



GENERAL NOTES

- TEMPERATURE SHALL BE CAPABLE OF BEING SET FROM 55 DEG. TO 85 DEG. F. AND HAVE THE ABILITY TO OPERATE THE HEATING AND COOLING IN SEQUENCE, IF BOTH ARE PROVIDED. CONTROL SHALL BE ADJUSTABLE TO PROVIDE A RANGE OF UP TO 10 DEG. F. BETWEEN FULL HEATING AND FULL COOLING, AND HAVE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE NO MORE THAN 70 DEG. F. AND COOLING AT A TEMPERATURE NOT LESS THAN 78 DEG.F.
- EACH HVAC SYSTEM SHALL HAVE A DEVICE TO SHUT-OFF OR SET-BACK EACH SYSTEM DURING OFF HOURS. SET T-STAT TO PURGE SUITE ONE HOUR BEFORE OCCUPANCY.
- EACH HVAC SYSTEM MUST BE CAPABLE OF SUPPLYING MINIMUM LEVELS OF OUTDOOR AIR PER ASHRAE STANDARDS 62-1981 TABLE 3 SECTION 6.1. SMOKING AREAS 20 CFM PER PERSON, NON-SMOKING AREA 15 CFM PER PERSON, UBC MIN. 15 CFM PER PERSON OF O.S.A.
- ALL INSULATING MATERIALS SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAMESPREAD RATING AND SMOKE DENSITY REQUIREMENTS OF SECTION 804 OF THE UMC.
- ALL PIPING SHALL BE INSULATED IN ACCORDANCE WITH CEC TABLE 2-53E.
- TRANSVERSE JOINTS SHALL BE SEALED WITH APPROVED MASTIC OR TAPE. UMC 601.6
- INSTALLATION OF DUCTS UMC 603
- INSULATION OF DUCTS UMC TABLE No. 6-D THERMAL WRAP MIN. INSTALLED 1-1/2" THICK. FIBERGLASS WITH ALUMINUM FOIL SCRIM KRAFT FACING 1 LB/CUFT. INSTALLED TO MEET FLAME SPREAD, SMOKE DENSITY REQUIREMENTS.
- ALL HEATING & COOLING EQUIPMENT SHALL BE LISTED BY THE CEC.
- ALL HEATING & COOLING EQUIPMENT SHALL MEET OR EXCEED THE EQUIPMENT EFFICIENCY.
- GAS APPLIANCES SHALL HAVE PILOTLESS IGNITION.
- DAMPER WHICH WILL AUTOMATICALLY CLOSE ON FAN SHUT DOWN WILL BE PROVIDED FOR EACH EXHAUST FAN.
- WATER HEATERS OF DOMESTIC & POOL HEATERS SHALL BE C.E.C. APPROVED.
- MAINTENANCE LABELS WILL BE AFFIXED TO MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNERS USE.
- WORK SHALL CONFORM TO LOCAL CODES & REQUIREMENTS, LATEST EDITION OF THE UBC, LATEST EDITION OF THE UMC & LATEST EDITION OF UPC.
- VERIFY ALL DIMENSIONS IN THE FIELD, NO EXCEPTION. PLANS ARE SCHEMATIC. FIELD VERIFY ALL CONDITIONS.
- TO ACCOMMODATE SPACE, DUCT MAY REQUIRE REROUTING OR CHANGED FROM ROUND TO RECTANGLE AND FROM RECTANGLE TO ROUND WITH PROPER SIZING AND PROPER FITTINGS. WEATHER EXPOSED ROOF MOUNTED DUCT TO REMAIN RECTANGLE. VERIFY WITH SPECIFICATIONS.
- HVAC CONTRACTOR SHALL TEST & BALANCE THE AIR DISTRIBUTION SYSTEM. OUTSIDE AIR CERTIFICATION SHALL BE PROVIDED.
- HVAC CONTRACTOR IS RESPONSIBLE FOR MEETING ALL CONDITIONS OF THE CEC MANDATORY MEASURES THAT ARE APPLICABLE TO HIS SCOPE OF WORK.
- CONDENSATE DRAINS TO BE RUN TO APPROPRIATE RECEPTACLE. UMC 309. ATTIC MOUNT HVAC OVER FLOW PAN DRAIN TO BE RUN TO A READILY OBSERVED LOCATION UMC 1105.12
- FLEXIBLE DUCTWORK MAY BE USED THE LAST 7 FEET TO CONNECT TO REGISTERS AND GRILLES. VERIFY WITH SPECIFICATIONS.
- GRILLES AND REGISTARS TO BE METAL-AIRE OR EQUAL SUPPLY REGISTERS TO HAVE OPPOSED BLADE DAMPERS.
- PROVIDE COMBUSTION AIR PER UMC CHAPTER 7 1997 EDITION. ONE SQUARE INCH FOR EVERY 1,000 BTUS. HIGH AND LOW COMBUSTION AIR CONDITIONS MUST BE MET.
