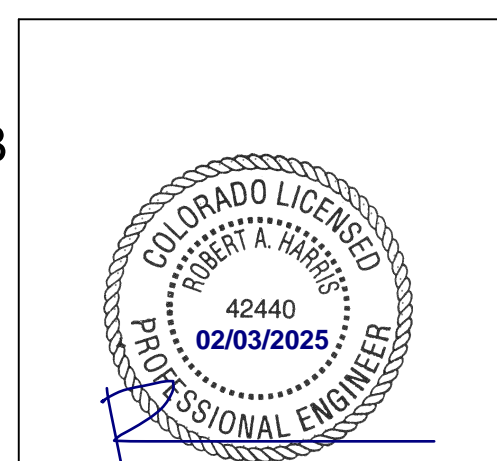
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STORE NO.:

CAVA logo with address: 8969 E 48TH AVENUE DENVER, CO 80238 UNITED STATES

Table with 2 columns: DATE, DESCRIPTION. Rows include 05/24/24 PERMIT SET, 08/09/24 CITY COMMENTS, 09/03/24 CITY COMMENTS, 09/20/20 CITY COMMENTS, 02/03/25 OWNER CHANGES.

STATUS: ISSUE FOR CONSTRUCTION



FIELD VERIFICATION: The Contractor shall verify all figured dimensions and conditions at the project site and notify Zebra Projects, INC. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

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SHEET NAME: MECHANICAL SPECIFICATIONS, NOTES AND LEGEND

DATE: 05-24-24 PROJECT NO.: 36667 DRAWN: VOC SCALE: AS NOTED

SHEET NO.: M000

2021 INTERNATIONAL MECHANICAL CODE TABLE 403.3.1.1 VENTILATION SUMMARY

Table with columns: OCCUPANCY CATEGORY, PEOPLE OUTDOOR AIR RATE, AREA OUTDOOR AIR RATE, OCCUPANCY DENSITY, OCCUPANCY CLASSIFICATION, CALCULATED OCCUPANCY DENSITY, ZONE OCCUPANCY OVERRIDE, PEOPLE EXPECTED TO OCCUPY THE ZONE, R2/P2, R2/A2, AREA - (A2), ZONE AIR DISTRIBUTION EFFECTIVENESS, BREATHING ZONE OUTDOOR AIRFLOW, ZONE OUTDOOR AIRFLOW, ZONE PRIMARY AIRFLOW, PRIMARY OUTDOOR AIR FRACTION, OCCUPANT DIVERSITY RATIO, UNCORRECTED OUTDOOR AIR INTAKE, SYSTEM VENTILATION EFFICIENCY, CORRECTED OUTDOOR AIRFLOW, PROVIDED OUTDOOR AIRFLOW. Includes rows for RTU-X1 (Dining, Hallway, Restrooms) and RTU-X2 (Kitchen).

ROOFTOP HEAT PUMP UNIT SCHEDULE - LANDLORD PROVIDED

Table with columns: MARK, IDENTIFICATION, MANUFACTURER, MODEL, SERVES, NOMINAL TONNAGE, SUPPLY AIR FLOW, OUTSIDE AIR FLOW, IEER, PERFORMANCE, DX COOLING DATA, HEAT PUMP HEATING DATA, ELECTRIC HEATING COIL, ELECTRICAL, NOTES. Includes rows for RTU-X1 and RTU-X2.

NOTES:
1. LANDLORD PROVIDED RTU.
2. SET MINIMUM OUTSIDE AIR AS SPECIFIED ABOVE. FIELD SET 2 MINIMUM POSITIONS TO MAINTAIN SCHEDULED OUTSIDE AIR FLOW RATE AT SUPPLY FAN MINIMUM AND MAXIMUM SPEEDS. OUTSIDE AIR DAMPER SHALL FULLY CLOSE ON UNIT SHUTDOWN.

MAKE UP AIR UNIT SCHEDULE - OWNER FURNISHED

Table with columns: MARK, IDENTIFICATION, MANUFACTURER, MODEL, SERVICE, NOMINAL TONNAGE, CONFIGURATION, PERFORMANCE, DX COOLING DATA, GAS HEAT, CONDENSING UNIT, ELECTRICAL, PHYSICAL, NOTES. Includes row for MAU-1.

NOTES:
1. FACTORY MOUNTED AND WIRED NEMA 3R DISCONNECT SWITCH.
2. FACTORY PROVIDED REMOVABLE ACCESS PANELS.
3. FACTORY PROVIDED MOTORIZED INTAKE DAMPER.
4. FACTORY PROVIDED WEATHER HOOD AND BIRDSCREEN ON INLET.
5. PROVIDE UNIT MOUNTED VARIABLE FREQUENCY DRIVE.
6. FACTORY FURNISHED 20" HIGH INSULATED ROOF CURB.
7. PROVIDE WITH COOLING COIL AND (1) 3-TON CONDENSING UNIT.
8. REFER TO CAPTIVEAIRE DRAWINGS FOR ADDITIONAL INFORMATION.
9. FACTORY FURNISHED DEMAND RESPONSE THERMOSTAT.

KITCHEN EXHAUST FAN SCHEDULE - OWNER FURNISHED

Table with columns: MARK, IDENTIFICATION, MANUFACTURER, MODEL, SERVICE, CONFIGURATION, PERFORMANCE, ELECTRICAL, PHYSICAL, ACCESSORIES, NOTES. Includes row for KEF-1.

ACCESSORIES:
GDC-GREASE DRAIN AND CURB, RC-24" TALL ROOF CURB, WP-NEMA 3R DISCONNECT SWITCH.
NOTES:
1. FAN IS OWNER FURNISHED. REFER TO CAPTIVEAIRE DRAWINGS FOR ADDITIONAL INFORMATION.
2. VARIABLE FREQUENCY DRIVE IS PROVIDED WITH HOOD CONTROL PANEL.
3. FAN SHALL BE CONTROLLED BY SWITCH AT CAPTIVEAIRE HOOD. INTERLOCK RTU-X1 AND RTU-X2 TO OPERATE IN OCCUPIED MODE WHILE HOOD EXHAUST FAN IS ENERGIZED.

EXHAUST FAN SCHEDULE

Table with columns: MARK, IDENTIFICATION, MANUFACTURER, MODEL, SERVICE, CONFIGURATION, PERFORMANCE, ELECTRICAL, PHYSICAL, ACCESSORIES, NOTES. Includes row for EF-1.

ACCESSORIES:
BD-BACKDRIFT DAMPER, BG-BELT GUARD, BS-BIRD SCREEN, DS-DISCONNECT SWITCH, RC-14" ROOF CURB, SC-FACTORY MOUNTED AND WIRED SPEED CONTROLLER.
NOTES:
1. ELECTRICAL CONTRACTOR SHALL INTERLOCK FAN WITH TIMELOCK TO OPERATE CONTINUOUSLY DURING OCCUPIED HOURS.

AIR CURTAIN SCHEDULE

Table with columns: MARK, IDENTIFICATION, MANUFACTURER, MODEL, PERFORMANCE, ELECTRIC HEATING COIL, ELECTRICAL, PHYSICAL, ACCESSORIES, NOTES. Includes rows for AC-1 and AC-2.

ACCESSORIES:
DRA-DECORATIVE REAR ADAPTOR, F-FILTER, MS-DOOR MICROSWITCH, T-DEMAND RESPONSE THERMOSTAT.
NOTES:
1. PROVIDE WITH INTEGRAL DISCONNECT SWITCH.
2. ELECTRICAL CONTRACTOR TO PROVIDE FUSED DISCONNECT SWITCH.

GRILLE, REGISTER AND DIFFUSER SCHEDULE

Table with columns: MARK, MANUFACTURER, MODEL, TYPE, NECK SIZE, FACE SIZE, FRAME TYPE, FINISH, NOISE CRITERIA LEVEL, ACCESSORIES. Includes rows A through F.

ACCESSORIES:
OBD-OPOSED BLADE DAMPER, STR-SQUARE TO ROUND TRANSITION, TRM-RAPID MOUNT SHEETROCK FRAME.

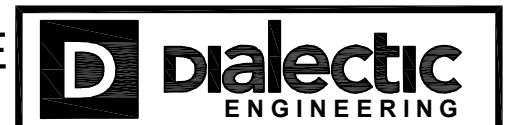
AIR BALANCE SCHEDULE

Table with columns: MARK, SUPPLY AIR FLOW, OUTSIDE AIR FLOW, EXHAUST AIR FLOW, RETURN AIR FLOW, BUILDING PRESSURE. Includes rows MAU-1, RTU-X1, RTU-X2, KEF-1, EF-1, TOTAL.

Table with columns: WALK-IN COOLER, ROOM DIMENSIONS (LENGTH, WIDTH, HEIGHT), VOLUME, QTY, TYPE, REFRIGERATION INFORMATION (TOTAL CHARGE, ALLOWED, ACTUAL).



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REVISIONS / ISSUES table with columns: DATE, DESCRIPTION. Includes entries for PERMIT SET, CITY COMMENTS, OWNER CHANGES.

STATUS: ISSUE FOR CONSTRUCTION



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SHEET NAME: MECHANICAL SCHEDULES

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: VOC SCALE: AS NOTED

SHEET NO.: M001

RTU-X1 LOAD CALCULATIONS

Air System Information
 Air System Name: RTU-X1 DINING
 Equipment Class: PKG ROOF
 Air System Type: SZCAV
 Number of zones: 1
 Floor Area: 1230.0 ft²
 Location: Denver, Colorado

Sizing Calculation Information
 Calculation Months: Jan to Dec
 Sizing Data: User-Modified
 Zone CFM Sizing: Peak zone sensible load
 Space CFM Sizing: Coincident space loads

Central Cooling Coil Sizing Data

Total coil load	4.9 Tons	Load occurs at	Aug 1400
Total coil load	59.0 MBH	OA DB / WB	93.1 / 60.5 °F
Sensible coil load	59.0 MBH	Entering DB / WB	79.8 / 57.5 °F
Coil CFM at Aug 1400	2800 CFM	Leaving DB / WB	68.1 / 48.7 °F
Max block CFM	2800 CFM	Coil ADP	63.5 °F
Sum of peak zone CFM	2800 CFM	Bypass Factor	0.100
Sensible heat ratio	1.000	Resulting RH	37 %
CFM/Ton	569.4	Design supply temp.	57.0 °F
R ² /Ton	250.1	Zone T-stat Check	1 of 1 OK
BTU/(hr ft ²)	48.0	Max zone temperature deviation	0.0 °F
Water flow @ 10.0 °F rise	N/A		

Central Heating Coil Sizing Data

Max coil load	93.2 MBH	Load occurs at	Des Htg
Coil CFM at Des Htg	2800 CFM	BTU/(hr ft ²)	75.8
Max coil CFM	2800 CFM	Ent. DB / Lvg DB	45.1 / 82.5 °F
Water flow @ 20.0 °F drop	N/A		

Supply Fan Sizing Data

Actual max CFM	2800 CFM	Fan motor BHP	1.15 BHP
Standard CFM	2305 CFM	Fan motor kW	0.91 kW
Actual max CFM/R ²	2.28 CFM/R ²	Fan static	1.50 in wg

ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Aug 1400			HEATING DATA AT DES HTG		
	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	688 R ²	12707	-	688 R ²	-	-
Wall Transmission	864 R ²	588	-	864 R ²	2323	-
Roof Transmission	1230 R ²	1761	-	1230 R ²	3071	-
Window Transmission	688 R ²	3845	-	688 R ²	17157	-
Skylight Transmission	0 R ²	0	-	0 R ²	0	-
Door Loads	72 R ²	1942	-	72 R ²	3239	-
Floor Transmission	1230 R ²	0	-	1230 R ²	3653	-
Partitions	0 R ²	0	-	0 R ²	0	-
Ceiling	0 R ²	0	-	0 R ²	0	-
Overhead Lighting	562 W	1918	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	0 W	0	-	0	0	-
People	45	7888	5400	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	5532	0	-	0	0
Safety Factor	0% / 0%	0	0	25%	7361	0
>> Total Zone Loads	-	36183	5400	-	36804	0
Zone Conditioning	-	38861	5400	-	36420	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Return Fan Load	2800 CFM	0	-	2800 CFM	0	-
Ventilation Load	955 CFM	17038	-5388	955 CFM	59888	0
Supply Fan Load	2800 CFM	3114	-	2800 CFM	-3114	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	59013	12	-	93174	0
Central Cooling Coil	-	59013	0	-	0	0
Central Heating Coil	-	0	-	-	93174	-
>> Total Conditioning	-	59013	0	-	93174	0

Key: Positive values are cgl loads
 Negative values are htg loads

RTU-X2 LOAD CALCULATIONS

Air System Information
 Air System Name: RTU-X2 KITCHEN
 Equipment Class: PKG ROOF
 Air System Type: SZCAV
 Number of zones: 1
 Floor Area: 1032.0 ft²
 Location: Denver, Colorado

Sizing Calculation Information
 Calculation Months: Jan to Dec
 Sizing Data: User-Modified
 Zone CFM Sizing: Peak zone sensible load
 Space CFM Sizing: Coincident space loads

Central Cooling Coil Sizing Data

Total coil load	6.6 Tons	Load occurs at	Jul 1500
Total coil load	79.7 MBH	OA DB / WB	93.9 / 60.7 °F
Sensible coil load	79.7 MBH	Entering DB / WB	80.8 / 56.9 °F
Coil CFM at Jul 1500	4000 CFM	Leaving DB / WB	68.3 / 48.6 °F
Max block CFM	4000 CFM	Coil ADP	55.8 °F
Sum of peak zone CFM	4000 CFM	Bypass Factor	0.100
Sensible heat ratio	1.000	Resulting RH	28 %
CFM/Ton	601.9	Design supply temp.	57.0 °F
R ² /Ton	155.3	Zone T-stat Check	1 of 1 OK
BTU/(hr ft ²)	77.3	Max zone temperature deviation	0.0 °F
Water flow @ 10.0 °F rise	N/A		

Central Heating Coil Sizing Data

Max coil load	66.3 MBH	Load occurs at	Des Htg
Coil CFM at Des Htg	4000 CFM	BTU/(hr ft ²)	64.2
Max coil CFM	4000 CFM	Ent. DB / Lvg DB	53.5 / 72.1 °F
Water flow @ 20.0 °F drop	N/A		

Supply Fan Sizing Data

Actual max CFM	4000 CFM	Fan motor BHP	1.84 BHP
Standard CFM	3292 CFM	Fan motor kW	1.30 kW
Actual max CFM/R ²	3.88 CFM/R ²	Fan static	1.50 in wg

ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500			HEATING DATA AT DES HTG		
	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	16 R ²	270	-	16 R ²	-	-
Wall Transmission	1308 R ²	912	-	1308 R ²	3518	-
Roof Transmission	1032 R ²	1416	-	1032 R ²	2577	-
Window Transmission	16 R ²	80	-	16 R ²	411	-
Skylight Transmission	0 R ²	0	-	0 R ²	0	-
Door Loads	24 R ²	123	-	24 R ²	634	-
Floor Transmission	1032 R ²	0	-	1032 R ²	4205	-
Partitions	0 R ²	0	-	0 R ²	0	-
Ceiling	0 R ²	0	-	0 R ²	0	-
Overhead Lighting	679 W	2317	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	1706	-	0	0	-
People	8	1525	1640	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	51969	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	60319	1640	-	11345	0
Zone Conditioning	-	61246	1640	-	12011	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Return Fan Load	4000 CFM	0	-	4000 CFM	0	-
Ventilation Load	925 CFM	14050	-1622	925 CFM	58727	0
Supply Fan Load	4000 CFM	4448	-	4000 CFM	-4448	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	79744	18	-	66290	0
Central Cooling Coil	-	79744	0	-	0	0
Central Heating Coil	-	0	-	-	66290	-
>> Total Conditioning	-	79744	0	-	66290	0

Key: Positive values are cgl loads
 Negative values are htg loads



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 Project # 1002026-01

STORE NO.:

CAVA

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 DENVER, CO 80238
 UNITED STATES

REVISIONS / ISSUES

NO.	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:
 ISSUE FOR CONSTRUCTION

PROFESSIONAL ENGINEER

ROBERT A. HANCOCK
 42440
 02/03/2025
 COLORADO LICENSED PROFESSIONAL ENGINEER

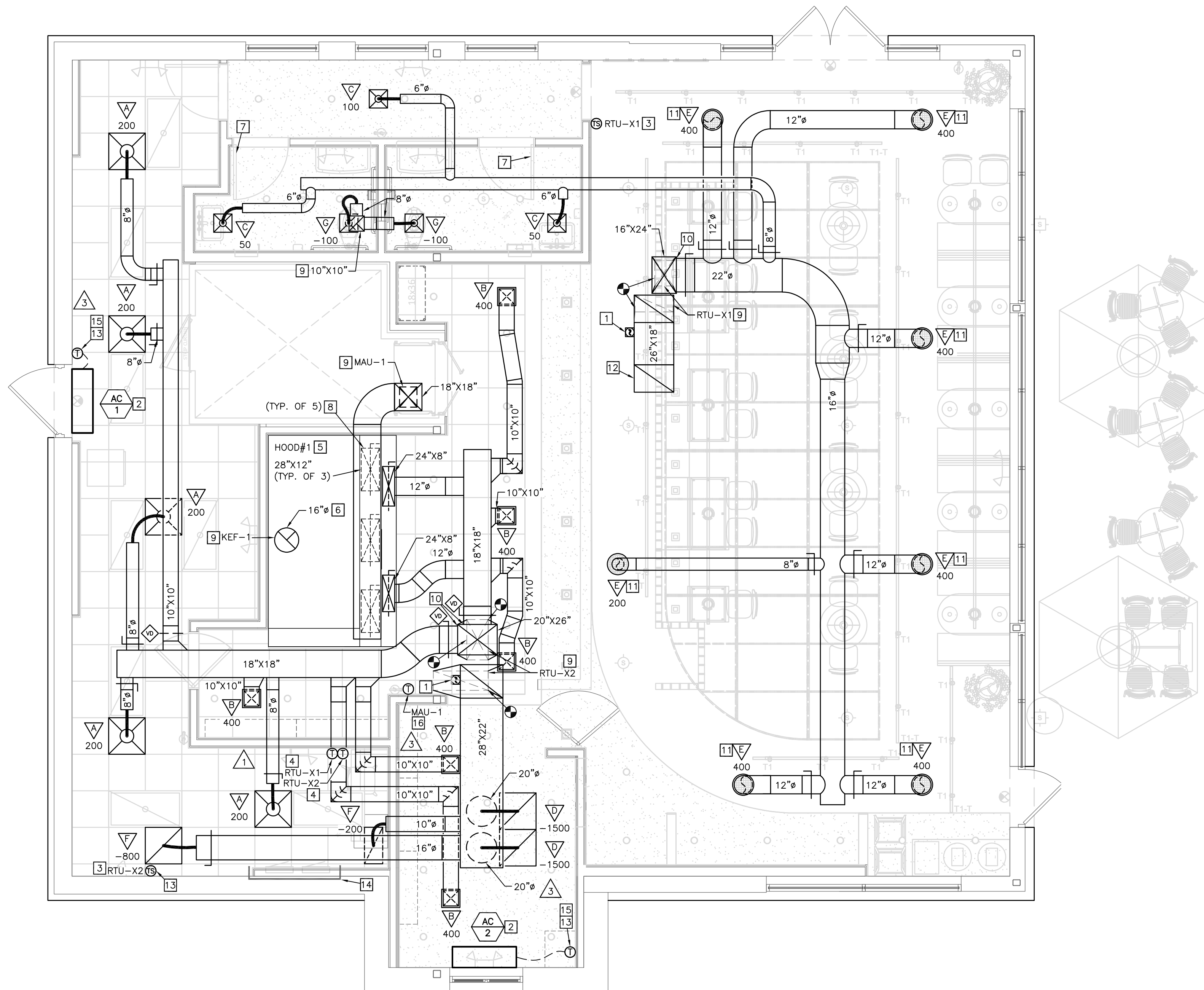
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SHEET NAME:
 MECHANICAL SCHEDULES

DATE: 05-24-24 PROJECT NO.: 36667
 DRAWN: VOC SCALE: AS NOTED

SHEET NO.:
M002



1 MECHANICAL PLAN
1/4" = 1'-0"

MECHANICAL KEY NOTES

- 1 PROVIDE DUCT MOUNTED SMOKE DETECTOR, DETECTOR SHALL MEET REQUIREMENTS OF U.L. 268A. INTERLOCK SMOKE DETECTOR TO SHUT DOWN UNIT UPON DETECTION OF SMOKE. PROVIDE SMOKE DETECTOR WITH AN ANNUNCIATOR WITH PIEZO ALARM AND POWER LEDS FOR VISIBLE AND AUDIBLE ALARM SIGNAL, AND VISIBLE TROUBLE SIGNAL. MOUNT ANNUNCIATOR ON ROOM SIDE OF CEILING/STRUCTURE.
- 2 PROVIDE AIR CURTAIN, MOUNT UNIT ON WALL DIRECTLY ABOVE DOOR PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 3 PROVIDE REMOTE TEMPERATURE SENSOR COMPATIBLE WITH THERMOSTAT. MOUNT SENSOR 48" ABOVE FINISHED FLOOR.
- 4 PROVIDE HONEYWELL WI-FI VISION PRO 8000 TOUCHSCREEN 7-DAY PROGRAMMABLE THERMOSTAT WITH DEMAND RESPONSE CAPABILITY, AUTO-CHANGEOVER, AND AUTOMATIC START CAPABILITY. MOUNT THERMOSTAT 48" ABOVE FINISHED FLOOR. COORDINATE FINAL INSTALLATION LOCATION OF THERMOSTAT WITH OWNER'S REPRESENTATIVE.
- 5 INSTALL OWNER FURNISHED TYPE I GREASE EXHAUST HOOD, SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE TRAPEZE HANGERS FOR ALL THREAD SUPPORT UNDER DUCTWORK AS REQUIRED. REFER TO HOOD DRAWINGS IN FOOD SERVICE SET FOR HOOD SPECIFICATION AND ADDITIONAL INFORMATION INCLUDING BALANCE OF MAKEUP AND CONDITIONED SUPPLY AIR TO HOOD.
- 6 INSTALL OWNER FURNISHED UL-2221 LISTED DOUBLE-WALL GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL DW-3R OR 3Z ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL, FROM HOOD COLLAR EXHAUST FAN ON ROOF. INSTALL EXHAUST DUCT PER MANUFACTURER'S INSTRUCTIONS. PROVIDE CLEANOUTS AT EVERY CHANGE OF DIRECTION IN THE DUCT AND/OR EVERY 10 FEET WITH MINIMUM OF 3 FEET OF CLEARANCE IN FRONT OF CLEAN-OUT. COORDINATE ROUTING OF DUCTWORK WITH OWNER'S CAPTIVEAIRE REPRESENTATIVE.
- 7 UNDERCUT RESTROOM DOOR 1" FOR TRANSFER AIR.
- 8 REFER TO HOOD DRAWINGS FOR BALANCE OF MAKEUP AND CONDITIONED SUPPLY AIR TO HOODS.
- 9 DUCT UP TO EQUIPMENT ON ROOF. REFER TO SHEET M200 FOR EQUIPMENT LOCATION.
- 10 PROVIDE SHOE TAP AT CONNECTION TO DUCT DROP FROM ROOFTOP UNIT.
- 11 INSTALL BOTTOM OF ROUND DIFFUSER TO MATCH HEIGHT OF CEILING CLOUD.
- 12 ELBOW END OF RETURN DUCT UP 4". PROVIDE 1"x1" MESH SCREEN AT OPENING.
- 13 INSULATE EXTERIOR WALL BEHIND THERMOSTAT AND CAULK WIRE PENETRATION THROUGH WALL.
- 14 DUCTWORK SHALL NOT RUN OVER ELECTRICAL PANELS.
- 15 PROVIDE THERMOSTAT FOR AIR CURTAIN HEATER OPERATION WITH DEMAND RESPONSE CAPABILITY, MOUNT THERMOSTAT 48" ABOVE FINISHED FLOOR. COORDINATE FINAL INSTALLATION LOCATION OF THERMOSTAT WITH OWNER'S REPRESENTATIVE.
- 16 INSTALL THERMOSTAT WITH DEMAND RESPONSE CAPABILITY FOR MAU FURNISHED WITH HOOD PACKAGE. MOUNT THERMOSTAT 48" ABOVE FINISHED FLOOR. COORDINATE FINAL INSTALLATION LOCATION OF THERMOSTAT WITH OWNER'S REPRESENTATIVE.

HVAC COMMISSIONING

GENERAL CONTRACTOR SHALL HIRE A THIRD PARTY REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY TO DEVELOP A COMMISSIONING PLAN THAT SHALL INCLUDE THE FOLLOWING ITEMS:

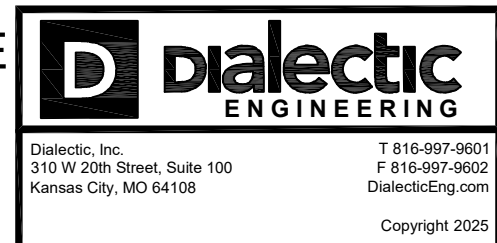
1. NARRATIVE DESCRIPTION OF ACTIVITIES THAT WILL BE ACCOMPLISHED DURING EACH PHASE OF COMMISSIONING, INCLUDING PERSONNEL INTENDED TO ACCOMPLISH EACH OF ACTIVITY.
2. LISTING OF SPECIFIC EQUIPMENT, APPLIANCES OR SYSTEMS TO BE TESTED AND DESCRIPTION OF TESTS TO BE PERFORMED.
3. FUNCTIONS TO BE TESTED, INCLUDING, BUT NOT LIMITED TO CALIBRATIONS AND ECONOMIZER CONTROLS.
4. CONDITIONS UNDER WHICH TEST WILL BE PERFORMED, AT MINIMUM, TESTING SHALL AFFIRM WINTER AND SUMMER DESIGN CONDITIONS AND FULL OUTSIDE AIR CONDITIONS.
5. MEASURABLE CRITERIA FOR PERFORMANCE.

A PRELIMINARY REPORT OF COMMISSIONING TEST PROCEDURES AND RESULTS SHALL BE COMPLETED AND CERTIFIED BY REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY IN ACCORDANCE WITH REQUIREMENTS OF SECTION C408.2 OF THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE AND PROVIDED TO PROJECT OWNER. A COPY OF THE REPORT SHALL BE MADE AVAILABLE TO CODE OFFICIAL IF REQUESTED.

FINAL COMMISSIONING REPORT SHALL BE DUE TO PROJECT OWNER WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY.



ZEBRA PROJECTS, INC.
14614 N KIERLAND BLVD., SUITE N300
SCOTTSDALE, ARIZONA 85254
PHONE: 480.912.1169 zbr.global



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Project #: 10202506.01

STORE NO.:

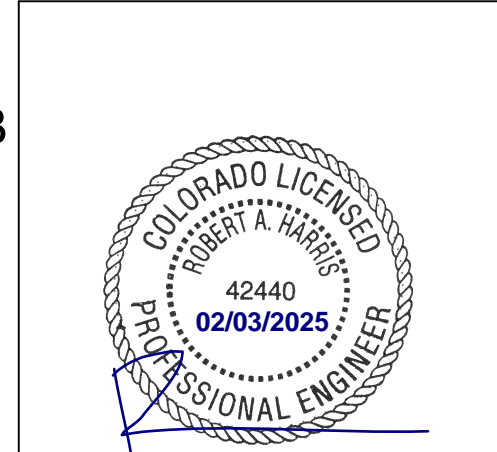


REVISIONS / ISSUES

NO.	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:

ISSUE FOR CONSTRUCTION



FIELD VERIFICATION:
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SHEET NAME:

MECHANICAL PLAN

DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: VOC SCALE: AS NOTED

SHEET NO.:

M100



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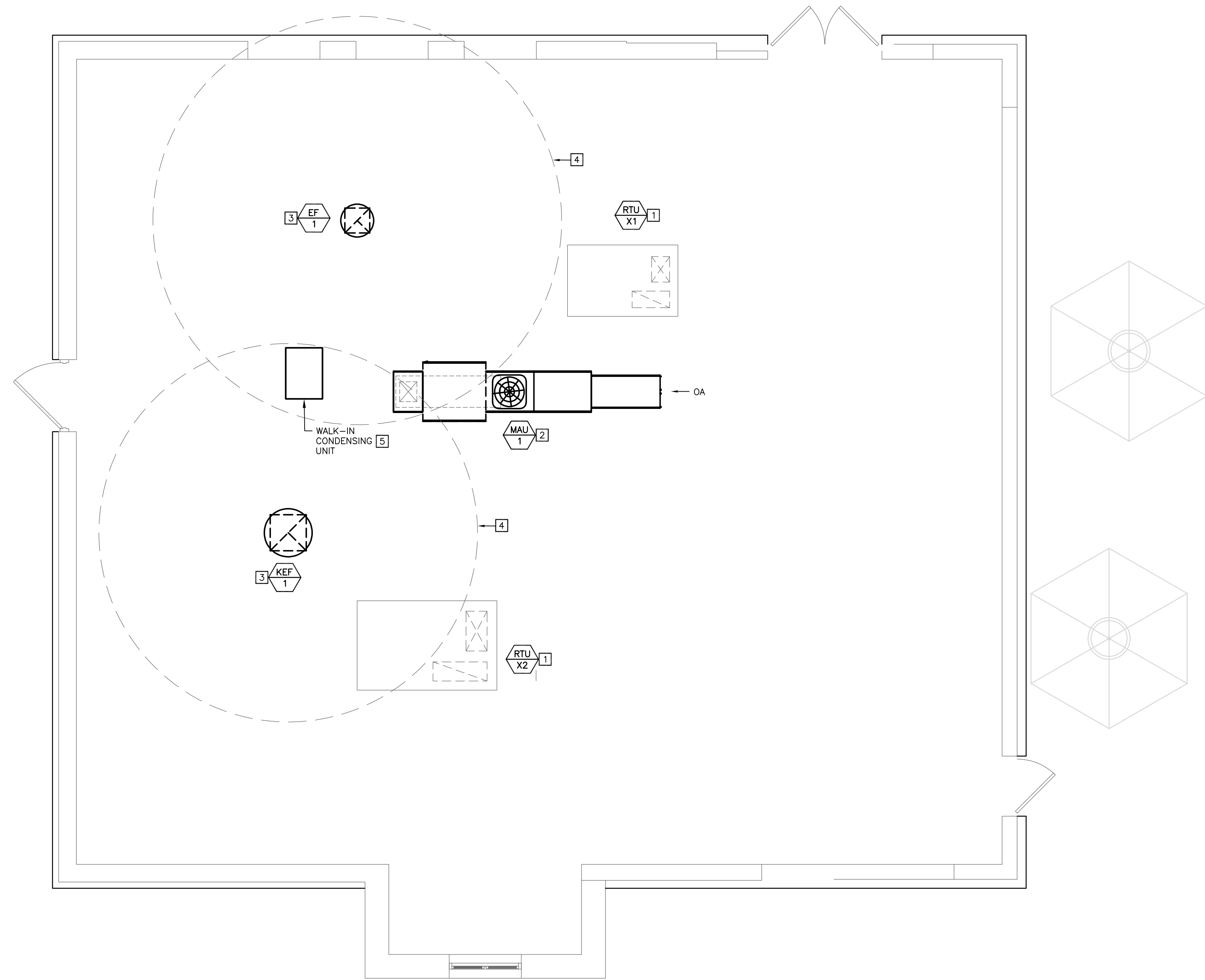
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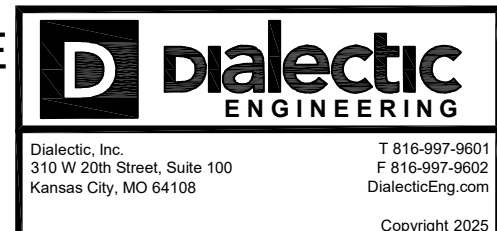


1 MECHANICAL PLAN-ROOF
1/4" = 1'-0"

- MECHANICAL KEY NOTES**
- 1 LANDLORD PROVIDED ROOFTOP UNIT, CURB, AND DUCT STUBS. COORDINATE UNIT WITH STRUCTURE. SHIM UNIT AND CURB LEVEL FOR PROPER CONDENSATE DRAINAGE. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AND RETURN AIR DUCT CONNECTIONS. TRANSITION TO DUCT SIZES SHOWN.
 - 2 INSTALL OWNER FURNISHED MAKEUP AIR UNIT AND ROOF CURB. SHIM UNIT AND CURB LEVEL. PROVIDE FLEXIBLE CONNECTOR ON SUPPLY AIR DUCT CONNECTION. TRANSITION TO DUCT SIZES SHOWN ON SHEET M100.
 - 3 INSTALL OWNER FURNISHED ROOF MOUNTED EXHAUST FAN AND CURB.
 - 4 MAINTAIN A MINIMUM 10'-0" CLEARANCE FROM EXHAUST DISCHARGE TO OUTSIDE AIR INTAKES.
 - 5 PROVIDE ROOF MOUNTED EQUIPMENT SUPPORT RAILS AND INSTALL OWNER FURNISHED REMOTE CONDENSING UNIT FOR WALK-IN COOLER. INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, CRANKCASE HEATER, LOW AMBIENT CONTROLS, AND WEATHERPROOF HOUSING. PROVIDE ROOF RAILS TO SUPPORT CONDENSING UNIT ON ROOF. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE PIPE CURB ASSEMBLY FOR ROOF PENETRATIONS. SEAL PIPING PENETRATIONS THROUGH COOLER ROOF.



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Project # 1000266-01

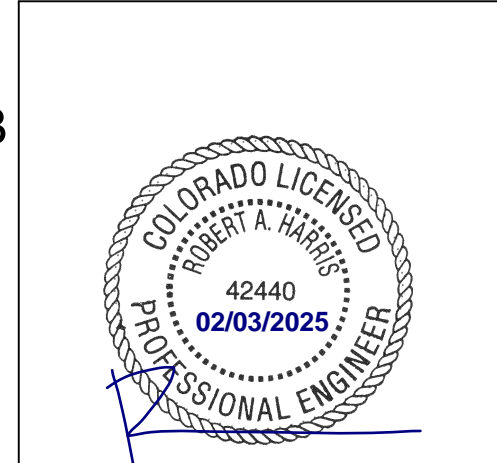
STORE NO.:

CAVA
8869 E 48TH AVENUE
DENVER, CO 80236
UNITED STATES

REVISIONS / ISSUES

NO.	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:
ISSUE FOR CONSTRUCTION



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SHEET NAME:
MECHANICAL PLAN - ROOF

DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: VOC SCALE: AS NOTED

SHEET NO.:
M200



5

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STORE NO.:

CAVA

8969 E 48TH AVENUE
DENVER, CO 80236
UNITED STATES

REVISIONS / ISSUES	
NO.	DESCRIPTION
05/24/24	PERMIT SET
08/09/24	CITY COMMENTS
09/03/24	CITY COMMENTS
09/20/20	CITY COMMENTS
02/03/25	OWNER CHANGES

STATUS:
ISSUE FOR CONSTRUCTION

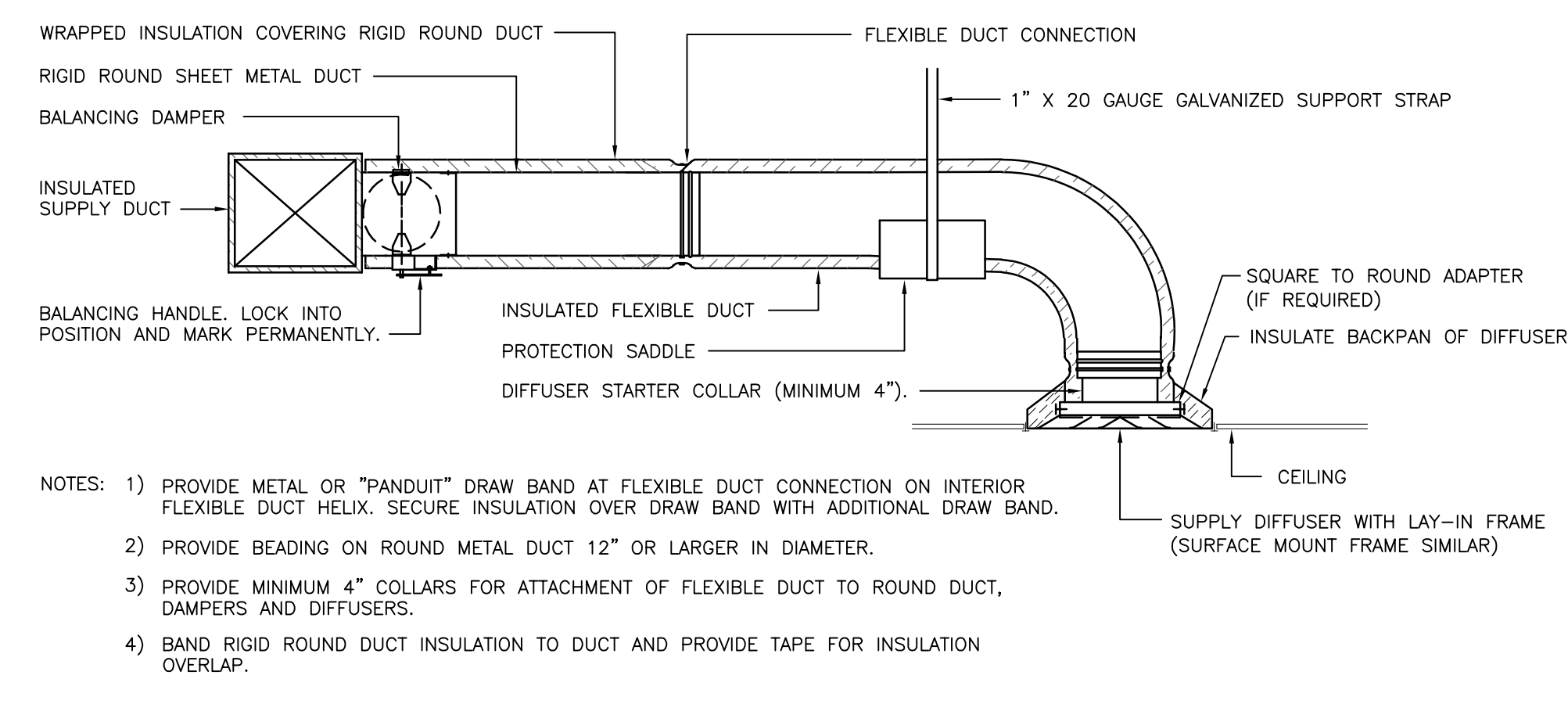
FIELD VERIFICATION:
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SHEET NAME:
MECHANICAL DETAILS

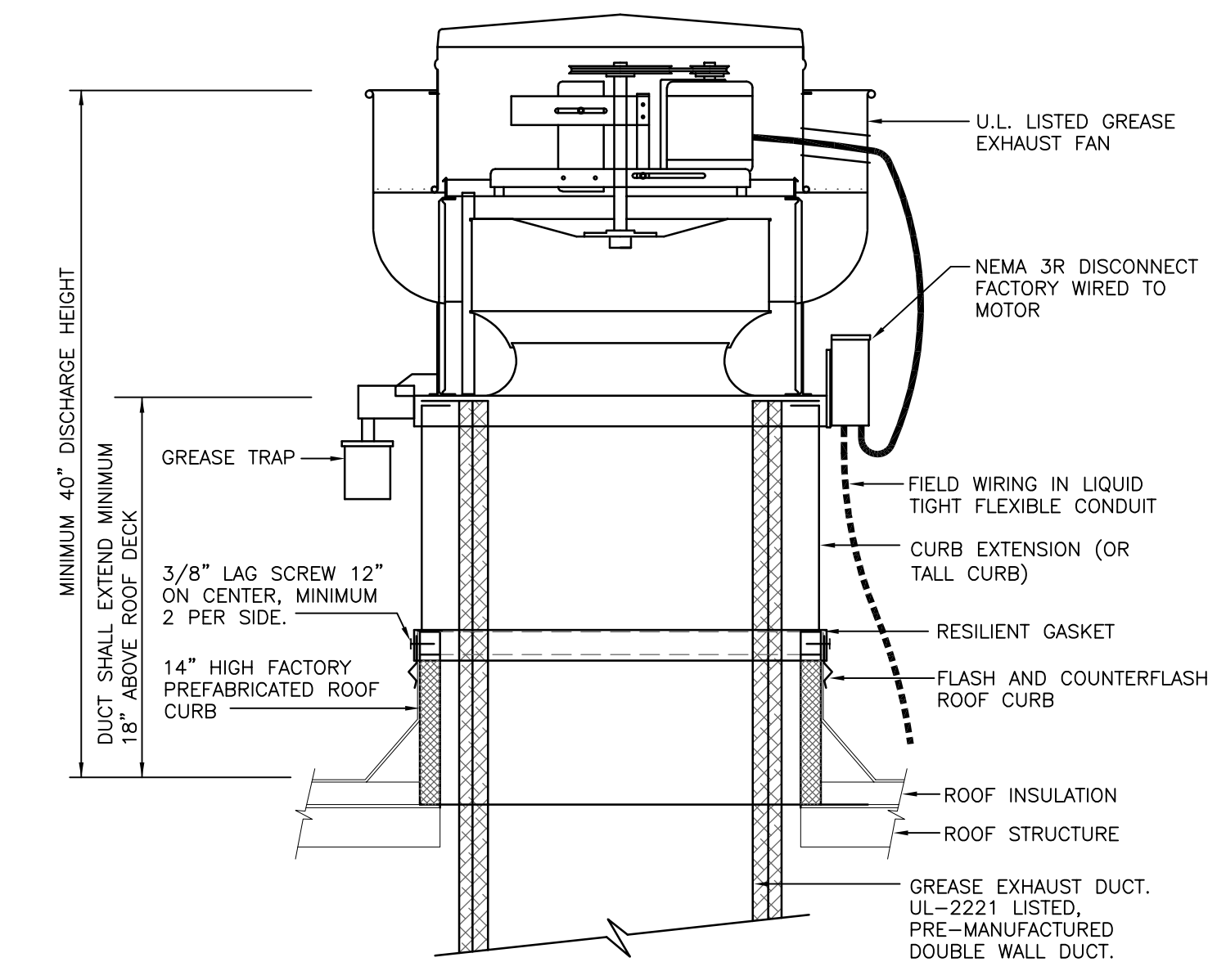
DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: VOC SCALE: AS NOTED

SHEET NO.:
M300



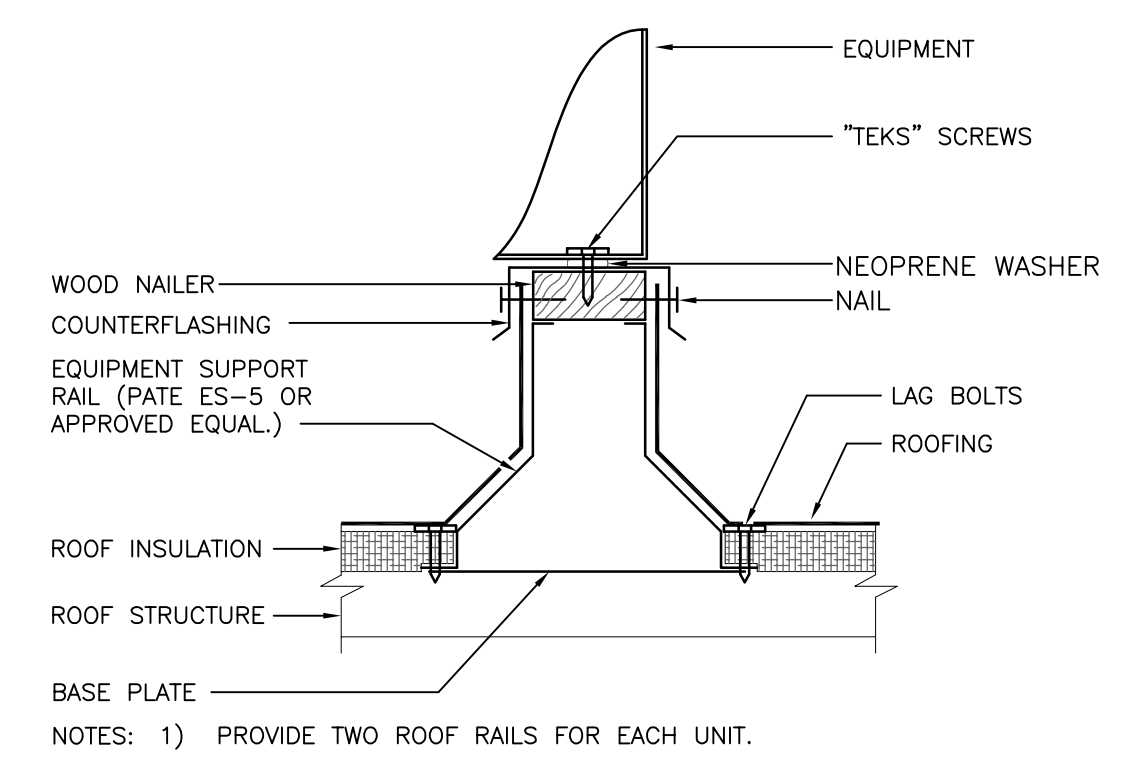
- NOTES:
- 1) PROVIDE METAL OR "PANDUIT" DRAW BAND AT FLEXIBLE DUCT CONNECTION ON INTERIOR FLEXIBLE DUCT HELIX. SECURE INSULATION OVER DRAW BAND WITH ADDITIONAL DRAW BAND.
 - 2) PROVIDE BEADING ON ROUND METAL DUCT 12" OR LARGER IN DIAMETER.
 - 3) PROVIDE MINIMUM 4" COLLARS FOR ATTACHMENT OF FLEXIBLE DUCT TO ROUND DUCT, DAMPERS AND DIFFUSERS.
 - 4) BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE TAPE FOR INSULATION OVERLAP.

1 DIFFUSER CONNECTION DETAIL
NOT TO SCALE



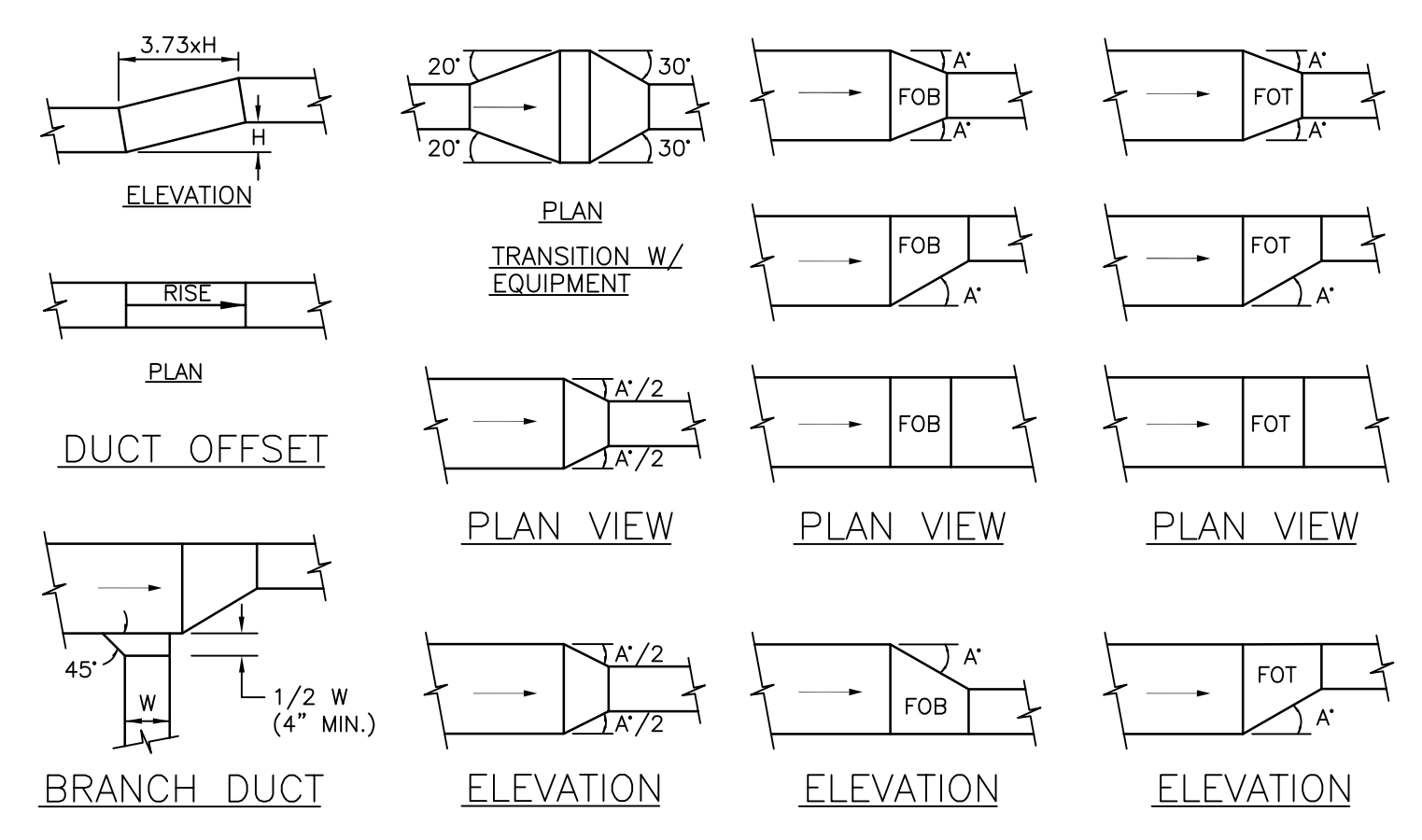
NOTE: INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 96 REQUIREMENTS.

