APPLICABLE CODES AND EDITIONS:

ALL WORK SHALL COMPLY WITH THE 2006 INTERNATIONAL BUILDING CODE, 2010 CALIFORNIA BUILDING CODE, 2010 CALIFORNIA ENERGY CODE, 2010 CALIFORNIA PLUMBING CODE, 2010 CALIFORNIA MECHANICAL CODE, 2010 CALIFORNIA ELECTRICAL CODE, 2010 CALIFORNIA ADMINISTRATIVE CODE, CALIFORNIA FIRE CODE AND ALL APPLICABLE STATE, COUNTY, AND LOCAL CODES AND STANDARDS.

Scope of Work and General Notes

1. The project's base bid involves site development & construction of building "D", as indicated on architectural, civil, plumbing, mechanical, electrical, landscape drawings.
2. Contractor and sub-contractors shall visit the site prior to bidding and shall verify all job site conditions and dimensions and report to the engineer-of-record of any discrepancies.
3. Contractor to provide emergency telephone on the job site.
4. The facilities will remain open during construction. It is the contractor's responsibility to coordinate with the staff of the temple on a daily basis to assure the continuity of operations and to minimize disruption of the temple activities.
5. Fire Department truck access shall be properly maintained and in service prior to, during and after construction.
6. Contractor and sub-contractors shall include in their bid daily site clean-up as part of their work for modifications to the existing, as well as for new construction areas. The contractors and sub-conractors shall exercise strict control over job cleaning in order to prevent any dirt, debris or dust from affecting, in anyway the finished or existing areas in or outside the jobsite, the local codes and neighbors' concerns shall apply.
7. Noise construction activities which occur outdoors shall take place on weekdays between hours 7:30a.m. to 5 p.m. and noisy construction equipment shall be operated between hours 9 a.m. to 4 p.m. Local requirements or neighbors' requests may change these operations. In all cases city ordinance shall be followed.
8. These construction bid documents are for general purposes only. They are not exhaustively detailed or fully specified. It is the responsibility of the contractor to verify and resolve any questions with the engineer of record. It is the also the responsibility of the contractor to install all materials and equipment. The contractor is solely responsible for quality control and construction standards for this project. The drawings will indicate the existing items, the items that are to be demolished, the items that are to be refurbished and the items that are to remain. In all cases city ordinance shall be strictly adhered to.
9. Contractor(s) shall be held responsible for the results of any errors, discrepancies, or omissions in the contract documents.
10. The owner (Hindu Cultural Community Center) will not be responsible for any unauthorized changes to or uses of the plans and specifications. All changes must be in writing and must be issued by the engineer-of-record who is the owner's representative.
11. Any discrepancies shall be brought to the attention of engineer-of-record immediately prior to construction and resolved.
12. Written dimensions take precedence. Do not scale drawings.
13. All dimensions to and from are to the face of stud, unless noted otherwise.
14. Where discrepancies between the soil report and project drawings occur, contact the engineer-of-record.
15. Pad grade under buildings shall have positive slopes. Slopes shall be jute matted prior to landscaping to prevent soil erosion.
16. The following items shall be provided to the Building Inspector after verification by the registered professional engineer in the form of a stamped and signed professional report and submitted at the time of inspection.
    a. A surveyor must verify building setbacks to property lines and also pad elevation(s) before the time of the foundation inspection.
    b. When fill is employed under the buildings, a soils engineer must verify the pad compaction before the foundation inspection.
    c. A surveyor must verify finish floor elevations before shear walls and roof inspection.
    d. A surveyor must verify the highest elevation of the highest point of the roof before the frame inspection.
    e. For other inspection requirements see civil, structural, mechanical, plumbing, electrical and landscape drawings.
17. See civil drawings for existing and proposed grading, utilities, additional structures, proposed drainage and erosion control measures.
18. See landscape drawings for landscape features.
19. In the event of conflicts between pertinent codes and specifications and the drawings, the most stringent requirements shall apply.
20. Water and/or dust palliatives shall be applied during construction.
21. Contractor shall reimburse Hindu Cultural Community Center (HCCC) for all utility bills used for construction.
22. All dimensions noted "verify" are to be checked by the contractor prior to construction and report any variances to the engineer-of-record.
23. The General Contractor or his representative shall be at site at all times during construction. The General Contractor or his representative is solely responsible for: (a) coordination of drawings with all trades and professionals and (b) continuous safety for all people and property at all times.
24. The Contractor shall defend, indemnify and hold the owner and the design professionals harmless from and any all liability, real or alleged, in connection with the project, including but not limited to attorney fees and costs. The Owner & design professionals shall be named as additional insureds on the contractor's liability insurance.
25. The Contractor shall carry a surety bond, the bond amount shall not be less that the total contract amount.
26. Contractor to furnish the owner with all warranties and warranty information.
27. Contractor shall prepare a construction schedule and shall submit it to the Owner. "Owner" is Hindu Community and Cultural Center, Livermore.
28. The Owner and the Contractor will enter into a contract which will specify various terms including a payment schedule along with a finishing schedule. Ten percent of each payment will be retained until the project is completed and will be paid to the Contractor after the Occupancy Permit from City and approval by the Owner.
29. The Contractor at all times shall keep an approved stamped wet-signed set of the construction documents on site for reference.
30. Always use the latest set of construction documents.

PROJECT DATA & CODE ANALYSIS:

ASSESSORS PARCEL #	099B-5125-005-06
CONDITIONAL USE PERMIT	09-001
ADDRESS	1200 ARROWHEAD AVENUE
SITE AREA	3,32,662 SF

OCCUPANCY CLASSIFICATION

PHASE 1-B BUILDING 'D' — OCCUPANCY B

CONSTRUCTION TYPE

TYPE VB - (WITH SPRINKLERS)

PROPOSED AREA FOR PHASE 1-B BUILDING 'D' = 7,760 SF

TOTAL ALLOWABLE AREA FOR 'B' = BASIC ALLOWABLE AREA + AREA INCREASE FOR SPRINKLERS OF 300%
= 9,000SQ.FT.+(3X9000)SQ.FT.
= 36,000SQ.FT.

NO. OF STORIES = 1

HEIGHT = 40' MAX.

TOTAL OCCUPANT LOAD = 159

DEFERRED SUBMITTALS: AUTOMATIC FIRE

SPRINKLER SYSTEM, FIRE ALARM SYSTEM, MANUFACTURED ROOF TRUSSES & DETAILED UNDERGROUND FIRE LINE SHOP DRAWINGS. DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE DESIGN PROFESSIONAL IN CHARGE WHO SHALL REVIEW THEM & FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING.
THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE BUILDING OFFICIAL HAS APPROVED THEIR DESIGN AND SUBMITTAL DOCUMENTS. CBC APPENDIX CHAPTER 1, SECTION 106.3.4.2.

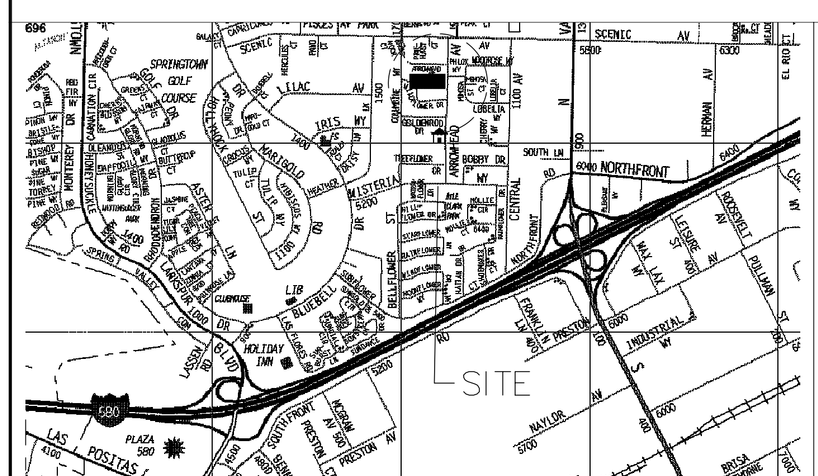
NOTES:

1. THE PROJECT STRUCTURAL ENGINEER OF RECORD MUST REVIEW THE SPRINKLER SYSTEM SUBMITTAL PRIOR TO SUBMITTING TO THE CITY. THE EOR MUST PROVIDE A STAMPED AND SIGNED LETTER TO THE CITY APPROVING BOTH THE STRUCTURAL ADEQUACY OF THE BUILDING TO SUPPORT THE SPRINKLER SYSTEM AND SPECIFICALLY APPROVES CONNECTION DETAILS OF THE SPRINKLER SYSTEM TO THE STRUCTURAL ELEMENTS, REFERENCING THE SPECIFIC FIRE PROTECTION DRAWINGS.
2. THE PEDESTRIAN WALKWAY MUST BE SPRINKLERED AS WELL AS THE BUILDING, UNLESS SPECIFICALLY EXEMPTED BY THE LIVERMORE PLEASANTON FIRE MARSHAL. PLANS & SPECIFICATIONS SHALL BE SUBMITTED TO THE CITY OF LIVERMORE PERMIT CENTER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. ALL FIRE PROTECTION PIPING INCLUDING THE FIRE SPRINKLER RISER, SHALL BE LOCATED INSIDE AT AN APPROVED INDOOR LOCATION.

SPECIAL INSPECTION / STRUCTURAL OBSERVATION:

1. GRADING, DRAINAGE, PAD PREPARATION
2. DRILLED PIERS
BY HENRY JUSTINIANO & ASSOCIATES (SOILS ENG.)
3. STRUCTURAL REINFORCING STEEL
4. STRUCTURAL FRAMING & SHEER WALL
BY B.R. GOVINDRAO (ENGINEER OF RECORD)
5. EPOXY INSTALLED ANCHOR & HOLD DOWN BOLTS
BY B.R. GOVINDRAO (ENGINEER OF RECORD)
6. STRUCTURAL WELDING
BY FABRICATOR'S SHOP WELDING INSPECTOR TO BE APPROVED BY CITY OF LIVERMORE
7. CONCRETE TESTING FOR STRUCTURAL COLUMNS, INCL. REINFORCING STEEL BY KORBMACHER ENGINEERING INC. (925-454-9033)
8. MANUFACTURED TRUSSES
BY B.R.GOVINDRAO (ENGINEER OF RECORD)

OBSERVED DEFICIENCIES SHALL BE REPORTED TO THE OWNER, THE SPECIAL INSPECTOR, THE CONTRACTOR AND THE BUILDING OFFICIAL.
PRIOR TO FINAL INSPECTION, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL, A WRITTEN STATEMENT THAT SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES THAT HAVE NOT BEEN RESOLVED.
CONTRACTOR IS RESPONSIBLE CHARGE TO SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE OWNER AND BUILDING OFFICIAL (CITY OF LIVERMORE PERMIT CENTER) FOR:
1. ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENT CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.
2. ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
3. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD OF, AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS AND
4. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.
AUTOMATIC SPRINKLER SYSTEMS AS SPECIFIED BY LIVERMORE MUNICIPAL ORDINANCE - PLANS AND SPECIFICATIONS SHALL BE SUBMITTED TO THE CITY OF LIVERMORE PERMIT CENTER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.



VICINITY MAP

NORTH — NTS

ABBREVIATIONS:

