MECHANICAL ABBREVIATIONS

&	AND	HB	HOSE BIBB
∠	ANGLE	HC	HANDICAPPED
@	AT	HD	HEAD
℄	CENTER LINE	HDWE	HARDWARE
℘	PROPERTY LINE	HI.	HIGH
ø	DIAMETER or ROUND	HORIZ	HORIZONTAL
(E)	EXISTING	HP	HORSEPOWER
(N)	NEW	HW	HOT WATER
⊥	PERPENDICULAR	HWR	HOT WATER RETURN
#	POUND or NUMBER	HWS	HOT WATER SUPPLY
Ⓣ	THERMOSTAT	HVAC	HEATING, VENTILATING, AIR CONDITIONING
A/C	AIR CONDITIONING		
AP	ACCESS PANEL	ID	INSIDE DIAMETER (DIM.)
ABV	ABOVE	INSUL	INSULATION
ADJ	ADJUSTABLE	INT	INTERIOR
AFF	ABOVE FINISH FLOOR		
AE	ADJUSTABLE EXTRACTOR		
AGGR	AGGREGATE	LAV	LAVATORY
ALUM	ALUMINUM	LBS	POUNDS
APPROX	APPROXIMATE	LPG	LIQUID PETROLEUM GAS
APPT	APPOINTMENTS		
ARCH.	ARCHITECTURAL		
ARI	AMERICAN REFRIGERATION INSTITUTE	MACH	MACHINE
ASPH	ASPHALT	MATL	MATERIAL
ASST	ASSISTANT	MAX.	MAXIMUM
AUTO.	AUTOMATIC	MBH	BTU PER HOUR (THOUSANDS)
		MCA	MINIMUM CIRCUIT AMPS
		MECH	MECHANICAL
BD	BALANCING DAMPER	MTL	METAL
BDD	BACKDRAFT DAMPER	MFGR	MANUFACTURER
(BF)	BELOW FINISH FLOOR	MH	MANHOLE
(BG)	BELOW FINISH GRADE	MIN	MINIMUM
BLDG	BUILDING	MISC	MISCELLANEOUS
BLKG	BLOCKING	MUA	MAKE UP AIR
BM	BEAM		
BTUH	BRITISH THERMAL UNIT/ HOUR	(N)	NEW
BOT	BOTTOM	NIC	NOT IN CONTRACT
BP	BY-PASS TIMER	NO. or #	NUMBER
		NOM	NOMINAL
		NTS	NOT TO SCALE
CA	COMBUSTION AIR		
CAP	CAPACITY		
CD	CONDENSATE DRAIN	OA	OVERALL
CFD	CEILING FIRE DAMPER	OBD	OPPOSED BLADE DAMPER
CFM	CUBIC FEET PER MINUTE	OC	ON CENTER
CHW	CHILLED WATER	OSA	OUTSIDE AIR
CHWR	CHILLED WATER RETURN	OVHD	OVERHEAD
CHWS	CHILLED WATER SUPPLY		
CJ	CONTROL JOINT		
CLG	CEILING	PTN	PARTITION
CLKG	CAULKING	PHYS	PHYSICAL
CLR	CLEAR	PR	PRESSURE RELIEF
CO	CLEANOUT	PVC	POLY-VINYL CLORIDE PIPE
COL	COLUMN	PLAS	PLASTER
COMP	COMPRESSED	PLYWD	PLYWOOD
CONC	CONCRETE	POC	POINT OF CONNECTION
CONF	CONFERENCE	PREFAB	PREFABRICATED
CONN	CONNECTION	PREP	PREPARATION
CONST	CONSTRUCTION	PSI	POUNDS PER SQUARE INCH
CONT	CONTINUOUS	PW	PROCESSED WATER
CORR	CORRIDOR		
CSE	CALIFORNIA SEASONAL EFFICIENCY		
CKS	COUNTERSUNK	R	RISER
CTR	CENTER	RA	RETURN AIR
CV	CHECK VALVE	RAD.	RADIUS
		RAG	RETURN AIR GRILLE
DBL	DOUBLE	REF	REFERENCE
DB	DRY BULB (TEMPERATURE)	REINF	REINFORCED