2 ROOF MOUNTED GREASE EXHAUST FAN DETAIL
NOT TO SCALE



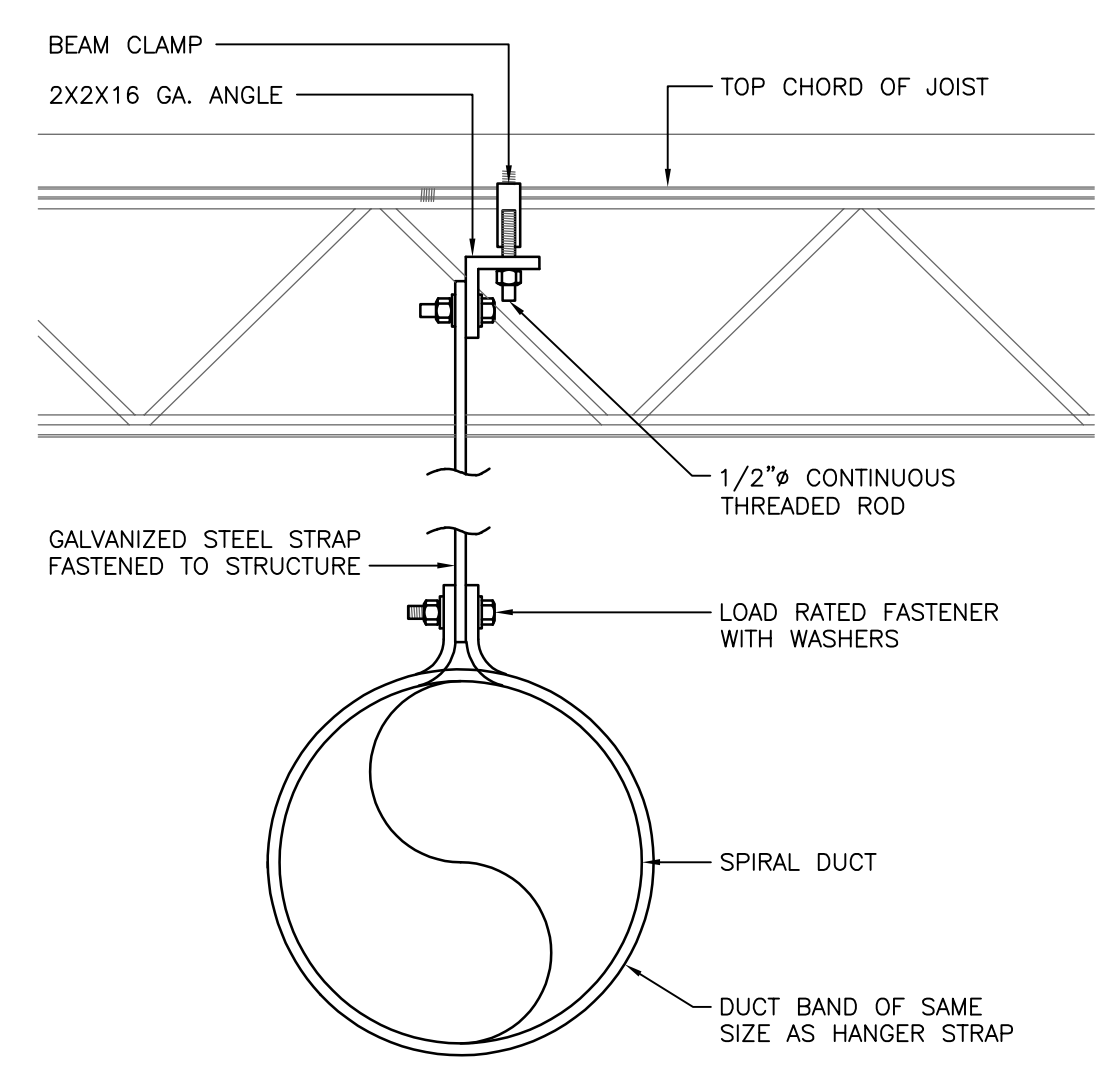
NOTES: 1) PROVIDE TWO ROOF RAILS FOR EACH UNIT.

3 EQUIPMENT SUPPORT RAIL DETAIL
NOT TO SCALE

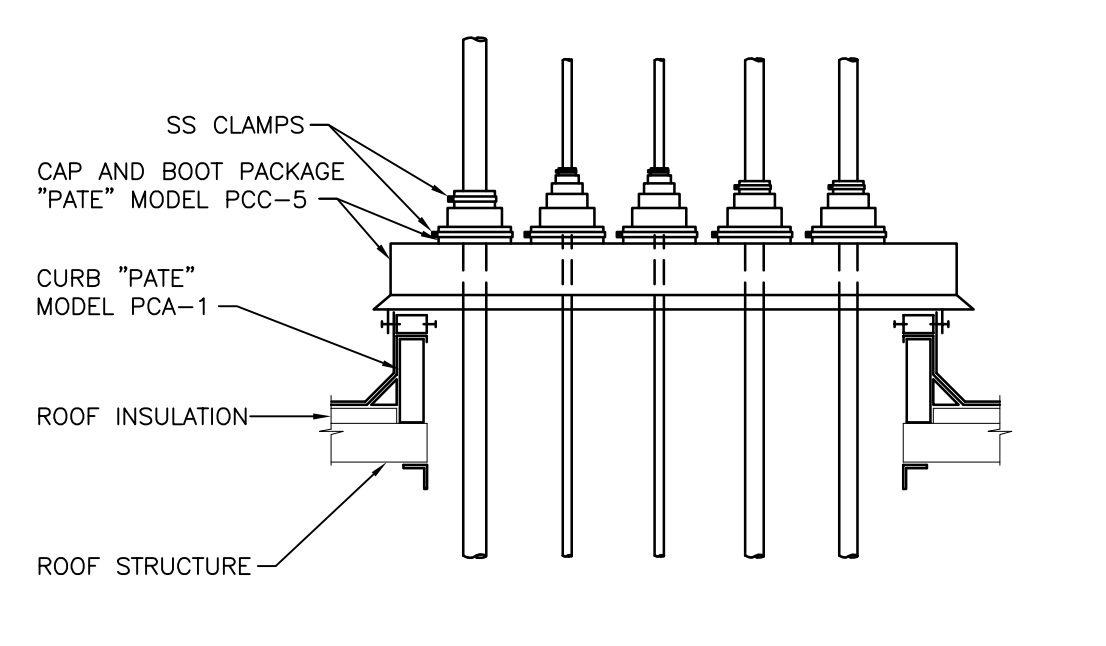


- NOTES:
- 1) ANGLE A = 30° WHEN AIR FLOWS IN DIRECTION OF ARROW (SUPPLY AIR).
 - 2) ANGLE A = 20° WHEN AIR FLOWS IN OPPOSITE DIRECTION OF ARROW (RETURN OR EXHAUST).

4 LOW VELOCITY DUCT FITTINGS DETAIL
NOT TO SCALE

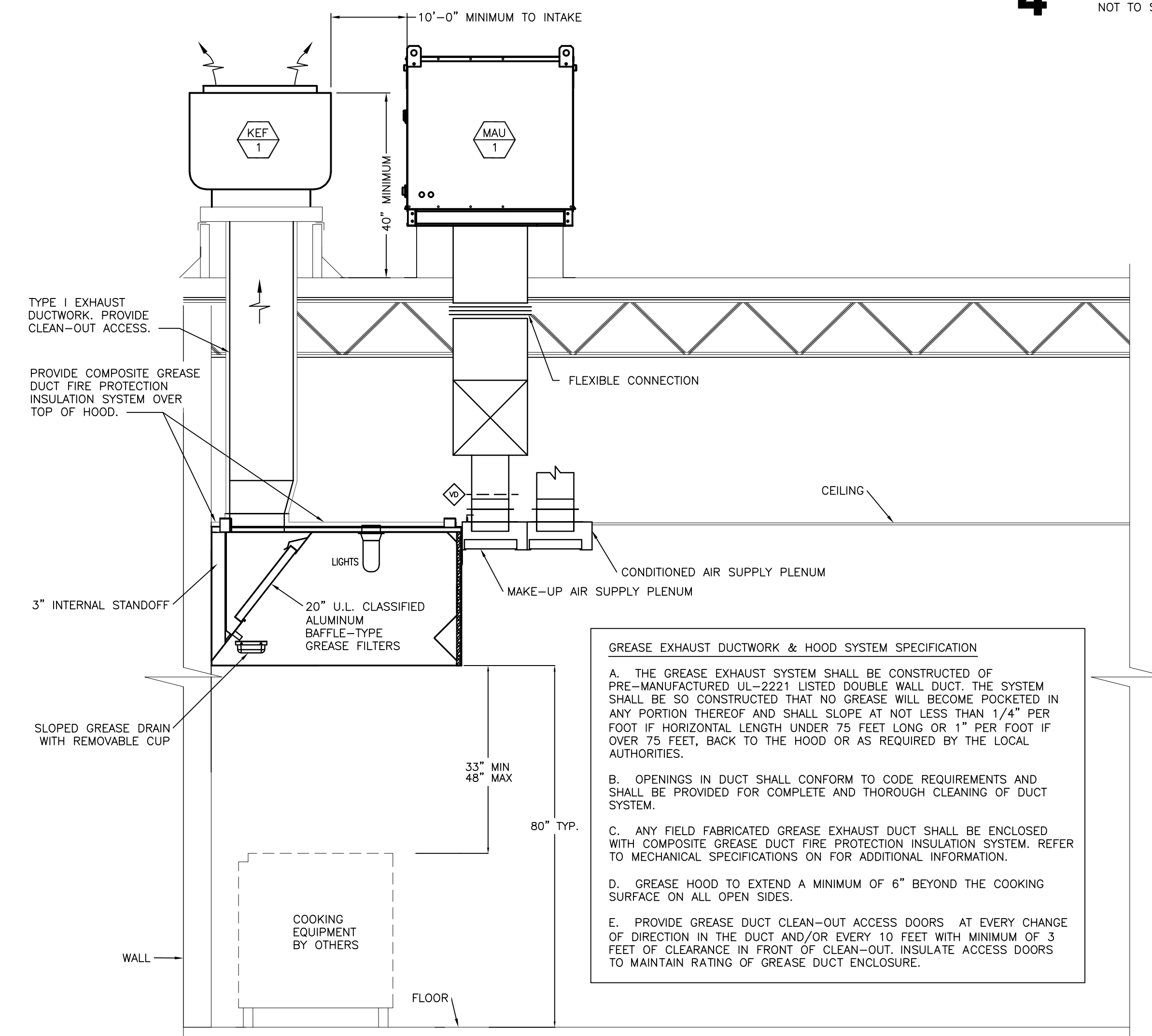


5 SPIRAL DUCT SUPPORT DETAIL
NOT TO SCALE



- NOTES:
1. USE SINGLE ROOF PENETRATION FOR ALL CONTROL WIRING, POWER WIRING, AND REFRIGERANT LINES.
 2. INSULATE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS.

6 PIPE ROOF PENETRATION DETAIL
NOT TO SCALE



GREASE EXHAUST DUCTWORK & HOOD SYSTEM SPECIFICATION

A. THE GREASE EXHAUST SYSTEM SHALL BE CONSTRUCTED OF PRE-MANUFACTURED UL-2221 LISTED DOUBLE WALL DUCT. THE SYSTEM SHALL BE SO CONSTRUCTED THAT NO GREASE WILL BECOME POCKETED IN ANY PORTION THEREOF AND SHALL SLOPE AT NOT LESS THAN 1/4" PER FOOT IF HORIZONTAL LENGTH UNDER 75 FEET LONG OR 1" PER FOOT IF OVER 75 FEET, BACK TO THE HOOD OR AS REQUIRED BY THE LOCAL AUTHORITIES.

B. OPENINGS IN DUCT SHALL CONFORM TO CODE REQUIREMENTS AND SHALL BE PROVIDED FOR COMPLETE AND THOROUGH CLEANING OF DUCT SYSTEM.

C. ANY FIELD FABRICATED GREASE EXHAUST DUCT SHALL BE ENCLOSED WITH COMPOSITE GREASE DUCT FIRE PROTECTION INSULATION SYSTEM. REFER TO MECHANICAL SPECIFICATIONS ON FOR ADDITIONAL INFORMATION.

D. GREASE HOOD TO EXTEND A MINIMUM OF 6" BEYOND THE COOKING SURFACE ON ALL OPEN SIDES.

E. PROVIDE GREASE DUCT CLEAN-OUT ACCESS DOORS. AT EVERY CHANGE OF DIRECTION IN THE DUCT AND/OR EVERY 10 FEET WITH MINIMUM OF 3 FEET OF CLEARANCE IN FRONT OF CLEAN-OUT. INSULATE ACCESS DOORS TO MAINTAIN RATING OF GREASE DUCT ENCLOSURE.

- NOTES:
1. PROVIDE UL LISTED TYPE I EXHAUST HOOD.
 2. THE GREASE HOOD SHALL MEET THE REQUIREMENTS OF THE MECHANICAL CODE, NSF AND NFPA FOR A TYPE I HOOD.
 3. FIRE DEPARTMENT APPROVAL SHALL BE REQUIRED ON FIRE PROTECTION SYSTEM FOR GREASE HOODS AND DUCTS AS REQUIRED BY THE MECHANICAL CODE AND AS REQUIRED BY THE FIRE CODE.
 4. PROVIDE CHEMICAL FIRE SUPPRESSION SYSTEM AS REQUIRED BY NFPA 17A.
 5. PERFORM SMOKE TEST ON GREASE EXHAUST DUCTWORK AFTER DUCTWORK INSTALLATION IS COMPLETE BUT PRIOR TO DUCTWORK CONCEALMENT PER REQUIREMENTS OF LOCAL CODE AUTHORITIES.

7 KITCHEN HOOD SCHEMATIC
NOT TO SCALE

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COMcheck Software Version COMcheckWeb
Mechanical Compliance Certificate

Project Information
 Energy Code: 2021 IECC
 Project Title: CAVA - Stapleton
 Location: Denver, Colorado
 Climate Zone: 5b
 Project Type: New Construction

Construction Site: 8969 E 46TH AVENUE, Denver, Colorado 80238
 Owner/Agent: Dialectic, Inc.
 Designer/Contractor: Dialectic, Inc. 310 W 20th St, Suite 100, Kansas City, Missouri 64108

Additional Efficiency Package(s)
 Credits: 10.0 Required 0.0 Proposed

Mechanical Systems List
Quantity System Type & Description

- 1 MAU-1 (Single Zone):
 Heating: 1 each - Central Furnace, Gas, Capacity = 132 kBtu/h
 Proposed Efficiency = 92.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE
 Cooling: 1 each - Single Package DX Unit, Capacity = 29 kBtu/h, Air-Cooled Condenser, Unknown Economizer
 Proposed Efficiency = 13.40 SEER2, Required Efficiency = 13.40 SEER2
 Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00
 Fan System: MAU-1 - Compliance (Motor nameplate HP and fan efficiency method) : Passes
 Fans:
 FAN 1 Supply, Constant Volume, 1976 CFM, 2.0 motor nameplate hp, 1.00 fan energy index, fan exception: Single fan <= 5HP
- 1 AC-1 (Single Zone):
 Heating: 1 each - Other, Electric, Capacity = 26 kBtu/h
 No minimum efficiency requirement applies
 Fan System: AC-1 - Compliance (Motor nameplate HP and fan efficiency method) : Passes
 Fans:
 FAN 2 Supply, Constant Volume, 1212 CFM, 0.2 motor nameplate hp, 1.00 fan energy index, fan exception: Single fan <= 5HP
- 1 AC-2 (Single Zone):
 Heating: 1 each - Other, Electric, Capacity = 37 kBtu/h
 No minimum efficiency requirement applies
 Fan System: AC-2 - Compliance (Motor nameplate HP and fan efficiency method) : Passes
 Fans:
 FAN 3 Supply, Constant Volume, 1381 CFM, 0.2 motor nameplate hp, 1.00 fan energy index, fan exception: Single fan <= 5HP
- 1 WH-1 & WH-2:
 Electric Storage Water Heater, Capacity: 80 gallons w/ Circulation Pump
 No minimum efficiency requirement applies
- 1 WH-3:
 Electric Storage Water Heater, Capacity: 20 gallons
 No minimum efficiency requirement applies

Project Title: CAVA - Stapleton Report date: 09/04/24
 Data filename: Page 1 of 10

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C403.13.2 C404.13.3 (FO9)	Snow/ice melting system and freeze protection systems have sensors and controls configured to limit service for pavement temperature above 50F and outdoor temperature above 40F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
 Project Title: CAVA - Stapleton Report date: 09/04/24
 Data filename: Page 4 of 10

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design 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 2021 IECC requirements in COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Veronica Osorio-Cortes Signature Date 09/04/2024

Project Title: CAVA - Stapleton Report date: 09/04/24
 Data filename: Page 2 of 10

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5. C404.5.1 C404.5.2 (PL6)	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.6.1 C404.6.2 (PL3)	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.6.3 (PL7)	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.6.1 C404.6.1 (PL8)	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 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: CAVA - Stapleton Report date: 09/04/24
 Data filename: Page 5 of 10

COMcheck Software Version COMcheckWeb
Inspection Checklist

Energy Code: 2021 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]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical and service water heating systems and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards, and handbooks. Hot water system sized per manufacturer's sizing guide.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C406 [PR9]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<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: CAVA - Stapleton Report date: 09/04/24
 Data filename: Page 3 of 10

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.8.4 [ME142]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.8.6 [ME143]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.9 [ME144]	Large diameter fans where installed shall be tested and labeled in accordance with AMCA 230.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.3 [ME55]	HVAC equipment efficiency verified.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Mechanical Systems list for values.
C403.2.2 [ME59]	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.7.1 [ME59]	Demand control ventilation provided for spaces >500 ft2 and >15 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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.2 [ME115]	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.6 [ME14]	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.7.4 [ME57]	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.5 [ME116]	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 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: CAVA - Stapleton Report date: 09/04/24
 Data filename: Page 6 of 10



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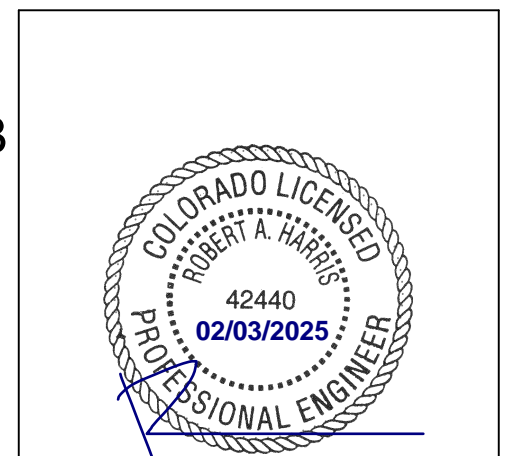
STORE NO.:



REVISIONS / ISSUES

DATE	DESCRIPTION
05/24/24	PERMIT SET
08/09/24	CITY COMMENTS
09/03/24	CITY COMMENTS
09/20/20	CITY COMMENTS
02/03/25	OWNER CHANGES

STATUS:
 ISSUE FOR CONSTRUCTION



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SHEET NAME:
MECHANICAL COMCHECK FORMS

DATE: 05-24-24 PROJECT NO.: 36667
 DRAWN: VOC SCALE: AS NOTED

SHEET NO.:
M401

Section # & Req ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.4.1 [ME63] ²	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.3.3 [ME35] ²	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.2 [ME53] ²	Air outlets and zone terminal devices have means for air balancing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.11.3 [ME123] ²	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 C403.11.3.1 and refrigeration compressor systems that comply with C403.11.3.2.	<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: CAVA - Stapleton Report date: 09/04/24
Data filename: Page 7 of 10

Section # & Req ID	Final Inspection	Complies?	Comments/Assumptions
C303.3. C408.2.5 [F18] ²	Furnished O&M manuals for HVAC systems 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.
C403.3.1 [F127] ²	HVAC systems and equipment capacity does not exceed calculated loads.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.1 [F147] ²	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.1. 2 [F138] ²	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.1. 3 [F120] ²	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.2 [F139] ²	Each zone equipped with setback controls using automatic time clock or programmable control system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.2. 1 C403.4.2. 2 [F140] ²	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.2. 3 [F141] ²	Systems include optimum start controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.3 [F111] ²	Heat traps installed on supply and discharge piping of non-circulating systems.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.4 [F125] ²	All piping insulated in accordance with section details and Table C403.12.3.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.6.3 [F12] ²	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

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

Project Title: CAVA - Stapleton Report date: 09/04/24
Data filename: Page 9 of 10

Section # & Req ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.7 [EL26] ²	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.8 [EL27] ²	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.9.1. C405.9.2 [EL28] ²	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.10 [EL29] ²	Total voltage drop across the combination of feeders and branch circuits <= 5%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.11 [EL30] ²	At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.11. C405.11.1 [EL31] ²	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1.	<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: CAVA - Stapleton Report date: 09/04/24
Data filename: Page 8 of 10

Section # & Req ID	Final Inspection	Complies?	Comments/Assumptions
C408.1. C408.1.1 [F17] ²	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.1 [F128] ²	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] ²	HVAC equipment, systems and system-to-system relationships have 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] ²	HVAC and service water heating 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] ²	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 [F17] ²	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. 1 [F143] ²	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. 2 [F130] ²	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.

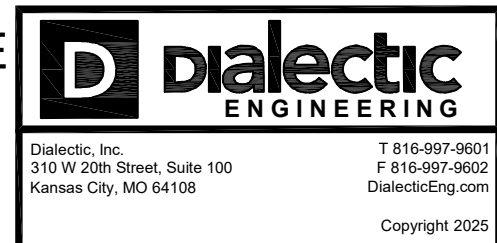
Additional Comments/Assumptions:

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

Project Title: CAVA - Stapleton Report date: 09/04/24
Data filename: Page 10 of 10



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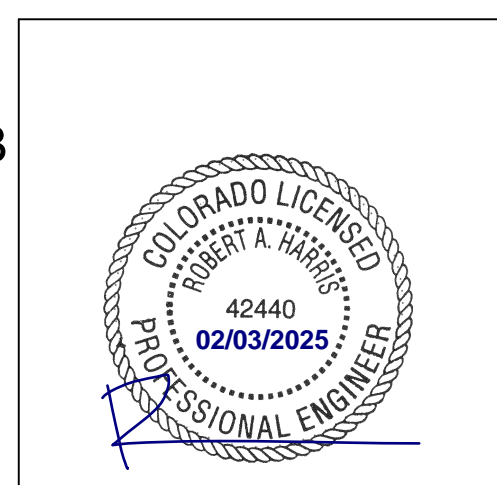
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UNITED STATES

REVISIONS / ISSUES	DESCRIPTION
1	05/24/24 PERMIT SET
2	08/09/24 CITY COMMENTS
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SHEET NAME:
MECHANICAL
COMCHECK FORMS

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: VOC SCALE: AS NOTED

SHEET NO.:
M402

Planning Tool for C406.1 2022 Denver Energy Code Additional Energy Efficiency Credit Requirements for New Construction and C502 Additions

Instructions: Enter values in to applicable cells. Floor areas in Tables C406.1(1) and C406.1(2) must match.

Project Background

1. Property is all-electric (Y/N):	N	3. C403.2.4 Space Heating is required (Y/N):	Y
2. Project is non-previously-occupied tenant space (Y/N):	Y	4. C404.10 Water Heating is required (Y/N):	Y
5. Using CE02 for Denver Green Code LMU Compliance (Y/N):	N		

1. Check Floor Area matches in Tables C406.1(1) and C406.1(2)	Y
2. Check project achieves required credits (Pass / Needs Additional Credits)	PASS
3. Summary requirements versus credits:	Building Credit Requirement is 10 and Included Credits are 13

Credit Requirements Table C406.1(2)	Floor Area by Building Type (sf)	Denver Credit Requirements		Use Group for Table C406.1(1)
		All-Electric Properties ^a	All Other Buildings	
Multifamily		10	40	Group R
Healthcare/Hospital		10	40	Group I
Hotel/Motel		10	36	Group R
Office		10	31	Group B
Retail		10	35	Group M
School		10	24	Group E
Warehouse		10	48	Other Occupancies (Group S)
All Other	2,623	10	40	Other Occupancies
Total	2,623			
Area Weighted Denver Credit Requirements		10	40	
Building Credit Requirement	10			

a. Where the all-electric property complies with Sections C406.13 and C406.15. All-electric properties shall not be eligible for credits from Sections C406.13 and C406.15.

C406.7.1 Prorate Service Hot Water Credits - Optional	Floor Area by Building Type (sf)	Percent Prorated by Building Floor Area (%)
Group R-1: Boarding houses, hotels or motels		
Group I-2: Hospitals, psychiatric hospitals and nursing homes		
Group R-2		
Total Group R and I	0	0%
Group E: Schools with full-service kitchens or locker rooms with showers		
Total Group E	0	
Group A-2: Restaurants, banquet halls and buildings containing food preparation areas	2,623	
Group F: Laundries		
Group A-3: Health clubs and spas		
Total Other Occupancies	2,623	100%
Buildings with service hot water load of 10% or more of total building energy loads, as shown with an energy analysis described in Section C407		Buildings with service hot water load of 10% are not included in this tool Provide separate documentation
1. Building must comply with C404.2.1 High Input Service Water-Heating Systems (Y/N):	N	Buildings that must comply with C404.2.1 are eligible for half the credits of C406.7.2.

Table C406.1 Additional energy efficiency credit requirements for Denver

Enter Floor Area by Use Group (sf)	Group B	Group R and I	Group E	Group M	Other Occupancies ^a	Total Area (sf)
Check: Too many credits selected for (OK if blank):						2,623
Included Credits by Use Group	0	0	0	0	13	Total Included Credits
Total Floor Area Weighted Included Credits						13

Section	Included in COMcheck IECC-2021 OR Denver Specific	Enter Y if included	Denver Credits	Enter Y if included	Denver Credits	Enter Y if included	Denver Credits	Enter Y if included	Denver Credits	Enter Y if included	Denver Credits	Notes	Documentation	Calculation Type	Threshold
C406.2.1: 5% Heating Efficiency Improvement	COMcheck IECC-2021		1		1		1		2		1	Select only 1 from C406.1.2, C406.2.3, C406.2.6	Calculation	Efficiency % diff	5%
C406.2.2: 5% Cooling Efficiency Improvement	COMcheck IECC-2021		2		1		1		1		1	Select only 1 from C406.2.2, C406.2.4, C406.2.5	Calculation	Efficiency % diff	5%
C406.2.3: 10% Heating Efficiency Improvement	COMcheck IECC-2021		2		2		3		3		3	Select only 1 from C406.1.2, C406.2.3, C406.2.6	Calculation	Efficiency % diff	10%
C406.2.4: 10% Cooling Efficiency Improvement	COMcheck IECC-2021		4		1		2		2		2	Select only 1 from C406.2.2, C406.2.4, C406.2.5	Calculation	Efficiency % diff	10%
C406.2.5: >10% Cooling Efficiency Improvement	Denver Specific											Select only 1 from C406.2.2, C406.2.4, C406.2.5. Manually enter credits and provide calculation	Calculation	Modified efficiency % diff	>10%
C406.2.6: >10% Heating Efficiency Improvement	Denver Specific											Select only 1 from C406.1.2, C406.2.3, C406.2.6. Manually enter credits and provide calculation	Calculation	Modified efficiency % diff	>10%
C406.3: Reduced Light Power	COMcheck IECC-2021 with Denver Specific instructions		7		2		8		12	Y	7	Select only 1 from C406.3, C406.3.2 15%, C406.3.2 >15%. Denver modifies Building Area Method Table C405.3.2(1)	Calculation	Efficiency % diff	10%
C406.3.2: Reduced lighting power by 15%	COMcheck IECC-2021 with Denver Specific instructions		11		3		12		18		11	Select only 1 from C406.3, C406.3.2 15%, C406.3.2 >15%. Denver modifies Building Area Method Table C405.3.2(1)	Calculation	Efficiency % diff	15%
C406.3.3: Reduced lighting power by >15%	COMcheck IECC-2021 with Denver Specific instructions											Select only 1 from C406.3, C406.3.2 15%, C406.3.2 >15%. Denver modifies Building Area Method Table C405.3.2(1)	Calculation	Modified efficiency % diff	>15%
C406.4: Enhanced Digital Light Ctrl	COMcheck IECC-2021		2		NA		2		3		2		Drawing, Sequence of Ops	NA	
C406.5.1: Basic Renewable Credit.	COMcheck IECC-2021		9		7		6		7		2	Select only 1 from C406.5.1, C406.5.2	Calculation	Capacity	
C406.5.2: Enhanced Renewable Credit	Denver Specific											Select only 1 from C406.5.1, C406.5.2. Manually enter credits and provide calculation	Calculation	Modified Capacity	
C406.6: Dedicated OA Sys (DOAS)	COMcheck IECC-2021		5		8		NA		2		5		Drawing, Sequence of Ops	NA	
C406.7.2: Recovered/Renew SWH ^b	COMcheck IECC-2021		NA		0		NA		NA		14	Enter building types in Table C406.7.1 to prorate. If must comply with C404.2.1, eligible for half the credits	Calculation	Capacity	
C406.7.3: Efficient fossil fuel SWH ^b	COMcheck IECC-2021		NA		0		NA		NA		6	Enter building types in Table C406.7.1 to prorate	Schedule	NA	
C406.7.4: Heat Pump SWH ^b	COMcheck IECC-2021		NA		0		NA		NA	Y	5	Enter building types in Table C406.7.1 to prorate	Schedule, Drawing	NA	
C406.8.1: Reduced envelope UA	COMcheck IECC-2021 with Denver Specific instructions		10		4		2		4		5	Select only 1 from C406.8.1, C406.8.2	Calculation	UA % diff	15%
C406.8.2: Further reduced envelope UA	COMcheck IECC-2021 with Denver Specific instructions		15		6		3		6		8	Select only 1 from C406.8.1, C406.8.2	Calculation	UA % diff	25%
C406.9.1: Reduced Air Infiltration	COMcheck IECC-2021		4		5		NA		2		4	Select only 1 from C406.9.1, C406.9.2	Document, Report	NA	0.25 cfm/sf at 75 Pa
C406.9.2: Further Reduced Air Infiltration	Denver Specific - threshold only		7		8		NA		3		7	Select only 1 from C406.9.1, C406.9.2	Document, Report	NA	0.15 cfm/sf at 75 Pa
C406.10: Energy Monitoring	COMcheck IECC-2021		2		1		2		3		2		Drawings, Specs	NA	
C406.11: Fault Detection	COMcheck IECC-2021		1		1		1		1		1		Drawings, Specs	NA	
C406.12: Efficient Kitchen Equipment	COMcheck IECC-2021											Manually enter points and provide calculation - 20 Max	Calculation	Modified efficiency % diff	
C406.13: All-Electric Space Heating	Denver Specific		0		0		0		0		0	All-Electric Properties are not eligible. Available when not required by C403.2.4	Calculation	W/sf	
C406.14: Cold Climate Heat Pumps	Denver Specific		4		5		5		9		6		Schedule, Calculation	W/sf	
C406.15: All-Electric Water Heating	Denver Specific		0		0		0		0		0	All-Electric Properties are not eligible. Available when not required by C404.10	Drawing	NA	
C406.16: Demand Responsive Thermostats	Denver Specific		1		1		1		1	Y	1		Drawings, Specs	NA	
C406.17.1: Reduced Fan Power	Denver Specific		2		NA		6		7		3	Select only 1 from C406.17.1, C406.17.2	Calculation	Fan power % diff	10%
C406.17.2: Further Reduced Fan Power	Denver Specific		4		NA		11		14		6	Select only 1 from C406.17.1, C406.17.2	Calculation	Fan power % diff	20%

a. Other occupancy groups include all Groups except for Groups B, R, I, E, and M
b. For occupancy groups listed in C406.7.1

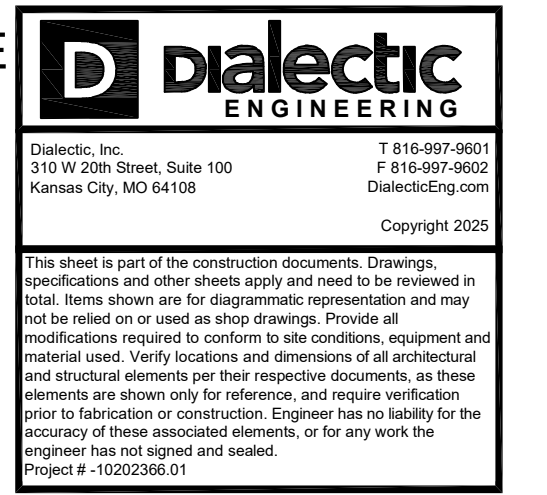
Legend for Energy End Use:

Heating	COMcheck IECC-2021	Group B: Business
Cooling		Group R: Residential
Interior Lighting		Group I: Institutional
Exterior Lighting		Group E: Educational
Interior Equipment		Group M: Mercantile
Exterior Equipment		
HVAC Fans		
Pumps		
Service Hot Water		
Renewable Energy		

Commercial Prescriptive Checklist - C406



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STORE NO.:



REVISIONS / ISSUES	
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SHEET NAME:
MECHANICAL COMPLIANCE CHECKLIST

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: VOC SCALE: AS NOTED

SHEET NO.:
M403

Code Section	Focus Area	Code Description	Drawing or Specification Number to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on drawings/specs)	Submittal Requirements and Clarifications
C403.4	Thermostatic Controls	Each zone shall be controlled by individual thermostatic controls.	M100		Indicate location of: - Mechanical drawings with thermostats for each HVAC system
C403.4.1.2 C403.4.1.3	Deadband Setpoint Overlap Restriction	Where zone thermostatic controls automatically change between heating and cooling, provide a deadband of not less than 5degF. Where zone has separate controls for heating and cooling, provide mechanical stop or DDC programming to maintain deadband.	M000		Indicate location of: - Sequence of operations
C403.4.1.4	Heated or Cooled Vestibules	Vestibule heating shall shut off when outdoor temperature is greater than 45degF. Space temp shall not be set to heat above 60degF or cool below 85degF.	N/A	No vestibule on the project.	Indicate location of: - Sequence of operations
C403.4.1.5	Hot Water Boiler Outdoor Temperature Setback Control	Provide boiler setback based on the outdoor temperature.	N/A	No boiler on this project.	Indicate location of: - Sequence of operations
C403.4.2	Off-hour Controls	Systems shall be provided with thermostatic setback to maintain zone temperatures down to 55degF or up to 85degF	M000		Indicate location of: - Sequence of operations
C403.4.3	Hydronic Systems Controls	Hydronic system controls shall comply with all applicable sections C403.4.3 through C403.3.3.2.	N/A	No hydronic systems on this project.	Indicate location of: - Sequence of operations
C403.4.4	Part-load Controls	Hydronic systems of 300,000 Btu/h or greater shall include: - Automatically reset supply-water temperature in response to building demand - Automatically vary flow - VFD pump motor power input shall be not more than 30% of design wattage at 50% of design flow	N/A	No hydronic systems on this project.	Indicate location of: - Sequence of operations
C403.4.5	Pump Isolation	Boiler and chiller plants with more than one boiler/chiller shall be configured to reduce flow automatically when a boiler/chiller is shut down.	N/A	No boiler on this project.	Indicate location of: - Sequence of operations
C403.5	Economizers	Provide air or water economizer per C403.5 with exceptions. - Other than a Group R occupancy, Provide air economizer for individual fan systems with published nominal cooling capacity of 33,000 Btu/h (9.7 kW). - Group R occupancy: Provide air economizer for individual fan systems with cooling capacity of 270,000 Btu/h (79.1 kW) - Supply capacity of fan cooling units without economizers shall not exceed requirements of C403.5.	M000	Refer to Landlord set of MEP drawings for full RTU schedule. Refer to sequence of operations on sheet M000 for economizer sequence.	Indicate location of: - Equipment schedules showing air and / or water economizer
C403.5.5	Economizer Fault Detection and Diagnostics	Air-cooled unitary direct-expansion units listed in Tables C403.3.2(1) through C403.3.2(3) and variable refrigerant flow (VRF) units that are equipped with an economizer shall include a fault detection and diagnostics.	M000	Refer to Landlord set of MEP drawings for full RTU schedule. Refer to sequence of operations on sheet M000 for economizer sequence.	Indicate location of: - Economizer fault detection and diagnostics specification.
C403.6	Supply-air temperature reset control	C403.6.1 through C403.6.9 shall apply to mechanical systems serving multiple zones.	N/A	This project has only single zone systems.	Indicate location of: - Sequence of operations
C403.7.1	Demand Control Ventilation	Demand control ventilation shall be provided for spaces larger than 500 square feet and with an average occupant load of 15 people or greater per 1,000 square feet of floor area.	N/A	Exceptions 4: Spaces where more than 75 percent of the space design outdoor airflow is required for makeup air that is exhausted from the space or transfer air that is required for makeup air that is exhausted from other spaces.	Indicate location of: - Mechanical drawings with sensor locations noted - Sequence of operations

Code Section	Focus Area	Code Description	Drawing or Specification Number to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on drawings/specs)	Submittal Requirements and Clarifications
C403.7.8	System Control	VAV, SVAV, DGAS, ERV and MUA systems shall have controls to provide fault if there is excessive outside air, and display or report to DDC and measure and maintain the required flow rate of outside air.	N/A	MUA system is less than 4000 CFM.	Indicate location of: - Mechanical drawings with sensor locations noted - Sequence of operations
C403.7.2	Enclosed Parking Garage Ventilation Controls	Enclosed parking garages shall employ carbon monoxide and nitrogen oxide detectors and automatic controls configured to stage fans or modulate fan average airflow rates to 50 percent or less of design capacity, or intermittently operate fans less than 20 percent of the occupied time or as required to maintain acceptable contaminant levels.	N/A	No parking garage on project.	Indicate location of: - Mechanical drawings with sensor locations noted - Sequence of operations
C403.7.4.1	Energy Recovery for Nontransient Dwelling Units	Provide outdoor air recovery ventilation systems with an enthalpy ratio of not less than 50% at cooling and 60% at heating design conditions.	N/A	No dwelling units on project.	Indicate location of: - Energy recovery systems and effectiveness
C403.7.4.2	Energy Recovery for Spaces Other Than Nontransient Dwelling Units	Systems with design airflow that exceed the minimum in Tables C403.7.4.2(1) and C403.7.4.2(2) shall include an energy recovery system with a minimum enthalpy recovery ratio of 60% at balanced airflow conditions. Systems with economizers shall include a bypass of the energy recovery when conditions allow for free cooling. Energy recovery devices shall not exceed a pressure drop of 1.1" w.g. at design conditions and shall not exceed 0.1" w.g. in economizer mode (bypass). Supply and exhaust fan static efficiency must meet 65%.	N/A	Tenant will operate less than 8,000 hours a year. Following table C403.7.4.2(1), for climate zone 5B, energy recovery is not required.	Indicate location of: - Energy recovery when applicable - Energy recovery effectiveness - Mechanical drawings that distinguish continuously occupied spaces (8,000 or more hr/yr) from other spaces
C403.7.5	Kitchen Exhaust Systems	Kitchen exhaust and make up air systems shall meet requirements of Section C403.7.5.	M5XX Series Drawings		Indicate location of: - Make up air calculations - Hood specifications detailing UL710 listing and exhaust rates per table C403.7.5 of the DMC. - Sequence of operations - Occupancy sensors or other means of verifying occupancy (keycard controls)
C403.7.6	Automatic Guestroom Controls	In buildings with more than 50 guestrooms, each guestroom shall be provided with controls to automatically setback space setpoints. Unoccupied rooms shall be setback by 4degF during unoccupied times. Unoccupied rooms shall be setback to not lower than 80degF (cooling) and not higher than 60degF (heating).	N/A	Project does not include guestrooms.	
C403.7.7	Shutoff Dampers	Outdoor air intake and exhaust openings and stairway and shaft vents shall be provided with Class 1 motorized dampers. Not required for exhaust or relief openings in buildings less than three stories in height. Not required for exhaust design capacity is less than 300 cfm.	M001	Backdraft damper is included on the restroom EF of 200 CFM. Building is less than 3 stories.	Indicate location of: - All dampers on the mechanical drawings - Specification for dampers showing Class 1 rated
C403.8	Fans and Fan Controls	Fan and fan controls shall comply with all applicable sections of C403.8.1 through C403.8.5.	M000, M001		Indicate location of: - Schedules showing fan - Sequence of operations

2022 Denver Energy Code - Commercial Compliance Checklist

Prescriptive Path - HVAC & Kitchen

Project Address: 8969 E 46TH AVENUE
DENVER, CO 80238
UNITED STATES

Date: 5/9/2024



Code Section	Focus Area	Code Description	Drawing or Specification Number to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on drawings/specs)	Submittal Requirements and Clarifications
HVAC - ALL COMPLIANCE PATHS					
C403.5.1.1	Operable Openings Interlocking	Cooling and heating set point adjusted whenever the operable opening larger than 40 sf is open within 10 minutes of opening.	N/A	Front doors not intended to be opened for long periods of time.	Indicate location of: - Building drawings showing that operable openings have interlock switches to trigger setback of thermostat when open - Sequence of operation
C403.1.2	Data Centers	Data centers systems shall comply with Sections 6 and 8 of ASHRAE 90.4 with changes listed in C403.1.2: - HVAC Maximum Annualized Mechanical Load Component of 0.12 for data centers with ITE design load greater than 300 kW or 0.20 for data centers with ITE design power of 300 kW or less - When ITE design load exceeds 35 kW (10 tons) per room and 20 W/sf of condition floor area use adiabatic humidification systems and include hot-aisle containment - When ITE design load exceeds 35 kW (10 tons) per room and 20 W/sf of condition floor area and air-cooled computers in racks use aisle containment - Use utility recycled water for evaporative cooling towers where available	N/A	There are no data centers on the project.	Indicate location of: - ITE design load and W/sf, Annualized MLC - Humidification system if applicable - Hot-aisle containment if applicable - Connection to recycled water system if applicable
C403.2.3	Fault Detection Diagnostics	For new buildings of 25,000 square feet or larger, provide a fault detection and diagnostics (FDD) system to monitor the HVAC system's performance, automatically identify faults, and be capable of reporting them to remotely located authorized personnel. R-1 and R-2 occupancies and heated-only warehouses are exempt.	N/A	Project is less than 25,000 square feet.	Indicate location of: - Specification of fault detection and diagnostics system
C403.2.4	Space Heating Equipment	For permit applications submitted after January 1, 2024, fossil-fuel warm air furnaces and electric resistance space heating equipment are not allowed, with exceptions: - Does not apply to gas fired boiler heating - Not required for make up air systems where energy recovery is prohibited by Denver Mechanical Code - Limited electric resistance is allowed - See 2022 Denver Energy Code for full exception list	M001	Makeup Air Unit is gas heating. Electrical panel has capacity for future all electric makeup air unit.	Indicate location of: - Mechanical drawings and schedules detailing compliance with C403.2.4 - Rationale or calculations for exceptions to C403.2.4 if applicable
C403.4.1.1	Heat Pump Supplementary Heat	Provide heat pump controls that limit supplementary heat operation to specific instances noted in C403.4.1.1.	M000	Refer to sequence of operations.	Indicate location of: - Sequence of operations for heat pump supplementary heat

Code Section	Focus Area	Code Description	Drawing or Specification Number to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on drawings/specs)	Submittal Requirements and Clarifications
C503.3.2	Alteration: Low-Nitrogen Emissions	Provide one of the following where an indoor gas-fired warm air furnace is replaced with another gas-fired warm air furnace: - Low-nitrogen dioxide emissions shall not exceed 14 nanograms of nitrogen dioxide per joule of useful heat delivered to the heated space. - An Annual Fuel Utilization Efficiency of not less than 90 percent. Indoor gas-fired make-up air units are exempt.	M001	MAU has efficiency of 92%.	Indicate location of: - Mechanical checking with nitrogen dioxide or AFUE rating
C503.3.3	Alteration: Partial Electrification for Space Heating	Provide two of the following where a gas-fired warm-air furnace is replaced with a gas-fired warm-air furnace OR one of the following when a unitary air conditioner or condensing unit serving a heated space is replaced with another unitary air conditioner or condensing unit: - Electrification Retrofit Feasibility Report - Sizing per C403.3.1 - Testing of all gas piping connected to the gas meter serving the replaced warm air furnace per Section 406 of the IRC. Equipment replaced as an emergency equipment replacement is exempt. Gas-fired boilers used for space heating are exempt.	N/A	There is no equipment being replaced on this project.	Indicate selection / location of the following: - Electrification Retrofit Feasibility Report - Load calculations showing sizing - Intent to test gas piping
PRESCRIPTIVE COMPLIANCE PATH					
C401.2	COMcheck	Demonstrate compliance with C401.2 by submitting the 2022 Denver Energy Code specific COMcheck compliance certificate and inspection checklist.	M4XX series	COMcheck forms and Denver checklist forms have been added to the drawing set.	Indicate location of: - COMcheck certificate and inspection checklist - Provide COMcheck certificates on a stamped and signed drawing by the Colorado registered design professional responsible for each compliance certificate
C403.1.1	Calculations of Heating and Cooling Loads	Heating, ventilating, and air conditioning design loads shall be calculated per Section C403.1.1.	M001		Provide load calculations when requested by the Authority Having Jurisdiction. Submitter can list as N.A. for this item, however reviewer may request loads be submitted.
C403.2.1	Zone Isolation Required	HVAC systems serving zones that are over 25,000 square feet in floor area or that span more than one floor and are designed to operate or be occupied non-simultaneously shall be divided into isolation areas.	N/A	Project is less than 25,000 square feet.	Indicate location of: - Zone isolation - Sequence of operations
C403.2.2	Ventilation	Ventilation, either natural or mechanical, shall be provided in accordance with Chapter 4 of the Denver Mechanical Code (DMC). Note that Section 403.3.1.1 of DMC recommends use of ASHRAE 62.1 spreadsheet.	M001		Indicate location of: - Ventilation calculations on the mechanical drawings. Demonstrate compliance by identifying the outside air flow on the equipment schedules and showing that the equipment outside air flow is greater than the outside air flow as determined by the calculations.
C403.3.1	Equipment Sizing	The output capacity of heating and cooling equipment shall be not greater than that of the smallest available equipment size that exceeds the loads calculated in accordance with Section C403.1.1.	M001		Provide the heat loss and heat gain load calculations when requested by the Authority Having Jurisdiction and show that the equipment provided is the smallest size available from the manufacturer. Submitter can list as N.A. for this item, however reviewer may request loads be submitted.
C403.3.2	Equipment Performance Requirements	Equipment shall comply with the minimum efficiency requirements of Tables C403.3.2(1) through C403.3.2(9).	M001		Indicate location of: - Equipment schedules with efficiencies
C403.3.3	Hot Gas Bypass Limitation	Hot gas bypass is only allowed with multiple steps of unloading or continuous capacity modulation.	N/A	No hot gas bypass specified.	Indicate location of: - Sequence of operations for hot gas bypass
C403.3.4	Boiler Turndown	Boiler systems with design input of greater than 1,000,000 Btu/h (293 W) shall comply with turndown ratio.	N/A	No boiler on this project.	Indicate location of: - Boiler turndown ratio



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F 816.997.9002
DialecticEng.com

STORE NO.:



REVISIONS / ISSUES	
NO.	DESCRIPTION
05/24/24	PERMIT SET
08/09/24	CITY COMMENTS
09/03/24	CITY COMMENTS
09/20/20	CITY COMMENTS
02/03/25	OWNER CHANGES

STATUS:
ISSUE FOR CONSTRUCTION



FIELD VERIFICATION:
The Contractor shall verify all figured dimensions and conditions at the project site and notify Zebra Projects, INC. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

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SHEET NAME:
MECHANICAL COMPLIANCE CHECKLIST

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: VOC SCALE: AS NOTED

SHEET NO.:
M404



ZEBRA PROJECTS, INC. 14614 N KIERLAND BLVD., SUITE N300 SCOTTSDALE, ARIZONA 85254 PHONE: 480.912.1169 zbr.global



This sheet is part of the submittal documents. Drawings, specifications and other sheets apply and need to be reviewed in full. Items shown are for diagrammatic representation and may not be relied on or used as shop drawings. Provide all modifications required to conform to site conditions, equipment and material used. Verify locations and dimensions of all architectural and structural elements per their respective documents, as these elements are shown only for reference, and require verification prior to fabrication or construction. Engineer has no liability for the accuracy of these associated elements, or for any work the engineer has not signed and sealed. Project # 1002626-01

STORE NO.:



Table with 2 columns: REVISIONS / ISSUES, DESCRIPTION. Includes entries for PERMIT SET, CITY COMMENTS, and OWNER CHANGES.

STATUS: ISSUE FOR CONSTRUCTION



FIELD VERIFICATION: The Contractor shall verify all figured dimensions and conditions at the project site and notify Zebra Projects, INC. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

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SHEET NAME: MECHANICAL COMPLIANCE CHECKLIST

DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: VOC SCALE: AS NOTED

SHEET NO.: M405

Table with 6 columns: Code Section, Focus Area, Code Description, Drawing or Specification Number, Submitter Notes, Submittal Requirements and Clarifications. Contains items C403.8.6 through C405.8.

