HVAC REPLACEMENT LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 S HAM LANE
LODI, CA 95242

ABBREVIATIONS

&	And
∠	Angle
@	At
℄	Centerline
Ø	Diameter
⊥	Perpendicular
#	Pound or Number
ℙ	Plate
A.C.	Asphalt Concrete
ACOUS.	Acoustical
A.D.	Area Drain
ADJ.	Adjustable
A.F.F.	Above Finished Floor
AGGR.	Aggregate
ALUM./AL.	Aluminum
ARCH.	Architectural
ASPH.	Asphalt
AUTO.	Automatic
A.V.	Auto Visual
B	Bolt
BD.	Board
BLDG.	Building
BLK.	Block
BLKG.	Blocking
BM.	Beam
BOT.	Bottom
B.S.	Both Sides
CAB.	Cabinet
C.B.	Catch Basin
CB.	Chalkboard
CEM.	Cement
CER.	Ceramic
C.G.	Corner Guard
C.I.	Cast Iron
C.J.	Construction Join/Control Joint
C.L.	Chain Link
CLG.	Ceiling
CLKG.	Calking
CLR.	Clear
C.M.P.	Corrugated Metal Pipe
C.M.U.	Concrete Masonry Unit
CNTR.	Counter
COL.	Column
CONC.	Concrete
CONN.	Connection
CONSTR.	Construction
CONT.	Continuous
CORR.	Corridor
d	Pennyweight (Nails)
D.A.	Designated Accessible
DBL.	Double
DET.	Detail
D.F.	Drinking Fountain
D.I.	Drain Inlet
DIA.	Diameter
DIM.	Dimension
DIM.PT.	Dimension Point
DN.	Down
DP.	Deep
D.P.	Damp Proofing
DR.	Door
D.S.	Downspout
DWG.	Drawing
E.	East
(E)/EXST.	Existing
EA.	Each
E.J.	Expansion Joint
EL.	Elevation
ELEC.	Electrical
EMER.	Emergency
ENCL.	Enclosure
EQ.	Equal
EQPT.	Equipment
E.W.C.	Electric Water Cooler
EXP.	Expansion
EXT.	Exterior
F.A.	Fire Alarm
F.B.	Fiberboard
F.D.	Floor Drain
FDN.	Foundation
F.E.	Fire Extinguisher
F.F.E.	Finish Floor Elevation
F.H.M.B.	Flat Head Machine Bolt
F.H.M.S.	Flat Head Machine Screw
FIN.	Finish
FL.	Floor
F.L.	Fusible Link
FLASH'G	Flashing
F.O.C.	Face of Concrete/Curb
F.O.F.	Face of Finish
F.O.S.	Face of Studs
F.R.P.	Fiberglass Reinforced Plastic
F.S.	Full Size
FT.	Foot/Feet
FTG.	Footing
FURR.	Furring
FUT.	Future
GA.	Gauge
GALV.	Galvanized
G.B.	Grab Bar
GL.	Glass/Glazing
GND.	Ground
GR.	Grade
GYP.	Gypsum
G.I.	Galvanized Iron
G.S.M.	Galvanized Sheet Metal
GYP.	Gypsum
GYP.BD.	Gypsum Board
HDR.	Header
HDWD.	Hardwood
HDW.	Hardware
HOR.	Horizontal
H.B.	Hose Bib
HR.	Hour (Fire Rating)
HGT.	Height
I.D.	Inside Diameter
IN.	Inch
INFO.	Information
INSUL.	Insulation
INT.	Interior
JAN.	Janitor
JST.	Joist
JT.	Joint
K.P.	Kickplate
KIT.	Kitchen
LAM.	Laminate
LAV.	Lavatory
LKR.	Locker
LT.WT.	Light Weight
L.V.	Louver Vent
MAX.	Maximum
M.B.	Machine Bolt
MAT'L.	Material
MECH.	Mechanical
MEMB.	Membrane
MEZZ.	Mezzanine
MFR.	Manufacturer
MH.	Manhole
MIN.	Minimum
MIR.	Mirror
MISC.	Miscellaneous
MTD.	Mounted
MET.	Metal
(N)	New
N.	North
N.I.C.	Not in Contract
NO./#	Number
NOM.	Nominal
N.T.S.	Not to Scale
O/	Over
O.A.	Overall
OBS.	Obscure
O.C.	On Center
O.D.	Outside Diameter
O.H.	Opposite Hand
OFF.	Office
PRCST.	Precast
PERF.	Perforated
P.LAM.	Plastic Laminate
PLAS.	Plaster
PLYWD.	Plywood
P.M.	Pressed Metal
P.M.F.	Pressed Metal Frame
PR.	Pair
P.O.T.	Path of Travel
PRE-FAB	Prefabricated
PROJ.	Project
P.T.D.	Paper Towel Dispenser
P.T.D./R.	Paper Towel Dispenser Receptacle
PTN.	Partition
P.T.R.	Paper Towel Receptacle
R.	Riser
RAD.	Radius
R.B.	Rubber Base
R.D.	Roof Drain
R.E.	Rim Elevation
REFR.	Refrigerator
RGTR.	Register
REINF.	Reinforced
REQ.	Required
RET.	Return
RM.	Room
R.O.	Rough Opening
RWD.	Redwood
R.W.L.	Rain Water Leader
R.H.W.S.	Round Head Wood Screw
S.	South
S.D.	Soap Dispenser
SECT.	Section
SHR.	Shower
SHT.	Sheet
SHTG.	Sheeting
SIM.	Similar
S.M.	Sheet Metal
S.M.S.	Sheet Metal Screw
S.N.D.	Sanitary Napkin Dispenser
S.N.R.	Sanitary Napkin Receptacle
SPEC.	Specification
SQ.	Square
S.R.V.	Semi Rigid Vinyl
S.SK.	Service Sink
SST	Stainless Steel
ST.	Street
STD.	Standard
STL.	Steel
STOR.	Storage
STRL.	Structural
SUSP.	Suspended
SYM.	Symmetrical
SHT.VNL.	Sheet Vinyl
T.	Toilet
TB.	Tackboard
T.B.	Towel Bar
T.&G.	Tongue & Groove
TEL.	Telephone
THK.	Thick
THRES.	Threshold
THRU.	Through
T.O.C.	Top of Curb
T.O.P.	Top of Pavement
T.O.W.	Top of Wall
T.P.D.	Toilet Paper Dispenser
TYP.	Typical
U.O.N.	Unless Otherwise Noted
UR.	Urinal
V.C.T.	Vinyl Composition Tile
VERT.	Vertical
V.F.	Vinyl Fabric
W.	West W/ With
W.C.	Water Closet
WD.	Wood
W.H.	Water Heater
W/O	Without
WSCT.	Wainscot
W.W.M.	Welded Wire Mesh
WDW.	Window
WT.	Weight
YD.	Yard

SYMBOL LEGEND

SHEET NUMBERING SYSTEM
A2.6.A — Discipline Designation; Drawing Type Designation; Sheet Number; Building Designation

ROOM NAME and NUMBER REFERENCE
WOMEN — Room Name
A103 — Room Number
32 OCC. — Building Unit; Occupancy Load

KEYNOTE REFERENCE
2200.A7.05

SHEET NOTE REFERENCE
SN.01

DETAIL REFERENCE
X — Detail Number
A\X.X — Sheet Number

BUILDING SECTION REFERENCE
X — Section Number
A\X.X — Sheet Number

STOREFRONT, WINDOW OR LOUVER REFERENCE
EA X — Windows Covering Reference
H=HORIZONTAL BLINDS
V=VERTICAL BLINDS
D=DARKENING DRAPES

DOOR REFERENCE
A101

CEILING TYPE REFERENCE
C2

WALL TYPE REFERENCE
C2

EXTERIOR FINISH REFERENCE
A

PAINT COLOR REFERENCE
PC1

STRUCTURAL GRID INDICATOR (Center of Framing)
A

STRUCTURAL GRID INDICATOR (Face of Framing)
3

MATCH LINE

CENTERLINE

PROPERTYLINE

WORK POINT, CONTROL POINT OR DATUM

INTERIOR ELEVATION REFERENCE
4.5 1 1.5 2 4 A5.1 A 2 3.5 3 2.5
INTERIOR ELEVATION
DETAIL NUMBER
SHEET NUMBER

WINDOW (PLAN VIEW)

REVISION
Revision Number

RADIUS
R=92'-4" (1)
Radius Point Number
Radius Dimension

CASEWORK REFERENCE
221A L -
Indicates all drawers and doors to have locks installed

METAL SHELVING REFERENCE
MS1

LABORATORY CASEWORK REFERENCE
99

MUSIC CASEWORK REFERENCE
99

ACOUSITICAL PANEL REFERENCE
AP1

SIGN REFERENCE
S2

OCCUPANCY REFERENCE
28 Occ.
36
Number of Occupants Exiting
Min. Exit Width Required (inches)

MATERIAL LEGEND

EARTH
GRAVEL/AGGREGATE BASE
SAND OR PLASTER
CONCRETE
BLOCKING
FRAMING (CONTINUOUS)
PLYWOOD
WOOD TRIM
STEEL
TILE
BATT INSULATION
BRICK
GYPSUM BOARD
FIRTEX

APPLICABLE CODES

TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
TITLE 24 CCR, PART 1 - 2022 BUILDING STANDARDS ADMINISTRATIVE CODE
TITLE 24 CCR, PART 2 - 2019 CALIFORNIA BUILDING CODE, VOL. 1 & 2 (CBC)
TITLE 24 CCR, PART 3 - 2019 CALIFORNIA ELECTRICAL CODE (CEC)
TITLE 24 CCR, PART 4 - 2019 CALIFORNIA MECHANICAL CODE (CMC)
TITLE 24 CCR, PART 5 - 2019 CALIFORNIA PLUMBING CODE (CPC)
TITLE 24 CCR, PART 6 - 2019 CALIFORNIA ENERGY CODE (CEC)
TITLE 24 CCR, PART 9 - 2019 CALIFORNIA FIRE CODE (CFC)
TITLE 24 CCR, PART 11 - 2019 CALIFORNIA GREEN BUILDING STDS CODE
TITLE 24 CCR, PART 12 - 2019 CALIFORNIA REFERENCED STANDARDS
2016 NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED)
2016 NFPA 14, INSTALLATION OF STANDPIPE AND HOSE SYSTEMS
2017 NFPA 17, DRY CHEMICAL EXTINGUISHING SYSTEMS
2017 NFPA 17A, WET CHEMICAL EXTINGUISHING SYSTEMS
2016 NFPA 20, INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
2016 NFPA 24, INSTALLATION OF PRIVATE FIRE SERVICE MAINS
2016 NFPA 72, NATIONAL FIRE ALARM CODE (CA AMENDED)
2016 NFPA 80, FIRE DOOR AND OTHER OPENING PROTECTIVE
2015 NFPA 720, INSTALLATION OF CARBON MONOXIDE DETECTION AND WARNING EQUIPMENT
2015 NFPA 2001, CLEAN AGENT FIRE EXTINGUISHING SYSTEMS

CONTRACTOR SHALL KEEP A COPY OF TITLE 24, PARTS 1-5 ON THE SITE AT ALL TIMES.
TITLE 24, PART 1, SECTION 4.317(c):

"THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS A CONSTRUCTION CHANGE DOCUMENT, OR SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH REPAIR WORK."

NOTES:

1. ALL NEW WORK SHALL CONFORM TO THE 2019 EDITION, TITLE 24, CALIFORNIA CODE OF REGULATIONS.
2. CHANGES TO THE STRUCTURAL, ACCESSIBILITY OR FIRE AND LIFE-SAFETY PORTIONS OF THE APPROVED PLANS AND SPECIFICATIONS AFTER THE WORK HAS BEEN APPROVED SHALL BE MADE BY A CONSTRUCTION CHANGE DOCUMENT AS REQUIRED IN SECTION 4-338, PART 1, CAC, AND SHALL BE SUBMITTED TO AND APPROVED BY DSA PRIOR TO COMMENCEMENT OF THE WORK. ALL CONSTRUCTION CHANGE DOCUMENTS SHALL BE PREPARED AND SUBMITTED TO DSA IN COMPLIANCE WITH DSA INTERPRETATION OF REGULATIONS IA A-6. CONSTRUCTION CHANGE DOCUMENTS ARE NOT VALID UNTIL APPROVED BY DSA PER SECTION 4-338, PART 1, TITLE 24, AND NO WORK SHALL COMMENCE UNTIL APPROVED BY DSA.
3. A DSA "CERTIFIED PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-343, CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24, CCR)
4. A DSA CERTIFIED INSPECTOR WITH CLASS 3 IS REQUIRED FOR THIS PROJECT (IR A-7)
5. AN LEA TESTING LABORATORY DIRECTLY EMPLOYED BY THE OWNER SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
6. GRADING PLANS, DRAINAGE IMPROVEMENT, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
7. ADDENDA SHALL BE APPROVED BY DSA.
8. SUBSTITUTIONS AFFECTING DSA-REGULATED ITEMS SHALL BE CONSIDERED AS CONSTRUCTION DOCUMENTS (CCD's) AND SHALL BE APPROVED PRIOR TO FABRICATION AND INSTALLATION PER DSA IR A-6 AND SECTION 338(c) PART 1, TITLES 24 CCR
9. FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION SHALL COMPLY WITH CFC CHAPTER 33.

PROJECT TEAM

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PROJECT DESCRIPTION

1. REMOVE AND REPLACE HVAC EQUIPMENT ON BUILDINGS A, B, C, D, E & F.

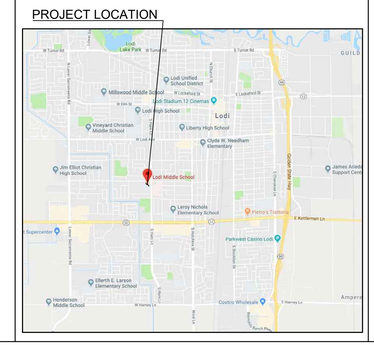
DEFERRED APPROVALS

1. (NONE)

VICINITY MAP

LODI MIDDLE SCHOOL
945 S HAM LANE, LODI, CA 95242

PROJECT LOCATION



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■ DRAWING SET CONTAINS 92 SHEETS ■

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

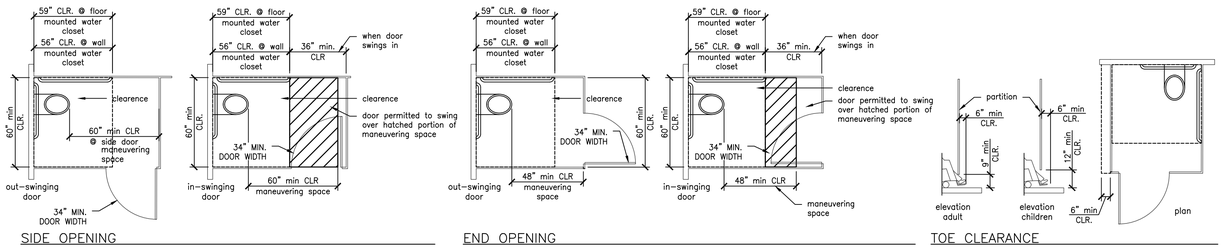
HVAC REPLACEMENT
LODI MIDDLE SCHOOL

COVER SHEET

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE		
CADFILE BORDER.DWG		
UPDATED 8/26/2022		

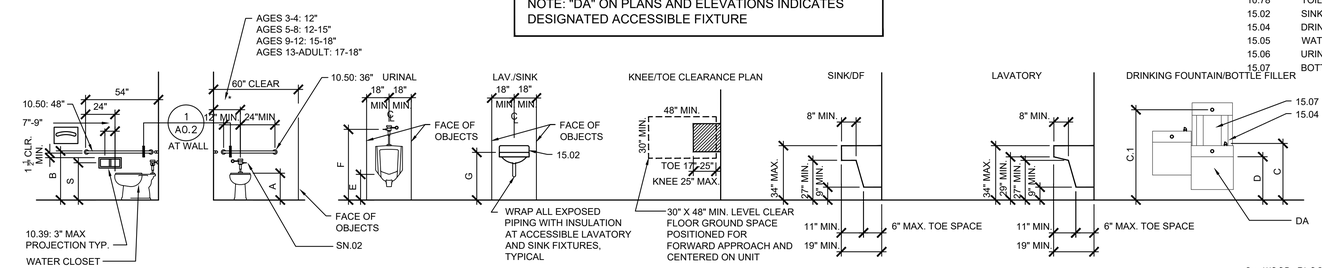
SHEET NO.
CS

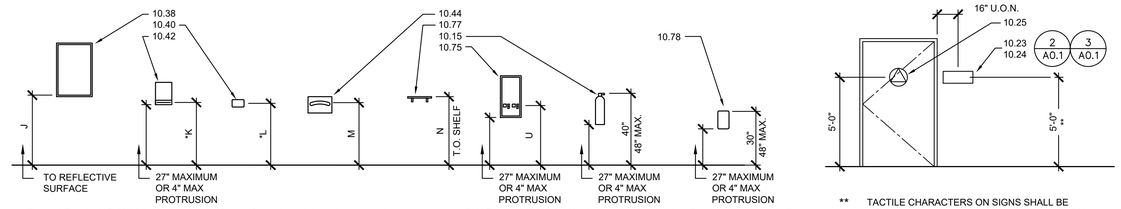


SIDE OPENING — END OPENING — TOE CLEARANCE

D.A. TOILET STALL

NOTE: "DA" ON PLANS AND ELEVATIONS INDICATES DESIGNATED ACCESSIBLE FIXTURE





* Forward Reach: 11B-308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches maximum and the low forward reach shall be 15 inches above the finish floor or ground.

* Forward Reach: 11B-308.2.2 Obstructed high reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not leass than the required reach depth over the obstruction. The high forward reach shall be 48" maximum wher the reach depth is 20 inches maximum. Where the reach depth exceeds the high forward reach shal be 44" maximum and the reach depth shall be 25 inches maximum

* Side Reach: 11B308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches maximum and the low side reach shall be 15 inches minimum above the finish floor or ground

** TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48" MINIMUM ABOVE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST BRAILLE CELLS AND 60" MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS PER CBC 11B-703.4.1

1 FIXTURE and ACCESSORY HEIGHTS/SIGNAGE MOUNTING

N.T.S.

GENERAL NOTES

1. ALL DESIGNATED ACCESSIBLE DIMENSIONS ARE MAXIMUM DIMENSIONS U.O.N.
2. MOUNTING HEIGHTS SHOWN FOR ELEMENTARY SCHOOL AND STAFF APPLY TO THIS PROJECT.
3. DESIGNATED ACCESSIBLE FIXTURE AND EQUIPMENT DIMENSIONS MUST BE USED FIRST PRIOR TO STANDARD DIMENSIONS.

SHEET NOTES

SN.01 NOT USED

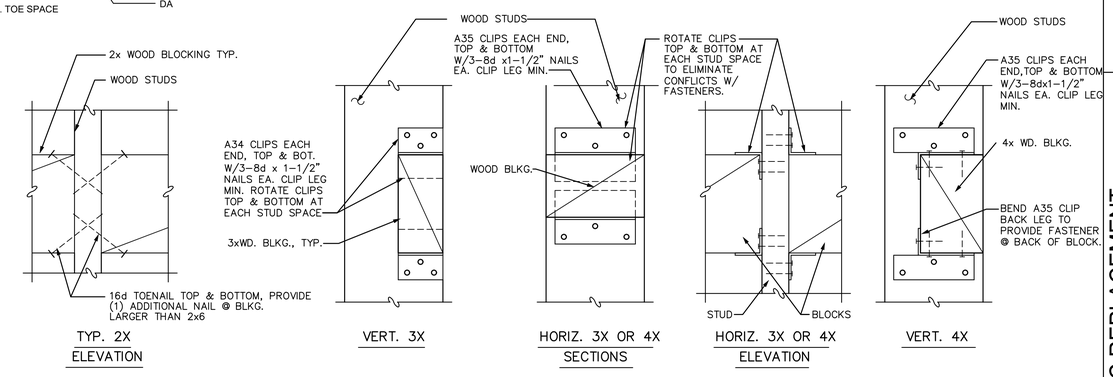
SN.02 AT DESIGNATED ACCESSIBLE WATER CLOSEST, FLUSH VALVE HANDLE SHALL BE MOUNTED ON THE WIDE SIDE OF THE ENCLOSURE.

KEYNOTES

10.15 FIRE EXINTGUISHER
10.23 SIGN: ROOM IDENTIFICATION
10.24 SIGN: TACTILE EXIT SIGN
10.25 SIGN: TOILET ROOM DOOR SYMBOL
10.38 TOILET ROOM ACCESSORY: MIRROR (MEASURE TO BOTTOM OF REFLECTIVE SURFACE)
10.39 TOILET ROOM ACCESSORY: TOILET TISSUE DISPENSER
10.40 TOILET ROOM ACCESSORY: SOAP DISPENSER
10.42 TOILET ROOM ACCESSORY: PAPER TOWEL DISPENSER
10.44 TOILET ROOM ACCESSORY: SEAT COVER DISPENSER
10.50 TOILET ROOM ACCESSORY: GRAB BAR
10.75 TOILET ROOM ACCESSORY: SANITARY NAPKIN DISPENSER
10.77 TOILET ROOM ACCESSORY: SHELF
10.78 TOILET ROOM ACCESSORY: SANITARY NAPKIN DISPOSAL
15.02 SINK/LAVATORY
15.04 DRINKING FOUNTAIN
15.05 WATER CLOSET
15.06 URINAL
15.07 BOTTLE FILLER

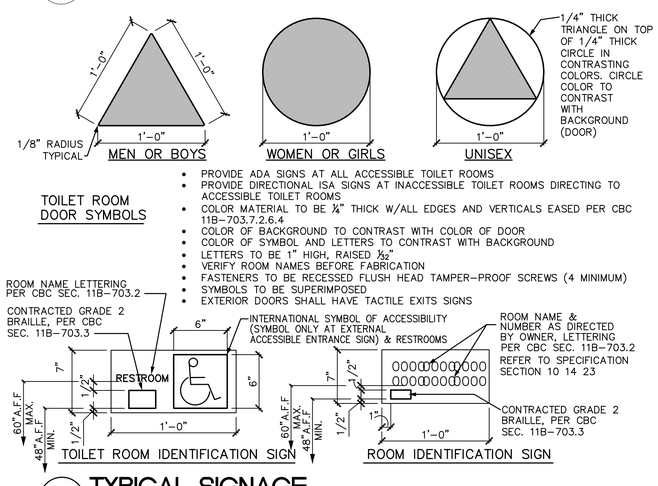
ACCESSORY MOUNTING HEIGHTS

DIM	KEYNOTE	ELEMENTARY SCHOOL KINDERGARTEN GRADES 1-6				MIDDLE SCHOOL / JUNIOR HIGH		HIGH SCHOOL / COLLEGE/STAFF	
		STD	DA	STD	DA	STD	DA	STD	DA
A	15.05 (WC) TOP OF SEAT	12"	10"-12"	14"	15"	15"	17"-19"	15"	18"
B	10.50 (GB)	N/A	20"-22"	N/A	27"	22"	N/A	N/A	34-1/2" CL
C	15.04 (BUBBLER HEIGHT)	24"	30"	28"	32"	40"	36" MAX.	40"	36" MAX.
C.1	15.07 (BOTTLE FILLER BUTTON)	48"	48" MAX.	48"	48" MAX.	48"	48" MAX.	48"	48" MAX.
D	15.04 (KNEE CLEARANCE)	27"	22"	20"	24"	31"	27" MIN.	31"	27" MIN.
E	15.06 (LIP HEIGHT)	17"	13"	17"	15"	24"	17" MAX.	N/A	17" MAX.
F	15.06 (FLUSH HANDLE HEIGHT)	36"	32"	39"	36"	51"	44" MAX.	51"	44" MAX.
G	15.02 (TOP HEIGHT)	24"	24"	26"	29"	34"	34" MAX.	34"	34" MAX.
H	15.02 (KNEE CLEARANCE)	19"	19"	21"	24"	29"	29" MIN.	29"	29"
J	10.38 (BOTTOM OF GLASS)	35"	32"	38"	38"	48"	40" MAX.	52"	40" MAX.*
K	10.42 (P.T.D)	27"	32"	33"	36"	40"	40" MAX.	N/A	40" MAX.
L	10.40 (SOAP)	27"	32"	32"	36"	40"	40" MAX.	42"	40" MAX.
M	10.44 (S.C.)	27"	32"	40"	36"	42"	40" MAX.	42"	40" MAX.
N	10.77 (SHELF)	N/A	N/A	N/A	N/A	42"	40" MAX.	46"	40" MIN. 48" MAX.
P	10.78 (1-1/2" CLR. TO GRAB BAR)							22"	19" MIN.
Q	(NOT USED)								
R	(NOT USED)								
S	10.39 (T.P. DOSPEN. OUTLET HGT)	12"	N/A	15"	N/A	18"	19" MIN.	22"	19" MIN.
T	10.39 (C.L. IN FRONT OF TOILET)	12"	6"	12"	6"	12"	7"-9"	12"	7"-9"
U	10.75	N/A	N/A	N/A	N/A	42"	40" MAX.	N/A	40" MAX.



4 TYPICAL WOOD BLOCKING

3"=1'-0"

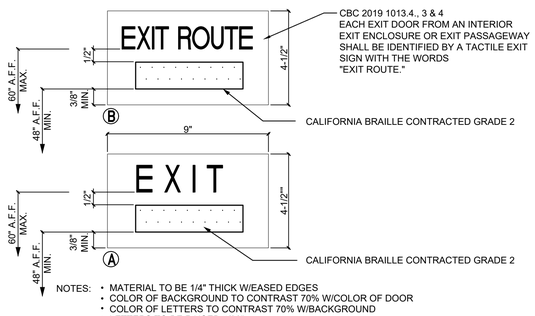


- PROVIDE ADA SIGNS AT ALL ACCESSIBLE TOILET ROOMS
- PROVIDE DIRECTIONAL ISA SIGNS AT INACCESSIBLE TOILET ROOMS DIRECTING TO ACCESSIBLE TOILET ROOMS
- COLOR MATERIAL TO BE ¼" THICK W/ALL EDGES AND VERTICALS EASED PER CBC 11B-703.7.2.6.4
- COLOR OF BACKGROUND TO CONTRAST WITH COLOR OF DOOR
- COLOR OF SYMBOL AND LETTERS TO CONTRAST WITH BACKGROUND
- LETTERS TO BE 1" HIGH, RAISED 1/32"
- VERIFY ROOM NAMES BEFORE FABRICATION
- FASTENERS TO BE RECESSED FLUSH HEAD TAMPER-PROOF SCREWS (4 MINIMUM)
- SYMBOLS TO BE SUPERIMPOSED
- EXTERIOR DOORS SHALL HAVE TACTILE EXITS SIGNS

2 TYPICAL SIGNAGE

1 1/2"=1'-0"

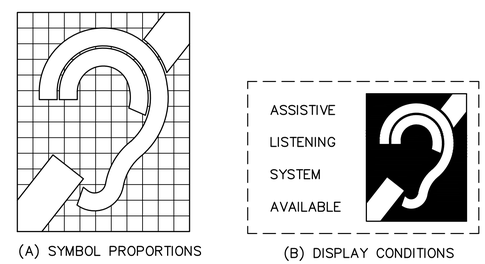
SEE DETAIL 1/A0.1 FOR TYP. MOUNTING HEIGHTS AND LOCATIONS



NOTES:
- MATERIAL TO BE 1/4" THICK W/EASED EDGES
- COLOR OF BACKGROUND TO CONTRAST 70% W/COLOR OF DOOR
- COLOR OF LETTERS TO CONTRAST 70% W/BACKGROUND
- LETTERS TO BE RAISED 1/32"
- FASTENERS: RECESSED FLUSH HEAD TAMPER-PROOF SCREWS (MIN. 4)
- SEE FLOOR PLAN FOR LOCATIONS
- SEE SPECIFICATION SECTION 101423, ARTICLE 2.01, FOR ADDITIONAL LETTERING REQUIREMENTS.

3 TACTILE EXIT SIGN

N.T.S.

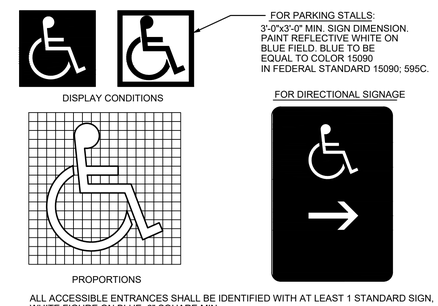


(A) SYMBOL PROPORTIONS (B) DISPLAY CONDITIONS

- PROVIDE A PORTABLE ASSISTIVE LISTENING SYSTEM: THE MIMIMUM NUMBER OF RECIEVERS TO BE PROVIDED SHALL BE EQUAL TO 4 PERCENT OF THE OCCUPANT LOAD AND NOT LESS THAN TWO. TWENTY FIVE PERCENT SHALL BE HEARING AID COMPATIBLE
- PROVIDE SIGNAGE: ASSISTIVE LISTENING SYSTEMS SHALL BE IDENTIFIED BY THE INTERNATIONAL SYMBOL OF ACCESS FOR HEARING IMPAIRED COMPLYING WITH FIGURE 11B-703.7.2.4.
- HEIGHT OF CHARACTERS ON ASSISTIVE LISTENING SIGNS SHALL BE BASED ON THE DISTANCE MOUNTED FROM THE FLOOR, AND THE DISTANCE TO BE VIEWED PER TABLE 11B-703.5.5. CHARACTERS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH AND SHALL CONTRAST (11B-703.5)

5 ASSISTIVE LISTENING SYSTEM

N.T.S.



ALL ACCESSIBLE ENTRANCES SHALL BE IDENTIFIED WITH AT LEAST 1 STANDARD SIGN, WHITE FIGURE ON BLUE, 6" SQUARE MIN.

PROVIDE DIRECTIONAL SIGNS WHERE INDICATED ON P.O.T. FOR PERSONS ON PEDESTRIAN WAY APPROACHING ENTRY AND ALONG THE PATH OF TRAVEL. MOUNT DIRECTIONAL SIGNS AT +60" ABOVE FINISH FLOOR TO CENTER OF SIGN ARROWS TO BE POINTED TOWARD THE DIRECTION OF ACCESSIBLE ROUTE

6 SYMBOL OF ACCESSIBILITY

N.T.S.

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT STEPHEN L. HENRY C-22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

TYPICAL DETAILS

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE N.T.S.		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

SHEET NO.

A0.1

02 OF 93 SHEETS

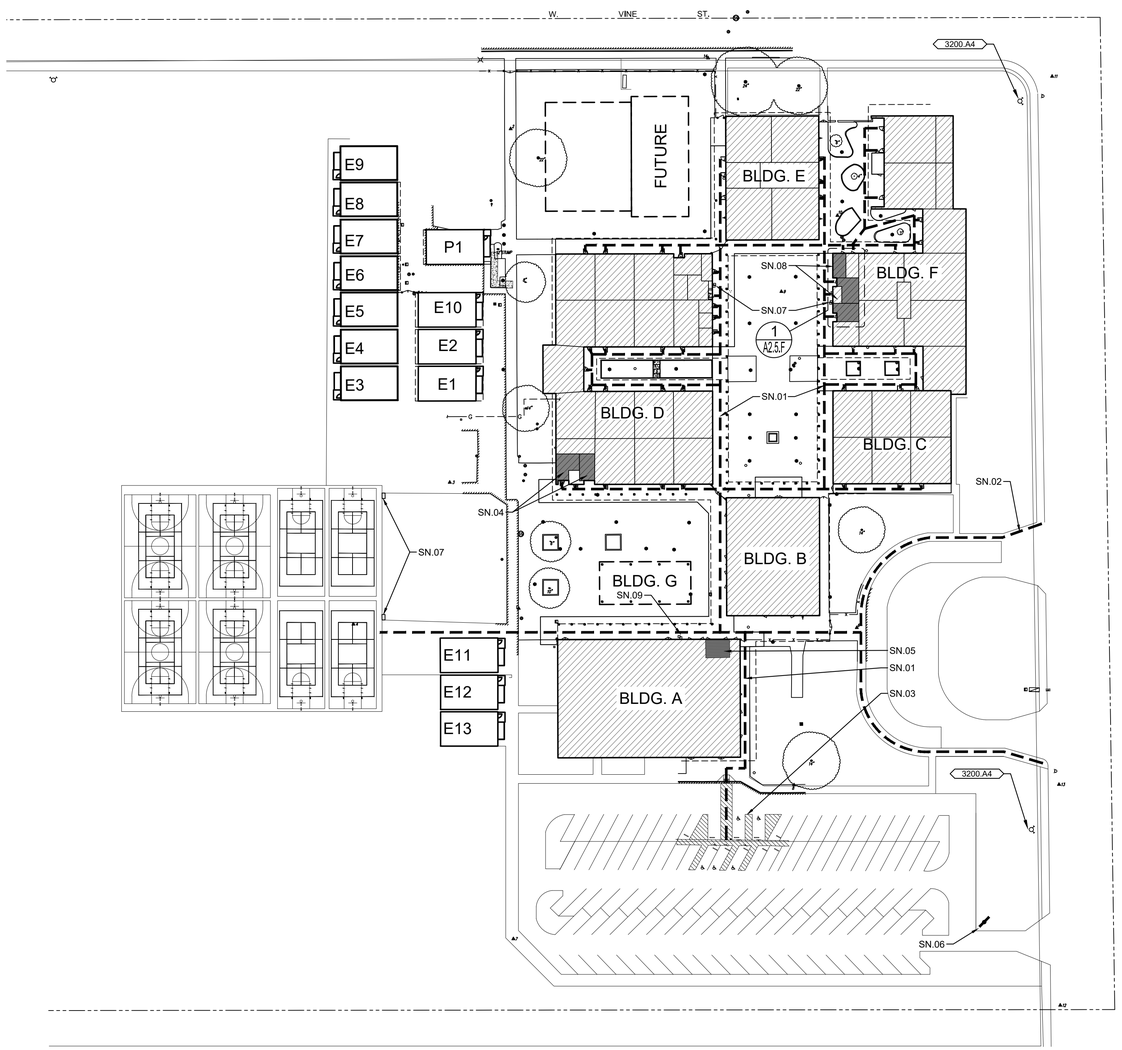
BUILDING DATA					
BUILDING	DSA APPLICATION NUMBER	CONSTRUCTION TYPE	OCCUPANCY TYPE	AREA (SF)	CERTIFIED
BLDG. A - MULTI-PURPOSE	24025, 51591, 02-109532, 02-111649	VA, NOT SPRINKLERED	E, A-3	10,240	Y
BLDG. B - ADMINISTRATION	24025, 02-109532	VB, NOT SPRINKLERED	B	5,200	Y
BLDG. C - CLASSROOMS	24025, 02-109532	VB, NOT SPRINKLERED	E	5,200	Y
BLDG. D - CLASSROOMS	24025, 02-109532, 02-111649	VB, NOT SPRINKLERED	E	15,070	Y
BLDG. E - CLASSROOMS	24025	VB, NOT SPRINKLERED	E	5,525	Y
BLDG. F - CLASSROOMS	29702, 02-102227, 02-103249, 02-109532	VB, NOT SPRINKLERED	E	11,065	Y
BLDG. G - SHADE STRUCTURE	02-112412	VB, NOT SPRINKLERED	E	1,920	Y
BLDG. E1 - RELOCATABLE CLASSROOM	02-102227	VB, NOT SPRINKLERED	E	960	Y
BLDG. E2 - RELOCATABLE CLASSROOM	02-102227	VB, NOT SPRINKLERED	E	960	Y
BLDG. E10 - RELOCATABLE CLASSROOM	02-102227	VB, NOT SPRINKLERED	E	960	Y
BLDG. E11, E12 & E13 - RELOCATABLE CLASSROOMS	69156	VB, NOT SPRINKLERED	E	960 EA (2,880 SF TOTAL)	Y
BLDG. E3, E4, E5, E6, E7, E8, & E9 - RELOCATABLE CLASSROOMS	02-102958	VB, NOT SPRINKLERED	E	960 EA (6,720 SF TOTAL)	Y
BLDG. P1 - RELOCATABLE CLASSROOM	02-117640	VB, NOT SPRINKLERED	E	960	Y
BLDG. P2 - RELOCATABLE CLASSROOM	02-120292	VB, SPRINKLERED	E	3,360	N

SITE LEGEND

- PROPERTY LINE
- ACCESSIBLE PATH OF TRAVEL - SEE NOTES THIS SHEET
- (E) CONCRETE WALK - TO BE IN COMPLIANCE WITH 11B-403.3 ALONG ACCESSIBLE PATH. PER CBC 11B-404.2.5: THRESHOLDS, IF PROVIDED AT DOORWAYS, SHALL BE ½ INCH (12.7 MM) HIGH MAXIMUM. RAISED THRESHOLDS AND CHANGES IN LEVEL AT DOORWAYS SHALL COMPLY WITH SECTIONS 11B-302 AND 11B-303
- ASPHALT CONCRETE PAVING
- ORNAMENTAL METAL FENCE
- CHAIN LINK FENCE
- (E) CHAIN LINK FENCE TO BE REMOVED
- FENCE OR WALL HEIGHT
- CMU WALL
- FIRE HYDRANT
- POST INDICATOR & VALVE (PIV)
- BACKFLOW PREVENTER
- METER AND BACKFLOW
- TRUNCATED DOMES
- EXISTING BUILDING TO BE MODERNIZED

DRAINAGE STRUCTURE - SEE CIVIL
- CLEAN OUT
- AREA DRAIN
- MAN HOLE COVER
- DROP INLET
- TRENCH DRAIN

ELECTRICAL STRUCTURE - SEE ELECTRICAL
- POLE MOUNTED FIXT. TOP MOUNTED
- POLE MOUNTED FIXT. TWIN HEAD
- POLE MOUNTED FIXT. SINGLE HEAD
- UNDERGROUND PULLBOX
- TRANSFORMER
- SWITCHBOARD



SHEET NOTES

SN.01 D.A. PATH OF TRAVEL

SN.02 D.A. PATH OF TRAVEL FROM PUBLIC RIGHT OF WAY.

SN.03 D.A. PARKING STALLS CONSTRUCTED UNDER DSA IDENTIFICATION NO. 02-117640

SN.04 D.A. STUDENT TOILET ROOMS CONSTRUCTED UNDER DSA APPLICATION NO. 02-111649

SN.05 D.A. STAFF TOILET ROOMS CONSTRUCTED UNDER DSA APPLICATION NO. 02-111649

SN.06 EXISTING TOW-AWAY SIGN CONSTRUCTED UNDER DSA APPLICATION NO. 02-109532

SN.07 D.A. HI-LOW DRINKING FOUNTAIN CONSTRUCTED UNDER DSA APPLICATION NO. 02-109532

SN.08 D.A. STAFF AND STUDENT TOILET ROOMS UNDER DSA APPLICATION NUMBER 02-102227

SN.09 D.A. HI-LOW DRINKING FOUNTAIN UNDER DSA APPLICATION NUMBER 02-111649

KEYNOTES

3200 SITEWORK

3200.A4 (E) FIRE HYDRANT

PATH OF TRAVEL: - - - - -

Path of travel (P.O.T.) as indicated is a barrier free access without any abrupt vertical changes exceeding ½" at 1:2 Maximum slope, except that level changes do not exceed ¼" vertical(11B-303 & 11B-403.4). P.O.T. is a minimum of 48" wide (11B-403.5.1Ex3) slip resistant surface with 5% max. slope and 1:48 max. cross slope(11B-403.3). Passing spaces(11B-403.5.3) of 60"x60" min. are located not more than 200' apart. Walks with continuous gradients have 60" in length of level areas (11B-403.7) not more than 400' apart. P.O.T. shall be maintained free of overhanging obstructions to 80" min(11B-307.4) and protruding objects(11B-307) greater than 4" projection from wall above 27" and less than 80". There is no drop-off over 4" at the edge of walk or landing unless identified by a guard, a handrail, or a warning curb at least 6" in height above the walk(11B-303.5).

Design Professional in General Responsible Charge Statement

The POT identified in the construction documents is compliant with current applicable California Building Code accessibility provisions **for path of travel requirements for alterations and structural repairs**. As part of the design of this project, the POT was examined and any elements, components or portion of the POT that were determined to be noncompliant 1) have been identified and 2) the corrective work necessary to bring them into compliance has been included within the scope of thus project's work through details, drawings and specification incorporated into these construction documents. Any noncompliant elements, components or portion of the POT that will not be corrected by this project based on valuation threshold limitations or a finding of unreasonable hardship are so indicated in these construction documents.

During construction, if POT items within the scope of the project represented as code compliant are found to be nonconforming beyond reasonable construction tolerances, they shall be brought into compliance with the CBC as a part of this project by means of a "Construction Change Document" (form **DSA 140**).

1 A1.1.1 CODE ANALYSIS SITE PLAN

SCALE: 1" = 50'-0" 0 25' 100' 12.5' 50'

NORTH

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

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Sacramento, CA 95825
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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT STEPHEN L. HENRY C-22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

CODE ANALYSIS
SITE PLAN

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
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SCALE		
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UPDATED 8/26/2022		

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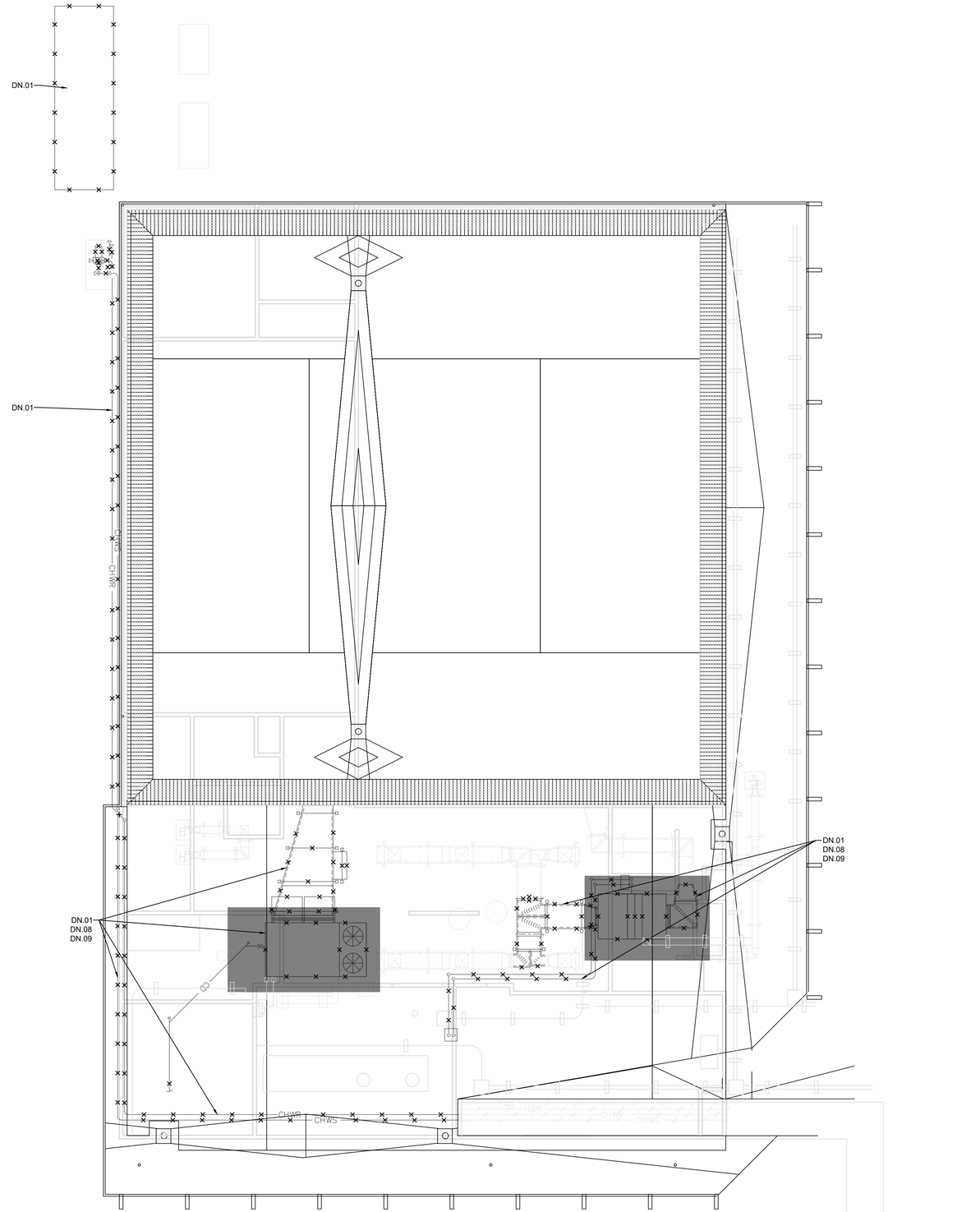
A1.1.1



1 A2.1.A DEMOLITION ROOF PLAN - BUILDING A

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

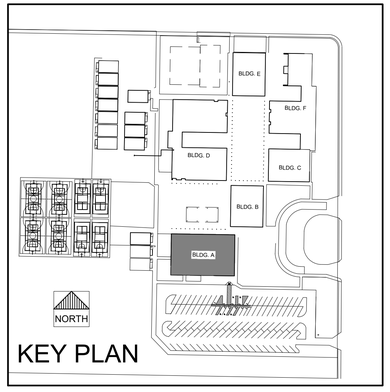
GENERAL NOTES

1. IN GENERAL, THE DRAWINGS SHOW DIMENSIONS, POSITION AND KIND OF CONSTRUCTION; AND THE SPECIFICATIONS, QUALITIES AND METHODS. ANY WORK CALLED FOR IN THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, SHALL BE PERFORMED AS THOUGH FULLY SET FORTH IN BOTH. WORK NOT PARTICULARLY DETAILED, MARKED OR SPECIFIED SHALL BE THE SAME AS SIMILAR PARTS THAT ARE DETAILED, MARKED OR SPECIFIED.
2. ALL EXPOSED GALVANIZED SHEET METAL SHALL BE PROPERLY CLEANED, ETCHED, PRIMED AND PAINTED PER SPECIFICATION SECTION 09 91 13.
3. ALL NEW WORK INCLUDING SHEET METAL, TRIM, CEILINGS AND ALL OTHER NEW OR MODIFIED WORK SHALL BE PAINTED PER SPECIFICATION SECTION 09 91 10 WHETHER OR NOT CALLED OUT IN THE DRAWINGS.
4. EXISTING CLASSROOMS ARE NOT IDENTICAL IN REGARD TO QUANTITY OR LOCATION OF VARIOUS WALL OR CEILING MOUNTED ITEMS REQUIRED TO BE REMOVED OR PROTECTED IN PLACE AND MASKED FOR PAINTING. THE DEMOLITION PLANS AND NOTES ARE GENERAL IN NATURE AND REPRESENT THE GENERAL DEMOLITION OR PROTECT-IN-PLACE SCOPE. THE CONTRACTOR IS REQUIRED TO REMOVE OR PROTECT AND MASK IN PLACE ALL EXISTING FLOORS, WALLS, DRY MARKER BOARDS, TACKBOARDS, CASEWORK, PROJECTION SCREENS, FIRE EXTINGUISHERS, WINDOWS, WINDOW COVERINGS & TRACKS, LIGHT FIXTURES OR ANY OTHER ITEM WHETHER SPECIFICALLY SHOWN OR NOT AND AS REQUIRED FOR INSTALLATION OF NEW FINISHES. SOME ITEMS WILL BE REQUIRED TO BE REMOVED AND TEMPORARILY STORED AND PROTECTED FOR LATER INSTALLATION.
5. NOT ALL FURNISHINGS, COMPONENTS, FINISHES, EQUIPMENT, ELECTRICAL, MECHANICAL, ETC. ITEMS ARE SHOWN IN THE PLANS. THESE ITEMS ARE TO REMAIN AS INSTALLED AND SHALL BE MASKED AND PROTECTED AS NEEDED FOR PAINTING AND DURING CONSTRUCTION OPERATIONS.

DEMOLITION NOTES

NOTE: NOT ALL NOTES MAY BE USED

DN.01	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.02	REMOVE (E) ROOF MATERIAL, ROOF HATCH AND ROOF FRAMING FOR ACCESS. REMOVE (E) MECHANICAL EQUIPMENT IN ATTIC SPACE. SALVAGE ROOF HATCH FOR RE-INSTALLATION. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.03	DISCONNECT AND REMOVE (E) MECHANICAL GRILLE AND DUCTWORK ABOVE. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.04	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT AND CURB. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.05	DISCONNECT AND REMOVE (E) ELECTRICAL WIRE, CONDUIT, EQUIPMENT, ETC. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.06	REMOVE (E) LIGHT FIXTURES AND SALVAGE FOR RE-INSTALLATION. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.07	REMOVE AND DISPOSE OF (E) LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.08	REMOVE (E) ROOFING MATERIAL.
DN.09	REMOVE (E) EQUIPMENT CURB.
DN.10	REMOVE (E) CEILING FINISH MATERIALS.
DN.11	REMOVE (E) BEAM AND CEILING FRAMING.
DN.12	REMOVE (E) METAL ROOF MATERIAL AT MANSARD AT (N) EQUIPMENT CURB. SALVAGE FOR RE-INSTALLATION.
DN.13	NOT USED



KEY PLAN

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C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

DEMOLITION ROOF PLAN - BUILDING A

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
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SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

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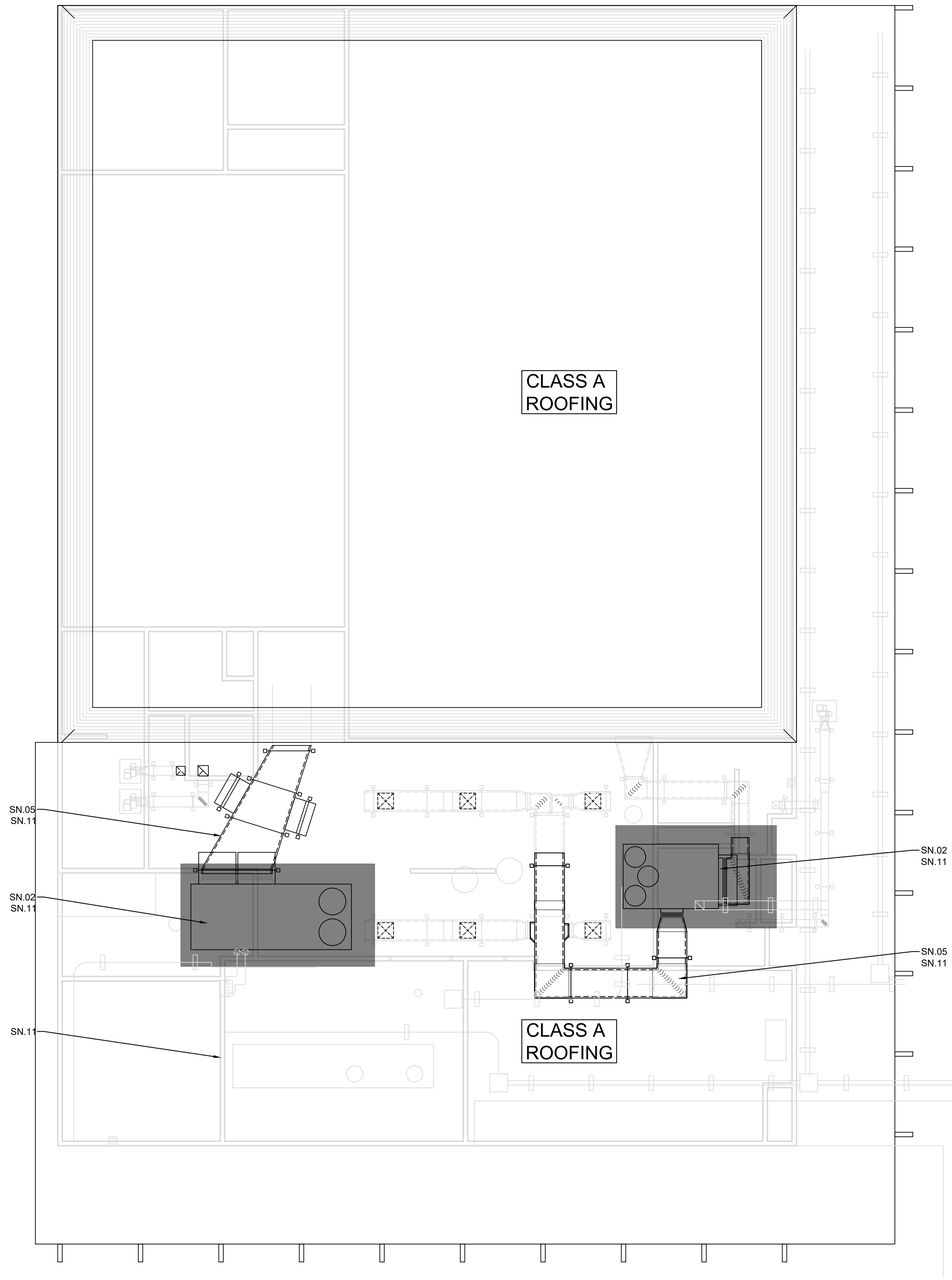
05 OF 93 SHEETS



1 A2.2.A ROOF PLAN - BUILDING A

SCALE: 1/8" =1'-0" 0 2' 4' 8' 16'

NORTH

GENERAL NOTES

1. IN GENERAL, THE DRAWINGS SHOW DIMENSIONS, POSITION AND KIND OF CONSTRUCTION; AND THE SPECIFICATIONS, QUALITIES AND METHODS. ANY WORK CALLED FOR IN THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, SHALL BE PERFORMED AS THOUGH FULLY SET FORTH IN BOTH. WORK NOT PARTICULARLY DETAILED, MARKED OR SPECIFIED SHALL BE THE SAME AS SIMILAR PARTS THAT ARE DETAILED, MARKED OR SPECIFIED.

2. ALL EXPOSED GALVANIZED SHEET METAL SHALL BE PROPERLY CLEANED, ETCHED, PRIMED AND PAINTED PER SPECIFICATION SECTION 09 91 13.

3. ALL NEW WORK INCLUDING SHEET METAL, TRIM, CEILINGS AND ALL OTHER NEW OR MODIFIED WORK SHALL BE PAINTED PER SPECIFICATION SECTION 09 91 10 WHETHER OR NOT CALLED OUT IN THE DRAWINGS.

4. EXISTING CLASSROOMS ARE NOT IDENTICAL IN REGARD TO QUANTITY OR LOCATION OF VARIOUS WALL OR CEILING MOUNTED ITEMS REQUIRED TO BE REMOVED OR PROTECTED IN PLACE AND MASKED FOR PAINTING. THE DEMOLITION PLANS AND NOTES ARE GENERAL IN NATURE AND REPRESENT THE GENERAL DEMOLITION OR PROTECT-IN-PLACE SCOPE. THE CONTRACTOR IS REQUIRED TO REMOVE OR PROTECT AND MASK IN PLACE ALL EXISTING FLOORS, WALLS, DRY MARKER BOARDS, TACKBOARDS, CASEWORK, PROJECTION SCREENS, FIRE EXTINGUISHERS, WINDOWS, WINDOW COVERINGS & TRACKS, LIGHT FIXTURES OR ANY OTHER ITEM WHETHER SPECIFICALLY SHOWN OR NOT AND AS REQUIRED FOR INSTALLATION OF NEW FINISHES. SOME ITEMS WILL BE REQUIRED TO BE REMOVED AND TEMPORARILY STORED AND PROTECTED FOR LATER INSTALLATION.

5. NOT ALL FURNISHINGS, COMPONENTS, FINISHES, EQUIPMENT, ELECTRICAL, MECHANICAL, ETC. ITEMS ARE SHOWN IN THE PLANS. THESE ITEMS ARE TO REMAIN AS INSTALLED AND SHALL BE MASKED AND PROTECTED AS NEEDED FOR PAINTING AND DURING CONSTRUCTION OPERATIONS.

SHEET NOTES

(NOTE: NOT ALL NOTES MAY BE USED)

SN.01 RE-FRAME ROOF AND ROOF HATCH OPENING. REINSTALL (E) SALVAGED ROOF HATCH. PATCH BACK TPO ROOF MATERIALS PER MANUFACTURER'S DETAILS AND SPECIFICATIONS. MANUFACTURER IS FIRESTONE BUILDING PRODUCTS LLC. MATERIAL IS 60-MIL TPO MEMBRANE. THE SAME MANUFACTURER AND MATERIAL MUST BE USED TO MAINTAIN WARRANTY.

SN.02 FRAME (N) EQUIPMENT CURB AND INSTALL (N) HVAC EQUIPMENT. SEE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. INSTALL (N) 60-MIL TPO ROOF AT (N) HVAC EQUIPMENT AND CURB. LAP (N) ROOF MATERIAL WITH (E) ROOF MATERIAL. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

SN.03 RE-INSTALL (E) METAL ROOF PANELS OVER (N) 60-MIL TPO ROOFING AT MANSARD ROOFS. LAP (N) TPO ROOFING WITH EXISTING WATERPROOFING. CUT METAL ROOFING PANELS TO FIT AROUND (N) HVAC EQUIPMENT CURBS.

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SN.05 INSTALL (N) DUCTWORK AND GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.06 FRAME (N) CEILING WITH METAL HAT CHANNELS. INSTALL (N) GYPSUM BOARD AND PAINT AT (N) CEILING. INSTALL (N) MECHANICAL DUCTS AND DIFFUSERS. REINSTALL (E) SALVAGED LIGHT FIXTURES AT (N) CEILING. REINSTALL FIRE ALARM DEVICES AT (N) CEILING. SEE STRUCTURAL SECTIONS AND DETAILS 1-6/S4.0.1, AND MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.07 FRAME (N) OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

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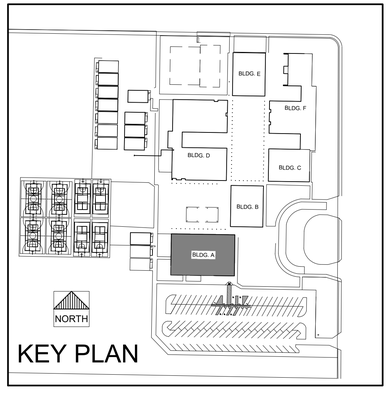
SN.12 CLEAN (E) DUCTS. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SN.13 RE-INSTALL (E) SALVAGED LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.14 INSTALL (N) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.15 EXISTING 2-HOUR AREA SEPARATION WALL

SN.16 REMOVE AND REPLACE AIR HVAC IN CLOSET BELOW. SEE MECHANICAL AND ELECTRICAL DOCUMENTS FOR ADDITIONAL INFORMATION



KEY PLAN

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DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ROOF PLAN - BUILDING A

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

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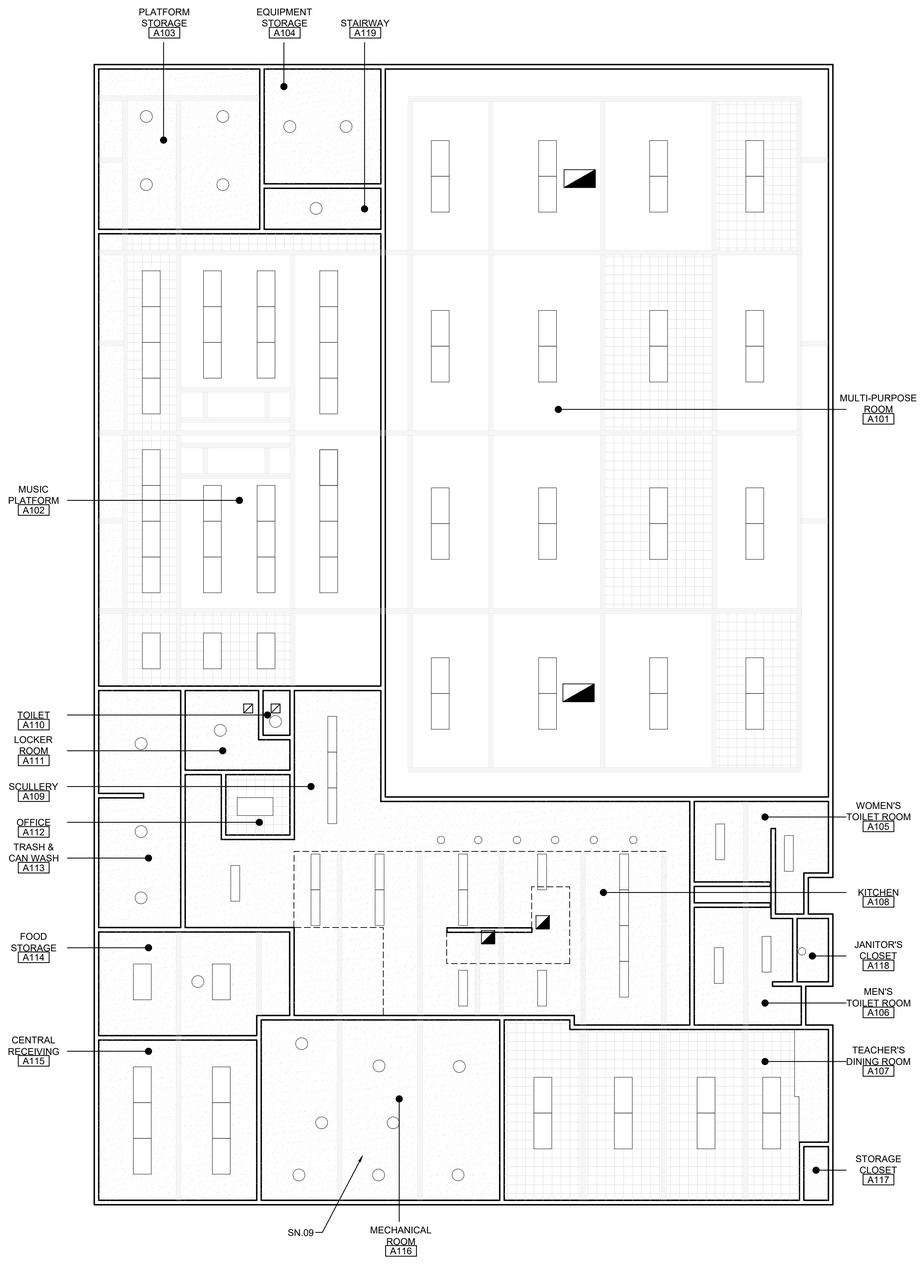

1 A2.4.A

REFLECTED CEILING PLAN - BUILDING A

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

0 8' 32'
4' 16'

NORTH

GENERAL NOTES

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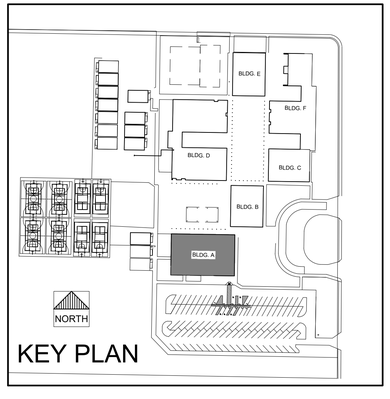

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STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

REFLECTED CEILING PLAN - BUILDING A

CONSULTANT

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DATE 8/26/2021		
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SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
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SHEET NO.

A2.4.A

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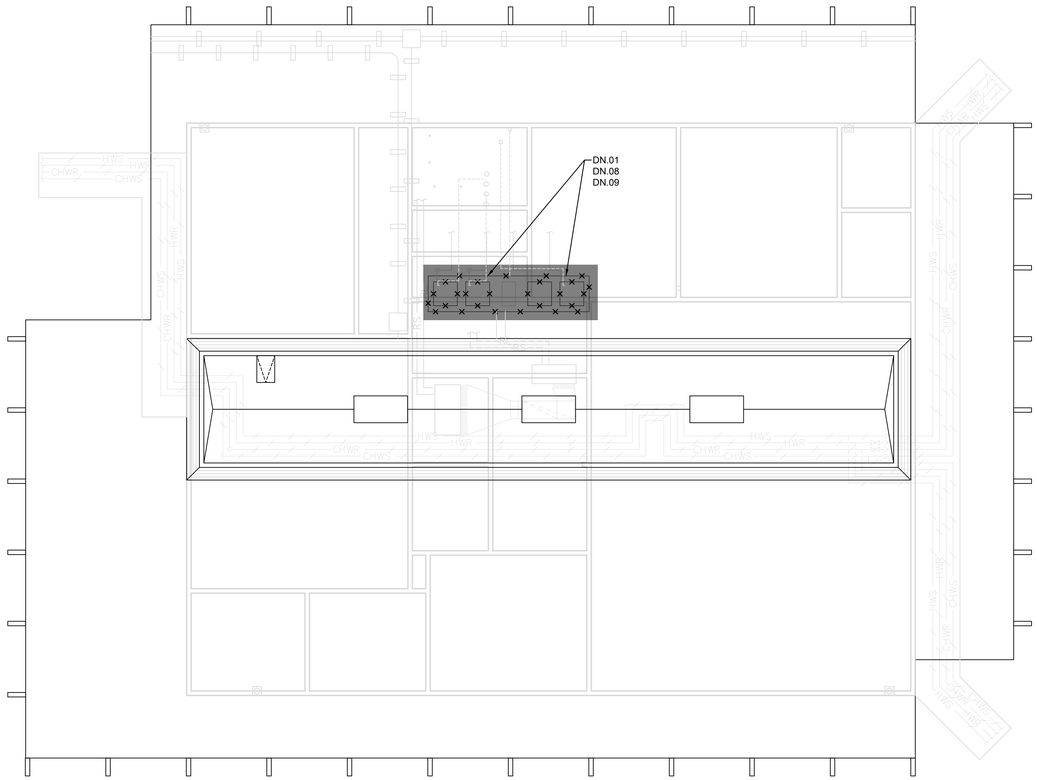
DEMOLITION NOTES

NOTE: NOT ALL NOTES MAY BE USED

DN.01	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.02	REMOVE (E) ROOF MATERIAL, ROOF HATCH AND ROOF FRAMING FOR ACCESS. REMOVE (E) MECHANICAL EQUIPMENT IN ATTIC SPACE. SALVAGE ROOF HATCH FOR RE-INSTALLATION. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.03	DISCONNECT AND REMOVE (E) MECHANICAL GRILLE AND DUCTWORK ABOVE. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.04	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT AND CURB. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.05	DISCONNECT AND REMOVE (E) ELECTRICAL WIRE, CONDUIT, EQUIPMENT, ETC. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.06	REMOVE (E) LIGHT FIXTURES AND SALVAGE FOR RE-INSTALLATION. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.07	REMOVE AND DISPOSE OF (E) LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.08	REMOVE (E) ROOFING MATERIAL.
DN.09	REMOVE (E) EQUIPMENT CURB.
DN.10	REMOVE (E) CEILING FINISH MATERIALS.
DN.11	REMOVE (E) BEAM AND CEILING FRAMING.
DN.12	REMOVE (E) METAL ROOF MATERIAL AT MANSARD AT (N) EQUIPMENT CURB. SALVAGE FOR RE-INSTALLATION.
DN.13	NOT USED

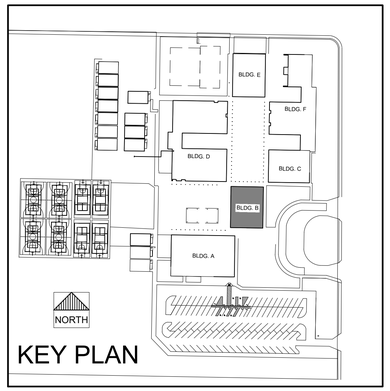


1 A2.1.B DEMOLITION ROOF PLAN - BUILDING B

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

0 4' 16'
2' 8'

NORTH



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DEMOLITION ROOF PLAN - BUILDING B

CONSULTANT

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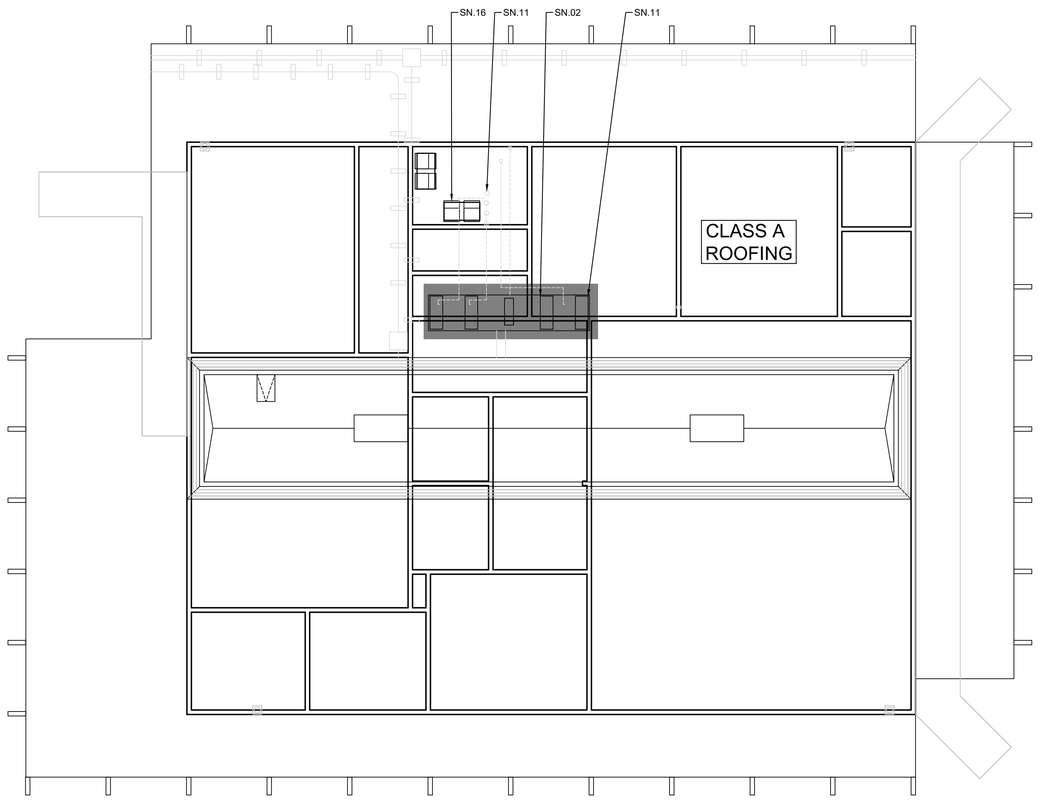

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0 4' 16'
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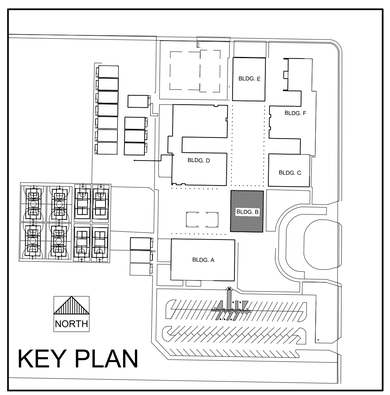

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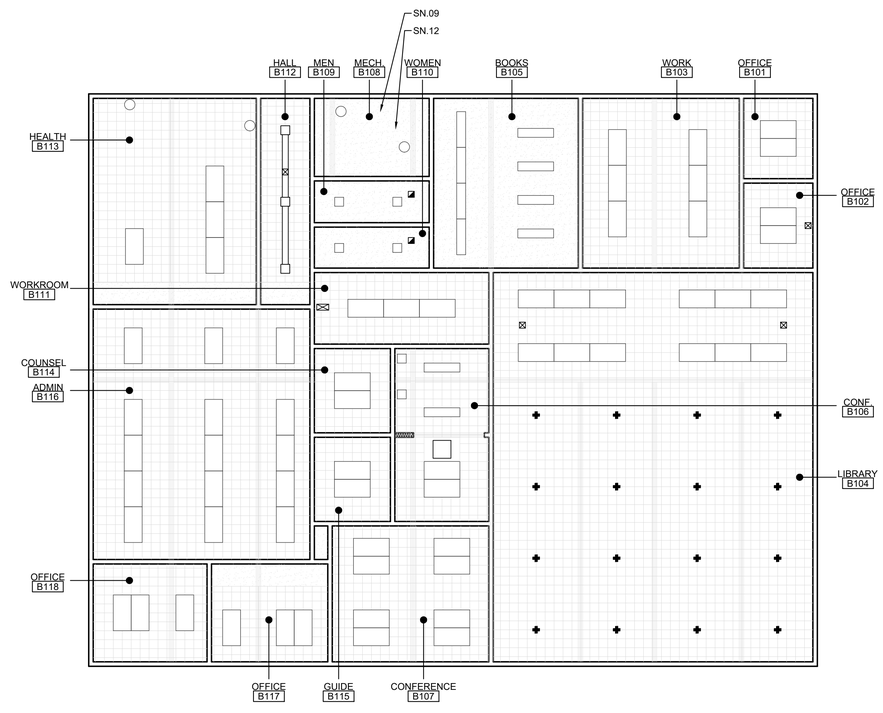

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5. NOT ALL FURNISHINGS, COMPONENTS, FINISHES, EQUIPMENT, ELECTRICAL, MECHANICAL, ETC. ITEMS ARE SHOWN IN THE PLANS. THESE ITEMS ARE TO REMAIN AS INSTALLED AND SHALL BE MASKED AND PROTECTED AS NEEDED FOR PAINTING AND DURING CONSTRUCTION OPERATIONS.

SHEET NOTES

(NOTE: NOT ALL NOTES MAY BE USED)

SN.01 RE-FRAME ROOF AND ROOF HATCH OPENING, REINSTALL (E) SALVAGED ROOF HATCH. PATCH BACK TPO ROOF MATERIALS PER MANUFACTURER'S DETAILS AND SPECIFICATIONS. MANUFACTURER IS FIRESTONE BUILDING PRODUCTS LLC. MATERIAL IS 60-MIL TPO MEMBRANE. THE SAME MANUFACTURER AND MATERIAL MUST BE USED TO MAINTAIN WARRANTY.

SN.02 FRAME (N) EQUIPMENT CURB AND INSTALL (N) HVAC EQUIPMENT. SEE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. INSTALL (N) 60-MIL TPO ROOF AT (N) HVAC EQUIPMENT AND CURB. LAP (N) ROOF MATERIAL WITH (E) ROOF MATERIAL. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

SN.03 RE-INSTALL (E) METAL ROOF PANELS OVER (N) 60-MIL TPO ROOFING AT MANSARD ROOFS. LAP (N) TPO ROOFING WITH EXISTING WATERPROOFING. CUT METAL ROOFING PANELS TO FIT AROUND (N) HVAC EQUIPMENT CURBS.

SN.04 IN-FILL FRAME AND SHEATH OVER AT OPENING WHERE EQUIPMENT HAS BEEN REMOVED AND NO NEW EQUIPMENT IS TO BE INSTALLED. INSTALL (N) 60-MIL TPO ROOFING MATERIAL OVER AREA AND TIE (N) ROOF INTO (E) ROOFING MATERIAL.

SN.05 INSTALL (N) DUCTWORK AND GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.06 FRAME (N) CEILING WITH METAL HAT CHANNELS. INSTALL (N) GYPSUM BOARD AND PAINT AT (N) CEILING. INSTALL (N) MECHANICAL DUCTS AND DIFFUSERS. REINSTALL (E) SALVAGED LIGHT FIXTURES AT (N) CEILING. REINSTALL FIRE ALARM DEVICES AT (N) CEILING. SEE STRUCTURAL SECTIONS AND DETAILS 1-6/S4.0.1, AND MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.07 FRAME (N) OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

SN.08 RE-FRAME OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

SN.09 INFILL FRAME OPENINGS IN CEILINGS AND INSTALL GYPSUM BOARD OVER CLOSED OPENINGS. PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.10 PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.11 PATCH AND REPAIR TPO ROOF WHERE EQUIPMENT, PIPE, CONDUIT, DUCT, ETC. HAS BEEN REMOVED, MOVED, REPLACED, RELOCATED, ETC. INSTALL (N) TPO ROOF, FLASH, CAULK (N) AND (E) EQUIPMENT TO RESTORE, REPAIR AND WATERPROOF ROOF FOR ALL ROOF AREAS AFFECTED BY THIS WORK. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

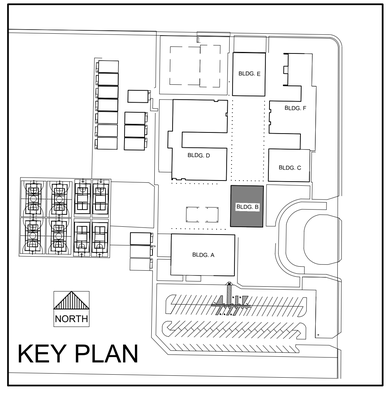
SN.12 CLEAN (E) DUCTS. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SN.13 RE-INSTALL (E) SALVAGED LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.14 INSTALL (N) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.15 EXISTING 2-HOUR AREA SEPARATION WALL

SN.16 REMOVE AND REPLACE AIR HVAC IN CLOSET BELOW. SEE MECHANICAL AND ELECTRICAL DOCUMENTS FOR ADDITIONAL INFORMATION



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LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

REFLECTED CEILING PLAN - BUILDING B

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

SHEET NO.

