HVAC REPLACEMENT - FIREBAUGH HIGH SCHOOL ADMIN / LIBRARY BLDG AND GYM BLDG.
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD, CA 90262

Plot Date: 3/10/2026 12:02:24 PM

Project # 2025-131_R26

AGENCY APPROVAL

DSA A# 03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

TITLE SHEET

ADDITIONAL MECHANICAL / ELECTRICAL / PLUMBING NOTES

1. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
2. AN INSPECTOR WHO IS SPECIALLY QUALIFIED IN MECHANICAL AND ELECTRICAL WORK WILL BE REQUIRED FOR THIS PROJECT.
3. COMPLY WITH CFC CHAPTER 33 AND CBC CHAPTER 33.
4. ENERGY COMPLIANCE REVIEW AND APPROVAL IS REQUIRED PRIOR TO DSA APPROVAL OF THE CONSTRUCTION DOCUMENTS.
5. A DSA-CERTIFIED CLASS 3 PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342. PART 2. TITLE 24, CCR.
6. 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.
7. LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).
8. MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.
9. ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S AGENT.
10. 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.
11. 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.
12. PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.
13. A WRITTEN SITE SAFETY PLAN IN COMPLIANCE WITH CFC 3303.1.1 MUST BE PREPARED AND AVAILABLE ON SITE PRIOR TO COMMENCEMENT OF ANY MOBILIZATION, DEMOLITION AND/OR CONSTRUCTION.
14. CLEAN AND SANITIZE ALL EXISTING SUPPLY AND RETURN DUCTWORK CONNECTED TO THE REPLACED HVAC EQUIPMENT PRIOR TO SYSTEM STARTUP. CLEANING SHALL BE PER NADCA ACR STANDARD AND SANITIZATION SHALL USE EPA-APPROVED PRODUCTS SUITABLE FOR OCCUPIED SCHOOL FACILITIES".

NON-UTILIZATION OF ASBESTOS MATERIAL

NO ASBESTOS OR ASBESTOS-CONTAINING PRODUCTS SHALL BE USED IN THIS CONSTRUCTION OR IN ANY TOOLS, DEVICES, CLOTHING OR EQUIPMENT USED TO AFFECT THIS CONSTRUCTION.

ASBESTOS AND OR ASBESTOS CONTAINING PRODUCTS SHALL BE DEFINED AS ALL ITEMS CONTAINING BUT NOT LIMITED TO CRYSTALLITE, CROCIDOLITE, AMOSITE, ANTHOPYLLITE, TERMOLITE AND ANTINOLITE.

ANY OR ALL MATERIAL CONTAINING GREATER THAN ONE TENTH OF ONE PERCENT(> 1 %) ASBESTOS SHALL BE DEFINED AS ASBESTOS CONTAINING MATERIAL.

ANY DISPUTES INVOLVING THE QUESTION OF WHETHER OR NOT MATERIAL INSTALLED WITH ASBESTOS-CONTAINING EQUIPMENT WILL BE SETTLED BY ELECTRON MICROSCOPY: THE COST OF ANY SUCH TEST SHALL BE PAID BY THE CONTRACTOR.

ALL WORK OR MATERIALS FOUND TO CONTAIN ASBESTOS OR WORK OR MATERIAL INSTALLED WITH ASBESTOS-CONTAINING EQUIPMENT WILL BE IMMEDIATELY REJECTED AND THIS WORK WILL BE REMOVED AT NO ADDITIONAL COST TO THE DISTRICT.

DECONTAMINATION AND REMOVAL

DECONTAMINATION AND REMOVAL OF WORK FOUND TO CONTAIN ASBESTOS OR WORK INSTALLED WITH ASBESTOS-CONTAINING EQUIPMENT SHALL BE DONE ONLY UNDER SUPERVISION OF A QUALIFIED CONSULTANT, KNOWLEDGEABLE IN THE FIELD OF ASBESTOS ABATEMENT AND ACCREDITED BY THE ENVIRONMENTAL PROTECTION AGENCY.

THE ASBESTOS REMOVAL CONTRACTOR SHALL BE AN EPA ACCREDITED CONTRACTOR QUALIFIED IN THE REMOVAL OF ASBESTOS AND SHALL BE CHOSEN AND APPROVED BY THE ASBESTOS CONSULTANT WHO SHALL HAVE SOLE DISCRETION AND FINAL DETERMINATION IN THIS MATTER.

THE ASBESTOS CONSULTANT SHALL BE CHOSEN AND APPROVED BY THE DISTRICT WHO SHALL HAVE SOLE DISCRETION AND FINAL DETERMINATION IN THIS MATTER.

THE WORK WILL NOT BE ACCEPTED UNTIL ASBESTOS CONTAMINATION IS REDUCED TO LEVELS DEEMED ACCEPTABLE BY THE ASBESTOS CONSULTANTS. HOLD HARMLESS

INTERFACE OF WORK UNDER THIS CONTRACT WITH WORK CONTAINING ASBESTOS SHALL BE EXECUTED BY THE CONTRACTOR AT HIS RISK AND HIS DISCRETION WITH FULL KNOWLEDGE OF THE CURRENTLY ACCEPTED STANDARDS, HAZARDS RISKS, AND LIABILITIES ASSOCIATED WITH ASBESTOS WORK AND ASBESTOS CONTAINING PRODUCTS.

BY EXECUTION OF THIS CONTRACT THE CONTRACTOR ACKNOWLEDGES THE ABOVE AND AGREES TO HOLD ASSIGNS FOR ALL ASBESTOS LIABILITY WHICH MAY BE ASSOCIATED WITH THIS WORK AND AGREES TO CONTRACT TO EQUALLY DEFEND WITH RESPECT TO THE ABOVE MENTIONED STANDARDS, HAZARDS, RISKS AND LIABILITIES.

THE CONTRACTOR SHALL, PRIOR TO COMMENCEMENT OF THIS WORK, PROVIDE A DULY SIGNED AND NOTARIZED AFFIDAVIT THAT HE HAS INSTRUCTED HIS EMPLOYEES WITH RESPECT TO THE ABOVE MENTIONED STANDARDS, HAZARDS, RISKS AND LIABILITIES AND THE CONTENTS AND REQUIREMENTS OF THIS PORTION OF THE CONTRACT DOCUMENTS.

HAZARD MATERIALS

IN THE EVENT THE CONTRACTOR ENCOUNTERS ON THE SITE MATERIALS REASONABLY BELIEVED TO BE ASBESTOS OR POLYCHLORINATED BIPHENYL (PCB) WHICH HAS NOT BEEN RENDERED HARMLESS, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THE AREA AFFECTED AND REPORT THE CONDITION TO THE DISTRICT AND ENGINEER IN WRITING

THE WORK IN THE AFFECTED AREA SHALL NOT THEREAFTER BE RESUMED EXCEPT BY WRITTEN AGREEMENT OF THE DISTRICT AND CONTRACTOR IF IN FACT THE MATERIAL IS ASBESTOS OR POLYCHLORINATED BIPHENYL (PCB), OR WHEN IT HAS BEEN RENDERED HARMLESS, BY WRITTEN AGREEMENT OF THE DISTRICT AND CONTRACTOR, OR IN ACCORDANCE WITH FINAL DETERMINATION BY THE ENGINEER.

MATERIAL SAFETY DATA SHEETS (MSDS)

CONTRACTOR IS REQUIRED TO ENSURE THAT MATERIAL SAFETY DATA SHEETS ARE AVAILABLE IN A READILY ACCESSIBLE PLACE AT THE WORK SITE; FOR ANY MATERIAL REQUIRING A MATERIAL SAFETY DATA SHEET PER THE FEDERAL "HAZARD COMMUNICATION" STANDARD, OR EMPLOYEES RIGHT TO KNOW LAW.

THE CONTRACTOR IS ALSO REQUIRED TO ENSURE PROPERLY LABELING ANY SUBSTANCE BROUGHT ONTO THE JOB SITE, AND THAT ANY PERSON WORKING WITH THE MATERIAL, IS INFORMED OF THE HAZARDS OF THE SUBSTANCE AND FOLLOWS PROPER HANDLING AND PROTECTION PROCEDURES.

PROJECT CONTACT INFO

MECHANICAL, PLUMBING AND FIRE PROTECTION (PRIME)
OPTIMUM ENERGY DESIGN
5200 E. LA PALMA
ANAHEIM, CALIFORNIA 92807
(714) 693-2277
CONTACT: ABBY BANERJEE, P.E., PRINCIPAL

STRUCTURAL (CONSULTANT)
PETRA STRUCTURAL ENGINEERS, INC
17981 SkyPark Circle, Suite 0
IRVINE, CA 92614
(949) 404-3351
CONTACT: PETER SARKIS S.E.

ELECTRICAL
OPTIMUM ENERGY DESIGN
5200 E. LA PALMA
ANAHEIM, CALIFORNIA 92807
(714) 693-2277
CONTACT: ROLANDO E. SOTELO

OWNER
LYNWOOD UNIFIED SCHOOL DISTRICT
11321 BULLIS ROAD
LYNWOOD, CA 90262
(310) 886-1600

MECHANICAL ANCHORS IN CONCRETE

1. MECHANICAL ANCHOR SYSTEMS:
   A. SIMPSON STRONG-BOLT 2 (ESR-3037).
   B. HILTI " KB-TZ2" (ESR 4266).
   C. SIMPSON TITEN HD (-ESR-2713).
   D. HILTI "KWIK HUS-EZ"(ESR-3027).
   E. STRONG-BOLT 2 (ICC ESR 3037, LAAR 25891)
   F. USE ONLY MECHANICAL ANCHOR SYSTEMS THAT HAVE BEEN PRE-QUALIFIED IN ACCORDANCE WITH THE PROVISIONS OF ICC-ES AC193, AND APPROVED FOR USE IN CRACKED CONCRETE. ANCHOR SYSTEMS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE ICC-ES EVALUATION SERVICES REPORT FOR THE SPECIFIC ANCHOR, OR AS REQUIRED BY THE MANUFACTURER.
   G. ANCHOR DIAMETER REFERS TO THE ANCHOR SIZE AND NOT THE DIAMETER OF THE HOLE. REFER TO THE MANUFACTURER'S INSTRUCTIONS FOR REQUIRED DIAMETER OF DRILLED HOLE.
   H. HILTI 'KB3' (ESR-1385)
2. WHERE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS OR APPLICABLE ICC-ESR CALL FOR THE APPLICATION OF AN INSTALLATION TORQUE, THE SPECIFIED TORQUE SHALL BE APPLIED WITH A CALIBRATED TORQUE WRENCH. FOLLOWING ATTAINMENT OF10% OF THE SPECIFIED TORQUE, 100% OF THE SPECIFIED TORQUE SHALL BE REACHED WITHIN 7 OR FEWER COMPLETE TURNS OF NUT. THE SPECIFIED INSTALLATION TORQUE SHALL NOT BE EXCEEDED.
3. USE OF ZINC-COATED CARBON STEEL ANCHORS IS LIMITED TO DRY, INTERIOR LOCATIONS, UNLESS OTHERWISE NOTED. PROVIDE STAINLESS STEEL OR HOT-DIP GALVANIZED ANCHORS FOR APPLICATIONS EXPOSED TO EXTERIOR WEATHER CONDITIONS.
4. WHERE MECHANICAL ANCHORS ARE USED IN A STANDOFF CONFIGURATION (I.E., WHERE THE ATTACHMENT IS PREPARED FROM THE CONCRETE IN WHICH THE ANCHOR IS INSTALLED), A NUT AND WASHER SHALL BE PROVIDED AT THE CONCRETE SURFACE TO FACILITATE SETTING OF THE ANCHOR AND TO TRANSMIT AXIAL COMPRESSION LOADS INTO CONCRETE.
5. THE SPECIAL INSPECTOR SHALL BE ON THE JOBSITE CONTINUOUSLY DURING ANCHOR INSTALLATIONS, UNLESS OTHERWISE NOTED IN ICC-ES ESR, TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, HOLE DIMENSIONS, ANCHOR SPACINGS, EDGE DISTANCES, SLAB THICKNESS, ANCHOR EMBEDMENT, AND TIGHTENING TORQUE.
6. THE TENSION TESTING OF THE MECHANICAL ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY. IF ANY ANCHORS FAIL THE TENSION-TESTING REQUIREMENTS, THE ADDITIONAL TESTING REQUIREMENTS SHALL BE ACCEPTABLE TO THE ENFORCEMENT AGENCY.
7. TEST QUANTITY OF ANCHORS AS NOTED BELOW:

APPLICATION	QUANTITY
STRUCTURAL	100% OF BOLTS (10% FOR SILL PLATES)
NON-STRUCTURAL	50% OF BOLTS

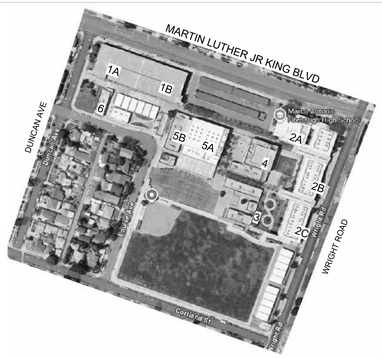
8. ANCHORS TO BE TESTED SHALL BE SELECTED AT RANDOM BY THE INSPECTOR.
9. ALL TESTING SHALL BE PERFORMED A MINIMUM OF 24 HOURS AFTER INSTALLATION
10. UNDERCUT ANCHORS THAT ALLOW VISUAL CONFIRMATION OF FULL SET NEED NOT TO BE TESTED, UNLESS OTHERWISE NOTED BY ENFORCEMENT AGENCY OR ENGINEER OF RECORD.
11. WHERE THE DESIGN TENSION ON ANCHORS IS LESS THAN 100 POUNDS AND THOSE ANCHORS ARE CLEARLY IDENTIFIED ON THE CONTRACT DOCUMENTS, ONLY 10 PERCENT OF THE ANCHORS NEED BE TESTED, UNLESS OTHERWISE NOTED BY ENFORCEMENT AGENCY OR ENGINEER OF RECORD.
12. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
   A. HYDRAULIC RAM METHOD: THE ANCHOR SHALL HAVE NO OBSERVABLE MOVEMENT AT THE APPLICATION OF LOAD. FOR MECHANICAL ANCHORS, A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENTS IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE.
   B. TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN ONE-HALF (1/2) TURN OF THE NUT.
   C. USE OF CALIBRATED SPRING LOADED WASHERS.
13. IF ANY ANCHOR FAILS TESTING, TEST ALL ANCHORS OF THE SAME TYPE, INSTALLED BY THE SAME TRADE, NOT PREVIOUSLY TESTED UNTIL TWENTY (20 CONSECUTIVE ANCHOR PASS, THEN RESUME THE INITIAL TEST FREQUENCY.
14. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND DRILLED-IN ANCHORS.
15. IF REBAR IS ENCOUNTERED DURING THE DRILLING, THE CONTRACTOR SHALL IMMEDIATELY TERMINATE DRILLING AND CONTACT THE ENGINEER OF RECORD. THE ENGINEER OF RECORD WILL AUTHORIZE USING ONE OF THE FOLLOWING PROCEDURES:
   A. IF THE ANCHOR MAY BE SHIFTED, FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT THE MINIMUM SPACING BETWEEN AN ABANDONED HOLE AND A DRILLED HOLE USED FOR A POST INSTALLED ANCHOR SHALL NOT BE LESS THAN 1-1/2 ANCHOR DIAMETERS UNLESS OTHERWISE APPROVED BY THE ENFORCEMENT AGENCY.
   B. IF THE ANCHOR LOCATION MAY NOT BE SHIFTED, CORE AN OVERSIZE HOLE AT THE DIRECTION OF THE ENGINEER OF RECORD AND GROUT AN APPROVED ANCHOR PLACE.
16. IF THE CONCRETE CRACKS DURING THE INSTALLATION OF THE ANCHOR, THE ANCHOR SHALL BE REMOVED OR ABANDONED.
17. MAXIMUM INSTALLATION TOREQUE SHALL BE PER MFR'S CODE EVALUATION REPORT.
18. FOR THE ANCHORS INSTALLED INTO CONCRETE USING SIMPSON STRONG-BOLT 2 (ICC ESR 3037, LAAR 25891)

STRUCTURAL CONCRETE		
ANCHOR DIAMETER	TORQUE (ft-lb) (STAINLESS STEEL)	TORQUE (ft-lb) (CARBON STEEL)
3/8"	30	30
1/2"	65	60
5/8"	80	90
3/4"	150	150

CONCRETE OVER METAL DECK		
ANCHOR DIAMETER	PLACED IN LOWER FLUTE	PLACED IN UPPER FLUTE
	TORQUE (ft/lbf)	
3/8"	30	30
1/2"	60	60
5/8"	80	-
3/4"	150	-

TITEN HD SCREW ANCHOR	
ANCHOR DIAMETER	TORQUE (ft-lb)
3/8"	50
1/2"	65
5/8"	100
3/4"	150

TITEN HD ROD HANGER	
ANCHOR DIAMETER	TORQUE (ft-lb)
3/8"	50
1/2"	50



STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED BY AN APPROVED AND LICENSED FABRICATOR IN ACCORDANCE WITH THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (LATEST EDITION), AND WITH CHAPTER 22A OF THE CODE.
2. ALL STRUCTURAL STEEL SHALL CONFORM TO THE ASTM DESIGNATION AS INDICATED BELOW (UNO):

WF AND WT SHAPES	A992
PIPE COLUMNS	A53, GRADE B
HSS SECTIONS	A500, GRADE C
BOLTS	A325
BOLTS IN CONCRETE/MASONRY	A307
ANGLES, CHANNELS, PLATES	A36
ANCHOR RODS	F1554, GRADE 36 UNO

3. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS TO THE ARCHITECT OF ALL STEEL FOR ARCHITECTS AND STRUCTURAL ENGINEERS REVIEW AND APPROVAL BEFORE FABRICATION.
4. BOLT HOLES USED IN STEEL SHALL BE 1/16" LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED, EXCEPT AS NOTED.
5. ALL STRUCTURAL STEEL SURFACES THAT ARE ENCASED IN CONCRETE, OR MASONRY, SPRAY ON FIREPROOFING, OR ARE ENCASED BY BUILDING FINISH, SHALL BE LEFT UNPAINTED.
6. ALL WELDING IS TO BE DONE BY CERTIFIED WELDERS APPROVED USING E70XX ELECTRODES (UNO). ALL WELDS SHALL BE IN CONFORMITY WITH THE PROJECT SPECIFICATIONS AND THE CODE FOR WELDING IN BUILDING CONSTRUCTION (AWS D1.1 LATEST REVISION) OF THE AMERICAN WELDING SOCIETY. SEE SPECIAL INSPECTIONS SECTION FOR WELDING INSPECTION REQUIREMENTS.
7. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN AISC MANUAL OF STEEL CONSTRUCTION 13TH EDITION, TABLE J2.4.
8. ALL EXPOSED STRUCTURAL STEEL AND MISCELLANEOUS METAL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
9. ALL GROOVE WELDS SHALL BE FULL PENETRATION UNLESS NOTED OTHERWISE.
10. WHERE FINISH IS ATTACHED TO STRUCTURAL STEEL PROVIDE 1/2"DIA. BOLT HOLES @ 48" OC @ W, C, L, MEMBERS AND 1/2"Ø. WELDED STUDS @ 48" OC @ TUBE & PIPE MEMBERS FOR ATTACHMENT OF NAILERS, SEE ARCHITECTURAL DRAWINGS FOR FINISHES SEISMIC LOAD RESISTING SYSTEM (SLRS) IS DEFINED AS THE ASSEMBLY OF STRUCTURAL ELEMENTS IN THE BUILDING THAT RESISTS SEISMIC LOADS, INCLUDING COLUMNS, BEAMS, GIRDERS, STRUCTS, COLLECTORS, CHORDS AND BRACES, AND THE CONNECTIONS BETWEEN THESE ELEMENTS SPECIFICALLY DESIGN TO RESIST SEISMIC FORCES, AS DESIGNATED ON THE DRAWINGS.
11. WELD MATERIALS USED IN SLRS WELD CONNECTIONS SHALL CONFORM TO THE FOLLOWING TOUGHNESS REQUIREMENTS:
   A. WELD CONNECTIONS SHALL BE MADE WITH A FILLER METAL THAT CAN PRODUCE WELDS THAT HAVE A MINIMUM CHARPHY V-NOTCH TOUGHNESS OF 20 FT-LB AT 0 DEGREES F AS DETERMINED BY THE APPROPIATE AWS CLASSIFICATION TEST METHOD.
   B. WELDED CONNECTIONS DESIGNATED AS 'DEMAND CRITICAL' SHALL BE MADE WITH A FILLER METAL CAPABLE OF PROVIDING A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LB AT 20 DEGRESS F AS DETERMINED BY THE APPROPIATE AWS CLASSIFICATION TEST METHOD, AND 40 FT-LB AT 70 DEGRESS F AS DETERMINED BY APPENDIX X OF ANSI/AISC 341.

LOADING

1. DESIGN LOADS
   ROOF LIVE LOAD = 20 PSF
2. WIND ANALYSIS PER CHAPTER 16A OF THE CODE
   RISK CATEGORY = III
   BASIC WIND SPEED, V = 101 mph
   EXPOSURE = C
3. SEISMIC ANALYSIS PER CHAPTER 16A OF THE CODE UTILIZING THE FOLLOWING:
   A. PROCEDURE - EQUIVALENT LATERAL FORCE ANALYSIS (Rho = 1.3)
   B. MECHANICAL EQUIPMENT ANCHORAGE

SEISMIC PARAMETERS			
S_S =	1.688g	S_{DS} =	1.350g
S_1 =	0.603g	S_{D1} =	0.683g
F_a =	1.2	DESIGN CATEGORY =	D
F_v =	1.7	SITE CLASS =	D-DEFAULT
I_P =	1.00	F_p =	0.68
ap =	2.5	Ω_O =	2.0
R_P =	6.0		

SUBMITTALS

1. THE FOLLOWING CHECKED DEFERRED SUBMITTAL ITEMS MUST BE REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT FOR CONSIDERATION. THE ARCHITECT SHALL FORWARD THE SUBMITTAL TO THE ENGINEER OF RECORD (EOR) FOR REVIEW. IN NO CASE SHALL DEFERRED SUBMITTAL ITEMS BE DELIVERED TO THE JOBSITE PRIOR TO REVIEW AND APPROVAL BY THE BUILDING OFFICIAL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE TURN-AROUND TIME OF EACH PARTY AND TO MAKE APPROPRIATE TIME ALLOWANCES.
2. PLANS FOR THE DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED IN A TIMELY MANNER THAT ALLOWS A MINIMUM OF 15 WORKING DAYS FOR INITIAL PLAN REVIEW. ALL COMMENTS RELATED TO THE DEFERRED SUBMITTALS MUST BE ADDRESSED TO THE SATISFACTION OF THE PLAN CHECK DIVISION PRIOR TO THE APPROVAL OF THE SUBMITTAL ITEMS.

✓ STRUCTURAL STEEL SHOP DRAWINGS

SPECIAL INSPECTIONS

1. ALL SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF CBC CH 17A AND ANY ADDITIONAL REQUIREMENTS STATED IN THESE DRAWINGS AND/OR THE PROJECT SPECIFICATIONS.
2. THE OWNER SHALL PROVIDE FOR A SPECIAL INSPECTOR(S) WHO WILL PROVIDE SPECIAL INSPECTIONS OF THE CONSTRUCTION AS REQUIRED BY THE CODE OR ANY OTHER GOVERNING AUTHORITY. ANY SUCH DISCREPANCY SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.
3. THE SPECIAL INSPECTOR SHALL BE QUALIFIED BY THE JURISDICTION TO PROVIDE INSPECTIONS OF THE SPECIFIC CONSTRUCTION OR OPERATION REQUIRED. PROOF OF SUCH QUALIFICATION SHALL BE PROVIDED TO THE BUILDING OFFICIAL PRIOR TO THE START OF INSPECTIONS.
4. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER, ARCHITECT AND THE CONTRACTOR IN A TIMELY MANNER. ALL DISCREPANCIES BETWEEN THE INSPECTORS WORK AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF NOT CORRECTED, TO THE ENGINEER, ARCHITECT AND THE BUILDING OFFICIAL. THE SPECIAL INSPECTOR SHALL KEEP RECORDS SUCH THAT ALL CONCERNED PARTIES CAN IDENTIFY THE WORK THAT WAS INSPECTED AND DISCREPANCIES AND SUCH THAT CORRECTED WORK IS RECORDED IN A TIMELY MANNER.
5. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN GENERAL CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE. IF NON-CONFORMING WORK REMAINS, THEN THIS WORK SHALL BE ITEMIZED AND NOTED IN THE REPORT.
6. THE CONTRACTOR SHALL GIVE ACCESS TO THE WORK REQUIRING SPECIAL INSPECTION. THE CONTRACTOR SHALL PROVIDE A DESIGNATED AREA, ON SITE, FOR THE SPECIAL INSPECTOR TO RECEIVE CORRESPONDENCE AND AN AREA TO LEAVE CORRESPONDENCE FOR THE BUILDING OFFICIAL AND THE CONTRACTOR. THE CONTRACTOR SHALL DESIGNATE A QUALITY CONTROL INDIVIDUAL THAT SHALL ACT AS THE MAIN POINT OF CONTACT FOR THE INSPECTOR, ENGINEER AND ARCHITECT REGARDING INSPECTIONS ISSUES.
7. A PRE-INSPECTION MEETING SHALL BE HELD AND ORGANIZED BY THE CONTRACTOR ONCE INSPECTION HAS STARTED. AS A MINIMUM, THE ENGINEER, SPECIAL INSPECTOR, ARCHITECT, BUILDING OFFICIAL, OWNER'S REPRESENTATIVE AND THE CONTRACTOR'S QUALITY CONTROL INDIVIDUAL SHALL BE INVITED TO ATTEND. THE PURPOSE OF THE MEETING WILL BE TO MEET EACH OTHER, CONFIRM THE SCOPE OF WORK FOR EACH DISCIPLINE, ESTABLISH COMMUNICATION PROTOCOLS AND ANSWER ANY QUESTIONS.

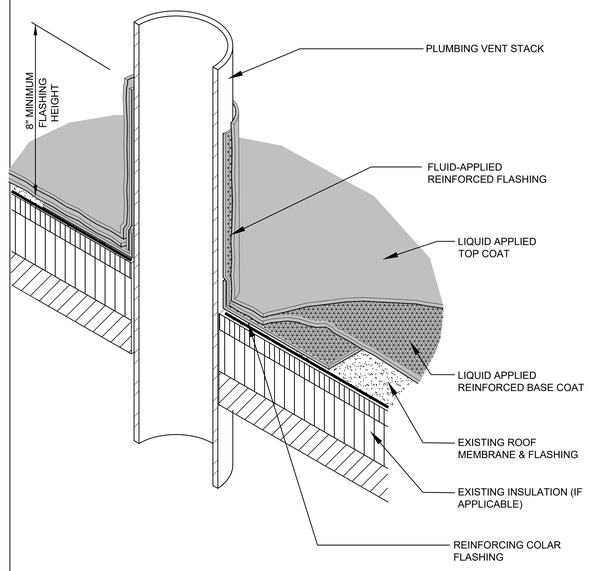
SHEET INDEX

SHEET NUMBER	SHEET NAME
T1	TITLE SHEET
AD01	BUILDING 2A (ADMIN / LIBRARY BLDG) WATERPROOFING DETAILS
AD02	BUILDING 5A (GYM BLDG) WATERPROOFING DETAILS
S2.01	BUILDING 2A (ADMIN / LIBRARY BLDG) ROOF FRAMING PLAN
S501	BUILDING 5A (GYM BLDG) ROOF FRAMIN GPLAN
S601	TYPICAL STEEL DETAILS
M0.1	MECHANICAL GENERAL NOTES AND SCHEDULES
M0.2	MECHANICAL SCHEDULES
MD2.1	BUILDING 2A DEMOLITION FIRST FLOOR PLAN
M2.1	BUILDING 2A CONSTRUCTION FIRST FLOOR PLAN
MD2.1A	UILDING 2A ENLARGED DEMOLITION FIRST FLOOR PLAN
M2.1A	BUILDING 2A ENLARGED CONSTRUCTION FIRST FLOOR PLAN
MD2.2	BUILDING 2A DEMOLITION SECOND FLOOR PLAN
M2.2	BUILDING 2A CONSTRUCTION SECOND FLOOR PLAN
MD2.2A	BUILDING 2A ENLARGED DEMOLITION SECOND FLOOR PLAN
M2.2A	BUILDING 2A ENLARGED CONSTRUCTION SECOND FLOOR PLAN
MD2.3	BUILDING 5A DEMOLITION FLOOR PLAN
M2.3	BUILDING 5A CONSTRUCTION FLOOR PLAN
MD3.1	BUILDING 2A DEMOLITION ROOF PLAN
M3.1	BUILDING 2A CONSTRUCTION ROOF PLAN
MD3.2	BUILDING 5A DEMOLITION ROOF PLAN
M3.2	BUILDING 5A CONSTRUCTION ROOF PLAN
M4.1	MECHANICAL DETAILS
M4.2	MECHANICAL DETAILS
M5.1	MECHANICAL CONTROLS
M6.1	MECHANIDAL T24 - BUILDING 2A
M6.2	MECHANICAL T24 - BUILDING 5A
E0.1	ELECTRICAL GENERAL NOTES, SYMBOLS LIST, AND ABBREVIATIONS
ED3.1	BUILDING 2A DEMOLITION ROOF PLAN
ED3.2	BUILDING 5A DEMOLITION ROOF PLAN
E2.1	BUILDING 2A CONSTRUCTION ROOF PLAN
E3.1	BUILDING 2A CONSTRUCTION ROOF PLAN
E3.2	BUILDING 5A CONSTRUCTION ROOF PLAN
P0.1	PLUMBING GENERAL NOTES AND LEGEND
PD3.1	BUILDING 2A DEMOLITION ROOF PLAN
P3.1	BUILDING 2A CONSTRUCTION ROOF PLAN
PD3.2	BUILDING 5A DEMOLITION ROOF PLAN
P3.2	BUILDING 5A CONSTRUCTION ROOF PLAN
P4.1	PLUMBING DETAILS

GENERAL NOTES CONTINUATION

23. CONTRACTOR SHALL PROVIDE THE ENGINEER AND DISTRICT WITH A CONSTRUCTION SCHEDULE (WHICH SHALL BE APPROVED IN WRITING) PRIOR TO START OF CONSTRUCTION. ALL ASPECTS OF CONSTRUCTION, INCLUDING, BUT NOT LIMITED TO TRENCHING, TEMPORARY WALK AND DRIVE WAYS, UNIT SYSTEM DISABLING, PIPE REMOVAL/INSTALLATION, UNIT START-UP, CONTROLS INSTALLATION, PHASING, ETC. SHALL BE CONSIDERED.
24. THESE PLANS WERE PREPARED IN A MANNER CONSISTENT WITH EXISTING PROFESSIONAL STANDARDS AND WITH THE UNDERSTANDING THAT THESE DRAWINGS WOULD BE USED SOLELY BY QUALIFIED AND EXPERIENCED CONTRACTORS AND/OR DESIGN PROFESSIONALS FOR USE IN THE CON-STRUCTION OF THIS SPECIFIC PROJECT ONLY. THE DETAILS INDICATED ON THESE PLANS REPRESENT GENERAL TYPICAL DETAILS REQUIRED FOR COMMUNICATING THIS PROJECT'S DESIGN INTENT TO SUCH AN MAY NOT INCLUDE ALL THE DETAILS NECESSARY FOR THE FINAL COMPLETION OF THIS PROJECT.
25. FOR NEW WORK ABOVE CEILING, CAREFULLY REMOVE CEILING TILE AND SAVE. CUT AROUND GYPSUM BOARD OR PLASTER CEILING, PREPARE SURFACE TO RECEIVE NEW WORK. AFTER WORK IS DONE, REPAIR, RE-PLASTER OR INSTALL NEW GYPSUM WALLBOARD TO MATCH ADJACENT SURFACE AND REINSTALL ACOUSTICAL TILE. IF TILE IS DAMAGED, REPLACE WITH NEW TILE TO MATCH EXISTING.
26. OCCUPANTS OF THE EXISTING BUILDING SHALL BE SPARED INCONVENIENCE DUE TO THE CONTRACTOR'S WORK, DEBRIS, ETC. ENTRANCES AND CORR-IDORS SHALL BE PROTECTED AND KEPT FREE OF CONSTRUCTION. THE DISTRICT SHALL BE NOTIFIED IN ADVANCE OF TIMES OF DELIVERY OF EQUIPMENT AND

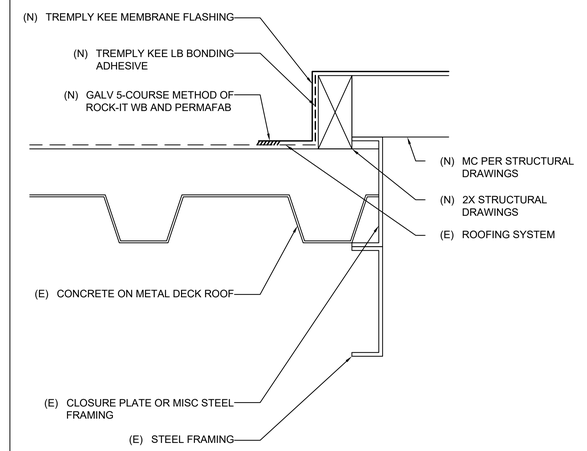
Plot Date: 1/7/2026 10:24:44 AM
Project # 2025-131_R26



NOTES

1. PRIMING OF THE SUBSTRATE MAY BE REQUIRED, FOLLOW SPECIFICATIONS AND MANUFACTURER RECOMMENDATIONS.
2. REINFORCEMENT MUST BE FULLY SATURATED OR ENCAPSULATED IN BASE COAT AS DESCRIBED IN SPECIFICATIONS.

PLUMBING VENT OR PIPE PENETRATION FULLY REINFORCED RESTORATION	SCALE: NTS	NUMBER: 2



TREMPLY KEE TYPICAL MECHANICAL CURB UNIT 72, 73, 74	SCALE: NTS	NUMBER: 1

LINES ARCHITECTS
2040 Lomita Blvd, Suite 104
Lomita, CA 90717
Tel: (310) 634-3838

DSA A# 03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD, CA 90262

SHEET TITLE

BUILDING 2A
(ADMIN/LIBRARY BLDG)
WATERPROOFING DETAILS

APPROVED STAMP



REVISION SCHEDULE

Delta	Description	Issue Date
	DSA Submittal	01/09/26
	DSA Backcheck 1	03/12/26

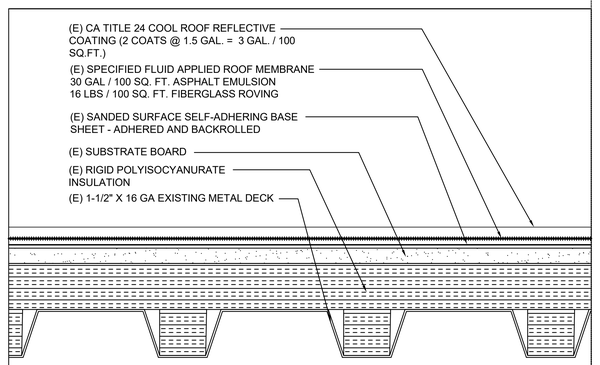
APPROVED BY: Approver
REVIEWED BY: Designer
DRAWN BY: Author
SCALE: As indicated
ISSUE DATE: Issue Date
SHEET NUMBER

AD01

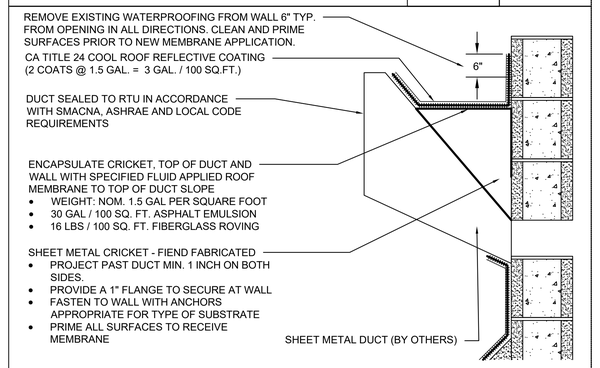
Date Plotted: 1/7/2026 10:24:44 AM
Alan Ines

Project # 2025-131_R26

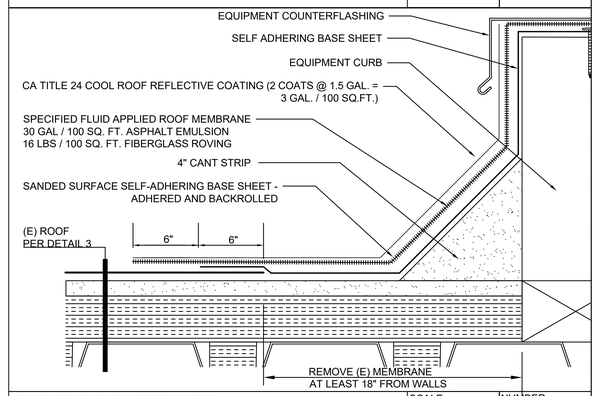
Plot Date: 1/7/2026 10:24:44 AM



(E) ROOF SYSTEM LAYOUT	SCALE: NTS	NUMBER: 3



DUCT TERMINATION AT (E) CMU WALL	SCALE: NTS	NUMBER: 2



EQUIPMENT CURB COUNTERFLASHING UNIT 58, 59, 60	SCALE: NTS	NUMBER: 1

JAMES ARCHITECTS
2040 Lomita Blvd, Suite 104
Lomita, CA 90717
Tel: (310) 634-3838

DSA A# 03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 5A (GYM BLDG)
WATERPROOFING DETAILS

APPROVED STAMP

LICENSED ARCHITECT
ALANN BERNARD INES
No. C-37608
REN 07-2027
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA Submittal	01/09/26
	DSA Backcheck 1	03/12/26

APPROVED BY: Approver
REVIEWED BY: Designer
DRAWN BY: Author
SCALE: As indicated
ISSUE DATE: Issue Date
SHEET NUMBER

AD02

Date Plotted: 1/7/2026 10:24:44 AM
File Name:

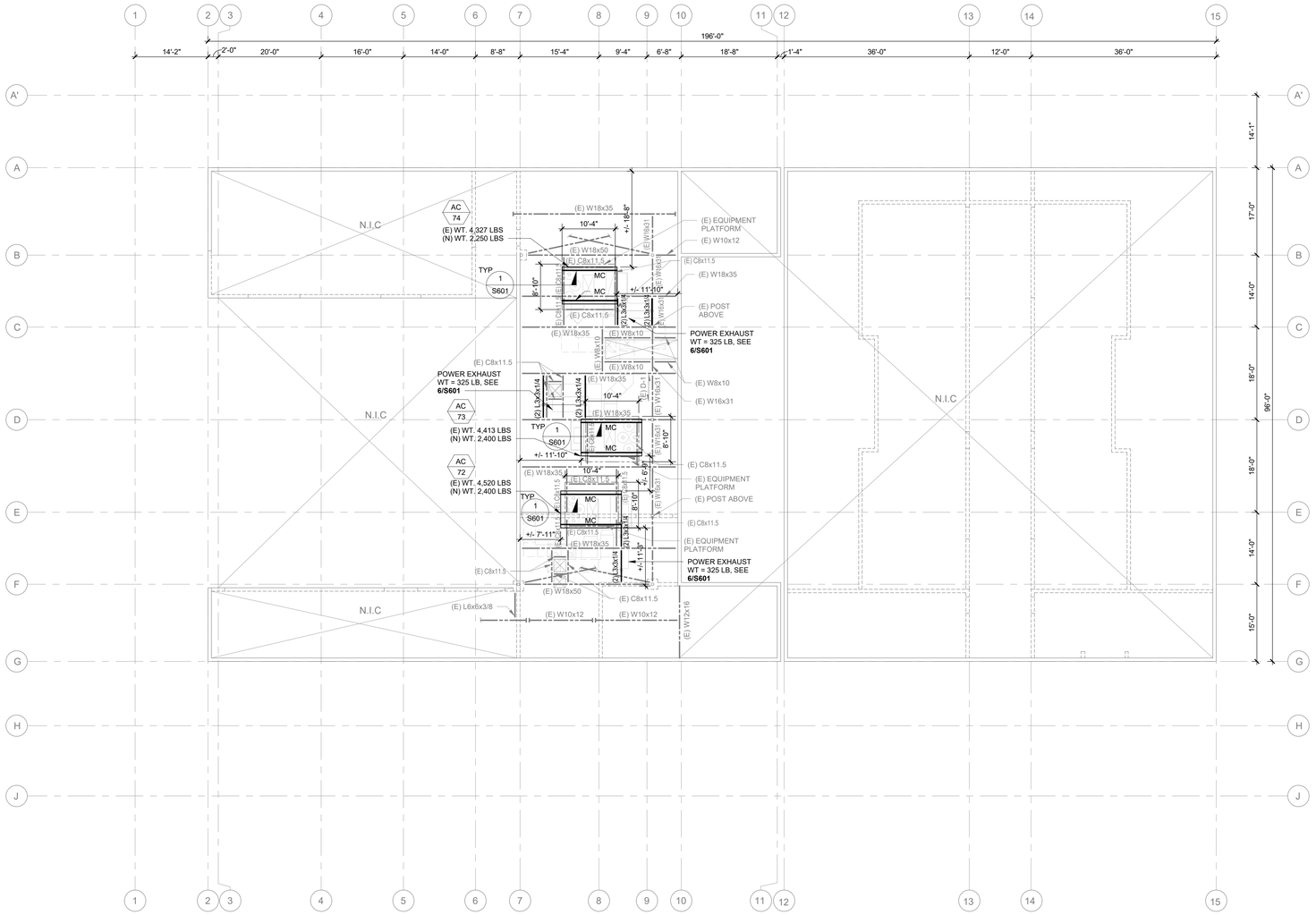
PER APPROVED **1/S8.011** UNDER #03-105745

NOTES:
1. EXISTING DECKING PER AS-BUILTS AS FOLLOWS:

MARK	STEEL DECK TYPE	GAGE	TOTAL THICKNESS (t)	CONC TYPE	REINF EACH WAY	STEEL DECK WELDING PATTERN				MAX UNSHORED SPAN		
						END ①	INT ③X⑥	EDGE	SEAM ②	SINGLE SPAN	DOUBLE SPAN	TRIPLE SPAN
D-1	VERCO W2 FORMLOK	18	5"	f'c=3000 psi LTWT	#4@16"OC EA WAY	3/4"ø PUDDLE WELD@12"OC	3/4"ø PUDDLE WELD@12"OC	3/4"ø PUDDLE WELD@12"OC	BUTTON PUNCH @ 36"OC	9'-0"	10'-0"	11'-0"
D-2	VERCO HSB	16	–	–	–	(7) WELDS PER SHEET	(7) WELDS PER SHEET	3/4"ø PUDDLE WELD@12"OC	TSWR@12"OC	10'-0"	10'-0"	10'-0"
D-3	VERCO HSB	16	–	–	–	(7) WELDS PER SHEET	(7) WELDS PER SHEET	3/4"ø PUDDLE WELD@12"OC	TSWR@12"OC	10'-0"	10'-0"	10'-0"
D-4	VERCO HSB	16	–	–	–	(7) WELDS PER SHEET	(7) WELDS PER SHEET	3/4"ø PUDDLE WELD@12"OC	TSWR@24"OC	10'-0"	10'-0"	10'-0"
D-5	VERCO W3 FORMLOK	18	6 1/2"	f'c=3000 psi LTWT	#4@16"OC EA WAY	3/4"ø PUDDLE WELD@12"OC	3/4"ø PUDDLE WELD@12"OC	3/4"ø PUDDLE WELD@12"OC	BUTTON PUNCH @ 36"OC	8'-6"	9'-6"	10'-0"
D-6	VERCO W2 FORMLOK	18	5"	f'c=3000 psi LTWT	#4@16"OC EA WAY	3/4"ø PUDDLE WELD@12"OC	3/4"ø PUDDLE WELD@12"OC	3/4"ø PUDDLE WELD@12"OC	BUTTON PUNCH @ 36"OC	9'-0"	10'-0"	11'-0"

2. CONTRACTOR TO FIELD VERIFY ALL RELEVANT EXISTING CONDITIONS PRIOR TO PROCEEDING. NOTIFY ENGINEER OF ANY DEVIATION FOR REVIEW AND DIRECTION PRIOR TO PROCEEDING.
3. SEE S5## SERIES DRAWINGS FOR TYPICAL SECTIONS AND DETAILS.