Table with 6 columns: Code Section, Focus Area, Code Description, Drawing or Specification Number, Submitter Notes, Submittal Requirements and Clarifications. Includes C406 SELECTED ADDITIONAL EFFICIENCY CREDITS and items C406.2.1 through C406.17.2.

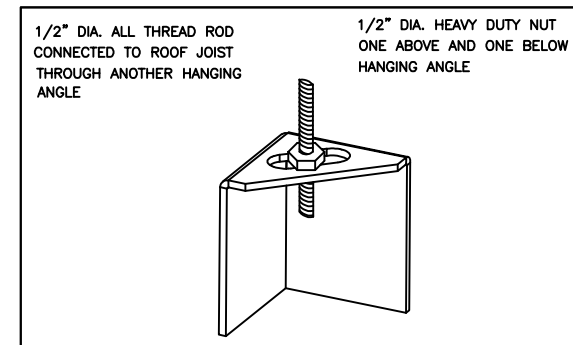
E

D

C

B

A



HANGING ANGLE DETAILS

HOOD STYLE / MODEL	450 DEGREES cfm/ft.	600 DEGREES cfm/ft.	700 DEGREES cfm/ft.
CANOPY NDZ	150	200	250
WITH END PANELS (15% PRODUCTION)	127.5	170	212.5
SLOPED SND-2	228	294	-
ISLAND ND-2WI	269	300	350
NDI	346	422	475

ETL HOOD LISTING DETAIL

EXHAUST CFM=LENGTH OF HOOD X CFM/IN.FT. (LOAD)
 SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED CFM
 TOTAL DUCT AREA=144 X (FM)²
 DUCT LENGTH= TOTAL DUCT AREA / DUCT SIZE

*CAPTIVE-AIRE VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 1000 FPM.

CALCULATIONS UTILIZED

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:

ETL LISTED
 UL LISTED
 INTERTEK
 A 8204804-001
 LISTED UNDER ETL FILE NUMBER 3054804-001/002

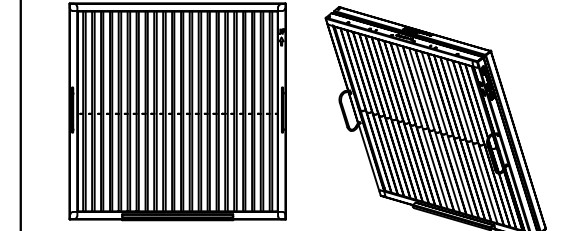
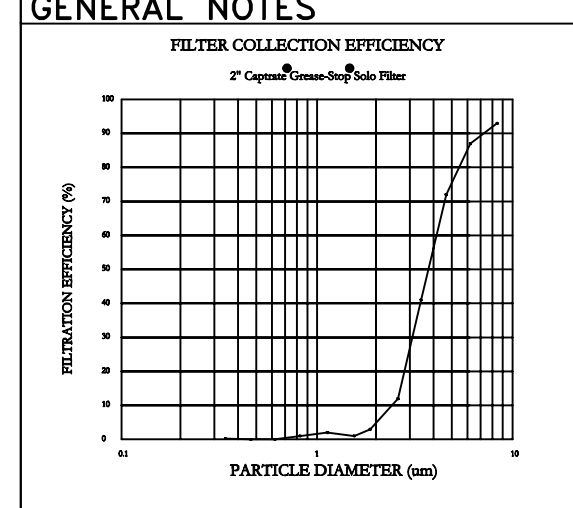
BUILDING CODES

CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

MATERIAL	CLEARANCE REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED
LIMITED-COMBUSTIBLE	1" INSULATED STANDOFF
COMBUSTIBLE	3" INSULATED STANDOFF

- CLEARANCE TO COMBUSTIBLES**
- INSTALLATION**
- ALL ELECTRICAL "TIE-OUT" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
 - ALL PLUMBING "TIE-OUT" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
 - HANGING BRACKETS LOCATED AND RELEASE AS SHOWN ON PLANS. ALL OTHER HANGING MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
 - ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTORS PLANS.
 - COOKING EQUIPMENT TO VERIFY IN EVENT OF FIRE.
 - EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
 - ALL LIGHTS/FIXTURES SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PROVIDED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
 - LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
 - SEALING RESISTERS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
 - INSTALLING CONTRACTORS RESERVE ALL RELATED RESPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA COMPLIANCE WITH THESE DRAWINGS. ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

- ADDITIONAL**
11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN. 12. RESTROOM SHALL BE NEGATIVE WITH RESPECT TO AMBIENT PRESSURE.
 13. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.
- GENERAL NOTES**
14. WITHIN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
 15. SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RETURNED TO THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.



FILTER DETAIL

CaptiveAire Captrate Solo Filter
 ETL Listed Grease Extracting Filters
 Made From 430 Stainless Steel

FOR QUESTIONS, CALL THE Maryland Office REGION 3E PHONE: (800) 988-0881 EMAIL: reg3e@captiveaire.com

PATENT NUMBERS
 AC-PSP (UNITED STATES) - US PATENT 7963830 B2.
 AC-PSP WALL (CANADA) - CA PATENT 2820509.
 AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

HOOD INFORMATION - JOB#6782655

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)				MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG			
										WIDTH	LENG	HEIGHT	DIA				CFM	VEL	SP	END TO END
1		6030 ND-2-ACPSP-F	CAPTIVEAIRE	10' 7"	600 DEG	1	HEAVY	225	2381		4'	16'	2381	1705	-0.825'	1976	802	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	LIGHT(S)		UTILITY CABINET(S)		FIRE SYSTEM	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT			
								TYPE	WIRE GUARD	LOCATION	SIZE				TYPE	SIZE	ELECTRICAL
1		CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	6	L55 SERIES E26	NO	LEFT	12"x60"x30"	TANK FS	4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	1172 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 10.00' HIGH FRONT, RIGHT. RIGHT END STANDOFF (FINISHED) 1' WIDE 60" LONG INSULATED. LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS. SENSOR-CV. RIGHT WALL AS END PANEL.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1		Front	140"	24"	6"	MJA	12"	28"		658	0.165'
						MJA	12"	28"		658	0.165'
						MJA	12"	28"		658	0.165'
						AC	8"	24"		401	0.094'
						AC	8"	24"		401	0.094'

GREASE DUCT & CHIMNEY SPECIFICATIONS:
 PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURERS INSTALLATION GUIDE.
 PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12". DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

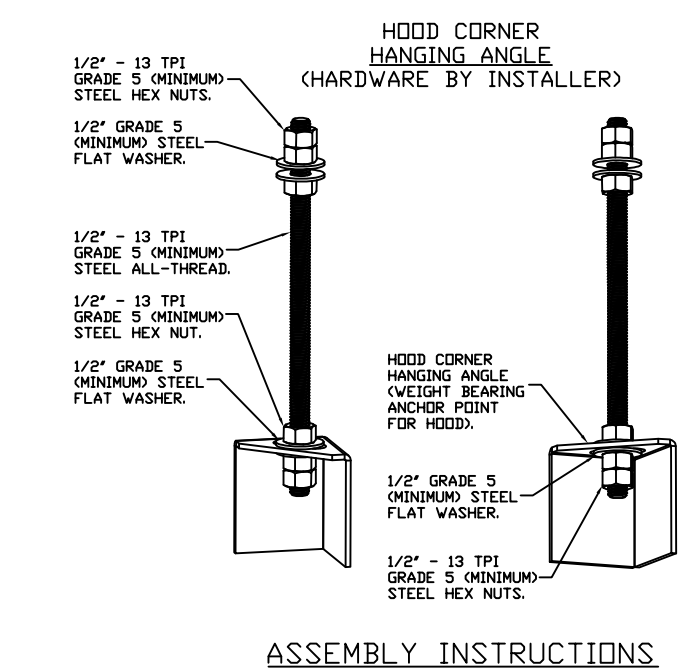
HVAC DISTRIBUTION NOTE
 HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

VERIFY CEILING HEIGHT

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

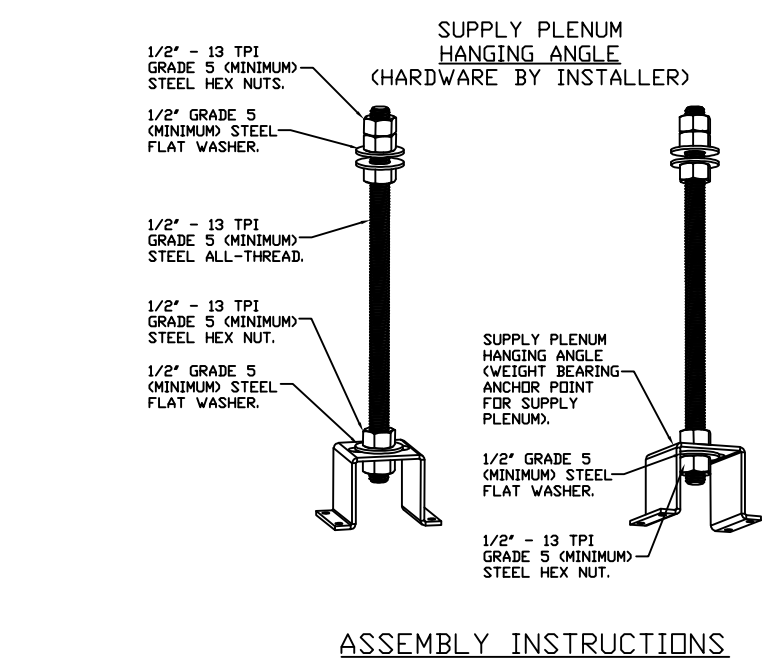
CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED
 APPROVED WITH NO EXCEPTION TAKEN
 REVISE AND RESUBMIT
 SIGNATURE _____
 YOUR TITLE _____ DATE _____



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

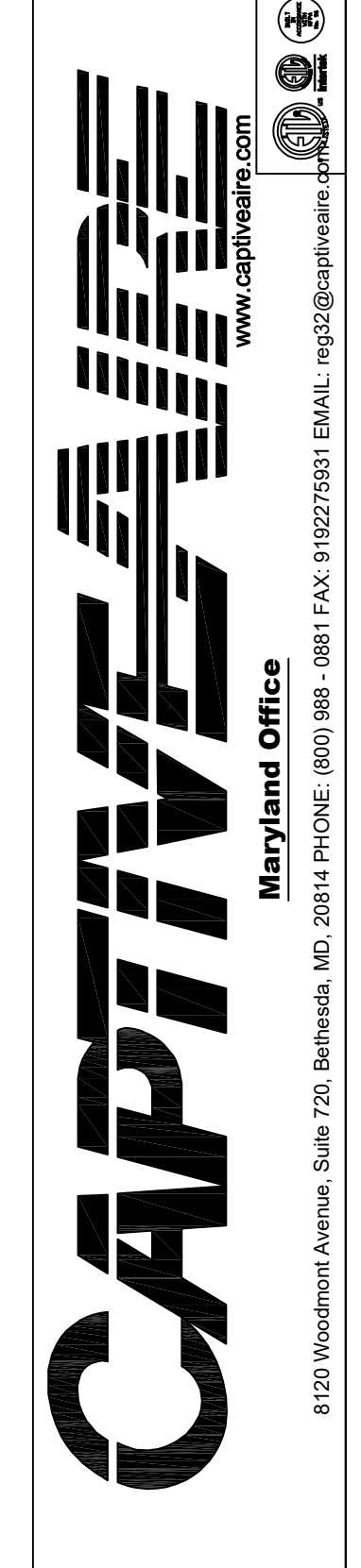


ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

REVISIONS

DESCRIPTION	DATE



Cava - Denver, CO (Stapleton)
 8969 E 46TH Avenue
 Denver, CO, 80238

DATE: 5/7/2024
DWG.#: 6782655
DRAWN BY: EG-32
SCALE: NTS
MASTER DRAWING

SHEET NO.
 1

zebra

ZEBRA PROJECTS, INC.
 14614 N KIERLAND BLVD., SUITE N300
 SCOTTSDALE, ARIZONA 85254
 PHONE: 480.912.1169 zbr.global

Dialectic ENGINEERING

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 310 W 20th Street, Suite 100
 Kansas City, MO 64108
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STORE NO.:

CAVA

8969 E 46TH AVENUE
 DENVER, CO 80238
 UNITED STATES

REVISIONS / ISSUES

NO	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:
 ISSUE FOR CONSTRUCTION



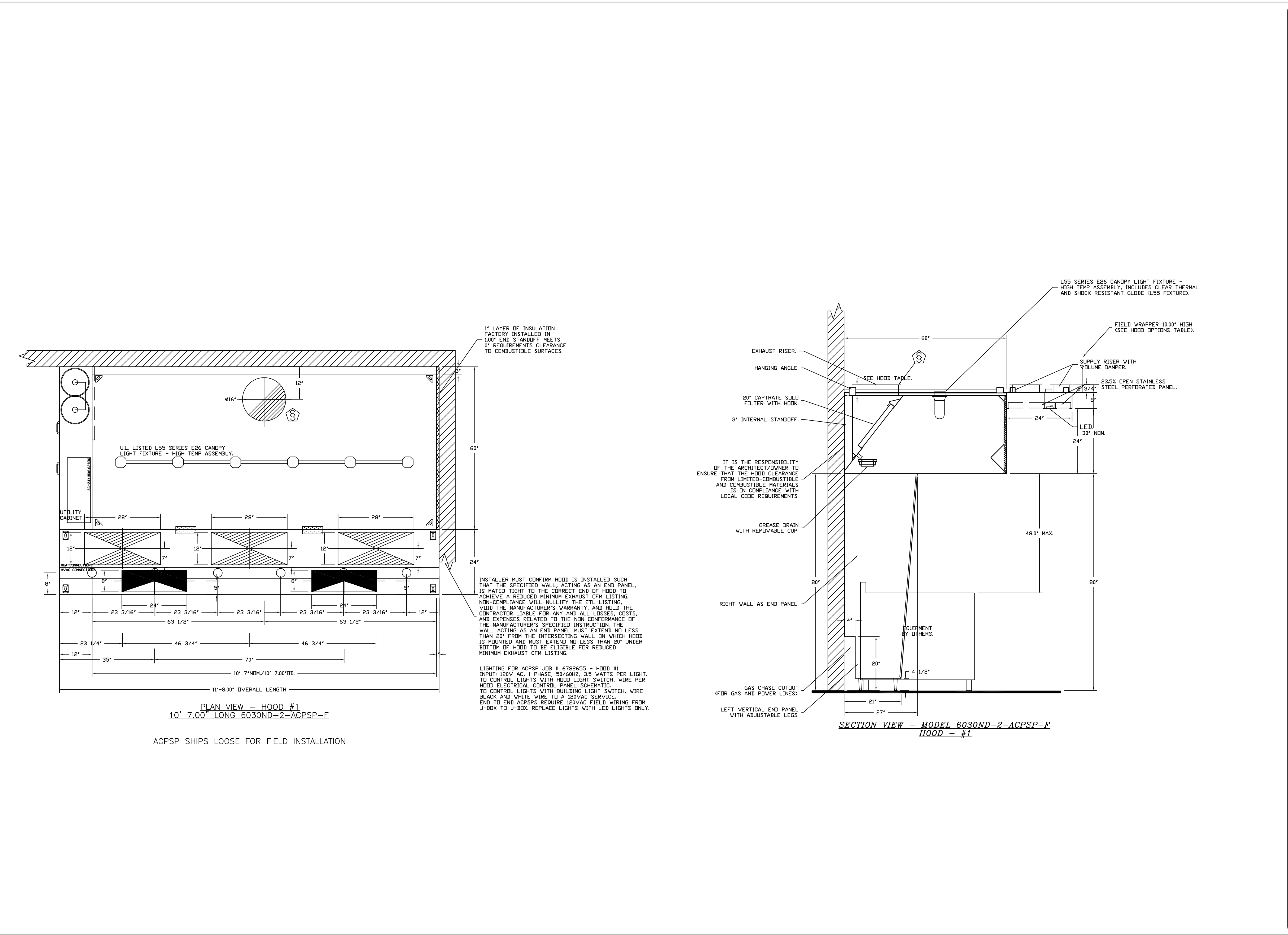
FIELD VERIFICATION:
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SHEET NAME:
 HOOD DRAWINGS

DATE: 05-24-24 **PROJECT NO.:** 36667
DRAWN: VOC **SCALE:** AS NOTED

SHEET NO.:
 M501



REVISIONS	
DESCRIPTION	DATE

www.captive.com
Maryland Office
 8120 Woodmont Avenue, Suite 720, Bethesda, MD, 20814
 PHONE: (800) 888-0881 FAX: 9192275931 EMAIL: rpg23@captive.com

Cava - Denver, CO (Stapleton)
 8969 E 46TH Avenue
 Denver, CO, 80238

DATE: 5/7/2024
DWG.#: 6782655
DRAWN BY: EG-32
SCALE: NTS
MASTER DRAWING

SHEET NO.
 2

zebra

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Dialectic ENGINEERING

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 Project #: 1000266-01

STORE NO.:

CAVA

8969 E 46TH AVENUE
 DENVER, CO 80238
 UNITED STATES

REVISIONS / ISSUES

NO.	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:
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FIELD VERIFICATION:
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SHEET NAME:
 HOOD DRAWINGS

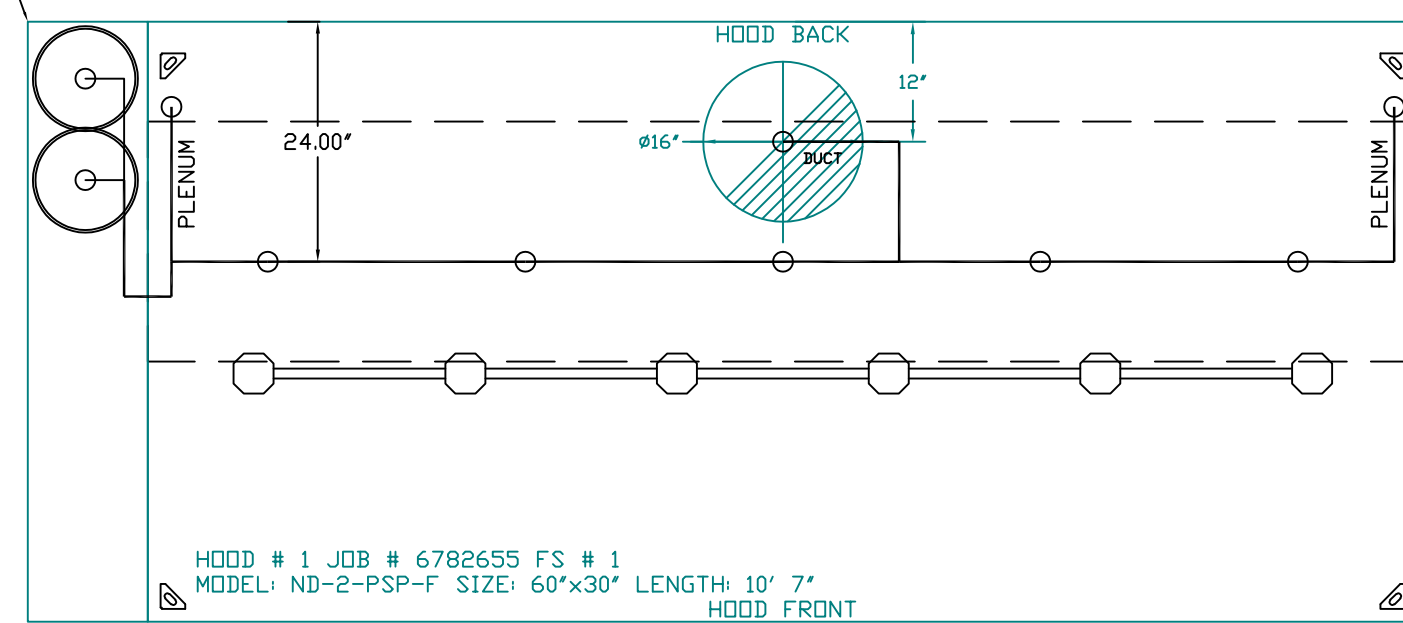
DATE: 05-24-24 PROJECT NO.: 36667
 DRAWN: VOC SCALE: AS NOTED

SHEET NO.:
M502

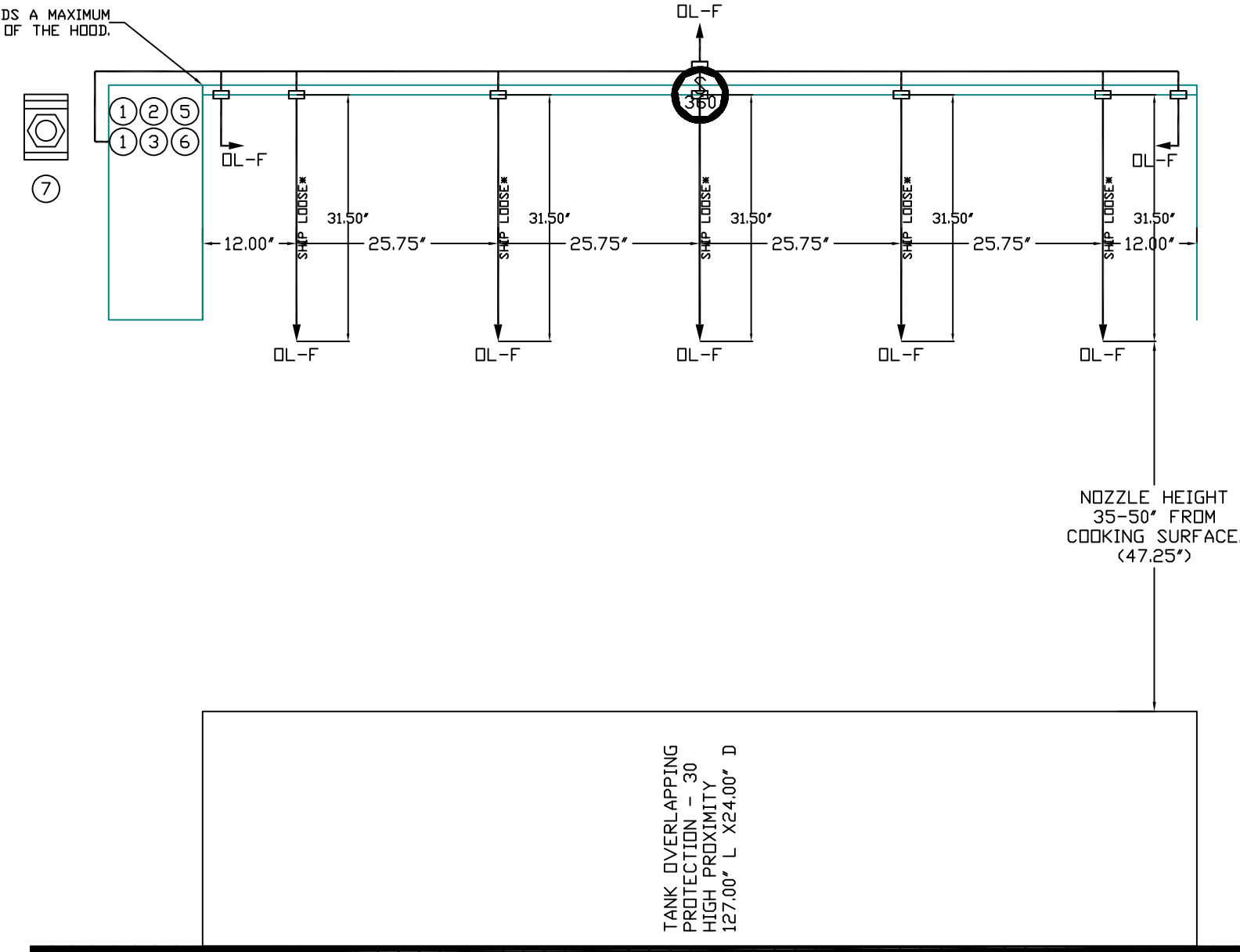
FIRE SYSTEM INFORMATION - JOB#6782655

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	40	37	FIRE CABINET LEFT	LEFT, HOOD 1

- SYSTEM REQUIRES A MINIMUM OF 7 FT OF EQUIVALENT PIPE LENGTH BETWEEN TANK AND NEAREST APPLIANCE NOZZLE FOR MOST APPLIANCES. EACH 90 DEGREE ELBOW ADDS 13 FT OF EQUIVALENT LENGTH. SEE MANUAL FOR DETAILS.



FACTORY PIPING EXTENDS A MAXIMUM OF 6' ABOVE THE TOP OF THE HOOD.



FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
0	0	TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
0	0	TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
0	0	12-F28021-32144-OT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. ND, CLOSE ON TEMP RISE AT 360°F.	1	0
0	0	32-0002 QUIK SEAL - 1/2" (UL).	1	0
0	0	4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	2	0
0	0	4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	1	0
0	0	79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" NPT FEMALE CONNECTION, VIEGA.	1	0
0	0	79580 1/2" X 1/2" PRO-PRESS TEE X 1/2" NPT FEMALE CONNECTION, VIEGA.	2	0
0	0	87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
0	0	87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5' BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
0	0	87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
0	0	87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
0	0	87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
0	0	9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	6	0
0	0	9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	7	0
0	0	98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
0	0	A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
0	0	A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" NPT HALF UNION. USED IN TANK SERVICE. PDR1.	1	0
0	0	B1145 3/8" BLACK IRON 90 ELL.	3	0
0	0	DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
0	0	TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	6	0
0	0	TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
0	0	WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
16	16	79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	8	0
16	16	DL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	8	0
26	26	OSA-3/8 QUIK SEAL - 3/8" (UL).	8	0
34	34	A0034331 ZAVIC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0

NOTES

- FIELD PIPE DROPS AS SHOWN
- PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP; FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP; FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE
- FACTORY PIPING EXTENDS A MAXIMUM OF 6' ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.
- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- DL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 6782655.
JOB NAME: CAVA - DENVER, CO (STAPLETON).

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 37, MAXIMUM FP: 40.
HOOD # 1 10' 7.00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 SIZE: 16" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

LEGEND - FIRE CABINET TANK SYSTEM

- 4 GALLON TANK.
- PRIMARY ACTUATOR RELEASE.
- SECONDARY ACTUATOR RELEASE.
- PRESSURE SUPERVISION SWITCH.
- PRIMARY HOSE ASSEMBLY.
- SECONDARY HOSE ASSEMBLY.
- REMOTE MANUAL ACTUATION DEVICE.

REVISIONS

DESCRIPTION	DATE



Cava - Denver, CO (Stapleton)
8969 E 46TH Avenue
Denver, CO, 80238

DATE: 5/7/2024

DWG.#: 6782655

DRAWN BY: EG-32

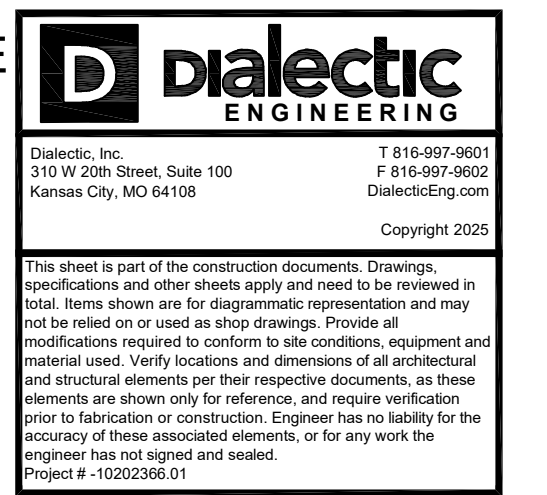
SCALE: NTS

MASTER DRAWING

SHEET NO. 3



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SCOTTSDALE, ARIZONA 85254
PHONE: 480.912.1169 zbr.global



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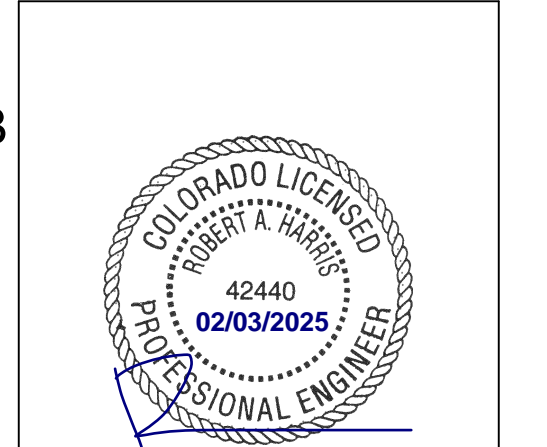


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05/24/24	PERMIT SET
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SHEET NAME:

HOOD DRAWINGS

DATE: 05-24-24 PROJECT NO.: 36667

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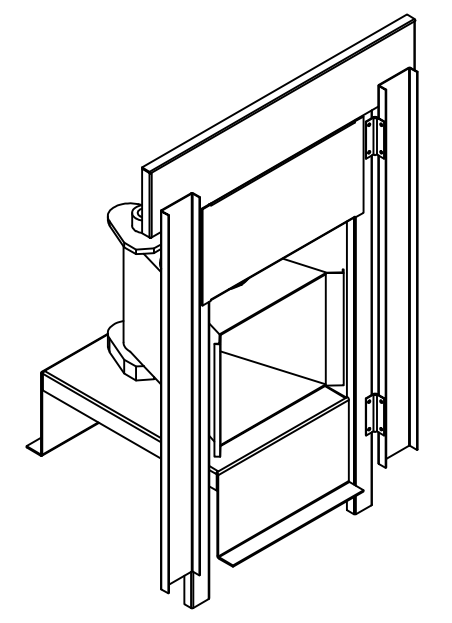
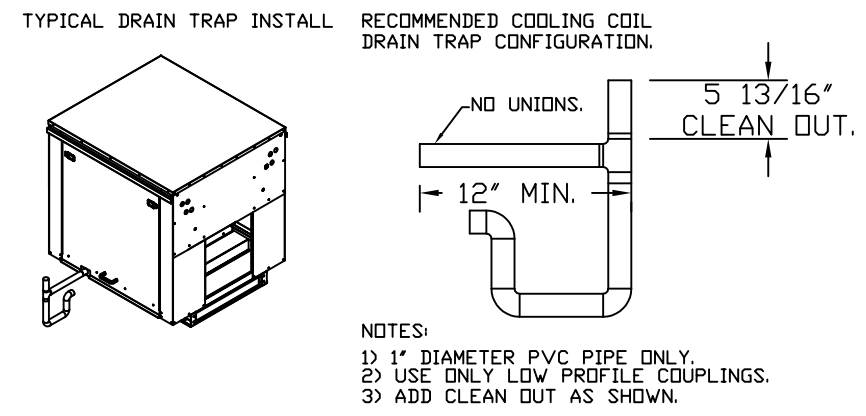
SHEET NO.:

M503

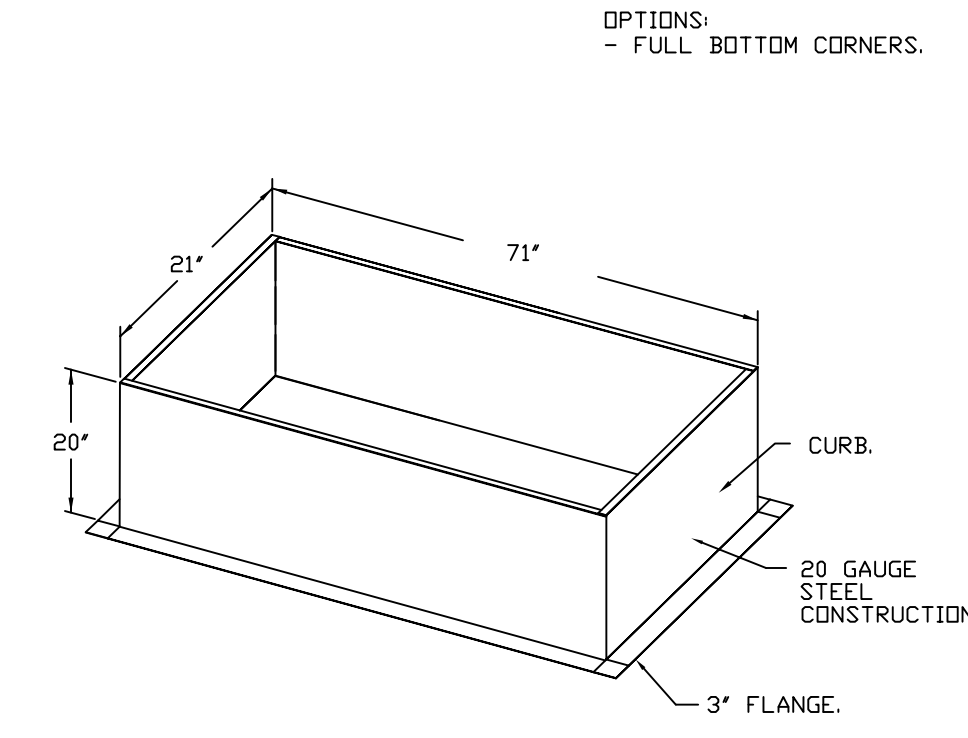
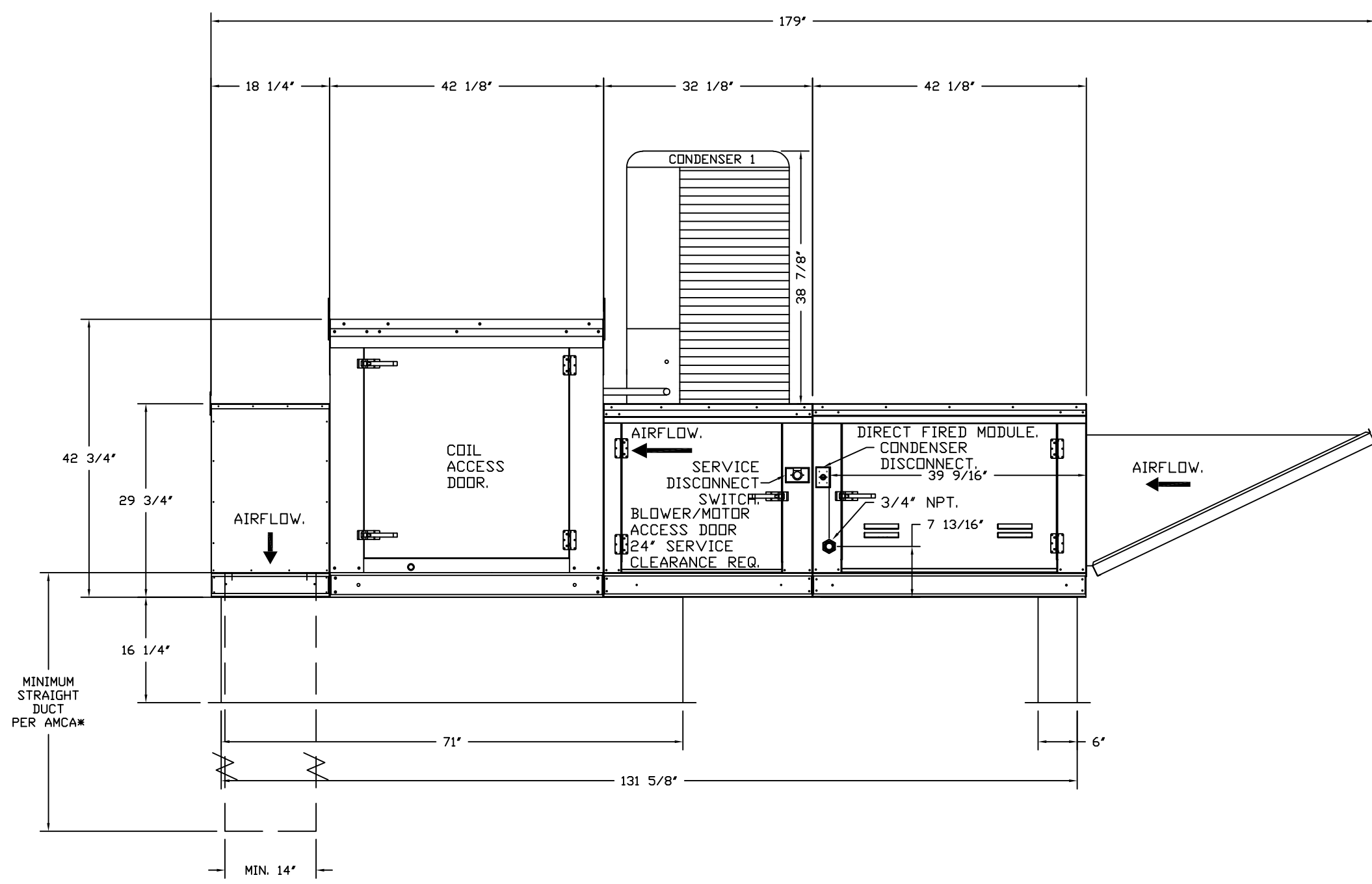
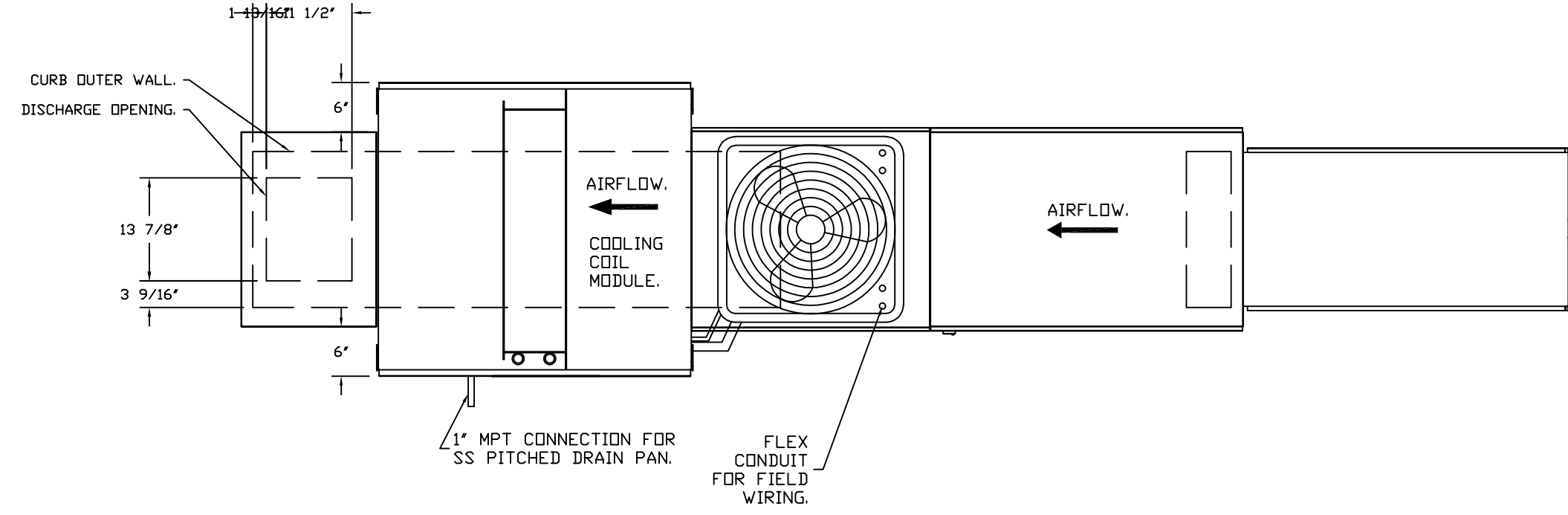
FAN #2 AI-D250-150-MPU - HEATER
 1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 15" MIXED FLOW DIRECT DRIVE FAN.
 2. INTAKE HOOD WITH EZ FILTERS.
 3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
 4. GAS PRESSURE GAUGE, 0-25", 2 1/2" DIAMETER, 1/4" THREAD SIZE.
 5. GAS PRESSURE GAUGE, -5 TO +15 INCHES W.C., 2 1/2" DIAMETER, 1/4" THREAD SIZE.
 6. SHIP LOSS GAS STRAINER, TO BE INSTALLED UPSTREAM OF UNIT CONNECTION, 3/4" CONNECTION.
 7. MOTORIZED BACK DRAFT DAMPER 16" X 18" FOR SIZE 1 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, 18" BLOW ACTUATOR INCLUDED.
 8. 3 TON, SINGLE CIRCUIT MODULAR PACKAGED COOLING OPTION FOR SIZE 1 DF/EH MODULAR PACKAGED UNIT. INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING. (100 TO 1,800 CFM WHEN ORDERED WITH OPPOSITE AIRFLOW CONDENSERS ACCESS AND COIL PIPING WILL REMAIN IN STANDARD POSITION. DRAIN AND SLEDS WILL MOVE TO THE OPPOSITE SIDE. ANY OTHER CHANGE WILL REQUIRE CLI CONDENSERS REQUIRE SEPARATE 200V, 3 PHASE POWER SUPPLY UNLESS ORDERED WITH SINGLE POINT CONNECTION COIL = REZIOION)
 9. DOWNTURN PLENUM FOR SIZE 1 COOLING COIL MODULE - REQUIRED FOR DOWN DISCHARGE COOLING COIL APPLICATIONS.
 10. SIZE 1 MOISTURE ELIMINATOR OPTION FOR DX COILS, MPUS AND CHILLED WATER COILS - ALLOWS COOLING COIL FACE VELOCITY TO INCREASE TO 450 FPM, INCREASES COOLING COIL MAX CFM TO 3650 CFM.
 11. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREVIEW PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
 12. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER/MPU SECTION).
 13. 2 YEAR WARRANTY.

NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 200. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 14" X 14".

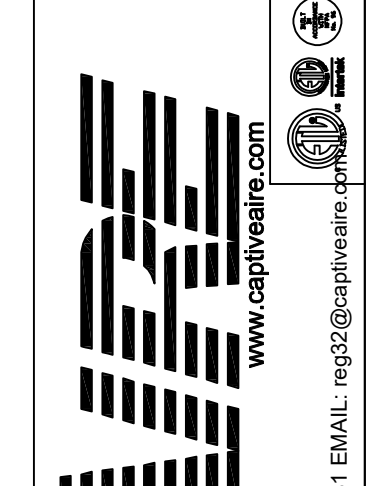
SUPPLY SIDE HEATER INFORMATION:
 WINTER TEMPERATURE = 17°F, TEMP. RISE = 58°F.
 BTUS CALCULATED OFF ACTUAL AIR DENSITY.
 OUTPUT BTUS AT ALTITUDE OF 60 FT. = 128440.
 INPUT BTUS AT ALTITUDE OF 60 FT. = 133897.
 OUTPUT BTUS AT ALTITUDE OF 310 FT. = 121075.
 INPUT BTUS AT ALTITUDE OF 310 FT. = 131603.



DIRECT FIRED PROFILE PLATE SPECIFICATIONS:
DESCRIPTION:
 DIRECT FIRED BURNERS SHALL HAVE PATENTED (US PATENT NO. US6629533B2), SELF-ADJUSTING PROFILE PLATES DESIGNED TO ENSURE PROPER AIR VELOCITY AND PRESSURE DROP ACROSS THE BURNER. PROFILE PLATES SHALL ALLOW BURNERS TO ACHIEVE CLEAN COMBUSTION BY LIMITING BY-PRODUCT LEVELS TO A MAXIMUM OF 50PPM OF CARBON MONOXIDE (CO), AND 0.5PPM OF NITROGEN DIOXIDE. UNDERDIRECT FIRED UNITS SHALL BE CONFIGURED WITH THE BLOWER MOUNTED DOWNSTREAM OF THE BURNER. THIS ARRANGEMENT WILL ENSURE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.
APPLICATION:
 SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF A FRESH AIR STREAM, WITHOUT THE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST THEM. WITH THIS FEATURE, ALL DF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.
CERTIFICATIONS:
 ALL PROFILE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DF UNIT'S ETL LISTING AND COMPLY WITH COMBINED SAFETY STANDARDS ANSI Z83.4 AND CSA 3.2 (NON-RECIRCULATING DF HEATERS) AND ANSI Z83.18 (RECIRCULATING DF HEATERS).
GENERAL CONSTRUCTION:
 -PROFILE PLATES SHALL BE FORMED FROM 600 GALVANIZED STEEL.
 -PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
 -PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
 -DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
 -SPRING HINGES SHALL BE MADE FROM PLATED STEEL.



