DRAWINGS SHOWING LOCATION OF EQUIPMENT, PIPING, DUCTWORK, ETC E DIAGRAMMATIC AND JOB CONDITIONS WILL NOT ALWAYS PERMIT THEIR TALLATION IN THE LOCATION SHOWN. THE MECHANICAL/ PLUMBING AWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPING, DUCTWORK, JIPMENT, ETC. AND SHALL BE FOLLOWED, AS CLOSELY AS PROJECT NDITIONS, ACTUAL BUILDING CONSTRUCTION, AND THE WORK OR OTHER ADES WILL PERMIT. THE ARCHITECTURAL, CIVIL, ELECTRICAL, FIRE DIECTION AND STRUCTURAL DRAWINGS AND SPECIFICATIONS SHALL BE NSIDERED A PART OF THE WORK INSOFAR AS THESE DRAWINGS FURNISH CONTRACTOR WITH INFORMATION RELATING TO DESIGN AND NSTRUCTION OF THE BUILDING. ARCHITECTURAL DRAWINGS SHALL TAKE ECEDENCE OVER PLUMBING DRAWINGS. BECAUSE OF THE SMALL SCALE OF MECHANICAL/PLUMBING DRAWINGS IT IS NOT POSSIBLE TO INDICATE ALL SETS. FITTINGS. AND ACCESSORIES. WHICH MAY BE REQUIRED. THE NTRACTOR SHALL INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS FECTING THE WORK AND SHALL ARRANGE HIS WORK ACCORDINGLY DVIDING SUCH FITTING, VALVES, AND ACCESSORIES AS MAY BE REQUIRED MEET CONDITIONS AND FOR PROPER SYSTEMS' OPERATION.

ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF E 2013 CALIFORNIA BUILDING CODE, 2013 CALIFORNIA MECHANICAL CODE, 3 CALIFORNIA PLUMBING CODE, NFPA (LATEST EDITION), 2013 CALIFORNIA ERGY CODE, 2013 CALIFORNIA GREEN BUILDINGS STANDARDS, STATE ALTH AND SAFETY ORDERS, STATE FIRE MARSHAL LOCAL FIRE PARTMENT, CALIFORNIA TITLE-24 AND OTHER LOCAL CODES, ORDINANCES) REGULATIONS, AND ANY OTHER AUTHORITIES HAVING JURISDICTION. PLICABLE CODES AND STANDARDS CONTAINED THEREIN SHALL DETERMINE IMUM REQUIREMENTS FOR MATERIALS, METHODS, AND LABOR PRACTICES T OTHERWISE STATED HEREIN. NOTHING IN THESE DRAWINGS OR ECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING THESE CODES.

COORDINATE ALL WORK WITH OTHER TRADES TO PROVIDE A COMPLETE TALLATION. CONNECT ALL EQUIPMENT FURNISHED BY OTHERS AS QUIRED. INSTALL ALL WORK TO CLEAR ARCHITECTURAL AND STRUCTURAL

RESTORE ALL DAMAGE RESULTING FROM YOUR WORK AND LEAVE EMISES IN CLEAN CONDITION WHEN FINISHED WITH WORK. ADJUST, CLEAN, 'AIR, OR REPLACE PRODUCTS, WHICH HAVE BEEN DAMAGED. THE NTRACTOR WILL BE EXPECTED TO PROTECT ALL OWNERS' PROPERTY FROM MAGE AND DEBRIS AT ALL TIMES DURING THE CONSTRUCTION PROCESS. ERIOR WORK AREA SHALL BE CLEANED AND RESTORED TO THEIR INITIAL NDITION AT THE END OF THE WORK PERIOD. THE CONTRACTOR SHALL BE SPONSIBLE FOR MAINTAINING THE SECURITY OF ALL MATERIALS, TOOLS) OTHER EQUIPMENT STORED AT THE JOB SITE. ALL ELECTRICAL TOOLS ED ON THIS PROJECT MUST HAVE GFI PROTECTION. THE CONTRACTOR ALL PROTECT THE PUBLIC FROM INJURY DURING PROGRESS OF THE WORK POSTING WARNING SIGNS, GUARD LIGHTS AND BARRICADES AS REQUIRED. RING ENTIRE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL MAINTAIN FOLIATE FIRE EXTINGUISHERS READY FOR LISE IN CASE OF FIRE IT IS RESPONSIBILITY OF THE CONTRACTOR TO ENFORCE THESE POLICIES.

COORDINATE ALL CUTTING AND PATCHING WITH GENERAL CONTRACTOR) OTHER RELATED TRADES. OBTAIN ANY WRITTEN PERMISSION FROM CHITECT AND/OR STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY ITING OR PATCHING OF STRUCTURAL SYSTEMS. ALL DUCTWORK, PIPING) CONDUITS PENETRATING THE WALLS, ROOF OR FLOOR ASSEMBLY THAT QUIRE PROTECTION, SHALL BE FIRE STOPPED. ALL FIRE STOP MATERIALS ALL BE UL TESTED AND APPROVED BY THE STATE FIRE MARSHALL.

PROVIDE LAYOUT CHANGES AND SUBMITTALS OF SUBSTITUTIONS ON ALL JIPMENT. FIXTURES. PIPING FITTINGS, VALVES, AND INSULATION TO THE NER. OWNER'S REPRESENTATIVE OR ENGINEER FOR REVIEW AND PROVAL BEFORE ORDERING. WHERE PRODUCT MANUFACTURERS HAVE BEEN ECIFIED ON THE PLANS, SUBSTITUTIONS SHALL BE EQUAL TO THE ECIFIED PRODUCT IN CAPACITY, PERFORMANCE AND QUALITY OF NSTRUCTION AND APPROVED BY THE OWNER, OWNER'S REPRESENTATIVE ENGINEER, SUBSTITUTIONS, WHICH IN THE OPINION OF THE ENGINEER ARE T EQUAL, WILL BE REJECTED, IN WHICH CASE THE CONTRACTOR SHALL OVIDE THE SPECIFIED PRODUCT. THE CONTRACTOR SHALL ASSUME FULL SPONSIBILITY THAT SUBSTITUTED ITEMS OR PROCEDURES WILL MEET THE ECIFICATIONS AND JOB REQUIREMENTS AND SHALL BE RESPONSIBLE FOR COST OF REDESIGN AND MODIFICATIONS TO THE WORK CAUSED BY ESE ITEMS.

THE CONTRACTOR SHALL MAINTAIN ON A SET OF BLUELINE PRINTS FOR PROJECT, A RECORD OF ALL CONSTRUCTION CHANGES MADE. AS THE RK PROGRESSES, THE CONTRACTOR SHALL MAINTAIN A RECORD OF ALL /IATIONS IN THE WORK FROM THAT INDICATED ON THE DRAWINGS. THE NTRACTOR SHALL THEN TRANSFER THE CHANGES, NOTATIONS, ETC. FROM MARKED UP PRINTS TO THE REPRODUCIBLE DRAWINGS. THE RECORD AWINGS (MARKED UP PRINTS AND REPRODUCIBLES) SHALL BE SUBMITTED THE ARCHITECT FOR REVIEW. THE SET OF RECORD DRAWINGS SHALL BE T WITH THE OWNER UPON WORK COMPLETION.

