

SOLANO COMMUNITY COLLEGE VACAVILLE CENTER
SOLANO COMMUNITY DISTRICT

2001 N VILLAGE PKWY
VACAVILLE, CA 95688

GENERAL NOTES

1. THESE DRAWINGS DO NOT CONTAIN THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
2. LOCATIONS OF ALL UTILITIES SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID INTERCEPTING EXISTING PIPING OR CONDUITS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT SHOULD ANY UNIDENTIFIED CONDITIONS BE DISCOVERED. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE EXECUTION OF THIS WORK.
3. THESE DOCUMENTS AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF WLC ARCHITECTS, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF WLC ARCHITECTS, INC.
4. THE WORK SHOWN ON THESE DRAWINGS AS EXISTING CONDITIONS WAS PREPARED FROM INFORMATION FURNISHED BY THE OWNER. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, WLC ARCHITECTS, INC. IS NOT RESPONSIBLE FOR THE ACCURACY OR ADEQUACY OF ANY WORK SHOWN AS EXISTING NOR IS WLC ARCHITECTS, INC. RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.
5. EACH BIDDER SHALL POSSESS AT THE TIME OF BID A CLASS B OR THE APPROPRIATE CLASS C CONTRACTOR'S LICENSE PURSUANT TO PUBLIC CONTRACT CODE SECTION 3300 AND BUSINESS AND PROFESSIONS CODE SECTION 7028.15. THE SUCCESSFUL BIDDER MUST MAINTAIN THE LICENSE THROUGHOUT THE DURATION OF THIS CONTRACT.
6. PENETRATIONS TO FIRE RATED MATERIALS OR ASSEMBLIES SHALL BE RESTORED TO EQUAL RATING. FIRE STOP SYSTEMS AS LISTED BY UNDERWRITERS LABORATORIES SHALL BE INSTALLED PER FIRE RESISTANCE DIRECTORY. FIRE STOP SYSTEMS SHALL BE AS SPECIFIED.
7. NONRESIDENTIAL ENERGY STANDARDS COMPLIANCE STATEMENT (TITLE 24, PART 6):
- THE DESIGN INDICATED HEREIN COMPLIES WITH THE REQUIREMENTS OF THE ENERGY CONSERVATION STANDARDS OF TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS. THE PROPOSED BUILDING(S) WILL BE IN COMPLIANCE WITH THE ENERGY CONSERVATION STANDARDS PROVIDED IT (THEY) IS (ARE) BUILT ACCORDING TO THESE DRAWINGS AND SPECIFICATIONS AND PROVIDED ANY FUTURE IMPROVEMENTS ARE COMPLETED ACCORDING TO THE REQUIREMENTS OF TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS. THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED TO INCLUDE ALL SIGNIFICANT ENERGY CONSERVATION FEATURES REQUIRED FOR COMPLIANCE WITH THE STANDARDS. BUILDING AREAS THAT ARE UNCONDITIONED AND/OR NOT SUBJECT TO THE STANDARDS ARE INDICATED ON THE PLANS.
- A. INSTALLED INSULATING MATERIALS SHALL HAVE BEEN CERTIFIED BY THE MANUFACTURER TO COMPLY WITH THE CALIFORNIA QUALITY STANDARDS FOR INSULATING MATERIAL.
- B. ALL INSULATING MATERIALS SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAME SPREAD RATING AND SMOKE DENSITY REQUIREMENTS OF TITLE 24, PART 2, CALIFORNIA CODE OF REGULATIONS, SECTIONS 720 AND 2603.
- C. ALL EXTERIOR JOINTS AND OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL AND OBSERVABLE SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHERSTRIPPED OR OTHERWISE SEALED.
8. INSPECTOR OF RECORD REQUIREMENTS
- A. ONE OR MORE INSPECTORS EMPLOYED BY THE OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS WILL BE ASSIGNED TO THE WORK. THE INSPECTOR'S DUTIES ARE SPECIFICALLY DEFINED IN SECTION 4-342 OF SAID TITLE 24, PART 1 AND IN ADDITION SHALL BE AS STIPULATED IN INTERPRETATION OF REGULATION DOCUMENT IR A-8.
- B. INSPECTOR SHALL BE CERTIFIED AS A CLASS [1] [2] [3] [4] INSPECTOR THROUGH THE DIVISION OF THE STATE ARCHITECT INSPECTOR EXAMINATION PROGRAM. INSPECTOR SHALL ALSO BE SPECIFICALLY APPROVED BY THE DIVISION OF THE STATE ARCHITECT FOR THIS PROJECT AT LEAST 10 DAYS PRIOR TO THE START OF ANY WORK FOR THIS PROJECT.
9. ALL WORK SHOWN ON THESE DRAWINGS SHALL COMPLY WITH THE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
10. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY TITLE 24, CCR, PART 1, SECTION 4-338.
11. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ADDITION, ALTERATION OR RECONSTRUCTION IS IN COMPLIANCE WITH THE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT IDENTIFIED BY THE CONTRACT DOCUMENTS WHEREIN THE FINAL WORK WOULD NOT COMPLY WITH THE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND THE ARCHITECT OF THE CONDITION IN WRITING. NECESSARY INFORMATION REQUIRED TO CORRECT THE CONDITIONS ENCOUNTERED WILL BE ISSUED BY THE ARCHITECT. A CHANGE ORDER MAY BE ISSUED TO ADJUST THE CONTRACT SUM OR TIME COMMENSURATE WITH THE AMOUNT OF ADDITIONAL WORK REQUIRED IF ANY. A CONSTRUCTION CHANGE DOCUMENT SHALL BE APPROVED BY THE DIVISION OF THE STATE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK REQUIRED BY THE CHANGE ORDER.

GOVERNING CODE

2013 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 1

2013 CALIFORNIA BUILDING CODE (CBC) (2012 INTERNATIONAL BUILDING CODE (IBC) W/ CALIFORNIA AMENDMENTS)
(CCR) TITLE 24, PART 2

2013 CALIFORNIA ELECTRICAL CODE (CEC) (2011 NATIONAL ELECTRIC CODE (NEC) W/ CALIFORNIA AMENDMENTS)
(CCR) TITLE 24, PART 3

2013 CALIFORNIA MECHANICAL CODE (CMC) (2012 UNIFORM MECHANICAL CODE (UMC) W/ CALIFORNIA AMENDMENTS)
(CCR) TITLE 24, PART 4

2013 CALIFORNIA PLUMBING CODE (CPC) (2012 UNIFORM PLUMBING CODE (UPC) W/ CALIFORNIA AMENDMENTS)
(CCR) TITLE 24, PART 5

2013 CALIFORNIA ENERGY CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 6

2013 CALIFORNIA FIRE CODE (CFC) (2012 INTERNATIONAL FIRE CODE (IFC) W/ CALIFORNIA AMENDMENTS)
(CCR) TITLE 24, PART 9

2013 CALIFORNIA EXISTING BUILDING CODE
CALIFORNIA CODE OF REGULATION (CCR) TITLE 24, PART 10

(2012 INTERNATIONAL EXISTING BUILDING CODE (IEBC) W/ CALIFORNIA AMENDMENTS)

1990 STATE FIRE MARSHAL (AS AMENDED TO DATE) CALIFORNIA OF REGULATIONS (CCR) TITLE 19

2013 CALIFORNIA REFERENCED STANDARDS CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 12

AMERICANS WITH DISABILITIES ACT (ADA), 2013 ADA STANDARDS FOR ACCESSIBLE DESIGN

APPLICABLE NFPA STANDARDS

NFPA 13 - AUTOMATIC SPRINKLER SYSTEMS, 2013 EDITION
NFPA 14 - STANDPIPE SYSTEMS, 2013 EDITION
NFPA 17 - DRY CHEMICAL EXTINGUISHING SYSTEMS, 2013 EDITION
NFPA 17A - WET CHEMICAL SYSTEMS, 2013 EDITION
NFPA 20 - STATIONARY PUMPS, 2013 EDITION
NFPA 24 - PRIVATE FIRE MAINS, 2013 EDITION
NFPA 72 - NATIONAL FIRE ALARM CODE, 2013 EDITION
NFPA 253 - CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS, 2006 EDITION

CSC CHAPTER 33 FIRE SAFETY DURING CONSTRUCTION & DEMOLITION.
NFPA 2001 - CLEAN AGENT FIRE EXTINGUISHING SYSTEMS, 2012 EDITION

NOTE: ALL NFPA STANDARDS AS LISTED ARE TO CONFORM TO THE EDITION AS LISTED WITH THE LATEST CALIFORNIA AMENDMENTS. REFERENCE CBC TITLE 24, PART 2 - CHAPTER 35 FOR ADDITIONAL APPLICABLE NFPA STANDARDS.

ALL FOOD SERVICE EQUIPMENT SHALL MEET AND BE INSTALLED PER THE REQUIREMENT OF CALIFORNIA HEALTH AND SAFETY CODE DIVISION 22 AND ALL LOCAL CODES AND ORDINANCES

TITLE 8 CCR CHAPTER 4 SUBCHAPTER 6 ELEVATOR SAFETY ORDERS

ASME A18.1-2003 SAFETY STANDARD FOR PLATFORM LIFTS

SCOPE OF WORK

THE SCOPE OF THE WORK AS STATED BELOW IS FOR DSA PLAN REVIEW PURPOSES ONLY AND DOES NOT CONSTITUTE A DETAILED AND FULL EXPLANATION OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

ALTERATIONS TO 1-EDUCATION CENTER/HVAC UPGRADE

PROJECT TEAM

PROJECT ADDRESS

SOLANO COMMUNITY COLLEGE VACAVILLE CENTER
2001 N VILLAGE PKWY
VACAVILLE, CA 95688
PHONE: 707-863-7872

OWNER

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PHONE: 707-864-7154

ARCHITECT

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PHONE: 510-450-1999

STRUCTURAL ENGINEER

BASE DESIGN
582 MARKET ST. STE 1402
SAN FRANCISCO, CA 94104
PHONE: 415-466-2997

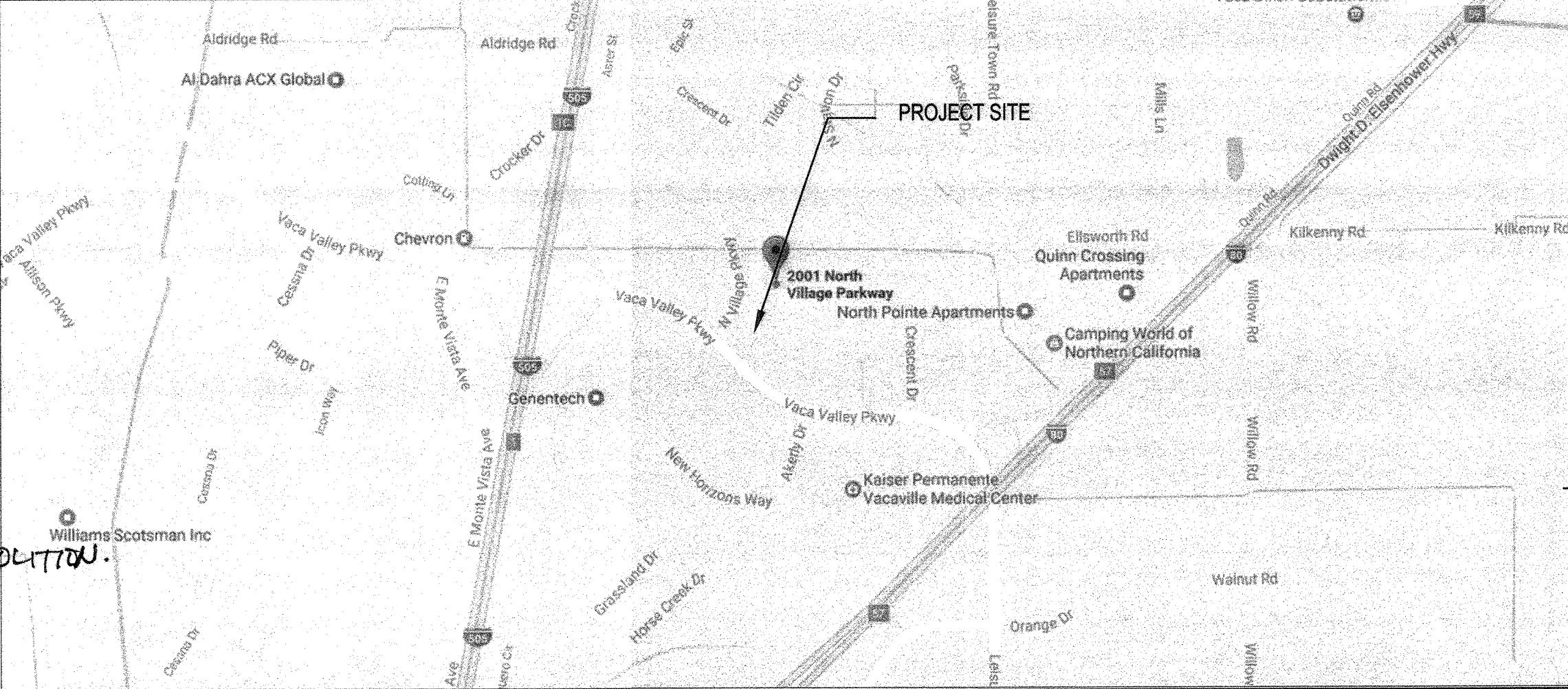
MECHANICAL ENGINEER

EDESIGNC INC.
212 9TH STREET
OAKLAND, CA 94607
PHONE: 510-943-0913

ELECTRICAL ENGINEER

EDESIGNC INC.
212 9TH STREET
OAKLAND, CA 94607
PHONE: 510-943-0913

VICINITY MAP



STATEMENT OF GENERAL CONFORMANCE

APPLICATION # 02-115703
*THE DRAWINGS LISTED HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONAL OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. THESE DOCUMENTS HAVE BEEN EXAMINED BY ME FOR:

- THE DESIGN INTENT AND APPEAR TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME.
- COORDINATION WITH MY PLANS AND SPECIFICATIONS AND ACCEPTANCE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

THE STATEMENTS OF GENERAL CONFORMANCE *SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES AND RESPONSIBILITIES UNDER SECTION 17302 AND 91139 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-341, AND 4-344 OF TITLE 24, PART 1. (TITLE 24 PART 1, SECTION 4-4-317 (b))

I CERTIFY THAT ALL DRAWINGS LISTED ON THE DRAWING SHEET INDEX

☒ I/S ARE IN GENERAL CONFORMANCE AND

☒ HAVE BEEN COORDINATED

SIGNATURE
ARCHITECT OR ENGINEER DESIGNATED TO BE RESPONSIBLE CHARGE

PRINT NAME
C-134555
10/8/19
EXPIRATION

11/02/2017
DATE

ARCHITECTS

WLC

CLIENT FOCUSED • PASSION DRIVEN

BAY AREA

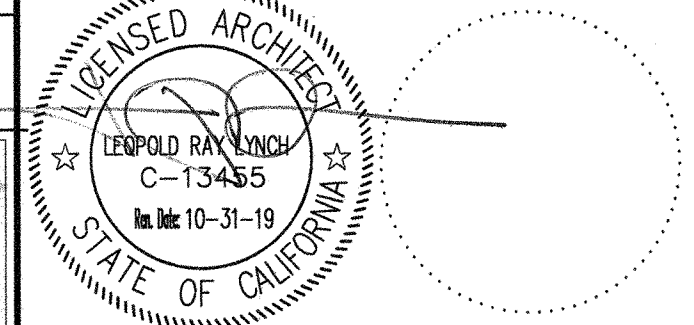
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COLLEGE DISTRICT
VACAVILLE CENTER

2001 N VILLAGE PKWY
VACAVILLE, CA 95688



CONSULTANT

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL 02-115703
FILE: 48-C1
AC/ML
DATE: 11/2/17

△	11-03-17		DSA BACK CHECK
△			
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NO	DATE	BY	DESCRIPTION
REVISIONS			

DRAWN: CHECKED:
DATE: 03/21/2017 SCALE:
PROJECT NUMBER: 1715900

GENERAL NOTES
& PROJECT
DIRECTORY

DRAWING
NUMBER:

A0.1

DRAFTING SYMBOL LEGEND

NEW / REQUIRED POINT
ELEVATION (PLAN)

EXISTING POINT ELEVATION
(PLAN)

SURFACE DRAINAGE
ARROW INDICATES DIRECTION OF FLOW

SITE REFERENCE GRID
WORK POINT COORDINATES

PROJECT NORTH

COLUMN REFERENCE GRIDS
B, 2.3 = COLUMN DESIGNATION

ELEVATION
4 = ELEVATION DESIGNATION
A5.1 = REFERENCE DRAWING NUMBER
ARROW INDICATES DIRECTION OF VIEW

BUILDING SECTION
C = SECTION DESIGNATION
A5.2 = REFERENCE DRAWING NUMBER
ARROW INDICATES DIRECTION OF VIEW

WALL SECTION
E = SECTION DESIGNATION
A5.3 = REFERENCE DRAWING NUMBER
ARROW INDICATES DIRECTION OF VIEW

DETAIL
10 = DETAIL DESIGNATION
8.3 = REFERENCE DRAWING NUMBER

AREA IDENTITY/ CODE ANALYSIS

LOBBY = ROOM NAME
E1 = OCCUPANCY GROUP
6 = SPACE USE - REF SPACE USE SCHEDULE
900 = FLOOR AREA - SQUARE FEET
45 = OCCUPANT LOAD (CBC TABLE 10-A)
= OCCUPANT LOAD SIGN REQUIRED
WHEN NOTED - (CBC SEC 1002.3)
REF SIGNAGE SCHEDULE

LOBBY = ROOM NAME
A230 = AREA IDENTITY
A - BUILDING OR AREA DESIGNATION
2 - FLOOR NUMBER
30 - ROOM NUMBER
9/A7.6 = INTERIOR ELEVATION DESIGNATION
AND DRAWING NUMBER WHERE
ELEVATION IS SHOWN
A1, B2, C3, D4 = ROOM MATERIAL CODE/ FINISH
A1 = FLOOR AND BASE FINISH
B2 = WALL MATERIAL / FINISH
C3 = CEILING MATERIAL / FINISH
D4 = WAINSCOT MATERIAL / HEIGHT
* = DESIGNATES SPECIAL CONDITION,
REFERENCE INTERIOR ELEVATION
OR REFLECTED CEILING PLAN
FOR DESCRIPTION
10-0 = CEILING HEIGHT IN FEET & INCHES
1, 2, 3, OR 4 = ELEVATION IDENTITY NUMBER-
NUMBER POINTS TO WALL
SHOWN IN ELEVATION

REVISION
3 = REVISION NUMBER

EQUIPMENT IDENTIFICATION
123 = EQUIPMENT NUMBER

GLAZED OPENING OR
WINDOW TYPE
NUMERICAL DESIGNATION = GLAZED OPENING
ALPHABETICAL DESIGNATION = WINDOW TYPE

DOOR IDENTIFICATION
A = BUILDING DESIGNATION
2 = FLOOR NUMBER
50 = DOOR NUMBER

REFERENCE NOTE
IDENTIFICATION
06 = DIVISIONAL PREFIX
54 = NOTE NUMBER

WALL IDENTIFICATION
C = WALL TYPE DESIGNATION -
REF SCHEDULE
4 = NOMINAL STUD OR MASONRY SIZE
2 = FIRE RATING IN HOURS
B = ADDITIONAL REMARKS -
REF SCHEDULE
* = OPTIONAL CHARACTER

TOILET ACCESSORY
IDENTIFICATION
3 = ACCESSORY NUMBER - REF SCHEDULE
A = ACCESSIBLE WHEN NOTED

CABINET DESIGNATION
100 = VI CABINET NUMBER
M = MODIFIED AS NOTED
L = LOCK WHEN NOTED

LEVEL LINE, CONTROL POINT
FFE 0'-0" = ELEVATION

STAIR DIRECTION SYMBOL
NUMBER AND SIZE OF TREADS
AND RISERS IN INCHES

MATCH LINE AND AREA
DESIGNATOR
SHADED PORTION IS THE SIDE CONSIDERED

CENTER LINES, FLOOR LINES
AND LEVEL LINES

SECTION LINES

PROPERTY LINES, BOUNDRY
LINES AND MATCH LINES

HIDDEN CONSTRUCTION
FEATURE

BREAKS OF BUILDING
COMPONENTS

AREA IDENTITY/ PLAN

LOBBY = ROOM NAME
A230 = AREA IDENTITY
A - BUILDING OR AREA DESIGNATION
2 - FLOOR NUMBER
30 - ROOM NUMBER
9/A7.6 = INTERIOR ELEVATION DESIGNATION
AND DRAWING NUMBER WHERE
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A1, B2, C3, D4 = ROOM MATERIAL CODE/ FINISH
A1 = FLOOR AND BASE FINISH
B2 = WALL MATERIAL / FINISH
C3 = CEILING MATERIAL / FINISH
D4 = WAINSCOT MATERIAL / HEIGHT
* = DESIGNATES SPECIAL CONDITION,
REFERENCE INTERIOR ELEVATION
OR REFLECTED CEILING PLAN
FOR DESCRIPTION
10-0 = CEILING HEIGHT IN FEET & INCHES
1, 2, 3, OR 4 = ELEVATION IDENTITY NUMBER-
NUMBER POINTS TO WALL
SHOWN IN ELEVATION

MATERIALS INDICATION LEGEND

EARTH

POROUS FILL
(STONE, GRAVEL, ETC.)

ROCK

ASPHALT PAVING

CAST-IN-PLACE CONCRETE
(OR CONCRETE FILL)

PRECAST CONCRETE
(GLASS FIBER REINFORCED CONCRETE)

CEMENTITIOUS DECKS &
TOPPINGS
(GYPSUM, INSULATING CONCRETE)

BRICK
(COMMON OR FACE, LARGE SCALE)

GLAZED BRICK

FIRE BRICK

CONCRETE MASONRY UNITS
(CMU, LARGE SCALE CONCRETE BLOCK)

GLAZED CONCRETE MASONRY
UNITS

GLASS UNIT MASONRY

GROUT

CUT STONE
(MARBLE, GRANITE, LIMESTONE)

CAST STONE

SLATE, SOAPSTONE, FLAGGING

STRUCTURAL CLAY TILE

GLAZED STRUCTURAL CLAY TILE

ALUMINUM
(LARGE SCALE)

STEEL
(LARGE SCALE)

ORNAMENTAL METAL
(BRASS, BRONZE)

METAL
(SMALL SCALE, STRUCTURAL OR SHEET)

PARTICLE BOARD

PLYWOOD
(LARGE SCALE)

WOOD FINISHED

WOOD ROUGH/CONTINUOUS
(2 X 10 - SIZE NOTED)

WOOD ROUGH/BLOCKING
(2 X 10 - SIZE NOTED)

INSULATION
(LOOSE OR BATT)

INSULATION
(RIGID)

GLASS
(LARGE SCALE)

ACOUSTICAL TILE

CERAMIC TILE

GYPSUM BOARD

SAND, CEMENT, ETC.

METAL LATH AND PLASTER

RESILIENT FLOORING

CARPET

TERRAZZO

ELEVATION

CONCRETE, PLASTER,
GYPSUM BOARD

MARBLE, FIELD STONE

MASONRY
(BRICK OR CMU)

GLAZING
(CLEAR, TEMPERED, ETC.)

GLAZING
(WIRE, LABELED)

SHEET METAL

CERAMIC TILE

WALL MATERIALS LEGEND

EXISTING WALL TO BE REMOVED

EXISTING WALL TO REMAIN

STUD WALL - REF SCHEDULE FOR STUD
TYPE, SIZE AND SPACING

BRICK MASONRY WALL - REF SCHEDULE
FOR SIZE

CONCRETE MASONRY WALL (CMU) - REF
SCHEDULE FOR TYPE AND SIZE

COMPOSITE MASONRY WALL - REF
SCHEDULE FOR MASONRY TYPES AND
SIZES

COMPOSITE VENEER WALL - REF
SCHEDULE FOR MASONRY AND STUD
TYPE, SIZE AND SPACING

SHAFT WALL - REF SCHEDULE FOR STUD
TYPE, SIZE AND SPACING

SOUND RATED WALL - REF SCHEDULE
FOR WALL MATERIALS

CONCRETE WALL - REF SCHEDULE
FOR SIZE

ONE HOUR FIRE RATED WALL - REF PLAN
AND SCHEDULE FOR WALL MATERIALS
AND CBC/UL/GA LISTING

TWO HOUR FIRE RATED WALL - REF PLAN
AND SCHEDULE FOR WALL MATERIALS
AND CBC/UL/GA LISTING

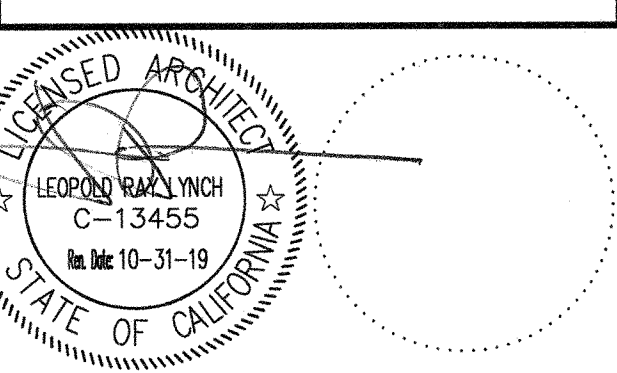
- GENERAL NOTES:
1. REFER TO FINISH SCHEDULE FOR WALL FINISHES
 2. REFER TO WALL TYPE SCHEDULE FOR WALL DETAILS AND MATERIALS OF CONSTRUCTION
 3. ALL WALL DEFINITIONS MAY NOT BE USED, REFER TO FLOOR PLAN(S) FOR APPLICABLE WALL DEFINITIONS USED.



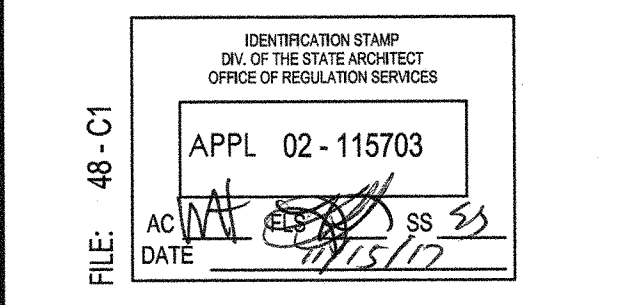
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11-03-17	DSA BACK CHECK
NO	DATE BY DESCRIPTION
REVISIONS	

DRAWN: CHECKED:
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PROJECT NUMBER: 1715900

**DRAFTING
SYMBOLS AND
MAT INDICATORS**

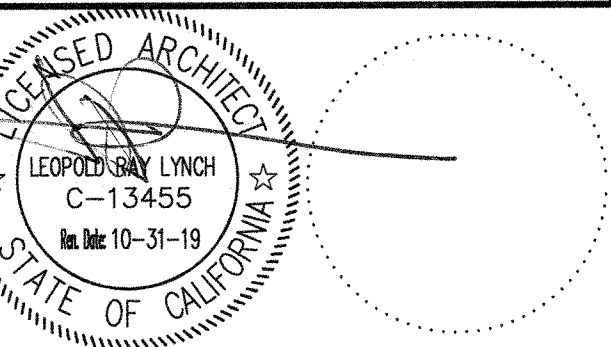
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NUMBER: **A0.3**

WLC
ARCHITECTS

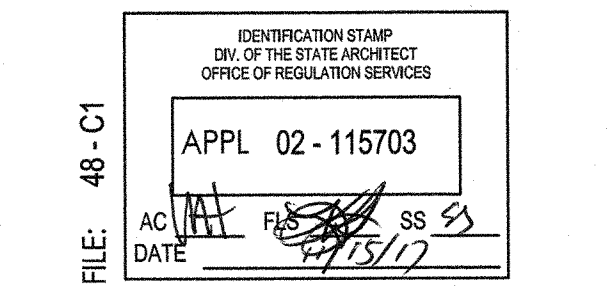
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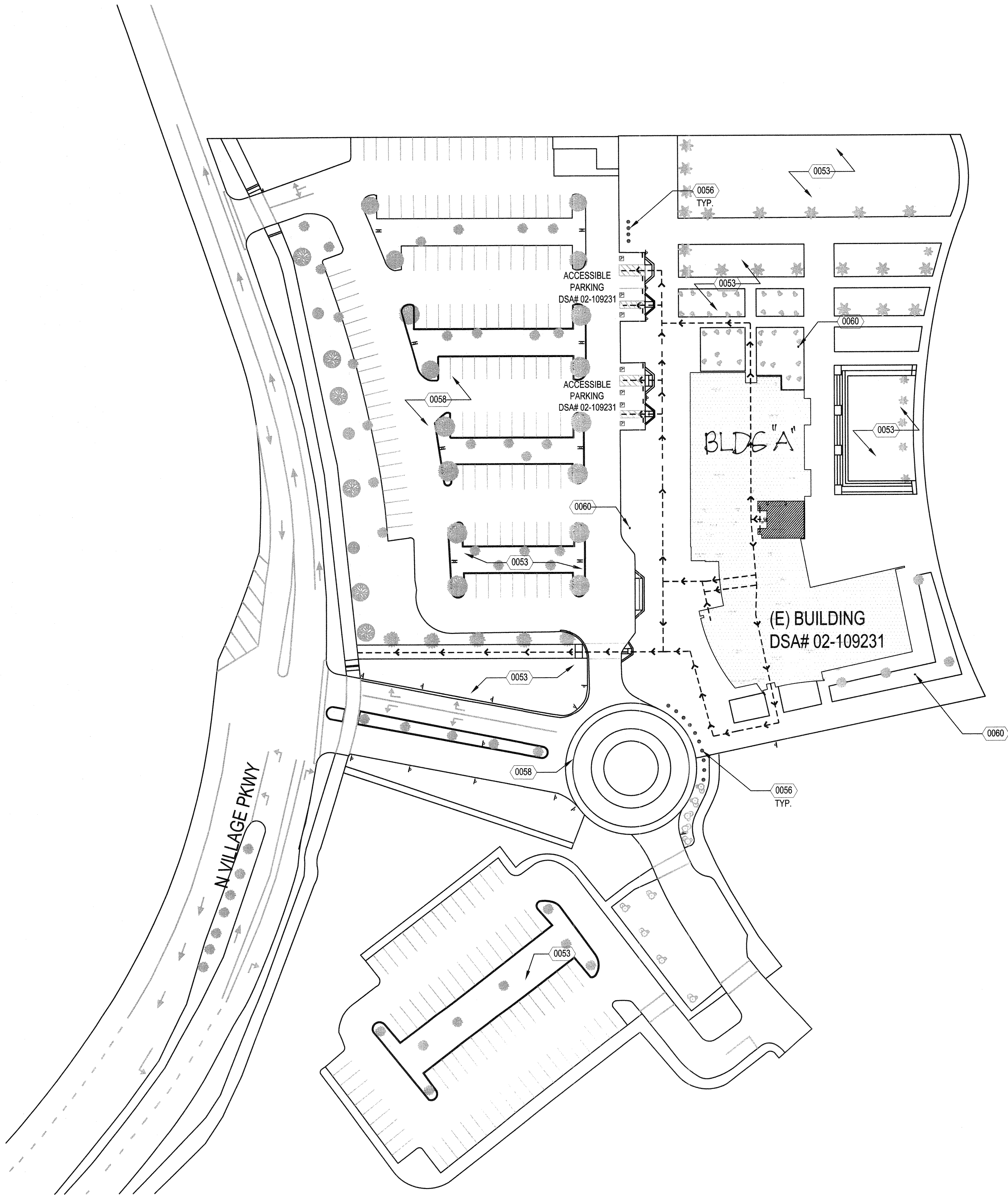
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DRAWN:	CHECKED:
DATE: 03/21/2017	SCALE:
PROJECT NUMBER: 1715900	

ARCHITECTURAL DRAWING ABBREVIATIONS

DRAWING NUMBER: **A0.4**

& / @ [CL □ ∅ (E) (N) d ⊥ PL #	AND ANGLE AT CENTERLINE CHANNEL DIAMETER OR ROUND EXISTING NEW PENNY (NAILS) PERPENDICULAR PLATE PLATE OR NUMBER	COMB COMPT CONC CONF CONN CONSTR CONT CONTR COORD CORR CPR CPRS	COMBINATION COMPARTMENT CONCRETE CONFERENCE CONSTRUCTION CONTINUOUS (ATION) CONTRACT(OR) COORDINATE CORRIDOR COPPER COMPRESS(ED), (ION), (IBLE)	FBRK FCBRK FD FDTN FE FEC FFA FFB FFEL FFL FGL FHC FHMS FHWS FIN FJT FLASH FLDG FLG FLR FLUOR FN FOC FOF FOG FOM FOS FPL PPRF FR FRG FRGL FRP	FIRE BRICK FACE BRICK FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FROM FLOOR ABOVE FROM FLOOR BELOW FINISHED FLOOR ELEVATION FINISHED FLOOR LINE FIBERGLASS FIRE HOSE CABINET FLATHEAD MACHINE SCREW FLATHEAD WOOD SCREW FINISH(ED) FLUSH JOINT FLASH(ING) FOLDING FLOORING FLOOR FLUORESCENT FIELD NAILING FACE OF CONCRETE FACE OF FINISH FACE OF GRID FACE OF MASONRY FACE OF STUDS FIREPLACE FIREPROOF(ING) FRAME(D), (ING) FIBER REINFORCED GYPSUM FIRE RESISTIVE GLAZING FIBERGLASS REINFORCED	INT INV IPS	INTERIOR INVERT IRON PIPE SIZE	OFF OFOI	CONTRACTOR INSTALLED OFFICE OWNER FURNISHED - OWNER INSTALLED OUTSIDE FACE OF STUD OVALHEAD MACHINE SCREW OVALHEAD WOOD SCREW OPPOSITE HAND OPENING OPPOSITE OPAQUE OPERABLE OVERFLOW ROOF DRAIN OVERFLOW OVERHEAD	RFH RH RHMS RHR RHWS RL RLG RM RND RO ROW RS RTF RTU RV	ROOF HATCH RIGHT HAND ROUND HEAD MACHINE SCREW RIGHT HAND REVERSE ROUND HEAD WOOD SCREW ROOF LEADER RAILING ROOM ROUND ROUGH OPENING RIGHT OF WAY ROUGH SAWN RUBBER TILE FLOORING ROOF TOP UNIT ROOF VENT REVEAL REVERSE (SIDE) RIVET(ED) REDWOOD RAIN WATER LEADER	THRES TKBD TMPD TOB TOC TOF TOFF TOJ TOL TOM TOP TOPV TOS TOSL TOST TOW TPD TPTN TS TWLB TV TYP	THRESHOLD TACKBOARD TEMPERED TOP OF BEAM TOP OF CURB TOP OF FOOTING TOP OF FINISH FLOOR TOP OF JOIST TOLERANCE TOP OF MASONRY TOP OF PARAPET TOP OF PAVEMENT TOP OF SHEATHING TOP OF SLAB TOP OF STEEL TOP OF WALL TOILET PAPER DISPENSER TOILET PARTITION TUBE STEEL TOWEL BAR TELEVISION
	A/C A/E AB ABAN ABC ABV AC ACC ACST ACT AD ADDM ADH ADJ ADJC AFF AFG AGGR AHU AL ALT ANC APLD APPRX ARCH ASC ASPH ASSY ASYM AWG	AIR CONDITIONING ARCHITECT/ENGINEER ANCHOR BOLT ABANDON AGGREGATE BASE COURSE ABOVE ASPHALTIC CONCRETE ACCESS(IBLE) ACOUSTICAL ACOUSTICAL CEILING TILE AREA DRAIN ADDENDUM ADHESIVE ADJUSTABLE ADJACENT ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AGGREGATE AIR HANDLING UNIT ALUMINUM ALTERNATE ANCHOR, ANCHORAGE APPLIED APPROXIMATE ARCHITECT(URAL) ABOVE SUSPENDED CEILING ASPHALT ASSEMBLY ASYMMETRICAL AMERICAN WIRE GAGE	CPT CRS CS CSG CSK CSMT CSWK CT CTB CTF CTG CTR CUFT CUIN CUST CUYD D DA DBL DEMO DEP DEPT DET DF DH DIA DIAG DIFF DIM DISP DIV DMPF DMT DN DR DRB DRLV DS DSP DT DRTL DW DWG DWL DWR E EA EAR EB EE EF EFS EHD EIFS	DRAIN DOUBLEACTING DOUBLE DEMOLISH, DEMOLITION DEPRESSED DEPARTMENT DETAIL DRINKING FOUNTAIN DOUBLE HUNG DIAMETER DIAGONAL DIFFUSER DIMENSION DISPENSER DIVISION DAMPPROOFING DEMOUNTABLE DOWN DOOR DRAINBOARD DOOR LOUVER DOWNSPOUT DRY STANDPIPE DRAIN TILE DOVETAIL DISHWASHER DRAWING DOWEL DRAWER EAST EACH EXHAUST AIR REGISTER EXPANSION BOLT EACH END EACH FACE EXTERIOR FINISH SYSTEM ELECTRIC HAND DRYER EXTERIOR INSULATION AND FINISH SYSTEM EXPANSION JOINT ELEVATION ELASTOMERIC ELECTRIC(AL) ELEVATOR EXPANDED METAL EMER EMERGENCY EDGE NAILING ENCLOSE(URE) ENGINEER ENTRANCE ELECTRICAL PANELBOARD EQUAL EQUIPMENT ESCUTCHEON ESCALATOR EASEMENT EACH WAY ELECTRIC WATER COOLER ELECTRICAL WATER HEATER EYE WASH STATION EXCAVATE EXISTING EXHAUST EXPOSED EXPANSION EXTRA STRONG EXTERIOR	FRZ FS FSTN FT FTG FURG FUT FWC GA GAL GALV GB GFRC GI GL GLU LAM GLZ GLZCMU GND GPC GR LN GR BM GR GRBD GSB GSS GST GT GVL GYP	GAGE GALLON GALVANIZED GRAB BAR GLASS FIBER REINFORCED CONCRETE GALVANIZED IRON GLASS GLUE LAMINATED GLAZING GLAZED CONCRETE MASONRY UNITS GROUND GYPSUM PLASTER CEILING GRADE LINE GRADE BEAM GRADE, (ING) GARBAGE DISPOSER GYPSUM SHEATHING BOARD GALVANIZED STEEL SHEET GLAZED STRUCTURAL TILE GROUT GRAVEL GYPSUM	LAB LAD LAM LAV LBL LBR LBS LCT LDR LG LH LHR LKNT LKR LKWASH LLH LLV LMST LNDSCP LNTL LP LPT LT LTWT LVL LVR LW LWIC	LABORATORY LADDER LAMINATE(D) LAVATORY LABEL LUMBER POUND LINOLEUM COMPSITE TILE LEADER LENGTH LEFT HAND LEFT HAND REVERSE LOCKNUT LOCKER LOCKWASHER LONG LEG HORIZONTAL LONG LEG VERTICAL LIMESTONE LANDSCAPE(D) LINTEL LIGHTPROOF LOW POINT LIGHT LIGHT WEIGHT LEVEL(ER) LOUVER LIGHTWEIGHT CONCRETE LIGHTWEIGHT INSULATING CONCRETE	PAR PAT PB PBD PC PCC PCP PED PERF PERIM PERP PGBD PH PHS PI PIV PL PLAM PLAS PLBG PLYWD PNEU PNL PNT POL POLY PORC PORT PR PRCST PREFAB PREFIN PREFMD PRKG PRML PROJ PROP PSCONC PT PTCONC PTD PTN PTR PVC PVG PVMT	PARALLEL PATTERN PANIC BAR PARTICLE BOARD PORTLAND CEMENT PRECAST CONCRETE PORTLAND CEMENT PLASTER PEDESTAL PERFORATE(D) PERIMETER PERPENDICULAR PEGBOARD PHASE PHILLIPS HEAD SCREW POINT OF INTERSECTION POST INDICATOR VALVE PROPERTY LINE PLASTIC LAMINATE PLASTER PLUMBING PLYWOOD PNEUMATIC PANEL PAINT(ED) POLISHED POLYETHYLENE PORCELAIN PORTABLE PAIR PRECAST PREFABRICATE(D) PREFINISHED PREFORMED PARKING PREMOLDED PROJECT PROPERTY PRESTRESSED CONCRETE POINT POST TENSIONED CONCRETE PAPER TOWEL DISPENSER PARTITION PAPER TOWEL RECEPTOR POLYVINYL CHLORIDE PAVE(D), (ING) PAVEMENT	S S2S S4S SA SALV SAT SB SBSTR SC SCD SCHD SCP SCRN SD SDBL SECT SGL SHR SHT SHTHG SHV SIM SKLT SLD SLDG SLDR SLNT SLV SMACNA SMLS SND SNDINS SNDU SNT SPC SPD SPEC SPRT SQ SSK SST STA STAG STC STD STG STIF STIRRUP STL STOR STR ST STRCT STU SUSP SV SYMM SYNTH SYS	SOUTH SURFACED TWO SIDES SURFACED FOUR SIDES SUPPLY AIR SALVAGE SUSPENDED ACOUSTICAL TILE SPLASH BLOCK SUBSTRATE SOLID CORE SEAT COVER DISPENSER SCHEDULE SCUPPER SCREEN STORM DRAIN SANDBLAST SECTION SINGLE SHOWER SHEET(ING) SHEATHING SHELVES (ING) SIMILAR SKYLIGHT SEALED SLIDE (ING) SOLDER SEALANT SLEEVE CONDITIONING CONTRACTORS NATIONAL ASSOCIATION SEAMLESS SANITARY NAPKIN DISPENSER SOUND INSULATION SANITARY NAPKIN DISPOSAL UNIT SEALANT SUSPENDED PLASTER CEILING SOAP DISPENSER SPECIFICATION(S) (ED) SUPPORT SQUARE SERVICE SINK STAINLESS STEEL STATION STAGGERED SOUND TRANSMISSION CLASS STANDARD SEATING STIFFENER STIRRUP STEEL STORAGE STRAIGHT STREET STRUCTURAL STRUCT SUSPENDED SHEET VINYL SYMMETRICAL SYNTHETIC SYSTEM	UC UGND UL UNFIN UON UR VAR VB VCT VERT VEST VFAT VIF VJ VNR VR VTR VWC W/ WW W/O W WBL WC WD WDP WDW WF WFS WGL WH WI WID WLD WM WP WPT WR WS WSCOT WT WWF
C&G CAB CAD CB CBB CEM CER CFCI CFLG CFOI CG CHBD CHFR CI CIR CIRC CJ CL CLG CLJ CLL CLOS CLR CLRM CMPST CMU CNCL CNR CNTR COL COM	CURB AND												



GENERAL NOTES

1. BUILDING LOCATIONS ON SITE ARE APPROXIMATE BASED ON DRAWINGS FROM OWNER.
2. ACCESSIBLE ROUTE OF TRAVEL AS INDICATED ON PLAN IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAX. SLOPE, OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAX AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM, AND SLIP RESISTANT. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 6% UNLESS OTHERWISE INDICATED. "PASSING SPACES", AT LEAST 60"x60", ARE TO BE LOCATED NO MORE THAN 200' APART. PARTS OF THE ACCESSIBLE PATH OF TRAVEL WITH A CONTINUOUS GRADIENT WITH A 60" LONG LEVEL AREAS ARE NOT TO BE MORE THAN 400' APART. ACCESSIBLE ROUTE OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL AND ABOVE 27" AND LESS THAN 80". ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE ROUTE OF TRAVEL.
3. FIRE DEPARTMENT ACCESS MUST BE MAINTAINED TO ALL PORTIONS OF THE SITE DURING CONSTRUCTION. ALL SHUTDOWN OF THE EGRESS LANES MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT AND OWNER A MINIMUM OF 72 HOURS PRIOR TO CLOSING.
4. THE GENERAL CONTRACTOR IS RESPONSIBLE TO PROTECT ALL EXISTING BUILDING AND LANDSCAPE, INCLUDING (BUT NOT LIMITED TO) ROOFS, WALLS, FLOORS, SITE EQUIPMENT, AND SITE SIGNAGE THROUGH THE DURATION OF THE PROJECT.

LEGEND

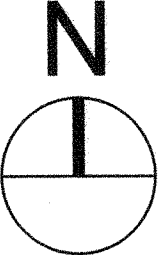
- ←---→ ACCESSIBLE PATH OF TRAVEL (P.O.T.)
- EXISTING BUILDING
DSA# 02-109231
- EXISTING ACCESSIBLE PARKING
DSA# 02-109231

REFERENCE NOTES

- 0053 (E) LANDSCAPING TO REMAIN
- 0056 (E) REMOVABLE BOLLARDS
- 0058 (E) ASPHALT PAVING TO REMAIN
- 0060 (E) FIRE HYDRANT

"DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:

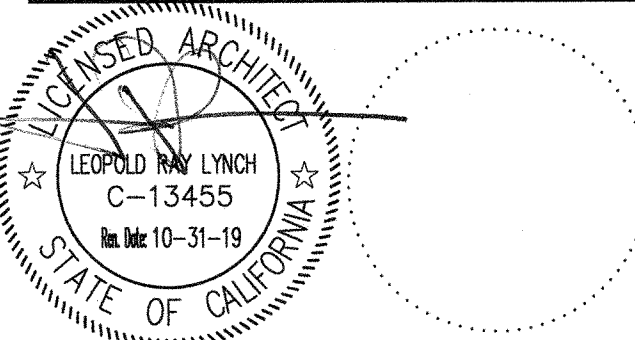
THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS 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 THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS 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 NONCOMFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT."



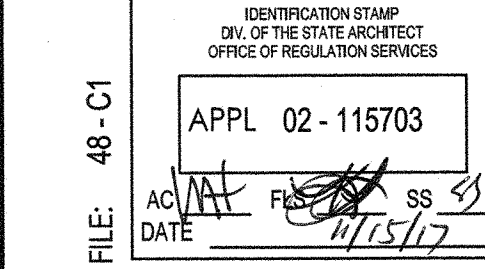
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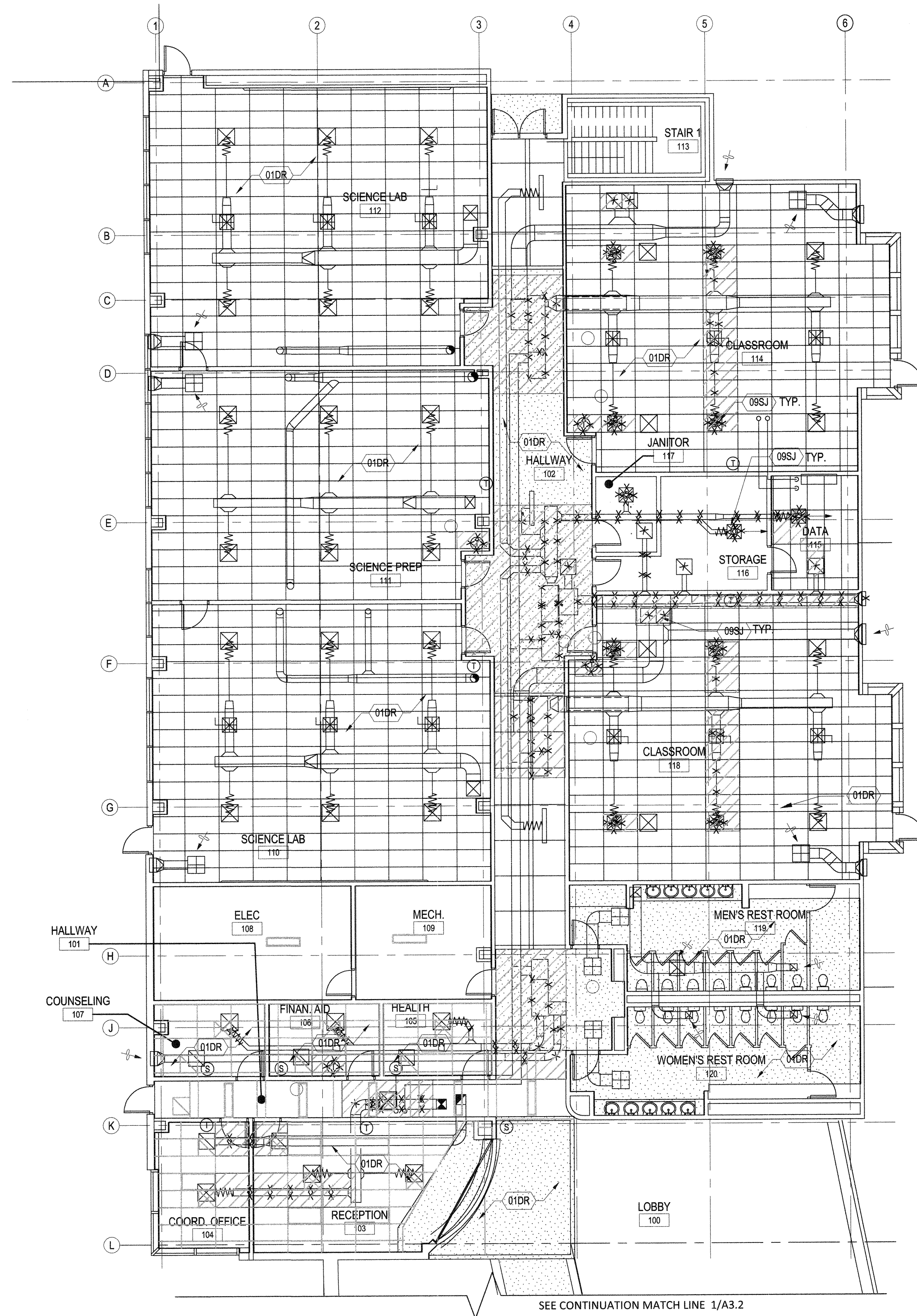
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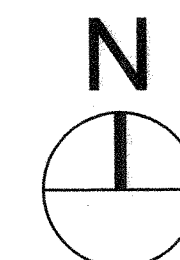
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REVISIONS			

DRAWN: VP	CHECKED: EB
DATE: 03/21/2017	SCALE: AS SHOWN
PROJECT NUMBER: 1715900	

**OVERALL
SITE PLAN**



SEE CONTINUATION MATCH LINE 1/A3.2



GENERAL NOTES

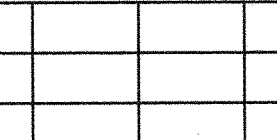

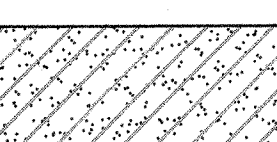
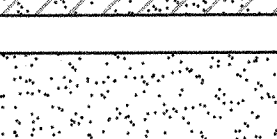
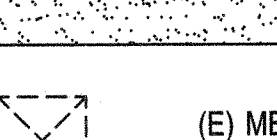
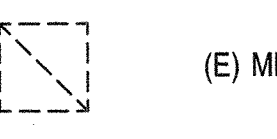
- NOTES:**
1. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
 2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED.
 3. PATCH AND REPAIR FINISHES TO MATCH ADJACENT FINISHES AFFECTED BY DEMOLITION.

- REFLECTED CEILING PLAN NOTES:**
1. REFER TO MECHANICAL FOR ADDITIONAL EQUIPMENT INFORMATION.

SHEET NOTES

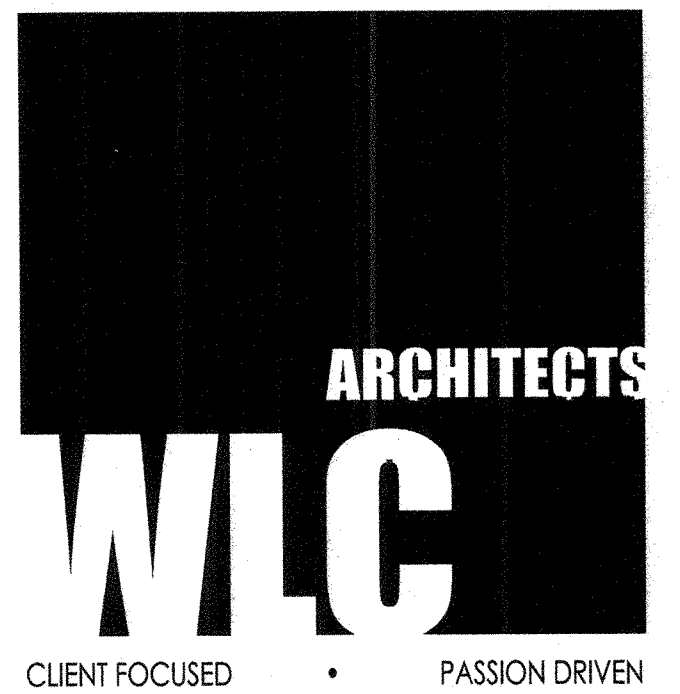
1. REPLACE SELECTED CEILING REPLACEMENT PANELS AFFECTED BY THE INSTALLATION OF NEW DUCT. DO NOT REMOVE OR REPLACE MAIN RUNNER OR CROSS-RUNNERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT & DSA.

LEGEND:

-  (E) ACOUSTIC CEILING TILES TO REMAIN AND PROTECT
-  (E) ACOUSTIC CEILING TILES TO BE REMOVED AND RETURNED AFTER DUCKWORK INSTALLED.
-  (E) GYPSUM BOARD CEILING TO BE REMOVE & REPLACE AFTER INSTALLATION OF (N) DUCK WORK.
-  (E) GYPSUM BOARD CEILING
-  (E) MECHANICAL SUPPLY DIFFUSER TO BE REMOVE.
-  (E) MECHANICAL RETURN DIFFUSER TO BE REMOVE.

REFERENCE NOTES

- 01DR (E) CEILING TO REMAIN
- 09SJ REMOVE (E) DIFFUSER, SEE MECH.DWGS.



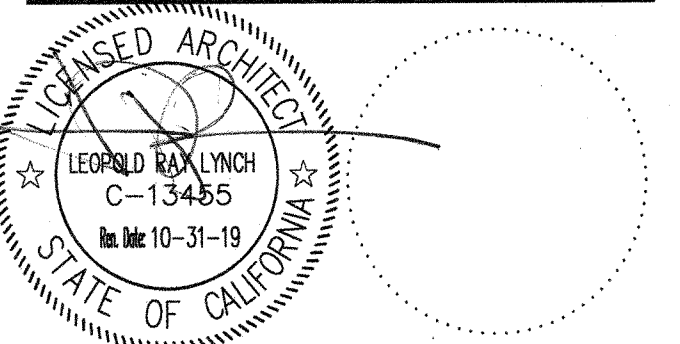
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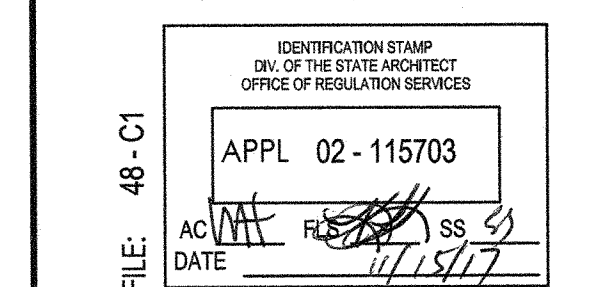
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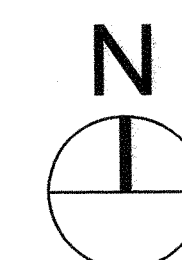


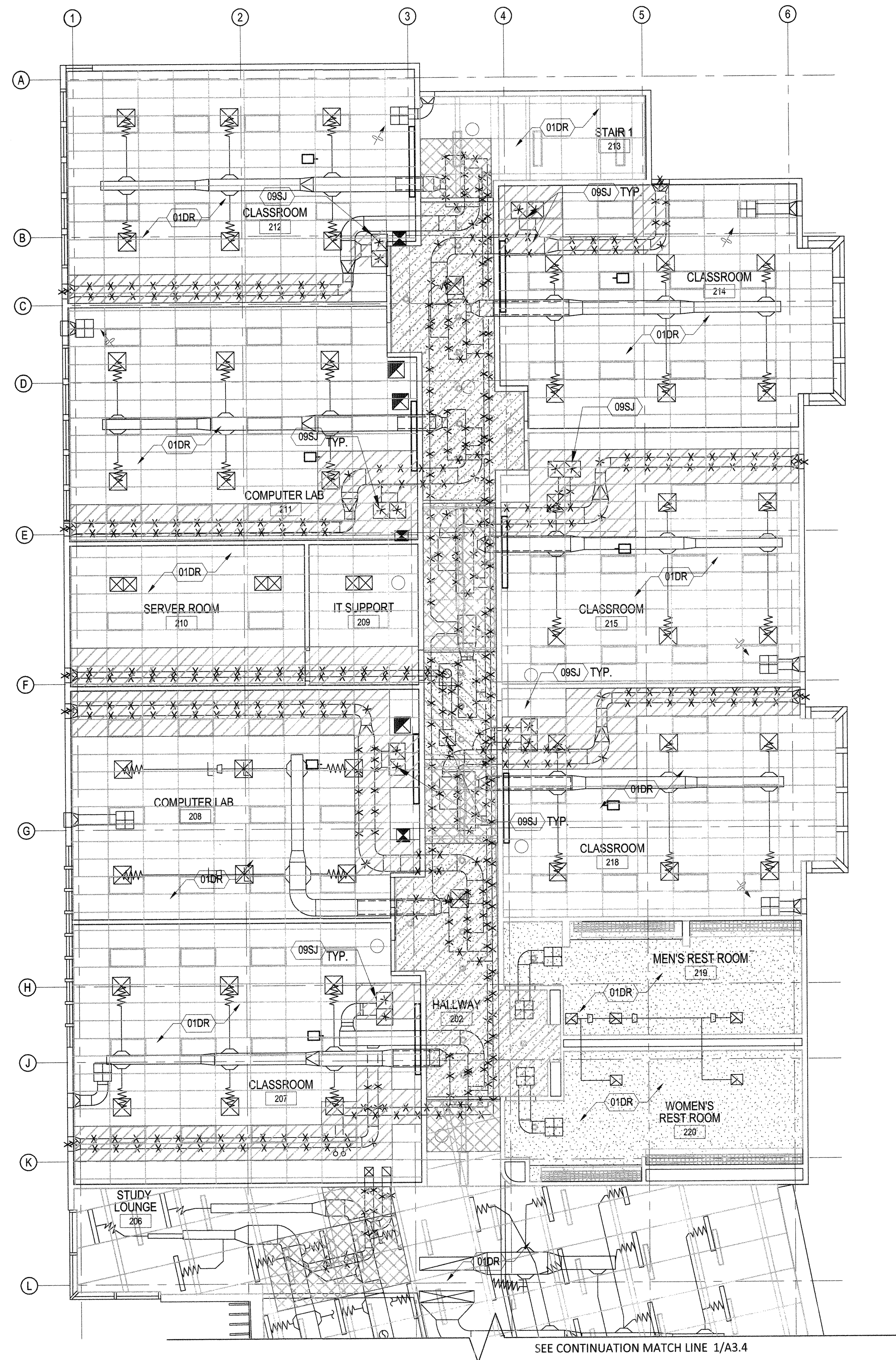
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DRAWN: EB CHECKED: LRL
DATE: 03/21/2017 SCALE: AS SHOWN
PROJECT NUMBER: 1715900

1ST FLOOR NORTH
REFLECTED CEILING
DEMOLITION PLAN

DRAWING
NUMBER: A3.1





SEE CONTINUATION MATCH LINE 1/A3.4



PARTIAL (E) AND DEMOLITION PLAN (NORTH) - 2ND FLR REF CEILING PLAN

1/8" = 1' - 0"

1

GENERAL NOTES

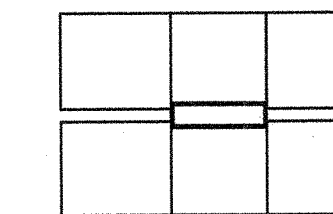
- NOTES:**
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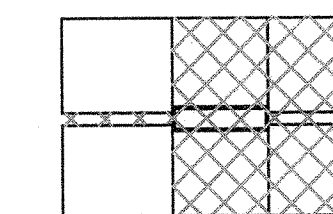
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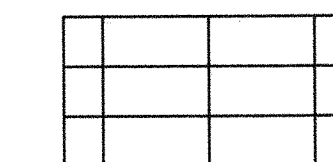
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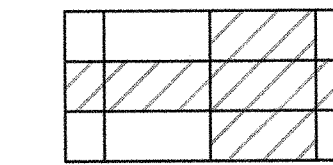
(E) ACOUSTIC CEILING TILES TO REMAIN AND PROTECT



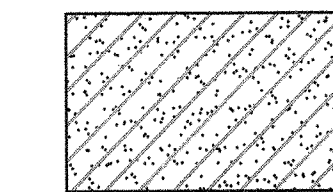
(E) ACOUSTIC CEILING TILES TO BE REMOVED AND RETURNED AFTER DUCKWORK INSTALLED.



