SOLANO COMMUNITY COLLEGE DISTRICT

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

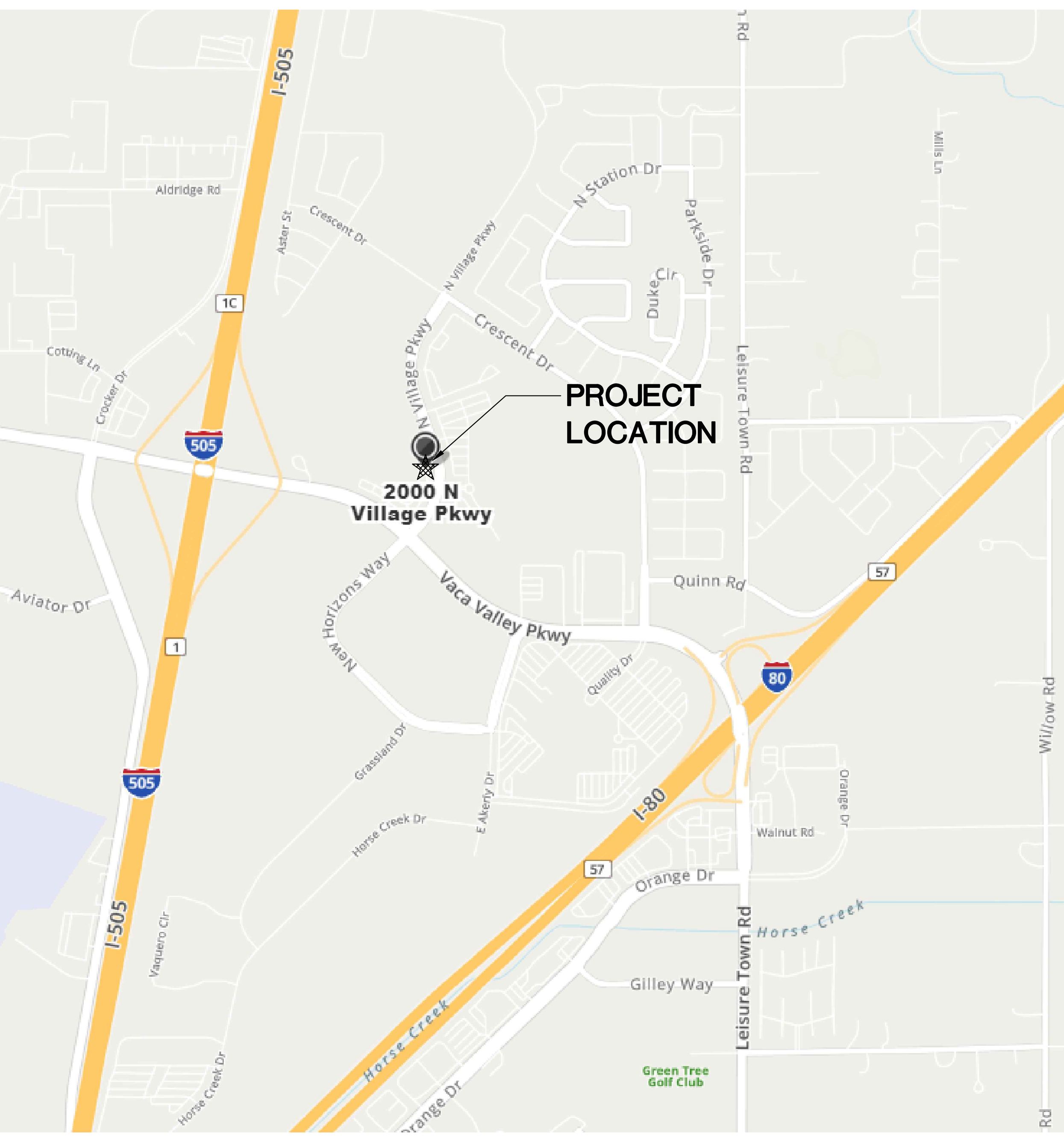
SOLANO COMMUNITY COLLEGE

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

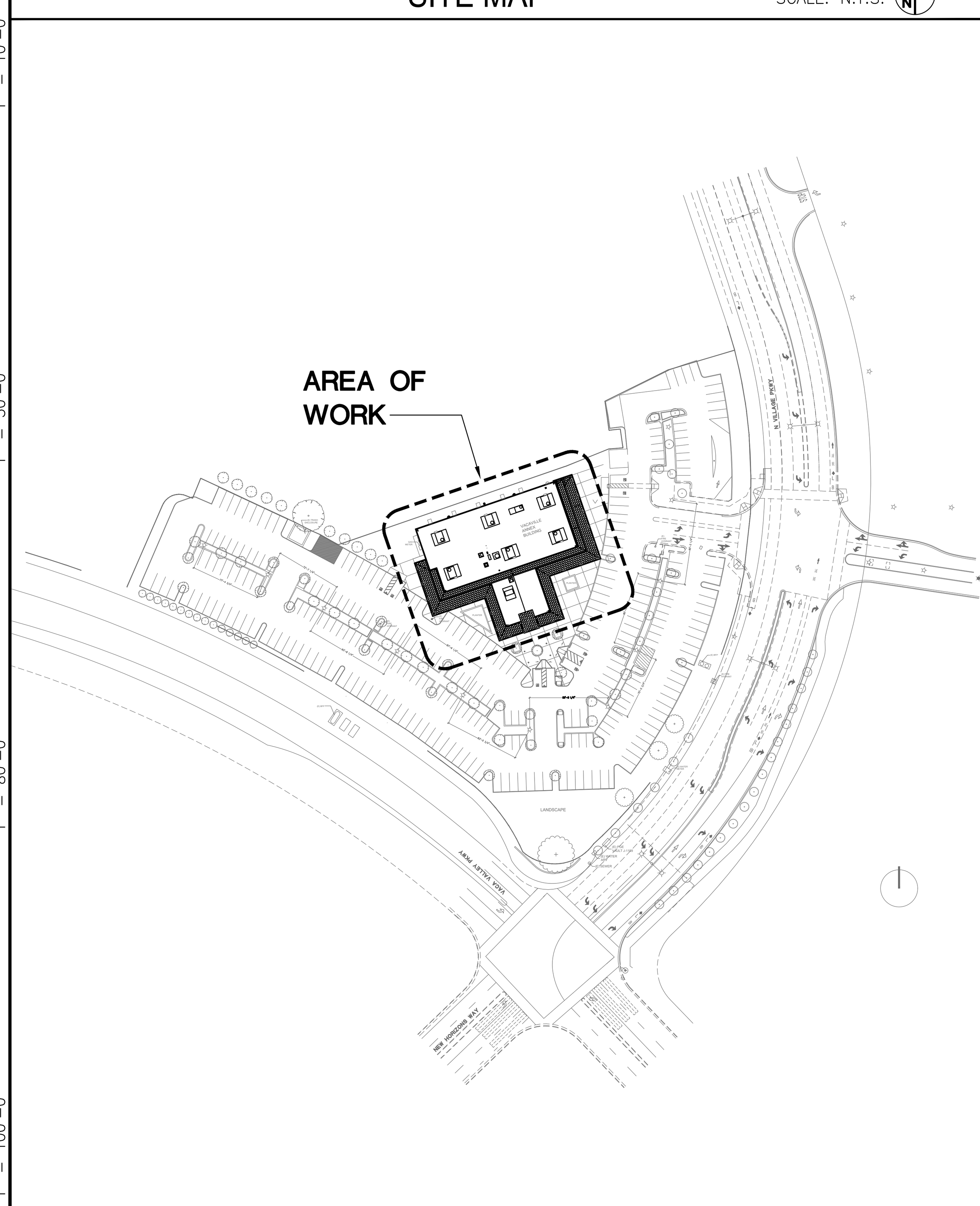
VICINITY MAP

SCALE: N.T.S.



SITE MAP

SCALE: N.T.S.



SCHOOL EQUIPMENT ANCHORAGE

M/E/P COMPONENT ANCHORAGE NOTE:

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

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

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

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

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

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

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

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

MP ☐ MD ☒ PP ☒ E ☒ — OPTION 1: DETAIL ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

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

DSA ADMINISTRATIVE REQUIREMENTS

1. A COPY OF PARTS 1 THRU 6, TITLE 24, C.C.R. SHALL BE KEPT ON THE JOB SITE AT ALL TIMES.
2. ALL CONSTRUCTION CHANGE DOCUMENTS AND ADDENDA TO BE SIGNED BY THE ARCHITECT AND THE OWNER AND APPROVED BY DSA. CONSTRUCTION CHANGE DOCUMENTS ARE NOT VALID UNTIL APPROVED BY DSA PER SECTION 4-338, PART 1, TITLE 24.
3. ALL TESTS TO CONFORM TO THE REQUIREMENTS OF SECTION 4-335, PART 1, TITLE 24, AND APPROVED T & I SHEET.
4. TESTS OF MATERIAL SAND TESTING LABORATORY SHALL BE IN ACCORDANCE WITH SECTION 4-335 OF PART 1, TITLE 24, AND THE DISTRICT SHALL EMPLOY AND PAY THE LABORATORY. COSTS OF RE-TEST MAY BE BACK CHARGED TO THE CONTRACTOR.
5. DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION AND PRIOR TO THE PLACEMENT OF CONCRETE PER SECTION 4-331, PART 1, TITLE 24.
6. INSPECTOR SHALL BE APPROVED BY DSA. INSPECTION SHALL BE IN ACCORDANICE WITH SECTION 4-333(B). THE DUTY OF THE INSPECTOR SHALL BE IN ACCORDANCE WITH SECTION 4-342, PART 1, TITLE 24. DSA PROJECT INSPECTOR SHALL BE CLASS 3 MINIMUM.
7. SUPERVISION OF CONSTRUCTION BY DSA SHAL BE IN ACCORDANCE WITH SECTION 4-334, PART 1, TITLE 24.
8. CONTRACTOR, INSPECTOR, ARCHITECT AND ENGINEERS SHALL SUBMIT VERIFIED REPORTS (FORM SSS-6) IN ACCORDANCE WITH SECTION 4-336 AND 4-343, PART 1, TITLE 24.
9. THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH SECTION 4-343, PART 1, TITLE 24.
10. ALL WORK SHALL CONFORM TO 2019 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
11. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGED DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
12. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
13. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
14. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(c), PART 1, TITLE 24, CCR).
15. THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION, AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.
16. LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).
17. MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.
18. A LISTING OF CERTIFIED ATT CAN BE FOUND AT HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE.
19. THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.
20. PROJECT INSPECTOR WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.
21. ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S AGENT.

ROOFING SUMMARY OF WORK

ROOFING:

1. REMOVE EXISTING 3 PLY BUILT UP ROOF (MECHANICALLY ATTACHED ½ INCH FIBERBOARD, 2 PLY SHEETS IN HOT ASPHALT, AND CAP SHEET SURFACING IN HOT ASPHALT).
2. PROVIDE MINIMUM 2-1/2 INCHES OF POLYISOCYANURATE INSULATION OR 3-1/2 INCHES OF MEPS INSULATION TO MEET CALIFORNIA ENERGY CODE REQUIREMENTS. PROVIDE TAPERED INSULATION CRICKETS TO PROMOTE OPTIMUM DRAINAGE. ADHERE MINIMUM ¼ INCH THICK REINFORCED GYPSUM BOARD OVER THE INSULATION USING RIBBONS OF LOW RISE SPRAY FOAM. SECURE IN ACCORDANCE WITH FM AND MANUFACTURER APPROVED FASTENING PATTERNS BASED ON UPLIFT CALCULATIONS IN ACCORDANCE WITH ASCE 7-16.
3. PROVIDE FULLY ADHERED 80 MIL FLEECE BACK TPO SINGLE PLY ROOFING OVER THE GYPSUM BOARD AND INSULATION. SECURE IN ACCORDANCE WITH MANUFACTURER. MEET OR EXCEED REFLECTIVITY AND EMITTANCE REQUIREMENTS OF THE CALIFORNIA ENERGY CODE.
4. ELEVATE PIPES, CONDUITS, CURBS, PLATFORMS, AND COUNTERFLASHINGS AS NEEDED TO PROVIDE MINIMUM 8 INCH HIGH ROOF BASEFLASHINGS.
5. PROVIDE COUNTER FLASHING AS INDICATED.
6. PROVIDE SHEET METAL CHASE FLASHINGS FOR GANGED PIPES, CONDUITS, AND CONTROLS IN ACCORDANCE WITH NRCA ROOFING AND WATERPROOFING MANUAL.
7. PROVIDE SHEET METAL (MINIMUM 22 GA GSM) UNDER CAP BETWEEN MECHANICAL PACKAGE UNITS AND THEIR SUPPORT CURBS TO COLLECT WATER THAT MAY INTRUDE THROUGH MECHANICAL UNITS AND DIRECT THE WATER TO THE EXTERIOR.
8. PROVIDE OSHA COMPLIANT RAILING AND GATE AT THE ROOF HATCHES.
9. PROVIDE SHEET METAL COPINGS (24 GA GSM WITH KYNAR FINISH, COMPLIANT WITH ANSI/SPRI ES-1) FOR THE UPPER ROOF.
10. PROVIDE A 30 YEAR NDL MANUFACTURER'S WARRANTY WITH COVERAGE FOR CODE LEVEL WINDS (NOMINAL 95 MPH) AND INCLUDES THE SHEET METAL COPINGS IN THE COVERAGE.

MECHANICAL SUMMARY OF WORK

MECHANICAL:

1. BEFORE REMOVAL OF ANY EXISTING ROOFTOP MECHANICAL EQUIPMENT, FIELD SURVEY ALL INVOLVED RELATED EXISTING CONDITIONS.
2. DEMOLISH EXISTING, PROVIDE AND INSTALL NEW TEN (10) PACKAGE ROOFTOP UNITS (RTU'S), AND ONE (1) EXHAUST FAN. COORDINATE WORK WITH CONCURENT ROOFING REPACEMENT PROJECT BY OTHERS.
3. REMOVE EXISTING ROOFTOP PLUMBING VENTS AND REINSTALL AT A MINIMUM HEIGHT OF 12" ABOVE THE FINISHED ROOFTOP SURFACE. RELOCATE ROOFTOP PLUMBING VENTS TO A MINIMUM OF 10 FEET AWAY FROM AC-UNIT OUTSIDE AIR INTAKE HOODS AS NEEDED.
4. ALL MECHANICAL, PATCHING, REPAIR, RIGGING, CONTROLS & BALANCE WORK & REPORT RELATED TO THE ABOVE.
5. PROVIDE PRE AND POST-CONSTRUCTION AIR BALANCE AND AIR BALANCE REPORT(S) FOR ALL INVOLVED AIR SYSTEMS, IN ACCORDANCE WITH AIRFLOW VALUES LISTED IN MECHANICAL SCHEDULES, AND BASED ON ENGINEER'S REVIEW/RECOMMENDATIONS OF THE PRE-CONSTRUCTION AIR BALANCE REPORT(S).
6. PROVIDE NEW DISTRICT STANDARD DELTA DDC SYSTEM INFRASTRUCTURE INCLUDING (BUT NOT LIMITED TO) CONTROL PANEL(S), CONTROLLERS, DEVICES, SENSORS, CONTROL WIRING/CONDUITS, PROGRAMMING, FRONT END GRAPHICS AND CONTROL INTERFACE(S) WITH NEW HVAC EQUIPMENT AS REFLECTED ON DRAWINGS AND IN BOOK SPECIFICATIONS.
7. CLEAN NEW DUCTWORK SYSTEMS.

DRAWING INDEX (38 SHEETS)

REROOFING PERFORMANCE REQUIREMENTS

1. PROVIDE LONG TERM, LOW MAINTENANCE, ROOF COVERING.
2. INSTALLED ROOFING MEMBRANE AND BASE FLASHING SYSTEMS SHALL REMAIN WATERTIGHT: AND RESIST SPECIFIED WIND UPLIFT PRESSURES, THERMALLY INDUCED MOVEMENT, AND EXPOSURE TO WEATHER WITHOUT FAILURE.
3. INTEGRATE ROOF SYSTEM WITH WALLS AND OTHER COMPONENTS IN A WEATHERTIGHT AND WIND RESISTANT MANNER.
4. COMPLY WITH NRCA ROOFING AND WATERPROOFING MANUAL, SMACNA ARCHITECTURAL SHEET METAL MANUAL, AND MANUFACTURER'S INSTRUCTIONS.
5. COMPOSITION OF ROOF COVERING, AND FLASHING ASSEMBLY SHALL MATCH TESTED, RATED REQUIREMENTS FOR WATER RESISTANCE, FIRE RESISTANCE, ATTACHMENT, AND ADHESION.
   A. EXTERNAL FIRE - UL 790 (ASTM E 108), CLASS A.
   B. THERMAL RESISTANCE - MINIMUM R14 LTTR MINIMUM (ROOF COVERING ALONE).
   C. COMPLY WITH EMITTANCE AND REFLECTIVITY REQUIREMENTS OF THE CALIFORNIA ENERGY CODE.
   D. WIND LOADS - ASCE 7-16, OCCUPANCY CATEGORY III ALLOWABLE STRESS DESIGN (EQUIVALENT TO NOMINAL 95 MPH), TERRAIN EXPOSURE B, CALCULATED VIA NRCA ROOF SYSTEM DESIGN WIND-LOAD ANALYSIS SOFTWARE WITH A MEAN ROOF HEIGHT OF 20 FEET, PERIMETER CURBS/PARAPETS LESS THAN 3 FEET (SOUTH ROOF), FOR A BUILDING APPROXIMATELY 162 X 215 FEET IN SIZE.
   E. TESTED WIND RESISTANCE - FM 4474.
      1) MINIMUM WIND RESISTANCE:
         A) CENTER (ZONE 1'): 7.3 PSF X SAFETY FACTOR OF 2 = 14.7 PSF UTILIZING FM 1-60 ATTACHMENT PATTERNS.
         B) FIELD (ZONE 1): 12.7 PSF X SAFETY FACTOR OF 2 = 25.5 PSF UTILIZING FM 1-60 ATTACHMENT PATTERNS (NOTE ZONE 1' AREA NOT USED).
         C) PERIMETER (ZONE 2): 16.8 PSF X SAFETY FACTOR OF 2 = 33.6 PSF UTILIZING FM 1-60 ATTACHMENT PATTERNS.
         D) CORNER (ZONE 3): 22.9 PSF X SAFETY FACTOR OF 2 = 45.8 PSF UTILIZING FM 1-60 ATTACHMENT PATTERNS.
   F. MEMBRANE INSULATION SECUREMENT - FM LPDS 1-29.
   G. HAIL RESISTANCE - MODERATE.
   H. CORROSION RESISTANCE - HIGH.
   I. WARRANTY - MANUFACTURER'S "FULL SYSTEM" NDL WARRANTED PERFORMANCE INCLUDING MEMBRANE, INSULATION, SOUTH ROOF COPINGS, AND FASTENERS, AGAINST LEAKAGE, PREMATURE DEGRADATION, AND DISPLACEMENT FROM WIND SPEED UP TO AND INCLUDING 95 MPH.
   J. ROOF COVERING ASSEMBLY COMPOSITION SHALL MATCH TESTED, RATED REQUIREMENTS FOR WATER RESISTANCE, FIRE RESISTANCE, ATTACHMENT, AND ADHESION.
   K. CONSIDER REQUIREMENTS IN OTHER SECTIONS. ADJUST INSTALLATIONS, AS NEEDED, TO ASSURE WATER TIGHTNESS AND COMPLY WITH MANUFACTURER WARRANTY REQUIREMENTS.
6. AESTHETIC: NEAT AND CLEAN FINISHED INSTALLATION APPROVED BY THE OWNER'S PROJECT MANAGER.

DEFERRED APPROVAL

NONE

CO DETECTION

1.) THE VACAVILLE ANNEX BUILDING IS AN EXISTING BUILDING THAT WAS CONSTRUCTED PRIOR TO 2010.
2.) PER DSA IR 9-2 SECTION 2.2 FOR EXISTING BUILDINGS, THE ROOFTOP HVAC REPLACEMENT ON THE NORTH ROOF THAT SERVE CLASSROOMS IS AN EQUAL REPLACEMENT OF FUEL-BURNING FORCED-AIR FURNACE EQUIPMENT AND THEREFORE CO DETECTION IS NOT REQUIRED.
3.) RTU-11 (BID-ALTERNATE #4) SERVES OFFICE SPACES AND DOES NOT REQUIRE CO DETECTION.

BUILDING DATA

LOCATION: 2000 NORTH VILLAGE PARKWAY
APPLICANT: SOLANO COMMUNITY COLLEGE DISTRICT
NUMBER OF STORIES: 1
CONSTRUCTION TYPE: V-B
OCCUPANCY GROUPS: B / A-3
ROOF CLASSIFICATION: CLASS 'A'
USE: CLASSROOM
AREA: 16,400 S.F. (& 5,112 SF OF EXTERIOR COVERED WALKWAY)
TOTAL AREA: 21,512 S.F.

NOTES:
1.) FOR INFORMATION ONLY PER "VACAVILLE CLASSROOM BUILDING (ANNEX) RENOVATION PROJECT" (DSA APPL#: 02-116082).
2.) THE OCCUPANCY OF EXISTING STRUCTURES AS DESCRIBED IN THE PROJECT INFORMATION CONTINUE WITHOUT CHANGE PER THE APPROVED DSA APPLICATION NUMBER (CBC 102.6).
3.) NO OCCUPANCY CHANGE, SIGNIFICANT ALTERATION, OR INCREASE IN SQUARE FOOTAGE IS PROPOSED FOR THIS PROJECT SCOPE OF WORK.
4.) BUILDINGS DO NOT REQUIRE THE ADDITION OF SPRINKLERS. EXISTING BUILDING CONDITIONS AND CONSTRUCTION TYPE WILL BE MAINTAINED.
5.) PROJECT SCOPE WILL NOT TRIGGER ANY STRUCTURAL IMPROVEMENTS BEYOND STRUCTURAL ROOF FRAMING FOR HVAC RELATED EQUIPMENT. SCOPE IS LIMITED TO ROOF AND HVAC REPLACEMENTS.
6.) BUILDING REHABILITATION HAS NOT BEEN REQUESTED BY THE DISTRICT. THE SCOPE FOR THE REHABILITATION PROJECT REFERENECED IN NOTE #1, BROUGHT EXISTING BUILDING IN COMPLIANCE WITH 2016 CBC.
7.) SEISMIC MITIGATION IS NOT INCLUDED IN THE SCOPE OF THIS PROJECT.

ELECTRICAL SUMMARY OF WORK

ELECTRICAL:

1. DEMO POWER TO EXISTING HVAC EQUIPMENT INCLUDING DISCONNECT SWITCH AND BREAKERS.
2. PROVIDE POWER TO NEW HVAC EQUIPMENT, INCLUDING NEW BREAKERS, FEEDERS, DISCONNECTS, AND MISC COMPONENTS REQUIRED TO FACILITATE POWER CONNECTIONS.

FIRE ALARM SUMMARY OF WORK

FIRE ALARM:

1. FIRE ALARM WORK IN SUPPORT OF NEW HVAC EQUIPMENT.
2. MODIFICATIONS TO EXISTING FIRE ALARM SYSTEM IN SUPPORT OF MECHANICAL WORK.

STATEMENT OF GENERAL CONFORMANCE

THESE DRAWINGS AND/OR SPECIFICATIONS AND/OR CALCULATIONS FOR THE ITEMS LISTED BELOW HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. THESE DOCUMENTS HAVE BEEN EXAMINED BY ME FOR DESIGN INTENT AND HAVE BEEN FOUND TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE-24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME.

THE LIST OF INDEX DRAWINGS HAVE BEEN COORDINATED WITH MY PLANS AND SPECIFICATIONS AND ARE ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT FOR WHICH I AM THE INDIVIDUAL DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE (OR FOR WHICH I HAVE BEEN DELEGATED RESPONSIBILITY FOR THIS PORTION OF THE WORK)

[signature] — Signature of the Architect/Engineer Name, Title, Affliation

3-3-2022 — Date

C19735 — License Number

11-30-2023 — Expiration Date

SPECIAL REQUIREMENTS

1. RE-ACCEPTANCE TESTING IS REQUIRED FOR BOTH FIRE SPRINKLERS AND FIRE ALARM SYSTEM - IF SPRINKLER HEADS AND FIRE ALARM DEVICES ARE BEING REMOVED AND REINSTALLED.
2. A FIRE WATCH WILL BE REQUIRED IN AN OCCUPIED BUILDING WHEN THE FA AND/OR FS SYSTEM HAS IMPAIRMENTS. SYSTEMS OUT OF SERVICE SHALL MEET ALL REQUIREMENTS OF CFC 901.7 AND PROJECT SHALL HAVE AN ASSIGNED IMPAIRMENT COORDINATOR PER CFC 901.7.1.
3. FA/FS IMPAIRMENT PLAN SHALL BE CONSULTED AND SUBMITTED TO LOCAL SFM DEPUTY ASSIGNED TO PROJECT.
4. FIRE PROOFING - TYPE IIA (ONE HOUR) - EXISTING FIRE PROOFING DAMAGE DUE TO REMODELING/TENANT IMPROVEMENTS WILL NEED TO BE REPAIRED AND WILL BE REQUIRED TO HAVE SPECIAL INSPECTION PER CBC 1705.14.
5. DISTRICT SHALL BE NOTIFIED OF HVAC AND POWER OUTAGES. A DETAILED OUTAGE PLAN SHALL BE SUBMITTED TO THE DISTRICT A MINIMUM OF TWO WEEKS PRIOR TO THE SHUTDOWN.
6. REFER TO BID ALTERNATE SCOPE OF WORK ON THIS SHEET.

BID ALTERNATES

ALTERNATES AFFECTING DSA REGULATED ITEMS ARE TO BE FULLY DETAILED ON PLANS.

ALTERNATE #1 - DEDUCTIVE: DELETE RE-ROOFING AT THE SOUTH ROOF. DO PROVIDE BOLT-ON, OSHA COMPLIANT RAILING AT ROOF HATCH.

ALTERNATE #2 - DEDUCTIVE: PROVIDE ADHERED 60MIL FLEECE BACK TPO ROOF MEMBRANE WITHIN 20 YEAR NDL WARRANTY IN LEIU OF SPECIFIED 80 MIL FLEECE BACK WITH 30 YEAR NDL WARRANTY.

ALTERNATE #3 - ADDITIVE: REMOVE AND REPLACE SHEET METAL COPING AT TOP OF PARAPET WALL OF MAIN (NORTH) ROOF USING ANSI/SPRI ES-1 RATED KYNAR COATED 24 GA GALVANIZED STEEL COPING, FACTORY FABRICATED AND WARRANTED BY THE ROOFING MANUFACTURER.

ALTERNATE #4 - ADDITIVE: DEMOLISH THE EXISTING EXHAUST FAN (EF-1) AND FRESH AIR INTAKE (FAI) HOOD ON THE SOUTH ROOF, CONDENSING UNIT (CU-1) ON NORTH ROOF, AND THE FAN COIL UNIT (FC-1) IN THE FIRST FLOOR ATTIC SPACE. PROVIDE RTU-11, UTILITY CONNECTIONS, AND THE FAN COIL UNIT CONTROLS AS INDICATED. RECOVER AND RECYCLE REFRIGERANT FROM FC-1 AND CU-1 SPLIT SYSTEM.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-119811 INC:
REVIEWED FOR
SS ☒ FLS ☒ ACS ☐
DATE: 06/02/2022

agency

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National Strength. Local Action.

consultant

LICENSED ARCHITECT
JOSEPH EDWARD GONZALEZ
No. C19735
REN. 11-30-2023
STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE

MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	ES
APPROVED BY:	ES

SHEET TITLE

GENERAL COVER SHEET

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

G-0.0

SHEET OF XX

1/2" = 1'-0"
1/4" = 1'-0"
1/8" = 1'-0"
1" = 10'-0"
1" = 30'-0"
1" = 80'-0"
1" = 100'-0"

APPLICABLE CODES

UNLESS OTHERWISE INDICATED OR SPECIFIED, PERFORM THE WORK IN CONFORMANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE REGULATORY REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

1. CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24): 2019
2. CALIFORNIA BUILDING CODE (PART 2, TITLE 24): 2018 IBC WITH 2019 CA AMENDMENTS
3. CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24): 2017 NEC WITH 2019 CA AMENDMENTS
4. CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24): 2018 UMC WITH 2019 CA AMENDMENTS
5. CALIFORNIA PLUMBING CODE (PART 5, TITLE 24) 2018 UPC WITH 2019 CA AMENDMENTS
6. CALIFORNIA ENERGY CODE (PART 6, TITLE 24): 2019
7. CALIFORNIA HISTORICAL BUILDING CODE, (PART 8, TITLE 24): 2019
8. CALIFORNIA FIRE CODE (PART 9, TITLE 24): 2018 IFC WITH 2019 CA AMENDMENTS
9. CALIFORNIA EXISTING BUILDING CODE (PART 10, TITLE 24): (2018 INTERNATIONAL EXISTING BUILDING CODE WITH 2019 CA AMENDMENTS)
10. CALIFORNIA GREEN BUILDING STANDARDS CODE OR CAL GREEN (PART 11, TITLE 24): 2019
11. CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24): 2019
12. CALIFORNIA CODE OF REGULATIONS PUBLIC SAFETY (TITLE 19), STATE FIRE MARSHAL: CURRENT EDITION
13. NFPA 13 INSTALLATION OF SPRINKLER SYSTEMS: 2016 (CA AMENDED)
14. NFPA 14 INSTALLATION OF STANDPIPE, PRIVATE HYDRANT AND HOSE SYSTEMS: 2016 (CA AMENDED)
15. NFPA 17 DRY CHEMICAL EXTINGUISHING SYSTEM: 2017 EDITION
16. NFPA 17A TO A UL 300 FOR CLASS I HOOD FIRE SUPPRESSION SYSTEM. (WET CHEMICAL EXTINGUISHING SYSTEMS) 2017
17. NFPA 20 INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION: 2016 EDITION
18. NFPA 22 WATER TANKS FOR PRIVATE FIRE PROTECTION: 2013 EDITION
19. NFPA 24 INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES: 2016 EDITION (CA AMENDED)
20. NFPA 25 INSPECTION, TESTING, MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS: 2013 EDITION (CA EDITION)
21. NFPA 72 NATIONAL FIRE ALARM CODE, WITH CA AMENDMENTS: 2016 EDITION (CA AMENDED)
22. NFPA 80 FIRE DOORS AND OTHER OPENING PROTECTIVE: 2016 EDITION
23. NFPA 110 EMERGENCY AND STANDBY POWER SYSTEMS: 2016 EDITION
24. NFPA 170 STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS: 2018 EDITION
25. NFPA 2001 CLEAN AGENT FIRE EXTINGUISHING SYSTEMS 2015 W/CALIF AMENDMENTS
26. ICC 300-17 STANDARD ON BLEACHERS, FOLDING AND TELESCOPIC SEATING AND GRANDSTANDS
27. SFM 12-10-1 POWER OPERATED EXIT DOORS
28. SFM 12-10-2 SINGLE POINT LATCHING OR LOCKING DEVICES
29. SFM 12-10-3 EMERGENCY EXIT & PANIC HARDWARE
30. ASTM STANDARD CHANGES (EXAMPLE: ASTM E648-04 STANDARD TEST METHOD FOR CRITICAL RADIANT FLUX OF FLOOR)
31. UL 38-99 MANUAL OPERATED SIGNAL BOXES, WITH REVISIONS, THRU FEB.2, 2005, WITH CA AMENDMENTS
32. UL 268-09 SMOKE DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS
33. UL 268A-09 SMOKE DETECTORS DUCT APPLICATIONS
34. UL 300 FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF RESTAURANT COOKING AREAS 2005 (R2010)
35. UL 305-2012 PANIC HARDWARE WITH REVISIONS THRU AUG. 2014
36. UL 464 AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES, 2003 EDITION
37. UL 521 STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS 1999 EDITION
38. UL 864-03 CONTROL UNITS AND ACCESSORIES FOR FIRE ALARM SYSTEMS, WITH REVISIONS THRU DEC, 2014 AND CA AMENDMENTS
39. AMERICANS WITH DISABILITIES ACT (A.D.A.) FEDERAL ACCESSIBILITY STANDARDS
40. ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
41. AISC MANUAL OF STEEL CONSTRUCTION
42. ASCE/SEJ 7-16, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES WITH SUPPLEMENT NO. 1
43. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION
44. UL 1971 – STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED 2002 (R2010)
45. ICC 300 – STANDARD FOR BLEACHERS, FOLDING AND TELESCOPIC SEATING, AND GRANDSTANDS 2017 EDITION

FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2019 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.

SEE CALIFORNIA BUILDING CODE CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS.

*ALL PARTS OF THE 2019 CALIFORNIA BUILDING CODE BECOME EFFECTIVE JANUARY 1, 2020 EXCEPT THE EFFECTIVE DATE FOR THE USE OF THE 2019 BUILDING ENERGY EFFICIENCY STANDARDS (TITLE 24, PART 1, CHAPTER 10) IS JANUARY 8, 2019 AND THE EFFECTIVE DATE FOR THE USE OF THE CALIFORNIA ADMINISTRATIVE CODE (TITLE 24, PART 1, CHAPTER 4) IS JANUARY 8, 2019.

GENERAL NOTES

1. PRIOR TO SUBMITTING PROPOSAL, BIDDER SHALL EXAMINE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND SHALL HAVE HAD VISITED THE CONSTRUCTION SITE. HE SHALL BE FAMILIAR WITH THE 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.
2. THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE PROPER RESTORATION OF ALL SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND/OR OTHER WORK DUE TO THE INSTALLATION OF WORK UNDER THE TERMS OF THIS SPECIFICATION. CLOSE ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED.
3. ALL TEMPORARY WORK SHALL BE CONSIDERED A PART OF THIS CONTRACT AND NO EXTRA CHARGES WILL BE ALLOWED. THIS SHALL INCLUDE MINOR ITEMS OF MATERIAL OR EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS AND INTENT OF THE PROJECT.
4. ALL DIMENSIONS ARE APPROXIMATE. THE DRAWINGS ARE DIAGRAMMATIC TO THE EXTENT THAT ALL FITTINGS, OFFSETS, ETC. MAY NOT BE SHOWN. THESE DRAWINGS ARE FOR THE GUIDANCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD FOR FABRICATION OF THE PIPING, MECHANICAL, AND ELECTRICAL COMPONENTS INTO A COMPLETE AND OPERABLE SYSTEM. ALL EXISTING PIPES, CONDUITS, DUCTS AND WIRING FOUND TO INTERFERE WITH NEW CONSTRUCTION SHALL BE REROUTED AS REQUIRED TO ACCOMMODATE NEW WORK.
5. ALL WORK, MATERIALS, AND METHODS TO BE USED FOR SEISMIC RESTRAINTS SHALL BE AS DETAILED ON THE APPROVED DRAWINGS.
6. THE PLANS AND SPECIFICATIONS DO NOT UNDERTAKE TO SHOW OR LIST EVERY ITEM TO BE PROVIDED, BUT RATHER TO DEFINE THE REQUIREMENTS FOR A FULL AND WORKING SYSTEM FROM THE STANDPOINT OF THE END USER. FOR THIS REASON, WHEN AN ITEM NOT SHOWN OR LISTED IS CLEARLY NECESSARY FOR PROPER CONTROL/ OPERATION OF EQUIPMENT WHICH IS SHOWN OR LISTED, PROVIDE AN ITEM WHICH WILL ALLOW THE SYSTEM TO FUNCTION PROPERLY AT NO INCREASE IN PRICE.
7. ALL WORK SHALL CONFORM TO CALIFORNIA TRADE STANDARDS WHICH GOVERN EACH PHASE OF THE PROJECT, INCLUDING BUT NOT LIMITED TO: AMERICAN CONCRETE INSTITUTE CODE (ACT), AND ALL APPLICABLE LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
8. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE LATEST ADOPTED CAMPUS STANDARDS.
9. DIMENSIONS ON WORKING DRAWINGS GOVERN. DO NOT SCALE DRAWINGS.
10. ALL TYPICAL DETAILS SHALL APPLY UNLESS NOTED OTHERWISE.
11. ALL CONTRACTORS SHALL REMOVE TRASH AND DEBRIS STEMMING FROM THEIR WORK ON A DAILY BASIS. PROJECT SITE SHALL BE MAINTAINED IN A CLEAN AND ORDERLY CONDITION.
12. THE DETAILS REFLECT THE DESIGN INTENT FOR TYPICAL CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND SHALL INCLUDE, IN HIS SCOPE, THE COST FOR COMPLETE FINISHED INSTALLATIONS, INCLUDING ANOMALIES, OF ALL TRADES.
13. PRIOR TO BIDDING, CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONDITIONS WHICH ARE NOT COVERED IN THE CONTRACT DOCUMENTS. DURING CONSTRUCTION, CONTRACTOR SHALL NOTIFY THE ENGINEER AND SEEK CLARIFICATION IF ANY DISCREPANCIES ARE FOUND. CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIAL WORK IF RELATED WORK IS CONTINUED AFTER A DISCREPANCY IS IDENTIFIED.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT MATERIALS, LABOR, INSTALLATION, ETC., CONFORMS TO ALL CODES AND REQUIREMENTS OF LOCAL GOVERNING AGENCIES.
15. NO WORK SHALL COMMENCE WITH UNREVIEWED MATERIALS. ANY WORK DONE WITH UNREVIEWED MATERIALS AND EQUIPMENT IS AT THE CONTRACTOR'S RISK. SEE SPECIFICATIONS FOR SUBMITTAL AND SUBSTITUTION REQUIREMENTS.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR FOR ALL MATERIALS STORAGE, WHETHER ON SITE OR OFF. CONSTRUCTION MATERIALS STORED ON THE SITE SHALL BE PROPERLY STACKED AND PROTECTED SO AS TO PREVENT DAMAGE OR DETERIORATION UNTIL USED. FAILURE IN THIS REGARD MAY BE CAUSE FOR REJECTION OF MATERIAL AND/OR WORK.
17. ALL FINISHES AND CONSTRUCTION SHALL BE PROTECTED BY THE CONTRACTOR FROM POTENTIAL DAMAGE CAUSED BY CONSTRUCTION ACTIVITY. DAMAGE TO FINISHES OR CONSTRUCTION SHALL BE REPAIRED OR REPLACED (OWNER'S DECISION) BY THE CONTRACTOR WITH IDENTICAL MATERIAL AND/OR FINISHES. CONTRACTOR SHALL MAKE AND MAINTAIN A PHOTOGRAPHIC RECORD NOTEBOOK WITH DATED/INDEXED PHOTOGRAPHS.
18. ALL EQUIPMENT SHALL BE FABRICATED FROM FIELD VERIFIED DIMENSIONS AND REVIEWED SHOP DRAWINGS. COORDINATE MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT.
19. RECYCLE AND/OR SALVAGE NONHAZARDOUS CONSTRUCTION AND DEMOLITION DEBRIS. THIS PROJECT INVOLVES THE REMOVAL/DEMOLITION OF SEVERAL SELECTED ITEMS, SUCH AS PIPE AND FITTINGS. IT IS THE INTENT OF THE UNIVERSITY THAT REMOVED ITEMS BE REUSED AND/OR RECYCLED TO THE FULLEST EXTENT POSSIBLE (80% IS THE TARGET). THIS INCLUDES RECYCLING OF REMOVED STEEL, ALUMINUM, COPPER AND OTHER METALS. ALL CONCRETE REMOVED SHALL BE RECYCLED FOR REUSE AT A LOCAL RECYCLING FACILITY, INCLUDING ANY AND ALL REBAR. SPOILS SHALL BE REUSED ON SITE AS MUCH AS POSSIBLE AND/OR HAULED TO A RECYCLING/REUSE FACILITY. ANY HAZARDOUS MATERIAL ENCOUNTERED AND REMOVED SHALL BE PROPERLY HANDLED AND DISPOSED OF PER FEDERAL, STATE AND LOCAL REGULATIONS. ALL MATERIAL AND EQUIPMENT NOT CALLED OUT FOR REUSE OR RE-INSTALLATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
20. ALL WORK IS <N> UNLESS OTHERWISE NOTED.
21. SEAL ALL PENETRATIONS WATERTIGHT.
22. SEAL ALL PENETRATIONS TO MAINTAIN F&T RATINGS OF ASSEMBLY PENETRATED.
23. WORK SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 33 OF THE CBC & CFC, "FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-119811 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 06/02/2022

agency

SALAS O'BRIEN
expect a difference
305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASOBRIEN.COM
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consultant

LICENSED ARCHITECT
JOSEPH EDWARD GONZALEZ
No. C19735
REN. 11-30-2023
STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE

MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	ES
APPROVED BY:	ES

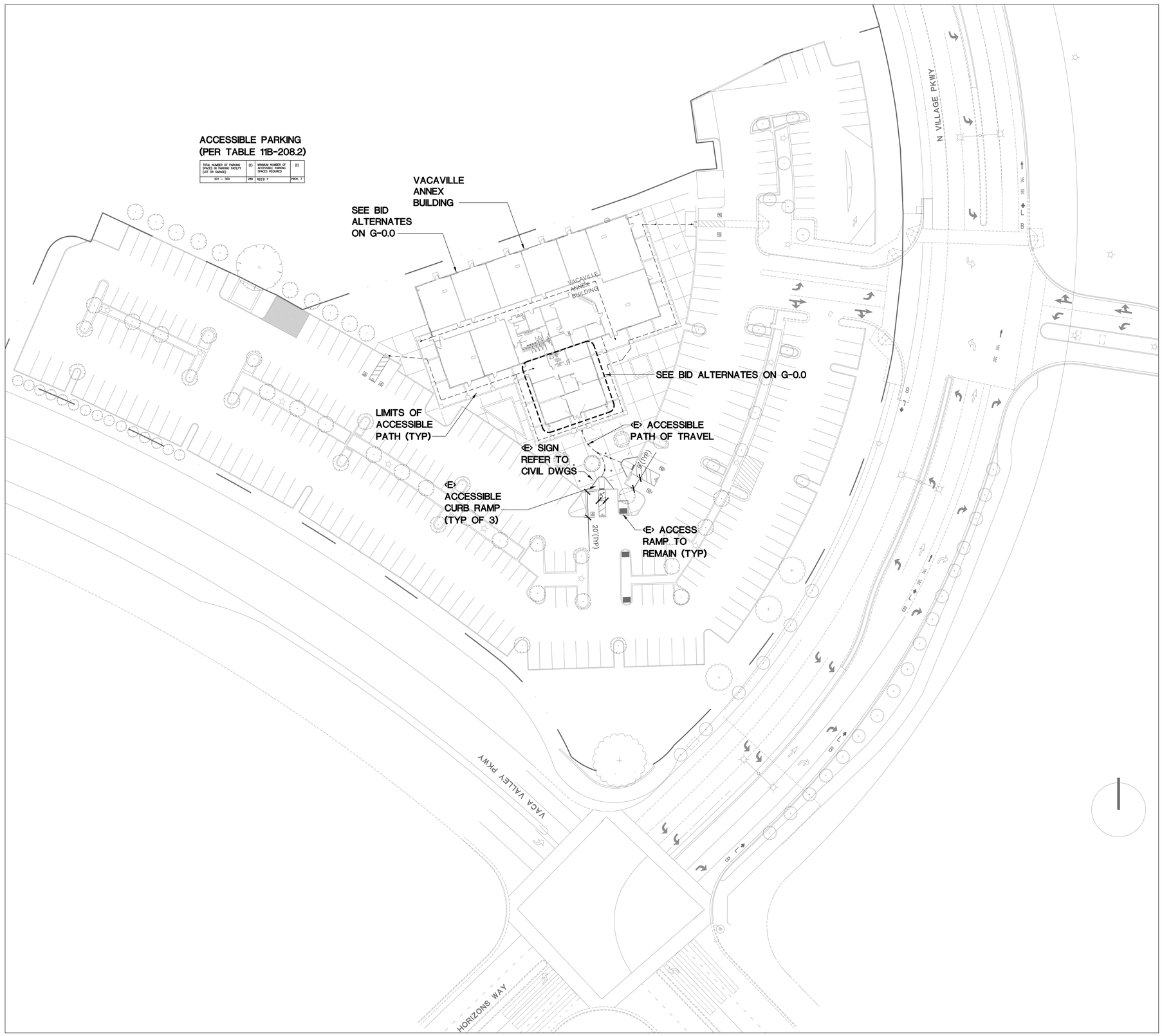
SHEET TITLE
GENERAL NOTES

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

G-0.1
SHEET OF XX

ACCESSIBLE PARKING (PER TABLE 11B-208.2)

TOTAL NUMBER OF PARKING SPACES IN PARKING FACILITY (LOT OR GARAGE)	(E)	MINIMUM NUMBER OF ACCESSIBLE PARKING SPACES REQUIRED	(E)
201 – 300	289	REQ'D 7	PROV. 7



1 CAMPUS SITE MAP
SCALE: 1" = 30' - 0"

GENERAL NOTES

THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS MEETS THE REQUIREMENTS OF THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE (CBC) 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 NON-COMPLIANT WITH THE CBC HAVE BEEN IDENTIFIED AND 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 INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CBC COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THE ITEMS SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

PATH OF TRAVEL, TECHNICAL REQUIREMENTS FOR ACCESSIBLE ROUTE

ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER-FREE ACCESS ROUTE WITHOUT ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAXIMUM SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAXIMUM AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM AND SLIP-RESISTANT. CROSS-SLOPE SHALL NOT BE STEEPER THAT 1:48 AND SLOPE IN THE DIRECTION OF TRAVEL SHALL NOT BE STEEPER THAT 1:20. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND FREE OF OBJECTS PROTRUDING MORE THAN 4" FROM THE WALL ABOVE 27" AND LESS THAN 80" ABOVE FLOOR.

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SHEET TITLE
GENERAL
CAMPUS SITE MAP

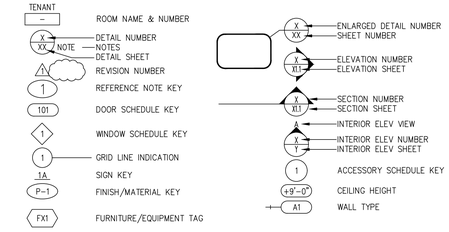
SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

G-0.2
SHEET OF XX

K:\drawings\Solano Community College District\2100987 Vacaville Annex HVAC Replacement\2100987G-0.2.dwg 5/31/2022 2:09 PM Rick Padua

1/2" = 1'-0"
1/4" = 1'-0"
1/8" = 1'-0"
1" = 10'-0"
1" = 30'-0"
1" = 80'-0"
1" = 100'-0"

SYMBOLS



ABBREVIATIONS

@	AT
A.B.	ANCHOR BOLT
ACC.	ACCESSIBLE
A.D.A.	AMERICANS WITH DISABILITIES ACT
ADDL.	ADDITIONAL
ADJ.	ADJACENT
ADJUST.	ADJUSTABLE
A.F.F.	ABOVE FINISHED FLOOR
ALT.	ALTERNATE
ALUM.	ALUMINUM
A.P.	ACCESS PANEL
APPROX.	APPROXIMATE
ASSY.	ASSEMBLY
A.S.T.M.	AMERICAN SOCIETY of TESTING MATERIALS
A.W.G.	AMERICAN WIRE GAGE
B.J.	BAR JOIST
BLDG.	BUILDING
BLKG.	BLOCKING
BM.	BEAM
B.O.	BOTTOM OF
B.P.	BOTTOM PLATE
BTWN.	BETWEEN
B.U.R.	BUILT-UP ROOFING
CAB.	CABINET
C.B.C.	CALIFORNIA BUILDING CODE
CHIM.	CHIMNEY
C.M.C.	CALIFORNIA MECHANICAL CODE
C.P.C.	CALIFORNIA PLUMBING CODE
C.PL.	CEMENT PLASTER
C.I.	CAST IRON
C.L. OR ℄	CENTER LINE
CLNG.	CEILING
CLO.	CLOSET
C.J.	CONTROL JOINT
C.M.U.	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONS.	CONSTRUCTED
CONT.	CONTINUOUS
CORR.	CORRIDOR
CORG.	CORRUGATED
CPT.	CARPET
CSMT.	CASEMENT
C.T.	CERAMIC TILE
DBL.	DOUBLE
DBL. PL.	DOUBLE PLATE
DET.	DETAIL
DEG.	DEGREE
DIA.	DIAMETER
DIM.	DIMENSION
DOW.	DOWEL
DR.	DOOR
D.S.	DOWNSPOUT
D/W	DISHWASHER
(E)	EXISTING
EA.	EACH
ELECT.	ELECTRICAL
EL. OR ELEV.	ELEVATION OR ELEVATOR
E.J.	EXPANSION JOINT
E.M.H.O.	ELECTRO MAGNETIC HOLD OPEN
EQUIP.	EQUIPMENT
EXEC.	EXECUTIVE
EXP.	EXPANSION
EXT.	EXTERIOR
F.D.	FLOOR DRAIN OR FIRE DAMPER
F.E.C.	FIRE EXTINGUISHER CABINET
F.E.	FIRE EXTINGUISHER
F.F.	FINISHED FLOOR
F.F.E.	FINISHED FLOOR ELEVATION
FG.	FIBERGLASS
F.H.	FIRE HOSE
FIN.	FINISH
FLASHG.	FLASHING
FLR.	FLOOR
FNDN.	FOUNDATION
F.O.F.	FACE OF FINISH
FR.	FRAME
F.R.T.	FIRE RETARDENT TREATED
F.S.R.	FIRE SPRINKLER RISER
FT.	FOOT OR FEET
FTG.	FOOTING
GA.	GAGE OR GAUGE
GALV.	GALVANIZED
G.D.	GARBAGE DISPOSAL
GEOTECH.	GEOTECHNICAL
G.F.C.I.	GROUND FAULT CIRCUIT INTERRUPTER
G.F.M.U.	GROUND FACE MASONRY UNIT
G.I.	GALVANIZED IRON
GL.	GLASS OR GLAZING
GLU-LAM	GLUE LAMINATED
G.S.M.	GALVANIZED SHEET METAL
GYP. BD.	GYPSUM BOARD
HORIZ.	HORIZONTAL
HI.P.	HIGH POINT
HP.	HORSEPOWER
H.M.	HOLLOW METAL
HR.	HOUR
HT.	HEIGHT
H.V.	HEATING VENT
I.D.	INSIDE DIAMETER
INFO.	INFORMATION
INSUL.	INSULATION or INSULATED
INT.	INTERIOR
JST.	JOIST
JT.	JOINT
K.E.E.	KETONE ETHYLENE ESTER
LAM.	LAMINATED
LB.	POUND
LEV.	LEVEL
L.L.V.	LONG LEG VERTICAL
L.P.	LOW POINT
MAS.	MASONRY
MATL.	MATERIAL
MAX.	MAXIMUM
M.D.F.	MEDIUM DENSITY FIBERBOARD
MECH.	MECHANICAL
MEZZ.	MEZZANINE
MFR.	MANUFACTURER
MIN.	MINIMUM
M.O.	MASONRY OPENING
MTL	METAL
(N)	NEW
N.I.C.	NOT IN CONTRACT
NOM.	NOMINAL
NO.	NUMBER
N.T.S.	NOT TO SCALE
O/	OVER
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.S.B.	ORIENTED STRAND BOARD
OVHD.	OVERHEAD
OPP.	OPPOSITE
PC.	PRECAST
P.H.	PANIC HARDWARE
P.	PROPERTY LINE
P.L.	PLATE
P.LAM.	PLASTIC LAMINATE
PLYWD.	PLYWOOD
PNT.	PAINT
PREFIN.	PREFINISHED
P.O.C.	POINT OF CONNECTION
P.P.T.	PRESSURE PRESERVATIVE TREATED
PV.C.	POLYVINYL CHLORIDE
QT.	QUART
Q.TILE.	QUARRY TILE
R.B.	RUBBER BASE
R.C.P.	REFLECTED CEILING PLAN
R.D.	ROOF DRAIN
REFRIG.	REFRIGERATOR OR REFRIGERATION
REINF.	REINFORCING OR REINFORCED
RESI.	RESILIENT
RES'L.	RESIDENTIAL
REQD.	REQUIRED
RFTR.	RAFTER
RM.	ROOM
R.O.	ROUGH OPENING
R.T.	RUBBER TILE
R.T.U.	ROOF TOP UNIT
R.W.L.	RAIN WATER LEADER
S.A.D.	SEE ARCHITECTURAL DRAWINGS
S.C.	SOLID CORE
S.C.D.	SEE CIVIL DRAWINGS
SCHED.	SCHEDULE
S.D.	SMOKE DETECTOR
SEC.	SECRETARY
SECT.	SECTION
S.E.D.	SEE ELECTRICAL DRAWINGS
S.F. OR SQ.FT.	SQUARE FOOT
SHT.	SHEET
SIM.	SIMILAR
S.L.D.	SEE LANDSCAPE DRAWINGS
S.M.D.	SEE MECHANICAL DRAWINGS
S.M.	SHEET METAL
S.O.G.	SLAB ON GRADE
S.P.D.	SEE PLUMBING DRAWINGS
SPEC.	SPECIFICATION
SQ.	SQUARE
S.S.	STAINLESS STEEL
S.S.D.	SEE STRUCTURAL DRAWINGS
STL.	STEEL
STO.	STORAGE
STRUC.	STRUCTURE OR STRUCTURAL
T.	TOP
T.&B.	TOP AND BOTTOM
T.C.	TRASH COMPACTOR
TEMP.	TEMPERED
TH. OR THLD.	THRESHOLD
T.O.C.	TOP OF CONCRETE
T.O.CURB	TOP OF CURB
T.O.D.	TOP OF DECK
T.O.F.	TOP OF FLOOR OR TOP OF FINISH
T.O.G.	TOP OF GRADE
T.O.S.	TOP OF SLAB
T.O.P.	TOP OF PARAPET
T.O.R.	TOP OF ROOF
T.P.	TOP PLATE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
UTIL.	UTILITY
UR.	URINAL
VAR.	VARIES
V.B.	VINYL BASE
V.C.T.	VINYL COMPOSITION TILE
VERT.	VERTICAL
VEST.	VESTIBULE
V.I.F.	VERIFY IN FIELD
V.R.S.	VAPOR RETARDANT SHEET
V.T.	VENT
V.T.R.	VENT THUR ROOF
V.W.C.	VINYL WALL COVERING
W/	WITH
W/O	WITHOUT
W.C.	WATER CLOSET
WD.	WOOD
W.G.B.	WET RATED GYPSUM BOARD OR GREEN BOARD
W.I.	WOODWORK INSTITUTE
WNSCT.	WAINSCOT
W.W.F.	WELDED WIRE FABRIC
W.W.M.	WELDED WIRE MESH

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-119811 INC:
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DATE: 06/02/2022

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LICENSED ARCHITECT
JOSEPH EDWARD GONZALEZ
No. C19735
REN. 11-30-2023
STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE		
MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
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	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

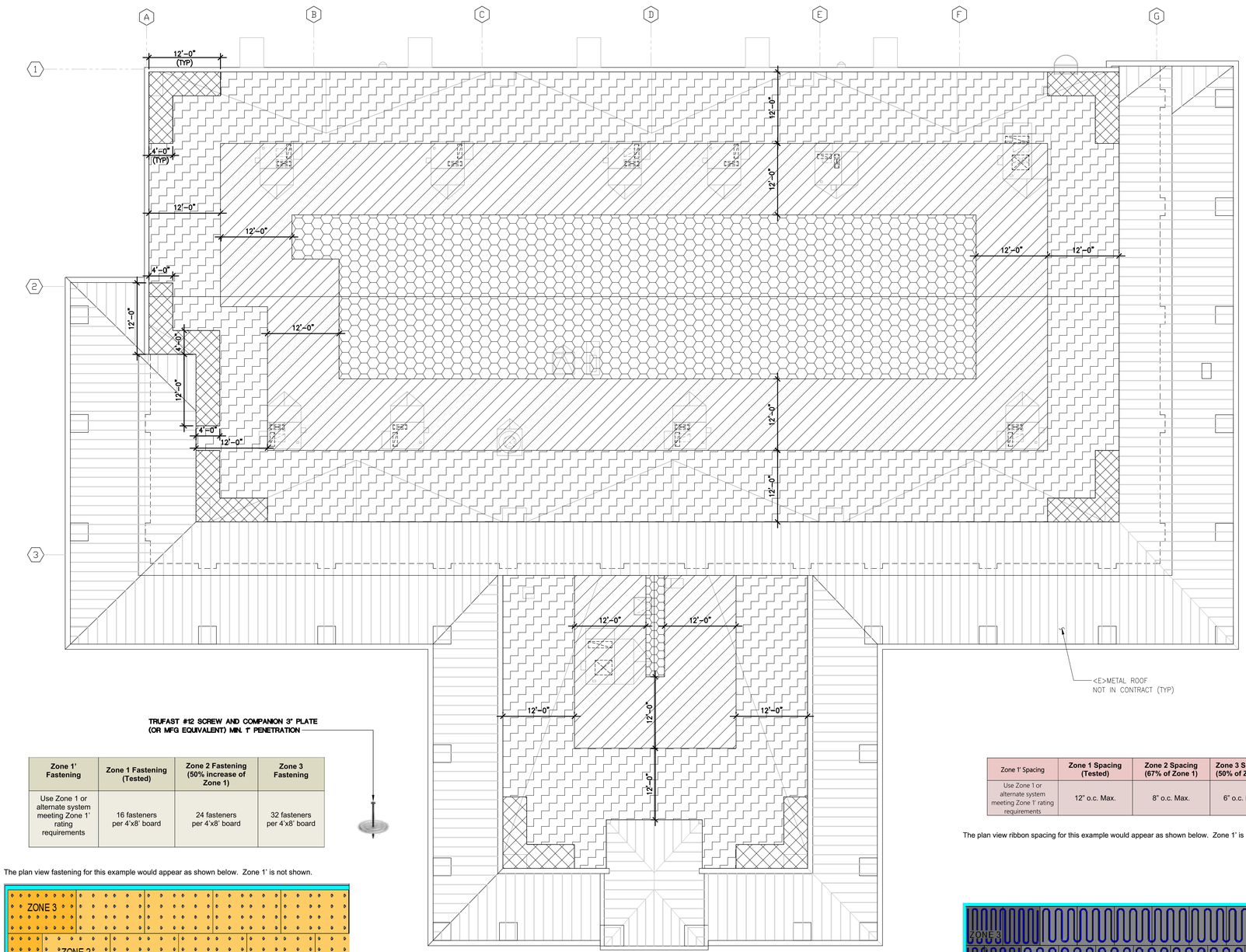
SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	JEG
APPROVED BY:	ER

SHEET TITLE

ARCHITECTURAL SYMBOLS AND ABBREVIATIONS

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

A-0.0
SHEET OF XX



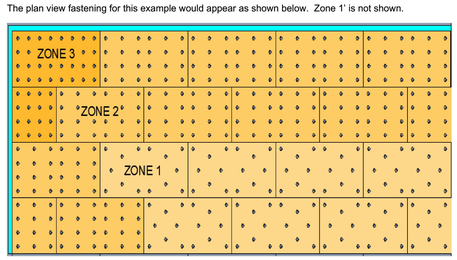
2 INSULATION FASTENING PATTERNS

SCALE: N.T.S.