- ALL EQUIPMENT THAT IS SUBSTITUTED SHALL FIT IN THE SPACE PROVIDED WITH ADEQUATE ROOM FOR SERVICING, INCLUDING SUBSTITUTE EQUIPMENT NAMED IN THIS SECTION OF THE SPECIFICATIONS.
- ALL SHEET METAL CONSTRUCTION AND GAGES SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL AND ASHRAE CODES. TAPE ALL TRANSVERSE AND LONGITUDINAL JOINTS, SUPPLY AND RETURN DUCTS. TAPE MUST BE UL 1818 LISTED TAPE.
- WHERE INTERIOR OF DUCTWORK IS VISIBLE THRU AN AIR OUTLET, INSIDE OF DUCT SHALL BE PAINTED WITH A FLAT BLACK PRIMER, OR LINING SHALL HAVE BLACK FACING.
- ALL MATERIALS AND EQUIPMENT PROVIDED AND/OR INSTALLED SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER. ANY DEFECTIVE MATERIALS OR INFERIOR WORKMANSHIP SHALL BE CORRECTED TO THE ENTIRE SATISFACTION OF THE OWNER.
- WITHIN 14 DAYS AFTER AWARD OF CONTRACT SUBMIT FIVE (5) COPIES OF REQUIRED SHOP DRAWINGS, MATERIAL LISTS, AND EQUIPMENT SPECIFICATIONS OF ITEMS PROPOSED FOR INSTALLATIONS.
- GENERAL CONTRACTOR: CURBING, LEVEL PLATFORMS, FRAMED OPENING, DOOR LOUVERS, (DL), UNDERCUT DOORS (UC), EXTERIOR LOUVERS, SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
- WHERE MULTIPLE HVAC SYSTEMS ARE PROVIDED, EACH SYSTEM SHALL BE PERMANENTLY IDENTIFIED AS TO THE AREA IT SERVES. UMC SEC. 310.3
- PROVIDE 120 VOLT OUTLET WITHIN 25 FEET OF HVAC EQUIPMENT. UMC SEC. 306.3
- EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS OF MORE THAN 50 VOLTS SHALL HAVE A POSITIVE MEANS OF DISCONNECT ADJACENT TO AND IN SIGHT FROM THE EQUIPMENT SERVED. UMC 306.2
- ALL THERMOSTATS, SWITCHES, AND CONTROLLERS SHALL BE LOCATED 48" MAX. ABOVE THE FINISH FLOOR.
- SMOKE AND FIRE RATED DAMPER ARE REQUIRED ON ALL DUCTS PENETRATING OCCUPANCY SEPARATION WALLS, RATED CORRIDOR/FOYER WALLS, AND FIRE RATED CEILINGS. UBC 713.
- MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH UBC STANDARD 8-1.
- EACH SINGLE SYSTEM PROVIDING HEATING OR COOLING AIR IN EXCESS OF 2000 CFM SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF. AUTOMATIC SHUTOFFS SHALL SHUT DOWN THE AIR-MOVING EQUIPMENT WHEN SMOKE IS DETECTED IN THE MAIN SUPPLY-AIR DUCT. SMOKE DETECTION REQUIRED BY UMC SEC. 608 SHALL BE BY SMOKE DETECTOR INSTALLED IN THE MAIN SUPPLY-AIR DUCT. ACTIVATION OF ANY DETECTOR SHALL CAUSE THE AIR-MOVING EQUIPMENT TO AUTOMATICALLY SHUT DOWN.
- APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE SECURELY FASTENED IN PLACE PER BUILDING CODE REQUIREMENTS.
- ALL APPLIANCES AND PLUMBING VENTS AND THE DISCHARGE OUTLET OF EXHAUST FANS SHALL BE AT LEAST TEN (10) FEET IN THE HORIZONTAL DIRECTION, OR THREE (3) FEET ABOVE THE OUTSIDE-AIR INTAKES FOR THE HVAC UNITS.
- ALL COMBINATION FIRE/SMOKE DAMPERS (FSD) TO BE RUSKIN MODEL FSD60-3 UL555 RATED, UL555 UL555 LEAKAGE CLASS 1, CALIF. STATE FIRE MARSHAL FIRE DAMPER LISTING #3225-245-102 SMOKE DAMPER LISTING #3230-245-110. OPTIONS AS REQUIRED: TS-150 FIRESTAT, DUCT SMOKE DETECTOR, SP100 SWITCH PACKAGE, PICTURE FRAME MOUNTING FRAMES, SLEEVES, ACCESS DOORS SMOKE MANAGEMENT CONTROL PANEL, FIRESTOP CAULK INSTALLATION.
- AIR PRODUCTS AND CONTROLS INC. SM-501 SERIES DUCT SMOKE DETECTORS. FIELD VERIFY VOLTAGE REQUIREMENTS. UL APPROVED, CALIF. STATE FIRE MARSHAL APPROVED AND MEA LISTED.