IT IS CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND PAY FOR ALL CESSARY PERMITS, FEES AND INSPECTIONS REQUIRED BY THE GOVERNING THORITIES. GUARANTEE ALL WORKS AND MATERIALS FOR ONE-YEAR MINIMUM FROM TE OF FILING NOTICE OF COMPLETION. ALL MANUFACTURERS' EXTENDED RRANTIES SHALL BE PASSED OVER TO THE OWNER. UPON COMPLETION OF PROJECT, CONTRACTOR SHALL PROVIDE THE OWNER WITH THE SET OF JIPMENT START-UP REPORTS, OPERATION AND MAINTENANCE MANUALS) NECESSARY WARRANTY DOCUMENTS. UPON COMPLETION OF THE DJECT, CONTRACTOR SHALL DEMONSTRATE AND EXPLAIN THE SYSTEMS' ERATION. CONTROLS AND OTHER RELEVANT FEATURES TO THE OWNER'S PRESENTATIVE TO HIS/HER FULL UNDERSTANDING AND SATISFACTION.

RT II: HVAC

ALL DUCTWORK SHALL BE GALVANIZED SHEET METAL, SPIRAL ROUND OR CTANGULAR DUCT, IN ACCORDANCE WITH SMACNA, CMC AND ASHRAE ANDARDS AND RUN TIGHT TO STRUCTURE. INSTALLATION SHALL BE IN RICT ACCORDANCE WITH "SMACNA HVAC DUCT CONSTRUCTION STANDARDS, TAL AND FLEXIBLE". ALL DUCTWORK DIMENSIONS SHOWN ARE SHEET TAL DIMENSIONS. APPROVED MATERIALS SHALL BE INSTALLED WITHIN CTS AND PLENUMS FOR INSULATING, SOUND DEADENING OR OTHER RPOSES. MATERIALS SHALL HAVE A MOLD, HUMIDITY AND RESISTANT RFACE THAT MEET THE REQUIREMENTS OF UL 181. ALL DUCTWORK TERIALS SHALL HAVE FIRE AND SMOKE HAZARD RATINGS AS TESTED DER ASTM E-84 AND UL-723 NOT EXCEEDING A FLAME SPREAD OF 25) SMOKE DEVELOPED OF 50. INSULATE ALL DUCTWORK IN ACCORDANCE H 2013 CALIFORNIA MECHANICAL CODE. EXHAUST DUCTWORK SHALL BE JND METALLIC UNINSULATED EXCEPT WHERE INDICATED OTHERWISE ON E DRAWINGS.

2. ALL MECHANICAL DUCTWORK AND EQUIPMENT SHALL BE SEISMICALLY BRACED AND ANCHORED IN ACCORDANCE WITH SMACNA "GUIDELINES FOR SEISMIC RESTRAINT OF MECHANICAL SYSTEMS", 2013 CALIFORNIA BUILDING CODE, TITLE-24 WITH UNIFORM BUILDING CODE ADOPTIONS. ALL SUSPENDED PIPING AND DUCTWORK SHALL BE PROVIDED WITH SEISMIC SWAY BRACES IN ACCORDANCE WITH THE MASON INDUSTRIES SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED PIPING, DUCTWORK AND ELECTRICAL SYSTEMS AND THE APPLICABLE CODES. SEISMIC SWAY BRACES SHALL CONSIST OF GALVANIZED STEEL AIRCRAFT CABLES OR STEEL ANGLES/CHANNELS. STEEL AIRCRAFT CABLES SHALL BE PRESTRETCHED TO ESTABLISH A CERTIFIED MINIMUM MODULUS OF ELASTICITY. CABLES BRACES SHALL BE DESIGNED TO RESIST SEISMIC TENSION LOADS AND STEEL BRACES SHALL BE DESIGNED TO RESIST BOTH TENSION AND COMPRESSION LOADS WITH A MINIMUM SAFETY FACTOR OF 2. BRACE END CONNECTIONS SHALL BE STEEL ASSEMBLIES THAT SWIVEL TO THE FINAL INSTALLATION ANGLE. DO NOT MIX CABLES AND STEEL BRACES TO BRACE THE SAME SYSTEM. STEEL ANGLES SHALL BE CLAMPED TO THE THREADED HANGER RODS AT THE SEISMIC SWAY BRACE LOCATIONS UTILIZING A MINIMUM OF TWO DUCTILE IRON CLAMPS. CABLE BRACE ASSEMBLIES SHALL BE TYPE SCB, STEEL BRACE ASSEMBLIES SHALL BE TYPE SSB, ROD CLAMPS SHALL BE TYPE SRC, PIPE CLEVIS BRACES SHALL BE TYPE CCB AND MULTIPLE ANCHOR LOAD DISTRIBUTION BRACKETS SHALL BE TYPE SLDB ALL AS MANUFACTURED BY MASON INDUSTRIES, INC. 3. WHETHER SHOWN OR NOT, 7'-0" MAXIMUM LENGTH OF INSULATED FLEXIBLE DUCT SHALL BE USED AT ALL REGISTERS AND DIFFUSERS. DUCTS ARE TO MEET UL 181, CLASS 1 AND ARE TO MEET NFPA 90A AND 90B. PROVIDE VOLUME DAMPER AT INLET END (UNLESS OBD OR MULTI-SHUTTER GRILLE IS UTILIZED).

- 4. ROUND DUCTWORK OF EQUIVALENT CROSS SECTIONAL AREA MAY BE SUBSTITUTED FOR RECTANGULAR DUCTWORK AND VISE VERSA. RADIUS ELBOWS AT 1.5 TIMES WIDTH MAY BE SUBSTITUTED FOR RECTANGULAR ELBOWS, WHERE SPACE PERMITS.
- 5. COORDINATE LOCATION OF ALL SUPPLY DIFFUSERS AND RETURN GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ELECTRICAL LIGHTING PLANS. LOCATE AS CLOSE AS POSSIBLE TO LOCATIONS SHOWN ON MECHANICAL PLANS. DIFFUSER, REGISTER AND GRILLE FRAMES TO MATCH MOUNTING SURFACE. FINISH TO BE APPROVED BY ARCHITECT. FOR TYPES AND SIZES REFER TO THE SCHEDULE ON THE PLANS.

6. HEATING WATER PIPING: STEEL, BLACK, SCHEDULE 40 WITH WELDED OR THREADED FITTINGS. INSULATE WITH FIBERGLAS PIPE INSULATION WITH PVC JACKET PER T-24 REQUIREMENTS.

7. PIPING HANGERS AND ANCHORS SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT THE WEIGHT OF THE PIPING AND ITS CONTENTS. SUPPORTS SHALL HAVE ADJUSTABLE SPLIT RING, SWIVEL HANGER AND ROD. SIZING AND MAXIMUM LOAD PER MANUFACTURER'S INSTRUCTIONS. SUPPORT ALL PIPING SO THAT IT IS FIRMLY HELD IN PLACE BY APPROVED IRON HANGERS AND SUPPORTS, IN ACCORDANCE WITH ALL APPLICABLE CODES, RECOMMENDATIONS OF AMERICAN PIPE FITTERS ASSOCIATION AND PIPE HANGER INSTITUTE. HANGER RODS SHALL BE NO SMALLER THAN 3/8" DIAMETER. ALL SUSPENDED PIPING SHALL BE PROVIDED WITH SEISMIC SWAY BRACES IN ACCORDANCE WITH THE MASON INDUSTRIES SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED PIPING, DUCTWORK AND ELECTRICAL SYSTEMS AND THE APPLICABLE CODES. SEISMIC SWAY BRACES SHALL CONSIST OF GALVANIZED STEEL AIRCRAFT CABLES OR STEEL ANGLES/CHANNELS. STEEL AIRCRAFT CABLES SHALL BE PRESTRETCHED TO ESTABLISH A CERTIFIED MINIMUM MODULUS OF ELASTICITY. CABLES BRACES SHALL BE DESIGNED TO RESIST SEISMIC TENSION LOADS AND STEEL BRACES SHALL BE DESIGNED TO RESIST BOTH TENSION AND COMPRESSION LOADS WITH A MINIMUM SAFETY FACTOR OF 2. BRACE END CONNECTIONS SHALL BE STEEL ASSEMBLIES THAT SWIVEL TO THE FINAL INSTALLATION ANGLE. DO NOT MIX CABLES AND STEEL BRACES TO BRACE THE SAME SYSTEM. STEEL ANGLES SHALL BE CLAMPED TO THE THREADED HANGER RODS AT THE SEISMIC SWAY BRACE LOCATIONS UTILIZING A MINIMUM OF TWO DUCTILE IRON CLAMPS. CABLE BRACE ASSEMBLIES SHALL BE TYPE SCB. STEEL BRACE ASSEMBLIES SHALL BE TYPE SSB, ROD CLAMPS SHALL BE TYPE SRC, PIPE CLEVIS BRACES SHALL BE TYPE CCB AND MULTIPLE ANCHOR LOAD DISTRIBUTION BRACKETS SHALL BE TYPE SLDB ALL AS MANUFACTURED BY MASON INDUSTRIES, INC.