TRUFAST #12 SCREW AND COMPANION 3" PLATE (OR MFG EQUIVALENT) MIN. 1" PENETRATION

Zone 1' Fastening	Zone 1 Fastening (Tested)	Zone 2 Fastening (50% increase of Zone 1)	Zone 3 Fastening
Use Zone 1 or alternate system meeting Zone 1' rating requirements	16 fasteners per 4'x8' board	24 fasteners per 4'x8' board	32 fasteners per 4'x8' board

The plan view fastening for this example would appear as shown below. Zone 1' is not shown.



NOTE: SEE 1/A-0.1 FOR DIMENSIONS OF ZONES.

1 ROOF WIND UPLIFT ZONES

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

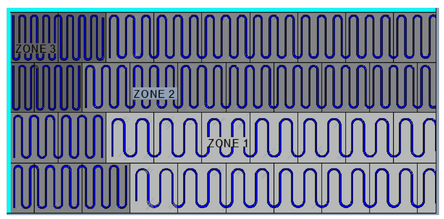
0 8' 16'

3 INSULATION COVERBOARD ADHESION PATTERNS

SCALE: N.T.S.

Zone 1' Spacing	Zone 1 Spacing (Tested)	Zone 2 Spacing (67% of Zone 1)	Zone 3 Spacing (50% of Zone 1)
Use Zone 1 or alternate system meeting Zone 1' rating requirements	12" o.c. Max.	8" o.c. Max.	6" o.c. Max.

The plan view ribbon spacing for this example would appear as shown below. Zone 1' is not shown.



NOTE: SEE 1/A-0.1 FOR DIMENSIONS OF ZONES.

WIND UPLIFT ZONES

CORNER

PERIMETER

FIELD

CENTER

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No. C19735
REN. 11-30-2023
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SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE		
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	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	ES
APPROVED BY:	ES

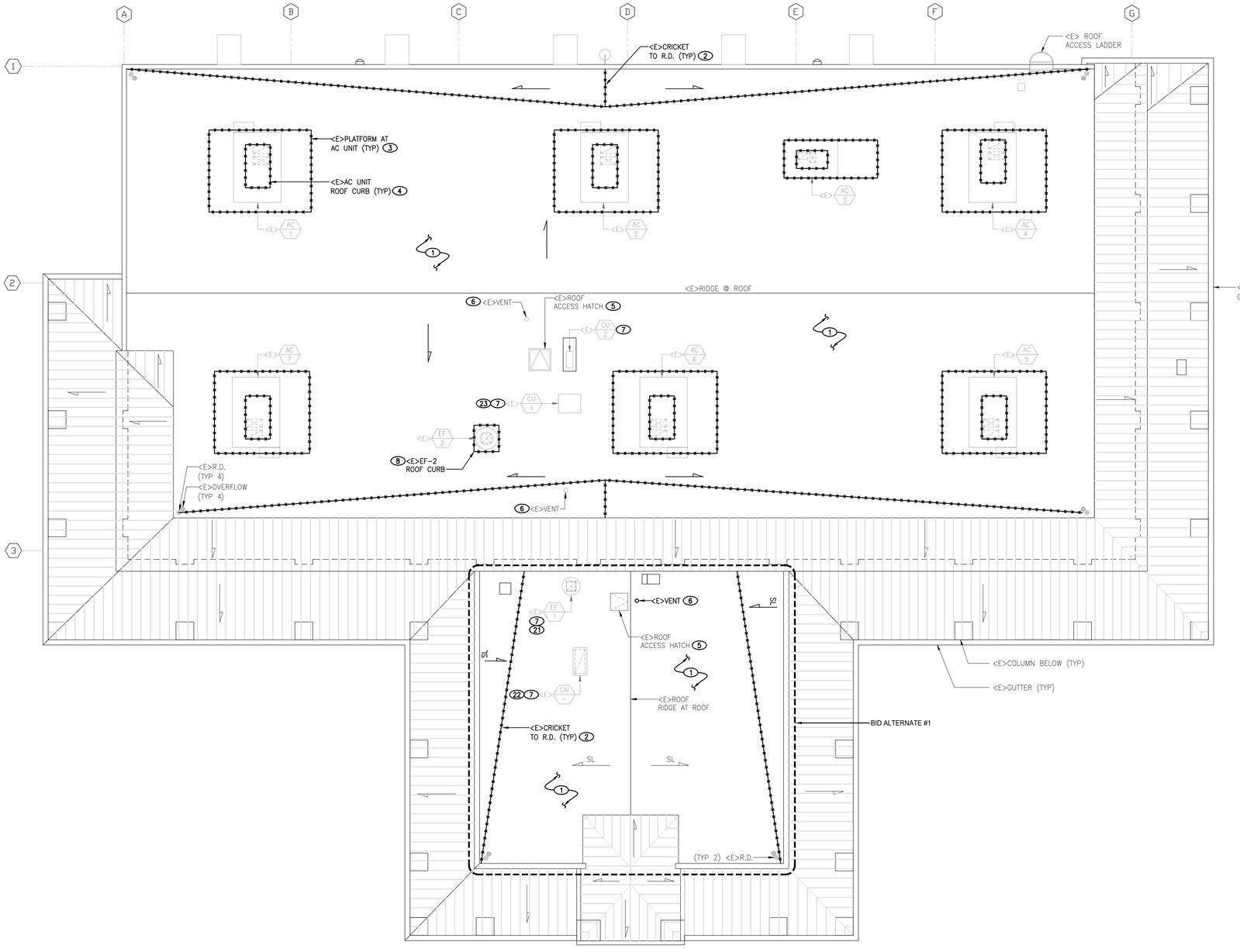
SHEET TITLE

ARCHITECTURAL
ROOF WIND UPLIFT ZONES

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

A-0.1

SHEET OF XX



1 ARCHITECTURAL ROOF PLAN - DEMO

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

0 8' 16'

GENERAL NOTES

A. DEMOLITION NOTES ARE GUIDELINES. SPECIFIC QUANTITIES AND SPECIFIC LOCATIONS OF ITEMS TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY.

B. FURNISH, INSTALL AND MAINTAIN TEMPORARY BARRIERS, FENCES, GUARD RAILS, BARRICADES, AND WARNING DEVICES FOR PEDESTRIANS AND WORKERS AS MAY BE REQUIRED BY GOVERNING AUTHORITIES TO THIS PROJECT.

C. PROVIDE DUST BARRIERS AROUND OPENINGS TO AND FROM AREA OF CONSTRUCTION. COORDINATE LOCATIONS WITH OWNER'S REPRESENTATIVE.

D. REMOVE DEBRIS FROM SITE AND LEAVE CONSTRUCTION AREA BROOM CLEANED DAILY.

E. UNLESS NOTED OTHERWISE, DAMAGE TO EXISTING WALLS, CEILINGS, AND/OR ROOF STRUCTURES DUE TO THIS CONSTRUCTION SHALL BE REPAIRED TO MATCH ORIGINAL EXISTING CONDITION.

F. SCHEDULE THE WORK AND PROVIDE PROTECTION FOR THE INTERIOR OF THE BUILDING FROM DUST AND RAIN AT ALL TIMES. ENSURE WATER DOES NOT FLOW BENEATH OR WICK INTO ANY COMPLETED SECTION OF THE ROOF AND BUILDING ENVELOPE.

G. VERIFY IN FIELD EXISTING ROOF DECK SLOPE FROM EXISTING ROOF RIDGE(S).

H. SEE BID ALTERNATES ON COVER SHEET, G-0.0

REFERENCE SHEET NOTES

1. DEMOLISH EXISTING ROOF MEMBRANE, BUILT UP ROOFING, AND INSULATION.
2. DEMOLISH EXISTING CRICKETS, BUILT UP ROOFING, AND INSULATION.
3. DEMOLISH EXISTING ROOF PLATFORMS AT EXISTING MECHANICAL HVAC UNITS.
4. DEMOLISH EXISTING AC UNIT ROOF CURB, ROOFING, AND FLASHING.
5. TEMPORARILY REMOVE EXISTING ACCESS HATCH FOR RE-ROOF.
6. DEMOLISH PIPE FLASHING.
7. TEMPORARILY REMOVE FOR RE-ROOF.
8. DEMOLISH EXISTING EF-2 ROOF CURB, ROOFING, AND FLASHING.

ALTERNATE BID ITEM #4:

21. DEMOLISH EXISTING EF-1 ROOF CURB, ROOFING, AND FLASHING.
22. DEMOLISH EXISTING GAI HOOD ROOF CURB, ROOFING, AND FLASHING.
23. DEMOLISH EXISTING CU-1 SLEEPERS/PLATFORM, ROOFING, AND FLASHING.

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VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

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DRAWN BY:	SOBE
CHECKED BY:	JEG
APPROVED BY:	ER

SHEET TITLE

ARCHITECTURAL ROOF PLAN - DEMO

SCALE:
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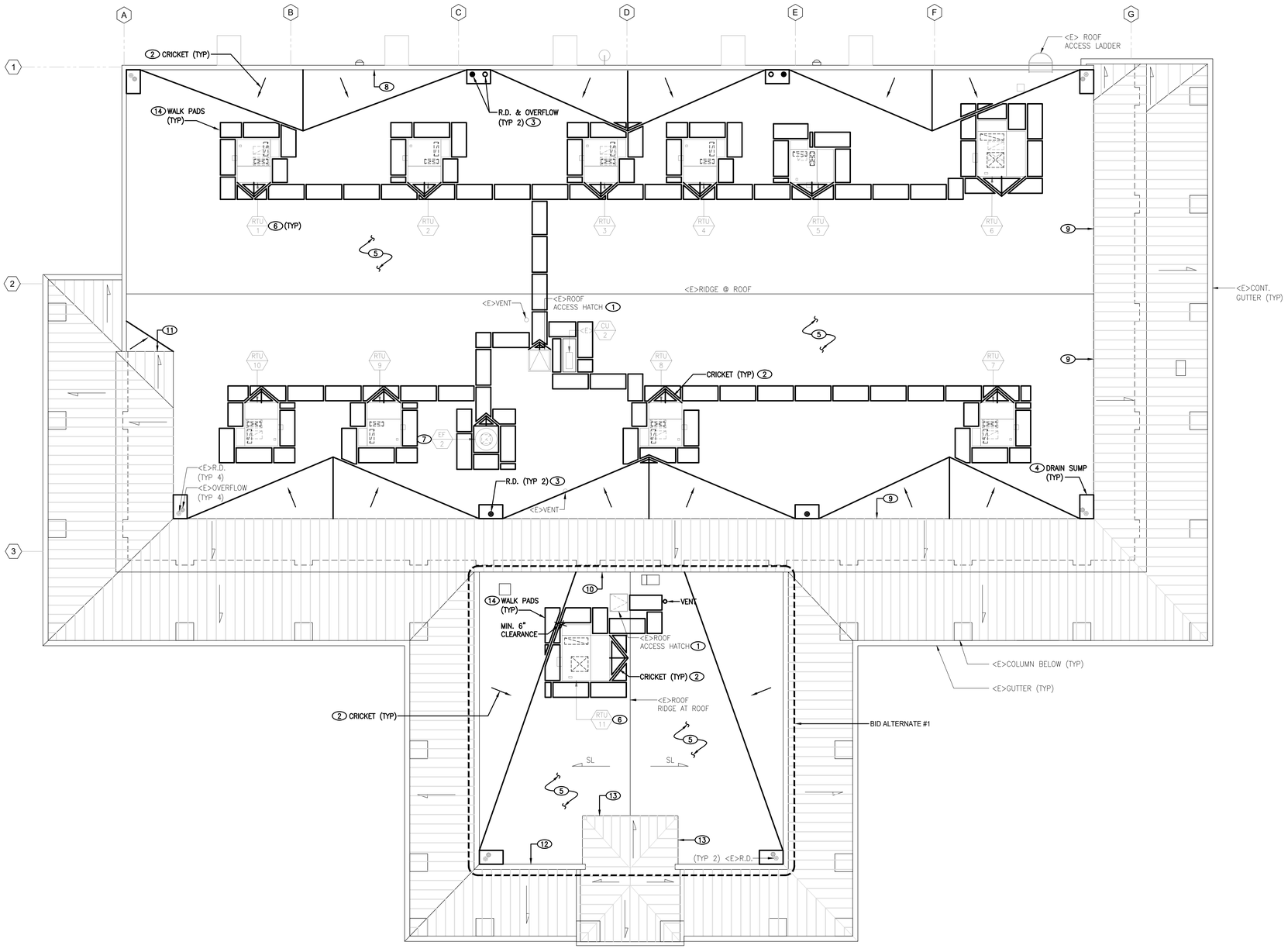
AD-1.2

SHEET OF XX



1 ARCHITECTURAL ROOF PLAN - NEW

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

0 8' 16'

N

GENERAL NOTES

A. METAL ROOFING AND GUTTERS ARE NOT IN CONTRACT.

B. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3 OR 4/A-5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A-5.2.

C. PROVIDE DUST BARRIERS AROUND OPENINGS TO AND FROM AREA OF CONSTRUCTION. COORDINATE LOCATIONS WITH OWNER'S REPRESENTATIVE.

D. REMOVE DEBRIS FROM SITE AND LEAVE CONSTRUCTION AREA BROOM CLEANED DAILY.

E. UNLESS NOTED OTHERWISE, DAMAGE TO EXISTING WALLS, CEILINGS, AND/OR ROOF STRUCTURES DUE TO THIS CONSTRUCTION SHALL BE REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS.

F. SCHEDULE THE WORK AND PROVIDE PROTECTION FOR THE INTERIOR OF THE BUILDING FROM DUST AND RAIN AT ALL TIMES. ENSURE WATER DOES NOT FLOW BENEATH OR WICK INTO ANY COMPLETED SECTION OF THE ROOFING AND BUILDING ENVELOPE.

G. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

H. ALL PLUMBING VENTS SHALL BE A MINIMUM OF 10 FEET FROM AIR INTAKES.

I. SEE REROOFING PERFORMANCE REQUIREMENTS ON G-0.0.

REFERENCE SHEET NOTES

1. REMOVE AND REINSTALL EXISTING ACCESS HATCH AS NEEDED. PROVIDE OSHA COMPLIANT GUARDRAIL WITH HINGED GATE. PROVIDE FLASHING AT ROOF HATCH CURB AS PER DETAIL 4/A-5.2.
2. MINIMUM 1/4:12 COUNTER SLOPE FOR CRICKETS (TYP), REFER TO DETAIL 9/A-5.1.
3. PROVIDE ROOF DRAINS AND OVERFLOWS AS INDICATED AND AS PER DETAIL 2A & 2B/A-5.1.
4. PROVIDE DRAIN SUMP AS PER DETAIL 10/A-5.1.
5. PROVIDE ROOF COVERING ASSEMBLY AS PER DETAIL 1/A-5.1.
6. PROVIDE RTU UNIT EQUIPMENT ROOF CURB. FLASH RTU UNIT CURB AS PER DETAIL 5/A-5.1.
7. PROVIDE EF-2 EQUIPMENT ROOF CURB. FLASH EXHAUST FAN CURB AS PER DETAIL 6/A-5.1.
8. WALL FLASHING AS PER DETAIL 7/A-5.1.
9. PROVIDE HOOD FLASHING OVER EXISTING ATTIC WALL VENTS (TYP) AS PER 3/A-5.2.
10. PROVIDE ROOF TO STUCCO WALL FLASHING AS PER DETAIL 5/A-5.2.
11. FLASH SOFFIT AS PER DETAIL 2/A-5.2.
12. PROVIDE FLASHING AT SOUTH ROOF PERIMETER WALL AS PER DETAIL 7/A-5.2.
13. PROVIDE FLASHING AT SOUTH METAL ROOF TO SINGLE PLY ROOF AS PER DETAIL 6/A-5.2.
14. PROVIDE WALK PADS FROM THE ROOF ACCESS HATCH TO ALL MECHANICAL HVAC UNITS. WALK PADS TO BE MAXIMUM 30" WIDE WITH 4" GAPS EVERY 6 FEET. PROVIDE 4" GAPS AT EACH CRICKET VALLEY AS OCCURS AND AS INDICATED. IF BID ALTERNATE #4 IS NOT ACCEPTED AND BID ALTERNATE #1 IS ACCEPTED, PROVIDE WALK PADS TO EF-1 AND GAI.

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DRAWN BY:	SOBE
CHECKED BY:	JEG
APPROVED BY:	ER

SHEET TITLE

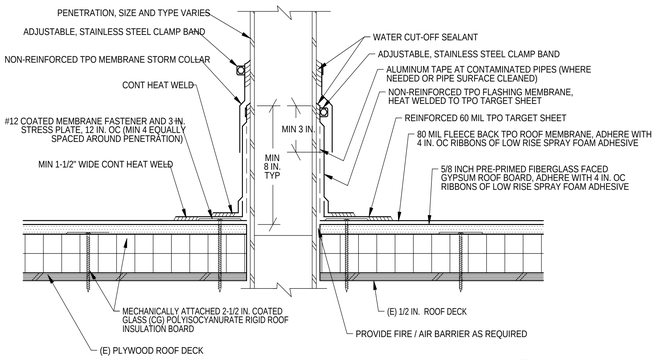
ARCHITECTURAL ROOF PLAN - NEW

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

A-1.2

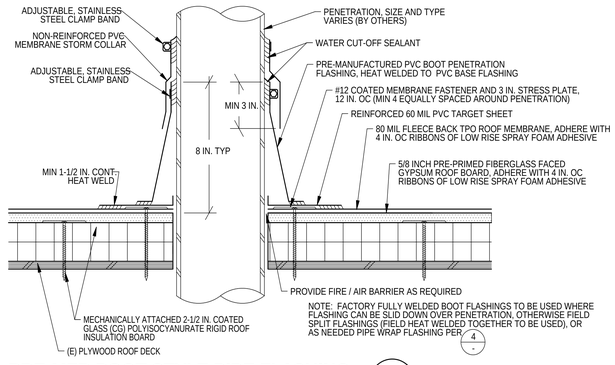
SHEET OF XX

K:\drawings\Solano Community College District\2100987 Vacaville Annex HVAC Replacement\2100987A-1.2.dwg 5/31/2022 2:10 PM Rick Padua



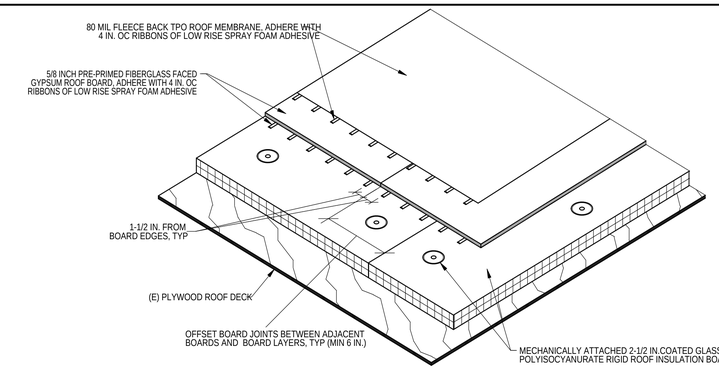
PENETRATION MEMBRANE WRAP

NO SCALE — 4



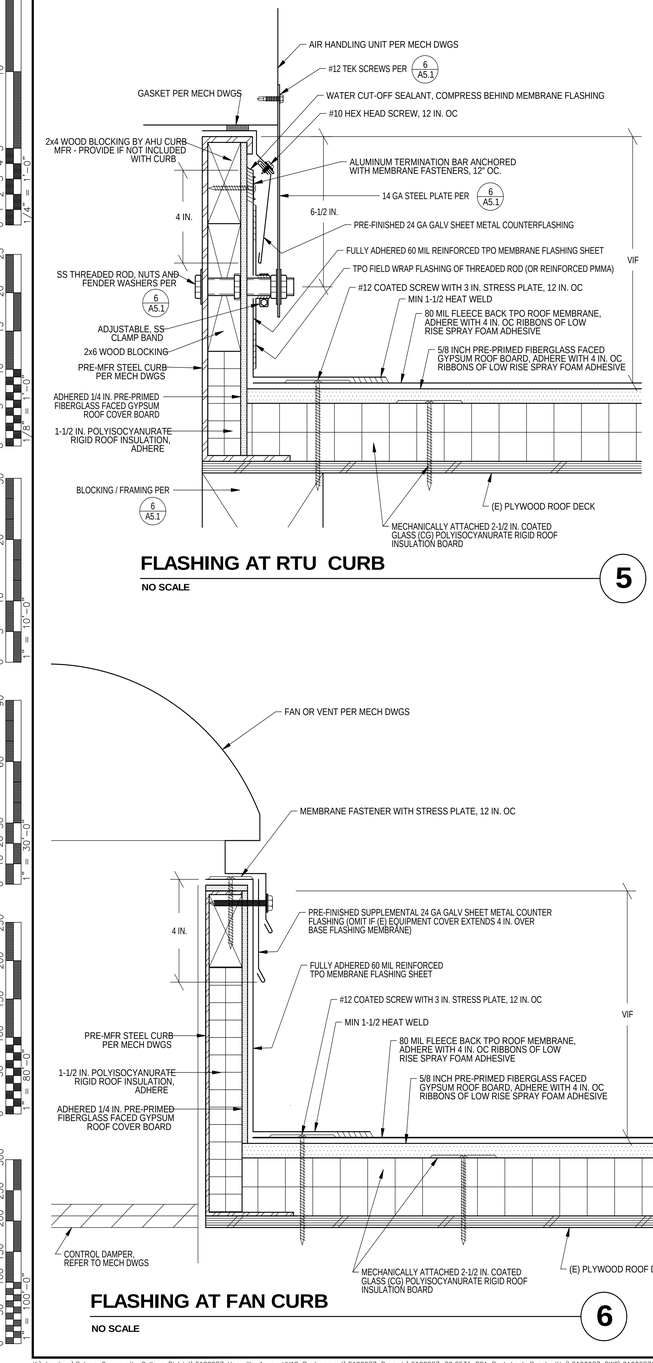
PRE-MFR BOOT STYLE PIPE FLASHING

NO SCALE — 3



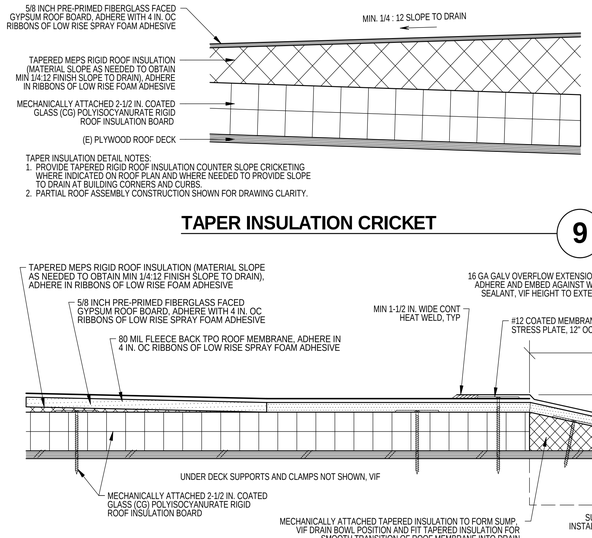
TYPICAL ROOF COVERING ASSEMBLY

NO SCALE — 1



FLASHING AT RTU CURB

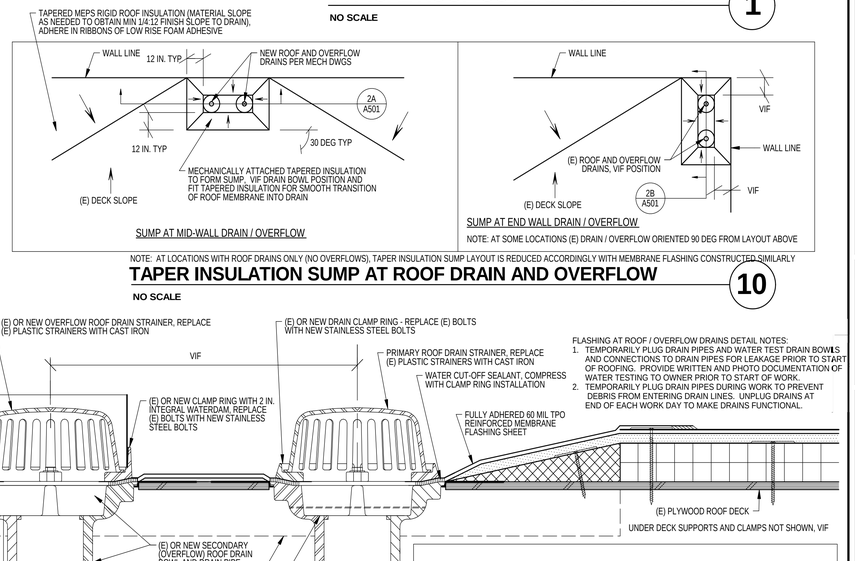
NO SCALE — 5



TAPER INSULATION DETAIL NOTES:
1. PROVIDE TAPERED RIGID ROOF INSULATION COUNTER SLOPE CRICKETING WHERE INDICATED ON ROOF PLAN AND WHERE NEEDED TO PROVIDE SLOPE TO DRAIN AT BUILDING CORNERS AND CURBS.
2. PARTIAL ROOF ASSEMBLY CONSTRUCTION SHOWN FOR DRAWING CLARITY.

TAPER INSULATION CRICKET

NO SCALE — 9

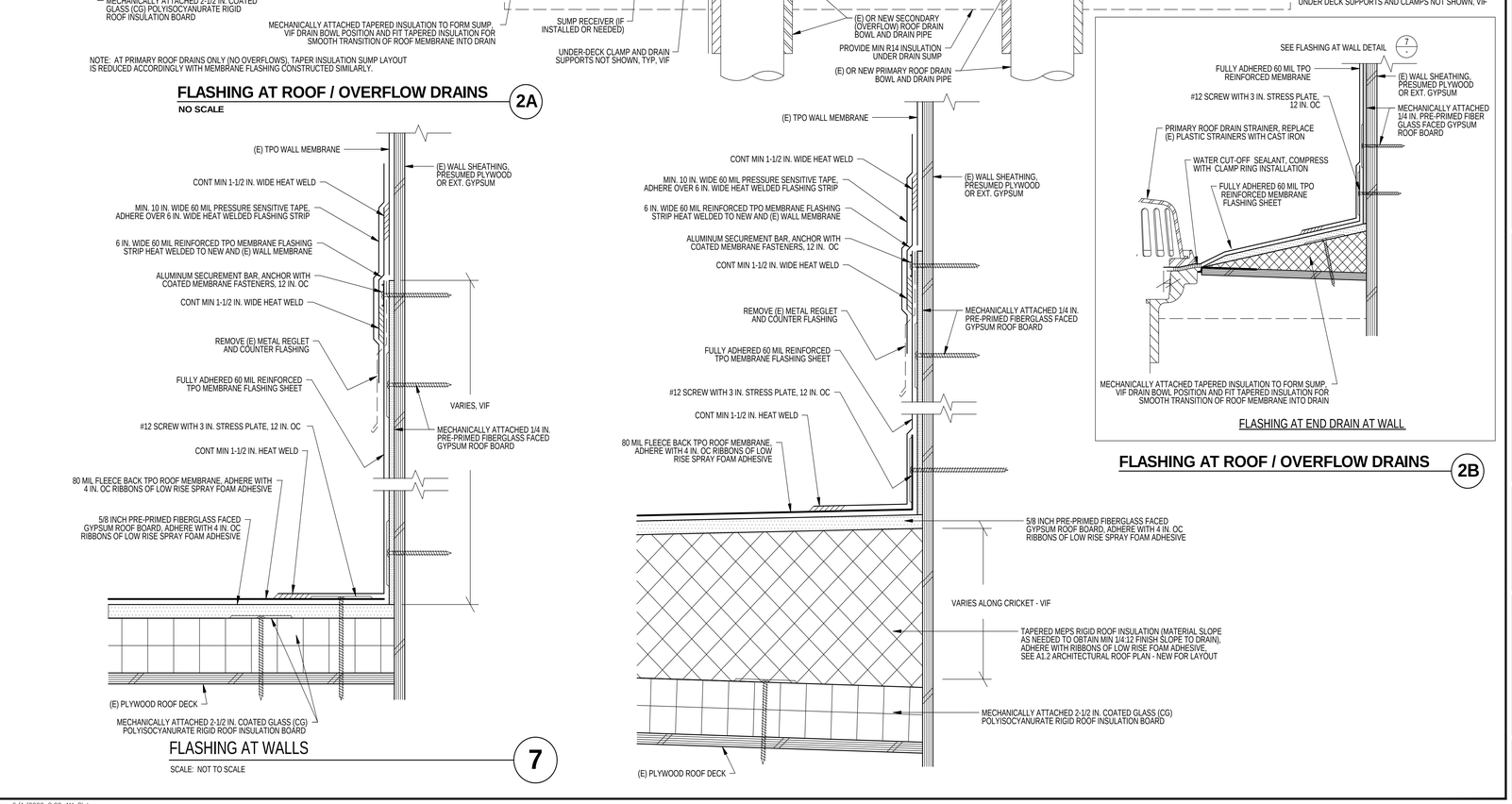


NOTE: AT SOME LOCATIONS (E) DRAIN / OVERFLOW ORIENTED 90 DEG FROM LAYOUT ABOVE

NOTE: AT LOCATIONS WITH ROOF DRAINS ONLY (NO OVERFLOWS), TAPER INSULATION SUMP LAYOUT IS REDUCED ACCORDINGLY WITH MEMBRANE FLASHING CONSTRUCTED SIMILARLY

TAPER INSULATION SUMP AT ROOF DRAIN AND OVERFLOW

NO SCALE — 10



FLASHING AT ROOF / OVERFLOW DRAINS DETAIL NOTES:
1. TEMPORARILY PLUG DRAIN PIPES AND WATER TEST DRAIN BOWLS AND CONNECTIONS TO DRAIN PIPES FOR LEAKAGE PRIOR TO START OF ROOFING. PROVIDE WRITTEN AND PHOTO DOCUMENTATION OF WATER TESTING TO OWNER PRIOR TO START OF WORK.
2. TEMPORARILY PLUG DRAIN PIPES DURING WORK TO PREVENT DEBRIS FROM ENTERING DRAIN LINES. UNPLUG DRAINS AT END OF EACH WORK DAY TO MAKE DRAINS FUNCTIONAL.

NOTE: AT PRIMARY ROOF DRAINS ONLY (NO OVERFLOWS), TAPER INSULATION SUMP LAYOUT IS REDUCED ACCORDINGLY WITH MEMBRANE FLASHING CONSTRUCTED SIMILARLY.

FLASHING AT ROOF / OVERFLOW DRAINS

NO SCALE — 2A

FLASHING AT END DRAIN AT WALL

FLASHING AT ROOF / OVERFLOW DRAINS

2B

FLASHING AT FAN CURB

NO SCALE — 6

FLASHING AT WALLS

SCALE: NOT TO SCALE — 7

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CHECKED BY:	BB
APPROVED BY:	CN

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SCALE:

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A-5.1

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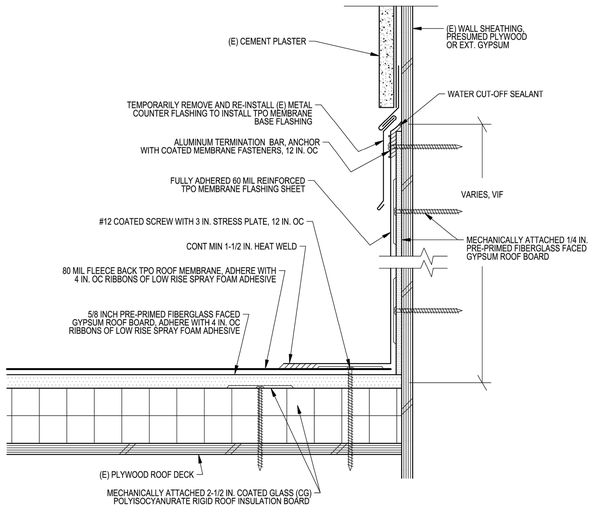
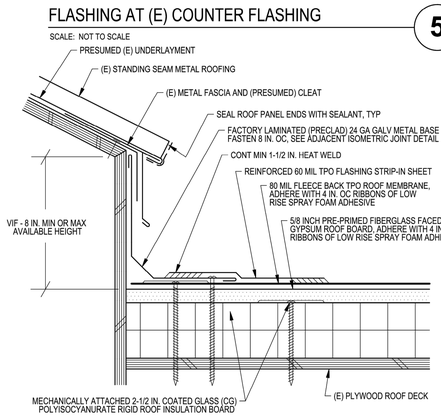
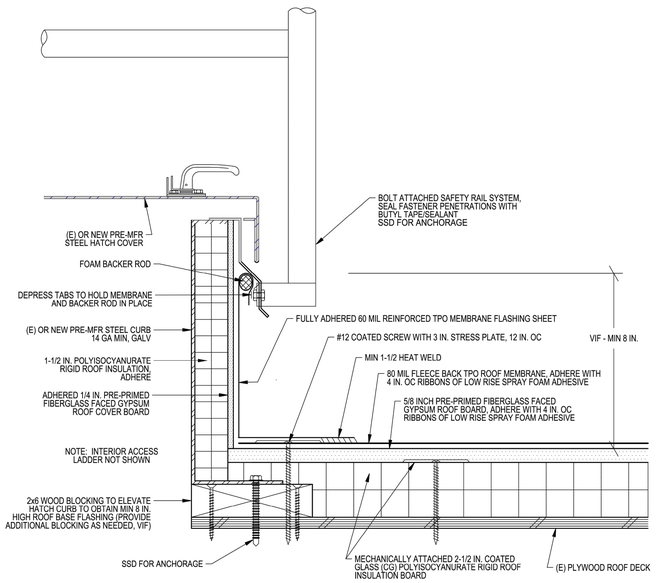


FLASHING AT (E) COUNTER FLASHING — 5

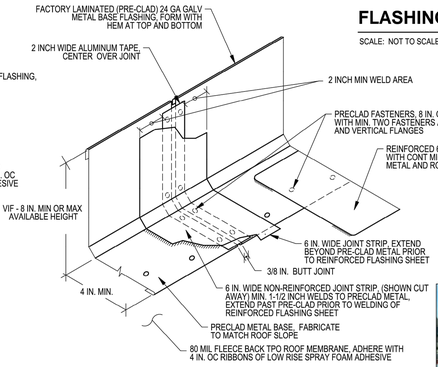
SCALE: NOT TO SCALE





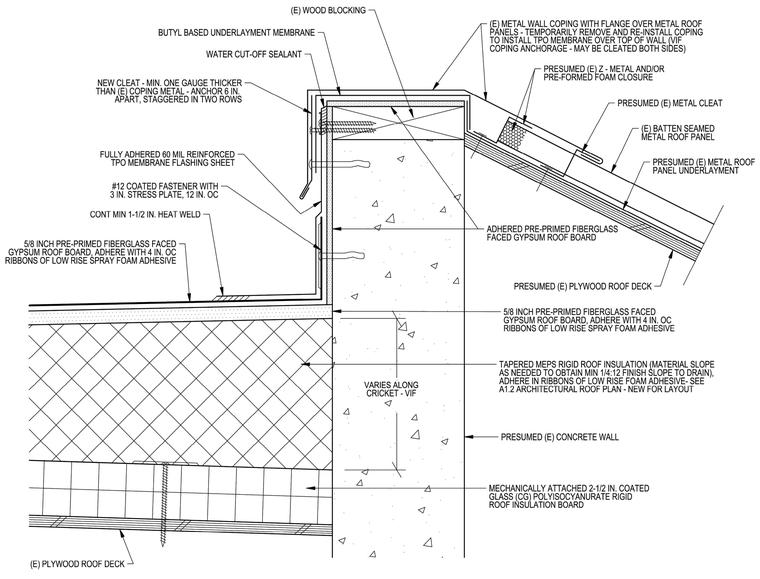
FLASHING AT ROOF HATCH CURB — 4

SCALE: NOT TO SCALE



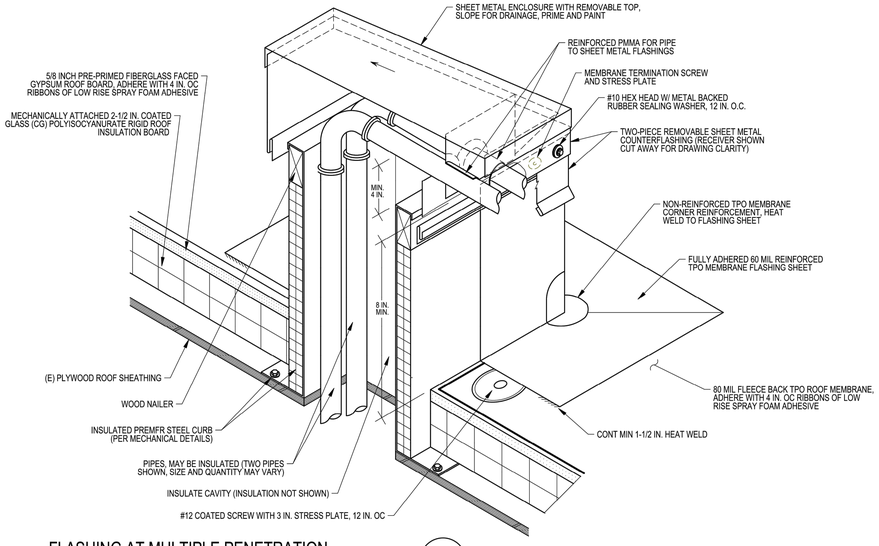
BASE FLASHING AT (E) METAL ROOFING — 6

SCALE: NOT TO SCALE



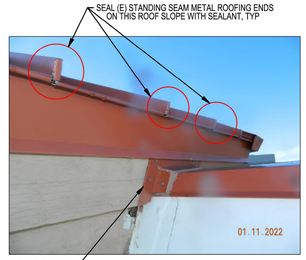
FLASHING AT SOUTH ROOF PERIMETER WALL — 7

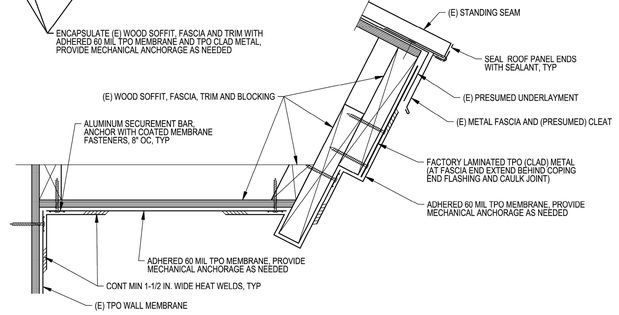
NO SCALE



FLASHING AT MULTIPLE PENETRATION — 1

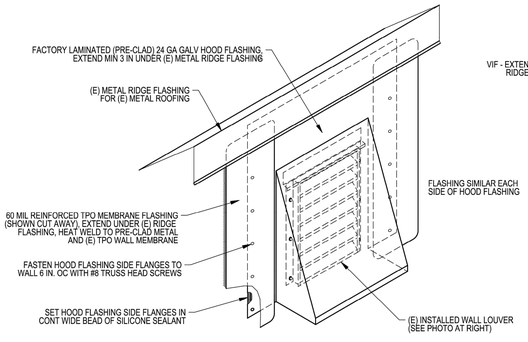
SCALE: NOT TO SCALE

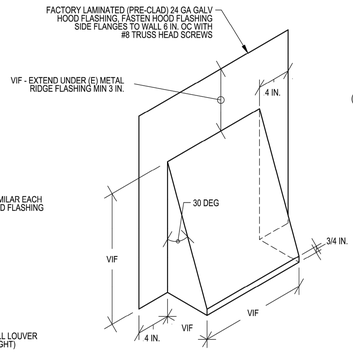


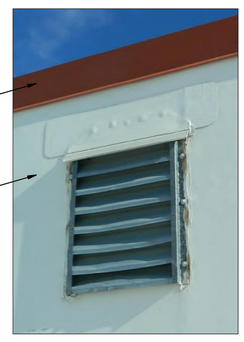


FLASHING AT SOFFIT AND FASCIA — 2

SCALE: NOT TO SCALE







TYPICAL EXISTING WALL VENT

FLASHING AT (E) WALL LOUVERS — 3

SCALE: NOT TO SCALE

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A-5.2
SHEET OF XX

SCHOOL EQUIPMENT ANCHORAGE

M/E/P COMPONENT ANCHORAGE NOTE:

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

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

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

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

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

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

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

MP ☐ MD ☒ PP ☒ E ☒ — OPTION 1: DETAIL ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

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

PIPING

- ARROW INDICATES DIRECTION OF FLOW
- EXISTING PIPING (ABOVE GRADE OR FLOOR)
- EXISTING PIPING (BELOW GRADE OR FLOOR)
- NEW PIPING (ABOVE GRADE OR FLOOR)
- NEW PIPING (BELOW GRADE OR FLOOR)
- PIPE TO BE REMOVED (ABOVE GRADE OR FLOOR)
- PIPE TO BE REMOVED (BELOW GRADE OR FLOOR)

AIR CONDITIONING

- CW(R)(S) — CONDENSER WATER (RETURN)(SUPPLY)
- CHW(R)(S) — CHILLED WATER (RETURN)(SUPPLY)
- D — DRAIN
- HC(R)(S) — HOT/CHILLED WATER (RETURN)(SUPPLY)
- PCHW(R)(S) — PRIMARY CHILLED WATER (RETURN)(SUPPLY)
- SCHW(R)(S) — SECONDARY CHILLED WATER (RETURN)(SUPPLY)
- TCHW(R)(S) — TERTIARY CHILLED WATER (RETURN)(SUPPLY)

CONTROLS

- AI — ANALOG INPUT
- AO — ANALOG OUTPUT
- BT — BYPASS TIMER
- C — CONTROLLER
- DP — DIFFERENTIAL PRESSURE TRANSMITTER
- DI — DIGITAL (ON/OFF) INPUT
- DO — DIGITAL (ON/OFF) OUTPUT
- FE — FLOW ELEMENT
- FT — FLOW TRANSMITTER
- FS — FLOW SWITCH
- FM — FLOWMETER
- ORN-1 — FLOWMETER, ORIFICE
- H — HUMIDITY CONTROLLER
- H — HUMIDITY TRANSMITTER
- M — MOTOR/ACTUATOR
- MS — MOTOR STARTER
- PI — PRESSURE INDICATOR
- PID — PID CONTROL LOOP (REPRESENTATION)
- P/S — PRESSURE SWITCH
- PT — PRESSURE TRANSMITTER
- RHC — REHEAT COIL
- R — RELAY COIL
- S — SENSOR
- SP — STATIC PRESSURE
- T — TEMPERATURE SENSOR
- TE — TEMPERATURE ELEMENT
- TI — TEMPERATURE INDICATOR
- TT — TEMPERATURE TRANSMITTER
- T — THERMOSTAT OR TEMPERATURE SENSOR (DDC) (36" TO 48" AFF.)
- HC — HEATING COIL
- CC — COOLING COIL
- DX — DIRECT EXPANSION COIL
- GFE — GAS FIRED HEAT EXCHANGER
- VFD — VARIABLE FREQUENCY DRIVE
- SA
- RA
- EA

GENERAL

- EXTENT OF DEMOLITION
- NEW TO EXISTING CONNECTION
- REVISION NUMBER
- WORK ITEM (ARCHITECTURAL)
- WORK ITEM (MECHANICAL)
- WORK ITEM (ELECTRICAL)
- WORK ITEM (TELECOMMUNICATION)
- WORK ITEM (PLUMBING)
- WORK ITEM (STRUCTURE)
- DETAIL DESIGNATION — DETAIL NUMBER / DRAWING NUMBER (IF BLANK, SAME SHEET)
- EQUIPMENT DESIGNATION — EQUIPMENT TYPE / EQUIPMENT NUMBER
- SECTION DESIGNATION — SECTION NUMBER / DRAWING NUMBER
- TO BE DEMOLISHED — <N> EQUIPMENT
- TO BE DEMOLISHED — RELOCATED EQUIPMENT

VALVES

- BALL
- BUTTERFLY
- GATE
- GATE, ANGLE
- GLOBE
- GLOBE, ANGLE
- THREE WAY
- CONTROL
- IN PIT

VALVES, SPECIAL DUTY

- CHECK, SWING GATE
- CIRCUIT SETTER
- NEEDLE
- PRESSURE REDUCING (NUMBER & SPECIFY) — PRV-1
- PRESSURE REGULATOR
- RELIEF (R) OR SAFETY (S)
- SEISMIC VALVE
- MUA — MAKE UP WATER ASSEMBLY
- BACK PRESSURE
- PLUG VALVE
- TRIPLE DUTY VALVE (STOP CHECK & BALANCE W/PRESSURE TAPS)
- BFP — REDUCED PRESSURE BACKFLOW PREVENTER
- FLOW CONTROL

PIPING SPECIALTIES

- AAV — AUTOMATIC AIR VENT
- MAV — MANUAL AIR VENT
- S — AIR SEPARATOR
- ALIGNMENT GUIDE
- ANCHOR
- BFP — BACK FLOW PREVENTER
- BALL JOINT
- DIRT POCKET
- EJ-1 — EXPANSION JOINT
- EXPANSION LOOP
- FLEXIBLE CONNECTOR
- FILTER DRYER
- FLOWMETER
- HOSE CONNECTOR
- HOSE BIBB
- M — METER
- POT FEEDER
- PI — PRESSURE GAUGE AND COCK
- PUMP
- REDUCER
- STRAINER
- STRAINER, W/BLOW OFF
- TEST PORT (PETE'S PLUG)
- TI — THERMOMETER
- THERMOMETER, WELL
- ST — STEAM TRAP
- SUCTION DIFFUSER
- TRANSVERSE BRACING
- FLEXIBLE CONNECTION

ABBREVIATIONS

@	AT
AAV	AUTOMATIC AIR VENT
AC	AIR CONDITIONING UNIT DESIGNATION
ACC	AIR COOLED CONDENSER
ACM	ASBESTOS CONTAINING MATERIAL
ACP	ASBESTOS CEMENT PIPE
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AH	AIR HANDLER
AHU	AIR HANDLING UNIT
AHUC	AIR HANDLING UNIT CONTROLLER
AI	ANALOG INPUT
ALM	ALARM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AO	ANALOG OUTPUT
APD	AIR PRESSURE DROP (IN.W.G.)
ARCH	ARCHITECTURAL
AS	AIR SEPARATOR
ASJ	ALL SERVICE JACKET
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BAV	BALANCING VALVE
BDD	BACKDRAFT DAMPERS
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BI	BINARY
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BUR	BUILT-UP ROOFING
BV	BALL VALVE
℄	CENTERLINE
CA	COMPRESSED AIR
CC, C/C	COOLING COIL
CD	CONDENSATE DRAIN
CFF	CAP FOR FUTURE
CFM or ∮	CUBIC FEET PER MINUTE
CFT	CHEMICAL FEED TANK
CHCP	CHILLER CONTROL PANEL
CHW(R)(S)(T)	CHILLED WATER (RETURN)(SUPPLY)(TEMPERATURE)
C.L.	CHAIN LINK
CLG	CEILING
CLR	CENTERLINE RADIUS
CO	CLEAN-OUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT OR CONNECTION
CONT	CONTINUATION
CONTR.	CONTRACTOR
CP	CONTROL PANEL
CR	CONDENSATE RETURN
CRAC	COMPUTER ROOM AIR CONDITIONER
CT	COOLING TOWER
CTL	CONTROL
CU	COPPER
CV	CONTROL VALVE
CW	CITY WATER
CWP	CONDENSER WATER PUMP
CW(R)(S)(T)	CONDENSER WATER (RETURN)(SUPPLY) (TEMPERATURE)
D	DRAIN
DA	DEAERATOR
DB	DRY BULB
DCW	DOMESTIC CITY WATER
DDC	DIRECT DIGITAL CONTROL
DHW(R)	DOMESTIC HOT WATER (RETURN)
DI	DISCRETE INPUT
DIA	DIAMETER
DISC	DISCONNECT
DN	DOWN
DO	DISCRETE OUTPUT
DP	DIFFERENTIAL PRESSURE
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSDUCER
DSD	DUCT SMOKE DETECTOR
DWDI	DOUBLE WIDTH, DOUBLE INLET
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DX	DIRECT EXPANSION
<E>	EXISTING
EA(T)	EXHAUST AIR (TEMPERATURE)
EAD	EXHAUST AIR DUCT
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EJ	EXPANSION JOINT
EL	EXPANSION LOOP
ELEV	ELEVATION
ELEC	ELECTRICAL
EMCS	ENERGY MANAGEMENT & CONTROL SYSTEM
EMS	ENERGY MANAGEMENT SYSTEM
EOD	EXTENT OF DEMOLITION
E/P	ELECTRO/PNEUMATIC TRANSDUCER
EQ	EQUAL
EQUIP.	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE (IN.W.G.)
ET	EXPANSION TANK
EWS	EMERGENCY EYEWASH AND SHOWER
EWT	ENTERING WATER TEMPERATURE
<F>	FUTURE
F	FAHRENHEIT
FA	FACE AREA
FAF	FORCED AIR FURNACE
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEAN OUT
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FDC	FIRE DEPARTMENTCONNECTION
FDD	FLUE DISCHARGE DEFLECTOR
FHC	FIRE HOSE CABINET
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FM	FLOW METER
FO(R)(S)	FUEL OIL (RETURN)(SUPPLY)
FOV	FUEL OIL VENT
FPF	FINS PER FOOT
FRP	FIBER REINFORCED POLYMER
FS	FLOW SWITCH
FSD	COMBINATION FIRE AND SMOKE DAMPER
FT	FLOW TRANSMITTER or FEET
G	GAS
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZED
GF	GAS FURNACE
GPM	GALLONS PER MINUTE
GSM	GALVANIZED SHEET METAL
GV	GATE VALVE
H	HUMIDIFIER
HB	HOSE BIBB
HC	HEATING COIL
HDR	HEADER
HGR	HANGER
HHW(R)(S)(T)(P)	HEATING HOT WATER (RETURN)(SUPPLY)(PUMP) (TEMPERATURE)
HP	HORSE POWER
HPCR	HIGH PRESSURE CONDENSATE RETURN
HPS	HIGH PRESSURE STEAM
HT	HEIGHT
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HWP	HOT WATER PUMP
HX	HEAT EXCHANGER
HZ	HERTZ; CYCLES PER SECOND
IA	INSTRUMENT AIR
ICW	INDUSTRIAL COLD WATER
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN.	INCH
IN.W.G.	INCHES WATER GAGE (PRESSURE)
IRL	IRRIGATION LINE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LPS	LOW PRESSURE STEAM
LWCO	LOW WATER CUT OFF
LWT	LEAVING WATER TEMPERATURE
MA(T)	MIXED AIR (TEMPERATURE)
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MBH	1,000 BTU PER HOUR
MCC	MOTOR CONTROL CENTER
MD	MANUAL VOLUME DAMPER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MMBTUH	MILLIONS BTU PER HOUR
MOCP	MAXIMUM OVER CURRENT PROTECTION
MOT	MOTORIZED
MPG	MEDIUM PRESSURE GAS
MR	MECHANICAL ROOM
MT, MTD, MTG	MOUNT, MOUNTED, MOUNTING
MU	MAKE-UP
<N>	NEW
N.C.	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NOX	NITROGEN OXIDE
N.O.	NORMALLY OPEN
NPSH(R)	NET POSITIVE SUCTION HEAD (REQUIRED)
N.T.S.	NOT TO SCALE
OA(G)	OUTSIDE AIR (GRILLE)
OA(T)	OUTSIDE AIR (TEMPERATURE)
OAD	OUTSIDE AIR DAMPER
OAI	OUTSIDE AIR INTAKE
OBD	OPPOSED BLADE DAMPER
O.C.	ON CENTER
OD	OUTSIDE DIMENSION or OUTSIDE DIAMETER
OS&Y	OUTSIDE STEM & YOKE GATE VALVE
OV	OUTLET VELOCITY
OX	OXYGEN
OWS	OPERATOR'S WORK STATION
PL	PLATE
P	PUMP
PCHW(R)(S)(T)	PRIMARY CHW (RETURN)(SUPPLY)(TEMPERATURE)
PCHWP	PRIMARY CHW PUMP
PCR	PUMPED CONDENSATE RETURN
PD	PRESSURE DROP
PE	PNEUMATIC TO ELECTRIC RELAY
PG	PIPE GUIDE
PHW(R)(S)	PRIMARY HOT WATER (RETURN)(SUPPLY)
P&ID	PROCESS & INSTRUMENTATION DIAGRAM
PIV	POST INDICATING VALVE
PLY or PLYWD	PLYWOOD
PM	POWER METER
POC	POINT OF CONNECTION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSI(G)	POUNDS PER SQUARE INCH (GAUGE)
PS-N	PIPE SUPPORT DESIGNATION
PTDF	PRESSURE TREATED DOUGLAS FIR
PVC	POLYVINYL CHLORIDE
R	RELAY
<RE>	REMOVE EXISTING
<RR>	REMOVE/RELOCATE
<RRN>	REMOVE & REPLACE WITH <N>
RA	RETURN AIR
RAD	RETURN AIR DUCT
RAG	RETURN AIR GRILLE
RA(T)	RETURN AIR (TEMPERATURE)
RD	ROOF DRAIN
REQ'D	REQUIRED
RF	RETURN AIR FAN
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RIM	RIM ELEVATION
RIP	RETIRED-IN-PLACE
RLA	RATED LOAD AMPS
RO	REVERSE OSMOSIS
RPM	REVOLUTIONS PER MINUTE
RV	RELIEF VALVE
RW	RECLAIMED WATER
RWL	RAIN WATER LEADER
SAD	SUPPLY AIR DUCT
S.A.D.	SEE ARCHITECTURAL DRAWINGS
SAG	SUPPLY AIR GRILLE
SA(T)	SUPPLY AIR (TEMPERATURE)
SCBA	SELF-CONTAINED BREATHING APPARATUS
S.C.D.	SEE CIVIL DRAWINGS
SCHW(R)(S)(T)	SECONDARY CHW (RETURN)(SUPPLY)(TEMPERATURE)
SCHWP	SECONDARY CHW PUMP
SD	STORM DRAIN
SDCO	STORM DRAIN CLEAN-OUT
S.E.D.	SEE ELECTRICAL DRAWINGS
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SENS	SENSIBLE
SF	SUPPLY FAN
SHHW(R)(S)(T)	SECONDARY HEATING HOT WATER (RETURN)(SUPPLY) (TEMPERATURE)
SIM.	SIMILAR
S.L.D.	SEE LANDSCAPE DRAWINGS
SM	SHEET METAL
SMD	SMOKE DAMPER
SOVL	SOLENOID VALVE
SP	STATIC PRESSURE
SPD	SPEED
S.P.D.	SEE PLUMBING DRAWINGS
SPECS	SPECIFICATIONS
SRV	SAFETY RELIEF VALVE
SS	SANITARY SEWER
S/S	START/STOP
S.S.D.	SEE STRUCTURAL DRAWINGS
SST	STAINLESS STEEL
ST	SOUND TRAP
STD	STANDARD
STM	STEAM
STRUCT	STRUCTURAL
STS	STATUS
SW	SWITCH
SXR	SQUARE TO ROUND TRANSITION
T	THERMOSTAT OR TEMPERATURE SENSOR (DDC)
TBA	TO BE ABANDONED
TBR	TO BE REMOVED
TCHW(R)(S)(T)	TERTIARY CHW (RETURN)(SUPPLY)(TEMPERATURE)
TCHWP	TERTIARY CHW PUMP
TCP	TEMPERATURE CONTROL PANEL
TDH	TOTAL DYNAMIC HEAD
TDV	TRIPLE DUTY VALVE
TEMP	TEMPERATURE
TG	TRANSFER AIR GRILLE
T&G	TONGUE & GROOVE
TH	THERMOMETER
TI	TEMPERATURE INDICATOR
TOD	TOP OF DUCT
TP	TEST PLUG (PETE'S PLUG)
TR	BACNET TRANSLATOR POINTS
TRANS	TRANSITION
TS	TEMPERATURE SENSOR
TSP	TOTAL STATIC PRESSURE (IN.W.G.)
TUC	TERMINAL UNIT CONTROLLER
TYP	TYPICAL
UH	UNIT HEATER
U.O.N.	UNLESS OTHERWISE NOTED
V OR VT	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VACCUM BREAKER
VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DRIVE
VI	VIBRATION ISOLATOR
V.I.F.	VERIFY IN FIELD
VR	VENT RISER
VTR	VENT THROUGH ROOF
W	WASTE
W/	WITH
WB	WET BULB
WC	WATER COLUMN
WP	WEATHER PROOF
WPD	WATER PRESSURE DROP (FT WATER)
WT	WEIGHT
XFMR	TRANSFORMER
XMTR	TRANSMITTER

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REGISTERED PROFESSIONAL ENGINEER — JOHN EMMETT SHAW — No. M40086 EXP. 09-30-2022 — MECHANICAL — STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE		
MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	BB
APPROVED BY:	ER

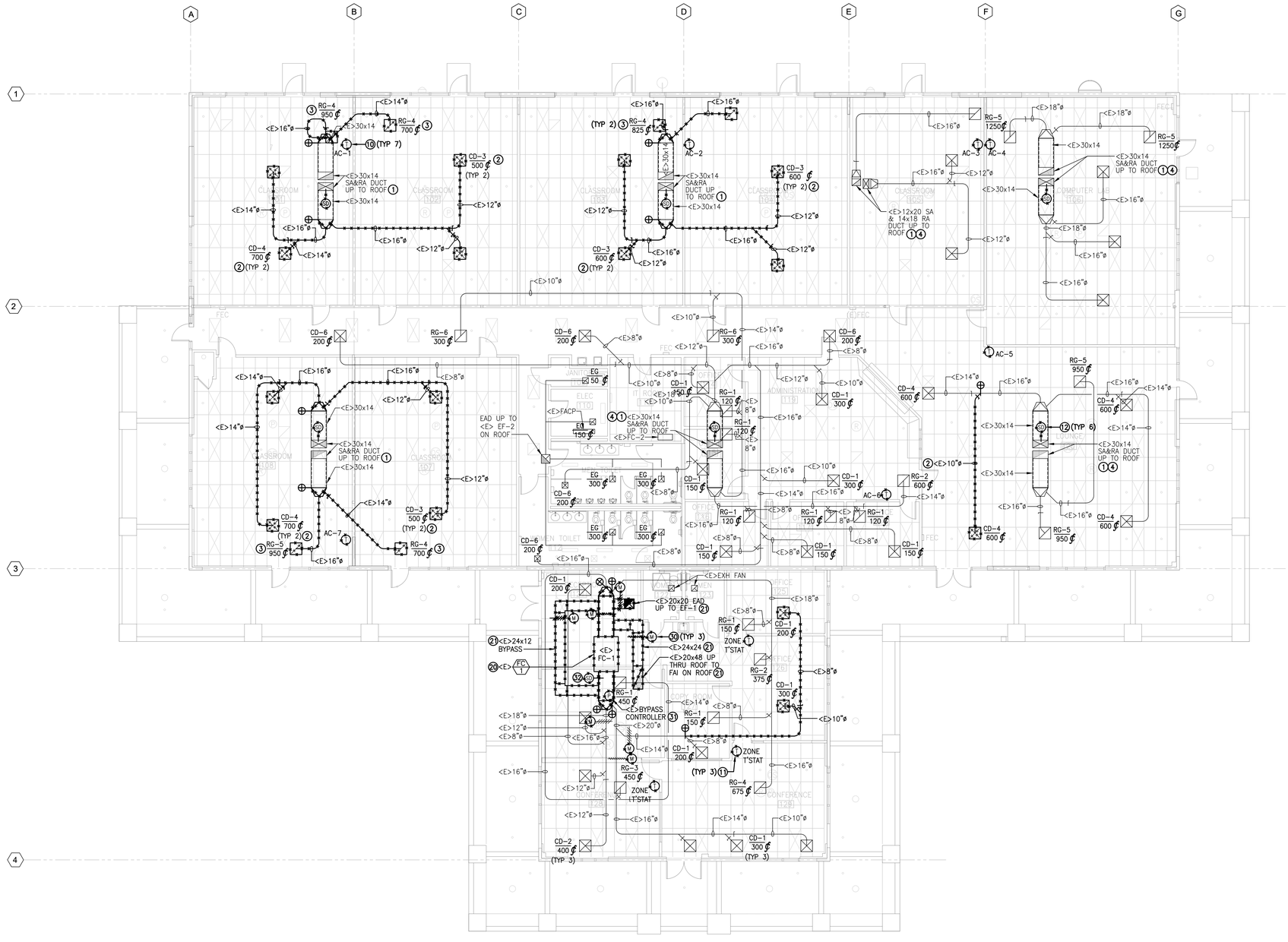
SHEET TITLE

MECHANICAL SYMBOLS AND ABBREVIATIONS

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

M-0.0

SHEET OF XX



1 MECHANICAL FIRST FLOOR PLAN - DEMO

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

0 8' 16'

GENERAL NOTES

A. REFER TO GENERAL NOTES ON G-0.0.

B. REFER TO ARCHITECTURAL DRAWINGS FOR THE WORK RELATED TO ROOFING.

C. CEILING TILES SHALL BE REMOVED WITHOUT DAMAGE PRIOR TO CONDUCTING CONSTRUCTION ACTIVITIES IN THE CEILING SPACE. PRESERVE AND PROTECT CEILING TILES FOR INSTALLATION UPON COMPLETION OF NEW WORK. DAMAGED CEILING TILES ARE TO BE REPLACED BY CONTRACTOR.