STANDARD CONSTRUCTION NOTES:

ALL NEW CONSTRUCTION SHALL MEET THE MINIMUM REQUIREMENTS OF THE  
 UNIFORM BUILDING CODE - 1997 EDITION;  
 UNIFORM PLUMBING CODE - 1997 EDITION;  
 UNIFORM MECHANICAL CODE - 1997 EDITION;  
 NATIONAL ELECTRIC CODE - 1998 EDITION;  
 NFPA 99 HEALTH CARE FACILITIES 1999 EDITION  
 THE CALIFORNIA BUILDING CODE - 1998 EDITION;  
 THESE CODES MAY BE AMENDED BY THE GOVERNING JURISDICTION'S CODE.  
 IF CONTRADICTIONS ARISE IN THESE PLANS FROM THE PROVISIONS OF THE "CODES" THE MOST RESTRICTIVE PROVISIONS WILL GOVERN.

H.V.A.C. EQUIPMENT SCHEDULE

SYM	MANUFACTURER MODEL #	COOLING CAP @ ARI STD	EER	HEATING CAPACITY INPUT OUTPUT	AFUE CFM	ESP	BHP	VOLT	PH	MCA	FLA	MCOP	WT.	OSA	ECONOMIZER	
AC 1	CARRIER 48HJD008-6	74,000	---	125,000 102,500	---	---	---	---	---	---	---	---	---	---	SEE PLAN	YES
AC 2	CARRIER 486XN03690501	36,000	---	88,000 70,800	1200	---	---	---	---	---	---	---	---	SEE PLAN	YES	
AC 3	CARRIER 48TJD014	140,000	---	224,000 183,700	5000	---	---	---	---	---	---	---	---	SEE PLAN	YES	
AC 4	CARRIER 48TJD014	140,000	---	224,000 183,700	5000	---	---	---	---	---	---	---	---	SEE PLAN	YES	

REMARKS/ACCESS.  
 RELOCATE EXISTING T-STATS PER OWNER'S RECOMMENDATIONS.  
 VERIFY ALL CONTROL REQUIREMENTS WITH MANUFACTURER.  
 RUN CONDENSATE DRAIN TO PROPER RECEPT. OVERFLOWS TO VISIBLE LOCATION.  
 UPON COMPLETION OF WORK, SERVICE ALL UNITS, PROVIDE A CLEAN SET OF FILTERS PLUS ONE SET OF FILTERS FOR THE OWNER.

MANDATORY REQUIREMENTS

A) The person with overall responsibility for construction or the person responsible for the installation of regulated manufactured devices shall post, or make available with the building permit(s) issued for the building, the installation Certificate(s) for manufactured devices regulated by the appliance standards or Part 6. Such Installation Certificate(s) shall be made available to the enforcement agency for all appropriate inspections. These certificates shall:

- Identify features required to verify compliance with the appliance standards and Part 6.
- Include a statement indicating that the installed devices conform to the Appliance Standards and Part 6 and the requirements for such devices given in the plans and specifications approved by the local enforcement agency.
- State the building permit number which the construction or installation was performed.