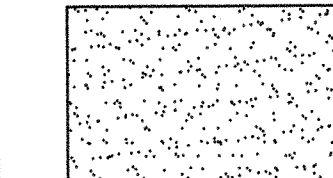
(E) ACOUSTIC CEILING TILES TO REMAIN AND PROTECT



(E) ACOUSTIC CEILING TILES TO BE REMOVED AND RETURNED AFTER DUCKWORK INSTALLED.



(E) GYPSUM BOARD CEILING TO BE REMOVE & REPLACE AFTER INSTALLATION OF (N) DUCK WORK.



(E) GYPSUM BOARD CEILING

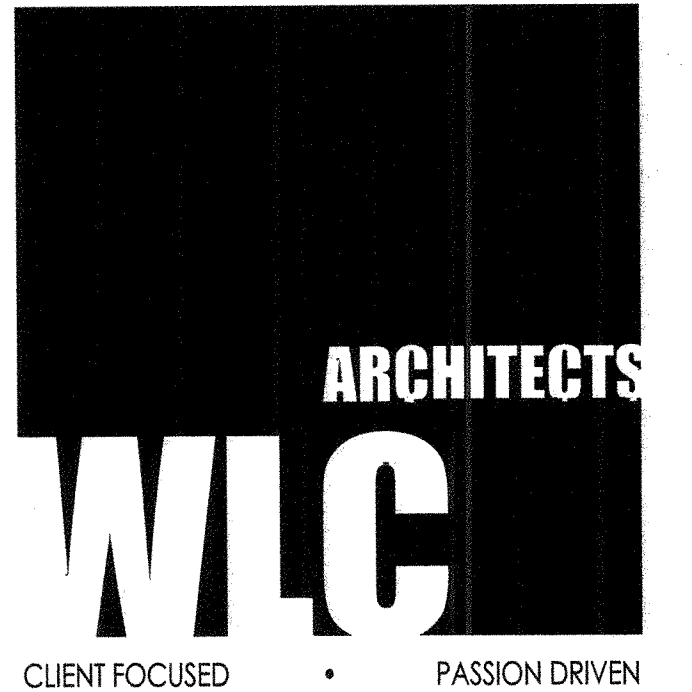
(E) MECHANICAL SUPPLY DIFFUSER TO BE REMOVE.

(E) MECHANICAL RETURN DIFFUSER TO BE REMOVE.

REFERENCE NOTES

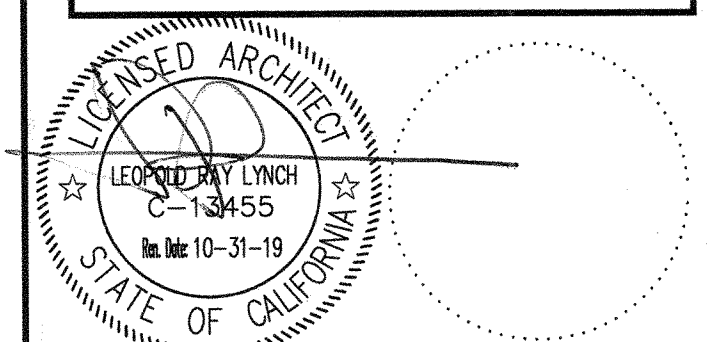
01DR (E) CEILING TO REMAIN

09SJ REMOVE (E) DIFFUSER, SEE MECH.DWG.

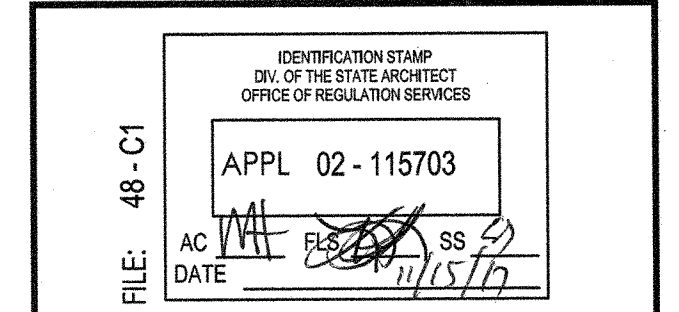


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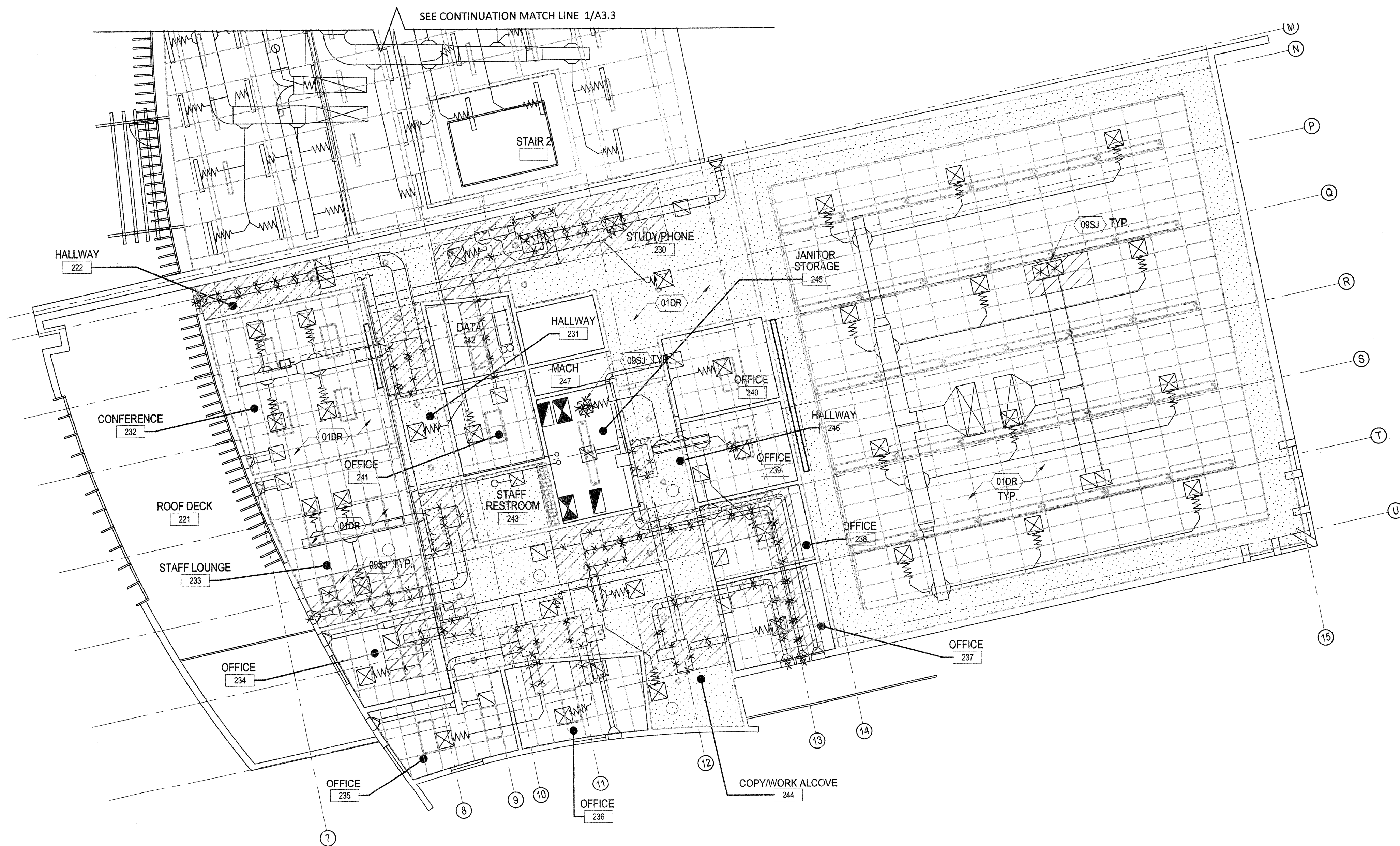


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DATE: 03/21/2017 SCALE: AS SHOWN
PROJECT NUMBER: 1715900

**2ND FLOOR NORTH
REFLECTED CEILING
DEMOLITION PLAN**

DRAWING
NUMBER: **A3.3**



GENERAL NOTES

- NOTES:**
1. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
 2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED.
 3. PATCH AND REPAIR FINISHES TO MATCH ADJACENT FINISHES AFFECTED BY DEMOLITION.

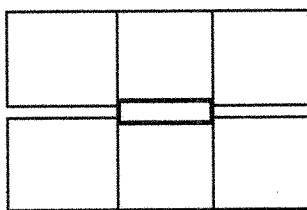
REFLECTED CEILING PLAN NOTES:

1. REFER TO MECHANICAL FOR ADDITIONAL EQUIPMENT INFORMATION.

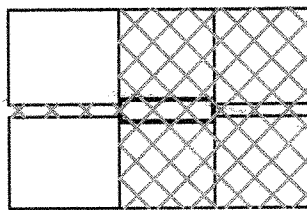
SHEET NOTES

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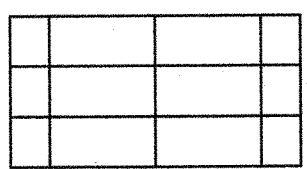
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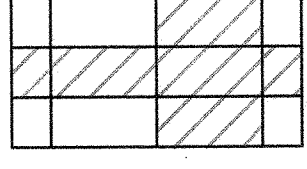
(E) ACOUSTIC CEILING TILES TO REMAIN AND PROTECT



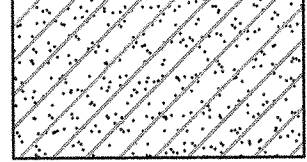
(E) ACOUSTIC CEILING TILES TO BE REMOVED AND RETURNED AFTER DUCKWORK INSTALLED.



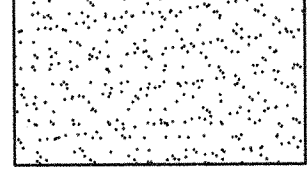
(E) ACOUSTIC CEILING TILES TO REMAIN AND PROTECT



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(E) GYPSUM BOARD CEILING

(E) MECHANICAL SUPPLY DIFFUSER TO BE REMOVE.

(E) MECHANICAL RETURN DIFFUSER TO BE REMOVE.

REFERENCE NOTES

- 01DR (E) CEILING TO REMAIN
- 09SJ REMOVE (E) DIFFUSER, SEE MECH.DWGS.

ARCHITECTS

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BAY AREA

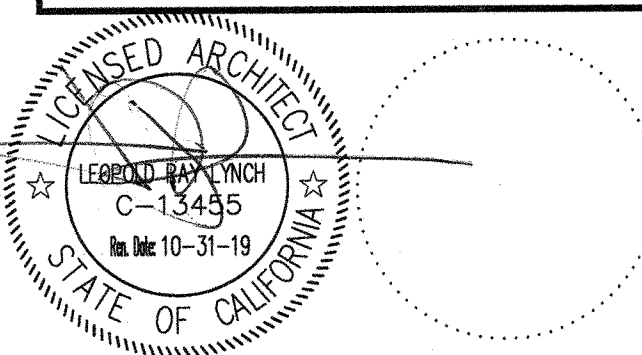
2600 TENTH STREET, SUITE 500
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CALIFORNIA 94710-2597

TEL: 510-450-1999

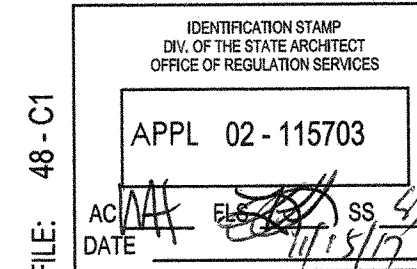
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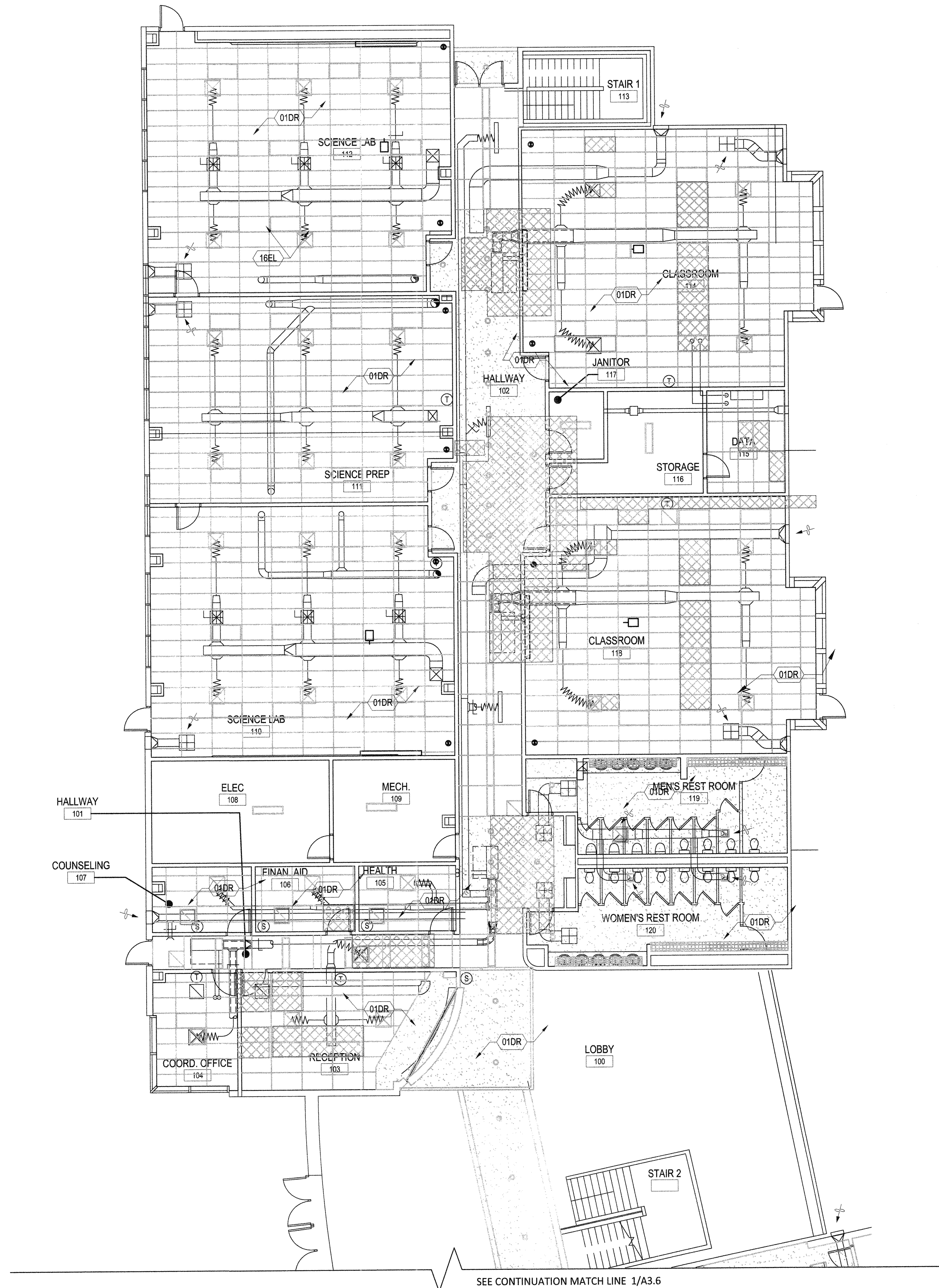
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SEE CONTINUATION MATCH LINE 1/A3.6

PARTIAL (E) AND PROPOSED PLAN (NORTH) - 1ST FLR REF CEILING PLAN

1/8" = 1' - 0"

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GENERAL NOTES

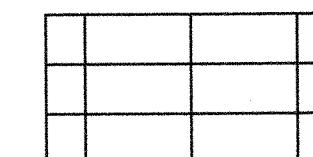
- NOTES:**
1. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
 2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED.
 3. PATCH AND REPAIR FINISHES TO MATCH ADJACENT FINISHES AFFECTED BY DEMOLITION.

- REFLECTED CEILING PLAN NOTES:**
1. REFER TO MECHANICAL FOR ADDITIONAL EQUIPMENT INFORMATION.

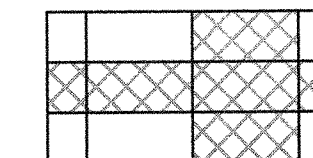
SHEET NOTES

1. REPLACE SELECTED CEILING REPLACEMENT PANELS AFFECTED BY THE INSTALLATION OF NEW DUCT. DO NOT REMOVE OR REPLACE MAIN RUNNER OR CROSS-RUNNERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT & DSA.

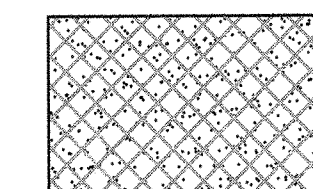
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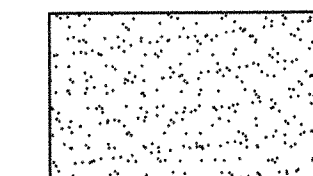
(E) ACOUSTIC CEILING TILES TO REMAIN AND PROTECT



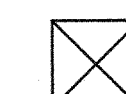
RE-INSTALL (E) ACOUSTIC CEILING TILES



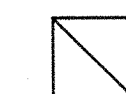
(E) GYPSUM BOARD CEILING TO BE REMOVED & REPLACE AFTER INSTALLATION ON (N) DECK WORK.



(E) GYPSUM BOARD CEILING



(N) MECHANICAL SUPPLY DIFFUSER, SMD



(N) MECHANICAL RETURN DIFFUSER, SMD

REFERENCE NOTES

- (01DR) (E) CEILING TO REMAIN
- (15EF) (N) EXHAUST FAN, (E) AIR REGISTER TO REMAIN S.M.D. & S.E.D.
- (16EL) (E) LIGHT FIXTURE TO REMAIN

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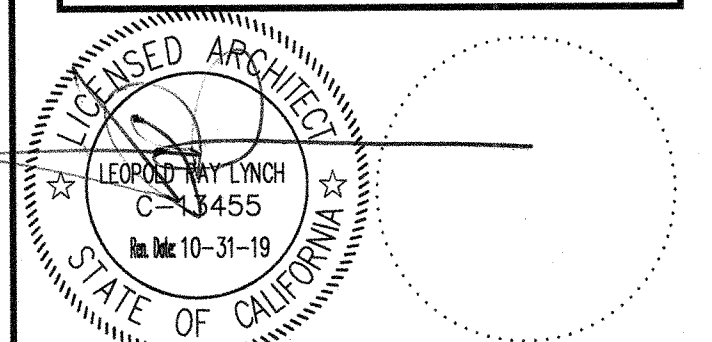
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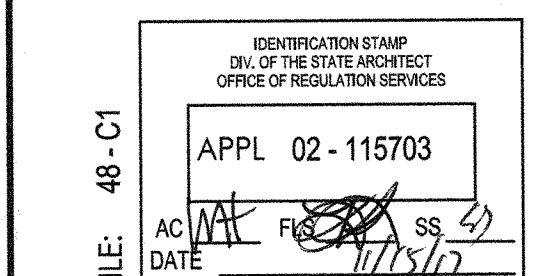
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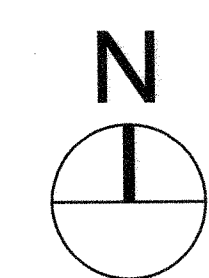


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PROJECT NUMBER: 1715900

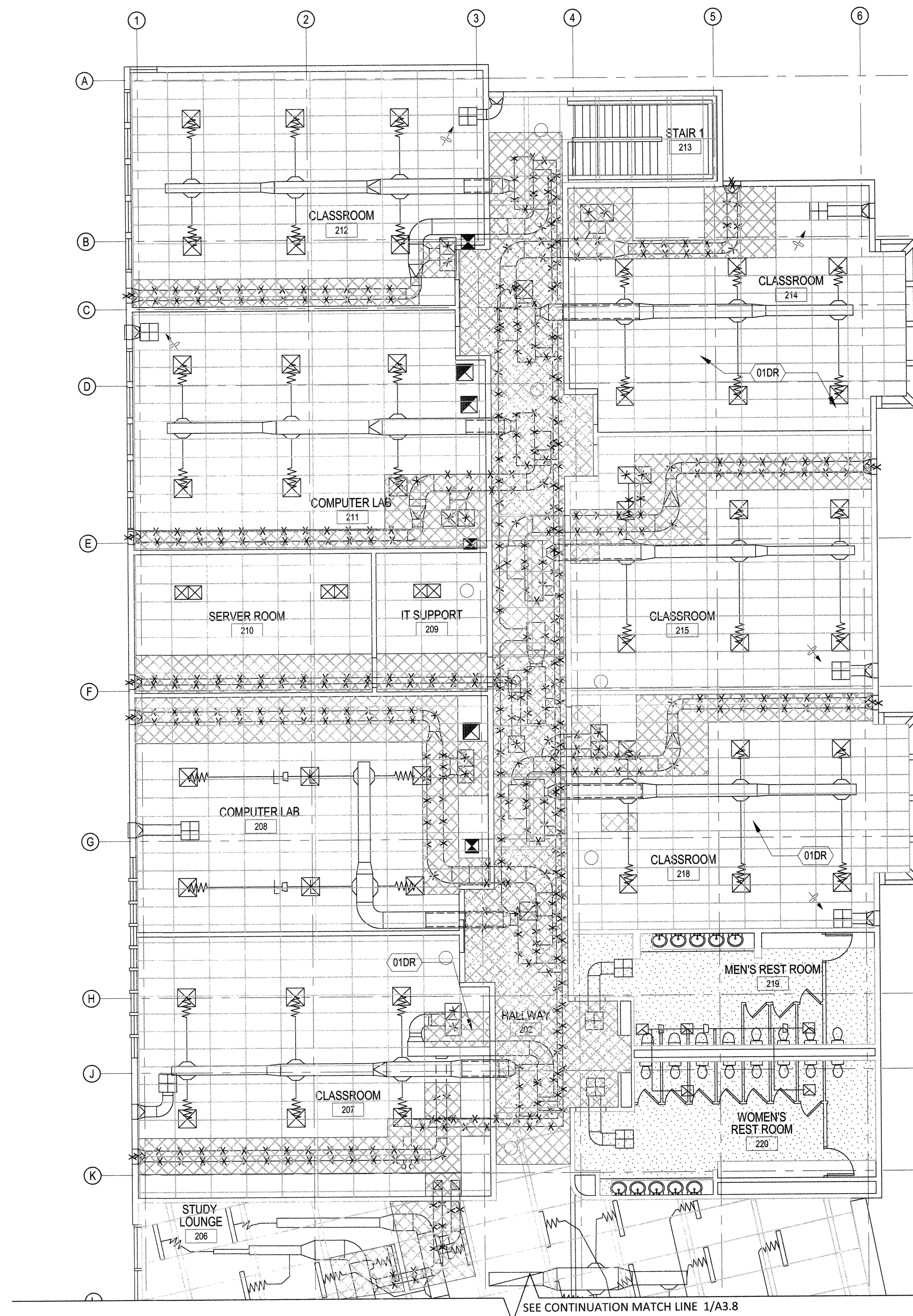
**1ST FLOOR NORTH
REFLECTED
CEILING PLAN**

DRAWING
NUMBER: **A3.5**



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DRAWING NUMBER: **A3.6**



PARTIAL (E) AND PROPOSED PLAN (NORTH) - 2ND FLR REF CEILING PLAN

1/8" = 1' - 0"

1

GENERAL NOTES

NOTES:

1. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED.
3. PATCH AND REPAIR FINISHES TO MATCH ADJACENT FINISHES AFFECTED BY DEMOLITION.

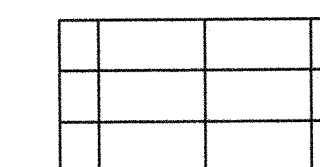
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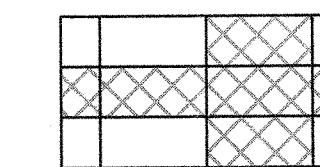
SHEET NOTES

1. REPLACE SELECTED CEILING REPLACEMENT PANELS AFFECTED BY THE INSTALLATION OF NEW DUCT. DO NOT REMOVE OR REPLACE MAIN RUNNER OR CROSS-RUNNERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT & DSA.

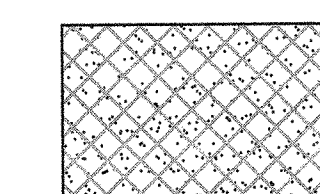
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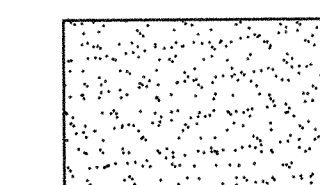
(E) ACOUSTIC CEILING TILES TO REMAIN AND PROTECT



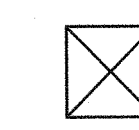
RE-INSTALL (E) ACOUSTIC CEILING TILES



(N) GYPSUM BOARD CEILING



(E) GYPSUM BOARD CEILING



(N) MECHANICAL SUPPLY DIFFUSER, SMD

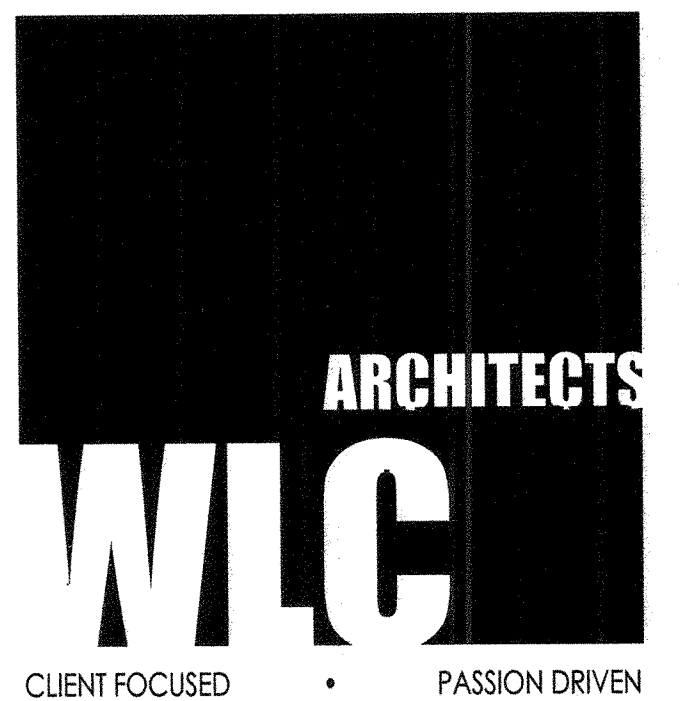


(N) MECHANICAL RETURN DIFFUSER, SMD

REFERENCE NOTES

01DR (N) EXHAUST FAN, (E) AIR REGISTER TO REMAIN S.M.D. & S.E.D.

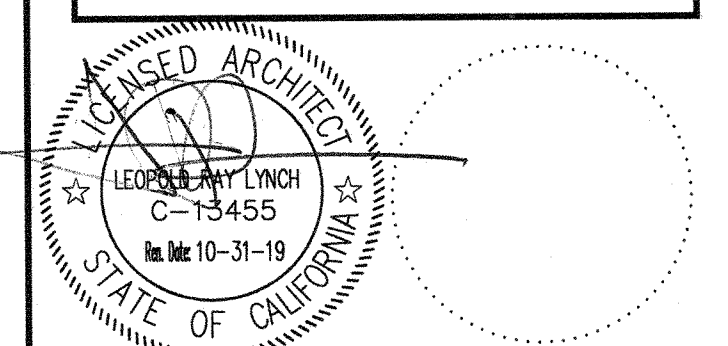
16EL (E) LIGHT FIXTURE TO REMAIN



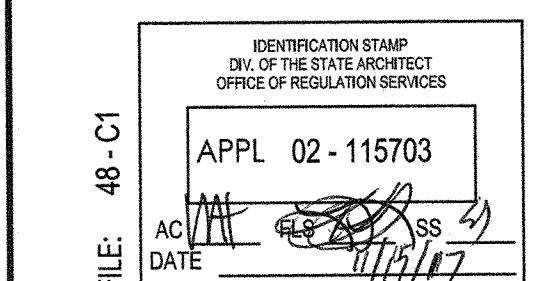
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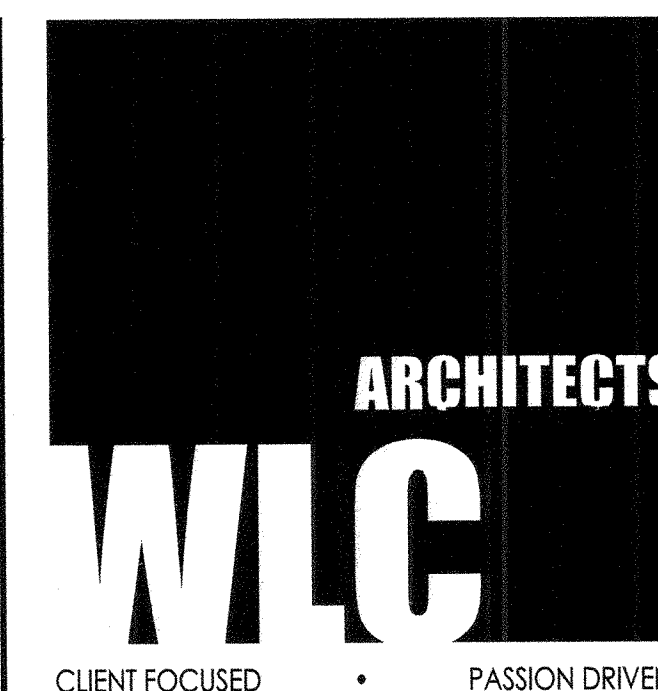


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DATE: 03/21/2017	SCALE: AS SHOWN
PROJECT NUMBER: 1715900	

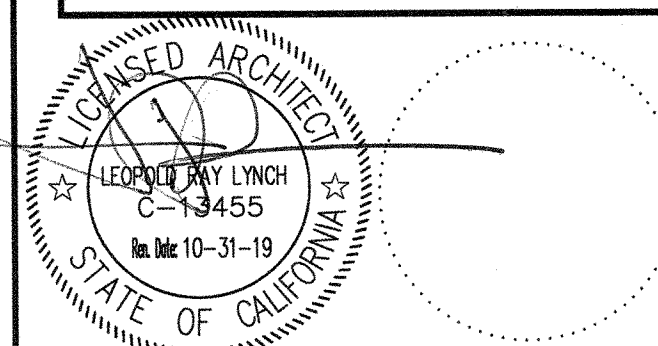
**2ND FLOOR NORTH
REFLECTED
CEILING PLAN**

DRAWING
NUMBER: **A3.7**

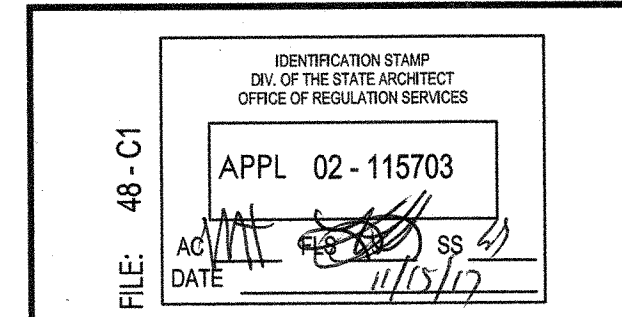


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DATE: 03/21/2017 SCALE: AS SHOWN
PROJECT NUMBER: 1715900

**2ND FLOOR SOUTH
REFLECTED
CEILING PLAN**

DRAWING
NUMBER: **A3.8**

GENERAL NOTES

- NOTES:**
- REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - ALL DIMENSIONS ARE TO BE FIELD VERIFIED.
 - PATCH AND REPAIR FINISHES TO MATCH ADJACENT FINISHES AFFECTED BY DEMOLITION.

- REFLECTED CEILING PLAN NOTES:**
- REFER TO MECHANICAL FOR ADDITIONAL EQUIPMENT INFORMATION.

SHEET NOTES

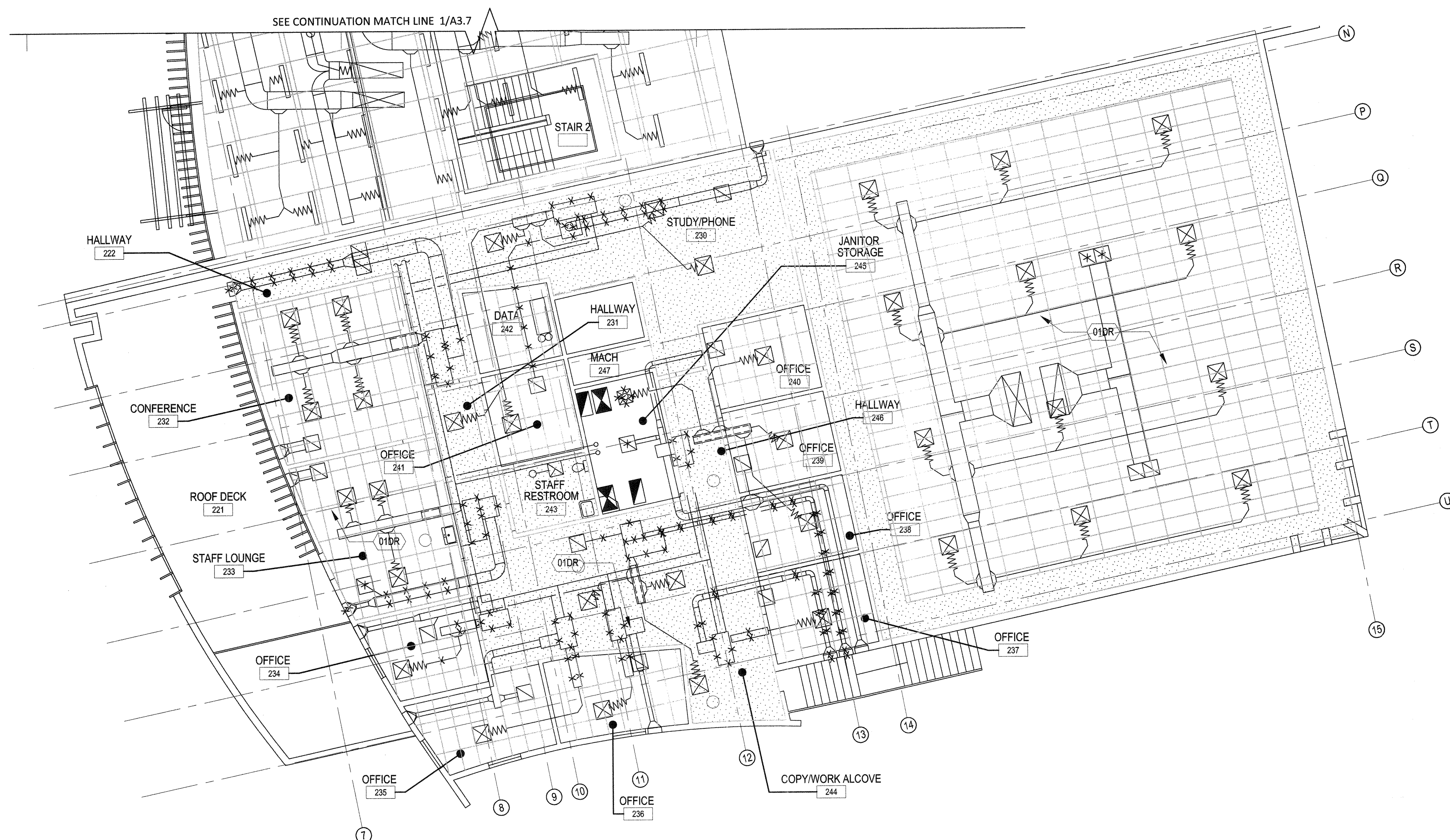
- REPLACE SELECTED CEILING REPLACEMENT PANELS AFFECTED BY THE INSTALLATION OF NEW DUCT. DO NOT REMOVE OR REPLACE MAIN RUNNER OR CROSS-RUNNERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT & DSA.

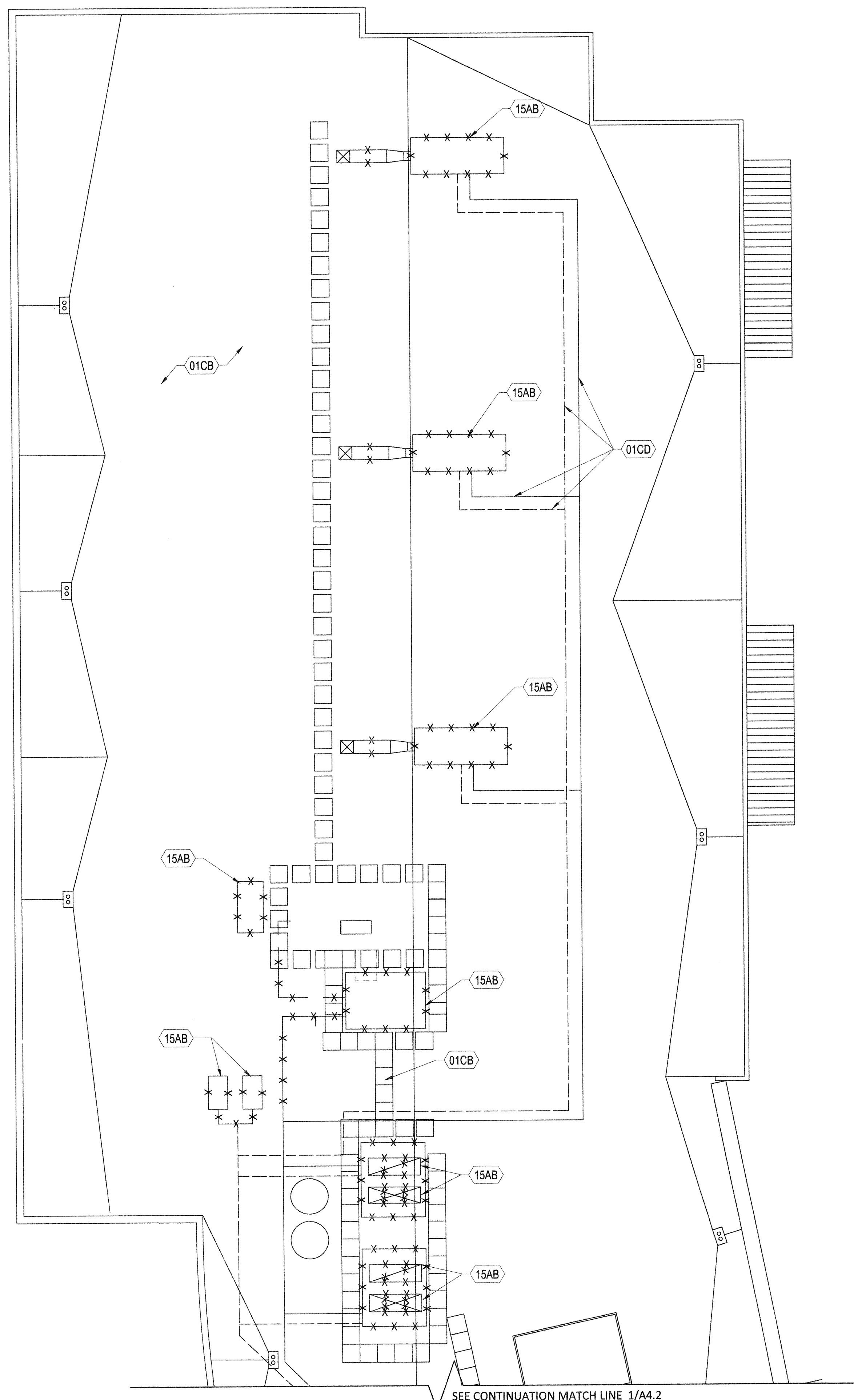
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| | (E) ACOUSTIC CEILING TILES TO REMAIN AND PROTECT |
| | RE-INSTALL (E) ACOUSTIC CEILING TILES |
| | (N) GYPSUM BOARD CEILING |
| | (E) GYPSUM BOARD CEILING |
| | (N) MECHANICAL SUPPLY DIFFUSER, SMD |
| | (N) MECHANICAL RETURN DIFFUSER, SMD |

REFERENCE NOTES

- 01DR (N) EXHAUST FAN, (E) AIR REGISTER TO REMAIN S.M.D. & S.E.D.
16EL (E) LIGHT FIXTURE TO REMAIN





DEMOLITION PARTIAL ROOF PLAN (NORTH)

1/8" = 1' - 0"

1

GENERAL NOTES

- DEMOLITION PLAN NOTES:**
1. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION.
 2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED.
 3. PATCH AND REPAIR FINISHES TO MATCH ADJACENT FINISHES AFFECTED BY DEMOLITION.

SHEET NOTES

1. ALL (E) DUCT PENETRATIONS & OTHER PENETRATIONS TO REMAIN.
2. CONTRACTOR SHALL FIELD VERIFY (E) DIMENSIONS, EXISTING CONDITIONS, TYPE & NUMBER OF REFERENCED & NON - REFERENCED.

REFERENCE NOTES

- 01CB (E) BUILT UP ROOFING TO REMAIN
- 01CC (E) WALKING PAD TO REMAIN
- 01CD (E) PIPING TO REMAIN AND PROTECT
- 15AB (E) MECHANICAL EQUIPMENT TO BE DEMOLISHED

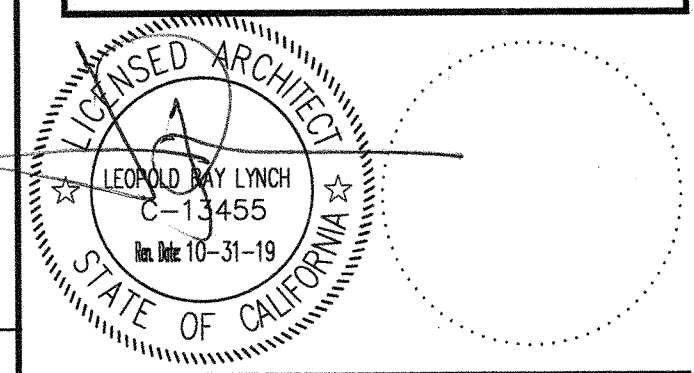


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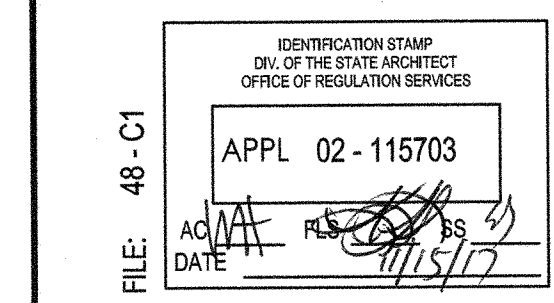
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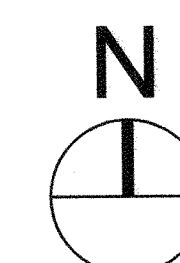


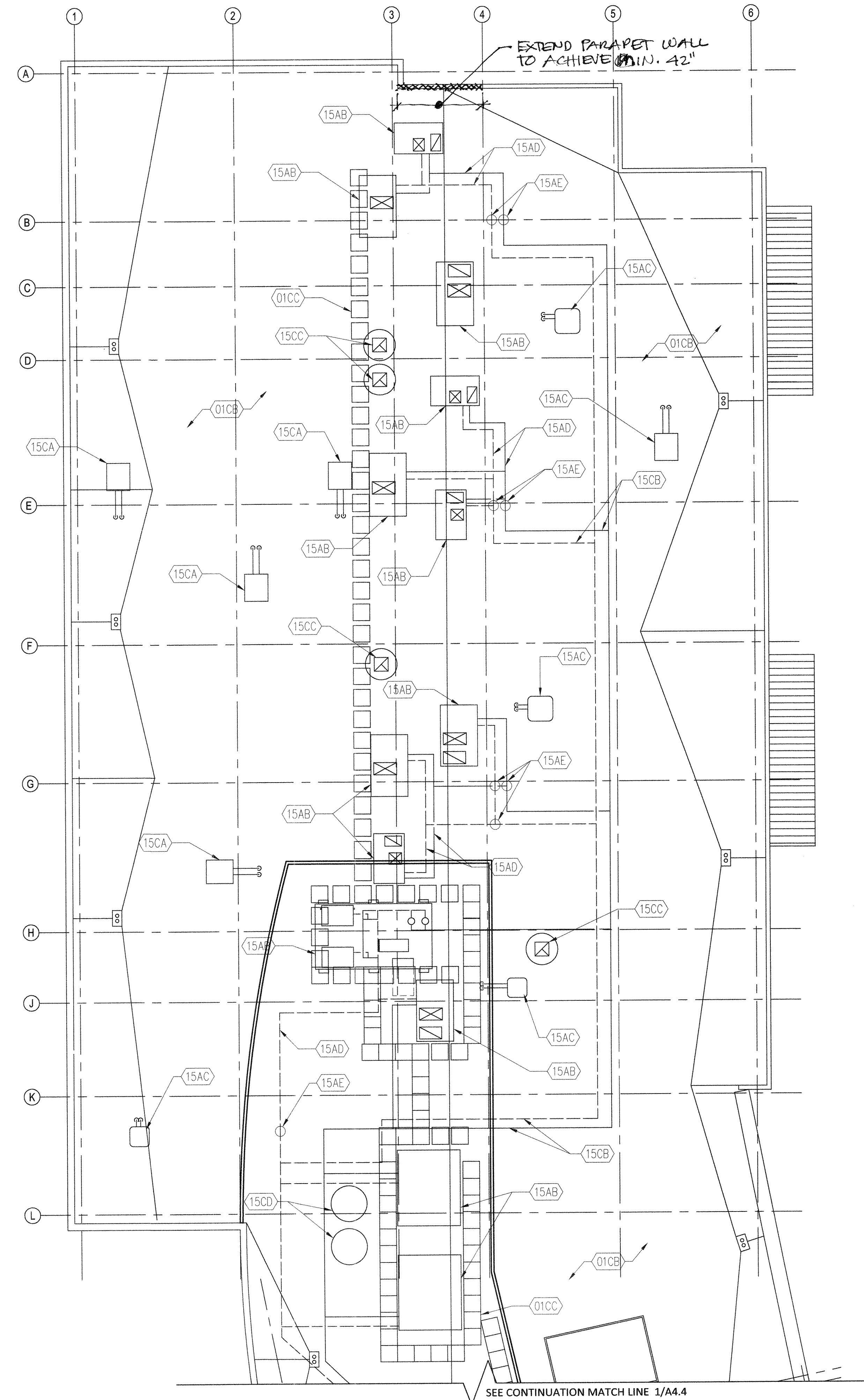
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**ROOF NORTH
DEMOLITION PLAN**

DRAWING
NUMBER: **A4.1**





PROPOSED PARTIAL ROOF PLAN (NORTH)

1/8" = 1' - 0"

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GENERAL NOTES

- DEMOLITION PLAN NOTES:**
1. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION.
 2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED.
 3. PATCH AND REPAIR FINISHES TO MATCH ADJACENT FINISHES AFFECTED BY DEMOLITION.

SHEET NOTES

1. ALL (E) DUCT PENETRATIONS & OTHER PENETRATIONS TO REMAIN.
2. PROVIDE (N) CONT. SEAL AROUND (E) EXHAUST FANS, VENTS, FLUES, AND ALL OTHER PENETRATIONS.
3. CONTRACTOR SHALL FIELD VERIFY (E) DIMENSIONS, EXISTING CONDITIONS, TYPE & NUMBER OF REFERENCED & NON - REFERENCED.

REFERENCE NOTES

- (E) BUILT UP ROOFING TO REMAIN
- (E) WALKING PAD TO REMAIN
- (E) CONDENSING UNITS
- (E) PIPING TO REMAIN AND RE-USE
- (E) EXHAUST FAN
- (E) WATER HEATER
- (N) HVAC UNIT
- (N) CONDENSING UNIT
- (N) PIPING TO CONNECT TO (E) PIPE
- (N) POINT OF CONNECTIONS

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BAY AREA

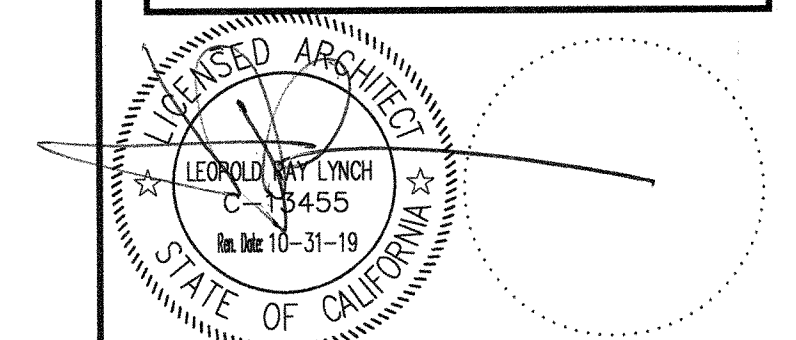
2600 TENTH STREET, SUITE 500
BERKELEY
CALIFORNIA 94710-2597

TEL: 510-450-1999

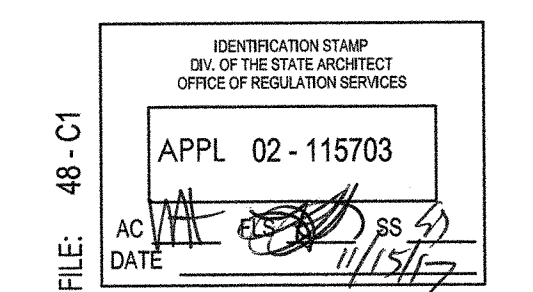
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**SOLANO COMMUNITY
COLLEGE DISTRICT
VACAVILLE CENTER**

2001 N VILLAGE PKWY
VACAVILLE, CA 95688



CONSULTANT



FILE: 48-C1	11-03-17	DSA BACK CHECK
NO	DATE	BY
DESCRIPTION		
REVISIONS		

DRAWN: EB	CHECKED: L
DATE: 03/21/2017	SCALE: AS SHOWN
PROJECT NUMBER: 1715900	

**ROOF NORTH
PROPOSED PLAN**

DRAWING
NUMBER: **A4.3**



GENERAL NOTES

- DEMOLITION PLAN NOTES:**
1. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION.
 2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED.
 3. PATCH AND REPAIR FINISHES TO MATCH ADJACENT FINISHES AFFECTED BY DEMOLITION.

- REFLECTED CEILING PLAN NOTES:**
1. REFER TO MECHANICAL FOR ADDITIONAL EQUIPMENT INFORMATION.

SHEET NOTES

1. ALL (E) DUCT PENETRATIONS & OTHER PENETRATIONS TO REMAIN.
2. PROVIDE (N) CONT. SEAL AROUND (E) EXHAUST FANS, VENTS, FLUES, AND ALL OTHER PENETRATIONS.
3. CONTRACTOR SHALL FIELD VERIFY (E) DIMENSIONS, EXISTING CONDITIONS, TYPE & NUMBER OF REFERENCED & NON - REFERENCED.

REFERENCE NOTES

- (E) BUILT UP ROOFING TO REMAIN
 (E) WALKING PAD TO REMAIN
 (E) CONDENSING UNITS
 (E) PIPING TO REMAIN AND RE-USE
 (E) EXHAUST FAN
 (N) HVAC UNIT
 (N) CONDENSING UNIT
 (N) PIPING TO CONNECT TO (E) PIPE
 (N) POINT OF CONNECTIONS

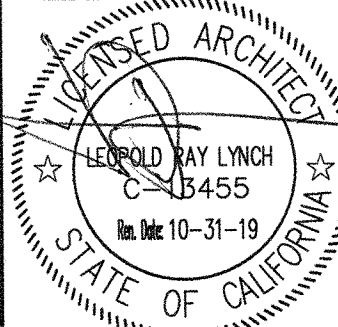
ARCHITECTS

WLC

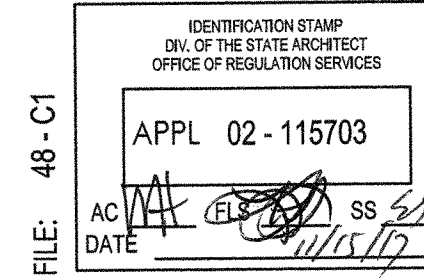
CLIENT FOCUSED • PASSION DRIVEN

BAY AREA
 2600 TENTH STREET, SUITE 500
 BERKELEY
 CALIFORNIA 94710-2597
 TEL: 510-450-1999
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**SOLANO COMMUNITY
 COLLEGE DISTRICT
 VACAVILLE CENTER**
 2001 N VILLAGE PKWY
 VACAVILLE, CA 95688



CONSULTANT



NO	DATE	BY	DESCRIPTION
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DRAWN: VP CHECKED: EB
 DATE: 03/21/2017 SCALE: AS SHOWN
 PROJECT NUMBER: 1715900

**ROOF SOUTH
 PROPOSED PLAN**

DRAWING
 NUMBER: **A4.4**

PROPOSED PARTIAL ROOF PLAN (SOUTH)

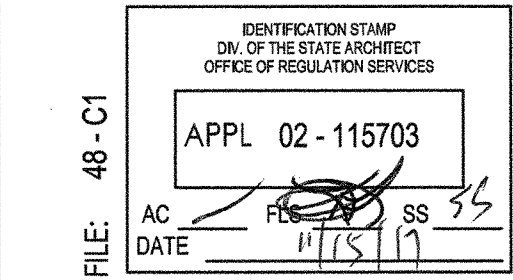
1/8" = 1' - 0"

1



SOLANO COMMUNITY
COLLEGE DISTRICT
VACAVILLE CENTER

2001 N VILLAGE PKWY
VACAVILLE, CA 95688

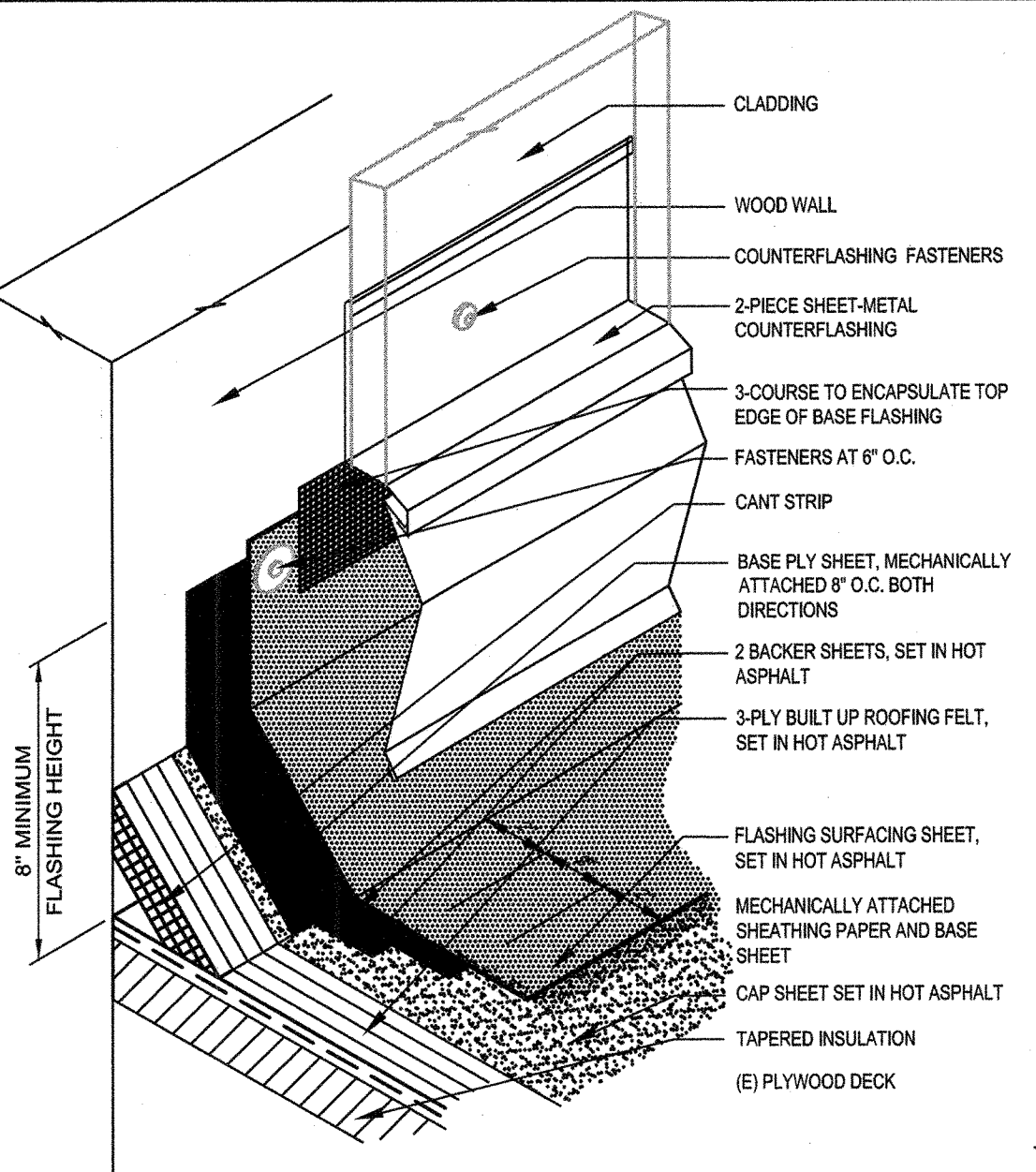
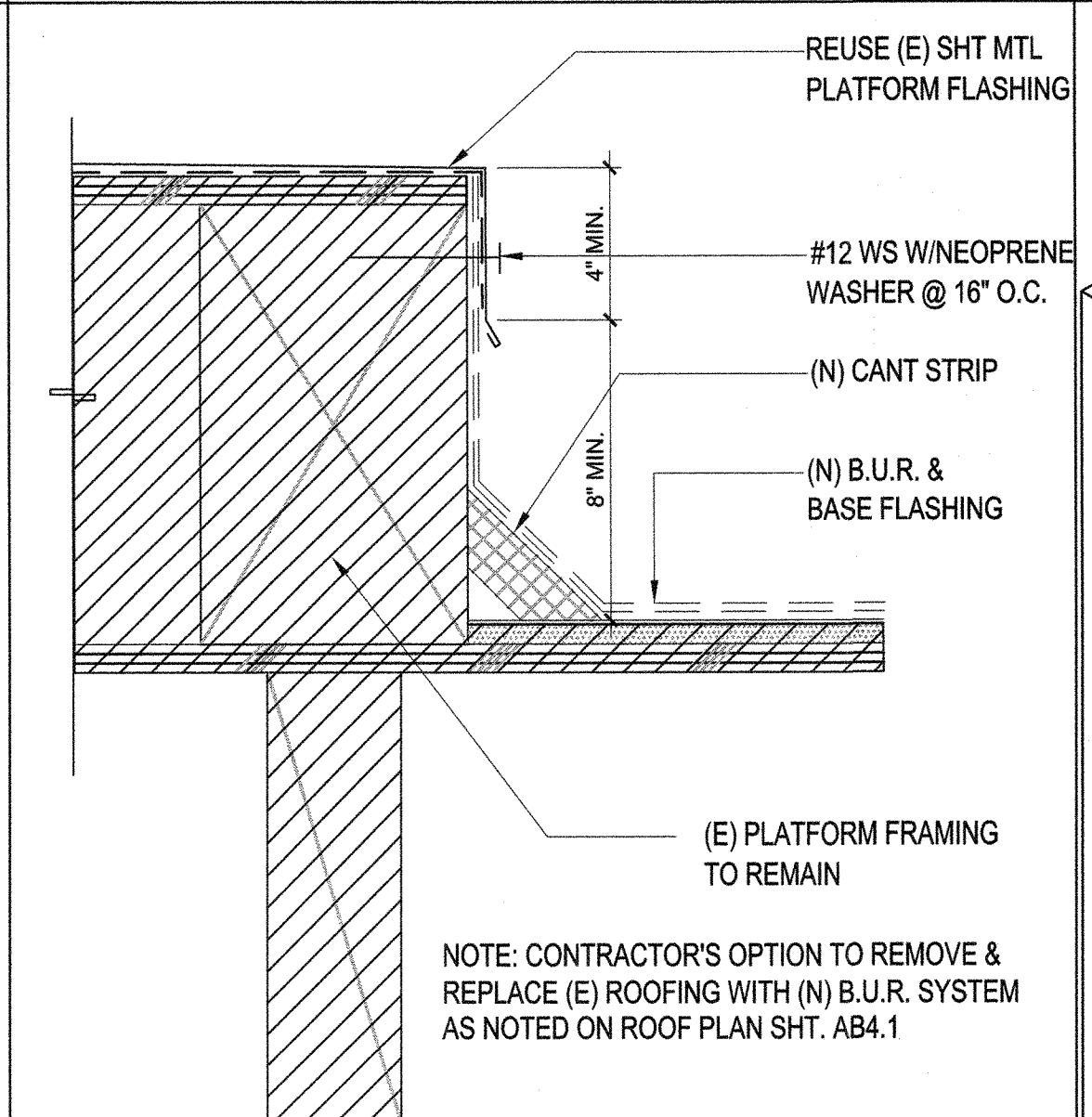