D. CONTRACTOR TO VERIFY THE OPERATION OF THE EXISTING MOTORIZED CONTROL DAMPERS AT FC-1 ZONES AND NOTIFY ENGINEER OF CURRENT CONDITION (I.E. ARE THEY OPERATIONAL OR NOT?). IF THE MOTORIZED CONTROL DAMPERS ARE NOT OPERATIONAL, THEY SHALL BE REPLACED.

E. PROVIDE PRE-CONSTRUCTION AIR BALANCE REPORT FOR THE AIR SYSTEMS INVOLVED BEFORE THE EXISTING MECHANICAL EQUIPMENT REMOVAL, LISTING THE FOLLOWING (BUT NOT LIMITED TO) ITEMS: (1) EXISTING SYSTEM DESIGNATION SUCH AS NAMEPLATE, MODEL #, SN #, SIZE; (2) TYPE OF CONTROL THE SYSTEM WAS UNDER AT THE TIME OF TESTING; (3) OUTSIDE AIR TEMPERATURE; (4) SYSTEM FAN MOTOR NAME PLATE DATA AND RELATED ELECTRICAL CHARACTERISTICS; (5) FAN DATA; (6) ESP, ISP AND TSP DATA; (7) FLOORPLAN INDICATING MEASURED AIRFLOWS AT EXISTING AIR OUTLETS/INLETS (I.E. DIFFUSERS, GRILLES, OR REGISTERS).

F. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

G. BASE BID 'DEMO WORK' FOR OFFICES, ADMINISTRATION, AND CONFERENCE ROOM AREAS AT SOUTH SIDE OF BUILDING SHALL BE AS FOLLOWS:

ALL EXISTING CONTROLS AT EXISTING TO REMAIN SPLIT SYSTEM FC-1/CU-1 AND EF-1 SHALL BE DEMOLISHED, SUCH AS DEMOLISH EXISTING ZONE, BYPASS, AND ECONOMIZER DAMPER ACTUATORS FOR EXISTING TO REMAIN CONTROL DAMPERS AND ASSOCIATED CONTROLLER, ZONE T-STATS, BYPASS CONTROLLER, AND ASSOCIATED SYSTEM/EQUIPMENT CONTROLLER.

REFERENCE SHEET NOTES

MECHANICAL:

1. PRESERVE AND PROTECT IN PLACE SUPPLY AND RETURN DUCT RISERS UP TO ROOF.
2. DEMOLISH SUPPLY AIR DUCT, BALANCING DAMPERS, HANGERS, BRACING, AND DIFFUSERS.
3. DEMOLISH RETURN AIR DUCT, BALANCING DAMPERS, HANGERS, BRACING, AND REGISTERS/GRILLES.
4. PRESERVE AND PROTECT IN PLACE SUPPLY AND RETURN AIR DUCT AND BALANCING DAMPERS BETWEEN THE DUCT RISERS AND THE DIFFUSERS, REGISTERS, AND GRILLES.

CONTROLS:

10. DEMOLISH EXISTING THERMOSTATS ASSOCIATED WITH AC-1 THROUGH AC-7. DEMOLISH CONTROLS CABLE BETWEEN AC UNIT AND THERMOSTAT.
11. DEMOLISH THE THREE EXISTING THERMOSTATS ASSOCIATED WITH FC-1 MOTORIZED ZONE DAMPERS. DEMOLISH THERMOSTAT CONTROL WIRING.
12. EXISTING DUCT DETECTOR TO BE DISCONNECTED AND PROTECTED DURING CONSTRUCTION BY MECHANICAL CONTRACTOR. EXISTING DUCT DETECTOR, CONDUIT, WIRES, CIRCUITRY, AND CONNECTION TO FACP ARE TO BE REUSED. SEE FIRE ALARM DRAWINGS.

ALTERNATE BID ITEM #4:

MECHANICAL:

20. DEMOLISH EXISTING FC-1 UNIT AND EQUIPMENT SUPPORTS/BRACING WITHIN THE ATTIC SPACE. RECOVER AND RECYCLE REFRIGERANT AND DEMOLISH REFRIGERANT PIPING FROM FC-1 TO CU-1, SEE MD-1.2.
21. DEMOLISH EXISTING BYPASS AIR DUCT, EXHAUST AIR DUCT, AND OUTSIDE AIR INTAKE DUCTWORK. DEMOLISH ASSOCIATED DUCT SUPPORTS/BRACING.

CONTROLS:

30. DEMOLISH EXISTING FC-1 ECONOMIZER MOTORIZED DAMPERS AT BYPASS, EXHAUST, AND OUTSIDE AIR INTAKE DUCTWORK. DEMOLISH ASSOCIATED SIGNAL WIRE.
31. DEMOLISH EXISTING BYPASS CONTROLLER AT FC-1 SUPPLY DUCTWORK. DEMOLISH ASSOCIATED SIGNAL WIRE.
32. EXISTING DUCT DETECTOR TO BE DISCONNECTED AND PROTECTED DURING CONSTRUCTION BY MECHANICAL CONTRACTOR. EXISTING DUCT DETECTOR, CONDUIT, WIRES, CIRCUITRY, AND CONSTRUCTION TO FACP ARE TO BE REUSED. SEE FIRE ALARM DRAWINGS.

IDENTIFICATION STAMP
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APP: 02-119811 INC:
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DATE: 06/02/2022

agency

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National **Strength.**
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consultant

REGISTERED PROFESSIONAL ENGINEER
No. M40086
EXP. 09-30-2022
MECHANICAL
STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

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SOBE PROJECT NO:	2100987
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CHECKED BY:	BB
APPROVED BY:	ER

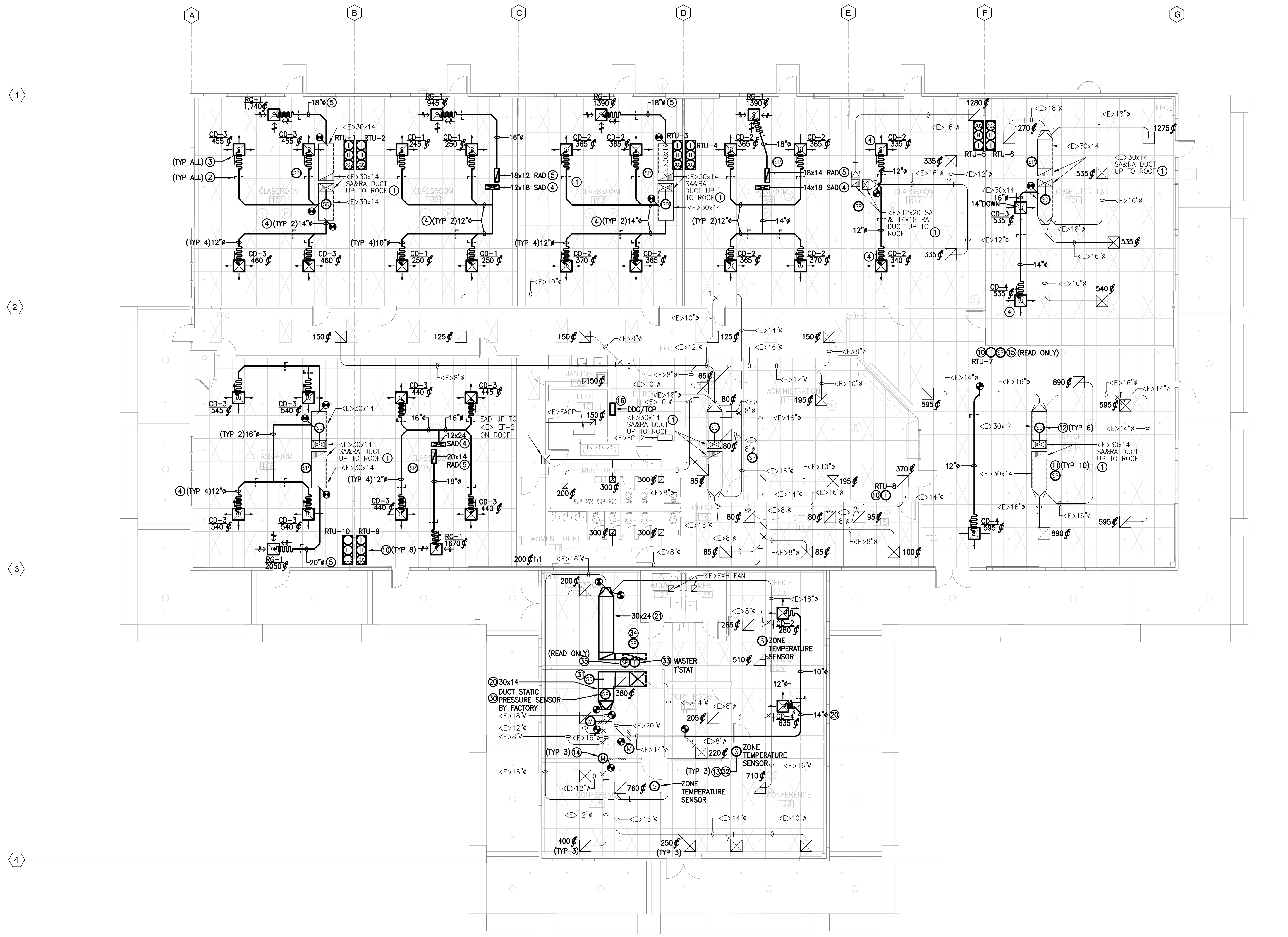
SHEET TITLE

MECHANICAL
FIRST FLOOR PLAN - DEMO

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

MD-1.1

SHEET OF XX



1 MECHANICAL FIRST FLOOR PLAN - NEW
SCALE: 1/8" = 1' - 0"

GENERAL NOTES

A. REFER TO GENERAL NOTES ON G-0.0, MECHANICAL ROOF PLAN M-1.2, MECHANICAL DETAILS ON M-5.1, MECHANICAL SCHEDULES ON M-6.1, AND CONTROLS ON M-7.1.

B. PROVIDE POST-CONSTRUCTION AIR BALANCE REPORT FOR THE AIR SYSTEMS INVOLVED AFTER EQUIPMENT INSTALLATION, LISTING THE FOLLOWING (BUT NOT LIMITED TO) ITEMS: (1) SYSTEM DESIGNATION SUCH AS NAMEPLATE, MODEL #, SN#, SIZE; (2) TYPE OF CONTROL THE SYSTEM WAS UNDER AT THE TIME OF TESTING; (3) OUTSIDE AIR TEMPERATURE; (4) SYSTEM FAN MOTOR NAME PLATE DATA AND RELATED ELECTRICAL CHARACTERISTICS; (5) FAN DATA; (6) ESP, ISP AND TSP DATA; (7) FLOOR PLAN INDICATING MEASURED AIRFLOWS AT EXISTING AND NEW AIR OUTLETS/INLETS (I.E. DIFFUSERS, GRILLES, OR REGISTERS).

C. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR THE WORK RELATED TO ROOF FRAMING, NEW ROOF CURBS, ROOF FLASHING, AND ROOF DRAINS.

D. REFER TO BOOK SPECIFICATIONS.

E. CEILING TILES SHALL BE REMOVED WITHOUT DAMAGE PRIOR TO CONDUCTING CONSTRUCTION ACTIVITIES IN THE CEILING SPACE. PRESERVE AND PROTECT CEILING TILES FOR INSTALLATION UPON COMPLETION OF NEW WORK. DAMAGED CEILING TILES ARE TO BE REPLACED.

F. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3 OR 4/A-5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A-5.2.

G. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

H. DUCT SUPPORTS SHALL BE PROVIDED AS DETAILED ON M-5.1. REFER TO DUCT SUPPORT DETAILS FOR SPACING REQUIREMENTS AND INSTALLATION.

I. BASE BID 'NEW WORK' FOR OFFICES, ADMINISTRATION, AND CONFERENCE ROOM AREAS AT SOUTH SIDE OF BUILDING SHALL BE AS FOLLOWS:

PROVIDE MAINTENANCE TO EXISTING SPLIT SYSTEM FC-1/CU-1 AND EF-1 EQUIPMENT.
PROVIDE AND INSTALL NEW CONTROLS FOR EXISTING TO REMAIN SPLIT SYSTEM FC-1/CU-1 AND EF-1, SUCH AS NEW ZONE, BYPASS, AND ECONOMIZER DAMPER ACTUATORS FOR EXISTING TO REMAIN CONTROL DAMPERS, ZONE T-STATS, SUPPLY AND RETURN AIR TEMPERATURE TRANSMITTERS, DUCT STATIC PRESSURE SENSOR, AND DIGITAL LOGIC CONTROLLER FOR SYSTEM OPERATION. PROGRAM CONTROLS AS PER SEQUENCES OF OPERATION ON MI-6.1.

(#) REFERENCE SHEET NOTES

MECHANICAL:

1. CONNECT EXISTING SUPPLY AND RETURN DUCT RISERS TO THE RTU AT THE ROOF AND TO NEW DUCTWORK IN CEILING SPACE. SEE DETAIL 7/M-5.1 FOR TYPICAL DUCT TRANSITION FROM EXISTING DUCT RISER TO RTU AT ROOFTOP.

2. PROVIDE VOLUME BALANCING DAMPER ON DUCT TAKE-OFFS TO DIFFUSERS, GRILLES, AND REGISTERS. INSTALL A MINIMUM OF TWO DUCT DIAMETERS FROM THE DUCT TAKEOFF AND A MINIMUM OF SEVEN FEET FROM THE DIFFUSER, GRILLE, OR REGISTER.

3. INSTALL FLEXIBLE DUCT TO THE AIR DIFFUSER, GRILLE OR REGISTER WITH 5 FEET MAXIMUM LENGTH. SEE DETAIL 3/M-5.1.

4. PROVIDE SUPPLY AIR DUCT, TRANSITIONS, FLEXIBLE DUCT, DIFFUSERS, AND SUPPORTS. SEE DETAIL 3/M-5.1 FOR CEILING DIFFUSER MOUNTING AND DETAIL 6/M-5.1 FOR DUCT SUPPORTS.

5. PROVIDE RETURN AIR DUCT, TRANSITIONS, FLEXIBLE DUCT, AND REGISTERS/GRILLES. SEE DETAIL 3/M-5.1 FOR CEILING REGISTER/GRILLE MOUNTING AND DETAIL 6/M-5.1 FOR DUCT SUPPORTS.

CONTROLS:

10. PROVIDE AND INSTALL MASTER THERMOSTATS RTU-1 THROUGH RTU-10. T'STATS FOR CLASSROMS SHALL BE EQUIPED WITH HUMIDITY SENSORS (READ ONLY) AND AN INPUT FROM THE RTU'S FACTORY PROVIDED AND DDC VENDOR INSTALLED C02 SENSORS FOR DEMAND CONTROL VENTILATION. INTEGRATE WITH RESPECTIVE ROOFTOP UNIT(S) CONTROLS AND CONNECT TO NEW DELTA BMS.

11. INSTALL (RTU) FACTORY PROVIDED STATIC PRESSURE SAMPLING TUBING. COORDINATE WITH MECHANICAL SUBCONTRACTOR FOR THE ROUTING AND INSTALLATION OF THE FACTORY PROVIDED STATIC PRESSURE TUBING. STATIC PRESSURE TUBING SHALL BE ROUTED TO THE SPACE, DRILL THROUGH CEILING TILE WHERE NECESSARY. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. INTEGRATE WITH ROOFTOP RTU UNIT AND CONNECT TO NEW DELTA BMS.

12. RECONNECT DUCT SMOKE DETECTOR TO EXISTING FIRE ALARM CIRCUIT. CONNECT TO NEW RTU'S CONTROLS RELAY FOR FAN SHUTDOWN OPERATION. RETEST DUCT DETECTOR UPON REINSTALLATION. SEE FIRE ALARM DRAWINGS.

13. PROVIDE AND INSTALL ROOM SENSORS FOR EXISTING FCU-1 ZONES AND INTEGRATE CONTROLS WITH NEW DELTA MOTORIZED ZONE DAMPER CONTROLLERS. CONNECT THERMOSTATS TO NEW DELTA BMS.

14. PROVIDE AND INSTALL DELTA MOTORIZED DAMPER CONTROLLERS AND INTEGRATE WITH THERMOSTATS. CONNECT DAMPER CONTROLLERS TO NEW DELTA BMS. (IF DAMPER ASSEMBLIES ARE DETERMINED TO BE NON-OPERATIONAL, ENTIRE DAMPER ASSEMBLY TO BE REPLACED PER GENERAL NOTE ON MD-1.1)

15. PROVIDE AND INSTALL READ ONLY SPACE STATIC PRESSURE SENSOR AND CONNECT TO NEW DELTA BMS.

16. PROVIDE AND INSTALL NEW DELTA CONTROLS DDC TEMPERATURE CONTROL PANEL IN IDF ROOM AS SHOWN. COORDINATE ELECTRICAL POWER REQUIREMENTS WITH ELECTRICAL SUB-CONTRACTOR.

ALTERNATE BID ITEM #4:

MECHANICAL:

20. PROVIDE SUPPLY AIR DUCT, TRANSITIONS, FLEXIBLE DUCT, DIFFUSERS, AND SUPPORTS. SEE DETAIL 3/M-5.1 FOR CEILING DIFFUSER MOUNTING AND DETAIL 6/M-5.1 FOR DUCT SUPPORTS.

21. PROVIDE RETURN AIR DUCT, TRANSITIONS, FLEXIBLE DUCT, AND REGISTERS/GRILLES. SEE DETAIL 3/M-5.1 FOR CEILING REGISTER/GRILLE MOUNTING AND DETAIL 6/M-5.1 FOR DUCT SUPPORTS.

CONTROLS:

30. PROVIDE AND INSTALL STATIC PRESSURE SENSOR IN MAIN SUPPLY AIR DUCT OF RTU-11, UPSTREAM OF TRANSITIONS TO DUCT BRANCHES. CONNECT TO NEW DELTA BMS.

31. RECONNECT DUCT SMOKE DETECTOR TO EXISTING FIRE ALARM CIRCUIT. CONNECT TO NEW RTU'S CONTROLS RELAY FOR FAN SHUTDOWN OPERATION. RETEST DUCT DETECTOR UPON REINSTALLATION. SEE FIRE ALARM DRAWINGS.

32. INTEGRATE RTU-11 ZONE ROOM SENSORS WITH ROOFTOP RTU UNIT, MOTORIZED ZONE DAMPERS, AND CONNECT TO NEW DELTA BMS.

33. PROVIDE AND INSTALL MASTER THERMOSTAT. INTEGRATE WITH RTU-11 AND CONNECT TO THE NEW DELTA BMS.

34. INSTALL (RTU) FACTORY PROVIDED STATIC PRESSURE SAMPLING TUBING. COORDINATE WITH MECHANICAL SUBCONTRACTOR FOR THE ROUTING AND INSTALLATION OF THE FACTORY PROVIDED STATIC PRESSURE TUBING. STATIC PRESSURE TUBING SHALL BE ROUTED TO THE SPACE, DRILL THROUGH CEILING TILE WHERE NECESSARY. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. INTEGRATE WITH ROOFTOP RTU UNIT AND CONNECT TO NEW DELTA BMS.

35. PROVIDE AND INSTALL READ ONLY SPACE STATIC PRESSURE SENSOR AND CONNECT TO NEW DELTA BMS.

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REGISTERED PROFESSIONAL ENGINEER
No. M40066
EXP. 09-30-2022
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2000 NORTH VILLAGE PARKWAY
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VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

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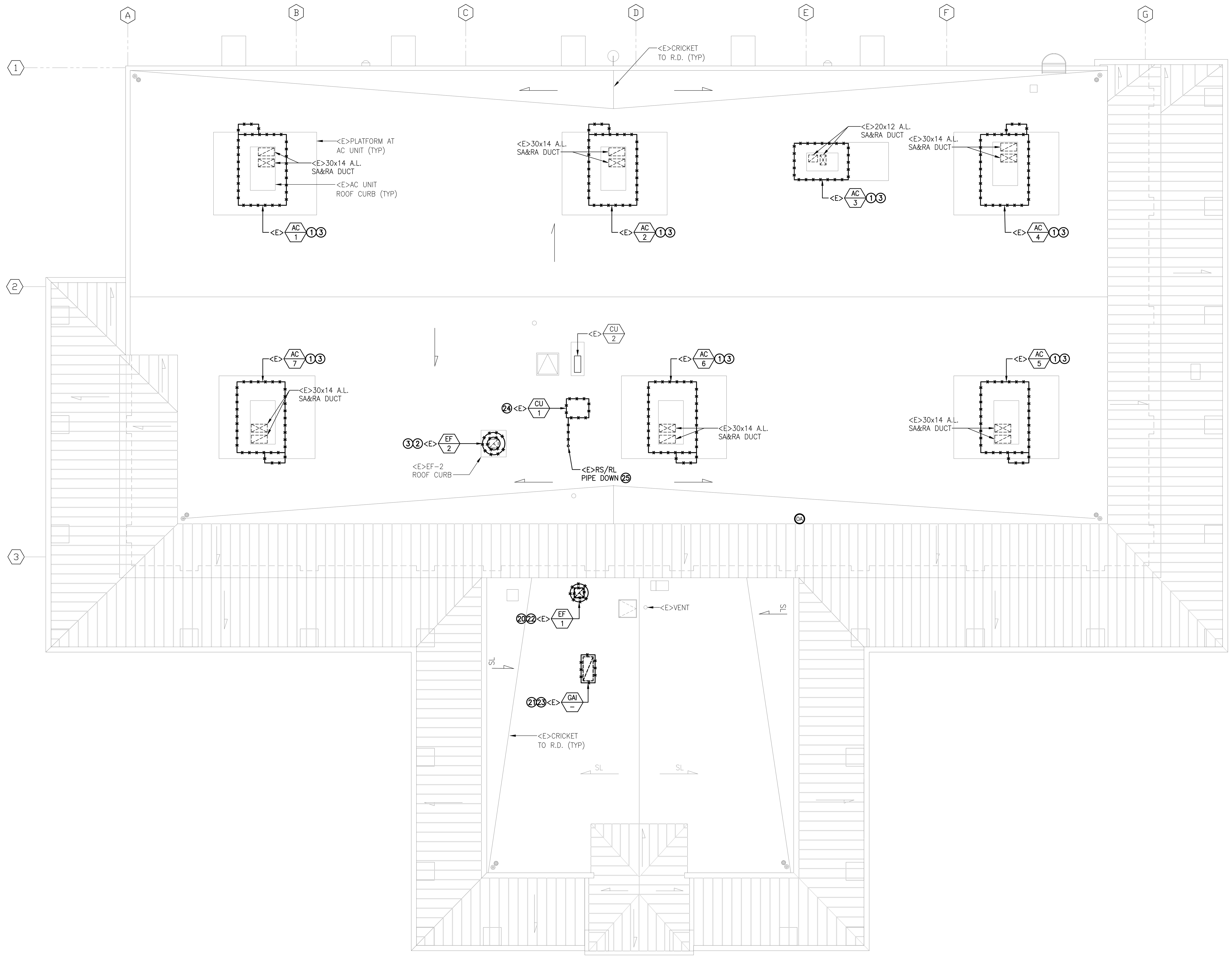
SHEET TITLE
MECHANICAL FIRST FLOOR PLAN - NEW

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

M-1.1
SHEET OF XX



1 MECHANICAL ROOF PLAN - DEMO

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

GENERAL NOTES

A. REFER TO GENERAL NOTES ON G-0.0,

B. COORDINATE HVAC UNITS DEMO/DISPOSAL WITH THE BUILDING'S FACILITIES OPERATIONS AND RE-ROOFING. BUILDING SHALL BE WATER TIGHT AT THE END OF EACH DAY.

C. PROVIDE PRE-CONSTRUCTION AIR BALANCE REPORT FOR THE AIR SYSTEMS INVOLVED BEFORE THE EXISTING MECHANICAL EQUIPMENT REMOVAL, LISTING THE FOLLOWING (BUT NOT LIMITED TO) ITEMS: (1) EXISTING SYSTEM DESIGNATION SUCH AS NAMEPLATE, MODEL #, SN #, SIZE; (2) TYPE OF CONTROL THE SYSTEM WAS UNDER AT THE TIME OF TESTING; (3) OUTSIDE AIR TEMPERATURE; (4) SYSTEM FAN MOTOR NAME PLATE DATA AND RELATED ELECTRICAL CHARACTERISTICS; (5) FAN DATA; (6) ESP, ISP AND TSP DATA; (7) FLOORPLAN INDICATING MEASURED AIRFLOWS AT EXISTING AIR OUTLETS/INLETS (I.E. DIFFUSERS, GRILLES, OR REGISTERS).

D. REFER TO PLUMBING DRAWINGS FOR EXTENT OF CONDENSATE DRAIN AND GAS DEMOLITION.

E. REFER TO ARCHITECTURAL DRAWINGS FOR THE WORK RELATED TO ROOFING.

F. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

G. BASE BID 'DEMO WORK' FOR OFFICES, ADMINISTRATION, AND CONFERENCE ROOM AREAS AT SOUTH SIDE OF BUILDING SHALL BE AS FOLLOWS:

EXISTING GAI AND EF-1 TO REMAIN. IF REROOF SCOPE ACCEPTED FOR SOUTH ROOF, THEN REMOVE GAI AND EF-1 FOR REROOF CONSTRUCTION AND REINSTALL.

(#) REFERENCE SHEET NOTES

1. DISCONNECT FROM EXISTING DUCTWORK, ROOF CURB AND UTILITIES' CONNECTIONS AND DEMOLISH EXISTING AC UNITS.

2. DISCONNECT FROM EXISTING DUCTWORK, ROOF CURB AND ELECTRICAL CONNECTIONS AND DEMOLISH EXISTING EXHAUST FAN, EF-2

3. DEMOLISH EXISTING AC UNITS AND EXHAUST FAN ROOF CURBS. PRESERVE AND PROTECT DUCT RISERS.

ALTERNATE BID ITEM #4:

MECHANICAL:

20. DISCONNECT FROM EXISTING DUCTWORK, ROOF CURB AND ELECTRICAL CONNECTIONS AND DEMOLISH EXISTING EXHAUST FAN, EF-1.

21. DISCONNECT FROM EXISTING DUCT WORK AND ROOF CURB AND DEMOLISH FAI HOOD.

22. DEMOLISH EXISTING EXHAUST FAN ROOF CURB. DEMOLISH DUCT RISER TO BELOW ROOF DECK AND CAP ROOF OPENING.

23. DEMOLISH EXISTING FAI HOOD ROOF CURB. PRESERVE AND PROTECT DUCT RISERS.

24. DISCONNECT FROM EXISTING REFRIGERANT PIPING, SUPPORTS, AND ELECTRICAL CONNECTIONS AND DEMOLISH EXISTING CONDENSING UNIT, CU-1.

25. RECOVER AND RECYCLE REFRIGERANT AND DEMOLISH REFRIGERANT PIPING FROM CU-1 TO FC-1, SEE ALSO MD-1.1.

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CHECKED BY:	BB
APPROVED BY:	ER

SHEET TITLE

MECHANICAL ROOF PLAN - DEMO

SCALE:

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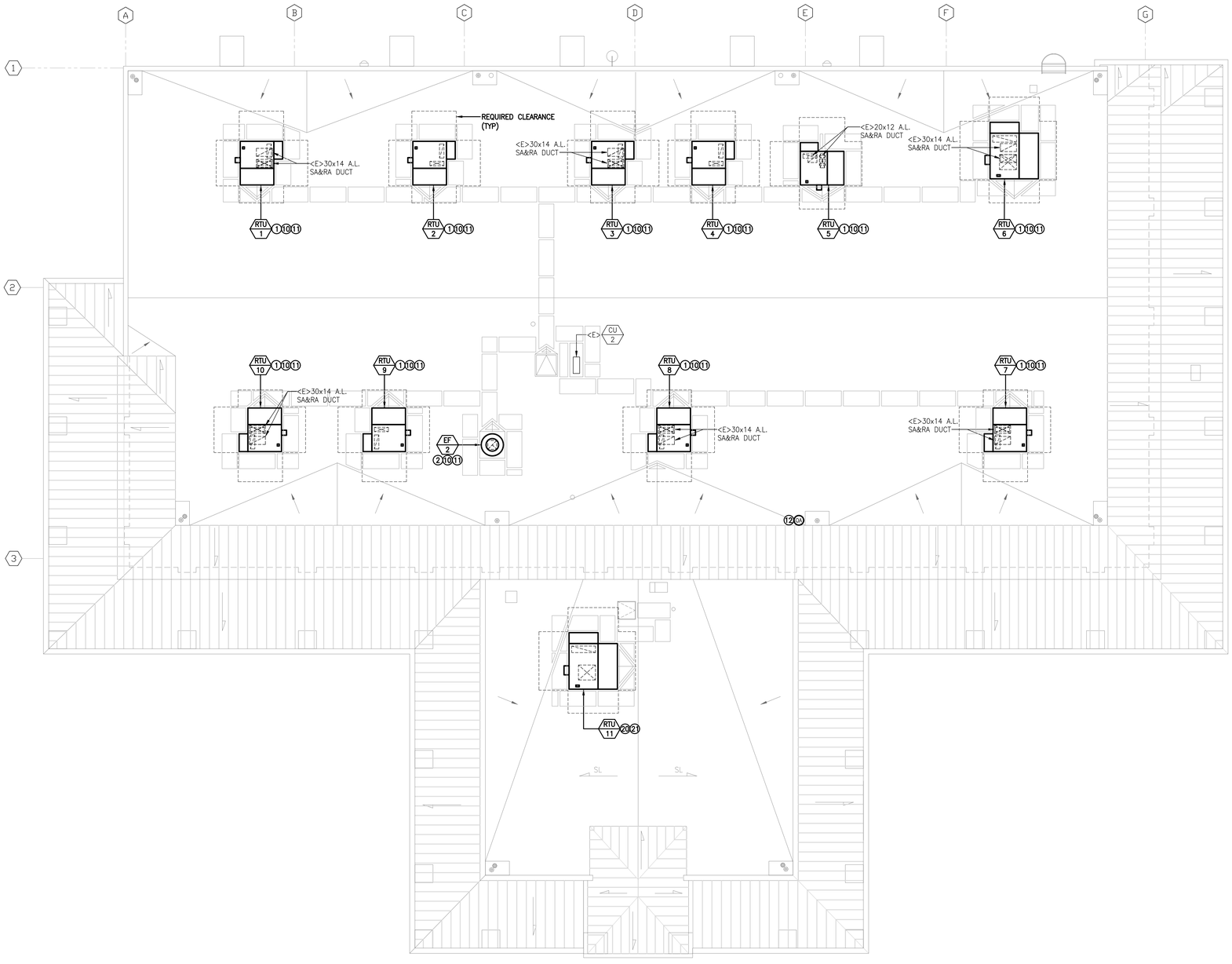
MD-1.2

SHEET OF XX



1 MECHANICAL ROOF PLAN - NEW

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

0 8' 16'

GENERAL NOTES

A. REFER TO GENERAL NOTES ON G-0.0, MECHANICAL FLOOR PLAN M-1.1, MECHANICAL DETAILS ON M-5.1, MECHANICAL SCHEDULES ON M-6.1, AND CONTROLS ON MI-6.1 AND MI-6.2.

B. PROVIDE POST-CONSTRUCTION AIR BALANCE REPORT FOR THE AIR SYSTEMS INVOLVED AFTER EQUIPMENT INSTALLATION, LISTING THE FOLLOWING (BUT NOT LIMITED TO) ITEMS: (1) EXISTING SYSTEM DESIGNATION SUCH AS NAMEPLATE, MODEL #, SN#, SIZE; (2) TYPE OF CONTROL THE SYSTEM WAS UNDER AT THE TIME OF TESTING; (3) OUTSIDE AIR TEMPERATURE; (4) SYSTEM FAN MOTOR NAME PLATE DATA AND RELATED ELECTRICAL CHARACTERISTICS; (5) FAN DATA; (6) ESP, ISP AND TSP DATA; (7) LIST/TABLE OF EXISTING AIR OUTLETS AND INLETS MEASURED AIR FLOWS AND ASSOCIATED SCHEMATICS.

C. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR THE WORK RELATED TO ROOF FRAMING, NEW ROOF CURBS, ROOF FLASHING, AND ROOF DRAINS.

D. REFER TO BOOK SPECIFICATIONS.

E. REFER TO PLUMBING DRAWINGS FOR CONDENSATE DRAIN, HOSE BIBB, AND GAS DESIGN.

F. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3 OR 4/A-5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A-5.2.

G. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

H. ALL PLUMBING VENTS SHALL BE A MINIMUM OF 10 FEET FROM AIR INTAKES.

I. BASE BID 'NEW WORK' FOR OFFICES, ADMINISTRATION, AND CONFERENCE ROOM AREAS AT SOUTH SIDE OF BUILDING SHALL BE AS FOLLOWS:

PROVIDE MAINTENANCE TO EXISTING SPLIT SYSTEM FC-1/CU-1 AND EF-1 EQUIPMENT.

REFERENCE SHEET NOTES

MECHANICAL:

1. PROVIDE AND INSTALL NEW PACKAGE RTU. PROVIDE AND INSTALL NEW, INSULATED SUPPLY AND RETURN DUCT RISERS. PROVIDE DUCT TRANSITIONS IN RISERS AS REQUIRED. WHERE EXISTING DUCT RISERS WERE PROTECTED IN PLACE, PROVIDE AND INSTALL DUCT TRANSITIONS FOR CONNECTION OF RTU TO EXISTING SUPPLY AND RETURN AIR DUCT RISERS. COORDINATE WITH ELECTRICAL, CONTROLS AND ROOFING SUBCONTRACTORS.

2. PROVIDE AND INSTALL NEW EXHAUST FAN ON NEW RAISED ROOF CURB AT THE SAME LOCATION. PROVIDE NEW VERTICAL EXHAUST DUCT EXTENSION AND RECONNECT TO EXISTING EXHAUST DUCT BELOW ROOF. COORDINATE WITH ELECTRICAL, CONTROLS AND ROOFING SUBCONTRACTORS. SEE DETAIL 10/M-5.1.

CONTROLS:

10. PROVIDE DDC CONTROL POINTS AND CONTROL WIRING AS REQUIRED. PROGRAM NEW RTU AND EXHAUST FAN UNITS AS REQUIRED PER SEQUENCE OF OPERATION. COORDINATE WITH MECHANICAL, ELECTRICAL AND BALANCING SUB-CONTRACTORS.

11. PROVIDE NEW FRONT-END SYSTEM/SOFTWARE AND ASSOCIATED GRAPHICS AS REQUIRED TO ACCOMMODATE NEW CONTROL POINTS AND RELATED SEQUENCE OF OPERATION.

12. PROVIDE AND INSTALL GLOBAL OUTSIDE AIR TEMPERATURE SENSOR FOR INTEGRATED RTU'S ECONOMIZER CONTROL AND CONNECT TO BMS SYSTEM BY DELTA CONTROLS.

ALTERNATE BID ITEM #4:

MECHANICAL:

20. PROVIDE AND INSTALL NEW PACKAGE UNIT, RTU-11. PROVIDE AND INSTALL NEW, INSULATED RETURN DUCT RISER. EXISTING FRESH AIR INTAKE (FAI) DUCT RISER TO BE USED AS SUPPLY DUCT FOR RTU-11. PROVIDE NEW INSULATION LINER. PROVIDE DUCT TRANSITIONS IN RISERS AS REQUIRED FOR CONNECTION TO RTU AND TO EXISTING DUCT. COORDINATE WITH ELECTRICAL, CONTROLS, AND ROOFING SUBCONTRACTOR.

CONTROLS:

21. PROVIDE DDC CONTROL POINTS AND CONTROL WIRING AS REQUIRED. PROGRAM NEW RTU-11 AS REQUIRED PER SEQUENCE OF OPERATION, SEE MI-6.1. COORDINATE WITH MECHANICAL, ELECTRICAL, AND BALANCING SUBCONTRACTORS.

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SHEET TITLE

MECHANICAL ROOF PLAN - NEW

SCALE:
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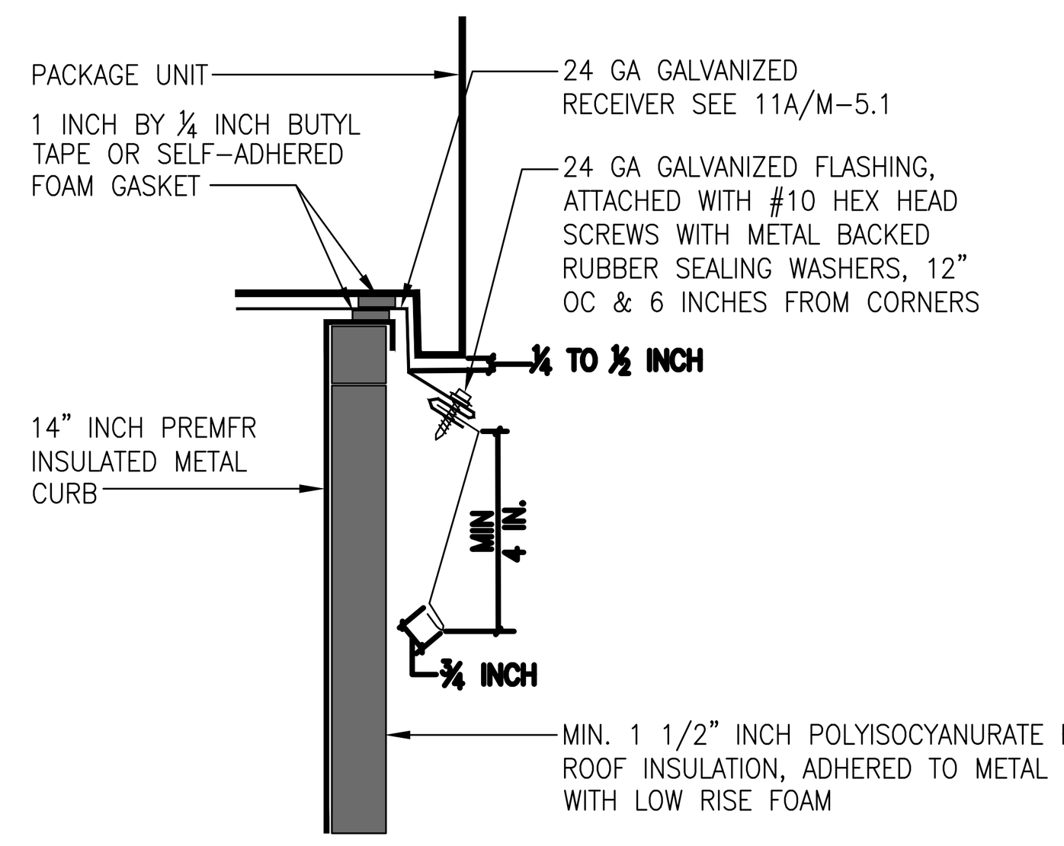
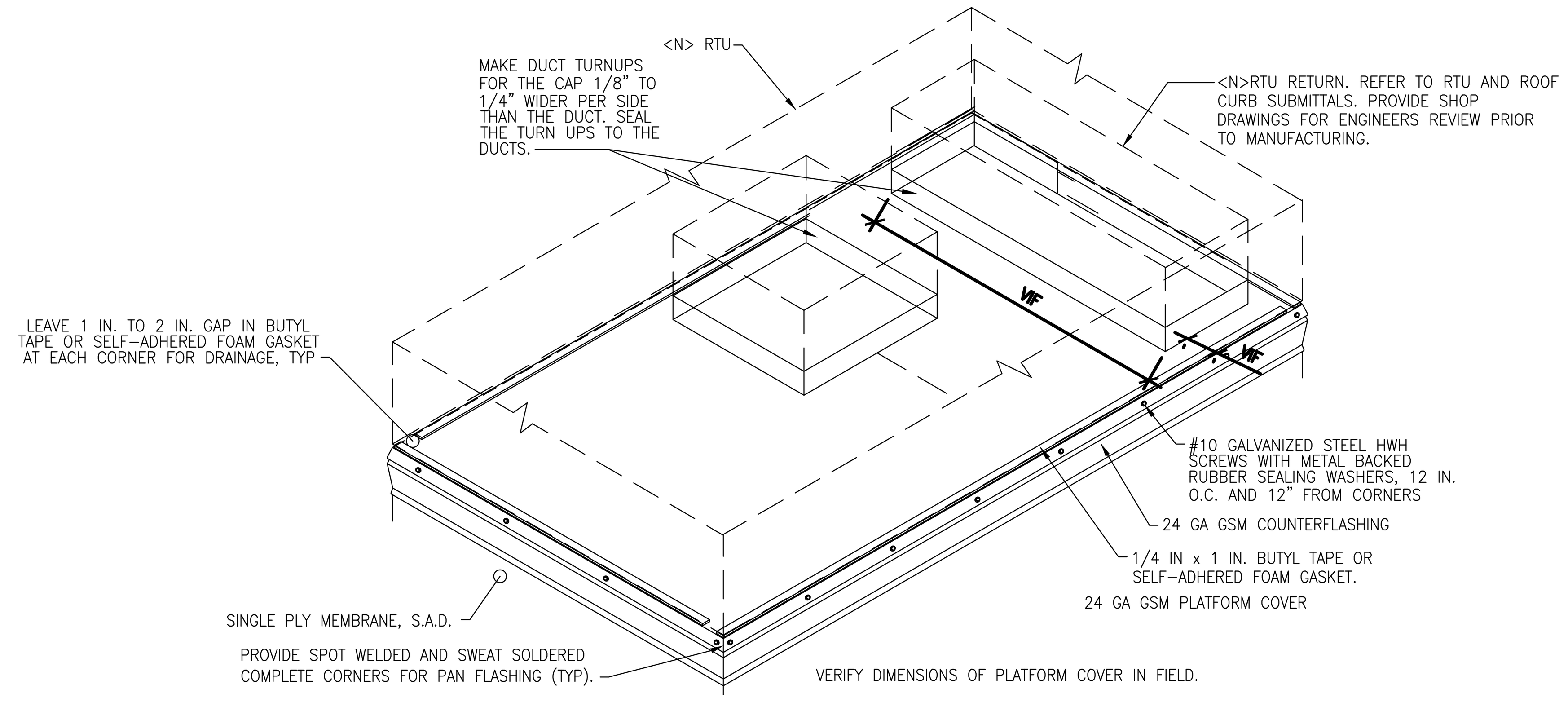
M-1.2

SHEET OF XX



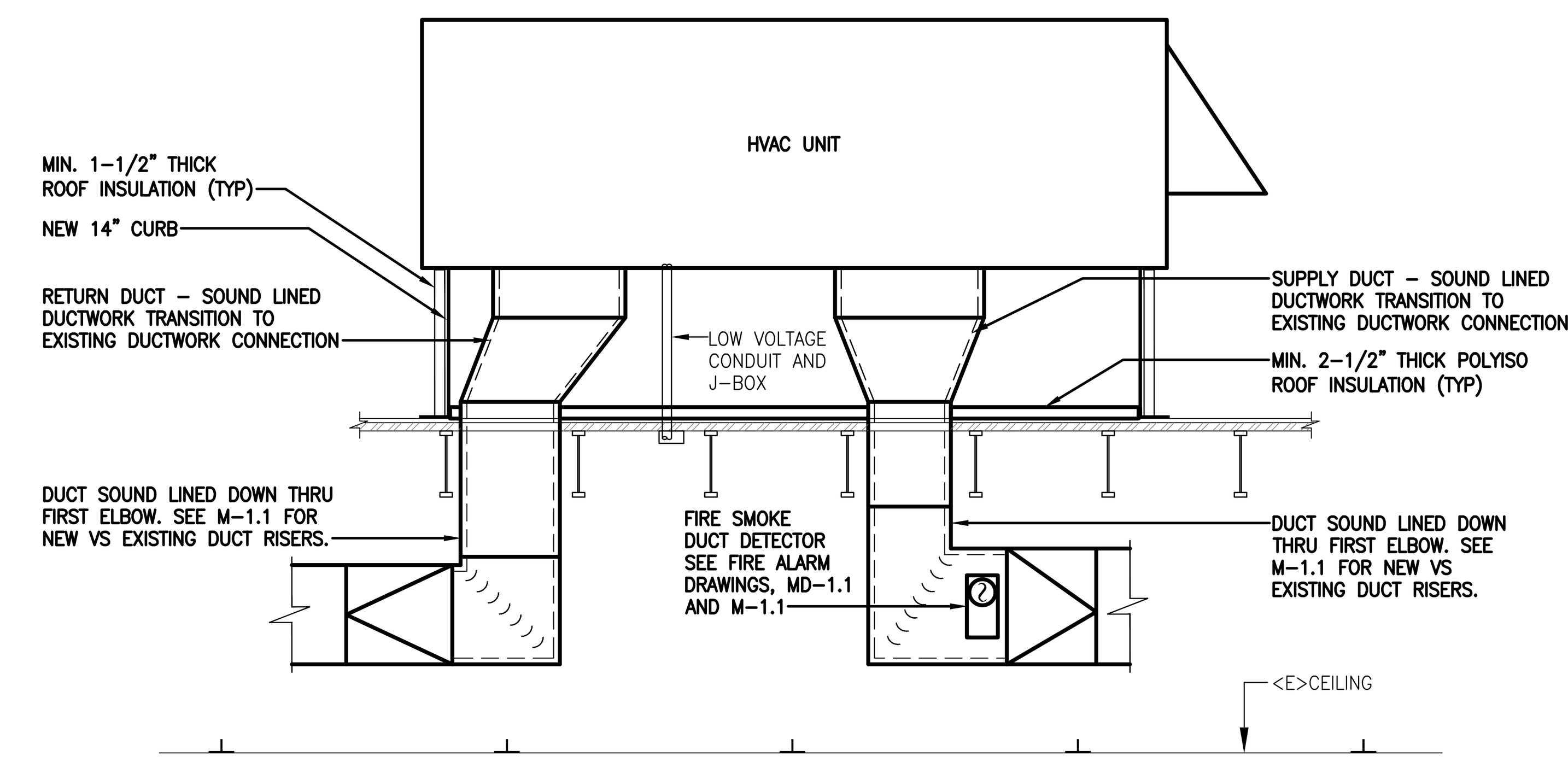
11B CURB GASKETS, PAN FLASHING & REMOVABLE COUNTERFLASHING

SCALE: N.T.S.



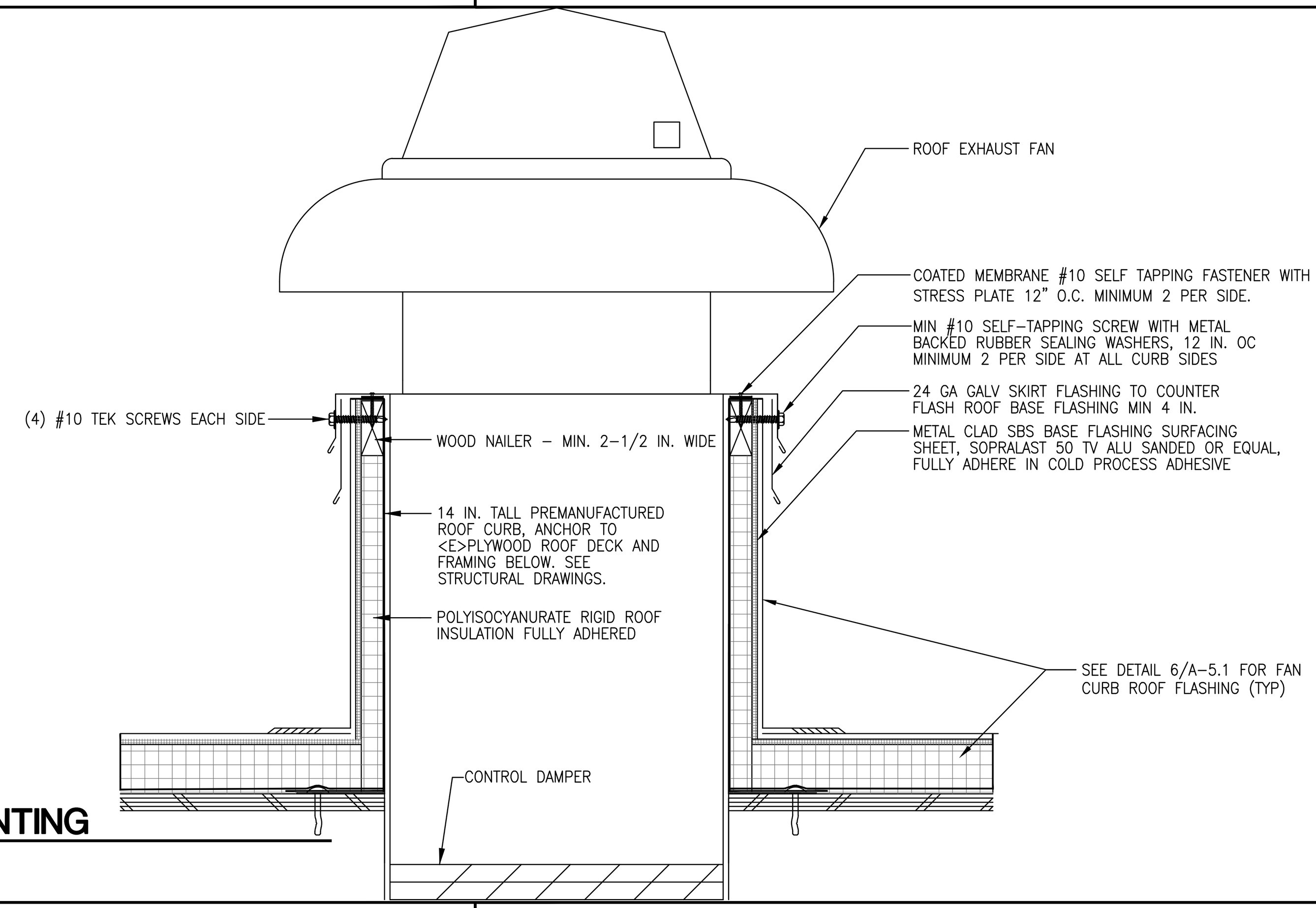
11A PLATFORM COVER WITH INTEGRATED DUCT FLASHINGS

SCALE: N.T.S.