NOTE:
(E) CONDITIONS ARE SHOWN TO THE BEST OF OUR KNOWLEDGE AND BASED ON DRAWINGS NOT PREPARED BY PETRA STRUCTURAL ENGINEERS. THE CONTRACTOR SHOULD VERIFY ALL (E) FIELD CONDITIONS BEFORE COMMENCING WORK. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER IF CONDITIONS ARE DIFFERENT THAN SHOWN.



BUILDING 2A ROOF FRAMING PLAN

DSA APPL. #3-105745

3/32" = 1'-0"

1

N

AGENCY APPROVAL

DSA A# 03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A (ADMIN / LIBRARY BLDG) ROOF FRAMING PLAN

PETRA
STRUCTURAL ENGINEERS
17981 Sky Park Circle
Suite O Irvine, CA 92614
Tel: (949) 748-7170

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER PETER R. [illegible] No. 5[illegible] Exp. 6/30/27 STRUCTURAL STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA Submittal	01/09/26
	DSA Backcheck 1	03/12/26

APPROVED BY: Approver
REVIEWED BY: Designer
DRAWN BY: Author
SCALE: As indicated
ISSUE DATE: Issue Date
SHEET NUMBER

S201

PROJECT NUMBER

Plot Date: 3/10/2026 12:02:25 PM
Project # 2025-131_R26

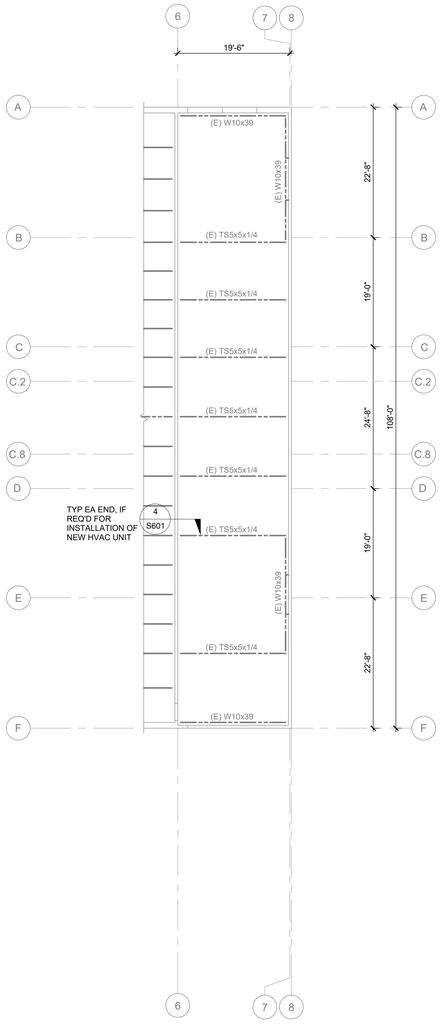
Date Printed: 3/10/2026 12:02:25 PM
File Name:

Project # 2025-131_R26

Plot Date: 3/10/2026 12:02:26 PM

NOTES:
1. SEE S2.01

NOTE:
(E) CONDITIONS ARE SHOWN TO THE BEST OF OUR KNOWLEDGE AND BASED ON DRAWINGS NOT PREPARED BY PETRA STRUCTURAL ENGINEERS. THE CONTRACTOR SHOULD VERIFY ALL (E) FIELD CONDITIONS BEFORE COMMENCING WORK. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER IF CONDITIONS ARE DIFFERENT THAN SHOWN.



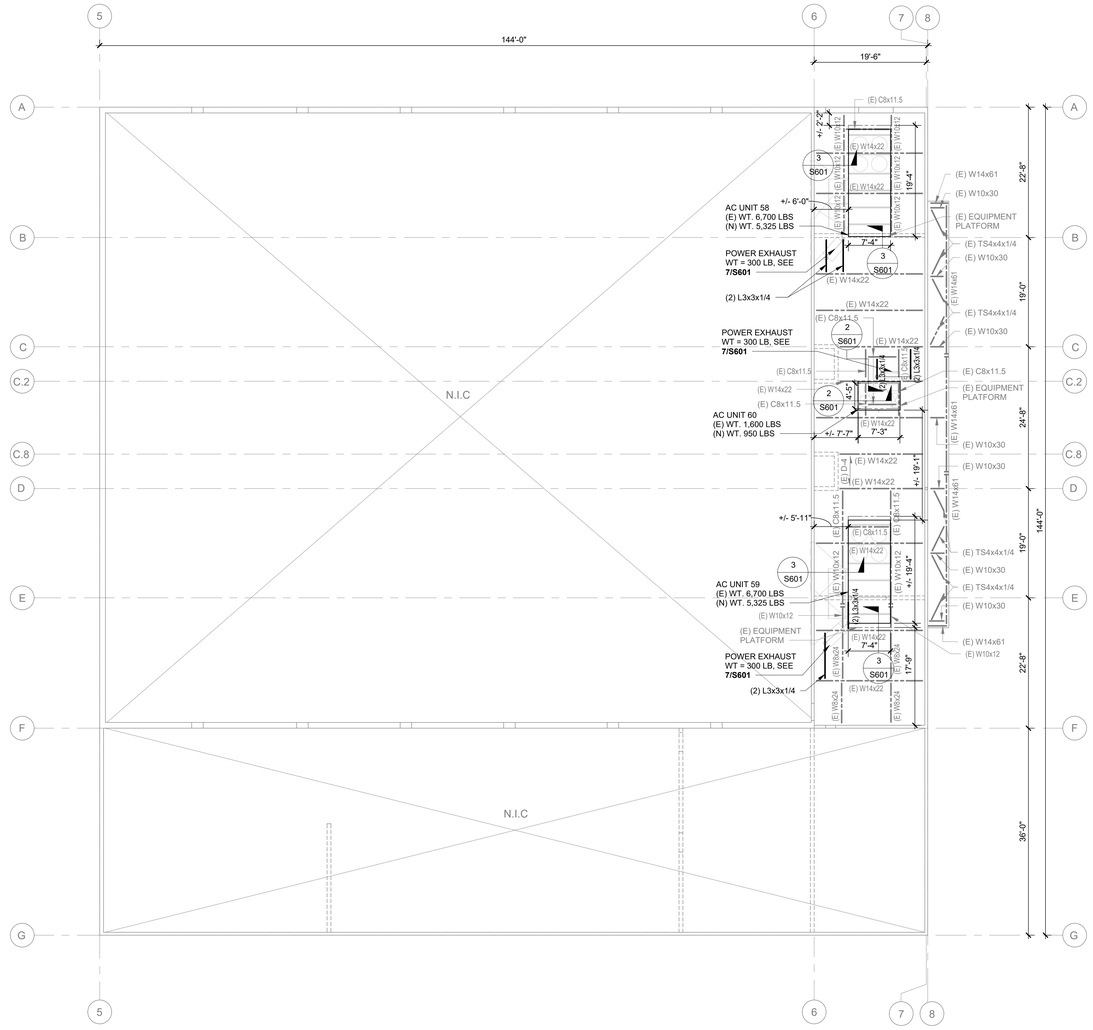
BUILDING 5A HIGH ROOF PARTIAL FRAMING PLAN

DSA APPL. #3-105745

3/32" = 1'-0"

2

N



BUILDING 5A ROOF FRAMING PLAN

DSA APPL. #3-105745

3/32" = 1'-0"

1

N

AGENCY APPROVAL

DSA A# 03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDIG 5A (GYM BLDG) ROOF FRAMING PLAN

PETRA
STRUCTURAL ENGINEERS
17981 Sky Park Circle
Suite O Irvine, CA 92614
Tel: (949) 748-7170

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER PETER ... No. 58... Exp. 6/30/27 STRUCTURAL STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA Submittal	01/09/26
	DSA Backcheck 1	03/13/26

APPROVED BY: Approver

REVIEWED BY: Designer

DRAWN BY: Author

SCALE: As indicated

ISSUE DATE: Issue Date

SHEET NUMBER

S501

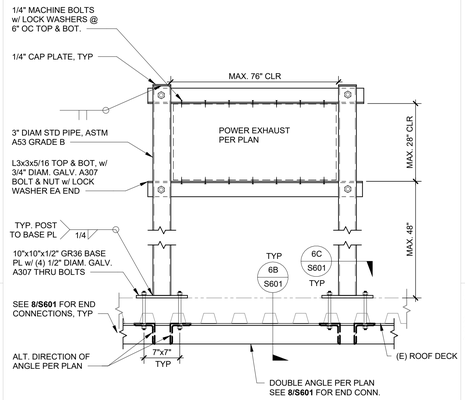
PROJECT NUMBER

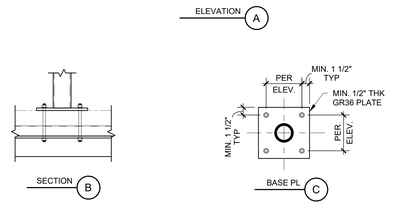
Date Printed: 3/10/2026 12:02:26 PM
File Name:

Plot Date: 3/10/2026 12:02:26 PM

Project # 2025-131_R26

NOTE:
1. REMOVE ROOFING AND REPLACE OVER POST & BASE AFTER INSTALLATION.
2. ALL STEEL TO BE HOT-DIPPED GALVANIZED.
3. WELDING IN THIS DETAIL EXEMPT FROM DSA TESTING & INSPECTION.



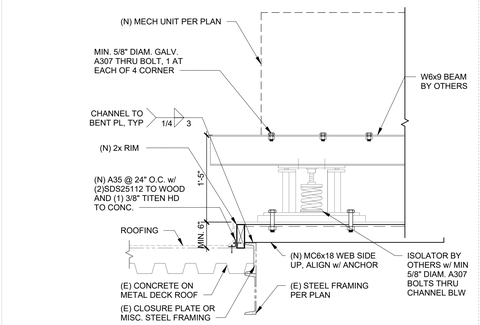


POWER EXHAUST SUPPORT DTL

SCALE: NTS

6

NOTE:
1. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO PROCEEDING, NOTIFY ENGINEER OF ANY DEVIATION FOR REVIEW AND DIRECTION.
2. SEE 1/AD-01 AND DIVISION 7 SPECIFICATIONS FOR WATERPROOFING INFORMATION.
3. WELDING IN THIS DETAIL EXEMPT FROM DSA TESTING & INSPECTION.

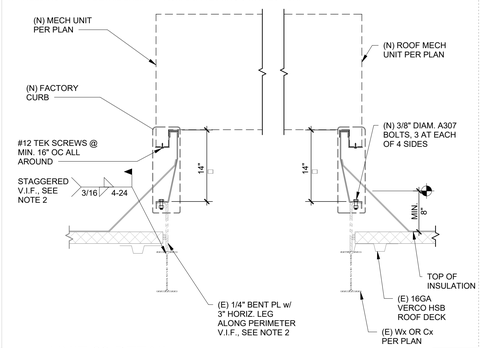


UNIT 72, 73, & 74 DETAIL

SCALE: NTS

1

NOTE:
1. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO PROCEEDING, NOTIFY ENGINEER OF ANY DEVIATION FOR REVIEW AND DIRECTION.
2. IF PLATE NOT PRESENT, PROVIDE (N) 3/8" BENT PLATE AND WELDS, ALIGN w/ (N) CURB
3. SEE 1/AD-01 AND DIVISION 7 SPECIFICATIONS FOR WATERPROOFING INFORMATION.
4. WELDING IN THIS DETAIL EXEMPT FROM DSA TESTING & INSPECTION.

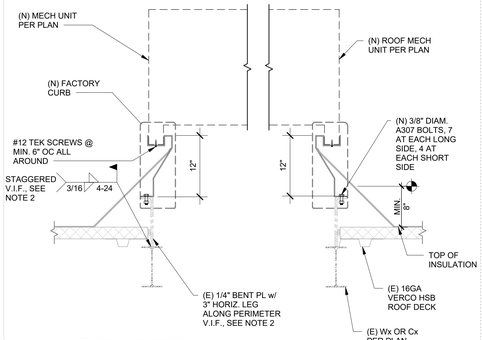


UNIT 60 DETAIL

SCALE: NTS

2

NOTE:
1. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO PROCEEDING, NOTIFY ENGINEER OF ANY DEVIATION FOR REVIEW AND DIRECTION.
2. IF PLATE NOT PRESENT, PROVIDE (N) 3/8" BENT PLATE AND WELDS, ALIGN w/ (N) CURB
3. SEE 1/AD-01 AND DIVISION 7 SPECIFICATIONS FOR WATERPROOFING INFORMATION.
4. WELDING IN THIS DETAIL EXEMPT FROM DSA TESTING & INSPECTION.

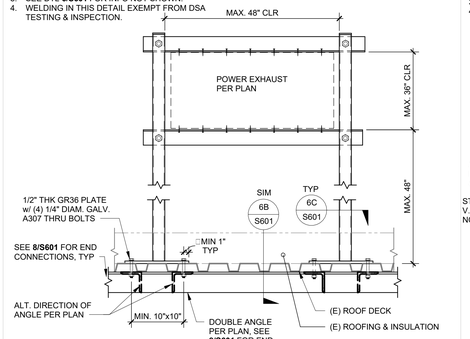


UNIT 58 & 59 DETAIL

SCALE: NTS

3

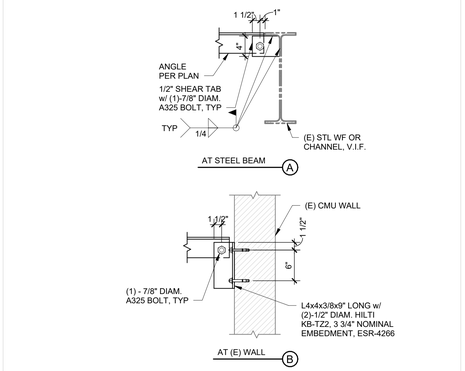
NOTE:
1. REMOVE ROOFING AND REPLACE OVER POST & BASE AFTER INSTALLATION.
2. ALL STEEL TO BE HOT-DIPPED GALVANIZED.
3. SEE DTL **6/S601** FOR INFO NOT SHOWN.
4. WELDING IN THIS DETAIL EXEMPT FROM DSA TESTING & INSPECTION.



POWER EXHAUST SUPPORT DTL

SCALE: NTS

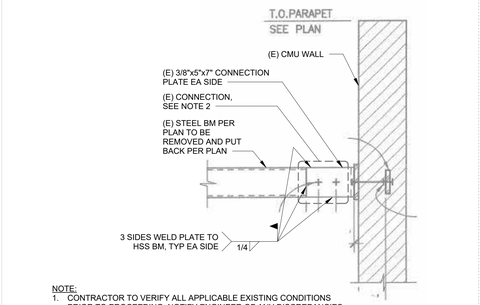
7



TYP STEEL CONNECTION DTL

SCALE: NTS

8



NOTE:
1. CONTRACTOR TO VERIFY ALL APPLICABLE EXISTING CONDITIONS PRIOR TO PROCEEDING, NOTIFY ENGINEER OF ANY DISCREPANCIES FOR REVIEW AND DIRECTION PRIOR TO PROCEEDING.
2. EXISTING CONNECTION IS WELDED BETWEEN THE SHEARTABS AND STEEL BM w/ ERECTION BOLTS. GRIND OFF WELDS, REMOVE ERECTION BOLTS AND TEMPORARILY REMOVE BEAMS FOR HVAC INSTALLATION. PUT BACK BEAM AND REWELD AS SHOWN AFTERWARDS. REPAINT / RECOAT CONNECTION AFTER COMPLETION OF ERECTION.

EXIST. BM DETAIL

SCALE: NTS

4

AGENCY APPROVAL

DSA A# 03-125870

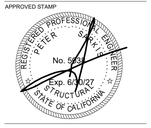
HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD, CA 90262

SHEET TITLE

TYPICAL STEEL DETAILS

PETRA
STRUCTURAL ENGINEERS
17981 Sky Park Circle
Suite O Irvine, CA 92614
Tel: (949) 748-7170

APPROVED STAMP



REVISION SCHEDULE

Delta	Description	Issue Date
	DSA Submittal	01/09/26
	DSA Backcheck 1	03/12/26

APPROVED BY: Approver
REVIEWED BY: Designer
DRAWN BY: Author
SCALE: 1" = 1'-0"
ISSUE DATE: Issue Date
SHEET NUMBER

S601

PROJECT NUMBER

Date Plotted: 3/10/2026 12:02:26 PM
File Name:

Plot Date:

Project # 2025-131_R25

GENERAL NOTES

----- GENERAL NOTES -----

1. ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2025 CALIFORNIA MECHANICAL CODE, 2025 CALIFORNIA BUILDING CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS, INCLUDING 2025 BUILDING ENERGY EFFICIENCY STANDARDS DIVISION T-24.

2. 2025 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE INCLUDING THE APPLICABLE MANDATORY MEASURES:

   - 5.201.1 CALIFORNIA ENERGY CODE. FOR THE PURPOSES OF MANDATORY ENERGY EFFICIENCY STANDARDS IN THIS CODE, THE CALIFORNIA ENERGY COMMISSION WILL CONTINUE TO ADOPT MANDATORY STANDARDS.

   - 5.504.3: COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.

   - 5.504.5.3.1 FILTERS. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR PRIOR TO OCCUPANCY THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 13. MERV 13 FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL. EXCEPTIONS:

   -A. EXISTING MECHANICAL EQUIPMENT.

   - 5.506.1 OUTSIDE AIR DELIVERY. FOR MECHANICALLY OR NATURALLY VENTILATED SPACES IN BUILDINGS, MEET THE MINIMUM REQUIREMENTS OF SECTION 121 (REQUIREMENTS FOR VENTILATION) OF THE 2025 CALIFORNIA ENERGY CODE, OR THE APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT, AND DIVISION 1, CHAPTER 4 OF CCR, TITLE 8.

   - 5.508.1 OZONE DEPLETION AND GREENHOUSE GAS REDUCTIONS. INSTALL HVAC AND REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL COMPLY WITH 5.508.1.1 AND 5.508.1.2.

   - 5.508.1.1 CHLOROFLUOROCARBONS (CFCS). INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN CFCS.

   - 5.508.1.2 HALONS. INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN HALONS.

   - ADHESIVES, SEALANTS AND CAULKS SHALL MEET CALGREEN REQUIREMENTS.

   - INSTALLER AND SPECIAL INSPECTORS SHALL MEET ALL QUALIFICATIONS LISTED IN SECTION 702 OF THE 2025 CALIFORNIA GREEN BUILDING STANDARDS CODE.

3. COORDINATE ENTIRE INSTALLATION OF THE HVAC SYSTEM WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS, AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ITEMS TO BE PROVIDED BY OTHER TRADES WHERE MENTIONED IN THE CONTRACT DOCUMENTS PRIOR TO BID - NO EXCEPTIONS.

4. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES WITH THE ARCHITECTURAL REFLECTIVE CEILING PLAN. ELECTRICAL LIGHTING LAYOUT AND ARCHITECTURAL ROOM ELEVATIONS. THE ARCHITECT AND ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY CONFLICTS PRIOR TO FABRICATION AND INSTALLATION.

5. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER OF CONSTRUCTION PHASING PRIOR TO START OF CONSTRUCTION, REMOVAL, AND/OR REPLACEMENT OF ANY EQUIPMENT. CONTRACTOR SHALL RECEIVE PERMISSION IN WRITING PRIOR TO THE START OF ANY WORK DURING ANY PHASE FOR WORK SHOWN HEREIN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT WORK AND ARRANGE HIS WORK IN A MANNER THAT WILL CAUSE MINIMAL INTERFERENCE WITH DAILY FUNCTIONS WITHIN THE FACILITY. ANY EXPECTED DOWNTIME SHALL BE COORDINATED WITH THE OWNER.

6. ALL EQUIPMENT, DUCTS, PIPING, AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHER-PROOFED AND PAINTED TO MATCH, COORDINATE WITH ARCHITECT PRIOR TO PAINTING.

7. THE OWNER ACKNOWLEDGES THAT THE DESIGN PROFESSIONAL'S PLANS ARE INSTRUMENTS OF PROFESSIONAL SERVICE. NEVERTHELESS, THE PLANS PREPARED UNDER THIS AGREEMENT SHALL BECOME THE PROPERTY OF THE OWNER UPON COMPLETION OF THE WORK. THE OWNER AGREES TO HOLD HARMLESS AND INDEMNIFY THE DESIGN PROFESSIONAL AGAINST ALL DAMAGES, CLAIMS AND LOSSES, INCLUDING DEFENSE COSTS, ARISING OUT OF ANY RESCUE OF THE PLANS WITHOUT THE WRITTEN AUTHORIZATION OF THE DESIGN PROFESSIONAL.

8. ALL DIMENSIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND MUST BE CONFIRMED ON SITE.

9. PRIOR TO OCCUPANCY, THE ENTIRE H.V.A.C. SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH (AABC) ASSOCIATED AIR BALANCE COUNCIL STANDARDS BY AN INDEPENDENT AIR BALANCE CONTRACTOR. CERTIFICATION SHALL BE PROVIDED BY THE CONTRACTOR FOR AIR AS APPLICABLE. SYSTEMS SHALL BE BALANCED AS INDICATED ON PLANS INCLUDING FRESH AIR VENTILATION. WHERE THERE IS A CONFLICT WITH THE MECHANICAL PLANS, THE AIR BALANCE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO BALANCING OF SYSTEM. IF NOT THE AIR BALANCE CONTRACTOR SHALL BEAR ALL COSTS INCURRED FOR WORK THAT MUST BE RE-BALANCED DUE TO CONFLICTS ON CONTRACT DOCUMENTS. CONTRACTOR SHALL PROVIDE THREE COPIES OF THE AIR BALANCE REPORT TO THE ENGINEER FOR APPROVAL.

10. FOR INACCESSIBLE AREAS THE CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL DAMPERS, EQUIPMENT, SMOKE DETECTORS, AND CONTROL DEVICES. THESE PANELS SHALL MATCH THE RATING OF THE WALL AND/OR CEILING THAT THEY ARE LOCATED IN. MINIMUM ACCESS PANEL SIZES SHALL BE AS FOLLOWS:

    1) HAND ACCESS: 12"x12".

    2) BODY ACCESS: 30"x30" MIN. WHERE A LARGER ACCESS SIZE IS REQUIRED DUE TO INSTALLATION CONSTRAINTS, THE CONTRACTOR SHALL DO SO AT NO ADDITIONAL COST AND SHALL NOTIFY THE ARCHITECT AND ENGINEER OF DEVIATIONS PRIOR TO INSTALLATION.

11. ALL EQUIPMENT, ACCESSORIES, AND RELATED PIPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.

12. MAINTENANCE LABEL SHALL BE AFFIXED TO ALL MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNER'S USE.

13. PROVIDE MERV 13 EFFICIENCY THROWAWAY FILTERS FOR ALL AIR CONDITIONING UNITS. SEE EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR TYPE. SIZES SHALL BE AS RECOMMENDED BY THE MANUFACTURER, UNLESS OTHERWISE SPECIFIED.

14. AIR FILTERS SHALL BE STATE FIRE MARSHAL APPROVED AND LISTED. PREFORMED FILTERS HAVING COMBUSTIBLE FRAMING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS SHALL BE ACCESSIBLE FOR CLEANING OR REPLACEMENT.

15. ALL EQUIPMENT WITH MOVING PARTS SHALL BE PROVIDED WITH FLEXIBLE DUCT AND PIPE CONNECTIONS.

16. ALL EQUIPMENT SHALL BE LABELED AS TO THE SPACE IT SERVES.

17. ALL HVAC EQUIPMENT SHALL BE CERTIFIED BY THE CALIFORNIA ENERGY COMMISSION TO COMPLY WITH LATEST EFFICIENCY STANDARDS.

18. PROVIDE MANUAL VOLUME DAMPERS AND BACKDRAFT DAMPERS FOR FRESH AIR INTAKES ON ALL AIR HANDLING EQUIPMENT AND SUPPLY AIR FANS SERVING CONDITIONED SPACES.

19. ALL AIR HANDLING EQUIPMENT SERVING CONDITIONED SPACES SHALL PROVIDE CONTINUOUS FRESH AIR TO SPACES IN OCCUPIED MODE.

20. CONTRACTOR SHALL VERIFY ALL CLEARANCES AND INSTALL HVAC UNITS PER MANUFACTURER GUIDELINES.

21. CONTRACTOR TO SUBMIT ALL EQUIPMENT AND OTHER ACCESSORIES TO THE ENGINEER FOR APPROVAL PRIOR TO ANY ORDERING OF SUCH ITEMS.

22. CONTRACTOR SHALL BE RESPONSIBLE FOR COMMISSIONING OF EQUIPMENT.

23. PAINT EXPOSED SURFACES, WHETHER OR NOT COLORS ARE DESIGNATED IN SCHEDULES, EXCEPT WHERE A SURFACE OR MATERIAL IS SPECIFICALLY INDICATED NOT TO BE PAINTED OR IS TO REMAIN NATURAL. WHERE AN ITEM OR SURFACE IS NOT SPECIFICALLY MENTIONED, PAINT THE SAME AS SIMILAR ADJACENT MATERIALS OR SURFACES. IF COLOR OR FINISH IS NOT DESIGNATED, THE OWNER'S REPRESENTATIVE WILL SELECT FROM STANDARD COLORS OR FINISHES AVAILABLE.

    1) PAINTING INCLUDES FIELD PAINTING EXPOSED BARE AND COVERED PIPES AND DUCTS (INCLUDING COLOR CODING), HANGERS, EXPOSED STEEL AND IRON WORK, AND PRIMED METAL SURFACES OF MECHANICAL AND ELECTRICAL EQUIPMENT.

24. ALL MECHANICAL PIPING SYSTEMS, DUCTS, CONTROLS, VALVES, APPARATUS, ETC., EXCEPT THOSE THAT ARE INSTALLED IN INACCESSIBLE LOCATIONS IN PARTITIONS, WALLS, AND FLOORS, AND THOSE BURIED UNDERGROUND, SHALL BE PERMANENTLY MARKED AND IDENTIFIED AS INDICATED IN THE RELATED SPECIFICATIONS.

25. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE CITY INSPECTOR.

26. THE HVAC UNITS ARE OWNER-FURNISHED AND CONTRACTOR-INSTALLED (OFCI) AND ARE CURRENTLY STORED AT TWO LOCATIONS:
    - 11300 WRIGHT RD, LYNWOOD, CA 90262
    - 2850 EAST DEL AMO BLVD, CARSON, CA 90221

    THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL HANDLING, LOADING, TRANSPORTATION, DELIVERY, UNLOADING, STAGING, AND INSTALLATION OF THE EQUIPMENT AT THE PROJECT SITE.

----- CONTROLS -----

1. CONTROL SCHEMATICS ARE FOR SEQUENCE ONLY. REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ALL ELECTRICAL DEVICES REQUIRED.

2. ALL LINE VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT. ALL LINE VOLTAGE CONDUIT AND WIRING, INCLUDING FINAL CONNECTIONS, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THE ELECTRICAL DRAWINGS OR SPECIFIED IN THE ELECTRICAL SECTION OF THE SPECIFICATIONS. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS OF ALL GOVERNING BODIES HAVING JURISDICTION THEREOF.

3. ALL LOW VOLTAGE CONDUIT AND WIRING AS APPLICABLE, INCLUDING FINAL CONNECTIONS, SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR AS INDICATED ON THE MECHANICAL DRAWINGS.

    A1) ALL LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT.

    A2) ALL LOW VOLTAGE WIRING SHALL BE PLENUM - RATED.

    B) WHERE THE CONTROLS CONTRACTOR IS RETAINED BY THE OWNER, THEY SHALL BE RESPONSIBLE FOR THE FOLLOWING:

    1) FURNISH AND INSTALL ALL DEVICES, WIRING, AND TERMINATIONS REQUIRED FOR A COMPLETE AND FUNCTIONAL INSTALLATION.

    2) COORDINATE ALL WORK AND REQUIREMENTS WITH OTHER TRADES INCLUDING GENERAL, MECHANICAL, AND ELECTRICAL CONTRACTORS PRIOR TO BID.

    3) CONTRACTOR SHALL FOLLOW ALL SUBMITTAL REQUIREMENTS PER DRAWINGS.

4. ELECTRICAL CONTRACTOR SHALL PROVIDE REQUIRED RELAY ACCESSORIES FOR CONNECTION OF 120 VOLT 1 PHASE VENTILATION EQUIPMENT TO 277 VOLT 1 PHASE LIGHTING AS APPLICABLE.

5. ALL THERMOSTATS SHALL HAVE LOCKABLE COVERS (WHERE INDICATED ON PLANS) AND SHALL BE OF THE ELECTRONIC, PROGRAMMABLE, AUTOMATIC CHANGEOVER TYPE TO SEQUENCE HEATING OR COOLING. SET POINT RANGE SHALL BE 10 DEGREES F. BETWEEN FULL HEATING AND COOLING. THEY SHALL HAVE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE NO MORE THAN 70 DEGREES F., AND COOLING AT A TEMPERATURE NOT LESS THAN 78 DEGREES F. ADJUSTABLE TEMPERATURE DIFFERENTIAL SHALL BE 1- 1/2 DEGREES F. CONTROL LIMITS SHALL BE FROM 55 DEGREES F. TO 85 DEGREES F. MOUNT AT 48 INCHES ABOVE FLOOR OR AS REQUIRED BY LOCAL AUTHORITIES OR HANDICAP CODES.

    NOTES: 1) THERMOSTATS THAT ARE PART OF AN ENERGY MANAGEMENT SYSTEM SHALL FOLLOW CONTROL SPECIFICATIONS AND DRAWING REQUIREMENTS.

    2) SHOULD THE LOCATION OF THE THERMOSTAT NOT MEET THE ADA HEIGHT REQUIREMENTS DUE TO OBSTRUCTIONS, THEN AN ALTERNATE LOCATION SHALL BE PROPOSED OR REQUESTED BY THE CONTRACTOR THAT SHALL BE APPROVED BY THE ENGINEER AND ARCHITECT.

6. LINE VOLTAGE THERMOSTATS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

7. CONTROLS CONTRACTOR AND AIR BALANCE CONTRACTOR SHALL COORDINATE WORK AND PERFORM NECESSARY TASKS AS REQUIRED TO OBTAIN AIR AND WATER FLOW QUANTITIES FOR SYSTEMS SHOWN HEREIN.

8. CONTROLS SHALL BE PROVIDED TO PROVIDE THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY THE STATE ENERGY REGULATIONS.

----- AIR DISTRIBUTION -----

1. ALL DUCTWORK SHALL BE SHEET METAL CONSTRUCTED OR SPIRAL, ERECTED, AND TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS, PROCEDURES DETAILED IN THE ASHRAE HANDBOOK OF FUNDAMENTALS, CHAPTER 6 OF THE MECHANICAL CODE, OR THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION.

2. CONTRACTOR SHALL PROVIDE EXTERIOR MANUAL VOLUME DAMPER HANDLES W/ LOCK-DOWN AFTER COMPLETING AIR BALANCE & OBTAIN FINAL APPROVAL FROM ENGINEER.

3. ALL RECTANGULAR DUCT TURNS IN OUTSIDE AIR DUCTS SHALL HAVE SINGLE WALL TURNING VANES WITH TRAILING EDGE, UNLESS OTHERWISE NOTED.

4. MANUAL VOLUME DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES TO INDIVIDUAL FRESH AIR INTAKE DUCTS. DAMPERS SHALL BE LOCATED AT THE BRANCH DUCT LOCATIONS. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATIONS OF DAMPERS WITH THE AIR BALANCE CONTRACTOR PRIOR TO BID, SO THEY ARE ACCESSIBLE PRIOR TO INSTALLATION. IN LOCATIONS WHERE THESE DAMPERS ARE INACCESSIBLE, CABLE OPERATED ADJUSTMENT CONTROLS SHALL BE PROVIDED AT NO ADDITIONAL COST. OPPOSED BLADE DAMPERS SHALL NOT BE PERMITTED UNLESS NOTED OTHERWISE.

5. UNLESS OTHERWISE NOTED THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING EXTERIOR LOUVERS CALLED OUT HEREIN. COORDINATE SIZE(S) AND LOCATION(S) WITH OTHER TRADES AS NECESSARY PRIOR TO BID.

6. ALL FLEXIBLE DUCTWORK SHALL NOT EXCEED FIVE FEET IN LENGTH TO RESPECTIVE DIFFUSERS, GRILLES, AND REGISTERS, OR OTHER AIR DEVICES.

7. ALL DUCT TURNS IN SUPPLY, RETURN, AND EXHAUST DUCTS SHALL HAVE TURNING VANES UNLESS OTHERWISE NOTED.

8. DUCTWORK HANDLING CONDITIONED AIR SHALL BE INSULATED AS INDICATED ON DRAWINGS. SUPPLY AND RETURN DUCT INSULATION SHALL BE MIN. 2" THICK, 3/4 LB./CUBIC FT. DENSITY ANDHAVE A MIN. VALUE OF R-8 WHERE LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES:
   - OUTDOORS, OR
   - IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING, OR
   - IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES, OR
   - IN AN UNCONDITIONED CRAWLSPACE; OR
   - IN OTHER UNCONDITIONED SPACES

   PER 2025 CEC, OTHERWISE PROVIDE R-4.2 WHEN LOCATED IN CONDITIONED ATTIC SPACES ABOVE CEILINGS . ALL DUCTWORK EXPOSED ON ROOF SHALL BE 2" THICK, 1.5LB./CUBIC FT LINER. DENSITY DUCT INSULATION UNLESS OTHERWISE INDICATED OR SPECIFIED. ALL DUCT SIZES ARE NET CLEAR INSIDE DIMENSIONS. SEALED PER CHAPTER 6 MECHANICAL CODE REQUIREMENTS. PROVIDE PIPING AND DUCT INSULATION IN ACCORDANCE WITH THE LATEST STANDARDS OF THE CALIFORNIA ENERGY COMMISSION.

9. CLEAN AND SANITIZE ALL EXISTING SUPPLY AND RETURN DUCTWORK CONNECTED TO THE REPLACED HVAC EQUIPMENT PRIOR TO SYSTEM STARTUP. CLEANING SHALL BE PER NADCA ACR STANDARD AND SANITIZATION SHALL USE EPA-APPROVED PRODUCTS SUITABLE FOR OCCUPIED SCHOOL FACILITIES.

----- DEMOLITION -----

1. CONTRACTOR TO REMOVE (E) ROOFING AS REQUIRED AND RE-ROOF OVER NEW EQUIPMENT PAD WITH MEMBRANE TO MATCH (E). NEW ROOF MEMBRANE TO TIE INTO (E) MEMBRANE PER DISTRICT AND ARCHITECT. CONTRACTOR TO OBTAIN LATEST ROOFING DATA FROM THE DISTRICT.

LEGEND

SYMBOL	ABBR.	DESCRIPTION
	-	SUPPLY AIR RISER
	-	RETURN AIR RISER
	-	EXHAUST AIR RISER
	SAG	SUPPLY AIR GRILLE
	RAG	RETURN AIR GRILLE
	EAG	EXHAUST AIR GRILLE
	SWR	SIDEWALL REGISTER
	(L)	LINED DUCTWORK
	-	FLEXIBLE CONNECTION
	FC	FLEXIBLE CONNECTION
	-	NEW DUCT (SEE PLAN)
	-	EXISTING DUCT (SEE PLAN)
	-	DEMO DUCT (SEE PLAN)
	MVD	MANUAL VOLUME DAMPER
	BDD	BACKDRAFT DAMPER
SF	SFD	SMOKE / FIRE DAMPER
F	FD	FIRE DAMPER
	DL	DOOR LOUVER
U.C.	UC	UNDERCUT DOOR 3/4"
RS	RS	REFRIGERANT SUCTION LINE
RL	RL	REFRIGERANT LIQUID LINE
CD	CD	CONDENSATE DRAIN
	S.D.	SMOKE DETECTOR
	P.O.C.	POINT OF CONNECTION
	T-STAT	THERMOSTAT
H	H	HUMIDISTAT
TS	TS	TEMPERATURE SENSOR
OS	OS	OVERRIDE SWITCH
PD	PD	PRESSURE DIFFERENTIAL SWITCH
S	S	SWITCH
	O.C.	ON CENTER
	HWR	HOT-WATER RETURN
	HWS	HOT-WATER SUPPLY
	I.D.	INSIDE DIAMETER
	O.D.	OUTSIDE DIAMETER
	W/	WITH
	S/M	SHEET METAL
	S/S	STAINLESS STEEL
	G.C.	GENERAL CONTRACTOR
	VTR	VENT THRU ROOF
	EMS	ENERGY MANAGEMENT SYSTEM
	OBD	OPPOSED BLADE DAMPER
	FSC	FAN SPEED CONTROL
E	E	ITEMS FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR AS SPECIFIED ON THE ELECTRICAL CONTRACT DOCUMENTS
M	M	ITEMS FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR AS SPECIFIED ON THE MECHANICAL CONTRACT DOCUMENTS
EM	EM	ITEMS FURNISHED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR.
ME	ME	ITEMS FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
	C.C.	CONTROLS CONTRACTOR
	CBD	COUNTER-BALANCE DAMPER
DS	D.S.	DOOR SWITCH

SHEET INDEX

S.NO.	SHEET No.	SHEET TITLE
1	M.01	MECHANICAL GENERAL NOTES AND LEGEND
2	M.02	MECHANICAL SCHEDULES
3	MD2.1	BUILDING 2A DEMOLITION FIRST FLOOR PLAN
4	M2.1	BUILDING 2A CONSTRUCTION FIRST FLOOR PLAN
5	MD2.1A	BUILDING 2A ENLARGED DEMOLITION UNDERFLOOR PLAN
6	M2.1A	BUILDING 2A ENLARGED CONSTRUCTION UNDERFLOOR PLAN
7	MD2.1B	BUILDING 2A ENLARGED DEMOLITION FIRST FLOOR PLAN
8	M2.1B	BUILDING 2A ENLARGED CONSTRUCTION FIRST FLOOR PLAN
9	MD2.2	BUILDING 2A DEMOLITION SECOND FLOOR PLAN
10	M2.2	BUILDING 2A CONSTRUCTION SECOND FLOOR PLAN
11	MD2.2A	BUILDING 2A ENALRGED DEMOLITION SECOND FLOOR PLAN
12	M2.2A	BUILDING 2A ENLARGED CONSTRUCTION SECOND FLOOR PLAN
13	MD2.3	BUILDING 5A DEMOLITION FLOOR PLAN
14	M2.3	BUILDING 5A CONSTRUCTION FLOOR PLAN
15	MD3.1	BUILDING 2A DEMOLITION ROOF PLAN
16	M3.1	BUILDING 2A CONSTRUCTION ROOF PLAN
17	MD3.2	BUILDING 5A DEMOLITION ROOF PLAN
18	M3.2	BUILDING 5A CONSTRUCTION ROOF PLAN
19	M4.1	MECHANICAL DETAILS
20	M4.2	MECHANICAL DETAILS
21	M5.1	MECHANICAL CONTROLS
22	M5.2	MECHANICAL CONTROLS
23	M6.1	MECHANICAL T24 - BUILDING 2A
24	M6.2	MECHANICAL T24 - BUILDING 5

SHOP DRAWINGS NOTES

CONTRACTOR SHALL SUBMIT A COMPLETE SET OF SHOP DRAWINGS 14 DAYS AFTER OFFICIAL PROJECT START DATE. INCLUSIVE OF ALL TRADE (MECHANICAL, PLUMBING, ELECTRICAL, ETC.) TO SCALE (MIN. 1/4"=1'-0") PRIOR TO FABRICATION AND OR INSTALLATION OF ANY AND OR ALL HVAC COMPONENTS, SYSTEM AND EQUIPMENT. SHOP DRAWINGS SHALL BE SUBMITTED AS A SINGLE ALL INCLUSIVE PACKAGE DIGITALLY (AUTOCAD 2014). AT A MINIMUM 4 HARD COPY SETS ARE TO BE SUBMITTED TO THE ENGINEER FOR REVIEW. INCOMPLETE AND UNCOORDINATED SUBMITTALS SHALL BE REJECTED UPON RECEIPT.

