

MECHANICAL SCHEDULE

FC 1 SPLIT SYSTEM HEAT PUMP CARRIER MODEL FB4ANF018
 W/ SPLIT DIRECT EXP. COIL, TX VALVE & ELECTRIC STRIP HTR.

ELECT. STRIP HTR CONFIGURATION/SIZE
 MODEL ---> KFAEH1301C05 CONFIG. ---> HORIZONTAL
 OUTPUT ---> 3.80 WATTS HEIGHT ---> 23 INCHES
 POWER ---> 208/1 PH WIDTH ---> 15 INCHES
 MIN. CIR AMP ---> 18.1 AMPS LENGTH ---> 56 INCHES

AIR DELIVERY ELECT. REQ'MNTS
 AIR FLOW ---> 545 CFM POWER ---> 208V/1 PH
 EXT. STATIC ---> .40 IN. WC. MIN. CIR AMP ---> 2.0 AMPS
 OUTSIDE AIR ---> 50 CFM MAX. FUSE ---> 15 AMPS
 CONFIGURATION ---> HORIZONTAL (NOT INCLUDING STRIP HTR)

OPTIONS & NOTES:
 FURNISH & INSTALL UNIT W/ MANUFACTURER'S FILTER BOX & TWO COMPLETE FILTER CHANGES. UNIT SHALL BE COMPLETE W/ MANUFACTURER'S CIRCUIT BREAKERS FOR FAN COIL & ELECTRIC STRIP HEATER. THREE-SPEED FAN MOTOR, MIN. 4.2 R-VALUE, FOIL-BACKED INTERNAL CABINET INSULATION, TIME DELAY RELAY ON START-UP, AND FACTORY INSTALLED 120 VAC UTILITY OUTLET. VERIFY MANUF. CLEARANCES BEFORE ORDERING. WEIGHT = 140 LBS.

HP 1 OUTDOOR HEAT PUMP MATCHED TO INDOOR FAN COIL SPECIFIED ABOVE. CARRIER MODEL 38YRA018

ELECT. REQ'MNTS CONFIGURATION/SIZE
 POWER ---> 208 V/1 PH WEIGHT ---> 139 LBS
 MIN. CIR AMP ---> 16.1 AMPS HEIGHT ---> 34 INCHES
 MAX. FUSE ---> 25 AMPS WIDTH ---> 30 INCHES
 MAX. HACR ---> 25 AMPS LENGTH ---> 35 INCHES