DEPT	DEPARTMENT	REQD	REQUIRED
DET	DETAIL	RM	ROOM
DF	DRINKING FOUNTAIN	RND	ROUND
DHW	DOMESTIC HOT WATER		
DHWR	DOMESTIC HOT WATER RETURN	S	SOUTH
DIA or ø	DIAMETER	SA	SUPPLY AIR
DIR	DIRECTOR	SAD	SUPPLY AIR DIFFUSER
DN	DOWN	SAG	SUPPLY AIR GRILLE
DR	DOOR	SAR	SUPPLY AIR REGISTER
DS	DOWNSPOUT	SCHD	SCHEDULE
DSP	DRY STANDPIPE	SD	SMOKE DETECTOR
DTR	DUCT THRU ROOF	SEER	SEASONAL ENERGY EFFICIENCY
DTW	DUCT THRU WALL	SECT.	SECTION
DWG	DRAWING	SHT	SHEET
		SIM	SIMILAR
E	EAST	SQ	SQUARE
EA	EXHAUST AIR	SPEC	SPECIFICATION
EAG	EXHAUST AIR GRILLE	SP	STATIC PRESSURE
EDB	ENTERING DRY BUBL	SOV	SHUT-OFF VALVE
EER	ENERGY EFFICIENCY RATIO	SS	SERVICE SINK
ELEC	ELECTRICAL	SST	STAINLESS STEEL
ELEV	ELEVATION	STD	STANDARD
EMER	EMERGENCY	STL	STEEL
ENCL	ENCLOSURE	STOR	STORAGE
EP	ELECTRICAL PANEL	STRUCT	STRUCTURAL
EQ	EQUAL	SUPV	SUPERVISOR
EQUIP	EQUIPMENT	SUSP	SUSPENDED
(E)	EXISTING	S&W	SOIL & WASTE
ESP	EXTERNAL STATIC PRESSURE		
EWB	ENTERING WET BULB		
EXPO.	EXPOSED	TC	TOP OF CURB
EXT	EXTERIOR	TEL	TELEPHONE
		TER	TERRAZZO
		TG	TRANSFER GRILLE
FA	FIRE ALARM	THK	THICK
FC	FLEXIBLE CONNECTION	TOC	TOP OF CONCRETE
FD	FIRE DAMPER	TP	TRAP PRIMER
FDN	FOUNDATION	TRANS	TRANSCRIPTION
FE	FIRE EXTINGUISHER	TREAT.	TREATMENT
FEC	FIRE EXTINGUISHER CABINET	TYP	TYPICAL
FHC	FIRE HOSE CAB.	TV	TEMPERING VALVE
FHMS	FLAT HEAD METAL SCREW		
FIN.	FINISH		
FLA	FULL LOAD AMPS	UL	UNDERWRITERS LABORATORIES
FLASH.	FLASHING	UON	UNLESS OTHERWISE NOTED
FM	FIRE MAIN	UR	URINAL
FOC	FACE OF CONCRETE		
FOF	FACE OF FINISH		
FPM	FEET PER MINUTE	V	VENT
FRPF	FIREPROOFING	VD	VOLUME DAMPER
FSC	FAN SPEED CONTROL	VTR	VENT THRU ROOF
FSD	FIRE/SMOKE DAMPER	VSAD	VARIBLE SUPPLY AIR DIFFUSER
FSL	FIRE SPRINKLER LINE		
FTR	FLUE THRU ROOF		
FUNC.	FUNCTION	W	WASTE LINE
FURR	FURRING	W/	WITH
FUT	FUTURE	WB	WET BULB TEMPERATURE
		WFD	WALL FIRE DAMPER
		WH	WATER HEATER
GA	GAUGE OR GAGE	WHA	WATER HAMMER ARRESTOR
GALV	GALVANIZED	W/O	WITHOUT
GEN	GENERAL	WMF	WASHING MACHINE FITTING
GI	GALVANIZED IRON	WP	WATERPROOF
GL	GLASS	WT	WEIGHT
GPM	GALLONS PER MINUTE		
GR	GRADE		
GRD	GROUND	YD	YARD
G	GAS LLINE		