APPLICABLE CODES

2025 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1 TITLE 24 C.C.R.
2025 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.
2025 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R. (2014 NEC)
2025 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.
2025 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.
2025 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.
2025 CALIFORNIA FIRE CODE , PART 9, TITLE 24 C.C.R.
2025 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
2025 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 C.C.R.

TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
AMERICAN WITH DISABILITY ACT.

PARTIAL LIST OF APPLICABLE STANDARDS.

NFPA 13	AUTOMATIC SPRINKLER SYSTEM. 2025 EDITION.
NFPA 24	PRIVATE FIRE MAINS 2019 EDITION.
NFPA 72	NATIONAL FIRE ALARM CODE (CALIFORNIA AMENDED) 2025 EDITION. (NOTE: SEE UL STANDARD 1971 FOR "VISUAL DEVICES")

REFERENCE CODE SECTION FOR NFPA STANDARDS - 2025 CBC (SFM) CHPT. 35

SEISMIC NOTES

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA-approved construction documents. The following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2025 CBC Sections 1617A.1.18 through 1617A.1.26 and ASCE 7-16 Chapters 13, 26, and 30:

1. All permanent equipment and components.
2. Temporary, movable or mobile equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110/220 volt receptacles having 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 the 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 Sections 13.6.5, 13.6.6, 13.6.7, 13.6.8; and 2025 CBC, Sections 1617A.1.24, 1617A.1.25 and 1617A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., OSHPD OPM for 2013 CBC or later), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP☒ MD☒ PP☐ E☐ Option 1: Detailed on the approved drawings with project specific notes and details.

MP☐ MD☐ PP☐ E☐ Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) #_____.

Date Plotted:
File Name:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

MECHANICAL GENERAL NOTES AND LEGENDS

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2227

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANEGAS
No. M29252
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER:

M0.1

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25

PACKAGED ROOF TOP UNIT SCHEDULE - BUILDINGS 2A AND 5A

SYM	MFR & MODEL #	AREA SERVICED	COOLING CAPACITY (MBH)		HEATING CAPACITY	GAS INPUT	EFFICIENCY	IEER-SEER/EER	CFM	OSA CFM	DCV CFM	ESP	FAN BHP	ELECTRICAL FLA					POWER EXHAUST ELECTRICAL							OPERATING WEIGHT	CURB WEIGHT	ECON/ PE WEIGHT	TOTAL MAX OPERATING WEIGHT	CONTROLS	ANCHORAGE	REMARKS
			TOTAL	SENSIBLE										V	PH	HZ	MCA	MOCP	V	PH	HZ	FLA	MCA	MOCP	HP						
AC 58	CARRIER 48K4AG50-5-6A0B0A0	BUILDING 5	576.0	463.2	324.0	400.0	81.0	13.0/ 9.8	20,000	7,300	4,000	1.0	32.42	460	3	60	130	150	460	3	60	31.5	31.5	44.6	4	5325	375	300	6000	6 M-5.1	3 S601	2,3,4,5,6,7
AC 59	CARRIER 48K4AG50-5-6A0B0A0	BUILDING 5	576.0	463.2	324.0	400.0	81.0	13.0/ 9.8	20,000	7,300	4,000	1.0	32.42	460	3	60	130	150	460	3	60	31.5	31.5	44.6	4	5325	375	300	6000	6 M-5.1	3 S601	2,3,4,5,6,7
AC 60	CARRIER 48FCDM12A3M6-3A0A0	BUILDING 5	125.8	96.2	148.0	180.0	-	15.0/ 11.0	4,000	540	965	0.5	1.41	460	3	60	25	30	460	3	60	4.5	5.6	10.1	2	950	260	260	1470	5 M-5.1	2 S601	1,2,3,4,5,6,7
AC 72	CARRIER 48FCDM28AJM6-3U0A0	BUILDING 2A	295.9	220.5	178.0	220.0	81.0	14.0/ 9.8	10,000	1850	905	0.5	6.27	460	3	60	56.7	70	460	3	60	14.3	17.9	32.2	6	2400	1100	325	3825	4 M-5.1	1 S601	1,2,3,4,5,6,7,8
AC 73	CARRIER 48FCDM28AJM6-3U0A0	BUILDING 2A	295.9	220.5	178.0	220.0	81.0	14.0/ 9.8	10,000	1700	165	0.5	6.27	460	3	60	56.7	70	460	3	60	14.3	17.9	32.2	6	2400	1100	325	3825	5 M-5.1	1 S601	1,2,3,4,5,6,7
AC 74	CARRIER 48FCDM24AJM6-3U0A0	BUILDING 2A	256.1	184.9	178.0	220.0	81.0	14.5/ 10.0	8,000	2265	1,175	0.5	3.81	460	3	60	50.8	60	460	3	60	10.5	13.1	23.6	4	2250	1100	325	3675	4 M-5.1	1 S601	1,2,3,4,5,6,7,8

REMARKS:
1. PROVIDE HAIL GUARD
2. PROVIDE 2" MERV 13 FILTER.
3. PROVIDE T-24 COMPLAINT THERMOSTAT (CARRIER OR APPROVED EQUAL)
4. PROVIDE T-24 COMPLIANT MICROMETL LOW LEAK DRY BULB ECONOMIZER WITH MODULATING POWER EXHAUST. PROVIDE SEPARATE POWER FOR POWER EXHAUST. PROVIDE FDD (FAULT DETECTION DIAGNOSTICS) FOR ECONOMIZER.
5. DEMAND CONTROL VENTILATION.
6. PROVIDE NEW SMOKE DETECTOR TO SHUT DOWN THE UNIT UPON SMOKE DETECTION AND SEND SIGNAL TO FIRE ALARM PANEL PER CMC 609.1. SEE THE ASSOCIATED FLOOR PLAN FOR ADDITIONAL DETAILS.
7. LOW GAS HEAT.
8. PROVIDE VVT CONTROLS.

NOTE:
- INSTALL UNITS AND PROVIDE ALL ACCESSORIES AS PER MANUFACTURER GUIDELINES.
- AC-58 AND PE, AC-59 AND PE, AC-60, AC-72 AND PE, AC-73 AND PE, AND AC-74 AND PE PREPURCHASED BY DISTRICT.
- AC-60 VERTICAL PE TO BE PURCHASED BY MECHANICAL CONTRACTOR.
- ALL AC UNITS LISTED ABOVE ARE PRE-PURCHASED BY THE DISTRICT AND CURRENTLY STORED AT DISTRICT FACILITIES. COORDINATE ALL EQUIPMENT WITH DISTRICT PRIOR TO INSTALLATION.

VVT TERMINAL UNIT SCHEDULE - BUILDING 2 FIRST FLOOR

SYM	MFR & MODEL #	CFM		SIZE	VOLTAGE	WEIGHT
		MAX	MIN			
ZD 49	VVT DAMPER	380	95	12"Ø	24	15
ZD 51	VVT DAMPER	355	90	12"Ø	24	15
ZD 52	VVT DAMPER	670	170	12"Ø	24	15
ZD 54	VVT DAMPER	440	110	12"Ø	24	15
ZD 55	VVT DAMPER	150	40	8"Ø	24	15
ZD 56	VVT DAMPER	100	25	8"Ø	24	15
ZD 57	VVT DAMPER	60	15	6"Ø	24	15
ZD 58	VVT DAMPER	60	15	6"Ø	24	15
ZD 59	VVT DAMPER	820	205	12"Ø	24	15
ZD 61	VVT DAMPER	730	185	14"Ø	24	15
ZD 62	VVT DAMPER	630	160	14"Ø	24	15
ZD 65	VVT DAMPER	580	145	12"Ø	24	15
ZD 67	VVT DAMPER	155	40	8"Ø	24	15
ZD 68	VVT DAMPER	65	15	8"Ø	24	15
ZD 70	VVT DAMPER	140	35	8"Ø	24	15
ZD 71	VVT DAMPER	210	55	10"Ø	24	15
ZD 72	VVT DAMPER	140	35	8"Ø	24	15
ZD 73	VVT DAMPER	175	45	8"Ø	24	15
ZD 74	VVT DAMPER	355	90	12"Ø	24	15
ZD 75	VVT DAMPER	270	70	8"Ø	24	15
ZD 76	VVT DAMPER	385	95	12"Ø	24	15
ZD 78	VVT DAMPER	690	175	12"Ø	24	15
ZD 79	VVT DAMPER	120	30	8"Ø	24	15

VVT TERMINAL UNIT SCHEDULE - BUILDING 2 SECOND FLOOR

SYM	MFR & MODEL #	CFM		SIZE	VOLTAGE	WEIGHT
		MAX	MIN			
BD 1	CARRIER SR-500	3990	1000	M (28x16)	24	25
BD 2	CARRIER SR-500	5270	1320	N (30x20)	24	25
ZD 45	VVT DAMPER	350	90	12"Ø	24	15
ZD 46	VVT DAMPER	260	65	12"Ø	24	15
ZD 48	VVT DAMPER	630	160	12"Ø	24	15
ZD 49	VVT DAMPER	470	120	12"Ø	24	15
ZD 51	VVT DAMPER	1800	450	J (18x14)	24	15
ZD 52	VVT DAMPER	155	40	8"Ø	24	15
ZD 53	VVT DAMPER	550	140	12"Ø	24	15
ZD 54	VVT DAMPER	190	50	8"Ø	24	15
ZD 55	VVT DAMPER	1180	295	16"Ø	24	15
ZD 58	VVT DAMPER	160	40	8"Ø	24	15
ZD 59	VVT DAMPER	630	140	12"Ø	24	15
ZD 61	VVT DAMPER	255	65	12"Ø	24	15
ZD 62	VVT DAMPER	140	35	8"Ø	24	15
ZD 63	VVT DAMPER	800	200	12"Ø	24	15
ZD 69	VVT DAMPER	420	150	12"Ø	24	15

Date Plotted:
Plot By:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

MECHANICAL SCHEDULES

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANEGAS
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

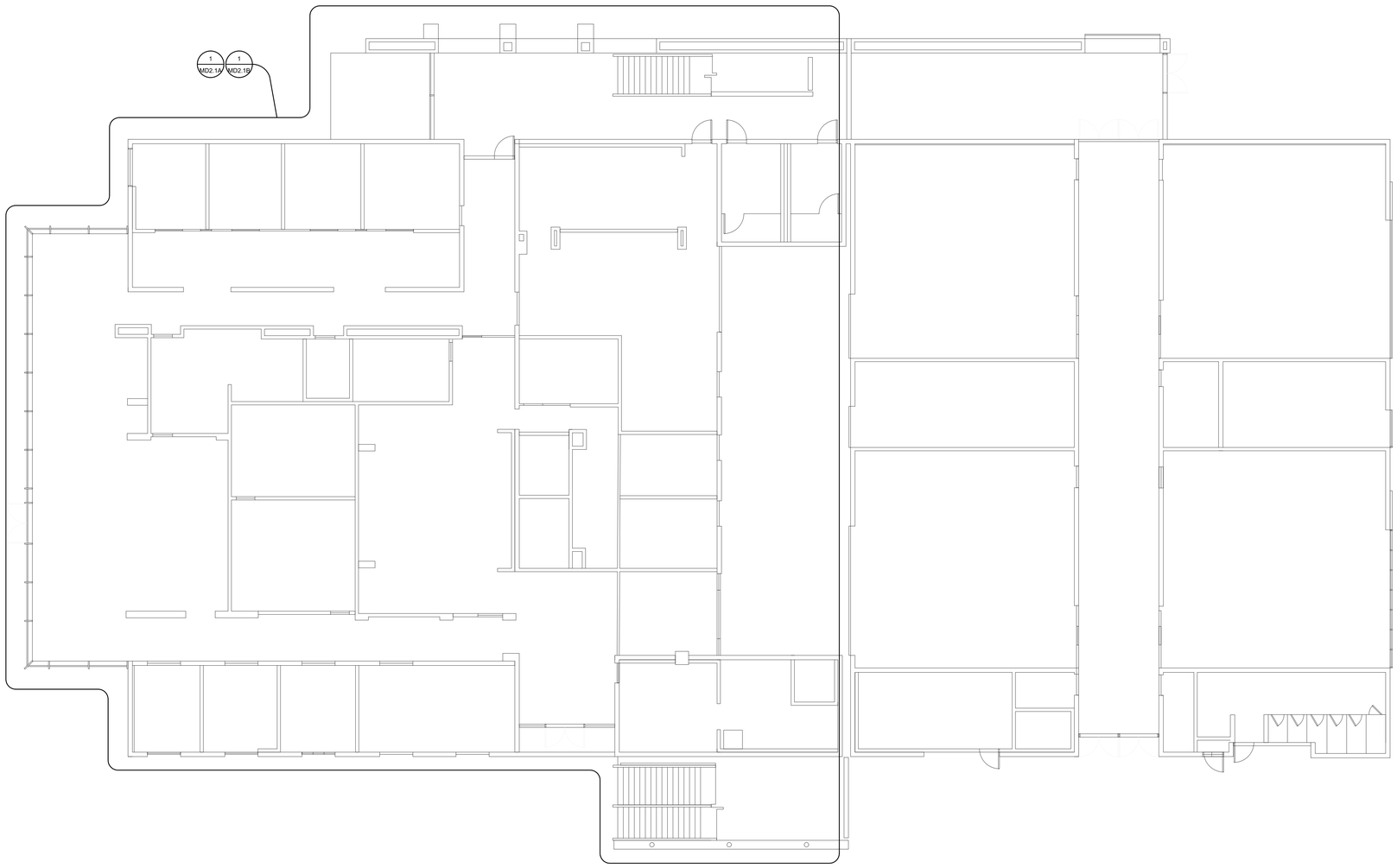
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER:

M0.2

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



N

BUILDING 2A DEMOLITION FIRST FLOOR PLAN | 1/8" = 1'-0" | 1

Date Plotted:
File Name:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A DEMOLITION
FIRST FLOOR PLAN

optimum energy design
Consulting Engineers
3200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BAERWALD
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

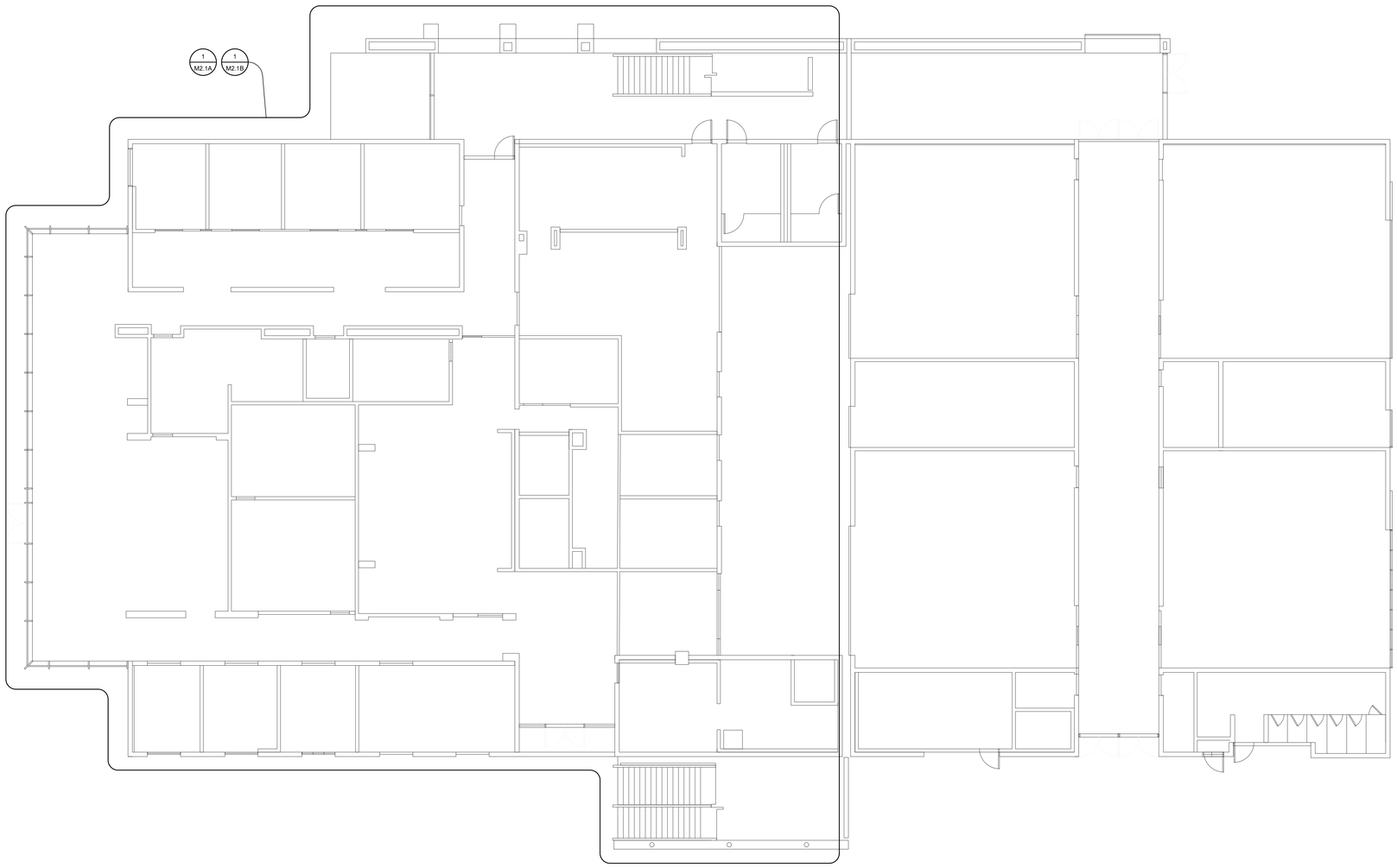
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

MD2.1

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



N

BUILDING 2A CONSTRUCTION FIRST FLOOR PLAN | 1/8" = 1'-0" | 1

Date Plotted:
File Name:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A
CONSTRUCTION
FIRST FLOOR PLAN

optimum energy design
Consulting Engineers
3200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BAERWALD
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

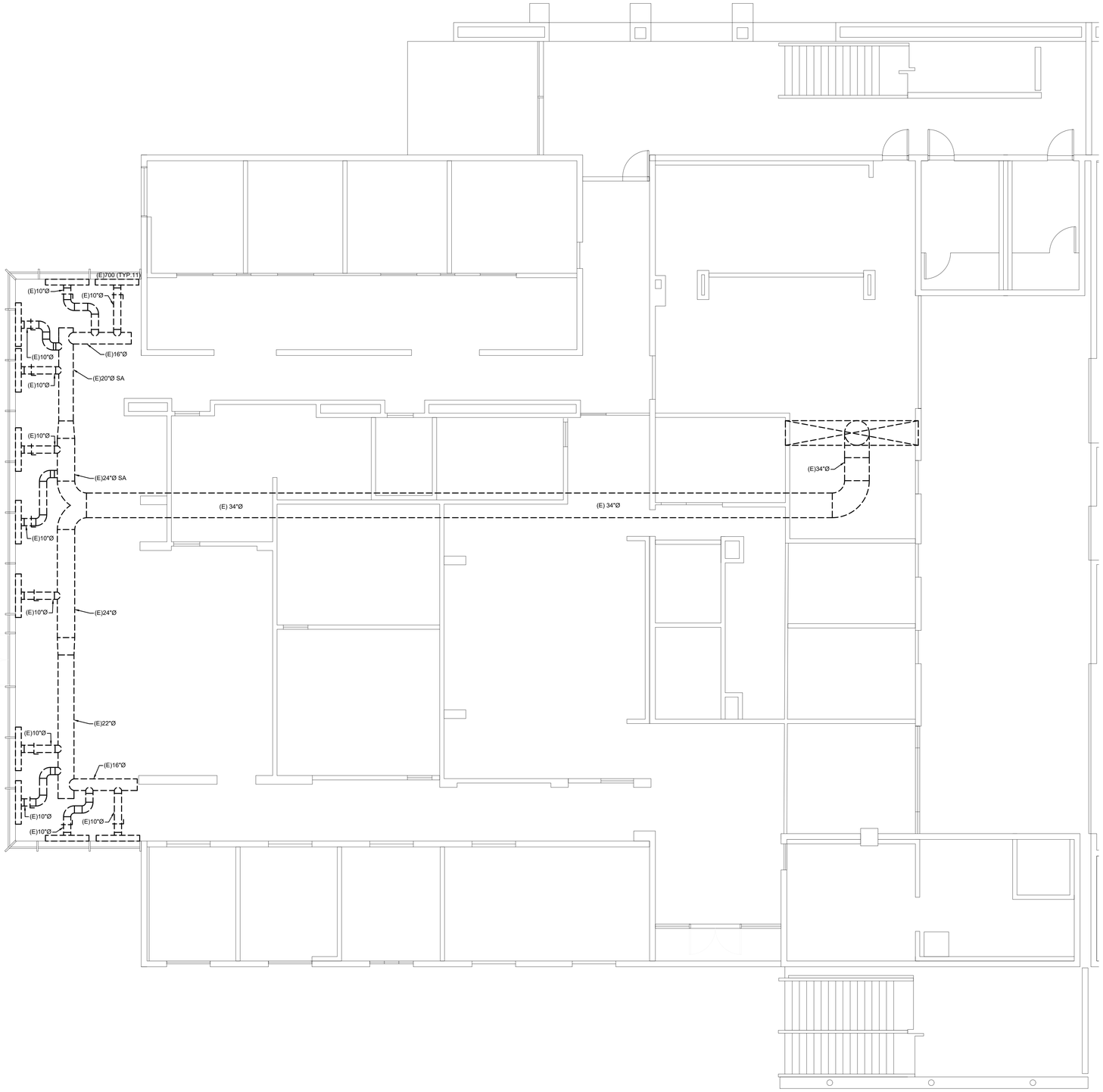
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

M2.1

PROJECT NUMBER

Project # 2025-131_R25

Plot Date:



N

BUILDING 2A ENLARGED DEMOLITION UNDERFLOOR PLAN | 3/16" = 1'-0" | 1

Date Plotted:
File Name:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A ENLARGED
DEMOLITION
UNDERFLOOR PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANEZUELA
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

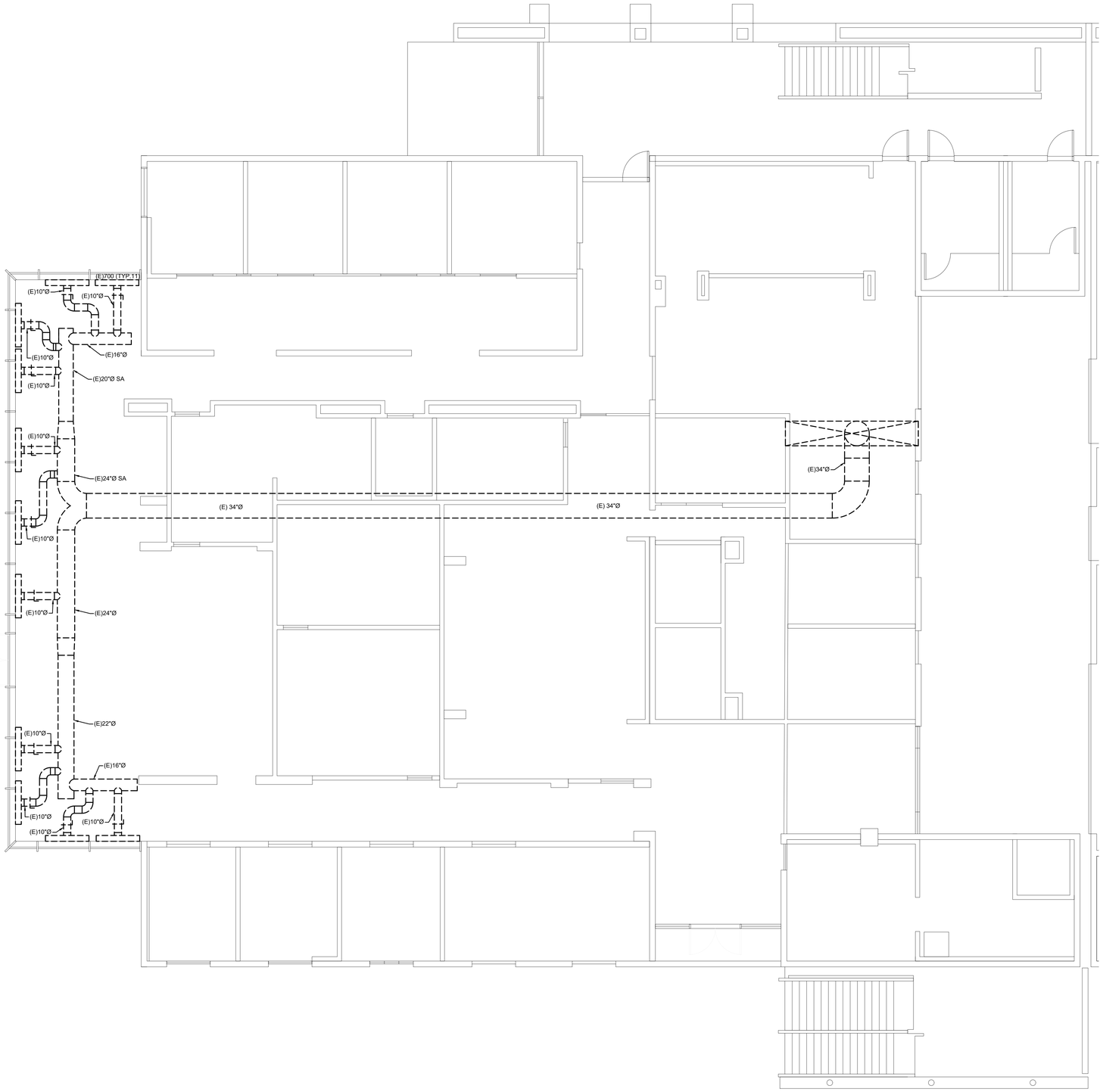
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

MD2.1A

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



N

BUILDING 2A ENLARGED CONSTRUCTION UNDERFLOOR PLAN | 3/16" = 1'-0" | 1

CONSTRUCTION KEY NOTES:

1. PROVIDE NEW THERMOSTAT. INSTALL PER DETAIL 1/M4.1.
2. PROVIDE NEW ZONE DAMPER, DUCT CONNECTIONS, AND CONTROLS.

GENERAL CONSTRUCTION NOTES :

1. CONTRACTOR SHALL REMOVE (E) CEILING GRID AND TILES AS REQUIRED TO INSTALL NEW ZONE DAMPER. RE-INSTALL GRID AND TILES AFTER NEW WORK HAS BEEN COMPLETED. CONTRACTOR SHALL REPLACE ANY DAMAGED GRIDS AND TILES TO MATCH EXISTING CEILING CONDITION AND COLOR.

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A ENLARGED CONSTRUCTION UNDERFLOOR PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANEZUELA
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER:

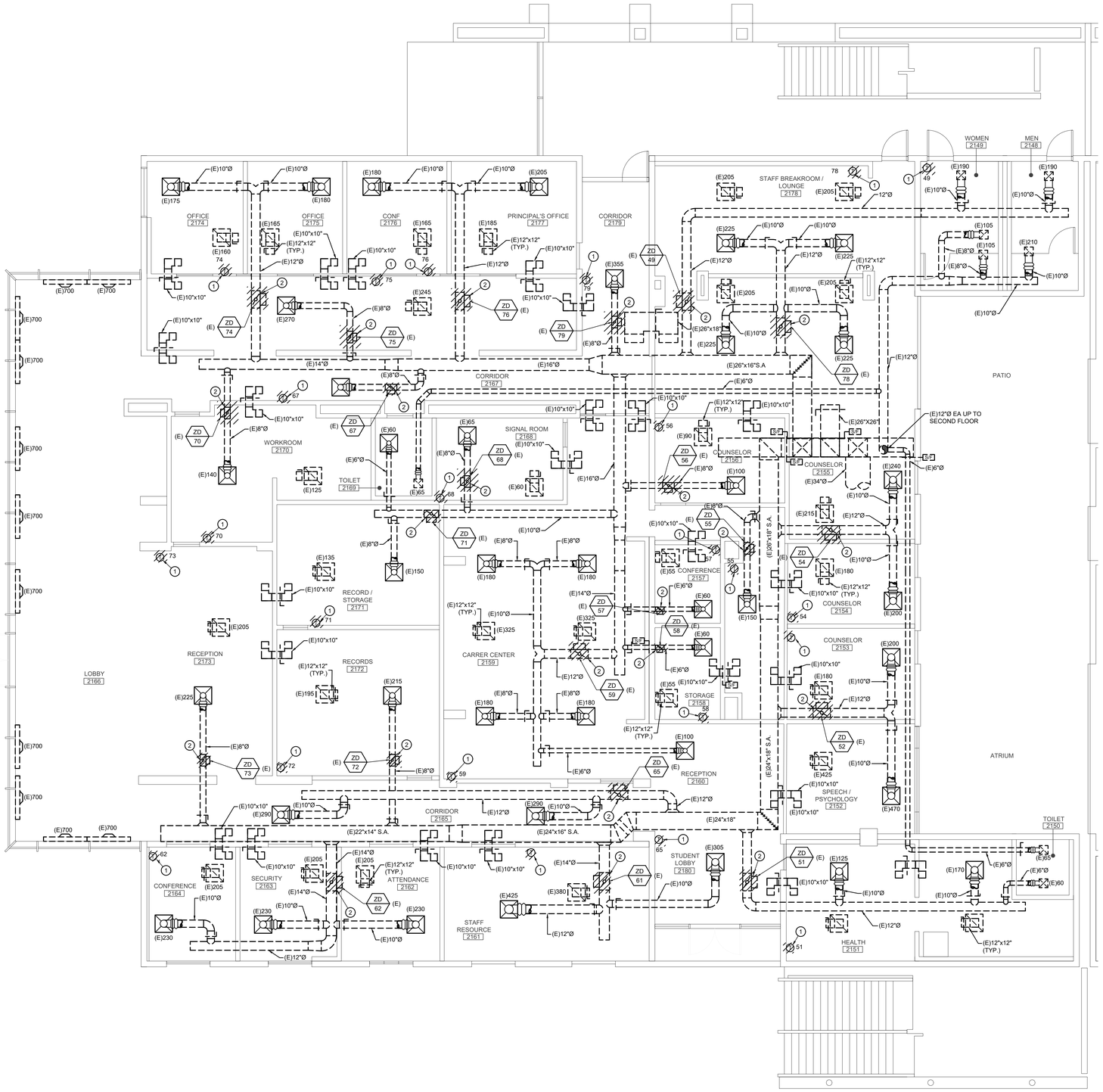
M2.1A

PROJECT NUMBER

Date Plotted:
File Name

Plot Date:

Project # 2025-131_R25



N

DEMOLITION KEY NOTES:

1. DEMO AND REMOVE EXISTING THERMOSTAT.
2. DEMO AND REMOVE EXISTING ZONE DAMPER, DUCT CONNECTIONS, AND CONTROLS.

GENERAL DEMOLITION NOTES :

1. CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY THE SCOPE OF DEMOLITION WORK
2. DEMOLITION IS INDICATED AS A CONVENIENCE FOR THE CONTRACTOR AND MAY NOT INDICATE THE FULL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE NEW WORK.
3. PATH AND REPAIR EXISTING SURFACES AS REQUIRED TO COMPLETE THE NEW WORK.
4. ALL NEW WORK SHALL MATCH EXISTING IN KIND, QUALITY AND FINISH U.O.N.
5. CONTRACTOR SHALL INCLUDE IN THE SCOPE OF WORK ALL WORK REQUIRED TO PATCH, FINISH, MATCH, AND BLEND NEW SURFACES TO EXISTING AS IMPACTED BY THE AREAS OF NEW WORK.
6. NO DEMOLITION TO BEGIN UNTIL PLANS SHOWING DEMOLITION WORK HAVE BEEN APPROVED BY DSA.

BUILDING 2A ENLARGED DEMOLITION FIRST FLOOR PLAN | 3/16" = 1'-0" | 1

Date Plotted:
File Name:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD, CA 90262

SHEET TITLE

BUILDING 2A ENLARGED DEMOLITION FIRST FLOOR PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANERJEE
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

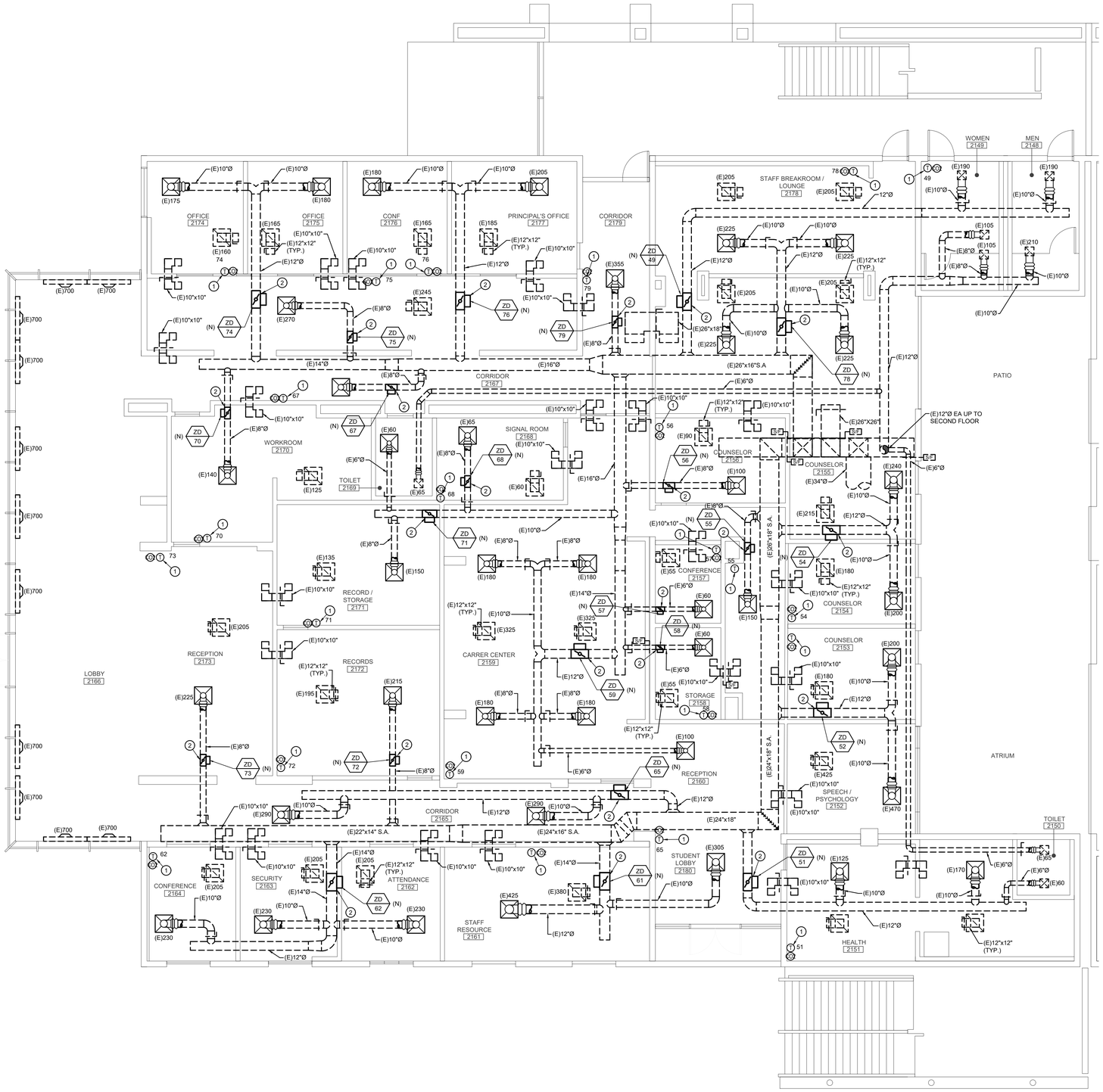
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

MD2.1B

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



CONSTRUCTION KEY NOTES:

1. PROVIDE NEW THERMOSTAT. INSTALL PER DETAIL 1/M4.1.
2. PROVIDE NEW ZONE DAMPER, DUCT CONNECTIONS, AND CONTROLS. PROVIDE ALL REQUIRED DUCT FITTINGS.

GENERAL CONSTRUCTION NOTES :

1. CONTRACTOR SHALL REMOVE (E) CEILING GRID AND TILES AS REQUIRED TO INSTALL NEW ZONE DAMPER. RE-INSTALL GRID AND TILES AFTER NEW WORK HAS BEEN COMPLETED. CONTRACTOR SHALL REPLACE ANY DAMAGED GRIDS AND TILES TO MATCH EXISTING CEILING CONDITION AND COLOR.
2. CONTRACTOR SHALL TEST AND BALANCE ALL AIR DIFFUSERS TO ORIGINAL DESIGN CONDITION.