A.B.	ANCHOR BOLT
ACC	ACCESSIBLE
ACCOUS.	ACCOUSTICAL
ACT	ACCOUSTICAL CEILING TILE
A.D.	AREA DRAIN
ADJ.	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AGGR.	AGGREGATE
ALT.	ALTERNATE
ALUM.	ALUMINUM
APPROX.	APPROXIMATE
ARCH.	ARCHITECT, ARCHITECTURAL
BD.	BOARD
BET.	BETWEEN
BLDG.	BUILDING
BLKG.	BLOCKING
BOB	BOTTOM OF BEAM
BOT.	BOTTOM
B.O.W.	BOTTOM OF WALL
B.U.R.	BUILT UP ROOF
BSMT.	BASEMENT
B.W.	BOTTOM OF WALL
C.A.R.	COLD AIR RETURN
CAB.	CABINET
C/C	CENTER TO CENTER
CEM.	CEMENT
CER.	CERAMIC
C.F.M	CUBIC FT. PER MINUTE
CL	CENTER LINE
CLG.	CEILING
CLO.	CLOSET
CLR.	CLEAR/ CLEARANCE
C.M.U.	CONCRETE MASONRY UNIT
CNTR.	CENTER
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CT	CERAMIC TILE
CTR.	COUNTER
CW	COLD WATER
DBL.	DOUBLE
DEG.	DEGREES
DEPT.	DEPARTMENT
DET.	DETAIL
DIAM.,	DIAMETER
DIM.	DIMENSION
DISP.	DISPOSAL OR DISPENSER
DN.	DOWN
DR.	DOOR
DS.	DOWNSPOUT
DW.	DISHWASHER
DWG(S)	DRAWING(S)
DWR.	DRAWER
(E)	EXISTING
EA.	EACH
EC	ELECTRICAL CONTRACTOR
ELEC.	ELECTRICAL
EL.	ELEVATION
ELEV.	ELEVATOR
ENCL.	ENCLOSURE
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.	EACH WAY
EXIST.	EXISTING
EXP	EXPOSED
EXTR.	EXTERIOR
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.F.	FINISH FLOOR
F.G.	FINISHED GRADE
FIN.	FINISH
FLASH.	FLASHING
FLR.	FLOOR
FLUOR.	FLUORESCENT
F.O.C.	FACE OF CABINET
F.O.G.	FACE OF GLAZING
F.O.S.	FACE OF STUD
FRMG.	FRAMING
FRP	FIBERGLASS REINFORCED PANEL
FRPF.	FIREPROOF
FT.	FOOT/ FEET
FTG.	FOOTING
FURR.	FURRING
GA.	GAUGE
GALV.	GALVANIZED
G.B.	GRAB BAR
G.C.	GENERAL CONTRACTOR
GEN.	GENERAL
G.F.I.	GROUND FAULT INTERRUPTER
GL.	GLASS, GLAZING
G.L.B.	GLUE LAM BEAM
GLU.LAM.	GLUE LAMINATED
GND.	GROUND
GWB	GYPSUM WALL BOARD
GYP. BD.	GYPSUM BOARD
H.B.	HOSE BIB
H.C.	HOLLOW CORE
H.D.	HOLD DOWN
HDWE.	HARDWARE
HDR.	HEADER
HDWD.	HARDWOOD
HDWR.	HARDWARE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
HT.	HEIGHT
HVAC	HEATING VENTILATING AIR CONDITIONING
HW	HOT WATER
I.D.	INSIDE DIMENSION/ DIAMETER INSIDE/ INTERIOR FACE
IF	INCH
INCL.	INCLUDING
INFO.	INFORMATION
INSUL.	INSULATION
JAN.	JANITOR
	JOB CAPTAIN
JST.	JOIST
JT.	JOINT
KIT.	KITCHEN
LAM.	LAMINATE
LAV.	LAVATORY
	LANDLORD
M.C.	MEDICINE CABINET
MATL.	MATERIAL
MAX.	MAXIMUM
MC	MECHANICAL CONTRACTOR
MIN.	MINIMUM
MIR.	MIRROR
MISC.	MISCELLANEOUS
MECH.	MECHANICAL
MEP	MECHANICAL ELECTRICAL AND PLUMBING
MFR.	MANUFACTURER
MLDG.	MOULDING
MTL.	METAL
MAT'L	MATERIAL
(N)	NEW
NAT	NATURAL
NEC.	NECESSARY
N.I.C.	NOT INCLUDED IN CONTRACT
NO., #	NUMBER
N.T.S.	NOT TO SCALE
O/	OVER
O.A.	OVERALL
OBS.	OBSCURE
OCC.	OCCUPANCY
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OFF.	OFFICE
OPG.	OPENING
OPP.	OPPOSITE
OPP. HD.	OPPOSITE HAND
P.D.L.	PERFORATED DRAIN LINE
PC	PLUMBING CONTRACTOR
PERF.	PERFORATED
PLAS.	PLASTER
PL. LAM.	PLASTIC LAMINATE
PL.	PLATE OR PROPERTY LINE
PLYWD.	PLYWOOD
PR.	PAIR
PRCST.	PRECAST
PT	PAINT
P.T.D.	PAPER TOWEL DISPENSER
QUAN.	QUANTITY
QT	QUARRY TILE
(R)	REMODEL
R.	RADIUS
R.D.	ROOF DRAIN
RAD.	RADIUS
REC.	RECEPTACLE
REF.	REFERENCE
REFR.	REFRIGERATOR
REQ.D.	REQUIRED
REV.	REVISED/ REVISION
RGTR.	REGISTER
R.H.	ROBE HOOK
RM.	ROOM
R.O.	ROUGH OPENING
R/W	RETAINING WALL
RWD.	REDWOOD
R.W.L.	RAIN WATER LEADER
S.C.	SOLID CORE
S.D.	SOAP DISPENSER
S.N.D.	SANITARY NAPKIN DISPOSAL
S.S.D.	SEE STRUCTURAL DRAWINGS
SEC.	SECURITY
SECT.	SECTION
S.F.	SQUARE FEET
SH.	SHELF
SHT.	SHEET
SHTG	SHEATHING
SIM.	SIMILAR
SOL.	SOLID
SPEC.	SPECIFICATION
SQ.	SQUARE
S/S	STAINLESS STEEL
STD.	STANDARD
STG	STORAGE
STL.	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SYM.	SYMMETRICAL
T.	TREAD
T.B.	TOWEL BAR
T.B.D.	TO BE DETERMINED
T.D.L.	TIGHT DRAIN LINE
TEL.	TELEPHONE
TEMP.	TEMPERED
T & G	TONGUE AND GROOVE
T. H.	THERMOSTAT
THK.	THICK
T.O.C.	TOP OF CURB
T.O.P.	TOP OF PLATE
T.O.W.	TOP OF WALL
T. P.	TOILET PAPER DISPENSER
T. S.	TOP OF SLAB
T.S.C.D.	TOILET SEAT COVER DISPENSER
TYP.	TYPICAL
U/	UNDER
UNF.	UNFINISHED
U.O.N.	UNLESS OTHERWISE NOTED
VERT.	VERTICAL
V.I.F	VERIFY IN FIELD
W/	WITH
W.A.R.	WARM AIR REGISTER
W.C.	WATER CLOSET
WD.	WOOD
WDW.	WINDOW
WH	WATER HEATER
W/O	WITHOUT
W.P.	WEATHER PROTECTED
WT.	WEIGHT
WWM.	WELDED WIRE MESH
YR.	YEAR
&	AND
@	AT
CL	CENTERLINE
II	PARALLEL
⊥	PERPENDICULAR

SYMBOLS

- FAN
- PROPERTY LINE
- BLOCKING
- SHEAR WALL
- BATT INSULATION
- NEW WALL, (SHADED)
- EXISTING WALL TO BE REMOVED
- EXISTING WALL TO REMAIN
- BEAMS, HEADERS, GLULAMS AS NOTED
- POST- CONTINUOUS
- POST ABOVE FRAMING LEVEL
- METAL HANGER
- NORTH ARROW
- WALL REGISTER
- FLOOR REGISTER, CEILING REGISTER
- CONTINUOUS FRAMING
- TOP OF SUB FLOOR ELEV.
- ADDENDUM OR REVISION NUMBER
- DOOR NUMBER
- WINDOW NUMBER
- DETAIL - CALLOUT — TOP: DWG. NUMBER OR LETTER, BTM: SHEET NUMBER
- SECTION - CALLOUT — TOP: DWG. LETTER, BTM: SHEET NUMBER
- ELEVATIONS - TOP: ELEVATION NUMBER, BTM: SHEET NUMBER
- CEILING HEIGHT

SHEET INDEX-

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DE BOLT CIVIL ENGINEERING
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510-793-2658

REVISIONS	FOR
10-28-11	FOR BUILDING PERMIT

IYER & ASSOCIATES
Architecture Interiors Planning
1100 Montgomery Street
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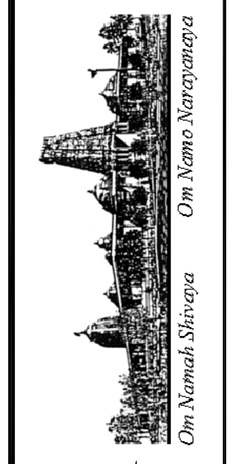
415 362-4937 (IYER)
FAX 415 362-8158

LICENSED ARCHITECT
ARVIND S. IYER
C15353
REN. 02/28/2013
STATE OF CALIFORNIA



Om Namah Shivaya — Om Namo Narayanaya

BUILDING "D"
HINDU COMMUNITY and CULTURAL CENTER
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

DATE 10/28/11
SCALE:
DRAWN BY: MM
PROJECT: ARROWHEAD

T-1

PERFORMANCE CERTIFICATE OF COMPLIANCE (Part 1 of 3) PERF-1C

Project Name		Date
HCC Bldg. D		*10/27/2011*
Project Address	**Climate Zone**	**Total Cond. Floor Area**	**Addition Floor Area**
1232 Arrowhead Ave. Livermore	*CA Climate Zone 12*	*7,087*	*n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Relocatable - indicate ☐ specific climate zone ☐ all climates
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration

STATEMENT OF COMPLIANCE

This certificate of compliance lists the building features and specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to a Building using the performance compliance approach.

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

Documentation Author

Name	*Mangalore Suresh*	Signature	
Company	*Title 24 Online*	Date	*10/27/2011*
Address	*531 Matalino Circle*	Phone	*510-793-2658*
City/State/Zip	*Sacramento, CA 95835*		

The Principal 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 energy efficiency requirements contained in sections 110, 116 through 118, and 140 through 149 of Title 24, Part 6. Please check one:

ENV.	LTG.	MECH.	
☐	☐	☐	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, mechanical engineer, electrical engineer, or I am a licensed architect.
☐	☐	☐	I affirm that I am eligible under the provisions of 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 licensed contractor performing this work.
☐	☐	☐	I 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, 5538 and 6737.1.

Principal Envelope Designer

Name	*B.R Govinda Rao. S.E.*	Signature	
Company	*B.R Govinda Rao. S.E.*	Date	
Address	*864 Bandol Way*	License #	
City/State/Zip	*San Ramon, CA 94582*	Phone	*925-833-9784*

Principal Mechanical Designer

Name	*Huppe Srinivas P.E.*	Signature	
Company	*Ajmani & Pamidi Inc.*	Date	
Address	*101 California Street Suite 2025*	License #	
City/State/Zip	*San Francisco, CA. 94111*	Phone	*415-305-9344*

Principal Lighting Designer

Name	*Satish Pamidi P.E.*	Signature	
Company	*Ajmani & Pamidi inc.*	Date	
Address	*101 California Street Suite 2025*	License #	
City/State/Zip	*San Francisco, CA. 94111*	Phone	*415-305-9344*

INSTRUCTIONS TO APPLICANT COMPLIANCE & WORKSHEETS (check box if worksheets are included)

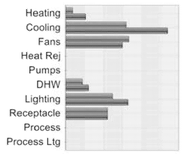
☑ ENV-1C	Certificate of Compliance. Required on plans.	☑ MECH-1C	Certificate of Compliance. Required on plans.
☑ LTG-1C	Certificate of Compliance. Required on plans.	☑ MECH-2C	Air/Water Side/Service Hot Water & Pool Requirements.
☑ LTG-2C	Lighting Controls Credit Worksheet.	☑ MECH-3C	Mechanical Ventilation and Reheat.
☐ LTG-3C	Indoor Lighting Power Allowance.	☑ MECH-5C	Mechanical Equipment Details.

PERFORMANCE CERTIFICATE OF COMPLIANCE (Part 2 of 3) PERF-1C

Project Name	Date
HCC Bldg. D	*10/27/2011*

ANNUAL TDV ENERGY USE SUMMARY (kBtu/sqft-yr)

Energy Component	Standard Design	Proposed Design	Compliance Margin
Space Heating	*20.91*	*7.33*	*13.58*
Space Cooling	*108.22*	*64.00*	*44.22*
Indoor Fans	*60.04*	*66.88*	*-6.85*
Heat Rejection	*0.00*	*0.00*	*0.00*
Pumps & Misc.	*0.00*	*0.00*	*0.00*
Domestic Hot Water	*24.28*	*17.70*	*6.58*
Lighting	*65.96*	*49.95*	*16.01*
Receptacle	*44.44*	*44.44*	*0.00*
Process	*0.00*	*0.00*	*0.00*
Process Lighting	*0.00*	*0.00*	*0.00*
TOTALS	*323.85*	*250.31*	*73.54*



Percent better than Standard: *22.7 %* (*22.7 %* excluding process)

BUILDING COMPLIES

GENERAL INFORMATION

Building Orientation	*(E) 90 deg*	Conditioned Floor Area	*7,087* sqft.
Number of Stories	*1*	Unconditioned Floor Area	*0* sqft.
Number of Systems	*9*	Conditioned Footprint Area	*6,739* sqft.
Number of Zones	*15*	Natural Gas Available On Site	*Yes*

	Orientation	Gross Area		Glazing Area		Glazing Ratio
Front Elevation	*(E)*	*630*	sqft.	*150*	sqft.	*23.8 %*
Left Elevation	*(S)*	*1,169*	sqft.	*192*	sqft.	*16.4 %*
Rear Elevation	*(W)*	*626*	sqft.	*168*	sqft.	*26.8 %*
Right Elevation	*(N)*	*3,325*	sqft.	*144*	sqft.	*4.3 %*
Total		*5,750*	sqft.	*654*	sqft.	*11.4 %*
Roof		*8,002*	sqft.	*20*	sqft.	*0.2 %*

	Standard		Proposed		
Prescriptive Lighting Power Density	*1.054*	W/sqft.	*0.799*	W/sqft.	Prescriptive Values for Comparison only. See LTG-1C for allowed LPD.
Prescriptive Envelope TDV Energy	*198,510*		*146,329*		

Remarks:

PERFORMANCE CERTIFICATE OF COMPLIANCE (Part 3 of 3) PERF-1C

Project Name	Date
HCC Bldg. D	*10/27/2011*

ZONE INFORMATION

System Name	Zone Name	Occupancy Type	Floor Area (sqft.)	Inst. LPD (W/sf)	Ctrl. Credits (W/sf)[3]	Allowed LPD Area (W/sf)[3]	Allowed LPD Tailored (W/sf)[4]	Proc. Loads (W/sf)
AC-D-4	*Zone -4*	*Classroom, Lecture, Training*	*714*	*0.756*				
	Zone- 4A	*Corridor/Restroom/Support*	*440*	*0.341*	*0.065*			
CU/ACC-D-2	*Zone-7*	*Lounge, Recreation*	*213*	*0.845*				
AC-D-5	*Zone-5*	*Classroom, Lecture, Training*	*714*	*0.756*				
	Zone- 5A	*Corridor/Restroom/Support*	*242*	*0.744*	*0.130*			
	Zone -5B	*Corridor/Restroom/Support*	*314*	*1.433*				
AC-D-2	*Zone-2*	*Convention/Conference/Mee*	*1,077*	*0.826*				
	Zone -2A	*Corridor/Restroom/Support*	*314*	*1.433*				
	Zone- 2B	*Corridor/Restroom/Support*	*586*	*0.512*	*0.105*			
AC-D-1	*Zone-1*	*Classroom, Lecture, Training*	*1,034*	*0.870*				
	Zone-1A	*Electrical, Mechanical Room*	*40*	*1.500*				
AC-D-3	*Zone -3*	*Classroom, Lecture, Training*	*714*	*0.756*				
CU/ACC-D-1	*Zone 6*	*Lounge, Recreation*	*236*	*0.890*				
CU/ACC-D-3	*Zone 8*	*Lounge, Recreation*	*213*	*0.845*				
CU/ACC-D-4	*Zone 9*	*Lounge, Recreation*	*236*	*0.890*				

Notes: 1. See LTG-1C (Items marked with asterisk, see LTG-1-C by others) 2. See LTG-2C 3. See LTG-3C (By others) 4. See LTG-4C — Items above require special documentation

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 justifications, and may reject a building or design that otherwise complies based on the adequacy of the special justification and documentation submitted.