8. CONTRACTOR SHALL PROVIDE A COMPLETE AIR BALANCE. BALANCE AIRFLOW AT ALL AIR INLETS AND OUTLETS TO AIR QUANTITIES SHOWN. PROVIDE AIR BALANCING REPORT TO THE OWNER OR OWNER'S REPRESENTATIVE. BALANCING CONTRACTOR SHALL BE CERTIFIED BY THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) OR ASSOCIATED AIR BALANCING COUNCIL (AABC).

PART III: CONTROLS

1. ALL WIRE, CONDUIT, TRANSFORMERS, RELAYS, ETC. REQUIRED TO RENDER THE TEMPERATURE CONTROL SYSTEMS COMPLETE SHALL BE THE RESPONSIBILITY OF THE MECHANICAL AND/OR TEMPERATURE CONTROL CONTRACTOR. THE DRAWINGS ARE FOR COORDINATION ONLY. THE MECHANICAL CONTRACTOR IS FULLY RESPONSIBLE FOR THE COMPLETE AND OPERATIONAL CONTROL SYSTEM AND ALL SYSTEM COMPONENTS WHETHER SHOWN HERE OR NOT.

2. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO STUDY INSTALLATION MANUALS, GUIDELINES, ACTUAL WIRING REQUIREMENTS, SERVICE AND TROUBLESHOOTING INSTRUCTIONS FOR THE MECHANICAL AND CONTROL SYSTEMS BEING INSTALLED. CONTRACTOR SHALL DELIVER COMPLETE AND PROPERLY FUNCTIONING CONTROL SYSTEM. CONTRACTOR TO PROVIDE TRAINING SESSION WITH THE CUSTOMER AND/OR CUSTOMER REPRESENTATIVES TO ENSURE THE TENANTS UNDERSTAND DIFFERENT CONTROL MODES, SET POINTS, PROGRAMMING FEATURES, ETC.

3. LABEL ALL SWITCHES, CONTROLLERS, DAMPERS, ETC. WITH PERMANENT ENGRAVED PLASTIC NAME PLATES OR COLORED STICKERS, AS NEEDED.

4. PROGRAMMABLE WALL THERMOSTATS SHALL BE TITLE 24 COMPLIANT.

PART IV: TITLE-24

1. THESE PLANS HAVE BEEN DESIGNED TO SHOW SUBSTANTIAL COMPLIANCE WITH THE TITLE-24 STANDARDS. ALL HVAC AND PLUMBING EQUIPMENT SHALL MEET THE REQUIREMENTS OF THE 2013 CALIFORNIA ENERGY EFFICIENCY STANDARDS.

GENERAL MECHANICAL NOTES

- A. CONSTRUCTION SHALL CONFORM TO APPLICABLE SECTIONS OF CURRENT CMC, UBC, UMC & CALIFORNIA TITLE 24 STANDARDS.
- B. ALL DUCTWORK TO BE INSTALLED IN ACCORDANCE WITH INDUSTRY STANDARD PRACTICES, LOCAL CODES, SMACNA STANDARDS AND TITLE 24 SECTION. DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS. SUPPLY AIR DUCTWORK SHALL BE WRAPPED GALVANIZED SHEET METAL, LINED GALVANIZED SHEET METAL, OR GLASS FLEX DUCTWORK IN ACCORDANCE WITH SMACNA STANDARDS & UMC.
- C. THERMOSTATS SHALL BE MOUNTED +4'-0" TO TOP OF BOX ABOVE FINISHED FLOOR, AND SHALL COMPLY WITH TITLE 24 AND CBC 11b.
- D. PROVIDE THERMAL INSULATION AS REQUIRED FOR DUCT SYSTEMS PER TITLE 24, CALIFORNIA STATE ENERGY CONSERVATION STANDARDS, AND PER SECTION 604 OF THE UMC. EXHAUST DUCTWORK NEED NOT BE INSULATED.
- E. DUCTWORK, PIPING AND EQUIPMENT WILL BE BRACED PER UBC REQUIREMENTS FOR MECHANICAL AND PLUMBING SYSTEMS. ALL MECHANICAL DUCTWORK AND EQUIPMENT SHALL BE SEISMICALLY BRACED AND ANCHORED IN ACCORDANCE WITH SMACNA STANDARDS AND THE CURRENT CALIFORNIA BUILDING CODES (TITLE-24, PART 2 WITH CURRENT UNIFORM BUILDING CODE ADOPTIONS).
- F. COORDINATE DUCTWORK AND DUCT HANGERS WITH FIRE SPRINKLER PIPING, LIGHT FIXTURES AND ELECTRICAL CONDUIT.
- G. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. PLANS ARE DIAGRAMMATIC. DO NOT SCALE FOR MATERIAL QUANTITIES. ALL SCALING SHOULD BE REFERENCED TO THE ARCHITECTURAL PLANS ONLY AND FIELD VERIFIED.
- H. THESE PLANS AND ACCOMPANYING SPECIFICATIONS HAVE BEEN DESIGNED TO SHOW SUBSTANTIAL COMPLIANCE WITH THE TITLE-24 ENERGY STANDARDS. ALL HVAC AND PLUMBING EQUIPMENT SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA ENERGY COMMISSION BUILDING ENERGY EFFICIENCY STANDARDS.

CALGREEN REQUIREMENTS - RES REFER TO THE 2013 CALGREEN STANDARDS FOR COMPLETE INFORMATION

BUILDING MEETS OR EXCEEDS THE REQUIREMENTS OF THE CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS.

AN OPERATION AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OCCUPANT OR OWNER.

ANY INSTALLED GAS FIREPLACE SHALL BE A DIRECT-VENT SEALED-COMBUSTION TYPE. ANY INSTALLED WOODSTOVE OR PELLET STOVE SHALL COMPLY WITH US EPA PHASE II EMISSION LIMITS WHERE APPLICABLE.WOODSTOVES, PELLET STOVES AND FIREPLACES SHALL ALSO COMPLY WITH APPLICABLE LOCAL ORDINANCES

DUCT OPENINGS AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED DURING CONSTRUCTION.

BATHROOM EXHAUST FANS. EACH BATHROOM SHALL BE MECHANICALLY VENTILATED AND SHALL COMPLY WITH THE FOLLOWING: 1. FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE OUTSIDE THE BUILDING. 2. UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM, FANS MUST BE CONTROLLED BY A HUMIDITY

DUCT SYSTEMS ARE SIZED, DESIGNED, AND EQUIPMENT IS SELECTED USING THE FOLLOWING METHODS: 1. ESTABLISH HEAT LOSS AND HEAT GAIN VALUES ACCORDING TO ANSI/ACCA 2 MANUAL J-2004 OR EQUIVALENT. 2. SIZE DUCT SYSTEMS ACCORDING TO ANSI/ACCA 1 MANUAL D-2009 OR EQUIVALENT. 3. SELECT HEATING AND COOLING EQUIPMENT ACCORDING TO ANSI/ACCA

3 MANUAL S-2004 OR EQUIVALENT.

CONTROL.