REVISIONS	
DESCRIPTION	DATE



zebra

ZEBRA PROJECTS, INC.
 14614 N KIERLAND BLVD., SUITE N300
 SCOTTSDALE, ARIZONA 85254
 PHONE: 480.912.1169 zbr.global

Dialectic ENGINEERING

Dialectic, Inc.
 310 W 20th Street, Suite 100
 Kansas City, MO 64108
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CAVA

8969 E 46TH AVENUE
 DENVER, CO 80238

UNITED STATES

Cava - Denver, CO (Stapleton)
 8969 E 46TH Avenue
 Denver, CO, 80238

DATE: 5/7/2024
 DWG.#: 6782655
 DRAWN BY: EG-32
 SCALE: NTS
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SHEET NO. 5

REVISIONS / ISSUES	
NO.	DESCRIPTION
05/24/24	PERMIT SET
08/09/24	CITY COMMENTS
09/03/24	CITY COMMENTS
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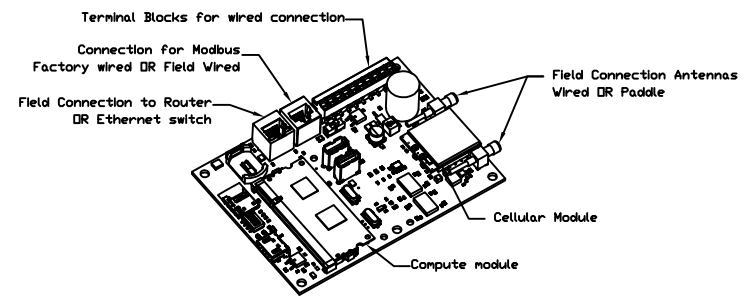
SHEET NAME: HOOD DRAWINGS

DATE: 05-24-24 PROJECT NO.: 36667
 DRAWN: VOC SCALE: AS NOTED

SHEET NO.: M505

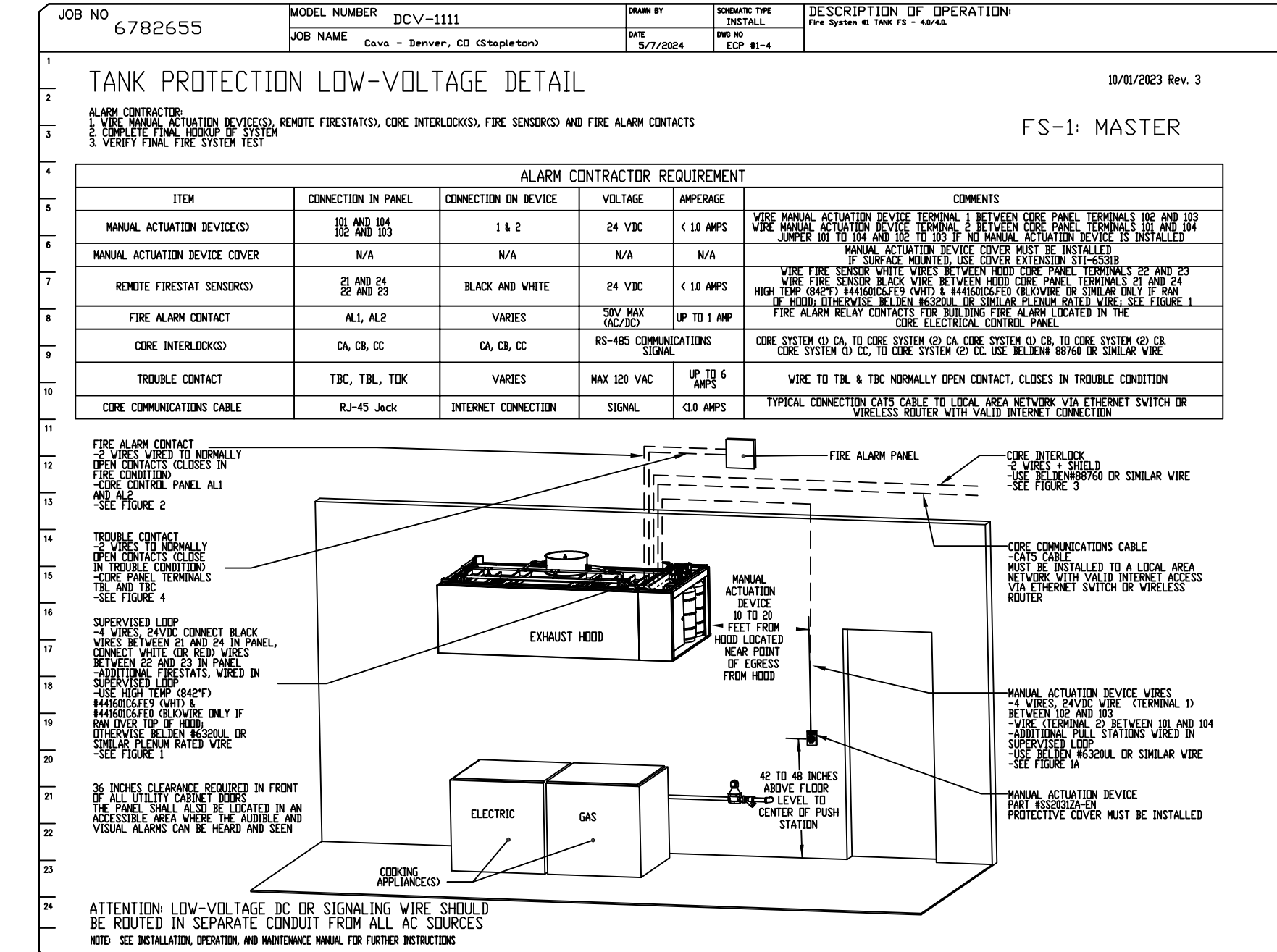
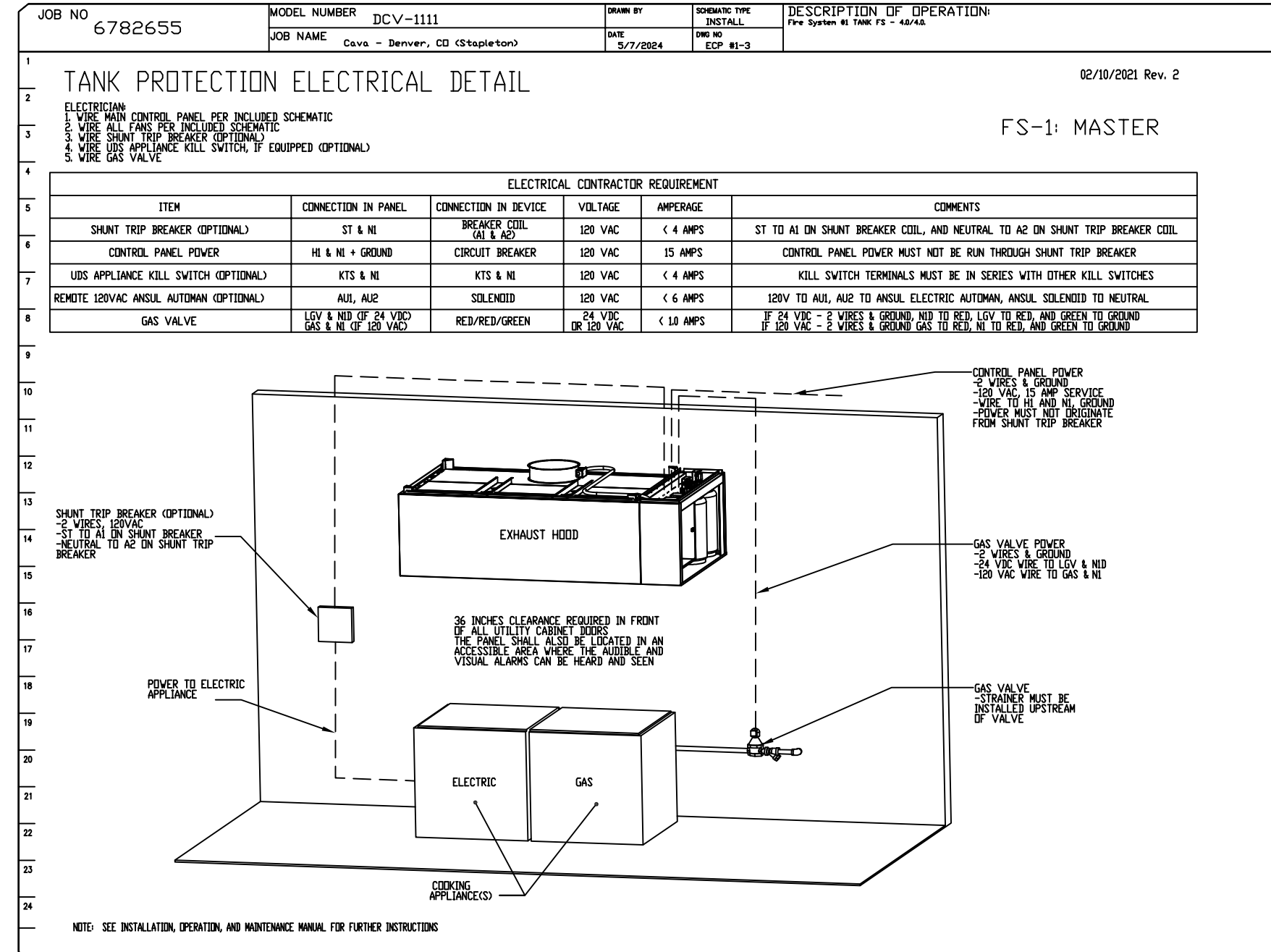
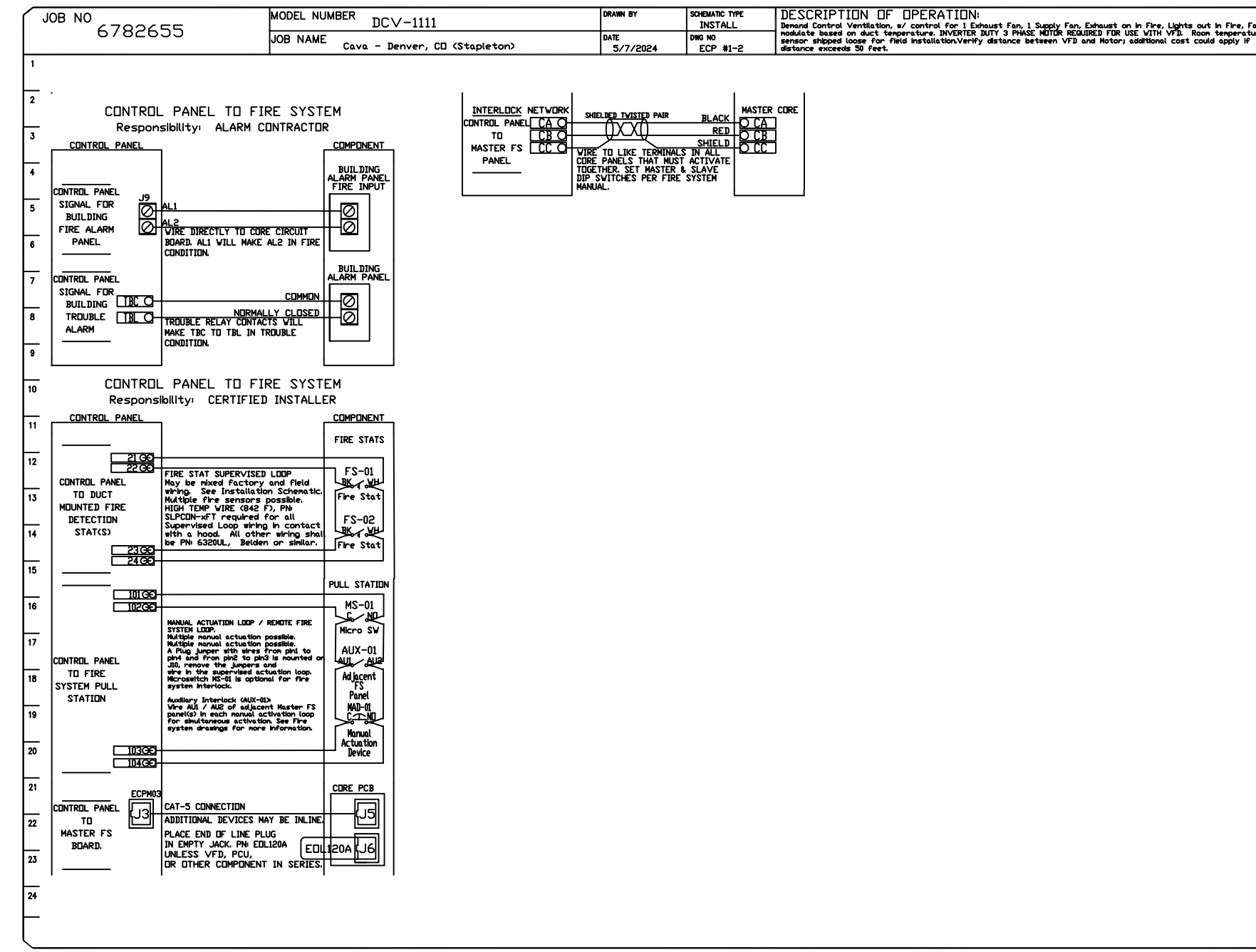
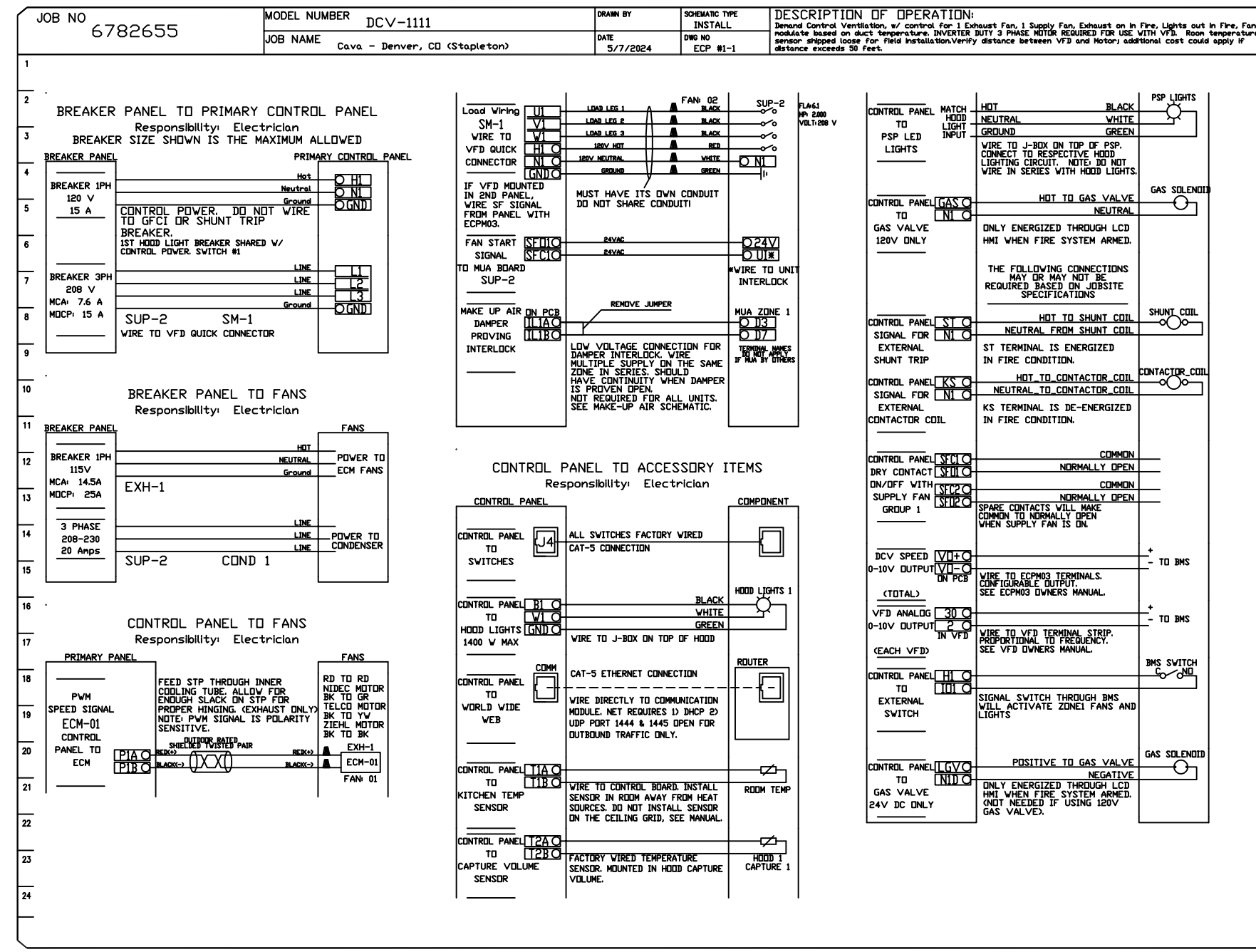
ELECTRICAL PACKAGE - JOB#6782655

Table with columns: NO, TAG, PACKAGE #, LOCATION, SWITCHES, QUANTITY, OPTION, FANS CONTROLLED, TYPE, HP, VOLTS, FLA.



CASLink Monitor and Control
Hood control panel to support communications to cloud-based Building Management System.

MONITORING AND CONTROL POINTS LIST table with columns: I/OV Package, Function, I/OV Package, Function.



REVISIONS table with columns: NO, DESCRIPTION, DATE.

CAPTIVE logo and Maryland Office address: 8120 Woodmont Avenue, Suite 720, Bethesda, MD.

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8969 E 46TH Avenue
Denver, CO, 80238

DATE: 5/7/2024
DWG.#: 6782655
DRAWN BY: EG-32
SCALE: NTS
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SHEET NO. 6



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STORE NO.:

CAVA logo and address: 8969 E 46TH AVENUE, DENVER, CO 80238, UNITED STATES.

REVISIONS / ISSUES table with columns: NO, DESCRIPTION, DATE.

STATUS: ISSUE FOR CONSTRUCTION



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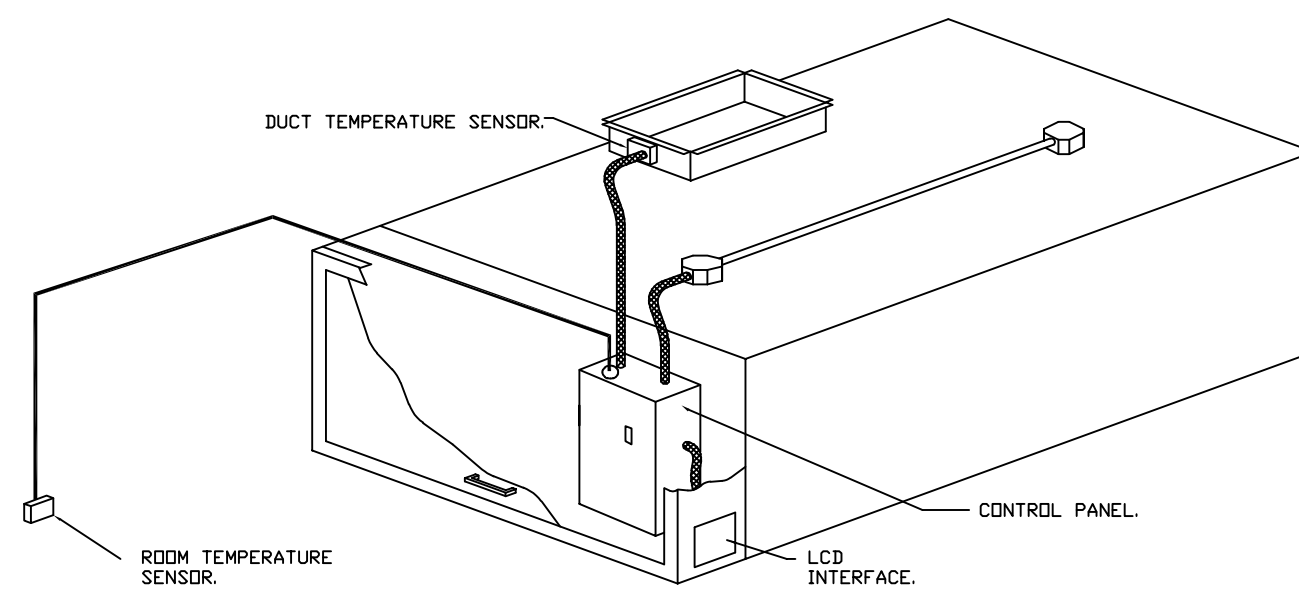
SHEET NAME: HOOD DRAWINGS

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: VOC SCALE: AS NOTED

SHEET NO.: M506

DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:

- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.2.8 (2015).
- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
 - ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
 - INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
 - VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
 - DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
 - MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
 - A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
 - AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.



TYPICAL HOOD CONTROL PANEL INSTALLATION

SEQUENCE OF OPERATIONS:

- THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:
- **AUTOMATIC:** THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.2.8.
 - **MANUAL:** THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
 - **SCHEDULE:** A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE. DURING THIS TIME, DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
 - **OTHER:** THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
 - **FIRE:** UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO RUN. THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

SYSTEM DESIGN VERIFICATION (SDV)

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

REVISIONS

DESCRIPTION	DATE

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 8969 E 46TH Avenue
 Denver, CO, 80238

DATE: 5/7/2024
DWG.#: 6782655
DRAWN BY: EG-32
SCALE: NTS
MASTER DRAWING

SHEET NO.
7



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 Project # 1100266-01

STORE NO.:

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1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:
ISSUE FOR CONSTRUCTION

PROFESSIONAL ENGINEER
 COLORED LICENSED
 ROBERT A. HANCOCK
 42440
 02/03/2025

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SHEET NAME:
HOOD DRAWINGS

DATE: 05-24-24 **PROJECT NO.:** 36667
DRAWN: VOC **SCALE:** AS NOTED

SHEET NO.:
M507

ELECTRICAL SYMBOLS LEGEND

	HOME RUN TO PANEL, CIRCUIT NUMBERS, PHASE, NEUTRAL AND GROUND CONDUCTORS INDICATED ALONG WITH ISOLATED GROUND CONDUCTOR IF APPLICABLE.		LIGHTING CONTACTOR, INSTALLED AS NOTED
	PARTIAL CIRCUIT		TIME CLOCK, +6'-2" OR AS NOTED
	CONDUIT INSTALLED CONCEALED ABOVE CEILING OR IN WALL		CONTROL OR POWER RELAY, INSTALLED AS NOTED
	CONDUIT INSTALLED CONCEALED BELOW FLOOR SLAB OR UNDERGROUND		PUSHBUTTON, TOP AT +4'-6" OR AS NOTED
	CONDUIT INSTALLED WITH DIRECT CURRENT POWER WIRING		DOOR BELL CHIME, +8'-0" OR AS NOTED
	CONDUIT TURNED UP OR DOWN AS NOTED		CONTROL TRANSFORMER, INSTALLED AS NOTED
	FLEXIBLE CONDUIT FOR FINAL CONNECTION TO EQUIPMENT		THERMOSTAT, TEMPERATURE SENSOR, CARBON DIOXIDE SENSOR AND HUMIDISTAT PROVIDED BY MECHANICAL CONTRACTOR, +3'-10" OR AS NOTED
	SINGLE POLE SWITCH, +3'-10" OR AS NOTED		ELECTRICALLY OPERATED DAMPER, PROVIDED BY MECHANICAL CONTRACTOR
	THREE-WAY SWITCH, +3'-10" OR AS NOTED		TELEPHONE OUTLET, +18" WITH 1/2" CONDUIT TO ABOVE CEILING
	WEATHERPROOF TOGGLE SWITCH, +3'-10" OR AS NOTED		TELEPHONE OUTLET, +6" ABOVE COUNTER WITH 1/2" CONDUIT TO ABOVE CEILING
	SINGLE POLE SWITCH WITH PILOT LIGHT, +3'-10" OR AS NOTED		DATA OUTLET, +18" WITH 3/4" CONDUIT TO ABOVE CEILING
	WALL MOUNTED OCCUPANCY SENSOR, +3'-10" OR AS NOTED		DATA OUTLET, +6" ABOVE COUNTER WITH 3/4" CONDUIT TO ABOVE CEILING
	CEILING MOUNTED OCCUPANCY SENSOR		TELEPHONE/DATA OUTLET, +18" WITH 1" CONDUIT TO ABOVE CEILING
	CEILING MOUNTED INTERIOR DAYLIGHT HARVESTING PHOTOCELL SENSOR		TELEPHONE/DATA OUTLET, +6" ABOVE COUNTER WITH 1" CONDUIT TO ABOVE CEILING
	POWER PACK, INSTALLED ABOVE ACCESSIBLE CEILING		FIRE ALARM CONTROL PANEL, FLUSH MOUNTED, TOP AT +6'-0"
	SIMPLEX RECEPTACLE, +18" OR AS NOTED		MANUAL FIRE ALARM PULL STATION, +3'-10" PER ADA
	ISOLATED GROUND SIMPLEX RECEPTACLE, +18" OR AS NOTED		FIRE ALARM HORN AND 75cd STROBE, +80" TO BOTTOM OF DEVICE PER ADA
	DUPLEX RECEPTACLE, +18" OR AS NOTED		FIRE ALARM HORN AND 115cd STROBE, CEILING MOUNTED
	ISOLATED GROUND DUPLEX RECEPTACLE, +18" OR AS NOTED		STROBE ONLY (115cd UNO), CEILING MOUNTED
	CONTROLLED DUPLEX RECEPTACLE, +18" OR AS NOTED		AREA TYPE PHOTOELECTRIC SMOKE DETECTOR, CEILING MOUNTED, OR AS NOTED
	QUADRUPLEX RECEPTACLE, +18" OR AS NOTED		DUCT TYPE PHOTOELECTRIC SMOKE DETECTOR WITH SAMPLING TUBES AND REMOTE INDICATOR LIGHT MOUNTED FLUSH IN CEILING BELOW DETECTOR
	ISOLATED GROUND QUADRUPLEX RECEPTACLE, +18" OR AS NOTED		FIRE ALARM SYSTEM RELAY
	QUADRUPLEX RECEPTACLE WITH ONE OUTLET CONTROLLED, +18" OR AS NOTED		SPRINKLER FLOW SWITCH, PROVIDED BY PLUMBING CONTRACTOR
	GROUND FAULT INTERRUPTING RECEPTACLE, +18" OR AS NOTED		SPRINKLER TAMPER SWITCH, PROVIDED BY PLUMBING CONTRACTOR
	TAMPER RESISTANT RECEPTACLE, +18" OR AS NOTED		FIRE SPRINKLER SYSTEM BELL (GONG), +10'-0" AFG
	WEATHERPROOF GROUND FAULT INTERRUPTING RECEPTACLE, +18" OR AS NOTED		COMBINATION FIRE/SMOKE DAMPER PROVIDED BY MECHANICAL CONTRACTOR
	RECEPTACLE INSTALLED HORIZONTALLY, BOTTOM AT +6" ABOVE COUNTER TOP		ABOVE FINISHED FLOOR/GRADE
	RECEPTACLE INSTALLED FLUSH IN CEILING		AUTHORITY HAVING JURISDICTION
	ISOLATED GROUND RECEPTACLE INSTALLED FLUSH IN CEILING		BUILDING AUTOMATION SYSTEM
	SPECIAL RECEPTACLE, NEMA STYLE AS NOTED, +18" OR AS NOTED		ELECTRICAL CONTRACTOR
	MULTI-OUTLET SYSTEM, INSTALL AS NOTED		FIRE ALARM
	FLUSH FLOOR MOUNTED RECEPTACLE, LETTER INDICATES TYPE		GENERAL CONTRACTOR
	POKE-THROUGH FLUSH FLOOR MOUNTED RECEPTACLE, LETTER INDICATES TYPE		MECHANICAL CONTRACTOR
	JUNCTION BOX		NIGHT LIGHT
	DISCONNECT SWITCH, TOP AT +6'-0" OR AS NOTED		NON-FUSED
	DISCONNECT SWITCH PROVIDED WITH EQUIPMENT		PLUMBING CONTRACTOR
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR		TYPICAL
	MOTOR CONNECTION		WEATHERPROOF

SYMBOLS LEGEND NOTES:
MOUNTING HEIGHTS INDICATED ARE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICE UNLESS NOTED OTHERWISE.

LIGHTING GENERAL NOTES

- CONNECT EXIT SIGNS, EMERGENCY AND NIGHT LIGHTS TO UNSWITCHED LIGHTING CIRCUIT, NOT CONTROLLED BY OCCUPANCY SENSORS, SWITCHES OR CONTACTORS.
- PROVIDE DEDICATED NEUTRAL WITH ALL DIMMING SYSTEM CIRCUITS. COMMON NEUTRALS SHALL NOT BE ALLOWED.
- REFER TO "RECESSED LIGHTING FIXTURE SUPPORT DETAIL" FOR INFORMATION ON SUPPORT OF RECESSED LIGHT FIXTURES.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN AND DETAILS FOR LOCATIONS OF LIGHTING FIXTURES AND OTHER EQUIPMENT INSTALLED IN CEILING SYSTEM. VERIFY MOUNTING HEIGHTS AND FINISHES WITH ARCHITECT PRIOR TO ROUGH-IN.
- REFER TO POWER PLANS FOR LOCATIONS OF ELECTRICAL EQUIPMENT.
- PROVIDE (2) ADDITIONAL #12 CONDUCTORS FOR ALL 0-10V DIMMING CIRCUITS.

COMMUNICATIONS GENERAL NOTES

- TELEPHONE, DATA AND CATV CABLING SHALL BE PROVIDED BY OTHERS.
- PROVIDED NYLON BUSHINGS ON ALL CONDUITS.

POWER GENERAL NOTES

- VERIFY EXACT LOCATIONS OF HVAC AND PLUMBING EQUIPMENT, CONDUIT STUB-UPS AND POWER CONNECTIONS PRIOR TO ROUGH-IN.
- VERIFY EXACT LOCATION, MOUNTING HEIGHTS AND CONDUIT ROUTING FOR ALL THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS AND CO₂ SENSORS PRIOR TO ROUGH-IN.
- REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS. COORDINATE PROVISIONS FOR ALL CONTROL CONDUIT AND WIRING AS REQUIRED FOR INTERLOCKING OF FANS, MOTORS, ETC. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- MOUNT DEVICES INSTALLED ON EQUIPMENT ON NON-REMOVABLE PANEL. COORDINATE LOCATION PRIOR TO COMMENCING ROUGH-IN WORK.

GENERAL ELECTRICAL NOTES

- INCLUDE ALLOWANCE FOR UNFORESEEN CONDITIONS THAT MAY EFFECT THE SCOPE OF WORK. MINOR DEVIATIONS REQUIRED FOR ACCOMPLISHING INTENT OF DESIGN SHALL BE INCLUDED IN ALLOWANCE.
- SWITCHBOARDS, PANELBOARDS, DISCONNECT SWITCHES, TRANSFORMERS AND CONTACTORS SHALL BE "LISTED" AND "IDENTIFIED" AS RATED FOR MINIMUM 75°C CONDUCTOR TERMINATION.
- ELECTRICAL DESIGN IS BASED ON INSTALLATION OF 75°C CONDUCTORS CONNECTED TO TERMINAL LUGS AND EQUIPMENT UL LISTED FOR MINIMUM 75°C. CONDUCTORS TERMINATED ON EQUIPMENT WITH LOWER RATING (90°C) OR NO RATING SHOWN SHALL HAVE CONDUCTOR SIZE INCREASED TO CONFORM TO ADOPTED ELECTRICAL CODE AND UL/CUL NO. 489 REQUIREMENTS.
- CONDUIT INSTALLED INDOORS SHALL BE ELECTRICAL METALLIC TUBING (EMT), MINIMUM 1/2" OR AS NOTED.
- CONDUIT INSTALLED BELOW SLAB SHALL BE RIGID STEEL, IMC, PVC OR HDPE, MINIMUM 3/4". IF PVC OR HDPE IS USED, TRANSITION TO RIGID STEEL BEFORE TURNING UP AND PENETRATING FLOOR SLAB.
- CONDUCTORS SHALL BE MINIMUM #12 THHN/THWN COPPER UNLESS NOTED OTHERWISE ON PLANS OR IN SPECIFICATIONS. BRANCH CIRCUITS SHALL BE PROVIDED WITH (2) #12 CONDUCTORS AND (1) #12 EQUIPMENT GROUND CONDUCTOR UNLESS NOTED OTHERWISE.
- BRANCH CIRCUITS SHOWN WITH TWO GROUNDING CONDUCTORS SHALL HAVE ONE EQUIPMENT GROUND CONDUCTOR (GREEN) AND ONE ISOLATED GROUND CONDUCTOR (GREEN W/YELLOW STRIP) INSTALLED IN RACEWAY.
- DIRECT CURRENT WIRING SHALL BE (2) #10 IN 1/2" CONDUIT UNLESS NOTED OTHERWISE.
- CONTROL VOLTAGE WIRING SHALL BE PLENUM RATED OR INSTALLED IN CONDUIT.
- THERMOSTATS, TEMPERATURE SENSORS, CARBON DIOXIDE SENSORS AND HUMIDISTATS UNLESS NOTED OTHERWISE, PROVIDE WALL BOX AT +3'-10" AFF WITH 1/2" CONDUIT STUBBED TO ABOVE ACCESSIBLE CEILING WITH NYLON BUSHINGS AND PULL STRING.
- PROVIDE FLEXIBLE CONNECTIONS ONLY FOR FINAL CONNECTION TO EQUIPMENT, 6'-0" MAXIMUM LENGTH. PROVIDE LIQUID TIGHT FLEXIBLE CONNECTION AT EXTERIOR LOCATIONS AND WERE EXPOSURE TO MOISTURE IS POSSIBLE.
- ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL WIRE.
- ALL RACEWAYS SHALL CONTAIN A GROUNDING ELECTRODE SIZED PER THE ADOPTED ELECTRICAL CODE.
- COORDINATE WORK ABOVE CEILING WITH OTHER TRADES TO PROVIDE GREATEST POSSIBLE CLEARANCE. CONDUIT RUNS SHALL BE RUN THROUGH TRUSSES WHERE POSSIBLE.
- VERIFY EXACT PLACEMENT OF DEVICES SHOWN ON CONSTRUCTION DOCUMENTS PRIOR TO FINAL PLACEMENT.
- ALL RECESSED PANELBOARDS SHALL BE INSTALLED WITH MINIMUM OF (3) 3/4" CONDUITS STUBBED UP TO ACCESSIBLE CEILING SPACE FOR FUTURE USE.
- ALL PANELBOARDS, SWITCHBOARDS AND LINE VOLTAGE CONTROL EQUIPMENT SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTING, SERVICING OR MAINTENANCE OF EQUIPMENT. MARKING SHALL BE SELF ADHESIVE, COMMERCIAL LABEL CONFORMING TO ADOPTED CODES.
- LIGHT SWITCHES, ELECTRICAL OUTLETS, THERMOSTATS AND OTHER ENVIRONMENTAL CONTROLS SHALL HAVE OPERABLE PARTS OF CONTROLS LOCATED NO HIGHER THAN 48" AND NO LOWER THAN 15" ABOVE FLOOR. IF REACH IS OVER AN OBSTRUCTION BETWEEN 20" AND 25" IN DEPTH, MAXIMUM HEIGHT IS REDUCED TO 44" FOR FORWARD APPROACH OR 46" FOR SIDE APPROACH, PROVIDED OBSTRUCTION IS NO MORE THAN 24" IN DEPTH. OBSTRUCTIONS SHALL NOT EXTEND MORE THAN 25" FROM THE WALL BENEATH A CONTROL.
- TERMS:
SHALL - ACTION THAT IS REQUIRED WITHOUT OPTION OR QUALIFICATION.
FURNISH - CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING.
INSTALL - CONTRACTOR SHALL BE RESPONSIBLE FOR LABOR AND CONSTRUCTION EQUIPMENT NECESSARY TO SET IN PLACE, CONNECT, CALIBRATE AND/OR TEST EQUIPMENT FURNISHED BY HIM OR OTHERS.
PROVIDE - CONTRACTOR SHALL FURNISH AND INSTALL.



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Professional Engineer Seal for Gregory Wheeler, License No. PE.0051130, dated 02/03/2025.

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SHEET NAME:
ELECTRICAL SYMBOLS AND NOTES

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: HEE SCALE: AS NOTED

SHEET NO.:
E000

REFER TO SHEET E300 FOR LIGHT FIXTURE SCHEDULE.

LIGHTING PLAN KEY NOTES

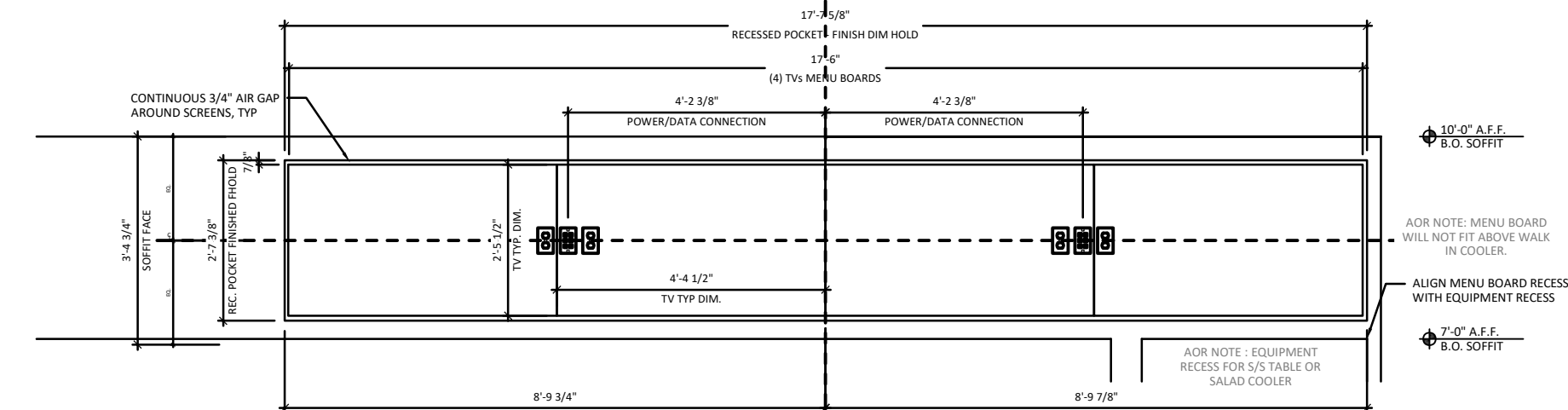
- 1 PROVIDE JUNCTION BOX AND WEATHERPROOF DISCONNECT SWITCH FOR STOREFRONT SIGNAGE ON PARAPET. COORDINATE EXACT LOCATION WITH ARCHITECT.
- 2 DIMMER CONTROL PANEL. REFER TO LIGHTING CONTROL DIAGRAM. COORDINATE LOCATION WITH ARCHITECT.
- 3 INTERCEPT AND EXTEND CIRCUIT TO INDICATED PANEL. ROUTE CIRCUIT THROUGH RELAY PANEL.
- 4 PROVIDE POWER FOR MENUBOARD. SEE DETAIL ON THIS SHEET AND COORDINATE REQUIREMENTS WITH VENDOR.
- 5 LIGHT UNDER HOOD AND CONTROLS ARE PROVIDED WITH HOOD ASSEMBLY.
- 6 EXISTING LANDLORD PROVIDED REMOTE HEADS TO REMAIN FOR EXTERIOR EGRESS LIGHTING.
- 7 WALK-IN-COOLER LIGHTING COMES WITH ASSEMBLY. GC TO MAKE FINAL CONNECTION.
- 8 ROUTE TRACK LIGHTING THRU CURRENT LIMITING PANEL. PROVIDE 2 AMP CURRENT LIMITING BREAKER IN PANEL.

Dimmer / Switch Schedule

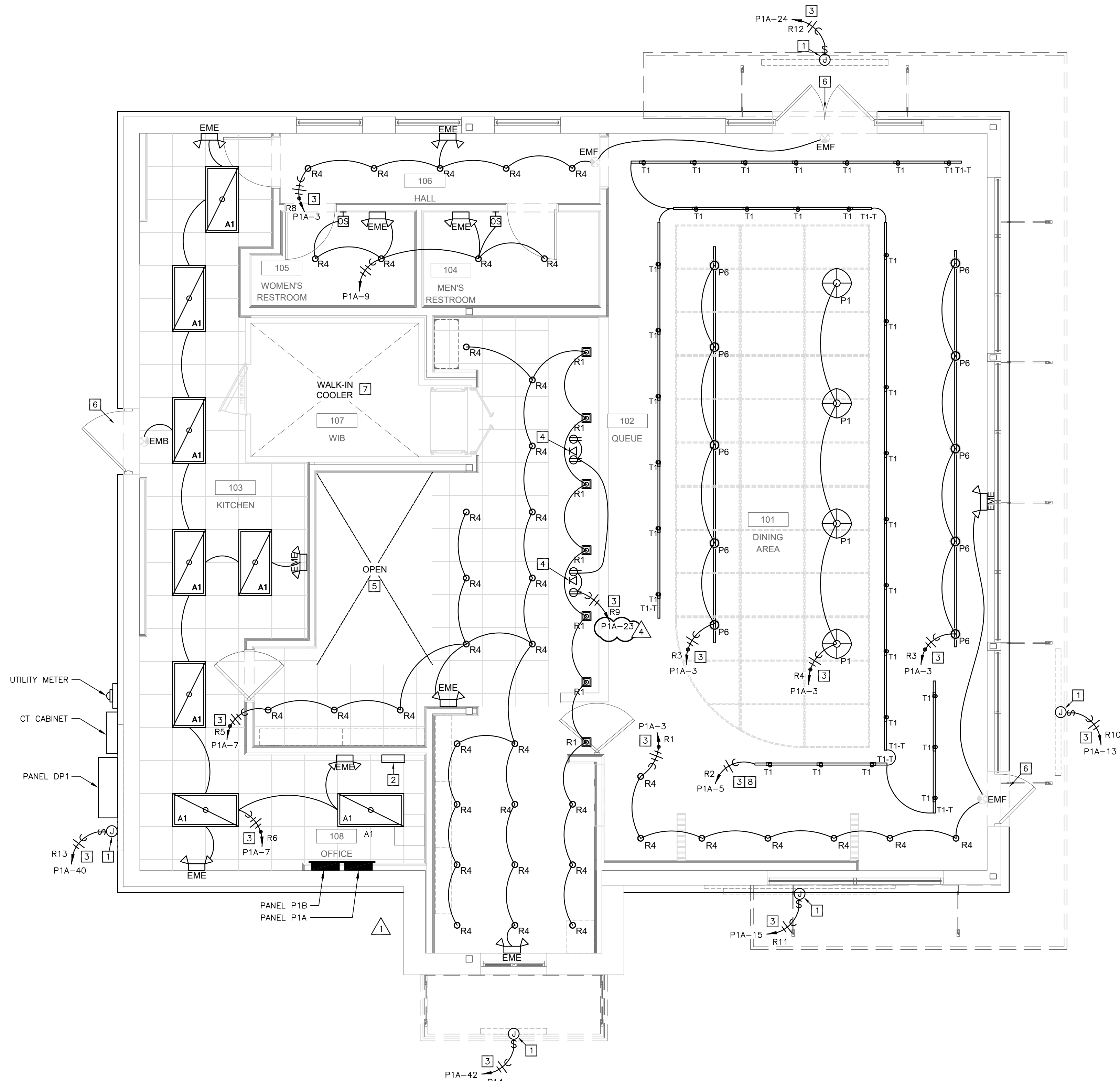
Area	Relay	Circuit #	Voltage	Fixture Type	Load Type	Control	Fixture Watts	Qty	Total Watts
DINING AREA GENERAL LIGHTS	1	P1A-3	120	R4	0-10V	TIMELOCK	20	7	140
DINING AREA TRACK LIGHTS	2	P1A-5	120	T1	ELV	TIMELOCK	8	31	188
DINING AREA PENDANTS	3	P1A-3	120	P6	NON-DIMMING	TIMELOCK	9	10	90
DINING AREA DECORATIVE PEND	4	P1A-3	120	P1	0-10V	TIMELOCK	9	4	36
KITCHEN: FOOD PREP	5	P1A-7	120	R1/R4	0-10V	TIMELOCK	20	30	600
KITCHEN	6	P1A-7	120	A1	0-10V	TIMELOCK	45	8	360
RECIRC PUMP (RP)	7	P1A-2	120	-	-	TIMELOCK	55	1	55
RESTROOMS HALL LTS	8	P1A-3	120	R4	0-10V	TIMELOCK	20	7	140
MENUBOARD	9	P1A-27	120	-	NON-DIMMING	TIMELOCK	800	1	800
SIGNAGE	10	P1A-15	120	-	NON-DIMMING	TIMELOCK	1200	1	1200
SIGNAGE	11	P1A-15	120	-	NON-DIMMING	TIMELOCK	1200	1	1200
SIGNAGE	12	P1A-24	120	-	NON-DIMMING	TIMELOCK	1200	1	1200
SIGNAGE	13	P1A-40	120	-	NON-DIMMING	TIMELOCK	1200	1	1200
SIGNAGE	14	P1A-42	120	-	NON-DIMMING	TIMELOCK	1200	1	1200

- LIGHTING IS TO BE CONTROLLED VIA DIMMING CONTROL SYSTEM PROVIDED BY THE MANUFACTURER AND INSTALLED BY CONTRACTOR. CONTRACTOR TO CONTROL DIMMING ZONES, DIMMER PANEL WIRING REQUIREMENTS, SYSTEM CONNECTIONS WITH MANUFACTURER'S INSTALLATION DRAWINGS. CONTRACTOR TO PROVIDE THREE DEDICATED 20A CIRCUITS FOR ECHO BUTTON STATIONS AS WELL AS THE MAIN ETC CONTROL PANEL.
- ETC REPRESENTATIVE SHALL PROVIDE A FULL ONE-LINE RISER DIAGRAM OF THE LIGHTING CONTROL SYSTEM PER ZONE INDICATED.
- VERIFY EXACT PLACEMENT OF DEVICES WITH OWNER PRIOR TO ROUGH-IN.
- REFER TO LEVITON SITE SPECIFIC DRAWINGS AND SUBMITTALS.

2 LIGHTING CONTROL SCHEDULE
NOT TO SCALE



3 DIGITAL MENU BOARD
NOT TO SCALE



1 LIGHTING PLAN
1/4" = 1'-0"



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Project # 1000266-01

STORE NO.:

Area	Relay	Circuit #	Voltage	Fixture Type	Load Type	Control	Fixture Watts	Qty	Total Watts
DINING AREA GENERAL LIGHTS	1	P1A-3	120	R4	0-10V	TIMELOCK	20	7	140
DINING AREA TRACK LIGHTS	2	P1A-5	120	T1	ELV	TIMELOCK	8	31	188
DINING AREA PENDANTS	3	P1A-3	120	P6	NON-DIMMING	TIMELOCK	9	10	90
DINING AREA DECORATIVE PEND	4	P1A-3	120	P1	0-10V	TIMELOCK	9	4	36
KITCHEN: FOOD PREP	5	P1A-7	120	R1/R4	0-10V	TIMELOCK	20	30	600
KITCHEN	6	P1A-7	120	A1	0-10V	TIMELOCK	45	8	360
RECIRC PUMP (RP)	7	P1A-2	120	-	-	TIMELOCK	55	1	55
RESTROOMS HALL LTS	8	P1A-3	120	R4	0-10V	TIMELOCK	20	7	140
MENUBOARD	9	P1A-27	120	-	NON-DIMMING	TIMELOCK	800	1	800
SIGNAGE	10	P1A-15	120	-	NON-DIMMING	TIMELOCK	1200	1	1200
SIGNAGE	11	P1A-15	120	-	NON-DIMMING	TIMELOCK	1200	1	1200
SIGNAGE	12	P1A-24	120	-	NON-DIMMING	TIMELOCK	1200	1	1200
SIGNAGE	13	P1A-40	120	-	NON-DIMMING	TIMELOCK	1200	1	1200
SIGNAGE	14	P1A-42	120	-	NON-DIMMING	TIMELOCK	1200	1	1200



REVISIONS / ISSUES

NO.	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

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SHEET NAME:

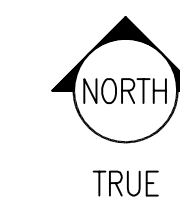
LIGHTING PLAN

DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: HEE SCALE: AS NOTED

SHEET NO.:

E100

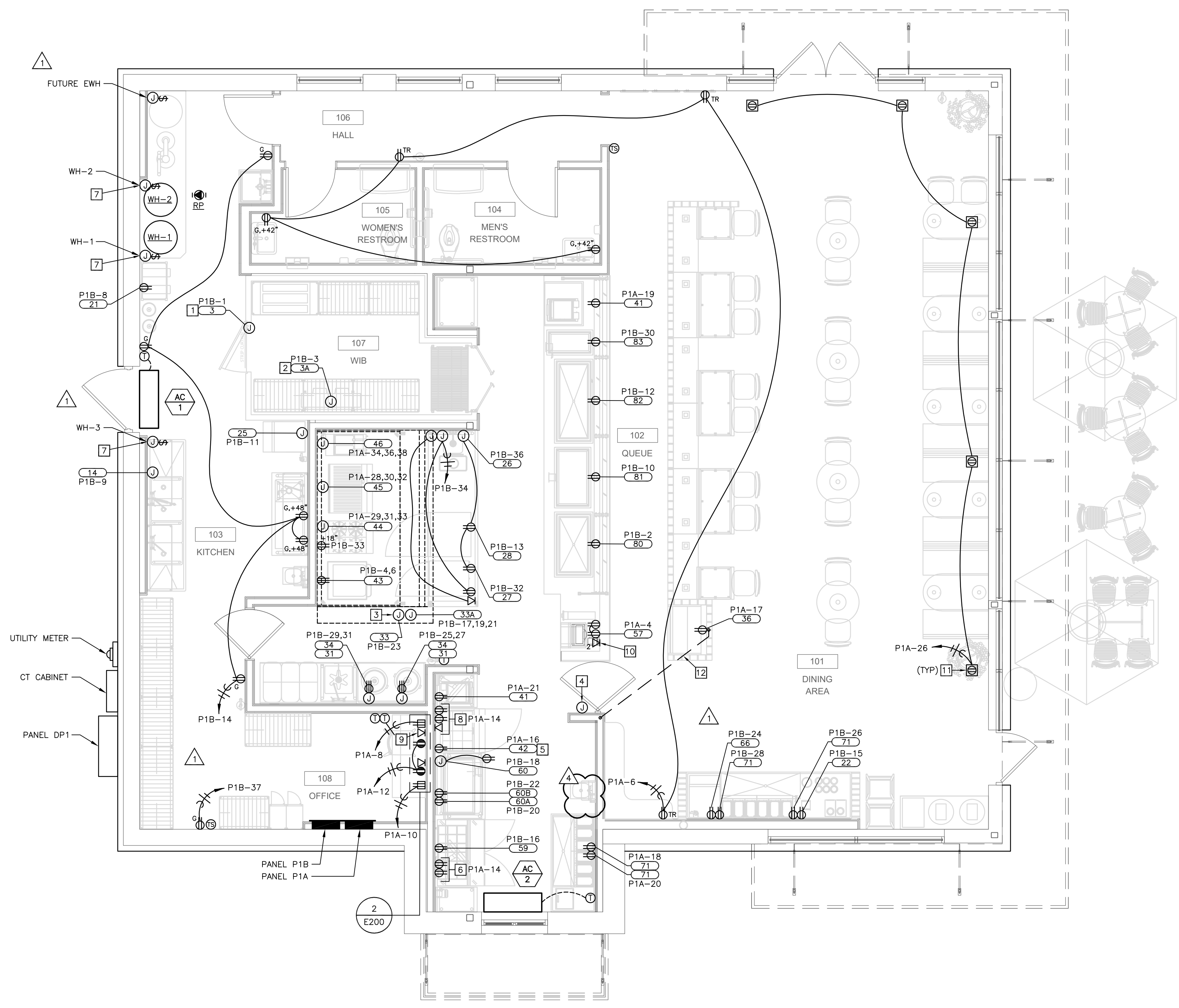


REFER TO SHEET E300 FOR KITCHEN EQUIPMENT SCHEDULE.