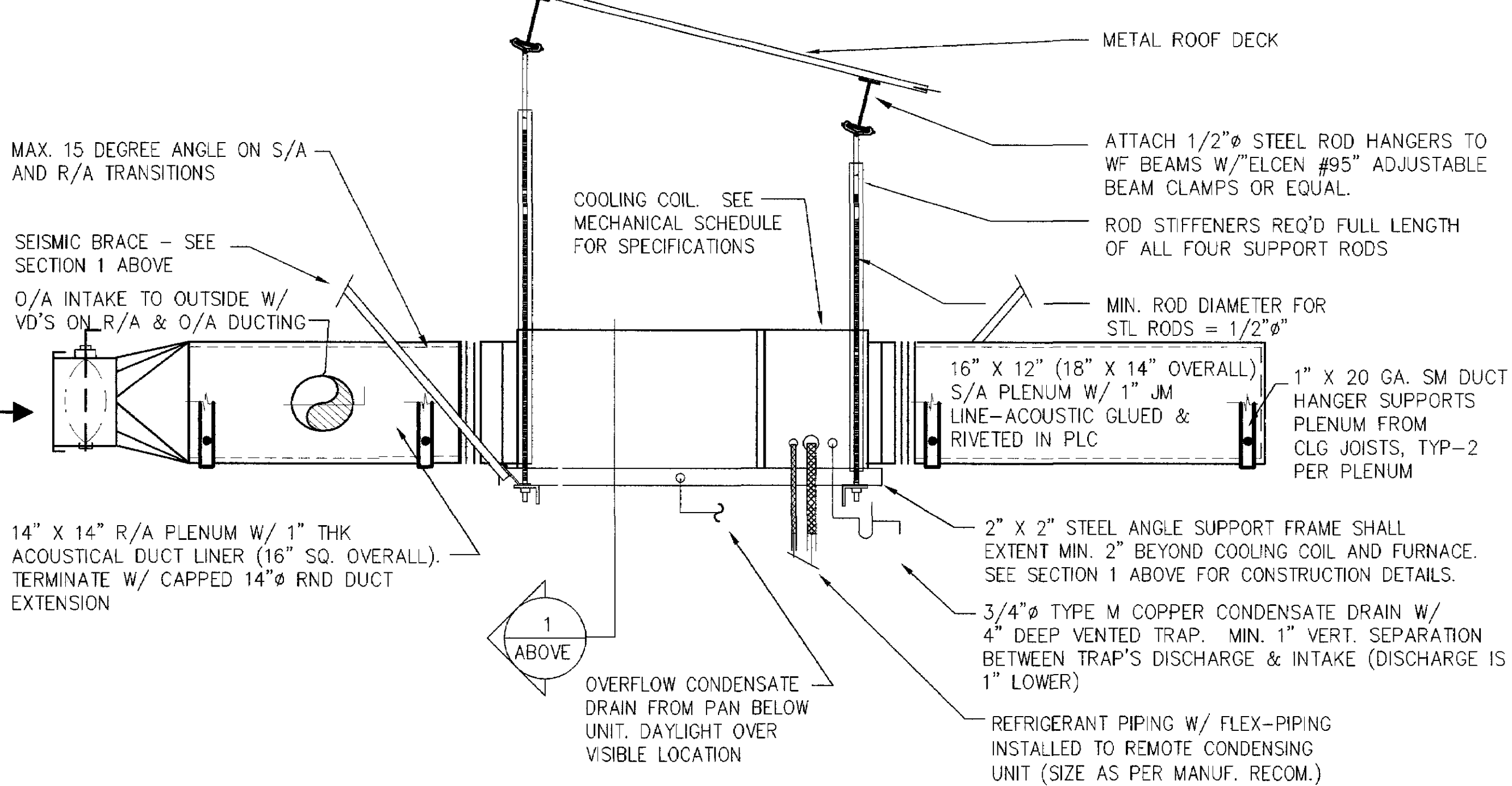
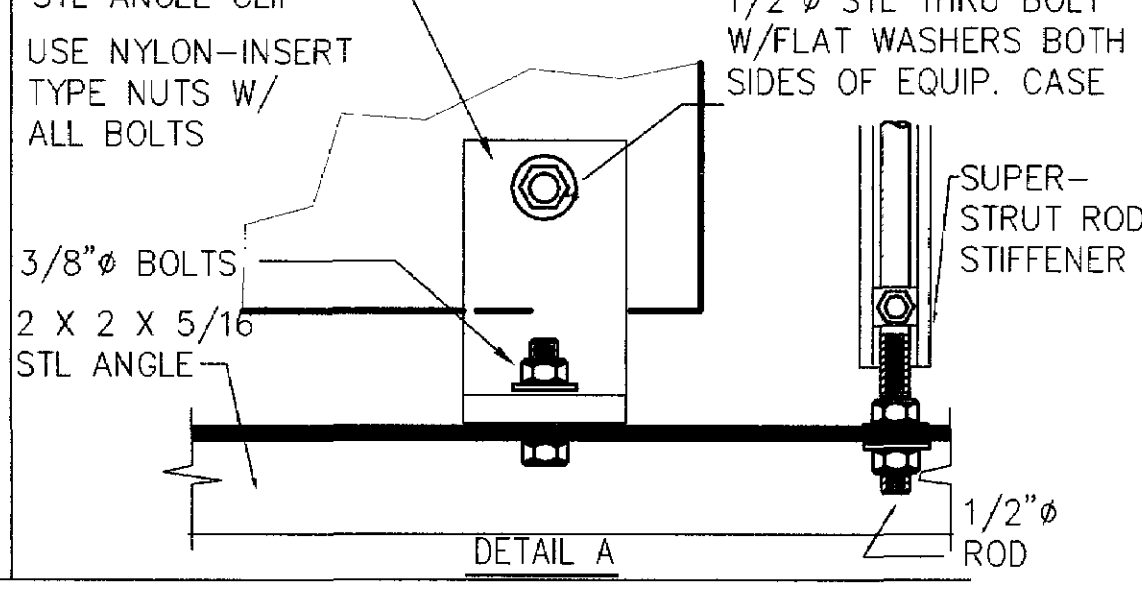
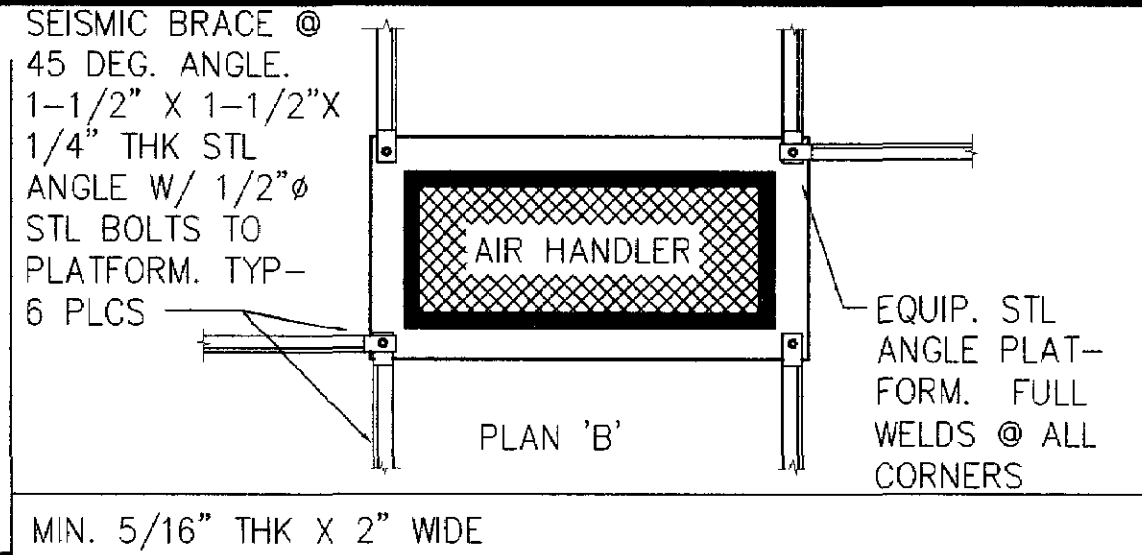
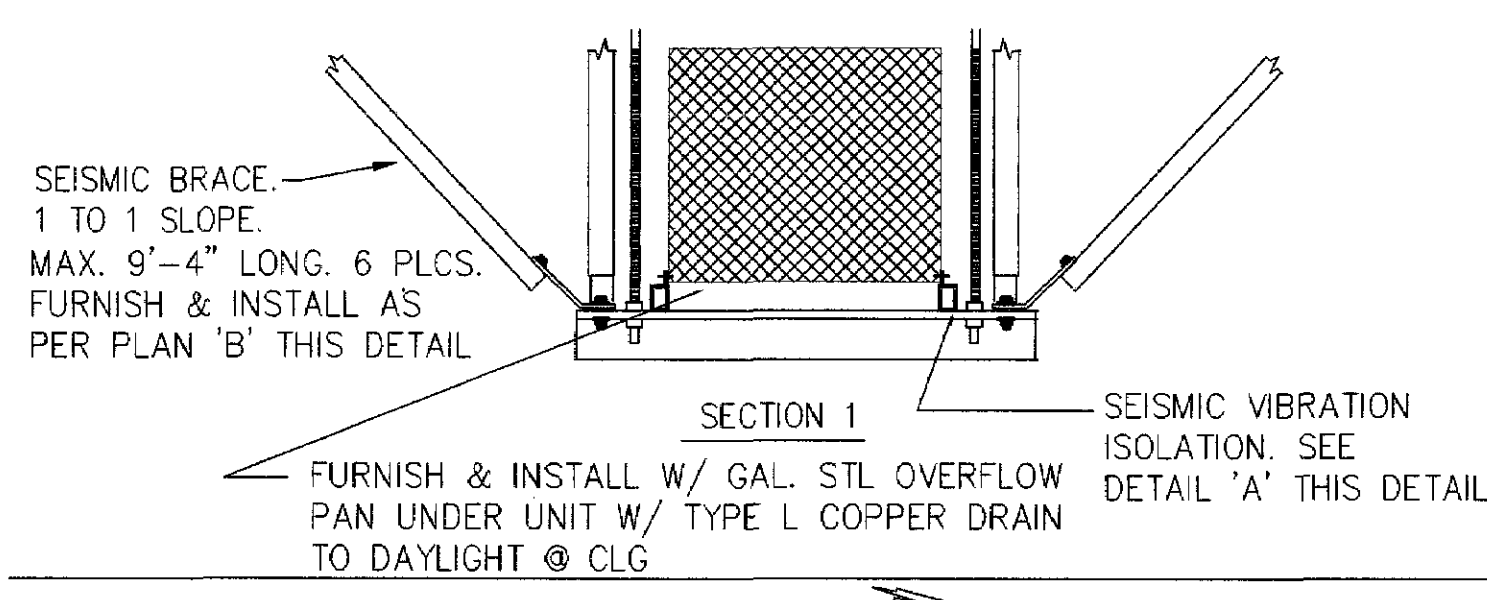
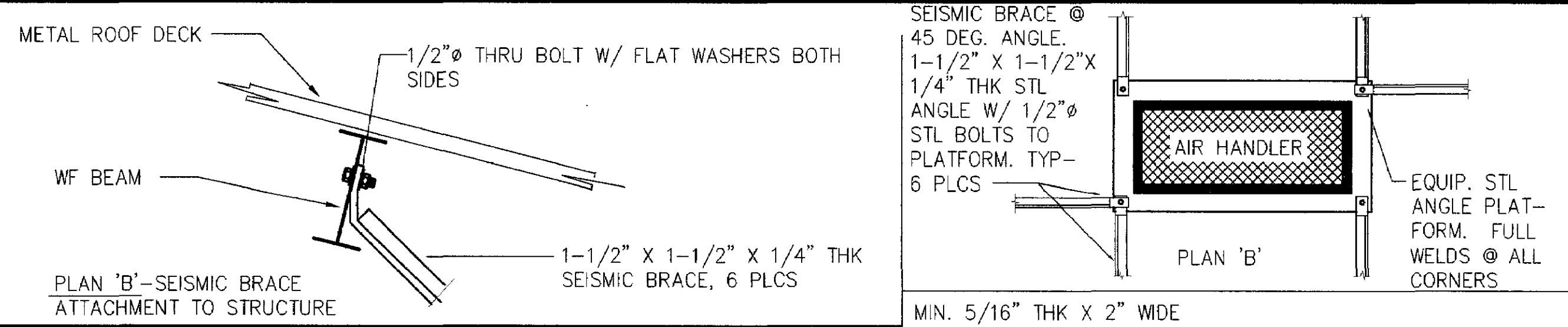
COOLING PERFORM. HEATING PERFORM.
 TOTAL CLG ---> 17,300 BTUH HIGH-TEMP ---> 16.5 MBTUH
 SENS. CLG ---> 12,110 BTUH LOW-TEMP ---> 11.2 MBTUH
 SEER ---> 11.5 HSPF ---> 7.20

FURNISH & INSTALL CONDENSING UNIT WITH FACTORY DEFROST CONTROL BOARD, SCROLL COMPRESSOR, DISCHARGE MUFFLER, AND FACTORY REFRIGERANT SHUT-OFF VALVES.