HVAC SYSTEM INSTALLERS ARE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS.

MECHANICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

<u>Abbreviations</u>

EXISTING

DEMOLISH

BOILER

AIR CONDITION(ED)

AIR HANDLING UNIT

BRAKE HORSEPOWER

CUBIC FEET PER MINUTE

COEFFICIENT OF PERFORMANCE

CEILING DIFFUSER

CONTINUATION

DIAMETER

CONDENSING UNIT

DIRECT EXPANSION

EXHAUST FAN

FAHRENHEIT

FIRE DAMPER

HORSEPOWER

KILOWATT

POUNDS

MAXIMUM

OUTSIDE AIR

OUTSIDE AIR

TEMPERATURE

VOLT

WATT

Control Symbols

T. TEMP

THOUSAND BTU'S PER HOUR

OPPOSED BLADE DAMPER

REVOLUTIONS PER MINUTE

VARIABLE FREQUENCY DRIVE

SEASONAL ENERGY EFFICIENCY RATING

INSIDE DIAMETER

FEET

FULL LOAD AMPS

ENERGY EFFICIENCY RATING

ABOVE FINISHED FLOOR

NEW

<u>Dampers</u> FIRE DAMPER FIRE/SMOKE DAMPER **VOLUME DAMPER**

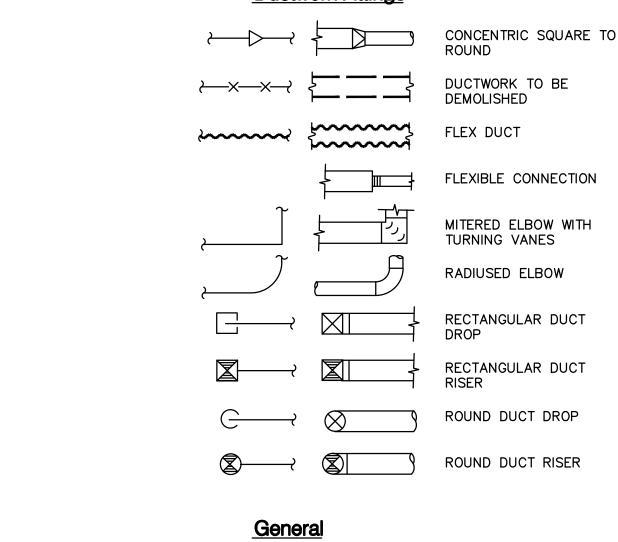
Diffusers and Grilles

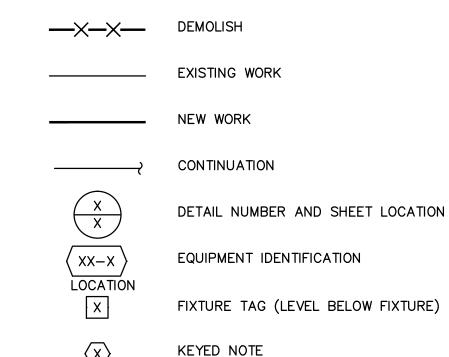
EXHAUST AIR

RETURN/EXHAUST AIR FLOW

SUPPLY AIR FLOW

Ductwork Fittings





POINT OF CONNECTION

SECTION NUMBER AND SHEET LOCATION

ROOM THERMOSTAT

SHEET INDEX

MECHANICAL SYMBOLS AND GENERAL NOTES

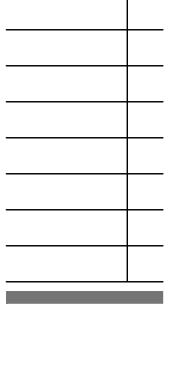
MECHANICAL SCHEDULES DETAILS AND ELEVATIONS

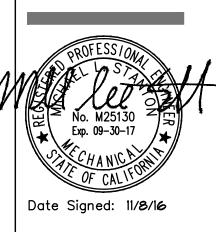
BUILDING 'A' AND 'B' FIRST AND SECOND FLOOR DEMO PLANS - MECHANICAL

BUILDING 'C' FIRST AND SECOND FLOOR DEMO PLANS - MECHANICAL

BUILDING 'A', 'B' AND 'C' FIRST AND SECOND FLOOR MECHANICAL

8 H 2



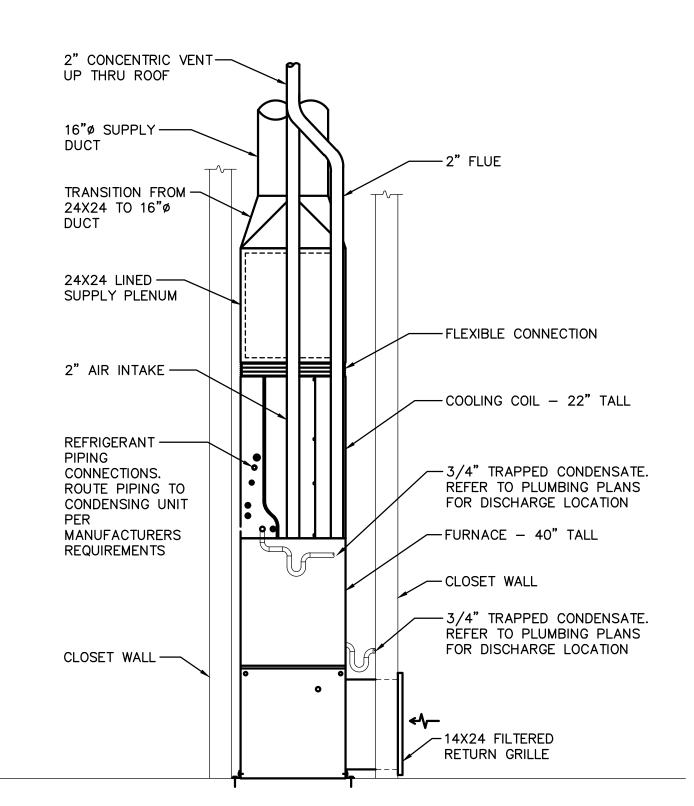




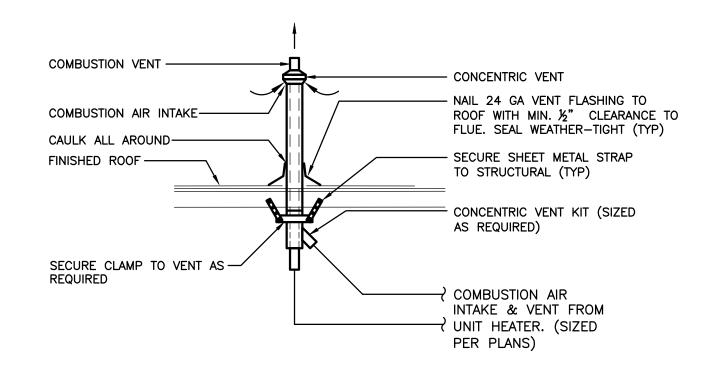
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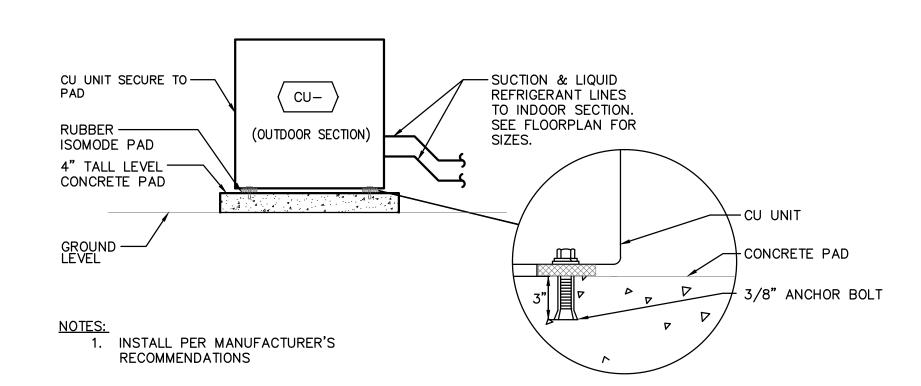