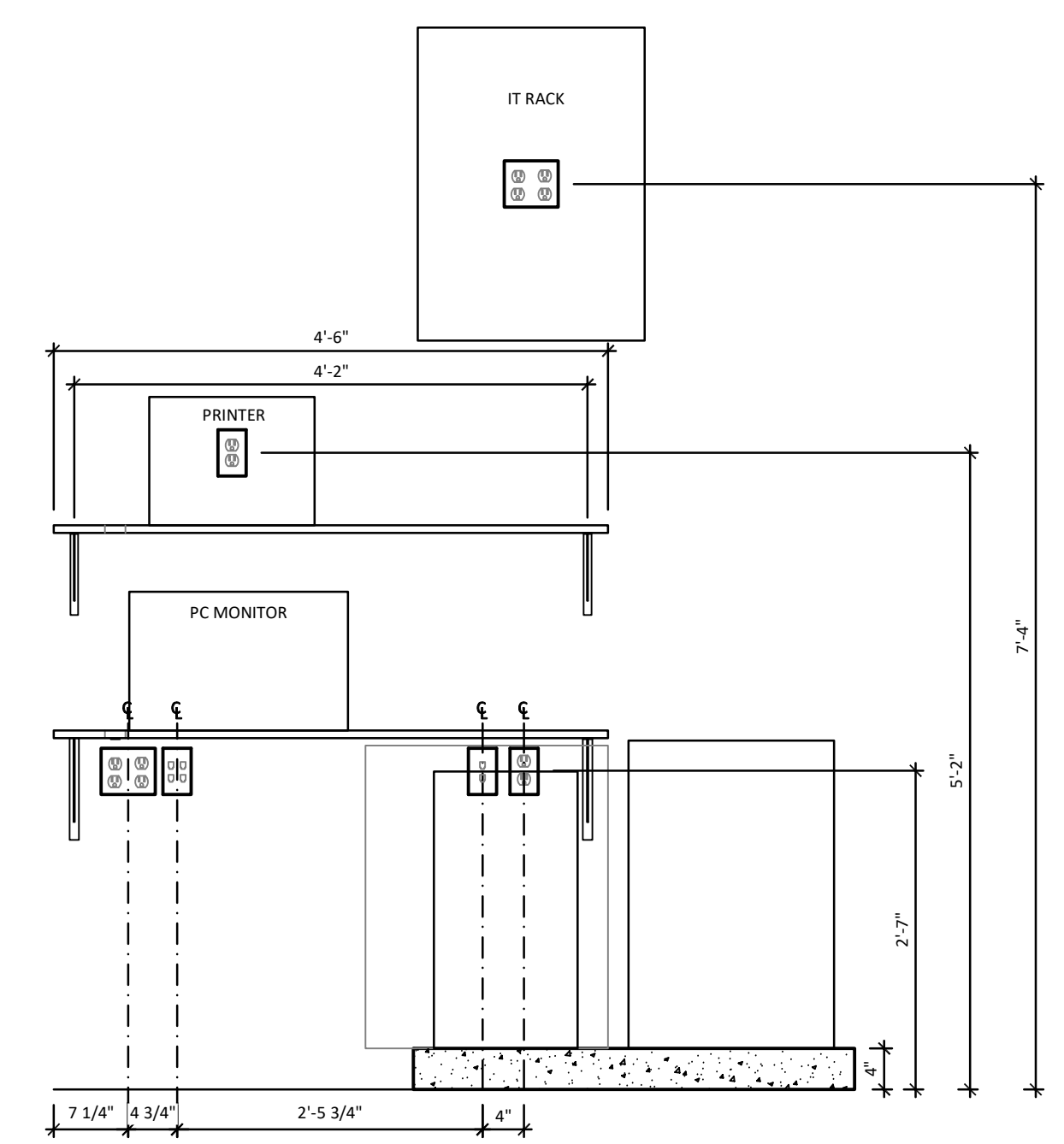
POWER PLAN KEY NOTES

- 1 JUNCTION BOX FOR CONNECTION TO PREWIRED LIGHTS, DOOR HEATER AND ASSOCIATED SWITCH. VERIFY ALL REQUIREMENTS WITH MANUFACTURERS SHOP DRAWING.
- 2 PROVIDE POWER CONNECTION TO WALK-IN UNIT EVAPORATOR COIL. PROVIDE DISCONNECTING MEANS AS REQUIRED. COORDINATE CONNECTION REQUIREMENTS WITH KITCHEN SUPPLIER. PROVIDE WIRING TO ASSOCIATED REMOTE CONDENSING UNIT ON THE ROOF.
- 3 EXHAUST HOOD CONTROL PANEL. COORDINATE FINAL LOCATION WITH ARCHITECT. COORDINATE CIRCUITING AND CONTROL REQUIREMENTS WITH MECHANICAL PRIOR TO ROUGH-IN. REFER TO SHEET E301 AND TO MECHANICAL (CAPTIVE AIRE) SHEETS FOR EXHAUST HOOD WIRING DIAGRAM.
- 4 JUNCTION BOX AND CONDUIT FOR FIRE SUPPRESSION PULL STATION. REFER TO REMOTE HOOD PULL STATION, SHEET E301.
- 5 DO NOT MOUNT EQUIPMENT POWER RECEPTACLE DIRECTLY BEHIND EQUIPMENT.
- 6 PROVIDE (2) DUPLEX OUTLETS AT 60" A.F.F. ABOVE D.O. LINE SHELF FOR IPAD CHARGER AND FUTURE TECHNOLOGY.
- 7 PROVIDE POWER FOR WATER HEATER. COORDINATE REQUIREMENTS AND EXACT LOCATION WITH PLUMBING CONTRACTOR.
- 8 CONVENIENCE RECEPTACLE 60" A.F.F. WITH DATA CONNECTION TO BE A 4X4 JUNCTION BOX.
- 9 PROVIDE ONE (1) QUAD JUNCTION BOX WITH 1-GANG COVER, EACH WITH 1" HARD CONDUIT FROM THE BOX TO THE TOP WALL ABOVE DROP CEILING.
- 10 PROVIDE TWO (2) QUAD JUNCTION BOXES WITH 1-GANG COVER, EACH WITH 1" HARD CONDUIT FROM THE BOX TO ABOVE NEAREST DROP CEILING WITH MINIMUM DISTANCE AND LEAST NUMBER OF BENDS.
- 11 SHOW WINDOW RECEPTACLES SHALL BE WALL MOUNTED NO MORE THAN 18" ABOVE WINDOW.
- 12 ROUTE CONDUIT IN FLOOR TRENCH. COORDINATE TRENCHING REQUIREMENT WITH LANDLORD.

ALL KITCHEN RECEPTACLES SHALL BE GFCI PROTECTED PER ARTICLE 210.8(B)(2) N.E.C. REQUIRES ALL 15 & 20-AMP 125-VOLT RECEPTACLES IN KITCHENS TO BE GFCI PROTECTED. THIS REQUIREMENT APPLIES TO EACH AND EVERY 15 AND 20-AMP, 125-VOLT KITCHEN RECEPTACLE, WHETHER OR NOT THE RECEPTACLE SERVES COUNTER TOP APPLIANCES.



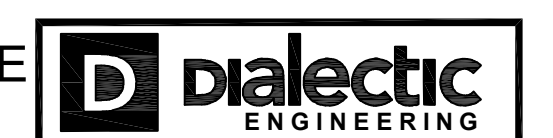
1 POWER PLAN
1/4" = 1'-0"



2 MANAGER'S DESK DETAIL
NOT TO SCALE



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NO.	DESCRIPTION
05/24/24	PERMIT SET
1 08/09/24	CITY COMMENTS
2 09/03/24	CITY COMMENTS
3 09/20/20	CITY COMMENTS
4 02/03/25	OWNER CHANGES

STATUS:
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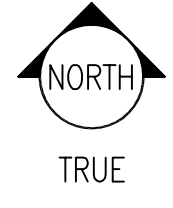
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SHEET NAME:
POWER PLAN

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: HEE SCALE: AS NOTED

SHEET NO.:
E200



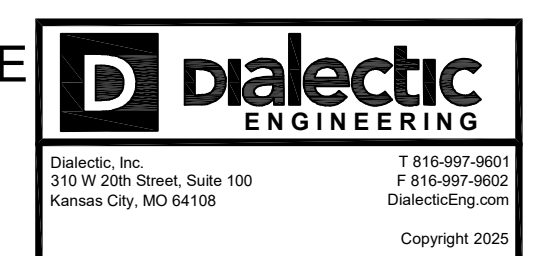
REFER TO SHEET E300 FOR EQUIPMENT FEEDER SCHEDULE.

ROOF PLAN KEY NOTES

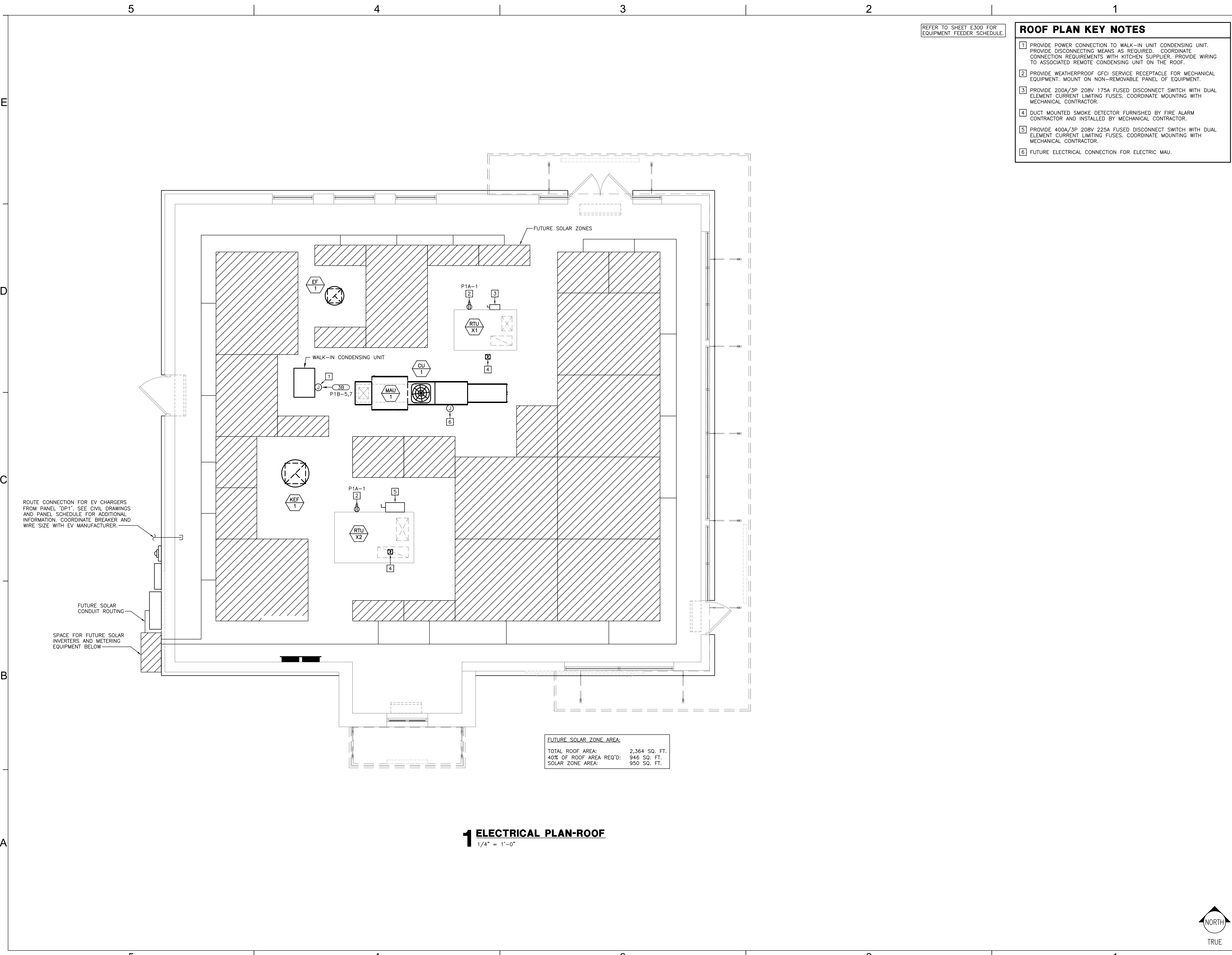
- 1 PROVIDE POWER CONNECTION TO WALK-IN UNIT CONDENSING UNIT. PROVIDE DISCONNECTING MEANS AS REQUIRED. COORDINATE CONNECTION REQUIREMENTS WITH KITCHEN SUPPLIER. PROVIDE WIRING TO ASSOCIATED REMOTE CONDENSING UNIT ON THE ROOF.
- 2 PROVIDE WEATHERPROOF GFCI SERVICE RECEPTACLE FOR MECHANICAL EQUIPMENT. MOUNT ON NON-REMOVABLE PANEL OF EQUIPMENT.
- 3 PROVIDE 200A/3P 208V 175A FUSED DISCONNECT SWITCH WITH DUAL ELEMENT CURRENT LIMITING FUSES. COORDINATE MOUNTING WITH MECHANICAL CONTRACTOR.
- 4 DUCT MOUNTED SMOKE DETECTOR FURNISHED BY FIRE ALARM CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR.
- 5 PROVIDE 400A/3P 208V 225A FUSED DISCONNECT SWITCH WITH DUAL ELEMENT CURRENT LIMITING FUSES. COORDINATE MOUNTING WITH MECHANICAL CONTRACTOR.
- 6 FUTURE ELECTRICAL CONNECTION FOR ELECTRIC MAU.



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Project # 10202501



ROUTE CONNECTION FOR EV CHARGERS FROM PANEL "DP1". SEE CIVIL DRAWINGS AND PANEL SCHEDULE FOR ADDITIONAL INFORMATION. COORDINATE BREAKER AND WIRE SIZE WITH EV MANUFACTURER.

FUTURE SOLAR CONDUIT ROUTING

SPACE FOR FUTURE SOLAR INVERTERS AND METERING EQUIPMENT BELOW

FUTURE SOLAR ZONE AREA:
TOTAL ROOF AREA: 2,364 SQ. FT.
40% OF ROOF AREA REQ'D: 946 SQ. FT.
SOLAR ZONE AREA: 950 SQ. FT.

1 ELECTRICAL PLAN-ROOF
1/4" = 1'-0"

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NO.	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

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SHEET NAME:
ELECTRICAL PLAN - ROOF

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: HEE SCALE: AS NOTED

SHEET NO.:
E201



5

4

3

2

1

LOW VOLTAGE PLAN KEY NOTES

- [1] WHITE FINISH FOR INTERIOR SPEAKERS, BLACK FINISH FOR EXTERIOR, BOTTOM OF SPEAKER AT 11'-8" AFF. PROVIDE SUPPORTS FOR SPEAKERS IN OPEN CEILINGS. OWNER VENDOR TO PROVIDE FIXTURE AND WIRING. COORDINATE WITH LOW VOLTAGE VENDOR (TYP.).
- [2] CAMERAS TO ALL ALIGN ON FACE OF SOFFIT. OWNER VENDOR TO PROVIDE FIXTURE AND WIRING. COORDINATE WITH LOW VOLTAGE VENDOR (TYP.).



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 Project # 1100236-01

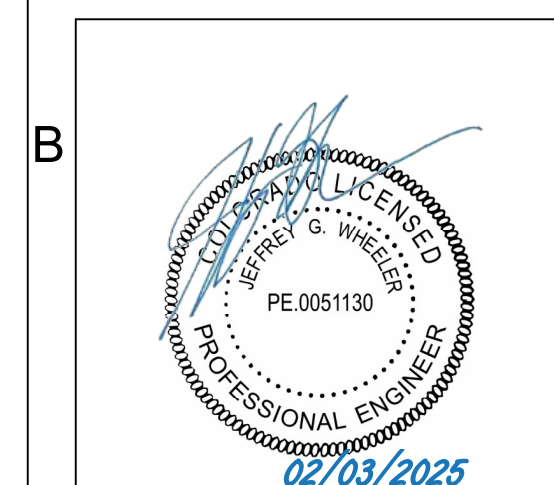
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 UNITED STATES

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1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:
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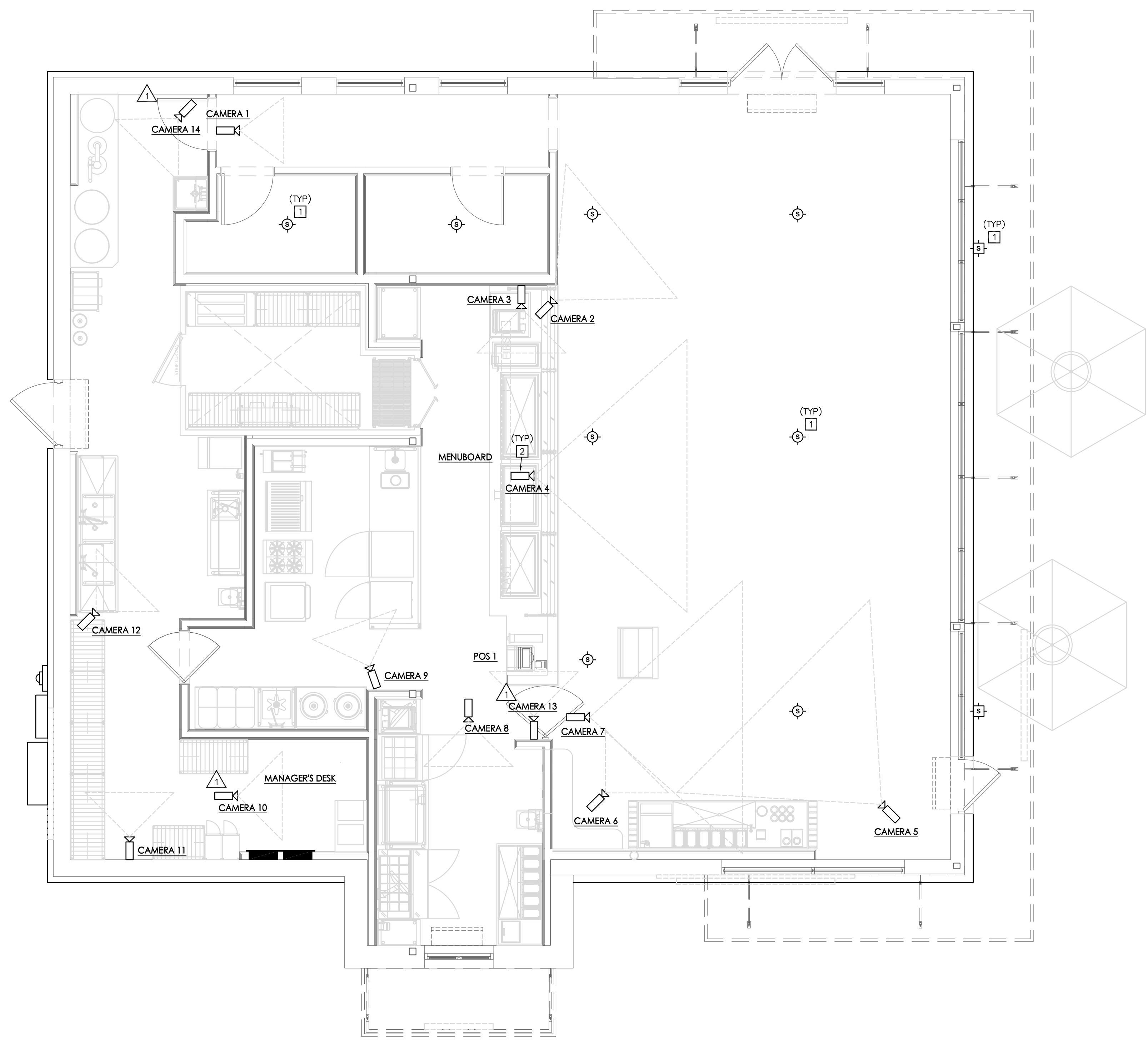
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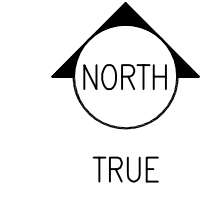
SHEET NAME:
LOW VOLTAGE PLAN

DATE: 05-24-24 PROJECT NO.: 36667
 DRAWN: HEE SCALE: AS NOTED

SHEET NO.:
E202



1 LOW VOLTAGE PLAN
1/4" = 1'-0"



LIGHTING FIXTURE SCHEDULE

Table with columns: TYPE, DESCRIPTION, MANUFACTURER & CATALOG NUMBER, LAMPS & DRIVER, MOUNTING, VOLTS, WATTS, REMARKS. Includes items like R1, R4, P1, P6, A1, T1, EMF, EMB, EME.

LIGHTING FIXTURE GENERAL NOTES

- A. LIGHT FIXTURES PROVIDED BY OWNER AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
B. INSTALLATION OF LIGHT FIXTURES SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODE REQUIREMENTS.
C. VERIFY THE EXACT MOUNTING HEIGHT AND FINISH OF ALL LIGHTING FIXTURES WITH ARCHITECT PRIOR TO PLACING ORDER OR COMMENCING ROUGH-IN.
D. PROVIDE (2) ADDITIONAL #12 CONDUCTORS FOR ALL 0-10V DIMMING CIRCUITS.

LIGHT FIXTURE SCHEDULE REMARKS

- 1. PROVIDE EXIT SIGNS WITH ARROWS AND FACE CONFIGURATION AS INDICATED ON DRAWINGS. ALL SINGLE FACE 'EDGE-LIT' EXIT SIGNS SHALL BE PROVIDED WITH MIRRORRED BACKING. PROVIDE BATTERY BACK-UP TO OPERATE A MINIMUM OF 90 MINUTES.

EQUIPMENT FEEDER SCHEDULE

Table with columns: EQUIPMENT MARK, VOLTAGE-PHASE, PANEL - CIRCUIT(S), MOCP, FEEDER (CONDUCTOR & GROUND, PIPE), DISCONNECT (PROVIDER, AMPERAGE, POLES, FUSES, NEMA), REMARKS. Includes items AC-1, AC-2, RTU-X1, RTU-X2, CU-1, MAU-1, KEF-1, EF-1, WH-1, WH-2, WH-3, EWH (FUTURE), MAU (FUTURE).

EQUIPMENT FEEDER GENERAL NOTES

- A. DISCONNECT SWITCHES FOR 120V OR 277V EQUIPMENT UNDER 30 AMPS SHALL BE MOTOR RATED TOGGLE SWITCHES.
B. CONTRACTOR IS RESPONSIBLE FOR ALL FINAL CONNECTIONS TO EQUIPMENT.
C. COORDINATE EXACT ROUGH-IN LOCATIONS PRIOR TO START OF CONSTRUCTION.
D. ALL MULTI-VOLT DISCONNECT SWITCHES PROVIDED BY THIS CONTRACTOR SHALL COME WITH A NEUTRAL AND GROUND LUG KIT.

EQUIPMENT FEEDER REMARKS

- 1. ROUTE EQUIPMENT THROUGH TIME-CLOCK FOR CONTROL. SEE PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
2. ROUTE EQUIPMENT THROUGH HOOD CONTROL PANEL. SEE "HOOD CONTROL DIAGRAM", SHEET E301 AND HOOD CONTROL DRAWINGS FOR ADDITIONAL INFORMATION.
3. PROVIDE JUNCTION BOX AND CONDUIT WITH PULL STRING BACK TO PANEL FOR FUTURE PROVISION PER C405.15 DENVER ENERGY CODE.

KITCHEN EQUIPMENT SCHEDULE

Table with columns: EQUIPMENT MARK, ITEM DESCRIPTION, VOLTAGE-PHASE, LOAD (A), TYPE OF CONNECTION, HEIGHT (AFF), FEEDER (CONDUCTOR & GROUND, PIPE), REMARKS. Includes items 3, 3A, 3B, 14, 21, 22, 25, 26, 27, 28, 31, 33, 33A, 34, 36, 41, 42, 43.

KITCHEN EQUIPMENT GENERAL NOTES

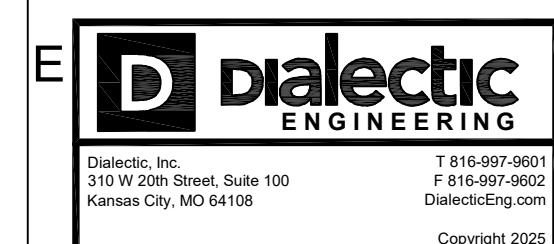
- A. MAKE FINAL CONNECTIONS TO KITCHEN EQUIPMENT.
B. FOR ALL HARDWIRED CONNECTIONS:
B.A. SHALL BE MADE WITH SEAL-TIGHT FLEXIBLE METAL CONDUIT WITH INSULATED GROUND WIRE INSTALLED WITH PHASE AND NEUTRAL CONDUCTORS. GROUND WIRE SHALL BE BONDED AT BOTH ENDS.
B.B. PROVIDE A LOCK-OUT BREAKER ATTACHMENT (FOR EACH PIECE OF EQUIPMENT) FOR USE WHEN EQUIPMENT IS BEING SERVICED.
C. CONTRACTOR TO VERIFY ALL KITCHEN EQUIPMENT CONNECTIONS (SCHEDULED AND OWNER PROVIDED) PRIOR TO ROUGH-IN OF CONDUITS AND BRANCH-CIRCUITS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION.
D. THE FOLLOWING KITCHEN RECEPTACLES SHALL HAVE GFI PROTECTION BY MEANS OF BREAKERS OR SEPARATE UL 943C DEVICES:
D.A. 120V AND 208V, SINGLE-PHASE, RATED LESS THAN 50A.
D.B. 208V THREE-PHASE, RATED LESS THAN 100A.

KITCHEN EQUIPMENT REMARKS

- 1. PROVIDE CONNECTION TO FIXTURE MOUNTED RECEPTACLE IN COUNTER.
2. PROVIDE CONDUITS FROM EQUIPMENT TO REMOTE UNIT. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER AND MAKE ALL FINAL CONNECTIONS REQUIRED FOR PROPER OPERATION.
3. JUNCTION BOX FOR CONNECTION TO FIXTURE MOUNTED RECEPTACLE FOR ITEM 34.
4. PROVIDE WITH WATER/GREASE RESISTANT COVER WITH CORD ACCESS FOR RECEPTACLE.
5. PROVIDE JUNCTION BOX AND CONDUIT WITH PULL STRING BACK TO PANEL FOR FUTURE PROVISION PER C405.15 DENVER ENERGY CODE.



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Project # 1002025-01

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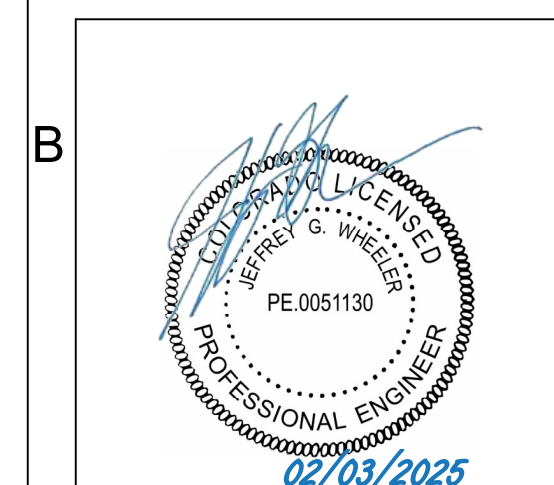
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REVISIONS / ISSUES

Table with columns: DATE, DESCRIPTION. Includes revisions 1, 2, 3, 4.

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SHEET NAME:

ELECTRICAL SCHEDULES

DATE: 05-24-24

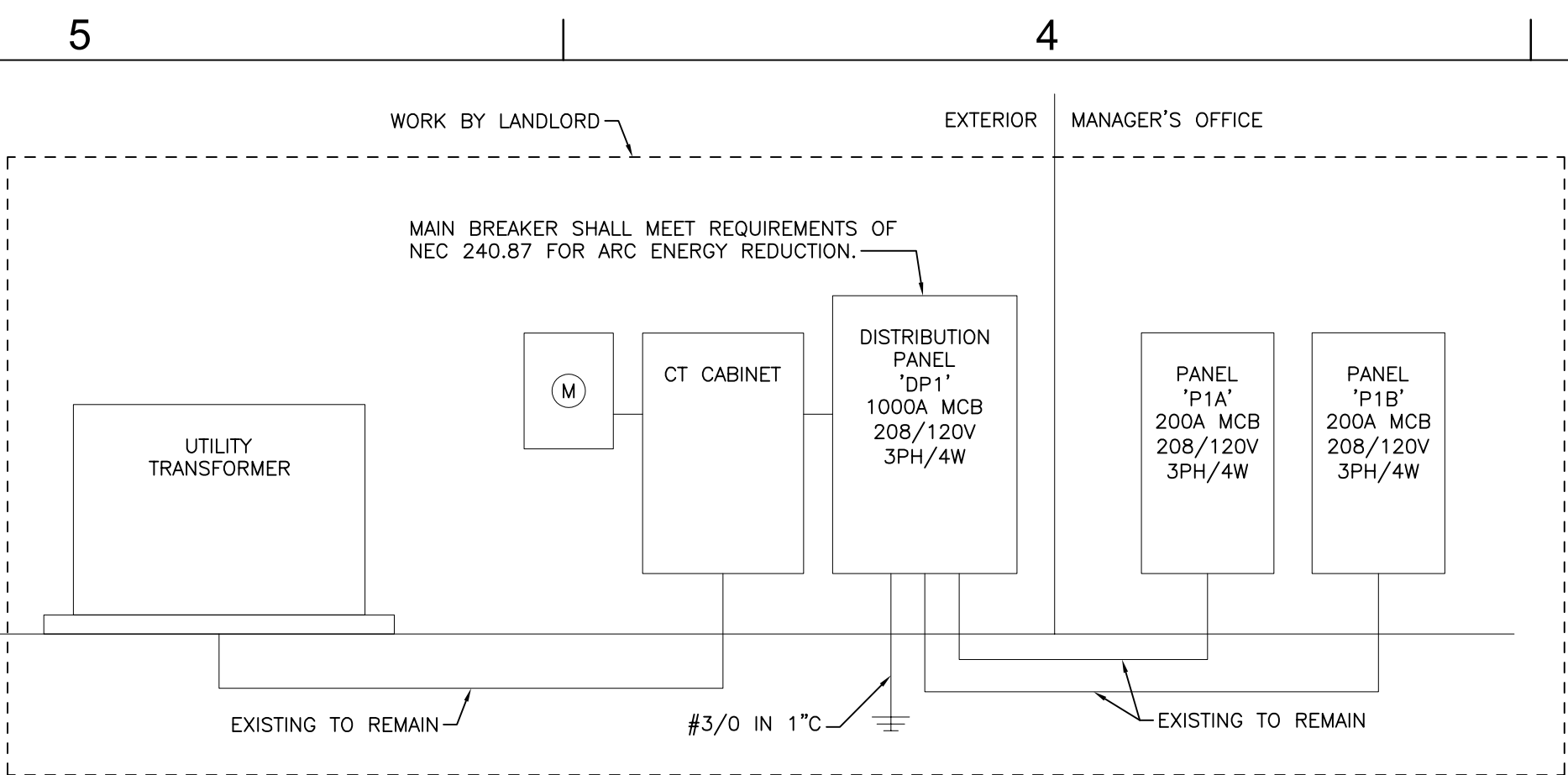
PROJECT NO.: 36667

DRAWN: HEE

SCALE: AS NOTED

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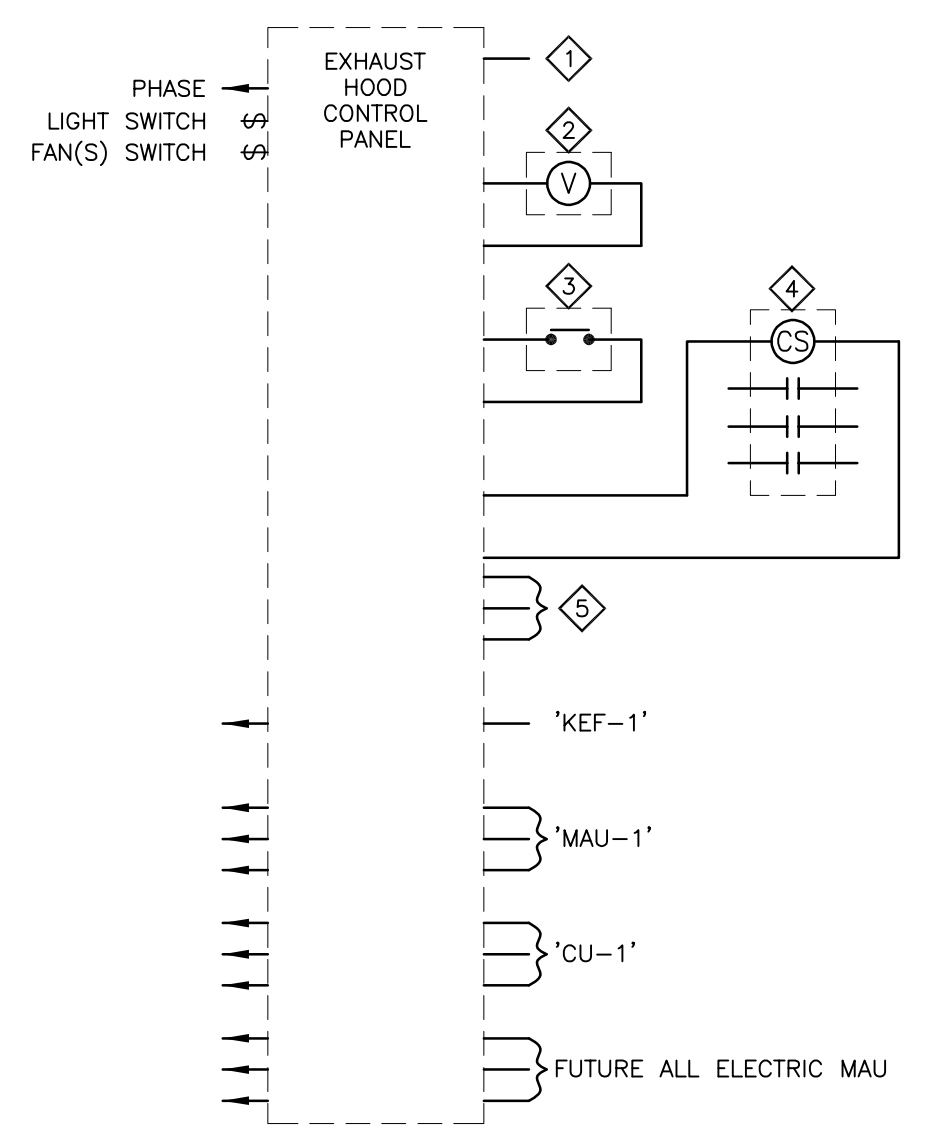
E300



1 ONE LINE DIAGRAM

EQUIPMENT MARK	VOLTAGE - PHASE	MOCP	FEEDER			REMARKS	FAULT CURRENT	VOLTAGE DROP
			CONDUCTOR & GROUND	PIPE	MATERIAL			
UTILITY	120/208V-3P AVAILABLE FAULT					1	26000	
DP1	120/208V-3P	1000A	3 SETS(4)#400,#2/0G	3-1/2"	COPPER	2	24700	0.2%
PIA	120/208V-3P	200A	1 SET(4)#3/0,#6G	2"	COPPER	2	18708	0.4%
PIB	120/208V-3P	200A	1 SET(4)#3/0,#6G	2"	COPPER	2	18708	0.4%
RTU-X1	208V-3P	175A	1 SET(3)#2/0,#6G	1-1/2"	COPPER	2	12626	0.2%
RTU-X2	208V-3P	225A	1 SET(3)#4/0,#4G	2"	COPPER	2	17529	0.2%
AC-1	208V-3P	30A	1 SET(3)#10,#10G	1/2"	COPPER	2	2631	0.2%
AC-2	208V-3P	40A	1 SET(3)#8,#10G	3/4"	COPPER	2	8284	0.2%
CU-1	208V-3P	25A	1 SET(3)#10,#10G	1/2"	COPPER	2	2367	0.2%
MAU-1	208V-3P	15A	1 SET(3)#12,#12G	1/2"	COPPER	2	1544	0.2%

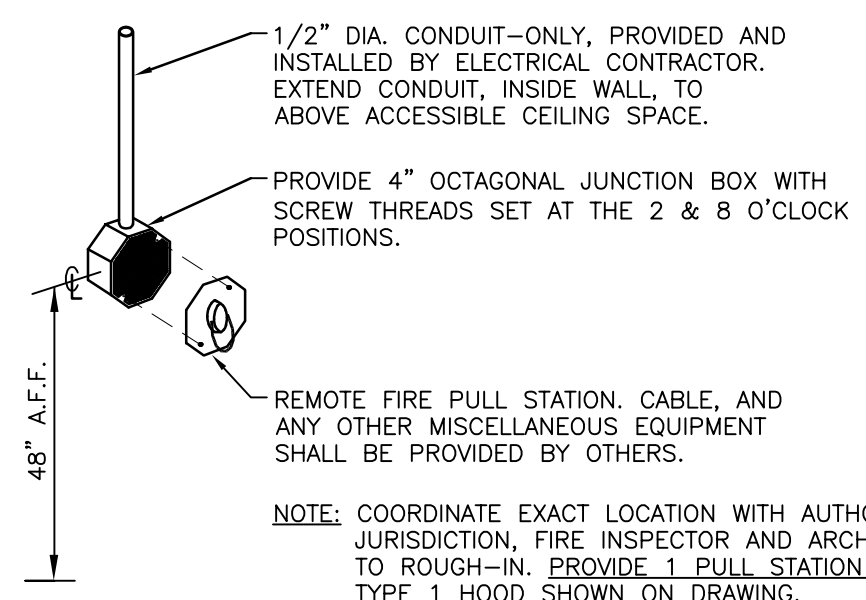
NOTES:
 1 FAULT CURRENT PROVIDED BY UTILITY COMPANY
 2 ELECTRICAL EQUIPMENT AND FEEDERS ARE EXISTING TO REMAIN AND SHOWN FOR REFERENCE ONLY.



3 EXHAUST HOOD SHUT-DOWN WIRING DIAGRAM (HCP)

NOT TO SCALE

- DETAIL CODED NOTES:**
- PROVIDE FIELD WIRING TO HOOD TEMPERATURE SENSORS PER MANUFACTURER'S SPECIFICATIONS.
 - ELECTRICALLY OPERATED GAS VALVE FOR COOKING EQUIPMENT BY OTHERS (IF REQUIRED).
 - FIRE SYSTEM MICRO SWITCH, OPENS WHEN FIRE SYSTEM DISCHARGES.
 - 60A/12P CONTACTOR WITH 120V COIL FOR ELECTRICAL EQUIPMENT UNDER HOOD (VERIFY LOCATION IN FIELD WITH OWNER)
 - PROVIDE ALL 120V AND LOW VOLTAGE CONNECTIONS BETWEEN HOOD CONTROL PANEL AND FANS. SEE CAPTIVE WIRING DIAGRAMS FOR WIRING REQUIREMENTS.
- DETAIL GENERAL NOTES:**
- REFERENCE MECHANICAL DRAWINGS FOR CAPTIVE WIRING DETAILS AND WIRING DIAGRAMS.
 - INTERLOCK WIRING FOR MOTOR STARTER FURNISHED WITH HOOD.
 - INTERLOCK WIRING FOR GAS VALVE BY ELECTRICAL CONTRACTOR.
 - COORDINATE EXACT QUANTITY OF CONTACTOR POLES WITH PANEL SCHEDULES.
 - MAKE FINAL CONNECTIONS BETWEEN TEMPERATURE SENSOR INSTALLED IN HOOD AND HOOD CONTROL PANEL. REFER TO HOOD DRAWING FOR ADDITIONAL INFORMATION.
 - REFER TO ELECTRICAL PANEL SCHEDULES FOR PANEL CONNECTIONS.



2 REMOTE HOOD FIRE PULL STATION

NOT TO SCALE

LOAD TYPE	CONNECTED LOAD W	DEMAND FACTOR	DEMAND LOAD W
SHOW WINDOW LIGHTING	0	1.25	0
LENGTH @200W/FT	42 FT	8400	10500
SHOW WINDOW DEMAND LOAD			
TRACK LIGHTING	180	1.25	233
LENGTH @150W/FT	104 FT	7800	9750
TRACK BREAKER W	2400	1.00	2400
TRACK DEMAND LOAD			1785
OTHER LIGHTING	1424	0.75	1073
RECEPTACLE	7601	100W/3P	7601
COOKING	200	1.00	200
HEATING	122730	1.00	122730
MOTORS (INCLUDES LARGEST)	12525	1.00	12525
LARGEST MOTOR	526	1.00	526
KITCHEN EQUIP.	83407	0.75	62555
MISCELLANEOUS	250	1.00	250
WATER HEATERS	48500	1.00	48500
EV CHARGING	38600	1.25	48250
TOTAL LOAD (KW)			339.5 KW
POWER FACTOR	0.95		339.5 KVA
DEMAND (AMPS) AT 120/208V-3PH			842.4 A

- PANEL NOTES AND OPTIONS**
- BREAKER OPTIONS**
- F) FIELD FIRE ALARM HANDLE LOCK-ON DEVICE
 - L) HAND LOCK-OFF FOR OFF POSITION
 - EX) EXISTING BREAKER AND LOAD TO REMAIN
 - R) EXISTING BREAKER TO BE REUSED FOR NEW CONSTRUCTION
 - N) PROVIDE NEW BREAKER MATCHING MANUFACTURER AND AC RATING
 - S) SPACE FOR FUTURE BREAKER FOR FUTURE ALL ELECTRIC LOAD CONVERSION
 - F) PROVIDE RACEWAY OUT TO LOAD APPROPRIATELY SIZED TO ALLOW FUTURE UPGRADE TO ALL-ELECTRIC
 - H) ROUTE THRU HOOD CONTACTOR. REFER TO DETAIL ON SHEET E301
 - BP) ROUTE CIRCUIT THRU LIGHTING RELAY PANEL
 - G) GROUND FAULT CIRCUIT INTERRUPTER
- KEYED NOTES:**
- 1) CONTROL CIRCUITRY POWER FOR FAN CONTROL SYSTEM ANSUL FIRE PROTECTION SYSTEM AND HOOD CONTROL
- GENERAL NOTES:**
- ALL BREAKERS TO BE 20A 1 POLE UNLESS NOTED OTHERWISE
 - CONTRACTOR TO FURNISH TWO HANDLE PADLOCK ATTACHMENTS FOR CIRCUIT BREAKERS. ATTACHMENT PIECES TO BE PROVIDED TO THE OWNER OR TO BE INSTALLED IN THE PANELBOARD FOR EASY ACCESS BY AN ELECTRICAL CONTRACTOR PERFORMING MAINTENANCE ON ELECTRICAL EQUIPMENT REQUIRING A DISCONNECTING MEANS, CAPABLE OF BEING PADLOCKED.

LOAD DESCRIPTION	NOTE	AMP	POLE	WATT	PKT.	PH	CKT.	WATT	POLE	AMP	NOTE	LOAD DESCRIPTION
EV CHARGER	EX	40	2	3300	1	A	2	13165	3	175	N	RTU-X1
EV CHARGER	EX	40	2	3300	3	B	4	13165	3	175	N	RTU-X2
EV CHARGER	EX	40	2	3300	7	A	8	13165	3	225	N	RTU-X2
EV READY	EX	40	2	3300	11	C	12	13165	3	30	N	AC-1
EV READY	EX	40	2	3300	13	A	14	2702	3	40	N	AC-2
EV CAPABLE	EX	40	2	25	A	26	1392	1	25	N	KEF-1	
EV CAPABLE	EX	40	2	27	B	28	300	2	40	EX	EV CAPABLE	
EV CAPABLE	EX	40	2	31	A	32	300	3				
EV CAPABLE	EX	40	2	33	B	34	300	3				
EV CAPABLE	EX	40	2	35	C	36	300	3				
EV CAPABLE	EX	40	2	37	A	38	300	3				
EV CAPABLE	EX	40	2	39	B	40	300	3				
EV CAPABLE	EX	40	2	41	C	42	300	3				
EV CAPABLE	EX	40	2	43	A	44	300	3				
EV CAPABLE	EX	40	2	45	B	46	300	3				
EV CAPABLE	EX	40	2	47	C	48	300	3				
EV CAPABLE	EX	40	2	49	A	50	300	3				
EV CAPABLE	EX	40	2	51	B	52	300	3				
EV CAPABLE	EX	40	2	53	C	54	300	3				
EV CAPABLE	EX	40	2	55	A	56	300	3				
EV CAPABLE	EX	40	2	57	B	58	300	3				
EV CAPABLE	EX	40	2	59	C	60	300	3				

LOAD DESCRIPTION	NOTE	AMP	POLE	WATT	PKT.	PH	CKT.	WATT	POLE	AMP	NOTE	LOAD DESCRIPTION
ROOF RCPTS	R	20	1	380	1	A	2	55	1	15	N	N/RP RECRIP R/P
DINING / HALL AREA GENERAL LTG	R/RP	20	1	426	3	B	4	1800	1	20	N	57- POS SYSTEM
DINING AREA TRACK LTG	R/RP	20	1	186	5	C	6	500	1	20	N	DINING / HALLWAY / R/R RCPTS
KITCHEN OFFICE LTG	R/RP	20	1	915	7	A	8	720	1	20	N	MANAGER'S DESK RCPT
RESTROOM LTG	R	20	1	60	9	B	10	720	1	20	N	MANAGER'S DESK RCPT
LIGHTING CONTROLS	R	20	1	200	11	C	12	360	1	20	N	MANAGER'S DESK RCPT - CNTRL
SIGNAGE	R/RP	20	1	1200	13	A	14	500	1	20	N	KVS
SIGNAGE	N/RP	20	1	1200	15	B	16	864	1	20	N	42- SANDWICH REFRIGERATOR
38- SELF SERVICE FRIDGE	N/RP	20	1	1041	17	C	18	2250	1	20	N	BEVERAGE DISPENSER
41- PANIN PRESS	N/RP	20	1	1800	19	A	20	720	1	20	N	BEVERAGE DISPENSER
41- PANIN PRESS	N/RP	20	1	1800	21	B	22	500	1	20	N	DRIVE THRU LOOP
SPARE	N	20	1	800	23	C	24	1200	1	20	N	N/RP SIGNAGE
SPARE	N	20	1	800	25	A	26	1500	1	20	N	SHOW WINDOW RCPTS
SPARE	N	20	1	200	27	B	28	4000	3	45	F	FUTURE ELECTRIC EQUIP. #45
SPARE	N	20	3	5000	31	A	32	4000	3	45	F	FUTURE ELECTRIC EQUIP. #44
SPARE	N	20	3	5000	33	B	34	4660	3	50	F	FUTURE ELECTRIC EQUIP. #46
SPARE	N	20	1	35	C	35	4660	3	50	F	FUTURE ELECTRIC EQUIP. #46	
SPARE	N	20	1	37	A	38	4660	3	50	F	FUTURE ELECTRIC EQUIP. #46	
SPARE	N	20	1	39	B	40	1200	1	20	N	SIGNAGE	
SPARE	N	20	1	41	C	42	1200	1	20	N	SIGNAGE	

LOAD DESCRIPTION	NOTE	AMP	POLE	WATT	PKT.	PH	CKT.	WATT	POLE	AMP	NOTE	LOAD DESCRIPTION
3- WALK-IN COOLER	N/LO	20	1	1600	1	A	2	660	1	20	N	80- COLD WELL
3A- WALK-IN EVAPORATOR	N/LO	20	1	240	3	B	4	4160	2	50	N	43- OVEN
3B- WALK-IN CONDENSING UNIT	N/LO	20	2	935	5	C	6	4160	2	50	N	43- OVEN
14- WAREWASHER	N/LO	20	1	1440	7	B	10	1500	1	20	N	81- HOT WELL
25- ICE MAKER	N/LO	20	1	1596	11	C	12	840	1	20	N	82- COLD WELL
28- REFRIGERATOR	N/LO	20	1	780	13	A	14	500	1	20	N	KITCHEN CONV RCPTS
22- CARBONATOR	N/LO	20	1	500	15	B	16	540	1	20	N	89- RECRIP FRIDGE
33A- FIRE SUPPRESSION	N/FL	20	3	1921	19	A	20	1800	1	20	N	80A- DROP-IN HOT WELLS
33B- EXHAUST HOOD LTS	N/FL	20	1	1921	21	B	22	636	1	20	N	80B- WARMING DRAWER
3134- RICE COOKER	N/LO	20	2	1654	25	A	26	720	1	20	N	81- COLD BEVERAGE DISPENSER
3134- RICE COOKER	N/LO	20	2	1654	27	B	28	720	1	20	N	81- COLD BEVERAGE DISPENSER
3134- RICE COOKER	N/LO	20	2	1654	29	C	30	600	1	20	N	83- HOT WELL
SPARE	N	20	1	1654	31	A	32	1100	1	20	N	87- CABINET WARMER
SPARE	N	20	1	1654	33	B	34	180	1	20	N	87- COOKLINE RCPT
SPARE	N	20	1	1654	35	C	36	1600	1	20	N	88- PREP COUNTER
SPARE	N	20	1	37	A	38	750	2	15	N	WH-3	
SPARE	N	20	1	39	B	40	750	2	15	N	WH-3	
SPARE	N	20	1	41	C	42	750	2	15	N	WH-3	

zebra

ZEBRA PROJECTS, INC.
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 SCOTTSDALE, ARIZONA 85254
 PHONE: 480.912.1169 zbr.global

Dialectic ENGINEERING

Dialectic, Inc.
 310 W 20th Street, Suite 100
 Kansas City, MO 64108

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 Project # 1002026-01

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CAVA

8869 E 46TH AVENUE
 DENVER, CO 80238
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REVISIONS / ISSUES

NO.	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
4	02/03/25	OWNER CHANGES

STATUS:

ISSUE FOR CONSTRUCTION

Professional Engineer Seal for Steven D. Wheeler, License No. PE051130, State of Colorado. Date: 02/03/2025.