7 TYPICAL SUPPLY/RETURN DUCT CONNECTION FOR RTU

SCALE: N.T.S.



10 EF ROOF MOUNTING

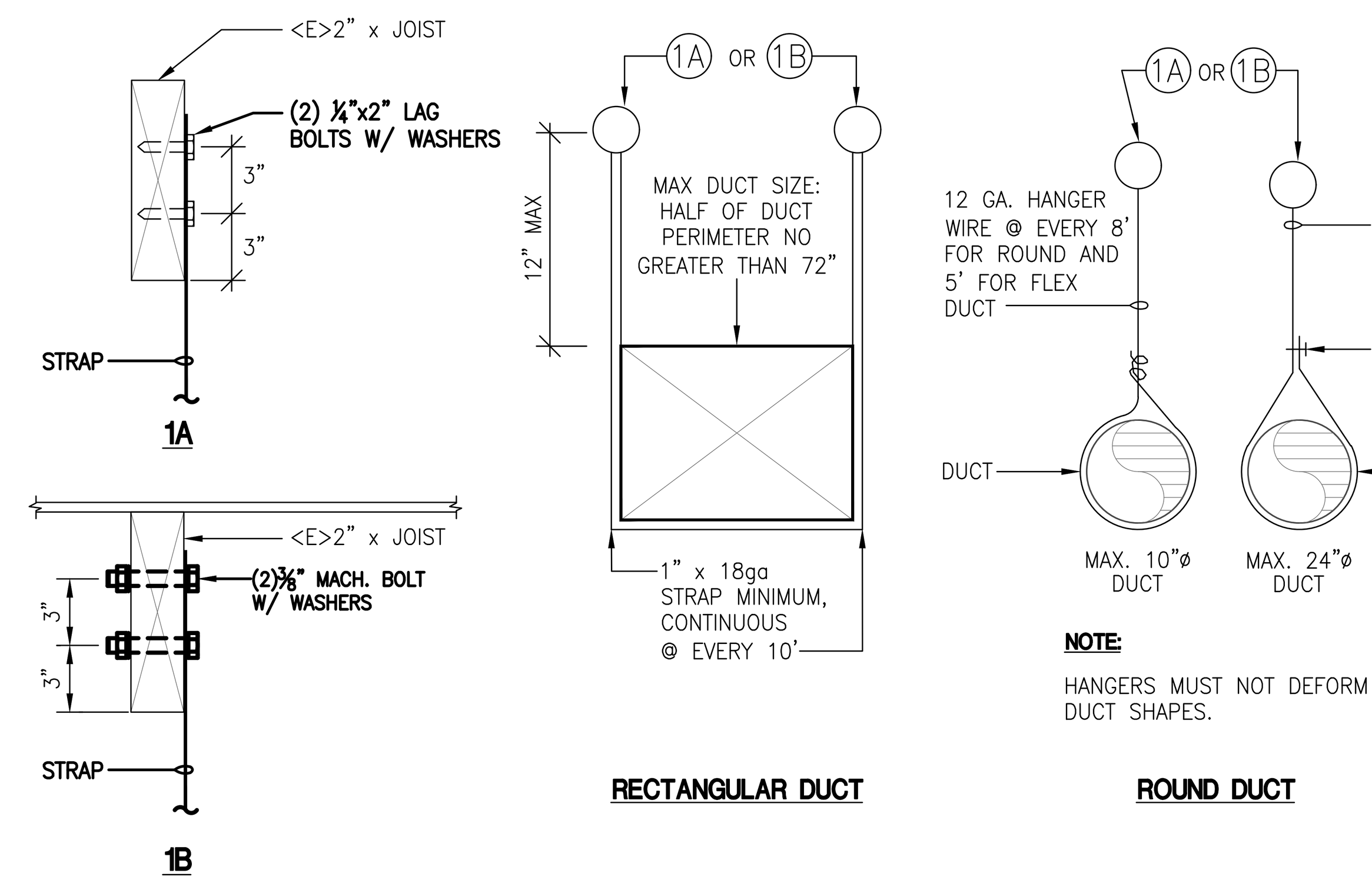
SCALE: N.T.S.

NOTES:

1. MAXIMUM SUPPORTED LOAD AND 1"x22 GA. HANGER STRAP = 200 LBS.
2. MAXIMUM SUPPORTED LOAD AND 12 GA. HANGER WIRE = 200 LBS
3. MAXIMUM SUPPORTED LOAD AND 1"X18 GA. HANGER STRAP = 400 LBS.

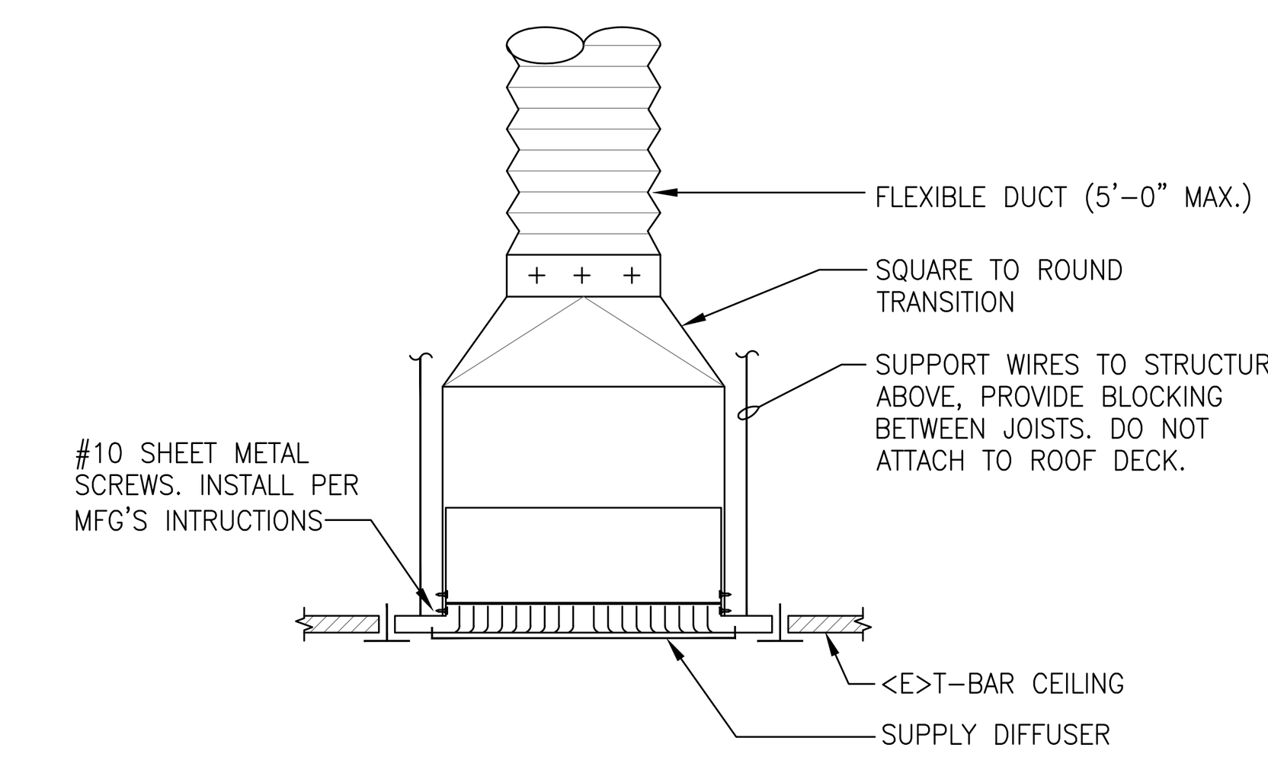
NOTE:

SEISMIC RESTRAINTS AND ATTACHMENTS SHALL BE IN ACCORDANCE WITH MASON WEST INC. SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED DISTRIBUTION SYSTEMS (OPM-0043-13)



6 DUCT SUPPORT

SCALE: N.T.S.

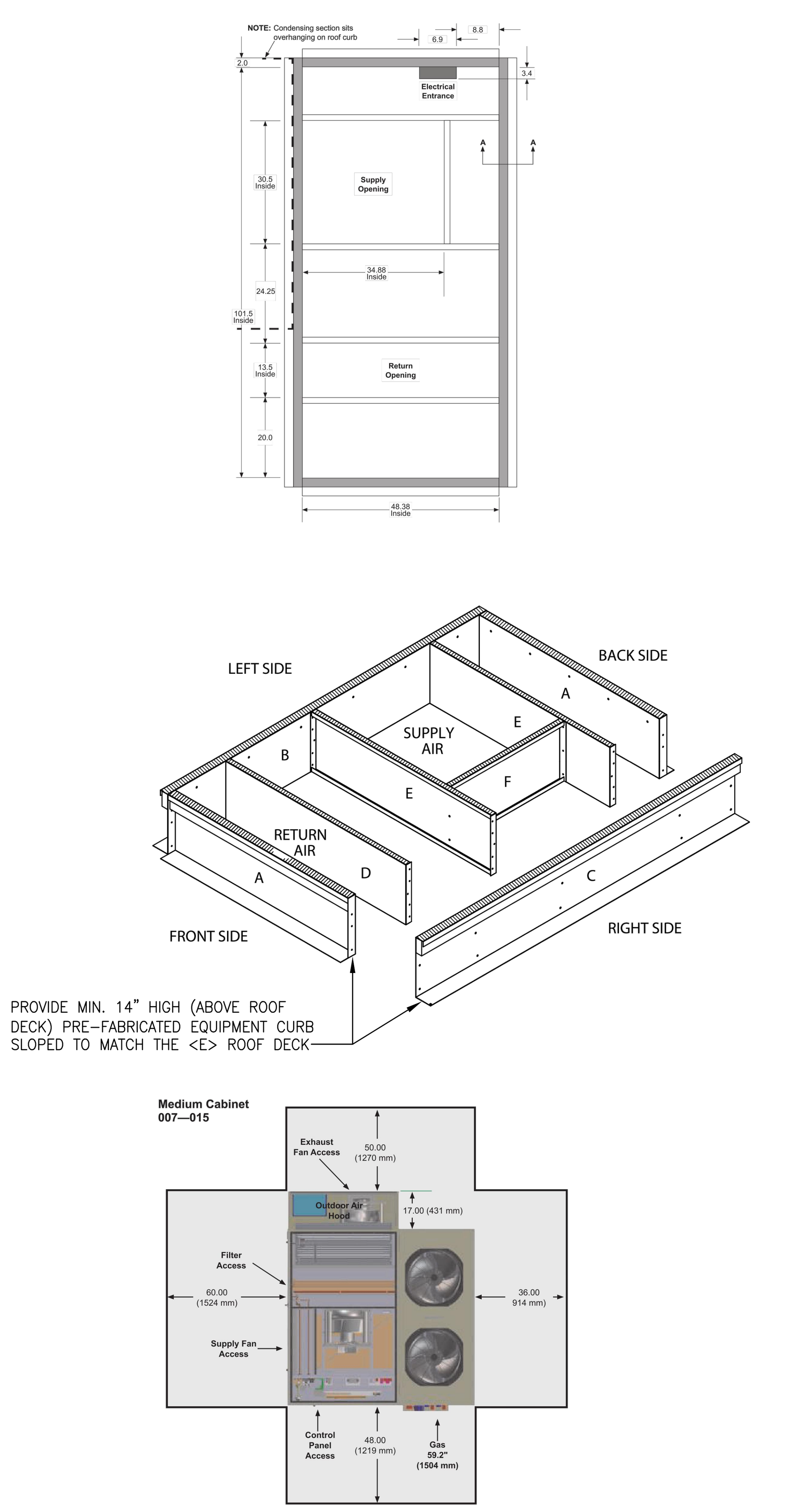


NOTE:

SURFACE MOUNTED DIFFUSERS SIM. MOUNT PER MFGR'S RECOMMENDATIONS.

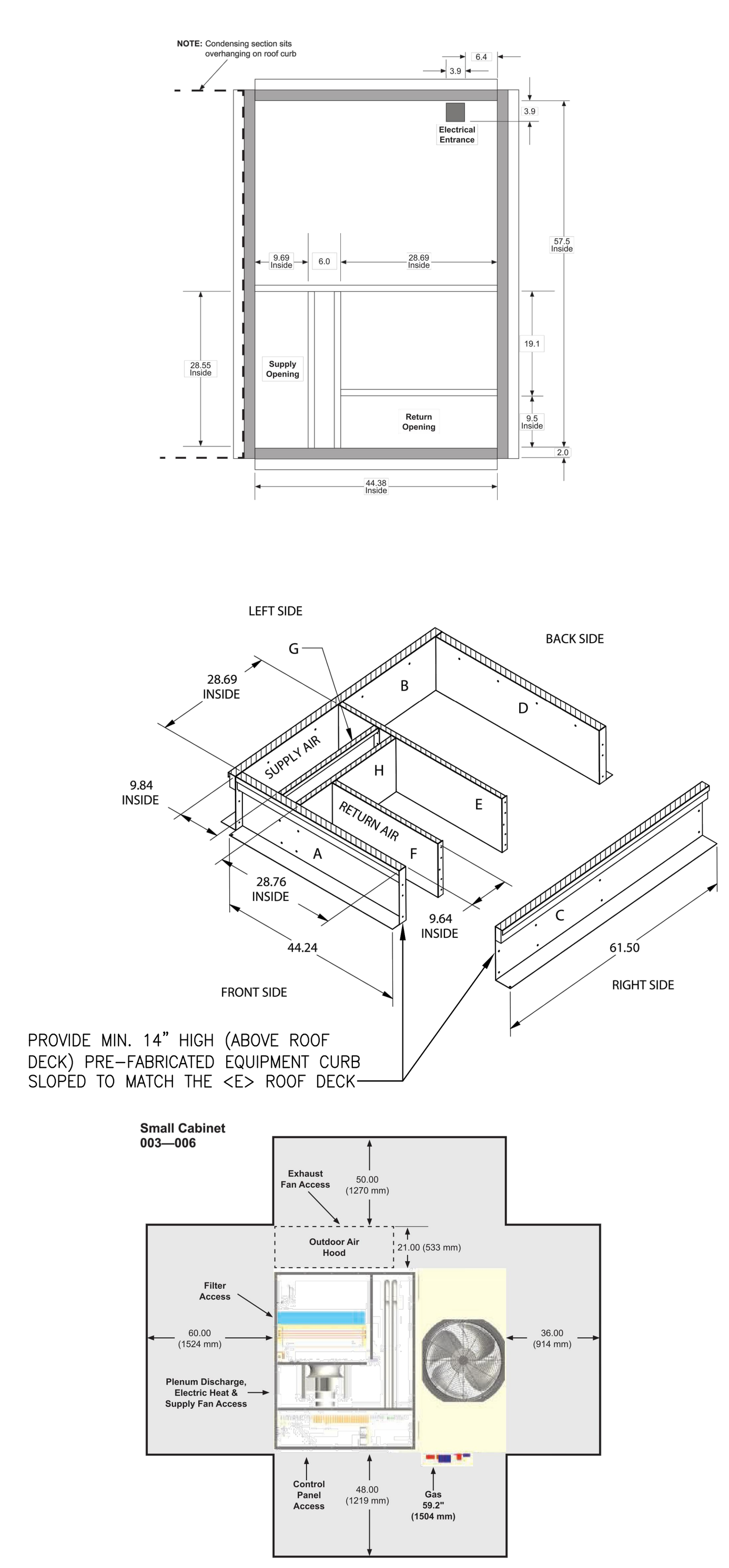
3 FLEX DUCT CEILING DIFFUSER MOUNTING

SCALE: N.T.S.



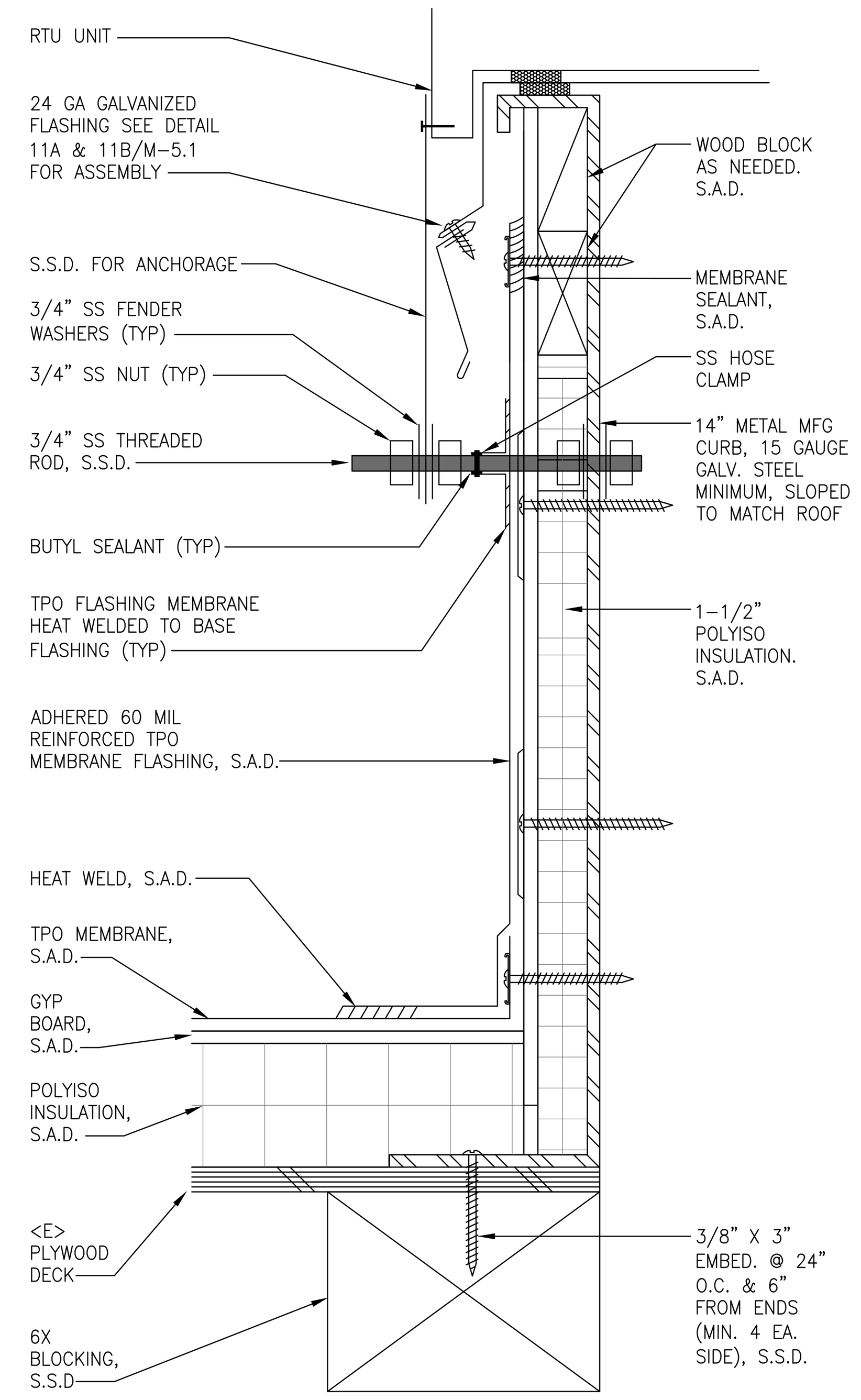
9 7-1/2 TON RTU UNIT ROOF CURB & CLEARANCE DIMENSIONS

SCALE: N.T.S.



8 3 TON THRU 6 TON RTU UNIT ROOF CURB AND CLEARANCE DIMENSIONS

SCALE: N.T.S.



5 RTU UNIT MOUNTING

SCALE: 3"=1'-0"

4 NOT USED

SCALE: N.T.S.

2 NOT USED

SCALE: N.T.S.

1 NOT USED

SCALE: N.T.S.

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SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE

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MECHANICAL DETAILS

SCALE:

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M-5.1

SHEET OF XX

NEW EQUIPMENT SCHEDULES

ROOFTOP PACKAGED HVAC UNIT SCHEDULE

MARK	SERVICE	ROOM FUNCTION	MAKE	MODEL	NOM. TONS	MIN OA CFM	SUPPLY FAN				POWERED EXHAUST FAN				COOLING		GAS HEATING					HEAT PUMP HEATING - (FOR FUTURE)					VOLT/PH/ HERTZ	MCA (AMPS)	FLA (AMPS)	MOCP (AMPS)	EER/ SEER	REF.	OPER. WEIGHT (LBS)	NOTES
							CFM	ESP (IN. WG)	HP	FLA (AMPS)	CFM	ESP (IN. WG)	HP	FLA (AMPS)	SENS. (BTU/HR)	TOTAL (BTU/HR)	INPUT (BTU/HR)	OUTPUT (BTU/HR)	EAT (F)	LAT (F)	EFF. %	CAPACITY (BTU/HR)	EAT (F)	LAT (F)	AMBIENT (F)	COP AT 47F							
RTU-1	RM. 101	CLASSROOM	DAIKIN	DPS004A	4.0	375	1,830	0.75	2.3	2.3	1,740	0.50	1.3	1.4	46,600	49,163	80,000	64,000	60.0	92.2	80%	42,453	70	91.2	47.0	3.94	460/3/60	9.7	8.6	15	11.8/16.2	R-410	1,422	1 - 14, 16
RTU-2	RM. 102	CLASSROOM	DAIKIN	DPS003A	3.0	380	995	0.75	2.3	2.3	945	0.50	1.3	1.4	32,000	35,214	80,000	64,000	60.0	119.3	80%	42,453	70	99.1	47.0	4.06	460/3/60	8.5	7.6	15	12.6/16.1	R-410	1,407	1 - 8, 10 - 14, 16
RTU-3	RM. 103	CLASSROOM	DAIKIN	DPS005A	5.0	750	1,465	0.75	4.0	4.0	1,390	0.50	1.3	1.4	53,200	67,784	80,000	64,000	60.0	100.3	80%	52,380	70	102.7	47.0	3.98	460/3/60	13	11.7	15	12.5/17.6	R-410	1,487	1 - 14, 16
RTU-4	RM. 104	CLASSROOM	DAIKIN	DPS005A	5.0	750	1,465	0.75	4.0	4.0	1,390	0.50	1.3	1.4	53,100	67,784	80,000	64,000	60.0	100.3	80%	52,380	70	102.7	47.0	3.98	460/3/60	13	11.7	15	12.5/17.6	R-410	1,487	1 - 8, 10 - 14, 16
RTU-5	RM. 105	CLASSROOM	DAIKIN	DPS005A	5.0	750	1,345	0.75	4.0	4.0	1,280	0.50	1.3	1.4	50,500	67,249	80,000	64,000	60.0	103.9	80%	51,553	70	105.1	47.0	3.98	460/3/60	13	11.7	15	12.5/17.6	R-410	1,487	1 - 8, 10 - 14, 16
RTU-6	RM. 106	COMPUTER LAB	DAIKIN	DPS007A	7.5	1,050	2,680	0.75	2.3	2.3	2,545	0.50	2.3	2.3	85,700	91,716	200,000	160,000	60.0	115.0	80%	78,096	70	96.6	47.0	3.58	460/3/60	17	15.7	20	11.7/18.8	R-410	2,232	1 - 14, 16
RTU-7	RM. 120	LOUNGE	DAIKIN	DPS006A	6.0	795	2,380	1.50	4.0	4.0	2,260	0.50	2.3	2.3	71,400	78,346	80,000	64,000	60.0	84.8	80%	65,632	70	95.2	47.0	3.69	460/3/60	15.7	14	20	11.2/18.8	R-410	1,502	1 - 14
RTU-8	MAIN CORRIDOR & RM. 111, 112, 114-119	ADMIN, OFFICES, MEN/WOMEN TOILETS, & MAIN CORRIDOR	DAIKIN	DPS006A	6.0	410	1,680	1.50	4.0	4.0	1,595	0.50	1.3	1.4	72,100	71,130	80,000	64,000	60.0	95.1	80%	62,674	70	104.1	47.0	3.69	460/3/60	14.8	13.1	20	11.2/18.8	R-410	1,487	1 - 14
RTU-9	RM. 107	CLASSROOM	DAIKIN	DPS005A	5.0	750	1,765	0.75	4.0	4.0	1,675	0.50	1.3	1.4	58,200	68,831	80,000	64,000	60.0	93.4	80%	53,933	70	97.9	47.0	3.98	460/3/60	13	11.7	15	12.5/17.6	R-410	1,487	1 - 8, 10 - 14, 16
RTU-10	RM. 108	CLASSROOM	DAIKIN	DPS006A	6.0	750	2,165	0.75	4.0	4.0	2,055	0.50	1.3	1.4	65,600	77,267	80,000	64,000	60.0	87.2	80%	64,951	70	97.4	47.0	3.69	460/3/60	14.8	13.1	20	11.2/18.8	R-410	1,487	1 - 14, 16
RTU-11	RM. 121 - 129	RECEPTION, CONFERENCE RM'S, COPY ROOM, OFFICES, & TOILETS	DAIKIN	DPS007A	7.5	760	3,290	1.50	4.0	4.0	3,125	0.50	2.3	2.3	88,300	90,968	200,000	160,000	60.0	104.8	80%	79,395	70	92.1	47.0	3.63	460/3/60	18.8	17.4	20	12.1/19.3	R-410	2,257	1 - 15

NOTES:

1) RTU UNITS ARE EQUIPPED WITH HEAT PUMP TECHNOLOGY WITH AUXILIARY GAS HEATING. GAS HEATING SHALL BE PROGRAMMED AS THE PRIMARY SOURCE OF HEATING, HEAT PUMP HEATING SHALL BE PROGRAMMED AS THE SECONDARY/AUXILIARY HEATING CYCLE.
2) UNIT EQUIPPED WITH GAS HEAT. INCOMING GAS PRESSURE TO BE MIN. 5 IN W.C. AND MAX. 14 IN W.C.. GAS HEAT TURNDOWN MODULATION = 5:1
3) POWERED, DIRECT DRIVE, ECM EXHAUST FAN TO MODULATE WITH BUILDING PRESSURE CONTROL.
4) DIRECT DRIVE ECM SUPPLY FAN
5) PROVIDE MIN. 14" HIGH (ABOVE ROOF DECK) PRE-FABRICATED EQUIPMENT CURB SLOPED TO MATCH THE <E> ROOF DECK
6) 0-100% ECONOMIZER WITH DRY BULB CONTROL. ECONOMIZER DAMPER ACTUATORS AND LINKAGES ARE TO BE PROVIDED BY THE FACTORY.
7) AIR OPENINGS TO BE AT THE BOTTOM OF THE RTU FOR DOWN DISCHARGE.
8) FACTORY INSTALLED SENSORS INCLUDE: LEAVING COIL/ENTERING FAN TEMPERATURE SENSOR, DUCT HIGH LIMIT SWITCH, BACNET/MSTP CARD, RAT & DAT SENSOR, DIRTY FILTER ON/OFF SWITCH, SUPPLY FAN PROVING VIA MODBUS, DUCT STATIC PRESSURE, BUILDING STATIC PRESSURE.
9) EXISTING DUCT SMOKE DETECTOR IN THE MAIN SUPPLY-AIR DUCT TO BE REUSED. AUTOMATIC SHUTOFF SHALL BE ACCOMPLISHED BY INTERRUPTING THE POWER SOURCE OF THE RTU UPON DETECTION OF SMOKE. RTU(S) WITH LESS THAN 2,000 CFM WILL REUSE EXISTING DETECTORS, WHERE OCCURS
10) EER AND SEER ARE BASED ON AHRI 210 CERTIFIED DATA AND STANDARD CONDITIONS
11) COMPRESSOR(S) TO BE INVERTER SCROLL TYPE WITH MODULATING CONTROL VIA INVERTER
12) EXTERIOR CONSTRUCTION TO BE PAINTED GALVANIZED STEEL. THE INSULATION AND LINERS ARE TO BE COMPOSED OF 1" INJECTED FOAM, R-7, WITH GALVANIZED STEEL LINER.
13) FACTORY PROVIDED FUSED DISCONNECT.
14) FACTORY PROVIDED, FIELD POWERED 115V GFI OUTLET
15) BID ALTERNATE #4. PROVIDE FACTORY INSTALLED OAT SENSOR IN ADDITION TO THE SENSORS DESCRIBED IN NOTE 8.
16) FACTORY PROVIDED CO2 SENSOR FOR DEMAND CONTROL VENTILATION SHALL BE INCLUDED FOR ALL RTU'S SERVING CLASSROOMS.

EXHAUST FAN SCHEDULE

MARK	SERVICE	ROOM FUNCTION	MAKE	MODEL	CFM	RPM	ESP	HP	VOLT/PH/ HERTZ	MCA (AMPS)	MOCP (AMPS)	FLA (AMPS)	OPER. WEIGHT (LBS)	NOTES
EF-2	RM. 109, 110, 111, 112	JANITOR CLOSET, ELECTRICAL, MEN/WOMEN TOILETS	GREENHECK	G-140-VG	1,600	1275	0.83	3/4	115/60/1	11	20	8.8	79	1 - 10

NOTES:

1) HOUSING, BACKWARD INCLINED WHEEL, AND CURB CAP TO BE ALUMINUM CONSTRUCTION. CURB CAP FACTORY SUPPLIED WITH PREPUNCHED MOUNTING HOLES.
2) GALVANIZED BIRDSCREEN WITH NOMINAL 84% FREE AREA
3) BALL BEARING MOTOR
4) MOTOR ISOLATED ON SHOCK MOUNTS
5) CORROSION RESISTANT FASTENERS
6) VARI-GREEN ECM MOTOR
7) 0-10VDC CONTROL INPUT.
8) CONTROL DIAL FOR BALANCING
9) BACKDRAFT DAMPER SHIPPED LOOSE, MODEL: BD-100-PB-16X16, GRAVITY OPERATED, NON COATED.
10) ROOF CURB, MODEL GPI-22, 22"x22"x14" (LxWxH)

DIFFUSER & GRILLE SCHEDULE

MARK	MAKE	MODEL	MODULE SIZE (IN)	CONFIGURATION	NECK SIZE (IN)	NOTES
CD-1	TITUS	MCD	24" x 24"	4-WAY	6" x 6"	1, 2, 5
CD-2	TITUS	MCD	24" x 24"	4-WAY	8" x 8"	1, 2, 5
CD-3	TITUS	MCD	24" x 24"	4-WAY	10" x 10"	1, 2, 5
CD-4	TITUS	MCD	24" x 24"	4-WAY	12" x 12"	1, 2, 5
RG-1	TITUS	50F	24" x 24"	EGGCRATE	-	3, 4, 5

NOTES:

1) PROVIDE BORDER TYPE 3 - LAY IN TYPE - CEILING DIFFUSERS FOR T-BAR CEILINGS
2) PROVIDE DUCT TRANSITION BETWEEN CEILING DIFFUSER AND FLEX DUCT AS PER DETAIL 3/M-5.1
3) PROVIDE BORDER TYPE 3 - LAY IN TYPE - RETURN GRILLES FOR T-BAR CEILINGS
4) PROVIDE SQUARE TO ROUND ADAPTER (SRG) FOR TRANSITION BETWEEN RETURN GRILLE AND ROUND DUCT
5) FINISH TO MATCH EXISTING CEILING

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2000 NORTH VILLAGE PARKWAY
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VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

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MECHANICAL SCHEDULES

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SHEET OF XX

EXISTING EQUIPMENT SCHEDULES - FOR REFERENCE ONLY

EXISTING ROOFTOP UNIT SCHEDULE

MARK	MFG & MODEL No. "TRANE"	HEATING PERFORMANCE		COOLING PERFORMANCE - ARI		FAN PERFORMANCE				ELECTRICAL DATA			WEIGHT (LBS)	COMMENTS
		HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	COOLING OUTPUT (MBH) SENSIBLE / TOTAL	COOLING EFFICIENCY EER / SEER	CFM	E.S.P. (IN. WG.)	RPM	BHP	NOM. VOLTAGE V-PH-HZ	MCA	MOCP		
(E)AC-1	YHDO74 6TON UNIT	–	–	–	–	2,400	–	–	–	–	–	–	–	1, 2, 4, **6, 7**
(E)AC-2	YHDO74 6TON UNIT	–	–	–	–	2,400	–	–	–	–	–	–	–	1, 2, 4, **6, 7**
(E)AC-3	YCC036 3TON UNIT	–	–	–	–	1,200	–	–	–	–	–	–	–	1, 3, **6, 7**
(E)AC-4	YCD091 7-1/2TON UNIT	–	–	–	–	3,000	–	–	–	–	–	–	–	1, 4, 5, **6, 7**
(E)AC-5	YHD074 6TON UNIT	–	–	–	–	2,400	–	–	–	–	–	–	–	1, 4, 5, **6, 7**
(E)AC-6	YHD074 6TON UNIT	–	–	–	–	2,400	–	–	–	–	–	–	–	1, 4, 5, **6, 7**
(E)AC-7	YHD074 6TON UNIT	–	–	–	–	2,400	–	–	–	–	–	–	–	1, 2, 4, **6, 7**

NOTES:
1) MERV 8 AIR FILTER
2) MIN. OSA 750 CFM
3) MIN. OSA 300 CFM
4) SMOKE DETECTOR IN SUPPLY DUCT FOR FAN SHUTDOWN
5) MIN. OSA 500 CFM
6) TO BE DEMOLISHED
7) RECOVER AND RECYCLE ALL REFRIGERANT

EXISTING FAN COIL UNIT SCHEDULE

MARK	MANUFACTURER & MODEL NO.	HEATING PERFORMANCE		COOLING PERFORMANCE - ARI		FAN PERFORMANCE				ELECTRICAL DATA			WEIGHT (LBS)	COMMENTS
		HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	COOLING OUTPUT (MBH) SENSIBLE / TOTAL	COOLING EFFICIENCY EER / SEER	CFM	E.S.P. (IN. WG.)	RPM	HP	NOM. VOLTAGE V-PH-HZ	MCA (AMP)	MOCP (AMP)		
(E)FC-1	"CARRIER" 7-1/2TON	–	–	–	–	3,000	–	–	–	–	–	–	–	1, **2, 3**
(E)FC-2	"MITSUBISHI" 2TON	–	–	–	–	700	–	–	–	–	–	–	–	1, **4**

NOTES:
1) MERV 8 AIR FILTER
2) BALANCE (E) FC-1 MIN. OSA TO 760 CFM
3) DEMOLISH FOR BID ALTERNATE #4
4) PROTECT IN PLACE, FOR IT ROOM

EXISTING CONDENSING UNIT SCHEDULE

MARK	MFGR MODEL NO.	ARI PERFORMANCE		SOUND RATING		ELECTRICAL DATA				WEIGHT (LBS)	SERVICE	REMARKS
		TOTAL CAP. (MBH)	SEER	BELS	FREE FIELD dBA	V/PH/HZ	POWER MCA	POWER MOCP	POWER FLA			
(E)CU-1	"CARRIER" 38AQS008 7-1/2TON	–	–	–	–	–	–	–	–	–	(E)FC-1	**1**
(E)CU-2	"MITSUBISHI " MUZ-GL24 2TON	–	–	–	–	–	–	–	–	–	(E)FC-2	**2**

NOTES:
1) DEMOLISH FOR BID ALTERNATE #4
2) PROTECT IN PLACE, FOR IT ROOM

EXISTING EXHAUST FAN SCHEDULE

MARK	MANUFACTURER & MODEL NO. "GREENHECK"	FAN				MOTOR		OPERATING WEIGHT LBS	REMARKS
		CFM	SP	RPM	SONES	HP	ELECTRICAL POWER		
EF-1	G-183-VG	**2,240**	0.5	930	–	3/4	115/1/60	200	1, 2, **3, 4**
EF-2	DX10B	1,600	–	–	–	–	–	–	**5**

NOTES:
1) INTERLOCKED WITH FC-1 ECONOMIZER
2) W/ PRE-FAB CURB, BACKDRAFT DAMPER & BIRD SCREEN
3) DEMOLISH FOR BID ALTERNATE #4
4) BALANCE (E) EF-1 TO 2,240 CFM
5) TO BE DEMOLISHED

EXISTING GRAVITY AIR INTAKE

MARK	MANUFACTURER & MODEL NO. "GREENHECK"	CFM	SP	OPERATING WEIGHT LBS	REMARKS
GAI	FGI 20X48	3,000	0.05	200	1, **2**

NOTES:
1) W/ PRE-FAB CURB, BACKDRAFT DAMPER & BIRDSCREEN
2) DEMOLISH FOR BID ALTERNATE #4

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REGISTERED PROFESSIONAL ENGINEER
TERRY EMMETT SHAW
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EXP. 09-30-2022
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SEQUENCE OF OPERATION EXISTING SPLIT SYSTEM FC-1/CU(HP)-1/EF-1

1. DDC SYSTEM WILL MONITOR THE TEMPERATURE OF THE CONTROLLED SPACE BASED ON THE CONTROL TEMPERATURE SET POINT(S). DDC SYSTEM THROUGH RELAY LOGIC WILL MONITOR THE COOLING/HEATING OPERATIONS OF THE EXISTING SPLIT SYSTEM TO CONTROL SPACE TEMPERATURE. THE DDC SYSTEM WILL ALSO MONITOR THE FOLLOWING POINTS: FC-1 SUPPLY FAN STATUS, EF-1 EXHAUST/RELIEF FAN(S) STATUS AND CU(HP)-1 COMRESSOR STATUS, AND SUPPLY DUCT STATIC PRESSURE.

2. FC-1 SUPPLY FAN OPERATION: ON COMMAND FROM DDC, IN ACCORDANCE WITH THE OCCUPANCY SCHEDULE, FC-1 SUPPLY FAN SHALL RUN CONTINUOUSLY, WITH SUPPLY FAN'S SPEED SET TO MAINTAIN A CONSTANT SUPPLY DUCT STATIC PRESSURE SET-POINT OF 1" W.C. (ADJUSTABLE AS DETERMINED BY POST-CONTRUCTION AIR-BALANCE REPORT), CYCLING CU-1 D/X COOLING COMPRESSOR BASED ON THE SPACE COOLING DEMAND. DURING UNOCCUPIED SCHEDULE, THE FC-1 SHALL BE OFF. DURING UNOCCUPIED/NIGHT-SETBACK TIME SCHEDULE, DDC WILL MONITOR THE "UNOCCUPIED" SPACE TEMPERATURE SET POINT OF 80°F (ADJUSTABLE). UPON POSITIVE CONFIRMATION OF THE FAN STATUS, IF THE SPACE TEMPERATURE DEVIATES MORE THAN 2°F (ADJUSTABLE) ABOVE THE "UNOCCUPIED" SET POINT, THE FC-1 WILL BE COMMANDED ON.

3. D/X COOLING OPERATION: DDC WILL MONITOR THE "OCCUPIED" SPACE TEMPERATURE AND COMPARE IT TO THE SPACE TEMPERATURE SET POINT OF 74°F (ADJUSTABLE). UPON POSITIVE CONFIRMATION OF THE FAN STATUS, IF THE SPACE TEMPERATURE DEVIATES MORE THAN 1°F (ADJUSTABLE) ABOVE THE "OCCUPIED" SET POINT, THE CU-1 COMPRESSOR WILL BE COMMANDED ON. DDC SYSTEM WILL MONITOR THE SUPPLY TEMPERATURE ENSURING FREEZE PROTECTION OF THE FC-1 D/X COIL DUE TO OVERCOOLING THE SUPPLY AIR. THE CU-1 COMPRESSOR WILL HAVE A MINIMUM ON/OFF RUN TIME (15 MIN. ADJUSTABLE) TO AVOID SHORT CYCLING. DURING UNOCCUPIED/NIGHT-SETBACK TIME SCHEDULE, DDC WILL MONITOR THE "UNOCCUPIED" SPACE TEMPERATURE SET POINT OF 80°F (ADJUSTABLE). UPON POSITIVE CONFIRMATION OF THE FAN STATUS, IF THE SPACE TEMPERATURE DEVIATES MORE THAN 2°F (ADJUSTABLE) ABOVE THE "UNOCCUPIED" SET POINT, THE COMPRESSOR WILL BE COMMANDED ON. CU-1 COOLING SHALL BE LOCKED OUT WHEN THE FC-1 SUPPLY FAN IS NOT IN OPERATION (NO FAN SP).

4. HEATING OPERATION: DDC WILL MONITOR THE SPACE TEMPERATURE AND COMPARE IT TO THE SPACE TEMPERATURE SET POINT OF 70°F (ADJUSTABLE). UPON POSITIVE CONFIRMATION OF THE FC-1 STATUS, IF THE SPACE TEMPERATURE DEVIATES MORE THAN 2°F (ADJUSTABLE) BELOW THE SET POINT, THE CU-1 HEAT PUMP HEATING CYCLE WILL BE INITIATED TO MAINTAIN HEATING SPACE TEMPERATURE SET-POINT.

5. WHERE INDICATED ON PLANS, REUSE EXISTING DUCT SMOKE DETECTOR TO BE INSTALLED THE FC-1 MAIN SUPPLY DUCTWORK. WIRE DIRECTLY TO FC-1 FAN FOR SHUT DOWN, SEND ALARM TO DDC AND EXISTING FIRE ALARM PANEL. DSD TO BE INSTALLED BY MECHANICAL SUB-CONTRACTOR AND WIRED TO FAN SHUT DOWN BY ELECTRICAL SUBCONTRACTOR. COMPLY WITH CBC (F) 907.1.3. DDC TO MONITOR AN ALARM TO FRONT-END.

6. ECONOMIZER OPERATION: OUTSIDE AIR SHALL BE USED FOR COOLING WHENEVER IT IS 2 DEGREES OR MORE COOLER THAN THE ROOM TEMPERATURE. THE NEW DDC CONTROLS LOGIC CONTROLLER SHALL INITIATE INTERLOCKED EXISTING OA, RA AND EA DAMPERS WITH NEW DAMPER ACTUATORS, OPERATE EXISTING POWER EXHAUST EF-1, AND LOCK OUT CU-1 COOLING CYCLE, MAINTAINING AN "ECONOMIZER" ZONE TEMPERATURE SETPOINT. THIS SETPOINT SHALL BE 6 DEGREES (VIRTUAL POINT, ADJUSTABLE) LOWER THAN THE "MECHANICAL COOLING" ZONE TEMPERATURE SETPOINT. THE MECHANICAL COOLING SETPOINT SHALL BE INITIALLY SET AT 74 DEGREES. PROVIDE FAULT DETECTION AND DIAGNOSTICS LOGIC CONTROLLER, DETECTING ECONOMIZER THAT FAILS TO CLOSE, FAILS TO OPEN, IS STUCK FULLY OPEN, AND FAILS TO FULLY OPEN. MINIMUM POSITION FOR EXISTING OA SHALL BE SET TO ALLOW 760 CFM OF OUTSIDE AIR INTAKE AS DETERMINED BY POST CONSTRUCTION AIR BALANCE REPORT.

7. SUPPLY DUCT TEMPERATURE SENSORS (AVERAGING TYPE) SHALL BE USED TO MONITOR SUPPLY AIR TEMPERATURE (SAT) WITH USER-DEFINED ALARM PARAMETERS.

8. EXISTING ZONE DAMPERS WITH NEW CONTROLS ACTUATORS SHALL MODULATE UPON USER'S TEMPERATURE SET POINT ADJUSTMENTS VIA NEW ROOM'S TEMPERATURE SENSORS. HEATING AND COOLING MODES OF OPERATION ARE TO BE DETERMINED BY NEW MASTER THERMOSTAT.

9. UPON AN INCREASE OF THE SUPPLY DUCT STATIC PRESSURE ABOVE SET POINT DUE TO MODULATING ZONE DAMAPERS OPERATONS, THE EXISTING BY-PASS DAMPER WITH NEW DAMPER ACTUATOR WILL MODUALTE OPEN ALLOWING FRACTION OF THE SUPPLY AIR TO BY-PASS BACK TO THE RETURN AIR DUCTWORK.

10. GLOBAL OUTSIDE AIR TEMPERATURE (OAT) SENSOR MOUNTED TO BUILDING EXTERIOR ON NORTH ROOF SHALL CONTROLL FC-1 ECONOMIZER.

11. EXISTING EXHAUST FAN EF-1 OPERATION SHALL BE INITIATED BY DDC AND BE ITERLOCKED WITH ECONOMIZER CYCLE OF FC-1.

SEQUENCE OF OPERATION RTU-1, 2, 3, 4, 5, 6, 7, 8, 9 & 10

1. DDC SYSTEM WILL MONITOR THE TEMPERATURE OF THE CONTROLLED SPACE BASED ON THE CONTROL TEMPERATURE SET POINT(S). DDC SYSTEM THROUGH RELAY LOGIC AND VIA INTEGRATON WITH FACTORY'S PROVIDED UNITARY CONTROL DDC BOARD WILL MONITOR THE COOLING/HEATING OPERATIONS OF THE PACKAGE RTU UNIT TO CONTROL SPACE TEMPERATURE WITH A CAPABILITY OF OVERRIDING THE SUPPLY FAN AND COMPRESSOR(S) OPERATIONS (FOR MAINTENANCE PURPOSE). THE DDC SYSTEM WILL ALSO MONITOR THE FOLLOWING RTU POINTS: SUPPLY FAN STATUS, EXHAUST/RELIEF FAN(S) STATUS AND COMRESSOR(S) STATUS. DDC WILL PROVIDE THE FOLLOWING HARD WIRED CONTROL POINTS: DISCHARGE AIR TEMPERATURE, AND FILTERS STATUS. THE DDC SYSTEM LOW VOLTAGE CONTROL WIRES WILL TERMINATE TO THE PACKAGE RTU FACTORY'S PROVIDED BACNET IP DDC CONTROL BOARD. NEW PACAKGE RTU'S CONTROL BOARD TO PERFORM ALL MAIN UNITS OPERATION CONTROLS FUNCTIONS. ALL FACTORY RECOMMENDED SAFETIES, INCLUDING COMPRESSORS AND THE OPERATION OF THE PROVIDED FAULT DETECTION ECONOMIZER DAMPERS OPERATION, WILL NEED TO BE IN PLACE.

2. FAN OPERATION: ON COMMAND FROM DDC, IN ACCORDANCE WITH THE OCCUPANCY SCHEDULE, RTU SUPPLY FAN SHALL MODUALTE, MAINTAINING SPACE TEMPERATURE SET POINT, MODULATING D/X COOLING COMPRESSOR BASED ON THE SPACE COOLING DEMAND. DURING UNOCCUPIED SCHEDULE, THE RTU SHALL BE OFF. DURING UNOCCUPIED/NIGHT-SETBACK TIME SCHEDULE, DDC WILL MONITOR THE "UNOCCUPIED" SPACE TEMPERATURE SET POINT OF 80°F (ADJUSTABLE). UPON POSITIVE CONFIRMATION OF THE FAN STATUS, IF THE SPACE TEMPERATURE DEVIATES MORE THAN 2°F (ADJUSTABLE) ABOVE THE "UNOCCUPIED" SET POINT, THE RTU WILL BE COMMANDED ON WITH RTU'S ECM MOTOR MAINTAINING 50% OF DESIGN SUPPLY AIR FLOW.

3. COOLING OPERATION: DDC WILL MONITOR THE "OCCUPIED" SPACE TEMPERATURE AND COMPARE IT TO THE SPACE TEMPERATURE SET POINT OF 74°F (ADJUSTABLE). UPON POSITIVE CONFIRMATION OF THE FAN STATUS, IF THE SPACE TEMPERATURE DEVIATES MORE THAN 1°F (ADJUSTABLE) ABOVE THE "OCCUPIED" SET POINT, THE COMPRESSOR WILL BE COMMANDED ON. DDC SYSTEM WILL MONITOR THE SUPPLY TEMPERATURE ENSURING FREEZE PROTECTION OF THE RTU UNIT DUE TO OVERCOOLING THE SUPPLY AIR. THE COMPRESSOR WILL HAVE A MINIMUM ON/OFF RUN TIME TO AVOID SHORT CYCLING. DURING UNOCCUPIED/NIGHT-SETBACK TIME SCHEDULE, DDC WILL MONITOR THE "UNOCCUPIED" SPACE TEMPERATURE SET POINT OF 80°F (ADJUSTABLE). UPON POSITIVE CONFIRMATION OF THE FAN STATUS, IF THE SPACE TEMPERATURE DEVIATES MORE THAN 2°F (ADJUSTABLE) ABOVE THE "UNOCCUPIED" SET POINT, THE COMPRESSOR WILL BE COMMANDED ON.

4. HEATING OPERATION: DDC WILL MONITOR THE SPACE TEMPERATURE AND COMPARE IT TO THE SPACE TEMPERATURE SET POINT OF 70°F (ADJUSTABLE). UPON POSITIVE CONFIRMATION OF THE FAN STATUS, IF THE SPACE TEMPERATURE DEVIATES MORE THAN 2°F (ADJUSTABLE) BELOW THE SET POINT, THE GAS HEATING CYCLE WILL BE INITIATED, MODULATING GAS HEAT TO MAINTAIN HEATING SPACE TEMPERATURE SET-POINT.
IF OAT IS GREATER THAN OR EQUAL TO 55F (ADJUSTABLE) AND SPACE TEMPERATURE IS LESS THAN SET POINT, THEN GAS HEATING CYCLE SHALL DISABLE (IF ENABLED) AND HEAT PUMP HEATING CYCLE SHALL BE INITIATED. IF CONDITIONS ARE NO LONGER MET, OR SET POINT IS SATISFIED, HEAT PUMP HEATING SHALL DISABLE AND RETURN TO SECONDARY HEATING DESIGNATION.
IF FAULT OCCURS TO GAS FURNACE HEATING, GENERATE ALARM AND DISABLE GAS HEATING CYCLE. THEN, HEAT PUMP HEATING CYCLE SHALL BE INITIATED UNTIL FAULT IS REMEDIED AND ALRAM IS CLEARED.

5. WHERE INDICATED ON PLANS, REUSE EXISTING DUCT SMOKE DETECTOR TO BE INSTALLED THE RTU'S MAIN SUPPLY DUCTWORK. WIRE DIRECTLY TO RTU CONTROL BOARD RELAY TO SHUT DOWN RTU UNIT DIRECTLY. SEND ALARM TO DDC AND EXISTING FIRE ALARM PANEL. DSD TO BE INSTALLED BY MECHANICAL SUB-CONTRACTOR AND WIRED TO FAN SHUT DOWN BY CONTROLS SUBCONTRACTOR. COMPLY WITH CBC (F) 907.1.3. DDC TO MONITOR AN ALARM TO FRONT-END.

6. ECONOMIZER OPERATION: OUTSIDE AIR SHALL BE USED FOR COOLING WHENEVER IT IS 2 DEGREES OR MORE COOLER THAN THE ROOM TEMPERATURE. THE ECONOMIZER SHALL MODULATE INTERLOCKED OA AND RA DAMPERS TO MAINTAIN AN "ECONOMIZER" ZONE TEMPERATURE SETPOINT. THIS SETPOINT SHALL BE 6 DEGREES (VIRTUAL POINT, ADJUSTABLE) LOWER THAN THE "MECHANICAL COOLING" ZONE TEMPERATURE SETPOINT. THE MECHANICAL COOLING SETPOINT SHALL BE INITIALLY SET AT 74 DEGREES. POWER EXHAUST FAN SHALL MODULATE TO MAINTAIN A SPACE STATIC PRESSURE SET-POINT OF 0.03" W.C (ADJUSTABLE). INTEGRATE FACTORY PROVIDED FAULT DETECTION AND DIAGNOSTICS LOGIC CONTROLLER DETECTING ECONOMIZER THAT FAILS TO CLOSE, FAILS TO OPEN, IS STUCK FULLY OPEN, AND FAILS TO FULLY OPEN.

7. FACTORY PROVIDED DIFFERENTIAL PRESSURE SWITCH SHALL BE USED FOR MONITORING ACROSS FILTER BANK TO INDICATE DIRTY FILTER STATUS/ALARM FOR FILTERS (SET-POINT 0.18"W.C. ADJUSTABLE).

8. FACTORY PROVIDED DUCT TEMPERATURE SENSORS (AVERAGING TYPE) SHALL BE USED TO MONITOR SUPPLY AIR TEMPERATURE (SAT) WITH USER-DEFINED ALARM PARAMETERS.

9. PROVIDE SHIELDED OUTSIDE AIR TEMPERATURE (OAT) SENSOR MOUNTED TO BUILDING EXTERIOR.

10. EXHAUST FAN EF-2 OPERATION SHALL BE INITIATED BY DDC AND RUN CONTINUOUSLY DURING OCCUPANCY. INTERLOCK WITH RTU-7, 8. DURING UNOCCUPIED NIGHT SETBACK, REDUCE EF-2 FLOW TO 50% OF DESIGN.

11. FACTORY PROVIDED AND DDC VENDOR INSTALLED SPACE CO2 SENSOR SHALL BE USED FOR DEMAND CONTROL VENTILATION, MODUALTING OA INTAKE DAMPER, ALLOWING OA INTAKE TO MAINTAIN NO MORE THAN 600 PPM (ADJUSTABLE) SPACE CO2 LEVEL CONCENTRATION.