N

BUILDING 2A ENLARGED CONSTRUCTION FIRST FLOOR PLAN | 3/16" = 1'-0" | 1

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD, CA 90262

SHEET TITLE

BUILDING 2A ENLARGED CONSTRUCTION FIRST FLOOR PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
Robert Bandle
No. M29252
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

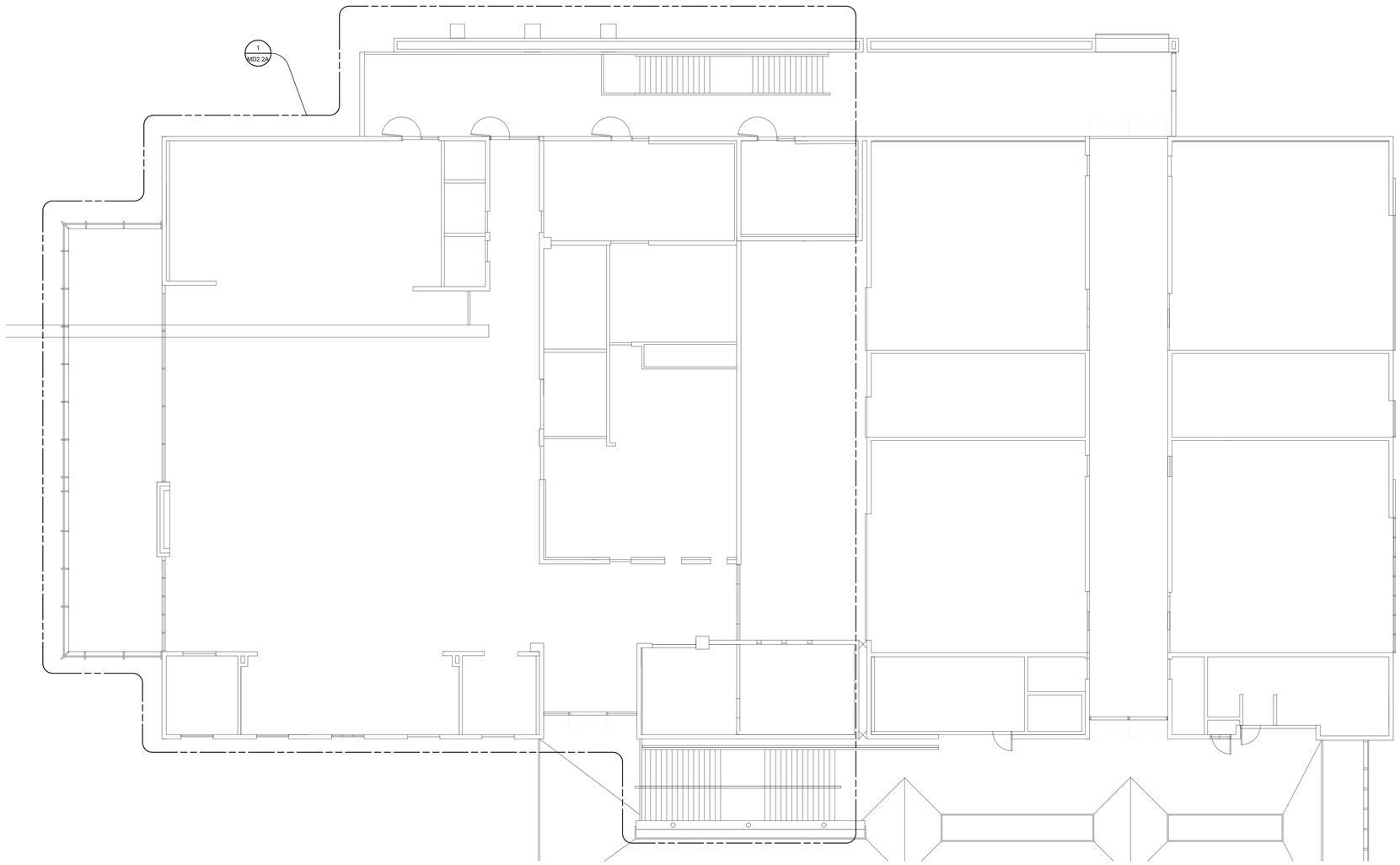
M2.1B

PROJECT NUMBER

Date Plotted:
File Name:

Project # 2025-131_R25

Plot Date:



N

BUILDING 2A DEMOLITION SECOND FLOOR PLAN

1/8" = 1'-0"

1

Date Plotted:
File Name:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A DEMOLITION SECOND FLOOR PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANEZADEH
No. M29225
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver

REVIEWED BY:

DRAWN BY:

SCALE: As Indicated

ISSUE DATE: Issue Date

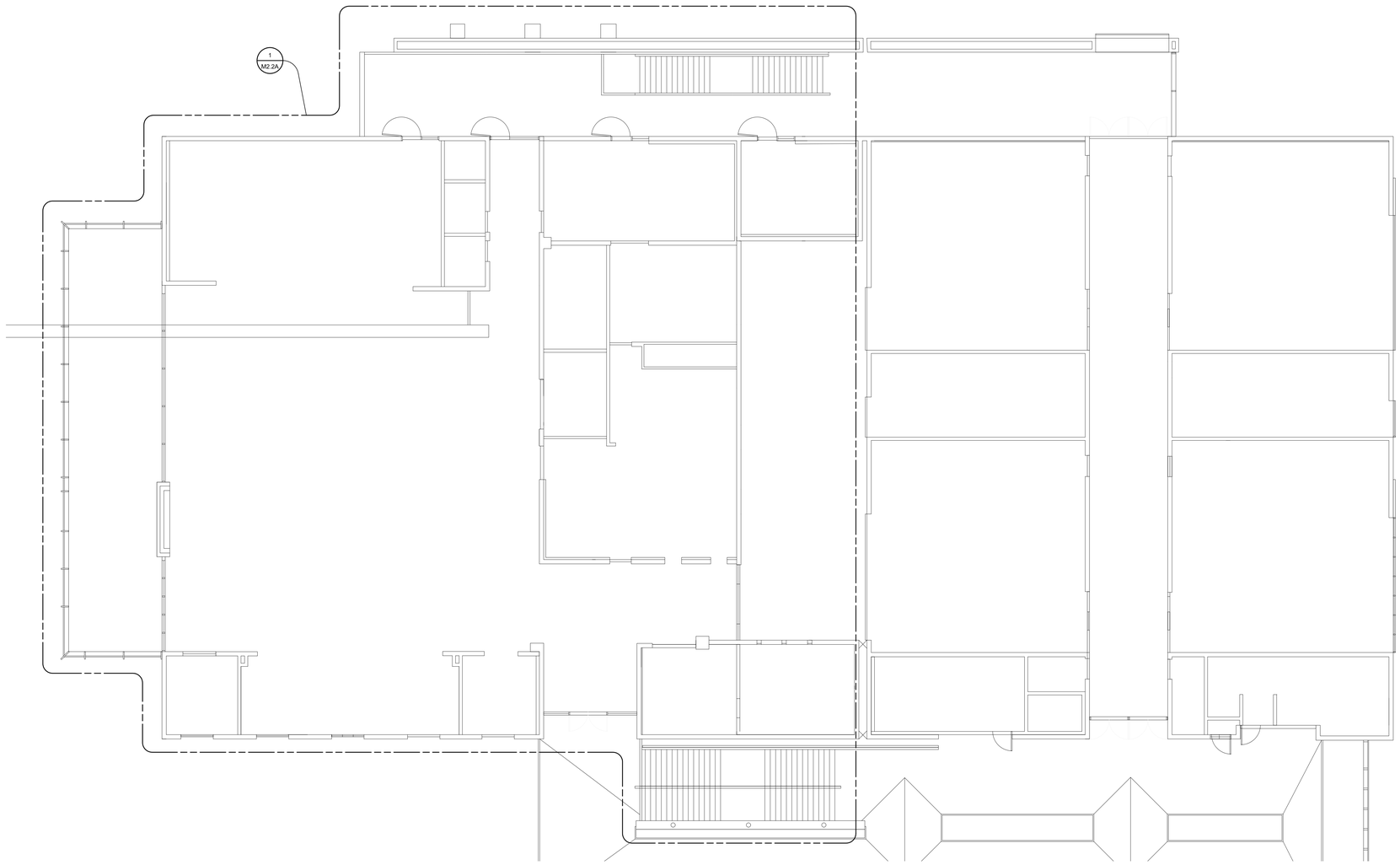
SHEET NUMBER

MD2.2

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



N

BUILDING 2A CONSTRUCTION SECOND FLOOR PLAN | 1/8" = 1'-0" | 1

Date Plotted:
File Name:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A
CONSTRUCTION
SECOND FLOOR
PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANEGAS
No. M29225
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

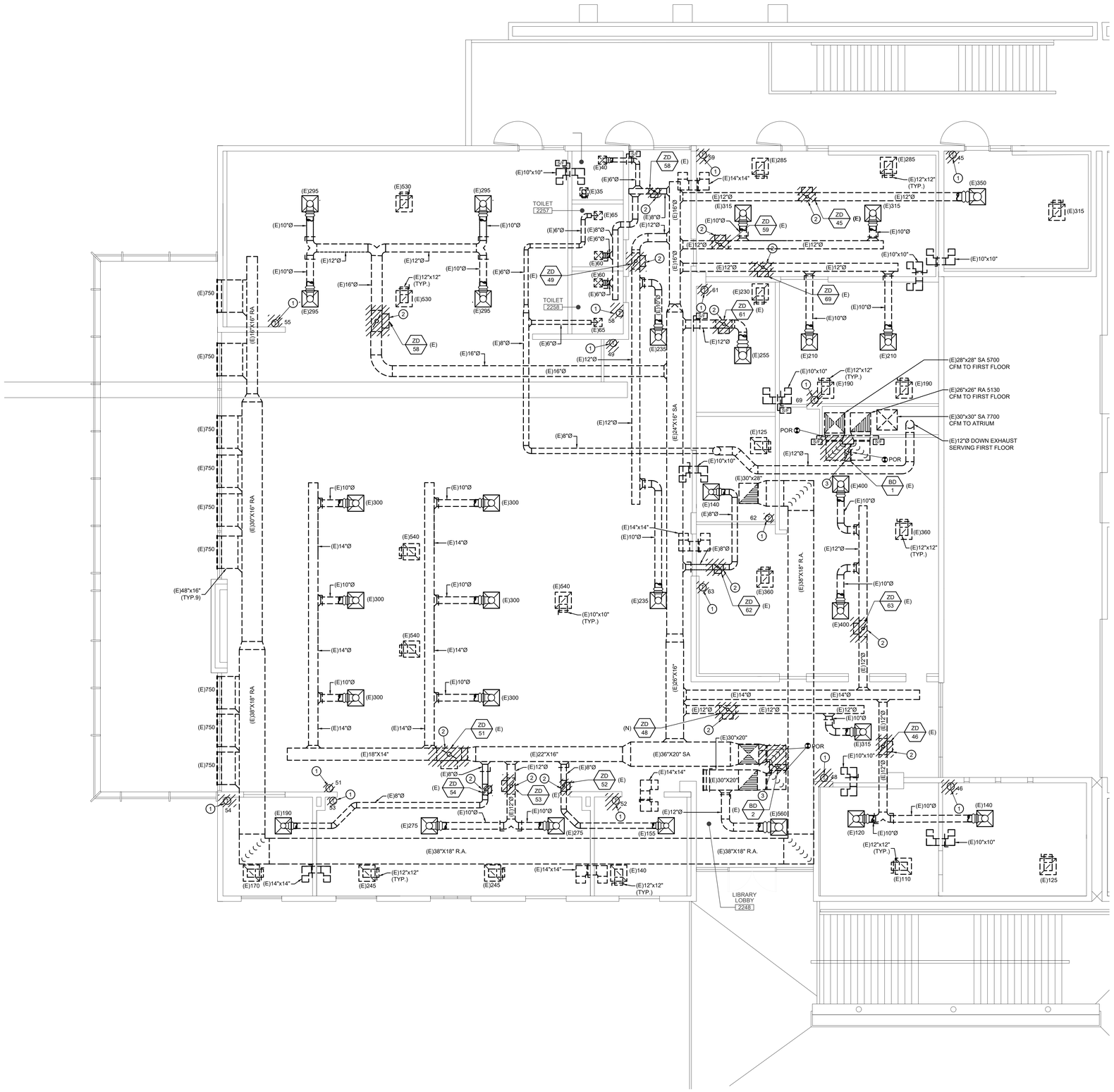
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER:

M2.2

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



DEMOLITION KEY NOTES:

1. DEMO AND REMOVE EXISTING THERMOSTAT.
2. DEMO AND REMOVE EXISTING ZONE DAMPER, DUCT CONNECTIONS, AND CONTROLS.
3. DEMO AND REMOVE EXISTING BYPASS DAMPER, DUCT CONNECTIONS, AND CONTROLS.

GENERAL DEMOLITION NOTES :

1. CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY THE SCOPE OF DEMOLITION WORK
2. DEMOLITION IS INDICATED AS A CONVENIENCE FOR THE CONTRACTOR AND MAY NOT INDICATE THE FULL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE NEW WORK.
3. PATH AND REPAIR EXISTING SURFACES AS REQUIRED TO COMPLETE THE NEW WORK.
4. ALL NEW WORK SHALL MATCH EXISTING IN KIND, QUALITY AND FINISH U.O.N.
5. CONTRACTOR SHALL INCLUDE IN THE SCOPE OF WORK ALL WORK REQUIRED TO PATCH, FINISH, MATCH, AND BLEND NEW SURFACES TO EXISTING AS IMPACTED BY THE AREAS OF NEW WORK.
6. NO DEMOLITION TO BEGIN UNTIL PLANS SHOWING DEMOLITION WORK HAVE BEEN APPROVED BY DSA.

N

BUILDING 2A ENLARGED DEMOLITION SECOND FLOOR PLAN | 3/16" = 1'-0" | 1

Date Plotted:
Plotted By:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A ENLARGED DEMOLITION SECOND FLOOR PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER ROBERT BAKERMAN No. M29253 Exp. 6/30/27 MECHANICAL STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

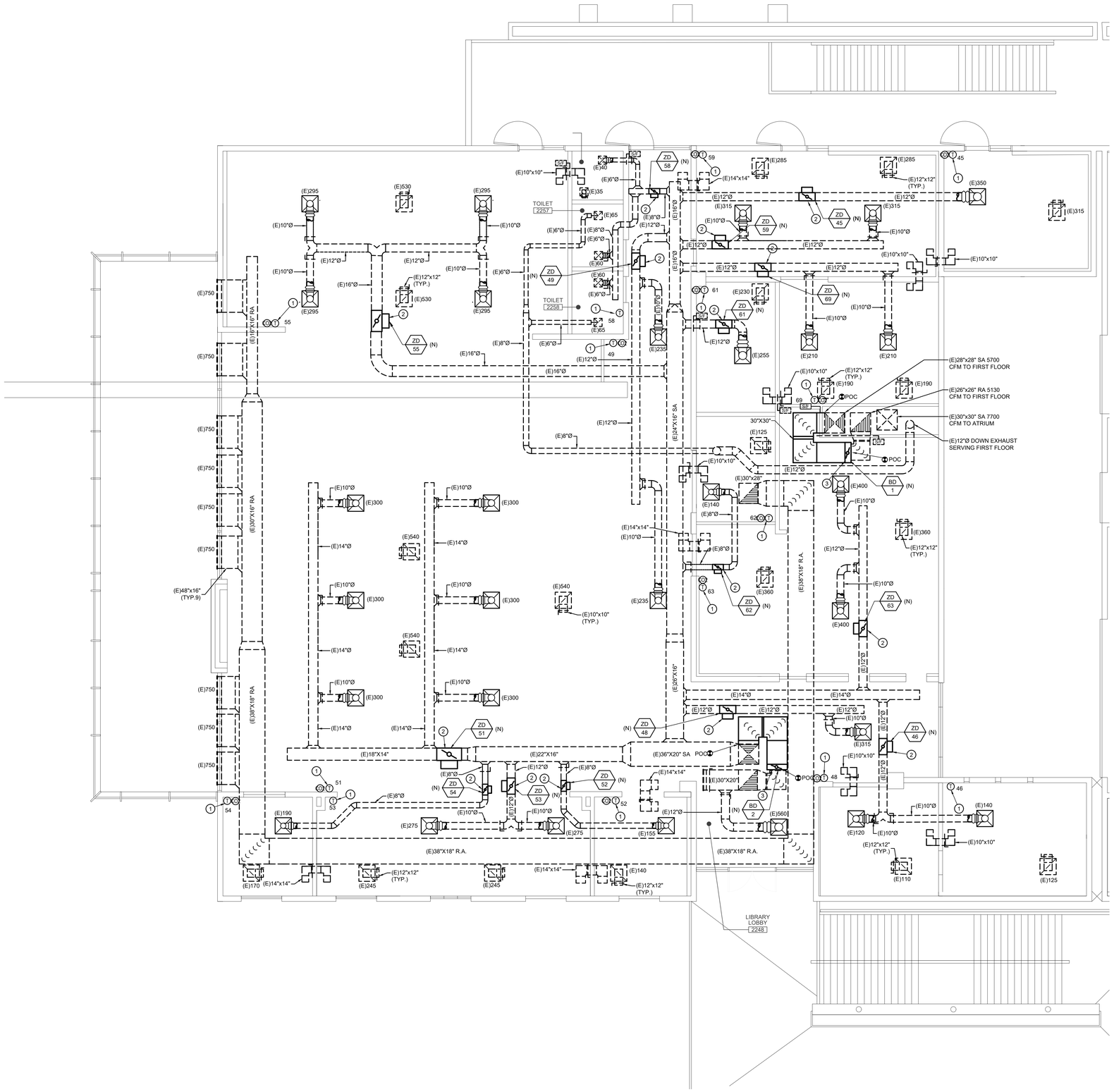
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

MD2.2A

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



N

BUILDING 2A ENLARGED CONSTRUCTION SECOND FLOOR PLAN | 3/16" = 1'-0" | 1

Date Plotted:
File Name:

CONSTRUCTION KEY NOTES:

1. PROVIDE NEW THERMOSTAT AND CO2 SENSOR. INSTALL PER DETAIL 1/M4.1.
2. PROVIDE NEW ZONE DAMPER, DUCT CONNECTIONS, AND CONTROLS. PROVIDE ALL REQUIRED DUCT FITTINGS.
3. PROVIDE NEW BYPASS DAMPER, DUCT CONNECTIONS, AND CONTROLS.

GENERAL CONSTRUCTION NOTES :

1. CONTRACTOR SHALL REMOVE (E) CEILING GRID AND TILES AS REQUIRED TO INSTALL NEW ZONE DAMPER. RE-INSTALL GRID AND TILES AFTER NEW WORK HAS BEEN COMPLETED. CONTRACTOR SHALL REPLACE ANY DAMAGED GRIDS AND TILES TO MATCH EXISTING CEILING CONDITION AND COLOR.
2. CONTRACTOR SHALL TEST AND BALANCE ALL AIR DIFFUSERS TO ORIGINAL DESIGN CONDITION.

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD, CA 90262

SHEET TITLE

BUILDING 2A ENLARGED CONSTRUCTION SECOND FLOOR PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

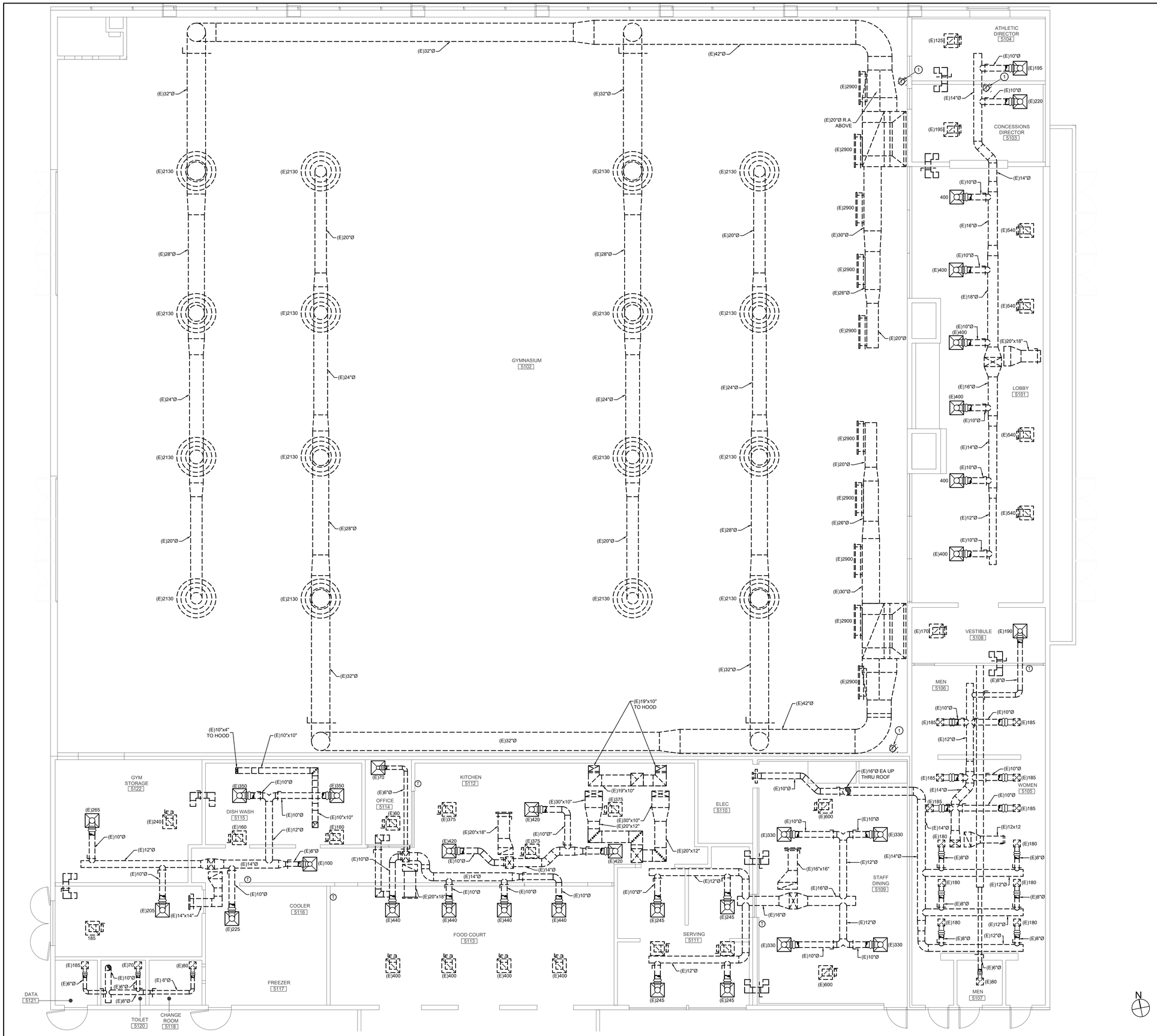
REGISTERED ABBY BANEZ PROFESSIONAL ENGINEER
No. M29252
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER: M2.2A
PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



DEMOLITION KEY NOTES:

1. DEMO AND REMOVE EXISTING THERMOSTAT.

GENERAL DEMOLITION NOTES :

1. CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY THE SCOPE OF DEMOLITION WORK
2. DEMOLITION IS INDICATED AS A CONVENIENCE FOR THE CONTRACTOR AND MAY NOT INDICATE THE FULL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE NEW WORK.
3. PATH AND REPAIR EXISTING SURFACES AS REQUIRED TO COMPLETE THE NEW WORK.
4. ALL NEW WORK SHALL MATCH EXISTING IN KIND, QUALITY AND FINISH U.O.N.
5. CONTRACTOR SHALL INCLUDE IN THE SCOPE OF WORK ALL WORK REQUIRED TO PATCH, FINISH, MATCH, AND BLEND NEW SURFACES TO EXISTING AS IMPACTED BY THE AREAS OF NEW WORK.
6. NO DEMOLITION TO BEGIN UNTIL PLANS SHOWING DEMOLITION WORK HAVE BEEN APPROVED BY DSA.

BUILDING 5A DEMOLITION FLOOR PLAN | 3/16" = 1'-0" | 1

Date Plotted: 3/4/2026

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 5A DEMOLITION FLOOR PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver

REVIEWED BY:

DRAWN BY:

SCALE: As Indicated

ISSUE DATE: Issue Date

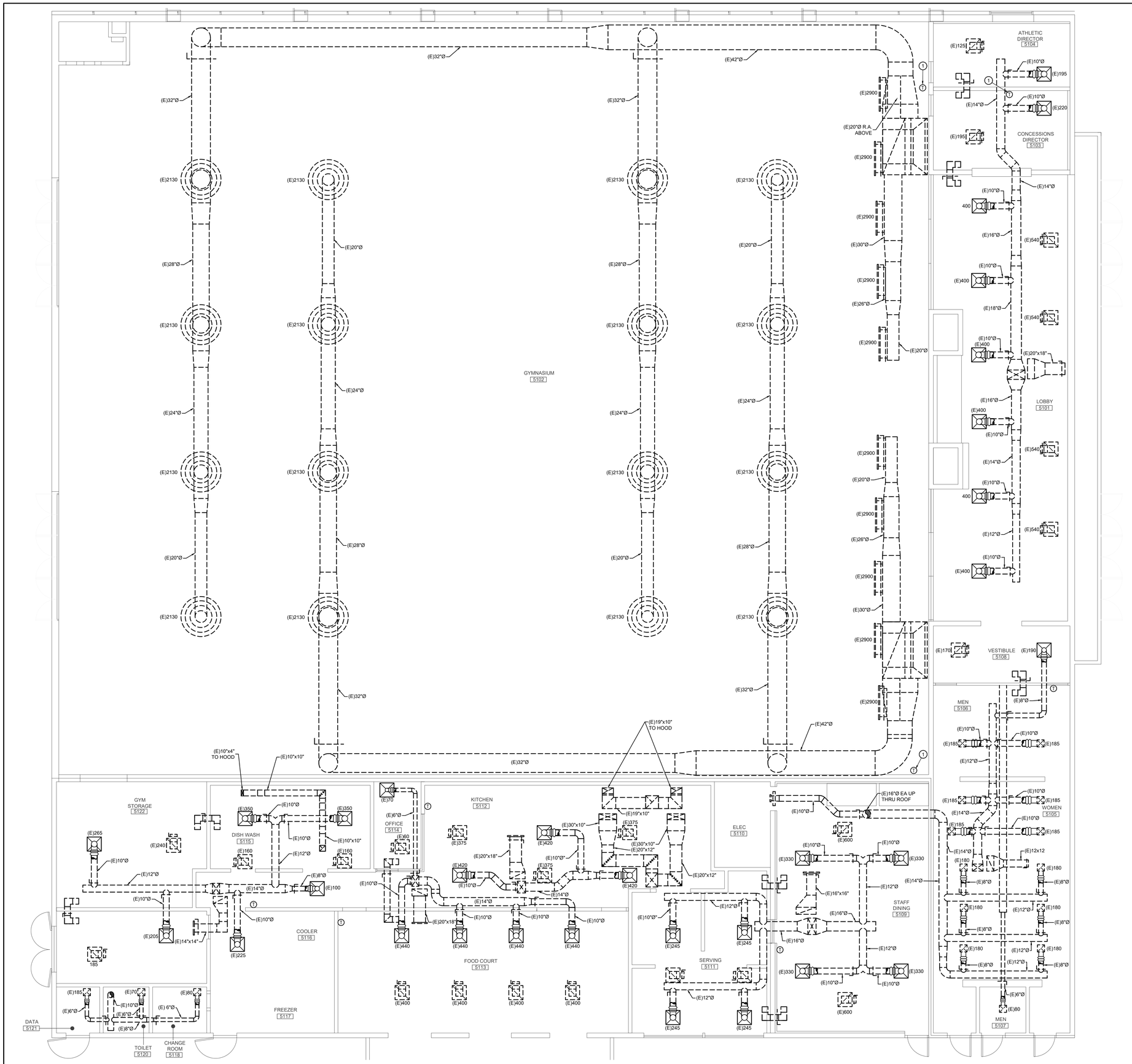
SHEET NUMBER:

MD2.3

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



CONSTRUCTION KEY NOTES:

1. PROVIDE NEW THERMOSTAT. INSTALL PER DETAIL 1/M4.1.

GENERAL CONSTRUCTION NOTES :

1. CONTRACTOR SHALL REMOVE (E) CEILING GRID AND TILES AS REQUIRED TO INSTALL NEW ZONE DAMPER. RE-INSTALL GRID AND TILES AFTER NEW WORK HAS BEEN COMPLETED. CONTRACTOR SHALL REPLACE ANY DAMAGED GRIDS AND TILES TO MATCH EXISTING CEILING CONDITION AND COLOR.
2. CONTRACTOR SHALL TEST AND BALANCE ALL AIR DIFFUSERS TO ORIGINAL DESIGN CONDITION.

BUILDING 5A CONSTRUCTION FLOOR PLAN | 3/16" = 1'-0" | 1

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD, CA 90262

SHEET TITLE

BUILDING 5A CONSTRUCTION FLOOR PLAN

oed optimum energy design
Consulting Engineers
3200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER ROBT. BANEVICH No. M29253 Exp. 6/30/27 MECHANICAL STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

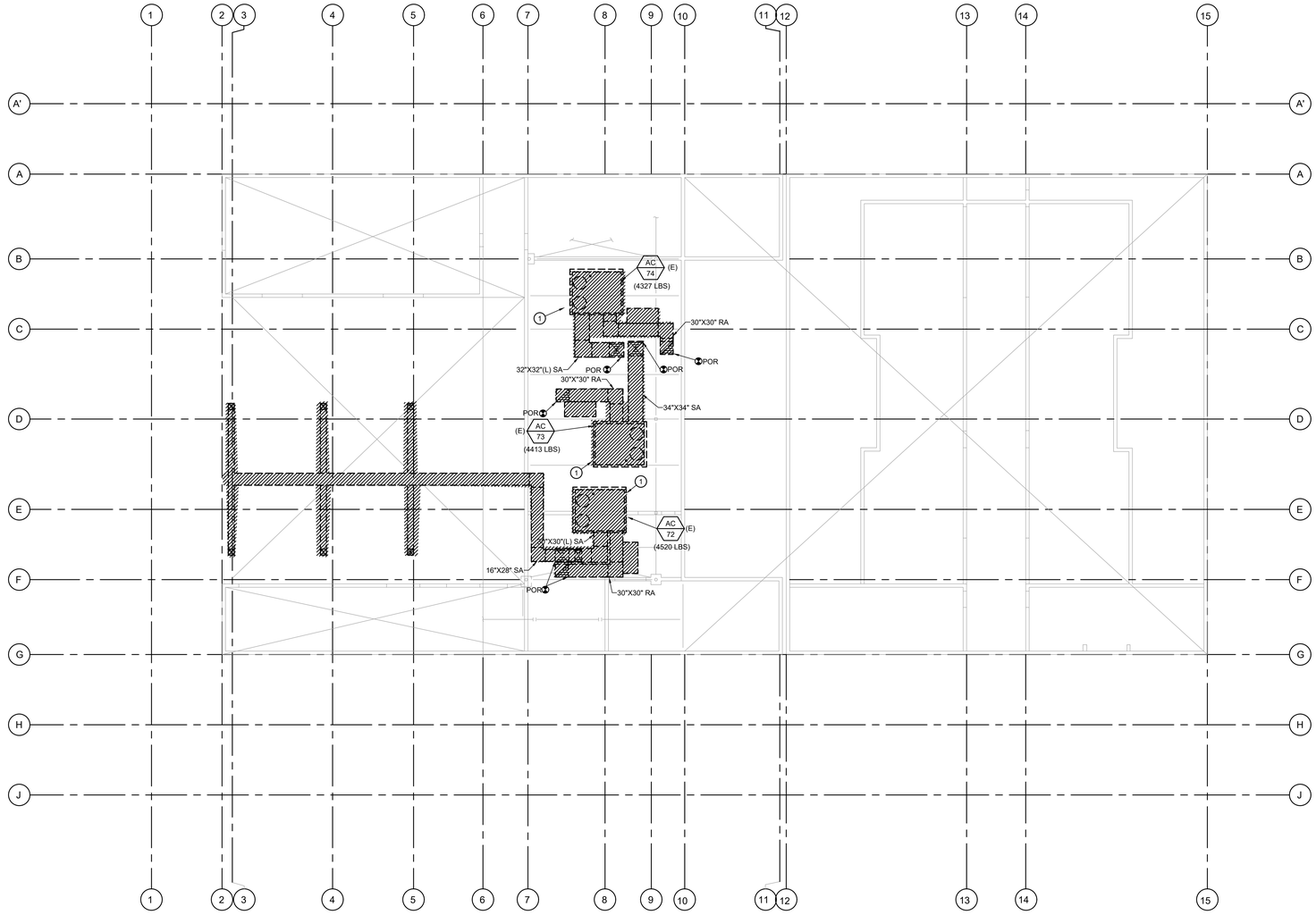
M2.3

PROJECT NUMBER

Date Plotted:
Plot Name:

Plot Date:

Project # 2025-131_R25



N

BUILDING 2A DEMOLITION ROOF PLAN | 3/32" = 1'-0" | 1

DEMOLITION KEY NOTES:

(1) EXISTING PACKAGE UNIT AND POWER EXHAUST AND RELATED APPURTENANCES TO BE REMOVED. REMOVE EXISTING DUCT CONNECTIONS AND MODIFY AS NECESSARY TO FIT NEW CONNECTIONS.

GENERAL DEMOLITION NOTES :

1. ALL DEMOLISHED MATERIALS BY CONTRACTOR SHALL BE DISPOSE OF PER FEDERAL, STATE AND LOCAL AUTHORITY HAVING JURISDICTION. ALL ITEMS TO BE RETURNED TO DISTRICT SHALL BE REMOVED INTACT AND FULLY FUNCTIONAL BY CONTRACTOR. DISTRICT SHALL HAVE FIRST RIGHT OF REFUSAL FOR ANY DEMOLITION EQUIPMENT OR COMPONENTS TO BE REMOVED.
2. ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER FROM MECHANICAL EQUIPMENT TO BE REMOVED, RELOCATED, RE-USED AND/OR REPLACED AS REQUIRED. CONTRACTOR SHALL RECONNECT POWER TO ALL MECHANICAL EQUIPMENT BEING RE-USED AND/OR RELOCATED REQUIRED.
3. PLUMBING CONTRACTOR SHALL DISCONNECT EXISTING GAS PIPES FROM MECHANICAL EQUIPMENT TO BE REMOVED AND/OR REPLACED - AS REQUIRED.
4. GENERAL CONTRACTOR SHALL PATCH ALL OPENINGS IN WALLS, ROOF, ETC.THAT WILL NOT BE REUSED FOR FUTURE WORK. COORDINATE AS NECESSARY WITH OTHER TRADES.
5. PRIOR TO ANY WORK BEING DONE CONTRACTOR SHALL MAKE A CAREFUL EVALUATION OF THE EXISTING CONDITIONS AND VERIFY ALL METHODS OF REMOVAL AND INSTALLATION OF MECHANICAL EQUIPMENT.
6. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH THE WORK OF ALL OTHER TRADES.
7. CONTRACTOR SHALL CLEAN ALL AIR DEVICES TO REMAIN PER SPECIFICATIONS.
8. CONTRACTOR SHALL CLEAN ALL EXISTING DUCTWORK INCLUDING LINED DUCTWORK SPECIFICATIONS. PRIOR TO BID AND BEFORE COMMENCEMENT OF ANY WORK ALL EXISTING DUCTWORK TO REMAIN SHALL BE CONFIRMED ON SITE.
9. CONTRACTOR TO DO PREREAD TAB AIR BALANCE AT MAIN SUPPLY, RETURN, AIR DISTRIBUTION, OSA & PROVIDE REPORT TO DISTRICT & ENGINEER
10. CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTION, BARRICADES, DUST CONTROL, AND DEBRIS CONTAINMENT TO PROTECT STUDENTS, STAFF, AND FACILITIES.
11. ALL UTILITY SHUTDOWNS SHALL BE COORDINATED, APPROVED, AND SCHEDULED IN ADVANCE WITH THE DISTRICT.

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A DEMOLITION ROOF PLAN

oed optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANEVICZ
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY: RW
DRAWN BY: BO
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

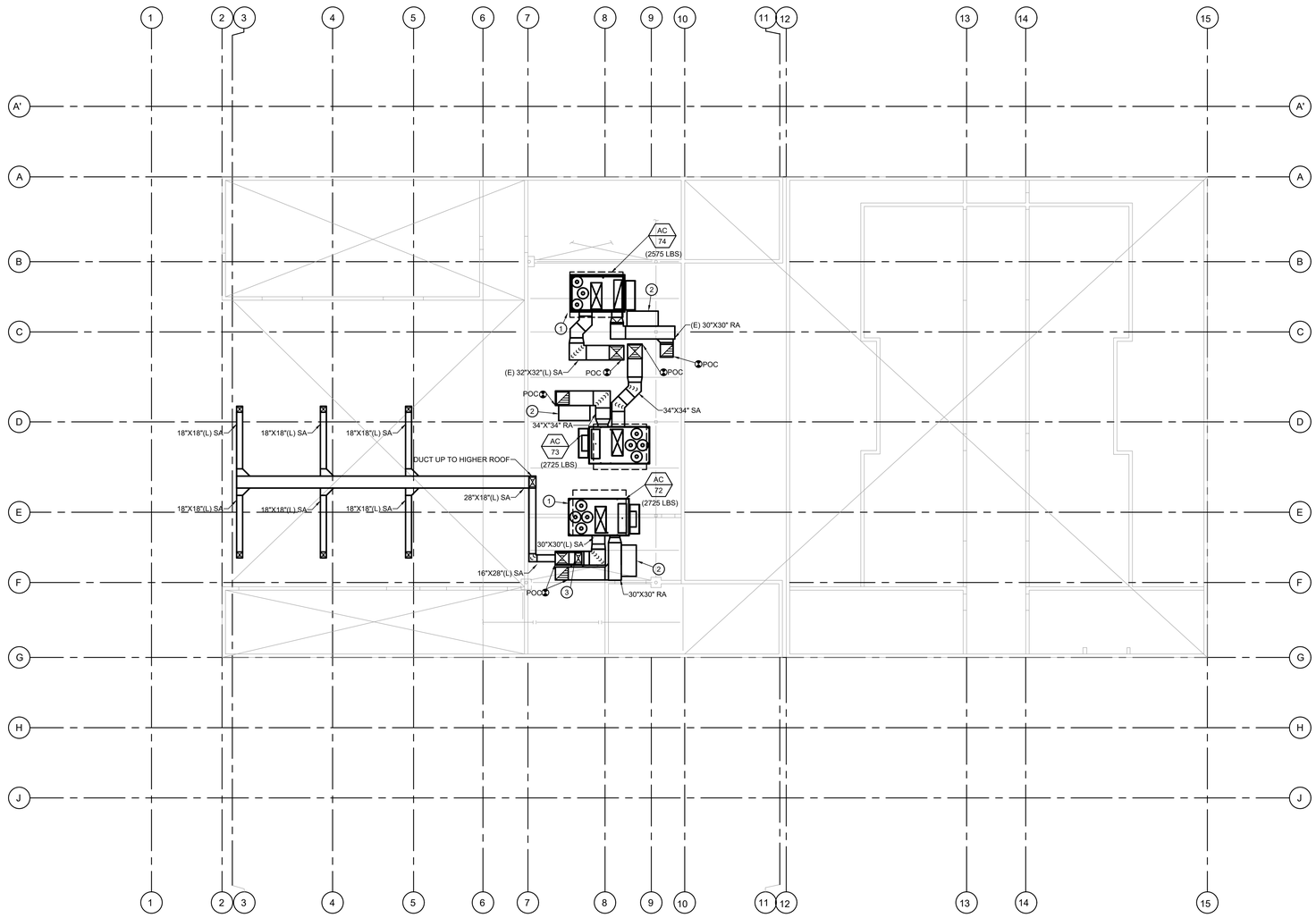
MD3.1

PROJECT NUMBER

Date Plotted:
File Name:

Plot Date:

Project # 2025-131_R25



N

BUILDING 2A CONSTRUCTION ROOF PLAN | 3/32" = 1'-0" | 1

CONSTRUCTION KEY NOTES:

1. INSTALL NEW PACKAGE UNIT PER MANUFACTURER RECOMMENDATIONS. RECONNECT NEW DUCT TO EXISTING DUCT.
2. PROVIDE DUCT MOUNTED POWER EXHAUST.
3. PROVIDE BYPASS WITH CONTROL DAMPER.

GENERAL CONSTRUCTION NOTES :

1. THE CONTRACTOR SHALL FULLY EXAMINE THE PREMISES, EXISTING EQUIPMENT AND SERVICES. THE CONTRACTOR SHALL DETERMINE IN ADVANCE, THE METHODS OF INSTALLATION INCLUDING: CONNECTIONS OF NEW EQUIPMENT, DUCTWORK, AND PIPING. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL NEW EQUIPMENT INSTALLATION REQUIREMENTS, RESTRICTIONS, AND ALL MEANS (TO BE PROVIDED) FOR GETTING THE EQUIPMENT, PIPING, AND MATERIALS INTO PLACES. SUCCESSFUL CONTRACTOR SHALL FURNISH NECESSARY MATERIALS TO COMPLETE THE WORK IN ACCORDANCE WITH THE INTENDED DESIGNS. THIS PROCEDURE SHALL BE PERFORMED WITHOUT ADDITIONAL COST TO THE OWNER.
2. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND DIMENSIONS OF ALL EXISTING EQUIPMENT AND ELECTRICAL SERVICES IN THE AREA OF CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES AS NECESSARY PRIOR TO INSTALLATION.
4. CONTRACTOR SHALL PROVIDE INSULATION TO ALL REFRIGERANT PIPING AND PROVIDE WEATHER JACKETING FOR ALL EXPOSED REFRIGERANT PIPING.
5. PATCH AND REPAIR EXISTING SURFACES AS REQUIRED TO FACILITATE DEMOLITION AND/OR PERFORMANCES OF THE NEW WORK. ALL NEW WORK SHALL MATCH IN KIND, QUALITY AND FINISH UNLESS OTHERWISE NOTED.
6. FRESH AIR INTAKES SHALL BE 10'-0" MIN. AWAY FROM ALL EXHAUST OUTLETS, PLUMBING VENTS, AND FLUES.
7. CONTRACTOR TO PROVIDE POST AIR BALANCE FOR NEW SYSTEM AND AIR DISTRIBUTION.
8. CONTRACTOR SHALL INSPECT & PATCH/SEAL ALL EXISTING DUCTWORK, INCLUDING ROOF MOUNTED DUCT INSIDE AND OUTSIDE OF MECHANICAL WELL.
9. PROVIDED DUCT DIMENSIONS ARE PRELIMINARY. FILED VERIFY ALL DUCT SIZES AS REQUIRED TO MATCH EXISTING.