Sec. 10-103(a)3

B) After installing wall, ceiling or floor insulation the installer shall make available to the enforcement agency or post in a conspicuous location in the building a certificate signed by the installer stating that the installation is consistent with the plans and the requirements of Section 10-103-(a)2.A. The certificate shall also state the manufacturer's name and material identification and the installed R-value.

C) The builder shall provide the building owner or the person(s) responsible for building maintenance (in case of multi-tenant or centrally operated buildings) at occupancy the following:

- Operating Information. A list of the heating, cooling, water heating, and lighting systems & features, materials, components, and mechanical devices, conservation or solar devices installed in the building, and instructions on how to use them efficiently.
- Maintenance Information. Required routine maintenance action shall be clearly stated and incorporated on a readily accessible label. The label may be limited to identifying the maintenance manual.
- Ventilation Information. A description of the quantities of outdoor and recirculated air that the ventilation system is designed to provide to each area.

Sec. 10-103(b)

D) The Lesser of the minimum rate of outdoor air required by Sec. 121(b)2, or three complete air changes shall be supplied to the entire building during the one-hour period immediately before the building is normally occupied.

EXHAUST FAN SCHEDULE

SYM	MANUFACTURER MODEL #	AREA SERVICED	CFM	ESP	AMPS	VOLT	PH	HP	RPM	WT.	BACK DRAFT/DAMPER	MISC.
EF 1	BROAN L200	HEALTH SERVICES 114	200	0.125	1.6	120	1	---	---	22.0	YES	ROOF FLASHING & CAP 8"Ø DUCT
EF 2												
EF 3												

REMARKS/ACCESS. INTERLOCK TOILET ROOM EXHAUST WITH LIGHTS  
 PROVIDE 1-HR WALL TIMER & SPEED CONTROL FOR EF-1

AIR DISTRIBUTION SCHEDULE

SYM	MANUFACTURER MODEL #	SIZE	THROW	REMARKS/ACCESS.
CFW	METAL-AIRE MODFLO SERIES 9000	12"x12"	4	OFF WHITE IN COLOR. PROVIDE OBD'S HARD CEILING 9000-1 T-BAR CEILING 9000-6P
CFW	METAL-AIRE MODFLO SERIES 9000	14"x14"	4	OFF WHITE IN COLOR. PROVIDE OBD'S HARD CEILING 9000-1 T-BAR CEILING 9000-6P
CFW	METAL-AIRE MODFLO SERIES 9000	16"x16"	4	OFF WHITE IN COLOR. PROVIDE OBD'S HARD CEILING 9000-1 T-BAR CEILING 9000-6P
CFW	METAL-AIRE 4000M	16"x12"	SWS	OFF WHITE IN COLOR. SIDEWALL SUPPLY
CFW	METAL-AIRE RH	14"x14"	1	OFF WHITE IN COLOR. PROVIDE OBD'S HARD CEILING - SIDEWALL T-BAR CEILING W/ FILLER PANEL
CFW	METAL-AIRE RH	16"x16"	1	OFF WHITE IN COLOR. PROVIDE OBD'S HARD CEILING - SIDEWALL T-BAR CEILING W/ FILLER PANEL
CFW	METAL-AIRE RH	18"x18"	1	OFF WHITE IN COLOR. PROVIDE OBD'S HARD CEILING - SIDEWALL T-BAR CEILING W/ FILLER PANEL
CFW	METAL-AIRE RH	22"x22"	1	OFF WHITE IN COLOR. PROVIDE OBD'S HARD CEILING - SIDEWALL T-BAR CEILING W/ FILLER PANEL

FIELD VERIFY AND COORDINATE W/ ARCHITECT'S REFLECTED CEILING PLAN & FLOOR PLANS ALL GRILLE & REGISTER LOCATIONS.