The HVAC System AC-D-4 includes Demand Control Ventilation per Standards Section 121.
The Zone Zone -4 has a North/East/South Display Perimeter Credit of 52 ft.
The HVAC System CU/ACC-D-2 includes Demand Control Ventilation per Standards Section 121.
The Zone Zone-7 has a North/East/South Display Perimeter Credit of 52 ft.
The HVAC System AC-D-5 includes Demand Control Ventilation per Standards Section 121.
The Zone Zone-5 has a North/East/South Display Perimeter Credit of 40 ft.
The HVAC System AC-D-2 includes Demand Control Ventilation per Standards Section 121.
The HVAC System AC-D-1 includes Demand Control Ventilation per Standards Section 121.
The Zone Zone-1 has a North/East/South Display Perimeter Credit of 40 ft.
The Zone Zone-1A has a North/East/South Display Perimeter Credit of 40 ft.
The HVAC System AC-D-3 includes Demand Control Ventilation per Standards Section 121.
The Zone Zone -3 has a North/East/South Display Perimeter Credit of 52 ft.
The HVAC System CU/ACC-D-1 includes Demand Control Ventilation per Standards Section 121.

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 _____

PERFORMANCE CERTIFICATE OF COMPLIANCE (Part 3 of 3) PERF-1C

Project Name	Date
HCC Bldg. D	*10/27/2011*

ZONE INFORMATION

System Name	Zone Name	Occupancy Type	Floor Area (sqft.)	Inst. LPD (W/sf)	Ctrl. Credits (W/sf)[3]	Allowed LPD Area (W/sf)[3]	Allowed LPD Tailored (W/sf)[4]	Proc. Loads (W/sf)

Notes: 1. See LTG-1C (Items marked with asterisk, see LTG-1-C by others) 2. See LTG-2C 3. See LTG-3C (By others) 4. See LTG-4C — Items above require special documentation

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 justifications, and may reject a building or design that otherwise complies based on the adequacy of the special justification and documentation submitted.

The HVAC System CU/ACC-D-3 includes Demand Control Ventilation per Standards Section 121.
The HVAC System CU/ACC-D-4 includes Demand Control Ventilation per Standards Section 121.
The HVAC System Trane YHC-072 includes an Economizer. This system has a cooling output < 75,000 Btuh or a supply cfm < 2500.
The Roof R-38 Roof Attic Reflectance = 0.30, Emittance = 0.75 shall be rated and labeled by the Cool Roof Rating Council in accordance with Section 10-1

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 _____

CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C

Project Name		Date
HCC Bldg. D		*10/27/2011*
Project Address	**Climate Zone**	**Total Cond. Floor Area**	**Addition Floor Area**
1232 Arrowhead Ave. Livermore	*12*	*7,087*	*n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces
☐ Skylight Area for Large Enclosed Space ≥ 8000 ft² (if checked include the ENV-4C with submittal)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☑ Overall Envelope ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

FIELD INSPECTION ENERGY CHECKLIST

OPAQUE SURFACE DETAILS — **INSULATION**

Tag/ID	Assembly Type	Area (ft²)	Orientation N, E, S, W	U-Factor	Cavity R-Value	Exterior R-Value	Exterior Furring[1]	Interior R-Value	Interior Furring[1]	Joint Appendix 4	Condition Status	Pass	Fail[2]
1	*Wall*	*217*	*(N)*	*0.069*	*R-21*					*4.3.1-A6*	*New*	☐	☐
2	*Roof*	*714*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
3	*Slab*	*714*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
4	*Wall*	*26*	*(E)*	*0.069*	*R-21*					*4.3.1-A6*	*New*	☐	☐
5	*Slab*	*440*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
6	*Roof*	*440*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
7	*Wall*	*98*	*(W)*	*0.069*	*R-21*					*4.3.1-A6*	*New*	☐	☐
8	*Roof*	*213*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
												☐	☐
												☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail, then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. A fail does not meet compliance.

FENESTRATION SURFACE DETAILS

Tag/ID	Fenestration Type	Area (ft²)	Orientation N, E, S, W	Max U-Factor	U-Factor Source	Max (R)SHGC	SHGC Source	Overhang	Conditions Status	Pass	Fail[2]
1	*Window*	*96*	*(N)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☐	*New*	☐	☐
2	*Window*	*150*	*(E)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☐	*New*	☐	☐
3	*Window*	*48*	*(W)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☑	*New*	☐	☐
4	*Window*	*24*	*(N)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☑	*New*	☐	☐
5	*Window*	*24*	*(N)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☑	*New*	☐	☐
6	*Window*	*24*	*(W)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☐	*New*	☐	☐
7	*Window*	*48*	*(S)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☑	*New*	☐	☐
8	*Window*	*48*	*(S)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☑	*New*	☐	☐
								☐		☐	☐
								☐		☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C

Project Name		Date
HCC Bldg. D		*10/27/2011*
Project Address	**Climate Zone**	**Total Cond. Floor Area**	**Addition Floor Area**
1232 Arrowhead Ave. Livermore	*12*	*7,087*	*n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces
☐ Skylight Area for Large Enclosed Space ≥ 8000 ft² (if checked include the ENV-4C with submittal)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☑ Overall Envelope ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

FIELD INSPECTION ENERGY CHECKLIST

OPAQUE SURFACE DETAILS — **INSULATION**

Tag/ID	Assembly Type	Area (ft²)	Orientation N, E, S, W	U-Factor	Cavity R-Value	Exterior R-Value	Exterior Furring[1]	Interior R-Value	Interior Furring[1]	Joint Appendix 4	Condition Status	Pass	Fail[2]
9	*Slab*	*213*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
10	*Wall*	*217*	*(N)*	*0.069*	*R-21*					*4.3.1-A6*	*New*	☐	☐
11	*Roof*	*714*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
12	*Slab*	*714*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
13	*Slab*	*150*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
14	*Roof*	*150*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
15	*Wall*	*30*	*(W)*	*0.069*	*R-21*					*4.3.1-A6*	*New*	☐	☐
16	*Slab*	*56*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
												☐	☐
												☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail, then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. A fail does not meet compliance.

FENESTRATION SURFACE DETAILS

Tag/ID	Fenestration Type	Area (ft²)	Orientation N, E, S, W	Max U-Factor	U-Factor Source	Max (R)SHGC	SHGC Source	Overhang	Conditions Status	Pass	Fail[2]
9	*Skylight*	*20*	*(N)*	*0.490*	*NFRC*	*0.330*	*NFRC*	☐	*New*	☐	☐
10	*Window*	*72*	*(S)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☐	*New*	☐	☐
11	*Window*	*24*	*(W)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☑	*New*	☐	☐
12	*Window*	*48*	*(W)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☑	*New*	☐	☐
13	*Window*	*24*	*(S)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☑	*New*	☐	☐
14	*Window*	*24*	*(W)*	*0.330*	*NFRC*	*0.190*	*NFRC*	☑	*New*	☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C

Project Name		Date
HCC Bldg. D		*10/27/2011*
Project Address	**Climate Zone**	**Total Cond. Floor Area**	**Addition Floor Area**
1232 Arrowhead Ave. Livermore	*12*	*7,087*	*n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces
☐ Skylight Area for Large Enclosed Space ≥ 8000 ft² (if checked include the ENV-4C with submittal)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☑ Overall Envelope ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

FIELD INSPECTION ENERGY CHECKLIST

OPAQUE SURFACE DETAILS — **INSULATION**

Tag/ID	Assembly Type	Area (ft²)	Orientation N, E, S, W	U-Factor	Cavity R-Value	Exterior R-Value	Exterior Furring[1]	Interior R-Value	Interior Furring[1]	Joint Appendix 4	Condition Status	Pass	Fail[2]
17	*Roof*	*56*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
18	*Slab*	*36*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
19	*Roof*	*36*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
20	*Wall*	*140*	*(N)*	*0.069*	*R-21*					*4.3.1-A6*	*New*	☐	☐
21	*Slab*	*140*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
22	*Roof*	*140*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
23	*Wall*	*294*	*(S)*	*0.069*	*R-21*					*4.3.1-A6*	*New*	☐	☐
24	*Roof*	*1,077*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
												☐	☐
												☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail, then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. A fail does not meet compliance.

FENESTRATION SURFACE DETAILS

Tag/ID	Fenestration Type	Area (ft²)	Orientation N, E, S, W	Max U-Factor	U-Factor Source	Max (R)SHGC	SHGC Source	Overhang	Conditions Status	Pass	Fail[2]
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C

Project Name		Date
HCC Bldg. D		*10/27/2011*
Project Address	**Climate Zone**	**Total Cond. Floor Area**	**Addition Floor Area**
1232 Arrowhead Ave. Livermore	*12*	*7,087*	*n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces
☐ Skylight Area for Large Enclosed Space ≥ 8000 ft² (if checked include the ENV-4C with submittal)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☑ Overall Envelope ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

FIELD INSPECTION ENERGY CHECKLIST

OPAQUE SURFACE DETAILS — **INSULATION**

Tag/ID	Assembly Type	Area (ft²)	Orientation N, E, S, W	U-Factor	Cavity R-Value	Exterior R-Value	Exterior Furring[1]	Interior R-Value	Interior Furring[1]	Joint Appendix 4	Condition Status	Pass	Fail[2]
25	*Slab*	*1,077*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
26	*Wall*	*140*	*(S)*	*0.069*	*R-21*					*4.3.1-A6*	*New*	☐	☐
27	*Slab*	*140*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
28	*Roof*	*140*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
29	*Slab*	*520*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
30	*Roof*	*500*	*(N)*	*0.025*	*R-38*					*4.2.1-A21*	*New*	☐	☐
31	*Wall*	*30*	*(S)*	*0.069*	*R-21*					*4.3.1-A6*	*New*	☐	☐
32	*Slab*	*36*	*(N)*	*0.730*	*None*					*4.4.7-A1*	*New*	☐	☐
												☐	☐
												☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. A fail does not meet compliance.

FENESTRATION SURFACE DETAILS

Tag/ID	Fenestration Type	Area (ft²)	Orientation N, E, S, W	Max U-Factor	U-Factor Source	Max (R)SHGC	SHGC Source	Overhang	Conditions Status	Pass	Fail[2]
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

REVISIONS	BY
ISSUE FOR PERMIT 10-28-11	

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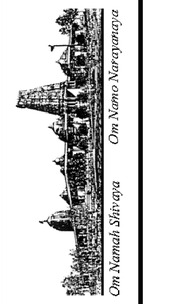

TITLE-24 COMPLIANCE FORMS
BUILDING "D"
HINDU COMMUNITY and CULTURAL CENTER
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

DATE	10/28/11
SCALE:	NONE
DRAWN BY:	PT
PROJECT:	ARROWHEAD

REGISTERED PROFESSIONAL ENGINEER — SATISH S. PAMIDI — No. E10472 Exp.12/31/12 — ELECTRICAL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — KUPPE G. SRINIVAS — No. M18346 Exp. 09/30/12 — MECHANICAL — STATE OF CALIFORNIA

T-24.1

CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C

Project Name: *HCC Bldg. D* — Date: *10/27/2011*
Project Address: *1232 Arrowhead Ave. Livermore* — Climate Zone: *12* — Total Cond. Floor Area: *7,087* — Addition Floor Area: *n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces
☐ Skylight Area for Large Enclosed Space ≥ 8000 ft² (If checked include the ENV-4C with submittal)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☑ Overall Envelope ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

FIELD INSPECTION ENERGY CHECKLIST

OPAQUE SURFACE DETAILS — **INSULATION**

Tag/ID	Assembly Type	Area (ft²)	Orientation N, E, S, W	U-Factor	Cavity R-Value	Exterior R-Value	Exterior Furring³	Interior R-Value	Interior Furring³	Joint Appendix 4	Condition Status	Pass	Fail²
33	Roof	36	(N)	0.025	R-38					4.2.1-A21	New	☐	☐
34	Slab	30	(N)	0.730	None					4.4.7-A1	New	☐	☐
35	Roof	30	(N)	0.025	R-38					4.2.1-A21	New	☐	☐
36	Wall	257	(S)	0.069	R-21					4.3.1-A6	New	☐	☐
37	Wall	172	(E)	0.069	R-21					4.3.1-A6	New	☐	☐
38	Roof	1,034	(N)	0.025	R-38					4.2.1-A21	New	☐	☐
39	Slab	1,034	(N)	0.730	None					4.4.7-A1	New	☐	☐
40	Wall	80	(S)	0.069	R-21					4.3.1-A6	New	☐	☐
												☐	☐
												☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail, then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. A fail does not meet compliance.