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REVISIONS			

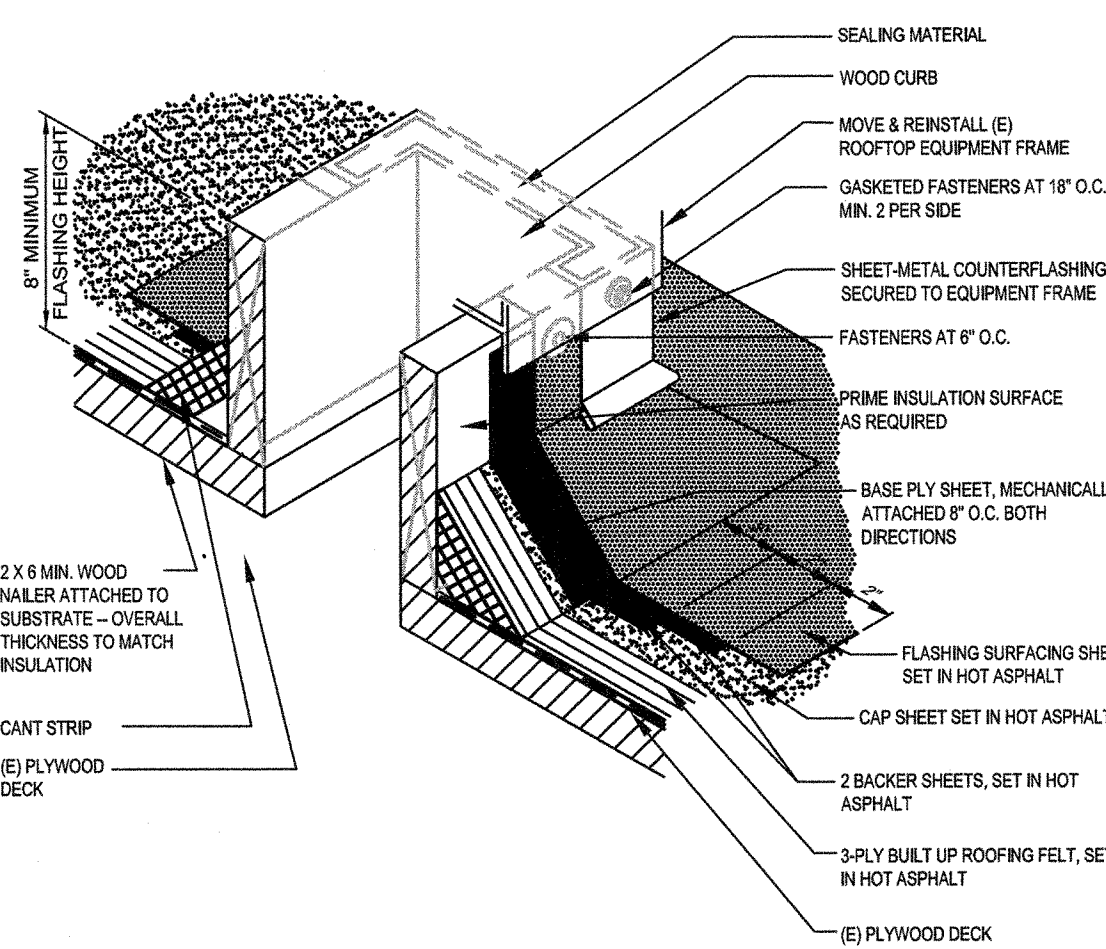
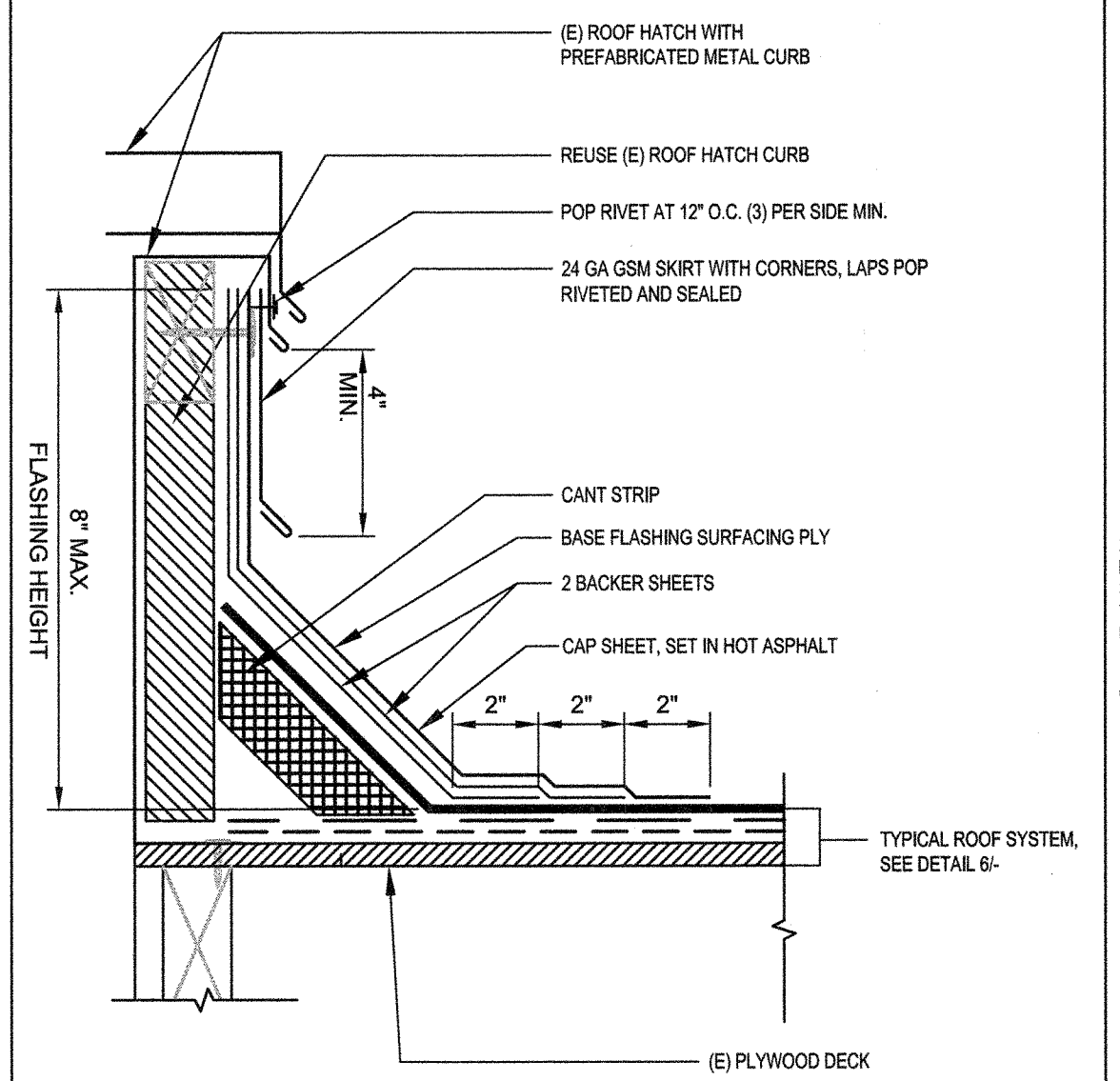
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DATE: 03/21/2017	SCALE: AS NOTED
PROJECT NUMBER: 1715900	

ROOF DETAILS

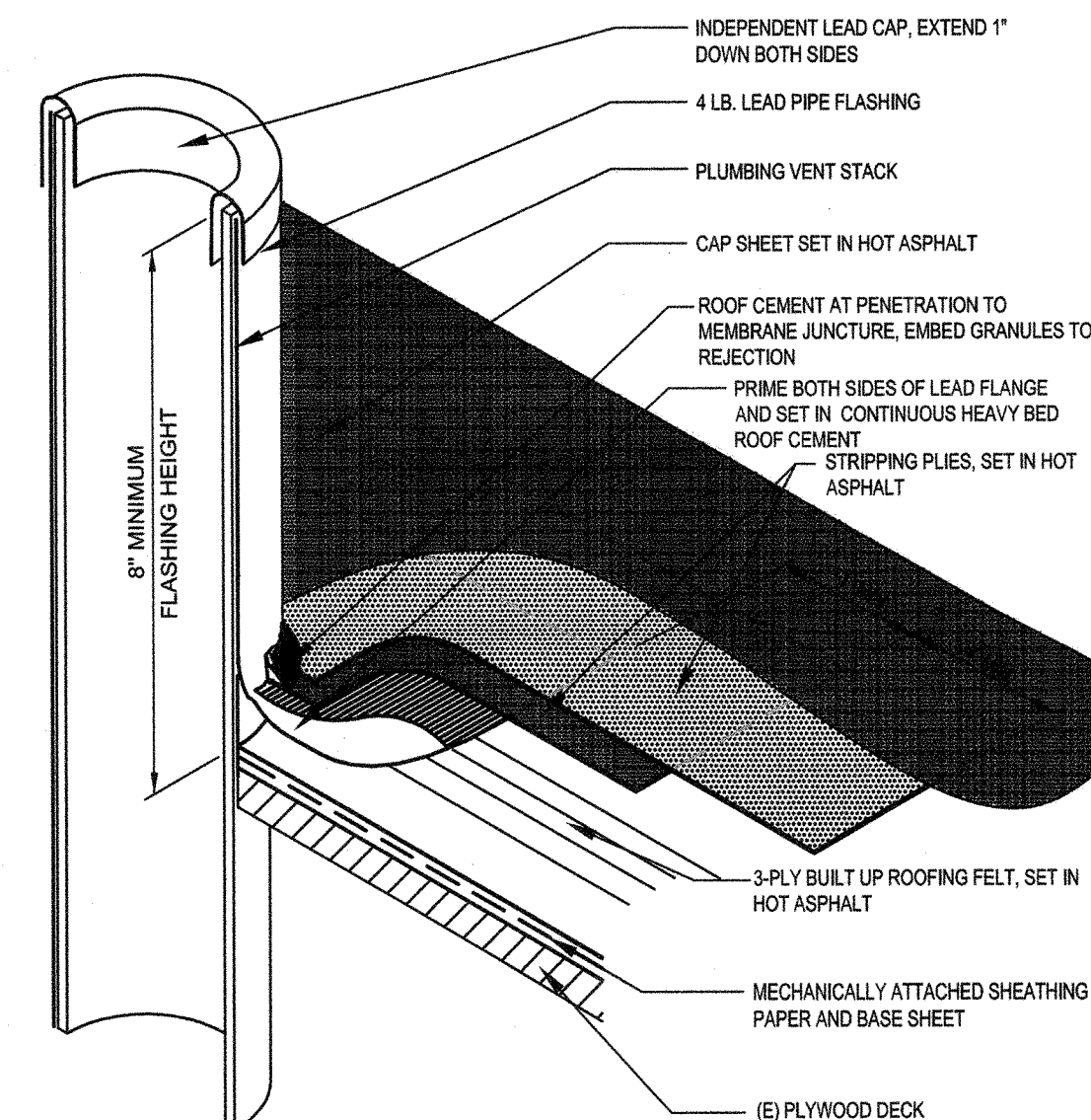
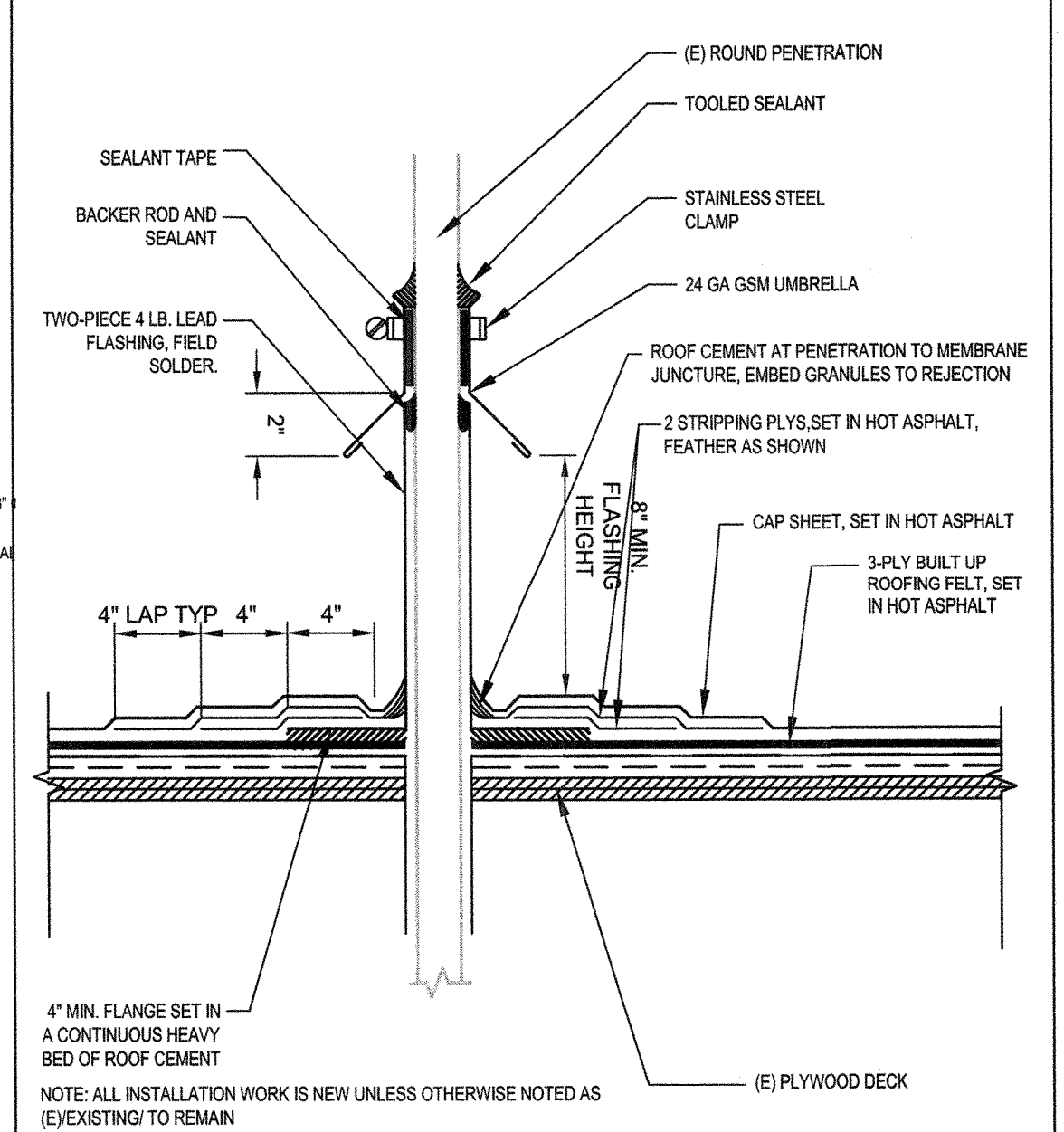
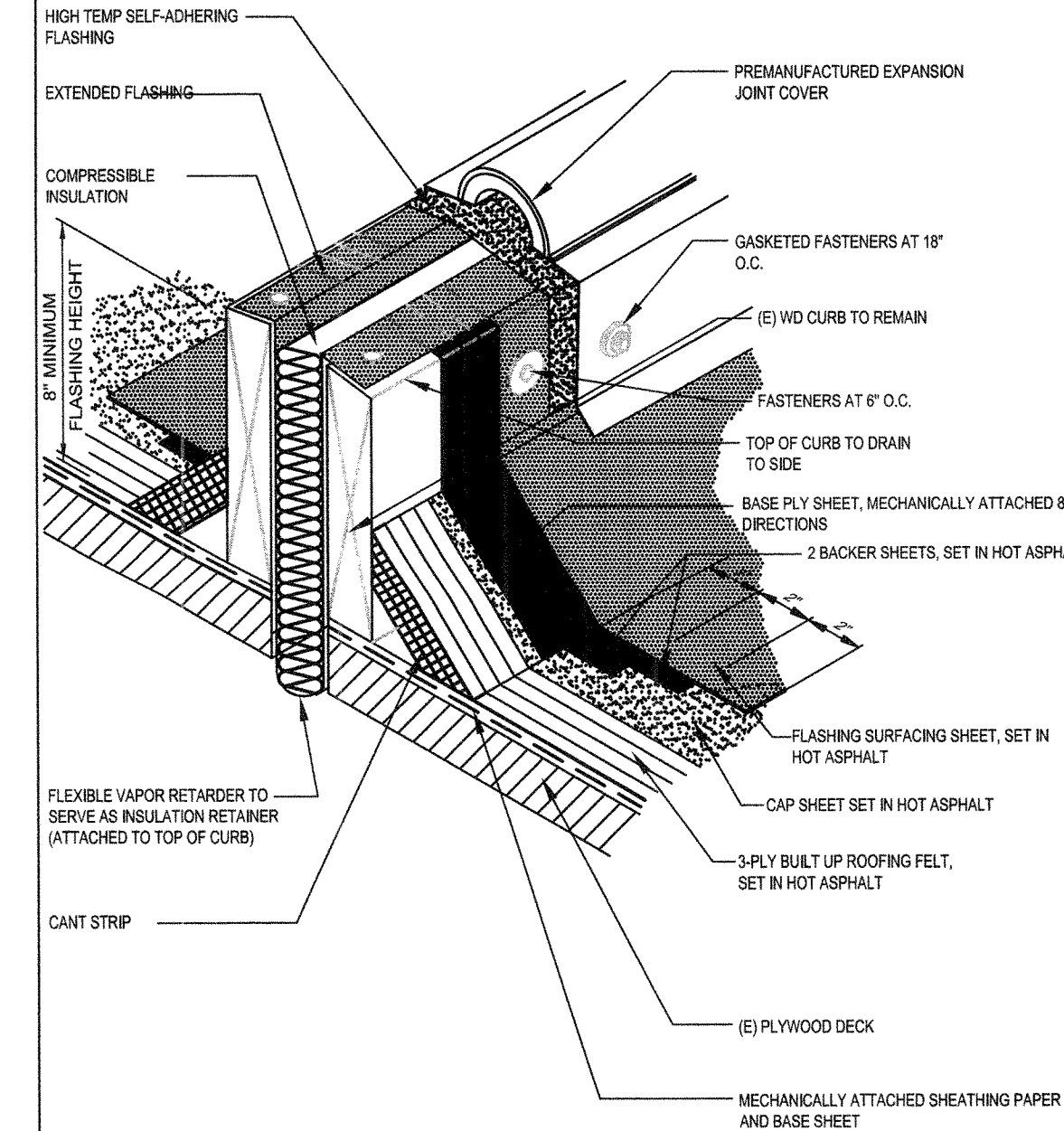
DRAWING NUMBER: **7.1**



7	MECH. PLATFORM DETAIL	3"=1'	4	TYPICAL FLASHING DETAIL	1"=1'	1
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8	ROOF HATCH DETAIL	3"=1'	5	EQPT. CURB DETAIL	3"=1'	2
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BLDG. F ROOF SEISMIC JT.	3"=1'	9	TYP. ROOF PEN. DETAIL	3"=1'	6	TYP. PLUMBING VENT STACK	1"=1'	3
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I. GENERAL REQUIREMENTS

A. THE STRUCTURAL DRAWINGS AND PROJECT SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THE MEANS, METHODS, PROCEDURES AND SEQUENCE OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.

B. DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONNEL AND PROPERTY ON AND AROUND THE JOBSITE. THE CONTRACTOR SHALL PROVIDE SHORING, BRACING, GUYS, ETC. IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL STANDARDS.

C. ALL CONSTRUCTION, TESTING, AND INSPECTIONS SHALL CONFORM TO THE BUILDING CODE REFERENCED UNDER THE HEADING "BASIS OF DESIGN" BELOW.

D. STANDARDS REFERENCED IN THESE DRAWINGS SHALL BE THE LATEST EDITION, UNLESS OTHERWISE NOTED.

E. SEE DRAWINGS OTHER THAN STRUCTURAL FOR: OPENINGS IN WALLS AND FLOORS REQUIRED BY MEP FEATURES; CURBS; SLOPES; DRAINS; PADS; EMBEDDED ITEMS; ETC. COORDINATE THESE ITEMS WITH THE STRUCTURAL DRAWINGS.

F. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT THE JOB SITE BEFORE COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT AND SEOR.

G. OMISSIONS OR DISCREPANCIES BETWEEN THE VARIOUS ELEMENTS OF THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE SEOR AND RESOLVED BEFORE PROCEEDING WITH THE WORK.

H. DO NOT SCALE THE DRAWINGS; USE WRITTEN DIMENSIONS ONLY. WHERE NO DIMENSIONS ARE PROVIDED OR WHERE DIMENSIONS PROVIDED CONFLICT WITH OTHER DRAWINGS, CONSULT THE SEOR.

I. TYPICAL DETAILS ARE INTENDED TO APPLY TO APPLICABLE SITUATIONS, UNLESS OTHERWISE NOTED. TYPICAL DETAILS MAY NOT BE SPECIFICALLY LOCATED.

J. DETAILS SHALL BE APPLIED TO EVERY LIKE CONDITION WHETHER OR NOT THEY ARE REFERENCED IN EVERY INSTANCE. FOR CONDITIONS NOT SPECIFICALLY SHOWN, USE DETAILS SIMILAR TO THOSE PROVIDED.

K. THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTION LOADS DO NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME THE LOADS ARE PLACED.

II. BASIS OF DESIGN

A. THE STRUCTURAL DESIGN OF THIS PROJECT IS GOVERNED BY THE 2013 CALIFORNIA BUILDING CODE (CBC) WITH SS/DSA AMMENDMENTS.

B. RISK CATEGORY = III

C. DEAD LOADS:
1. SELF-WEIGHT OF STRUCTURE
2. MECHANICAL UNITS = SEE WEIGHT ON PLAN

D. LIVE LOADS:
1. CLASSROOMS = 50 PSF
2. ROOF = 20 PSF

E. WIND DESIGN DATA:
1. BASIC WIND SPEED = 115 MPH
2. EXPOSURE CATEGORY = C
3. TOPOGRAPHIC FACTOR = 1.0

F. SEISMIC DESIGN DATA:
1. Ip = 1.00
2. SDS = 1.080
3. SP1 = 0.556
4. SITE CLASS = D
5. SEISMIC DESIGN CATEGORY = D
6. ap = VARIES
7. Rp = VARIES

III. WOOD

A. ALL WOOD FRAMING SHALL CONFORM TO NATIONAL DESIGN SPECIFICATIONS (NDS) FOR WOOD CONSTRUCTION AND APA PDS, PLYWOOD DESIGN SPECIFICATION.

B. ALL WOOD FRAMING SHALL BE DOUGLAS FIR LARCH, UNLESS OTHERWISE NOTED. GRADE SHALL BE AS FOLLOWS:
1. JOISTS = 1
2. BEAMS = 1
3. BLOCKING AND MISCELLANEOUS = 2

C. REJECTION OF WOOD MEMBERS: THE PROVISION IN DOC PS 20 (AS REFERENCED BY CBC 2303.1.1) WHICH PERMITS FIVE PERCENT OF THE MATERIAL TO FALL BELOW GRADE SHALL NOT BE CONSTRUED TO PERMIT BELOW-GRADE MATERIAL TO BE USED AS LOAD-CARRYING MEMBERS WHICH HAVE BEEN DESIGNED FOR SPECIFIC ALLOWABLE STRESSES AND ACCEPTABLE SAFETY FACTORS. MATERIALS WHICH FALL BELOW GRADE SHALL BE REJECTED FOR LOAD-CARRYING USE. WOOD MEMBERS WHICH ARE REQUIRED TO CARRY DESIGN LOADS AND WHICH THE PROJECT ARCHITECT, SEOR OR INSPECTOR JUDGE TO BE MISGRADED SHALL BE REINSPECTED BY A QUALIFIED LUMBER GRADING INSPECTOR TO VERIFY THE PROPER GRADING OF THE MATERIAL. WOOD MEMBERS WHICH HAVE PERMISSIBLE GRADE CHARACTERISTICS OR DEFECTS IN SUCH COMBINATION AS TO AFFECT THE SERVICEABILITY OF THE MEMBER SHALL BE REJECTED BY THE PROJECT INSPECTOR WITH THE CONCURRENCE OF THE ARCHITECT OR SEOR.

D. MAXIMUM MOISTURE CONTENT SHALL BE 15% AT TIME OF FRAMING FOR NEW WOOD MEMBERS ADJACENT TO EXISTING WOOD MEMBERS.

E. WOOD CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG TIE OR EQUAL PRODUCT IF APPROVED BY SEOR. SIMPSON DESIGNATIONS USED IN THESE DRAWINGS.

F. LAG BOLTS AND UNFINISHED MACHINE BOLTS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD.

G. ANCHOR RODS SHALL CONFORM TO ASTM F1554 GR 36.

H. FASTENERS INSTALLED IN PRESSURE TREATED OR FIRE RETARDANT TREATED WOOD SHALL BE GALVANIZED.

I. PLYWOOD SHALL BE 15/32" STRUCT 1, EXPOSURE 1

IV. POST-INSTALLED ANCHORS

A. POST-INSTALLED ANCHORS INCLUDE EXPANSION ANCHORS AND POWDER-ACTUATED FASTENERS.

B. DO NOT DAMAGE OR CUT EXISTING REINFORCING STEEL WHILE INSTALLING POST-INSTALLED ANCHORS. NOTIFY SEOR IF EXISTING REINFORCING STEEL INTERFERES WITH INSTALLATION OF POST-INSTALLED ANCHORS.

C. ALL MIS-DRILLED OR UNACCEPTABLE HOLES SHALL NOT BE USED AND SHALL BE GROUTED SOLID.

D. ALL POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE ICC-ES REPORT AND MANUFACTURER'S RECOMMENDATIONS.

E. PROVIDE SPECIAL INSPECTION FOR THE INSTALLATION OF ALL POST-INSTALLED ANCHORS, UNLESS OTHERWISE NOTED.

F. FIELD TEST POST-INSTALLED ANCHORS, UNLESS OTHERWISE NOTED. FIELD TESTING SHALL BE IN COMPLIANCE WITH THE FOLLOWING:
1. 50% OF POST-INSTALLED ANCHORS USED FOR NON-STRUCTURAL APPLICATIONS SHALL BE TESTED, INCLUDING ONE HALF OF ALL ANCHORS IN EACH GROUP.
a. IF ANY ANCHOR FAILS TESTING, ALL ANCHORS OF THE SAME TYPE THAT ARE UNTESTED SHALL BE TESTED UNTIL 20 CONSECUTIVE ANCHORS PASS.
2. TORQUE TESTING MAY BE USED FOR TORQUE CONTROLLED POST-INSTALLED ANCHORS; TENSION TEST ALL OTHER POST-INSTALLED ANCHORS.
3. TORQUE TESTING SHALL BE IN ACCORDANCE WITH CBC SECTION 1913A.7.4.2.
4. TENSION TESTING SHALL BE IN ACCORDANCE WITH CBC SECTION 1913A.7.4.1.
5. ALL FIELD TESTING SHALL BE DONE UNDER THE OBSERVATION OF THE PROJECT INSPECTOR.
6. TESTING SHALL OCCUR AT LEAST 24 HOURS AFTER THE ANCHOR HAS BEEN INSTALLED.

G. EXPANSION ANCHORS
1. FOR INSTALLATION IN CONCRETE, EXPANSION ANCHORS SHALL BE ONE OF THE FOLLOWING:
a. STRONG BOLT 2 PER ICC-ES ESR-3037 AS MANUFACTURED BY SIMPSON STRONG TIE.
b. KWIK BOLT TZ PER ICC-ES ESR-1917 AS MANUFACTURED BY HILTI, INC.
2. USE STAINLESS STEEL AT EXTERIOR, WEATHER-EXPOSED OR DAMP LOCATIONS; CARBON STEEL EXPANSION ANCHORS MAY BE USED AT ALL OTHER LOCATION, UNLESS OTHERWISE NOTED.
3. MINIMUM ANCHOR EMBEDMENT AND TORQUE TEST VALUES ARE AS FOLLOWS:

KWIK BOLT TZ IN NORMAL WEIGHT CONCRETE (fc = 3000 PSI MIN)				
ANCHOR DIAMETER (IN)	EMBED (IN)	MINIMUM HOLE DEPTH (IN)	TORQUE TEST VALUE (FT-LBS)	
3/8	2 5/16	2 5/8		25
1/2	2 3/8	2 5/8		40
5/8	4 7/16	4 3/4		60
3/4	5 9/16	5 3/4		110

STRONG BOLT 2 IN NORMAL WEIGHT CONCRETE (fc = 3000 PSI MIN)				
ANCHOR DIAMETER (IN)	EMBED (IN)	MINIMUM HOLE DEPTH (IN)	TORQUE TEST VALUE (FT-LBS)	
3/8	1 7/8	2		30
1/2	2 3/4	3		60
5/8	5 1/8	5 3/8		90
3/4	5 3/4	6		150

KWIK BOLT TZ IN LIGHT WEIGHT CONCRETE (fc = 3000 PSI MIN)				
ANCHOR DIAMETER (IN)	EMBED (IN)	MINIMUM HOLE DEPTH (IN)	TORQUE TEST VALUE (FT-LBS)	
3/8	2 5/16	2 5/8		25
1/2	2 3/8	2 5/8		40
5/8	3 9/16	3 7/8		60

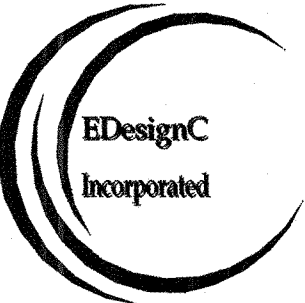
STRONG BOLT 2 IN LIGHT WEIGHT CONCRETE (fc = 3000 PSI MIN)				
ANCHOR DIAMETER (IN)	EMBED (IN)	MINIMUM HOLE DEPTH (IN)	TORQUE TEST VALUE (FT-LBS)	
3/8	1 7/8	2		30
1/2	2 3/4	3		60
5/8	3 3/8	3 5/8		90
3/4	4 1/8	4 3/8		150

H. POWDER-ACTUATED FASTENERS
1. PAF SHALL BE ONE OF THE FOLLOWING:
a. SIMPSON STRONG TIE POWDER-ACTUATED FASTENERS PER ICC-ES ESR-2138 FOR ANCHORAGE OF METAL TO CONCRETE, OR STEEL.
b. HILTI, INC. X-U PER ICC-ES ESR-2269 FOR ANCHORAGE OF METAL TO CONCRETE, OR STEEL
2. PROVIDE 0.08"x1.1"x1.1" SQUARE OR 0.08"x1.425" DIAMETER ROUND WASHER AT EACH PAF.
3. MINIMUM PAF EMBED INTO CONCRETE SHALL BE 1", UNLESS OTHERWISE NOTED.
4. MINIMUM PAF EMBED INTO STEEL SHALL BE PER MANUFACTURER.

ABBREVIATIONS

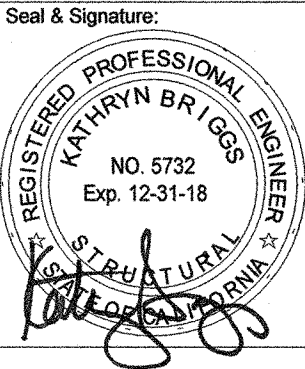
ABBREVIATIONS	DESCRIPTION
(E)	EXISTING
ADDL	ADDITIONAL
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BTWN	BETWEEN
CL	CENTER LINE
CLR	CLEAR OR CLEARANCE
CONN	CONNECTION(S)
CONT	CONTINUOUS
CTR	CENTER
CTRD	CENTERED
CTRSK	COUNTERSINK
db	DIAMETER OF BOLT OR REBAR
DF	DOUGLAS FIR
DIA	DIAMETER
DWG(S)	DRAWING(S)
EA	EACH
EF	EACH FACE
EMBED	EMBEDMENT
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EXP	EXPANSION
GA	GAGE, GAUGE
GLB	GLUE-LAMINATED BEAM
GR	GRADE
HGR	HANGER
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION (TUBE STEEL)
HVAC	HEATING VENTING AND AIR CONDITIONING
INFO	INFORMATION
LBS	POUNDS
MAX	MAXIMUM
MB	UNFINISHED MACHINE BOLT
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OH	OPPOSITE HAND
OPNG(S)	OPENING(S)
PAF	POWDER ACTUATED FASTENER
PERP	PERPENDICULAR
PL	PLATE
PLY	PLYWOOD
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
REF	REFERENCE
REQD	REQUIRED
REV	REVISION
SCHED	SCHEDULE(D)
SEOR	STRUCTURAL ENGINEER OF RECORD
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SMD	SEE MECHANICAL DRAWINGS
SMS	SHEET METAL SCREW(S)
STAGG'D	STAGGERED
STD	STANDARD
T&B	TOP AND BOTTOM
THRD'D	THREADED
TO	TOP OF
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WF	WIDE FLANGE
WT	WEIGHT

ISSUES



582 MARKET STREET, SUITE 400
SAN FRANCISCO, CA 94104
(415) 963-4303

212 9TH STREET, SUITE 203
OAKLAND, CA 94612

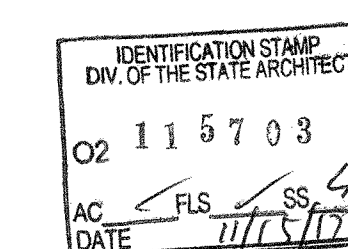


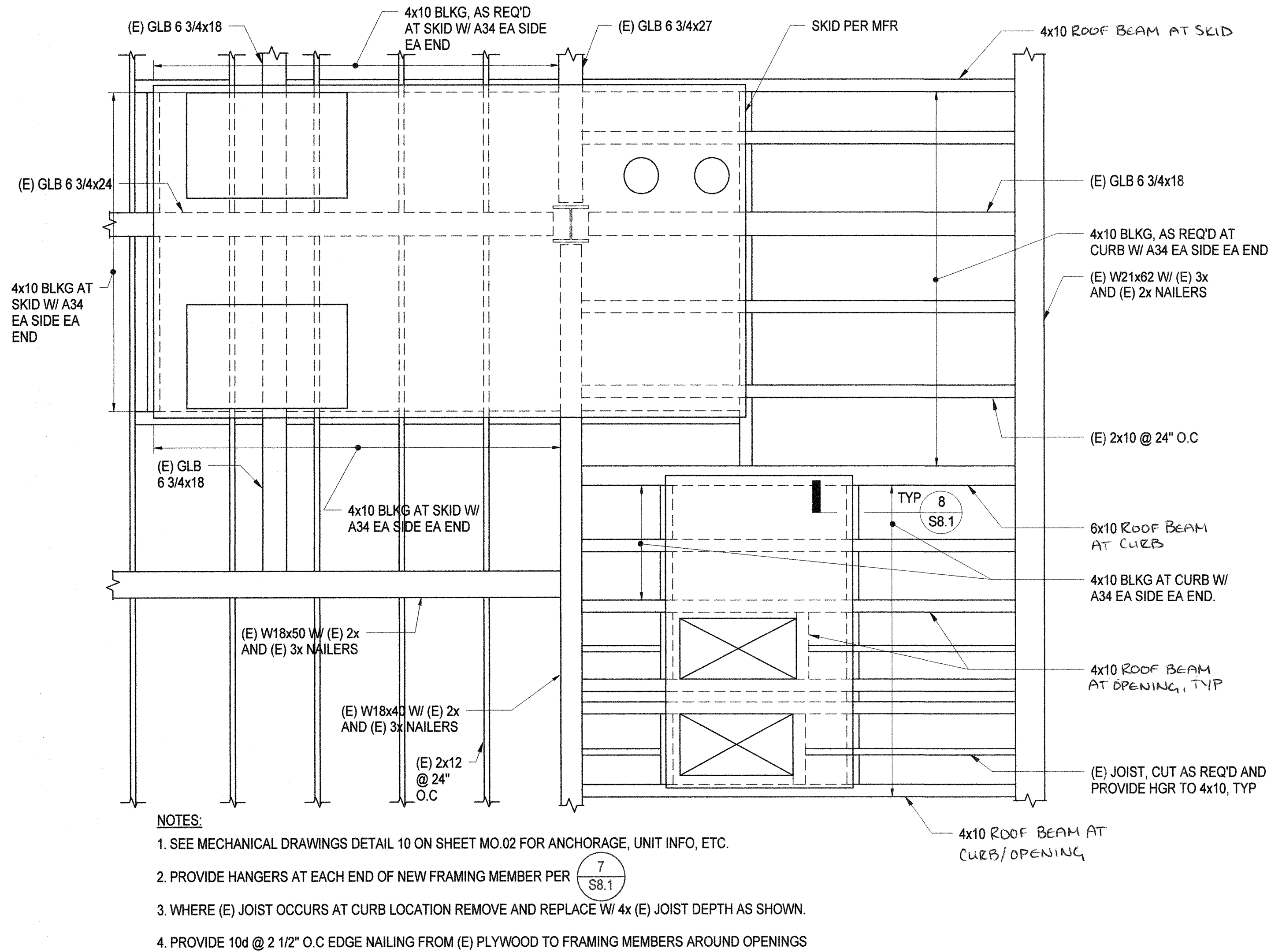
SOLANO COMMUNITY COLLEGE DISTRICT
VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT

BASE DESIGN
582 MARKET ST. STE. 1402
SAN FRANCISCO, CA 94104
Office (415) 466-2987
www.BASEdesigninc.com

GENERAL NOTES AND ABBREVIATIONS

Date:	09/11/2017
Scale:	1 1/2" = 1'-0"
Drawn:	TTD
Job:	16201
Sheet	S1.1
Of	Sheets

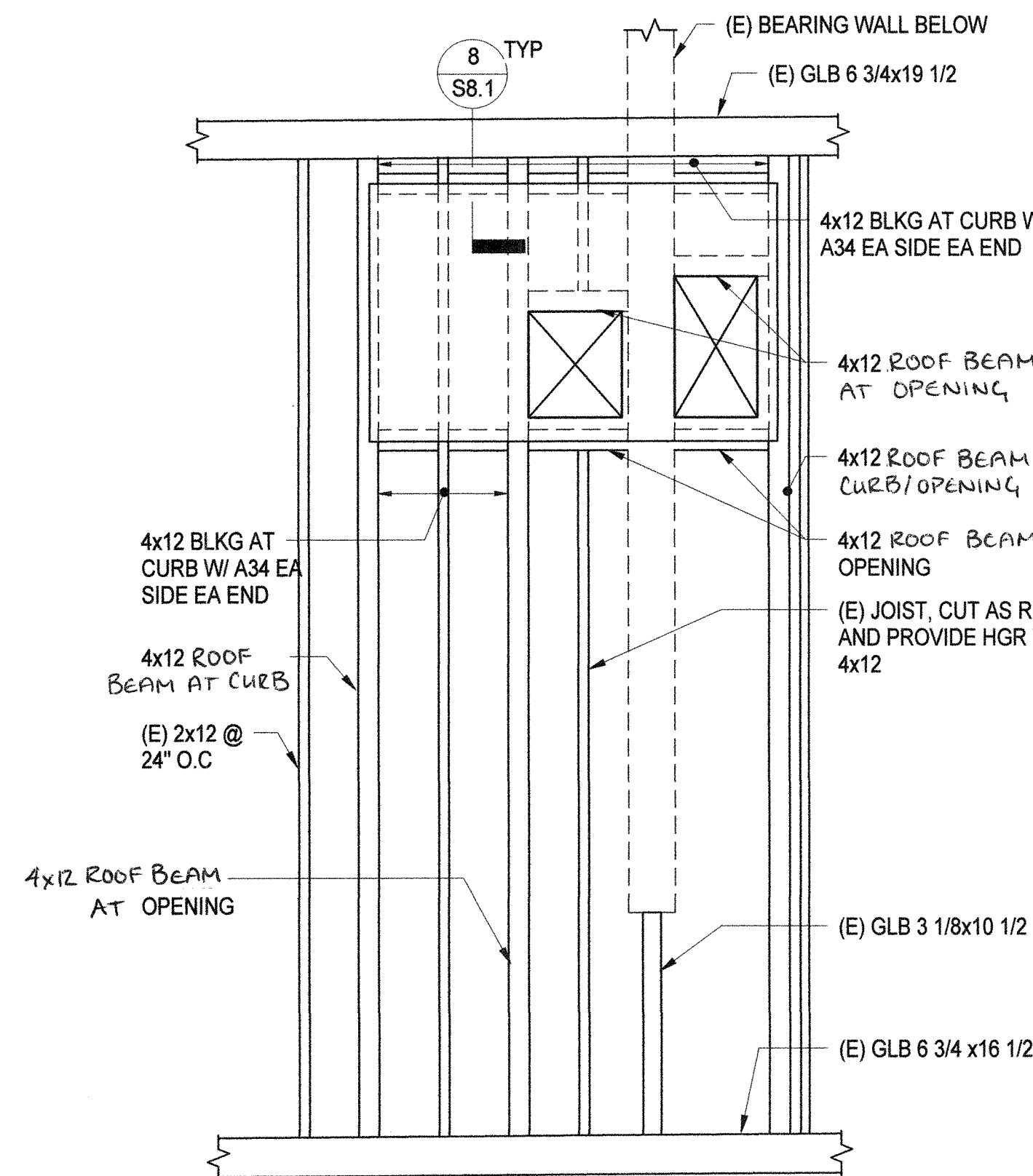

$$1/8" = 1'-0"$$




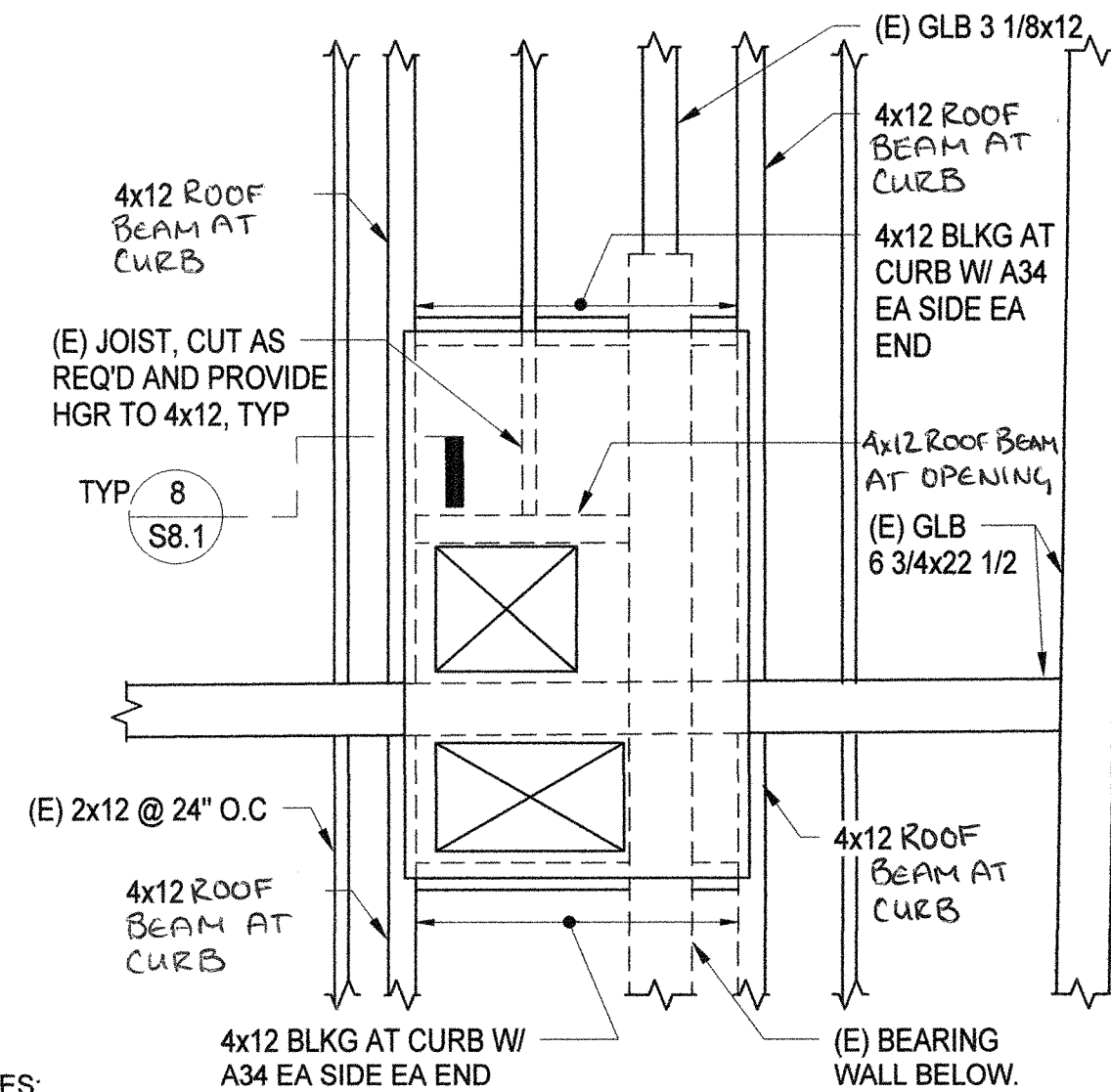
7 ENLARGED PLAN AT RTU-7 AND AT SKID

4 ENLARGED PLAN AT RTU-6

1 ENLARGED PLAN AT RTU-1

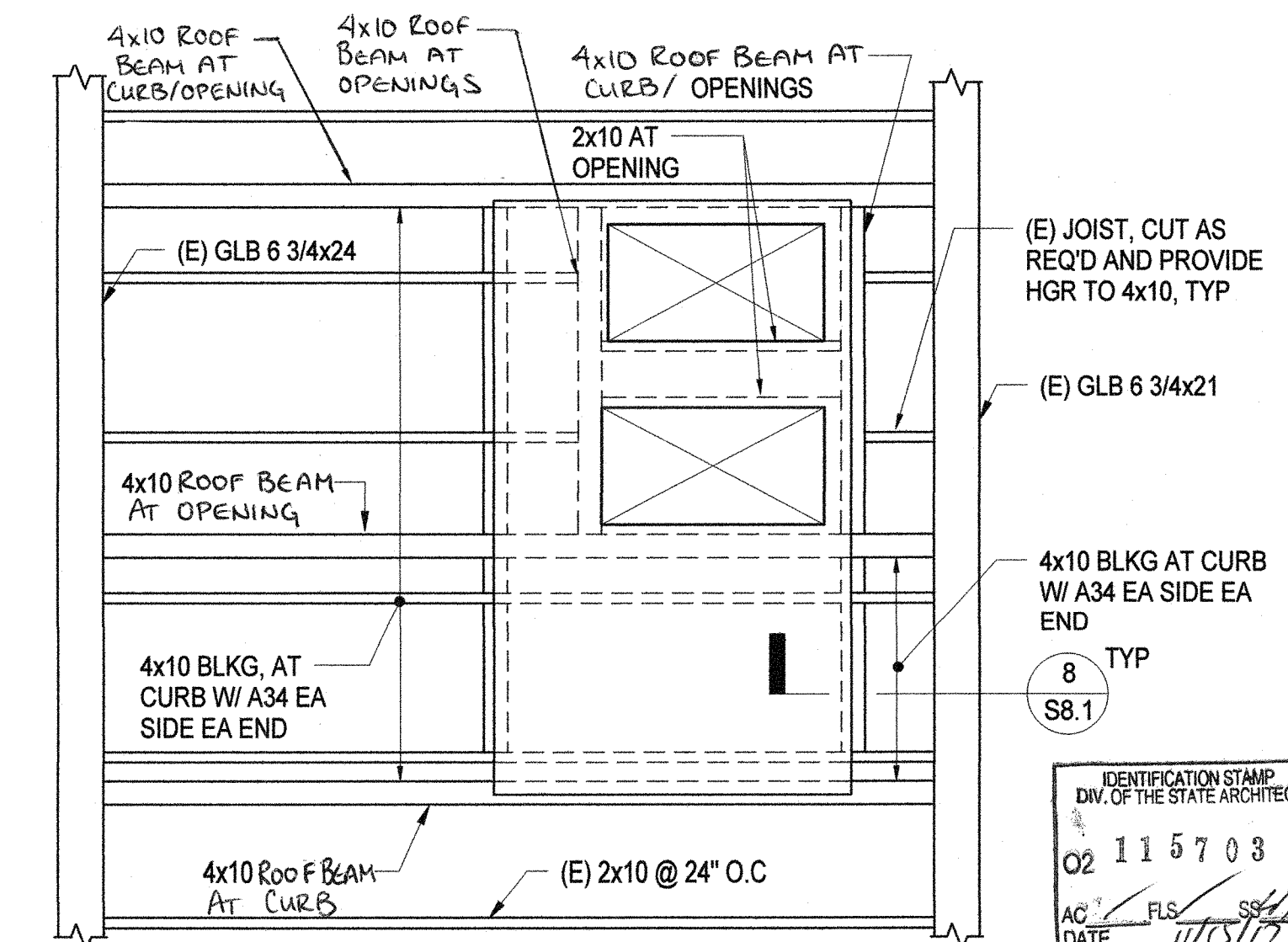


8 ENLARGED PLAN AT RTU-9

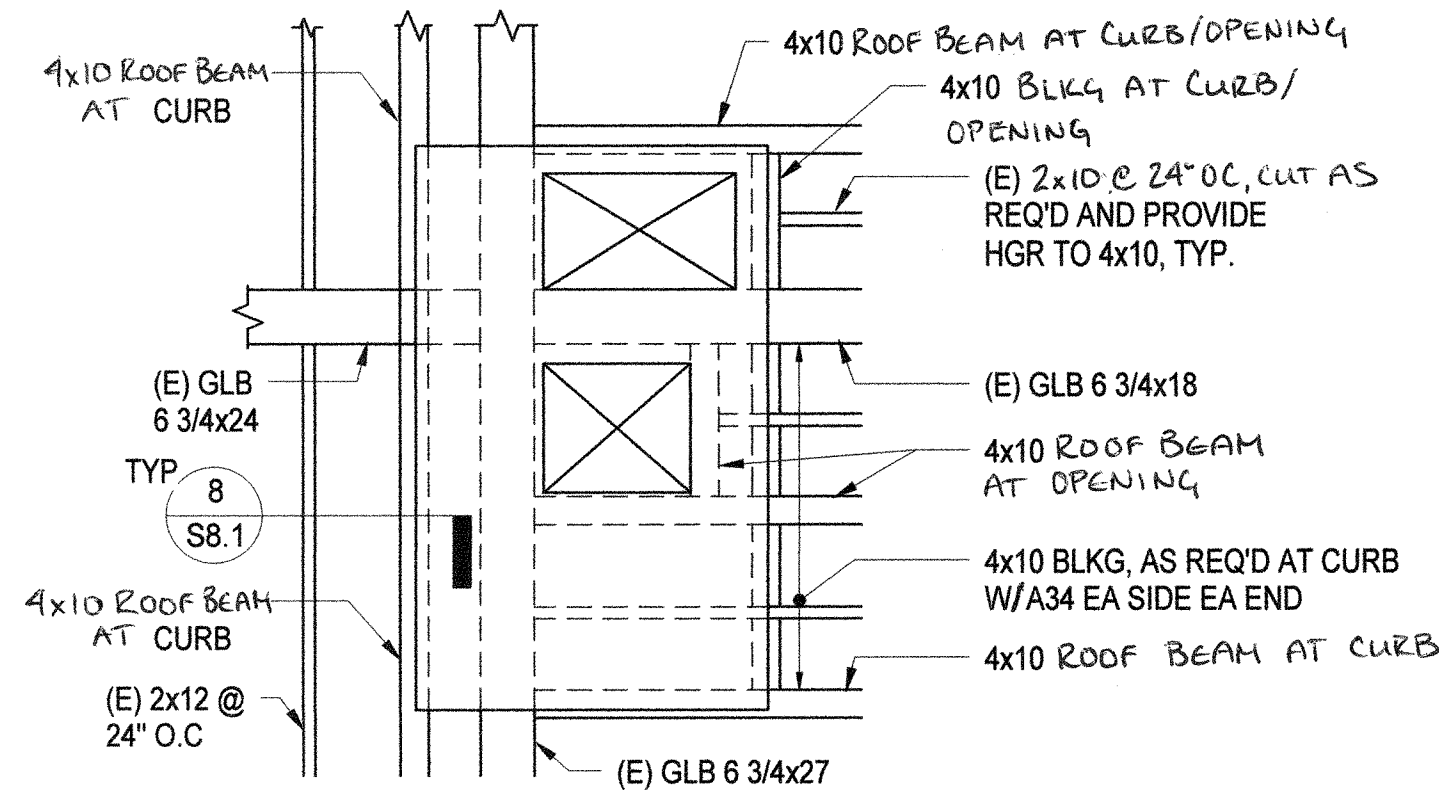


5 ENLARGED PLAN AT RTU-8

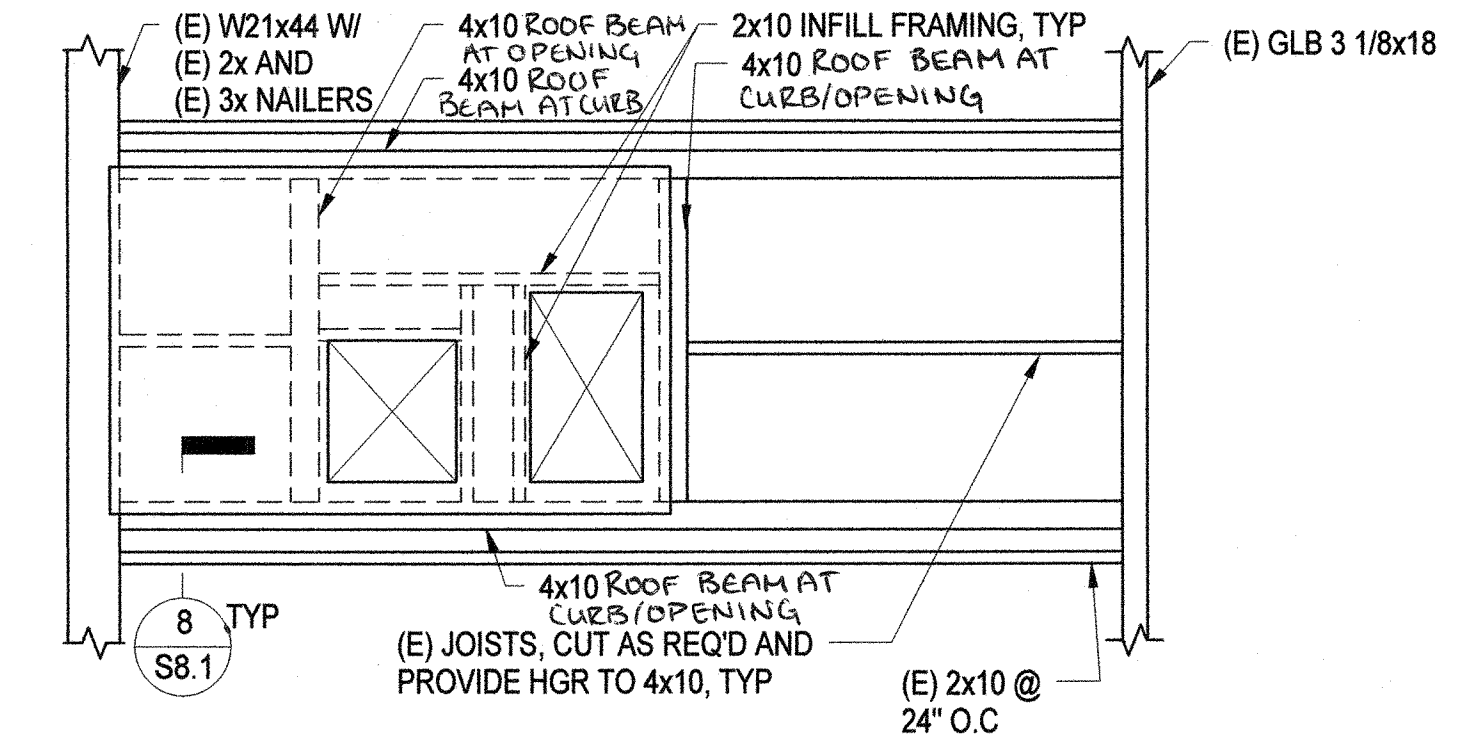
- NOTES:**
- ANCHOR CURBS TO (E) NAILERS OVER (E) W21 WHERE OCCURS.
 - SEE MECHANICAL DRAWINGS FOR ANCHORAGE, UNIT INFO, ETC.
 - PROVIDE HANGERS AT EACH END OF NEW FRAMING MEMBER PER 7
S8.1
 - WHERE (E) JOIST OCCURS AT CURB LOCATION REMOVE AND REPLACE W/ 4x (E) JOIST DEPTH AS SHOWN.
 - PROVIDE 10d @ 2 1/2" O.C EDGE NAILING FROM (E) PLYWOOD TO FRAMING MEMBERS AROUND OPENINGS

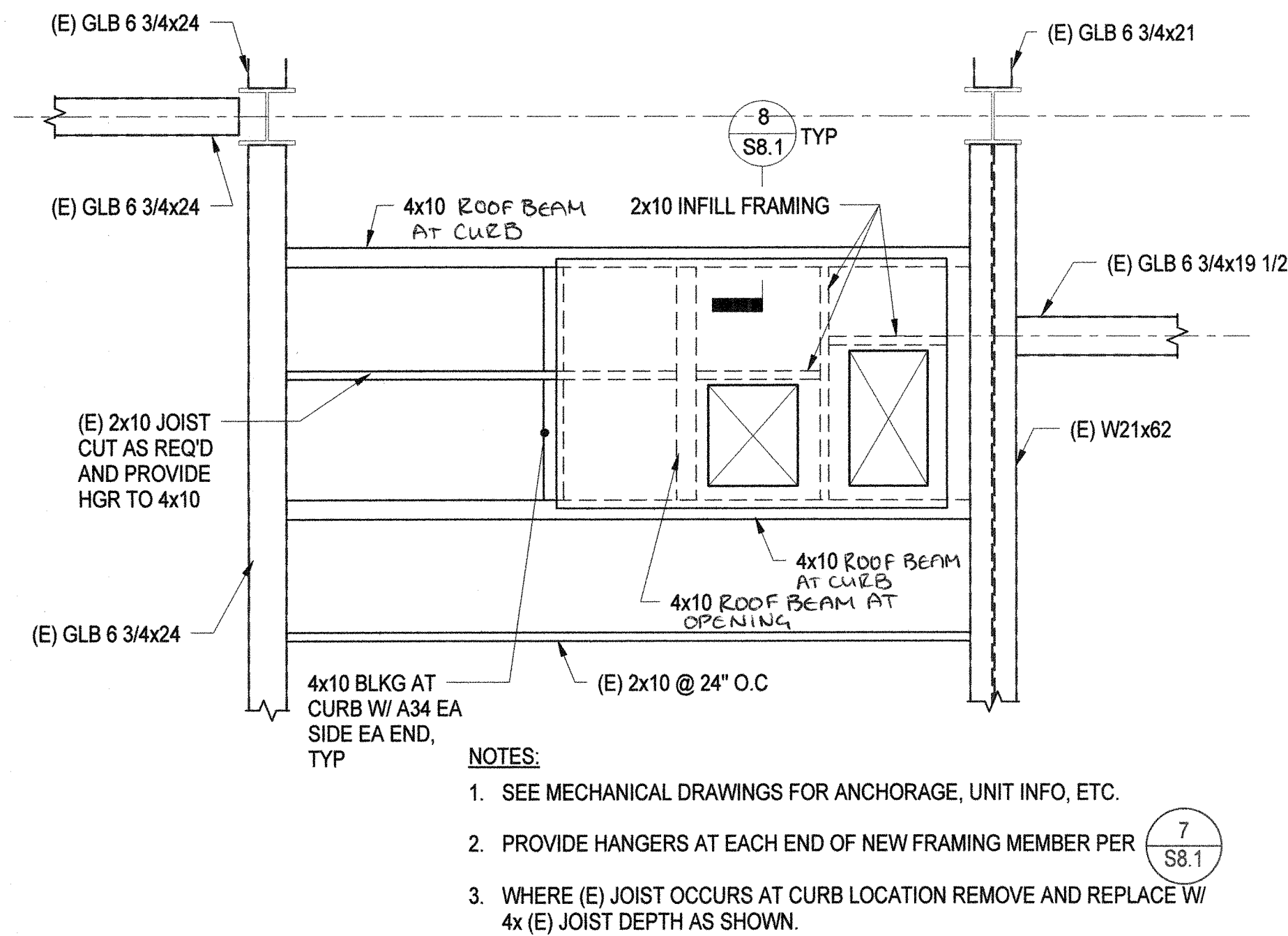


2 ENLARGED PLAN AT RTU-2



- NOTES:**
- ANCHOR CURBS TO (E) NAILERS OVER (E) W21 WHERE OCCURS.
 - SEE MECHANICAL DRAWINGS FOR ANCHORAGE, UNIT INFO, ETC.
 - PROVIDE HANGERS AT EACH END OF NEW FRAMING MEMBER PER 7
S8.1
 - WHERE (E) JOIST OCCURS AT CURB LOCATION REMOVE AND REPLACE W/ 4x (E) JOIST DEPTH AS SHOWN.
 - PROVIDE 10d @ 2 1/2" O.C EDGE NAILING FROM (E) PLYWOOD TO FRAMING MEMBERS AROUND OPENINGS