OUTDOOR AIR INTAKE SCH.

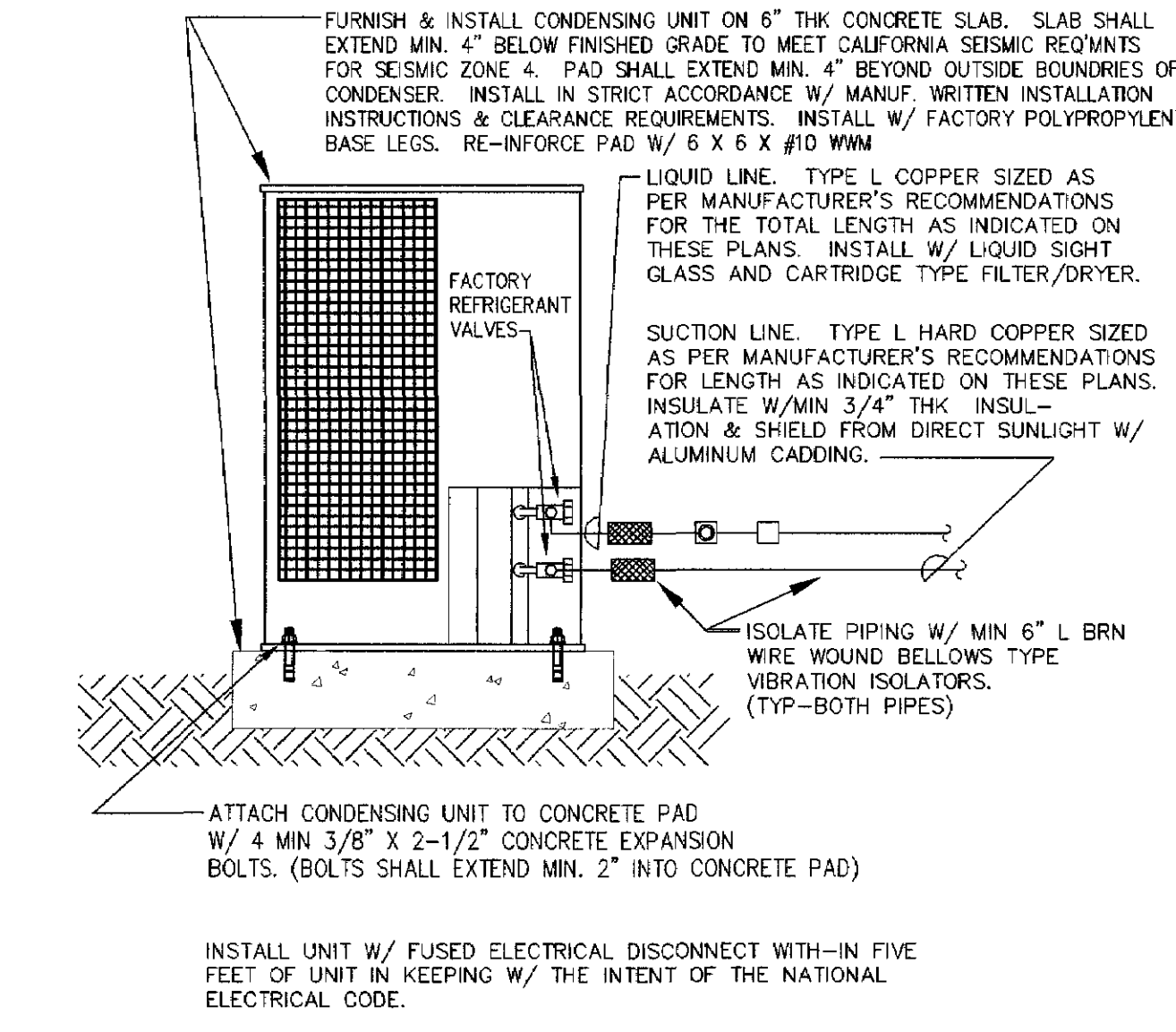
UNIT	HABITABLE AREA (SQ. FT)	CALIF. ENERGY COMMISSION VENT. REQ'MNT/SQ. FT.	MIN. OUTSIDE AIR REQUIREMENT
FC1	270	0.15 (OFFICE/REPT.)	50
FC2	270	0.15 (OFFICE/REPT.)	50
FC3	280	0.15 (OFFICE/REPT.)	50

THE ABOVE FRESH AIR (OUTSIDE AIR) INTAKES FOR EACH HVAC UNIT SHALL BE SET BY AN AIR BALANCE AGENCY BEFORE OCCUPANCY. FRESH AIR MUST BE DELIVERED CONTINUOUSLY TO EACH HVAC ZONE FROM ONE HOUR IMMEDIATELY PRIOR TO OCCUPANCY UNTIL THE END OF THE WORKING DAY