HVAC CLOSET ELEVATION NO SCALE



1. APPLY ONLY IF APPLICABLE MAINTAIN MINIMUM 12" CLEARANCE ABOVE HIGHEST ANTICIPATED SNOW LEVEL, MAXIMUM OF 24" ABOVE FINISHED

2 CONCENTRIC VENT THRU ROOF INSTALLATION No scale



3 CONDENSING UNIT MOUNTING ON GRADE
No scale

FURNACE SCHEDUI E

	TONIVACE SCHEDULE														
			CAPACITY (MBH)			FAN PERFORMANCE			PIPING CONNECTIONS (IN)			ELECTRICAL COOLING COIL		MAX.	
TAG	MANUFACTURER	MODEL	INPUT	OUTPUT	CFM	ESP (IN.)	SPEED	COND	GAS	VENT	COMB	VOLT/PH	MODEL #	WT. (LBS)	REMARKS
F-1	TRANE	TUH1B040A9	40	38	800	0.5	3000	3/4"	1/2"	2	2	115/1	4TXCB003CC3HC	129	1,2,3,4,5,6,7,8,9
F-2	TRANE	TUH1B080A9	80	76	1000	0.5	3450	3/4"	1/2"	2	2	115/1	4TXCB004CC3HC	148	1,2,3,4,5,6,7,8,9

. INSTALL UNITS PER MANUFACTURER'S INSTRUCTIONS UNLESS OTHERWISE NOTED ON PLANS OR DETAILS.

. PROVIDE TITLE 24 COMPLIANT THERMOSTAT WITH LOCKABLE COVER.

. VENT EXHAUST AND INTAKE PIPES ARE PVC, PER MANUFACTURER'S RECOMMENDATIONS.

. PROVIDE CONDENSATE DRAIN AS REQUIRED. TERMINATE PER CPC REQUIREMENTS

. PROVIDE CONDENSATE TRAPS AT COOLING COIL AND FURNACE. B. PROVIDE GAS SHUT OFF VALVE, DRIP LEG AND FLEX CONNECTION TO UNIT.

— DISCHARGE TRANSITION (PLENUM)

CEF-

-REMOVABLE GRILLE

T-BAR OR SHEETROCK CEILING

CEILING EXHAUST FAN INSTALLATION

No scale

CONNECT TO-EXISTING

- ADJUSTABLE FLANGE (MOUNT AS SHOWN OR WITH THREADED RODS

FROM STRUCTURE

ABOVE).

(SUPPLIED BY FAN MANUFACTURER)

PROVIDE HERS TESTING AS REQUIRED.

PROVIDE CONCENTRIC ROOF TERMINATION KIT.

FAN SCHEDULE

				СЕМ		T.S.P.	SOUND	MANUF. AND	MAX. WT.	ELECTRICAL				
SYMBOL	AREA SERVED	TYPE	DRIVE	HIGH/LOW	RPM	(IN.H2O)	(SONES)	MODEL	(LBS)	VOLT/PH	WATTS	CONTROL	REMARKS	
EF-1	HALF BATHROOM	CEILING	DIRECT	110/-	980	0.25	1.1	BROAN ZB110L	14	120/1	108 W	SWITCH	1,3	
EF-2	FULL BATHROOM	CEILING	DIRECT	80/-	-	0.25	0.3	BROAN ZB80L	14	120/1	84 W	SWITCH	1,3	
WHF-1	WHOLE HOUSE	CEILING	BELT	6,510	519	0.13	_	DAYTON 5NRT2	74	120/1	1/3 HP	WALL SWITCH	3,4,5,6	

PROVIDE WITH BACKDRAFT DAMPER.

LOW CFM IS CONTINUOUS. 3. INSTALL PER MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.

4 PROVIDE SHUTTER.

5 PROVIDE FRAMING AS REQUIRED FOR PROPER INSTALLATION.

6 PROVIDE 2 SPEED WALL SWITCH AND 12 HR. TIMER.

7. PROVIDE MULTI-SPEED SWITCH WITH TIME DELAY, LOW SPEED IS TO RUN CONTINUOUSLY IN CONFORMANCE WITH ASHRAE 62.2.

AIR DISTRIBUTION SCHEDULE										
SYMBOL	MFGR.	REMARKS								
SG-1	KRUEGER	880	SURFACE	DOUBLE DEFLECTION WALL SURFACE SUPPLY AIR REGISTER, PROVIDE OPPOSED BLADE DAMPER & WHITE FINISH FIELD VERIFY FACE SIZE. STEEL CONSTRUCTION.						

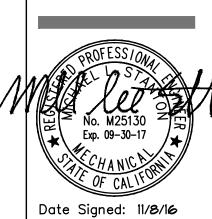
CONDENSING UNIT SCHEDULE												
			REFRIGERA	NT PIPING (IN.)	NOMINAL	ELECTRICAL		AL	MAX.			
TAG	MANUFACTURER	MODEL	GAS	LIQUID	TONNAGE	VOLT/PH	MCA	МОСР	WT. (LBS)			
CU-1	TRANE	4TTR6024J1000	5/8"	3/8"	2.0	208/1	14	25	190			
CU-2	TRANE	4TTR6030J1000	3/4"	3/8"	2.5	208/1	17	25	220			
NOTES:												

I. INSTALL UNITS PER MANUFACTURER'S INSTRUCTIONS UNLESS OTHERWISE NOTED ON PLANS OR DETAILS.

. PROVIDE WITH LOW AMBIENT CONTROL. . PROVIDE LIQUID LINE SOLENOID VALVE.

. PROVIDE HIGH AND LOW PRESSURE SWITCH.

. CONTROL FROM FURNACE / FAN COIL THERMOSTAT.



PROJECT **15073**1819 K Street, Suite 250
Sacramento, CA 95811 TEL 916.288.6250 www.stantoneng.com