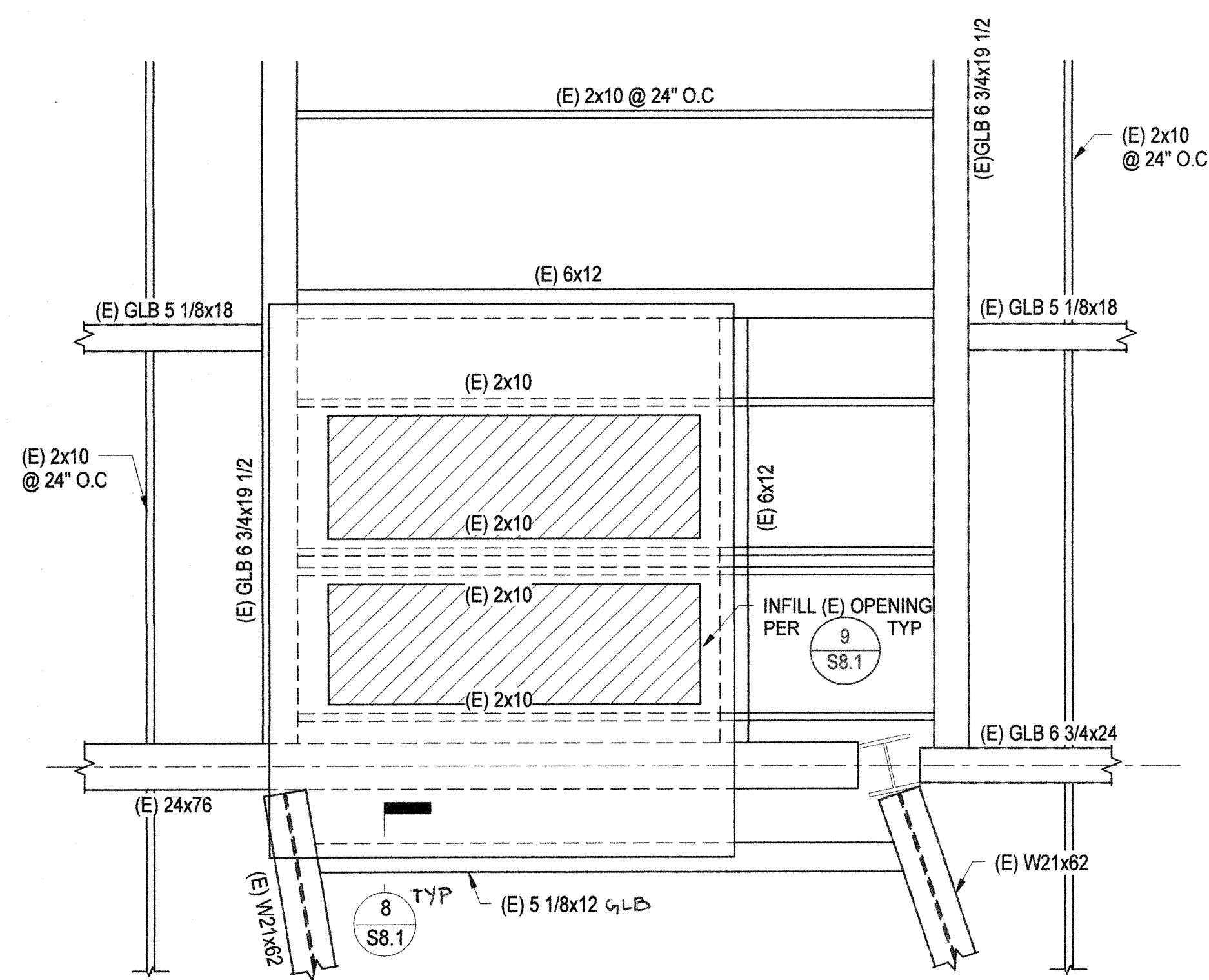


7 ENLARGED PLAN AT RTU-3

1/2" = 1'-0"

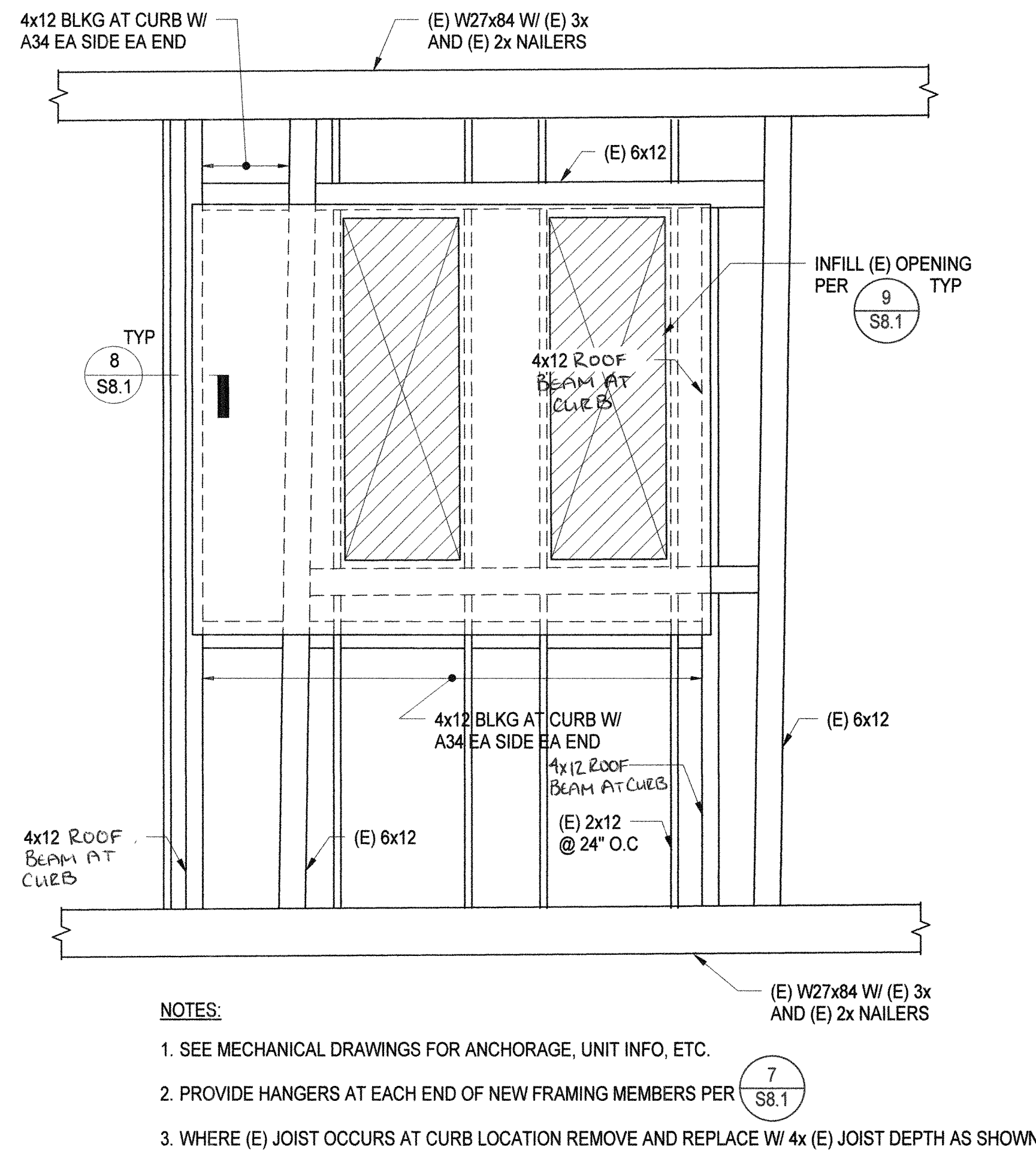
Notes:

- SEE MECHANICAL DRAWINGS FOR ANCHORAGE, UNIT INFO, ETC.
- PROVIDE HANGERS AT EACH END OF NEW FRAMING MEMBER PER 7 S8.1



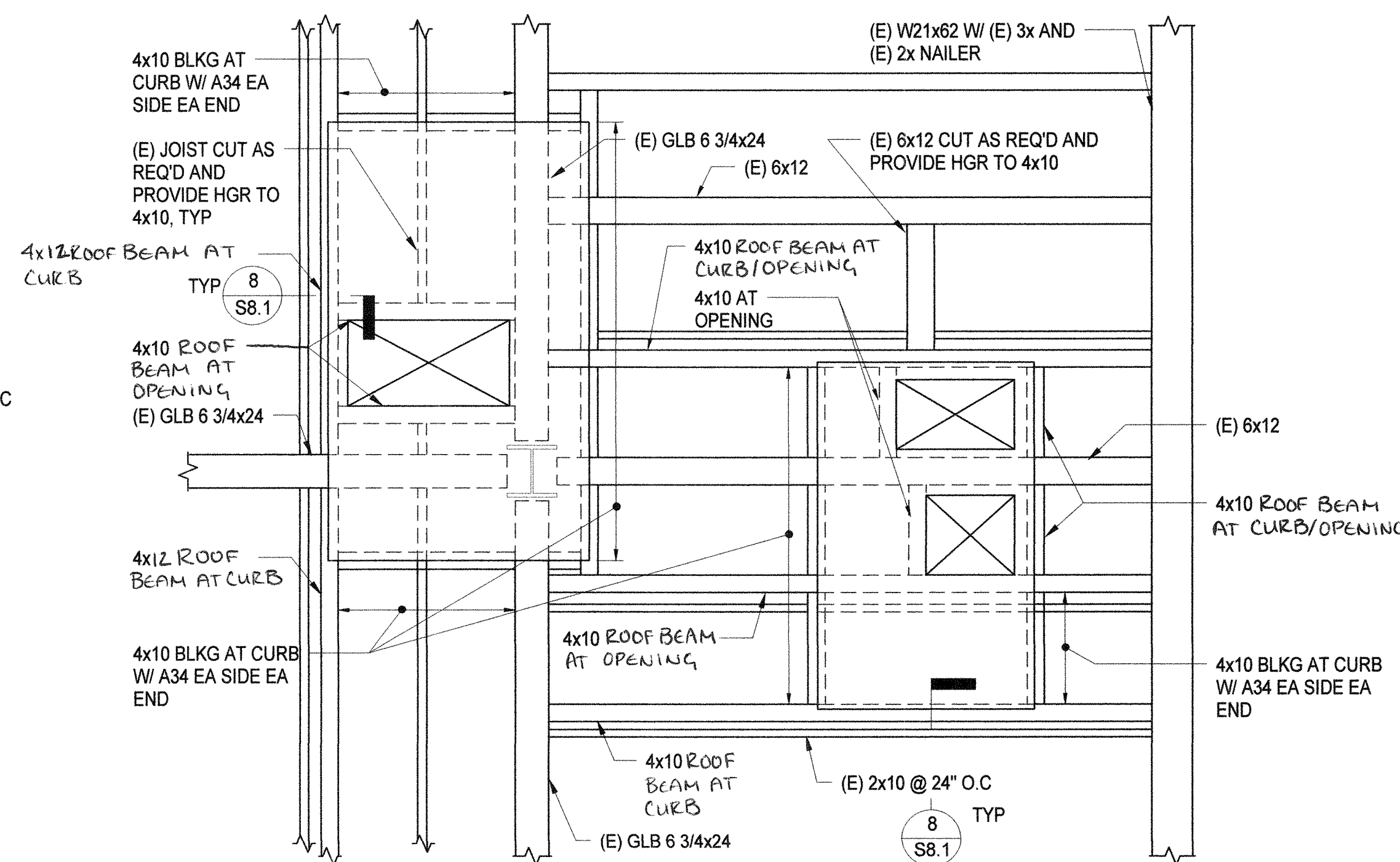
9 ENLARGED PLAN AT RTU-10

1/2" = 1'-0"



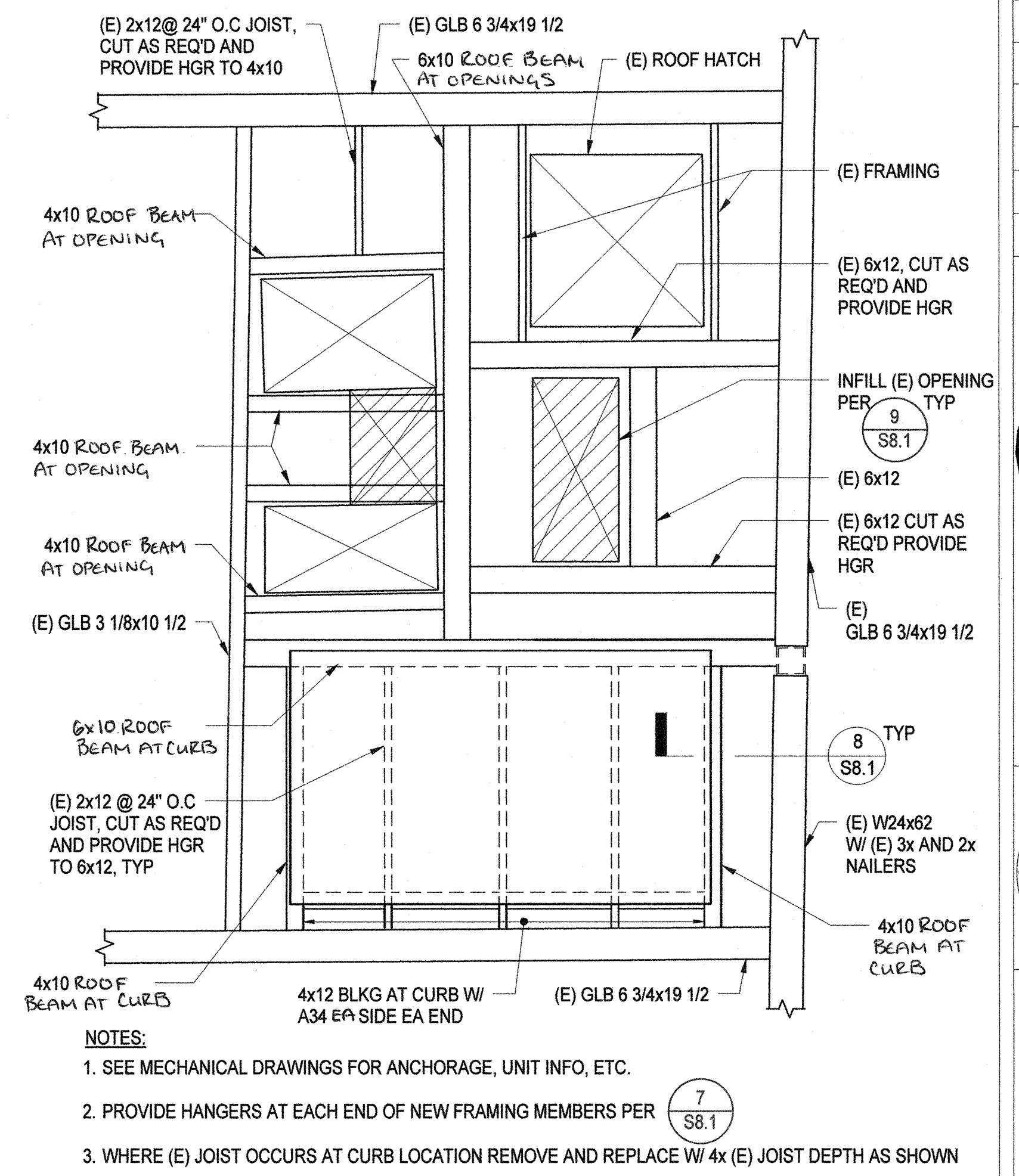
4 ENLARGED PLAN AT RTU-14

1/2" = 1'-0"



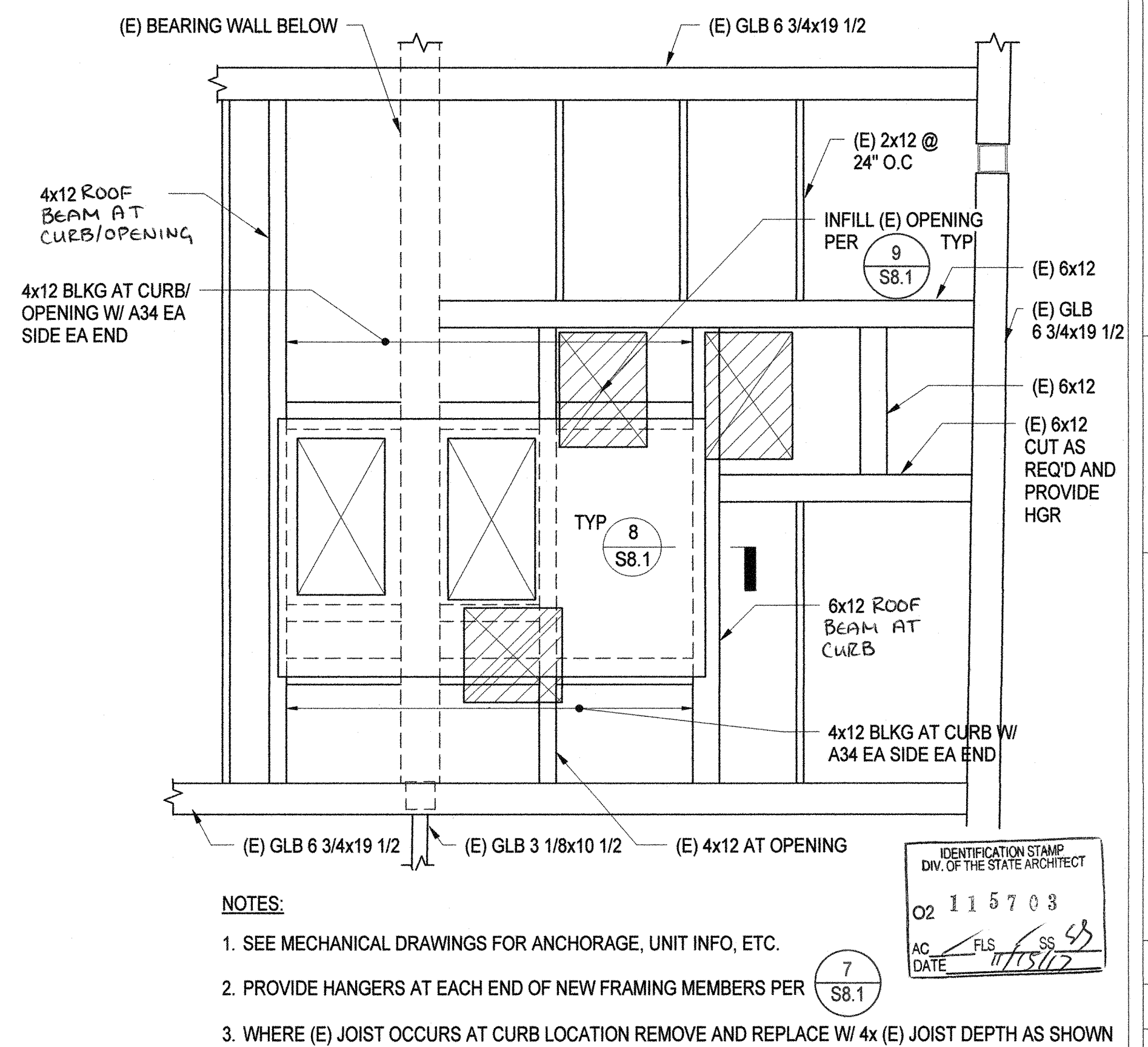
6 ENLARGED PLAN AT RTU-4 AND RTU-16

1/2" = 1'-0"



1 ENLARGED PLAN AT RTU-12

1/2" = 1'-0"



3 ENLARGED PLAN AT RTU-13

1/2" = 1'-0"

ISSUES

EDesignC Incorporated

582 MARKET STREET, SUITE 400
SAN FRANCISCO, CA 94104
(415) 963-4303

212 9TH STREET, SUITE 203
OAKLAND, CA 94612

Seal & Signature:

REGISTERED PROFESSIONAL ENGINEER
KATHRYN BRIDGES
NO. 5732
Exp. 12-31-18

**SOLANO COMMUNITY COLLEGE DISTRICT
VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT**

BASE DESIGN

582 MARKET ST. STE. 1402
SAN FRANCISCO, CA 94104
Office: (415) 498-2997
www.BASEdesigninc.com

ENLARGED FRAMING PLANS

Date: 09/11/2017

Scale: 1/2" = 1'-0"

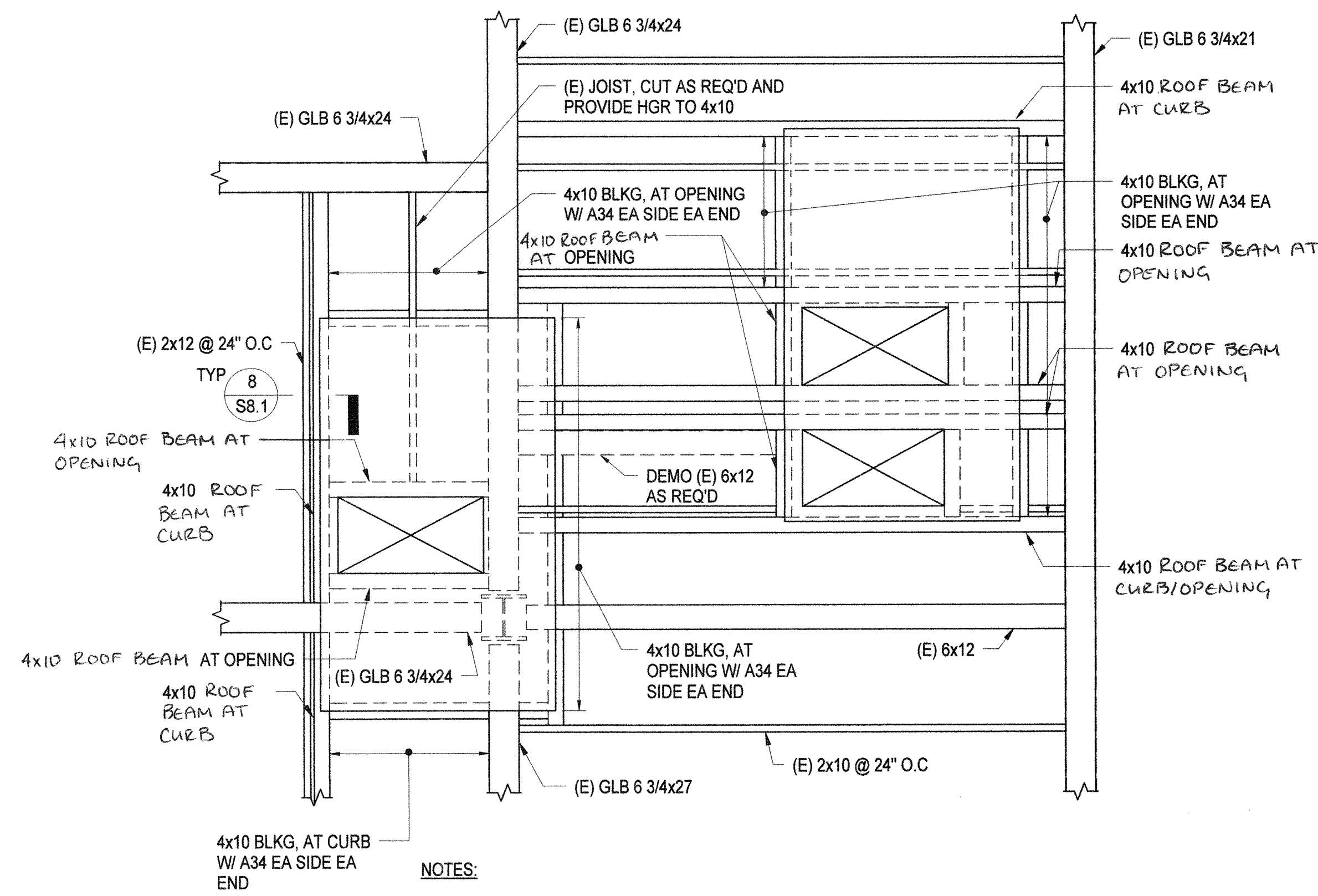
Drawn: TTD

Job: 16201

Sheet

S3.2

Of Sheets

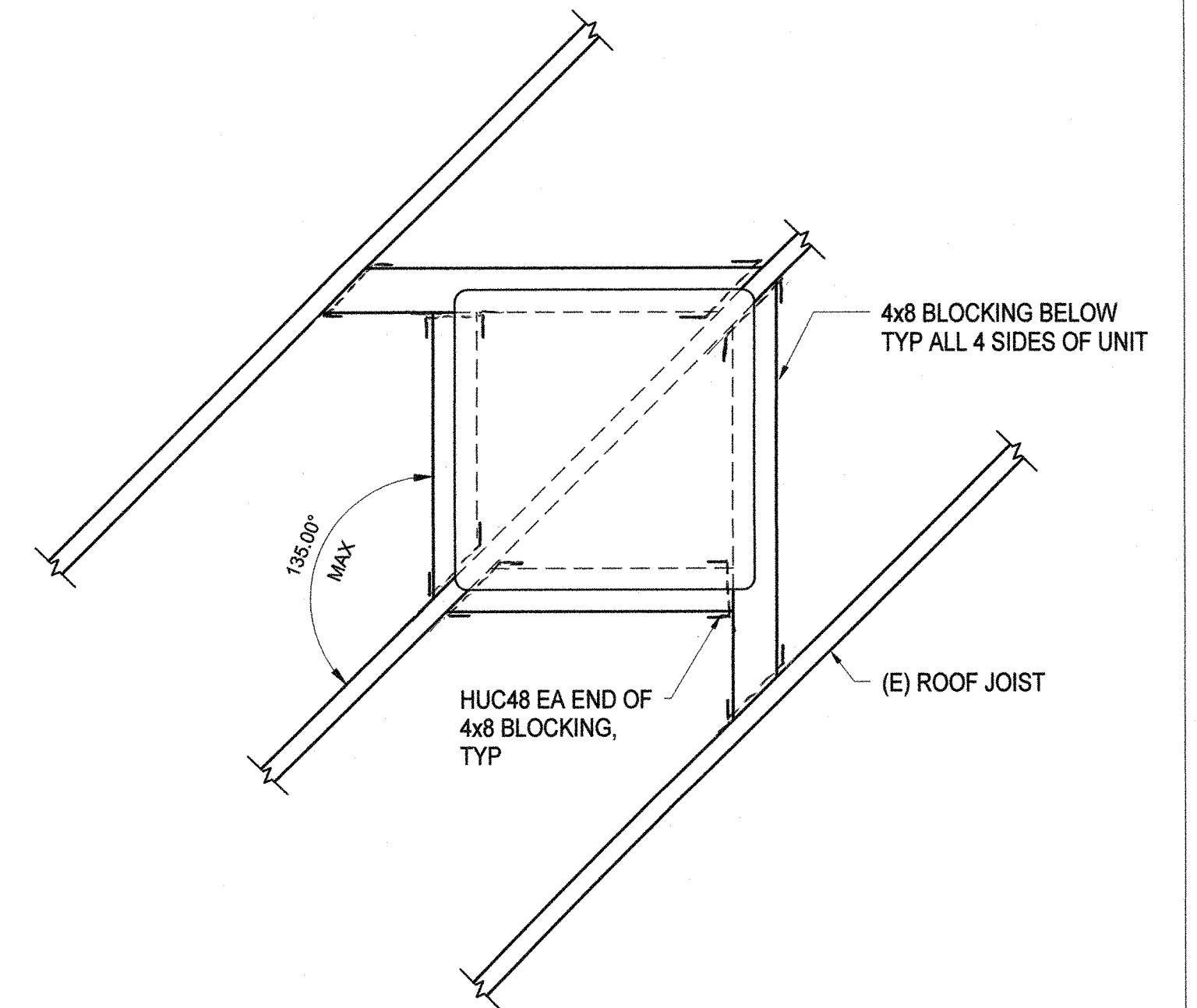


NOTES:

1. LOCATE RTU-17 SO NEW OPENING CLEARS (E) GLB 6 3/4x24.
2. PROVIDE HANGERS AT EACH END OF NEW FRAMING MEMBER PER (E) 7 S8.1
3. WHERE (E) JOIST OCCURS AT CURB LOCATION REMOVE AND REPLACE W/ 4x (E) JOIST DEPTH AS SHOWN.
4. PROVIDE 10d @ 2 1/2\" O.C EDGE NAILING FROM (E) PLYWOOD TO FRAMING MEMBERS AROUND OPENINGS

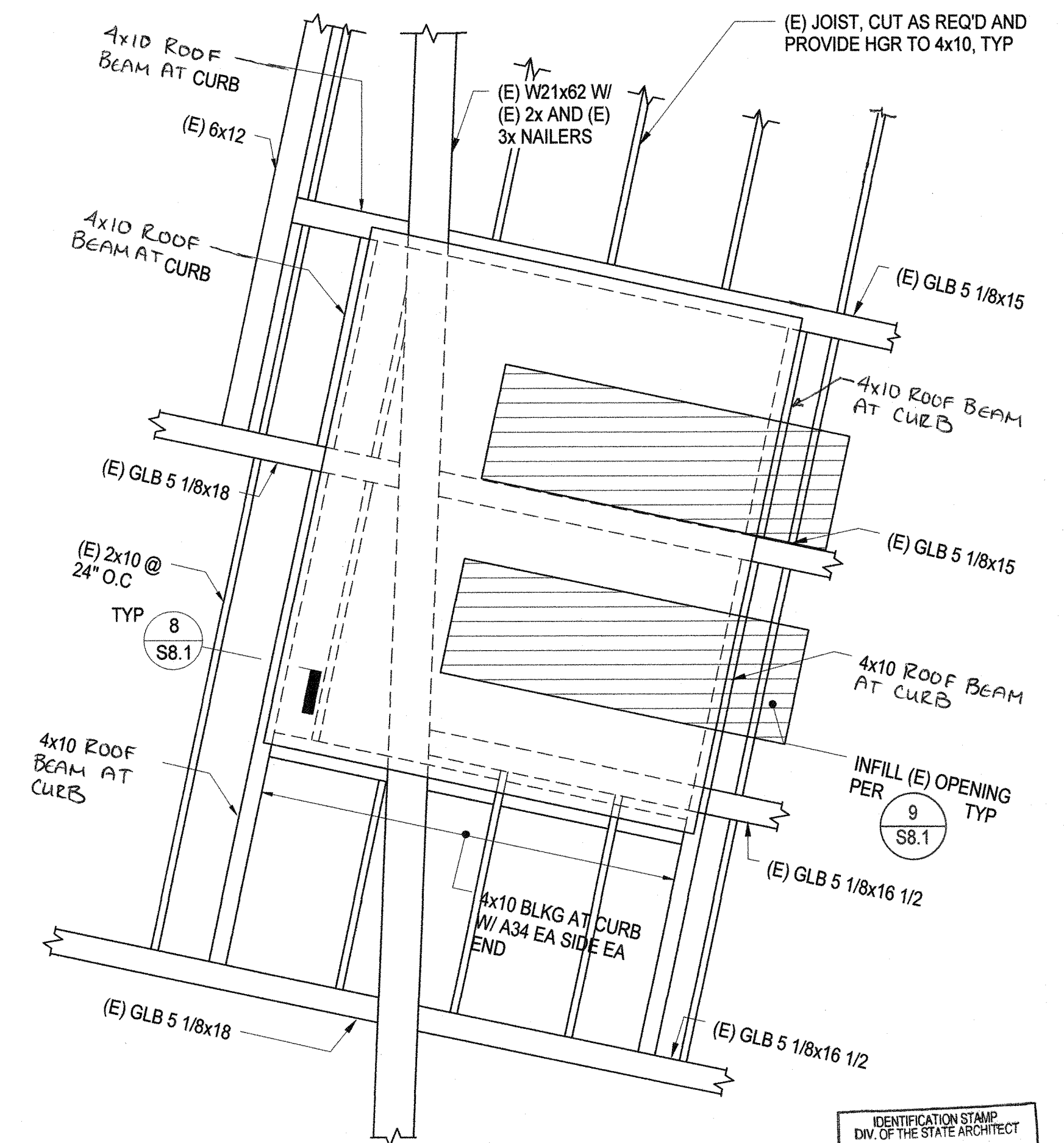
3 ENLARGED PLAN AT RTU-5 AND RTU-17

1/2\" = 1'-0"



1 ENLARGED PLAN AT SKEWED CU

1\" = 1'-0"



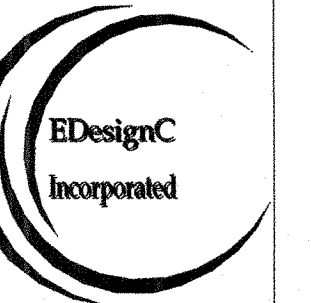
NOTES:

1. SEE MECHANICAL DRAWINGS FOR ANCHORAGE, UNIT INFO, ETC.
2. PROVIDE HANGERS AT EACH END OF NEW FRAMING MEMBER PER (E) 7 S8.1
3. WHERE (E) JOIST OCCURS AT CURB LOCATION REMOVE AND REPLACE W/ 4x (E) JOIST DEPTH AS SHOWN.
4. PROVIDE 10d @ 2 1/2\" O.C EDGE NAILING FROM (E) PLYWOOD TO FRAMING MEMBERS AROUND OPENINGS

2 ENLARGED PLAN AT RTU-11

1/2\" = 1'-0"

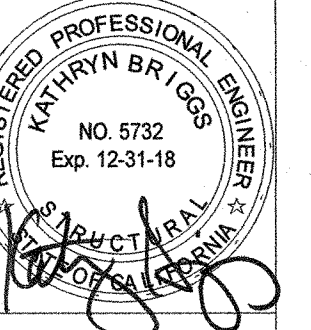
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MECHANICAL EQUIPMENT REPLACEMENT

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ENLARGED FRAMING PLANS

Date: 09/11/2017
Scale: As indicated
Drawn: TTD
Job: 16201
Sheet

S3.3

Of Sheets

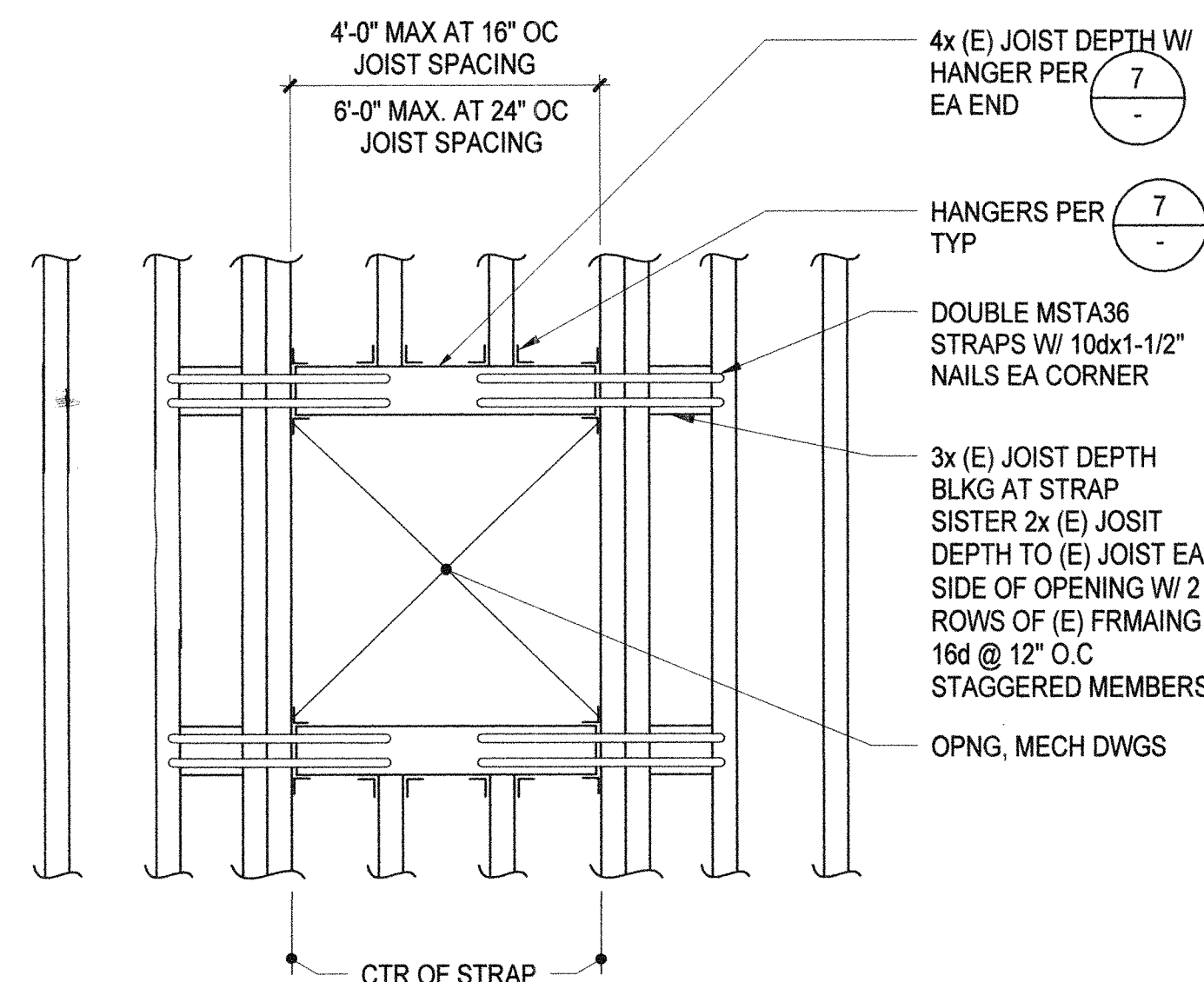
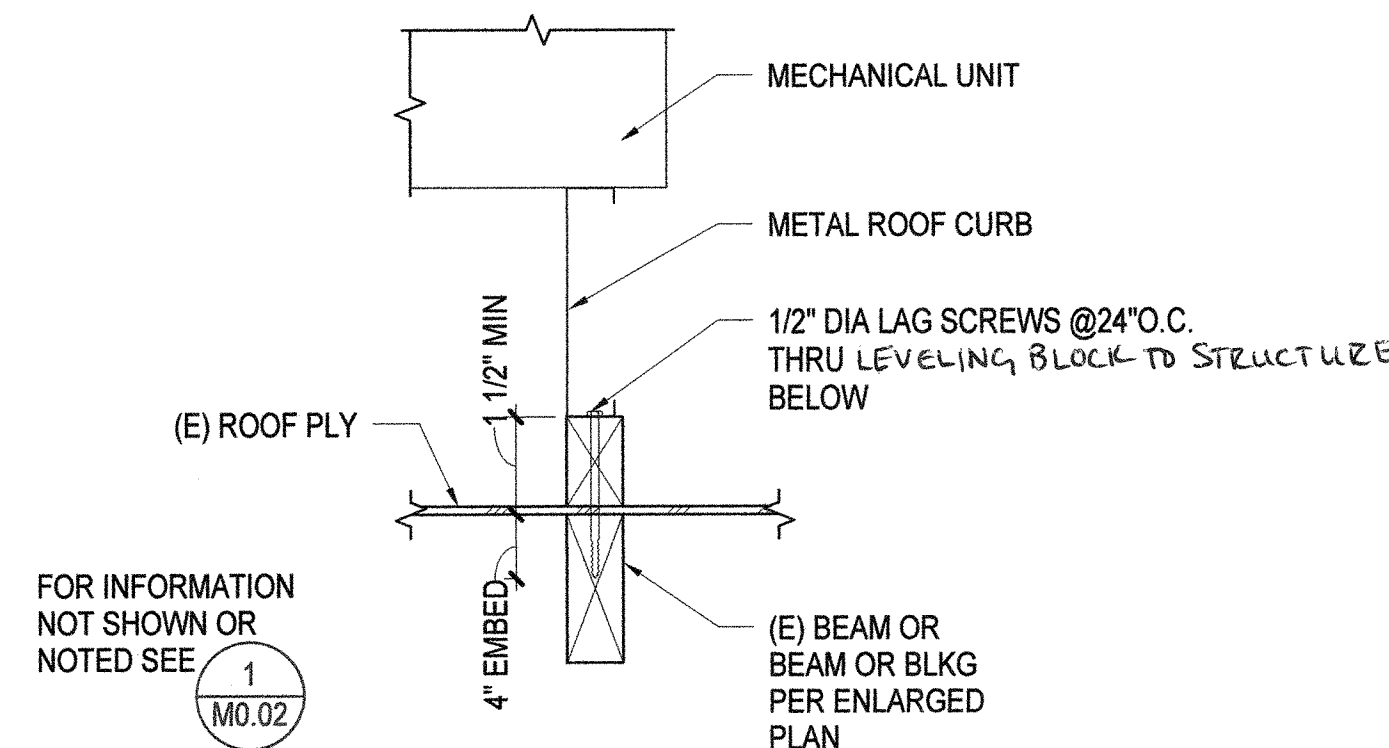
NOTES:

1. PROVIDE AND INSTALL NAILS INTO JOIST PER HANGER MANUFACTURER'S INSTRUCTIONS. FILL ALL HOLES TO ACHIEVE MAXIMUM VALUES AS SPECIFIED BY MFR.
2. SEE DETAIL 6 FOR TYPICAL ATTACHMENT OF BACKER BLOCK TO (E) WIDE FLANGE BEAMS.

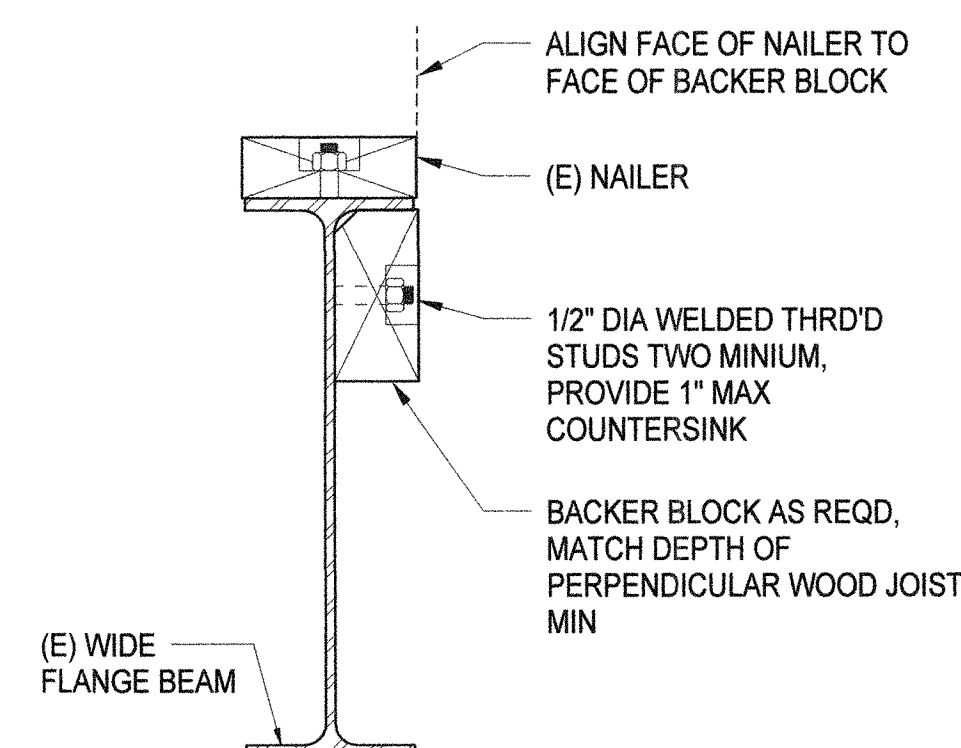
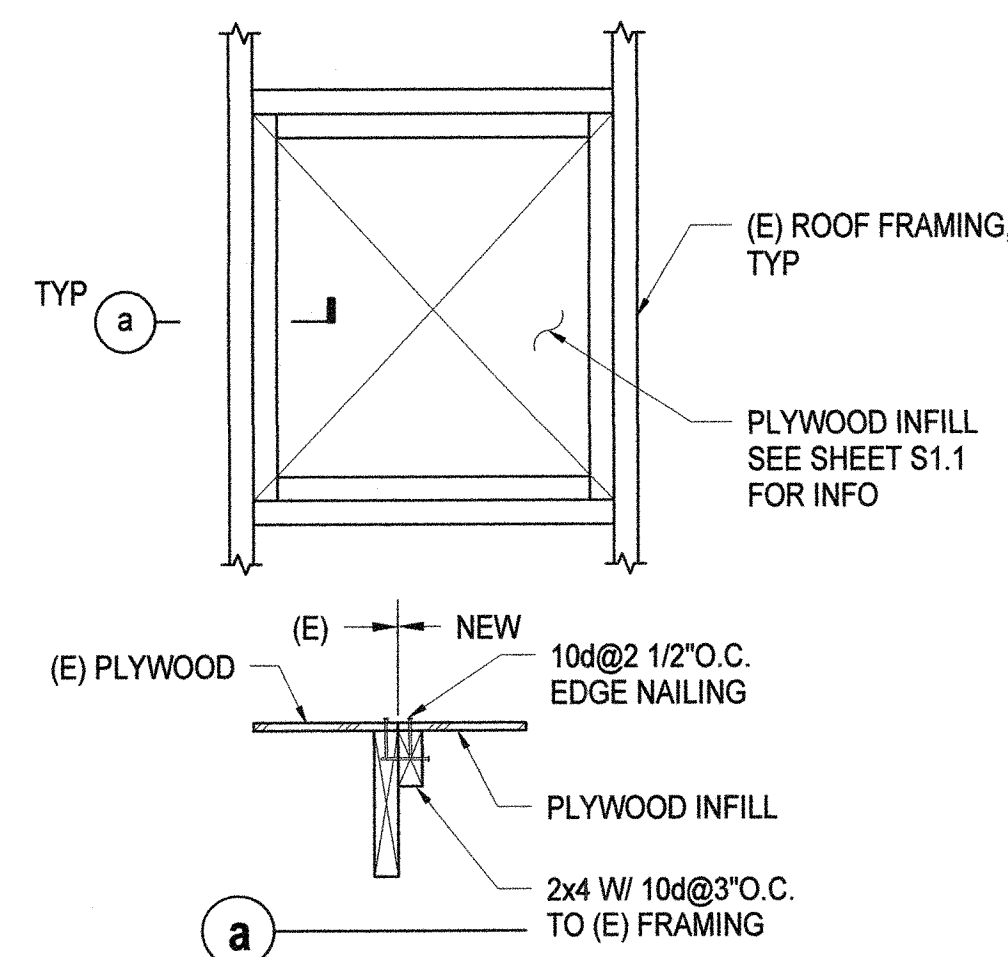


FOOTNOTES:

- a. USE COMMON WIRE NAILS EXCEPT WHERE OTHERWISE STATED.
- b. NAILS SPACED AT 6 INCHES ON CENTER AT EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS EXCEPT 6 INCHES AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLEBOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO CBC (IBC) SECTION 2305. NAILS FOR WALL SHEATHING MAY BE COMMON, BOX OR CASING.
- c. COMMON OR DEFORMED SHANK. (6d-2", 8d-2 1/2", 10d-3")
- d. COMMON. (6d-2", 8d-2 1/2", 10d-3")
- e. DEFORMED SHANK. (6d-2", 8d-2 1/2", 10d-3")
- f. CORROSION-RESISTANT SIDING OR CASING NAILS CONFORMING TO THE REQUIREMENTS OF SECTION 2304.9.5.
- g. FASTENERS SPACED 3 INCHES ON CENTER AT EXTERIOR EDGES AND 6 INCHES ON CENTER AT INTERMEDIATE SUPPORTS, WHEN USED AS STRUCTURAL SHEATHING SPACING SHALL BE 6 INCHES ON CENTER ON THE EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS FOR NON STRUCTURAL APPLICATIONS.
- h. CORROSION-RESISTANT ROOFING NAILS WITH 7/16" INCH-DIAMETER HEAD AND 1 1/2"-INCH LENGTH FOR 1/2"-INCH SHEATHING AND 1 3/4"-INCH LENGTH FOR 25/32-INCH SHEATHING CONFORMING TO THE REQUIREMENTS OF SECTION 2304.9.5.
- i. CASING OR FINISH NAILS SPACED 6-INCHES ON PANEL EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS.
- j. PANEL SUPPORTS AT 24". CASING OR FINISH NAILS SPACED 6" ON PANEL EDGES, 12" AT INTERMEDIATE SUPPORTS.
- k. FOR ROOF SHEATHING APPLICATIONS, 8D NAILS ARE THE MINIMUM REQUIRED FOR WOOD STRUCTURAL PANELS.
- l. FOR ROOF SHEATHING APPLICATIONS, FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS.
- m. FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS FOR SUBFLOOR AND WALL SHEATHING AND 3 INCHES ON CENTER AT EDGES, 6 INCHES AT INTERMEDIATE SUPPORTS FOR ROOF SHEATHING.
- n. FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS.
- o. FOR ROOF JOISTS AND RAFTERS, MINIMUM NAILING PER CBC (IBC) TABLE 2308.10.4.1.
- p. FOR ROOF SLOPES 3:12 OR GREATER IN WHICH CEILING JOISTS SERVE AS A TIE FOR ROOF RAFTERS, MINIMUM NAILING OR HOLDOWN STRAPS MUST BE ADEQUATE TO WITHSTAND MINIMUM WIND UPLIFT PER CBC (IBC) TABLE 2308.10.1.



NOTE:
1. STRAPS CAN BE PLACED OVER (E) SHEATHING OR BELOW (E) SHEATHING.
2. FOR OPENINGS NOT SHOWN ON STRUCTURAL PLANS, NOTIFY SEOR.



3 NAILING SCHEDULE

PACKAGE DX/HYDRONIC HEATING ROOF TOP UNITS																					
SYMBOL	MANUF/ MODEL	MIN/MAX OSA (CFM)	COOLING			HEATING COIL						FAN			ELECTRIC			WEIGHT (LBS)	NOTES		
			TOTAL (MBH)	SENSIBLE (MBH)	SEER/EER	MBH	GPM	ΔT	ΔT	ΔT	LWT	FLUID PD (FT)	SUPPLY CFM/ESP	EXHAUST FAN (KW)	HP	VOLTS	PHASE			MCA	MOC
RTU-1	TRANE THC036	145/490	36.7	33.2	15	35	2.5	53	80	180	150	0.43	1200/0.75	0.65	0.75	460	3	11	15	780	1
RTU-2	TRANE THC048	145/470	47.9	39.7	15	55.5	3.7	53	85	180	150	1.2	1600	0.65	0.75	460	3	12.8	15	910	1
RTU-3	TRANE THC036	155/390	36.7	33.2	15	35	2.5	53	80	180	150	0.43	1200/0.75	0.65	0.75	460	3	11	15	780	1
RTU-4	TRANE THC036	145/460	36.7	33.2	15	35	2.5	53	80	180	150	0.43	1200/0.75	0.65	0.75	460	3	11	15	780	1
RTU-5	TRANE THC048	145/460	47.9	39.7	15	55.5	3.7	53	85	180	150	1.2	1600	0.65	0.75	460	3	12.8	15	910	1
RTU-6	TRANE THC036	155/380	36.7	33.2	15	35	2.5	53	80	180	150	0.43	1200/0.75	0.65	0.75	460	3	11	15	780	1
RTU-7	TRANE THC048	160/500	47.9	39.7	15	55.5	3.7	53	85	180	150	1.2	1600	0.65	0.75	460	3	12.8	15	910	1
RTU-8	TRANE THC036	55/130	36.7	33.2	15	35	2.5	53	80	180	150	0.43	1200/0.75	0.65	0.75	460	3	11	15	780	1
RTU-9	TRANE THC036	50/130	36.7	33.2	15	35	2.5	53	80	180	150	0.43	1200/0.75	0.65	0.75	460	3	11	15	780	1
RTU-10	TRANE THC092	200/300	88.3	76.5	/12.6	87.8	5.8	53	80	180	150	2.7	3000	0.65	1.5	460	3	19.9	25	1230	1, 3
RTU-11	TRANE THC102	320/400	95.2	86.3	/12.5	99.6	6.6	53	80	180	150	3.4	3400	0.65	2	460	3	21.6	25	1230	1, 3
RTU-12	TRANE THC092	240/830	88.3	76.5	/12.6	87.8	5.8	53	80	180	150	2.7	3000	0.65	1.5	460	3	19.9	25	1230	1, 3, 4
RTU-13	TRANE THC060	220/890	58.6	51.3	15	47.78	3.2	53	75	180	150	0.9	2000	0.65	1	460	3	13.8	20	950	1
RTU-14	TRANE THD210	540/2020	208.7	185.5	/12	228.40	15.2	53	83	180	150	10	7000	0.56	5	460	3	43	60	2330	1, 3
RTU-15	TRANE THC060	1620	64.7	58.5	15	101.9	6.8	28	75	180	150	9	1620	0.65	1	460	3	13.8	20	960	1, 2
RTU-16	TRANE THC074	2000	77	72.9	/13.1	135.4	9	28	80	180	150	8.4	2000	0.65	1	460	3	18.7	25	1310	1, 2
RTU-17	TRANE THC060	1620	64.7	58.5	15	101.9	6.8	28	75	180	150	9	1620	0.65	1	460	3	13.8	20	960	1, 2

- NOTES:
1. PROVIDE CURB, BELT DRIVE, PROVIDE WITH 1" THROWAWAY FILTERS MERV 8, CONVENIENCE OUTLET, NON-FUSED DISCONNECT, THRU THE BASE ELECTRICAL CONNECTION, ECONOMIZER SECTIONS AND DEMAND CONTROL VENTILATION CONTROLS. REFER TO 1/M0.02 FOR MOUNTING DETAIL.
 2. PROVIDE WITH FROSTAT AND CRANKCASE HEATERS (UNITS PROVIDING 100% OUTSIDE AIR).
 3. PROVIDE WITH DUCT SMOKE DETECTOR IN THE SUPPLY DUCT FOR THE UNIT.
 4. SIDE DISCHARGE UNIT.

INDOOR DX/HYDRONIC HEATING HORIZONTAL UNITS																				
SYMBOL	MANUF/ MODEL	OUTDOOR UNIT	MIN OSA (CFM)	SENSIBLE COOLING (MBH)	HEATING COIL							FAN			ELECTRIC			WEIGHT (LBS)	NOTES	
					MBH	GPM	ΔT	ΔT	ΔT	LWT	FLUID PD (FT)	CFM	ΔP	HP	VOLTS	PHASE	MCA			MOC
FCU-1	TRANE GAM5A0A48	CU-1	570	29.9	49.9	3	70	99	18	15	0.5	1600	0.5	3/4	208	1	8	15	190	1, 2
FCU-2	TRANE GAM5A0A48	CU-2	570	29.8	49.9	3	70	99	18	15	0.5	1600	0.5	3/4	208	1	8	15	190	1, 2
FCU-3	TRANE GAM5A0A18	CU-3	170	12.3	28.8	3	70	120	180	150	0.4	600	0.5	1/3	208	1	4	15	150	1, 2
FCU-4	TRANE GAM5A0A18	CU-4	50	10.1	28.8	3	70	120	180	150	0.4	600	0.5	1/3	208	1	4	15	150	1, 2
FCU-5	TRANE GAM5A0A18	CU-5	260	10.2	28.8	3	70	120	180	150	0.4	600	0.5	1/3	208	1	4	15	150	1, 3
FCU-6	TRANE GAM5A0A18	CU-6	100	6.1	28.8	3	70	120	180	150	0.4	600	0.5	1/3	208	1	4	15	150	1, 3
FCU-7	TRANE GAM5A0A18	CU-7	80	7.5	28.8	3	70	120	180	150	0.4	600	0.5	1/3	208	1	4	15	150	1, 3
FCU-8	TRANE GAM5A0A18	CU-8	280	11.1	28.8	3	70	120	180	150	0.4	600	0.5	1/3	208	1	4	15	150	1, 3
FCU-9	TRANE GAM5A0A18	CU-9	40	12.3	28.8	3	70	120	180	150	0.4	600	0.5	1/3	208	1	4	15	150	1, 3
FCU-10	TRANE GAM5A0A18	CU-10	90	13.5	28.8	3	70	120	180	150	0.4	600	0.5	1/3	208	1	4	15	150	1, 3

- NOTES:
1. PROVIDE WITH CONDENSATE PUMP, FILTER RACK, 1" THROWAWAY FILTERS (MERV 8), PROGRAMMABLE THERMOSTAT AND DRAIN PAN. SET FAN SPEED TO ACHIEVE AIR VOLUME STATED ABOVE.
 2. REFER TO 3/M0.02 FOR MOUNTING DETAIL (METAL DECK, CONC FILL).
 3. REFER TO 3/M0.02 FOR MOUNTING DETAIL (WOOD STRUCTURE).

CONDENSING UNITS													
SYMBOL	MANUFACTURER /MODEL	INDOOR UNIT	REFRIG TYPE	OSA TEMP (F)	COOLING		ELECTRIC				WEIGHT (LBS)	NOTES	
					TOTAL (MBH)	SEER	VOLTS	PHASE	MCA	MOC			
CU-1	TRANE 4TTR4048L	FCU-1	410A	95	42.1	14.5	208	1	24	40	200	1	
CU-2	TRANE 4TTR4048L	FCU-2	410A	95	43.1	14.5	208	1	24	40	200	1	
CU-3	TRANE 4TTR4018L	FCU-3	410A	95	17	15.5	208	1	12	20	150	1	
CU-4	TRANE 4TTR4018L	FCU-4	410A	95	10.8	15.5	208	1	12	20	150	1	
CU-5	TRANE 4TTR4018L	FCU-5	410A	95	16.8	15.5	208	1	12	20	150	1	
CU-6	TRANE 4TTR4018L	FCU-6	410A	95	6.5	15.5	208	1	12	20	150	1	
CU-7	TRANE 4TTR4018L	FCU-7	410A	95	9.7	15.5	208	1	12	20	150	1	
CU-8	TRANE 4TTR4018L	FCU-8	410A	95	17.8	15.5	208	1	12	20	150	1	
CU-9	TRANE 4TTR4018L	FCU-9	410A	95	12.5	15.5	208	1	12	20	150	1	
CU-10	TRANE 4TTR4018L	FCU-10	410A	95	15.7	15.5	208	1	12	20	150	1	

- NOTES:
1. REFER TO 2/M0.02 FOR MOUNTING DETAIL.