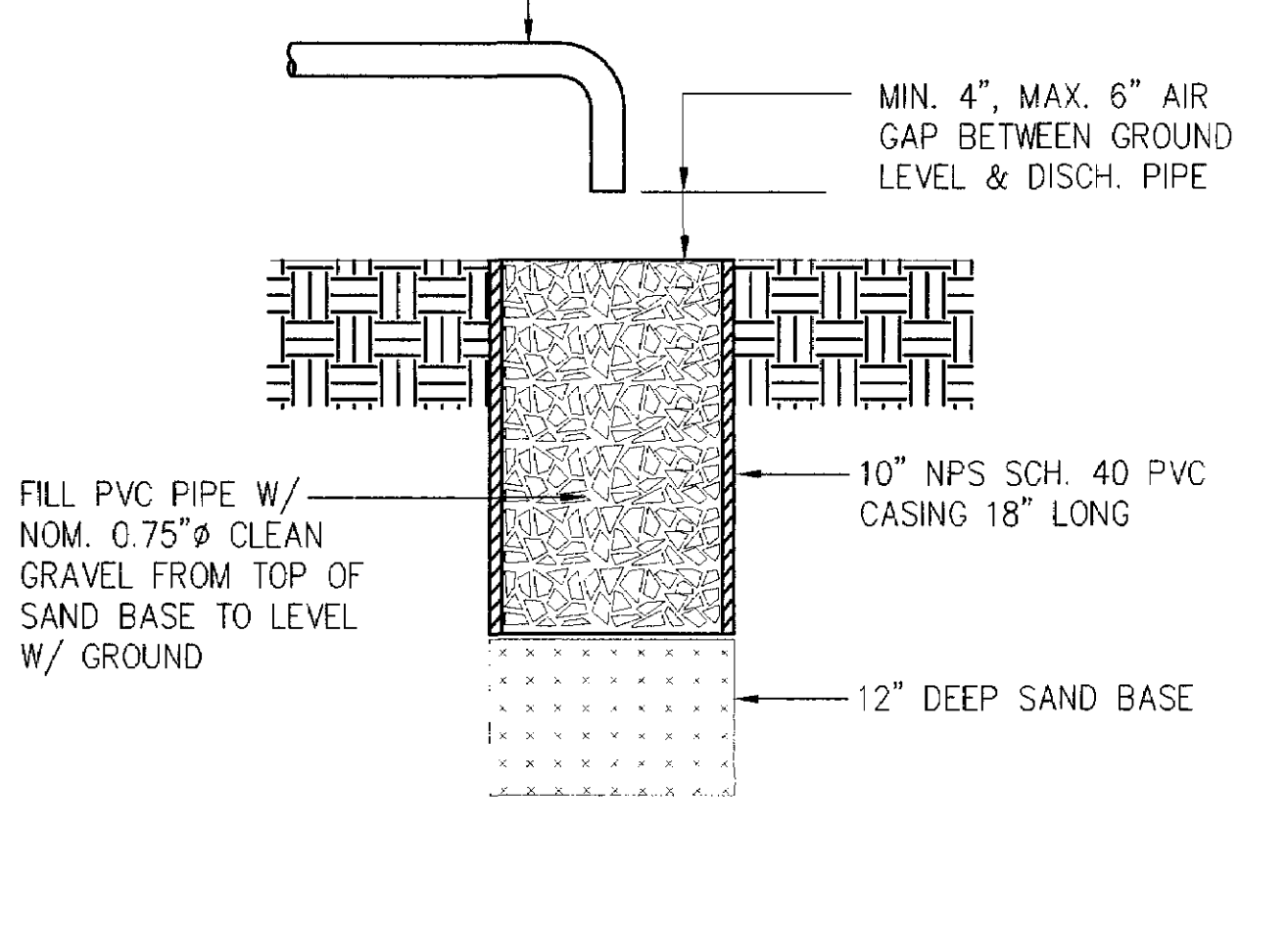


- HORIZONTAL ELECTRIC HEAT PUMP FAN COIL INSTALLATION

NOTE: WHERE REFRIGERANT PIPING ENTERS BUILDING WALL, INSTALL SHEET METAL WALL WEATHER-PROOF WALL JACK



TYPE 'M' HARD CONDENSATE DRAIN PIPING FROM HVAC UNIT. INSULATE W/ 3/4" THK PIPE INSULATION WITH-IN BLDG. RUN FULL SIZE FROM UNIT @ 1/4" PER FT DOWNWARD SLOPE. SUPPORT ON 6'-0" CENTERS AND AT LEAST ONE SUPPORT WHERE PIPING EXTENDS OVER 1'-0" FROM BUILDING WALL



2 CONDENSING UNIT INSTALL. NTS

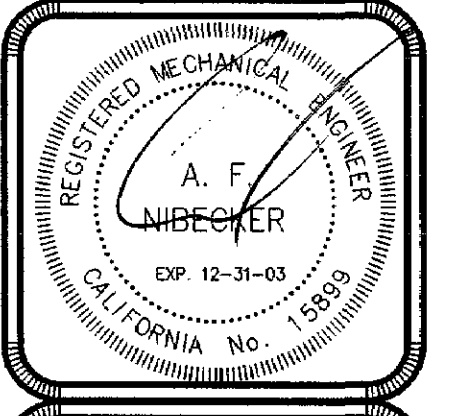
3 CONDENSATE DRAIN PIT

REVISIONS	BY

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SHEET TITLE:
**MECHANICAL DETAILS,
 SCHEDULE &
 CALCULATIONS**

PROJECT:
**MARSH ST. PARKING
 SOUTH OFFICES
 SAN LUIS OBISPO**

DRAWN
 AFN
 CHECKED
 AFN
 DATE
 6-19-03
 SCALE
 NTS
 JOB NO.
 777-02
 SHEET

M20

1 OF 2 SHEETS

MECHANICAL EQUIPMENT & SPECIFICATIONS

GENERAL NOTES

- ALL LOCATIONS OF EQUIPMENT, PIPING AND DUCTWORK ARE SHOWN DIAGRAMMATICALLY. NO ATTEMPT HAS BEEN MADE TO SHOW ALL OFFSETS OR TRANSITIONS REQUIRED TO AVOID WORK OF OTHER TRADES OR EXISTING BUILDING ARCHITECTURE. THE INSTALLING CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL AIR TERMINALS WITH THE CEILING PLAN AND VERIFY THE CORRECT PLACEMENT OF ALL DUCTING, EQUIPMENT, PIPING, AND PLUMBING SERVICES PRIOR TO FABRICATION AND INSTALLATION. INSTALLING CONTRACTOR SHALL ADHERE TO THE DRAWINGS AS CLOSELY AS POSSIBLE, VARYING DUCT RUNS AND SHAPE OF DUCTWORK, AND PIPING, AS REQUIRED TO MEET STRUCTURAL AND OTHER INTERFERENCES AS REQUIRED BY THE PROJECT.
- ALL WORK INDICATED ON THESE PLANS SHALL BE DONE IN STRICT ACCORDANCE WITH APPLICABLE STATE, LOCAL, AND NATIONAL CODES AND ORDINANCES. IN THE EVENT OF CONFLICT BETWEEN CODES, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
- THE INSTALLING CONTRACTOR SHALL SUBMIT FOR REVIEW BY THE ENGINEER SHOP DRAWINGS AND CATALOG CUTS OF ALL WORK AND EQUIPMENT REQUIRED FOR THE PROJECT BY THESE PLANS AND SPECIFICATIONS. THESE SUBMITTALS SHALL CONTAIN MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS FOR SPECIFIED PRODUCTS.
- ALL EQUIPMENT FURNISHED AND INSTALLED WITH THIS PROJECT SHALL BE INSTALLED WITH AT LEAST THE MANUFACTURER'S MINIMUM RECOMMENDED CLEARANCE ALLOWANCE FOR ACCESS FOR MAINTENANCE AND FOR PROPER EQUIPMENT OPERATION. CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED FOR ALL CONTROL VALVES, SAFETY VALVES, FIRE DAMPERS, SMOKE DETECTORS, CLEAN-OUTS, WATER-HAMMER ARRESTORS, TRAP PRIMERS, STRAINERS, FILTERS, EQUIPMENT MAINTENANCE, AND CONTROLS. ACCESS PANELS SHALL BE BY ELMODOR OR EQUIVALENT. ACCESS PANELS SHALL BE HINGED TYPE, STAINLESS STEEL WHERE ACCESS PANELS ARE INSTALLED IN FIRE-RATED CONSTRUCTION. PANELS SHALL BE LISTED AS FIRE RATED BY THE MANUFACTURER AND SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE FIRE MARSHALL'S LISTING.
- AT THE CONCLUSION OF THE PROJECT, THE INSTALLING CONTRACTOR(S) SHALL FURNISH A BOUND COPY, WITH INDIVIDUAL EQUIPMENT TABS AND A FULL TABLE OF CONTENTS, OF ALL PLUMBING, MECHANICAL, AND CONTROL EQUIPMENT FURNISHED AND INSTALLED WITH THIS PROJECT. THE INTEND OF THIS DOCUMENT IS TO FURNISH THE PROJECT OWNER A COMPLETE MAINTENANCE & OPERATION MANUAL FOR THE PLUMBING AND MECHANICAL EQUIPMENT FURNISHED.