CONTROL POINTS RTU-1, 2, 3, 4, 5, 6, 7, 8, 9 & 10

POINT I.D.	CONTROL DEVICE	CONTROL DESCRIPTION	CONTROL DEVICE LOCATON	AI	AO	DI	DO	VP	COMMENTS
ZN-TMP	ZONE SENSOR	SPACE TEMPERATURE	MASTER T'STAT IN SPACE	1					
ZN-SP	SENSOR	SPACE STATIC PRESSURE	PACKAGE RTU					1	COMM. INTERFACE INTEGRATION
ZN-HUM	ZONE SENSOR	SPACE HUMIDITY	MASTER T'STAT IN SPACE	1					READ ONLY
ZN-SCH	DDC CONTROLLER	AFTER HOUR TIMER	MASTER T'STAT IN SPACE			1			
ZN-UNC	DDC CONTROLLER	UNOCCUPIED STATUS	MASTER T'STAT IN SPACE				1		
ZN-HTG***	DDC CONTROLLER	SPACE HEATING STATUS	MASTER T'STAT IN SPACE					1	COMM. INTERFACE INTEGRATION
ZN-CLG	DDC CONTROLLER	SPACE COOLING STATUS	MASTER T'STAT IN SPACE					1	COMM. INTERFACE INTEGRATION
ZN-ECO	PACAKGE RTU BOARD	ECONOMIZER STATUS	PACKAGE RTU					1	COMM. INTERFACE INTEGRATION
ZN-CO2	ZONE SENSOR (FACTORY SUPPLIED)	CO2 CONCENTRATION	ON WALL IN SPACE	1				1	INTEGRATE WITH MASTER T'STAT
RTU FAN (S/S)	FACTORY CONTROL MODULE	RTU UNIT ECM MOTOR START/STOP	PACKAGED UNIT				1**	1	COMM. INTERFACE INTEGRATION
RTU (ALM)	FACTORY CONTROL MODULE	RTU UNIT GENERAL FAULT	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU FAN (SPD)	FACTORY CONTROL MODULE	RTU UNIT ECM MOTOR SPEED	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU (FST)	CURRENT SENSOR	SUPPLY FAN STATUS	PACKAGED UNIT			1			MONITORING
RTU (SAT)	DUCT TEMP. TRMTR SENSOR-AVG.	SUPPLY AIR TEMP	SUPPLY DUCT	1					
RTU (COMP 1)	FACTORY CONTROL MODULE	COMPRESSOR START/STOP	PACKAGED UNIT				1**	1	COMM. INTERFACE INTEGRATION
RTU (COMP 1 ST)	FACTORY CONTROL MODULE	COMPRESSOR STATUS	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU (COMP 2)	FACTORY CONTROL MODULE RTU-6	COMPRESSOR START/STOP RTU-6	PACKAGED UNIT RTU-6				1**	1	COMM. INTERFACE INTEGRATION
RTU (COMP 2 ST)	FACTORY CONTROL MODULE RTU-6	COMPRESSOR STATUS RTU-6	PACKAGED UNIT RTU-6					1	COMM. INTERFACE INTEGRATION
RTU (DSPT)	DUCT STATIC PRESSURE TRANSMITTER	DUCT STATIC PRESSURE	SA DUCT					1	COMM. INTERFACE INTEGRATION
RA/OA-DMPR*	DAMPER ACTUATOR (2)	RETURN AIR & OUTSIDE AIR DAMPER POSITION	PACKAGE UNIT*					1	COMM. INTERFACE INTEGRATION *
RA-TMP	DUCT TEMP. TRMTR-AVG.	RETURN AIR TEMPERATURE	PACKAGE UNIT					1	COMM. INTERFACE INTEGRATION
FILTER ALM	PRESS. DIFF. SWITCH	DIRTY PRE-FILTER ALARM	PACKAGE UNIT FILTER BANK			1			
RTU EF (S/S)	FACTORY CONTROL MODULE	EXHAUST FAN ECM START/STOP	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU EF (ALM)	FACTORY CONTROL MODULE	EXHAUST FAN ECM GENERAL FAULT	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU EF (SPD)	FACTORY CONTROL MODULE	EXHAUST FAN ECM SPEED	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU EF (FST)	CURRENT SENSOR	EXHAUST FAN STATUS	PACKAGED UNIT			1			MONITORING
EF-2 (S/S)	ECM MOTOR START/STOP	EXHAUST FAN ECM START/STOP	EF UNIT				1		
EF-2 (ALM)	RELAY	EXHAUST FAN GENERAL FAULT/ALARM	EF UNIT			1			
EF-2 (SPEED)	ECM MOTOR	EXHAUST FAN ECM SPEED	EF UNIT		1				
EF-2 (FST)	CURRENT SENSOR	EXHAUST FAN STATUS	EF UNIT			1			
ALRM	RELAY	SMOKE ALARM STATUS	DDC PANEL			1			MONITORING
SPACE-SP	STATIC PRESSURE SENSOR	BUILDING INTERIOR AIR PRESSURE	SPACE INTERIOR	1					REFERENCE ONLY
OA-TMP	AIR TEMP SENSOR	OUTSIDE AIR TEMPERATURE	BUILDING EXTERIOR	1					
			NEW HARD WIRED POINTS	42	1	52	41	180	NEW INEGRATED VP POINTS
			TOTAL:	136				TOTAL:	180

* FACTORY'S PROVIDED DAMPER ACTUATORS.
** MAINTENANCE OVERRIDE ONLY.
*** INTERFACE COMMUNICATION RELATED TO HEAT PUMP HEATING FUNCTIONALITY.

CONTROL POINTS RTU-11 (BID ALT 4)

POINT I.D.	CONTROL DEVICE	CONTROL DESCRIPTION	CONTROL DEVICE LOCATON	AI	AO	DI	DO	VP	COMMENTS
ZN-TMP	ZONE SENSOR	SPACE TEMPERATURE	MASTER T'STAT IN SPACE	1					
ZN-SP	SENSOR	SPACE STATIC PRESSURE	PACKAGE RTU					1	COMM. INTERFACE INTEGRATION
ZN-OA	SENSOR	OUTSIDE AIR INTAKE TEMPERATURE	PACKAGE RTU					1	COMM. INTERFACE INTEGRATION
ZN-SCH	DDC CONTROLLER	AFTER HOUR TIMER	MASTER T'STAT IN SPACE			1			
ZN-UNC	DDC CONTROLLER	UNOCCUPIED STATUS	MASTER T'STAT IN SPACE				1		
ZN-HTG***	DDC CONTROLLER	SPACE HEATING STATUS	MASTER T'STAT IN SPACE					1	COMM. INTERFACE INTEGRATION
ZN-CLG	DDC CONTROLLER	SPACE COOLING STATUS	MASTER T'STAT IN SPACE					1	COMM. INTERFACE INTEGRATION
ZN-ECO	PACAKGE RTU BOARD	ECONOMIZER STATUS	PACKAGE RTU					1	COMM. INTERFACE INTEGRATION
ZN-TMP	ZONE SENSOR	SPACE TEMPERATURE	ZONE T'STAT IN SPACE	3					
RTU FAN (S/S)	FACTORY CONTROL MODULE	RTU UNIT ECM MOTOR START/STOP	PACKAGED UNIT				1**	1	COMM. INTERFACE INTEGRATION
RTU (ALM)	FACTORY CONTROL MODULE	RTU UNIT GENERAL FAULT	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU FAN (SPD)	FACTORY CONTROL MODULE	RTU UNIT ECM MOTOR SPEED	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU (FST)	CURRENT SENSOR	SUPPLY FAN STATUS	PACKAGED UNIT			1			MONITORING
RTU (SAT)	DUCT TEMP. TRMTR SENSOR-AVG.	SUPPLY AIR DISCHARGE TEMP	SUPPLY DUCT, RTU WIRED					1	COMM. INTERFACE INTEGRATION
RTU (COMP 1)	FACTORY CONTROL MODULE	COMPRESSOR START/STOP	PACKAGED UNIT				1**	1	COMM. INTERFACE INTEGRATION
RTU (COMP 1 ST)	FACTORY CONTROL MODULE	COMPRESSOR STATUS	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU (COMP 2)	FACTORY CONTROL MODULE	COMPRESSOR START/STOP	PACKAGED UNIT				1**	1	COMM. INTERFACE INTEGRATION
RTU (COMP 2 ST)	FACTORY CONTROL MODULE	COMPRESSOR STATUS	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU (DSPT)	DUCT STATIC PRESSURE TRANSMITTER	DUCT STATIC PRESSURE	SA DUCT					1	COMM. INTERFACE INTEGRATION
RA/OA-DMPR*	DAMPER ACTUATOR (2)	RA & OA AIR DAMPER POSITION	PACKAGE UNIT*					1	COMM. INTERFACE INTEGRATION*
RA-TMP	DUCT TEMP. TRMTR-AVG.	RETURN AIR TEMPERATURE	PACKAGE UNIT					1	COMM. INTERFACE INTEGRATION
FILTER ALM	PRESS. DIFF. SWITCH	DIRTY PRE-FILTER ALARM	PACKAGE UNIT FILTER BANK					1	COMM. INTERFACE INTEGRATION
RTU EF (S/S)	FACTORY CONTROL MODULE	EXHAUST FAN ECM START/STOP	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU EF (ALM)	FACTORY CONTROL MODULE	EXHAUST FAN ECM GENERAL FAULT	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU EF (SPD)	FACTORY CONTROL MODULE	EXHAUST FAN ECM SPEED	PACKAGED UNIT					1	COMM. INTERFACE INTEGRATION
RTU EF (FST)	CURRENT SENSOR	EXHAUST FAN STATUS	PACKAGED UNIT			1			MONITORING
ALRM	RELAY	SMOKE ALARM STATUS	DDC PANEL			1			MONITORING
ZONE DAMPER 1	DAMPER ACTUATOR	EXISTING ZONE DAMPER POSITION	SUPLY DUCTWORK		1				
ZONE DAMPER 2	DAMPER ACTUATOR	EXISTING ZONE DAMPER POSITION	SUPLY DUCTWORK		1				
ZONE DAMPER 2	DAMPER ACTUATOR	EXISTING ZONE DAMPER POSITION	SUPLY DUCTWORK		1				
SPACE-SP	STATIC PRESSURE SENSOR	SPACE INTERIOR AIR PRESSURE	SPACE INTERIOR	1					REFERENCE/READ ONLY
			NEW HARD WIRED POINTS	5	3	4	4	20	NEW INEGRATED VP POINTS
			TOTAL:	16				TOTAL:	20

* FACTORY'S PROVIDED DAMPER ACTUATORS.
** MAINTENANCE OVERRIDE ONLY.
*** INTERFACE COMMUNICATION RELATED TO HEAT PUMP HEATING FUNCTIONALITY.

CONTROL POINTS FC-1/CU(HP)-1/EF-1

POINT I.D.	CONTROL DEVICE	CONTROL DESCRIPTION	CONTROL DEVICE LOCATON	AI	AO	DI	DO	COMMENTS
ZN-TMP	ZONE SENSOR	SPACE TEMPERATURE	MASTER T'STAT IN SPACE	1				
ZN-SCH	DDC CONTROLLER	AFTER HOUR TIMER	MASTER T'STAT IN SPACE			1		
ZN-UNC	DDC CONTROLLER	UNOCCUPIED STATUS	MASTER T'STAT IN SPACE				1	
ZN-HTG	DDC CONTROLLER	SPACE HEATING STATUS	MASTER T'STAT IN SPACE				1	
ZN-CLG	DDC CONTROLLER	SPACE COOLING STATUS	MASTER T'STAT IN SPACE				1	
ZN-TMP	ZONE SENSOR	SPACE TEMPERATURE	ZONE T'STAT IN SPACE	3				
FC-1 (S/S)	FC UNIT MOTOR STARTER	FC UNIT START/STOP	FC UNIT				1	
FC-1 (ALM)	RELAY	FC UNIT GENERAL FAULT	FC UNIT			1		
FC-1 RET-DMPR	DAMPER ACTUATOR	RETURN AIR DAMPER POSITION	RETURN DUCT		1			
FC-1 OA-DMPR	DAMPER ACTUATOR	OUTSIDE AIR DAMPER POSITION	OUTSIDE AIR DUCT		1			
FC-1 EA-DMPR	DAMPER ACTUATOR	OUTSIDE AIR DAMPER POSITION	EXHAUST AIR DUCT		1			
FC-1 BP-DMPR	DAMPER ACTUATOR	BY-PASS AIR DAMPER POSITION	BY-PASS AIR DUCT		1			
FC-1 RA-TMP	DUCT TEMP. TXMTR-AVG.	RETURN AIR TEMPERATURE	RETURN DUCT	1				
FC-1 (SAT)	DUCT TEMP. TXMTR-AVG.	SUPPLY AIR TEMP	SA DUCT	1				
FC-1 (PT)	DUCT STATIC PRESSURE TRANSMITTER	DUCT STATIC PRESSURE	SA DUCT	1				
CU-1 (S/S)	COMPESSOR STARTER	CPMPRESSOR START/STOP	CU UNIT				1	
CU-1 (ALM)	RELAY	CU GENERAL FAULT/ALARM	CU UNIT			1		
CU-1 (CST)	CURRENT SWITCH	COMPORESSOR STATUS	CU UNIT			1		
EF-1 (S/S)	FAN MOTOR STARTER	EXHAUST FAN START/STOP	EF UNIT				1	
EF-1 (ALM)	RELAY	EXHAUST FAN GENERAL FAULT/ALARM	EF UNIT			1		
EF-1 (FST)	CURRENT SENSOR	EXHAUST FAN STATUS	EF UNIT			1		
ZONE DAMPER 1	DAMPER ACTUATOR	EXISTING ZONE DAMPER POSITION	SUPLY DUCTWORK		1			
ZONE DAMPER 2	DAMPER ACTUATOR	EXISTING ZONE DAMPER POSITION	SUPLY DUCTWORK		1			
ZONE DAMPER 2	DAMPER ACTUATOR	EXISTING ZONE DAMPER POSITION	SUPLY DUCTWORK		1			
SPACE-SP	STATIC PRESSURE SENSOR	SPACE INTERIOR AIR PRESSURE	SPACE INTERIOR	1				REFERECE ONLY
ALRM	RELAY	SMOKE ALARM STATUS	DDC PANEL			1		MONITORING
			NEW HARD WIRED POINTS	8	7	7	6	
			TOTAL:	28				

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-119811 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 06/02/2022

agency

SALAS O'BRIEN
expect a difference
305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASOBRIEN.COM
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REGISTERED PROFESSIONAL ENGINEER
No. M40086
EXP. 09-30-2022
MECHANICAL
STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

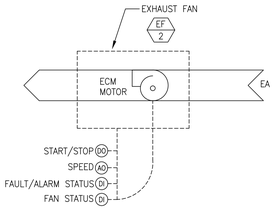
ISSUE MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	BB
APPROVED BY:	ER

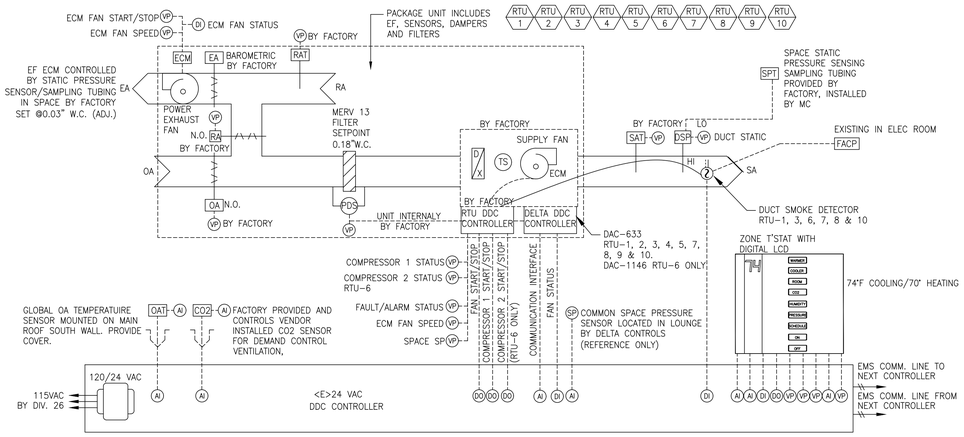
SHEET TITLE
MECHANICAL CONTROLS POINTS LIST AND SEQUENCES OF OPERATION

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

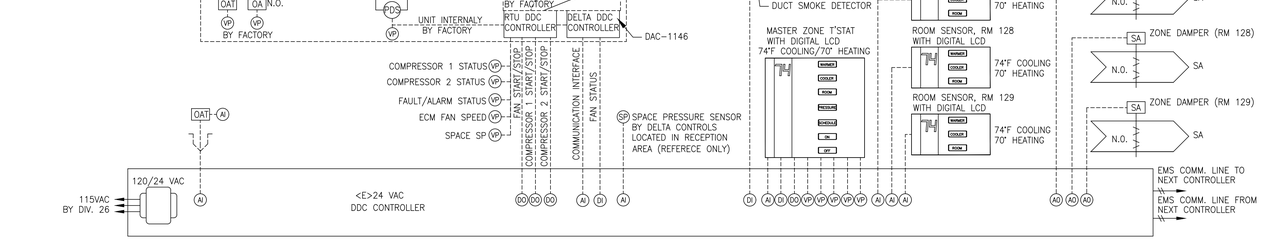
MI-6.1
SHEET OF XX



CONTROLS SCHEMATIC EHXAUST FAN-2



CONTROLS SCHEMATIC RTU-1 THRU 10 - BASE BID



CONTROLS SCHEMATIC EXISTING FC-1/CU(HP)-1/EF-1 - BASE BID

CONTROLS SCHEMATIC RTU-11 (BID BID ALT. # 4)

CONTROLS SUMMARY OF WORK

1. THE BUILDING HAS EXISTING STAND ALONE CONTROLS FOR HVAC EQUIPMENT TO BE REPLACED. PROVIDE AND INSTALL NEW DDC CONTROLS SYSTEM BASED ON FACILITY'S STANDARD DELTA CONTROLS SYTEM. CONTACT ENVIRONMENTAL SYSTEM, INC KEVIN HAYES (916) 956-2194 (KHAYES@ESITE.NET) AND LANDON NORMAN (916) 201-7550 (LNORMAN@ESITE.NET).
2. REMOVE EXISTING STAND ALONE CONTROLS SERVING EXISTING TO BE REPLACED AC'S, FC UNIT SPLIT SYSTEM AND EF'S. CONTROLS CONTRACTOR SHALL VERIFY SITE CONDITIONS AND LOOK AT THE EXISTING CONTROLS WIRING CONNECTIONS INSIDE THE UNITS AND DISCONNECT PRIOR TO RIGGING UNITS. ALL EXISTING STAND ALONE THERMOSTATS/CONTROLLERS AND ZONE DAMPERS ACTUATORS TO BE REMOVED.
3. PROVIDE AND INSTALL NEW CONTROLS/CONTROLLERS WITHIN THE NEW RTU'S ENCLOSURES FOR INTEGRATION VIA BACNET MS/TP APPLICATION NETWORK WITH FACTORY'S PROVIDED DDC CONTROL BOARDS FOR ALL NEW RTU'S. COORDINATE/VERIFY WITH THE RTU'S INSTALLATION INSTRUCTIONS AND WIRING DIAGRAMS. INTEGRATE FACTORY'S CONTROLS AND PROVIDE NEW HARD WIRED CONTROLS/POINTS AS REQUIRED (RTU-11 BID ALT #4).
4. PROVIDE CONTROLS FOR EXISTING TO REMAIN EF-1 AND NEW EF-2.
5. PROVIDE CONTROLS FOR EXISTING TO REMAIN FC-1/CU-1 SPLIT SYSTEM AND NEW ACTUATORS FOR ASSOCIATED SYSTEM'S EXISTING TO REMAIN CONTROL DAMPERS, AS WELL AS FOR THE EXISTING TO REMAIN ZONE CONTROL DAMPERS.
6. PROVIDE NEW DAMPER ACTUATORS FOR EXISTING TO REMAIN ZONE CONTROL DAMPERS AND ASSOCIATED CONTROLS INTERFACE WITH NEW RTU-11 OPERATION PER BID ALT (BID ALTERNATE #4).
7. PROVIDE NEW CONTROL WIRING AS REQUIRED. PROVIDE NEW GLOBAL TEMPERATURE CONTROL PANEL AND ZONE FIELD CONTROLLERS AS NEEDED TO ACCOMMODATE ALL NEW CONTROL POINTS. PROGRAM ALL NEW HVAC EQUIPMENT AS REQUIRED PER THIS SHEET AND SEQUENCES OF OPERATION. COORDINATE WITH MECHANICAL AND ELECTRICAL SUB-CONTRACTORS.
8. PROVIDE NEW FRONT-END SYSTEM/SOFTWARE, ASSOCIATED GRAPHICS AND PROGRAMMING AS REQUIRED TO ACCOMMODATE NEW CONTROL POINTS AND RELATED SEQUENCE OF OPERATIONS.
9. CONTROLS CONTRACTOR TO PROVIDE NEW CONTROL DEVICES, SENSORS, ZONE THERMOSTATS, NEW WIRING AND COUNDUITS, LOW VOLTAGE TRANSFORMERS ETC. AS REQUIRED TO DELIVER SEAMLESS INTEGRATION WITH NEW HVAC EQUIPMENT AND A FULLY OPERATIONAL HVAC CONTROLS SYSTEM FOR THE FACILITY.
10. COORDINATE WITH BALANCING CONTRACTOR TO PROVIDE CONTROLS ACCESS TO ALLOW THE BALANCERS TO COMPLETE THEIR TEST AND BALANCE WORK.
11. PROVIDE COMPLETE RECORD CONTROL DRAWINGS. PROVIDE SYSTEMS TRAINING WITH THE FACILITIES MAINTENANCE PERSONAL, AND GRAPHICS USER INTERFACE AS REQUIRED AND AS IT TIES INTO THE OVERALL DDC MONITORING OPERATION.
12. INSTALL COMMUNICATION WIRING TO ALL NEW DDC CONTROLLERS. COMM WIRING SHALL BE IN CONDUIT. REQUIRED NEW CONDUITS AND WIRE TO BE PROVIDED AND INSTALLED BY CONTROLS CONTRACTOR.
13. VERIFY ON SITE EXISTING CONDITIONS AS REQUIRED.
14. REFER TO MECHANICAL SCHEDULES ON M-6.1, MECHANICAL SPECIFICATIONS SECTION 23 74 14, AND MECHANICAL EQUIPMENT INSTALLATION INSTRUCTIONS FOR REFERENCE. COORDINATE WITH MECHANICAL AND ELECTRICAL SUBCONTRACTORS.
15. ALLOW FOR CHANGING ALL VIRTUAL SET POINTS DURING THE FIRST YEAR OF OPERATION AS REQUESTED BY THE FACILITY'S ENGINEER.
16. NEW RTU'S SHALL BE PROGRAMMED TO HAVE THE NATURAL GAS FURNACE AS THE PRIMARY HEATING CYCLE AND THE HEAT PUMP HEATING CYCLE SHALL BE SECONDARY/AUXILIARY. CONTROLS SUB-CONTRACTOR TO COORDINATE WITH FACTORY REPRESENTATVE, ENSURING ALL RTU'S WARRANTY IS MAINTAINED FOR THE OWNER.
17. PROVIDE COMMUNICATION LINK OVER IP TO DISTRICT'S FACILITY CONTROL/MONITORING OFFICE.

BY ELECTRICAL CONTRACTOR:

PROPVIDE 20 AMP, 120 VOLT SINGLE PHASE CIRCUIT TO POWER ALL NEW DDC CONTROLLERS.

EXTEND POWER TO THE NEW TEMPERATURE CONTROL PANEL(S) AS REQUIRED. COORDINATE TERMINATION WITH CONTROLS CONTRACTOR.

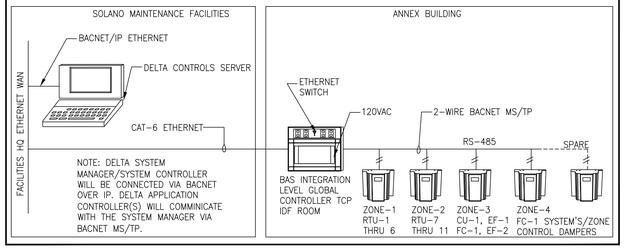
PROVIDE NEW JUNCTION BOXES WITHIN 3 FEET OF EACH NEW DDC CONTROLLER/PANEL.

ACTUATOR SCHEDULE FOR RTU-11 ZONE DAMPERS - (BID ALTERNATE #4)

SERIES	LF	NF (REFERENCE ONLY)	AF (REFERENCE ONLY)
MANUFACTURER	BELIMO	BELIMO	BELIMO
FORCE	35 IN-LB	60 IN-LB	133 IN-LB
CONTROL	2-10 VDC	2-10 VDC	2-10 VDC
MAXIMUM DAMPER SIZE	4 SQ. FT.	8 SQ. FT.	16 SQ. FT.

1) CONFIRM ALL DAMPERS HAVE EDGE SEALS.
2) COMFIRM ALL DAMPERS SHALL HAVE SPRING RETURN TO OPEN IN CASE OF DAMPER FAILURE.
3) ALL DAMPER'S ACTUATORS REFLECTED IN CONTROLS SCHEMATICS ARE NEW (REFER TO MECHANICAL SUMMARY OF WORK ON G-0.0 AND MECHANICAL SCHEDULES ON M-6.1).

NETWORK ARCHITECTURE



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REGISTERED PROFESSIONAL ENGINEER
No. M40086
EXP. 09-30-2022
MECHANICAL
STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

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SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	BB
APPROVED BY:	ER

SHEET TITLE
MECHANICAL CONTROLS SYSTEM ARCHITECTURE AND SCHEMATICS

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

MI-6.2
SHEET OF XX

SCHEDULES

PIPE, VALVE & FITTING SCHEDULE

SERVICE	PIPE MATERIAL	FITTINGS & JOINTS
NATURAL GAS PIPING	BLACK STEEL SCHEDULE 40, ASTM A53/A53M	FITTINGS: THREADED ASTM B16.3 MALLEABLE IRON WITH NFPA 54 OR ASME B31.1 JOINTS
CONDENSATE PIPING	PIPE: TYPE "K" HARD DRAWN COPPER	FITTINGS: WROUGHT FITTINGS ASTM B16.22. NON-LEAD SOLDER SN95 PER ASTM B32.
RAIN CONDUCTOR PIPING	PIPE: MATCH EXISTING, VIF	FITTINGS: MATCH EXISTING, VIF
DOMESTIC WATER PIPING	PIPE: TYPE "K" HARD DRAWN COPPER	FITTINGS: WROUGHT FITTINGS ASTM B16.22. NON-LEAD SOLDER SN95 PER ASTM B32. CTS FLANGE FITTING WHERE DISSIMILAR METALS OCCUR.
NATURAL GAS - BALL VALVE	VALVE: BRONZE BODY, STEEL LEVER HANDLE, BLOWOUT PROOF STEM	FITTINGS: THREADED

SCHOOL EQUIPMENT ANCHORAGE

M/E/P COMPONENT ANCHORAGE NOTE:

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

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

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

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

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

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

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

MP ☐ MD ☒ PP ☒ E ☒	OPTION 1: DETAIL ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.
MP ☐ MD ☒ PP ☐ E ☐	OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # 0043-13.

GENERAL NOTES

1. ALL WORK SHALL CONFORM WITH ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
2. PATCH EXISTING AND NEW OPENINGS SO FINISH PROFILES, FIXTURES, ETC. MATCH ADJACENT UNDISTURBED WORK.
3. ALL DIMENSIONS ARE APPROXIMATE. THE DRAWINGS ARE DIAGRAMMATIC TO THE EXTENT THAT ALL FITTINGS, OFFSETS, ETC., ARE NOT SHOWN. THESE DRAWINGS ARE FOR THE GUIDANCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD FOR FABRICATION OF PENETRATIONS, CONDUIT, WIRING, AND ALL COMPONENTS INTO A COMPLETE AND OPERABLE SYSTEM.
4. WHERE DISCREPANCIES OCCUR BETWEEN THE PLANS AND SPECIFICATIONS, CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IN WRITING. ANY ADJUSTMENT OF THE CONTRACT DOCUMENTS WITHOUT A DETERMINATION BY THE OWNER'S REPRESENTATIVE SHALL BE AT THE CONTRACTOR'S OWN RISK AND EXPENSE. THE MOST STRINGENT REQUIREMENTS SHALL APPLY AS DETERMINED BY THE OWNER'S REPRESENTATION.
5. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
6. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH ALL LISTED APPLICABLE CODES. (SEE APPLICABLE CODES LISTED BELOW.) SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED IN THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH ALL APPLICABLE CODES, A CHANGE ORDER, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH THE WORK.
7. CONTRACTOR TO LEGALLY DISPOSE OF OR RECYCLE PROJECT DEBRIS.
8. ALL ITEMS IN THIS CONTRACT ARE NEW U.O.N
9. ALL GENERAL NOTES ARE THE MINIMUM STANDARDS. IF MORE COMPLETE INFORMATION IS ENCOUNTERED IN OTHER PARTS OF THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH THE MOST STRINGENT REQUIREMENT.
10. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING BUILDING CONDITIONS AND NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENT AND EXISTING CONDITIONS.
12. THE CONTRACTOR SHALL, DURING THE COURSE OF CONSTRUCTION, PROTECT ADJACENT AREAS FROM DAMAGE, NOISE, CONSTRUCTION, AIRBORNE DUST AND FUMES AS A RESULT OF THE WORK.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL SUB-CONTRACTORS AND SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES IN ACCORDANCE WITH THE GENERAL CONDITIONS OF THE CONTRACT.
14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE OWNER WITH A COMPLETE SET OF RECORD DRAWING, INCLUDING THE WORK OF ALL SUBCONTRACTORS.
15. ALL PRODUCTS AND MATERIALS USED ON THIS PROJECT SHALL BE FREE OF ASBESTOS.
16. NO PRODUCT WILL BE ACCEPTED ON THE JOB SITE WITHOUT PRIOR APPROVAL BY THE OWNER. THE CONTRACTOR SHALL SUBMIT CATALOG SHEETS OF ALL FIXTURES, PIPING, VALVES AND ETC., FOR REVIEW.
17. ALL PRODUCT SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL BEFORE INSTALLATION. THE CONTRACTOR SHALL PAY ALL COSTS INCURRED FOR REVIEW, DESIGN AND INSTALLATION OF SUBSTITUTIONS. ACCEPTANCE OF SUBSTITUTIONS BY THE OWNER'S REPRESENTATIVE DOES NOT ALTER THE REVIEW REQUIREMENT.
18. PENETRATIONS OF DUCTS, PIPES, CONDUITS, ETC. IN WALLS AND FLOOR-CEILING ASSEMBLIES REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED, PER THE U.L. FIRE LISTINGS. FIRE STOP MATERIAL SHALL BE A TESTED ASSEMBLY. SEE PLANS FOR ADDITIONAL REQUIREMENTS. SUBMIT U.L. FIRE RATED ASSEMBLIES TO FIRE MARSHALL FOR APPROVAL.
19. THE INSTALLATION OF PIPING AND EQUIPMENT SHALL BE MADE IN SUCH A MANNER TO CLEAR BEAMS AND OBSTRUCTIONS. DO NOT CUT INTO OR REDUCE THE SIZE OF PLATES OR ANY LOAD CARRYING MEMBERS WITHOUT APPROVAL OF THE ARCHITECT AND ENGINEER OF RECORD. COORDINATE WITH WORK OF OTHERS TO PREVENT INTERFERENCE.
20. ALL LOCATIONS OF PIPING AND EQUIPMENT ARE SHOWN DIAGRAMMATICALLY TO THE EXTENT THAT ALL FITTINGS, OFFSETS, ETC. ARE NOT SHOWN. ADHERE TO LOCATIONS AS CLOSELY AS POSSIBLE. HOWEVER, RUNS OR SHAPE OF PIPING CAN VARY, AS REQUIRED TO MEET FOUNDATION, STRUCTURAL AND OTHER INTERFERENCES. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD FOR FABRICATION OF THE PIPING, PENETRATIONS, AND ALL COMPONENTS INTO A COMPLETE AND OPERABLE SYSTEM.
21. SUPPORT AND RESTRAIN PIPING PER CALIFORNIA MECHANICAL CODE AND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. ALL SUPPORTING RODS, STRUT AND OTHER HARDWARE SHALL BE HOT DIPPED GALVANIZED UNLESS OTHERWISE SPECIFIED.
22. ALL SOLDER AND PLUMBING FIXTURES SHALL CONFORM TO NON LEAD STANDARDS.
23. PROVIDE ACCESS PANELS WHERE SHUT OFF VALVES AND WATER HAMMER ARRESTERS ARE LOCATED IN WALLS OR ABOVE HARD CEILINGS.
24. CONTRACTOR SHALL VERIFY EXISTING PIPE SIZES AND FUNCTION BEFORE COMMENCING WORK. REPORT DISCREPANCIES TO THE ARCHITECT.
25. INSULATE TRAP, ANGLE STOP VALVES AND HOT WATER SUPPLY PIPING TO FIXTURES BELOW HANDICAPPED ACCESSIBLE LAVS WITH APPROVED INSULATION AND PVC JACKETING.
26. ALL PIPING IN THIS CONTRACT SHALL BE LABELED ACCORDING TO ANSI A13.1, CHAPTER 13, CPC, 2013 AND NFPA 99. FURNISH FLOW ARROWS INDICATING DIRECTION OF FLOW FOR LIQUID PHASE MATERIALS. PIPE LABELS SHALL BE VISIBLE FROM FLOOR LEVEL. ALL VALVES IN THIS CONTRACT OTHER THAN MEDICAL VACUUM, SHALL BE LABELED WITH BRASS TAGS. ALL MEDICAL VACUUM VALVES SHALL BE LABELED PER CHAPTER 13, CPC, 2013 AND NFPA 99.
27. EXACT LOCATION OF EXISTING UTILITIES HAVE NOT BEEN INDEPENDENTLY VERIFIED. CONTRACTOR SHALL FIELD VERIFY ALL CONNECTION POINTS AND LOCATIONS. VERIFICATION OF ADEQUATE FALL FOR WASTE LINE SHALL BE DONE PRIOR TO BEGINNING WORK OF THIS CONTRACT.

APPLICABLE CODES

UNLESS OTHERWISE INDICATED OR SPECIFIED, PERFORM THE WORK IN CONFORMANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE REGULATORY REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

1. CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24): 2019
2. CALIFORNIA BUILDING CODE (PART 2, TITLE 24): 2018 IBC WITH 2019 CA AMENDMENTS
3. CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24): 2017 NEC WITH 2019 CA AMENDMENTS
4. CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24): 2018 UMC WITH 2019 CA AMENDMENTS
5. CALIFORNIA PLUMBING CODE (PART 5, TITLE 24) 2018 UPC WITH 2019 CA AMENDMENTS
6. CALIFORNIA ENERGY CODE (PART 6, TITLE 24): 2019
7. CALIFORNIA HISTORICAL BUILDING CODE, (PART 8, TITLE 24): 2019
8. CALIFORNIA FIRE CODE (PART 9, TITLE 24): 2018 IFC WITH 2019 CA AMENDMENTS
9. CALIFORNIA EXISTING BUILDING CODE (PART 10, TITLE 24): 2019 (2018 INTERNATIONAL EXISTING BUILDING CODE WITH 2019 CA AMENDMENTS)
10. CALIFORNIA GREEN BUILDING STANDARDS CODE OR CAL GREEN (PART 11, TITLE 24): 2019
11. CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24): 2019
12. PUBLIC SAFETY (CCR TITLE 19), STATE FIRE MARSHAL: CURRENT REVISION
13. NFPA 72, NATIONAL FIRE ALARM CODE, 2016 EDITION

SYMBOLS

GENERAL

- EXTENT OF DEMOLITION (POD)
- NEW TO EXISTING CONNECTION (POC)
- REFERENCE SHEET NOTE
- REVISION NUMBER
- DETAIL DESIGNATION — DETAIL NUMBER; DRAWING NUMBER (IF BLANK, SAME SHEET)
- EQUIPMENT DESIGNATION — EQUIPMENT TYPE; EQUIPMENT NUMBER
- TO BE DEMOLISHED
- ELBOW, TURNED UP
- ELBOW, TURNED DOWN
- CAPPED PIPE
- CONNECTION, BOTTOM
- CONNECTION, TOP
- GRADE CLEAN OUT/ FLOOR CLEAN OUT
- WALL HYDRANT
- WALL CLEANOUT (WCO)
- HOSE BIBB
- BREAK
- VALVE IN RISER

PLUMBING

- WASTE BELOW FLOOR OR GRADE
- WASTE ABOVE FLOOR
- VENT
- COLD WATER
- HOT WATER
- HOT WATER RETURN
- MEDICAL VACUUM (MV)
- CIRCUIT SETTER
- BALL TYPE SHUT OFF VALVE
- GATE VALVE
- WATER HAMMER ARRESTER

LINE LEGEND

- EXISTING PIPING (ABOVE GRADE OR FLOOR)
- EXISTING PIPING (BELOW GRADE OR FLOOR)
- NEW PIPING (ABOVE GRADE OR FLOOR)
- NEW PIPING (BELOW GRADE OR FLOOR)
- PIPE TO BE REMOVED (ABOVE GRADE OR FLOOR)
- PIPE TO BE REMOVED (BELOW GRADE OR FLOOR)

ABBREVIATIONS

A	COMPRESSED AIR	GV	GATE VALVE
ABV	ABOVE	HB	HOSE BIBB
ADA	AMERICAN DISABILITIES ACT	HT	HEIGHT
AFF	ABOVE FINISHED FLOOR	HW	HOT WATER
AFG	ABOVE FINISHED GRADE	HWR	HOT WATER RETURN
AP	ACCESS PANEL	LH	LEFT HAND
ARCH	ARCHITECTURAL	LAV	LAVATORY
AV	ACID VENT	LBS	POUNDS
AW	ACID WASTE	LPG	LOW PRESSURE NATURAL GAS
BEL	BELOW	MAX	MAXIMUM
BFP	BACK FLOW PREVENTER	MFG	MANUFACTURING
BLDG	BUILDING	MFR	MANUFACTURER
BOP	BOTTOM OF PIPE	MIN	MINIMUM
CD	CONDENSATE DRAIN	OFD	OVER FLOW DRAIN
CI	CAST IRON	<N>	NEW
CP	CHROME PLATED	NTS	NOT TO SCALE
CW	COLD WATER	PD	PLANTER DRAIN
DIA	DIAMETER	POC	POINT OF CONNECTION
DN	DOWN	POD	POINT OF DISCONNECTION
DIP	DUCTILE IRON PIPE	PSI	POUNDS PER SQUARE INCH
DN	DOWN	PTR	PRESSURE TEMPERATURE RELIEF
DWG	DRAWING	PVC	POLYVINYL CHLORIDE
<E>	EXISTING	RH	RIGHT HAND
EQ	EQUAL	RM	ROOM
EQUIP.	EQUIPMENT	SOV	SHUT-OFF VALVE
EXT	EXTERIOR	STS	STAINLESS STEEL
<F>	FUTURE	TV	TEMPERING VALVE
FCO	FLOOR CLEAN OUT	TYP	TYPICAL
FD	FLOOR DRAIN	URN	URINAL
FH	FUME HOOD	U.O.N.	UNLESS OTHERWISE NOTED
FT	FEET OR FLUSH TANK	V	VENT
FU	FIXTURE UNITS	VIF	VERIFY IN FIELD
FV	FLUSH VALVE	VTR	VENT THROUGH ROOF
G	GAS	W	WASTE
GA	GAUGE	WC	WATER CLOSET
GAL	GALLONS	WCO	WALL CLEAN OUT
GCO	GRADE CLEAN OUT	WHA	WATER HAMMER ARRESTER
GPM	GALLONS PER MINUTE	W/	WITH
GSM	GALVANIZED SHEET METAL	W/O	WITHOUT
		WT	WEIGHT

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EVAN EVERETT SARVER
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MECHANICAL
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SOLANO COMMUNITY COLLEGE DISTRICT

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2000 NORTH VILLAGE PARKWAY
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VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

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SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	BB
APPROVED BY:	ER

SHEET TITLE

PLUMBING GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

P-0.0
SHEET OF XX

1 PLUMBING FIRST FLOOR PLAN - DEMO

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

0 8' 16'

GENERAL NOTES

A. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3 OR 4/A-5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A-5.2.

B. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

REFERENCE SHEET NOTES

1. DEMOLISH EXISTING GAS PIPING IN THE ATTIC SPACE TO FACILITATE THE NEW CONSTRUCTION OF THE NEW RTU UNITS AND DUCTWORK.

2. DEMOLISH SECTION OF EXISTING RAIN CONDUCTOR PIPE IN THE ATTIC SPACE FOR CONNECTION OF NEW RAIN CONDUCTOR PIPE.

3. TEST EXISTING GAS PRESSURE DOWNSTREAM OF THE GAS METER AND PRESSURE REGULATORS. NOTIFY THE ENGINEER OF EXISTING GAS PRESSURE READING.

ALTERNATE BID ITEM #4:

11. DEMOLISH EXISTING 1-1/2" GAS PIPING IN THE ATTIC SPACE TO PROVIDE FOR ADDITIONAL BRANCH FOR RTU-11.

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FIRST FLOOR PLAN - DEMO

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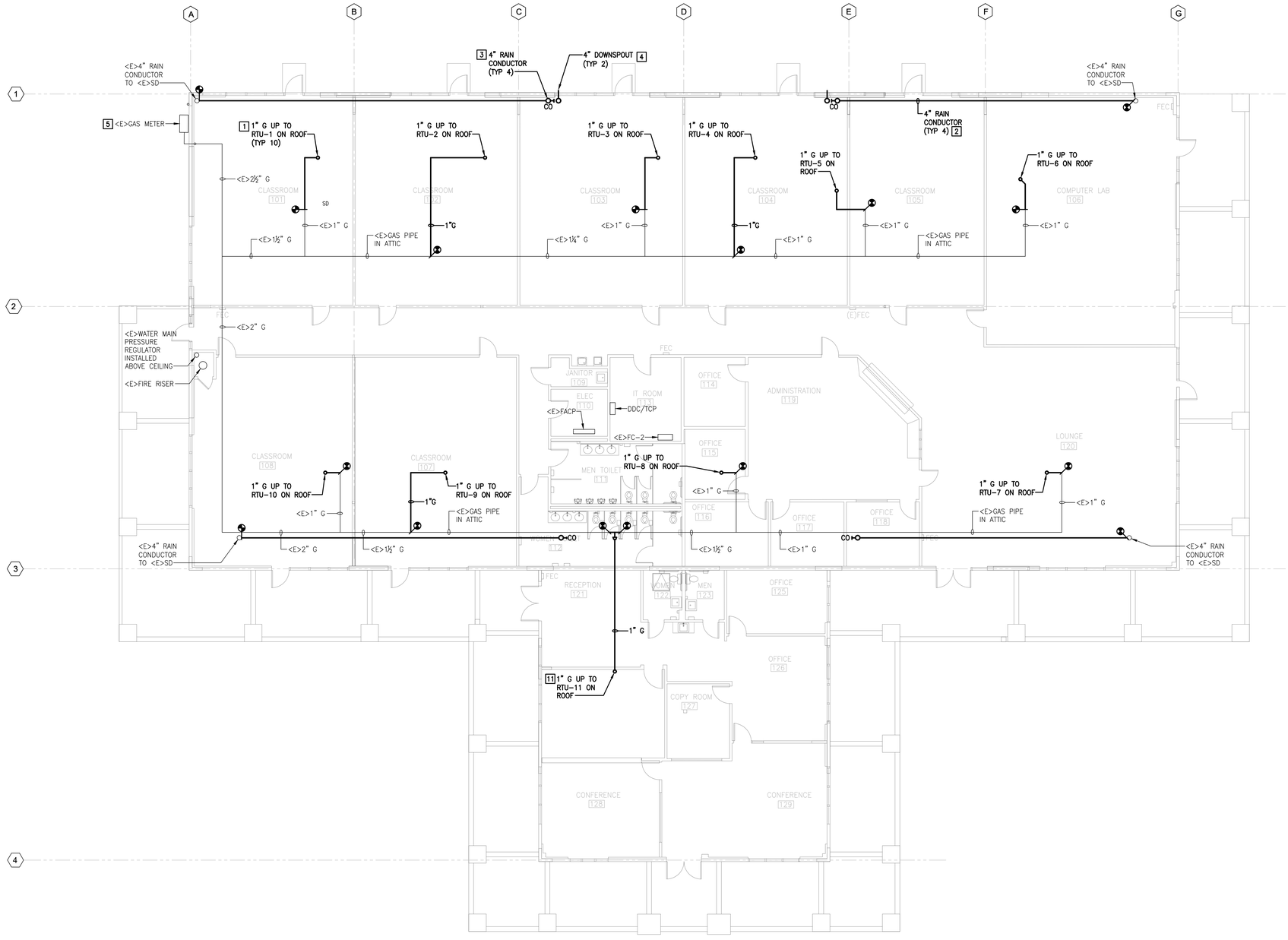
PD-1.1

SHEET OF XX

K:\drawings\Solano Community College District\2100987 Vacaville Annex HVAC Replacement\2100987PD-1.1.dwg 5/31/2022 2:14 PM Rick Padua



1 PLUMBING FIRST FLOOR PLAN - NEW

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

0 8' 16'

GENERAL NOTES

A. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3 OR 4/A-5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A-5.2.

B. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

C. PIPE SUPPORTS SHALL BE PROVIDED AS DETAILED ON P-5.1. REFER TO PIPE SUPPORT DETAILS FOR SPACING REQUIREMENTS AND INSTALLATION.

REFERENCE SHEET NOTES

1. PROVIDE AND CONNECT 1" GAS PIPE TO EXISTING GAS PIPE WITHIN THE ATTIC SPACE. GAS PIPING SHALL PENETRATE THROUGH THE ROOF FOR CONNECTION TO RTU UNIT. SEE P-1.2 FOR CONTINUATION. SEE ARCHITECTURAL DRAWINGS FOR ROOF PENETRATION FLASHING. PROVIDE PIPE SUPPORTS AS PER DETAIL 1/P-5.1.
2. PROVIDE AND INSTALL 4" RAIN CONDUCTOR PIPE IN THE ATTIC SPACE. CONNECT PIPING TO NEW ROOF DRAIN AT ROOF AND ROUTE PIPING TO EXISTING RAIN CONDUCTOR PIPE. MAINTAIN A MINIMUM SLOPE ¼" PER FOOT. CONNECT TO EXISTING CONDUCTOR PIPE USING LINE SIZED TEE. PROVIDE PIPE SUPPORTS AS PER DETAIL 1/P-5.1.
3. PROVIDE AND INSTALL CLEANOUT AT THE BASE OF THE CONDUCTOR PIPE BEFORE CONNECTION TO THE HORIZONTAL PIPE.
4. PROVIDE AND INSTALL 4" DOWNSPOUT. PENETRATE THROUGH EXTERIOR WALL AND TERMINATE PIPE WITH PLAIN ENDS 6" FROM FACE OF EXTERIOR WALL.
5. GAS PRESSURE DOWNSTREAM OF THE GAS METER AND PRESSURE REGULATORS SHALL BE NO LESS THAN 8 INCHES W.C. AND NO GREATER THAN 14 INCHES W.C. ADJUST PRESSURE REGULATORS AS NECESSARY TO ACHIEVE IDEAL GAS PRESSURE FOR THE NEW RTU'S

ALTERNATE BID ITEM #4:

11. PROVIDE AND INSTALL A NEW 1" GAS BRANCH. CONNECT TO EXISTING 1-1/2" GAS PIPE USING A 1-1/2" TO 1" REDUCING TEE AND ROUTE 1" GAS PIPE TO ROOF PENETRATION FOR CONNECTION TO RTU-11 ABOVE. SEE P-1.2 FOR CONTINUATION. SEE ARCHITECTURAL DRAWINGS FOR ROOF PENETRATION FLASHING.

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DIV. OF THE STATE ARCHITECT
APP: 02-119811 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 06/02/2022

agency

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Local **Action.**

consultant

REGISTERED PROFESSIONAL ENGINEER
TIMOTHY SHANE
No. M40086
EXP. 09-30-2022
MECHANICAL
STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE

MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	ES
APPROVED BY:	ES

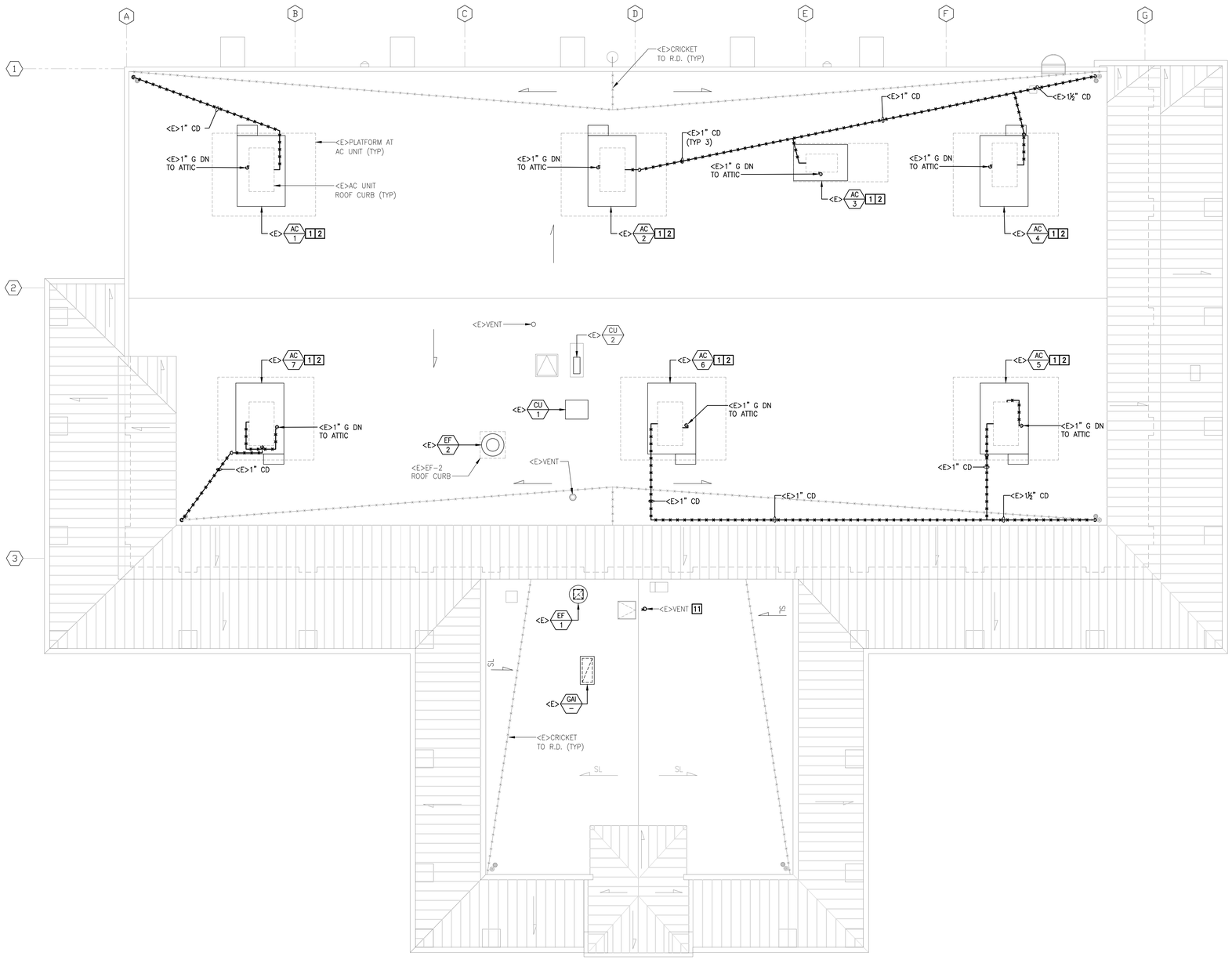
SHEET TITLE

PLUMBING
FIRST FLOOR PLAN - NEW

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

P-1.1

SHEET OF XX



1 PLUMBING ROOF PLAN - DEMO

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

0 8' 16'

GENERAL NOTES

A. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

REFERENCE SHEET NOTES

1. DISCONNECT EXISTING CONDENSATE DRAIN PIPING FROM EXISTING AC UNIT AND DEMOLISH CONDENSATE PIPING AND ASSOCIATED PIPE SUPPORTS FROM <E> AC UNIT TO THE <E> POINT OF TERMINATION AT THE ROOF DRAIN.
2. DISCONNECT GAS PIPING FROM EXISTING AC UNIT. DEMOLISH EXISTING GAS PIPING AND GAS RISER THROUGH ROOF. SEE PD-1.1 FOR CONTINUATION.

ALTERNATE BID ITEM #1:

11. DEMOLISH PLUMBING VENT ROOF PENETRATION TO BELOW THE DECK SURFACE.

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DSA APPL #02-119811

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APPROVED BY:	ES

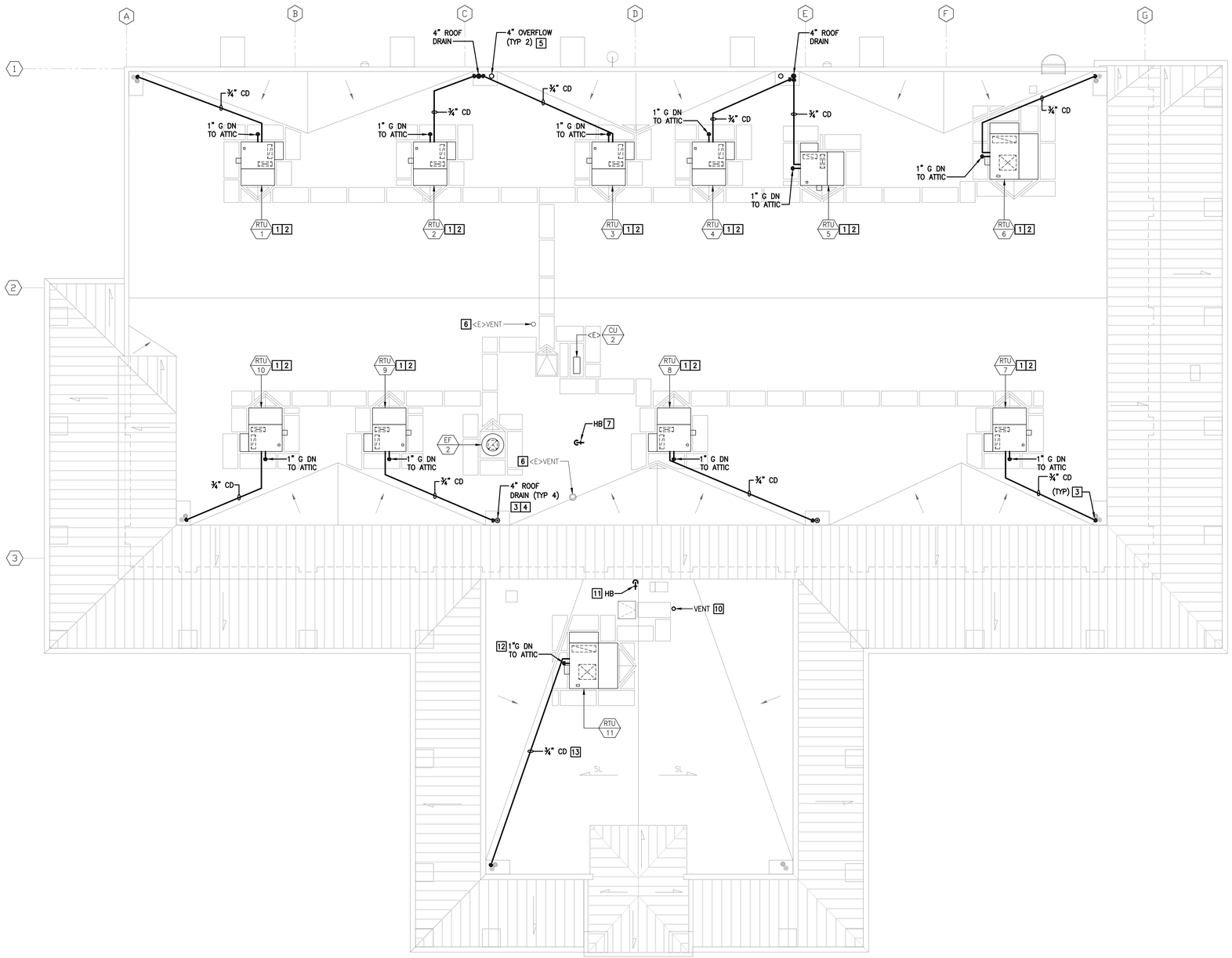
SHEET TITLE

PLUMBING ROOF PLAN - DEMO

SCALE: THIS DRAWING IS 30" X 42" AT FULL SIZE

PD-1.2

SHEET OF XX



1 PLUMBING ROOF PLAN - NEW

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

0 8' 16'

GENERAL NOTES

A. CONDENSATE DRAIN PIPING SHALL MAINTAIN A DOWNWARD SLOPE OF NOT LESS THAN 1/4 INCH PER FOOT OR 1 PERCENT SLOPE TOWARDS THE TERMINATION AT ROOF DRAIN.

B. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3 OR 4/A-5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A-5.2.

C. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

D. ALL PLUMBING VENTS SHALL BE A MINIMUM OF 10 FEET FROM AIR INTAKES.

E. PIPE SUPPORTS SHALL BE PROVIDED AS DETAILED ON P-5.1. REFER TO PIPE SUPPORT DETAILS FOR SPACING REQUIREMENTS AND INSTALLATION.

REFERENCE SHEET NOTES

1. PROVIDE AND INSTALL CONDENSATE DRAIN PIPING. CONNECT CONDENSATE DRAIN PIPING TO NEW RTU UNITS AND ROUTE TO ROOF DRAIN. SLOPE NEW CONDENSATE PIPE ¼" PER FOOT AND PROVIDE CLEANOUT(S) AS REQUIRED. SEE DETAIL 2/P-5.1 FOR CONDENSATE TRAP. SEE DETAIL 3/P-5.1 FOR PIPE SUPPORTS.