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SHEET NAME:
ELECTRICAL PANEL SCHEDULES AND DETAILS

DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: HEE SCALE: AS NOTED

SHEET NO.: **E301**

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E

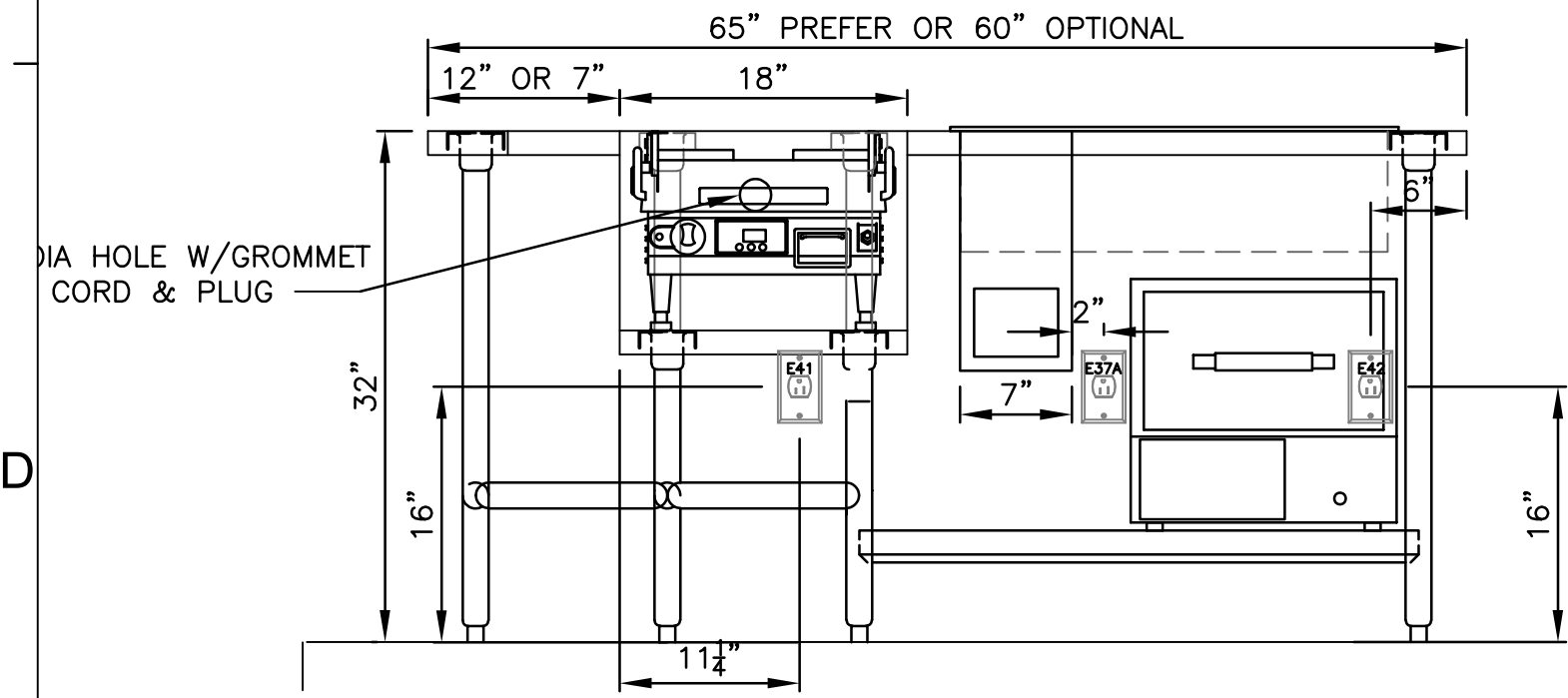
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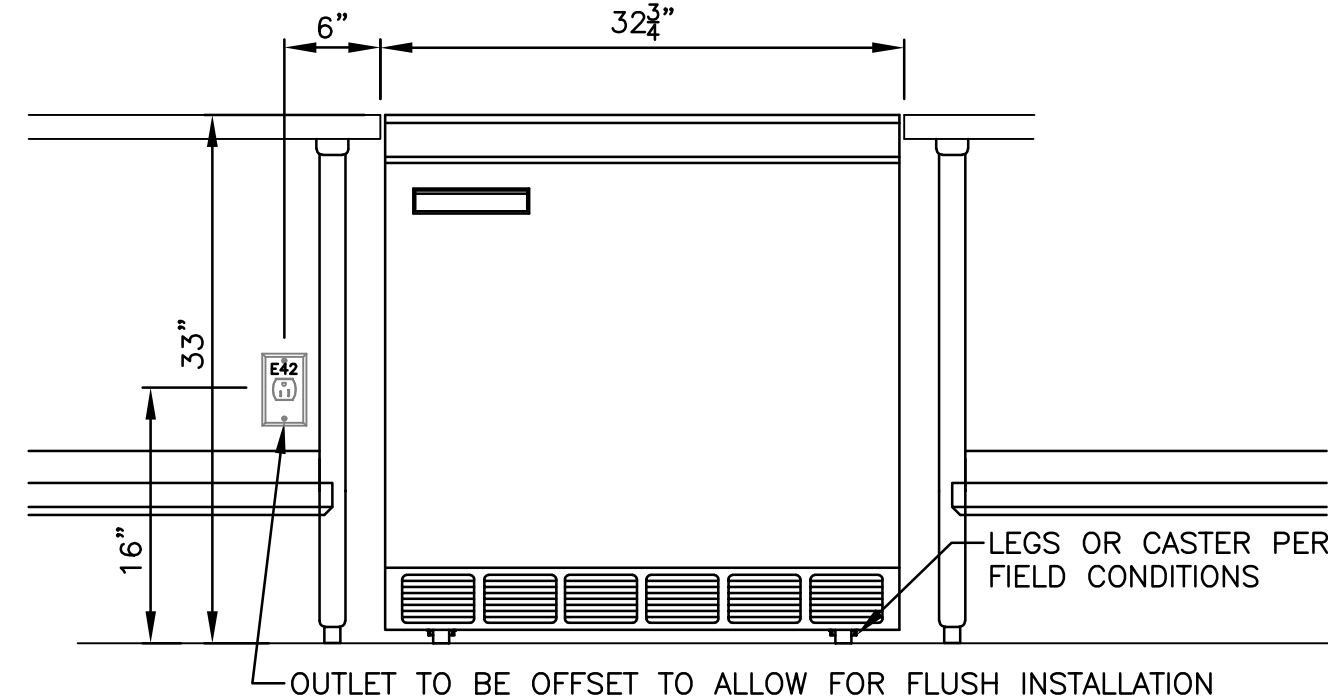
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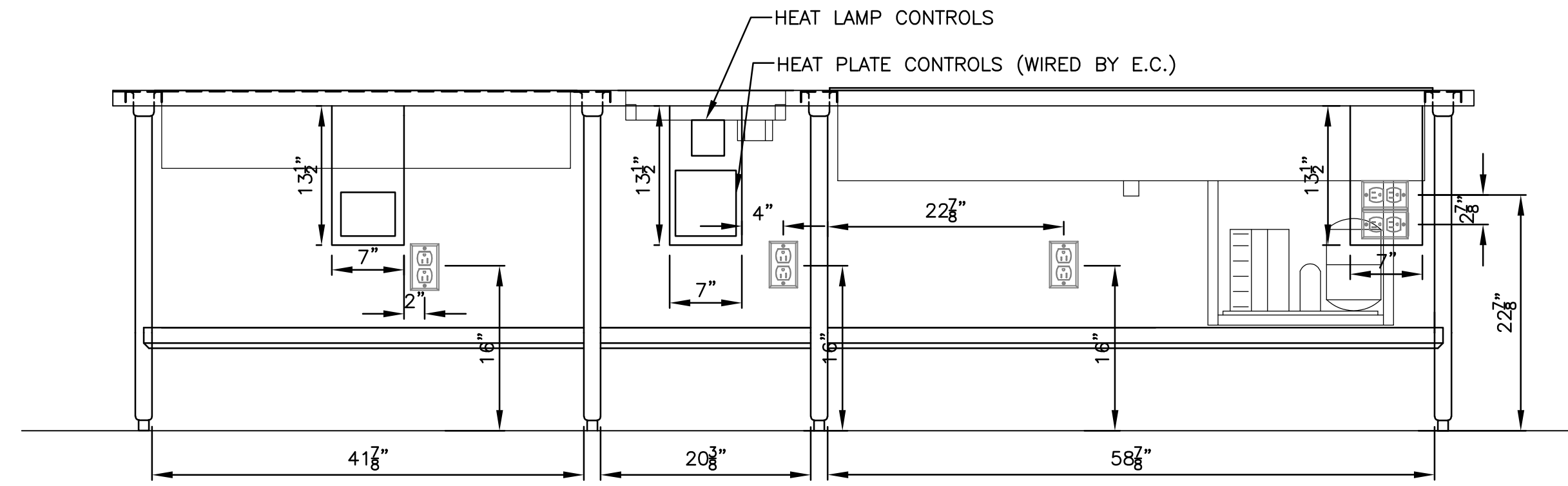
ELEVATIONS ARE DIAGRAMMATIC AND SHOWN FOR OUTLET LOCATION REFERENCE ONLY



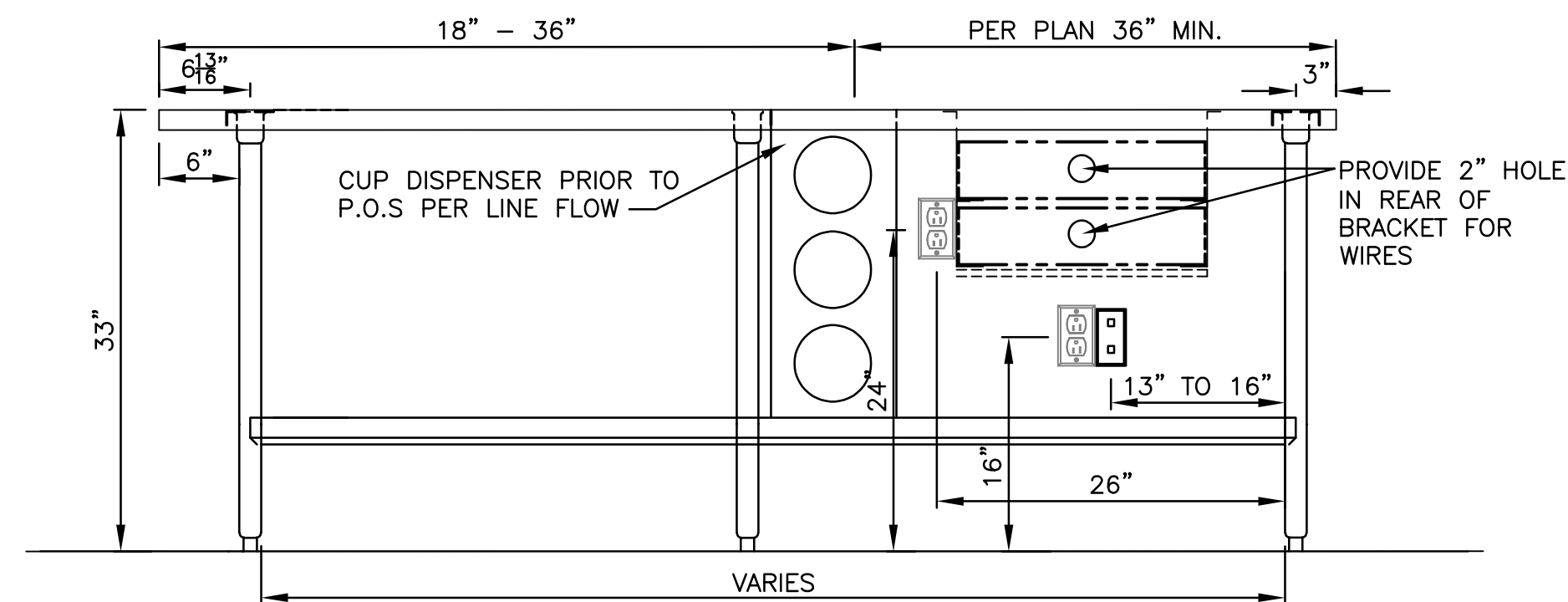
PITA STATION



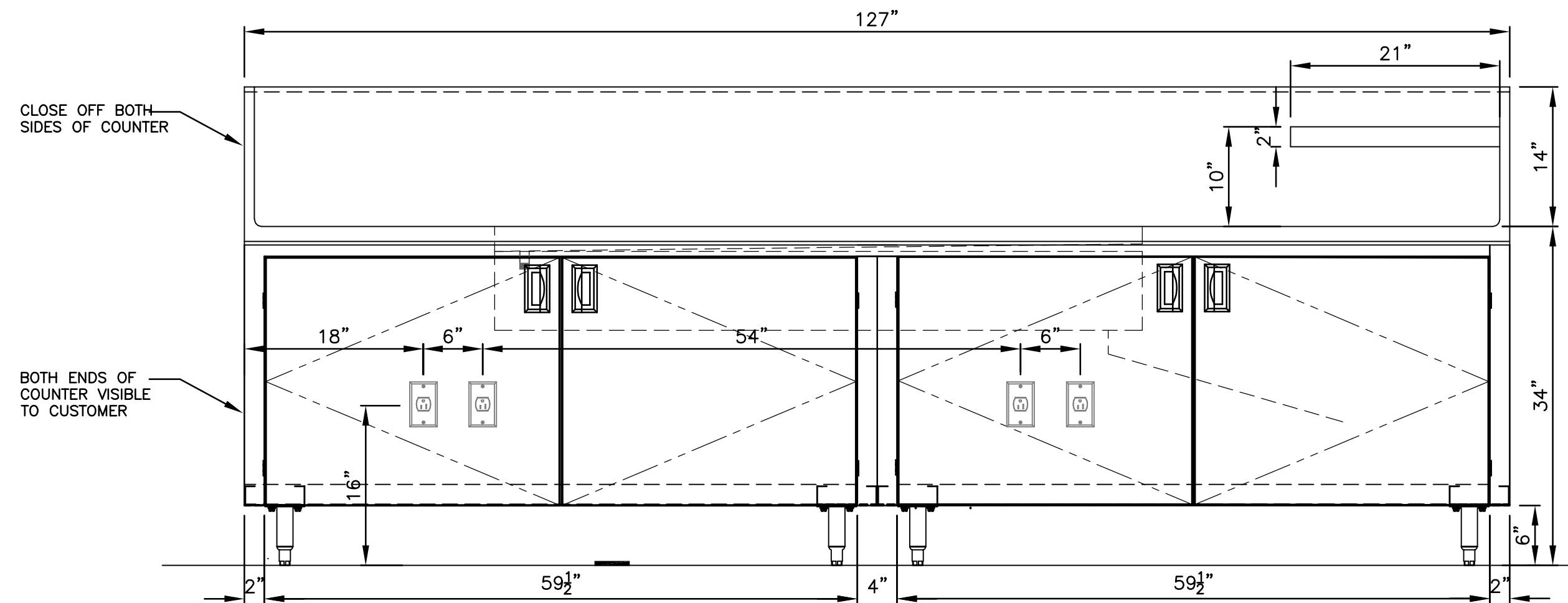
COLD PREP



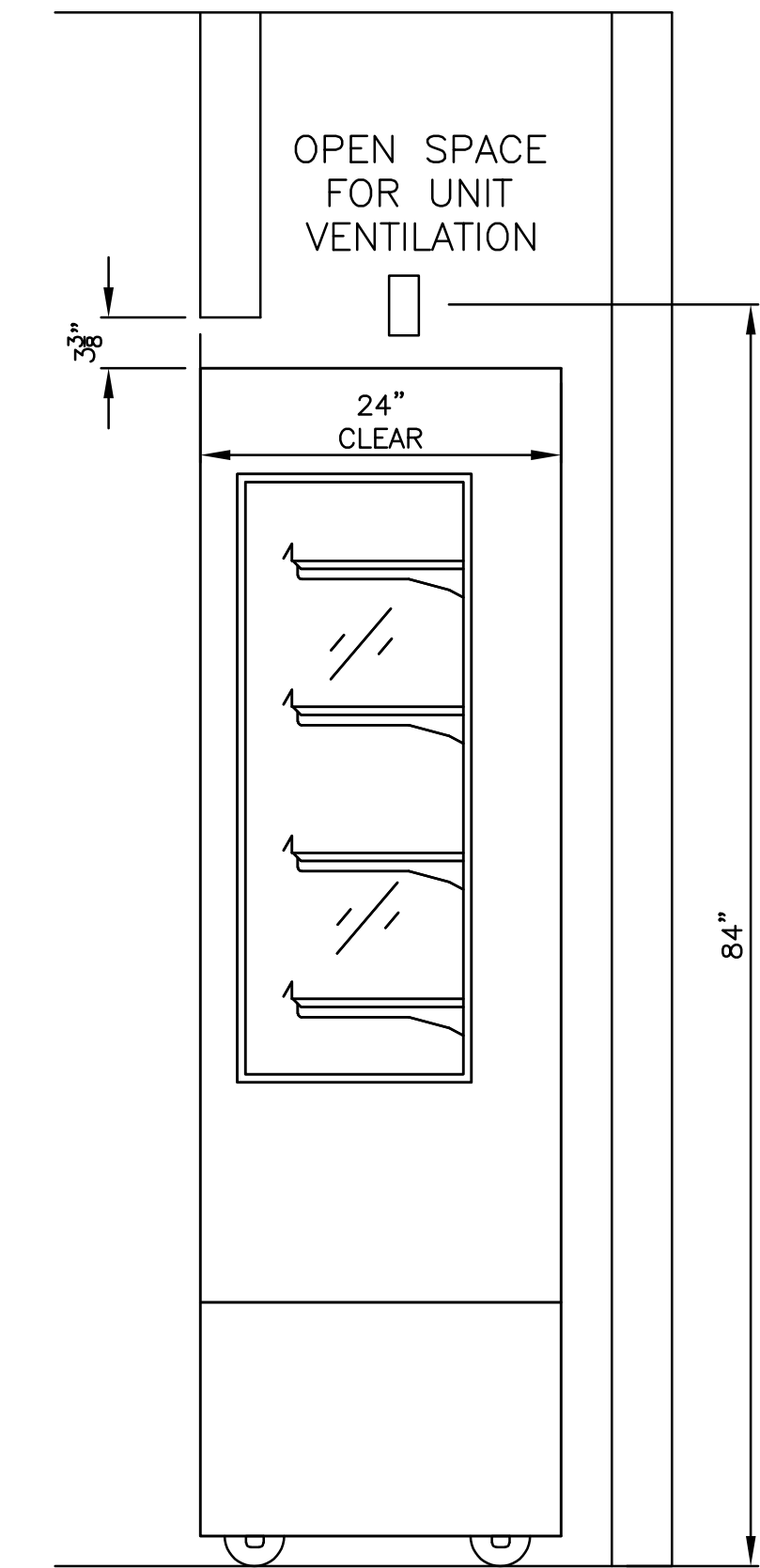
PROTEIN & TOPPING STATION



POS STATION



BEVERAGE STATION



GRAB N GO

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Project # 11002626-01

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STATUS:
ISSUE FOR CONSTRUCTION

PROFESSIONAL ENGINEER
LUCY WHEELER
PE 0051130
02/03/2025

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SHEET NAME:
ELECTRICAL ELEVATIONS

DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: HEE SCALE: AS NOTED

SHEET NO.:

E302

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Project #: 10202501

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SHEET NAME:

A ELECTRICAL ELEVATIONS

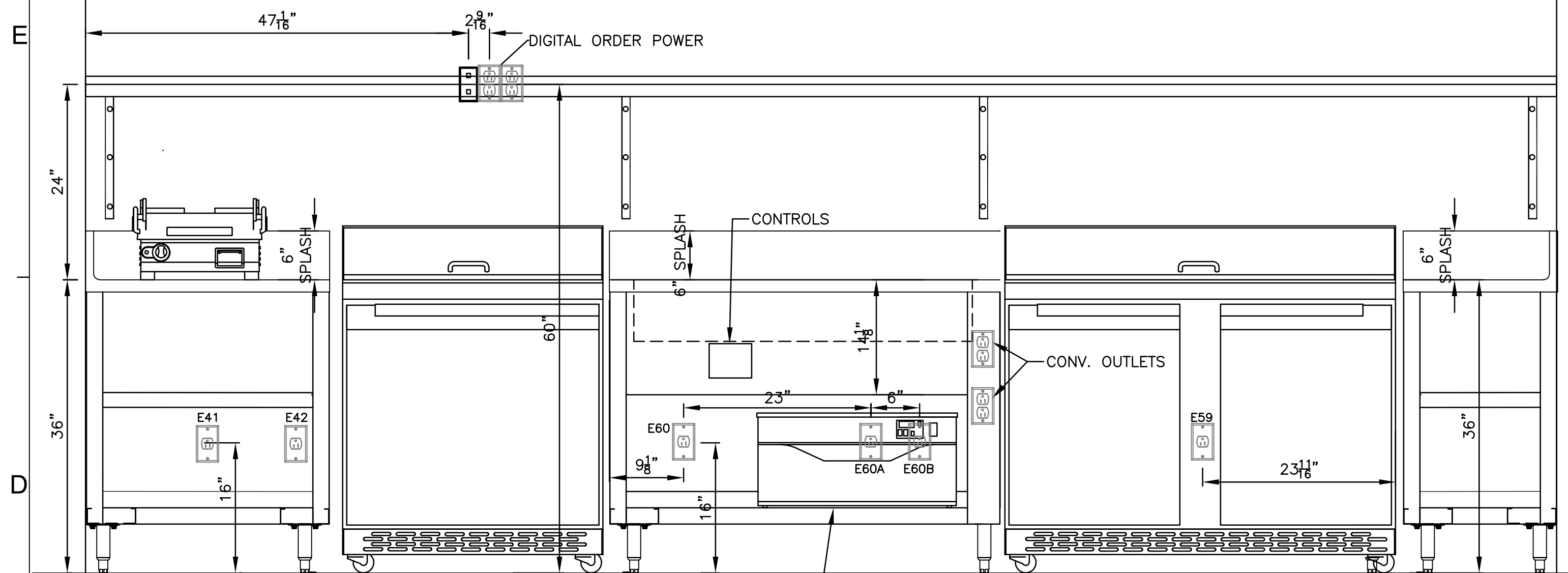
DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: HEE SCALE: AS NOTED

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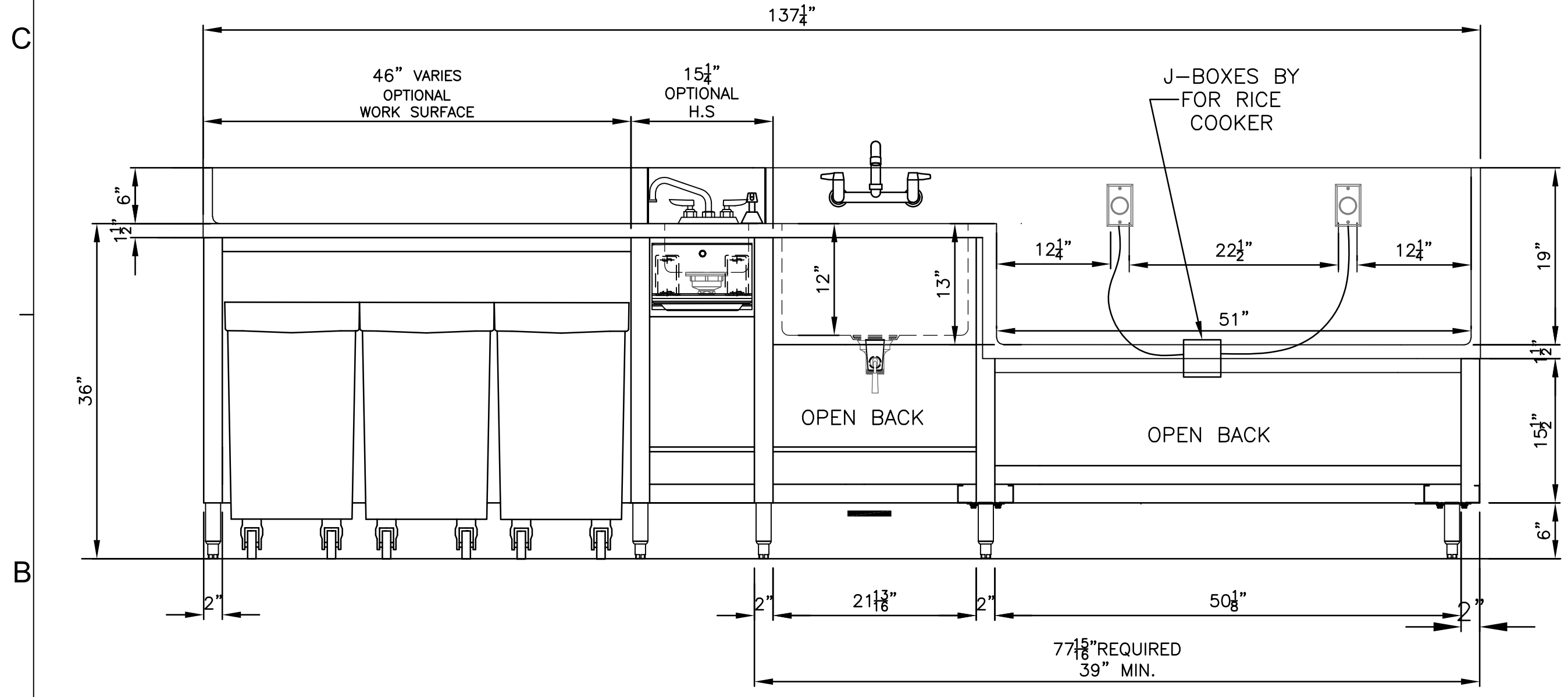
E303

ELEVATIONS ARE DIAGRAMMATIC
AND SHOWN FOR OUTLET
LOCATION REFERENCE ONLY

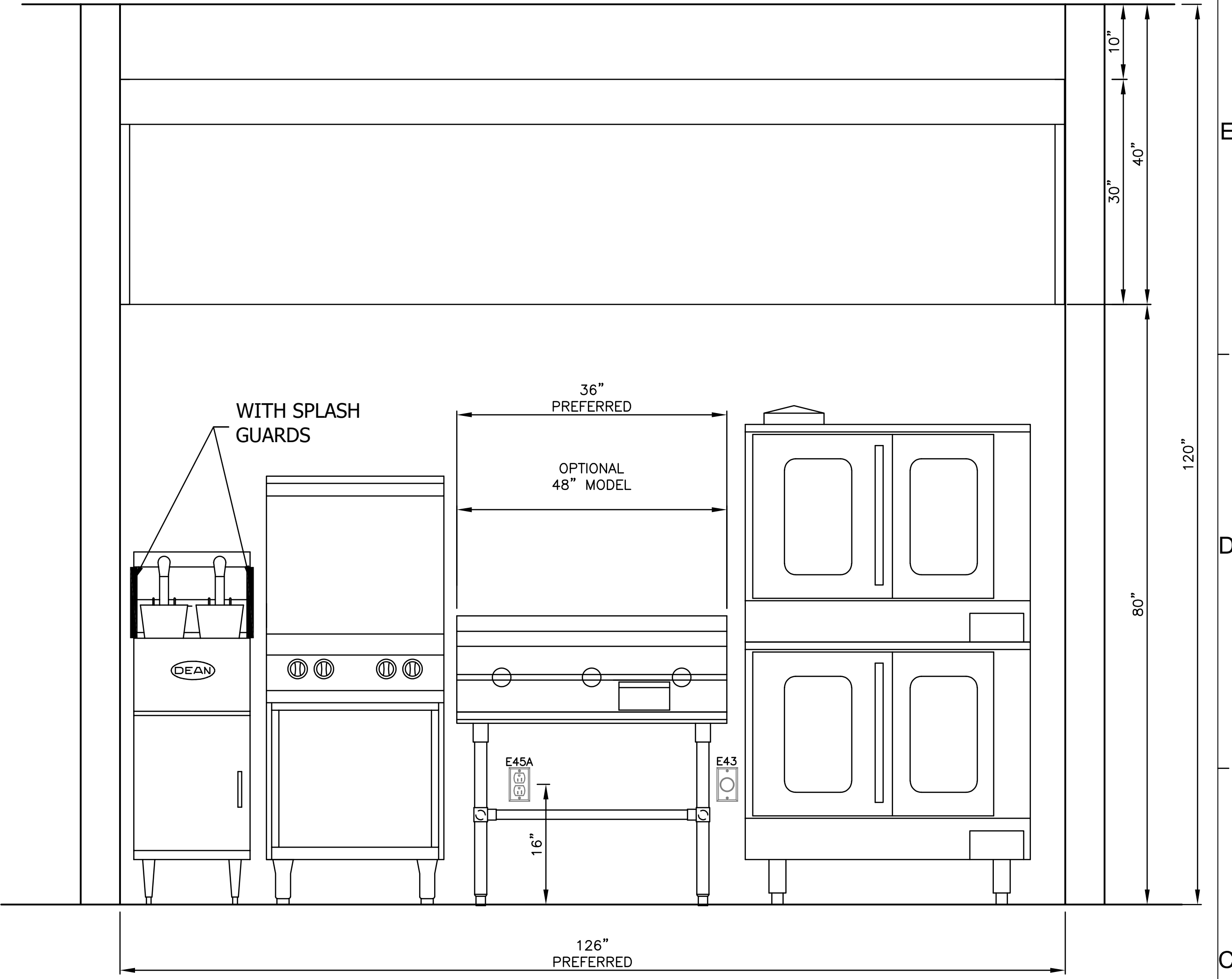


DIGITAL ORDER STATION

ALTO-SHAAM
DRAWER WARMER,
MODEL #500-1D



RICE COOKER



COOKLINE

SECTION 16000 - BASIC ELECTRICAL

1. THE WORK COVERED BY DIVISION 16 CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, SUPPLIES, AND MATERIALS (EXCEPT AS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS) REQUIRED TO PERFORM ALL OPERATIONS NECESSARY FOR THE INSTALLATION OF COMPLETE ELECTRICAL SYSTEMS. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS.

SECTION 16120 - WIRES AND CABLES

1. CONDUCTORS: PROVIDE SOLID CONDUCTORS FOR POWER AND LIGHTING CIRCUITS NO. 10 AWG AND SMALLER. PROVIDE STRANDED CONDUCTORS FOR SIZES NO. 8 AWG AND LARGER.

SECTION 16140 - WIRING DEVICES

1. THIS SECTION INCLUDES THE FOLLOWING:
A. RECEPTACLES
B. LIGHTING AND EQUIPMENT SWITCHES
C. WALL PLATES
D. FLOOR SERVICE OUTLETS
E. OCCUPANCY/VACANCY SENSORS
F. NETWORK LIGHTING CONTROLS

Table with 3 columns: 20BY/120 VOLTS NORMAL, PHASE, 480Y/277V NORMAL. Rows include BLACK, RED, BLUE, WHITE, GREEN, GREEN W/ YELLOW STRIP and their corresponding phases (A, B, C, NEUTRAL, GROUND, ISOLATED GROUND) and colors (BROWN, ORANGE, YELLOW, GRAY, GREEN).

SECTION 16135 - CABINETS, BOXES AND FITTINGS

1. THIS SECTION INCLUDES CABINETS, BOXES, AND FITTINGS FOR ELECTRICAL INSTALLATIONS AND CERTAIN TYPES OF ELECTRICAL FITTINGS NOT COVERED IN OTHER SECTIONS

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SECTION 16160 - GROUNDING

1. PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC CONDUIT, SUPPORTS, CABINETS, PANELBOARDS AND SYSTEM NEUTRAL CONDUCTORS. MAINTAIN CONTINUITY OF EQUIPMENT GROUND THROUGHOUT THE SYSTEM.

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ZEBRA PROJECTS, INC. 14614 N KIERNAN BLVD., SUITE 8520 SCOTTSDALE, ARIZONA 85254 PHONE: 480.912.1169 zbr.global



Dialectic Engineering, Inc. 310 W 20th Street, Suite 100 Kansas City, MO 64108

This sheet is part of a construction document. Drawings, specifications and other sheets apply and need to be reviewed in total. Items shown are for informational purposes only and are not to be relied on or used as shop drawings. Provide all modifications required to conform to site conditions, equipment and material used. Verify locations and dimensions of all architectural and structural elements per their respective documents, as these elements are shown only for reference, and require verification prior to fabrication or construction. Engineer has no liability for the accuracy of these associated drawings, or for any work the engineer has not signed and sealed. Project #: 10020628-01 Copyright 2025

STORE NO.:

CABINETS: COMBINATION SPRING CATCH AND KEY LOCK, WITH ALL LOCKS FOR CABINETS OF THE SAME SYSTEM KEVED ALIKE. LOCKS MAY BE OMITTED ON SIGNAL POWER, AND LIGHTING CABINETS LOCATED WITHIN WIRE CLOSETS AND MECHANICAL-ELECTRICAL ROOMS. LOCKS SHALL BE OF A TYPE TO PERMIT DOORS TO LATCH CLOSED WITHOUT LOCKING.

REVISIONS / ISSUES

Table with 2 columns: DATE, DESCRIPTION. Includes entries for PERMIT SET, CITY COMMENTS, OWNER CHANGES.

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STATUS: ISSUE FOR CONSTRUCTION

FIELD VERIFICATION: Zebra Projects, Inc. shall retain all original dimensions and conditions at the project site and notify Zebra Projects, Inc. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

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SHEET NAME: ELECTRICAL SPECIFICATIONS

DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: HEE SCALE: AS NOTED

SHEET NO.: E400

COMcheck Software Version COMcheckWeb
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: CAVA - Stapleton
Project Type: New Construction

Construction Site: 8969 E 46th Avenue, Denver, Colorado 80238
Owner/Agent:
Designer/Contractor: Dialectic, Inc. 310 W 20th St, Suite 100, Kansas City, Missouri 64108

Additional Efficiency Package(s)

Credits: 10.0 Required 0.0 Proposed

Allowed Interior Lighting Power

Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts
1-Common Space Types:Dining Area - Cafeteria/Fast Food	1065	0.40	426
Allowance: Decorative Appearance (not lobbies) / Fix. ID: P6	400 (a)	0.75	90 (b)
Allowance: Decorative Appearance (not lobbies) / Fix. ID: P1	200 (a)	0.75	36 (b)
2-Common Space Types:Corridor/Transition <8 ft wide	75	0.71	53
3-Common Space Types:Food Preparation	1005	1.09	1095
4-Common Space Types:Office - Enclosed	75	0.74	56
5-Common Space Types:Restrooms	130	0.63	82
Total Allowed Watts = 1838			

(a) Area claimed must not exceed the illuminated area permitted for this allowance type.
(b) Allowance is (B x C) or the actual wattage of the fixtures given in Section 2, whichever is less.

Proposed Interior Lighting Power

Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Watt. (C X D)
1-Common Space Types:Dining Area - Cafeteria/Fast Food			
LED: R4: DOWNLIGHT: Other:	1	10	200
LED: P6: PENDANT: Other:	1	10	90
LED: P1: PENDANT: Other:	1	4	36
Track Lighting: T1: TRACK HEADS: Wattage based on current limiting device capacity	0	0	240
2-Common Space Types:Corridor/Transition <8 ft wide			
LED: R4: DOWNLIGHT: Other:	1	4	80
3-Common Space Types:Food Preparation			
LED: A1: 2X4 LED FLAT PANEL: Other:	1	7	45
LED: R4: DOWNLIGHT: Other:	1	23	460
LED: R1: DOWNLIGHT: Other:	1	7	70
4-Common Space Types:Office - Enclosed			
LED: A1: 2X4 LED FLAT PANEL: Other:	1	1	45
5-Common Space Types:Restrooms			

Project Title: CAVA - Stapleton Report date: 05/23/24
Data filename: Page 1 of 6

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3 [EL22] ¹	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.1 [EL18] ¹	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, corridors, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.1 [EL19] ²	Occupancy sensors control function in warehouses: In warehouses, the lighting in aislesways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more within 20 minutes of when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor. Lights not turned off by occupant sensors is done so by time-switch.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.1 [EL20] ³	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) general lighting in each zone permitted to turn on upon occupancy in control zone, 3) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 4) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.2 [EL21] ³	Each area not served by occupancy sensors (per C405.2.1.1) have time-switch controls and functions detailed in sections C405.2.1.1.	<input type="checkbox"/> Complies <input 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: CAVA - Stapleton Report date: 05/23/24
Data filename: Page 4 of 6

Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Watt. (C X D)
LED: R4: DOWNLIGHT: Other:	1	4	80
Total Proposed Watts = 1616			

Interior Lighting PASSES: Design 12% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Hannah Enggeland - Electrical Designer Signature Date: 05/23/2024

Project Title: CAVA - Stapleton Report date: 05/23/24
Data filename: Page 2 of 6

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.4 [EL23] ²	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 for applicable spaces, C405.2.3.1 Daylight-responsive control function and section C405.2.3.2 Sidelit zone.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Sidelit zones on first floor in Group A-2 and M occupancies.
C405.2.5 [EL27] ¹	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.7 [EL26] ²	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.8 [EL27] ²	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.9.1, C405.9.2 [EL28] ²	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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.10 [EL29] ²	Total voltage drop across the combination of feeders and branch circuits <= 5%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.1.1 [EL30] ²	At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.11.1 [EL31] ²	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1.	<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: CAVA - Stapleton Report date: 05/23/24
Data filename: Page 5 of 6

COMcheck Software Version COMcheckWeb
Inspection Checklist

Energy Code: 2021 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 [PR4] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C406 [PR9] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<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:

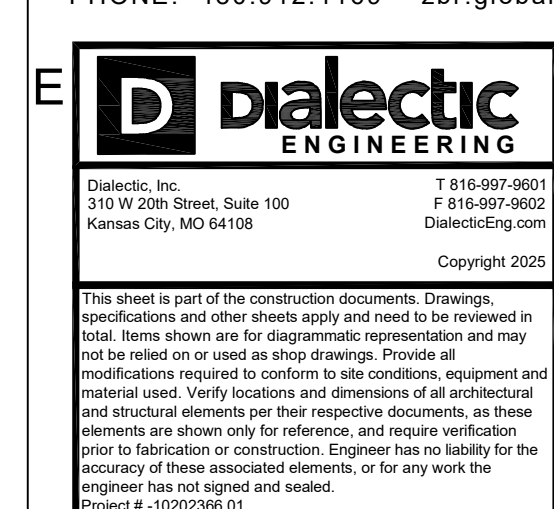
1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
Project Title: CAVA - Stapleton Report date: 05/23/24
Data filename: Page 3 of 6

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5 [F117] ¹	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input 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 type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5 [F116] ²	Furnished as-built drawings for electric power systems 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.
C408.3 [F133] ¹	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<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: CAVA - Stapleton Report date: 05/23/24
Data filename: Page 6 of 6

C406.1.1-TENANT SPACES MODIFIED-10 CREDITS NEEDED.
C406.3.2-9.7=8X10X(1838-1616)
1838
WE HAVE 10% SO ELECTRICAL HAS 7 CREDITS, AND MECH HAS 3 CREDITS. SO WE HAVE 10 CREDITS TO MEET C406.1.1

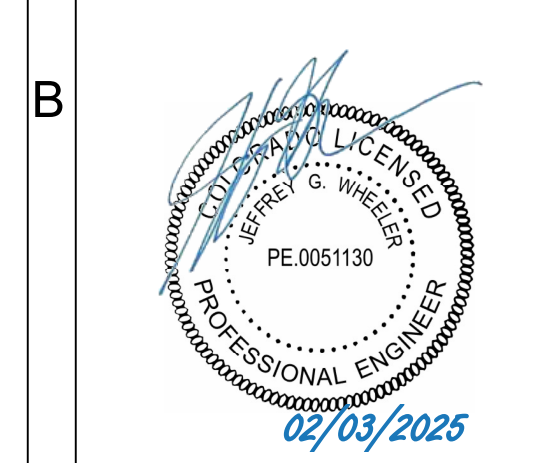


STORE NO.:



REVISIONS / ISSUES	
DATE	DESCRIPTION
05/24/24	PERMIT SET
08/09/24	CITY COMMENTS
09/03/24	CITY COMMENTS
09/20/20	CITY COMMENTS
02/03/25	OWNER CHANGES

STATUS: ISSUE FOR CONSTRUCTION



FIELD VERIFICATION: The Contractor shall verify all figured dimensions and conditions at the project site and notify Zebra Projects, INC. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

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SHEET NAME: ELECTRICAL ENERGY COMPLIANCE

DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: HEE SCALE: AS NOTED

SHEET NO.: E500

2022 Denver Energy Code - Commercial Compliance Checklist
Prescriptive Path - Power & Lighting

Project Address: 8969 E 46TH AVENUE
 DENVER, CO 80238
 UNITED STATES

Date: 5/9/2024



Code Section	Focus Area	Code Description	Drawing or Specification Number to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on drawings/specs)	Submittal Requirements and Clarifications
ALL COMPLIANCE PATHS					
C405.4	Lighting for plant growth and maintenance	This section applies to indoor agriculture facilities. Electronic ballasts are required for all non-LED lighting with replaceable lamps. At least 95% of total watts of lighting for plant growth must meet photosynthetic photon efficacy per this section.	N/A	Not an agriculture facility.	Indicate location of: - Documentation for luminaire or lamp efficacy compliance - Supplemental calculations if applicable Verify on the electrical plans that the new plant growth luminaires are listed by an OSHA NRTL as an assembly and not as an assembly of individually listed components, or if no listing is available for the luminaires, verify that the luminaires will be field certified by an OSHA NRTL and provide the appropriate standard by which the luminaires will be field tested to.
C405.12	Energy Monitoring	For new buildings with a conditioned gross floor area of 25,000 square feet or greater, install electrical energy metering, end-use metering, a data acquisition system and provide a graphical energy report.	N/A	Building is less than 25,000 square feet.	Indicate location of: - Meters for the building and site, HVAC system, interior lighting, exterior lighting, plug load, process load, miscellaneous loads including freezers, pools, in-ground spas and snow-melt systems - Specification for accuracy of current sensors, data acquisition and storage, graphical energy reporting - Supplemental calculations if applicable
C405.13.2 C405.13.3 C405.13.4 C405.13.5 C405.13.6	EV Spaces	Provide electric vehicle infrastructure.	E301	See panel schedules.	Indicate location of: - Raceway or cable assembly, outlet or enclosure, panelboard, switchboard or other electrical distribution directory, dedicated space in electrical room - Marking for "Future electric vehicle supply equipment (EVSE)" - Charging rate for installed spaces - Supplemental calculations if applicable
C405.14 CB 103.8	Solar Ready Electric Service Reserved Space	Main electrical service panel shall have reserve space to allow for installations of two-pole/three-pole circuit breakers for future solar electric and future electrical energy storage system. Reserved spaces to be labeled "For Future Solar Electric" and "For Future Energy Storage". Reserved Spaces shall be positioned at the opposite end of the panel from the panel supply conductor connection.	E301	See panel schedules.	Indicate location of: - Reserved circuit breaker spaces for the future solar electric and future energy storage on the panel schedule

Commercial Prescriptive Checklist - Power Lighting Page 1 of 6

Code Section	Focus Area	Code Description	Drawing or Specification Number to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on drawings/specs)	Submittal Requirements and Clarifications
C405.2.2	Time-switch Controls	Each area of the building that is not provided with occupant sensor controls complying with Section C405.2.1.1 shall be provided with time-switch controls meeting requirements of C405.2.2.1. *Sleeping units shall have control devices or systems that will automatically switch off all permanently installed lighting and switched receptacles within 20 minutes after all occupants have left the unit, with exceptions for lighting and switched receptacles controlled by card key controls and spaces where patient care is directly provided. *Permanently installed lights within dwelling units shall be provided with controls complying with C405.2.1.1 or C405.2.3.1.	E100	Lighting is controlled via the dimming control system which has an integral time clock.	Indicate location of: - Lighting time-switch controls - Sequence of operations
C405.2.3	Light-reduction Controls for general lighting	General lighting shall be provided with light-reduction controls complying with Section C405.2.3.1. Does not apply where occupant sensor controls C405.2.1.1, daylight responsive controls C405.2.4, or special application controls C405.2.5 are provided. Does not apply to certain manual control cases or in corridors, lobbies, electrical rooms and mechanical rooms. Manual control shall allow the occupant to reduce the connected lighting load by at least 50 percent by one of the following or other approved method: *Dimming all lamps or luminaires to less than 20 percent of full power *Dual switching of alternate rows of luminaires, alternate luminaires or alternate lamps *Switching the middle lamp of luminaires independently of the outer lamps *Switching each luminaire or each lamp	E100	Lighting is controlled via the dimming control system. See "Dimmer / Switch Schedule" on sheet.	Indicate location of: - Lighting controls and sequence of operations
C405.2.4	Daylight-responsive Controls	Daylight responsive controls for general lighting are required in spaces with primary sidelit or toplit zones with at least 150 Watts in primary sidelit daylight zones, 300 Watts in sidelit daylight zones, or 150 Watts in toplit daylight zones. Daylighting controls shall be capable to continuous dimming to 15% of full light output and off.	N/A	Primary sidelit wattage: 123W; Sidelit daylight zone: 189W	Indicate location of: - Primary sidelit, secondary sidelit and toplit daylighting zones on floor plans with and locations of luminaires in these zones
C405.2.5	Specific Application Controls	Either an occupant sensor or time-switch control shall control the lighting listed below, and a manual control shall be installed to separately control the lighting from the general lighting in the space. *Additional lighting for retail under C405.3.2.1 *Display and accent lighting. *Display case lighting. *Supplemental task lighting. *Lighting equipment for sale or demonstration in lighting education. *Lighting for nonvisual applications, such as plant growth and food warming, shall be controlled by a time switch control that is independent of the controls for other lighting in the space.	E100	Lighting is controlled via the dimming control system. Each lighting zone is controlled by a separate relay.	Indicate location of: - Lighting controls and sequence of operations

Commercial Prescriptive Checklist - Power Lighting Page 3 of 6

Code Section	Focus Area	Code Description	Drawing or Specification Number to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on drawings/specs)	Submittal Requirements and Clarifications
C405.15 C404.12	Electric Infrastructure and Space for Water Heating	Fossil fuel water heating equipment, furnaces and appliances listed in Section C405.15 shall be provided with junction box or equipment connected to electrical panel to allow for future electric appliances or equipment to be installed in the same space. Minimum space for future water heating equipment is defined in Section C404.12.	E200, E301	Cutsheets for future electric appliance are separate from drawings.	Indicate location of: - Electrical load calculations for the panels feeding the equivalent future electric appliance and equipment - Information demonstrating what the future electric appliance and equipment load capacity will be and how it is equivalent to the fossil fuel appliances and equipment that will be installed - Junction box and electrical panel directory entry for the dedicated circuit breaker space shall have labels stating, "For future electric equipment".
C402.5.10	Recessed lighting	Recessed lighting shall be IC-rated, labeled with air leakage rate of no more than 2.0 cfm at 75 Pa, and sealed.	E300	See light fixture schedule.	Indicate location of: - Drawings with recessed lighting and instructions for gasket or caulk
C403.1.2	Data Centers	Data centers systems shall comply with Sections 6 and 8 of ASHRAE 90.4 with changes listed in C403.1.2: - Maximum Design Electrical Loss Component ELC per Section 8	N/A	Not a data center.	Indicate location of: - ITE design load and W/d, Annualized ELC
PRESCRIPTIVE COMPLIANCE PATH					
C401.2	COMcheck	Demonstrate compliance with C401.2 by submitting the 2022 Denver Energy Code specific COMcheck compliance certificate and inspection checklist.	E500	2021 Comcheck provided.	Indicate location of: - COMcheck certificate and inspection checklist - Provide COMcheck certificates on a stamped and signed drawing by the Colorado registered design professional responsible for each compliance certificate
C405.2.2(2.4)	Lighting Controls	Lighting control shall either comply with sections C405.2.1 through C405.2.7, OR provided with luminaire level lighting controls (LLC) as specified in C405.2.1, C405.2.5, and C405.2.6. If providing LLC per C405.2.2, 2022 Denver Energy Code requirement C405.2.2(2.4) indicates that the provided LLC shall be capable of reducing lighting power uniformly by no less than 10% when signaled by demand responsive control.	E100	Lighting is controlled via the dimming control system.	Indicate location of: - Lighting demand response controls - Sequence of operations - Supplemental calculations if applicable Lighting controls are not required in designated security or emergency areas that are required to be continuously lighted, interior exit stairways, interior exit ramps and exit passageways, normally off emergency egress lighting.
C405.2.1	Occupant Sensor Controls	Occupancy sensors shall be installed in the following rooms: - Classroom/lecture/training rooms, Conference/meeting/multipurpose rooms, Copy/print rooms, Lounges/breakrooms, Enclosed offices, Open plan office areas, Restrooms, Storage Rooms, Locker Rooms, Corridors, Warehouse storage spaces - Other spaces 300 square feet or less enclosed by floor-to-ceiling height partitions	E100	Occupancy sensors provided in restrooms and office.	Indicate location of: - Lighting occupant sensor controls - Sequence of operations - Lighting control zones for warehouse aiseways for C405.2.1.2 if applicable - Open plan offices general lighting control zones not greater than 600 sf per C405.2.1.3 if applicable

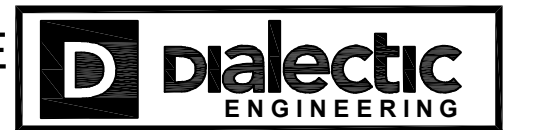
Commercial Prescriptive Checklist - Power Lighting Page 2 of 6

Code Section	Focus Area	Code Description	Drawing or Specification Number to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on drawings/specs)	Submittal Requirements and Clarifications
C405.2.5	Specific Application Controls for Sleeping and Dwelling Units	Either an occupant sensor or time switch control shall control the lighting listed below, and a manual control shall be installed to separately control the lighting from the general lighting in the space. *Sleeping units shall have control devices or systems that will automatically switch off all permanently installed lighting and switched receptacles within 20 minutes after all occupants have left the unit, with exceptions for lighting and switched receptacles controlled by card key controls and spaces where patient care is directly provided. *Permanently installed lights within dwelling units shall be provided with controls complying with C405.2.1.1 or C405.2.3.1.	N/A	Not a sleeping or dwelling space.	Indicate location of: - Lighting controls and sequence of operations
C405.2.6	Manual Controls	Where required, manual controls shall be located with ready access to occupants and shall be located where the controlled lights are visible, or shall identify the area served by the lights and indicate their status.	E100	Controls located in manager's office.	Indicate location of: - Manual lighting controls
C405.2.7	Exterior Lighting Controls	Exterior lighting shall be provided with controls meeting C405.2.7.1 through C405.2.7.4 except for lighting for covered vehicle entrances and exits from buildings where required for eye adaptation and lighting controlled from within dwelling units.	N/A	Exterior lighting falls under the Landlord's scope of work.	Indicate location of: - Exterior lighting controls and sequence of operations
C405.2.8	Parking Garage Lighting Control	Lighting for parking garages shall meet the requirements of C405.2.8.	N/A	No parking garage associated with project.	Indicate location of: - Parking garage lighting controls and sequence of operations
C405.3	Interior Lighting Power	The total interior lighting power allowance is determined using either the Building Area Method or the Space-by-Space Method. Indicate below which of the two methods was chosen for this project.			
C405.3.2.1	Interior Lighting Power Building Area Method	Building Area Method (check box if used)	<input type="checkbox"/>		Building Area Method - The interior lighting power allowance is the floor area of each building area type multiplied by the value for the building area type in Table C405.3.2(1) and then summing the lighting power allowance for each building area type. Note that 2022 DEC deletes footnotes a, b, and c of Table C405.3.2(1), requiring sleeping units and dwelling units to be included in the calculation.
C405.3.2.2	Interior Lighting Power Space-by-Space Method	Space-by-Space Method (check box if used)	<input type="checkbox"/>		Space-by-Space Method - The interior lighting allowance is the floor area of each space multiplied by the value for the space type in Table C405.3.2(2) that most closely represents the proposed use of the space, and then summing the lighting power allowances for all spaces. Tradeoffs among spaces are permitted.
C405.5	Exterior Lighting Power Requirements	The total exterior connected lighting power shall be the total maximum rated wattage of all lighting that is powered through the energy service for the building, with exceptions listed in C405.5(1) through (14). The total exterior lighting power allowance is the sum of the base site allowance and the individual allowances for areas that are to be illuminated by lighting powered through the energy service for the building in Table C405.5.2(2) and Table C405.5.2(3). The lighting zone for the building exterior is determined per Table C405.5.2(1).	N/A	Exterior lighting is part of the landlord existing shell package. No new exterior lighting is being added to this project.	Existing lighting cannot be excluded when calculating the total connected exterior building lighting power.