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A CONSTRUCTION ROOF PLAN

oed optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP:

REGISTERED PROFESSIONAL ENGINEER
ROBERT BAKERJIAN
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY: RW
DRAWN BY: BO
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

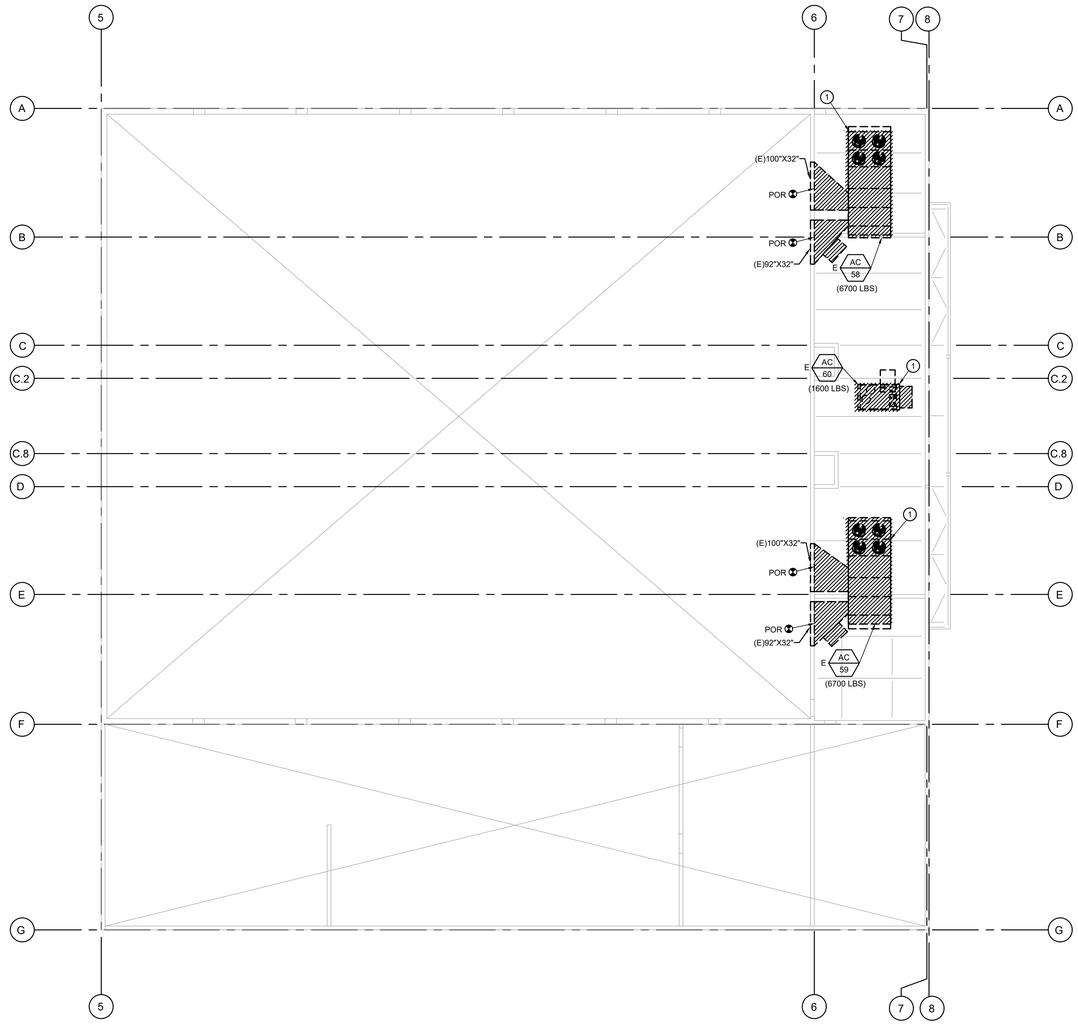
M3.1

PROJECT NUMBER

Date Plotted:
Drawing:

Plot Date:

Project # 2025-131_R25



N

BUILDING 5A DEMOLITION ROOF PLAN | 3/32" = 1'-0" | 1

Date Plotted:
File Name:

DEMOLITION KEY NOTES:

1. EXISTING PACKAGE UNIT, POWER EXHAUST, AND RELATED APPURTENANCES TO BE REMOVED. REMOVE EXISTING DUCT CONNECTIONS AND MODIFY AS NECESSARY TO FIT NEW CONNECTIONS.

GENERAL DEMOLITION NOTES :

1. ALL DEMOLISHED MATERIALS BY CONTRACTOR SHALL BE DISPOSE OF PER FEDERAL, STATE AND LOCAL AUTHORITY HAVING JURISDICTION. ALL ITEMS TO BE RETURNED TO DISTRICT SHALL BE REMOVED INTACT AND FULLY FUNCTIONAL BY CONTRACTOR. DISTRICT SHALL HAVE FIRST RIGHT OF REFUSAL FOR ANY DEMOLITION EQUIPMENT OR COMPONENTS TO BE REMOVED.
2. ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER FROM MECHANICAL EQUIPMENT TO BE REMOVED, RELOCATED, RE-USED AND/OR REPLACED AS REQUIRED. CONTRACTOR SHALL RECONNECT POWER TO ALL MECHANICAL EQUIPMENT BEING RE-USED AND/OR RELOCATED REQUIRED.
3. PLUMBING CONTRACTOR SHALL DISCONNECT EXISTING GAS PIPES FROM MECHANICAL EQUIPMENT TO BE REMOVED AND/OR REPLACED - AS REQUIRED.
4. GENERAL CONTRACTOR SHALL PATCH ALL OPENINGS IN WALLS, ROOF, ETC.THAT WILL NOT BE REUSED FOR FUTURE WORK. COORDINATE AS NECESSARY WITH OTHER TRADES.
5. PRIOR TO ANY WORK BEING DONE CONTRACTOR SHALL MAKE A CAREFUL EVALUATION OF THE EXISTING CONDITIONS AND VERIFY ALL METHODS OF REMOVAL AND INSTALLATION OF MECHANICAL EQUIPMENT.
6. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH THE WORK OF ALL OTHER TRADES.
7. CONTRACTOR SHALL CLEAN ALL AIR DEVICES TO REMAIN PER SPECIFICATIONS.
8. CONTRACTOR SHALL CLEAN ALL EXISTING DUCTWORK INCLUDING LINED DUCTWORK SPECIFICATIONS. PRIOR TO BID AND BEFORE COMMENCEMENT OF ANY WORK ALL EXISTING DUCTWORK TO REMAIN SHALL BE CONFIRMED ON SITE.
9. CONTRACTOR TO DO PREREAD TAB AIR BALANCE AT MAIN SUPPLY, RETURN, AIR DISTRIBUTION, OSA & PROVIDE REPORT TO DISTRICT & ENGINEER.
10. CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTION, BARRICADES, DUST CONTROL, AND DEBRIS CONTAINMENT TO PROTECT STUDENTS, STAFF, AND FACILITIES.
11. ALL UTILITY SHUTDOWNS SHALL BE COORDINATED, APPROVED, AND SCHEDULED IN ADVANCE WITH THE DISTRICT.

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 5A DEMOLITION ROOF PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP:

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANEGAS
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

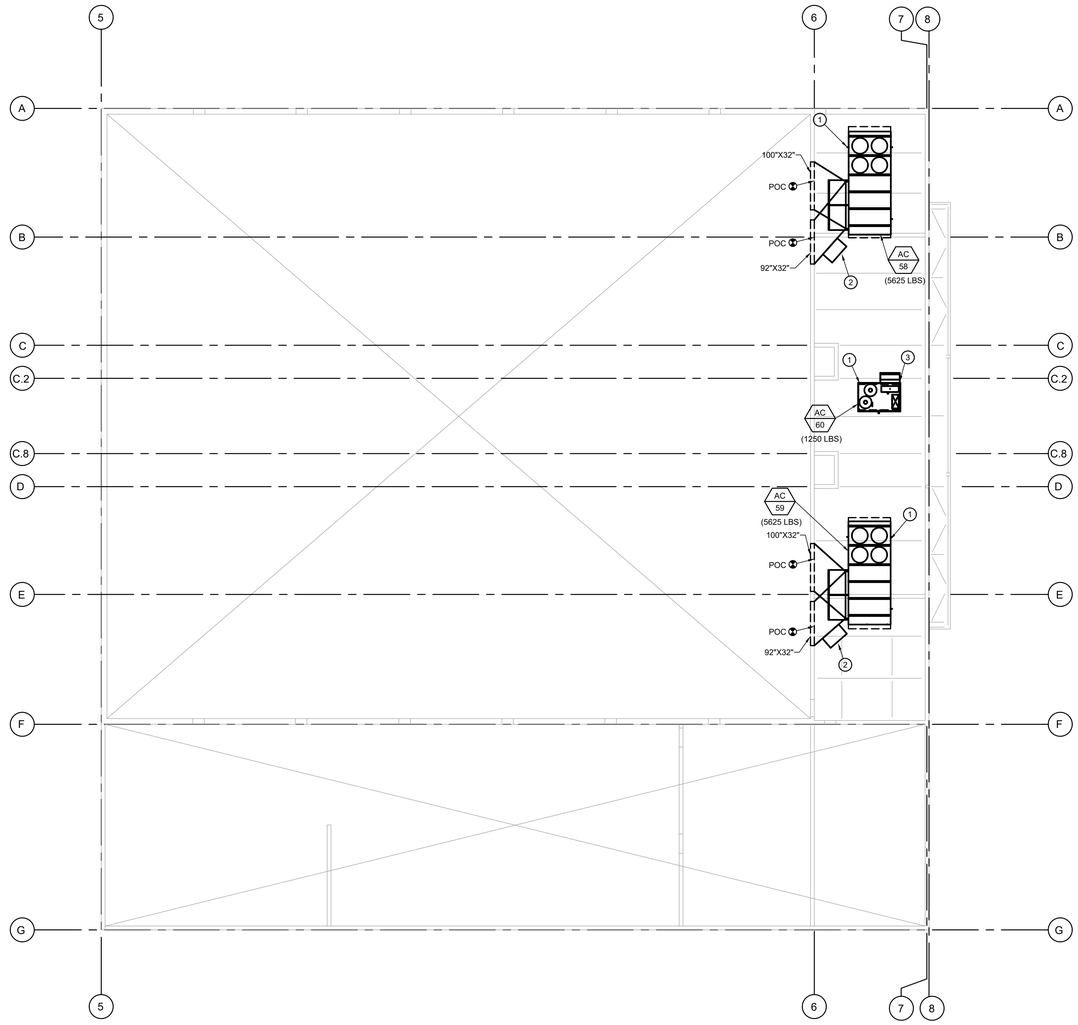
APPROVED BY: Approver
REVIEWED BY: RW
DRAWN BY: BO
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

MD3.2

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



N

BUILDING 5A CONSTRUCTION ROOF PLAN | 3/32" = 1'-0" | 1

Date Plotted:
File Name:

CONSTRUCTION KEY NOTES:

1. INSTALL NEW PACKAGE UNIT PER MANUFACTURER RECOMMENDATIONS. RECONNECT NEW DUCT TO EXISTING DUCT.
2. PROVIDE DUCT MOUNTED POWER EXHAUST.
3. PROVIDE UNIT MOUNTED POWER EXHAUST.

GENERAL CONSTRUCTION NOTES :

1. THE CONTRACTOR SHALL FULLY EXAMINE THE PREMISES, EXISTING EQUIPMENT AND SERVICES. THE CONTRACTOR SHALL DETERMINE IN ADVANCE, THE METHODS OF INSTALLATION INCLUDING: CONNECTIONS OF NEW EQUIPMENT, DUCTWORK, AND PIPING. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL NEW EQUIPMENT INSTALLATION REQUIREMENTS, RESTRICTIONS, AND ALL MEANS (TO BE PROVIDED) FOR GETTING THE EQUIPMENT, PIPING, AND MATERIALS INTO PLACES. SUCCESSFUL CONTRACTOR SHALL FURNISH NECESSARY MATERIALS TO COMPLETE THE WORK IN ACCORDANCE WITH THE INTENDED DESIGNS. THIS PROCEDURE SHALL BE PERFORMED WITHOUT ADDITIONAL COST TO THE OWNER.
2. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND DIMENSIONS OF ALL EXISTING EQUIPMENT AND ELECTRICAL SERVICES IN THE AREA OF CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES AS NECESSARY PRIOR TO INSTALLATION.
4. CONTRACTOR SHALL PROVIDE INSULATION TO ALL REFRIGERANT PIPING AND PROVIDE WEATHER JACKETING FOR ALL EXPOSED REFRIGERANT PIPING.
5. PATCH AND REPAIR EXISTING SURFACES AS REQUIRED TO FACILITATE DEMOLITION AND/OR PERFORMANCES OF THE NEW WORK. ALL NEW WORK SHALL MATCH IN KIND, QUALITY AND FINISH UNLESS OTHERWISE NOTED.
6. FRESH AIR INTAKES SHALL BE 10'-0" MIN. AWAY FROM ALL EXHAUST OUTLETS, PLUMBING VENTS, AND FLUES.
7. CONTRACTOR TO PROVIDE POST AIR BALANCE FOR NEW SYSTEM AND AIR DISTRIBUTION.

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 5A
CONSTRUCTION
ROOF PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP:

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANEGAS
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY: RW
DRAWN BY: BO
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

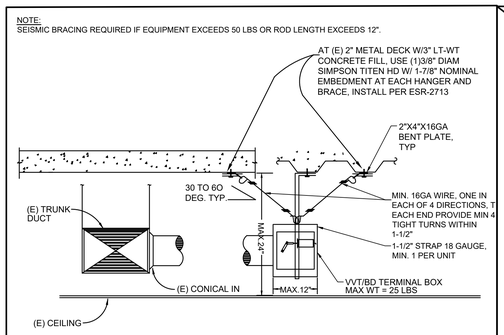
M3.2

PROJECT NUMBER

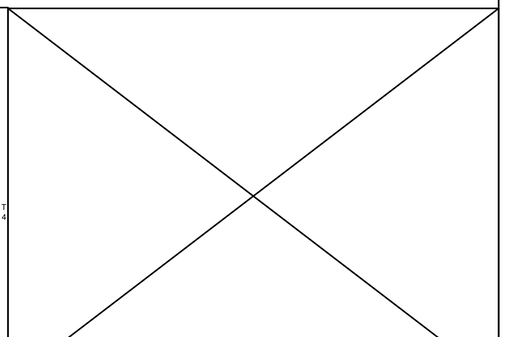
Plot Date:

Project # 2025-131_R25

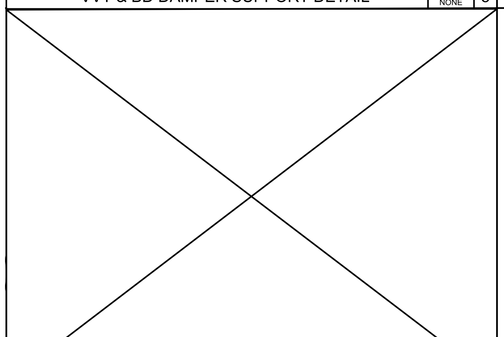
Date Plotted:
File Name:



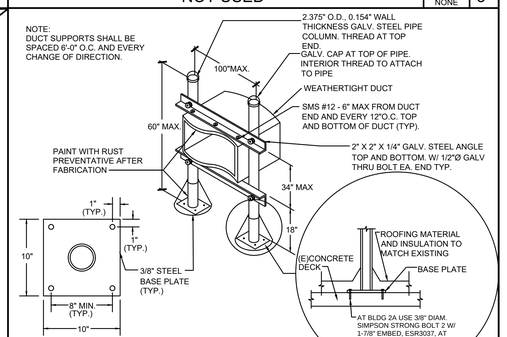
VVT & BD DAMPER SUPPORT DETAIL | SCALE NONE | 5



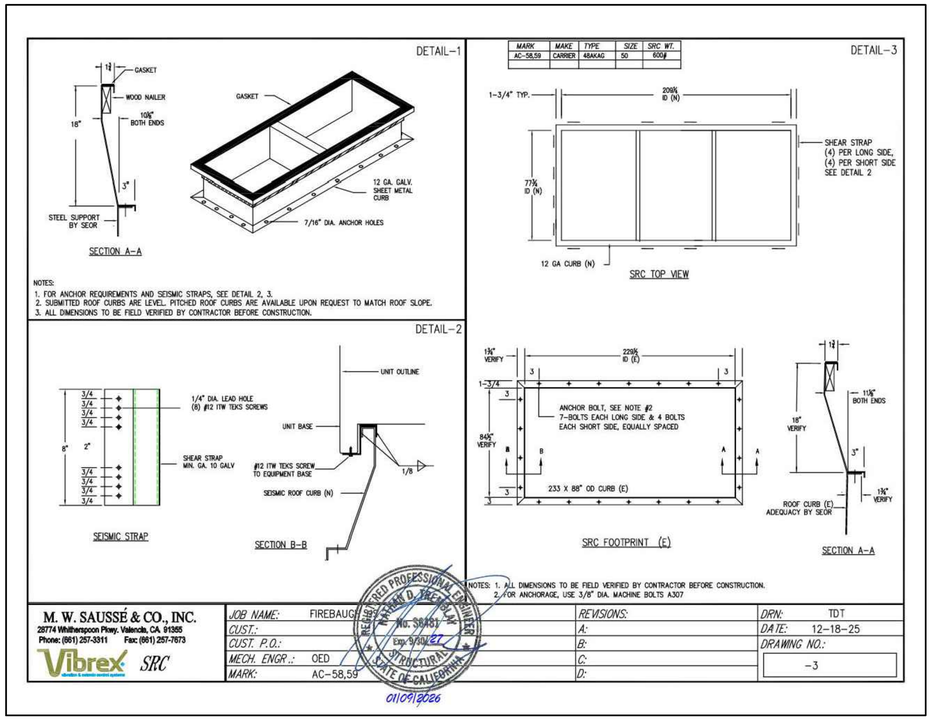
NOT USED | SCALE NONE | 3



NOT USED | SCALE NONE | 4



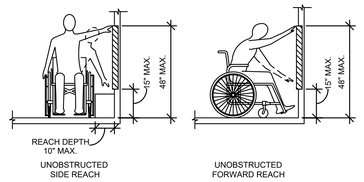
SUPPORT FOR RECTANGULAR DUCT ON ROOF | SCALE NONE | 2



AC-58 AND AC-59 CURB DETAIL | SCALE NONE | 6

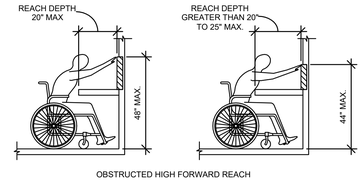
REACH RANGE NOTES
FORWARD REACH TO WALL MOUNTED OBJECTS W/O OBSTRUCTIONS
- 30"x48" CLEAR FLOOR SPACE FOR FORWARD APPROAC IS PROVIDED TO OBJECT.
- ONE FULL UNOBSTRUCTED SIDE OF THE CLEAR FLOOR SPACE ADJOINS AN ACCESIBLE ROUTE OR ADJOINTS ANOTHER WHEELCHAIR CLEAR FLOOR SPACE

SIDE REACH - WALL MOUNTED OBJECTS W/O OBSTRUCTIONS
- 30"x48" CLEAR FLOOR SPACE FOR PARALLEL APPROACH IS PROVIDED AT OBJECT.
- ONE FULL UNOBSTRUCTED SIDE OF THE CLEAR FLOOR SPACE ADJOINS AN ACCESIBLE ROUTE OR ADJOINTS ANOTHER WHEELCHAIR CLEAR FLOOR SPACE

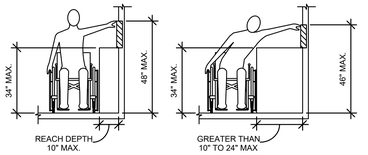


UNOBSTRUCTED SIDE REACH

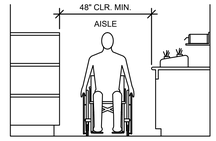
UNOBSTRUCTED FORWARD REACH

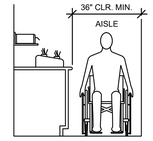


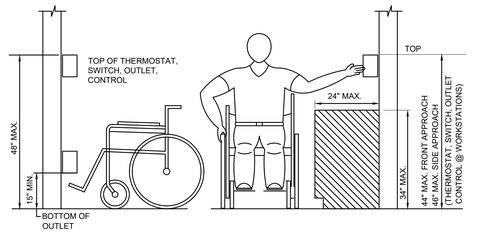
OBSTRUCTED HIGH FORWARD REACH



OBSTRUCTED HIGH SIDE REACH







CONTROL DEVICE MOUNTING DETAIL | SCALE NONE | 1

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD, CA 90262

SHEET TITLE

MECHANICAL DETAILS

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER ROBERT BANERJEE No. M29253 Exp. 6/30/27 MECHANICAL STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

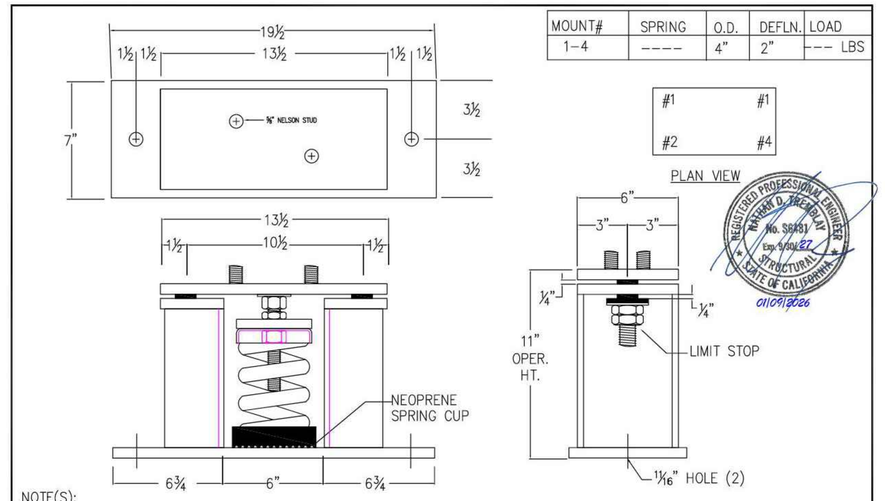
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

M4.1

PROJECT NUMBER

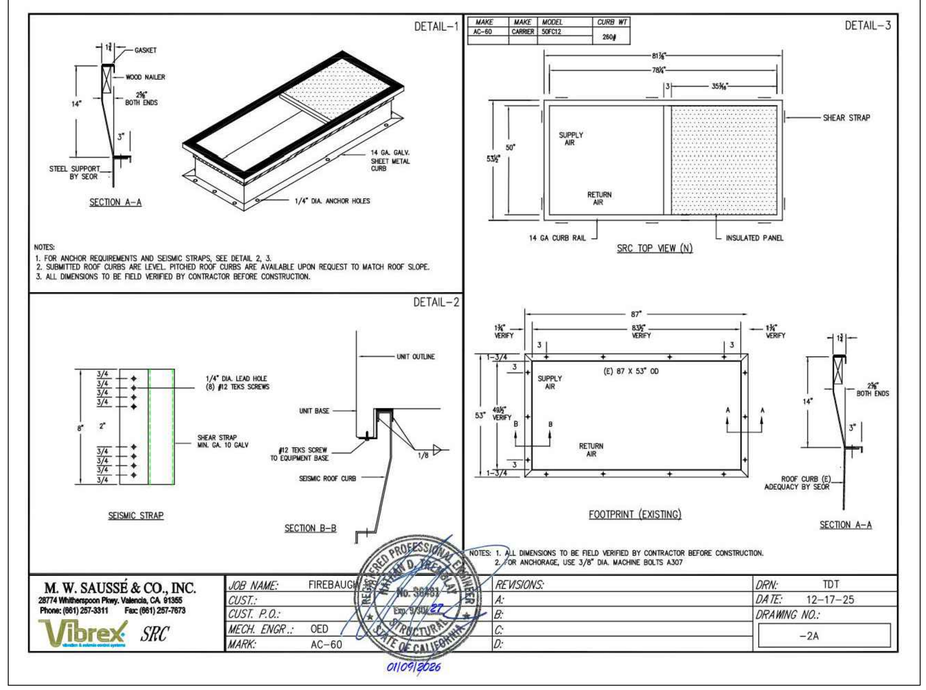
Plot Date:

Project # 2025-131_R25



NOTE(S):
1. ANCHORAGE, USE 5/8" DIA. MB A307
2. STEEL IS FINISHED WITH INDUSTRIAL GRADE PRIMER.
3. APPROXIMATE INDIVIDUAL ISOLATOR WEIGHT: 100 LBS.

M. W. SAUSSÉ & CO., INC. 28744 Witherspoon Pkwy, Valencia, CA 91355 PHONE: (661) 257-3311 FAX: (661) 257-7673 Vibrex RMLS-EQ-4	JOB NAME: FIREBAUGH HS CUST: CUST. P.O.: MECH. ENGR.: OPTIMUM AC - 72, 73, 74	REVISIONS: A: B: C:	DRN: TDT ENG: – DATE: 01-06-25 DRAWING NO.: -1.1



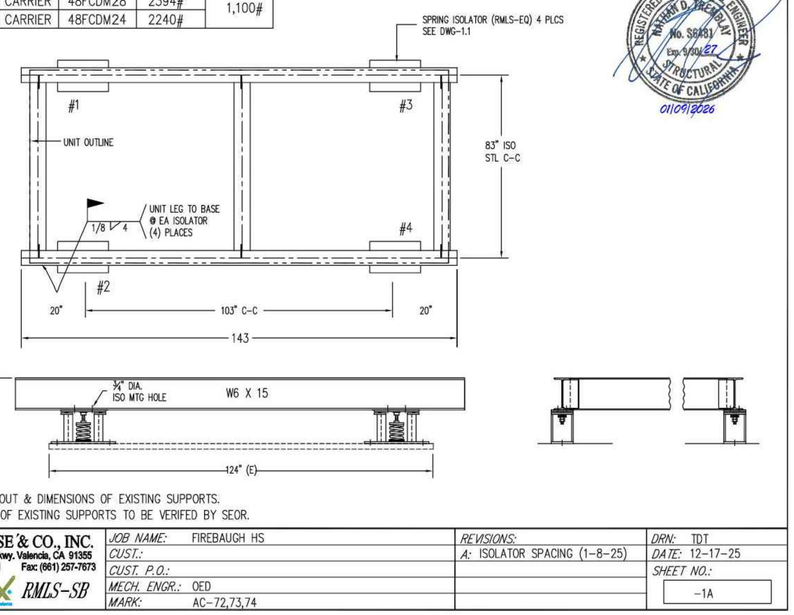
NOTES:
1. FOR ANCHOR REQUIREMENTS AND SEISMIC STRAPS, SEE DETAIL 2, 3.
2. SUBMITTED ROOF CURBS ARE LEVEL, PITCHED ROOF CURBS ARE AVAILABLE UPON REQUEST TO MATCH ROOF SLOPE.
3. ALL DIMENSIONS TO BE FIELD VERIFIED BY CONTRACTOR BEFORE CONSTRUCTION.

NOTES: 1. ALL DIMENSIONS TO BE FIELD VERIFIED BY CONTRACTOR BEFORE CONSTRUCTION.
2. FOR ANCHORAGE, USE 3/8" DIA. MACHINE BOLTS A307

M. W. SAUSSÉ & CO., INC. 28774 Witherspoon Pkwy, Valencia, CA 91355 Phone: (661) 257-3311 Fax: (661) 257-7673 Vibrex SRC	JOB NAME: FIREBAUGH HS CUST.: CUST. P.O.: MECH. ENGR.: OED MARK: AC-60	REVISIONS: A: B: C: D:	DRN: TDT DATE: 12-17-25 DRAWING NO.: -2A

AC-60 ANCHORAGE | SCALE NONE | 2

MARK	MAKE	MODEL	UNIT WT	WF BASE
AC-72,73	CARRIER	48FCDM28	2394#	1,100#
AC-74	CARRIER	48FCDM24	2240#	



NOTES:
1. VERIFY LAYOUT & DIMENSIONS OF EXISTING SUPPORTS.
2. ADEQUACY OF EXISTING SUPPORTS TO BE VERIFED BY SEOR.

M. W. SAUSSE & CO., INC. 28774 Witherspoon Pkwy, Valencia, CA 91355 Phone: (661) 257-3311 Fax: (661) 257-7673 Vibrex RMLS-SB	JOB NAME: FIREBAUGH HS CUST.: CUST. P.O.: MECH. ENGR.: OED MARK: AC-72,73,74	REVISIONS: A: ISOLATOR SPACING (1–8–25)	DRN: TDT DATE: 12-17-25 SHEET NO.: -1A

AC-72,AC-73, AND AC-74 ANCHORAGE | SCALE NONE | 1

Date Plotted:
File Name:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

MECHANICAL DETAILS

optimum energy design
Consulting Engineers
3200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

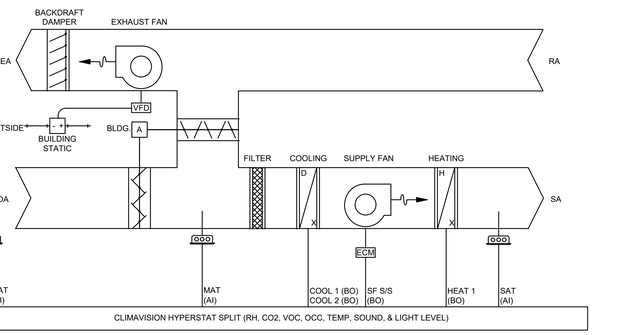
REGISTERED PROFESSIONAL ENGINEER
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER: M4.2
PROJECT NUMBER:

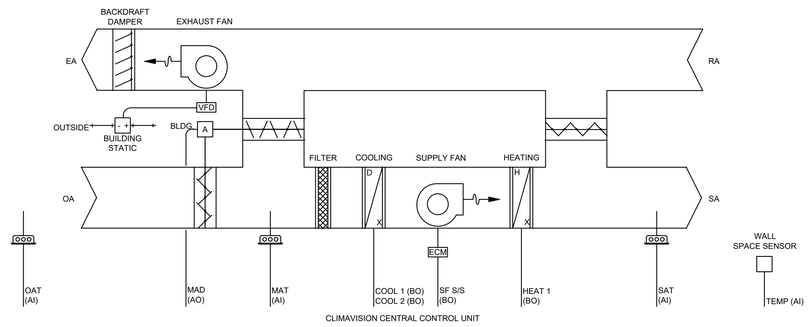
Plot Date:

Project # 2025-131_R25

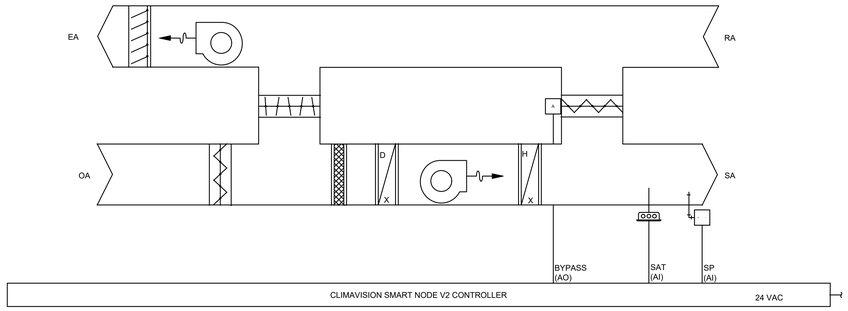


ROOFTOP UNIT (AC-58 AND AC-59) — SCALE NONE — 6

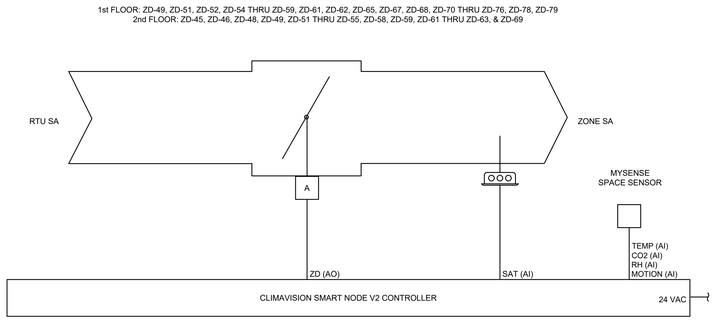
ROOFTOP UNIT (AC-60 AND AC-73) — SCALE NONE — 5



VVT ROOFTOP UNIT (AC-72 AND AC-74) — SCALE NONE — 4



BYPASS CONTROLLER DETAIL (BD-1 AND BD-2) — SCALE NONE — 3



VVT ZONE CONTROL — SCALE NONE — 2

COMMON ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AC	AIR CONDITIONING
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AUTO	AUTOMATIC
AUX	AUXILIARY
BAI	BACNET ANALOG INPUT
BAO	BACNET ANALOG OUTPUT
BBI	BACNET BINARY INPUT
BBO	BACNET BINARY OUTPUT
BI	BINARY INPUT
BO	BINARY OUTPUT
C	COMMON
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
COND	CONDENSER
CW	CONDENSER WATER
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DA	DISCHARGE AIR
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
EA	EXHAUST AIR
EF	EXHAUST FAN
EVAP	EVAPORATOR
F	FAHRENHEIT
FCU	FAN COIL UNIT
HOA	HAND/OFF/AUTO
HP	HEAT PUMP
HRU	HEAT RECOVERY UNIT
HTEX	HEAT EXCHANGER
HW	HOT WATER
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTDOOR AIR
RA	RETURN AIR
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SF	SUPPLY FAN
SP	STATIC PRESSURE
TEMP	TEMPERATURE
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME
VAVTU	VARIABLE AIR VOLUME TERMINAL UNIT
VVT	VARIABLE VOLUME & TEMPERATURE
W/	WITH
W/O	WITHOUT
WSHP	WATER SOURCE HEAT PUMP

SYMBOL LEGEND

GENERAL INFORMATION

COMMUNICATION BUS SPECIFICATION
1. A 24 AWG 2-conductor-shielded-stranded cable (plenum rated as required) must be daisy chained from controller to controller. It should be color coded (red, black, white).
2. The communication cable operates at up to 5 VDC. Verify with the local code authority and specs regarding conduit requirements.
3. No "T" tap or "star" type connections are permitted.
4. Terminate the shields on the designated terminal at each device.
5. 30 controller's maximum per communication bus segment. 60 controller's maximum per network router.
6. A repeater is required every 2000 ft. or 30 devices. Maximum of 4 repeaters per bus for a total of 10,000 ft.

POWER TO VVT DAMPER ACTUATORS/CONTROLLERS
1. Each zone requires a 24 VAC, 40 VA transformer (more in some cases depending on the valve or electric heater requirements)

2. It is recommended that each zone have its own transformer, however zones may be grouped up to 100 VA and still remain in UL Class 2 conformance.
3. Be careful of voltage drop. The damper will operate in a power range of 22 to 26 VAC. The damper will not operate at voltages less than 22 vac.

GENERAL NOTES
1. The 2 conductor communication cable and sensor cables must always be in a separate jacket from one another. Never run the se cables in the same conduit as, or bundle them with, AC power wiring of any voltage. Do not strap these cables along any conduits that contain AC power wiring of any voltage.
Do not run these cables in rings or conduit with fire, life, safety, security, network, telephone, power, or other wiring. When running communication and sensor wiring parallel to other cabling or conduit maintain a 12 in. distance.
2. Ethernet and/or Internet connection to i-Vu are supplied and maintained by building owner/operator.

INSTALLATION COORDINATION NOTES
1. Installer shall coordinate all power and data connection requirements with the GC onsite.
2. Install all components in accordance with the specification, applicable codes and manufacturer 's literature

CONTROL GENERAL NOTES, LEGEND, AND SYMBOLS — SCALE NONE — 1

Date Plotted:
Plot Time:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

MECHANICAL CONTROLS

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER — ABBY BANEGAS — No. M29253 Exp. 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

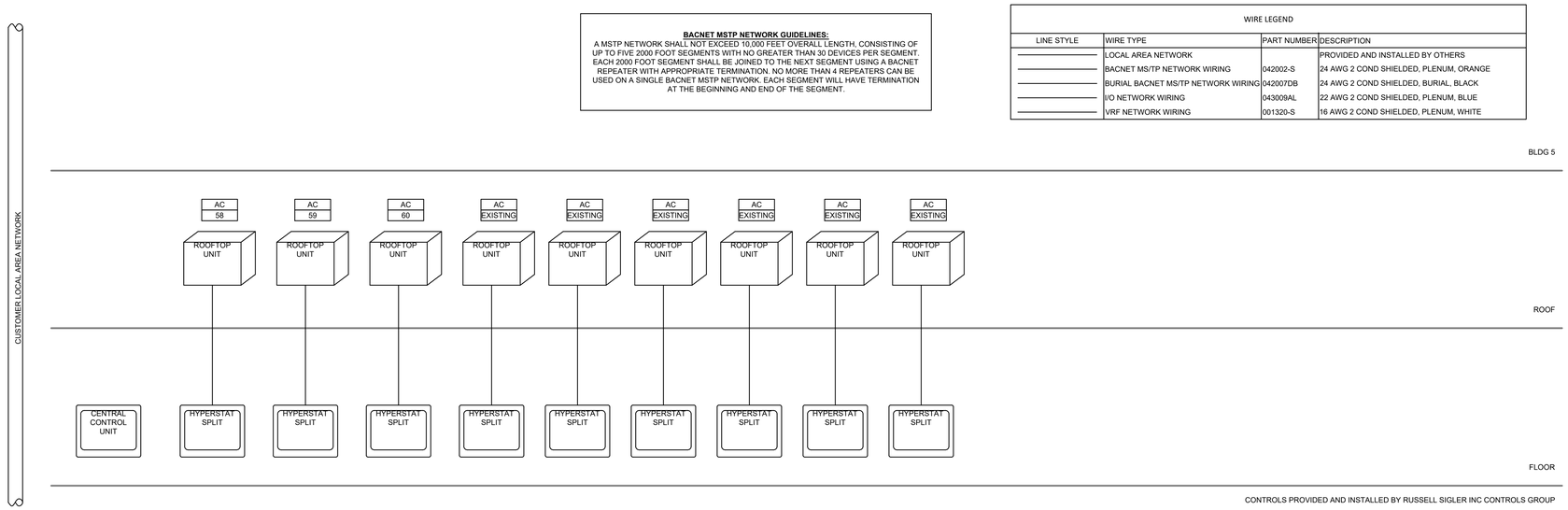
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

M5.1

PROJECT NUMBER

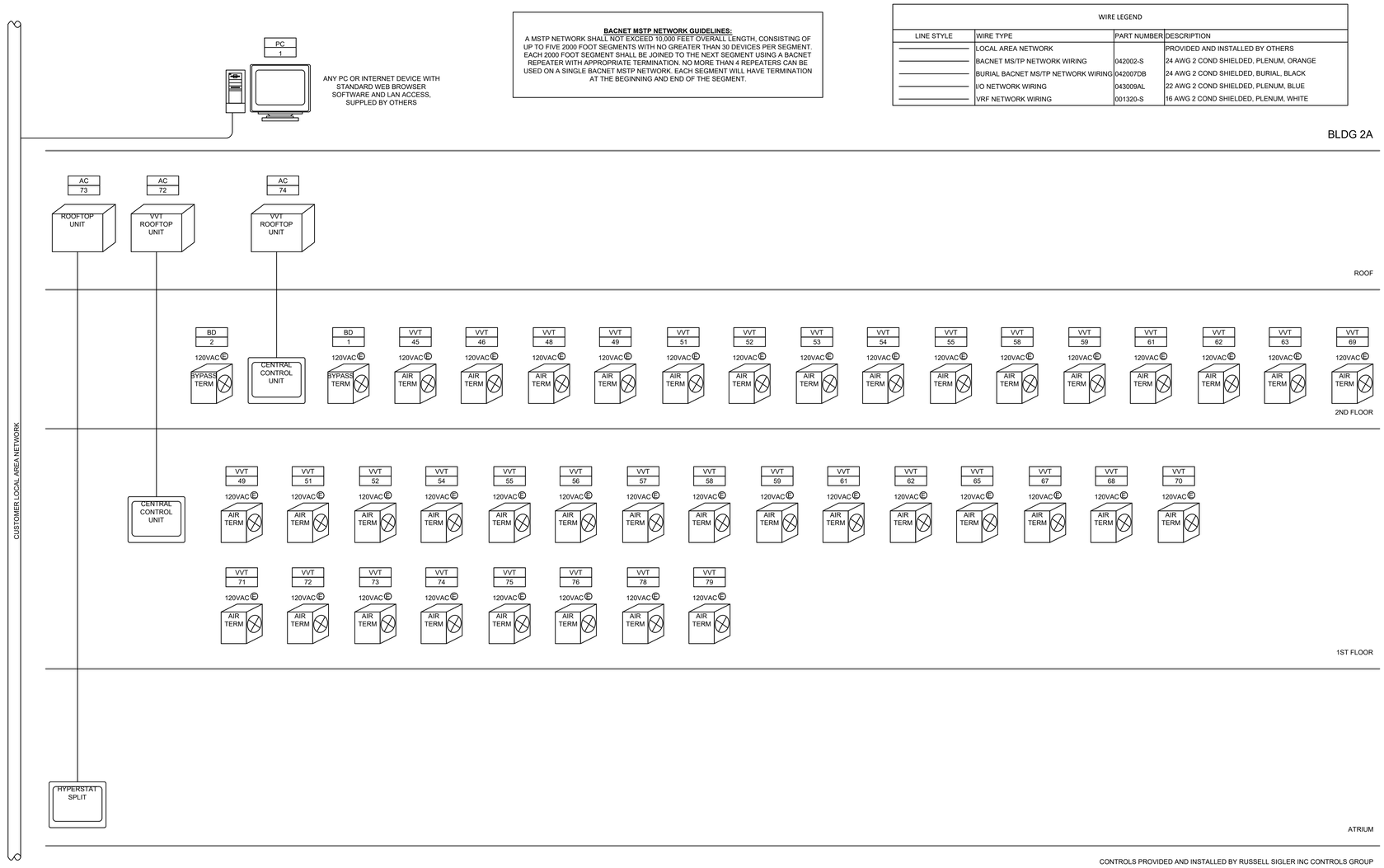
Plot Date:

Project # 2025-131_R25



BACS RISER DIAGRAM (BUILDING 5)

SCALE NONE 2



BACS RISER DIAGRAM (BUILDING 2A)

SCALE NONE 1

Date Plotted:
Drawn By:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

MECHANICAL CONTROLS

oed optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP:

REGISTERED PROFESSIONAL ENGINEER
ROBERT BAKERJIAN
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

M5.2

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 1 of 18)
Project Address: 5246 Martin Luter King Jr Blvd	Date Prepared: 1/8/2026

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.