CONSULTANT

ENERGY & DUCT SYSTEMS

PHONE: (909)-925-0100  
 40492 CLARK DRIVE  
 HEMET, CALIFORNIA 92344

PROJECT

ARLANZA COMMUNITY CENTER OFFICE REMODEL

7950 PHILBIN AVENUE  
 RIVERSIDE, CA

OWNER

CITY OF RIVERSIDE PARK & RECREATION DEPARTMENT

3936 CHESTNUT STREET  
 RIVERSIDE, CA 92501  
 909-826-2012

DATE: 5-28-02 OWNER REVIEW

REVISIONS

DATE	DESCRIPTION
7-02-02	OWNER PLAN CHECK
8-13-02	B & S PLAN CHECK

BID SET DATE :

ADDENDA

MARK	DATE	DESCRIPTION
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POST BID REVISIONS

MARK	DATE	DESCRIPTION
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PROJECT NO: 01281

CAD DWG FILE: MECH1.DWG

DRAWN BY: E&DS / MSF

CHECKED BY: GM/GM

SHEET TITLE

MECHANICAL SCHEDULES & NOTES

M1







PROJECT  
**ARLANZA COMMUNITY CENTER OFFICE REMODEL**  
 7950 PHILBIN AVENUE  
 RIVERSIDE, CA

OWNER  
**CITY OF RIVERSIDE PARK & RECREATION DEPARTMENT**  
 3938 CHESTNUT STREET  
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PROJECT NO: 01281  
 CAD DWG FILE: MECH1.DWG  
 DRAWN BY: E&S / MSF  
 CHECKED BY: GM/GM

SHEET TITLE

**MECHANICAL ENERGY CALCS.**

M4

SHEET # OF

**PERFORMANCE CERTIFICATE OF COMPLIANCE** Part 1 of 3 **PERF-1**

PROJECT NAME: Arlanza Com. Center Additions & Alterations DATE: 8/11/02

PROJECT ADDRESS: 7950 Philbin Ave. Riverside

PRINCIPAL DESIGNER - ENVELOPE: Gary W. Miller Architect & Associates TELEPHONE: (909) 889-4480 Building Permit #

DOCUMENTATION AUTHOR: Energy and Duct Systems TELEPHONE: (909) 925-0100 Checked by/Date: Enforcement Agency Use

**GENERAL INFORMATION**

DATE OF PLANS: BUILDING CONDITIONED FLOOR AREA: 137 sq. ft. CLIMATE ZONE: 10

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

PHASE OF CONSTRUCTION:  NEW CONSTRUCTION  ADDITION  ALTERATION  EXISTING + ADDITION

**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 State Building Code. This certificate applies only to a building using the performance compliance approach.

DOCUMENTATION AUTHOR: Marc Farmer SIGNATURE: DATE: 8-11-02

The Principal Designers hereby certify that the proposed building design represented in the construction documents and modeled for this permit application are consistent with all other forms and worksheets, specifications, and other calculations submitted with this permit application. The proposed building as designed meets the energy efficiency requirements of the State Building Code, Title 24, Part 6.

ENV. LTO, MECH.

I, 1, 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 as a civil engineer, mechanical engineer, electrical engineer or architect.

I, 2, affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code Section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor preparing documents for work that I have contracted to perform.

I, 3, affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537.5, 5538, and 6737.1. (These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

**ENVELOPE COMPLIANCE**

Indicate location on plans of Note Block for Mandatory Measures

Required Forms: ENV-1 LIC. NO. DATE

PRINCIPAL ENVELOPE DESIGNER - NAME: Gary W. Miller Architect & Associates SIGNATURE: LIC. NO. DATE

**LIGHTING COMPLIANCE**

Indicate location on plans of Note Block for Mandatory Measures

Lighting Compliance Not In The Scope Of This Submittal

PRINCIPAL LIGHTING DESIGNER - NAME: SIGNATURE: LIC. NO. DATE

**MECHANICAL COMPLIANCE**

Indicate location on plans of Note Block for Mandatory Measures

Required Forms: MECH1, MECH-2, MECH-3 LIC. NO. DATE

PRINCIPAL MECHANICAL DESIGNER - NAME: SIGNATURE: LIC. NO. DATE

Run Initiation Time: 08/11/02 16:41:40 Run Code: 1028109300 Page 3 of 13

**PERFORMANCE CERTIFICATE OF COMPLIANCE** Part 3 of 3 **PERF-1**

PROJECT NAME: Arlanza Com. Center Additions & Alterations DATE: 8/11/02

**ZONE INFORMATION**

System Name	Zone Name	Occupancy Type	Floor Area (sq.ft.)	Inst. LPO (W/sq.ft.)	Part. LPO (W/sq.ft.)	Chl. Credits (W/sq.ft.)	Tailored LPO (W/sq.ft.)	Proc. Loads (W/sq.ft.)
HVAC System	Lobby	Office	137	1.300				

Notes: 1. See LTO-1 items (items marked with asterisk, see LTO-2 by others) 2. See LTO-3 3. See LTO-4

**EXCEPTIONAL CONDITIONS COMPLIANCE CHECKLIST**

The local enforcement agency should pay special attention to the items specified in this checklist. These items require special written justification and documentation, and special verification to be used with the performance approach. The local enforcement agency determines the adequacy of the justification, and may reject a building or design that otherwise complies based on the adequacy of the special justification and documentation submitted.