A2.4.B

GENERAL NOTES

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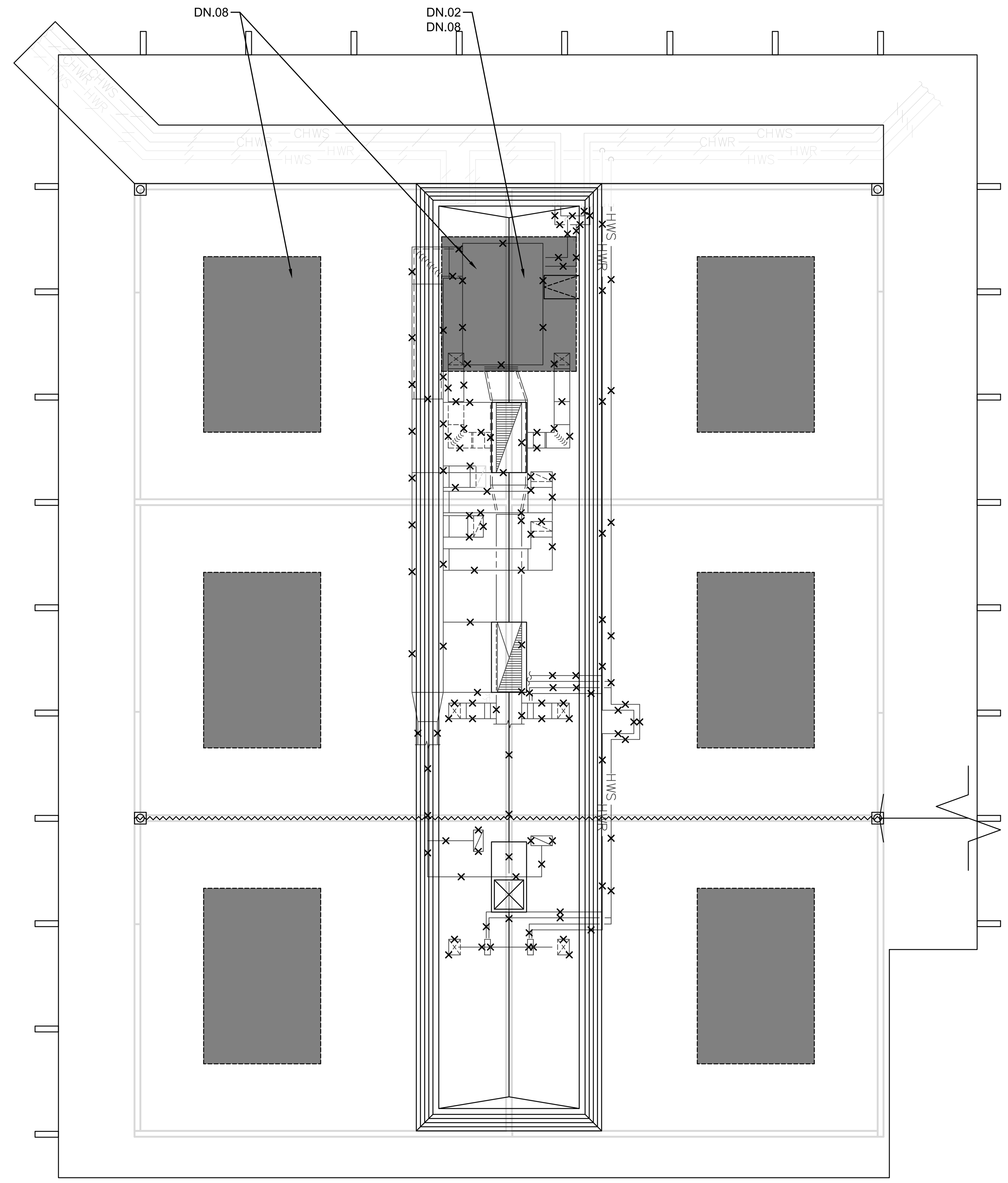
DEMOLITION NOTES

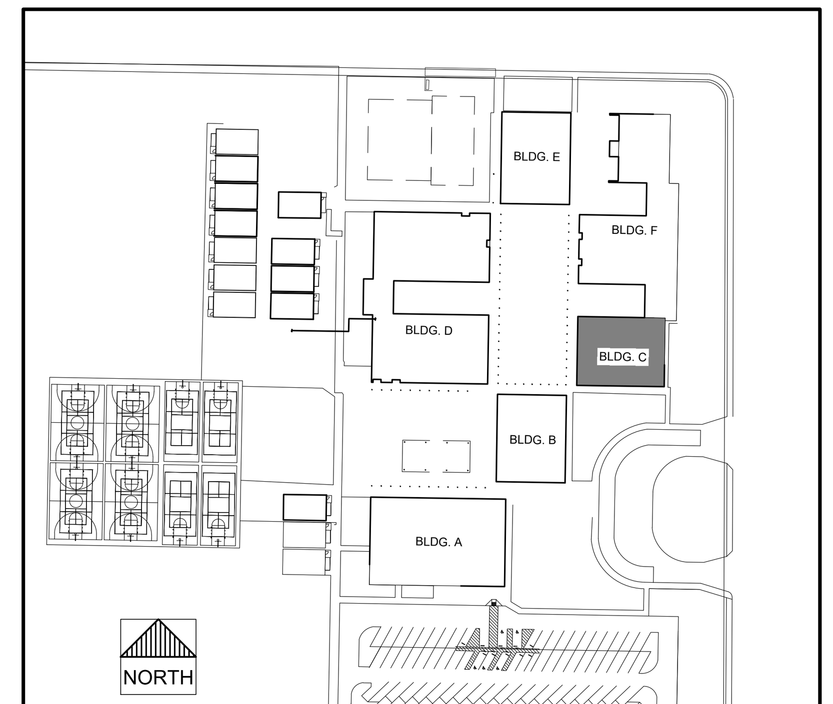
NOTE: NOT ALL NOTES MAY BE USED

DN.01	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.02	REMOVE (E) ROOF MATERIAL, ROOF HATCH AND ROOF FRAMING FOR ACCESS. REMOVE (E) MECHANICAL EQUIPMENT IN ATTIC SPACE. SALVAGE ROOF HATCH FOR RE-INSTALLATION. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.03	DISCONNECT AND REMOVE (E) MECHANICAL GRILLE AND DUCTWORK ABOVE. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.04	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT AND CURB. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.05	DISCONNECT AND REMOVE (E) ELECTRICAL WIRE, CONDUIT, EQUIPMENT, ETC. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.06	REMOVE (E) LIGHT FIXTURES AND SALVAGE FOR RE-INSTALLATION. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.07	REMOVE AND DISPOSE OF (E) LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.08	REMOVE (E) ROOFING MATERIAL.
DN.09	REMOVE (E) EQUIPMENT CURB.
DN.10	REMOVE (E) CEILING FINISH MATERIALS.
DN.11	REMOVE (E) BEAM AND CEILING FRAMING.
DN.12	REMOVE (E) METAL ROOF MATERIAL AT MANSARD AT (N) EQUIPMENT CURB. SALVAGE FOR RE-INSTALLATION.
DN.13	NOT USED



1 A2.1.C DEMOLITION ROOF PLAN - BUILDING C

SCALE: 1/8" =1'-0" 0 2' 4' 8' 16'



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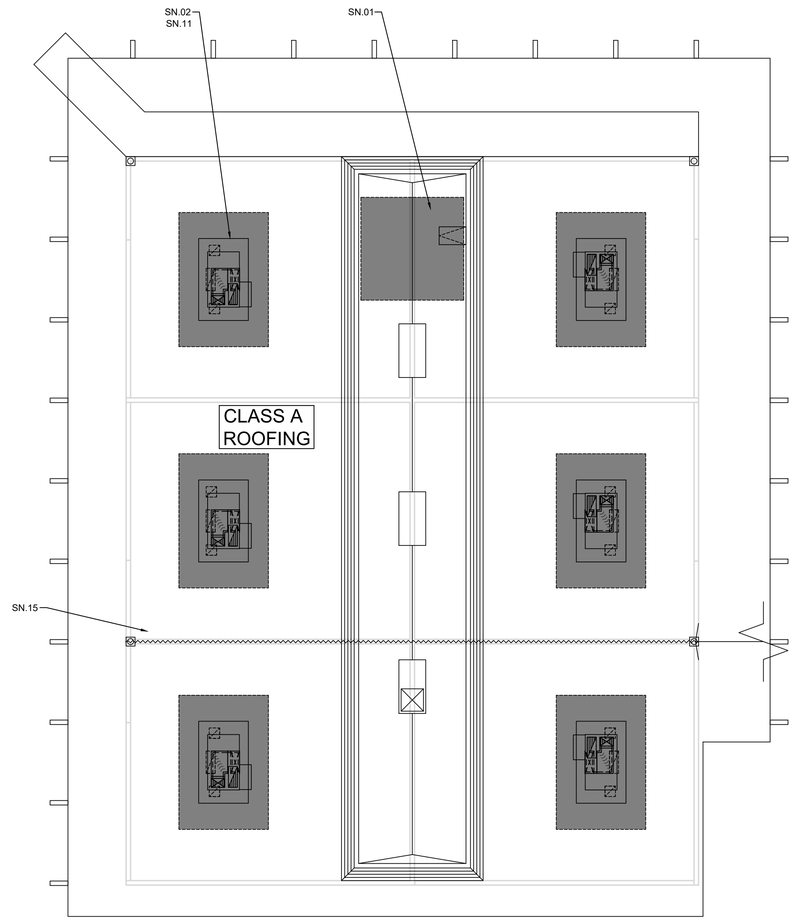

1 A2.2.C ROOF PLAN - BUILDING C

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

0 4' 16'
2' 8'

NORTH

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SN.03 RE-INSTALL (E) METAL ROOF PANELS OVER (N) 60-MIL TPO ROOFING AT MANSARD ROOFS. LAP (N) TPO ROOFING WITH EXISTING WATERPROOFING. CUT METAL ROOFING PANELS TO FIT AROUND (N) HVAC EQUIPMENT CURBS.

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SN.05 INSTALL (N) DUCTWORK AND GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

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SN.13 RE-INSTALL (E) SALVAGED LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.14 INSTALL (N) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

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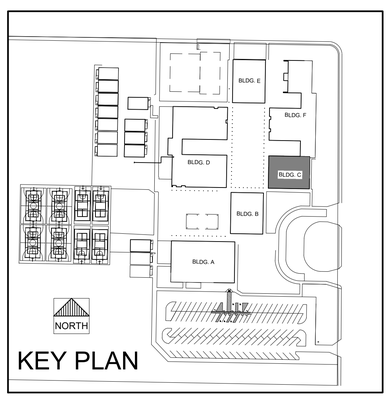

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LODI MIDDLE SCHOOL

ROOF PLAN - BUILDING C

CONSULTANT

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A2.2.C

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DN.04	NOT USED.
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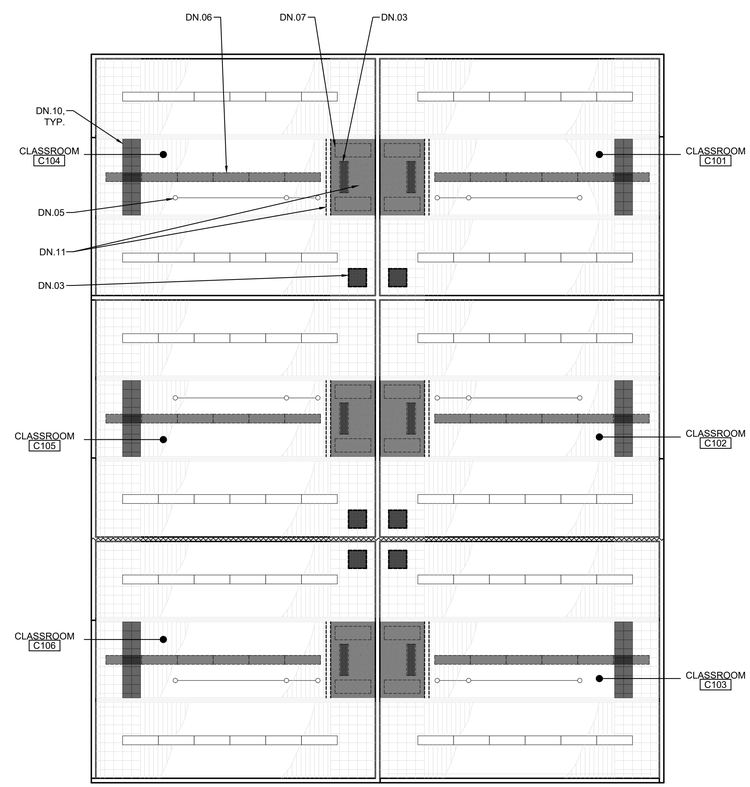
DN.13	NOT USED

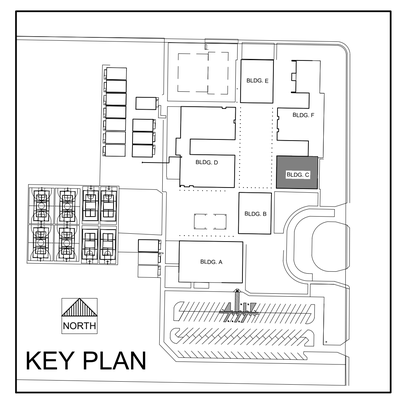


1 A2.3.C DEMOLITION REFLECTED CEILING PLAN - BUILDING C

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

0 4' 16'
2' 8'

NORTH



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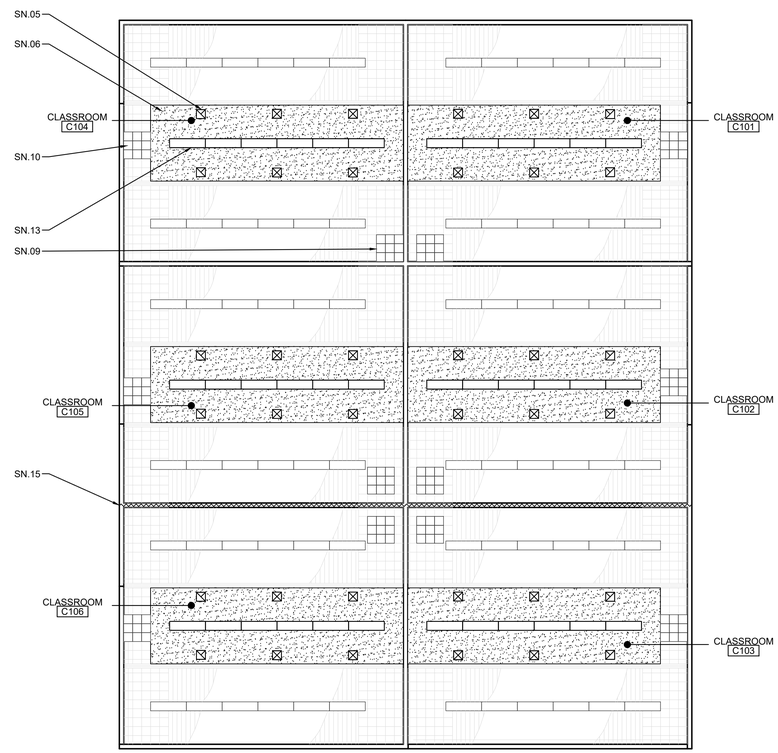

1
A2.4.C

REFLECTED CEILING PLAN - BUILDING C

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0 4' 16'
2' 8'

NORTH

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4. EXISTING CLASSROOMS ARE NOT IDENTICAL IN REGARD TO QUANTITY OR LOCATION OF VARIOUS WALL OR CEILING MOUNTED ITEMS REQUIRED TO BE REMOVED OR PROTECTED IN PLACE AND MASKED FOR PAINTING. THE DEMOLITION PLANS AND NOTES ARE GENERAL IN NATURE AND REPRESENT THE GENERAL DEMOLITION OR PROTECT-IN-PLACE SCOPE. THE CONTRACTOR IS REQUIRED TO REMOVE OR PROTECT AND MASK IN PLACE ALL EXISTING FLOORS, WALLS, DRY MARKER BOARDS, TACKBOARDS, CASEWORK, PROJECTION SCREENS, FIRE EXTINGUISHERS, WINDOWS, WINDOW COVERINGS & TRACKS, LIGHT FIXTURES OR ANY OTHER ITEM WHETHER SPECIFICALLY SHOWN OR NOT AND AS REQUIRED FOR INSTALLATION OF NEW FINISHES. SOME ITEMS WILL BE REQUIRED TO BE REMOVED AND TEMPORARILY STORED AND PROTECTED FOR LATER INSTALLATION.

5. NOT ALL FURNISHINGS, COMPONENTS, FINISHES, EQUIPMENT, ELECTRICAL, MECHANICAL, ETC. ITEMS ARE SHOWN IN THE PLANS. THESE ITEMS ARE TO REMAIN AS INSTALLED AND SHALL BE MASKED AND PROTECTED AS NEEDED FOR PAINTING AND DURING CONSTRUCTION OPERATIONS.

SHEET NOTES

(NOTE: NOT ALL NOTES MAY BE USED)

SN.01 RE-FRAME ROOF AND ROOF HATCH OPENING. REINSTALL (E) SALVAGED ROOF HATCH. PATCH BACK TPO ROOF MATERIALS PER MANUFACTURER'S DETAILS AND SPECIFICATIONS. MANUFACTURER IS FIRESTONE BUILDING PRODUCTS LLC. MATERIAL IS 60-MIL TPO MEMBRANE. THE SAME MANUFACTURER AND MATERIAL MUST BE USED TO MAINTAIN WARRANTY.

SN.02 FRAME (N) EQUIPMENT CURB AND INSTALL (N) HVAC EQUIPMENT. SEE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. INSTALL (N) 60-MIL TPO ROOF AT (N) HVAC EQUIPMENT AND CURB. LAP (N) ROOF MATERIAL WITH (E) ROOF MATERIAL. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

SN.03 RE-INSTALL (E) METAL ROOF PANELS OVER (N) 60-MIL TPO ROOFING AT MANSARD ROOFS. LAP (N) TPO ROOFING WITH EXISTING WATERPROOFING. CUT METAL ROOFING PANELS TO FIT AROUND (N) HVAC EQUIPMENT CURBS.

SN.04 IN-FILL FRAME AND SHEATH OVER AT OPENING WHERE EQUIPMENT HAS BEEN REMOVED AND NO NEW EQUIPMENT IS TO BE INSTALLED. INSTALL (N) 60-MIL TPO ROOFING MATERIAL OVER AREA AND TIE (N) ROOF INTO (E) ROOFING MATERIAL.

SN.05 INSTALL (N) DUCTWORK AND GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.06 FRAME (N) CEILING WITH METAL HAT CHANNELS. INSTALL (N) GYPSUM BOARD AND PAINT AT (N) CEILING. INSTALL (N) MECHANICAL DUCTS AND DIFFUSERS. REINSTALL (E) SALVAGED LIGHT FIXTURES AT (N) CEILING. REINSTALL FIRE ALARM DEVICES AT (N) CEILING. SEE STRUCTURAL SECTIONS AND DETAILS 1-6/S4.0.1, AND MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.07 FRAME (N) OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

SN.08 RE-FRAME OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

SN.09 INFILL FRAME OPENINGS IN CEILINGS AND INSTALL GYPSUM BOARD OVER CLOSED OPENINGS. PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.10 PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.11 PATCH AND REPAIR TPO ROOF WHERE EQUIPMENT, PIPE, CONDUIT, DUCT, ETC. HAS BEEN REMOVED, MOVED, REPLACED, RELOCATED, ETC. INSTALL (N) TPO ROOF, FLASH, CAULK (N) AND (E) EQUIPMENT TO RESTORE, REPAIR AND WATERPROOF ROOF FOR ALL ROOF AREAS AFFECTED BY THIS WORK. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

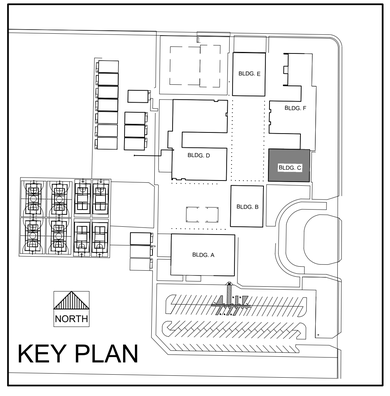
SN.12 CLEAN (E) DUCTS. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SN.13 RE-INSTALL (E) SALVAGED LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.14 INSTALL (N) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.15 EXISTING 2-HOUR AREA SEPARATION WALL

SN.16 REMOVE AND REPLACE AIR HVAC IN CLOSET BELOW. SEE MECHANICAL AND ELECTRICAL DOCUMENTS FOR ADDITIONAL INFORMATION



KEY PLAN

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

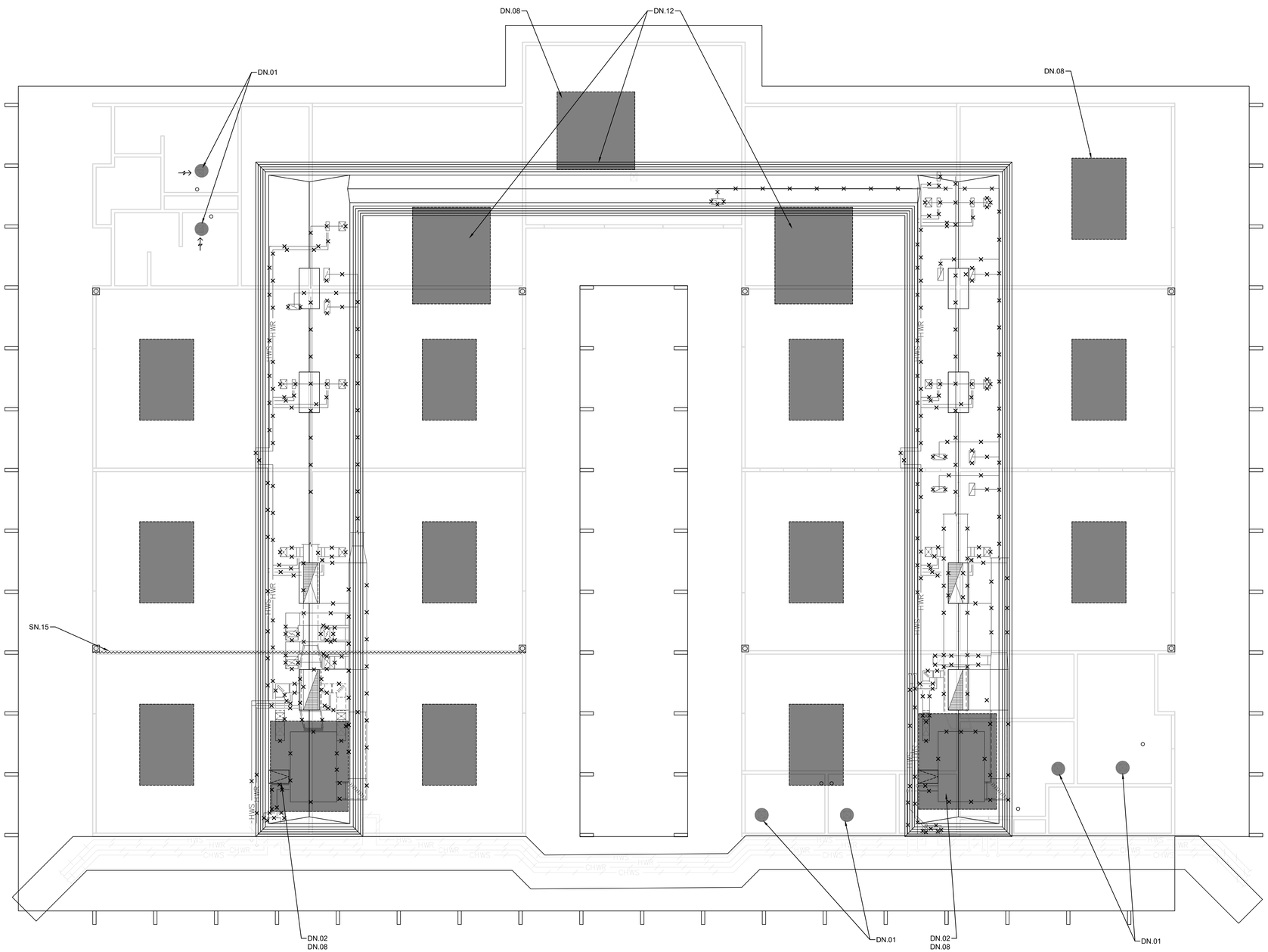
REFLECTED CEILING PLAN - BUILDING C

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

SHEET NO.

A2.4.C



1 A2.1.D DEMOLITION ROOF PLAN - BUILDING D

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

0 4' 16'
2' 8'

NORTH

GENERAL NOTES

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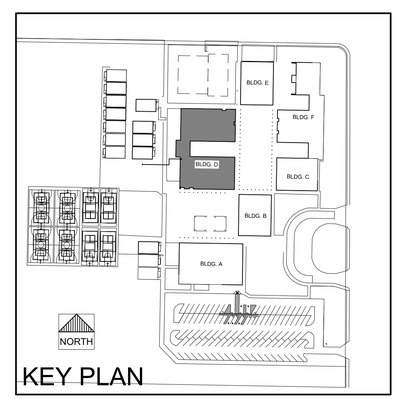
DEMOLITION NOTES

NOTE: NOT ALL NOTES MAY BE USED

DN.01	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.02	REMOVE (E) ROOF MATERIAL, ROOF HATCH AND ROOF FRAMING FOR ACCESS. REMOVE (E) MECHANICAL EQUIPMENT IN ATTIC SPACE. SALVAGE ROOF HATCH FOR RE-INSTALLATION. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.03	DISCONNECT AND REMOVE (E) MECHANICAL GRILLE AND DUCTWORK ABOVE. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.04	NOT USED.
DN.05	DISCONNECT AND REMOVE (E) ELECTRICAL WIRE, CONDUIT, EQUIPMENT, ETC. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.06	REMOVE (E) LIGHT FIXTURES AND SALVAGE FOR RE-INSTALLATION. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.07	REMOVE AND DISPOSE OF (E) LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.08	REMOVE (E) ROOFING MATERIAL.
DN.09	REMOVE (E) EQUIPMENT CURB.
DN.10	REMOVE (E) CEILING FINISH MATERIALS.
DN.11	REMOVE (E) BEAM AND CEILING FRAMING.
DN.12	REMOVE (E) METAL ROOF MATERIAL AT MANSARD AT (N) EQUIPMENT CURB. SALVAGE FOR RE-INSTALLATION.
DN.13	NOT USED



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DEMOLITION ROOF PLAN - BUILDING D

CONSULTANT

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SHEET NO.

A2.1.D

1 A2.2.D ROOF PLAN - BUILDING D

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

0 4' 16'
2' 8'

GENERAL NOTES

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SHEET NOTES

(NOTE: NOT ALL NOTES MAY BE USED)

SN.01 RE-FRAME ROOF AND ROOF HATCH OPENING, REINSTALL (E) SALVAGED ROOF HATCH. PATCH BACK TPO ROOF MATERIALS PER MANUFACTURER'S DETAILS AND SPECIFICATIONS. MANUFACTURER IS FIRESTONE BUILDING PRODUCTS LLC. MATERIAL IS 60-MIL TPO MEMBRANE. THE SAME MANUFACTURER AND MATERIAL MUST BE USED TO MAINTAIN WARRANTY.

SN.02 FRAME (N) EQUIPMENT CURB AND INSTALL (N) HVAC EQUIPMENT. SEE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. INSTALL (N) 60-MIL TPO ROOF AT (N) HVAC EQUIPMENT AND CURB. LAP (N) ROOF MATERIAL WITH (E) ROOF MATERIAL. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

SN.03 RE-INSTALL (E) METAL ROOF PANELS OVER (N) 60-MIL TPO ROOFING AT MANSARD ROOFS. LAP (N) TPO ROOFING WITH EXISTING WATERPROOFING. CUT METAL ROOFING PANELS TO FIT AROUND (N) HVAC EQUIPMENT CURBS.

SN.04 IN-FILL FRAME AND SHEATH OVER AT OPENING WHERE EQUIPMENT HAS BEEN REMOVED AND NO NEW EQUIPMENT IS TO BE INSTALLED. INSTALL (N) 60-MIL TPO ROOFING MATERIAL OVER AREA AND TIE (N) ROOF INTO (E) ROOFING MATERIAL.

SN.05 INSTALL (N) DUCTWORK AND GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.06 FRAME (N) CEILING WITH METAL HAT CHANNELS. INSTALL (N) GYPSUM BOARD AND PAINT AT (N) CEILING. INSTALL (N) MECHANICAL DUCTS AND DIFFUSERS. REINSTALL (E) SALVAGED LIGHT FIXTURES AT (N) CEILING. REINSTALL FIRE ALARM DEVICES AT (N) CEILING. SEE STRUCTURAL SECTIONS AND DETAILS 1-6/S4.0.1, AND MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

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SN.09 INFILL FRAME OPENINGS IN CEILINGS AND INSTALL GYPSUM BOARD OVER CLOSED OPENINGS. PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.10 PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.11 PATCH AND REPAIR TPO ROOF WHERE EQUIPMENT, PIPE, CONDUIT, DUCT, ETC. HAS BEEN REMOVED, MOVED, REPLACED, RELOCATED, ETC. INSTALL (N) TPO ROOF, FLASH, CAULK (N) AND (E) EQUIPMENT TO RESTORE, REPAIR AND WATERPROOF ROOF FOR ALL ROOF AREAS AFFECTED BY THIS WORK. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

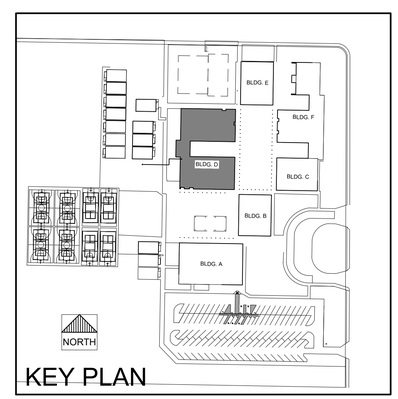
SN.12 CLEAN (E) DUCTS. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SN.13 RE-INSTALL (E) SALVAGED LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.14 INSTALL (N) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.15 EXISTING 2-HOUR AREA SEPARATION WALL

SN.16 REMOVE AND REPLACE AIR HVAC IN CLOSET BELOW. SEE MECHANICAL AND ELECTRICAL DOCUMENTS FOR ADDITIONAL INFORMATION



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STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ROOF PLAN - BUILDING D

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
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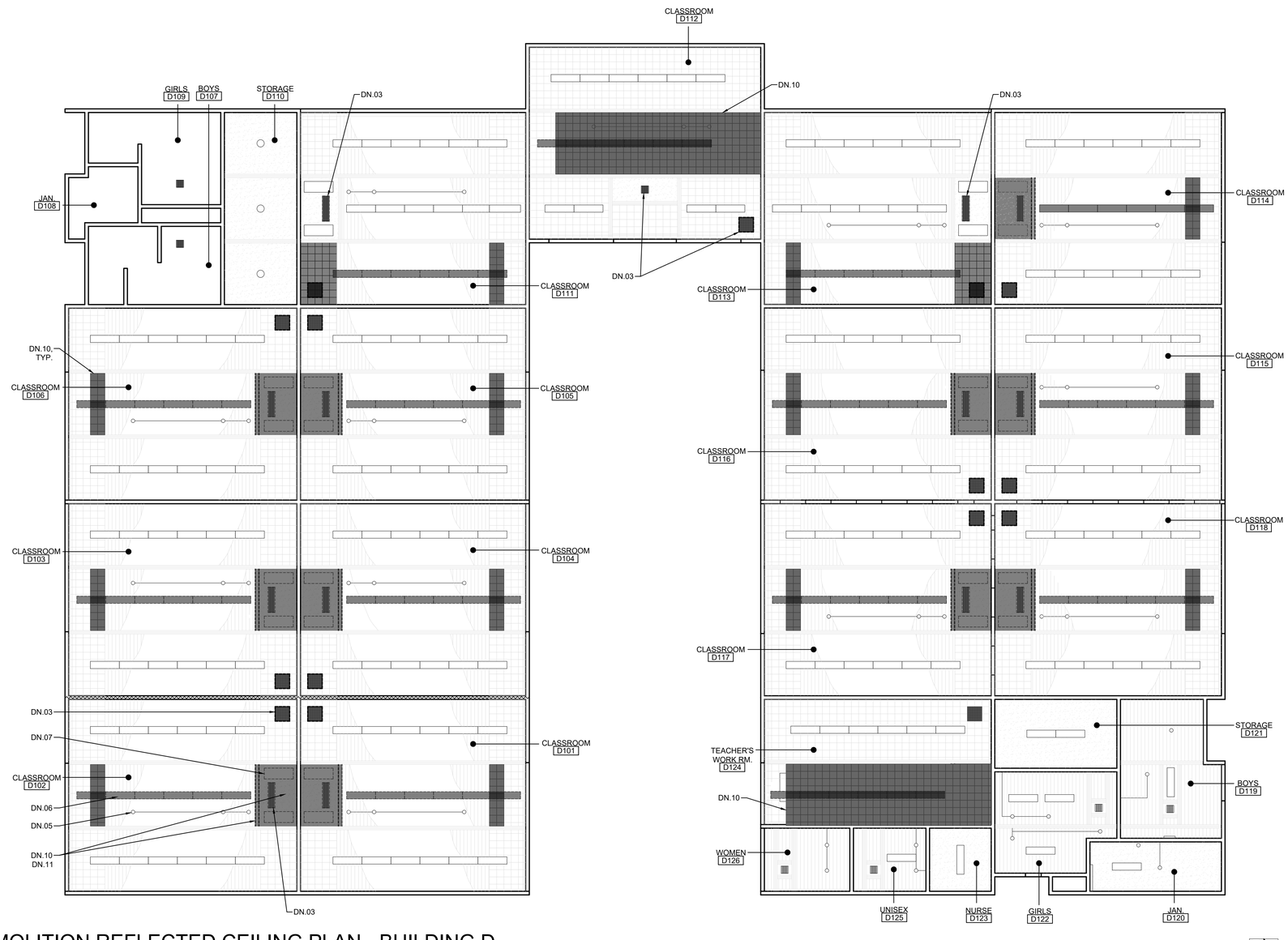

1 A2.3.D DEMOLITION REFLECTED CEILING PLAN - BUILDING D

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

0 8' 32'
4' 16'

GENERAL NOTES

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DEMOLITION NOTES

NOTE: NOT ALL NOTES MAY BE USED

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DN.04	NOT USED.
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DN.06	REMOVE (E) LIGHT FIXTURES AND SALVAGE FOR RE-INSTALLATION. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
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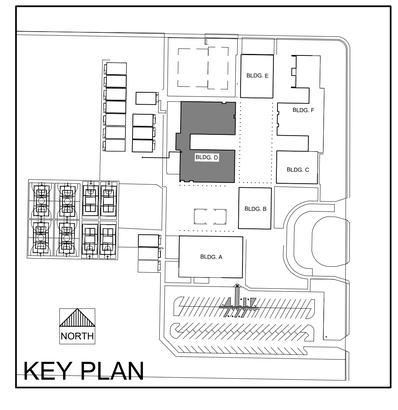

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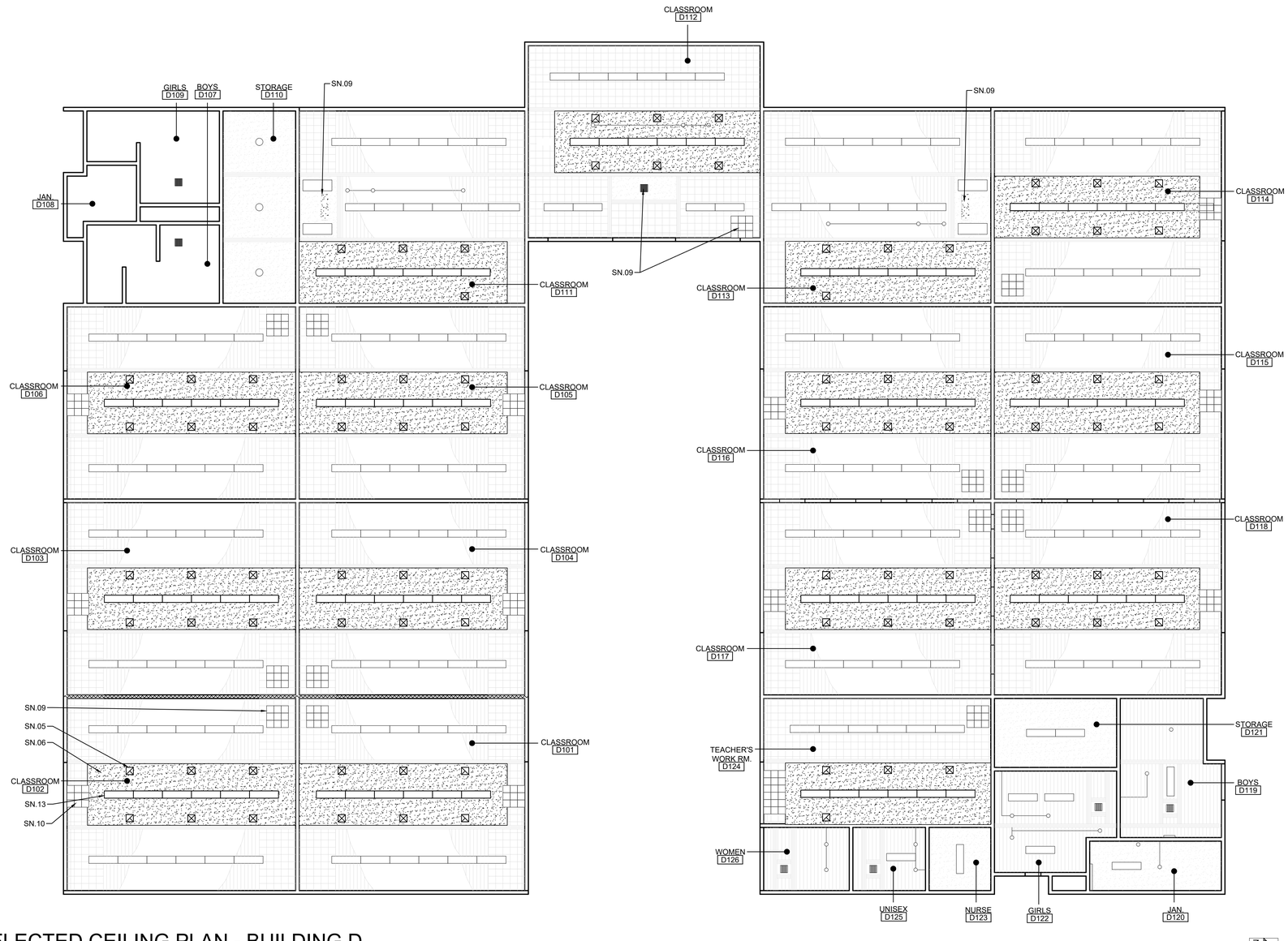

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SCALE: 1/8" = 1'-0"

0 4' 8' 16' 32'

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5. NOT ALL FURNISHINGS, COMPONENTS, FINISHES, EQUIPMENT, ELECTRICAL, MECHANICAL, ETC. ITEMS ARE SHOWN IN THE PLANS. THESE ITEMS ARE TO REMAIN AS INSTALLED AND SHALL BE MASKED AND PROTECTED AS NEEDED FOR PAINTING AND DURING CONSTRUCTION OPERATIONS.

SHEET NOTES

(NOTE: NOT ALL NOTES MAY BE USED)

SN.01 RE-FRAME ROOF AND ROOF HATCH OPENING. REINSTALL (E) SALVAGED ROOF HATCH. PATCH BACK TPO ROOF MATERIALS PER MANUFACTURER'S DETAILS AND SPECIFICATIONS. MANUFACTURER IS FIRESTONE BUILDING PRODUCTS LLC. MATERIAL IS 60-MIL TPO MEMBRANE. THE SAME MANUFACTURER AND MATERIAL MUST BE USED TO MAINTAIN WARRANTY.

SN.02 FRAME (N) EQUIPMENT CURB AND INSTALL (N) HVAC EQUIPMENT. SEE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. INSTALL (N) 60-MIL TPO ROOF AT (N) HVAC EQUIPMENT AND CURB. LAP (N) ROOF MATERIAL WITH (E) ROOF MATERIAL. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

SN.03 RE-INSTALL (E) METAL ROOF PANELS OVER (N) 60-MIL TPO ROOFING AT MANSARD ROOFS. LAP (N) TPO ROOFING WITH EXISTING WATERPROOFING. CUT METAL ROOFING PANELS TO FIT AROUND (N) HVAC EQUIPMENT CURBS.

SN.04 IN-FILL FRAME AND SHEATH OVER AT OPENING WHERE EQUIPMENT HAS BEEN REMOVED AND NO NEW EQUIPMENT IS TO BE INSTALLED. INSTALL (N) 60-MIL TPO ROOFING MATERIAL OVER AREA AND TIE (N) ROOF INTO (E) ROOFING MATERIAL.

SN.05 INSTALL (N) DUCTWORK AND GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.06 FRAME (N) CEILING WITH METAL HAT CHANNELS. INSTALL (N) GYPSUM BOARD AND PAINT AT (N) CEILING. INSTALL (N) MECHANICAL DUCTS AND DIFFUSERS. REINSTALL (E) SALVAGED LIGHT FIXTURES AT (N) CEILING. REINSTALL FIRE ALARM DEVICES AT (N) CEILING. SEE STRUCTURAL SECTIONS AND DETAILS 1-6/S4.0-1, AND MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.07 FRAME (N) OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

SN.08 RE-FRAME OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

SN.09 INFILL FRAME OPENINGS IN CEILINGS AND INSTALL GYPSUM BOARD OVER CLOSED OPENINGS. PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.10 PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.11 PATCH AND REPAIR TPO ROOF WHERE EQUIPMENT, PIPE, CONDUIT, DUCT, ETC. HAS BEEN REMOVED, MOVED, REPLACED, RELOCATED, ETC. INSTALL (N) TPO ROOF, FLASH, CAULK (N) AND (E) EQUIPMENT TO RESTORE, REPAIR AND WATERPROOF ROOF FOR ALL ROOF AREAS AFFECTED BY THIS WORK. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

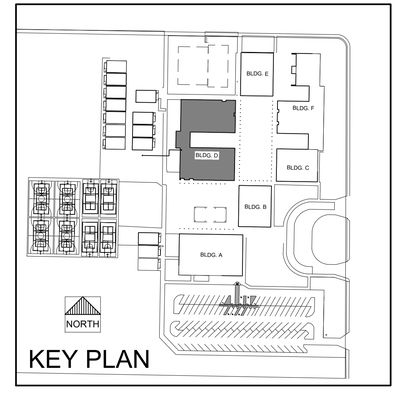
SN.12 CLEAN (E) DUCTS. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SN.13 RE-INSTALL (E) SALVAGED LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.14 INSTALL (N) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.15 EXISTING 2-HOUR AREA SEPARATION WALL

SN.16 REMOVE AND REPLACE AIR HVAC IN CLOSET BELOW. SEE MECHANICAL AND ELECTRICAL DOCUMENTS FOR ADDITIONAL INFORMATION



KEY PLAN

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APP: 02-120272 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

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Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT STEPHEN L. HENRY C-22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

REFLECTED CEILING PLAN - BUILDING D

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

SHEET NO.

A2.4.D

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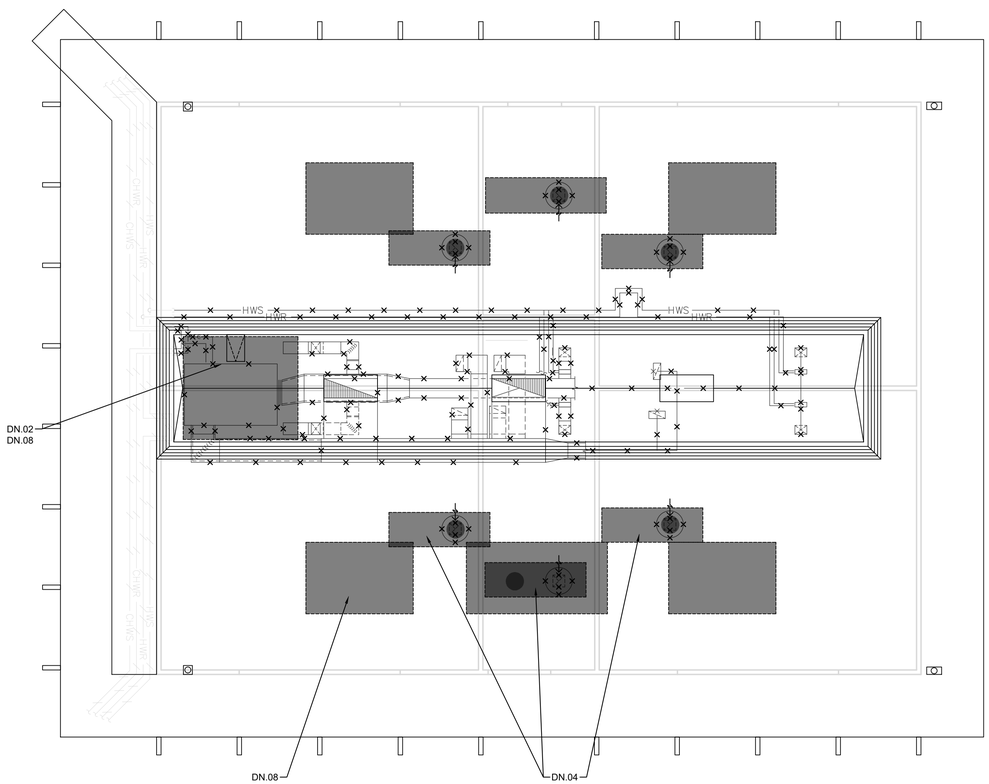
DEMOLITION NOTES

NOTE: NOT ALL NOTES MAY BE USED

DN.01	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.02	REMOVE (E) ROOF MATERIAL, ROOF HATCH AND ROOF FRAMING FOR ACCESS. REMOVE (E) MECHANICAL EQUIPMENT IN ATTIC SPACE. SALVAGE ROOF HATCH FOR RE-INSTALLATION. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.03	DISCONNECT AND REMOVE (E) MECHANICAL GRILLE AND DUCTWORK ABOVE. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.04	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT AND CURB. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.05	DISCONNECT AND REMOVE (E) ELECTRICAL WIRE, CONDUIT, EQUIPMENT, ETC. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.06	REMOVE (E) LIGHT FIXTURES AND SALVAGE FOR RE-INSTALLATION. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.07	REMOVE AND DISPOSE OF (E) LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.08	REMOVE (E) ROOFING MATERIAL.
DN.09	REMOVE (E) EQUIPMENT CURB.
DN.10	REMOVE (E) CEILING FINISH MATERIALS.
DN.11	REMOVE (E) BEAM AND CEILING FRAMING.
DN.12	REMOVE (E) METAL ROOF MATERIAL AT MANSARD AT (N) EQUIPMENT CURB. SALVAGE FOR RE-INSTALLATION.
DN.13	NOT USED

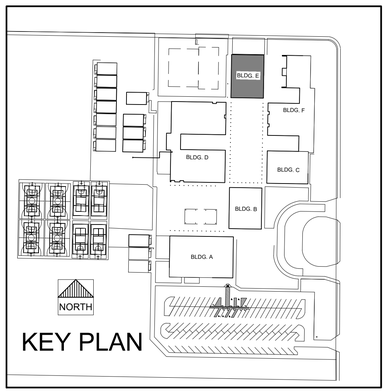


1 A2.1.E DEMOLITION ROOF PLAN - BUILDING E

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

0 4' 16' 2' 8'

NORTH



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HVAC REPLACEMENT
LODI MIDDLE SCHOOL

DEMOLITION ROOF PLAN - BUILDING E

CONSULTANT

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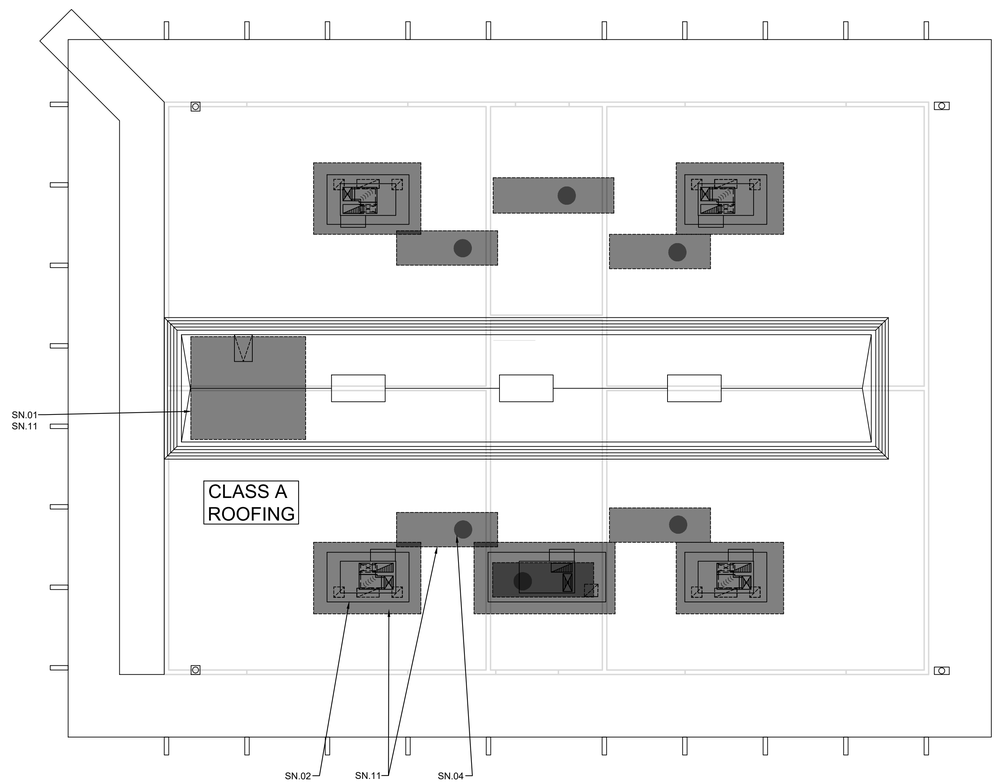

1 A2.2.E ROOF PLAN - BUILDING E

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

0 4' 16'
2' 8'

NORTH

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SHEET NOTES

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SN.03 RE-INSTALL (E) METAL ROOF PANELS OVER (N) 60-MIL TPO ROOFING AT MANSARD ROOFS. LAP (N) TPO ROOFING WITH EXISTING WATERPROOFING. CUT METAL ROOFING PANELS TO FIT AROUND (N) HVAC EQUIPMENT CURBS.

SN.04 IN-FILL FRAME AND SHEATH OVER AT OPENING WHERE EQUIPMENT HAS BEEN REMOVED AND NO NEW EQUIPMENT IS TO BE INSTALLED. INSTALL (N) 60-MIL TPO ROOFING MATERIAL OVER AREA AND TIE (N) ROOF INTO (E) ROOFING MATERIAL.

SN.05 INSTALL (N) DUCTWORK AND GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.06 FRAME (N) CEILING WITH METAL HAT CHANNELS. INSTALL (N) GYPSUM BOARD AND PAINT AT (N) CEILING. INSTALL (N) MECHANICAL DUCTS AND DIFFUSERS. REINSTALL (E) SALVAGED LIGHT FIXTURES AT (N) CEILING. REINSTALL FIRE ALARM DEVICES AT (N) CEILING. SEE STRUCTURAL SECTIONS AND DETAILS 1-6/S4.0.1, AND MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

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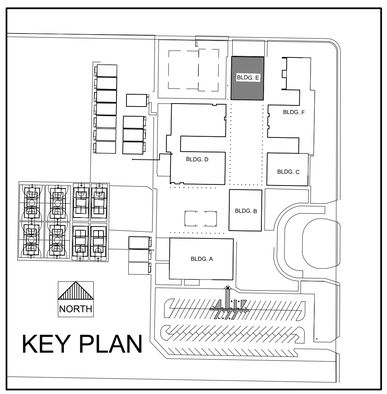
SN.14 INSTALL (N) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.15 EXISTING 2-HOUR AREA SEPARATION WALL

SN.16 REMOVE AND REPLACE AIR HVAC IN CLOSET BELOW. SEE MECHANICAL AND ELECTRICAL DOCUMENTS FOR ADDITIONAL INFORMATION



KEY PLAN

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LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ROOF PLAN - BUILDING E

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
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SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
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SHEET NO.

A2.2.E

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DEMOLITION NOTES

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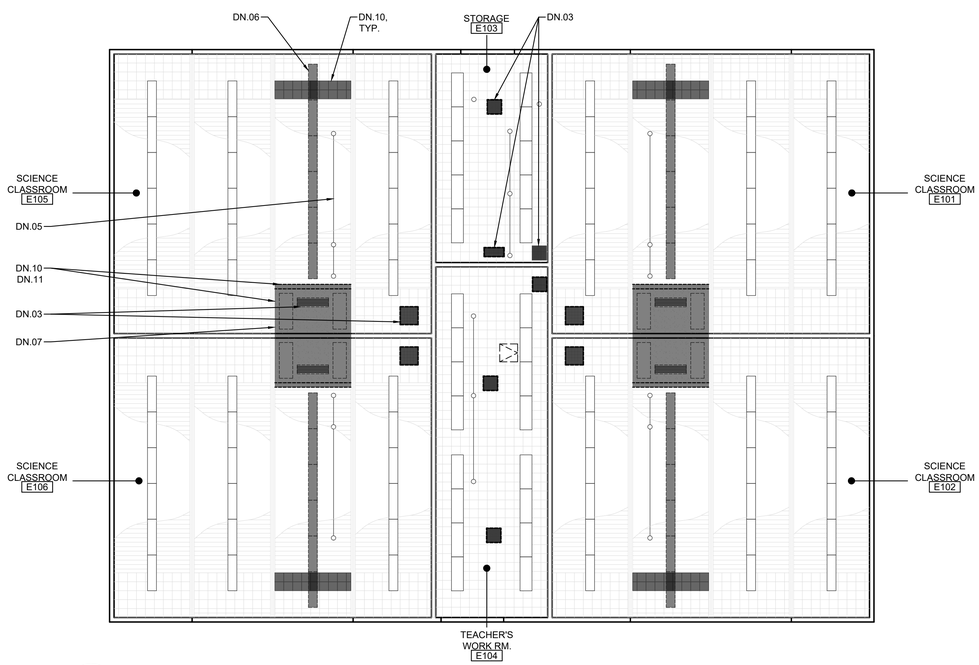
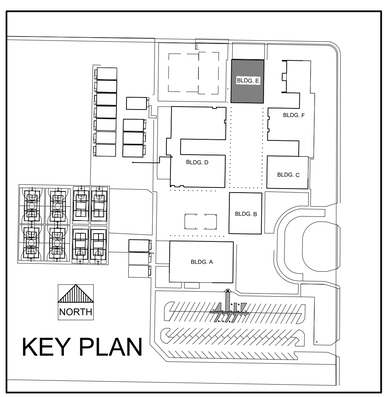
DN.13	NOT USED



1 A2.3.E DEMOLITION REFLECTED CEILING PLAN - BUILDING E

SCALE: 1/8" =1'-0" 0 2' 4' 8' 16'

NORTH



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5. NOT ALL FURNISHINGS, COMPONENTS, FINISHES, EQUIPMENT, ELECTRICAL, MECHANICAL, ETC. ITEMS ARE SHOWN IN THE PLANS. THESE ITEMS ARE TO REMAIN AS INSTALLED AND SHALL BE MASKED AND PROTECTED AS NEEDED FOR PAINTING AND DURING CONSTRUCTION OPERATIONS.

SHEET NOTES

(NOTE: NOT ALL NOTES MAY BE USED)

SN.01 RE-FRAME ROOF AND ROOF HATCH OPENING. REINSTALL (E) SALVAGED ROOF HATCH. PATCH BACK TPO ROOF MATERIALS PER MANUFACTURER'S DETAILS AND SPECIFICATIONS. MANUFACTURER IS FIRESTONE BUILDING PRODUCTS LLC. MATERIAL IS 60-MIL TPO MEMBRANE. THE SAME MANUFACTURER AND MATERIAL MUST BE USED TO MAINTAIN WARRANTY.

SN.02 FRAME (N) EQUIPMENT CURB AND INSTALL (N) HVAC EQUIPMENT, SEE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. INSTALL (N) 60-MIL TPO ROOF AT (N) HVAC EQUIPMENT AND CURB. LAP (N) ROOF MATERIAL WITH (E) ROOF MATERIAL. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

SN.03 RE-INSTALL (E) METAL ROOF PANELS OVER (N) 60-MIL TPO ROOFING AT MANSARD ROOFS. LAP (N) TPO ROOFING WITH EXISTING WATERPROOFING. CUT METAL ROOFING PANELS TO FIT AROUND (N) HVAC EQUIPMENT CURBS.

SN.04 IN-FILL FRAME AND SHEATH OVER AT OPENING WHERE EQUIPMENT HAS BEEN REMOVED AND NO NEW EQUIPMENT IS TO BE INSTALLED. INSTALL (N) 60-MIL TPO ROOFING MATERIAL OVER AREA AND TIE (N) ROOF INTO (E) ROOFING MATERIAL.

SN.05 INSTALL (N) DUCTWORK AND GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.06 FRAME (N) CEILING WITH METAL HAT CHANNELS. INSTALL (N) GYPSUM BOARD AND PAINT AT (N) CEILING. INSTALL (N) MECHANICAL DUCTS AND DIFFUSERS. REINSTALL (E) SALVAGED LIGHT FIXTURES AT (N) CEILING. REINSTALL FIRE ALARM DEVICES AT (N) CEILING. SEE STRUCTURAL SECTIONS AND DETAILS 1-6/S4.0.1, AND MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.07 FRAME (N) OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

SN.08 RE-FRAME OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

SN.09 INFILL FRAME OPENINGS IN CEILINGS AND INSTALL GYPSUM BOARD OVER CLOSED OPENINGS. PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.10 PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.11 PATCH AND REPAIR TPO ROOF WHERE EQUIPMENT, PIPE, CONDUIT, DUCT, ETC. HAS BEEN REMOVED, MOVED, REPLACED, RELOCATED, ETC. INSTALL (N) TPO ROOF, FLASH, CAULK (N) AND (E) EQUIPMENT TO RESTORE, REPAIR AND WATERPROOF ROOF FOR ALL ROOF AREAS AFFECTED BY THIS WORK. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

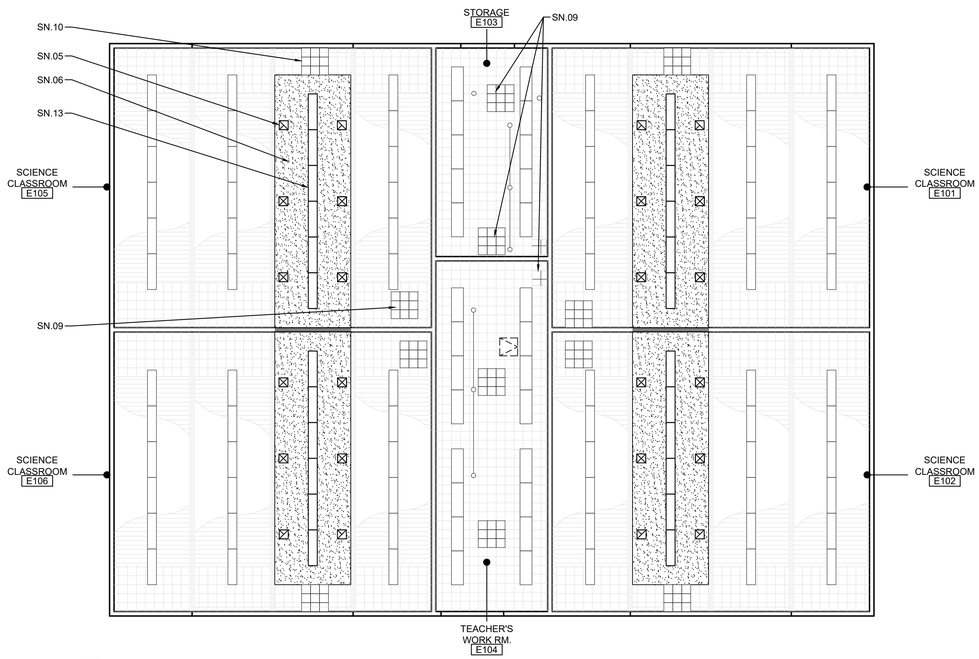
SN.12 CLEAN (E) DUCTS. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SN.13 RE-INSTALL (E) SALVAGED LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.14 INSTALL (N) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.15 EXISTING 2-HOUR AREA SEPARATION WALL

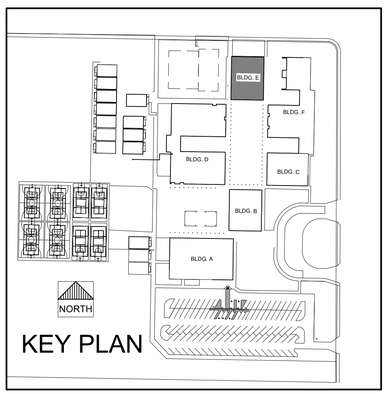
SN.16 REMOVE AND REPLACE AIR HVAC IN CLOSET BELOW. SEE MECHANICAL AND ELECTRICAL DOCUMENTS FOR ADDITIONAL INFORMATION



1 A2.4.E REFLECTED CEILING PLAN - BUILDING E

SCALE: 1/8" =1'-0" 0 2' 4' 8' 16'

NORTH



KEY PLAN

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

REFLECTED CEILING PLAN - BUILDING E

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

SHEET NO.

A2.4.E

DEMOLITION NOTES

NOTE: NOT ALL NOTES MAY BE USED

DN.01	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.02	REMOVE (E) ROOF MATERIAL, ROOF HATCH AND ROOF FRAMING FOR ACCESS. REMOVE (E) MECHANICAL EQUIPMENT IN ATTIC SPACE. SALVAGE ROOF HATCH FOR RE-INSTALLATION. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.03	DISCONNECT AND REMOVE (E) MECHANICAL GRILLE AND DUCTWORK ABOVE. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.04	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT AND CURB. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.05	DISCONNECT AND REMOVE (E) ELECTRICAL WIRE, CONDUIT, EQUIPMENT, ETC. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.06	REMOVE (E) LIGHT FIXTURES AND SALVAGE FOR RE-INSTALLATION. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.07	REMOVE AND DISPOSE OF (E) LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.08	REMOVE (E) ROOFING MATERIAL.
DN.09	REMOVE (E) EQUIPMENT CURB.
DN.10	REMOVE (E) CEILING FINISH MATERIALS.
DN.11	REMOVE (E) BEAM AND CEILING FRAMING.
DN.12	REMOVE (E) METAL ROOF MATERIAL AT MANSARD AT (N) EQUIPMENT CURB. SALVAGE FOR RE-INSTALLATION.
DN.13	NOT USED

GENERAL NOTES

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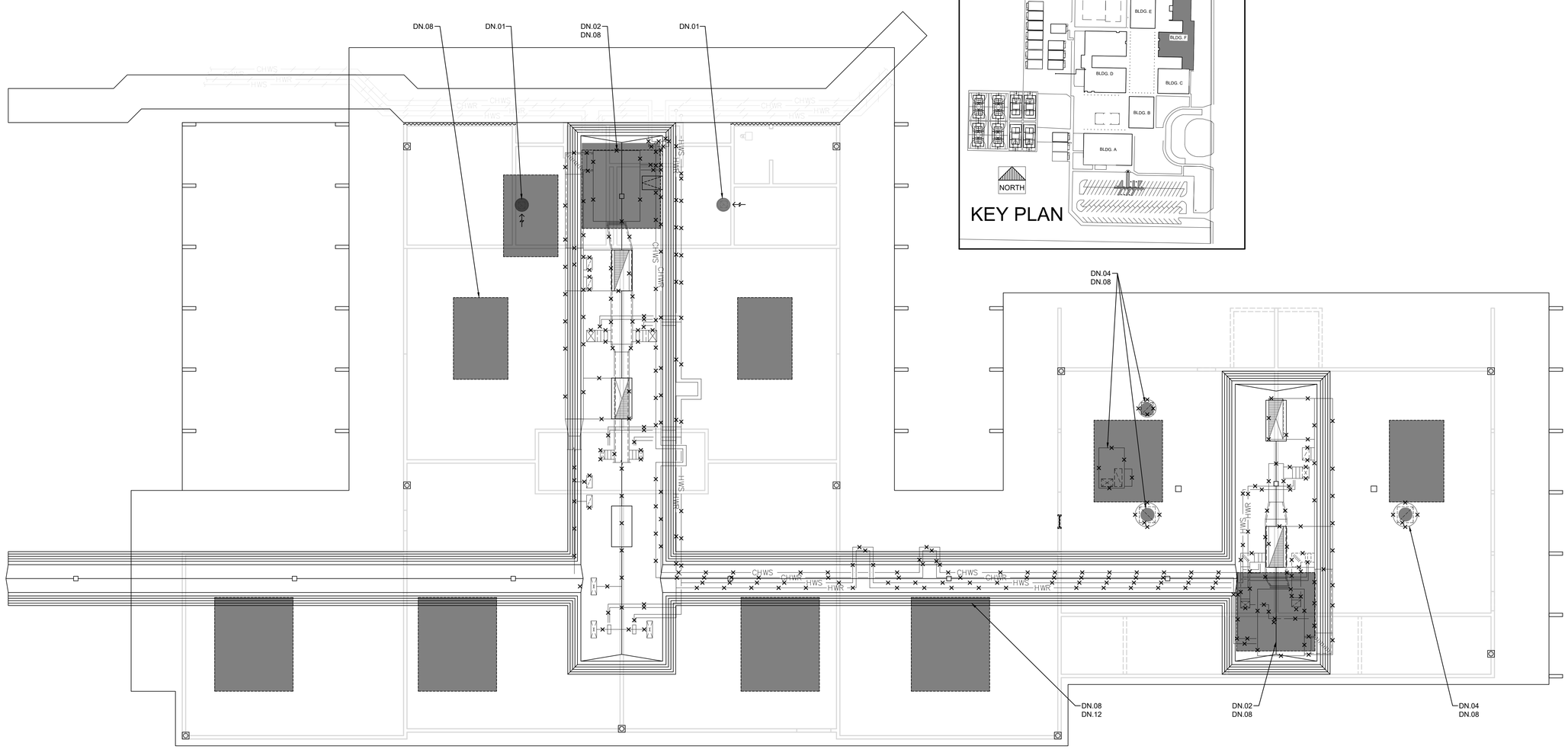

1 A2.1.F DEMOLITION ROOF PLAN - BUILDING F

SCALE: 1/8" =1'-0" 0 2' 4' 8' 16'

NORTH

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STEPHEN L. HENRY
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12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

DEMOLITION ROOF PLAN - BUILDING F

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

SHEET NO.

A2.1.F

SHEET NOTES

(NOTE: NOT ALL NOTES MAY BE USED)

SN.01 RE-FRAME ROOF AND ROOF HATCH OPENING. REINSTALL (E) SALVAGED ROOF HATCH. PATCH BACK TPO ROOF MATERIALS PER MANUFACTURER'S DETAILS AND SPECIFICATIONS. MANUFACTURER IS FIRESTONE BUILDING PRODUCTS LLC. MATERIAL IS 60-MIL TPO MEMBRANE. THE SAME MANUFACTURER AND MATERIAL MUST BE USED TO MAINTAIN WARRANTY.

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SN.03 RE-INSTALL (E) METAL ROOF PANELS OVER (N) 60-MIL TPO ROOFING AT MANSARD ROOFS. LAP (N) TPO ROOFING WITH EXISTING WATERPROOFING. CUT METAL ROOFING PANELS TO FIT AROUND (N) HVAC EQUIPMENT CURBS.

SN.04 IN-FILL FRAME AND SHEATH OVER AT OPENING WHERE EQUIPMENT HAS BEEN REMOVED AND NO NEW EQUIPMENT IS TO BE INSTALLED. INSTALL (N) 60-MIL TPO ROOFING MATERIAL OVER AREA AND TIE (N) ROOF INTO (E) ROOFING MATERIAL.

SN.05 INSTALL (N) DUCTWORK AND GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.06 FRAME (N) CEILING WITH METAL HAT CHANNELS. INSTALL (N) GYPSUM BOARD AND PAINT AT (N) CEILING. INSTALL (N) MECHANICAL DUCTS AND DIFFUSERS. REINSTALL (E) SALVAGED LIGHT FIXTURES AT (N) CEILING. REINSTALL FIRE ALARM DEVICES AT (N) CEILING. SEE STRUCTURAL SECTIONS AND DETAILS 1-6/S4.0.1, AND MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

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SN.10 PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.11 PATCH AND REPAIR TPO ROOF WHERE EQUIPMENT, PIPE, CONDUIT, DUCT, ETC. HAS BEEN REMOVED, MOVED, REPLACED, RELOCATED, ETC. INSTALL (N) TPO ROOF, FLASH, CAULK (N) AND (E) EQUIPMENT TO RESTORE, REPAIR AND WATERPROOF ROOF FOR ALL ROOF AREAS AFFECTED BY THIS WORK. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

SN.12 CLEAN (E) DUCTS. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SN.13 RE-INSTALL (E) SALVAGED LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.14 INSTALL (N) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.15 EXISTING 2-HOUR AREA SEPARATION WALL

SN.16 REMOVE AND REPLACE AIR HVAC IN CLOSET BELOW. SEE MECHANICAL AND ELECTRICAL DOCUMENTS FOR ADDITIONAL INFORMATION

GENERAL NOTES

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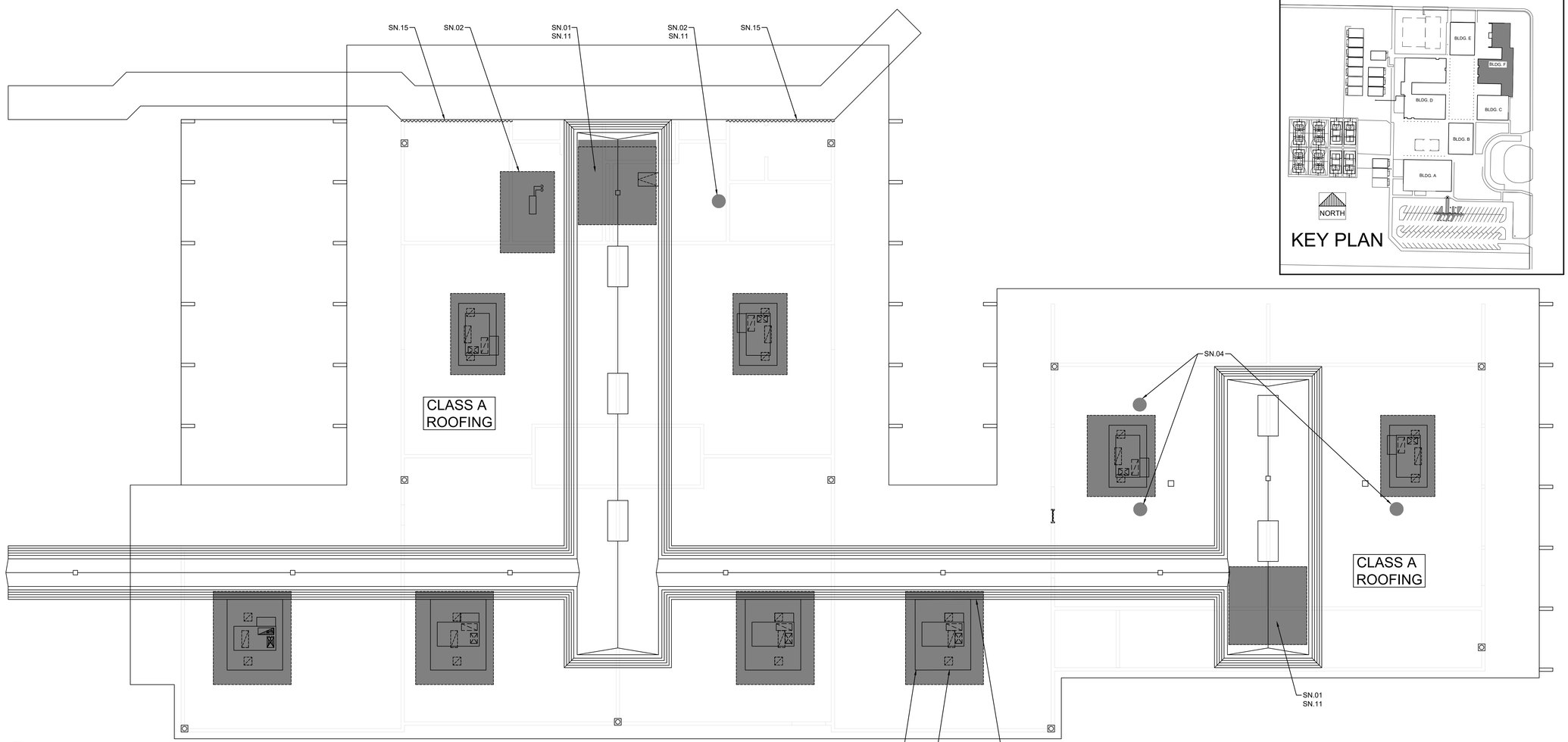

1 A2.2.F ROOF PLAN - BUILDING F

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

0 2' 4' 8' 16'

KEY PLAN

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

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Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ROOF PLAN - BUILDING F

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

SHEET NO.