A. GENERAL INFORMATION

01	Project Location (city)	Lynwood	04	Total Conditioned Floor Area	14936
02	Climate Zone	8	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1

♦ Classroom ✦ All Other Occupancies

B. PROJECT SCOPE

This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, §170.2(b) or §141.0(b)2 and §180.2(b)2 for alterations.

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

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 2 of 18)
	Date Prepared: 1/8/2026

C. COMPLIANCE RESULTS

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

01		02		03		04		05		06		07		08	09
System Summary §110.1, §110.2, §140.4, §170.2(c), §141.0(b), §180.2(b)2	AND	Pumps §140.4(k), §170.2(c)4I	AND	Fans/Econo mizers §140.4(c), §140.4(e), §140.4(k), §170.2(c)	AND	System Controls § 110.2, § 120.2, §140.4(f), §140.4(n), §170.2(c)	AND	Ventilation §120.1, §160.2	AND	Terminal Box Controls §140.4(d), §170.2(c)4B	AND	Distribution §120.3, §140.4(l), §160.2, §160.3, §141.0(b)2D, §180.2(b)2B-1	AND	Cooling Towers §110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	No	AND		AND	Yes	AND		COMPLIES
Mandatory Measures Compliance (See Table Q for Details)												COMPLIES			

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
AC-72	1	Multi-zone	New	All Other Occupancies	☐
AC-73	1	Multi-zone	New	All Other Occupancies	☐
AC-74	1	Multi-zone	New	All Other Occupancies	☐

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 3 of 18)
	Date Prepared: 1/8/2026

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

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

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2, §140.4(a)2 and 170.2(c)1tab		Smallest Size Available [1] §140.4(a) and §170.2(c)1i	Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4(a4kb), §170.2(c)1 & §170.2(c)2						
				Heating Output [2,3]		Cooling Output [2,3]		Load Calculations [2,3]		
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
AC-72	Furnace + AC (split or packaged)	AC, air cooled, single phg + warm-air central furnace, gas-fired	Yes	142	142	0	247.89	220.47	130.9	246.34
AC-73	Furnace + AC (split or packaged)	AC, air cooled, single phg + warm-air central furnace, gas-fired	Yes	142	142	0	240.85	220.47	-1.26	56.74
AC-74	Furnace + AC (split or packaged)	AC, air cooled, single phg + warm-air central furnace, gas-fired	NA: Load Controls	142	142	0	212.61	184.89	147.88	265.07

[1] FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a) and §170.2(c)1. Healthcare facilities are excepted.
[2] It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
[3] If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
[4] Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b) and §170.2(c).

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

01	02	03	04	05	06	07	08	09	10
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode			
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Refrigerant Loop Heat Recovery	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
AC-72	>=240,000		AFUE	0.8	0.81	Not Required	EER	9.8	9.8
							IEER	13	14

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 4 of 18)
	Date Prepared: 1/8/2026

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

01	02	03	04	05	06	07	08	09	10
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode			
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Refrigerant Loop Heat Recovery	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
AC-73	>=240,000		AFUE	0.8	0.81	Not Required	EER	9.8	9.8
							IEER	13	14
AC-74	>=240,000		AFUE	0.8	0.81	Not Required	EER	9.8	10
							IEER	13	14.5

Mechanical Heat Recovery§140.4(s)

01	02	03	04	05	06	07
Name or Item Tag	Coincident Peak Cooling Load of All High Load Spaces (kBtu/h)	Design Capacity of All Mechanical Cooling Systems[1] (kBtu/h)	Design Capacity of All Service Water Heating Systems[1] (kBtu/h)	Design Capacity for all space heating systems (kBtu/h)	Simultaneous Mechanical Heat Recovery	

[1] FOOTNOTES: Excluding systems expected to operate less than 5 hours per week.
[2] FOOTNOTES: If the design includes capacity for future cooling systems, then assume 20% of future systems serve high load spaces.

G. PUMPS

This section does not apply to this project.

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 5 of 18)
	Date Prepared: 1/8/2026

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	AC-72	Quantity	1	Fan System Status	New	System Zoning	Multi-zone VAV system	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	10,000	Site Elevation	88	Economizer	Differential Temperature
01	02	03		04		05	06	07		08		09		10	11
						Allowance				Design					
Fan Name or Item Tag	Fan Type	Qty	Component		Airflow through Component (%)	Water Gauge (w.g)	Component Allowance (watt/cfm)	Fan Allowance (watt/cfm $)^1$	Design Electrical Input Power Method		Motor Nameplate Horsepower		Fan Electrical Input Power (kW)	
SF	Supply	1	BaseAllowanceCTSFloors		100		0.45	Manufacturer provided						5.26
			MERV 13-16 Filter upstream of thermal conditioning equipment		100		0.13							
			Gas heat		100		0.06							
			Hydronic/DX cooling coil or heat pump coil		100		0.11							
			Economizer Return Damper		100		0.04							
Supply Fan Base Allowance (watt/cfm)		0.78	Exhaust/Return/Relief/Transfer Fan Base Allowance(watt/cfm)		0	Fan System Allowance (kW) ^{2}		7.76	Fan System Electrical Input Power (kW)						5.26

[1] FOOTNOTES: Fans serving spaces with design background noise goals below NC35
[2] Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.
[3] Fan system allowance includes fan system base allowance.
[4] Filter pressure loss can only be counted once per fan system.
[5] Complex fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.
[6] Computer room economizers must meet requirements of §140.9(b) and will be documented on the NRCC-PRC-E document..

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 6 of 18)
	Date Prepared: 1/8/2026

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	AC-73	Quantity	1	Fan System Status	New	System Zoning	Multi-zone VAV system	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	10,000	Site Elevation	88	Economizer	Differential Temperature
01	02	03		04		05	06	07		08		09		10	11
						Allowance				Design					
Fan Name or Item Tag	Fan Type	Qty	Component		Airflow through Component (%)	Water Gauge (w.g)	Component Allowance (watt/cfm)	Fan Allowance (watt/cfm $)^1$	Design Electrical Input Power Method		Motor Nameplate Horsepower		Fan Electrical Input Power (kW)	
SF	Supply	1	BaseAllowanceCTSFloors		100		0.45	Manufacturer provided						5.26
			MERV 13-16 Filter upstream of thermal conditioning equipment		100		0.13							
			Gas heat		100		0.06							
			Hydronic/DX cooling coil or heat pump coil		100		0.11							
			Economizer Return Damper		100		0.04							
Supply Fan Base Allowance (watt/cfm)		0.78	Exhaust/Return/Relief/Transfer Fan Base Allowance(watt/cfm)		0	Fan System Allowance (kW) ^{2}		7.76	Fan System Electrical Input Power (kW)						5.26

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 7 of 18)
	Date Prepared: 1/8/2026

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	AC-74	Quantity	1	Fan System Status	New	System Zoning	Multi-zone VAV system	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	10,000	Site Elevation	88	Economizer	Differential Temperature
01	02	03		04		05	06	07		08		09		10	11
						Allowance				Design					
Fan Name or Item Tag	Fan Type	Qty	Component		Airflow through Component (%)	Water Gauge (w.g)	Component Allowance (watt/cfm)	Fan Allowance (watt/cfm $)^1$	Design Electrical Input Power Method		Motor Nameplate Horsepower		Fan Electrical Input Power (kW)	
SF	Supply	1	BaseAllowanceCTSFloors		100		0.45	Manufacturer provided						5.26
			MERV 13-16 Filter upstream of thermal conditioning equipment		100		0.13							
			Gas heat		100		0.06							
			Hydronic/DX cooling coil or heat pump coil		100		0.11							
			Economizer Return Damper		100		0.04							
Supply Fan Base Allowance (watt/cfm)		0.78	Exhaust/Return/Relief/Transfer Fan Base Allowance(watt/cfm)		0	Fan System Allowance (kW) ^{2}		7.76	Fan System Electrical Input Power (kW)						5.26

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 8 of 18)
	Date Prepared: 1/8/2026

H. FAN SYSTEMS & AIR ECONOMIZERS

[1] Indoor fans meeting the requirements of 140.4(s)3D shall turn off when there is no demand for heating or cooling in the space. At 66% air flow the power draw shall be no more than 51% of the fan power at full fan speed and at 33% airflow the power draw shall be no more than 12% of the fan power at full fan speed.

H. EXHAUST AIR HEAT RECOVERY 140.4(s), 170.2(c)4O

01	02	03	04	05	06	07	08	09	10	11
Fan System Name	Qty	Hours of Operation per Year	Design Supply Airflow Rate	Outdoor Airflow	% Outdoor Air at Full Design Airflow	Exemptions to Exhaust Air Heat Recovery Requirement §140.4(s) & §170.2(c)4O	Exhaust Air Heat Recovery §140.4(s) & §170.2(c)4O	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass

Fan Energy Index (FEI)

01	02	03
Name or Item Tag	FEI Exception	FEI
AC-72	None Applies	1
AC-73	None Applies	1
AC-74	None Applies	1

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

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 9 of 18)
	Date Prepared: 1/8/2026

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n), §170.2(c)4D §170.2(c)4L or requirements in §141.0(b)2E §180.2(b)2 for altered space conditioning systems.

01	02	03	04	05	06	07	08	09	10	11
System Name	System Zoning	Condition ed Floor Area being Served (ft²)	Thermostats §110.2(b) & (c)², §120.2(a) §160.3(a)2A or §160.3(b)8 or §141.0(b)2E & §180.2(b)2	Shut-Off Controls §120.2(e) & §160.3(a) 2D	Isolation Zone Controls §120.2(g)	Demand Response §110.12 §120.2(h) & §160.3(a)2E	Supply Air Temp. Reset §140.4(f) 4D, §170.2(c)4D	Window Interlocks per §140.4(n) & §170.2(c)4D	Direct Digital Control (DDC) per §120.2	Heat Pump Defrost per §160.3(b)7
AC-72	Multi-zone w/ DDC to zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Supply air reset configure d per Guideline 36	NA: No operable windows	DDC controller logic using ASHRAE Guideline 36	NA: No Heat Pump
AC-73	Multi-zone w/ DDC to zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Supply air reset configure d per Guideline 36	NA: No operable windows	DDC controller logic using ASHRAE Guideline 36	NA: No Heat Pump
AC-74	Multi-zone w/ DDC to zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Supply air reset configure d per Guideline 36	NA: No operable windows	DDC controller logic using ASHRAE Guideline 36	NA: No Heat Pump

[1] FOOTNOTES: Economizers shall meet requirements of §140.4(e) and will be documented on the NRCC-PRC-E document..

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 10 of 18)
	Date Prepared: 1/8/2026

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in §120.1 § 120.2(c)§18 § 140.4(p) and § 140.4(q) for all nonresidential and hotel/motel and §124hrshvshe/160.2, §160.3(a)3D, §170.2(a)4H, 170.2(b)4D for high-rise residential occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☒	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per §120.1(c)2.

Nonresidential and Hotel/ Motel Multifamily Common Use Ventilation Systems

04		05				06	07
System Name	AC-72	System Design OA CFM Airflow[1]	2262	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) §141.0(b)2 and §160.2(c)1 [2] Provided	
08	09	10	11	12	13	14	15
Space Name or Item Tag	Mechanical Ventilation Required per §120.1(c)3[3] & §160.2(c)3					Exh. Vent per §120.1(c)4 & §160.2(c)4	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(c)3[4] §160.2(c)5D §160.2(c)5E §160.2(c)5D
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower/ heads/ toilets	# of people [5]	Required Min OA CFM	Provided per Design CFM	
Lobby	Main Entry Lobby	1098			549	0	0
17	Total System Required Min OA CFM				549	18	Ventilation for this System Complies?
04		05			06		07
System Name	AC-74	System Design OA CFM Airflow[1]	2967	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) §141.0(b)2 and §160.2(c)1 [2] Provided	
08	09	10	11	12	13	14	15
Space Name or Item Tag	Mechanical Ventilation Required per §120.1(c)3[3] & §160.2(c)3					Exh. Vent per §120.1(c)4 & §160.2(c)4	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(c)3[4] §160.2(c)5D §160.2(c)5E §160.2(c)5D
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower/ heads/ toilets	# of people [5]	Required Min OA CFM	Provided per Design CFM	
First Floor Classrooms	Classroom (ages 5-18)	7807			2,966.7	0	0
17	Total System Required Min OA CFM				2967	18	Ventilation for this System Complies?

[1] FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system
[2] Air filtration requirements apply to the following three system types per §120.1(c)1A. space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.
[3] Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 11 of 18)
	Date Prepared: 1/8/2026

J. VENTILATION AND INDOOR AIR QUALITY

[4] See Standards Tables 120.1-A and 120.1-B.
[5] For kitchen halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.
[6] §120.2(e)3 requires systems serving multiple zones that are required by §120.1(c)1 to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in §120.3 and mandatory requirements found in §120.4(g) for duct sealing.

01	☐	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.

Duct Leakage Testing

The answers to the questions below apply to the following duct systems:	AC-72	NR/ Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 12 of 18)
	Date Prepared: 1/8/2026

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.9.2 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	No	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16	No	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22		Ductwork Existing To Remain	
23		Duct System Connected To Altered Space Conditioning System	

The answers to the questions below apply to the following duct systems:	AC-73	NR/ Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 13 of 18)
	Date Prepared: 1/8/2026

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.9.2 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	No	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16	No	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22		Ductwork Existing To Remain	
23		Duct System Connected To Altered Space Conditioning System	

The answers to the questions below apply to the following duct systems:	AC-74	NR/ Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 14 of 18)
	Date Prepared: 1/8/2026

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.9.2 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	No	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	No	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16	No	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22		Ductwork Existing To Remain	
23		Duct System Connected To Altered Space Conditioning System	

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 — Schema Version: nrv 20250101 — Compliance ID: EPR-4917-0126-0004 — Report Generated: 2026-01-08 11:44:32

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Firebaugh High School - Building 2A	Report Page: (Page 15 of 18)
	Date Prepared: 1/8/2026

M. COOLING TOWERS

This section does not apply to this project.

Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2

Plot Date:

Project # 2025-131_R25

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 1 of 14]

Project Name: Firebaugh High School - Building 5 — **Date Prepared:** 2026-01-08

A. General Information

1	Project Name	Firebaugh High School - Building 5			
2	Run Title	Title 24 Analysis			
3	Project Location	1245 Martin Luther King Jr Blvd			
4	City	Lynwood	5	Standards Version	Compliance 2025
6	Zip code	90262	7	Compliance Software (version)	EnergyPro 10.0
8	Climate Zone	9	9	Building Orientation (deg)	0
10	Building Type(s)	+ Nonresidential	11	Weather File	CA_Title24_2025_CZ06_FULLERTON.epw
12	Project Scope	+ Existing addition and alteration	13	Number of Dwelling Units	0
14	Total Conditioned Floor Area in Scope (ft²)	18963	15	Total # of hotel/motel rooms	0
16	Total Unconditioned Floor Area (ft²)	0	17	Fuel Type	Natural gas
18	Is Natural Gas Available per 150.0(n)1A?	Yes	19	Nonresidential Conditioned Floor Area	18963
20	Total # of Stories (Habitable Above Grade)	1	21	Residential Conditioned Floor Area	0

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 2 of 14]

B. PROJECT SUMMARY

Table B shows which building components are included in the performance calculations. If indicated as not included, the project must show compliance prescriptively if within the permit application.

Building Components Complying via Performance				Building Components Complying Prescriptively			
Envelope (See Table G)	Norres.	Performance	Solar Thermal Water Heating (See Table G)	☐	Performance	The following building components are listed eligible for prescriptive compliance. Prescriptive requirements are mandatory and should be documented on the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).	
	Multifam	Not Included		☒	Not Included		
Mechanical (See Table H)	Norres.	Performance	Covered Process: Commercial Efficiency (See Table J)	☐	Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required
	Multifam.	Not Included		☒	Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E is required
Domestic Hot Water (See Table I)	Norres.	Not Included	Covered Process: Laboratory Exhaust (see Table J)	☐	Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required
	Multifam	Not Included		☒	Not Included	**Building Components Complying with Mandatory Measures**	
Lighting (Indoor Conditioned see Table K)	Norres.	Performance	Photovoltaics (see Table F)	☐	Performance	The following building components are listed eligible for mandatory compliance. Prescriptive requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E).	
	Multifam.	Not Included		☒	Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required
			Battery (see Table F)	☐	Performance	Commissioning 120.8	NRCC-CXR-E is required
				☒	Not Included	Solar and Battery 110.10	NRCC-SAB-E is required

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 3 of 14]

C1. COMPLIANCE SUMMARY

COMPLIES	Long-term System Cost (LSC)*		Source Energy Use	
	Efficiency† ($/ft².yr)	Total† ($/ft².yr)	Efficiency† (kBtu/ft².yr)	Total† (kBtu/ft².yr)
Standard Design	34.4	n/a	n/a	n/a
Proposed Design	34.16	n/a	n/a	n/a
Compliance Margins	**0.24**	**n/a**	**n/a**	**n/a**
		Pass	**n/a**	**n/a**

*Long-term System Cost (LSC) is a 30-year present value cost to California's energy system. LSC is not a predicted utility bill.
†Efficiency measures include energy efficiency improvements such as better building envelope and more efficient mechanical equipment
‡ Total includes efficiency, PV, battery, and demand flexibility.
* New Construction: Building complies when Proposed Design is equal to or less than Standard Design in all compliance categories and unmet load hour limits are not exceeded. Complete Addition Scope and Existing, Addition and Alteration Scope: Building complies when efficiency compliance margin is greater than or equal to zero and unmet load hour limits are not exceeded.

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 4 of 14]

C2. LSC ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual LSC Energy Use, $/ft².yr)

Energy Component	Standard Design (LSC)	Proposed Design (LSC)	Compliance Margin (LSC)*
Space Heating	3.74	3.73	0.01
Space Cooling	13.24	12.91	0.33
Indoor Fans	3.67	3.77	-0.1
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	5.58	5.58	0
Indoor Lighting	8.17	8.17	0
Flexibility	—	—	—
EFFICIENCY COMPLIANCE TOTAL	**34.4**	**34.16**	**0.24 (0.7%)**
Photovoltaics	—	—	—
Batteries	—	—	—
TOTAL COMPLIANCE	**34.4**	**34.16**	**0.24 (0.7%)**

*Notes: This number in parenthesis followsing the Compliance Margin is column 4, represents the Percent Better than Standard.

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 5 of 14]

C3. LSC ENERGY RESULTS FOR NON-REGULATED COMPONENTS†

Non-Regulated Energy Component	Standard Design (LSC)	Proposed Design (LSC)	Compliance Margin (LSC)*
Receptacle	8.56	8.56	—
Process	—	—	—
Other Ltg	—	—	—
Process Motors	—	—	—
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**42.96**	**42.72**	**0.24 (0.6%)**

*Notes: This table is not used for Energy Code Compliance.
* Notes: This number in parenthesis followsing the Compliance Margin is column 4, represents the Percent Better than Standard.

C4. NATIVE CODE QUALIFICATIONS

☐ This project is pursuing Calgreen Tier 1 ☐ This project is pursuing Calgreen Tier 2

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 6 of 14]

C7. ENERGY USE SUMMARY

Energy Component	Standard Design Site (kWh/y)	Proposed Design Site (kWh/y)	Margin (kWh/y)	Standard Design Site (kBtu/y)	Proposed Design Site (kBtu/y)	Margin (kBtu/y)
Space Heating	32.2	32.2	0	24.5	23.4	1.1
Space Cooling	173.8	169.4	4.4	—	—	—
Indoor Fans	43.2	44.4	-1.2	—	—	—
Heat Rejection	—	—	—	—	—	—
Pumps & Misc.	—	—	—	—	—	—
Domestic Hot Water	5.8	5.8	0	554.9	554.9	0
Indoor Lighting	99.6	99.6	0	—	—	—
Flexibility	—	—	—	—	—	—
EFFICIENCY TOTAL	**354.6**	**351.4**	**3.2**	**579.4**	**578.3**	**1.1**
Photovoltaics	—	—	—	—	—	—
Batteries	—	—	—	—	—	—
ENERGY USE SUBTOTAL	**354.6**	**351.4**	**3.2**	**579.4**	**578.3**	**1.1**
Receptacle	104.7	104.7	0	—	—	—
Process	—	—	—	—	—	—
Other Ltg	—	—	—	—	—	—
Process Motors	—	—	—	—	—	—
ENERGY USE TOTAL	**459.3**	**456.1**	**3.2**	**579.4**	**578.3**	**1.1**

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 7 of 14]

C8. ENERGY USE INTENSITY (EUI)

	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / yr)	Margin Percentage
GROSS EUI*	36.4	36.2	0.2	0.55
NET EUI†	36.4	36.2	0.2	0.55

*Notes: Gross EUI is Energy Use Total (not including PV) Total Building Area. Net EUI is Energy Use Total (including PV) Total Building Area.

D1. EXCEPTIONAL CONDITIONS

• The building does not include service water heating. Verify that service water heating is not required and is not included in the design.
• The proposed building includes space(s) that are modeled with unknown HVAC system(s). Verify that the spaces modeled with unknown HVAC system(s) are either part of core and shell analysis which will be permitted for mechanical compliance in the future, or the spaces have an existing HVAC system not modeled for compliance, or the spaces are unconditioned in the proposed design.
• The user model includes space(s) that are designed to be served by mechanical cooling systems, but the cooling systems were not included in the simulation model. A cooling system has been modeled for both the proposed and standard cases.
• The user model includes space(s) without sufficient cooling equipment. Cooling equipment has been added to the model to meet cooling loads.
• Verify project meets the requirements for Vestibules as per Section 120.7(e).

E1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

01	02	03	04
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft²)**	**Total Fenestration Area (ft²)**	**Window to Wall Ratio (%)**
North-Facing*	7196	0	0
East-Facing†	5541	0	0
South-Facing‡	0	0	0

Notes:
*North-Facing is oriented to within 45 degrees of true north, including 45(00'00" east of north (NE), but excluding 45(00'00" west of north (NW).
†East-Facing is oriented to within 45 degrees of true east, including 45(00'00" south of east (SE), but excluding 45(00'00" north of east (NE).
‡South-Facing is oriented to within 45 degrees of true south, including 45(00'00" west of south (SW), but excluding 45(00'00" east of south (SE).
§West-Facing is oriented to within 45 degrees of true west, including 45(00'00" north of west (NW), but excluding 45(00'00" south of west (SW).

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 8 of 14]

E1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

01	02	03	04
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft²)**	**Total Fenestration Area (ft²)**	**Window to Wall Ratio (%)**
Wall-Facing*	3478	0	0
Total	**18189**	**0**	**0**
Roof	58963	0	0

Notes:
*North-Facing is oriented to within 45 degrees of true north, including 45(00'00" east of north (NE), but excluding 45(00'00" west of north (NW).
†East-Facing is oriented to within 45 degrees of true east, including 45(00'00" south of east (SE), but excluding 45(00'00" north of east (NE).
‡South-Facing is oriented to within 45 degrees of true south, including 45(00'00" west of south (SW), but excluding 45(00'00" east of south (SE).
§West-Facing is oriented to within 45 degrees of true west, including 45(00'00" north of west (NW), but excluding 45(00'00" south of west (SW).

E4. NONRESIDENTIAL AIR BARRIER

01	02
Building Story Name	**Air Barrier**
Com-Utility	No air barrier
Com-Lobby	No air barrier

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 9 of 14]

E2. OPAQUE SURFACE ASSEMBLY SUMMARY

01	02	03	04	05	06	07	08	09	10
Surface Name	**Construction Type**	**Area (ft²)**	**Framing Type**	**Cavity R-Value**	**Continuous R-Value**		**Units**	**Value**	**Description of Assembly Layers**
					Interior	**Exterior**			
Default Roof (478-10)(1R)	Roof	58,963	Wood	19	N/A	N/A	U-factor	0.0552	Asphalt/shingles: 2in Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Cavity - Wood Roof Ceiling - 4 in. or more Composite-1 Gypsum Board - 5/2 in.
Default Wall (978 to 1991B	Exterior Wall	16,185	Wood	11	N/A	N/A	U-factor	0.1098	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Composite-2 Gypsum Board - 1/2 in.
Slab On Grade11	Underground Floor	58,963	N/A	0	N/A	N/A	F-factor	0.73	Insulation Orientation - slab on grade Insulation Orientation - Horiz Insulation R Value -none
R-0 Wall20	Interior Wall	1,646	N/A	0	N/A	N/A	U-factor	0.5367	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Cavity - Wall Roof Ceiling - 4 in. or more Gypsum Board - 1/2 in.

11	12
Status†	
E	
E	
E	
E	

†Status: N - New, A - Altered, E - Existing

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 10 of 14]

H2. DXV SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS) (TC)

01	02	03	04	05	06	07	08	09	10	11	12
			Heating				**Cooling**				
Equipment Name	**Equipment Type**	**Qty**	**Total Heating Capacity (kBtu/h)**	**Supp Heat Output (kBtu/h)**	**Efficiency: HSPF**	**Efficiency**	**Total Cooling Capacity (kBtu/h)**	**Efficiency: SEER**	**Efficiency**	**Evaporative Type (if present)**	**Status†**
AC - 60	Single Zone Air Conditioner (SZAC) Air System	1	168	0	AFUE	81	120.74	EER	11	Fixed DB	N

†Status: N - New, A - Altered, E - Existing

H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13
			Supply Fan					**Return / Relief Fan**				
Name or Item Tag	**Qty**	**Design CFM**	**CFM**	**Power**	**Power Units**	**Control**	**Fan Type**	**CFM**	**Power**	**Power Units**	**Control**	**Status†**
AC - 60	1	3187.3	4,000	1.41	BHP	Constant Volt	N/A	N/A	N/A	N/A	N/A	E

01	14	15	16	17	18	19
	Supply Fan				**Return / Relief Fan**	
Name or Item Tag	**Modeling Method**	**Fan Efficiency**	**Motor Efficiency**	**Modeling Method**	**Fan Efficiency**	**Motor Efficiency**
AC - 60	Brake Horse Power	0.65	0.87	N/A	N/A	N/A

†Status: N - New, A - Altered, E - Existing

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 11 of 14]

H6. SYSTEM SPECIAL FEATURES

01	02	03	04
System Name	**Equipment Type**	**Interlocks per 140.4(k)***	**Other Special Features and Controls**
AC - 60	Single Zone Air Conditioner (SZAC) Air System	N/A	Zone(s): WIN: CO2 Sensor Mnt. Control Fixed DB

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are also overlaid on the NRCC-MCH-E.
* No = Interlocks are provided, Yes = Interlocks are not provided, NA means no operable openings.

H8. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01	02	03	04	05	06	07
		Mechanical Ventilation				**DCV or Occupant Sensor Controls, or Both**
Zone Name	**Ventilation Function**	**# of People**	**Supply Std CFM**	**Exhaust CFM**	**Conditioned Area (sf)**	
2-Lobby 51013103 &1104	Assembly - Lobbies	212.49	3187.3	0	6439	DCV

H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12
			Rated Capacity (kBtu/h)			**Airflow (cfm)**			**Fan Control**		
System ID	**System Type**	**Qty**	**Heating**	**Cooling**	**Design**	**Min. Ratio**	**Power**	**Power Units**	**Cycles**	**VSD**
2-Lobby 51013103 &1104 Trm	Uncontrolled	1	N/A	N/A	4,000	N/A	0	N/A	N/A	☐
BaseVAV/AuxHeatTrmUnit	Variable Air Volume No Reheat Box	2	N/A	N/A	32,365.9	16,183	0.5	N/A	N/A	N/A	☐

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 12 of 14]

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO

01	02	03	04	05	06
				Additional (Custom) Allowance	
Occupancy Type*	**Conditioned Floor Area† (ft²)**	**Installed Lighting Power (Watts)**	**Lighting Control Credits (Watts)**	**Area Category Footnotes (Watts)**	**Area Category Footnotes (Watts)**
Corrections and Atrns Area	6459	3865.4	0	0	0
Building Totals	**6459**	**3865.4**	**0**	**0**	**0**

See Section 140.6(a)2
See NRCI-LTI-E for unconditioned spaces
Lighting information for existing spaces modeled is not included in this table

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROL

See NRCI-ELC-E for mandatory controls

K. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections made by Documentation Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

Building Component	Form/Title
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems

G. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction. Lighting controls and mechanical NRCAs must be completed through an Acceptance Test Technician Certification Provider (ATTCP).

Building Component	Form/Title & System Name(s)
Mechanical	NRCA-MCH-03-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: NRCA-ELC-02-A can be performed in conjunction with NRCA-MCH-03-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
Mechanical	NRCA-MCH-04-A - Economizer Controls
Mechanical	NRCA-MCH-05-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.
Mechanical	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units.

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 13 of 14]

G. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction. Lighting controls and mechanical NRCAs must be completed through an Acceptance Test Technician Certification Provider (ATTCP).

Building Component†	Form/Title & System Name(s)
Mechanical	NRCA-MCH-03-A - Constant Volume Single Zone HVAC
	AC - 60
Mechanical	NRCA-MCH-04-A - Air Economizer Controls
	AC - 60
Mechanical	NRCA-MCH-05-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.
	AC - 60
Mechanical	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units.
	AC - 60

Refer to other prescriptive NRCI forms applicable to the project for additional NRCA tests required that are not included in the NRCC-PRF-E form

R. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

There are no certificates applicable to this project

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — [Page 14 of 14]

Documentation Author's Declaration Statement

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

Documentation Author Name: Cole Condon	Documentation Author Signature: CC
Company: Optimum Energy Design	Signature Date: 2026-02-08
Address: 5200 E La Palma Avenue	CEA/ANSI/ICC Certification Identification (if applicable):
City/State/Zip: Anaheim, CA 92807	Phone: 714-693-2277

Responsible Person's Declaration statement

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The building design or system design features specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I understand that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building and shall be made available to the enforcement agency for all applicable inspections. I will take the necessary steps to fulfill this requirement.
6. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. I will take the necessary steps to fulfill this requirement.

Responsible Designer Name: Cole Condon	Responsible Designer Signature: CC
Company: Optimum Energy Design	Date Signed: 2026-01-08
Address: 5200 E La Palma Avenue	License #:
City/State/Zip: Anaheim, CA 92807	Title: Scope:
Phone: 7146932277	
Responsible Designer Name: Aleks Banerjee	Responsible Designer Signature:
Company: Optimum Energy Design	Date Signed: 2026-01-08
Address: 5200 E La Palma Avenue	License #: M29253
City/State/Zip: Anaheim, CA 92807	Title: Scope:
Phone: 7146932277	

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-01-08 17:18:44 Compliance ID: EnergyPro-4917-0126-0011

Date Plotted:
As Noted

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

MECHANICAL T24 - BUILDING 5A

oed optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ABBY BAKERJEE
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver

REVIEWED BY:

DRAWN BY:

SCALE: As Indicated

ISSUE DATE: Issue Date

SHEET NUMBER

M6.2

PROJECT NUMBER

GENERAL NOTES

1. MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2025 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

THE ATTACHMENT OF THE FOLLOWING ITEMS SHALL BE DESIGNED TO RESIST THE FORCES PRESCRIBED ABOVE, BUT NEED NOT BE DETAILED ON THE PLANS, AND THE PROJECT INSPECTOR WILL VERIFY THAT THESE ITEMS (EQUIPMENT) HAVE BEEN ANCHORED:

A. EQUIPMENT WEIGHING LESS THAN 400 POUNDS SUPPORTED DIRECTLY ON THE FLOOR OR ROOF.

B. FURNITURE REQUIRED TO BE ATTACHED IN ACCORDANCE WITH ASCE 7-05, SECTION 13.5.

C. TEMPORARY OR MOVABLE EQUIPMENT WITH FLEXIBLE CONNECTION TO POWER OR UTILITIES.

D. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.

E. EQUIPMENT WEIGHING LESS LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT OF THE MECHANICAL/ELECTRICAL ENGINEER.

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, AND 13.6.7, 13.6.8; AND 2025 CBC 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., HCAI OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

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

MP [ ] MD [ ] PP [ ] E [✓] OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP [ ] MD [ ] PP [ ] E [ ] OPTION 2: SHALL COMPLY WITH HCAI (OSHPD) PREAPPROVAL (OPM#) #_____, AS INCLUDED IN THESE DRAWINGS WITH PROJECT-SPECIFIC NOTES NOTES AND DETAILS.

COPIES OF THE MANUAL SHALL BE ON THE JOBSITE PRIOR TO STARTING HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

2. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITER'S LABORATORIES (UL) AND BEAR THEIR LABEL, OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY WHERE UL DOES NOT HAVE A LISTING. CUSTOM MADE EQUIPMENT SHALL HAVE COMPLETE TEST DATA SUBMITTED BY THE MANUFACTURER ATTESTING TO ITS SAFETY. IN ADDITION, THE MATERIALS, EQUIPMENT, AND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING:

AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA)
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
AMERICAN STANDARD ASSOCIATION (ASA)
NATIONAL FIRE PROTECTION AGENCY (NFPA)
AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
CALIFORNIA ELECTRICAL CODE (CEC) - LATEST EDITION
CALIFORNIA CODE OF REGULATIONS TITLE 24 (CCR)
INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
ALL LOCAL CODES HAVING JURISDICTION.

WHERE THE CODES HAVE DIFFERENT LEVELS OF REQUIREMENTS, THE MOST STRINGENT RULE SHALL APPLY.

3. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AT THE SITE. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION. WHERE THE INSTALLATION DIFFERS FROM THE WORK INDICATED ON THE APPROVED PLANS A CHANGE ORDER SHALL BE ISSUED. THE CHANGE ORDER SHALL INCLUDE REASON FOR CHANGE, CHANGE IN CONTRACT COST AND SUPPLEMENTARY DRAWINGS AND CALCULATIONS IF NECCESSARY.

4. THE CONTRACTOR SHALL PROVIDE AND KEEP UP-TO-DATE A COMPLETE RECORD SET OF DRAWINGS. THESE PRINTS SHALL BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS. THIS SET OF DRAWINGS SHALL BE KEPT ON THE JOB SITE AND SHALL BE USED ONLY AS A RECORD SET. THIS SHALL NOT BE CONSTRUED AS AUTHORIZATION FOR THE CONTRACTOR TO MAKE CHANGES IN THE LAYOUT WITHOUT DEFINITE INSTRUCTION. CHANGES TO THE APPROVED PLANS SHALL BE ISSUED IN THE FORM OF A CHANGE ORDER. UPON UPON COMPLETION OF THE WORK, A SET OF REPRODUCIBLE CONTRACT DRAWINGS SHALL BE OBTAINED FROM THE ENGINEER, AND ALL CHANGES AS NOTED ON THE RECORD SET OF DRAWINGS SHALL BE INCORPORATED THEREON WITH BLACK INK IN A NEAT, LEGIBLE, UNDERSTANDABLE AND PROFESSIONAL MANNER. FAILURE TO KEEP RECORD DRAWINGS UP-TO-DATE SHALL CONSTITUTE CAUSE FOR WITHHOLDING OF PROGRESS PAYMENTS.

5. ALL INTERRUPTION OF ELECTRICAL POWER SHALL BE KEPT TO A MINIMUM. HOWEVER, WHEN AN INTERRUPTION IS NECESSARY, THE SHUTDOWN MUST BE COORDINATED WITH THE COLLEGE AND ENGINEER 14 DAYS PRIOR TO THE OUTAGE. ANY OVERTIME PAY SHALL BE INCLUDED IN THE CONTRACTOR'S PRICE. WORK IN EXISTING SWITCHBOARDS OR PANELBOARDS SHALL BE COORDINATED WITH THE COLLEGE PRIOR TO REMOVING ACCESS PANELS OR DOORS.

6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE TEMPORARY POWER FACILITIES AND CONNECTIONS FOR ALL FEEDERS OR SYSTEMS BEING DISCONNECTED IN ORDER TO MAINTAIN SYSTEMS IN OPERATION OR WHERE SAID FEEDERS OR SYSTEMS REQUIRE EMERGENCY STANDBY POWER.

7. AFTER ALL REQUIREMENTS OF THE DRAWINGS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNER (MMA) AND COLLEGE WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER (MMA) AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.

8. ALL FINAL CONNECTIONS TO OWNER (MMA) FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR.

9. CONNECTIONS TO VIBRATING EQUIPMENT AND SEISMIC SEPARATIONS:

LIQUID-TIGHT FLEXIBLE STEEL CONDUIT IN AREAS EXPOSED TO WEATHER, DAMP LOCATIONS, CONNECTIONS TO TRANSFORMER ENCLOSURES, AND FINAL CONNECTIONS TO MOTORS.

PROVIDE A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR IN FLEXIBLE CONDUIT RUNS. MAXIMUM LENGTH SHALL BE SIX FEET UNLESS OTHERWISE NOTED.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAWCUTTING, TRENCHING, REMOVAL, BACKFILLING, COMPACTION AND PATCHING OF CONCRETE AS REQUIRED TO PERFORM HIS WORK. ATTENTION IS CALLED TO THE FACT THAT THERE ARE EXISTING UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN TRENCHING FOR HIS WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER AND APPROVED REPAIR OF ANY AND ALL DAMAGES CAUSED BY HIM OR HIS WORK.

11. WHENEVER A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT DEVICES, CIRCUIT BREAKERS, GROUND FAULT PROTECTION SYSTEMS, ETC. (ALL MATERIALS), ARISES ON THE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO ENSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE ENGINEER.

12. REFER TO SINGLE LINE DIAGRAM AND FEEDER SCHEDULES FOR CONDUIT AND CONDUCTOR SIZE TO PANELS, ETC. CONDUIT RUNS MAY NOT BE SHOWN ON DRAWINGS, BUT ARE PART OF THIS CONTRACT.

13. STRAIGHT FEEDER, BRANCH CIRCUIT, AND CONDUIT RUNS 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.

14. MAXIMUM NUMBER OF CONDUCTORS IN OUTLET OR JUNCTION BOXES SHALL CONFORM TO THE CALIFORNIA ELECTRICAL CODE, ARTICLE 370-6, BUT IN NO CASE SHALL CONTAIN MORE THAN THE FOLLOWING NUMBER OF #12 AWG CONDUCTORS FOR THE SIZE OF BOX INDICATED. THE MINIMUM SIZE OUTLET OR JUNCTION BOX PERMITTED IN A WALL IS FOUR INCHES SQUARE BY 1-1/2 INCHES DEEP.

4" SQ. BY 1-1/2" D = 9 CONDUCTORS
4" SQ. BY 2-1/8" D = 13 CONDUCTORS
4-11/16" SQ. BY 1-1/2" D = 11 CONDUCTORS
4-11/16" SQ. BY 2-1/8" D = 18 CONDUCTORS

ALL OUTLET BOXES CONTAINING MORE THAN ONE DEVICE SHALL BE GANGED. TWO DEVICES DOUBLE GANGED, MINIMUM.

15. WHERE MULTI-HOMERUNS ARE INDICATED ON DRAWINGS INDICATING THE SAME PANELBOARD CIRCUIT NUMBER, PROVIDE JUNCTION BOX AND ROUTE ONE SET OF WIRES TO CIRCUIT BREAKERS.