EXHAUST FAN															
SYMBOL	MANUFACTURER /MODEL	CONFIG	SERVING	FAN			ELECTRICAL					WEIGHT (LBS)	CONTROL	NOISE (SONES)	NOTES
				CFM	ESP	HP/ WATTS	VOLT	PHASE	FLA	MOC	DRIVE				
EF-1	GREENHECK CSP-A110	INLINE	JANITOR CLOSET	75	0.3	/18.6	120	1	0.62	15	DIRECT	20	TIME CLOCK	0.9	1
EF-2	GREENHECK G-060-VG	ROOF MOUNTED	RESTROOM	80	0.4	1/10	120	1		15	DIRECT	20	LIGHTS	4.2	1,2
NOTES															
1. PROVIDE WITH BACKDRAFT DAMPER. REFER TO 6/M.02.02 FOR MOUNTING DETAIL.															
2. PROVIDE WITH ROOF CURB.															

- NOTES:
1. PROVIDE WITH BACKDRAFT DAMPER. REFER TO 6/M0.02 FOR MOUNTING DETAIL.
 2. PROVIDE WITH ROOF CURB.

GENERAL MECHANICAL NOTES

1. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS (C.C.R.), 2013 CMC.
2. ALL SYSTEMS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, FEDERAL AND STATE CODES AND ORDINANCES, AND SHALL MEET ALL REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION.
3. SYSTEM LAYOUTS AS INDICATED ON DRAWINGS ARE GENERALLY DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION WILL PERMIT.
4. PRIOR TO SUBMISSION OF BID, REVIEW FULL SET OF NEW CONSTRUCTION DRAWINGS (INCLUDING ALL OTHER TRADES). INCLUDE ANY ADDITIONAL PIPE OR DUCT OFF-SETS THAT ARE NOT CURRENTLY SHOWN ON DRAWINGS BUT MAY BE REQUIRED TO CLEAR STRUCTURE, FINISHES OR WORK OF OTHER TRADES. NO EXTRA PAYMENT WILL BE ALLOWED FOR WORK RESULTING FROM LACK OF PROPER INITIAL APPRAISAL OF ENTIRE SCOPE OF WORK. SUBMIT REQUESTS FOR INFORMATIONS (RFIs) AS REQUIRED TO ANSWER ANY QUESTIONS THAT MAY ARISE DURING BIDDING PHASE. CLEARLY INDICATE SCOPE INCLUSION AND EXCLUSION IN BID.
5. FURNISH ALL LABOR, MATERIALS, TRANSPORTATION, AND PERFORM ALL REQUIRED OPERATIONS TO PROVIDE COMPLETE AND OPERABLE MECHANICAL SYSTEM, IN ACCORDANCE WITH THE FULL INTENT AND MEANING OF THE DRAWINGS AND SPECIFICATIONS AND PER STANDARD TRADE PRACTICES.
6. WORKMANSHIP SHALL BE FIRST CLASS THROUGHOUT AND PERFORMED ONLY BY COMPETENT AND EXPERIENCED WORKMEN IN A MANNER SATISFACTORY TO THE OWNER AND ARCHITECT.
7. ALL EQUIPMENT SHALL BE INSTALLED WITH SUFFICIENT ACCESS TO CONTROLS, FILTERS, ELECTRIC MOTORS, ETC. CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED.
8. COORDINATE ACCESS TO ALL DAMPERS, VALVES, AND OTHER SERVICEABLE EQUIPMENT.
9. PROVIDE BIRD SCREENS AT ALL INTAKE AND EXHAUST OPENINGS.
10. FLASH AND COUNTER FLASH ALL ROOF PENETRATIONS AS REQUIRED TO SEAL WEATHER TIGHT. (SEE ARCHITECTURAL ROOFING DETAILS AND SPECIFICATIONS).
11. PROVIDE UL-LISTED/APPROVED THROUGH PENETRATION FIRE-STOPPING AT ALL DUCT, PIPE AND CONDUIT PENETRATIONS OF FIRE-RATED WALLS, FLOORS, CEILING/FLOOR OR CEILING/ROOF ASSEMBLIES AND SHAFTS COMPLIANT WITH CHAPTER 7 OF THE 2013 CALIFORNIA BUILDING CODE.
12. LIMITING TRANSMISSION OF NOISE AND VIBRATIONS IS EXTREMELY IMPORTANT. CONTRACTOR TO PAY PARTICULAR ATTENTION THAT PIPING, EQUIPMENT, AND DUCTWORK ARE INSTALLED SO AS NOT TO CHATTER OR RUB AGAINST OTHER MATERIALS, EQUIPMENT OR BUILDING STRUCTURE. PROVIDE ISOMODE PADS, INSULATION OR OTHER SUITABLE MATERIALS TO AVOID DIRECT CONTACT AND NOISY CONDITIONS. SUFFICIENT CLEARANCES OF PIPING AND ITS ASSOCIATED COMPONENTS SHALL BE PROVIDED FROM ADJACENT JOIST, STUDS, BEAMS, COLUMNS DRYWALL, ETC. TO ALLOW FOR PIPE MOVEMENT DUE TO THERMAL EXPANSION AND STILL NOT COME IN CONTACT WITH STRUCTURE. INSULATION SHALL BE CONTINUOUS THROUGH PIPE HANGERS (PROVIDE SHEET METAL INSULATION SHIELD AT EACH HANGER).
13. WHERE JOIST, STUD OR BEAM PENETRATIONS ARE REQUIRED, SIZE TO PROVIDE ADEQUATE CLEARANCE FROM PIPE BUT DO NOT SIZE FOR INSULATION. PROVIDE "ACCOUSTO-PLUMB" ISOLATORS AT EACH SUCH PIPE PENETRATION AND BUTT ENDS OF INSULATION TIGHT AGAINST FRAMING TO ELIMINATE ANY CONNECTIVE HEAT LOSS. REVIEW ALL SUCH PENETRATIONS WITH ARCHITECT AND GENERAL CONTRACTOR BEFORE DRILLING OR NOTCHING. SEE STRUCTURAL DRAWINGS FOR CRITERIA ON JOIST PENETRATIONS - VERIFY WITH GENERAL CONTRACTOR.
14. PROVIDE DIELECTRIC INSULATING CONNECTIONS BETWEEN ALL DISSIMILAR METALS.
15. NOTIFY OWNER AND GENERAL CONTRACTOR 48 HOURS IN ADVANCE BEFORE ANY TESTING.
16. PROVIDE DUCT AND PIPE INSULATION AND THERMOSTATS PER TITLE 24 REQUIREMENTS AND SPECIFICATIONS.
17. PER CALIFORNIA GREEN BUILDING STANDARDS CODE (PART 11 OF TITLE 24, CALIFORNIA CODE OF REGULATIONS), PROTECT DUCT OPENINGS AND MECHANICAL EQUIPMENT DURING CONSTRUCTION. LIMIT USE OF PERMANENT HVAC DURING CONSTRUCTION TO CONDITIONING NECESSARY FOR MATERIAL AND EQUIPMENT INSTALLATION. IF PERMANENT HVAC IS USED DURING CONSTRUCTION, INSTALL MERV-8 FILTERS ON RETURNS, AND REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY, OR, IF THE BUILDING IS OCCUPIED DURING ALTERATION, AT THE CONCLUSION OF CONSTRUCTION.
18. PER CALIFORNIA GREEN BUILDING STANDARDS CODE (PART 11 OF TITLE 24, CALIFORNIA CODE OF REGULATIONS), PROVIDE AT LEAST MERV-8 FILTERS IN REGULARLY OCCUPIED SPACES OF MECHANICALLY VENTILATED BUILDINGS.
19. PER CALIFORNIA GREEN BUILDING STANDARDS CODE (PART 11 OF TITLE 24, CALIFORNIA CODE OF REGULATIONS), DO NOT INSTALL EQUIPMENT THAT CONTAINS CFCs OR HALONS.
20. THE FIRST 10 FEET OF SUPPLY AND RETURN DUCTS CONNECTED TO THE ROOFTOP AND FAN COIL UNITS SHALL BE LINED WITH MINIMUM 1" SOUND ABSORBING LINING. DUCT DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS. INSTALL PER MANUFACTURERS INSTRUCTIONS.

MECHANICAL SCOPE OF WORK

1. REPLACE EXISTING WATER SOURCE HEAT PUMP UNITS WITH DX COOLING/HYDRONIC HEATING UNITS. MODIFY DUCTS, DIFFUSERS AND PIPING AS NECESSARY.
2. REMOVE EXISTING COOLING TOWER AND BOILER.
3. PROVIDE 2 NEW BOILERS AND HEATING HOT WATER PUMPS.
4. MODIFY EXISTING CONDENSER WATER PIPING SYSTEM FOR USE AS HEATING HOT WATER SYSTEM.
5. PROVIDE (N) IN-LINE EXHAUST FANS AND ASSOCIATED DUCTWORK FOR TWO JANITOR CLOSETS.
6. MODIFY RETURN GRILLES/DUCTS AS SHOWN.
7. RELOCATE THERMOSTATS AS SHOWN.
8. ALL MECHANICAL CONTROLS SHALL BE FULLY INTERFACED WITH THE DISTRICT'S EXISTING BMS SYSTEM AND MATCH ALL CURRENT DISTRICT GRAPHIC TEMPLATES. CONTRACTOR IS NOT REMOVE ANY CONTROLS WIRING AND/OR CONDUIT UNLESS DIRECTED TO BY DESIGN-BUILD CONTROLS CONTRACTOR.

DEMAND CONTROL VENTILATION

PROVIDE ROOFTOP UNITS WITH HONEYWELL JADE CONTROLLER FOR DEMAND CONTROL VENTILATION CONTROLS. SET MINIMUM AND MAXIMUM OUTSIDE AIR FLOWS TO VALUES IN SCHEDULE. PROVIDE CARBON DIOXIDE SENSOR MOUNTED IN SPACE CONDITIONED BY UNIT ON WALL 5 FT AFF ADJACENT TO THERMOSTAT. REFER TO 2013 CALIFORNIA ENERGY CODE SECTION 120.1 (c) 4.

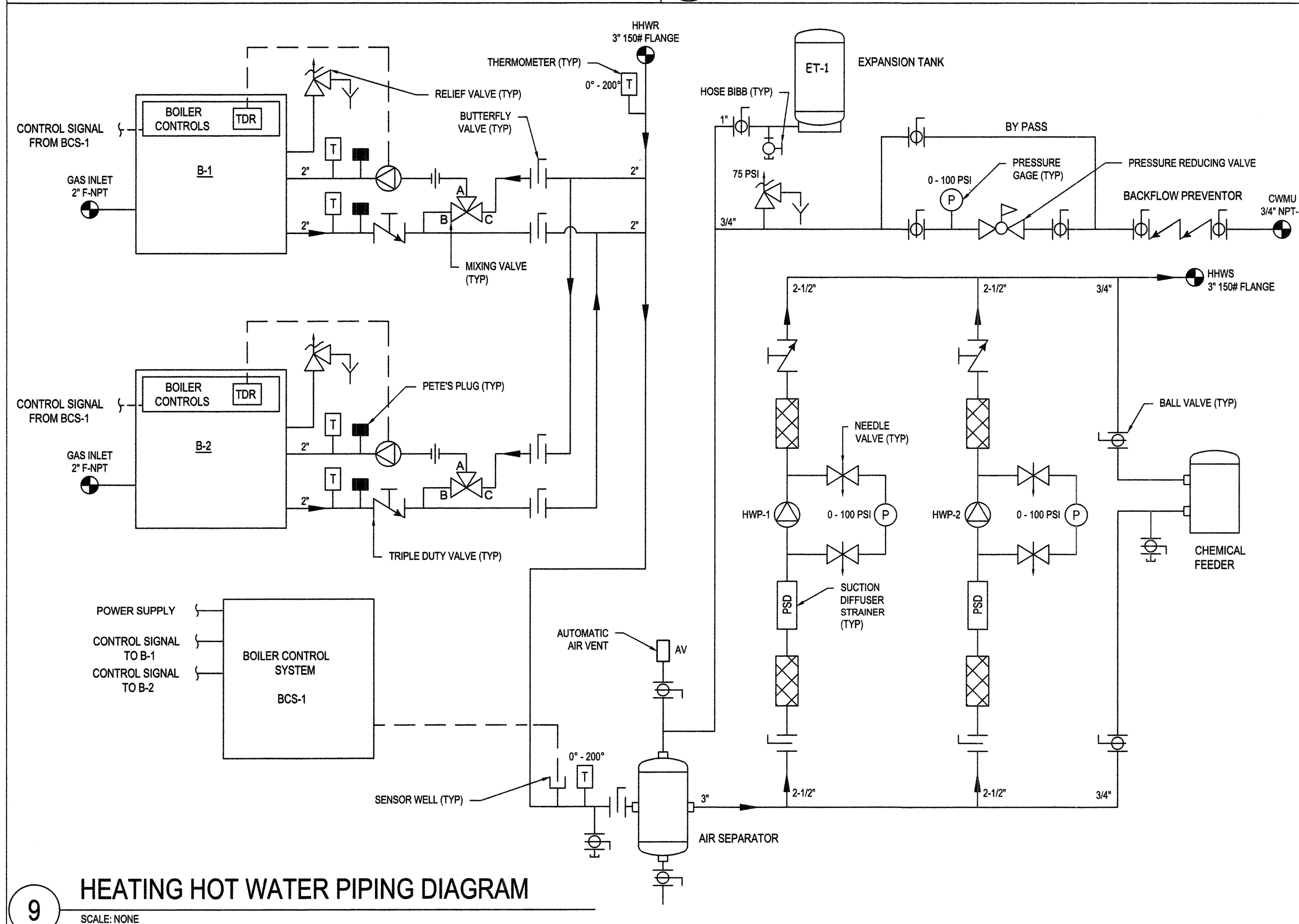
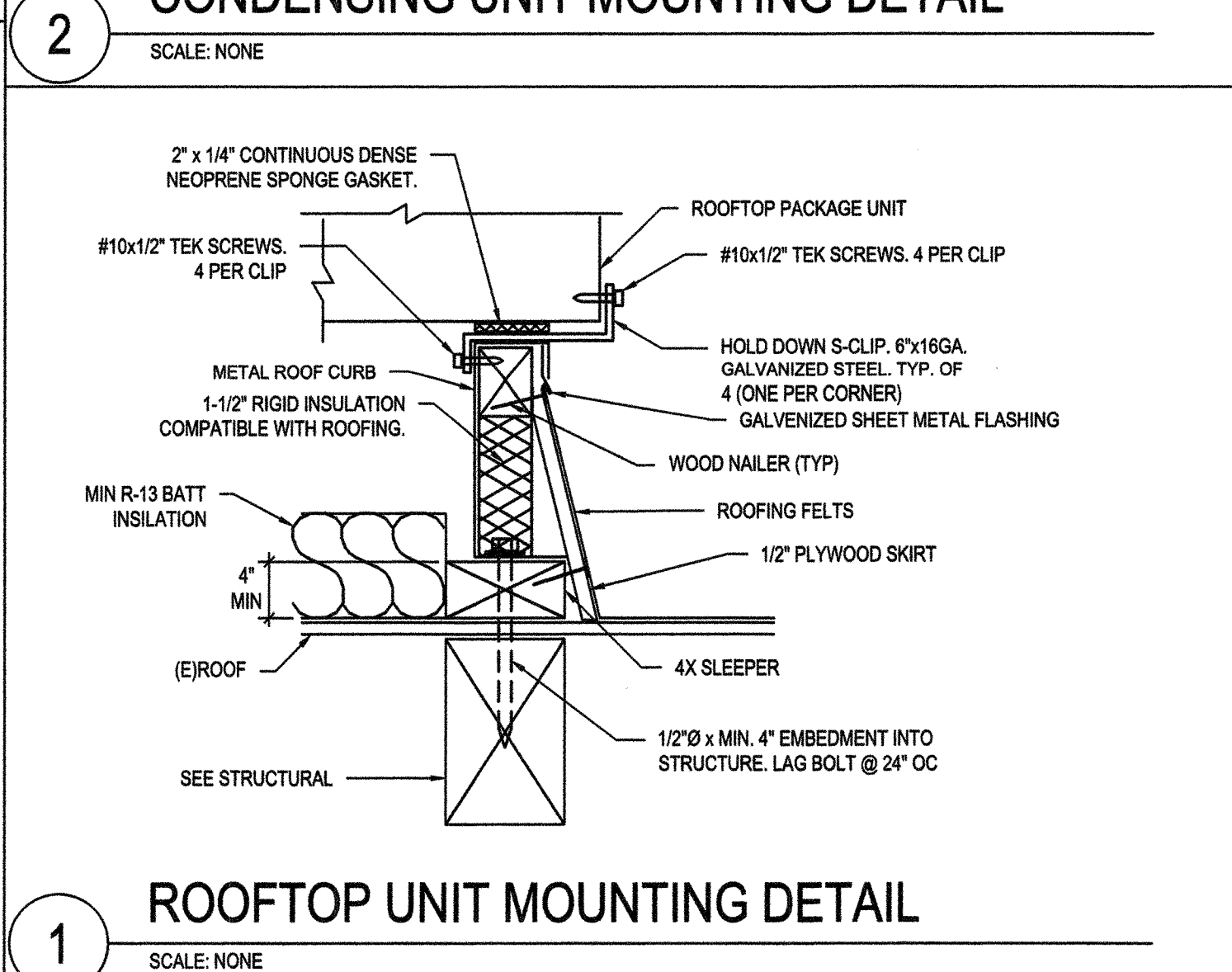
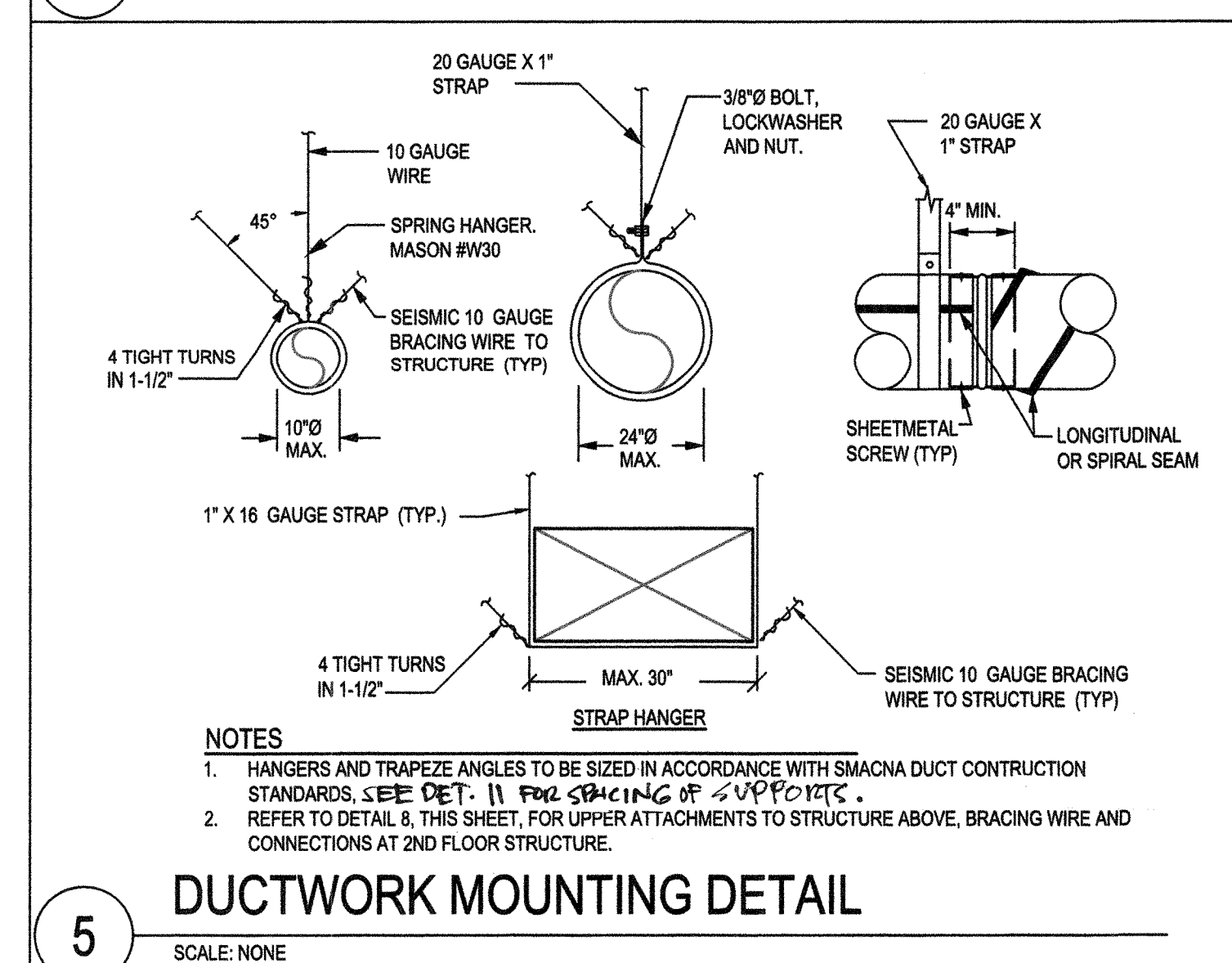
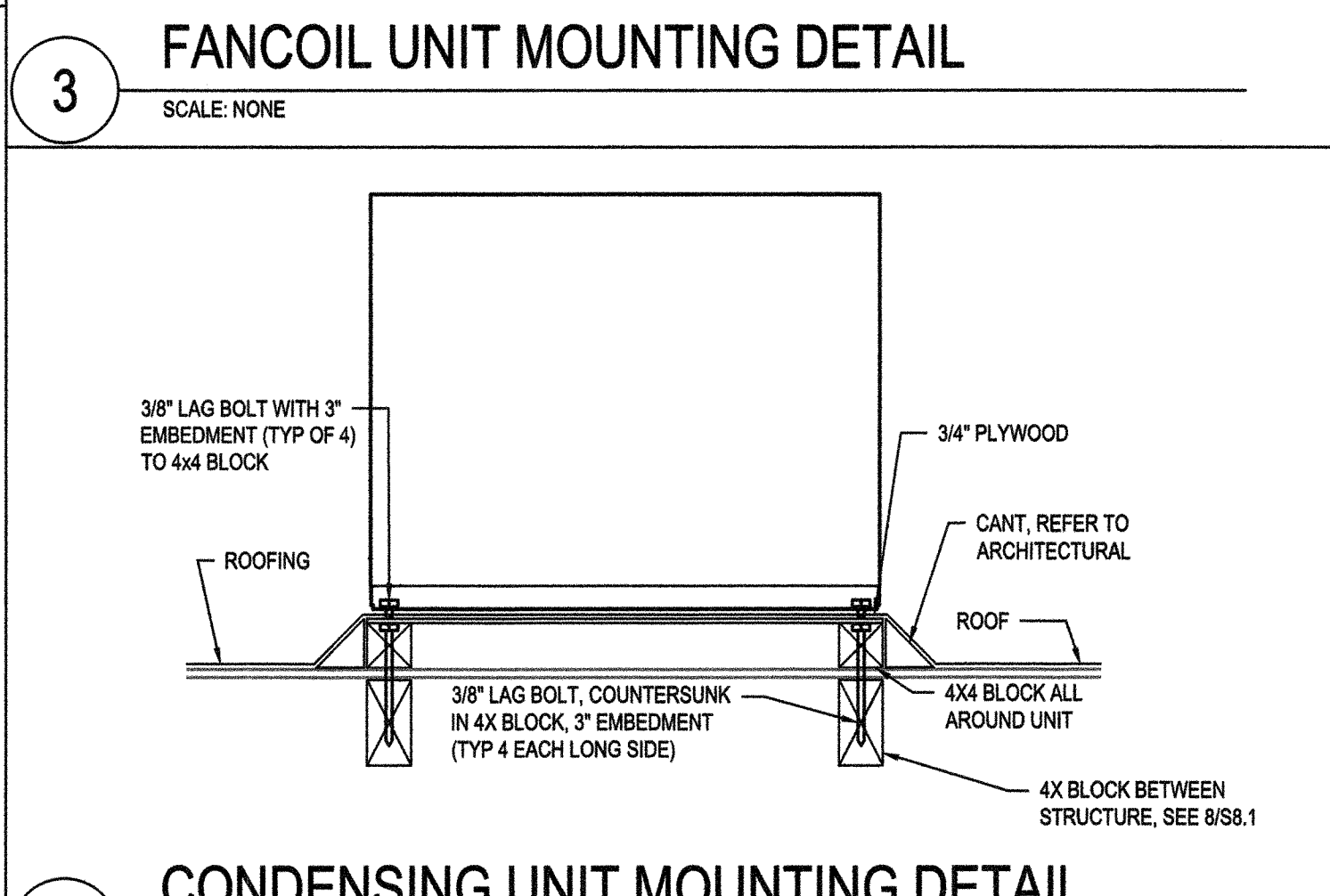
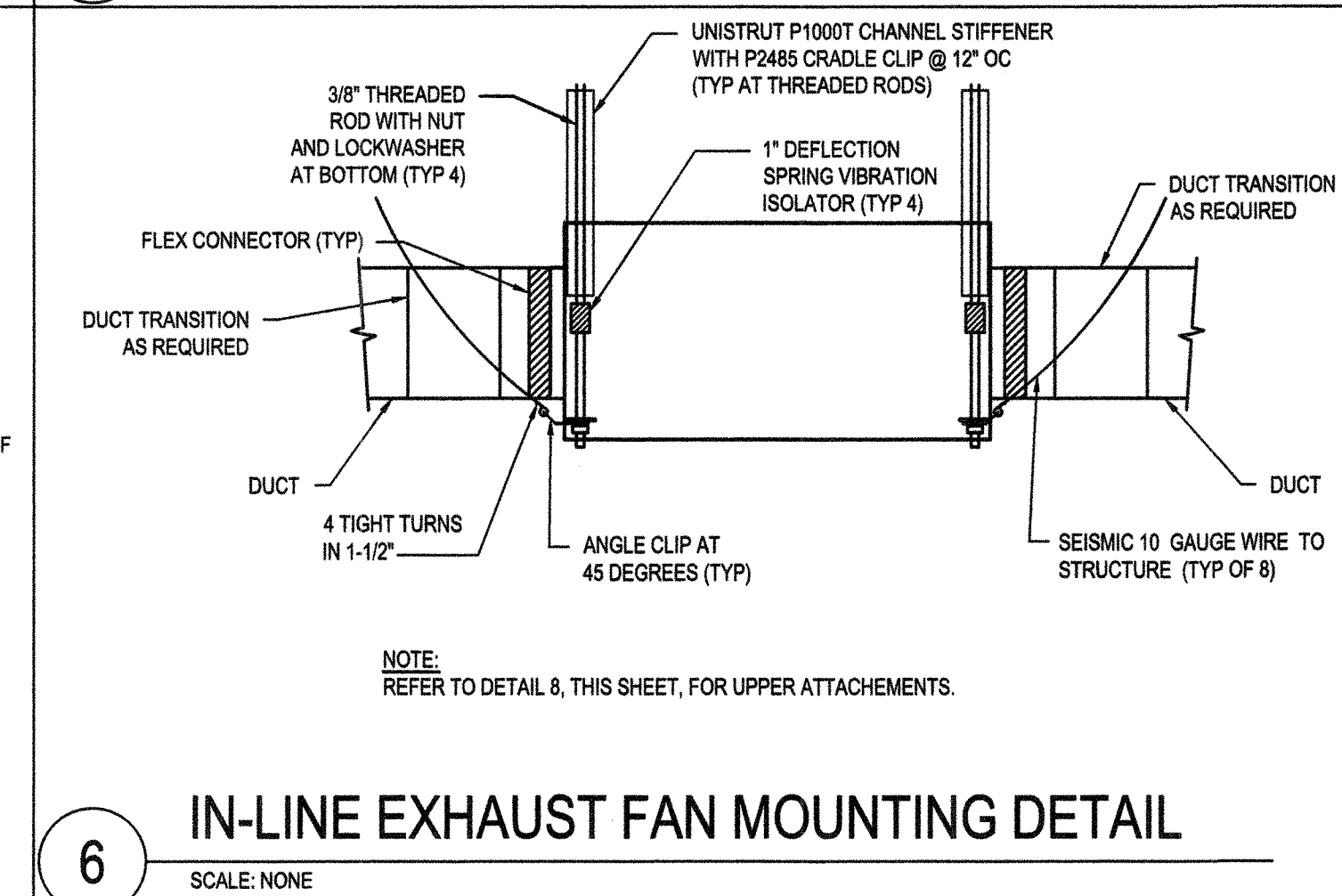
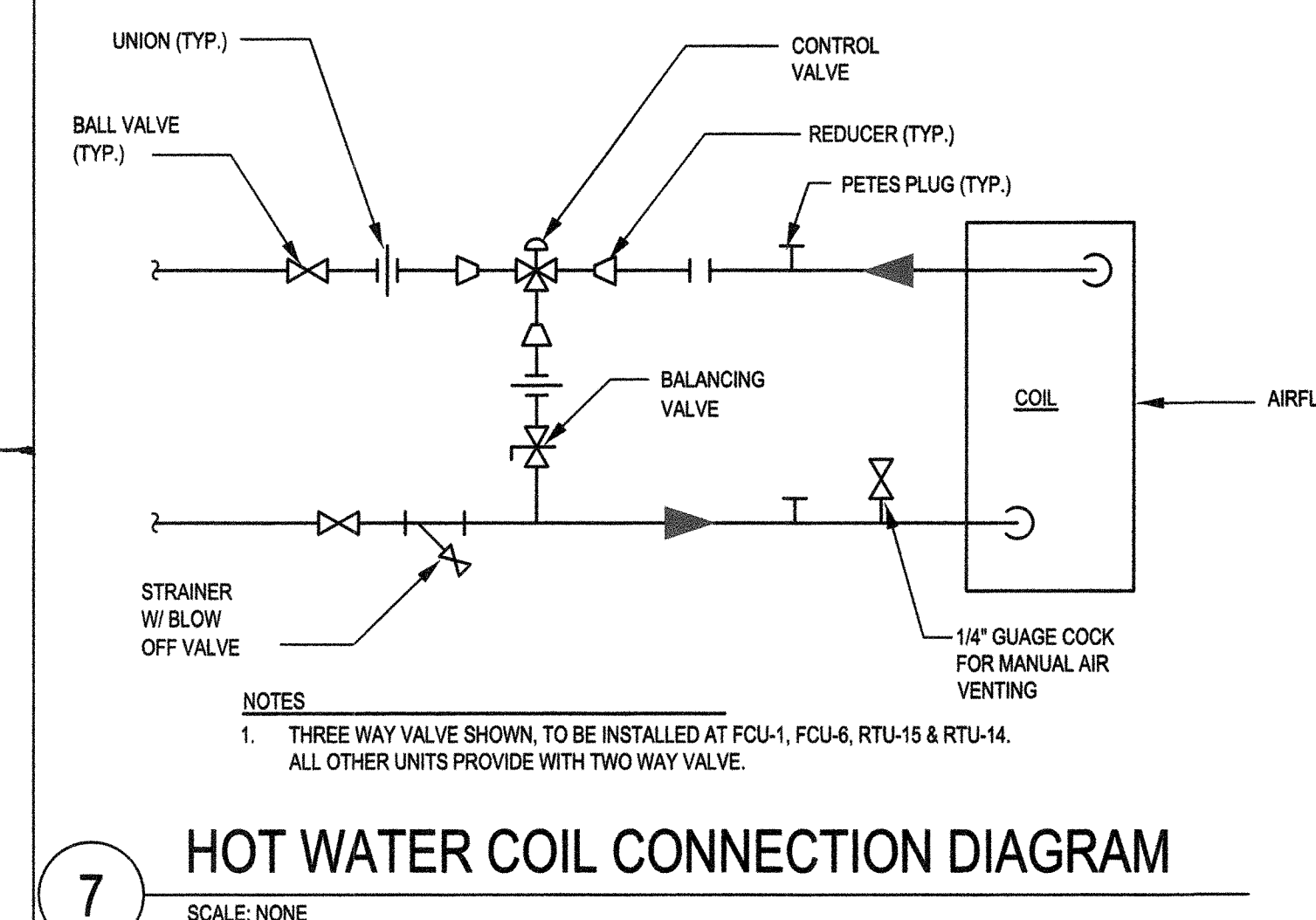
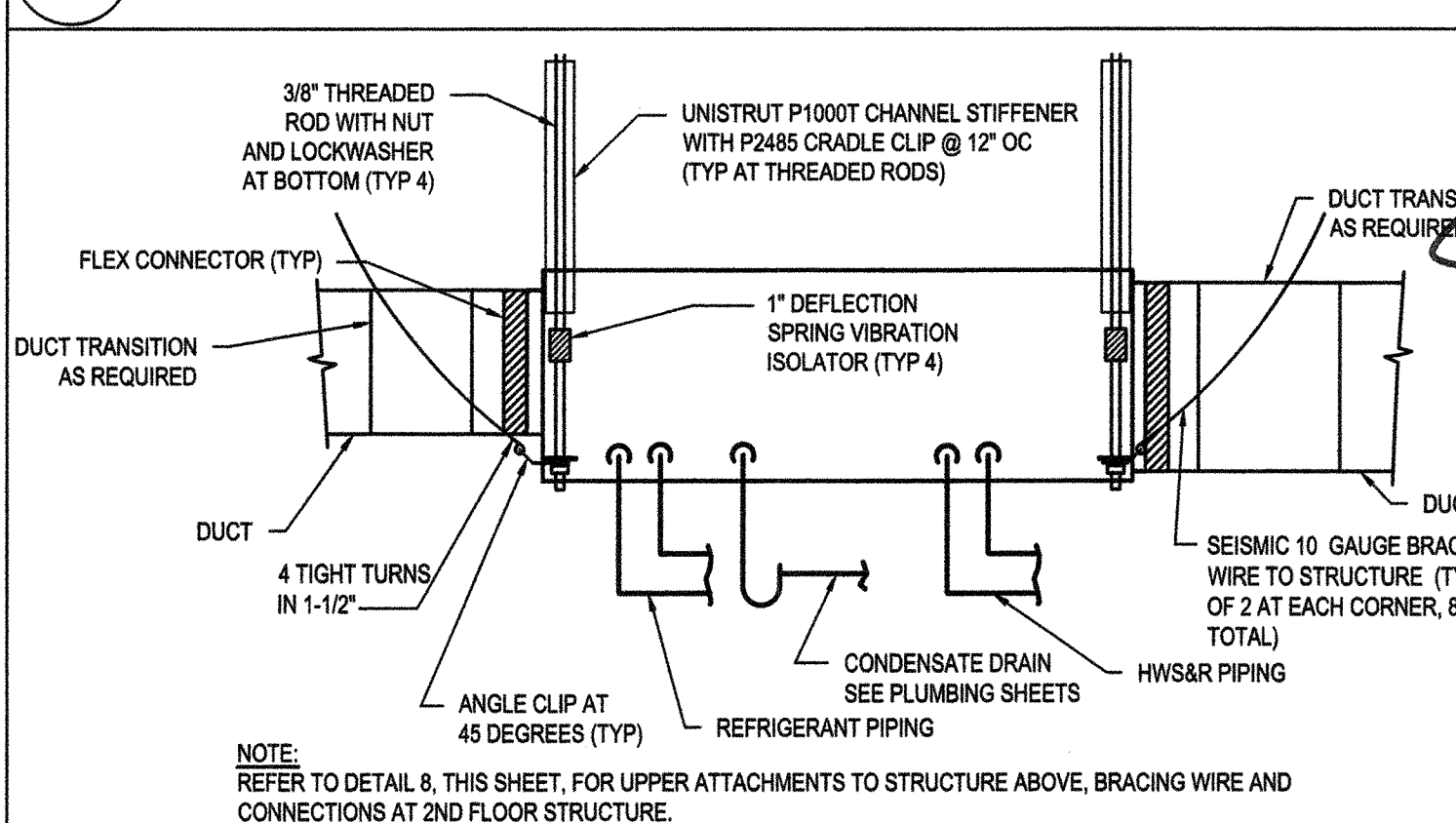
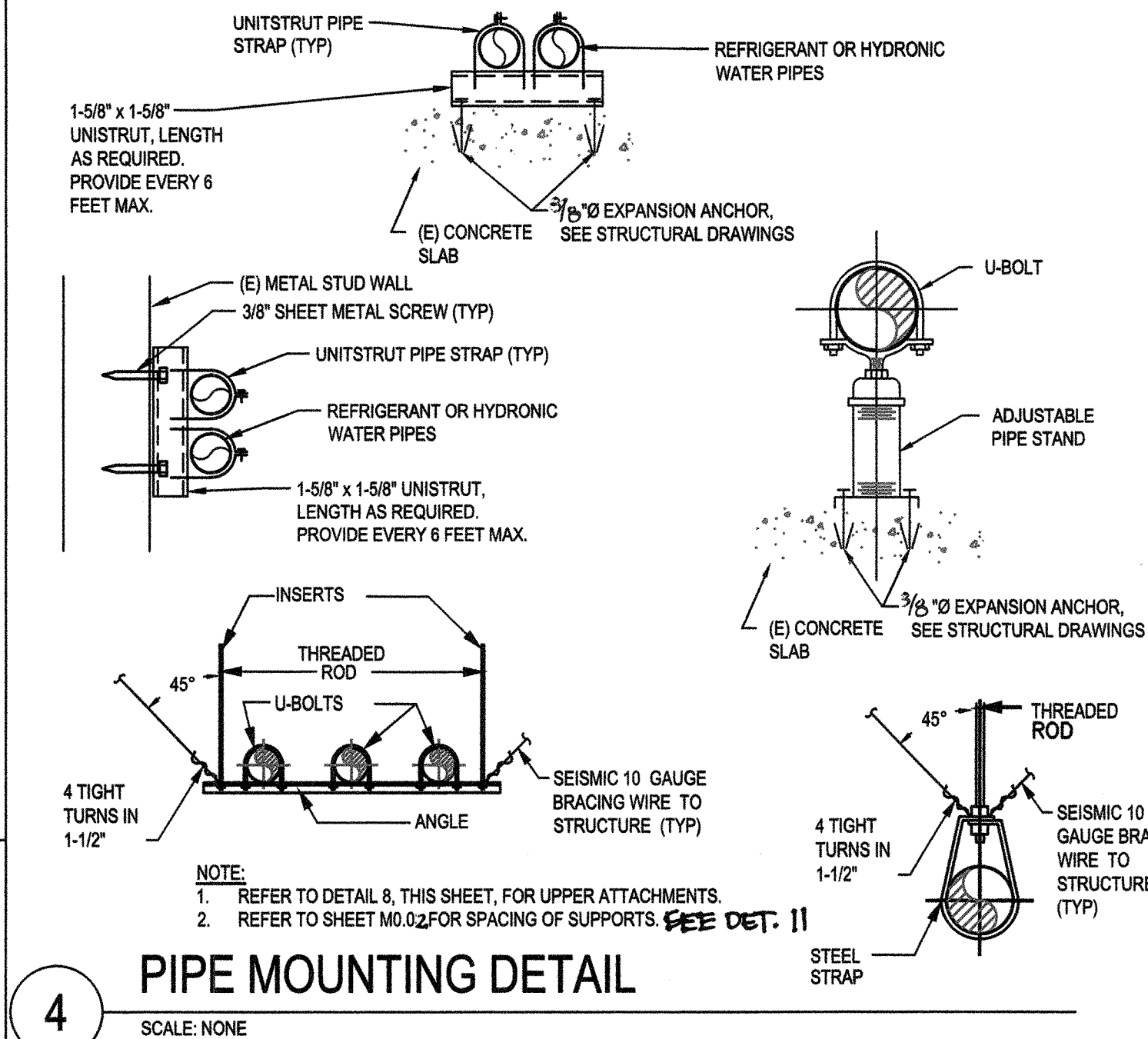
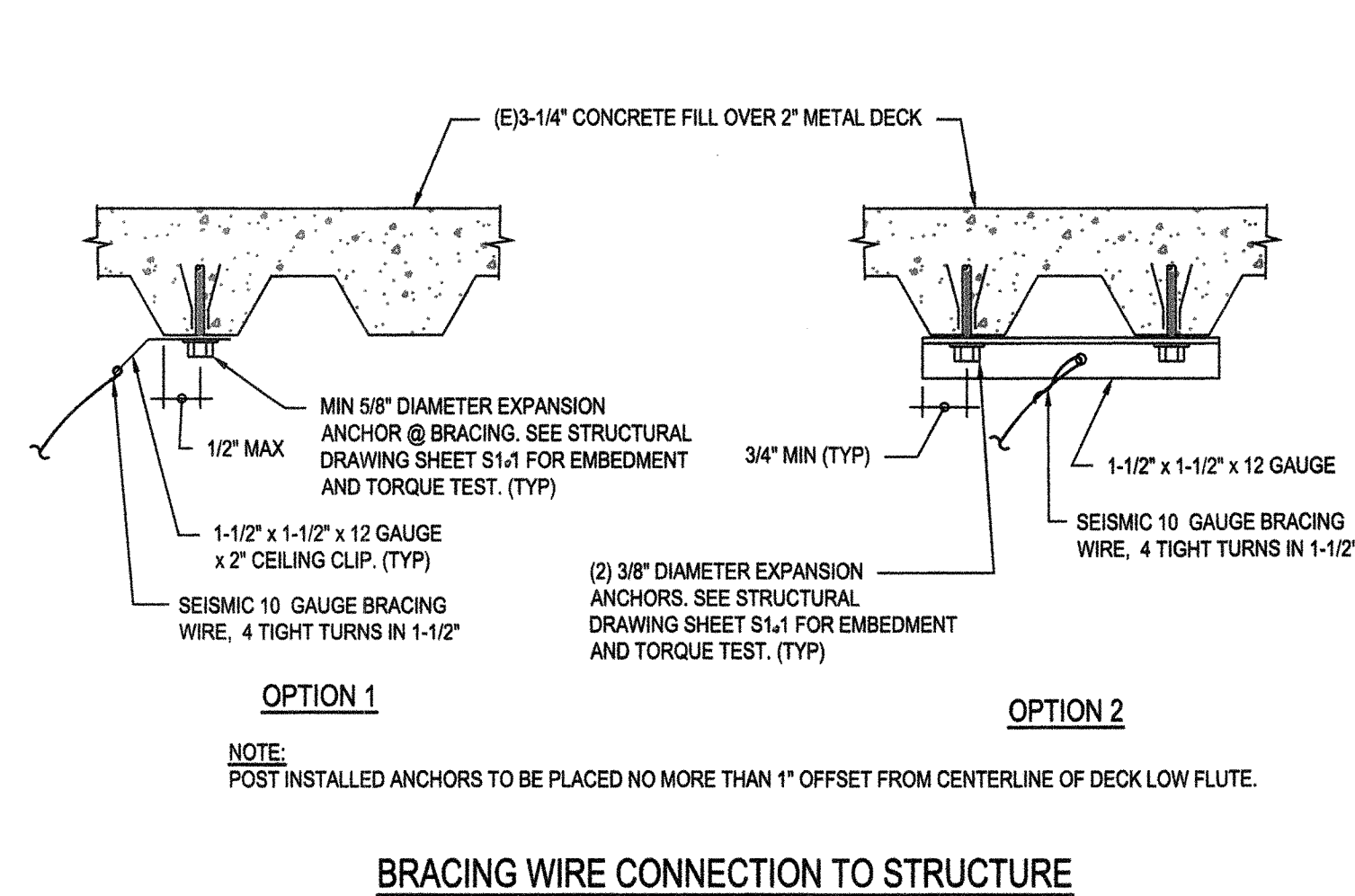
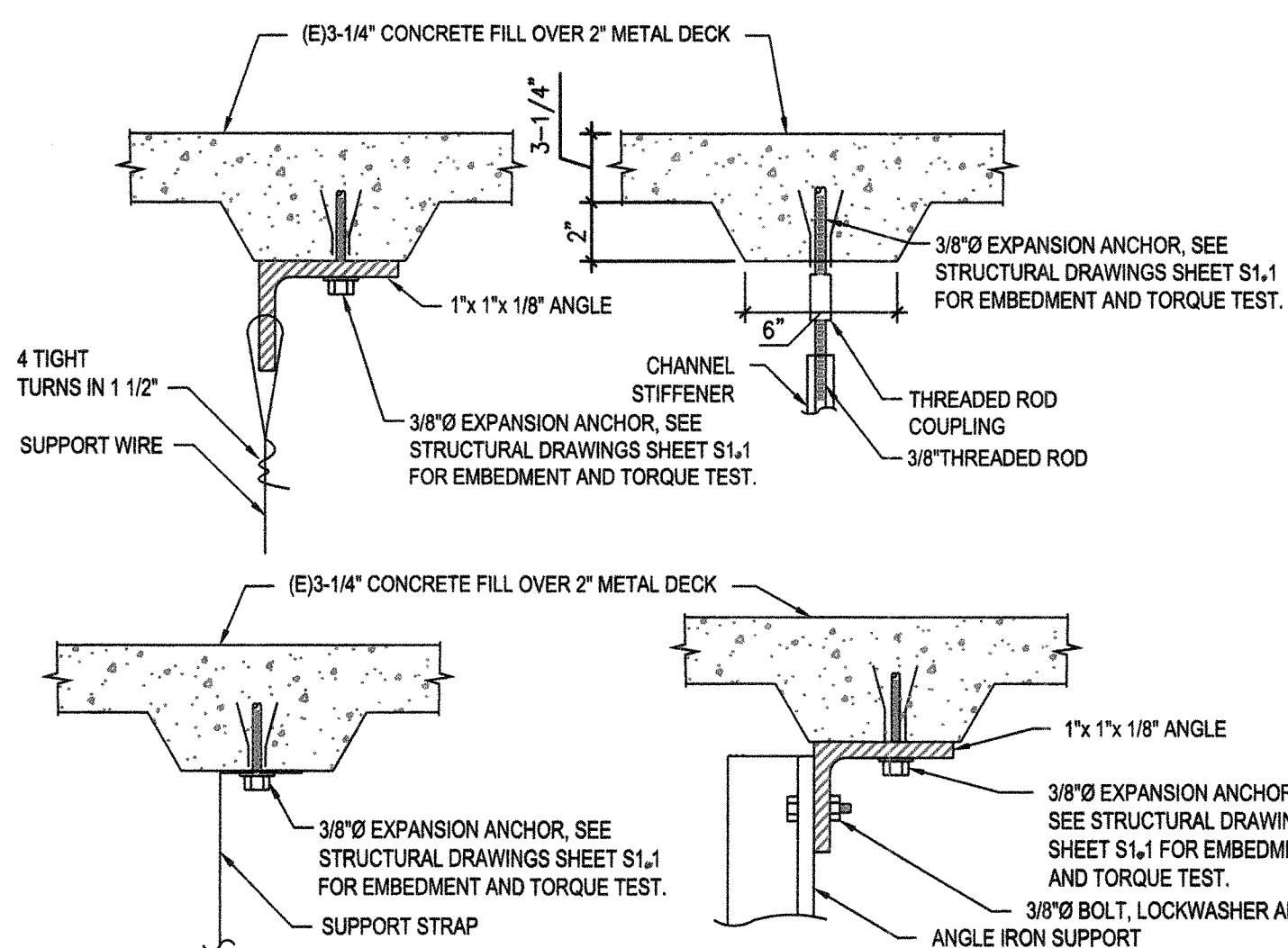
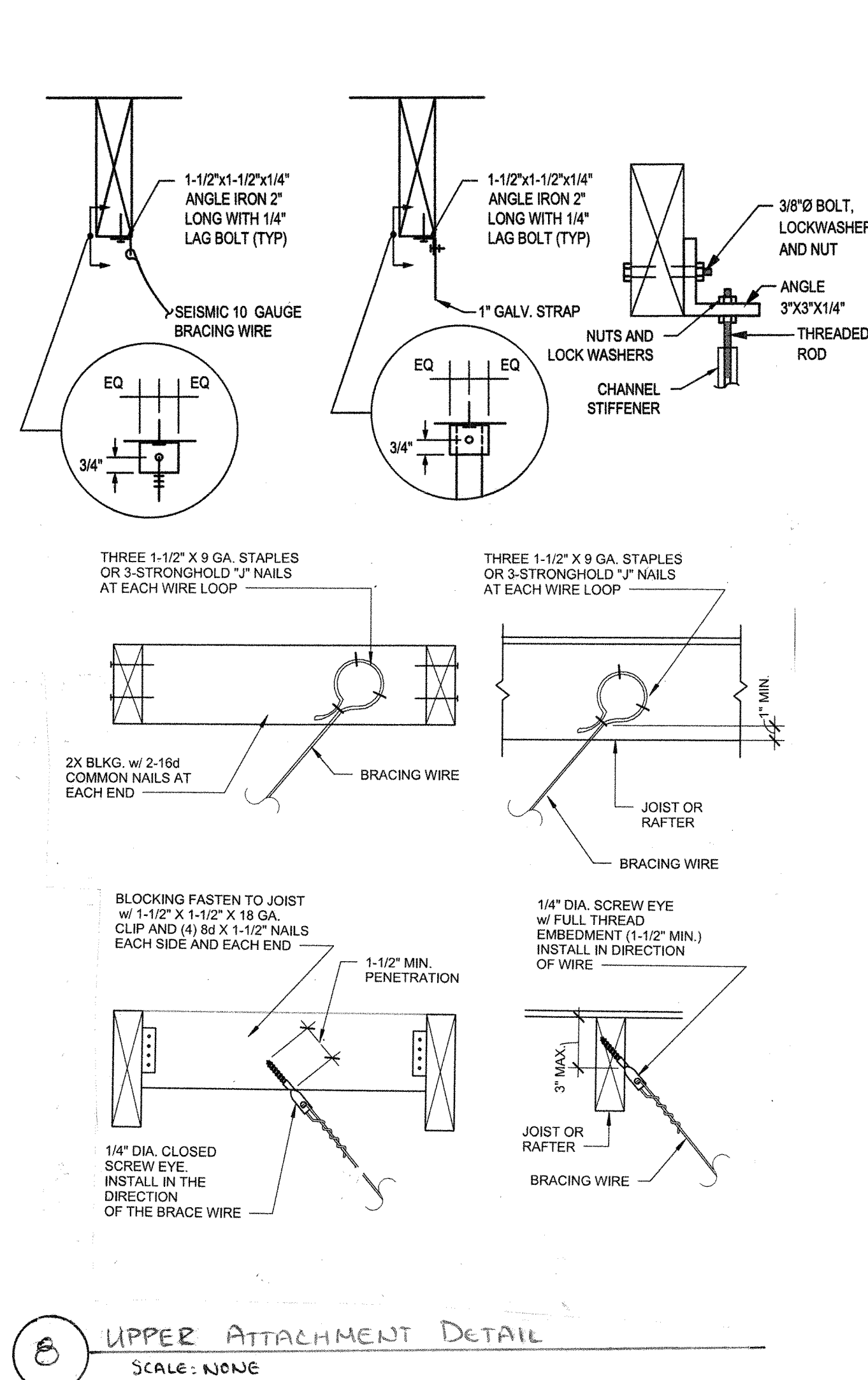
ECONOMIZER TO ALLOW OUTSIDE AIR DAMPERS TO OPEN 100%.

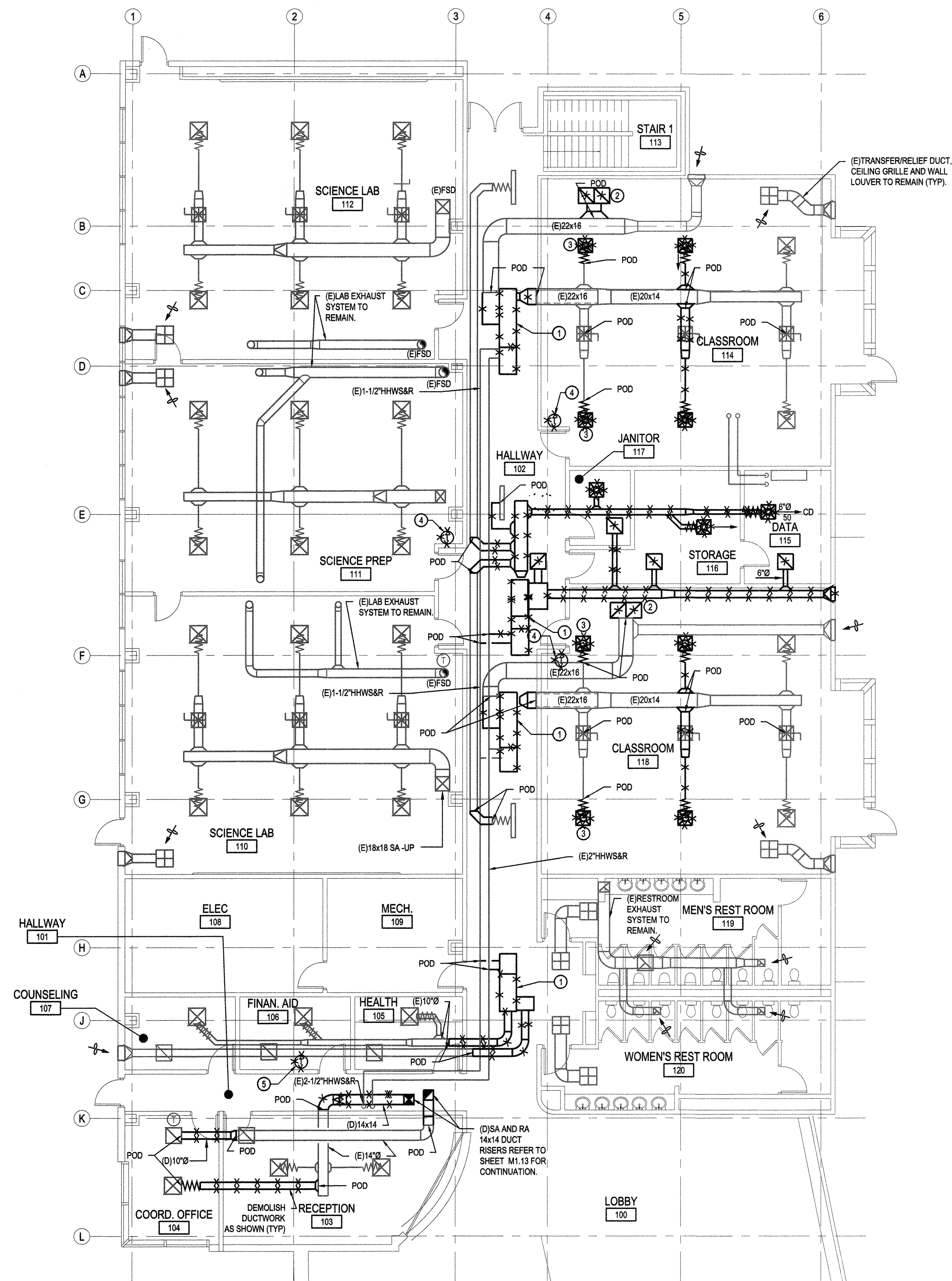
LOW NOX GAS FIRED BOILER SCHEDULE

SYMBOL	MANUFACTURER /MODEL	LOCATION	NATURAL GAS			WATER DATA				FLUE (IN)	ELECTRIC				WEIGHT (LBS)	NOTES
			INPUT (MBH)	OUTPUT (MBH)	EFF %	EWT	LWT	GPM	VOLUME (GAL)	DROP (FT WATER)	VOLTS	PHASE	FLA	MOC		
B-1	LAARS PENNANT PNC0750	ROOF	690	580	85%	150	180	55	---	---	120	1	12	15	SEE BELOW	1
B-2	LAARS PENNANT PNC0750	ROOF	690	580	85%	150	180	55	---	---	120	1	12	15	SEE BELOW	1

PUMP SCHEDULE

SYMBOL	MANUFACTURER /MODEL	LOCATION	SYSTEM	TYPE	FLOW (GPM)	HEAD (FT OF WATER)	RPM	ELECTRICAL				WEIGHT (LBS)
--------	---------------------	----------	--------	------	------------	--------------------	-----	------------	--	--	--	--------------





1 FIRST FLOOR NORTH MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'

SHEET NOTES

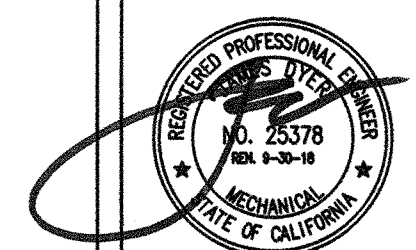
- ① DEMOLISH FAN COIL UNIT AND SUPPORTS ABOVE CEILING. DUCTWORK AND CONDENSER WATER PIPING TO REMAIN FOR CONNECTION TO NEW EQUIPMENT EXCEPT AS NOTED OTHERWISE.
- ② RETURN GRILLE TO BE RELOCATED. REFER TO M2.10 FOR NEW LOCATION.
- ③ SUPPLY DIFFUSER TO BE RELOCATED. REFER TO M2.10 FOR NEW LOCATION.
- ④ REMOVE THERMOSTAT AND WIRING TO ABOVE CEILING, THERMOSTAT TO BE RELOCATED. REFER TO SHEET M2.10.
- ⑤ DEMOLISH THERMOSTAT AND WIRING TO ABOVE CEILING. WIRING TO BE CONNECTED TO (N) TEMPERATURE SENSOR IN NEW LOCATION.



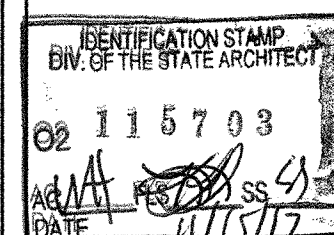
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SOLANO COMMUNITY COLLEGE DISTRICT
VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT



FIRST FLOOR NORTH
MECHANICAL
DEMOLITION PLAN

Date: 9/30/2016

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

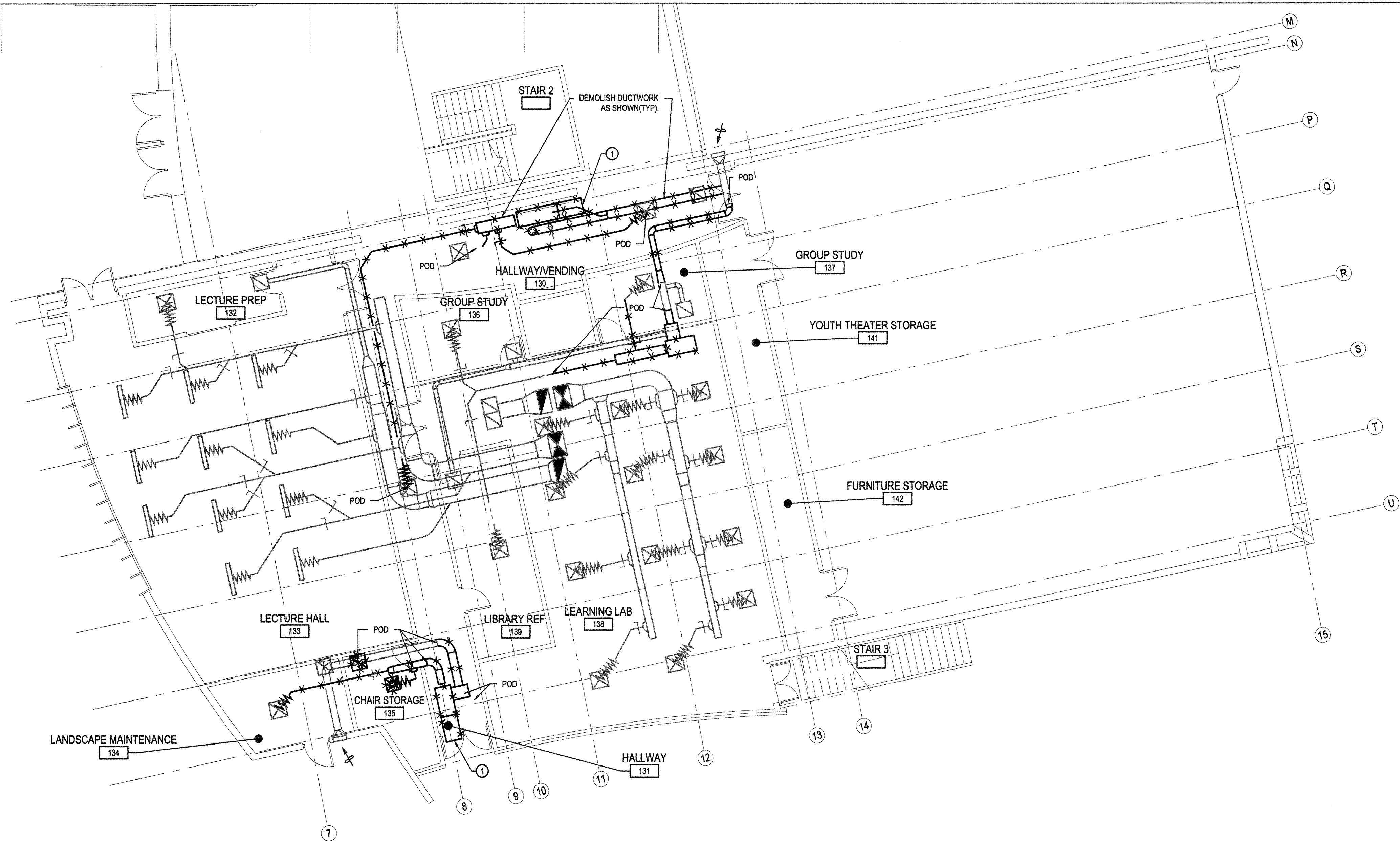
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Job: 16SCC01

Sheet

M1.10

Of Sheets



1 FIRST FLOOR SOUTH MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'

SHEET NOTES

① DEMOLISH FAN COIL UNIT AND SUPPORTS ABOVE CEILING. DUCTWORK AND CONDENSER WATER PIPING TO REMAIN FOR CONNECTION TO NEW EQUIPMENT EXCEPT AS NOTED OTHERWISE.