The HVAC System "Existing" includes an Economizer. This system has a cooling output < 75,000 btuh or a supply cfm < 2500.

The exceptional features listed in this performance approach application have specifically been reviewed. Adequate written justification and documentation for their use have been provided by the applicant.

Authorized Signature or Stamp: Run Initiation Time: 08/11/02 16:41:40 Run Code: 1028109300 Page 5 of 13

**CERTIFICATE OF COMPLIANCE** Performance **MECH-1**

PROJECT NAME: Arlanza Com. Center Additions & Alterations DATE: 8/11/02

**SYSTEM FEATURES**

SYSTEM NAME	HVAC System	MECHANICAL SYSTEMS	NOTE TO FIELD
TIME CONTROL	Programmable Switch		
SETBACK CONTROL	Heating & Cooling Required		
ISOLATION ZONES	n/a		
HEAT PUMP THERMOSTAT?	n/a		
ELECTRIC HEAT?	n/a		
FAN CONTROL	Constant Volume		
VAV MINIMUM POSITION CONTROL?	No		
SIMULTANEOUS HEAT/COOL?	No		
HEATING SUPPLY RESET	Constant Temp		
COOLING SUPPLY RESET	Constant Temp		
HEAT REJECTION CONTROL	n/a		
VENTILATION	Air Balance		
OUTDOOR DAMPER CONTROL	Auto		
ECONOMIZER TYPE	Diff. Enth. (Non-Integ)		
DESIGN O.A. CFM (MECH-3, COLUMN I)	294 cfm		
HEATING EQUIPMENT TYPE	Gas Furnace		
HEATING EQUIPMENT EFFICIENCY	82% AFUE		
COOLING EQUIPMENT TYPE	Split DX		
COOLING EQUIPMENT EFFICIENCY	12.0 SEER / 11.0 EER		
MAKE AND MODEL NUMBER	Existing		
PIPE INSULATION REQUIRED?	Yes		
PIPE/DUCT INSULATION PROTECTED?	Yes		
HEATING DUCT LOCATION - R-VALUE	Ducts in Attic: 4.2		
COOLING DUCT LOCATION - R-VALUE	Ducts in Attic: 4.2		
VENTILATED SEALED DUCTS IN CEILING/ROOF SPACE?	No		

**CODE TABLES:** Enter code from table below into columns above.

HEAT PUMP THERMOSTAT?	TIME CONTROL	SETBACK CTRL.	ISOLATION ZONES	FAN CONTROL
S: Prog. Switch O: Occupancy Sensor	H: Heating C: Cooling S: Both	Enter Number of Isolation Zones.	I: Inlet Vanes V: Variable Pitch W: VFD O: Other	C: Curve

**HEAT AND COOL SUPPLY RESET?**  
 HIGH EFFICIENCY? Y: Yes N: No  
 VENTILATION: AC: Auto G: Gravity  
 OUTDOOR DAMPER: AC: Auto G: Gravity  
 ECONOMIZER: W: Water W: Wet Required  
 O.A. CFM: Enter Outdoor Air CFM. Note: This shall be no less than Col. H on MECH-3.  
 Control See Section 1144(j)

**NOTES TO FIELD - For Building Department Use Only**

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**MECHANICAL MANDATORY MEASURES** Part 2 of 2 **MECH-MM**

PROJECT NAME: Arlanza Com. Center Additions & Alterations DATE: 8/11/02

**Ventilation**

§ 121(e) Controls shall be provided to allow outside air dampers or devices to be operated at the ventilation rates as specified on these plans.

§ 122(b) Gravity or automatic dampers interlocked and closed on fan shutdown shall be provided on the outside air intakes and discharges of all space conditioning and exhaust systems.