A2.2.F

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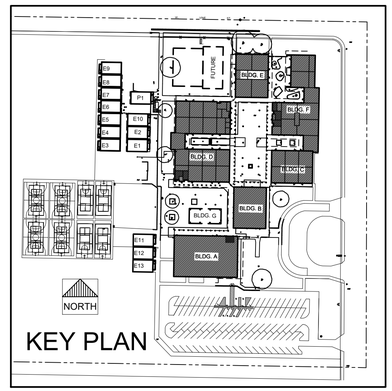
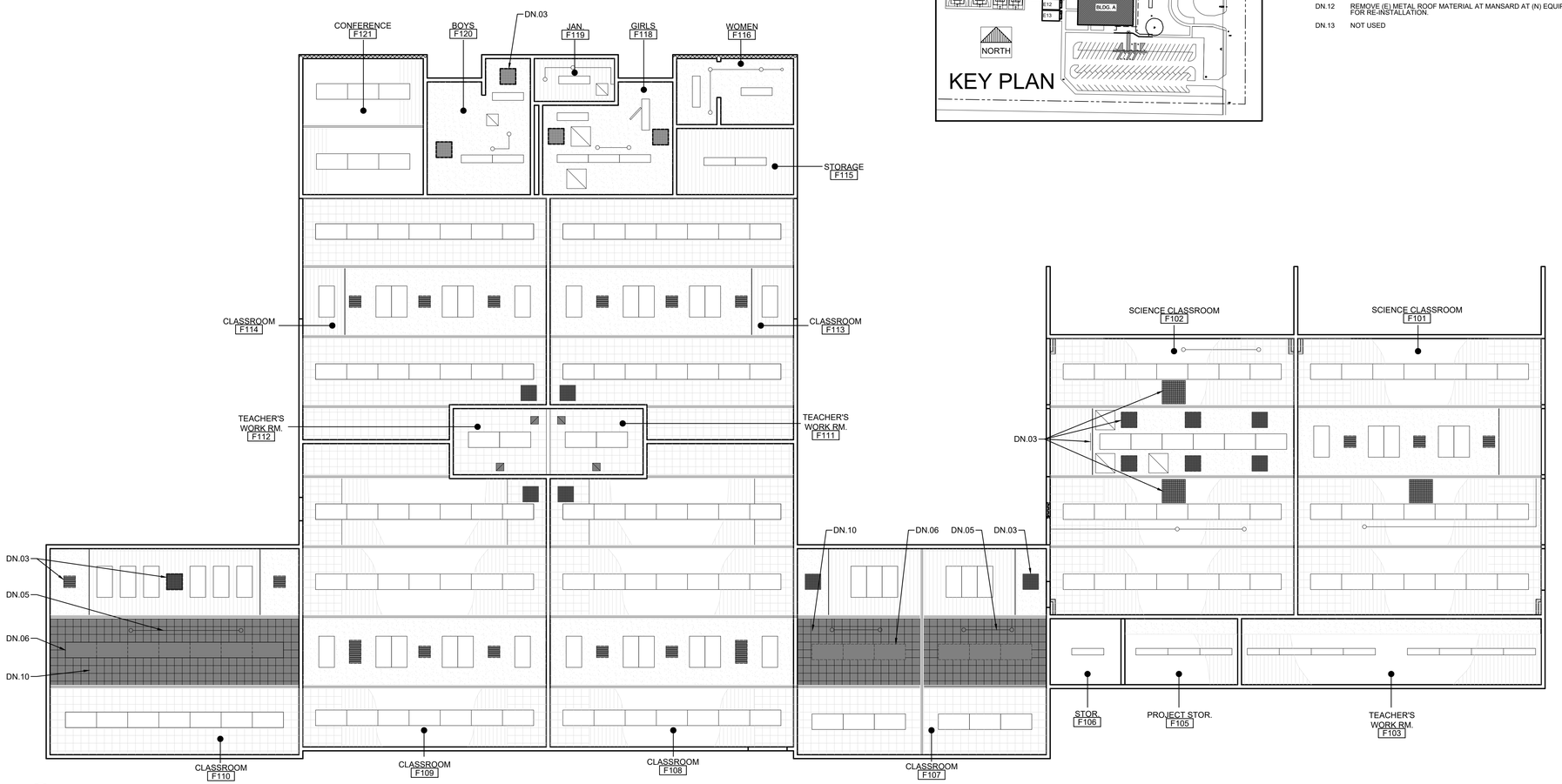
DEMOLITION NOTES

NOTE: NOT ALL NOTES MAY BE USED

DN.01	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.02	REMOVE (E) ROOF MATERIAL, ROOF HATCH AND ROOF FRAMING FOR ACCESS. REMOVE (E) MECHANICAL EQUIPMENT IN ATTIC SPACE. SALVAGE ROOF HATCH FOR RE-INSTALLATION. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.03	DISCONNECT AND REMOVE (E) MECHANICAL GRILLE AND DUCTWORK ABOVE. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.04	DISCONNECT AND REMOVE (E) MECHANICAL EQUIPMENT AND CURB. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.05	DISCONNECT AND REMOVE (E) ELECTRICAL WIRE, CONDUIT, EQUIPMENT, ETC. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.06	REMOVE (E) LIGHT FIXTURES AND SALVAGE FOR RE-INSTALLATION. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.07	REMOVE AND DISPOSE OF (E) LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
DN.08	REMOVE (E) ROOFING MATERIAL.
DN.09	REMOVE (E) EQUIPMENT CURB.
DN.10	REMOVE (E) CEILING FINISH MATERIALS.
DN.11	REMOVE (E) BEAM AND CEILING FRAMING.
DN.12	REMOVE (E) METAL ROOF MATERIAL AT MANSARD AT (N) EQUIPMENT CURB. SALVAGE FOR RE-INSTALLATION.
DN.13	NOT USED





1 A2.3.F DEMOLITION REFLECTED CEILING PLAN - BUILDING F

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

0 4' 16'
2' 8'

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RENEWAL DATE
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HVAC REPLACEMENT
LODI MIDDLE SCHOOL

DEMOLITION
REFLECTED CELING PLAN -
BUILDING F

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
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CADFILE A SHEETS.DWG		
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A2.3.F

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SHEET NOTES

(NOTE: NOT ALL NOTES MAY BE USED)

SN.01 RE-FRAME ROOF AND ROOF HATCH OPENING. REINSTALL (E) SALVAGED ROOF HATCH. PATCH BACK TPO ROOF MATERIALS PER MANUFACTURER'S DETAILS AND SPECIFICATIONS. MANUFACTURER IS FIRESTONE BUILDING PRODUCTS LLC. MATERIAL IS 60-MIL TPO MEMBRANE. THE SAME MANUFACTURER AND MATERIAL MUST BE USED TO MAINTAIN WARRANTY.

SN.02 FRAME (N) EQUIPMENT CURB AND INSTALL (N) HVAC EQUIPMENT. SEE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. INSTALL (N) 60-MIL TPO ROOF AT (N) HVAC EQUIPMENT AND CURB. LAP (N) ROOF MATERIAL WITH (E) ROOF MATERIAL. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

SN.03 RE-INSTALL (E) METAL ROOF PANELS OVER (N) 60-MIL TPO ROOFING AT MANSARD ROOFS. LAP (N) TPO ROOFING WITH EXISTING WATERPROOFING. CUT METAL ROOFING PANELS TO FIT AROUND (N) HVAC EQUIPMENT CURBS.

SN.04 IN-FILL FRAME AND SHEATH OVER AT OPENING WHERE EQUIPMENT HAS BEEN REMOVED AND NO NEW EQUIPMENT IS TO BE INSTALLED. INSTALL (N) 60-MIL TPO ROOFING MATERIAL OVER AREA AND TIE (N) ROOF INTO (E) ROOFING MATERIAL.

SN.05 INSTALL (N) DUCTWORK AND GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.06 FRAME (N) CEILING WITH METAL HAT CHANNELS. INSTALL (N) GYPSUM BOARD AND PAINT AT (N) CEILING. INSTALL (N) MECHANICAL DUCTS AND DIFFUSERS. REINSTALL (E) SALVAGED LIGHT FIXTURES AT (N) CEILING. REINSTALL FIRE ALARM DEVICES AT (N) CEILING. SEE STRUCTURAL SECTIONS AND DETAILS 1-6/S4.0.1, AND MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.07 FRAME (N) OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

SN.08 RE-FRAME OPENINGS IN (E) CEILINGS. COORDINATE SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PATCH, REPAIR AND PAINT FINISHES.

SN.09 INFILL FRAME OPENINGS IN CEILINGS AND INSTALL GYPSUM BOARD OVER CLOSED OPENINGS. PATCH CEILING TILES. REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.10 PATCH CEILING TILES, REPAIR AND PAINT TO MATCH (E) CEILING FINISHES.

SN.11 PATCH AND REPAIR TPO ROOF WHERE EQUIPMENT, PIPE, CONDUIT, DUCT, ETC. HAS BEEN REMOVED, MOVED, REPLACED, RELOCATED, ETC. INSTALL (N) TPO ROOF, FLASH, CAULK (N) AND (E) EQUIPMENT TO RESTORE, REPAIR AND WATERPROOF ROOF FOR ALL ROOF AREAS AFFECTED BY THIS WORK. SEE ARCHITECTURAL DRAWINGS FOR ROOF DETAILS.

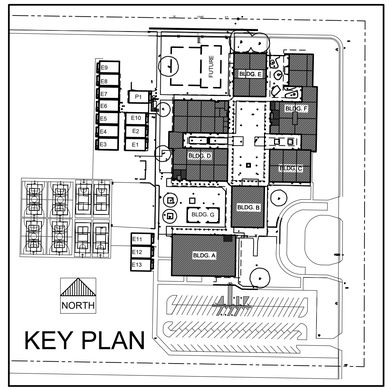
SN.12 CLEAN (E) DUCTS. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

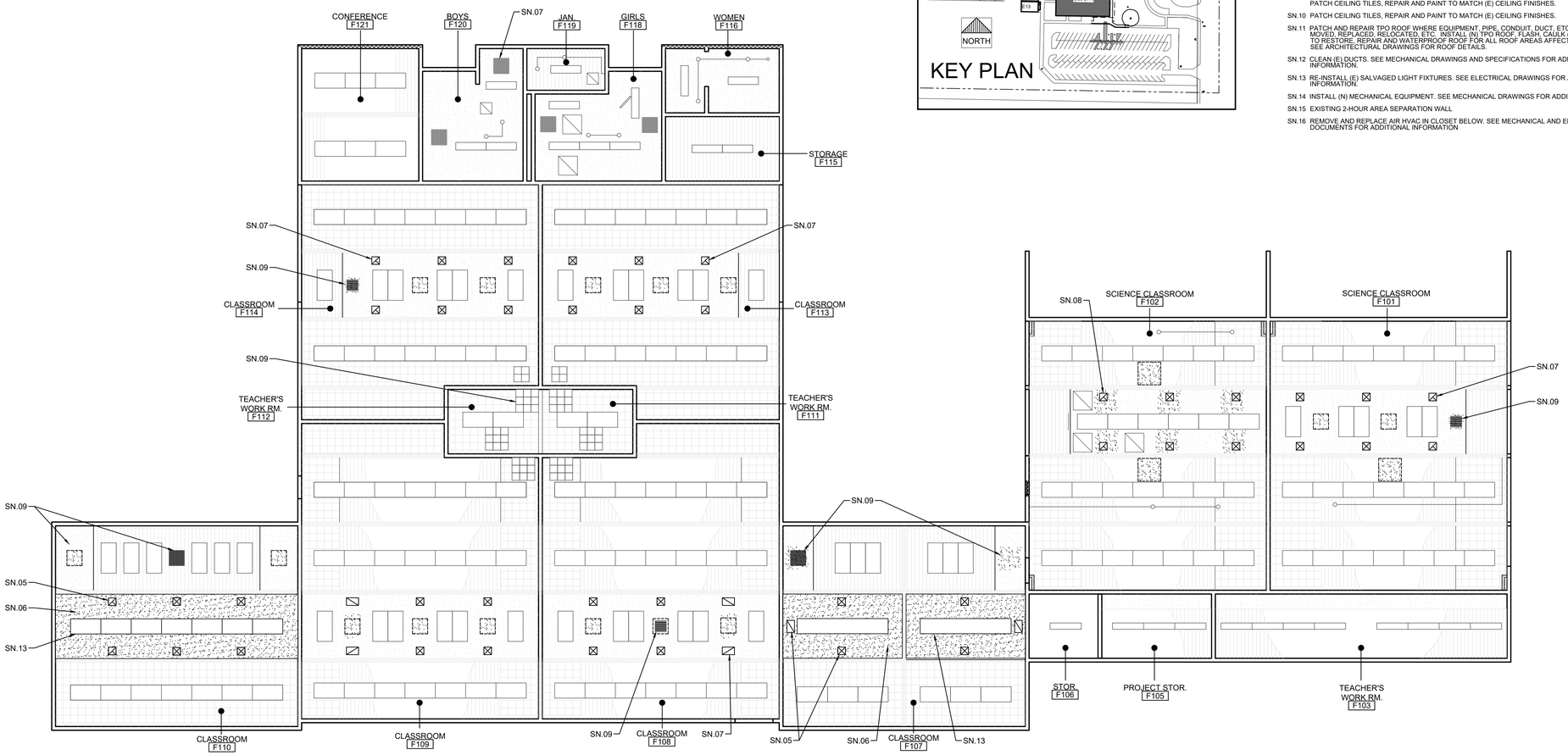
SN.13 RE-INSTALL (E) SALVAGED LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.14 INSTALL (N) MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SN.15 EXISTING 2-HOUR AREA SEPARATION WALL

SN.16 REMOVE AND REPLACE AIR HVAC IN CLOSET BELOW. SEE MECHANICAL AND ELECTRICAL DOCUMENTS FOR ADDITIONAL INFORMATION





1 A2.4.F REFLECTED CEILING PLAN - BUILDING F

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

0 2' 4' 8' 16'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

REFLECTED CELING PLAN - BUILDING F

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

SHEET NO.

A2.4.F

KEYNOTES

NOTE: NOT ALL NOTES MAY BE USED

0600 WOOD, PLASTICS, COMPOSITES
0600.A8 2 X FURRED WALL
0600.D1 PLASTIC LAMINATE CASEWORK
.3 EPOXY RESIN COUNTERTOP WITH 6" BACKSPLASH WHERE SHOWN
.5 REMOVABLE PLASTIC LAMINATE CLOSURE PANEL WITH SCRIBED CLOSURE TOP AT PENETRATIONS

0900 FINISHED
0900.A6 BASE
0900.B1 GYPSUM WALLBOARD
0900.B5 FIBERGLASS REINFORCED PLASTIC PANELS (FRP)
0900.B6 ACOUSTICAL WALL PANELS
0900.B7 RESINOUS WALL COATING INSTALLED O/ (E) CERAMIC TILE WAINSCOTING
0900.C2 GLUED OR STAPLED-ON ACOUSTICAL CEILING TILE

1000 SPECIALTIES
1000.A2 MARKER BOARD
.1 SLIDING MARKER BOARD SYSTEM
1000.A3 TACK BOARD
1000.A5 TOILET PARTITION
1000.A7 TOILET ACCESSORIES
.1 PAPER TOWEL DISPENSER
.2 TOILET PAPER DISPENSER
.3 SANITARY NAPKIN DISPENSER
.4 SOAP DISPENSER
.5 MIRROR
.7 GRAB BAR
.11 TOILET SEAT COVER DISPENSER
1000.A10 METAL SHELVING

1100 EQUIPMENT
1100.A4 INTERACTIVE DISPLAY SCREEN (OFCI)
1100.A5 WORK TABLES & CHAIRS (OFOI)
1100.A6 DISHWASHER (BELOW COUNTER)
1100.A7 REFRIGERATOR W/ ICE MAKER (OFCI)
1100.A8 CHEMICAL STORAGE CABINET (OFCI)

1200 FURNISHINGS
1200.A3 CASEWORK
1200.A4 WINDOW ROLLER SHADES

2200 PLUMBING
2200.A1 PLUMBING EQUIPMENT
.1 SINK
.2 LAVATORY
.3 TOILET
.4 URINAL
.5 DRINKING FOUNTAIN
.6 MOP SINK
.7 WATER HEATER
.11 FLOOR DRAIN
.12 VENT RISER PIPE

2300 HVAC
2300.A4 EXHAUST FLUE THROUGH CEILING

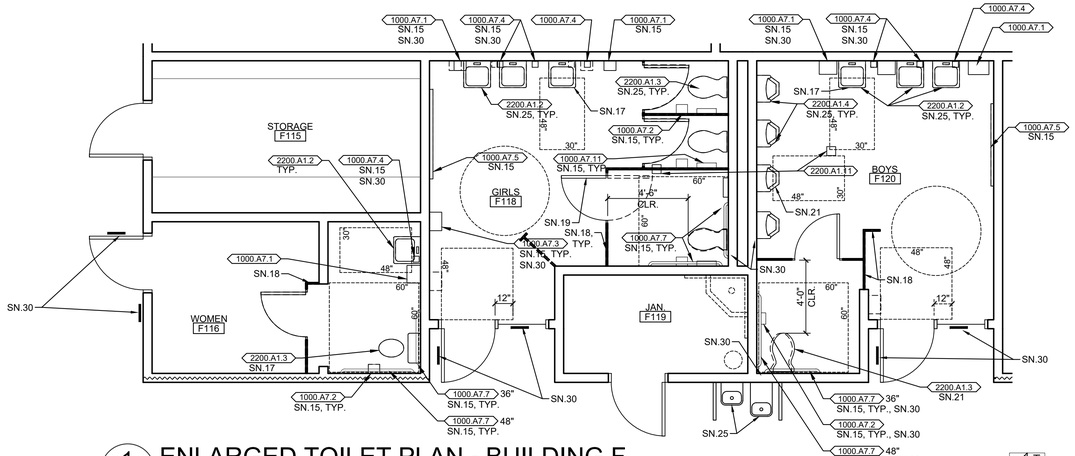
GENERAL NOTES

1. IN GENERAL, THE DRAWINGS SHOW DIMENSIONS, POSITION AND KIND OF CONSTRUCTION; AND THE SPECIFICATIONS, QUALITIES AND METHODS. ANY WORK CALLED FOR IN THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, SHALL BE PERFORMED AS THOUGH FULLY SET FORTH IN BOTH. WORK NOT PARTICULARLY DETAILED, MARKED OR SPECIFIED SHALL BE THE SAME AS SIMILAR PARTS THAT ARE DETAILED, MARKED OR SPECIFIED.
2. ALL EXPOSED GALVANIZED SHEET METAL SHALL BE PROPERLY CLEANED, ETCHED, PRIMED AND PAINTED PER SPECIFICATION SECTION 09 91 13.
3. ALL NEW WORK INCLUDING SHEET METAL, TRIM, CEILINGS AND ALL OTHER NEW OR MODIFIED WORK SHALL BE PAINTED PER SPECIFICATION SECTION 09 91 10 WHETHER OR NOT CALLED OUT IN THE DRAWINGS.
4. EXISTING CLASSROOMS ARE NOT IDENTICAL IN REGARD TO QUANTITY OR LOCATION OF VARIOUS WALL OR CEILING MOUNTED ITEMS REQUIRED TO BE REMOVED OR PROTECTED IN PLACE AND MASKED FOR PAINTING. THE DEMOLITION PLANS AND NOTES ARE GENERAL IN NATURE AND REPRESENT THE GENERAL DEMOLITION OR PROTECT-IN-PLACE SCOPE. THE CONTRACTOR IS REQUIRED TO REMOVE OR PROTECT AND MASK IN PLACE ALL EXISTING FLOORS, WALLS, DRY MARKER BOARDS, TACKBOARDS, CASEWORK, PROJECTION SCREENS, FIRE EXTINGUISHERS, WINDOWS, WINDOW COVERINGS & TRACKS, LIGHT FIXTURES OR ANY OTHER ITEM WHETHER SPECIFICALLY SHOWN OR NOT AND AS REQUIRED FOR INSTALLATION OF NEW FINISHES. SOME ITEMS WILL BE REQUIRED TO BE REMOVED AND TEMPORARILY STORED AND PROTECTED FOR LATER INSTALLATION.
5. NOT ALL FURNISHINGS, COMPONENTS, FINISHES, EQUIPMENT, ELECTRICAL, MECHANICAL, ETC. ITEMS ARE SHOWN IN THE PLANS. THESE ITEMS ARE TO REMAIN AS INSTALLED AND SHALL BE MASKED AND PROTECTED AS NEEDED FOR PAINTING AND DURING CONSTRUCTION OPERATIONS.

SHEET NOTES

(NOTE: NOT ALL NOTES MAY BE USED)

SN.01 NOT USED
SN.02 NOT USED
SN.03 NOT USED
SN.04 NOT USED
SN.05 NOT USED
SN.06 NOT USED
SN.07 (E) FLOOR FINISHES TO BE PROTECTED DURING CONSTRUCTION OPERATIONS
SN.08 NOT USED
SN.09 (E) DATA OUTLETS, POWER OUTLETS, LIGHT SWITCHES, ELECTRICAL PANELS, SIGNAGE, HVAC UNITS, ELECTRICAL TRANSFORMERS AND OTHER SIMILAR BUILDING COMPONENTS TO REMAIN IN PLACE AND PROTECTED. PREP AND PAINT TO MATCH WALLS ONLY IF PREVIOUSLY PAINTED.
SN.10 NOT USED
SN.11 NOT USED
SN.12 (E) LIGHT FIXTURES, FIRE ALARM & INTRUSION ALARM COMPONENTS TO REMAIN IN PLACE AND PROTECTED. SEE ELECTRICAL DRAWINGS FOR (N) FIXTURE INSTALLATION.
SN.13 (E) HVAC CEILING REGISTERS TO REMAIN IN PLACE AND PROTECTED. SEE MECHANICAL FOR INSTALLATION OF (N) REGISTERS - PAINT
SN.14 (E) LAVATORY & LAVATORY CARRIER.
SN.15 REINSTALL (E) TOILET ACCESSORIES VERIFY AND ADJUST HEIGHT OF TOILET ACCESSORIES PER ACCESSORY MOUNTING HEIGHTS SCHEDULE ON SHEET A0.1.
SN.16 NO NEW WORK THIS SPACE
SN.17 ACCESSIBLE FIXTURES AND ACCESSORIES SEE 1/ A0.1 FOR HEIGHTS AND SIGNAGE MOUNTING
SN.18 (E) TOILET PARTITION. COORDINATE W/ ANY (N) TOILET PARTITIONS BEING INSTALLED. VERIFY PARTITION LOCATION IN RELATION TO PLUMBING FIXTURES AND REQUIRED CLEARANCES.
SN.19 REVERSE (E) TOILET PARTITION DR. SWING OR PROVIDE (N) DR. W/ SWING AS INDICATED
SN.20 (E) EXPOSED WIRING, CABLING AND WIREMOLD RACEWAY TO REMAIN IN PLACE. SNAP CLOSED ANY WIREMOLD RACEWAY THAT IS NOT PROPERLY CLOSED AND INSTALL ADDITIONAL CABLE FASTENERS AS NECESSARY FOR POSITIVE ATTACHMENT TO WALL PRIOR TO PREP AND PAINT. THESE ITEMS ARE TO REMAIN IN PLACE AND BE PREP'D AND PAINTED ALONG WITH NEW WALL FINISH.
SN.21 NOT USED
SN.22 NOT USED
SN.23 NOT USED
SN.24 NOT USED
SN.25 (E) PLUMBING FIXTURE TO REMAIN IN PLACE. NO NEW WORK.
SN.26 INSTALL (N) CEILING TILE O/ (N) GYP. BD. UNDERLAYMENT. SEE DEMOLITION PLAN FOR REMOVAL OF VARIOUS (E) COMPONENTS AS REQUIRED TO INSTALL (N) CEILING FINISH. FOLLOWING INSTALLATION OF (N) CEILING FINISH, REINSTALL ALL CEILING MOUNTED COMPONENTS TEMPORARILY REMOVED O/ (N) FINISHED CEILING.
SN.27 NOT USED
SN.28 NOT USED
SN.29 PROVIDE (N) TOILET ROOM DOOR SYMBOL AND TOILET ROOM IDENTIFICATION SIGN PER DETAIL 1/A0.1
SN.30 PATCH BACK (E) WALL FINISHES (WHERE ACCESSORIES HAVE BEEN RELOCATED) TO MATCH SURROUNDING WALL FINISHES TYPICAL.



1 A2.5.F ENLARGED TOILET PLAN - BUILDING F

SCALE: 1/4" =1'-0"

0 2' 8' 1' 4'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
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Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT STEPHEN L. HENRY C-22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ENLARGED TOILET FLOOR PLANS - BUILDING D

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
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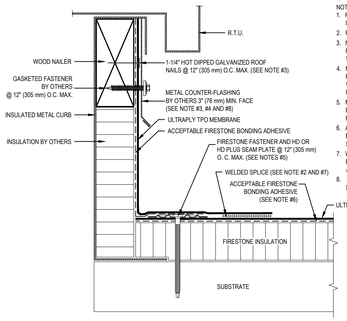
SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

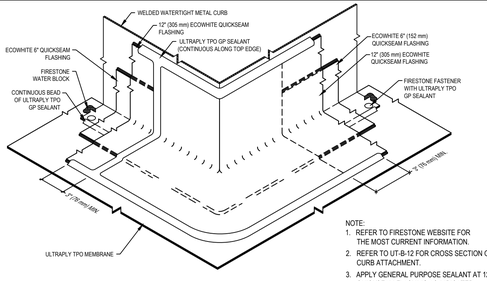
SHEET NO.

A2.5.F



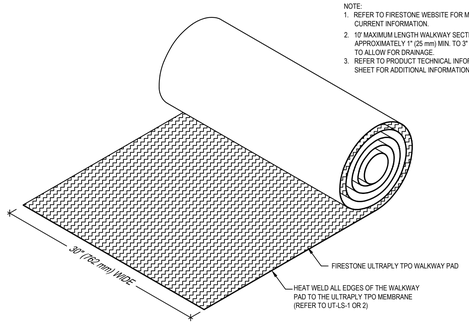
NOTE:
1. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
2. REFER TO DETAIL UT-LS-1 OR 2 FOR WELD WIDTH.
3. NAILING AND METAL COUNTER-FLASHING ARE NOT REQUIRED IF MEMBRANE EXTENDS UP AND OVER CURB WALLS PRIOR TO INSTALLATION OF R.T.U.
4. METAL COUNTER-FLASHING SHALL BE 24 GAUGE PRE-FINISHED STEEL OR .032" MIN. ALUMINUM FORMED WITH HEMMED LOWER EDGE MOUNTED TIGHTLY TO UNDERSIDE OF MECHANICAL UNIT.
5. MAXIMUM 8" (152.4 mm) LONG FASTENERS. (NOTE: WOOD BLOCKING MAY BE SUBSTITUTED FOR INSULATION TO REDUCE FASTENER LENGTH REQUIREMENT).
6. ACCEPTABLE FIRESTONE BONDING ADHESIVE REQUIRED BETWEEN MEMBRANE AND INSULATION FOR ADHERED SYSTEMS.
7. WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO UT-LS-14 FOR CUT EDGE SEALANT APPLICATION.
8. INSTALL METAL WORK IN ACCORDANCE WITH CURRENT SMACNA RECOMMENDATIONS.

13 TERMINATION AT R.T.U. WITH COUNTER-FLASHING AND SEPARATE FLASHING (UNIT FLANGE MOUNTED TO SUBSTR.)
SCALE: N.T.S



NOTE:
1. REFER TO FIRESTONE WEBSITE FOR THE MOST CURRENT INFORMATION.
2. REFER TO UT-B-12 FOR CROSS SECTION OF FLASHING AND CURB ATTACHMENT.
3. APPLY GENERAL PURPOSE SEALANT AT 12" (305 mm) QUICKSEAM FLASHING AS INDICATED.
4. REFER TO UT-C-2A & UT-C-2B FOR DETAILED INSTALLATION INFORMATION.
5. USE APPROPRIATE FIRESTONE PRIMER TO CLEAN AND PRIME MATING SURFACES PRIOR TO INSTALLATION OF QUICKSEAM PRODUCTS.

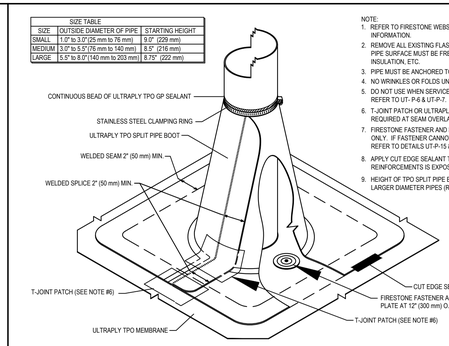
9 OUTSIDE CORNER AT WELDED WATERTIGHT CURB (FLANGES UNDER 2")
SCALE: N.T.S



NOTE:
1. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
2. 10' MAXIMUM LENGTH WALKWAY SECTIONS, SPACED APPROXIMATELY 1" (25 mm) MIN. TO 3" (76 mm) MAX TO ALLOW FOR DRAINAGE.
3. REFER TO PRODUCT TECHNICAL INFORMATION SHEET FOR ADDITIONAL INFORMATION.

5 ULTRAPLY TPO WALKWAY PAD
SCALE: N.T.S

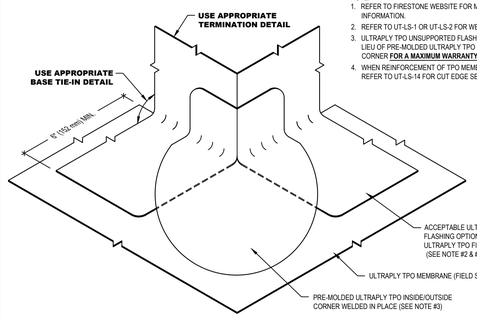
SIZE TABLE		
SIZE	OUTSIDE DIAMETER OF PIPE	STARTING HEIGHT
SMALL	1.0" to 3.0" (25 mm to 76 mm)	9.0" (229 mm)
MEDIUM	3.0" to 5.5" (76 mm to 140 mm)	8.5" (216 mm)
LARGE	5.5" to 8.0" (140 mm to 203 mm)	8.75" (222 mm)



NOTE:
1. REFER TO FIRESTONE WEBSITE FOR THE MOST CURRENT INFORMATION.
2. REMOVE ALL EXISTING FLASHING, LEAD, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
3. PIPE MUST BE ANCHORED TO ENSURE STABILITY.
4. NO WRINKLES OR FOLDS UNDER CLAMPING RING.
5. DO NOT USE WHEN SERVICE LINE TEMP. EXCEEDS 160 °F. REFER TO UT- P-6 & UT-P-7.
6. T-JOINT PATCH OR ULTRAPLY TPO FLASHING (4" X 4" MIN) REQUIRED AT SEAM OVERLAP AND VERTICAL TRANSITION.
7. FIRESTONE FASTENER AND HD SEAM PLATE REQUIRE FOR MAS ONLY. IF FASTENER CANNOT BE INSTALLED AS ILLUSTRATED, REFER TO DETAILS UT-P-15 & UT-P-16
8. APPLY CUT EDGE SEALANT TO ANY EDGES WHERE SCRIM REINFORCEMENTS IS EXPOSED PER DETAIL UT-LS-14.
9. HEIGHT OF TPO SPLIT PIPE BOOT CAN BE REDUCED TO FIT LARGER DIAMETER PIPES (REFER TO SIZE TABLE).

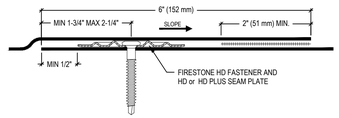
1 ROUND PENETRATION WITH ULTRAPLY TPO SPLIT PIPE BOOT
SCALE: N.T.S

14 <<DETAIL TITLE>>
SCALE: N.T.S



NOTE:
1. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
2. REFER TO UT-LS-1 OR UT-LS-2 FOR WELD WIDTH.
3. ULTRAPLY TPO UNSUPPORTED FLASHING MAY BE USED IN LIEU OF PRE-MOLDED ULTRAPLY TPO INSIDE/OUTSIDE CORNER **FOR A MAXIMUM WARRANTY OF 15 YEARS.**
4. WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO UT-LS-14 FOR CUT EDGE SEALANT APPLICATION.

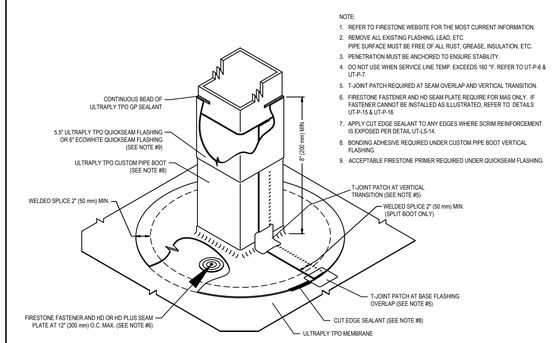
10 OUTSIDE CORNER
SCALE: N.T.S



NOTE:
REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.

WHEN POLYESTER REINFORCEMENT OF TPO IS EXPOSED, APPLY CUT EDGE TREATMENT TO ENTIRE EXPOSED EDGE. REFER TO UT-LS-14.

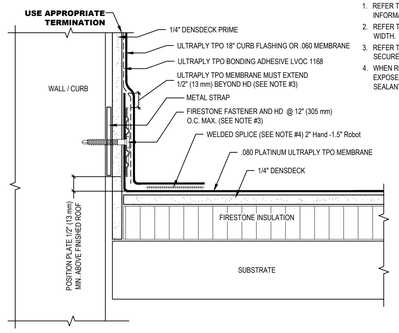
6 LAP SPLICE WITH 2" HAND WELD
SCALE: N.T.S



NOTE:
1. REFER TO FIRESTONE WEBSITE FOR THE MOST CURRENT INFORMATION.
2. REMOVE ALL EXISTING FLASHING, LEAD, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
3. PENETRATION MUST BE ANCHORED TO ENSURE STABILITY.
4. DO NOT USE WHEN SERVICE LINE TEMP. EXCEEDS 160 °F. REFER TO UT-P-6 & UT-P-7.
5. T-JOINT PATCH REQUIRED AT SEAM OVERLAP AND VERTICAL TRANSITION.
6. FIRESTONE FASTENER AND HD SEAM PLATE REQUIRE FOR MAS ONLY. IF FASTENER CANNOT BE INSTALLED AS ILLUSTRATED, REFER TO DETAILS UT-P-15 & UT-P-16
7. APPLY CUT EDGE SEALANT TO ANY EDGES WHERE SCRIM REINFORCEMENT IS EXPOSED PER DETAIL UT-LS-14.
8. BONDING ADHESIVE REQUIRED UNDER CUSTOM PIPE BOOT VERTICAL FLASHING.
9. ACCEPTABLE FIRESTONE PRIMER REQUIRED UNDER QUICKSEAM FLASHING.

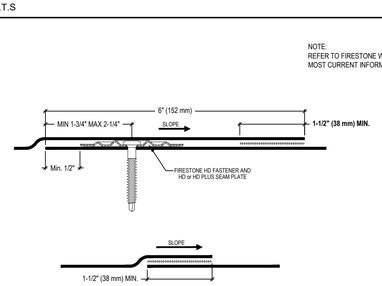
2 SQUARE PENETRATION WITH ULTRAPLY TPO CUSTOM PIPE BOOT
SCALE: N.T.S

15 <<DETAIL TITLE>>
SCALE: N.T.S



NOTES:
1. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
2. REFER TO DETAIL UT-LS-1 OR UT-LS-2 FOR WELD WIDTH.
3. REFER TO UT-BT-16 & UT-BT-17 FOR MEMBRANE SECUREMENT AT CORNERS.
4. WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO UT-LS-14 FOR CUT EDGE SEALANT APPLICATION.

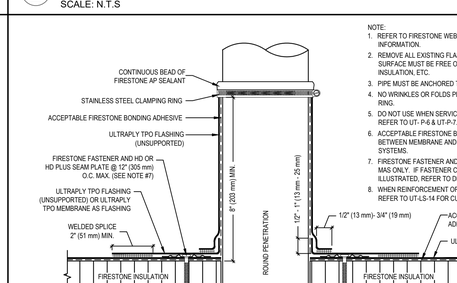
11 BASE TIE-IN WITH HD SEAM PLATES FASTENED TO WALL / CURB
SCALE: N.T.S



NOTE:
REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.

WHEN POLYESTER REINFORCEMENT OF TPO IS EXPOSED, APPLY CUT EDGE TREATMENT TO ENTIRE EXPOSED EDGE. REFER TO UT-LS-14.

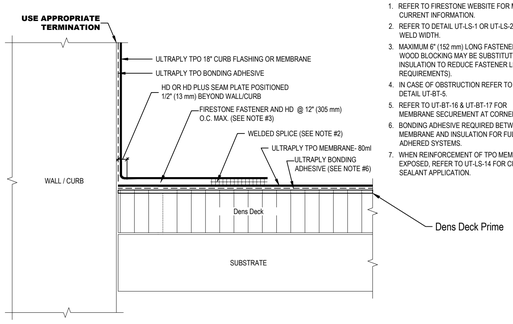
7 LAP SPLICE WITH 1-1/2" AUTOMATIC WELDER
SCALE: N.T.S



NOTES:
1. REFER TO FIRESTONE WEBSITE FOR THE MOST CURRENT INFORMATION.
2. REMOVE ALL EXISTING FLASHING, LEAD, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
3. PIPE MUST BE ANCHORED TO ENSURE STABILITY.
4. PRE-MOULDED PIPE FLASHING MAY BE CUT TO HEIGHT, BUT NO LOWER THAN REINFORCING RING (NO WRINKLES OR FOLDS UNDER CLAMPING RING).
5. APPLY GP SEALANT BETWEEN PENETRATION AND PRE-MOLDED PIPE FLASHING PRIOR TO INSTALLATION OF CLAMPING RING. REFER TO LS-9 FOR SEAM EDGE TREATMENT.
6. LARGE PRE-MOULDED PIPE FLASHING FITS 4" (102mm) - 8" (203 mm) PENETRATIONS SIZES.
7. DO NOT USE WHEN SERVICE LINE TEMP. EXCEEDS 160°F. REFER TO UT- P-6 & UT-P-7.

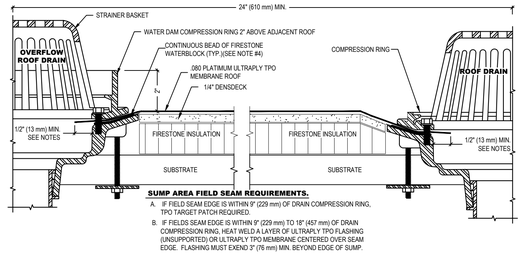
3 PENETRATION WITH ULTRAPLY TPO FLASHING (UNSUPPORTED)
SCALE: N.T.S

16 <<DETAIL TITLE>>
SCALE: N.T.S



NOTES:
1. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
2. REFER TO DETAIL UT-LS-1 OR UT-LS-2 FOR WELD WIDTH.
3. MAXIMUM 6" (152 mm) LONG FASTENERS (NOTE: WOOD BLOCKING MAY BE SUBSTITUTED FOR INSULATION TO REDUCE FASTENER LENGTH REQUIREMENTS).
4. IN CASE OF OBSTRUCTION REFER TO DETAIL UT-BT-5.
5. REFER TO UT-BT-16 & UT-BT-17 FOR MEMBRANE SECUREMENT AT CORNERS.
6. BONDING ADHESIVE REQUIRED BETWEEN MEMBRANE AND INSULATION FOR FULLY ADHERED SYSTEMS.
7. WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO UT-LS-14 FOR CUT EDGE SEALANT APPLICATION.

12 BASE TIE-IN WITH HD SEAM PLATES FASTENED TO DECK
SCALE: N.T.S



NOTES:
1. REFER TO FIRESTONE WEBSITE FOR THE MOST CURRENT INFORMATION.
2. HOLE IN MEMBRANE SHOULD EXTEND A MINIMUM OF 1/2" (13 mm) BEYOND CLAMPING RING AND SHOULD NOT BE SMALLER THAN THE DIAMETER OF THE LEADER PIPE.
3. INSULATION ADJACENT TO DRAIN TO BE APPROPRIATE FIRESTONE INSULATION.
4. FIRESTONE WATERBLOCK MIN 1/2 OF10 OZ. (295 ml) TUBE PER 4" DRAIN. USE ADDITIONAL WATERBLOCK FOR LARGER DRAINS.

SUMP AREA FIELD SEAM REQUIREMENTS.
A. IF FIELD SEAM EDGE IS WITHIN 9" (229 mm) OF DRAIN COMPRESSION RING, TPO TARGET PATCH REQUIRED.
B. IF FIELDS SEAM EDGE IS WITHIN 9" (229 mm) TO 18" (457 mm) OF DRAIN COMPRESSION RING, HEAT WELD A LAYER OF ULTRAPLY TPO FLASHING (UNSUPPORTED) OR ULTRAPLY TPO MEMBRANE CENTERED OVER SEAM EDGE. FLASHING MUST EXEND 3" (76 mm) MIN. BEYOND EDGE OF SUMP.

8 ROOF DRAIN WITH OVERFLOW ROOF DRAIN
SCALE: N.T.S

NOTE:
1. REFER TO FIRESTONE WEBSITE FOR THE MOST CURRENT INFORMATION.
2. REMOVE ALL EXISTING FLASHING, LEAD, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
3. PIPE MUST BE ANCHORED TO ENSURE STABILITY.
4. NO WRINKLES OR FOLDS PERMITTED UNDER CLAMPING RING.
5. DO NOT USE WHEN SERVICE LINE TEMP. EXCEEDS 160 °F. REFER TO UT- P-6 & UT-P-7.
6. ACCEPTABLE FIRESTONE BONDING ADHESIVE REQUIRED BETWEEN MEMBRANE AND INSULATION FOR ADHERED SYSTEMS.
7. FIRESTONE FASTENER AND HD SEAM PLATE REQUIRED FOR MAS ONLY. IF FASTENER CANNOT BE INSTALLED AS ILLUSTRATED, REFER TO DETAILS UT-P-15 & UT-P-16
8. WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO UT-LS-14 FOR CUT EDGE SEALANT APPLICATION.

4 PENETRATION WITH ULTRAPLY TPO LARGE PIPE FLASHING
SCALE: N.T.S

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

MISCELLANEOUS DETAILS

CONSULTANT

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2021		
DRAWN MS		
CHECKED SLH		
SCALE AS SHOWN		
CADFILE A SHEETS.DWG		
UPDATED 8/26/2022		

SHEET NO.

A8.1.1

ROUGH CARPENTRY-LAG SCREWS:

1. ALL SPECIFIED LAG SCREWS SHALL CONFORM TO ANSI/ASME STANDARD B18.2.1.
2. LEAD HOLES FOR LAG SCREWS SHALL BE BORED TO AVOID SPLITTING OF WOOD MEMBERS. THE LEAD HOLE FOR THE SHANK SHALL HAVE THE SAME DIAMETER AND LENGTH AS THE UNTHREADED SHANK. THE LEAD HOLE FOR THE THREADED PORTION SHALL SHALL NOT EXCEED 70% OF THE SHANK DIAMETER AND HAVE MIN LENGTH EQUAL TO THREADED PORTION.
3. LAG SCREWS SHALL BE INSTALLED BY TURNING OF THE LAG SCREW & NOT BY DRIVING OF A HAMMER.
4. SOAP OR OTHER LUBRICANT MAY BE USED ON THE LAG SCREW OR IN THE LEAD HOLE AS REQ'D TO PREVENT DAMAGE TO THE LAG SCREW.
5. LAG SCREWS INSTALLED IN TREATED LUMBER SHALL HAVE CORROSION PROTECTION APPROPRIATE FOR THE TYPE OF CHEMICALS USED IN THE TREATMENT PROCESS. AS A MINIMUM, LAG SCREWS INTO TREATED LUMBER OR IN EXTERIOR APPLICATIONS SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153 CLASS C OR TYPE 316 STAINLESS STEEL.
6. LAG SCREWS SHALL BE INSTALLED WITH A STANDARD CUT WASHER OR PLATE WASHER W/CORROSION PROTECTION TO MATCH THE LAG SCREW.
7. ALL LAG SCREWS TO BE TIGHTENED DURING INSTALLATION & RE-TIGHTENED JUST PRIOR TO CLOSING IN.

WOOD FASTENERS-BOLTS:

1. ALL SPECIFIED BOLTS IN WOOD FRAMING SHALL CONFORM TO ANSI/ASME STANDARD B18.2.1.
2. HOLES SHALL BE A MIN OF 1/32" TO A MAX OF 1/16" GREATER THAN THE BOLT DIAMETER. HOLES SHALL BE ACCURATELY ALIGNED AND NOT FORCIBLY DRIVEN.
3. BOLTS INSTALLED IN TREATED LUMBER SHALL HAVE CORROSION PROTECTION APPROPRIATE FOR THE TYPE OF CHEMICALS USED IN THE TREATMENT PROCESS. AS A MINIMUM, BOLTS INTO TREATED LUMBER OR IN EXTERIOR APPLICATIONS SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153 CLASS C OR TYPE 316 STAINLESS STEEL.
4. BOLTS SHALL BE INSTALLED WITH A STANDARD CUT WASHER OR PLATE WASHER AT HEAD AND NUT W/CORROSION PROTECTION TO MATCH THE BOLT.
5. ALL BOLTS & NUTS TO BE TIGHTENED DURING INSTALLATION & RE-TIGHTENED JUST PRIOR TO CLOSING IN.

POST INSTALLED ANCHOR NOTES:

1. ALL POST INSTALLED ANCHORS ARE TO BE INSTALLED PER MANUFACTURER FOR EACH ANCHOR AND PER THE ICC REPORTS LISTED BELOW.
2. ALL POST-INSTALLED ANCHORS ARE TO BE CAREFULLY INSTALLED SO AS TO NOT DISTURB OR DAMAGE THE STEEL REINFORCING IN ANY WAY. ANCHORS MAY NOT BE INSTALLED UNTIL CONCRETE OR GROUT HAS REACHED A MINIMUM AGE OF 28 DAYS.
3. ALL HOLES FOR DRILLED-IN ANCHORS SHALL BE COMPLETELY DRY AND WELL CLEANED WITH A BOTTLE BRUSH AND COMPRESSED AIR PRIOR TO INSTALLING THE ANCHORS.
4. ALL DRILLED-IN ANCHORS SHALL BE TESTED PER CHAPTER 17 OF THE 2019 CBC. ALL TESTING SHALL BE DONE BY A CERTIFIED TESTING LABORATORY AND SHALL BE PERFORMED IN THE PRESENCE OF A SPECIAL INSPECTOR.
5. POST-INSTALLED ANCHORS ARE TO BE AS FOLLOWS:

   5.1 EXPANSION ANCHORS IN CONCRETE
   HILTI KB TZ2 PER ICC ESR 4266

6. POST-INSTALLED ANCHORS ARE TO BE INSTALLED ONLY WHERE SPECIFICALLY DETAILED IN THE PROJECT DRAWINGS, WITH EMBEDMENTS AND PROOF TESTING AS SPECIFICALLY IDENTIFIED IN EACH APPLICABLE DETAIL. FOR ADDITIONAL INFORMATION, UNO, FOR EXPANSION ANCHORS, SEE TABLE BELOW.
7. POST-INSTALLED ANCHORS MAY NOT BE USED AT LOCATIONS OTHER THAN THOSE SPECIFICALLY DETAILED IN THE PROJECT DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

CONCRETE: HILTI KWIK BOLT TZ2 EXPANSION ANCHORS
SEE ICC ESR-4266 TABLE 1

ANCHOR DIAMETER	3/8"Ø	1/2"Ø	5/8"Ø
BIT DIAMETER	3/8"Ø	1/2"Ø	5/8"Ø
NOMINAL EMBEDMENT	2 1/2"	2 1/2"	4 1/2"
HOLE DEPTH	2 3/4"	2 3/4"	4 3/4"
TORQUE (STAINLESS STEEL)	30 FT-LB	40 FT-LB	60 FT-LB

COLD FORMED STEEL NOTES:

1. ALL COLD-FORMED STEEL CONSTRUCTION SHALL BE PER THE LATEST AISI STANDARDS.
2. ALL COLD-FORMED STEEL CONSTRUCTION SHALL BE FROM MANUFACTURERS WHO ARE MEMBERS OF THE "STEEL STUD MANUFACTURER'S ASSOCIATION" (SSMA) WITH PRODUCTS MEETING THE REQUIREMENTS OF ICC-ESR ER-3064P, LATEST REVISION.
3. ALL STUDS WITH THICKNESS NOT GREATER THAN 43 MILS SHALL BE ASTM A653 SS GRADE 33 OR ASTM A1003 GRADE 33. ALL STUDS WITH THICKNESS OF 54 MILS AND GREATER SHALL BE ASTM A1003 GRADE 50.
4. METAL STUD COMPONENTS AND CONNECTORS ARE TO BE BY 'SCAFCO' UNLESS NOTED OTHERWISE.
5. COLD-FORMED STEEL FRAMING CONNECTIONS SUCH AS STUD-TO-STUD, STUD-TO-TRACK, AND JOIST TO TRACK OR STUD ARE TO BE WITH 'TEKS SELECT' #10 SHEET METAL SCREWS (#10 SMS) BY ITW BUILDEX PER ICC ESR-3223 UNLESS NOTED OTHERWISE. ALL SMS ARE TO HAVE A MINIMUM OF 3-THREADS PROTRUDING THROUGH THE BACKSIDE OF FASTENED PLIES.

ROUGH CARPENTRY-MATERIALS:

1. ALL SAWN LUMBER SHALL BE DOUG FIR UNO AND HAVE MOISTURE CONTENT NOT TO EXCEED 19% AT TIME OF INSTALLATION. EACH PIECE SHALL BEAR THE STAMP OF WCLIB OR WWPA SHOWING GRADE MARK.
2. ALL COMPOSITE WOOD PRODUCTS (IE LVL, LSL, GLULAM, ETC) SHALL BE PROTECTED FROM EXPOSURE AND EXCESSIVE MOISTURE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. MOISTURE CONTENT OF 16% PRIOR TO MEMBERS BEING WRAPPED OR ENCLOSED.
3. ALL SAWN LUMBER TO BE SPECIES & GRADE AS NOTED BELOW:

MEMBER	SPECIES & GRADE
2x_ & 3x_STUDS	#2 DF
2x_ JOISTS, PLATES	#2 DF
4x_ HEADERS	#1 DF
4x_ COLUMNS	#1 DF
6x_ & LARGER HEADERS	SS DF
6x_ & LARGER COLUMNS	SS DF

   A. MATERIAL EXPOSED TO WEATHER OR IN CONTACT W/CONCRETE SHALL BE PRESSURE TREATED
   B. OPTIONAL FOR EXPOSED 8X_ BEAMS & POSTS TO BE #1AC IN LIEU OF TREATED DF
   C. STUDS TALLER THAN 12'-0" SHALL BE #1DF

4. PRESERVATIVE TREATED & PRESSURE TREATED LUMBER
   A. SAWN LUMBER TO BE PROTECTED FROM EARTH, WEATHER, EARTH, & CONCRETE/CMU OR WOOD SHALL BE TREATED
   B. PRESERVATIVE TREATMENT & CLEARANCES TO SOIL OR CONCRETE SHALL BE PER CBC 2303.1.9 & 2304.12.1.2
   C. FIELD CUTS & HOLES IN TREATED LUMBER SHALL BE PROTECTED IN ACCORDANCE W/AWPA STANDARD M4
   D. CONTRACTOR TO COORDINATE WITH TREATED WOOD SUPPLIER TO DETERMINE THE APPROPRIATE LEVEL OF CORROSION PROTECTION FOR HARDWARE & FASTENERS IN CONTACT WITH WOOD TREATED WITH CORROSIVE CHEMICALS.
5. ALL WOOD PANEL STRUCTURAL SHEATHING SHALL BE STAMPED W/APA TRADEMARK AND CONFORM TO MOST CURRENT EDITION OF PS-1 OR PS-2. USE THICKNESS AND NAILING AS SHOWN ON DRAWINGS. SHEATHING SHALL HAVE EXPOSURE RATING AS APPROPRIATE FOR ON-SITE EXPOSURE CONDITIONS DURING CONSTRUCTION AND IN FINAL CONDITION. EQUIVALENT OSB SHALL BE USED IN LIEU OF PLYWOOD. PROVIDE PLYWOOD AT ALL EXPOSED EAVE CONDITIONS.

ROUGH CARPENTRY-NAILS:

1. ALL SPECIFIED NAILS SHALL CONFORM TO ASTM F1667 OR ICC ESR-1539. ALTERNATE FASTENERS MUST HAVE AN ICC EVALUATION REPORT AND MAY NOT BE USED UNLESS APPROVED IN WRITING BY RW CONSULTING ENGINEERS. ALL NAILS SHALL BE FULL ROUND HEAD WITH MINIMUM PROPERTIES AS FOLLOWS:

SPECIFIED FASTENER	DIAMETER	LENGTH	PENETRATION	APPLICATION
8d	.131"Ø	2 1/2"	1 3/8"	SHTG/FRMG
10d	.148"Ø	3"	1 1/2"	SHTG/FRMG
16d BOX	.135"Ø	3 1/2"	1 5/8"	FRMG
16d SINKER	.148"Ø	3 1/4"	1 1/2"	FRMG
16d COMMON	.162"Ø	3 1/2"	1 5/8"	FRMG

ALL NAILS SHALL BE COMMON WIRE NAILS EXCEPT WHERE SPECIFICALLY NOTED

2. NAILS SHALL BE LOCATED AND SPACED TO PREVENT SPLITTING OF WOOD. PREDRILL ALL FASTENERS 75% MAX OF FASTENER DIAMETER WHERE WOOD TENDS TO SPLIT.
3. TOENAILS SHALL BE DRIVEN AT AN ANGLE OF APPROX 30° WITH THE MEMBER AND STARTED APPROX 1/3 THE LENGTH OF THE NAIL FROM THE MEMBER END.
4. NAILS USED IN HARDWARE SHALL BE AS SPECIFIED BY HARDWARE MFR.
5. MINIMUM NAILING SHALL BE PER CBC TABLE 2304.10.1 UNO:

Description	*Nailing*
Roof	
1. Blkg btwn clg joists, rafters or trusses to top plate or other framing blw	*3-8d toe nail, ea end*
Blkg btwn rafters or truss not at the wall top plate, to rafter or truss	*2-8d toe nail or 2-16d end nail, ea end*
Flat blkg to truss & web filler	*16d face nail @ 6"cc*
2. Clg joist to top plate	*3-8d toe nail ea joist*
3. Clg joist not attached to parallel rafter, laps ov/partitions (no thrust)	*3-16d face nail*
4. Clg joist attached to parallel rafter, laps ov/partitions (w/thrust)	*CBC Table 2308.7.3.1*
5. Collar tie to rafter	*3-10d face nail*
6. Rafter or truss to top plate (see CBC section 2308.7.3.1, Table 2308.7.3.1)	*3-10d toe nail*
7. Rafters to ridge, valley or hip rafters; or rafter to 2" ridge	*3-10d toenail or 2-16d end nail*
Wall	
8. Stud to stud (not @ braced wall panels)	*16d @ 24"cc face nail*
9. Stud to stud and abutting studs at intersecting wall corners (braced wall panels)	*16d @ 6"cc face nail*
10. Built up header (2" to 2" header)	*16d @ 16"cc face nail*
11. Cont header to stud	*4-8d toe nail*
12. Top plate to top plate	*16d @ 16"cc face nail*
13. Top plate to top plate, at end joints	*8-16d ea side of end joint face nail (24" min lap splice ea end)*
14. Bot plate to joist, rim, band joist or blkg (not @ braced wall panels)	*16d @ 16"cc*
15. Bot plate to joist, rim, band joist or blkg (braced wall panels)	*2-16d @ 16"cc*
16. Stud to top or bot plate	*4-8d toe nail*
17. Top or bot plate to stud	*2-16d end nail*
18. Top plates, laps at corners & intersections	*2-16d face nail*
19. 1" brace to ea stud & plate	*2-8d face nail*
20. 1x6 sheathing to ea bearing	*2-8d face nail*
21. 1x8 & wider sheathing to ea bearing	*3-8d face nail*
Floor	
22. Joist to sill, top plate or girder	*3-8d toe nail*
23. Rim joist, band joist, or blkg to top plate, sill, or other framing blw	*8d @ 6"cc toe nail*
24. 1x6 sub floor or less to ea joist	*2-8d face nail*
25. 2" sub floor to joist or girder	*2-16d face nail*
26. 2" planks ea bearing (plank & beam, floor & roof)	*2-16d face nail*
27. Built up girders & beams, 2" lumber layers	*10d @ 24"cc face nail at top & bot, stagger on opposite sides*
28. Ledger strip supporting joists or rafters	*3-16d ea joist or rafter face nail*
29. Joist to band joist or rim joist	*3-16d end nail*
30. Bridging or blkg to joist, rafter or truss	*2-8d toe nail ea end*

6. NAILS INSTALLED IN TREATED LUMBER SHALL HAVE CORROSION PROTECTION APPROPRIATE FOR THE TYPE OF CHEMICALS USED IN THE TREATMENT PROCESS. AS A MINIMUM, NAILS INTO TREATED LUMBER OR IN EXTERIOR APPLICATIONS SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153 CLASS D OR TYPE 316 STAINLESS STEEL.
7. SHEATHING NAILS SHALL BE DRIVEN SO THAT THEIR HEAD OR CROWN ARE FLUSH WITH THE SURFACE OF THE SHEATHING.

ROUGH CARPENTRY-WOOD SCREWS:

1. ALL SPECIFIED WOOD SCREWS SHALL CONFORM TO ANSI/ASME STANDARD B18.6.1. ALTERNATE WOOD SCREWS MUST HAVE AN ICC EVALUATION REPORT AND MAY NOT BE USED UNLESS APPROVED IN WRITING BY RW CONSULTING ENGINEERS. END DISTANCE, EDGE DISTANCE, & SPCG OF ALTERNATE WOOD SCREWS MUST CONFORM TO THE MFR ICC EVALUATION REPORT.
2. WOOD SCREWS SHALL BE LOCATED AND SPACED TO PREVENT SPLITTING OF WOOD, PRE-DRILL LEAD HOLES AS REQ'D. LEAD HOLES SHALL NOT EXCEED THE SMALLEST OF 7/8 OF THE SHANK DIAMETER AND 7/8 OF THE ROOT DIAMETER AT THREADED PORTIONS.
3. WOOD SCREWS USED IN HARDWARE SHALL BE AS SPECIFIED BY HARDWARE MFR.
4. WOOD SCREWS SHALL BE INSTALLED BY TURNING OF THE SCREW & NOT BY DRIVING OF A HAMMER.
5. SOAP OR OTHER LUBRICANT MAY BE USED ON THE WOOD SCREW OR IN THE LEAD HOLE AS REQ'D TO PREVENT DAMAGE TO THE WOOD SCREW.
6. WOOD SCREWS INSTALLED IN TREATED LUMBER SHALL HAVE CORROSION PROTECTION APPROPRIATE FOR THE TYPE OF CHEMICALS USED IN THE TREATMENT PROCESS. AS A MINIMUM, WOOD SCREWS INTO TREATED LUMBER OR IN EXTERIOR APPLICATIONS SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153 CLASS D OR TYPE 316 STAINLESS STEEL.

DESIGN CRITERIA:

1. PROJECT ADDRESS: 945 SOUTH HAM LANE
   LODI, CA 95242
2. BUILDING CODE: 2019 CALIFORNIA BUILDING CODE
3. GRAVITY LOADS: (ESTIMATES OF AS-BUILT CONDITIONS)
   BUILDING ROOFS
   ROOF LIVE LOAD = 20 PSF (REDUCIBLE)
   ROOF DEAD LOAD = 20 PSF
   WALL WEIGHTS
   EXTERIOR WALLS = 15 PSF
   INTERIOR WALLS = 10 PSF
4. LATERAL LOADS: RISK CATEGORY III
   WIND LOADS (ASCE 7-16)
   BASIC WIND SPEED 100 MPH (77 MPH ASD)
   EXPOSURE C
   BUILDINGS ARE CONSIDERED "ENCLOSED"

   PRESSURE COEFFICIENTS
   INTERNAL PRESSURE COEFFICIENT, GC_{pi} = ± 0.18
   TOPOGRAPHIC FACTOR, K_{zt} = 1.00
   WIND DIRECTIONALITY FACTOR, K_d = 0.85

   VELOCITY PRESSURES
   q (0'-15') = 11.0 PSF (ASD)
   q (15'-20') = 11.6 PSF (ASD)

   SEISMIC LOADS (ASCE 7-16)
   SITE CLASS D
   SEISMIC DESIGN CATEGORY D
   IMPORTANCE FACTOR 1.25
   REDUNDANCY, ρ 1.0
   S_S = 0.628 S_1 = 0.260
   F_a = 1.297 F_v = 2.080
   S_{MS} = 0.815 S_{M1} = 0.541
   S_{DS} = 0.543 S_{D1} = 0.361

INSPECTION NOTES:

1. ALL TESTS AND INSPECTIONS ARE TO BE PROVIDED BY A QUALIFIED TESTING LAB OF RECORD, HIRED BY THE DISTRICT (T-24 PART 1, 4-335).
2. ALL TESTS AND INSPECTIONS SHALL CONFORM TO CHAPTER 17A OF THE 2019 CBC AND THE PROJECT SPECIFIC DSA-103.
3. ALL SPECIAL INSPECTORS SHALL HAVE A MINIMUM OF THREE YEARS OF EXPERIENCE WITH MATERIAL BEING INSPECTED.

ROUGH CARPENTRY-WALL FRAMING:

1. ALL WALLS SHALL HAVE CONT 2-2X_ TOP PLATES. NO BORING OR NOTCHES ARE ALLOWED WITHIN SPLICE LOCATIONS. TOP PLATES SHALL BE LAPPED AT ALL CORNERS & INTERSECTIONS.
2. ALL STUDS SHALL BE 2X4 MIN @ 16"CC UNO, USE 2X6 FRAMING @ PLUMBING WALLS (FINGER JOINTED STUDS ARE NOT ALLOWED)
3. WALL FRAMING SHALL BE CONT BTWN BRACING LOCATIONS SUCH AS ROOF/FLOOR DIAPHRAGMS & FOUNDATION
4. STUDS/POSTS @ BRG WALLS, SHEARWALLS, AND EXTERIOR WALLS ARE TO BE BRACED FOR ENTIRE SPAN BY ONE OF THE FOLLOWING METHODS UNO:
   A. 3/8" MIN THICKNESS PLY/OSB W/TYP FASTENER SPACING NOT TO EXCEED 12"CC
   B. 7/8" MIN THICKNESS PLASTER W/WIRE LATH, ATTACH LATH W/TYP FASTENER SPACING NOT TO EXCEED 6"CC.
   C. 1/2" MIN THICKNESS GWB W/TYP FASTENER SPACING NOT TO EXCEED 7"CC
   D. ALTERNATE BRACING METHODS MUST BE SUBMITTED TO RW CONSULTING ENGINEERS FOR APPROVAL PRIOR TO USE
5. SILL PLATES
   A. WALLS LESS THAN 8'-0" LONG SHALL HAVE SINGLE PIECE SILL PLATE
   B. ALL SILL PLATES SHALL HAVE A MINIMUM OF 2-ABS, HOLDOWN ABS DO NOT COUNT TOWARD THIS REQ'MT
   C. ABs SHALL BE NO FARTHER THAN 12" & NO CLOSER THAN 7 BOLT DIAMETERS FROM ENDS OF SILL PLATE

ROUGH CARPENTRY-HARDWARE:

1. ALL STEEL CONNECTORS, STRAPS, HANGERS, HARDWARE, ETC SHALL BE BY SIMPSON STRONG-TIE OR APPROVED EQUAL UNO. ATTACH W/FASTENERS PER MFR TO ACHIEVE THE MAXIMUM TABULATED VALUE.
2. HARDWARE COMPONENTS AND FASTENERS INSTALLED AGAINST OR INTO TREATED LUMBER SHALL HAVE CORROSION PROTECTION APPROPRIATE FOR THE TYPE OF CHEMICALS USED IN THE TREATMENT PROCESS. AS A MINIMUM, ALL HARDWARE AND FASTENERS INTO/AGAINST TREATED LUMBER OR IN EXTERIOR APPLICATIONS SHALL BE HOT-DIPPED GALVANIZED (G185 MIN FOR HARDWARE) OR STAINLESS STEEL.
3. INSTALL ALL SPECIFIED FASTENERS BEFORE LOADING THE CONNECTION.
4. NAILS FOR HARDWARE SHALL NOT BE OVERDRIVEN OR DEFORM THE PART. THE CONTRACTOR SHALL VERIFY WITH THE HARDWARE MFR THAT THE PART PUBLISHED CAPACITIES ARE NOT REDUCED AS A RESULT OF THE INSTALLED CONDITION.
5. FASTENER SUBSTITUTIONS FOR HARDWARE ARE NOT ALLOWED UNLESS APPROVED FOR USE BY THE MFR AND THE HARDWARE CAPACITY IS NOT REDUCED.
6. WASHERS AT WOOD CONNECTIONS SHALL BE SQUARE PLATE STEEL OR MALLEABLE IRON W/THE FOLLOWING MIN DIMENSIONS:

FASTENER DIAMETER	MIN WASHER DIMENSIONS	MIN THICKNESS
1/2"	2" x 2"	3/16"
5/8"	2 1/2" x 2 1/2"	1/4"
3/4"	2 3/4" x 2 3/4"	5/16"
7/8"	3" x 3"	5/16"
1"	3 1/2" x 3 1/2"	3/8"

STRUCTURAL SHEET INDEX:

S0.0.1 GENERAL NOTES
S2.1.A ROOF FRAMING PLAN - BUILDING A
S2.1.B ROOF FRAMING PLAN - BUILDING B
S2.1.C ROOF FRAMING PLAN - BUILDING C
S2.1.D ROOF FRAMING PLAN - BUILDING D
S2.1.E ROOF FRAMING PLAN - BUILDING E
S2.1.F ROOF FRAMING PLAN - BUILDING F
S4.0.1 DETAILS
S4.0.2 DETAILS

ABBREVIATIONS:

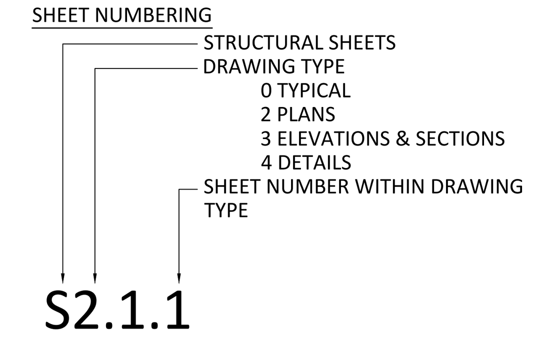
@	AT	LS	LAG SCREW
AB	ANCHOR BOLT	LSL	LAMINATED STRAND LUMBER
approx	APPROXIMATE	LVL	LAMINATED VENEER LUMBER
Arch	ARCHITECT/URAL	MAX	MAXIMUM
BC	BOTTOM CHORD	MIN	MINIMUM
BLK	BLOCK OR BLOCKING	(N)	NEW
BO	BOTTOM OF	#	NUMBER
CBC	CALIFORNIA BUILDING CODE	NTS	NOT TO SCALE
oc	ON CENTER	OD	OUTSIDE DIAMETER
CIP	CAST IN PLACE	OH	OPPOSITE HAND
CJ	CONSTRUCTION JOINT	OV	OVER
CL	CENTER LINE	PL	PLATE
CMU	CONCRETE MASONRY UNIT	PT	PRESSURE TREATED
CONC	CONCRETE	REIN	REINFORCEMENT
CONT	CONTINOUS	SIM	SIMILAR
DF	DOUGLAS FIR	SP	STRUCTURAL PANEL
Ø	DIAMETER	SW	SHEAR WALL
DL	DEAD LOAD	T&B	TOP AND BOTTOM
DT	DRAG TRUSS	T&G	TONGUE AND GROOVE
(E)	EXISTING	thru	THROUGH
EN	EDGE NAIL	TN	TOE NAIL
EOR	ENGINEER OF RECORD	TOS	TOP OF STEEL
FDN	FOUNDATION	TYP	TYPICAL
FF	FINISH FLOOR	UNO	UNLESS NOTED OTHERWISE
FO	FACE OF	W/O	WITHOUT
	FOOT/FEET	VIF	VERIFY IN FIELD
FTG	FOOTING	W/O	WITHOUT
FRMG	FRAMING	WWF	WELDED WIRE FABRIC
GLB	GLUE LAMINATED BEAM		
HD	HOLD DOWN		
HDG	HOT-DIPPED GALVANIZED		
HDR	HEADER		

GENERAL NOTES:

1. ALL NEW WORK SHALL CONFORM TO TITLE 24 2019 EDITIONS WITH AMENDMENTS AND ALL OTHER APPLICABLE CODES AND REGULATIONS.
2. THIS SET OF STRUCTURAL DRAWINGS IS APPLICABLE ONLY TO THE LISTED PROJECT AND SITE LOCATION.
3. NOTES ON THIS SHEET ARE TYPICAL AND SHALL APPLY UNLESS OTHERWISE NOTED OR SHOWN. TYPICAL DETAILS SHALL APPLY FOR ALL LIKE CONDITIONS UNLESS OTHERWISE NOTED OR DETAILED.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS, ELEVATIONS, EXISTING CONDITIONS, AND OTHER RELATED ITEMS. THE CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS PRIOR TO CONSTRUCTION AND SHALL NOTIFY THE ENGINEER OF RECORD IF ANY CONFLICTS ARE SHOWN OR NOTED.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFORM TO RELEVANT SECTIONS OF THE CALIFORNIA "CONSTRUCTION SAFETY ORDERS" AND ALL OSHA REQUIREMENTS. THE ENGINEER OF RECORD ACCEPTS NO RESPONSIBILITY FOR THE CONTRACTOR'S FAILURE TO COMPLY W/ THESE REQUIREMENTS.
6. STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. DESIGN AND CONSTRUCTION OF ALL TEMPORARY BRACING, SHORING, FORMING, ETC REQUIRED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. A COPY OF TITLE 24 CCR PARTS 1 -5 SHALL BE KEPT ON SITE AT ALL TIMES (T-24 PART 1, 4-317(c).
8. ALL CHANGES TO THE ACCESSIBILITY, FIRE AND LIFE SAFETY, AND STRUCTURAL PORTIONS OF THE APPROVED DRAWINGS SHALL BE MADE BY A CONSTRUCTION CHANGE DOCUMENT (CCD). ALL SUCH CHANGES BY CCD ARE TO BE SIGNED BY THE SEOR, THE OWNER, AND APPROVED BY DSA. CHANGES BY CCD ARE NOT VALID UNTIL APPROVED BY DSA (T-24, PART 1, 4-338).
9. A PROJECT INSPECTOR (INSPECTOR OF RECORD, IOR) EMPLOYED BY THE OWNER/DISTRICT AND CERTIFIED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK
10. THE STRUCTURAL ENGINEER SHALL PERFORM DUTIES PER T-24 PART 1, 4-333(a) AND 4-341. THE CONTRACTOR SHALL PERFORM DUTIES PER 4-343. THE IOR SHALL PERFORM DUTIES PER T-24 PART 1, 4-342.

DRAWING STANDARDS:

SHEET NUMBERING



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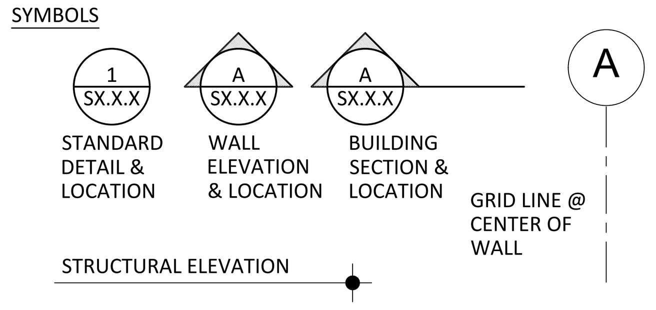


IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

GENERAL NOTES

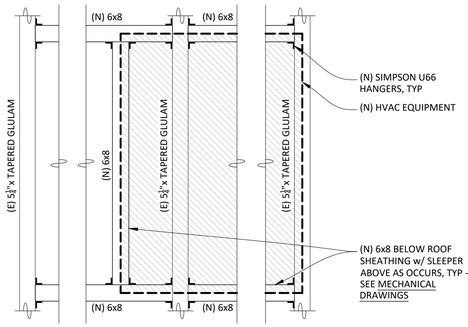
RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER
GREGORY I. RICHARDS
S-4555
Exp 12/31/2022
STRUCTURAL
STATE OF CALIFORNIA
8/26/2022

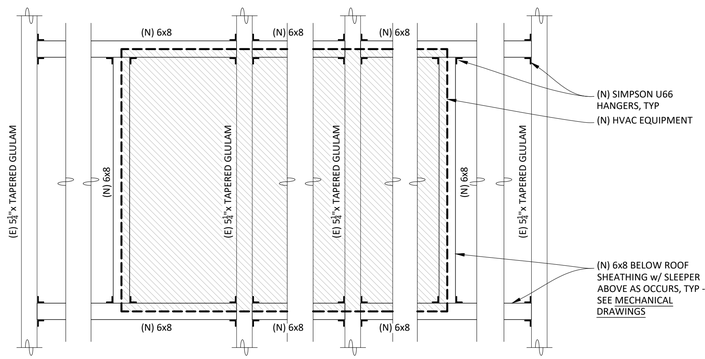
PROJECT NO.	REVISIONS	BY
PROJECT NO. 22-32-057		
DATE 8/26/2022		GR
DRAWN GR		
CHECKED GR		
SCALE		
CADFILE		
UPDATED		

SHEET NO.

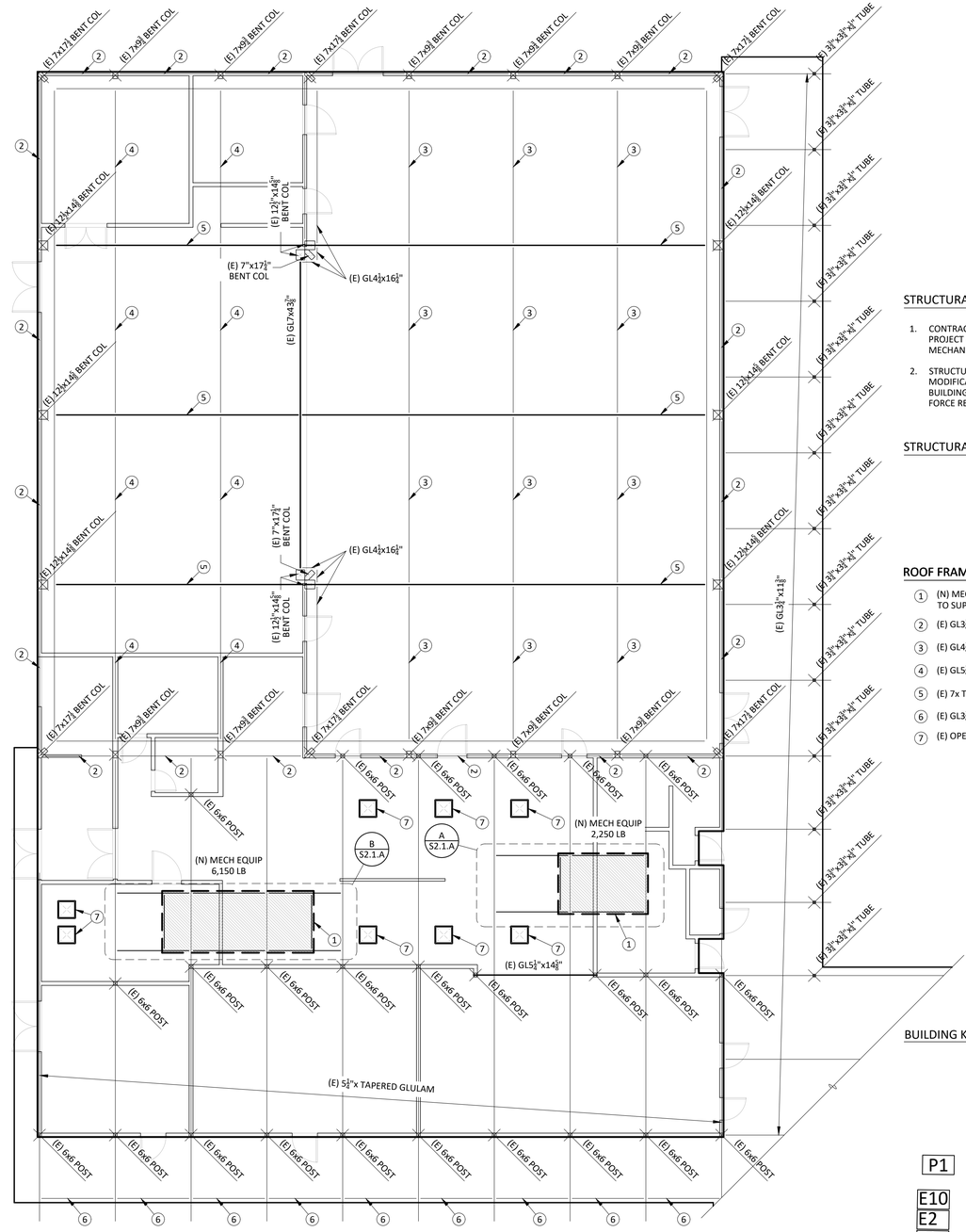
S0.0.1



PLAN (A)
¼" = 1'-0"



PLAN (B)
¼" = 1'-0"



ROOF FRAMING PLAN
BUILDING A
⅛" = 1'-0"

STRUCTURAL PLAN NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK CONTAINED HEREIN WITH ALL PROJECT WORK BY OTHERS INCLUDING CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL & PLUMPING.
2. STRUCTURAL SCOPE IS LIMITED TO MISCELLANEOUS FRAMING MODIFICATIONS TO ACCOMMODATE RENOVATION UPGRADES TO EACH BUILDING. ALL WORK PERFORMED IS TO NOT IMPACT EXISTING LATERAL FORCE RESISTING SYSTEM.