2. PROVIDE AND INSTALL GAS PIPING. PROVIDE AND INSTALL GAS COCK AND FLEXIBLE PIPING AT CONNECTION TO NEW RTU UNITS. SEE ARCHITECTURAL DRAWINGS FOR GAS PIPING ROOF PENETRATION. PROVIDE ONE PIPE SUPPORT MIN. AT THE RIGID GAS PIPING BETWEEN THE ROOF PENETRATION AND THE CONNECTION TO THE RTU UNIT, SEE DETAIL 3/P-5.1.

3. PROVIDE AND INSTALL 90 DEGREE ELBOW TO END OF CONDENSATE DRAIN LINE. DRAIN DISCHARGE SHALL BE DOWNWARD INTO ROOF DRAIN WITH AN AIR GAP.

4. PROVIDE AND INSTALL ROOF DRAIN IN DRAIN SUMP. SEE P-1.1 FOR CONTINUATION. SEE ARCHITECTURAL DRAWINGS FOR ROOFING.

5. PROVIDE AND INSTALL OVERFLOW DRAIN AT DRAIN SUMP. SEE P-1.1 FOR CONTINUATION. SEE ARCHITECTURAL DRAWINGS FOR ROOFING.

6. EXTEND ALL EXISTING ROOFTOP PLUMBING VENTS TO A MINIMUM OF 12" ABOVE THE NEW FINISHED ROOF SURFACE. COORDINATE WITH ROOFING CONTRACTOR.

7. PROVIDE AND INSTALL HOSE BIBB ON NORTH ROOF. CONNECT TO NEAREST DOMESTIC WATER LINE IN THE ATTIC SPACE AND PENETRATE THROUGH THE ROOF AS INDICATED. HOSE BIBB NOZZLE SHALL BE A MINIMUM OF 12" ABOVE THE FINISHED ROOF SURFACE WITH LEAD FREE BALL VALVE UPSTREAM OF HOSE BIBB NOZZLE. SEE DETAIL 5/P-5.1 AND SEE ARCHITECTURAL DRAWINGS FOR ROOF FLASHING.

ALTERNATE BID ITEM #1:

10. RELOCATE PLUMBING VENT A MINIMUM OF 6 FEET FROM THE EDGE OF THE EXISTING ROOF ACCESS HATCH AND A MINIMUM OF 10 FEET FROM THE OUTSIDE AIR INTAKE OF RTU-11. NEW VENT SHALL BE RECONNECTED TO EXISTING PLUMBING VENT PIPE IN ATTIC SPACE WITH A 45 DEGREE ELBOW AND EXTENDED TO THE NEW VENT LOCATION. NEW ROOF VENTS SHALL TERMINATE A MINIMUM OF 12" ABOVE THE NEW FINISHED ROOF SURFACE. COORDINATE WITH ROOFING CONTRACTOR.

11. PROVIDE AND INSTALL HOSE BIBB ON SOUTH ROOF. CONNECT TO NEAREST DOMESTIC WATER LINE IN THE ATTIC SPACE AND PENETRATE THROUGH THE ROOF AS INDICATED. HOSE BIBB NOZZLE SHALL BE A MINIMUM OF 12" ABOVE THE FINISHED ROOF SURFACE WITH LEAD FREE BALL VALVE UPSTREAM OF HOSE BIBB NOZZLE. SEE DETAIL 5/P-5.1 AND SEE ARCHITECTURAL DRAWINGS FOR ROOF FLASHING.

ALTERNATE BID ITEM #4:

12. PROVIDE AND INSTALL 1" GAS PIPING. PROVIDE AND INSTALL GAS COCK AND FLEXIBLE PIPING AT CONNECTION TO RTU-11. SEE ARCHITECTURAL DRAWINGS FOR GAS PIPING ROOF PENETRATION.

13. PROVIDE AND INSTALL CONDENSATE DRAIN PIPING. CONNECT CONDENSATE DRAIN PIPING TO NEW RTU-11 AND ROUTE TO ROOF DRAIN. SLOPE NEW CONDENSATE PIPE ¼" PER FOOT AND PROVIDE CLEANOUT(S) AS REQUIRED. SEE DETAIL 2/P-5.1 FOR CONDENSATE TRAP. SEE DETAIL 3/P-5.1 FOR PIPE SUPPORTS.

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VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

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CHECKED BY:	ES
APPROVED BY:	ES

SHEET TITLE

PLUMBING ROOF PLAN - NEW

SCALE:
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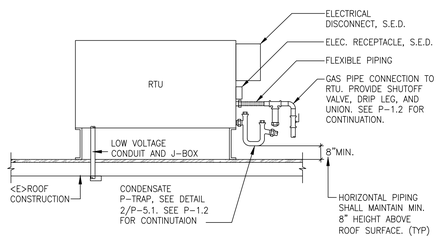
P-1.2

SHEET OF XX

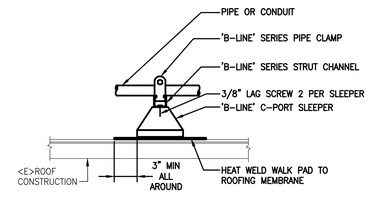


NOTE:

DO NOT COVER NAMEPLATE AND/OR PRODUCT INFORMATION. SEE FLOOR PLANS FOR SPECIFIC CONDITIONS.

4 CONDENSATE AND GAS CONNECTIONS

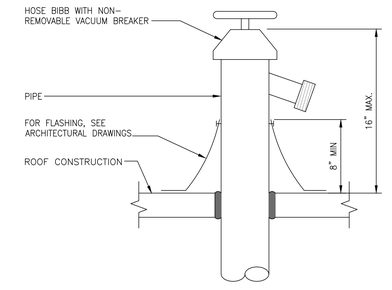
SCALE: N.T.S.



PIPE SUPPORT SPACING					
SIZE	STEEL	COPPER	SIZE	STEEL	COPPER
1/2"	6'	5'	1-1/2"	9'	8'
3/4"	6'	5'	2"	10'	8'
1"	7'	6'	2-1/2"	10'	9'
1-1/4"	7'	7'	3"	10'	10'

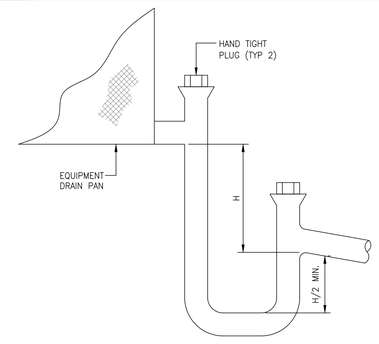
3 GAS & CONDENSATE ROOF PIPE SUPPORT

SCALE: N.T.S.



5 ROOF PENETRATION WITH HOSE BIBB

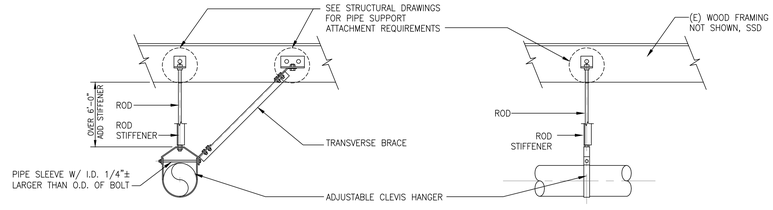
SCALE: N.T.S.



NOTE: H = FAN INLET STATIC + 1"

2 DRAW THROUGH CONDENSATE TRAP

SCALE: N.T.S.



NOTES:

1.) NATURAL GAS PIPE SUPPORTS SHALL BE SPACED NOT GREATER THAN 8' OC.

2.) RAIN CONDUCTOR PIPE MATERIAL TO MATCH EXISTING, V.I.F. PIPE SUPPORTS SHALL BE SPACED IN ACCORDANCE TO 2019 CPC, TABLE 313.3.

3.) PIPE SUPPORT/HANGER SPACING SHALL BE IN COMPLIANCE WITH 2019 CPC, TABLE 313.3.

NOTE:

SEISMIC RESTRAINTS AND ATTACHMENTS SHALL BE IN ACCORDANCE WITH MASON WEST INC. SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED DISTRIBUTION SYSTEMS (OPM-0043-13)

1 NATURAL GAS AND RAIN CONDUCTOR PIPE SUPPORT IN ATTIC SPACE

SCALE: N.T.S.

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SOLANO COMMUNITY COLLEGE DISTRICT

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CHECKED BY:	BB
APPROVED BY:	ER

SHEET TITLE

PLUMBING DETAILS

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

P-5.1

SHEET OF XX

LOAD CALCULATIONS

LOAD CALCULATION		
VACAVILLE ANNEX HVAC REPLACEMENT - SOBE 2100987		
EXISTING MAIN SWITCHBOARD, 800A RATED, 3P, 4W, 480Y/277V, AIC 42kA, FED BY PG&E TRANSFORMER.		
A. EXISTING LOAD FROM MAIN DISTRIBUTION SWITCHBOARD (BASED ON 1 YEARS PEAK LOAD PG&E DATA)	41,250	VA
SUB-TOTAL EXISTING WITH NEC REQUIRE 125% DEMAND	51,563	VA
B. DEMOLITION LOADS		
AC-1	11,717	VA
AC-2	11,717	VA
AC-3	11,717	VA
AC-4	11,717	VA
AC-5	11,717	VA
AC-6	11,717	VA
AC-7	9,681	VA
CU-1 (BID ALT #4)	3,000	VA
FAI (BID ALT #4)	0	VA
EF-1 (BID ALT #4)	200	VA
EF-2	200	VA
SUB-TOTAL DEMO LOAD	83,384	VA
C. NEW LOADS		
RTU-1 (4 TONS)	7,147	VA
RTU-2 (3 TONS)	6,316	VA
RTU-3 (5 TONS)	9,723	VA
RTU-4 (5 TONS)	9,723	VA
RTU-5 (5 TONS)	9,723	VA
RTU-6 (7.5 TONS)	13,047	VA
RTU-7 (6 TONS)	11,634	VA
RTU-8 (6 TONS)	10,886	VA
RTU-9 (5 TONS)	9,723	VA
RTU-10 (6 TONS)	10,886	VA
RTU-11 (7.5 TONS)	14,459	VA
EF-2 (0.75 HP)	1,056	VA
SUB-TOTAL NEW LOAD	114,321	VA
TOTAL LOAD = EXISTING - DEMO + NEW	114,321	VA
+ 25% LARGEST MOTOR	831	VA
TOTAL LOAD	115,152	VA
TOTAL CONNECTED LOAD	**139**	**AMPS**
800A @ 80% (NEC) ALLOWABLE LOAD	640	AMPS

SCHOOL EQUIPMENT ANCHORAGE

M/E/P COMPONENT ANCHORAGE NOTE:

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

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

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

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

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

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

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

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

MP ☐ MD ☒ PP ☒ E ☒ — OPTION 1: DETAIL ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

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

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE TO OBTAIN A COMPLETE SET OF CONTRACT DOCUMENTS, ADDENDA, DRAWINGS, AND SPECIFICATIONS. PRIOR TO SUBMITTING PROPOSAL, CONTRACTOR SHALL EXAMINE ARCHITECTURAL, STRUCTURAL AND MECHANICAL CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND SHALL HAVE VISITED THE CONSTRUCTION SITE. HE/SHE SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS UNDER WHICH HE/SHE 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/HER PART. DETERMINE THE SEQUENCE OF CONSTRUCTION THROUGHOUT THE PROJECT, INCLUDING TEMPORARY FACILITIES AND CONNECTIONS REQUIRED FOR THE DURATION OF THE PROJECT.
2. ALL TEMPORARY CONNECTIONS SHALL BE CONSIDERED PART OF THIS CONTRACT AND NO EXTRA CHARGES WILL BE ALLOWED. THIS SHALL INCLUDE MINOR ITEMS OF MATERIAL OR EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS AND INTENT OF THE PROJECT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONS AND PROPERTY AND SHALL PROVIDE INSURANCE COVERAGE AS NECESSARY FOR LIABILITY, PERSONAL, AND PROPERTY DAMAGE, TO FULLY PROTECT THE OWNER, ARCHITECT, AND ENGINEER FROM ANY AND ALL CLAIMS RESULTING FROM THIS WORK.
4. THE CONTRACTOR SHALL PROVIDE TO THE ARCHITECT A CONSTRUCTION SCHEDULE OF ALL ELECTRICAL WORK. THE CONSTRUCTION SCHEDULE SHALL IDENTIFY ALL SIGNIFICANT MILESTONES WITH COMPLETION DATES.
5. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS AT THE PROJECT SITE INDICATING ALL MODIFICATIONS TO ELECTRICAL SYSTEMS. THE CONTRACTOR SHALL, AT THE CONCLUSION OF THE PROJECT, PROVIDE A SET OF REPRODUCIBLE (AUTOCAD), ACCURATE AND NEAT "AS-BUILT" DRAWINGS ACCEPTABLE TO THE ARCHITECT.
6. THESE DRAWINGS DO NOT REPRESENT THE EXACT LOCATIONS, SIZES OR EXTENT OF UTILITIES ON SITE. CONTRACTOR SHALL TAKE STANDARD PRECAUTIONS FOR WORK IN EXISTING FACILITIES.
7. EXISTING ELECTRICAL WIRING WHICH WILL NOT BE MADE OBSOLETE AND WHICH WILL BE DISTURBED DUE TO CONSTRUCTION CHANGES REQUIRED BY THIS CONTRACT SHALL BE RESTORED TO OPERATING CONDITION, AS REQUIRED AND/OR DIRECTED. WHERE REQUIRED, SHOWN AND/OR DIRECTED, OUTLETS AND CONDUIT RUNS SHALL BE RELOCATED. IN SOME CASES IT MAY BE NECESSARY TO EXTEND CONDUITS AND PULL IN NEW WIRING OR INSTALL JUNCTION BOXES AND SPLICE IN NEW WIRING OR REPLACE OLD WIRING WITH NEW.
8. CERTAIN REMODELING OF ELECTRICAL FACILITIES WILL BE REQUIRED IN THE EXISTING BUILDING. EXISTING CONDUIT RUNS ARE GENERALLY NOT SHOWN, ALTHOUGH A FULL ATTEMPT HAS BEEN MADE TO SHOW SOME EXISTING CONDITIONS, OF WHICH INFORMATION HAS BEEN TAKEN FROM EXISTING RECORD DRAWINGS AND/OR LIMITED FIELD INVESTIGATIONS. THE DRAWINGS SHOWING LOCATION OF EXISTING EQUIPMENT, OUTLETS, FIXTURES, ETC., ARE APPROXIMATE ONLY (CONTRACTOR TO FIELD VERIFY).
9. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND 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).
10. ALL ELECTRICAL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
    a. AMERICAN STANDARD ASSOCIATION (ASA)
    b. AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
    c. AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
    d. CALIFORNIA CODE OF REGULATIONS TITLE 24 (CCR)
    e. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
    f. INSULATED POWER CABLE ENGINEERS ASSOCIATIONS (IPCEA)
    g. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATIONS (NEMA)
    h. NATIONAL FIRE PROTECTION AGENCY (NFPA)
    i. ALL LOCAL CODE HAVING JURISDICTION
11. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING ALL CHARGES BY STATE, COUNTY AND LOCAL GOVERNMENTAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ELECTRICAL UTILITY SYSTEM SHUT-DOWNS AND START-UP. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION REQUIRED WITH OTHER AGENCIES AND UTILITY COMPANIES.
12. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CROSSINGS ON NEW UTILITIES WITH THAT OF EXISTING ON SITE AND IN ADJACENT PROPERTIES. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS OR DISCREPANCIES FROM THIS PLAN.
13. CONTRACTOR SHALL COORDINATE HIS/HER WORK WITH OTHER TRADE ON SITE. ANY COST TO PERFORM WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE DRAWINGS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATIONS. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT/ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
14. COORDINATE WITH OTHER TRADES AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT. PROVIDE POWER AND CONNECTION TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS INDICATED ON ELECTRICAL DRAWINGS AND DRAWINGS OF OTHER TRADES. CONTRACTOR SHALL REVIEW DRAWINGS OF OTHER TRADES FOR CONTROL DIAGRAMS, SIZE AND LOCATION OF EQUIPMENT. DISCONNECT SWITCHES, STARTERS, AND CONDUITS FOR CONTROL WIRING FOR MECHANICAL AND PLUMBING EQUIPMENT SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGHING IN ALL CONDUITS TO THIS EQUIPMENT.
15. 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 DRAWINGS SHALL GOVERN. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATIONS OF ELECTRICAL DEVICES
16. MOUNTING HEIGHTS OF ALL CONTROL DEVICES TO BE USED BY OCCUPANT OF THE ROOM OR AREA SHALL BE MOUNTED AT THE FOLLOWING HEIGHTS:
    RECEPTACLES OUTLETS : +18" (TO BOTTOM OF OUTLETS)
    TELEPHONE/TV/DATA OUTLETS : +18" (TO BOTTOM OF OUTLETS)
    LIGHT SWITCHES : +44" (TO HIGHEST OPERABLE PART)
    OUTLETS ABOVE COUNTER : +44" (TO HIGHEST OPERABLE PART)
    MOUNTING HEIGHTS OF ALL DEVICES AND EQUIPMENT ARE FROM FINISHED FLOOR TO LOCATION OF DEVICE AS NOTED. EQUIPMENT INSTALLED IN LOCATIONS NOT APPROVED BY THE ARCHITECT SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
17. COORDINATE ALL OUTLET BOX INSTALLATION WITH ARCHITECTURAL WALL FINISH SCHEDULES. SPACE BETWEEN FACEPLATE AND DEVICE BOX SHALL NOT EXCEED 1/8".
18. FOR RENOVATION WORK, THE CONTRACTOR SHALL CONCEAL ALL WORK WHERE POSSIBLE. ALL EXPOSED RACEWAY AND BOXES IN OCCUPIED AREAS OR ON EXTERIOR WALLS SHALL BE PAINTED TO MATCH ADJACENT FINISHES.
19. THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND/OR OTHER REPAIR DUE TO THE INSTALLATION OF ELECTRICAL WORK UNDER THE TERMS OF THIS SPECIFICATION. CLOSE ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED.
20. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS AND CEILINGS. FURNISH AND INSTALL FIRE RATED BACKBOXES AS REQUIRED, MAINTAINING 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 (714) REQUIREMENTS. CONDUIT PENETRATIONS THAT ARE NOT STUBBED-OUT INSIDE THE WALL SHALL MEET F AND T RATING. ALL FIRE PROOFING METHODS SHALL BE UL APPROVED.
21. ALL EXTERIOR EQUIPMENT SHALL BE NEMA 3R RATED. ALL WALL PENETRATIONS TO EXTERIOR WALLS SHALL BE SEALED WATER TIGHT.
22. PULLING TAPES: ALL RACEWAY WITHOUT CABLE OR WIRE SHALL BE INSTALLED WITH A MINIMUM 1100 LBS. STRENGTH TEST POLYESTER PULLING TAPE. PULLING TAPES SHALL BE DETECTABLE MULE-TAPE WITH SEQUENTIAL FOOTAGE MARKING.
23. RUN NO MORE THAN 3 CURRENT CARRYING CONDUCTORS IN ANY WIREWAY UNLESS DE-RATING IS APPROVED BY ENGINEER OR SHOWN ON DRAWINGS.
24. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER, #12 AWG MINIMUM, RATED FOR 600V, THHN/THWN, 75 DEGREE CELSIUS. CONDUCTORS #12 AWG AND SMALLER SHALL BE SOLID. CONDUCTOR #10 AWG AND LARGER SHALL BE STRANDED. SYSTEM VOLTAGE SHALL BE IDENTIFIED AS TO VOLTAGE AND PHASE CONNECTIONS BY MEANS OF COLOR IMPREGNATED INSULATION OR APPROVED COLORED MARKING TAPE.
25. WHERE MULTI-HOMERUNS ARE INDICATED ON DRAWINGS INDICATING THE SAME CIRCUIT NUMBER, PROVIDE A JUNCTION BOX ABOVE THE ACCESSIBLE CEILING AND ROUTE ONE SET OF WIRES TO THE CIRCUIT BREAKER.
26. REFER TO THE SINGLE LINE DIAGRAM FOR THE CONDUIT AND CONDUCTOR SIZES HOMERUN TO ELECTRICAL PANELS. CONDUIT RUNS MAY NOT BE SHOWN ON DRAWINGS, BUT ARE PART OF THIS CONTRACT.
27. ALL CONDUIT RUNS INCLUDING STRAIGHT FEEDER AND BRANCH CIRCUIT SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES OR JUNCTION BOXES TO LIMIT THE MAXIMUM LENGTH OF ANY SINGLE CABLE PULL TO 100 FEET. PULL BOXES SHALL BE SIZED PER CODE OR AS INDICATED ON DRAWINGS. LOCATIONS SHALL BE DETERMINED IN THE FIELD OR AS INDICATED ON THE DRAWINGS.
28. FINAL CONNECTIONS TO ALL EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIAL AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
29. DO NOT COMBINE DIFFERENT SYSTEM VOLTAGES IN SAME CONDUIT (EG., 120/208V VS. 277/480V), UNLESS APPROVED BY ENGINEER OR SHOWN ON DRAWINGS.
30. ELECTRICAL SYSTEMS SHALL BE INSTALLED FOR FINAL INSPECTIONS. PROVIDE NEUTRAL TEST AND PROOF OF TORQUE DURING FINAL INSPECTION FOR ALL UNITS. FINAL TERMINATIONS OF CONDUCTORS TO ELECTRICAL EQUIPMENT AND DEVICES SHALL BE TORQUE WRENCH TIGHTENED TO THE MANUFACTURER'S RECOMMENDED SPECIFICATION, NO EXCEPTION.
31. CIRCUIT BREAKER TERMINALS IN SWITCHBOARDS AND LOAD CENTER SHALL BE UL LISTED AND APPROVED FOR USE WITH COPPER 75 DEGREE CELSIUS CONDUCTORS.
32. SIZES OF BREAKERS, SWITCHES, FUSES AND FEEDERS ARE BASED ON DESIGNED EQUIPMENT SIZES. THESE SIZES SHALL BE ADJUSTED TO SATISFY REQUIREMENTS OF ACTUAL INSTALLED OR SUBSTITUTE EQUIPMENT. UP SIZING OR DOWNSIZING OF FEEDERS SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.
33. AS REQUIRED ALL OVERSIZED FEEDERS THAT WERE ADJUSTED IN SIZE TO COMPENSATE FOR VOLTAGE DROP SHALL BE PROVIDED WITH ADAPTER LUGS OR SPLICE BOX. ADAPTER LUGS SHALL BE PROVIDED IF SIZE IS AVAILABLE. OTHERWISE PROVIDE CABLE SPLICES IN THE SPLICE BOX TO REDUCE CABLES TO THE MAXIMUM SIZE THAT THE BREAKER LUGS CAN ACCOMMODATE.
34. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAW-CUTTING, TRENCHING, BACKFILLING, COMPACTION AND PATCHING OF CONCRETE AND ASPHALT AS REQUIRED TO COMPLETE WORK. USE EXTREME CAUTION WHEN TRENCHING NEAR EXISTING UNDERGROUND UTILITY LINES. CONTRACTOR SHALL PROVIDE ALL REQUIRED CUTTING, PATCHING, PAINTING, AND REPAIRS NECESSARY TO RESTORE DAMAGED SURFACES TO EQUAL OR BETTER THAN ORIGINAL CONDITIONS EXISTING AT THE START OF WORK.
35. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST HORIZONTAL FORCE ACTING IN ANY DIRECTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF ASCE.
36. RIGID GALVANIZED STEEL CONDUIT SHALL BE USED FOR ALL ABOVE GRADE EXTERIOR APPLICATIONS, ALL CONDUITS LARGER THAN 2" TRADE DIAMETER, AND ALL INDOOR CONDUITS BELOW EIGHT (8) FEET FROM FINISHED FLOOR.
37. ELECTRICAL METALLIC TUBING (EMT) IS ONLY ALLOWED IN INTERIOR LOCATION ABOVE EIGHT (8) FEET FROM FINISHED FLOOR AND WHEN ENTERING A PANEL FROM ABOVE.
38. CONNECTIONS TO VIBRATING EQUIPMENT (MOTOR, TRANSFORMER ENCLOSURE, ETC.) AND SEISMIC SEPARATIONS SHALL BE PROVIDED WITH LIQUID-TIGHT FLEXIBLE STEEL CONDUIT WITH WATERTIGHT CONNECTORS. MAXIMUM LENGTH OF CONDUIT SHALL BE SIX FEET, UNLESS OTHERWISE NOTED.
39. POLYVINYL CHLORIDE (PVC) SCHEDULE 40 MAY BE INSTALLED BENEATH SLAB AND UNDERGROUND INSTALLATION. INSTALL PVC COATED RIGID STEEL CONDUIT FOR TRANSITION FROM UNDERGROUND TO ABOVE GRADE INSTALLATION.
40. CONTRACTOR SHALL PROVIDE TERMINATIONS FOR ALL DATA/VOICE CABLES INDICATED AT OUTLET LOCATIONS INDICATED ON DRAWINGS.
41. CONTRACTOR SHALL PROVIDE AND INSTALL ACCESS PANELS IN NON-ACCESSIBLE CEILINGS WHERE REQUIRED TO ACCESS ELECTRICAL EQUIPMENT IN CEILING SPACE. ACCESS DOORS SHALL HAVE FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.
42. ALL FIRE LIFE SAFETY EQUIPMENT, SUCH AS FIRE ALARM CONTROL PANEL AND REMOTE POWER SUPPLIES SHALL BE PROVIDED WITH DEDICATED CIRCUITS. IDENTIFY CIRCUIT DESIGNATION AND PROVIDE PERMANENT LABELING, "FIRE ALARM CIRCUIT" ON ELECTRICAL PANEL. PROVIDE LOCKABLE CIRCUIT BREAKER.
43. CONTROL CONDUIT FOR ENERGY/BUILDING MANAGEMENT SYSTEM (E/BMS) SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
44. ROUTE CONDUIT PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE.
45. WHEN A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT, CIRCUIT BREAKERS, ETC., ARISES ON THE DRAWINGS OR SPECIFICATIONS, CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL REQUIRED BY THE MOST STRINGENT CONDITIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO PROVIDE A COMPLETE AND OPERABLE SYSTEM, OR AS DIRECTED BY ENGINEER.
46. FOR SMALL AC MOTORS NOT HAVING BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE MANUAL MOTOR STARTERS WITH OVERLOAD HEATER ELEMENTS SIZED PER MANUFACTURER'S RECOMMENDATION. FOR SMALL AC MOTORS WITH BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE A HORSEPOWER RATED TOGGLE DISCONNECT SWITCH.
47. DISCONNECT SAFETY SWITCHES SHALL BE HEAVY DUTY AND BE RATED FOR THE NUMBER OF POLES, VOLTAGE, CURRENT AND HORSEPOWER RATING AS REQUIRED. PROVIDE FUSE PROTECTION BASED ON THE MOTOR NAMEPLATE RATINGS.
48. PROVIDE PERMANENT IDENTIFICATION (NAMEPLATES) FOR ALL ELECTRICAL PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, TRANSFORMERS, TERMINAL CABINETS, ETC.
49. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO VERIFY TYPE OF CEILING SYSTEMS AND TO FURNISH APPROVED LIGHTING FIXTURES OF THE TYPE REQUIRED FOR MOUNTING IN SUBJECT CEILING. PROVIDE ALL NECESSARY MOUNTING KIT/HARDWARE TO PROVIDE A COMPLETE WORKING LIGHTING SYSTEM.
50. ALL FINAL ELECTRICAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE ELECTRICAL CONTRACTOR.
51. ALL SPLICES AND TERMINALS SHALL BE COMPRESSION TYPE, OF SEAMLESS PURE COPPER, TIN PLATED, LONG BARREL, INSPECTION WINDOW, TERMINALS WITH TWO-HOLE PAD (WITH NEMA DRILLING). CLEAN ALL SURFACES AND INSTALL WITH OXIDE INHIBITING COMPOUND BURNDY PENETROX-E OR EQUAL. APPLY COMPOUND BETWEEN BUS BAR AND LUG PAD AND BETWEEN CONDUCTOR AND LUG BARREL. INSTALL COMPRESSION CONNECTORS WITH A FULLY CIRCUMFERENTIAL COMPRESSION DIE BURNDY HYPRESS OR EQUAL.
52. LABEL ALL CONDUIT WHERE IT BEGINS, AND WHERE IT TERMINATES INTO A BOX, PANEL, DEVICE, LOAD, OR DISCONNECT. CONDUIT SHALL BE LABELED EVERY 30 FEET OR LESS. CONDUIT SHALL BE LABELED WHERE IT PENETRATES ANY WALL OR FLOOR. LABEL SHALL BE PERMANENT PRINTED LABELS (DESCRIBING SOURCE, CIRCUIT, AND LOAD) LEGIBLE FROM FLOOR WHERE POSSIBLE (STANDING POSITION).
53. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT OR INSTALLATION METHODS.
54. PROVIDE ARC-FLASH HAZARD WARNING LABELS ON ALL AFFECTED ELECTRICAL EQUIPMENT, INCLUDING SWITCHBOARDS, PANEL BOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROL CENTERS. MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS. LABEL SHALL BE FACTORY PRE-PRINTED OR MACHINE-PRINTED SELF-ADHESIVE VINYL MATERIAL; UV, CHEMICAL, WATER, HEAT AND ABRASION RESISTANT; PRODUCED USING MATERIALS RECOGNIZED BY UL 969. MINIMUM SIZE: 3.5 BY 5 INCHES.
55. UNLESS OTHERWISE NOTED, ARRANGE, PAY FOR, COORDINATE AND PROVIDE ALL PERMITS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.
57. ALL WORK IS <N> UNLESS OTHERWISE NOTED.
58. FOR BIDDING PURPOSES CONTRACTORS SHALL USE THE FOLLOWING FOR ESTIMATING CONDUCTOR SIZES IN CONDUITS TO BE RAISED.

½"	#8
¾"	#6
1"	#2
1¼"	#1/0
1½"	#3/0
2"	350 KCMIL
2½"	400 KCMIL
3" – 6"	500 KCMIL

DEMOLITION NOTES

1. REMOVE EXISTING EQUIPMENT IN CONFLICT WITH NEW CONDITIONS. REMOVE ALL WIRE NOT IN SERVICE AND FROM ABANDONED RACEWAYS. PROTECT EXISTING CIRCUITING PASSING THROUGH DEMOLITION AREAS. EXTEND AND/OR RELOCATE AS NECESSARY.
2. ALL ABANDONED EQUIPMENT INCLUDING LIGHT, RECEPTACLES, DATA, FIRE ALARM, ETC., SHALL BE COVERED WITH BLANK METAL PLATES AND PAINTED TO MATCH THE ADJACENT FINISH OF SURROUNDING WALLS OR CEILING TO THE SATISFACTION OF THE ARCHITECT/OWNER.
3. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT AFFECTED BY THE PROJECT. THIS INCLUDES REROUTING OR THE EXTENSION OF EXISTING CONDUIT AND FEEDER WHERE NECESSARY TO MAINTAIN OPERATIONAL OF ANY EXISTING EQUIPMENT.
4. CIRCUIT NUMBERS AND CONDUIT HOMERUNS SHOWN ON THESE DRAWINGS WERE TAKEN FROM EXISTING RECORD DRAWINGS. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING CIRCUITING AND CONDUIT HOMERUNS. ADJUST CIRCUIT NUMBERS ACCORDING TO THE ACTUAL CONDITIONS.
5. WHERE EXISTING CONDUIT IS TO BE ABANDONED OR DEMOLISHED, THE CONDUIT SHALL BE REMOVED IF IT IS EXPOSED, IN A CRAWL SPACE OR IN AN ACCESSIBLE CEILING. ABANDONED OR DEMOLISHED CONDUIT FEEDS UP THROUGH THE FLOOR SHALL BE CUT OFF AND PLUGGED FLUSH WITH THE FLOOR.
6. ALL ELECTRICAL EQUIPMENT INCLUDING LIGHT, RECEPTACLE, DATA, FIRE ALARM, ETC., THAT ARE TO BE REMOVED, SHALL BE REMOVED COMPLETELY, INCLUDING CONDUIT AND WIRING BACK TO THE LAST DEVICE REMAINING IN SERVICE, OR SOURCE.
7. EXISTING CIRCUITS WHICH ARE REMOVED AND NOT REUSED SHALL BE IDENTIFIED ON THE PANEL SCHEDULE AS "SPARE".
8. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS IN AN "AS-FOUND" CONDITION.
9. ALL DEMOLITION WORK SHOWN, IF ANY, WAS PREPARED FOR THE CONVENIENCE OF THE CONTRACTOR. NO REPRESENTATION HAS BEEN MADE THAT ALL ITEMS THAT MAY REQUIRE DEMOLITION HAVE BEEN SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE SITE AND THE CONTRACT DOCUMENTS AND TO PERFORM ALL DEMOLITION AND RECONSTRUCTION WHICH MAY BE REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
10. WHEN CALLED FOR, OR SCOPE OF WORK REQUIRES ELECTRICAL EQUIPMENT TO BE REMOVED, ALL CONDUIT, WIRE, BOXES, HANGERS, ETC. SHALL BE REMOVED COMPLETELY. ALL OPENINGS SHALL BE PATCHED, SEALED AND PAINTED TO MATCH THE ADJACENT FINISH.

SYMBOLS

- EXTENT OF DEMOLITION
- NEW TO EXISTING CONNECTION
- WORK ITEM (ELECTRICAL)
- DETAIL DESIGNATION — DETAIL NUMBER; DRAWING NUMBER (IF BLANK, SAME SHEET)
- EQUIPMENT DESIGNATION — EQUIPMENT TYPE; EQUIPMENT NUMBER
- EXISTING CONDUIT
- NEW CONDUIT
- CONDUIT TO BE DEMOLISHED
- PANEL BOARD/TERMINAL CABINET – FLUSH/SURFACE MOUNTED
- BRANCH CIRCUIT WIRING IN CONDUIT CONCEALED IN CEILING SPACE OR WHERE POSSIBLE, EXPOSED ON ROOF OR BUILDING EXTERIOR.
- BRANCH CIRCUIT WIRING IN CONDUIT CONCEALED UNDER FLOOR, UNDERGROUND OR WHERE POSSIBLE.
- BRANCH CIRCUIT HOME RUN TO PANEL. CONCEALED IN CEILING SPACE OR WHERE POSSIBLE. PANEL BOARD & CIRCUIT #
- EXISTING DEVICES, CONDUITS, WIRES, ETC TO REMAIN
- NEW (BOLD) DEVICES, CONDUITS, WIRES, ETC.
- CONDUIT UP
- CONDUIT DOWN
- DUPLEX RECEPTACLE 20A, 165V, 3WG, NEMA 5-20R – CEILING/FLOOR MOUNTED
- WALL-MOUNTED DUPLEX RECEPTACLE 20A, 125V, 3WG, NEMA 5-20R, +18"AFF
- WALL-MOUNTED DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER. 20A, 125V, 3WG, NEMA 5-20R
- GFI — GROUND FAULT INTERRUPTER-WALL-MOUNTED DOUBLE DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER. 20A, 125V, 3WG, (2) NEMA 5-20R
- WALL-MOUNTED DOUBLE DUPLEX RECEPTACLE (2) NEMA 5-20R
- HALF-SWITCHED CONTROLLED RECEPTACLE
- SPECIAL RECEPTACLE (TYPE AND CONFIGURATION AS REQUIRED)
- JUNCTION BOX – CEILING/FLOOR/ROOF/WALL MOUNTED
- (1) RJ-11 VOICE OUTLET W/FACEPLATE
- NON-FUSED DISCONNECT SWITCH, WALL MOUNTED, +54"AFF.
- FUSED DISCONNECT SWITCH, WALL MOUNTED, +54"AFF.
- COMBINATION MOTOR STARTER FUSED DISCONNECT SWITCH, WALL MOUNTED, +54"AFF.
- VFD — VARIABLE FREQUENCY DRIVE
- $ — SINGLE POLE TOGGLE SWITCH, WALL MOUNTED, +44" AFF.
- CONTACT
- SWITCH
- DD — DUCT DETECTOR

ABBREVIATIONS

@	AT
AHJ	AUTHORITY HAVING JURISDICTION
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
℄	CENTERLINE
CLG	CEILING
CKT	CIRCUIT
C.O.	CONDUIT ONLY (W/PULLROPE)
CONT	CONTINUATION
CSFM	CALIFORNIA STATE FIRE MARSHALL
DN	DOWN
DWG	DRAWING
<E>	EXISTING
ELEC	ELECTRICAL
EM	EMERGENCY
EQ	EQUAL
EQUIP.	EQUIPMENT
<ERR>	EXISTING TO REMAIN AND BE RECONNECTED
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FLR	FLOOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
LTG	LIGHTING
LTS	LIGHTS
MAX.	MAXIMUM
MIN.	MINIMUM
<N>	**NEW (BOLD)**
N.T.S.	NOT TO SCALE
PNL	PANEL
<R>	REMOVE
<RRN>	REMOVE REPLACE W/ NEW
REC	RECEPTACLE
RM	ROOM
RPS	REMOTE POWER SUPPLY
SLD	SINGLE LINE DIAGRAM
SPECS	SPECIFICATIONS
TYP	TYPICAL
TP	TWISTED PAIR (SHIELDED)
U.O.N.	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT AMP
V.I.F.	VERIFY IN FIELD
W	WATTS
WP	WEATHERPROOF (NEMA 3R)

SUMMARY OF WORK

1. DEMO POWER TO EXISTING HVAC EQUIPMENT INCLUDING DISCONNECT SWITCH.
2. PROVIDE POWER TO NEW HVAC EQUIPMENT, INCLUDING NEW BREAKERS, FEEDERS, DISCONNECTS, AND MISC COMPONENTS REQUIRED TO FACILITATE POWER CONNECTIONS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-119811 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 06/02/2022

agency

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STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE		
MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	RP
CHECKED BY:	AJS
APPROVED BY:	

SHEET TITLE
ELECTRICAL GENERAL NOTES, SYMBOLS & ABBREVIATIONS

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

E-0.0
SHEET OF XX

1 ELECTRICAL FIRST FLOOR PLAN - DEMO
SCALE: 1/8" = 1' - 0"

GENERAL NOTES

A. PREPARE A SPECIAL METHOD OF PROCEDURE & COORDINATE SHUTDOWN OF ANY DEVICE WITH SOLANO COMMUNITY COLLEGE DISTRICT. SHUTDOWN MUST BE PERFORMED AFTER HOURS. PROVIDE TEMPORARY POWER & LIGHTING AS NEEDED.

B. ELECTRICAL EQUIPMENT SHALL BE TESTED AS REQUIRED BY MANUFACTURER, SOLANO COMMUNITY COLLEGE DISTRICT & PER NETA ATS. PRIOR TO ENERGIZING NEW LOADS, CONTRACTOR SHALL HAVE A THIRD PARTY TESTING AGENCY PERFORM TESTS FOR ALL NEW EQUIPMENT & EXISTING EQUIPMENT WHICH HAS BEEN AFFECTED BY NEW WORK.

C. BEFORE RUNNING ANY CONDUCTORS TO PANELS BEING RE-CIRCUITED CONFIRM CONDUCTOR SIZE & ARRANGEMENT (1ø, 3ø, 3W, 4W,). REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO CHANGING OUT CONDUCTORS.

D. DEVICES SHOWN AS EXISTING SHALL REMAIN CONNECTED UNLESS OTHERWISE NOTED. WIRING DEVICES THAT MAY BE AFFECTED BY DEMOLITION OR REWIRING SHALL BE RECONNECTED.

E. DEVICE LOCATION SHOWN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATION & COUNT. ADJUST LOCATION +/- 10' AT NO ADDITIONAL COST.

F. FIRE SEAL ALL RATED PENETRATIONS.

G. WEATHER SEAL ALL BUILDING PENETRATIONS. SEE ARCHITECTURAL DRAWINGS FOR ROOF FLASHING.

H. PATCH & REPAIR ALL PAVING DISTURBED BY ALL TRADES.

I. CONTRACTOR SHALL BE RESPONSIBLE FOR RETURNING ANY SURFACE DISTURBED BY CONSTRUCTION TO THE CONDITION & FINISH OF THE ADJACENT SURFACES.

J. ALL ROOF CONDUITS SHALL BE SUPPORTED 18" ABOVE FINISHED ROOF MINIMUM.

K. PROVIDE BLACK OR WHITE BAKELITE NAMEPLATE FOR CIRCUIT BREAKERS IDENTIFYING THE EQUIPMENT BEING SERVED.

L. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DUST PROTECTION MEASURES TO ALL EXISTING CRITICAL EQUIPMENT FOR DURATION OF CONSTRUCTION.

M. EXTERIOR CONDUITS SHALL BE RIGID STEEL CONDUIT.

N. ALL CONDUITS SHALL BE COMPRESSION TYPE FITTINGS. SET SCREW FITTINGS NOT ACCEPTABLE.

O. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3/A-5.1 OR 4/A-5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A-5.2.

P. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

REFERENCE SHEET NOTES

1. EXISTING PANEL TO BE MODIFIED. SEE PANEL SCHEDULE FOR MORE INFORMATION.
2. EXISTING MECHANICAL EQUIPMENT TO BE DEMOLISHED BY MECHANICAL CONTRACTOR. COORDINATE DEMOLITION OF ELECTRICAL COMPONENTS WITH MECHANICAL CONTRACTOR. EXISTING CONDUIT & CONDUCTOR TO BE DEMOLISHED BACK TO SOURCE AND BREAKER TO BE RELABELED AS 'SPARE'.
3. EXISTING ZONE DAMPER FEEDERS TO BE DISCONNECTED AND PRESERVED FOR REUSE IN NEW WORK. SEE NEW WORK FOR MORE INFORMATION.

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SOLANO COMMUNITY COLLEGE DISTRICT
SOLANO COMMUNITY COLLEGE
2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE		
MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	JCC
APPROVED BY:	AJS

SHEET TITLE
ELECTRICAL FIRST FLOOR PLAN - DEMO
SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

ED-1.1
SHEET OF XX

1 ELECTRICAL FIRST FLOOR PLAN – NEW
SCALE: 1/8" = 1' – 0"

GENERAL NOTES

A. PREPARE A SPECIAL METHOD OF PROCEDURE & COORDINATE SHUTDOWN OF ANY DEVICE WITH SOLANO COMMUNITY COLLEGE DISTRICT. SHUTDOWN MUST BE PERFORMED AFTER HOURS. PROVIDE TEMPORARY POWER & LIGHTING AS NEEDED.

B. ELECTRICAL EQUIPMENT SHALL BE TESTED AS REQUIRED BY MANUFACTURER, SOLANO COMMUNITY COLLEGE DISTRICT & PER NETA ATS. PRIOR TO ENERGIZING NEW LOADS, CONTRACTOR SHALL HAVE A THIRD PARTY TESTING AGENCY PERFORM TESTS FOR ALL NEW EQUIPMENT & EXISTING EQUIPMENT WHICH HAS BEEN AFFECTED BY NEW WORK.

C. BEFORE RUNNING ANY CONDUCTORS TO PANELS BEING RE–CIRCUITED CONFIRM CONDUCTOR SIZE & ARRANGEMENT (1ø, 3ø, 3W, 4W,). REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO CHANGING OUT CONDUCTORS.

D. DEVICES SHOWN AS EXISTING SHALL REMAIN CONNECTED UNLESS OTHERWISE NOTED. WIRING DEVICES THAT MAY BE AFFECTED BY DEMOLITION OR REWIRING SHALL BE RECONNECTED.

E. DEVICE LOCATION SHOWN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATION & COUNT. ADJUST LOCATION +/– 10' AT NO ADDITIONAL COST.

F. FIRE SEAL ALL RATED PENETRATIONS.

G. WEATHER SEAL ALL BUILDING PENETRATIONS. SEE ARCHITECTURAL DRAWINGS FOR ROOF FLASHING.

H. PATCH & REPAIR ALL PAVING DISTURBED BY ALL TRADES.

I. CONTRACTOR SHALL BE RESPONSIBLE FOR RETURNING ANY SURFACE DISTURBED BY CONSTRUCTION TO THE CONDITION & FINISH OF THE ADJACENT SURFACES.

J. ALL ROOF CONDUITS SHALL BE SUPPORTED 18" ABOVE FINISHED ROOF MINIMUM.

K. PROVIDE BLACK OR WHITE BAKELITE NAMEPLATE FOR CIRCUIT BREAKERS IDENTIFYING THE EQUIPMENT BEING SERVED.

L. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DUST PROTECTION MEASURES TO ALL EXISTING CRITICAL EQUIPMENT FOR DURATION OF CONSTRUCTION.

M. EXTERIOR CONDUITS SHALL BE RIGID STEEL CONDUIT.

N. ALL CONDUITS SHALL BE COMPRESSION TYPE FITTINGS. SET SCREW FITTINGS NOT ACCEPTABLE.

O. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3/A–5.1 OR 4/A–5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A–5.2.

P. SEE BID ALTERNATES ON COVER SHEET, G–0.0.

REFERENCE SHEET NOTES

1. EXISTING PANEL TO BE MODIFIED. SEE PANEL SCHEDULE FOR MORE INFORMATION.
2. RECONNECT EXISTING FEEDERS FROM DEMOLITION TO ZONE DAMPER ACTUATORS. SEE SHEET M–1.1 FOR EXACT LOCATIONS. COORDINATE FINAL CONNECTIONS WITH CONTROLS CONTRACTOR.
3. NEW DDC PANEL PROVIDED AND INSTALLED BY OTHERS. CONTRACTOR TO PROVIDE ELECTRICAL COMPONENTS NECESSARY TO POWER NEW PANEL. SEE PANEL SCHEDULE FOR MORE INFORMATION.

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SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

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SOBE PROJECT NO:	2100987
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SHEET TITLE

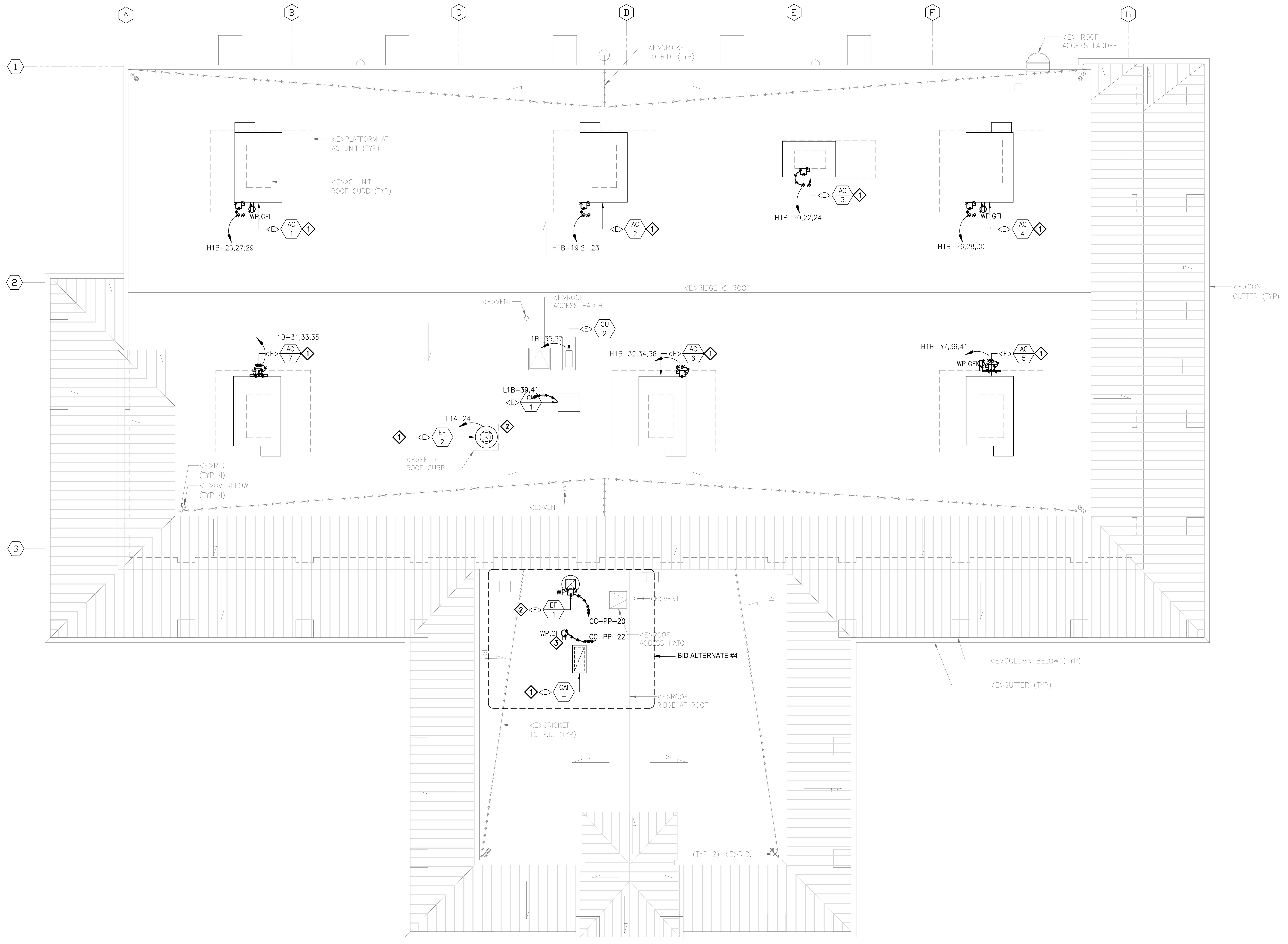
ELECTRICAL FIRST FLOOR PLAN – NEW

SCALE:

THIS DRAWING IS 30" X 42" AT FULL SIZE

E-1.1

SHEET OF XX



1 ELECTRICAL ROOF PLAN - DEMO
SCALE: 1/8" = 1' - 0"

GENERAL NOTES

A. PREPARE A SPECIAL METHOD OF PROCEDURE & COORDINATE SHUTDOWN OF ANY DEVICE WITH SOLANO COMMUNITY COLLEGE DISTRICT. SHUTDOWN MUST BE PERFORMED AFTER HOURS. PROVIDE TEMPORARY POWER & LIGHTING AS NEEDED.

B. ELECTRICAL EQUIPMENT SHALL BE TESTED AS REQUIRED BY MANUFACTURER, SOLANO COMMUNITY COLLEGE DISTRICT & PER NETA ATS. PRIOR TO ENERGIZING NEW LOADS, CONTRACTOR SHALL HAVE A THIRD PARTY TESTING AGENCY PERFORM TESTS FOR ALL NEW EQUIPMENT & EXISTING EQUIPMENT WHICH HAS BEEN AFFECTED BY NEW WORK.

C. BEFORE RUNNING ANY CONDUCTORS TO PANELS BEING RE-CIRCUITED CONFIRM CONDUCTOR SIZE & ARRANGEMENT (1ø, 3ø, 3W, 4W,). REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO CHANGING OUT CONDUCTORS.

D. DEVICES SHOWN AS EXISTING SHALL REMAIN CONNECTED UNLESS OTHERWISE NOTED. WIRING DEVICES THAT MAY BE AFFECTED BY DEMOLITION OR REWIRING SHALL BE RECONNECTED.

E. DEVICE LOCATION SHOWN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATION & COUNT. ADJUST LOCATION +/- 10' AT NO ADDITIONAL COST.

F. FIRE SEAL ALL RATED PENETRATIONS.

G. WEATHER SEAL ALL BUILDING PENETRATIONS. SEE ARCHITECTURAL DRAWINGS FOR ROOF FLASHING.

H. PATCH & REPAIR ALL PAVING DISTURBED BY ALL TRADES.

I. CONTRACTOR SHALL BE RESPONSIBLE FOR RETURNING ANY SURFACE DISTURBED BY CONSTRUCTION TO THE CONDITION & FINISH OF THE ADJACENT SURFACES.

J. ALL ROOF CONDUITS SHALL BE SUPPORTED 18" ABOVE FINISHED ROOF MINIMUM.

K. PROVIDE BLACK OR WHITE BAKELITE NAMEPLATE FOR CIRCUIT BREAKERS IDENTIFYING THE EQUIPMENT BEING SERVED.

L. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DUST PROTECTION MEASURES TO ALL EXISTING CRITICAL EQUIPMENT FOR DURATION OF CONSTRUCTION.

M. EXTERIOR CONDUITS SHALL BE RIGID STEEL CONDUIT.

N. ALL CONDUITS SHALL BE COMPRESSION TYPE FITTINGS. SET SCREW FITTINGS NOT ACCEPTABLE.

O. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3/A-5.1 OR 4/A-5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A-5.2.

P. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

REFERENCE SHEET NOTES

1. EXISTING MECHANICAL EQUIPMENT TO BE DEMOLISHED BY MECHANICAL CONTRACTOR. COORDINATE DEMOLITION OF ELECTRICAL COMPONENTS WITH MECHANICAL CONTRACTOR. EXISTING CONDUIT AND CONDUCTORS TO BE CAPTURED BELOW ROOF AND REUSED WITH NEW EQUIPMENT.
2. EXISTING MECHANICAL EQUIPMENT TO BE DEMOLISHED BY MECHANICAL CONTRACTOR. COORDINATE DEMOLITION OF ELECTRICAL COMPONENTS WITH MECHANICAL CONTRACTOR. EXISTING CONDUIT & CONDUCTOR TO BE DEMOLISHED BACK TO SOURCE AND BREAKER TO BE RELABELED AS 'SPARE'.
3. EXISTING RECEPTACLE TO BE RELOCATED AS PART OF WORK. CAPTURE EXISTING FEEDER BELOW REROOF AND MOVE TO LOCATION SHOWN ON NEW WORK.

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SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

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SOBE PROJECT NO:	2100987
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SHEET TITLE
ELECTRICAL ROOF PLAN - DEMO

SCALE:
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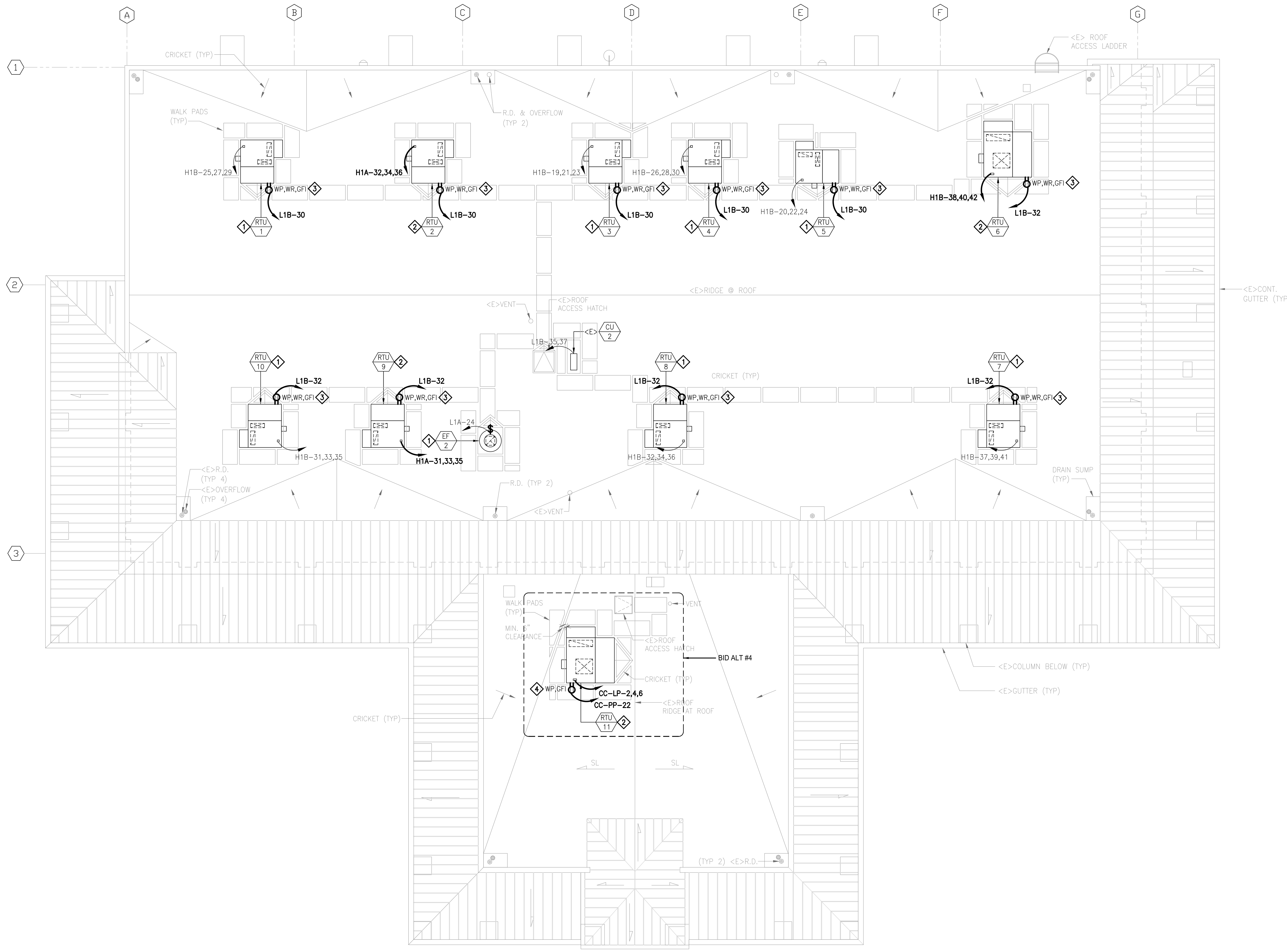
ED-1.2
SHEET OF XX



1 ELECTRICAL ROOF PLAN - NEW

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

GENERAL NOTES

A. PREPARE A SPECIAL METHOD OF PROCEDURE & COORDINATE SHUTDOWN OF ANY DEVICE WITH SOLANO COMMUNITY COLLEGE DISTRICT. SHUTDOWN MUST BE PERFORMED AFTER HOURS. PROVIDE TEMPORARY POWER & LIGHTING AS NEEDED.