FENESTRATION SURFACE DETAILS

Tag/ID	Fenestration Type	Area (ft²)	Orientation N, E, S, W	Max U-Factor	U-Factor Source	Max (R)SHGC	SHGC Source	Overhang	Conditions Status	Pass	Fail²
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

EnergyPro 5.1 by EnergySoft User Number: 2849 ***RunCode: 2011-10-27T11:45:56*** *ID: Bld. D* *Page 11 of 59*

CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C

Project Name: *HCC Bldg. D* — Date: *10/27/2011*
Project Address: *1232 Arrowhead Ave. Livermore* — Climate Zone: *12* — Total Cond. Floor Area: *7,087* — Addition Floor Area: *n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces
☐ Skylight Area for Large Enclosed Space ≥ 8000 ft² (If checked include the ENV-4C with submittal)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☑ Overall Envelope ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

FIELD INSPECTION ENERGY CHECKLIST

OPAQUE SURFACE DETAILS — **INSULATION**

Tag/ID	Assembly Type	Area (ft²)	Orientation N, E, S, W	U-Factor	Cavity R-Value	Exterior R-Value	Exterior Furring³	Interior R-Value	Interior Furring³	Joint Appendix 4	Condition Status	Pass	Fail²
41	Wall	50	(E)	0.069	R-21					4.3.1-A6	New	☐	☐
42	Roof	40	(N)	0.025	R-38					4.2.1-A21	New	☐	☐
43	Slab	40	(N)	0.730	None					4.4.7-A1	New	☐	☐
44	Wall	2,607	(N)	0.069	R-21					4.3.1-A6	New	☐	☐
45	Roof	714	(N)	0.025	R-38					4.2.1-A21	New	☐	☐
46	Slab	714	(N)	0.730	None					4.4.7-A1	New	☐	☐
47	Wall	232	(E)	0.069	R-21					4.3.1-A6	New	☐	☐
48	Wall	120	(W)	0.069	R-21					4.3.1-A6	New	☐	☐
												☐	☐
												☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail, then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. A fail does not meet compliance.

FENESTRATION SURFACE DETAILS

Tag/ID	Fenestration Type	Area (ft²)	Orientation N, E, S, W	Max U-Factor	U-Factor Source	Max (R)SHGC	SHGC Source	Overhang	Conditions Status	Pass	Fail²
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

EnergyPro 5.1 by EnergySoft User Number: 2849 ***RunCode: 2011-10-27T11:45:56*** *ID: Bld. D* *Page 12 of 59*

CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C

Project Name: *HCC Bldg. D* — Date: *10/27/2011*
Project Address: *1232 Arrowhead Ave. Livermore* — Climate Zone: *12* — Total Cond. Floor Area: *7,087* — Addition Floor Area: *n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces
☐ Skylight Area for Large Enclosed Space ≥ 8000 ft² (If checked include the ENV-4C with submittal)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☑ Overall Envelope ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

FIELD INSPECTION ENERGY CHECKLIST

OPAQUE SURFACE DETAILS — **INSULATION**

Tag/ID	Assembly Type	Area (ft²)	Orientation N, E, S, W	U-Factor	Cavity R-Value	Exterior R-Value	Exterior Furring³	Interior R-Value	Interior Furring³	Joint Appendix 4	Condition Status	Pass	Fail²
49	Roof	236	(N)	0.025	R-38					4.2.1-A21	New	☐	☐
50	Slab	236	(N)	0.730	None					4.4.7-A1	New	☐	☐
51	Wall	96	(W)	0.069	R-21					4.3.1-A6	New	☐	☐
52	Roof	1,476	(N)	0.025	R-38					4.2.1-A21	New	☐	☐
53	Slab	213	(N)	0.730	None					4.4.7-A1	New	☐	☐
54	Wall	176	(S)	0.069	R-21					4.3.1-A6	New	☐	☐
55	Roof	236	(N)	0.025	R-38					4.2.1-A21	New	☐	☐
56	Slab	236	(N)	0.730	None					4.4.7-A1	New	☐	☐
												☐	☐
												☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail, then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. A fail does not meet compliance.

FENESTRATION SURFACE DETAILS

Tag/ID	Fenestration Type	Area (ft²)	Orientation N, E, S, W	Max U-Factor	U-Factor Source	Max (R)SHGC	SHGC Source	Overhang	Conditions Status	Pass	Fail²
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

EnergyPro 5.1 by EnergySoft User Number: 2849 ***RunCode: 2011-10-27T11:45:56*** *ID: Bld. D* *Page 13 of 59*

CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C

Project Name: *HCC Bldg. D* — Date: *10/27/2011*
Project Address: *1232 Arrowhead Ave. Livermore* — Climate Zone: *12* — Total Cond. Floor Area: *7,087* — Addition Floor Area: *n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces
☐ Skylight Area for Large Enclosed Space ≥ 8000 ft² (If checked include the ENV-4C with submittal)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☑ Overall Envelope ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

FIELD INSPECTION ENERGY CHECKLIST

OPAQUE SURFACE DETAILS — **INSULATION**

Tag/ID	Assembly Type	Area (ft²)	Orientation N, E, S, W	U-Factor	Cavity R-Value	Exterior R-Value	Exterior Furring³	Interior R-Value	Interior Furring³	Joint Appendix 4	Condition Status	Pass	Fail²
57	Wall	116	(W)	0.069	R-21					4.3.1-A6	New	☐	☐
												☐	☐
												☐	☐
												☐	☐
												☐	☐
												☐	☐
												☐	☐
												☐	☐
												☐	☐
												☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail, then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. A fail does not meet compliance.

FENESTRATION SURFACE DETAILS

Tag/ID	Fenestration Type	Area (ft²)	Orientation N, E, S, W	Max U-Factor	U-Factor Source	Max (R)SHGC	SHGC Source	Overhang	Conditions Status	Pass	Fail²
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐
								☐		☐	☐

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

EnergyPro 5.1 by EnergySoft User Number: 2849 ***RunCode: 2011-10-27T11:45:56*** *ID: Bld. D* *Page 14 of 59*

CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 2 of 3) ENV-1C

Project Name: *HCC Bldg. D* — Date: *10/27/2011*

ROOFING PRODUCT (COOL ROOFS)

(Note if the roofing product is not CRRC certified, this compliance approach cannot be used). Go to Overall Envelope Approach or Performance Approach.

CHECK APPLICABLE BOX BELOW IF EXEMPT FROM THE ROOFING PRODUCT "COOL ROOF" REQUIREMENTS:	Pass	Fail¹	N/A
☐ Roofing compliance not required in Climate Zones 1 and16 with a Low-Sloped. 2:12 pitch or less.	☐	☐	☐
☐ Roofing compliance not required in Climate Zone 1 with a Steep-Sloped with less than 5 lb/ft². Greater than 2:12 pitch.	☐	☐	☐
☐ Low-sloped Wood framed roofs in Climate Zones 3 and 5 are exempted, solar reflectance and thermal emittance or SRI that have a U-factor of 0.039 or lower. See Opaque Surface Details roof assembly, Column H of ENV-2C.	☐	☐	☐
☐ Low-sloped Metal building roofs in Climate Zone 3 and 5 are exempted, solar relectance and thermal emittance or SRI that have a U-factor of 0.048 or lower. See Opaque Surface Details roof assembly below, Column H of ENV-2C.	☐	☐	☐
☐ The roof area covered by building integrated photovoltaic panels and building integrated solar thermal panels are exempted. Solar reflectance and thermal emittance or SRI, see spreadsheet calculator at www.energy.ca.gov/title24/	☐	☐	☐
☐ Roof constructions that have thermal mass over the roof membrane with a weight of at least 25 lb/ft² are exempt from the Cool Roof criteria below.	☐	☐	☐
☐ High-rise residential buildings and hotels and motels with low-sloped roofs in Climate Zones 1 through 9, 12 and 16 are exempted from the low-sloped roofing criteria.	☐	☐	☐

1. If Fail then describe on this page of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

CRRC Product ID Number¹	Roof Slope ≤ 2:12	Roof Slope > 2:12	Product Weight < 5lb/ft²	Product Weight ≥ 5lb/ft²	Product Type²	Aged Solar Reflectance³		Thermal Emmitance	SRI⁵	Pass	Fail⁶
R-38 Roof Attic	☑	☐	☑	☐		☐⁴	0.30	0.75		☐	☐
	☐	☐	☐	☐		☐⁴				☐	☐
	☐	☐	☐	☐		☐⁴				☐	☐
	☐	☐	☐	☐		☐⁴				☐	☐
	☐	☐	☐	☐		☐⁴				☐	☐
	☐	☐	☐	☐		☐⁴				☐	☐

1. The CRRC Product ID Number can be obtained from the Cool Roof Rating Council's Rated Product Directory at www.coolroofs.org/products/search.php
2. Indicate the type of product is being used for the roof top, i.e. single-ply roof, asphalt roof, metal roof, etc.
3. If the Aged Reflectance is not available in the Cool Roof Rating Council's Rated Product Directory then use the Initial Reflectance value from the same directory and use the equation (0.2+0.7($\rho_{initial}$ – 0.2) to obtain a calculated aged value. Where ρ is the Initial Solar Reflectance from the Cool Roof Rating Council's Rated Product Directory.
4. Check box if the Aged Reflectance is a calculated value using the equation above.
5. The SRI value needs to be calculated from a spreadsheet calculator at http://www.energy.ca.gov/title24/
6. If Fail then describe on this page of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

To apply **Liquid Field Applied Coatings**, the coating must be applied across the entire roof surface and meet the dry mil thickness or coverage recommended by the coatings manufacturer and meet minimum performance requirements listed in §118(i)4. Select the applicable coating:

☐ Aluminum-Pigmented Asphalt Roof Coating ☐ Cement-Based Roof Coating ☐ Other ____________

Discrepancies:

EnergyPro 5.1 by EnergySoft User Number: 2849 ***RunCode: 2011-10-27T11:45:56*** *ID: Bld. D* *Page 15 of 59*

CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 3 of 3) ENV-1C

Project Name: *HCC Bldg. D* — Date: *10/27/2011*

Required Acceptance Tests

Designer:

This form is to be used by the designer and attached to the plans. Listed below is the acceptance test for Envelope Fenestrations system. The designer is required to check the acceptance tests and list all the fenestration products that require an acceptance test. If all the site-built fenestration of a certain type requires a test, list the different fenestration products and the number of systems. The NA7 Section in the Appendix of the Nonresidential Reference Appendices Manual describes the test. Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately.

Enforcement Agency:

Systems Acceptance. Before Occupancy Permit is granted for a newly constructed building or space or whenever new fenestration is installed in the building or space shall be certified as meeting the Acceptance Requirements. The ENV-2A form is not considered a complete form and is not to be accepted by the enforcement agency unless the boxes are checked and/or filled and signed. In addition, a Certificate of Acceptance forms shall be submitted to the enforcement agency that certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of §10-103(b) of Title 24 Part 6. The field inspector must receive the properly filled out and signed forms before the building can receive final occupancy. A copy of the ENV-2A for each different fenestration product line must be provided to the owner of the building for their records.

Test Description: Fenestration Products Name or ID Requiring Testing or Verification	Area of like Products	ENV-2A: Building Envelope Acceptance Test	Test Performed By:
PPG SOLARBAN 80 XL	654	☑	
Velux Skylight Lo E	20	☑	
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		☐	
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EnergyPro 5.1 by EnergySoft User Number: 2849 ***RunCode: 2011-10-27T11:45:56*** *ID: Bld. D* *Page 16 of 59*

CERTIFICATE OF COMPLIANCE (Part 1 of 3) LTG-1C

Project Name: *HCC Bldg. D* — Date: *10/27/2011*

INDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST

Installation Certificate, LTG-1- INST (Retain a copy and verify form is completed and signed.) — **Field Inspector** ☐
Certificate of Acceptance, LTG-2A and LTG-3A (Retain a copy and verify form is completed and signed.) — **Field Inspector** ☐

A separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces Installed Lighting Power listed on this Lighting Schedule is only for:

☑ CONDITIONED SPACE ☐ UNCONDITIONED SPACE

☑ The actual indoor lighting power listed below includes all installed permanent and portable lighting systems in accordance with §146(a).

☑ Only for offices: Up to the first 0.2 watts per square foot of portable lighting shall not be required to be included in the calculation of actual indoor lighting power density in accordance with the Exception to §146(a). All portable lighting in excess of 0.2 watts per square foot is totaled below.

A	B	C	D	E		F	G	H	
	Luminaire (Type, Lamps, Ballasts)		Installed Watts	How wattage Was determined				Field Inspector²	
None or Item Tag	Complete Luminaire Description¹ (i.e. 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballasts)		Watts per Luminaire¹	CEC Default From NA8	According To §130 (d or e)	Number of Luminaires	Installed Watts (D X F)	Pass	Fail
L1	2'X4' Recessed Fluorescent Fixture W/F028T5		60.0	☑	☐	57	3,420	☐	☐
L2	2'X2' Recessed Fluorescent Fixture W/F014T5		30.0	☑	☐	15	450	☐	☐
L3	6" Recessed CFL W/1-26DTT		30.0	☑	☐	58	1,740	☐	☐
L7	2-T5 Lamp Fluorescent Strip		60.0	☑	☐	3	180	☐	☐
				☐	☐			☐	☐
				☐	☐			☐	☐
				☐	☐			☐	☐
				☐	☐			☐	☐
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				☐	☐			☐	☐
				☐	☐			☐	☐
				☐	☐			☐	☐
					Installed Watts Page Total:		5,790		
	Building total number of pages:				Installed Watts Building Total (Sum of all pages) Enter into LTG-1C Page 4 of 4		5,790		

1. Wattage shall be determined according to Section 130 (d and e). Wattage shall be rating of light fixture, not rating of bulb.
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

EnergyPro 5.1 by EnergySoft User Number: 2849 ***RunCode: 2011-10-27T11:45:56*** *ID: Bld. D* *Page 17 of 59*

CERTIFICATE OF COMPLIANCE (Part 2 of 3) LTG-1C

Project Name: *HCC Bldg. D* — Date: *10/27/2011*

INDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST

Fill in controls for all spaces: a) area controls, b) multi-level controls, c) manual daylighting controls for daylit areas > 250 ft², automatic daylighting controls for daylit areas > 2,500 ft², d) shut-off controls, e) display lighting controls, f) tailored lighting controls – general lighting controlled separately from display, ornamental and display case lighting and g) demand responsive automatic controls for retail stores > 50,000 ft², in accordance with Section 131.

MANDATORY LIGHTING CONTROLS – FIELD INSPECTION ENERGY CHECKLIST

Type/ Description	Number of Units	Location in Building	Special Features	Field Inspector Pass	Field Inspector Fail
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
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			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

SPECIAL FEATURES INSPECTION CHECKLIST (See Page 2 of 4 of LTG-1C)

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. 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.