STRUCTURAL PLAN LEGEND:

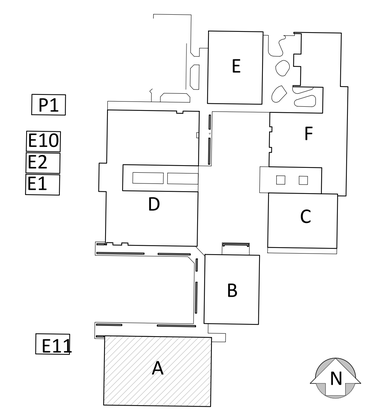
EXISTING WALL

EXISTING FRAMING MEMBER

ROOF FRAMING PLAN KEY NOTES:

1. (N) MECHANICAL EQUIPMENT IN (E) LOCATION - (N) FRAMING REQUIRED TO SUPPORT (N) CURB WITH DIFFERENT FOOTPRINT
2. (E) GL3½"x14⅝" BEAM
3. (E) GL4½"x14⅝" BEAM
4. (E) GL5¼"x14⅝" BEAM
5. (E) 7x TAPERED GL BEAM
6. (E) GL3½"x16½" BEAM
7. (E) OPENING IN ROOF TO REMAIN

BUILDING KEY PLAN:



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Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN D. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ROOF FRAMING PLAN
BUILDING A

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER
GREGORY T. RICHARDS
#4658
Electrical
STATE OF CALIFORNIA
8/26/2022

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2022		GR
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UPDATED		

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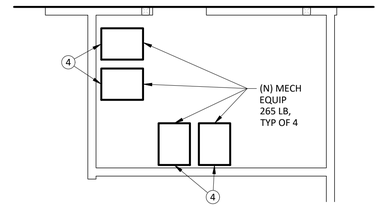
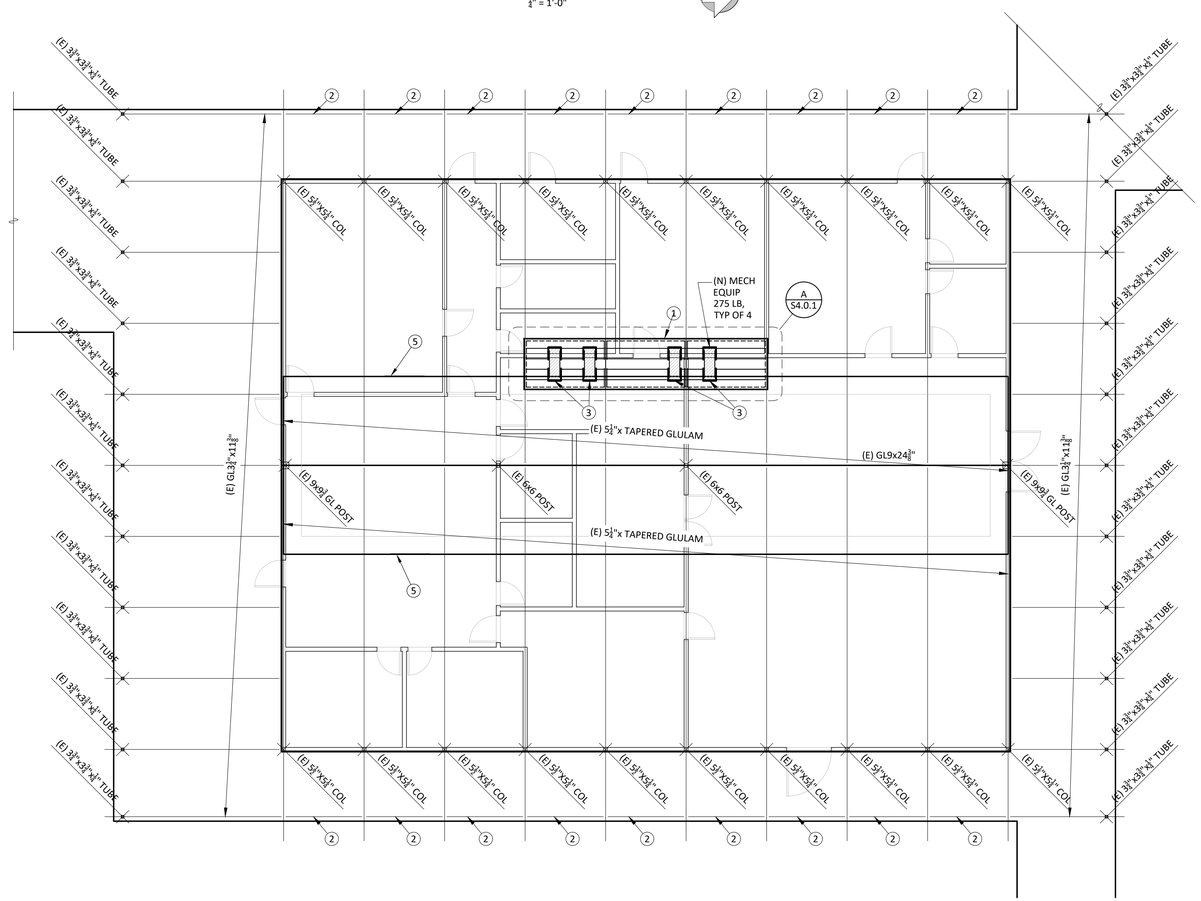
S2.1.A



PARTIAL FLOOR PLAN
BUILDING B

$\frac{1}{4}$" = 1'-0"



ROOF FRAMING PLAN
BUILDING B

$\frac{1}{8}$" = 1'-0"

STRUCTURAL PLAN NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK CONTAINED HEREIN WITH ALL PROJECT WORK BY OTHERS INCLUDING CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL & PLUMPING.
2. STRUCTURAL SCOPE IS LIMITED TO MISCELLANEOUS FRAMING MODIFICATIONS TO ACCOMMODATE RENOVATION UPGRADES TO EACH BUILDING. ALL WORK PERFORMED IS TO NOT IMPACT EXISTING LATERAL FORCE RESISTING SYSTEM.

STRUCTURAL PLAN LEGEND:

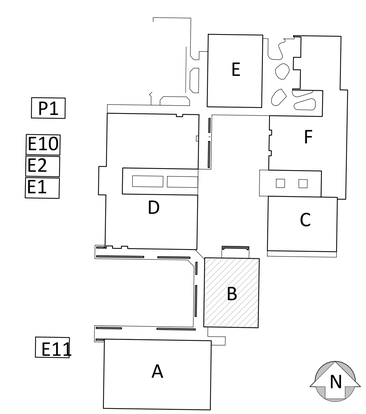
EXISTING WALL

EXISTING FRAMING MEMBER

ROOF FRAMING PLAN KEY NOTES:

1. (N) PLATFORM UNDER (N) EQUIPMENT
2. (E) GL3¼"x16¼"
3. (N) EQUIPMENT MOUNTED TO (N) PLATFORM - SEE MECHANICAL DRAWINGS
4. (N) EQUIPMENT MOUNTED TO (E) SLAB ON GRADE - SEE MECHANICAL DRAWINGS
5. EDGE OF EXISTING PENTHOUSE ROOF

BUILDING KEY PLAN:



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LICENSED ARCHITECT
STEPHEN T. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ROOF FRAMING PLAN
BUILDING B

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER
GREGORY T. RICHARDS
84558
Exp. 12/31/2022
STRUCTURAL
STATE OF CALIFORNIA

8/26/2022

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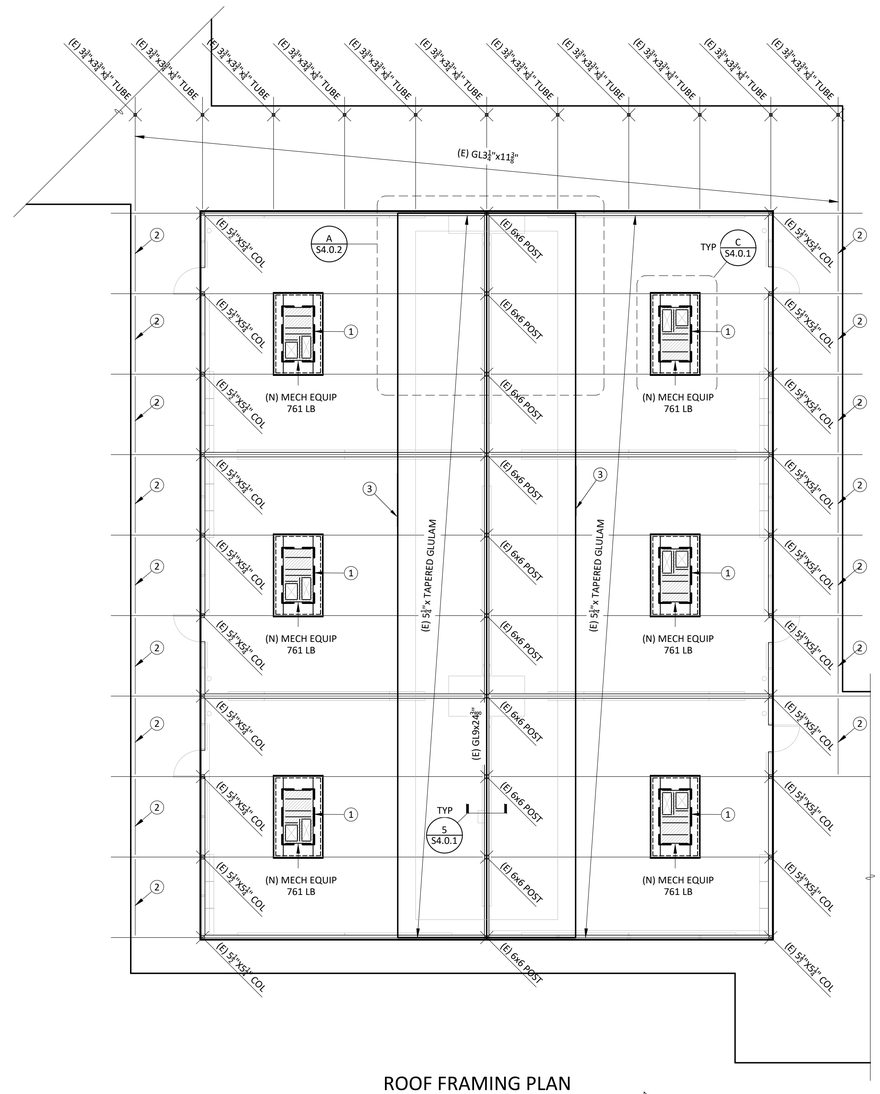
S2.1.B



ROOF FRAMING PLAN
BUILDING C

1/8" = 1'-0"

STRUCTURAL PLAN NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK CONTAINED HEREIN WITH ALL PROJECT WORK BY OTHERS INCLUDING CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL & PLUMPING.
2. STRUCTURAL SCOPE IS LIMITED TO MISCELLANEOUS FRAMING MODIFICATIONS TO ACCOMMODATE RENOVATION UPGRADES TO EACH BUILDING. ALL WORK PERFORMED IS TO NOT IMPACT EXISTING LATERAL FORCE RESISTING SYSTEM.

STRUCTURAL PLAN LEGEND:

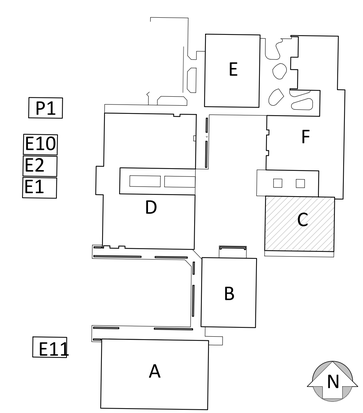
EXISTING WALL

EXISTING FRAMING MEMBER

ROOF FRAMING PLAN KEY NOTES:

1. (N) FRAMED PLATFORM UNDER (N) MECHANICAL EQUIPMENT - SEE C/S4.0.1
2. (E) GL3¾"x16¼"
3. EDGE OF EXISTING PENTHOUSE ROOF

BUILDING KEY PLAN:



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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ROOF FRAMING PLAN
BUILDING C

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER
GREGORY I. RUDKIN
84558
12/31/2022
STRUCTURAL
STATE OF CALIFORNIA

8/26/2022

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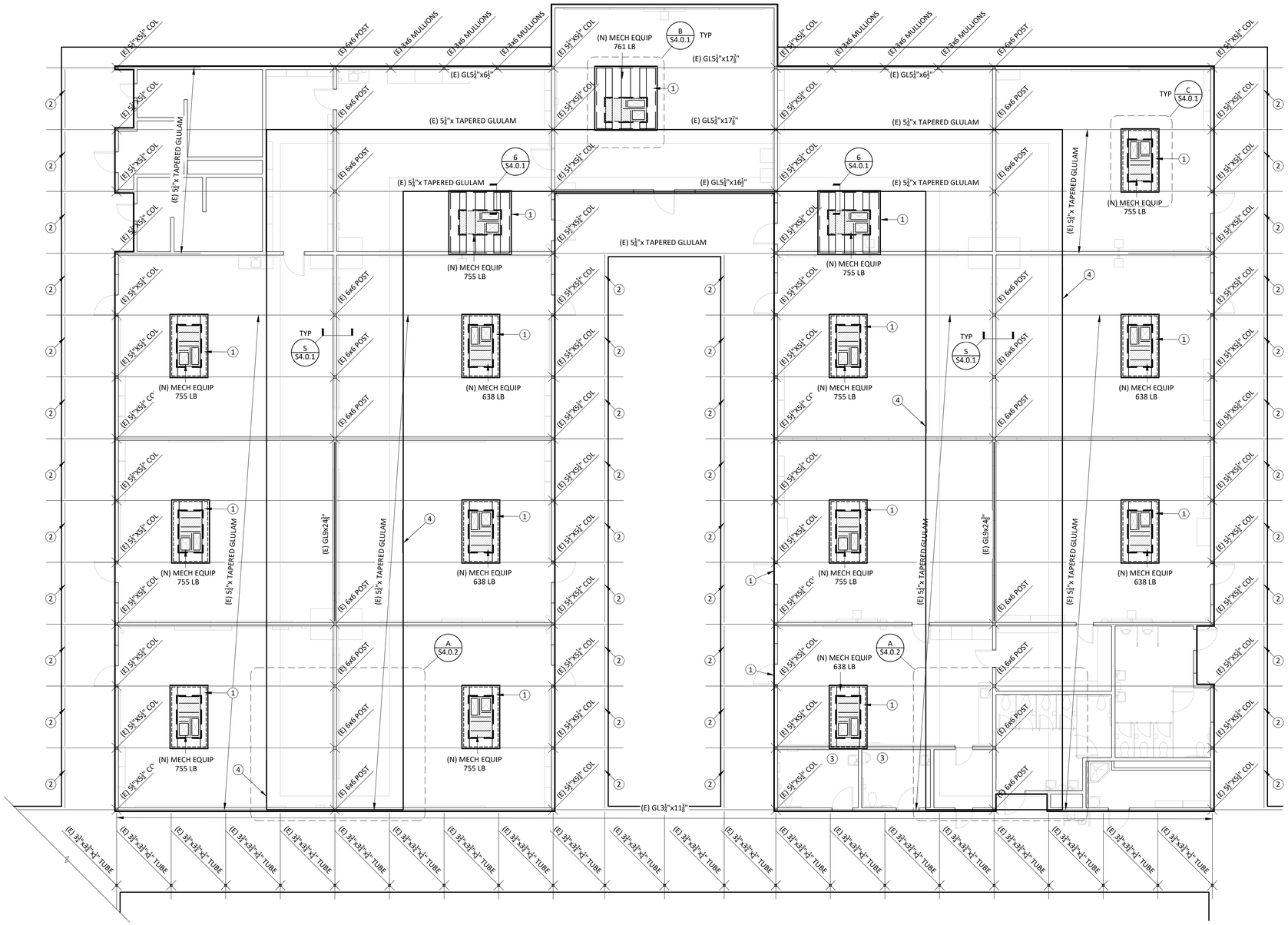
S2.1.C



ROOF FRAMING PLAN
BUILDING D
⅛" = 1'-0"

N

STRUCTURAL PLAN NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK CONTAINED HEREIN WITH ALL PROJECT WORK BY OTHERS INCLUDING CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL & PLUMPING.
2. STRUCTURAL SCOPE IS LIMITED TO MISCELLANEOUS FRAMING MODIFICATIONS TO ACCOMMODATE RENOVATION UPGRADES TO EACH BUILDING. ALL WORK PERFORMED IS TO NOT IMPACT EXISTING LATERAL FORCE RESISTING SYSTEM.

STRUCTURAL PLAN LEGEND:

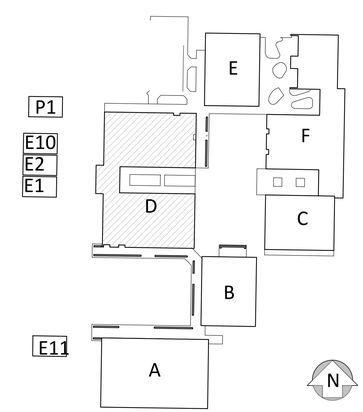
EXISTING WALL

EXISTING FRAMING MEMBER

ROOF FRAMING PLAN KEY NOTES:

1. (N) FRAMED PLATFORM UNDER (N) MECHANICAL EQUIPMENT - SEE B/S4.0.1 & C/S4.0.1
2. (E) 3¼"x16½"GL
3. ADA UPGRADES TO RESTROOMS, NO STRUCTURAL SCOPE - SEE ARCHITECTURAL AND PLUMBING DRAWINGS
4. EDGE OF EXISTING PENTHOUSE ROOF

BUILDING KEY PLAN:



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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN C. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ROOF FRAMING PLAN
BUILDING D

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

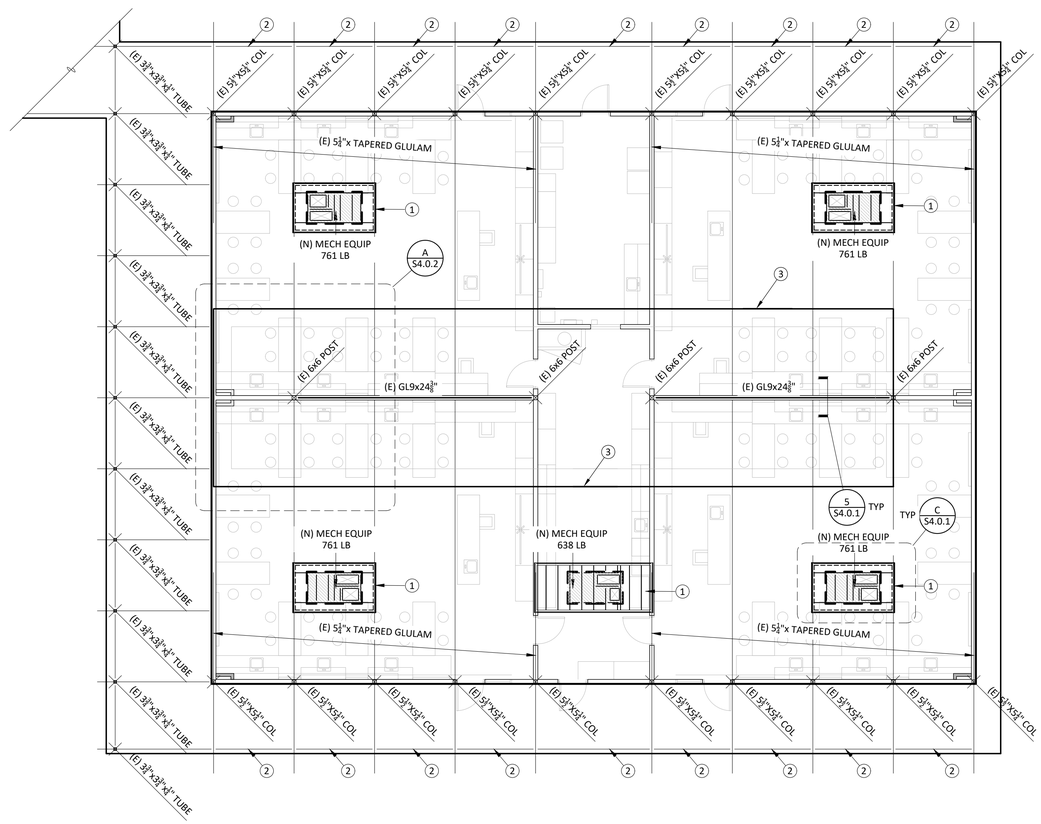
REGISTERED PROFESSIONAL ENGINEER
GREGORY I. RICHARDS
S4558
12/31/2022
STRUCTURAL
STATE OF CALIFORNIA

8/26/2022

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2022		GR
DRAWN GR		
CHECKED GR		
SCALE		
CADFILE		
UPDATED		

SHEET NO.

S2.1.D



ROOF FRAMING PLAN
BUILDING E

⅛" = 1'-0"

N

STRUCTURAL PLAN NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK CONTAINED HEREIN WITH ALL PROJECT WORK BY OTHERS INCLUDING CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL & PLUMPING.
2. STRUCTURAL SCOPE IS LIMITED TO MISCELLANEOUS FRAMING MODIFICATIONS TO ACCOMMODATE RENOVATION UPGRADES TO EACH BUILDING. ALL WORK PERFORMED IS TO NOT IMPACT EXISTING LATERAL FORCE RESISTING SYSTEM.

STRUCTURAL PLAN LEGEND:

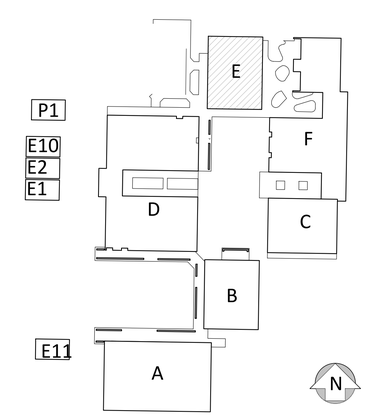
EXISTING WALL

EXISTING FRAMING MEMBER

ROOF FRAMING PLAN KEY NOTES:

1. (N) FRAMED PLATFORM UNDER (N) MECHANICAL EQUIPMENT - SEE C/S4.0.1
2. (E) 3½"x16½"GL
3. EDGE OF EXISTING PENTHOUSE ROOF

BUILDING KEY PLAN:



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LICENSED ARCHITECT
STEPHEN J. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ROOF FRAMING PLAN
BUILDING E

RW CONSULTING
Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER
GREGORY I. RICHARDS
STATE OF CALIFORNIA

8/26/2022

PROJECT NO. 22-32-057	REVISIONS	BY
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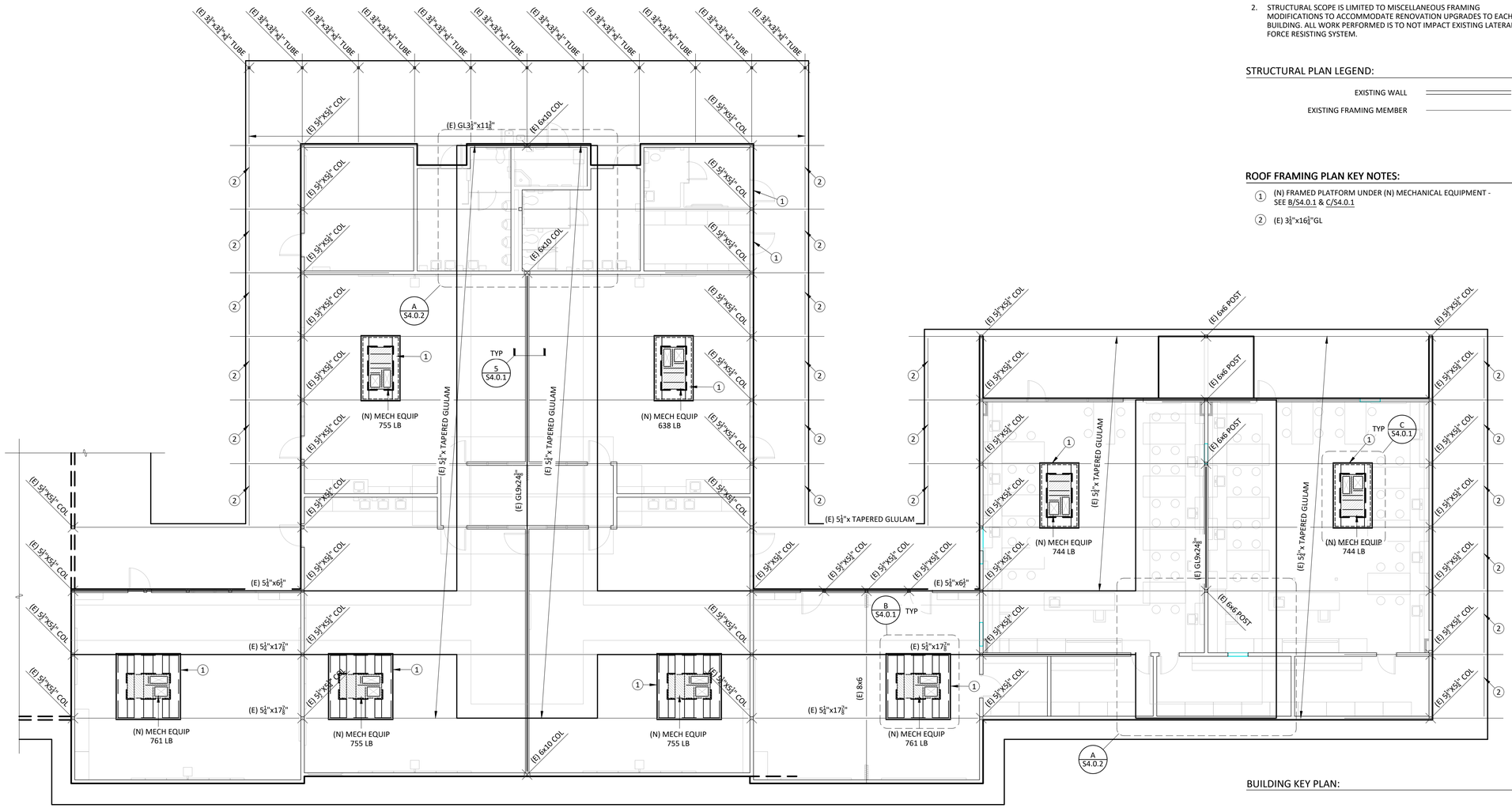
SHEET NO.

S2.1.E



ROOF FRAMING PLAN
BUILDING F
⅛" = 1'-0"

STRUCTURAL PLAN NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK CONTAINED HEREIN WITH ALL PROJECT WORK BY OTHERS INCLUDING CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL & PLUMPING.
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STRUCTURAL PLAN LEGEND:

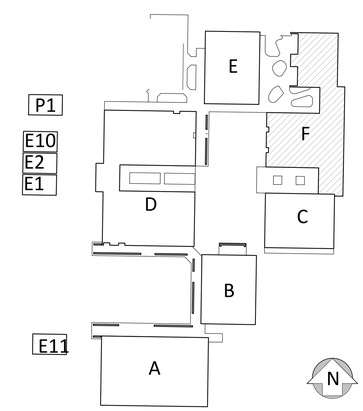
EXISTING WALL

EXISTING FRAMING MEMBER

ROOF FRAMING PLAN KEY NOTES:

1. (N) FRAMED PLATFORM UNDER (N) MECHANICAL EQUIPMENT - SEE B/S4.0.1 & C/S4.0.1
2. (E) 3¼"x16½"GL

BUILDING KEY PLAN:



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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ROOF FRAMING PLAN
BUILDING F

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
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916.716.6910

REGISTERED PROFESSIONAL ENGINEER
GREGORY I. RICHARDS
84558
Exp. 12/31/2022
STRUCTURAL
STATE OF CALIFORNIA
8/26/2022

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UPDATED		

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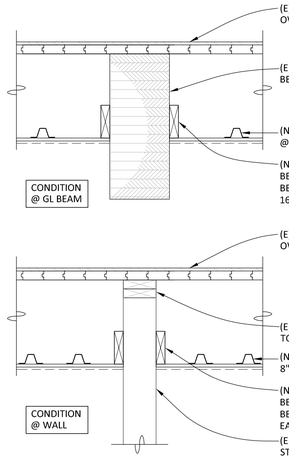
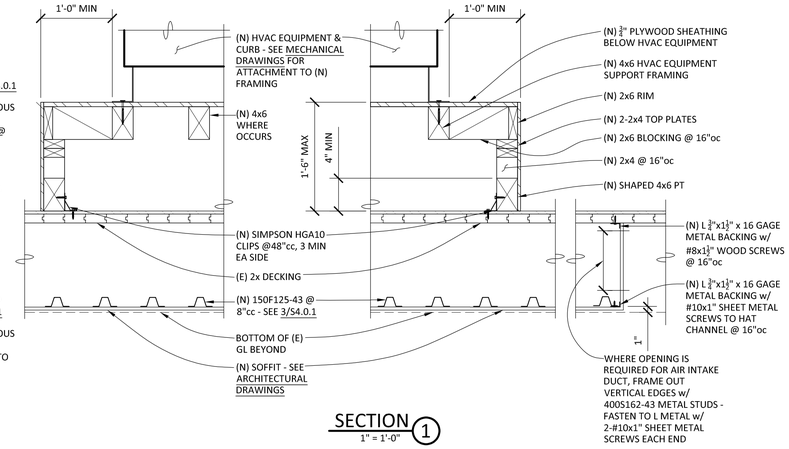
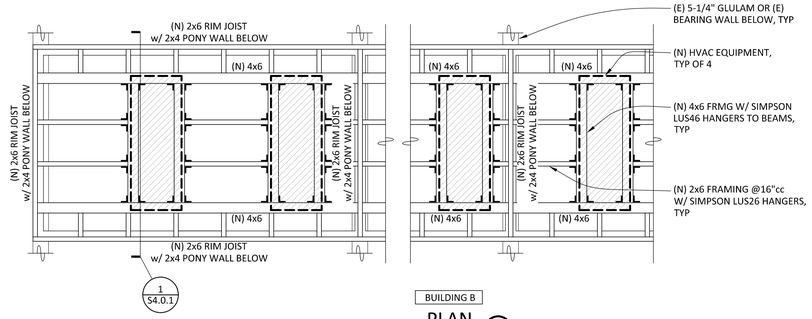
S2.1.F



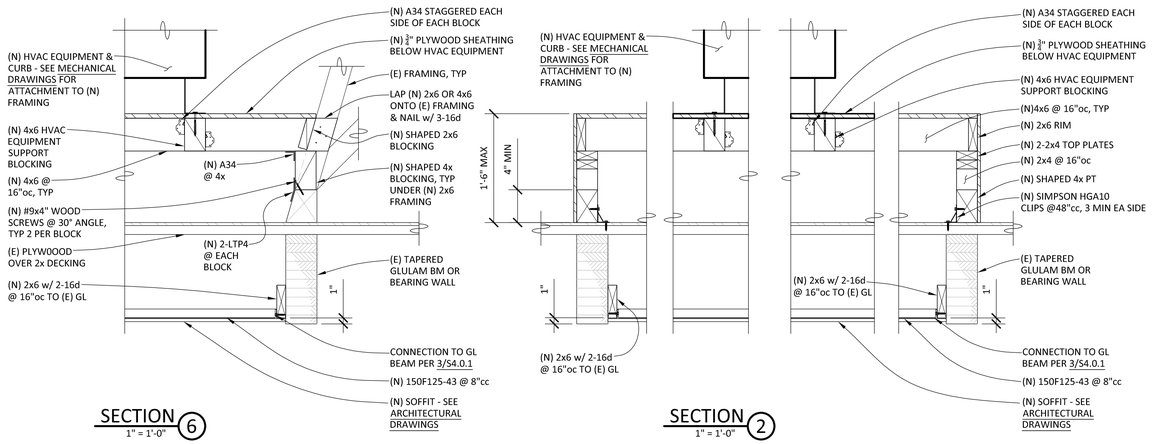
SECTION 5
1" = 1'-0"



SECTION 1
1" = 1'-0"

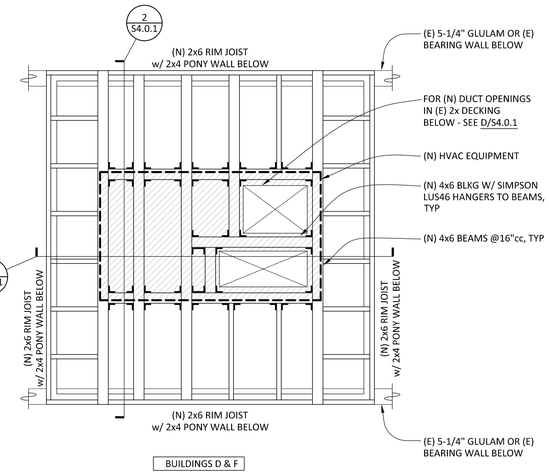


BUILDING B
PLAN A
½" = 1'-0"



SECTION 6
1" = 1'-0"

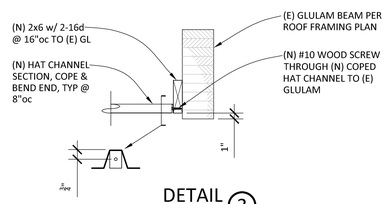
SECTION 2
1" = 1'-0"



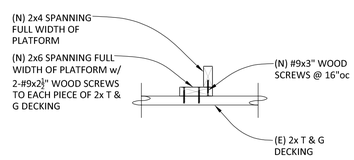
BUILDINGS D & F
PLAN B
½" = 1'-0"

FRAMED PLATFORM NOTES:

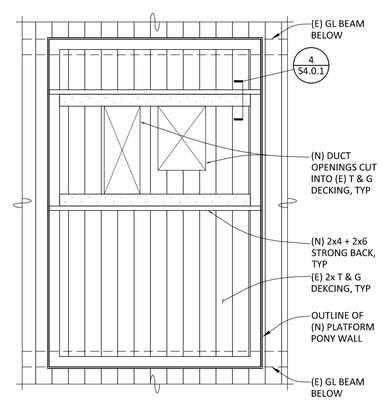
1. ALL FRAMING AND NAILING IS TO BE PER S0.0.1.
2. PONY WALLS ARE TO BE FRAMED WITH 2x4 STUDS @ 16"oc, 2x4 SOLE PLATES, AND 2-2x4 TOP PLATES, CONTINUOUS 1-PIECES
3. SIDES OF PLATFORMS ARE TO BE SHEATHED WITH ½" STRUCTURAL PLYWOOD, NO HORIZONTAL SPLICES - NAIL WITH 8d @ 6"cc ALONG ALL EDGES AND 12"cc WITHIN FIELD.
4. TOP OF PLATFORMS ARE TO BE SHEATHED WITH ¾" STRUCTURAL PLYWOOD - NAIL WITH 10d @ 6"cc ALONG ALL EDGES AND 12"cc WITHIN FIELD. NAIL TO ALL CROSS BLOCKING WITH 10d @ 6"oc. ALL EDGES ARE TO BE SUPPORTED ON FRAMING MEMBERS.



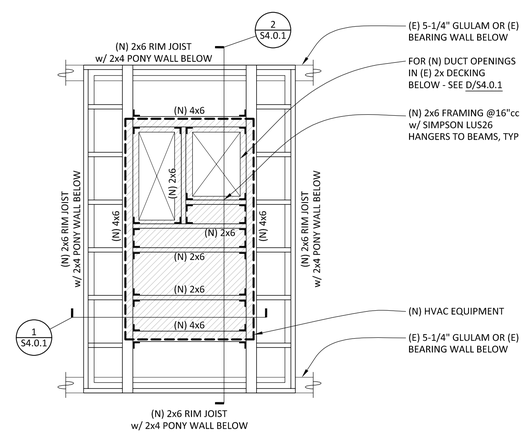
DETAIL 3
1" = 1'-0"



DETAIL 4
1" = 1'-0"



BUILDINGS C, D, E & F
PLAN D
½" = 1'-0"



BUILDINGS C, D, E & F
PLAN C
½" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT STEPHEN J. HENRY C-22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

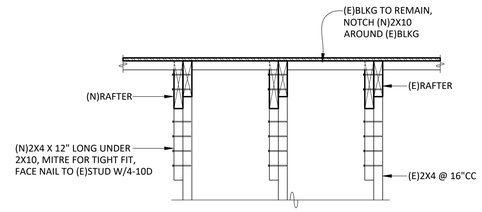
DETAILS

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

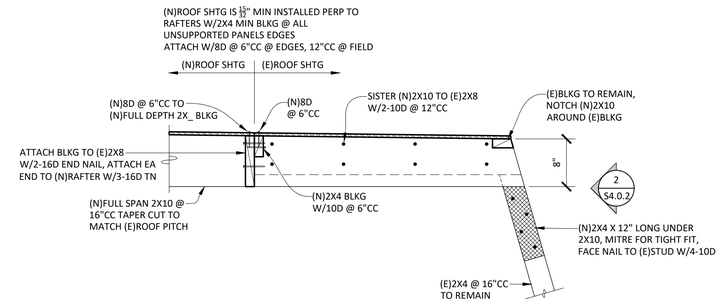
REGISTERED PROFESSIONAL ENGINEER GODFREY I. RICHARDS 84558 STRUCTURAL STATE OF CALIFORNIA
8/26/2022

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2022		GR
DRAWN GR		
CHECKED GR		
SCALE		
CADFILE		
UPDATED		

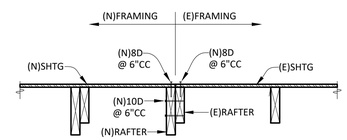
SHEET NO.
S4.0.1



DETAIL 2
1" = 1'-0"



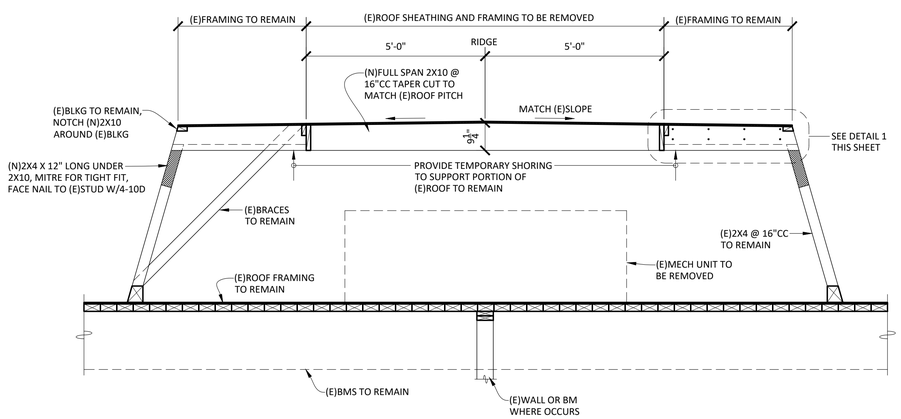
DETAIL 1
1" = 1'-0"



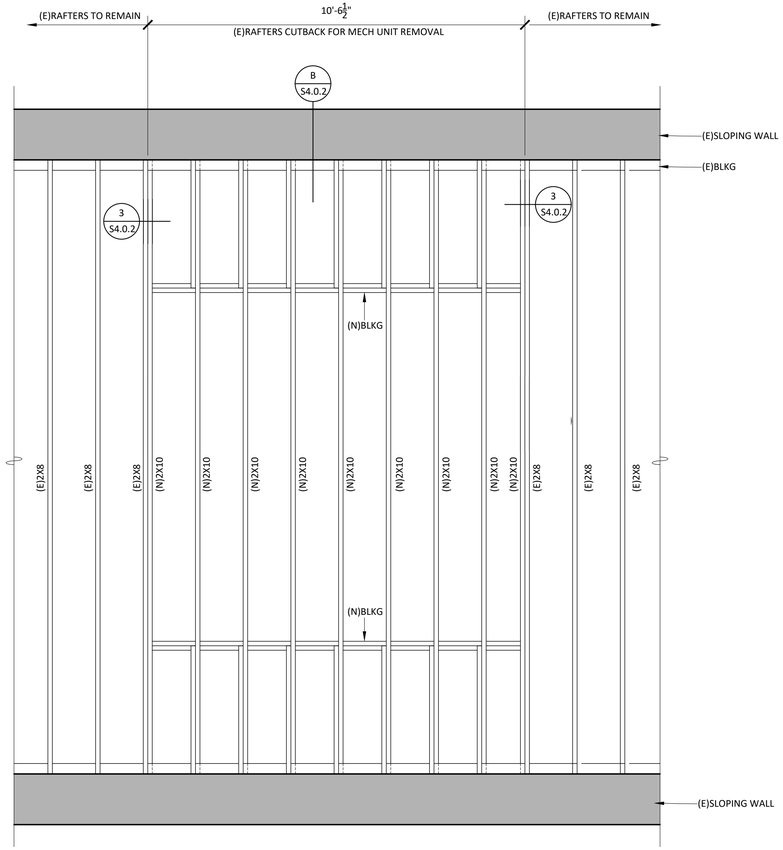
DETAIL 3
1" = 1'-0"

NOTE:

PLAN AND DETAILS ON THIS SHEET ARE TO BE USED WHERE EXISTING EQUIPMENT IS TO BE REMOVED FROM PENTHOUSE ROOF AREAS - COORDINATE SCOPE WITH MECHANICAL DRAWINGS



PENTHOUSE SECTION B
3/4" = 1'-0"



PENTHOUSE ROOF
PARTIAL FRAMING PLAN A
3/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

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Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN T. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

DETAILS

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1450 HARBOR BLVD SUITE F
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REGISTERED PROFESSIONAL ENGINEER
JOSEPH I. RICHARDS
84558
12/31/2022
STRUCTURAL
STATE OF CALIFORNIA

8/26/2022

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 8/26/2022		GR
DRAWN GR		
CHECKED GR		
SCALE		
CADFILE		
UPDATED		

SHEET NO.

S4.0.2

QC	
INI	%

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTIACLES HAVING FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BEWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTION SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK & ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (e.g., OSHPD OPM FOR 2013 CBC OR LATER). COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☐ MD☐ PP☐ E☐ OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS

MP☒ MD☒ PP☒ E☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVED (OPM #) #0043-13

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES AND INDUSTRY STANDARDS.
2. VERIFY EXACT LOCATION OF ALL (E) EQUIPMENT, DUCTWORK, DIFFUSERS, REGISTERS AND GRILLES. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES BETWEEN (E) SYSTEMS AND DRAWINGS.
3. COORDINATE EXACT LOCATION OF EQUIPMENT AND ALL PENETRATIONS THROUGH ROOF, FLOORS AND WALLS WITH ARCHITECTURAL STRUCTURAL SYSTEMS PRIOR TO COMMENCING WORK.
4. COORDINATE EXACT SIZE AND ROUTING OF DUCTWORK WITH ARCHITECTURAL PLANS, STRUCTURE AND EQUIPMENT PRIOR TO COMMENCING WORK.
5. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING DIFFUSERS, REGISTERS AND GRILLES.
6. FURNISH AND INSTALL MANUAL AIR DAMPERS AT ALL DUCT BRANCH TAKEOFFS TO A SINGLE SUPPLY DIFFUSER.
7. FLEXIBLE DUCTWORK CONNECTIONS TO CEILING DIFFUSERS ARE LIMITED TO 5' MAXIMUM LENGTH.
8. ALL DUCTWORK, CEILING DIFFUSERS/REGISTERS/GRILLES, EQUIPMENT, PIPING ETC., ARE NEW U.O.N. (SHOWN HEAVY). (E) DUCTWORK, PIPING ETC. IS SHOWN LIGHT. SEE LEGEND.
9. (E) DUCTWORK AND ITEMS TO BE REMOVED ARE SHOWN CROSSED ("X") OUT, SEE LEGEND, COORDINATE CLOSELY WITH (N) DUCTWORK AND P.O.C.'S SHOWN. ALL OTHER (E) DUCTWORK, ETC. TO REMAIN.
10. WHERE INLET DUCT DIAMETER AND DIFFUSER NECK SIZE ARE THE SAME (I.E. 9"ø & 9x9) CONTRACTOR SHALL OVERSIZE THE SHEET METAL PLENUM TO ACCOMMODATE THE ROUND DUCT CONNECTION.
11. THERMOSTATS AND ROOM TEMPERATURE SENSORS SHALL BE INSTALLED AT 46" ABOVE FINISHED FLOOR (TO TOP OF DEVICE). DO NOT INSTALL THERMOSTATS AND ROOM TEMPERATURE SENSORS ABOVE CASEWORK, SHELVING OR OTHER OBSTRUCTIONS OVER 24" IN DEPTH AND 34" IN HEIGHT.
12. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO TRENCHING OR INSTALLING PIPING AND ASSOCIATED ITEMS.
13. ALL MECHANICAL UNITS ARE SHOWN FOR REFERENCE AND COORDINATION ONLY. SEE "M" SHEETS.
14. OFFSET ALL RISERS AND DROPS TO AVOID PENETRATIONS AT TOP PLATES.
15. FIELD VERIFY EXACT SIZES, LOCATIONS AND ELEVATIONS OF ALL PIPING CONNECTIONS, OTHER WORK, ETC., PRIOR TO TRENCHING OR INSTALLING OF ANY NEW WORK.
16. PENETRATION OF PIPES, CONDUIT, ETC., IN WALLS AND/OR FLOORS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. MATERIAL SHALL BE A TESTED ASSEMBLY APPROVED BY THE STATE FIRE MARSHAL.

MECHANICAL LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	ABV	ABOVE
	ABC	ABOVE CEILING
	AF	ABOVE FLOOR
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	AD , AP	ACCESS DOOR , ACCESS PANEL
	AC	AIR CONDITIONING
	APD	AIR PRESSURE DROP, INCHES WATER COLUMN
	AB	ANCHOR BOLT
	ANV	ANGLE VALVE
	BV	BALL VALVE
	BDD	BACK DRAFT DAMPER
	BF	BELOW FLOOR
	BHP	BRAKE HORSE POWER
	BTU(H)	BRITISH THERMAL UNITS (PER HOUR)
BPT	BPT	BYPASS TIMER
	CC	CENTER TO CENTER
	CLG	CEILING
	CEF	CEILING EXHAUST FAN
	CKV	CHECK VALVE
CHWS	CHWS	CHILLED WATER SUPPLY PIPING
CHWR	CHWR	CHILLED WATER RETURN PIPING
	CP	CIRCULATING PUMP
	CLR	CLEAR
	CONC	CONCRETE
		CONCENTRIC REDUCER
CD	CD	CONDENSATE DRAIN
	COND	CONDENSER
CWS	CWS	CONDENSER WATER SUPPLY PIPING
CWR	CWR	CONDENSER WATER RETURN PIPING
	CONN	CONNECT OR CONNECTION
	CONT	CONTINUATION
	CONTR	CONTRACTOR
f	CFM	CUBIC FEET OF AIR FLOW PER MINUTE
	DPR	DAMPER
°F		DEGREES FAHRENHEIT
ø	DIA	DIAMETER , PHASE
	DL	DOOR LOUVER
	DN	DOWN
	DR	DRAIN
	DB	DRY BULB (DEGREES FAHRENHEIT)
DS	DS	DYNAMIC SENSOR
		ECCENTRIC REDUCER
	EP	ELECTRICAL PANEL
	EL	ELEVATION
	ENT	ENTERING
	EDB	ENTERING DRY BULB
	EW	ENTERING WATER
	EWT	ENTERING WATER TEMPERATURE
	EWB	ENTERING WET BULB
	EVAP	EVAPORATOR
	EA	EXHAUST AIR
	EAD	EXHAUST AIR DAMPER
	EF	EXHAUST FAN
	(E), EXIST	EXISTING
	(E)	EXISTING TO BE REMOVED
	ESP	EXTERNAL STATIC PRESSURE
	FPM	FEET PER MINUTE
F	FD	FIRE DAMPER
FS	FS	FIRE/SMOKE DAMPER
	FC	FLEXIBLE CONNECTION
	FA	FROM ABOVE
	FB	FROM BELOW
	FLA	FULL LOAD AMPS
	GPH	GALLONS PER HOUR

CALIFORNIA ENERGY CODE - ACCEPTANCE TESTING

1. THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.

LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).

MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.

A LISTING OF CERTIFIED ATT CAN BE FOUND AT
HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE

THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.

PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

MECHANICAL LEGEND cont'd

SYMBOL	ABBREVIATION	DESCRIPTION
	GPM	GALLONS PER MINUTE
	GV	GATE VALVE
	GLV	GLOBE VALVE
	GALV	GALVANIZED
	GI	GALVANIZED IRON
	GA	GAUGE
	HW	HOT WATER
HWS	HWS	HOT WATER SUPPLY PIPING
HWR	HWR	HOT WATER RETURN PIPING
Hx	H	HUMIDISTAT, "X" INDICATES SYSTEM CONTROLLED
	KW	KILOWATTS
	KWH	KILOWATT HOUR
	LDB	LEAVING DRY BULB IN DEGREES FAHRENHEIT
	LWB	LEAVING WET BULB IN DEGREES FAHRENHEIT
	LRA	LOCKED ROTOR AMPERES
	LVR	LOUVER
	MAD	MANUAL AIR DAMPER
	MFR	MANUFACTURER
	MAX	MAXIMUM
	MIN	MINIMUM
M	MCD	MOTORIZED CONTROL DAMPER
	(N)	NEW
OCC	OCC	OCCUPANCY SENSOR
	OC	ON CENTER
	OA	OUTSIDE AIR
	OAD	OUTSIDE AIR DAMPER
	OD	OUTSIDE DIAMETER
	OV	OUTLET VELOCITY
		PIPE ANCHOR
		PIPE DROP
		PIPE GUIDE
		PIPE RISE
		PITCH DOWN IN DIRECTION OF FLOW
	POC	POINT OF CONNECTION
	LBS	POUNDS
	PSI (G) (A)	POUNDS PER SQUARE INCH (GAUGE) (ABSOLUTE)
	PD	PRESSURE DROP
	PG	PRESSURE GAUGE
RG	RG	REFRIGERANT GAS PIPING
RS	RS	REFRIGERANT SUCTION PIPING
RL	RL	REFRIGERANT LIQUID PIPING
	RA	RETURN AIR
	RAD	RETURN AIR DAMPER
	RPM	REVOLUTIONS PER MINUTE
	RLA	RUNNING LOAD AMPERES
	SB	SECURITY BARS
	SM	SHEET METAL
SD	SD	SMOKE DAMPER
SD	SKD	SMOKE DETECTOR
	SD	SPLITTER DAMPER
	SQFT, FT^2	SQUARE FEET
	SQIN, IN^2	SQUARE INCHES
	SP	STATIC PRESSURE
	SPD	STATIC PRESSURE DROP
		STEAM TRAP (ALL TYPES)
	STR	STRAINER
	SA	SUPPLY AIR
	SF	SUPPLY FAN
	TCP	TEMPERATURE CONTROL PANEL
	TCV	TEMPERATURE CONTROL VALVE
TSx		TEMPERATURE SENSOR, "X" INDICATES SYSTEM CONTROLLED, INSTALLED AT +46" AFF (TO TOP OF DEVICE)
		THERMOMETER
Tx	T	THERMOSTAT, "X" INDICATES SYSTEM CONTROLLED, INSTALLED AT +46" AFF (TO TOP OF DEVICE)
	MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
	TA	TO ABOVE
	TB	TO BELOW
	TP	TOTAL PRESSURE
	TSP	TOTAL STATIC PRESSURE
	TYP	TYPICAL
	UG	UNDERGROUND
	UCD	UNDER CUT DOOR
	UON	UNLESS OTHERWISE NOTED
		UNION
	VLV	VALVE
		VALVE IN RISER (TYPE AS INDICATED OR NOTED)
		VALVE IN VALVE BOX
	WPD	WATER PRESSURE DROP
	W	WATTS
	WT	WEIGHT
	WB	WET BULB
	WMS	WIRE MESH SCREEN
	WP	WORKING PRESSURE
		2-WAY CONTROL VALVE
		3-WAY CONTROL VALVE

capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212
HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL LEGEND

CONSULTANT
REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUVAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA
DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 01-M0.0.1.DWG		
UPDATED 8/26/2022		

SHEET NO.
M0.0.1
15 OF XX SHEETS

QC	
INI	%

PACKAGED HEAT PUMP UNIT SCHEDULE

UNIT	SERVES	"CARRIER" MODEL NO. U.N.O.	NOM. TONS	CFM	MIN. O.A. (CFM)	ESP (IN. W.G.)	DX COOLING					HP HEATING		HP UNIT ELECTRICAL DATA											PWR. EXH. ECON. ELECTRICAL DATA					EFFICIENCY					OPERATING WEIGHT (LBS.)				MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
										EVAP.					SUPPLY FAN		COMPRESSOR			COND. FAN		AUX. STRIP HEAT						EXHAUST FAN					COOLING			HEATING							
							LOW CFM (66%)	SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (MBH)	EDB (°F)	EWB (°F)	TOTAL CAPACITY (MBH)	HX EDB (°F)	VOLT/PH	BHP	FLA	QTY	RLA	LRA	QTY	FLA	KW @ 460/3	FLA	MCA	MOCP	VOLT/PH	HP	FLA	MCA	MOCP	SEER	EER	IEER	HSPF	COP @ 47 °F	HP UNIT	ROOF CURB	PWR. EXH. ECON.	TOTAL			
HP C1	CLASSROOM C101	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 125	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP C2	CLASSROOM C102	50GCQM04A3A6	3	1200	UPPER 480 / LOWER 125	0.8	800	24.52	31.73	80	67	24.4	70	460/3	0.46	1.5	1	5.8	38	1	0.8	8.8	10.6	24	25	460/3	1/2	1.5	1.9	3.4	16.2	9.52	--	8.3	3.8	488	105	45	638	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP C3	CLASSROOM C103	50GCQM05A3A6	4	1800	UPPER 480 / LOWER 125	0.8	1200	35.33	42.90	80	67	34.10	70	460/3	0.8	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	8.95	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP C4	CLASSROOM C104	50GCQM06A3A6	5	2000	UPPER 480 / LOWER 125	0.8	1350	44.82	55.92	80	67	41.50	70	460/3	0.93	2.9	1	11	52	1	0.8	14.0	16.8	40	45	460/3	1	2.8	3.5	6.3	16.2	9.53	--	8.3	3.9	611	105	45	761	1 M5.1	1 M6.2	1 2 3 4 5 6 11
HP C5	CLASSROOM C105	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 125	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP C6	CLASSROOM C106	50GCQM05A3A6	4	1800	UPPER 480 / LOWER 125	0.8	1200	35.33	42.90	80	67	34.10	70	460/3	0.8	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	8.95	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D1	CLASSROOM D101	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 125	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D2	CLASSROOM D102	50GCQM05A3A6	4	1800	UPPER 480 / LOWER 130	0.8	1200	35.33	42.90	80	67	34.10	70	460/3	0.8	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	8.95	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D3	CLASSROOM D103	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 130	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	25	460/3	1/2	1.5	1.9	3.4	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D4	CLASSROOM D104	50GCQM04A3A6	3	1200	UPPER 480 / LOWER 125	0.8	800	24.52	31.73	80	67	24.4	70	460/3	0.46	1.5	1	5.8	38	1	0.8	8.8	10.6	24	25	460/3	1/2	1.5	1.9	3.4	16.2	9.52	--	8.3	3.8	488	105	45	638	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D5	CLASSROOM D105	50GCQM04A3A6	3	1200	UPPER 480 / LOWER 125	0.8	800	24.52	31.73	80	67	24.4	70	460/3	0.46	1.5	1	5.8	38	1	0.8	8.8	10.6	24	25	460/3	1/2	1.5	1.9	3.4	16.2	9.52	--	8.3	3.8	488	105	45	638	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D6	CLASSROOM D106	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 125	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D7	CLASSROOM D111	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 125	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D8	CLASSROOM D112	50GCQM06A3A6	5	2000	UPPER 480 / LOWER 130	0.8	1350	44.82	55.92	80	67	41.50	70	460/3	0.93	2.9	1	11	52	1	0.8	14.0	16.8	40	45	460/3	1	2.8	3.5	6.3	16.2	9.53	--	8.3	3.9	611	105	45	761	1 M5.1	1 M6.2	1 2 3 4 5 6 11
HP D9	CLASSROOM D113	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 125	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	3.5	6.3	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D10	CLASSROOM D114	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 125	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	3.5	6.3	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D11	CLASSROOM D115	50GCQM04A3A6	3	1200	UPPER 480 / LOWER 125	0.8	800	24.52	31.73	80	67	24.4	70	460/3	0.46	1.5	1	5.8	38	1	0.8	8.8	10.6	24	25	460/3	1/2	1.5	3.5	6.3	16.2	9.52	--	8.3	3.8	488	105	45	638	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D12	CLASSROOM D116	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 125	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	3.5	6.3	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D13	CLASSROOM D117	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 125	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	3.5	6.3	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D14	CLASSROOM D118	50GCQM04A3A6	3	1200	UPPER 480 / LOWER 125	0.8	800	24.52	31.73	80	67	24.4	70	460/3	0.46	1.5	1	5.8	38	1	0.8	8.8	10.6	24	25	460/3	1/2	1.5	3.5	6.3	16.2	9.52	--	8.3	3.8	488	105	45	638	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP D15	TEACHER'S WORK ROOM D124	50GCQM04A3A6	3	1200	UPPER 195 / LOWER 95	0.8	800	24.52	31.73	80	67	24.4	70	460/3	0.46	1.5	1	5.8	38	1	0.8	8.8	10.6	24	25	460/3	1/2	1.5	3.5	6.3	16.2	9.52	--	8.3	3.8	488	105	45	638	1 M5.1	1 M6.2	1 2 3 4 5 6 –
HP E1	SCIENCE CLASSROOM E101	50GCQM06A3A6	5	2000	UPPER 480 / LOWER 170	0.8	1350	44.82	55.92	80	67	41.50	70	460/3	0.93	2.9	1	11	52	1	0.8	14.0	16.8	40	45	460/3	1	2.8	3.5	6.3	16.2	9.53	--	8.3	3.9	611	105	45	761	1 M5.1	1 M6.2	1 2 3 4 5 6 11
HP E2	SCIENCE CLASSROOM E102	50GCQM06A3A6	5	2000	UPPER 480 / LOWER 170	0.8	1350	44.82	55.92	80	67	41.50	70	460/3	0.93	2.9	1	11	52	1	0.8	14.0	16.8	40	45	460/3	1	2.8	3.5	6.3	16.2	9.53	--	8.3	3.9	611	105	45	761	1 M5.1	1 M6.2	1 2 3 4 5 6 11
HP E3	TEACHER'S WORK ROOM E104	50GCQM04A3A6	3	1200	UPPER 195 / LOWER 120	0.8	800	24.52	31.73	80	67	24.4	70	460/3	0.46	1.5	1	5.8	38	1	0.8	8.8	10.6	24	25	460/3	1/2	1.5	3.5	6.3	16.2	9.52	--	8.3	3.8	488	105	45	638	1 M5.1	1 M6.2	1 2 3 4 5 6 –

NOTES:

1. UNITS SELECTED AT 105 F DB / 70 F WB SUMMER AMBIENT, 30 F DB WINTER AMBIENT AIR TEMPERATURES. COOLING CAPACITIES SCHEDULED ARE NET SENSIBLE & NET TOTAL CAPACITIES.
2. PROVIDE UNIT WITH CONDENSER COIL GUARDS, HINGED ACCESS DOORS, AND 2" THICK MERV 13 DISPOSABLE PLEATED MEDIA FILTER(S). THE ESP SCHEDULED ABOVE INCLUDES AIR PRESSURE DROP THRU FILTER(S).
3. PROVIDE UNIT WITH "MICROMETL" 100% MODULATING POWER EXHAUST ECONOMIZER WITH VFD, DIFFERENTIAL PRESSURE TRANSDUCER, ROOM PRESSURE TUBING, AND "BELIMO" LF SERIES ACTUATORS. NOTE THAT SEPARATE POWER CONNECTIONS ARE REQUIRED TO THE PHP UNIT AND TO THE MODULATING POWER EXHAUST ECONOMIZER. ELECTRICAL LOADS OF EACH DEVICE ARE SCHEDULED, ELECTRICAL ENGINEER SHALL PROVIDE SEPARATE POWER CONNECTIONS, APPROPRIATE CIRCUIT BREAKER(S), FEEDER(S), AND DISCONNECT(S) AS REQUIRED BY CODE.
4. PROVIDE "MICROMETL" STRUCTURALLY CALC'D 14" TALL STANDARD ROOF CURB.
5. LOW SPEED SUPPLY FAN SETTING SHALL BE LOCKED OUT, UNIT SHALL OPERATE AS SINGLE ZONE CONSTANT VOLUME AT ALL TIMES. CONTRACTOR SHALL COORDINATE WITH HP UNIT FACTORY REP TO ACCOMPLISH SINGLE ZONE CONSTANT VOLUME OPERATION.
6. LOWER OUTSIDE AIR POSITION INDICATED IS BASED ON 0.15 CFM/SQ.FT., ALLOWABLE FOR CO2 DEMAND CONTROL VENTILATION SYSTEMS AT MINIMUM OCCUPANCY. UPPER OUTSIDE AIR POSITION INDICATED IS BASED ON 15 CFM/OCCUPANT WHEN SPACE IS AT MAXIMUM OCCUPANCY, UNLESS SYSTEM IS IN ECONOMIZER MODE. SEE CONTROLS FOR SEQUENCE OF OPERATION. FOR THESE UNITS WITH DEMAND CONTROL VENTILATION, ENTERING TEMPERATURES SCHEDULED REPRESENT CONDITIONS AT UPPER OSA POSITION.
7. FOR UNITS WITH NOM. COOLING CAPACITY OF 6 TONS AND LARGER, PROVIDE UNIT WITH FACTORY INSTALLED VFD ON SUPPLY FAN AND MINIMUM 2-STAGES OF MECHANICAL COOLING CAPACITY. SEE SCHEDULE FOR LOW SUPPLY AIRFLOW CFM (66%). SEE CONTROLS FOR SEQUENCE OF OPERATION.
8. EXISTING DUCTWORK THAT IS BEING RE-USED SHALL BE THOROUGHLY CLEANED PER SPEC SECTION 23 01 30.52.
9. NOT USED
10. NOT USED
11. AUTOMATIC SHUTDOWN OF HVAC SYSTEM IS NOT REQUIRED PER 2019 CMC, SECTION 608.1, EXCEPTION 2: ALL ROOMS HAVE DIRECT EXIT TO OUTSIDE WITH TRAVEL DISTANCE LESS THAN 100 FEET.

capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212
HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN C. HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL SCHEDULES

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUVAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 02-M0.0.2.DWG		
UPDATED 8/26/2022		

SHEET NO.

M0.0.2

QC	
INI	%

PACKAGED HEAT PUMP UNIT SCHEDULE

UNIT	SERVES	"CARRIER" MODEL NO. U.N.O.	NOM. TONS	CFM	MIN. O.A. (CFM)	ESP (IN. W.G.)	DX COOLING					HP HEATING		HP UNIT ELECTRICAL DATA											PWR. EXH. ECON. ELECTRICAL DATA					EFFICIENCY					OPERATING WEIGHT (LBS.)				MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
							LOW CFM (66%)	SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (MBH)	EVAP. EDB (°F)	EVAP. EWB (°F)	TOTAL CAPACITY (MBH)	HX EDB (°F)	VOLT/PH	SUPPLY FAN BHP	SUPPLY FAN FLA	COMPRESSOR QTY	COMPRESSOR RLA	COMPRESSOR LRA	COND. FAN QTY	COND. FAN FLA	AUX. STRIP HEAT KW @ 460/3	AUX. STRIP HEAT FLA	MCA	MOCP	VOLT/PH	EXHAUST FAN HP	EXHAUST FAN FLA	MCA	MOCP	COOLING SEER	COOLING EER	COOLING IEER	HEATING HSPF	HEATING COP @ 47 °F	HP UNIT	ROOF CURB	PWR. EXH. ECON.	TOTAL			
HP E4	SCIENCE CLASSROOM E105	50GCQM06A3A6	5	2000	UPPER 480 / LOWER 170	0.8	1350	44.82	55.92	80	67	41.50	70	460/3	0.93	2.9	1	11	52	1	0.8	14.0	16.8	40	45	460/3	1	2.8	3.5	6.3	16.2	9.53	--	8.3	3.9	611	105	45	761	1 M5.1	1 M6.2	1 2 3 4 5 6 11
HP E5	SCIENCE CLASSROOM E106	50GCQM06A3A6	5	2000	UPPER 480 / LOWER 170	0.8	1350	44.82	55.92	80	67	41.50	70	460/3	0.93	2.9	1	11	52	1	0.8	14.0	16.8	40	45	460/3	1	2.8	3.5	6.3	16.2	9.53	--	8.3	3.9	611	105	45	761	1 M5.1	1 M6.2	1 2 3 4 5 6 11
HP F1	SCIENCE CLASSROOM F101	50FCQM07A3A6	6	2400	UPPER 540 / LOWER 220	0.8	1600	54.86	67.69	80	67	65.10	70	460/3	0.99	2.9	1	8.5	66	1	0.8	21.5	25.9	48	50	460/3	1	2.8	3.5	6.3	11.2	9.46	15.0	--	3.6	594	105	45	744	1 M5.1	1 M6.2	1 2 3 4 6 7 9
HP F2	SCIENCE CLASSROOM F102	50FCQM07A3A6	6	2400	UPPER 540 / LOWER 200	0.8	1600	54.86	67.69	80	67	65.10	70	460/3	0.99	2.9	1	8.5	66	1	0.8	21.5	25.9	48	50	460/3	1	2.8	3.5	6.3	11.2	9.46	15.0	--	3.6	594	105	45	744	1 M5.1	1 M6.2	1 2 3 4 6 7 9
HP F3	CLASSROOM F107	50GCQM06A3A6	5	2000	UPPER 480 / LOWER 130	0.8	1350	44.82	55.92	80	67	41.50	70	460/3	0.93	2.9	1	11	52	1	0.8	14.0	16.8	40	45	460/3	1	2.8	3.5	6.3	16.2	9.53	--	8.3	3.9	611	105	45	761	1 M5.1	1 M6.2	1 2 3 4 5 6 11
HP F4	CLASSROOM F108	50GCQM05A3A6	4	1600	UPPER 480 / LOWER 175	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 —
HP F5	CLASSROOM F109	50GCQM05A3A6	4	1800	UPPER 480 / LOWER 175	0.8	1200	35.33	42.90	80	67	34.10	70	460/3	0.8	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	8.95	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 —
HP F6	CLASSROOM F110	50GCQM06A3A6	5	2000	UPPER 480 / LOWER 130	0.8	1350	44.82	55.92	80	67	41.50	70	460/3	0.93	2.9	1	11	52	1	0.8	14.0	16.8	40	45	460/3	1	2.8	3.5	6.3	16.2	9.53	--	8.3	3.9	611	105	45	761	1 M5.1	1 M6.2	1 2 3 4 5 6 11
HP F7	CLASSROOM F113	50GCQM04A3A6	3	1200	UPPER 510 / LOWER 155	0.8	800	24.52	31.73	80	67	24.4	70	460/3	0.46	1.5	1	5.8	38	1	0.8	8.8	10.6	24	25	460/3	1/2	1.5	1.9	3.4	16.2	9.52	--	8.3	3.8	488	105	45	638	1 M5.1	1 M6.2	1 2 3 4 5 6 —
HP F8	CLASSROOM F114	50GCQM05A3A6	4	1600	UPPER 510 / LOWER 155	0.8	1100	32.96	42.45	80	67	33.50	70	460/3	0.7	2.4	1	8.2	41	1	0.8	11.5	13.8	32	35	460/3	1/2	1.5	1.9	3.4	16.2	9.04	--	8.3	3.7	605	105	45	755	1 M5.1	1 M6.2	1 2 3 4 5 6 —

NOTES:

1. UNITS SELECTED AT 105 F DB / 70 F WB SUMMER AMBIENT, 30 F DB WINTER AMBIENT AIR TEMPERATURES. COOLING CAPACITIES SCHEDULED ARE NET SENSIBLE & NET TOTAL CAPACITIES.
2. PROVIDE UNIT WITH CONDENSER COIL GUARDS, HINGED ACCESS DOORS, AND 2" THICK MERV 13 DISPOSABLE PLEATED MEDIA FILTER(S). THE ESP SCHEDULED ABOVE INCLUDES AIR PRESSURE DROP THRU FILTER(S).
3. PROVIDE UNIT WITH "MICROMETL" 100% MODULATING POWER EXHAUST ECONOMIZER WITH VFD, DIFFERENTIAL PRESSURE TRANSDUCER, ROOM PRESSURE TUBING, AND "BELIMO" LF SERIES ACTUATORS. NOTE THAT SEPARATE POWER CONNECTIONS ARE REQUIRED TO THE PHP UNIT AND TO THE MODULATING POWER EXHAUST ECONOMIZER. ELECTRICAL LOADS OF EACH DEVICE ARE SCHEDULED, ELECTRICAL ENGINEER SHALL PROVIDE SEPARATE POWER CONNECTIONS, APPROPRIATE CIRCUIT BREAKER(S), FEEDER(S), AND DISCONNECT(S) AS REQUIRED BY CODE.
4. PROVIDE "MICROMETL" STRUCTURALLY CALC'D 14" TALL STANDARD ROOF CURB.
5. LOW SPEED SUPPLY FAN SETTING SHALL BE LOCKED OUT, UNIT SHALL OPERATE AS SINGLE ZONE CONSTANT VOLUME AT ALL TIMES. CONTRACTOR SHALL COORDINATE WITH HP UNIT FACTORY REP TO ACCOMPLISH SINGLE ZONE CONSTANT VOLUME OPERATION.
6. LOWER OUTSIDE AIR POSITION INDICATED IS BASED ON 0.15 CFM/SQ.FT., ALLOWABLE FOR CO2 DEMAND CONTROL VENTILATION SYSTEMS AT MINIMUM OCCUPANCY. UPPER OUTSIDE AIR POSITION INDICATED IS BASED ON 15 CFM/OCCUPANT WHEN SPACE IS AT MAXIMUM OCCUPANCY, UNLESS SYSTEM IS IN ECONOMIZER MODE. SEE CONTROLS FOR SEQUENCE OF OPERATION. FOR THESE UNITS WITH DEMAND CONTROL VENTILATION, ENTERING TEMPERATURES SCHEDULED REPRESENT CONDITIONS AT UPPER OSA POSITION.
7. FOR UNITS WITH NOM. COOLING CAPACITY OF 6 TONS AND LARGER, PROVIDE UNIT WITH FACTORY INSTALLED VFD ON SUPPLY FAN AND MINIMUM 2-STAGES OF MECHANICAL COOLING CAPACITY. SEE SCHEDULE FOR LOW SUPPLY AIRFLOW CFM (66%). SEE CONTROLS FOR SEQUENCE OF OPERATION.
8. EXISTING DUCTWORK THAT IS BEING RE-USED SHALL BE THOROUGHLY CLEANED PER SPEC SECTION 23 01 30.52.
9. INSTALL DUCT SMOKE DETECTOR IN SUPPLY AIR DUCT FOR AUTOMATIC SHUTDOWN OF HVAC SYSTEM UPON SENSING SMOKE. PROVIDED, POWERED & INTERLOCKED WITH FIRE ALARM SYSTEM BY DIV. 26, INSTALLED & CONNECTED TO AC UNIT BY DIV. 23.
10. NOT USED.
11. AUTOMATIC SHUTDOWN OF HVAC SYSTEM IS NOT REQUIRED PER 2019 CMC, SECTION 608.1, EXCEPTION 2: ALL ROOMS HAVE DIRECT EXIT TO OUTSIDE WITH TRAVEL DISTANCE LESS THAN 100 FEET.