16. IDENTIFICATION NAMEPLATES SHALL BE MICARTA 1/8 INCH THICK AND OF APPROVED SIZE WITH BEVELLED EDGES AND ENGRAVED WHITE LETTERS A MINIMUM OF 1/4 INCH HIGH ON BLACK BACKGROUND. NAMEPLATES SHALL BE PROVIDED FOR ALL CIRCUITS IN THE SERVICE DISTRIBUTION OR PANELBOARDS. ALL NAMEPLATES SHALL BE ATTACHED WITH SCREWS. PULL BOXES, JUNCTION BOXES, AND DEVICE BOXES SHALL BE MARKED WITH A PERMANENT MARKER.

17. DRAWINGS ARE DIAGRAMMATIC ONLY. ROUTING OF RACEWAYS SHALL BE AT THE OPTION OF THE CONTRACTOR UNLESS OTHERWISE NOTED AND SHALL BE COORDINATED WITH OTHER SECTIONS. DO NOT SCALE THE ELECTRICAL DRAWINGS FOR LOCATIONS OF ANY ELECTRICAL, ARCHITECTURAL, STRUCTURAL, CIVIL, OR MECHANICAL ITEMS OR FEATURES.

18. CUTTING, BORING, SAW CUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED ON THE DRAWINGS OR ACCEPTED BY THE ENGINEER WITH THE APPROVAL OF DSA REPRESENTATIVE.

19. ALL EXPOSED CONDUITS SHALL BE RIGID GALVANIZED STEEL CONDUIT, SCH. 40.

20. CONTRACTOR SHALL PROVIDE LAMINATE RED NAMEPLATE ON ALL DISCONNECT SWITCHES, WITH CIRCUIT DESCRIPTIONS AND NUMBER.

21. EQUIPMENT GROUNDING: CONTRACTOR SHALL PROVIDE SIX 3/4"X10' GROUND WELL BONDED WITH 4/0 BARE COPPER GROUND WIRE. CONNECT TO DISTRIBUTION EQUIPMENT AT TWO POINTS WITH 2/0 BARE COPPER CONDUCTOR.

22. OVERCURRENT PROTECTION SHALL COMPLY WITH CEC ARTICLE 240.

23. SOLAR PHOTOVOLTAIC SYSTEM INSTALLATION SHALL CONFORM TO CEC ARTICLE 690.

24. DEMOLITION/CONSTRUCTION SHALL CONFORM TO CFC CHAPTER 14, CBC CHAPTER 33 AND CEC ARTICLE 89.

25. SOLAR PHOTOVOLTAIC SYSTEM IS INTERACTIVE GRID PARALLEL MODE ONLY.

ELECTRICAL SYMBOL LIST

- RIGID STEEL CONDUIT RUN CONCEALED, 3/4" MINIMUM.
- CONDUIT STUBBED OUT AND CAPPED. PULL LINE IN PLACE.
- CONDUIT RUN UNDERGROUND.
- #10 — CONDUIT RUN WITH TICK MARKS INDICATE QUANTITY OF #12 THHN / THWN COPPER CONDUCTORS -U.O.N.. CONDUIT SHOWN WITH NO TICK MARKS INDICATES 2 #12 THHN / THWN CONDUCTORS -U.O.N..
- B-1,3 — CONDUIT HOME RUN TO PANELBOARD. LETTER AND NUMERALS INDICATES ELECTRICAL PANEL AND CIRCUIT NUMBER.
- HOMERUN TO DESTINATION AS INDICATED. REFER TO CONDUIT SYMBOL ABOVE.
- BRANCH CIRCUIT PANEL, MOUNTING AS SHOWN ON SCHEDULES.
- (E) — EXISTING TO REMAIN.
- C.O. — CONDUIT ONLY.
- MOLDED CASE CIRCUIT BREAKER (SINGLE LINE DIAGRAM).
- GROUND.
- DUPLEX RECEPTACLE WITH (20AMP, 120V, 3W, WALL PLATE TO MATCH DEVICE) MTD. AT 18". RECEPTACLE SHALL BE PROVIDED COMPLETE WITH WEATHERPROOF COVERS LISTED U.L. LISTED FOR WET LOCATIONS WHEN IN USE.
- (X) — NOTE IDENTIFICATION SYMBOL. NUMBER INDICATES NOTE.
- AC 1 — HVAC EQUIPMENT DESIGNATION. SEE MECHANICAL PLANS.
- AS/ P/ AF — FUSED DISCONNECT SWITCH. HEAVY DUTY TYPE WITH REQUIRED QUANTITY OF DUAL ELEMENT TIME DELAY FUSES. NEMA 3R FOR OUTDOOR USE. AS=SWITCH AMPERE RATING. P=NUMBER OF POLES. AF=FUSE AMPERE RATING.
- X / E4X — DETAIL CALLOUT
- E — EXISTING CONDUIT AND CONDUCTORS TO REMAIN.
- ER — EXISTING CONDUIT AND CONDUCTORS TO BE DISCONNECTED AND REMOVED.
- (E) — EXISTING EQUIPMENT TO REMAIN IN OPERATION.
- (N) — NEW EQUIPMENT.
- (R) — EXISTING EQUIPMENT TO DISCONNECTED AND REMOVED.

REFERENCES AND ABBREVIATIONS

—	DETAIL REFERENCE	MCB	MAIN CIRCUIT BREAKER
1	KEYNOTE REFERENCE	FLA	FULL LOAD AMPS
A.F.F.	ABOVE FINISH FLOOR	C.	CONDUIT
U.O.N.	UNLESS OTHERWISE NOTED	V.	VOLTS
C.O.	CONDUIT ONLY W/PULL ROPE	A	AMPS
WP	WEATHER PROOF	GFI	GROUND FAULT INTERRUPTER
CU.	COPPER	GND	GROUND
M.L.O.	MAIN LUGS ONLY	V.L.	VERIFY LOCATION
E or (E)	EXISTING TO REMAIN	A.C.	ABOVE COUNTER
EM.	EMERGENCY	N.L.	NIGHT LIGHT

SHEET INDEX

INDEX	SHEET No.	SHEET TITLE
1	E0.01	ELECTRICAL GENERAL NOTES, SYMBOLS LIST, AND ABBREVIATIONS
2	ED3.1	BUILDING 5A DEMOLITION ROOF PLAN
3	ED3.2	BUILDING 5A DEMOLITION ROOF PLAN
4	E2.1	BUILDING 2A CONSTRUCTION FLOOR PLAN
5	E3.1	BUILDING 2A CONSTRUCTION ROOF PLAN
6	E3.2	BUILDING 5A CONSTRUCTION ROOF PLAN

EXISTING (BLDG. 5A)

PANEL "HG1" — MAIN BREAKER: M.L.O. — SCA: 22 KAIC
VOLTAGE: 208/120V-4-WIRE — BUS SIZE — MOUNT: SURFACE
LOCATION: ELEC ROOM FED FROM HDG — COPPER: 225A. — ENTRY: TOP

	DESCRIPTION	CKT	BKR	P	LTS	REC	MSC	MTR	A-VA	B-VA	C-VA	AMPS
★	EXISTING LOAD	1	20	1								
	EXISTING LOAD	3	20	1								
	EXISTING LOAD	5	20	1								
	EXISTING LOAD	7	20	1								
	EXISTING LOAD	9	20	1								
	EXISTING LOAD	11	20	1								
	EXISTING LOAD	13	20	1								
	EXISTING LOAD	15	20	1								
	EXISTING LOAD	17	20	1								
	EXISTING LOAD	19	20	1								
	EXISTING LOAD	21	20	1								
	EXISTING LOAD	23	20	1								
	EXISTING LOAD	25	20	1								
	EXISTING LOAD	27	20	1								
	EXISTING LOAD	29	20	1								
	EXISTING LOAD	31	20	1								
	EXISTING LOAD	33	20	1								
	EXISTING LOAD	35	20	1								
	EXISTING LOAD	37	20	1								
	EXISTING LOAD	39	20	1								
	EXISTING LOAD	41	20	1								
								SUB TOTAL VOLT/AMPS:		0	0	0
□	AC-60	2	30	3					6917			
	W/ CKT. 2	4	---	--						6917		
	W/ CKT. 2	6	---	--							6917	
★	EXISTING	8	40	3								
	W/ CKT. 8	10	---	--								
	W/ CKT. 8	12	---	--								
	EXISTING	14	30	3								
	W/ CKT. 14	16	---	--								
	W/ CKT. 14	18	---	--								
	EXISTING	20	30	3								
	W/ CKT. 20	22	---	--								
	W/ CKT. 20	24	---	--								
	EXISTING	26	30	3								
	W/ CKT. 26	28	---	--								
	W/ CKT. 26	30	---	--								
	EXISTING	32	25	3								
	W/ CKT. 32	34	---	--								
	W/ CKT. 32	36	---	--								
	EXISTING	38	20	3								
	W/ CKT. 38	40	---	--								
	W/ CKT. 38	42	---	--								
								SUB TOTAL VOLT/AMPS:		6917	6917	6917
								PANEL SUB TOTAL VOLT/AMPS:		6917	6917	6917
									TOTAL LCL/PHASE:	0	0	0
	CONNECTED: 20750 VA								TOTAL VOLT/AMPS:	6917	6917	6917
	25% OF MTR: VA								TOTAL AMPS/PHASE:	58	58	58
	25% OF LCL: 0 VA											
	CALCULATED: 20750 VA = 58 AVERAGE AMPS											

★ = INDICATES EXISTING LOAD TO REMAIN.
□ = INDICATES REVISED LOAD ON EXISTING CIRCUIT BREAKER.

NEW (BLDG. 5A)

PANEL "HG3" — MAIN BREAKER: M.L.O. — SCA: 14 KAIC
VOLTAGE: 480/277V-4-WIRE — BUS SIZE — MOUNT: SURFACE
LOCATION: ELEC ROOM FED FROM HDG — COPPER: 225A. — ENTRY: TOP

DESCRIPTION	CKT	BKR	P	LTS	REC	MSC	MTR	A-VA	B-VA	C-VA	AMPS
AC-58 POWER EXHAUST	1	45	3				1	8715			
W/ CKT. 3	3	---	--						8715		
W/ CKT. 3	5	---	--							8715	
AC-59 POWER EXHAUST	7	45	3				1	8715			
W/ CKT. 7	9	---	--						8715		
W/ CKT. 7	11	---	--							8715	
AC-60 POWER EXHAUST	13	15	3				1	1549			
W/ CKT. 7	15	---	--						1549		
W/ CKT. 7	17	---	--							1549	
							SUB TOTAL VOLT/AMPS:		18979	18979	18979
SPACE	2										
SPACE	4										
SPACE	6										
SPACE	8										
SPACE	10										
SPACE	12										
SPACE	14										
SPACE	16										
SPACE	18										
								SUB TOTAL VOLT/AMPS:	0	0	0
								PANEL SUB TOTAL VOLT/AMPS:	18979	18979	18979
								TOTAL LCL/PHASE:			
CONNECTED: 56938 VA								TOTAL VOLT/AMPS:	18979	18979	18979
25% OF MTR: 6536 VA								TOTAL AMPS/PHASE:	69	69	69
25% OF LCL: VA											
CALCULATED: 63474 VA = 76 AVERAGE AMPS											

PANEL SCHEDULE NOTES:

1. NEW CIRCUIT BREAKER TO MATCH EXISTING IN MANUFACTURE. PROVIDE REQUIRED HARDWARE. CIRCUIT BREAKER AIC RATING TO BE EQUAL TO OR GREATER THAN THE HIGHEST EXISTING AIC RATED CIRCUIT BREAKER IN THE PANEL.

BUILDING 2A

DISTRIBUTION BOARD "HDA"

REMOVED LOAD - AC-72	- 70 A.
REMOVED LOAD - AC-73	- 70 A.
REMOVED LOAD - AC-74	- 65 A.
ADDED LOAD - AC-72	+ 56.7 A.
ADDED LOAD - AC-73	+ 56.7 A.
ADDED LOAD - AC-74	+ 50.8 A.
ADDED LOAD - AC-72 PE	+ 17.9 A.
ADDED LOAD - AC-73 PE	+ 17.9 A.
ADDED LOAD - AC-74 PE	+ 13.1 A.
NET LOAD REDUCTION	+8.1 A.

BUILDING 5A

DISTRIBUTION BOARD "HDG"

REMOVED LOAD - AC-58	- 120 A.
REMOVED LOAD - AC-59	- 120 A.
REMOVED LOAD - AC-60	- 21.3 A.
ADDED LOAD - AC-58	+ 130 A.
ADDED LOAD - AC-59	+ 130 A.
ADDED LOAD - AC-60	+ 25 A.
ADDED LOAD - AC-58 PE	+ 31.5 A.
ADDED LOAD - AC-59 PE	+ 31.5 A.
ADDED LOAD - AC-60 PE	+ 5.6 A.
NET LOAD REDUCTION	+92.3 A.

EXISTING (BLDG. 5A)

DISTRIBUTION BOARD "HDG" — MAIN BREAKER: 1200A. — SCA: 42 KAIC
VOLTAGE: 480/277V-4-WIRE — BUS SIZE — MOUNT: FLOOR
LOCATION: WAREHOUSE — COPPER: 1200A. — ENTRY: TOP

	DESCRIPTION	CKT	BKR	P	LTS	REC	MSC	MTR	A-VA	B-VA	C-VA	AMPS
□	AC-58	1	150	3			1		35967	35967	35967	
□	AC-59	2	150	3			1		35967	35967	35967	
1 ○	PANEL "NEW"	3	100	3				1	18979	18979	18979	
								SUB TOTAL VOLT/AMPS:	90913	90913	90913	
	CONNECTED: 272738 VA							TOTAL AMPS/PHASE:	328	328	328	
	25% OF MTR: 0 VA											
	25% OF LCL: 0 VA											
	CALCULATED: 272738 VA = 328 AMPS								328 ACTUAL AMPS			

★ = INDICATES EXISTING LOAD TO REMAIN.
□ = INDICATES REVISED LOAD ON EXISTING CIRCUIT BREAKER.
○ = INDICATES NEW LOAD ON EXISTING CIRCUIT BREAKER.

EXISTING (BLDG. 2A)

DISTRIBUTION BOARD "HDA" — MAIN BREAKER: 1200A. — SCA: 42 KAIC
VOLTAGE: 480/277V-4-WIRE — BUS SIZE — MOUNT: FLOOR
LOCATION: ELECTRICAL ROOM — COPPER: 1200A. — ENTRY: TOP

	DESCRIPTION	CKT	BKR	P	LTS	REC	MSC	MTR	A-VA	B-VA	C-VA	AMPS
□	AC-72	1	100	3				1	15687	15687	15687	
	AC-73	2	100	3				1	15687	15687	15687	
	AC-74	3	100	3				1	14055	14055	14055	
(TYP. 3) 1 △	AC-72 POWER EXHAUST	4	35	3				1	4952	4952	4952	
	AC-73 POWER EXHAUST	5	35	3				1	4952	4952	4952	
	AC-74 POWER EXHAUST	6	25	3				1	3624	3624	3624	
								SUB TOTAL VOLT/AMPS:	58958	58958	58958	
	CONNECTED: 176873 VA							TOTAL AMPS/PHASE:	213	213	213	
	25% OF MTR: 3714 VA											
	25% OF LCL: 0 VA											
	CALCULATED: 180587 VA = 217 AMPS								217 ACTUAL AMPS			

★ = INDICATES EXISTING LOAD TO REMAIN.
□ = INDICATES REVISED LOAD ON EXISTING CIRCUIT BREAKER.
△ = INDICATES NEW CIRCUIT BREAKER AND NEW LOAD.

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

ELECTRICAL GENERAL NOTES, SYMBOLS LIST, AND ABBREVIATIONS

oed optimum energy design
Consulting Engineers
3200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER — RICHARD S. SOTO — No. E17229 — 6/30/26 — STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/25
	DSA BACKCHECK 1	02/24/25

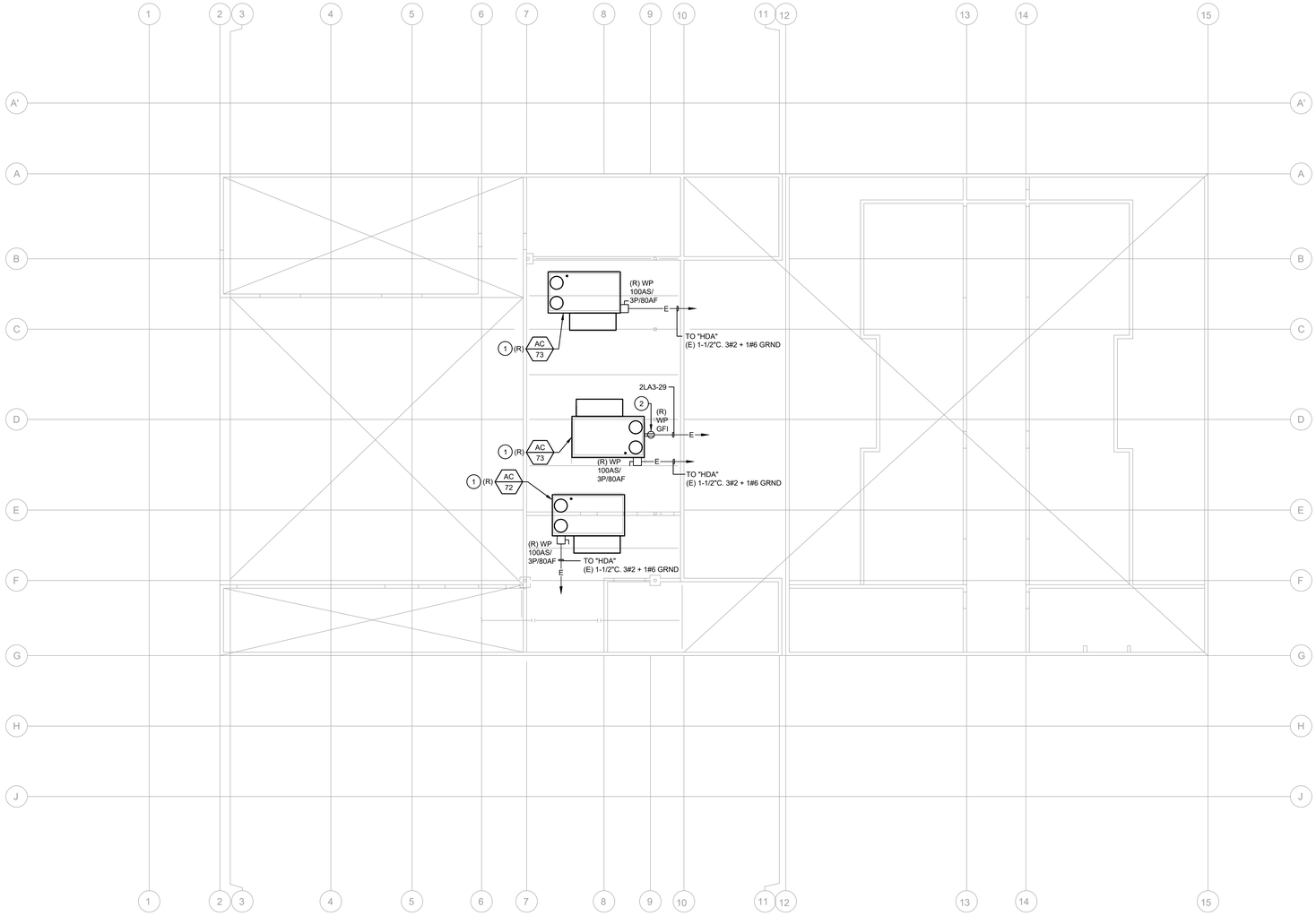
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER: E0.1
PROJECT NUMBER

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL NOTE THAT THE DRAWING IS DIAGRAMMATIC. EXACT ROUTING OF EXISTING CONDUITS AND LOCATION OF EXISTING JUNCTION BOXES, DISCONNECT SWITCHES, AND PULL BOXES SHALL BE COORDINATED AND DETERMINED IN THE FIELD.
2. CONTRACTOR SHALL PROVIDE UPDATE PANEL DIRECTORY (TYPED) AT ALL EXISTING DISTRIBUTION BOARDS AND BRACH CIRCUIT PANELS FOR ALL REMOVED AND ADDED HVAC EQUIPMENT.
3. ALL CIRCUITS SERVING THE REMODEL AREA, WHETHER IDENTIFIED ON PLAN OR NOT, SHALL BE TRACED AND IDENTIFIED PRIOR TO START OF THE DEMOLITION PHASE. CIRCUITS AFFECTED BY THE REMODEL THAT SERVE AREAS OF THE BUILDING THAT ARE NOT A PART OF THE REMODEL SHALL BE MAINTAINED IN OPERATION DURING THE CONSTRUCTION PHASE. INTERRUPTION OF SERVICE WILL NOT BE ALLOWED.
4. DISCONNECT AND REMOVE CONDUIT HOME-RUN TERMINATION AT THE HVAC UNIT CONTROL PANEL. PROTECT THE CONDUIT HOME-RUN AND CONDUCTORS IN PLACE. REFER TO REMODEL PLAN FOR EXISTING CONDUIT TERMINATION REQUIREMENTS.
5. REFER TO GENERAL NOTES AND DEMOLITION NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.

PLAN NOTES:

1. CONTRACTOR SHALL REMOVE EXISTING HVAC UNIT AND DISCONNECT SWITCH ONLY. CONTRACTOR SHALL UTILIZE EXISTING CONDUIT AND CONDUCTORS FOR CONNECTION OF NEW HVAC UNIT AND DISCONNECT SWITCH. REFER TO REMODEL PLAN, E3.1, FOR ADDITIONAL REQUIREMENTS.
2. CONTRACTOR SHALL REMOVE EXISTING RECEPTACLE ONLY. CONTRACTOR SHALL UTILIZE EXISTING CONDUIT AND CONDUCTORS FOR CONNECTION OF NEW GFCI RECEPTACLE. REFER TO REMODEL PLAN, E3.1, FOR ADDITIONAL REQUIREMENTS.



BUILDING 2A DEMOLITION ROOF PLAN

3/32" = 1'-0"

1

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A DEMOLITION ROOF PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
RICHARD E. SOTO
No. E17229
6/30/26
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/25
	DSA BACKCHECK 1	02/24/25

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

ED3.1

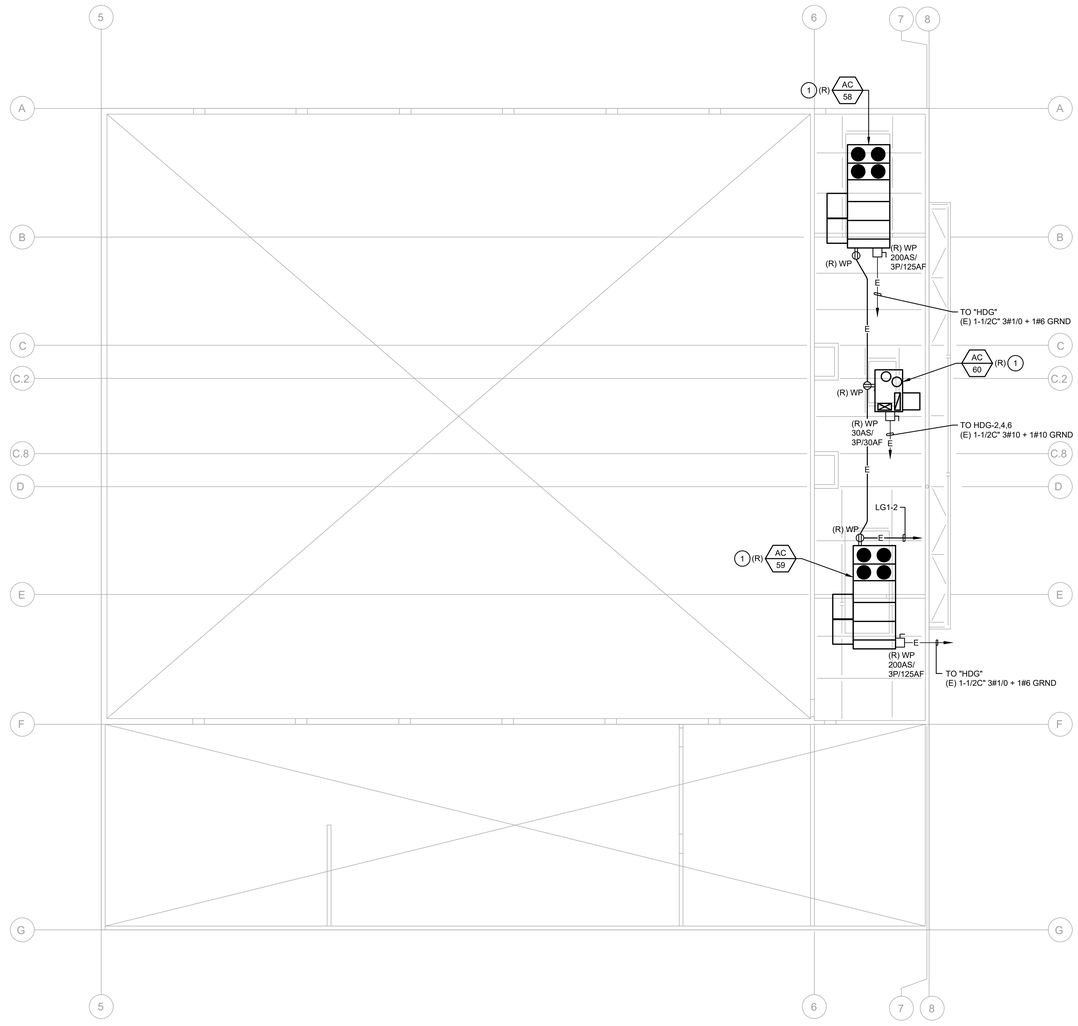
PROJECT NUMBER

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL NOTE THAT THE DRAWING IS DIAGRAMMATIC. EXACT ROUTING OF EXISTING CONDUITS AND LOCATION OF EXISTING JUNCTION BOXES, DISCONNECT SWITCHES, AND PULL BOXES SHALL BE COORDINATED AND DETERMINED IN THE FIELD.
2. CONTRACTOR SHALL PROVIDE UPDATE PANEL DIRECTORY (TYPED) AT ALL EXISTING DISTRIBUTION BOARDS AND BRACH CIRCUIT PANELS FOR ALL REMOVED AND ADDED HVAC EQUIPMENT.
3. ALL CIRCUITS SERVING THE REMODEL AREA, WHETHER IDENTIFIED ON PLAN OR NOT, SHALL BE TRACED AND IDENTIFIED PRIOR TO START OF THE DEMOLITION PHASE. CIRCUITS AFFECTED BY THE REMODEL THAT SERVE AREAS OF THE BUILDING THAT ARE NOT A PART OF THE REMODEL SHALL BE MAINTAINED IN OPERATION DURING THE CONSTRUCTION PHASE. INTERRUPTION OF SERVICE WILL NOT BE ALLOWED.
4. DISCONNECT AND REMOVE CONDUIT HOME-RUN TERMINATION AT THE HVAC UNIT CONTROL PANEL. PROTECT THE CONDUIT HOME-RUN AND CONDUCTORS IN PLACE. REFER TO REMODEL PLAN FOR EXISTING CONDUIT TERMINATION REQUIREMENTS.
5. REFER TO GENERAL NOTES AND DEMOLITION NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.

PLAN NOTES:

1. CONTRACTOR SHALL REMOVE EXISTING HVAC UNIT AND DISCONNECT SWITCH ONLY. CONTRACTOR SHALL UTILIZE EXISTING CONDUIT AND CONDUCTORS FOR CONNECTION OF NEW HVAC UNIT AND DISCONNECT SWITCH. REFER TO REMODEL PLAN, E3.2, FOR ADDITIONAL REQUIREMENTS.
2. CONTRACTOR SHALL REMOVE EXISTING RECEPTACLE ONLY. CONTRACTOR SHALL UTILIZE EXISTING CONDUIT AND CONDUCTORS FOR CONNECTION OF NEW GFCI RECEPTACLE. REFER TO REMODEL PLAN, E3.2, FOR ADDITIONAL REQUIREMENTS.



N

BUILDING 5A DEMOLITION ROOF PLAN | 3/32" = 1'-0" | 1

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 5A DEMOLITION ROOF PLAN

oed optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP:

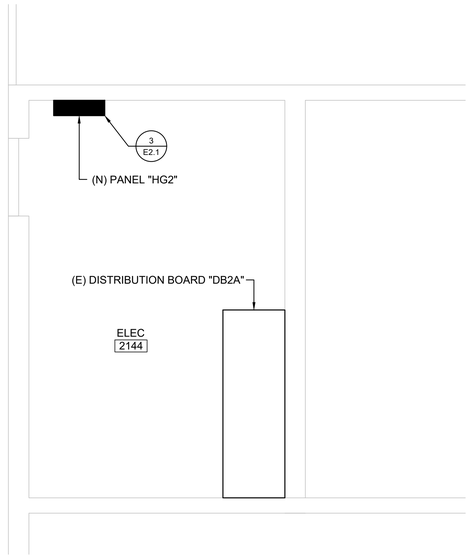
REGISTERED PROFESSIONAL ENGINEER
RICHARD E. STOLO
No. E17229
6/30/26
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/25
	DSA BACKCHECK 1	02/24/25

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

ED3.2

PROJECT NUMBER



N

BUILDING 2A ENLARGE ELECTRICAL ROOM 2144 | 1/2" = 1'-0" | 2

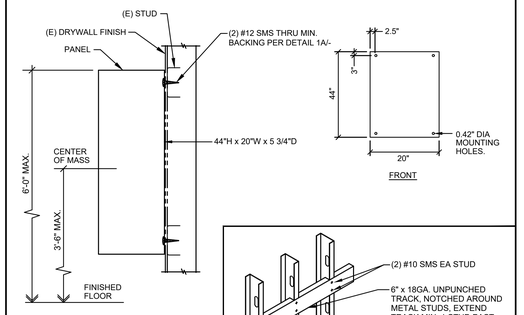


N

BUILDING 2A CONSTRUCTION FIRST FLOOR PLAN | 1/8" = 1'-0" | 1

PLAN NOTES:

1. REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.



MAX. EQUIPMENT WEIGHT:

BRANCH CIRCUIT PANELBOARD = 150 LBS. MAX.

DETAIL–1A

PANELBOARD - WALL MOUNTED | SCALE: NONE | 3

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A
CONSTRUCTION
FIRST FLOOR PLAN

optimum energy design
Consulting Engineers
3200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

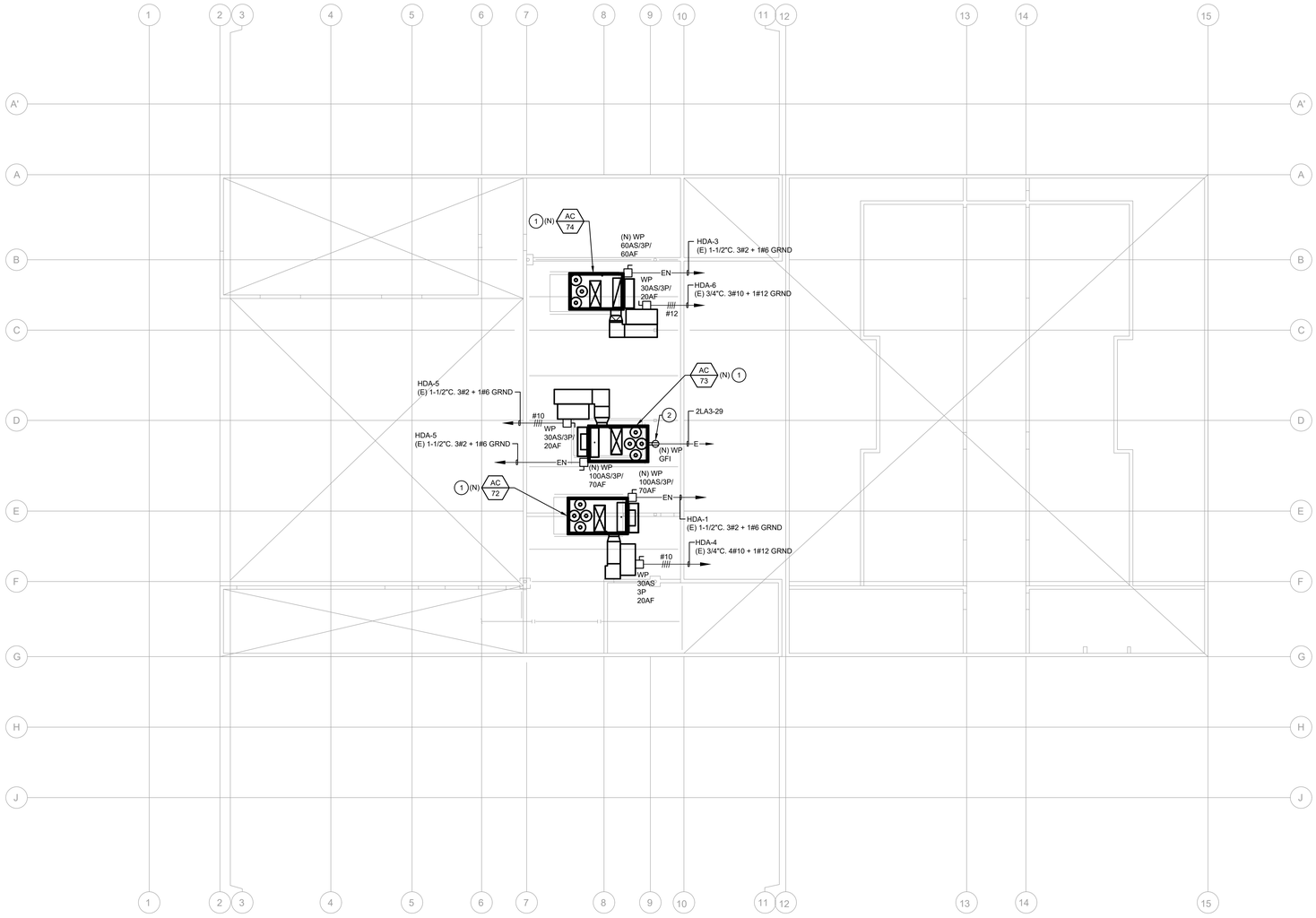
REGISTERED PROFESSIONAL ENGINEER
RICHARD E. SOTO
No. E17229
6/30/26
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/25
	DSA BACKCHECK 1	02/24/25

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

E2.1

PROJECT NUMBER



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL NOTE THAT THE DRAWING IS DIAGRAMMATIC. EXACT ROUTING OF EXISTING CONDUITS AND LOCATION OF EXISTING JUNCTION BOXES, DISCONNECT SWITCHES, AND PULL BOXES SHALL BE COORDINATED AND DETERMINED IN THE FIELD. NEW CONDUIT, JUNCTION BOXES AND PULL BOXES SHALL BE ROUTED / PLACED IN SUCH A MANNER AS TO ADHERE TO ALL APPLICABLE CODES AND TO AVOID INTERFERENCE WITH EXISTING BUILDING STRUCTURES, UTILITIES AND THE WORK BEING PERFORMED BY OTHER TRADES. ALL EXTERIOR CONDUIT, FITTINGS, JUNCTION BOXES AND PULL BOXES TO BE WEATHER PROOF TYPE; NEMA 3R.
2. CONTRACTOR SHALL PROVIDE UPDATE PANEL DIRECTORY (TYPED) AT ALL EXISTING DISTRIBUTION BOARDS AND BRACH CIRCUIT PANELS FOR ALL REMOVED AND ADDED HVAC EQUIPMENT.
3. ALL CIRCUITS SERVING THE REMODEL AREA, WHETHER IDENTIFIED ON PLAN OR NOT, SHALL BE TRACED AND IDENTIFIED PRIOR TO START OF THE DEMOLITION PHASE. CIRCUITS AFFECTED BY THE REMODEL THAT SERVE AREAS OF THE BUILDING THAT ARE NOT A PART OF THE REMODEL SHALL BE MAINTAINED IN OPERATION DURING THE CONSTRUCTION PHASE. INTERRUPTION OF SERVICE WILL NOT BE ALLOWED.
4. THE CONTRACTOR SHALL REMOVE ALL EXISTING CONDUIT AND FEEDERS FROM EQUIPMENT MARKED TO BE REMOVED ALL THE WAY BACK TO THE SERVING PANEL UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL REFER TO THE MECHANICAL DRAWINGS FOR EXACT EQUIPMENT LOCATIONS AND ELECTRICAL CONNECTIONS REQUIREMENTS / POINTS OF CONNECTION. CONTRACTOR SHALL PROVIDE ALL POWER AND CONTROL CONNECTIONS AS INDICATED ON THE MECHANICAL DRAWINGS.
6. CIRCUITS INDICATED ON THE PANEL SCHEDULES, WHETHER SHOWN ON THE DRAWING OR NOT, SHALL BE A PART OF THIS CONTRACT AND THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE REQUIRED CONDUIT AND WIRE AS REQUIRED TO MEET THE INTENT OF THE PLANS AND SPECIFICATIONS.
7. REFER TO GENERAL NOTES AND DEMOLITION NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
8. EXISTING FIRE ALARM–CONNECTED DUCT SMOKE DETECTORS SERVING REPLACED HVAC UNITS ARE INTENDED TO REMAIN IN SERVICE. RECONNECT AND TEST SHUTDOWN INTERLOCK ONLY IF DISTURBED DURING CONSTRUCTION. COORDINATE WITH MECHANICAL AND FIRE ALARM CONTRACTOR AND VERIFY OPERATION

PLAN NOTES:

1. NEW HVAC UNIT AND NEW DISCONNECT SWITCH AT REMOVED HVAC UNIT AND DISCONNECT SWITCH. CONTRACTOR SHALL CONNECT NEW HVAC UNIT TO THE EXISTING CONDUCTORS PREVIOUSLY FEEDING THE REMOVED HVAC UNIT. CONTRACTOR SHALL PROVIDE AND EXTEND NEW CONDUIT / CONDUCTORS AS REQUIRED TO ENSURE A FULLY OPERABLE HVAC UNIT UPON COMPLETION OF INSTALLATION. REFER TO DEMOLITION PLAN, ED3.1, FOR ADDITIONAL REQUIREMENTS.
3. NEW RECEPTACLE AT REMOVED RECEPTACLE LOCATION. CONTRACTOR SHALL CONNECT NEW RECEPTACLE TO THE EXISTING CONDUCTORS PREVIOUSLY FEEDING THE REMOVED RECEPTACLE. CONTRACTOR SHALL PROVIDE AND EXTEND NEW CONDUIT / CONDUCTORS AS REQUIRED TO ENSURE A FULLY OPERABLE RECEPTACLE UPON COMPLETION OF INSTALLATION. REFER TO DEMOLITION PLAN, ED3.1, FOR ADDITIONAL REQUIREMENTS.