SYMBOLS

SYMBOL	DESCRIPTION
	AIR CONDITION UNIT
	SUPPLY AIR CEILING DIFFUSER
SIZE CFM	SUPPLY AIR CEILING DIFFUSER
SIZE CFM	SUPPLY VARIBLE AIR CEILING DIFFUSER HEAT & COOL
SIZE CFM	RETURN AIR CEILING REGISTER
SIZE CFM	EXHAUST AIR CEILING REGISTER
SIZE CFM	SUPPLY AIR WALL DIFFUSER
SIZE CFM	RETURN AIR WALL REGISTER
SIZE CFM	EXHAUST AIR WALL REGISTER
SIZE	TRANSFER GRILLE
	DUCTWORK (RECTANGULAR)
	DUCTWORK (ROUND)
	LINED DUCTWORK
	TURNIG VANE
	FLEXIBLE DUCTWORK
	FLEXIBLE CONNECTION
FD FD	MANUAL AIR VOLUME DAMPER
FD FD	FIRE DAMPER
SFD SFD	SMOKE FIRE DAMPER
OAI 500	OUTSIDE AIR INTAKE MIN. CFM
Ⓣ A/C-1	ROOM THERMOSTAT – SUBSCRIPT INDICATES UNIT CONTROL
BT	BYPASS TIMER
TC	TIME CLOCK
$	ON/OFF SWITCH
FSC	FAN SPEED CONTROL
SD	DUCT SMOKE DETECTOR
	POINT OF CONNECTION
	CEILING EXHAUST FAN
	FURNACE (VERTICAL)
	FURNACE (HORIZONTAL)
	CONDENSING UNIT

GENERAL MECHANICAL NOTES

SECTION 1
BASIC MECHANICAL MATERIALS AND METHODS

PART 1 – GENERAL

1.1 SUMMARY
A. Labor, materials, tools, and services for a complete installation of equipment and system contained in the Contract Documents.
B. Principal features of the work included are:
1. Heating, ventilating, air conditioning systems, controls, and mechanical system insulation.
2. Roof curbs for HVAC systems, intake hoods, louvers, supply fans, and relief vents furnished and set under this Division.
3. Refrigerant piping, connections, refrigerant and refrigerant charges.
4. Excavating and backfilling for mechanical work; coordinate with appropriate trade.
5. Anchor bolts, sleeves, supports and similar items to be built into concrete or masonry.
6. Preparation for testing and balance of mechanical systems and correcting deficiencies.
7. Preparation and submittal of shop drawing and product data.
8. Maintaining a record set of blue line prints and making them to indicate locations of concealed items, and deviations made to suit conditions and production of mechanical as-built (record) drawings.

1.2 JOB CONDITIONS.
A. Submittal of bid implies bidder has read applicable paragraphs of the specifications and will be bound by their conditions.

1.3 LOCAL CONDITIONS
A. Conform with local conditions. Coordinate with local utilities on size of utility service.

1.4 INTENT
A. The contract documents (drawings and specifications) describe the mechanical work of this project any items mentioned in one part shall be as binding as though mentioned in both.
B. The contract documents form a guide for a complete mechanical installation. Where an item is reasonably necessary but not specifically mentioned, such as duct hangers or transitions, piping offsets, drains, etc., for a complete system, provide same.
C. Mechanical layouts indicated on drawings are diagrammatic only. Exact locations of ducts, and equipment shall be governed by the drawings of related trades.

1.5 DEVIATIONS
A. No deviations from specifications and drawings shall be made without full knowledge and written consent of Construction Manager.
B. Should Contractor find, during progress of work, conditions which dictate a modification of any particular requirements, report such item promptly for decision of instructions.

1.6 QUALITY ASSURANCE
A. Comply with applicable local, state and federal codes.
B. Comply with applicable requirements of recognized industry associations with promulgate standards for the various trades. (see individual sections of division 15)
C. Employ only qualified journeymen for this work. Employ competent, qualified mechanics to supervise the work.

1.7 CODES AND STANDARDS
A. Perform work specified in Division 15 in accordance with the applicable codes and standards listed below, and such standards that may be specified in other sections. when these specifications are more stringent, they take precedence. in case of conflict, obtain a decision from the Mechanical Engineer.
1. NFPA 54: National Fuel and Gas Code.
2. NFPA 90A: Air Conditioning and Ventilation Systems.
3. NFPA 101: Life Safety Code.
4. Applicable State Building Code.
5. Applicable state Mechanical Code.
6. Handicapped Code ANSI A117.1 and ADA
7. Applicable State Energy Code.
8. AGA: American Gas Association.
9. ANSI: American National Standards Institute.
10. ARI: American Refrigeration Institute.
11. ASHRAE: American Society of Heating, Refrigeration and Air Conditioning Engineers.
12. ASME: American Society for Mechanical Engineers.
13. ASTM: American Society for Testing and materials.
14. MSS: Manufacturer's Standardization Society of the Valve and Fitting Industry.
15. NFPA: National Fire Protection Association.
16. SMACNA: Sheet Metal and Air Conditioning Contractor's National Association.
17. UL: Underwriters' Laboratories. Inc.