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DW. OF THE STATE ARCHITECT

02 115703

DATE 11/15/16

FIRST FLOOR SOUTH
MECHANICAL
DEMOLITION PLAN

Date: 9/30/2016

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

Drawn: -

Job: 16SCC01

Sheet
M1.11
Of Sheets

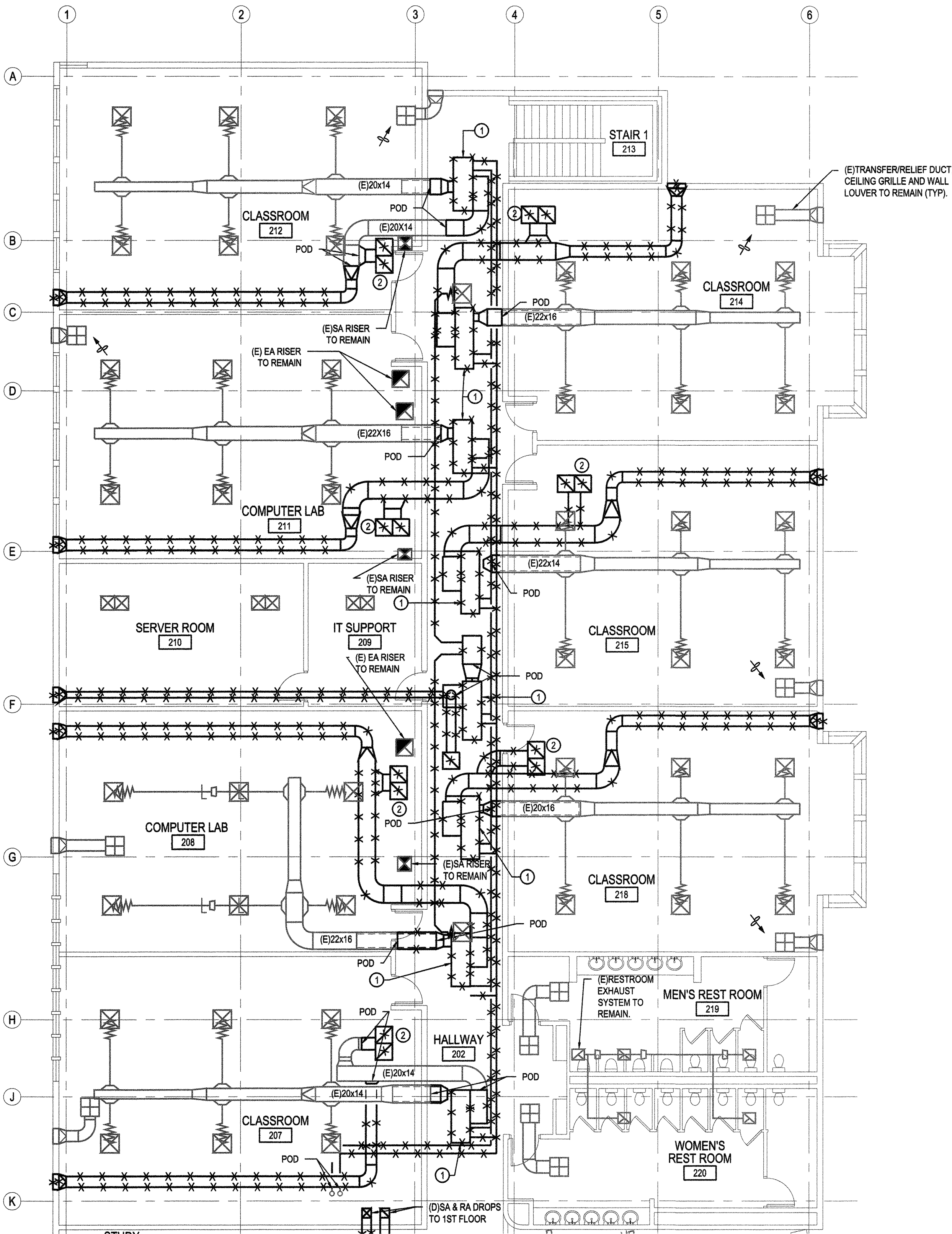
SHEET NOTES

1

DEMOLISH FAN COIL UNIT AND SUPPORTS ABOVE CEILING. DUCTWORK AND CONDENSER WATER PIPING TO REMAIN FOR CONNECTION TO NEW EQUIPMENT EXCEPT AS NOTED OTHERWISE.

1

RETURN GRILLE TO BE RELOCATED. REFER TO M2.12 FOR NEW LOCATION.



1

SECOND FLOOR NORTH MECHANICAL DEMOLITION PLAN

SCALE: 1/8" = 1'

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Seal & Signature:

REGISTERED PROFESSIONAL MECHANICAL ENGINEER
No. 25378
State of California

SOLANO COMMUNITY COLLEGE DISTRICT
VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT

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DATE 9/30/16

SECOND FLOOR NORTH
MECHANICAL
DEMOLITION PLAN

Date: 9/30/2016

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

Drawn: -

Job: 16SCC01

Sheet
M1.12
Of Sheets



① DEMOLISH ROOFTOP UNIT AND CURB. DUCTWORK AND CONDENSER WATER PIPING TO REMAIN FOR CONNECTION TO NEW EQUIPMENT EXCEPT AS NOTED OTHERWISE.

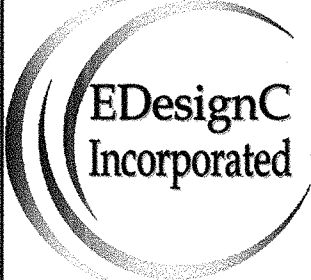

Sheets



1 ROOF SOUTH MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'

SHEET NOTES

- ① DEMOLISH ROOFTOP UNIT AND CURB. DUCTWORK AND CONDENSER WATER PIPING TO REMAIN FOR CONNECTION TO NEW EQUIPMENT EXCEPT AS NOTED OTHERWISE.

ISSUES	
	
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IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT 02115703 DATE 7/7/17	
ROOF SOUTH MECHANICAL DEMOLITION PLAN	
Date: 9/30/2016	
Scale: 1/8"=1'-0"	
Drawn: -	
Job: 16SCC01	
Sheet M1.15 Of Sheets	



- ① PROVIDE FAN COIL UNIT AND CONNECT THE EXISTING DUCTWORK AS SHOWN. PROVIDE MINIMUM 1" DUCT LINING. DUCT SIZES ARE INSIDE CLEAR DIMENSIONS.
- ② RELOCATE (E) SUPPLY DIFFUSER TO LOCATION SHOWN. PROVIDE (N) FLEX DUCT AS REQUIRED.
- ③ RELOCATE (E) RETURN GRILLE TO LOCATION SHOWN.
- ④ REFRIGERANT PIPE RISER UP TO FLOOR ABOVE. REFER TO SHEET M2.12 FOR CONTINUATION.
- ⑤ BALANCE (E) SUPPLY DIFFUSER TO VOLUME SHOWN.
- ⑥ BALANCE (E) RETURN GRILLE TO VOLUME SHOWN.
- ⑦ PROVIDE (N) THERMOSTAT WHERE SHOWN. PROVIDE WIRING BACK TO (E) TEMPERATURE CONTROL PANEL.
- ⑧ RELOCATE (E) THERMOSTAT TO WHERE SHOWN. ADJUST WIRING ABOVE CEILING AS REQUIRED. REFER TO SHEET M1.10.
- ⑨ PROVIDE (N) TEMPERATURE SENSOR WHERE SHOWN. PROVIDE WIRING BACK TO (E) TEMPERATURE CONTROL PANEL.

A. BRANCH DUCTS PROVIDING AIR TO ONLY HALLWAY/CORRIDOR SUPPLY DIFFUSERS OR RETURN GRILLES DO NOT NEED TO BE PROVIDED WITH ACOUSTICAL LINER.

SOLANO COMMUNITY COLLEGE DISTRICT
VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT

FIRST FLOOR NORTH MECHANICAL DUCTWORK PLAN

Sheets



Sheets



1 SECOND FLOOR SOUTH MECHANICAL DUCTWORK PLAN
SCALE: 1/8" = 1'

- SHEET NOTES
- 1

PROVIDE FAN COIL UNIT AND CONNECT TO DUCTWORK AS SHOWN. CONNECT THE EXISTING DUCTWORK TO THE NEW LINED DUCT HORIZONTAL DUCTS. PROVIDE MINIMUM 1" DUCT LINING AS SHOWN. DUCT SIZES ARE INSIDE CLEAR DIMENSIONS.
- 2

RELOCATE (E) RETURN GRILLE TO LOCATION SHOWN.
- 3

REFRIGERANT RISERS FROM THE FLOOR BELOW AND UP TO THE ROOF ABOVE. REFER TO SHEETS M2.11 AND M2.15 FOR CONTINUATION.
- 4

REFRIGERANT RISERS UP TO THE ROOF ABOVE. REFER TO SHEET M2.15 FOR CONTINUATION.
- 5

BALANCE (E) SUPPLY DIFFUSER TO VOLUME SHOWN.
- 6

BALANCE (E) RETURN GRILLE TO VOLUME SHOWN.
- 7

CONNECT THE EXISTING DUCTWORK TO THE NEW LINED DUCT DROPS FROM ROOFTOP UNIT AND/OR NEW HORIZONTAL DUCTS. PROVIDE MINIMUM 1" DUCT LINING AS SHOWN. DUCT SIZES ARE INSIDE CLEAR DIMENSIONS. PROVIDE LINED TRANSITIONS AS REQUIRED.
- GENERAL NOTES
- A.

BRANCH DUCTS PROVIDING AIR TO ONLY HALLWAY/CORRIDOR SUPPLY DIFFUSERS OR RETURN GRILLES DO NOT NEED TO BE PROVIDED WITH ACOUSTICAL LINER.
- B.

ROOF PENETRATIONS SHALL BE MIN 2 INCHES LARGER THAN THE VERTICAL DUCT IN EACH DIRECTION. COORDINATE WITH ROOF PLAN M2.15. REFER TO SHEET S8.1 FOR ROOF PENETRATION DETAILS.

ISSUES

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DATE 9/17/12

SECOND FLOOR SOUTH
MECHANICAL
DUCTWORK PLAN

Date: 9/30/2016
Scale: 1/8"=1'-0"
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Job: 16SCC01
Sheet
M2.13
Of Sheets

SHEET NOTES

1

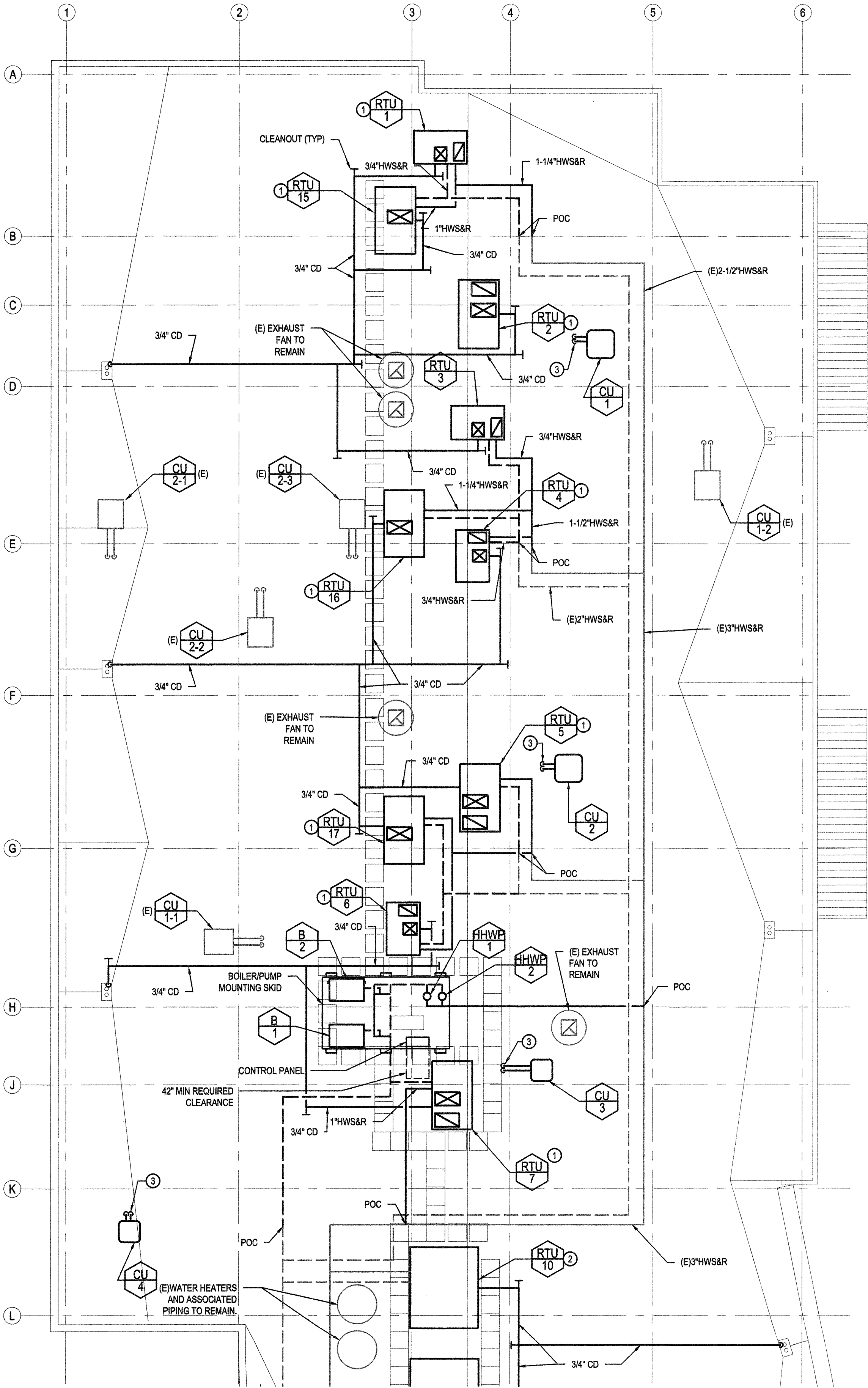
PROVIDE ROOFTOP UNIT AND CURB. CONNECT TO DUCTWORK AND HYDRONIC PIPING AS SHOWN. REFER TO M2.12 FOR DUCTWORK CONTINUATION.

2

PROVIDE ROOFTOP UNIT AND CURB. PROVIDE DUCTWORK AND HYDRONIC PIPING AS SHOWN. REFER TO M2.12 FOR DUCTWORK CONTINUATION.

3

REFRIGERANT PIPE RISER FROM FLOOR BELOW. REFER TO SHEET M2.12 FOR CONTINUATION.



1

ROOF NORTH MECHANICAL PROPOSED PLAN

SCALE: 1/8" = 1'

ISSUES

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MECHANICAL EQUIPMENT REPLACEMENT

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02 115703
DATE 11/15/16

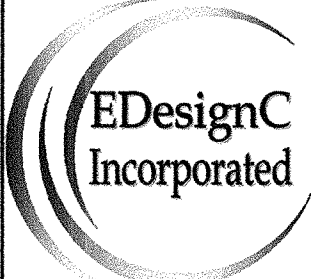

ROOF NORTH
MECHANICAL
PROPOSED PLAN

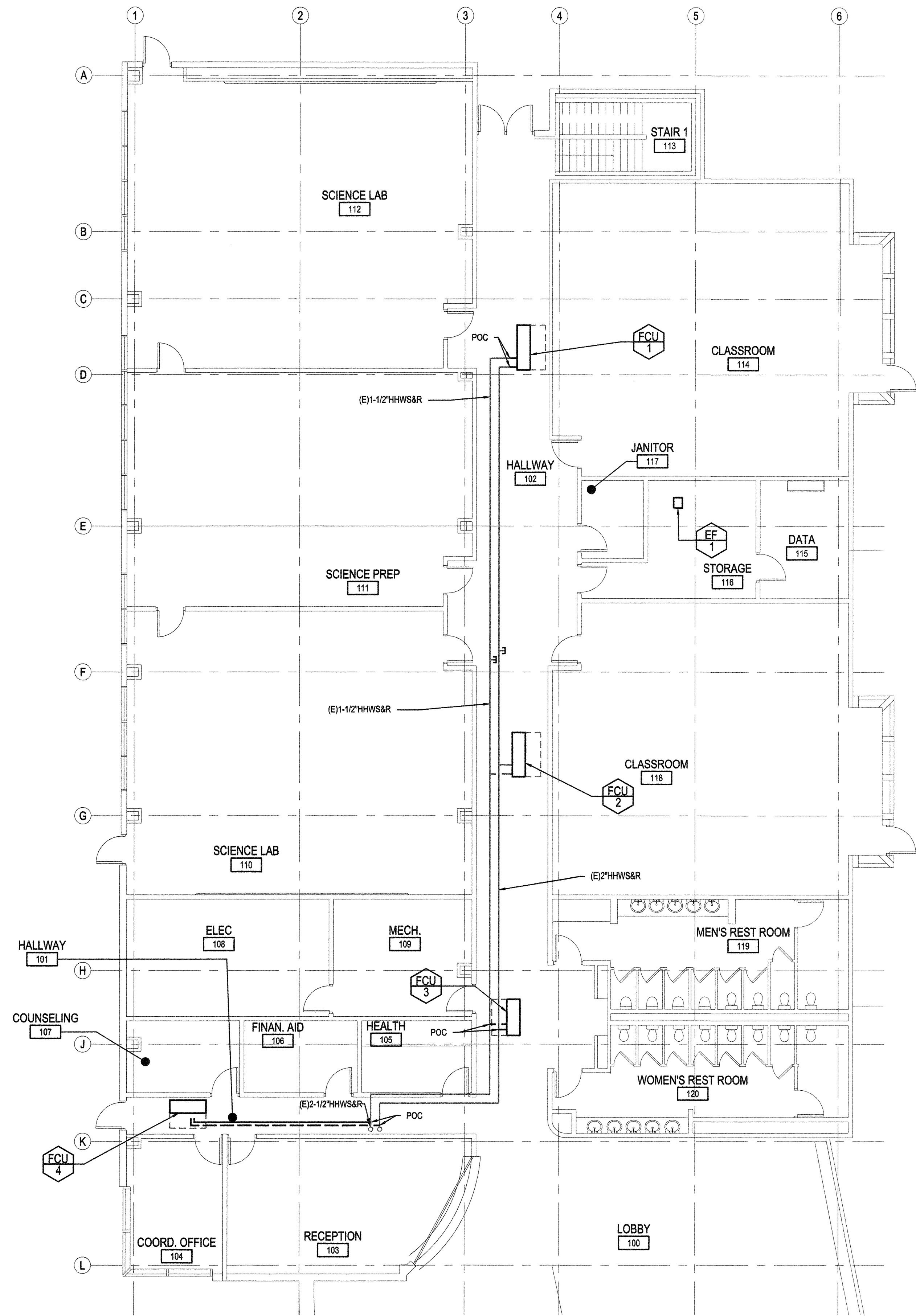
Date: 9/30/2016
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Job: 16SCC01
Sheet
M2.14
Of Sheets



1 ROOF SOUTH MECHANICAL PROPOSED PLAN
SCALE: 1/8" = 1'

- ### SHEET NOTES
- 1 PROVIDE ROOFTOP UNIT AND CURB. CONNECT TO DUCTWORK AND HYDRONIC PIPING AS SHOWN. REFER TO M2.12 FOR DUCTWORK CONTINUATION.
 - 2 PROVIDE ROOFTOP UNIT AND CURB. PROVIDE DUCTWORK AND HYDRONIC PIPING AS SHOWN. REFER TO M2.12 FOR DUCTWORK CONTINUATION.
 - 3 REFRIGERANT RISERS FROM FLOOR BELOW. REFER TO SHEET M2.13 FOR CONTINUATION.
 - 4 PROVIDE EXHAUST FAN AND CURB. PROVIDE MINIMUM 10 FT CLEARANCE FROM ANY HVAC UNIT OUTSIDE AIR INTAKE. COORDINATE WITH ELECTRICAL CONTRACTOR TO EXTEND POWER FROM DEMOLISHED FAN.

ISSUES	
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SOLANO COMMUNITY COLLEGE DISTRICT VACAVILLE CENTER MECHANICAL EQUIPMENT REPLACEMENT	
<div>IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT Q2 115703 DATE 11/15/15</div>	
ROOF SOUTH MECHANICAL PROPOSED PLAN	
Date: 9/30/2016	
Scale: 1/8"=1'-0"	
Drawn: -	
Job: 16SCC01	
Sheet M2.15 Of Sheets	



1 FIRST FLOOR NORTH MECHANICAL HYDRONIC PLAN
SCALE: 1/8" = 1'

SHEET NOTES

- ① CONNECT (N) FAN COIL UNIT TO HEATING HOT WATER SUPPLY AND RETURN PIPES AS SHOWN.

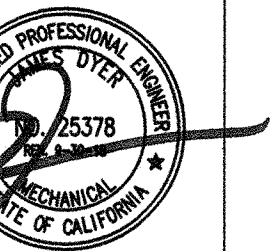
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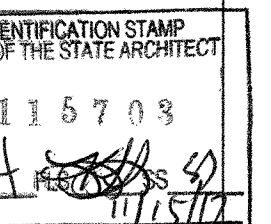
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VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT



FIRST FLOOR NORTH
MECHANICAL
HYDRONIC PLAN

Date: 9/30/2016

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

Drawn: -

Job: 16SCC01

Sheet

M3.10

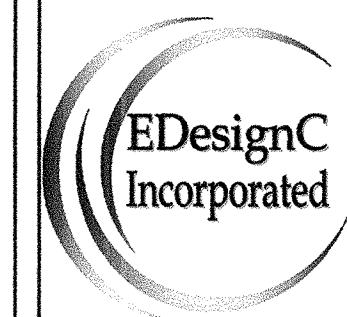
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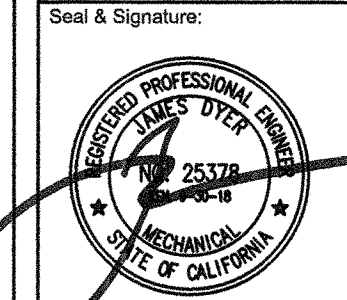
1 FIRST FLOOR SOUTH MECHANICAL HYDRONIC PLAN
 SCALE: 1/8" = 1'

SHEET NOTES

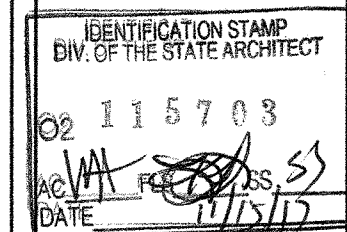
- ① CONNECT (N) FAN COIL UNIT TO HEATING HOT WATER SUPPLY AND RETURN PIPES AS SHOWN.



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 VACAVILLE CENTER
 MECHANICAL EQUIPMENT REPLACEMENT**



**FIRST FLOOR SOUTH
 MECHANICAL
 HYDRONIC PLAN**

Date: 9/30/2016
 Scale: 1/8"=1'-0"
 Drawn: -
 Job: 16SCC01
 Sheet
M3.11
 Of Sheets



Date:	9/30/2016
Scale:	1/8"=1'-0"
Drawn:	-
Job:	16SCC01
Sheet	
M3.12	
Of	Sheets






























GENERAL ELECTRICAL NOTES

1. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRIC CODE, STATE LAWS, AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE.
2. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE EXISTING JOB CONDITION. HE SHALL EXAMINE CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND SHALL HAVE HAD VISITED THE CONSTRUCTION SITE, PRIOR TO SUBMITTING HIS BID PROPOSAL. HE SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS UNDER WHICH HE WILL HAVE TO OPERATE AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THIS CONTRACT. NO SUBSEQUENT ALLOWANCE WILL BE MADE IN THIS CONNECTION IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART. DETERMINE THE SEQUENCE OF CONSTRUCTION THROUGHOUT THE PROJECT, INCLUDING TEMPORARY FACILITIES AND CONNECTIONS REQUIRED FOR THE DURATION OF THE PROJECT.
3. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS, AND PAY ANY AND ALL FEES AS REQUIRED.
4. EXISTING ARCHITECTURAL SURFACES DISTURBED DURING CONSTRUCTION SHALL BE PATCHED AND PAINTED TO MATCH EXISTING.
5. WORK SHOWN IN THESE PLANS ARE NEW, UON. INSTALLATION SHALL BE CONCEALED. WHERE NOT POSSIBLE, CONTRACTOR SHALL OBTAIN APPROVAL FROM ARCHITECT AND ENGINEER FOR EXPOSED INSTALLATION. A WRITTEN APPROVAL IS REQUIRED. USE SURFACE RACEWAYS, WIREMOLD, OR EQUAL. ALL ELECTRIC MATERIALS, DEVICES, AND EQUIPMENT FOR THE PROJECT SHALL BE NEW AND U.L. APPROVED
6. ALL CONDUIT SHALL BE 3/4" MINIMUM. ALL CONDUIT SHALL BE RUN PARALLEL TO EXISTING SURFACES. WHEN CONDUIT CROSSES CORRIDORS OR ROOMS IT SHALL BE DONE PERPENDICULAR TO WALLS.
7. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS. FURNISH AND INSTALL FIRE RATED BACKBOXES AS REQUIRED TO MAINTAIN FIRE RATING OF CEILING OR WALLS WHERE RECESSED ELECTRIC EQUIPMENT SUCH AS LIGHT FIXTURES, SWITCHES, RECEPTACLES, PANEL, ETC. ARE INSTALLED IN RATED WALL OR CEILINGS. PENETRATIONS OF FIRE RATED WALLS, CEILINGS, OR FLOORS SHALL COMPLY WITH CBC CHAPTER 7 REQUIREMENTS. IN WALLS AND PARTITIONS THAT ARE FOR FIRE RESISTIVE CONSTRUCTION, OPENINGS FOR STEEL ELECTRICAL OUTLET BOXES SHALL NOT EXCEED 16 SQUARE INCHES. IN ADDITION, THE AGGREGATE AREA OF SUCH OPENING SHALL NOT EXCEED 100 SQ IN FOR ANY 100 SQUARE FEET OF WALL OR PARTITION. OUTLET BOXES ON OPPOSITE SIDES OF THE WALLS OR PARTITION SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF AT LEAST 24 INCHES, OR BE PROVIDED WITH FIRE PUTTY.
8. ALL NEW WIRING SHALL BE IN CONDUIT. COORDINATE ROUTING OF CONDUIT WITH ARCHITECT AND STRUCTURAL FOR OPENINGS IN WALLS AND ANY NOTCHING OF JOISTS.
9. THE ELECTRICAL PLANS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL OF THE ARCHITECTURAL DETAILS OR SPECIFICS OF ELECTRICAL CONSTRUCTION. TAKE ALL DIMENSIONS FROM THE ARCHITECTURAL DRAWINGS. BEFORE ROUGH-IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT ELECTRICAL CONNECTIONS, STUB-UPS, RECEPTACLES, OUTLETS, CONDUIT RUNS, ETC. WITH ARCHITECT AND OWNER. PLACE DEVICES LOCATED ABOVE COUNTERS, SHELVING, ETC. AND IN BATHROOMS SO AS NOT TO CONFLICT WITH EDGES OF WAINSCOTING, COUNTER SPLASH, SHELVING, ETC. ARCHITECTURAL SHEETS SHALL GOVERN. SEE ELECTRICAL SECTION OF ARCHITECTURAL SPECIFICATION FOR ADDITIONAL INFORMATION.
10. PULLROPES: ANY RACEWAY WITHOUT CABLE OR WIRE SHALL BE INSTALLED WITH MINIMUM 200 POUND TEST PULL LINE AND LARGER.
11. ALL DEVICES AND EQUIPMENT INSTALLED OUTDOORS OR EXPOSED TO THE WEATHER SHALL BE OF WEATHERPROOF CONSTRUCTION. ALL WALL PENETRATIONS TO EXTERIOR WALLS SHALL BE SEALED WATER TIGHT.
12. ALL EQUIPMENT SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY AND SHALL BE INSTALLED AS PER LISTING OR LABELING (IE. MAXIMUM FUSE SIZE MEANS FUSE PROTECTION IS REQUIRED).
13. ALL EQUIPMENT MANUFACTURERS SHALL BE NOTED IN DRAWINGS. SUBSTITUTIONS ARE PERMITTED BUT MUST BE APPROVED EQUAL.
14. CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE MADE WITH A MINIMUM OF 24" OF WEATHERPROOF FLEXIBLE CONDUIT TO PREVENT SOUND AND VIBRATION TRANSMISSION TO THE STRUCTURE. COORDINATE ALL MOTOR OVERLOADS AND/OR FUSES FURNISHED BY THIS CONTRACT WITH THE ACTUAL EQUIPMENT INSTALLED. SIZE OVERLOADS BASED ON MOTOR NAMEPLATE FULL LOAD CURRENT AND SERVICE FACTOR. FUSES FOR MOTOR AND TRANSFORMER CIRCUITS SHALL BE DUAL ELEMENT. FUSES FOR OTHER "NON-INRUSH" LOADS SHALL BE FAST ACTING. ALL FUSES SHALL BE CURRENT LIMITING CLASS RK5 OR CLASS L, UON. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR MANUFACTURER INSTALLATION REQUIREMENTS.
15. SEE MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION OF FANS AND WATER HEATERS.
16. ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE MECHANICAL WORK AS CALLED FOR IN MECHANICAL SPECIFICATIONS.
17. GROUNDING CONDUCTORS ARE GENERALLY NOT SHOWN. GROUND AND BOND ALL EQUIPMENT, RACEWAYS, MOTORS, PANELBOARDS AND SWITCHBOARDS, ETC. IN ACCORDANCE WITH NEC ARTICLE 250.
18. FIELD MOUNTED DEVICES SUCH AS SWITCHES, MOTOR STARTERS, RECEPTACLES, ETC., ARE SHOWN IN THEIR APPROXIMATE LOCATION. SWITCH MOUNTING HEIGHT SHALL BE 48" ABOVE FINISHED FLOOR AND RECEPTACLE MOUNTING HEIGHT SHALL BE 18" ABOVE FINISHED FLOOR. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR MANUFACTURER INSTALLATION REQUIREMENTS.
19. ELECTRICAL CONTRACTOR TO PROVIDE EXPANSION FITTINGS AT ALL EXPANSION JOINT LOCATION. USE STEEL FLEX 6 FEET EACH SIDE OF THE JOINT AND TERMINATE IN A PULLBOX AT EACH END, OR OTHER APPLIED METHODS.
20. ALL LIGHTING FIXTURE LOCATIONS AND ROUTING SHALL BE REVIEWED BY ARCHITECT PRIOR TO ROUGH-IN.
21. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED TO MAINTAIN A MINIMUM OF 36" CLEARANCE PER NEC ARTICLE 110.26.
22. PENETRATIONS OF FIRE RATED WALLS CEILINGS OR FLOORS SHALL COMPLY WITH CBC CHAPTER 7 REQUIREMENTS.
23. WHERE OUTLET BOXES ARE INSTALLED WITHIN RATED ASSEMBLIES, PROVIDE 3M MOLDBABLE PUTTY PADS OR EQUAL TO MAINTAIN FIRE RATED ASSEMBLIES.
24. ALL RECEPTACLES SHALL BE GROUNDING TYPE.
25. ALL RECEPTACLES INSTALLED IN BATHROOMS AND KITCHENS SHALL HAVE GROUND-FAULT CIRCUIT INTERRUPTER PROTECTION AS REQUIRED BY THE NATIONAL ELECTRIC CODE.
26. CONTRACTOR TO CONFIRM EXACT LOCATION OF METERS WITH ELECTRIC UTILITY.
27. SUBMIT TO THE OWNER CERTIFICATES OF INSPECTIONS IN DUPLICATE FROM AN APPROVED INSPECTION AGENCY UPON COMPLETION.
28. PERFORMANCE AND WITNESSING OF TESTS
 - A. THE CONTRACTOR SHALL FURNISH ALL INSTRUMENTS AND QUALIFIED PERSONNEL OR FIRM TO PERFORM ALL REQUIRED TESTS.
 - B. ALL NEW AND RECONNECTED ELECTRICAL CIRCUIT SHALL BE TESTED TO INSURE CIRCUIT CONTINUITY, INSULATION RESISTANCE, PROPER SPLICING AND GROUNDING IN ACCORDANCE WITH THE LATEST STANDARDS AS STATED ABOVE. BEFORE CONNECTING POWER CABLES TO MOTORS, THE INSULATION RESISTANCE OF ALL MOTOR WINDINGS SHALL BE TESTED IN ACCORDANCE WITH THE ABOVE STANDARDS.
 - C. ANY CONTRACTOR FURNISHED AND/OR INSTALLED SPLICE, RECOMMENDED VOLTAGE AND INSULATION RESISTANCE TESTS, SHALL BE CONNECTED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
 - D. NO EQUIPMENT SHALL BE ENERGIZED UNTIL ALL TESTS AND ADJUSTMENTS HAVE BEEN MADE.
 - E. THREE COPIES OF ALL TEST RESULTS SHALL BE DELIVERED TO THE OWNER.

ABBREVIATIONS

A	AMPERE	MV	MEDIUM VOLTAGE
AC	ALTERNATING CURRENT	N	NEUTRAL
AF	AMPERE RATING OF FUSE	(N)	NEW
AF	ABOVE FINISHED FLOOR	N.E.C.	NATIONAL ELECTRICAL CODE
C	CONDUIT	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
CKT	CIRCUIT	NEUT	NEUTRAL
D	DEDICATED	NIC	NOT IN CONTRACT
E	EXISTING TO REMAIN	NTS	NOT TO SCALE
ELEC	ELECTRICAL	PB	PULL BOX
EM	EMERGENCY	PNL	PANEL
EMT	ELECTRICAL METALLIC TUBING	POS	POINT OF SALE
<F>	FUTURE	RR	REMOVE AND RELOCATE
FACP	FIRE ALARM CONTROL PANEL	RSC	RIGID STEEL CONDUIT
FATC	FIRE ALARM TERMINAL CAN	SLD	SINGLE LINE DIAGRAM SPEC SPECIFICATION
G	GROUNDING CONDUCTOR	T	TELEPHONE
GFI	GROUND FAULT INTERRUPTER	TV	TELEVISION
GND	GROUND	UG	UNDERGROUND
HP	HORSEPOWER	UAC	UNDER ANOTHER CONTRACT
KVA	KILOVOLT AMPS	UON	UNLESS OTHERWISE NOTED
KW	KILOWATTS	V	VOLT
LTG	LIGHTING	VP	VANDAL PROOF
LTS	LIGHTS	W	WATTS
LV	LOW VOLTAGE	WP	WEATHERPROOF (NEMA 3R)
MECH	MECHANICAL	WT	WATERTIGHT
MTD	MOUNTED	XFMR	TRANSFORMER

ELECTRICAL SYMBOLS

	REFERENCE SHEET NOTE
	DETAIL REFERENCE (#= DETAIL #, P=SHEET #)
	BRANCH CIRCUIT WIRING IN EXPOSED CONDUIT.
	BRANCH CIRCUIT WIRING IN CONDUIT CONCEALED UNDER FLOOR OR UNDERGROUND, OR CONCEALED IN CEILING OR WALL.
	BRANCH CIRCUIT HOMERUN TO PANEL. CONCEALED IN CEILING SPACE OR WHERE POSSIBLE.
	JUNCTION OR OUTLET BOX MOUNT ABOVE CEILING WITH BLANK COVER (F=FLUSH IN FINISHED CEILING)
	SINGLE POLE THROW SWITCH AND BOX, WALL MOUNTED, +48".
	SINGLE POLE THROW SWITCH AND BOX WITH OCCUPANCY SENSOR, WALL MOUNTED, +48".
	SINGLE POLE SWITCH AND BOX, LOWERCASE LETTER INDICATES CIRCUIT OR LAMPS CONTROLLED BY SWITCH, +48".
	RANGE HOOD CONTROL AT FRONT OF COUNTER. SEE ARCHITECTURAL ELEVATION.
	THREE-WAY SWITCH
	HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS.
	USB CHARGER AND TAMPER RESISTANT RECEPTACLE. LEVITON T5630, OR APPROVED EQUAL.
	DUPLEX RECEPTACLE 20A, 125V, 3WG, NEMA 5-20R, +15" (UON). (WP=GFCI AND WEATHERPROOF WITH IN-USE COVER, D=DEDICATED)
	DUPLEX RECEPTACLE IP20A, WITH GROUND FAULT CIRCUIT INTERRUPTER, ABOVE COUNTER (UON). (WP=WEATHERPROOF)
	DUPLEX RECEPTACLE 20A, ABOVE COUNTER OR +42" AT LAUNDRY
	PANEL BOARD, 120/240V, SINGLE PHASE, 3W FLUSH IN RESIDENTIAL UNITS. 120/208V 3 PHASE, 4 WIRE FLUSH/SURFACE IN COMMUNITY BUILDING.
	OCCUPANCY SENSOR
	DATA OUTLET, FLUSH MOUNT IN WALL, +15" AFF. WITH 3/4"C. AND PULLCORD UP TO ABOVE ACCESSIBLE CEILING SPACE OR WALL SPACE.
	PHONE DATA OUTLET, FLUSH MOUNT IN WALL, +15" AFF. WITH 3/4"C. AND PULLCORD UP TO ABOVE ACCESSIBLE CEILING SPACE OR WALL SPACE.
	TELEPHONE OUTLET, FLUSH MOUNT IN WALL, +15" AFF. WITH 3/4"C. AND PULLCORD UP TO ABOVE ACCESSIBLE CEILING SPACE OR WALL SPACE.
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH WITH DUAL ELEMENT FUSED (UON)
	HORN & STROBE
	HARD WIRED SMOKE DETECTOR FOR DWELLING UNITS
	HARD WIRED COMBINATION SMOKE AND CARBON MONOXIDE DETECTOR FOR DWELLING UNITS
	FIRE ALARM CONTROL PANEL
	FA WALL MOUNTED STROBE
	FA MANUAL PULL STATION

SCOPE OF WORK MATRIX

1. CONNECT TO EXISTING CIRCUIT AND FURNISH AND INSTALL NEW LOCAL DISCONNECTS FOR MECHANICAL EQUIPMENT REPLACED IN SAME LOCATION.
2. FURNISH AND INSTALL POWER AND LOCAL DISCONNECT FOR NEW MECHANICAL EQUIPMENT IN NEW LOCATION.
3. FURNISH AND INSTALL NEW BREAKERS TO FEED NEW MECHANICAL EQUIPMENT IN NEW LOCATIONS.
4. ENSURE INTERCONNECTION OF, EXISTING AND NEW, FIRE SMOKE DAMPERS AND MONITORING OF DUCT DETECTORS FOR AUTOMATIC SHUTDOWN AT RTU-10, RTU-11, RTU-12, AND RTU-14

APPLICABLE CODES

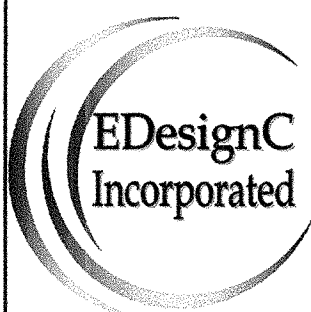
1. 2013 BUILDING STANDARD ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
2. 2013 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.;
(2014 EMERGENCY SUPPLEMENT)
3. 2013 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.;
(2011 NATIONAL ELECTRICAL CODE & 2013 CALIFORNIA AMENDMENT)
4. 2013 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.;
(2012 UNIFORM MECHANICAL CODE & 2013 CALIFORNIA AMENDMENT)
5. 2013 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.;
(2012 UNIFORM PLUMBING CODE & 2013 CALIFORNIA AMENDMENT)
6. 2013 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.;
7. 2013 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.;
(2014 CALIFORNIA AMENDMENT)
9. 2013 CALIFORNIA EXISTING BUILDING CODE, PART 10, TITLE 24 C.C.R
(2014 CALIFORNIA SUPPLEMENTS)
10. 2013 CALIFORNIA "GREEN" BUILDING REQUIREMENTS, PART 11, TITLE 24 C.C.R.
(PENDING ADOPTION)
11. 2013 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R.
12. TITLE 19, COR. PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

AISC 360-05 SPECIFICATION FOR STRUCTURAL BUILDINGS
 AISC 308-05 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION WITH 2005
 SUPPLEMENT
 ACI-318-05 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 ASME 17.1 ELEVATOR STANDARD, 2007 EDITION
 NFPA 13, AUTOMATIC SPRINKLER SYSTEM, 2013 EDITION
 NFPA 14, STANDPIPE AND HOSE SYSTEMS, 2013 EDITION
 NFPA 17-A, WET CHEMICAL EXTINGUISHING SYSTEMS, 2009 EDITION
 NFPA 20, STATIONARY PUMPS, 2013 EDITION
 NFPA 24, PRIVATE FIRE SERVICE MAINS, 2013 EDITION
 NFPA 72, NATIONAL FIRE ALARM CODE, 2013 EDITION
 (AS AMENDED BY SFM. NOTE SEE UL STANDARD 1971 FOR "VISUAL DEVICES")
 NFPA 253, CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS, 2006 EDITION
 NFPA 2001, CLEAN AGENT FIRE EXTINGUISHING SYSTEMS, 2011 EDITION
 REFERENCE CODE SECTION FOR NFPA STANDARDS - CBC(SFM) 3504.1
 TITLE 24 C.C.R. ACCESSIBILITY STANDARDS
 AMERICAN WITH DISABILITIES ACT - 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

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E2.15	ELECTRICAL ROOF PLAN - SOUTH
E10.01	PANEL SCHEDULE
E10.02	PANEL SCHEDULE

	ISSUES



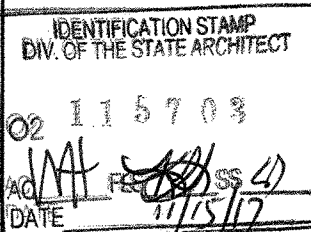
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MECHANICAL EQUIPMENT REPLACEMENT

ELECTRICAL
TITLE SHEET

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Job: 16SCC01

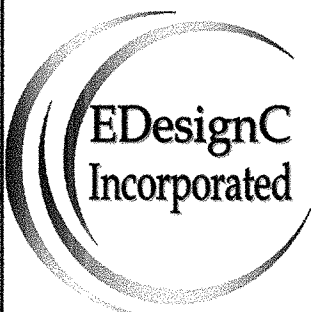
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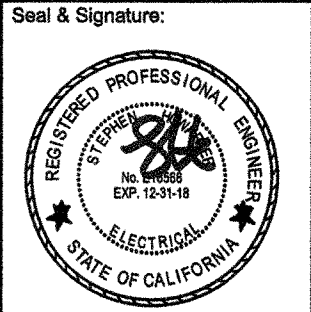
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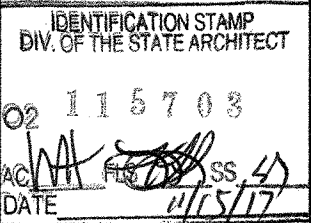


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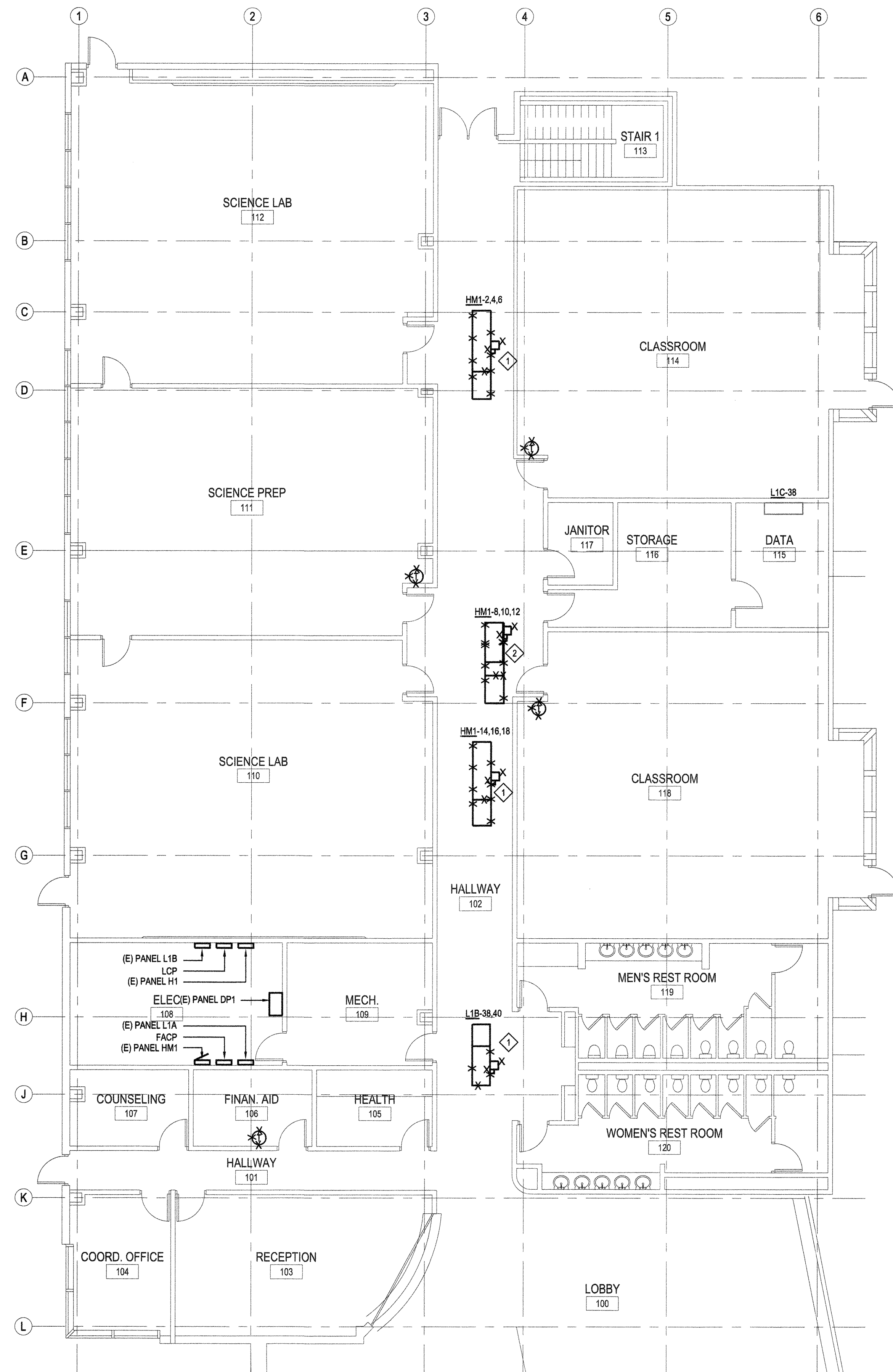
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MECHANICAL EQUIPMENT REPLACEMENT



EQUIPMENT
CONNECTION
SCHEDULE

Date: 9/30/2016
Scale: 1/8"=1'-0"
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Job: 16SCC01
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Of Sheets

	ELECTRIC						DISCONNECT
	VOLTS	PHASE	MCA	MOCp	CONDUIT	CONDUCTORS	
RTU-1	460	3	11	15	3/4"	#12	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-2	460	3	12.8	15	3/4"	#12	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-3	460	3	11	15	3/4"	#12	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-4	460	3	11	15	3/4"	#12	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-5	460	3	12.8	15	3/4"	#12	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-6	460	3	11	15	3/4"	#12	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-7	460	3	12.8	15	3/4"	#12	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-8	460	3	11	15	3/4"	#12	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-9	460	3	11	15	3/4"	#12	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-10	460	3	19.9	25	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-11	460	3	21.6	25	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-12	460	3	19.9	25	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-13	460	3	13.8	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-14	460	3	43	60	1-1/2"	#4	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-15	460	3	13.8	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-16	460	3	18.7	25	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
RTU-17	460	3	13.8	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
FCU-1	208	1	8	15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
FCU-2	208	1	8	15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
FCU-3	208	1	4	15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
FCU-4	208	1	4	15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
FCU-5	208	1	4	15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
FCU-6	208	1	4	15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
FCU-7	208	1	4	15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
FCU-8	208	1	4	15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
FCU-9	208	1	4	15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
FCU-10	208	1	4	15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
CU-1	208	1	24	40	1"	#6	HEAVY DUTY, NON-FUSED, NEMA 3R
CU-2	208	1	24	40	1"	#6	HEAVY DUTY, NON-FUSED, NEMA 3R
CU-3	208	1	12	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
CU-4	208	1	12	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
CU-5	208	1	12	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
CU-6	208	1	12	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
CU-7	208	1	12	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
CU-8	208	1	12	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
CU-9	208	1	12	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
CU-10	208	1	12	20	3/4"	#10	HEAVY DUTY, NON-FUSED, NEMA 3R
EF-1	120	1		15	3/4"	#12	HORSE POWER RATED TOGGLE SWITCH
B-1	120	1			3/4"	#12	HORSE POWER RATED TOGGLE SWITCH, NEMA 3R
B-2	120	1			3/4"	#12	HORSE POWER RATED TOGGLE SWITCH, NEMA 3R
HHWP-1	460	3			3/4"	#12	HORSE POWER RATED TOGGLE SWITCH, NEMA 3R
HHWP-2	460	3			3/4"	#12	HORSE POWER RATED TOGGLE SWITCH, NEMA 3R



1 ELECTRICAL FIRST FLOOR DEMO PLAN - NORTH
SCALE: 1/8" = 1'

GENERAL NOTE

1. EXISTING MECHANICAL EQUIPMENT TO BE REMOVED AND REPLACED. DISCONNECT EXISTING EQUIPMENT AND REMOVE LOCAL DISCONNECT MAINTAIN CIRCUIT FOR NEW EQUIPMENT INSTALLATION.

SHEET NOTE

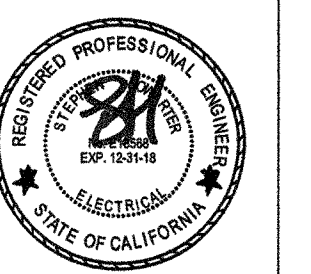
1. MAINTAIN CIRCUIT FOR NEW EQUIPMENT. MAKE MODIFICATIONS TO EXTEND CIRCUIT TO NEW EQUIPMENT. REMOVE ONE HOT CONDUCTOR FROM CIRCUIT. NEW EQUIPMENT IS 2-POLE.
2. REMOVE CONDUCTORS BACK TO PANEL. MARK BOXES AND CONDUIT AS "SPARE".



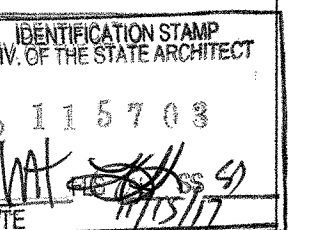
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MECHANICAL EQUIPMENT REPLACEMENT



ELECTRICAL
FIRST FLOOR
DEMO PLAN - NORTH

Date: 9/30/2016

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

Drawn: -

Job: 16SCC01

Sheet

E1.10

Of Sheets



GENERAL NOTE

1. EXISTING MECHANICAL EQUIPMENT TO BE REMOVED AND REPLACED. DISCONNECT EXISTING EQUIPMENT AND REMOVE LOCAL DISCONNECT MAINTAIN CIRCUIT FOR NEW EQUIPMENT INSTALLATION.

SHEET NOTE

- 1 MAINTAIN CIRCUIT FOR NEW EQUIPMENT. MAKE MODIFICATIONS TO EXTEND CIRCUIT TO NEW EQUIPMENT. REMOVE ONE HOT CONDUCTOR FROM CIRCUIT. NEW EQUIPMENT IS 2-POLE.
- 2 REMOVE CONDUCTORS BACK TO PANEL. MARK BOXES AND CONDUIT AS "SPARE".



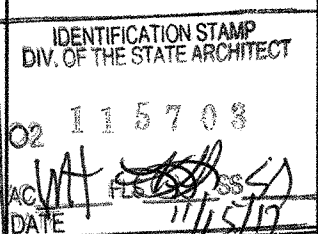
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ELECTRICAL
FIRST FLOOR
DEMO PLAN - SOUTH

Date: 9/30/2016

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

Drawn: -

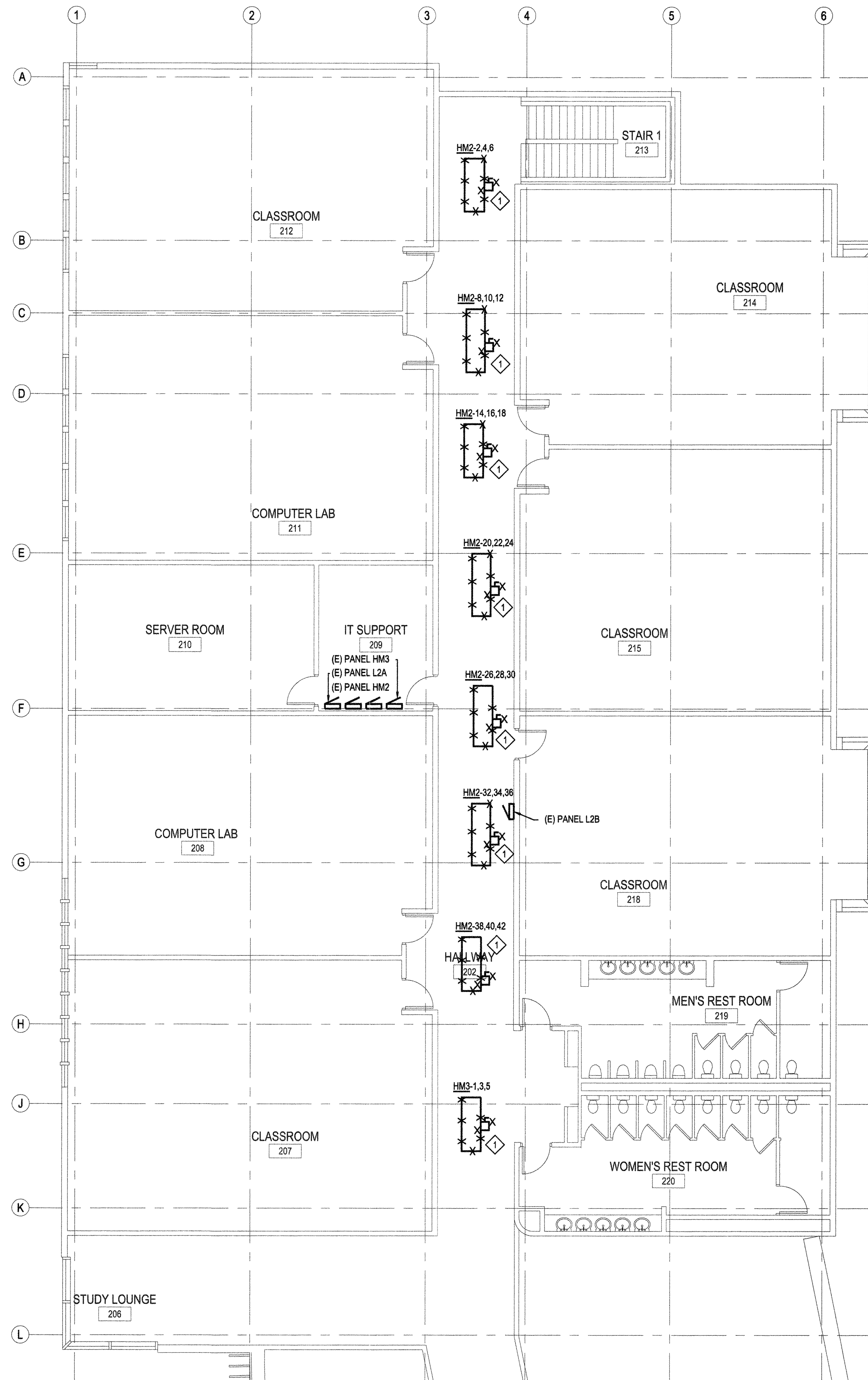
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Of Sheets

1 ELECTRICAL FIRST FLOOR DEMO PLAN - SOUTH
SCALE: 1/8" = 1'



1 ELECTRICAL SECOND FLOOR DEMO PLAN - NORTH
SCALE: 1/8" = 1'

GENERAL NOTE

1. EXISTING MECHANICAL EQUIPMENT TO BE REMOVED AND REPLACED. DISCONNECT EXISTING EQUIPMENT AND REMOVE LOCAL DISCONNECT MAINTAIN CIRCUIT FOR NEW EQUIPMENT INSTALLATION.

SHEET NOTE

- ◇ REMOVE CONDUCTORS BACK TO PANEL. MARK BOXES AND CONDUIT AS "SPARE".

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MECHANICAL EQUIPMENT REPLACEMENT

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
02 115703
DATE 11/15/17

ELECTRICAL
SECOND FLOOR
DEMO PLAN - NORTH

Date: 9/30/2016

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

Drawn: -

Job: 16SCC01

Sheet

E1.12

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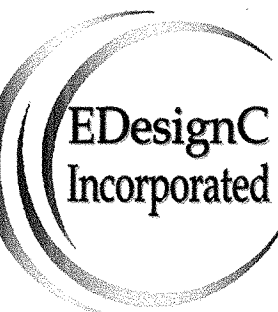
1 ELECTRICAL SECOND FLOOR DEMO PLAN - SOUTH
SCALE: 1/8" = 1'

GENERAL NOTE

1. EXISTING MECHANICAL EQUIPMENT TO BE REMOVED AND REPLACED. DISCONNECT EXISTING EQUIPMENT AND REMOVE LOCAL DISCONNECT MAINTAIN CIRCUIT FOR NEW EQUIPMENT INSTALLATION.

SHEET NOTE

1. MAINTAIN CIRCUIT FOR NEW EQUIPMENT. MAKE MODIFICATIONS TO EXTEND CIRCUIT TO NEW EQUIPMENT. REMOVE ONE HOT CONDUCTOR FROM CIRCUIT. NEW EQUIPMENT IS 2-POLE.
2. REMOVE CONDUCTORS BACK TO PANEL. MARK BOXES AND CONDUIT AS "SPARE".
3. MAINTAIN CIRCUIT FOR NEW EQUIPMENT. MAKE MODIFICATIONS TO EXTEND CIRCUIT TO NEW EQUIPMENT.