N

BUILDING 2A CONSTRUCTION ROOF PLAN | 3/32" = 1'-0" | 1

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A CONSTRUCTION ROOF PLAN

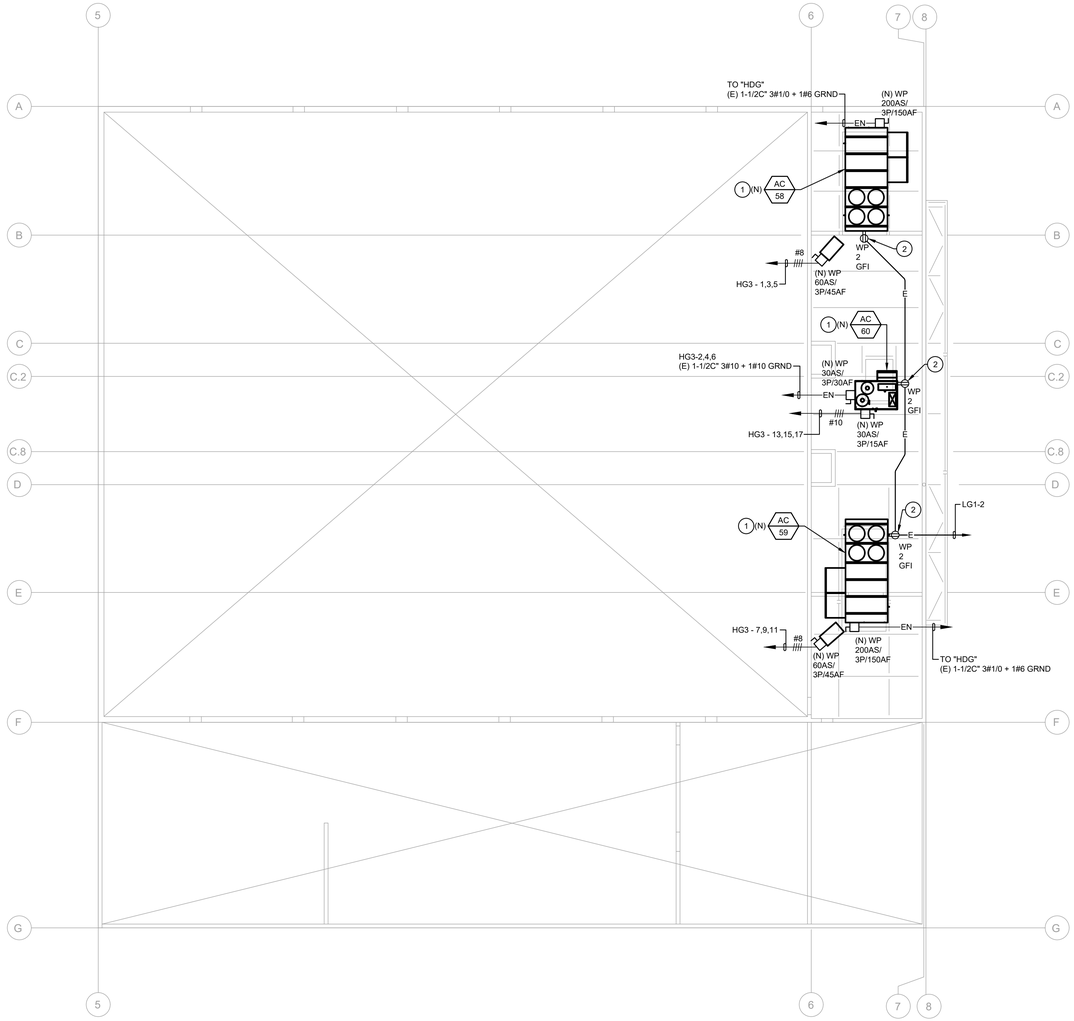
oed optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
RICARDO E. SOLIS
No. E17229
6/30/26
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/25
	DSA BACKCHECK 1	02/24/25

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER: E3.1
PROJECT NUMBER



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL NOTE THAT THE DRAWING IS DIAGRAMMATIC. EXACT ROUTING OF EXISTING CONDUITS AND LOCATION OF EXISTING JUNCTION BOXES, DISCONNECT SWITCHES, AND PULL BOXES SHALL BE COORDINATED AND DETERMINED IN THE FIELD. NEW CONDUIT, JUNCTION BOXES AND PULL BOXES SHALL BE ROUTED / PLACED IN SUCH A MANNER AS TO ADHERE TO ALL APPLICABLE CODES AND TO AVOID INTERFERENCE WITH EXISTING BUILDING STRUCTURES, UTILITIES AND THE WORK BEING PERFORMED BY OTHER TRADES. ALL EXTERIOR CONDUIT, FITTINGS, JUNCTION BOXES AND PULL BOXES TO BE WEATHER PROOF TYPE; NEMA 3R.
2. CONTRACTOR SHALL PROVIDE UPDATE PANEL DIRECTORY (TYPED) AT ALL EXISTING DISTRIBUTION BOARDS AND BRACH CIRCUIT PANELS FOR ALL REMOVED AND ADDED HVAC EQUIPMENT.
3. ALL CIRCUITS SERVING THE REMODEL AREA, WHETHER IDENTIFIED ON PLAN OR NOT, SHALL BE TRACED AND IDENTIFIED PRIOR TO START OF THE DEMOLITION PHASE. CIRCUITS AFFECTED BY THE REMODEL THAT SERVE AREAS OF THE BUILDING THAT ARE NOT A PART OF THE REMODEL SHALL BE MAINTAINED IN OPERATION DURING THE CONSTRUCTION PHASE. INTERRUPTION OF SERVICE WILL NOT BE ALLOWED.
4. THE CONTRACTOR SHALL REMOVE ALL EXISTING CONDUIT AND FEEDERS FROM EQUIPMENT MARKED TO BE REMOVED ALL THE WAY BACK TO THE SERVING PANEL UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL REFER TO THE MECHANICAL DRAWINGS FOR EXACT EQUIPMENT LOCATIONS AND ELECTRICAL CONNECTIONS REQUIREMENTS / POINTS OF CONNECTION. CONTRACTOR SHALL PROVIDE ALL POWER AND CONTROL CONNECTIONS AS INDICATED ON THE MECHANICAL DRAWINGS.
6. CIRCUITS INDICATED ON THE PANEL SCHEDULES, WHETHER SHOWN ON THE DRAWING OR NOT, SHALL BE A PART OF THIS CONTRACT AND THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE REQUIRED CONDUIT AND WIRE AS REQUIRED TO MEET THE INTENT OF THE PLANS AND SPECIFICATIONS.
7. REFER TO GENERAL NOTES AND DEMOLITION NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.
8. EXISTING FIRE ALARM–CONNECTED DUCT SMOKE DETECTORS SERVING REPLACED HVAC UNITS ARE INTENDED TO REMAIN IN SERVICE. RECONNECT AND TEST SHUTDOWN INTERLOCK ONLY IF DISTURBED DURING CONSTRUCTION. COORDINATE WITH MECHANICAL AND FIRE ALARM CONTRACTOR AND VERIFY OPERATION

PLAN NOTES:

1. NEW HVAC UNIT AND NEW DISCONNECT SWITCH AT REMOVED HVAC UNIT AND DISCONNECT SWITCH. CONTRACTOR SHALL CONNECT NEW HVAC UNIT TO THE EXISTING CONDUCTORS PREVIOUSLY FEEDING THE REMOVED HVAC UNIT. CONTRACTOR SHALL PROVIDE AND EXTEND NEW CONDUIT / CONDUCTORS AS REQUIRED TO ENSURE A FULLY OPERABLE HVAC UNIT UPON COMPLETION OF INSTALLATION. REFER TO DEMOLITION PLAN, ED3.2, FOR ADDITIONAL REQUIREMENTS.
3. NEW RECEPTACLE AT REMOVED RECEPTACLE LOCATION. CONTRACTOR SHALL CONNECT NEW RECEPTACLE TO THE EXISTING CONDUCTORS PREVIOUSLY FEEDING THE REMOVED RECEPTACLE. CONTRACTOR SHALL PROVIDE AND EXTEND NEW CONDUIT / CONDUCTORS AS REQUIRED TO ENSURE A FULLY OPERABLE RECEPTACLE UPON COMPLETION OF INSTALLATION. REFER TO DEMOLITION PLAN, ED3.2, FOR ADDITIONAL REQUIREMENTS.

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 5A
CONSTRUCTION
ROOF PLAN

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
RICARDO E. SOTO
No. E17229
6/30/26
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/25
	DSA BACKCHECK 1	02/24/25

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

E3.2

PROJECT NUMBER

N

Plot Date:

Project # 2025-131_R25

MEP COMPONENT ANCHORAGE NOTE

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA-approved construction documents. The following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2025 CBC Sections 1617A.1.18 through 1617A.1.26 and ASCE 7-16 Chapters 13, 26, and 30:

1. All permanent equipment and components.
2. Temporary, movable or mobile equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110/220 volt receptacles having 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 the above requirements.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

MEP Distribution System Bracing Note for Piping, Ductwork, and Electrical Conduit:

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7 Section 13.3 as defined in ASCE 7 Sections 13.6.5, 13.6.6, 13.6.7, 13.6.8; and 2025 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. The MEP design professional engineer responsible for content on these sheets has verified that the design methods identified below are in accordance with DSA IR 16-13.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP ☐ MD ☐ PP ☒ E ☐ Option 1: Project-Specific Design.

MP ☐ MD ☐ PP ☐ E ☐ Option 2: Design Based on OSHPD OPM, Within Project Submittal

MP ☐ MD ☐ PP ☐ E ☐ Option 3: Design Based on OSHPD OPM, Deferred Submittal

APPLICABLE CODES

BUILDING OCCUPANCY CLASSIFICATION: -

THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF:

CODES

2025 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
2025 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
2025 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
2025 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
2025 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
2025 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
2025 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
2025 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2025 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2025 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING LINES, LATERALS AND WYES BEFORE STARTING. SHOULD IT BE NECESSARY TO REROUTE LINES DUE TO CONDITIONS FOUND ON THE SITE OR IF INDICATED P.O.C. CANNOT BE MADE TO THE LINES AS FOUND, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT BEFORE INSTALLING ANY WORK WHICH MAY BE AFFECTED.
2. OFFSET PIPES AS REQUIRED TO CLEAR MECHANICAL DUCTWORK.
3. FURNISH AND INSTALL A SHUT-OFF VALVE, PLUG COCK OR STOP AT EACH PIECE OF EQUIPMENT FURNISHED BY OTHERS REQUIRING DRAIN, WASTE, WATER, ETC.
4. SEAL AND FLASH ALL PENETRATIONS THROUGH ROOF WATERTIGHT.
5. REFER TO MECHANICAL DRAWINGS FOR THE EXACT LOCATION OF ALL A.C. UNITS.
6. UNLESS OTHERWISE NOTED, ALL CONDENSATE AND GAS DROPS SHALL BE CONCEALED IN WALLS.
7. THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT ALL OFFSETS, BENDS, SPECIAL FITTINGS AND LOCATIONS ARE NOT EXACTLY LOCATED. THE CONTRACTOR SHALL LOCATE ALL OFFSETS, BENDS, AND SPECIAL FITTINGS TO SUIT JOB SITE CONDITIONS. THEREFORE THE CONTRACTOR SHALL MAKE HIMSELF FULLY AWARE OF ALL EXISTING CONDITIONS AND LOCATE ALL REQUIRED SPECIAL FITTINGS TO SUIT EXISTING CONDITIONS.
8. THIS CONTRACTOR SHALL COMPLY WITH ALL CONTRACT DOCUMENTS IN LAYING OUT HIS WORK AND EQUIPMENT. HE SHALL COORDINATE THE WORK OF THIS SECTION WITH THE WORK OF OTHER TRADES AND ALL JOB CONDITIONS.
9. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, CHARGES, AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF WORK, INCLUDING ALL CHARGES BY STATE, COUNTY AND LOCAL GOVERNMENT AGENCIES.
10. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL TRADES AT THE SITE. ANY COSTS TO INSTALL WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE PLANS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATION. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
11. AFTER ALL REQUIREMENTS OF THE SPECIFICATIONS AND/OR THE DRAWINGS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNER WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM, TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.
12. WHEREVER A DISCREPANCY IN QUANTITY OR SIZE OF MECHANICAL EQUIPMENT MATERIAL ARISES ON THE DRAWINGS AND/OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON DRAWINGS AND/OR IN THE SPECIFICATION TO ENSURE COMPLETE AND OPERABLE SYSTEMS.
13. ALL PIPING INSULATION AND SEALING MATERIALS SHALL HAVE FLAME SPREAD RATING NOT EXCEEDING 25 AND SMOKE DEVELOPED RATING NOT EXCEEDING 50.
14. BEFORE ORDERING ANY PIECE OF EQUIPMENT, THE CONTRACTOR SHALL PROVIDE EQUIPMENT SUBMITTALS, AND SHOP DRAWINGS WITH EQUIPMENT DIMENSIONS, AND SITE CLEARANCE AVAILABLE. WHERE REQUIRED BY SPACE LIMITATIONS HAVE UNITS SHIPPED IN SECTIONS.
15. ALL PIPE BRANCH CONNECTIONS SHALL OFF-SET. NO "BULL HEAD" CONNECTIONS WILL BE ALLOWED.
16. ALL EXISTING PLUMBING LINES SHOWN ARE TAKEN FROM EXISTING DRAWINGS WHICH INDICATE APPROXIMATE LOCATION ONLY. THE CONTRACTOR IS TO INCLUDE IN HIS BID TO PERFORM FIELD INVESTIGATION TO PIN POINT THE EXACT LOCATION AS REQUIRED FOR DEMOLITION OR MAKING NEW CONNECTION.
17. INTERRUPTION OF EXISTING SERVICES: THE CONTRACTOR'S ATTENTION IS CALLED TO THE PRESENCE OF EXISTING, CONDUIT, PIPING, ETC. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER AND APPROVED REPAIR OF ANY AND ALL DAMAGE BY HIM OR HIS CAUSED WORK TO EXISTING BUILDINGS, CONDUIT, PIPING, PLANTS, ETC. NEW WORK AND INSTALLATIONS SHALL BE MADE WITH MINIMAL INTERRUPTIONS OF SERVICES TO EXISTING BUILDINGS ANY INTERRUPTIONS REQUIRED SHALL BE SCHEDULED TO MINIMIZE INCONVENIENCE TO THE OWNER, AND AT TIMES AS APPROVED IN ADVANCE BY THE ARCHITECT. NEW WORK AND INSTALLATIONS SHALL NOT IMPAIR THE PROPER FUNCTIONING OF THE EXISTING FACILITY. THE COMPLETED PROJECT SHALL BE A PROPERLY FUNCTIONING ENTITY THROUGHOUT. FURNISH ALL LABOR AND MATERIALS REQUIRED TO RELOCATE, REMOVE, REINSTALL, RECONNECT, REPLACE, ETC., ANY EXISTING PIPING TO ACCOMMODATE THE WORK. MATERIALS SHALL BE AS SPECIFIED UNLESS OTHERWISE. APPROVED IN WRITING BY THE ARCHITECT. CONTRACTOR SHALL INCLUDE IN HIS BID ANY EXTRA WORK REQUIRED TO MINIMIZE SHUTDOWN TIME.
18. WHERE EQUIPMENT IS NOTED AND/OR SHOWN TO BE REMOVED AND/ OR RELOCATED, THIS REMOVAL AND/OR RELOCATION SHALL INCLUDE ALL PIPING, SUPPORT, TRIM, ETC. CONSIDERED TO BE A FUNCTIONING PART OF THE ITEM.
19. ALL EXISTING PIPING AND EQUIPMENT THAT IS REMOVED SHALL BE DISPOSED OF AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
20. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.
21. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS, FLOORS AND CEILING OPENED DURING CONSTRUCTION TO MATCH EXISTING.
22. ALL UTILITIES BEING REMOVED FOR THE PROJECT SHALL BE REMOVED BACK TO ITS SOURCE.
23. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DISTRICT STRUCTURAL ENGINEER FROM THE DIVISION OF THE STATE ARCHITECT.
24. ALL PIPING AND RELATED VALVES AND FITTINGS TO BE DEMOLISHED SHALL BE DISPOSED AND REMOVED FROM THE PROJECT SITE.
25. ALL PIPING SHOWN TO BE DEMOLISHED AND/OR REMOVED SHALL BE CAPPED OFF AT THE POINT OF DEMOLITION AND CLEAR FROM INTERFERENCE FROM NEW WORK BEING INSTALLED.
26. ANY DISCREPANCIES ARISE BETWEEN THE PLUMBING DRAWINGS AND OTHER DISCIPLINES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID AND CONSTRUCTION.
27. PROVIDE INSULATION FOR ALL CONDENSATE DRAIN INDOOR.
28. ALL CONDENSATE DRAIN PIPING SHALL SLOPE 1/8"/FT. MINIMUM.

LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
—— —— ——	CW	COLD WATER
—— CD ——	CD	CONDENSATE DRAIN
—— OCD ——	OCD	OVERFLOW CONDENSATE DRAIN
—— TP ——	TP	TRAP PRIMER
—— G ——	G	GAS LINE
——▶——		DIRECTION OF FLOW
—— ⋈ —— S	SOV	SHUT-OFF VALVE
—— ⊗ ——	SOV/GC	SHUT-OFF VALVE OR GAS COCK IN YARD BOX
—— ⋈ ——	GC	GAS COCK
—— ⋈ ——	BV	BALANCING VALVE
——⌽	FCO	FLOOR CLEANOUT
——‖	CO	CLEANOUT
——○		RISER UP
——⊃		RISER DOWN
	ABV	ABOVE
	BEL	BELOW
	CLG	CEILING
	CONT	CONTINUATION
	DN	DOWN
	(E)	EXISTING
	FLR	FLOOR
◒	POC	POINT OF CONNECTION
○		DEMOLITION KEY NOTE
○		REMODEL KEY NOTE
◒		POINT OF DISCONNECT
	RT	REFRIGERANT TONNAGE

PIPE MATERIAL SCHEDULE

SERVICE	ABBR:		MATERIAL: SEAMLESS COPPER TUBING, TYPE L DRAWN TEMPER, ASTM B88	CPVC SCH 80 PAINTED WITH UV PROTECTION	COPPER TYPE M 95/5 SOLDER	BLACK STEEL SCH 40	REMARKS
CONDENSATE DRAIN	(CD)	INDOOR			●		GRAVITY @ 1% SLOPE MIN. PROVIDE INSULATION FOR INDOOR PIPING. PAINTED W/ UV INHIBITOR FOR EXPOSED OUTDOOR PIPE.
		OUTDOOR		●			
GAS	(G)	OUTDOOR				●	

SHEET INDEX

S.NO.	SHEET No.	SHEET TITLE
1	P0.1	PLUMBING GENERAL NOTES AND LEGEND
2	PD3.1	BUILDING 2A DEMOLITION ROOF PLAN
3	P3.1	BUILDING 2A CONSTRUCTION ROOF PLAN
4	PD3.2	BUILDING 5A DEMOLITION ROOF PLAN
5	P3.2	BUILDING 5A CONSTRUCTION ROOF PLAN
6	P4.1	PLUMBING DETAILS

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

PLUMBING GENERAL NOTES AND LEGEND

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANERJEE
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

P0.1

PROJECT NUMBER

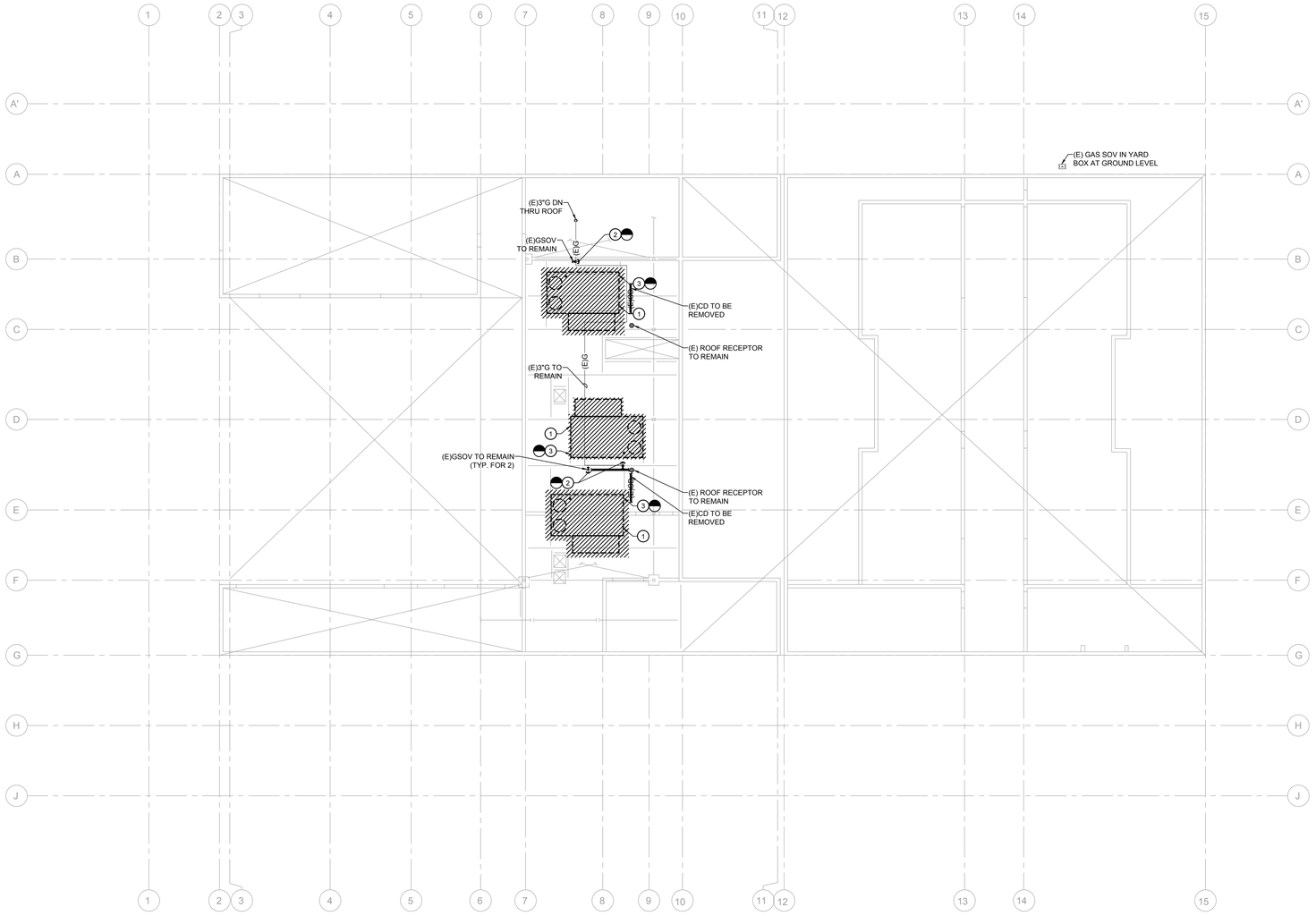
Date Plotted:
File Name:

Plot Date:

Project # 2025-131_R25

DEMOLITION KEYNOTES:

1. (E) MECHANICAL UNIT TO BE REMOVED.
2. (E) GAS FLEX LINE TO MECH. UNIT TO BE REMOVED. CAP EXISTING GAS PIPING AT UNIT.
3. (E) CONDENSATE DRAIN WITH VENTED P-TRAP AND RELATED PIPING TO BE REMOVED.



N

BUILDING 2A DEMOLITION ROOF PLAN | 3/32" = 1'-0" | 1

Date Plotted: 2/4/2026

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A DEMOLITION ROOF PLAN

optimum energy design
Consulting Engineers
3200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BAKEMEYER
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

PD3.1

PROJECT NUMBER

Plot Date:

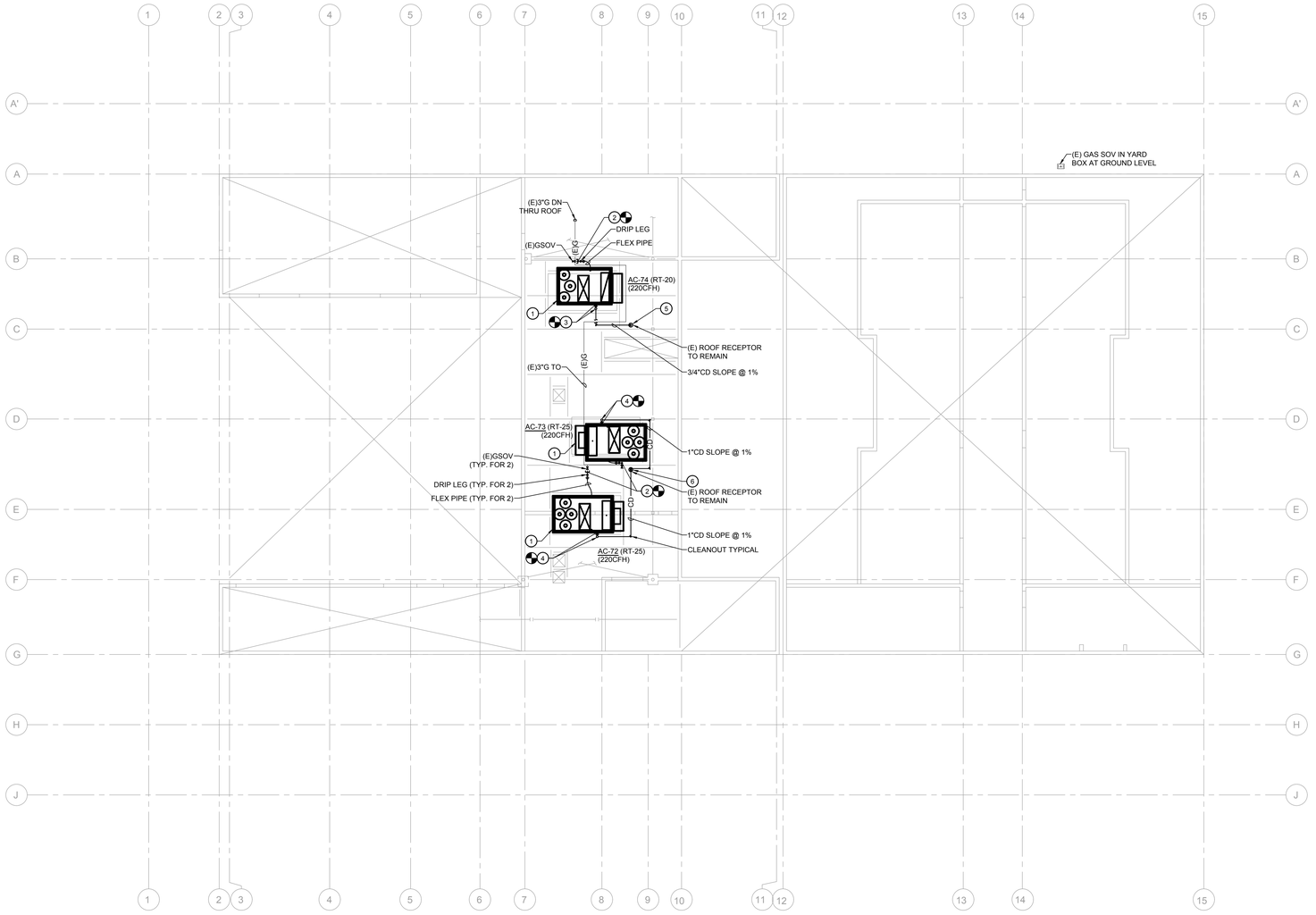
Project # 2025-131_R25

CONSTRUCTION NOTES:

1. COORDINATE WITH OTHER TRADES PRIOR TO THE INSTALLATION OF THE ROOF TOP UNITS. VERIFY IF EXISTING 3" GAS PIPING NEEDS TO BE REROUTED TO ACCOMMODATE THE INSTALLATION OF THE NEW MECH UNITS.
2. FIELD VERIFY EXISTING GAS PIPING LOCATION AND SIZE.
3. ALL EQUIPMENT, PIPING AND MATERIALS SHALL BE LISTED.

CONSTRUCTION KEYNOTES:

1. NEW MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR EXACT LOCATION
2. CONNECT NEW 1" O.D. GAS PIPING TO EXISTING GAS PIPING AT MECH. UNIT WITH DRIP LEG 6-INCH MINIMUM, UNION AND APPROVED GAS FLEX LINE. SEE SHEET P4.1 DETAIL NUMBER 3. VERIFY EXACT LOCATION AND SIZE IN FIELD.
3. CONNECT NEW 3/4"CD PLUG & VENTED P-TRAP. SEE SHEET P-4.1 DETAIL NUMBER 1. SLOPE CONDENSATE DRAIN @ 1%.
4. CONNECT NEW 1"CD PLUG & VENTED P-TRAP. SEE SHEET P-4.1 DETAIL NUMBER 1. SLOPE CONDENSATE DRAIN @ 1%.
5. 3/4"CD SPILL OVER EXISTING ROOF RECEPTOR WITH 1-1/2" AIR GAP MINIMUM.
6. 1"CD SPILL OVER EXISTING ROOF RECEPTOR WITH 1-1/2" AIR GAP MINIMUM.



N

BUILDING 2A CONSTRUCTION ROOF PLAN

3/32" = 1'-0"

1

Date Plotted: 2/4/2026

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 2A CONSTRUCTION ROOF PLAN

optimum energy design
Consulting Engineers
3200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BAKPETS
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE

Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver

REVIEWED BY:

DRAWN BY:

SCALE: As Indicated

ISSUE DATE: Issue Date

SHEET NUMBER

P3.1

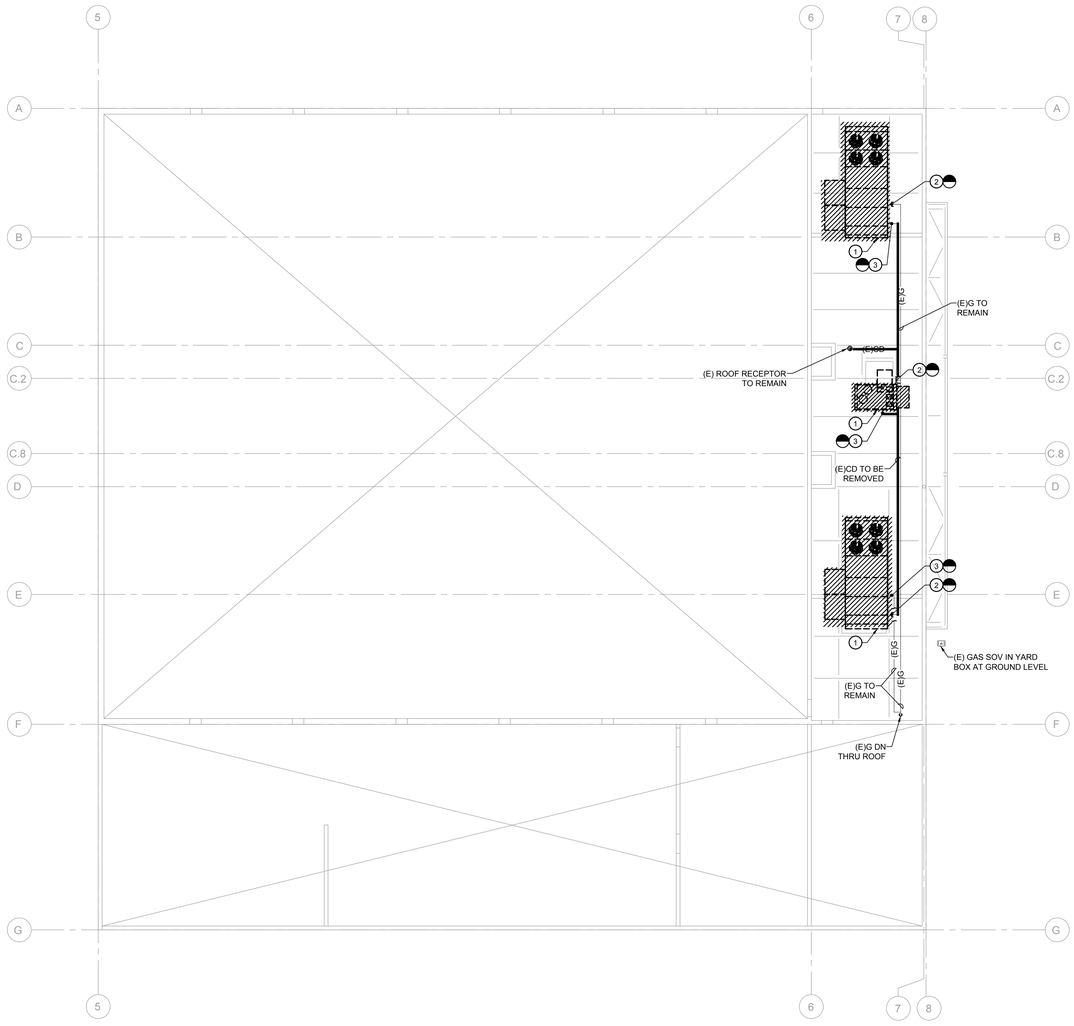
PROJECT NUMBER

Plot Date:

Project # 2025-131_R25

DEMOLITION KEYNOTES:

1. (E) MECHANICAL UNIT TO BE REMOVED.
2. (E) GAS LINE WITH RELATED VALVES TO MECH. UNIT TO BE REMOVED. CAP EXISTING GAS PIPING AT UNIT.
3. (E) CONDENSATE DRAIN WITH VENTED P-TRAP AND RELATED PIPING TO BE REMOVED.



N

BUILDING 5A DEMOLITION ROOF PLAN | 3/32" = 1'-0" | 1

Date Plotted:
Plotted By:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 5A DEMOLITION ROOF PLAN

oed optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP:

REGISTERED PROFESSIONAL ENGINEER
ABBY BANERJEE
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER

PD3.2

PROJECT NUMBER

Plot Date:

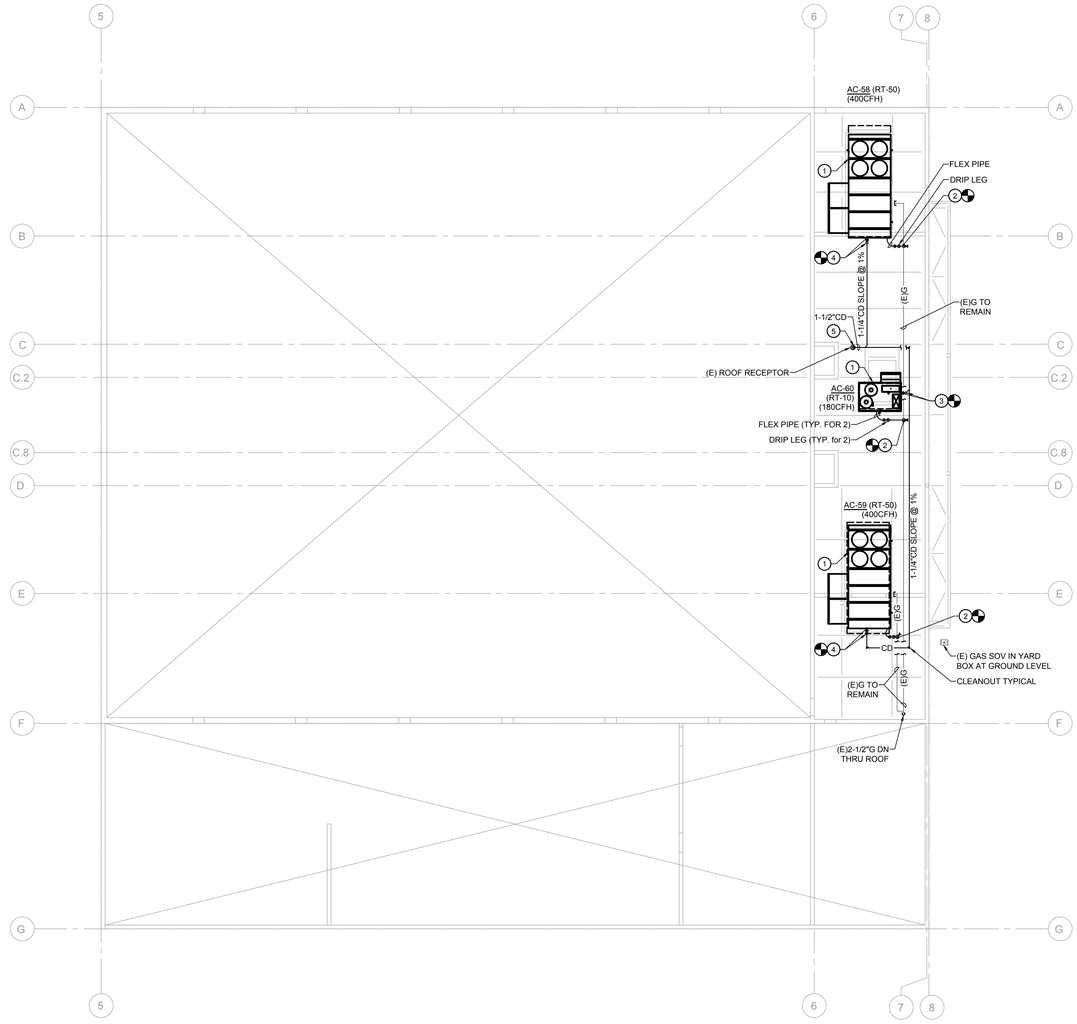
Project # 2025-131_R25

CONSTRUCTION NOTES:

1. COORDINATE WITH OTHER TRADES PRIOR TO THE INSTALLATION OF THE ROOF TOP UNITS. VERIFY IF EXISTING 3" GAS PIPING NEEDS TO BE REROUTED TO ACCOMMODATE THE INSTALLATION OF THE NEW MECH UNITS.
2. FIELD VERIFY EXISTING GAS PIPING LOCATION AND SIZE.
3. ALL EQUIPMENT, PIPING AND MATERIALS SHALL BE LISTED.

CONSTRUCTION KEYNOTES:

1. NEW MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR EXACT LOCATION
2. CONNECT NEW 1-1/4" GAS PIPING TO EXISTING GAS PIPING AT MECH. UNIT WITH LOCKWING GSOV, DRIP LEG 6-INCH MINIMUM, UNION AND APPROVED GAS FLEX LINE. SEE SHEET P4.1 DETAIL NUMBER 3. VERIFY EXACT LOCATION AND SIZE IN FIELD.
3. CONNECT NEW 3/4"CD PLUG & VENTED P-TRAP. SEE SHEET P-4.1 DETAIL NUMBER 1. SLOPE CONDENSATE DRAIN @ 1%.
4. CONNECT NEW 1-1/4"CD PLUG & VENTED P-TRAP. SEE SHEET P-4.1 DETAIL NUMBER 1. SLOPE CONDENSATE DRAIN @ 1%.
5. 1-1/2"CD SPILL OVER EXISTING ROOF RECEPTOR WITH 2" AIR GAP MINIMUM.



N

BUILDING 5A CONSTRUCTION ROOF PLAN | 3/32" = 1'-0" | 1

Date Plotted:
File Name:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

BUILDING 5A
CONSTRUCTION
ROOF PLAN

oed optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2227

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANKSTON
No. M29252
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

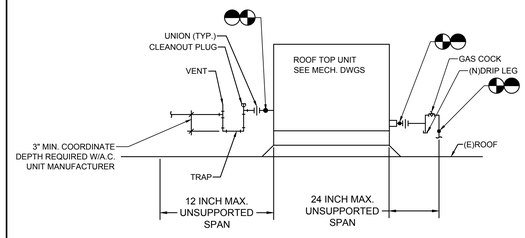
APPROVED BY: Approver
REVIEWED BY:
DRAWN BY:
SCALE: As Indicated
ISSUE DATE: Issue Date
SHEET NUMBER:

P3.2

PROJECT NUMBER

Plot Date:

Project # 2025-131_R25



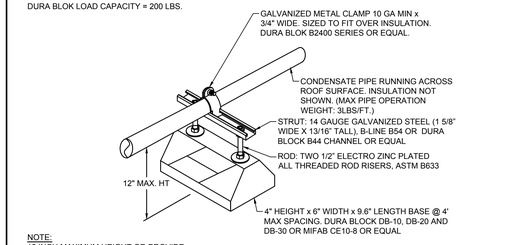
GAS & CD CONNECTION TO ROOF TOP UNIT | SCALE NONE | 3

MODEL #: DURA BLOCK DB-10 OR MIFAB CE10-8 OR EQUAL

INSTALLATION INSTRUCTIONS: THE RUBBER BASES CAN BE DIRECTLY PLACED ON THE ROOF SURFACE. USE CHEMLINK M-1 STRUCTURAL ADHESIVE/ SEALANT OR EQUAL FOR ATTACHMENT TO STRUCTURE.
ADJUST THE CROSSBEAM BY LOOSENING THE NUTS AND ADJUST THE STRUT TO DESIRED HEIGHT AND RE-TIGHTEN NUTS. 4 FEET MAXIMUM SPACING FOR CONDENSATE DRAIN PIPE.

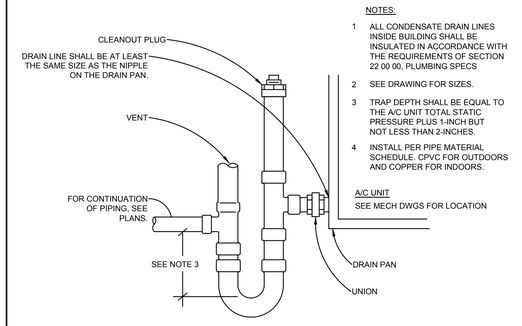
MAXIMUM OPERATING WEIGHT AT EACH SUPPORT IS APPROX. = 4.2 LBS.

DURA BLOK LOAD CAPACITY = 200 LBS.



NOTE:
12 INCH MAXIMUM HEIGHT OR PROVIDE ANCHORAGE TO ROOF STRUCTURE MEMBERS. SLEEP LENGTH OF BASE TO BE 2 TIMES THE ACTUAL HEIGHT.

CONDENSATE DRAIN PIPE SUPPORT ON ROOF DETAIL | SCALE NONE | 2



NOTES:

1 ALL CONDENSATE DRAIN LINES INSIDE BUILDING SHALL BE INSULATED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 22 00 00, PLUMBING SPECS

2 SEE DRAWING FOR SIZES.

3 TRAP DEPTH SHALL BE EQUAL TO THE A/C UNIT TOTAL STATIC PRESSURE PLUS 1-INCH BUT NOT LESS THAN 2-INCHES.

4 INSTALL PER PIPE MATERIAL SCHEDULE. CPVC FOR OUTDOORS AND COPPER FOR INDOORS.

A/C UNIT
SEE MECH DWGS FOR LOCATION

CONDENSATE TRAP DETAIL | SCALE NONE | 1

Date Plotted:
File Name:

AGENCY APPROVAL

DSA A#:03-125870

HVAC REPLACEMENT
FIREBAUGH HIGH SCHOOL
5246 MARTIN LUTHER KING JR BLVD
LYNWOOD,
CA 90262

SHEET TITLE

PLUMBING DETAILS

oed optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

APPROVED STAMP

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANKS, P.E.
No. M29223
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

REVISION SCHEDULE		
Delta	Description	Issue Date
	DSA PROGRESS	12/1/25
	30% CD	12/8/25
	70% CD	12/22/25
	DSA SUBMITTAL	01/09/26
	DSA BACKCHECK 1	03/12/26

APPROVED BY: Approver

REVIEWED BY:

DRAWN BY:

SCALE: As Indicated

ISSUE DATE: Issue Date

SHEET NUMBER

P4.1

PROJECT NUMBER