AIR CONDITIONING UNIT SCHEDULE

UNIT	SERVES	"CARRIER" MODEL NO. U.N.O.	NOM. TONS	CFM	MIN. O.A. (CFM)	ESP (IN. W.G.)	DX COOLING					GAS HEATING				AC UNIT ELECTRICAL DATA											PWR. EXH. ECON. ELECTRICAL DATA					EFFICIENCY					OPERATING WEIGHT (LBS.)				MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
							LOW CFM (66%)	SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (MBH)	EVAP. EDB (°F)	EVAP. EWB (°F)	INPUT (MBH)	OUTPUT (MBH)	HX EDB (°F)	VOLT/PH	SUPPLY FAN BHP	SUPPLY FAN FLA	COMPRESSOR QTY	COMPRESSOR RLA	COMPRESSOR LRA	COND. FAN QTY	COND. FAN FLA	COMB. FAN FLA	MCA	MOCP	VOLT/PH	EXHAUST FAN HP	EXHAUST FAN FLA	MCA	MOCP	COOLING SEER	COOLING EER	COOLING IEER	HEATING AFUE	HEATING TE	AC UNIT	ROOF CURB	PWR. EXH. ECON.	TOTAL			
AC A1	MULTI PURPOSE A1	48A8T050-SA64AEE	50	13400	UPPER 10050 / LOWER 920	1.0	8850	473.14	536.80	80	67	800 / 304	648 / 246.2	70	460/3	19.72	40	4	16	140	4	3.3	2 ● 1.1	140	175	460/3	--	4 ● 3.2	--	--	--	9.8	14.2	--	81.0	6150	290	--	6440	1 M5.1	3 M6.1	1 2 4 7 8 10 12 13 16 — —
AC A2	KITCHEN A8	48HCDD17A7A6-0A0G0	15	7200	UPPER 300 / LOWER 220	0.8	4760	134.89	173.94	80	67	220 / 176	178 / 142	70	460/3	5.6	6.4	2	12.8	100	3	0.9	0.3	37.9	50	460/3	2	6.5	8.1	14.6	--	11.50	13.0	--	81.0	1925	240	325	2490	1 M5.1	4 M6.1	1 2 3 4 7 8 12 13 14 — —

NOTES:

1. UNITS SELECTED AT 105 F DB / 70 F WB SUMMER AMBIENT, 30 F DB WINTER AMBIENT AIR TEMPERATURES. COOLING CAPACITIES SCHEDULED ARE NET SENSIBLE & NET TOTAL CAPACITIES.
2. PROVIDE UNIT WITH CONDENSER COIL GUARDS, HINGED ACCESS DOORS, AND 2" THICK MERV 13 DISPOSABLE PLEATED MEDIA FILTER(S). THE ESP SCHEDULED ABOVE INCLUDES AIR PRESSURE DROP THRU FILTER(S).
3. PROVIDE UNIT WITH "MICROMETL" 100% MODULATING POWER EXHAUST ECONOMIZER WITH VFD, DIFFERENTIAL PRESSURE TRANSDUCER, ROOM PRESSURE TUBING, AND "BELIMO" LF SERIES ACTUATORS. NOTE THAT SEPARATE POWER CONNECTIONS ARE REQUIRED TO THE AC UNIT AND TO THE MODULATING POWER EXHAUST ECONOMIZER. ELECTRICAL LOADS OF EACH DEVICE ARE SCHEDULED, ELECTRICAL ENGINEER SHALL PROVIDE SEPARATE POWER CONNECTIONS, APPROPRIATE CIRCUIT BREAKER(S), FEEDER(S), AND DISCONNECT(S) AS REQUIRED BY CODE.
4. PROVIDE "MICROMETL" STRUCTURALLY CALC'D 14" TALL STANDARD ROOF CURB.
5. LOW SPEED SUPPLY FAN SETTING SHALL BE LOCKED OUT, UNIT SHALL OPERATE AS SINGLE ZONE CONSTANT VOLUME AT ALL TIMES. CONTRACTOR SHALL COORDINATE WITH AC UNIT FACTORY REP TO ACCOMPLISH SINGLE ZONE CONSTANT VOLUME OPERATION.
6. PROVIDE HVAC CONTROLS SYSTEM WITH DEDICATED ROOM OCCUPANCY SENSOR(S) FOR OCCUPANCY SENSOR VENTILATION CONTROL, PER 2019 CA ENERGY CODE (TITLE-24) FOR MULTI-USE ASSEMBLY ROOMS. SEE CONTROLS FOR SEQUENCE OF OPERATION.
7. LOWER OUTSIDE AIR POSITION INDICATED IS BASED ON 0.15 CFM/SQ.FT., ALLOWABLE FOR CO2 DEMAND CONTROL VENTILATION SYSTEMS AT MINIMUM OCCUPANCY. UPPER OUTSIDE AIR POSITION INDICATED IS BASED ON 15 CFM/OCCUPANT WHEN SPACE IS AT MAXIMUM OCCUPANCY, UNLESS SYSTEM IS IN ECONOMIZER MODE. SEE CONTROLS FOR SEQUENCE OF OPERATION. FOR THESE UNITS WITH DEMAND CONTROL VENTILATION, ENTERING TEMPERATURES SCHEDULED REPRESENT CONDITIONS AT UPPER OSA POSITION.
8. FOR UNITS WITH NOM. COOLING CAPACITY OF 6 TONS AND LARGER, PROVIDE UNIT WITH FACTORY INSTALLED VFD ON SUPPLY FAN AND MINIMUM 2-STAGES OF MECHANICAL COOLING CAPACITY. SEE SCHEDULE FOR LOW SUPPLY AIRFLOW CFM (66%). SEE CONTROLS FOR SEQUENCE OF OPERATION.
9. LOWER OUTSIDE AIR POSITION INDICATED IS BASED ON MIN. VENTILATION RATE REQUIRED BY OCCUPANCY TYPE. UPPER OUTSIDE AIR POSITION INDICATED IS FOR KITCHEN HOOD EXHAUST MAKE-UP AIR SETTING. SEE CONTROLS FOR SEQUENCE OF OPERATION. FOR THESE UNITS WITH KITCHEN HOOD EXHAUST MAKE-UP AIR SETTING, ENTERING TEMPERATURES SCHEDULED REPRESENT CONDITIONS AT UPPER OSA POSITION.
10. PROVIDE UNIT WITH FACTORY 100% MODULATING POWER EXHAUST ECONOMIZER WITH VFD, DIFFERENTIAL PRESSURE TRANSDUCER, ROOM PRESSURE TUBING, AND DAMPER ACTUATORS. PROVIDE UNIT WITH FACTORY DIGITAL SCROLL OR INVERTER DRIVEN COMPRESSOR(S), STAINLESS STEEL HEAT EXCHANGER & 0-10VDC MODULATING NATURAL GAS VALVE. NOTE THAT FACTORY MODULATING POWER EXHAUST ECONOMIZER SHALL BE FACTORY WIRED TO RECEIVE IT'S POWER FROM THE AC UNIT, A SEPARATE POWER CONNECTION TO THE MODULATING POWER EXHAUST ECONOMIZER IS NOT REQUIRED. SCHEDULED AC UNIT MCA & MOCP INCLUDE MODULATING POWER EXHAUST ECONOMIZER LOAD.
11. PROVIDE UNIT WITH FACTORY FLUE DEFLECTOR KIT AND FIELD FABRICATED FLUE EXTENSION.
12. EXISTING DUCT SYSTEMS CONNECTED TO THIS AC UNIT SHALL BE SEALED AND LEAK TESTED TO A LEAKAGE RATE NOT TO EXCEED 15% OF FULL FAN FLOW. REFER TO SPEC SECTION 23 80 00, PART 3 FOR DUCTWORK SEALING AND LEAK TESTING REQUIREMENTS.
13. EXISTING DUCTWORK THAT IS BEING RE-USED SHALL BE THOROUGHLY CLEANED PER SPEC SECTION 23 01 30.52.
14. INSTALL DUCT SMOKE DETECTOR IN SUPPLY AIR DUCT FOR AUTOMATIC SHUTDOWN OF HVAC SYSTEM UPON SENSING SMOKE. PROVIDED, POWERED & INTERLOCKED WITH FIRE ALARM SYSTEM BY DIV. 26, INSTALLED & CONNECTED TO AC UNIT BY DIV. 23.
15. NOT USED.
16. AUTOMATIC SHUTDOWN OF HVAC SYSTEM IS NOT REQUIRED PER 2019 CMC, SECTION 608.1, EXCEPTION 2: ALL ROOMS HAVE DIRECT EXIT TO OUTSIDE WITH TRAVEL DISTANCE LESS THAN 100 FEET.

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RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

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LICENSED ARCHITECT — STEPHEN M. HENRY — C-22523 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL SCHEDULES

CONSULTANT
REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUVAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA
DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
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SCALE AS SHOWN		
CADFILE 03-M0.0.3.DWG		
UPDATED 8/26/2022		

SHEET NO.
M0.0.3

QC	
INI	%

DIFFUSER, REGISTER & GRILLE SCHEDULE

SYMBOL	DESCRIPTION	KRUEGER	METALAIRE	NAILOR	TITUS	TUTTLE & BAILEY
CD	MODULAR CORE SURFACE MOUNT CEILING DIFFUSER BEVEL FRAME 3/4" DROP	1240 FRAME 21 – 1 1/4"	9000–2	7500–S	MCD BORDER TYPE 6	SQD–SB
CD–2	MODULAR CORE SURFACE MOUNT CEILING DIFFUSER FLAT FRAME	1240 FRAME 22	9000–1	7500–B	MCD BORDER TYPE 1	SQD–SF
CDL	MODULAR CORE LAY–IN CEILING DIFFUSER FOR T–BAR CEILING 24x24 PANEL	1240 FRAME 23	9000–6P	7500–L	MCD BORDER TYPE 3	SQD–LT
CR, CT, CE	CEILING RETURN, TRANSFER OR EXHAUST WITH 1/2" EGG CRATE CORE SURFACE MOUNT	EGC–5	CC5D	61 EC–S	MODEL 50 F BORDER TYPE 1	CRE500–SF
CRL, CTL, CEL	CEILING RETURN, TRANSFER OR EXHAUST WITH 1/2" EGG CRATE CORE IN 24x24 PANEL FOR T–BAR CEILING	EGC–5TB	CC5D–TBD	61 EC–L	MODEL 50 F BORDER TYPE 3	CRE500–LT
S*	SIDEWALL DOUBLE DEFLECTION SUPPLY GRILLE WITH VERTICAL FRONT BARS, 3/4" SPACING	880 V	V 4004 S	61 DV	300 RS	T54
R, T, E*	CEILING OR SIDEWALL RETURN, TRANSFER OR EXHAUST GRILLE WITH 35° OR 45° HORIZONTAL BARS.	S 80 H	SRH	7145 H	350 RL	T70D
SG	SOFFIT GRILLE – HEAVY DUTY SINGLE DEFLECTION GRILLE WITH 10 GAUGE, 3/8" WOVEN STEEL MESH SECURED BEHIND FACE BARS. PROVIDE PLASTER FRAME IN PLASTER SOFFIT	S 480 H WITH 3/8" MESH AND PF WHERE REQUIRED	HDRH WITH 3/8" MESH AND PF WHERE REQUIRED	6145 HD WITH 3/8" MESH & PLASTER FRAME WHERE REQUIRED	33 RL HD WITH 3/8" MESH AND PF WHERE REQUIRED	T115H–40 WITH 3/8" MESH AND PF WHERE REQUIRED
RH & EH	HEAVY DUTY RETURN OR EXHAUST GRILLE WITH 35° OR 45° HORIZONTAL BARS	S 480 H	HDRH	6145 HD	33 RL	T115H–40
TFL	"ACCUTHERM" THERMA–FUSER ST–HC THERMALLY POWERED VAV DIFFUSER, FOR 24x24 LAY–IN T–BAR CEILING.	N/A	N/A	N/A	N/A	N/A
RCD	HIGH CAPACITY ADJUSTABLE ROUND SUPPLY CEILING DIFFUSER.	--	--	--	TMRA	--
LCD	RECTANGULAR LOUVERED FACE SUPPLY CEILING DIFFUSER, SURFACE MOUNT.	--	--	--	TDC BORDER TYPE 1	--
SDS	DOUBLE DEFLECTION SPIRAL DUCT MOUNTED SUPPLY GRILLE WITH CURVED FRAME, AIR SCOOP EXTRACTOR, VERTICAL FRONT BLADES, 3/4" SPACING.	--	--	--	S300FS	--
SDR, SDE	PERFORATED FACE SPIRAL DUCT MOUNTED RETURN OR EXHAUST GRILLE WITH CURVED FRAME.	--	--	--	S8F	--

NOTES:
1. ALL SYMBOLS NOTED MAY NOT BE USED. REFER TO PLANS FOR SIZE AND QUANTITY.
2. ALL SUPPLY AIR DIFFUSERS ARE 4 WAY BLOW UNLESS SHOWN OTHERWISE.
3. FURNISH ALL PRODUCTS OF A SINGLE MANUFACTURER.
4. COORDINATE DIFFUSER TYPE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
5. OPPOSED BLADE DAMPERS ARE NOT REQUIRED AT DIFFUSERS, REGISTERS OR GRILLES.
6. PROVIDE MANUAL AIR DAMPERS AT EACH BRANCH DUCT TO A SINGLE DIFFUSER, REGISTER OR GRILLE.

* ALUMINUM REGISTERS FOR SHOWERS AND DAMP AREAS

FURNACE SCHEDULE (WITH DX COIL)

UNIT	LOCATION	"CARRIER" MODEL NO. (INDOOR UNIT)	CFM	MIN. OA (CFM)	ESP (IN. WG)	COIL MFR MODEL NO.	COIL APD (IN. W.G.)	GAS HEATING			ELECTRICAL DATA					OPER. WT. (LBS.)	MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
								INPUT (MBH)	OUTPUT (MBH)	AFUE (%)	VOLT/PH	FAN HP	FLA	MOCP	MCA				
F B1	BLDG. B MECH. RM.	59SC5B120E24–22	1550	345	0.8	CARRIER CNPVP6124ALA	0.150	120	117	95	115/1	1	14.1	20	12.4	265	4 M5.1	2 M6.2	1, 2, 3, 4
F B2	BLDG. B MECH. RM.	59SC5B120E24–22	1550	345	0.8	CARRIER CNPVP6124ALA	0.150	120	117	95	208/1	1	14.1	20	12.4	265	4 M5.1	2 M6.2	1, 2, 3, 4
F B3	BLDG. B MECH. RM.	59SC5B120E24–22	1600	415	0.8	CARRIER CNPVP6124ALA	0.160	120	117	95	208/1	1	14.1	20	12.4	265	4 M5.1	2 M6.2	1, 2, 3, 4
F B4	BLDG. B MECH. RM.	59SC5B120E24–22	1600	415	0.8	CARRIER CNPVP6124ALA	0.160	120	117	95	208/1	1	14.1	20	12.4	265	4 M5.1	2 M6.2	1, 2, 3, 4

NOTES:
1. ESP DOES NOT INCLUDE COIL APD.
2. OPER. WT. INCLUDES COIL.
3. SEE CONDENSING UNIT SCHEDULE FOR COOLING CAPACITY
4. PROVIDE WITH 2" THICK MERV 13 DISPOSABLE PLEATED MEDIA FILTER(S).

CONDENSING UNIT SCHEDULE (AIR-COOLED)

UNIT	LOCATION	"CARRIER" MODEL NO.	EVAP. CFM	SENSIBLE COOLING CAP. (MBH)	TOTAL COOLING CAP. (MBH)	EVAP.		VOLT/PH	COND. FAN FLA	COMPRESSOR		MCA	OPER. WT. (LBS.)	EER	MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
						EDB (°F)	EWB (°F)			LRA	RLA						
CU B1	BLDG. B ROOF	24AHA60A006	1550	50.3	51.96	80	67	460/3	0.8	7.1	52.0	9.7	275	11.7	5 M5.1	2 M6.2	1
CU B2	BLDG. B ROOF	24AHA60A006	1550	50.3	51.96	80	67	460/3	0.8	7.1	52.0	9.7	275	11.7	5 M5.1	2 M6.2	1
CU B3	BLDG. B ROOF	24AHA60A006	1600	50.3	51.96	80	67	460/3	0.8	7.1	52.0	9.7	275	11.7	5 M5.1	2 M6.2	1
CU B4	BLDG. B ROOF	24AHA60A006	1600	50.3	51.96	80	67	460/3	0.8	7.1	52.0	9.7	275	11.7	5 M5.1	2 M6.2	1

NOTES:
1. SENSIBLE AND TOTAL CAPACITY ARE AT 105°F AMBIENT OUTDOOR CONDITIONS.

FAN SCHEDULE

UNIT	LOCATION	"GREEDHECK" MODEL NO.	CFM	SP (IN. W.G.)	DUTY	STYLE	RPM	HP	VOLT/PH	OPER. WT. (LBS.)	MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
REF D1	BLDG D	G–095–VG	560	0.25	E	RE	1220	1/6	115/1	40	6 M5.2	3 M6.2	1
REF D2	BLDG D	G–095–VG	470	0.25	E	RE	1130	1/6	115/1	40	6 M5.2	3 M6.2	1
REF D3	BLDG D	G–080–VG	190	0.25	E	RE	1150	1/10	115/1	35	6 M5.2	3 M6.2	1
REF D4	BLDG D	G–080–VG	225	0.25	E	RE	1215	1/10	115/1	35	6 M5.2	3 M6.2	1
REF D5	BLDG D	G–095–VG	415	0.25	E	RE	1075	1/6	115/1	40	6 M5.2	3 M6.2	1
REF D6	BLDG D	G–095–VG	450	0.25	E	RE	1110	1/6	115/1	40	6 M5.2	3 M6.2	1
REF F1	BLDG F	G–095–VG	470	0.25	E	RE	1130	1/6	115/1	40	6 M5.2	3 M6.2	1
REF F2	BLDG F	G–095–VG	470	0.25	E	RE	1130	1/6	115/1	40	6 M5.2	3 M6.2	1
REF F3	BLDG F	G–060–VG	100	0.25	E	RE	1450	1/10	115/1	25	6 M5.2	3 M6.2	1

LEGEND
DUTY: S–SUPPLY, R–RETURN, E–EXHAUST
STYLE: BI–BACKWARD INCLINED, FC–FORWARD CURVED, AF–AIRFOIL, RD–RADIAL, TU–TUBULAR, IL–INLINE, VS–VENT SET, VA–VANE AXIAL, TA–TUBE AXIAL, PP–PROPELLAR, RE–ROOF EXHAUST, WE–WALL EXHAUST, CA–CABINET, CE–CEILING

NOTES:
1. PROVIDE WITH MANUFACTURER'S ROOF CURB, COUNTER–BALANCED BACKDRAFT DAMPER, AND BIRD SCREEN.

SPLIT SYSTEM AC/HP UNIT SCHEDULE

UNIT	LOCATION	"MITSUBISHI" MODEL NO. (INDOOR UNIT)	CFM	FAN FLA	FLA	MCA	OPER. WT. (LBS.)	MOUNTING DETAIL	UNIT	"MITSUBISHI" MODEL NO. (OUTDOOR UNIT)	TOTAL COOLING CAPACITY (MBH)	COMPRESSOR		MCA	MOCP	FAN FLA	VOLT/PH	SEER	OPER. WT. (LBS.)	MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
												RLA	LRA									
SAC A1	TEACHERS' DINING A7	PKA–A36KA7	610	0.57	0.57	1.0	46	5 M5.1	SCU A1	PUA–HA36NKA	33.6	18	27.5	24	40	--	208/1	18.5	261	6 M5.1	4 M6.2	1, 2, 3, 5
SAC F1	CONFERENCE F121	PEAD–A18AA7	500	1.35	1.35	1.69	62	5 M5.1	SCU F1	PUZ–A18NKA7	18.0	7	12.0	11.0	28	0.5	208/1	19.8	100	1 M5.2	4 M6.2	1, 2, 4, 5

NOTES:
1. PROVIDE WITH 1", 30% FILTERS. 2. PROVIDE WITH WIRED THERMOSTAT. 3. PROVIDE WITH "GOBI II" EXTERNAL CONDENSATE PUMP, 120V, 8 WATTS, WITH ALARM RELAY INTERLOCK. 4. PROVIDE WITH MANUFACTURER'S FILTER/MIXING BOX. 5. INDOOR UNIT POWERED BY OUTDOOR UNIT.

capital engineering
Rancho Cordova, California
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LICENSED ARCHITECT STEPHEN M. HENRY C–22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
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MECHANICAL SCHEDULES

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER THOMAS A. DUNAL M 22836 EXPIRES 6/30/22 MECHANICAL STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

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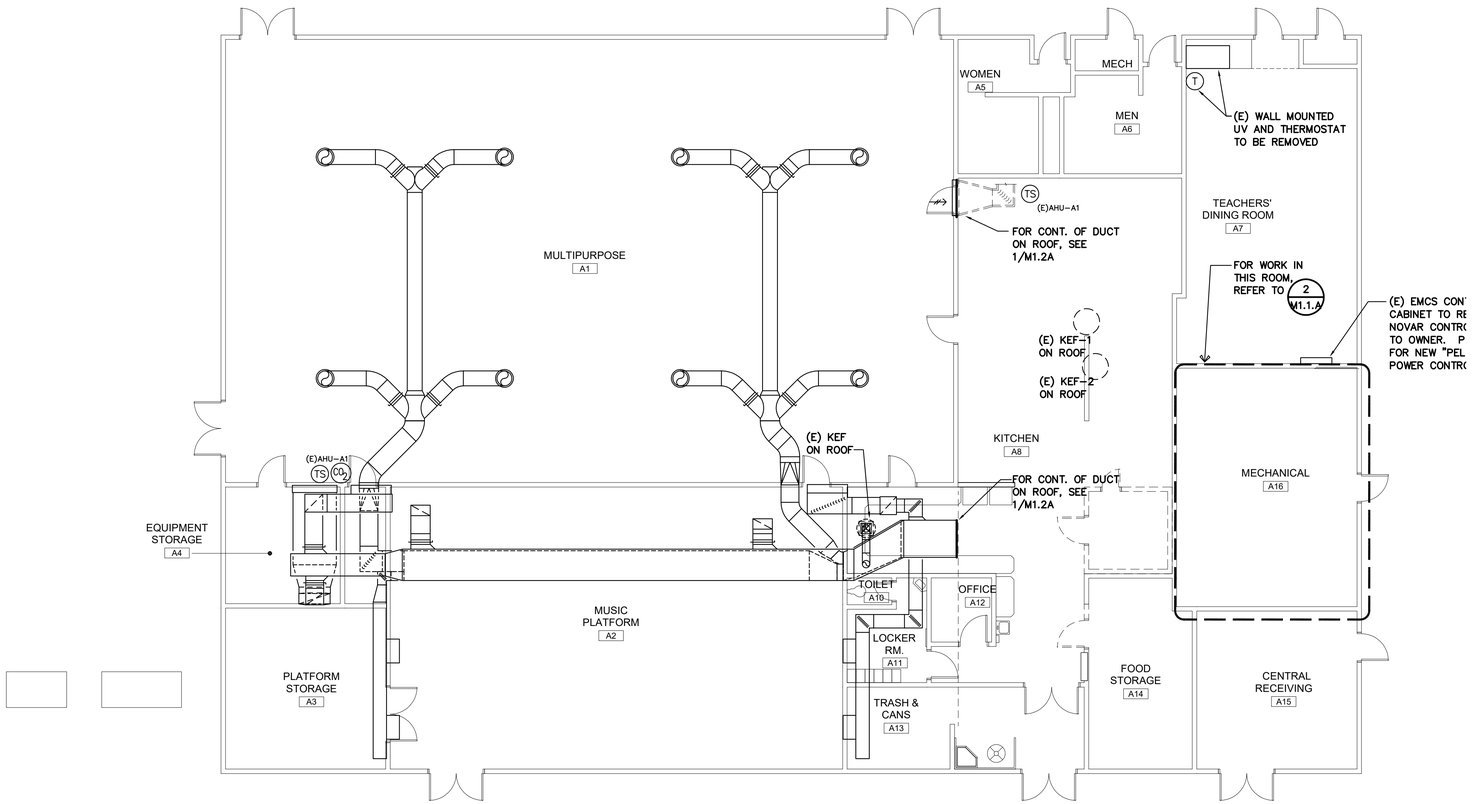
CADFILE 04-M0.0.4.DWG		
UPDATED 8/26/2022		

SHEET NO.
M0.0.4

QC	
INI	%

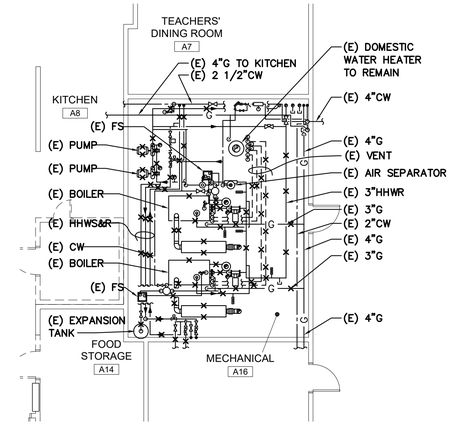


MECHANICAL - DEMOLITION FLOOR PLAN - BUILDING A

1 / M1.1.A

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

N



MECHANICAL - DEMO MECH. RM

2 / M1.1.A

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

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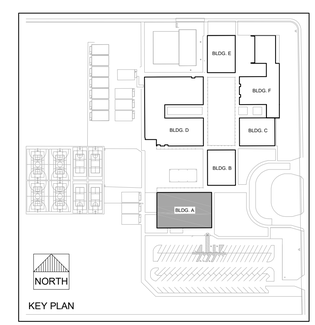
NOTE:

EXISTING BOILER AND ALL ASSOCIATED EQUIPMENT TO BE REMOVED.



KEY PLAN

capital engineering

RANCHO CORDOVA, CALIFORNIA

MCM - BV — PM - DESIGN TEAM

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STATE OF CALIFORNIA

MODERMIZATION LODI MIDDLE SCHOOL (INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - DEMOLITION FLOOR PLANS BUILDING A

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUVAL
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

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M1.1.A

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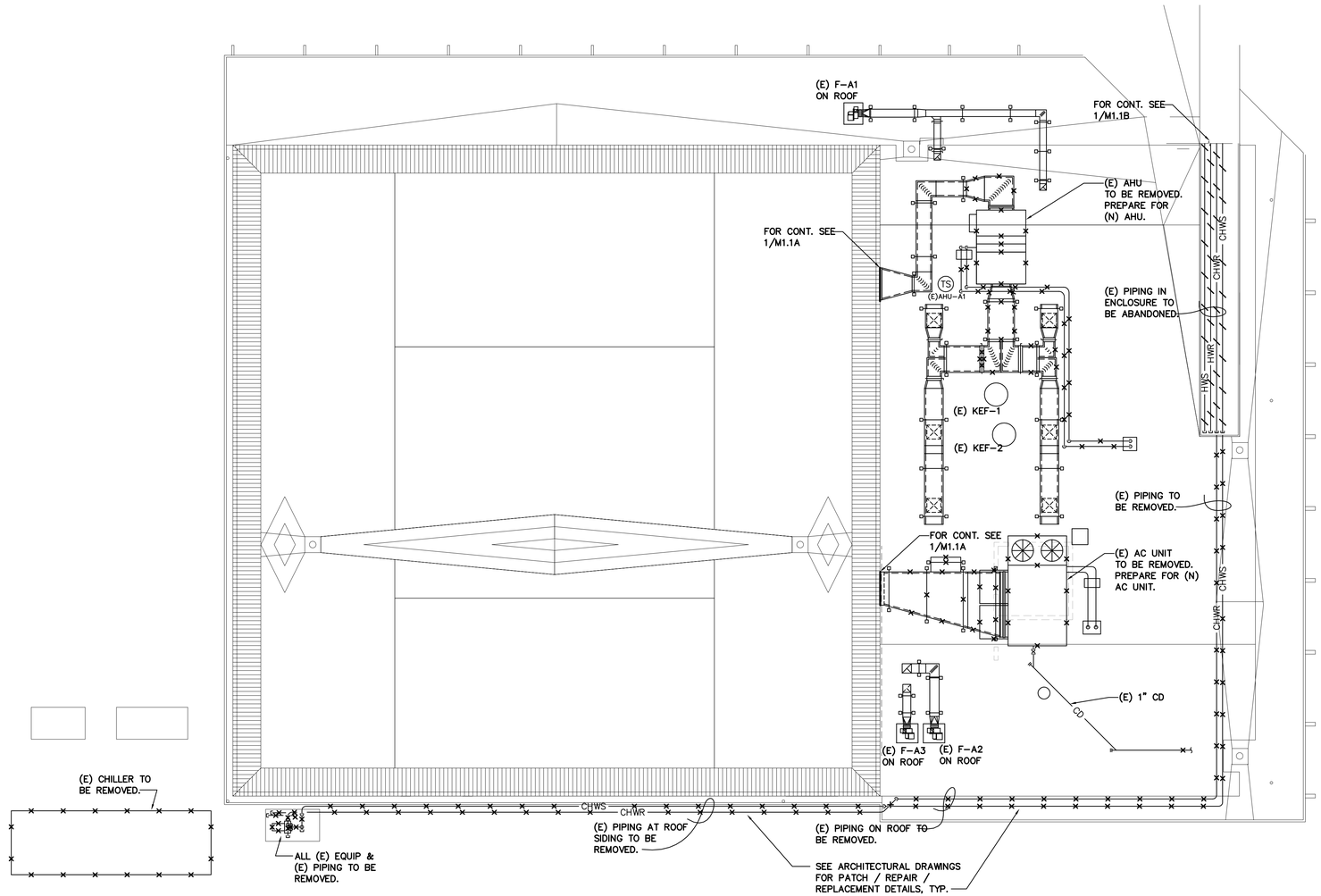
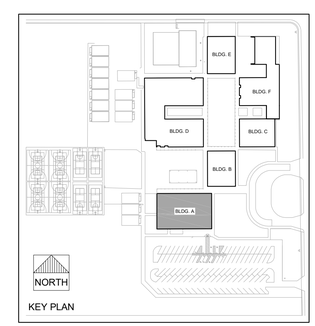


MECHANICAL - DEMOLITION ROOF PLAN - BUILDING A

1
M1.2.A

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

N



KEY PLAN

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MECHANICAL - DEMOLITION ROOF PLAN BUILDING A

CONSULTANT

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UPDATED 8/26/2022		

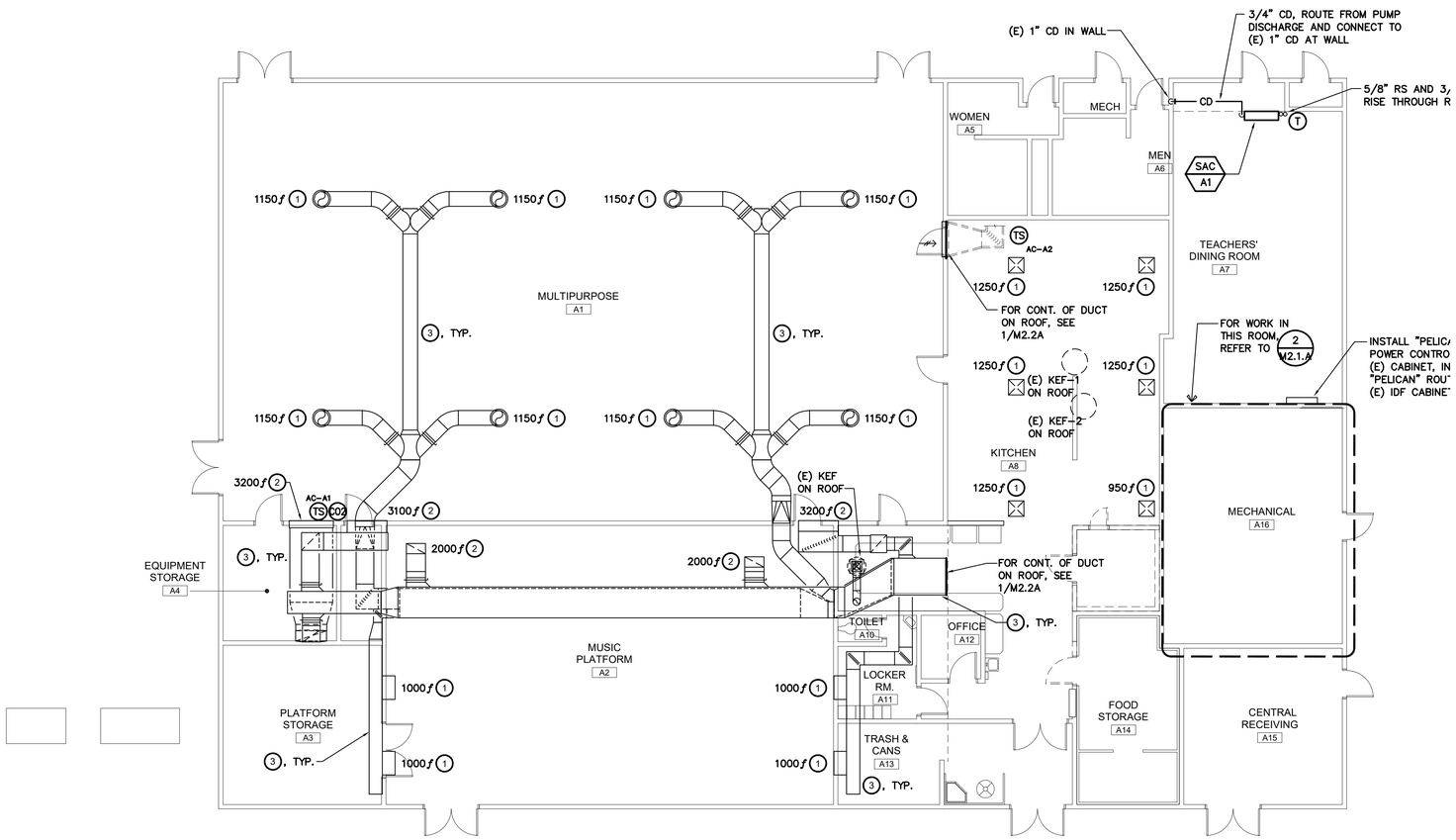
SHEET NO.

M1.2.A

QC	
INI	%

KEY NOTES:

1. SET EXISTING SUPPLY GRILLE OR REGISTER TO CFM NOTED.
2. SET EXISTING RETURN REGISTER TO CFM NOTED.
3. (E) DUCTWORK CONNECTED TO NEW AC UNIT OR DUCTWORK SHALL BE THOROUGHLY CLEANED, SEALED, AND LEAK TESTED TO A LEAKAGE RATE NOT TO EXCEED 15% OF FULL FAN FLOW. REFER TO SHEET M0.0.3, AIR CONDITIONING UNIT SCHEDULE, NOTES 12 AND 13.

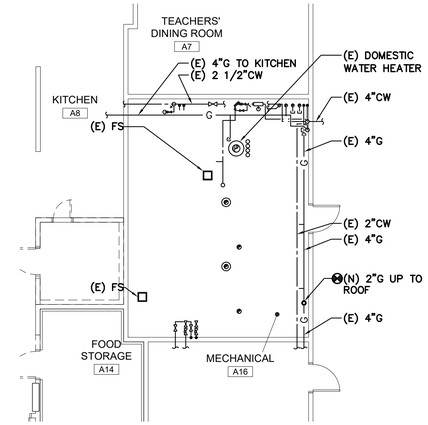


MECHANICAL - FLOOR PLAN - BUILDING A

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

1 M2.1.A

N

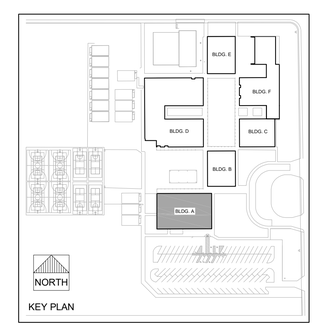


MECHANICAL - MECH. RM

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

2 M2.1.A

N



KEY PLAN

capital engineering

RANCHO CORDOVA, CALIFORNIA

MCM - BV — PM - DESIGN TEAM

220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT STEPHEN T. HENRY C-22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

MODERMIZATION LODI MIDDLE SCHOOL (INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - FLOOR PLANS BUILDING A

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER THOMAS A. DUVAL M 22836 EXPIRES 6/30/22 MECHANICAL STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 13-M2.1.A.DWG		
UPDATED 8/26/2022		

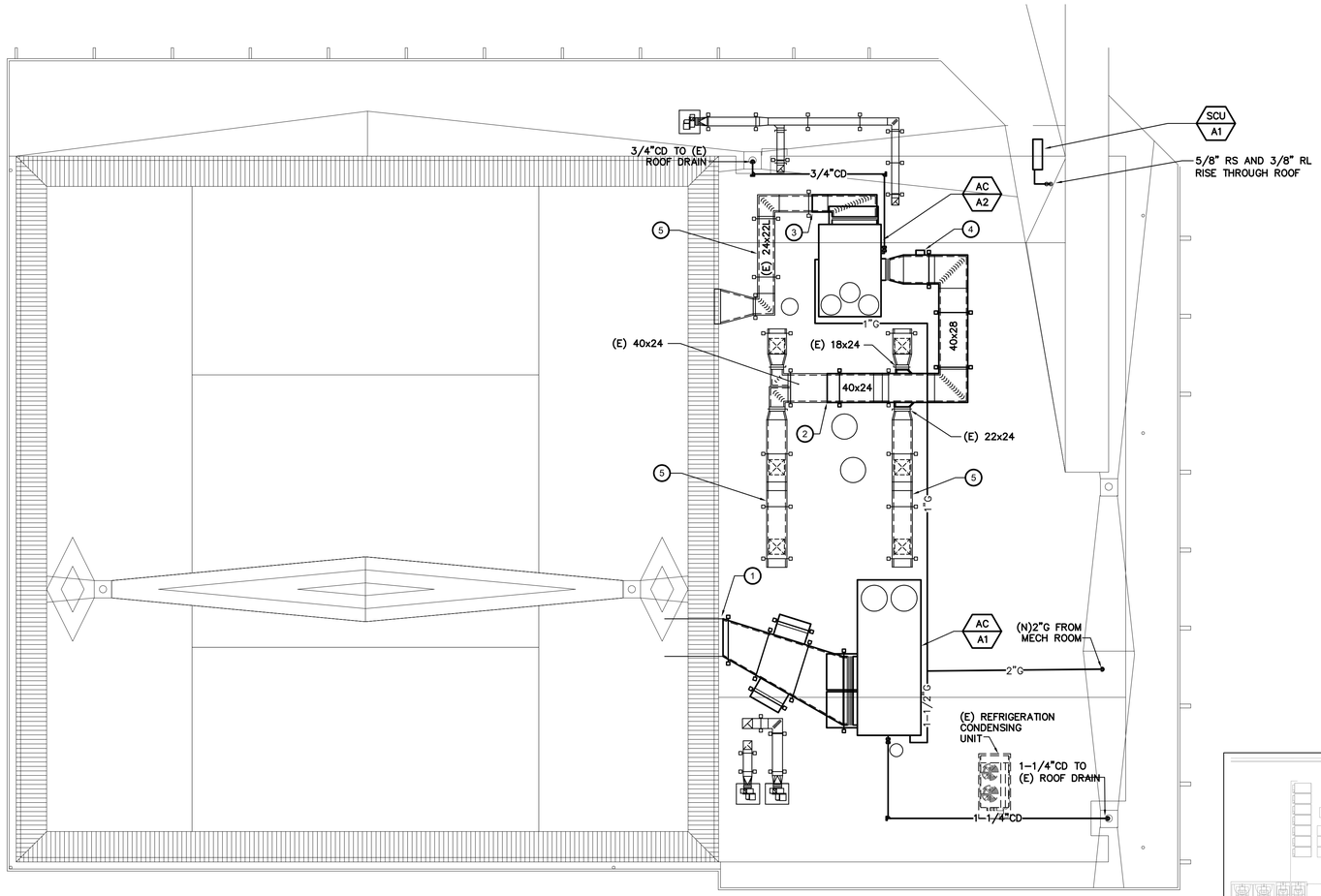
SHEET NO.

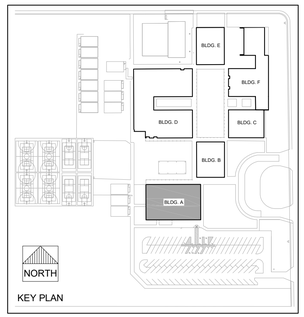
M2.1.A

QC	
INI	%

KEY NOTES:

1. CONNECT SUPPLY AND RETURN DUCTS TO (E) SUPPLY AND (E) RETURN THROUGH WALL.
2. CONNECT 40x24L TO (E) 40x24L.
3. CONNECT 24x22L TO (E) 24x22L.
4. DUCT MOUNTED SMOKE DETECTOR. REFER TO CONTROL DIAGRAM 4/M6.1.
5. (E) DUCTWORK CONNECTED TO NEW AC UNIT OR DUCTWORK SHALL BE THOROUGHLY CLEANED, SEALED, AND LEAK TESTED TO A LEAKAGE RATE NOT TO EXCEED 15% OF FULL FAN FLOW. REFER TO SHEET M0.0.3, AIR CONDITIONING UNIT SCHEDULE, NOTES 12 AND 13.





KEY PLAN

MECHANICAL - ROOF PLAN - BUILDING A

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

1
M2.2.A

N

capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT STEPHEN D. HENRY C-22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL -
ROOF PLAN - BUILDING A

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER THOMAS A. DUVAL M 22836 EXPIRES 6/30/22 MECHANICAL STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
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CADFILE 13-M2.2.A.DWG		
UPDATED 8/26/2022		

SHEET NO.

M2.2.A

QC	
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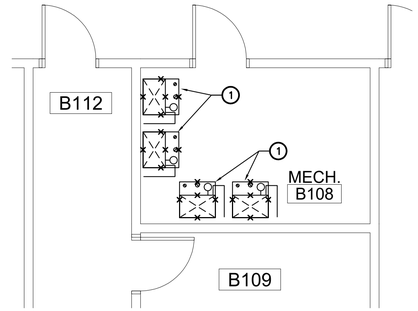
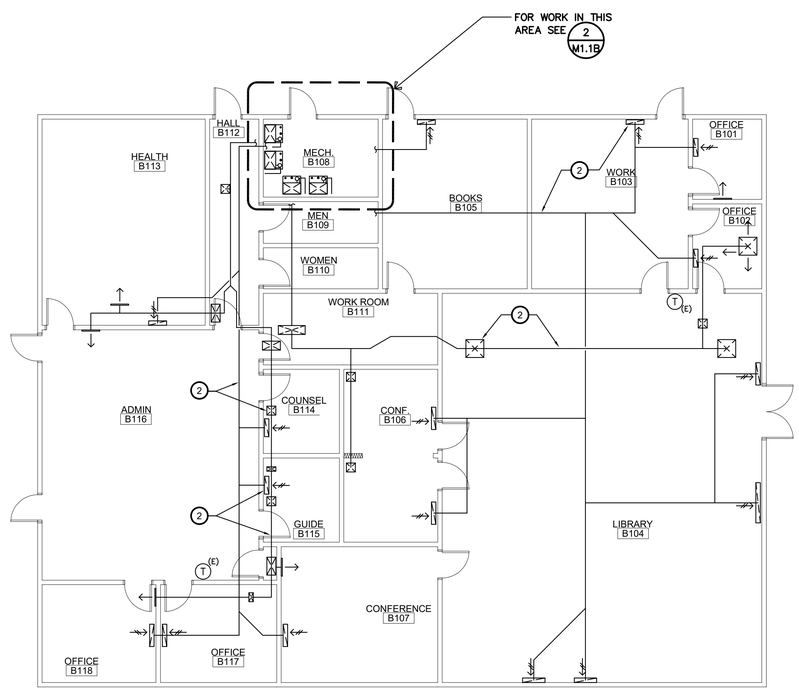


MECHANICAL - DEMO MECH. RM

2
M1.1.B

SCALE : 1/4" = 1'-0"



MECHANICAL - DEMOLITION FLOOR PLAN - BUILDING B

1
M1.1.B

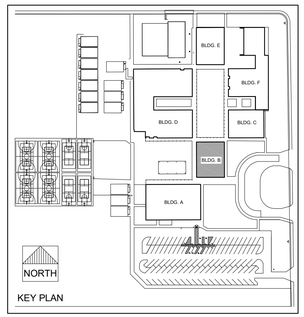
SCALE : 1/8" = 1'-0"

GENERAL NOTES:

1. EXISTING HVAC SYSTEMS & HYDRONIC SUPPLY AND RETURN PIPING SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE AND BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES.

DEMOLITION KEY NOTES:

1. FURNACE AND COOLING COIL TO BE REMOVED. GAS PIPING, CONDENSATE PIPING, REFRIGERANT PIPING, AND DUCTWORK TO REMAIN. SEE 2/M2.2.B FOR NEW WORK.
2. SUPPLY AND RETURN DUCTWORK, REGISTERS, AND GRILLES TO REMAIN. SEE 1/M2.1.B FOR NEW AIR FLOWS, TYP.



KEY PLAN

capital engineering
RANCHO CORDOVA, CALIFORNIA
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LICENSED ARCHITECT
STEPHEN A. HENRY
C-22525
12/31/23 RENEWAL DATE
STATE OF CALIFORNIA

MODERMIZATION LODI MIDDLE SCHOOL (INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - DEMOLITION FLOOR PLAN BUILDING B

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUVAL
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
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CHECKED MCM		
SCALE AS SHOWN		
CADFILE 21-M1.1.B.DWG		
UPDATED 8/26/2022		

SHEET NO.

M1.1.B

15 OF XX SHEETS

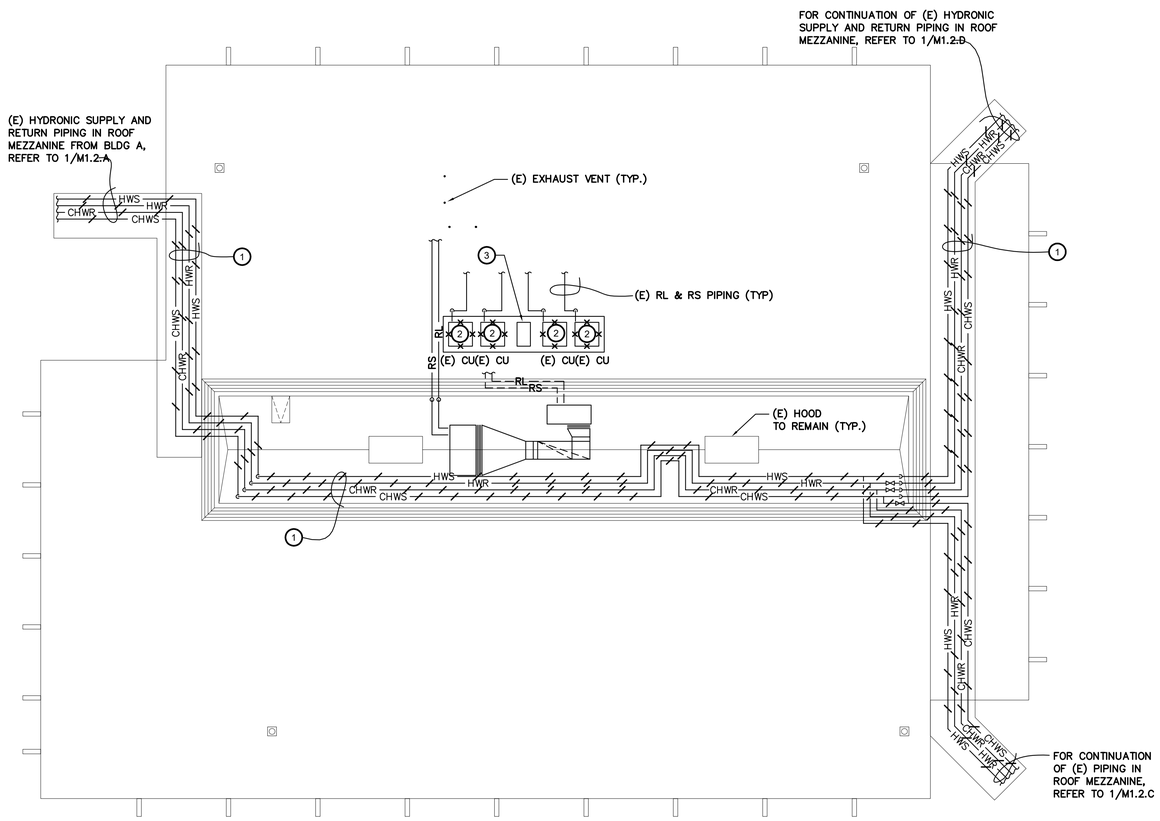
QC	
INI	%

GENERAL NOTES:

1. EXISTING HVAC SYSTEMS & HYDRONIC SUPPLY AND RETURN PIPING SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE AND BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES.

DEMOLITION KEY NOTES:

1. (E) HYDRONIC SUPPLY AND RETURN PIPING IN ROOF MEZZANINE TO BE ABANDONED IN PLACE (TYP.)
2. (E) CONDENSING UNIT TO BE REMOVED. PREPARED REFRIGERANT PIPING FOR CONNECTION TO NEW CU. SEE 1/M2.2.B FOR NEW WORK.
3. (E) CONDENSING UNIT TO BE REMOVED AND STORED FOR REINSTALLATION. SEE 1/M2.2.B FOR NEW WORK.

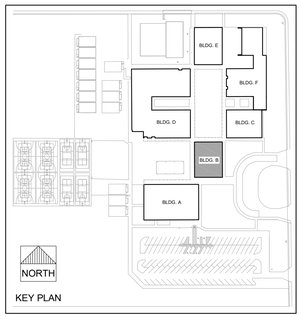


MECHANICAL - DEMOLITION ROOF PLAN - BUILDING B

1 / M1.2.B

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

N



KEY PLAN

capital engineering

RANCHO CORDOVA, CALIFORNIA

MCM - BV — PM - DESIGN TEAM

220208.00 — PROJECT NO.

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN M. HENRY — C-22523 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - DEMOLITION ROOF PLAN BUILDING B

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUNAY — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 22-M1.2.B.DWG		
UPDATED 8/26/2022		

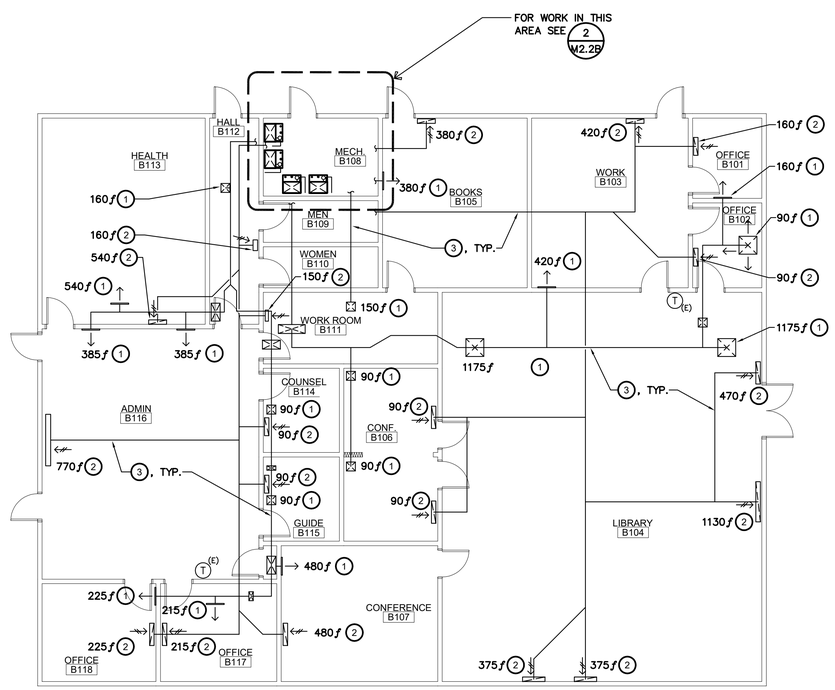
SHEET NO.

M1.2.B

QC	
INI	%

KEY NOTES:

1. SET EXISTING SUPPLY GRILLE OR REGISTER TO CFM NOTED.
2. SET EXISTING RETURN FLOOR REGISTER TO CFM NOTED.
3. (E) DUCTWORK CONNECTED TO NEW AC UNIT OR DUCTWORK SHALL BE THOROUGHLY CLEANED, SEALED, AND LEAK TESTED TO A LEAKAGE RATE NOT TO EXCEED 15% OF FULL FAN FLOW. REFER TO SHEET M0.0.3, AIR CONDITIONING UNIT SCHEDULE, NOTES 12 AND 13.

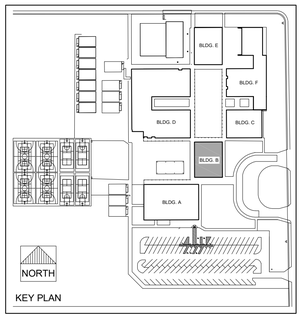


MECHANICAL - FLOOR PLAN - BUILDING B

1
M2.1.B

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

N



KEY PLAN

capital engineering
RANCHO CORDOVA, CALIFORNIA

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN C. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - FLOOR PLAN BUILDING B

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUNAY
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

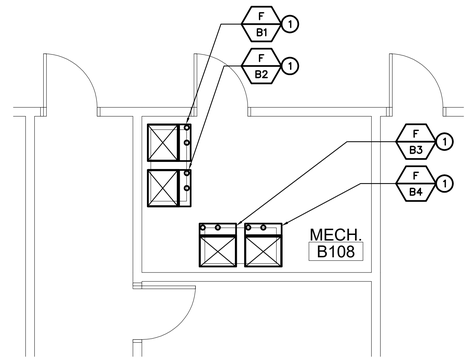
DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 23-M2.1.B.DWG		
UPDATED 8/26/2022		

SHEET NO.

M2.1.B

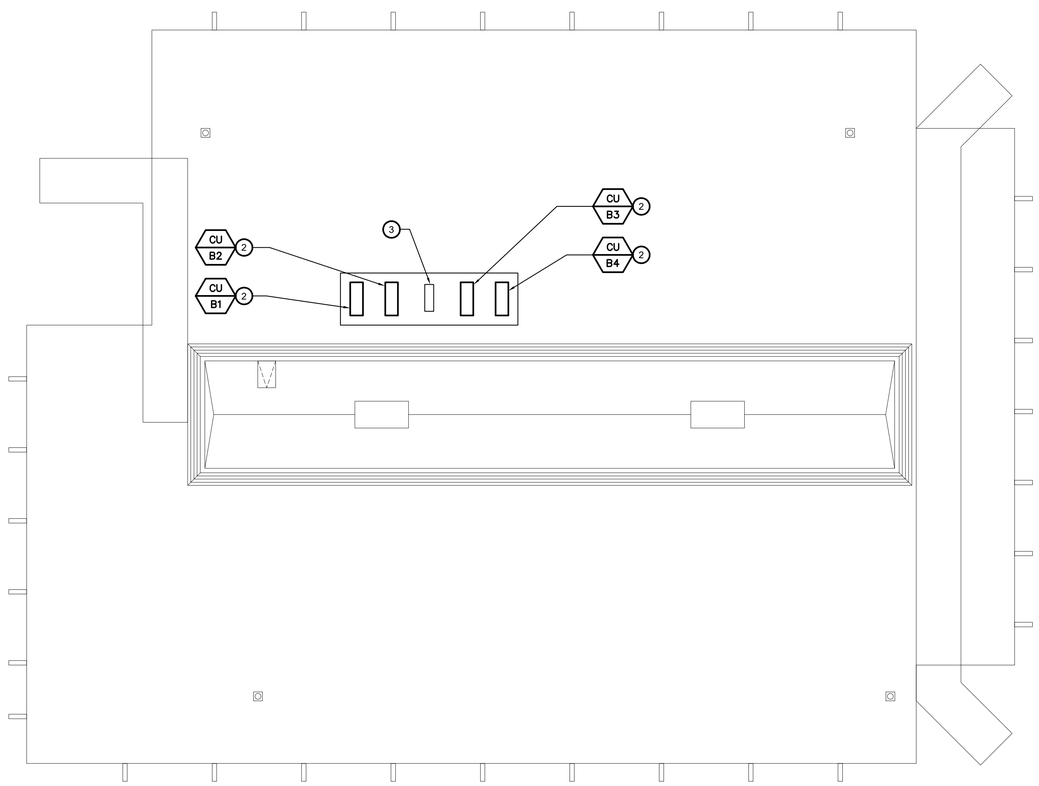
QC	
INI	%



ENLARGED MECHANICAL ROOM PLAN - BUILDING B

SCALE : 1/4" = 1'-0"

2
M2.2.B



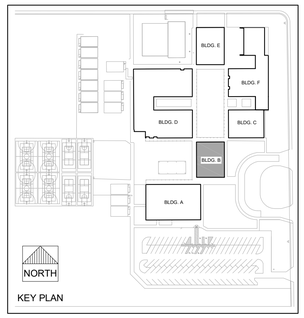
MECHANICAL - ROOF PLAN - BUILDING B

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

1
M2.2.B

KEY NOTES:

1. CONNECT FURNACE AND COIL TO EXISTING SUPPLY DUCT AND EXISTING BELOW FLOOR RETURN DUCT. RECONNECT GAS, CONDENSATE, REFRIGERANT AND VENT PIPING.
2. INSTALL CONDENSING UNIT ON NEW PLATFORM. CONNECT TO EXISTING REFRIGERANT PIPING.
3. REINSTALL EXISTING CONDENSING UNIT ON NEW PLATFORM. CONNECT TO EXISTING REFRIGERANT PIPING.



KEY PLAN

capital engineering
RANCHO CORDOVA, CALIFORNIA

MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL -
ENLARGED MECH. RM. &
ROOF PLAN - BUILDING B

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUVAL
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 24-M2.2.B.DWG		
UPDATED 8/26/2022		

SHEET NO.

M2.2.B

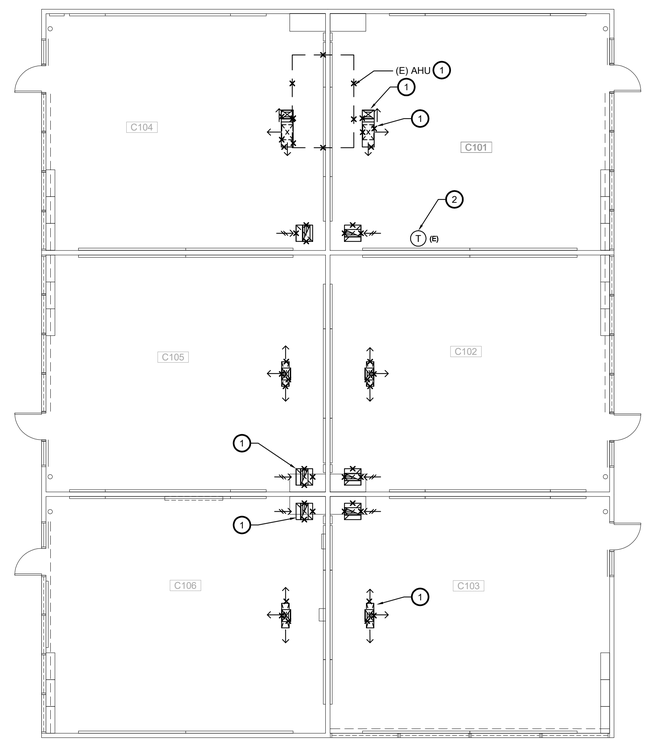
QC	
INI	%

GENERAL NOTES:

1. EXISTING HVAC SYSTEMS & HYDRONIC SUPPLY AND RETURN PIPING SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE AND BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES.

DEMOLITION KEY NOTES:

1. ALL VERTICAL AND HORIZONTAL DUCT, GRILLES, & SUPPORT FOR (E) AHU ON ROOF TO BE REMOVED (TYP)
2. REMOVE (E) THERMOSTAT & WIRING.

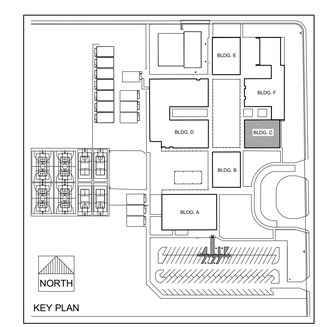


MECHANICAL - DEMOLITION FLOOR PLAN - BUILDING C

1
M1.1.C

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

N



KEY PLAN

capital engineering

RANCHO CORDOVA, CALIFORNIA

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
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C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - DEMOLITION FLOOR PLAN
BUILDING C

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUVAL
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
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SCALE AS SHOWN		
CADFILE 31-M1.1.C.DWG		
UPDATED 8/26/2022		

SHEET NO.

M1.1.C

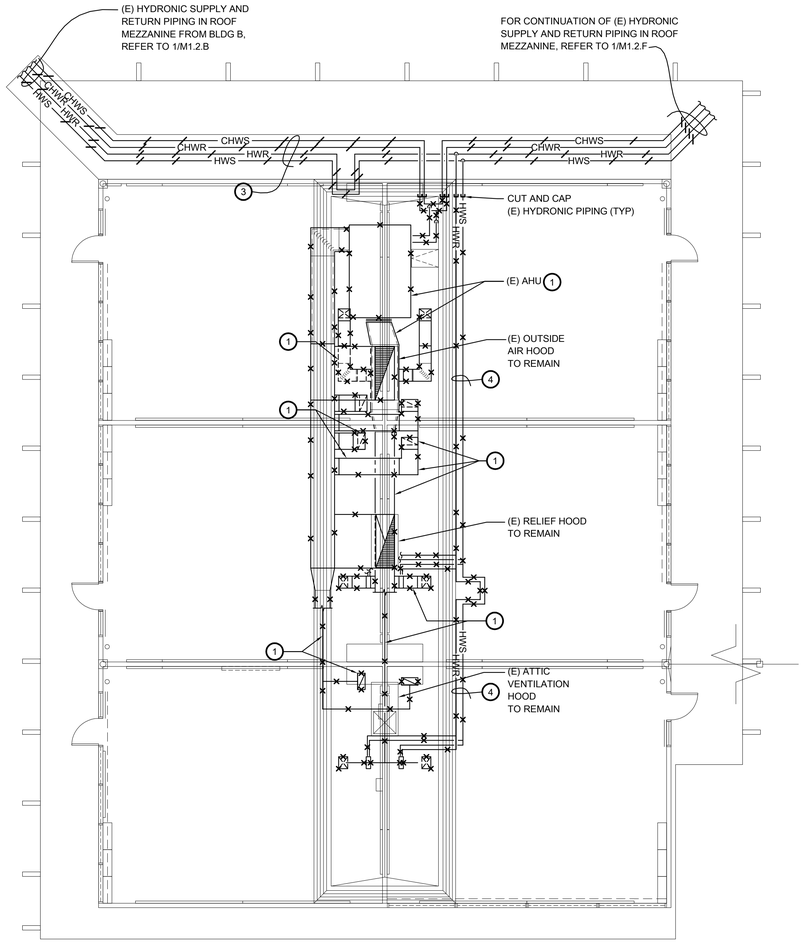
QC	
INI	%

GENERAL NOTES:

1. EXISTING HVAC SYSTEMS & HYDRONIC SUPPLY AND RETURN PIPING SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE AND BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES.

DEMOLITION KEY NOTES:

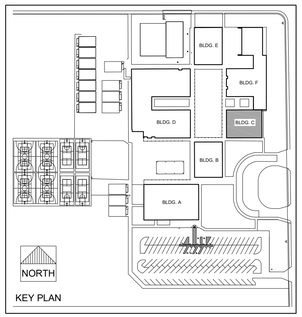
1. AHU, REHEAT COILS, ALL VERTICAL & HORIZONTAL DUCT, HYDRONIC SUPPLY & RETURN PIPING, AND SUPPORTS TO BE REMOVED. (TYP.)
2. EXHAUST FAN TO BE REMOVED. PATCH OPENING TO MATCH SURROUNDING SURFACES.
3. (E) HYDRONIC SUPPLY AND RETURN PIPING IN ROOF MEZZANINE TO BE ABANDONED IN PLACE (TYP.)
4. (E) HYDRONIC SUPPLY AND RETURN PIPING & SUPPORTS TO BE REMOVED.



MECHANICAL - DEMOLITION ROOF PLAN - BUILDING C

1
M1.2.C

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



KEY PLAN

capital engineering
RANCHO CORDOVA, CALIFORNIA

MCM - BV	220208.00
PM - DESIGN TEAM	PROJECT NO.

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LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - DEMOLITION ROOF PLAN BUILDING C

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUNAY
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

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CADFILE 32-M1.2.C.DWG		
UPDATED 8/26/2022		

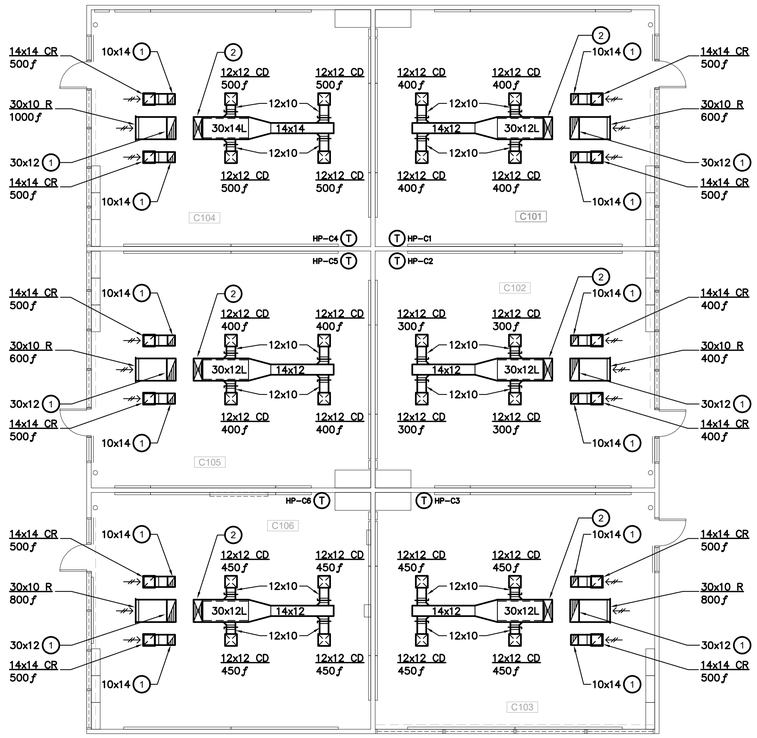
SHEET NO.

M1.2.C

QC	
INI	%

KEY NOTES:

1. RETURN DUCT THROUGH ROOF. TERMINATE INSIDE UNIT PLATFORM JUST ABOVE ROOF.
2. SUPPLY DUCT THROUGH ROOF.

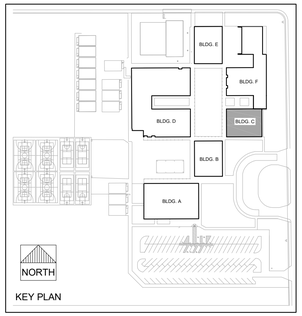


MECHANICAL - FLOOR PLAN - BUILDING C

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

1
M2.1.C

N



KEY PLAN

capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN M. HENRY
C-22523
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL -
FLOOR PLAN - BUILDING C

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUNAY
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 33-M2.1.C.DWG		
UPDATED 8/26/2022		

SHEET NO.

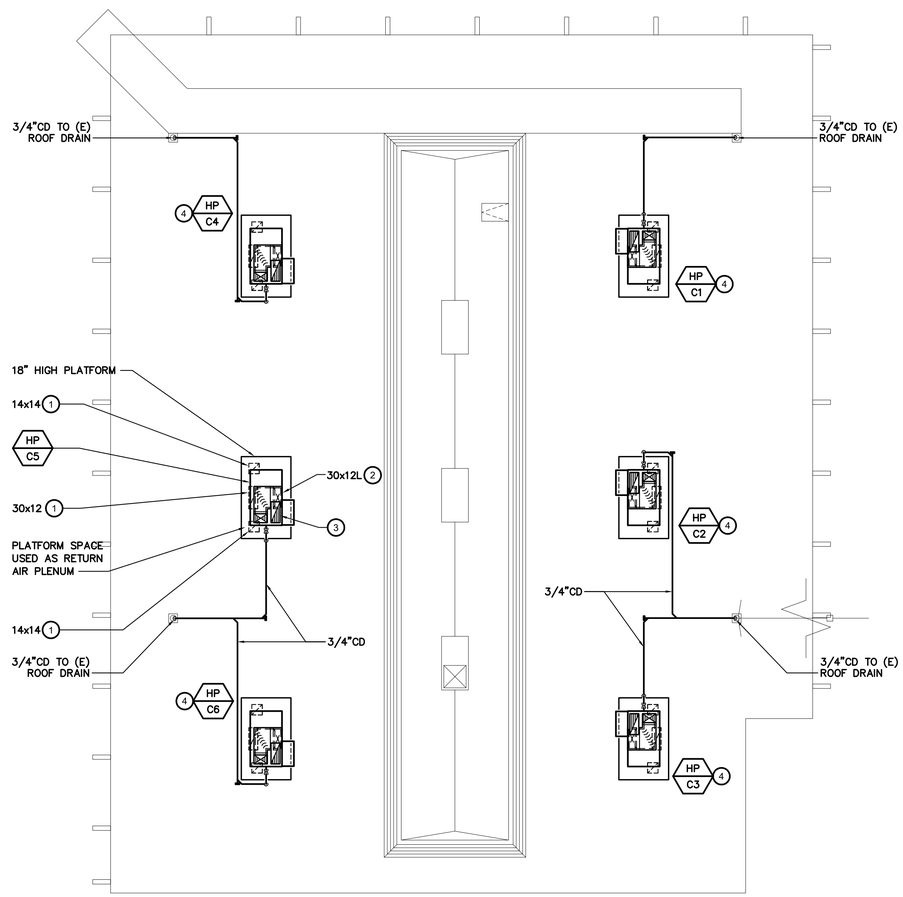
M2.1.C

15 OF XX SHEETS

QC	
INI	%

KEY NOTES:

1. RETURN DUCT THROUGH ROOF FROM BELOW. TERMINATE INSIDE UNIT PLATFORM.
2. SUPPLY DUCT INSIDE ROOF CURB AND UNIT PLATFORM. DROP THROUGH ROOF AS INDICATED.
3. TERMINATE UNIT RA DUCT DROP AT CONNECTION BETWEEN UNIT AND ROOF CURB.
4. FOR DUCT SIZES AND ADDITION INFORMATION SEE HP-C5.

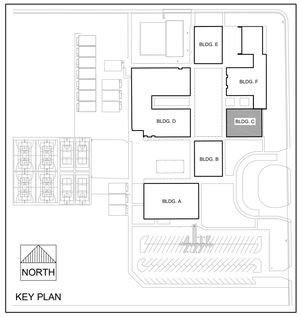


MECHANICAL - ROOF PLAN - BUILDING C

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

1
M2.2.C

N



KEY PLAN

capital engineering

RANCHO CORDOVA, CALIFORNIA

MCM - BV — PM - DESIGN TEAM

220208.00 — PROJECT NO.

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT STEPHEN M. HENRY C-22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

MODERNIZATION LODI MIDDLE SCHOOL (INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - ROOF PLAN - BUILDING C

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER THOMAS A. DUNAY M 22836 EXPIRES 6/30/22 MECHANICAL STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 34-M2.2.C.DWG		
UPDATED 8/26/2022		

SHEET NO.

M2.2.C

QC	
INI	%

MECHANICAL - DEMOLITION FLOOR PLAN - BUILDING D

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

1
M1.1.D

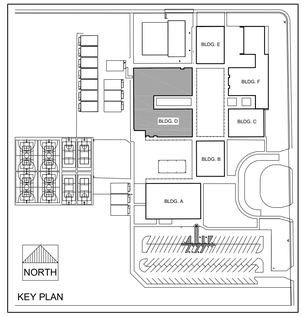
N

GENERAL NOTES:

1. EXISTING HVAC SYSTEMS & HYDRONIC SUPPLY AND RETURN PIPING SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE AND BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES.

DEMOLITION KEY NOTES:

1. ALL VERTICAL AND HORIZONTAL DUCT, GRILLES, & SUPPORT FOR (E) AHU ON ROOF TO BE REMOVED.
2. DUCT, GRILLE & SUPPORTS FOR (E) EXHAUST FAN ON ROOF TO BE REMOVED. SEE M2.1.D AND M2.2.D FOR NEW EXHAUST FAN AND DUCTWORK.
3. REMOVE (E) THERMOSTAT & WIRING. (TYP.)



KEY PLAN

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220208.00 — PROJECT NO.

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LICENSED ARCHITECT
STEPHEN C. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE
MECHANICAL - DEMOLITION FLOOR PLAN
BUILDING D

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUFAL
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

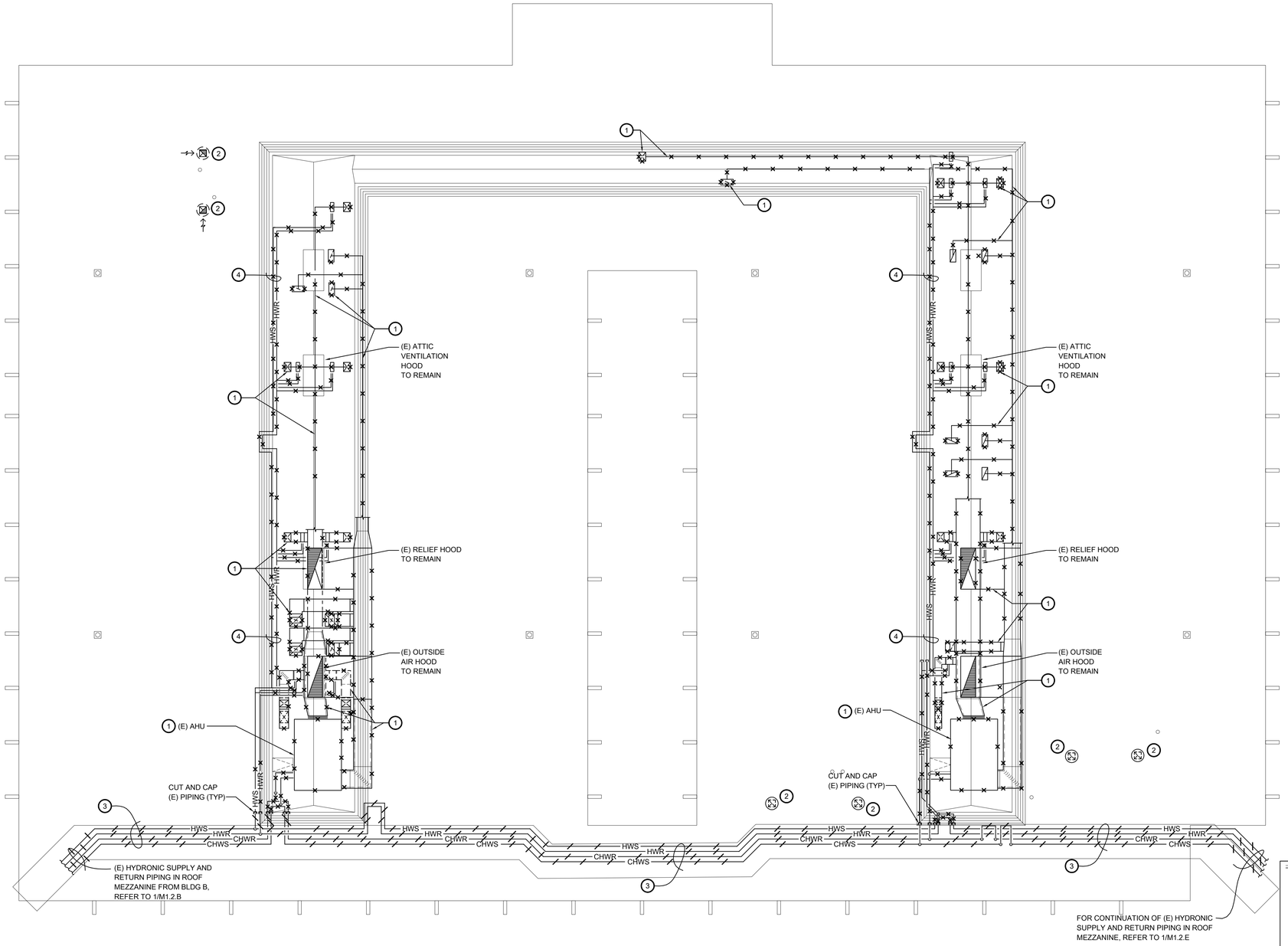
PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 41-M1.1.D.DWG		
UPDATED 8/26/2022		

SHEET NO.

M1.1.D

15 OF XX SHEETS

QC	
INI	%



MECHANICAL - DEMOLITION ROOF PLAN - BUILDING D

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

1
M1.2.D

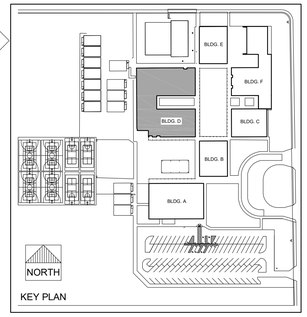
N

GENERAL NOTES:

1. EXISTING HVAC SYSTEMS & HYDRONIC SUPPLY AND RETURN PIPING SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE AND BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES.

DEMOLITION KEY NOTES:

1. AHU, REHEAT COILS, ALL VERTICAL & HORIZONTAL DUCT, HYDRONIC SUPPLY & RETURN PIPING, AND SUPPORTS TO BE REMOVED.
2. EXHAUST FAN TO BE REMOVED. SEE M2.1.D AND M2.2.D FOR NEW EXHAUST FAN AND DUCTWORK.
3. (E) HYDRONIC SUPPLY AND RETURN PIPING IN ROOF MEZZANINE TO BE ABANDONED IN PLACE (TYP.)
4. (E) HYDRONIC SUPPLY AND RETURN PIPING & SUPPORTS TO BE REMOVED.



KEY PLAN

capital engineering
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220208.00 — PROJECT NO.

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN M. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - DEMOLITION ROOF PLAN BUILDING D

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUFAL
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 42-M1.2.D.DWG		
UPDATED 8/26/2022		

SHEET NO.