CODES & STANDARDS

ALL WORK INDICATED ON THESE PLANS AND IN THESE SPECIFICATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:

MECHANICAL
THE UNIFORM MECHANICAL CODE W/ CALIF. AMENDMENTS 1985 EDITION OF SMACNA'S DUCT CONSTRUCTION STANDARDS 1991 EDITION OF SMACNA'S SEISMIC RESTRAINT GUIDELINES

PLUMBING
THE UNIFORM PLUMBING CODE W/ CALIF. AMENDMENTS 1990 AMERICAN'S W/ DISABILITIES ACT

THE LATEST EDITION OF THE UNIFORM MECHANICAL AND PLUMBING CODES ADOPTED BY THE LOCALITY HAVING JURISDICTION OVER THE PROJECT SHALL BE STRICTLY ADHERED TO DURING THE INSTALLATION OF THIS PROJECT. NO ATTEMPT HAS BEEN MADE TO DUPLICATE THE APPLICABLE PORTIONS OF THESE CODES IN THESE SPECIFICATIONS.

THERMOSTAT

- EACH HVAC UNIT SHALL HAVE ITS OPERATING HOURS AND SPACE CONDITIONING TEMPERATURES CONTROLLED BY A THERMOSTAT FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR WITHIN THE CONDITIONED SPACE. UNLESS OTHERWISE INDICATED ON THESE PLANS, THE THERMOSTAT SHALL BE INSTALLED 48" ABOVE FINISHED FLOOR AND ON THE NEAREST INTERIOR WALL DIRECTLY ADJACENT TO THE RETURN AIR REGISTER. THERMOSTATS SERVING ALL ZONES SHALL BE CARRIER DEBORAH 1250 PROGRAMMABLE THERMOSTAT W/ SEPARATELY PROGRAMMABLE TAN-ONLY CONTROL FOR THE REQUIRED AIR PURGE CYCLE BEFORE OCCUPANCY. MECHANICAL CONTRACTOR SHALL FURNISH & INSTALL ALL THERMOSTATS & SHALL PROGRAM THERMOSTATS IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE TO ACCOMPLISH THE FOLLOWING:
- PURGE CYCLE: ONE HOUR IMMEDIATELY PRIOR TO NORMAL OCCUPANCY. THE SUPPLY AIR FAN IN THE FORCED AIR UNIT SHALL BEGIN OPERATION. FAN SHALL RUN CONTINUALLY UNTIL THE END OF THE NORMAL WORKING DAY. INSTALLER SHALL OBTAIN NORMAL WORKING HOURS FROM THE OWNER BEFORE PROGRAMMING.
 - HEATING CYCLE: APPROXIMATELY 30 MINUTES BEFORE NORMAL OCCUPANCY, THE THERMOSTAT SHALL ENERGIZE THE FORCED AIR UNIT'S GAS VALVE AND ALLOW THE THERMOSTAT TO CONTROL THE SPACE TEMPERATURE (SET AT APPROXIMATELY 70 F FOR HEATING, 78 F FOR AIR CONDITIONING IF APPLICABLE). THE FORCED AIR UNIT SHALL COMPLETELY SHUT OFF AT THE END OF NORMAL WORKING HOURS. THE SPECIFIED THERMOSTAT HAS AN INTEGRAL BYPASS TIMER & AN INTERNAL LOCKING MECHANISM.

CONTROL NOTES

- THE MECHANICAL CONTRACTOR SHALL FURNISH & INSTALL ALL ITEMS NECESSARY TO COMPLY WITH THESE PLANS AND SPECIFICATIONS AND WITH THE CALIFORNIA START ADMINISTRATIVE CODE TITLE 24 INCLUDING BUT NOT LIMITED TO TIME CLOCKS, THERMOSTATS, LOW VOLTAGE 24 VAC TRANSFORMER(S), AND ALL LOW VOLTAGE WIRING & CONDUIT REQ'D TO INSTALL THIS EQUIPMENT. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
- WIRING DIAGRAMS ARE ELEMENTARY AND SCHEMATIC IN NATURE. CONSULT THE ELECTRICAL PLANS FOR LINE VOLTAGE WIRING AND SIZING. ITEMS WHICH ARE REQUIRED AS PART OF THE CONTROL DIAGRAMS AND NOT SPECIFICALLY FURNISHED BY THE MECHANICAL TRADES SHALL BE FURNISHED & INSTALLED BY THE ELECTRICAL CONTRACTOR. THESE ITEMS INCLUDE BUT ARE NOT LIMITED TO SPECIAL PURPOSE RELAYS, CONTRACTORS, AND MOTOR STARTERS WHEN NOT PROVIDED BY THE EQUIPMENT MANUFACTURERS. THESE ITEMS SHALL BE FURNISHED & INSTALLED IN THE APPROPRIATE NEMA SIZE AND CLASSIFICATION FOR THE USE INTENDED.
- THE ELECTRICAL CONTRACTOR SHALL REVIEW THE MECHANICAL DRAWINGS AND COORDINATE WITH THE MECHANICAL CONTRACTOR FOR LINE VOLTAGE WIRING CONNECTIONS. THE ELECTRICAL CONTRACTOR SHALL DETERMINE THE NUMBER OF CIRCUITS, CAPACITY, AND VERIFY THIS INFORMATION WITH MECHANICAL BEFORE BEGINNING WORK.

SHEET INDEX

MECHANICAL

M1	MECH. SHEET SPECS & EQUIP. SCHEDULE
M2	MECHANICAL PLAN
M3	MECHANICAL INSTALLATION DETAILS

PIPING SPECIFICATIONS

- THE INSTALLING CONTRACTOR SHALL FURNISH & INSTALL ALL INDIRECT WASTE PIPING (CONDENSATE DRAIN PIPING) AND ALL REFRIGERATION PIPING REQUIRED FOR THE CORRECT OPERATION OF THE HEATING, VENTILATION AND AIR CONDITIONING SYSTEM INDICATED ON THESE PLANS.
- ALL INDIRECT WASTE PIPING SHALL DRAIN INTO THE BUILDING'S WASTE SYSTEM AND SHALL BE INSTALLED WITH A VENTED TRAP AND PLUMBED AS INDICATED ON THESE PLANS. SLOPE CONDENSATE DRAINS MIN. 1/4 IN. PER FOOT DOWNWARD. INSTALL ALL CONDENSATE DRAINS WITHIN THE BUILDING ENVELOPE WITH MIN. 1/2" THK CLOSED CELL INSULATION. CONDENSATE DRAINS WITHIN THE BUILDING ENVELOPE SHALL BE TYPE (M) COPPER.