Field Inspector's Notes or Discrepancies:

EnergyPro 5.1 by EnergySoft User Number: 2849 ***RunCode: 2011-10-27T11:45:56*** *ID: Bld. D* *Page 18 of 59*

REVISIONS	BY
ISSUE FOR PERMIT 10–28–11	

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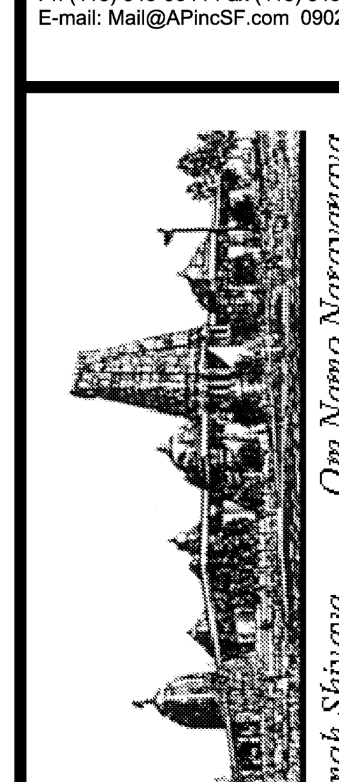

Om Namo Narayanaya *Om Namah Shivaya*

TITLE-24 COMPLIANCE FORMS
BUILDING "D"
HINDU COMMUNITY and CULTURAL CENTER
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

DATE: 10/28/11
SCALE: NONE
DRAWN BY: PT
PROJECT: ARROWHEAD

REGISTERED PROFESSIONAL ENGINEER SATISH S. PAMIDI No. E10472 Exp.12/31/12 ELECTRICAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER KUPPE G. SRINIVAS No. M18346 Exp. 09/30/12 MECHANICAL STATE OF CALIFORNIA

T-24.2

CERTIFICATE OF COMPLIANCE (Part 3 of 3) LTG-1C

Project Name: *HCC Bldg. D* | Date: *10/27/2011*

CONDITIONED AND UNCONDITIONED SPACE LIGHTING MUST NOT BE COMBINED FOR COMPLIANCE

Indoor Lighting Power for Conditioned Spaces		Watts	Indoor Lighting Power for Unconditioned Spaces		Watts
Installed Lighting (from Conditioned LTG-1C, Page 2)		5,790	**Installed** Lighting (from Unconditioned LTG-1C, Page 2)		0
Lighting Control Credit Conditioned Spaces (from LTG-2C)	-	131	Lighting Control Credit Unconditioned Spaces (from LTG-2C)	-	0
Adjusted **Installed** Lighting Power	=	5,660	Adjusted **Installed** Lighting Power	=	0
Complies if **Installed** ≤ **Allowed**	↕		Complies if **Installed** ≤ **Allowed**	↕	
Allowed Lighting Power Conditioned Spaces (from LTG-3C or PERF-1)		5,660	**Allowed** Lighting Power Unconditioned Spaces (from LTG-3C)		0

Required Acceptance Tests

Designer:

This form is to be used by the designer and attached to the plans. Listed below is the acceptance test for the Lighting system, **LTG-2A and LTG-3A**. The designer is required to check the acceptance tests and list all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance. If all the lighting system or control of a certain type requires a test, list the different lighting and the number of systems. The NA7 Section in the Appendix of the Nonresidential Reference Appendices Manual describes the test. Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately. **Forms can be grouped by type of Luminaire controlled.**

Enforcement Agency:

Systems Acceptance. Before Occupancy Permit is granted for a newly constructed building or space or when ever new lighting system with controls is installed in the building or space shall be certified as meeting the Acceptance Requirements.
The **LTG-2A and LTG-3A** forms are not considered complete forms and are not to be accepted by the enforcement agency unless the boxes are checked and/or filled and signed. In addition, a Certificate of Acceptance forms shall be submitted to the enforcement agency that certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of §10-103(b) of Title 24 Part 6. The field inspector must receive the properly filled out and signed forms before the building can receive final occupancy. A copy of the **LTG-2A and LTG-3A** for each different lighting luminaire control(s) must be provided to the owner of the building for their records.

Luminaires Controlled

Equipment Requiring Testing	Description	Number of Luminaires controlled	Location	LTG-2A and LTG-3A Controls and Sensors and Automatic Daylighting Controls Acceptance
Occ Sensor - Hallway	*2'X2' Recessed Fluorescent Fixture W*	*5*	*Corridor # 2/Vestibule*	☑
Occ Sensor - Hallway	*2'X2' Recessed Fluorescent Fixture W*	*3*	*Corridor # 1*	☑
Occ Sensor - Storage	*2-T5 Lamp Fluorescent Strip*	*1*	*Storage Rm # 113*	☑
Occ Sensor - Hallway	*2'X2' Recessed Fluorescent Fixture W*	*7*	*Corridor # 108*	☑
Occ Sensor - Storage	*2-T5 Lamp Fluorescent Strip*	*1*	*Janitor Rm # 107*	☑
				☐
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				☐

LIGHTING CONTROLS CREDIT WORKSHEET (Part 1 of 2) LTG-2C

Project Name: *HCC Bldg. D* | Date: *10/27/2011*

POWER ADJUSTMENT FACTORS (PAF) FOR NON-DAYLIGHT CONTROLS

A Separate PAF Worksheet Must Be Filled Out for Conditioned and Unconditioned Spaces. Control Credits listed on this schedule are only for:

☑ **CONDITIONED SPACES** ☐ **UNCONDITIONED SPACES**

A	B	C	D	E	F	G
Room # Zone ID Areas	Lighting Control Description[1]	Plan Reference	Room Area (ft²)	Watts of Control Lighting	Power Adjustments Factor[2]	Control Credit Watts (E x F)
Corridor # 2/Vestibu	*Occ Sensor - Hallway*	*L2*	*440*	*150*	*0.25*	*38*
Corridor # 1	*Occ Sensor - Hallway*	*L2*	*150*	*90*	*0.25*	*23*
Storage Rm # 113	*Occ Sensor - Storage*	*L7*	*56*	*60*	*0.15*	*9*
Corridor # 108	*Occ Sensor - Hallway*	*L2*	*520*	*210*	*0.25*	*53*
Janitor Rm # 107	*Occ Sensor - Storage*	*L7*	*30*	*60*	*0.15*	*9*
					PAGE TOTAL	*131*

Note: Conditioned and Unconditioned Space shall be separately totaled

Building total of non-daylight control credit watts for all pages of LTG-2C Page 1 of 2	
Enter building total of all daylight controls credit watts from LTG-2C Page 2 of 2	*0*
BUILDING TOTAL OF ALL CONTROL CREDIT WATTS (FOR BOTH NON-DAYLIGHT AND DAYLIGHT CONTROL CREDITS) Enter in LTG-1C; Page 4: Lighting Control Credit as appropriate for CONDITIONED or UNCONDITIONED Spaces	*131*

1. Description shall be consistent with Type of Control defined in Table 146-C
2. Power Adjustment Factor taken from Table 146-C

CERTIFICATE OF COMPLIANCE and FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 4) MECH-1C

Project Name: *HCC Bldg. D* | Date: *10/27/2011*

Project Address	Climate Zone	Total Cond. Floor Area	Addition Floor Area
1232 Arrowhead Ave. Livermore	*12*	*7,087*	*n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces (affidavit)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☐ Overall Envelope TDV Energy ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

HVAC SYSTEM DETAILS — FIELD INSPECTION ENERGY CHECKLIST

Equipment[2]	Inspection Criteria	Meets Criteria or Requirements: Pass	Fail – Describe Reason[2]
Item or System Tags (i.e. AC-1, RTU-1, HP-1)	*DHW Heater*	☐	☐
Equipment Type[3]:	*Gas Fired DHW Boiler*	☐	☐
Number of Systems	*1*	☐	☐
Max Allowed Heating Capacity[1]	*199,000 Btu/hr*	☐	☐
Minimum Heating Efficiency[1]	*0.85 EF*	☐	☐
Max Allowed Cooling Capacity[1]	*n/a*	☐	☐
Cooling Efficiency[1]	*n/a*	☐	☐
Duct Location/ R-Value	*n/a*	☐	☐
When duct testing is required, submit **MECH-4A** & **MECH-4-HERS**	*n/a*	☐	☐
Economizer	*n/a*	☐	☐
Thermostat	*n/a*	☐	☐
Fan Control	*n/a*	☐	☐

HVAC SYSTEM DETAILS — FIELD INSPECTION ENERGY CHECKLIST

Equipment[2]	Inspection Criteria	Meets Criteria or Requirements: Pass	Fail – Describe Reason[2]
Item or System Tags (i.e. AC-1, RTU-1, HP-1)	*AC-D-4*	☐	☐
Equipment Type[3]:	*Packaged DX*	☐	☐
Number of Systems	*1*	☐	☐
Max Allowed Heating Capacity[1]	*48,000 Btu/hr*	☐	☐
Minimum Heating Efficiency[1]	*80% AFUE*	☐	☐
Max Allowed Cooling Capacity[1]	*62,400 Btu/hr*	☐	☐
Cooling Efficiency[1]	*12.0 SEER / 12.7 EER*	☐	☐
Duct Location/ R-Value	*Attic, Ceiling Ins, vented / 8.0*	☐	☐
When duct testing is required, submit **MECH-4A** & **MECH-4-HERS**	*No*	☐	☐
Economizer	*No Economizer*	☐	☐
Thermostat	*Setback Required*	☐	☐
Fan Control	*Constant Volume*	☐	☐

1. If the Actual installed equipment performance efficiency and capacity is less than the Proposed (from the energy compliance submittal or from the building plans) the responsible party shall resubmit energy compliance to include the new changes.
2. For additional detailed discrepancy use Page 2 of the Inspection Checklist Form. Compliance fails if a Fail box is checked.
3. Indicate Equipment Type: Gas (Pkg or, Split), VAV, HP (Pkg or split), Hydronic, PTAC, or other.

CERTIFICATE OF COMPLIANCE and FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 4) MECH-1C

Project Name: *HCC Bldg. D* | Date: *10/27/2011*

Project Address	Climate Zone	Total Cond. Floor Area	Addition Floor Area
1232 Arrowhead Ave. Livermore	*12*	*7,087*	*n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces (affidavit)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☐ Overall Envelope TDV Energy ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

HVAC SYSTEM DETAILS — FIELD INSPECTION ENERGY CHECKLIST

Equipment[2]	Inspection Criteria	Meets Criteria or Requirements: Pass	Fail – Describe Reason[2]
Item or System Tags (i.e. AC-1, RTU-1, HP-1)	*CU/ACC-D-2*	☐	☐
Equipment Type[3]:	*Split DX*	☐	☐
Number of Systems	*1*	☐	☐
Max Allowed Heating Capacity[1]	*16,000 Btu/hr*	☐	☐
Minimum Heating Efficiency[1]	*12.00 HSPF*	☐	☐
Max Allowed Cooling Capacity[1]	*12,000 Btu/hr*	☐	☐
Cooling Efficiency[1]	*0.0 SEER / 14.5 EER*	☐	☐
Duct Location/ R-Value	*Attic, Roof Ins / 8.0*	☐	☐
When duct testing is required, submit **MECH-4A** & **MECH-4-HERS**	*No*	☐	☐
Economizer	*No Economizer*	☐	☐
Thermostat	*Setback Required*	☐	☐
Fan Control	*Constant Volume*	☐	☐

HVAC SYSTEM DETAILS — FIELD INSPECTION ENERGY CHECKLIST

Equipment[2]	Inspection Criteria	Meets Criteria or Requirements: Pass	Fail – Describe Reason[2]
Item or System Tags (i.e. AC-1, RTU-1, HP-1)	*AC-D-5*	☐	☐
Equipment Type[3]:	*Packaged DX*	☐	☐
Number of Systems	*1*	☐	☐
Max Allowed Heating Capacity[1]	*48,000 Btu/hr*	☐	☐
Minimum Heating Efficiency[1]	*80% AFUE*	☐	☐
Max Allowed Cooling Capacity[1]	*62,400 Btu/hr*	☐	☐
Cooling Efficiency[1]	*12.0 SEER / 12.7 EER*	☐	☐
Duct Location/ R-Value	*Attic, Ceiling Ins, vented / 8.0*	☐	☐
When duct testing is required, submit **MECH-4A** & **MECH-4-HERS**	*No*	☐	☐
Economizer	*No Economizer*	☐	☐
Thermostat	*Setback Required*	☐	☐
Fan Control	*Constant Volume*	☐	☐

1. If the Actual installed equipment performance efficiency and capacity is less than the Proposed (from the energy compliance submittal or from the building plans) the responsible party shall resubmit energy compliance to include the new changes.
2. For additional detailed discrepancy use Page 2 of the Inspection Checklist Form. Compliance fails if a Fail box is checked.
3. Indicate Equipment Type: Gas (Pkg or, Split), VAV, HP (Pkg or split), Hydronic, PTAC, or other.