§ 122(f) All gravity ventilating systems shall be provided with automatic or readily accessible manually operated dampers in all openings to the outside, except for combustion air openings.

§ 121(f)(1) Air Balancing: The system shall be balanced in accordance with the National Environmental Balancing Bureau (NEBB) Procedural Standards (1983), or Associated Air Balance Council (AABC) National Standards (1989); or

§ 121(f)(2) Outside Air Certification: The system shall provide the minimum outside air as shown on the mechanical drawings, and shall be measured and certified by the installing licensed C-20 mechanical contractor and certified by (1) the design mechanical engineer, (2) the installing licensed C-20 mechanical contractor, or (3) the person with overall responsibility for the design of the ventilation system; or

§ 121(f)(3) Outside Air Measurement: The system shall be equipped with a calibrated local or remote device capable of measuring the quantity of outside air on a continuous basis and displaying that quantity on a readily accessible display device; or

§ 121(f)(4) Another method approved by the Commission.

**Service Water Heating Systems**

§ 112(b)(2) If a circulating hot water system is installed, it shall have a control capable of automatically turning off the circulating pump(s) when hot water is not required.

§ 112(b)(3) Lavatories in restrooms of public facilities shall be equipped with controls to limit the outlet temperature to 110 degrees F.

§ 112(b)(3) Lavatories in restrooms of public facilities shall be equipped with one of the following:  
 Outlet devices that limit the flow of hot water to a maximum of 0.5 gallons per minute.  
 Foot actuated control valves, and outlet devices that limit the flow of hot water to a maximum of 0.75 gallons per minute.  
 Proximity sensor actuated control valves, and outlet devices that limit the flow of hot water to a maximum of 0.75 gallons per minute.  
 Self-closing valves, and outlet devices that limit the flow of hot water to a maximum of 2.5 gallons per minute, and 0.25 gallons/cycle (circulating system).  
 Self-closing valves, and outlet devices that limit the flow of hot water to a maximum of 2.5 gallons per minute, and 0.50 gallons/cycle (non-circulating system).  
 Self-closing valves, and outlet devices that limit the flow of hot water to a maximum of 2.5 gallons per minute, and 0.75 gallons/cycle (foot switches and proximity sensor controls).

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**PERFORMANCE CERTIFICATE OF COMPLIANCE** Part 2 of 3 **PERF-1**

PROJECT NAME: Arlanza Com. Center Additions & Alterations DATE: 8/11/02

**ANNUAL SOURCE ENERGY USE SUMMARY (kBtu/sq.ft./yr)**

ENERGY COMPONENT	Standard Design	Proposed Design	Compliance Margin
Space Heating	10.95	16.70	-5.84
Space Cooling	32.85	24.09	8.76
Indoor Fans	0.00	2.19	-2.19
Heat Rejection	0.00	0.00	0.00
Pumps & Misc.	0.00	0.00	0.00
Domestic Hot Water	0.00	0.00	0.00
Lighting	37.23	37.23	0.00
Receptacle	26.28	26.28	0.00
Process	0.00	0.00	0.00
<b>TOTALS:</b>	<b>107.30</b>	<b>106.57</b>	<b>0.73</b>

Percent better than Standard: 0.7% (Excludes Process), 0.7% (Excludes Process & Receptacle)

**BUILDING COMPLIES**

**GENERAL INFORMATION**

Building Orientation: (North) 0 deg Conditioned Floor Area: 137 sqft  
 Number of Stories: 1 Unconditioned Floor Area: 0 sqft  
 Number of Systems: 1 Conditioned Footprint Area: 137 sqft  
 Number of Zones: 1

Orientation: (North) 0 deg  
 Front Elevation: 144 sqft 0 sqft 0.0%  
 Left Elevation: 0 sqft 0 sqft 0.0%  
 Rear Elevation: 50 sqft 0 sqft 0.0%  
 Right Elevation: 86 sqft 0 sqft 0.0%  
 Total: 280 sqft 0 sqft 0.0%  
 Roof: 130 sqft 0 sqft 0.0%

Lighting Power Density: Standard 1.300 W/sqft Proposed 1.300 W/sqft  
 Prescriptive Env. Heat Loss: 42 26  
 Prescriptive Env. Heat Gain: 4,135 1,745

Remarks:

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**ENVELOPE COMPLIANCE SUMMARY** Performance **ENV-1**