PIPING MATERIALS

UNLESS OTHERWISE INDICATED ON THESE PLANS, ALL PIPING SHALL CONFORM TO THE FOLLOWING:

1---CONDENSATE DRAINS SHALL BE TYPE "L" HARD COPPER W/ BRONZE OR WROUGHT COPPER FITTINGS
2---REFRIGERANT LINE SETS (LIQUID & VAPOR TUBING) SHALL BE FURNISHED AND INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS

AIR BALANCE

THE MECHANICAL CONTRACTOR, AS PART OF THE SCOPE OF THIS PROJECT, SHALL PERFORM A COMPLETE AIR BALANCE OF THE ENTIRE AIR DISTRIBUTION SYSTEM INDICATED ON THESE PLANS. SUPPLY, RETURN, AND EXHAUST AIR QUANTITIES SHALL BE BALANCED TO WITH-IN +/-10% OF THE VALUES INDICATED ON THESE PLANS. THE RESULTS OF THE AIR BALANCE SHALL BE PRESENTED TO THE BUILDING OWNER IN A BOUND DOCUMENT. DATA SHALL BE TYPED ON FORMS SIMILAR TO STANDARD FORMS USED BY THE ASSOCIATED AIR BALANCE COUNCIL (AABC). THE INDIVIDUAL OR FIRM PERFORMING THE AIR BALANCE SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE IN AIR BALANCING SYSTEMS SIMILAR THOSE INDICATED ON THESE PLANS. INCLUDED IN THIS WORK IS THE ADJUSTMENT OF ALL BELT DRIVES, FAN SPEEDS, VOLUME DAMPERS, AND CONTROLS AVAILABLE ACHIEVING THE REQUIRED AIR QUANTITIES. WHERE SMOKE DETECTORS ARE INSTALLED, THE CONTRACTOR SHALL PERFORM A COMPLETE SMOKE TEST AS REQUIRED BY STATE FIRE MARSHAL. AS PART OF THE AIR BALANCE, THE CONTRACTOR SHALL VERIFY THE CORRECT OPERATION OF ALL MECH. CONTROLS.

HVAC SPECIFICATIONS

- ALL EQUIPMENT FURNISHED AND INSTALLED WITH THIS PROJECT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. MANUFACTURER'S REQUIRED CLEARANCE REQUIREMENTS SHALL BE STRICTLY ADHERED TO. THE INSTALLING CONTRACTOR SHALL OBTAIN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SHALL KEEP A COPY AT THE PROJECT SITE DURING CONSTRUCTION.
- UNLESS CLEARLY NOTED ON THESE PLANS, ALL SPLIT SYSTEM HVAC UNITS SHALL USE R-22 REFRIGERANT (CHLOROFLUOROMETHANE). ONLY GROUP A1 REFRIGERANTS SHALL BE USED IN STRICT ACCORDANCE WITH TABLES 11-A & 11-B OF THE CALIF. MECHANICAL CODE. REFRIGERANTS AND SPLIT, DIRECT EXPANSION REFRIGERATION PIPING SHALL BE FURNISHED AND INSTALLED IN STRICT ACCORDANCE WITH CHAPTER 11 OF THE CMC.
- SEE EQUIPMENT SCHEDULES IN THESE PLANS FOR APPLICABLE COEFFICIENTS OF PERFORMANCE, SEASONAL ENERGY EFFICIENCY RATINGS (SEER), AND/OR ANNUAL FUEL UTILIZATION FACTORS (AFUE). NO EQUIPMENT SUBSTITUTION SHALL BE ALLOWED WHERE THE APPLICABLE ENERGY EFFICIENCY RATING IS LOWER THAN SPECIFIED ON THESE PLANS.
- EACH MECHANICAL AND/OR GRAVITY VENTILATION SYSTEM OR UNIT (SUPPLY, RETURN, OUTSIDE AIR INTAKE, OR EXHAUST) SHALL BE EQUIPPED WITH A MEANS OF PROVIDING AIR VOLUME CONTROL TO FULL SHUT-OFF. DAMPERS SHALL BE LOCKING QUADRANT TYPE. ACCESS TO ALL DAMPERS SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. FOR MECHANICAL VENTILATION SYSTEMS, AUTOMATIC DAMPERS INTERLOCKED AND CLOSED ON FAN SHUT-DOWN SHALL BE PROVIDED. ON EXHAUST SYSTEMS, GRAVITY BACK DRAFT DAMPERS SHALL BE INSTALLED WITH EACH FAN, ON GRAVITY VENTILATION SYSTEMS, EITHER AUTOMATIC OR READILY ACCESSIBLE MANUALLY OPERATED DAMPERS IN ALL OPENINGS SHALL BE FURNISHED & INSTALLED BY THE MECHANICAL CONTRACTOR.
- ALL DUCTING INSTALLED OUTSIDE OF THE CONDITIONED ENVELOPE BUT NOT EXPOSED TO WEATHER SHALL BE INSTALLED WITH MINIMUM OF 1.5 INCH THICK OF 1.5 LB DENSITY MINERAL FIBER DUCT L liner OR 3.0 INCH THICK OF 0.5 LB DENSITY MINERAL FIBER DUCT L liner. DUCTING EXPOSED TO WEATHER SHALL BE INSULATED WITH A MINIMUM OF 1.5 INCH THICK OF 1.5 LB DENSITY MINERAL FIBER INTERIOR DUCT INSULATION. ALL INTERIOR DUCT INSULATION SHALL BE GLOUED & RIVETED IN PLACE. ACOUSTICAL DUCT L liner INSTALLED WITH DUCTING IN CONDITIONED SPACE SHALL BE MINIMUM 1.0 INCH THICK OF 1.5 LB DENSITY MINERAL FIBER ACOUSTICAL DUCT L liner.
- ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED AND TESTED IN ACCORDANCE WITH STD 6-1 & CHAPTER 6 OF THE UMC AND BY THE 1995 HVAC DUCT CONSTRUCTION STANDARDS OF THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA). THE USE OF FLEXIBLE DUCTWORK, OTHER THAN THAT WHICH IS CLEARLY INDICATED AS FLEXIBLE DUCTWORK ON THESE PLANS, IS EXPRESSLY PROHIBITED. WHERE FLEXIBLE DUCTWORK IS INDICATED TO PROCEED THE AIR TERMINAL, THE FLEXIBLE DUCTWORK SHALL BE GASCO "SILENT-FLEX" FURNISHED AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- EACH MECHANICAL SYSTEM SUPPLYING OUTSIDE AIR FOR VENTILATION TO THE BUILDING OR SPACE SHALL BE INSTALLED WITH WEATHERPROOF OUTSIDE AIR INTAKE HOOD, CONTROL DAMPER, AND BIRD/BUG SCREEN. OUTSIDE AIR INTAKES SHALL BE SIZED FOR A MAXIMUM FACE VELOCITY OF 700 FPM.
- EACH MECHANICAL UNIT SUPPLYING AIR TO AREAS OF HUMAN OCCUPANCY SHALL BE FURNISHED AND INSTALLED WITH AN AIR FILTER BOX AND FILTERS. FILTERS SHALL BE READILY ACCESSIBLE BY MAINTENANCE PERSONNEL. VELOCITY ACROSS FILTERS SHALL NOT EXCEED 750 FPM.
- ALL DUCTWORK SHALL BE GALVANIZED SHEET METAL ASTM 526. DUCTING SHALL BE SEALED AIRTIGHT WITH DUCT SEALER (GLENKOTE OR PROSEAL) & WITH SHEET METAL SCREWS SPACED EVENLY MAX. 6" ON CENTER AROUND DUCT PERIMETER.
- ALL INSULATING MATERIALS INSTALLED WITH THE PROJECT'S DUCTING SHALL HAVE FLAME SPREAD OF NOT GREATER THAN 25 AND A SMOKE-DENSITY NOT EXCEEDING 50, WHEN TESTED AS A COMPOSITE INSTALLATION, INCLUDING INSULATION, FACING MATERIALS, TAPES, AND ADHESIVES AS NORMALLY APPLIED.
- ALL MECHANICAL EQUIPMENT SHALL BE BRACED AND ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA:
1--- FIXED EQUIPMENT ON GRADE----- 100% OF OPERATING WEIGHT
2--- FIXED EQUIPMENT ON STRUCTURE----- 100% OF OPERATING WEIGHT
FOR FLEXIBLY MOUNTED EQUIPMENT, USE FOUR TIMES (4X) THE ABOVE VALUES. BRACING SHALL INCLUDE ALLOWANCE FOR A SIMULTANEOUS VERTICAL FORCE OF 1/3 TIMES THE HORIZONTAL FORCE.