CERTIFICATE OF COMPLIANCE and FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 4) MECH-1C

Project Name: *HCC Bldg. D* | Date: *10/27/2011*

Project Address	Climate Zone	Total Cond. Floor Area	Addition Floor Area
1232 Arrowhead Ave. Livermore	*12*	*7,087*	*n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces (affidavit)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☐ Overall Envelope TDV Energy ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

HVAC SYSTEM DETAILS — FIELD INSPECTION ENERGY CHECKLIST

Equipment[2]	Inspection Criteria	Meets Criteria or Requirements: Pass	Fail – Describe Reason[2]
Item or System Tags (i.e. AC-1, RTU-1, HP-1)	*AC-D-2*	☐	☐
Equipment Type[3]:	*Packaged DX*	☐	☐
Number of Systems	*1*	☐	☐
Max Allowed Heating Capacity[1]	*64,000 Btu/hr*	☐	☐
Minimum Heating Efficiency[1]	*80% AFUE*	☐	☐
Max Allowed Cooling Capacity[1]	*72,500 Btu/hr*	☐	☐
Cooling Efficiency[1]	*12.7 EER*	☐	☐
Duct Location/ R-Value	*Attic, Ceiling ins, vented / 8.0*	☐	☐
When duct testing is required, submit **MECH-4A** & **MECH-4-HERS**	*No*	☐	☐
Economizer	*Fixed Temp (Integrated)*	☐	☐
Thermostat	*Setback Required*	☐	☐
Fan Control	*Constant Volume*	☐	☐

HVAC SYSTEM DETAILS — FIELD INSPECTION ENERGY CHECKLIST

Equipment[2]	Inspection Criteria	Meets Criteria or Requirements: Pass	Fail – Describe Reason[2]
Item or System Tags (i.e. AC-1, RTU-1, HP-1)	*AC-D-1*	☐	☐
Equipment Type[3]:	*Packaged DX*	☐	☐
Number of Systems	*1*	☐	☐
Max Allowed Heating Capacity[1]	*48,000 Btu/hr*	☐	☐
Minimum Heating Efficiency[1]	*80% AFUE*	☐	☐
Max Allowed Cooling Capacity[1]	*62,400 Btu/hr*	☐	☐
Cooling Efficiency[1]	*12.0 SEER / 12.7 EER*	☐	☐
Duct Location/ R-Value	*Attic, Ceiling Ins, vented / 8.0*	☐	☐
When duct testing is required, submit **MECH-4A** & **MECH-4-HERS**	*No*	☐	☐
Economizer	*No Economizer*	☐	☐
Thermostat	*Setback Required*	☐	☐
Fan Control	*Constant Volume*	☐	☐

1. If the Actual installed equipment performance efficiency and capacity is less than the Proposed (from the energy compliance submittal or from the building plans) the responsible party shall resubmit energy compliance to include the new changes.
2. For additional detailed discrepancy use Page 2 of the Inspection Checklist Form. Compliance fails if a Fail box is checked.
3. Indicate Equipment Type: Gas (Pkg or, Split), VAV, HP (Pkg or split), Hydronic, PTAC, or other.

CERTIFICATE OF COMPLIANCE and FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 4) MECH-1C

Project Name: *HCC Bldg. D* | Date: *10/27/2011*

Project Address	Climate Zone	Total Cond. Floor Area	Addition Floor Area
1232 Arrowhead Ave. Livermore	*12*	*7,087*	*n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces (affidavit)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☐ Overall Envelope TDV Energy ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

HVAC SYSTEM DETAILS — FIELD INSPECTION ENERGY CHECKLIST

Equipment[2]	Inspection Criteria	Meets Criteria or Requirements: Pass	Fail – Describe Reason[2]
Item or System Tags (i.e. AC-1, RTU-1, HP-1)	*AC-D-3*	☐	☐
Equipment Type[3]:	*Split DX*	☐	☐
Number of Systems	*1*	☐	☐
Max Allowed Heating Capacity[1]	*48,000 Btu/hr*	☐	☐
Minimum Heating Efficiency[1]	*81% AFUE*	☐	☐
Max Allowed Cooling Capacity[1]	*49,450 Btu/hr*	☐	☐
Cooling Efficiency[1]	*12.0 SEER / 12.8 EER*	☐	☐
Duct Location/ R-Value	*Attic, Ceiling Ins, vented / 8.0*	☐	☐
When duct testing is required, submit **MECH-4A** & **MECH-4-HERS**	*No*	☐	☐
Economizer	*No Economizer*	☐	☐
Thermostat	*Setback Required*	☐	☐
Fan Control	*Constant Volume*	☐	☐

HVAC SYSTEM DETAILS — FIELD INSPECTION ENERGY CHECKLIST

Equipment[2]	Inspection Criteria	Meets Criteria or Requirements: Pass	Fail – Describe Reason[2]
Item or System Tags (i.e. AC-1, RTU-1, HP-1)	*CU/ACC-D-1*	☐	☐
Equipment Type[3]:	*Split DX*	☐	☐
Number of Systems	*1*	☐	☐
Max Allowed Heating Capacity[1]	*16,000 Btu/hr*	☐	☐
Minimum Heating Efficiency[1]	*12.00 HSPF*	☐	☐
Max Allowed Cooling Capacity[1]	*12,000 Btu/hr*	☐	☐
Cooling Efficiency[1]	*0.0 SEER / 14.5 EER*	☐	☐
Duct Location/ R-Value	*Attic, Ceiling Ins, vented / 8.0*	☐	☐
When duct testing is required, submit **MECH-4A** & **MECH-4-HERS**	*No*	☐	☐
Economizer	*No Economizer*	☐	☐
Thermostat	*Setback Required*	☐	☐
Fan Control	*Constant Volume*	☐	☐

1. If the Actual installed equipment performance efficiency and capacity is less than the Proposed (from the energy compliance submittal or from the building plans) the responsible party shall resubmit energy compliance to include the new changes.
2. For additional detailed discrepancy use Page 2 of the Inspection Checklist Form. Compliance fails if a Fail box is checked.
3. Indicate Equipment Type: Gas (Pkg or, Split), VAV, HP (Pkg or split), Hydronic, PTAC, or other.

CERTIFICATE OF COMPLIANCE and FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 4) MECH-1C

Project Name: *HCC Bldg. D* | Date: *10/27/2011*

Project Address	Climate Zone	Total Cond. Floor Area	Addition Floor Area
1232 Arrowhead Ave. Livermore	*12*	*7,087*	*n/a*

GENERAL INFORMATION

Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces (affidavit)
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Approach of Compliance: ☐ Component ☐ Overall Envelope TDV Energy ☐ Unconditioned (file affidavit)
Front Orientation: N, E, S, W or in Degrees: *90 deg*

HVAC SYSTEM DETAILS — FIELD INSPECTION ENERGY CHECKLIST

Equipment[2]	Inspection Criteria	Meets Criteria or Requirements: Pass	Fail – Describe Reason[2]
Item or System Tags (i.e. AC-1, RTU-1, HP-1)	*CU/ACC-D-3*	☐	☐
Equipment Type[3]:	*Split DX*	☐	☐
Number of Systems	*1*	☐	☐
Max Allowed Heating Capacity[1]	*16,000 Btu/hr*	☐	☐
Minimum Heating Efficiency[1]	*12.00 HSPF*	☐	☐
Max Allowed Cooling Capacity[1]	*12,000 Btu/hr*	☐	☐
Cooling Efficiency[1]	*0.0 SEER / 14.5 EER*	☐	☐
Duct Location/ R-Value	*Attic, Ceiling Ins, vented / 8.0*	☐	☐
When duct testing is required, submit **MECH-4A** & **MECH-4-HERS**	*No*	☐	☐
Economizer	*No Economizer*	☐	☐
Thermostat	*Setback Required*	☐	☐
Fan Control	*Constant Volume*	☐	☐

HVAC SYSTEM DETAILS — FIELD INSPECTION ENERGY CHECKLIST

Equipment[2]	Inspection Criteria	Meets Criteria or Requirements: Pass	Fail – Describe Reason[2]
Item or System Tags (i.e. AC-1, RTU-1, HP-1)	*CU/ACC-D-4*	☐	☐
Equipment Type[3]:	*Split DX*	☐	☐
Number of Systems	*1*	☐	☐
Max Allowed Heating Capacity[1]	*16,000 Btu/hr*	☐	☐
Minimum Heating Efficiency[1]	*12.00 HSPF*	☐	☐
Max Allowed Cooling Capacity[1]	*12,000 Btu/hr*	☐	☐
Cooling Efficiency[1]	*0.0 SEER / 14.5 EER*	☐	☐
Duct Location/ R-Value	*Attic, Ceiling Ins, vented / 8.0*	☐	☐
When duct testing is required, submit **MECH-4A** & **MECH-4-HERS**	*No*	☐	☐
Economizer	*No Economizer*	☐	☐
Thermostat	*Setback Required*	☐	☐
Fan Control	*Constant Volume*	☐	☐

1. If the Actual installed equipment performance efficiency and capacity is less than the Proposed (from the energy compliance submittal or from the building plans) the responsible party shall resubmit energy compliance to include the new changes.
2. For additional detailed discrepancy use Page 2 of the Inspection Checklist Form. Compliance fails if a Fail box is checked.
3. Indicate Equipment Type: Gas (Pkg or, Split), VAV, HP (Pkg or split), Hydronic, PTAC, or other.

CERTIFICATE OF COMPLIANCE and FIELD INSPECTION ENERGY CHECKLIST (Part 2 of 4) MECH-1C

Project Name: *HCC Bldg. D* | Date: *10/27/2011*

Discrepancies:

REVISIONS	BY
ISSUE FOR PERMIT 10-28-11	

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415 362-4937 (IYER)
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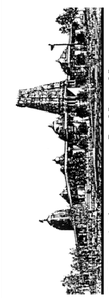
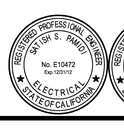


TITLE-24 COMPLIANCE FORMS
BUILDING "D"
HINDU COMMUNITY and CULTURAL CENTER
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

DATE: 10/28/11
SCALE: NONE
DRAWN BY: PT
PROJECT: ARROWHEAD

T-24.3



CERTIFICATE OF COMPLIANCE and FIELD INSPECTION ENERGY CHECKLIST (Part 3 of 4) MECH-1C

Project Name	Date
HCC Bldg. D	10/27/2011

Required Acceptance Tests

Designer:

This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for mechanical systems. The designer is required to check the applicable boxes by all acceptance tests that apply and listed all equipment that requires an acceptance test. If all equipment of a certain type requires a test, list the equipment description and the number of systems. The NA number designates the Section in the Appendix of the Nonresidential Reference Appendices Manual that describes the test. Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately.

Building Departments:

Systems Acceptance: Before occupancy permit is granted for a newly constructed building or space, or a new space-conditioning system serving a building or space is operated for normal use, all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance.
Systems Acceptance: Before occupancy permit is granted. All newly installed HVAC equipment must be tested using the Acceptance Requirements.

The MECH-1C form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked. The equipment requiring testing, person performing the test (Example: HVAC installer, TAB contractor, controls contractor, PE in charge of project) and what Acceptance test must be conducted. The following checked-off forms are required for **ALL** newly installed equipment. In addition a Certificate of Acceptance forms shall be submitted to the building department that certifies plans, specifications, installation, certificates, and operating and maintenance information meet the requirements of §10-103(b) and Title-24 Part 6. The building inspector must receive the properly filled out and signed forms before the building can receive final occupancy.

TEST DESCRIPTION		MECH-2A	MECH-3A	MECH-4A	MECH-5A	MECH-6A	MECH-7A	MECH-8A	MECH-9A	MECH-10A	MECH-11A
Equipment Requiring Testing or Verification	Qty.	Outdoor Ventilation For VAV & CAV	Constant Volume & Single-Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation DCV	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
Trane YHC-060	3	☐	☑	☐	☐	☑	☐	☐	☐	☐	☐
12RLS/AOU112RLS	1	☐	☑	☐	☐	☑	☐	☐	☐	☐	☐
Trane YHC-072	1	☐	☑	☐	☑	☑	☐	☐	☐	☐	☐
Trane YHC-048	1	☐	☑	☐	☐	☑	☐	☐	☐	☐	☐
12RLS/AOU112RLS	3	☑	☑	☐	☐	☑	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

EnergyPro 5.1 by EnergySoft User Number: 2849 **RunCode: 2011-10-27T11:45:56** ID: Bld. D Page 26 of 59

CERTIFICATE OF COMPLIANCE and FIELD INSPECTION ENERGY CHECKLIST (Part 4 of 4) MECH-1C

Project Name	Date
HCC Bldg. D	10/27/2011

TEST DESCRIPTION		MECH-12A	MECH-13A	MECH-14A	MECH-15A	
Equipment Requiring Testing	Qty.	Fault Detection & Diagnostics for DX Units	Automatic Fault Detection & Diagnostics for Air & Zone	Distributed Energy Storage DX AC Systems	Thermal Energy Storage (TES) Systems	Test Performed By:
Trane YHC-060	3	☐	☐	☐	☐	
12RLS/AOU112RLS	1	☐	☐	☐	☐	
Trane YHC-072	1	☐	☐	☐	☐	
Trane YHC-048	1	☐	☐	☐	☐	
12RLS/AOU112RLS	3	☐	☐	☐	☐	
		☐	☐	☐	☐	
		☐	☐	☐	☐	
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AIR SYSTEM REQUIREMENTS (Part 1 of 2) MECH-2C

Project Name	Date
HCC Bldg. D	10/27/2011

	Indicate Air Systems Type (Central, Single Zone, Package, VAV, or etc...)			
Item or System Tags (i.e. AC-1, RTU-1, HP-1)		AC-D-4	CU/ACC-D-2	AC-D-5
Number of Systems		1	1	1
	Indicate Page Reference on Plans or Schedule and indicate the applicable exception(s)			
MANDATORY MEASURES	**T-24 Sections**			
Heating Equipment Efficiency	112(a)	80% AFUE	12.00 HSPF	80% AFUE
Cooling Equipment Efficiency	112(a)	12.0 SEER / 12.7 EER	0.0 SEER / 14.5 EER	12.0 SEER / 12.7 EER
HVAC Heat Pump Thermostat	112(b), 112(c)	n/a	Yes	n/a
Furnace Controls/Thermostat	112(c), 115(a)	n/a	n/a	n/a
Natural Ventilation	121(b)	Yes	Yes	Yes
Mechanical Ventilation	121(b)	595 cfm	32 cfm	695 cfm
VAV Minimum Position Control	121(c)	No	No	No
Demand Control Ventilation	121(c)	Yes	Yes	Yes
Time Control	122(e)	Programmable Switch	Programmable Switch	Programmable Switch
Setback and Setup Control	122(e)	Setback Required	Setback Required	Setback Required
Outdoor Damper Control	122(f)	Auto	Auto	Auto
Isolation Zones	122(g)	n/a	n/a	n/a
Pipe Insulation	123			
Duct Location/ R-value	124	Attic, Ceiling Ins, vented / 8.0	Attic, Roof Ins / 8.0	Attic, Ceiling Ins, vented / 8.0
PRESCRIPTIVE MEASURES				
Calculated Design Heating Load	144(a & b)	n/a	n/a	n/a
Proposed Heating Capacity	144(a & b)	48,000 Btu/hr	8,919 Btu/hr	48,000 Btu/hr
Calculated Design Cooling Load	144(a & b)	n/a	n/a	n/a
Proposed Cooling Capacity	144(a & b)	51,148 Btu/hr	10,824 Btu/hr	40,207 Btu/hr
Fan Control	144(c)	Constant Volume	Constant Volume	Constant Volume
DP Sensor Location	144(c)			
Supply Pressure Reset (DDC only)	144(c)	Yes	Yes	Yes
Simultaneous Heat/Cool	144(d)	No	No	No
Economizer	144(e)	No Economizer	No Economizer	No Economizer
Heat Air Supply Reset	144(f)	Constant Temp	Constant Temp	Constant Temp
Cool Air Supply Reset	144(f)	Constant Temp	Constant Temp	Constant Temp
Electric Resistance Heating^1	144(g)			
Air Cooled Chiller Limitation	144(i)			
Duct Leakage Sealing. If Yes, a MECH-4-A must be submitted	144(k)	No	No	No

1. Total installed capacity (MBtu/hr) of all electric heat on this project exclusive of electric auxiliary heat for heat pumps. If electric heat is used explain which exception(s) to §144(g) apply.