PROJECT NAME: Arlanza Com. Center Additions & Alterations DATE: 8/11/02

**OPAQUE SURFACES**

Surface #	Surface Type	Framing Type	Area	U-Fac.	Act. Azm.	Tilt	Solar Gains Y/N	Form 3 Reference	Location / Comments
1	Wall	Wood	29	0.088	180	90	X	R-13 Wall (W 13.2x4.16)	Lobby
2	Door	None	01	0.561	190	90	X	High Metal Door	Lobby
3	Wall	Wood	102	0.088	0	90	X	R-13 Wall (W 13.2x4.16)	Lobby
4	Door	None	42	0.567	0	90	X	Solid Wood Door	Lobby
5	Wall	Wood	86	0.088	270	90	X	R-13 Wall (W 13.2x4.16)	Lobby
6	Roof	Wood	130	0.051	0	0	X	R-19 Roof (R 19.2x8.16)	Lobby

**PENETRATION SURFACES**

Site Assembled Glazing  Check box if Building is >= 100,000 sqft of GFA and >= 10,000 sqft vertical glazing then NFRC Certification is required. Follow NFRC 100-SB Procedures and submit NFRC Label Certificate Form.

#	Type	Area	U-Fac.	Act. Azm.	SHGC	Glazing Type	Location / Comments
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**EXTERIOR SHADING**

#	Exterior Shade Type	SHGC	Window Hgt. Wd.	Overhang Len. Hgt. LExt.Rext.	Left Fin Dist. Len. Hgt.	Right Fin Dist. Len. Hgt.
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**MECHANICAL MANDATORY MEASURES** Part 1 of 2 **MECH-MM**

PROJECT NAME: Arlanza Com. Center Additions & Alterations DATE: 8/11/02

**DESCRIPTION**

§ 111 Any appliance for which there is a California standard established in the Appliance Efficiency Regulations shall not have a pilot light.

§ 115(a) Fan type central furnaces shall not have a pilot light.

§ 123 Piping, except that carrying fluids at temperatures between 60 and 165 degrees Fahrenheit, or within HVAC equipment, shall be insulated in accordance with Standards Section 123.

§ 124 Air handling duct systems shall be installed and insulated in compliance with Sections 601, 603 and 604 of the Uniform Mechanical Code.

**Controls**

§ 122(a) Each space conditioning system shall be installed with one of the following:  
 § 122(a)(1) Each space conditioning system serving building types such as offices and manufacturing facilities (and all others not explicitly exempt from the requirements of Section 112 (d)) shall be installed with an automatic time switch with an accessible manual override that allows operation of the system during off-hours for up to 4 hours. The time switch shall be capable of programming different schedules for weekdays and weekends; incorporate an automatic holiday "shut-off" feature that turns off all loads for at least 24 hours, then resumes the normally scheduled operation; and has program backup capabilities that prevent the loss of the device's program and time setting for at least 16 hours if power is interrupted; or

§ 122(a)(2) An occupancy sensor to control the operating period of the system; or

§ 122(a)(3) A 4-hour timer that can be manually operated to control the operating period of the system.

§ 122(a)(4) Each space conditioning system shall be installed with controls that temporarily reset and temporarily operate the system as required to maintain a setback heating and/or a setpoint cooling thermostat setpoint.

§ 122(b) Each space conditioning system serving multiple zones with a combined conditioned floor area more than 25,000 square feet shall be provided with isolation zones. Each zone: shall not exceed 25,000 square feet; shall be provided with isolation devices, such as valves or dampers, that allow the supply of heating or cooling to be setback or shut-off independently of other isolation areas; and shall be controlled by a time control device as described above.

§ 122(a)(5) Each space conditioning system shall be controlled by an individual thermostat that responds to temperature within the zone. Where used to control heating, the control shall be adjustable down to 55 degrees F or lower. For cooling, the control shall be adjustable up to 65 degrees F or higher. Where used for both heating and cooling, the control shall be capable of providing a deadband of at least 5 degrees F within which the supply of heating and cooling is shut off or reduced to a minimum.

§ 122(c) Thermostats shall have numeric setpoints in degrees Fahrenheit (F) and adjustable setpoint steps accessible only to authorized personnel.

§ 112(b) Heat pumps shall be installed with controls to prevent electric resistance supplementary heater operation when the heating load can be met by the heat pump alone.

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