1.8 COORDINATION
A. Carefully examine specifications and drawings to be thoroughly familiar with items which require HVAC connections and coordination.
B. Coordinate with other Divisions to leave proper chases and openings. place outlets, anchors, sleeves, and supports prior to pouring concrete of installation of masonry work.

1.9 SUBMITTALS
A. Submittals are only required for specific items of equipment or material listed in individual sections of these specifications.
B. Within 15 days after award of contract for this work, submit a list of proposed manufacturers (of equipment or material to be used) for approval. Submit this list before submittal of shop drawings and product data, and obtain approval before submitting required items.
C. Shop Drawings (not required for Owner furnished equipment).

1.10 DELIVERY AND STORAGE
A. Insofar as possible, deliver items in manufacturer's original unopened packaging. Where that is not practical. cover items with protective materials to keep them from being damaged. Use care in loading, transport, unloading, and storage to keep items from being damaged.

1.11 FIRE RATINGS
A. Materials used anywhere in the work must have NFPA ratings as following:
1. flame spread – not over 25
2. smoke developed – not over 50
3. fuel contributed – not over 25
B. Materials shall be 'self Extinguishing'.

1.12 PERMITS AND FEES
A. Obtain, pay for, and deliver permits, certification of inspection, and other such items required by the authorities having jurisdiction. Deliver certification to the Construction Manager prior to Final Acceptance of the work. An inspection certificate for each class of work requiring inspection must be submitted prior to or with the final payment invoice. The responsible Trade Contractor must make application for the inspection, coordinate same and pay the required inspection fee.

1.13 EXTENDED WARRANTIES
A. Work furnished under the Contract shall be warranted against defects in workmanship and (Contractor furnished) materials for a period of not less that one (1) year, or as otherwise specified, from the date of final acceptance of the installation. Defects of workmanship developing during this period shall be remedied, and defective material replaced, without additional cost. When defects in a Trade Contractor's work causes damage to the work of the other Trade Contractors, such damage shall be repaired by the Trade Contractor causing damage and work restored to its original condition, at the expense of the Trade Contractor that caused the damage.

PART 2 – PRODUCTS

2.1 MATERIALS AND EQUIPMENT
A. Within the Contract Documents relating to mechanical work, manufacturer's names, catalog numbers, and other proprietary references to materials and equipment are made. Such references are made to establish the standards of quality and type required, and not to limit competition. Acceptable manufacturer's of competitive products are listed in applicable sections as "approved equals". Reasonable requests for substitution or additions to "approved equals" will be considered, but the Mechanical Engineer will be the sole judge of acceptability of items proposed as substitutes.
B. materials and equipment used in carrying out these specifications shall bear UL or other recognized testing laboratory label when such labels are available.

PART 3 – EXECUTION

3.1 LOCATIONS
A. Mechanical layouts indicated on drawings are diagrammatic. Exact locations of duct, and equipment may vary because of conflicts with work of other trades. Work out conflicts where relocation's will not affect operation or appearance of systems.
B. Locate equipment requiring periodic servicing so that it is readily accessible. Do not back up service sides to walls, nor place it too close to other equipment to make service impractical. Equipment service clearance shall meet minimum acceptable distance as recommended by equipment manufacturer.

3.2 UTILITIES EXCAVATING AND BACKFILLING
A. Perform trenching, excavating, backfilling for mechanical work in accordance with the appropriate sections and as set forth below
1. perform work necessary for installation of mechanical utilities.
2. Depth of excavation to provide a minimum of 3' above top of pipe. Excavation to be carried to a depth of at least 6" below bottom of pipe elevation. Fill below pipe (6"), around pipe, and a minimum of 12" above pipe wit sand or class 'B' crushed stone tamped firm and even. Separate topsoil during excavation. Final layer or dirt (12" minimum) to be topsoil. Trenches to be at least 18" wider than pipe with batter boards placed every 25'. Backfilling shall be done to exclude use of rock or stone above sand or crushed stone.

3.3 CUTTING AND PATCHING
A. Repair or replace routine damage caused by cutting in performance of contract.
B. Correct unnecessary damage caused due to installation of mechanical work.
C. Perform repairs with materials which match existing and install in accordance with the appropriate section of these specifications or the best standards of the industry.

3.4 CONNECTION TO EQUIPMENT
A. Connect or install equipment shown on mechanical drawings that require mechanical hookups.