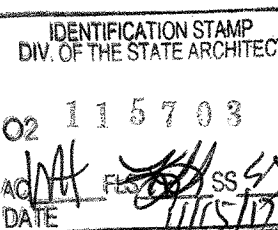
582 MARKET STREET,
SUITE 400
SAN FRANCISCO, CA
94104
(415) 963-4303

212 9TH STREET,
SUITE 203
OAKLAND, CA 94612

Seal & Signature:



SOLANO COMMUNITY COLLEGE DISTRICT
VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT



ELECTRICAL
SECOND FLOOR
DEMO PLAN - SOUTH

Date: 9/30/2016

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

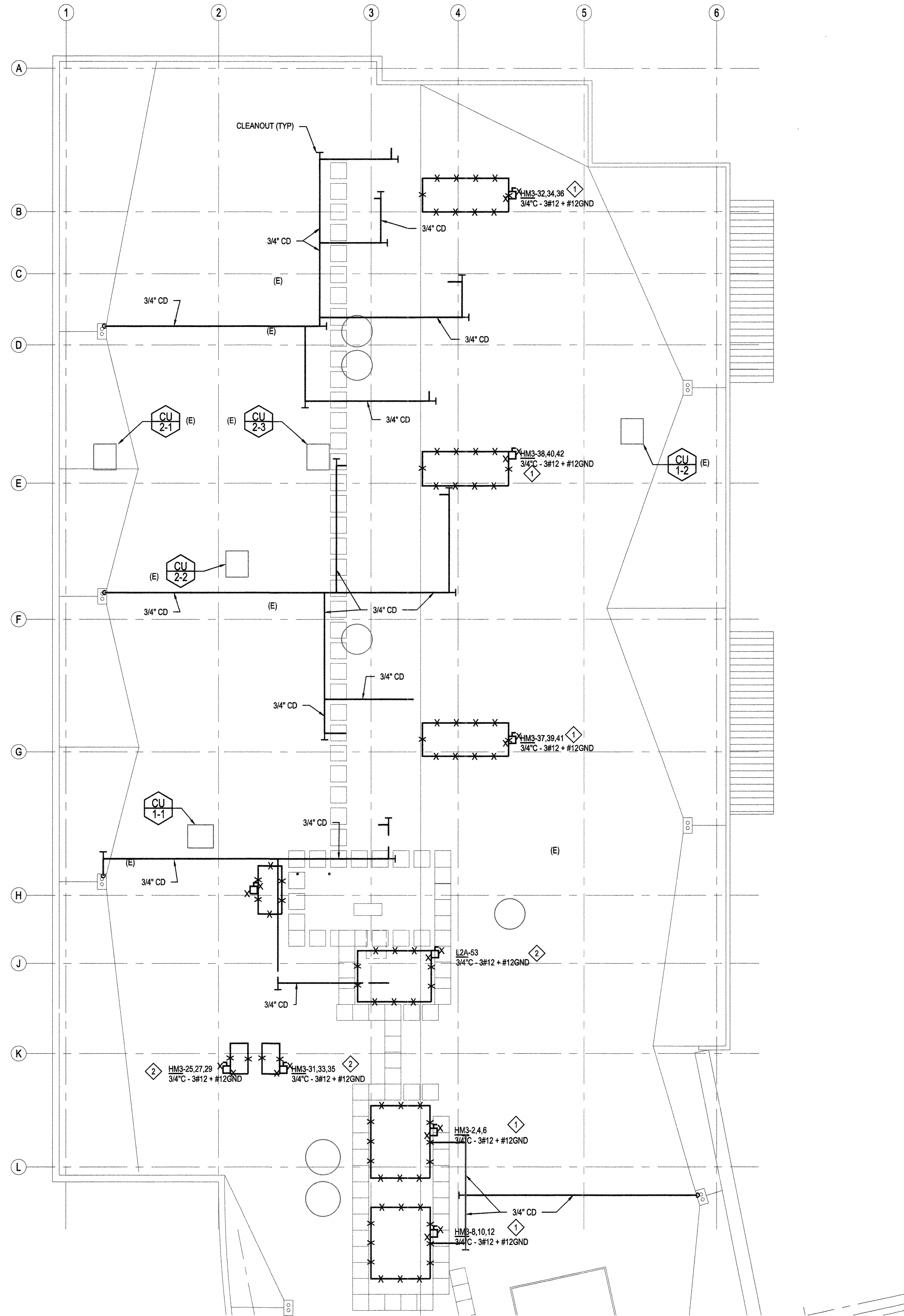
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Job: 16SCC01

Sheet

E1.13

Of Sheets



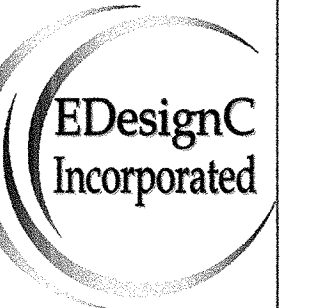
1 ELECTRICAL ROOF DEMO PLAN - NORTH
SCALE: 1/8" = 1'

GENERAL NOTE

1. EXISTING MECHANICAL EQUIPMENT TO BE REMOVED AND REPLACED. DISCONNECT EXISTING EQUIPMENT AND REMOVE LOCAL DISCONNECT MAINTAIN CIRCUIT FOR NEW EQUIPMENT INSTALLATION.

SHEET NOTE

1. MAINTAIN CIRCUIT FOR NEW EQUIPMENT. MAKE MODIFICATIONS TO EXTEND CIRCUIT TO NEW EQUIPMENT. REMOVE ONE HOT CONDUCTOR FROM CIRCUIT. NEW EQUIPMENT IS 2-POLE.
2. REMOVE CONDUCTORS BACK TO PANEL. MARK BOXES AND CONDUIT AS "SPARE".



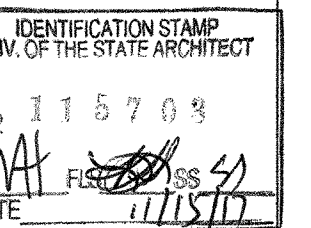
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VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT



ELECTRICAL ROOF
DEMO PLAN - NORTH

Date: 9/30/2016

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

Drawn: -

Job: 16SCC01

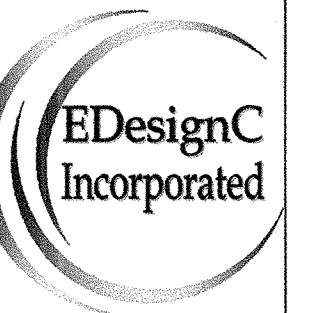
Sheet
Of
E1.14
Sheets

GENERAL NOTE

1. EXISTING MECHANICAL EQUIPMENT TO BE REMOVED AND REPLACED. DISCONNECT EXISTING EQUIPMENT AND REMOVE LOCAL DISCONNECT MAINTAIN CIRCUIT FOR NEW EQUIPMENT INSTALLATION.

SHEET NOTE

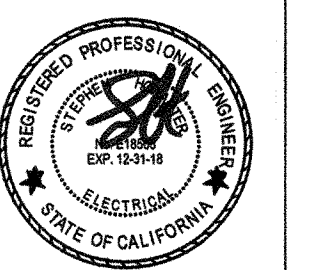
1. MAINTAIN CIRCUIT FOR NEW EQUIPMENT. MAKE MODIFICATIONS TO EXTEND CIRCUIT TO NEW EQUIPMENT. REMOVE ONE HOT CONDUCTOR FROM CIRCUIT. NEW EQUIPMENT IS 2-POLE.
2. REMOVE CONDUCTORS BACK TO PANEL. MARK BOXES AND CONDUIT AS "SPARE".



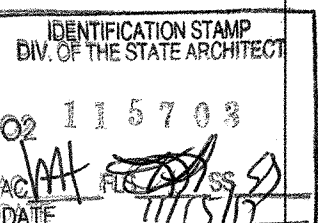
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SOLANO COMMUNITY COLLEGE DISTRICT
VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT



ELECTRICAL ROOF
DEMO PLAN - SOUTH

Date: 9/30/2016

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

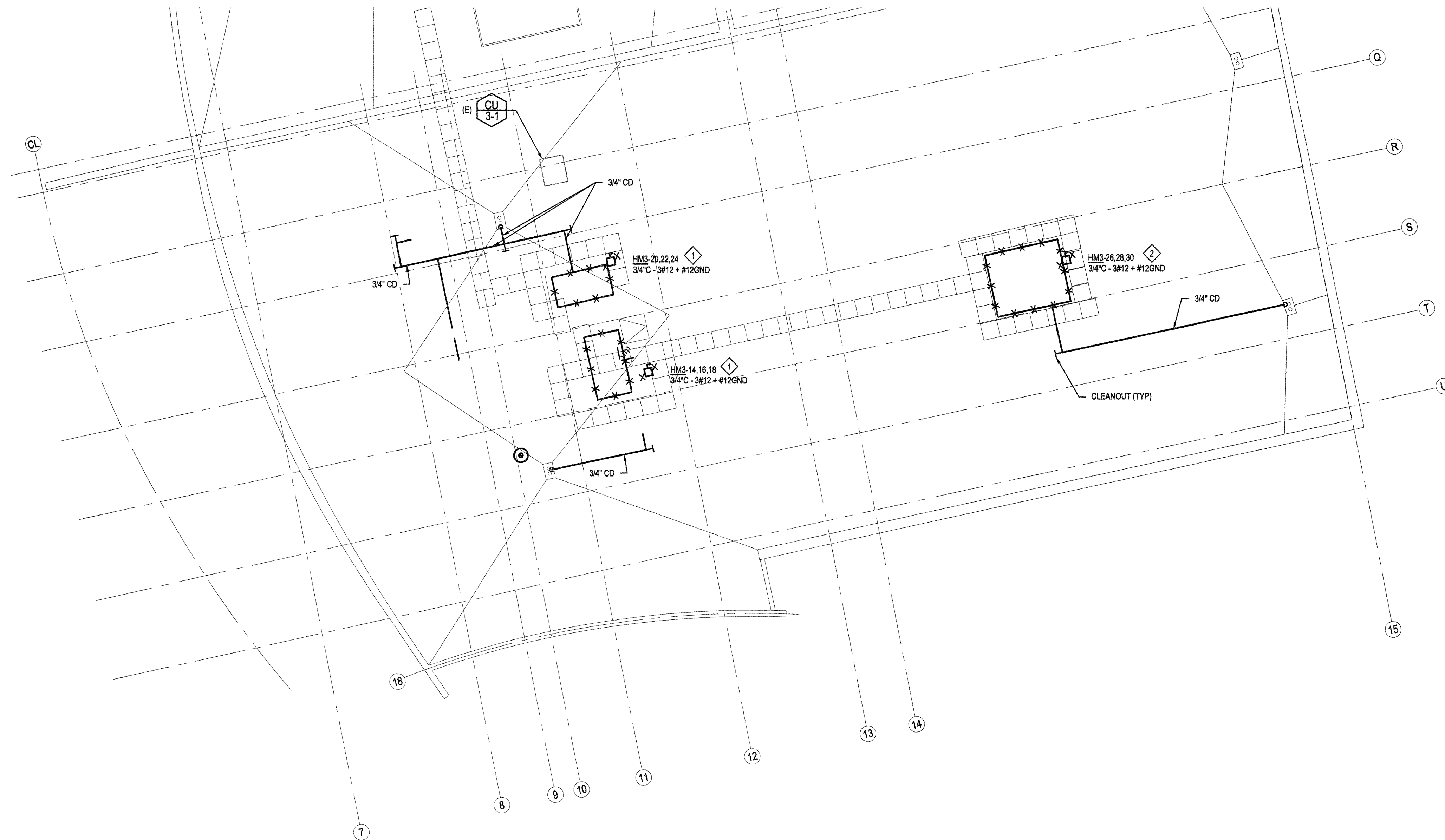
Drawn: -

Job: 16SCC01

Sheet

E1.15

Of Sheets



1

ELECTRICAL ROOF DEMO PLAN - SOUTH

SCALE: 1/8" = 1'

GENERAL NOTES

1.

NEW MECHANICAL EQUIPMENT IN EXISTING LOCATION. CONNECT TO EXISTING CIRCUIT. FURNISH AND INSTALL NEW DISCONNECT.

2.

EXISTING WALLS ARE NOT FIRE RATED. ONLY THE FIRST FLOOR CEILING/SECOND FLOOR IS RATED. PENETRATIONS THROUGH THE FLOOR SHALL BE FIRE STOPPED.

SHEET NOTE

1

CONNECT TO MODIFIED CIRCUIT.

2

FURNISH AND INSTALL NEW FEEDER TO PNL IDENTIFIED. SEE E0.02 FOR CONNECTION REQUIREMENTS.

ISSUES

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REGISTERED PROFESSIONAL ELECTRICIAN
STATE OF CALIFORNIA
EXP. 12-31-16
ELECTRICIAN
115703

SOLANO COMMUNITY COLLEGE DISTRICT
VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
02 115703
AC *[Signature]* 9/30/16
DATE 9/30/16

ELECTRICAL
FIRST FLOOR
PLAN - NORTH

Date: 9/30/2016
Scale: 1/8"=1'-0"
Drawn: -
Job: 16SCC01
Sheet
E2.10
Of Sheets

2

ENLARGE FIRST FLOOR ELECTRICAL ROOM

SCALE: 1/4" = 1'

1

ELECTRICAL FIRST FLOOR PLAN - NORTH

SCALE: 1/8" = 1'



1 ELECTRICAL FIRST FLOOR PLAN - SOUTH
SCALE: 1/8" = 1'

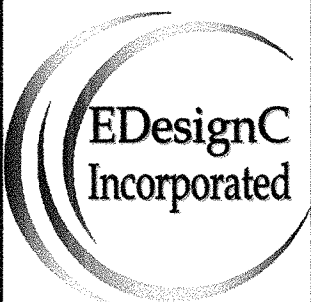
SHEET NOTES

- 1. NEW MECHANICAL EQUIPMENT IN EXISTING LOCATION. CONNECT TO EXISTING CIRCUIT. FURNISH AND INSTALL NEW DISCONNECT.

GENERAL NOTES

- 1. EXISTING WALLS ARE NOT FIRE RATED. ONLE THE FIRST FLOOR CEILING/SECOND FLOOR IS RATED. PENETRATIONS THROUGH THE FLOOR SHALL BE FIRE STOPPED.

ISSUES

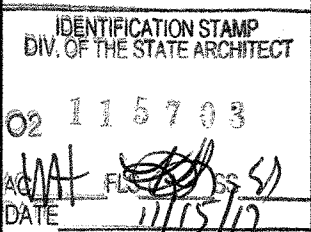


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VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT



ELECTRICAL
FIRST FLOOR
PLAN - SOUTH

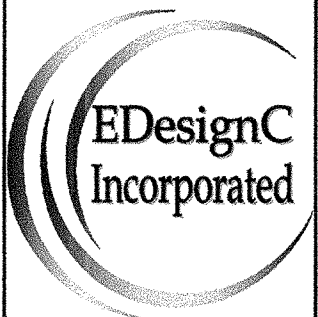
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Drawn:	-
Job:	16SCC01
Sheet	E2.11
Of	Sheets

GENERAL NOTES

1. NEW MECHANICAL EQUIPMENT IN EXISTING LOCATION. CONNECT TO EXISTING CIRCUIT. FURNISH AND INSTALL NEW DISCONNECT.
2. EXISTING WALLS ARE NOT FIRE RATED. ONLE THE FIRST FLOOR CEILING/SECOND FLOOR IS RATED. PENETRATIONS THROUGH THE FLOOR SHALL BE FIRE STOPPED.

SHEET NOTE

- 1 MAINTAIN CIRCUIT FOR NEW EQUIPMENT. MAKE MODIFICATIONS TO EXTEND CIRCUIT TO NEW EQUIPMENT. REMOVE ONE HOT CONDUCTOR FROM CIRCUIT. NEW EQUIPMENT IS 2-POLE.



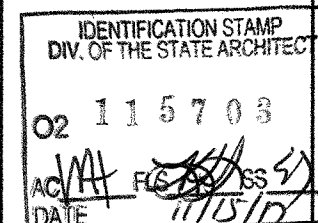
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VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT



**ELECTRICAL
SECOND FLOOR
PLAN - SOUTH**

Date: 9/30/2016

Scale: $1/8"=1'-0"$

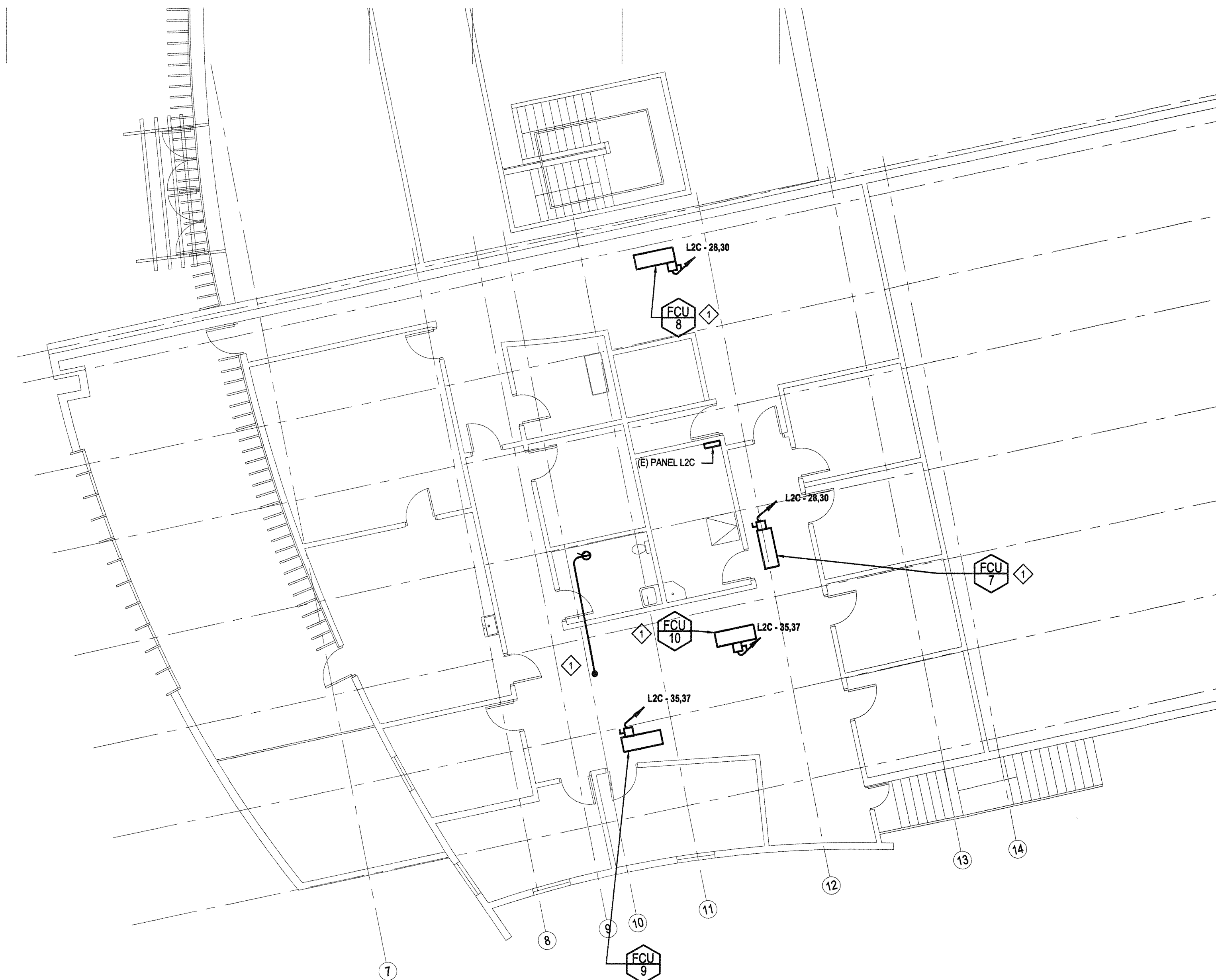
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Job: 16SCC01

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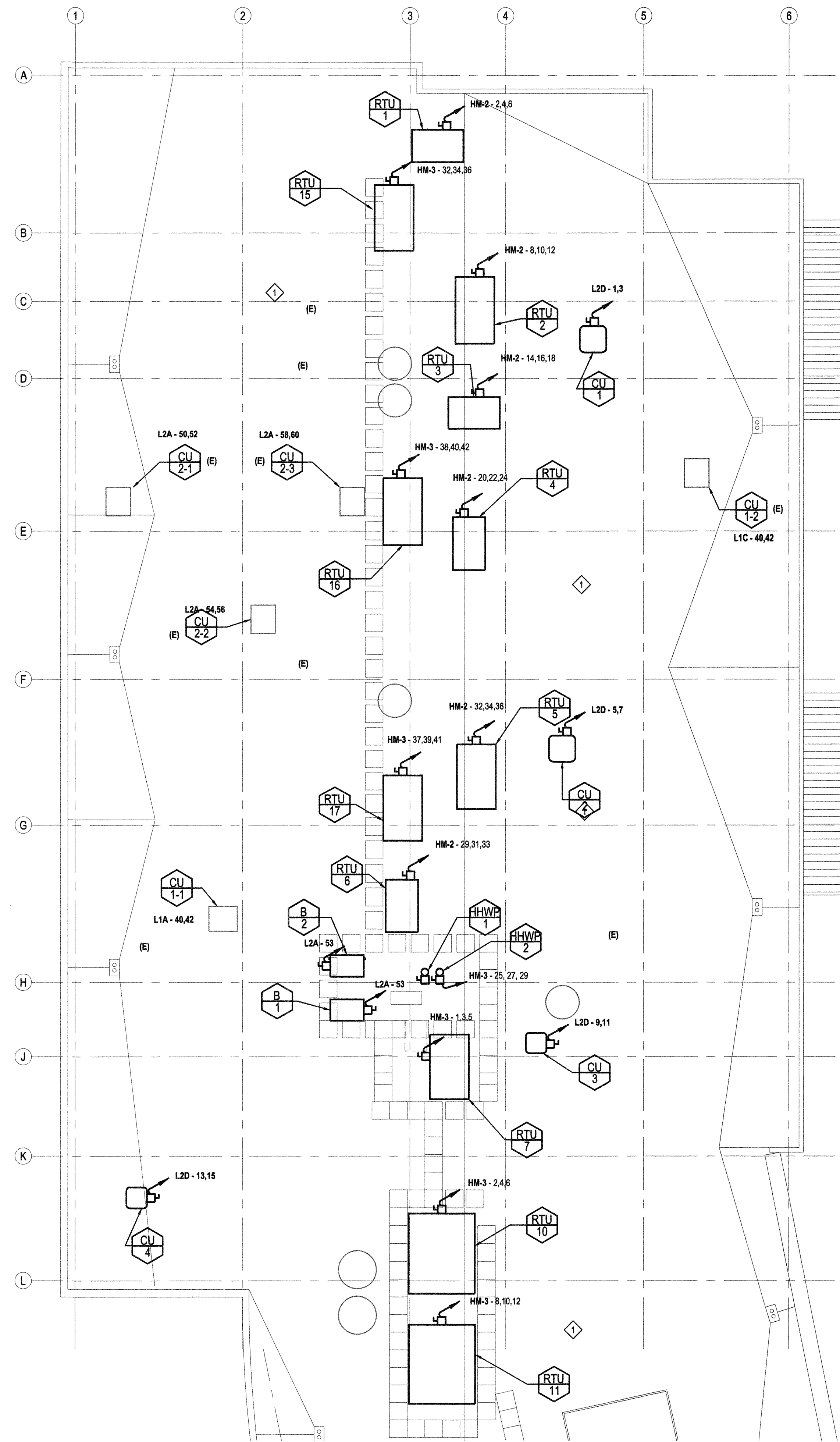
E2.13

Of . Sheets



1 ELECTRICAL SECOND FLOOR PLAN - SOUTH
SCALE: 1/8" = 1'

1 SCALE: 1/8" = 1'



1 ELECTRICAL ROOF PLAN - NORTH
SCALE: 1/8" = 1'

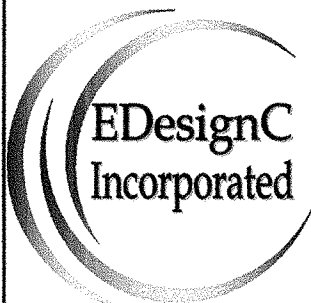
GENERAL NOTES

- 1. EXISTING WALLS ARE NOT FIRE RATED. ONLY THE FIRST FLOOR CEILING/SECOND FLOOR IS RATED. PENETRATIONS THROUGH THE FLOOR SHALL BE FIRE STOPPED.
- 2. RTU-1 THROUGH RTU-17 HAVE ARE PROVIDED WITH CONVENIENCE RECEPTACLES PER M0.01 SCHEDULES FOR ROOFTOP UNITS. THIS IS WITHIN 25' PER CEC 210.63

SHEET NOTE

1 MAINTAIN CIRCUIT FOR NEW EQUIPMENT. MAKE MODIFICATIONS TO EXTEND CIRCUIT TO NEW EQUIPMENT. REMOVE ONE HOT CONDUCTOR FROM CIRCUIT. NEW EQUIPMENT IS 2-POLE.

ISSUES

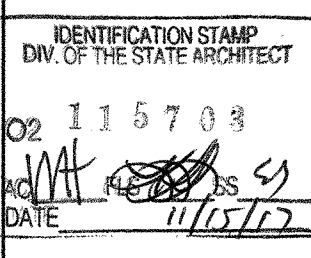


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ELECTRICAL ROOF
PLAN - NORTH

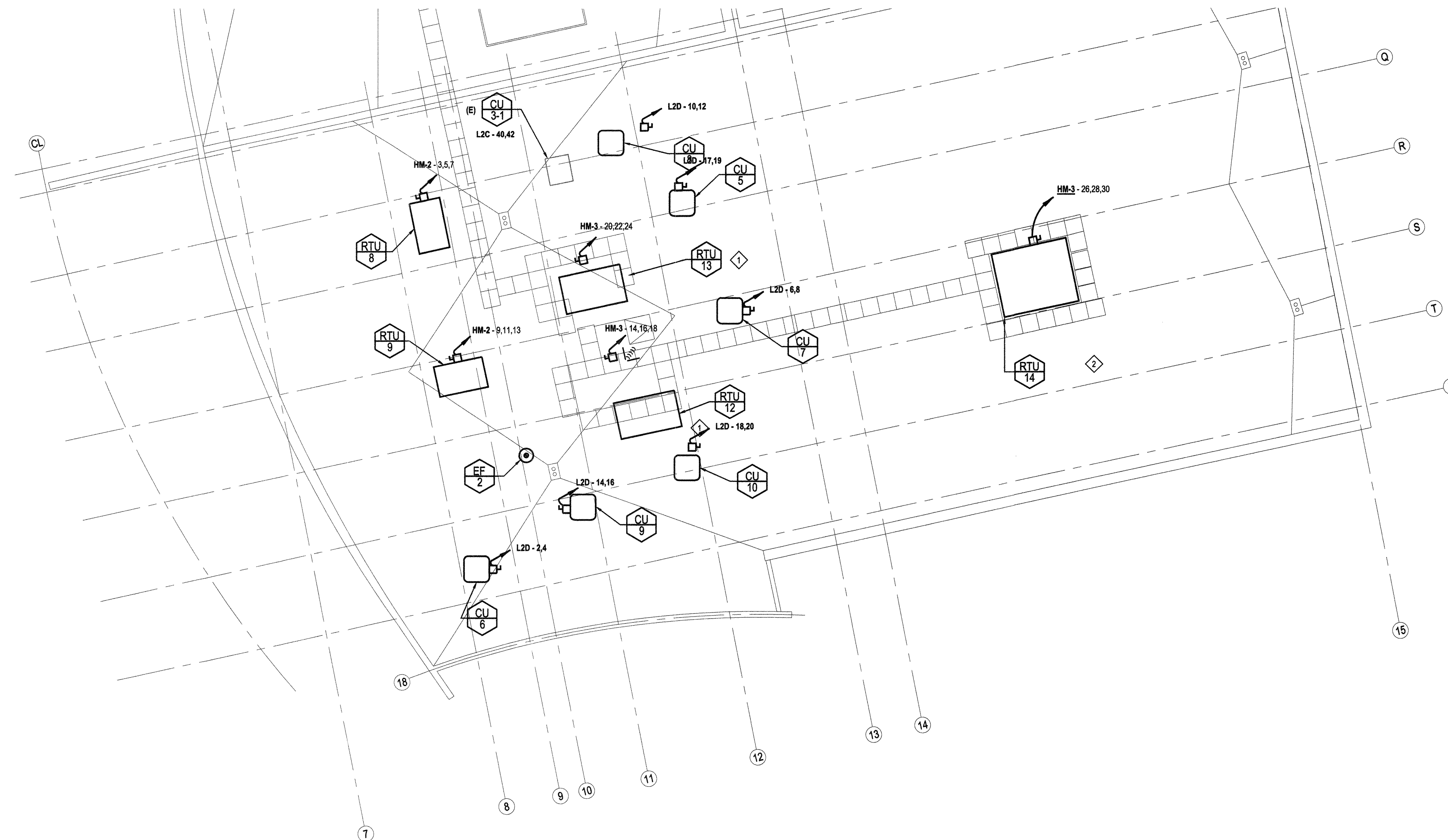
Date:	9/30/2016
Scale:	1/8"=1'-0"
Drawn:	-
Job:	16SCC01
Sheet:	E2.14
Of	Sheets

GENERAL NOTES

1. EXISTING WALLS ARE NOT FIRE RATED. ONLY THE FIRST FLOOR CEILING/SECOND FLOOR IS RATED. PENETRATIONS THROUGH THE FLOOR SHALL BE FIRE STOPPED.
2. RTU-1 THROUGH RTU-17 HAVE ARE PROVIDED WITH CONVENIENCE RECEPTACLES PER M0.01 SCHEDULES FOR ROOFTOP UNITS. THIS IS WITHIN 25' PER CEC 210.63

SHEET NOTE

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2. REMOVE CONDUCTORS BACK TO PANEL. MARK BOXES AND CONDUIT AS "SPARE".



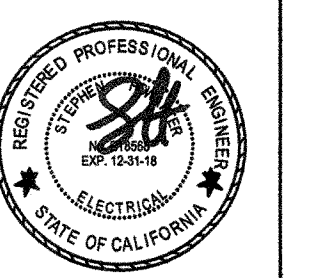
1 ELECTRICAL ROOF PLAN - SOUTH
SCALE: 1/8" = 1'

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MECHANICAL EQUIPMENT REPLACEMENT

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02 115703
DATE 11/15/17

ELECTRICAL ROOF
PLAN - SOUTH

Date: 9/30/2016
Scale: 1/8"=1'-0"
Drawn: -
Job: 16SCC01
Sheet:
E2.15
Of Sheets

PANEL L1'D					PHASE					3 VOLTAGE 120/208					MCB					
LOCATION: CORRIDOR					WIRE					4 AIC					MLO 100A					
FED FROM:																				
CKT	NOTES	TYPE	T	P	DESCRIPTION	LOAD		LOAD	DESCRIPTION		T	P	TYPE	NOTES	CKT					
1	EXIST	G	20	1	LECTURE HALL 133	360	A	720	M. S RM 140	20	20	1	G	EXIST	2					
3	EXIST	G	20	1	LECTURE HALL 133	540	B	720	M. S RM 140	20	20	1	G	EXIST	4					
5	EXIST	G	20	1	LECTURE HALL 133	180	C	720	M. S RM 140	20	20	1	G	EXIST	6					
7	EXIST	G	20	1	LEARN LAB 138, 139	720	A	360	RM 140 FLR MONUMENTS	20	20	1	G	EXIST	8					
9	EXIST	G	20	1	LEARN LAB 138, 139	540	B	360	RM 140 FLR MONUMENTS	20	20	1	G	EXIST	10					
11	EXIST	G	20	1	RM 136, 137, 138, 139	720	C	360	RM 130 ASS. HEARING	20	20	1	G	EXIST	12					
13	EXIST	G	20	1	RM 133 PROJECTOR SCREEN	600	A	500	R 140 SMART PANEL	20	20	1	G	EXIST	14					
15	EXIST	G	20	1	RM 130 SMART PANEL	720	B	600	R 140 PROJECTOR SCREEN	20	20	1	G	EXIST	16					
17	EXIST	G	20	1	RM	720	C	250	RM 140 ASSIST. HEARING	20	20	1	M	EXIST	18					
19	EXIST	G	20	1	RM 130 ASS. HEARING	360	A	600	MOTORIZED DOOR	20	20	1	G	EXIST	20					
21	EXIST	G	20	1	RM 130, 131	540	B	1200	RM 133 FLRN CONNECT	20	20	1	G	EXIST	22					
23	EXIST	G	20	1	RM 134 MAINT/DESC.	540	C	1200	RM 133 FLRN CONNECT	20	20	1	G	EXIST	24					
25	EXIST	G	20	1	ELEC CAB AUX PWR	540	A	1200	RM 133 FLRN CONNECT	20	20	1	G	EXIST	26					
27	EXIST	G	20	1	RM 130 VENDING MACHINE	1000	B	1200	RM 133 FLRN CONNECT	20	20	1	G	EXIST	28					
29	EXIST	G	20	1	RM 130 VENDING MACHINE	1000	C	1200	RM 133 FLRN CONNECT	20	20	1	G	EXIST	30					
31	EXIST	G	20	1	RM 130 VENDING MACHINE	1000	A	1200	RM 133 FLRN CONNECT	20	20	1	G	EXIST	32					
33	EXIST	G	20	1	RM 139 SMART PANEL	720	B	1200	RM 133 FLRN CONNECT	20	20	1	G	EXIST	34					
35	EXIST	G	20	1	RM 139 SMART PANEL	720	C	1200	RM 133 FLRN CONNECT	20	20	1	G	EXIST	36					
37	EXIST	G	20	1	ROOM 139 PROJECTOR	500	A		SPACE						38					
39							B								40					
41							C								42					
PHASE A					8660	SUBTOTAL					DEMAND CALCULATION									
PHASE B					9340	0					CONTINUOUS LOAD (C) 125%					0				
PHASE C					8810	0					DEDICATED LOAD (D) 100%					0				
						26560					GENERAL LOAD (G) 100 1ST 10KVA, 50% REST					33200				
NOTES:						0					LARGEST MOTOR 25%					0				
* AMPS ADDED FROM PANEL L1'D CONT. SHEET						250					MOTOR LOAD (M) 100%					312.5				
											TOTAL DEMAND					33513				
											AMPS @ 120/208					113				

PANEL 'L1'D CONT.					PHASE 3 VOLTAGE 120/208					MCB				
LOCATION: CORRIDOR					WIRE 4 AIC					MLO 100A				
FED FROM:														
CKT	NOTES	TYPE	T	P	DESCRIPTION	LOAD	LOAD	DESCRIPTION	T	P	TYPE	NOTES	CKT	
43							A						44	
45							B						46	
47							C						48	
49							A	500 DOOR OPERATOR LOBBY	20	1	M	EXIST	50	
51							B	500 DOOR OPERATOR LOBBY	20	1	M	EXIST	52	
53	M	15	2		FOU-5	789.5	C	500 DOOR OPERATOR LOBBY	20	1	M	EXIST	54	
55	M				----	789.5	A	500 DOOR OPERATOR LOBBY	20	1	M	EXIST	56	
57	M	15	2		FOU-6	593	B	400 COND PUMP HPI-5,6,7	20	1	M	EXIST	58	
59	M				----	593	C	500 IRRIGATION CONTROL	20	1	G	EXIST	60	
61							A						62	
63							B						64	
65							C						66	
67							A						68	
69							B						70	
71							C						72	
73							A						74	
75							B						76	
77							C						78	
79							A						80	
81							B						82	
83	D						C						84	
PHASE A 1770						SUBTOTAL		DEMAND CALCULATION						
PHASE B 1493						0		CONTINUOUS LOAD (C) 125%						
PHASE C 2363						0		DEDICATED LOAD (D) 100%						
						500		GENERAL LOAD (G) 100 1ST 10KVA, 50% REST						
NOTES:								LARGEST MOTOR 25%						
* TOTAL AMPS ADDED TO PANEL 'L1'D'						5125		MOTOR LOAD (M) 100%						
								TOTAL DEMAND						
								AMPS @ 120/208						
								9406.25						
								7031						
								20						

PANEL 'L2C'					PHASE		3 VOLTAGE 120/208		MCB					
LOCATION:					WIRE		4 AIC		MLO 225A					
FED FROM:														
CKT	NOTES	TYPE	T	P	DESCRIPTION	LOAD	LOAD	DESCRIPTION	T	P	TYPE	NOTES	CKT	
1	EXIST	G	20	1	RM 232, 233, 241	900	A	1080 RM 237, 238	20	1	G	EXIST	2	
3	EXIST	G	20	1	RM 232, 233, 241	900	B	1080 RM 237, 238	20	1	G	EXIST	4	
5	EXIST	G	20	1	RM 232, 233, 241	900	C	1080 RM 239, 240	20	1	G	EXIST	6	
7	EXIST	G	20	1	RM 233, COFFEE	1200	A	720 RM 239, 240	20	1	G	EXIST	8	
9	EXIST	G	20	1	RM 233, MICROWAVE	1200	B	720 RM 240	20	1	G	EXIST	10	
11	EXIST	G	20	1	RM 233, CONVEN.	180	C	900 RM 230,31,43,44,45	20	1	G	EXIST	12	
13	EXIST	G	20	1	RM 233, REFRIGERATOR	1000	A	900 RM 244, FAX, PRINTER	20	1	G	EXIST	14	
15	EXIST	G	20	1	RM 233	360	B	900 RM 244, FAX, PRINTER	20	1	G	EXIST	16	
17	EXIST	G	20	1	RM 234, 235, 236	1080	C	900 RM 244, FAX, PRINTER	20	1	G	EXIST	18	
19	EXIST	G	20	1	RM 234, 235, 236	1080	A	1500 RM 244, PHOTOCOPIER	20	1	G	EXIST	20	
21	EXIST	G	20	1	RM 234, 235, 236	1080	B	500 MOTORIZED SHADES	20	1	G	EXIST	22	
23	EXIST	G	20	1	RM 242	2400	C	500 MOTORIZED SHADES	20	1	G	EXIST	24	
25	EXIST	G	20	1	RM 242	2400	A	180 ROOF	20	1	G	EXIST	26	
27	EXIST	G	20	1	RM 242	180	B	769.5 FCU - 7, FCU - 8	15	2	M	EXIST	28	
29	EXIST	M	20	1	OR PUMP HP-12,13,14	400	C	769.5 ----			M	EXIST	30	
31	EXIST	M	15	2	HP-A-2-14	405.5	A	405.5 HP-A-2-16	15	2	M	EXIST	32	
33	EXIST	M				405.5	B	405.5			M	EXIST	34	
35	EXIST	M	15	2	FCU - 9, FCU - 10	769.5	C	240 EF-5 RESTROOM 243	20	1	M	EXIST	36	
37	EXIST	M			----	769.5	A	135 ACU-2-1 INDOORS	20	1	M	EXIST	38	
39	EXIST	M	15	2	HP-B-2-12	593	B	1300 CLU-1 IT RM ROOF	25	2	M	EXIST	40	
41	EXIST	M				593	C	1300			M	EXIST	42	
PHASE A						12676	SUBTOTAL		DEMAND CALCULATION					
PHASE B						10394	0		CONTINUOUS LOAD (C) 125%					0
PHASE C						12012	0		DEDICATED LOAD (D) 100%					0
							25820		GENERAL LOAD (G) 100 1ST 10KVA, 50% REST					32275
NOTES:									LARGEST MOTOR 25%					0
* AMPS ADDED FROM PANEL 'L2C' CONT. SHEET							9261		MOTOR LOAD (M) 100%					11576.25
									TOTAL DEMAND					43851
									AMPS @ 120/208					133

PANEL 'L2C' CONT.						PHASE 3 VOLTAGE 120/208				MCB					
LOCATION:						WIRE 4 AIC				MLO 225A					
FED FROM:															
CKT	NOTES	TYPE	T	P	DESCRIPTION	LOAD		LOAD	DESCRIPTION	T	P	TYPE	NOTES	CKT	
43								A	1000 VENDING MACHINE	20	1	G	EXIST	44	
45								B	1000 VENDING MACHINE	20	1	G	EXIST	46	
47								C	1000 VENDING MACHINE	20	1	G	EXIST	48	
49								A	180 CONV REC.	20	1	G	EXIST	50	
51								B						52	
53								C						54	
55								A						56	
57								B						58	
59								C						60	
61								A						62	
63								B						64	
65								C						66	
67								A						68	
69								B						70	
71								C						72	
73								A						74	
75								B						76	
77								C						78	
79								A						80	
81								B						82	
83								C						84	
PHASE A						1180	SUBTOTAL		DEMAND CALCULATION						
PHASE B						1000	0		CONTINUOUS LOAD (C) 125%					0	
PHASE C						1000	0		DEDICATED LOAD (D) 100%					0	
							3180		GENERAL LOAD (G) 100 1ST 10KVA, 50% REST					3975	
NOTES:									LARGEST MOTOR 25%					0	
* TOTAL AMPS ADDED TO PANEL 'L2C'							0		MOTOR LOAD (M) 100%					0	
									TOTAL DEMAND					3975	
									AMPS @ 120/208					11	

PANEL 'L2D'													PHASE 3 VOLTAGE 120/208				MCB 150A			
LOCATION: CORRIDOR													WIRE 4 AIC				MLO			
FED FROM:																				
CKT	NOTES	TYPE	T	P	DESCRIPTION	LOAD	LOAD	DESCRIPTION	T	P	TYPE	NOTES	CKT							
1		M	40	2	CU - 1		A	CU - 6	20	2	M		2							
3		M			----		B	----			M		4							
5		M	40	2	CU - 2		C	CU - 7	20	2	M		6							
7		M			----		A	----			M		8							
9		M	20	2	CU - 3		B	CU - 8	20	2	M		10							
11		M			----		C	----			M		12							
13		M	20	2	CU - 4		A	CU - 9	20	2	M		14							
15		M			----		B	----			M		16							
17		M	20	2	CU - 5		C	CU - 10	20	2	M		18							
19		M			----		A	----					20							
21							B						22							
23							C						24							
25							A						26							
27							B						28							
29							C						30							
PHASE A						0	SUBTOTAL				DEMAND CALCULATION									
PHASE B						0					CONTINUOUS LOAD (C) 125%				0					
PHASE C						0					DEDICATED LOAD (D) 100%				0					
						0					GENERAL LOAD (G) 100 1ST 10KVA, 50% REST				0					
											LARGEST MOTOR 25%				0					
NOTES:						0					MOTOR LOAD (M) 100%				0					
											TOTAL DEMAND				0					
											AMPS @ 120/208				0					

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CEC-NRCC-MCH-01-E (Revised 09/15)

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE
Mechanical Systems
Project Name: Vacaville Community College Mechanical Equipment Replacement
Date Prepared: 3/7/2017

NRCC-MCH-01-E
(Page 1 of 4)

A. MECHANICAL COMPLIANCE FORMS & WORKSHEETS (check box if worksheet is included)			
For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2013 Nonresidential Manual Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.			
YES	NO	Form/Worksheet #	Title
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 1 of 3)	Certificate of Compliance, Declaration. Required on plans for all submittals.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-02A to 11A). Required on plans for all submittals.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12A to 18A). Required on plans where applicable.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-02-E (Part 1 of 2)	Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on plans.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-02-E (Part 2 of 2)	Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water systems. It is optional on plans.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-03-E	Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is optional on plans.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-07-E (Part 1 of 2)	Power Consumption of Fans. Required on plans where applicable
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-07-E (Part 2 of 2)	Power Consumption of Fans, Declaration. Required on plans where applicable

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NRCC-MCH-01-E
(Page 2 of 4)

B. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required forms)											
Test Performed By:											
Designer: This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems. Installing Contractor: The contractor who installed the equipment is responsible to either conduct the acceptance test them self or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible. Enforcement Agency: Plancheck - The NRCC-MCH-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked. Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.											
Test Description	# of Units	MCH-02A Outdoor Air	MCH-03A Single Zone Unitary	MCH-04A Air Distribution Ducts	MCH-05A Economizer Controls	MCH-06A Demand Control Ventilation (DCV)	MCH-07A Supply Fan VAV	MCH-08A Valve Leakage Test	MCH-09A Supply Water Temp. Reset	MCH-10A Hydronic System Variable Flow Control	MCH-11A Automatic Demand Shed Control
Laars PNCH07:	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRANE THC03:	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRANE THC03:	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRANE THC09:	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRANE THC10:	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRANE THC09:	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRANE THC09:	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRANE THC21:	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRANE THC07:	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRANE 4TTR4:	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


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NRCC-MCH-01-E
(Page 2 of 4)

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Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A
Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
TRANE 4TTR4:	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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STATE OF CALIFORNIA HVAC SYSTEM REQUIREMENTS CEC-NRCC-MCH-02-E (Revised 05/15)		CALIFORNIA ENERGY COMMISSION 	
CERTIFICATE OF COMPLIANCE HVAC Dry System Requirements		NRCC-MCH-02-E (Page 1 of 3)	
Project Name: Vacaville Community College Mechanical Equipment Replacement		Date Prepared: 3/7/2017	


A. Equipment Tags and System Description ¹	T-24 Sections	FCU-8/CU-8	FCU-9/CU-9	FCU-10/CU-10
B. MANDATORY MEASURES	Reference to the Requirements in the Contract Documents²			
Heating Equipment Efficiency ³	110.1 or 110.2(a)			
Cooling Equipment Efficiency ³	110.1 or 110.2(a)			
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)			
Furnace Standby Loss Control	110.2(d)			
Low leakage AHUs	110.2(f)			
Ventilation ⁴	120.1(b)			
Demand Control Ventilation ⁵	120.1(c)(4)			
Occupant Sensor Ventilation Control ⁶	120.1(c)(5), 120.2(a)(3)			
Shutoff and Reset Controls ⁷	120.2(e)			
Outdoor Air and Exhaust Damper Control	120.2(f)			
Isolation Zones	120.2(g)			
Automatic Demand Shed Controls	120.2(h)			
Economizer FOD	120.2(j)			
Duct Insulation	120.4			
C. PREScriptive MEASURES				
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	Y	Y/N	Y
Supply Fan Pressure Control	140.4(c)			
Simultaneous Heat/Cool ⁸	140.4(d)			
Economizer	140.4(e)			
Heat and Cool Air Supply Reset	140.4(f)			
Electric Resistance Heating ⁹	140.4(g)			
Duct Leakage Sealing and Testing ¹⁰	140.4(i)			

Notes:

1. Provide equipment tags (e.g. AHU 1 to 10) and system description (e.g. Single Duct VAV reheat) as appropriate. Multiple units with common requirements can be grouped together.
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where the requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. Where appliance standards apply (110.1), identify where equipment is required to be listed per 24 1601 et seq.
4. Identify where the ventilation requirements are documented for each central HVAC system. Include references to both central unit schedules and sequences of operation. If one or more space is naturally ventilated identify where this is documented in the plans and specifications. Multiple zone central air systems must also provide a MCH-03-E form.
5. If one or more space has demand controlled ventilation identify where it is specified including the sensor specifications and the sequence of operation.
6. If one or more space has occupant sensor ventilation control identify where it is specified including the sensor specifications and the sequence of operation.
7. If the system is DDC identify the sequences for the system start/stop, optimal start, setback (if required) and setup (if required). For all systems identify the specification for the thermostats and time clocks (if applicable).
8. Identify where the heating, cooling and deadband airflow are scheduled for this system. Include a reference to the specification of the zone controls. Provide a MCH-03-E form.
9. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
10. If duct leakage sealing and testing is required, a MCH-04-A form must be submitted.

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STATE OF CALIFORNIA HVAC WET SYSTEM REQUIREMENTS CEC-NRCC-MCH-02-E (Revised 06/14)		CALIFORNIA ENERGY COMMISSION 
CERTIFICATE OF COMPLIANCE		NRCC-MCH-02-E
HVAC Wet System Requirements		(Page 2 of 3)
Project Name: <u>Ucsdville Community College Mechanical Equipment Replacement</u>	Date Prepared: <u>3/7/2017</u>	

A. Equipment Tags and System Description ¹	Laars PNCH0750		
B. MANDATORY MEASURES	T-24 Sections	Reference to the Requirements in the Contract Documents⁵	
Heating Hot Water Equipment Efficiency ³	110.1		
Cooling Chilled and Condenser Water Equipment Efficiency ³	110.1, 140.4(i)		
Open and Closed Circuit Cooling Towers conductivity or flow-based controls	110.2(e) 1		
Open and Closed Circuit Cooling Towers Maximum Achievable Cycles of Concentration (LSI) ⁶	110.2(e) 2		
Open and Closed Circuit Cooling Towers Flow Meter with analog output	110.2(e) 3		
Open and Closed Circuit Cooling Towers Overflow Alarm	110.2(e) 4		
Open and Closed Circuit Cooling Towers Efficient Drift Eliminators	110.2(e) 5		
Pipe Insulation	120.3		
C. PRESCRIPTIVE MEASURES			
Cooling Tower Fan Controls	140.4(h)2, 140.4(h)5	Y	Y/N
Cooling Tower Flow Controls	140.4(h)3		Y/N
Centrifugal Fan Cooling Towers ⁵	140.4(h)4		Y/N
Air-Cooled Chiller Limitation ³	140.4(j)		
Variable Flow System Design	140.4(k)		
Chiller and Boiler Isolation	140.4(k)		
CHW and HHW Reset Controls	140.4(k)		
WLHP Isolation Valves	140.4(k)		
VSD on CHW, CW & WLHP Pumps >5HP	140.4(k)		
DP Sensor Location	140.4(k)		
Notes:			
1. Provide equipment tags (e.g. CH 1 to 3) or system description (e.g. CHW loop) as appropriate. Multiple units with common requirements can be grouped together.			
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.			
3. Reference plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. For chillers operating at non-standard efficiencies provide the Kadj values. For chillers also note whether the efficiencies are Path A or Path B.			
4. Identify if cooling towers have propeller fans. If towers use centrifugal fans document which exception is used.			
5. If air-cooled chillers are used, document which exceptions have been used to comply with 140.4(j) and the total installed design capacity of the air-cooled chillers in the chilled water plant.			
6. Identify the existence of a completed MCH-06-E [when open or closed circuit cooling towers are specified to be installed, otherwise enter "N/A".			

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STATE OF CALIFORNIA HVAC SYSTEM REQUIREMENTS		 CALIFORNIA ENERGY COMMISSION
CEC-NRCC-MCH-02-E (Revised 08/14)		NRCC-MCH-02-E (Page 3 of 3)
CERTIFICATE OF COMPLIANCE		
HVAC Wet System Requirements		
Project Name: <u>Vaquella Community College Mechanical Equipment Replacement</u>		Date Prepared: <u>3/7/2017</u>

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: <div style="border: 1px solid black; padding: 2px;">James Dyer</div>	Documentation Author Signature:
Company: <div style="border: 1px solid black; padding: 2px;">EDesignC, Inc.</div>	Signature Date: <div style="border: 1px solid black; padding: 2px;">3/7/2017</div>
Address: <div style="border: 1px solid black; padding: 2px;">212 9th St, Suite 203</div>	CEA HERS Certification Identification (if applicable): <div style="border: 1px solid black; padding: 2px;"></div>
City/State/Zip: <div style="border: 1px solid black; padding: 2px;">Oakland, CA 94607</div>	Phone: <div style="border: 1px solid black; padding: 2px;">(415) 963-4303 x109</div>
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 and Part 6 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 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: <div style="border: 1px solid black; padding: 2px;">James Dyer</div>	Responsible Designer Signature:
Company: <div style="border: 1px solid black; padding: 2px;">EDesignC</div>	Date Signed: <div style="border: 1px solid black; padding: 2px;">3/7/2017</div>
Address: <div style="border: 1px solid black; padding: 2px;">582 Market St. Suite 400</div>	License: <div style="border: 1px solid black; padding: 2px;">M25378</div>
City/State/Zip: <div style="border: 1px solid black; padding: 2px;">San Francisco, CA 94104</div>	Phone: <div style="border: 1px solid black; padding: 2px;">(415).963.4303</div>

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STATE OF CALIFORNIA MECHANICAL VENTILATION AND REHEAT CEC-NRCC-MCH-03-E (Revised 06/16)		CALIFORNIA ENERGY COMMISSION 
CERTIFICATE OF COMPLIANCE Mechanical Ventilation & Reheat		NRCC-MCH-03-E (Page 1 of 2)
Project Name: Vacaville Community College Mechanical Equipment Replacement		Date Prepared: 3/7/2017

ACTUAL DESIGN INFO (FROM EQUIPMENT SCHEDULES, ETC)					AREA BASIS					OCCUPANCY BASIS					MINIMUM				VAV Reheated Primary Air CFM				VAV Deadband Primary Air CFM			
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T							
2024 ZONE VAV 2025 T6A	2024 ZONE VAV 2025 T6B	2024 ZONE VAV 2025 T6C	DESIGN PRIMARY HEATING AIRFLOW (CFM)	DESIGN PRIMARY COOLING AIRFLOW (CFM)	DESIGN T6A (CFM)	DESIGN T6B (CFM)	DESIGN T6C (CFM)	DESIGN T6D (CFM)	DESIGN T6E (CFM)	DESIGN T6F (CFM)	DESIGN T6G (CFM)	DESIGN T6H (CFM)	DESIGN T6I (CFM)	DESIGN T6J (CFM)	DESIGN T6K (CFM)	DESIGN T6L (CFM)	DESIGN T6M (CFM)	DESIGN T6N (CFM)	DESIGN T6O (CFM)							
CLAS1						968	0.38	363	34.6	0.0	0	363	Y													
CLAS1						949	0.38	356	33.9	0.0	0	356	Y													
CLAS1						1,030	0.38	386	36.8	0.0	0	386	Y													
CLAS1						937	0.38	351	33.5	0.0	0	351	Y													
CLAS1						943	0.38	354	33.7	0.0	0	354	Y													
CLAS1						1,012	0.38	380	36.1	0.0	0	380	Y													

Yellow shaded cells require user input. Remaining cells are protected and automatic

B. The largest amount of primary air supplied by the terminal unit when it's operating in the cooling mode.

C. The smallest amount of primary air supplied by the terminal unit in the deadband mode.

D. The largest amount of primary air supplied by the terminal unit when it's operating in the heating mode.

E. A terminal unit can be controlled with DDC controls, or non-DDC controls. Each control category has different reach limitations in column.

F. Minimum ventilation rate provided where Required Ventilation Airflow (Column M) is greater than the Design Primary Deadband Airflow (Column C).

G. Transfer ventilation rate per section 12.0.1.2.1, Table 120.1.5.1.

H. The number of seats or seats where applicable or the greater of the expected number of occupants and 50% of the CBC occupant load for gross purposes for spaces without fixed seating.

M. Required Ventilation Airflow (Req'd Ventilation Airflow) is the larger of the ventilation rates calculated on an AREA BASIS or OCCUPANCY BASIS (Column I or L).

N. This column identifies whether or not the Design Primary Deadband Airflow complies or not. It compares the value in Column M to the value in column C and Column F.

O. Based on Primary Cooling Airflow = 0.50 for DDC Design Primary Cooling Airflow = 0.30 for Non-DDC.

P. Maximum of Column M and Column O. If the Design Primary Cooling Airflow is 300 cfm or less, then it is not applicable.

Q. This column identifies whether or not the Design Primary Refresh Airflow at the zone level, complies or not. It compares the value in Column P to the value in column D.


R. Design Primary Cooling Airflow = 0.20 for DDC. Not applicable for Non-DDC zones or zones where Design Primary Cooling Airflow is 300 cfm or less.

S. This column identifies whether or not the Design Primary Refresh Airflow at the zone level, complies or not. It compares the value in Column R to the value in column C.

T. This column identifies whether or not the Design Primary Deadband Airflow at the zone level, complies or not. It compares the value in column S to the value in column C.

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STATE OF CALIFORNIA MECHANICAL VENTILATION AND REHEAT CEC-NRCC-MCH-03-E (Revised 06/15)		 CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE Mechanical Ventilation & Reheat		NRCC-MCH-03-E (Page 1 of 2)
Project Name: Vacaville Community College Mechanical Equipment Replacement		Date Prepared: 3/7/2017

ACTUAL DESIGN INFO (FROM EQUIPMENT SCHEDULES, ETC.)										OCCUPANCY BASIS										VAV Reheated Primary Air CFM				VAV Deadband Primary Air CFM			
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T								
ZONE SYSTEM	DESIGN PRIMARY AIRFLOW (CFM)	DESIGN SECONDARY AIRFLOW (CFM)	DESIGN PRIMARY HEATING AIRFLOW (CFM)	CERT. TYPE DOC (N/A)	TRANSFIR AIRFLOW (CFM)	CONDUIT SIZING (N/A)	N/A: CHW FLOW AREA	N/A: CHW AREA	N/A: OF PEOPLE	CFM PER PERSON	N/A: CHW FLOW (CFM)	COMPLETES	PERCENTAGE COOLING (50% CHW, 50% NON-CHW)	MAXIMUM SUPPLY AIRFLOW (CFM)	MAXIMUM SUPPLY AIRFLOW (CFM)	COMPLETES	NON-CHW (CFM)	NON-CHW (CFM)	COMPLETES (Integer of N or L, NON-CHW (CFM))								
CLASS						1,037	0.38	389	37.0	0.0		Total	380		Y												
CONF						365	0.50	183	24.3	7.5		Total	389		Y												
STAFF						330	0.50	165	22.0	7.5		Total	183														
LOBB						1,300	0.50	650	86.7	7.5		Total	650		Y												
LOBB						1,042	0.50	521	69.5	7.5		Total	521		Y												
STUD						469	0.50	235	31.3	7.5		Total	235		Y												

Yellow shaded cells require user input. Remaining cells are protected and automatic

B. The largest amount of primary air supplied by the terminal unit when it's operating in the cooling mode.

C. The smallest amount of primary air supplied by the terminal unit in the deadband mode.

D. The largest amount of primary air supplied by the terminal unit when it's operating in the heating mode.

E. A terminal unit can be controlled with DDC controls, or non-DDC controls. Each control category has different reheat limitations in code.

F. Transfer Air must be provided where Required Ventilation Airflow (Column M) is greater than the Design Primary Deadband Airflow (Column C).

G. Minimum ventilation rates per section 63.02.1, Table 330.3.4.1.

H. Minimum ventilation rates where applicable or the greater of the expected number of occupants and 50% of the CBC occupant load for gross purposes with fixed seating.

I. Minimum ventilation rates where applicable or the greater of the expected number of occupants and 50% of the CBC occupant load for gross purposes with fixed seating.

M. Required Ventilation Airflow (Req'd Ventilation Airflow) is the larger of the ventilation rates calculated on an AREA BASIS or OCCUPANCY BASIS (Column I or L).

N. This column identifies whether or not the Design Primary Deadband Airflow complies or not. It compares the value in column M to the value in column C and column F.

O. Design Primary Cooling Airflow ≥ 0.50 for DDC. Design Primary Cooling Airflow ≥ 0.30 for non-DDC. If the Design Primary Cooling Airflow is less than 300 cfm, then this is not applicable.

P. Maximum of Column M and Column O. If the Design Primary Cooling Airflow is 300 cfm or less, then this is not applicable.


Q. This column identifies whether or not the Design Primary Reheat Airflow at the zone level, complies or not. It compares the value in column P to the value in column D.

R. Design Primary Cooling Airflow ≥ 0.20 for DDC. Not applicable for Non-DDC zones or zones where Design Primary Cooling Airflow is 300 cfm or less.

S. Design Primary Cooling Airflow ≥ 0.20 for DDC. Not applicable for Non-DDC zones or zones where Design Primary Cooling Airflow is 300 cfm or less.

T. This column identifies whether or not the Design Primary Deadband Airflow at the zone level, complies or not. It compares the value in column S to the value in column C.

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STATE OF CALIFORNIA MECHANICAL VENTILATION AND REHEAT CEC-NRCC-MCH-03-E (Revised 08/15)		CALIFORNIA ENERGY COMMISSION 	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-03-E (Page 1 of 2)	
Mechanical Ventilation & Reheat Project Name: Vacaville Community College Mechanical Equipment Replacement		Date Prepared: 3/7/2017	

ACTUAL DESIGN INFO (FROM EQUIPMENT SCHEDULES, ETC)				AREA BASIS				OCCUPANCY BASIS				VAV Reheat Primary Air CFM				VAV Deadband Primary Air CFM			
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
ZONE SYSTEM / VAV BOX NAME	DESIGN FLOW (GPM)	DESIGN PRIMARY FLOW (GPM)	DESIGN PRIMARY HEATING FLOW (GPM)	CENTR. TYPE DDC (T/N)	TRANSIST. FLOW (GPM)	CONNECTED UNIT (T/F)	MAX CFM PER AREA	MAX CFM BY AREA	NO. OF PEOPLE	CFM PER PERSON	MAX CFM BY OCC. (GPM)	MAX CFM BY T/N (GPM)	CFM/FLEET (GPM)	AIR FLOW (T/N) (GPM)	MAXIMUM UNIT CAPACITY (GPM)	COOLING UNIT (GPM)	COOLING UNIT (GPM)	[20% DDC, N/A NON-DDC] (GPM)	[50% of Rq, N/A NON-DDC] (GPM)
CORR						625	0.15	94	41.7	7.5	313	313	Y						
LECT						1,575	0.38	591	56.3	0.0	0	591	Y						
LEARN						1,464	0.38	549	52.3	0.0	0	549	Y						
MULTI						3,600	0.50	1,800	240.0	7.5	1,800	1,800	Y						
SCIEN						1,271	0.38	477	45.4	0.0	0	477	Y						
SCIEN						1,040	0.38	390	37.1	0.0	0	390	Y						

Yellow shaded cells require user input. Remaining cells are protected and automatic

B. The largest amount of primary air supplied by the terminal unit when it's operating in the cooling mode.

C. The smallest amount of primary air supplied by the terminal unit in the deadband mode.

D. The largest amount of primary air supplied by the terminal unit when it's operating in the heating mode.

E. A terminal unit can be controlled with DDC controls, or non-DDC controls. Each control category has different reheat limitations in code.