ENERGY NOTES

- ANY APPLIANCE FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE CALIFORNIA APPLIANCE EFFICIENCY STANDARDS MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE ENERGY COMMISSION AS CERTIFIED IN THOSE REGULATIONS, THAT THE APPLIANCE COMPLIES WITH THE APPLICABLE STANDARD FOR THAT APPLIANCE. WHERE THIS EQUIPMENT IS INDICATED ON THESE PLANS OR IN THE MECHANICAL SPECIFICATIONS, THIS APPLIES TO ALL CENTRAL, AIR CONDITIONING AND HEATING UNITS, ROOM AIR CONDITIONERS, BOILERS, WALL FURNACES, UNIT HEATERS, AND DUCT FURNACES.
- WHERE THE FOLLOWING HVAC EQUIPMENT IS INDICATED ON THESE PLANS OR IN THE MECHANICAL SPECIFICATIONS, THE EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE EQUIPMENT MEETS OR EXCEEDS ALL APPLICABLE EFFICIENCY REQUIREMENTS LISTED IN SECTION 112 OF THE ENERGY EFFICIENCY STANDARDS:
1--- ALL AIR CONDITIONING EQUIPMENT
2--- HEAT PUMPS AND CONDENSING UNITS
- THE BUILDER SHALL PROVIDE THE BUILDING OWNER, MANAGER, AND THE ORIGINAL TENANT A LIST OF THE HEATING, COOLING, WATER HEATING, AND LIGHTING SYSTEMS AND FEATURES, INSULATING MATERIALS, COMPONENTS, AND MECHANICAL EQUIPMENT WHICH EITHER USE ENERGY OR ASSIST IN ENERGY CONSERVATION. OPERATING INSTRUCTIONS SO FURNISHED SHALL BE CONSISTENT WITH THE SPECIFICATIONS OF THE CALIF. ENERGY COMMISSION'S EXECUTIVE DIRECTOR.

OUTSIDE AIR REQUIREMENTS

- ALL ENCLOSED SPACES IN A BUILDING THAT ARE NORMALLY USED BY HUMANS SHALL BE VENTILATED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 121 OF THE CALIFORNIA ENERGY EFFICIENCY STANDARDS (JULY 1992 EDITION).
- AIR USED FOR VENTILATION SHALL NOT BE OBTAINED FROM ANY SOURCE CONTAINING AIR CONTAMINATES. ALL OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF 10 FEET FROM ANY PLUMBING VENT, EXHAUST FAN DISCHARGE, AND/OR FLUE DISCHARGE. NO EXHAUST FAN SHALL DISCHARGE IN THE DIRECTION OF AN OUTSIDE AIR INTAKE.
- OUTSIDE AIR REQUIREMENTS FOR ALL SPACES SHALL BE SUPPLIED IN STRICT ACCORDANCE WITH SECTION 121(B) OF THE CALIFORNIA ENERGY EFFICIENCY STANDARDS.
- OUTSIDE AIR INTAKES SHALL BE SIZED FOR A MAXIMUM INTAKE VELOCITY NOT TO EXCEED 700 FEET PER MINUTE. INTAKES SHALL BE FURNISHED AND INSTALLED WITH WEATHERPROOF HOOD HAVING 1/4" GALV. STEEL MESH SCREEN & LOCKING QUADRANT SYSTEM VOLUME DAMPER. THE SYSTEM SHALL PROVIDE THE MINIMUM OUTSIDE AIR FOR ALL SPACES AS INDICATED ON THESE PLANS, AND SHALL BE MEASURED AND CERTIFIED BY THE LICENSED G-20 MECHANICAL CONTRACTOR. WHERE THE SPECIFICATIONS SPECIFICALLY REQUIRE AN INDEPENDENT TEST AND BALANCE AGENCY, THE OUTSIDE AIR SHALL BE SET BY A LICENSED AIR BALANCE FIRM.
- THE MINIMUM RATE OF OUTDOOR AIR SHALL BE SUPPLIED TO EACH SPACE AT ALL TIMES WHEN THE SPACE IS OCCUPIED. THERMOSTATS SHALL KEEP THE CIRCULATION FANS OPERATING CONTINUALLY DURING OCCUPIED HOURS. A TIME CLOCK SHALL RUN THE CIRCULATION FAN TO PROVIDE THE MINIMUM VENTILATION RATE FOR ONE HOUR, OR THREE COMPLETE VENTILATION CHANGES, DURING THE ONE HOUR PERIOD IMMEDIATELY BEFORE THE BUILDING IS NORMALLY OCCUPIED.

SYMBOLS AND ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR DIFFUSER. ARROWS INDICATE AIR PATTERN REQUIRED		MANUAL AIR VOLUME DAMPER
	RETURN AIR DIFFUSER. ARROWS INDICATE AIR PATTERN REQUIRED		SMOKE DETECTOR
	EXHAUST AIR DIFFUSER. ARROW INDICATE AIR PATTERN REQUIRED		FLEX DUCT
	SIDEWALL REGISTER		ACOUSTICALLY LINED DUCT
	WALL MOUNTED (48" ABOVE FIN. FLR) THERMOSTAT FOR HVAC UNIT (X)		POINT OF DEMOLITION
	EQUIPMENT CALL-OUT/SHEET NUMBER		WASTE (BELOW GROUND)
	PLUMBING FIXTURE/FIXTURE NUMBER		WASTE (ABOVE GROUND)
	DETAIL NUMBER/SHEET NUMBER		WALL CLEANOUT
	DUCT DIAMETER		FLOOR CLEANOUT
	ROUND		CONDENSATE DRAIN
	OUTSIDE AIR		VENT
	HOSE BIBB		COLD WATER
	VACUUM		HOT WATER
	GALVANIZED		GAS
	VACUUM BREAKER		WATER CLOSET
	FAN COIL		LAVATORY
	STANDARD		URINAL
	VOLUME DAMPER		SERVICE SINK
	WATER COLUMN		FLOOR DRAIN
	CUBIC FEET/MINUTE		LONG
	FEET PER MINUTE		DIAMETER
	NATURAL GAS		SHEET
	CUBIC FEET/HOUR		SHUTOFF VALVE
	NOMINAL PIPE SIZE		DOWN
	STATIC PRESSURE		APPROVED BY THE GOVERNING AUTHORITY
	HEAT PUMP		APP BACK-FLOW PREVENTOR
	AIR CONDITIONING		OUTSIDE DIAMETER
	HEAT(ING)		INSIDE DIAMETER
	FAHRENHEIT		MINIMUM CIRCUIT AMPS
	ON CENTER		PHASE
	NOT IN CONTRACT		WEIGHT
			SHEET METAL
			HORIZONTAL
			VERTICAL
			SINK
			AMER. W/ DISABI. ACT
			KILOWATT(S)
			HANDICAPPED
			WATER HEATER
			MINIMUM
			MAXIMUM
			NOT TO SCALE
			THICK
			CONTINUATION
			CALIFORNIA ENERGY COMMISSION
			CALIF. MECHANICAL CODE (1998 EDITION)
			CALIF. PLUMBING CODE (1998 EDITION)
			CALIF. BUILDING CODE (1998 EDITION)
			NATIONAL ELECTRICAL CODE (LATEST ED.)
			GALLONS/MINUTE
			BELOW
			GROUND
			METAL
			OUTSIDE (FRESH) AIR SHEET