Commercial Prescriptive Checklist - Power Lighting Page 4 of 6



ZEBRA PROJECTS, INC.
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 SCOTTSDALE, ARIZONA 85254
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STORE NO.:

REVISIONS / ISSUES	
NO.	DESCRIPTION
1	05/24/24 PERMIT SET
2	08/09/24 CITY COMMENTS
3	09/03/24 CITY COMMENTS
4	09/20/20 CITY COMMENTS
5	02/03/25 OWNER CHANGES

STATUS:
 ISSUE FOR CONSTRUCTION

FIELD VERIFICATION:
 The Contractor shall verify all figured dimensions and conditions at the project site and notify Zebra Projects, INC. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.
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SHEET NAME:
ELECTRICAL ENERGY COMPLIANCE

DATE: 05-24-24 PROJECT NO.: 36667
 DRAWN: HEE SCALE: AS NOTED

SHEET NO.:
E501

Code Section	Focus Area	Code Description	Drawing or Specification Number to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on drawings/specs)	Submittal Requirements and Clarifications
C405.6	Dwelling Electrical Meter	Each dwelling unit in an R-2 building shall have a separate electrical meter to determine the electrical energy consumed by each dwelling unit occupant.	N/A	Not a dwelling unit.	Indicate location of: - Electrical meters on the electrical drawings if applicable
C405.7	Electric Transformers	Low-voltage dry-type distribution electric transformers shall meet the minimum efficiency requirements in Table C405.7.	N/A	No dry-type transformers are present.	Indicate location of: - Transformer efficiency
C405.10	Voltage Drop	The total voltage drop across the combination of feeders and branch circuits shall not exceed 5%.	E301	Electrical equipment is provided by the landlord. See approximate voltage drop calculations on the feeder schedule.	Indicate location of: - Calculations documenting that there are no voltage drops exceeding 5% across the combination of feeders and branch circuits
C405.11	Automatic Receptacle Control	Controls on 50 percent of receptacles in enclosed offices, conference rooms, copy or print rooms, breakrooms, classrooms, individual work stations, and modular partitions and office workstation systems and at least 25 percent of branch circuit feeders for modular furniture not shown on construction documents. Controls function shall comply with C405.11.1.	E200	50% of office receptacles shall be controlled.	Indicate location of: - Drawings that indicate which receptacles are to be provided with the automatic receptacle control function - Sequence of operation for automatic receptacle controls

Commercial Prescriptive Checklist - Power Lighting Page 5 of 6

Code Section	Focus Area	Code Description	Drawing or Specification Number to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on drawings/specs)	Submittal Requirements and Clarifications
C406 SELECTED ADDITIONAL EFFICIENCY CREDITS					
C406.3.1 C406.3.2 C406.3.2	Reduced Lighting Power	Reduced Lighting Power: C406.3.1 - 10% C406.3.2 - 15% C406.3.2 - >15%	E500	Passing by 10%.	Indicate credit selected and location of: - Supplemental calculations if applicable
C406.4	Enhanced Digital Lighting Controls	Meet C405.2.1 through C405.2.3 plus continuous dimming, addressed individually or up to four luminaires per controlled group, and up to eight luminaires per daylight zone, and occupancy sensors capable of being reconfigured through the digital control system.	N/A		Indicate location of: - Lighting controls - Sequence of operations
C406.5.1 C406.5.2	On-site Renewable Energy	C406.5.1 Minimum on-site renewables of 0.25 W/hf or 2% of annual energy used for mechanical, service water heating and lighting C406.5.2 Additional on-site renewables	N/A		Indicate credit selected and location of: - On-site renewable energy system - Supplemental calculations if applicable
C406.10	Energy Monitoring	Install electrical energy metering, end-use metering, a data acquisition system and provide a graphical energy report.	N/A		Indicate location of: - Meters for the building and site, HVAC system, interior lighting, exterior lighting, plug load, process load, miscellaneous loads including fireplaces, pools, in-ground spas and snow-melt systems - Specification for accuracy of current sensors, data acquisition and storage, graphical energy reporting - Supplemental calculations if applicable

Version 1.6 Dated March 1, 2024

Commercial Prescriptive Checklist - Power Lighting Page 6 of 6



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This sheet is part of the construction documents. Drawings, specifications and other sheets apply and need to be reviewed in total. Items shown are for diagrammatic representation and may not be relied on or used as shop drawings. Provide all modifications required to conform to site conditions, equipment and material used. Verify locations and dimensions of all architectural and structural elements per their respective documents, as these elements are shown only for reference, and require verification prior to fabrication or construction. Engineer has no liability for the accuracy of these associated elements, or for any work the engineer has not signed and sealed.
Project # 1000266-01

STORE NO.:

8869 E 48TH AVENUE
DENVER, CO 80236
UNITED STATES

REVISIONS / ISSUES	
NO.	DESCRIPTION
1	05/24/24 PERMIT SET
2	08/09/24 CITY COMMENTS
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SHEET NAME:
ELECTRICAL
ENERGY
COMPLIANCE

DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: HEE SCALE: AS NOTED

SHEET NO.:
E502

GENERAL NOTES

- A. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.
- B. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE PIPE RISERS, DROPS, AND OFFSETS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.
- C. DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE PIPING, CONNECTIONS, FITTINGS, VALVES, OFFSETS AND ALL MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
- D. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY AND THE AUTHORITY HAVING JURISDICTION. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.
- E. PROVIDE WATER HAMMER ARRESTORS THROUGHOUT WATER SYSTEMS AS REQUIRED PER "WATER HAMMER ARRESTERS" DETAIL.
- F. PROVIDE BACKFLOW PREVENTION DEVICES IN WATER LINES FEEDING PLUMBING FIXTURES AND/OR EQUIPMENT AS SHOWN ON PLANS AND ELSEWHERE AS REQUIRED BY AUTHORITY HAVING JURISDICTION. USE DEVICES OF APPROVED MANUFACTURER AND TYPE IN ACCORDANCE WITH REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- G. CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF PRESSURE AT BUILDING ENTRY PRIOR TO ALL LOCALLY REQUIRED DEVICES IS LESS THAN 60 PSIG STATIC, CONTACT OWNER'S REPRESENTATIVE. IF PRESSURE EXCEEDS 80 PSIG, PROVIDE PRESSURE REDUCING VALVE.
- H. SUSPEND HORIZONTAL SERVICE PIPING FROM UNDERSIDE OF ROOF OR FLOOR STRUCTURE UNLESS OTHERWISE INDICATED. INSTALL PIPING AS HIGH AS POSSIBLE. EXTEND PIPING DOWN IN WALLS, PARTITIONS AND CHASES TO SERVE FIXTURES AND EQUIPMENT.
- I. VERIFY SERVICE CONNECTION POINTS, SIZES, ELEVATIONS AND METERING LOCATIONS FOR PROJECT WITH LOCAL UTILITY COMPANIES AND/OR CIVIL ENGINEER, AS APPLICABLE.
- J. REFER TO OTHER PORTIONS OF PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION ABOUT ITEMS FURNISHED AND WORK PERFORMED BY FOOD SERVICE EQUIPMENT CONTRACTOR (FSEC). VERIFY ROUGH-IN AND CONNECTION REQUIREMENTS WITH FSEC SHOP DRAWINGS.
- K. COMPLY WITH LOCAL HEALTH DEPARTMENT REGULATIONS. OMIT ESCUTCHEONS IN FOOD SERVICE AREAS. SEAL PIPES NEAT WITH GROUT AT WALL, FLOOR, OR CEILING PENETRATIONS. OMIT INSULATION ON EXPOSED PIPING BEHIND AND UNDER EQUIPMENT. PROVIDE CLEARANCE BEHIND AND UNDER EXPOSED PIPING AS REQUIRED BY HEALTH DEPARTMENT. WHEREVER POSSIBLE, INSTALL PIPING IN FOOD SERVICE AREAS CONCEALED. CONFORM TO HEALTH DEPARTMENT REQUIREMENTS FOR LOCATIONS OF FLOOR SINKS.
- L. USE OF COMBUSTIBLE MATERIALS IS NOT ALLOWED IN THE RETURN AIR PLENUM. MATERIALS USED IN THE PLENUM SHALL HAVE FLAME SPREAD RATING NOT TO EXCEED 25 AND SMOKE DEVELOPED RATING NOT TO EXCEED 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.

KITCHEN EQUIPMENT SCHEDULE

ITEM#	DESCRIPTION	NOTES	BFP
1	MOP SINK		-
1B	SERVICE SINK FAUCET		-
3A	EVAPORATOR COIL, COOLER	NOTE 5	-
5	HAND SINK, WALL MOUNTED	NOTE 1	-
14	WAREWASHER, UNDERCOUNTER, LOW TEMP	NOTE 3	-
17	SINK, SCULLERY, 4 COMPARTMENTS	NOTE 6	-
17B	PRE-RINSE FAUCET, WALL MOUNT	NOTE 2	-
17C	FAUCET, WALL MOUNT		-
19	WORK TABLE W/ SINK		-
19A	FAUCET, WALL MTD		-
22	CARBONATOR	WATTS SD-3 (ASSE 1022)	-
23	FILTER SYSTEM, ICE MAKER	WATTS LF7 (ASSE 1024)	-
24	BIN, ICE	NOTE 4	-
25	ICE MAKER	WATTS LF7 (ASSE 1024)	-
32	SINK, DECK MOUNT		-
32A	FAUCET, DECK MOUNT	NOTE 1	-
39	HAND SINK		-
39A	FAUCET, DECK MOUNT	NOTE 1	-
44	RANGE, RESTAURANT, GAS		-
45	GRIDDLE, HEAVY DUTY, GAS		-
46	FRYER, DEEP FAT, GAS		-
63	DROP-IN SINK	NOTE 3	-
65	ICE DISPENSER W/ BEVERAGE HEADS	NOTE 3	WATTS LF7 (ASSE 1024)
66	ICE DISPENSER W/ BEVERAGE HEADS	NOTE 3	WATTS LF7 (ASSE 1024)
67	FILTER SYSTEM, FOUNTAIN BEVERAGE		WATTS LF7 (ASSE 1024)
68	TABLE, ENCLOSED BASE	NOTE 3	-
73	WATER DISPENSER, FAUCET		WATTS LF7 (ASSE 1024)
80	COLD WELL	NOTE 3	-
82	DROP-IN, COLD PAN	NOTE 3	-

- NOTES:**
1. PROVIDE WITH SYMMONS 725-CK MIXING VALVE OR APPROVED EQUIVALENT SET TO 105°F.
 2. PROVIDE CHECK VALVE PRIOR TO SPRAYER.
 3. ROUTE DRAIN LINE TO FLOOR SINK PER "INDIRECT DRAIN" DETAIL.
 4. ROUTE DRAIN LINE TO EXISTING FLOOR DRAIN PER "INDIRECT DRAIN" DETAIL.
 5. ROUTE DRAIN LINE TO HUB DRAIN PER "INDIRECT DRAIN" DETAIL.
 6. CONNECT TO FOOD SERVICE EQUIPMENT PER "UTILITY SINK" DETAIL.

PLUMBING SPECIFICATION

THE WORK INCLUDES MODIFICATION TO EXISTING PLUMBING SYSTEM AND PROVIDING NEW MATERIALS, FITTINGS AND ACCESSORIES NECESSARY FOR A COMPLETE FUNCTIONING PLUMBING SYSTEM. THE WORK ALSO INCLUDES ROUGH-IN AND FINAL CONNECTIONS TO FOOD SERVICE EQUIPMENT AND BEVERAGE DISPENSING EQUIPMENT PROVIDED BY OTHERS. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES AND IS SUBJECT TO INSPECTION.

HOOK-UP CHARGES, PERMITS AND ALL OTHER EXPENSES RELATED TO A COMPLETE AND FUNCTIONING PLUMBING SYSTEM ARE INCLUDED AS A PART OF THIS SECTION.

INTENT OF DRAWINGS IS TO INDICATE GENERAL EXTENT OF WORK REQUIRED. DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, FIXTURES AND EQUIPMENT REQUIRED. DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD ROUGH-IN DRAWINGS FOR PLUMBING FIXTURE INSTALLATION REQUIREMENTS. COMPLY WITH APPLICABLE ADA INSTALLATION REQUIREMENTS.

COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, AND WITH CONSTRAINTS OF EXISTING CONDITIONS OF PROJECT SITE.

PIPING SYSTEMS - GENERAL: PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. PIPING SHALL BE CONCEALED EXCEPT IN UNFINISHED SPACES. INSTALL PIPING AS REQUIRED TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK SUCH AS DUCTS AND ELECTRICAL CONDUIT. PROVIDE ISOLATING DIELECTRIC UNION AT ALL CONNECTIONS BETWEEN FERROUS PIPING AND NONFERROUS PIPING. HANGERS SHALL BE COMPATIBLE WITH PIPING MATERIAL TO PREVENT CORROSION.

PROVIDE ALL FITTINGS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE PLUMBING SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND EQUIPMENT INDICATED.

FIXTURES/EQUIPMENT FURNISHED BY OTHERS: PLUMBING CONTRACTOR SHALL PROVIDE UTILITY CONNECTIONS REQUIRED SUCH AS WATER, GAS, AIR, SUPPLIES, WASTE OUTLET, TRAPS, ETCETERA AT ALL PLUMBING TYPE FIXTURES OR EQUIPMENT FURNISHED BY OWNER, GENERAL CONTRACTOR, FOOD SERVICE CONTRACTOR, EQUIPMENT SUPPLIER, ETCETERA. PROVIDE STOP VALVES, ESCUTCHEONS, AND CHROME PLATED BRASS TUBING WITH COMPRESSION FITTINGS.

SANITARY SEWER AND GREASE WASTE PIPING: PROVIDE ALL DRAINS AND PIPING WITHIN PROJECT SPACE WITH CONNECTION TO EXISTING OR NEW DRAINAGE SYSTEMS ON-SITE. SANITARY DRAINAGE PIPING SHALL BE STANDARD WEIGHT HUBLESS CAST IRON PIPE AND FITTINGS WITH NO-HUB MECHANICAL JOINTS. CONTRACTOR MAY UTILIZE SCH-40 PVC PIPE WITH SOLVENT WELD FITTINGS IF ALLOWED BY LOCAL CODE. NO PVC PLASTIC PIPING IS ALLOWED WITHIN RETURN AIR PLENUM. ALL DRAINAGE PIPING SHALL BE UNIFORMLY PITCHED AT 1/4" PER FOOT FOR PIPE SIZES 3" AND SMALLER AND 1/8" PER FOOT FOR PIPE SIZES 4" AND LARGER, UNLESS OTHERWISE REQUIRED BY EXISTING CONDITIONS, OR INDICATED ON DRAWINGS.

SANITARY VENT PIPING: STANDARD WEIGHT HUBLESS CAST IRON PIPE AND FITTINGS WITH NO-HUB MECHANICAL JOINTS. CONTRACTOR MAY UTILIZE SCH-40 PVC PLASTIC PIPE WITH SOLVENT WELD FITTINGS IF ALLOWED BY LOCAL CODE. NO PVC PLASTIC PIPING IS ALLOWED WITHIN RETURN AIR PLENUM. VENT SYSTEM SHALL BE CONNECTED TO THE LANDLORD SYSTEM OR CARRIED THROUGH THE ROOF WITH APPROPRIATE FLASHING.

CONDENSATE AND INDIRECT DRAIN PIPING: TYPE M COPPER TUBING UP TO 1" ID, TYPE DWV COPPER TUBING AND FITTINGS FOR 1-1/4" AND LARGER SIZES.

WATER DISTRIBUTION PIPING: ABOVE GRADE WATER PIPING SHALL BE 1/2" MINIMUM TYPE L COPPER TUBING WITH WROUGHT COPPER FITTINGS AND SWEAT CONNECTIONS. BELOW GRADE WATER PIPING SHALL BE 1/2" MINIMUM TYPE K COPPER TUBING WITH WROUGHT COPPER FITTINGS, AND SILVER SOLDER JOINTS. LAYOUT WATER PIPING SO THAT ENTIRE SYSTEM CAN BE DRAINED. PROVIDE WATER HAMMER ARRESTERS AT EACH FIXTURE OR GROUP OF FIXTURES AS REQUIRED. PROVIDE CHROME PLATED BRASS ESCUTCHEON PLATES AT ALL PENETRATIONS THROUGH FINISHED SURFACES (INCLUDING CABINET INTERIORS). USE LEAD FREE OR TIN-ANTIMONY SOLDER, 95/5 FOR ALL SWEAT FITTINGS OF COPPER PIPING.

NATURAL GAS SYSTEM: PROVIDE COMPLETE GAS PIPING SYSTEM TO SERVE EQUIPMENT AS NOTED ON THE DRAWINGS. PROVIDE THREADED STEEL OR MALLEABLE IRON PIPE WITH MALLEABLE FITTINGS OR WELDED STEEL. PROVIDE ALL UNIONS, SHUT-OFF VALVES AND DIRT LEGS REQUIRED BY NFPA-54 AND GOVERNING LOCAL CODES AND AT EACH GAS APPLIANCE CONNECTION. PROVIDE ALL TESTS, METERS, INSPECTIONS, HANGERS AND EQUIPMENT CONNECTIONS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

INSULATION FOR WATER AND WASTE PIPING BELOW ACCESSIBLE LAVATORIES/SINKS: PROVIDE TUBROG "LAVGUARD 2" PRE-MANUFACTURED ADA TRAP AND SUPPLY PROTECTION OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

PROVIDE SHUTOFF VALVES WITH UNIONS FOR SERVICE TO EACH PLUMBING FIXTURE, FOOD SERVICE EQUIPMENT ITEM OR OTHER EQUIPMENT ITEM. TO FACILITATE ISOLATION FOR REPAIR OR REPLACEMENT. PIPE LINE VALVES SHALL BE QUARTER TURN BALL VALVE EQUAL TO CRANE SERIES #9200, WITH TWO PIECE BRONZE BODY, FULL PORTED, CHROME PLATED BRASS BALL, REPLACEABLE "TEFLON OR TFE" SEATS AND SEALS, RATING OF 150 PSI WSP, 600 PSI WOC. CONNECTIONS SHALL BE SOLDER OR THREADED ENDS TO MATCH PIPING. STANDARD COMPLIANCE - BRONZE OR BRASS VALVES: MSS-SP-110. WHEN SHUTOFF VALVES ARE PLACE IN CEILING, VALVES SHALL BE LOCATED AT MAXIMUM 12" ABOVE CEILING, AND NOTHING SHALL BE PLACED BETWEEN CEILING ACCESS AND VALVES.

PROVIDE INSULATION THICKNESS AS INDICATED:
DOMESTIC COLD WATER:
PIPING 1-1/4" AND SMALLER: 1/2" THICKNESS.
PIPING 1-1/2" AND LARGER: 1" THICKNESS.
DOMESTIC HOT WATER:
PIPING 1-1/4" AND SMALLER: 1" THICKNESS.
PIPING 1-1/2" AND LARGER: 1-1/2" THICKNESS.
PLUMBING VENT PIPING WITHIN 6 FEET OF ROOF OUTLET: 1" THICKNESS.
CONDENSATE PIPING: 1/2" THICKNESS.

INSULATION FOR WATER AND WASTE PIPING BELOW ACCESSIBLE LAVATORIES/SINKS: PROVIDE TUBROG "LAVGUARD 2" PRE-MANUFACTURED ADA TRAP AND SUPPLY PROTECTION OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

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PROVIDE ACCESS PANELS WHERE CONCEALED CONTROL DEVICES, VALVES, ETCETERA ARE CONCEALED WITHIN WALLS, WHERE ACCESS FOR ADJUSTMENT AND MAINTENANCE IS POSSIBLE THROUGH LAY-IN SUSPENDED CEILINGS, ACCESS PANELS ARE NOT REQUIRED.

INSTALLATION: THOROUGHLY CLEAN ITEMS BEFORE INSTALLATION. CAP PIPE OPENINGS TO EXCLUDE DIRT UNTIL FIXTURES AND FINAL CONNECTIONS HAVE BEEN MADE. PROCEED AS RAPIDLY AS CONSTRUCTION WILL PERMIT. SET FIXTURES LEVEL AND IN PROPER ALIGNMENT. INSTALL SUPPLIES IN PROPER ALIGNMENT WITH FIXTURES. INSTALL SILICONE SEALANT BETWEEN FIXTURES AND ADJACENT MATERIAL, FOR SANITARY JOINT, AND OMIT ESCUTCHEONS.

REPAIR EXISTING PLUMBING SYSTEM COMPONENTS DAMAGED BY CONSTRUCTION OPERATIONS AND RESTORE TO ORIGINAL CONDITION.

WATER SYSTEM SHALL BE CLEANED, INSPECTED, AND TESTED AT 50 PSIG ABOVE THE OPERATING PRESSURE FOR MINIMUM FOUR (4) HOURS. WHEN TESTING INDICATES MATERIALS OR WORKMANSHIP IS DEFICIENT, REPLACE OR REPAIR AS REQUIRED, AND REPEAT TEST UNTIL STANDARDS ARE ACHIEVED.

GAS SYSTEM SHALL BE CLEANED, INSPECTED, AND TESTED AT 1.5x THE OPERATING PRESSURE OR MINIMUM 25 PSIG HYDROSTATIC PRESSURE, FOR MINIMUM FOUR (4) HOURS. WHEN TESTING INDICATES MATERIALS OR WORKMANSHIP IS DEFICIENT, REPLACE OR REPAIR AS REQUIRED, AND REPEAT TEST UNTIL STANDARDS ARE ACHIEVED.

TEST SANITARY DRAINAGE AND VENT SYSTEM BY FILLING WITH WATER UNTIL ALL POINTS IN SYSTEM ARE SUBJECT TO PRESSURE OF AT LEAST 10' OF WATER. WATER LEVEL SHALL REMAIN STATIONARY FOR A PERIOD OF TWO HOURS, WITHOUT PIPE OR JOINT LEAKAGE. IF TESTING INDICATES DEFICIENCIES REPLACE OR REPAIR AS REQUIRED, AND REPEAT TEST UNTIL STANDARDS ARE ACHIEVED.

PLUMBING SYMBOLS LEGEND

- ABBREVIATIONS:**
- AFF/AFG ABOVE FINISHED FLOOR/GRADE
 - BFP BACKFLOW PREVENTER
 - CO CLEANOUT
 - FFCO/FGCO FLUSH FLOOR/GRADE CLEANOUT
 - FSEC FOOD SERVICE EQUIPMENT CONTRACTOR
 - IW INDIRECT WASTE
 - PC PLUMBING CONTRACTOR
 - RI ROUGH-IN
 - TYP TYPICAL
 - UNO UNLESS NOTED OTHERWISE
 - VTR VENT THRU ROOF
 - WCO WALL CLEANOUT
 - (E) EXISTING
 - ETR EXISTING TO REMAIN

- LINETYPES:**
- EXISTING PLUMBING LINE - SEE DRAWING
 - COLD WATER (CW)
 - COLD WATER (CW) - BELOW SLAB/GRADE
 - FILTERED WATER SUPPLY (FW)
 - HOT WATER (HW) 140'
 - HOT WATER RETURN (HWR)
 - GAS LINE (G)
 - CONDENSATE LINE (D)
 - PLUMBING VENT (V)
 - PLUMBING VENT (V) - BELOW SLAB/GRADE
 - SANITARY WASTE (SAN) - BELOW SLAB/GRADE
 - GREASE WASTE (GW) - BELOW SLAB/GRADE
 - STORM WATER DRAIN (ST) - BELOW SLAB/GRADE
 - OVERFLOW DRAIN (OST) - BELOW SLAB/GRADE

- GENERAL REFERENCES/NOTATIONS:**
- CONNECT TO EXISTING
 - PLAN NOTE DESIGNATION
 - FIXTURE/EQUIPMENT NOTE DESIGNATION
 - FOODSERVICE EQUIPMENT DESIGNATION
 - REVISION DESIGNATION

- PIPE SYMBOLS:**
- PIPE TURNING UP/DOWN
 - TEE TURNING UP/DOWN
 - SHUTOFF VALVE (BALL TYPE)
 - CHECK VALVE
 - BALANCING VALVE
 - GAS PRESSURE REGULATOR
 - END CAP

SYMBOLS LEGEND NOTES:
REFER TO SPECIFICATIONS AND PLAN NOTES FOR DETAILED DESCRIPTION OF ALL DEVICES SHOWN IN THIS SCHEDULE, PROVIDED BY THIS CONTRACTOR.

PLUMBING FIXTURE SCHEDULE

ID	FIXTURE TYPE	MANUF.	MODEL	CONNECTION SIZES				DESCRIPTION	ACCESSORIES/OPTIONS
				CW	HW	SAN	VENT		
WC	WATER CLOSET (ACCESSIBLE)	KOHLER	K-96057 "HIGHCLIFF ULTRA"	1"	-	4"	2"	FLOOR MOUNT, ELONGATED, FLUSHMETER BOWL	PROVIDE WITH MOEN #8310M16 MANUAL 1.6 GPF WC FLUSHMETER VALVE, KOHLER K-4731-C "STRONGHOLD" COMMERCIAL HEAVY-DUTY TOILET SEAT
LAV	LAVATORY (ACCESSIBLE)	KOHLER	K-1997-1N "BRENHAM"	1/2"	1/2"	2"	1 1/2"	WALL MOUNT, WHITE VITREOUS CHINA	PROVIDE WITH K-16027-4 "JULY" SINGLE-HOLE FAUCET IN BRUSHED CHROME. PROVIDE GRID STRAINER DRAIN WITH TAILPIECE, CHROME-PLATED CAST BRASS P-TRAP WITH CLEANOUT, WASTE ARM TO WALL WITH ESCUTCHEON AND 1/2" TURN ANGLE BALL STOPS WITH METAL HANDLE, 31" RIM HEIGHT. PROVIDE WITH SYMMONS 725-CK MIXING VALVE OR APPROVED EQUAL, SET TO 105°F.
ED	FLOOR DRAIN	JR SMITH	2010-NB-P050	-	-	3"	1 1/2"	CAST IRON DRAIN WITH ADJUSTABLE NICKEL BRONZE STRAINER AND MEMBRANE FLASHING CLAMP.	PROVIDE PROVENT SYSTEMS TRAP GUARD OR APPROVED EQUIVALENT. PROVIDE OUTLET WITH P-TRAP AND CLEAN AND POLISH STRAINER TOP AFTER INSTALLATION.
ES	FLOOR SINK	JR SMITH	3411-AB-12	-	-	3"	1 1/2"	CAST IRON BODY, FLASHING CLAMP, ACID RESISTANT COATED INTERIOR AND CAST IRON GRATE, 8" SQUARE	PROVIDE WITH 1/2" GRATE AND ALUMINUM SEDIMENT BUCKET. PROVIDE OUTLET WITH P-TRAP.
NEWH	WALL HYDRANT	JR SMITH	5609QT	3/4"	-	-	-	ANTI-SIPHON, AUTOMATIC DRAINING QUARTER TURN WALL HYDRANT, NON-FREEZE INTEGRAL VACUUM BREAKER.	BRONZE INTERIOR PARTS, KEY OPERATED, 3/4" SOLDER INLET MOUNT 18" ABOVE FINISHED GRADE.
RP	RECIRC PUMP	BELL & GOSSET	NBF-12	3/4"	-	-	-	BRONZE PUMP WITH A CAPACITY OF 5 GPM AT 9 FT HEAD, 1/16 HORSEPOWER, 2800 RPM, 115V-1Ø. INSTALL NEAR WATER HEATER PER MANUFACTURER'S INSTRUCTIONS	PROVIDE WITH PIPE MOUNTED AQUASTAT AND INTERLOCK WITH BUILDING LIGHTING CONTROLS. REFER TO DETAIL FOR ADDITIONAL INFORMATION.

WATER HEATER SCHEDULE

MARK	MAKE	MODEL	TYPE	STORAGE (GAL)	RECOVERY	ELECTRICAL			NOTES (#)
						VOLT	PHASE	KW	
WH-1	RHEEM	XE80T10H450U0	HEAT PUMP	80	27 GPH AT 90'	208	1	4.5	(1), (2), (3), (4)
WH-2	RHEEM	XE80T10H450U0	HEAT PUMP	80	27 GPH AT 90'	208	1	4.5	(1), (2), (3), (4)

- NOTES:**
1. HYBRID HEAT PUMP WATER HEATER. PROVIDE WITH DUCTED INLET AND OUTLET TO OUTSIDE PER MANUFACTURER'S REQUIREMENTS. COORDINATE WITH ALL TRADES.
 2. FURNISH WITH AMTROL ST-30V EXPANSION TANK FOR BOTH TANKS. INSTALL PER MANUFACTURER'S REQUIREMENTS.
 3. SET WATER HEATER OUTLET TEMPERATURE TO 140°F.
 4. ENERGY FACTOR RATING OF 3.75 - 4.07 MEETING DENVER ENERGY CODE C404.2.
 5. HYBRID HEAT PUMP WATER HEATER IS FURNISHED WITH INTEGRAL FACTORY SET CONTROLS THAT ONLY ENGAGE THE ELECTRIC HEATING ELEMENTS WHEN THE DEMAND REQUIRES MAINTAINING THE SET POINT TEMPERATURE. DO NOT SET WATER HEATERS TO ALL ELECTRIC MODE, LEAVE AT FACTORY SETTINGS.



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Project # 10029626-01

STORE NO.:

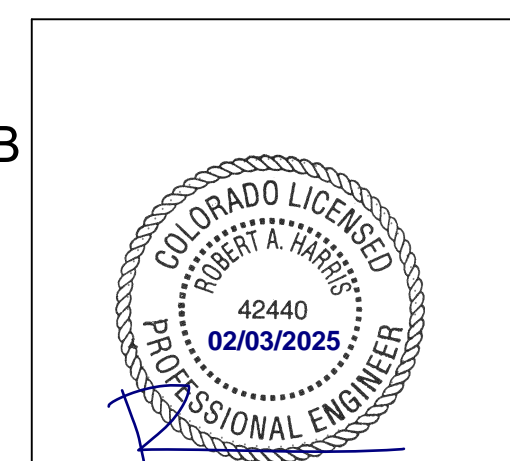


REVISIONS / ISSUES

NO.	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:

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SHEET NAME:

PLUMBING SYMBOLS, SCHEDULES, & NOTES

DATE: 05-24-24 PROJECT NO.: 36667

DRAWN: JL SCALE: AS NOTED

SHEET NO.:

P000

E
D
C
B
A

GREASE INTERCEPTOR CALCULATIONS

City and County of Denver Grease Interceptor Sizing:

Cooking		Drainage Fixtures	
Appliance	Quantity	Fixture	Quantity
stove(s)/griddle(s)	1	3 comp or 2 comp sink	1
oven(s)	1	Pot Sink	2
broiler(s)	0	Mop Sink	1
fryer(s)	1	Floor Sink	5
wok(s)	0	Hand Sink	2
		Garbage Disposal	0
		Dishwasher	1

Establishment Information	
Majority Take Out?	No
Seating Capacity	80
Hours of Operation	12
Peak Meals Per Day	300
Peak meals Per Hour	75

TOTAL CUF = 3

Required Interceptor Size **1200** Gallons

- ### GENERAL NOTES
- A. THE EXISTING GREASE INTERCEPTOR MUST BE PUMPED CLEAN AND INSPECTED BY DOTI WW PLUMBING INSPECTION FOR DEVICE CONDITION, CONFORMANCE TO WASTEWATER STANDARDS AND EXISTING SIZE VERIFIED PRIOR TO THIS SEWER USE & DRAINAGE PERMIT BEING APPROVED FOR ISSUANCE. EMAIL DOTIPERMITOPERATIONS@DENVERGOV.ORG WITH VALID PLUMBING CONTRACTOR LICENSE NUMBER, PERMIT NUMBERS, TYPE OF INSPECTION BEING REQUESTED (INTERCEPTOR VERIFICATION INSPECTION) NO LATER THAN 3:30 P.M. ON THE PREVIOUS BUSINESS DAY, TO SCHEDULE.
- ### PLUMBING KEY NOTES
- CONNECT TO LANDLORD FURNISHED SANITARY WASTE LINE BELOW FLOOR AS SHOWN PER PLAN. FIELD VERIFY REQUIREMENTS.
 - CONNECT TO LANDLORD FURNISHED GREASE WASTE LINE BELOW FLOOR AS SHOWN PER PLAN. FIELD VERIFY REQUIREMENTS. LANDLORD TO PROVIDE 1,500 GALLON DEDICATED GREASE INTERCEPTOR.
 - CONNECT TO EXISTING SANITARY VENT AS SHOWN PER PLAN. FIELD VERIFY REQUIREMENTS.
 - PROVIDE NEW WATER HEATERS PER "DUAL HEAT PUMP WATER HEATERS" DETAIL. ROUTE TEMPERATURE AND PRESSURE RELIEF VALVE AND CONDENSATE DRAIN TO DISCHARGE TO FLOOR SINK AS SHOWN ON PLAN WITH 6" AIR GAP. PROVIDE INSULATION ON CONDENSATE DRAIN AS PER THE SPECIFICATIONS.
 - ROUTE DRAIN LINE TO DISCHARGE TO PLUMBING FIXTURE PER "INDIRECT DRAIN" DETAIL.
 - CONNECT TO EXISTING 2" VENT PIPING BELOW GRADE SERVING LANDLORD PROVIDED GREASE INTERCEPTOR. FIELD VERIFY EXACT LOCATION.



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Project #: 11002626-01

STORE NO:

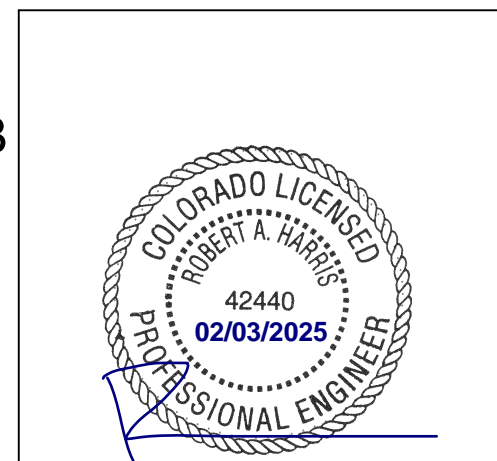
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UNITED STATES

REVISIONS / ISSUES

NO	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:
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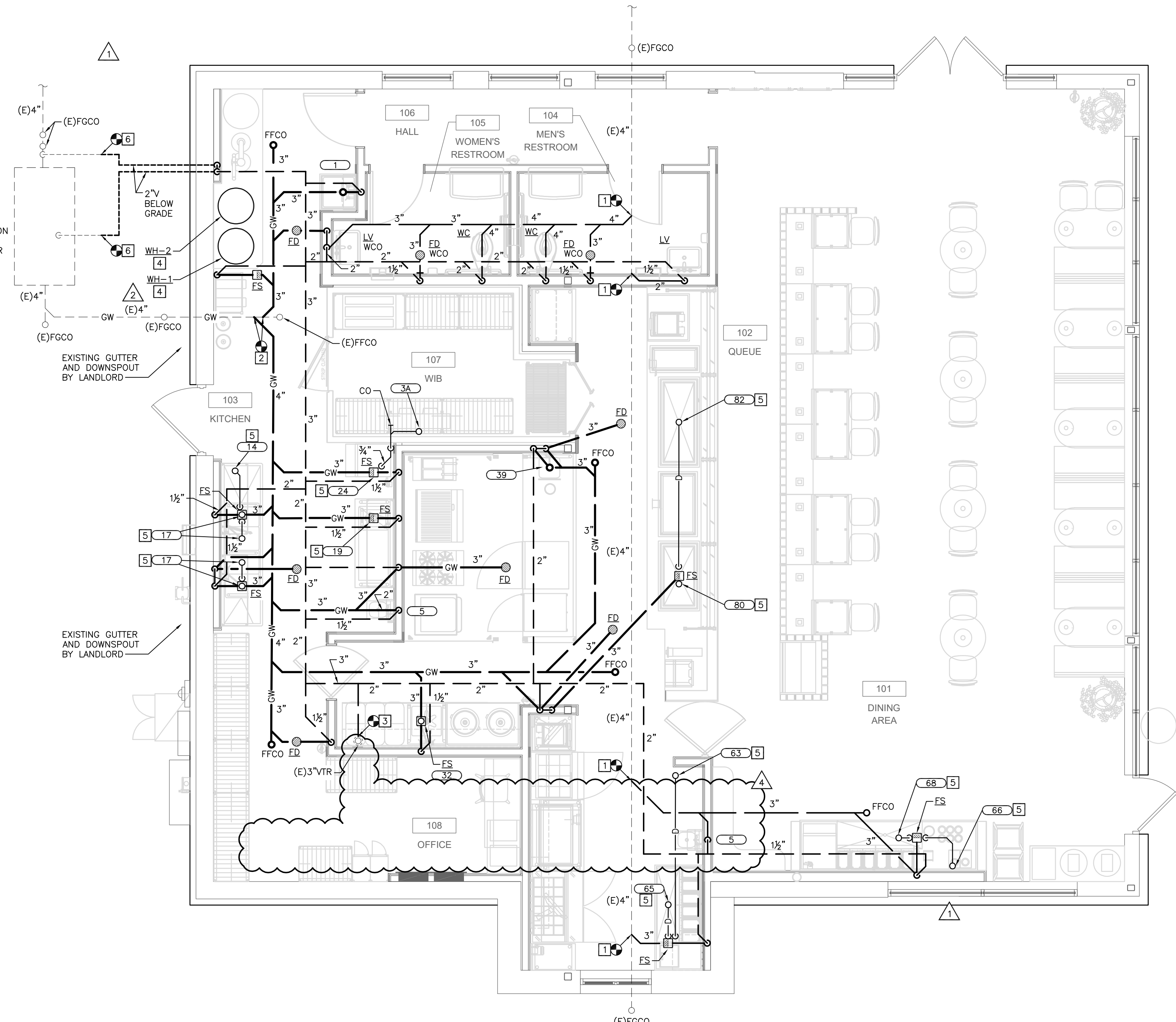
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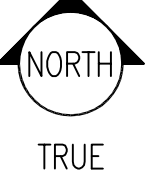
SHEET NAME:
PLUMBING PLAN - WASTE AND VENT

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: JL SCALE: AS NOTED

SHEET NO.:
P100



1 PLUMBING PLAN - WASTE & VENT
1/4" = 1'-0"



- PLUMBING KEY NOTES**
- 1-1/2" DOMESTIC COLD WATER LINE FROM CIVIL. REFERENCE CIVIL PLANS FOR CONTINUATION.
 - GAS MECHANICAL VALVE PROVIDED BY HOOD MANUFACTURER AND INSTALLED BELOW CEILING FOR COOKING EQUIPMENT. INTERLOCK WITH G.C. PROVIDED ANSUL FIRE PROTECTION SYSTEM AT HOOD. COORDINATE WITH HOOD MANUFACTURER.
 - ROUTE GAS PIPING THROUGH ROOF PER "ROOF PENETRATION" DETAIL.
 - PROVIDE NEW WATER HEATERS PER "DUAL HEAT PUMP WATER HEATERS" DETAIL. ROUTE WASTE FROM T&P AND DRAIN VALVE TO RECEPTOR WITH AIR GAP.
 - COORDINATE WITH THE LOCAL GAS COMPANY TO PROVIDE 14" W.C AT NEW METER LOCATION. REFER TO GAS SCHEDULE AND "GAS SERVICE" DETAIL.
 - INSTALL OWNER FURNISHED WATER SOFTENER. COORDINATE WITH OWNER'S REPRESENTATIVE FOR EXACT REQUIREMENTS. PROVIDE WITH LINE SIZE BY-PASS AND VALVE. ROUTE DRAIN LINE TO FLOOR DRAIN WITH AIR GAP.

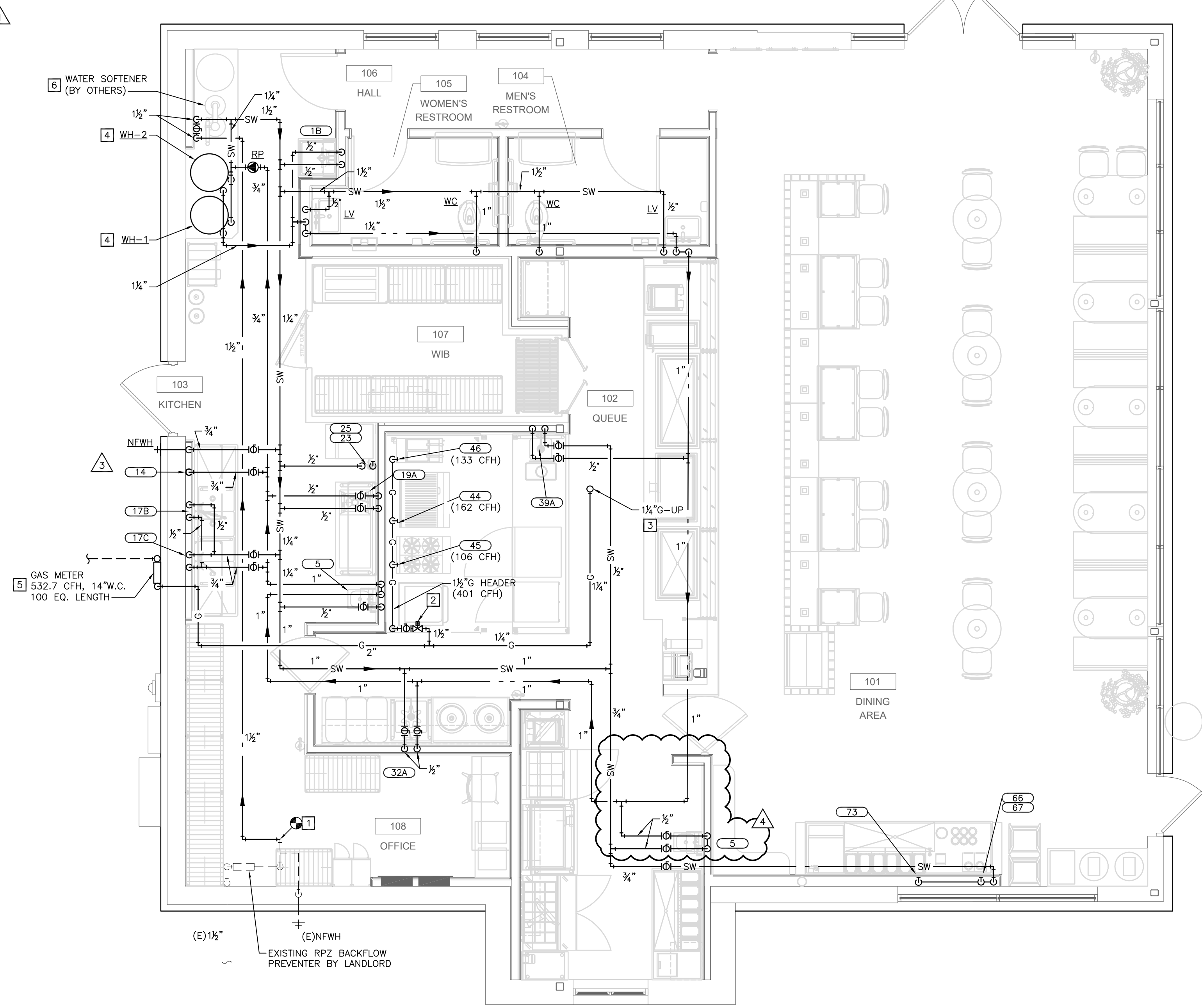
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Project # 1000266-01



1 PLUMBING PLAN - WATER & GAS
1/4" = 1'-0"

STORE NO:

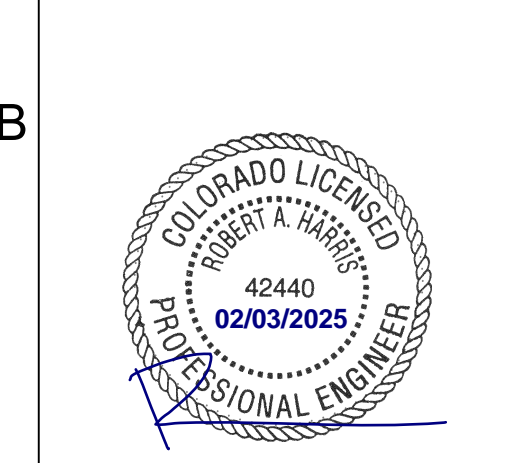
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1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:
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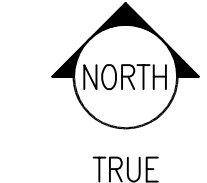
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SHEET NAME:
PLUMBING PLAN - WATER & GAS

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: JL SCALE: AS NOTED

SHEET NO.:
P101



5

4

3

2

1

- PLUMBING KEY NOTES**
- 1 CONNECT TO MECHANICAL EQUIPMENT PER "MAKE-UP AIR UNIT CONNECTIONS" DETAILS.
 - 2 ROUTE GAS PIPING THROUGH ROOF PER "ROOF PENETRATION" DETAIL.
 - 3 GAS PIPING ROUTED ON ROOF PER "ROOF PIPE SUPPORT" DETAIL.