EnergyPro 5.1 by EnergySoft User Number: 2849 **RunCode: 2011-10-27T11:45:56** ID: Bld. D Page 29 of 59

AIR SYSTEM REQUIREMENTS (Part 1 of 2) MECH-2C

Project Name	Date
HCC Bldg. D	10/27/2011

	Indicate Air Systems Type (Central, Single Zone, Package, VAV, or etc...)			
Item or System Tags (i.e. AC-1, RTU-1, HP-1)		AC-D-2	AC-D-1	AC-D-3
Number of Systems		1	1	1
	Indicate Page Reference on Plans or Schedule and indicate the applicable exception(s)			
MANDATORY MEASURES	**T-24 Sections**			
Heating Equipment Efficiency	112(a)	80% AFUE	80% AFUE	81% AFUE
Cooling Equipment Efficiency	112(a)	12.7 EER	12.0 SEER / 12.7 EER	12.0 SEER / 12.8 EER
HVAC Heat Pump Thermostat	112(b), 112(c)	n/a	n/a	n/a
Furnace Controls/Thermostat	112(c), 115(a)	n/a	n/a	n/a
Natural Ventilation	121(b)	Yes	Yes	Yes
Mechanical Ventilation	121(b)	478 cfm	329 cfm	595 cfm
VAV Minimum Position Control	121(c)	No	No	No
Demand Control Ventilation	121(c)	Yes	Yes	Yes
Time Control	122(e)	Programmable Switch	Programmable Switch	Programmable Switch
Setback and Setup Control	122(e)	Setback Required	Setback Required	Setback Required
Outdoor Damper Control	122(f)	Auto	Auto	Auto
Isolation Zones	122(g)	n/a	n/a	n/a
Pipe Insulation	123			
Duct Location/ R-value	124	Attic, Ceiling Ins, vented / 8.0	Attic, Ceiling Ins, vented / 8.0	Attic, Ceiling Ins, vented / 8.0
PRESCRIPTIVE MEASURES				
Calculated Design Heating Load	144(a & b)	n/a	n/a	n/a
Proposed Heating Capacity	144(a & b)	64,000 Btu/hr	48,000 Btu/hr	48,000 Btu/hr
Calculated Design Cooling Load	144(a & b)	n/a	n/a	n/a
Proposed Cooling Capacity	144(a & b)	50,432 Btu/hr	42,066 Btu/hr	45,956 Btu/hr
Fan Control	144(c)	Constant Volume	Constant Volume	Constant Volume
DP Sensor Location	144(c)			
Supply Pressure Reset (DDC only)	144(c)	Yes	Yes	Yes
Simultaneous Heat/Cool	144(d)	No	No	No
Economizer	144(e)	Fixed Temp (Integrated)	No Economizer	No Economizer
Heat Air Supply Reset	144(f)	Constant Temp	Constant Temp	Constant Temp
Cool Air Supply Reset	144(f)	Constant Temp	Constant Temp	Constant Temp
Electric Resistance Heating^1	144(g)			
Air Cooled Chiller Limitation	144(i)			
Duct Leakage Sealing. If Yes, a MECH-4-A must be submitted	144(k)	No	No	No

1. Total installed capacity (MBtu/hr) of all electric heat on this project exclusive of electric auxiliary heat for heat pumps. If electric heat is used explain which exception(s) to §144(g) apply.

EnergyPro 5.1 by EnergySoft User Number: 2849 **RunCode: 2011-10-27T11:45:56** ID: Bld. D Page 30 of 59

AIR SYSTEM REQUIREMENTS (Part 1 of 2) MECH-2C

Project Name	Date
HCC Bldg. D	10/27/2011

	Indicate Air Systems Type (Central, Single Zone, Package, VAV, or etc...)			
Item or System Tags (i.e. AC-1, RTU-1, HP-1)		CU/ACC-D-1	CU/ACC-D-3	CU/ACC-D-4
Number of Systems		1	1	1
	Indicate Page Reference on Plans or Schedule and indicate the applicable exception(s)			
MANDATORY MEASURES	**T-24 Sections**			
Heating Equipment Efficiency	112(a)	12.00 HSPF	12.00 HSPF	12.00 HSPF
Cooling Equipment Efficiency	112(a)	0.0 SEER / 14.5 EER	0.0 SEER / 14.5 EER	0.0 SEER / 14.5 EER
HVAC Heat Pump Thermostat	112(b), 112(c)	Yes	Yes	Yes
Furnace Controls/Thermostat	112(c), 115(a)	n/a	n/a	n/a
Natural Ventilation	121(b)	No	No	No
Mechanical Ventilation	121(b)	30 cfm	32 cfm	35 cfm
VAV Minimum Position Control	121(c)	No	No	No
Demand Control Ventilation	121(c)	Yes	Yes	Yes
Time Control	122(e)	Programmable Switch	Programmable Switch	Programmable Switch
Setback and Setup Control	122(e)	Setback Required	Setback Required	Setback Required
Outdoor Damper Control	122(f)	Auto	Auto	Auto
Isolation Zones	122(g)	n/a	n/a	n/a
Pipe Insulation	123			
Duct Location/ R-value	124	Attic, Ceiling Ins, vented / 8.0	Attic, Ceiling Ins, vented / 8.0	Attic, Ceiling Ins, vented / 8.0
PRESCRIPTIVE MEASURES				
Calculated Design Heating Load	144(a & b)	n/a	n/a	n/a
Proposed Heating Capacity	144(a & b)	8,919 Btu/hr	8,919 Btu/hr	8,919 Btu/hr
Calculated Design Cooling Load	144(a & b)	n/a	n/a	n/a
Proposed Cooling Capacity	144(a & b)	10,796 Btu/hr	10,851 Btu/hr	10,846 Btu/hr
Fan Control	144(c)	Constant Volume	Constant Volume	Constant Volume
DP Sensor Location	144(c)			
Supply Pressure Reset (DDC only)	144(c)	Yes	Yes	Yes
Simultaneous Heat/Cool	144(d)	No	No	No
Economizer	144(e)	No Economizer	No Economizer	No Economizer
Heat Air Supply Reset	144(f)	Constant Temp	Constant Temp	Constant Temp
Cool Air Supply Reset	144(f)	Constant Temp	Constant Temp	Constant Temp
Electric Resistance Heating^1	144(g)			
Air Cooled Chiller Limitation	144(i)			
Duct Leakage Sealing. If Yes, a MECH-4-A must be submitted	144(k)	No	No	No

1. Total installed capacity (MBtu/hr) of all electric heat on this project exclusive of electric auxiliary heat for heat pumps. If electric heat is used explain which exception(s) to §144(g) apply.

EnergyPro 5.1 by EnergySoft User Number: 2849 **RunCode: 2011-10-27T11:45:56** ID: Bld. D Page 31 of 59

WATER SIDE SYSTEM REQUIREMENTS (Part 2 of 2) MECH-2C

Project Name	Date
HCC Bldg. D	10/27/2011

	WATER^2 SIDE SYSTEMS: Chillers, Towers, Boilers, Hydronic Loops			
Item or System Tags (i.e. AC-1, RTU-1, HP-1)^1				
Number of Systems				
	Indicate Page Reference on Plans or Specification^2			
MANDATORY MEASURES	**T-24 Sections**			
Equipment Efficiency	112(a)			
Pipe Insulation	123			
PRESCRIPTIVE MEASURES				
Cooling Tower Fan Controls	144(a & b)			
Cooling Tower Flow Controls	144(h)			
Variable Flow System Design	144(h)			
Chiller and Boiler Isolation	144(j)			
CHW and HHW Reset Controls	144(j)			
WLHP Isolation Valves	144(j)			
VSD on CHW, CW & WLHP Pumps>5HP	144(j)			
DP Sensor Location	144(j)			

1. The proposed equipment need to match the building plans schedule or specifications. If a requirement is not applicable, put "N/A" in the column next to applicable section.
2. For each chiller, cooling tower, boiler, and hydronic loop (or groups of similar equipment) fill in the reference to sheet number and/or specification section and paragraph number where the required features are documented. If a requirement is not applicable, put "N/A" in the column next to applicable section.

	Service Hot Water, Pool Heating			
Item or System Tags (i.e. WH-1, WHP, DHW, etc...)^1		DHW Heater		
Number of Systems		1		
	Indicate Page Reference on Plans or Schedule^2			
MANDATORY MEASURES	**T-24 Sections**			
SERVICE HOT WATER				
Certified Water Heater	111, 113(a)	Rinnai # RC98HPI-NG		
Water Heater Efficiency	113(b)	0.85 EF		
Service Water Heating Installation	113(c)	Controls Req.		
Pipe Insulation	123	n/a		
POOL AND SPA				
Pool and Spa Efficiency and Control	114(a)	n/a		
Pool and Spa Installation	114(b)	n/a		
Pool Heater – No Pilot Light	115(c)	n/a		
Spa Heater – No Pilot Light	115(d)	n/a		
Pipe Insulation	123	Required		

1. The Proposed equipment needs to match the building plans schedule or specifications. If a requirement is not applicable, put "N/A" in the column next to applicable section.
2. For each water heater, pool heater and domestic water loop (or groups of similar equipment) fill in the reference to sheet number and/or specification section and paragraph number where the required features are documented. If a requirement is not applicable, put "N/A" in the column.

EnergyPro 5.1 by EnergySoft User Number: 2849 **RunCode: 2011-10-27T11:45:56** ID: Bld. D Page 32 of 59

MECHANICAL VENTILATION AND REHEAT MECH-3C

Project Name	Date
HCC Bldg. D	10/27/2011

MECHANICAL VENTILATION (§121(b)2)									**REHEAT LIMITATION (§144(d))**				
	AREA BASIS			**OCCUPANCY BASIS**					**VAV MINIMUM**				
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
Zone/System	Condition Area (ft^2)	CFM per ft^2	Min CFM By Area B X C	Number Of People	CFM per Person	Min CFM by Occupant E X F	REQ'D V.A. Max of D or G	Design Ventilation Air CFM	50% of Design Zone Supply CFM	B X 0.4 CFM / ft^2	Max. of Columns H, J, K, 300 CFM	Design Minimum Air Setpoint	Transfer Air
Zone -4	714	0.38	271	39.7	15.0	595	595	595					
Zone- 4A	440	0.15	66	1.3	0.0	0	66	0					66
AC-D-4						Total	661	595					
Zone-7	213	0.50	107	2.1	15.0	32	107	32					75
CU/ACC-D-2						Total	107	32					
Zone-5	714	0.38	271	39.7	15.0	595	595	595					
Zone- 5A	242	0.15	36	3.5	15.0	53	53	53					
Zone -5B	314	0.15	47				47	47					
AC-D-5						Total	695	695					
Zone-2	1,077	0.50	539	21.5	15.0	323	539	323					215
Zone -2A	314	0.15	47				47	47					
Zone- 2B	586	0.15	88	7.2	15.0	108	108	108					
AC-D-2						Total	694	478					
Zone-1	1,034	0.38	393	21.1	15.0	317	393	317					76
Zone-1A	40	0.15	6	0.8	15.0	12	12	12					
			Totals						Column I Total Design Ventilation Air				

C	Minimum ventilation rate per Section §121, Table 121-A.
E	Based on fixed seat or the greater of the expected number of occupants and 50% of the CBC occupant load for egress purposes for spaces without fixed seating.
H	Required Ventilation Air (REQ'D V.A.) is the larger of the ventilation rates calculated on an AREA BASIS or OCCUPANCY BASIS (Column D or G).
I	Must be greater than or equal to H, or use Transfer Air (column N) to make up the difference.
J	Design fan supply CFM (Fan CFM) x 50%; or the design zone outdoor airflow rate per §121.
K	Condition area (ft^2) x 0.4 CFM / ft^2; or
L	Maximum of Columns H, J, K, or 300 CFM
M	This must be less than or equal to Column L and greater than or equal to the sum of Columns H plus N.
N	Transfer Air must be provided where the Required Ventilation Air (Column H) is greater than the Design Minimum Air (Column M). Where required, transfer air must be greater than or equal to the difference between the Required Ventilation Air (Column H) and the Design Minimum Air (Column M), Column H minus M.