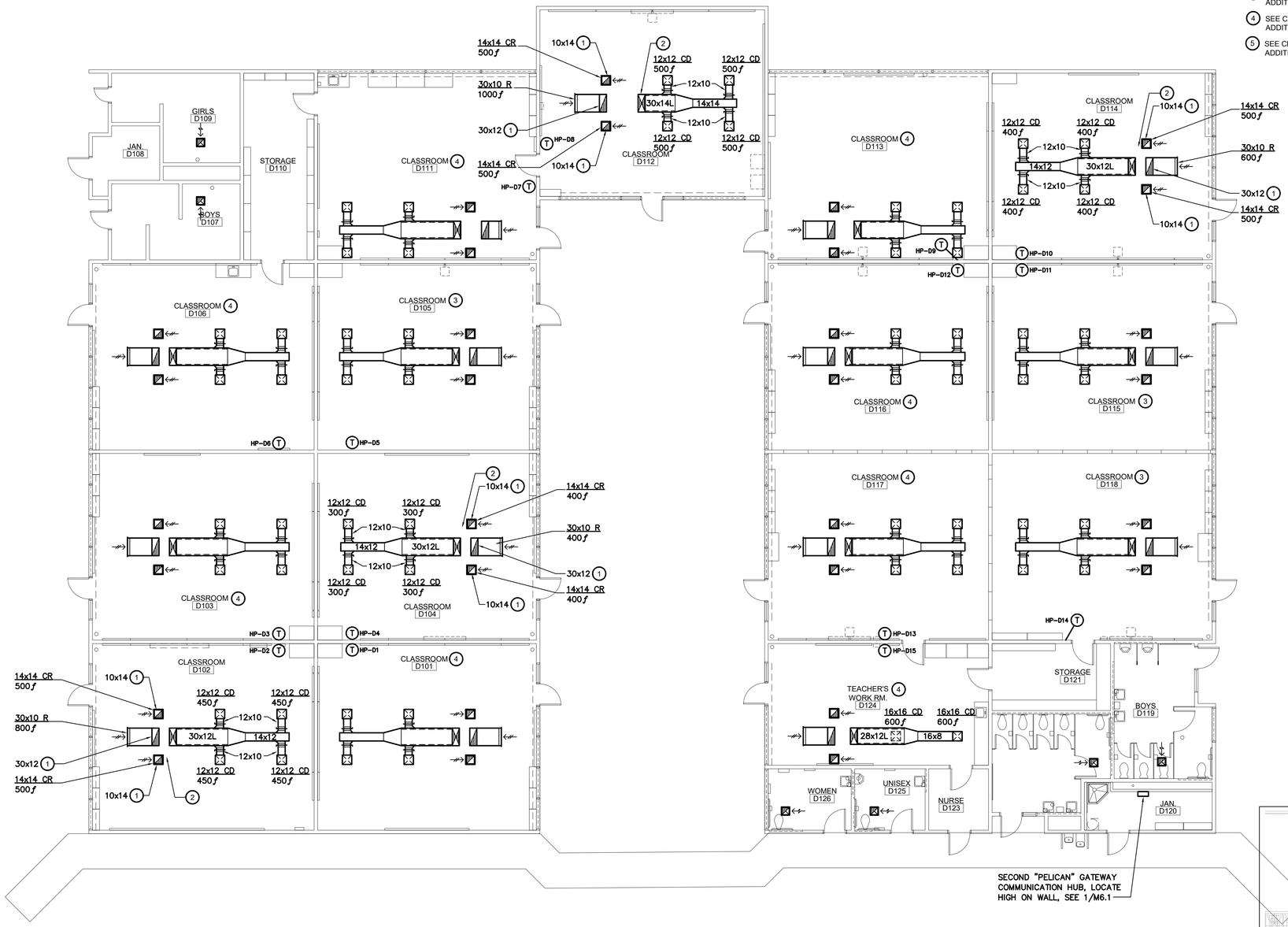
M1.2.D

15 OF XX SHEETS

QC	
INI	%

KEY NOTES:

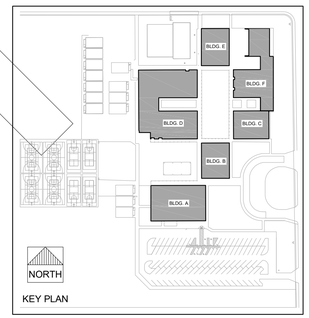
1. RETURN DUCT THROUGH ROOF. TERMINATE INSIDE UNIT PLATFORM JUST ABOVE ROOF.
2. SUPPLY DUCT THROUGH ROOF.
3. SEE CLASSROOM D104 FOR DUCT SIZES AND ADDITIONAL NOTES.
4. SEE CLASSROOM D114 FOR DUCT SIZES AND ADDITIONAL NOTES.
5. SEE CLASSROOM D102 FOR DUCT SIZES AND ADDITIONAL NOTES.



MECHANICAL - FLOOR PLAN - BUILDING D

1
M2.1.D

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



KEY PLAN

capital engineering
RANCHO CORDOVA, CALIFORNIA

MCM - BV	220208.00
PM - DESIGN TEAM	PROJECT NO.

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN M. HENRY
C-22525
12/31/23 RENEWAL DATE
STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - FLOOR PLAN
BUILDING D

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUNN
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 43-M2.1.D.DWG		
UPDATED 8/26/2022		

SHEET NO.

M2.1.D

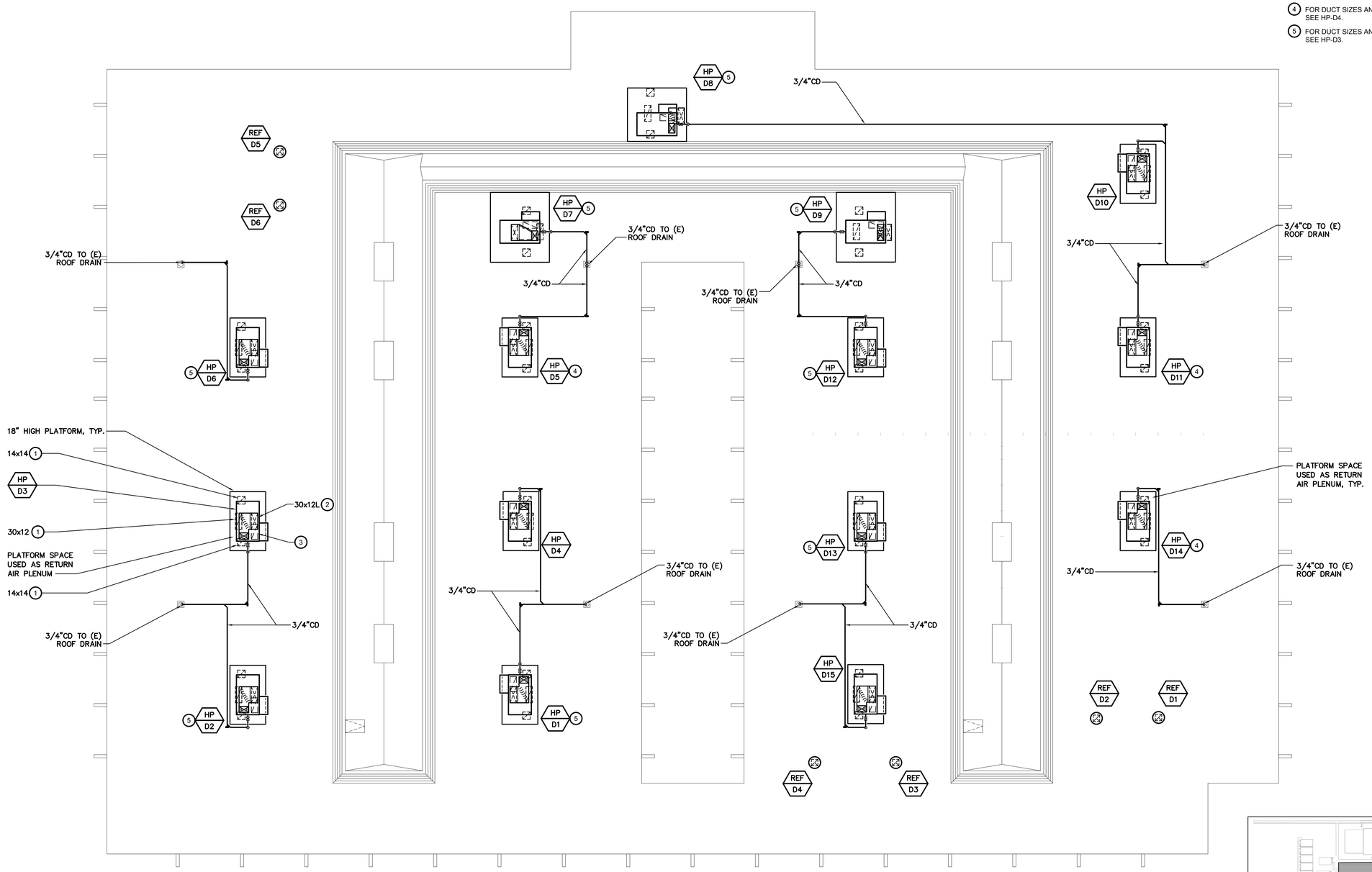
15 OF XX SHEETS

QC	
INI	%

BETWEEN UNIT AND ROO

(4) FOR DUCT SIZES AND AD SEE HP-D4.

(5) FOR DUCT SIZES AND AD SEE HP-D3.

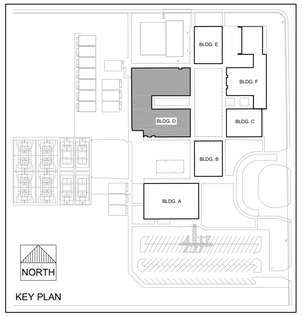


MECHANICAL - ROOF PLAN - BUILDING D

1
M2.2.D

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

N



KEY PLAN

capital engineering
RANCHO CORDOVA, CALIFORNIA

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220208.00 — PROJECT NO.

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - ROOF PLAN
BUILDING D

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUVAL
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 44-M2.2.D.DWG		
UPDATED 8/26/2022		

SHEET NO.

M2.2.D

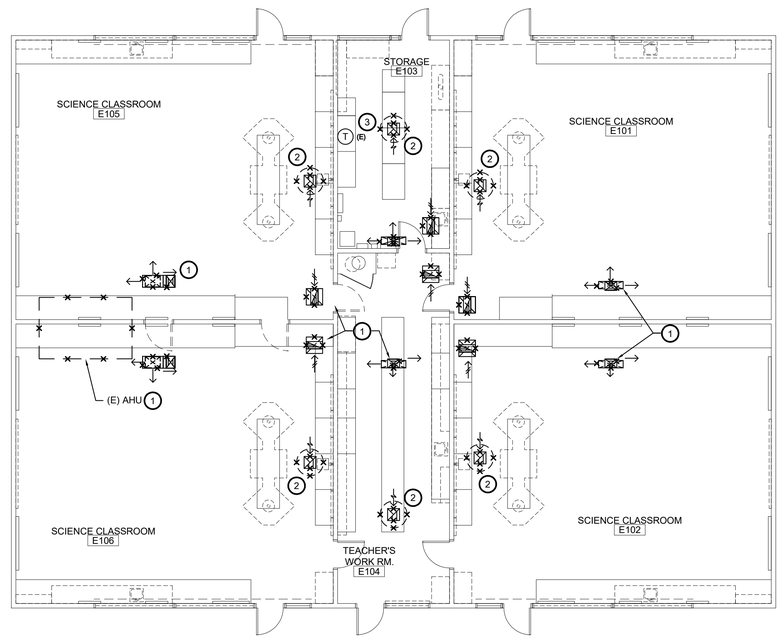
QC	
INI	%

GENERAL NOTES:

1. EXISTING HVAC SYSTEMS & HYDRONIC SUPPLY AND RETURN PIPING SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE AND BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES.

DEMOLITION KEY NOTES:

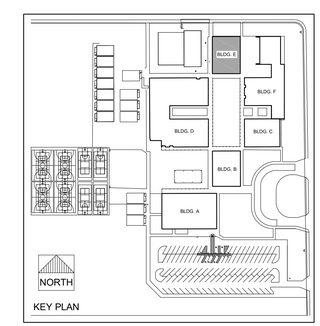
1. ALL VERTICAL AND HORIZONTAL DUCT, GRILLES, & SUPPORT FOR (E) AHU ON ROOF TO BE REMOVED.
2. DUCT, GRILLE & SUPPORTS FOR (E) EXHAUST FAN ON ROOF TO BE REMOVED. PATCH OPENING TO MATCH SURROUNDING SURFACES.
3. REMOVE (E) THERMOSTAT & WIRING. (TYP.)



MECHANICAL - DEMOLITION FLOOR PLAN - BUILDING E

1
M1.1.E

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



KEY PLAN

capital engineering

RANCHO CORDOVA, CALIFORNIA

MCM - BV
PM - DESIGN TEAM

220208.00
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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - DEMOLITION FLOOR PLAN BUILDING E

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUVAL
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 51-M1.1.E.DWG		
UPDATED 8/26/2022		

SHEET NO.

M1.1.E

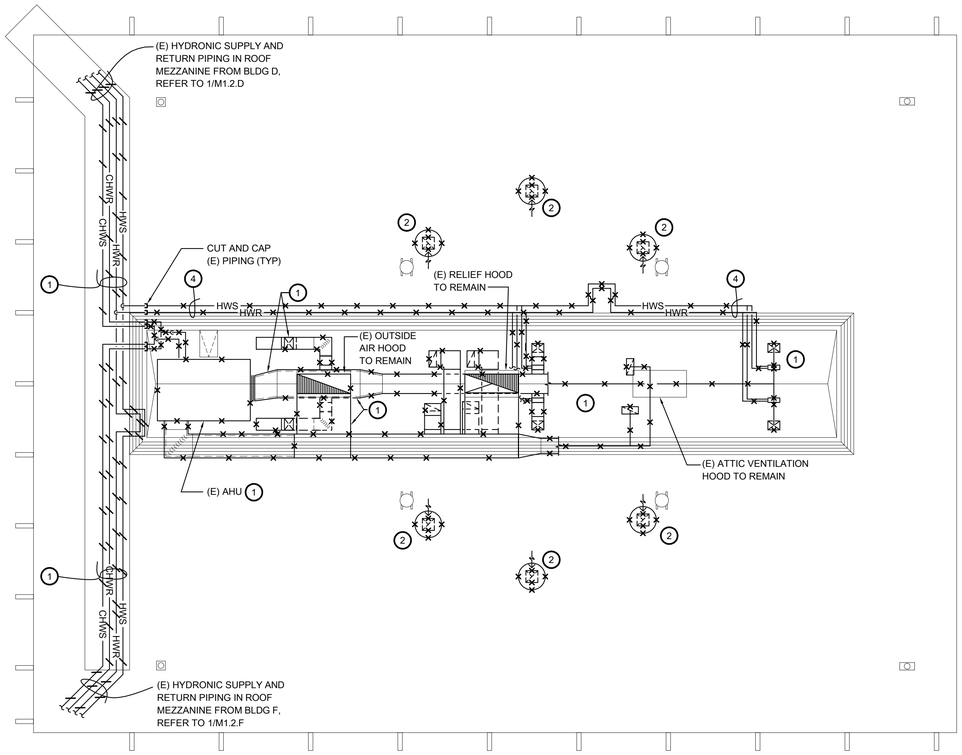
QC	
INI	%

GENERAL NOTES:

1. EXISTING HVAC SYSTEMS & HYDRONIC SUPPLY AND RETURN PIPING SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE AND BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES.

DEMOLITION KEY NOTES:

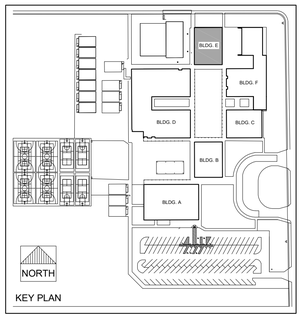
1. AHU, REHEAT COILS, ALL VERTICAL & HORIZONTAL DUCT, HYDRONIC SUPPLY & RETURN PIPING, AND SUPPORTS TO BE REMOVED.
2. EXHAUST FAN TO BE REMOVED. PATCH OPENING TO MATCH SURROUNDING SURFACES.
3. (E) HYDRONIC SUPPLY AND RETURN PIPING IN ROOF MEZZANINE TO BE ABANDONED IN PLACE (TYP.)
4. (E) HYDRONIC SUPPLY AND RETURN PIPING & SUPPORTS TO BE REMOVED.



MECHANICAL - DEMOLITION ROOF PLAN - BUILDING E

1 / M1.2.E

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



KEY PLAN

capital engineering

RANCHO CORDOVA, CALIFORNIA

MCM - BV — PM - DESIGN TEAM

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Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN T. HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - DEMOLITION ROOF PLAN BUILDING E

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUVAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 52-M1.2.E.DWG		
UPDATED 8/26/2022		

SHEET NO.

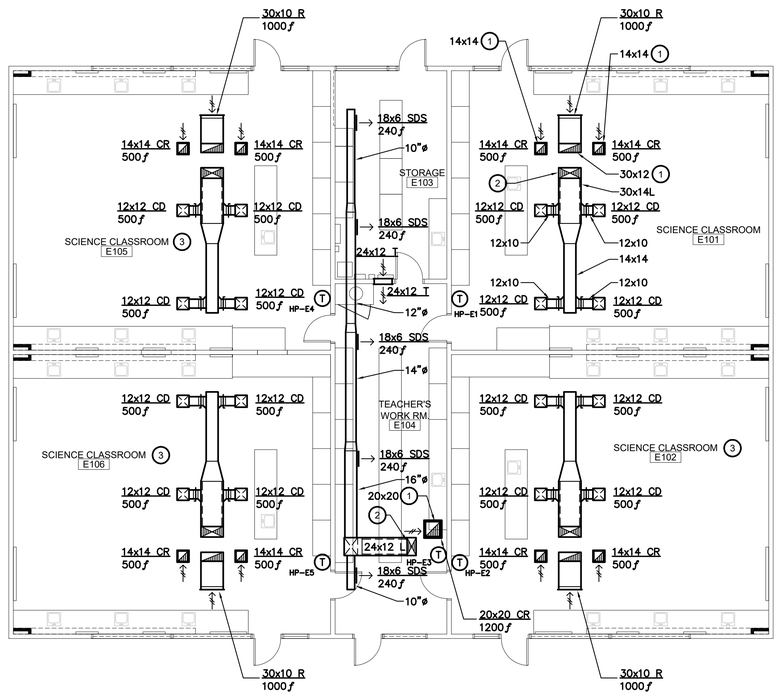
M1.2.E

15 OF XX SHEETS

QC	
INI	%

KEY NOTES:

1. RETURN DUCT THROUGH ROOF. TERMINATE INSIDE UNIT PLATFORM JUST ABOVE ROOF.
2. SUPPLY DUCT THROUGH ROOF.
3. SEE SCIENCE CLASSROOM E101 FOR DUCT SIZES AND ADDITIONAL NOTES.

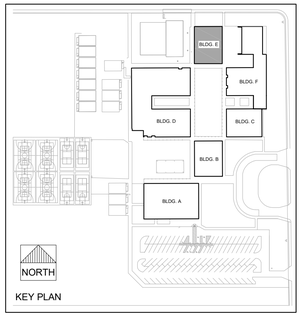


MECHANICAL - FLOOR PLAN - BUILDING E

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

1
M2.1.E

N



KEY PLAN

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CONSTRUCTION DOCUMENTS PHASE

MECHANICAL -
FLOOR PLAN - BUILDING E

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
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CADFILE 53-M2.1.E.DWG		
UPDATED 8/26/2022		

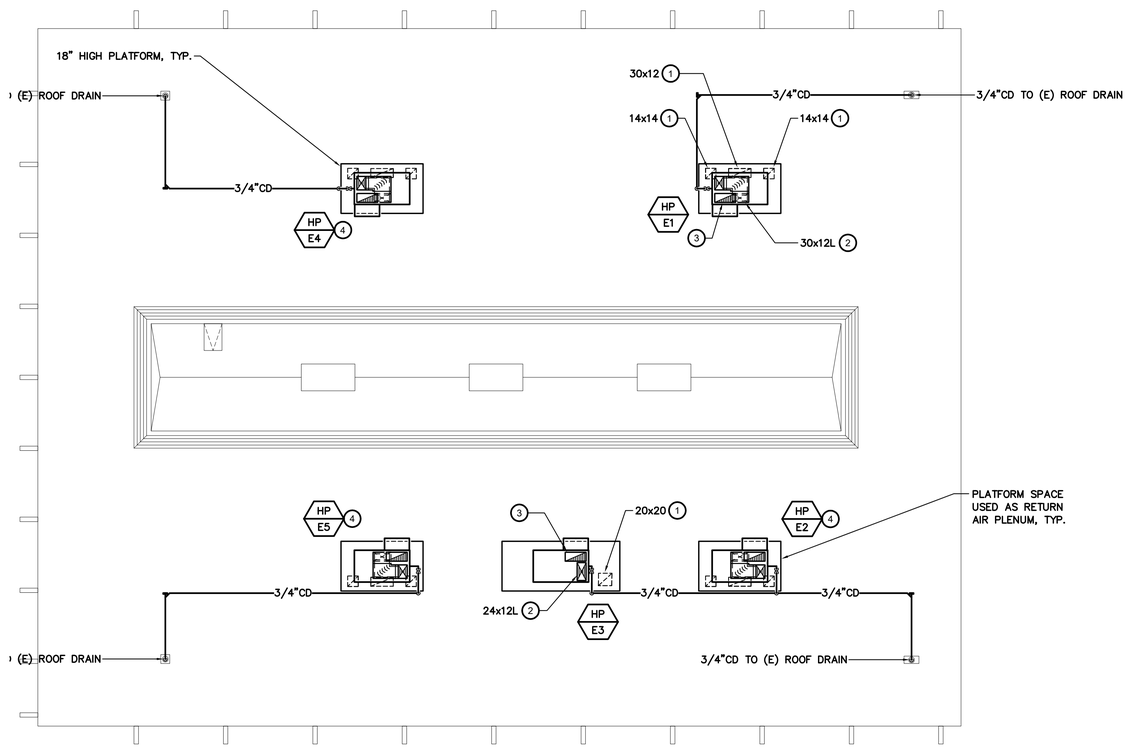
SHEET NO.

M2.1.E

QC	
INI	%

KEY NOTES:

1. RETURN DUCT THROUGH ROOF FROM BELOW. TERMINATE INSIDE UNIT PLATFORM.
2. SUPPLY DUCT INSIDE ROOF CURB AND UNIT PLATFORM. DROP THROUGH ROOF AS INDICATED.
3. TERMINATE UNIT RA DUCT DROP AT CONNECTION BETWEEN UNIT AND ROOF CURB.
4. FOR DUCT SIZES AND ADDITION INFORMATION SEE HP-E1.

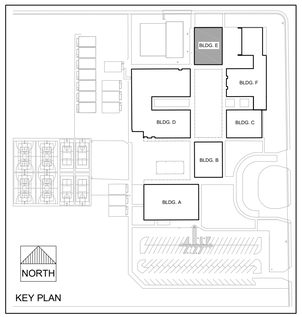


MECHANICAL - ROOF PLAN - BUILDING E

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

1
M2.2.E

N



KEY PLAN

capital engineering

RANCHO CORDOVA, CALIFORNIA

MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN M. HENRY
C-22525
12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - ROOF PLAN - BUILDING E

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUNN
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 54-M2.2.E.DWG		
UPDATED 8/26/2022		

SHEET NO.

M2.2.E

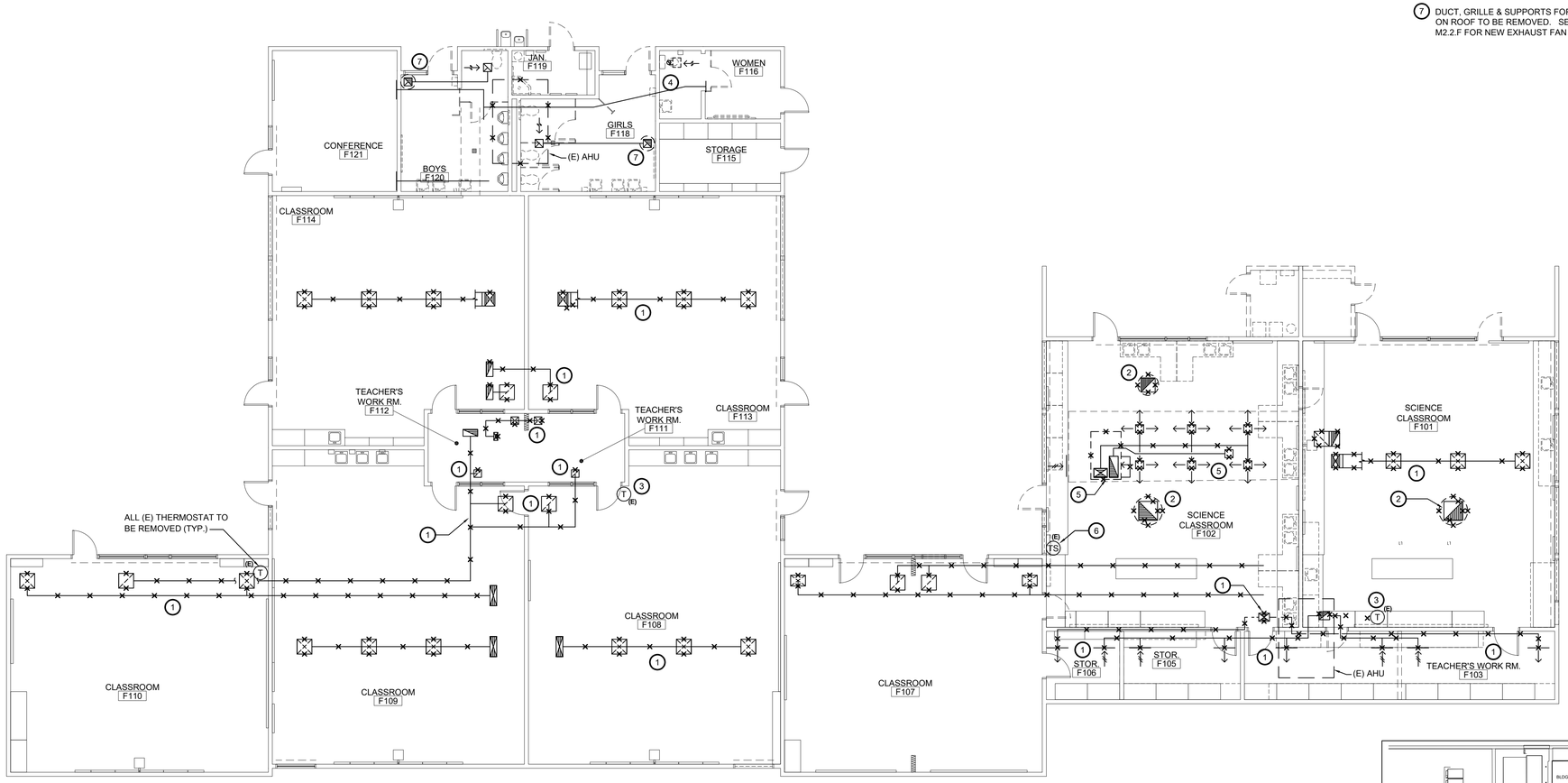
QC	
INI	%

GENERAL NOTES:

1. EXISTING HVAC SYSTEMS & HYDRONIC SUPPLY AND RETURN PIPING SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE AND BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES.

DEMOLITION KEY NOTES:

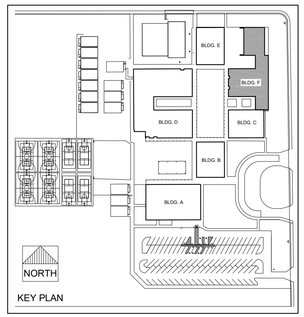
1. ALL VERTICAL AND HORIZONTAL DUCT, GRILLES, & SUPPORT FOR (E) AHU ON ROOF TO BE REMOVED.
2. DUCT, GRILLE & SUPPORTS FOR (E) EXHAUST FAN ON ROOF TO BE REMOVED. PATCH OPENING TO MATCH SURROUNDING SURFACES.
3. REMOVE (E) THERMOSTAT & WIRING. (TYP.)
4. CEILING EXHAUST FAN DUCT, GRILLE & SUPPORTS TO BE REMOVED. PATCH OPENING TO MATCH SURROUNDING SURFACES.
5. ALL HORIZONTAL DUCT, GRILLES, CONTROLS, & SUPPORTS FOR (E) HP UNIT ON ROOF TO BE REMOVED.
6. (E) TS & WIRING TO BE REMOVED PATCH SURFACE TO MATCH SURROUNDING AREA .
7. DUCT, GRILLE & SUPPORTS FOR (E) EXHAUST FAN ON ROOF TO BE REMOVED. SEE M2.1.F AND M2.2.F FOR NEW EXHAUST FAN AND DUCTWORK.



MECHANICAL - DEMOLITION FLOOR PLAN - BUILDING F

1 / M1.1F

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



KEY PLAN

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LICENSED ARCHITECT — STEPHEN L. HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERMIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - DEMOLITION FLOOR PLAN BUILDING F

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUVAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
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SCALE AS SHOWN		
CADFILE 61-M1.1.F.DWG		
UPDATED 8/26/2022		

SHEET NO.

M1.1F

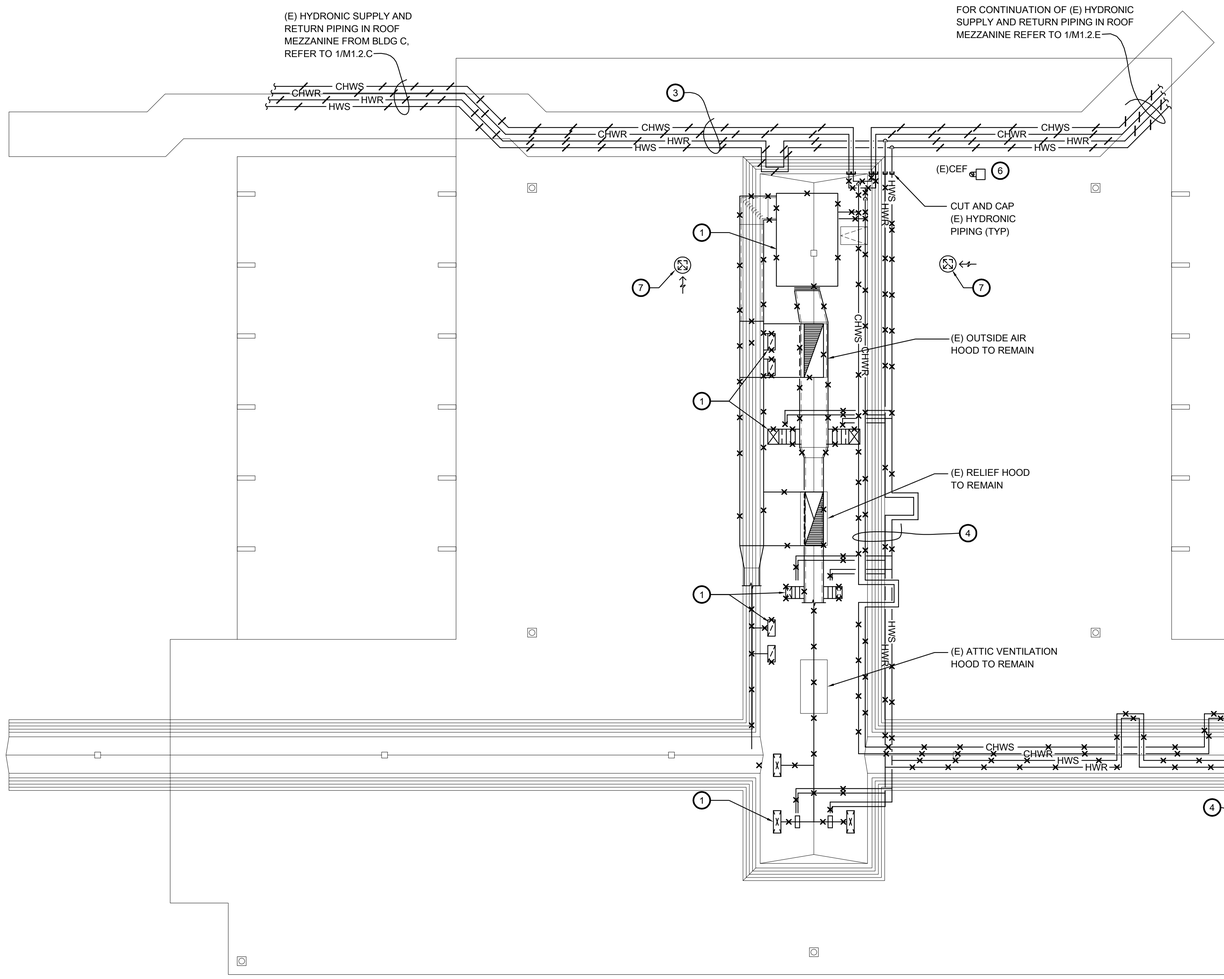
QC	
INI	%

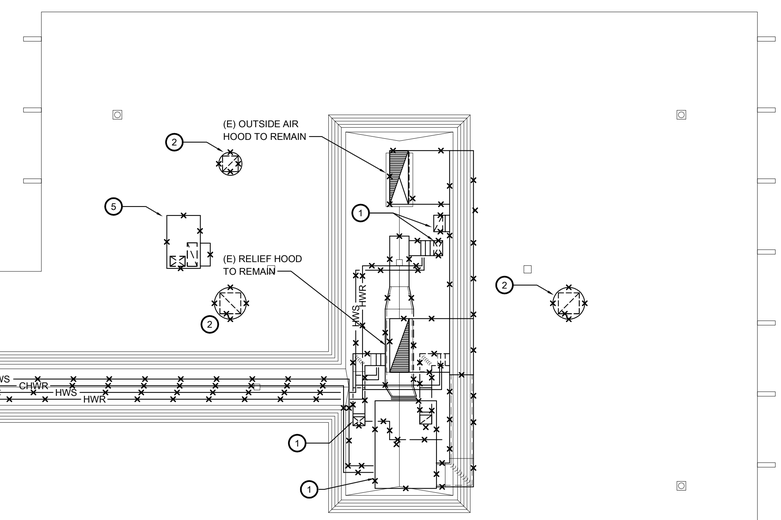
GENERAL NOTES:

1. EXISTING HVAC SYSTEMS & HYDRONIC SUPPLY AND RETURN PIPING SHOWN ON THE PLANS ARE DIAGRAMATIC IN NATURE AND BASED ON RECORD DRAWINGS AND SITE OBSERVATIONS OF EXPOSED FEATURES.

DEMOLITION KEY NOTES:

1. AHU, REHEAT COILS, ALL VERTICAL & HORIZONTAL DUCT, HYDRONIC SUPPLY & RETURN PIPING, AND SUPPORTS TO BE REMOVED.
2. EXHAUST FAN TO BE REMOVED. PATCH OPENING TO MATCH SURROUNDING SURFACES.
3. (E) HYDRONIC SUPPLY AND RETURN PIPING IN ROOF MEZZANINE TO BE ABANDONED IN PLACE (TYP.)
4. (E) HYDRONIC SUPPLY AND RETURN PIPING & SUPPORTS TO BE REMOVED.
5. HP UNIT TO BE REMOVED AND PREPARED FOR NEW UNIT.
6. CEILING EXHAUST FAN TO BE REMOVED. PATCH OPENING TO MATCH SURROUNDING SURFACES.
7. EXHAUST FAN TO BE REMOVED. SEE M2.1.F AND M2.2.F FOR NEW EXHAUST FAN AND DUCTWORK.

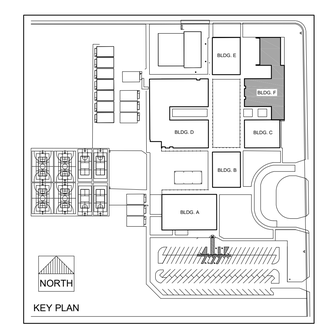




MECHANICAL - DEMOLITION ROOF PLAN - BUILDING F

1 / M1.2F

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



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MECHANICAL - DEMOLITION ROOF PLAN BUILDING F

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REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUVAL
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EXPIRES 6/30/22
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STATE OF CALIFORNIA

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CADFILE 62-M1.2.F.DWG		
UPDATED 8/26/2022		

SHEET NO.

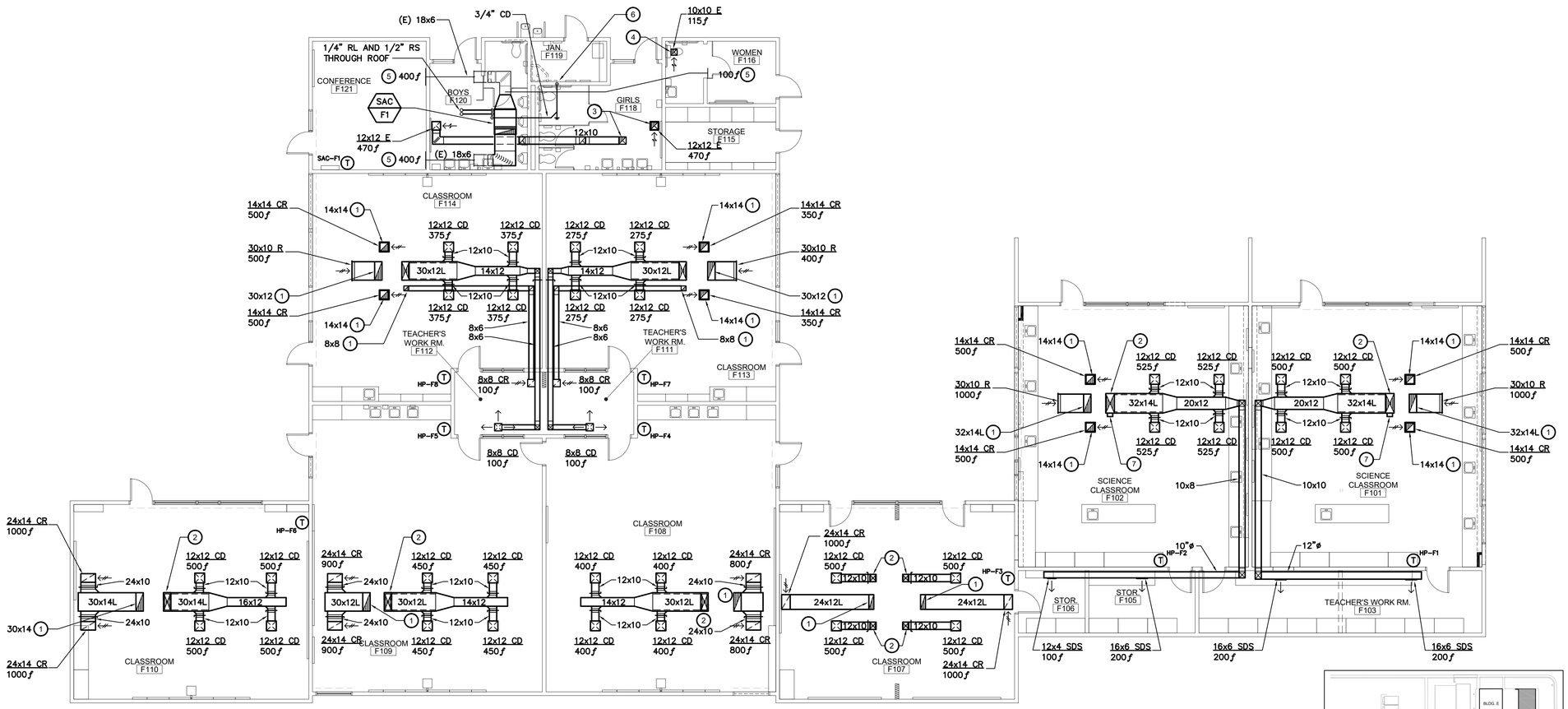
M1.2F

15 OF XX SHEETS

QC	
INI	%

KEY NOTES:

1. RETURN DUCT THROUGH ROOF. TERMINATE INSIDE UNIT PLATFORM JUST ABOVE ROOF.
2. SUPPLY DUCT THROUGH ROOF.
3. 12x12 EXHAUST DUCT THROUGH ROOF.
4. 10x10 EXHAUST DUCT THROUGH ROOF.
5. SET (E) GRILLE OR REGISTER TO AIRFLOW NOTED.
6. CONNECT 3/4" CD TO (E) 1-1/2" CD DROP IN WALL.
7. DUCT MOUNTED SMOKE DETECTOR, REFER TO CONTROL DIAGRAM 1/M6.1.

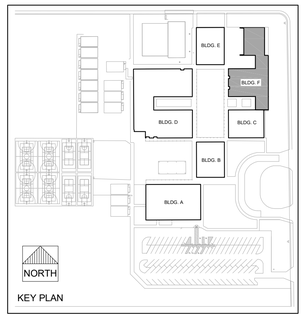


MECHANICAL - FLOOR PLAN - BUILDING F

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

1
M2.1.F

N



KEY PLAN

capital engineering

RANCHO CORDOVA, CALIFORNIA

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LICENSED ARCHITECT — STEPHEN M. HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL - FLOOR PLAN - BUILDING F

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUVAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

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CADFILE 63-M2.1.F.DWG		
UPDATED 8/26/2022		

SHEET NO.

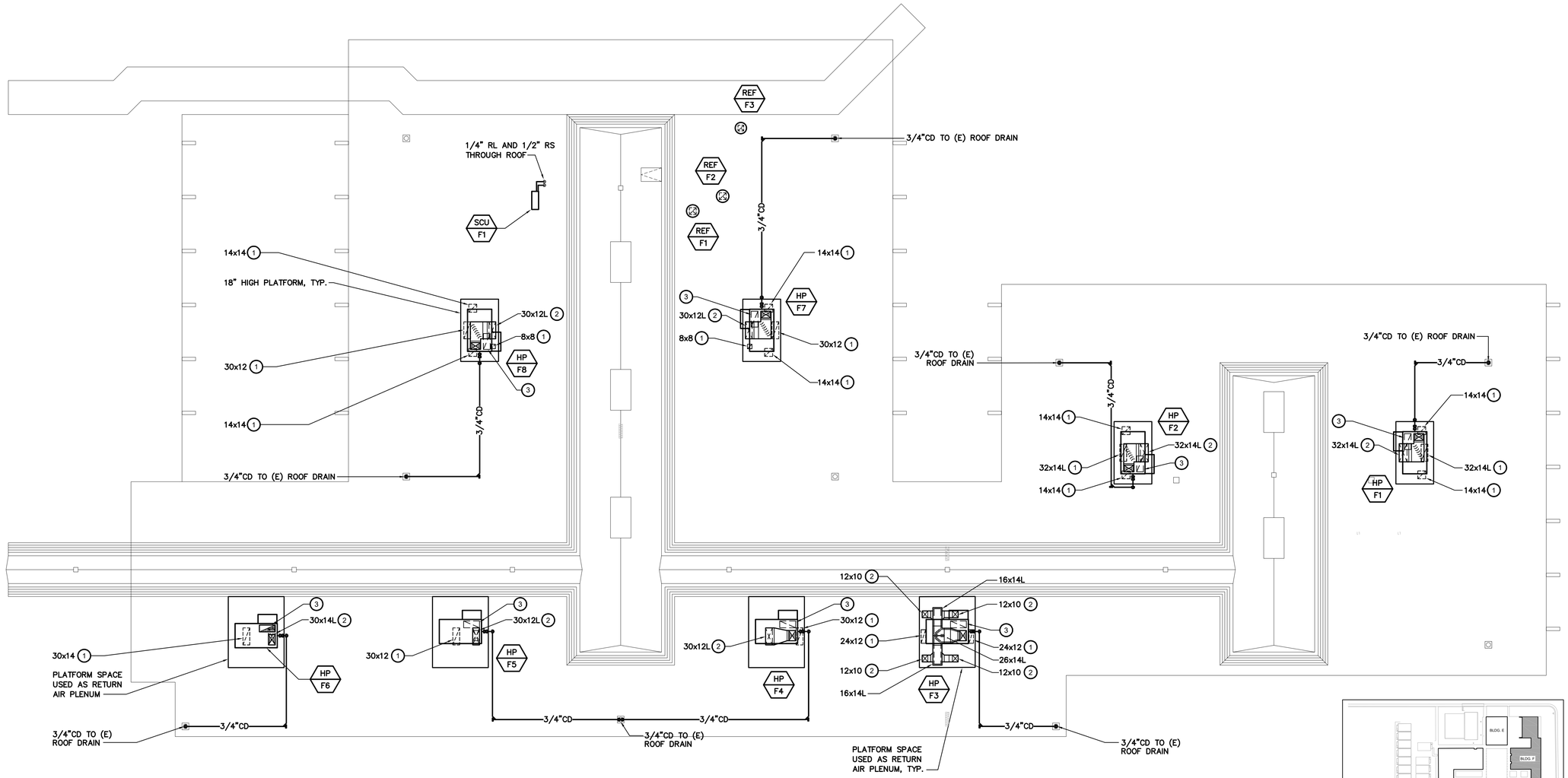
M2.1.F

15 OF XX SHEETS

QC	
INI	%

KEY NOTES:

1. RETURN DUCT THROUGH ROOF FROM BELOW. TERMINATE INSIDE UNIT PLATFORM.
2. SUPPLY DUCT INSIDE ROOF CURB AND UNIT PLATFORM. DROP THROUGH ROOF AS INDICATED.
3. TERMINATE UNIT RA DUCT DROP AT CONNECTION BETWEEN UNIT AND ROOF CURB.

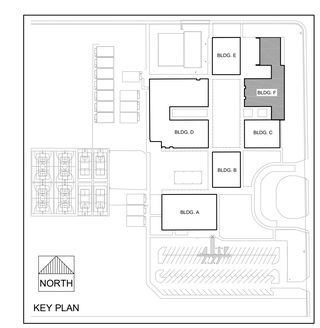


MECHANICAL - ROOF PLAN - BUILDING F

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

1
M2.2.F

N



KEY PLAN

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12/31/23
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STATE OF CALIFORNIA

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LODI MIDDLE SCHOOL
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CONSTRUCTION DOCUMENTS PHASE

MECHANICAL -
ROOF PLAN - BUILDING F

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUVAL
M 22836
EXPIRES 6/30/22
MECHANICAL
STATE OF CALIFORNIA

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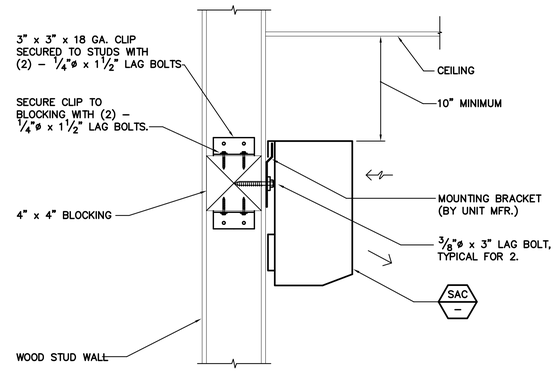
CADFILE 64-M2.2.F.DWG		
UPDATED 8/26/2022		

SHEET NO.

M2.2.F

15 OF XX SHEETS

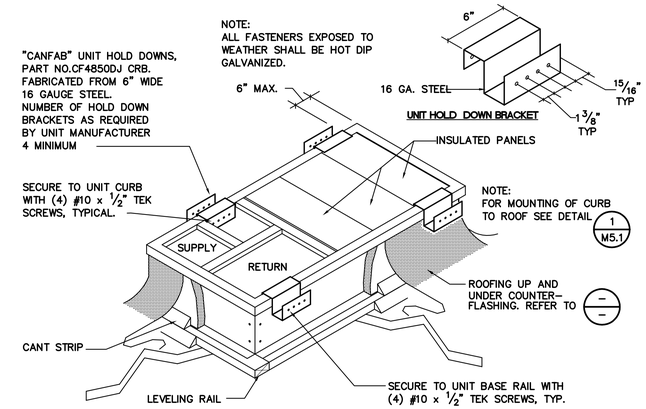
QC	
INI	%



SPLIT INDOOR UNIT MOUNTING

SCALE : NONE

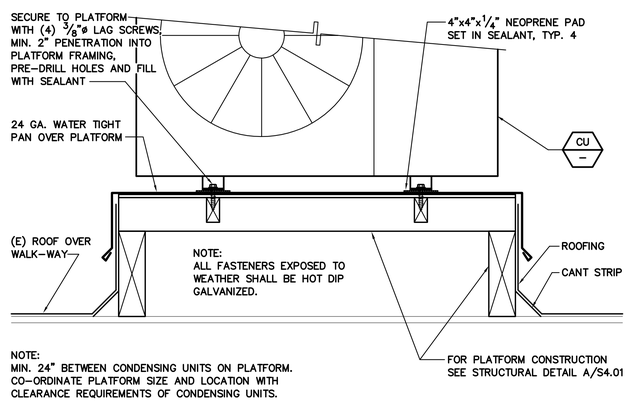
6 / M5.1



HP UNIT "HOLD DOWN" PLACEMENT

SCALE : NONE **HP MOUNTING SIMILAR**

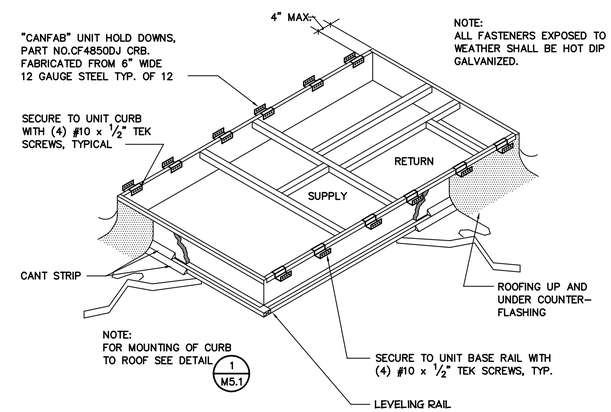
3 / M5.1



SPLIT SYSTEM OUTDOOR MOUNTING

SCALE : NONE

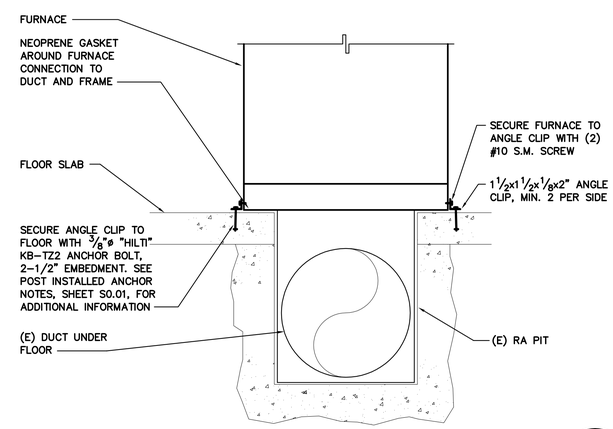
5 / M5.1



AC UNIT "HOLD DOWN" PLACEMENT

SCALE : NONE

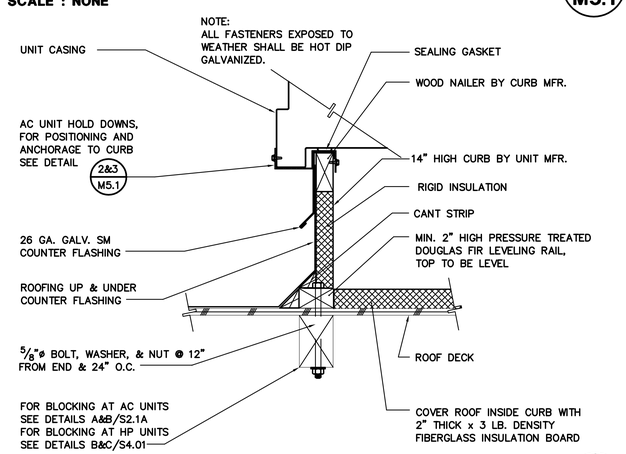
2 / M5.1



DOWNFLOW FURNACE MOUNTING

SCALE : NONE

4 / M5.1



AC & HP UNIT MOUNTING

SCALE : NONE

1 / M5.1

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT STEPHEN T. HENRY C-22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

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LODI MIDDLE SCHOOL
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CONSTRUCTION DOCUMENTS PHASE

MECHANICAL DETAILS

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER THOMAS A. DUVAL M 22836 EXPIRES 6/30/22 MECHANICAL STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

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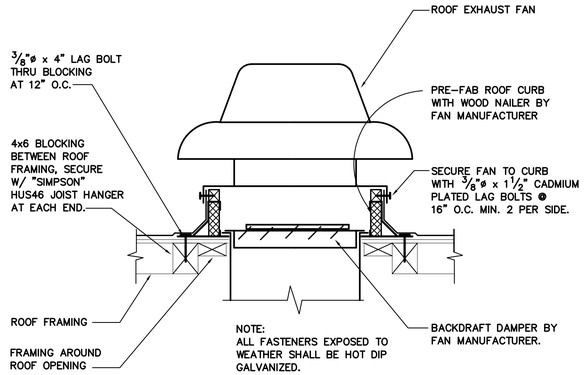
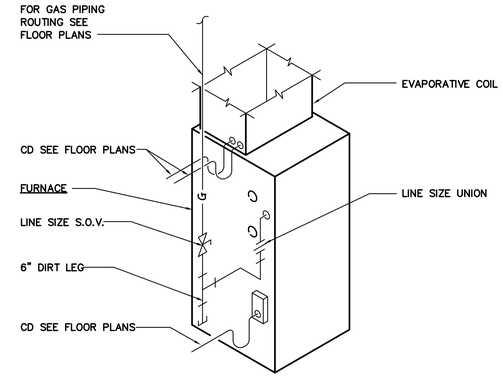


R.E.F. MOUNTING DETAIL

SCALE : NONE

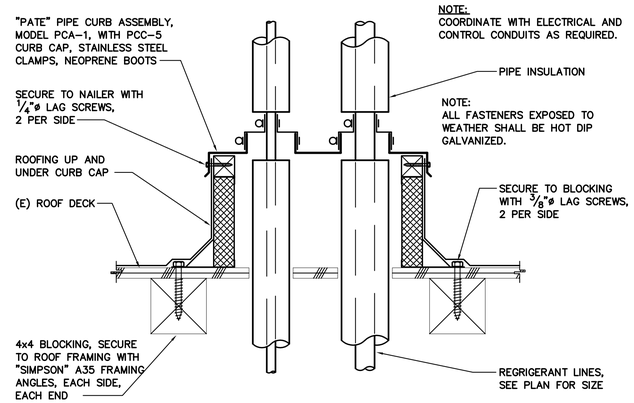
6 / M5.2



TYP. VERTICAL UNIT PIPING

SCALE : NONE

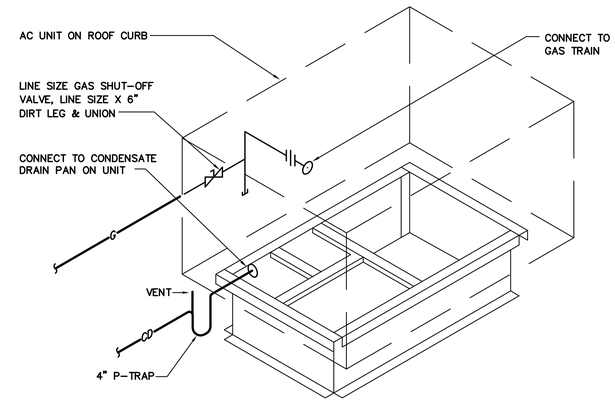
3 / M5.2



PIPE THROUGH ROOF DETAIL

SCALE : NONE

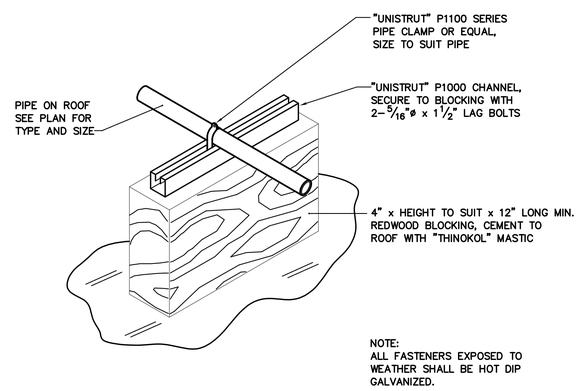
5 / M5.2



AC UNIT PIPING

SCALE : NONE

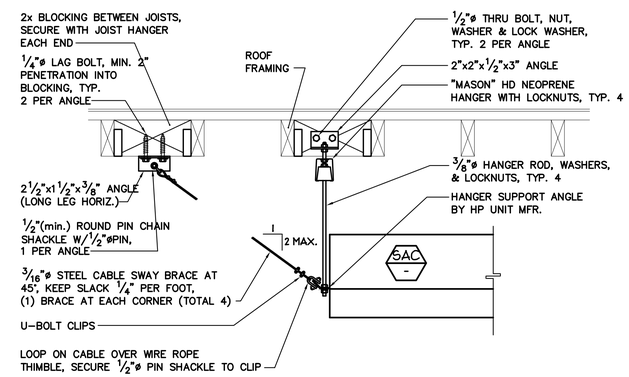
2 / M5.2



PIPE SUPPORT ON ROOF

SCALE : NONE

4 / M5.2



SPLIT SYSTEM INDOOR MOUNTING

SCALE : NONE

1 / M5.2

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REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUNAY — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

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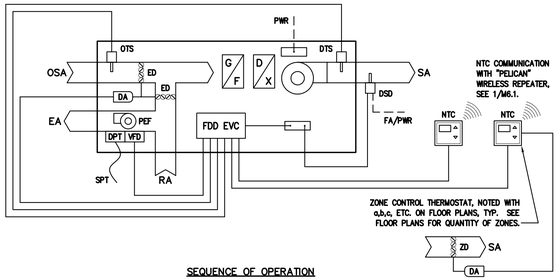


SEQUENCE OF OPERATION

GENERAL:
THE NETWORK THERMOSTAT SHALL BE PROGRAMMED AS DIRECTED BY THE DISTRICT FOR OCCUPIED PERIODS, UNOCCUPIED PERIODS, AND HOLIDAYS. THE NETWORK THERMOSTAT SHALL BE CAPABLE OF RECEIVING A UTILITY COMPANY 'AUTOMATED DEMAND RESPONSE' (ADR) SIGNAL, VIA WIRELESS SIGNAL FROM INTERNET CONNECTED WIRELESS GATEWAY. THE AC UNIT SHALL PROVIDE MINIMUM OUTSIDE AIR VENTILATION FOR 1 HOUR PRIOR TO SCHEDULED OCCUPANCY. DURING PERIODS OF OCCUPANCY, OR IF THE NETWORK THERMOSTAT OVERRIDE BUTTON IS PUSHED, THE SUPPLY FAN SHALL BE ENABLED AND STAGED HEATING OR COOLING SHALL BE PROVIDED TO MAINTAIN ROOM TEMPERATURE SETPOINT. TCC SHALL INSTALL IN EACH AC UNIT THE 'FAULT DETECTION & DIAGNOSTICS' (FDD) ECONOMIZER/VENTILATION CONTROLLER AND TEMPERATURE SENSORS. THE POWER EXHAUST FAN VFD SHALL BE ENABLED WHENEVER THE AC UNIT SUPPLY FAN IS RUNNING. THE POWER EXHAUST DIFFERENTIAL PRESSURE TRANSDUCER SHALL AUTOMATICALLY MODULATE THE POWER EXHAUST FAN VFD TO MAINTAIN A SLIGHT POSITIVE PRESSURE IN THE ROOMS SERVED. CONTRACTOR SHALL COMMISSION THE POWER EXHAUST SYSTEM TO MAINTAIN ROOM PRESSURE BETWEEN 0.01" AND 0.03" POSITIVE UNDER ALL OPERATING CONDITIONS. THE OUTSIDE AIR DAMPER SHALL MODULATE FULLY CLOSED WHENEVER THE AC UNIT IS DISABLED.

COOLING:
ON A CALL FOR COOLING, IF THE OUTSIDE AIR TEMPERATURE IS BELOW THE ECONOMIZER LOCKOUT TEMPERATURE SET AT 75 DEG F (ADJUSTABLE), THE ECONOMIZER DAMPERS SHALL MODULATE AS NEEDED TO OPERATE AS THE FIRST STAGE OF COOLING. ON AN ADDITIONAL CALL FOR COOLING, IF THE OUTSIDE AIR TEMPERATURE IS ABOVE THE COOLING LOCKOUT TEMPERATURE SET AT 60 DEG F (ADJUSTABLE), STAGES OF DX COOLING SHALL BE ENABLED IN CONJUNCTION WITH THE ECONOMIZER TO MAINTAIN ROOM COOLING SETPOINT (INTEGRATED ECONOMIZER OPERATION). IF SETPOINT STILL CANNOT BE MAINTAINED, OR IF THE OUTSIDE AIR TEMPERATURE RISES ABOVE THE ECONOMIZER LOCKOUT TEMPERATURE, THE ECONOMIZER DAMPERS SHALL MODULATE TO MINIMUM POSITION, AND STAGES OF DX COOLING SHALL BE ENABLED TO MAINTAIN ROOM COOLING SETPOINT.

HEATING:
ON A CALL FOR HEATING, IF THE OUTSIDE AIR TEMPERATURE IS BELOW THE HEATING LOCKOUT TEMPERATURE SET AT 65 DEG F (ADJUSTABLE), THE ECONOMIZER DAMPERS SHALL MODULATE TO MINIMUM POSITION, AND STAGES OF HEATING SHALL BE ENABLED TO MAINTAIN ROOM HEATING SETPOINT.

DEMAND CONTROLLED VENTILATION (DCV):
CO2 CONTROL OVER THE ECONOMIZER SHALL ALWAYS TAKE PRECEDENCE OVER HEATING OR COOLING TO MAINTAIN A ZONE CO2 LEVEL LESS THEN 1000 PPM (ADJUSTABLE). WHEN CO2 LEVELS RISE ABOVE 750 PPM (ADJUSTABLE), THE ECONOMIZER SHALL MODULATE OPEN AS NEEDED TO MAINTAIN CO2 LEVELS BETWEEN 750–1000 PPM (ADJUSTABLE). IF THE OUTSIDE AIR DAMPER REACHES ITS 'UPPER MINIMUM' POSITION AND CO2 LEVELS ARE STILL RISING, THE OUTSIDE AIR DAMPER SHALL MAINTAIN THIS 'UPPER MINIMUM' POSITION UNTIL ZONE CO2 LEVELS DROP BELOW 700 PPM (ADJUSTABLE). ONCE CO2 LEVELS HAVE DROPPED BELOW 700 PPM (ADJUSTABLE), THE ECONOMIZER SHALL RETURN TO THE LOWER CFM POSITION AS IN THE AC UNIT SCHEDULE.

AUTOMATIC SHUTOFFS (DUCT SMOKE DETECTORS):
INSTALL DUCT SMOKE DETECTOR IN SUPPLY AIR DUCT FOR AUTOMATIC SHUTDOWN OF HVAC SYSTEM UPON SENSING SMOKE. PROVIDED, POWERED & INTERLOCKED/WIRED TO FIRE ALARM SYSTEM BY DIV. 26/28, INSTALLED & CONNECTED TO AC UNIT BY TCC. REFER TO AC UNIT SCHEDULE ON SHEET M0.2 FOR AC UNITS THAT REQUIRE AUTOMATIC SHUTOFF.

SHELTER IN PLACE OVERRIDE:
UPON ACTIVATION OF "SHELTER IN PLACE" OVERRIDE AT EMS, ECONOMIZER DAMPER SHALL BE CLOSED TO OUTSIDE AIR BUT THE UNIT SHALL REMAIN IN OPERATION.

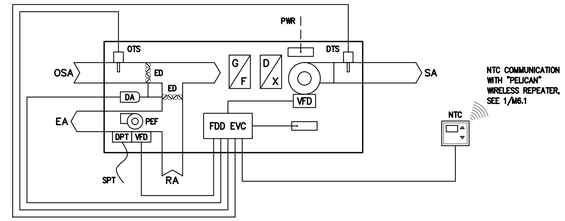
NOTIFICATIONS AND ALERTS:
- THE NETWORK THERMOSTAT WITH INTEGRAL CO2 MONITOR SHALL DISPLAY CO2 READINGS THROUGH A WEB–BASED APPLICATION OR CELLULAR PHONE APPLICATION.
- THE NETWORK THERMOSTAT WITH INTEGRAL CO2 MONITOR SHALL PROVIDE NOTIFICATION WHEN THE CLASSROOM CO2 LEVEL EXCEEDS 1100 PPM VIA A VISUAL INDICATOR ON THE NTC, AN EMAIL, A TEXT, OR CELLULAR PHONE APPLICATION.
- THE NETWORK THERMOSTAT WITH INTEGRAL CO2 MONITOR SHALL MAINTAIN A RECORD OF PREVIOUS MAXIMUM CO2 CONCENTRATION MEASURED.
- THE INTECRAL CO2 MONITOR SHALL HAVE A RANGE OF 400 PPM TO 2000 PPM MINIMUM.
- THE INTEGRAL CO2 MONITOR SHALL BE ACCURATE TO WITHIN 75 PPM MAXIMUM AT 1000 PPM CO2 CONCENTRATION.
- THE INTEGRAL CO2 MONITOR SHALL BE CERTIFIED BY THE MANUFACTURER TO REQUIRE CALIBRATION NO MORE FREQUENTLY THAN ONCE EVERY FIVE YEARS.

SZCAV AC UNIT CONTROL DIAGRAM

4 / M6.1

SCALE : NONE

(SINGLE ZONE CONSTANT AIR VOLUME w/ CO2 DEMAND CONTROL VENTILATION)



SEQUENCE OF OPERATION

GENERAL:
THE NETWORK THERMOSTAT SHALL BE PROGRAMMED AS DIRECTED BY THE DISTRICT FOR OCCUPIED PERIODS, UNOCCUPIED PERIODS, AND HOLIDAYS. THE NETWORK THERMOSTAT SHALL BE CAPABLE OF RECEIVING A UTILITY COMPANY 'AUTOMATED DEMAND RESPONSE' (ADR) SIGNAL, VIA WIRELESS SIGNAL FROM INTERNET CONNECTED WIRELESS GATEWAY. THE AC UNIT SHALL PROVIDE MINIMUM OUTSIDE AIR VENTILATION FOR 1 HOUR PRIOR TO SCHEDULED OCCUPANCY. DURING PERIODS OF OCCUPANCY, OR IF THE NETWORK THERMOSTAT OVERRIDE BUTTON IS PUSHED, THE SUPPLY FAN VFD SHALL BE ENABLED AND STAGED HEATING OR COOLING SHALL BE PROVIDED TO MAINTAIN ROOM TEMPERATURE SETPOINT. TCC SHALL INSTALL IN EACH AC UNIT THE 'FAULT DETECTION & DIAGNOSTICS' (FDD) ECONOMIZER/VENTILATION CONTROLLER AND TEMPERATURE SENSORS. THE POWER EXHAUST FAN VFD SHALL BE ENABLED WHENEVER THE AC UNIT SUPPLY FAN IS RUNNING. THE POWER EXHAUST DIFFERENTIAL PRESSURE TRANSDUCER SHALL AUTOMATICALLY MODULATE THE POWER EXHAUST FAN VFD TO MAINTAIN A SLIGHT POSITIVE PRESSURE IN THE ROOMS SERVED. CONTRACTOR SHALL COMMISSION THE POWER EXHAUST SYSTEM TO MAINTAIN ROOM PRESSURE BETWEEN 0.01" AND 0.03" POSITIVE UNDER ALL OPERATING CONDITIONS. THE OUTSIDE AIR DAMPER SHALL MODULATE FULLY CLOSED WHENEVER THE AC UNIT IS DISABLED.

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HEATING:
ON A CALL FOR HEATING, IF THE OUTSIDE AIR TEMPERATURE IS BELOW THE HEATING LOCKOUT TEMPERATURE SET AT 65 DEG F (ADJUSTABLE), THE ECONOMIZER DAMPERS SHALL MODULATE TO 'LOWER MINIMUM' POSITION, STAGES OF HEATING SHALL BE ENABLED, AND THE SUPPLY FAN VFD SHALL MODULATE AS NEEDED TO MAINTAIN ROOM HEATING SETPOINT. SUPPLY FAN AIRFLOW SHALL NEVER BE LESS THAN 66% OF FULL AIRFLOW.

DEMAND CONTROLLED VENTILATION:
CO2 CONTROL OVER THE ECONOMIZER SHALL ALWAYS TAKE PRECEDENCE OVER HEATING OR COOLING TO MAINTAIN A ZONE CO2 LEVEL LESS THEN 1000 PPM (ADJUSTABLE). WHEN CO2 LEVELS RISE ABOVE 750 PPM (ADJUSTABLE), THE ECONOMIZER SHALL MODULATE OPEN AS NEEDED TO MAINTAIN CO2 LEVELS BETWEEN 750–1000 PPM (ADJUSTABLE). IF THE OUTSIDE AIR DAMPER REACHES ITS 'UPPER MINIMUM' POSITION AND CO2 LEVELS ARE STILL RISING, THE OUTSIDE AIR DAMPER SHALL MAINTAIN THIS 'UPPER MINIMUM' POSITION UNTIL ZONE CO2 LEVELS DROP BELOW 700 PPM (ADJUSTABLE). ONCE CO2 LEVELS HAVE DROPPED BELOW 700 PPM (ADJUSTABLE), THE ECONOMIZER SHALL RETURN TO THE LOWER CFM POSITION AS IN THE AC UNIT SCHEDULE.

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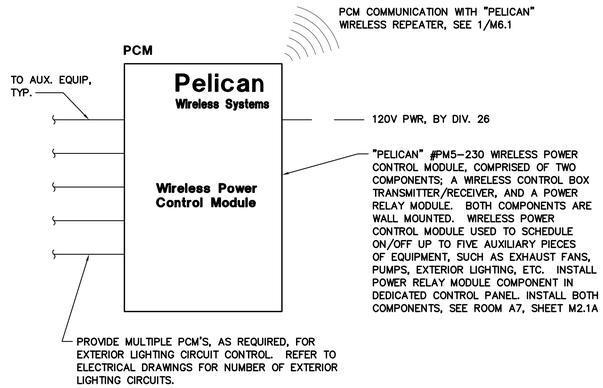
- THE NETWORK THERMOSTAT WITH INTEGRAL CO2 MONITOR SHALL PROVIDE NOTIFICATION WHEN THE CLASSROOM CO2 LEVEL EXCEEDS 1100 PPM VIA A VISUAL INDICATOR ON THE NTC, AN EMAIL, A TEXT, OR CELLULAR PHONE APPLICATION.
- THE NETWORK THERMOSTAT WITH INTEGRAL CO2 MONITOR SHALL MAINTAIN A RECORD OF PREVIOUS MAXIMUM CO2 CONCENTRATION MEASURED.
- THE INTEGRAL CO2 MONITOR SHALL HAVE A RANGE OF 400 PPM TO 2000 PPM MINIMUM.
- THE INTEGRAL CO2 MONITOR SHALL BE ACCURATE TO WITHIN 75 PPM MAXIMUM AT 1000 PPM CO2 CONCENTRATION.
- THE INTEGRAL CO2 MONITOR SHALL BE CERTIFIED BY THE MANUFACTURER TO REQUIRE CALIBRATION NO MORE FREQUENTLY THAN ONCE EVERY FIVE YEARS.

AC UNIT CONTROL DIAGRAM

3 / M6.1

SCALE : NONE

(SINGLE ZONE VARIABLE AIR VOLUME w/ CO2 DEMAND CONTROL VENTILATION)



WIRELESS POWER CONTROL MODULE

2 / M6.1

SCALE : NONE

CONTROLS LEGEND

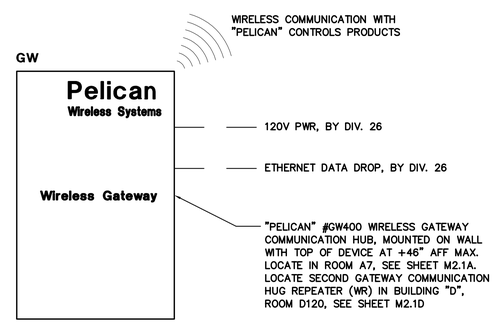
SYMBOL	DESCRIPTION
NT	"PELICAN" #TS200 NETWORK THERMOSTAT WITH OVERRIDE BUTTON
NTC	"PELICAN" #TS250 NETWORK THERMOSTAT WITH INTEGRAL CO2 SENSOR AND OVERRIDE BUTTON
FDD EVC	"PELICAN" PEARL FAULT DETECTION & DIAGNOSTICS ECONOMIZER/VENTILATION CONTROLLER
GW	"PELICAN" #GW400 WIRELESS GATEWAY MODULE
WR	"PELICAN" #WR400 EXTENDED RANGE WIRELESS REPEATER
PCM	"PELICAN" #PM5–230 WIRELESS POWER CONTROL MODULE
DS	"PELICAN" #PRX1 WIRELESS DOOR SENSOR
RT	"PELICAN" #RT1–AC WIRELESS REMOTE THERMOSTAT (TEMPERATURE ONLY MODE)
TAS	"PELICAN" #TA1 TEMPERATURE/ALARM SENSOR (INSTALLED NEXT TO OCCUPANCY SENSOR)
OCS	"LUTRON" #LOS–CDT–500R–WH (OR EQUAL) OCCUPANCY SENSOR
DCV	DEMAND CONTROLLED VENTILATION
ADR	AUTOMATED DEMAND RESPONSE
DTS	DISCHARGE TEMPERATURE SENSOR
OTS	OUTSIDE AIR TEMPERATURE SENSOR
DA	DAMPER ACTUATOR
ED	ECONOMIZER DAMPER
PEF	POWER EXHAUST FAN
VFD	VARIABLE FREQUENCY DRIVE
DPT	POWER EXHAUST DIFFERENTIAL PRESSURE TRANSDUCER
SPT	SPACE STATIC PRESSURE TUBING (INSTALLED BY TCC)
DSD	DUCT SMOKE DETECTOR BY DIV. 26
RIB	RELAY IN BOX
J–BOX	JUNCTION BOX
PWR	POWER WIRING BY DIV. 16
FA/PWR	FIRE ALARM WIRING AND POWER WIRING BY DIV. 16
RA	RETURN AIR
OSA	OUTSIDE AIR
EA	EXHAUST AIR
SA	SUPPLY AIR
TCC	TEMPERATURE CONTROLS CONTRACTOR
EC	ELECTRICAL CONTRACTOR

WIRING BY TEMPERATURE CONTROL CONTRACTOR (TCC)

WIRING BY ELECTRICAL CONTRACTOR (EC)

THESE CONTROL DIAGRAMS ARE DIAGRAMMATIC AND DO NOT DEPICT ALL CONTROL WIRES, RELAYS OR COMPONENTS OF A COMPLETE SYSTEM. IT IS THE RESPONSIBILITY OF THE TEMPERATURE CONTROLS CONTRACTOR TO PROVIDE A COMPLETE AND FUNCTIONAL CONTROL SYSTEM AT NO ADDITIONAL COST TO THE OWNER.

NOTE: ALL CONTROL WIRING SHALL BE RUN IN CONDUIT.



WIRELESS GATEWAY COMMUNICATION

1 / M6.1

SCALE : NONE

capital engineering
Rancho Cordova, California
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212
HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN M. HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL CONTROLS

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 81-M6.1.DWG		
UPDATED 8/26/2022		

SHEET NO.

M6.1

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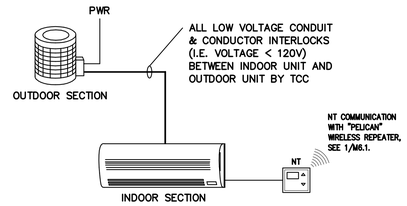
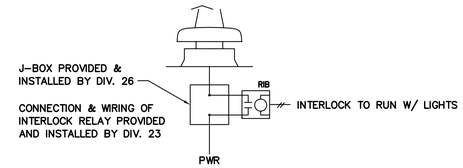
INI	%



SEQUENCE OF OPERATION

GENERAL:
THE TCC SHALL WIRE THE NETWORK THERMOSTAT TO THE HVAC UNIT'S ACCESSORY THIRD PARTY THERMOSTAT INTERFACE BOARD. THE NETWORK THERMOSTAT SHALL BE PROGRAMMED AS DIRECTED BY THE DISTRICT FOR OCCUPIED PERIODS, UNOCCUPIED PERIODS, AND HOLIDAYS. THE NETWORK THERMOSTAT SHALL BE CAPABLE OF RECEIVING A UTILITY COMPANY 'AUTOMATED DEMAND RESPONSE' (ADR) SIGNAL, VIA WIRELESS SIGNAL FROM INTERNET CONNECTED WIRELESS GATEWAY. MINIMUM OUTSIDE AIR VENTILATION SHALL BE PROVIDED FOR 1 HOUR PRIOR TO SCHEDULED OCCUPANCY. DURING PERIODS OF OCCUPANCY, OR IF THE NETWORK THERMOSTAT OVERRIDE BUTTON IS PUSHED, THE SUPPLY FAN SHALL BE ENABLED AND STAGED HEATING OR COOLING SHALL BE PROVIDED TO MAINTAIN ROOM TEMPERATURE SETPOINT.