3.5 SERVICE OF SYSTEM
A. If equipment is placed in service prior to acceptance of the project, operate equipment strictly in accordance with manufacturer's instructions. Install new filters in equipment prior to owner occupying building
B. Employ competent, qualified personnel in operation of the equipment.
C. Provide for proper operation and cleanliness.
D. Open up equipment for inspection as directed by the Superintendent.
E. Lubricate equipment and perform such other maintenance as required to place it in first class operating condition.

END OF SECTION

SECTION 3
HEATING, VENTILATION AND AIR CONDITIONING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. Refer to drawings and Contract for materials furnished by Owner, installed by Contractor or furnished and installed by Owner.

1.2 SCOPE OF WORK
A. Furnish all labor, supervision, and equipment (unless equipment is specifically noted as 'Owner furnished') for the complete installation of heating, ventilation, and air conditioning system together with all necessary auxiliaries and appurtenances.

1.3 QUALITY ASSURANCE
A. Manufacturer's Qualifications – install packaged units, as indicated in the Drawings, in accordance with manufacturer's instructions and requirements. Provide related products and accessories from one manufacturer. Store materials in accordance with manufacturer's recommendation protecting from dirt, moisture, contaminants, and weather.
B. Codes and standards – Perform all installation in accordance with the latest standards as recognized by ASHRAE, SMACNA and all applicable state and local codes and ordinances.
C. Workmanship – Experienced, well – trained workers, competent to complete the work as specified, shall perform Labor in conformance with generally accepted trade standards. Install all equipment square and plumb allowing access for proper operation, adjustment and service.

1.4 STRUCTURAL AND SPACE CONDITIONS
A. All work shall avoid obstructions and interference with other trades, preserve headroom and keep openings and passageways clear and free.

1.6 VIBRATION AND NOSE
A. Install each of the various pieces of equipment to operate without objectionable vibration or noise.

1.7 CUTTING AND PATCHING
A. Cutting or patching necessary to permit the installation of any work under this contract shall be the responsibility of this trade. Cutting and patching shall be coordinated with other trades so as not to impact other work

1.8 BALANCING AND TESTING
A. Test and Balance shall be performed by a nationally qualified Test and Balance Company. Balance coompany shall be an NEBB company.
B. Contractor shall coordinate testing with the Testing and Balance Company. All systems shall be fully operational prior to commencement of testing. Correct all deficiencies noted in the Test and Balance Report within three days or prior to acceptance of the project.
C. Assume responsibility for correcting all items determined to be the result of improper or incomplete installation. Extra testing required due to such deficiencies will be at contractor's expense.
D. Contractor shall be responsible for providing test reports to the local Building and Health Departments as required for Certificate of Occupancy.

PART 2 – PRODUCTS

2.1 AIR CONDITIONING UNITS, FANS AND AIR DEVICES
A. Shall be as indicated on the Drawings.

2.2 DUCTWORK
A. Rectangular Duct Fabrication, General – Except as otherwise indicated, fabricate rectangular ducts with galvanized sheet steel, in accordance with SMACNA – HVAC Duct Construction Standards, Tables 1 – 3 through 1 – 19, including their associated details. Conform to the requirements in the referenced standard for metal thickness, reinforcing types and intervals, tie rod applications, and joint types and intervals.

2.3 DUCT ACCESS PANELS AND DOORS
A. In sheet metal work, hollow core double construction of same or heavier gage material as duct in which installed, products by CESCO, Vent Products, Air Balance, or equivalent.
1. Provide Ventlok or approved hinges and latches on all doors; 100 series hinges and latches on low pressure system doors up to 18" maximum dimension, 200 series on larger low pressure system doors and 333 series on high pressure systems.
2. Construct doors up to 18" maximum dimension with one inch overlap fit and gasket with 3/4" by 1/8" sponge rubber, fit larger doors again 1–1/2" by 1/8" flat stock or angle frame and gasket with 3/4" by 1/8" sponge rubber or felt
3. Door swing to be opposite of airflow.