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Project # 1100236-01

STORE NO.:

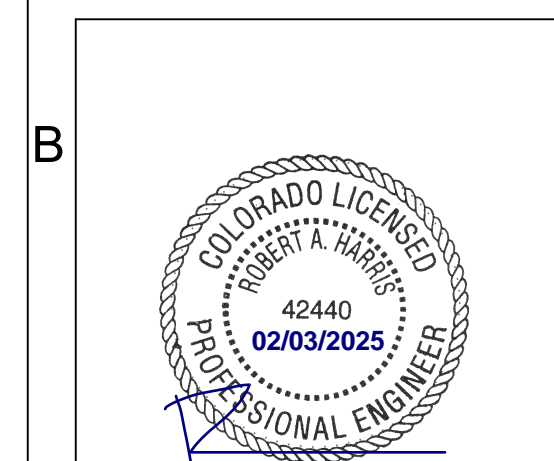
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NO.	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:
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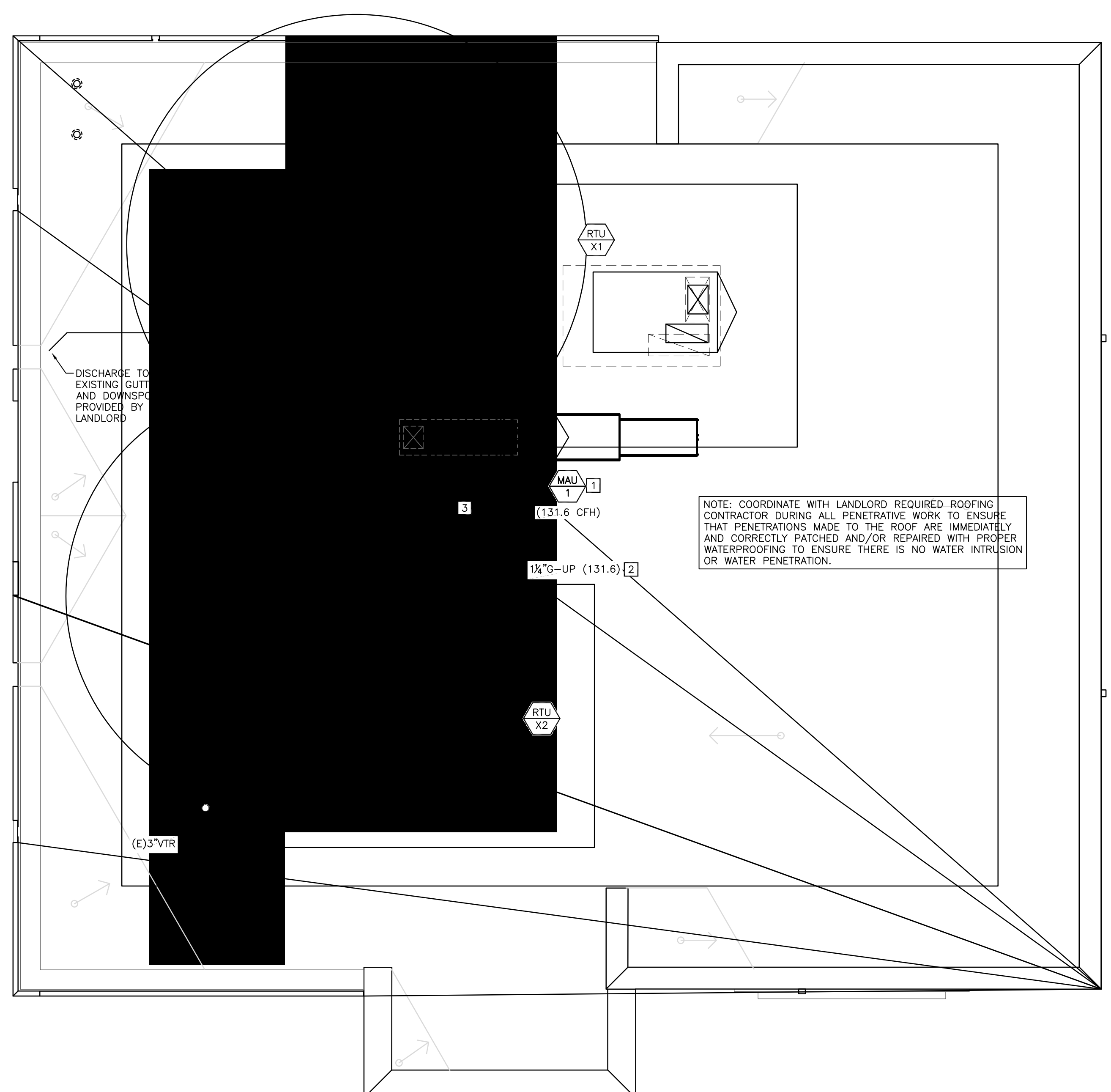
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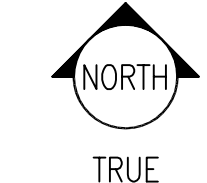
SHEET NAME:
PLUMBING PLAN - ROOF

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: JL SCALE: AS NOTED

SHEET NO.:
P102



1 PLUMBING PLAN - ROOF
1/4" = 1'-0"



5

4

3

2

1

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Project # 10202501

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STATUS:
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PROFESSIONAL ENGINEER

COLORED LICENSED
ROBERT A. HARRIS
42440
02/03/2025

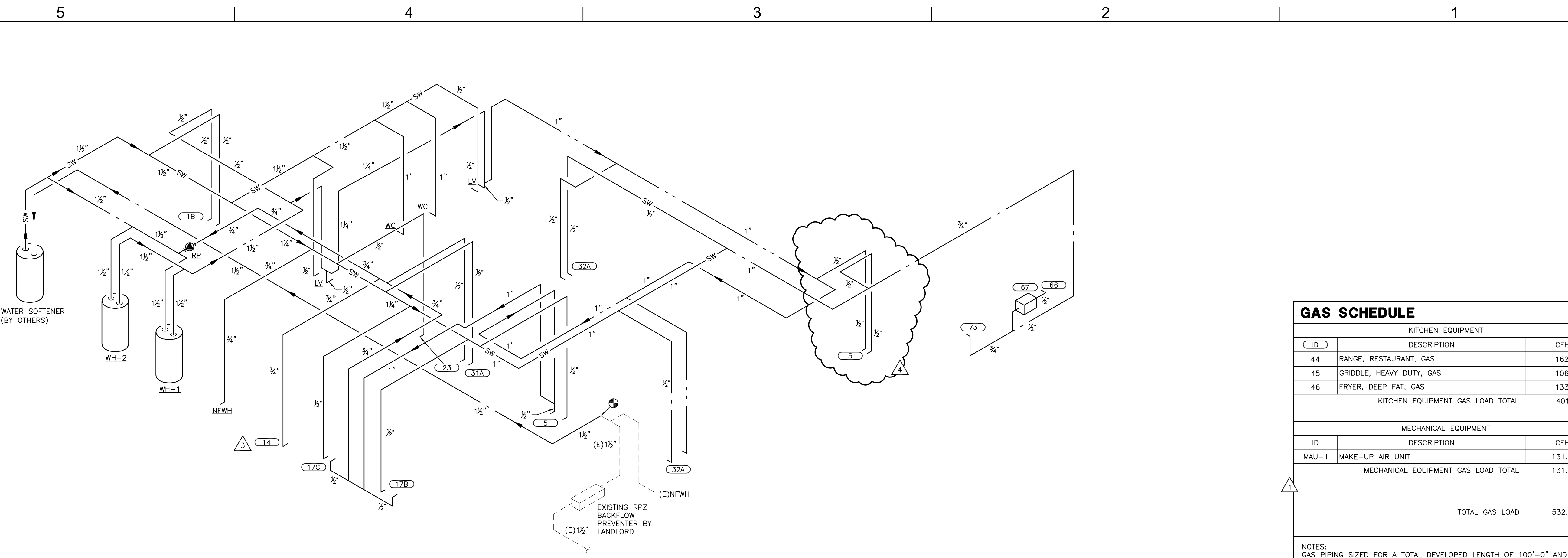
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SHEET NAME:
PLUMBING RISERS

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: JIL SCALE: AS NOTED

SHEET NO.:
P200

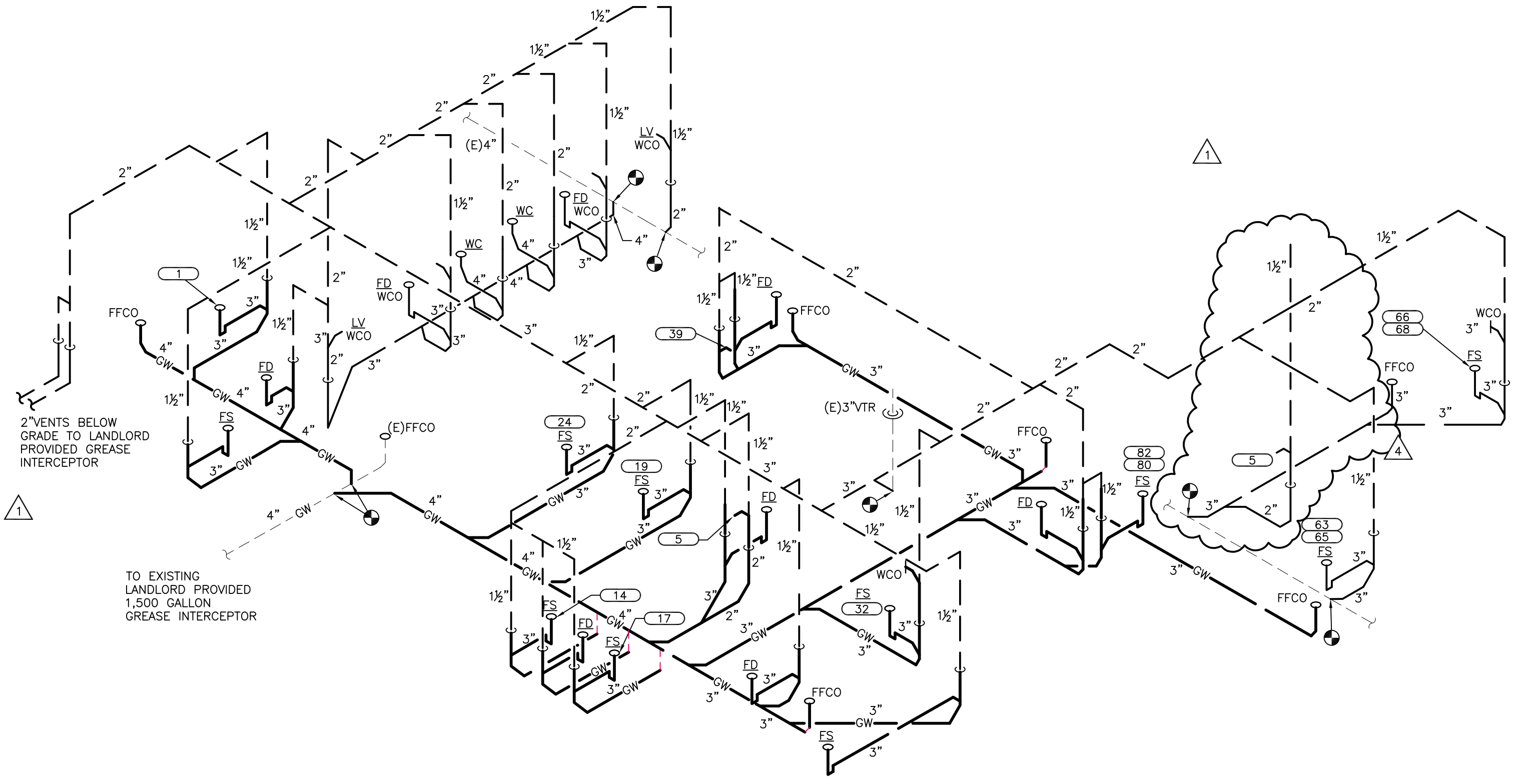


3 DOMESTIC WATER RISER DIAGRAM
NOT TO SCALE

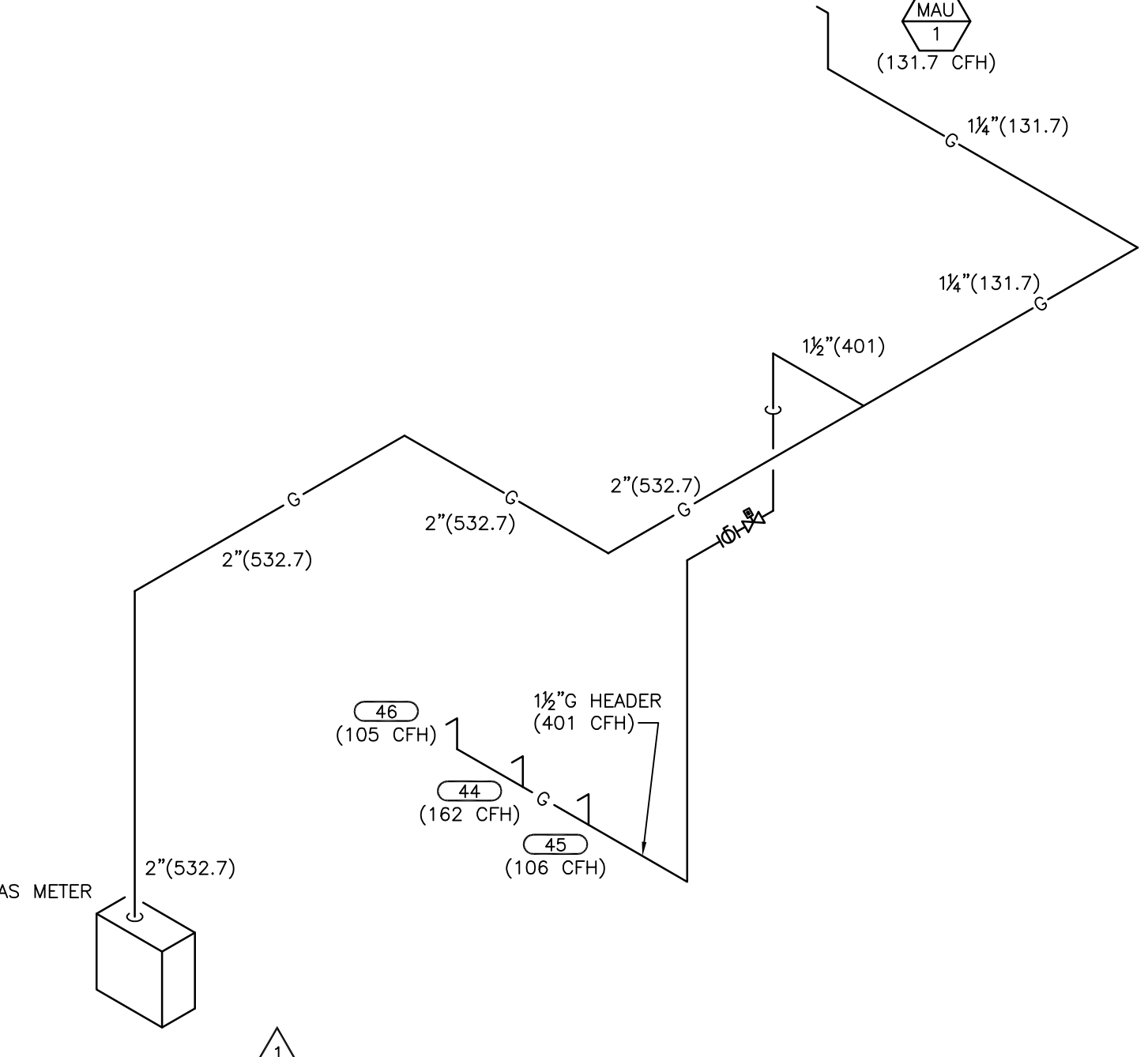
GAS SCHEDULE

KITCHEN EQUIPMENT		
ID	DESCRIPTION	CFH
44	RANGE, RESTAURANT, GAS	162
45	GRIDDLE, HEAVY DUTY, GAS	106
46	FRYER, DEEP FAT, GAS	133
KITCHEN EQUIPMENT GAS LOAD TOTAL		401
MECHANICAL EQUIPMENT		
ID	DESCRIPTION	CFH
MAU-1	MAKE-UP AIR UNIT	131.7
MECHANICAL EQUIPMENT GAS LOAD TOTAL		131.7
TOTAL GAS LOAD		532.7

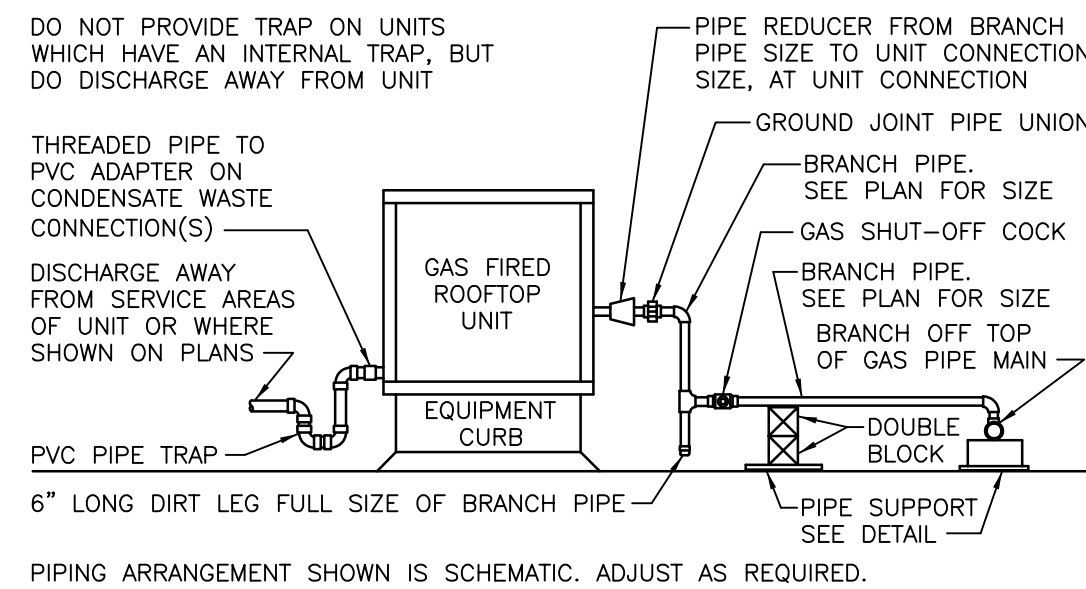
NOTES:
GAS PIPING SIZED FOR A TOTAL DEVELOPED LENGTH OF 100'-0" AND A 14" W.C. SERVICE PRESSURE PER TABLE 402.4(2) OF THE 2022 DENVER FUEL GAS CODE BASED ON 2021 IFGC.
REFER TO "COOKING APPLIANCE GAS" FOR CONNECTION TO FOOD SERVICE EQUIPMENT.



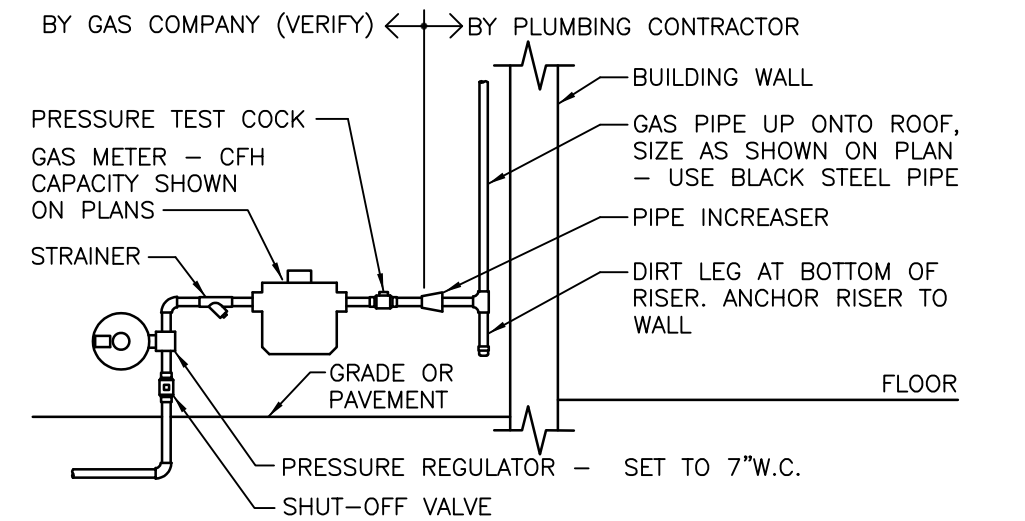
1 WASTE & VENT RISER DIAGRAM
NOT TO SCALE



2 NATURAL GAS RISER DIAGRAM
NOT TO SCALE

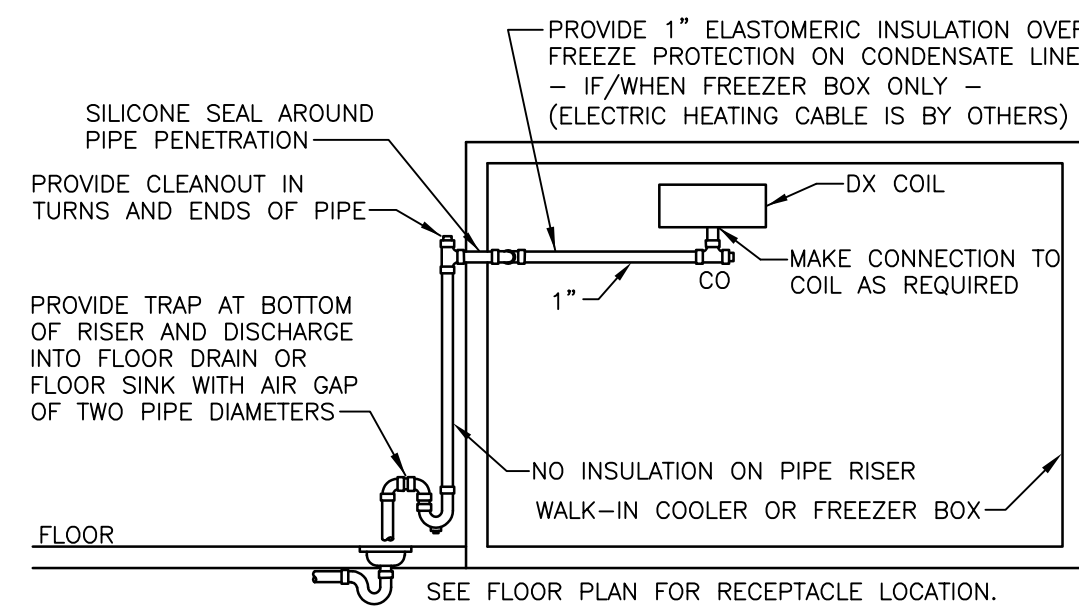


11 MAKE-UP AIR UNIT CONNECTIONS
NOT TO SCALE



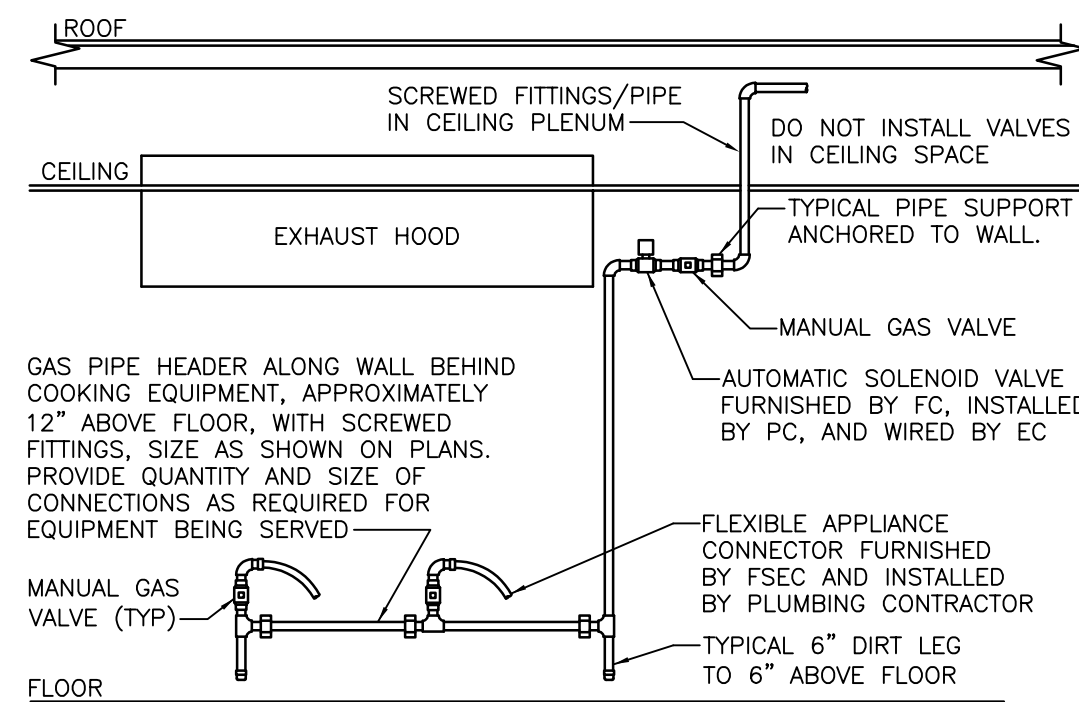
VERIFY REQUIREMENTS FOR METERING AND PIPING WITH GAS COMPANY. GAS COMPANY SHALL EXCAVATE, BACKFILL, AND REPAIR PAVING AND SOO FOR GAS SERVICE LINE INSTALLATION FROM MAIN TO BUILDING. PLUMBING CONTRACTOR TO PAY ALL GAS COMPANY FEES FOR THIS INSTALLATION. USE WELDED OR SCREWED PIPE AND FITTINGS PER SPECIFICATIONS. PAINT EXPOSED METAL GAS PIPE, FITTINGS AND ITEMS LIGHT GREEN.

12 GAS SERVICE
NOT TO SCALE



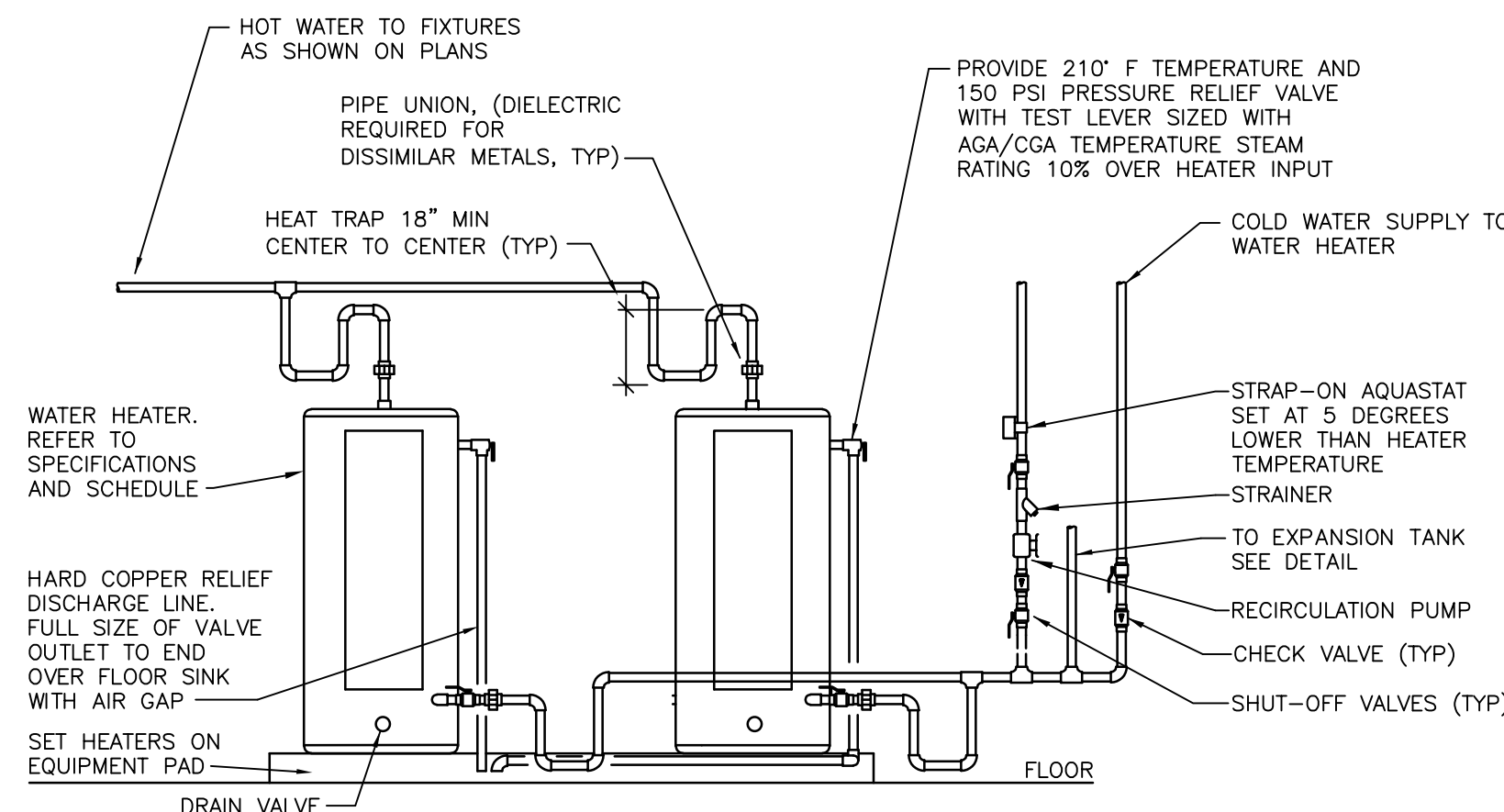
INSTALL PIPE HIGH AS POSSIBLE, ANCHORED TO WALL OF BOX WITH SUPPORTS AT MAXIMUM 6'-0" CENTERS. USE TYPE "M" HARD COPPER TUBE AND FITTINGS WITH LEAD-FREE SOLDER JOINTS. SLOPE HORIZONTAL PIPE AT MINIMUM 2%. REFER TO LOCAL CODE FOR INDIRECT DRAIN REQUIREMENTS.

13 WALK-IN COOLER/FREEZER DRAIN
NOT TO SCALE



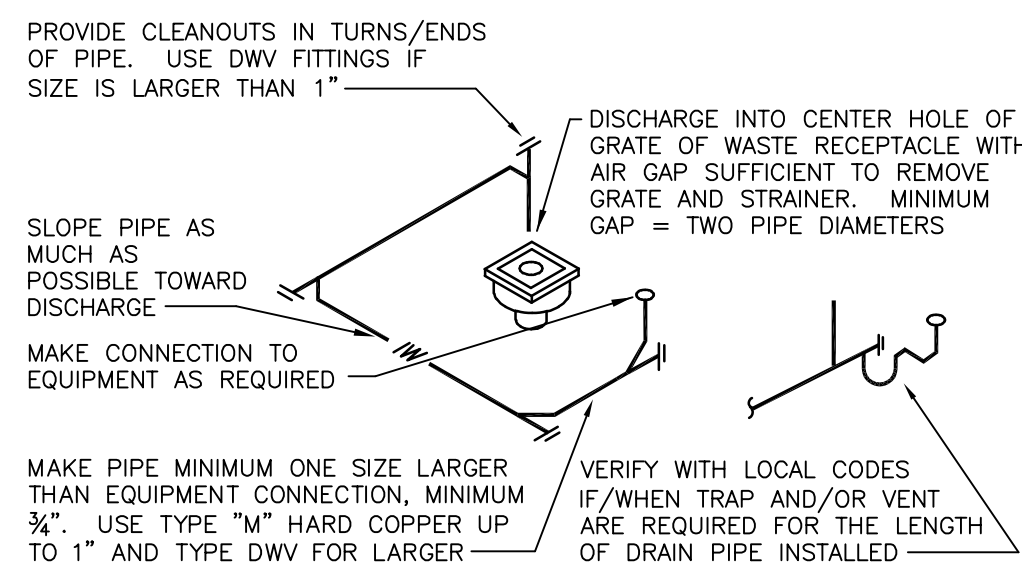
ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT ACTUAL CONDITIONS. ATTACH RISER AND HEADER TO WALL WITH 1" CLEARANCE BEHIND PIPE. MAKE FINAL CONNECTION TO EQUIPMENT AS RECOMMENDED BY MANUFACTURER. PROVIDE WELDED FITTINGS/JOINTS IN ANY CONCEALED, UNSLEEVED LOCATION

7 COOKING APPLIANCE GAS
NOT TO SCALE



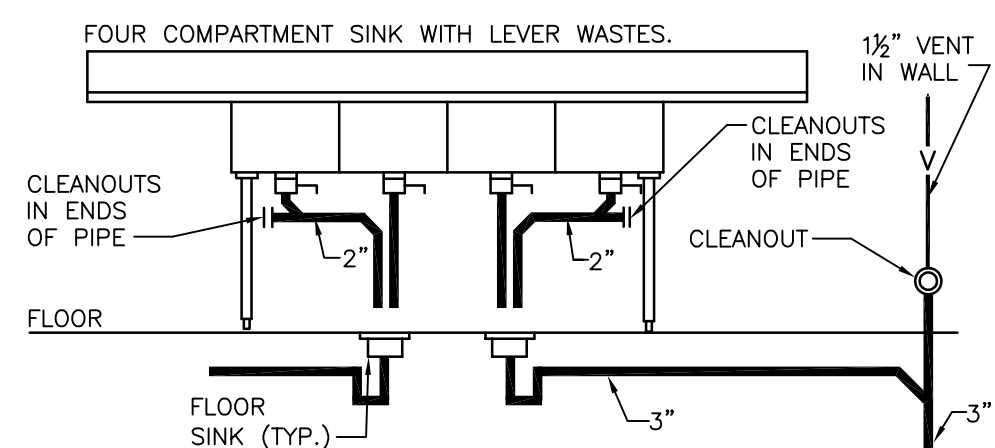
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO FLOOR PLAN FOR PIPE SIZES. HOT AND COLD WATER BRANCH LINES SHALL BE SAME LENGTH TO EACH HEATER. PROVIDE SEISMIC STRAP OR BRACING AND FLEXIBLE CONNECTORS TO WATER CONNECTIONS IF/AS REQUIRED BY LOCAL AUTHORITIES.

8 DUAL HEAT PUMP WATER HEATERS
NOT TO SCALE



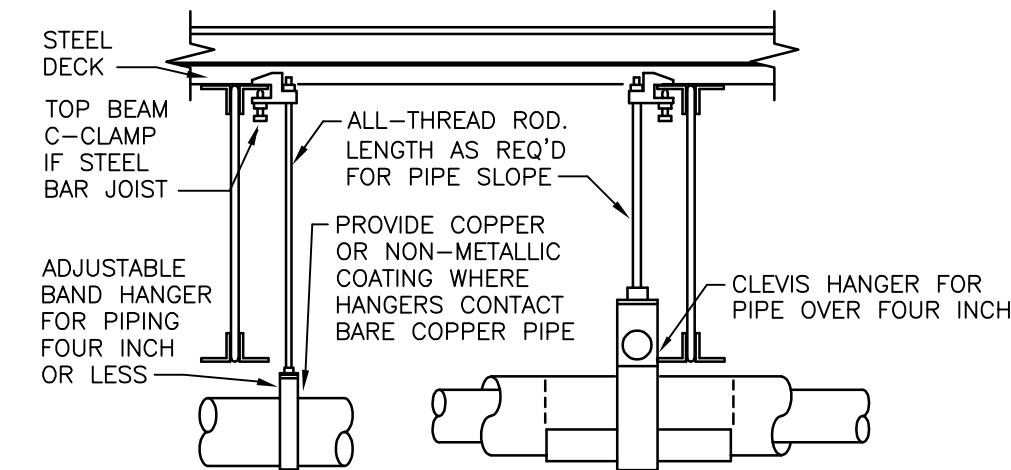
ROUTE PIPE INCONSPICUOUSLY AND UNOBTUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

9 INDIRECT DRAIN
NOT TO SCALE



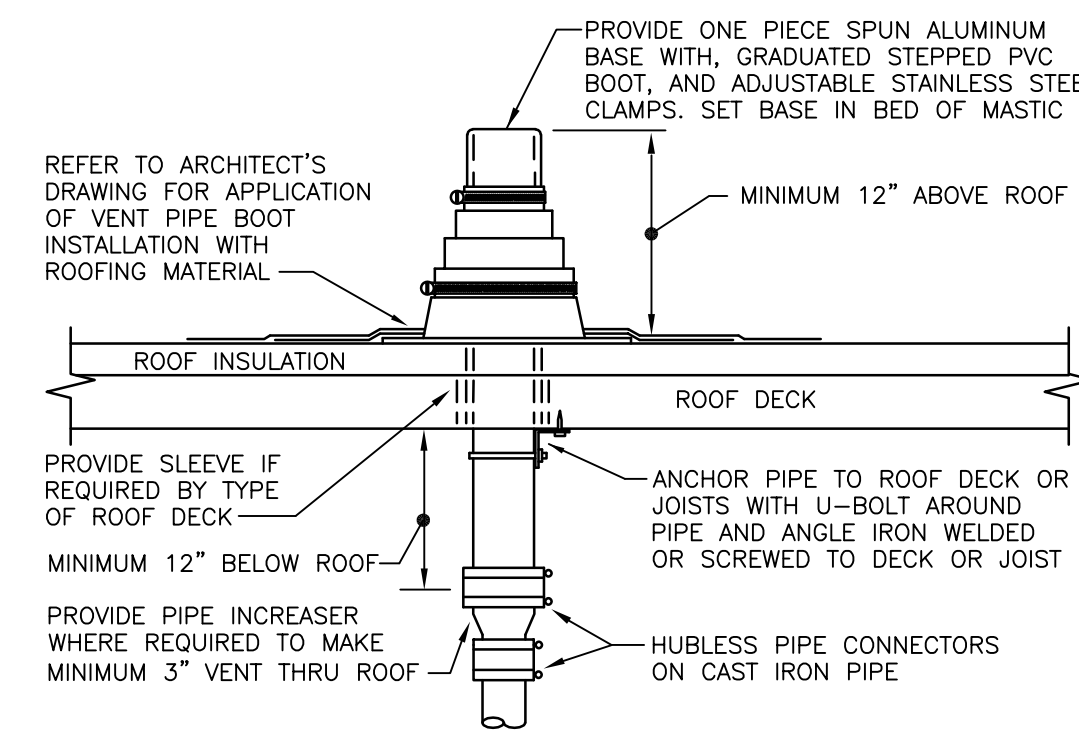
ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS OR MEET LOCAL CODE REQUIREMENTS. HUBLESS CAST IRON PIPE, FITTINGS AND CONNECTORS ALL AROUND SINK AND TRAP.

10 UTILITY SINK
NOT TO SCALE



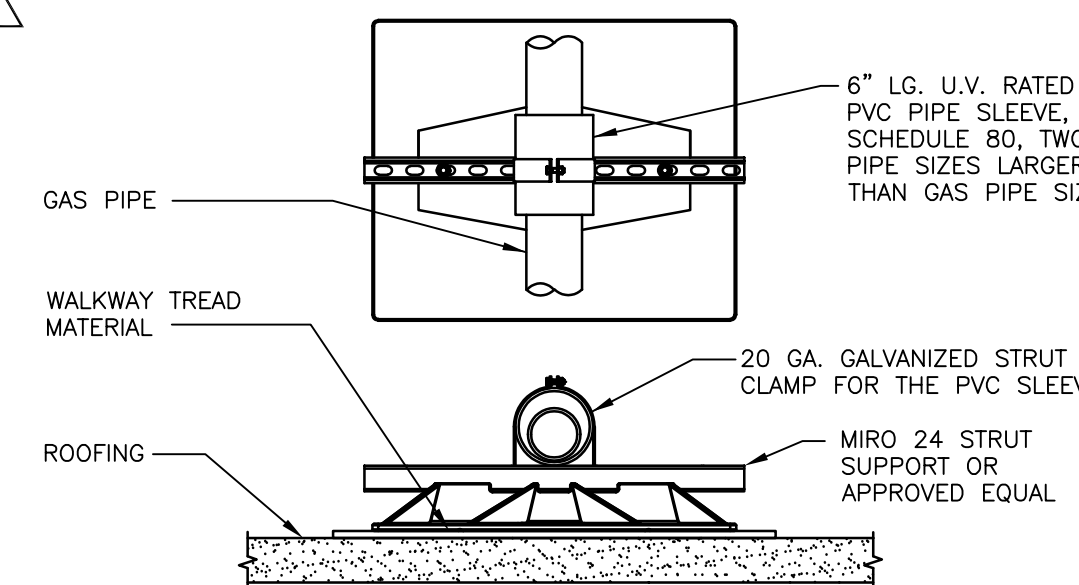
PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. TRAPEZE HANGERS MAY BE USED FOR MULTIPLE PARALLEL PIPES. HANGER SPACING FOR PIPE SIZE: COPPER: 4"=12'-0"; 3"=11'-0"; 2 1/2"=10'-0"; 2"=9'-0"; 1 1/2"=8'-0"; 1 1/4"=7'-0"; 1" & 3/4"=6'-0"; 1/2"=5'-0". CAST IRON: 10'-0" AND ONE NEAR ALL JOINTS. STEEL: 4"=14'-0"; 3"=12'-0"; 2 1/2"=11'-0"; 2"=10'-0"; 1 1/2"=9'-0"; 1"=7'-0"; 3/4"=6'-0"; 1/2"=5'-0". LOCATE HANGERS AS CLOSE AS POSSIBLE TO TURNS AND TEES OF PIPE. PROVIDE SUPPLEMENTARY STEEL STRUTS BETWEEN JOISTS IF REQUIRED. LOCATE HANGERS TO TAKE LOAD OFF OF EQUIPMENT CONNECTIONS. ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY. PROVIDE SEISMIC BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES. CHAINS OR PERFORATED STRAP IRON OR STEEL IS NOT ACCEPTABLE. REFER TO CODES FOR FURTHER INFORMATION.

4 PIPE HANGERS
NOT TO SCALE



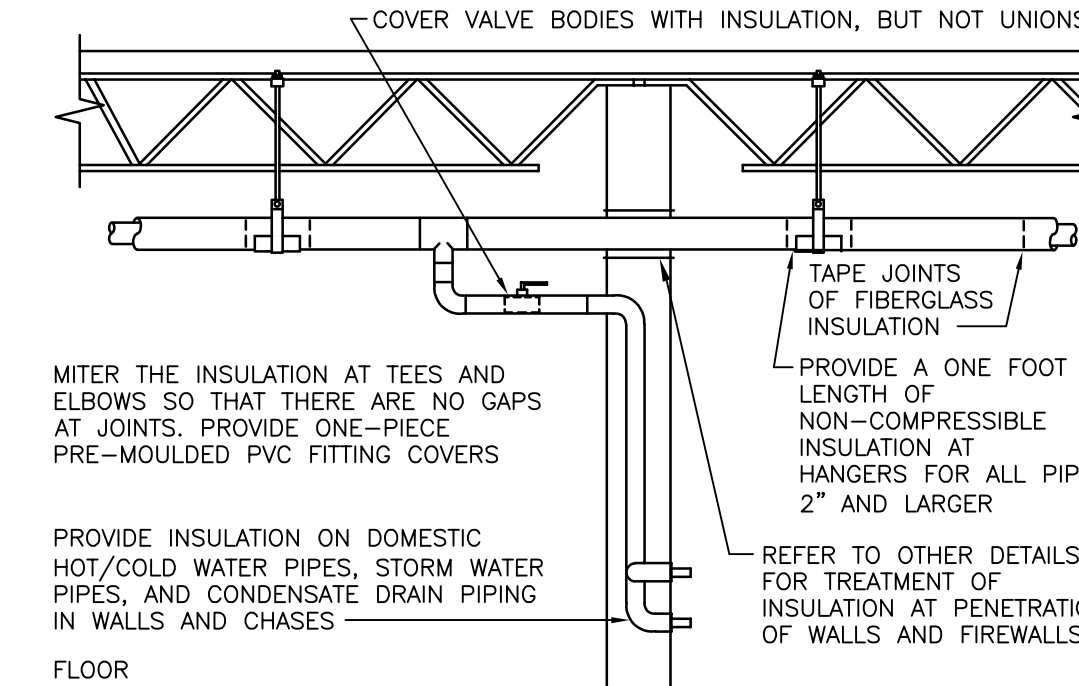
REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR A MINIMUM OF 20 FEET HORIZONTAL (UNLESS APPROVED BY ENGINEER PRIOR TO INSTALLATION) OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, AND ONE FOOT FROM ANY VERTICAL SURFACE. PROVIDE 1" FIBERGLASS INSULATION WITH ALL-SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN SIX FEET OF VENT THRU ROOF LOCATION. VERIFY FLASHING AND COUNTERFLASHING WITH ROOFING CONTRACTOR.

5 VENT THRU ROOF (VTR)
NOT TO SCALE

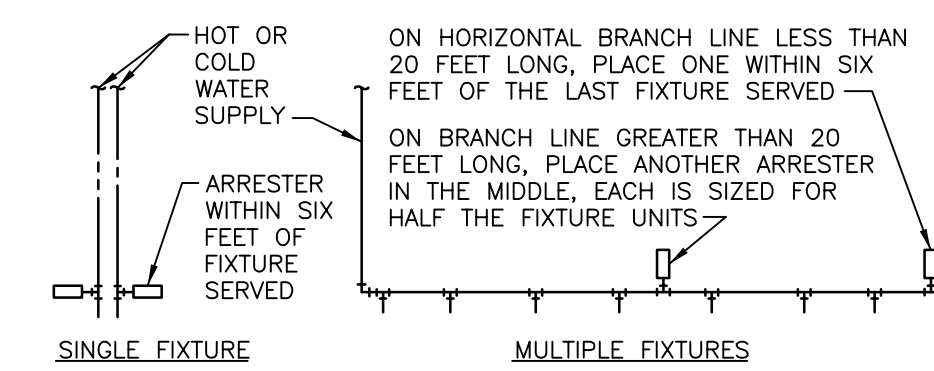


NOTES
1. SUPPORT REQUIRED 10'-0" O.C. AND AT ALL CHANGES IN DIRECTION.
2. INCREASE IN HEIGHT AS REQUIRED FOR ROUTING ABOVE ROOF MOUNTED ACCESSORIES SUCH AS EXPANSION JOINTS AND TO ACCOMMODATE SLOPE.

6 ROOF GAS PIPE SUPPORT
NOT TO SCALE



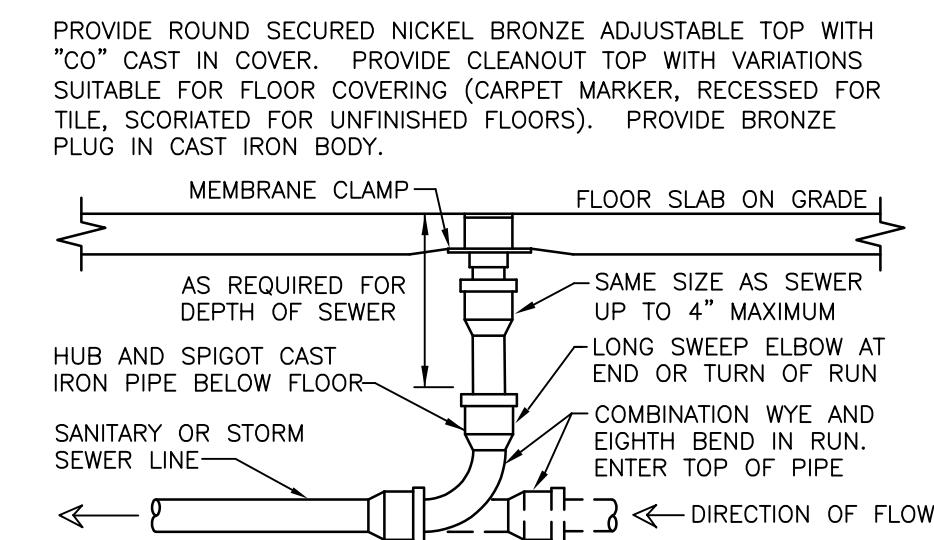
1 PIPE INSULATION
NOT TO SCALE



PDI SIZE	FIXTURE UNIT LOAD	FIXTURE UNIT TABULATION		
		FIXTURE	COLD	HOT
AA	1-3	WATER CLOSET (VALVE)	10	-
A	4-11	URINAL	5	-
B	12-32	LAVATORY	-	1
C	33-60	KITCHEN SINKS	3	3
D	61-113	MOP SINK	2.25	2.25
E	114-154	HAND SINKS	1.5	1.5
F	155-330	WALL HYDRANT/HOSE BIB	2	2

PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 OR ANSI #A112.26.1M CERTIFICATION. SIZE AND INSTALL PER PDI #WH-201 STANDARD OR MANUFACTURER'S INSTRUCTION. THE TABLES ABOVE ARE BASED ON THE SIOUX CHIEF PRODUCT LINE. IF PRESSURE IS IN EXCESS OF 65 PSIG THEN UPSIZE THE ARRESTER BY ONE (EXAMPLE: AN "A" ARRESTER WOULD BECOME A "B" ARRESTER.)

2 WATER HAMMER ARRESTERS
NOT TO SCALE



LOCATE AT BUILDING EXIT, AT ENDS OF RUNS, AT TURNS OF PIPE GREATER THAN 45 DEGREES, AT 50' INTERVALS ON STRAIGHT RUNS, AND WHERE SHOWN ON PLANS. PROVIDE BACKFILL PER ARCHITECTURAL SPECIFICATIONS. LOCATE CLEANOUTS WHERE THERE IS 18" CLEAR AROUND. CONSULT LOCAL CODES FOR OTHER FCC REQUIREMENTS.

3 FLOOR CLEANOUT
NOT TO SCALE

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Project # 10020628.01

STORE NO:

CAVA
8869 E 48TH AVENUE
DENVER, CO 80238
UNITED STATES

REVISIONS / ISSUES

NO.	DATE	DESCRIPTION
1	05/24/24	PERMIT SET
2	08/09/24	CITY COMMENTS
3	09/03/24	CITY COMMENTS
4	09/20/20	CITY COMMENTS
5	02/03/25	OWNER CHANGES

STATUS:
ISSUE FOR CONSTRUCTION

PROFESSIONAL ENGINEER
42440
02/03/2025
ROBERT A. HARRIS

FIELD VERIFICATION:
The Contractor shall verify all figured dimensions and conditions at the project site and notify Zebra Projects, INC. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

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SHEET NAME:
PLUMBING DETAILS

DATE: 05-24-24 PROJECT NO.: 36667
DRAWN: JL SCALE: AS NOTED

SHEET NO.:
P300

2022 Denver Energy Code - Commercial Compliance Checklist
Prescriptive Path - Service Water Heating



Project Address: 8969 E 46TH AVENUE
DENVER, CO 80238
UNITED STATES

Date: 5/9/2024

Table with 6 columns: Code Section, Focus Area, Code Description, Drawing or Specification Number, Submitter Notes, and Submittal Requirements and Clarifications. Includes sections for ALL COMPLIANCE PATHS and PRESCRIPTIVE COMPLIANCE PATH.

Table with 6 columns: Code Section, Focus Area, Code Description, Drawing or Specification Number, Submitter Notes, and Submittal Requirements and Clarifications. Includes sections for ALL COMPLIANCE PATHS and PRESCRIPTIVE COMPLIANCE PATH.

Table with 6 columns: Code Section, Focus Area, Code Description, Drawing or Specification Number, Submitter Notes, and Submittal Requirements and Clarifications. Includes section for C406 SELECTED ADDITIONAL EFFICIENCY CREDITS.



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Table with 2 columns: REVISIONS / ISSUES, DESCRIPTION. Lists permit set, city comments, and owner changes.

STATUS:

ISSUE FOR CONSTRUCTION

Professional Engineer seal for Robert A. Hamer, License No. 42440, expires 02/03/2025. Includes field verification and copyright text.

SHEET NAME:

ENERGY COMPLIANCE CHECKLIST

DATE: 05-24-24

PROJECT NO.: 36667

DRAWN: DJ

SCALE: AS NOTED

SHEET NO.:

P400

E

D

C

B

A