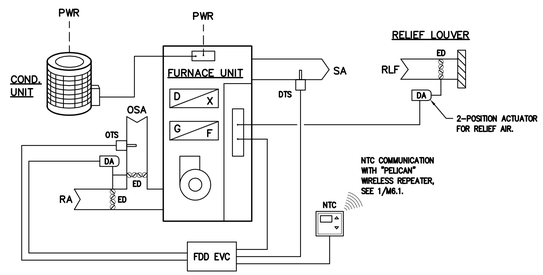


EF INTERLOCK W/ LIGHTS

SFC/SHP CONTROL DIAGRAM

4 / M6.1

SCALE : NONE



SEQUENCE OF OPERATION

GENERAL:
THE NETWORK THERMOSTAT SHALL BE PROGRAMMED AS DIRECTED BY THE DISTRICT FOR OCCUPIED PERIODS, UNOCCUPIED PERIODS, AND HOLIDAYS. THE NETWORK THERMOSTAT SHALL BE CAPABLE OF RECEIVING A UTILITY COMPANY 'AUTOMATED DEMAND RESPONSE' (ADR) SIGNAL, VIA WIRELESS SIGNAL FROM INTERNET CONNECTED WIRELESS GATEWAY. THE FURNACE UNIT SHALL PROVIDE MINIMUM OUTSIDE AIR VENTILATION FOR 1 HOUR PRIOR TO SCHEDULED OCCUPANCY. DURING PERIODS OF OCCUPANCY, OR IF THE NETWORK THERMOSTAT OVERRIDE BUTTON IS PUSHED, THE SUPPLY FAN SHALL BE ENABLED AND STAGED HEATING OR COOLING SHALL BE PROVIDED TO MAINTAIN ROOM TEMPERATURE SETPOINT. TCC SHALL INSTALL IN EACH FURNACE UNIT THE 'FAULT DETECTION & DIAGNOSTICS' (FDD) ECONOMIZER/VENTILATION CONTROLLER AND TEMPERATURE SENSORS. THE OUTSIDE AIR DAMPER AND RELIEF AIR DAMPER SHALL MODULATE FULLY CLOSED WHENEVER THE UNIT IS DISABLED.

COOLING:
ON A CALL FOR COOLING, IF THE OUTSIDE AIR TEMPERATURE IS BELOW THE ECONOMIZER LOCKOUT TEMPERATURE SET AT 75 DEG F (ADJUSTABLE), THE ECONOMIZER DAMPERS SHALL MODULATE AS NEEDED TO OPERATE AS THE FIRST STAGE OF COOLING. ON AN ADDITIONAL CALL FOR COOLING, IF THE OUTSIDE AIR TEMPERATURE IS ABOVE THE COOLING LOCKOUT TEMPERATURE SET AT 60 DEG F (ADJUSTABLE), STAGES OF DX COOLING SHALL BE ENABLED IN CONJUNCTION WITH THE ECONOMIZER TO MAINTAIN ROOM COOLING SETPOINT (INTEGRATED ECONOMIZER OPERATION). IF SETPOINT STILL CANNOT BE MAINTAINED, OR IF THE OUTSIDE AIR TEMPERATURE RISES ABOVE THE ECONOMIZER LOCKOUT TEMPERATURE, THE ECONOMIZER DAMPERS SHALL MODULATE TO MINIMUM POSITION, AND STAGES OF DX COOLING SHALL BE ENABLED TO MAINTAIN ROOM COOLING SETPOINT.

HEATING:
ON A CALL FOR HEATING, IF THE OUTSIDE AIR TEMPERATURE IS BELOW THE HEATING LOCKOUT TEMPERATURE SET AT 65 DEG F (ADJUSTABLE), THE ECONOMIZER DAMPERS SHALL MODULATE TO MINIMUM POSITION, AND STAGES OF HEATING SHALL BE ENABLED TO MAINTAIN ROOM HEATING SETPOINT.

DEMAND CONTROLLED VENTILATION:
CO2 CONTROL OVER THE ECONOMIZER SHALL ALWAYS TAKE PRECEDENCE OVER HEATING OR COOLING TO MAINTAIN A ZONE CO2 LEVEL LESS THEN 1000 PPM (ADJUSTABLE). WHEN CO2 LEVELS RISE ABOVE 750 PPM (ADJUSTABLE), THE ECONOMIZER SHALL MODULATE OPEN AS NEEDED TO MAINTAIN CO2 LEVELS BETWEEN 750–1000 PPM (ADJUSTABLE). IF THE OUTSIDE AIR DAMPER REACHES ITS 'UPPER MINIMUM' POSITION AND CO2 LEVELS ARE STILL RISING, THE OUTSIDE AIR DAMPER SHALL MAINTAIN THIS 'UPPER MINIMUM' POSITION UNTIL ZONE CO2 LEVELS DROP BELOW 700 PPM (ADJUSTABLE). ONCE CO2 LEVELS HAVE DROPPED BELOW 700 PPM (ADJUSTABLE), THE ECONOMIZER SHALL RETURN TO THE LOWER CFM POSITION AS IN THE FURNACE SCHEDULE.

SHELTER IN PLACE OVERRIDE:
UPON ACTIVATION OF "SHELTER IN PLACE" OVERRIDE AT EMS, ECONOMIZER DAMPER SHALL BE CLOSED TO OUTSIDE AIR BUT THE UNIT SHALL REMAIN IN OPERATION.

NOTIFICATIONS AND ALERTS:
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F/CU UNIT CONTROL DIAGRAM W/ DCV

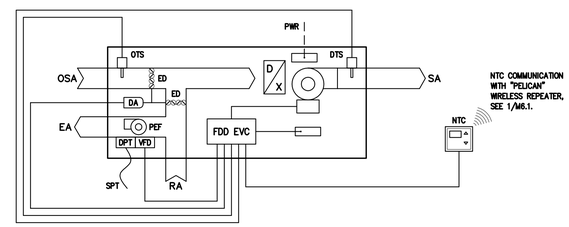
2 / M6.2

SCALE : NONE

REF CONTROL DIAGRAM

3 / M6.2

SCALE : NONE



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- THE INTECRAL CO2 MONITOR SHALL HAVE A RANGE OF 400 PPM TO 2000 PPM MINIMUM.
- THE INTEGRAL CO2 MONITOR SHALL BE ACCURATE TO WITHIN 75 PPM MAXIMUM AT 1000 PPM CO2 CONCENTRATION.
- THE INTEGRAL CO2 MONITOR SHALL BE CERTIFIED BY THE MANUFACTURER TO REQUIRE CALIBRATION NO MORE FREQUENTLY THAN ONCE EVERY FIVE YEARS.

HEAT PUMP UNIT CONTROL W/ DCV

1 / M6.2

SCALE : NONE

capital engineering
Rancho Cordova, California
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212
HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN C. HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL CONTROLS

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUFAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 81-M6.2.DWG		
UPDATED 8/26/2022		

SHEET NO.

M6.2

15 OF XX SHEETS

QC	
INI	%

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.			
Project Name:	Lodi MS-2022 HVAC Modernization	Report Page:	(Page 1 of 83)
Project Address:	945 S Ham Lane	Date Prepared:	7/5/2022

A. GENERAL INFORMATION

01	Project Location (city)	Lodi	04	Total Conditioned Floor Area	44439
02	Climate Zone	12	05	Total Unconditioned Floor Area	119
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1
☒ Office (B)		☐ Retail (M)	☐ Non-refrigerated Warehouse (S)		
☐ Hotel/ Motel Guest Rooms (R-1)		☐ School (E)	☐ Healthcare Facility (I)		
☐ High-Rise Residential (R-2/R-3)		☐ Relocatable Class Bldg (E)	☒ Other (write in)		See Table J

B. PROJECT SCOPE

This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
☒ Heating Air System	☐ Water Economizer	☒ Air Economizer
☒ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
Mechanical Controls	☐ System Piping	☒ Fan Systems
☒ Mechanical Controls (existing to remain, altered or new)	☐ Cooling Towers	☒ Ductwork (existing to remain, altered or new)
	☐ Chillers	☒ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

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C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08	09
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers §140.4(c), §140.4(e)	AND	System Controls §110.2, §120.2, §140.4(f)	AND	Ventilation §120.1	AND	Terminal Box Controls §140.4(d)	AND	Distribution §120.3, §140.4(l)	AND	Cooling Towers §110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES
Mandatory Measures Compliance (See Table Q for Details)										COMPLIES					

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(k) or §141.0(b)2 for alterations.

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
				Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b)						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Smallest Size Available[1] §140.4(a)	Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
AC-1	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	Yes	600	600	0	528.88	450	355.69	517.31
AC-2	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	Yes	180	180	0	162.14	135	64.22	140.74
SAC-A1	Unitary Heat Pumps	Air-cooled, split (1phase)	Yes	33.27	38	8.23	30.16	26.28	34	50.7
CU-B1/F-B1	Unitary AC/ Condensers	AC, air cooled, split (3 phase)	Yes	117	117	0	48.53	50.3	93.34	111.42
CU-B2/F-B2	Unitary AC/ Condensers	AC, air cooled, split (3 phase)	Yes	117	117	0	48	50.3	71.31	86.33
CU-B3/F-B3	Unitary AC/ Condensers	AC, air cooled, split (3 phase)	Yes	117	117	0	47.23	50.3	19.77	41.58
CU-B4/F-B4	Unitary AC/ Condensers	AC, air cooled, split (3 phase)	Yes	117	117	0	46.78	50.3	9.33	23.02
HP-C1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	41.95	36	49.19	59
HP-C2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	42.5	36	18.77	32.26	27	36.56	46.73
HP-C3	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	41.9	36	51.12	62.79
HP-C4	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	42.49	36	49.19	64.99
HP-C5	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	42.18	36	35.56	54.92
HP-C6	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	50.4	48	18.77	41.87	36	49.19	60.94
HP-D1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	41.85	36	49.35	55.16
HP-D2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	42.34	36	49.67	61.8
HP-D3	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	42.23	36	35.92	55.86

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
HP-D4	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	42.5	36	18.77	32.24	27	36.59	46.74
HP-D5	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	42.5	36	18.77	32.23	27	36.56	46.7
HP-D8	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	58.31	60	18.77	51.77	45	59.2	72.12
HP-D6	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	42.24	36	37.07	56.62
HP-D7	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	41.83	36	40.5	54.07
HP-D9	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	41.88	36	39.87	55.54
HP-D10	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	41.95	36	49.37	59.23
HP-D11	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	42.5	36	18.77	32.26	27	36.74	46.96
HP-D12	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	42.2	36	35.77	55.66
HP-D13	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	42.2	36	35.77	55.66
HP-D14	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	42.5	36	18.77	32.27	27	37.92	47.59
HP-D15	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	42.5	36	18.77	30.36	27	22.43	38.41
HP-E1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	58.31	60	18.77	52.78	45	60.37	79.7
HP-E2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	58.31	60	18.77	52.84	45	60.37	74.2
HP-E3	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	42.5	36	18.77	30.01	27	16.07	29.9
HP-E4	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	58.31	60	18.77	52.8	45	60.37	80.56
HP-E5	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	58.31	60	18.77	52.71	45	60.37	76.14
HP-F1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	66.22	72	18.77	63.02	54	88.66	103.98
HP-F3	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	58.31	60	18.77	51.6	45	54.44	68.51
HP-F2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	66.22	72	18.77	62.59	54	72.5	94.45
HP-F4	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	43.49	36	52.06	65.85
HP-F5	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	43.33	36	52.06	68.1
HP-F6	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	58.31	60	18.77	51.74	45	63.29	75.08
HP-F7	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	42.5	36	18.77	32.99	27	42.85	54.91
HP-F8	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	50.4	48	18.77	42.32	36	40.16	58.04
SAC-F1	Unitary Heat Pumps	Air-cooled, split (1phase)	Yes	17.3	19	4.78	16.43	13.86	27.05	29.88

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11

[1]*FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a). Healthcare facilities are excepted.*

[2]*It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.*

[3] *If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.*

[4] *Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(h).*

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
		Heating Mode				Cooling Mode		
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
AC-1	>=240,000		Ec	0.80	0.81	EER IEER	9.8 11.4	9.8 14.2
AC-2	>=135,000 and <240,000		AFUE	0.80	0.81	EER IEER	10.8 12.2	11.5 13
SAC-A1	<65,000		HSPF	8.2	10.2	SEER	14.0	18.5
CU-B1/F-B1	<65,000		AFUE	0.80	0.95	SEER	13.0	14
CU-B2/F-B2	<65,000		AFUE	0.80	0.95	SEER	13.0	14
CU-B3/F-B3	<65,000		AFUE	0.80	0.95	SEER	13.0	14
CU-B4/F-B4	<65,000		AFUE	0.80	0.95	SEER	13.0	14
HP-C1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-C2	<65,000		HSPF	7.7	8.3	SEER	13.0	14
HP-C3	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-C4	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-C5	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
		Heating Mode				Cooling Mode		
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
HP-C6	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D3	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D4	<65,000		HSPF	7.7	8.3	SEER	13.0	14
HP-D5	<65,000		HSPF	7.7	8.3	SEER	13.0	14
HP-D8	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D6	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D7	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D9	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D10	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D11	<65,000		HSPF	7.7	8.3	SEER	13.0	14
HP-D12	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D13	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-D14	<65,000		HSPF	7.7	8.3	SEER	13.0	14
HP-D15	<65,000		HSPF	7.7	8.3	SEER	13.0	14
HP-E1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-E2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-E3	<65,000		HSPF	7.7	8.3	SEER	13.0	14
HP-E4	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
		Heating Mode				Cooling Mode		
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
HP-E5	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-F1	>=65,000 and <135,000		COP	3.3	3.7	EER IEER	11 12.2	12.2 12.9
HP-F3	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-F2	>=65,000 and <135,000		COP	3.3	3.7	EER IEER	11 12.2	12.2 12.9
HP-F4	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-F5	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-F6	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-F7	<65,000		HSPF	7.7	8.3	SEER	13.0	14
HP-F8	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
SAC-F1	<65,000		HSPF	8.2	10.2	SEER	14.0	19.8

G. PUMPS

This section does not apply to this project.

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H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name:	AC-1	Economizer:[1]	Differential Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	19000	BHP	20.1	Fully ducted return/ exhaust	19000
						Calculated Adjustment (in H_2O)	
Total System Design Supply Airflow (CFM):			19000	Total System Design (B)HP:	20.1	Maximum System Fan Power (B)HP:	20.16

System Name:	AC-2	Economizer:[1]	Differential Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	6000	BHP	4.9	N/A	N/A
EF	Exhaust	1	0	BHP	0.5	N/A	N/A
Total System Design Supply Airflow (CFM):			6000	Total System Design (B)HP:	5.4	Maximum System Fan Power (B)HP:	5.64

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	SAC-A1	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	610	BHP	0.03	N/A	N/A
Total System Design Supply Airflow (CFM):			610	Total System Design (B)HP:	0.03	Maximum System Fan Power (B)HP:	

System Name:	CU-B1/F-B1	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1550	BHP	1	N/A	N/A
Total System Design Supply Airflow (CFM):			1550	Total System Design (B)HP:	1	Maximum System Fan Power (B)HP:	

System Name:	CU-B2/F-B2	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1550	BHP	1	N/A	N/A
Total System Design Supply Airflow (CFM):			1550	Total System Design (B)HP:	1	Maximum System Fan Power (B)HP:	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	CU-B3/F-B3	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1550	BHP	1	N/A	N/A
Total System Design Supply Airflow (CFM):			1550	Total System Design (B)HP:	1	Maximum System Fan Power (B)HP:	

System Name:	CU-B4/F-B4	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1550	BHP	1	N/A	N/A
Total System Design Supply Airflow (CFM):			1550	Total System Design (B)HP:	1	Maximum System Fan Power (B)HP:	

System Name:	HP-C1	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7	N/A	N/A
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7	Maximum System Fan Power (B)HP:	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-C2	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.46	N/A	N/A
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:	0.46	Maximum System Fan Power (B)HP:	

System Name:	HP-C3	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7	N/A	N/A
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7	Maximum System Fan Power (B)HP:	

System Name:	HP-C4	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7	N/A	N/A
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7	Maximum System Fan Power (B)HP:	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-C5	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7	N/A	N/A
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7	Maximum System Fan Power (B)HP:	

System Name:	HP-C6	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7	N/A	N/A
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7	Maximum System Fan Power (B)HP:	

System Name:	HP-D1	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
						Fan Power Pressure Drop Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7	N/A	N/A
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7	Maximum System Fan Power (B)HP:	

capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

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DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN L. HENRY
C-22525
12/31/23 RENEWAL DATE
STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL
TITLE 24 COMPLIANCE
DOCUMENTS

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. DUVAL
M 22836
EXPIRES 9/30/22
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 91-M7.1.DWG		
UPDATED 8/26/2022		

SHEET NO.
M7.1
15 OF XX SHEETS

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-D2	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7			
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7		**Maximum System Fan Power (B)HP:**	

System Name:	HP-D3	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7			
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7		**Maximum System Fan Power (B)HP:**	

System Name:	HP-D4	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.46			
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:	0.46		**Maximum System Fan Power (B)HP:**	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-D5	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.46			
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:	0.46		**Maximum System Fan Power (B)HP:**	

System Name:	HP-D6	**Economizer:**[1]	Differential Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	0.93			
RF	Return	1	0	BHP	0			
Total System Design Supply Airflow (CFM):			2000	Total System Design (B)HP:	0.93		**Maximum System Fan Power (B)HP:**	

System Name:	HP-D7	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7			
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7		**Maximum System Fan Power (B)HP:**	

System Name:	HP-D9	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7			
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7		**Maximum System Fan Power (B)HP:**	

System Name:	HP-D10	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7			
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7		**Maximum System Fan Power (B)HP:**	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-D11	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.46			
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:	0.46		**Maximum System Fan Power (B)HP:**	

System Name:	HP-D12	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7			
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7		**Maximum System Fan Power (B)HP:**	

System Name:	HP-D13	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7			
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7		**Maximum System Fan Power (B)HP:**	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-D14	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.46			
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:	0.46		**Maximum System Fan Power (B)HP:**	

System Name:	HP-D15	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.46			
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:	0.46		**Maximum System Fan Power (B)HP:**	

System Name:	HP-E1	**Economizer:**[1]	Differential Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (L-H)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	0.93			
RF	Return	1	0	BHP	0			
Total System Design Supply Airflow (CFM):			2000	Total System Design (B)HP:	0.93		**Maximum System Fan Power (B)HP:**	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-E2	**Economizer:**[1]	Differential Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	0.93			
RF	Return	1	0	BHP	0			
Total System Design Supply Airflow (CFM):			2000	Total System Design (B)HP:	0.93		**Maximum System Fan Power (B)HP:**	

System Name:	HP-E3	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.46			
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:	0.46		**Maximum System Fan Power (B)HP:**	

System Name:	HP-E4	**Economizer:**[1]	Differential Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	0.93			
RF	Return	1	0	BHP	0			
Total System Design Supply Airflow (CFM):			2000	Total System Design (B)HP:	0.93		**Maximum System Fan Power (B)HP:**	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-E5	**Economizer:**[1]	Differential Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	0.93			
RF	Return	1	0	BHP	0			
Total System Design Supply Airflow (CFM):			2000	Total System Design (B)HP:	0.93		**Maximum System Fan Power (B)HP:**	

System Name:	HP-F1	**Economizer:**[1]	Differential Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	2400	BHP	0.99			
RF	Return	1	0	BHP	0			
Total System Design Supply Airflow (CFM):			2400	Total System Design (B)HP:	0.99		**Maximum System Fan Power (B)HP:**	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-F3	**Economizer:**[1]	Differential Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	0.93			
RF	Return	1	0	BHP	0			
Total System Design Supply Airflow (CFM):			2000	Total System Design (B)HP:	0.93		**Maximum System Fan Power (B)HP:**	

System Name:	HP-F2	**Economizer:**[1]	Differential Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	2400	BHP	0.99			
RF	Return	1	0	BHP	0			
Total System Design Supply Airflow (CFM):			2400	Total System Design (B)HP:	0.99		**Maximum System Fan Power (B)HP:**	

System Name:	HP-F4	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7			
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7		**Maximum System Fan Power (B)HP:**	

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Project Name:	Lodi MS-2022 HVAC Modernization	**Report Page:**	**(Page 21 of 83)**
Project Address:	945 S Ham Lane	**Date Prepared:**	7/5/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-F5	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7			
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7		**Maximum System Fan Power (B)HP:**	

System Name:	HP-F6	**Economizer:**[1]	Differential Temperature	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	0.93			
RF	Return	1	0	BHP	0			
Total System Design Supply Airflow (CFM):			2000	Total System Design (B)HP:	0.93		**Maximum System Fan Power (B)HP:**	

System Name:	HP-F7	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.46			
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:	0.46		**Maximum System Fan Power (B)HP:**	

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	HP-F8	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.7			
Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:	0.7		**Maximum System Fan Power (B)HP:**	

System Name:	SAC-F1	**Economizer:**[1]	NA: <=54 kBtu/h cooling	**Economizer Controls:**	Designed per §140.4(e) and (m)		**System Fan Type:**	Constant Volume
01	02	03	04	05	06		07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP		Fan Power Pressure Drop Adjustment - Table 140.4-B	
							Device	Design Airflow through Device (CFM)
SF	Supply	1	500	BHP	0.03			
Total System Design Supply Airflow (CFM):			500	Total System Design (B)HP:	0.03		**Maximum System Fan Power (B)HP:**	

[1] *FOOTNOTES: Computer room economizers must meet requirements of §140.9(a) and will be documented on the NRCC-PRC-E document.*

[2] *The unit used for HP must be consistent for all fans within a system.*

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I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)2E for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats §110.2(b) & (c)/ §120.2(a)or §141.0(b)2E	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(g)	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(n)
AC-1	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
AC-2	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
SAC-A1	Single zone	<= 25,000 ft²	Setback	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
CU-B1/F-B1	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
CU-B2/F-B2	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
CU-B3/F-B3	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
CU-B4/F-B4	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-C1	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-C2	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-C3	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-C4	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project

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HP-C5	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-C6	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D1	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D2	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D3	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D4	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D5	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D8	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D6	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D7	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D9	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D10	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D11	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D12	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project

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capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN L. HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL
TITLE 24 COMPLIANCE
DOCUMENTS

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUNCK — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 91-M7.2.DWG		
UPDATED 8/26/2022		

SHEET NO.

M7.2

15 OF XX SHEETS

QC	
INI	%

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I. SYSTEM CONTROLS

HP-D13	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D14	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-D15	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-E1	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-E2	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-E3	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-E4	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-E5	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-F1	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-F3	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-F2	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-F4	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-F5	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-F6	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project

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I. SYSTEM CONTROLS

HP-F7	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
HP-F8	Single zone	<= 25,000 ft²	EMCS	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project
SAC-F1	Single zone	<= 25,000 ft²	Setback	EMCS	NA: Serves < 25k ft²	EMCS	NA: Alteration	NA: Alteration Project

FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

*Notes: Controls with a * require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d) ; EXCEPTION 1 to §140.4(f)

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in §120.1 and §120.2(a)1@ for all nonresidential, high-rise residential and hotel/motel occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☑	Check this box if the project included Nonresidential or Hotel/Motel spaces
	☐	Check this box if the project included new or altered high-rise residential dwelling units.
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per §120.1(c)2.

Nonresidential and Hotel/ Motel Ventilation Systems

04		05			06		07
System Name	AC-1	System Design OA CFM Airflow[1]	2832	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	
A12 Office	Office space	50			7.5	0	0	

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A1 Multipurpose	Assembly- multiuse	3950		19/5	0	0	DCV	Provided per §120.1(d)4
							Occ Sensor	NA: Not required space type
A2 Music Platform	Assembly- multiuse	1572		786	0	0	DCV	Provided per §120.1(d)4
							Occ Sensor	NA: Not required space type
A4 Equipment Storage	Corridor	166		24.9	0	0	DCV	NA: Not required per §120.1(d)3
							Occ Sensor	NA: Not required space type
A3 Platform Storage	Corridor	308		46.2	0	0	DCV	NA: Not required per §120.1(d)3
							Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM			2832	18	Ventilation for this System Complies?		Yes
04		05			06		07	
System Name	AC-2	System Design OA CFM Airflow[1]	988	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	16
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	
A14 Food Storage	Corridor	239		35.8	0	0	DCV	NA: Not required per §120.1(d)3
							Occ Sensor	NA: Not required space type
A10 Toilet	Toilet, public	18		0	0	0	DCV	NA: Not required per §120.1(d)3
							Occ Sensor	NA: Not required space type
A11 Locker Rm	Toilet, public	87		0	0	0	DCV	NA: Not required per §120.1(d)3
							Occ Sensor	NA: Not required space type
A8 Kitchen	Kitchen (cooking)	1349		202.4	944.3	945	DCV	NA: Not required per §120.1(d)3
							Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM			246	18	Ventilation for this System Complies?		Yes
04		05			06		07	
System Name	SAC-A1	System Design OA CFM Airflow[1]	98	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	16
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	
A7 Teachers' Dining Room	Kitchen (cooking)	656		98.4	459.2	0	DCV	NA: Not required per §120.1(d)3
							Occ Sensor	NA: Not required space type

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17	Total System Required Min OA CFM				98	18	Ventilation for this System Complies?		Yes
04		05			06		07		
System Name	CU-B1/F-B1	System Design OA CFM Airflow[1]	385	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
B118 Office	Office space	140			21	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
B117 Office	Office space	143			21.4	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
B114 Counsel	Office space	81			12.2	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
B115 Guide	Office space	81			12.2	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
B112 Hall	Corridor	127			19	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type

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B116 Admin	Office space	686			102.9	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
B113 Health	Office space	421			63.2	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
B107 Conference	Conference/ meeting	266			133	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				385	18	Ventilation for this System Complies?		Yes
04		05			06		07		
System Name	CU-B2/F-B2	System Design OA CFM Airflow[1]	255	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
B104 Library	Library - reading room/ stacks	1555			233.2	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
B101 Office	Office space	70			10.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type

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J. VENTILATION AND INDOOR AIR QUALITY

B102 Office	Office space	74			11.1	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				255	18	Ventilation for this System Complies?		Yes
04		05			06		07		
System Name	CU-B3/F-B3	System Design OA CFM Airflow[1]	175	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
B111 Work Room	Office space	156			23.4	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
B103 Work	Office space	333			49.9	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
B106 Conference	Conference/ meeting	204			102	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				175	18	Ventilation for this System Complies?		Yes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Lodi MS-2022 HVAC Modernization	Report Page:	(Page 32 of 83)
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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07		
System Name	CU-B4/F-B4	System Design OA CFM Airflow[1]	46	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
B105 Books	Corridor	307			46	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				46	18	Ventilation for this System Complies?		Yes
04		05			06		07		
System Name	HP-C1	System Design OA CFM Airflow[1]	315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
C101 Classroom	Lecture/ postsecondary classroom	828			314.6	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07		
System Name	HP-C2	System Design OA CFM Airflow[1]	315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
C102 Classroom	Lecture/ postsecondary classroom	829			315	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes
04		05			06		07		
System Name	HP-C3	System Design OA CFM Airflow[1]	315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
C103 Classroom	Lecture/ postsecondary classroom	828			314.6	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes

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STATE OF CALIFORNIA
Mechanical Systems
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CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07		
System Name	HP-C4	System Design OA CFM Airflow[1]	315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
C104 Classroom	Lecture/ postsecondary classroom	828			314.6	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes
04		05			06		07		
System Name	HP-C5	System Design OA CFM Airflow[1]	315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
C105 Classroom	Lecture/ postsecondary classroom	829			315	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes

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STATE OF CALIFORNIA
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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07		
System Name	HP-C6	System Design OA CFM Airflow[1]	315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
C106 Classroom	Lecture/ postsecondary classroom	828			314.6	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes
04		05			06		07		
System Name	HP-D1	System Design OA CFM Airflow[1]	313	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D101 Classroom	Lecture/ postsecondary classroom	823			312.7	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				313	18	Ventilation for this System Complies?		Yes

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STATE OF CALIFORNIA
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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07		
System Name	HP-D2	System Design OA CFM Airflow[1]	317	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D102 Classroom	Lecture/ postsecondary classroom	834			316.9	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				317	18	Ventilation for this System Complies?		Yes
04		05			06		07		
System Name	HP-D3	System Design OA CFM Airflow[1]	317	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [4]	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D103 Classroom	Lecture/ postsecondary classroom	835			317.3	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				317	18	Ventilation for this System Complies?		Yes

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capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212
HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERNIZATION LODI MIDDLE SCHOOL (INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL TITLE 24 COMPLIANCE DOCUMENTS

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUVAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 91-M7.3.DWG		
UPDATED 8/26/2022		

SHEET NO.

M7.3

15 OF XX SHEETS

QC	
INI	%

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06			07	
System Name	HP-D4	System Design OA CFM Airflow[1]		313	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D104 Classroom	Lecture/ postsecondary classroom	824			313.1	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				313	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-D5	System Design OA CFM Airflow[1]		313	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D105 Classroom	Lecture/ postsecondary classroom	823			312.7	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				313	18	Ventilation for this System Complies?		Yes

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Mechanical Systems
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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06			07	
System Name	HP-D8	System Design OA CFM Airflow[1]		321	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D112 Classroom	Lecture/ postsecondary classroom	846			321.5	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				321	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-D6	System Design OA CFM Airflow[1]		317	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D106 Classroom	Lecture/ postsecondary classroom	834			316.9	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				317	18	Ventilation for this System Complies?		Yes

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft

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STATE OF CALIFORNIA
Mechanical Systems
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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06			07	
System Name	HP-D7	System Design OA CFM Airflow[1]		313	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D111 Classroom	Lecture/ postsecondary classroom	824			313.1	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				313	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-D9	System Design OA CFM Airflow[1]		315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D113 Classroom	Lecture/ postsecondary classroom	829			315	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes

Registration Number: — Registration Date/Time: — Registration Provider: Energysoft

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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06			07	
System Name	HP-D10	System Design OA CFM Airflow[1]		315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D114 Classroom	Lecture/ postsecondary classroom	828			314.6	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-D11	System Design OA CFM Airflow[1]		315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D115 Classroom	Lecture/ postsecondary classroom	829			315	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes

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STATE OF CALIFORNIA
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04		05			06			07	
System Name	HP-D12	System Design OA CFM Airflow[1]		315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D116 Classroom	Lecture/ postsecondary classroom	830			315.4	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-D13	System Design OA CFM Airflow[1]		315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D117 Classroom	Lecture/ postsecondary classroom	830			315.4	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes

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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06			07	
System Name	HP-D14	System Design OA CFM Airflow[1]		315	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D118 Classroom	Lecture/ postsecondary classroom	829			315	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				315	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-D15	System Design OA CFM Airflow[1]		92	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
D123 Nurse	Office space	75			11.2	0	0	DCV	Provided per §120.1(d)3
								Occ Sensor	NA: Not required space type

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D124 Teachers Work Rm	Office space	541			81.1	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				92	16	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-E1	System Design OA CFM Airflow[1]		421	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
E101 Science Classroom	Lecture/ postsecondary classroom	1109			421.4	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				421	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-E2	System Design OA CFM Airflow[1]		421	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
E102 Science Classroom	Lecture/ postsecondary classroom	1111			422.2	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
F105 Stor	Corridor	123			18.4	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
F106 Stor	Corridor	78			11.7	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				452	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-F4	System Design OA CFM Airflow[1]		442	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
F108 Classroom	Lecture/ postsecondary classroom	1163			441.9	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type

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F107 Science Classroom	Lecture/ postsecondary classroom	1109			421.4	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				421	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-E3	System Design OA CFM Airflow[1]		103	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
E104 Teachers Work Rm	Office space	686			102.9	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				103	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-E4	System Design OA CFM Airflow[1]		421	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
F109 Classroom	Lecture/ postsecondary classroom	1163			441.9	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				442	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-E5	System Design OA CFM Airflow[1]		421	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
E106 Science Classroom	Lecture/ postsecondary classroom	1109			421.4	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				421	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-F1	System Design OA CFM Airflow[1]		471	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		

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F105 Science Classroom	Lecture/ postsecondary classroom	1109			421.4	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				421	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-E5	System Design OA CFM Airflow[1]		421	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
E106 Science Classroom	Lecture/ postsecondary classroom	1109			421.4	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				421	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-F1	System Design OA CFM Airflow[1]		471	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		

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F101 Science Classroom	Lecture/ postsecondary classroom	1110			421.8	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
F103 Teachers Work Rm	Office space	327			49	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				471	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-F3	System Design OA CFM Airflow[1]		322	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	
Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3[5]	
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[2]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
F107 Classroom	Lecture/ postsecondary classroom	847			321.9	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				322	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	HP-F2	System Design OA CFM Airflow[1]		452	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2[7]	Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16	

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capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
22208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212
HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN C. HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL
TITLE 24 COMPLIANCE
DOCUMENTS

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUNKAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 91-M7.4.DWG		
UPDATED 8/26/2022		

SHEET NO.

M7.4

15 OF XX SHEETS

QC	
INI	%

STATE OF CALIFORNIA
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08	09	10	11	12	13	14	15	16	
04		05			06			07	
System Name	HP-F7	System Design OA CFM Airflow[1]		363	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2]; Provided per §120.1(c) (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4		DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
F113 Classroom	Lecture/ postsecondary classroom	913			346.9	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
F111 Teachers Work Rm	Office space	104			15.6	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				363	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	HP-F8	System Design OA CFM Airflow[1]		363	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2]; Provided per §120.1(c) (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4		DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		

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08	09	10	11	12	13	14	15	16	
F114 Classroom	Lecture/ postsecondary classroom	913			346.9	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
F112 Teachers Work Rm	Office space	104			15.6	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				363	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	SAC-F1	System Design OA CFM Airflow[1]		136	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2]; Provided per §120.1(c) (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	16	
Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4		DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
F121 Conference	Conference/ meeting	271			135.5	0	0	DCV	Provided per §120.1(d)4
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				136	18	Ventilation for this System Complies?		Yes

[1] FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system

[2] Air filtration requirements apply to the following three system types per §120.1(c)1A : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

[3] Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

[4] See Standards Tables 120.1-A and 120.1-B.

[5] For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.

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J. VENTILATION AND INDOOR AIR QUALITY

[6] §120.2(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft^2 or smaller, multipurpose rooms less than 1,000 ft^2, classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in §120.3 and prescriptive requirements found in §140.4(l) for duct leakage testing.

Duct Leakage Sealing

The answers to the questions below apply to the following duct systems:	AC-1	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	No	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	AC-2	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:	SAC-A1	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	CU-B1/F-B1	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:	CU-B2/F-B2	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	CU-B3/F-B3	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:	CU-B4/F-B4	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	HP-C1	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:	HP-C2	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	HP-C3	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:	HP-C4	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	HP-C5	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:	HP-C6	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	HP-D1	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:	HP-D2	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	HP-D3	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:	HP-D4	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	

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L. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems:	HP-D5	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	
The answers to the questions below apply to the following duct systems:	HP-D8	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:	
	☐	Outdoors	
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces	
	☐	In an unconditioned crawl space	
	☐	In other unconditioned spaces	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code	

capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212
HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT STEPHEN L. HENRY C-22525 12/31/23 RENEWAL DATE STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)

CONSTRUCTION DOCUMENTS PHASE

MECHANICAL
TITLE 24 COMPLIANCE
DOCUMENTS

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER THOMAS A. DUVAL M 22836 EXPIRES 9/30/22 MECHANICAL STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 91-M7.5.DWG		
UPDATED 8/26/2022		

SHEET NO.

M7.5

15 OF XX SHEETS

QC	
INI	%

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Lodi MS-2022 HVAC Modernization	Report Page: (Page 61 of 83)
Project Address:	945 S Ham Lane	Date Prepared: 7/5/2022

I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-D6 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Lodi MS-2022 HVAC Modernization	Report Page: (Page 62 of 83)
Project Address:	945 S Ham Lane	Date Prepared: 7/5/2022

I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-D9 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Lodi MS-2022 HVAC Modernization	Report Page: (Page 63 of 83)
Project Address:	945 S Ham Lane	Date Prepared: 7/5/2022

I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-D11 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
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I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-D13 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
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I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-D15 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
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Project Address:	945 S Ham Lane	Date Prepared: 7/5/2022

I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-E2 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

The answers to the questions below apply to the following duct systems: HP-E3 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

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STATE OF CALIFORNIA
Mechanical Systems
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I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-E4 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

The answers to the questions below apply to the following duct systems: HP-E5 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Lodi MS-2022 HVAC Modernization	Report Page: (Page 68 of 83)
Project Address:	945 S Ham Lane	Date Prepared: 7/5/2022

I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-F1 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

The answers to the questions below apply to the following duct systems: HP-F3 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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STATE OF CALIFORNIA
Mechanical Systems
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CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
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I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-F2 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

The answers to the questions below apply to the following duct systems: HP-F4 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Lodi MS-2022 HVAC Modernization	Report Page: (Page 70 of 83)
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I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-F5 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

The answers to the questions below apply to the following duct systems: HP-F6 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

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STATE OF CALIFORNIA
Mechanical Systems
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I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: HP-F7 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

The answers to the questions below apply to the following duct systems: HP-F8 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

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STATE OF CALIFORNIA
Mechanical Systems
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CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
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Project Address:	945 S Ham Lane	Date Prepared: 7/5/2022

I. DISTRIBUTION (DUCTWORK and PIPING)

The answers to the questions below apply to the following duct systems: SAC-F1 | Duct leakage testing triggered for these systems? No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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Form/Title	Field Inspector	
	Pass	Fail
NRCI-MCH-01-E - Must be submitted for all buildings	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN C. HENRY — C-22525 — 12/31/23 RENEWAL DATE — STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL
TITLE 24 COMPLIANCE
DOCUMENTS

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUNN — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA
DATE SIGNED: 07/05/22

PROJECT NO. 22-32-057	REVISIONS	BY
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 91-M7.6.DWG		
UPDATED 8/26/2022		

SHEET NO.

M7.6

QC	
INI	%

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Lodi MS-2022 HVAC Modernization	**Report Page:**	**(Page 73 of 83)**
Project Address:	945 S Ham Lane	**Date Prepared:**	7/5/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
	AC-A1; AC-A2; SAC-A1; Carrier Split-5 ton; Carrier Split-5 ton; Carrier Split-5 ton; Carrier Split-5 ton; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-6 ton HVAC; Carrier-5 ton HVAC; Carrier-6 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-5 ton HVAC; Carrier-3	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Lodi MS-2022 HVAC Modernization	**Report Page:**	**(Page 74 of 83)**
Project Address:	945 S Ham Lane	**Date Prepared:**	7/5/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	ton HVAC; Carrier-4 ton HVAC; SAC-F1;		

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Lodi MS-2022 HVAC Modernization	**Report Page:**	**(Page 75 of 83)**
Project Address:	945 S Ham Lane	**Date Prepared:**	7/5/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
	AC-A1; AC-A2; SAC-A1; Carrier Split-5 ton; Carrier Split-5 ton; Carrier Split-5 ton; Carrier Split-5 ton; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-6 ton HVAC; Carrier-5 ton HVAC; Carrier-6 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-5 ton HVAC; Carrier-3	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Lodi MS-2022 HVAC Modernization	**Report Page:**	**(Page 76 of 83)**
Project Address:	945 S Ham Lane	**Date Prepared:**	7/5/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to 'Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".	ton HVAC; Carrier-4 ton HVAC; SAC-F1;		
NRCA-MCH-05-A - Air Economizer Controls	AC-A1; AC-A2; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-6 ton HVAC; Carrier-5 ton HVAC; Carrier-6 ton HVAC; Carrier-5 ton HVAC; Carrier-6 ton HVAC; Carrier-4 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC;	☐	☐

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Lodi MS-2022 HVAC Modernization	**Report Page:**	**(Page 77 of 83)**
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O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.	AC-A1; Carrier Split-5 ton; Carrier Split-5 ton; Carrier Split-5 ton; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-6 ton HVAC; Carrier-5 ton HVAC; Carrier-6 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-5 ton HVAC; Carrier-3	☐	☐

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
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Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
	AC-A1; AC-A2; SAC-A1; Carrier Split-5 ton; Carrier Split-5 ton; Carrier Split-5 ton; Carrier Split-5 ton; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-6 ton HVAC; Carrier-5 ton HVAC; Carrier-6 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-5 ton HVAC; Carrier-3	☐	☐

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Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
NRCA-MCH-11-A Automatic Demand Shed Controls	ton HVAC; Carrier-4 ton HVAC; SAC-F1;		

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Lodi MS-2022 HVAC Modernization	**Report Page:**	**(Page 80 of 83)**
Project Address:	945 S Ham Lane	**Date Prepared:**	7/5/2022

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Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	AC-A1; AC-A2; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-6 ton HVAC; Carrier-6 ton HVAC; Carrier-5 ton HVAC;	☐	☐

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Lodi MS-2022 HVAC Modernization	**Report Page:**	**(Page 81 of 83)**
Project Address:	945 S Ham Lane	**Date Prepared:**	7/5/2022

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Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
	AC-A1; AC-A2; SAC-A1; Carrier Split-5 ton; Carrier Split-5 ton; Carrier Split-5 ton; Carrier Split-5 ton; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-4 ton HVAC; Carrier-3 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-3 ton HVAC; Carrier-5 ton HVAC; Carrier-5 ton HVAC; Carrier-4 ton HVAC; Carrier-6 ton HVAC; Carrier-5 ton HVAC; Carrier-6 ton HVAC; Carrier-4 ton HVAC; Carrier-4 ton HVAC; Carrier-5 ton HVAC; Carrier-3	☐	☐

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Lodi MS-2022 HVAC Modernization	**Report Page:**	**(Page 82 of 83)**
Project Address:	945 S Ham Lane	**Date Prepared:**	7/5/2022

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Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
NRCA-MCH-18-A Energy Management Control Systems	ton HVAC; Carrier-4 ton HVAC; SAC-F1;		

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

	01	02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	M-Sheets

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	Lodi MS-2022 HVAC Modernization	**Report Page:**	**(Page 83 of 83)**
Project Address:	945 S Ham Lane	**Date Prepared:**	7/5/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Aaron Wintersmith	Documentation Author Signature:
Company: Capital Engineering Consultants Inc.	Signature Date: 2022-07-05
Address: 11020 Sun Center Dr #100	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Rancho Cordova CA 95670	Phone: 916-851-3500

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Tom Duval	Responsible Designer Signature:
Company: Capital Engineering Consultants, Inc	Date Signed: 2022-07-05
Address: 11020 Sun Center Dr., Suite 100	License: M 22836
City/State/Zip: Rancho Cordova CA 95670	Phone: 916-851-3500

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
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capital engineering
RANCHO CORDOVA, CALIFORNIA
MCM - BV — PM - DESIGN TEAM
220208.00 — PROJECT NO.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-120272 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/12/2022

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT — STEPHEN T. HENRY — C-22525 — 12/31/23 — STATE OF CALIFORNIA

MODERNIZATION
LODI MIDDLE SCHOOL
(INCREMENT 1)
CONSTRUCTION DOCUMENTS PHASE

MECHANICAL
TITLE 24 COMPLIANCE
DOCUMENTS

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — THOMAS A. DUVAL — M 22836 — EXPIRES 6/30/22 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED: 07/05/22

PROJECT NO.	REVISIONS	BY
22-32-057		
DATE 2/17/2021		
DRAWN BV		
CHECKED MCM		
SCALE AS SHOWN		
CADFILE 91-M7.7.DWG		
UPDATED 8/26/2022		

SHEET NO.

M7.7

15 OF XX SHEETS

Aug 30, 2022 – 9:27am
UNAUTHORIZED CHANGES & USES: M. Neils Engineering, Inc. preparing these plans will not be responsible for or liable for unauthorized changes to or uses to these plans. All changes to these plans must be in writing and must be approved by M. Neils Engineering, Inc.

DEMOLITION GENERAL NOTES

1. INFORMATION SHOWN RELATIVE TO EXISTING CONDITIONS IS BASED UPON AVAILABLE RECORDS AND DATA. THEREFORE, IT SHALL BE REGARDED AS AN APPROXIMATION ONLY. CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT. PRIOR TO SUBMITTING BID AND/OR BEFORE START OF ANY ELECTRICAL WORK, INSPECT ALL EXISTING LOCATIONS AND CONDITIONS AND ASCERTAIN WORK REQUIRED TO CLEAR PROJECT AREA OF ALL EXISTING ELECTRICAL ITEMS NOT BEING REUSED OR EXISTING TO REMAIN AS IS. REPORT ALL DISCREPANCIES AND COORDINATE ALL DEMOLITION WORK WITH THE OWNER'S REPRESENTATIVE. MAINTAIN SERVICE TO EXISTING ELECTRICAL EQUIPMENT IN AREAS ADJACENT TO REMODEL AREA, UNLESS OTHERWISE NOTED.
2. PROTECT ALL EXISTING ELECTRICAL EQUIPMENT ON EXISTING WALLS AND CEILINGS NOT REQUIRED TO BE DEMOLISHED UNLESS OTHERWISE NOTED. DELIVER ALL EXISTING ELECTRICAL EQUIPMENT IN REMODELED AREAS, THAT ARE REMOVED AND NOT REUSED ELSEWHERE, AND ARE DEEMED TO BE SALVAGEABLE IN THE JUDGMENT OF THE CONTRACTOR AND OWNER'S REPRESENTATIVE, TO THE OWNER. DELIVER ALL SALVAGED ELECTRICAL EQUIPMENT AND OTHER ITEMS TO A LOCATION DESIGNATED BY THE OWNER'S REPRESENTATIVE. REMOVE FROM SITE, ALL OTHER ELECTRICAL EQUIPMENT, HARDWARE, AND OTHER ITEMS THAT ARE DEEMED UNSALVAGEABLE BY CONTRACTOR AND THE OWNER'S REPRESENTATIVE.
3. CUT, PATCH AND MATCH IN ALL AREAS AFFECTED BY REMOVAL OF ELECTRICAL EQUIPMENT AND DEVICES.
4. CAUSE AS LITTLE INTERFERENCE OR INTERRUPTION OF EXISTING UTILITIES AND SERVICES AS POSSIBLE. SCHEDULE ANY POWER OR OTHER UTILITY SHUTDOWN WITH THE OWNER'S REPRESENTATIVE. SHUTDOWNS WHICH MAY BE REQUIRED SHALL BE PRESENTED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR APPROVAL TWO WEEKS PRIOR TO COMMENCEMENT OF WORK. SHUTDOWN WORK SHALL BE PERFORMED ON OVERTIME HOURS IF SO DIRECTED BY OWNER'S REPRESENTATIVE.
5. DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, FIXTURES, OUTLETS, DEVICES, CONDUIT, WIRING AND OTHER ELECTRICAL ITEMS, WHETHER SHOWN OR NOT, FROM EXISTING CEILINGS AND WALLS WHICH ARE TO BE DEMOLISHED. MAINTAIN CIRCUIT CONTINUITY TO ALL EXISTING REMAINING DEVICES, UNLESS OTHERWISE NOTED.
6. COORDINATE WITH OTHER TRADES AND PROMPTLY TRANSMIT ALL INFORMATION REQUIRED BY THEM. COORDINATE THE SEQUENCE OF DEMOLITION WITH OTHER TRADES TO ENSURE THAT ALL WORK PROCEEDS WITH A MINIMUM OF INTERFERENCE AND DELAY.
7. RELOCATE ALL CONDUITS THAT ARE TO REMAIN IN SERVICE WHICH ARE IN A LOCATION TO CONFLICT WITH NEW WORK.
8. WHEREVER EXISTING ELECTRICAL DEVICES, PANELS, CONDUITS, CABLES, AND OTHER ITEMS, CONFLICT WITH REMODEL WORK, WHETHER SHOWN OR NOT, RELOCATE THESE ITEMS TO COORDINATE WITH NEW CONSTRUCTION.
9. REUSE EXISTING CONDUITS AND WIRING WHEREVER POSSIBLE UNLESS OTHERWISE NOTED TO BE REMOVED.
10. PROVIDE FIRE RATED BACKBOXES TO MAINTAIN FIRE RATING OF CEILING OR WALLS AT LOCATIONS WHERE RECESSED ELECTRICAL EQUIPMENT SUCH AS LIGHT FIXTURES, SWITCHES, RECEPTACLES, PANELS, AND OTHER ITEMS, ARE INSTALLED IN RATED WALLS OR CEILINGS.
11. PROVIDE PROTECTIVE COVERING OVER EXISTING EQUIPMENT WHEN INSTALLING ALL NEW WORK.
12. PROVIDE NEW PANEL DIRECTORIES FOR EXISTING PANELS INVOLVED IN THIS RENOVATION WORK, REFLECTING ALL CHANGES TO CIRCUIT DESIGNATIONS.
13. PROTECT EXISTING FIRE ALARM NOTIFICATION AND INITIATION SYSTEMS DURING CONSTRUCTION.

Applicable Code: 2019 CBC 02/05/2020 Revised: 02/14/2020

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. The following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2019 CBC Sections 1617A.1.18 through 1617A.1.26 and ASCE 7-16 Chapters 13, 26 and 30.

1. All permanent equipment and components.
2. Temporary, movable, or mobile equipment that is permanently attached (e g hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110/220 volt receptacles having flexible cable.
3. Temporary, movable, or mobile equipment which is heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component is required to be restrained in manner approved by DSA.

The following mechanical and electrical components shall be positively attached to the structure, but need not demonstrate design compliance with the references noted above. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit. Flexible connections must allow movement in both transverse and longitudinal directions.

A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.

B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

The anchorage of all mechanical, electrical and plumbing components shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and acceptance by DSA. The project inspector will verify that all components and equipment have been anchored in accordance with above requirements

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-16 Section 13.3 as defined in ASCE 7-16 Section 13.6.5, 13.6.6, 13.6.7, 13.6.8, and 2019 CBC, Sections 1617A.1.24, 1617A.1.25 and 1617A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., OSHPD OPM for 2013 CBC or later), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP MD PP E - Option 1: Detailed on the approved drawings with project specific notes and details.

MP MD PP E - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM#) #_____.

ELECTRICAL SYMBOL LIST

- JUNCTION BOX - SIZE AS REQUIRED BY CODE
- DUPLEX CONVENIENCE OUTLET - NEMA 5-20R +18" A.F.F. FROM THE BOTTOM OF OUTLET BOX, TYPICAL FOR ALL CONVENIENCE OUTLETS, UNLESS NOTED OTHERWISE (LETTER "A" SHOWN ADJACENT TO OUTLET DESIGNATES MOUNTED HORIZONTALLY ABOVE COUNTER).
- QUADPLEX CONVENIENCE OUTLET - NEMA 5-20R +18" A.F.F. FROM THE BOTTOM OF OUTLET BOX.
- SPECIAL RECEPTACLE AS SHOWN ON PLANS +18" A.F.F. FROM THE BOTTOM OF OUTLET BOX.
- CONDUIT RUN CONCEALED IN CEILINGS OR WALLS. NUMBER OF HASH MARKS DENOTES QUANTITY OF WIRES. CURVED HASH MARK DENOTES QUANTITY OF #12 GREEN GROUND WIRES. CONDUCTORS OTHER THAN #12 ARE INDICATED ON PLANS. NO HASH MARKS DENOTES 2 #12 AWG AND 1 #12 GREEN GROUND IN 1/2" CONDUIT. TYPICAL FOR ALL CONDUITS.
- FLEXIBLE CONDUIT CONCEALED. NUMBER OF HASH MARKS DENOTES QUANTITY OF WIRES. CURVED HASH MARK DENOTES QUANTITY OF #12 GREEN GROUND WIRES. CONDUCTORS OTHER THAN #12 ARE INDICATED ON PLANS. NO HASH MARKS DENOTES 2 #12 AWG AND 1 #12 GREEN GROUND IN 1/2" MINIMUM DIAMETER CONDUIT.
- CONDUIT RUN UNDERFLOOR OR UNDERGROUND MINIMUM 1" DIAMETER.
- CONDUIT HOMERUN TO PANELBOARD, SWITCHBOARD OR TERMINAL CABINET
- CONDUIT TURNED AND RISED UP
- CONDUIT TURNED AND DROPPED DOWN
- CONDUIT WITH CAP
- CONDUIT STUB WITH INSULATED BUSHING
- EXISTING CONDUIT AND WIRING
- EXISTING PANELBOARD - SURFACE MOUNTED
- EXISTING PANELBOARD - FLUSH MOUNTED
- TERMINAL CABINET
- SWITCHBOARD, DISTRIBUTION PANEL, OR MOTOR CONTROL CENTER
- EQUIPMENT DISCONNECT SWITCH - EXTERNALLY OPERATED, FUSED WITH FUSE SIZE INDICATED
- EQUIPMENT DISCONNECT SWITCH - EXTERNALLY OPERATED, NON-FUSIBLE
- EQUIPMENT CONTROLLER
- EQUIPMENT MOTOR POWER CONNECTIONS PART OF ELECTRICAL WORK
- ENCLOSED LUMINAIRE - SURFACE MOUNTED
- FIRE ALARM MECHANICAL DUCT DETECTOR - COORDINATE LOCATION WITH HVAC DRAWINGS AND CONTRACTOR.
- EQ 1 — MECHANICAL EQUIPMENT DESIGNATION - SEE MECHANICAL PLANS
- 1 — DRAWING SHEET NUMBERED NOTE DESIGNATION - APPLIES TO NUMBERED NOTE ON SAME SHEET
- 1 E-1 — DRAWING PLAN OR DETAIL DESIGNATION - "1" OR "A" DENOTES PLAN OR DETAIL NUMBER, "E-1" DENOTES SHEET NUMBER

SYMBOL LIST NOTES:

1. EXISTING ELECTRICAL EQUIPMENT, OUTLETS, AND DEVICES ARE SHOWN THE SAME AS NEW, EXCEPT LIGHTLY AND ACCOMPANIED BY (E). SUCH ELECTRICAL EQUIPMENT, OUTLETS, AND DEVICES ARE TO REMAIN AS IS, UNLESS OTHERWISE NOTED ON PLAN OR SPECIFICATION.
2. VERIFY ON SITE THAT ALL PANELBOARDS HAVE MINIMUM WORKING SPACES PER CODE AND THAT THE DEDICATED PANELBOARD SPACES ARE CLEAR OF ALL DUCTS, PIPING AND EQUIPMENT FOREIGN TO THE PANEL BOARDS. NOTIFY THE ENGINEER FOR CORRECTIVE ACTION IN THE EVENT THAT FOREIGN OBJECTS IMPEDE THE DEDICATED PANELBOARD AREAS.

GENERAL NOTES:

1. CLOSELY COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR. NOT ALL ELECTRICAL INFORMATION MAY BE SHOWN ON ELECTRICAL PLANS. ELECTRICAL CONTRACTOR SHALL EXAMINE MECHANICAL DRAWINGS BEFORE COMMENCE WORK.
2. COORDINATE LOCATION OR NEW PANELS WITH THE ARCHITECT BEFORE ROUGH IN
3. COORDINATE EXACT ROUTE OF NEW CONDUITS WITH THE ARCHITECT BEFORE ROUGH IN. ELECTRICAL CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE ARCHITECT FOR CONDUIT ROUTE AND ROOF PENETRATION LOCATION BEFORE ROUGH IN.
4. UPDATE PANEL DIRECTORY AT EXISTING PANELS WHERE ADDED NEW CIRCUIT BREAKERS OR DISCONNECTED LOAD.

ELECTRICAL SHEET INDEX

No. OF SHEETS	DRAWING No.	DRAWING DESCRIPTIONS
1	E0.1	ELECTRICAL SHEET INDEX, SYMBOL LIST AND ABBREVIATIONS
2	E1.1	SITE PLAN - ELECTRICAL
3	E2.1.A	DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING A
4	E2.2.A	REMODEL ROOF PLAN - ELECTRICAL - BUILDING A
5	E2.1.B	DEMOLITION/REMODEL ROOF PLANS - ELECTRICAL - BUILDING B
6	E2.1.C	DEMOLITION/REMODEL ROOF PLANS - ELECTRICAL - BUILDING C
7	E2.4.C	LIGHTING - BUILDING C
8	E2.1.D	DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING D
9	E2.2.D	REMODEL ROOF PLAN - ELECTRICAL - BUILDING D
10	E2.4.D	LIGHTING - BUILDING D
11	E2.1.E	DEMOLITION/REMODEL ROOF PLANS - ELECTRICAL - BUILDING E
12	E2.4.E	LIGHTING - BUILDING E
13	E2.1.F	DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING F
14	E2.2.F	REMODEL ROOF PLAN - ELECTRICAL - BUILDING F
15	E2.4.F	LIGHTING - BUILDING F
16	E3.1	ONE LINE DIAGRAM - POWER, PANEL SCHEDULE
17	E5.1	ELECTRICAL DETAILS

ABBREVIATIONS

A	AMPERES	MAX.	MAXIMUM
AC	ALTERNATING CURRENT	MFR.	MANUFACTURER
A.F.F.	ABOVE FINISHED FLOOR	MIN.	MINIMUM
A.I.C.	AMPERE INTERRUPTING CAPACITY	MTD.	MOUNTED
AMP	AMPERE	N	NEUTRAL
AWG	AMERICAN WIRE GAUGE	(N)	NEW
BKR	BREAKER	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
C.	CONDUIT	N.I.C.	NOT IN CONTRACT
C.B.	CIRCUIT BREAKER	PFB	PROVISIONS FOR FUTURE CIRCUIT BREAKER
CKT	CIRCUIT	PH	PHASE
C.O.	CONDUIT ONLY, WITH PULL WIRE	(R)	REMOVE
DC	DIRECT CURRENT	(RE)	RELOCATE EXISTING
(E)	EXISTING	RCPT.	RECEPTACLE
(ER)	EXISTING RELOCATED	S.M.S	SHEET METAL SCREW
EMT	ELECTRICAL METALLIC CONDUIT	SWBD	SWITCHBOARD
(F)	FUTURE	SYS	SYSTEM
GA.	GAUGE	TYP.	TYPICAL
GND	GROUND	UG	UNDERGROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	V	VOLT
HVAC	HEATING, VENTILATING AND AIR CONDITIONING	VA	VOLT-AMPERES
Isc	SHORT CIRCUIT AMPERES	W	WIRE, WATT
ISO	ISOLATED	WP	WEATHER PROTECTED
K	THOUSAND	XFMR	TRANSFORMER
KV	KILO VOLT		
KVA	KILO VOLT AMPERE		
KW	KILO WATT		

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12/31/23
RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

ELECTRICAL SHEET INDEX, SYMBOL LIST AND ABBREVIATIONS

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ELECTRICAL
STATE OF CALIFORNIA
08-30-2022

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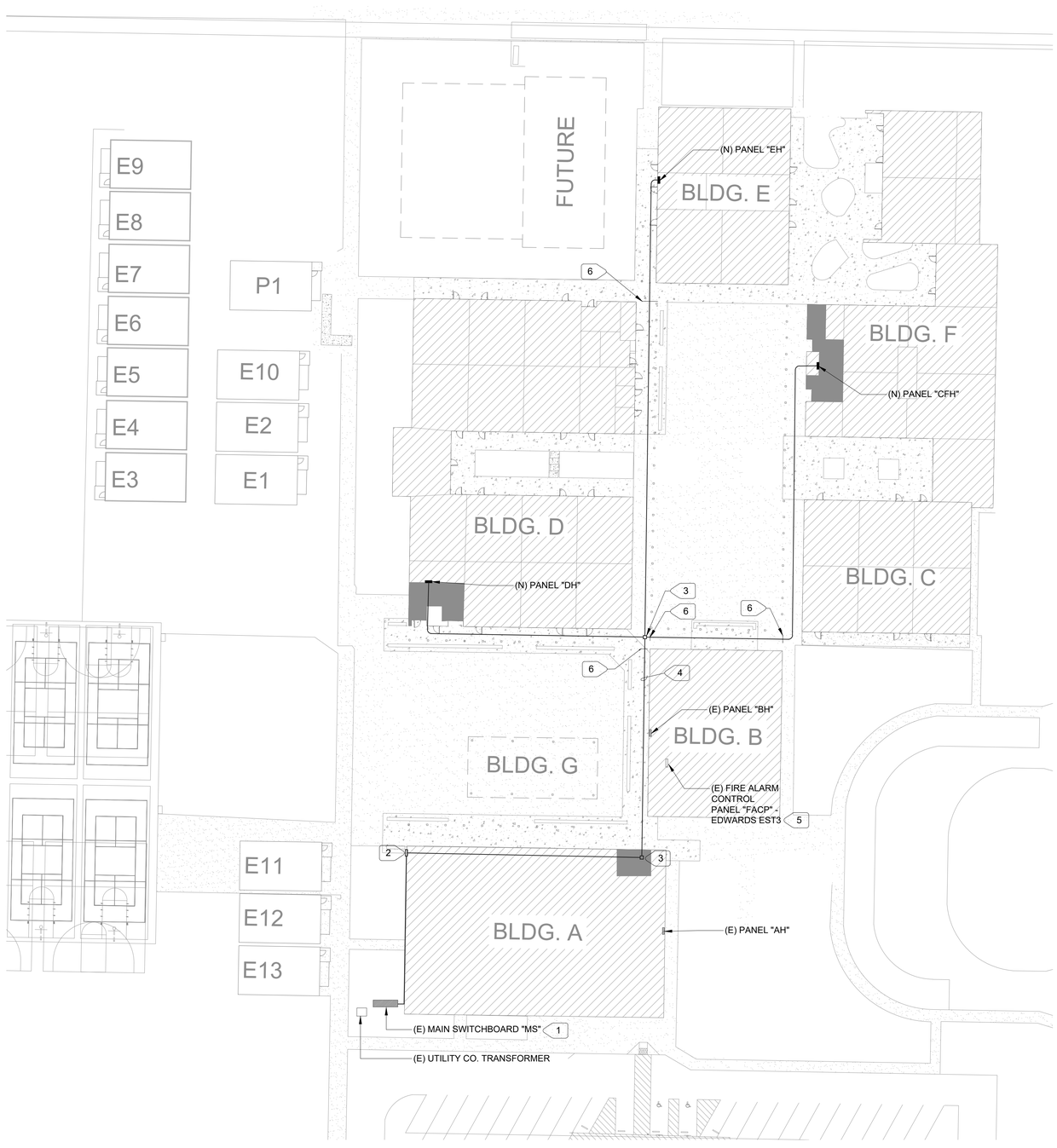

1 E1.1 SITE PLAN - ELECTRICAL

SCALE :1" = 30'-0"

NUMBERED NOTES:

1. PROVIDE (N) CIRCUIT BREAKERS IN (E) SPACES PER ONE LINE DIAGRAM - POWER.
2. (N) NEMA 3R GUTTER MOUNTED HIGH ON BUILDING WALL. REMOVE (E) GUTTER AND ROUTE (E) AND (N) CONDUITS/CONDUCTORS THROUGH (N) GUTTER TO LOW ROOF OF GYM BUILDING. (N) GUTTER SHALL BE OF ADEQUATE SIZE TO HOUSE (E) AND (N) CABLES.
3. PROVIDE NEMA 4X ENCLOSURE 24"x24"x6". MOUNT PER 1/E5.1.
4. RUN CONDUIT ON ROOF PER 1/E5.1. REFER TO ONE LINE DIAGRAM - POWER FOR CONDUITS/CONDUCTORS.
5. PROGRAM (E) FIRE ALARM SYSTEM FOR ADDED DUCT DETECTOR IN BUILDING A.
6. (E) EXPANSION JOINT. PROVIDE LIQUIDTIGHT FLEXIBLE METAL CONDUIT OVER JOINT. ACCOMMODATE 6" RELATIVE MOTION BETWEEN RIGID STEEL CONDUITS.

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SITE PLAN - ELECTRICAL

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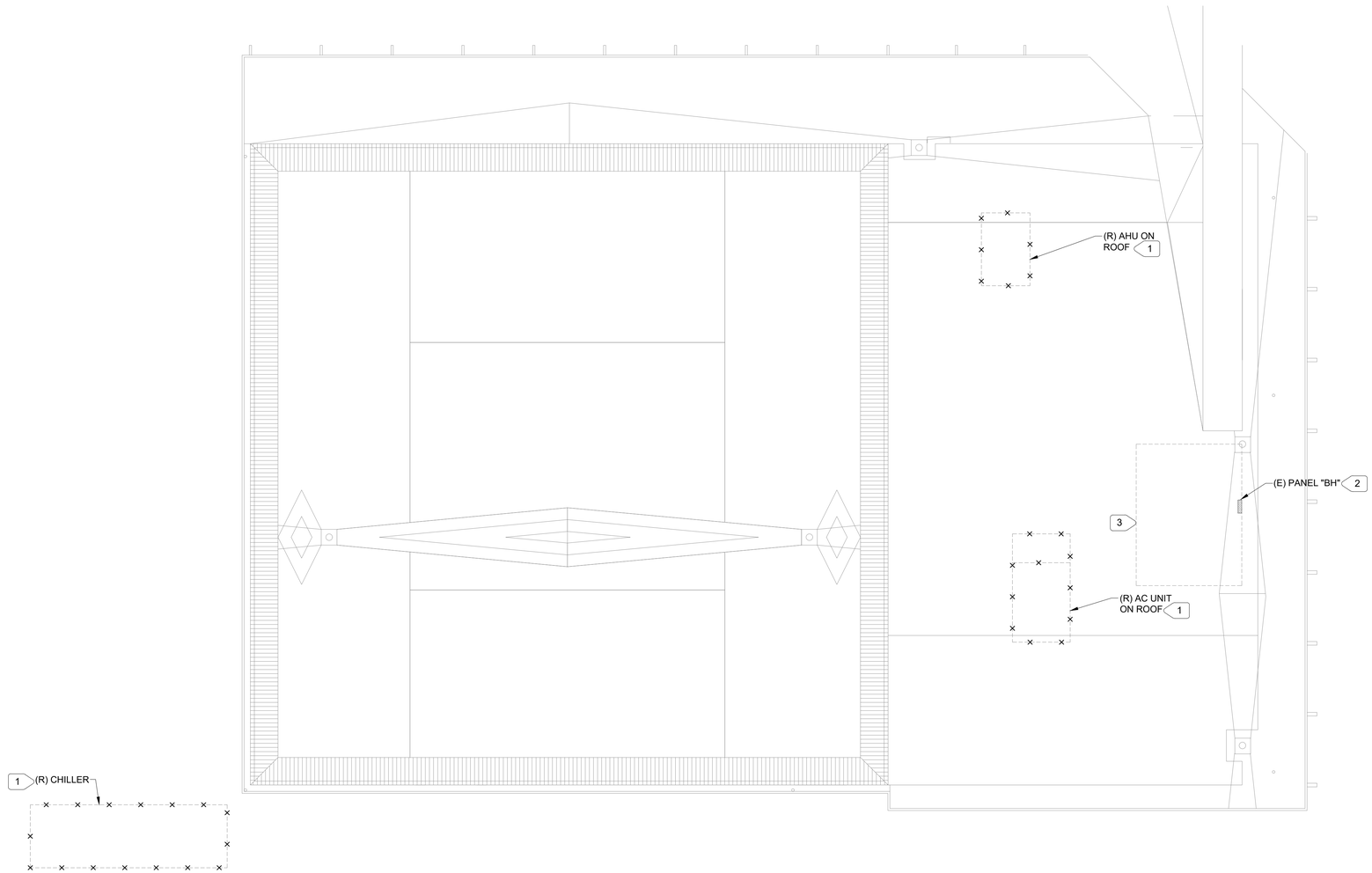

1 / E2.1.A DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING A

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

NUMBERED NOTES:

1. DISCONNECT UNIT. REMOVE WIRING BACK TO SOURCE.
2. REMOVE (E) NOT USED CIRCUIT BREAKERS.
3. DISCONNECT (2) (E) BOILERS, ASSOCIATED PUMPS, AND OTHER ELECTRICAL CONNECTION TO THE BOILERS TO BE REMOVED LOCATED IN MECHANICAL ROOM. REMOVE WIRING BACK TO SOURCE. REVISE PANEL SCHEDULE FROM LOAD HAS BEEN REMOVED. PROTECT (E) DOMESTIC WATER HEATER CONNECTION. COORDINATE WITH MECHANICAL CONTRACTOR BEFORE START DEMOLITION.

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DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING A

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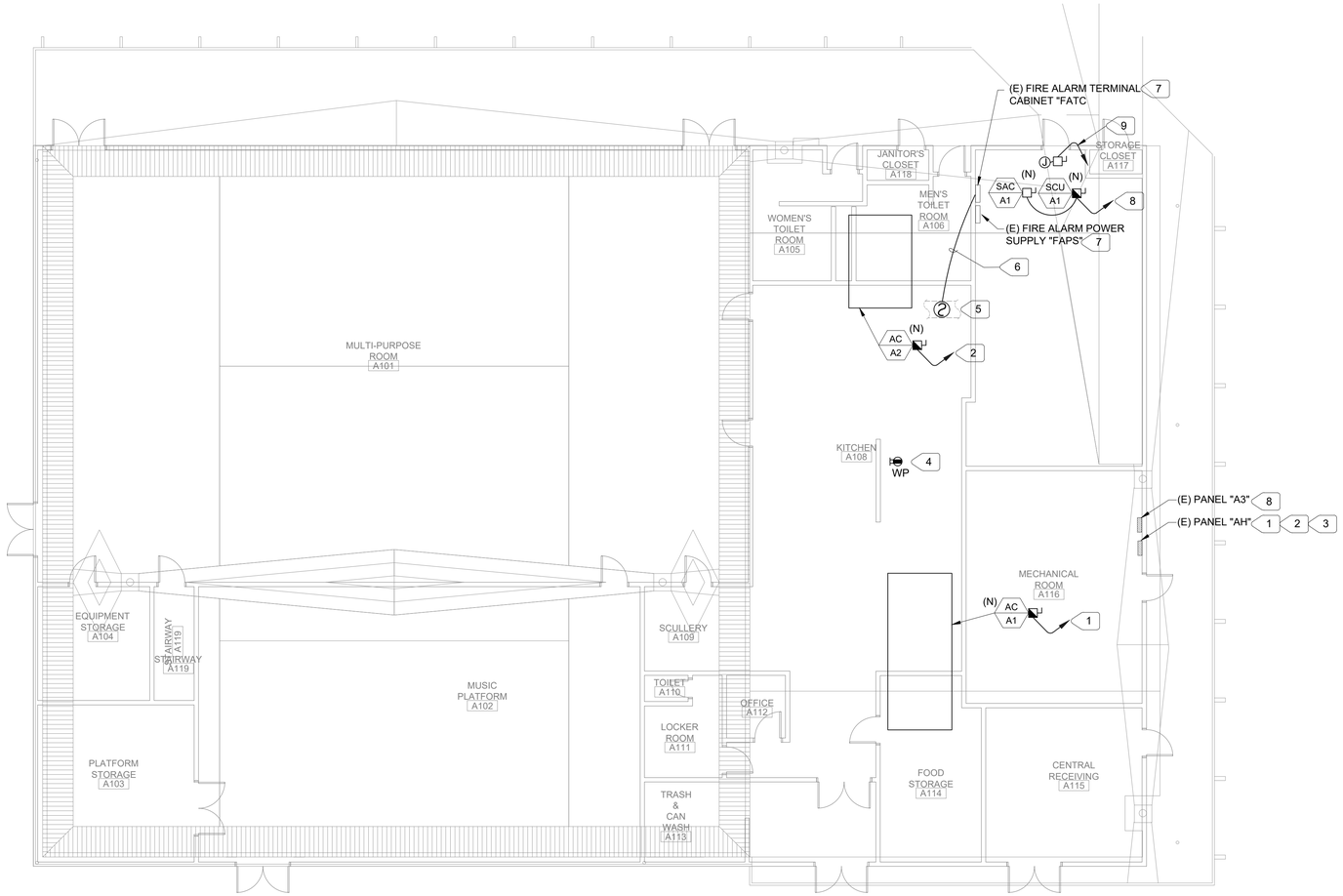

1
E2.2.A

REMODEL ROOF PLAN - ELECTRICAL - BUILDING A

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

NUMBERED NOTES:

1. PROVIDE (N) CIRCUIT BREAKER 175/3 IN (E) SPACE AND CONNECT (N) UNIT TO THAT CIRCUIT BREAKER. RUN 2"C-3#2/0, 1#4G.
2. PROVIDE (N) CIRCUIT BREAKER 50/3 IN (E) SPACE AND CONNECT (N) UNIT TO THAT CIRCUIT BREAKER. RUN 1"C-3#6, 1#10G.
3. PROVIDE BLANK COVER OVER UNUSED SPACES.
4. PROVIDE ON ROOF IN METAL WP ENCLOSURE WITH WHILE-IN-USE COVER.
5. PROVIDE (N) DUCT DETECTOR - EDWARDS SIGA-SD. INSTALL AS DIRECTED BY MECHANICAL. CONNECT INTO ADDRESSABLE INITIATION CIRCUIT AT (E) FIRE ALARM TERMINAL CABINET "FATC". PROVIDE WITH LOCKABLE TEST STATION. INSTALL TEST STATION AS DIRECTED IN FIELD.
6. RUN WEST PENN 990 CABLE THROUGH 1/2" BETWEEN (N) DUCT DETECTOR AND (E) FIRE ALARM TERMINAL CABINET "FATC".
7. PER DSA APPL. #02-111649, DATED 02/28/2011.
8. PROVIDE (N) 40/2 CIRCUIT BREAKER IN PANEL "A3". CONNECT (N) UNIT SCU-A1 TO THAT CIRCUIT BREAKER USING 1"C-2#8, 1#10G. INDOOR UNIT SAC-A1 IS FED FROM OUTDOOR UNIT SCU-A1. PROVIDE ALL NECESSARY CONNECTIONS.
9. PROVIDE (N) 20/1 CIRCUIT BREAKER IN PANEL "A3". CONNECT (N) CONDENSATE PUMP, REFER TO MECHANICAL DRAWINGS.

GE
Security

EST Fire & Life Safety
Intelligent Initiating Devices

Overview

The GE Security *SuperDuct* Signature Series smoke detector is the most advanced and most reliable device in its class. Designed for easy installation and superb reliability, *SuperDuct* represents the perfect balance of practical design and advanced technology.

***SuperDuct* detectors** feature a unique design that speeds installation and simplifies maintenance. Removable dust filters, conformally coated circuit boards, and optional water-resistant gaskets keep contaminants away from components, ensuring years of trouble-free service. When cleaning is required, the assemblies come apart easily and snap back together in seconds.

A Signature Series photoelectric sensor is incorporated into the design of each SIGA-SD duct smoke detector. This sensor inherits the power and benefits of this exceptional line of intelligent devices.

Signature Series sensors gather analog information from their smoke sensing elements and convert it into digital signals. The sensor measures and analyses these signals and compares the information to historical readings and time patterns to make an alarm decision. Digital filters remove signal patterns that are not typical of fires, which virtually eliminates unwanted alarms.

WARNING: Duct detectors have specific limitations. Duct detectors are not a substitute for an open-area smoke detector. Duct detectors are not a substitute for early warning detection or a replacement for a building's regular fire detection system. Smoke detectors in HVAC systems may be slow in spaces which can build up to hazardous levels in some fires. These devices will not operate without electrical power. As fires frequently cause power interruptions, GE Security suggests you discuss further safeguards with your local fire protection specialist.