> SCHEDULES, ELEVATIONS MECHANICAL S DETAILS AND I

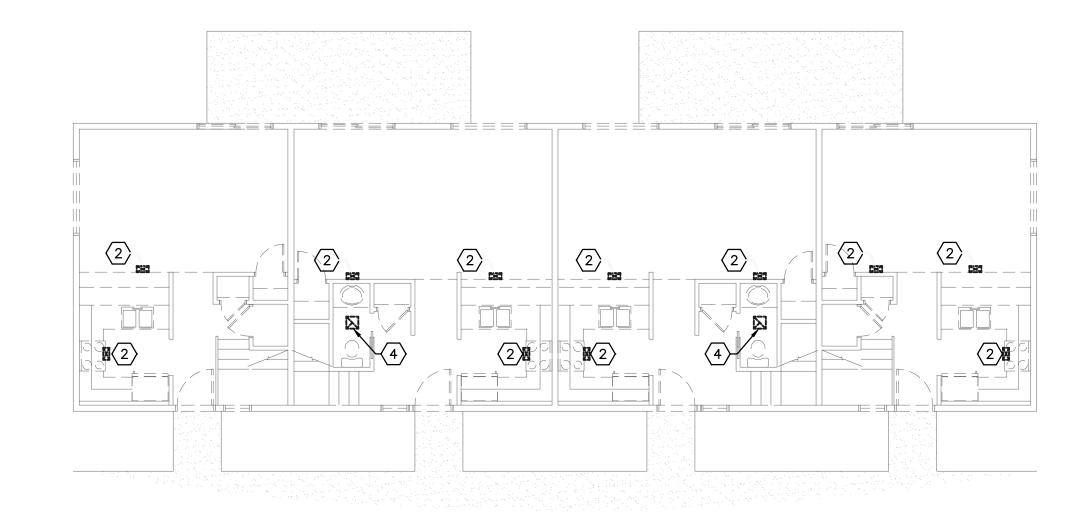
PHASE II RICHLAND I

HOUSING

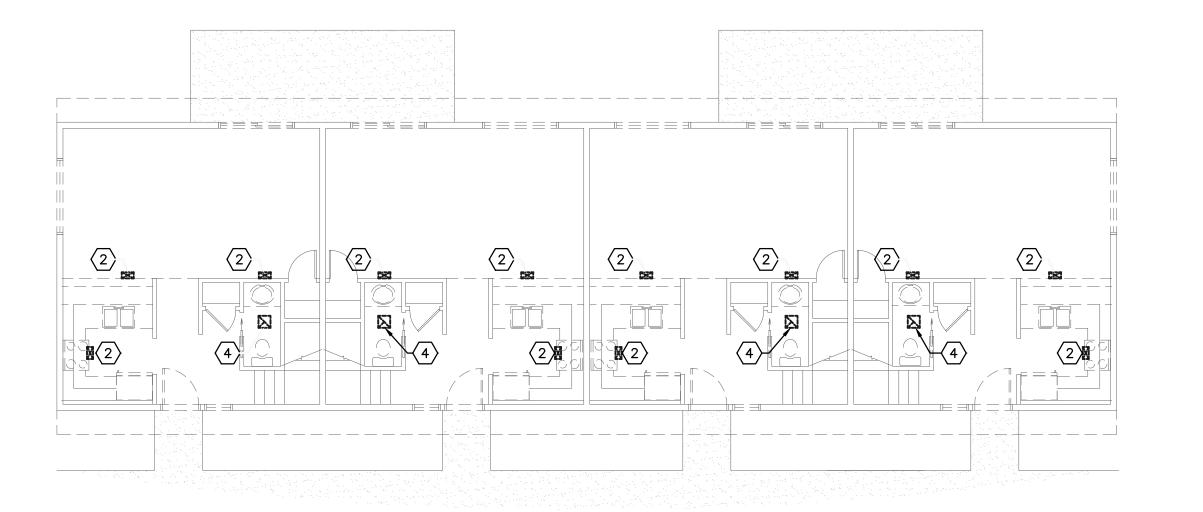
DATE **11/24/2016** DRAWN BY **GS/NN/KD** JOB **15002-000**

M0.2

ROOF DEMO PLAN - MECHANICAL



FIRST FLOOR DEMO PLAN BUILDING 'TYPE A' - MECHANICAL SCALE: 1/8"=1'-0" 0 4' 8' 16'



FIRST FLOOR DEMOL PLAN BUILDING 'TYPE B' - MECHANICAL

SCALE: 1/8"=1'-0"

O 4' 8' 16'



REMOVE EXISTING ROOF TOP AC UNIT, ROOF CURB, RETURN DUCTWORK AND ALL ASSOCIATED EQUIPMENT. REFER TO ARCHITECTURAL PLANS FOR ROOF PATCHING REQUIREMENTS.

2 REMOVE EXISTING SUPPLY GRILLE.

3 REMOVE EXISTING RETURN GRILLE AND RETURN AIR DUCTWORK

4 REMOVE EXISTING EXHAUST FAN.

Date Signed: 11/8/16

Stanton W+B

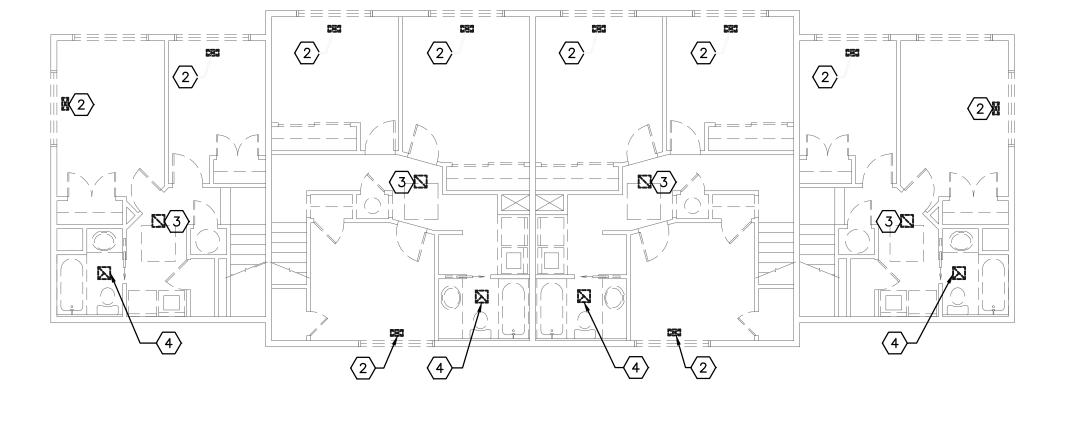
PROJECT 15073 1819 K Street, Suite 250 Sacramento, CA 95811 TEL 916.288.6250 www.stantoneng.com

BUILDING 'A' AND 'B' FIRST AND SECOND FLOOR DEMO PLANS - MECHANICAL

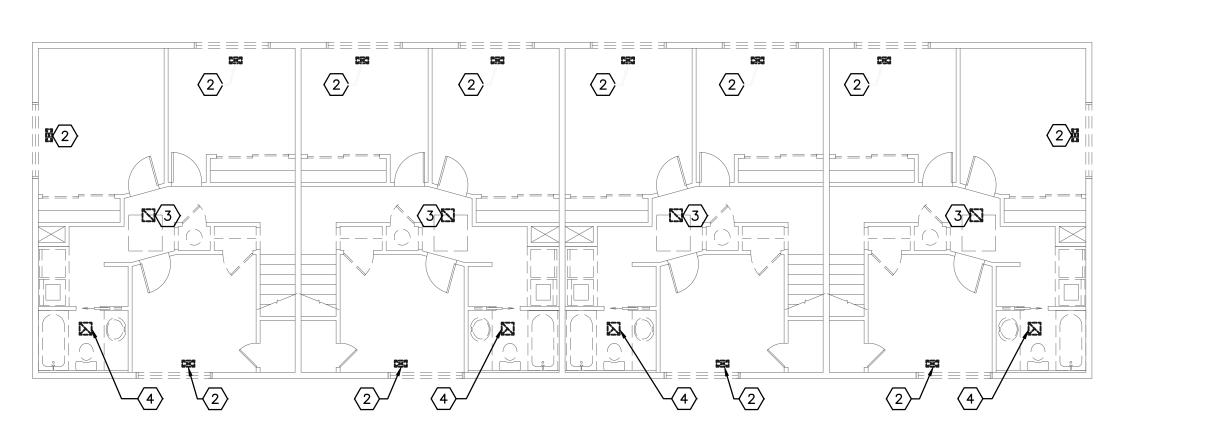
RICHLAND HOUSING PHASE II
DEVELPMENT 1, BUILDING TYPES 'A', 'B' & 'C'