2.4 DUCTWORK SPECIALTIES
A. Volume and Splitter Dampers
1. Galvanized sheet metal blade and frame with Ventfabrice inc. Ventlok operating hardware.
2. For accessible dampers, provide #641 self – locking dial regulators and #644 self – locking dial regulators for insulated ductwork, #637 square end bearing, and #635 spring end bearing, as applicable
3. For inaccessible dampers, provide #666 or #667 concealed locking damper regulator with bearing as above. For static pressures above 3" W.G., provide #640 HiVel dial regulator and #609 HiVel end bearing for accessible dampers.
B. Multi – Louver Volume Dampers
1. 16 – gauge galvanized steel frame. Opposed, 6" wide, 16 – gauge galvanized steel blades. Concealed linkage in frame.
2. Titus #AC – 35 – B, Ruskin #CD35/ OBD or equal
C. Flexible Connections
1. Provide flexible connectors at the discharge and inlet of fans, air handlers, rotating mechanical equipment, and where shown on the Drawings for proper vibration isolation.
2. Neoprene impregnated glass cloth with 24 – gauge galvanized metal frame. Minimum dimensions – 3" metal, 3" fabric, 3" metal.
3. Duro Dyne #MFN4, Vent fabrics #Ventglas, Q Industries, consolidated Kinetics, Elgen, or equal.
D. Backdraft Dampers
1. Provide counterweight type complete with frame, end bearing, counterbalance assembly, blades, and linkage.
2. Install at outside air intake, exhaust outlets, and where shown on Drawings.
3. Pacific Air Products #PRD – 100AL, Ruskin #CBS – 7 or equal by American Warming. or Vent Products.
E. Turning Vanes
1.Provide turning vanes at all 90° and 45° square elbows. Turning vanes shall be double wall air foil type constructed and installed as per SMACNA.

2.5 DUCT INSULATION
A. Acceptable Manufacturers: Provide products of the following manufactures, complying with specified requirements. Equivalent products of other manufacturers will be considered.
1. Owens – Corning Fiberglas Corp.
2. Manville Products Corp.
3. Certainteed Corp.
B. All insulation material shall comply with applicable energy conservation regulation for Project location.
C. Provide composite mechanical insulation (insulation, jacket, coverings, sealers, mastics, and adhesives) with flame – spead index of 25 or less, and smoke – developed index of 50 or less, as tested by ASTM E84 (NFPA 255) method.
D. Provide staples, bands, wires, tape, anchors, corner angles and similar accessories as recommended by insulation manufacturer for applications indicated.
E. Provide cements, adhesives, coatings, sealers, protective finishes, and similar compounds as recommended by insulation manufacturer for applications indicated.

2.6 REFRIGRANT PIPING
A. Refrigrant piping to be copper seamless, vacuum packed tubing.
B. All suction lines to slope back towards condensing unit.
C. All suction lines heading up towards condensing unit shall have a 'P' trap.
D. Provide sight glass and filter drier on liquid lines at condensing units.
E. All refrigrant piping underground to be contained in a PVC sleeve.
F. Refrigrant piping to be sized and installed as per equipment manufacturers recommendations.

2.7 HVAC CONTROLS
A. Shall be as indicated on the Drawings.
B. Electric and Electronic HVAC Controls – Components and operating features as indicated on the Drawings.

PART 3 – EXECUTION

3.1 HVAC SYSTEM INSTALLATION, GENERAL
Sequence, coordinate, and integrate the various elements of mechanical systems, materials, and equipment. Comply with the following requirements
1. Coordinate mechanical systems, equipment, and materials with other building components.
2. Verify all dimensions by field measurements.
3. Arrange for chases, slots, and openings in other building components during progress of construction, to allow for mechanical installations.
4. Coordinate the installation of required supporting devices and sleeves to be set in poured in place concrete and other structural components, as they are constructed.
5. Sequence, coordinate, and integrate installations of mechanical materials and equipment for efficient flow of the work. Give particular attention to large equipment requiring positioning prior to closing in the building.
6. Where mounting heights are not detailed or dimensioned, install systems, materials, and equipment to provide the maximum headroom possible.
7. Coordinate connection of mechanical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.
8. Install systems, materials, and equipment to conform with drawings and specs, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to the Contractor for resolution prior to installation.
9. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed exposed in finished spaces
10. install mechanical equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. As much as practical.

P.E.
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NO.	DATE

SUBWAY
STORE 50755
2411 E. VALLEY PARKWAY
ESCONDIDO, CA 92027

THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS A "WET STAMP & SIGNATURE" FROM BOTH THE ENGINEER OF RECORD AND A APPROVAL STAMP WITH A "WET STAMP & SIGNATURE" FROM THE LOCAL GOVERNING AGENCY ARE PRESENT.

DWG. BY	J.P.
CHK'D BY	
DATE	10/4/10
JOB NO.	6234
FILE NO.	623422

EXP. 12/31/10

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