B. ELECTRICAL EQUIPMENT SHALL BE TESTED AS REQUIRED BY MANUFACTURER, SOLANO COMMUNITY COLLEGE DISTRICT & PER NETA ATS. PRIOR TO ENERGIZING NEW LOADS, CONTRACTOR SHALL HAVE A THIRD PARTY TESTING AGENCY PERFORM TESTS FOR ALL NEW EQUIPMENT & EXISTING EQUIPMENT WHICH HAS BEEN AFFECTED BY NEW WORK.

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F. FIRE SEAL ALL RATED PENETRATIONS.

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O. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3/A-5.1 OR 4/A-5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A-5.2.

P. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

REFERENCE SHEET NOTES

1. RECONNECT EXISTING FEEDER FROM DEMOLISHED UNIT TO NEW UNIT. EXTEND EXISTING FEEDER AS NECESSARY TO CONNECT TO NEW FUSED DISCONNECT PROVIDED WITH NEW HVAC UNIT.
2. NEW HVAC FEEDER FROM PANEL LISTED. COORDINATE ROOF PENETRATION LOCATION WITH ROOF INSTALLER. CONNECT NEW FEEDER TO NEW FUSED DISCONNECT PROVIDED WITH NEW HVAC UNIT.
3. NEW GFCI WEATHER RESISTANT DUPLEX RECEPTACLE PROVIDED FROM FACTORY, RATED 20 AMPS, 115 VOLTS, WITH A WEATHERPROOF WHILE-IN-USE COVER. PROVIDE POWER FROM CIRCUIT INDICATED.
4. EXISTING RECEPTACLE PRESERVED FROM DEMOLITION. EXTEND EXISTING FEEDER AS NECESSARY TO CONNECT TO EXISTING RECEPTACLE IN NEW LOCATION.

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SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

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VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

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SHEET TITLE
ELECTRICAL ROOF PLAN - NEW

SCALE:
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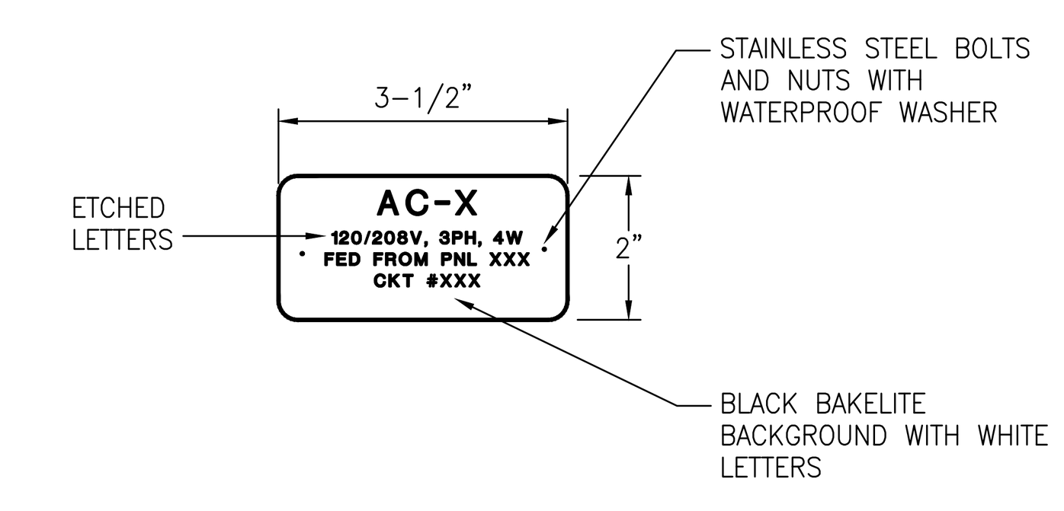
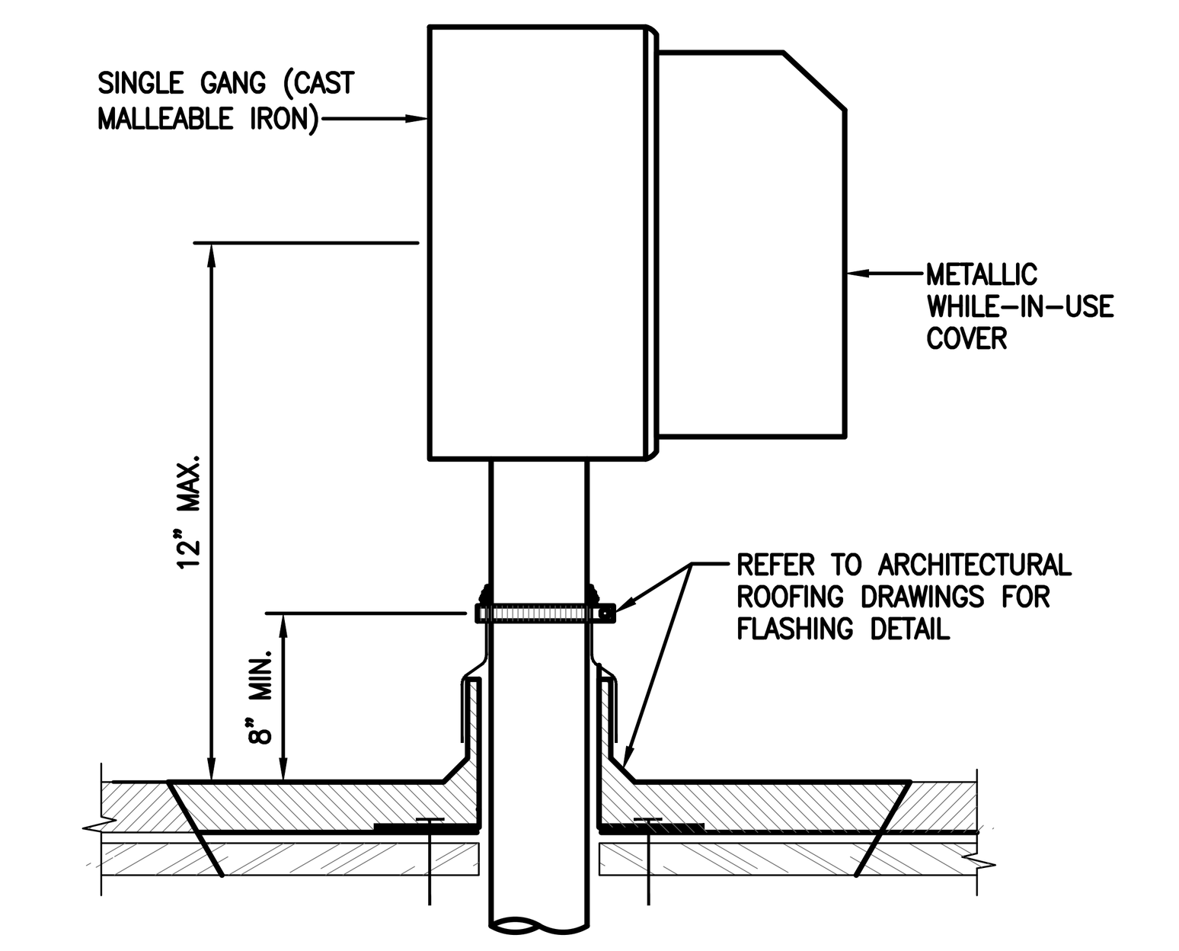
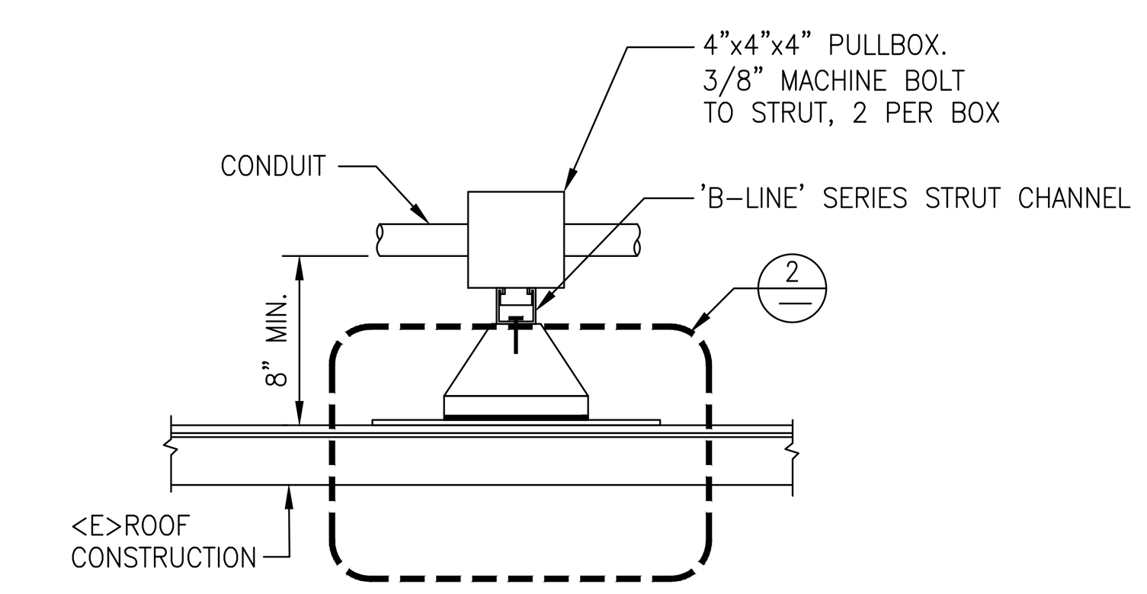
E-1.2
SHEET OF XX



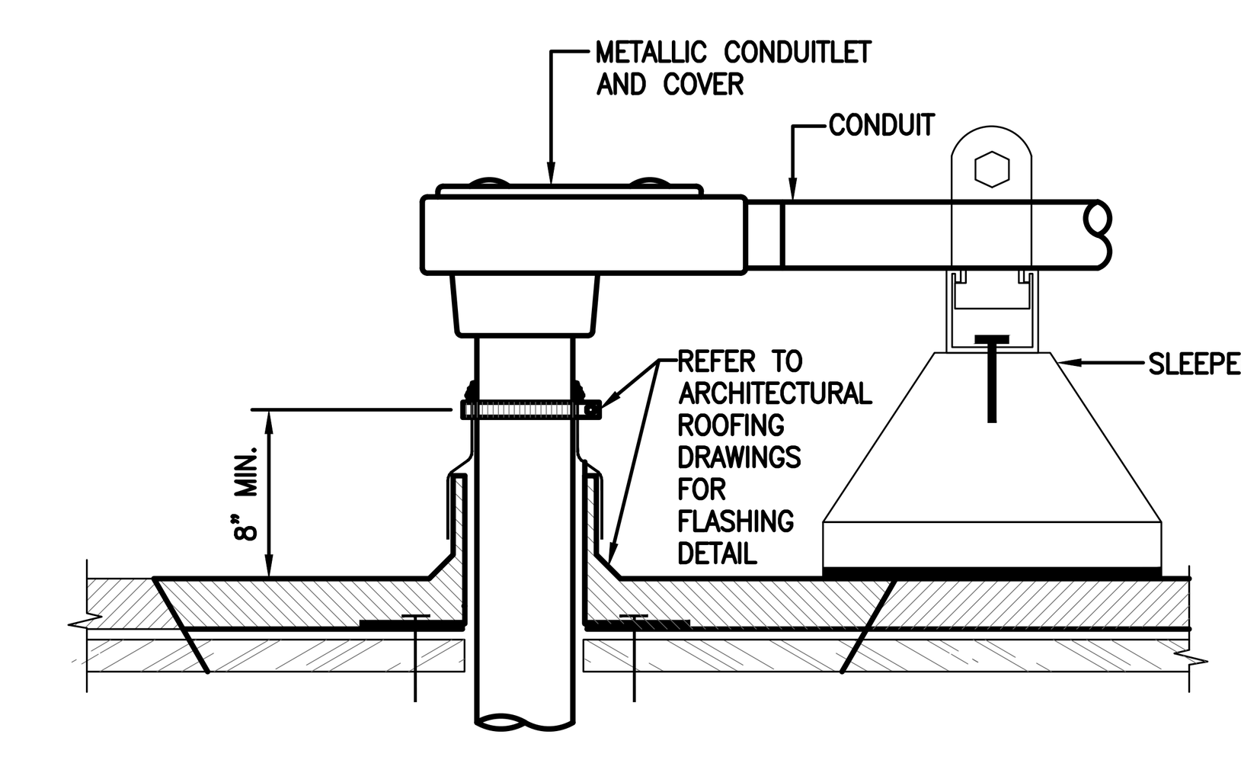
8 ELECTRICAL EQUIPMENT LABELING
SCALE: N.T.S.



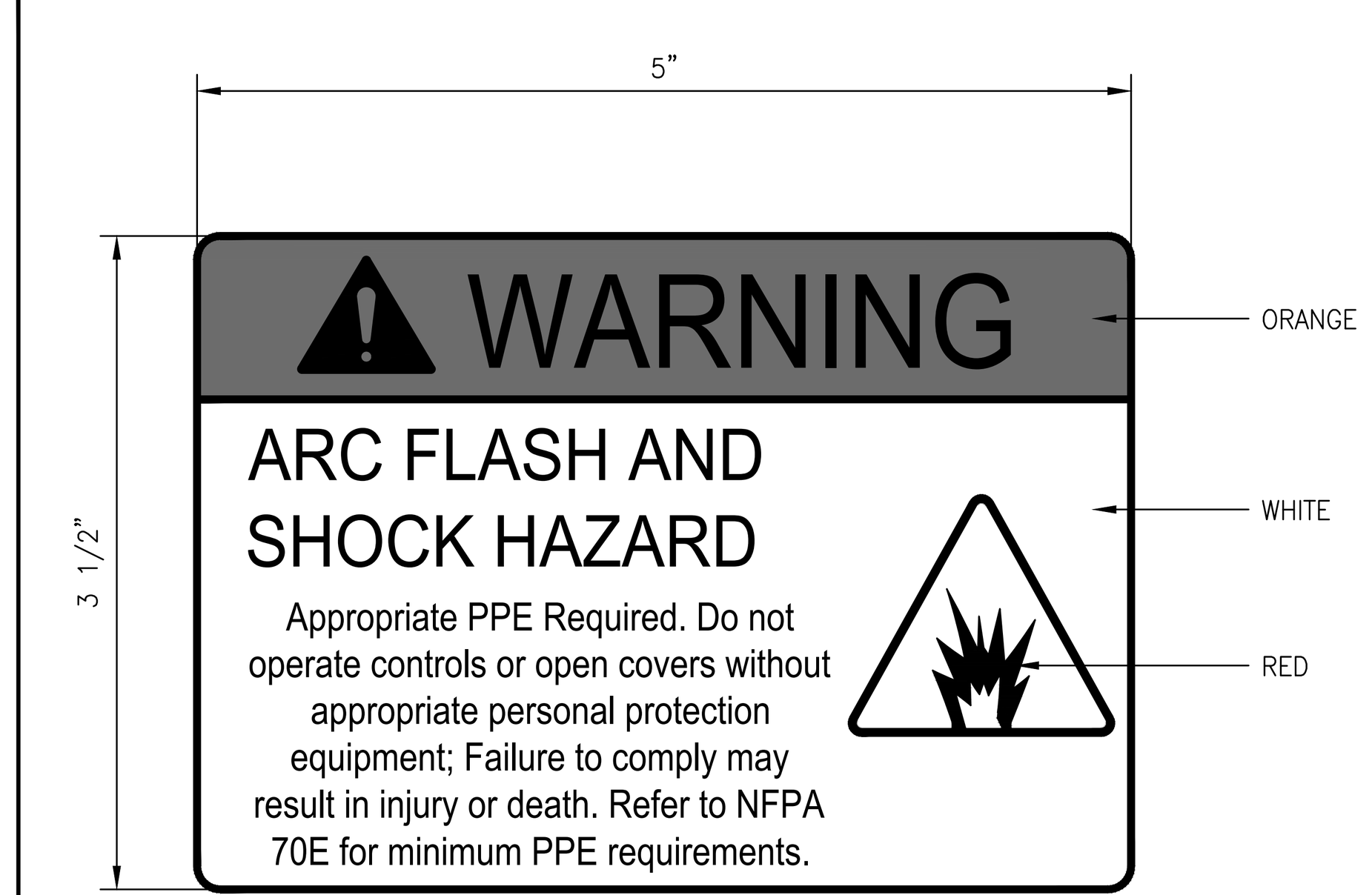
4 SERVICE RECEPTACLE/SWITCH MOUNTING
SCALE: N.T.S.



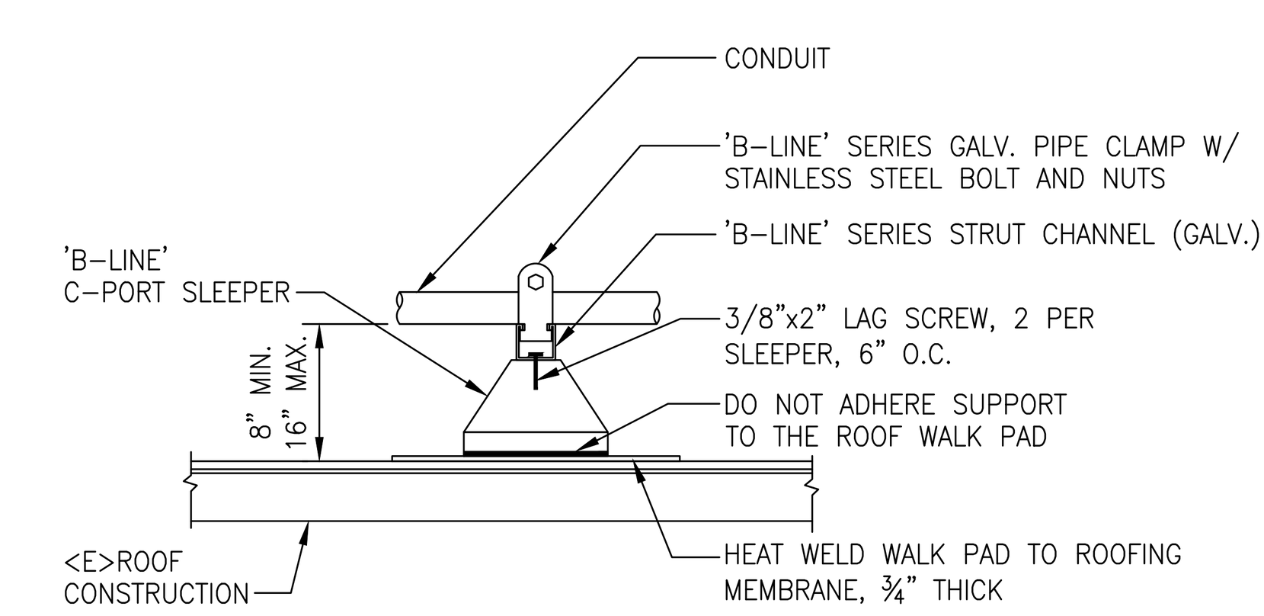
7 ELECTRICAL PULL BOX SUPPORT
SCALE: N.T.S.



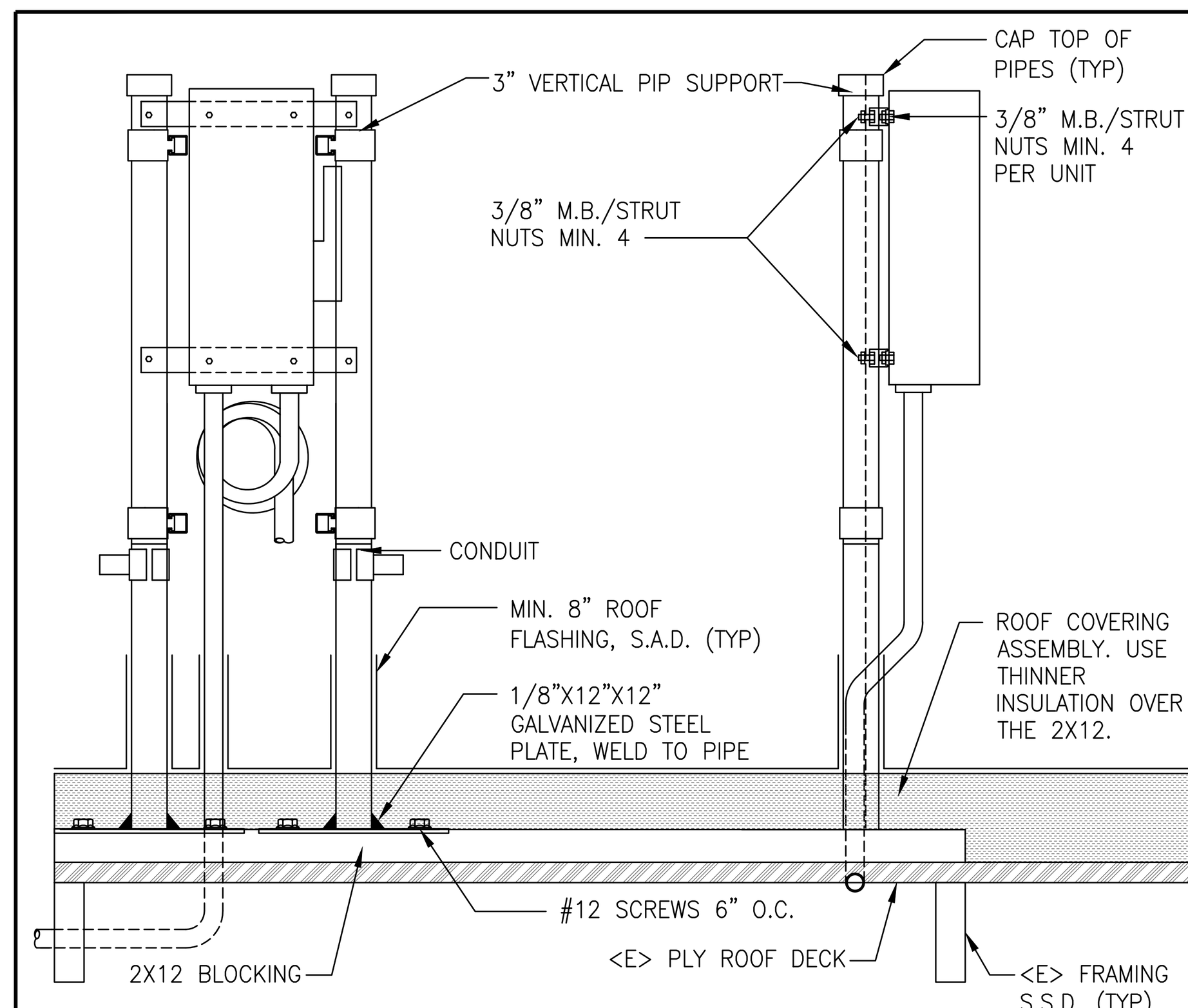
3 TYPICAL ROOFTOP CONDUIT PENETRATION
SCALE: N.T.S.



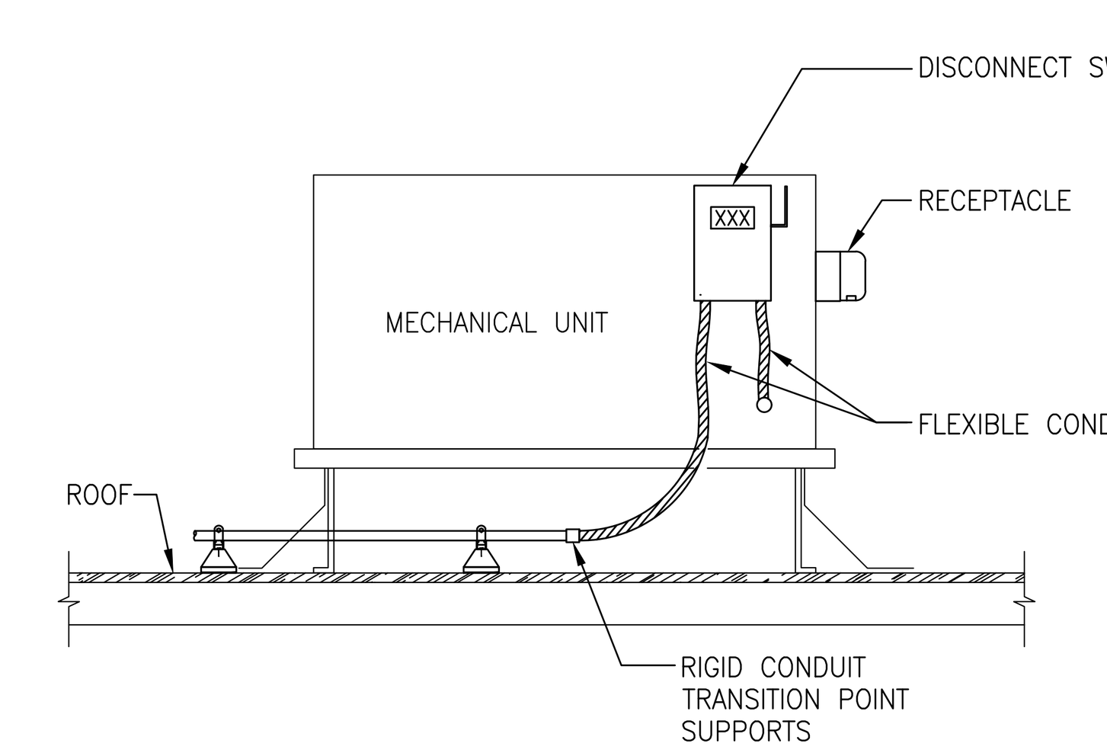
6 ARC FLASH WARNING LABEL
SCALE: N.T.S.



2 TYPICAL ROOFTOP CONDUIT/PIPE SLEEPER
SCALE: N.T.S.

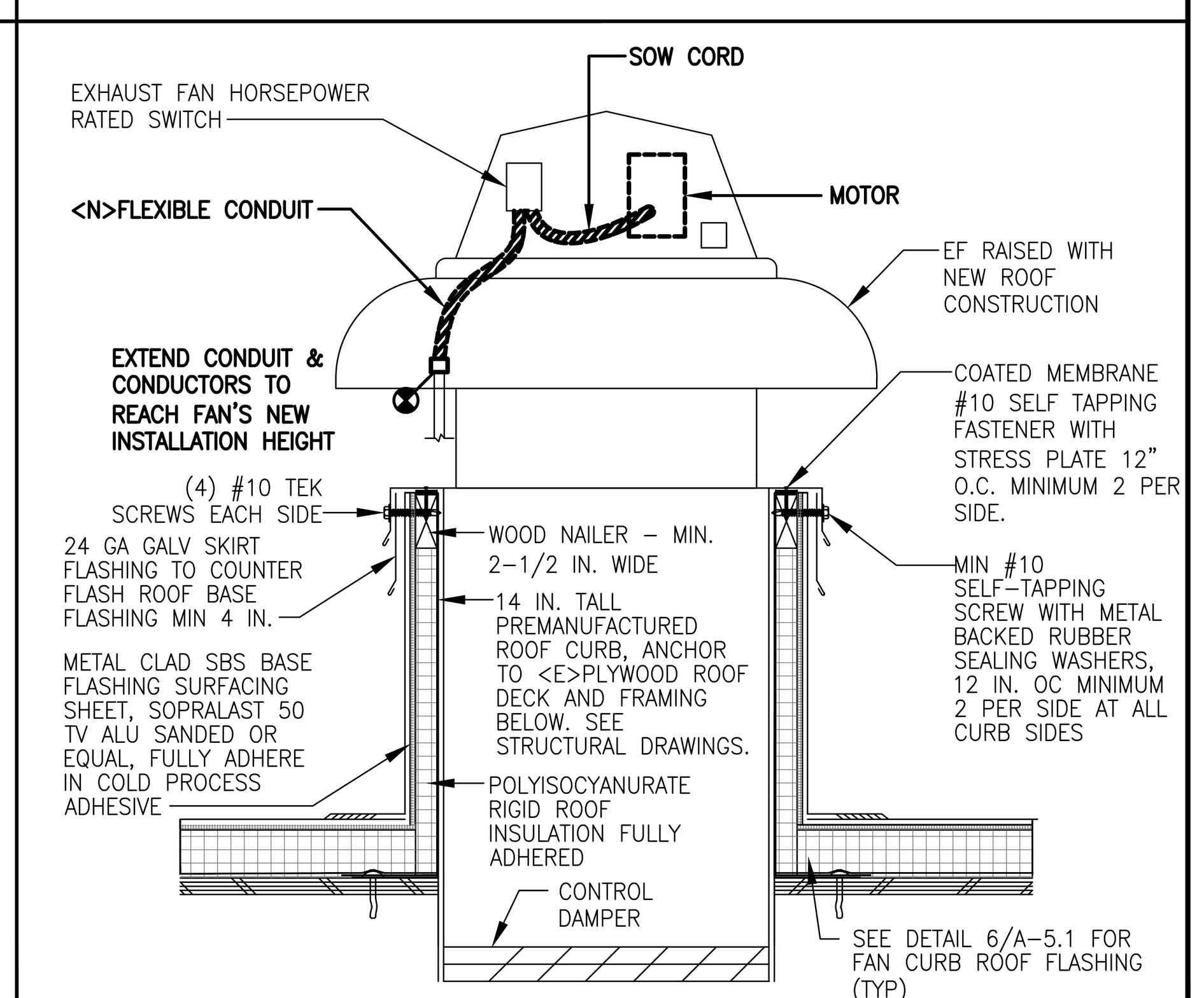


9 DISCONNECT ON UNISTRUT MOUNTING
SCALE: N.T.S.



REFERENCE DETAIL NOTE:
1 TYPICAL FLEX CONDUIT CONNECTION SHALL NOT EXCEED 6 FEET.

5 TYPICAL MECHANICAL EQUIPMENT FLEXIBLE CONDUIT CONNECTIONS
SCALE: N.T.S.



1 TYPICAL EXHAUST FAN CONNECTION
SCALE: N.T.S.

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APPROVED BY:	AJS

SHEET TITLE
ELECTRICAL DETAILS

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

E-5.1
SHEET OF XX

<E> PANEL 'CC-PP'

VOLTAGE 120/ 208 V
LOCATION RECEPTION 121 — TYPE NQOD — FED FROM PANEL 'CC-LP'
AIC RATING 22 KAIC — PHASE 3 — WIRE 4

	DESCRIPTION	BRKR P	BRKR T	LCL	KVA LOAD A	KVA LOAD B	KVA LOAD C	KVA LOAD A	KVA LOAD B	KVA LOAD C	LCL	BRKR P	BRKR T	DESCRIPTION	
1	<E> REC	1	20	0.0	1.1				1.5		0.0	1	20	<E> POWER POLE	2
3	<E> REC	1	20	0.0		1.1				1.8	0.0	1	20	<E> POWER POLE	4
5	<E> REC	1	20	0.0			1.1				0.0	1	20	<E> REC	6
7	<E> REC	1	20	0.0	1.1			1.1			0.0	1	20	<E> REC	8
9	<E> REC	1	20	0.0		1.1			1.1		0.0	1	20	<E> REC	10
11	SPARE	1	20	0.0							0.0	1	20	<E> CONDENSATE PUMP	12
13	<E> 208V PRINTER	2	30	0.0	1.5					0.7	0.0	1	20	<E> MOTORIZED DAMPERS	14
15	-----	-	-	0.0		1.5				0.1	0.0	1	20	<E> SMOKE DETECTOR	16
17	SPARE	1	20	0.0							0.0	1	20	<E> SMOKE DETECTOR	18
19	SPARE	1	20	0.0							0.0	1	20	**SPARE (WAS EF- 1) NOTE 1 (BID ALT #4)**	20
21	SPARE	1	20	0.0						0.2	0.0	1	20	<E> ROOF GFCI RECEPTACLE	22
23	SPARE	1	20	0.0							0.0	1	20	SPARE	24
25	SPARE	1	20	0.0							0.0	1	30	SPARE	26
27	SPARE	1	20	0.0						0.5	0.1	X	1	20	<E> ATTIC LIGHT	28
29	SPARE	1	20	0.0							0.0	1	20	SPARE	30
31	SPARE	1	20	0.0						1.5	0.0	2	30	<E> 208V PRINTER	32
33	SPARE	1	20	0.0						1.5	0.0	-	-	-----	34
35	<E> WATER HEATER	1	20	0.0			1.5				0.0	1	20	SPARE	36
37	<E> REC	1	20	0.0	1.1					0.5	0.0	1	20	<E> PROJECTOR	38
39	<E> REC	1	20	0.0		1.1				1.0	0.0	2	20	<E> 208V PRINTER	40
41	<E> REC	1	20	0.0			1.1			1.0	0.0	-	-	-----	42
	SUBTOTAL				0.0	4.7	4.7	3.7	5.3	5.9	3.3	0.1		SUBTOTAL	

MCB OR MLO: MCB
MAIN CIRCUIT BREAKER RATING: 300 AMPS
BUS RATING: 400 AMPS
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

NOTES
1 PROVIDE NEW LABEL

TOTAL LOAD PHASE A: 10.0 KVA
TOTAL LOAD PHASE B: 10.6 KVA
TOTAL LOAD PHASE C: 6.9 KVA
TOTAL LCL (NEC/CEC 215.2.A.1): 0.1 KVA
TOTAL PANEL LOAD (KVA): 27.7 KVA
TOTAL PANEL LOAD (AMPS): 76.8 AMPS

V.19

<E>PANEL 'CC-LP'

VOLTAGE 277/ 480 V
LOCATION RECEPTION 121 — TYPE NQOD — FED FROM SWITCHBOARD 'MS'
AIC RATING 22 KAIC — PHASE 3 — WIRE 4

	DESCRIPTION	BRKR P	BRKR T	LCL	KVA LOAD A	KVA LOAD B	KVA LOAD C	KVA LOAD A	KVA LOAD B	KVA LOAD C	LCL	BRKR P	BRKR T	DESCRIPTION	
1	-----	-	-	0.0	10.0					4.8	1.2	X	-	-	-----	2
3	<E> 75 KVA XFMR FEEDING PANEL 'CC-PP'	3	100	0.0		10.6				4.8	1.2	X	3	20	**RTU - 11 NOTE 1,2**	4
5	-----	-	-	0.0			6.9			4.8	1.2	X	-	-	-----	6
7	SPARE	1	20	0.0							0.0	-	-	SPACE	8
9	<E> EXIT LIGHTS	1	20	X 0.1		0.2					0.0	-	-	SPACE	10
11	<E> LIGHTS	1	20	X 0.4			1.5				0.0	-	-	SPACE	12
13	<E> LIGHTS	1	20	X 0.4	1.5						0.0	-	-	SPACE	14
15	SPACE	-	-	0.0							0.0	-	-	SPACE	16
17	SPACE	-	-	0.0							0.0	-	-	SPACE	18
19	SPACE	-	-	0.0							0.0	-	-	SPACE	20
21	SPACE	-	-	0.0							0.0	-	-	SPACE	22
23	SPACE	-	-	0.0							0.0	-	-	SPACE	24
25	SPACE	-	-	0.0							0.0	-	-	SPACE	26
27	SPACE	-	-	0.0							0.0	-	-	SPACE	28
29	SPACE	-	-	0.0							0.0	-	-	SPACE	30
	SUBTOTAL				0.8	11.5	10.8	8.4	4.8	4.8	4.8	3.6		SUBTOTAL	

MCB OR MLO: MCB
MAIN CIRCUIT BREAKER RATING: 200 AMPS
BUS RATING
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

NOTES
1 PROVIDE NEW LABEL
2 PROVIDE NEW BREAKER COMPATIABLE WITH EXISTING PANEL

TOTAL LOAD PHASE A: 16.3 KVA
TOTAL LOAD PHASE B: 15.6 KVA
TOTAL LOAD PHASE C: 13.2 KVA
TOTAL LCL (NEC/CEC 215.2.A.1): 4.4 KVA
TOTAL PANEL LOAD (KVA): 49.6 KVA
TOTAL PANEL LOAD (AMPS): 59.7 AMPS

V.19

<E>PANEL 'L1A'

VOLTAGE 120/ 208 V
LOCATION ELECTRICAL RM #110 — TYPE NQOD — FED FROM PANEL 'H1A'
AIC RATING 22 KAIC — PHASE 3 — WIRE 4

	DESCRIPTION	BRKR P	BRKR T	LCL	KVA LOAD A	KVA LOAD B	KVA LOAD C	KVA LOAD A	KVA LOAD B	KVA LOAD C	LCL	BRKR P	BRKR T	DESCRIPTION	
1	<E> REC - CLASSROOM	1	20	0.0	1.1				1.5		0.0	1	30	<E> WATER HEATER	2
3	<E> REC - CLASSROOM	1	20	0.0		1.1					0.0	1	30	SPARE	4
5	<E> REC - CLASSROOM	1	20	0.0			1.1			0.5	0.1	X	1	20	<E> SECURITY LIGHTING	6
7	<E> REC - CLASSROOM	1	20	0.0	1.1					0.2	0.0	1	20	<E> REC - TTB	8
9	<E> REC - CLASSROOM	1	20	0.0		1.1				0.1	0.0	1	20	<E> FA BELL	10
11	<E> REC - CLASSROOM	1	20	0.0			1.1			0.2	0.1	1	20	<E> PLAZA DIRECTORY	12
13	<E> REC - CLASSROOM	1	20	0.0	1.1					0.2	0.0	X	1	20	<E> SOFIT LIGHTS	14
15	<E> REC - CLASSROOM	1	20	0.0		1.1				1.0	0.3	X	2	15	<E> FOUNTAIN PUMP	16
17	<E> REC - CLASSROOM	1	20	0.0			1.1			1.0	0.3	X	-	-	-----	18
19	<E> REC - CLASSROOM	1	20	0.0	1.1					0.1	0.0	X	1	15	<E> FOUNTAIN LIGHTS	20
21	<E> REC - CLASSROOM	1	20	0.0		1.1				0.5	0.1	X	1	20	<E> IRRIGATION CONTROLLER	22
23	<E> REC - CLASSROOM	1	20	0.0			1.1			1.1	0.3	X	1	20	<E> EXHAUST FAN (EF-2)	24
25	<E> REC - OFFICE	1	20	0.0	1.1					0.5	0.0	1	20	<E> DRINKING FOUNTAIN	26
27	<E> REC - OFFICE	1	20	0.0		1.1				0.5	0.0	1	20	<E> DRINKING FOUNTAIN	28
29	<E> REC - OFFICE	1	30	0.0			1.1			0.5	0.0	1	20	<E> DRINKING FOUNTAIN	30
31	<E> REC - OFFICE	1	20	0.0	1.1					0.5	0.0	1	20	<E> LCC CONROL	32
33	<E> REC - OFFICE	1	20	0.0		1.1				0.1	0.0	1	20	<E> FA COMMUNICATOR	34
35	<E> REC - OFFICE	1	20	0.0			1.1			0.1	0.0	X	1	20	<E> WALL SCONCE	36
37	<E> REC - RECEPTATION WEST WALL	1	30	0.0	1.1						0.0	-	-	-	-----	38
39	<E> SPARE	1	30	0.0						**10.3**	0.0	-	3	100	<E> PANEL 'L1B'	40
41	SPACE	-	-	0.0						**8.8**	0.0	-	-	-	-----	42
										8.4						
	SUBTOTAL				0.0	7.6	6.5	6.5	13.2	11.0	11.7	1.1			SUBTOTAL	

MCB OR MLO: MCB
MAIN CIRCUIT BREAKER RATING: 200 AMPS
BUS RATING
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

TOTAL LOAD PHASE A: 20.8 KVA
TOTAL LOAD PHASE B: 17.5 KVA
TOTAL LOAD PHASE C: 18.7 KVA
TOTAL LCL (NEC/CEC 215.2.A.1): 1.1 KVA
TOTAL PANEL LOAD (KVA): 57.5 KVA
TOTAL PANEL LOAD (AMPS): 159.7 AMPS

V.19

<E> PANEL 'L1B'

VOLTAGE 120/ 208 V
LOCATION ELECTRICAL RM #110 — TYPE NQOD — FED FROM PANEL 'L1A'
AIC RATING 22 KAIC — PHASE 3 — WIRE 4

	DESCRIPTION	BRKR P	BRKR T	LCL	KVA LOAD A	KVA LOAD B	KVA LOAD C	KVA LOAD A	KVA LOAD B	KVA LOAD C	LCL	BRKR P	BRKR T	DESCRIPTION	
1	<E> VENDING MACHINE	1	30	0.0	1.0						0.0	1	20	<E> REC PC LAB	2
3	<E> VENDING MACHINE	1	30	0.0		1.0					0.0	1	20	<E> REC PC LAB	4
5	<E> VENDING MACHINE	1	30	0.0			1.0				0.0	1	20	<E> REC PC LAB	6
7	<E> TELEVISION	1	20	0.0	0.5						0.0	1	20	<E> REC PC LAB	8
9	<E> TELEVISION	1	20	0.0		0.5					0.0	1	20	<E> REC PC LAB	10
11	<E> REC - TELEPHONE ROOM	1	20	0.0			0.2				0.0	1	20	<E> REC PC LAB	12
13	<E> FLOOR REC	1	20	0.0	1.1						0.0	1	20	<E> REC PC LAB	14
15	<E> FLOOR REC	1	20	0.0		1.1					0.0	1	20	<E> REC PC LAB	16
17	<E> FLOOR REC	1	20	0.0			1.1				0.0	1	20	<E> REC PC LAB	18
19	<E> FLOOR REC	1	20	0.0	1.1						0.0	1	15	<E> PRINTER	20
21	<E> FLOOR REC	1	20	0.0		1.0					0.0	1	20	<E> PRINTER	22
23	**DDC CONTROL PANEL NOTE 1**	1	20	0.0			**0.5**				0.0	1	20	<E> PRINTER	24
25	<E> FIRE ALARM PANEL	1	20	0.0	0.5						0.0	1	20	<E> REC - RM 105 WEST	26
27	<E> FIRE SMOKE DAMPERS	1	20	0.0		0.5					0.0	1	20	<E> REC - SERVER/DATA RM	28
29	SPARE	1	20	0.0			0.5				0.0	1	20	**REC - RTU 1, 2, 3, 4, 5 NOTE 1**	30
31	SPARE	1	20	0.0						**0.9**	0.0	1	20	**REC - RTU 6, 7, 8, 9,10 NOTE 1**	32
33	SPARE	1	20	0.0							0.0	1	20	SPARE	34
35	<E> AIR HANDLER	2	15	X 0.1			0.5				0.0	1	20	SPARE	36
37	-----	-	-	0.0						0.5	0.1	X	1	20	SPARE	38
39	**SPARE (WAS A/C UNIT) NOTE 1 (BID ALT #4)**	2	30	0.0							0.0	1	20	SPARE	40
41	-----	-	-	0.0							0.0	-	-	SPACE	42
	SUBTOTAL				0.1	4.2	4.1	3.3	6.1	4.7	5.1	0.1			SUBTOTAL	

MCB OR MLO: MCB
MAIN CIRCUIT BREAKER RATING: 100 AMPS
BUS RATING
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

NOTES
1 PROVIDE NEW LABEL

TOTAL LOAD PHASE A: 10.3 KVA
TOTAL LOAD PHASE B: 8.8 KVA
TOTAL LOAD PHASE C: 8.4 KVA
TOTAL LCL (NEC/CEC 215.2.A.1): 0.3 KVA
TOTAL PANEL LOAD (KVA): 27.8 KVA
TOTAL PANEL LOAD (AMPS): 77.1 AMPS

V.19

<E> PANEL 'H1A'

VOLTAGE 277/ 480 V
LOCATION ELECTRICAL RM #110 — TYPE NQOD — FED FROM SWITCHBOARD 'MS'
AIC RATING 22 KAIC — PHASE 3 — WIRE 4

	DESCRIPTION	BRKR P	BRKR T	LCL	KVA LOAD A	KVA LOAD B	KVA LOAD C	KVA LOAD A	KVA LOAD B	KVA LOAD C	LCL	BRKR P	BRKR T	DESCRIPTION	
1	<E> LIGHTING - CLASSRM 101/102	1	20	X 0.4	1.5				2.5		0.6	X	2	20	<E> SITE LIGHTING	2
3	<E> LIGHTING - CLASSRM 103/104	1	20	X 0.4		1.5			2.5		0.6	X	-	-	-----	4
5	<E> LIGHTING - CLASSRM 105/106	1	20	X 0.4			1.5			2.5	0.6	X	2	20	<E> SITE LIGHTING	6
7	<E> LIGHTING - NIGHT LIGHT	1	20	X 0.1	0.5				2.5		0.6	X	-	-	-----	8
9	<E> LIGHTING - COORIDOR/LOBBY & RESTROOMS	1	20	X 0.3		1.0				0.0	0.0		1	20	SPARE	10
11	<E> LIGHTING - OFFICE	1	20	X 0.3			1.0			0.4	0.1	X	1	-	<E> BOLLARD LIGHTING	12
13	<E> LIGHTING - OFFICE	1	20	X 0.3	1.0					0.0	0.0		1	20	SPARE	14
15	<E> LIGHTING - LOUNGE	1	20	X 0.3		1.0				0.0	0.0		1	-	SPACE	16
17	<E> LIGHTING - CLASSRM 107/108	1	20	X 0.4			1.5			0.0	0.0		1	-	SPACE	18
19	SPARE	1	20	0.0						0.0	0.0		1	-	SPACE	20
21	SPARE	1	20	0.0						0.0	0.0		1	-	SPACE	22
23	SPARE	1	20	0.0						0.0	0.0		1	-	SPACE	24
25	SPARE	1	20	0.0						0.0	0.0		1	-	SPACE	26
27	FUTURE SIGN	1	20	0.0						0.0	0.0		1	-	SPACE	28
29	SPARE	1	-	0.0						0.0	0.0		1	-	SPACE	30
31	-----	-	-	X 0.8	3.2				2.1		0.5	X	-	-	-----	32
33	**RTU - 9 NOTE 1,2**	3	15	X 0.8		3.2			2.1		0.5	X	3	15	**RTU - 2 NOTE 1,2**	34
35	-----	-	-	X 0.8			3.2			2.1	0.5	X	-	-	-----	36
37	SPACE	1	-	0.0						19.9	0.0		-	-	-----	38
39	SPACE	1	-	0.0						17.5	0.0		3	100	<E> 75KVA XFMR FEEDING PANEL 'L1A'	40
41	SPARE	1	20	0.0						15.7	0.0		-	-	-----	42
	SUBTOTAL				5.1	6.2	6.7	7.2	27.0	22.1	21.7	4.2			SUBTOTAL	

MCB OR MLO: MLO
MAIN CIRCUIT BREAKER RATING: 200 AMPS
BUS RATING
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

NOTES
1 PROVIDE NEW LABEL
2 PROVIDE NEW BREAKER COMPATIABLE WITH EXISTING PANEL

TOTAL LOAD PHASE A: 33.2 KVA
TOTAL LOAD PHASE B: 29.0 KVA
TOTAL LOAD PHASE C: 9.2 KVA
TOTAL PANEL LOAD (KVA): 100.3 KVA
TOTAL PANEL LOAD (AMPS): 120.7 AMPS

V.19

<E> PANEL 'H1B'

VOLTAGE 277/ 480 V
LOCATION ELECTRICAL RM #110 — TYPE NQOD — FED FROM SWITCHBOARD 'MS'
AIC RATING 22 KAIC — PHASE 3 — WIRE 4

	DESCRIPTION	BRKR P	BRKR T	LCL	KVA LOAD A	KVA LOAD B	KVA LOAD C	KVA LOAD A	KVA LOAD B	KVA LOAD C	LCL	BRKR P	BRKR T	DESCRIPTION	
1	SPARE	1	20	0.0							0.0	1	-	SPACE	2
3	SPARE	1	20	0.0							0.0	1	-	SPACE	4
5	SPARE	1	20	0.0							0.0	1	-	SPACE	6
7	SPARE	1	20	0.0							0.0	1	-	SPACE	8
9	SPARE	1	20	0.0							0.0	1	-	SPACE	10
11	SPARE	1	20	0.0							0.0	1	-	SPACE	12
13	SPARE	1	20	0.0							0.0	1	-	SPACE	14
15	SPARE	1	20	0.0							0.0	1	-	SPACE	16
17	SPARE	1	20	0.0							0.0	1	-	SPACE	18
19	-----	-	-	X 0.8	3.2				3.2		0.8	X	-	-	-----	20
21	**RTU - 3 NOTE 1, 2**	3	15	X 0.8		3.2			3.2		0.8	X	3	15	**RTU - 5 NOTE 1,2**	22
23	-----	-	-	X 0.8			3.2			3.2	0.8	X	-	-	-----	24
25	-----	-	-	X 0.6	2.4				3.2		0.8	X	-	-	-----	26
27	**RTU - 1 NOTE 1, 2**	3	15	X 0.6		2.4			3.2		0.8	X	3	15	**RTU - 4 NOTE 1, 2**	28
29	-----	-	-	X 0.6			2.4			3.2	0.8	X	-	-	-----	30
31	-----	-	-	X 0.9	3.6				3.6		0.9	X	-	-	-----	32
33	**RTU - 10 NOTE 1, 2**	3	20	X 0.9		3.6			3.6		0.9	X	3	20	**RTU - 8 NOTE 1, 2**	34
35	-----	-	-	X 0.9			3.6			3.6	0.9	X	-	-	-----	36
37	-----	-	-	X 1.0	3.9				4.3		1.1	X	-	-	-----	38
39	**RTU - 7 NOTE 1, 2**	3	20	X 1.0		3.9			4.3		1.1	X	3	20	**RTU - 6 NOTE 1, 2**	40
41	-----	-	-	X 1.0			3.9			4.3	1.1	X	-	-	-----	42
	SUBTOTAL				9.8	13.1	13.1	13.1	14.5	14.5	14.5	10.8			SUBTOTAL	

MCB OR MLO: MLO
MAIN CIRCUIT BREAKER RATING: 200 AMPS
BUS RATING
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

NOTES
1 PROVIDE NEW LABEL
2 PROVIDE NEW BREAKER COMPATIABLE WITH EXISTING PANEL

TOTAL LOAD PHASE A: 27.6 KVA
TOTAL LOAD PHASE B: 27.6 KVA
TOTAL LOAD PHASE C: 27.6 KVA
TOTAL LCL (NEC/CEC 215.2.A.1): 20.7 KVA
TOTAL PANEL LOAD (KVA): 103.5 KVA
TOTAL PANEL LOAD (AMPS): 124.4 AMPS

V.19

1 ELECTRICAL PANEL SCHEDULES

SCHEMATIC

SALAS O'BRIEN
expect a difference
305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASOBRIEN.COM
National Strength.
Local Action.
consultant

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	JCC
APPROVED BY:	AJS

SHEET TITLE
ELECTRICAL SCHEDULES

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

E-6.1
SHEET OF XX

GENERAL NOTES

A. PREPARE A SPECIAL METHOD OF PROCEDURE & COORDINATE SHUTDOWN OF ANY DEVICE WITH SOLANO COMMUNITY COLLEGE DISTRICT. SHUTDOWN MUST BE PERFORMED AFTER HOURS. PROVIDE TEMPORARY POWER & LIGHTING AS NEEDED.

B. ELECTRICAL EQUIPMENT SHALL BE TESTED AS REQUIRED BY MANUFACTURER, SOLANO COMMUNITY COLLEGE DISTRICT & PER NETA ATS. PRIOR TO ENERGIZING NEW LOADS, CONTRACTOR SHALL HAVE A THIRD PARTY TESTING AGENCY PERFORM TESTS FOR ALL NEW EQUIPMENT & EXISTING EQUIPMENT WHICH HAS BEEN AFFECTED BY NEW WORK.

C. BEFORE RUNNING ANY CONDUCTORS TO PANELS BEING RE-CIRCUITED CONFIRM CONDUCTOR SIZE & ARRANGEMENT (1ø, 3ø, 3W, 4W,). REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO CHANGING OUT CONDUCTORS.

D. DEVICES SHOWN AS EXISTING SHALL REMAIN CONNECTED UNLESS OTHERWISE NOTED. WIRING DEVICES THAT MAY BE AFFECTED BY DEMOLITION OR REWIRING SHALL BE RECONNECTED.

E. DEVICE LOCATION SHOWN IS DIAGRAMMATIC. FIELD VERIFY EXACT LOCATION & COUNT. ADJUST LOCATION +/- 10' AT NO ADDITIONAL COST.

F. FIRE SEAL ALL RATED PENETRATIONS.

G. WEATHER SEAL ALL BUILDING PENETRATIONS. SEE ARCHITECTURAL DRAWINGS FOR ROOF FLASHING.

H. PATCH & REPAIR ALL PAVING DISTURBED BY ALL TRADES.

I. CONTRACTOR SHALL BE RESPONSIBLE FOR RETURNING ANY SURFACE DISTURBED BY CONSTRUCTION TO THE CONDITION & FINISH OF THE ADJACENT SURFACES.

J. ALL ROOF CONDUITS SHALL BE SUPPORTED 18" ABOVE FINISHED ROOF MINIMUM.

K. PROVIDE BLACK OR WHITE BAKELITE NAMEPLATE FOR CIRCUIT BREAKERS IDENTIFYING THE EQUIPMENT BEING SERVED.

L. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DUST PROTECTION MEASURES TO ALL EXISTING CRITICAL EQUIPMENT FOR DURATION OF CONSTRUCTION.