CERTIFICATE OF COMPLIANCE

Part 1 of 2 MECH-1

PROJECT NAME: South-facing Tenant Office Spaces DATE: 10/17/2002

PROJECT ADDRESS: Marsh Street Parking Structure San Luis Obispo Building Permit #

PRINCIPAL DESIGNER - MECHANICAL: TELEPHONE: 805

DOCUMENTATION AUTHOR: A.F. Nibecker & Associates, Inc. TELEPHONE: (805) 239-3666 Checked by Date: Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS: BUILDING CONDITIONED FLOOR AREA: 0 sq. ft. CLIMATE ZONE: 5

BUILDING TYPE: NONRESIDENTIAL HIGH RISE RESIDENTIAL HOTEL/MOTEL GUEST ROOM

PHASE OF CONSTRUCTION: NEW CONSTRUCTION ADDITION ALTERATION EXISTING + ADDITION

METHOD OF MECHANICAL COMPLIANCE: PRESCRIPTIVE PERFORMANCE

PROOF OF ENVELOPE COMPLIANCE: PREVIOUS ENVELOPE PERMIT ENVELOPE COMPLIANCE ATTACHED

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building mechanical requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR: A.F. Nibecker SIGNATURE: DATE:

The Principal Mechanical Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the mechanical requirements contained in Sections 110 through 115, 120 through 124, 140 through 142, 144 and 145.

Please check one:

I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation, and that I am licensed in the State of California as a civil engineer, or mechanical engineer or I am a licensed architect.

I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation, and that I am a licensee contractor performing this work.

I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code to sign this document because I pertain to a structure or type of work described pursuant to Business and Professions Code sections 5537, 5538, and 6737.1.

PRINCIPAL MECHANICAL DESIGNER - NAME: SIGNATURE: DATE: LIC #:

MECHANICAL MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures

INSTRUCTIONS TO APPLICANT

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Notices and Manual published by the California Energy Commission.

MECH-1: Required on plans for all submittals. Parts 2 may be incorporated in schedules on plans.

MECH-2: Required for all submittals, but may be incorporated in schedules on plans.

MECH-3: Required for all submittals unless required outdoor ventilation rates and airflows are shown on plans per Section 4.3.4.

MECH-4: Required for Prescriptive submittals.

MECH-5: Optional Performance use only for mechanical distribution summary.

EnergyPro 3.1 By EnergySoft User Number: 3865 Job Number: 777-02 Page 1 of 2

CERTIFICATE OF COMPLIANCE

Part 2 of 2 MECH-1

PROJECT NAME: South-facing Tenant Office Spaces DATE: 10/17/2002

SYSTEM FEATURES

SYSTEM NAME	MECHANICAL SYSTEMS	NOTE TO FIELD
TIME CONTROL	DHW Heater r/n HVAC System - Typ-3 5/pcs Programmable Switch	
SETBACK CONTROL	r/n Heating Required	
ISOLATION ZONES	r/n n/a	
HEAT PUMP THERMOSTAT?	r/n Yes	
ELECTRIC HEAT?	r/n 7.5 kW	
FAN CONTROL	r/n Constant Volume	
VAV MINIMUM POSITION CONTROL?	r/n No	
SIMULTANEOUS HEAT/COOL?	r/n No	
HEATING SUPPLY RESET	r/n Constant Temp	
COOLING SUPPLY RESET	r/n Constant Temp	
HEAT REJECTION CONTROL	r/n n/a	
VENTILATION	r/n Air Balance	
OUTDOOR DAMPER CONTROL	r/n Auto	
ECONOMIZER TYPE	r/n No Economizer	
DESIGN O.A. CFM (MECH-3 COLUMN)	r/n 0 cfm	
HEATING EQUIPMENT TYPE	Electric Res Heat Pump	
HEATING EQUIPMENT EFFICIENCY	r/n 98%	
COOLING EQUIPMENT TYPE	r/n Packaged DX	
COOLING EQUIPMENT EFFICIENCY	r/n 11.0 SEER / 10.6 EER	
MAKE AND MODEL NUMBER	CHRONOMITE LABS S-48L CARRIER 38AYCO502ZP#4ANF030	
PIPE INSULATION REQUIRED?	Yes Yes	
PIPE/DUCT INSULATION PROTECTED?	Yes Yes	
HEATING DUCT LOCATION - R-VALUE	r/n n/a	4.2
COOLING DUCT LOCATION - R-VALUE	r/n n/a	4.2
VERIFIED REAL-ED DUCTS IN CEILING/ROOF SPACE?	r/n No	

CODE TABLES: Enter code from table below into column above.

HEAT PUMP THERMOSTAT?	ELECTRIC HEAT?	VAV MINIMUM POSITION CONTROL?	SIMULTANEOUS HEAT/COOL?	HEAT AND COOL SUPPLY RESET?	HIGH EFFICIENCY?	PIPE INSULATION REQUIRED?	PIPE/DUCT INSULATION PROTECTED?	SEALING DUCTS IN CEILING/ROOF SPACE?	TIME CONTROL	SETBACK CTRL	ISOLATION ZONES	FAN CONTROL
P: Prog. Switch	M: Manual Timer	Y: Yes N: No	Y: Yes N: No	B: Air Balance C: Outside Air Curt. H: Out. Air Measure D: Demand Control N: Natural	A: Air W: Water N: Not Required EC: Economizer Control See Section 144(e)	A: Air G: Gravity	A: Air W: Water N: Not Required EC: Economizer Control See Section 144(e)	I: Inlet Vanes P: Variable Pitch V: VFD O: Other C: Curve	Enter Number of Isolation Zones.	Enter Number of Isolation Zones.	Enter Number of Isolation Zones.	I: Inlet Vanes P: Variable Pitch V: VFD O: Other C: Curve

NOTES TO FIELD - For Building Department Use Only

EnergyPro 3.1 By EnergySoft User Number: 3865 Job Number: 777-02 Page 2 of 2

REVISIONS	BY

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E-MAIL: ana@ana.net

REGISTERED MECHANICAL ENGINEER
A. F. NIBECKER
EXPIRES 12-31-03
CALIFORNIA No. 15619

SHEET TITLE:
MECHANICAL SHEET
SPECIFICATIONS &
ENERGY COMPLIANCE

PROJECT:
MARSH ST. PARKING
SOUTH OFFICES
SAN LUIS OBISPO

DRAWN
AFN
CHECKED
AFN
DATE
6-19-03
SCALE
NTS
JOB NO.
777-02
SHEET
MC
2
OF SHEETS