DATE **11/24/2016** DRAWN BY **GS/NN/KD**

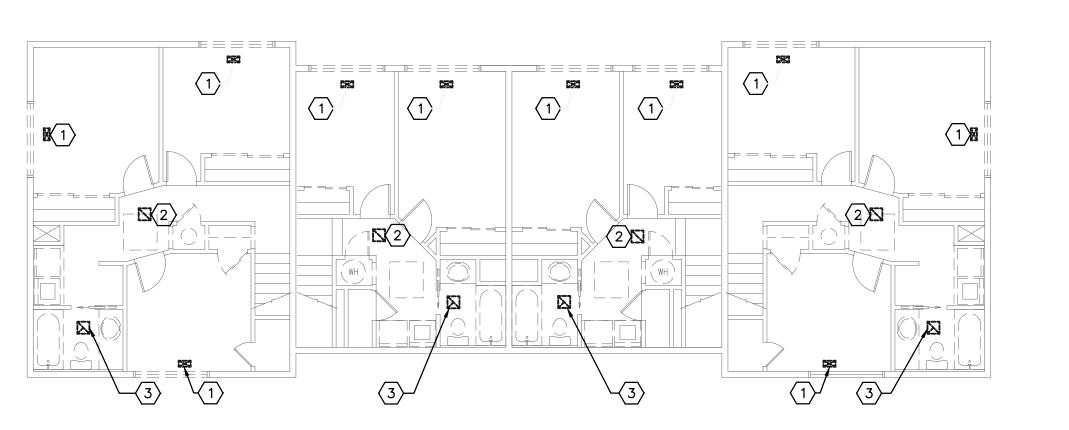
JOB **15002-000**



SECOND FLOOR DEMO PLAN BUILDING 'TYPE A' - MECHANICAL SCALE: 1/8"=1'-0" 0 4' 8' 16'







SECOND FLOOR DEMO PLAN BUILDING 'TYPE C' - MECHANICAL

(TYPICAL FOR BUILDING 5)

(TYPICAL FOR BUILDING 5)

- 1 REMOVE EXISTING SUPPLY GRILLE.
- 2 REMOVE EXISTING RETURN GRILLE AND RETURN AIR DUCTWORK
- 3 REMOVE EXISTING EXHAUST FAN.



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BUILDING 'C' FIRST AND SECOND FLOOR DEMO PLANS - MECHANICAL

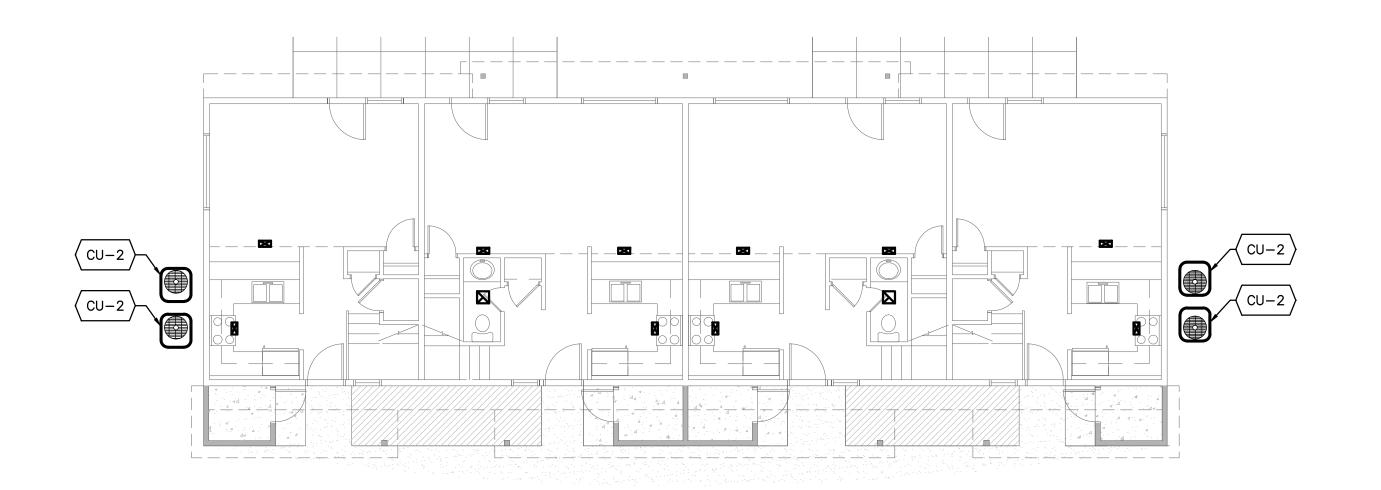
RICHLAND HOUSING PHASE II
DEVELPMENT 1, BUILDING TYPES 'A', 'B' & 'C'
REHABILITATION & IMPROVEMENTS