EnergyPro 5.1 by EnergySoft User Number: 2849 **RunCode: 2011-10-27T11:45:56** ID: Bld. D Page 33 of 59

MECHANICAL VENTILATION AND REHEAT MECH-3C

Project Name	Date
HCC Bldg. D	10/27/2011

MECHANICAL VENTILATION (§121(b)2)									**REHEAT LIMITATION (§144(d))**				
	AREA BASIS			**OCCUPANCY BASIS**					**VAV MINIMUM**				
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
Zone/System	Condition Area (ft^2)	CFM per ft^2	Min CFM By Area B X C	Number Of People	CFM per Person	Min CFM by Occupant E X F	REQ'D V.A. Max of D or G	Design Ventilation Air CFM	50% of Design Zone Supply CFM	B X 0.4 CFM / ft^2	Max. of Columns H, J, K, 300 CFM	Design Minimum Air Setpoint	Transfer Air
AC-D-1						Total	405	329					
Zone -3	714	0.38	271	39.7	15.0	595	595	595					
AC-D-3						Total	595	595					
Zone 6	236	0.50	118	2.0	15.0	30	118	30					88
CU/ACC-D-1						Total	118	30					
Zone 8	213	0.50	107	2.1	15.0	32	107	32					75
CU/ACC-D-3						Total	107	32					
Zone 9	236	0.50	118	2.4	15.0	35	118	35					83
CU/ACC-D-4						Total	118	35					
			Totals						Column I Total Design Ventilation Air				

C	Minimum ventilation rate per Section §121, Table 121-A.
E	Based on fixed seat or the greater of the expected number of occupants and 50% of the CBC occupant load for egress purposes for spaces without fixed seating.
H	Required Ventilation Air (REQ'D V.A.) is the larger of the ventilation rates calculated on an AREA BASIS or OCCUPANCY BASIS (Column D or G).
I	Must be greater than or equal to H, or use Transfer Air (column N) to make up the difference.
J	Design fan supply CFM (Fan CFM) x 50%; or the design zone outdoor airflow rate per §121.
K	Condition area (ft^2) x 0.4 CFM / ft^2; or
L	Maximum of Columns H, J, K, or 300 CFM
M	This must be less than or equal to Column L and greater than or equal to the sum of Columns H plus N.
N	Transfer Air must be provided where the Required Ventilation Air (Column H) is greater than the Design Minimum Air (Column M). Where required, transfer air must be greater than or equal to the difference between the Required Ventilation Air (Column H) and the Design Minimum Air (Column M), Column H minus M.

EnergyPro 5.1 by EnergySoft User Number: 2849 **RunCode: 2011-10-27T11:45:56** ID: Bld. D Page 34 of 59

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Om Namo Narayanaya
Om Namah Shivaya

TITLE-24 COMPLIANCE FORMS
BUILDING "D"
HINDU COMMUNITY and CULTURAL CENTER
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

DATE
10/28/11
SCALE:
NONE
DRAWN BY:
PT
PROJECT:
ARROWHEAD

T-24.4

MECHANICAL EQUIPMENT DETAILS (Part 1 of 2) MECH-5C

Project Name: HCC Bldg. D | Date: 10/27/2011

CHILLER AND TOWER SUMMARY

Equipment Name	Type	Qty.	Efficiency	Tons	PUMPS Qty.	PUMPS GPM	PUMPS BHP	PUMPS Pump Control

DHW / BOILER SUMMARY

System Name	Type	Distribution	Qty.	Rated Input	Vol. (Gals).	Energy Factor or RE	Standby Loss or Pilot	Tank Est. R-Value	Status
Rinnai # RC98HPI-NG	Instant Gas	Kitchen Pipe Iss	1	199,000	0	0.85	n/a	n/a	New

MULTI-FAMILY CENTRAL WATER HEATING DETAILS

Control	Hot Water Pump Qty.	Hot Water Pump HP	Type	Hot Water Piping Length (ft) In Plenum	Outside	Buried	Add ½" Insulation
							☐
							☐
							☐

CENTRAL SYSTEM RATINGS

System Name	Type	Qty.	HEATING Output	HEATING Aux. kW	HEATING Efficiency	COOLING Output	COOLING Efficiency	Status
Trane YHC-060	Packaged DX	3	48,000	0.0	80% AFUE	62,400	12.0 SEER / 12.7 EER	New
12RLSIAOU12RLS	Split DX	4	16,000	0.0	12.00 HSPF	12,000	0.0 SEER / 14.5 EER	New
Trane YHC-072	Packaged DX	1	64,000	0.0	80% AFUE	72,000	12.1 EER	New
Trane YHC-048	Split DX	1	48,000	0.0	81% AFUE	49,450	12.0 SEER / 12.8 EER	New

CENTRAL SYSTEM FAN SUMMARY

System Name	Fan Type	Economizer Type	SUPPLY FAN CFM	SUPPLY FAN BHP	RETURN FAN CFM	RETURN FAN BHP
Trane YHC-060	Constant Volume	No Economizer	2,000	1.00	none	
12RLSIAOU12RLS	Constant Volume	No Economizer	430	0.32	none	
Trane YHC-072	Constant Volume	Fixed Temp (Integrated)	2,500	1.00	none	
Trane YHC-048	Constant Volume	No Economizer	1,600	0.32	none	

MECHANICAL EQUIPMENT DETAILS (Part 2 of 2) MECH-5C

Project Name: HCC Bldg. D | Date: 10/27/2011

ZONE SYSTEM SUMMARY

Zone Name	System Name	SYSTEM Type	SYSTEM Qty.	SYSTEM Heating	SYSTEM Cooling	VAV Min CFM Ratio	VAV Reheat Coil	Fan CFM	Fan BHP	Fan Cycles w/ Occ	Fan Cycles w/ Mode	Outside Air
Zone-5	CAV Box/No Reheat	VAV Box	1	0		100 %	None			☐	☐	
Zone-1	CAV Box/No Reheat	VAV Box	1	0		100 %	None			☐	☐	
Zone-1A	CAV Box/No Reheat	VAV Box	1	0		100 %	None			☐	☐	
										☐	☐	
										☐	☐	
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EXHAUST FAN SUMMARY

EXHAUST FAN Room Name	Qty.	CFM	BHP	EXHAUST FAN Room Name	Qty.	CFM	BHP	EXHAUST FAN Room Name	Qty.	CFM	BHP

LIGHTING CONTROLS CREDIT WORKSHEET (Part 1 of 2) LTG-2C

Project Name: HCC Bldg. D | Date: 10/27/2011

POWER ADJUSTMENT FACTORS (PAF) FOR NON-DAYLIGHT CONTROLS

A Separate PAF Worksheet Must Be Filled Out for Conditioned and Unconditioned Spaces. Control Credits listed on this schedule are only for:

☑ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

A Room # Zone ID Areas	B Lighting Control Description[1]	C Plan Reference	D Room Area (ft²)	E Watts of Control Lighting	F Power Adjustments Factor[2]	G Control Credit Watts (E x F)
Corridor # 2/Vestibu	Occ Sensor - Hallway	L2	440	150	0.25	38
Corridor # 1	Occ Sensor - Hallway	L2	150	90	0.25	23
Storage Rm # 113	Occ Sensor - Storage	L7	56	60	0.15	9
Corridor # 108	Occ Sensor - Hallway	L2	520	210	0.25	53
Janitor Rm # 107	Occ Sensor - Storage	L7	30	60	0.15	9
					PAGE TOTAL	131

Note: Conditioned and Unconditioned Space shall be separately totaled		
	Building total of non-daylight control credit watts for all pages of LTG-2C Page 1 of 2	
	Enter building total of all daylight controls credit watts from LTG-2C Page 2 of 2	0
	BUILDING TOTAL OF ALL CONTROL CREDIT WATTS (FOR BOTH NON-DAYLIGHT AND DAYLIGHT CONTROL CREDITS) Enter in LTG-1C: Page 4: Lighting Control Credit as appropriate for CONDITIONED or UNCONDITIONED Spaces	131

1. Description shall be consistent with Type of Control defined in Table 146-C
2. Power Adjustment Factor taken from Table 146-C

ENVELOPE MANDATORY MEASURES: NONRESIDENTIAL ENV-MM

Project Name: HCC Bldg. D | Date: 10/27/2011

DESCRIPTION

Building Envelope Measures:

§118(a):	Installed insulating material shall have been certified by the manufacturer to comply with the California Quality Standards for insulating material, Title 20 Chapter 4, Article 3.
§118(c):	All Insulating Materials shall be installed in compliance with the flame spread rating and smoke density requirements of Sections 2602 and 707 of Title 24, Part 2.
§118(d):	The opaque portions of framed demising walls in nonresidential buildings shall have insulation with an installed R-value of no less than R-13 between framing members.
§117(a):	All Exterior Joints and openings in the building that are observable sources of air leakage shall be caulked, gasketed, weatherstripped or otherwise sealed.
§116(a) 1:	Manufactured fenestration products and exterior doors shall have air infiltration rates not exceeding 0.3 cfm/ft.² of window area, 0.3 cfm/ft.² of door area for residential doors, 0.3 cfm/ft.² of door area for nonresidential single doors (swinging and sliding), and 1.0 cfm/ft.² for nonresidential double doors (swinging).
§116(a) 2:	Fenestration U-factor shall be rated in accordance with NFRC 100, or the applicable default U-factor.
§116(a) 3:	Fenestration SHGC shall be rated in accordance with NFRC 200, or NFRC 100 for site-built fenestration, or the applicable default SHGC.
§116(b):	Site Constructed Doors, Windows and Skylights shall be caulked between the unit and the building, and shall be weatherstripped (except for unframed glass doors and fire doors).

LIGHTING MANDATORY MEASURES: NONRESIDENTIAL LTG-MM

Project Name: HCC Bldg. D | Date: 10/27/2011

Indoor Lighting Measures:

§131(d):	**Shut-off Controls**	
	1.	For every floor, all interior lighting systems shall be equipped with a separate automatic control to shut off the lighting. This automatic control shall meet the requirements of Section 119 and may be an occupancy sensor, automatic time switch, or other device capable of automatically shutting off the lighting.
	2.	Override for Building Lighting Shut-off. The automatic building shut-off system is provided with a manual, accessible override switch in sight of the lights. The area of override is not to exceed 5,000 square feet.
§119(h):		Automatic Control Devices Certified. All automatic control devices specified are certified, all alternate equipment shall be certified and installed as directed by the manufacturer.
§111:		Fluorescent Ballast and Luminaires Certified. All fluorescent fixtures specified for the project are certified and listed in the Directory. All installed fixtures shall be certified.
§131(a):		Individual Room/Area Controls: Each room and area in this building is equipped with a separate switch or occupancy sensor device for each area with floor-to-ceiling walls.
§131(b):		Uniform Reduction for Individual Rooms: All rooms and areas greater than 100 square feet and more than 0.8 watts per square foot of lighting load shall be controlled with bi-level switching for uniform reduction of lighting within the room.
§131(c):		Daylight Area Control: All rooms with windows and skylights that are greater than 250 square feet and that allow for the effective use of daylight in the area shall have 50% of the lamps in each daylit area controlled by a separate switch; or the effective use of daylight cannot be accomplished because the windows are continuously shaded by a building on the adjacent lot. Diagram of shading during different times of the year is included on plans.
§131(c):		Display Lighting. Display lighting shall be separately switched on circuits that are 20 amps or less.6.

Outdoor Lighting Measures:

§130(c)1:	Mandatory lighting power determination for medium base sockets without permanently installed ballasts.
§132(a):	All permanently installed luminaires with lamps rated over 100 Watts either have a lamp efficacy of at least 60 lumens per Watt or are controlled by a motion sensor.
§132(b):	All Luminaires with lamps rated greater than 175 Watts in hardscape area, including parking lots, building entrances, canopies, and all outdoor sales areas meet the Cutoff Requirements.
§132(c)1:	All permanently installed outdoor lighting meets the control requirements listed.
§132(c):	Building facades, parking lots, garages, canopies, and outdoor sales areas meet the Multi-Level Lighting Requirements listed.

MECHANICAL MANDATORY MEASURES: NONRESIDENTIAL MECH-MM

Project Name: HCC Bldg. D | Date: 10/27/2011

Equipment and System Efficiencies

§111:	Any appliance for which there is a California standard established in the Appliance Efficiency Regulations will comply with the applicable standard.
§115(a):	Fan type central furnaces shall not have a pilot light.
§123:	Piping, except that conveying fluids at temperatures between 60 and 105 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, 602, 603, 604, and 605 of the CMC Standards.

Controls

§122(e):		Each space conditioning system shall be installed with one of the following:
	1A.	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 and have program backup capabilities that prevent the loss of the device's program and time setting for at least 10 hours if power is interrupted; or
	1B.	An occupancy sensor to control the operating period of the system; or
	1C.	A 4-hour timer that can be manually operated to control the operating period of the system.
	2.	Each space conditioning system shall be installed with controls that temporarily restart and temporarily operate the system as required to maintain a setback heating and/or a setup cooling thermostat setpoint.
§122(g):		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(c):		Thermostats shall have numeric setpoints in degrees Fahrenheit (F) and adjustable setpoint stops accessible only to authorized personnel.
§122(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
§122(a&b):		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 85 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.

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(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):	Ventilation System Acceptance. Before an occupancy permit is granted for a newly constructed building or space, or a new ventilating system serving a building or space is operated for normal use, all ventilation systems serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance.

Service Water Heating Systems

§113(c)		Installation
	3.	Temperature controls for public lavatories. The controls shall limit the outlet Temperature to 110°F.
	2.	Circulating service water-heating systems shall have a control capable of automatically turning off the circulating pump when hot water is not required.

REVISIONS	BY
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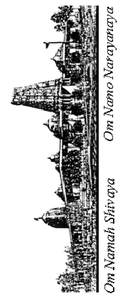

TITLE-24 COMPLIANCE FORMS
BUILDING "D"
HINDU COMMUNITY and CULTURAL CENTER
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

DATE: 10/28/11
SCALE: NONE
DRAWN BY: PT
PROJECT: ARROWHEAD

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