F. Transfer air must be provided where Required Ventilation Airflow (Column M) is greater than the Design Primary Deadband Airflow (Column C).

G. Minimum ventilation rates per person: 8.0, 12.0, 16, 20, 24, 32, 40, 48, 56, 64, 72, 80, 96, 112, 128, 144, 160, 176, 192, 208, 224, 240, 256, 272, 288, 304, 320, 336, 352, 368, 384, 400, 416, 432, 448, 464, 480, 496, 512, 528, 544, 560, 576, 592, 608, 624, 640, 656, 672, 688, 704, 720, 736, 752, 768, 784, 800, 816, 832, 848, 864, 880, 896, 912, 928, 944, 960, 976, 992, 1008, 1024, 1040, 1056, 1072, 1088, 1104, 1120, 1136, 1152, 1168, 1184, 1200, 1216, 1232, 1248, 1264, 1280, 1296, 1312, 1328, 1344, 1360, 1376, 1392, 1408, 1424, 1440, 1456, 1472, 1488, 1504, 1520, 1536, 1552, 1568, 1584, 1600, 1616, 1632, 1648, 1664, 1680, 1696, 1712, 1728, 1744, 1760, 1776, 1792, 1808, 1824, 1840, 1856, 1872, 1888, 1904, 1920, 1936, 1952, 1968, 1984, 2000, 2016, 2032, 2048, 2064, 2080, 2096, 2112, 2128, 2144, 2160, 2176, 2192, 2208, 2224, 2240, 2256, 2272, 2288, 2304, 2320, 2336, 2352, 2368, 2384, 2400, 2416, 2432, 2448, 2464, 2480, 2496, 2512, 2528, 2544, 2560, 2576, 2592, 2608, 2624, 2640, 2656, 2672, 2688, 2704, 2720, 2736, 2752, 2768, 2784, 2800, 2816, 2832, 2848, 2864, 2880, 2896, 2912, 2928, 2944, 2960, 2976, 2992, 3008, 3024, 3040, 3056, 3072, 3088, 3104, 3120, 3136, 3152, 3168, 3184, 3200, 3216, 3232, 3248, 3264, 3280, 3296, 3312, 3328, 3344, 3360, 3376, 3392, 3408, 3424, 3440, 3456, 3472, 3488, 3504, 3520, 3536, 3552, 3568, 3584, 3600, 3616, 3632, 3648, 3664, 3680, 3696, 3712, 3728, 3744, 3760, 3776, 3792, 3808, 3824, 3840, 3856, 3872, 3888, 3904, 3920, 3936, 3952, 3968, 3984, 4000, 4016, 4032, 4048, 4064, 4080, 4096, 4112, 4128, 4144, 4160, 4176, 4192, 4208, 4224, 4240, 4256, 4272, 4288, 4304, 4320, 4336, 4352, 4368, 4384, 4400, 4416, 4432, 4448, 4464, 4480, 4496, 4512, 4528, 4544, 4560, 4576, 4592, 4608, 4624, 4640, 4656, 4672, 4688, 4704, 4720, 4736, 4752, 4768, 4784, 4800, 4816, 4832, 4848, 4864, 4880, 4896, 4912, 4928, 4944, 4960, 4976, 4992, 5008, 5024, 5040, 5056, 5072, 5088, 5104, 5120, 5136, 5152, 5168, 5184, 5200, 5216, 5232, 5248, 5264, 5280, 5296, 5312, 5328, 5344, 5360, 5376, 5392, 5408, 5424, 5440, 5456, 5472, 5488, 5504, 5520, 5536, 5552, 5568, 5584, 5600, 5616, 5632, 5648, 5664, 5680, 5696, 5712, 5728, 5744, 5760, 5776, 5792, 5808, 5824, 5840, 5856, 5872, 5888, 5904, 5920, 5936, 5952, 5968, 5984, 6000, 6016, 6032, 6048, 6064, 6080, 6096, 6112, 6128, 6144, 6160, 6176, 6192, 6208, 6224, 6240, 6256, 6272, 6288, 6304, 6320, 6336, 6352, 6368, 6384, 6400, 6416, 6432, 6448, 6464, 6480, 6496, 6512, 6528, 6544, 6560, 6576, 6592, 6608, 6624, 6640, 6656, 6672, 6688, 6704, 6720, 6736, 6752, 6768, 6784, 6800, 6816, 6832, 6848, 6864, 6880, 6896, 6912, 6928, 6944, 6960, 6976, 6992, 7008, 7024, 7040, 7056, 7072, 7088, 7104, 7120, 7136, 7152, 7168, 7184, 7200, 7216, 7232, 7248, 7264, 7280, 7296, 7312, 7328, 7344, 7360, 7376, 7392, 7408, 7424, 7440, 7456, 7472, 7488, 7504, 7520, 7536, 7552, 7568, 7584, 7600, 7616, 7632, 7648, 7664, 7680, 7696, 7712, 7728, 7744, 7760, 7776, 7792, 7808, 7824, 7840, 7856, 7872, 7888, 7904, 7920, 7936, 7952, 7968, 7984, 8000, 8016, 8032, 8048, 8064, 8080, 8096, 8112, 8128, 8144, 8160, 8176, 8192, 8208, 8224, 8240, 8256, 8272, 8288, 8304, 8320, 8336, 8352, 8368, 8384, 8400, 8416, 8432, 8448, 8464, 8480, 8496, 8512, 8528, 8544, 8560, 8576, 8592, 8608, 8624, 8640, 8656, 8672, 8688, 8704, 8720, 8736, 8752, 8768, 8784, 8800, 8816, 8832, 8848, 8864, 8880, 8896, 8912, 8928, 8944, 8960, 8976, 8992, 9008, 9024, 9040, 9056, 9072, 9088, 9104, 9120, 9136, 9152, 9168, 9184, 9200, 9216, 9232, 9248, 9264, 9280, 9296, 9312, 9328, 9344, 9360, 9376, 9392, 9408, 9424, 9440, 9456, 9472, 9488, 9504, 9520, 9536, 9552, 9568, 9584, 9600, 9616, 9632, 9648, 9664, 9680, 9696, 9712, 9728, 9744, 9760, 9776, 9792, 9808, 9824, 9840, 9856, 9872, 9888, 9904, 9920, 9936, 9952, 9968, 9984, 10000.

H. Maximum number of fixed seats where applicable or the greater of the expected number of occupants and 50% of the CBC occupancy load for gross purposes for spaces without fixed seating.

M. Required Ventilation Airflow (Req'd Ventilation Airflow) is the larger of the ventilation rates calculated on an AREA BASIS or OCCUPANCY BASIS (Column I or L).

N. This column identifies whether or not the Design Primary Deadband Airflow complies or not. It compares the value in column M to the value in column C and column F.

O. Design Primary Cooling Airflow ≥ 0.56 for DDC, Design Primary Cooling Airflow ≥ 0.30 for Non-DDC, If the Design Primary Cooling Airflow is less than 300 cfm, then this is not applicable.

P. Maximum of Column M and Column O. If the Design Primary Cooling Airflow is

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May 2019

[illegible]

STATE OF CALIFORNIA REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS (CEC-NRCC-MCH-05-E (Revised 05/15)) CERTIFICATE OF COMPLIANCE Requirements for Packaged Single-Zone Units Project Name: Vacaville Community College Mechanical Equipment Replacement Date Prepared: 3/7/2017									
CALIFORNIA ENERGY COMMISSION NRCC-MCH-05-E (Page 1 of 2)									
Equipment Tag(s) ¹		RTU-1		RTU-2		RTU-3			
MANDATORY MEASURES	T-24 Sections	Requirement²	As Scheduled³	Requirement²	As Scheduled³	Requirement²	As Scheduled³		
Heating Equipment Efficiency ⁴	110.1 or 110.2(a)	n/a	n/a	n/a	n/a	n/a	n/a		
Cooling Equipment Efficiency ⁴	110.1 or 110.2(a)	13 SEER	15.0 SEER / 11	13 SEER	15.0 SEER / 11	13 SEER	15.0 SEER / 11		
Thermostats ⁵	110.2(b), 110.2(c)	Setback	Setback	Setback	Setback	Setback	Setback		
Furnace Standby Loss Control ⁶	110.2(d)	n/a	n/a	n/a	n/a	n/a	n/a		
Low Leakage AHU Ventilation ⁷	120.1(b)	NR	none	NR	none	NR	none		
Demand Control Ventilation ⁸	120.1(c4)	NR	No	NR	No	NR	No		
Occupant Sensor Ventilation Control ⁸	120.1(c5), 120.2(e3)								
Shutoff and Reset Controls ⁹	120.2(e)	Req	Programmable	Req	Programmable	Req	Programmable		
Outdoor Air and Exhaust Damper Control	120.2(f)	Req	Auto	Req	Auto	Req	Auto		
Automatic Demand Shed Controls	120.2(h)	NR	none	NR	none	NR	none		
Economizer FDD	120.2(i)	NR	NR	NR	NR	NR	NR		
Duct Insulation	120.4	R-8	R-8.0	R-8	R-8.0	R-8	R-8.0		
PRESCRIPTIVE MEASURES									
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	-6,465 Btu/hr	35,000 Btu/hr	-6,465 Btu/hr	35,000 Btu/hr	-6,465 Btu/hr	35,000 Btu/hr		
Economizer	140.4(e)	NR	Fixed Temp (Int)	NR	Fixed Temp (Int)	NR	Fixed Temp (Int)		
Electric Resistance Heating ¹⁰	140.4(g)	No	No	No	No	No	No		
Duct Leakage Sealing and Testing ¹¹	140.4(i)	NR	No	NR	No	NR	No		

- Notes:**
- Provide equipment tags (e.g. AC1 or AC1 to 10). Multiple units of the same make and model with the same application and accessories can be grouped together.
 - Enter the following information as appropriate: Unit Manufacturer; Unit Model Number (including all accessories); Description of the unit (e.g. gas-pack or heat pump; rated heating capacity (enter "N/A" if no heating); and, rated cooling capacity (enter "N/A" if no cooling). For unit capacities include the units (e.g. kBtu/h or tons).
 - For each requirement, enter the minimum requirement from the Standard in the left column (under "Standard Requirement"). In the right column (under "As Scheduled") enter the value for the units as specified.
 - Where there is more than one requirement (e.g. full and part load efficiency) enter both with the appropriate labels (e.g. COP and EER).
 - In the left column identify the thermodynamic requirements from the standard (e.g. programmable setback thermostat or heatpump with electric heat), . In the right column indicate the capabilities of the thermostat as scheduled.
 - If the unit has a furnace which is rated at >=225,000 Btu/h of capacity, indicate the rated standby loss and ignition source (e.g. IID). If there is no furnace or the unit is rated for <225,000 Btu/h indicate "N/A".
 - In the left column, enter both the required ventilation value from Table 120.1A and for the number of occupants times 15 cfm/person. In the right column enter the actual minimum ventilation as scheduled. If the space is naturally ventilated enter "N/A" in the left column and "the space is naturally ventilated" in the right column.
 - If the space is required to have either DCV or Occupant Sensor Ventilation Control indicate "required" in the left column (otherwise indicate "N/A" in the left column). If either DCV or Occupant Sensor Ventilation Control is provided indicate "provided" in the right column (otherwise indicate "N/A" in the right column).
 - In the left column indicate the required time controls from the standard. In the right column identify the device that provides this functionality (e.g. EMCS or programmable timeclock).
 - Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
 - Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.

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STATE OF CALIFORNIA REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS (CEC-NRCC-MCH-05-E (Revised 05/15)) CERTIFICATE OF COMPLIANCE Requirements for Packaged Single-Zone Units Project Name: Vacaville Community College Mechanical Equipment Replacement Date Prepared: 3/7/2017									
CALIFORNIA ENERGY COMMISSION NRCC-MCH-05-E (Page 1 of 2)									
Equipment Tag(s) ¹		RTU-7		RTU-8		RTU-9			
MANDATORY MEASURES	T-24 Sections	Requirement²	As Scheduled³	Requirement²	As Scheduled³	Requirement²	As Scheduled³		
Heating Equipment Efficiency ⁴	110.1 or 110.2(a)	n/a	n/a	n/a	n/a	n/a	n/a		
Cooling Equipment Efficiency ⁴	110.1 or 110.2(a)	13 SEER	15.0 SEER / 11	13 SEER	15.0 SEER / 11	13 SEER	15.0 SEER / 11		
Thermostats ⁵	110.2(b), 110.2(c)	Setback	Setback	Setback	Setback	Setback	Setback		
Furnace Standby Loss Control ⁶	110.2(d)	n/a	n/a	n/a	n/a	n/a	n/a		
Low Leakage AHU Ventilation ⁷	120.1(b)	NR	none	NR	none	NR	none		
Demand Control Ventilation ⁸	120.1(c4)	NR	No	NR	No	NR	No		
Occupant Sensor Ventilation Control ⁸	120.1(c5), 120.2(e3)								
Shutoff and Reset Controls ⁹	120.2(e)	Req	Programmable	Req	Programmable	Req	Programmable		
Outdoor Air and Exhaust Damper Control	120.2(f)	Req	Auto	Req	Auto	Req	Auto		
Automatic Demand Shed Controls	120.2(h)	NR	none	NR	none	NR	none		
Economizer FDD	120.2(i)	NR	NR	NR	NR	NR	NR		
Duct Insulation	120.4	R-8	R-8.0	R-8	R-8.0	R-8	R-8.0		
PRESCRIPTIVE MEASURES									
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	-6,465 Btu/hr	35,000 Btu/hr	-6,465 Btu/hr	35,000 Btu/hr	-6,465 Btu/hr	35,000 Btu/hr		
Economizer	140.4(e)	NR	Fixed Temp (Int)	NR	Fixed Temp (Int)	NR	Fixed Temp (Int)		
Electric Resistance Heating ¹⁰	140.4(g)	No	No	No	No	No	No		
Duct Leakage Sealing and Testing ¹¹	140.4(i)	NR	No	NR	No	NR	No		

- Notes:**
- Provide equipment tags (e.g. AC1 or AC1 to 10). Multiple units of the same make and model with the same application and accessories can be grouped together.
 - Enter the following information as appropriate: Unit Manufacturer; Unit Model Number (including all accessories); Description of the unit (e.g. gas-pack or heat pump; rated heating capacity (enter "N/A" if no heating); and, rated cooling capacity (enter "N/A" if no cooling). For unit capacities include the units (e.g. kBtu/h or tons).
 - For each requirement, enter the minimum requirement from the Standard in the left column (under "Standard Requirement"). In the right column (under "As Scheduled") enter the value for the units as specified.
 - Where there is more than one requirement (e.g. full and part load efficiency) enter both with the appropriate labels (e.g. COP and EER).
 - In the left column identify the thermodynamic requirements from the standard (e.g. programmable setback thermostat or heatpump with electric heat), . In the right column indicate the capabilities of the thermostat as scheduled.
 - If the unit has a furnace which is rated at >=225,000 Btu/h of capacity, indicate the rated standby loss and ignition source (e.g. IID). If there is no furnace or the unit is rated for <225,000 Btu/h indicate "N/A".
 - In the left column, enter both the required ventilation value from Table 120.1A and for the number of occupants times 15 cfm/person. In the right column enter the actual minimum ventilation as scheduled. If the space is naturally ventilated enter "N/A" in the left column and "the space is naturally ventilated" in the right column.
 - If the space is required to have either DCV or Occupant Sensor Ventilation Control indicate "required" in the left column (otherwise indicate "N/A" in the left column). If either DCV or Occupant Sensor Ventilation Control is provided indicate "provided" in the right column (otherwise indicate "N/A" in the right column).
 - In the left column indicate the required time controls from the standard. In the right column identify the device that provides this functionality (e.g. EMCS or programmable timeclock).
 - Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
 - Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

STATE OF CALIFORNIA REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS (CEC-NRCC-MCH-05-E (Revised 05/15)) CERTIFICATE OF COMPLIANCE Requirements for Packaged Single-Zone Units Project Name: Vacaville Community College Mechanical Equipment Replacement Date Prepared: 3/7/2017									
CALIFORNIA ENERGY COMMISSION NRCC-MCH-05-E (Page 1 of 2)									
Equipment Tag(s) ¹		RTU-10		RTU-11		RTU-12			
MANDATORY MEASURES	T-24 Sections	Requirement²	As Scheduled³	Requirement²	As Scheduled³	Requirement²	As Scheduled³		
Heating Equipment Efficiency ⁴	110.1 or 110.2(a)	n/a	n/a	n/a	n/a	n/a	n/a		
Cooling Equipment Efficiency ⁴	110.1 or 110.2(a)	11.0 EER	11.4 EER	11.0 EER	12.5 EER	11.0 EER	11.4 EER		
Thermostats ⁵	110.2(b), 110.2(c)	Setback	Setback	Setback	Setback	Setback	Setback		
Furnace Standby Loss Control ⁶	110.2(d)	n/a	n/a	n/a	n/a	n/a	n/a		
Low Leakage AHU Ventilation ⁷	110.2(f)	NR	none	NR	none	NR	none		
Demand Control Ventilation ⁸	120.1(b)	650	850	650	1,068	591	0		
Demand Control Ventilation ⁸	120.1(c4)	Req	Yes	Req	Yes	NR	No		
Occupant Sensor Ventilation Control ⁸	120.1(c5), 120.2(e3)								
Shutoff and Reset Controls ⁹	120.2(e)	Req	Programmable	Req	Programmable	Req	Programmable		
Outdoor Air and Exhaust Damper Control	120.2(f)	Req	Auto	Req	Auto	Req	Auto		
Automatic Demand Shed Controls	120.2(h)	NR	none	NR	none	NR	none		
Economizer FDD	120.2(i)	Req	Req	Req	Req	Req	Req		
Duct Insulation	120.4	R-8	R-8.0	R-8	R-8.0	R-8	R-8.0		
PRESCRIPTIVE MEASURES									
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	38,005 Btu/hr	87,800 Btu/hr	66,660 Btu/hr	99,600 Btu/hr	-8,681 Btu/hr	87,800 Btu/hr		
Economizer	140.4(e)	Req	Fixed Temp (Int)	Req	Fixed Temp (Int)	Req	Fixed Temp (Int)		
Electric Resistance Heating ¹⁰	140.4(g)	No	No	No	No	No	No		
Duct Leakage Sealing and Testing ¹¹	140.4(i)	NR	No	NR	No	NR	No		

- Notes:**
- Provide equipment tags (e.g. AC1 or AC1 to 10). Multiple units of the same make and model with the same application and accessories can be grouped together.
 - Enter the following information as appropriate: Unit Manufacturer; Unit Model Number (including all accessories); Description of the unit (e.g. gas-pack or heat pump; rated heating capacity (enter "N/A" if no heating); and, rated cooling capacity (enter "N/A" if no cooling). For unit capacities include the units (e.g. kBtu/h or tons).
 - For each requirement, enter the minimum requirement from the Standard in the left column (under "Standard Requirement"). In the right column (under "As Scheduled") enter the value for the units as specified.
 - Where there is more than one requirement (e.g. full and part load efficiency) enter both with the appropriate labels (e.g. COP and EER).
 - In the left column identify the thermodynamic requirements from the standard (e.g. programmable setback thermostat or heatpump with electric heat), . In the right column indicate the capabilities of the thermostat as scheduled.
 - If the unit has a furnace which is rated at >=225,000 Btu/h of capacity, indicate the rated standby loss and ignition source (e.g. IID). If there is no furnace or the unit is rated for <225,000 Btu/h indicate "N/A".
 - In the left column, enter both the required ventilation value from Table 120.1A and for the number of occupants times 15 cfm/person. In the right column enter the actual minimum ventilation as scheduled. If the space is naturally ventilated enter "N/A" in the left column and "the space is naturally ventilated" in the right column.
 - If the space is required to have either DCV or Occupant Sensor Ventilation Control indicate "required" in the left column (otherwise indicate "N/A" in the left column). If either DCV or Occupant Sensor Ventilation Control is provided indicate "provided" in the right column (otherwise indicate "N/A" in the right column).
 - In the left column indicate the required time controls from the standard. In the right column identify the device that provides this functionality (e.g. EMCS or programmable timeclock).
 - Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
 - Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

STATE OF CALIFORNIA REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS (CEC-NRCC-MCH-05-E (Revised 05/15)) CERTIFICATE OF COMPLIANCE Requirements for Packaged Single-Zone Units Project Name: Vacaville Community College Mechanical Equipment Replacement Date Prepared: 3/7/2017									
CALIFORNIA ENERGY COMMISSION NRCC-MCH-05-E (Page 1 of 2)									
Equipment Tag(s) ¹		RTU-4		RTU-5		RTU-6			
MANDATORY MEASURES	T-24 Sections	Requirement²	As Scheduled³	Requirement²	As Scheduled³	Requirement²	As Scheduled³		
Heating Equipment Efficiency ⁴	110.1 or 110.2(a)	n/a	n/a	n/a	n/a	n/a	n/a		
Cooling Equipment Efficiency ⁴	110.1 or 110.2(a)	13 SEER	15.0 SEER / 11	13 SEER	15.0 SEER / 11	13 SEER	15.0 SEER / 11		
Thermostats ⁵	110.2(b), 110.2(c)	Setback	Setback	Setback	Setback	Setback	Setback		
Furnace Standby Loss Control ⁶	110.2(d)	n/a	n/a	n/a	n/a	n/a	n/a		
Low Leakage AHU Ventilation ⁷	120.1(b)	NR	none	NR	none	NR	none		
Demand Control Ventilation ⁸	120.1(c4)	NR	No	NR	No	NR	No		
Occupant Sensor Ventilation Control ⁸	120.1(c5), 120.2(e3)								
Shutoff and Reset Controls ⁹	120.2(e)	Req	Programmable	Req	Programmable	Req	Programmable		
Outdoor Air and Exhaust Damper Control	120.2(f)	Req	Auto	Req	Auto	Req	Auto		
Automatic Demand Shed Controls	120.2(h)	NR	none	NR	none	NR	none		
Economizer FDD	120.2(i)	NR	NR	NR	NR	NR	NR		
Duct Insulation	120.4	R-8	R-8.0	R-8	R-8.0	R-8	R-8.0		
PRESCRIPTIVE MEASURES									
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	-6,465 Btu/hr	35,000 Btu/hr	-6,465 Btu/hr	35,000 Btu/hr	-6,465 Btu/hr	35,000 Btu/hr		
Economizer	140.4(e)	NR	Fixed Temp (Int)	NR	Fixed Temp (Int)	NR	Fixed Temp (Int)		
Electric Resistance Heating ¹⁰	140.4(g)	No	No	No	No	No	No		
Duct Leakage Sealing and Testing ¹¹	140.4(i)	NR	No	NR	No	NR	No		

- Notes:**
- Provide equipment tags (e.g. AC1 or AC1 to 10). Multiple units of the same make and model with the same application and accessories can be grouped together.
 - Enter the following information as appropriate: Unit Manufacturer; Unit Model Number (including all accessories); Description of the unit (e.g. gas-pack or heat pump; rated heating capacity (enter "N/A" if no heating); and, rated cooling capacity (enter "N/A" if no cooling). For unit capacities include the units (e.g. kBtu/h or tons).
 - For each requirement, enter the minimum requirement from the Standard in the left column (under "Standard Requirement"). In the right column (under "As Scheduled") enter the value for the units as specified.
 - Where there is more than one requirement (e.g. full and part load efficiency) enter both with the appropriate labels (e.g. COP and EER).
 - In the left column identify the thermodynamic requirements from the standard (e.g. programmable setback thermostat or heatpump with electric heat), . In the right column indicate the capabilities of the thermostat as scheduled.
 - If the unit has a furnace which is rated at >=225,000 Btu/h of capacity, indicate the rated standby loss and ignition source (e.g. IID). If there is no furnace or the unit is rated for <225,000 Btu/h indicate "N/A".
 - In the left column, enter both the required ventilation value from Table 120.1A and for the number of occupants times 15 cfm/person. In the right column enter the actual minimum ventilation as scheduled. If the space is naturally ventilated enter "N/A" in the left column and "the space is naturally ventilated" in the right column.
 - If the space is required to have either DCV or Occupant Sensor Ventilation Control indicate "required" in the left column (otherwise indicate "N/A" in the left column). If either DCV or Occupant Sensor Ventilation Control is provided indicate "provided" in the right column (otherwise indicate "N/A" in the right column).
 - In the left column indicate the required time controls from the standard. In the right column identify the device that provides this functionality (e.g. EMCS or programmable timeclock).
 - Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
 - Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

STATE OF CALIFORNIA

REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

CEC-NRCC-MCH-05-E (Revised 05/15)

CERTIFICATE OF COMPLIANCE

Requirements for Packaged Single-Zone Units

Project Name: Vacaville Community College Mechanical Equipment Replacement

Date Prepared: 3/7/2017

CALIFORNIA ENERGY COMMISSION

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Equipment Tag(s) ¹	T-24 Sections	RTU-16	RTU-17	FCU-1/CU-1				
		Requirement ²	As Scheduled ³	Requirement ²	As Scheduled ³	Requirement ²	As Scheduled ³	
Heating Equipment Efficiency ⁴	110.1 or 110.2(a)	n/a	n/a	n/a	n/a	n/a	n/a	
Cooling Equipment Efficiency ⁴	110.1 or 110.2(a)	11.0 EER	11.4 EER	13 SEER	15.0 SEER / 11	14 SEER	14.5 SEER / 8.8	
Thermostats ⁵	110.2(b), 110.2(c)	Setback	Setback	Setback	Setback	Setback	Setback	
Furnace Standby Loss Control ⁶	110.2(d)	n/a	n/a	n/a	n/a	n/a	n/a	
Low Leakage AHU Ventilation ⁷	110.2(f)	NR	none	NR	none	NR	none	
Demand Control Ventilation ⁸	120.1(b)	390	0	473	0	443	0	
Demand Control Ventilation ⁸	120.1(c4)	NR	No	NR	No	NR	No	
Occupant Sensor Ventilation Control ⁸	120.1(c5), 120.2(e3)							
Shutoff and Reset Controls ⁹	120.2(e)	Req	Programmable	Req	Programmable	Req	Programmable S	
Outdoor Air and Exhaust Damper Control	120.2(f)	Req	Auto	Req	Auto	Req	Auto	
Automatic Demand Shed Controls	120.2(h)	NR	none	NR	none	NR	none	
Economizer FDD	120.2(i)	Req	Req	Req	Req	NR	NR	
Duct Insulation	120.4	R-8	R-8.0	R-8	R-8.0	R-8	R-8.0	
PRESCRIPTIVE MEASURES								
140.4(a) & (b)		-7.52 Btu/hR	135,400 Btu/hR	-7.52 Btu/hR	101,900 Btu/hR	0 Btu/hR	49,900 Btu/hR	
		26,499 Btu/hR	79,317 Btu/hR	30,761 Btu/hR	67,099 Btu/hR	22,874 Btu/hR	42,307 Btu/hR	
	140.4(e)	Req	Fixed Temp (Ir	Req	Fixed Temp (Int	NR	No Economizer	
	140.4(g)	No	No	No	No	No	No	
Electric Resistance Heating ¹⁰	140.4(i)	NR	No	NR	No	NR	No	
Duct Leakage Sealing and Testing ¹¹								

STATE OF CALIFORNIA
REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

CEC-NRCC-MCH-05-E (Revised 05/15)

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Requirements for Packaged Single-Zone Units

Project Name: Vacaville Community College Mechanical Equipment Replacement

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11. If duct leakage sealing and testing is required, a MCH-04-A form must be submitted.

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: James Dyer

Documentation Author Signature:

Company: EDesignC, Inc.

Signature Date: 3/7/2017

Address: 212 9th St, Suite 203

CEA/HERS Certification Identification (if applicable):

City/State/Zip:

Oakland, CA 94607

Phone: (415) 963-4303 x109

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- 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).
- 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 and Part 6 of the California Code of Regulations.
- 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.
- 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: James Dyer

Responsible Designer Signature:

Company: EDesignC

Date Signed: 3/7/2017

Address: 582 Market St. Suite 400

License: M25378

City/State/Zip:

San Francisco, Ca 94104

Phone: 415.963.4303

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

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STATE OF CALIFORNIA
FAN POWER CONSUMPTION

CEC-NRCC-MCH-07-E (Revised 05/15)

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE

NRCC-MCH-07-E

Power Consumption of Fans Requirements

(Page 1 of 2)

Project Name: Vacaville Community College Mechanical Equipment Replacement

Date Prepared: 3/7/2017

Constant Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).

A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		
RTU-1 - Supply Fan	0.750	85.5 %	97.0 %	1.0	675
Return Fan	0.505	85.5 %	97.0 %	1.0	650

Variable Air Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Variable Air Volume (VAV) Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).

A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		

Totals and Adjustments

FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.	3) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)	1,325	W
A) If filter pressure drop (SP _f) is greater than 1 inch W.C. or 245 Pascal then enter SP _f on line 4. Enter Total Fan pressure drop across the fan (SP _f) on Line 5.	2) SUPPLY DESIGN AIRFLOW	1,200	CFM
B) Calculate Fan Adjustment and enter on line 6.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	1.104	W/CFM
C) Calculate Adjusted Fan Power Index and enter on Row 7	4) SP _f		in W.C. or Pa
	5) SP _r		in W.C. or Pa
	6) Fan Adjustment = 1-(SP _r - 1)/SP _f		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	1.104	W/CFM

1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.

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FAN POWER CONSUMPTION

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Power Consumption of Fans Requirements

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Project Name: Vacaville Community College Mechanical Equipment Replacement

Date Prepared: 3/7/2017

Constant Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).

A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		
RTU-2 - Supply Fan	0.750	85.5 %	97.0 %	1.0	675
Return Fan	0.505	85.5 %	97.0 %	1.0	650

Variable Air Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Variable Air Volume (VAV) Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).

A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		

Totals and Adjustments

FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.	3) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)	1,325	W
A) If filter pressure drop (SP _f) is greater than 1 inch W.C. or 245 Pascal then enter SP _f on line 4. Enter Total Fan pressure drop across the fan (SP _f) on Line 5.	2) SUPPLY DESIGN AIRFLOW	1,600	CFM
B) Calculate Fan Adjustment and enter on line 6.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.828	W/CFM
C) Calculate Adjusted Fan Power Index and enter on Row 7	4) SP _f		in W.C. or Pa
	5) SP _r		in W.C. or Pa
	6) Fan Adjustment = 1-(SP _r - 1)/SP _f		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	0.828	W/CFM

1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.

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FAN POWER CONSUMPTION

CEC-NRCC-MCH-07-E (Revised 05/15)

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Power Consumption of Fans Requirements

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Project Name: Vacaville Community College Mechanical Equipment Replacement

Date Prepared: 3/7/2017

Constant Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).

A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		
RTU-3 - Supply Fan	0.750	85.5 %	97.0 %	1.0	675
Return Fan	0.505	85.5 %	97.0 %	1.0	650

Variable Air Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Variable Air Volume (VAV) Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).

A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		

Totals and Adjustments

FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.	3) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)	1,325	W
A) If filter pressure drop (SP _f) is greater than 1 inch W.C. or 245 Pascal then enter SP _f on line 4. Enter Total Fan pressure drop across the fan (SP _f) on Line 5.	2) SUPPLY DESIGN AIRFLOW	1,200	CFM
B) Calculate Fan Adjustment and enter on line 6.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	1.104	W/CFM
C) Calculate Adjusted Fan Power Index and enter on Row 7	4) SP _f		in W.C. or Pa
	5) SP _r		in W.C. or Pa
	6) Fan Adjustment = 1-(SP _r - 1)/SP _f		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	1.104	W/CFM

1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.

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Power Consumption of Fans Requirements

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Project Name: Vacaville Community College Mechanical Equipment Replacement

Date Prepared: 3/7/2017

Constant Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).

A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		
RTU-4 - Supply Fan	0.750	85.5 %	97.0 %	1.0	675
Return Fan	0.505	85.5 %	97.0 %	1.0	650

Variable Air Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Variable Air Volume (VAV) Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).

A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		

Totals and Adjustments

FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.	3) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)	1,325	W
A) If filter pressure drop (SP _f) is greater than 1 inch W.C. or 245 Pascal then enter SP _f on line 4. Enter Total Fan pressure drop across the fan (SP _f) on Line 5.	2) SUPPLY DESIGN AIRFLOW	1,200	CFM
B) Calculate Fan Adjustment and enter on line 6.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	1.104	W/CFM
C) Calculate Adjusted Fan Power Index and enter on Row 7	4) SP _f		in W.C. or Pa
	5) SP _r		in W.C. or Pa
	6) Fan Adjustment = 1-(SP _r - 1)/SP _f		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	1.104	W/CFM

1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.

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Power Consumption of Fans Requirements

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Constant Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).

A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		
RTU-5 - Supply Fan	0.750	85.5 %	97.0 %	1.0	675
Return Fan	0.505	85.5 %	97.0 %	1.0	650

Variable Air Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Variable Air Volume (VAV) Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).

A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		

Totals and Adjustments

FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.	3) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)	1,325	W
A) If filter pressure drop (SP _f) is greater than 1 inch W.C. or 245 Pascal then enter SP _f on line 4. Enter Total Fan pressure drop across the fan (SP _f) on Line 5.	2) SUPPLY DESIGN AIRFLOW	1,600	CFM
B) Calculate Fan Adjustment and enter on line 6.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.828	W/CFM
C) Calculate Adjusted Fan Power Index and enter on Row 7	4) SP _f		in W.C. or Pa
	5) SP _r		in W.C. or Pa
	6) Fan Adjustment = 1-(SP _r - 1)/SP _f		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	0.828	W/CFM

1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.

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Power Consumption of Fans Requirements

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Date Prepared: 3/7/2017

Constant Volume Fans Systems

NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).


A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		
RTU-6 - Supply Fan	0.750	85.5 %	97.0 %	1.0	67
Return Fan	0.505	85.5 %	97.0 %	1.0	66

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)	 CALIFORNIA ENERGY COMMISSION
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Constant Volume Fans Systems					
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).					
A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		
RTU-7 - Supply Fan	0.750	85.5 %	97.0 %	1.0	675
Return Fan	0.505	85.5 %	97.0 %	1.0	650

[illegible]

Totals and Adjustments			
FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.	1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)		1,329 W
	2) SUPPLY DESIGN AIRFLOW		1,600 CFM
A) If filter pressure drop (SP _F) is greater than 1 inch W. C. or 245 Pascal then enter SP _F on line 4. Enter Total Fan pressure drop across the fan (SP _T) on Line 5.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.828	W/CFM
	4) SP _F		in W.C. or Pa
B) Calculate Fan Adjustment and enter on line 6.	5) SP _T		in W.C. or Pa
C) Calculate Adjusted Fan Power index and enter on Row 7	6) Fan Adjustment = 1/(SP _F - 1)/SP _T		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	0.828	W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		 CALIFORNIA ENERGY COMMISSION
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Power Consumption of Fans Requirements		(Page 1 of 2)
Project Name: Vacaville Community College Mechanical Equipment Replacement	Date Prepared: 3/7/2017	

Constant Volume Fans Systems					
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).					
A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS 8 x x 746 / [C x D]
		MOTOR	DRIVE		
RTU-11 - Supply Fan	2.000	89.5 %	97.0 %	1.0	1,719
Return Fan	0.505	85.5 %	97.0 %	1.0	650

[illegible]


Totals and Adjustments			
<p>FILTER PRESSURE ADJUSTMENT Equation 140.4-A in 140.4(c) of the Building Energy Efficiency Standards.</p>	<p>1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)</p>		<p>W</p>
	<p>2) SUPPLY DESIGN AIRFLOW</p>		<p>CFM</p>
<p>A) If filter pressure drop (SP_F) is greater than 1 inch W. C. or 245 Pascal then enter SP_F on line 4. Enter Total Fan pressure drop across the fan (SP_T) on Line 5.</p>	<p>3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2)¹</p>	<p>0.697</p>	<p>W/CFM</p>
	<p>4) SP_F</p>		<p>in W.C. or Pa</p>
<p>B) Calculate Fan Adjustment and enter on line 6.</p>	<p>5) SP_T</p>		<p>in W.C. or Pa</p>
<p>C) Calculate Adjusted Fan Power Index and enter on Row 7</p>	<p>6) Fan Adjustment = 1/(SP_F - 1)/SP_T</p>		
	<p>7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6)¹</p>	<p>0.697</p>	<p>W/CFM</p>
<p>1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.</p>			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		 CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-07-E (Page 1 of 2)
Power Consumption of Fans Requirements		
Project Name: Vacaville Community College Mechanical Equipment Replacement	Date Prepared: 3/7/2017	

Constant Volume Fans Systems							
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).							
FAN DESCRIPTION	A	B	C		D	E	F
	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)		
		MOTOR	DRIVE				
RTU-B - Supply Fan	0.750	85.5 %	97.0 %		1.0	675	
Return Fan	0.505	85.5 %	97.0 %		1.0	650	

[illegible]


Totals and Adjustments			
FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.	3) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)		1,325 W
	2) SUPPLY DESIGN AIRFLOW		1,200 CFM
A) If filter pressure drop (SP _F) is greater than 1 inch W.C. or 245 Pascal then enter SP _F on line 4. Enter Total Fan pressure drop across the fan (SP _T) on Line 5.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	1.104	W/CFM
	4) SP _F		in W.C. or Pa
B) Calculate Fan Adjustment and enter on line 6.	5) SP _T		in W.C. or Pa
C) Calculate Adjusted Fan Power index and enter on Row 7	6) Fan Adjustment = 1-(SP _F - 1)/SP _T		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	1.104	W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		 CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		
Power Consumption of Fans Requirements		NRCC-MCH-07-E (Page 1 of 2)
Project Name: Vacaville Community College Mechanical Equipment Replacement		Date Prepared: 3/7/2017

Constant Volume Fans Systems					
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of Fans §140.4(c).					
A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		
RTU-12 - Supply Fan	1.500	86.5 %	97.0 %	1.0	1,334
Return Fan	0.505	85.5 %	97.0 %	1.0	650

[illegible]


Totals and Adjustments			
FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.		1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)	1,084 W
		2) SUPPLY DESIGN AIRFLOW	3,000 CFM
A) If filter pressure drop (SP _F) is greater than 1 inch W. C. or 245 Pascal then enter SP _F on line 4. Enter Total Fan pressure drop across the fan (SP _T) on Line 5.		3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.661 W/CFM
		4) SP _F	in W.C. or Pa
		5) SP _T	in W.C. or Pa
B) Calculate Fan Adjustment and enter on line 6.		6) Fan Adjustment = 1-(SP _F - 1)/SP _T	
C) Calculate Adjusted Fan Power index and enter on Row 7		7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	0.661 W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		 CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-07-E
Power Consumption of Fans Requirements		(Page 1 of 2)
Project Name: Vacaville Community College Mechanical Equipment Replacement	Date Prepared: 3/7/2017	

Constant Volume Fans Systems					
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of Fans §140.4(c).					
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS $B \times E \times 746 /$ $(C \times D)$
		MOTOR	DRIVE		
RTU/IG - Supply Fan	0.750	85.5 %	97.0 %	1.0	675
Return Fan	0.505	85.5 %	97.0 %	1.0	650

[illegible]

Totals and Adjustments			
<p>FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.</p> <p>A) If filter pressure drop (SP_F) is greater than 1 inch W. C. or 245 Pascal then enter SP_F on Line 4. Enter Total Fan pressure drop across the Fan (SP_T) on Line 5.</p>	<p>3) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)</p>	<p>1,325</p>	<p>W</p>
	<p>4) SUPPLY DESIGN AIRFLOW</p>	<p>1,200</p>	<p>CFM</p>
<p>B) Calculate Fan Adjustment and enter on line 6.</p>	<p>5) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2)¹</p>	<p>1.104</p>	<p>W/CFM</p>
	<p>4) SP_F</p>		<p>in W.C. or Pa</p>
	<p>5) SP_T</p>		<p>in W.C. or Pa</p>
<p>C) Calculate Adjusted Fan Power Index and enter on Row 7</p>	<p>6) Fan Adjustment = 1/(SP_F – 1)/SP_T</p>		<p>in W.C. or Pa</p>
	<p>7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6)¹</p>	<p>1.104</p>	<p>W/CFM</p>
<p>1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.</p>			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		 CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-07-E (Page 1 of 2)
Power Consumption of Fans Requirements		
Project Name: Vacaville Community College Mechanical Equipment Replacement	Date Prepared:	3/7/2017

Constant Volume Fans Systems					
<i>NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).</i>					
A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS $\begin{matrix} B \times E \times 746 / \\ (C \times D) \end{matrix}$
		MOTOR	DRIVE		
<i>RTU-13 - Supply Fan</i>	1.000	86.5 %	97.0 %	1.0	886
<i>Return Fan</i>	0.505	85.5 %	97.0 %	1.0	650

[illegible]

Totals and Adjustments			
A) If filter pressure drop (SP _F) is greater than 1 inch W. C. or 245 Pascal then enter SP _F on line 4. Enter Total Fan pressure drop across the fan (SP _T) on Line 5.	1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)		1,539 W
	2) SUPPLY DESIGN AIRFLOW		2,000 CFM
B) Calculate Fan Adjustment and enter on line 6.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.770	W/CFM
	4) SP _F		in W.C. or Pa
	5) SP _T		in W.C. or Pa
C) Calculate Adjusted Fan Power Index and enter on Row 7	6) Fan Adjustment = 1-(SP _F - 1)/SP _T		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	0.770	W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-07-E	
Power Consumption of Fans Requirements		(Page 1 of 2)	
Project Name: Vacaville Community College Mechanical Equipment Replacement	Date Prepared:	3/7/2017	

Constant Volume Fans Systems					
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of Fans §140.4(c).					
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x 0)
		MOTOR	DRIVE		
RTU-10 - Supply Fan	1.600	86.5 %	97.0 %	1.0	1,334
Return Fan	0.605	85.5 %	97.0 %	1.0	650

[illegible]

Totals and Adjustments			
<p>FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the building Energy Efficiency Standards.</p> <p>A) If filter pressure drop (SP_F) is greater than 1 inch W.C. or 245 Pascals then enter SP_F on line 4. Enter Total Fan pressure drop across the fan (SP_T) on line 5.</p>	<p>1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)</p>	<p>1,984</p>	<p>W</p>
	<p>2) SUPPLY DESIGN AIRFLOW</p>	<p>3,000</p>	<p>CFM</p>
<p>B) Calculate Fan Adjustment and enter on line 6.</p>	<p>3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2)¹</p>	<p>0.661</p>	<p>W/CFM</p>
<p>C) Calculate Adjusted Fan Power Index and enter on Row 7</p>	<p>4) SP_F</p> <p>5) SP_T</p> <p>6) Fan Adjustment = 1 - (SP_F - 1) / SP_T</p>		<p>in W.C. or Pa</p> <p>in W.C. or Pa</p>
	<p>7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6)¹</p>	<p>0.661</p>	<p>W/CFM</p>
<p>1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 W/qfm for Constant Volume systems or 1.25 W/qfm for VAV systems.</p>			

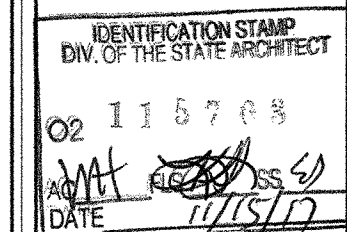
STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-07-E (Page 1 of 2)	
Power Consumption of Fans Requirements			
Project Name: Vacaville Community College Mechanical Equipment Replacement		Date Prepared: 3/7/2017	

[illegible][illegible]


Totals and Adjustments			
1) FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4-(c) of the Building Energy Efficiency Standards.	1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)		4,783 W
	2) SUPPLY DESIGN AIRFLOW		7,000 CFM
A) If filter pressure drop (SP _F) is greater than 1 inch W. C. or 245 Pascals then enter SP _F on line 4. Enter Total Fan pressure drop across the fan (SP _T) on line 5.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.679	W/CFM
	4) SP _F		in W.C. or Pa
B) Calculate Fan Adjustment and enter on line 6.	5) SP _T		in W.C. or Pa
C) Calculate Adjusted Fan Power Index and enter on Row 7	6) Fan Adjustment = 1-(SP _F - 1)/SP _T		in W.C. or Pa
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	0.679	W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 W/qfm for Constant Volume systems or 1.25 W/qfm for VAV systems.			

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SOLANO COMMUNITY COLLEGE DISTRICT
VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT

MECHANICAL
SCHEDULES, NOTES
AND LEGEND

Date:	9/30/2016
Scale:	1/8"=1'-0"
Drawn:	-
Job:	16SCC01
Sheet	T24.7
Of	Sheets

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		CALIFORNIA ENERGY COMMISSION		
CERTIFICATE OF COMPLIANCE		NRCC-MCH-07-E		
Power Consumption of Fans Requirements		(Page 1 of 2)		
Project Name: Vacaville Community College Mechanical Equipment Replacement		Date Prepared:	3/7/2017	

Constant Volume Fans Systems					
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of Fans §140.4(c).					
A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS 8 x E x 746 / (C x D)
		MOTOR	DRIVE		
RTU-15 - Supply Fan	1.000	86.9 %	97.0 %	1.0	889
Return Fan	0.505	85.9 %	97.0 %	1.0	650

[illegible]

Totals and Adjustments			
A) FILTER PRESSURE ADJUSTMENT EQUATION 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.	1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)		1,639 W
	2) SUPPLY DESIGN AIRFLOW		2,000 CFM
B) If filter pressure drop (SP _f) is greater than 1 inch W.C. or 245 Pascal then enter SP _f on line 4. Enter Total Fan pressure drop across the fan (SP _T) on line 5.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.770	W/CFM
	4) SP _f		in W.C. or Pa
	5) SP _T		in W.C. or Pa
C) Calculate Fan Adjustment and enter on line 6.	6) Fan Adjustment = 1-(SP _f - 31)/SP _T		in W.C. or Pa
D) Calculate Adjusted Fan Power index and enter on Row 7	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	0.770	W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		CALIFORNIA ENERGY COMMISSION NRCC-MCH-07-E (Page 1 of 2)	
CERTIFICATE OF COMPLIANCE			
Power Consumption of Fans Requirements			
Project Name: Vacaville Community College Mechanical Equipment Replacement		Date Prepared: 3/7/2017	

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Totals and Adjustments			
FILTER PRESSURE ADJUSTMENT EQUATION 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.	1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)	675	W
	2) SUPPLY DESIGN AIRFLOW	585	CFM
A) If filter pressure drop (SP _f) is greater than 1 inch W. C. or 245 Pascal then enter SP _f on line 4. Enter Total Fan pressure drop across the fan (SP _T) on Line 5.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	1.153	W/CFM
	4) SP _f		in W.C. or Pa
	5) SP _T		in W.C. or Pa
B) Calculate Fan Adjustment and enter on line 6.	6) Fan Adjustment = 1-(SP _f - 1)/SP _T		in W.C. or Pa
C) Calculate Adjusted Fan Power Index and enter on Row 7	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	1.153	W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-07-E	
Power Consumption of Fans Requirements		(Page 1 of 2)	
Project Name:	Vacaville Community College Mechanical Equipment Replacement	Date Prepared:	3/7/2017

Constant Volume Fans Systems						
(NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of Fans §140.4(c).)						
A	B	C		D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS $8 \times E \times T / 6$ ($C \times D$)	
		MOTOR	DRIVE			
RTU-16 - Supply Fan	1.000	96.5 %	97.0 %	1.0	889	
Return Fan	0.505	85.5 %	97.0 %	1.0	650	

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Totals and Adjustments			
FILTER PRESSURE ADJUSTMENT EQUATION 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.	1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)		1,539 W
A) If filter pressure drop (SP _F) is greater than 1 inch W. C. or 245 Pascal then enter SP _F on line 4. Enter Total Fan pressure drop across the fan (SP _T) on Line 5.	2) SUPPLY DESIGN AIRFLOW		2,000 CFM
B) Calculate Fan Adjustment and enter on line 6.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.770	W/CFM
C) Calculate Adjusted Fan Power Index and enter on Row 7	4) SP _F		in W.C. or Pa
	5) SP _T		in W.C. or Pa
	6) Fan Adjustment = 1-(SP _F - 1)/SP _T		in W.C. or Pa
	7) ADJUSTED FAN POWER INDEX [Line 3 x Line 6] ¹	0.770	W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-07-E	
Power Consumption of Fans Requirements		(Page 1 of 2)	
Project Name: <u>Vacaville Community College Mechanical Equipment Replacement</u>		Date Prepared: <u>3/7/2017</u>	

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Totals and Adjustments			
<p>FILTER PRESSURE ADJUSTMENT EQUATION 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.</p> <p>A) If filter pressure drop (SP_f) is greater than 1 inch W. C. or 245 Pascal then enter SP_f on line 4. Enter Total Fan pressure drop across the fan (SP_T) on Line 5.</p> <p>B) Calculate Fan Adjustment and enter on line 6.</p> <p>C) Calculate Adjusted Fan Power Index and enter on Row 7</p>	1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)		297 W
	2) SUPPLY DESIGN AIRFLOW		565 CFM
	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.507	W/CFM
	4) SP _f		in W.C. or Pa
	5) SP _T		in W.C. or Pa
	6) Fan Adjustment = 1-(SP _f - 1)/SP _T		in W.C. or Pa
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	0.507	W/CFM
<p>1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.</p>			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		 CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-07-E (Page 1 of 2)
Power Consumption of Fans Requirements		
Project Name: Vacaville Community College Mechanical Equipment Replacement	Date Prepared: 3/7/2017	

Constant Volume Fans Systems					
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).					
A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS 8 x C x 746 / (C x D)
		MOTOR	DRIVE		
RTU-17 - Supply Fan	1.000	86.5 %	97.0 %	1.0	889
Return Fan	0.505	85.5 %	97.0 %	1.0	650


[illegible]

Totals and Adjustments			
<p>FILTER PRESSURE ADJUSTMENT EQUATION 140.4-A in §140.4(c) of the building Energy Efficiency Standards.</p> <p>A) If filter pressure drop (SP_f) is greater than 1 inch W.C. or 245 Pascal then enter SP_f on line 4. Enter Total Fan pressure drop across the fan (SP_T) on line 5.</p> <p>B) Calculate Fan Adjustment and enter on line 6.</p> <p>C) Calculate Adjusted Fan Power index and enter on Row 7</p>	<p>1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)</p> <p>2) SUPPLY DESIGN AIRFLOW</p> <p>3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2)¹</p> <p>4) SP_f</p> <p>5) SP_T</p> <p>6) Fan Adjustment = 1-(SP_f - 1)/SP_T</p> <p>7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6)¹</p>	<p>1,539</p> <p>2,000</p> <p>0.770</p> <p>0.770</p>	<p>W</p> <p>CFM</p> <p>W/CFM</p> <p>in W.C. or Pa</p> <p>in W.C. or Pa</p> <p>W/CFM</p>
<p>1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.</p>			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		 CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE Power Consumption of Fans Requirements		NRCC-MCH-07-E (Page 1 of 2)
Project Name: <u>Vacaville Community College Mechanical Equipment Replacement</u>		Date Prepared: <u>3/7/2017</u>


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Totals and Adjustments			
FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the building Energy Efficiency Standards.	3) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)		297 W
A) If filter pressure drop (SP _F) is greater than 1 inch W.C. or 245 Pascal then enter SP _F on line 4. Enter Total Fan pressure drop across the fan (SP _T) on line 5.	2) SUPPLY DESIGN AIRFLOW		585 CFM
B) Calculate Fan Adjustment and enter on line 6.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.507	W/CFM
C) Calculate Adjusted Fan Power index and enter on Row 7	4) SP _F		in W.C. or Pa
	5) SP _T		in W.C. or Pa
	6) Fan Adjustment = 1/(SP _T - 1)/SP _F		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	0.507	W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		 CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-07-E
Power Consumption of Fans Regulations		(Page 1 of 2)
Project Name: Vacaville Community College Mechanical Equipment Replacement		Date Prepared: 3/17/2017

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Totals and Adjustments			
FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the building Energy Efficiency Standards.	3) TOTAL FAN SYSTEM POWER (WAITS, SUM COLUMN F)	679	W
	5) SUPPLY DESIGN AIRFLOW	585	CFM
A) If filter pressure drop (SP _f) is greater than 1 inch W. C. or 245 Pascal then enter SP _f on line 4. Enter Total Fan pressure drop across the fan (SP _T) on Line 5.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	1.153	W/CFM
	4) SP _f		in W.C. or Pa
B) Calculate Fan Adjustment and enter on line 6.	5) SP _T		in W.C. or Pa
C) Calculate Adjusted Fan Power Index and enter on Row 7	6) Fan Adjustment = 1/(SP _f - 1)/SP _T		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	1.153	W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.			

STATE OF CALIFORNIA FAN POWER CONSUMPTION CEC-NRCC-MCH-07-E (Revised 05/15)		CALIFORNIA ENERGY COMMISSION 	
CERTIFICATE OF COMPLIANCE Power Consumption of Fans Requirements		NRCC-MCH-07-E (Page 1 of 2)	
Project Name: <u>Vacaville Community College Mechanical Equipment Replacement</u>		Date Prepared: <u>3/17/2012</u>	

Constant Volume Fans Systems					
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of Fans §140.4(c).					
A	B	C	D	E	F
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE		
FCU-S/CU-S - Supply Fan	0.330	85.5 %	97.0 %	1.0	297

[illegible]

Totals and Adjustments			
A) FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the building Energy Efficiency Standards.	1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)	297	W
	2) SUPPLY DESIGN AIRFLOW	565	CFM
A) If filter pressure drop (SP _f) is greater than 1 inch W.C. or 245 Pascal then enter SP _f on line 4. Enter Total Fan pressure drop across the fan (SP _T) on Line 5.	3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2) ¹	0.507	W/CFM
	4) SP _f		in W.C. or Pa
B) Calculate Fan Adjustment and enter on line 6.	5) SP _T		in W.C. or Pa
C) Calculate Adjusted Fan Power index and enter on Row 7	6) Fan Adjustment = 1-(SP _f - 1)/SP _T		
	7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6) ¹	0.507	W/CFM
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.			

[illegible]

STATE OF CALIFORNIA
FAN POWER CONSUMPTION
CEC-NRCC-MCH-07-E (Revised 05/15)
CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE
Power Consumption of Fans Requirements
Project Name: *Vacaville Community College Mechanical Equipment Replacement* Date Prepared: *3/7/2017*
NRCC-MCH-07-E
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Constant Volume Fans Systems						
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).						
A	B	C	D	E	F	
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)	
		MOTOR	DRIVE			
FCU-8/CU-8 - Supply Fan	0.330	85.5 %	97.0 %	1.0		297

Variable Air Volume Fans Systems						
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Variable Air Volume (VAV) Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).						
A	B	C	D	E	F	
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)	
		MOTOR	DRIVE			

Totals and Adjustments
FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.
A) If filter pressure drop (SP_f) is greater than 1 inch W. C. or 245 Pascal then enter SP_f on line 4. Enter Total Fan pressure drop across the fan (SP_f) on Line 5.
B) Calculate Fan Adjustment and enter on line 6.
C) Calculate Adjusted Fan Power Index and enter on Row 7
1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 w/cfm for Constant Volume systems or 1.25 w/cfm for VAV systems.

1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)
2) SUPPLY DESIGN AIRFLOW
3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2)¹
4) SP_f
5) SP_f
6) Fan Adjustment = 1-(SP_f - 1)/SP_f
7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6)¹
0.507
W
CFM
W/CFM
in W.C or Pa
in W.C or Pa
W/CFM

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NRCC-MCH-07-E
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Constant Volume Fans Systems						
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).						
A	B	C	D	E	F	
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)	
		MOTOR	DRIVE			
FCU-7/CU-7 - Supply Fan	0.330	85.5 %	97.0 %	1.0		297

Variable Air Volume Fans Systems						
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Variable Air Volume (VAV) Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).						
A	B	C	D	E	F	
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)	
		MOTOR	DRIVE			

Totals and Adjustments
FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.
A) If filter pressure drop (SP_f) is greater than 1 inch W. C. or 245 Pascal then enter SP_f on line 4. Enter Total Fan pressure drop across the fan (SP_f) on Line 5.
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1) TOTAL FAN SYSTEM POWER (WATTS, SUM COLUMN F)
2) SUPPLY DESIGN AIRFLOW
3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2)¹
4) SP_f
5) SP_f
6) Fan Adjustment = 1-(SP_f - 1)/SP_f
7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6)¹
0.507
W
CFM
W/CFM
in W.C or Pa
in W.C or Pa
W/CFM

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Constant Volume Fans Systems						
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).						
A	B	C	D	E	F	
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)	
		MOTOR	DRIVE			
FCU-8/CU-8 - Supply Fan	0.330	85.5 %	97.0 %	1.0		297

Variable Air Volume Fans Systems						
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Variable Air Volume (VAV) Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).						
A	B	C	D	E	F	
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)	
		MOTOR	DRIVE			

Totals and Adjustments
FILTER PRESSURE ADJUSTMENT Equation 140.4-A in §140.4(c) of the Building Energy Efficiency Standards.
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2) SUPPLY DESIGN AIRFLOW
3) TOTAL FAN SYSTEM POWER INDEX (Row 1 / Row 2)¹
4) SP_f
5) SP_f
6) Fan Adjustment = 1-(SP_f - 1)/SP_f
7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6)¹
0.507
W
CFM
W/CFM
in W.C or Pa
in W.C or Pa
W/CFM

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NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Constant Volume Fan Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).						
A	B	C	D	E	F	
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)	
		MOTOR	DRIVE			
FCU-8/CU-8 - Supply Fan	0.330	85.5 %	97.0 %	1.0		297

Variable Air Volume Fans Systems						
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Variable Air Volume (VAV) Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).						
A	B	C	D	E	F	
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)	
		MOTOR	DRIVE			

Totals and Adjustments
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0.507
W
CFM
W/CFM
in W.C or Pa
in W.C or Pa
W/CFM

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A	B	C	D	E	F	
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)	
		MOTOR	DRIVE			
FCU-10/CU-10 - Supply Fan	0.330	85.5 %	97.0 %	1.0		297

Variable Air Volume Fans Systems						
NOTE: Provide one copy of this worksheet for each fan system with a total fan system horsepower greater than 25 hp of Variable Air Volume (VAV) Systems when using the Prescriptive Approach. See Power Consumption of fans §140.4(c).						
A	B	C	D	E	F	
FAN DESCRIPTION	DESIGN BRAKE HP	EFFICIENCY		NUMBER OF FANS	PEAK WATTS B x E x 746 / (C x D)	
		MOTOR	DRIVE			

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W
CFM
W/CFM
in W.C or Pa
in W.C or Pa
W/CFM

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Project Name: *Vacaville Community College Mechanical Equipment Replacement* Date Prepared: *3/7/2017*
NRCC-MCH-07-E
(Page 2 of 2)

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.
Documentation Author Name: *James Dyer*
Company: *EDesignC, Inc.*
Address: *212 9th St, Suite 203*
City/State/Zip: *Oakland, CA 94607*
Signature Date: *3/7/2017*
CEA/ HERS Certification Identification (if applicable):
Phone: *(415) 963-4303 x109*
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 and Part 6 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: *James Dyer*
Company: *EDesignC*
Address: *582 Market St. Suite 400*
City/State/Zip: *San Francisco, Ca 94104*
Signature Date: *3/7/2017*
License: *M25378*
Phone: *415.963.4303*

ISSUES

EDesignC
Incorporated

582 MARKET STREET,
SUITE 400
SAN FRANCISCO, CA
94104
(415) 963-4303

212 9TH STREET,
SUITE 203
OAKLAND, CA 94612

Seal & Signature:

SOLANO COMMUNITY COLLEGE DISTRICT
VACAVILLE CENTER
MECHANICAL EQUIPMENT REPLACEMENT

MECHANICAL
SCHEDULES, NOTES
AND LEGEND

DATE: 9/30/2016
SCALE: 1/8"=1'-0"
DRAWN: -
JOB: 16SCC01
SHEET: T24.9
OF: Sheets