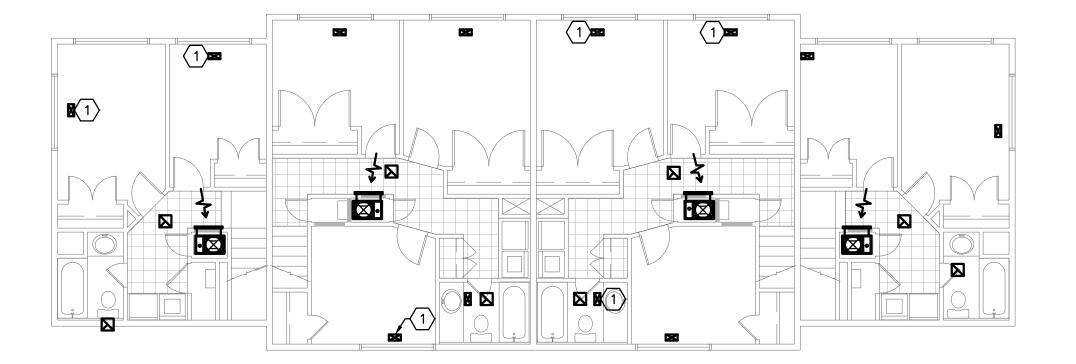
DATE 11/24/2016

DRAWN BY GS/NN/KD

JOB 15002-000

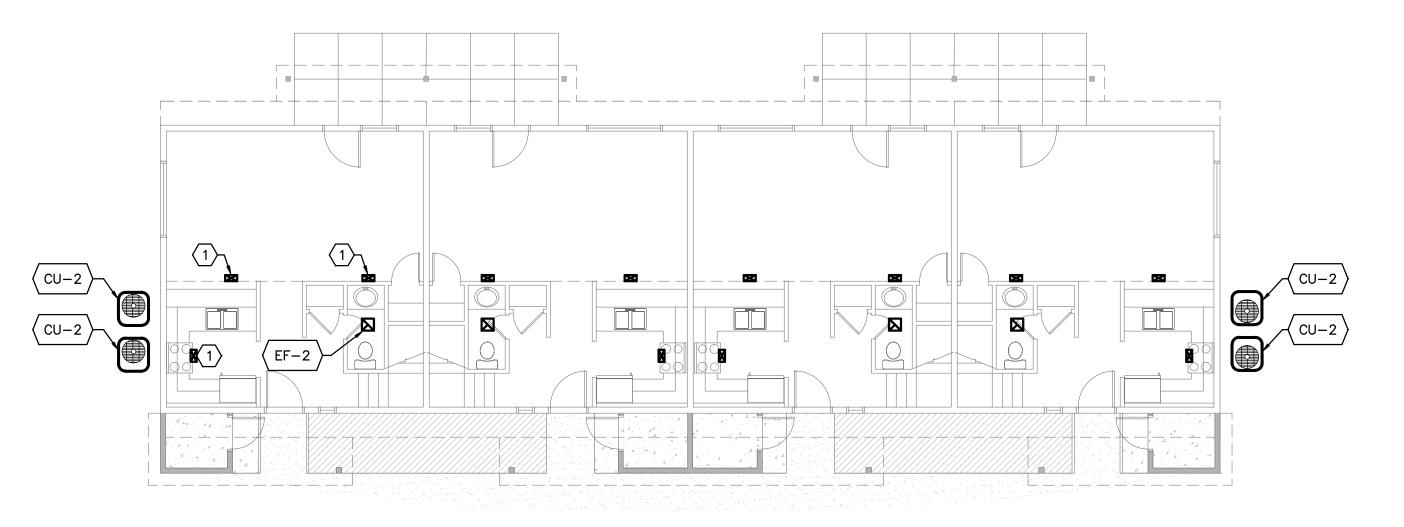


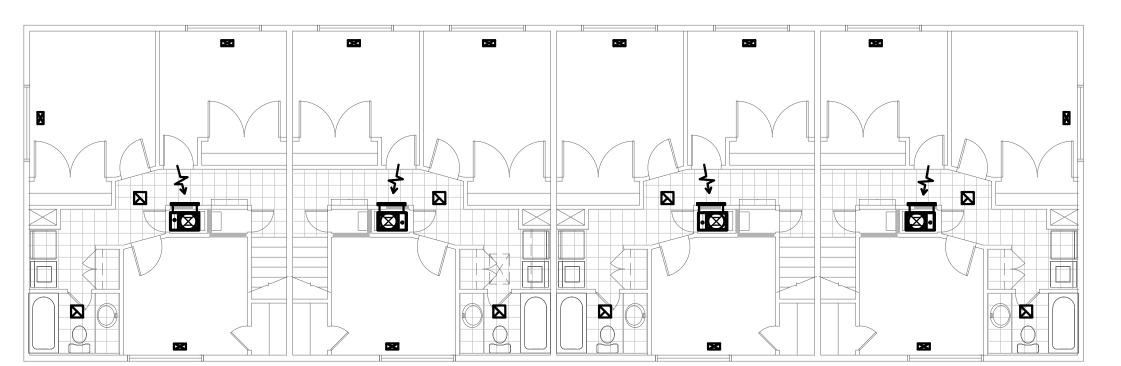




FIRST FLOOR PLAN BUILDING 'TYPE A' - MECHANICAL SCALE: 1/8"=1'-0"

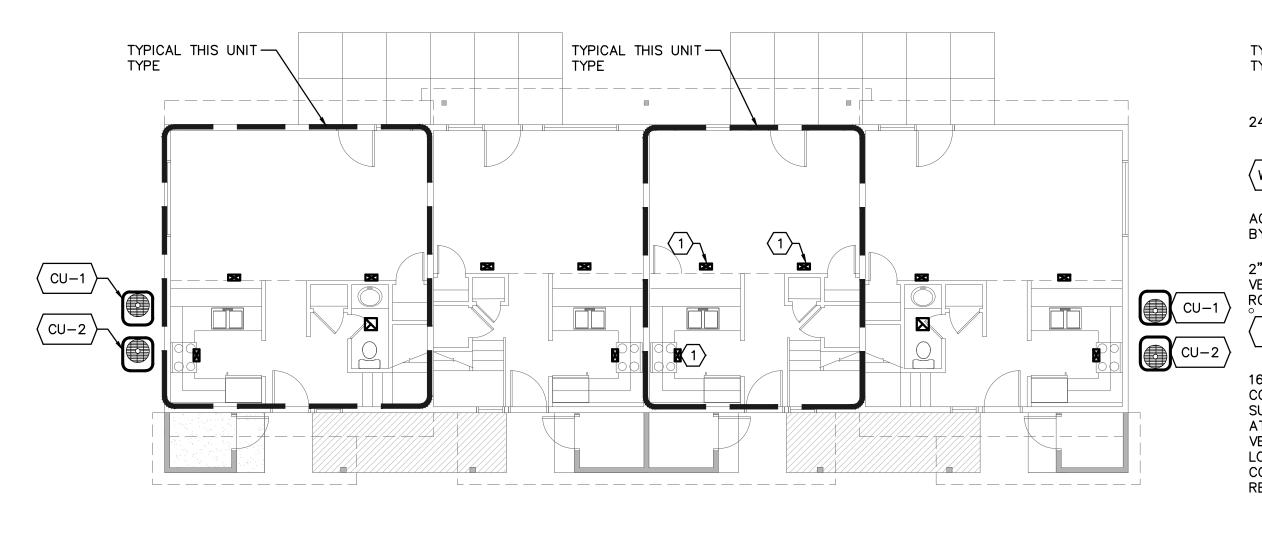
SECOND FLOOR PLAN BUILDING 'TYPE A' - MECHANICAL SCALE: 1/8"=1'-0" 0 4' 8' 16'

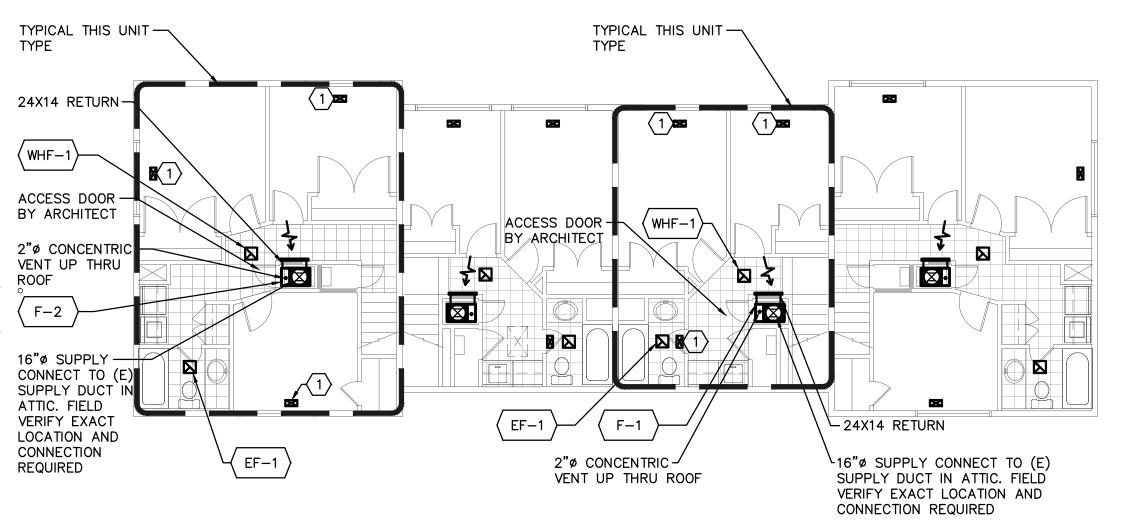




FIRST FLOOR PLAN BUILDING 'TYPE B' - MECHANICAL SCALE: 1/8"=1'-0" 0 4' 8' 16'

SECOND FLOOR PLAN BUILDING 'TYPE B' - MECHANICAL SCALE: 1/8"=1'-0"

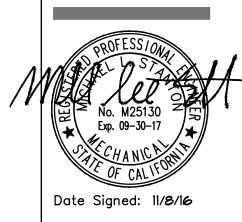




FIRST FLOOR PLAN BUILDING 'TYPE C' - MECHANICAL

SECOND FLOOR PLAN BUILDING 'TYPE C' - MECHANICAL

SCALE: 1/8"=1'-0"



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BUILDING 'A', 'B' AND 'C' FIRST AND SECOND FLOOR PLANS - MECHANICAL

RICHLAND HOUSING PHASE II
DEVELPMENT 1, BUILDING TYPES 'A', 'B' & 'C'
REHABILITATION & IMPROVEMENTS

DATE **11/24/2016** DRAWN BY **GS/NN/KD** JOB **15002-000**

M2.3