Standard Features

- Less than 2" deep for easy installation and applications where space is tight
- -20 to 158 °F (-29 to 70 °C) operating range with 100 ft/min. to 4,000 ft/min air velocity rating assures reliability under harsh environmental conditions
- Status LEDs remain visible through clear assembly cover
- Cover monitor switch for added security
- Standard sampling tube spacing for easy drop-in migration from other detectors
- Sampling tube can be installed with or without the cover in place and can be rotated in 45-degree increments to ensure proper alignment with duct airflow
- 15.2 to 19.95 Vdc operation
- Magnet-activated test switch
- One Form C auxiliary alarm relay for controlling ancillary equipment (e.g., HVAC controls)
- No special tools required for easy access to field connections
- Signature Series intelligence
- Environmental compensation with differential sensing for reliable, stable, and drift-free sensitivity
- Wide 0.79% to 2.46% obscuration/ft. smoke sensitivity
- Identification of dirty or defective detectors

Intelligent Duct Smoke Detector

SIGA-SD

Data Sheet 85001-0584 Issue 4
Not to be used for installation purposes. Page 1 of 4

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

Page 1 of 1

LISTING No. 3242-1657:0223

CATEGORY: 3242 – DUCT SMOKE DETECTOR, PHOTO. (W/ OR W/O BASE)

LISTEE: EDWARDS, A Division of UTC Fire & Security Americas Corporation, Inc.8985 Town Center Parkway, Bradenton, FL 34202
Contact: Jewell Conover (941) 739-4358 Fax (941) 308-8123
Email: rhonda.micochero@carrier.com

DESIGN: Models ESD-SJ, ESD-ST, TSD-SJ, TSD-ST, TSD-SJG, TSD-SJCO2, TSD-STCO2, SIGA-SD, SD-2W, ESD-2W, E-PDD, and FX-PDD photoelectric type duct smoke detectors. The duct detector consists of a thermoplastic enclosure, recognized component printed wiring board, a listed duct detector subassembly, and an inlet coupling tube and an exhaust tube along with gaskets. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 15.2-19.95 VDC
16-30 VDC: SD-2W, ESD-2W

INSTALLATION: In accordance with listee's printed installation instructions and applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as photoelectric type, duct smoke detectors for use with separately listed compatible fire alarm control units in conjunction with Models ESD-CJ, -CT or TSD-CJ, -CT series duct smoke detector controller (CSFM Listing No. 3240-1657:225). Models SIGA-SD, E-PDD, FX-PDD, SD-2W or ESD-2W does not require a listed duct smoke detector controller. Suitable for use in ducts where air velocity is between 100 and 4000 ft/min.

*Models ESD-SJ, ESD-ST, TSD-SJ, TSD-SJG, TSD-SJCO2, SIGA-SD, SD-2W and ESD-2W are suitable for use in ambient temperatures of -4°F to 158°F.

Refer to listee's Installation Instruction Manual for details.

NOTE: 1. CO2 sensing features were not examined.
2. Formerly 3242-1591:223

*Corrected 3-22-13 BH

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2022** *Listing Expires* **June 30, 2023**

Authorized By: ***VICTOR WONG**, Program Coordinator*
Fire Engineering Division

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HVAC REPLACEMENT
LODI MIDDLE SCHOOL

REMODEL ROOF PLAN - ELECTRICAL - BUILDING A

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E2.2.A

OF SHEETS

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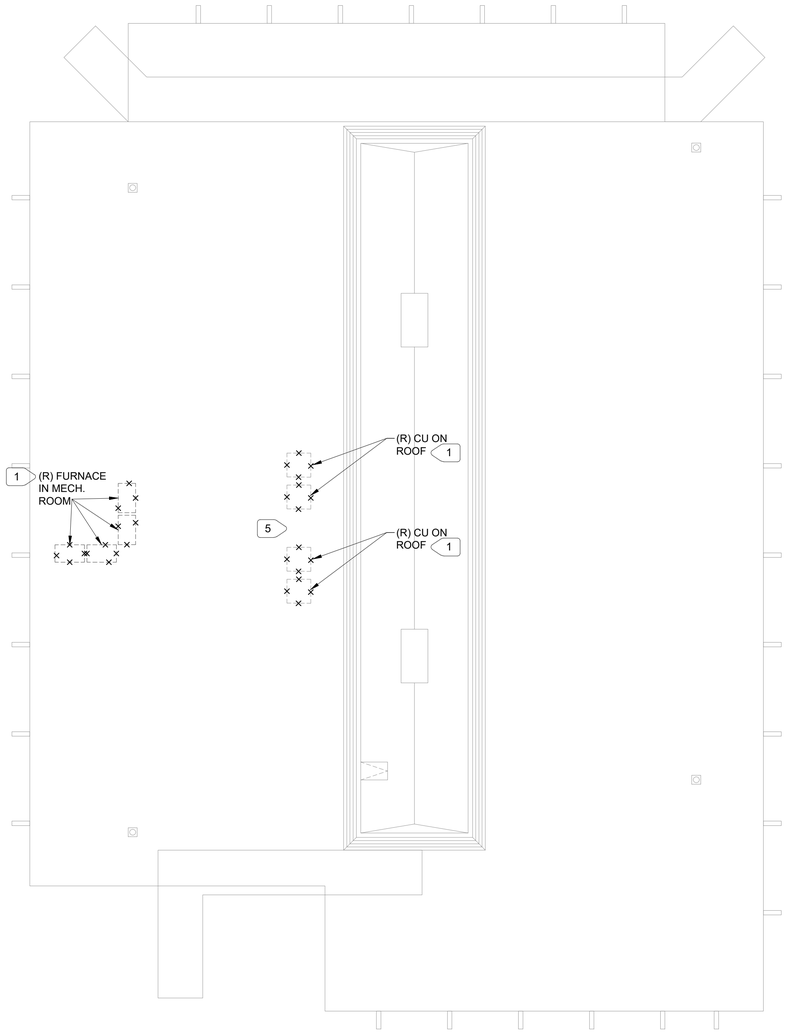
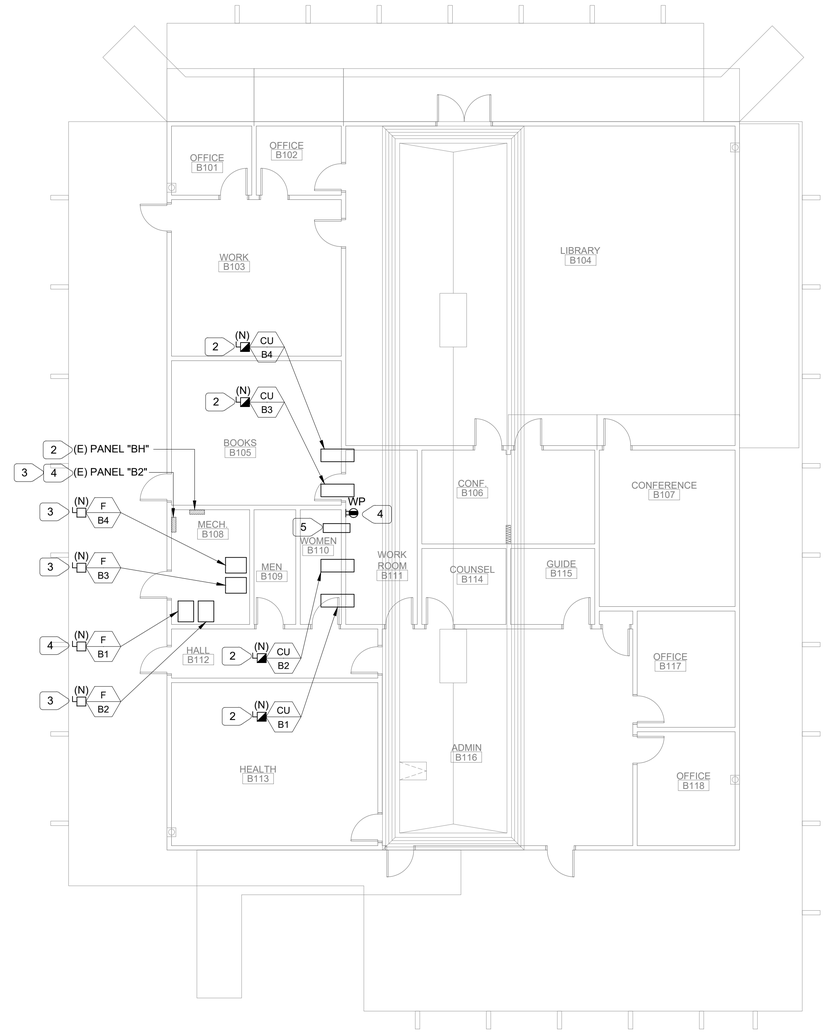


1 E2.1.B DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING B

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



2 E2.1.B REMODEL ROOF PLAN - ELECTRICAL - BUILDING B

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

NUMBERED NOTES:

1. DISCONNECT UNIT. REMOVE WIRING BACK TO PANEL BH/B2. REMOVE ASSOCIATED CIRCUIT BREAKERS.
2. PROVIDE (4) (N) CIRCUIT BREAKERS 20/3 IN (E) SPACE AND CONNECT (N) CU UNITS TO THAT CIRCUIT BREAKER USING 3/4"C-3#12, 1#12G.
3. PROVIDE (3) (N) CIRCUIT BREAKER 20/2 IN (E) SPACE AND CONNECT (N) F-B2, F-B3, FB-4 UNITS TO THAT CIRCUIT BREAKER USING 1/2"C-2#12, 1#12G.
4. PROVIDE (2) (N) CIRCUIT BREAKERS 20/1 IN (E) SPACE. CONNECT (N) RECEPTACLE TO ONE 20/1 CIRCUIT BREAKER. CONNECT UNIT F-B1 TO OTHER 20/1 CIRCUIT BREAKER. RECEPTACLE ON ROOF SHALL BE HOUSED IN METAL WP ENCLOSURE WITH WHILE-IN-USE COVER.
5. CAREFULLY DISCONNECT (E) CONDENSING UNIT, PROTECT POWER FEEDER. RECONNECT (E) CONDENSING UNIT WHEN REINSTALLED AT NEW PLATFORM.

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PROJECT #: 22076.21
PROJECT MGR: Sinisha Glisic

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APP: 02-120272 INC:
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C-22525
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HVAC REPLACEMENT
LODI MIDDLE SCHOOL

DEMOLITION/REMODEL ROOF PLANS - ELECTRICAL - BUILDING B

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
JESSE U. BASTIAN
No. E20229
Exp. 03-31-23
ELECTRICAL
STATE OF CALIFORNIA
08-30-2022

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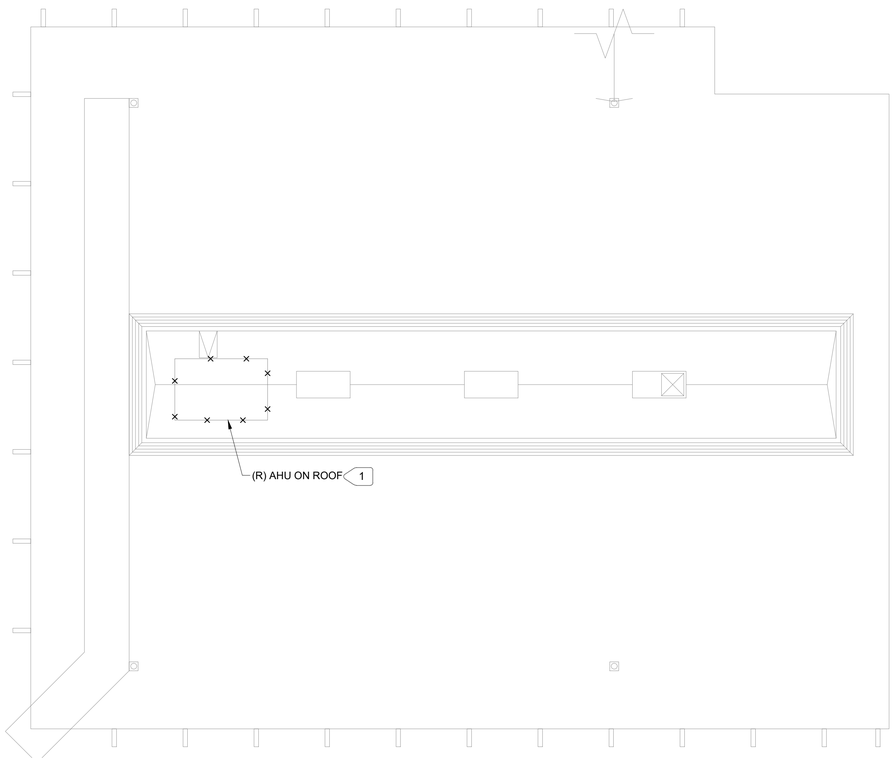
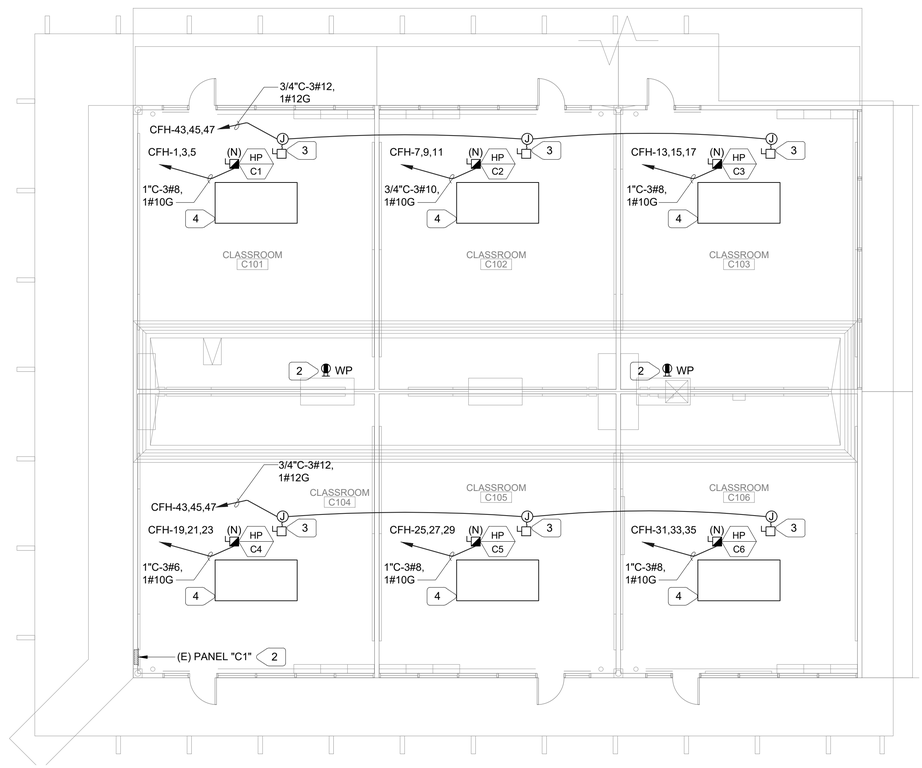
NUMBERED NOTES:

1. DISCONNECT UNIT. REMOVE WIRING BACK TO SOURCE.
2. PROVIDE ON ROOF IN METAL WP ENCLOSURE WITH WHILE-IN-USE COVER. PROVIDE (N) 20/1 CIRCUIT BREAKER IN (E) PANEL "C1" AND CONNECT (N) RECEPTACLES USING 1/2"C-2#12, 1#12G.
3. POWER TO EXHAUST ECONOMIZER. REFER TO MECHANICAL DRAWINGS. COORDINATE.
4. PROVIDE NAMEPLATE ON THE DISCONNECTS OF THIS UNIT (BOTH UNIT DISCONNECT AND ECONOMIZER DISCONNECT) TO READ: "POWER PANEL FOR THIS UNIT IS LOCATED IN BUILDING "F".



1 E2.1.C DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING C

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



2 E2.1.C REMODEL ROOF PLAN - ELECTRICAL - BUILDING C

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

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DEMOLITION/REMODEL ROOF PLANS - ELECTRICAL - BUILDING C

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
ALEXSEE U. BASTAN
No. E20229
Exp. 03-31-23
ELECTRICAL
STATE OF CALIFORNIA

08-30-2022

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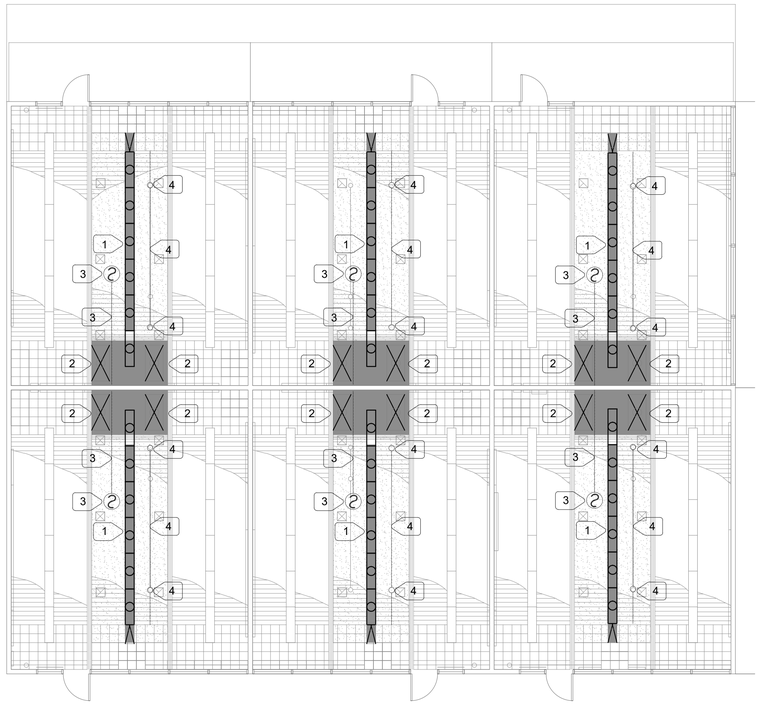

1 E2.4.C

LIGHTING - BUILDING C

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

NUMBERED NOTES:

1. CAREFULLY DISCONNECT (E) LIGHT FIXTURE TO ALLOW FOR CEILING WORK. PROTECT (E) LIGHTING CIRCUIT. LOCATE / SHIFT (E) FIXTURE AS SHOWN ON THIS DRAWING AND ARCHITECTURAL DRAWINGS AFTER CEILING WORK IS FINISHED. RECONNECT INTO EXISTING LIGHTING CIRCUIT AND LIGHTING CONTROLS. INSURE THAT LIGHT IS FUNCTIONING CORRECTLY.
2. DISCONNECT (E) LIGHT FIXTURE AND RETURN TO THE OWNER. INSURE THAT (E) LIGHTING CIRCUIT CONTINUITY.
3. CAREFULLY DISCONNECT (E) FIRE ALARM DEVICE(S) AND ASSOCIATED FIRE ALARM CIRCUIT(S) IN SURFACE RACEWAY TO ALLOW FOR CEILING WORK. REINSTALL (E) FIRE ALARM DEVICE(S) AT SAME LOCATION AFTER CEILING WORK IS FINISHED. REINSTALL AND RECONNECT EXISTING FIRE ALARM CIRCUITS. TEST DISTURBED/REINSTALLED FIRE ALARM DEVICES.
4. (E) LIGHTING CONTROL DEVICES/CIRCUITS IN SURFACE RACEWAY. CAREFULLY DISCONNECT TO ALLOW FOR CEILING WORK. REINSTALL AND RECONNECT AFTER CEILING WORK IS FINISHED.

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LIGHTING - BUILDING C

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER JESSE U. BASTIAN No. E20229 Exp. 03-31-23 ELECTRICAL STATE OF CALIFORNIA

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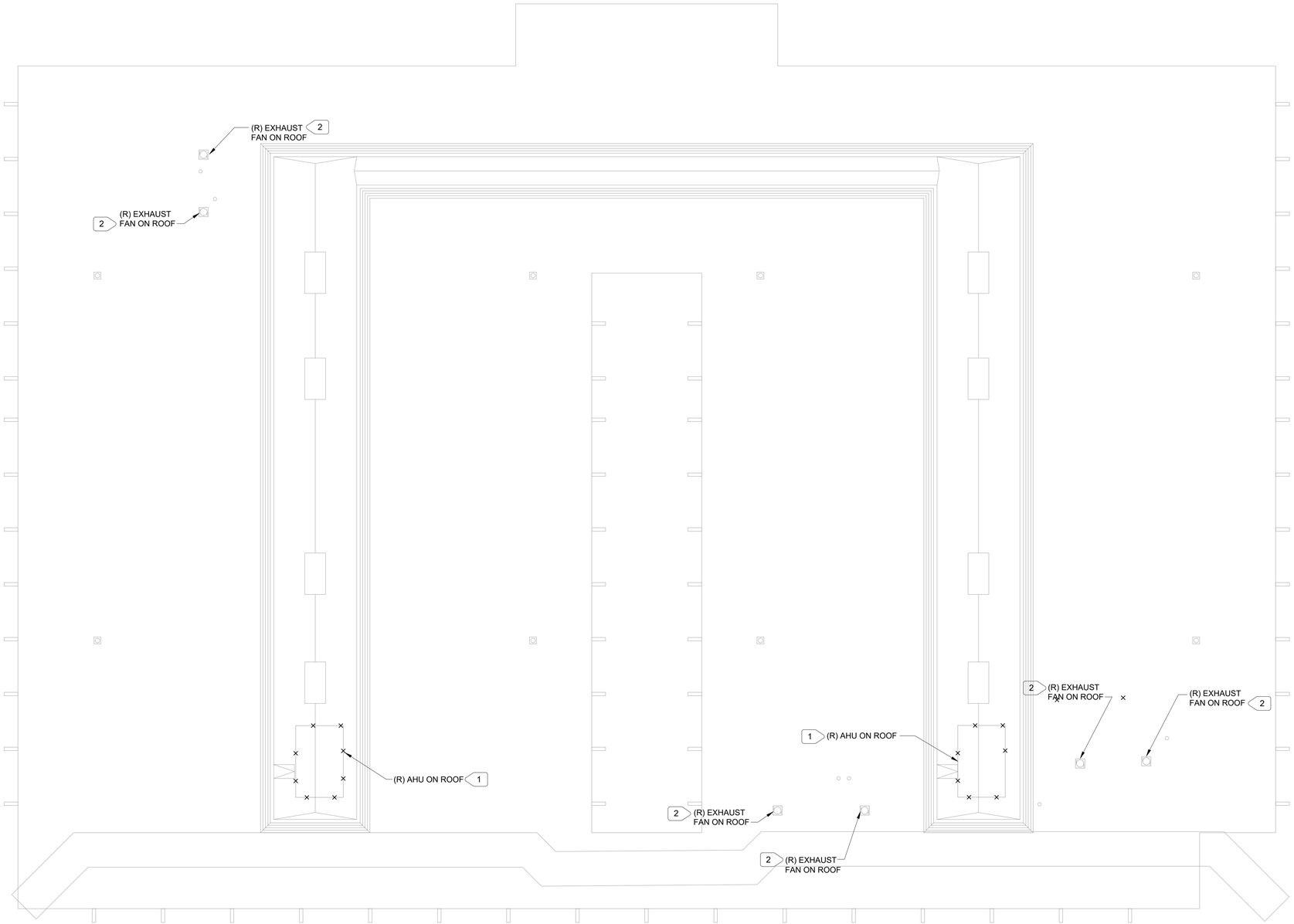

1 E2.1.D

DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING D

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

NUMBERED NOTES:

1. DISCONNECT UNIT. REMOVE WIRING BACK TO SOURCE.
2. DISCONNECT (E) FAN. PROTECT WIRING TO CONNECT (N) FAN.

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DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING D

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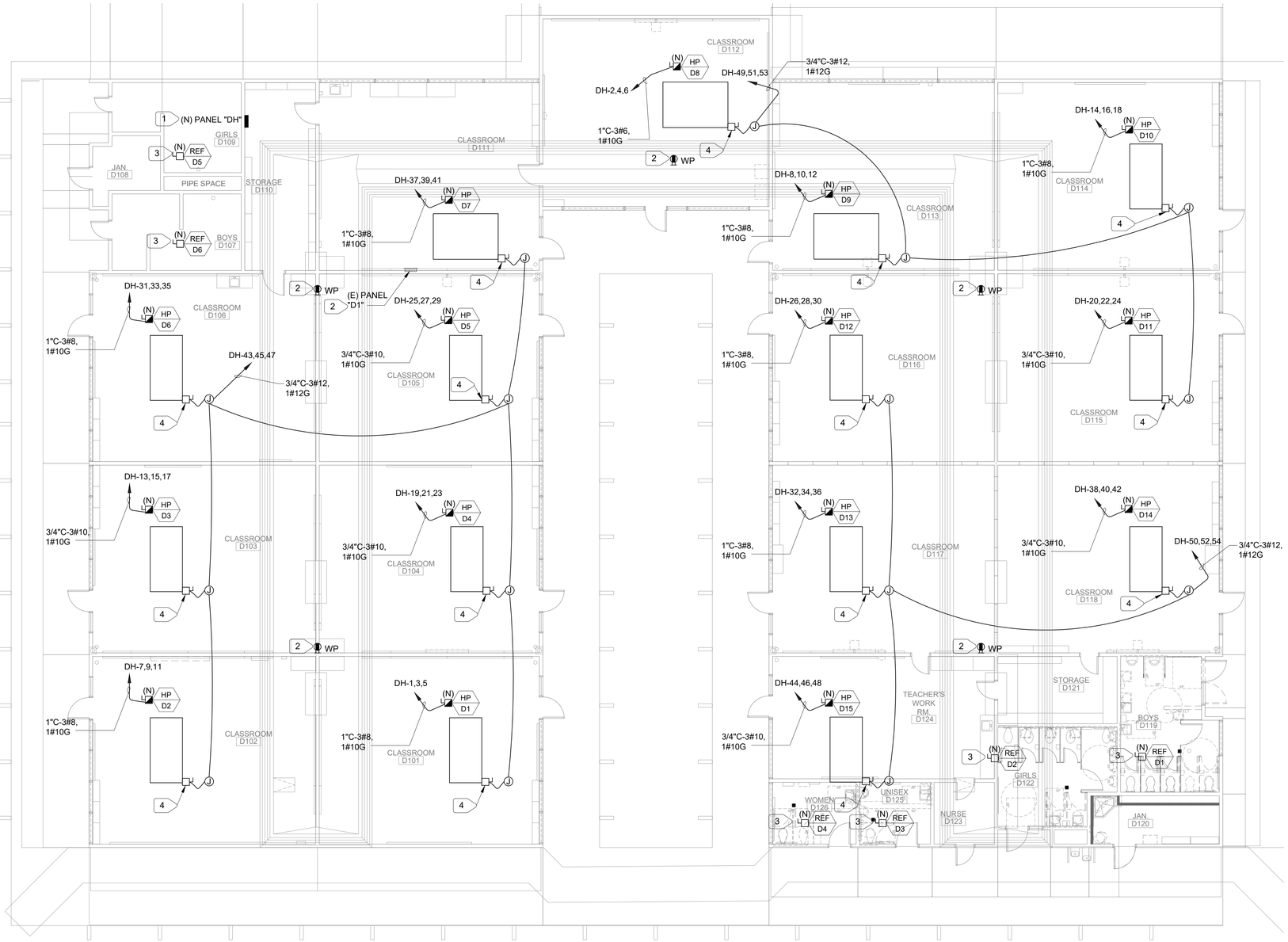

1 E2.2.D

REMODEL ROOF PLAN - ELECTRICAL - BUILDING D

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

NUMBERED NOTES:

1. INSTALL PER 2/E5.1.
2. PROVIDE ON ROOF IN METAL WP ENCLOSURE WITH WHILE-IN-USE COVER. PROVIDE (N) 20/1 CIRCUIT BREAKER AND CONNECT (N) RECEPTACLES USING 1/2"C-2#12, 1#12G.
3. CONNECT (N) FAN TO (E) SALVAGED FAN POWER CIRCUIT. REFER TO DEMOLITION.
4. POWER TO EXHAUST ECONOMIZER. REFER TO MECHANICAL DRAWINGS. COORDINATE.

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REMODEL ROOF PLAN - ELECTRICAL - BUILDING D

CONSULTANT

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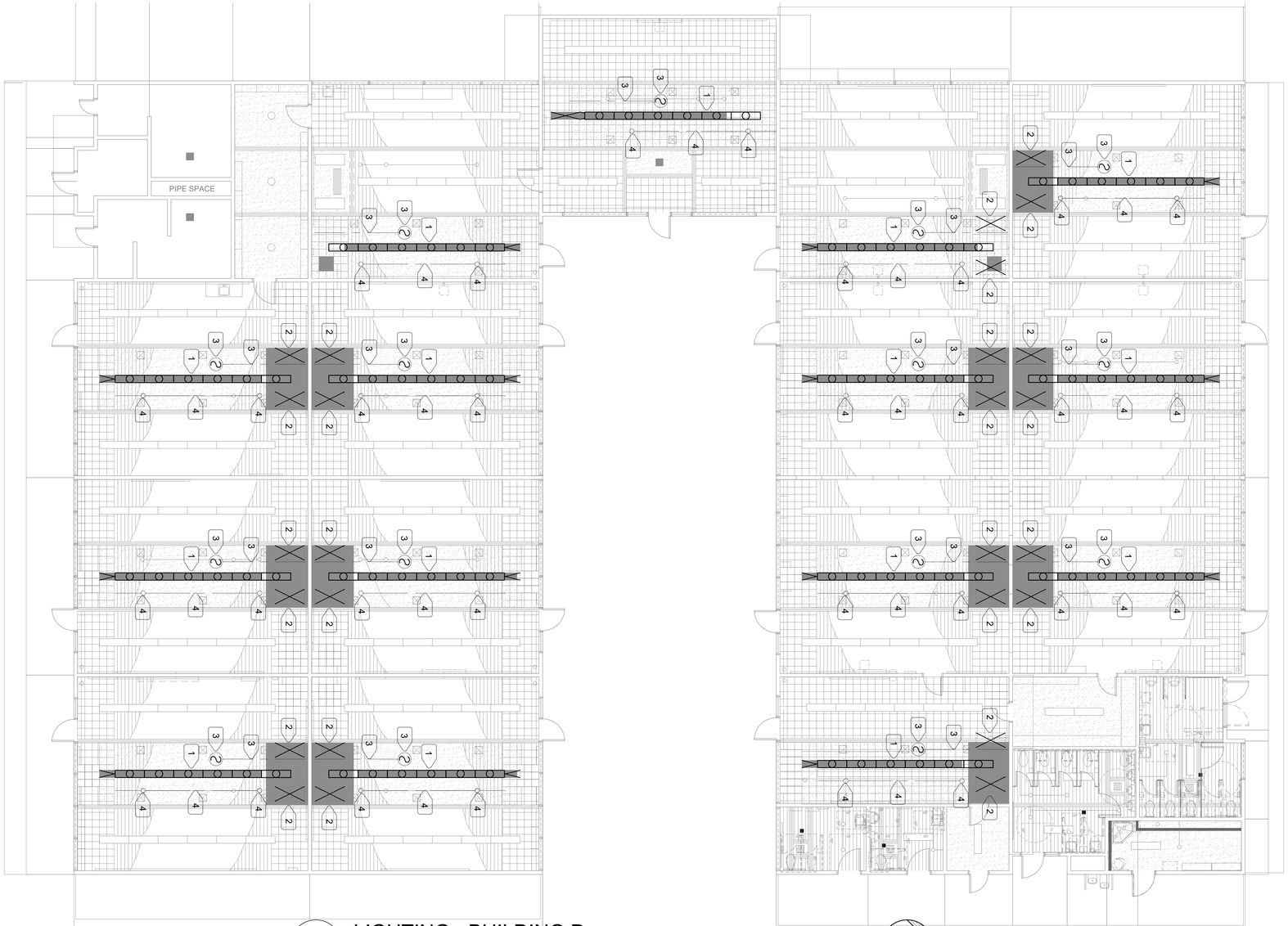

1
E2.4.D

LIGHTING - BUILDING D

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

NUMBERED NOTES:

1. CAREFULLY DISCONNECT (E) LIGHT FIXTURE TO ALLOW FOR CEILING WORK. PROTECT (E) LIGHTING CIRCUIT. LOCATE / SHIFT (E) FIXTURE AS SHOWN ON THIS DRAWING AND ARCHITECTURAL DRAWINGS AFTER CEILING WORK IS FINISHED. RECONNECT INTO EXISTING LIGHTING CIRCUIT AND LIGHTING CONTROLS. INSURE THAT LIGHT IS FUNCTIONING CORRECTLY.
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4. (E) LIGHTING CONTROL DEVICES/CIRCUITS IN SURFACE RACEWAY. CAREFULLY DISCONNECT TO ALLOW FOR CEILING WORK. REINSTALL AND RECONNECT AFTER CEILING WORK IS FINISHED.

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LIGHTING - BUILDING D

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
JESSE U. BASTIAN
No. E20229
Exp. 03-31-23
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NUMBERED NOTES:

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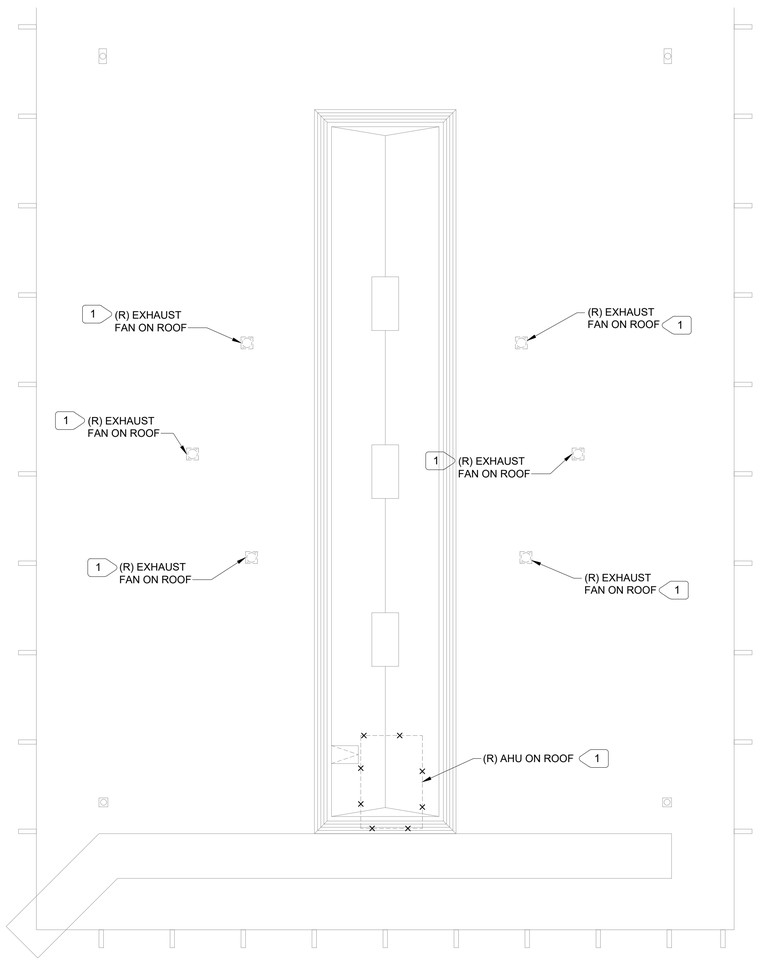
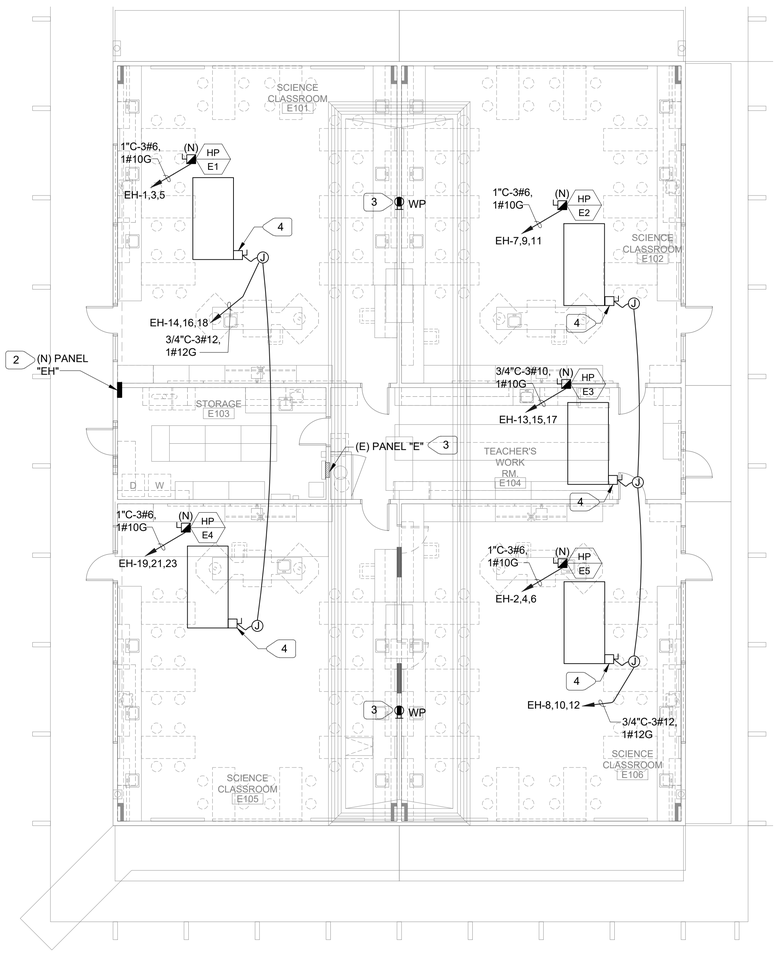
2. INSTALL PER 2/E5.1.
3. PROVIDE ON ROOF IN METAL WP ENCLOSURE WITH WHILE-IN-USE COVER. PROVIDE (N) 20/1 CIRCUIT BREAKER AND CONNECT (N) RECEPTACLES USING 1/2"C-2#12, 1#12G.
4. POWER TO EXHAUST ECONOMIZER. REFER TO MECHANICAL DRAWINGS. COORDINATE.



1 E2.1.E DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING E

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



2 E2.1.E REMODEL ROOF PLAN - ELECTRICAL - BUILDING E

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

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DEMOLITION/REMODEL ROOF PLANS - ELECTRICAL - BUILDING E

CONSULTANT

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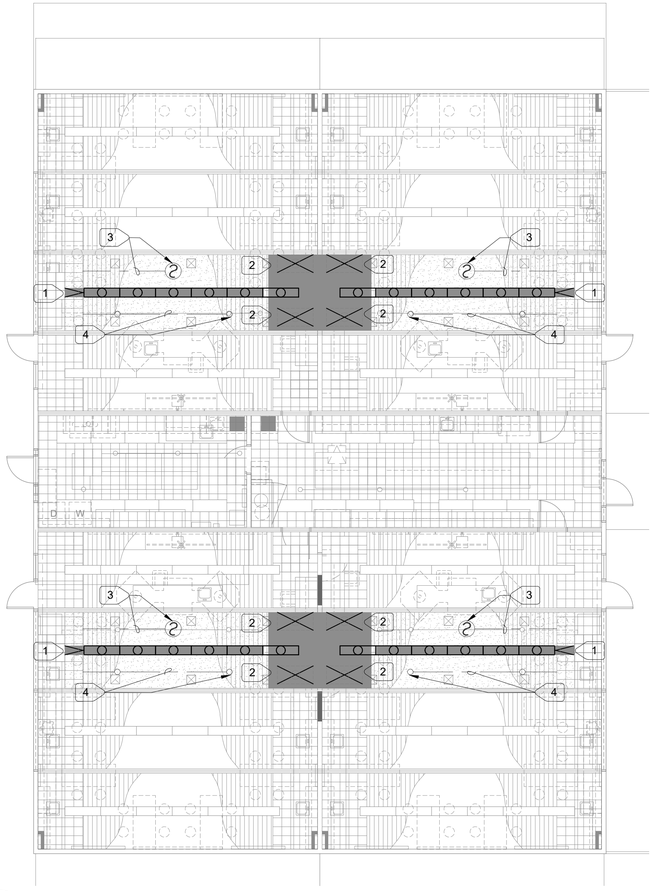

1 / E2.4.E

LIGHTING - BUILDING E

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

NUMBERED NOTES:

1. CAREFULLY DISCONNECT (E) LIGHT FIXTURE TO ALLOW FOR CEILING WORK. PROTECT (E) LIGHTING CIRCUIT. LOCATE / SHIFT (E) FIXTURE AS SHOWN ON THIS DRAWING AND ARCHITECTURAL DRAWINGS AFTER CEILING WORK IS FINISHED. RECONNECT INTO EXISTING LIGHTING CIRCUIT AND LIGHTING CONTROLS. INSURE THAT LIGHT IS FUNCTIONING CORRECTLY.
2. DISCONNECT (E) LIGHT FIXTURE AND RETURN TO THE OWNER. INSURE THAT (E) LIGHTING CIRCUIT CONTINUITY.
3. CAREFULLY DISCONNECT (E) FIRE ALARM DEVICE(S) AND ASSOCIATED FIRE ALARM CIRCUIT(S) IN SURFACE RACEWAY TO ALLOW FOR CEILING WORK. REINSTALL (E) FIRE ALARM DEVICE(S) AT SAME LOCATION AFTER CEILING WORK IS FINISHED. REINSTALL AND RECONNECT EXISTING FIRE ALARM CIRCUITS. TEST DISTURBED/REINSTALLED FIRE ALARM DEVICES.
4. (E) LIGHTING CONTROL DEVICES/CIRCUITS IN SURFACE RACEWAY. CAREFULLY DISCONNECT TO ALLOW FOR CEILING WORK. REINSTALL AND RECONNECT AFTER CEILING WORK IS FINISHED.

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LIGHTING - BUILDING E

CONSULTANT

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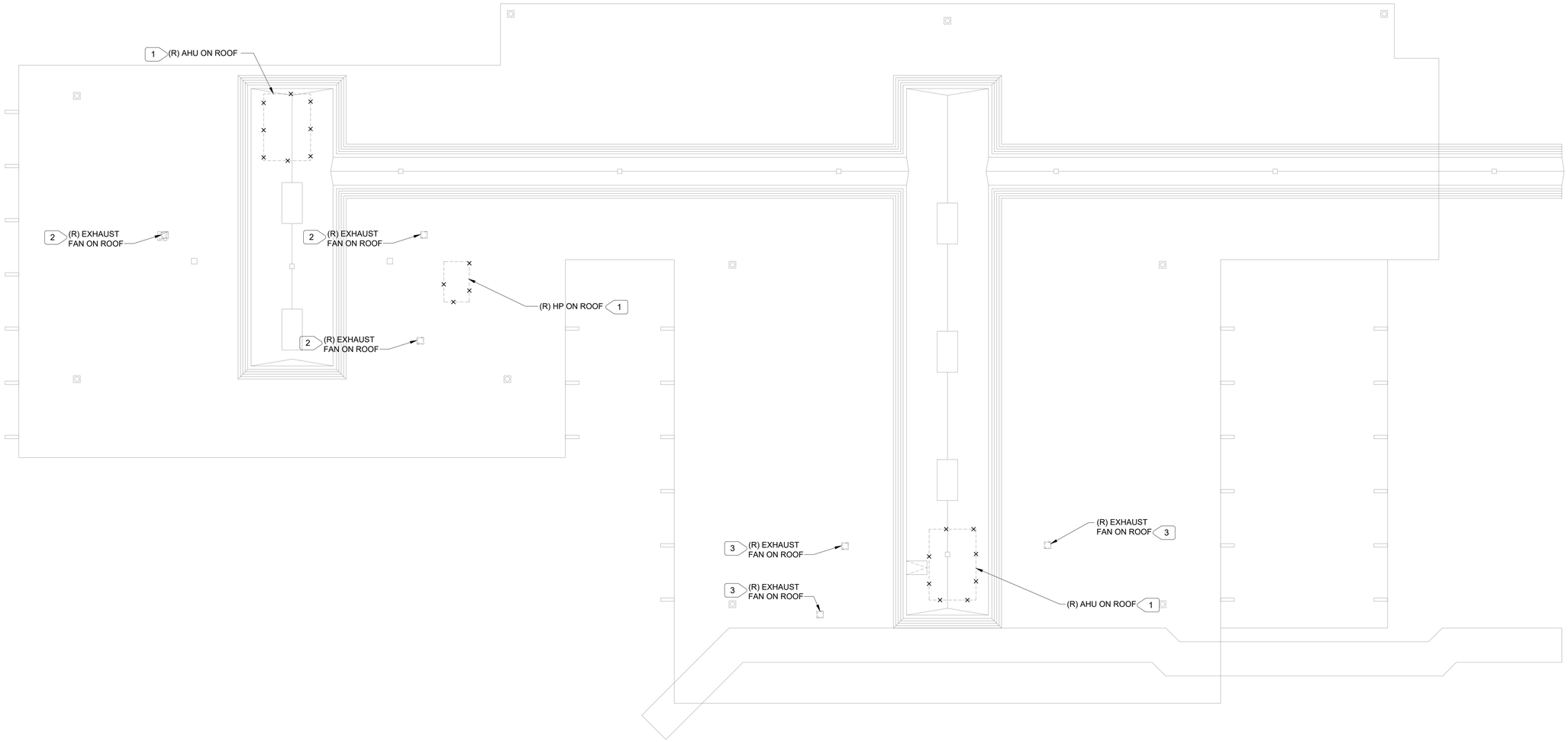

1 / E2.1.F

DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING F

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

NUMBERED NOTES:

1. DISCONNECT UNIT. REMOVE WIRING BACK TO SOURCE.
2. DISCONNECT (E) FAN AND REMOVE WIRING BACK TO SOURCE.
3. DISCONNECT (E) FAN. PROTECT WIRING TO CONNECT (N) FAN.

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Tel: (916) 923-4400
PROJECT #: 22076.21
PROJECT MGR: Sinisha Glisic

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DATE: 09/12/2022

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HENRY+ ASSOCIATES ARCHITECTS

LICENSED ARCHITECT
STEPHEN T. HENRY
C-22525
12/31/23 RENEWAL DATE
STATE OF CALIFORNIA

HVAC REPLACEMENT
LODI MIDDLE SCHOOL

DEMOLITION ROOF PLAN - ELECTRICAL - BUILDING F

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
JESSE U. BASTIAN
No. E20229
Exp. 03-31-23
ELECTRICAL
STATE OF CALIFORNIA
08-30-2022

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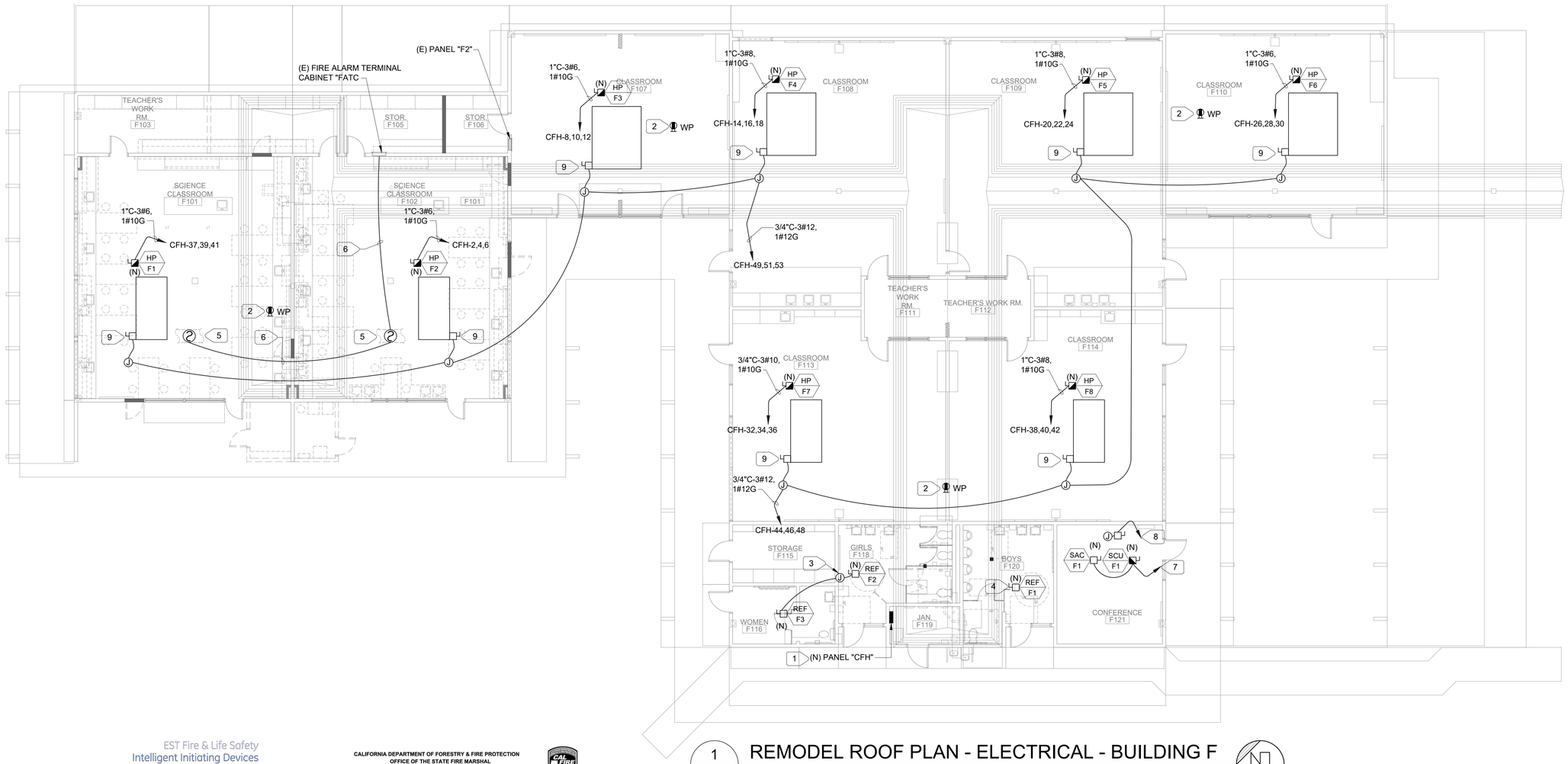

1 E2.2.F

REMODEL ROOF PLAN - ELECTRICAL - BUILDING F

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

NUMBERED NOTES:

1. INSTALL PER 2/E5.1.
2. PROVIDE ON ROOF IN METAL WP ENCLOSURE WITH WHILE-IN-USE COVER. PROVIDE (N) 20/1 CIRCUIT BREAKER IN (E) PANEL "F2". CONNECT RECEPTACLE TO THAT CIRCUIT BREAKER USING 1/2"C-2#12, 1#12G.
3. (E) SALVAGED POWER CIRCUIT USED FOR REMOVED FAN. CONNECT (N) FANS, ADJUST AS REQUIRED.
4. CONNECT (N) FAN TO (E) SALVAGED FAN POWER CIRCUIT.
5. PROVIDE (N) DUCT DETECTOR - EDWARDS SIGA-SD. INSTALL AS DIRECTED BY MECHANICAL. CONNECT INTO ADDRESSABLE INITIATION CIRCUIT AT (E) FIRE ALARM TERMINAL CABINET "FATC". PROVIDE WITH LOCKABLE TEST STATION. INSTALL TEST STATION AS DIRECTED IN FIELD.
6. RUN WEST PENN 990 CABLE THROUGH 1/2" BETWEEN (N) DUCT DETECTOR AND (E) FIRE ALARM TERMINAL CABINET "FATC".
7. PROVIDE (N) 20/2 CIRCUIT BREAKER IN PANEL "F2". CONNECT (N) UNIT SCU-A1 TO THAT CIRCUIT BREAKER USING 3/4"C-2#12, 1#12G. INDOOR UNIT SAC-F1 IS FED FROM OUTDOOR UNIT SCU-F1. PROVIDE ALL NECESSARY CONNECTIONS.
8. PROVIDE (N) 20/1 CIRCUIT BREAKER IN PANEL "F2". CONNECT (N) CONDENSATE PUMP, REFER TO MECHANICAL DRAWINGS.
9. POWER TO EXHAUST ECONOMIZER. REFER TO MECHANICAL DRAWINGS. COORDINATE.

GE Security

EST Fire & Life Safety
Intelligent Initiating Devices

Overview

The GE Security SuperDuct Signature Series smoke detector is the most advanced and most reliable device in its class. Designed for easy installation and superb reliability, SuperDuct represents the perfect balance of practical design and advanced technology.

SuperDuct detectors feature a unique design that speeds installation and simplifies maintenance. Removable dust filters, conformally-coated circuit boards, and optional water-resistant gaskets keep contaminants away from components, ensuring years of trouble-free service. When cleaning is required, the assemblies come apart easily and snap back together in seconds.

A Signature Series photoelectric sensor is incorporated into the design of each SIGA-SD duct smoke detector. This sensor inherits the power and benefits of this exceptional line of intelligent devices.

Signature Series sensors gather analog information from their smoke sensing elements and convert it into digital signals. The sensor measures and analyses these signals and compares the information to historical readings and time patterns to make an alarm decision. Digital filters remove signal patterns that are not typical of fires, which virtually eliminates unwanted alarms.

WARNING: Duct detectors have specific limitations. Duct detectors are not a substitute for an open area smoke detector. Duct detectors are not a substitute for early-warning detection or a replacement for a building's regular fire detection system. Smoke detectors are not designed to detect toxic gases which can build up to hazardous levels in some fires. These devices will not operate without electrical power. As fires frequently cause power interruptions, GE Security suggests you discuss further safeguards with your local fire protection specialist.

Standard Features

- Less than 2" deep for easy installation and applications where space is tight
- -20 to 158 °F (-29 to 70 °C) operating range with 100 ft/min. to 4,000 ft/min air velocity rating assures reliability under harsh environmental conditions
- Status LEDs remain visible through clear assembly cover
- Cover monitor switch for added security
- Standard sampling tube spacing for easy drop-in migration from other detectors
- Sampling tube can be installed with or without the cover in place and can be rotated in 45-degree increments to ensure proper alignment with duct airflow
- 15.2 to 19.95 Vdc operation
- Magnet-activated test switch
- One Form C auxiliary alarm relay for controlling ancillary equipment (e.g., HVAC controls)
- No special tools required for easy access to field connections
- Signature Series intelligence
- Environmental compensation with differential sensing for reliable, stable, and drift-free sensitivity
- Wide 0.79% to 2.46% obscuration/ft. smoke sensitivity
- Identification of dirty or defective detectors

Intelligent Duct Smoke Detector

SIGA-SD

Data Sheet 85001-0584 Issue 4
Not to be used for installation purposes. Page 1 of 4

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

Page 1 of 1

LISTING No. 3242-1657:0223

CATEGORY: 3242 – DUCT SMOKE DETECTOR, PHOTO. (W/ OR W/O BASE)

LISTEE: EDWARDS, A Division of UTC Fire & Security Americas Corporation, Inc.8985 Town Center Parkway, Bradenton, FL 34202
Contact: Jewell Conover (941) 739-4358 Fax (941) 308-8123
Email: rhonda.micochero@carrier.com

DESIGN: Models ESD-SJ, ESD-ST, TSD-SJ, TSD-ST, TSD-SJG, TSD-SJCO2, TSD-STCO2, SIGA-SD, SD-2W, ESD-2W, E-PDD, and FX-PDD photoelectric type duct smoke detectors. The duct detector consists of a thermoplastic enclosure, recognized component printed wiring board, a listed duct detector subassembly, and an inlet coupling tube and an exhaust tube along with gaskets. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 15.2-19.95 VDC
16-30 VDC: SD-2W, ESD-2W

INSTALLATION: In accordance with listee's printed installation instructions and applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, and UL label.

APPROVAL: Listed as photoelectric type, duct smoke detectors for use with separately listed compatible fire alarm control units in conjunction with Models ESD-CJ, -CT or TSD-CJ, -CT series duct smoke detector controller (CSFM Listing No. 3240-1657:225). Models SIGA-SD, E-PDD, FX-PDD, SD-2W or ESD-2W does not require a listed duct smoke detector controller. Suitable for use in ducts where air velocity is between 100 and 4000 ft/min.

*Models ESD-SJ, ESD-ST, TSD-SJ, TSD-SJG, TSD-SJCO2, SIGA-SD, SD-2W and ESD-2W are suitable for use in ambient temperatures of -4°F to 158°F.

Refer to listee's Installation Instruction Manual for details.

NOTE: 1. CO2 sensing features were not examined.
2. Formerly 3242-1591:223

*Corrected 3-22-13 BH

This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2022** *Listing Expires* **June 30, 2023**

Authorized By: ***VICTOR WONG**, Program Coordinator*
Fire Engineering Division

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REMODEL ROOF PLAN - ELECTRICAL - BUILDING F

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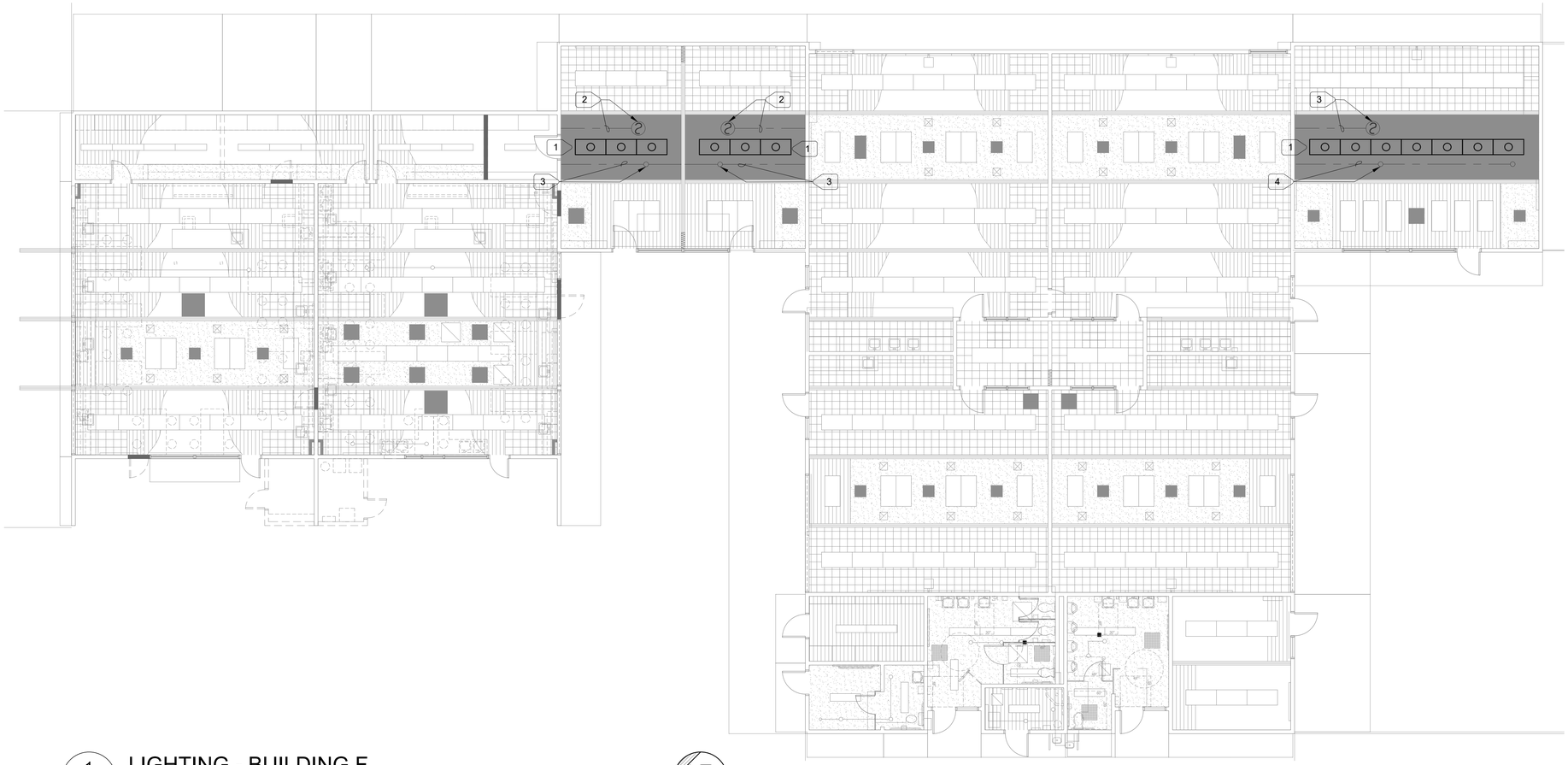

1
E2.4.F

LIGHTING - BUILDING F

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

NUMBERED NOTES:

1. CAREFULLY DISCONNECT (E) LIGHT FIXTURE TO ALLOW FOR CEILING WORK. PROTECT (E) LIGHTING CIRCUIT. LOCATE / SHIFT (E) FIXTURE AS SHOWN ON THIS DRAWING AND ARCHITECTURAL DRAWINGS AFTER CEILING WORK IS FINISHED. RECONNECT INTO EXISTING LIGHTING CIRCUIT AND LIGHTING CONTROLS. INSURE THAT LIGHT IS FUNCTIONING CORRECTLY.
2. CAREFULLY DISCONNECT (E) FIRE ALARM DEVICE(S) AND ASSOCIATED FIRE ALARM CIRCUIT(S) IN SURFACE RACEWAY TO ALLOW FOR CEILING WORK. REINSTALL (E) FIRE ALARM DEVICE(S) AT SAME LOCATION AFTER CEILING WORK IS FINISHED. REINSTALL AND RECONNECT EXISTING FIRE ALARM CIRCUITS. TEST DISTURBED/REINSTALLED FIRE ALARM DEVICES.
3. (E) LIGHTING CONTROL DEVICES/CIRCUITS IN SURFACE RACEWAY. CAREFULLY DISCONNECT TO ALLOW FOR CEILING WORK. REINSTALL AND RECONNECT AFTER CEILING WORK IS FINISHED.

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LODI MIDDLE SCHOOL

LIGHTING - BUILDING F

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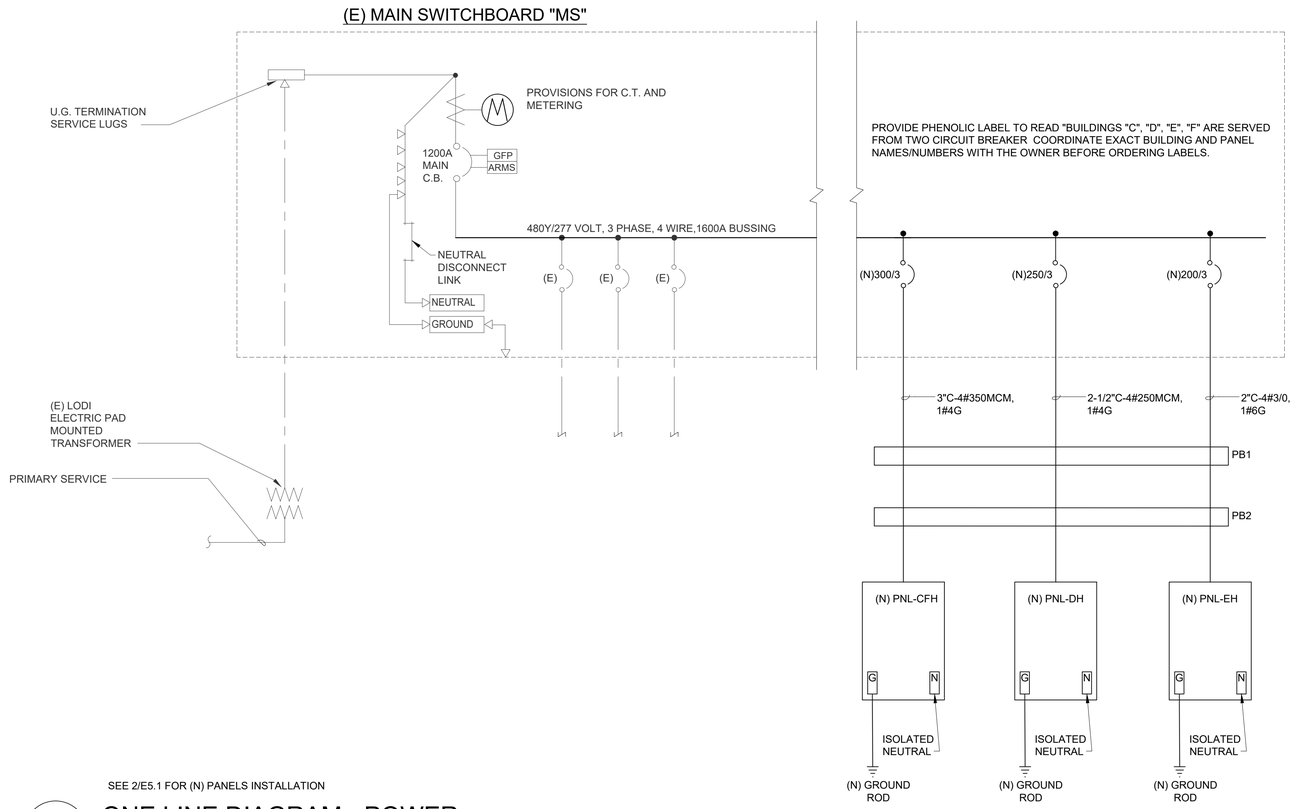

SEE 2/E5.1 FOR (N) PANELS INSTALLATION

1 / E3.1 ONE LINE DIAGRAM - POWER

N.T.S.

NEW PANEL "CFH" SCHEDULE

POWER SOURCE: PANEL "MAIN SWITCHBOARD MS" | LOCATION: SEE PLANS

TYPE:	BUS: 400A	MAIN BKR 300A SUB FD:	VOLTAGE: 480Y/277 VOLT, 3 PHASE, 4 WIRES	MOUNTING: SURFACE PNL TYPE: NEMA 1	REMARKS: 22k AIC MIN. SYMM.

LOAD SERVED	kVA	CB	CKT	PHASE	CKT	CB	kVA	LOAD SERVED
	5.1		1	A	2		7.9	
HP-C1	5.1	35/3	3	B	4	50/3	7.9	HP--F2
	5.1		5	C	6		7.9	
	4.1		7	A	8		7.0	
HP-C2	4.1	25/3	9	B	10	45/3	7.0	HP-F3
	4.1		11	C	12		7.0	
	5.1		13	A	14		5.1	
HP-C3	5.1	35/3	15	B	16	35/3	5.1	HP-F4
	5.1		17	C	18		5.1	
	7.0		19	A	20		5.1	
HP-C4	7.0	45/3	21	B	22	35/3	5.1	HP-F5
	7.0		23	C	24		5.1	
	5.1		25	A	26		7.0	
HP-C5	5.1	35/3	27	B	28	45/3	7.0	HP-F6
	5.1		29	C	30		7.0	
	5.1		31	A	32		4.1	
HP-C6	5.1	35/3	33	B	34	25/3	4.1	HP-F7
	5.1		35	C	36		4.1	
	7.9		37	A	38		5.1	
HP-F1	7.9	50/3	39	B	40	35/3	5.1	HP-F8
	7.9		41	C	42		5.1	
	1.0		43	A	44		1.0	
EXH. ECONOMIZER	1.0	20/3	45	B	46	20/3	1.0	EXH. ECONOMIZER
	1.0		47	C	48		1.0	
	1.0		49	A	50			
EXH. ECONOMIZER	1.0	20/3	51	B	52	PFB		SPACE
	1.0		53	C	54			

NOTE(S)
1.

PHASE A=	80.7	kVA
PHASE B=	80.7	kVA
PHASE C=	80.7	kVA
TOTAL =	242.1	kVA
TOTAL =	291.3	Amperes

NEW PANEL "DH" SCHEDULE

POWER SOURCE: PANEL "MAIN SWITCHBOARD MS" | LOCATION: SEE PLANS

TYPE:	BUS: 250a	MAIN BKR 250A SUB FD:	VOLTAGE: 480Y/277 VOLT, 3 PHASE, 4 WIRES	MOUNTING: SURFACE PNL TYPE: NEMA 1	REMARKS: 22k AIC MIN. SYMM.

LOAD SERVED	kVA	CB	CKT	PHASE	CKT	CB	kVA	LOAD SERVED
	5.1		1	A	2		7.0	
HP-D1	5.1	35/3	3	B	4	45/3	7.0	HP-D8
	5.1		5	C	6		7.0	
	5.1		7	A	8		5.1	
HP-D2	5.1	35/3	9	B	10	35/3	5.1	HP-D9
	5.1		11	C	12		5.1	
	4.1		13	A	14		5.1	
HP-D3	4.1	25/3	15	B	16	35/3	5.1	HP-D10
	4.1		17	C	18		5.1	
	4.1		19	A	20		4.1	
HP-D4	4.1	25/3	21	B	22	25/3	4.1	HP-D11
	4.1		23	C	24		4.1	
	4.1		25	A	26		5.1	
HP-D5	4.1	25/3	27	B	28	35/3	5.1	HP-D12
	4.1		29	C	30		5.1	
	5.1		31	A	32		5.1	
HP-D6	5.1	35/3	33	B	34	35/3	5.1	HP-D13
	5.1		35	C	36		5.1	
	5.1		37	A	38		4.1	
HP-D7	5.1	35/3	39	B	40	25/3	4.1	HP-D14
	5.1		41	C	42		4.1	
	1.0		43	A	44		4.1	
EXH. ECONOMIZER	1.0	20/3	45	B	46	25/3	4.1	HP-D15
	1.0		47	C	48		4.1	
	1.0		49	A	50		1.0	
EXH. ECONOMIZER	1.0	20/3	51	B	52	20/3	1.0	EXH. ECONOMIZER
	1.0		53	C	54		1.0	

NOTE(S)
1.

PHASE A=	68.3	kVA
PHASE B=	68.3	kVA
PHASE C=	68.3	kVA
TOTAL =	204.9	kVA
TOTAL =	246.6	Amperes

NEW PANEL "EH" SCHEDULE

POWER SOURCE: PANEL "MAIN SWITCHBOARD MS" | LOCATION: SEE PLANS

TYPE:	BUS: 225A	MAIN BKR 200A SUB FD:	VOLTAGE: 480Y/277 VOLT, 3 PHASE, 4 WIRES	MOUNTING: SURFACE PNL TYPE: NEMA 1	REMARKS: 22k AIC MIN. SYMM.

LOAD SERVED	kVA	CB	CKT	PHASE	CKT	CB	kVA	LOAD SERVED
	7.0		1	A	2		7.0	
HP-E1	7.0	45/3	3	B	4	45/3	7.0	HP-E5
	7.0		5	C	6		7.0	
	7.0		7	A	8		1.0	
HP-E2	7.0	45/3	9	B	10	20/3	1.0	EXH. ECONOMIZER
	7.0		11	C	12		1.0	
	4.1		13	A	14		1.0	
HP-E3	4.1	25/3	15	B	16	20/3	1.0	EXH. ECONOMIZER
	4.1		17	C	18		1.0	
	7.0		19	A	20		15.0	
HP-E4	7.0	45/3	21	B	22	70/3	15.0	(F) TRANSFROMER
	7.0		23	C	24		15.0	

NOTE(S)
1.

PHASE A=	49.1	kVA
PHASE B=	49.1	kVA
PHASE C=	49.1	kVA
TOTAL =	147.3	kVA
TOTAL =	177.3	Amperes

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HVAC REPLACEMENT
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ONE LINE DIAGRAM
POWER, PANEL SCHEDULE

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER JESSE U. BASTIAN No. E20229 Exp. 03-31-23 ELECTRICAL STATE OF CALIFORNIA
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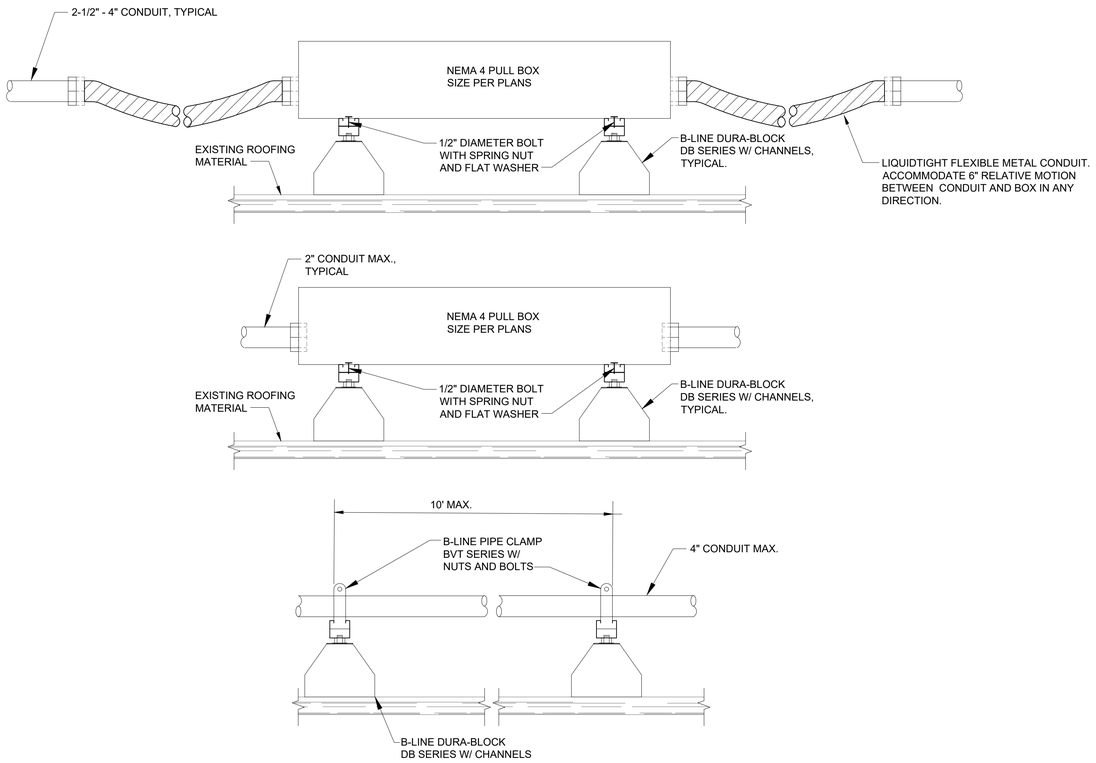
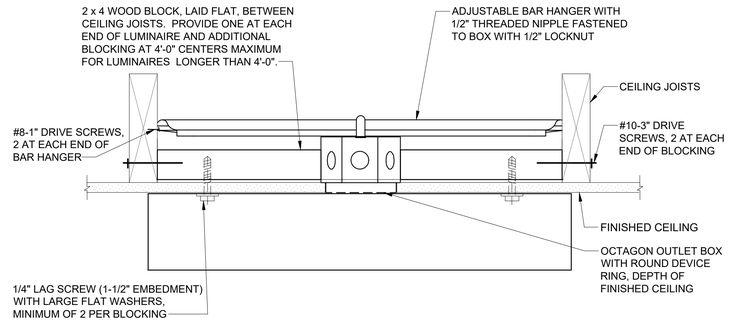


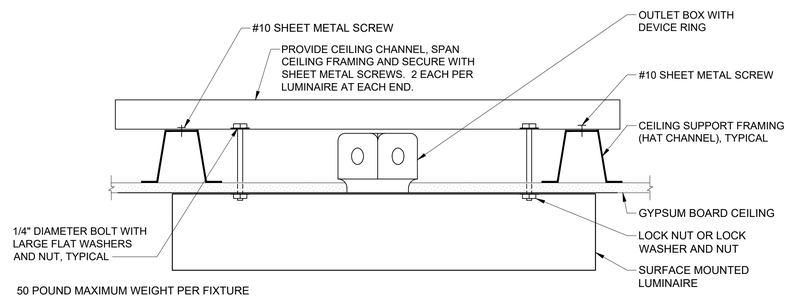
1 / E5.1 CONDUIT & PULLBOX ON ROOF

NO SCALE



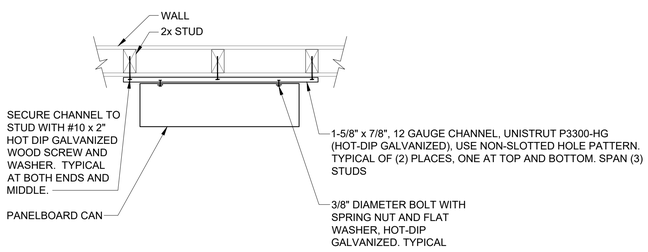
3 / E5.1 SURFACE FIXTURE MOUNTING DETAIL

NO SCALE



4 / E5.1 SURFACE FIXTURE MOUNTING DETAIL

NO SCALE



(N) PANELS DIMENSION: 26"H X 20"W X 6"D
MAXIMUM WEIGHT: 195LB.

NOTE: PAINT EXPOSED CONDUITS TO MATCH SURFACE TO WHICH THEY ARE ATTACHED.

2 / E5.1 SURFACE PANELBOARD / DISCONNECT MOUNTING DETAIL

NO SCALE

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