M. EXTERIOR CONDUITS SHALL BE RIGID STEEL CONDUIT.

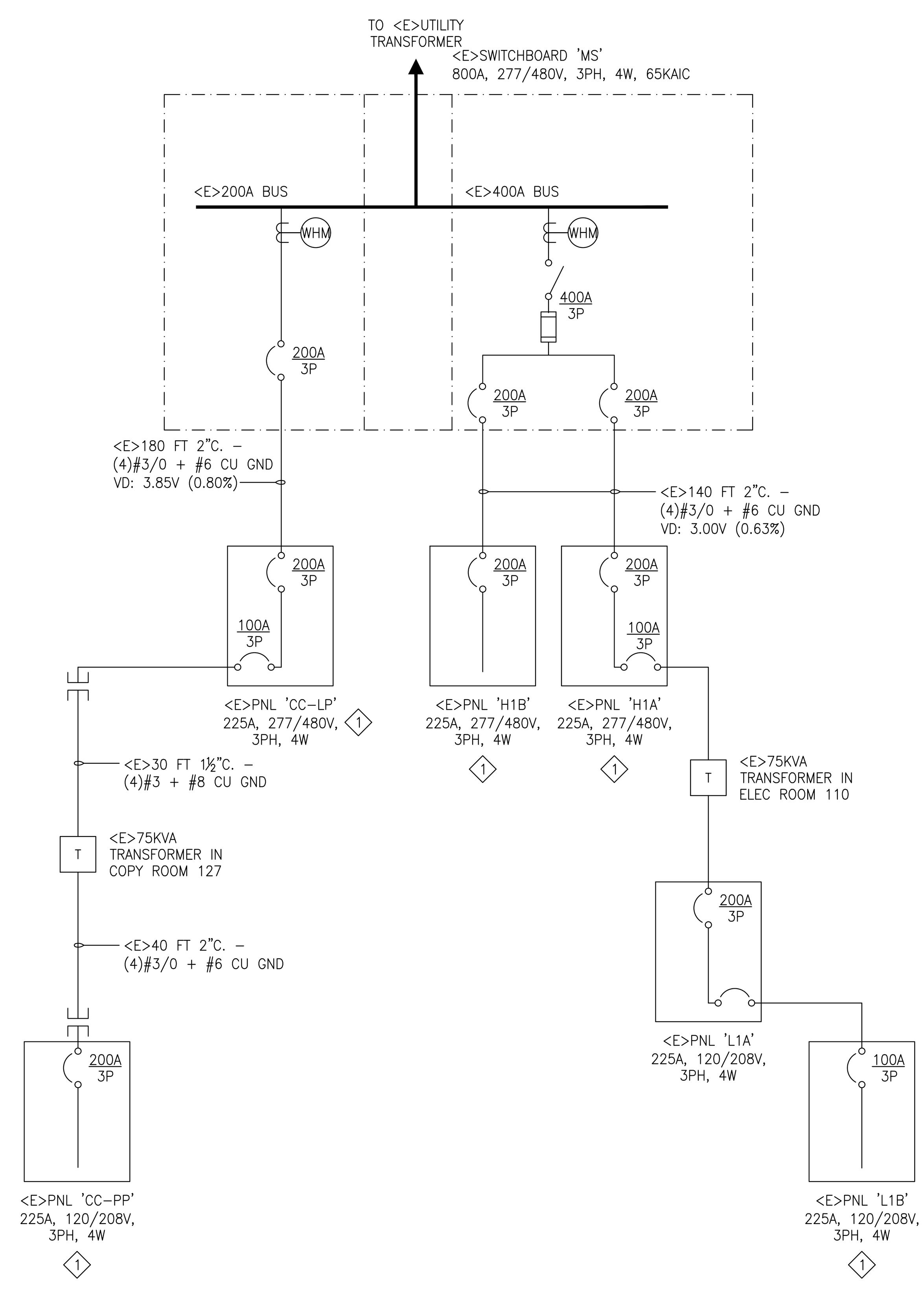
N. ALL CONDUITS SHALL BE COMPRESSION TYPE FITTINGS. SET SCREW FITTINGS NOT ACCEPTABLE.

O. FLASH PENETRATIONS THROUGH ROOF AS PER DETAIL 3/A-5.1 OR 4/A-5.1 AS APPLICABLE. FOR GANGED PENETRATIONS, PROVIDE FLASHING AS PER DETAIL 1/A-5.2.

P. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

REFERENCE SHEET NOTES

1. EXISTING PANEL TO BE MODIFIED. SEE PANEL SCHEDULE FOR MORE INFORMATION.



1 ELECTRICAL SINGLE LINE DIAGRAM
SCHEMATIC

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-119811 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 06/02/2022

agency

SALASO'BRIEN
expect a difference
305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
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consultant

LICENSED PROFESSIONAL ENGINEER
E 20723
ELECTRICAL
STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE

MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	JCC
APPROVED BY:	AJS

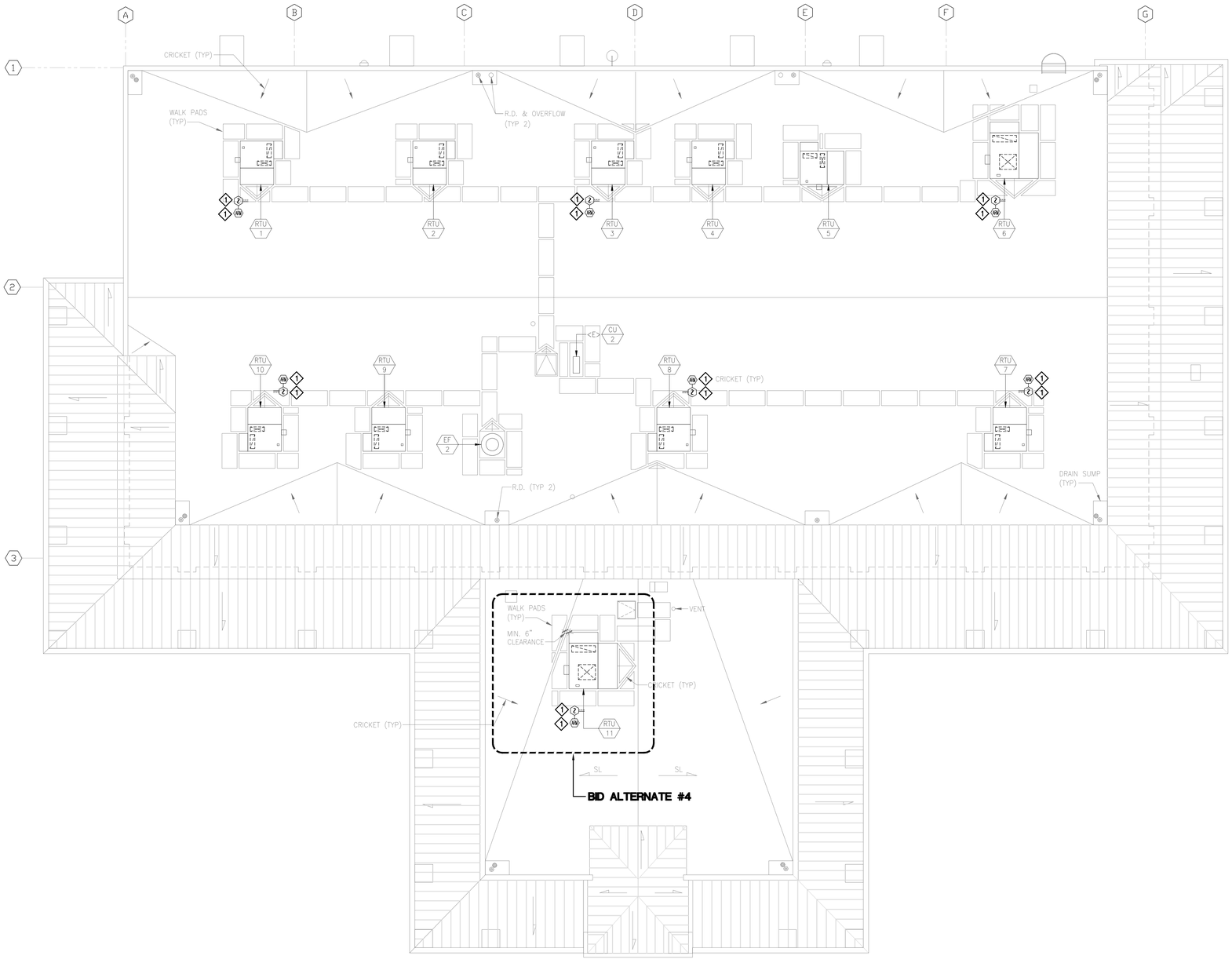
SHEET TITLE
ELECTRICAL SINGLE LINE DIAGRAM

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

E-7.1
SHEET OF XX

SYMBOL LEGEND

SYMBOL	QTY	MANUFACTURER CATALOG #	DESCRIPTION	BACK BOXES (PROVIDED BY ELECTRICAL CONTRACTOR) MOUNTING (PROVIDED BY ELECTRICAL CONTRACTOR)	C.S.F.M.
(2)≡	7	EDWARDS SIGA-SD	INTELLIGENT SUPERDUCT SMOKE DETECTOR	EXISTING DUCT SMOKE DETECTOR TO BE REUSED	3242-1657:0223
(2)≡	7	EDWARDS SIGA-T60	60-INCH SAMPLING TUBE	EXISTING DUCT SMOKE TUBES TO BE REUSED	---
(AM)	7	EDWARDS SIGA-CR	CONTROL RELAY MODULE	2-1/4" DEEP 4" SQ BOX W/DOUBLE GANG MUD RING	7300-1657:0121



1 FIRE ALARM ROOF PLAN
SCALE: 1/8" = 1' - 0"

0 8' 16'

GENERAL NOTES

A. SEE DSA APPL #02-116082 FOR FIRE ALARM SYSTEM ARCHITECTURE, INTERCONNECTIONS AND RISER DIAGRAM.

B. PRIOR TO ROUGH-IN, CONTRACTOR SHALL REVIEW FIRE ALARM DEVICES LOCATIONS WITH ENGINEER. CONTRACTOR SHALL NOT INSTALL DEVICES UNTIL ROUGH-IN LOCATIONS HAVE BEEN APPROVED. ADJUST LOCATIONS +/- 10' AT NO COST.

C. FIRE ALARM DEVICES SHALL BE MOUNTED TO MEET ADA REQUIREMENTS.

D. FIRE ALARM CONDUIT ROUTING IS DIAGRAMMATIC. ROUTING SHOWN MINIMIZES AMOUNT OF EXPOSED RACEWAYS IN INTERIOR SPACES AND DISTANCES ARE WITHIN ALLOWABLE VOLTAGE DROPS. CONTRACTOR SHALL PLAN ROUTING IN ADVANCE AND PROVIDE ROUTING PLAN TO ENGINEER FOR REVIEW.

E. FIRE ALARM RACEWAYS SHALL BE CONCEALED. PATCH AND PAINT WALL/CEILING AFFECTED. USE 3/4"C. U.O.N.

F. VERIFY AVAILABLE SYSTEM ADDRESSES.

G. FIRE ALARM SYSTEM FUNCTIONALITY SHALL BE TESTED AND INSPECTED UPON WORK COMPLETION IN ACCORDANCE WITH NFPA 72 CHAPTER 14 (2016) EDITION.

H. ALL DEVICE ADDRESSES AND ADDRESSABLE POINTS ARE SUBJECT TO FIELD VERIFICATION. CONTRACTOR SHALL PLAN DEVICE ADDRESSES RELOCATION. ALL CHANGES SHALL BE SHOWN ON AS-BUILT RECORD DRAWINGS.

I. PAINT ALL EXPOSED CONDUITS TO MATCH ADJACENT SURFACE.

J. ANY DISCREPANCIES OR NON DOCUMENTED FIRE ALARM DEVICES AND CONTROLS FOR EQUIPMENT NOT SHOWN ON THE DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE WORK STARTS.

K. FOR CLARIFICATION RTU-6, 7, 10 & 11 HAVE SUPPLY AIRFLOW GREATER THAN 2,000 CFM AND REQUIRE DUCT DETECTORS PER CODE. OTHER RTU'S UTILIZING EXISTING DUCT DETECTORS ARE TO DO SO AS ADDITIONAL FIRE, LIFE AND SAFETY FEATURE. SEE RTU SCHEDULE ON M-6.1.

L. SEE BID ALTERNATES ON COVER SHEET, G-0.0.

REFERENCE SHEET NOTES

1. EXISTING DUCT DETECTOR AND MODULE TO BE PROTECTED DURING CONSTRUCTION AND REUSED. DISCONNECT FIRE ALARM DEVICE DURING CONSTRUCTION, REINSTALL AND RECONNECT TO EXISTING FIRE ALARM LOOP. FIRE ALARM SYSTEM SHALL BE TESTED AND INSPECTED UPON WORK COMPLETION IN ACCORDANCE WITH NFPA 72 CHAPTER 14 (2016) EDITION. EXTEND CONDUITS AND WIRES AS NECESSARY.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-119811 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 06/02/2022

agency

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National **Strength.**
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consultant

LICENSED PROFESSIONAL ENGINEER
RICK PADUA
E 20723
ELECTRICAL
STATE OF CALIFORNIA

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

ISSUE MARK	DATE	DESCRIPTION
	11/05/21	SCHEMATIC DESIGN
	12/15/21	DSA PROGRESS SET
	03/03/22	DSA SUBMITTAL
	03/15/22	DSA RESUBMITTAL
	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	SOBE
CHECKED BY:	BL
APPROVED BY:	AJS

SHEET TITLE
FIRE ALARM ROOF PLAN

SCALE: 1/8" = 1'-0"
THIS DRAWING IS 30" X 42" AT FULL SIZE

FA-1.1
SHEET OF XX

K:\drawings\Solano Community College District\2100987 Vacaville Annex HVAC Replacement\2100987FA-1.1.dwg 5/31/2022 2:25 PM Rick Padua

STRUCTURAL GENERAL NOTES

I SCOPE OF WORK

1. INSTALLATION OF REPLACEMENT HVAC EQUIPMENT AT ROOF.

II DESIGN CRITERIA

1. APPLICABLE CODES & STANDARDS:
   2019 EDITION OF THE CALIFORNIA BUILDING CODE
   ASCE 7-16 "MINIMUM DESIGN LOADS & ASSOCIATED CRITERIA FOR BUILDINGS & OTHER STRUCTURES"
2. SEISMIC LOADING:
   GPS COORDINATES: 38.3931798, -121.9433963
   RISK CATEGORY: III
   SITE CLASS: D
   IMPORTANCE FACTOR Ie: 1.25
   Ip: 1.0
   Ss: 1.262
   Sms: 1.515
   Sds: 1.010

EQUIPMENT	LOCATION	ap	Rp	Ω_o	Fp
RTU & EF	ROOF	2.5	6.0	2.0	0.505 Wp

3. WIND LOADING:
   RISK CATEGORY: III
   EXPOSURE: C
   ULTIMATE DESIGN WIND SPEED: 99 MPH
   DESIGN WIND PRESSURE (LRFD): 38.1 PSF @ ROOFTOP EQUIPMENT

III GENERAL:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE OF A QUALITY COMPATIBLE WITH THE REQUIREMENTS OF THE 2019 EDITION OF THE CALIFORNIA BUILDING CODE AND ALL LOCAL CITY AND COUNTY ORDINANCES, WHICHEVER MAY APPLY.
2. ALL WORK SHOWN ON THESE DRAWINGS IS NEW UNLESS NOTED EXISTING (E).
3. THE CONDITIONS SHOWN FOR EXISTING CONSTRUCTION REFLECT INFORMATION SHOWN ON THE ORIGINAL CONSTRUCTION DRAWINGS AND DRAWINGS DESCRIBING SUBSEQUENT BUILDING IMPROVEMENTS. THE CONTRACTOR SHALL REFER TO ALL AVAILABLE DRAWINGS AND FIELD OBSERVATIONS FOR VERIFICATION OF EXISTING CONDITIONS AS REQUIRED.
4. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS AND CONDITIONS BEFORE THE START OF ANY CONSTRUCTION, ORDERING OR FABRICATING ANY MATERIAL. ANY DISCREPANCIES BETWEEN THE CONDITIONS FOUND AND THOSE SHOWN ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER FOR CLARIFICATION BEFORE WORK PROCEEDS.
5. ALL OMISSION AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.
6. IT SHALL BE THE CONTRACTORS SOLE RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, FORMWORK, ETC., AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION, AND TO HOLD ALL NEW OR REVISED ELEMENTS IN PLACE UNTIL FINAL SUPPORT CONDITIONS ARE COMPLETED.
7. THE CONTRACTOR SHALL PROTECT ALL PIPES, DUCTS, ARCHITECTURAL FINISHES, AND UTILITIES FROM DAMAGE DURING CONSTRUCTION AND RESTORE ALL DAMAGED ITEMS TO ORIGINAL CONDITION, UNLESS NOTED OTHERWISE.
8. 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 CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH THE PROSECUTION OF THIS WORK.
9. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WELDING NEAR WOOD OR OTHER FLAMMABLE MATERIALS.
10. THE CONTRACTOR IS RESPONSIBLE TO FURNISH AND MAINTAIN NECESSARY BARRICADES, COVERINGS OR OTHER PROTECTIVE DEVICES AS NEEDED TO PROTECT EQUIPMENT, ADJACENT SURFACES AND MEET SAFETY REQUIREMENTS. THE CONTRACTOR SHALL REMOVE THESE MATERIALS ONCE THE PROJECT HAS BEEN COMPLETED.
11. WHERE A CONSTRUCTION DETAIL IS NOT SHOWN OR NOTED, THE DETAIL SHALL BE THE SAME AS FOR SIMILAR WORK. THE CONTRACTOR SHALL CONFIRM THE USE OF SIMILAR DETAILS WITH THE STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF THE WORK.
12. THE INFORMATION AND DETAILS FOR THE EXISTING STRUCTURE SHOWN ON THE STRUCTURAL DOCUMENTS ARE BASED ON INFORMATION OBTAINED FROM AVAILABLE STRUCTURAL DRAWINGS.
13. THE CONTRACTOR SHALL REVIEW THE EXISTING CONDITIONS PRIOR TO THE START OF WORK AND DURING THE COURSE OF CONSTRUCTION TO DETERMINE THE PRESENCE, IF ANY, OF ASBESTOS OR OTHER HAZARDOUS MATERIALS. IF DISCOVERED, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER AND TAKE APPROPRIATE PRECAUTIONARY MEASURE TO CONTAIN HAZARDOUS MATERIALS UNTIL THE OWNER CAN DEVELOP AN APPROPRIATE DISPOSITION PLAN.

IV EQUIPMENT ANCHORAGE:

1. ANCHORAGE OF ALL EQUIPMENT TO BE INSTALLED AS A PART OF THIS PROJECT SHALL BE DETAILED ON THESE PLANS, EXCEPT FOR THE FOLLOWING;
   A. EQUIPMENT WEIGHING LESS THAN 400 POUNDS SUPPORTED DIRECTLY ON THE FLOOR OR ROOF.
   B. FURNITURE.
   C. TEMPORARY OR MOVABLE EQUIPMENT.
   D. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.
   E. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.
2. EQUIPMENT SUPPORTS AND ANCHORAGE SHALL BE APPROVED BY THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD AND DSA AS PART OF FIELD REVIEWS/OBSERVATIONS. THE INSPECTOR OF RECORD (IOR) SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.

V SUBMITTALS:

1. PRIOR TO PROCEEDING WITH THE WORK, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE STRUCTURAL ENGINEER FOR REVIEW:
   A. MANUFACTURERS CATALOG DATA, TOGETHER WITH I.C.C. CERTIFIED TEST DATA, FOR ANY PROPRIETARY PRODUCT PROPOSED AS A SUBSTITUTE FOR SPECIFIED MATERIALS.
2. REVIEW OF SUBMITTALS BY THE STRUCTURAL ENGINEER IS ONLY FOR GENERAL CONFORMANCE WITH DESIGN INTENT. REVIEW OF THE DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLETING THE WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

VI. STRUCTURAL WOOD

1. ALL FRAMING LUMBER SHALL BE DOUGLAS FIR LARCH, AND SHALL BE STAMPED WITH A GRADEMARK WITH THE FOLLOWING GRADES, BY AN APPROVED GRADING AGENCY, U.O.N.
   A. STUDS AND PLATES - #1 GRADE MINIMUM, U.O.N.
   B. JOISTS AND RAFTERS - #1 GRADE MINIMUM, U.O.N.
   C. HEADERS, BEAMS, GIRDERS - #1 GRADE MINIMUM, U.O.N.
   D. POSTS: #1 GRADE, U.O.N.
   E. EXPOSED DECKING: CALIFORNIA REDWOOD NO. 1. U.O.N.
2. ALL BEARING ON CONCRETE OR MASONRY IF LESS THAN 4'-0" ABOVE GRADE SHALL BE PRESSURE TREATED DOUGLAS FIR OR CONSTRUCTION GRADE REDWOOD.
3. STRUCTURAL PLYWOOD SHALL BE GRADED PER A.P.A. PSI-95. ALL HORIZONTAL PLYWOOD SHALL BE LAID WITH FACE GRAIN PERPENDICULAR TO JOISTS WITH STAGGERED JOINTS.
4. BOLT HOLES SHALL BE NOMINAL DIAMETER OF BOLT PLUS 1/16 INCH.
5. ALL WOOD BOLT CONNECTIONS SHALL HAVE A WASHER UNLESS STEEL PLATE IS SPECIFIED. HOLES SHALL BE PROPERLY ALIGNED. OVERSIZED HOLES ARE NOT ALLOWED. NUTS SHALL BE SNUG TIGHTENED. BOLTS SHALL BE 1/2 INCH DIAMETER, MINIMUM AND SHALL BE A-307 OR BETTER.
6. DOUGLAS FIR FRAMING LUMBER SHALL CONFORM TO GRADING RULES OF WWPA. MAXIMUM MOISTURE CONTENT SHALL NOT EXCEED 19%.
7. WOOD CONNECTIONS:
   A. NAILING: MINIMUM NAILING REQUIREMENTS FOR STANDARD CONNECTIONS SHALL BE IN ACCORDANCE WITH 2016 CBC TABLE 2304.9.1, SEE SCHEDULE.
   B. FASTENING OF BUILT-UP BEAMS: USE (2) 16D NAILS AT 6" O.C. AT DOUBLE 2X MEMBERS, USE ½" DIAMETER BOLTS AT 16" O.C. AT ALL OTHER BUILT-UP MEMBERS.
   C. FOR FLUSH FRAMING OF JOISTS, USE SIMPSON STANDARD "U" TYPE JOIST HANGERS U.O.N. PROVIDE SIMPSON SEISMIC TIES AT 4FT O.C. WHERE CEILING JOISTS ARE NOT PARALLEL TO ROOF RAFTERS.
   D. ALL MANUFACTURED CONNECTION HARDWARE SHALL BE AS DESIGNATED ON DRAWINGS AND INSTALLED (WITH ALL NAIL HOLES FILLED) IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPLICABLE ICC APPROVALS.
   E. INSTALL LAG SCREWS, WHERE SPECIFIED, IN DRILLED LEAD HOLES WITH A DIAMETER EQUAL TO 3/4 OF THE SHANK DIAMETER. LAG SCREWS SHALL NOT BE HAMMERED IN. PROVIDE WASHERS UNDER HEADS BEARING ON WOOD. HOLES SHALL BE PROPERLY ALIGNED. USE GALVANIZED LAG SCREWS FOR PRESSURE TREATED WOOD.
   F. NAILS TO BE COMMON WIRE NAILS. USE GALVANIZED NAILS FOR PRESSURE TREATED WOOD.
   G. ALL MANUFACTURED CONNECTION HARDWARE SHALL HAVE A MINIMUM G90 HOT DIP GALVANIZED FINISH PER ASTM A653 TOTAL BOTH SIDES. ALL MANUFACTURED CONNECTION HARDWARE EXPOSED TO WEATHER AND/OR PRESSURE TREATED WOOD SHALL HAVE A G185 HOT DIP GALVANIZED FINISH PER ASTM A653 TOTAL BOTH SIDES.

NAILING SCHEDULE

TABLE NO. 2304.10.1 FASTENING SCHED.

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER A, B, C	SPACING OF FASTENERS
	ROOF		
1	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	3-8D (21/2" × 0.113")	-
2	CEILING JOISTS TO PLATE, TOE NAIL	3-8D (21/2" × 0.113")	-
3	CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS, FACE NAIL	3-10D	-
4	COLLAR TIE RAFTER, FACE NAIL OR 11/4" × 20 GAGE RIDGE STRAP	3-10D (3" × 0.128")	-
5	RAFTER TO PLATE, TOE NAIL	3-16D (31/2" × 0.135")	-
6	ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS: TOE NAIL FACE NAIL	 4-16D (31/2" × 0.135") 3-16D (31/2" × 0.135")	 - -
	WALL		
7	BUILT-UP STUDS-FACE NAIL	10D (3" × 0.128")	24" O.C.
8	ABUTTING STUDS AT INTERSECTING WALL CORNERS, FACE NAIL	16D (31/2" × 0.135")	12" O.C.
9	BUILT-UP HEADER, TWO PIECES WITH 1/2" SPACER	16D (31/2" × 0.135")	16" O.C. ALONG EACH EDGE
10	CONTINUED HEADER, TWO PIECES	16D (31/2" × 0.135")	16" O.C. ALONG EACH EDGE
11	CONTINUOUS HEADER TO STUD, TOE NAIL	4-8D (21/2" × 0.113")	-
12	DOUBLE STUDS, FACE NAIL	10D (3" × 0.128")	24" O.C.
13	DOUBLE TOP PLATES, FACE NAIL	10D (3" × 0.128")	24" O.C.
14	DOUBLE TOP PLATES, MINIMUM 24-INCH OFFSET OF END JOINTS, FACE NAIL IN LAPPED AREA	8-16D (31/2" × 0.135")	-
15	SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16D (31/2" × 0.135")	16" O.C.
16	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANELS	3-16D (31/2" × 0.135")	16" O.C.
17	STUD TO SOLE PLATE, TOE NAIL	3-8D (21/2" × 0.113") OR 2-16D (31/2" × 0.135")	- -
18	TOP OR SOLE PLATE TO STUD, END NAIL	2-16D (31/2" × 0.135")	-
19	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS, FACE NAIL	2-10D (3" × 0.128")	-
20	1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8D (21/2" × 0.113") 2 STAPLES 13/4"	- -
21	1" × 6" SHEATHING TO EACH BEARING, FACE NAIL	2-8D (21/2" × 0.113") 2 STAPLES 13/4"	- -
22	1" × 8" SHEATHING TO EACH BEARING, FACE NAIL	2-8D (21/2" × 0.113") 3 STAPLES 13/4"	- -
23	WIDER THAN 1" × 8" SHEATHING TO EACH BEARING, FACE NAIL	3-8D (21/2" × 0.113") 4 STAPLES 13/4"	- -
	FLOOR		
24	JOIST TO SILL OR GIRDER, TOE NAIL	3-8D (21/2" × 0.113")	-
25	RIM JOIST TO TOP PLATE, TOE NAIL (ROOF APPLICATIONS ALSO)	8D (21/2" × 0.113")	6" O.C.
26	RIM JOIST OR BLOCKING TO SILL PLATE, TOE NAIL	8D (21/2" × 0.113")	6" O.C.
27	1" × 6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8D (21/2" × 0.113") 2 STAPLES 13/4"	- -
28	2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2-16D (31/2" × 0.135")	-
29	2" PLANKS (PLANK & BEAM - FLOOR & ROOF)	2-16D (31/2" × 0.135")	AT EACH BEARING
30	BUILT-UP GIRDERS AND BEAMS, 2-INCH LUMBER LAYERS	10D (3" × 0.128")	NAIL EACH LAYER AS FOLLOWS: 32" O.C. AT TOP AND BOTTOM AND STAGGERED. TWO NAILS AT ENDS AND AT EACH SPLICE.
31	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	3-16D (31/2" × 0.135")	AT EACH JOIST OR RAFTER

ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER B, C, E	SPACING OF FASTENERS: EDGES (INCHES) I	SPACING OF FASTENERS: INTERMEDIATE SUPPORTS C, E (INCHES)
	WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING			
32	3/8"-1/2"	6D COMMON (2" × 0.113") NAIL (SUBFLOOR WALL)J 8D COMMON (21/2" × 0.131") NAIL (ROOF)	6	12 G
33	19/32"- 1"	8D COMMON NAIL (21/2" × 0.131")	6	12 G
34	11/8"- 11/4"	10D COMMON (3" × 0.148") NAIL OR 8D (21/2" × 0.131") DEFORMED NAIL	6	12
	OTHER WALL SHEATHING H			
35	1/2" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1/2" GALVANIZED ROOFING NAIL, 7/16" CROWN OR 1" CROWN STAPLE 16 GA., 1 1/4" LONG	3	6
36	25/32" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	13/4" GALVANIZED ROOFING NAIL, 7/16" CROWN OR 1" CROWN STAPLE 16 GA., 1 1/2" LONG	3	6
37	1/2" GYPSUM SHEATHING D	11/2" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 11/2" LONG; 1 1/4" SCREWS, TYPE W OR S	7	7
38	5/8" GYPSUM SHEATHING D	13/4" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 15/8" LONG; 1 5/8" SCREWS, TYPE W OR S	7	7
	WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
39	3/4" AND LESS	6D DEFORMED (2" × 0.120") NAIL OR 8D COMMON (21/2" × 0.131") NAIL	6	12
40	7/8"- 1"	8D COMMON (21/2" × 0.131") NAIL OR 8D DEFORMED (21/2" × 0.120") NAIL	6	12
41	11/8"- 11/4"	10D COMMON (3" × 0.148") NAIL OR 8D DEFORMED (21/2" × 0.120") NAIL	6	12

A. ALL NAILS ARE SMOOTH-COMMON, BOX OR DEFORMED SHANKS EXCEPT WHERE OTHERWISE STATED. NAILS USED FOR FRAMING AND SHEATHING CONNECTIONS SHALL HAVE MINIMUM AVERAGE BENDING YIELD STRENGTHS AS SHOWN: 80 KSI FOR SHANK DIAMETER OF 0.192 INCH (20D COMMON NAIL), 90 KSI FOR SHANK DIAMETERS LARGER THAN 0.142 INCH BUT NOT LARGER THAN 0.177 INCH, AND 100 KSI FOR SHANK DIAMETERS OF 0.142 INCH OR LESS.

B. STAPLES ARE 16 GAGE WIRE AND HAVE A MINIMUM 7/16-INCH ON DIAMETER CROWN WIDTH.

C. NAILS SHALL BE SPACED AT NOT MORE THAN 6 INCHES ON CENTER AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR GREATER.

D. FOUR-FOOT-BY-8-FOOT OR 4-FOOT-BY-9-FOOT PANELS SHALL BE APPLIED VERTICALLY.

E. SPACING OF FASTENERS NOT INCLUDED IN THIS TABLE SHALL BE BASED ON TABLE 2304.10.1

F. FOR REGIONS HAVING BASIC WIND SPEED OF 110 MPH OR GREATER, 8D DEFORMED (21/2" × 0.120) NAILS SHALL BE USED FOR ATTACHING PLYWOOD AND WOOD STRUCTURAL PANEL ROOF SHEATHING TO FRAMING WITHIN MINIMUM 48-INCH DISTANCE FROM GABLE END WALLS, IF MEAN ROOF HEIGHT IS MORE THAN 25 FEET, UP TO 35 FEET MAXIMUM.

G. FOR REGIONS HAVING BASIC WIND SPEED OF 100 MPH OR LESS, NAILS FOR ATTACHING WOOD STRUCTURAL PANEL ROOF SHEATHING TO GABLE END WALL FRAMING SHALL BE SPACED 6 INCHES ON CENTER. WHEN BASIC WIND SPEED IS GREATER THAN 100 MPH, NAILS FOR ATTACHING PANEL ROOF SHEATHING TO INTERMEDIATE SUPPORTS SHALL BE SPACED 6 INCHES ON CENTER FOR MINIMUM 48-INCH DISTANCE FROM RIDGES, EAVES AND GABLE END WALLS; AND 4 INCHES ON CENTER TO GABLE END WALL FRAMING.

H. GYPSUM SHEATHING SHALL CONFORM TO ASTM C 1396 AND SHALL BE INSTALLED IN ACCORDANCE WITH GA 253. FIBERBOARD SHEATHING SHALL CONFORM TO ASTM C 208.

I. SPACING OF FASTENERS ON FLOOR SHEATHING PANEL EDGES APPLIES TO PANEL EDGES SUPPORTED BY FRAMING MEMBERS AND REQUIRED BLOCKING AND AT ALL FLOOR PERIMETERS ONLY. SPACING OF FASTENERS ON ROOF SHEATHING PANEL EDGES APPLIES TO PANEL EDGES SUPPORTED BY FRAMING MEMBERS AND REQUIRED BLOCKING. BLOCKING OF ROOF OR FLOOR SHEATHING PANEL EDGES PERPENDICULAR TO THE FRAMING MEMBERS NEED NOT BE PROVIDED EXCEPT AS REQUIRED BY OTHER PROVISIONS OF THIS CODE. FLOOR PERIMETER SHALL BE SUPPORTED BY FRAMING MEMBERS OR SOLID BLOCKING.

J. WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE PROVIDE TWO TOE NAILS ON ONE SIDE OF THE RAFTER AND TOE NAILS FROM THE CEILING JOIST TO TOP PLATE IN ACCORDANCE WITH THIS SCHEDULE. THE TOE NAIL ON THE OPPOSITE SIDE OF THE RAFTER SHALL NOT BE REQUIRED.

ABBREVIATIONS

AB	ANCHOR BOLT
AFF	ABOVE FINISHED FLOOR
ADD'L	ADDITIONAL
AGG	AGGREGATE
ALT	ALTERNATE
ARCH	ARCHITECT OR ARCHITECTURAL
BFF	BELOW FINISHED FLOOR
BDRM	BEDROOM
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BTWN	BETWEEN
℄	CENTERLINE
CJ	CEILING JOISTS
CMU	CONCRETE MASONRY UNIT(S)
CALCS	CALCULATIONS
CLG	CEILING
CLR	CLEAR OR CLEARANCE
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUATION OR CONTINUOUS
CONTR	CONTRACTOR
COR	CORNER
DF	DOUGLAS FIR
DL	DEAD LOAD
DS	DOWNSPOUT
DBL	DOUBLE
DET	DETAIL
DIA OR ø	DIAMETER
DIM	DIMENSION
DN	DOWN
(E)	EXISTING
EJ	EXPANSION JOINT
ELEV	ELEVATION
EN	EDGE NAIL
EA	EACH
ES	EACH SIDE
EQ	EQUAL
EW	EACH WAY
EXT	EXTERIOR
(F)	FUTURE
FJ	FLOOR JOIST
FLR	FLOOR
FS	FAR SIDE
FOUND OR FND	FOUNDATION
FP	FIREPLACE
FRMG	FRAMING
FT	FLOOR TRUSS
FTG	FOOTING
GSM	GALVANIZED SHEET METAL
GA	GAUGE
GALV	GALVANIZED
GLU-LAM, GLB	GLUE LAMINATED BEAM
GYP BD	GYPSUM BOARD
HD	HOLDDOWN
HORIZ	HORIZONTAL
HDR	HEADER
HGR	HANGER
INFO	INFORMATION
INSUL	INSULATION OR INSULATED
INT	INTERIOR
INTER	INTERSECTION
JT	JOINT
LB OR #	POUND OR NUMBER
LL	LIVE LOAD
LNG	LONG OR LENGTH
LSL	TIMBER STRAND
LTWT OR LW	LIGHTWEIGHT
LVL	LAMINATED VENEER LUMBER
MAX	MAXIMUM
MB	MACHINE BOLT
MEP	MECHANICAL, ELECTRICAL AND PLUMBING
MFR OR MANU	MANUFACTURER
MIN	MINIMUM
ML	MICROLLAM
MSTR	MASTER
(N)	NEW
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
O/	OVER
OC	ON CENTER
OPT	OPTIONAL
ℙ OR PL	PLATE
PSF	POUNDS PER SQUARE FOOT
PSL	PARALLAM
PT	PRESSURE TREATED
PAR	PARALLEL
PERF	PERFORATED
PERP	PERPENDICULAR
PLYWD OR PLY	PLYWOOD
RCP	REINFORCED CONCRETE PIPE
RECOM OR REC	RECOMMENDATIONS
REINF	REINFORCING
REQ'D	REQUIRED
REBAR	REINFORCING BAR(S)
RJ	ROOF JOIST
RM	ROOM
RR	ROOF RAFTER
RT	ROOF TRUSS
RWD	REDWOOD
SAD	SEE ARCHITECTURAL DRAWINGS
SCD	SEE CIVIL DRAWINGS
SCHD	SEE ELECTRICAL DRAWINGS
SED	SEE ELECTRICAL DRAWINGS
SHTG	SHEATHING
SMD	SEE MECHANICAL DRAWINGS
SOG	SLAB ON GRADE
SW	SHEARWALL
TEMP	TEMPORARY
T/P	TOP PLATE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W/	WITH
WWM	WELDED WIRE MESH
WD	WOOD

STRUCTURAL DRAWING INDEX

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-119811 INC:
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CPS COMPLETE PROJECT SOLUTIONS
3527 MT. DIABLO BOULEVARD #137, LAFAYETTE, CA 94549
(925) 265-2229 WWW.CPS-GLOBAL.COM
REGISTERED PROFESSIONAL ENGINEER THOMAS C. GRANT S 3931 Exp: Dec 31, 2023 STRUCTURAL STATE OF CALIFORNIA
CPS Project No.: S1349
stamp

SOLANO COMMUNITY COLLEGE DISTRICT
SOLANO COMMUNITY COLLEGE
2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

DSA APPL #02-119811

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	05/02/22	DSA BACKCHECK
	06/01/22	DSA BACKCHECK RESUBMITTAL

SOBE PROJECT NO:	2100987
DATE:	8/30/21
DRAWN BY:	TD
CHECKED BY:	TCE
APPROVED BY:	TCE

SHEET TITLE
STRUCTURAL GENERAL NOTES & ABBREVIATIONS

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

S-0.1
SHEET OF XX

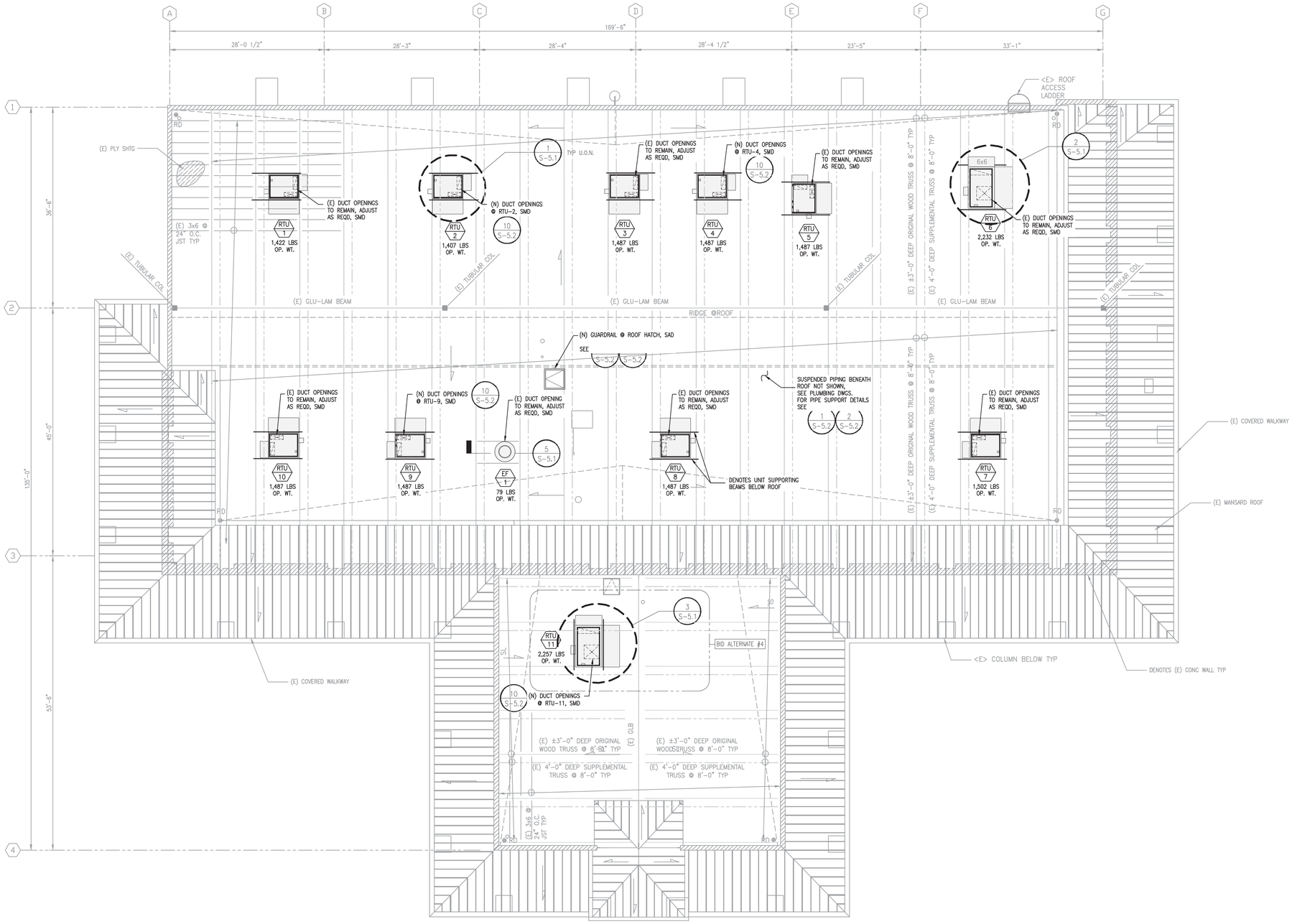
THIS DRAWING IS 30" X 42" AT FULL SIZE. 15" X 21" AT HALF SIZE. © 2015 BY SALAS O'BRIEN ENGINEERS, INC.

NOTES

1. FOR GENERAL NOTES, SEE DRAWING S–0.1.

LEGEND

- DENOTES (E) STRUCTURE
- DENOTES (N) STRUCTURE
- DENOTES (N) 14" x 14GA MFR CURB BENEATH UNIT
- DENOTES OVERALL FOOTPRINT OF (N) EQUIPMENT



1 (E) ROOF FRAMING PLAN – NEW WORK
SCALE: 1/8" = 1'–0"

0 8' 16'

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THOMAS C. REED
S 3931
Exp.Dec. 31, 2023
STRUCTURAL
STATE OF CALIFORNIA

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SOLANO COMMUNITY COLLEGE DISTRICT

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SHEET TITLE

STRUCTURAL

EXISTING ROOF FRAMING PLAN NEW WORK

SCALE:
THIS DRAWING IS 30" X 42" AT FULL SIZE

S–1.1
SHEET OF XX

P:\S1300 Salas O'Brien\S1349 Vacaville Annex HVAC Replacement\Drawings\+Current\+S11.dwg 6/1/2022 11:11 AM Tony Daza

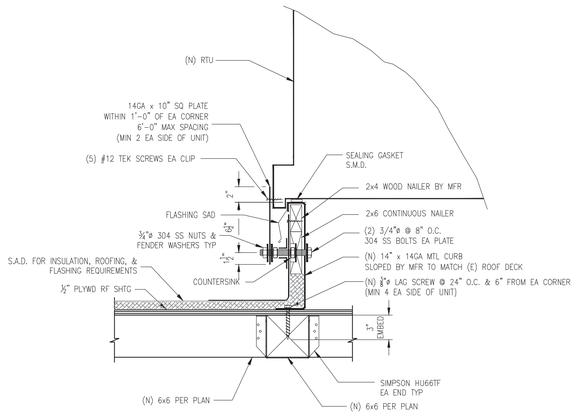
NOTES

1. FOR GENERAL NOTES, SEE DRAWING S-0.1.

LEGEND

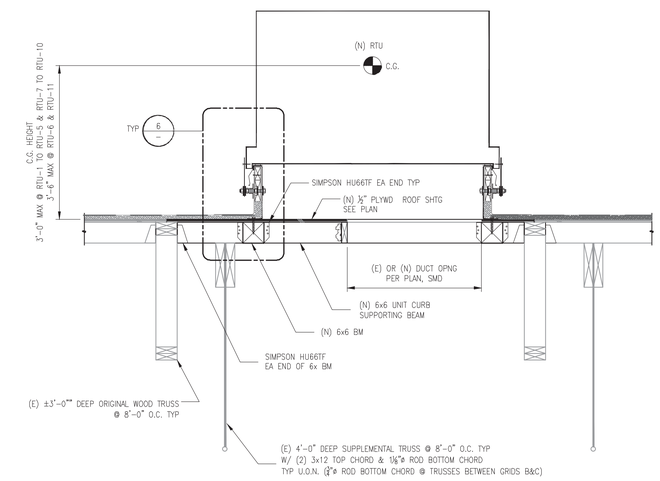
DENOTES (E) STRUCTURE

DENOTES (N) STRUCTURE



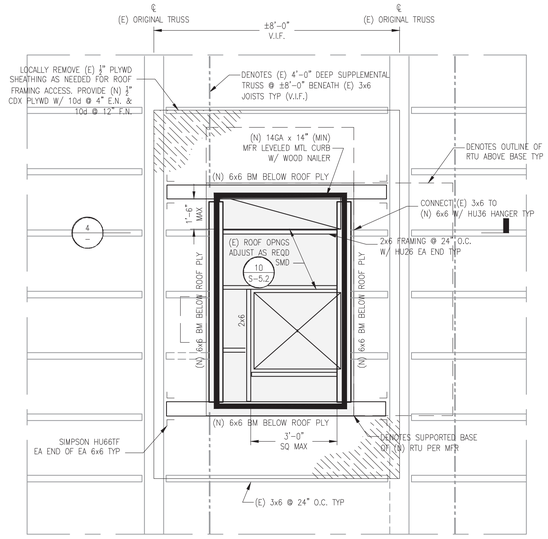
6 - RTU SUPPORT CURB ANCHORAGE DETAIL

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



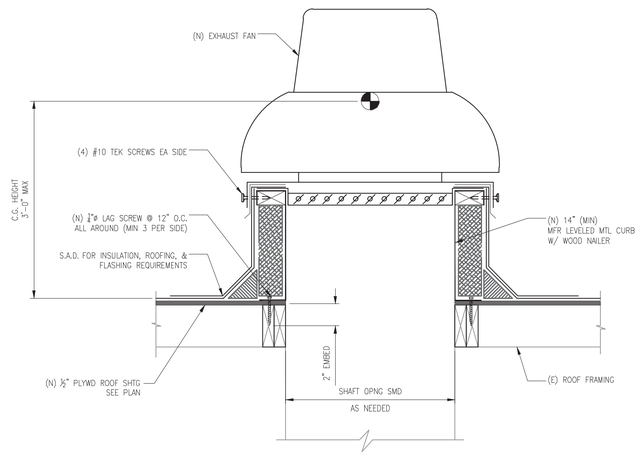
4 - RTU SUPPORT SECTION

scale: 3/4"=1'-0"



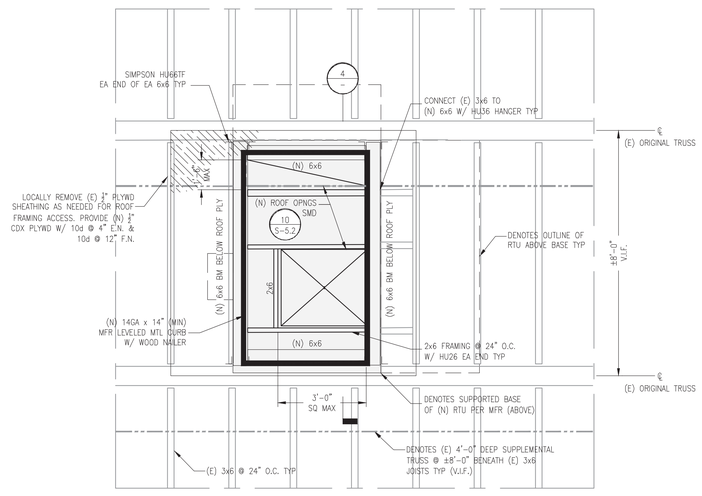
2 - RTU SUPPORT FRAMING PLAN RTU-6

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



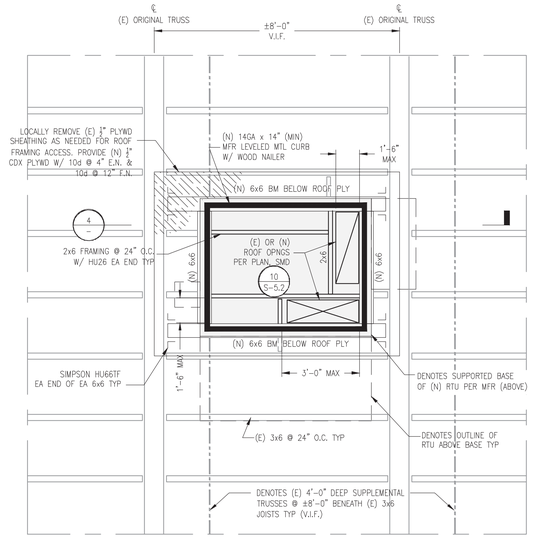
5 - EXHAUST FAN SUPPORT SECTION

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



3 - RTU SUPPORT FRAMING PLAN RTU-11

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



1 - RTU SUPPORT FRAMING PLAN RTU-1 TO RTU-5, RTU-7 TO RTU-10

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

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REGISTERED PROFESSIONAL ENGINEER
Thomas C. Grant
S 3931
Exp:Dec 31, 2023
STRUCTURAL
STATE OF CALIFORNIA

CPS Project No.: S1349

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SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

2000 NORTH VILLAGE PARKWAY
VACAVILLE, CA 95688

VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

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SOBE PROJECT NO:	2100987
DATE:	8/30/21
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APPROVED BY:	TCE

SHEET TITLE

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DETAILS

SCALE:

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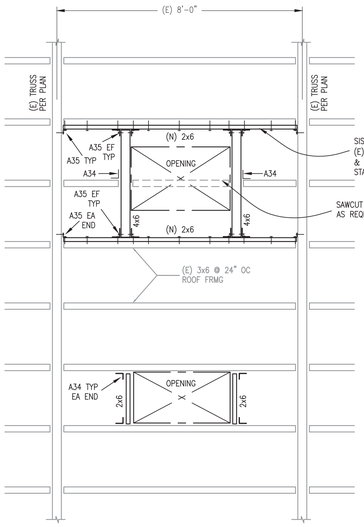
S-5.1

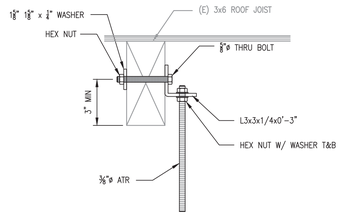
SHEET OF XX

NOTES

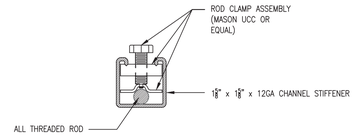
1. FOR GENERAL NOTES, SEE DRAWING S-0.1.



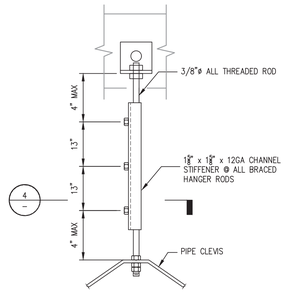
10 - **NEW DUCT OPENING FRAMING** scale: NONE



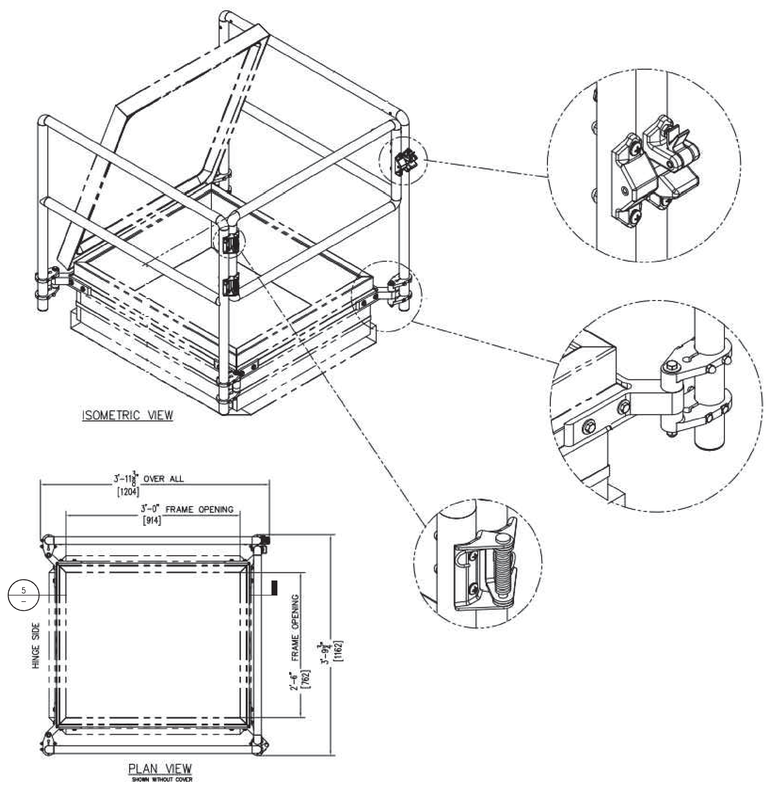
7 - **HANGER ROD CONN** scale: 3"=1'-0"



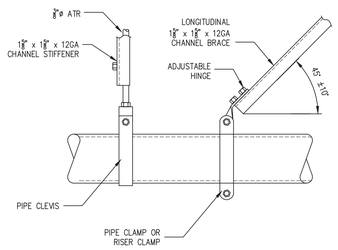
4 - **ROD STIFFENER** NONE scale:



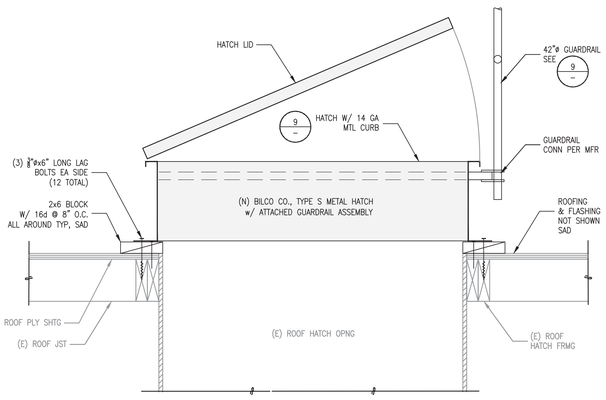
3 - **ROD STIFFENER** scale: NONE



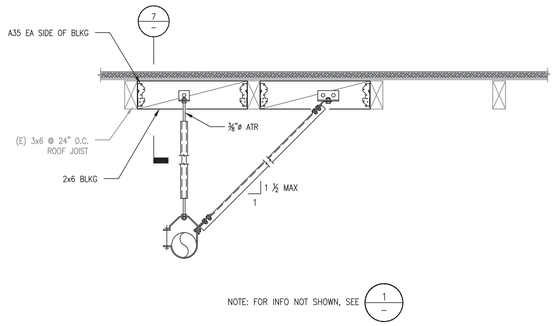
9 - **BILCO PREFAB ROOF HATCH W/ GUARDRAIL DETAIL** scale: NONE



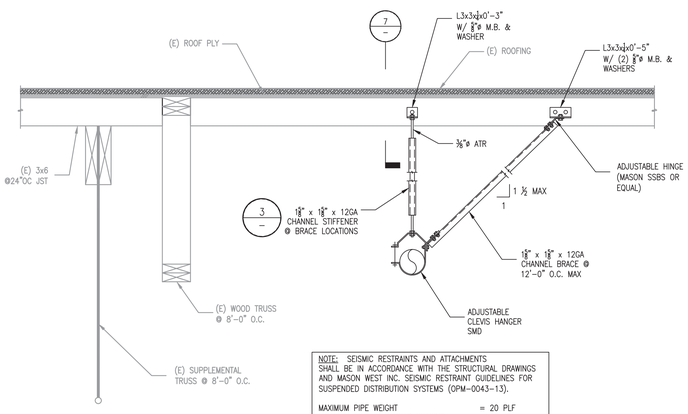
6 - **LONGITUDINAL PIPE BRACE** scale: NONE



5 - **ROOF HATCH (SECTION)** scale: NONE



2 - **SEISMIC PIPE SUPPORT (PIPE PARALLEL TO JOIST)** scale: 1"=1'-0"



NOTE: SEISMIC RESTRAINTS AND ATTACHMENTS SHALL BE IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS AND MASON WEST INC. SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED DISTRIBUTION SYSTEMS (OPM-0043-13).

MAXIMUM PIPE WEIGHT	= 20 PLF
MAXIMUM GRAVITY HANGER SPACING	= 10'-0"
MAXIMUM TRANSVERSE BRACE SPACING	= 20'-0"
MAXIMUM LONGITUDINAL BRACE SPACING	= 20'-0"

1 - **SEISMIC PIPE SUPPORT (PIPE PERPENDICULAR TO JOIST)** scale: 1"=1'-0"

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DIV. OF THE STATE ARCHITECT
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REGISTERED PROFESSIONAL ENGINEER
Thomas C Grant
S 39131
Exp:Dec 31, 2023
STRUCTURAL
STATE OF CALIFORNIA

CPS Project No.: S1349

stamp

SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

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VACAVILLE ANNEX HVAC AND ROOFING REPLACEMENT

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SHEET TITLE
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